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Summary of Changes

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

September 9, 2020 - Version 565

Additions in this update

New product(s) ThinkPad T15g

► Spec updated

ThinkPad 11e Yoga Gen 6 ThinkPad P1 Gen 2 ThinkPad P1 Gen 3 ThinkPad P14s Gen 1 ThinkPad P15 Gen 1 ThinkPad P15s Gen 1 ThinkPad P17 Gen 1 ThinkPad P43s ThinkPad P53 ThinkPad P73 ThinkPad T590

Withdrawals in this update

► Withdrawn product(s) ThinkPad E580 ThinkPad E590



(intel)

inside"

ThinkPad 11e (5th Gen) Platform Specifications

Product Specifications Reference (PSREF)

Processor	7th Generation Intel Pentium®				rocessor, I	ntel Cel	eron® process	or, or		Dimensions Weight	<i>WxDxH:</i> 11.81" x 8.27" x 0.86"; 300mm x 210mm x 21.9mm Starting at 2.99 lb / 1.36 kg
		# of Cores	# of Thread		Burst cy Frequence	су	Memory Types	Gra	essor phics	Case color Case material	Black Display cover: PC/ABS+GF; Bottom: PC/ABS plastic
	m3-7Y30 i5-7Y54	2		1.0 GH			LPDDR3-1866		el HD lics 615	Smart card reade	rNone
	Celeron N4100			1.1 GH				<u> </u>	UHD	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1 (with the function of Power
	Celeron N4120		4	1.1 GH	z 2.6 GHz	z 4MB		Graph	ics 600		Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45),
	Pentium Silver N5000	4		1.1 GH	z 2.7 GHz	z 4MB	DDR4-2400		UHD		headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Pentium Silver N5030			1.1 GH				Graph	iics 605	Camera Audio support	HD720p camera, fixed focus HD Audio, Realtek [®] ALC3287 codec, stereo speakers, 2W x 2, Dolby [®] Audio [™] , mono digital microphone, combo audio/microphone jack
Graphics	Intel HD Graph supports extern supports dual i Max resolution	nal dig indepe	gital mo	onitor via displav:	HDMI or U	SB Type	e-C;	łz (HD	MI)	Keyboard Touchpad Security	6-row, spill-resistant, multimedia Fn keys Buttonless Mylar surface touchpad below keyboard, multi-touch
Chipset Memory	Intel SoC (Syst 4GB or 8GB /	n: 3840x2160@60Hz (USB Type-C); 4096x2160@30Hz (HDMI) stem on Chip) platform 1866MHz LPDDR3 or 2400MHz DDR4 / stemboard, no sockets						(,	Security chip System Mgt Fingerprint reade	Power-on password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified (may be disabled in some region) None rNone
Display	Size Resolution	1	Type	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color	Viewing	Battery	None Integrated Li-ion 42Wh battery
	11.6" HD (1366x	(768)					400:1 or 500:1	Gamut 45%	Angle 90°	Max battery life	<i>MobileMark</i> [®] 2014: 13.9 hr
	11.6" HD (1366x					16:9	800:1	45%	170°	AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
Multi-touch (opt)	Capacitive-type	e mult in EM	i-touch EA)	, supports	s 10-finger	gesture	e (HD WVA onl	y,			 45W slim tip AC adapter 65W USB-C AC adapter
Storage	eMMC flash m	emory	on bo	ard or						1 <u></u>	65W slim tip AC adapter
Optical	M.2 2242 SSD None	/ PCI	e NVM	e, PCle 3	.0 x 2					(optional)	 One of the following, configurable by model: Windows[®] 10 Home 64
Ethernet	Realtek RTL81	Realtek RTL8111GUS Gigabit Network Connection								_	Windows 10 Pro 64 Windows 10 Pro in S mode
WLAN + Bluetooth™	One of the following, configurable by model: • Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card • Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card (US only • Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.1, M.2 card								only)	Limited warranty	One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service
WWAN	None									Mil-Spec test	MIL-STD-810G military testing
SIM card	None									Environment	EPEAT™ Silver; ENERGY STAR [®] 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

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ThinkPad 11e Yoga Gen 6 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Ge	eneration	Intel®	Core™	™ m / i5 P	rocessor					Smart card reade	
	Proces Numbe	er (# of Cores	# of Threads		Burst cy Frequenc	У	Memory Typ	bes	Processor Graphics	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	m3-810	OY	2	4	1.1 GH: 1.3 GH:	z 3.9 GHz	_	LPDDR3-18		ntel UHD aphics 61	5	HDMI1.4, headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	suppo suppo	rts three	nal dig indep	ital mo endent	nitor via l displays	H́DMI or Us ;		-C; 40x2160@3	30Hz (HDMI)	Camera Audio support	 HD720p resolution, low light sensitive, fixed focus Optional World facing camera, 5MP resolution, auto focus HD Audio, Realtek® ALC3287 codec Dolby® Advanced Audio /
Chipset Memory	Intel SoC (System on Chip) platform 4GB or 8GB / 1866MHz or 2133MHz LPDDR3 /											stereo speakers, 2W x 2 / monaural microphone, headphone / microphone combo jack
Monory	solder	soldered to systemboard, no sockets * System clocks down for processors with lower memory controller									Keyboard Touchpad	6-row, spill-resistant, multimedia Fn keys Buttonless Mylar surface multi-touch touchpad below keyboard
Display		Resolution				Brightness	Aspect Ratio	Contrast Ratio	Colo Gami	ut Angle		Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified None
MultiTouch	Capac		e multi	-touch,	Glossy , supports	250 nits s 10 fingers	16:9 gesture	800:1 e, Corning®	45% Gorill		Fingerprint reade	
Hinge Convertible mode Pen <i>(Optional)</i>	LaptopPen	upgradab	and ăi ble (wi	nd table th a pe	en garage	e ready) port, batter	ies requ	iired, on-bo	oard ga	ırage	Battery Max battery life	Integrated Li-Polymer 46Wh battery MobileMark® 2014: 15.69 hrs MobileMark 2018: 11.05 hrs * Battery life varies significantly with hardware configurations, settings, usage, & other factor
Storage Optical	M.2 22 None	242 SSD	/ PCle	e NVM	e, PCle 3	.0 x 2					AC adapter	45W or 65W USB-C AC adapter
Ethernet		(support l	MAC	pass th	rough)						 Light sensor G-sensor 	None Yes
WLAN + Bluetooth™								c + Bluetoo th 5.0, M.2		M.2 car		None n <i>Optional:</i> Windows [®] 10 Home 64 or Windows 10 Pro 64
WWAN	Intel None	Wi-Fi 6 A	X200	, Wi-Fi	2x2 802.	11ax + Blu	etooth 5	.0, M.2 card	d		Limited warranty	1-year depot repair service
SIM card	None										Mil-Spec test	1-year depot with 2-year system board repair service MIL-STD-810G military testing
Dimensions Weight Case color		<i>H:</i> 11.54 3.1 lb / 1.4		15" x 0).78"; 2	293mm x 2)7mm x	19.9mm			Environment	EPEAT™ Silver; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant
Case material		y cover: n:		ABS pla ABS pla								

Note: The specifications above may not be available in all regions.









ThinkPad Yoga 11e (5th Gen) Platform Specifications

Product Specifications Reference (PSREF)

Processor	7th Generatior Intel Pentium®				ssor, Inte	el Cele	eron® process	or, or	Dimensions Weight	<i>WxDxH:</i> 11.81" x 8.27" x 0.89"; 300mm x 210mm x 22.5mm From 3.4 lb / 1.54kg
	Processor Number	# of Cores	# of Threads	Base Frequency Fr	Burst equency	Cache	Memory Types	Processor Graphics	Case color Case material	Black Display cover: PC/ABS+GF; Bottom: PC/ABS plastic
	m3-7Y30 i5-7Y54	2		1.2 GHz 3	2.6 GHz 3.2 GHz	4MB 4MB	LPDDR3-1866	Intel HD Graphics 615	Smart card reade Media reader Ports	rrNone MicroSD card reader Two USB 3.1 Gen 1.
	Celeron N4100 Celeron N4120		4	-	2.4 GHz 2.6 GHz	4MB 4MB		Intel UHD Graphics 600		one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI1.4, Ethernet (RJ-45), headphone / microphone combo jack,
	Pentium Silver N5000	4		1.1 GHz 2	2.7 GHz	4MB	DDR4-2400	Intel UHD	Control buttons	microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed Power button, volume control button
	Pentium Silver N5030			1.1 GHz 3	8.1 GHz	4MB		Graphics 605	Camera	One of the following, configurable by model:
Graphics	Intel HD Graph supports exter supports dual Max resolution	nal dig	gital mor endent d	nitor via HDM lisplay:	II or USE	3 Туре	-C;	iz (HDMI)	Audio support	720p: HD720p resolution, low light sensitive, fixed focus World facing: Rear camera, 5MP resolution, auto focus HD Audio, Realtek® ALC3287 codec Dolby Audio™ / stereo speakers, 2W x 2 / monaural microphone, headphone / microphone combo jack
Chipset Memory	Intel SoC (Sys 4GB or 8GB /	stem or 1866N	n Chip) µ /IHz LPD	olatform DR3 or 2400					Keyboard Touchpad	6-row, multimedia Fn keys Buttonless Mylar surface touchpad below keyboard, multi-touch
Display MultiTouch Hinge	4GB or 8GB / 1866MHz LPDDR3 or 2400MHz DDR4 / soldered to systemboard, no sockets 11.6" (295mm) HD (1366x768), glossy, LED backlight, WVA, 250 nits, 16:9 aspect ratio, 800:1 contrast ratio, 170° viewing angle, Corning [®] Gorilla [®] Gl. Capacitive-type multi-touch, supports 10 fingers Yoga hinge, 360 degree								Security Security chip System Mgt Fingerprint reader NFC	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified (may be disabled in some region) None r None None
Convertible mode Pen <i>(Optional)</i>	 Laptop, tent, s Pen upgrada ThinkPad Pe 	tand ă Ible (w	ind table vith a per	n garage read		garag	e		Battery Max battery life	Integrated Li-Ion 42Wh battery MobileMark [®] 2014: 12 hrs * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage	eMMC flash m M.2 2242 SSD				2				AC adapter	 45W slim tip AC adapter 65W slim tip AC adapter
Optical	None								-	 45W USB-C AC adapter 65W USB-C AC adapter
Ethernet	Realtek RTL8			-	ork Conn	ection			Preload	One of the following, configurable by model:
WLAN	One of the follow Intel Wireless Intel Wireless Intel Wireless	s-AC 9 s-AC 9	9260, Wi- 9560, Wi-	-Fi 2x2 802.1 -Fi 2x2 802.1	1ac + Bl	uetoo	th 5.0, M.2 ca	rd rd		 Windows® 10 Home 64 Windows 10 Pro 64 Windows 10 Pro in S mode
Bluetooth™	 Intel Wi-Fi 6 Bluetooth wire 								Limited warranty	One of the following, configurable by model: • 1-year depot repair service
WWAN SIM card	None None									 3-year/1-yr battery depot repair service
	NULLE								Mil-Spec test	MIL-STD-810G military testing
									Environment	EPEAT™ Gold; ENERGY STAR [®] 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

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ThinkPad E14 Platform Specifications

Processor	10th Concration Intol® Coro	1 i2 / i5 / i7 Proposer			Dimensions				
Processor	10th Generation Intel [®] Core [™] * <i>i7-10710U is NOT available in E</i>				Dimensions	Case Material	Dimensions (WxDxH)		
	Processor # of # of E	Base Max Turbo	Memory	Processor		Aluminum	12.80" x 9.13" x 0.70"; 325mm x 232mm x 17.9mm		
		quency Frequency Cache	Types	Graphics		PC/ABS	12.80" x 9.13" x 0.81"; 325mm x 232mm x 20.5mm		
		1 GHz 4.1 GHz 4MB 6 GHz 4.2 GHz 6MB	1 1	Intel UHD Graphics		Aluminum Display cover + PC/ABS Bottom	12.80" x 9.13" x 0.74"; 325mm x 232mm x 18.9mm		
	1/-105100 1.8	8 GHz 4.9 GHz 8MB		Intel UHD Graphics	Weight	Case Material	Weight		
	i7-10710U 6 12 1.1	1 GHz 4.7 GHz 12MB			1	Aluminum	starting at 3.81 lb / 1.73 kg		
Graphics	Integrated Graphics	Discrete Graphics (Memory)		-	PC/ABS	starting at 3.90 lb / 1.77 kg		
	Intel UHD Graphics	-				Aluminum Display cover + PC/ABS Bottom	starting at 3.74 lb / 1.69 kg		
	Intel UHD Graphics	AMD Radeon 625 (20	/		Case color	Black or silver			
		MD Radeon RX 640 Graph		R5)	Case material	Display cover: Aluminum	n or PC/ABS plastic:		
	supports external digital moni supports three independent d	lisplays;				Bottom: Aluminum	n or PC/ABS plastic		
	Max resolution: 3840x2160@	060Hź (USB Type-C); 3	840x2160@3	0Hz (HDMI)	Smart card reade Media reader	rNone None			
Chipset	Intel SoC (System on Chip) p	latform			Ports	One USB 2.0, two USB 3	.1 Gen 1 (one Always On),		
Memory	16GB max / 2666MHz DDŔ4,	, one DDR4 SO-DIMM s	ocket		-	one USB 3.1 Type-C Gen	1 (with the function of Power Delivery and DisplayPort),		
Display	Size Resolution Type	Surface Brightness	spect Contra latio Ratio			HDIVII 1.40, Ethernet (HJ-	45), headphone / microphone combo jack,		
	14.0" FHD (1920x1080) TN		6:9 400:1				s, actual data transfer speed may be lower than theoretical speed		
	· · · · · · · · · · · · · · · · · · ·		6:9 700:1		Monitor cable Bundled Accy				
Multi-touch	None			<u> </u>	Camera	None			
Storage	Up to two drives (one M.2 SSD ar	nd one HDD)				 HD720p camera, fixed f HD720p camera with The second s	hinkShutter camera privacy, fixed focus		
0	• HDD / SATA 6.0Gb/s, 2.5" v	wide, 7mm high, Active F	Protection Sys	tem™	Audio support	HD Audio, Synaptic [®] CX1	1880 codec /		
	 M.2 2280 SSD / SATA 6.0G M.2 2242 SSD / PCIe NVM 		3.0 x 4			stereo speakers, 2W x 2,	Dolby [®] Advanced Audio / eadphone / microphone combo jack		
	 M.2 2280 SSD / PCIe NVM 	e, PCIe 3.0 x 4			Keyboard		timedia Fn keys, optional LED backlight		
	 Intel Optane[™] Memory H10 M.2 2280, PCIe NVMe 3.0 x) with Solid State Storag	e,		UltraNav™	TrackPoint [®] pointing devic	device and buttonless Mylar surface multi-touch touchpa		
Optane™ memor	y• Intel Optane memory, PCIe				Security	Power-on password, hard	l disk password, supervisor password, security keyhole		
(optional)	 Intel Optane™ Memory integ 	grated with SSD, PCIe I	VMe 3.0 x 4		Security chip		ete TPM 2.0, TCG Certified		
Optical	None	Deallel Doddo UD			System Mat	None	vare TPM 2.0 integrated in chipset		
Ethernet	Gigabit Ethernet Connection,				Fingerprint reader		gerprint reader on power button		
WLAN + Bluetooth™	 One of the following, configura Realtek[®] RTL8822CE, Wi-F 		oth 50 M 2 c	ard	NFČ	None			
Dideteetii	 Intel Wireless-AC 9560, Wi-I 				Battery	Integrated Li-Polymer 45	Nh battery, charge up to 80% in 1hr) with 65W AC adapter		
	Intel Wi-Fi 6 AX201, Wi-Fi 2	x2 802.11ax + Bluetooth	n 5.0, M.2 car	d	Max battery life	MobileMark [®] 2014: 12.8	hr		
WWAN SIM card	None None				AC adapter	* Battery life varies significat 45W or 65W USB-C AC a	ntly with hardware configurations, settings, usage, & other factors adapter		
Citil Ouro						One of the following, configu			
					(optional)	 Windows[®] 10 Home 64 			
						 Windows 10 Pro 64 Windows 10 Pro in S m 	odo		
						 Windows TO Pro In S m No OS 			
					Limited warranty	 1-year mail-in repair set 	rvice		
					(optional)	 1-year depot repair serv 	vice		
						 1-year depot with 2-yea 1-year limited onsite se 	r system board repair service		
					Mil-Spec test	MIL-STD-810G military te			
					Environment	,	STAR® 7.1; TCO Certified; RoHS-compliant		
NI 1 TI 10	ations above may not be available	- in all maniana							

Note: The specifications above may not be available in all regions.











AMD

ThinkPad E14 Gen 2 (AMD) Platform Specifications

Product Specifications Reference (PSREF)

Processor				essors with able in EMEA		Graphics			Smart card reade Media reader	None
	Processor Number	# of Cores	# of Threads	Base Clock	Max Boost Clock	Cache	Memory Types	Processor Graphics	Ports	One USB 2.0, one USB 3.2 Gen 1 (Always On), one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort 1.2),
	Ryzen 3 4300U	4	4	2.7 GHz	3.7 GHz	2MB L2 / 4MB L3				HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, security keyhole
	Ryzen 5 4500U	6	6	2.3 GHz	4.0 GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon	Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed None
	Ryzen 7 4700U	8	8	2.0 GHz	4.1 GHz	4MB L2 /	DD114-3200	Graphics	Bundled Accy Camera	None One of the following, configurable by model:
	Ryzen 7 4800U	8	16	1.8 GHz	4.2 GHz	8MB L3				 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Graphics	supports	up to 3 i	ndepend	n processor; ident displays via native display and two external monitors irs via HDMI (up to 3840x2160@30Hz) or					·	HD Audio, Realtek ALC3287 codec / stereo HARMAN-branded speakers, 2W x 2, Dolby Audio® / dual array microphone, headphone / microphone combo jack
Chipset				USB T ip) platform	ype-C (up	to 3840x2	160@60Hz)	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight
Memory	20GB or 2	24GB ma	ax / 3200	OMHz DDR	4, dual-cha	nnel capa	ıble		UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Display	4GB or 80	GB mem	ory sold	lered to sys	temboard,		4 SO-DIMM		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Discrete TPM 2.0, TCG Certified • Firmware TPM 2.0 integrated in chipset
-12	Size	Resolutio		Type Surfa		ness Ra	atio Rati	o Angle	System Mgt	None
	14.0" FHD 14.0" FHD	<u>`</u>		TN Anti-gl VVA Anti-gl			3:9 400: 3:9 700:		Fingerprint reade NFC	or Optional: Touch style fingerprint reader on power button None
Multi-touch	None								Battery	Integrated Li-Polymer 45Wh battery,
Storage	Up to two d • M.2 224	12 SSD /		IVMe, PCIe IVMe, PCIe	3.0 x 4				Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 13 hrs * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Optical	None	50 330 /	FOIEIN	i vivie, r cie	3.0 X 4				AC adapter	65W USB-C AC adapter
Ethernet				ion, Realtek		S			Operating system	● Windows® 10 Home 64 ● Windows 10 Pro 64
WLAN + Bluetooth™	 Realtek[®] Intel Wi- 	◎ RTL88 ·Fi 6 AX2	22CE, W 200, Wi-l	able by mode Vi-Fi 2x2 80 Fi 2x2 802. Tavailable in	2.11ac + B I1ax + Blue		5.0, M.2 card , M.2 card	ł		 1-year mail-in repair service 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service
WWAN	None								Mil-Spec test	MIL-STD-810G military testing
SIM card Dimensions	None				5		5 ()		Environment	EPEAT™ Gold; ENERGY STAR® 8.0; ErP lot3; TCO Certified; RoHS-compliant
Dimensions	Case Ma			10.76" × 0.0		sions (W)	/	17.0mm		
	Aluminun PC/ABS	11					x 220mm x x 220mm x			
	Aluminun PC/ABS						x 220mm x			
Weight	Case Ma	terial				Weight				
	Aluminun	п			starting a	at 3.62 lb /	/ 1.64 kg			
	PC/ABS				starting a	at 3.73 lb /	/ 1.69 kg			
	Aluminun PC/ABS	n (top) + (bottom)			starting a	at 3.51 lb /	′ 1.59 kg			
Case color	Black Display co Bottom:	over: Al Al	uminum uminum	or PC/ABS	plastic; plastic					
Note: The specifi	cations above	e mav no	t be avai	ilable in all re	eaions.					Lenovo

Note: The specifications above may not be available in all regions.





(intel) inside



(intel)



(intel)

ThinkPad E15 Platform Specifications

Product Specifications Reference (PSREF)

	10th Generation Intel [®] Core™ i3 / i5 / i7 Processor * <i>i7-10710U is NOT available in EMEA</i>	Dimensions Weight	<i>WxDxH:</i> 14.49" x 9.65" x 0.74"; 368mm x 245mm x 18.9mm Starting at 4.3 lb / 1.9 kg
	Processor # of Cores # of Threads Base Frequency Max Turbo Frequency Cache Memory Types Processor Graphics i3-10110U 2 4 2.1 GHz 4.1 GHz 4MB	Case color Case material	Black or silver Display cover: Aluminum; Bottom: PC/ABS plastic
	i5-10210U 4 8 1.6 GHz 4.2 GHz 6MB DDR4-2666 Intel UHD Graphics	Smart card reader Media reader Ports	None One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	Integrated Graphics Discrete Graphics (Memory) Intel UHD Graphics - Intel UHD Graphics AMD Radeon 625 (2GB GDDR5) Intel UHD Graphics AMD Radeon RX 640 Graphics (2GB GDDR5)	Monitor cable Bundled Accy	HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed None
			 HD720p camera, fixed focus HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic[®] CX11880 codec / stereo speakers, 2W x 2, Dolby[®] Advanced Audio /
Chipset Memory	Intel SoC (System on Chip) platform 16GB max / 2666MHz DDR4, one DDR4 SO-DIMM socket		dual array microphone, headphone / microphone combo jack
Display	Size Resolution Type Surface Brightness Aspect Contrast Viewing Angle	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	Size Resolution Type Surface Brightness Ratio Ratio Angle 15.6" FHD (1920x1080) TN Anti-glare 220 nits 16:9 400:1 90° 15.6" FHD (1920x1080) WVA Anti-glare 250 nits 16:9 700:1 170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified Discrete model: firmware TPM 2.0 integrated in chipset
Multi-touch	None	System Mgt	None
	Up to two drives (one M.2 SSD and one HDD) • HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™	NFC	r <i>Optional:</i> Touch style fingerprint reader on power button None
	 M.2 2280 SSD / SATA 6.0Gb/s M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 or PCIe 3.0 x 4 M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4 Intel OptaneTM Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 	Battery Max battery life AC adapter	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark® 2014:</i> 12.2 hr * <i>Battery life varies significantly with hardware configurations, settings, usage, & other factors</i> 45W or 65W USB-C AC adapter
<i>(optional)</i> Optical	 Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2 Intel Optane[™] Memory integrated with SSD, PCIe NVMe 3.0 x 4 None 	(optional)	 Windows[®] 10 Home 64 Windows 10 Pro 64 Windows 10 Pro in S mode
	Gigabit Ethernet Connection, Realtek R8111GUS		1-year mail-in repair service
Bluetooth™	One of the following, configurable by model: • Realtek® RTL8822CE, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card • Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card	(optional)	 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service
	Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0, M.2 card None		MIL-STD-810G military testing
	None	Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions.









ThinkPad E15 Gen 2 (AMD) Platform Specifications

Product S	pecifications	Reference	(PSRFF)
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Processor AMD Ryzen [™] Mobile Processors with Radeon [™] Graphics (Ryzen 7 4800U is NOT available in EMEA)						Graphics			Smart card reade Media reader	None
	Processor Number	# of Cores	# of Threads	Base Clock	Max Boost Clock	Cache	Memory Types	Processor Graphics	Ports	One USB 2.0, one USB 3.2 Gen 1 (Always On), one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort 1.2),
	Ryzen 3 4300U	4	4	2.7 GHz	3.7 GHz	2MB L2 / 4MB L3				HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, security keyhole
	Ryzen 5 4500U	6	6	2.3 GHz	4.0 GHz	3MB L2 / 8MB L3	- DDR4-3200	AMD Radeon	Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed None
	Ryzen 7 4700U	8	8	2.0 GHz	4.1 GHz	4MB L2 /	0200	Graphics	Bundled Accy Camera	None One of the following, configurable by model:
	Ryzen 7 4800U	8	16	1.8 GHz	4.2 GHz	8MB L3				 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Graphics	AMD Rade supports u	p to 3 ir	ndepend	ent display	s via native	e display a	and two exte	ernal monitors	Audio support	HD Audio, Realtek ALC3287 codec / stereo HARMAN-branded speakers, 2W x 2, Dolby Audio [®] / dual array microphone, headphone / microphone combo jack
		supports external monitors via HDMI (up to 3840x2160@30Hz) or USB Type-C (up to 3840x2160@60Hz) AMD SoC (System on Chip) platform							Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight
Chipset Memory	AMD SoC 20GB or 24	(Syster 4GB ma	n on Chi ax / 3200	p) platform MHz DDB	4. dual-cha	annel capa	able		UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	20GB or 24GB max / 3200MHz DDR4, dual-channel capable 4GB or 8GB memory soldered to systemboard, one DDR4 SO-DIMM socket							l socket	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Discrete TPM 2.0, TCG Certified
Display	Size Reso	olution		Type Surf	ace Brigh	ntness As	pect Cont atio Rat		System Mat	Firmware TPM 2.0 integrated in chipset None
		(1920x		TN Anti-			6:9 400	:1 90°	Fingerprint reade	r Optional: Touch style fingerprint reader on power button
Multi-touch	15.6" FHD	(1920x ⁻	1080)	WVA Anti-	glare 250) nits 1	6:9 700	:1 170°	Battery	None Integrated Li-Polymer 45Wh battery.
Storage	Up to two dr • M.2 2242 • M.2 2280	2 SSD /							Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark [®] 2014: 12.7 hrs * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Optical	None								AC adapter	65W USB-C AC adapter • Windows® 10 Home 64
Ethernet	Gigabit Eth			,		JS			(optional)	Windows 10 Pro 64
WLAN + Bluetooth™	 One of the following, configurable by model: Realtek® RTL8822CE, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0, M.2 card (Realtek RTL8822CE is NOT available in EMEA) 								Limited warranty (optional)	 1-year mail-in repair service 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service
WWAN SIM card	None None								Mil-Spec test	MIL-STD-810G military testing
Dimensions Weight Case color Case material	WxDxH: Starting at Black Display con Bottom:	3.75 lb <i>ver:</i> Al	/ 1.7 kg	" x 0.74"; lastic	365mm	x 240mm	x 18.9mm		- Environment	EPEAT™ Gold; ENERGY STAR®8.0; ErP lot3; TCO Certified; RoHS-compliant

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ThinkPad E480 Platform Specifications

Product Specifications Reference (PSREF)

Processor	7th Generation Ir (i3-7130U is NOT				or			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm PC/ABS (WxDxH): 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm
	Processor # of	# of	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight Case color Case material	Starting at 3.87 lb / 1.75kg Black or silver <i>Display cover:</i> Aluminum or PC/ABS plastic;
	i3-7020U i3-7130U 2	4	2.3 GHz 2.7 GHz	-	3MB 3MB	DDR4-2133	Intel HD Graphics 620		Bottom: PC/ABS plastic
	i5-7200U		2.5 GHz	3.1 GHz	3MB		020	Smart card reade Media reader	MicroSD card reader
	8th Generation Ir Processor # of	tel Core # of	13 / 15 / 17 I Base	Processor Max Turbo		Memory	Processor	Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),
	Number Cores	Threads	Frequency	Frequency	Cache	Types	Graphics		HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole
	i3-8130U 2 i5-8250U	4	2.2 GHz 1.6 GHz	3.4 GHz 3.4 GHz	4MB 6MB	DDR4-2400	Intel UHD Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i7-8550U 4	8	1.8 GHz	4.0 GHz	8MB	22	620	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11852 codec /
Graphics	Intel HD Graphics Intel HD Graphics	s 620 or	Intel UHD	Graphics 6	20 in pi	rocessor an	lly or Id		stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	AMD Radeon RX supports externa	l digital r	nonitor via					Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint®pointing device and buttonless Mylar surface multi-touch touchpad
	supports dual ind Max resolution: 1	epender 920x10	nt display; 80 (HDMI)	@60Hz				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM socke * System clocks down for processors with lower memory controller							System Mgt	(may be disabled in some region) None r <i>Optional:</i> Touch style fingerprint reader on the palm rest
Display	Some: 14.0" (35	5mm) H	D (1366x76	58), anti-gla	are, LEI	D backlight,		NFC	None
	Some: 14.0" (35	5mm) Fİ	ect ratio, 4 HD (1920x ect ratio, 4	1080), anti-	glare, L	ED backlig	ht, WVA,	with 65W AC adapter	
Multi-touch	None				131 1410			Max battery life	MobileMark [®] 2014: 13.51 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage	Up to 2 drives (one Some: HDD / SA				ahla ur	aradahla		AC adapter	45W or 65W USB Type-C AC adapter
	Active Pro	otection \$	System™	ide, remova	abie, up	grauable,			Deptional: Windows® 10 Home 64 or Windows 10 Pro 64 One of the following, configurable by model:
Optane™ memor Optical	Some: M.2 SSD y Optional: Intel O None			e NVMe, P	Cle 3.0) x 2		Limited warranty	 1-year mail-in repair service 1-year depot repair service
Ethernet	Gigabit Ethernet	Connect	ion, Realte	k R8111G	JS			Mil-Spec test	MIL-STD-810G military testing
WLAN + Bluetooth™	One of the following • Realtek® RTL88 • Realtek RTL88 • Intel Dual Band • Intel Dual Band	321CE, V 22BE, W Wireles	Vi-Fi 1x1 8 i-Fi 2x2 80 s-AC 3165,	02.11ac + I 2.11ac + B , Wi-Fi 1x1	luetooth 802.11	n 4.1, M.2 c ac + Blueto	ard oth 4.1, M.2 card	Environment	EPEAT™ Gold (US only); ENERGY STAR [®] 6.1; TCO Certified; RoHS-compliant
WWAN SIM card	None None ations above may no								Lenove

Note: The specifications above may not be available in all regions.

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ThinkPad E490 Platform Specifications

Product Specifications Reference (PSREF)

Dragonar	8th Generation In	tal® Cara		7 Draaaaa					Dimensione	Aluminum (MuDull), 10.00" v.0.50" v.0.78", 200mm v.040mm v.10.0mm
Processor								2	Dimensions	<i>Aluminum (WxDxH):</i> 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm <i>PC/ABS (WxDxH):</i> 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm
	Processor # of Number Cores	# of		Max Turbo Frequency	Cache	Memory Types		Processor Graphics	Weight	Starting at 3.87 lb / 1.75 kg
	i3-8145U 2	4	2.1 GHz	3.9 GHz	4MB	Types		Chapriles	Case color	Black or silver
	i5-8265U		1.6 GHz	3.9 GHz	6MB				Case material	Display cover: Aluminum or PC/ABS plastic;
	i5-8365U 4	8	1.6 GHz	4.1 GHz	6MB	DDR4-24	00 Intel	UHD Graphics		Bottom: PC/ABS plastic
	i7-8565U	Ĩ	1.8 GHz	4.6 GHz	8MB				Smart card reade Media reader	rNone MicroSD card reader
	* i5-8365U is for spe	eicial bid o	nly						Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On),
Graphics	Intel UHD Graphi Intel UHD Graphi AMD Radeon RX supports external supports dual ind Max resolution: 4	cs in proc cs in proc 550X Gr digital m ependen	cessor only cessor and aphics, 2G onitor via I t display:	B GDDR5 IDMI or US	SB Тур	e-C;	@24Hz	(HDMI)	Monitor cable Bundled Accy	one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed None None
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM so * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation								Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic [®] CX11880 codec / stereo speakers, 1.5W x 2, Dolby [®] Advanced Audio / dual array microphone, headphone / microphone combo jack
Display	Size / Resolution	Туре		Brightness	Ratio	Contrast Ratio	Angle	wulli-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	14.0" HD (1366x76	/			16:9	400:1	90°	Non-touch	Security	Power-on password, hard disk password, supervisor password, security keyhole
	14.0" FHD (1920x1		Anti-glare		16:9	400:1	90°	Non-touch	Security chip	Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified
	14.0" FHD (1920x1	080) WVA	Anti-glare	250 nits	16:9	600:1	170°	Non-touch		(may be disabled in some region)
Multi-touch	None								System Mgt	None
Storage	Up to two drives (or • HDD / SATA 6.0				ntivo Pr	otection	Svetom	тм	NFC	r Optional: Touch style fingerprint reader on the palm rest None
	• M.2 2280 SSD	/ SATÁ 6.	0Gb/s	0 /			Jystem		Battery	Integrated Li-Polymer 45Wh battery,
	 M.2 2242 SSD M.2 2280 SSD * Installed M.2 2280 	/ PCIe N SSD is P	VMe, PCIe Cle 3x4 but	3.0 x 4 run at PCIe 3			SD adapi	ter limitation	Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 13 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Optane™ memory	Optional: Intel Op	otane me	mory, PCIe	e NVMe, PO	Cle 3.0	x 2			AC adapter	45W or 65W USB-C AC adapter
Optical	None								Operating system	Optional: Windows [®] 10 Home 64 or Windows 10 Pro 64
Ethernet	Gigabit Ethernet		,		15				Limited warranty	One of the following, configurable by model:
WLAN + Bluetooth™	One of the follow	ing, confi	gurable by	model:			0			1-year mail-in repair service
Diueloolii'''	Realtek® RTL88 Intel Wireless-A	522BE, W C 9260, V	1-FI 2x2 80 Ni-Fi 2x2 8	2.11ac + B 02.11ac +	Bluetoo	n 4.2, M. oth 5.0, N	2 card 1.2 card	k		 1-year depot repair service 1-year limited onsite service
WWAN	None								Mil-Spec test	MIL-STD-810G military testing
SIM card	None								Environment	EPEAT™ Silver; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions.

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ThinkPad E495 Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Ryz	en [™] Mo	bile Pro	cessors wit	h Radeon	' Vega G	iraphics			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm
	Processor Number		# of Threads	Base Clock	Max Boost Clock	Cache	Memory Controlle		Processor Graphics	Weight	<i>PC/ABS (WxDxH):</i> 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm Starting at 3.87 lb / 1.75 kg
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	1MB L2 4MB L3	/		adeon Vega 3 Graphics	Case color Case material	Black Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic
	Ryzen 5 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3		00 R	ladeon Vega 8 Graphics	Smart card reade	rNone
	Ryzen 7 3700U	4	0	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Ra	adeon RX Vega 10 Graphics	Media reader Ports	MicroSD card reader One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	supports supports Max reso	externa dual in lution:	al digital depende 3840x21	ga 8, or R) monitor via nt display; 60@60Hz	HDMI or U	JSB Typ	e-C;	-	z (HDMI)	Monitor cable Bundled Accv	HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed None None
Chipset Memory	AMD SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * Installed memory is actually 2666MHz but run at 2400MHz due to AMD limitation									Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio /
Display	Size / Res	olution	Ту	pe Surface	Brightnes	s Aspect Ratio	Contrast \ Ratio	/iewing Angle			dual array microphone, headphone / microphone combo jack
	14.0" HD (N Anti-glar	_	16:9	400:1	90°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	None	(1920x	1080) W	VA Anti-glar	e 250 nits	16:9	600:1	170°	Non-touch	Security Security chip	r chip rint reader None None Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Storage	• HDD / S	SATA 6.	0Gb/s, 2	SD and one 2.5" wide, 7	nm high, A	Active Pr	otection S	ystem	ז™	Fingerprint reade	
Optical	 M.2 224 	2 SSD	/ PCle I	NVMe, PCI NVMe, PCI	e 3.0 x 2 o	r PCle 3	.0 x 4			Battery Max battery life	
Ethernet	Gigabit E	thernet	Connec	tion, Realte	k R81110	iUS] '	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
WLAN +				figurable b						AC adapter	45W or 65W USB-Č AC adapter
Bluetooth™	 Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card 										Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN SIM card	None None	None								Limited warranty	 1-year mail-in repair service 1-year depot repair service 1-year limited onsite service
-										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions.









ThinkPad E595 Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Ryzen [™] Me	obile Pro	cessors wit	h Radeon [®]	Vega G	iraphics			Dimensions	WxDxH: 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.9mm
	Processor # of Number Cores	# of Threads	Base Clock	Max Boost Clock	Cache	Memory Controlle		Processor Graphics	Weight Case color	Starting at 4.7 lb / 2.1 kg Black
	Ryzen 3 3200U 2	4	2.6 GHz	3.5 GHz	1MB L2 4MB L3	/		deon Vega 3 Graphics	Case material	Display cover: Aluminum; Bottom: PC/ABS plastic
	Ryzen 5 3500U	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-240		deon Vega 8 Graphics	Smart card reade Media reader	MicroSD card reader
	Ryzen 7 4 3700U	0	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3			leon RX Vega 0 Graphics	Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack,
Graphics	AMD Radeon Ve supports extern supports dual in Max resolution:	al digital depende	monitor via ent display;	HDMI or l	JSB Typ	e-C;	,	(HDMI)	Monitor cable Bundled Accy	* Depending on many factors, actual data transfer speed may be lower than theoretical speed None None
Chipset Memory	AMD SoC (Syst 32GB max / 240 * Installed memory	00MHz D	DR4, dual-	channel ca	00MHz a	lue to AMD I	imitatio	on	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic [®] CX11880 codec / stereo speakers, 2W x 2, Dolby [®] Advanced Audio / dual array microphone, headphone / microphone combo jack
Display	Size / Resolution	-	•	Brightnes	Ratio		Angle	Multi-touch		6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	15.6" FHD (1920x	.6" HD (1366x768) TN Anti-glare 220 nits 16:9 400:1 90° Non-touch .6" FHD (1920x1080) WVA Anti-glare 250 nits 16:9 600:1 170° Non-touch							Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified
Multi-touch	None								Fingerprint reader	rNone
Storage	Up to two drives (• HDD / SATA 6 • M.2 2242 SSD	.0Gb/s, 2) / PCle l	2.5" wide, 7 VVMe, PCI	mm high, A e 3.0 x 2 o			stem™	М	Battery	None Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	 M.2 2280 SSE None) / PCle	NVMe, PCI	e 3.0 x 4					Max battery life	MobileMark [®] 2014: 10.3 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Ethernet	Gigabit Etherne	t Conneo	tion, Realte	ek R8111G	US				AC adapter	45W or 65W USB-Č AC adapter
WLAN + Bluetooth™	One of the follow									Optional: Windows® 10 Home 64 or Windows 10 Pro 64
	 Realtek[®] RTL8 Intel Wireless- 							1	Limited warranty	One of the following, configurable by model: • 1-year mail-in repair service
WWAN SIM card	None None									 1-year depot repair service 1-year limited onsite service
									Mil-Spec test	MIL-STD-810G military testing
									Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions.



ThinkPad L13 Platform Specifications

Processor	Intel [®] Cel	eron® P	rocesso	r or 10th Ge	eneration Inte	Core⊤	™ i3 / i5 /	i7 Process	or	Smart card reader	r Optional: Smart card reader	
	Processor # of # of Base Max Turbo Cache Memory Processor Number Cores Threads Frequency Frequency Cache Memory Processor Graphics						Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), Two USB 3.1 Gen 1 (one Always On),				
	Celeron 5205U	2	2	1.9 GHz			DR4-2400				two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector,	
	i3-10110U i5-10210U	-	4	2.1 GHz 1.6 GHz	-	MB MB		Intel UHD G	araphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed	
	i5-10310U i7-10510U i7-10610U	4	8	1.7 GHz 1.8 GHz 1.8 GHz	4.9 GHz 8	MB DE MB MB	DR4-2666			Monitor cable (optional)	 Lenovo USB-C to VGA Adapter Lenovo USB-C to HDMI Adapter Lenovo USB-C to DisplayPort Adapter 	
Graphics	Intel UHD Graphics in processor; supports external digital monitor via HDMI or USB Type-C;								VII)	 Lenovo HDMI to VGA Mónitor Adapter Lenovo USB-C to USB-A Adapter Lenovo USB-C to USB-C Cable 2m Lenovo USB-C to Ethernet Adapter ThinkPad Ethernet Extension Adapter Gen 2 		
Chipset Memory	4GB. 8GE	3. or 160	GB / 266	p) platform 6MHz DDF cessor with I	4 / soldered	o syst ontrolle	emboard er				 One of the following, configurable by model: HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic[®] CX11880 codec / 	
Display		olution		pe Surface	Ŭ	Aspec Ratio	Contra	ast Hatio	Viewing Angle		stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium / dual array microphone, headphone / microphone combo jack	
	13.3" HD			N Anti-glar	250 nits	16:9		00:1	90°		6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch	
	13.3" FHE	D (1920x ⁻	1080) W	VA Anti-glar	e 300 nits (multi-touch)	16:9		nulti-touch)	170°		Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified	
Multi-touch (opt)		,		0 0	`	ly)				(may be disabled in some region) System Mgt (<i>opt</i>) Intel vPro Technology		
Storage	• M.2 224	42 SSD	/ PCle N	rable by mod IVMe, PCIe IVMe, PCIe	e 3.0 x 2					Fingerprint reader	<i>r Optional:</i> Touch style fingerprint reader on the palm rest None	
	 Intel Op M.2 228 	otane™ I	Memory	H10 with S	olid State Sto	rage,				,	Integrated Li-ion 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter	
Optical Ethernet	None Native Int	el Ether	rnet Con	nection I21	9-V (Non-vPr	2) or 12	219-LM (1	vPro).		,, , .	MobileMark® 2014: 14.1 hr * Battery life varies significantly with hardware configurations, settings, usage, & other fac • 45W USB-C AC adapter	
	RJ45 con	nector v	via optio		d Ethernet Ex						 65W USB-C AC adapter 65W USB-C slim AC adapter 	
WLAN + Bluetooth™	 Intel Wir 	reless-A	C 9560,		<i>model:</i> 302.11ac + Bl 11ax + Bluete					(optional)	Windows® 10 Home 64 Windows 10 Pro 64 Windows 10 Pro in S mode	
WWAN SIM card	None None									(optional)	 1-year depot repair service 1-year depot with 2-year system board repair service 	
Dimensions Weight Case color Case material	WxDxH: 12.26" x 8.62" x 0.69"; 311.5mm x 219mm x 17.6mm Starting at 3.06 lb / 1.38 kg Black or Silver Display cover: Aluminum Bottom: GFRP										 1-year + 2-year depot repair service 1-year + 2-year onsite repair service 1-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 	
											MIL-STD-810G military testing	
Note: The energies										Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant	

Note: The specifications above may not be available in all regions and might change by regions.

Lenovo June 2020



ThinkPad L13 Yoga Platform Specifications

Processor	10th Generation	Intel® Co	ore™ i3 / i5 /	i7 Process	or				Smart card reader	rOptional: Smart card reader
	i3-10110U 2	Number Cores Threads Frequency Frequency Cache Types i3-10110U 2 4 2.1 GHz 4.1 GHz 4MB						sor cs	Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack,
	i5-10210U i5-10310U i7-10510U i7-10610U	8	1.6 GHz 1.7 GHz 1.8 GHz 1.8 GHz	4.4 GHz 4.9 GHz	6MB 6MB 8MB 8MB	DDR4-2666	Intel UHD G	raphics	Monitor cable	optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo USB-C to VGA Adapter • Lenovo USB-C to HDMI Adapter
Graphics	Intel UHD Graph supports externa supports three in Max resolution:	ll digital r idepende 4096x23	nonitor via l ent displays; 04@60Hz (,	30Hz (HDN	11)	Bundled Accessories	 Lenovo USB-C to DisplayPort Adapter Lenovo HDMI to VGA Monitor Adapter Lenovo USB-C to USB-A Adapter Lenovo USB-C to USB-C Cable 2m
Chipset Memory	Intel SoC (Syster 4GB, 8GB, or 16	m on Chi GB / 266	p) platform 6MHz DDR	4 / soldered	d to sys	stemboard,	no sockets	S	(-p)	 Lenovo USB-C to Ethernet Adapter ThinkPad Ethernet Extension Adapter Gen 2
Display	Size Resolution		pe Surface		Rati		Gamut	∕iewing Angle		 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus World facing camera, 5MP resolution, auto focus
Multi-touch	Capacitive-type r	FHD (1920x1080) WVA Anti-reflection 300 nits 16:9 800:1 72% 170° citive-type multi-touch, supports 10-finger gesture, anti-reflection (AR), reduce the brightness by up to 10%								(selectable for fingerprint model only) HD Audio, Synaptic [®] CX11880 codec / stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium /
Hinge Convert-mode Pen <i>(optional)</i>	Yoga hinge, 360 Laptop, tent, star ThinkPad Pen Pr	degree	ıblet		play, or	n-board rec	hargeable		Keyboard	dual array microphone, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Storage	One of the following • M.2 2242 SSD • M.2 2280 SSD • Intel Optane™ M.2 2280, PCI None	<i>g, configui</i> / PCIe N / PCIe N Memory	rable by mode IVMe, PCIe IVMe, PCIe H10 with Se	e <i>l:</i> 3.0 x 2 3.0 x 4					Security chip System Mgt (opt) Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology <i>Optional:</i> Touch style fingerprint reader on the palm rest None
Ethernet	Notice Native Intel Ethe RJ45 connector Lenovo USB-C to	via optioi	nal ThinkPa						Battery Integrated Li-ion 46Wh battery, supports Rapid Charge (charge up to 80% in 1 with 65W AC adapter Max battery life MobileMark® 2014: 12.23 hr * Battery life varies significantly with hardware configurations, settings, usage, & other fact	
WLAN + Bluetooth™	 Intel Wireless-A 	One of the following, configurable by model: • Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card • Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0, M.2 card								 45W USB-C AC adapter 65W USB-C AC adapter 65W USB-C Slim AC adapter
WWAN SIM card	None None <i>WxDxH:</i> 12.26		× 0 colle 21	1.5mm v 01	0.0000.1	(17 Gmm			G-sensor	None Yes None
Dimensions Weight Case color Case material	Starting at 3.17lk Black or Silver Display cover: N	o / 1.43kg /lagnesiu	9		90003	(17.0000			(optional)	• Windows® 10 Home 64 • Windows 10 Pro 64 • Windows 10 Pro in S mode
		θFŘΡ							(optional)	 1-year depot repair service 1-year depot with 2-year system board repair service 1-year + 2-year depot repair service 1-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
										MIL-STD-810G military testing EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant
Noto: The openific	ations above may n	at he ave	ilabla in all r	agiona and i	night o	hongo by ro	aiona			EPEAI M Gold; ENERGY STAR® 7.1; TCO Certified; ROHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.









ThinkPad L14 Gen 1 (AMD) Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Ryzer AMD Ryzer						iics or		Dimensions Weight	<i>WxDxH:</i> 13.03" x 9.25" x 0.80"; 331mm x 235mm x 20.4mm Starting at 3.56 lb / 1.61 kg		
	Processor Number	# of Cores	# of Threads	Base Clock	Max Boost Clock	Cache	Memory Controller	Processor Graphics	Case color Case material	Black Display cover: PC/ABS plastic;		
	Ryzen 3 4300U	4	4	2.7 GHz	3.7 GHz	2MB L2 / 4MB L3				Bottom: PC/ABS plastic er Optional: Smart card reader		
	Ryzen 3 PRO 4450U	4	8	2.5 GHz	3.7 GHz	2MB L2 / 4MB L3			Media reader Ports	MicroSD card reader Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (w/ the function of Power Delivery and DP 1.2),		
	Ryzen 5 4500U	6	6	2.3 GHz	4.0 GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon [™] Graphics		one USB 3.2 Type-C Gen 1 (w) the function of Power Delivery and DP 1.2), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),		
	Ryzen 5 PRO 4650U	6	12	2.1 GHz	4.0 GHz	3MB L2 / 8MB L3				headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keybole		
	Ryzen 7 PRO 4750U	8	16	1.7 GHz	4.1 GHz	4MB L2 / 8MB L3			Monitor cable	 * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter 		
Graphics		o to 4 ir	depend	ent displa	ys via nati			rnal monitors;	<i>(optional)</i> Bundled Accy	 Lenovo USB-C to VGA Adapter Lenovo USB-C to DisplayPort Adapter None 		
	supports ex			USB	Tỳpe-C (u		@24Hz) or x2160@60H	lz)		 ID HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus 		
Chipset Memory	AMD SoC (System on Chip) platform 64GB max / 3200MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets								Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio / dual array far-field microphone (optional for special bid model),		
Display	Size Resolu		Тур			ness R	pect Contrast atio Ratio	Gamut Angle	Keyboard	headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,		
	14.0" HD (1 14.0" FHD (I Anti-gla A Anti-gla	re - 2		6:9 400:1 6:9 700:1	45% 90° 45% 170°	UltraNav™	optional LED backlight TrackPoint®pointing device and buttonless Mylar surface multi-touch touchpad		
•••••	14.0" FHD (1920x1080) WVA Anti-glare Multi-touch 300 nits 16:9 700:1 45% 170°							45% 170°	Security Power-on password, hard disk password, supervisor password, security keyho Security chip Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified			
Multi-touch (opt) Storage	• M.2 2242	SSD /	PCle N	/Me, PCI	e 3.0 x 4				System Mgt (opt) Fingerprint reade) DASH Management or <i>Optional:</i> Touch style match on host fingerprint reader on the palm rest None		
Optical	• M.2 2280 None								Battery	Integrated Li-Polymer 45Wh battery.		
Ethernet	Realtek® R Gigabit Eth				or RTL811	1EPV <i>(D</i>	ASH)		Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 14.36 hr MobileMark 2018: 10.7 hr		
WLAN + BT (opt) WWAN (optional)	Wireless	WAN u	pgradab	le					AC adapter	 * Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W USB-C AC adapter 65W USB-C AC adapter 		
SIM cord (opt)	Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card For non-WWAN model, it means the model is NOT WWAN upgradable								Operating system	n <i>Optional:</i> Windows® 10 Home 64 or Windows 10 Pro 64		
SIM card (opt)	Gemalto es	51IVI							Limited warranty (optional)	 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year onsite repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 		
									Mil-Spec test	MIL-STD-810G military testing		
Noto: The specifier									Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant		

Note: The specifications above may not be available in all regions and might change by regions.



ThinkPad L14 Gen 1 (Intel) Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel [®] Pentiu 10th Genera (i7-10610U is	ation In	tel Core ^T	™ i3 / i5 / i7	7 Processo	r				Dimensions Weight	PC/ABS (WxDxH): 13.03" x 9.25" x 0.80"; 331mm x 235mm x 20.4mm Aluminum: starting at 3.83 lb / 1.73 kg			
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory 1	Types	Processor Graphics	Case color Case material	PC/ABS: starting at 3.56 lb / 1.61 kg Black Display cover: PC/ABS plastic or Aluminum (Aluminum is NOT available in EMEA)			
	Pentium Gold 6405U	2	4	2.4 GHz	-	2MB	DDR4-2	400			Bottom: PC/ABS plastic			
	i3-10110U	2	4	2.1 GHz	4.1 GHz	4MB				Smart card reade	er <i>Optional:</i> Smart card reader MicroSD card reader			
	i5-10210U			1.6 GHz	4.2 GHz	6MB			Intel UHD Graphics	Ports	Two USB 3.2 Gen 1 (one Always On),			
	i5-10310U	4	8	1.7 GHz	4.4 GHz	6MB	DDR4-2	666	Grapinoo		one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort).			
	i7-10510U		-	1.8 GHz	4.9 GHz	8MB	4				one USB 3.2 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),			
	i7-10610U			1.8 GHz	4.9 GHz	8MB					HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),			
	Intel UHD G Intel UHD G (discrete mo supports up supports ex	Graphic odels a to 3 in ternal i	s in proce re NOT a idepende monitors	essor and available in ent displays via HDMI USB T	AMD Rade EMEA); s via native	display x2160	y and two @24Hz) o	exter	,	s; Monitor cable <i>(optional)</i> Bundled Accy	headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical sp HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None			
Chipset	Intel SoC (S	System	on Chip)) platform						Camera (optional	I)• HD720p camera with ThinkShutter camera privacy, fixed focus			
Memory	64GB max /	/ 32001	ИHz DDF	R4, dual-ch						S	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec /			
Display	Size Resolu	ution	Туре	Surface	Touch Brig	ght- Asj ss Ra	pect Contra atio Rati		olor Viewi amut Angl	ng e	stereo speakers, 2W x 2, Dolby [®] Audio / dual array microphone (for special bid model, microphone is optional), handbarg / microphone combe combe			
	14.0" HD (13		<i>'</i>	Anti-glare			6:9 400:	_	45% 90°		headphone / microphone combo jack			
	14.0" FHD (Anti-glare	- 250		6:9 700:		15% 170		6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight			
	14.0" FHD (1920x10	080) WVA	Anti-glare	Multi- touch 300	nits 16	6:9 700:	1 4	170	UltraNav™	TrackPoint®pointing device and buttonless Mylar surface multi-touch touchpad			
Multi-touch (opt)	On-cell touc	ch, sup	ports 10-	finger gest	ture					Security	Power-on password, hard disk password, supervisor password, security keyho			
	Up to 2 drives • HDD / SA (NOT avail • M.2 2242 • M.2 2280	TÀ 6.00 ilable ir SSD /	Gb/s, 2.5' 1 EMEA) PCIe NV	" wide, 7m Me, PCIe :	m high, Act 3.0 x 2	ive Prot	tection Sy	stem⊺	ſM	 Security chip System Mgt (opt) Fingerprint reade (optional) NFC (optional) 	Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified Intel vPro Technology er • Touch style fingerprint reader on the palm rest, match on host • Touch style fingerprint reader on the palm rest, match on chip (special bid only) Near Field Communication			
	 Intel Opta M.2 2280, 	ne Mer	nory H10) with Solic		rage,				Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter			
Optical	None None			0 7 4						Max battery life	<i>MobileMark</i> [®] 2014: 12.3 hr			
Ethernet	Non-vPro n vPro model				ection I219 ection I219			e)		AC adapter	MobileMark 2018: 7.95 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter (NOT available in EMEA)			
WLAN + Bluetooth™ <i>(opt)</i>	Intel Wi-Fi Intel AX201	6 AX2	00, Wi-Fi	i 2x2 802.1	1ax + Blue	tooth 5	i.0 ndows OS				• 65W USB-C AC adapter			
			••			o					n <i>Optional:</i> Windows [®] 10 Home 64 or Windows 10 Pro 64			
	Wireless (Integrated * For non-Wi Gemalto eS	l Mobile VAN mo	Broadb	and 4G LT				2 card	I	Limited warranty (optional)	 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year onsite repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 			
										Mil-Spec test	MIL-STD-810G military testing			
										Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant			

Note: The specifications above may not be available in all regions and might change by regions.













ThinkPad L15 Gen 1 (AMD) Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Ryzen™ Mobile Processors with Radeon™ Graphics or AMD Ryzen PRO 4000 Series Mobile Processors Processor # of Base Max Boost Cache Memory Controller									Dimensions Weight	<i>WxDxH:</i> 14.43" x 9.84" x 0.83"; 366.5mm x 250mm x 21mm Starting at 4.37 lb / 1.98 kg
	Processor Number		-	Base Clock	Max Boost Clock	Cache	Memory Controller		Processor Graphics	Case color Case material	Black PC/ABS plastic
	Ryzen 3 4300U	4	4	2.7 GHz	3.7 GHz	2MB L2 4MB L3				Media reader	er <i>Optional:</i> Smart card reader MicroSD card reader
	Ryzen 3 PRO 4450U	4	8	2.5 GHz	3.7 GHz	2MB L2 4MB L3				Ports	Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (w/ the function of Power Delivery and DP 1.2),
	Ryzen 5 4500U	6	6	2.3 GHz	4.0 GHz	3MB L2 8MB L3	DDR4-320		MD Radeon [™] Graphics		one USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DP 1.2), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
	Ryzen 5 PRO 4650U	6	12	2.1 GHz	4.0 GHz	3MB L2 8MB L3					microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Ryzen 7 PRO 4750U	8	16	1.7 GHz	4.1 GHz	4MB L2 8MB L3				Monitor cable (optional)	 Lenovo HDMI to VGA Monitor Adapter Lenovo USB-C to VGA Adapter
Graphics	AMD Radeon Graphics in processor; supports up to 4 independent displays via native display and 3 external monitors supports external monitors via HDMI (up to 4096x2160@24Hz) or		l monitors:	Bundled Accy	Lenovo USB-C to DisplayPort Adapter None						
	supports external monitors via HDMÍ (up to 4096x2160@24Hz) or USB Type-C (up to 3840x2160@60Hz)					0@24Hz) or	r	,	Camera (optional	 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus 	
Chipset Memory	AMD SoC (System on Chip) platform 64GB max / 3200MHz DDR4, dual-channel capable, two DDR4 SO-DIMM			MM sockets	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio / dual array far-field microphone (optional for special bid model), headphone / microphone combo jack					
Display	Size Resolu		Тур			ness R	atio Contras	st Co Ga	olor Viewing amut Angle	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight
	15.6" HD (10		<u> </u>	Anti-glar	_		6:9 400:1	_	<u>5% 90°</u>	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	15.6" FHD (15.6" FHD (- /				6:9 700:1 6:9 700:1		<u>5% 170°</u> 5% 170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified DASH Management
Multi-touch (opt)	On-cell touc	ch, sup	ports 10	-finger ge	sture					Fingerprint reade	r Optional: Touch style match on host fingerprint reader on the palm rest
Storage	• M.2 2242									NFČ	None
Optical	 M.2 2280 None 	SSD /	PCIe N	/Me, PCI	e 3.0 x 4					Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Ethernet	Realtek® R Gigabit Ethe	FL8111	HN (No	n-DASH)	or RTL811	I1EPV (L	DASH)			Max battery life	MobileMark® 2014: 13.78 hr MobileMark® 2018: 10.43 hr
WLAN + BT (opt)	0				1ax + Blu	etooth™	5 1			AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
WWAN (optional)			,				0.1				65W USB-C AC adapter
	Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card For non-WWAN model, it means the model is NOT WWAN upgradable							card		Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
SIM card <i>(opt)</i>	Gemalto eSIM						(optional)	 1-ýear depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year onsite repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 			
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

Lenovo August 2020



ThinkPad L15 Gen 1 (Intel) Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel® Cele (i7-10610U				neration Int	el Core	™ i3 / i5 / i7	Processo	or	Dimensions Weight	<i>WxDxH:</i> 14.43" x 9.84" x 0.83"; 366.5mm x 250mm x 21mm Starting at 4.37 lb / 1.98 kg
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Typ	es Proce Grap		Case color Case material	Black Display cover: PC/ABS plastic Bottom: PC/ABS plastic
	Celeron 5205U	2	2	1.9 GHz	-	2MB	DDR4-2400	D			er Optional: Smart card reader
	i3-10110U	2	4	2.1 GHz	4.1 GHz	4MB		Intel	חחוו	Media reader Ports	MicroSD card reader Two USB 3.2 Gen 1 (one Always On).
	i5-10210U i5-10310U i7-10510U i7-10610U	4	8	1.6 GHz 1.7 GHz 1.8 GHz 1.8 GHz	4.2 GHz 4.4 GHz 4.9 GHz 4.9 GHz	6MB 6MB 8MB 8MB	DDR4-266	Gran			one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.2 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.
•	(discrete n	Graphic nodels a ip to 3 ir	s in proc are NOT and depende	essor and a available in ent displays via HDMI (AMD Rade EMEA); s via native (up to 4096	display x2160@	2GB GDDF and two ex 224Hz) or 2304@60H	ternal mo	-	Bundled Accy	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None
Memory	Intel SoC 64GB max * Installed n	c/ 32001	MHz DDF) platform R4, dual-ch	annel capa t run at 2400	ble, two MHz or 2	DDR4 SO 2666MHz due	DIMM so	nitation	Audio support	 I)• HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio / dual array microphone (for special bid model, microphone is optional),
Display	Size Reso	olution	Туре	Surface	Touch Brig		ect Contrast tio Ratio		/iewing Angle		headphone / microphone combo jack
	15.6" HD (Anti-glare	- 220			45%	90°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight
				Anti-glare	- 250 Multi- 200				170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
				Anti-glare	touch 300	nits 16	:9 700:1	45%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified
Storage		<i>es (one F</i> ATA 6.0 ailable ir	<i>HDD and o</i> Gb/s, 2.5 n EMEA)	<i>ne M.2 2242</i> " wide, 7m	2 <i>SSD)</i> m high, Act	ive Prot	tection Syste	em™		System Mgt (opt)	 Intel vPro Technology r • Touch style fingerprint reader on the palm rest, match on host • Touch style fingerprint reader on the palm rest, match on chip (special bid only) Near Field Communication
	• M.2 228	0 SSD /	PCIe NV	Me, PCIe	3.0 x 4					Battery	Integrated Li-Polymer 45Wh battery,
Optical	Intel Opt M.2 2280 None	ane Mei), PCle	mory H10 NVMe 3.	0 with Solic 0 x 4	State Stor	age,				Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark® 2014:</i> 11.6 hr <i>MobileMark 2018:</i> 8.56 hr
Ethernet	Non-vPro vPro mode				ection I219 ection I219					AC adapter	 * Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W USB-C AC adapter (NOT available in EMEA) 65W USB-C AC adapter
WLAN + Bluetooth™ <i>(opt)</i>	Intel Wi-I // Intel AX20	Fi 6 AX2	200, Wi-F	i 2x2 802.1	1ax + Blue	tooth 5.	.0 Idows OS			Operating system	Optional: Windows [®] 10 Home 64 or Windows 10 Pro 64
WWAN (optional)	WirelessIntegrate	WAN u d Mobile /WAN mc	pgradable e Broadb	e and 4G LT		om L850	0-GL, M.2 c	ard			 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year onsite repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

Lenovo August 2020





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ThinkPad L390 Platform Specifications

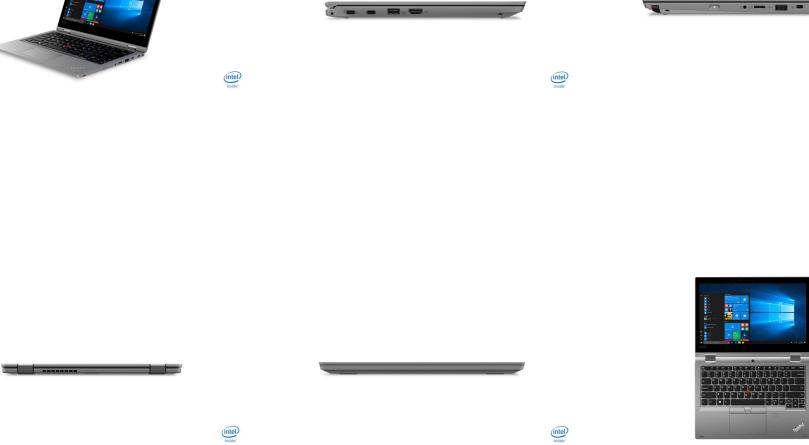
Processor	Intel [®] C	eleron® F	rocesso	r or 8th Ger	eration Inte	el Core	e™ i3 / i5 / i7	7 Processor	Smart card reade			
	Process		_ # of	Base	Max Turbo	Cache	Memory	Processor	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),		
	Number		1		Frequency		Types	Graphics		two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),		
	Cel 430	5U 2	2	2.2 GHz	-	2MB	DDR4-2133			HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole		
	i3-8145		4	2.1 GHz	3.9 GHz	4MB		Intel UHD Graphic		* Depending on many factors, actual data transfer speed may be lower than theoretical speed		
	i5-8265	-	8	1.6 GHz 1.6 GHz	3.9 GHz 4.1 GHz	6MB 6MB	DDR4-2400		^S Monitor cable (optional)	 Lenovo USB-C to VGA Adapter Lenovo USB-C to VGA plus Power Adapter 		
	i7-8565		8	1.8 GHz	4.1 GHZ 4.6 GHz	8MB			(optional)	Lenovo USB-C to HDMİ Adapter		
Graphics	support support Max res	ts three ir solution:	al digital r ndepende 4096x23	monitor via l ent displays 04@60Hz (• •		30Hz (HDMI)	Bundled Accessories (optional)	 Lenovo USB-C to HDMI plus Power Adapter Lenovo USB-C to DisplayPort Adapter Lenovo USB-C to Ethernet Adapter Lenovo USB-C to USB-A Adapter Lenovo USB-C to USB-C Cable 2m 		
Chipset Memory	32GB r	nax / 240	OMHz DI					O-DIMM sockets		ThinkPad Ethernet Extension Cable HD720p camera, fixed focus HD Audio, Realtek ALC3287 codec /		
Display	Size R	esolution	Ту	pe Surface	Brightness	Aspe		st Ratio Viewing Angle	·	stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack		
	13.3" H	D (1366x7	768) T	N Anti-glare	e 250 nits	16:9			 Keyboard 6-row, spill-resistant, multimedia Fn keys, optional LED backlight UltraNav™ TrackPoint[®] pointing device and buttonless Mylar surface touchpad, m 			
	13.3" F	HD (1920)	(1080) W	VA Anti-glare	e 250 nits	16:9	700:1 (no 800:1 (mu		Security	Power-on password, hard disk password, supervisor password, security keyhole		
Multi-touch (opt)	On-cell	touch, si	upports 1	0-finger ges	sture (FHD	only)			Security chip	Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)		
Storage	• M.2 2 • M.2 2	280 SSD 242 SSD) / SATA 6) / PCle N	VMe, PCIe	3.0 x 2					Intel VPro Technology or <i>Optional:</i> Touch style fingerprint reader on the palm rest Near Field Communication		
Optical	Intel		Memory	IVMe, PCIe H10 with S 3.0 x 4		Storage	9,		Battery Max battery life	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark</i> [®] 2014: 14.61 hr		
Ethernet	Native via opti	onal Thin	kPad Eth	nection I21 ernet Exter et Adapter			r I219-LM (ı	/Pro)	AC adapter	 * Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W USB-C AC adapter 65W USB-C AC adapter 65W USB-C slim AC adapter 		
WLAN + Bluetooth™							oth 5.0, M.2 oth 5.0, M.2			n Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN SIM card	None None	vireiess-	AC 9500,	VVI-FI 2X2 0	502.11aC +	Diueit	JOUT 5.0, IVI.2		Limited warranty (optional)	 1-year depot with 2-year system board repair service 1-year limited onsite service 		
Dimensions Weight Case color Case material	Starting Black o	at 3.22	lb / 1.46 l	kg	1.8mm x 2	24.2m	m x 18.8mm	1		 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 		
	Bottom		GFRP						Mil-Spec test	MIL-STD-810G military testing		
									Environment	EPEAT™ Silver; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant		

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ThinkPad L390 Yoga Platform Specifications

Processor	8th Generation	n Intel® Cor	e™ i3 / i5 / i	7 Processor					Smart card reade		
	Processor # o Number Core	es Threads		Frequency	liche	Memory Types	Proce Grapt		Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),	
	i3-8145U 2 i5-8265U 4 i5-8365U 4 i7-8565U 4	8 8	2.1 GHz 1.6 GHz 1.6 GHz 1.8 GHz	3.9 GHz 6 4.1 GHz 6	MB MB MB MB)R4-2400 li	ntel UHD	Graphics	Monitor cable	HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo USB-C to VGA Adapter	
Graphics	Intel UHD Grap supports extern supports three Max resolution	nal digital r independe	monitor via ent displays	:)Hz (HDI	MI)	<i>(optional)</i> Bundled	 Lenovo USB-C to VGA plus Power Adapter Lenovo USB-C to HDMI Adapter Lenovo USB-C to HDMI plus Power Adapter Lenovo USB-C to DisplayPort Adapter Lenovo USB-C to Ethernet Adapter 	
Chipset Memory	Intel SoC (Syst 32GB max / 24 * Installed memo	400MHz D[ĠŔ4, dual-c	hannel capab				sockets	Accessories (optional)	 Lenovo USB-C to USB-A Adapter Lenovo USB-C to USB-C Cable 2m ThinkPad Ethernet Extension Cable 	
Display	Size Resolution	n Ty	pe Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing	e HD720p camera, fixed focus e IR camera and HD720p camera, fixed focus (black model only)		
	13.3" FHD (192	20x1080) W	VA Anti- reflectio	n 300 nits	16:9	800:1	72%	170°	 IR camera and HD720p camera, fixed focus (black model only) World facing camera, 5MP resolution, auto focus (mutually exclusive with fingerprint reader) 		
Multi-touch Hinge	Capacitive-type could reduce the Yoga hinge, 36	he brightne 50 degree	ess by up to	s 10-finger ge 10%	sture, a	anti-reflect	ion (AR)	3	Audio support	HD Audio, Realterk ALC3287 codec / stereo speakers, 2W x 2, Dolby [®] Audio™ Premium / dual array microphone, headphone / microphone combo jack	
Mulṫi-mode Pen <i>(optional)</i>	Laptop, tent, st ThinkPad Pen			lti-touch displ	ay, on-t	board gara	ige		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint®pointing device and buttonless Mylar surface touchpad, multi-touch	
Storage	One of the follow • M.2 2280 SS • M.2 2242 SS • M.2 2280 SS • Intel Optane M.2 2280, PC	SD / SATA 6 SD / PCIe № SD / PCIe № ™ Memory	6.0Gb/s VMe, PCIe VMe, PCIe H10 with S	e 3.0 x 2 e 3.0 x 4	rage,				Security Security chip System Mgt <i>(opt)</i> Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology or Optional: Touch style fingerprint reader on the palm rest	
Optical	None								NFC (optional)	(mutually exclusive with World facing camera) Near Field Communication	
Ethernet	Native Intel Eth via optional Th Lenovo USB-C	inkPad Eth	ernet Exter			19-LM (<i>vF</i>	Pro)		Battery Max battery life	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark [®] 2014: 12.17 hr	
WLAN + Bluetooth™	 Intel Wireless Intel Wireless 	s-AC 9462, s-AC 9560,	Wi-Fi 1x1 Wi-Fi 2x2	802.11ac + Bl 802.11ac + Bl	uetooth uetooth	n 5.0, M.2 n 5.0, M.2	card card		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter	
WWAN SIM card	None None									 65W USB-C AC adapter 65W USB-C slim AC adapter 	
Dimensions		.67" x 8.83'	' x 0.74"; 32	1.8mm x 224	.2mm x	18.8mm				n Optional: Windows® 10 Home 64 or Windows 10 Pro 64	
Weight Case color Case material	Starting at 3.44 Black or Silver Display cover: Bottom:	4 lbs / 1.56	kg						(optional)	 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 	
									Mil-Spec test	MIL-STD-810G military testing	
	ations above may								Environment	EPEAT™ Silver; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant	

Note: The specifications above may not be available in all regions and might change by regions.

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ThinkPad L490 Platform Specifications

Product Specifications Reference (PSREF)

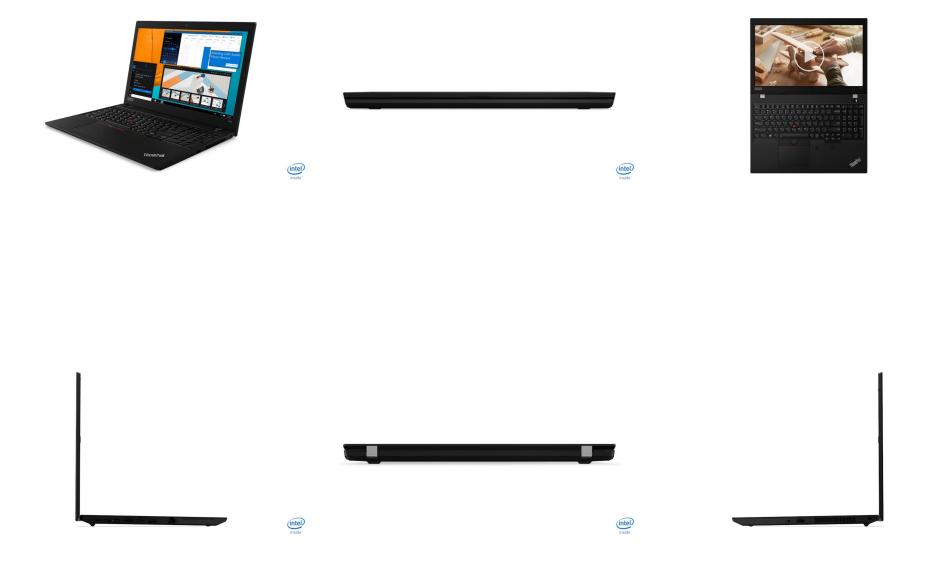
Processor	Intel [®] Cele	ron® P	rocessor	or 8th Ger	neration Int	el Core	e™ i3 / i5 / i7	Processor		Dimensions	WxDxH: 13.19" x 9.25" x 0.89"; 335mm x 235mm x 22.5mm
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processo Graphics		Weight Case color Case material	Starting at 3.72 lb / 1.69 kg Black PC/ABS plastic
	Cel 4305U	2	2	2.2 GHz	-	2MB	DDR4-2133			Smart card reade	r Optional: Smart card reader
	i3-8145U	2	4	2.1 GHz	3.9 GHz	4MB				Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	i5-8265U i5-8365U	4	8 8	1.6 GHz	3.9 GHz 4.1 GHz	6MB	DDR4-2400	Intel UHD Gra	phics		one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	i7-8565U	4	8	1.6 GHz 1.8 GHz	4.1 GHz	6MB 8MB	DDR4-2400				one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),
	i7-8665U	4	8	1.9 GHz	4.8 GHz	8MB					headphone / microphone combo jack, optional smart card reader.
	Intel UHD (discrete n supports e supports tl	Graphi nodels xterna nree in	ics in pro are NOT I digital n depende	available i nonitor via nt displays	AMD Rad n EMEA); HDMI or U ;	SB Тур	e-C;	DR5 memory 4Hz (HDMI)	/	Monitor cable (optional) Bundled Accy	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None) One of the following, configurable by model:
Memory	Intel SoC (64GB max * Installed n	2400)Ŕ4. dual-c	hannel cap ut run at 213	able, t 33MHz d	or 2400MHz d		tation		 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek ALC3287 codec /
Display	Size Reso			pe Surface N Anti-glare	0	Rau	o Ratio	Gamut An	wing Igle 0°		stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone (for special bid model, microphone is optional), headphone / microphone combo jack
	14.0" FHD	(1920x	1080) W	/A Anti-glare	e 250 nits	16:			70°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Storage	 HDD / S. SSD / S. M.2 228 M.2 224 <i>Installed N</i> 	ATA 6.0 ATA 6.0 0 SSD 2 SSD 1.2 2280	 0Gb/s, 2. 0Gb/s, 2. / PCle N / PCle N 0 SSD is F	5" wide, 7n 5" wide, 7n VMe, PCIe VMe, PCIe <i>Cle 3x4 but</i>	nm high, A nm high 3.0 x 4 3.0 x 2 run at PCle	ctive P	to M.2 SSD	stem™ adapter limitat	ion	Security Security chip System Mgt (opt) Fingerprint reader NFC (optional)	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology r <i>Optional:</i> Touch style fingerprint reader on the palm rest Near Field Communication
Optical	None						cksonville)			Battery	Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
WLAN + Bluetooth™ <i>(optional)</i>	vPro mode One of the f • Realtek® (NOT ava	<i>el:</i> following RTL88 ailable	Intel Eth g, configur 322BE, V in EMEA	ernet Conr able by mod Vi-Fi 2x2 80	nection 1219 el:)2.11ac + E	9-LÀ (Bluetoo	Jacksonville	-		Max battery life AC adapter	MobileMark [®] 2014: 12 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter • 65W USB-C AC adapter • 65W USB-C slim AC adapter
				Ŵi-Fi 2x2 8 Fi 2x2 802.						Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN (optional)	 I) One of the following, configurable by model: Wireless WAN upgradable (special bid only in EMEA) Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EME/ Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card <i>For non-WWAN model, it means the model is NOT WWAN upgradable</i> Gemalto eSIM 										One of the following, configurable by model: • 1-year depot repair service • 1-year depot with 2-year system board repair service • 1-year limited onsite service • 1-year + 2-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Silver; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

Lenovo July 2020

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ThinkPad L590 Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel® Cele	eron® P	rocesso	or 8th Ger	neration Inte	l Core	™ i3 / i5 / i7	' Process	or	Dimensions	<i>WxDxH:</i> 14.82" x 10.02" x 0.90"; 376.5mm x 254.5mm x 22.95mm			
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Proce Grap		Weight Case color Case material	Starting at 4.48 lb / 2.03 kg Black PC/ABS plastic			
	Cel 4305U	2	2	2.2 GHz	-	2MB	DDR4-2133				r Optional: Smart card reader MicroSD card reader			
	i3-8145U i5-8265U	2	4 8	2.1 GHz 1.6 GHz	3.9 GHz 3.9 GHz	4MB 6MB			o	Ports	Two USB 3.1 Gen 1 (one Always On).			
	i5-8265U	4	8	1.6 GHz	4.1 GHz		DDR4-2400	Intel UHD	Graphics		one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort).			
	i7-8565U	4	8	1.8 GHz	4.6 GHz	8MB	222.00				HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),			
	i7-8665U	4	8	1.9 GHz	4.8 GHz	8MB					headphone / microphone combo jack, optional smart card reader,			
	Intel UHD (discrete r supports e supports t	Graph nodels externa hree in	ics in pro are NOT I digital n depende	available i nonitor via nt displays	I AMD Rade n EMEA); HDMI or US ;	В Тур	5, 2GB GD e-C; 96x2160@2		-	Monitor cable (optional) Bundled Accy	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None			
Chipset	Intel SoC 64GB max	(Syster	m on Chi 0MHz DE	p) platform R4. dual-c	hannel cap	able. t	wo DDR4 S or 2400MHz a	O-DIMM	sockets) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek ALC3287 codec /			
Display		olution		pe Surface	- U	паш	o Ratio	Gamut	Viewing Angle		stereo speakers, 2W x 2, Dolby® Advanced Audio / optional dual array microphone (for special bid model, microphone is optional), headphone / microphone combo jack			
	15.6" HD (15.6" FHD			N Anti-glare		16:9 16:9		45% 45%	90° 170°	Keyboard 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LE				
Multi-touch (opt)	On-cell tou	uch, su	pports 1	0-finger ge	sture (FHD	only)				UltraNav™ TrackPoint® pointing device and buttonless Mylar surface multi-touch tou				
Ū	 SSD / S. M.2 228 M.2 224 * Installed M 	ATA 6.0 0 SSD 2 SSD <i>1.2 228</i> 0	0Gb/s, 2. / PCIe N / PCIe N 0 SSD is F	5" wide, 7n IVMe, PCIe IVMe, PCIe PCIe 3x4 but	nm high 3.0 x 4 3.0 x 2 <i>run at PCle</i> :	3x2 due	to M.2 SSD		nitation	Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology <i>r Optional:</i> Touch style fingerprint reader on the palm rest Near Field Communication			
Optical	None		plane me	eniory, FOI	e invivie, rv	JIE 3.0	X 2			Battery	Integrated Li-Polymer 45Wh battery,			
Ethernet	Non-vPro vPro mode				nection I219		cksonville) lacksonville)		Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 12 hr			
(optional)	One of the information of the in	following RTL88 ailable	<i>g, configui</i> 822BE, V in EMEA	able by mod Vi-Fi 2x2 80	<i>el:</i>)2.11ac + B	luetoo	th 4.2, M.2 (,		AC adapter	 * Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W USB-C AC adapter 65W USB-C AC adapter 65W USB-C slim AC adapter 			
	 Intel Wire Intel Wi-I 	eless-A Fi 6 AX	AC 9260, (200. Wi-	Wi-Fi 2x2 8 Fi 2x2 802.	302.11ac + 11ax + Blu	Blueto etooth	oth 5.0 5.0			Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64			
WWAN (optional)	One of the • Wireless • Integrate	following WAN ed Mob ed Mob WAN n	<i>g, configui</i> upgradat ile Broac	able by mod ble (special Iband 4G L	<i>el:</i> bid only in TE, Fibocor	EMEA n L830		ard (EME) card	A only)		 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 			
										Mil-Spec test	MIL-STD-810G military testing			
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant			

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ThinkPad P1 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Generation Intel [®] Core [™] i5 / i7 Processor or Intel Xeon [®] E Processor	Smart card reader Optional: Smart card reader
	Processor # of # of Base Max Turbo Cache Memory Processor Number Cores Threads Frequency Frequency Cache Types Graphics	ExpressCard None Media reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Ports Two USB 3.1 Gen 1 (one Always On),
	i5-8400H 4 8 2.5 GHz 4.2 GHz 8MB Intel UHD Graphics i7-8750H 2.2 GHz 4.1 GHz 9MB DDR4-2666 630 i7-8850H 6 12 2.6 GHz 4.3 GHz 9MB DDR4-2666	two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole
	E-2176M 2.7 GHz 4.4 GHz 12MB Intel UHD Graphics P630	* Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	Intel UHD Graphics 630 or P630 in processor and NVIDIA® Quadro® P1000 or P2000, 4GB GDDR5 memory; supports external digital monitor via HDMI or Thunderbolt™;	(optional) USB-C to DP: Lenovo USB-C to DisplayPort Adapter Bundled Accy Optional: ThinkPad Ethernet Extension Cable
	Up to 4 displays with 3 external monitor via HDWi of Thunderboit ; Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (HDMI)	Camera <i>(optional)</i> One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera, fixed focus
Chipset Memory	Mobile Intel CM246 Chipset 64GB max / 2666MHz DDR4, ECC or non-ECC (ECC function supported only on Xeon processor), dual-channel capable, two DDR4 SO-DIMM sockets	Audio support HD Audio, Realtek [®] ALC3286 code / stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos [®] headphone
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio,	Keyboard 6-row, spill-resistant, multimedia Fn keys, LED backlight UltraNav™ TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
Multi-touch (opt)	72% gamut, 170° viewing angle Some: 15.6" (396mm) UHD (3840x2160), anti-reflection, LED backlight, WVA, 400 nits, 16:9 aspect ratio, 1200:1 contrast ratio, 100% gamut, 170° viewing angle, multi-touch Consolition time multi touch councils for gract track (4K only)	Security Power-on password, hard disk password, supervisor password, security keyhole Security chip Discrete TPM 2.0, TCG Certified vPro (optional) Intel vPro Technology Fingerprint reader Touch style match on chip fingerprint reader on the keyboard bezel
Pen <i>(optional)</i>	Capacitive-type multi-touch, supports 10-finger gesture (4K only) Lenovo Pen Pro	Color calibration None
Storage RAID <i>(optional)</i> Optical	Up to two M.2 SSD, supports single sided M.2 2280 drives only M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s RAID 0/1 support None	Battery Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) Max battery life Discrete mode: 7.36 hr; Hybrid mode: 13.87 hr (MobileMark 2014) * Battery life varies significantly with hardware configurations, settings, usage, & other factors AC adapter 135W slim tip AC adapter
Ethernet	Native Intel Ethernet Connection I219-V (<i>Non-vPro</i>) or I219-LM (<i>vPro</i>)) via bundled or optional ThinkPad Ethernet Extension Cable	Operating system One of the following, configurable by model: • Windows® 10 Home 64
WLAN Bluetooth™	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	 Windows 10 Pro 64 Windows 10 Pro 64 for Workstations
WWAN SIM card	None None	Limited warranty One of the following, configurable by model: • 1-year depot repair service
Dimensions	<i>WxDxH (non-touch):</i> 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm <i>WxDxH (multi-touch):</i> 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm	 1-year depot with 2-year system board repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
Weight	Non-touch model: starting at 3.76 lb / 1.7 kg; Multi-touch model: starting at 4.06 lb / 1.8 kg	Mil-Spec test MIL-STD-810G military testing
Case color Case material	Black Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy	Environment EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Note: The specific	ations above may not be available in all regions.	Lenov

Note: The specifications above may not be available in all regions.













ThinkPad P1 (2nd Gen) Platform Specifications

Product Specifications Reference (PSREF)

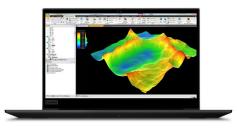
Processor	9th Ger	neration	Intel® Co	re™ i5 / i7		cessor or l		eon® E P	rocesso	r	Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Process Number		# of Threads	Base Frequer	Max Erec	Turbo uency Cach		emory vpes	Proce Grap		Weight	<i>WxDxH (multi-touch):</i> 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm <i>Non-touch model:</i> starting at 3.75 lb / 1.7 kg;
	i5-9400		8	2.5 GF		GHz 8ME		ypes	Grup	1105	Case color	Multi-touch model: starting at 4.0 lb / 1.81 kg Black paint (FHD model) or black weave (UHD model)
	i7-9750I		12	2.6 GH		GHz 12M	_	In		Graphics	Case material	Display cover: CFRP/GFRP hybrid;
	i7-9850		12	2.6 GH		GHz 12M		4-2666	63	0		Bottom: Aluminum alloy
	i9-9880I		16	2.3 GH		GHz 16M				Graphics		er <i>Optional:</i> Smart card reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card
	E-2276	И 6	12	2.8 GH	z 4.7	GHz 12M	В		P63		Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3
Graphics	Intel UH NVIDIA support Up to 4	ID Grap [®] Quadro s extern displays	o® T1000 al digital with 3 e	or P630 or T200 monitor xternal m	n proce), 4GB ria HDN onitors	y or essor and GDDR5 me Il or Thund plus syster ; 4K@60H	erboĺť n LCD	; screen.			Monitor cable (<i>optional</i>)	(with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
Chipset			246 Chip		•	F00 (F0					Bundled Accv	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
Memory						n-ECC (EC two DDR4 3				only on		I) One of the following, configurable by model:
Display			<i>)</i> , add. of		<u> </u>			Contrast		Viewing	a	HD720p camera with ThinkShutter camera privacy, fixed focus
,	Size Re	esolution		Type S	urface	Brightness	Ratio		Gamut	Angle	Audio support	 IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" FH	HD (1920)	(1080)	WVA Ar	ti-glare	300 nits	16:9	700:1	72% NTSC	170°		HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /
		HD (1920) olby Visior		WVA Ar	ti-glare	500 nits	16:9	1200:1	72% NTSC	170°]	optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
	15.6" UI Do	HD (3840) olby Visior	k2160) n HDR	WVA Ar	ti-glare	500 nits	16:9	1200:1	100% Adobe	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	15.6" Do	HD (3840) olby Visior ulti-touch	k2160) 1 HDR,	OLED re	Anti- lection Anti- nudge	SDR 400nit, HDR 500nit (peak)	16:9	100000:1	100% DCI-P3	170°	Security Security chip System Mgt <i>(opt)</i>	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt)	Capacit AR (and	tive-type ti-reflecti	multi-tou on) / AS	ich. supp	orts 10-	finger gest	ure (U	HD OLEI	D only),		Color calibration	r Touch style match on chip fingerprint reader on the keyboard bezel <i>Optional:</i> X-Rite Pantone factory color calibration (UHD model only) None
Pen (optional)	Lenovo	Pen Pro	(special	bid only							Battery	Integrated Li- Polymer 80Wh battery, supports Rapid Charge (charge up to 80% in
Storage	Up to tw	0 M.2 SS	D, support PCIe N	s single si	ded M.2	2280 drives	only				Max battery life	1hr)
RAID <i>(optional)</i> Optical		/1 suppo			. 4						AC adapter	MobileMark [®] 2014: 13.8 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors 135W slim tip AC adapter
Ethernet	Native via bun	ntel Ethe	ernet Cor ptional T	nnection hinkPad	219-V Etherne	(<i>Non-vPro</i>) et Extensior	or I21 1 Cabl	9-LM (<i>vF</i> e	Pro))		Operating system	 One of the following, configurable by model: Windows[®] 10 Home 64
WLAN (optional) Bluetooth™ (opt)						+ Bluetooth i + Bluetoo		bo adapt	ter			Windows 10 Pro 64 Windows 10 Pro 64 for Workstations
WWAN	None		,	0				T			Limited warranty	One of the following, configurable by model:
SIM card	None											 1-year depot repair service 1-year depot with 2-year system board repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
											Mil-Spec test	MIL-STD-810G military testing
											Environment	EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant
Note: The specifica	ations ab	ove may	not be av	ailable in	all regio	ne						Lenov

Note: The specifications above may not be available in all regions.













ThinkPad P1 Gen 3 Platform Specifications

	Supports one 10t	n Xeon	W Core	i9 i7 or	i5 process	or as fo	llowing:				Woven Carbon Fiber Finish (standard on OLED models, optional on UHD WVA	
		r								Case color	models) or black	
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Gra	cessor aphics	Case material	Display cover: Carbon Fiber (Black or woven pattern) + PC + PPS Hybrid Bottom: Aluminum + PC / ABS	
	Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293		I UHD	Media reader	SD card reader	
Processor	Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-293	a Inte	I UHD	Standard Ports	2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro- phone combo jack, 1x SD card reader, 1x security keyhole	
	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293		I UHD	Optional Ports	One optional Nano-SIM card slot on right Up to 4 displays with 3 external monitors plus system LCD screen. External	
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293	Inte	I UHD	Monitor support	monitors supported via 2x Thunderbolt and 1x HDMI. HDMI supports up to 4K@60Hz.	
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293		UHD	Monitor cable	Two Thunderbolt support up to 5K@60Hz each Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters	
Chipset	Intel WM490 Chip	set						1 0.10		Bundled Accy	None	
Memory Type	SO-DIMM. DDR4 Both ECC and no 8GB/16GB/32GB	-3200 f n-ECC	memory	operate	at DDR4-2	933.				Camera	 Supports one optional camera as following: HD720p camera with ThinkShutter camera privacy, fixed focus Hybrid IR camera with ThinkShutter camera privacy, fixed focus 	
Memory Sockets	2 DIMM sockets	availai				0				Audio chip	Realtek ALC3286 codec	
Memory Protection		ith EC		and Xe	n nrocess	٦r				Speaker Stereo speakers, Dolby ATMOS Speaker System		
Max Memory	64GB				11 processo	51				Microphone	Optional dual far-field microphone	
Graphics	Intel UHD Graphic • NVIDIA Quadro							hics:		Keyboard	6-row, spill-resistant, LED backlight, multimedia Fn keys with Unified Communi- cations controls.	
arapinoo	NVIDIA Quadro NVIDIA Quadro	T2000	with Max	-Q Desig	n. 4GB GE	DR6 n	nemory			UltraNav	3-button TrackPoint pointing device and 2-button glass surface multi-touch touchpad	
						Aanaa	t Contrast	Color	Viewina	Password	Power-on password, hard disk password, supervisor password	
	Size Resolution		ype Surf	ace loud	h Brightness	Ratio			Angle	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions	
										System mgmt	Optional Intel vPro Technology supported on vPro enable models	
	15.6" FHD (1920x10	080) V	/VA Anti-	glare -	300 nits	16:9	700:1	72% NTSC	170°	Security locks	Security keyhole for optional Kensington lock	
										Smart card reader	rNone	
Dicplay	15.6" FHD (1920x10		/VA Anti-	alaro	500 nits	16:9	800:1	72%	170°	Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest	
Display	UHD (3840x2	160) _M	/VA Anti-	-	600 nits	16:9	1400.1	NTSC 100%	170 178°	Battery	Integrated Li-Polymer 80Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter	
	UHD (3840x2	IDR	Ar	ti-	400 pite	10.3		Adobe	170	Max battery life	MobileMark 2014: 15.9 hr. MobileMark 2018: 12 hr	
	15.6" Dolby Vision, 500 True Blac	HDŔ O	LED / A		- 540 pitc	16:9		DCI- P3	170°	Power Adapter	 Battery life varies significantly with hardware configurations, settings, usage, & other factors One of the following: 135W slim AC adapter 	
Color Calibration	Factory Color Cal	ibratior		panels	_						• 170W slim AC adapter	
Touchscreen	Touch enable on s				lels. suppo	rts 10-	finaer aest	ure			Supports one optional preloaded operating system as following:	
Pen	Optional Lenovo I				,		<u> </u>			1	Windows 10 Home 64	
Storage	Up to two M.2 228	30 SSE). PCle N	VMe. 25	GB / 512G	B / 1T	B / 2TB ea	ch		Operating system	Windows 10 Pro 64 Windows 10 Pro 64 for Workstations	
RAID	RAID 0 / 1 support		,	- , -				-			Windows 10 Fro 64 for Workstations Windows 10 Government Edition 64	
Optical	None									-	Ubuntu Linux LTS (available later)	
Ethernet	Lenovo USB-C to	Etherr	net Adapt	er						1	Fedora Linux (available later)	
NFC	None	Laion	iot / taupt	01						-	Optional warranty plans as following:	
WLAN + Bluetooth	Intel Wi-Fi 6 AX20 Bluetooth 5.1 reg								ve)	-	Non-warranty (special bids only) 1-year depot repair service	
WWAN	One of the followi • No WWAN card	ng, cor and no	figurable on upgrac	by mode lable	l:					Base Warranty	 3-year depot repair service 1-year + 2-year depot repair service 1-year limited onsite service 	
SIM cord	Integrated Mobil Optional Nano SI			i LIE-A,	Fibocom L	860-GL	<u>_, MIMO 2</u> >	(2, M.2	card	-	 3-year limited onsite service 	
SIM card	Optional Nano-SI Width: 361.8 mm	(14 24	in) Den	th: 245 7	mm (9 67 i	n)				-	 1-year + 2-year limited onsite service 	
Dimensions	Thickness for non	-touch	models:	18.4 mm	(0.72 in)					Mil-Spec test	1-year depot with 2-year system board repair service MIL-STD-810G military testing	
Weight	Thickness for touc Starting at 1.7 kg							h)		Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	
	istarting at 1.7 Kg	(3./5)	υ, ΓΗΟ Ν	un-touch	/ 1.8 Kg (3	.97 ID,	ULED IOU	JII)		ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/	





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ThinkPad P14s Gen 1 Platform Specifications

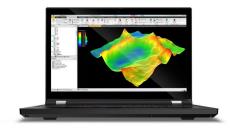
	Supports	one 10th	n Core i	7 and i5 -U	suffix	processor	as follow	vina:			Weight	Starting at 3.24 lb (1.47kg)
		1 1	r	r					D		Case color	Black
	Processor	# of	# of	Base	Max Tu		Memor		Process			Display cover: PPS / 50% GF;
	Number				Freque		Types	_	Graphi		Case material	Bottom: PA / 50% GF
Processor	i7-10610L	J 4	8	1.8GHz	4.9GH	Hz 8MB	DDR4-26	666 Inte	el UHD G	araphics	Media reader	MicroSD card reader
	i7-10510L	J 4	8	1.8GHz	4.9GF	Hz 8MB	DDR4-26	666 Inte	el UHD G	araphics		On left: 1x USB-C (USB 3.2 Gen 1, PD, DP), 1x Thunderbolt (USB-C form,
	i5-10310L	J 4	8	1.7GHz	4.4GF	lz 6MB	DDR4-26	66 Inte		anhics		Thunderbolt 3. USB 3.2 Gen 2. PD. DP). 1x side docking connector.
			8	1.6GHz	4.2GF		DDR4-26				Standard Ports	1x USB-A 3.2 Gen 1, 1x HDMI 1.4b, 1x headphone / microphone combo jack,
	i5-10210L		<u> </u>		4.2GF		DDR4-26	nte	el UHD G	araphics		1x microSD card reader On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On)
Chipset				 platform 								One optional smart card reader on right, one optional Nano-SIM card slot on
· · ·				DDR4-2666		500 (DIIIIIIIIIIIII				Optional Ports	rear
Memory Type				200 SO-DI				socket,				Up to 3 displays with 2 external monitors plus system LCD screen. External
Memory Sockets				dered DIMN							Monitor support	monitors supported via USB-C, Thunderbolt, and HDMI. 4096x2304@60Hz on
Memory Protection		оскет ри			vi, uuai	-channel	capable				-	USB-C and Thunderbolt, 4096x2160 @24Hz on HDMI
Max Memory				DIMM plus	000 1		arad DIM	N.A			Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters, up to two
Graphics				cessor and						omoriu	Bundled Accy	None
Graphics		Graphic	in pro			IA Quauro			-			Supports one optional camera as following:
	Size Reso	olution	Тур	e Surface	Touch	Brightness	Aspect C Ratio	Contrast Ratio	Color	Viewing	Camera	 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
							nalio	Halio	Gamui	Angle	Audio chip	Realtek ALC3287 codec
		(1000-10				050 11-	10.0	700.1	450/	1700	Speaker	Stereo speakers, 2W x 2, Dolby Audio Speaker System
	14.0" FHD	(1920X10	180) 1000	Anti-glare	-	250 nits	16:9	700:1	45%	170°	Microphone	Optional dual array near-field microphone
											•	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls.
	14.0" FHD	(1920x10	080) WV	A Anti-glare	multi- touch	300 nits	16:9	700:1	45%	170°	Keyboard	LED backlight on most models, non LED backlight is for special bids
Display	EUD	(1920x10	1901								UltraNav	TrackPoint pointing device and Mylar surface multi-touch touchpad
		Power	WV (000)	A Anti-glare	-	400 nits	16:9	800:1	72%	170°	Password	Power-on password, hard disk password, supervisor password
	FHD	(1920x10	080)								Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	14.0" Thin		acy WV	Anti-glare	multi- touch	500 nits	16:9	1000:1	72%	170°	System mgmt	Optional Intel vPro Technology supported on vPro enable models
	Guai	-	(00)								Security locks	Security keyhole for optional Kensington lock
	14.0" Dolb	(3840x2	160) WV	A Glossy	_	500 nits	16:9	1500:1	100%	170°	Smart card reader	
	HDR		***	A Clossy	_	500 1113	10.3	1500.1	Adobe	170	Fingerprint reader	
Color Calibration	Factory C	olor Cali	bration	on UHD pa	inels		<u>. </u>		- <u>!</u>		Battery	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80%
Touchscreen	Optional of	on-cell to	ouch on	selected Fl	HD mo	dels, sup	oorts 10-1	finger o	gesture			in 1hr) with 65W AC adapter MobileMark 2014: 15.1 hr.
Pen	None								-		Max battery life	MobileMark 2014: 15.1 m. MobileMark 2018: 10.96 hr.
	Up to one	M.2 SS	D as fol	owing, 2TE	3 max:							* Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage				Cle 3.0 x4				2TB			Power Adapter	65W or 65W slim USB-C AC adapter
Clorage	• M.2 224	2 PCIe N	VMe, F	Cle 3.0 x2	, 128G	B, for spe	cial bids			-1 -		Supports one optional preloaded operating system as following:
-		0 5 1 2 GE	3 220 +	32 GB Op	tane, P		e 3.0 x 4	, for sp	ecial bi	as		Windows 10 Home 64 Windows 10 Days 64
Optical	None							101.1.1			Operating system	 Windows 10 Pro 64 Windows 10 Government Edition 64 for special bids
Ethernet				a integrated	d gigab	of etherne	t, Intel 12	19LM †	or vPro	models		Ubuntu Linux LTS
NFC	or i219V f	or non-v	Pro mo	leis							-	Optional warranty plans as following:
		ntol Wi E		01 on most	model		vo 200 1	104 1	Bluetoo	th 5 1	-	 1-year depot repair service
WLAN + Bluetooth				latest vers								3-year depot repair service
				gurable by					1 01 000		Base Warranty	1-year + 2-year depot repair service
	 No WW/ 	AN card	and nor	upgradabl	е							 1-year limited onsite service 3-year limited onsite service
WWAN	 Integrate 	ed Mobile	e Broad	band Upgra	adable,	No WWA	N Card,	WWAN	Anteni	na Only		• 1-year + 2-year limited onsite service
				band 4G L						0 00 10		1-year depot with 2-year system board repair service
SIM card	 Integrate Optional I 			band 4G L1	I ⊑-A, F	Inocom F	.000-GL,	UNINO	4X4, IVI.	∠ card	Mil-Spec test	MIL-STD-810G military testing
Silvi Calu				Depth: 227	7 mm (8.94 in)					Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
Dimensions												













ThinkPad P15 Gen 1 Platform Specifications

	Supports one 10th	1 Xeon	W, Core	i9, i7, or i	5 process	or as fo	llowing:			SIM card	Optional Nano-SIM card slot
		# of	# of	Base	Max Turbo		Memory	Pro	ocessor		Width: 375.4 mm (14.78 in). Depth: 252.3 mm (9.93 in).
	Processor Number	Cores	Threads	Frequency	Frequency	Cache	Types		raphics	Dimensions	Thickness for non-touch models: $24.5 \sim 31.45$ mm ($0.96 \sim 1.24$ in)
	Voon W 1000EM					1CMD		a Inte	el UHD	Woight	Thickness for touch models: 25.25 ~ 32.2mm (0.99 ~ 1.27 in) Starting at 2.74 kg (6.05 lb, FHD)
	Xeon W-10885M	8	16	2.4GHz	5.3GHz	TONB	DDR4-29	³³ Gr	aphics	Weight Case color	Black
	Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-29		el UHD		Display cover: GFRP 50% (PPS695 + GF 50%).
		0	12	2.00112	5.10112			Gr	aphics	Case material	Bottom: PPS + GF
	Core i9-10980HK	8	16	2.4GHz	5.3GHz	16MB	DDR4-29		el UHD	Media reader	SD card reader
Dueses					0.00.12			G	aphics		1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt
Processor	Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-29		el UHD	Standard Ports	3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / microphone combo jack, 1x SD card reader,
									aphics el UHD		1x security keyhole. 1x RJ-45
	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-29		aphics	Ontional Darta	One optional smart card reader on right, one optional Nano-SIM card slot on
								Int	el UHD	Optional Ports	left
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-29		aphics		Up to 5 displays with 4 external monitors plus system LCD screen. External
	0	0	10	0.0011-	5 00U	10140		Inte	el UHD	Monitor support	monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. USB-C and HDMI support up to 4K@60Hz.
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12IVIB	DDR4-29		aphics		With Thunderbolt, one supports up to 5K@60Hz and one supports up to
	Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-29	ag Inte	el UHD		4K@60Hz
	001613-1040011	4	0	2.00112	4.00112		00114-23	Gr	aphics	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Chipset	Intel WM490 Chip									Bundled Accy	None
Memory Type	SO-DIMM. DDR4-	3200 f	or non-E	CC, DDR4	1-2933 for	ECC. O	perates a	t DDR	4-2933.	0.0	Supports one optional camera as following:
	8GB/16GB/32GB	availat	ble for bo	th ECC ar	nd non-EC	С				Camera	 HD720p camera with ThinkShutter camera privacy, fixed focus Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Memory Sockets	4 DIMM sockets			a a d Mara						Audio chip	Realtek ALC3286 codec
Memory Protection	128GB			and Xeo	n process	or				Speaker	Stereo speakers, Dolby Atmos sound system
Max Memory	Support one of the	a follow	vina dicor	oto aranh	ioc:					Microphone	Optional dual array far-field microphone
	NVIDIA Quadro									Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with
Graphica	NVIDIA Quadro	T2000	4GB GE	DR6 mer	norv						Unified Communications controls.
Graphics	 NVIDIA Quadro 	RTX 3	000, 6GE	GDDR6	memory					UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch touchpad
	NVIDIA Quadro	RTX 4	000 with	Max-Q De	esign, 8GE	GDDF	R6 memor	у		Password	Power-on password, hard disk password, supervisor password
	NVIDIA Quadro	<u>HIX 5</u>		Max-Q De	sign, 16G				V.	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	Size Resolution	T	ype Surf	ace Touch	Brightnes	Ratio	t Contrast Ratio	Gamut	Angle	System mgmt	Optional Intel vPro Technology supported on vPro enable models
								72%		Security locks	Security keyhole for optional Kensington lock
	15.6" FHD (1920x10	080) W	/VA Anti-	glare -	300 nits	16:9	700:1	NTSC	160°	Smart card reader	
	FHD (1920x10	180)								Fingerprint reader	r Touch style match on chip fingerprint reader on the palm rest
	15.6" Dolby Vision,	() () () () () () () () () ()	/VA Anti-	glare -	500 nits	16:9	1200:1	72% NTSC	160°	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80%
Display	HDR 400							11100		, ,	in 1hr) with 230W AC adapter MobileMark 2014: 16.4 hr.
-12	UHD (3840x21 15.6" Dolby Vision,		/VA Anti-		600 nits	16:9	1400:1	100%	178°	Max battery life	MobileMark 2014: 10.4 hr.
	HDR 400	1			000 1113	10.5	1400.1	Adobe	170	,	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
			An	+;	SDR					Device Adapter	One of the following:
	UHD (3840x21 15.6" Dolby Vision,			tion multi-	400nit, HDR	16:9	100000:1	100% DCI-	170°	Power Adapter	230W slim AC adapter 170W slim AC adapter
	HDR 400		/ AI		500nit	10.9	100000.1	P3	170		Supports one optional preloaded operating system as following:
			smu	age	(peak)			_			• Windows 10 Home 64
Color Calibration	Factory Color Cali									Operating system	• Windows 10 Pro 64
Touchscreen	Touch enable on s			LED mod	els, suppo	rts 10-f	inger ges	ture			Windows 10 Pro 64 for Workstations Ubuntu Linux LTS
Pen	Optional Lenovo F										Fedora Linux
Storage	Up to two M.2 228		, PCle N	VMe, 256	GB / 5120	B/1TE	3 / 2TB ea	ach			Optional warranty plans as following:
RAID	RAID 0 / 1 suppor	t									1-year depot repair service
Optical	None										• 3-year depot repair service
Ethernet	One onboard GbE	port v	via integra	ated gigat	oit etherne	t, Intel i	219LM fo	r vPro	models	Base Warranty	 1-year + 2-year depot repair service 1-year limited onsite service
	or i219V for non-v	Pro mo	Daels								• 3-year limited onsite service
NFC	None Optional Intel Wi-F	i 6 A V	201 on m	lost mode	le Wi-Fi 0	v2 802	11av ± PI	uptoot	h 5 1	-	 1-year + 2-year limited onsite service
WLAN + Bluetooth	Bluetooth 5.1 requ										1-year depot with 2-year system board repair service
	One of the following	ng, cor	figurable	by mode		(1010		5. 000	,	Mil-Spec test	MIL-STD-810G military testing
	 No WWAN card a 	and no	on upgrad	lable					. .	Environment ISV certifications	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant Please visit www.thinkworkstations.com/isv-certifications/
WWAN	 Integrated Mobile Integrated Mobile 										1 10000 11011 1111 1111 1111 1110 110 1
	 Integrated Mobile Note: WWAN cannot be 	supporte	ad on UHD	x ∟i ⊏-A, I NVA models	- mocom L	000-GL	., IVIIIVIO 4	x4, IVI.	∠ caro		
										-	Lenovo July 2020









ThinkPad P15s Gen 1 Platform Specifications

	Supr	orts o	ne 10th (Core i7	and i5 -U	suffix	processo	r as folle	owina:				Display cover: PPS / 50% GF;		
							· · · · · · · · · · · · · · · · · · ·			Der		Case material	Bottom: PA / 50% GF		
	Proce			# of		Max Tu		Mem		Proces		Media reader	MicroSD card reader		
1	Num					Freque		Туре		Graph			On left: 1x USB-C (USB 3.2 Gen 1, PD, DP), 1x Thunderbolt (USB-C form,		
Processor	i7-10	610U	4	8	1.8GHz	4.9GF	Hz 8MB	DDR4-	2666 Inte	I UHD (Graphics		Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 1x side docking connector, 1x USB-A		
	i7-10	510U	4	8	1.8GHz	4.9GH	Iz 8MB	DDR4-	2666 Inte	UHD (Graphics	Standard Ports	3.2 Gen 1, 1x HDMI 1.4b, 1x headphone / microphone combo jack,		
	15 10	310U	4	8	1.7GHz	4.4Gł	Iz 6MB	DDR4-			Graphics		1x microSD card reader		
				•	-	-	-						On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On)		
	i5-10	210U	4	8	1.6GHz	4.2GH	Hz 6MB	DDR4-	2666 Inte	UHD (Graphics	Optional Ports	One optional smart card reader on right, one optional nano-SIM card slot on rear		
Chipset) platform								Up to 3 displays with 2 external monitors plus system LCD screen. Two external		
					DR4-2666							Monitor support	monitors supported via USB-C, Thunderbolt, and HDMI. 4096x2304@60Hz on		
Memory Type	8GB/	16GB	/32GB D	DR4-3	200 SO-D	IMM no	on-ECC fo	or DIMN	I sockets	5,			USB-C and Thunderbolt, 4096x2160 @24Hz on HDMI		
					on-ECC for							Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters, up to two		
Memory Sockets			cket plus	1 sold	lered DIM	M, dual	-channel	capable	e			Bundled Accv	None		
Memory Protection													Supports one optional camera as following:		
Max Memory					DIMM plus							Camera	HD720p camera with ThinkShutter camera privacy, fixed focus		
Graphics	Intel	UHD (Graphics	in prod	cessor and	I NVID	IA Quadro	o P520,	2GB GE	DR5 n	nemory		• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus		
	Cizo	Resolu	ution	Туре	Surface	Touch	Brightness	Aspect	Contrast	Color	Viewing	Audio chip	Realtek ALC3287 codec		
	Size	neson		туре	Sunace	Touch	Dirgittiess	Ratio	Ratio	Gamut	Angle	Speaker	Stereo speakers, 2W x 2, Dolby Audio Speaker System		
												Microphone	Optional dual array near-field microphone		
	15.6"	FHD (1920x108	0) WVA	Anti-glare	-	250 nits	16:9	800:1	45%	170°		6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,		
Diaplay		``		- /	J							Keyboard	numeric keypad. LED backlight on most models, non LED backlight is for		
Display						multi-							special bids		
	15.6"	FHD (1920x108	0) WVA	Anti-glare	touch	300 nits	16:9	800:1	45%	170°	UltraNav	TrackPoint pointing device and Mylar surface multi-touch touchpad		
			3840x216	0)								Password	Power-on password, hard disk password, supervisor password		
	15.6"	Dolby	Vision,	"WVA	Anti-glare	-	600 nits	16:9	1400:1	Adobe	170°	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions		
		HDR 4	00		_					Adobe		System mgmt	Optional Intel vPro Technology supported on vPro enable models		
Color Calibration	Facto	ry Co	lor Calibi	ration o	on UHD me	odels						Security locks	Security keyhole for optional Kensington lock		
Touchscreen	Optic	nal or	n-cell tou	ch on s	selected FI	HD mo	dels, sup	ports 10	D-finger o	gesture		Smart card reader			
Pen	None	;										Fingerprint reader			
0	Up to	one I	VI.2 SSD PCIe NV	as foll /Me. P	owing, 2TE Cle 3.0 x 4	3 max:	B/512G	B/1TF	3/2TB			Battery	Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter		
Storage	• M.2	2242	PCIe NV	/Me. P	Cle 3.0 x 2	2, 1280	B. for sp	ecial bi	ds				MobileMark 2014: 16.5 hr.		
	• M.2	2280	512GB \$	SSD +	32 GB Op	tane, F	PCÍe NVİV	le 3.0 x	4, for sp	ecial bi	ids	Max battery life	MobileMark 2018: 10.48 hr.		
Optical	None											Dower Adeptor	* Battery life varies significantly with hardware configurations, settings, usage, & other factors		
	One	onboa	rd GbE r	oort via	integrated	d gigab	it etherne	et, Intel	i219LM f	or vPro	models	Power Adapter	65W or 65W slim USB-C AC adapter		
Ethernet	or i2	9V fo	r non-vP	ro mod	lels	5.5		.,					Supports one optional preloaded operating system as following: • Windows 10 Home 64		
NFC	Optic	nal	-									Operating system			
	Optic	nal In	tel Wi-Fi	6 AX20	01 on most	t mode	ls, Wi-Fi 2	2x2 802	.11ax + I	Bluetoo	oth 5.1.		Windows 10 F10 64 Windows 10 Government Edition 64 for special bids		
WLAN + Bluetooth	Bluet	ooth 5	5.1 requir	es the	latest vers	sion of	Windows	10 (ver	sion 200	4 or ab	ove)		Ubuntu Linux LTS		
	One	of the	following	, confi	gurable by	model	:				,		Optional warranty plans as following:		
					upgradabl								• 1-year depot repair service		
WWAN	 Inte 	grated	Mobile	Broadt	and Upgr	adable	No WW	AN Card	a, wwan	I Anten	ina Only		3-year depot repair service		
	 Integration 	grated	Mobile	Broadt	and 4Ġ L and 4G L	IE-A, F	-ibocom L	.850-Gl	_, M.2 ca	rd	0 0 0 0 0 0	Base Warranty	 1-year + 2-year depot repair service 		
SIM card			ano-SIM			I ⊑-A, F		.000-Gl		4X4, IVI	.2 card		1-year limited onsite service		
					. Depth: 24	8 mm	(0.76 in)					-	3-year limited onsite service		
Dimensions	Thick	1. 000	19.1 mm	4.4 III). 1 (0 75	inchee)		(3.70 11).						• 1-year + 2-year limited onsite service		
Weight	Start	ng at	3.86 lb (*	1.75kg)							Mil-Spec test	1-year depot with 2-year system board repair service MIL-STD-810G military testing		
Case color	Black		0.00 10 (org	/								EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		
		-													
												ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/		













ThinkPad P15v Gen 1 Platform Specifications

Processor Number # of # of # of # of # of # of # of # of		Supports one 10th	n Xeon	W. Core	i7. or i5 p	rocessor	as follo	wina:		Case color	Black
Processor Processor Number Cores Threads Fragmence Construction Batterini PC/ABS Batterini PC/ABS Vecom V-108/5H 8 12 2.8 GHz 5.1 GHz 12M B DDR4-2933 Intel UHD Standard Port One optional Standard Port Standard Port One optional Standard Port Utp Standard Port Standard Port Standard Port									Dragona		
Network Non-		Processor Number			Base	Frequency	Cache	Types		Case material	Bottom: PC / ABS
Audio molection Indian approximation Indian approxi			Cores	Theaus	riequency	пециенсу		Types		Media reader	SD card reader
Processor Proces Processor		Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-2933			1x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP),
Pricessor Core 17-04650H Core 17-04650H Core 17-04650H Core 17-04650H Core 17-104650H Core 17-104									· ·	-IIStandard Ports	2x USB-A 3.2 Gen 1 (one Always-on) 1x HDMI 2.0.1x headphone / micro-
Processor Processor Processor Processor Processor Core 17-1050H 6 12 2.7GHz 5.1GHz 12MB DDR4-293 Grading with 2 system Dorations with 2 withm LOD sorten. External monitors purported via Thunderbolt and HDML. Core 17-10750H 6 12 2.6GHz 5.0GHz 11MB UHG Monitor supports vp 16 x4 & 60Hz. Thunderbolt supports vp 16 x4 & 60Hz. Core 15-10300H 4 8 2.5GHz 4.5GHZ BMB DDR4-293 Grading with 2 with 2 with 10Hz Core 12 with 10Hz Core1	Broossor	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293			phone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45
Core (7-10550H 6 12 2.7.GHZ 5.1.GHZ 12.WB [DDH-2:33] Graphics (Graphics) Core (5-10300H 4 8 2.5.GHZ 12.WB [DDH-2:33] BDR-2:33] Bit (ME) Monitor supportied via Thunderbott supports up to 5K @60Hz. Thunderbott supports up to 5K @60Hz. Chipset Intel W.M400 Chipset SO-DIMM. DDH-3:200 non-ECC or DDH-2:33 ECC. Operates at DDR+2:933. GRaphics SUpports one optional camera as following: Graphics Supports one optional camera as following: Horitor Calible ALC: Coling and the coling a	FIDCESSOI										One optional smart card reader on left, one optional Nano-SIM card slot on rear
Product Core i7:10750H 6 12 2.6.GHz 5.0.GHz 12MB DDPA-2293 Intel UHD (molic supports up to 5K @ 60Hz Molic Supports up to 5K @ 60Hz Cripiset Intel WM490 Chipset Scient MM490 Chipset Scient MM490 Chipset Scient MM490 Scient MM4900 Scient MM49000 Scient MM49000 Scient MM49000 Scient MM490000 Scient MM490000 Scient MM4900000000000000000000000000000000000		Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293			Up to 3 displays with 2 external monitors plus system LCD screen. External
Core i7:107:01 6 12 2.6 GHz 5.0 GHz 12MB DDR4-2933 The UHD Intel UHD Intel UHD Solution Thumanbotit supports up to 5K 660Hz Chipset Crie i5:103:00H 4 8 2.5 GHz 4.5 GHz MB DDR4-2933 Intel UHD Intel UHD Solution Optional HDMI to VGA, USB-C to DP or USB-C to VGA adapters Memory Type SGB / 166/R2GB available for both ECC and non-ECC Core and non-ECC Core and non-ECC Supports one optional Learera as following: Wemory Ysocket 2 DIMM sockets Supports one optional Learera as following: Supports one optional Learera as following: Wemory Ysocket 2 DIMM sockets Supports one optional Learera as following: Supports one optional Learera as following: Memory Yine Karting CCC on models with ECC DIMMs and Xeon processor plus optional NVIDIA Quadro P620, 4GB GDDRs memory Supports one optional cearera as following: Support Memory Size Resolution Type Surface Toub Brightmase Resolution Mylar surface multi-louch fail Support Memory Support Memory 16 = THD (1920:10800 WMA Anti-glare - 250 nits 16:9 7001 MS75 770 Support Matter Matter Matter Matter Matter Matter Matter Matter Matter Matter Matter Matter Matterader Touch Stypen Informat Materader Touch Stypen Infor									· ·	- Monitor cupport	
Ore 6-10300H 4 8 2.5GHz 4.5GHz 8MB DPR4-2933 Intel UHD (Fraphics) Chipsel Intel WM490 Chipsel So-DIMM DDR4-3200 non-ECC or DPR4-2933 ECC. Operates at DDR4-2933 Camera with DinkShutter camera privacy, fixed focus So-DIMM DDR4-3200 non-ECC or DIMMs and Xeon processor Supports one optional camera as following: Hybrid IR camera with ThinkShutter camera privacy, fixed focus Wemory Sockets Z DIMM sockets Hybrid IR camera with Dolty Audio support Memory Protection ECC on models with ECC DIMMs and Xeon processor Feator Concessor Max Memory 640B Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5 Restell ALG3287 codec Speaker Steree speakers with Dolty Audio support Microphone Keyboard Frow, split-resistant, numeric keypad, multimedia Fn keys with Unified Com- munications controls, supports on explorinal LEDM and water and take password. Display 15.6" FHD (1920x1080) WA Antiglare 2 50 nits 16.9 1001 NTSC 170° State Ratio multi-reside Ratio Antiglare 4 0001 1000° 178° 15.6" FHD (1920x1080) WA Antiglare 0 000 nits 16.9 1001 1000° 178° 15.6" FHD (1920x1080) WA Antiglare 0 000 nits 16.9 10001 <td></td> <td>Core i7-10750H</td> <td>6</td> <td>12</td> <td>2.6GHz</td> <td>5.0GHz</td> <td>12MB</td> <td>DDR4-293</td> <td></td> <td>,</td> <td></td>		Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293		,	
Core is -10300H 4 8 2.5GHz 4.5GHz 8MID DDPA-2933 Graphics Bundled Accy None Core is -10300H 4 8 2.5GHz 4.5GHz 8000 Allocation Supports one optional camera as following: Camera Supports one optional camera as following: Supports one optional camera as following: Camera + Hb720p camera with ThinkShutter camera privacy, fixed focus Wemory Type Sockets 2 DIMM sockets Supports one optional camera as following: Camera + Hb720p camera with ThinkShutter camera privacy, fixed focus Memory Type Sockets 2 DIMM sockets Supports one optional camera as following: Supports one optional camera as following: Camera + Hb720p camera with ThinkShutter camera privacy, fixed focus Graphics Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5 Speaker with Dotty Audio support Keyboard Witroha										-	
Chipset Intel WM490 Chipset Supports one optional camera as following: Wemory Type SO-DIMM bookets SO-DIMM sockets Supports one optional camera as following: Wemory Protection 2 DIMM sockets Speakers Statling 42/3 2 DIMM sockets 2 DIMM sockets Speakers with Dolby Audio support Memory Protection ECC on models with ECC DIMMs and Xeon processor Speaker Stere speakers with Dolby Audio support Max Memory 646B Speaker Stere speakers with Dolby Audio support Graphics Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5 Keyboard Keyboard Mite Speaker Stee Resolution Type Surface Touch Brightness Aspect Stee FHD (1920/1920) Stee Resolution Type Surface Color Viewing Password Power-on password, hard disk password, supervisor password Swettract Touch Password, supported on vPro enable models Display 15.6° FHD (1920/1930) WA Anti-glare 600 nits 16.9 700:1 175° 170° System mgmt Optional Intel VPro Technology supported on vPro enable models Storage Up to two M2 2280 SSD, PCIe NVMe, 256GB / 512GB / 11B / 2TB each None <td></td> <td>Core i5-10300H</td> <td>4</td> <td>8</td> <td>2.5GHz</td> <td>4.5GHz</td> <td>8MB</td> <td>DDR4-293</td> <td></td> <td></td> <td></td>		Core i5-10300H	4	8	2.5GHz	4.5GHz	8MB	DDR4-293			
Biology Camera + H0720p caméra with ThinkShutter camera privacy, fixed focus Wemory Type SdRBr (668/32GB available for both ECC and non-ECC Audio chip Reaff (648/32GB available for both ECC and non-ECC Wemory Sockets 2 DIMM sockets Audio Chip Reaff (648/32GB available for both ECC and non-ECC Memory Type Sockets 2 DIMM sockets Audio Chip Reaff (648/32GB available for both ECC and non-ECC Max Memory G4GB Commodels with ECC DIMMs and Xeon processor Audio Chip Reaff (648/104, numeric keypad, multimedia Fn keys with Unified Communications controls, optional LED backlight Graphics Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5 Keyboard Genuit Angle Genuit Angle 15.6 FHD (1920x1080) WA Anit-glare 250 nis 16.9 70:1 45% 170 System mgmt Disorder TM 2.0, TCG Certified, may be disabled in some regions 15.6 FHD (1920x1080) WA Anit-glare 600 nits 16.9 100% 1 100% 1 25% 25% 170 Security locks Security locks <td< td=""><td><u></u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Graphics</td><td></td><td></td></td<>	<u></u>								Graphics		
 Memory Type BidD // FGR/Bid2B available for both ECC and non-ECC Memory Sockets D DIMM sockets BidD // FGR/Bid2B available for both ECC and non-ECC Memory Forection ECC on models with ECC DIMMs and Xeon processor Max Memory G4GB Finemory Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDF5 Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDF5 Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDF5 Intel VILO (1990) Intel VILO (1990) Intel VILO (1990) Is 6¹ FHD (1990) Is 6¹ FHD (1990) Is 6¹ FHD (1990) Is 6¹ FHD (1990) ViA Anti-glare Is 6¹ FHD (1990) ViA Anti-glare Is 6¹ FHD (1990) ViA Anti-glare Is 6¹ FHD (1990) Is 6¹ FHD (1990) ViA Anti-glare Is 6¹ FHD (1990) ViA Anti-glare Is 6¹ FHD (1990) Is 6¹ FHD (1990) ViA Anti-glare Is 6¹ FHD (1990) Is 6¹ FHD (1990) Is 6¹ FHD (1990) ViA Anti-glare Is 6¹ FHD (1990) Is 6¹ FHD (1990)<td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Camera</td><td></td>										Camera	
Memory Sockets 2 DilM Bockets Audio chip Realitek ALC3287 codec Memory Protection EGC on models with ECC DIMMs and Xeon processor Audio chip Pealtek ALC3287 codec Max Memory 64GB Memory Hordection FCC on models with ECC DIMMs and Xeon processor Microphone Star Memory 64GB Memory Notesta Color Vision Color Vision Microphone Star Memory Star Resolution Type Surface Color Microphone Keyboard Prover-on password, hard disk password. Supervisor password Display 15.6 ⁺ FHD (1920x1080) WA Anti-giar Assect Color Wising Security chip Discrete TPM 2.0, TCG Certified, may be disabled in some regions Display 15.6 ⁺ FHD (1920x1080) WA Anti-giar Multi 300 nits 16.9 800:1 45% 170° Storage Up to None Color Calibration Fatory Color Calibration on UHD panels MobileMark 2014:10 hr. MobileMark 2014:10 hr. Storage Up to Non 42280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each None None None None None None None Supports on e optional preloaded operating system as following:	Memory Type	SO-DIMM. DDR4-	3200 r	ion-ECC	or DDR4	-2933 ECO	C. Oper	ates at DDF	34-2933.	Camera	Hybrid IB camera with ThinkShutter camera privacy, fixed focus
Wempersy Processor Speaker Stere opeakers with Dolby Audio support Wempersy Processor Speaker Stere opeakers with Dolby Audio support Max Memory 64GB Stere opeakers with Dolby Audio support Max Memory 64GB Stere opeakers with Dolby Audio support Max Memory 64GB Stere opeakers with Dolby Audio support Max Memory 64GB Stere opeakers with Dolby Audio support Max Memory 64GB Stere opeakers with Dolby Audio support Mice Durband Type Support Stere opeakers with Dolby Audio support Mice Durband Type Support Stere opeakers with Dolby Audio support Mice Durband Type Support Support Mice Durband Type Support Support Mice Durband Type Support Support Mice Durband Type Support Support Mice Durband Support Support Mice Durband Support Support Mice Durband Support Support Mice Durband Su			availat	ble for bo	th ECC a	nd non-EC	C			Audio chip	
Memory Protection ECC on models with ECC DIAWS and Xeon processor Microphone Optional dual array near-field microphone Max Memory 64.05 Graphics Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5 Microphone Optional dual array near-field microphone Microphone Size Resolution Type Surface Touch Field UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5 Microphone Very Neight Size in the Very Neight Subtion TackPoint pointing device and 2-button Mylar surface multi-touch touch touch touch 15.6° FHD (1920x1080) WVA Anti-glare None So nis 16.9 900:1 176° 170° Storage UP to Rahozzico WVA Anti-glare None 100°s 178° 170° Color Calibration on UHD panels - 600 nits 16.9 1400:1 100°s 178° Storage Up to two M.2 2280 SSD, PCie NVMe, 256GB / 512GB / 1TB / 2TB each None MobileMark 2014: 6.6 3hr MobileMark 2014: 6.6 3hr NFC None Optional Integrated gigabit ethernet, Intel 219LM for VPro models Supports one optional Preloaded operating system as following: Vincord Color Cali											
Max Memory 943B Graphics Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDFS Size Resolution Type Surface Touch Brightness Aspect Coincrast Coincras			ith EC	C DIMM	s and Xeo	n process	or				
Graphics Intel UHD Graphics in processor plus optional NVIDA Quadro P620, 4G8 QDDRs Integrate Quadro P20, 4G8 QDDRs Integrate Quadro P20, 4G8 QDDRs Size Resolution Type Surface Touch Brightness Aspect Contrast Contrel Contrast Contrast Contrast Contrast Contreleta Contrast Contra	Max Memory										
Memory Solution Type Surface Touch Brightness Aspect Ratio Color Viewing Ratio UltraNav 3-button TrackPoint pointing device and 2-button Mylar surface multi-touch touchpad Display 5.26 Resolution Type Surface Touch Brightness Aspect Ratio Color Viewing Ratio Power-on password, hard disk password, supervisor password 5.6* FHD (1920x1080) WVA Anti-glare 250 nits 16:9 700:1 45% NTSC 170* Security locks	Graphics		s in pr	ocessor	plus optio	nal NVIDI	A Quad	lro P620, 40	GB GDDR5	Keyboard	munications controls, optional LED backlight
Size Resolution Type Surface Touch Brightness Partse Control Marking Partse Control Marking Display 15.6° FHD (1920x1080) WVA Anti-glare - 250 nits 16:9 70:1 Af5% 170° Security (chip Discrete TPM 2.0, TCG Certified, may be disabled in some regions 56.6° FHD (1920x1080) WVA Anti-glare - 250 nits 16:9 80:1 NTSC 170° 15.6° FHD (1920x1080) WVA Anti-glare - 600 nits 16:9 80:1 NTSC 170° 15.6° FHD (1920x1080) WVA Anti-glare - 600 nits 16:9 80:1 170° Security locks Security		memory						1 1		IlltraNay	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
Display Image: Imag		Size Resolution	080) W	ype Sur	ace Toucl	Brightnes	Aspec	t Contrast C	Color Viewin	91	
Display Iso PHD (1920x100) WVA Anti-glare 220 mis 16.9 700.1 NTSC 170 System mgmt Optional Intel VPro Technology supported on VPro enable models 15.6* FHD (1920x1000) WVA Anti-glare 000 nits 16.9 90.01 45% 170* Security locks						-	nalio				
Display Is definition FHD (1920x1080) WVA Anti-glare multi-louch 300 nits 16:9 600:1 45% 170° Security locks Security locks Security keyhole for optional Kensington lock 15.de ⁺ UHD (3840x2160) WVA Anti-glare - 600 nits 16:9 100° 178° Finderprint reader Security locks Security keyhole for optional Kensington lock Color Calibration Factory Color Calibration on UHD panels - 600 nits 16:9 1400:1 100% 178° Pen None - 600 nits 16:9 1400:1 100% 178° Storage Up to two A 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each - MobileMark 2018: 6.63 hr RAID RAID 0 / 1 support - - - - - Optical None - <td></td> <td>15.6" FHD (1920x10</td> <td>/VA Anti-</td> <td>glare -</td> <td>250 nits</td> <td>16:9</td> <td>700:1</td> <td>45% 170°</td> <td></td> <td></td>		15.6" FHD (1920x10		/VA Anti-	glare -	250 nits	16:9	700:1	45% 170°		
15.6° FHD (1920x1080) WVA Anti-glare Induity 300 nits 16.9 800.1 NTSC 170° Smart card reader [Optimal Smart card reader] Smart card reader Footunity (By Inde to Optimal Reinlington Hock Color Calibration Factory Color Calibration on UHD panels 600 nits 16.9 1400:1 100% 178° Color Calibration Factory Color Calibration on UHD panels Integrated Li-Polymer 68Wh battery. Supports Rapid Charge (charge up to 80% Touch enable on selected FHD models, supports 10-finger gesture Mone MobileMark 2014: 10 hr. Storage Up to two M.2 2280 SSD, PCle NVMe, 256GB / 512GB / 1TB / 2TB each MobileMark 2014: 10 hr. RAID One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models Power Adapter NFC None Supports one optional preloaded operating system as following: • Vindows 10 Pro 64 for Workstations • Ubuntu Linux LTS WAAN + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) • Nower adapter WWAN • No WAN card and non upgradable • Starting dual termination in the analytic service • 1-year depot repair service • 1-year limited onsite service • 1-year depot repair service • 1-year limited onsite service • 1-year imited onsite service • 1-year limited onsite service • 1-year depot repair service • 1-year imited onsite service • 1-yea	Display				<u> </u>						
UHD (3840x2160) I 5.6" Dolby Vision, HDR 400 WA Anti-glare - 600 nits 16:9 1400:1 100% 100% 178* Color Calibration Factory Color Calibration on UHD panels - 600 nits 16:9 1400:1 100% 100% 178* Color Calibration Factory Color Calibration on UHD panels - 600 nits 16:9 1400:1 100% 100% 178* Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each - MobileMark 2018: 6.63 hr - RAID RAID 0 / 1 support - - - - - - Optical None -	Display	15.6" FHD (1920x1		/VA Anti-	glare multi	300 nits	16:9	800:1	45% 170°	· · ·	
15.6" Doley Vision, IDV Via WVA Anti-glare - 600 nits 16.9 1400:1 100% 176* Integrated Li-Polymer 68Wh battery. Supports Rapid Charge up to 80% in 1hr) with 135W AC adapter Color Calibration Factory Color Calibration on UHD panels Mobile Grave and the part of			·		toucr	1		I I I I I I I I I I I I I I I I I I I	IISC -		
Huber 400SolutionAddobeBatteryIntegrated Li-Polymer solvin Dattery. Supports Hapid Charge (charge up to 80% and 10% of 10 km 20% and 10% of 10 km 20% and 10% and		15.6" Dolby Vision,		/V/A Anti-	nlare -	600 nits	16.0			Fingerprint reader	
Color Calibration Factory Color Calibration on UHD panels In Thif Your 150W AC adapter Touch enable on selected FHD models, supports 10-finger gesture MobileMark 2018: 6.63 hr Pen None Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each RAID RAID 0 / 1 support Optical None One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models Supports one optional preloaded operating system as following: NFC None WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) Optional Name-SiM card and non upgradable NWAN • No WWAN card and non upgradable • Notows 0.21 mgrade Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) Dept 1250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) Weight Starting at 2.07 kg (4.57 lb, UHD) FPA T Gold. ENERGY STAR 8.0. RoHS-compliant			1		giare -	000 1113	10.5	A 1400.1	dobe	Battery	Integrated Li-Polymer 68Wh battery. Supports Rapid Charge (charge up to 80%)
Touch enable on selected FHD models, supports 10-finger gesture Max battery life MobileWark 2018: 1011. Pen None MobileWark 2018: 1011. Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each Pen RAID RAID 0 / 1 support Supports one optional preloaded operating system as following: Optical None Supports one optional preloaded operating system as following: Optical None Windows 10 Pro 64 Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models Operating system NFC None Windows 10 Pro 64 for Workstations WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) WWAN • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card SIM card Optional Nano-SIM card slot Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) Weight Starting at 2.07 kg (4.57 lb, UHD)	Color Calibration		bratior) nanels						
Pen None Battery life varies significantly with hardware configurations, settings, usage, & other factors Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each Power Adapter 135W slim AC adapter RAID RAID 0 / 1 support Supports one optional preloaded operating system as following: Windows 10 Pro 64 One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models Operating system Windows 10 Pro 64 NFC None Windows 10 Pro 64 for Workstations Ubunt Linux LTS WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Base Warranty Optional warranty plans as following: WWAN • No wWAN card and non upgradable • 1-year depot repair service 3-year depot repair service SIM card Optional Nano-SIM card slot UB.44 (J.12, Si (J.12,						norts 10-	finger c	resture		Max battory life	
Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each Power Adapter 135W slim AC adapter RAID RAID 0 / 1 support Supports one optional preloaded operating system as following: Windows 10 Pro 64 Optical None Windows 10 Pro 64 Windows 10 Pro 64 Ethernet Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. WLAN + Bluetooth Optional Intel following, configurable by model: One of the following, configurable by model: • No WWAN • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card SIM card Optional Nano-SIM card slot Uith: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Dimensions Widht: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) Mil-Spec test Weight Starting at 2.07 kg (4.57 lb, UHD)					100010, 00		iniger g	jooturo			WODIIEWARK 2018: 6.63 Nr * Battery life varies significantly with bardware configurations, settings, usage, & other factors
RAID RAID 0 / 1 support Optical None Ethernet One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models Operating system NFC None WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) Optional warranty plans as following: WVAN One of the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) MII-Spec test Weight Starting at 2.07 kg (4.57 lb, UHD) MII-Spec test					VMo 256	CB / 5120		B / 2TB and	h	Power Adapter	
And D INALD Integrated Nobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Optional Nano-SIM card slot Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Integrated Nobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card MI-Spec test MIL-STD-Year 4epot repair service 3-year limited onsite service 3-year limited onsite service 1-year + 2-year limited onsite service 1-y	-	· ·		, i cie n	vivie, 200			D/21D eac	/11	_	
One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models • Windows 10 Pro 64 for Workstations • Ubuntu Linux LTS NFC None • Windows 10 Pro 64 for Workstations • Ubuntu Linux LTS WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) Optional warranty plans as following: • 1-year depot repair service • 3-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year limited onsite service • 1-year limited onsite service • 1-year limited onsite service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair servi			t							_	Windows 10 Home 64
Enternet or i219V for non-vPiro models Output Linux LTS NFC None Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) Optional warranty plans as following: 1-year depot repair service 3-year depot repair service 1-year depot repair service 1-year depot repair service 1-year depot repair service 1-year limited onsite service 1-year limited onsite service 1-year limited onsite service 1-year limited onsite service 1-year depot repair service 1-year limited onsite service 1-year limited onsite service 1-year depot repair service 1-year limited onsite service 1-year limited onsite service 1-year depot repair service 1-year limited onsite service 1-year limited onsite service 1-year depot repair service 1-year limited onsite service 1-year depot repair service 1-year limited onsite service 1-year limited onsite service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year depot with 2-year System board repair service 1-year depot with 2-year System board repair service 1-year depot with 2-year System board repair service 1-year depot with 2-year System board repair service 1-year depot with 2-year System board repair service 1-year depot with 2-year System board repair service 1-year depot with 2-year System board repair service 1-year depot with 2-year System board repair service 1-year depot										Operating system	Windows 10 Pro 64
One Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Optional varranty plans as following: WLAN + Bluetooth Difference	Ethernet	One onboard GbE	port v	via integr	ated gigat	oit etherne	t, Intel	i219LM for	vPro model	S	
WLAN + Bluetooth Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) • 1-year depot repair service WWAN One of the following, configurable by model: • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Base Warranty • 1-year depot repair service • 1-year + 2-year limited onsite service • 3-year limited onsite service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 1-year + 2-year system board repair service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert limited onsite service • 1-year expert set model Dimensions Width: 366.5 mm (14.43 in), Depth: 250 mm (9.84 in), Thickness: 24.2 mm (0.95 in) Mil-Spec test MIL-STD-810G military testing Weight Starting at 2.07 kg (4.57 lb, UHD) Environment EPEAT Gold, ENERGY STAR 8.0. RoHS-compliant			Pro mo	odels						_	
WULAN + Didetootin Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) 0 3-year depot repair service WWAN One of the following, configurable by model: 1-year + 2-year depot repair service • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card Base Warranty SIM card Optional Nano-SIM card slot -1-year + 2-year limited onsite service Dimensions Width: 366.5 mm (14.43 in), Depth: 250 mm (9.84 in). Mil-Spec test Mil-Spec test MIL-STD-810G military testing Weight Starting at 2.07 kg (4.57 lb, UHD) Environment	NFC									_	
Bibletotin S. Hequites the latest version of Windows to (version 2004 of above) One of the following, configurable by model: • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card SIM card Optional Nano-SIM card slot Dimensions Widh: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Dimensions Thickness: 24.2 mm (0.95 in) Weight Starting at 2.07 kg (4.57 lb, UHD)	WLAN + Bluetooth	Optional Intel Wi-F	i 6 AX	201 on n	nost mode	ls, Wi-Fi 2	x2 802	.11ax + Blu	etooth 5.1.		
WWAN • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card • 1-ýear limitéd onsite service • 3-year limited onsite service • 3-year limited onsite service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service • 1-year depot with 2-year System board repair service Weight Starting at 2.07 kg (4.57 lb, UHD) Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant							10 (ver	sion 2004 o	r above)	_	
Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card • 3-year limited onsite service SIM card Optional Nano-SIM card slot • 1-year + 2-year limited onsite service Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in) • Mil-Spec test Wieght Starting at 2.07 kg (4.57 lb, UHD) Environment		No WWAN card	and no	ingulable	able					Base Warranty	
SIM card Optional Nano-SIM card slot • 1-year + 2-year limited onsite service Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). • 1-year depot with 2-year system board repair service Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). • Mil-Spec test Mil-Spec test MIL-STD-810G military testing Weight Starting at 2.07 kg (4.57 lb, UHD)		 Integrated Mobile 	a Broa	dband 40	GITE-A I	-ibocom I	850-GI	MIMO 2x	2. M.2 card		
Dimensions Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Dimensions - 1-year depot with 2-year system board repair service Thickness: 24.2 mm (0.95 in) Mil-Spec test Weight Starting at 2.07 kg (4.57 lb, UHD)	SIM card							_,	_, outu	-	 1-year + 2-year limited onsite service
Dimensions Thickness: 24.2 mm (0.95 in) Mil-Spec test Mil-STD-810G military testing Weight Starting at 2.07 kg (4.57 lb, UHD) Environment EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant					h: 250 mn	n (9.84 in).				-	
	Dimensions	Thickness: 24.2 mm (0.95 in)									
ISV certifications Please visit www.thinkworkstations.com/isv-certifications/	Weight	Starting at 2.07 kg	(4.57	lb, UHD)							
		-								ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/













ThinkPad P17 Gen 1 Platform Specifications

	Supports one 10th	N Xeon	W, Core	i9, i7, or	5 process	or as fo	ollowing:			Dimensions	Width: 415.44 mm (16.36 in). Depth: 280.81 mm (11.06 in).
	- · · ·	# of	# of	Base	Max Turbo		Memory	Pro	cessor		Thickness: 25.11~ 33.25 mm (0.99 ~ 1.31 in)
	Processor Number	Cores			Frequency		Types		aphics	Weight	Starting at 3.5 kg (7.7 lb, FHD)
		-						Into	UHD	Case color	Black
	Xeon W-10885M	8	16	2.4GHz	5.3GHz	16MB	DDR4-293	³³ Gra	aphics	Case material	Display cover: GFRP 50% (PPS695 + GF 50%). Bottom: PPS + GF
	Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293		el UHD aphics	Media reader	SD card reader
Durante	Core i9-10980HK	8	16	2.4GHz	5.3GHz	16MB	DDR4-293	33 Inte Gra	el UHD aphics	Standard Ports	1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 3x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / microphone combo jack, 1x SD card reader,
Processor	Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-293		el UHD aphics	Optional Ports	1x security keyhole, 1x RJ-45 One optional smart card reader on right, one optional Nano-SIM card slot on
	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293		el UHD aphics		left Up to 5 displays with 4 external monitors plus system LCD screen. External
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293	ag Inte	UHD aphics	Monitor support	monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. USB-C and HDMI support up to 4K@60Hz.
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293	ag Inte	UHD aphics		With Thunderbolt, one supports up to 5K@60Hz and one supports up to 4K@60Hz
										Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
	Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-293			Bundled Accy	None
Object								Gia	aphics	Camera	Optional Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Chipset	Intel WM490 Chips						-00 1		_	Audio chip	Realtek ALC3286 codec
Memory Type	SO-DIMM. DDR4- operate at DDR4-2	3200 to	or non-E		4-2933 for	ECC. E	ECC and n	on-EC	C	Speaker	Stereo speakers, Dolby Atmos sound system
Memory Sockets	4 DIMM sockets	2933.0		ID/32GD 8		n Dotti	ECC and I	IOII-EC	<i>.</i> 0	Microphone	Optional dual array far-field microphone
										Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with Unified Communications controls
Memory Protection				s and Xeo	n process	or					3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
Max Memory	128GB									UltraNav	touchpad
	Support one of the									Password	Power-on password, hard disk password, supervisor password
	NVIDIA Quadro NVIDIA Quadro	11000,	4GB GL	JDR6 mer	nory					Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
Graphics	NVIDIA Quadro	12000, RTX 30			momory					System mgmt	Optional Intel vPro Technology supported on vPro enable models
	NVIDIA Quadro I						36 memory	v		Security locks	Security keyhole for optional Kensington lock
	NVIDIA Quadro I									Smart card reader	
		-		· - ·		Aspec	t Contrast	Color	Viewina		Touch style match on chip fingerprint reader on the palm rest
	Size Resolution	Iy	pe Sur	face Touch	Brightnes	Ratio	Ratio	Gamut	Angle	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter
Display	17.3" FHD (1920x10	80) W	VA Anti-	glare -	300 nits	16:9	700:1	72% NTSC	160°	Max battery life	MobileMark 2014: 14.6 hr. MobileMark 2018: 9.75 hr. * Battery life varies significantly with hardware configurations, settings, usage, & other factors
	UHD (3840x21 17.3" Dolby Vision, HDR 400	60) W	VA Anti-	glare -	500 nits	16:9	1500:1	100% Adobe	178°	Power Adapter	 One of the following: 230W slim AC adapter 170W slim AC adapter
Color Calibration	Factory Color Cali	bration	on UHE) panels							Supports one optional preloaded operating system as following:
Touchscreen	None										• Windows 10 Home 64
Pen	None									Operating system	Windows 10 Pro 64
Storage	Up to two M.2 228	0 SSD	, PCIe N	IVMe, 256	GB / 5120	B/1T	B / 2TB ea	ich			Windows 10 Pro 64 for Workstations
RAID	RAID 0 / 1 suppor	t								1	Ubuntu Linux LTS Optional warranty plans as following:
Optical	None									1	Optional warranty plans as following: • 1-year depot repair service
Ethernet	One onboard GbE or i219V for non-v			ated gigat	oit etherne	t, Intel	i219LM for	r vPro ۱	models		3-year depot repair service 1-year + 2-year depot repair service
NFC	None									Base Warranty	1-year limited onsite service
WLAN + Bluetooth	Optional Intel Wi									-	 3-year limited onsite service 1-year + 2-year limited onsite service
	One of the following					10 (ver	51011 2004	51 200	•0)	1	 1-year depot with 2-year system board repair service
	 No WWAN card a 	and no	n uparao	dable						Mil-Spec test	MIL-STD-810G military testing
WWAN	 Integrated Mobile 	- Broad	lba'nď U	paradable	, No WWA	N Card	i, WWAN A	Antenn	a Only	Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
	 Integrated Mobile 	e Broad	band 40	G LTE-A, I	-ibocom L	860-GL	., MIMO 4	x4, M.2	<u>2 card</u>	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
SIM card	Optional Nano-SIN	/ card	slot								









ThinkPad P43s Platform Specifications

Processor	8th G	eneratio	n Intel® C	ore™	i7 Proces	sor					Dimensions	WxDxH:	12.95" x 8.94" x 0.	.70"; 329mm x 227	mm x 17.9mm	
	Proce Numb		of # of res Thread		Base Mequency F	lax Turbo requency	ache	Memory Types	Proce Grap		Weight	Models Weight	FHD 3.43 lb / 1.55 kg	FHD Low Power 3.28 lb / 1.49 kg	WQHD 3.24 lb / 1.47 kg	
	i5-836 i7-856 i7-866	65U 4	8	1.	.8 GHz	4.6 GHz 8	MB MB D MB	DR4-2400 li	ntel UHD	Graphics	Case color Case material	Bottom:	over: PPS / 50% GF PA / 50% GF	=;		
Graphics	NVID suppo Up to	IA Quadr orts exter 3 displa	nal digita vs with 2	2GB al mor exteri	GDDR5 r nitor via H nal monito	nemory; DMI or USB ors plus syst SB-C); 384	tem LC	D screen.	HDMI)		Smart card reade Media reader Ports	or Optional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 4 b. Ethernet (B L45), nano-SIM card slot (WWAN models)				splayPort), d DP),
Chipset Memory	48GE	3 max / 2	stem on C 400MHz memory ory is actu	DDŔ4	I, dual-cha	annel capab temboard, c <i>run at 2400</i>	ole, one DE <i>1Hz due</i>	R4 SO-DI	MM soc	ket	Monitor cable	headphone microSD c * Depending HDMI to V	HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical sp HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter			
Display	Size	Resolution	n	Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio		Viewing Angle	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to HDMI: Lenovo USB-C to HDMI Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
	14.0"	FHD (192	0x1080)	WVA	Anti-glare	250 nits (non-touch) 300 nits	16:9	700:1	45%	170°	Bundled Accy	None		, ,		
	14.0"	FHD (192	0x1080)	140.44		(multi-touch)	10.0	000.4	700/	1700		 al) One of the following, configurable by model: HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed privacy, fixed focus 				red focus
		Low Powe FHD (192	er 0x1080)		Anti-glare		16:9	800:1	72%	170°	Audio support	HD Audio, Realtek [®] ALC3287 codec / stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium /				
		ThinkPad Guard	-		Anti-glare	400 nits	16:9	1000:1	72%	170° optional dual array far-field mi Keyboard 6-row, spill-resistant, multimed			dia En kevs. I ED bao		,	
	14.0"	WQHD (2 Dolby Visi	560x1440) on™ HDR	WVA	Glossy	500 nits	16:9	1500:1	100% Adobe	170°	UltraNav™ Security	TrackPoint	® pointing device an	d buttonless Mylar s	urface multi-touch to	
Multi-touch <i>(opt)</i> Pen	On-ce None		supports	s 10-fi	nger gesti	ure (FHD or	ıly)				Security chip Security chip System Mgt (opt)	Discrete T	PM 2.0, TCG Certif		or password, securit	y keynole
Storage	• M.2	2 2280 S	SD / SATA	4 6.00							Fingerprint reade	Fingerprint reader Optional: Touch style match on chip fingerprint reader on the palm rest				t
	• M.2	2 2242 S	SD / PCIe	e NVN	le, PCle 3 le, PCle 3	8.0 x 2					Battery Max battery life	Battery Integrated Li- Polymer 50Wh battery, supports Rapid Charge (charge up				
Optical		2 22 ['] 80, P	Cle NVM			id State Sto	orage,				AC adapter	MobileMai * Battery life	<i>rk[®] 2014:</i> 14.7 hr fe varies significantly w W slim USB Type-C	ith hardware configurat	tions, settings, usage, &	other factors
Ethernet		vPro moo model:				ction I219-					Operating system		10 Home 64 or Wir			
WLAN Bluetooth™	vPro model: Intel Ethernet Connection I219-LM (Jacksonville) Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Bluetooth combo adapter										Limited warranty	 1-year d 	following, configurable epot repair service -yr battery depot rep			
WWAN (optional)	 I) One of the following, configurable by model: Wireless WAN ungradable (special bid only in EMEA) 										Mil On an Anat	 3-year/1 	-yr battery limited o	nsite service		
	• Integrated Mobile Broadband 4G LTE, FIDOCOM L630-EB, M.2 Card (EMEA ONLY) -							Mil-Spec test Environment		810G military testing	g R® 7.1; RoHS-comp	liant				
SIM card (opt)	* For I Nano	non-WWA	N <i>model, ii</i> d slot, op	t mean	the mode Verizon L	I - A, FIDOCOI I is NOT WW TE (US) SI	AN upg	radable	aro					n- 7.1; Runo-comp		
Note: The specifica	tione	ahovo ma	v not he a	wailah	le in all re	nione										Lenovo

Note: The specifications above may not be available in all regions.

Lenovo July 2020









ThinkPad P51 Platform Specifications

Product Specifications Reference (PSREF)

Processor	6th or 7th Generation Intel® Core™ i7 Processor or Intel Xeon® Processor E3 v5 or v6 Family									WxDxH: 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4m WxDxH(Touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7m				
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	Weight	Models 4-cell 6-cell				
	Number	Cores	Threads	Frequency	Frequency	Cacille	Types	Graphics Intel HD Graphics		Non-touch 5.6 lb / 2.55kg 5.9 lb / 2.67kg Multi touch 6.0 lb / 0.00lm 6.4 lb / 0.00lm				
	i7-6820HQ			2.7 GHz	3.6 GHz			530	Case color	Multi-touch 6.2 lb / 2.82kg 6.4 lb / 2.90kg Black				
	E3-1505M v5			2.8 GHz	3.7 GHz		DDR4-2133	Intel HD Graphics P530	Case material	Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum				
	i7-7700HQ	4	8	2.8 GHz	3.8 GHz	6MB		Intel HD Graphics		er Optional: Smart card reader				
	i7-7820HQ	-		2.9 GHz	3.9 GHz		DDR4-2400	630	ExpressCard	One slot (ExpressCard/34)				
	E3-1505M v6	-		3.0 GHz	4.0 GHz	8MB		Intel HD Graphics	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Four USB 3.1 Gen 1 (USB 3.0, one Always On), USB Type-C / Thunderbolt 3,				
	E3-1535M v6			3.1 GHz	4.2 GHz		P630		FOILS	Mini DisplayPort 1.2a, HDMI 1.4b, Ethernet (RJ-45), Dock connector				
Graphics	Intel HD Gra	phics §	530, 630	, P530, or I	P630 in pro	cesso	or and			* Depending on many factors, actual data transfer speed may be lower than theoretical spee				
	NVIDIA Qua supports ext						Port or Th	underbolt™	Camera (optional)	/)HD720p resolution, fixed focus				
	Up to 4 disp	lays wi	th 3 exte	rnal monito	ors plus sys	stem Ĺ	CD screen.	,	Audio support	HD Audio, Realtek [®] ALC3268 codec / stereo speakers, 2W x 2 / dual array microphone. combo audio/microphone iack				
	Max resoluti	on: 38	40x2160)@60Hz (D	isplayPort	via Mir	ni DisplayPo	ort cable); Hz (HDMI)	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backligh				
Obligged	Mahila Latel			(nunderboit); 4090	0X2160@24		UltraNav™	3-button TrackPoint®pointing device and 3-button Mylar surface multi-touch touchpad				
Chipset Memory	Mobile Intel 64GB max /				non-ECC (FCC f	unction sur	ported only on						
Wentery	Xeon proces	ssor), d	lual-char	nnel capabl	e, four DDF	A4 SO	-DIMM soci	kets	Security	Power-on password, hard disk password, supervisor password, security keyhole				
	* System cloc		1		,				Security chip vPro <i>(optional)</i>	Discrete TPM 2.0, TCG Certified Intel vPro Technology				
Display	Some: 15.6	" (396r	nm) FH[D (1920x10	80), anti-gl	are, Ll	ED backligh	t, WVA, 250 nits,	Fingerprint reader Touch style match on chip fingerprint reader on the palm rest Color calibration Optional: Pantone [®] color calibrator by X-Rite [®] color calibration sensor in pal NFC None					
	Some: 15.6	" (396r	nm) 4K	(3840x2160		e, LED	D backlight,	WVA, 300 nits, viewing angle						
Multi-touch (opt)	16:9 aspect ratio, 1000:1 contrast ratio, 100% gamut, 170° viewing angle Capacitive-type multi-touch, supports 10-finger gesture, 220 nits (FHD only) ThinkPad Pen Pro, active pen for multi-touch display								Battery	Lithium Polymer 4-cell (66Wh) or 6-cell (90Wh)				
Pen (optional)									Max battery life ¹⁰	Model 4-cell 6-cell				
Storage	Up to 3 drives								(MobileMark® 2014)					
	Some: HDE Some: M.2						ve Protectio	n System™		Hybrid Graphics 6.5 hr 8.9 hr				
RAID <i>(optional)</i> Optical	RAID 0/1 su None			lvie, i Ole (5.0 x 4, 520	JD/3			AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factor 170W slim tip AC adapter				
Ethernet	Non-vPro m vPro model:						ksonville) acksonville)		Operating system One of the following, configurable by model: • Windows [®] 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64					
WLAN	One of the foll	lowing, d	configural	ble by model.	:	```	,		1	Windows® 10 Home 64				
	Intel Dual I	Band W	Vireless-	AC 8260, V	Vi-Fi 2x2 80)2.11a	c + BT4.1, I	VI.2 card		Windows 10 Pro 64				
Bluetooth™	 Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card Bluetooth 4.1 wireless, integrated in Wi Ei + Bluetooth combo adapter 							VI.2 card		Windows 10 Pro 64 for Workstations				
Dideloolii	Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter * Intel 8260ac / 8265ac card support BT4.2 but is limited to BT4.1 by Windows OS								Limited warranty	One of the following, configurable by model: • 1-year depot repair service				
WWAN (optional)	al) One of the following, configurable by model:								1	 1-year depot repair service 3-year/1-yr battery depot repair service 				
,	Wireless WAN upgradable Integrated Mobile Broadband 4G LTE-A.									• 3-year/1-yr battery limited onsite service				
						ireless	s EM7455),	M.2 card	Mil-Spec test					
SIM card (opt)								IEA) SIM card	Environment	EPEAT™ Gold (US only); ENERGY STAR [®] 6.1; RoHS-compliant				

Note: The specifications above may not be available in all regions.









ThinkPad P52 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Genera	ation I	ntel [®] Core	e [™] i7 / i9 Pr	ocessor or	Intel X	eon® E Pro	ocessor	Dimensions	<i>WxDxH:</i> 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4mm			
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight	<i>WxDxH(Touch):</i> 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm <i>Non-touch model:</i> starting at 5.4 lb / 2.45kg; <i>Multi-touch model:</i> starting at 6.4 lb / 2.9kg			
	i7-8750H i7-8850H i9-8950HK	6	12	2.2 GHz 2.6 GHz 2.9 GHz	4.1 GHz 4.3 GHz 4.8 GHz	9MB 9MB 12MB	DDR4-2400		Case color Case material	Black Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum			
	E-2176M			2.7 GHz	4.4 GHz	12MB		Intel UHD Graphics P630	ExpressCard	r <i>Optional:</i> Smart card reader None			
	NVIDIA Qu P3200 (60 supports e Up to 4 dis Max resolu	uadro® B mei externa splays ution:	P1000 (4 mory, VR al digital n with 3 ex 3840X21 5120X28	ready); nonitor via ternal mon 60@60Hz 80@30Hz	ry), P2000 HDMI, Min itors plus s (DisplayPo	(4GB i i Displa ystem rt via N	yPort, or T LCD scree lini Display	hunderbolt™;	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Three USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * <i>Power Delivery only supports power-out for charging peripherals</i>			
Chipset Memory	only on Xe * Installed E	n-ECC on pro	C or 64GE ocessor), are actually	BECC max	nel capable out run at 24	, four E	DR4 SO-E	ction supported DIMM sockets <i>imitation</i>		 * Depending on many factors, actual data transfer speed may be lower than theoretical stamera (optional) One of the following, configurable by model: HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera, fixed focus 			
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 160° viewing angle Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 400 nits, 16:9 aspect ratio, 1000:1 contrast ratio, 100% gamut, 170° viewing angle, multi-touch Capacitive-type multi-touch, supports 10-finger gesture (4K only)									stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone			
Multi-touch <i>(opt)</i>									Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad			
Pen Storage	Supports p Up to 3 driv Some: Some:	oen ac <i>es (two</i> HDD / M.2 SS	Cessory, M.2 SSD SATA 6.0 SD / PCIe	please see and one HD OGb/s, 2.5" NVMe, PO	the access D), supports wide, 7mm Cle 3.0 x 4	sory co <i>single s</i> high, , 32Gb/	mpatibility <i>ided M.2 22</i> Active Prote 's	for details 80 drives only ection System™	Security Power-on password, hard disk password, supervisor password, security keyh Security chip Discrete TPM 2.0, TCG Certified /Pro (optional) Intel vPro Technology Fingerprint reader Touch style match on chip fingerprint reader on the palm rest Color calibration None				
Optane [™] memory RAID <i>(optional)</i> Optical	RAID 0/1 s			emory, PCI	e invivie, P	Cie 3.0) X 2			Near Field Communication Swappable Li-ion 90Wh battery			
Ethernet	Non-vPro vPro mode	əl:	Intel Eth	hernet Connection I219-V (Jacksonville) hernet Connection I219-LM (Jacksonville)					Max battery life	Discrete mode: 6.1 hr; Hybrid mode: 8.9 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W slim tip AC adapter			
	Intel Wirele Bluetooth								'	One of the following, configurable by model:			
	 One of the following, configurable by model: Wireless WAN upgradable Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card 									 Windows® 10 Home 64 Windows 10 Pro 64 Windows 10 Pro 64 for Workstations 			
										One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service			
									Mil-Spec test	MIL-STD-810G military testing			
Noto: The openified									Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant			

Note: The specifications above may not be available in all regions.









ThinkPad P52s Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Generation Intel [®] Core™ i5 / i7 Processor	Dimensions WxDxH: 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm			
	Processor# of Cores# of ThreadsBase FrequencyMax Turbo FrequencyCacheMemory TypesProcessor Graphicsi5-8350U481.7 GHz3.6 GHz6MB1.7 GHz1.7 GHz6MBi7-8550U481.8 GHz4.0 GHz8MBDDR4-2400Intel UHD Graphicsi7-8650U1.9 GHz4.2 GHz8MB620	Weight starting at 4.39 lb / 1.99 kg Case color Black Case material Display cover: GFRP + PPS; Bottom: GFRP Smart card reader Optional: Smart card reader			
Graphics	Intel UHD Graphics 620 in processor and NVIDIA Quadro® P500, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; Up to 3 displays with 2 external monitors plus system LCD screen. Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI) Intel SoC (System on Chip) platform	Media reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Ports Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), add deliver accurate keybelo			
Memory Display	32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * System clocks down for processors with lower memory controller Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 250 nits.	side docking connector, security keyhole <i>Depending on many factors, actual data transfer speed may be lower than theoretical speed</i> <i>HDMI to VGA:</i> Lenovo HDMI to VGA Monitor Adapter <i>USB-C to DP:</i> Lenovo USB-C to DisplayPort Adapter			
Multi-touch (opt)	 Some: 15.6" (396mm) UHD (3820x160), and glate, LED backlight, WVA, 200 mls. Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 300 nits 16:9 aspect ratio, 1000:1 contrast ratio, 72% gamut, 170° viewing angle On-cell touch, supports 10-finger gesture (FHD only) 	Camera (optional) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera, fixed focus			
Pen Storage	None System has one HDD slot or one M.2 2280 slot exclusively for storage, and	Audio support HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array microphone, headphone / microphone combo jack			
J.	supports single sided M.2 2280 drives only Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high (e.g. xxxGB SSD)	Keyboard UltraNav™ 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
Optane™ memory Optical	Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s Some: 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, in WWAN slot as 2nd Storage, mutually exclusive with WWAN Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2 None	Security Power-on password, hard disk password, supervisor password, security keyho Security chip Discrete TPM 2.0, TCG Certified vPro (optional) Intel vPro Technology Fingerprint reader Optional: Touch style match on chip fingerprint reader on the palm rest anti-spoofing technology			
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)	NFC (optional) Near Field Communication Battery Optional integrated Li-ion 32Wh battery and			
WLAN + Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS One of the following, configurable by model:	Swappable Li-ion 24Wh, 48Wh, or 72Wh battery Max battery life Models 48Wh 72Wh 32Wh + 24Wh 32Wh + 48Wh 32Wh + 72Wh (MobileMark® 2014) Max battery life 12.2 hr 18.5 hr 13.5 hr 20.1 hr 26.3 hr			
WWAN (optional)	Wireless WAN upgradable Integrated Mobile Broadband 4G LTE,	AC adapter [*] Battery life varies significantly with hardware configurations, settings, usage, & other factors 65W USB Type-C AC adapter			
SIM card (opt)	Inteľ XMM [™] 7262 (Fibocom L830-EB), M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A, Intel XMM [™] 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card	Operating system Windows® 10 Home 64 or Windows 10 Pro 64 Limited warranty One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service • 3-year (including battery) limited onsite service			
		Mil-Spec test MIL-STD-810G military testing			
		Environment EPEAT [™] Silver; ENERGY STAR [®] 6.1; RoHS-compliant			

Note: The specifications above may not be available in all regions.









ThinkPad P53 Platform Specifications

Processor	9th Gene	eration Inte	el® Cor	e™ i5 / i7 /	i9 Processo	or or In	tel Xeo	n® E Pi	rocessor	r	Dimensions	WxDxH (non-touch): 14.86" x 9.93" x 0.96-1.16";
	Processo Number		# of hreads	Base Frequenc	Max Turbo y Frequency	Cache	Mem Type		Proces Graph			377.4mm x 252.3mm x 24.5-29.4mm <i>WxDxH (multi-touch):</i> 14.86" x 9.93" x 1.02-1.21";
	i5-9400H		8	2.5 GHz		8MB	Туре	35	Giapi	lics	Weight	377.4mm x 252.3mm x 25.8-30.7mm Non-touch model: starting at 5.51 lb / 2.5 kg;
	i7-9750H		12	2.6 GHz		12MB		In	tel UHD (Multi-touch model: starting at 6.4 lb / 2.9 kg
	i7-9850H i9-9880H		12 16	2.6 GHz 2.3 GHz		12MB 16MB	DDR4-	2666	630)	Case color Case material	Black Display cover: Glass-Fiber Reinforced Plastic;
	E-2276M	6	12	2.8 GHz		12MB		In	tel UHD (Bottom: Magnesium/Aluminum
Omentica			000						P63	0	Smart card reade	r Optional: Smart card reader None
	NVIDIA® RTX 300 RTX 500 supports Up to 5 c	Quadro® 1 00 (6GB GI 00 (16GB G external c displays wi	T1000 DDR6, DDR6 ligital n th 4 ex	(4GB GD VR read 6, VR read nonitor vi ternal mo	processor a DR5), T2000 y), RTX 4000 y); a HDMI or T nitors plus s lerbolt); 4K) (4GB) (8GB hundei system	GDDR rbolt [™] ; LCD se	6, VR i creen.		or	Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole
Chipset Memory	128GB n	ntel CM246 nax / 2666 nnel capat	MHz D	DR4 (EC	C function s O-DIMM so	upport ockets	ed only	on Xe	on proce	essor),	Monitor cable	* Power Delivery only supports power-out for charging peripherals * USB-C Dock is not supported in right-side USB-C port * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Display	Size Res	solution	Т	ype Sur	ace Brighti	ness A	spect C Ratio	ontrast Ratio	Color Gamut	Viewing Angle	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	H	D (1920x108	/	VVA Anti-	glare 300 r	its [.]	16:9	700:1	72%	160°	Bundled Accy	None
	15.6" FHI Dol	D (1920x108 by Vision™ I	30) HDR V	VVA Anti-	glare 500 r	its [·]	16:9 1	1200:1	72%	160°	Camera (optional)) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus
		D (3840x216 by Vision HI		VVA Anti-	glare 500 r	its ⁻	16:9 1	1200:1	100%	170°	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio. Synaptic® CX11880 codec / stereo speakers. 2W x 2 /
	15.6" Dol	D (3840x216 by Vision HI ti-touch	60) DR, O		nti-	00nit	16:9 10	00000:1	100% DCI-P3	170°		optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
Multi-touch (opt)	Capacitiv	ve-type mu	Ilti-touc	h. suppo	dge (Pee rts 10-finge \S) coating		re (UHI	D only),	,		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint [®] pointing device and 3-button Mylar surface multi-touch touchpad
Pen <i>(optional)</i>	Lenovo F	Pen Pro (s	pecial I	oid only)							Security	Power-on password, hard disk password, supervisor password, security keyhole
	• HDD / • M.2 22 • HDD is 0	single sided SATA 6.00 80 SSD / I only availabl	<i>M.2 22</i> 3b/s, 2. PCIe N <i>le for T1</i>	80 drives o .5" wide, IVMe, PC 000 and T	7mm high, <i>F</i> le 3.0 x 4 2000 graphics	ctive F		on Syste	em™			Discrete TPM 2.0, TCG Certified Intel vPro Technology r Touch style match on chip fingerprint reader on the palm rest <i>Optional:</i> X-Rite Pantone factory color calibration (UHD model only) Near Field Communication
	Optional RAID 0/1 None	: Intel Opt I/5 support	ane me t	emory, P	Cle NVMe, F	°Cle 3.	0 x 2				Battery Max battery life (<i>MobileMark</i> [®] 2014)	Integrated Li- Polymer 90Wh battery, supports Rapid Charge (charge up to 80% ir 1hr) Discrete mode: 8 hr; Hybrid mode: 13 hr
Ethernet	Non-vPr vPro mo				nnection I21 nnection I21						AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter
Bluetooth [™] (opt) WWAN (optional)	Bluetoot	h 5.1 wirele e following, d	ess, int configui	tegrated i	11ax + Blue n Wi-Fi + Bl odel:	uetooth	o combo	o adapt	ter			One of the following, configurable by model: • Windows® 10 Home 64 • Windows 10 Pro 64 • Windows 10 Pro 64 for Workstations
	Integra * For non-	ted Mobile	Broac	lband 4G eans the n	al bid only in LTE-A, Fibo nodel is NOT on LTE (US)	com La	850-GL upgrada		ard			One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service
											Mil-Spec test	MIL-STD-810G military testing
		vo mov not									Environment	EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

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ThinkPad P53s Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Ge	neration In	itel [®] Core	e™ i7	Proces	sor					Dimensions	<i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
	Process Numbe i5-8365 i7-8565	r Cores 5U 5U 4	# of Threads 8	1.6 (1.8 (iency F GHz GHz	4.1 GHz 4.6 GHz		Memory Types DDR4-2400 Ir	Proce Grap ntel UHD	hics	Weight Case color Case material	starting at 3.87 lb / 1.75 kg Black <i>Display cover:</i> PPS / 50% GF; <i>Bottom:</i> PA / 50% GF rOptional: Smart card reader
Graphics	NVIDIA suppor suppor	HD Graphic A Quadro® I rts external rts 3 indepe	P520, 20 I digital n endent d	GB GI nonito lisplay	or and DDR5 n or via HI vs with 2	nemory; DMI or US 2 external	monito	e-C; ors plus syste 60@30Hz (H	em LCD HDMI)	screen.	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
Chipset Memory	48GB (8GB (MHz DE mory so	DR4, o Idereo	dual-cha d to sys	temboard,	one D	DR4 SO-DII ue to Intel limit		ket	Monitor cable (optional)	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USS-C to DP: Lenovo USB-C to DisplayPort Adapter
Display	Size F	Resolution	Ту	/pe S	Surface	Brightness	Aspec Ratio	t Contrast Ratio	Color Gamut	Viewing Angle	Bundled Accy	None One of the following, configurable by model:
	15.6" F	HD (1920x1	080) W	/VA Ar	nti-glare	250 nits	16:9	700:1	45%	170°		HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" L	JHD (3840x2)olby Vision™	2160) ™ HDR W	/VA Ar	nti-glare	500 nits	16:9	1200:1	100% Adobe	170°	Audio support	 IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek[®] ALC3287 codec / stereo speakers, 2W x 2, Dolby[®] Audio[™] Premium /
Multi-touch <i>(opt)</i> Pen	On-cel None	I touch, sup	pports 1	0-fing	er gesti	ure (FHD o	only)				Keyboard	optional dual array far-field microphone, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight
Storage	Suppor	ts single side 2280 SSD	ed M.2 22	280 dri	ves only						UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Ortical	 M.2 2 M.2 2 Intel M.2 2 	2280 SSD 2280 SSD 2242 SSD Optane™ N 2280, PCIe	/ PCle N / PCle N /lemory	IVMe, IVMe, H10 v	PCIe 3 PCIe 3 vith Soli	3.0 x 2	orage,				Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Optical Ethernet	None Non-vl	Pro model:	Intel Eth	ernet	Conne	ction 1219	V (Jac	rksonville)			Battery	Integrated Li- Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in
WLAN Bluetooth™	vPro n Intel W	<i>nodel:</i> /ireless-AC	Intel Eth 9560, W	nernet /i-Fi 2	Conne x2 802.	ction I219 11ac + Blu	-LM (Ja Jetootł	acksonville)	er		Max battery life AC adapter	1hr) MobileMark [®] 2014: 15 hr (FHD model) / 10 hr (UHD model) * Battery life varies significantly with hardware configurations, settings, usage, & other factors 65W USB Type-C AC adapter
WWAN (optional)	One of	the following	, configur	rable b	y model:						Operating system	Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	 Integ Integ * For no 		le Broad le Broad lodel, it m	lband lband eans t	4G LTE 4G LTE he mode	E, Fibocom E-A, Fiboco <i>I is NOT W</i> I	1 L830 5m L85 <i>NAN up</i>	-EB, M.2 car 50-GL, M.2 c ogradable		A only)		One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service
			<i>i</i>			· / -						MIL-STD-810G military testing
											Environment	EPEAT™ Silver; ENERGY STAR [®] 7.1; RoHS-compliant
											I	

Note: The specifications above may not be available in all regions.









ThinkPad P72 Platform Specifications

Product Specifications Reference (PSREF)

Graphics In Pr	7-8750H 7-8850H E-2176M E-2186M The UHD Graph VIDIA Quadro®	# of Threads 12	Frequency I 2.2 GHz I 2.6 GHz I 2.7 GHz I	Max Turbo Frequency 4.1 GHz 4.3 GHz 4.4 GHz	Cache 9MB 9MB	Memory Types	Processor Graphics	Weight Case color	Starting at 7.5 lb / 3.4kg Black
Graphics In N Pr	7-8850H E-2176M E-2186M NUDIA Quadro®		2.6 GHz 2.7 GHz	4.3 GHz	OMB		Intel UHD Graphics	Case material	Display cover: GFRP + PPS;
Graphics In N P	E-2176M E-2186M Itel UHD Graph			4.4 GHz		DDR4-2400	630	0	Bottom: Magnesium/Aluminum
· N P:	VIDIA Quadro®		· · · · · · · · · · · · · · · · · · ·	4.8 GHz	12MB 12MB	DDR4-2400	Intel UHD Graphics P630	ExpressCard Media reader	r <i>Optional:</i> Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
SL	supports externa supports 4 indep Max resolution: 3	P600 (40 nory), P4 I digital n endent d 3840X21	GB memory) 200 (8GB n nonitor via H isplays with 60@60Hz (I), P2000 (nemory), o IDMI, Min 3 externa DisplayPo	4GB m or P520 i Displa I monit rt via M	00 (16Ġ́B r ayPort, or T ors plus sy 1ini Display	hunderbolt™; stem LCD screen.	Ports Monitor cable	Four USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable
Memory 12 or	Aobile Intel CM2 28GB non-ECC only on Xeon pro Installed DIMMs a	or 64GE cessor), are actually	ECC max / dual-channe / 2666MHz bu	el capable ut run at 24	e, four E <i>00MHz</i>	DDR4 SO-I	DIMM sockets		IR camera and HD720p camera, fixed focus HD Audio, Realtek [®] ALC3286 codec / stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium / optional dual array micro- phone, headphone / microphone combo jack, Dolby Atmos [®] headphone
	16:9 aspe Some: 17.3" (43 16:9 aspe	ect ratio, 9mm) UH ect ratio,	800:1 contra ID (3840x2 ⁻ 1000:1 cont	ast ratio, 7 160), anti-	2% ga glare, l	mut, 170° _ED backlig	ght, WVA, 300 nits, viewing angle ght, WVA, 400 nits, nut,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Pen N	170° view None None	0 0						Security Security chip vPro <i>(optional)</i> Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Touch style match on chip fingerprint reader on the palm rest
S	Jp to 3 drives (two Some: HDD / S Some: M.2 SS	SATA 6.0	Gb/s, 2.5" w	vide, 7mm	high, A	Active Prote		Color calibration NFC (optional)	
Optane™ memory O RAID (optional) R. Optical N	<i>Optional:</i> Intel O RAID 0/1 suppor None	ptane me t	emory, PCle	NVMe, P	Cle 3.0) x 2		Battery Max battery life	Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 16 hr * Battery, life varies significantly with hardware configurations, settings, usage, & other factors
	Non-vPro model: /Pro model:		ernet Connernet					AC adapter Operating system	230W slim tip AC adapter One of the following, configurable by model:
Bluetooth™ Bl	ntel Wireless-AC Bluetooth 5.0 wir							(optional)	 Windows® 10 Home 64 Windows 10 Pro 64 Windows 10 Pro 64 for Workstations
	lone lone							Limited warranty	One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service
								Mil-Spec test	MIL-STD-810G military testing
Note: The specificatio								Environment	EPEAT™ Gold (US only); ENERGY STAR [®] 7.0; RoHS-compliant

Note: The specifications above may not be available in all regions.

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ThinkPad P73 Platform Specifications

Product Specifications Reference (PSREF)

Processor	9th Genera	ation I	ntel [®] Cor	e™ i5 / i7 / i	9 Processo	r or Inte	el Xeon® E	Process	or	Dimensions	<i>WxDxH:</i> 16.38" x 11.06" x 1.02-1.22"; 416mm x 281mm x 25.9-31mm
	Processor Number i5-9400H	4	# of Threads 8	2.5 GHz	Max Turbo Frequency 4.3 GHz	Cache 8MB	Memory Types	Gra	cessor phics	Weight Case color Case material	Starting at 7.5 lb (3.4kg) Black <i>Display cover:</i> GFRP + PPS; <i>Bottom:</i> Magnesium/Aluminum
	i7-9750H i7-9850H i9-9880H	6 6 8	12 12 16	2.6 GHz 2.6 GHz 2.3 GHz	4.5 GHz 4.6 GHz 4.8 GHz	12MB 12MB 16MB	DDR4-2666	6	D Graphics 30	ExpressCard Media reader	r <i>Optional:</i> Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
	E-2276M	6	12	2.8 GHz	4.7 GHz	12MB			O Graphics 630	Ports	Three USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	NVIDIA Qu RTX 3000 or RTX 50 Up to 5 dis tors suppo	uadro® (6GB 00 Ma splays orted vi	P620 (4) GDDR6, x-Q (16G with 4 ex ia USB-C	or P630 in p GB GDDR5 VR ready), GB GDDR6, ternal mon C, Thunderb Hz (Thunde	5), T2000 (4 RTX 4000 VR ready) itors plus s olt, and HE	4GB GI Max-G ; ystem I)MI	Q (8GÉ GD LCD scree	n. Extern		Monitor cable (<i>optional</i>)	two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
Chipset Memory	Mobile Inte 128GB ma dual-chan	ax / 26	66MHz D	set DR4 (ECC ır DDR4 SC	function s D-DIMM so	upporte ckets	ed only on	Xeon pro	ocessor),	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None)IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Display	Size Reso			Type Surfac		ess R	atio Contra	o Gamu	t Angle	Audio support	HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 / dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
	Dolby	(3840x	<u>, , , , , , , , , , , , , , , , , , , </u>	VVA Anti-gla VVA Anti-gla	1		6:9 700: 6:9 1000:		160° 5 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Multi-touch Pen	None None									Security	Power-on password, hard disk password, supervisor password, security keyhole
Storage Optane [™] memory RAID (optional)	 HDD / S M.2 228 Optional: RAID 0/1 s 	ATÀ 6. 0 SSD Intel 0	.0Gb/s, 2) / PCle N Optane m	and one HD .5" wide, 7r IVMe, PCIe iemory, PC	nm high, A 3.0 x 4	ctive Pr	otection S		only	Security chip vPro <i>(optional)</i> Fingerprint reader Color calibration NFC <i>(optional)</i>	Discrete TPM 2.0, TCG Certified Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest <i>Optional:</i> X-Rite Pantone factory color calibration (UHD model only) Near Field Communication
Optical Ethernet	None Non-vPro vPro mode		: Intel Eth	nernet Coni nernet Coni	nection I21	9-V (Ja 9-I M (.	cksonville)	e)		Battery Max battery life	Integrated Li- Polymer 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 17.2 hr
WLAN <i>(optional)</i> Bluetooth™ <i>(opt)</i>	Intel Wi-Fi	6 AX2	200, Wi-F	i 2x2 802.1	1ax + Blue	tooth 5.	.1	,		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter
WWAN SIM card	None None									Operating system	 One of the following, configurable by model: Windows[®] 10 Home 64 Windows 10 Pro 64 Windows 10 Pro 64 for Workstations
										Limited warranty	One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service
										Mil-Spec test	MIL-STD-810G military testing
Noto: The specifics										Environment	EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

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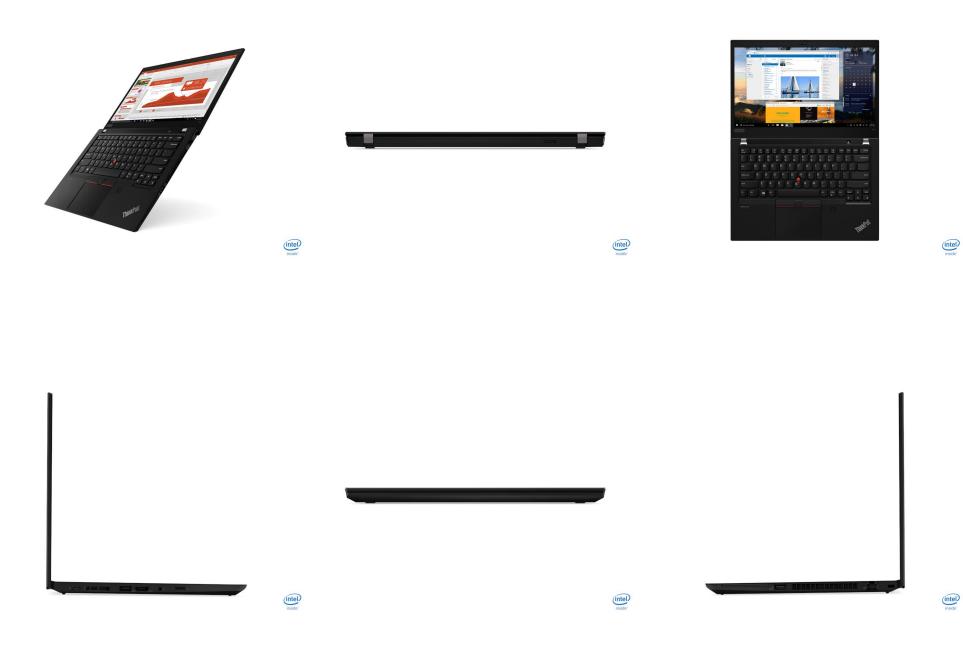


ThinkPad T14 Gen 1 (AMD) Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD	Ryze	n [™] PRC	D 4000	Ser	ies Mobile	Proce	essors						r Optional: Smart card reader
	Proce Numb		# of Cores	# of Thread		Base N Clock	ax Boo Clock	Cach	e C	Memory controller		essor ohics	Media reader Ports	MicroSD card reader Two USB 3.2 Gen 1 (one Always On), two USB 3.0 Gen 1 (one Always On),
		4650U	6	12	2	.1 GHz	4.0 GHz	OIVID		0R4-3200	AMD F			two USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4) HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
	Ryzei PRO	n 7 4750U	8	16	1	.7 GHz	4.1 GHz	4MB L 8MB	.2/		Gra	ohics		microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	supp	orts u	o to 4 ir	ndeper	nder	ocessor; nt displays ria HDMI (USB Ty	up to 4	tive disp K@60H up to 5K	z) or		nal mor	nitors;	Monitor cable (optional) Bundled Accy	 Lenovo HDMI to VGA Monitor Adapter Lenovo USB-C to VGA Adapter Lenovo USB-C to DisplayPort Adapter None
Chipset Memory	24GE	3 or 32	GB ma	ax / 32	00M	platform Hz DDR4 red to sys	, dual-	channel	capab	le,	1M socł	ket	Camera <i>(optional,</i> Audio support	 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 / optional dual array far-field microphone, headphone / microphone combo jack
Display		Resol			Туре		Touch	ness	Ratio		Gamut	Angle	Reyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight
			366x768			Anti-glare Anti-glare		220 nits 250 nits	16:9 16:9	400:1	45% 45%	90° 170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
			1920x10			Anti-glare	- Multi- touch	300 nits	16:9	700:1	45%	170°	Security Security chip System Mat	Power-on password, hard disk password, supervisor password, security keyhol Discrete TPM 2.0 TCG Certified DASH Management
	14.0"	Low F		· ·	WVA	Anti-glare	-	400 nits	16:9	800:1	72%	170°		<i>r Optional</i> : Touch style match on chip fingerprint reader on the palm rest None
	14.0"	FHD (Think	1920x10 Pad Priv	080) /acy	WVA	Anti-glare	Multi- touch	500 nits	16:9	1000:1	72%	170°	Battery	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Multi-touch (opt)	On-c	ell tou	ch, sup	ports	10-fi	nger gest	ure	I I		1		1	Max battery life	MobileMark [®] 2014: 14 hr
Storage	• M.2	2 2280				/le, PCIe 3 /le, PCIe 3							AC adapter	MobileMark 2018: 11.5 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
Optical Ethernet	None	-	TI 0111		Ciaa	hit Ethorn	<u>at aan</u>	nantian					-	 65W USB-C AC adapter 65W USB-C slim AC adapter
WLAN + BT					<u> </u>	bit Ethern 2 802.11			151				Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN (optional)	• Wir • Inte * For	eless	WAN u d Mobil WAN mo	ipgrada le Broa	able adba		E-A, Fi	bocom L	850-G	L, M.2 ca able	ard			 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service
Dimensions Weight	WxD. Mode	els	HD / FH	HD / FH	ID To	0.70"; 32 uch FHD	Low Po	ower / Priv	acy Gu]	 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
Case color	Weigl		3.42	2 lb / 1.	55 KC		3.22	2 lb / 1.46	кg				Mil-Spec test	MIL-STD-810G military testing
Case material	Top o Keyb Botto	cover: loard c om:	<i>cover:</i> F	PA / 50	BS /)% G	Talc15 +	Ũ			eatment			Environment	EPEAT™ Gold; ENERGY STAR® 8.0; RoHS-compliant
Note: The specific:		•									ne		1	Lenov

Note: The specifications above may not be available in all regions and might change by regions.

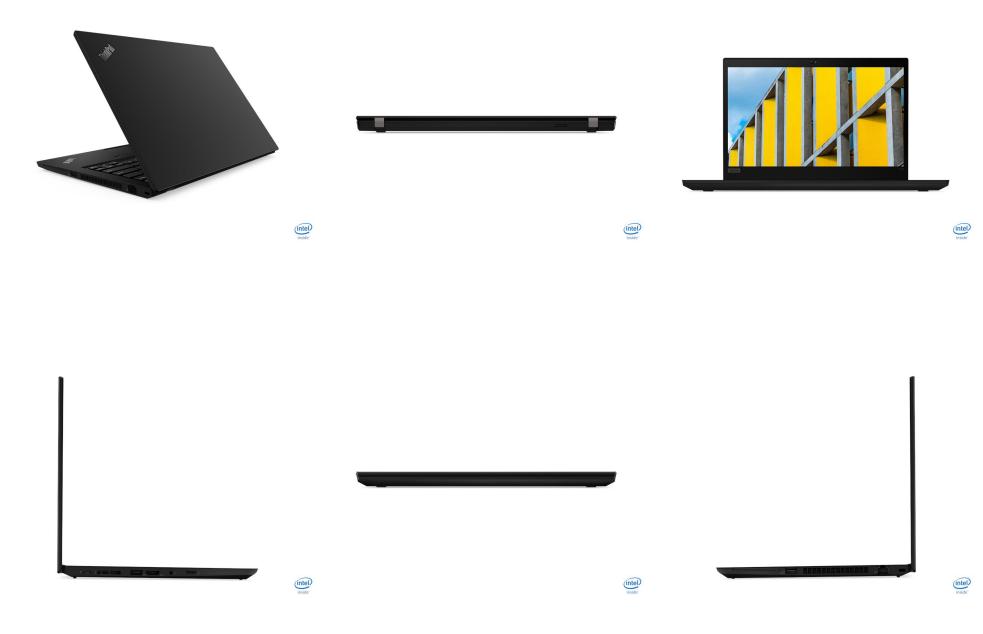


ThinkPad T14 Gen 1 (Intel) Platform Specifications

Product Specifications Reference (PSREF)

Processor	10th Generation	Intel [®] Co	re™ i5 / i7 l	Process	or					Dimensions	WxDxH:	12.95"	x 8.94" x 0	.70"; 329	mm x 227mm x 1	7.9mm	
	Processor # of	# of	Base	Max Tur		Memo	ry Types	Proce		Weight	Models	HD	FHD		FHD Low Power	UHD	Privacy Guard
	Number Cores i5-10210U	Threads	Frequency 1.6 GHz	Frequen 4.2 GH	су		19 19000	Grap	hics		Weight	3.37 lb / 1.53 kg	3.41 lb / 1.55 kg	3.41 lb / 1.55 kg	3.28 lb / 1.49 kg	3.28 lb / 1.49 kg	3.56 lb / 1.61 kg
	i5-10310LL		1.6 GHz	4.2 GH				Intel I	инп	Case color	Black	1.50 Kg	1.55 Kg	1.55 Kg		1.43 Kg	1.01 Kg
	i7-10510U 4	8	1.8 GHz	4.9 GH		- 008	4-2666	Grap		Case material	Top cove		PS / 50%				
	i7-10610U		1.8 GHz	4.9 GH	z 8MB			-			Keyboar Bottom:		PC / ABS / ⁻ PA / 50% GI		agnesium alloy		
Graphics	Intel UHD Graphi Intel UHD Graphi	ics in pro	cessor only	/ or						1	with opti	onal ISO 2	22196 com		nicrobial surface t	treatment	
	NVIDIA [®] GeForce	e® MX33	0, 2GB GD	DR5 me	emory;					Smart card reade	`		/ 1	aj, ana alo	p.a., 2020.)		
	supports up to 3 supports externa	indepen	lent display	s via na	ative disp	lay and	l two ext	ernal m	onitors;	Media reader	MicroSD	card read	der	•			
	USB-C (up to 409							260Hz)		Ports	Two USE	3 3.2 Gen	1 (one Alw	ays On), with the fun	ction of Power De	livory and	DisplayPort)
Chipset	Intel SoC (Syster	m on Chi	o) platform					,		-	one USE	3 3.2 Type	-C Gen 2 /	Thunderbo	It 3 (with the funct	tion of PD	and DP),
Memory	40GB or 48GB m	nax / 266	6MHz DDF	4, dual-	channel	capable	e,								card slot (WWAN		
	8GB or 16GB me * Installed memory								et		microSD) card read	her side do	cking conn	otional smart card ector, security key	vhole	
Display					Bright-	r	Contrast		Viewing	Monitor cable	* Depend	ling on man	y factors, act	tual data tran	isfer speed may be l	ower than t	heoretical speed
-12	Size Resolution	T	pe Surface	Touch	ness	Ratio	Ratio		Angle	(optional)			o VGA Moni	tor Adapter			
	14.0" HD (1366x76	/	N Anti-gla		220 nits	16:9	400:1	45%	90°		 Lenove 			ort Adapter			
	14.0" FHD (1920x1		VA Anti-gla	N.4141	250 nits	16:9	700:1	45%	170°	Bundled Accy	None			<u>.</u>			
	14.0" FHD (1920x1		VA Anti-gla	e Multi- touch	300 nits	16:9	700:1	45%	170°	Camera (optional					nera privacy, fixeo hinkShutter came		fixed focus
	14.0" FHD (1920x1 Low Power	1080) W	VA Anti-gla	e -	400 nits	16:9	800:1	72%	170°	Audio support	HD Audi	o, Realtek	.® ALC3287	/ codec / D	olby [®] Audio speak headphone / mici	ker system	n, 2W x 2 /
	FHD (1920x1 14.0" ThinkPad Pri	1080) vacy W	VA Anti-gla	Multi-	500 nits	16:9	1000:1	72%	178°	Keyboard				dia Fn keys	s with Unified Con	nmunicatio	ons controls,
	Guard	-	, in gia	touch		10.0	1000.1	12/0		UltraNav™		LED back		nd buttonle	ss Mylar surface r	multi-touch	a touchnad
	UHD (3840x2 14.0" HDR400, Dolby Vision ^T	í M	VA Glossy	-	500 nits	16:9	1500:1	100%	178°	Security Security chip	Power-o	n passwor	d, hard dis		l, supervisor pass		
Multi-touch (opt)	On-cell touch, su)-finaer ae:	sture	1			1		7 .	 Discret 	te TPM 2.	0 TCG Čer	tified			
Storage	• M.2 2242 SSD		0 0							System Mgt (opt)				on ohin find	erprint reader on	the nelm	root
g-	• M.2 2280 SSD	/ PCIe N	VMe, PCIe	3.0 x 4						NFC (optional)		eld Commu			Jerprint reader on	ine paim	Test
	 Intel Optane™ M.2 2280, PCIe 			olid Sta	te Storag	je,				Battery	Integrate	ed Li-Polyr	ner 50Wh l	battery.			
Optical	None		J.U X 4								supports	s Rapid Ch	narge (char	ge up to 80	0% in 1hr) with 65	W AC ada	apter
Ethernet	Non-vPro model:	Intel Eth	ernet Con	nection	1219-V (J	Jackson	ville)			Max battery life		lark [®] 2014 Iark 2018 [.]	2 16.5 hr 11.45 hr				
	vPro model:	Intel Eth	ernet Con	nection	1219-LM	(Jackso	onville)				* Battery	life varies s	significantly v		e configurations, set	tings, usag	e, & other factor
WLAN +	Intel Wi-Fi 6 AX20 * Intel AX201 card						00			AC adapter		JSB-C AC JSB-C AC					
Bluetooth™				mileu io	B15.0 Dy	vinuowe	503			-			n AC adapt	er			
www.an (optional)	 Wireless WAN Integrated Mob 			ΓE-A. Fi	bocom L	850-GL	. M.2 ca	ırd		Operating system	Optional	I: Window	s® 10 Hom	e 64 or Wir	ndows 10 Pro 64		
	 Integrated Mob 	ile Broac	band 4G L	ΓE-A, Fi	bocom L	.860-GL	, MIMO	2x2, M.	2 card	Limited warranty	• 1-year	depot repa					
SIM card (opt)	* For non-WWAN m Gemalto eSIM	noaei, it m	eans the mo	aei is NC	U WWWAN	upgrada	idle			(optional)	• 1-year	depot with	1 2-year sys	stem board	repair service		
											• 1-year	+ 2-year d	site service epot repair	, service			
											• 1-year	+ 2-year o	nsite repair	r service			
														oair service nsite servic			
										Mil-Spec test	,	,	litary testin				
										Environment			,	0	HS-compliant		
Neter The second still	ations above may n	at ha aire	loble in cll :	odione	nd micht	abanca	by rocie				LI LAI"	aoia, EN		ai 0.0, nu			Lenov

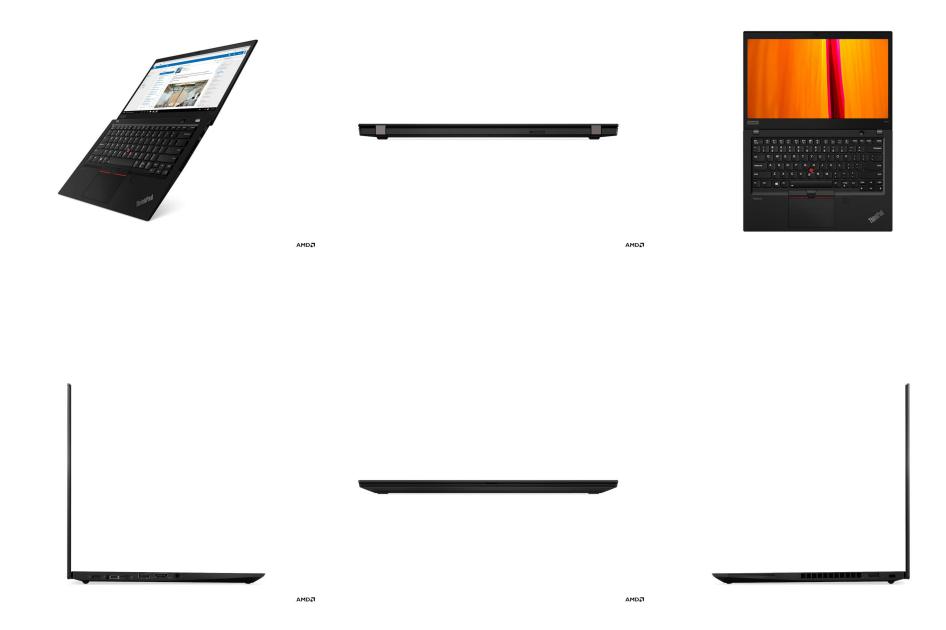
Note: The specifications above may not be available in all regions and might change by regions.



ThinkPad T14 Secure Access / Healthcare Edition Gen 1 Platform Specifications

Processor	10th	Generation Intel	® Cor	e™ i5 / i7	Proces	sor					Smart card reade	
		essor # of # of		Base	Max Tu		he Mem	ory Types		essor	RFID reader Media reader	RFID reader supporting RFID / NFC MicroSD card reader
	Numl i5-10	31011		Frequency 1.7 GHz	Freque 4.4 G	ency	B		Gra	ohics UHD	Ports	Two USB 3.2 Gen 1 (one Always On).
	i7-10		; -	1.8 GHz	4.9 G			R4-2666		phics		one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),
Graphics	Intel	UHD Graphics ir	proc	essor on	y or						-	HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, microSD card reader,
		UHD Graphics in DIA® GeForce® M	n proc	essor and) DB5 m	emory.						side docking connector, security keyhole
	supp	orts up to 3 inde	pende	ent displa	vs via r	native dis	play ar	id two ex	ternal n	nonitors	Monitor cable	 * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter
	supp	orts external mo -C (up to 4096x2	nitors	i via hdivi	i (up to	4096X2	160@2	4HZ),			(optional)	Lenovo USB-C to VGA Adapter
Chipset	Intel	SoC (System on	Chip) platform		,	•			/	Bundled Accy	Lenovo USB-C to DisplayPort Adapter None
Memory	40GI	3 or 48GB max / or 16GB memor	2666	MHz DDF	R4, dua				M cool	(ot	Camera (optional))• HD720p camera with ThinkShutter camera privacy, fixed focus
		alled memory is ac								Net	Audio support	 IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 /
Display	Size	Resolution	Туре	Surface	Touch		Aspect	Contrast	Color	Viewing		optional dual array far-field microphone, headphone / microphone combo jack
		FHD (1920x1080)	1.			ness 250 nits	Ratio 16:9	Ratio 700:1	Gamut 45%	Angle 170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,
		FHD (1920x1080)	1		Multi-	300 nits	16:9	700:1	45%	170°	UltraNav™	LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	14.0	FHD (1920x1080)		Anti-giare	louch	500 1113	10.3	700.1	40 /0	170	Security	Power-on password, hard disk password, supervisor password, security keyhole
	14.0"	ThinkPad Privacy	WVA	Anti-glare	Multi-	500 nits	16:9	1000:1	72%	178°	Security chip	 Firmware TPM 2.0 integrated in chipset Discrete TPM 2.0 TCG Certified
Multi touch (ant)		Guard	to 10	finger ge							System Mgt (opt)	Intel vPro Technology
Multi-touch (opt) Storage		2 2280 SSD / PC		0 0		1					Fingerprint reader	r FWVA 201 fingerprint reader on palm rest NFC support via RFID reader
Storage	• M.:	2 2242 SSD / PC	le N\	/Me, PCle	e 3.0 x	2					Battery	Integrated Li-Polymer 50Wh battery,
	 Intermediate M distribution 	el Optane™ Mem 2 2280, PCIe NV	lory ⊦ Me 3	110 with S	solid Sta	ate Stora	ige,				Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 16.5 hr
Optical	None			.0								<i>MobileMark 2018:</i> 10.5 hr
Ethernet		vPro model: Inte model: Inte		ernet Con ernet Con							AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
WLAN +	-	Wi-Fi 6 AX201, V					`	sonville)			-	65W USB-C AC adapter
Bluetooth™		AX201 card suppo						vs OS			Operating system	65W USB-C slim AC adapter Optional: Windows® 10 Pro 64
WWAN (optional)	• Wir	reless WAN upgr	adabl	e	TE A 1				e u el			
	* For	egrated Mobile B non-WWAN model,							ard		(optional)	 1-year depot with 2-year system board repair service
SIM card (opt)		alto eSIM									_	 1-year limited onsite service 1-year + 2-year depot repair service
Dimensions Weight	WxD Mode					n x 227m		.9mm				 1-year + 2-year onsite repair service
Weight	Weig					acy Guard b / 1.61 k						 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
Case color	Black	<					5				Mil-Spec test	MIL-STD-810G military testing
Case material		cover: PPS		% GF; ; / Talc15 -	+ Maon	esium al	lov:				Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; RoHS-compliant
	Botto	om: PA/	50%	GF	0							
Nata: The analific	with	ISO 22196 comp		anti-micro								

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ThinkPad T14s Gen 1 (AMD) Platform Specifications

Product Specifications Reference (PSREF)

Nu	roces						cessors						er Optional: Smart card reader
				# of		Max Bo			lemory		essor	Media reader	MicroSD card reader
	umbe vzen		ores Th	nreads	Clock	Cloc		C	ontroller	Gra	ohics	Ports	Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4),
	RO 46		6	12	2.1 GHz	4.0 Gł	Hz 8MB I	13	D4 0000	AMD F	adeon™		HDMI 2.0, Ethernet extension connector,
	yzen RO 47		8	16	1.7 GHz	4.1 Gł	Hz 4MB L 8MB I	2/	R4-3200	Gra	ohics		combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole
' su	logqu	rts up to	4 inde	epend	s via HĎMĺ	/s via r (up to	ative displ 4K@60Hz (up to 5K	z) or		nal mor	iitors;	Monitor cable (optional)	 * Depending on many factors, actual data transfer speed may be lower than theoretical speed Lenovo HDMI to VGA Monitor Adapter Lenovo USB-C to VGA Adapter Lenovo USB-C to DisplayPort Adapter
Chipset AN	MD S	SoC (Sy	stem c	on Chi	p) platform	<u>ויי</u>	、 1		,			Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2
	GB, 1	6GB, 0	r 32GE	3 / 320	0MHz DD	R4 / so	oldered to	system	iboard, n	no sock	ets	Camera	 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
		Resolutio		Туре		Touch	Drightness	Ratio		Gamut	Viewing Angle	Audio support	HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 1W x 2 / optional dual array far-field microphone, headphone / microphone combo jack
		``		<u> </u>	Anti-glare	-	250 nits	16:9	700:1	45%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,
14		•		·	Anti-glare	Multi- touch	300 nits	16:9	700:1	45%	170°	UltraNav™	optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
14					Anti-glare	-	400 nits	16:9	800:1	72%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0 TCG Certified
14	4.0" T	HD (192 hinkPad duard			Anti-glare	Multi- touch	500 nits	16:9	1000:1	72%	170°	System Mgt	DASH Management r <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest None
,					-finger ges							Battery	Integrated Li-Polymer 57Wh battery,
• 1					/Me, PCIe /Me, PCIe							Max battery life	Supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 15.9 hr
	one												MobileMark 2018: 13.6 hr
Ethernet Na	ative a opt	Realtel	(® RTL) hinkPa	8111E d Ethe	PV Gigab rnet Exter	it Ethe nsion A	rnet conne dapter Ge	ection n 2				AC adapter	 * Battery life varies significantly with hardware configurations, settings, usage, & other factors 45W USB-C AC adapter 65W USB-C AC adapter
			,			1ax + E	Bluetooth™	' 5.1					65W USB-C slim AC adapter
WWAN (optional) • V	Wirel	less WA	N upg	radab		TF ^ 1	-ibaaam lu		M 0 aa	rd		Operating system	n Optional: Windows [®] 10 Home 64 or Windows 10 Pro 64
* F	For no	nated M n-WWA to eSIN	N mode	el, it me	and 4G L	del is N	ibocom La OT WWAN	upgrada	., M.2 ca ble	Ira		Limited warranty (optional)	1-year depot with 2-year system board repair service
Dimensions W	/xDxl	H (FHD			/ Privacy								 1-year limited onsite service 1-year + 2-year depot repair service
W:	/xDxl	H (FHD	Low P	Power).	:	,	29.0mm x 28.8mm x						 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service
Weight	lodels	;				,	Low Power		FHD Priv		ard		3-year/1-yr battery limited onsite service
	/eight		2.98 lb	/ 1.35	kg		b / 1.27 kg			/ 1.27 k		Mil-Spec test	MIL-STD-810G military testing
Case material Dis	lack <i>lispla</i> y ottor	y cover: n:	CFR Magr	P Hyb nesiun	rid;							Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

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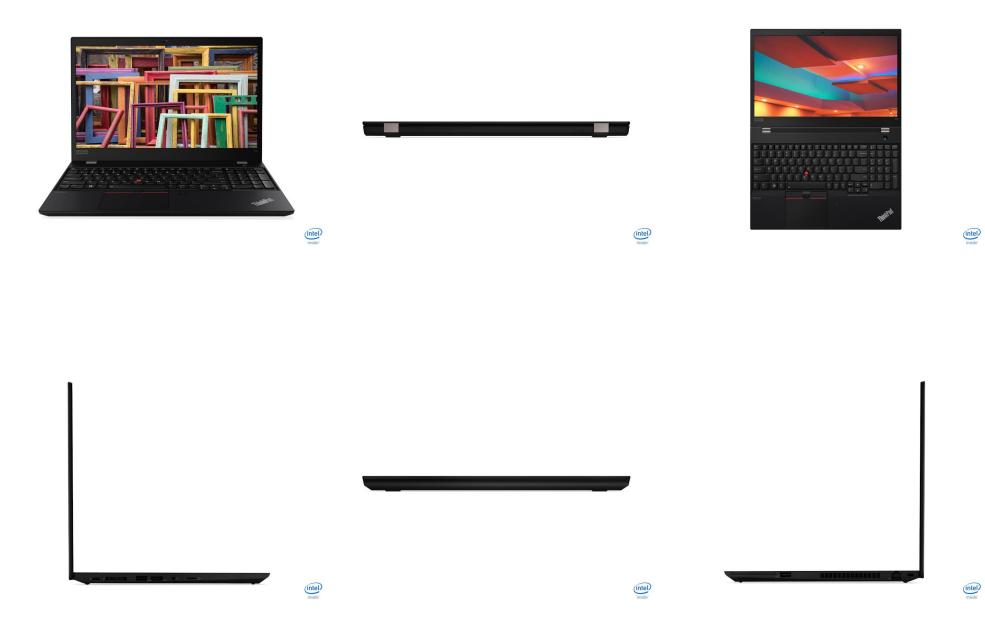
ThinkPad T14s Gen 1 (Intel) Platform Specifications

Product Specifications Reference (PSREF)

Processor	10th Ge	enera	ation I	ntel® C	ore™	i5 / i7 Pr	ocesso	or					Dimensions	WxDxH (black with FHD / FHD Touch / Privacy Guard):
	Process Number i5-10210	r C	# of cores	# of Threads	s Free	quency F	lax Turk requend 4.2 GHz	cache	Memo	ory Types	Proce Grap			12.95" x 8.90" x 0.66"; 329.0mm x 226.15mm x 16.7mm WxDxH (black with FHD Low Power / UHD): 12.94" x 8.89" x 0.63"; 328.8mm x 225.8mm x 16.1mm
	i5-10310 i7-10510 i7-10610	0U 0U	4	8	1.7 1.8	GHz 4	4.4 GHz 4.9 GHz 4.9 GHz	z 6MB z 8MB	- DDF	34-2666	Intel I Grap		Weight	WxDxH (silver): 12.96" x 8.92" x 0.68"; 329.15mm x 226.45mm x 17.2mm Models Black with FHD / FHD Touch / Privacy Guard Black with FHD Low Power / UHD Silver Weight 2.98 lb / 1.35 kg 2.81 lb / 1.27 kg 3.29 lb / 1.49 kg
Graphics	Intel UH support	HD G ts up ts ext	to 3 ii ternal	ndeper monito	rocess ndent ors via	1	via na up to 4	tive disp 096x216	60@24	·Hz),				Black or Silver Display cover: CFRP Hybrid (black) or Aluminum (silver); Bottom: Magnesium
Chipset Memory	Intel Sc 8GB, 16	oC (S 6GB	ystem or 320	n on Ch GB / 26	nip) pl 666MI	,	/ sold	ered to s	system	board, n	o socke		Smart card reader Media reader Ports	r <i>Optional:</i> Smart card reader MicroSD card reader Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Display	Size Re	esolut		280)	Туре	Surface Anti-glare	Touch	Bright- ness 250 nits	Aspect Ratio 16:9	Contrast Ratio 700:1	Color Gamut 45%	Viewing Angle 170°		one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader,
	14.0" FI	HD (1	920x10	(080	1	Anti-glare	- Multi- touch	300 nits	16:9	700:1	45%	170°	- - - Maasikaw aakila	headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	FF	ow Po HD (19	920x10	080)		Anti-glare	- Multi-	400 nits	16:9	800:1	72%	170°	Monitor cable (optional)	 Lenovo HDMI to VGA Monitor Adapter Lenovo USB-C to VGA Adapter Lenovo USB-C to DisplayPort Adapter
	U	uard HD (3	840x2	160)		Anti-glare	touch	500 nits		1000:1	72%	170°	Bundled Accy Camera (optional)	 Optional: ThinkPad Ethernet Extension Adapter Gen 2 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Multi-touch (opt)		olby V	′ision™	1	WVA	Glossy	- Iro	500 nits	16:9	1500:1	100% DCI-P3	170°	Audio support	HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 1W x 2 / optional dual array far-field microphone, headphone / microphone combo jack
Storage	• M.2 2 • M.2 2	2242	SSD / SSD /	/ PCle / PCle	NVM NVM	e, PCle 3 e, PCle 3	8.0 x 2 8.0 x 4						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Optical				NVMe		with Sol 4	id Stat	e Storag	e,				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Firmware TPM 2.0 integrated in chipset • Discrete TPM 2.0 TCG Certified
Ethernet	via opti	onal	Think	Pad Et	herne	ion I219- et Extensi	ion Ad	apter Ġe	n 2	-LM (<i>vPr</i>	<i>O</i>)		System Mgt (opt) Fingerprint reader NFC (optional)	Intel vPro Technology <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest Near Field Communication
WLAN + Bluetooth™ WWAN (optional)	 Intel A Wirele 	X201 ess V	<i>card s</i> VAN u	upports	able	802.11a but is lim	ited to l	3T5.0 by	Nindow				Battery Max battery life	Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark</i> [®] 2014: 21 hr
SIM card (opt)	 Integr 	rated n-WN	Mobil /AN ma	le Broa	Idban	d 4G LTE d 4G LTE the mode	E-A, Fil	bocom L	860-GI	L, MIMO	ard 2x2, M.	.2 card	AC adapter	MobileMark 2018: 14.28 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter • 65W USB-C AC adapter • 65W USB-C slim AC adapter
													Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
													Limited warranty (optional)	 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 3-year/1-yr battery depot repair service 1-year + 2-year/1-yr battery depot repair service 1-year + 2-year/1-yr battery limited onsite service 3-year/1-yr battery limited onsite service
													Mil-Spec test	MIL-STD-810G military testing
													Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; RoHS-compliant
Note: The specific	ationa ala			+	باطعانه	in all use		فرما بمراجع أمريا						

Note: The specifications above may not be available in all regions and might change by regions.

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ThinkPad T15 Gen 1 Platform Specifications

Product Specifications Reference (PSREF)

Number Care Frequency (Frequency Care Memory Pro- 10 (2010) Care Frequency (Frequency Care Memory Pro- (Frequency Care Memory Pro- 10 (2010) Care Frequency (Frequency Care Memory Pro- 10 (2010) Care Freque	Processor	10th G	enerat	tion Inte	el® Core	™ i5 / i7 F	rocesso	or					Dimensions	<i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
Black Class color Black Display Crash Color Black Crash Color Display Crash Color Black Crash Color Display Crash Color Display Display Display Construction Display Display Display D									Memo	ry Types			Weight	FHD model: 3.99 lb / 1.81 kg; UHD model: 3.84 lb / 1.74 kg
Graphics Intel UHD Graphics in processor only or with UHD Graphics in processor only or supports extrant anothers is an increase and Dis memory: wupports extrant anothers is an increase and Dis memory: usports with an introduction of power Delivery and DisplayPort), uSB-2 (up to 406x2304 e0Hz) or Thunderbot (up to 409x2304 e0Hz) Cripset Memory Intel SuC (system on Chip) pattern 400B or 480B max / 2066MHz DDR4, dual-channel capable. Intel SuC (system on Chip) pattern 400B or 480B max / 2066MHz DDR4, dual-channel capable. Intel SuC (system on Chip) pattern 400B or 480B max / 2066MHz DDR4, dual-channel capable. Intel SuC (system on Chip) pattern 400B or 480B max / 2066MHz bar an a 250 mits 156 PHD (1920r1080) Since acad Ports Since acad Forts Sinc		i5-1021 i5-1031 i7-1051	0U 0U 0U		8 .	1.6 GHz 1.7 GHz 1.8 GHz	4.2 GHz 4.4 GHz 4.9 GHz	2 6MB 2 6MB 2 8MB	-		Intel l	JHD		Black Display cover: PPS / 50% GF Keyboard cover: PC / ABS / Talc15 + Magnesium alloy Bottom: PA / 50% GF
Memory 40GB or 48G mark / 2666MHz DDP4, dual-channel capable, BGB or 16GB memory siscular) 3200MHz but run al 2666MHz due to trinel imitation Imitation Display Size Resolution Type a surger from the system statular and the second sy		Intel UI NVIDIA suppor suppor USB-C	HD Gr A® GeF ts up t ts exte (up to oC (Sv	aphics Force® I to 3 ind ernal m o 4096x vstem o	in proce MX330, lepende onitors x2304@ on Chip)	essor and 2GB GDI nt displays via HDMI 60Hz) or platform	DR5 me s via na (up to 4 Thunder	tive displ 096x216 bolt (up	i0@24H to 4096	Hz), 6x2304 ©		onitors;	Media reader	rOptional: Smart card reader MicroSD card reader Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),
 Size Resolution Type Surface Touch Use Resolution Type Surface Touch Use Resolution Type Surface Touch Use Resolution Type Surface Touch Use Resolution Type Surface Touch Use Resolution Type Surface Touch Use Resolution Size Resolution Type Surface Touch Use Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution	Memory	40GB of 8GB of	or 48G r 16GE	B max memo	: / 2666Ň ory solde	/İHz DDR₄ ered to sy	stemboa	ard, one	DDR4	SO-DIM		et		microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter
Is 6: FHD (1920x1080) WVA Anti-glaar Multi-louding 16:9 10:01	Display			-				ness	Ratio	Ratio	Gamut	Angle	Bundled Accy	Lenovo USB-C to DisplayPort Adapter None
Iso HDR 400. WVA Anti-glare - 500 nits 16.9 1400:1 100% 170° Multi-touch (opt) On-cell touch, supports 10-finger gesture UltraNav™ 6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight Storage • M.2 2280 SD / PCIe NVMe, PCIe 3.0 x 4 For on-vell touch, supports 10-finger gesture For one-cell touch, supports 10-finger gesture Storage • M.2 2280 SD / PCIe NVMe, PCIe 3.0 x 4 For one-cell touch, supports 10 with solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 Power-on password, hard disk password, supervisor password, security keyhole Optical None None Non-vPro model: Intel Ethernet Connection 1219-V (Jacksonville) Security Chip Firmware TPM 2.0 TCG Certified System Mgt (opt) Intel vPro Technology WUAN (optional) None Non-vPro model: Intel Ethernet Connection 1219-V (Jacksonville) NFC (optional) NEd Communication WWAN (optional) Intel WFi 6 AX201, Wi-Fi 2X 202, 11ax + Bluetooth 5.0 Battery Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter * Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, M.2 card * Het Xatery life varies significantly with hardware configurations, settings, usage, & other factors		15.6" F	HD (19	20x1080	0) WV/		Multi-						1	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 /
Storage • M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4 • M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 • Intel Optane [™] Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 Power-on password, hard disk password, supervisor password, security keyhole Optical Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) Power-on password, hard disk password, supervisor password, security keyhole WLAN + Intel Win-Fi 6 AX201, Wi-Fi 2x 280, PCIe NVMe 3.0 x 4 Power-on password, hard disk password, supervisor password, security keyhole WLAN + Intel Ethernet Connection I219-V (Jacksonville) Power-on password, hard disk password, supervisor password, security keyhole WLAN + Intel Win-Fi 6 AX201, Wi-Fi 2x 280, PCIe NVM as 0.2 Power-on password, hard disk password, supervisor password, security keyhole WUAN + Intel Ethernet Connection I219-V (Jacksonville) Power-on password, hard disk password, supervisor password, security keyhole WUAN + Intel Ethernet Connection I219-V (Jacksonville) Power-on password, hard disk password, supervisor password, security keyhole WUAN + Intel Ethernet Connection I219-V (Jacksonville) Power-on password, security with hardware password, security keyhole WWAN (optional) • Wire Sou 282, 022, 11ax + Bietototh 5.0 Power-on password, security with hardware password, security keyhole WWAN (optional) • Wires Sou 282, 022, 112x + Bietototh		15.6" H D	IDR400 olby Vi), sion™	WV	_		500 nits	16:9	1400:1	100%	170°	J	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight
 M.2 2242 SSD / PCle NVMe; PCle 3.0 x 2 Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCle NVMe 3.0 x 4 Optical None Ethernet Non-VPro model: Intel Ethernet Connection I219-V (Jacksonville) WLAN + Intel K201 card supports BT3.1 but is limited to BT5.0 by Windows OS WWAN (optional) Wireless WAN upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated SIM VWAN (optional) Wireless WAN upgradable Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Wobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Wobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Wobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Wobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Wobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Wobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Wobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Wobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Li-Palod Broad						<u> </u>								
Ethernet Non-vPro model: Intel Ethernet Connection 1219-V (Jacksonville) NFČ (optional) Near Field Communication Vol WLAN + Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802,11 ax + Bluetooth 5.0 Battery Integrated Li-Polymer 57Wh battery, supports Rapid Charge (parge cup to 80% in 1hr) with 65W AC adapter WWAN (optional) • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card SIM card (opt) • Gemalto eSIM Gemalto eSIM • Optional: it means the model is NOT WWAN upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card • 65W USB-C AC adapter • 65W USB-C AC adapter • SIM card (opt) Gemalto eSIM • 0 optional: it means the model is NOT WWAN upgradable • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year depot repair service • 1-year limited onsite service • 1-year limited onsite service • 1-year limited onsite service • 1-year depot repair service • 1-year limited onsite service • 1-year ilmited onsite service • 1-year 1-yr battery depot repair service • 1-year + 2-year limited onsite service • 3-year/1-yr battery depot repair service • 1-year + 2-year Biolog ENERGY STAR® 8.0; TCO Certified; RoHS-compliant Env	Ū	 M.2 2 Intel M.2 2 	2242 S Optan	SSD / P e™ Me	PCIe NV	Me, PCIe 10 with Sc	3.0 x 2	e Storag	e,				Security chip System Mgt <i>(opt)</i>	 Firmware TPM 2.0 integrated in chipset Discrete TPM 2.0 TCG Certified Intel vPro Technology
WLAN + Bluetooth™ Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 * Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 15.26 hr MobileMark® 2014: 15.26 hr * Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • 1-year 4 - 2-year depot repair service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-yea		Non-vł	Pro mo	odel: Int	tel Ethe	rnet Conn	ection I	219-V (J	ackson	ville)			NFČ (optional)	Near Field Communication
 Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card <i>For non-WWAN model, it means the model is NOT WWAN upgradable</i> Gemalto eSIM AC adapter 45W USB-C AC adapter 65W USB-C Sim AC adapter 65W USB-C AC adapter 65W USB-C AC adapter 65W USB-C Sim AC adapter 1-year depot with 2-year system board repair service 1-year depot with 2-year system board repair service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 3-year/1-yr battery limited onsite service 3-year/1-yr battery limited onsite service 1-yeat testing 	Bluetooth™	Intel W * Intel A	i-Fi 6 /	AX201, card sup	, Wi-Fi 2 ports BT	x2 802.11 5.1 but is lii	ax + Blu	uetooth 5	5.0	,				supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 15.26 hr MobileMark 2018: 10.81 hr
SIM card (opt) Gemalto eSIM Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64 Limited warranty • 1-year depot repair service • 1-year limited onsite service • 1-year limited onsite service • 1-year + 2-year depot repair service • 1-year + 2-year depot repair service • 1-year + 2-year limited onsite service • 1-year + 2-year limited onsite service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • 3-year/1-yr battery limited onsite service • Mil-Spec test MIL-STD-810G military testing Environment EPEAT TM Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant	() /	 Integ Integ For not 	rated I rated I on-WW	Mobile Mobile AN mode	Broadba Broadba	and 4G LT and 4G LT	Έ-Α, Fil	bocom L8	360-GL	., MIMO	rd 2x2, M.	2 card	AC adapter	 45W USB-C AC adapter 65W USB-C AC adapter
Limited warranty 1-year depot repair service 1-year depot with 2-year system board repair service 1-year + 2-year limited onsite service 1-year + 2-year limited onsite service 1-year + 2-year limited onsite service 3-year/1-yr battery limited onsite service 3-year/1-yr battery limited onsite service Mil-Spec test MIL-STD-810G military testing Environment EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant	SIM card (opt)	Gemal	to eSII	М									Operating system	
Environment EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant													Limited warranty	 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
													· · ·	, 6
Note: The specifications above may not be available in all regions and might change by regions.													Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

ThinkPad T15g Gen 1 Platform Specifications

	Suppo	orts one 10th	Xeon	W, Core	i9, i7, or	i5 process	or as fo	llowing:			SIM card	Optional Nano-SIM card slot
	-	N	# of	# of	Base	Max Turbo		Memory	Pro	ocessor		Width: 375.4 mm (14.78 in). Depth: 252.3 mm (9.93 in).
	Proce	ssor Number				Frequency	Cache	Types		raphics	Dimensions	Thickness for non-touch models: $24.5 \sim 31.45$ mm (0.96 ~ 1.24 in)
	Veen	W 1000EM	8	10	0.4011-	E 2011-	1 CMD	002	Inte	el UHD	Weight	Thickness for touch models: 25.25 ~ 32.2mm (0.99 ~ 1.27 in) Starting at 2.74 kg (6.05 lb, FHD)
	reon	W-10885M	0	16	2.4GHz	5.3GHZ	TOIVID	DDR4-293	Gr	aphics	Case color	Black
	Yoon	W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293		el UHD		Display cover: GFRP 50% (PPS695 + GF 50%).
	760II	VV-100551VI	0	12	2.00112	5.10112	12IVID	DD114-230	Gr	aphics	Case material	Bottom: PPS + GF
	Core	i9-10980HK	8	16	2.4GHz	5.3GHz	16MB	DDR4-293		el UHD	Media reader	SD card reader
-	0010			10	2.40112	0.00112	TOWID	DD114 200	Gi	aphics		1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt
Processor	Core	i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-293		el UHD	Standard Ports	3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI
				_			-		Gr	aphics		2.0, 1x headphone / microphone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45
	Core	i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293		el UHD		One optional smart card reader on right, one optional Nano-SIM card slot on
									_	aphics el UHD	Optional Ports	left
	Core	i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293		aphics		Up to 5 displays with 4 external monitors plus system LCD screen. External
									Inte	el UHD		monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI.
	Core	i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293		aphics	Monitor support	USB-C and HDMI support up to $4K@60Hz$. With Thunderbolt, one supports up to $5K@60Hz$ and one supports up to
									Inte	el UHD		4K@60Hz
	Core	i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-293		aphics	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Chipset	Intel V	VM490 Chips	set						1		Bundled Accy	None
ompoor		IMM. DDR4-		on-FCC	or DDB4	-2933 EC(2				Banaloa / looy	Supports one optional camera as following:
Memory Type		ECC and nor									Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
		6GB/32GB a					С					Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Memory Sockets	4 DIM	M sockets									Audio chip	Realtek ALC3286 codec
Memory Protection	ECC (on models wi	ith EC	C DIMMs	and Xeo	n process	or				Speaker	Stereo speakers, Dolby Atmos sound system
Max Memory	128G	В									Microphone	Optional dual array far-field microphone
		ort one of the									Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with
Graphics	NVII	DIA GeForce	RTX :	2070 SU	PER with	Max-Q De	sign, 80	GB GDDR	6 mer	mory		Unified Communications controls. 3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
	• NVI	DIA GeForce	RTX	2080 SU	PER with	Max-Q De	sign, 80	<u>GB GDDR</u>	6 mer	mory	UltraNav	touchpad
	Size	Resolution	T	ype Surf	ace Touc	h Brightnes	Aspect	t Contrast Batio	Color	Viewing	Password	Power-on password, hard disk password, supervisor password
				, , , , , , , , , , , , , , , , , , ,			Ratio	110010	Jannar	7	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	15.6"	HD (1920x10	80) W	/VA Anti-	alare -	300 nits	16:9	700:1	72% NTSC	160°	System mgmt	Optional Intel vPro Technology supported on vPro enable models
									1150		Security locks	Security keyhole for optional Kensington lock
		HD (1920x10		/// A -=+i	-	E00 mite	10.0	1000.1	72%	160°	Smart card reader	rOptional
	15.0	Dolby Vision, HDR 400		/VA Anti-	giare -	500 nits	16:9	1200:1	NTSC	160	Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest
Display		JHD (3840x21	60)						4000/		Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80%
	15.6"	Dolby Vision,		/VA Anti-	glare -	600 nits	16:9		100% Adobe	178°		in 1hr) with 230W AC adapter
		HDR 400						, , , , , , , , , , , , , , , , , , ,	luobe		Max battery life	MobileMark 2014: 16.4 hr.
		IUD (2040v01	60)	Ar	ti-	SDR 400nit,			1000/			MobileMark 2018: 10.3 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
		JHD (3840x21 Dolby Vision,	00)	LED refle	ction mult	HDR	16:9	100000:1	100% DCI-	170°		One of the following:
		HDR 400		Smu	ili- louc	500nit			P3		Power Adapter	230W slim AC adapter
					-	(peak)						170W slim AC adapter
		ry Color Calil									-	Supports one optional preloaded operating system as following: • Windows 10 Home 64
Touchscreen		enable on s			LED mod	lels, suppo	rts 10-1	linger gesti	ure			Windows 10 Home 64 Windows 10 Pro 64
Pen		nal Lenovo P									Operating system	Windows 10 Pro 64 for Workstations
-		two M.2 228), PCle N	VMe, 256	GB / 5120	B/1TE	B / 2TB ea	ch			Ubuntu Linux LTS
	RAID	0 / 1 support	t								_	Fedora Linux
Optical	None											Optional warranty plans as following:
Ethernet	One c	nboard GbE	port v	via integra	ated giga	oit etherne	t, Intel i	219LM for	vPro	models		• 1-year depot repair service
		9V for non-vl	-ro m	odels								 3-year depot repair service 1-year + 2-year depot repair service
NFC	None			0.04		1 14/1	0.000				Base Warranty	1-year limited onsite service
WLAN + Bluetooth		hal Intel Wi-F										 3-year limited onsite service
		oth 5.1 requ of the followin		ie latest \	by mode		io (vers	50112004 (jvej	-	 1-year + 2-year limited onsite service
	• No V	VWAN card a	and no	n uparao	lable	1.					Mil Crosstaat	1-year depot with 2-year system board repair service
WWAN	 Inter 	rated Mobile	Broa	dband U	ogradable	, No WWA	N Card	I, WWAN A	ntenr	na Onlv	Mil-Spec test	MIL-STD-810G military testing
	 Integration 	grated Mobile	Broa	dband 40	G LTE-A,	Fibocom L	860-GL	, MIMO 4x	4, M.	2 card	Environment	EPEAT Silver. ENERGY STAR 8.0. RoHS-compliant
	I Alata IA	WAN cannot be	support	ed on UHD	WVA models						ISV certifications	None

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ThinkPad T15p Gen 1 Platform Specifications

Product Specifications Reference (PSREF)

Processor		Generation 0875H is NC					or					Dimensions Weight	<i>WxDxH:</i> 14.43" x 9.84" x 0.89"; 366.5mm x 250mm x 22.7mm Starting at 4.57 lb / 2.07 kg
	Proce	essor # of ber Cores	# of Threads	Fre	Base Mequency F	, ∕Iax Tur Frequen	cy Cache	Memo	ry Types	Proce Grap		Case color Case material	Black Display cover: PC/ABS plastic Bottom: PC/ABS plastic
	i5-103 i5-104 i7-107 i7-108 i7-108	400H 4 750H 6 350H 6	8 12 16	2. 2. 2.	6 GHz 6 GHz 7 GHz	4.5 GH 4.6 GH 5.0 GH 5.1 GH 5.1 GH	z 8MB z 12MB z 12MB		4-2933	Intel Grap		Smart card reade Media reader Ports	ar Optional: Smart card reader SD card reader, supports UHS-II SD card Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort 1.2), HDMI 2.0, Ethernet (RJ-45),
Graphics	Intel I NVID suppo	UHD Graphi UHD Graphi IA® GeForce orts up to 3 orts externa	ics in pr e® GTX indeper	oces 1050 nden	ssor and 0, 3GB G t displays ia HDMI (DDR5 via na up to 4	ative disp	lay and z) or		ernal m	ionitors;	Monitor cable <i>(optional)</i> Bundled Accy	nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter • Lenovo USB-C to VGA Adapter • Lenovo USB-C to DisplayPort Adapter None
Chipset Memory Display	64GE * Insta	WM490 Chij 3 max / 2933 alled memory	3MHz D is actual	ly 32	00MHz bu	t run at	2933MHz	due to li		tion	ockets	Camera <i>(optional)</i> Audio support	 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 / optional dual array microphone, headphone / microphone combo jack
-12		Resolution			Surface	Touch	ness	Ratio	Ratio	Gamut	Angle	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad, optional LED backlight
	15.6	FHD (1920x1	,		Anti-glare		250 nits	16:9	700:1	45%	170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	15.6"	FHD (1920x1	1080)	WVA	Anti-glare	Multi- touch	300 nits	16:9	800:1	45%	170°	Security	Power-on password, hard disk password, supervisor password, security keyhole
	15.6"	UHD (3840x2 HDR400, Dolby Vision ¹		WVA	Anti-glare	-	600 nits	16:9	1400:1	100%	178°	Security chip System Mgt (opt) Fingerprint reader	Discrete TPM 2.0 TCG Certified Intel vPro Technology r Touch style match on chip fingerprint reader on the palm rest
Multi-touch (opt)	On-ce	ell touch, su	pports -	10-fir	nger gest	ure						<u></u>	None Integrated Li-Polymer 68Wh battery,
Storage RAID <i>(optional)</i> Optical	M.2 2 RAID None		PCIe N\ t									Battery Max battery life AC adapter	supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter MobileMark® 2014: 12.1 hr MobileMark 2018: 7.9 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors 135W slim tip AC adapter
Ethernet		vPro model: model:			net Conne net Conne							· · ·	o Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WLAN + BT	-	Ni-Fi 6 AX2						`				Limited warranty	
WWAN (optional) SIM card	 Inte 	grated Mob	ile Broa	dbar	nd 4G LT is the mode	E-A, Fi el is NC	bocom La DT WWAN	850-GL upgrada	., M.2 ca ble	ard		(optional)	 1-year depot viblati bervice 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
												Mil-Spec test	MIL-STD-810G military testing
												Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant
Note: The specifica	tiona	abovo mov n	at he av	ailah	lo in all ro	diono d	nd might	abanga	by rogic	200			l enov

Note: The specifications above may not be available in all regions and might change by regions.

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August 2020



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ThinkPad T490 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th G	eneration	Intel® Co	ore™ i	5 / i7 Proc	essor					Dimensions	<i>WxDxH:</i> 12.95" x 8.94" x 0.70"; 329mm x 227mm x 17.9mm						
	Proce					x Turbo Cad		lemory	Proce		Weight	Models HD FHD FHD Low Power / WQHD Privacy Guard						
	Numb		s Thread	_		quency		Types	Grap	hics		Weight 3.37 lb / 1.53 kg 3.41 lb / 1.55 kg 3.23 lb / 1.46 kg 3.56 lb / 1.61 kg						
	i5-82					9 GHz 6N 1 GHz 6N					Case color	Black <i>Display cover:</i> PPS / 50% GF;						
	i7-85	4	8			1 GHz 6N 6 GHz 8N		R4-2400	ntel UHD	Graphics		Bottom: PA / 50% GF						
	i7-86					8 GHz 8N					Smart card reade	er Optional: Smart card reader						
	L		tion Intel			cessor (NO		able in E	MEA)		Media reader	MicroSD card reader						
		Processor # of # of Base Max Turbo Cacho Memory Processor								- Ports	Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),							
	Numb		s Thread			quency		Types	Grap	hics	-	one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),						
	i5-10		8			2 GHz 6N 9 GHz 8N		B4 2400	Intel UHD	Graphics		HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,						
	i7-10		12	_		7 GHz 12N		H4-2400		Graphics	`	microSD card reader side docking connector security keyhole						
Graphics		UHD Grap	1								Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter						
Graphics		UHD Grap									(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter						
	NVID	IA [®] GeFor	ce® MX2	50, 20	GB GDDR	5 memory;						USB-C to HDMI: Lenovo USB-C to HDMI Adapter						
		orts extern orts three i				MI or Thund	derbolt	;			Bundled Accv	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None						
						underbolt):	4096x	2160@2	4Hz (HD	MI)		I) One of the following, configurable by model:						
Display	Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI)									Viewing		HD720p camera with ThinkShutter camera privacy, fixed focus						
1 3		Resolution		Туре	Surface	Brightness	Ratio	Ratio	Gamut	Angle	Audio cupport	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus						
	14.0"	HD (1366x7	768)	TN	Anti-glare	220 nits	16:9	400:1	45%	90°	Audio support	HD Audio, Realtek [®] ALC3287 codec / stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium /						
						250 nits (non-touch)						dual array far-field microphone (for special bid model, microphone is optional),						
	14.0"	FHD (1920)	x1080)	WVA	Anti-glare	` 300 nits ´	16:9	700:1	45%	170°		headphone / microphone combo jack						
			(1000)			(multi-touch)					Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight						
	14.0"	FHD (1920) Low Power	x1080)	WVA	Anti-glare	400 nits	16:9	800:1	72%	170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad						
		FHD (1920)	x1080)							1	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified						
	14.0"	ThinkPad P Guard	rivacy	WVA	Anti-glare	400 nits	16:9	1000:1	72%	170°		(may be disabled in some region)						
	14.0"	WQHD (25	60x1440)	WVA	01	500 mite	10:0	1500.1	100%	1700	System Mgt (opt)	Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest						
	14.0"	HDR, Dolby	/ Vision™	WVA	Glossy	500 nits	16:9	1500:1	Adobe	170°	NFC (optional)	Near Field Communication						
Multi-touch (opt)	On-c	ell touch, s	upports	10-fin	ger gestur	e (FHD onl	y)				Battery	Integrated Li-Polymer 50Wh battery,						
Chipset	Intel	SoC (Syste	em on Cl	nip) pl	atform							supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter						
Memory						dual-channe mboard, or			MM soc	kat	Max battery life	MobileMark [®] 2014: 16.11 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors						
						un at 2400M				NOT	AC adapter	45W USB-C AC adapter						
Storage						available in	EMEA	.)			1	 65W USB-C AC adapter 65W USB-C slim AC adapter 						
Ū.	• M.2	2280 SSI	D / PCle	NVMe	e, PCle 3.	0 x 4												
		2242 SSI				J x 2 I State Stor	ane				(optional)	• Windows® 10 Home 64 • Windows 10 Pro 64						
		2280, PC					ugo,				(op lienal)	Windows 10 Pro in S mode						
Optical	None										Limited warranty	1-year depot repair service						
Ethernet						tion I219-V			`		(optional)	1-year depot with 2-year system board repair service						
		model:				tion I219-LI	`)		4	 1-year limited onsite service 1-year + 2-year depot repair service 						
WLAN + Bluetooth™						.11ac + Blu ax + Bluetoo						 1-year + 2-year onsite repair service 						
(optional)		201 for 10					501 5.0	,				3-year/1-yr battery depot repair service 2-year/1-yr battery limited appits convice						
WWAN (optional)	One c	f the followi	ng, config	urable	by model:						Mil-Spec test	3-year/1-yr battery limited onsite service MIL-STD-810G military testing						
., ,	• Wir					l only in EM				A		, , ,						
	 Inte 	grated Mo	bile Broa	adban	0 4G LIE, 1 4G ITE-	Fibocom L A, Fibocom	530-EL	∋,™.2 ca .GIM 2	ura (EME. card	a only)	Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant						
	 Inte 	arated Mo	hile Bros	adhan	14G I TE-	A Fibocom	1 860-	GI MIM	10 4x4, N	1.2 card								
SIM card (opt)	* For	ion-WWAN	model, it i	means	the model	is NOT WWA	N upgra	adable	,									
Givi Caru (<i>Opi)</i>	 ver Gei 	izon LTE (I nalto eSIN	us) siivi 1	card														
	00		•								1							

Note: The specifications above may not be available in all regions and might change by regions.



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ThinkPad T490 Secure Access / Healthcare Edition Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Ge	enera	tion In	itel® Co	re™	i5 / i7 Pr	ocessor					Dimensions	WxDxH:	12.95" x 8.94" x	0.70";	329mm x 227mm	ו x 17	.9mm	
	Proces		# of	_ # of			Max Turbo	ache	Memory	Proces		Weight	Models	FHD		Privacy Guard			
	Numbe		Cores	Thread		· · · ·	Frequency		Types	Graph	nics		Weight	3.41 lb / 1.55 kg		3.56 lb / 1.61 kg			
	i5-826 i5-836							SMB SMB				Case color Case material	Black <i>Display cov</i>	<i>ver:</i> PPS / 50%	GE				
	i7-856		4	8				3MB	DDR4-2400 In	itel UHD (Graphics		Keyboard cover: PC/ABS + Magnesium alloy						
	i7-866							BMB					Bottom:	(with ISO 2 PA / 50% 0		compliant anti-micro	obial	surface treatr	nent);
·	Intel L NVIDI suppo suppo	JHD (A [®] G orts ex orts th	Graphi eForce xternal iree inc	cs in p ® MX2 digital depend	roces 50, 2 mon lent c	itor via H displavs:	DR5 memor IDMI or Thu	nderb			AL	Smart card reade RFID reader Media reader Ports	RFID reade MicroSD ca Two USB 3. one USB 3.	er supporting RFI ard reader .1 Gen 1 (one Alv .1 Type-C Gen 1	D / NF vays C (with th	Dn), he function of Powe			
Chipset Memory	Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI) Intel SoC (System on Chip) platform 40GB or 48GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation											- Monitor cable	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPc one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN model), headphone / microphone combo jack, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical sp						
Display	Size I	Resolu	ution	-	Гуре	Surface	Brightness	Aspec Ratio	t Contrast Ratio	Color Gamut	Viewing Angle	(optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to HDMI: Lenovo USB-C to HDMI Adapter						
	14.0" I	FHD (1920x1	080)	NVA	Anti-glare	250 nits (non-touch) 300 nits	16:9	700:1	45%	170°	Bundled Accy	None			DisplayPort Adapt	ter		
							(multi-touch)					Camera (optional) One of the fo	ollowing, configurabl	e by m	odel:	e	(
	14.0"		1920x1 Pad Priv	080) /acy \	NVA	Anti-glare	400 nits	16:9	1000:1	72%	170°	Audio support	 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed for HD Audio, Realtek[®] ALC3287 codec / stereo speakers, 2W x 2, Dolby[®] Audio[™] Premium / 						ed focus
Multi-touch (opt)	On-ce	ell tou	ch, su	pports	10-fir	nger gest	ture (FHD o	nly)					stereo spea	akers, 2W x 2, Do al array far-field n	lby® A	udio™ Premium / hone, headphone /	micro	nhone comb	o iack
5	• M.2	2280	SSD .		NVM	àb/s le, PCIe le, PCIe						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpa						-
	 Inte M.2 	l Opta	ane™ N		y H10) with Sc	olid State St	orage,				Security Power-on password, hard disk password, supervisor password, security keyl Security chip Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified							
	None			Latel E	41			<u> </u>	-1			System Mat (opt)	(may be disabled in some region) stem Mgt (<i>opt</i>) Intel vPro Technology						
	vPro i	node	1:	Intel E	therr	net Conn		LM (J	acksonville)			Fingerprint reade	r FWVA 201	fingerprint reade ort via RFID reade	r on pa er	alm rest			
							2.11ac + Blu Vi-Fi + Bluet		ombo adapt	er		Battery		Li-Polymer 50Wh				IAC adaptor	
WWAN (optional)	One of	f the fo	ollowing	, config	urable	by mode	<i>l:</i>					Max battery life		apiù Charge (cha k [®] 2014: 16.11 h		o to 80% in 1hr) with	1050	AC adapter	
	 Integ * For n 	grateo on-W	d Mobi WAN m	le Broa	adbar		bid only) E-A, Fiboco <i>lel is NOT WV</i>		50-GL, M.2 c ogradable	ard		AC adapter	 45W ÚSE 65W USE 	3-C AC adapter 3-C AC adapter		ardware configurations	s, settii	ngs, usage, & o	ther factors
Silvi calu (<i>opi)</i>	Gema	lito et	51171											3-C slim AC adap					
												Operating system			64				
												Limited warranty (optional)	 1-year dep 1-year limite 3-year/1-year + 2 1-year + 2 	pot repair service pot with 2-year sy lited onsite servic r battery depot re 2-year/1-yr battery 2-year/1-yr battery r battery limited	e pair se / depo / limite	t repair service ed onsite service	Э		
												Mil-Spec test MIL-STD-810G military testing							
												Environment	EPEAT™ Si	ilver; ENERGY S	TAR® 7	7.1; RoHS-complia	nt		

Note: The specifications above may not be available in all regions and might change by regions.





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ThinkPad T490s Platform Specifications

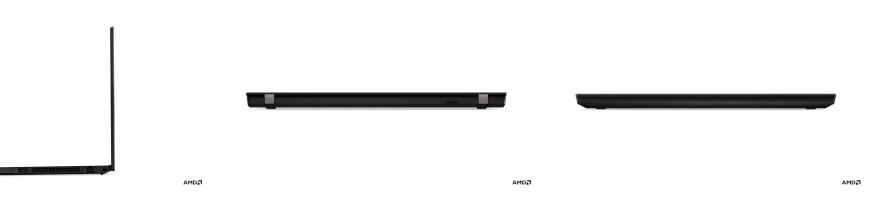
Product Specifications Reference (PSREF)

Processor	8th G	enera	ation Ir	ntel® Co	ore™	i5 / i7 Pro	cessor						Dimensions	WxDxH (black with FHD / Privacy Guard):						
	Proce Numb		# of Cores	# of Thread			Max Turbo Frequency	ache	Memor Types		Proce Grapi			12.95" x 8.90" x 0.66"; 329.0mm x 226.15mm x 16.7mm WxDxH (black with FHD Low Power / WQHD):						
	i5-826		00163	Theau				MB	турез	<u> </u>	Grapi		-	12.94" x 8.89" x 0.63"; 328.8mm x 225.8mm x 16.1mm WxDxH (silver): 12.96" x 8.92" x 0.68"; 329.15mm x 226.45mm x 17.2mm						
	i5-836 i7-856		4	8				MB MB	DDR4-24	400 In	tel UHD	Graphic	Weight	Models Black with FHD / Black with FHD Low Power Silver						
	i7-866	65U			1.	9 GHz	4.8 GHz 8	MB						Weight 2.98 lb / 1.35 kg 2.81 lb / 1.27 kg 3.29 lb / 1.49 kg						
	suppo	orts e orts th	xterna iree in	depend	mon dent d	itor via H displavs;	DMI or Thui hunderbolt)			0@24	Hz (HDN	MD	Case color Case material	Black or Silver Display cover: CFRP Hybrid (black) or Aluminum (silver); Bottom: Magnesium						
Chipset	Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI) Intel SoC (System on Chip) platform 8GB, 16GB or 32GB / 2400MHz DDR4 / soldered to systemboard, no sockets * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation												Media reader Ports	der Optional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and Display						
Display	Size	Resol	ution		Туре	Surface	Brightness			ntrast latio		Viewing Angle		one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector,						
	14.0"	FHD (1920x1	080)	WVA	Anti-glare	250 nits (non-touch) 300 nits (multi-touch) 16		00:1	45%	170°		combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical spe						
		FHD (Low P	1920x1 ower	080)	WVA	Anti-glare	X 1 1 1 1	-	6:9 8	00:1	72%	170°	Monitor cable (optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter						
	14.0"	ThinkÌ	1920x1 Pad Priv		WVA	Anti-glare	400 nits	16	6:9 10	000:1	72%	170°	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2						
	14.0"	Guard WQHI	D (2560)x1440)	WVA	Glossy	500 nits	16	6:9 15	500:1	100%	170°	11 `` ´	 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus 						
Multi-touch (opt)	HDR, Dolby Vision [™]										Adobe	170	Audio support	HD Audio, Realtek [®] ALC3287 codec / stereo speakers, 1W x 2, Dolby [®] Audio [™] Premium / dual array far-field microphone (for special bid model, microphone is optional),						
Storage	• M.2	2280) SSD	/ SATA	6.00	ab/s		.,,					-	headphone / microphone combo jack						
	• M.2	2242	2 SSD	/ PCle	NVN	le, PCle : le, PCle :		vaaa					Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad						
	M.2	2280), PCIe	e NVM	e 3.0	x 4		naye	,				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified						
	None		l Ethor	rnet Co	nnec	tion 1219	-V (Non-vPr	ra) or	1210-1 N	A (vP	ro)			(may be disabled in some region)						
	via op	otiona	l Think	Pad E	thern	et Extens	ion Adapter	Gen	2		10)		Fingerprint reader	Intel vPro Technology <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest						
Bluetooth™	 Intel 	l Wire	less-Ă	C 9560), Wi-		:)2.11ac + Bl 1ax + Bluete						NFČ (optional) Battery	Near Field Communication Integrated Li-Polymer 57Wh battery,						
WWAN (optional)	One o	f the f	ollowing	g, config	urable			Souri	5.0				Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark</i> [®] 2014: 20 hr						
	 One of the following, configurable by model: Wireless WAN upgradable Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA on Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card For non-WWAN model, it means the model is NOT WWAN upgradable 										d (EMEA ard	A only)	AC adapter	 * Battery life varies significantly with hardware configurations, settings, usage, & other factore 45W USB-C AC adapter 65W USB-C AC adapter 65W USB-C slim AC adapter 						
SIM card (opt)	Verizon LTE (US) SIM card Gemalto eSIM												Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64						
	- Gen	ΠάιιΟ	eonn										Limited warranty (optional)	 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 3-year/1-yr battery depot repair service 1-year + 2-year/1-yr battery depot repair service 1-year + 2-year/1-yr battery limited onsite service 3-year/1-yr battery limited onsite service 						
													Mil-Spec test	MIL-STD-810G military testing						
													Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant						

Note: The specifications above may not be available in all regions and might change by regions.







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ThinkPad T495 Platform Specifications

Processor	AMD Ryze	en [™] PRC	Mobile I	Processor	s with Rade	eon [™] Veg	a Graphics			Dimensions	WxDxH:	12.95" x 8.94" x	(0.70"; 329mm)	x 227mm x 17.9mm			
	Processor Number	# of	# of	Base Clock	Max Boost Clock	Cache	Memory Controller		essor phics	Weight	Models	HD	FHD	FHD Low Power			
	Ryzen 3		Threads			2MB L2 /	Controller		n Vega 6	Case color	Weight Black	3.46 lb / 1.57 kg	3.46 lb / 1.57 kg	3.39 lb / 1.54 kg			
	PRO 3300	4 ر	4	2.1 GHz	3.5 GHz	4MB L3	-	Gra	phics	Case material	Display co	over: PPS/50%					
	Ryzen 5 PRO 3500	4 ر	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Vega 10			Bottom: PA / 50% GF er Optional: Smart card reader						
	Ryzen 7 PRO 3700	4 ر	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3				Media reader Ports	MicroSD card reader One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2.						
Graphics	supports e	external our inde	digital mo pendent	onitor via displays;	a 10 Graph JSB-C or H USB-C); 4(IDMI; [`]	ocessor; 0@60Hz (H	IDMI)			two USB 3.1 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical s						
Chipset Memory	AMD SoC (System on Chip) platform 24GB or 32GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket									Monitor cable (optional)	HDMI to V USB-C to	/GA: Lenovo H VGA: Lenovo U	DMI to VGA Monit SB-C to VGA Ada SB-C to DisplayPo	or Adapter pter			
	* Installed r	nemory is	actually 2	2666MHz b	ut run at 240	OMHz due	e to AMD limit	tation		Bundled Accy	None			•			
Display										Camera (optional	<i>One of the</i> () • HD720r	following, configural camera with Thir	ble by model: hkShutter camera	privacy, fixed focus			
	14.0" HD (366x768) TN	Anti-glare		16:9	400:1	45%	90°	Audio support	• IR came	Shutter camera privacy, fixed focus					
	14.0" FHD	(1920x10	80) WVA	Anti-glare	250 nits (non-touch) 300 nits (multi-touch	10:9	700:1	45%	170°		HD Audio, Realtek [®] ALC3287 codec / stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium / dual array far-field microphone (for special bid model, microphone is opt headphone / microphone combo jack						
		(1920x10 Power		Anti-glare		16:9	800:1	72%	170°	Keyboard UltraNav™	6-row, spi TrackPoin	Il-resistant, multin t [®] pointing device	nedia Fn keys, opt and buttonless M	ional LED backlight ylar surface multi-touch touchpad			
Multi-touch (opt)				0 0	sture (FHD	only)				Security	Power-on password, hard disk password, supervisor password, security keyh Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)						
Storage	 M.2 228 M.2 228 				3.0 x 4					Security chip							
Optical	• M.2 224 None									System Mgt	m Mgt DASH Management rprint reader <i>Optional:</i> Touch style match on chip fingerprint reader on the pal						
Ethernet		RTL8111	Gigabit	Ethernet	connection					NFC	er Optional: Touch style match on chip tingerprint reader on the palm rest None						
WLAN	One of the	following,	configura	ble by mod	el:					Battery		Li-Polymer 50W		1hr) with 65W AC adapter			
Bluetooth™	 Intel Wir 	eless-AC) 926Ó, V	Vi-Fi 2x2 8	802.11ac +	Bluetoot	4.2, M.2 ca h 5.0 both combo		r	Max battery life	MobileMa * Battery I	urk [®] 2014: 13.4 h ife varies significantl	ir y with hardware coni	figurations, settings, usage, & other factors			
WWAN (optional)	One of the	following,	configura	ble by mod						AC adapter		5W USB-C AC ad Windows® 10 Ho		s 10 Pro 64			
SIM card (opt)	• Integrate * For non-V	ed Mobile /WAN mc LTE (US	N upgradable obile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card V model, it means the model is NOT WWAN upgradable (US) SIM card M							Operating system Optional: Windows® 10 Home 64 or Windows 10 Product Limited warranty (optional) 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service							
										Mil-Spec test							
										Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant						

Note: The specifications above may not be available in all regions and might change by regions.





ThinkPad T495s Platform Specifications

Processor	AMD Ryze	n [™] PRC) Mobile	e Processo	s with Rade	on [™] Veo	a Graphics			Dimensions	WxDxH (FHD / P	Privacy Gua	ard):			
	Processor Number	# of	# of Threads	Base	Max Boost Clock	Cache	Memory Controller	Proc Gra	cessor phics		WxDxH (Low Pou	wer):		.66"; 329.0mm .63"; 328.8mm		5mm x 16.7mm
	Ryzen 5 PRO 3500U	4	8	2.1 GHz		2MB L2 / 4MB L3		Gra	n Vega 8 phics	Weight	Models	F	HD		ID Low Power		D Privacy Guard
	Ryzen 7 PRO 3700U	4	8	2.3 GHz		2MB L2 / 4MB L3	DDR4-2400	Radeor	Vega 10 phics	Case color	Weight Black	2.92 lb	o / 1.33 kg	2.7	76 lb / 1.25 kg	2.	.89 lb / 1.31 kg
Graphics	supports ex supports th	kternaľ Iree ind	digital r lepende	nonitor via ent displays	phics in pro USB-C or H USB-C); 40	DMI;		IDMI)		Case material Display cover: Bottom: CFRP Hybrid; Magnesium/Aluminum Smart card reader Optional: Smart card reader Media reader Ports MicroSD card reader One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2,							
Chipset Memory	AMD SoC 8GB or 160 * Installed m	ĠB / 24	00MHz	DDR4 / so	dered to sys dered to sys ut run at 2400	temboa MHz duo	ard, no sock e to AMD limi	ets tation		Ports	two USB HDMI 2.0 combo slo	3.1 Type , Etherr ot of nai	e-C Gen 2 net extension no-SIM car	(w/ the fi on conne rd (WWA	unction of Powe ector, N models) and	er Deliver I microSD	y and DisplayPort 1.4 card reader,
Display	Size Resolu	ution	г	ype Surfac	e Brightness	Aspec Ratio	t Contrast Ratio		Viewing Angle		headphor	ne / mici ina con	rophone co nector sec	ombo jac curity kev	k, optional sma hole	art card re	eader,
	14.0" FHD (1920x10	080) V	VVA Anti-gla	re (non-touch 300 nits (multi-touch	10.9	700:1	45%	170°	Monitor cable (optional)	side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretic HDMI to VGA. Lenovo HDMI to VGA Monitor Adapter USB-C to VGA. Lenovo USB-C to VGA Adapter USB-C to DP. Lenovo USB-C to DisplayPort Adapter						
	14.0" FHD (Low P	1920x10	080) V	VVA Anti-gla	re 400 nits	16:9	800:1	72%	170°	Bundled Accy	Optional:		ThinkPad	Ethernet	Extension Ada	apter Gen	2
		1920x10 Pad Priva	080)	VVA Anti-gla	re 400 nits	16:9	1000:1	72%	170°	Camera Audio support	 One of the following, configurable by model: HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed for HD Audio, Realtek[®] ALC3287 codec / 						ocus privacy, fixed focus
Multi-touch (opt)				0 0	sture (FHD o	only)					stereo sp	eakers,	1W x 2, D	olby® Au	dio™ Premium		hone combo jack
Storage Optical	M.2 2280 S None									Keyboard UltraNav™	optional dual array far-field microphone, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad						light
Ethernet					it Ethernet c sion Adapte					Security	curity Power-on password, hard disk password, supervisor password, security keyh Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)						ord, security keyhole
WLAN <i>(optional)</i> Bluetooth™					2.11ac + Blı Wi-Fi + Blue			er									TCG Certified
WWAN (optional)	 Wireless 	WAN u	pgrada	ble							/stem Mgt DASH Management ngerprint reader <i>Optional:</i> Touch style match o -C None				fingerprint rea	ader on the	e palm rest
	* For non-W	WAN ma	odel, it m	eans the mo	TE-A, Fiboco del is NOT WI			ard		Battery	Integrated	d Li-Poly	ymer 57Wr	h battery,	o 80% in 1hr) v	with 65W	AC adaptor
SIM card (opt)	Verizon LGemalto	TE (US eSIM	5) SIM c	ard						Max battery life	MobileMa * Battery I	ark [®] 201 ife varies	1 <i>4:</i> 16.4 h	r y with hard	,		gs, usage, & other factors
										Operating system	Optional:	Window	ws® 10 Hoi	, me 64 or	Windows 10 P	Pro 64	
										Limited warranty (optional)	 1-year (1-year 1-year - 1-year - 3-year/* 	depot w imited c + 2-year + 2-year 1-vr batt	pair servic ith 2-year s onsite servi r depot report r limited on tery depot tery limited	system b ice air servic isite serv repair se	ice rvice	rvice	
										Mil-Spec test			nilitary test	0			
										Environment	EPEAT™	Gold; E	NERGY S	TAR [®] 7.1	; TCO Certified	d; RoHS-c	compliant

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Lenovo August 2020





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ThinkPad T590 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Gene	eration l	ntel® Co	re™ i5 / i7 Pı	rocessor					Dimensions	<i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm													
	Processo		# of	Base	Max Turbo	Cache	Memory	Proce		Weight	FHD model: 3.99 lb / 1.81 kg; UHD model: 3.84 lb / 1.74 kg													
	Number i5-8265U i5-8365U		Threads 8	1.6 GHz 1.6 GHz	4.1 GHz	6MB 6MB	Types	Grap tel UHD		Case color Case material	Black Display cover: PPS / 50% GF; Bottom: PA / 50% GF													
	i7-8565U i7-8665U			1.8 GHz 1.9 GHz		8MB 8MB			-	Smart card reade Media reader	er <i>Optional:</i> Smart card reader MicroSD card reader													
·	Intel UH NVIDIA [®] supports supports	D Graph GeFord externa three in	iics in pr e® MX2 al digital idepend	ocessor only ocessor and 50, 2GB GD monitor via l lent displays; 304@60Hz (DR5 memor HDMI or Thu	inderb	,	Hz (HDI	VII)	Ports	Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed													
Memory	40GB or 8GB or 1	48GB n 6GB me	nax / 24 emory s	nip) platform 00MHz DDR oldered to sy <i>2666MHz b</i>	stemboard,	one D	DR4 ŚO-DIN		ket	Monitor cable <i>(optional)</i> Bundled Accy	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter (NOT available in EMEA) USB-C to DP: Lenovo USB-C to DisplayPort Adapter (NOT available in EMEA) None													
Display	Size Re:	solution		Type Surface	Brightness	Aspect Ratio	t Contrast Ratio	Color Gamut	Viewing Angle	Camera (optional)	 One of the following, configurable by model: HD720p camera with ThinkShutter camera privacy, fixed focus 													
	15.6" FH		,	WVA Anti-glar	e 250 nits	16:9	700:1	45%	170°	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec /													
	15.6" UH HD	D (3840x R, Dolby	2160) Vision™	WVA Anti-glar	e 500 nits	16:9	1200:1	100% Adobe	170°		stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium / dual array far-field microphone (for special bid model, microphone is optional),													
Multi-touch (opt)	On-cell t	ouch, sı	upports	10-finger ges	sture (FHD c	only)					headphone / microphone combo jack													
•		80 SSD	/ PCle	NVMe, PCIe						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad													
	 Intel O M.2 22 		Memory	NVMe, PCIe / H10 with Se 3.0 x 4		torage,				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)													
	None					V (la a	lie e en sille \			System Mgt (opt)	Intel vPro Technology r <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest													
	vPro mo			thernet Conr thernet Conr						NFC (optional)	Near Field Communication													
				Wi-Fi 2x2 80 ntegrated in				ər		Battery Max battery life	Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark</i> [®] 2014: 14.98 hr (9.5 hr for UHD model with discrete graphics)													
(-)	WirelesIntegraIntegra	ss WAN ted Mob ted Mob	upgrada bile Broa bile Broa	urable by mode able (special dband 4G L dband 4G L	bid only in E FE, Fibocom FE-A, Fiboco	1 L830- 5m L85	EB, M.2 card 60-GL, M.2 ca	d (EMEA ard	(only	AC adapter	 * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter • 65W USB-C AC adapter • 65W USB-C slim AC adapter 													
SIM card (opt)	 Verizor 	ו LTE (U	S) SIM	<i>neans the mo</i> o card		wan up	gradable			Operating system	n <i>Optional:</i> Windows [®] 10 Home 64 or Windows 10 Pro 64													
	 Verizon LTE (US) SIM card Gemalto eSIM 									Gemalto eSIM					• Gemalto eSIM									 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 1-year + 2-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
										Mil-Spec test	MIL-STD-810G military testing													
Note: The specifica										Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant													

Note: The specifications above may not be available in all regions and might change by regions.



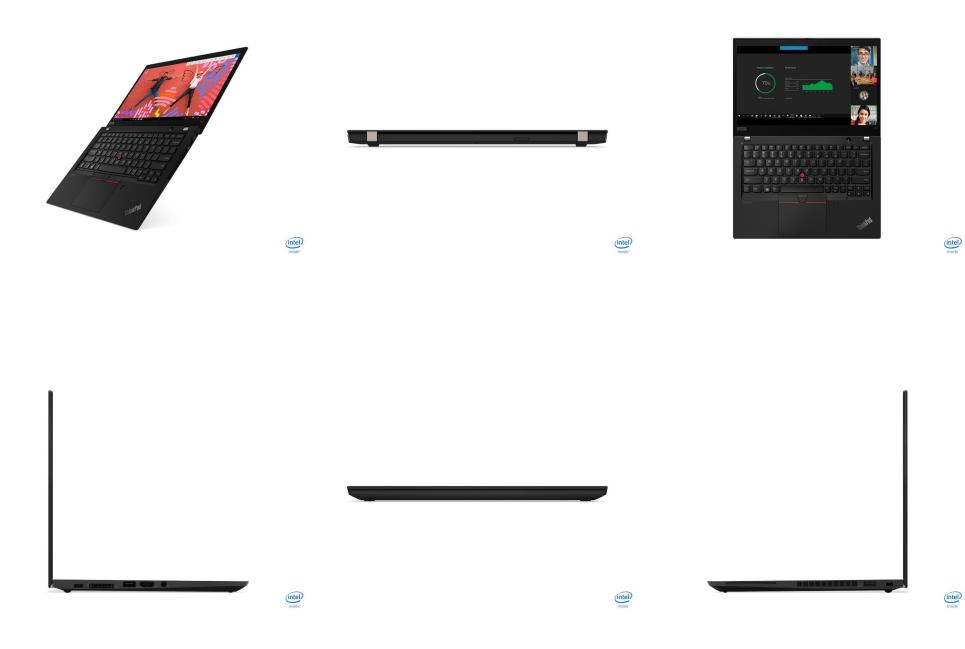


ThinkPad X13 Gen 1 (AMD) Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Ryzer	า [™] PRO	4000 S	eries Mob	ile Proce	essors					Smart card reade	er Optional: Smart card reader					
	Processor Number	# of Cores	# of Threads	Base Clock	Max Boo Clock	st Cache		lemory ontroller	Proce Grag		Media reader Ports	MicroSD card reader, in the combo slot with nano-SIM card Two USB 3.2 Gen 1 (Always On),					
	Ryzen 3 PRO 4450U	4	8	2.5 GHz	3.7 GHz	z 2MB L2 4MB L						two USB 3.2 Type-C Gen 2 (w/ the function of Power Delivery and DisplayPort 1.4), HDMI 2.0, Ethernet extension connector,					
	Ryzen 5 PRO 4650U	6	12	2.1 GHz	4.0 GH	z 3MB L2 8MB L		R4-3200	AMD R Grap			combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole					
	Ryzen 7 PRO 4750U	8	16	1.7 GHz	4.1 GHz	z 4MB L2 8MB L					Monitor cable	 * Depending on many factors, actual data transfer speed may be lower than theoretical speed • Lenovo HDMI to VGA Monitor Adapter 					
Graphics	AMD Radeon Graphics in processor; supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI (up to 4K@60Hz) or USB Type-C (up to 5K@60Hz)									iitors;	<i>(optional)</i> Bundled Accy Camera <i>(optional</i>)	Lenovo USB-C to VGA Adapter Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2 HD720p camera with ThinkShutter camera privacy, fixed focus					
Chipset Memory	AMD SoC (System on Chip) platform 8GB, 16GB, or 32GB / 3200MHz DDR4 / soldered to systemboard, no sockets										Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 1W x 2 / optional dual array far-field microphone, headphone / microphone combo jack					
Display	Size Resolu					3	Ratio	Ratio	Gamut	Angle	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, optional LED backlight					
	13.3" HD (13 13.3" FHD (1			Anti-glare		250 nits 300 nits	16:9 16:9	300:1 800:1	45% 72%	90° 170°	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad					
	13.3" FHD (13.3" FHD (- V	N 41+:	300 nits	16:9	700:1	72%	170°	Security Security chip System Mgt	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0 TCG Certified DASH Management					
	FHD ([*] 13.3" ThinkP Guard	1920x10 Pad Priva	80) acy WVA	Anti-glare	-	500 nits	16:9	1000:1	72%	170°		or <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest None					
Multi-touch (opt)			ports 10	- finger ge	sture	1					Battery	Integrated Li-Polymer 48Wh battery,					
Storage	• M.2 2242 • M.2 2280										Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 12.8 hr MobileMark 2018: 10.35 hr					
Optical	None										10	* Battery life varies significantly with hardware configurations, settings, usage, & other factors					
Ethernet	Native Real via optional										AC adapter	 45W USB-C AC adapter 65W USB-C AC adapter 65W USB-C slim AC adapter 					
WLAN + BT	Intel Wi-Fi 6	6 AX20	0, Wi-Fi	2x2 802.1	1ax + Bl	uetooth™	5.1				Operating system	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64					
WWAN (optional) SIM card (opt)	Wireless Integrated For non-WW Gemalto eS	d Mobile NAN mo	e Broadt	band 4G L					rd			 1-year depot repair service 1-year depot with 2-year system board repair service 1-year limited onsite service 					
Dimensions Weight	Models	Н		FHD N	311.9mr on-touch / 1.29 kg	m x 217.2 FHD 2.84 lb	Touch	FHD) Privacy 85 lb / 1.]	 1-year + 2-year depot repair service 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 					
Case color Case material	Black									_	Mil-Spec test	MIL-STD-810G military testing					
	Display cov Bottom:			n/Aluminu	Im						Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant					

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ThinkPad X13 Gen 1 (Intel) Platform Specifications

Product Specifications Reference (PSREF)

Processor	10th Generation	n Intel® C	Core™ i3 /	i5 / i7 Pro	cessor						r Optional: Smart card reader
	Processor # of	# of	Base	Max Tu		he Mem	ory Type		ocessor	Media reader	MicroSD card reader, in the combo slot with nano-SIM card Two USB 3.2 Gen 1 (one Always On).
	Number Cores	s Thread	s Frequer 2.1 GH		ency		iory iypo	Gr	raphics		one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	i5-10210U	4	1.6 GH	-							one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),
	i5-10310U		1.7 GH				R4-2666		el UHD		HDMI 1.4b, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader.
	i7-10510U 4	8	1.8 GH					Gr	raphics		headphone / microphone combo jack, optional smart card reader.
	i7-10610U		1.8 GH	z 4.9 G	Hz 8M	В					side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	Intel UHD Grap	hics in p	rocessor;							Monitor cable	Lenovo HDMI to VGA Monitor Adapter
	supports up to 3 supports extern	3 indepe	ndent dis	plays via r	native dis	play an	d two ex	xternal	monitors	; (optional)	Lenovo USB-C to VGA Adapter
	USB-C (up to 40							1@60H	łz)	Bundled Accy	Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
Chipset	Intel SoC (Syste	em on C	hip) platfo	rm						Camera (optional))• HD720p camera with ThinkShutter camera privacy, fixed focus
Memory	8GB, 16GB or 3 * Installed memor	2GB / 20	666MHz [DR4 / so	Idered to	systen	nboard,	no soc	kets	Audio support	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 1W x 2 /
Display			119 32001011		1			1	h <i>t</i> : :		optional dual array far-field microphone, headphone / microphone combo jack
Display	Size Resolution	T	ype Surfa	ce Touch	Bright-	Aspect Ratio	Contrast Ratio	Gamut		Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,
	13.3" HD (1366x7	768) -	TN Anti-g	are -	250 nits	16:9	300:1	45%	170°	UltraNav™	optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	13.3" FHD (1920)	x1080) V	VVA Anti-g		300 nits	16:9	800:1	72%	170°		
	13.3" FHD (1920)		VVA Anti-g	are Multi- touch	300 nits	16:9	700:1	72%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset Discrete TPM 2.0 TCG Certified
	FHD (1920) 13.3" ThinkPad P	x1080) Privacy W	VVA Anti-a	are -	500 nits	16:9	1000:1	72%	170°	System Mgt (opt)	Intel vPro Technology
	Guard							. 270		Fingerprint reade	r Optional: Touch style match on chip fingerprint reader on the palm rest
Multi-touch (opt)	On-cell touch, s	upports	10-finger	gesture						NFC (optional)	Near Field Communication
Storage	• M.2 2242 SSI									Battery	Integrated Li-Polymer 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
	 M.2 2280 SSI Intel Optane™ 					nde				Max battery life	<i>MobileMark[®] 2014:</i> 15.9 hr
	M.2 2280, PC					.go,				-	MobileMark 2018: 10.45 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Optical	None									AC adapter	 45W USB-C AC adapter
Ethernet	Native Intel Ethe						9-LM (<i>vF</i>	Pro)			65W USB-C AC adapter
											65W USB-C slim AC adapter
WLAN + Bluetooth™ <i>(opt)</i>	Intel Wi-Fi 6 AX	201, VVI- d supports	FT 2X2 80 s BT5.1 but	is limited t	o BT5.0 by	i 5.0 / Windov	vs OS			<u> </u>	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WWAN (optional)	Wireless WAN	luparad	able							Limited warranty	 1-year depot repair service 1-year depot with 2-year system board repair service
	 Integrated Mol 	bile Broa	adband 40	LTE, Qu	ectel EM	05CEF	C, M.2 c	ard			 1-year limited onsite service
	 Integrated Mo Integrated Mo 	bile Broa	adband 40	G LTE-A, I	-ibocom	L850-G	il, M.2 (card	M 2 card		1-year + 2-year depot repair service
	* For non-WWAN	model, it	means the	model is N	OT WWAI	V upgrad	able	0 222,	WI.Z Caru		 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service
SIM card (opt)	Gemalto eSIM										• 3-year/1-yr battery limited onsite service
Dimensions	Models		FHD Non-t	ouch	HD /	FHD M	ulti-touch	/ Privac	cy Guard	Mil-Spec test	MIL-STD-810G military testing
	Carbon Fiber		m x 217.0m 28" x 8.54'		m		-			Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant
	PPS		m x 217.2m 28" x 8.55'		m 3		x 217.2n 8" x 8.55'				
Weight	Models	FHD No	n-touch	HD		FHD Mu	ulti-touch	/ Privacy	y Guard		
-	Carbon Fiber	2.70 lb /	1.22 kg	-			-				
_	PPS	2.85 lb /	1.29 kg	2.93 lb / 1	.33 kg		2.84 lb /	1.28 kg			
Case color Case material	Black Display cover: Bottom:		Fiber (FF sium/Alum		uch only)	or PPS	8;				
Note: The specific:		<u> </u>			م به ما بهم ام با			liono		1	l enovo

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ThinkPad X13 Yoga Gen 1 Platform Specifications

Product Specifications Reference (PSREF)

Braccoccr	10th Cor	neration In	tal® Car		raaaaaa						Dimonsions	<i>WxDxH:</i> 12.22" x 8.62" x 0.63"; 310.4mm x 219mm x 15.95mm
Processor	Processo				Max Turbo	1	1		Proce		Dimensions Weight	Starting at 2.76 lb $/1.25$ kg
	Number		# of Threads F		Frequency		Memo	ry Types	Grap		Case color	Black
	i5-10210l	_		1.6 GHz	4.2 GHz	6MB					Case material	Display cover. CF Hybrid PA + 55% GF Bottom: CF Hybrid PA + 55% GF
	i5-10310l	_ / /	8	1.7 GHz	4.4 GHz	6MB		4-2666	Intel U		Smart card reade	proptional: Smart card reader
	i7-10510		-	1.8 GHz	4.9 GHz	8MB			Grap	hics	Media reader	MicroSD card reader, in the combo slot with nano-SIM card
·	i7-10610l			1.8 GHz	4.9 GHz	8MB					Ports	Two USB 3.2 Gen 1 (one Always On), one USB 3.2 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics		D Graphics up to 3 in			e via nati	vo dienl	avand	l two oxt	ornalm	onitore		one USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),
	supports	external r	monitors	via HDMI	(up to 40	96x216	0@24I	Hz),		ormors		HDMI 1.4b, Ethernet extension connector,
	````	up to 4096		,	Thundert	olt (up t	io 409	6x2304@	⊉60Hz)			combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader.
Chipset	Intel So	C (System	on Chip	) platform								side docking connector, security keyhole
Memory		6GB / 260 I memory is									Monitor cable	<ul> <li>* Depending on many factors, actual data transfer speed may be lower than theoretical speed</li> <li>• Lenovo HDMI to VGA Monitor Adapter</li> </ul>
Display								Contrast		Viewing	(antional)	Lenovo USB-C to VGA Adapter
,	Size Res	solution	Туре	Surface	Touch	ness	Ratio	Ratio	Gamut			Lenovo USB-C to DisplayPort Adapter     Optional: ThinkPad Ethernet Extension Adapter Gen 2
	13.3" FHI	D (1920x10	80) WVA	Anti-reflect Anti-smud	tion Multi-	300 nits	16:9	800:1	72%	170°	· · · · · ·	()• HD720p camera with ThinkShutter camera privacy, fixed focus
				1	-				1			• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	13.3" FHL	D (1920x108 v Power	80) WVA	Anti-reflect Anti-smud	lge touch	400 nits	16:9	1500:1	72%	170°	Audio support	HD Audio, Realtek® ALC3287 codec / Dolby® Audio speaker system, 2W x 2 /
	FHI	D (1920x10	80)									dual array far-field microphone, headphone / microphone combo jack
	13.3" Thir	nkPad Priva	acy WVA	Anti-reflect Anti-smud	lae touch	500 nits	16:9	1000:1	72%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, LED backlight
	Gua				°				100%		UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	13.3" UHI (384	40x2160)	OLED	Anti-reflect Anti-smud	lge touch	400 nits	16:9	100000:1	DCI-P3	170°	Security	Power-on password, hard disk password, supervisor password, security keyhole
Multi-touch	Capaciti	ve-type mi	ulti-touch	, supports	10-finge	r gestur	e, anti	-reflectio	on (AR),		Security chip	<ul> <li>Firmware TPM 2.0 integrated in chipset</li> <li>Discrete TPM 2.0 TCG Certified</li> </ul>
Hinge	AS (anti- Yoga hin	-smudge), ige, 360 de	COUID re	duce the t	orightness	s by up 1	0 10%	D				Intel vPro Technology
Convert-mode	Laptop, t	tent. stand	and tab	let							Fingerprint reader	r Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Pen	ThinkPa	d Pen Pro,	, active p	en for mul		lisplay, c	on-boa	rd recha	rgeable			
Storage	• M.2 22	242 SSD /	PCIe NV	Me, PCle	3.0 x 2						Battery	Integrated Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
		280 SSD / ptane™ M				Storage	<b>.</b>				Max battery life	<i>MobileMark</i> ® <i>201</i> 4: 18.2 hr
	M.2 22	280, PCIe				otoragi	-,					MobileMark 2018: 12.05 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Optical	None										AC adapter	45W USB-C AC adapter
Ethernet	Native In	ntel Ethern nal ThinkF	et Conn	ection I219	9-V ( <i>Non</i> -	- <i>vPro</i> ) oi ptor Goi	r 1219-	LM (vPr	0)			<ul> <li>65W USB-C AC adapter</li> <li>65W USB-C slim AC adapter</li> </ul>
WLAN +		Fi 6 AX20 ⁻										Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™ <i>(opt)</i>	* Intel AX	201 card su	upports B	T5.1 but is li	mited to B	T5.0 by V	.0 Vindows	s OS				1-year depot repair service
WWAN (optional)	<ul> <li>Integra</li> </ul>	ted Mobile	e Broadb	and 4G L1	E-A, Fib	ocom L8	350-GL	., M.2 ca	ırd		(optional)	<ul> <li>1-year depot with 2-year system board repair service</li> </ul>
,	<ul> <li>Integra</li> </ul>	ted Mobile	e Broadb	and 4G L1	E-A, Fib	ocom L8	360-GL	, MIMO	2x2, M.	2 card	,	1-year limited onsite service
SIM card (opt)	Gemalto	-WWAN mo eSIM	iuei, il inea	ans me moo		VVVAIVL	ipgrada	we				<ul> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> </ul>
												<ul> <li>3-year/1-yr battery depot repair service</li> </ul>
												3-ýear/1-ýr batterý limited onsite service
											Mil-Spec test	MIL-STD-810G military testing
											Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant
Note: The specifica	ations abo	ve may not	t be availa	able in all r	edions an	d might (	hande	by regio	ns			Lenov

Note: The specifications above may not be available in all regions and might change by regions.

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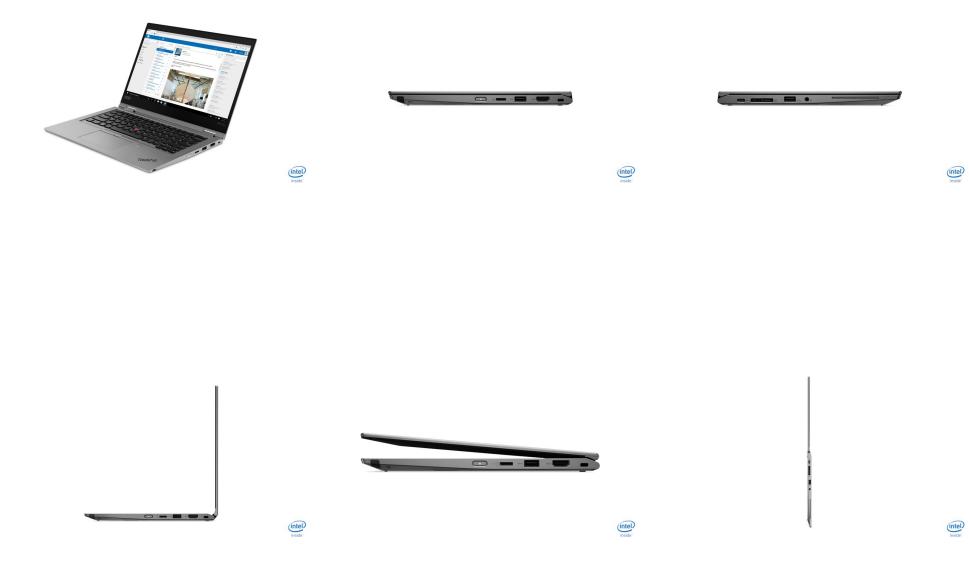
## ThinkPad X390 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Ge	eneration In	ntel [®] Cor	re™ i3	/ i5 / i7	Processor					Dimensions	Models	FHD Non-tou	ch	HD /	FHD Multi-touch
	Proces		# of	Ba		Max Turbo	Cache	Memory		essor	1	Carbon Fiber	311.9mm x 217.0mm	x 16.5mm		_
	Numbe		Threads	<u> </u>		-requency		Types	Gra	phics	-	Carbon riber	12.28" x 8.54" x 0		011.0	
	i3-814		4				4MB 6MB					PPS	312.0mm x 217.2mm 12.28" x 8.55" x 0			x 217.2mm x 16.9mm 8" x 8.55" x 0.67"
	i5-836	51.1					6MB	DDR4-2400	Intel UHD	) Graphic	Weight	Models	FHD Non-touch	Н	·	FHD Multi-touch
	i7-856	5U 4	8	1.8	GHz	4.6 GHz	8MB			•		Carbon Fiber	2.70 lb / 1.22 kg			-
	i7-866	5U		1.9	GHz	4.8 GHz	8MB					PPS	2.85 lb / 1.29 kg	2.93 lb /	/ 1.33 kg	2.84 lb / 1.28 kg
	or 10t	n Generatio	on Intel (	Core i	5 / i7 Pı	rocessor (N	IOT av	vailable in E	MEA)		Case color	Black				
	Proces Numbe		# of Threads			Max Turbo Frequency	Cache	Memory Types		essor ohics	Case material	Bottom:	Carbon Fiber (FHD r Magnesium/Aluminu		only) or PPS	;
	i5-102	4	8				6MB				Smart card reade Media reader		art card reader reader, in the combo s	lot with nor	o SIM oord	1
	i7-105		10					DDR4-2400	Intel UHD	Graphics	Ports	Two USB 3.1 (	Gen 1 (one Alwavs On	).		
	i7-107		12			4.7 GHz   1	2MB					one USB 3.1 T	Type-C`Gen 1 (with the	function of	Power Deli	very and DisplayPort),
Graphics		HD Graphi				DMI or US	R Type						Type-C Gen 2 / Thunde hernet extension conn		h the function	on of PD and DP),
		rts three in					Бтур	<del>-</del> -0,				combo slot of	nano-SIM card (WWAI	N models) a	and microSI	D card reader,
					,	hunderbolt	); 409	96x2160@2	4Hz (HC	DMI)		headphone / n	nicrophone combo jack	k, optional s	smart card r	eader,
Chipset	Intel S	oC (Syster	n on Ch	ip) pla	tform							* Depending on	onnector, security keyl many factors, actual data	transfer spee	ed may be low	wer than theoretical speed
Memory	4GB, 8 * 32GF	BGB, 16GB memory is l	or 32Gi NOT avai	B / 24 ilable fo	00IVIHZ or model	DDR4 / SO Is with 10th (	laereo Gen pro	to systems	board, no	o socket	Monitor cable	HDMI to VGA:	Lenovo HDMI to VO	A Monitor	Adapter	
								ue to Intel lim	itation		(optional)	USB-C to VGF USB-C to DP:	A: Lenovo USB-C to V Lenovo USB-C to D	DisplayPort	er Adapter	
Display	Size	Resolution	<b>.</b>	ype S	Surface	Brightness	Aspec	t Contrast	Color	Viewing	Bundled Accy		kPad Ethernet Extens			
							Ratio	-	Gamut	<u> </u>	Camera (optional)		nera with ThinkShutter			
	13.3"	HD (1366x76	(8)		nti-glare	250 nits	16:9	500:1 800:1	45%	90°	Audio support		nd HD720p camera wi altek® ALC3287 codec		utter camera	a privacy, fixed focus
	13.3"	HD (1920x1	1080) W		nti-glare	300 nits	16:9	(non-touch	) 72%	170°		stereo speake	rs, 1W x 2, Dolby [®] Auc	dio™ Premiu	um /	
		IID (IOLOXI			na giaro	000 1110	10.0	700:1 (multi-touch				dual array far-	field microphone (for s nicrophone combo jack	pecial bid m	nodel, micro	phone is optional),
		HD (1920x1							1		Keyboard		sistant, multimedia Fn I			klight
		ThinkPad Priv Guard			nti-glare		16:9	1000:1	72%	178°	UltraNav™	TrackPoint® po	inting device and butto	onless Myla	r surface m	ulti-touch touchpad
					<u> </u>	ure (FHD c	only)				Security Security chip	Power-on pass	sword, hard disk passv 1 2.0 integrated in chip	vord, superv	visor passw	ord, security keyhole
Storage		2280 SSD 2242 SSD				20,20						(may be disab	led in some region)			o red certined
		2242 SSD 2280 SSD									System Mgt (opt)			e		<b>.</b>
	<ul> <li>Intel</li> </ul>	Optane [™] I	Memory	H10	with So	lid State St	orage	,			NFC (optional)	r <i>Optional:</i> Touc Near Field Coi	ch style match on chip	fingerprint	reader on ti	ne palm rest
Optical	M.2 None	2280, PCIe	e NVMe	3.0 x	4						Battery		Polymer 48Wh battery,			
Ethernet		Intel Ether	rnet Con	nectio	n 1210	-V (Non-vP	ra) or	1219-LM (v	Pro)			supports Rapi	d Charge (charge up to	o 80% in 1h	nr) with 65W	/ AC adapter
Ethernet						sion Adapte			(10)		Max battery life	* Battery life val		lware configu	rations settir	ngs, usage, & other factors
WLAN (optional)						)2.11ac + E					AC adapter	<ul> <li>45W USB-C</li> </ul>	AC adapter	mare conligu		igo, acago, a cinci idoloro
Bluetooth™ <i>(opt)</i>						1ax + Blue Vi-Fi + Blue			oter			<ul> <li>65W USB-C</li> <li>65W USB-C</li> </ul>	AC adapter			
WWAN (optional)											Operating system	Optional: Win	dows [®] 10 Home 64 or	Windows 1	0 Pro 64	
								-EB, M.2 ca 50-GL, M.2		A only)						
	* For n	on-WWAN m	nodel, it m	neans t		E-A, FIDOCO			caru		(optional)		t with 2-year system bo d onsite service	pard repair	service	
SIM card (opt)	<ul> <li>Veriz</li> </ul>	on LTE (Us alto eSIM					,	-					ear depot repair service	е		
	• Gen	ano esiM										<ul> <li>1-year + 2-year</li> </ul>	ear limited onsite servi	се		
													pattery depot repair ser pattery limited onsite se			
											Mil-Spec test	, ,	G military testing			
											Environment		; ENERGY STAR [®] 7.1	· TCO Carti	fied: RoHS	compliant
Note: The specifica	tions a		ot bo ava	alabla	in all ro	gione and g	night c	hango by rog	nione				, ENERGY OFAIT 7.1	, 100 0011		Lenovo

Note: The specifications above may not be available in all regions and might change by regions.

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## ThinkPad X390 Yoga Platform Specifications

Processor	8th Generation Int	tel® Cor	e™ i5 / i7 Pro	ocessor					Smart card reade	er Optional: Smart card reader
	Processor Number         # of Cores         -           15-8265U         -         -         -           15-8365U         -         4         -           17-8565U         -         -         -	# of <u>Threads</u> 8	FrequencyF1.6 GHz1.6 GHz1.8 GHz1.8 GHz	3.9 GHz 4.1 GHz 4.6 GHz	Cache 6MB 6MB 8MB 8MB	Memory Types DDR4-2400 Ir	Proce Grap ntel UHD	hics	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	Intel UHD Graphic supports external supports three ind Max resolution: 40	digital ı depende	monitor via H ent displays;			,	Hz (HDI	MI)	Monitor cable (optional) Bundled Accy	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
Chipset Memory	Intel SoC (System 8GB or 16GB / 24 * Installed memory is	n on Ch 00MHz	ip) platform DDR4 / sold	ered to sys	stembo	ard, no socl	kets	,	Audio support	<ul> <li>I) One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec /</li> </ul>
Display	Size Resolution	T	ype Surface	Brightness	Aspect Ratio	t Contrast Ratio	Color Gamut	Viewing Angle		stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack
	13.3" FHD (1920x10	080) V	/VA Anti- reflection	300 nits	16:9	800:1	72%	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch Hinge Convert-mode Pen Storage	Capacitive-type m AS (anti-smudge) Yoga hinge, 360 d Laptop, tent, stand ThinkPad Pen Pro	, could legree d and ta o, active	reduce the br ablet pen for multi	rightness b	y up to	0 10%	, , , , , , , , , , , , , , , , , , ,	-	Security Security chip System Mgt (opt) Fingerprint reade NFC (optional)	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region) Intel vPro Technology r Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Optical Ethernet	M.2 2242 SSD /     M.2 2280 SSD /     Intel Optane™ M     M.2 2280, PCIe     None     Native Intel Etherr	PCIe N PCIe N Memory NVMe	VVMe, PCIe 3 VVMe, PCIe 3 H10 with So 3.0 x 4	3.0 x 4 lid State St	<i>Pro</i> ) or	1219-LM ( <i>vP</i>	Pro)		Battery Max battery life AC adapter	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark</i> [®] 2014: 14.5 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter • 65W USB-C AC adapter • 65W USB-C Slim AC adapter
WLAN (optional)	via optional Thinkl One of the following, Intel Wireless-AC Intel Wi-Fi 6 AX2	, <i>configu</i> C 9560, 200, Wi	<i>rable by model</i> Wi-Fi 2x2 80 -Fi 2x2 802.1	: )2.11ac + E 1ax + Blue	Bluetoc tooth 5	oth 5.0 5.0			Light sensor G-sensor Gyroscope	None 3D accelerometer 3D gyrometer
	Bluetooth 5.0 wire One of the following, Integrated Mobil For non-WWAN mo Verizon LTE (US Gemalto eSIM	, <i>configu</i> le Broad le Broad <i>odel, it n</i>	rable by model dband 4G LTI dband 4G LTI dband 4G LTI neans the mode	: E, Fibocom E-A, Fiboco el is NOT Wi	1 L830- 0m L85	EB, M.2 car 50-GL, M.2 c	d (EMEA	A only)		<ul> <li>Optional: Windows® 10 Home 64 or Windows 10 Pro 64</li> <li>1-year depot repair service</li> <li>1-year/3-yr battery depot repair service</li> <li>1-year/3-yr battery depot repair service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> </ul>
Dimensions Weight Case color Case material	WxDxH: 12.22" Starting at 2.85 lb Black or silver (silv Display cover. C	/1.29 k ver is N F Hybr	g OT available id PA + 50%	in EMEA) GF	219mm	1 x 15.95mm	I		Mil Spec test	<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/3-yr battery depot repair service</li> <li>3-year/3-yr battery limited onsite service</li> <li>3-year/3-yr battery limited onsite service</li> </ul>
	Bottom: C	r Hybr	id PA + 50%	GF					Mil-Spec test	MIL-STD-810G military testing
									Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

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AMD

## ThinkPad X395 Platform Specifications

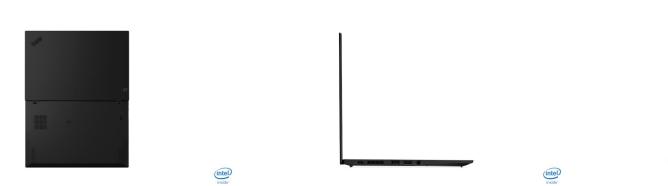
Product Specifications Reference (PSREF)

Processor	AMD	Ryzen [™] PRC	O Mobil	e Pr	ocessors	with Rade	eon [™] Ve	ga Graphics			Dimensions	WxDxH: 1	12.28" x 8.55" x 0.	.67"; 311.9mm x	217.2mm x 16.9mm
	Proce		_ # of			lax Boost	Cache	Memory		essor	Weight	Models	HD / FHD Touch	FHD Non-touch	
	Numb Ryzen		Thread		Clock	Clock	2MB L2 /	Controller		phics n Vega 6		Weight	2.91 lb / 1.32 kg	2.82 lb / 1.28 kg	3.01 lb / 1.37 kg
		3300U ⁴	4	2.	1 GHz		4MB L3		Gra	phics	Case color Case material	Black Display cove	er: PPS/GF;		
	Ryzen PRO 3		8	2.	1 GHz		2MB L2 / 4MB L3	DDR4-2400		n Vega 8 phics		Bołtom:	Magnesium/A	luminum	
	Ryzen PRO 3	17 4	8	2.	3 GHz		2MB L2 / 4MB L3	_	Radeor	Vega 10 phics	Smart card reade Media reader Ports	MicroSD car	mart card reader rd reader, in the co 1 Gen 1 (Always (	ombo slot with nai	no-SIM card Gen 2
	suppo suppo	Radeon Veg orts external orts three inc esolution: 4	digital depend	mon ent c	itor via U displays;	SB-C or H	IDMI;	rocessor; 60@24Hz (H	IDMI)			two USB 3.1 HDMI 2.0, Et combo slot o headphone /	I Type-C Ġen Ź (w thernet extension of nano-SIM card (	// the function of P connector, (WWAN models) a bo jack, optional s	ower Delivery and DisplayPort 1 and microSD card reader, smart card reader,
Chipset Memory	8GB c	SoC (Syster or 16GB / 24 <i>lled memory i</i>	100MHz	ŻĎĎ	R4 / sold	ered to sy t run at 240	stembo 0MHz du	ard, no sock te to AMD limit	ets tation		Monitor cable (optional)	* Depending o HDMI to VG/ USB-C to VC	on many factors, actu A: Lenovo HDN GA: Lenovo USB	uál data transfer spe II to VGA Monitor B-C to VGA Adapte	er
Display	Size	Resolution	1	Гуре	Surface	Brightness	Aspect			Viewing	Bundled Accy	,	hinkPad Ethernet	1	r Gen 2
		HD (1366x768			Anti-glare		Patio 16:9	Ratio 300:1	Gamut 45%	Angle 90°	Camera (optional		<i>lowing, configurable</i> amera with ThinkS		vacy. fixed focus
		FHD (1920x1)			Anti-glare		16:9	800:1 (non-touch) 700:1 (multi-touch)	72%	170°	Audio support	• IR camera HD Audio, R stereo speak	and HD720p cam Realtek ALC3287 c kers, 1W x 2, Dolb	nera with ThinkŚh codec / oy® Audio™ Premiu	utter camera privacy, fixed focus
	13.3"	FHD (1920x1) ThinkPad Priv Guard	080) vacy V	VVA	Anti-glare	400 nits	16:9	1000:1	72%	178°	Keyboard UltraNav™	6-row, spill-re TrackPoint®p	esistant, multimed pointing device an	dia Fn keys, optior id buttonless Myla	nal LED backlight r surface multi-touch touchpad
Multi-touch (opt)	On-ce	ell touch, sup	oports 1	10-fir	nger gest	ure (FHD	only)				Security Security chip				visor password, security keyhole ete TPM 2.0 TCG Certified
		2280 SSD /				30x2					System Mat	(may be disa DASH Mana	abled in some regi	ion)	
	• M.2	2280 SSD /									Fingerprint reade	r Optional: To		on chip fingerprint	reader on the palm rest
	None	e Realtek® R			/ Cigobit	Ethorpot	oonnoot	ion				None			
		tional Think									Battery	Integrated Li	i-Polymer 48Wh b pid Charge (charg	ettery, ne up to 80% in 1h	nr) with 65W AC adapter
WLAN <i>(optional)</i> Bluetooth™		Vireless-AC both 5.0 wire						5.0 ombo adapte	er		Max battery life	MobileMark [®] * Battery life v	^{້ອ} 2014: 14.5 hr varies significantly w	ith hardware configu	irations, settings, usage, & other facto
WWAN (optional)	One of	f the following,	, configu	irable							AC adapter		/ USB-Č AC adapt		0.0
		eless WAN u					om 1 85	0-GL, M.2 ca	ard			-	/indows® 10 Home	e 64 or windows 1	U Pro 64
SIM card (opt)	<ul> <li>For n</li> <li>Veri</li> </ul>	zon LTE (US nalto eSIM	odel, it n	nean	s the mode	E-A, FIDOC	WAN up	gradable	aru		Limited warranty (optional)	<ul> <li>1-year dep</li> <li>1-year limit</li> <li>1-year + 2-</li> <li>1-year + 2-</li> <li>3-year/1-yr</li> </ul>	oot repair service oot with 2-year sys ited onsite service -year depot repair -year limited onsit r battery depot rep r battery limited on	e service se service pair service	service
											Mil-Spec test		0G military testing		
								ango hy rogi			Environment	EPEAT™ Go	old; ENERGY STA	R [®] 7.1; TCO Certi	ified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

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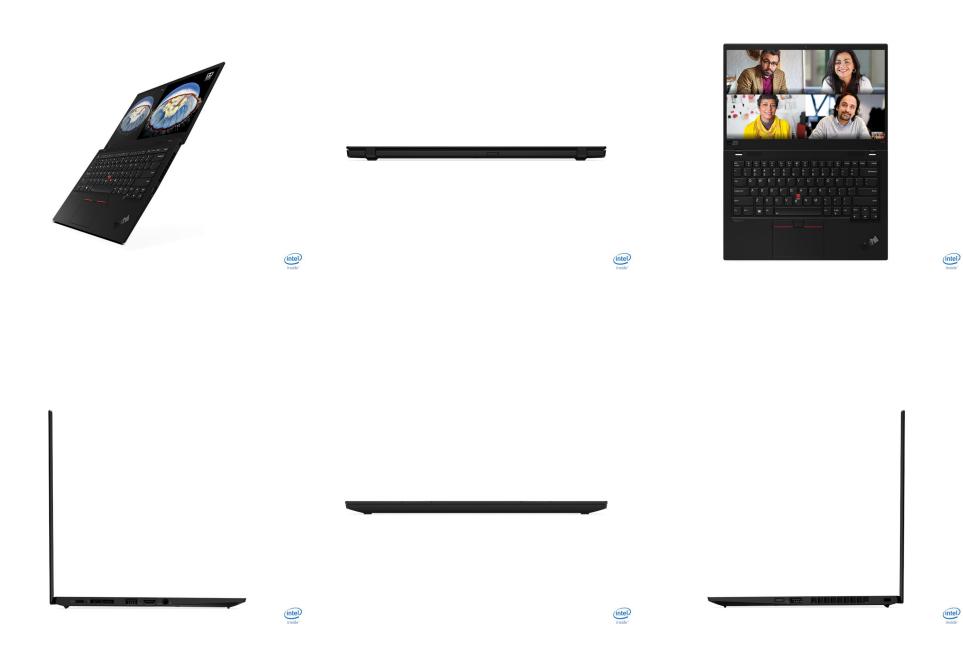
(intel)

## ThinkPad X1 Carbon (7th Gen) Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th G	eneratio	on Intel® (	Core™	i5 / i7 Pro	ocessor					Dimensions	WxDxH (Privacy Guard): 12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm
	Proce Numb	er Co	of # of res Threa	ds Fre	quency F	requency		emory Types		essor ohics	Weight	WxDxH (other model): 12.72" x 8.54" x 0.59"; 323mm x 217mm x 14.95mm Privacy Guard model: starting at 2.66 lb / 1.21 kg; Other model: starting at 2.4 lb / 1.09 kg
	i5-826 i5-836 i7-856	35U 35U	4 8	1. 1.	6 GHz 8 GHz	4.1 GHz 6 4.6 GHz 8	MB	DDR3-2133		UHD phics	Case color Case material	Black paint or black weave Display cover: Carbon Fiber; Bottom: magnesium alloy
	i7-86		ration Int			4.8 GHz 8 rocessor (N	MB   OT ava	ilable in FM			Smart card reade	erNone None
	Proce Numb	ssor # er Co	of # o pres Threa	f	Base M	Aax Turbo		emory Types	Proc	essor phics	Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models),
	i5-102 i7-105		4 8				SMB SMB	PDDR3-2133		UHD phics	Manitar aphla	headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	supp	orts exte		al mor	nitor via H	DMI or USE	3 Туре-(	C / Thunde	rbolt;		Monitor cable Bundled Accy	Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2 I) One of the following, configurable by model:
	Max	resolutio		60Hz (	Thunderb	olt); 4K@2	4Hz (H	DMI)				<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
Chipset Memory	Intel 8GB	SoC (Sy or 16GE	vstem on 3 / 2133M	Chip) Hz LP	olatform DDR3 / s	oldered to s	ystemb		r		Audio support	HD Audio, Realtek® ALC3286 codec / Dolbv® Atmos™ speaker system, 2W x 2, 0,8 x 2 /
Display	Size	Resoluti	on	Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Keyboard	four 360° far-field microphones, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, LED backlight
		EHD (19	20x1080)		Anti- reflection						UltraNav™	TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	14.0"	Multi-tou	ch	WVA	Anti- smudge	300 nits	16:9	700:1	72%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Firmware TPM 2.0 integrated in chipset • Discrete TPM 2.0 TCG Certified
	14.0"	Low Pov	-	WVA	Anti-glare	400 nits	16:9	800:1	72%	170°		<ul> <li>Discrete TPM 2.0 with L3 Security Support (special bid only)</li> </ul>
	14.0"		20x1080) d Privacy	WVA	Anti-glare	400 nits	16:9	1000:1	72%	170°	Fingerprint reade	* <i>May be disabled in some region</i> I Intel vPro Technology r Touch style match on chip fingerprint reader on the palm rest
	14.0"			)) WVA	Anti-glare	300 nits	16:9	700:1	72%	170°	NFČ (optional)	Near Field Communication
		UHD (38 HDR 40 Dolby Vi		WVA	Glossy	500 nits	16:9	1400:1	90%	170°	Battery Max battery life	Integrated Li-Polymer 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter <i>MobileMark</i> [®] 2014: 18.3 hr
Multi-touch (opt)					supports udge (AS)	10-finger ge ) coating	esture (	FHD only),			AC adapter	<ul> <li>* Battery life varies significantly with hardware configurations, settings, usage, &amp; other factors</li> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> </ul>
Storage					e by model	:						65W USB-C AC adapter     65W USB-C slim AC adapter
			SSD / SAT SSD / PCI		ло/s Ле 3.0 x 4						Operating system	n Optional: Windows [®] 10 Home 64 or Windows 10 Pro 64
Ontion	M.2	2280, I	e Memory PCIe NVN	/ H10 /le 3.0	with Solid x 4	State Stora	age,				Limited warranty	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
Optical Ethernet		e Intel E				-V ( <i>Non-vPi</i> sion Adapte			ro)		-	<ul> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> </ul>
WLAN + BT						.11ac + Blu					-	<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
WWAN (optional)											Mil-Spec test	MIL-STD-810G military testing
SIM card (opt)	<ul> <li>Inte</li> <li>* For it</li> <li>Ver</li> </ul>	grated I non-WW zon LTE	Mobile Br A <i>N model,</i> E (US) SII	oadba it mear	nd 4G LTI is the mode	E-A, Fiboco E-A, Fiboco el is NOT WN	m L860	-GL, MIMC		I.2 card	Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant
Note: The specifica	• Ger	nalto eS	SIM			gions and m	iaht cha	inde hv redi	ons			Lenov

Note: The specifications above may not be available in all regions and might change by regions.



## ThinkPad X1 Carbon Gen 8 Platform Specifications

Processor	10th	Generation	Intel® C	ore™ i	5 / i7 P	rocesso	or					Dimensions	WxDxH (Privacy Guard model):12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm
	Num		# of Threads		ency F	Max Turk Frequenc	cache		ory Types	Proc Grap	essor ohics	Weight	WxDxH (other model): 12.72" x 8.54" x 0.59"; 323mm x 217mm x 14.9mm Privacy Guard model: starting at 2.66 lb / 1.21 kg; Other model: starting at 2.4 lb / 1.09 kg
	i5-10 i7-10	510U ⁴	8	1.6 ( 1.7 ( 1.8 (	GHz GHz	4.2 GHz 4.4 GHz 4.9 GHz	z 6MB z 8MB		R3-2133	Intel Grap	UHD phics	Case color Case material	Black paint or black weave Display cover: Carbon Fiber; Bottom: magnesium alloy
Omeralaise	i7-10		I	1.8 (		4.9 GHz	z 8MB					Smart card reade	erNone None
Graphics	supp	UHD Graph orts up to 3 orts externa	indeper	ndent d	lisplays	s via na (up to 4	tive disp K@24H	lay and z) or Tl	d two ext hunderb	ernal m olt (5K@	nonitors; 260Hz)	Ports	Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models),
Chipset Memory	Intel 8GB	SoC (Syster or 16GB / 2	m on Ch 133MH	nip) pla z LPDE	tform DR3 / s	oldered	l to syste	emboa	rd, no so	ockets			headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Display	Size	Resolution		Type S	Surface	Touch	Bright- ness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Monitor cable Bundled Accy	Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
	14.0"	FHD (1920x ⁻	1080)	WVA A	nti-glare	- 9	400 nits	16:9	800:1	72%	170°		<ul> <li>I)• HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
	14.0"	FHD (1920x ⁻	,	WVA A	nti-glare	Multi- touch	400 nits	16:9	700:1	72%	170°	Audio support	HD Audio, USI 4551-513711-00 codec / Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 / four 360° far-field microphones, headphone / microphone combo jack
	14.0"	FHD (1920x ⁻ ThinkPad Pri Guard			nti-glare	Multi- touch	500 nits	16:9	1000:1	72%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls,
	14.0"	WQHD (2560		WVA A	nti-glare	- 1	300 nits	16:9	1000:1	72%	170°	UltraNav™	LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	14.0"	UHD (3840x) HDR 400, Dolby Vision	· ·	wva	Glossy	-	500 nits	16:9	1500:1	90% DCI-P3	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Firmware TPM 2.0 integrated in chipset • Discrete TPM 2.0 TCG Certified
Multi-touch (opt)	Capa	QHD is NOT a acitive-type r reflection (A	multi-tou	ich, su	pports			re,					<ul> <li>Discrete TPM 2.0 TCG Certified</li> <li>Intel vPro Technology</li> <li>er Touch style match on chip fingerprint reader on the palm rest</li> <li>Near Field Communication</li> </ul>
Storage	<ul> <li>Interview</li> </ul>	2 2280 SSD el Optane M 2 2280, PCIe	emory H	110 wit	h Solid		Storage,					Battery	Integrated Li-Polymer 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	None			3.0 X 4	+							Max battery life	<i>MobileMark[®] 2014:</i> 19.5 hr <i>MobileMark 2018:</i> 13.8 hr
Ethernet		/e Intel Ethe ptional Thinl							-LM ( <i>vPr</i>	<i>°O</i> )		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors • 45W USB-C AC adapter
WLAN + Bluetooth™	Intel * Inte	Wi-Fi 6 AX2 AX201 card	01, Wi-F	i 2x2 8 BT5.1	302.11 but is lin	ax + Blu nited to I	uetooth 375.0 by	5.0 Window	s OS			_	<ul> <li>65W USB-C AC adapter</li> <li>65W USB-C slim AC adapter</li> </ul>
WWAN (optional)	• Wir	reless WAN	upgrada	able	40.17				N 0			Operating system	n ● Windows® 10 Home 64 ● Windows 10 Pro 64
SIM card (opt)	<ul> <li>Inte</li> <li>Inte</li> <li>* For</li> <li>Ge</li> </ul>	egrated Mob egrated Mob egrated Mob non-WWAN n malto eSIM no-SIM carc	oile Broa bile Broa <i>nodel, it r</i>	dband dband neans t	4G LT 4G LT he mod	E-A, Fil E-A, Fil el is NO	Docom L Docom L T WWAN	.850-GI .860-GI	L, M.2 ca L. MIMO	ard	.2 card	Limited warranty (optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
												Mil-Spec test	MIL-STD-810G military testing
												Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

Lenovo August 2020



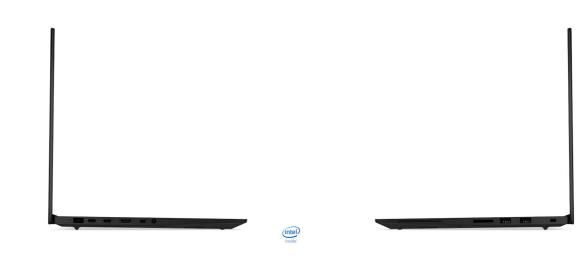
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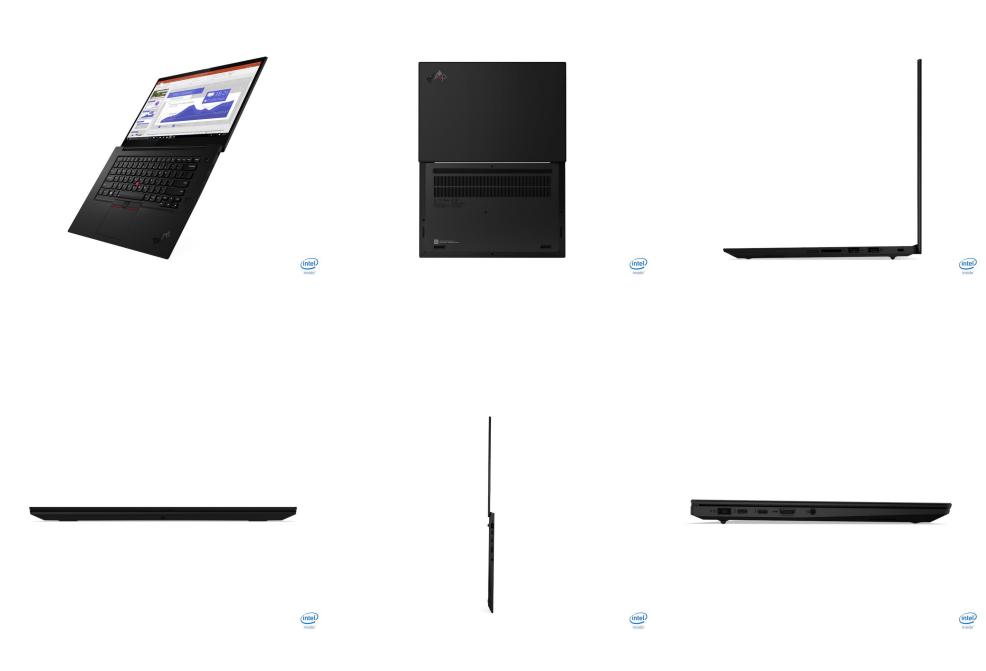
## ThinkPad X1 Extreme (2nd Gen) Platform Specifications

Product Specifications Reference (PSREF)

Processor	9th G	enera	tion II	ntel® Co	re [™] i5	/ i7 / i9 F	rocessor					Dimensions	<i>WxDxH (non-touch):</i> 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Proce Numb	er (	# of Cores	# of Threads	Freq	uency Fi	equency	iche	Memory Types	Proce Grap		Weight	WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.75 lb / 1.7 kg; Multi-touch model: starting at 3.97 lb / 1.8 kg
	i5-930 i5-940 i7-975	00H 50H	4 4 6	8 8 12	2.5 2.6	GHz 4 GHz 4	I.3 GHz 8		DR4-2666	Intel UHD 63		Case color Case material	Black paint (FHD model) or black weave (UHD model) Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy
	i7-985 i9-988		6 8	12 16				MB MB			-	Media reader	er <i>Optional:</i> Smart card reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card
Graphics	NVID suppo suppo	IA® Ge orts ex orts fo	Force terna ur ind	al digital lepende	1650   monite nt disp	Max-Q, or via HI blavs;	nd 4GB GDDF 0MI or Thu olt); 4K@6	nderbo	olt™;			Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole, slim tip AC adapter * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Chipset Memory				246 Chip 6MHz D		dual-cha	nnel capal				sockets	Monitor cable (optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Display	Size	Resolu	tion		Туре	Surface	Brightnes	s Asp Rat	ect Contra io Ratio		Viewing Angle	Barraioa / tooy	Optional: ThinkPad Ethernet Extension Cable
	15.6"	FHD (1	920x ⁻	1080)	WVA	Anti-glar	e 300 nits	16:	9 700:1	72% NTSC	170°	Camera (optional	<ul> <li>I) One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
	15.6"	FHD (1 Dolby	920x ⁻ Vision	1080) ™ HDR	WVA	Anti-glar	e 500 nits	16:	9 1200:	1 72% NTSC	170°	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stores are clear OW v 0. Delbe & vulgicity Dramium /
	15.6"	UHD ( Dolby \	3840x Vision	2160) HDR	WVA	Anti-glar	e 500 nits	16:	9 1200:	1 100% Adobe	170°		stereo speakers, 2W x 2, Dolby [®] Audio™ Premium / optional dual 360° far-field microphone, headphone / microphone combo jack, Dolby Atmos [®] sound system
	15.6"	UHD ( Dolby Multi-to	/ision		OLED	Anti- reflection Anti- smudge	(poak)	nit, nit 16:	9 100000	0:1 100% DCI-P3	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
Multi-touch <i>(opt)</i> Pen <i>(optional)</i>	anti-r	eflection	on (A	multi-tou R), anti- (special	smudg	pports 1 ge (AS)	0-finger ge	sture	UHD OLI	ED only),		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)
Storage RAID (optional)	Up to	<i>two M.</i> 280 S	2 <i>SSD</i> SD /	) PCle N		,						System Mgt (opt) Fingerprint reade Color calibration NFC	<ul> <li>intel vPro Technology</li> <li>rTouch style match on chip fingerprint reader on the keyboard bezel</li> <li>Optional: X-Rite Pantone factory color calibration (UHD model only)</li> <li>None</li> </ul>
Optical Ethernet	None Nativ	e Intel	Ethe	rnet Co	nectio	on 1219-	V (Non-vPi	o) or l	219-LM (\	/Pro))		Battery	Integrated Li-Polymer 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
WLAN (optional)	via op	otional	Thin	kPad Et	nernet	Extensi	on Cable x + Bluetoo					Max battery life	MobileMark [®] 2014: 14 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factor
Bluetooth™ (opť)	Bluet	ooth 5					-Fi + Bluet			pter		AC adapter	135W slim tip AC adapter n <i>Optional:</i> Windows® 10 Home 64 or Windows 10 Pro 64
WWAN SIM card	None None												<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
												Mil-Spec test	MIL-STD-810G military testing
Note: The specifica				- +								Environment	EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

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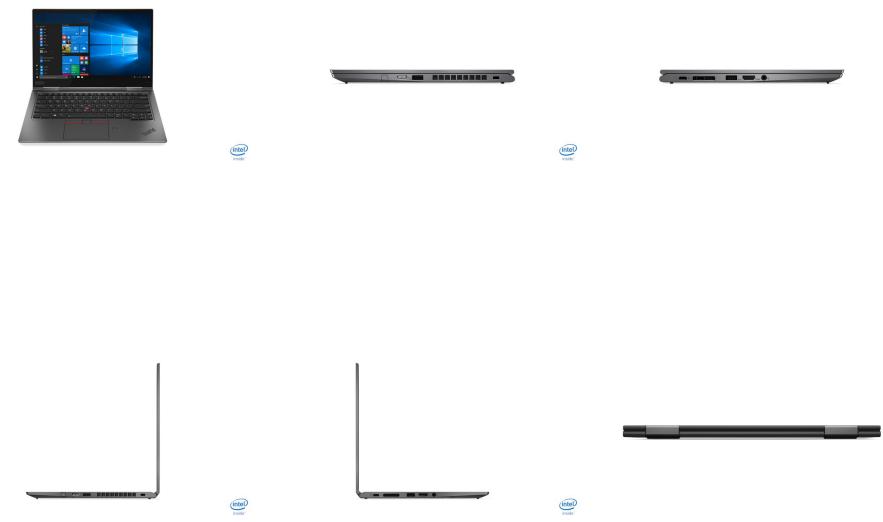
## ThinkPad X1 Extreme Gen 3 Platform Specifications

Product Specifications Reference (PSREF)

Processor	10th (	Gener	ation	Intel® Co	re™ i5 / i7	/ i9 Proc	essor					Dimensions	<i>WxDxH</i> (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Proce Numb		# of Cores	# of Threads	Base Frequency	Max Turk Frequen		Memor	ry Types	Proce Grap		Weight	<i>WxDxH (multi-touch):</i> 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm <i>Non-touch model:</i> starting at 3.75 lb / 1.7 kg;
	i5-104		4	8	2.6 GHz	4.6 GH				Grup	1100	Case color	Multi-touch model: starting at 4.0 lb / 1.81 kg Black paint or black weave
	i7-107		6	12	2.6 GHz	5.0 GH			4-2933	Intel l		Case material	Display cover: CFRP/GFRP hybrid;
	i7-108		8	16	2.7 GHz 2.4 GHz	5.1 GH			. 2000	Grap	hics		Bottom: Aluminum alloy
	i9-108		-									Smart card reade	rNone SD Card reader, supports UHS-II SD card (mutually exclusive with WWAN card)
	Intel U NVID suppo suppo Thun	JHD G IA® Ge orts up orts ex derbol	Graphi Force to 4 terna terna	ics in pro e® GTX 1 independ I monitor to 5K@6	cessor onl cessor and 650 Ti Ma lent display s via HDM 60Hz for hy	í k-Q, 4GE ys via na l (up to 4	ative displative displative displative display="block-color: blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue; blue;	ay and :) or	3 extern		,	Ports	Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort 1.4 for discrete graphics / DisplayPort 1.2 for integrated graphics), HDMI 2.0, nano-SIM card slot (WWAN models), headphone / microphone combo jack, SD card reader, security keyhole, slim tip AC adapter * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Memory	64GE	max	/ 2933	190 Chips 3MHz DD <i>is actually</i>	et R4, dual-c <i>3200MHz b</i>	hannel o	capable, t 2933MHz d	wo DD due to Ir	R4 SO-E	DIMM s	ockets	Monitor cable (optional)	<ul> <li>Lenovo HDMI to VGA Monitor Adapter</li> <li>Lenovo USB-C to VGA Adapter</li> <li>Lenovo USB-C to DisplayPort Adapter</li> </ul>
Display	Sizo	Resolu	ition	Тур	Surface	Touch B	Brightness		Contrast				Optional: Lenovo USB-C to Ethernet Adapter
	0120	1163010					Jighthess	Ratio	Ratio	Gamut 72%	Angle	Camera (optional)	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
	15.6"	FHD (1	1920x1	080) WV	A Anti-glare	-	300 nits	16:9	700:1	NTSC	170°	Audio support	HD Audio, Realtek® ALC3286 codec /
	15.6"	FHD (1 Dolby \ HDR	I920x1 Vision⊺		A Anti-glare		500 nits	16:9	800:1	72% NTSC	170°		Dolby [®] Atmos™ sound system with 3-magnet speakers, 2W x 2 / optional dual array microphone, headphone / microphone combo jack
			3840x2 Vision	2160) HDR WV	A Anti-glare	-	600 nits	16:9	1400:1	100% Adobe	178°	- Keyboard - UltraNav™	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	15.6"	UHD (3 Dolby \	3840x2 Vision	160) HDR OLE	D AR, AS		DR 400nit, IDR 540nit (peak)	16:9	100000:1	100% DCI- P3	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Firmware TPM 2.0 integrated in chipset
					h, support			e,				System Mat (ont)	Discrete TPM 2.0 TCG Certified Intel vPro Technology
Pen <i>(optional)</i>	anti-r	eflectio /o Per	on (Al Pro	R), anti-s	mudge (AS	S) coating	g					Fingerprint reader	r Touch style match on chip fingerprint reader on the keyboard bezel
()		two M.	-									Color calibration	Optional: X-Rite Pantone factory color calibration (UHD model only) None
eterage	M.2 2	280 S	SD / I	PCIe NV	Me 3.0 x 4							Battery	Integrated Li-Polymer 80Wh battery,
	None	0/1 รเ	uppor	t									supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter
1			ernet	connecti	on via optie	onal Len	ovo USB-	C to E	thernet A	Adapter	r	Max battery life	MobileMark [®] 2014: 15.6 hr MobileMark 2018: 11.8 hr
WLAN + BT	Intel \	Ni-Fi 6	6 AX2	01, Wi-Fi	2x2 802.1	1ax + Bl	uetooth™	5.1					* Battery life varies significantly with hardware configurations, settings, usage, & other factors
WWAN (optional)										2, M.2	card	AC adapter	135W or 170W slim tip AC adapter (170W for i9-10885H model only)
SIM card	* For r None		NAN m	nodel, it m	eans the mo	del is NO	οT WWAN ι	ıpgrada	ble				Optional: Windows® 10 Home 64 or Windows 10 Pro 64
	none											(optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
												Mil-Spec test	MIL-STD-810G military testing
												Environment	EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

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(intel)

## ThinkPad X1 Yoga (4th Gen) Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Generation I	ntel® Core	e™ i5 / i7 Proce	essor					WWAN (optional)	One of the following, configurable by model:
		# of Threads	Frequency Free	quency		ory Types	Proce Grap			<ul> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card</li> <li><i>* For non-WWAN model, it means the model is NOT WWAN upgradable</i></li> </ul>
	i5-8265U i5-8365U i7.9565U	8	1.6 GHz 4.1	GHz 6ME GHz 6ME GHz 8ME		DR3-2133	Intel Grap		SIM card (opt)	Verizon LTE (US) SIM card     Gemalto eSIM
	i7-8565U i7-8665U			GHz 8ME GHz 8ME	_		Giap	incs	Dimensions	<i>WxDxH (Privacy Guard):</i> 12.71" x 8.58" x 0.63"; 323mm x 218mm x 15.95mm <i>WxDxH (other model):</i> 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm
	or 10th Generati			`	availa	ble in EN	IEA)		Weight	Privacy Guard model: starting at 3.24 lb / 1.47 kg; Other model: starting at 2.99 lb / 1.36 kg
	Processor # of Number Cores	# of Threads	Frequency Fre	quency		nory Types	Proce Grap		Case color Case material	Iron Grey Display cover: Aluminium;
	i5-10210U i7-10510U i7-10510U	8	1.8 GHz 4.	2 GHz 6MI 9 GHz 8MI		DR3-2133	Intel Grap		Smart card reade	Bottom: Magnesium
. <u></u>	i7-10710U 6	12	-	7 GHz   12M	В				Media reader Ports	None Two LISP 2.1 Con 1 (one Always On) two LISP 2.1 Type C Con 2 (Thunderholt 2
Graphics	Intel UHD Graph supports externa supports three in Max resolution:	al digital m ndepender 5K@60Hz	nonitor via HDI nt displays; z (Thunderboli				rbolt;			Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Chipset Memory	Intel SoC (Syste 8GB or 16GB / 2	em on Chip 2133MHz	o) platform LPDDR3 / sole	dered to sys	temboa	ard, no so	ockets		Monitor cable Bundled Accy	Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
Display	Size Resolution	Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Camera (optional	<ul> <li>One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
	14.0" FHD (1920x Low Power		Anti-reflection Anti-smudge	400 nits	16:9	800:1	72%	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek[®] ALC3286 codec /</li> </ul>
	FHD (1920x 14.0" ThinkPad Pr Guard		Anti-reflection Anti-smudge	400 nits	16:9	1000:1	72%	170°		Dolby [®] Atmos [™] speaker system, 2W x 2, 0.8 x 2 / four 360° far-field microphones, headphone / microphone combo jack
	14.0" WQHD (2560x1440)	) WVA	Anti-reflection Anti-smudge	300 nits	16:9	800:1	72%	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	UHD (3840x 14.0" HDR 400, Dolby Vision	( WVA	Anti-reflection Anti-smudge	500 nits	16:9	1400:1	90%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)
Multi-touch	Capacitive-type AR (anti-reflection could reduce the	on) / AS (a	inti-smudge) c	oating,	ure,				System Mgt (opt) Fingerprint reade NFC (optional)	Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest Near Field Communication
Hinge	Yoga hinge, 360	degree	, ,	/0					Battery	Integrated Li-Polymer 51Wh battery,
Convert-mode Pen	Laptop, tent, sta ThinkPad Pen P	ro, active	pen for multi-te	ouch display	, on-bo	ard rech	argeable	e	Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 18.1 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage	One of the followin • M.2 2280 SSD • M.2 2280 SSD • Intel Optane M	) / SATA 6 ) / PCle N	.0Gb/s VMe 3.0 x 4	tate Storage					AC adapter	<ul> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> <li>65W USB-C SI adapter</li> <li>65W USB-C Slim AC adapter</li> </ul>
	M.2 2280, PCI	e NVMe 3	.0 x 4	tate otorage	',				<u> </u>	o Optional: Windows [®] 10 Home 64 or Windows 10 Pro 64
Optical Ethernet	None Native Intel Ethe	ernet Conr	ection 1219-V	(Non-vPro)	or 1210	D-IM (vP	ro)		Limited warranty (optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
	via optional Thin						()			<ul> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> </ul>
WLAN Bluetooth™	Intel Wireless-A0 Bluetooth 5.0 wi						er			<ul> <li>1-year + 2-year deportepair service</li> <li>3-year/1-yr battery deportepair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
									Mil-Spec test	MIL-STD-810G military testing
	cations above may r								Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.



## ThinkPad X1 Yoga Gen 5 Platform Specifications

Product Specifications Reference (PSREF)

Processor	10th	Generation Intel®	® Core	™ i5 / i7 Proces	sor					Dimensions	WxDxH (Privacy Guard): 12.71" x 8.58" x 0.63"; 323mm x 218mm x 15.95mm
	Proce Numb	er Cores Thre	ads Fr	Base Max Tu equency Freque	ncy Caci		ory Types		essor phics	Weight	WxDxH (other model): 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Privacy Guard model: starting at 3.24 lb / 1.47 kg; Other model: starting at 2.99 lb / 1.36 kg
	i5-102 i5-103 i7-105 i7-106	310U 4 8	3 1	.6 GHz         4.2 G           .7 GHz         4.4 G           .8 GHz         4.9 G           .8 CHz         4.0 C	Hz 6MI Hz 8MI	3 3 LPD	DR3-2133		UHD phics	Case color Case material	Iron Grey <i>Display cover:</i> Aluminium; <i>Bottom:</i> Magnesium
Omentica				.8 GHz 4.9 G	HZ   8MI	3				Smart card reade	rNone None
•	suppo	UHD Graphics in orts up to 3 indep orts external mor	pender	nt displavs via r	native dis 4K@24H	play ar Iz) or T	nd two ex Thunderb	ternal n olt (5K@	nonitors @60Hz)	Ports	Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models),
Chipset Memory	Intel 3 8GB	SoC (System on or 16GB / 2133N	Chip) //Hz LF	platform PDDR3 / solder	ed to sys	temboa	ard, no so	ockets			headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Display	Size	Resolution	Туре	e Surface	Bright- ness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Monitor cable Bundled Accy	Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
	14.0"	FHD (1920x1080) Low Power	WVA	A Anti-reflection Anti-smudge	400 nits	16:9	700:1	72%	170°	Camera (optional)	<ul> <li>IP HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
	14.0"	FHD (1920x1080) ThinkPad Privacy Guard	WVA	A Anti-reflection Anti-smudge	500 nits	16:9	1000:1	72%	170°	Audio support	HD Audio, USI 4551-513711-00 codec / Dolby [®] Atmos [™] speaker system, 2W x 2, 0.8 x 2 / four 360° far-field microphones, headphone / microphone combo jack
	14.0"	WQHD (2560x144	10) WVA	A Anti-reflection Anti-smudge	300 nits	16:9	1000:1	72%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, LED backlight
	14.0"	UHD (3840x2160) HDR 400,	wv	Anti-reflection Anti-smudge	500 nits	16:9	1500:1	90% DCI-P3	170°	UltraNav™	TrackPoint®pointing device and buttonless glass surface multi-touch touchpad
	* WQ	Dolby Vision™ HD is NOT availab		IEA U				Doilio		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole • Firmware TPM 2.0 integrated in chipset • Discrete TPM 2.0 TCG Certified
Hinge	anti-r Yoga	citive-type multi- eflection (AR) / a hinge, 360 degre	anti-sm ee	udge (AS) coat		ure,				Fingerprint reade	<ul> <li>Discrete FM 2.0 FCG Certified</li> <li>Intel vPro Technology</li> <li>rTouch style match on chip fingerprint reader on the palm rest</li> <li>Near Field Communication</li> </ul>
Convert-mode Pen	Lapto	p, tent, stand an Pad Pen Pro, re	nd table	et eable active per	i, on-boa	rd gara	ige			Battery	Integrated Li-Polymer 51Wh battery.
Storage	• M.2 • Inte	2 2280 SSD / PC I Optane Memor	le NVI ry H10	Ve 3.0 x 4 with Solid State			-			Max battery life	supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 19.3 hr MobileMark 2018: 13.0 hr
Optical	M.2 None	2280, PCIe NVI	Me 3.0	x 4							* Battery life varies significantly with hardware configurations, settings, usage, & other factors
		e Intel Ethernet ( otional ThinkPad					9-LM ( <i>vP</i>	ro)		AC adapter	<ul> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> <li>65W USB-C slim AC adapter</li> </ul>
WLAN + Bluetooth™		Ni-Fi 6 AX201, V AX201 card suppo					ws OS			Operating system	● Windows® 10 Home 64 ● Windows 10 Pro 64
	<ul> <li>Inte</li> <li>* For i</li> <li>Gen</li> </ul>	grated Mobile B grated Mobile B <i>non-WWAN model,</i> malto eSIM no-SIM card, Ler	roadba , it meai	and 4G LTE-A, F ns the model is N	ibocom OT WWAI	L860-0 V upgrad	al, MIMC	ard ) 2x2, N	I.2 card	Limited warranty (optional)	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
										Mil-Spec test	3-year/1-yr battery limited onsite service MIL-STD-810G military testing
										Environment	EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant

Note: The specifications above may not be available in all regions and might change by regions.

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**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

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## **Summary of Changes**

This section describes the technical changes made in this edition. This edition might also include minor corrections and editorial changes which are not identified.

## October 30, 2019 - Version 550

#### Additions in this update

- New product(s) None
- ► New model(s) None

► Others ThinkPad X1 Tablet (3rd Gen) - Spec updated

#### Withdrawals in this update

Withdrawn product(s) None





## ThinkPad X1 Tablet (3rd Gen) Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Generation Intel® Core™ i5 / i7 Processor         Processor       # of       # of       Base       Max Turbo       Cache       Memory Types       Processor         Number       Cores       Threads       Frequency       Cache       Memory Types       Graphics	Monitor cable Bundled Accy (optional) Camera IR Camera Audio support	Power button, volume control button, reset switch • Thin Keyboard (Magnetic Detachable)	
	NumberCoresThreadsFrequencyFrequencyCacheMemory TypesGraphicsi5-8250U1.6 GHz3.4 GHz6MB1.7 GHz3.6 GHz6MB1.7 GHz1.6 GHz1.0 GHzi7-8550U1.8 GHz4.0 GHz8MB1.9 GHz4.2 GHz8MB1.0 GHz8MB		USB-C Dock Gen 2 None USB-C to RJ45: Lenovo USB-C to Ethernet Adapter USB-C to VGA: Lenovo USB C to VGA Plus Power Adapter USB-C to HDMI: Lenovo USB C to HDMI Plus Power Adapter	
Graphics	Intel UHD Graphics 620 in processor, supports external digital monitor via USB Type-C		Front camera: 2.0-megapixel, fixed focus Rear camera: 8.0-megapixel, auto focus Optional: IR camera, fixed focus (mutually exclusive with NFC)	
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3, soldered to systemboard, no sockets		Realtek® ALC3278 codec / stereo speakers, 1W x 2 / dual array microphones, combo audio/microphone jack	
Display	13.0" (330mm) QHD+ (3000x2000), glossy, LED backlight, IPS, anti-figerprint display with Corning® Gorilla® Glass, WideView (160° viewing),	Pogo keyboard	Magnetic attached thin keyboard, with TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch, backlit	
Multi-touch Pen <i>(optional)</i> Kick stand	400 nits, 3:2 aspect ratio, 1200:1 contrast ratio Capacitive touch panel, supports ten-finger gesture Lenovo Pen Pro or Lenovo Active Pen (ThinkPad Pen Pro) Opening angle up to 170 degrees	Security Security chip System Mgt (opt) Fingerprint reader	Black Kensington lock slot Discrete TPM 2.0 TCG Certified Intel vPro Technology r <i>Optional:</i> Touch style Fingerprint reader	
Storage	One of the following, configurable by model: • M.2 2280 SSD / SATA 6.0Gb/s		Near Field Communication (mutually exclusive with IR camera)	
Optical Storage extensior	M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s None One MicroSD card reader, in the combo slot with nano-SIM card, support USH-I, microSDHC, microSDXC	Battery Max battery life AC adapter	Integrated Li-Ion 42Wh battery <i>MobileMark</i> [®] 2014: 9.5 hrs * <i>Battery life varies significantly with settings, usage, &amp; other factors</i> 45W or 65W USB Type-C AC adapter	
Ethernet	None	G-sensor Gyroscope	Ambient Light Sensor 3D accelerometer	
WLAN Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card Bluetooth 4.2 wireless, integrated in Wi-Fi + Bluetooth combo adapter		3D gyrometer GPS function is integrated into WWAN module	
WWAN (optional) SIM card (opt)	Integrated Mobile Broadband 4G LTE-A, Qualcomm [®] Snapdragon [™] X7 LTE-A (Sierra Wireless EM7455) Nano-SIM card slot, in the combo slot with microSD card reader	Preload	One of the following, configurable by model: • Windows® 10 Pro 64 • Windows 10 Home 64	
Dimensions Weight Case color	Tablet only:       11.97" x 8.9" x 0.35";       304.1mm x 226mm x 8.9mm         Tablet + keyboard:       11.97" x 8.9" x 0.57";       304.1mm x 226mm x 14.4mm         Tablet only:       starting at 1.96 lb / 0.89kg         Tablet+ keyboard:       starting at 2.8 lb / 1.27kg         Black       More regiment (Alumination)	Limited warranty	One of the following, configurable by model: • 1-year depot repair service • 1-year depot with 2-year system board service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service	
Case material Ports	Magnesium/Aluminum Two USB 3.1 Type-C Gen 1 ((with the function of Power Delivery and DisplayPort),	Mil-Spec test	MIL-STD-810G military testing	
1 0113	one Pogo keyboard connector, one Pen holder slot, headphone / microphone combo jack, combo slot of nano-SIM card (WWAN models) and microSD card reader * Depending on many factors, actual data transfer speed may be lower than theoretical speed	Environment	EPEAT™ Silver, GREENGUARD, Low Halogen, RoHS	
			Lenovo	

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**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

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This section describes the technical changes made in this edition. This edition might also include minor corrections and editorial changes which are not identified.

### June 2020 - Version 561

#### Additions in this update

#### New product(s)

ThinkCntre Tiny-In-One 22 Gen 4 ThinkCntre M90a ThinkCntre M90s ThinkCntre M90t ThinkCntre M90q

## New model(s) None

► Others

None

#### Withdrawals in this update

- Withdrawn product(s) None
- ► Withdrawn model(s) None







(intel)





(intel)



(intel) inside

(intel)

#### ThinkCentre M70a Platform Specifications

Processor	Intel® Celeron®, Intel Pentium®, or 10th Gen Intel Core™ i3 / i5 / i7 / i9 Processor						l	Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),		
	Processor	1	Frequency Base/Max*(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Bluetooth™	Wi-Fi + Bluetooth 5.1 combo adapter, 2x2 (Available on 2020/9/29) Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Realtek RTL8111K, Wake on LAN®		
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610	Ethernet	<b>0</b> ,	nek hilotiik, wake oli lan*	
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610	Manageability	None Discrete TPM 2.0, TCG Certified		
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	Security chip			
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	1 1	Security slot (for Kensington® lock)     Boot without keyboard and mouse     Individual USP port disablement		
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630		<ul> <li>Optional Chassis intrusion switch</li> <li>Individual USB port disablement</li> <li>Power-on, admin, hard disk password</li> <li>Smart USB protection, allows keyboard</li> </ul>		
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630	4	<ul> <li>Boot sequence con</li> </ul>		
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630		Some: Lenovo Traditi	ional Keyboard (USB connector), black	
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Mouse		pe Mouse (USB connector), black	
	Core i5-10500	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630			rprint Mouse (USB connector), Windows Hello support, black	
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630	Mechanical	<ul> <li>Business black cold</li> </ul>		
	Core i7-10700	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630	-	<ul> <li>Toolless back cover</li> <li>Support VESA mouther</li> </ul>		
	Core i9-10900	10/20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630			· · · ·	
Memory	64GB max (32GB SO					84-2666 /			Without stand (with camera):	
	DDR4-2933*, two 260 * Memory module is DDF		,					Dimensions (WxDxH)	w/ ODD: 19.3" x 2.3" x 11.7" / 490.14 x 57.8 x 297.75 (mm) w/o ODD: 19.3" x 1.8" x 11.7" / 490.14 x 46 x 297.75 (mm)	
Storage			and 1x M2.SSD, .0Gb/s, 2.5" or 3.5", 7200 rpm		-	Approx weight (lb / kg)	w/ ODD: (Non-touch) 11.3 / 5.12 (Touch) 10.8 / 4.88 w/o ODD: (Non-touch) 10.7 / 4.86 (Touch) 10.2 / 4.62			
	Some: M.2 SSD (224					4		With Full Function Monitor stand (with camera):		
Optical	Some: Intel Optane™ Memory M10, M.2 2280, PCIe 3.0 x2 Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm)						Dimensions (WxDxH)	19.3" x 7.9" x 15.2" to 18.3" / 490.14 x 199.82 x 386.05 to 466.04 (mm)		
Media reader	Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm) Optional 3-in-1 media card reader							Approx weight (lb / kg)	w/ ODD: (Non-touch) 16.2 / 7.33 (Touch) 15.6 / 7.09 w/o ODD: (Non-touch) 15.6 / 7.07 (Touch) 15.1 / 6.83	
Graphics	Intel HD Graphics 61	10/630 in	processor, uses	main m	emory. DirectX® -	2.	-	Adjustments	Tilt: 30° back, -5° forward; Lift: 80mm	
	external monitor supp					,			With UltraFlex IV stand (with camera):	
Monitor Cable Display	Optional DP to VGA dongle, DP to DVI-D dongle, DP to 2 DP dongle (MST mode), or DP to HDMI 1.4 dongle <b>21.5</b> " (546.1mm) <b>Full HD 1080p (1920x1080)</b> , IPS (In Plane Switching) technology (IPS may refer to IPS, PLS, ADS, AHVA, AAS), wide viewing angle (H/V 178°), LED backlight, 250 nits, 16:9 aspect ratio, 1000:1 contrast ratio, anti-glare,					7	Dimensions (WxDxH)	Lowest in flat mode: 19.3" x 11.3" x 7.8" / 490.17 x 288.17 x 197.04 (mm) Highest in vertical mode:		
-13					178°),		Approx weight (lb / kg)	19.3" x 9.2" x 17.3" / 490.17 x 232.75 x 439.28 (mm) w/ ODD: (Non-touch) 17.4 / 7.88 (Touch) 16.9 / 7.65 w/o ODD: (Non-touch) 16.8 / 7.62 (Touch) 16.3 / 7.38		
Multi-touch Camera	Optional multi-touch,	borderless design (88% Screen to Body Ratio) Optional multi-touch, supports 10-point, AIT (Advanced In-cell Touch) technology Some: 1080p camera with dual microphone. ThinkShutter (physical switch on/off)						Adjustments	Lift: up to 115mm (vertical mode) / 164mm (flat mode)	
	Some: RGBIR came							Note	e: Camera adds 14.5mm in height (Vertical mode)	
Controls	(physical switch on/off), support Windows Hello Physical buttons on side for microphone mute and power on/off						Power supply	Some: 135 watts adapter, autosensing, 89% PSU Some: 170 watts adapter, autosensing, 89% PSU		
Chipset	Intel H470 Chipset									
Rear ports*	4x USB 3.2 Gen 1 (one supports Smart Power On), 1x ethernet (RJ-45), 1x DisplayPort, 1x optional serial (9-pin) 1x USB 3.2 Gen 2, 1x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1(5V/3A charging), 1x optional card reader, 1x headphone / microphone combo jack (3.5mm)				,	Limited warranty ³ Some: 1-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrade				
Side ports*						Preload	Some:       Windows 10 Pro 64-bit         Some:       Windows 10 Home 64-bit         Some:       Windows 10 IoT Enterprise (only available via special bid model)         ENERGY STAR® 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO 8.0, TCO Edge,         TUV Eye comfort certified (for Full Function Monitor Stand only), TUV Low Blue         Light certified, TUV Ultra Low Noise certified (on some models), RoHS-compliant         * Only available for MT 11CK/11CL			
M.2 card slot	Two M.2 Card slots (c	vo M.2 Card slots (one for WLAN, one for SSD/Optane)		Environment						
Audia	* Depending on many factors, actual data speed may be lower than theoretical speed High Definition (HD) Audio, Realtek ALC233 / two internal speakers (2W x 2), Dolby [®] Atmos [®] certified					LINIOIIIIEIIL				
Audio support					x 2),					
WLAN	Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9462 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 1x1 (special bid only)						MIL-SPEC test	MIL-STD-810H military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)		
							Accessories	For compatible acces	sories, please go to http://smartfind.lenovo.com	

Note: The specifications above may not be available in all regions.







inside"





(intel)

#### ThinkCentre M820z Platform Specifications

Processor	Intel [®] Celeron [®] , Intel			Intel Co	1		WLAN			d, Realtek RTL8821CE	(dual band),
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		Some: 11ac wireless,	M.2 Ca	combo adapter, 1x1 rd, Realtek RTL8822BE	(dual band),
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		WI-FI + BIUETOC	0th 4.2 c M 2 Cai	combo adapter, 2x2 rd, Intel Dual Band Wire	less-AC 3165
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610				combo adapter. 1x1	1633 AO 0100,
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610				rd, Intel Dual Band Wire	less-AC 8265,
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610	Diverse			combo adapter, 2x2	
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Bluetooth™ Ethernet	Gigabit ethernet, Realt		integrated in Wi-Fi + B	i combo adapter
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Manageability	None		JITTO, WARE OF LAN	
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TCG	G Certifie	be	
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630					n, admin, hard disk password
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630		optional Kensington®	MicroS	aver [®] cable; • Boot seg	uence control
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		Kensington lock also	locks ch	nassis) • Boot with	out keyboard and mouse
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630		<ul> <li>Smart USB protectio</li> </ul>	n, allow	s keyboard/ • Individua	USB port disablement
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		<b>3</b> .			Chassis intrusion switch
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliop	e Keybo	pard (USB connector), b	lack
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	_	Some: Lenovo Callion	onal Key	board (USB connector)	ia USB receiver), black
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliop	e Mous	e (USB connector), blac	k
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	_	Some: Lenovo Finger	print Mo	use (USB connector), V	/indows Hello support, black
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Some: Lenovo Calliop	e Wirele	ess Mouse (2.4GHz via	USB receiver), black
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666		Mechanical	Business black color			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	-	<ul> <li>Toolless back cover,</li> </ul>			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	-	Support VESA moun		,	
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	-	Dimensions (WxDx	, ,	Max weight (lb / kg)	Adjustments
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	-	Without stand (No camera):           19.3 X 1.9 X 12.6 (inch)         (Touch) 11.6 / 5.25			
Memory	32GB max (16GB SC	DIMM o	nly available via	special b	oid models), DDR	4-2666*,		491 X 49 X 321 (m		(Non-touch) 11.1 / 5.05	N/A
	two 260-pin SO-DIMM	/I sockets	, dual-channel c	apable					/	unction Monitor stand (No	camera):
	* System clocks dowr	n for the p	processors with le	ower me	mory controller			19.3 X 9.9 X 14.8 to 19.	1 (inch)	,	Tilt: 45° back, -5° forward;
Storage	Some: Hard Drive / S	SATA 6.00	Gb/s, 2.5", 5400	rpm or 7	200 rpm			491 X 252 X 377 to 486		(Non-touch) 15.8 / 7.18	Lift: 110mm;
•	Some: Solid State D	rive (SSE	) / SATA 6.0Gb/s	5, 2.5"					. ,	ItraFlex III stand (No carr	Swivel: +/-45°
	Some: M.2 SSD (224 Some: Intel Optane ^{TI}								VVIIII O	III AFIEX III SIAITU (INO CAIT	Tilt: 70° back, -5° forward;
Optical	Some: DVD-ROM S	ATA 1.5G	b/s Drive. slim (9	.0mm)	endum Flocesso	ı), ıvı.∠		19.3 X 9.9 X 13.2 to 16.	.4 (inch)	(Touch) 17.3 / 7.85	Lift: up to 136mm (flat mode) /
optioui	Some: DVD Burner (	DVD±RV	V), SATA 1.5Gb/s	Drive, s	slim (9.0mm)			491 X 252 X 335 to 417		(Non-touch) 16.9 / 7.65	up to 82mm (vertical mode);
Media reader	Optional 3-in-1 media	card rea	der								Swivel: +/-45°
Graphics	Intel HD Graphics 6			main me	emory, DirectX [®] 1	2,		N	Note: Can	nera adds 22mm in height (	Vertical)
	external monitor supp			/1000 /F			Power supply	150 watts, autosensing	g, 90% F	PSU	
Display	Max resolution: 4096 21.5" (546.1mm) Full	x2304 (D I HD 108	P)@00HZ, 1920. Dn (1920x1080)		ranei)@00⊓z or Borderless de	sian	Limited warranty ³	Some: 1-year or 3-ye	ear, dep	ot repair service / serv	ice upgrades available
Diopidy	TET-LCD_IPS (In Play	he Switch	ina) technoloav	(IPS may	v refer to IPS PL	SADS		Some: 1-year or 3-ye	ear, limit	ted onsite service / se	vice upgrades available
	AHVA, AAS), wide vie	ewing and	ale (+/- 89°), LEC	backlig	ht, 250 nits, 16:9	aspect	Preload	Preloaded operating	system		
Multi-touch	ratio, 1000:1 contrast Optional multi-touch,	ratio, ant	i-glare, support I	ow Blue	Elight Mode	boology		Some: Windows 10 P	ro 64-bi	t	
Camera	Optional 1080p came	ra. with c	lual microphone.	LED ind	licator, physical s	witch on/		Some: Windows 10 H Preloaded application			
ounora	off, supports multi-de	gree rota	tion (horizontal 0	° to 180°	°, vertical -25° to 2	25°)		<ul> <li>Lenovo Vantage</li> </ul>		some insteal	
Controls	Physical buttons on s	ide for mi	crophone mute a	and powe	er on/off			<ul> <li>Microsoft Office prelo</li> </ul>		ourchase a product key	
Chipset	Intel B360 Chipset							<ul> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> </ul>			
Rear ports*	Four USB 3.1 Gen1 (	one supp	orts Smart Powe	er On), o	ne ethernet (RJ-4	5).	1	<ul> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> <li>LinkedIn</li> <li>ENERGY STAR[®] 7.0*, EPEAT[™] Silver rating* (*not for non-OS models), Er TCO AIO Computer certified, GREENGUARD[®] certified, TUV Eye comfort</li> </ul>			V)
	one DisplayPort, one	optional	serial (9-pin),	,			Environment				non OS modele) ErB L et 2
Side ports*	one USB 3.1 Gen2 (o						Environment				d TLIV Eve comfort certified
	one optional card rea							(for Full Function Monit	tor Stan	d only), TUV Low Blue I	Light certified,
M.2 card slot	* Depending on many fa Two M.2 Card slots (c	one for W	LAN, one for SS	bed may b D/Optan	e lower trian theore	ucal speed		TUV Ultra Low Noise certified (on some models), RoHS-compliant			S-compliant
Audio support	High Definition (HD)	Audio, Re					MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus			
	Dolby [®] Audio™ Premi	um					Accessories			ease go to http://smart	
								· • • ••••••••••••••••••••••••••••••••	51103, pi	sade go to mup.//onan	









#### ThinkCentre M90a Platform Specifications

Processor	Intel [®] Celeron [®] , Intel	1	, 1	el Core [⊤]			Bluetooth™			ooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo ada			
	Processor	Cores / Threads	Frequency Base/Max*(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Ethernet Manageability			net, Intel Ethernet Connection I219-LM (Jacksonville), Wa lanagement Technology 14.0 (Intel AMT 14.0);	ake on LAN®		
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Intel vP	o tec	hnology on some models (require choosing a vPro-suppo	ort Wi-Fi		
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610	Coourity obin			able vPro function through wireless connection)			
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	Security chip	-		12.0, TCG Certified			
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	Security features			<ul> <li>ot (for Kensington[®] lock)</li> <li>Boot sequence control</li> <li>Boot without keyboard and r</li> </ul>	mouse		
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630		<ul> <li>Self-H</li> </ul>			disablement		
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Optional PrivacyGuard screen     Smart USB protection, allows					
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630		<ul> <li>Power</li> </ul>	Power-on, admin, hard disk password mouse only, blocks all storage d				
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	Keyboard			vo Calliope Keyboard (USB connector), black			
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Mauraa			vo Traditional Keyboard (USB connector), black			
	Core i5-10500	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Mouse	Some:	Leno	vo Calliope Mouse (USB connector), black vo Fingerprint Mouse (USB connector), Windows Hello su	innort black		
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630					apport, black		
	Core i7-10700	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630	Mechanical			lack color			
	Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630	]			ck cover, stand removal SA mount (100mm)			
Memory	64GB max (32GB SC	DIMM o	nlv available via	special	bid models). DDF	74-2666 /	1						
<b>)</b>	DDR4-2933 [*] , two 260	)-pin SO-	DÍMM sockets, d	ual-cha	nnel capable			Privacy Gaurd	ODD	Dimensions (WxDxH)	Approx weight (lb / kg)		
	* Memory module is DDI	,			!			Giùdriù		Without stand (with camera):	(10 / 1(g)		
Storage	Support up to 2x 2.5"	HDD (2n	d HDD occupy C	DD bay	) and 1x M2.SSE	)				21.3" x 1.8" x 13.4" / 541 x 46 x 340.5 (mm)	11.6 / 5.25		
	Some: Hard Drive / S					. 4				21.3" x 2.3" x 13.4" / 541 x 57.8 x 340.5 (mm)	12.3 / 5.57		
	Some: M.2 SSD (224 Some: Intel Optane™	12 / 2280 1 Memory	) / PCIE NVME, F / M10 M 2 2280		x2 or PCIe 3.0 x	4		$\checkmark$		21.3" x 1.9" x 13.4" / 541 x 49.5 x 340.5 (mm)	13.5 / 6.13		
Optical	Some: DVD-ROM S	ATA 1.5G	b/s Drive, slim (9	.0mm)	.0 XZ					21.3" x 2.4" x 13.4" / 541 x 61.3 x 340.5 (mm)	14.2 / 6.45		
option	Some: DVD Burner (	DVD±RV	V), SATA 1.5Gb/s	Drive,	slim (9.0mm)					With Full Function Monitor stand (with camera):			
Media reader	Optional 3-in-1 media	card rea	der	,	· · · ·						16.6 / 7.51		
Graphics	Some: Intel HD Gra	phics 61	0/630 in process	or, use	s main memory, [	DirectX [®] 12,	,		N	21.3" x 7.9" x 16.3" to 19.5" /	17.3 / 7.84		
	Some: AMD Radeon™ 625, 2GB GDDR5, DirectX [®] 12,			625, 2GB GDDR5, DirectX [®] 12,		√	1	541 x 200 x 414.2 to 494.2 (mm)	18.5 / 8.39 19.2 / 8.71				
Monitor Cable	external monitor support via DisplayPort™(up to 4096x2304@60Hz)			N	N	With UltraFlex IV stand (with camera):	19.2 / 0.71						
	or DP to HDMI 1.4 do		P to DVI-D dongi	e, DP to	2 DP dongle (M	ST mode),				Lowest in flat mode:			
Display	23.8" (604.5mm) Full	HD 108	0p (1920x1080).	IPS (In	Plane Switching)	technology	/			21.3" x 12.3" x 9.0" / 541 x 312.8 x 227.4 (mm)	18.2 / 8.26		
-1	(IPS may refer to IPS	, PLS, AE	)S, AHVA, AAS),	wide vi	ewing angle (H/Ň	′178°),				Highest in vertical mode:	18.9 / 8.58		
	LED backlight, 250 ni								v	21.3" x 9.2" x 18.4" / 541 x 232.7 x 467.7 (mm)	10.9 / 0.30		
	ratio, 1000:1 contrast		I-glare, borderles	s desig	n (88% Screen to	Body		$\checkmark$		Lowest in flat mode:	20.1/9.14		
Multi-touch	Ratio), optional Privad Optional multi-touch,		10-point AIT (Ad	lvancer	l In-cell Touch) te	chnology				21.3" x 12.3" x 9.1" / 541 x 312.8 x 230.5 (mm) Highest in vertical mode:			
Camera	Some: 1080p camera	a with du	al microphone, T	hinkShu	itter (physical swi	tch on/off)	Stand	$\checkmark$		21.3" x 9.2" x 18.4" / 541 x 232.7 x 467.7 (mm)	20.9 / 9.46		
	Some: RGBIR came	ra with du	ual microphone, s	support	1080p, ThinkShu	tter	Stand			Note: Camera adds 14.5mm in height (Vertical mode)			
Controlo	physical swite) Microphone mute and	ch on/off)	, support Window	vs Hello		6 la attava ava				unction Monitor stand, Tilt: 30° back, -5° forward; Lift: 80mm			
Controls	bottom (only for the m	odels wit	n/off buttons on s th PrivacyGaurd)	side, Pri	vacyGaurd on/of	f dotton on				Flex IV stand, Tilt: 70° back, -5° forward; Lift: up to 115mm (vertica m (flat mode)	al mode) /		
Chipset	Intel Q470 Chipset						Power supply	Some:	150 \	watts adapter, autosensing, 89% PSU			
Rear ports*	4x USB 3.2 Gen 1 (or	ne suppo	rts Smart Power	On), 1x	ethernet (RJ-45)	,				watts adapter, autosensing, 89% PSU			
Side ports*	1x DisplayPort, 1x op 2x USB 3.2 Gen 2, 1x	USB 3.2	2 Type-C Gen 1(5	V/3A cł	narging),			-		ear, limited onsite service / service upgrades available			
M.2 card slot	1x optional card read	er, 1x hea	adphone / microp	hone co	ombo jack (3.5mr	n)	Preload	Some:	Wind	lows® 10 Pro 64-bit lows 10 Home 64-bit			
M.2 Card Slot	Two M.2 Card slots (c * Depending on many fac					etical speed				dows 10 IoT Enterprise (only available via special bid mod	del)		
Audio support	High Definition (HD)		altek ALC233 / tv	vo inter	nal speakers (3W	/ x 2),	Environment	ENERG	Y ST/	AR [®] 8.0*, EPEAT™ Silver rating*, ErP Lot 3, TCO 8.0, TCO	O Edge,		
	Dolby [®] Atmos [®] certifie							TUV Eye comfort certified, TUV Low Blue Light certified, TUV Ultra Low Noise certified (on some models), RoHS-compliant					
WLAN	Some: 11ac wireless	, M.2 Ca	rd, Realtek RTL8	822CE	(dual band),		]	* Only a	vailab	ble for MT 11CD/11CE			
		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),					MIL-SPEC test	,			perature		
	Wi-Fi + Bluetooth 5.0 combo adapter, 2x2						WIL-SPEC lesi	Low Ter	npera	ture, Temperature Shock, Humidity, Sand and Dust, Vibra	tion, Shock.		
	Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),							Fungus, Solar Radiation)					
	Wi-Ei + Bluet	$r_{0}$	itel vPro	b technology sup	port. 2x2	Accessories	For com	natihl	le accessories, please go to http://smartfind.lenovo.con	m			





#### ThinkCentre M920z Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel [®] Celeron [®] , Intel	Pentium®	, or 8th / 9th Ger	Intel Co	ore™ i3 / i5 / i7 / i9	eries	Audio support	High Definition (HD) Audio, Realtek ALC233 / two internal speakers (3W x 2),
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	WLAN	Dolby [®] Audio™ Premium
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	1	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265,, 2x2
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610	1	Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Bluetooth™	Intel vPro technology support, 2x2 Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM (Jacksonville), Wake on LAN®
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Manageability	Intel Active Management Technology 12.0 (Intel AMT 12.0);
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Wallageability	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630		adapter to enable vPro function through wireless connection)
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Security features	<ul> <li>Security slot (in rear for attachment of optional Kensington[®] MicroSaver[®] cable;</li> <li>Boot sequence control</li> </ul>
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		Kensington lock also locks chassis) • Boot sequence control
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		• Smart USB protection, allows keyboard/ • Individual USB port disablement
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Widuse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		<i>Some:</i> Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Mechanical	Business black color
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Weenaniear	Toolless back cover, stand, disk, memory removal
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	_	Support VESA mount (100mm)
Memory Storage	32GB max (16GB SC two 260-pin SO-DIM * System clocks down for Some: Hard Drive / HDDs (2nd H	M sockets or the proce SATA 6.00	s, dual-channel c essors with lower m Gb/s, 2.5", 5400	apable nemory co rpm or 72	ntroller	s up to two		Dimensions (WxDxH)         Max weight (lb / kg)         Adjustments           Without stand (No camera)           21.3 X 1.8 X 13.7 (inch)         (Touch) 14.0 / 6.34         N/A           542 X 46 X 349 (mm)         (Non-touch) 13.5 / 6.13         N/A           With Full Function Monitor stand (No camera):
	available via Some: Solid State D Some: M.2 SSD (22 Some: Intel Optane	special bi ive (SSE 42 / 2280	d model) )) / SATA 6.0Gb/s ) / PCIe NVMe. I	s, 2.5" PCle 3.0	x2 or PCle 3.0 x4	4		With Full Punction Wonton State (No camera):           21.3 X 9.9 X 15.9 to 20.2 (inch)         (Non-touch) 18.2 / 8.26         Tilt: 45° back, -5° forward;           542 X 252 X 405 to 514 (mm)         (Non-touch) 18.2 / 8.26         Lift: 110mm; Swivel: +/-45°           With UltraFlex III stand (No camera):           Tilt: 70° back, -5° forward;
Optical Media reader	Some: DVD-ROM S Some: DVD Burner Optional 3-in-1 media	ATA 1.5G (DVD±RV	b/s Drive, slim (9 V), SATA 1.5Gb/9	9.0mm)		,,		21.3 X 9.9 X 14.3 to 17.5 (inch)         (Touch) 19.7 / 8.94         Lift: up to 136mm (flat mode) / up to 542 X 252 X 363 to 444 (mm)           (Non-touch) 19.2 / 8.73         81mm (vertical mode);
					Dive at V [®] 1	0	-	Note: Camera adds 22mm in height (Vertical)
Graphics	Intel HD Graphics 6 external monitor sup			main me	emory, DirectX 1	2,		
	Max resolution: 4096	x2304 (D	P)@60Hz, 1920	x1080 (P	anel)@60Hz		Power supply	150 watts, autosensing, 90% PSU
Display	23.8" (604.5mm) Ful IPS (In Plane Switch	ing) techn	ology (IPS may	refer to IF	PS, PLS, ADS, Al	HVA, AAS),		<i>Some:</i> <b>1-year</b> or <b>3-year, depot repair service</b> / service upgrades available <i>Some:</i> <b>1-year</b> or <b>3-year, limited onsite service</b> / service upgrades available
Multi-touch	wide viewing angle (- contrast ratio, anti-gla via DisplayPort (DP i Optional multi-touch,	are, suppo n / out coi	ort Low Blue Ligh mbo)	nt Mode,	work as standalo	ne monitor	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Broloaded complications (cark scene listed)
Camera	Some: 1080p camer supports mul	ra, with du ti-degree	al microphone, l rotation (horizon	_ED indic tal 0° to	cator, physical sw 180°, vertical -25	itch on/off, ° to 25°)		<ul> <li>Preloaded applications (only some listed)</li> <li>Lenovo Vantage</li> <li>Microsoft Office preloaded;purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> </ul>
Controlo		llo suppor	t, only available	via speci	al bid models	° to 25°)		Cyberlink Power2GO (only for models with DVD±RW)     LinkedIn
Controls	Physical buttons on s		crophone mute a	anu powe			Environment	ENERGY STAR [®] 7.0*, EPEAT [™] Silver rating* (*not for non-OS models), ErP Lot 3
Chipset	Intel Q370 Chipset							TCO AIO Computer certified, GREENGUARD [®] certified,
Rear ports*	Four USB 3.1 Gen1 one DisplayPort in/ou	ut combo	port, one optiona	al serial (	9-pin)	,,		TUV Eye comfort certified, TUV Low Blue Light certified, TUV Ultra Low Noise certified (on some models), RoHS-compliant
Side ports*	one USB 3.1 Gen2 ( USB 3.1 Type-C Gen combo jack (3.5mm)	1, one op	otional card read	er, one h	eadphone / micro	ophone	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)
M.2 card slot	* Depending on many fa Two M.2 Card slots (	actors, actu one for W	al data transfer spe LAN, one for SS	ed may b D/Optane	e lower than theore e)	tical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com







AMD







AMD

### ThinkCentre M75n Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Ryzen 3 / 5 PF	RO serie	s processor				Security features	es			
	Processor	Cores / Threads	Frequency Base/Max	L2 / L3 Cache	Memory Support (Up to)	Integrated Graphics		<ul> <li>Kensington[®] MicroSaver[®] cable)</li> <li>Chassis intrusion switch</li> <li>Power-on password</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Smart USB protection, allows keyboard</li> </ul>			
	Ryzen 3 PRO 3300U	4/4	2.1 / 3.5 GHz		DDR4-2400	Radeon Vega 6		Administrator password mouse only, blocks all storage device     Hard disk password	ces		
	Ryzen 5 PRO 3500U	4/8	2.1 / 3.7 GHz	2 MB / 4MB	DDR4-2400	Radeon Vega 8	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
Memory	8GB / DDR4-2400* non-ECC * System automatica					•		Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black	¢		
Storage	Support up to two M Some: M.2 2280 S	SD / PC	lè NVMe, PC	le 3.0 x 4*	e x2)			Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black	black		
RAID Optical	Some: M.2 2242 S * M.2 SSD in PCIe S None None				Cle 3.0 x2		Mechanical	Nano (0.35L), Iron Gray top cover / Black mid bezel / Red bottom cover Three M.2 slots: two for M.2 SSD (one PCIe 3.0 x4 and one PCIe 3.0 x2) and for WLAN	lone		
Graphics	AMD Radeon [™] Veg	a 6/8 G	raphics in pr	ocessor, us	es main me	mory, DirectX [®] 12,	1	Dimensions (WxDxH) Weight (Approx.)			
·	one DisplayPort™, c independent display	one USB /s;	3.2 Type-C (	Gen2 with d	isplay function	on, up to 2		M75n         7.05" X 3.46" X 0.87"         1.11 lb (0.505 kg), vary by config           (with fan, 0.35L)         179mm X 88mm X 22mm         vary by config	,		
Monitor cable	Max resolution: 384 Optional DP to VGA HDMI dongle, Type-	dongle,	DP to HDM	3840x2160 dongle, Typ	(Type-C)@0 be-C to VGA	60Hz dongle, Type-C to	Mounting	Some: VESA mount bracket kit, supports VESA 75mm Some: VESA mount bracket kit with adaper holder, supports VESA 75mm Some: DIN rail mount bracket kit			
Chipset	AMD SoC (System	on Chip	o) platform				Floor Stand	None			
Front ports (Std.)*	1x USB 2.0, 1x USE			3.2 Туре-С	Gen 2, one l	neadphone /	Power supply	65 watts adapter, autosensing, 89% PSU (Not for TIO models)			
Rear ports (Std.)*	microphone combo 1x USB 2.0, 1x USE support power-in [20	3 3.2 Ge 0V and >	n2, 1x USB 3 ›45W]), 1x et	hernet (RJ-	45), 1x Disp	layPort	Limited warranty	ty Some: 1-year, limited onsite service / service upgrades available Some: 3-year, limited onsite service / service upgrades available			
	* Depending on many	,			ay be lower th	an theoretical speed	Preload	Preloaded operating system			
Audio support	Realtek ALC233 / in		(	,			-	<i>Some:</i> Windows [®] 10 Pro 64-bit <i>Some:</i> Windows 10 Home 64-bit			
WLAN	Some: 11ac wireles		Card, Realtek 0 combo ada		E (dual ban	d),		Some: Windows 10 IoT Enterprise (only available via special bid model)			
	Some: 11ac wireles Wi-Fi + Blue	ss, M.2 0 etooth 4.1	Card, Qualco 2 combo ada	mm Atheros pter, 2x2		, ,	Environment	ENERGY STAR [®] 8.0, EPEAT [™] Silver rating, ErP Lot 3, TCO 8.0, TUV ultra lo noise verified (on some models), RoHS, WEEE, REACH	W		
Dhuadaadh		etooth 5.	0 combo ada	pter, 2x2		,,	MIL-SPEC test	Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, S	ire, hock,		
Bluetooth Ethernet	<i>Some:</i> Bluetooth 4. Gigabit ethernet, Re					npo adapter		Fungus, Solar Radiation)			
Manageability Security chip	Dash 1.1/1.2 Discrete TPM 2.0, T						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			

Note: The specifications above may not be available in all regions.













AMD

### ThinkCentre M75n IoT Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Athlon proces	sor					Security features	• Security slot (in rea	ar for optional    Boot sequence																				
	Processor	Cores / Threads	Frequency Base/Max	L2 / L3 Cache	Memory Support (Up to)	Integrated Graphics		<ul> <li>Kensington[®] Micro</li> <li>Chassis intrusion s</li> <li>Power-on passwor</li> </ul>	switch Ó Individual USI	eyboard and mouse B port disablement																			
	AMD Athlon Silver 3050e	2/4	1.4 / 2.8 GHz	1 MB / 4MB	DDR4-2400	Radeon Graphics		<ul> <li>Administrator pass</li> <li>Hard disk passwor</li> </ul>																					
Memory	4GB / DDR4-2400* * System automatically						Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), bl																					
Storage	Support one M.2 SS Some: M.2 2280 S Some: M.2 2242 S	SD / PC					Mouse	Some: Lenovo Calli	ope Wireless Keyboard (2.4GHz via ope Mouse (USB connector), black erprint Mouse (USB connector), Wi ope Wireless Mouse (2.4GHz via U	,-																			
Optical	None None	<u> </u>					Mechanical	Nano (fanless 0.55L) Two M.2 slots: one f	ezel / Black bottom cover																				
Graphics	AMD Radeon [™] Gra DisplayPort [™] , one U displays;	JSB 3.2	n processor, i Type-C Gen2	uses main r with displa	nemory, Dire ly function, L	ectX [®] 12, one up to 2 independent			Dimensions (WxDxH)	Weight (Approx.)																			
	Max resolution: 384 Optional DP to VGA							M75 IoT (fanless, 0.55L)	7.05" X 3.46" X 1.36" 179mm X 88mm X 34.5mm	1.58 lb (0.72 kg), vary by config																			
Monitor cable	HDMI dongle, Type-	C to DP	dongle	doligie, typ		dongie, type o to	_	With I/O box	7.05" X 3.46" X 2.41" 179mm X 88mm X 61.3mm	2.65 lb (1.2 kg), vary by config																			
1 ( )	AMD SoC (System * 1x USB 2.0, 1x USE microphone combo * 1x USB 3.2 Gen 2, in [20V, > 45W]), 1x	3 3.2 Ge jack (3.5 1x USB	n 2, 1x USB 3 5mm), 2x seri 3.2 Type-C G	al (RS-232) en 2 (with o	) displav funct		Mounting Floor Stand	Some: VESA mount bracket kit, supports VESA 75mm Some: VESA mount bracket kit with adaper holder, supports VESA 75mm Some: DIN rail mount bracket kit None																					
I/O box*	Optional I/O box, connect to the USB 3.2 Type-C Gen 2 port of M75n IoT, exten 2x serial, 2x ethernet (RJ-45, I/O box is equipped with Realtek RTL8153B, giga ethernet), 1x DI (Digital Input) connector, 1x DO (Digital Output) connector * Depending on many factors, actual data transfer speed may be lower than theoretical sp Realtek ALC233 / internal speaker (1watt) Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2						Power supply	Some: 65 watts AC/DC adapter*, autosensing, 89% PSU Some: 65 watts AC/DC adapter (wide temperature)*, autosensing, 88% for Machine Type 11GW/11GX) * Not for the models with I/O box																					
Audio support WLAN							Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2																		anty <i>Some:</i> <b>1-year</b> , <b>limited onsite service</b> / service upgrades available <i>Some:</i> <b>3-year</b> , <b>limited onsite service</b> / service upgrades available				
WLAN												Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),			Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			Preload		
Bluetooth WWAN	Wi-Fi + Blue Some: Bluetooth 4. None	etooth 5. 2 / 5.0 v	0 combo ada vireless, integ	pter, 2x2 Irated in Wi	-Fi + BT con	,,	Environment	ENERGY STAR [®] 8.0*, EPEAT [™] Silver rating*, ErP Lot 3, TCO 8.0*, TUV ult noise verified (on some models), RoHS, WEEE, REACH * Not for the models with I/O box or 65w adapter (wide temperature)																					
Ethernet Manageability Security chip	Gigabit ethernet, Re Dash 1.1/1.2 Discrete TPM 2.0, T			G, Wake on	LAN®		MIL-SPEC test	<ul> <li>MIL-STD-810H military certification (Low Pressure [Altitude], High Temperature Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Sho Fungus, Solar Radiation)</li> </ul>																					
	21001010 11 10 2.0, 1		anou				Accessories																						

Note: The specifications above may not be available in all regions.



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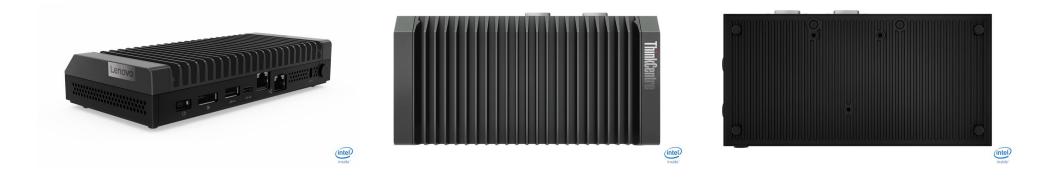
### ThinkCentre M90n-1 Nano Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel® 8th Generation	Intel Core		cessor			Manageability	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi				
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Security chip	adapter to enable vPro function through wireless connection) Discrete TPM 2.0, TCG Certified				
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD 620	Security features	• Security slot (in rear for optional • Boot sequence control				
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		<ul> <li>Kensington[®] MicroSaver[®] cable)</li> <li>Chassis intrusion switch</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>				
	Core i5-8365U	4/8	1.6G / 4.1G	6 MB	DDR4-2400	UHD 620		Power-on password     Smart USB protection, allows keyboa				
	Core i7-8665U	4/8	1.9G / 4.8G	8 MB	DDR4-2400	UHD 620		Administrator password mouse only, blocks all storage devices				
Memory	8GB or 16GB / DDR4 * System automatical						Keyboard	Hard disk password     Some: Lenovo Calliope Keyboard (USB connector), black				
Storage	Support up to two M. Some: M.2 2280 SS Some: M.2 2242 SS Some: Intel Optane ^{TT} PCIe NVMe 3	D / PCle I D / PCle I ™ Memory 3.0 x 4 (no	VVMe, PCIe 3.0 H10 with Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Not Support Celero	x 2** State St n)	0		Mouse	Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black				
RAID Optical	* <i>M.2 SSD / Optane with</i> ** 128G <i>M.2 2242 SSD</i> RAID 0/1 support (RA None	n SSD in`P( not support	Cle 3.0 x 2 M.2 slot ted on Machine Typ	cán only e 11AM	/11AS/11AK/11/		Mechanical	Nano (0.35L), Iron Gray top cover / Black mid bezel / Red bottom cover Three M.2 slots: two for M.2 SSD (one PCIe 3.0 x4 and one PCIe 3.0 x2) and o for WLAN				
Graphics	Intel UHD Graphics	620 in nr	Deceor Licos mo	in mor	ory Direct [®] 12	000	1	Dimensions (WxDxH) Weight (Approx.)				
Graphics	DisplayPort™, one US displays;							M90n-1 Nano         7.05" X 3.46" X 0.87"         1.11 lb (0.505 kg), vary by config           (with fan, 0.35L)         179mm X 88mm X 22mm         vary by config				
Monitor cable	Max resolution: 4096 Optional DP to VGA of HDMI dongle, Type-C	dongle,`Dl	P to HDMI dongle			, Type-C to	Mounting	Some: VESA mount bracket kit, supports VESA 75mm Some: VESA mount bracket kit with adaper holder, supports VESA 75mm Some: DIN rail mount bracket kit				
Chipset	Intel SoC (System o	n Chip) p	latform				Floor Stand	None				
Front ports (Std.)	* 2x USB 3.1 Gen2, 1x	USB 3.1	Type-C Gen 2, o	ne head	dphone / microph	one combo	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (Not for TIO models)				
Rear ports (Std.)*	jack (3.5mm) 2x USB 3.1 Gen2, 1x power-in [20V and >4					oort	Limited warranty	<ul> <li>Some: 1-year, limited onsite service / service upgrades available</li> <li>Some: 3-year, limited onsite service / service upgrades available</li> </ul>				
	* Depending on many fa					etical speed	Preload	Preloaded operating system				
Audio support	Realtek ALC233VB /					•	-	Some: Windows [®] 10 Pro 64-bit Some: Windows 10 Home 64-bit				
WLAN	Some: 11ac wireless Wi-Fi + Bluete Some: 11ac wireless	ooth 5.0 c	ombo adapter, 1	x1			Environment	ENERGY STAR [®] 7.1, EPEAT [™] Silver rating (North America), ErP Lot 3, TCO 8. TUV ultra low noise verified (on some models), RoHS, WEEE, REACH				
	Wi-Fi + Blueto Some: 11ac wireless Wi-Fi + Blueto	ooth 5.0 c s, M.2 Car ooth 5.0 c	combo adapter, 2 d, Intel Wireless combo adapter, 1	x2 -AC 946 x1	62 (dual band),		MIL-SPEC test	MIL-STD-810H (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)				
	Some: 11ac wireless Wi-Fi + Bluete Some: 11ac wireless	s, M.2 Car ooth 5.0 c s, M.2 Car	d, Intel Wireless ombo adapter, 2 d, Intel Wireless	-AC 956 x2 -AC 956	, , , , , , , , , , , , , , , , , , ,	oort. 2x2	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com				
Bluetooth Ethernet	Some: Bluetooth 5.0 Gigabit ethernet, Inte Connection I219-V (J	wireless, I Ethernet	integrated in Wi Connection I219	Fi + BT -LM (J	combo adapter							

Note: The specifications above may not be available in all regions.

Lenovo, March 2020





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### ThinkCentre M90n-1 Nano IoT Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel [®] Celeron [®] or 8th	Generati	ion Intel Core™ i3	8 / i5 Pr	ocessor		Manageability	Intel vPro technology	on some models	(require choosing	a vPro-support Wi-Fi		
	Processor	Cores / Threads	Frequency	Cache	Memory Suppor (Up to)	t Integrated Graphics	Security chip	adapter to enable vP Discrete TPM 2.0, TO	ro function throug				
	Celeron 4205U	2/2	1.8G	2 MB	DDR4-2133	UHD 610	Security features	• Security slot (in rea	ar for optional	Boot sequence			
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD		<ul> <li>Kensington[®] Micros</li> <li>Chassis intrusion s</li> </ul>			eyboard and mouse B port disablement		
	Core i3-8145UE	2/4	2.2G / 3.9G	4 MB	DDR4-2400	UHD 620		<ul> <li>Power-on passwor</li> </ul>			port disablement		
	Core i5-8365U	4/8	1.6G / 4.1G	6 MB	DDR4-2400	UHD 620		<ul> <li>Administrator pass</li> </ul>	word				
Memory	4GB or 8GB / DDR4- (Celeron 4205U / Core is Core i5-8365U models e * System automatically of	3-8145U m quipped w	odels equipped wit ith 8GB memory)	h 4GB m	nemory, and Core	i3-8145UE /	Keyboard	Hard disk password     Some: Lenovo Calliope Keyboard (USB connector), black     Some: Lenovo Traditional Keyboard (USB connector), black     Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black					
Storage	Support up to two M.: Some: M.2 2280 SS Some: M.2 2242 SS	D / PCle   D / PCle	NVMe, PCIe 3.0	x 2**		0	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver			SB receiver), black		
	* M.2 SSD / Optane with ** 128G M.2 2242 SSD	3.0 x 4 (no SSD in Po not suppo	ot support Celero Cle 3.0 x 2 M.2 slot rted on Machine Ty	n) <i>can onl</i> j pe 11AN	y run at PCle 3.0 x 1 / 11AS / 11AK /	x2	Mechanical	Nano (fanless 0.55L), Iron Gray top cover / Black mid bezel / Black bottom Four M.2 slots: two for M.2 SSD (one PCIe 3.0 x4 and one PCIe 3.0 x2), o WLAN, and one for WWAN					
RAID	RAID 0/1 support (RA	AID prese	t only available v	ia spec	ial bid model)					ns (WxDxH)	Weight (Approx.)		
Optical Graphics	None Intel UHD Graphics						-	M90n-1 Nano IoT (fanless, 0.55L)		.46" X 1.36" mm X 34.5mm	1.58 lb (0.72 kg), vary by config		
	DisplayPort [™] or HDN display function, up to Max resolution: 40962	o 2 indepe	endent displays;	,,	51	Gen2 with		With I/O box		.46" X 2.41" mm X 61.3mm	2.65 lb (1.2 kg), vary by config		
Monitor cable		x2304 (Ty dongle, D	rpe-C)@60Hz P to HDMI dongle		, .	le, Type-C to	Mounting - Floor Stand	Some: VESA mount bracket kit, supports VESA 75mm Some: VESA mount bracket kit with adaper holder, supports VESA 75mm Some: DIN rail mount bracket kit					
Chipset	Intel SoC (System o	n Chip) p	olatform					None					
	* 2x USB 3.1 Gen2, 1x jack (3.5mm), 2x seri	al (RS-23	2)				Power supply	for Machine 1	temperature)*, aut	J osensing, 88% PSU (only			
Rear ports (Std.)	With Celeron: 1x US	⊡ 2.0, 1x r-in [20V. :	> 45W]), 1x ether	net (R	J-45). 1x Display	vPort	L	* Not for the models with I/O box					
	With i3/i5: 1x USI support	B 3.1 Ger rt power-i	12, 1x USB 3.1 Ty n [20V, > 45W]), .	/pe-C G 2x ethe	Gen 2 (with disp	lay function,	Limited warranty	Some: 3-year, limited onsite service / service upgrades available					
I/O box*	Optional I/O box, con extends 2x serial, 2x gigabit ethernet), 1x I * Depending on many fa	nect to th ethernet DI (Digital	(RJ-45, I/O box is I Input) connector	Č Gen 2 s equipp r, 1x DC	oed with Realtel D (Digital Output	k RTL8153B, t) connector	Preload	Preload Preloaded operating system Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 10 IoT Enterprise (only available via sp					
Audio support	Realtek ALC233VB /	,	1	eu may	be lower than the	orelical speed	Environment	ENERGY STAR® 7.1					
WLAN	Some: 11ac wireless		,	322CF	(dual band).		-	* Not for the models with		(on some models	), RoHS, WEEE, REACH		
	Wi-Fi + Bluete Some: 11ac wireless Wi-Fi + Bluete	ooth 5.0 c s, M.2 Ca ooth 5.0 c	combo adapter, 1 rd, Realtek RTL8 combo adapter, 2	x1 822CE x2	(dual band),		MIL-SPEC test	MIL-STD-810H* (Low	w Pressure [Altitud Humidity, Sand ar	nd Dust, Vibration,	ure, Low Temperature, Shock, Fungus, Solar		
	Some: 11ac wireless	ooth 5.0 c s, M.2 Ca	combo adapter, 1 rd, Intel Wireless	x1 AC 956	( //		Accessories	For compatible acces	ssories, please go	to http://smartfir	nd.lenovo.com		
	Some: 11ac wireless Wi-Fi + Bluet	s, M.2 Ca ooth 5.0 c	combo adapter, Ir	AC 956 Itel vPr	o tèchnology su								
Bluetooth WWAN Ethernet	Some: Bluetooth 5.0 Some: Integrated Mo With Celeron: Gigab With Core i3: Two gi	obile Broa it etherne	dband 4G LTE-A t, Realtek RTL81	, Fiboc 11K, 1:	om L850-GL, M « RJ-45, Wake «	.2 card on LAN®							
	With Core i5: Two gig	gabit ethe	ernet, Intel Ethern L8111H, 2x RJ-4			1(Jacksonville	)						
late. The energifier	tions above may not be	ovoilable	in all regions								Lenovo May 20		



### ThinkCentre M70s Platform Specifications

End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End         End <th>Processor</th> <th>Intel[®] Celeron[®], Intel</th> <th>Pentium®</th> <th>or 10th Gen Inte</th> <th>el Core™</th> <th>i3 / i5 / i7 / i9 Pro</th> <th>ocessor</th> <th>WLAN</th> <th>Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),</th>	Processor	Intel [®] Celeron [®] , Intel	Pentium®	or 10th Gen Inte	el Core™	i3 / i5 / i7 / i9 Pro	ocessor	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),
Bit Number         Control Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control         Solution Control		Processor		Frequency	Cache				
Image: Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Construction         Constr		Celeron G5900			2 MB				Wi-Fi + Bluetooth 5.0 combo adapter, 1x1 (special bid only)
Perturn Gold Geldo         2/14         4.06         4.M8         DDPL-2666         UHD 601           Perturn Gold Geldo         2/14         4.16         4.M8         DDPL-2666         UHD 603           Perturn Gold Geldo         2/14         4.26         4.M8         DDPL-2666         UHD 603           Core 8:10300         4.7.8         3.56/1.42         6.M8         DDPL-2666         UHD 603           Core 1:10000         6.7.12         2.60/1.42         0.004-2666         UHD 603         Core 1:10000         Power-on password           Memory         1.02         2.80/1.42         1.04         DPL-2663         UHD 603         Core 1:10000         Power-on password									Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),
Perturn Gold Geson         2/.4         4.16         4.M8         DDP4-zeo6         UID 820           Perturn Gold Geson         2/.4         4.23         4.M8         DDP4-zeo6         UID 820           Core IS-10300         4/.8         3.05 (-1.43)         6.M8         DDP4-zeo6         UID 820           Core IS-10300         4/.8         3.05 (-1.43)         6.M8         DDP4-zeo6         UID 820           Core IS-10400         6./12         2.86 (-1.46)         1.78         DDP4-zeo6         UID 820           Core IS-10400         6./12         2.86 (-1.46)         1.78         DDP4-zeo6         UID 820           Core IS-10400         6./12         2.86 (-1.46)         1.78         DDP4-zeo6         UID 820           Core IS-10400         6./12         2.86 (-1.46)         1.78         DDP4-zeo6         UID 820           Core IS-10400         1.12         2.86 (-1.46)         1.08         DDP4-zeo6         UID 820           Core IS-10400         1.12         2.86 (-1.46)         1.08         DDP4-zeo6         UID 820           Core IS-10400         1.12         2.86 (-1.46)         1.08         DDP4-zeo6         UID 820           Core IS-105000         1.12         2.86 (-1.46)         1.08<									
Perturn Guid Géénio         27.4         4.426         4.M6         DDR4-2566         UID 630         Some: Bluetooth 5.05: 1.Vireless, integrated in ViF+1 + BT combo adapter Gene 5:1030         4.18         3.06 / 4.36         6.08         DDR4-2566         UID 630           Core 6:10300         4.18         3.06 / 4.36         8.08         DDR4-2566         UID 630         Some: The Elitement Gind Géénio 129 V/Labornile, Vake on Some: The Gind Gérier Géénio 129 V/Labornile, Vake on Some: The Gind Gérier Géénio 129 V/Labornile, Vake on Some: The Gind Gérier Géénio 129 V/Labornile, Vake on Some: The Gind Gérier Gérier Géénio 129 V/Labornile, Vake on Gene 17:0000         6.01         7.00         9.0000         9.0000         9.00000         9.0000         9.00000         9.00000         9.000000         9.000000         9.000000000         9.000000000000000000000000000000000000									
Core is -1otion         4 / 8         3 / 6 / 4 / 6 / 8         M B         DDH-2556         Unb 250           Core is -10300         4 / 8         3 / 6 / 4 / 6 / 8         M B         DDH-2556         Unb 250           Core is -10320         4 / 8         3 / 6 / 4 / 6 / 8         M B         DDH-2556         Unb 250           Core is -10320         4 / 8         3 / 6 / 4 / 6 / 8         M B         DDH-2556         Some: Ethical Bharca62, gigabit ethement, 1x RJ-45, PC / ext           Core is -10400         6 / 12         2 / 26 / 4 / 30         1 / M B         DDH-2556         Unb 250           Core is -10400         6 / 12         2 / 36 / 4 / 46         1 / M B         DDH-2556         Unb 250           Core is -10400         6 / 12         2 / 36 / 4 / 48         1 / M B         DDH-2553         Neme           Core is -10400         1 / 12         2 / 26 / 4 / 48         1 / M B         DDH-2553         Neme         Discretory and intrastrator password         Neme           Core is -104000         1 / 12         2 / 26 / 4 / 48         1 / M B         DDH-2553         Neme         Discretory and intrastrator password								Bluetooth	
Core is -102000         4 / 8         3 / 3 / 4 / 4 / 4 / 8         MB         DDH-2886         UH p 50           Core is -10400F         6 / 12         2.96 / 4.30         12 MB         DDH-2886         UH p 50           Core is -10400F         6 / 12         2.96 / 4.30         12 MB         DDH-2886         UH p 50           Core is -10600         6 / 12         3.36 / 4.66         12 MB         DDH-2886         UH p 50           Core is -10600         6 / 12         3.36 / 4.66         12 MB         DDH-2886         UH p 50           Core is -10600         6 / 12         3.36 / 4.66         16 MB         DDH-2886         UH p 50           Core is -10600         6 / 12         2.96 / 4.86         16 MB         DDH-2833         UH p 50           Core is -106000         10 / 20         2.86 / 5.26         2.0 MB         DDH-2833         UH p 50           Core is -106000         10 / 20         2.86 / 5.26         2.0 MB         DDH-2833         UH p 50           Core is -106000         10 / 20         2.86 / 5.26         2.0 MB         DDH-2833         UH p 50           Core is -1060000         10 / 20         2.86 / 5.26         2.80 MB         DDH-2833         UH p 50           Core is -1060000         10 / 20<									Gigabit ethernet, Intel Ethernet Connection I219-V(Jacksonville), Wake on LAN [®]
Core is -10220         4 / 8         386 / 466         8 MB         DDR4-2666         UHD 500           Core is -10600         6 / 12         2.96 / 4.36         12 MB         DDR4-2666         UHD 500           Core is -10600         6 / 12         2.96 / 4.36         12 MB         DDR4-2666         UHD 500           Core is -10600         6 / 12         3.36 / 4.66         12 MB         DDR4-2666         UHD 500           Core is -10600         6 / 12         3.36 / 4.63         12 MB         DDR4-2666         UHD 500           Core is -10600         6 / 12         2.96 / 4.80         16 MB         DDR4-2666         UHD 500           Core is -10600         10 / 20         2.86 / 5.80         20 MB         DDR4-2833         UHD 500           Core is -10600         10 / 20         2.86 / 5.80         20 MB         DDR4-2833         UHD 500           Technology 3.0 / Inst Thermal Velocity boost, and adopt the max one of them         Kayboard         Some: Lenovo Calliope Kyrboard (USB connector), black           Memory         128GB max, DDR4-2666         DDR4-2867         DDR4-2666         DDR4-2867         DR4           Some: WD Polk-2667         DDR4-2666         DDR4-283         UHD 500         Some: Lenovo Calliope Kyrboard (USB connector), black         Some: Lenovo Cal					-			Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4
End         Core is 1:1400P         6 / 12         2.86 / 4.36         12 MB         DDPA-2866         Unone           Core is 1:0500         6 / 12         3.1G / 4.5G         12 MB         DDPA-2866         UHD 803           Core is 1:0500         6 / 12         3.1G / 4.5G         12 MB         DDPA-2866         UHD 803           Core is 1:0500         6 / 12         3.1G / 4.5G         12 MB         DDPA-2866         UHD 803           Core is 1:0500         6 / 12         3.1G / 4.5G         12 MB         DDPA-2863         UHD 803           Core is 1:0500         10 / 20         2.8G / 5.22         2.0 MB         DDPA-2933         UHD 803           Core is 1:0500         10 / 20         2.8G / 5.22         2.0 MB         DPA+2933         UHD 804         Optional Smait cybical Max         Endwidth 1004         USB protection, Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope Keyboard (USB connector), Iback         Some: Lenovo Callope K									Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1
Beck         Core is:10400         6 / 12         2 2.02 / 4.30         12 MB         DDPA-2066         UHD 203           Core is:10500         6 / 12         3.10 / 4.50         12 MB         DDPA-2066         UHD 203           Core is:10500         6 / 12         3.03 / 4.80         12 MB         DDPA-2066         UHD 203           Core is:10500         6 / 12         3.03 / 4.80         12 MB         DDPA-2066         UHD 203           Core is:10500         10 / 20         2.80 / 5.20         2.00 MB         DDPA-2063         UHD 203           Core is:10500         10 / 20         2.80 / 5.20         2.00 MB         DDPA-2063         UHD 203           * Max frequency may refer to Infl trub Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 / Infl UHD Boost Fachnology 2.0 /									
Image: space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the s								Security chip	Discrete TPM 2.0, TCG Certified
Design from the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon					12 MB		UHD 630	Security features	
Description         Description         Strate         299/142         Construction         End of the sequence control         End of the sequence control           Core is 1-10000         10 / 20         266 / 32.0         20 / 10.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0         20 / 12.0		Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630	-	
Image: space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the space of the s		Core i7-10700F	8/16	2.9G / 4.8G	16 MB	DDR4-2933	None		
Image: None inclusion in the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of the importance of		Core i7-10700	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630		
Locare (9-10900         10/20         2.82/5.22         2.00 MB         DDR4-2933         UHD 830           * Max requency may refer to inal Turb Bosot and adopt the max one of them         *         Storage         Some: Lenove Calliope Krepboard (USB connector), black           Memory         128GB max, DDR4-2866 / DDR4-2933*, four 288-pin DIMM sockets, dual-channel capable         *         Keyboard         Some: Lenove Calliope Krepboard (USB connector), black           Storage         Support up to 2X HDD (2.5* 4.5*) or (dual 2.5*) and up to 1x MZ SD Some: Max DDR4-2836, but clocks down for the limitation of processors         Some: Lenove Calliope Wireless Keyboard (2.4GHz via USB receiver), black           Storage         Support up to 2X HDD (2.5* 4.5*) or (dual 2.5*) and up to 1x MZ SD Some: Max DD Burner (DVF4K), STATA 500 224 7 C210 otpm         Mechanical         STF (8.2.1), black coort, metal case Some: Lenove Calliope Wireless Mouse (2.4GHz via USB receiver), black           Optical         Some: Max Optime of Max PC (2.5*), STAT 6.0Gb/s connectors         Some: Max Optime PC (2.5*), STAT 6.0Gb/s connectors           Media reader         Optional Stato Some, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Stato's Dinty, Dintaket for optional part ext		Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	None		
Technology 3.0/ Intel Thermal Velocity Boost, and adopt the max one of them         Keyboard         Some:         Lenvo Calliope Keyboard (USB connector), black           Memory         128GB max, DDR4-2666 / DDR4-2933', but clocks down for the limitation of processors         Some:         Some:         Some:         Lenvo Calliope Wireless Keyboard (USB connector), black           Storage         Support up to X HDD (12.5" + 3.5") or [dual 2.5"] and up to 1X M2.SSD         Some:         Lenvo Calliope Wireless Keyboard (2.4 GHz via USB receiver), black           Some:         Lando Support         Some:         Lando Support         Weight Ingerprint Mouse (USB connector), black           Some:         Lando Support         Some:         Lando Support         Some:         Lando Support           Optical         Some:         Lando Support         Some:         Lando Support         Some:         Lando Support           Optical         Some:         Lando Support         Some:         Lando Support         Some:         Lando Support           Optical         Some:         Lando Support         Some:         Lando Support         Some:         Lando Support           Optical         Some:         Lando Support		Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630		<ul> <li>Smart USB protection, allows keyboard/</li> </ul>
Memory capable * Memory module is DDR4-2666 / DDR4-2933*, four 288-pin DIMM sockets, dual-channel * Memory module is DDR4-2636 / DDR4-2933*, four 288-pin DIMM sockets, dual-channel * Memory module is DDR4-2636 / DDR4-2933*, four 288-pin DIMM sockets, dual-channel * Memory module is DDR4-2636 / DDR4-2933*, four 288-pin DIMM sockets, dual-channel * Memory module is DDR4-2636 / DDR4-2933*, four 288-pin DIMM sockets, dual-channel * Memory MIO, Max 2500 / PCI e NVMe, PCI e 3.0 x2 Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Intel Optinel* Memory MIO, 22200, PCI e 3.0 x8 Some: Intel UBD Graphics GI/G30 in some processors, uses main memory, DirectX* 12, Some: Intel UBD Graphics GI/G30 in some processors, uses main memory, DirectX* 12, Some: MID Radeon* S20, DirectX 12, 2GB GDDR5, PCI e 3.0 x8, 30 watts, support via discrete graphics Some: MID Radeon* S20, DirectX 12, 2GB GDDR5, PCI e 3.0 x8, 30 watts, two bisplayPort*, up to 408/sct206 GDH2, Some: Some: MID Radeon* S20, DirectX 12, 2GB GDDR5, PCI e 3.0 x8, 30 watts, two bisplayPort*, nore 10, Simm), histephone / microphone (3.5mm), tx incrophone (3.5mm)							lax	Kevboard	
* Memory module is DDR-2933, but clocks down for the limitation of processors       Mouse         Storage       Support up to 2x HDD ((2.5* + 3.5") or (dual 2.5") and up to 1x M2.SSD Some: Hard Drive / SATA 6.0Gb/s, 2.5 or 3.5, 7200 rpm Some: M2 SSD (2242 / 2280) / PCie NVMe, PCie 3.0 x2 Some: Some: Some: Nuel Optane" Memory M10, M.2 2280, PCie 3.0 x2 Some: Some: Some: NUD Burner (DVD-HOM, SATA 1.5Gb/s Drive, slim (9.0mm) Some: DVD-BUM, SATA 1.5Gb/s Drive, slim (9.0mm) Some: DVD-BUM, SATA 1.5Gb/s Drive, slim (9.0mm) Some: DVD-BUM, SATA 1.5Gb/s Drive, slim (9.0mm) Some: DVD Burner (DVD-HOM, SATA 1.5Gb/s Drive, slim (9.0mm) Three orbard SATA 6.0Gb/s contectors       Mechanical       ● STFF (8.2L) black coor, metal case • Dimensins with beeral RPCI holder & rubber foot: • (Wz/SZH/J 3.6* X 11.7* X 13.4*; 93mm X 298mm X 340mm • Weight (approx.): 11.7 lb (5.3 kg), weight may vary by configuration Bays         Graphics       Intel UHD Graphics G10630 in some processors, uses main memory, DirectX* 12, • No DisplayPort*, one HDMI, supports up to 3 independent displays, more displays support via discrete graphics Max resolution: 4096x2304 (DP)@ 60Hz; 1920x1080 (HDMI)@ 60Hz Some: MD Radeom® 520, DirectX 12, 226B GDBS, PCIe 3.0 x8, 30 watts, two DisplayPort (up to 4096x2160@ 60Hz) Optional DP to VGA dolge, DP to D vol LD dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle         Chipset       Intel H470 Chipset         Front ports* (Std) 2x USB 3.2 Gen 2, 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)       Power supply         Final H470 Chipset       Fol 4.00x resid (-gpin), 2x Resid (-gpin), 2x Resid (-gpin), 2x Resid (-gpin), 2x Resid (-gpin), 2x Resid (-g	Memory	128GB max. DDR4-2	2666 / DD	R4-2933*. four 28	88-pin D	IMM sockets. dua	al-channel		Some: Lenovo Traditional Keyboard (USB connector), black
Storage         Support up to 2x HDD [2,5" + 3.5"] or [dual 2,5] or [dual 2,5]         Some: Lanovo Fingerprint Mouse (USB connector)         Mindow Hello suppor           Storage         Support up to 2x HDD [2,5" + 3.5"] or [dual 2,5]         Some: Lanovo Fingerprint Mouse (USB connector)         Some: Lanovo Fingerprint Mouse (USB connector)         Some: Lanovo Fingerprint Mouse (USB connector)           Optical         Some: DVD-ROM, STA 1, 5Gb/s Drive, slim (0,0mm)         Some: Some: CVD Burner (DVD=RM), SATA 1, 5Gb/s Drive, slim (0,0mm)         Some: Some: SUD Burner (DVD=RM), SATA 1, 5Gb/s Drive, slim (0,0mm)           Onboard SATA         Three onboard SATA 6, Gob/s connectors         Weight (approx.): 11.7 lb (5.3 kg), weight may vary by configuration           Graphics         Intel UMD Graphics 610(50 in some processors, uses main memory, DirectX [#] 12,         Bays         Slots         Slots         Slots         Slots         Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Shore Slots 2: Sho	/			,		,		Mouse	
Storage         Support up to 2X HDD [22.5* 3.5*] or [dual 2.5*]) and up to 1x M2.SSD Some: Hard Drive / SATA 6.0Gb/s 2.5* or 3.5*] roor [dual 2.5*]) and up to 1x M2.SSD         Some: Landow Calliope Wireless Mouse (2.4GHz via USB receiver), black           Optical         Some: M.2 SSD (2242 / 2280) / PCIe NVWe, PCIe 3.0 x2         • SFF (8.2L), black color, metal case         • SFF (8.2L), black color, metal case           Optical         Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm)         • SFF (8.2L), black color, metal case         • SFF (8.2L), black color, metal case           Optical         Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm)         • SFF (8.2L), black color, metal case           Media reader         Optional 3-in-1 meti areader (support SD, SDHC, and SDXC)         Bay         Bay           Graphics         Intel UHD Graphics 610/630 in some processors, uses main memory. DirectX* 12, two DisplayPort**, ore HDMI, supports up to 3 independent displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, more displays, and the dongle, DP to UN-D dongle, DP to dual DP dongle (for Collage Some: HAU Ray (CMP) & Colmon 42, 22 (SH HDD beay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) bay (DP) b		* Memory module is DD	R4-2933, b	ut clocks down for	the limitat	ion of processors		INIOUSE	
Some: M.2 SSD (2242/2280) / PCIe NVMe, PCIe 3.0 x2Mechanical• SFF (8.2L), black color, metal caseOpticalSome: DVD-HOM, SATA 1.5Gb/s Drive, slim (9.0mm)• SFF (8.2L), black color, metal caseOpticalSome: DVD-HOM, SATA 1.5Gb/s Drive, slim (9.0mm)• SFF (8.2L), black color, metal caseObtoard SATAThree onboard SATA 6.0Gb/s connectors• SFF (8.2L), black color, metal caseGraphicsIntel UHD Graphics 610/630 in some processors, uses main memory, DirectX* 12, two DisplayPort™, one HDMI, supports up to 3 independent displays, more displays support vi a discrete graphics.• SFF (8.2L), black color, metal caseMonitor cableIntel UHD Graphics 610/630 in some processors, uses main memory, DirectX* 12, two DisplayPort™, one HDMI, supports up to 3 independent displays, more displays Support vi a discrete graphics.• SFF (8.2L), black color, metal caseMonitor cableIntel UHD Graphics 610/630 in some processors, uses main memory, DirectX* 12, two DisplayPort™, one HDMI, supports up to 3 independent displays, more displays Some: AMD Radeom* 520, DirectX 12, 2GB GDDR5, PCI 63.0 x8, 30 watts, two DisplayPort tup to 4096x2160@60H2 Doptional DP to VKA dongle, DP to HDMI 1.4 dongle• Networe supplyFiort ports* (Std.) 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), tx microphone (3.5mm), tx estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 4x estrail (9-pin), 2x DisplayPort*, 1x HDMI**, tx incorphone (2.5mm), ix tehrente tard• Pole estrails Some: 190 works, autosensing, 85% PSU Some: 380 watts, autosensing, 92% PSU Some: 380 watts, autosensing, 92% PSU Some: 380 w	Storage								
Optical         Some:         DVD-FOM, SATA 1.5Gb/s Drive, slim (9.0mm)           Onboard SATA         Three onboard SATA 6.0Gb/s connectors           Media reader         Optional 3-in-1 media reader (support SD, SDHC, and SDXC)           Graphics         Intel UHD Graphics 610/630 in some processors, uses main memory, DirectX® 12, support via discrete graphics           Monitor cable         Intel UHD Graphics 610/630 (some torses)           Monitor cable         Optional 2-in-1 media reader           Optional DisplayPort ^{IW} , one HDMI, support ^{IW} , 12, 2GB GDDFS, FCle 3.0 x8, 30 watts, two DisplayPort (up to 496x2160@60Hz)           Monitor cable         Optional D P to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle           Chipset         Intel H470 Chipset           Front ports* (Std.) 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3-mm)           Rear ports* (Std.) 0, tx serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed may be lower than theoretical speed * Only available for th models with integrated graphics           Audio support         High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt)		Some: M.2 SSD (224	42 / 2280	) / PCIe NVMe, F	Cle 3.0	x2 or PCIe 3.0 x4	1	Mechanical	
Some:       DVD Burner (DVD+RW), SATA 1, SGb/s Drive, slim (9.0mm)         Onboard SATA       Three onboard SATA 6.0Gb/s connectors         Media reader       Optional 3-in-1 media reader (support SD, SDHC, and SDXC)         Graphics       Intel UHD Graphics 610/630 in some processors, uses main memory. DirectX*12, two DisplayPort™, one HDMI, supports up to 3 independent displays, more displays, support via discrete graphics. Some: AMD Radeon™ 520, DirectX 12, 2GB GDDR5, PCle 3.0 x8, 30 watts, two DisplayPort (up to 4096x2160@60Hz). Some: XMOR Adeon™ 520, DirectX 12, 2GB GDDR5, PCle 3.0 x8, 30 watts, two DisplayPort (up to 4096x2160@60Hz). Dot hDMII 0 dongle, Dr to HDMI 1.4 dongle       Some: XMD Radeon™ 520, DirectX 12, 2GB GDDR5, PCle 3.0 x8, 30 watts, two Const of two control of two stand for vertical orientation Display with intel integrated graphics), or DP to HDMI 1.4 dongle       Floor Stand EOU design       Floor Stand EOU design       Optional system floor stand for vertical orientation Toolless cover, disk, optical, extension card removal         Chipset       Intel H470 Chipset       Power supply       Some: 180 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 92% PSU tool acrd 10-core processors need > 180w power supply         Font ports* (Std.) 4z USB 3.2 Gen 1 via PCle x1, 2x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm)       Floor Stand Goptin, 4x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x incrophone (3.5mm)       Floor Stand Goptin, 4x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x parallel (25-pin), 2x PS12 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or othernet card         Feloa<	Outland	Some: Intel Optane	Memory	M10, M.2 2280,	PCle 3.0	) x2			
Onboard SATA       Three onboard SATA (5) GGb/s connectors       Three onboard SATA (5) GGb/s connectors         Media reader       Optional 3-in-1 media reader (support SD, SDHC, and SDXC)       Bay (5) Sim ODD bay         Graphics       Intel UHD Graphics 610/630 in some processors, uses main memory, DirectX ² 12, two DisplayPort™, one HDMI, supports up to 3 independent displays, more displays support via discrete graphics.       Bay (5) Sim ODD bay         Monitor cable       Intel UHD Graphics 610/630 in some processors, uses main memory, DirectX 12, 2GB GDDR5, PCIe 3.0 x16       Slots         Monitor cable       Optional Pot via discrete graphics, or DP (6) HDMI (6) GHz; 1920x1080 (HDMI) @60Hz; Some: AMD Radeom™ 520, DirectX 12, 2GB GDDR5, PCIe 3.0 x8, 30 watts, two DisplayPort (up to 4096x2160 @60Hz)       Slots       Slots       Slots :: too up orbit and foor stand foor foor for MJAB and watts, autosensing, 95% PSU	Optical					lim (0.0mm)			
Media reader       Optional 3-in-1 media reader (support SD, SDHC, and SDXC)         Graphics       Intel UHD Graphics 610/630 in some processors, uses main memory, DirectX* 12, two DisplayPort**, one HDMI, supports up to 3 independent displays, more displays, more displays. Max resolution: 4096x2304 (DP)@60Hz; 1920x1080 (HDMI)@60Hz         Some: AMD Radeon** 520, DirectX 12, 2GB GDDR5, PCIe 3.0 x8, 30 watts, two DisplayPort (up to 4096x2304 (DP)@60Hz; 1920x1080 (HDMI)@60Hz         Some: AMD Radeon** 520, DirectX 12, 2GB GDDR5, PCIe 3.0 x8, 30 watts, two DisplayPort (up to 4096x2160@60Hz)         Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle         Print ports* (Std.) 2x USB 3.2 Gen 2, 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm)         Front ports* (Opt.) Optional: 2x USB 3.2 Gen 1, via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x         2nd serial (9-pin), 4x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x Ine-out (3.5mm)         Rear ports* (Opt.) Optional: 2x USB 3.2 Cen 1 via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x         2nd serial (9-pin), 4x serial (9-pin), ix ethernet (RJ-45), ex USB 3.2 Type-C Gen 2 via PCle x4, 1x         2nd serial (9-pin), 4x serial (9-pin) via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x         2nd serial (9-pin), 4x serial (9-pin) via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x         2nd serial (9-pin), 4x serial (9-pin), via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x         2nd serial (9-pin), 4x serial (9-pin	Onboard SATA	Three onboard SATA	6.0Gb/s.0	n, SAIA 1.500/S	Drive, S	iiiii (9.0iiiiii)		Bavs	
Chaptics       Inter On D Graphics       Inter On D Graphics       Stores		Optional 3-in-1 media	a reader (	support SD, SDH	IC, and S	SDXC)			
two DisplayPort™, one HDMI, supports up to 3 independent displays, more displays support via discrete graphics Max resolution: 4096x2304 (DP)@60Hz; 1920x1080 (HDMI)@60Hz Some: AMD Radeon™ 520, DirectX 12, 2GB GDDR5, PCIe 3.0 x8, 30 watts, two DisplayPort (up to 4096x2160@60Hz) Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle       Floor Stand EOU design       Slot 2: low-profile (length < 155mm, height < 66mm), PCIe 3.0 x1 Slot 3: no slot, only bracket for optional port extension Slot 4: no slot, only bracket for optional port extension Slot 4: no slot, only bracket for optional port extension Slot 4: no slot, only bracket for optional port extension Slot 4: no slot, only bracket for optional port extension Slot 4: no slot, only bracket for optional port extension Slot 4: no slot, only bracket for optional port extension M.2 card slots: two (one for WLAN, one for SSD/Optane) Optional system floor stand for vertical orientation Toolless cover, disk, optical, extension card removal         Chipset       Intel H470 Chipset         Front ports* (Ot). Optional: 3: in-1 media reader Rear ports* (Ot). Optional: 2: SB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 2 via PCIe x4, 1x 2nd serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x line-out (3.5mm)       Power supply       Some: 1-year or 3-year, limited onsite service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available Some: Windows 10 Home 64-bit         Rear ports* (Opt). Optional: zx USB 3.2 Gen 1 via PCIe x1, 2 nd serial (9-pin), 4x serial (9-pin), ix ethernet card * Day anallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed m	Graphics	Intel UHD Graphics	610/630 i	n some processo	ors. uses	main memory. D	irectX [®] 12.		
support via discrete graphics       Max resolution: 4096x2304 (DP)@60Hz; 1920x1080 (HDMI)@60Hz       Some: AMD Radeon** 520, DirectX 12, 2GB GDDR5, PCIe 3.0 x8, 30 watts, two DisplayPort (up to 4096x2160@60Hz)       Solid 1: no slot, only bracket for optional port extension         Monitor cable       Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle       Floor Stand       Optional system floor stand for vertical orientation         Chipset       Intel H470 Chipset       Forn ports* (Std.) 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)       Power supply       Some: 180 watts, autosensing, 85% PSU Some: 310 watts, autosensing, 92% PSU         Fear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x 2nd serial (9-pin), 4x serial (9-pin), 4x serial (9-pin), 4x serial (9-pin), via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x 2nd serial (9-pin), 4x serial (9-pin), via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x 2nd serial (9-pin), 4x serial (9-pin), via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x 2nd serial (9-pin), 4x serial (9-pin), via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x 2nd serial (9-pin), 4x serial (9-pin), via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x 300 series via via via via below on theoretical speed may be lower than theoretical speed may be lower than theoretical speed may be lower than theoretical speed may be lower than theoretical speed * 0nly available for the models with integrated graphics       Intel H470 Chipset         Front ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x	onapinoo	two DisplayPort™, on	e HDMI, s	supports up to 3	independ	dent displays, mo	re displays	Slots	
Max resolution       Augosz 304 (DP)@60n12, 1920k1000 (nDMI)@60n2         Some: AMD Radeon™ 520, DirectX 12, 2GB GDDR5, PCle 3.0 x8, 30 watts, two DisplayPort (up to 4096x2160@60H2)       Slot 4: no slot, onlý bracket for optional port extension M.2 card slots: two (one for WLAN, one for SSD/Optane)         Monitor cable       Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle       Floor Stand EOU design       Slot 4: no slot, onlý bracket for optional port extension M.2 card slots: two (one for WLAN, one for SSD/Optane)         Chipset       Intel H470 Chipset       Floor Stand EOU design       Power supply       Some: 180 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 92% PSU Some: 310 watts, autosensing, 92% PSU Some: 310 watts, autosensing, 92% PSU         Front ports* (Std.) 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)       Power supply       Some: 140 watts, autosensing, 92% PSU Some: 310 watts, autosensing, 92% PSU         Rear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCle x1, 1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed may be lower than theoretical speed ** Only available for the models with integrated graphics       Some: Windows 10 IoT Enterprise (only available via special bid model)         Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       Flonironment       ENERGY STAR® 8.0*, EPEAT [™] Gold / Silve		support via discrete c	araphics						
Wonitor cable       two DisplayPort (up to 4096x2160@60Hz)       Mile 2 Gard Stds. Wo (offer tor WAN, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer tor Work, offer							votto		
Monitor cable       Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle       Optional System Hoor stand of Vertical extension card removal         Chipset       Intel H470 Chipset       Toolless cover, disk, optical, extension card removal         Front ports* (Std.) 2x USB 3.2 Gen 2, 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm)       Some:       180 watts, autosensing, 85% PSU         Front ports* (Opt.) Optional: 3-iin-1 media reader       Some:       30 watts, autosensing, 92% PSU         Rear ports* (Opt.) Optional: 2-uin-1 media reader       Some:       1-year, depot service / service upgrades available Some:       1-year or 3-year, limited onsite service / service upgrades available         Rear ports* (Opt.) Optional: 2-pin), 4x serial (9-pin) via PCle x1, 2nd serial (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card       Audio support       Windows® 10 Pro 64-bit Some:       Windows® 10 IoT Enterprise (only available via special bid model)         Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       ENERGY STAR® 8.0*, EPEAT™ Gold / Silver rating (on some models), RoHS						-Cie 3.0 x8, 30 w	aus,		
Display with intel integrated graphics), or DP to HDMI 1.4 dongle       ED00 design       Hotness cover, disk, outcal, extension card removal         Chipset       Intel H470 Chipset       Power supply       Some:       180 watts, autosensing, 85% PSU         Front ports* (Std.) 2x USB 3.2 Gen 2, 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)       Power supply       Some:       310 watts, autosensing, 85% PSU         Front ports* (Opt.) Optional: 3-iin-1 media reader       Power supply       Some:       310 watts, autosensing, 92% PSU         Rear ports* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x line-out (3.5mm)       Limited warranty       Some:       1-year of apot service / service upgrades available         Brear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCle x1, 2d serial (9-pin), 4x serial (9-pin) via PCle x1, 1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed may be lower than theoretical speed ** Only available for the models with integrated graphics       ENERGY STAR® 8.0*, EPEAT TM Gold / Silver rating (on some models), ErP TCO 8.0, TUV low noise / Ultra low noise verified (on some models), RoHS         Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       Some:       Only available for MT 11DB/11DC	Monitor cable	Optional DP to VGA	donale. D	P to DVI-D donal	e. DP to	dual DP dongle (	for Collage		
Chipset       Some:       260 watts, autosensing, 85% PSU         Front ports* (Std.) 2x USB 3.2 Gen 2, 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)       Some:       260 watts, autosensing, 85% PSU         Front ports* (Opt.) Optional: 3-iin-1 media reader       Some:       310 watts, autosensing, 92% PSU         Rear ports* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x line-out (3.5mm)       1-year, depot service / service upgrades available Some:       1-year, depot service / service upgrades available Some:       1-year, depot service / service upgrades available         Rear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCIe x1, 2x USB 3.2 Type-C Gen 2 via PCIe x4, 1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed may be lower than theoretical speed ** Only available for the models with integrated graphics       Environment       ENERGY STAR® 8.0*, EPEAT TM Gold / Silver rating (on some models), ErP TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS * Only available for MT 11DB/11DC							. 0		
Front ports* (Std.) 2x USB 3.2 Gen 2, 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging), 1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)       Some:       310 watts, autosensing, 92% PSU         Front ports* (Opt.) Optional: 3-iin-1 media reader       * Discrete graphics card / 10-core processors need > 180w power supply         Rear ports* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x line-out (3.5mm)       Limited warranty       Some:       310 watts, autosensing, 92% PSU         Rear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x line-out (3.5mm)       Limited warranty       Some:       1-year, depot service / service upgrades available Some:       1-year or 3-year, limited onsite service / service upgrades available         Rear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCle x1, 2nd serial (9-pin), 4x serial (9-pin), via PCle x1, 1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card       Yindows® 10 Pro 64-bit Some:       Windows 10 IoT Enterprise (only available via special bid model)         * Depending on many factors, actual data transfer speed may be lower than theoretical speed ** Only available for the models with integrated graphics       Environment       ENERGY STAR® 8.0*, EPEAT™ Gold / Silver rating (on some models), RoHS * Only available for MT 11DB/11DC	Chipset	Intel H470 Chipset						Power supply	
Front ports* (Opt.) Optional:       3-iin-1 media reader       * Discrete graphics card / 10-core processors need > 180w power supply         Rear ports* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x line-out (3.5mm)       * Discrete graphics card / 10-core processors need > 180w power supply         Rear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCIe x1, 2x USB 3.2 Type-C Gen 2 via PCIe x4, 1x 2nd serial (9-pin), 4x serial (9-pin) via PCIe x1, 1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed may be lower than theoretical speed ** Only available for the models with integrated graphics       Some: Windows® 10 Pro 64-bit Some: Windows® 10 Pro 64-bit Some: Windows 10 IoT Enterprise (only available via special bid model)         Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       Freioad       Some: North 11DB/11DC	Front ports* (Std.)							]	Some: 310 watts, autosensing, 92% PSU
Rear ports* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x HDMI**, 1x line-out (3.5mm)       Limited warranty       Some:       1-year, depot service / service upgrades available         Rear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x       Some:       1-year or 3-year, limited onsite service / service upgrades available         2nd serial (9-pin), 4x serial (9-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card       Some:       Windows® 10 Pro 64-bit         * Depending on many factors, actual data transfer speed may be lower than theoretical speed       Some:       Windows 10 IoT Enterprise (only available via special bid model)         Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       Fereinal speaker (1 watt )       ENERGY STAR® 8.0*, EPEAT™ Gold / Silver rating (on some models), RoHS	Front ports* (Opt.)	Optional: 3-iin-1 med	lia reader				,		
1x line-out (3.5mm)         Rear ports* (Opt.) Optional: 2x USB 3.2 Gen 1 via PCle x1, 2x USB 3.2 Type-C Gen 2 via PCle x4, 1x         2nd serial (9-pin), 4x serial (9-pin) via PCle x1, 1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card         * Depending on many factors, actual data transfer speed may be lower than theoretical speed         ** Only available for the models with integrated graphics         Audio support	Rear ports* (Std.)	4x USB 2.0, 1x serial	(9-pin), 1	x ethernet (RJ-4	5), 2x Di	splayPort**, 1x H	IDMI**,	Limited warranty	
Rear ports       (Opt.) Optional: 2x USB 3.2 Gen 1 via PCIe x1, 2x USB 3.2 Type-C Gen 2 via PCIe x4, 1x         2nd serial (9-pin), 4x serial (9-pin), 4x serial (9-pin), via PCIe x1, 2x USB 3.2 Type-C Gen 2 via PCIe x4, 1x         1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card         * Depending on many factors, actual data transfer speed may be lower than theoretical speed         ** Only available for the models with integrated graphics         Audio support         High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )		1x line-out (3.5mm)							
1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card       Some: Windows 10 Home 64-bit         * Depending on many factors, actual data transfer speed may be lower than theoretical speed       Environment       ENERGY STAR® 8.0*, EPEAT™ Gold / Silver rating (on some models), ErP TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS         Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       Total a special bid model	Rear ports* (Opt.)	Optional: 2x USB 3.2	Gen 1 via	a PCIe x1, 2x US	B 3.2 Ty	pe-C Gen 2 via P	Cle x4, 1x	Preload	
Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       Some: Windows 10 IoT Enterprise (only available via special bid model)         Some: Windows 10 IoT Enterprise (only available via special bid model)       * Depending on many factors, actual data transfer speed may be lower than theoretical speed         Mudio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       Environment						ditional B I-15 ar	nd video	Tieloau	Some: Windows 10 Home 64-bit
* Depending on many factors, actual data transfer speed may be lower than theoretical speed       Environment       ENERGY STAR® 8.0*, EPEAT™ Gold / Silver rating (on some models), ErP TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS         Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       Environment       ENERGY STAR® 8.0*, EPEAT™ Gold / Silver rating (on some models), RoHS						annonai mj-40 al			Some: Windows 10 IoT Enterprise (only available via special bid model)
** Only available for the models with integrated graphics       TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS         Audio support       High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (1 watt )       * Only available for MT 11DB/11DC						e lower than theoret	tical speed	Environment	ENERGY STAR [®] 8.0 [*] , EPEAT [™] Gold / Silver rating (on some models), ErP Lot 3,
							-		TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS
Accessories Ear compatible accessories places as to better llamauting langue com	Audio support	High Definition (HD)	Audio, Re	altek ALC623-CO	G / intern	al speaker (1 wa	tt )		* Only available for MT 11DB/11DC
Accessones For compatible accessones, please go to <b>http://smarthind.lenovo.com</b>						- •		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com

Note: The specifications above may not be available in all regions.









#### ThinkCentre M710e SFF Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel [®] Celeron [®] . Int	el Pentiur	n®. or 6/7th Gen	eration In	tel Core™ i3 / i5	/ i7 Processo	Security features	Security slot (in rear for optional     Power-on password
		Cores /	Frequency		Memory Support	I		Kensington® MicroSaver® cable) <ul> <li>Administrator password</li> </ul>
	Processor		Base/Max(GHz)	Cache	(Up to)	Graphics		Padlock loop     Hard disk password
	Celeron G3900	2/2	2.8G	2 MB	DDR4-2133	HD 510		<ul> <li>Smart USB protection, allows keyboard/</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse</li> </ul>
	Celeron G3930	2/2	2.9G	3 MB	DDR4-2133	HD 610		Optional smart cable clip to physically     Individual USB port disablement
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510		lock both keyboard and mouse
	Pentium G4500	2/2	3.5G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610		Some: Lenovo Traditional Keyboard (USB connector), black
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, blac
	Core i5-6400	4/4	2.7G / 3.3G	6 MB	DDR4-2133	HD 530	Mechanical	• SFF (7.4L), black color, metal case
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		• ( <i>WxDxH</i> ) 3.9" X 11.9" X 10.8"; 100mm X 303.5mm X 273.5mm
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		<ul> <li>Approx. 9.37 lb (4.25 kg), weight may vary by configuration Bay 1: Slim external ODD bay</li> </ul>
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630		Bay 2: 3.5", 1" high, internal, supports 2.5" or 3.5" HDD/SSD (2.5 to 3.5 bracket
	Core i3-7300	2/4	4.0G	4 MB	DDR4-2400	HD 630		comes with disk)
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630		Slot 1: low-profile (length < 152mm, height < 64mm), PCIe 3.0 x16*
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630		Slot 2: low-profile (length < 152mm, height < 64mm), PCIe 3.0 x1* M.2 card slots: one for SSD
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		*Optional rear 2x USB2.0 / parallel occupies one expansion slot
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Floor Stand	Optional system floor stand for vertical orientation
Memory	32GB max, UDIMM dual-channel capa	ble					Packaging	<ul> <li>(WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 390mm X 500mm</li> <li>Cross weight (approx.) 14.22 lb (6.45 kg)</li> </ul>
	*System automatic						Power supply	Some: 180 watts, autosensing, 85% PSU
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	Drive (S	SD) / SATA 6.0G	b/s. 2.5"				³ Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
Optical	Some: DVD-ROM	SATA 1.5	Gb/s Drive, slim	(9.0mm)		//S	Preload	Preloaded operating system
Onboard SATA	Some: DVD Burne Two onboard SATA	er (DVD±l	RW), SATA 1.5G	b/s Drive	, slim (9.0mm)			Some: Windows® 10 Pro 64-bit
Media reader	Optional 7-in-1 me	dia reade	r					<i>Some:</i> Windows 10 Home 64-bit <i>Some:</i> Windows 7 Professional 32/64 preinstalled through downgrade rights
Graphics	Intel HD Graphics			essor us	es main memory	DirectX® 12	-	in Windows 10 Pro 64-bit(not available with 7th Gen Intel processor)
Graphico	one VGA, one Disp	lavPort™	supports 2 inde	ependent	displays, works a	along with		Preloaded applications (only some listed)
	discrete graphics to	o support	more displays;			0		Microsoft Office preloaded;     purchase a product low to activate
	Max resolution: 40							<ul> <li>purchase a product key to activate</li> <li>Cyberlink PowerDVD (DVD, DVD±RW)</li> </ul>
	Some: NVIDIA Ge two Display			2, 2GD, P		ler,		• Cyberlink PowerDVD Create (DVD±RW)
	Max resolu	<i>tion:</i> 3840	x2160 (DisplayF	Port)@60	Hz;			- Only for Window 10
Monitor cable	Optional DP to VG	A, DP to I	DVI-D (sìngle línk	(), ÓP to	dual DP, or DP to	HDMI 1.4		Lenovo Companion     Only for Window 7
Chipset	Intel B250 Chipse	t						Lenovo Solution Center
Front ports*	Two USB 3.1 Gen1	microph	one (3.5mm) or	ne headn	hone / micropho	ne combo iacl	- (	Lenovo System Update
. ion porto	(3.5mm)	,	(010111), 01	.eeaap		le combe juo		Create Recovery Media
Rear ports*	Two USB 3.1 Gen1	, two US	3 2.0, optional tv	vo USB 2	.0, serial (9-pin),	optional 2nd		Adobe [®] Reader [®]
	serial (9-pin), optio	nal parall	el (25-pin), ether	net (RJ-4	15), one VGA, on	e DisplayPort	- Environment	ENERGY STAR [®] 6.1, EPEAT [™] Silver rating (North America), ErP Lot 3,
	optional external U additional DisplayF	ort on on	tional graphics of	01 PO/2 K	nodels	),		RoHS-compliant, WEEE
Rear audio ports	⁺ Line-out jack (3.5m		lional graphico o				Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
IEEE 1394*	None	,						
	* Depending on many	factors, ad	tual data transfer	speed may	be lower than the	pretical speed		
Audio support	High Definition (HE	) Audio, I	Realtek ALC233	/ interna	speaker (1 watt	)		
WLAN ¹³	None						]	
Bluetooth™	None				~			
Ethernet	Gigabit ethernet, F	lealtek R	L8111HN, Wake	e on LAN	Ю			
Modem	None						4	
Manageability Security chip	None TPM (Trusted Platf							
	* Downgrade to TP	INIT.2 for	ine models with	vvin10 D0	a Win7 32 OS			
late. The energifie	ations above may not	المانية مرا	to the off we also as					Lonovo January 201













### ThinkCentre M720 SFF Platform Specifications

Processor	Intel [®] Celeron [®] , Intel I			Intel Co		1	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Graphics		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Bluetooth™	<i>Some:</i> 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2 <i>Some:</i> Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: Bitland BN8E88*, gigabit ethernet, PCIe x1 (only available via special bid
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		* Choose either I350-T4 or BN8E88
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Manageability	None
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Security leatures	Security slot (in rear for optional Kensington® MicroSaver® cable)     Power-on password     Administrator password
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		Padlock loop     Administrator password     Hard disk password
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional cable lock to physically lock</li> <li>Boot sequence control</li> </ul>
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		• Boot without keyboard and mouse
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Individual USB port disablement</li> <li>Optional chassis E-Lock (special bid)</li> <li>Smart USB protection, allows keyboard</li> </ul>
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		mouse only, blocks all storage devices
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-9400 Core i5-9400F	6/6	2.9G / 4.1G 2.9G / 4.1G	9 MB	DDR4-2666 DDR4-2666	UHD 630	litoybourd	Some: Lenovo Traditional Keyboard (USB connector), black
	Core i5-9500	6/6 6/6	3.0G / 4.4G	9 MB 9 MB	DDR4-2666	None UHD 630		<i>Some:</i> Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i5-9500F	6/6	3.0G / 4.4G	9 MB	DDR4-2666	None	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid) Some: Lenovo Calliope Mouse (USB connector), black
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Widdsc	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, bla
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		<i>Some:</i> Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
lemory	64GB max, UDIMM, I dual-channel capable * System automatical	*				ry controller	Mechanical	<ul> <li>SFF (8.4L), black color; metal case</li> <li>(<i>WxDxH</i>) 3.64" X 11.44" X 13.52"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.24 lb (6.0 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, and extension card removal</li> </ul>
Storage Dptical Dnboard SATA Media reader Graphics	Some: Hard Drive / S Some: Solid State Di Some: M.2 Solid State T * M.2 SSD (2242) PC Some: Intel Optane™ Some: DVD-ROM SJ Some: DVD Burner ( Three onboard SATA Optional 7-in-1 media	rive (SSD te Drive ( le NVMe Memory ATA 1.5GI DVD±RW 6.0Gb/s c reader	<ul> <li>N/SATA 6.0Gb/s</li> <li>SSD) / PCIe NVI</li> <li>only supports Pi</li> <li>v (not support Ce</li> <li>b/s Drive, slim (9)</li> <li>N), SATA 1.5Gb/s</li> <li>connectors</li> </ul>	s, 2.5" Me, PCle Cle 3.0 x leron / Po .0mm) Drive, sl	2.0 x 4*, 32Gb/s 2, 16Gb/s entium Processo im (9.0mm)	r), M.2	Floor Stand	• Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x16 Slot 2: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1 Slot 3: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1 Slot 4: no slot, only bracket for optional port extension M.2 card slots: Two (one for WLAN, one for SSD/Optane) Optional system floor stand for vertical orientation
·	one VGA (up to 2048) supports 3 independe Some: NVIDIA Gefor	x1536@5 ent display r <b>ce® GT 7</b>	i0Hz), two Displa ys, more displays <b>'30</b> (End Of Life)	yPort™ ( s support , DirectX	up to 4096x2304 via discrete grap 12, 2GB GDDR5	@60Hz), phics 5,	Power supply	Some:180 watts, autosensing, 85% PSUSome:210 watts, autosensing, 85% PSUSome:260 watts, autosensing, 92% PSU (only available via special bid)
	Some: AMD Radeon	™ <b>520</b> , D	irectX 12, 2GB 0	GDDR5, F	340x2160@60Hz PCIe 3.0 x8, 30 w	z) vatts,	Limited warranty	^a Some: <b>1-year</b> or <b>3-year</b> , <b>depot service</b> / service upgrades available Some: <b>1-year</b> or <b>3-year</b> , <b>limited onsite service</b> / service upgrades available
Vonitor cable	Optional DP to VGA of Display with intel integ	longle, DI	P to DVI-D dongl	e, DP to		(for Collage	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit
Chipset	Intel B360 Chipset						]	Some: Windows 10 Home 64-bit Preloaded applications (only some listed)
	)2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x USB 3	.1 Type-0	C Gen1 (15W ch	arging).	1	Lenovo Vantage
Front ports* (Opt Rear ports* (Std.	1x microphone (3.5mi ) <i>Optional:</i> 1x media re ) 4x USB 2.0, 1x serial 1x line-out (3.5mm) ) <i>Optional:</i> 2x USB 3.1	m), 1x he ader (9-pin), 1	adphone / micro x ethernet (RJ-4	phone co 5), 1x VC	ombo jack (3.5mr A, 2x DisplayPo	n) rt,		<ul> <li>Dicrosoft Office preloaded; purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> <li>LinkedIn</li> </ul>
	(special bid only), 1x 2 pin), 2x PS/2 ports (ke optional graphics or e	2nd seria evboard/r	l (9-pin), 4x seria nouse), addition	al (9-pin)	via PCIe x1, 1x p	barallel (25-	Environment	ENERGY STAR [®] 7.0, EPEAT [™] Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant
	* Depending on many fac ** Choose either 2x USB	ctors, actua	al data transfer spe	ed may be e-C Gen2	e lower than theore	tical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com













### ThinkCentre M720e SFF Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel [®] Celeron [®] , Intel	Pentium®	or 8th / 9th Gen	Intel Co	re™ i3 / i5 / i7 / i9	Processor	Manageability	None				
110000001		Cores /	Frequency		Memory Support		Security chip	Discrete TPM 2.0, TCG Certified				
	Processor		Base/Max(GHz)	Cache	(Up to)	Graphics	Security features	s				
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	-	Kensington [®] MicroSaver [®] cable) <ul> <li>Administrator password</li> </ul>				
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		<ul> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Boot sequence control</li> </ul>				
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		<ul> <li>Smart OSB protection, answs keyboard</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse</li> </ul>				
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		<ul> <li>Optional smart cable clip to physically</li> <li>Individual USB port disablement</li> </ul>				
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		lock both keyboard and mouse • Optional chassis intrusion switch				
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black				
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Mouroo	Some: Lenovo Traditional Keyboard (USB connector), black				
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black				
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630						
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Mechanical	<ul> <li>SFF (7.4L), black color, metal case</li> <li>(WxDxH) 3.9" X 11.9" X 10.8"; 100mm X 303.5mm X 274.8mm</li> </ul>				
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		Approx. 9.37 lb (4.25 kg), weight may vary by configuration				
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		Bay 1: Slim ODD bay				
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Bay 2: 3.5" disk bay, supports 2.5" HDD (2.5 to 3.5 bracket comes with 2.5" disk)				
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Slot 1: low-profile (length < 152mm, height < 64mm), PCle 3.0 x16* Slot 2: low-profile (length < 152mm, height < 64mm), PCle 3.0 x1*				
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		M.2 card slot: one for SSD				
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		*Optional rear 2x USB2.0 / parallel occupies one expansion slot				
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Floor Stand	Optional system floor stand for vertical orientation				
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Packaging	• (WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 390mm X 500mm				
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		<ul> <li>Cross weight (approx.) 14.48 lb (6.57 kg)</li> </ul>				
Memory	32GB max, UDIMM, I		66*, two 288-pin	DIMM so	ockets, non-ECC,		Power supply	180 watts, autosensing, 85% PSU				
	<ul> <li>dual-channel capable</li> <li>* Memory may be une processor</li> </ul>		d to DDR4-2400	for the lo	ower memory cor	ntroller in	Limited warranty	<ul> <li>^{A3} Some: 1-year or 3-year, depot service / service upgrades available</li> <li>Some: 1-year or 3-year, limited onsite service / service upgrades available</li> </ul>				
Storage	Some: Hard Drive / S	SATA 6.00	Sh/s 25" or 35"	5400 rn	om or 7200 rpm		Preload	Preloaded operating system				
otorago	Some: M.2 SSD (224					1		Some: Windows [®] 10 Pro 64-bit				
Optane memory	Some: Intel Optane™	Memory	, M.2 2280, PCIe	NVMe,	PCIe 3.0 x 2			Some: Windows 10 Home 64-bit Some: Linux Ubuntu				
Optical	Some: DVD-ROM S. Some: DVD Burner				$\lim_{n \to \infty} (0.0 \text{mm})$		En incoment					
Onboard SATA Media reader	Two onboard SATA 6. Optional 7-in-1 media	.0Gb/s co		Drive, S	iiiii (9.0iiiii)		Environment	ENERGY STAR [®] 7, EPEAT [™] Silver rating (North America), ErP Lot 3, RoHS-compliant, WEEE				
Graphics	Intel HD Graphics 6		processor, uses	main me	mory DirectX® 1	2	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com				
enapriloo	one VGA, one Display											
	discrete graphics to s	support m	ore displays:			0						
	Max resolution: 4096 Some: AMD Radeon	5x2304 (D	P)@60Hz; 2048	(1536 (V	GA)@50Hz	tor						
	one VGA, one			, החסטו	-Cie S.0 Xo auap	lei,						
	Max resolution	n: 3840x2	160 (HDMI)@30		8x1536 (VGA)@8							
Monitor cable	Optional DP to VGA,	DP to DV	I-D (single link),	DP to du	al DP, or DP to H	DMI 1.4						
Chipset	Intel B365 Chipset											
Front ports* (Std.	)2x USB 3.1 Gen1, 1x	micropho	one (3.5mm), 1x	headpho	ne / microphone	combo jacł	<					
	(3.5mm)			·								
Front ports* (Opt.	) <i>Optional:</i> 1x media re	eader	1x corial (0 min)	1 v otho	$rest(D \mid 4E) = 4x^2$							
Rear ports" (Stu.	2x USB 3.1 Gen1, 2x 1x DisplayPort, 1x Lir			, ix eine	ernet (HJ-45), TX	VGA,						
Rear ports* (Opt.	) Optional: 2x USB 2.0			parallel (	25-pin), 1x exter	nal USB to						
	PS/2 ports cable (for	PS/2 keyl	poard / mouse);									
	additional video ports						5					
	* Depending on many fa	-				tical speed	-					
Audio support	High Definition (HD)	Audio, Re	altek ALC623 / ir	nternal s	peaker (1 watt)		4					
	None											
Bluetooth™ Ethernet	None Gigabit ethernet, Rea	altek RTI S	111HN Wake o	n Ι ΔΝ®								
Ethernet (Opt.)	Some: Bitland BN8E											
Modem	None	, <u></u>										
							•					













### ThinkCentre M725 SFF Platform Specifications

Product Specifications Reference (PSREF)

Dueseeeu		/ 110					Eth averat	
Processor	AMD A6 / A8 / A10			1	processor Memory		Ethernet Ethernet (Opt.)	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN [®] Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)
	Processor	Cores / Threads	Frequency (Base/Max)	L2 / L3 Cache	Support (Up to)	Integrated Graphics	Manageability Security chip	DASH 10/1.1 Discrete TPM 2.0, TCG Certified
	PRO A6-9500	2/2	3.5 / 3.8	1MB / -	DDR4-2400	Radeon R5	Security features	Security slot (in rear for optional     Power-on password
	PRO A8-9600	4/4	3.1 / 3.4	2MB / -	DDR4-2400	Radeon R7		Kensington® MicroSaver® cable) • Administrator password
	PRO A10-9700	4/4	3.5 / 3.8	2MB / -	DDR4-2400	Radeon R7		Padlock loop     Hard disk password
	PRO A12-9800	4/4	3.8 / 4.2	2MB / -	DDR4-2400	Radeon R7		<ul> <li>Smart USB protection, allows keyboard/</li> <li>Boot sequence control</li> </ul>
	Ryzen 3 2300X	4/4	3.5 / 4.0	2MB / 8MB	DDR4-2933	None		mouse only, blocks all storage devices
	Ryzen 5 2500X	4/8	3.6 / 4.0	2MB / 8MB	DDR4-2933	None		Optional cable lock to physically lock     Individual USB port disablement
	Ryzen 3 PRO 2200G	4/4	3.5 / 3.6	2MB/4MB	DDR4-2933	Radeon Vega 8		• Optional chassis intrusion switch
	Ryzen 5 PRO 2400G	4/8	3.6 / 3.8	2MB / 4MB	DDR4-2933	Radeon RX Vega 11	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Ryzen 5 PRO 2600	6/12	3.4 / 3.9	3MB / 16MB		None		Some: Lenovo Traditional Keyboard (USB connector), black
	Ryzen 7 PRO 2700	8/16	3.2 / 4.1	4MB / 16MB	DDR4-2933	None		<i>Some:</i> Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black <i>Some:</i> Lenovo Keyboard (PS/2 connector), black (only available via special bid)
Memory	64GB max, UDIMM dual-channel capab * Systemboard supp clocks down for the	le ports up t lower ca	o DDR4-26 pability of m	66, memory emory contr	frequency r roller in proc	nay automatically essor	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
Storage Optical	Some: Hard Drive / Some: Solid State Some: M.2 SSD / F * 128GB SSD M.2 ( supports PCIe 3.0 x Some: DVD-ROM 3	Drive (SS PCIe NVN 2242) PC ( 2, 16Gb	SD) / SATA 6 Me, PCle 3.0 Cle NVMe a /s	6.0Gb/s, 2.5 ) x 4*, 32Gb nd AMD A6	" /s / A8 / A10 /		Mechanical	<ul> <li>SFF (8.4L), black color; metal case</li> <li>(WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.2 lb (6.0 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical removal</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> </ul>
Onboard SATA	Some: DVD Burne Three onboard SAT	r (DVD±F	RW), SATA 1	.5Gb/s Driv	e, slim (9.0n			Bay 2: 3.5", internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk)
Media reader	available via special Optional 7-in-1 med	l bid mod	lel)	o, <b>.</b>	ouppoir (i ii			Slot 1: low-profile (length < 150mm, height < 68mm), PCIe 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1
Graphics	AMD Radeon [™] Gra memory, DirectX [®] 1 4096x2160@60Hz, with integrated grap discrete graphics to	2, one V( onboard hics), suj support	GA (up to 19 VGA and D pports 3 ind more displa	20x1200@ P ports are ependent di ys;	60Hz), two [ only availab splays, work	DisplayPort™ (up to le on the models s along with AMD	Floor Stand Power supply	Slot 3: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1 Slot 4: low-profile (length < 150mm, height < 68mm), PCl 3.0 M.2 card slots: two (one for WLAN, one for SSD) Optional system floor stand for vertical orientation Some: 180 watts, autosensing, 85% PSU
	Some: NVIDIA Gef adapter, 35 Some: AMD Radeo	watts, two	o DisplayPo	rt (up to 384	0x2160@60	)Hz) `´´		Some:210 watts, autosensing, 85% PSUSome:260 watts, autosensing, 92% PSU (only available via special bid)
Manitanaahla	two DisplayF	Port (up to	o 4096x216	0@60Hz)			Limited warranty	1-year or 3-year, limited onsite service / service upgrades available
Monitor cable	Optional DP to VGA or DP to HDMI 1.4 c	dongle, dongle	DP to DVI-E	) dongle, DF	P to dual DP	dongle,	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit
Chipset	AMD B450 Chipset	t						Some: Windows 10 Home 64-bit
Front ports* (Std.	) 2x USB 3.1 Gen2, 2	2x USB 3	.1 Gen1. 1x	microphone	e (3.5mm). 1	x headphone	1	Preloaded applications (only some listed)
	(3.5mm)		,		(,,,			<ul> <li>Lenovo Vantage</li> <li>Microsoft Office preloaded;</li> </ul>
	) Optional: 1x media i						)	<ul> <li>wicrosoft Office preloaded, purchase a product key to activate</li> </ul>
Rear ports* (Std.)	) 2x USB 3.1 Gen1, 2	2x USB 2	.0, 1x serial	(9-pin), 1x e	ethernet (RJ	-45), 1x VGA**,		• Cyberlink PowerDVD (only for models with DVD / DVD±RW)
	2x DisplayPort**, 2x			rd / mouse);	1x line-in (3	5.5mm), 1x line-out		• Cyberlink Power2GO (only for models with DVD±RW)
Poor porte* (Opt	(3.5mm), 1x microp			in) 1 v noro	llol (25 pip)	additional P I 45		• LinkedIn
neai ports (Opt.	) Optional: 2x USB 2 and video ports ava	ilable on	optional gra	phics or eth	ernet card		Environment	ENERGY STAR [®] 7.0*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant
	* Depending on many ** only available on the	models w	ith integrated	graphics	ay be lower th	an meorendal speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
Audio support	High Definition (HD)							i or companyor accorded, product go to map a sind and an accord and
WLAN	Some: 11ac wireles Wi-Fi + Blue Some: 11ac wireles Wi-Fi + Blue Some: 11ac wireles Wi-Fi + Blue Some: 11ac wireles	ss, M.2 C etooth 4.2 ss, M.2 C etooth 4.2 ss, M.2 C etooth 4.2 ss, M.2 C	ard, Realtel 2 combo ada 2ard, Qualco 2* combo ac 2ard, Realte 2* combo ac 2ard, Qualco	k RTL8821C apter, 1x1 mm Atheros lapter, 1x1 k RTL8822E lapter, 2x2 mm Atheros	E (dual ban s QCA9377/ BE (dual ban	d), A (dual band), d),	-	
Bluetooth™	Wi-Fi + Blue Some: Bluetooth 4. * Hardware support	2* wirele	ess, integrate	ed in Ŵi-Fi ⊣				













# ThinkCentre M75s-1 SFF Platform Specifications

Processor	AMD Athlon, Athlon	PRO, R	Ryzen 3 / 5, c	or Ryzen 3 /	5 PRO serie	es processor	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),			
	Processor	Processor Cores / Frequency (Base/Max) L2 / L3 Cache Support (Up to) Integrated Graphics					Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2				
	Athlon PRO 200GE 2 / 4 3.2 GHz 1 MB / 4MB DDR4-2666 Radeon Vega 3			Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9260 (dual band),							
	Athlon PRO 300GE	2/4	3.4 / 3.4 GHz			Radeon Vega 3		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2			
	Ryzen 3 PRO 2200G 4 / 4 3.5 / 3.7 GHz 2MB / 4MB DDR4-2933 Radeon Vega 8				DDR4-2933		Bluetooth™	Some: Bluetooth 4.2 / 5.0 wireless, integrated in Wi-Fi + BT combo adapter			
	Byzen 5 PBO 2400G 4 / 8 3.6 / 3.9 GHz 2MB / 4MB DDB4-2933 Badeon Vega 11						Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®			
	Ryzen 3 PRO 3200G	4/4	3.6 / 4.0 GHz	2MB / 4MB	DDR4-2933	Radeon Vega 8	Ethernet (Opt.)	None			
	Ryzen 5 PRO 3350G	4/8	3.6 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11	Manageability	DASH 10/1.1			
	Ryzen 5 PRO 3400G	4/8	3.7 / 4.2 GHz	2MB / 4MB	DDR4-2933	Radeon Vega 11	Security chip	Discrete TPM 2.0, TCG Certified			
	Ryzen 5 PRO 3600	6/12	3.6 / 4.2 GHz	3MB / 32MB	DDR4-3200	None		Security slot (in rear for optional Kensington [®] MicroSaver [®] cable)     Power-on password     Administrator password			
	Ryzen 7 PRO 3700	8/16	3.6 / 4.4 GHz	4MB / 32MB	DDR4-3200	None		Padlock loop     Administrator password     Hard disk password			
	Ryzen 9 PRO 3900	12/24	3.1 / 4.3 GHz	6MB / 64MB	DDR4-3200	None		Smart USB protection, allows keyboard/     Boot sequence control			
	Athlon 300GE	2/4	3.4 / 3.4 GHz	1MB / 4MB	DDR4-2666	Radeon Vega 3		mouse only, blocks all storage devices     Boot without keyboard and mouse			
	Ryzen 3 3200G	4/4	3.6 / 4.0 GHz	2MB / 4MB	DDR4-2933	Radeon Vega 8		Optional smart cable clip to physically     Individual USB port disablement     Optional share and end end end end end end end end end e			
	Ryzen 5 3350G	4/8	3.6 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11		lock both keyboard and mouse         • Optional chassis intrusion switch			
	Ryzen 5 3400G	4/8	3.7 / 4.2 GHz	2MB / 4MB	DDR4-2933	Radeon RX Vega 11	Keyboard	Some: Lenovo Traditional Keyboard (USB connector), black			
	Ryzen 5 3600	6/12	3.6 / 4.2 GHz	3MB / 32MB	DDR4-3200	None		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
Memory	64GB max, UDIMM dual-channel capab * System board suppo DDR4-1866, DDR4-21	Íe rts up to l	DDR4-2666 me	emory, and m	emory may cl	ocks down to	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello suppor Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bi			
Storago	Some: Hard Drive			1 ,	,	1	Mechanical	SFF (8.4L), black color; metal case			
Storage	Some: M.2 SSD (2						Wechanica	• (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm			
Optical	Some: DVD-ROM	SATA 1.	5Gb/s Drive,	slim (9.0mm	i)			<ul> <li>Approx. 13.2 lb (6.0 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, and extension card removal</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> </ul>			
	Some: DVD Burne										
Onboard SATA	Three onboard SAT			s, RAID 0/1	support (RA	ID preset only					
Media reader	available via special Optional 7-in-1 med							Bay 2: 3.5", internal, HDD/SSD			
Graphics	AMD Radeon™ Gra memory, DirectX [®] 1 are only available of displays, works alor <i>Max resolution:</i> 409 <i>Some:</i> AMD Radeo two DisplayF	aphics in 2, one V n the mo ng with A 6x2160 on™ <b>520</b>	n processor /GA, two Disp odels with inte MD discrete (DP)@60Hz; , DirectX 12,	PlayPort™ (C egrated grap graphics to	Onboard VG phics), support mo	A and DP ports orts 3 independent re displays;	Floor Stand	Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk) Slot 1: low-profile (length < 150mm, height < 68mm), PCIe 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1 Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1 Slot 4: low-profile (length < 150mm, height < 68mm), PCIe 3.0 M.2 card slots: two (one for WLAN, one for SSD) Optional system floor stand for vertical orientation			
			6x2160 (DP)	@60Hz			Power supply	Some: 180 watts, autosensing, 85% PSU			
Monitor cable	Optional DP to VGA	, DP to I			dual DP, or	DP to HDMI 1.4		<i>Some:</i> 210 watts, autosensing, 85% PSU <i>Some:</i> 260 watts, autosensing, 92% PSU (only available via special bid)			
Chipset	AMD PRO 560 FCH	1									
Front ports* (Std	.) 2x USB 3.1 Gen2, 2	2x USB 3	3.1 Gen1, 1x	microphone	e (3.5mm), 1	x headphone		1-year or 3-year, limited onsite service / service upgrades available			
Rear ports* (Std	(3.5mm) .) <i>Optional:</i> 1x media .) 2x USB 3.1 Gen1 (o ethernet (RJ-45), 1x line-in (3.5mm), 1x	one supp (VGA**, line-out (	, 2x DisplayPo (3.5mm), 1x r	ort**, 2x PS/ nicrophone	2 ports (key (3.5mm)	/board / mouse); 1x	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 10 IoT Enterprise Some: Linux Ubuntu			
Rear ports* (Opt	.) Optional: 2x USB 2 optional graphics ca	ard					Environment	ENERGY STAR [®] 7.0*, EPEAT [™] Silver rating* (*not for non-OS models); ErP Lot 3: RoHS-compliant, WEEE			
	* Depending on many ** only available on the	factors, a models	ctual data trans with integrated	sfer speed ma graphics	y be lower the	an theoretical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
Audio support	High Definition (HD)	) Audio,	Realtek ALC	662 / option	al internal s	peaker (1 watt )	1				
		,		•			_				

Note: The specifications above may not be available in all regions.

Lenovo, July 2020

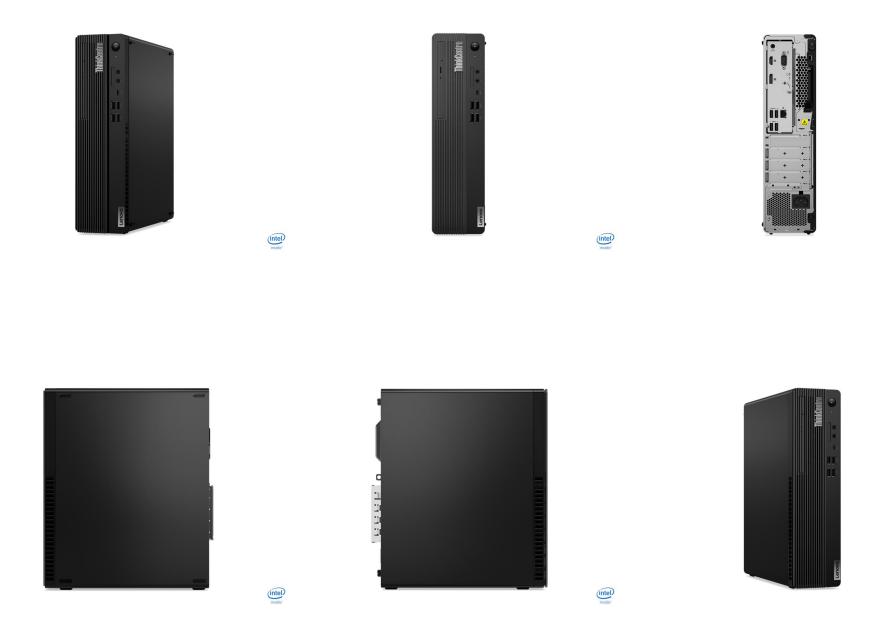


(intel) inside

### ThinkCentre M80s Platform Specifications

Processor	Intel [®] Celeron [®] , Intel	Pentium®	, or 10th Gen Int	el Core™	i3 / i5 / i7 / i9 Pro	ocessor	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),	
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support	Integrated		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2	
		Threads			(Up to)	Graphics		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2	
	Celeron G5900 Celeron G5920	2/2 2/2	3.4G 3.5G	2 MB 2 MB	DDR4-2666 DDR4-2666	UHD 610 UHD 610		Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),	
	Pentium Gold G6400	2/2	4.0G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.1 combo adapter, Intel vPro technology support, 2x2	
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	Bluetooth	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter	
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	Ethernet Ethernet (Opt.)	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN® Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4	
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1	
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 14 (Intel AMT 14);	
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	linanageasing	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi	
	Core i5-10400F	6/12	2.9G / 4.3G	12 MB	DDR4-2666	None		adapter to enable vPro function through wireless connection)	
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified	
	Core i5-10500	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Security features	s	
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630		Padlock loop     Administrator password	
	Core i7-10700F	8/16	2.9G / 4.8G	16 MB	DDR4-2933	None		<ul> <li>Optional Smart Cable Clip to physically lock keyboard and mouse</li> <li>Hard disk password</li> <li>Boot sequence control</li> </ul>	
	Core i7-10700	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630	]	Optional chassis intrusion switch     Boot without keyboard and mouse	
	Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	None	]	Optional chassis E-Lock     Individual USB port disablement	
	Core i9-10900	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630		<ul> <li>Smart USB protection, allows keyboard/</li> </ul>	
	* Max freguency may ref Technology 3.0 / Intel Th					lax	Keyboard	mouse only, blocks all storage devices Some: Lenovo Calliope Keyboard (USB connector), black	
Memory	128GB max, DDR4-2	2666 / DD	R4-2933*, four 2	88-pin D	IMM sockets, dua	al-channel	1	Some: Lenovo Traditional Keyboard (USB connector), black	
	capable						Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black	
	* Memory module is DDR4-2933, but clocks down for the limitation of processors							Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black	
Storage	Support up to 2x HDI	D_([2.5" +	3.5"] or [dual 2.5	5"]) and u	p to 1x M2.SSD,	RAID 0/1		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black	
	support for HDD (RA Some: Hard Drive / S	ID preset	only available vi	a special	bid)		Mechanical	SFF (8.2L), black color, metal case	
	Some: M.2 SSD (22)	42 / 2280	) / PCIe NVMe I	, 7200 ip PCIe 3.0	x2 or PCIe 3.0 x4	1	lineenanea	• Dimensins with bezel & PCI holder & rubber foot:	
	Some: Intel Optane	Memory	M10, M.2 2280	, PCle 3.0	0 x2	•		(WxDxH) 3.6" X 11.7" X 13.4"; 93mm X 298mm X 340mm	
Optical	Some: DVD-ROM, S						Boyo	<ul> <li>Weight (approx.): 11.7 lb (5.3 kg), weight may vary by configuration Bay 1: Slim ODD bay</li> </ul>	
Onboard SATA	Some: DVD Burner			s Drive, s	lim (9.0mm)		Bays	Bay 2: 3.5" HDD bay	
Media reader	Three onboard SATA Optional 3-in-1 media			IC and S				Bay 3: 2.5" HDD bay (optional bay, or bay comes with disk)	
Graphics	Intel UHD Graphics	,	11		,	ViractV® 10	Slots	Slot 1: low-profile (length < 155mm, height < 68mm), PCIe 3.0 x16	
Graphics	two DisplayPort [™] , on							Slot 2: low-profile (length < 155mm, height < 68mm), PCIe 3.0 x1	
	support via discrete o			independ	dont diopidyo, mo	io alopiayo		Slot 3: no slot, only bracket for optional port extension Slot 4: no slot, only bracket for optional port extension	
	Max resolution: 4096	×2304 (D	P)@60Hz; 1920;	x1080 (H	DMI)@60Hz			M.2 card slots: two (one for WLAN, one for SSD/Optane)	
	Some: AMD Radeon	<b>™ 520</b> , D	irectX 12, 2GB (	GDDR5, F	PCIe 3.0 x8, 30 w	/atts,	Floor Stand	Optional system floor stand for vertical orientation	
Monitor cable	Optional DP to VGA	ort (up to 4 donale D	4096x2160@60H P to DVI-D dong	IZ)	dual DP donale (	for Collage	EOU design	Toolless cover, disk, optical, extension card removal	
	Display with intel inte	arated ar	aphics), or DP to	HDMI 1.	4 donale	lor conage	Power supply	Some: 180 watts, autosensing, 85% PSU	
Chipset	Intel Q470 Chipset	0 0			0			Some: 260 watts, autosensing, 85% PSU Some: 310 watts, autosensing, 92% PSU	
Front ports* (Std.	) 2x USB 3.2 Gen 2, 2							Some: 380 watts, autosensing, 92% PSU	
Eropt porto* (Opt	1x microphone (3.5m			phone co	ombo jack (3.5mr		* Discrete graphics card / 10-core processors need > 180w power supply		
Rear ports* (Std.	) <i>Optional:</i> 3-iin-1 mec ) 4x USB 3.2 Gen 1, 12	x serial (9	-pin), 1x etherne	et (RJ-45)	, 2x DP**, 1x HD	MI**,	Limited warranty	<i>Some:</i> <b>1-year</b> , <b>depot service</b> / service upgrades available <i>Some:</i> <b>1-year</b> or <b>3-year</b> , <b>limited onsite service</b> / service upgrades available	
Rear ports* (Opt.	1x line-out (3.5mm) ) <i>Optional:</i> 2x USB 2.0	2x LISB	3.2 Gen 1 via P		USB 3 2 Type-C	Preload	Some: Windows [®] 10 Pro 64-bit		
an Frite (obu	PCIe x4, 1x 2nd seria	al (9-pin),	4x serial (9-pin)	via PCIe	x1,			Some: Windows 10 Home 64-bit	
	1x parallel (25-pin), 2	x PS/2 po	orts (keyboard/m	ouse), ad	ditional RJ-45 ar		Some: Windows 10 IoT Enterprise (only available via special bid model)		
	ports available on opt						Environment	ENERGY STAR [®] 8.0*, EPEAT [™] Gold / Silver rating (on some models), ErP Lot 3,	
	* Depending on many fa ** Only available for the				e lower than theore	lical speed		TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS * Only available for MT 11CU/11CV	
Audio support	High Definition (HD)		<u> </u>		al speaker (1 wa	tt)	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com	
		-,			1 . (	,			

Note: The specifications above may not be available in all regions.



(intel) inside

### ThinkCentre M90s Platform Specifications

Processor	Intel [®] Celeron [®] , Intel	Pentium®	or 10th Gen Int	el Core™	' i3 / i5 / i7 / i9 Pr	ocessor	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),		
	Processor Cores / Frequency Cache Memory Support Integr							Wi-Fi + Bluetooth 5.0 combo adapter, 2x2		
		Threads	Base/Max(GHz)		(Up to)	Graphics		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),		
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),		
	Celeron G5920	Pentium Gold G6400 2 / 4 4.0G 4 MB DDR4-2666 UHD 610		UHD 610		Wi-Fi + Bluetooth 5.1 combo adapter, Intel vPro technology support, 2x2				
				Bluetooth	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter					
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®		
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	<i>Some:</i> Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4 <i>Some:</i> Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1		
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630				
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 14 (Intel AMT 14); Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		
	Core i3-10320         4 / 8         3.8G / 4.6G         8 MB         DDR4-2666         UHD 630           Core i5 10/005         0 / 40         0 00 / 400         10 MB         DDR4-2666         UHD 630							adapter to enable vPro function through wireless connection)		
	Core i5-10400F Core i5-10400	6 / 12 6 / 12	2.9G / 4.3G 2.9G / 4.3G	12 MB 12 MB	DDR4-2666 DDR4-2666	None UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Core i5-10400	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630		• Security slot (for Kensington [®] lock) • Hard disk password		
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630		Padlock loop     Boot sequence control		
	Core i7-10700F	8/16	2.9G / 4.8G	16 MB	DDR4-2933	None		Optional Smart Cable Clip to     Boot without keyboard and mouse		
	Core i7-10700	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630		<ul> <li>physically lock keyboard and mouse</li> <li>Optional chassis intrusion switch</li> <li>Individual USB port disablement</li> <li>Smart USB protection, allows keyboard/</li> </ul>		
	Core i9-10900F	10/20	2.8G / 5.2G	20 MB	DDR4-2933	None		Optional chassis E-Lock     Small OSB protection, allows keyboard/ mouse only, blocks all storage devices		
	Core i9-10900	10/20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630		Power-on password     Self-Healing BIOS		
	* Max freguency may re							Administrator password		
	Technology 3.0 / Intel Th						Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
Memory	128GB max, DDR4-2	2666 / DD	R4-2933*. four 2	88-pin D	IMM sockets, dua	al-channel	1	Some: Lenovo Traditional Keyboard (USB connector), black		
<b>)</b>	capable		,		,		Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black		
	* Memory module is DD	* Memory module is DDR4-2933, but clocks down for the limitation of processors						Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
Storage	Support up to 3x HD	D ([2.5" +	dual 3.5"] or [du	al 2.5" +	3.5"]) and up to 2	2x M2.SSD,		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black		
	RAID 0/1 support (R/	AID prese	et only available	/ia specia	al bid)		Mechanical	SFF (8.2L), black color, metal case		
	Some: Hard Drive / Some: M.2 SSD (22	SAIA 6.0	GD/S, 2.5" or 3.5	r, 7200 rp	om v2 or PCIo 2 0 v	1	INICCITATICAL	• Dimensins with bezel & PCI holder & rubber foot:		
	Some: Intel Optane					+		(WxDxH) 3.6" X 11.7" X 13.4"; 93mm X 298mm X 340mm		
Optical	Some: DVD-ROM, S							<ul> <li>Weight (approx.): 11.7 lb (5.3 kg), weight may vary by configuration</li> </ul>		
	Some: DVD Burner			s Drive, s	lim (9.0mm)			Bay 1: Slim ODD bay Bay 2: 3.5" HDD bay		
Onboard SATA	Four onboard SATA 6							Bay 3: 2.5" HDD bay (optional bay, or bay comes with disk)		
Media reader	Optional 3-in-1 media				,	N	-	Slot 1: low-profile (length < 155mm, height < 68mm), PCIe 3.0 x16		
Graphics	Intel UHD Graphics two DisplayPort [™] , on							Slot 2: low-profile (length < 155mm, height < 68mm), PCIe 3.0 x1		
	supports up to 3 inde	ependent	displays, more d	isplays s	upport via discret	te graphics		Slot 3: low-profile (length < 155mm, height < 68mm), PCIe 3.0 x4 Slot 4: no slot, only bracket for optional port extension		
	Max resolution: 4096 Some: AMD Radeor	×2304 (D	P / Type-C)@60	Hz; 4096	x2160 (HDMI)@2	24Hz		M.2 card slots: three (one for WLAN, two for SSD/Optane)		
	Some: AMD Radeor	<b>™ 520</b> , D	irectX 12, 2GB (	GDDR5,	PCIe 3.0 x8, 30 v	vatts,	Floor Stand	Optional system floor stand for vertical orientation		
Monitor cable	two DisplayPo Optional DP to VGA		4096x2160@60		dual DB danala	(for Collogo	EOU design	Toolless cover, disk, optical, extension card removal		
Wormon cable	Display with intel inte					(IOI Collage	Power supply	Some: 180 watts, autosensing, 85% PSU		
Chipset	Intel Q470 Chipset	gratoa gr			. i doligio			Some: 260 watts, autosensing, 85% PSU		
	•			0.0 T	0.0	- I	_	Some: 310 watts, autosensing, 92% PSU		
Front ports" (Std.	.) 2x USB 3.2 Gen 2, 2 1x microphone (3.5m							Some: 380 watts, autosensing, 92% PSU * Discrete graphics card / 10-core processors need > 180w power supply		
Front ports* (Opt	) Optional: 3-iin-1 med			phone c		11)	Limited warranty			
Rear ports* (Std.	) 4x USB 3.2 Gen 1, 1	x serial (9	- 9-pin), 1x etherne	et (RJ-45	), 2x DisplayPort [,]	·*.	Preload			
	ear ports* (Std.) 4x USB 3.2 Gen 1, 1x serial (9-pin), 1x ethernet (RJ-45), 2x DisplayPort**, 1x line-out (3.5mm) ear ports* (Opt.) <i>Optional:</i> 1x optional video port** (choose one from HDMI / DP / USB 3.2 Type-C							Some: Windows [®] 10 Pro 64-bit Some: Windows 10 Home 64-bit		
Rear ports* (Opt.	<ul> <li>Optional: 1x optional</li> </ul>	video poi	rt** (choose one	from HD	MI / DP / USB 3.	2 Type-C		Some: Windows 10 Interprise (only available via special bid model)		
	Gen 1 with DP function Type-C Gen 2 via PC						Environment	ENERGY STAR [®] 8.0 [*] , EPEAT [™] Gold / Silver rating (on some models), ErP Lot 3,		
	1x parallel (25-pin), 2						LINIOIIIIeill	TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS		
	ports available on op							* Only available for MT 11D1/11D2		
	* Depending on many fa	ictors, actu	ial data transfer spe	ed may b	e lower than theore	tical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
	** Only available for the						_	······································		
Audio support	High Definition (HD)	Audio, Re	altek ALC623-C	G / interr	nal speaker (1 wa	utt )				
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# ThinkCentre M920 SFF Platform Specifications

Product Specifications Reference (PSREF)

							1	
Processor	Intel [®] Celeron [®] , Intel Processor	Pentium® Cores / Threads	, or 8th / 9th Ger Frequency Base/Max(GHz)	n Intel Co Cache	ore™ i3 / i5 / i7 / is Memory Support (Up to)	Processon Integrated Graphics	r 	1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), 1x Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DisplayPort) via PCIe x4 (available on 09/30/2018), additional RJ-45 and video ports available on optional graphics or ethernet card
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (1 watt )
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1
						UHD 630		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2 Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		Intel vPro technology support, 2x2
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Bluetooth	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter 1350-T4, gigabit ethernet, 4x RJ-45, PCIe x4
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12);
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi adapter to enable vPro function through wireless connection)
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		Security slot (in rear for optional     Power-on password
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Kensington [®] MicroSaver [®] cable) • Administrator password
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Padlock loop     Hard disk password
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		Optional cable lock to physically lock     Boot sequence control     Additional and markets     Additional cable lock to physically lock     Additional cable lock     Additional cable lock to physically lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Additional cable lock     Add
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		<ul> <li>both keyboard and mouse</li> <li>Optional chassis intrusion switch</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>
	Core i5-9400F	6/6	2.9G / 4.1G	9 MB	DDR4-2666	None		Optional chassis E-Lock (special bid)      Smart USB protection, allows keyboard
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices
	Core i5-9500F	6/6	3.0G / 4.4G	9 MB	DDR4-2666	None	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid) Some: Lenovo Calliope Mouse (USB connector), black
Memory	64GB max, DDR4-26 * System automatica	66*, four	288-pin DIMM s	ockets, d	ual-channel capa	able		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
Storage	Some: Hard Drive / Some: Solid State D	SATA 6.00	Gb/s, 2.5" or 3.5"	, 5400 rp		ry controlle	Mechanical	Some: Lenovo Mouse (PS/2 connector), black (only available via special bid) • SFF (8.4L), black color, metal case
	Some: M.2 Solid Sta * 128GB SSD M.2 (2 Some: Intel Optane ¹	242) PCI	è NVMe only sup	ports PC	Cle 3.0 x 2, 16Gb	/s		<ul> <li>(WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.23 lb (6 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, extension card removal</li> </ul>
Optical	Some: DVD-ROM, Some: DVD Burner	Sata 1.50	Gb/s Drive, slim (	9.0mm)		, wi.∠		Optional dust filter Bay 1: Slim external ODD bay
Onboard SATA	Four onboard SATA 6	6.0Gb/s co	onnectors, RAID	0/1 supp	ort (RAID preset	only		Bay 2: 3.5", 1" high, internal, HDD/SSD
Madia vasalav	available via special		l)					Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 150mm, height < 68mm), PCIe 3.0 x16
Media reader	Optional 7-in-1 media						-	Slot 2: low-profile (length < 150mm, height < 68mm), PCle 3.0 x1
Graphics	Intel UHD Graphics							Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 3.0 x16 (x4 signal)
	one VGA (up to 2048 supports 3 independent							Slot 4: no slot, only bracket for optional port extension
	Some: NVIDIA Gefo						Floor Stand	M.2 card slots: Two (one for WLAN, one for SSD/Optane) Optional system floor stand for vertical orientation
	PCle 2.0 x16,	35 watts	, two DisplayPort	t (up to 3	840x2160@60Hz	z)		
	Some: AMD Radeor				PCIe 3.0 x8, 30 v	vatts,	Power supply	Some: 180 watts, autosensing, 85% PSU
Monitor cable	two DisplayPo Optional DP to VGA	ort (up to	4096x2160@60	HZ) In DB to	dual DB danala	(for Collogo		Some:210 watts, autosensing, 85% PSUSome:260 watts, autosensing, 92% PSU (only available via special bid)
	Display with intel inte	arated an	aphics), or DP to	HDMI 1	4 dongle			
Chipset	Intel Q370 Chipset	0 0	1 /				Limited warranty	Some: 1-year or 3-year, limited onsite service / service upgrades available
	) 2x USB 3.1 Gen2, 2x 1x microphone (3.5m	ım), 1x he				Preload	Some: Windows [®] 10 Pro 64-bit Some: Windows 10 Home 64-bit	
Front ports* (Opt Rear ports* (Std.	.) Optional: 1x media re ) 4x USB 3.1 Gen1, 1>	eader serial (9-	-pin), 1x etherne	t (RJ-45)	, 1x VGA, 2x Dis	Environment	ENERGY STAR [®] 7.0, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant	
Rear ports* (Opt	1x line-out (3.5mm) ) <i>Optional:</i> 2x USB 2.0 PCIe x4 (special bid	, 2x USB only), 1x 2	3.1 Gen1 via PC 2nd serial (9-pin)	le x1, 2x , 4x seria	usb 3.1 Type-C al (9-pin) via PCle	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com	



## ThinkCentre M625 Tiny Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD A9 series	APU					Keyboard	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo		
			Frequency	L2	Memory	Integrated	Mouse	Some: USB Optical Wheel Mouse, black, Lenovo logo		
	APU	Cores	Base/Max	Cache	Support (Up to)	Graphics	Mechanical	<ul> <li>Tiny (1L), black color; metal case</li> <li>Toolless chassis open (for models with optional toolless chassis screw)</li> <li>Toolless HDD, SSD, memory, Wi-Fi removal</li> </ul>		
	A9-9420e	2	1.8 / 2.7 GHz	1 MB	DDR4-1866	Radeon R5 Series				
Memory	8GB max, DDR4 * System frequer controller in proc	ncy autoi	ne 260-pin SO- matically clocks	DIMM s down fo	ocket or the lower cap	pability of memory				
Disk	Some: SATA 6.0 Some: 128GB N Some: 256GB N	1.2 Solid	State Drive (SS	5D) / PC	le NVMe inter		VESA mount Floor Stand			
Optical Onboard SATA Media reader	None one SATA 6.0Gb/ None	/s conne	ctor on planar				Power supply	Some: 65 watts adapter, autosensing, 88% PSU (not included for TIO models) Some: 135 watts adapter, autosensing, 89% PSU		
Graphics	AMD Radeon™					rectX [®] 12, two DisplayPort Alternate	Limited warranty ³	Some: 1-year, limited onsite service / service upgrades available		
Manitar appla	Mode), supports Max resolution: 3	up to 2 i 8840x216 8840x216	ndependent dis 50 (DP)@60Hz; 50 (USB 2.0 Typ	plays; 2048x1 e-C)@6	280 (VGA)@6 0Hz	0Hz;	Preload	Preloaded operating system       Preloaded applications (only some         Some:       Windows® 10 Pro 64-bit       listed)         Some:       Windows 7 Professional 64       - Windows 10 only		
Monitor cable	Optional DP to V		to DVI-D (single	link), oi	r DP to HDMI	1.4 dongle	-	preinstalled through downgrade • Lenovo Vantage rights in Windows 10 Pro 64-bit • LinkedIn		
Chipset	AMD SoC platfo						-	<ul> <li>Microsoft Office preloaded;</li> </ul>		
Front ports* Rear ports*	one headphone / One USB 3.1 Ge two optional port Alternate Mode),	/ microph n1, three s (Port 1 Port 2 fe	none combo jacl e USB 2.0, ethe for VGA / serial or serial)	k (3.5mr rnet (RJ / USB 2	n) I-45), two Disp 2.0 Type-C (wit			purchase a product key to activate - <i>Windows 7 only</i> • Lenovo Solution Center • Lenovo System Update • Factory Recovery • User Guide Viewer • Microsoft Office preloaded;		
I/O box	None	,	,							
Audio support		,				speaker (1.5 watt)	-	<ul> <li>purchase a product key to activate</li> <li>Adobe[®] Reader[®]</li> </ul>		
WLAN ¹³	Some: 11ac wire	Bluetooth eless, M.	4.2* combo ad 2 Card, Qualco	apter, 2 mm Ath	x2 eros QCA6174	<i>,,</i>	Environment	ENERGY STAR [®] 7.0*, EPEAT [™] Gold rating (with 135W adapter) or EPEAT [™] Silver rating (with 65W), ErP Lot 3, RoHS-compliant, WEEE, TCO		
Bluetooth™	Some: Bluetooth * Win 10 RS3 and	n 4.2* wi d Win10	earlier version of	d in Ŵi- only sup	Fi + BT combo port Bluetooth		MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)		
Ethernet Modem	Gigabit ethernet, None	Realtek	RTL8111HN, V	lake on	LAN®		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
Manageability Security chip Security features	None Discrete TPM 2.0 • Security slot (ir Kensington® M • Smart USB pro mouse only, blo • Power-on pass	n rear for icroSave otection, ocks all s	r optional er® cable) allows keyboard	<ul> <li>Ha</li> <li>Boo</li> <li>Boo</li> <li>Ind</li> </ul>		ord ontrol ooard and mouse ort disablement				





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## ThinkCentre M625 Tiny Thin Client Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD E2 series A	APU					Keyboard	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo			
			Memory	Integrated	Mouse	Some: USB Optical Wheel Mouse, black, Lenovo logo					
	APU	Cores	Base/Max	Cache	Support (Up to)	Graphics	Mechanical	<ul> <li>Tiny (1L), fan-less design, black color, metal case</li> <li>Toolless chassis open (for models with optional toolless chassis screw)</li> </ul>			
	E2-9000e	2	1.5 / 2.0 GHz	1 MB	DDR4-1866	Radeon R2 Series		Toolless SSD, memory, Wi-Fi removal     M625 Tiny Thin Client only:     7.05" W X 7.20" D X 1.36" H			
	A4-9120e	2	1.5 / 2.2 GHz	1 MB	DDR4-1866	Radeon R3 Series	_				
Memory	8GB max, DDR4 * System frequer controller in proc	ncy autor				pability of memory	VESA mount	179mm W X 182.9mm D X 34.5mm H 2.9 lb (1.3 kg), weight may vary by configuration Optional VESA mount bracket kit, supports VESA 75mm and 100mm			
Disk	Some: 32GB M. Some: 128GB N					lace	Floor Stand	Optional system floor stand for vertical orientation			
Optical	None		,	50)770		lace	Power supply Limited warranty ³	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models) Some: 1-year, depot service / service upgrades available			
Onboard SATA Media reader	one SATA 6.0Gb None	/s conne	ctor on planar					Some: 1-year, limited onsite service / service upgrades available			
Graphics	Mode), supports Max resolution: 3	ne option up to 2 i 3840x216	al port (VGA or independent dis 60 (DP)@60Hz;	USB 2.0 plays; 2048x1	) Type-C with [ 280 (VGA)@6	DisplayPort Alternate	Preload	Preloaded operating system Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)			
Monitor cable	Optional DP to V		60 (USB 2.0 Typ to DVI-D (single			I.4 dongle	Environment	ENERGY STAR [®] 7.0 [*] , EPEAT [™] Silver rating [*] (*Not for non-OS models), ErP Lot 3, RoHS-compliant, WEEE, TCO			
Chipset	AMD SoC platfo	orm					MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,			
Front ports*	Two USB 3.1 Ge one headphone	en1 (one	is Always On ar	nd fast cl	harge), one mi	crophone (3.5mm),		Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Sho Fungus, Solar Radiation)			
Rear ports*	One USB 3.1 Ge two optional port Alternate Mode),	en1, three ts (Port 1 , Port 2 fo	e USB 2.0, ethe for VGA / seria or serial)	rnet (RJ I / USB 2	-45), two Disp 2.0 Type-C (wit	hDisplayPort	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
I/O box	* Depending on ma None	any factors	s, actual data trans	ster speed	d may be lower t	han theoretical speed					
Audio support		HD) Audi	io, Realtek ALC	233-VB2	2-CG / internal	speaker (1.5 watt)	-				
WLAN ¹³	Some: 11ac wire Wi-Fi + E Some: 11ac wire Wi-Fi + E Some: 11ac wire Wi-Fi + E Some: 11ac wire	Bluetooth eless, M. Bluetooth eless, M. Bluetooth eless, M. Bluetooth eless, M.	1 4.2* combo ad .2 Card, Qualco 1 4.2* combo ad .2 Card, Realtel 1 4.2* combo ad .2 Card, Qualco 1 4.2* combo ad	apter, 1) mm Atho apter, 1) ( RTL88 apter, 2) mm Atho apter, 2) ireless-A	<1 eros QCA9377 <1 22BE (dual ba <2 eros QCA6174 <2 <c (dual="" )<="" 9260="" td=""><td>7 (dual band), nd), IA (dual band),</td><td>-</td><td></td></c>	7 (dual band), nd), IA (dual band),	-				
Bluetooth™	<i>Some:</i> Bluetooth * Win 10 RS3 an	h 4.2/5.0 Id Win10	* wireless, integ earlier version	rated in only sup	Wi-Fi + BT con port Bluetooth						
Ethernet Modem	Gigabit ethernet, None	, Realtek	RTL8111HN, V	Vake on	LAN®						
Manageability Security chip	None Discrete TPM 2.0	,									
Security features	<ul> <li>Kensington[®] M</li> <li>Smart USB pro</li> </ul>	licroSave otection, ocks all s	er®'cable)	<ul> <li>Hai</li> <li>Boo</li> <li>Boo</li> <li>Indi</li> </ul>	ot without keyb	ord ontrol ooard and mouse ort disablement					
								Lenovo May 2018			







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## ThinkCentre M630e Tiny Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel® Pentium®, or 8th	n Generat	tion Intel Core™ i	i3 / i5 P	rocessor		Security chip	None						
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	Security features		2.0, integrated in chipset					
	Pentium Gold 5405U	Threads 2/4	Base/Max(GHz) 2.3G	2 MB	(Up to) DDR4-2133	Graphics UHD 610				Boot sequence cont Boot without keyboa				
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2133	UHD 620		Chassis intru	usion switch	Individual USB port	disablement			
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		Power-on password     Smart USB protection, allows keyb						
				-		0110 020	-	<ul> <li>Administrato</li> </ul>		mouse only, blocks a	all storage devices			
Memory	16GB max, DDR4-26 * System automatical	66*, one : ly clocks (	260-pin SO-DIM down for the proc	M socke cessors	ets, non-ECC with lower memo	ory controller	Keyboard	Hard disk pa Some: Lenove	o Calliope Keyboard (USB c	connector), black				
Storage	Some: Hard Drive / S	SATA 6.00	θb/s, 2.5", 5400 ι	pm or 7			Mouse	Some: Lenovo Calliope Mouse (USB connector), black						
Onboard SATA	Some: Solid State Di Some: M.2 SSD (228 Some: M.2 SSD (224 One onboard SATA 6	30) / PCIe 42) / PCIe	NVMe, PCIe 3.0 NVMe, PCIe 3.0	0 x 4, 32	2Gb/s 6Gb/s		Mechanical	<ul> <li>Optional dus</li> </ul>	k color; metal case st filter y for HDD/SSD, two M.2 slo	ts (one for WLAN, or	ne for M.2 SSD)			
Graphics	Intel HD Graphics 61	10/620 in	nrocessor uses	main m	emory DirectX [®]	12 one	-		Dimensions	s (WxDxH)	Weight (Approx.)			
Monitor cable	DisplayPort [™] , one HE Max resolution: 4096> Optional DP to VGA c	DMI, up to k2304 (DF	2 independent o 9)@60Hz; 4096x	displays 2304 (⊦	,	12, 0110		Tiny only	7.0" X 7.2" X 1.4" (1 179mm X 183mm with rubt	X 34.5mm (37mm ′	2.91 lb (1.32 kg), vary by config			
Chipset	Intel SoC (System o	-		uongie			VESA mount							
· · ·							Floor Stand		A mount bracket kit, support m floor stand for vertical ori		loomm			
Front ports* (Std.	) One USB 3.1 Gen1, o one headphone / mic				nicrophone (3.5m	ım),	Device events							
Rear ports* (Std.)	) Two USB 3.1 Gen1, tv	wo USB 2	2.0. one ethernet	(RJ-45	). one DisplavPor	t. one HDMI	Power supply	Some: 65 watts adapter, autosensing, 88% PSU						
Rear ports* (Opt.							Limited warranty	y Some: 1-year, depot service / service upgrades available Some: 1-year, limited onsite service / service upgrades available						
Audio support	Realtek ALC233VB /	,				cilcul speed	Preload	Preloaded op	erating system					
WLAN	Some: 11ac wireless Wi-Fi + Blueto Some: 11ac wireless	, M.2 Car ooth 4.2 c s, M.2 Car ooth 4.2 c	d, Realtek RTL8 combo adapter, 1 d, Realtek RTL8 combo adapter, 2	821CE x1 822BE x2	(dual band),		-	Some: Windo Preloaded app • Lenovo Vant • Microsoft Of	fice preloaded;	ed)				
		ooth 4.2 c	ombo adapter, 1	x1	,			<ul><li>purchase a purchase a pur</li></ul>	product key to activate					
Bluetooth		ooth 4.2 c	ombo adapter, 2	x2			Environment	ENERGY STAR [®] 7.0, EPEAT [™] Silver rating, ErP Lot 3, TCO, RoHS-compli WEEE, REACH			RoHS-compliant,			
Ethernet Ethernet (Opt.)	Gigabit ethernet, Rea None						MIL-SPEC test	MIL-STD-810G (Low Pressure [Altitude], High Temperature, Low Temperatu Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Sc			ow Temperature, k, Fungus, Solar			
Manageability	None					<b>A</b>	Radiation)							
							Accessories	For compatible accessories, please go to http://smartfind.lenovo.com						

Note: The specifications above may not be available in all regions.

Lenovo, April 2020





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## ThinkCentre M70q Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium [®] ,	or 10th Gen Inte	el Core [⊤]	™ i3 / i5 / i7 / i9 Pi	rocessor	Bluetooth			grated in Wi-Fi + BT cor				
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Ethernet Ethernet (Opt.)	Gigabit ethernet, Inte None	el Ethernet Conne	ction I219-V(Jacksonvill	e), Wake on LAN®			
	Celeron G5900T	2/2	3.2G	2 MB	DDR4-2666	UHD 610	Manageability	None						
	Pentium Gold G6400T	2/4	3.4G	4 MB	DDR4-2666	UHD 610	Security chip	Discrete TPM 2.0, TO	CG Certified					
	Pentium Gold G6500T	2/4	3.5G	4 MB	DDR4-2666	UHD 630	Security features	• Security slot (in rea	ar for optional	<ul> <li>Boot sequence cont</li> </ul>	rol			
	Core i3-10100T	4/8	3.0G / 3.8G	6 MB	DDR4-2666	UHD 630		<ul> <li>Kensington[®] Microl</li> <li>Chassis intrusion s</li> </ul>		<ul> <li>Boot without keyboa</li> <li>Individual USB port</li> </ul>	rd and mouse			
	Core i3-10300T	4/8	3.0G / 3.9G	8 MB	DDR4-2666	UHD 630		<ul> <li>Power-on passwor</li> </ul>		<ul> <li>Smart USB protection</li> </ul>	on. allows keyboard/			
	Core i5-10400T	6/12	2.0G / 3.6G	12 MB	DDR4-2666	UHD 630		<ul> <li>Administrator pass</li> </ul>	sword	mouse only, blocks a				
	Core i5-10500T	6/12	2.3G / 3.8G	12 MB	DDR4-2666	UHD 630		<ul> <li>Hard disk passwor</li> </ul>						
	Core i5-10600T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calli	ope Keyboard (US	B connector), black				
	Core i7-10700T	8/16	2.0G / 4.5G	16 MB	DDR4-2933	UHD 630		Some: Lenovo Tradi	itional Keyboard (l	JSB connector), black	reactiver) block			
	Core i9-10900T	10 / 20	1.9G / 4.6G	20 MB	DDR4-2933	UHD 630	Mouse	Some: Lenovo Calli	ope Wireless Reyl	connector) black	receiver), black			
	* Max freguency may re Technology 3.0 / Intel Th					Max		Some: Lenovo Fing	Calliope Mouse (USB connector), black Fingerprint Mouse (USB connector), Windows Hello support, Calliope Wireless Mouse (2.4GHz via USB receiver), black					
Memory	64GB max, DDR4-26 dual-channel capable * Memory module is DD	)	,	•	,		Mechanical	Tiny (1L), black color	r; metal case	ne for WLAN, one for M	,			
Storage	Support up to 1x 2.5						-		Dimens	ions (WxDxH)	Weight (Approx.)			
g-	Some: Hard Drive / Some: M.2 SSD (22 Some: Intel Optane	SATA 6.00 42 / 2280)	ab/s, 2.5", 7200 r / PCIe NVMe, P	Cle 3.0	x2 or PCle 3.0 x .0 x2	(4		Tiny only	7.0" X 7.2" X 1.4 179mm X 183m	" (1.5" with rubber feet) nm X 34.5mm (37mm rubber feet)	2.76 lb (1.25 kg), vary by config			
Optical Onboard SATA	Some: DVD-ROM, s Some: DVD Burner One onboard SATA 6	lim (9.0mr (DVD±RW	n), via USB exter ), slim (9.0mm),	rnal OD	D box	юх		With VESA mount & ODD box	8.04" X	7.35" X 2.52" 186.6mm X 64mm	3.84 lb (1.74 kg), vary by config			
·	Intel HD Graphics 6 DisplayPort™, one HI independent displays Max resolution: 4096 4096	DMI, more ; x2304 (DF	video ports avai	lable vi 2304 (T	a optional ports, ype-C)@60Hz;		VESA mount Floor Stand Dust filter EOU design	Optional system floo Optional dust filter	r stand for vertical en (need optional t	oorts VESA 75mm and 1 I orientation oolless chassis screw), 1				
Monitor cable	Optional DP to VGA HDMI 1.4 dongle	dongle,`DI	P to DVI-D dongle	e, DP to	à dual DP dongle	, or DP to	Power supply	Some: 65 watts AC/DC adapter, autosensing, 89% PSU Some: 90 watts AC/DC adapter, autosensing, 89% PSU (special bio Some: 135 watts AC/DC adapter, autosensing, 89% PSU			cial bid only)			
•	Intel H470 Chipset									0				
,	one USB 3.2 Gen 2 ( one headphone / mic	rophone o	ombo jack (3.5m	ím)	21	-	Limited warranty			ce upgrades available ite service / service upg	grades available			
	1x USB 3.2 Gen 2, 3 Two optional ports:			``			Preload	Preloaded operatin Some: Windows [®] 1	0 Pro 64-bit					
	Position	Port 1		Port 2			-	Some: Windows 10						
	Optional parts VGA / 2r 3.2 Type-0	id DP / 2n C Gen 1 w / Seria	d HDMI / USB ith DP function) al	Seria	al Dual USB (Available at	rts	Environment	ENERGY STAR® 8.0 TCO 8.0, TUV low no RoHS-compliant	), EPEAT™ Gold / oise / ultra low noi	Silver rating (on some n se verified (on some mo	nodels), ErP Lot 3, odels),			
	* Depending on many fa	actors, actu	al data transfer spe	ed may	be lower than theor	retical speed	MIL-SPEC test	MIL-STD-810H milita	ary certification (Le	ow Pressure [Altitude], H	ligh Temperature,			
Audio support	Realtek ALC233VB /	optional i	nternal speaker (	1.5 wat	t)			Low Temperature, Te	emperature Shock,	, Humidity, Sand and Du	ist, Vibration, Shock,			
WLAN	Some: 11ac wireless Wi-Fi + Bluet Some: 11ac wireless Wi-Fi + Bluet	ooth 5.0 c s, M.2 Car ooth 5.0 c s, M.2 Car ooth 5.0 c	ombo adapter, 2 d, Intel Wireless- ombo adapter, 1 d, Intel Wireless- ombo adapter, 2	x2 AC 946 x1 (spe AC 956 x2	62 (dual band), cial bid only) 60 (dual band),		Accessories	Fungus, Solar Radia For compatible acces	,	o to http://smartfind.len	ovo.com			
	Some: 11ax wireless Wi-Fi + Bluet	ooth 5.1 c	ombo adapter, 2		dual band),						Lanova May 2020			

Note: The specifications above may not be available in all regions.

Lenovo, May 2020









## ThinkCentre M715 Tiny (2nd Gen) Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Athlon, A6, A1	0, A12,	or Ryzen pro	cessor			Security features	• Security slot (in rea		Administrator pas		
	Processor	Cores / Threads		L2 / L3 Cache	Memory Support (Up to)	Integrated Graphics		<ul> <li>Kensington[®] Micros</li> <li>Padlock loop</li> <li>Smart USB protect</li> </ul>	ion, allows keyboard	<ul> <li>Hard disk passwe</li> <li>Boot sequence c</li> <li>Boot without keyl</li> </ul>	ontrol board and mouse	
	Athlon 200GE	2/4	3.2 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3		<ul> <li>mouse only, blocks</li> <li>Power-on passwork</li> </ul>	all storage devices	<ul> <li>Individual USB p</li> <li>Chassis intrusion</li> </ul>		
	Athlon PRO 200GE	2/4	3.2 GHz	1 MB / 4MB		Radeon Vega 3	Kouboord				SWIICH	
	PRO A6-8570E	2/2	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	Radeon R5	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black				
	PRO A10-8770E	4/4	2.8 / 3.5 GHz	2 MB / -	DDR4-2400	Radeon R7		Some: Lenovo Callie	ope Wireless Keyboa	rd (2.4GHz via USB)	receiver), black	
	PRO A6-9500E	2/2	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	Radeon R5	Mouse	Some: Lenovo Callio	ope Mouse (USB con	nnector), black		
	PRO A10-9700E	4/4	3.0 / 3.5 GHz	2 MB / - 2 MB / -	DDR4-2400 DDR4-2400	Radeon R7 Radeon R7		Some: Lenovo Finge	erprint Mouse (USB o	connector), Windows (2.4GHz via USB rec	Hello support, black	
	PRO A12-9800E	4/4	3.1 / 3.8 GHz	2 MB / 4MB	DDR4-2400 DDR4-2933		<u>.</u>		·		eiver), Diack	
	Ryzen 3 2200GE Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz 3.2 / 3.6 GHz		DDR4-2933 DDR4-2933	Radeon Vega 8 Radeon Vega 8	Mechanical	Tiny (1L), black color		olless chassis screw)		
	Ryzen 5 2400GE	4/4	3.2 / 3.8 GHz		DDR4-2933 DDR4-2933	Radeon RX Vega 11		<ul> <li>Optional dust filter</li> </ul>	ben (need optional to	oliess chassis screw		
	Ryzen 5 PRO 2400GE		3.2 / 3.8 GHz			Radeon RX Vega 11			Dimension	- (14(-D-1))	\A(=:==== ( A ====== )	
		1				5	-	Thursday	Dimensions	, ,	Weight (Approx.)	
Memory	32GB max, DDR4 2 * System automatic	ally cloc	ks down for tl	ne lower me	mory contro		-	Tiny only	7.0" X 7.2" X 1.4" (1 179mm X 183mm with rubb	X 34.5mm (37mm '	2.91 lb (1.32 kg), vary by config	
Disk	Some: Hard Drive / Some: Solid State   Some: M.2 SSD / F	Drive (S	SD) / SATA 6	.0Gb/s, 2.5'				With VESA mount & ODD box	7.42" X 7.3 188.4mm X 185.		3.66 lb (1.66 kg), vary by config	
Optical	* 128GB SSD M.2 ( Some: DVD-ROM, Some: DVD±RW, 9	9.0mḿ l	high, via USE	external O	DD box	2, 16Gb/s	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation				
Onboard SATA	One SATA cable (1-	drop to	device), one s	SATA 6.0Gb	/s connecto	r on planar	Power supply	% PSU (not included	,			
Graphics	AMD Radeon™ Gra						Limited warranty	1-year or 3-year, limi	ervice upgrades avai			
Monitor cable	DisplayPort™, one of displays (supports r port or DP to DVI/HI Max resolution: 409 192 Optional DP to VGA	naximun DMI don 6x2160 0x1200	n of 2 concur Igles, and Ath (DP)@60Hz; (VGA)@60Hz	rent HDMI/I Ilon / Athlor 4096x2160 z	DVI displays PRO only ( (HDMI)@3	when using HDMI support 2 displays); 0Hz;	Preload		Pro 64-bit Home 64-bit rofessional 64	Preloaded applicati listed) - WIndows 10 only • Lenovo Vantage • Microsoft Office pri- purchase a produc	eloaded;	
Chipset	AMD B300 Chipset	t				-				<ul> <li>Cyberlink PowerD\</li> </ul>	D (only for models	
,	Two USB 3.1 Gen1 3.5mm), one headp One USB 3.1 Gen1	hone / n	nicrophone co	ombo jack (	stéreo, 3.5m	nm) `	-	with DVD / DVD±RW) • Cyberlink Power2GO (only with DVD±RW)				
,	one headphoneone One optional port (V			,	,.					<ul> <li>LinkedIn</li> <li>Windows 7 only</li> <li>Lenovo Solution Comparison</li> </ul>	ontor	
	* Depending on many ** Not support VGA, 3r									<ul> <li>ThinkVantage Syst</li> <li>Create Recovery M</li> </ul>	em Update Iedia	
Audio support	High Definition (HD)	Audio,	Realtek ALC	233-VB2 / ir	nternal spea	iker (1.5 watt)				<ul> <li>Microsoft Office press</li> </ul>	eloaded;	
WLAN		etooth 4.	2* combo ad	apter, 1x1	,	,,				<ul> <li>purchase a product</li> <li>Adobe[®] Reader[®]</li> </ul>		
		etooth 4.	2* combo ad	apter, 1x1		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Environment	ErP Lot 3; ; RoHS-co	mpliant	ing* (*Not for non-OS		
	Some: 11ac wireles Wi-Fi + Blue Some: 11ac wireles	etooth 4.	2* combo ad	apter, 2x2	,	<i>,.</i>	MIL-SPEC test	MIL-STD-810G milita Low Temperature, Te	ary certification (Low mperature Shock, Hu	Pressure [Altitude], H umidity, Sand and Du	ligh Temperature, st, Vibration, Shock)	
Bluetooth Ethernet	Wi-Fi + Blue Some: Bluetooth 4. * Hardware support Gigabit ethernet, Re	etooth 4. 2* wirel s BT 4.2	2* combo ad ess, integrate , but Win10 F	apter, 2x2 d in Wi-Fi + RS3 and ea	BT combo	adapter	Accessories	For compatible acces	ssories, please go to	http://smartfind.len	ovo.com	
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0, T				<u></u>							

Note: The specifications above may not be available in all regions.









#### Processor AMD Athlon, A6, A10, or Ryzen processor Some: Lenovo Calliope Keyboard (USB connector), black Keyboard Some: Lenovo Traditional Keyboard (USB connector), black Memory Sup-L2/L3 Cores / Frequency Integrated Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black APU port Threads Base/Max Cache Graphics Mouse Some: Lenovo Calliope Mouse (USB connector), black (Úp to) Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Athlon PRO 200GE 2/4 3.2 GHz 1 MB / 4MB DDR4-2666 Radeon Vega 3 Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black PRO A6-8570E 2/2 3.0 / 3.4 GHz 1 MB / DDR4-2400 Radeon R5 4/4 2 MB / -Mechanical Tiny (1L), black color; metal case PRO A10-8770E 2.8 / 3.5 GHz DDR4-2400 Radeon R7 • Toolless chassis open (need optional toolless chassis screw) Ryzen 3 PRO 2200GE 4/4 3.2 / 3.6 GHz 2 MB / 4MB DDR4-2933 Radeon Vega 8 Optional dust filter Memory 8GB max, DDR4 2666*, two 260-pin SO-DIMM sockets, dual-channel capable Dimensions (WxDxH) Weight (Approx.) System automatically clocks down for the lower memory controller 7.0" X 7.2" X 1.4" (1.5" with rubber feet) 2.91 lb (1.32 kg), Tiny only Disk Some: 32GB M.2 Solid State Drive (SSD) / SATA interface vary by config 179mm X 183mm X 34.5mm (37mm Some: 128GB M.2 Solid State Drive (SSD) / PCIe NVMe, PCIe 3.0 x 2 with rubber feet) Optical None Onboard SATA One SATA cable (1-drop to device), one SATA 6.0Gb/s connector on planar VESA mount Optional VESA mount bracket kit, supports VESA 75mm and 100mm AMD Radeon[™] Graphics in processor, uses main memory, DirectX[®] 12, two Floor Stand Optional system floor stand for vertical orientation Graphics DisplayPort™, one optional port (HDMI, VGA, or 3rd DP), supports 3 independent Power supply 65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models) displays (supports maximum of 2 concurrent HDMI/DVI displays when using HDMI port or DP to DVI/HDMI dongles, and Athlon / Athlon PRO only support 2 displays); Limited warranty 1-year or 3-year, limited onsite service / service upgrades available Max resolution: 4096x2160 (DP) @60Hz; 4096x2160 (HDMI) @30Hz; Preload Preloaded operating system 1920x1200 (VGA)@60Hz Some: Windows Embedded Standard 7 V2 (WES 7 V2) Monitor cable Optional DP to VGA dongle, DP to DVI-D dongle, or DP to HDMI 1.4 dongle Some: Windows 10 IoT Enterprise Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based) Chipset AMD B300 Chipset Environment ENERGY STAR[®] 7.0^{*}, EPEAT[™] Silver rating^{*} (*not for non-OS models); Front ports* (Std.) Two USB 3.1 Gen1 (one is Always On and fast charge), one microphone (stereo, ErP Lot 3; RoHS-compliant 3.5mm), one headphone / microphone combo jack (stereo, 3.5mm) Rear ports* (Std.) One USB 3.1 Gen1 and three USB 2.0, ethernet (RJ-45), two DisplayPort, MIL-SPEC test MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, one headphoneone Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock) Rear ports* (Opt.) One optional port (VGA**, 3rd DP**, HDMI**, or serial on some models) Accessories For compatible accessories, please go to http://smartfind.lenovo.com * Depending on many factors, actual data transfer speed may be lower than theoretical speed ** Not support VGA, 3rd DP, HDMI for the models with Athlon / Athlon PRO Audio support High Definition (HD) Audio. Realtek ALC233-VB2 / internal speaker (1.5 watt) WLAN Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377 (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2* combo adapter. 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 2x2 Some: Bluetooth 4.2* wireless, integrated in Wi-Fi + BT combo adapter Bluetooth * Hardware supports BT 4.2, but Win10 RS3 and earlier only supports BT 4.1 Ethernet Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN® Manageability DASH 1.0/1.1 Security chip Discrete TPM 2.0. TCG Certified Security features • Security slot (in rear for optional Administrator password Kensington[®] MicroSaver[®] cable) Hard disk password Padlock loop Boot sequence control Smart USB protection, allows keyboard/ Boot without keyboard and mouse mouse only, blocks all storage devices Individual USB port disablement Power-on password Chassis intrusion switch

#### ThinkCentre M715 Tiny Thin Client (2nd Gen) Platform Specifications

Product Specifications Reference (PSREF)

Note: The specifications above may not be available in all regions.

Lenovo, April 2020













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#### ThinkCentre M720 Tiny Platform Specifications

Processor	Intel [®] Celeron [®] , Intel F	Pentium®,	or 8th / 9th Gen	Intel C	ore™ i3 / i5 / i7 / i	9 Processor		None					
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	Security chip	Discrete TPM 2.0, TC	CG Certified				
	Celeron G4900T	Threads	· · · ·		(Up to)	Graphics UHD 610	Security features	Security slot (in real Konsington® Micros	ar for optional	<ul> <li>Boot sequence contr</li> <li>Boot without keyboar</li> </ul>			
	Pentium Gold G5400T	2/2 2/4	2.9G 3.1G	2 MB 4 MB	DDR4-2400 DDR4-2400	UHD 610		<ul> <li>Kensington[®] Micros</li> <li>Chassis intrusion s</li> </ul>		<ul> <li>Individual USB port of</li> </ul>			
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		<ul> <li>Power-on password</li> </ul>		<ul> <li>Smart USB protectio</li> </ul>	n, allows keyboard/		
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400 DDR4-2400	UHD 630		<ul> <li>Administrator pass</li> </ul>		mouse only, blocks a	Il storage devices		
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400 DDR4-2400	UHD 630		<ul> <li>Hard disk password</li> </ul>					
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2400	UHD 630	Keyboard	Some: Lenovo Callio	ppe Keyboard (US	B connector), black			
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black					
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	Mouse ,	Some: Lenovo Callio			cociver), black		
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Finae	erprint Mouse (US	B connector). Windows	Hello support, black		
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB re					
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630		Tiny (1L), black color; metal case					
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630		<ul> <li>Toolless chassis open (need optional toolless chassis screw)</li> <li>Toolless HDD, SSD, memory removal</li> <li>Optional dust filter</li> </ul>					
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630							
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		one 2.5" bay for HDD/SSD, one PCIe 3.0 x8 slot (low-profile), two M.2 slots (or					
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630				SSD and PCIe card are			
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630			Dimensi	ons (WxDxH)	Weight (Approx.)		
Memory	32GB max, DDR4-26	66* two 2	260-pip SO-DIM	1 socko	ts non-ECC			Tiny only		(1.5" with rubber feet)	2.91 lb (1.32 kg),		
Wernory	dual-channel capable * System automaticall					ory controlle	-		179mm X 183m	ubber feet)	vary by config		
Storage	Some: Hard Drive / S Some: Solid State Dr	ATA 6.00 ive (SSD	b/s, 2.5", 5400 r ) / SATA 6.0Gb/s	pm or 7 , 2.5"		iy controlle	-	With VESA mount & ODD box	7.42" X	7.30" X 2.48" 85.38mm X 63mm	3.66 lb (1.66 kg), vary by config		
	Some: M.2 SSD / PC * 128GB SSD M.2 (22 Some: Intel Optane™	242) PCIe	NVMe only sup	ports P	Cle 3.0 x 2, 16Gb Pentium Processo	o/s ⊃r) M 2	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100 Optional system floor stand for vertical orientation		00mm			
Optical	Some: DVD-ROM, sli Some: DVD Burner (I	im (9.0mr DVD±RW	n), via USB exte /), slim (9.0mm),	rnal OD	D box			Some: 65 watts AC/DC adapter, autosensing, 88% PSU Some: 90 watts AC/DC adapter, autosensing, 88% PSU					
Onboard SATA	One onboard SATA 6.						Some: 135 watts AC/DC adapter, autosensing, 88% PSU						
Graphics	Intel HD Graphics 61 DisplayPort™, one HD or USB 3.1 Type-C Ge	MI, one o	optional video po	rt (2nd	HDMÍ, VGA, 2nd	DP,	Limited warranty	Some: 1-year or 3-year, limited onsite service / service					
	Max resolution: 4096x 4096x	2304 (DF 2160 (on	P)@60Hz; 4096x board HDMI)@2	2304 (T 4Hz; 20	ype-C)@60Hz; 48x1536 (VGA)@	250Hz	Preload	Preloaded operating Some: Windows® 10	0 Pro 64-bit				
Monitor cable	Optional DP to VGA d Display with intel integ					(for Collage		Some: Windows 10 Preloaded applicati • Lenovo Vantage		isted)			
Chipset	Intel B360 Chipset							<ul> <li>Microsoft Office press</li> </ul>	eloaded:				
Front ports* (Std.	) one USB 3.1 Gen1 (A one microphone (3.5n							purchase a produc	t key to activate	ls with DVD / DVD±RW)			
Rear ports* (Std.) Rear ports* (Opt.	) 2x USB 3.1 Gen2, 2x ) Two optional ports (m	UŚB 3.1	Gen1, 1x ethern	et (RJ-4	15), 1x DisplayPo	rt, 1x HDMI		<ul><li>Cyberlink Power20</li><li>LinkedIn</li></ul>	GO (only for model	Is with DVD±RW)			
	2nd HDMI / serial / US Optional ports via PC PCIe x1	SB 3.1 Ty le card: 2	pe-C Gen 1 with x USB 3.1 Gen1	DP fun via PC	ction); Port 2 for s le x1, 4x serial (9	serial; -pin) via	Environment	ENERGY STAR [®] 7.0 rating (with 65W/90W some models), RoHS	/ adapter), ErP Lo	ating (with 135W adapted t 3, TCO, TUV ultra low	r) or EPEAT™ Silver noise verified (on		
	* Depending on many fac	ctors, actua	al data transfer spe	ed may b	be lower than theore	etical speed	MIL-SPEC test	,,		ow Pressure [Altitude], H	ligh Temperature.		
Audio support	Realtek ALC233VB2 /	optional/	internal speaker	(1.5 wa	att or 2 watt)					Humidity, Sand and Du			
WLAN	Some: 11ac wireless,	M.2 Car	d, Realtek RTL8	321CE	(dual band),			Fungus, Solar Radia	tion)	•			
	Some: 11ac wireless	, M.2 Car	ombo adapter, 1 d, Realtek RTL8 ombo adapter, 2	B22BE	(dual band),		Accessories	For compatible acces	ssories, please go	to http://smartfind.len	ovo.com		
	Some: 11ac wireless Wi-Fi + Blueto	, M.2 Car ooth 4.2 c	d, Intel Dual Ban ombo adapter, 1	d Wirel x1									
Diverse	Some: 11ac wireless Wi-Fi + Blueto	oth 4.2 c	ombo adapter. 2	x2									
Bluetooth Ethernet Ethernet (Opt.)	Some: Bluetooth 4.2 Gigabit ethernet, Intel Some: Intel Ethernet	Ethernet	Connection I219	9-V (Jac	ksonville), Wake	on LAN® 5. PCle x4							
Emernet (Opt.)	Some: mer Ethernet	Server AC	iapier 1350-14, g	iyabit e	mernet, 4X HJ-45	, PUIE X4							













## ThinkCentre M75q-1 Tiny Platform Specifications

Product Specifications Reference (PSREF)

Processor	AMD Athlon, Athlon	PRO, B	vzen 3 / 5. o	r Byzen 3 /	5 PRO seri	es processor	Manageability	DASH 1.0/1.1					
110003301		<u>,</u>	Í Í	,	Memory		Security chip	Discrete TPM 2.0, TO	CG Certified				
	Processor	Cores / Threads	Frequency Base/Max	L2 / L3 Cache	Support (Up to)	Integrated Graphics	Security features	<ul> <li>Security slot (in reaction Security slot)</li> <li>Kensington[®] Micro</li> </ul>	ar for optional	<ul> <li>Hard disk passwo</li> <li>Boot sequence c</li> </ul>			
	Athlon PRO 200GE	2/4	3.2 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3		Smart USB protect		<ul> <li>Boot sequence c</li> <li>Boot without keyl</li> </ul>			
	Athlon PRO 300GE	2/4	3.4 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3		mouse only, blocks	all storage devices	<ul> <li>Individual USB p</li> </ul>	ort disablement		
	Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8		<ul> <li>Power-on passwor</li> </ul>		<ul> <li>Chassis intrusion</li> </ul>	switch		
	Ryzen 5 PRO 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11		Administrator password					
	Ryzen 3 PRO 3200GE	4/4	3.3 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8	Keyboard		itional Keyboard (USB c		(acciver) block		
	Ryzen 5 PRO 3350GE	4/8	3.3 / 3.9 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11	Mouse		ope Wireless Keyboard ope Mouse (USB conne		eceiver), black		
	Ryzen 5 PRO 3400GE	4/8	3.3 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11			erprint Mouse (USB cor		Hello support, black		
	Athlon 300GE	2/4	3.4 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3		(only availab	le via special bid model	s)			
	Ryzen 3 3200GE	4/4	3.3 / 3.8 GHz	2 MB / 4MB		Radeon Vega 8		Some: Lenovo Calli	ope Wireless Mouse (2.	4GHz via USB rec	eiver), black		
	Ryzen 5 3350GE	4/8	3.3 / 3.9 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11	Mechanical	Tiny (1L), black color					
	Ryzen 5 3400GE	4/8	3.3 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11			pen (need optional tooll	ess chassis screw)			
Memory	32GB max, DDR4-2 * System board support							<ul> <li>Toolless HDD, SSI</li> <li>Optional dust filter</li> </ul>					
	DDR4-1866, DDR4-21								Dimensions (\	WxDxH)	Weight (Approx.)		
Disk Optical	Some: Hard Drive / Some: M.2 SSD (2 Some: DVD-ROM,	SATA 6 242 / 22	.0Gb/s, 2.5", 80) / PCIe N	5400 rpm c /Me, PCle 3	or 7200 rpm 3.0 x2 or PC	•		Tiny only	7.0" X 7.2" X 1.4" (1.5" 179mm X 183mm X 3 with rubbe	' with rubber feet) 34.5mm (37mm	2.91 lb (1.32 kg), vary by config		
Onboard SATA	Some: DVD+ROW, 9 One SATA 6.0Gb/s of	.0mm hi	igh, via USB	external OD				With VESA mount & ODD box	7.42" X 7.30" 188.4mm X 185.38	X 2.48"	3.66 lb (1.66 kg), vary by config		
-			,			actV [®] 10 and	_						
Graphics	AMD Radeon [™] Gra DisplayPort [™] , one H 3 independent displa	İDMI, or	ne optional po	ort (VGA, 2r	nd DP, or 2n	d HDMI), supports	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm an Optional system floor stand for vertical orientation			ıd 100mm		
	when using HDMI p support 2 displays);						Power supply	Some: 65 watts adapter, autosensing, 88% PSU (not included for TIO mode Some: 135 watts adapter, autosensing, 88% PSU (not included for TIO mode					
	Max resolution: 409				(HDMI)@3	0Hz;	Limited warranty	1-year or 3-year, limi	ted onsite service / serv	vice upgrades avail	able		
Monitor cable	1920 Optional DP to VGA HDMI 1.4 dongle		(VGA)@60Hz DP to DVI-D		o to dual DP	dongle, or DP to	Preload	Preloaded operatin Some: Windows [®] 10	g system				
Chipset	AMD B300 Chipset							Some: Windows 10					
			<u> </u>					Some: Windows 10 Some: Linux Ubuntu					
Front ports* (Std.	) one USB 3.1 Gen1 one microphone (3.5												
Rear ports* (Std.) Rear ports* (Opt.	) 1x USB 3.1 Gen1, 3 ) Two optional ports: I * Depending on many f	x USB 2 Port 1 fo	2.0, 1x eṫhern r VGA / 2nd [	et (RJ-45), DP / 2nd HE	1x DisplayF DMI / serial;	ort, 1x HDMÍ Port 2 for serial;	Environment	rating* (with 65W ad *Not applicable for n		-compliant; TUV lo	w noise verified		
Audio support	High Definition (HD)	· ·		1	,	1	MIL-SPEC test	MIL-STD-810H milita	ary certification (Low Pre	essure [Altitude], H	ligh Temperature,		
WLAN	Some: 11ac wireles	,			1	( )		Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Sl Fungus, Solar Radiation)					
WLAIN			0 combo ada		r⊏ (uuai ban	u),	A						
	Some: 11ac wireles Wi-Fi + Blue	ss, M.2 ( tooth 4.	Card, Qualco 2 combo ada	mm Atheros pter, 2x2			Accessories						
	Some: 11ac wireles				9260 (dual b	and),							
Bluetooth	Wi-Fi + Blue Some: Bluetooth 4.	tooth 5.	0 combo ada	pter, 2x2		nho adaptor							
Ethernet	Gigabit ethernet, Re	altek R	TL8111EPV-0	G. Wake o	n LAN [®]	nou auapter							
				,			1						

Note: The specifications above may not be available in all regions.

Lenovo, July 2020





intel inside

## ThinkCentre M80q Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel® Celeron®, Intel F	Pentium®,	or 10th Gen Inte	el Core™	^ i3 / i5 / i7 / i9 P	rocessor	Manageability	Intel Activ	ve Managen	nent Technology	14 (Intel AMT 14);	
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		Intel vPro adapter t	o technology to enable vP	on some models	s (require choosing a vPr gh wireless connection)	ro-support Wi-Fi
	Celeron G5900T	2/2	3.2G	2 MB	DDR4-2666	UHD 610	Security chip	Discrete	TPM 2.0, TC	GCertified	D	
	Pentium Gold G6400T	2/4	3.4G	4 MB	DDR4-2666	UHD 610	Security features	Securit     Kensin	ty slot (in rea	ar for optional Saver® cable)	<ul> <li>Boot sequence conti Boot without keyboa</li> </ul>	
	Pentium Gold G6500T	2/4	3.5G	4 MB	DDR4-2666	UHD 630	-		is intrusion s		<ul> <li>Individual USB port</li> </ul>	
	Core i3-10100T	4/8	3.0G / 3.8G	6 MB	DDR4-2666	UHD 630		<ul> <li>Power-</li> </ul>	on password	d	<ul> <li>Smart USB protection</li> </ul>	on, allows keyboard/
	Core i3-10300T	4/8	3.0G / 3.9G	8 MB	DDR4-2666	UHD 630			strator pass		mouse only, blocks a	all storage devices
	Core i5-10400T	6/12	2.0G / 3.6G	12 MB	DDR4-2666	UHD 630			isk password			
	Core i5-10500T	6/12	2.3G / 3.8G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: L	enovo Callic	ppe Keyboard (U	SB connector), black USB connector), black	
	Core i5-10600T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630					board (2.4GHz via USB	receiver) black
	Core i7-10700T	8/16	2.0G / 4.5G	16 MB	DDR4-2933	UHD 630	Mouse	Some: L	enovo Callio	ppe Mouse (USB	connector), black	
	Core i9-10900T	10 / 20	1.9G / 4.6G	20 MB	DDR4-2933	UHD 630		Some: L	enovo Finge	erprint Mouse (U	SB connector), Windows	Hello support, black
	* Max freguency may refe Technology 3.0 / Intel The					wax	- Mechanical			; metal case	use (2.4GHz via USB rec	elver), black
Memory	64GB max, DDR4-266 dual-channel capable	66 / DDR	4-2933*, two 260	)-pin SC	-DIMM sockets,		Meenanical	one 2.5"	bay for HDD	), two M.2 slots (	one for WLAN, one for M	
	* Memory module is DDF	4-3200, b	ut clocks down for	the limitat	tion of processors					Dimens	sions (WxDxH)	Weight (Approx.)
Storage	Some: Hard Drive / S Some: M.2 SSD (224 Some: Intel Optane™	2 / 2280)	/ PCIe NVMe, F	Cle 3.0	x2 or PCle 3.0 x 0 x2	:4		Tiny only	/	179mm X 183ı	4" (1.5" with rubber feet) mm X 34.5mm (37mm rubber feet)	2.76 lb (1.25 kg), vary by config
Optical Onboard SATA	Some: DVD-ROM, sli Some: DVD Burner (I One onboard SATA 6.	m (9.0mr DVD±RW	n), via USB exte ), slim (9.0mm),	rnal OD	D box	юх		With VES ODD boy	SA mount & x	8.04" X 204.2mm X	( 7.35" X 2.52" 186.6mm X 64mm	3.84 lb (1.74 kg), vary by config
Graphics	Intel HD Graphics 61	0/630 in	orocessor. uses	main me	emory, DirectX®	12, one	VESA mount				ports VESA 75mm and 1	00mm
	DisplayPort™, one HD independent displays; <i>Max resolution:</i> 4096x 4096x	2304 (DF		2304 (Ty	/pe-C)@60Hz;	up to 3	Floor Stand Dust filter EOU design	Optional Toolless	dust filter		toolless chassis screw), t	toolless HDD, SSD
Monitor cable	Optional DP to VGA d HDMI 1.4 dongle	ongle, DF	to DVI-D dongl	e, DP to	dual DP dongle	, or DP to	Power supply	Some: 9	0 watts AC/E	DC adapter, auto	sensing, 89% PSU sensing, 89% PSU (spec	cial bid only)
Chipset	Intel Q470 Chipset										osensing, 89% PSU	
Front ports (Std.)	one USB 3.2 Gen 2 (A one headphone / micr	Always Or	n and fast charge ombo jack (3.5m	e), one l m)	JSB 3.2 Type-C	Gen 1,	Limited warranty				ice upgrades available <b>site service</b> / service upg	grades available
	2x USB 3.2 Gen 2, 2x Two optional ports:	ÚSB 3.2	Gen 1, 1x ether	net (RJ-	,		Preload	Some: \	ed operating Windows [®] 10			
	Position	Port 1		Port 2			· · · ·					
			d HDMI / USB ith DP function) al	Seria	Dual USB I po (Available at	rts		TCO 8.0, RoHS-co	, TUV low no mpliant	oise / ultra low no	Silver rating (on some mo se verified (on some mo	odels),
	* Depending on many fa	ctors, actu	al data transfer spe	ed may l	be lower than theor	etical speed	MIL-SPEC test	MIL-STD	-810H milita	ry certification (L	ow Pressure [Altitude], H	ligh Temperature,
Audio support	Realtek ALC233VB / d	optional ir	nternal speaker (	1.5 watt	.)				perature, Ter Solar Radiat		K, Humidity, Sand and Du	st, Vibration, Shock,
WLAN	Some: 11ac wireless, Wi-Fi + Blueto Some: 11ax wireless,	oth 5.0 c M.2 Car oth 5.0 c M.2 Car	ombo adapter, 2 d, Intel Wireless ombo adapter, 2	x2 AC 956 x2 X201 (d	0 (dual band), lual band),	port 2v2	Accessories			,	o to http://smartfind.len	ovo.com
Bluetooth Ethernet Ethernet (Opt.)	Some: Bluetooth 5.0/9 Gigabit ethernet, Intel None	5.1 wirele	ss, integrated in	Wi-Fi+	BT combo adap	ter						

Note: The specifications above may not be available in all regions.



(intel)

## ThinkCentre M90q Platform Specifications

Processor	Intel® Celeron®, Intel F	Pontium®	or 10th Gen Inte		/ i3 / i5 / i7 / i0 P	2000550r	WLAN	Some: 11ac wireles	s, M.2 Card, Realtek RTL8822CE (dual ba	and)
110063301		Cores /	Frequency		Memory Support				tooth 5.0 combo adapter, 2x2	110 <i>)</i> ,
	Processor	Threads	Base/Max*(GHz)	Cache	(Up to)	Graphics		Some: 11ac wireles	s, M.2 Card, Intel Wireless-AC 9560 (dual	band),
	Celeron G5900T	2/2	3.2G	2 MB	DDR4-2666	UHD 610			tooth 5.0 combo adapter, 2x2 s, M.2 Card, Intel Wi-Fi 6 AX201 (dual bar	) (br
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Blue	tooth 5.1 combo adapter, Intel vPro techno	blogy support, 2x2
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610	Bluetooth	Some: Bluetooth 5.0	0/5.1 wireless, integrated in Wi-Fi + BT con	nbo adapter
	Pentium Gold G6400T	2/4	3.4G	4 MB	DDR4-2666	UHD 610	Ethernet		el Ethernet Connection I219-LM(Jacksonvi	IIIe), Wake on LAN®
	Pentium Gold G6500T	2/4	3.5G	4 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	None		
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610	Manageability	Intel Active Manager	nent Technology 14 (Intel AMT 14); y on some models (require choosing a vPr	o oupport Wi Ei
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630		adapter to enable vP	Pro function through wireless connection)	
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TO	CG Certified	
	Core i3-10100T	4/8	3.0G / 3.8G	6 MB	DDR4-2666	UHD 630	Security features	• Security slot (in rea	ar for optional <ul> <li>Boot sequence contr</li> </ul>	rol
	Core i3-10300T	4/8	3.0G / 3.9G	8 MB	DDR4-2666	UHD 630		Kensington [®] Micro	Saver [®] cable) • Boot without keyboa	rd and mouse
	Core i5-10400T	6/12	2.0G / 3.6G	12 MB	DDR4-2666	UHD 630		Chassis intrusion s	witch   Individual USB port of	
	Core i5-10500T	6/12	2.3G / 3.8G	12 MB	DDR4-2666	UHD 630		<ul> <li>Power-on passwor</li> <li>Administrator pass</li> </ul>		
	Core i5-10600T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630		<ul> <li>Hard disk passwor</li> </ul>		in storage devices
	Core i7-10700T	8/16	2.0G / 4.5G	16 MB	DDR4-2933	UHD 630	Keyboard	· · · · · · · · · · · · · · · · · · ·	ope Keyboard (USB connector), black	
	Core i9-10900T	10/20	1.9G / 4.6G	20 MB	DDR4-2933	UHD 630		Some: Lenovo Tradi	itional Keyboard (USB connector), black	
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Some: Lenovo Calli	ope Wireless Kevboard (2.4GHz via USB i	receiver), black
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666 DDR4-2666	UHD 630	Mouse	Some: Lenovo Calli	ope Mouse (USB connector), black	
	Core i3-10320	4/8	3.8G / 4.6G 2.9G / 4.3G	8 MB		UHD 630 UHD 630		Some: Lenovo Fing	erprint Mouse (USB connector), Windows ope Wireless Mouse (2.4GHz via USB rec	Hello support, black
	Core i5-10400	6/12	3.1G / 4.5G	12 MB	DDR4-2666					
	Core i5-10500	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630 UHD 630	Mechanical	Tiny (1L), black color	r; metal case D, three M.2 slots (one for WLAN, two for N	12550)
	Core i5-10600 Core i7-10700	6/12 8/16	2.9G / 4.8G	12 MB 16 MB	DDR4-2666 DDR4-2933	UHD 630			· · · · ·	,
	Core i9-10900	10/20	2.8G / 5.2G	20 MB	DDR4-2933 DDR4-2933	UHD 630			Dimensions (WxDxH)	Weight (Approx.)
	* Max freguency may refe Technology 3.0 / Intel The	er to Intel T	urbo Boost Techno	logy 2.0	Intel Turbo Boost			Tiny only	7.0" X 7.2" X 1.4" (1.5" with rubber feet) 179mm X 183mm X 34.5mm (37mm with rubber feet)	2.76 lb (1.25 kg), vary by config
Memory	64GB max, DDR4-260 dual-channel capable	66 / DDR	4-2933*, two 260	)-pin SC	-DIMM sockets,		-	With VESA mount & ODD box	,	3.84 lb (1.74 kg), vary by config
Storage	* Memory module is DDF Support up to 1x 2.5" preset only available v Some: Hard Drive / S Some: M.2 SSD (224	HDD + 2 via specia ATA 6.00 2 / 2280)	x M.2 SSDs, RA I bid model) Bb/s, 2.5", 7200 r / PCIe NVMe, P	ID 0/1 s pm Cle 3.0	x2 or PCIe 3.0 x	,	VESA mount Floor Stand Dust filter EOU design	Optional system floo Optional dust filter	nt bracket kit, supports VESA 75mm and 1 r stand for vertical orientation en (need optional toolless chassis screw), t	
Optical	Some: Intel Optane™ Some: DVD-ROM, sli Some: DVD Burner (I	m (9.0mr	n), via USB exte	rnal OD	D box	07	Power supply	Some: 65 watts AC/	DC adapter, autosensing, 89% PSU	ial hid anly)
Onboard SATA Graphics	One onboard SATA 6.	0Gb/s co	nnector				-	Some: 135 watts AC	DC adapter, autosensing, 89% PSU (spec C/DC adapter, autosensing, 89% PSU C/DC adapter, autosensing, 89% PSU	lai biù oniy)
Chapmes	DisplayPort [™] , one HD	MI, more	video ports avai	ilable via	a optional ports,	up to 3	Limited warranty		nited onsite service / service upgrades av	vailable
	independent displays;	·	·			•	Preload	Preloaded operatin		
Monitor cable	Max resolution: 4096x 4096x Optional DP to VGA d	2160 (HE	DMI)@24Hz; 204	8x1536	(VGA)@50Hz	or DP to	Fleidau	Some: Windows [®] 1 Some: Windows 10	0 Pro 64-bit	
	HDMI 1.4 dongle	ongio, Di		0, 01 10			Environment		), EPEAT™ Gold / Silver rating (on some m oise / ultra low noise verified (on some mo	
Chipset	Intel Q470 Chipset						1	RoHS-compliant		
Rear ports (Std.)*	* one USB 3.2 Gen 2 ( one headphone / micr 7 2x USB 3.2 Gen 2, 2x * Two optional ports:	ophone c	ombo iack (3.5m	וm)			MIL-SPEC test	MIL-STD-810H milita	ary certification (Low Pressure [Altitude], H Imperature Shock, Humidity, Sand and Du tion)	ligh Temperature, st, Vibration, Shock
	Position	Port 1		Port 2	2 Port	18.0	Accessories	For compatible acces	ssories, please go to http://smartfind.len	ovo.com
	VGA / 2nd	d DP / 2n	d HDMI / USB ith DP function)		Dual USB	3.2 Gen 1 ts	-			
	* Depending on many fa			ed may l			4			
Audio support	Realtek ALC233VB / 0		•				1			
	tions above may not be				1					Lonovo May 202





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#### ThinkCentre M920 Tiny Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel® Celeron®, Intel F	Pentium®,	or 8th / 9th Gen	Intel Co	ore™ i3 / i5 / i7 / i	9 Processor	Bluetooth	Some: Bluetooth 4.2	2/5.0 wireless, integrated in Wi-Fi + BT c	ombo adapter			
	Processor	Cores / Threads	Frequency	Cache	Memory Support (Up to)	Integrated Graphics	Ethernet Ethernet (Opt.)	Gigabit ethernet, Inte	el Ethernet Connection I219-LM(Jackson t Server Adapter I350-T4, gigabit ethern	ville), Wake on LAN®			
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Manageability	Intel Active Manager	ment Technology 12 (Intel AMT 12);				
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610		Intel vPro technology	y on some models (require choosing a v	Pro-support Wi-Fi			
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610	Security chip	Discrete TPM 2.0, T	Pro function through wireless connection	)			
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630	Security features	<ul> <li>Security slot (in real</li> </ul>	ar for optional    Boot sequence co	ntrol			
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630		Kensington® Micro	Saver [®] cable) • Boot without keybe				
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610		Chassis intrusion s					
	Core i3-8100T	4 / 4	3.1G	6 MB	DDR4-2400	UHD 630		<ul> <li>Power-on passwor</li> </ul>	<ul> <li>Smart USB protect</li> </ul>	tion, allows keyboard/			
	Core i3-8300T	4 / 4	3.2G	8 MB	DDR4-2400	UHD 630		Administrator pass		all storage devices			
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630		Hard disk passwor					
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Keyboard		ope Keyboard (USB connector), black itional Keyboard (USB connector), black				
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Calli	ope Wireless Keyboard (2.4GHz via US	B receiver), black			
	Core i7-8700T	6 / 12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calli	ope Mouse (USB connector), black	Broodwory, Black			
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Fing	erprint Mouse (USB connector), Windov	s Hello support, blac			
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630		Some: Lenovo Calli	ope Wireless Mouse (2.4GHz via USB r	eceiver), black			
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color					
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630			pen (need optional toolless chassis scre	w)			
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		<ul> <li>Toolless HDD, SSI</li> <li>Optional dust filter</li> </ul>					
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630		<ul> <li>Optional dust filter</li> <li>one 2.5" bay for HDI</li> </ul>	D/SSD, one PCIe 3.0 x8 slot (low-profile)	two M 2 slots (one			
	Core i9-9900T	8 / 16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630			.2 SSD), 2.5" HDD/SSD and PCIe card				
Memory	32GB max, DDR4-266 * System automatical	66*, two 2 y clocks o	260-pin SO-DIM down for the proc	/I socke cessors	ts, dual-channel with lower memo	capable bry controlle	r	Tiny only	Dimensions (WxDxH) 7.0" X 7.2" X 1.4" (1.5" with rubber feet	Weight (Approx.) ) 2.91 lb (1.32 kg),			
Storage	Some: Hard Drive / S Some: Solid State Dr	ive (SSD	) / SATA 6.0Gb/s	, 2.5"	200 rpm				179mm X 183mm X 34.5mm (37mm with rubber feet)	vary by config			
	<i>Some:</i> M.2 SSD / PC * 128GB SSD M.2 (22 <i>Some:</i> Intel Optane™	42) PCIe	NVMe only sup	ports P0	Cle 3.0 x 2, 16Gb Pentium Processo	o/s or). M.2		With VESA mount &         7.42" X 7.30" X 2.48"         3.66 lb (1.66 kg)           ODD box         188.4mm X 185.38mm X 63mm         vary by config					
Optical	Some: DVD-ROM, sli Some: DVD Burner (I One onboard SATA 6.	m (9.0mr DVD±RW	n), via USB exte ), slim (9.0mm),	rnal OD	D box		/ESA mount Optional VESA mount bracket kit, supports VESA 75m Optional system floor stand for vertical orientation			l 100mm			
Onboard SATA Graphics	Intel HD Graphics 61 DisplayPort™, one HD	0/630 in	processor, uses	main m	emory, DirectX [®]	12, one	Power supply	Some: 65 watts AC/DC adapter, autosensing, 88% PSU Some: 90 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU ty Some: 1-year or 3-year, depot service / service upgrades available					
	or USB 3.1 Type-C Ge Max resolution: 4096x	en1 with [	DisplayPort funct	ion), up	to 3 independen	t displays;	Limited warranty						
Monitor cable	4096x Optional DP to VGA d	2160 (on ongle, DF	board HDMI)@2 P to DVI-D dongl	24Hz; 20 e, DP to	48x1536 (VGA) dual DP dongle		Preload		year, limited onsite service / service u				
Chipset	Display with intel integ Intel Q370 Chipset	grated gra	iphics), or DP to	HDMI 1	.4 dongle		-	Some: Windows [®] 1 Some: Windows 10	0 Pro 64-bit				
· ·	one USB 3.1 Gen1 (A		and fact charge			Con 1	-	Preloaded application	ions (only some listed)				
	one microphone (3.5m							<ul> <li>Lenovo Vantage</li> </ul>	- la sala d				
Rear ports (Std.)*	2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x ethern	et (RJ-4	l5), 1x DisplayPo	rt, 1x HDMI		<ul> <li>Microsoft Office pr purchase a product</li> </ul>					
Rear ports (Opt.)	Two optional ports (mi	utually ex	clusive with PCI	e card):	Port 1 for VGA /	2nd DP /			VD (only for models with DVD / DVD±RV	V)			
	2nd HDMI / serial / US								GO (only for models with DVD±RW)	• /			
	Optional ports via PCI PCIe x1, 1x Thunderb							LinkedIn					
	* Depending on many fac								ne Type 10V8 models only)				
Audio support	Realtek ALC233VB2 /		•				Environment	ENERGY STAR® 7.0	), EPEAT™ Gold rating (with 135W adap	ter) or EPEAT™ Silve			
WLAN	Some: 11ac wireless,	M.2 Car	d, Realtek RTL8	821CE (	,		-	some models), RoHS	V adapter), ErP Lot 3, TCO, TUV ultra lo S-compliant	w noise verified (on			
	Some: 11ac wireless,	, M.2 Car		822BE (	(dual band),		MIL-SPEC test		ary certification (Low Pressure [Altitude] emperature Shock, Humidity, Sand and I				
	Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 2	x2	· · · ·			Fungus, Solar Radia					
	Some: 11ac wireless,		d, Intel Dual Bar ombo adapter, 1		ess-AC 3165,		Accessories		ssories, please go to http://smartfind.le				
	Some: 11ac wireless,	, M.2 Car		nd Wirele	ess-AC 8265,								
	Some: 11ac wireless,	, M.2 Car	d, Intel Wireless	AC 956	0 (dual band), technology sup	port. 2x2							







inside"







#### ThinkCentre M920x Tiny Platform Specifications

Processor
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Processor	Intel [®] Celeron [®] , Intel Pen	tium®, or 8	th / 9th Gen Intel C	Core™ i3	/ i5 / i7 / i9 Process	or		4x Mini DisplayPort, up to 4 independent displays, works along with	
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	1	onboard DP and HDMI to support up to 6 independent displays; <i>Max resolution:</i> 5120x2880@60Hz ((up to 2 Mini DisplayPort);	
		Threads	Base/Max(GHz)		(Up to)	Graphics		4096x2160@60Hz ((up to 4 Mini DisplayPort)	
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Optional DP to VGA dongle. DP to DVI-D dongle. DP to dual DP dongle (for Collage Dis	splay
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Monitor cable	with intel integrated graphics), or DP to HDMI 1.4 dongle, Mini DP to DP	
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Chipset	Intel Q370 Chipset	
	Celeron G4950	2/2 2/4	3.3G 3.7G	2 MB 4 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 610	Front ports (Std.)*	one USB 3.1 Gen1 (Always On and fast charge), one USB 3.1 Type-C Gen 1,	
	Pentium Gold G5400 Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Rear ports (Std.)*	one microphone (3.5mm), one headphone / microphone combo jack (3.5mm) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DP, 1x HDMI	
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Rear ports (Opt.)*	Two optional ports (mutually exclusive with PCIe card): Port 1 for VGA / 2nd DP / 2nd H	IDMI /
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	-	serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCIe card: 2x USB 3.1 Gen1 via PCIe x1, 4x serial (9-pin) via PCIe x	(1 1x
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	1	Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DP) via PCIe x4	
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	1	* Depending on many factors, actual data transfer speed may be lower than theoretical	speed
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Audio support	Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)	
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1	
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	1	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1	
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	1	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2	
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	]	Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band), Intel vPro technology support, 2x2	
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	Bluetooth	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter	
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®	
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4	
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12); Intel vPro technology on some models (require choosing a vPro-support Wi-Fi	
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		adapter to enable vPro function through wireless connection)	
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified	
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Security features	Security slot (in rear for optional     Boot sequence control	
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610	-	<ul> <li>Kensington[®] MicroSaver[®] cable)</li> <li>Chassis intrusion switch</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>	
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610	-	Power-on password     Smart USB protection, allows keyboard,	/
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		Administrator password mouse only, blocks all storage devices     Hard disk password	
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630	Kayboard	Some: Lenovo Calliope Keyboard (USB connector), black	
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610	Keyboard	Some: Lenovo Traditional Keyboard (USB connector) black	
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630	-	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black	
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black	
	Core i5-8400T Core i5-8500T	6/6 6/6	1.7G / 3.3G 2.1G / 3.5G	9 MB 9 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630	-	<i>Some:</i> Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black	
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color; metal case	
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630		<ul> <li>Toolless chassis open (need optional toolless chassis screw)</li> </ul>	
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630	-	<ul> <li>Toolless HDD, SSD, memory removal</li> <li>Optional dust filter</li> </ul>	
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630	1	one 2.5" bay for HDD/SSD, one PCIe 3.0 x8 slot (low-profile), three M.2 slots (one for W	∕LAN,
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630	1	two for M.2 SSD), 2.5" HDD/SSD and PCIe card are mutually exclusive	
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630	-	Dimensions (WxDxH) Weight (Appre	ox. )
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630	1	Tiny only 7.0" X 7.2" X 1.4" (1.5" with rubber feet) 2.91 lb (1.32	kg),
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630	1	179mm X 183mm X 34.5mm (37mm vary by con	
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630	1	with rubber feet)	
Memory	32GB max, DDR4-2666* * System automatically cl					or		With VESA mount &         7.42" X 7.30" X 2.48"         3.66 lb (1.66 vary by con           ODD box         188.4mm X 185.38mm X 63mm         vary by con	
Storage	Some: Hard Drive / SA	TA 6.0Gb/s	s, 2.5", 5400 rpm oi		,	61	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation	
	Some: Solid State Drive Some: M.2 SSD (suppo	ort up to tw	o M.2 SSD) / PCle	NVMe.	PCIe 3.0 x 4*. 32Gb	o/s.	Power supply	135 watts AC/DC adapter, autosensing, 88% PSU	
	RAID 0/1 suppo	rt (RAID p	reset onlv available	e via sper	cial bid model)				
	* 128GB SSD M.2 (2242) Some: Intel Optane	PCIe NVI	of support Celeron	/ Pentiun	x 2, 16Gb/s n Processor), M.2		Limited warranty	Some: 1-year or 3-year, limited onsite service / service upgrades available	
Optical	Some: DVD-ROM, slim Some: DVD Burner (DV	(9.0mm), /D±RW) s	lim (9.0mm) via L	SB exter	nal ODD box		Preload	Some: Windows [®] 10 Pro 64-bit Some: Windows 10 Home 64-bit	
Onboard SATA	One onboard SATA 6.0G	b/s connec	tor				Environment	ENERGY STAR [®] 7.0, EPEAT™ Gold rating (North America), ErP Lot 3, TCO,	
Graphics	Intel HD Graphics 610/6 one HDMI, one optional	<b>30</b> in proc /ideo nort	essor, uses main n (2nd HDMI_VGA_2	nemory, I 2nd DP	DirectX 12, one Dis	splayPort™,		TUV ultra low noise verified (coming soon, on some models), RoHS-compliant	
	or USB 3.1 Type-C Gen1	with Displ	ayPort function), up	p to 3 inc			MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,	
	Max resolution:c4096x23	04 (DP)@	60Hz; 4096x2304	(Type-C)	@60Hz;			Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fung Solar Radiation)	gus,
	4096x2 Some: AMD Radeon™		ard HDMI)@24Hz irectX 12, 4GB GD				Accessories	,	
		, D					Accessories	For compatible accessories, please go to http://smartfind.lenovo.com	



(intel)

#### ThinkSmart Edition Tiny M920q for Zoom Rooms Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel [®] 9th Gen Core™	i7 Processor					Keyboard	Lenovo Traditional Keyboard (USB connector), black			
	Processor	Cores / F	Frequency	Cache	Memory Support	Integrated	Mouse		use (USB connector), black		
	Core i7-9700T		se/Max(GHz) 2.0G / 4.3G	12 MB	(Up to) DDR4-2666	Graphics UHD 630	Mechanical	Tiny (1L), black colo	r; metal case		
							]		Dimensions (WxDxH)	Weight (Approx.)	
Memory	16GB (8GB x 2) DDF					•		Tiny only	7.0" X 7.2" X 1.4" (1.5" with rubber feet)	2.91 lb (1.32 kg),	
Storage Optical	128GB SSD M.2 (22- None	42) PCIe NVM	le only suppo	orts PC	$10^{\circ}$ 10 x 2, 16 Gb/s	S			179mm X 183mm X 34.5mm (37mm with rubber feet)	vary by config	
Onboard SATA	One onboard SATA 6	6.0Gb/s connec	ctor				VESA mount		/		
Graphics	Intel HD Graphics 6 DisplayPort™, one H						Floor Stand	Floor Stand VESA mount bracket kit, supports VESA 75mm and 100n Optional system floor stand for vertical orientation			
	up to 3 independent	displàys;	-			0 //	Power supply	135 watts AC/DC ac	lapter, autosensing, 88% PSU		
Monitor cable	Max resolution: 4096 None	5x2304 (DP)@6	60Hz; 4096x	2160 (o	nboard HDMI)@	24Hz	Limited warranty	3-year, limited ons	ite service with premier support / service	ce upgrades available	
Chipset	Intel Q370 Chipset						Preload	Preloaded operatin Windows [®] 10 IoT Er	ng system hterprise with Zoom Rooms preload		
,	* one USB 3.1 Gen1 (/ one microphone (3.5	mm), one head	dphone / mic	rophon	e combo jack (3.	5mm)	Environment		D, EPEAT™ Silver rating, ErP Lot 3, TCO, odels), RoHS-compliant	TUV ultra low noise	
Rear ports (Std.)	* 2x USB 3.1 Gen2, 2x * Depending on many fa						MIL-SPEC test	MIL-STD-810G milit	ary certification (Low Pressure [Altitude],	High Temperature,	
Audio support	Realtek ALC233VB2	/ optional inter	rnal speaker	(1.5 wa	att or 2 watt)	•		Low Temperature, Te Fungus, Solar Radia	emperature Shock, Humidity, Sand and De	ust, Vibration, Shock	
WLAN	11ac wireless, M.2 C combo adapter, Intel				band), Wi-Fi + Bl	uetooth 5.0	Accessories		essories, please go to http://smartfind.lei	novo.com	
Bluetooth Ethernet	Bluetooth 5.0 wireles Gigabit ethernet, Inte	s, integrated ir Ethernet Cor	n Wi-Fi + BT	combo }-LM(Ja	adapter icksonville), Wake	e on LAN®					
Manageability Security chip	Intel Active Managen Intel vPro technology adapter to enable vP Discrete TPM 2.0, TC	/ on some mod	dels (rèquire	choosiŕ	ng a vPro-suppor	t Wi-Fi					
Securitý features	<ul> <li>Security slot (in rea Kensington[®] Micros</li> <li>Chassis intrusion s</li> <li>Power-on password</li> <li>Administrator pass</li> <li>Hard disk password</li> </ul>	Saver [®] cable) switch d word	<ul> <li>Boot</li> <li>Individ</li> <li>Smarthead</li> </ul>	without dual US t USB p	ce control keyboard and mo B port disablemo protection, allows blocks all storage	ent keyboard/					

Note: The specifications above may not be available in all regions.

Lenovo, April 2020













## ThinkCentre Tiny-in-One (TIO) 22 Gen3

Form factor			ience when optional Tiny slots into	Мо	unting features	Wall or desk mounting using the extend		/ accessories				
Compatible Tiny:		ean cabling and effortle $O(x) / M720 / M910(x)$	ess setup / M710 / M900(x) / M700 / M630e /	Adi	ustable stand	meeting the VESA FPMPMI® (100mm m <i>Tilt:</i> 30° back, -5° forward;	ount)					
compatible mily.		( )	83 / M73* / M53 /Chromebox Tiny	·,		<i>lift:</i> 4.3" (110mm);						
	* Non-TIO models	can't be turned on by	pressing power button of TIO			<i>swivel:</i> +/-45°; <i>Pivot:</i> clockwise 0° to 90°	<i>Swivel:</i> +/-45 ; <i>Pivot:</i> clockwise 0° to 90°					
Panel	TFT-LCD, IPS (In F	Plane Switching) techn	ology**, White LED backlight	Po	wer supply	90 watts AC/DC adapter, 88% PSU, universal						
Viewable image size	21.5" (546.1mm) d	refer to IPS, PLS, ADS	o, AHVA, AAS paneis		wer consumption	19 watts typical, 32 watts maximum, <0.		suspend				
Max view area (W x H)	18.74" x 10.54" / 4	76.1mm x 267.8mm		Lim	nited warranty	3-years, Customer Carry-In or Mail-In vi	a Rapid Replace	ment Service				
Bezel Width Native resolution	Top / Side: 2mm, B 1920x1080	Bottom: 22.1mm			SA-compliant	VESA DDC2B/CI, VESA DPMS-compliant						
Multi-touch		nulti-touch, supports W	/ake on Touch		jonomics	ISO 9241-307, TÚV Eye Comfort certified FCC Class B TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0,						
Aspect ratio	16:9				ission standards							
Pixel pitch (mm) Dot/Pixel per Inch	0.24795mm 102.4 dpi					EPEAT™ Silver rating, ULE Gold, TUV, V	OC	,				
Brightness	250 nits or cd/m ² (t	vpical)		Wir	ndows certification							
Contrast ratio	1000:1 (typical)			Shi	p group	TIO (Monitor), detachable stand, AC/DC		oower cord, user's				
Pixel response time Color gamut	14ms (default), ove 72%	er drive to 4ms, 6ms				guide and driver CD, quick start and safe	<i>y</i> 1					
Anti-reflective	Anti-glare			Acc	cessories	For compatible accessories, please go to	o http://www.lenov	oquickpick.com				
Viewing angle at 10:1 Cl		zontal, 178° (+/- 89°) v	ertical									
Preset resolutions	640x350 @ 70Hz			[		ThinkCentre Tiny-in-One 22 Gen3 Comp	patible list					
	640x480 @ 60Hz, 720x400 @ 70Hz	66HZ, 72HZ, 75HZ			Model	P330 / P320 / M920(x) / M720 / M910(x) /	1 27	Chromebox				
	800x600 @ 60Hz,					M710 / M900(x) / M700 / M630e / M625 /	M73 Tiny					
	1024x768 @ 60Hz	, 70Hz, 75Hz				M600 / M75q / M715 / M83 / M53 Tiny						
	1152x864 @75Hz 1280x800 @ 60Hz				Turn on TIO and	M90n Nano (with TIO kit)						
	1280x1024 @ 60H	lz, 72Hz, 75Hz			Tiny together via	All models	All models	Not support				
	1366x768 @ 60Hz 1440x900 @ 60Hz				Alt + P on USB KI			Not ouppoint				
	1600x1200 @ 60H				Turn on TIO and	-						
	1680x1050 @ 60H	lz			Tiny together via	All models	TIO models	All models				
Presets / user settings	1920x1080 @ 60H Presets: 25; user s				<b>TIO Power Button</b>							
On screen display	· · · · ·	with digital user contro	le (8 languages)									
Control features	Ftont: Exit butto	n, Left / Mode-switchin	g button (TIO / monitor mode),									
	Right / Bri	ightness button, Enter	/ Menu button, Power button									
Tiny-in-One Power On	Pressing Alt + P or	p button, Volume down h keyboard or pressing	Power button positioned on TIO									
	can turn on both TI	IO and Tiny (only some	Tiny support, see compatible list)									
Side ports (TIO)	One USB 3.1 Gen connected via USE		3 or M53 installed or USB 2.0									
	Notes: The USB p	ort is only available wh	en a Tiny is istalled or a PC is									
	connected	via USB upstream por	t									
Side ports (Tiny) Rear ports	Side ports offered I	by installed Tiny (optio	nal) am port, one power connector									
3-in-1 Cable	Undetachable 3-in-	-1 cable (Power conne	cter, USB [supports USB 3.1 Gen1									
0	/ USB 2.0], Display	Port), only for connect	ing to Tiny installed (optional)									
Camera Internal Speaker	2 watt x2	iera with dual micropho	one for VOIP, LED indicator									
Security	Security keyhole for	or attachment of option	al cable lock (Kensington® lock	1								
,	compatible), locks	optional Tiny with TIO	together, more security features									
Mashariaal	offered by Tiny inst	alled (optional)		-								
Mechanical	Dimensions	TIO without stand	TIO with stand									
	W x D x H (inch)	19.26 x 2.85 x 13.35	19.26 x 10.76 x 14.59 - 18.93									
	W x D x H (mm)	489.3 x 72.5 x 339	489.3 x 273.3 x 370.7 - 480.7									
	Weight (Approx.)	7.01 lb / 3.19 kg	11.77 lb / 5.34 kg									
			~ ~									





## ThinkCentre Tiny-In-One 22 Gen 4 Platform Specifications

Form factor	Tiny-in-One, offers a full All-In-One exper the back of TIO, clean cabling and effortle		Mo	Mounting features Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)						
Compatible Tiny:	P340 / P330 / P320 / M90q / M80q / M70		Adj	justable stand	<i>Tilt:</i> 30° back, -5° forward;	ount)				
eenipaalee miji	M910(x) / M710 / M715 / M900(x) / M700 / M630e / M625 / M600 Tiny		'		<i>lift:</i> 5.9" (150mm);					
	M90n / M75n Nano (with TIO kit)	, meese, mees, meese may			<i>swivel:</i> +/-45°;					
Panel	TFT-LCD, IPS (In Plane Switching) technol	alogu** White LED backlight	1		<i>Pivot:</i> clockwise -5° to 90°					
Fallel	**Notes: IPS may refer to IPS, PLS, ADS	AHVA, AAS panels		Power supply 90 watts AC/DC adapter, 88% PSU, universal						
Viewable image size	21.5" (546.1mm) diagonal	, , , , , , , , , , , , , , , , , , ,		ver consumption 25 watts max, 14 watts typical, <0.5 watts standby / suspend						
Max view area (W x H)	18.74" x 10.54" / 476.1mm x 267.8mm		Lim	nited warranty	3-years, Carry-In or Courier service					
Bezel Width	Top / Side: 2mm, Bottom: 22.1mm		En	Environmental TCO 8.0, TCO edge 2.0, ENERGY STAR [®] 8.0, EPEAT [™] Silver rating						
Native resolution Presets / user settings	1920x1080 @60Hz 25		14/10	adawa aartifiaatiana	UL GREENGUARD Certified, Erp lot5, W	VEEE, RoHS, TU	V Eye comfort			
Multi-touch	Optional 10-point multi-touch, AIT techno	loav		ndows certifications						
Aspect ratio	16:9	logy	Shi	ip group	TIO (Monitor), detachable stand, power a	adapter, power co	ord, information			
Pixel pitch (mm)	0.24795mm				flyer, user's guide, and driver CD					
Dot/Pixel per Inch	102.4 dpi		Acc	cessories	For compatible accessories, please go to	http://www.lenov	oquickpick.com			
Brightness Contrast ratio	250 nits or cd/m ² (typical) 1000:1 (typical)									
Pixel response time	14ms (default), over drive to 4ms, 6ms		l r		ThinkCentre Tiny-In-One 22 Gen 4 Com	atible list				
Color gamut	72% NTSC (CIE 1931)		1 -	Ma al al	, , , , , , , , , , , , , , , , , , , ,		Ohmenshau			
Anti-reflective	Anti-glare			Model	P340 / P330 / P320	M93/p / M83 /	Chromebox			
Viewing angle at 10:1 Cl	R178° (+/- 89°) horizontal, 178° (+/- 89°) ve	ertical			M90q / M80q / M70q / M75q / M920(x) /	M73 / M53				
On screen display	On screen display with digital user contro	ls (8 languages)			M720 / M910(x) / M710 / M715 / M900(x) /	Tiny				
Control features	Ftont: Exit button, Up / Mode-switching	nt: Exit button. Up / Mode-switching button (TIO / monitor mode			M700 / M630e / M625 / M600 Tiny					
	switchs the sources of both display and side USB port), Down / Brightness button, Enter / Menu button, Power button				M90n / M75n (with TIO kit)					
	Bottom: Volume up button, Volume down	hutton		Turn on TIO and						
TIO Power On features	Pressing Alt + P (on keyboard) or Power I	button (on TIO) can turn on both		Tiny together via	All models	All models	Not support			
	TIO and Tiny (some old Tiny cannot fully	support, see compatible list)	1 6	Alt + P on USB KB						
Side ports (on TIO)	One USB Type A port (The availability and	d version depends on the Tiny		Turn on TIO and						
	istalled or the PC connected via USB ups	stream port)		Tiny together via	All models	Not support	All models			
Side ports (on Tiny) Rear ports	Side ports offered by installed Tiny (front One DisplayPort in port, one USB upstrea	ports)		TIO Power Button						
3-in-1 Cable	Undetachable 3-in-1 cable (Power connect	cter USB (supports USB 3.1 Gen1								
	/ USB 2.01. DisplayPort), only for connect	ing to Tiny installed (optional)								
Camera	720p camera with dual microphone and T	hink Shutter								
Internal Speaker	2 watt x2									
Security	Security keyhole for attachment of optional									
-	compatible), locks optional Tiny with TIO	together, more security features								
	offered by Tiny installed (optional)		4							
Mechanical	Dimensions TIO without stand	TIO with stand								
	W x D x H (inch) 19.26 x 2.57 x 13.35	19.26 x 8.68 x 16.46 - 22.37.93								
	W x D x H (mm) 489.3 x 65.3 x 339	489.3 x 220.4 x 418.2 - 568.2								
	Weight (Approx.) 7.52 lb / 3.41 kg	14.51 lb / 6.58 kg								
	· · · · · · · · · · · · · · · · · · ·									

Lenovo, May 2020











## ThinkCentre Tiny-in-One (TIO) 24 Gen3

Product Specifications Reference (PSREF)

Madal		174	Manuating factures	Mall or deal, require the output	مري امينا مار مريم الم				
Model	Non-touch model: 10QYPAR1++/10QYPA Touch model: 10QXPAR1++/10QXPA		Mounting features	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)					
Form factor	Tiny-in-One, offers a full All-In-One experie		Adjustable stand	<i>Tilt:</i> 30° back, -5° forward; <i>lift:</i> 4.3" (110mm);	<i>Tilt:</i> 30° back, -5° forward;				
Compatible Tiny:	e back of TIO, clean cabling and effortless setup 330 / P320 / M920(x) / M720 / M910(x) / M710 / M900(x) / M700 / M630e /			<i>swivel:</i> +/-45°;					
	M625 / M600 / M75q / M715 / M93/p* / M8			Pivot: clockwise 0° to 90°					
	* Non-TIO models can't be turned on by pr	Irned on by pressing power button of TIO		Power supply 90 watts AC/DC adapter, 88% PSU, universal Power consumption 19 watts typical, 32 watts maximum, <0.5 watts star					
Panel	TFT-LCD, IPS (In-Plane Switching) techno **Notes: IPS may refer to IPS, PLS, ADS,	logy**, White LED backlight	Limited warranty <b>3-years</b> , Customer Carry-In or Mail-In via Rapid Replacement Service						
Viewable image size	23.8" (604.7mm) diagonal	Alter, And pallels	VESA-compliant VESA DDC2B/CI, VESA DPMS-compliant Ergonomics ISO 9241-307, TUV Eye Comfort certified						
Max view area (W x H) Bezel Width	20.75" x 11.67" / 527.0mm x 296.5mm Top / Side: 2mm, Bottom: 22.1mm		Ergonomics Emission standards						
Native resolution	1920x1080		Environmental TCO 7.0, TCO Edge 2.0, WEEE, BoHS, ENERGY STAR® 7.0,						
Multi-touch	Optional 10-point multi-touch, supports Wa	ake on Touch	Windows contification	EPEAT™ Silver rating, ULE Gold, TUV	, VOC	,			
Aspect ratio Pixel pitch (mm)	16:9 0.2745mm		Windows certification						
Dot/Pixel pèr Inch	92.6 dpi		Ship group	TIO 24 (Monitor), detachable stand, A user's guide and driver CD, guick start	t and safety poste	r r			
Brightness Contrast ratio	250 nits or cd/m ² (typical) 1000:1 (typical)		Accessories	For compatible accessories, please go	to http://www.len	ovoquickpick.com			
Pixel response time	14ms (default), over drive to 4ms, 6ms								
Color gamut Anti-reflective	72% Anti-glare			ThinkCentre Tiny-in-One 24 Gen3 Co	mpatible list				
Viewing angle at 10:1 Cl	R178° (+/- 89°) horizontal, 178° (+/- 89°) vei	rtical	Model	P330 / P320 / M920(x) / M720 / M910(x)	M93/p Tiny,	Chromebox			
Preset resolutions	640x350 @ 70Hz 640x480 @ 60Hz, 67Hz, 72Hz, 75Hz			/ M710 / M900(x) / M700 / M630e / M625	M73 Tiny				
	720x400 @ 70Hz			/ M600 / M75q / M715 / M83 / M53 Tiny					
	800x600 @ 60Hz, 72Hz, 75Hz			M90n Nano (with TIO kit)					
	1024x768 @ 60Hz, 70Hz, 75Hz 1152x864 @75Hz		Turn on TIO and Tiny together via	All models	All models	Not support			
	1280x800 @ 60Hz		Alt + P on USB KB			Not Support			
	1280x1024 @ 60Hz, 72Hz, 75Hz 1366x768 @ 60Hz 1440x900 @ 60Hz, 75Hz		Turn on TIO and						
			Tiny together via TIO Power Button	All models	TIO models	All models			
	1600x1200 @ 60Hz, 70Hz, 75Hz	0x1050 @ 60Hz							
	1920x1080 @ 60Hz								
Presets / user settings	Presets: 25; user settings: 25		-						
On screen display Control features	On screen display with digital user controls Ftont: Exit button, Left / Mode-switching	s (8 languages) a button (TIO / monitor mode)							
Control leatures	Right / Brightness button, Enter	Menu button, Power button							
Tiny-in-One Power On	Bottom: Volume up button, Volume down Pressing Alt + P on keyboard or pressing I								
Tiny-III-One Fower On	can turn on both TIO and Tiny (only some	Tiny support, see compatible list)							
Side ports (TIO)	One USB 3.1 Gen1 / USB 2.0 (when M73 connected via USB upstream port)	or M53 installed or USB 2.0							
	Notes: The USB port is only available whe	en a Tiny is istalled or a PC is							
Cide rearts (Time)	connected via USB upstream port	-							
Side ports (Tiny) Rear ports	Side ports offered by installed Tiny (option One DisplayPort in port, one USB upstream	a) m port, one power connector							
3-in-1 Cable	Undetachable 3-in-1 cable (Power connect	ter, USB [supports USB 3.1 Gen1							
Camera	/ USB 2.0], DisplayPort), only for connectir 1080p camera with dual microphone for VC	ng to Tiny installed (optional)							
Internal Speaker	2 watt x2								
Security	Security keyhole for attachment of optional compatible), locks optional Tiny with TIO to offered by Tiny installed (optional)	I cable lock (Kensington® lock ogether, more security features							
Mechanical	Dimensions TIO without stand	TIO with stand							
	W x D x H (inch) 21.25 x 2.85 x 14.47	21.25 x 11.11 x 15.72 - 20.06							
	W x D x H (mm) 539.8 x 72.5 x 367.6	539.8 x 282.3 x 399.4 - 509.4							
	Weight (Approx.)         7.96 lb /3.61 kg	12.92 lb /5.86 kg							
						anava October 201			



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# ThinkCentre Tiny-In-One 24 Gen 4 Platform Specifications

Form factor			nce when optional Tiny slots into	Μοι	unting features	Wall or desk mounting using the exte		y accessories			
Compatible Tiny:	the back of TIO, clean cabling and effortless setup P340 / P330 / P320 / M90g / M80g / M70g / M75g / M920(x) / M720 /				ustable stand	meeting the VESA FPMPMI® (100mr <i>Tilt:</i> 30° back, -5° forward;	n mount)				
	M910(x) / M710 / M715 / M900(x) / M700 / M630e / M625 / M600 Tiny		· · ·		<i>lift:</i> 5.9" (150mm);						
	M90n / M75n Nand					<i>swivel:</i> +/-45°; <i>Pivot:</i> clockwise -5° to 90°					
Panel		CD IDC (in Diana Cuvitation) to share la mitte VM/hite L CD has ald inter									
	**Notes: IPS may	refer to IPS, PLS, ADS,	AHVA, AAS panels		ver supply ver consumption	90 watts AC/DC adapter, 88% PSU, universal 27 watts max, 15 watts typical, <0.5 watts standby / suspend					
Viewable image size Max view area (W x H)	23.8" (604.7mm) d 20.75" x 11.67" / 5	liagonal 27.0mm x 296.5mm			ited warranty						
Bezel Width	Top / Side: 2mm, E	Bottom: 22.1mm		Env	vironmental	TCO 8.0, TCO edge 2.0, ENERGY S	TAR [®] 8.0, EPEAT™	Silver rating,			
Native resolution	1920x1080 @60H	Z				UL GREENGUARD Certified, Erp lot	5, WEEE, RoHS, TI				
Presets / user settings Multi-touch	25 Optional 10-point r	nulti-touch, AIT technolo		1	dows certification						
Aspect ratio	16:9		99	Ship	p group	TIO (Monitor), detachable stand, pow	ver adapter, power o	ord, information			
Pixel pitch (mm)	0.2745mm						flyer, user's guide, and driver CD				
Dot/Pixel per Inch	92.6 dpi	h un i n n l)		Acc	essories	For compatible accessories, please g	go to http://smartfir	nd.lenovo.com			
Brightness Contrast ratio	250 nits or cd/m ² (1 1000:1 (typical)	typical)									
Pixel response time	14ms (default), ove	er drive to 4ms, 6ms				ThinkCentre Tiny-In-One 24 Gen 4 C	ompatible list				
Color gamut	72% NTSC (CIE 1	931)		M	lodel	P340 / P330 / P320	M93/p / M83 /	Chromebox			
Anti-reflective	Anti-glare	zontal 178° (1/ 80°) vor	tical			M90g / M80g / M70g / M75g / M920(x) /		0			
On screen display	R178° (+/- 89°) horizontal, 178° (+/- 89°) vertical					M720 / M910(x) / M710 / M715 / M900(x					
Control features	<i>Etont</i> : Exit butto	On screen display with digital user controls (8 languages) <i>Ftont:</i> Exit button, Up / Mode-switching button (TIO / monitor mode, switchs the sources of both display and side USB port),				/ M700 / M630e / M625 / M600 Tiny	<i>'</i>				
	switchs th					M90n / M75n (with TIO kit)					
	Down / Brightness button, Enter / Menu button, Power button			Tu	urn on TIO and						
TIO Dower On footures	Bottom: Volume u	p button, Volume down b	outton	ті	iny together via	All models	All models	dels Not support			
TIO Power On features	TIO and Tiny (Som	n Reyboard) of Power but ne old Tiny cannot fully s	utton (on TIO) can turn on both upport, see compatible list)		It + P on USB KB						
Side ports (on TIO)	One USB Type A p	ort (The availability and	version depends on the Tiny	Τι	urn on TIO and						
	istalled or the PC of	connected via USB upstr	eam port)	Ti	iny together via	All models	Not support	rt All models			
Side ports (on Tiny) Rear ports	Side ports offered	by installed Tiny (front p	orts) n port, one power connector	TI	IO Power Button						
3-in-1 Cable	Undetachable 3-in-	-1 cable (Power connect	er, USB [supports USB 3.1 Gen1]								
	/ USB 2.0], Display	Port), only for connectin	g to Tiny installed (optional)								
Camera	Some: 1080p can	nera with dual microphor	e and Think Shutter								
Internal Speaker	2 watt x2	mera with dual micropho	ne, support Think Shutter								
Security		ar attachment of optional	cable lock (Kensington® lock	-							
Security			gether, more security features								
	offered by Tiny inst		g,								
Mechanical	Dimensions	TIO without stand	TIO with stand								
	W x D x H (inch)	21.25 x 2.57 x 14.47	21.25 x 9.07 x 17.59 - 23.5	1							
	W x D x H (mm)	539.8 x 65.3 x 367.6	539.8 x 230.4 x 446.9 - 596.9								
	Weight (Approx.)	7.96 lb /3.61 kg	12.92 lb /6.66 kg	1							
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## ThinkCentre Tiny-in-One (TIO) 27

Product Specifications Reference (PSREF)

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Form factor	Tiny-in-One, offers a full All-In-One experience when optional Tiny slots into the back of TIO, clean cabling and effortless setup	Mechanical		TIO without stand	TIO	with stand		
Compatible Tiny:	ThinkCentre Tiny, ThinkCentre Nano, and ThinkStaion Tiny		Dimensions (W x D x H	614.0 x 73.89 x 413.1				
Panel	TFT-LCD, IPS (In-Plane Switching) technology**, White LED backlight **Notes: IPS may refer to IPS, PLS, ADS, AHVA, AAS panels		mm / inch)	/ 24.17 x 2.91 x 16.26	6 / 24.17 x 12.	95 x 17.49 - 21.82		
Viewable image size	27" (685.8mm) diagonal		Weight (Approx.)	4.91 kg / 10.82 lb	7.95 k	g / 17.53 lb		
Max view area (W x H) Bezel Width Native resolution	23.49" x 13.22" / 596.7mm x 335.7mm Top / Side: 2mm, Bottom: 23.3mm <b>2560x1440</b>	Mounting features		nting using the extend a		ty accessories		
Multi-touch	None	Adjustable stand		. FPMPMI® (100mm m -5° forward;	ount)			
Aspect ratio Pixel pitch (mm)	16:9 0.2331mm		lift: 4.3" (110m	nm);				
Dot/Pixel per Inch	109 dpi		<i>swivel:</i> +/-45°; <i>Pivot:</i> clockwise	-5° to 90°				
Brightness	350 nits or cd/m² (typical)	Power supply		, 88% PSU, universal				
Contrast ratio Pixel response time	1000:1 (typical) 14ms (default), over drive to 4ms, 6ms	Power consumption		7 watts maximum, <0.5	watts standby	/ suspend		
Color gamut	99% sRGB	Limited warranty		Exchange Service (US	and EMEA) or	Customer Carry-In		
Anti-glare	Yes (25%) R178° (+/- 89°) horizontal, 178° (+/- 89°) vertical		Service (EMEA)					
Preset resolutions	640x350 @ 70Hz	VESA-compliant Ergonomics	VESA DDC/CI, VE	ESA DPMS-compliant	4			
1 16361 163010110113	640x480 @ 60Hz, 66Hz, 72Hz, 75Hz	Emission standards	FCC Class B		J			
	720x400 @ 70Hz	Environmental	TCO 8.0, TCO Ed	ge 2.0, WEEE, RoHS,	ENERGY STAF	[®] 7.0,		
	800x600 @ 60Hz, 72Hz, 75Hz 1024x768 @ 60Hz, 70Hz, 75Hz	Windows certification	EPEAI ™ Silver rat ns Windows 7 and W	ting, ULE Gold, TUV, V indows 10 certified				
	1152x864 @75Hz	Ship group		TIO 27 (Monitor), detachable stand, power adapter, power cord, reference				
	1280x768 @ 60Hz 1280x800 @ 60Hz		and driver CD	and driver CD				
	1280x1024 @ 60Hz, 72Hz, 75Hz	Accessories For compatible accessories, please go to http://smartfind.lenovo.com						
	1366x768 @ 60Hz 1440x900 @ 60Hz, 75Hz							
	1600x1200 @ 60Hz, 70Hz, 75Hz	ThinkCentre Tiny-in-One 27 Compatible Matrix						
	1680x1050 @ 60Hz 1920x1080 @ 60Hz		P330 / P320 / M920(x)	330 / P320 / M920(x) / M720 / M910(x) / M93/p Tiny, Chromebox				
	2560x1440 @ 60Hz		M710 / M900(x) / M70		M73 Tiny			
Presets / user settings	Presets: 27; user settings: 25		M600 / M75q / M715					
On screen display Control features	On screen display with digital user controls (8 languages) Ftont: Exit button, Left / Mode-switching button (TIO / monitor mode),	Turn on TIO and	M90n Nano (w					
Control leatures	Right / Brightness button, Enter / Menu button, Power button	Tiny together via	All mod	dels	All models	Not support		
Tiny in One Dewar On	Bottom: Volume up button, Volume down button	Alt + P on USB KB						
Tiny-in-One Power On	Pressing Alt + P on keyboard or pressing Power button positioned on TIO can turn on both TIO and Tiny (only some support, see Compatible Matrix)	Turn on TIO and						
Side ports (TIO)	Two USB 3.1 Gen1 (downgrade to USB 2.0 when installing M73 or M53 or	Tiny together via	All mod	dels	TIO models	All models		
	connecting USB 2.0 via USB upstream port), one headphone / microphone combo jack	TIO Power Button						
	<i>Notes:</i> The USB ports are enabled by installing a Tiny or connecting USB							
	upstream port; the audio port is enabled by installing a Tiny or connecting USB upstream, DisplayPort(in), or HDMI(in) port							
Side ports (Tiny)	Side ports offered by the installed Tiny (optional)							
Rear ports	One DisplayPort(in) port, one HDMI(in) port, one USB (Type-B) upstream							
3-in-1 Cable	port, one power connector Undetachable 3-in-1 cable, connecting to the power connecter, one USB,							
	and one DisplayPort of the installed Tiny (optional)							
Camera	RGBIR camera with dual microphone, supports Window Hello and Facial Recognition, Think Shutter for Privacy Security, LED indicator							
Internal Speaker	2 watt x2							
Security	Security keyhole for attachment of optional cable lock (Kensington® lock compatible), locks optional Tiny with TIO together, more security features offered by Tiny installed (optional)							
					1	enovo, October 2019		

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## ThinkCentre M70t Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel [®] Celeron [®] , Intel	Pentium®	or 10th Gen Int	el Core™	' i3 / i5 / i7 / i9 Pr	ocessor	Audio support	High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (2 watt )			
110000001	,	Cores /	Frequency		Memory Support		WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),			
	Processor	Threads		Cache	(Up to)	Graphics		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2			
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9462 (dual band),			
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.0 combo adapter, 1x1 (special bid only)			
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2			
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630		Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),			
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630		Wi-Fi + Bluetooth 5.1 combo adapter. 2x2			
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630	Bluetooth™	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter			
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V(Jacksonville), Wake on LAN®			
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	<i>Some:</i> Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4 <i>Some:</i> Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1			
	Core i5-10400F	6/12	2.9G / 4.3G	12 MB	DDR4-2666	None	Managaability	None			
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Manageability Security chip	Discrete TPM 2.0, TCG Certified			
	Core i5-10500	6 / 12 6 / 12	3.1G / 4.5G 3.3G / 4.8G	12 MB 12 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630	· ·	s • Security slot (for Kensington® lock) • Power-on password			
	Core i5-10600 Core i7-10700F	8/12	2.9G / 4.8G	12 MB	DDR4-2000 DDR4-2933		Security leatures	Padlock loop     Administrator password			
	Core i7-10700P	8/16	2.9G / 4.8G	16 MB	DDR4-2933	None UHD 630		Optional Smart Cable Clip to     Hard disk password			
	Core i9-10900F	10/20	2.8G / 5.2G	20 MB	DDR4-2933	None		physically lock keyboard and mouse <ul> <li>Boot sequence control</li> </ul>			
	Core i9-10900	10/20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630		Optional chassis intrusion switch     Boot without keyboard and mouse     Individual USD part disablement			
	* Max frequency may re		1		1	1	1	Optional chassis E-Lock     Individual USB port disablement     Smart USB protection, allows keyboard/			
	Technology 3.0 / Intel Th					iax		mouse only, blocks all storage devices			
Memory	128GB max, DDR4-2	2666 / DD	R4-2933*, four 2	88-pin D	IMM sockets, dua	al-channel	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	capable			•			-	Some: Lenovo Traditional Keyboard (USB connector), black			
	* Memory module is DD	R4-2933, k	out clocks down for	the limitat	ion of processors		Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
Storage	Support up to 2x HD	D ([2.5" +	3.5"] or [dual 2.5	5"]) and u	up to 1x M2.SSD		wouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
	Some: Hard Drive / Some: M.O. Some (20)							<i>Some:</i> Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	Some: M.2 SSD (22 Some: Intel Optane ^T	42 / 2280 ™ Memory	$M_{10} M_{10} M_{2} 2280$	PCIe 3.0	x2 of POIe 3.0 x4 0 x2	+	Mechanical	Tower (13.6L), black color, metal case			
Optical	Some: DVD-ROM, S	SATA 1.50	ab/s Drive, slim (	9.0mm)	0 XL		Wechanica	Dimensins with bezel & PCI holder & rubber foot:			
	Some: DVD Burner	(DVD±RV	V), SATA 1.5Gb/s		lim (9.0mm)			(WxDxH) 5.7" X 11.7" X 13.6; 145mm X 296mm X 346mm			
Onboard SATA	Four onboard SATA 6							<ul> <li>Weight (approx.): 10.6 lb (4.8 kg), weight may vary by configuration</li> </ul>			
Media reader	Optional 3-in-1 media				,		Bays	Bay 1: Slim ODD bay			
Graphics	Intel UHD Graphics							Bay 2: 3.5" HDD bay Bay 3: 2.5" HDD bay (optional bay, or bay comes with disk)			
	two DisplayPort™, one HDMI, supports up to 3 independent displays, more displays support via discrete graphics		Slots	Slot 1: full-height (length < 215mm), PCle 3.0 x16							
	Max resolution: 4096		P)@60Hz: 1920;	x1080 (H	DMI)@60Hz			Slot 2: full-height (length < 215mm), PCIe 3.0 x1			
	Some: AMD Radeor	ז™ <b>520</b> ,`D	DirectX 12, 2GB GDDR5, PCIe 3.0 x8, 30 watts,					Slot 3: no slot, only bracket for optional port extension			
		two DisplayPort (up to 4096x2160@60Hz) e: AMD Radeon RX 550X, DirectX 12, 4GB GDDR5, PCIe 3.0 x8, 50 watts,						Slot 4: no slot, only bracket for optional port extension M.2 card slots: Two (one for WLAN, one for SSD/Optane)			
	Some: AIVID Hadeon	ort (up to	3840x2160@60	B GDDF	(5, PCIE 3.0 X8, 5 HDMI (up to	o watts,	EOU design	None			
	4096x2160@	60Hz), or	1e VGA (up to 20	48*1536	@85Hz), occupie	es two slots		Some: 180 watts, autosensing, 85% PSU			
Monitor Cable	Optional DP to VGA	dongle, D	P to DVI-D dong	le, DP to	dual DP dongle	(for Collage		Some: 260 watts, autosensing, 85% PSU			
	Display with intel inte	grated gr	aphics), or DP to	HDMI 1	.4 dongle			Some: 310 watts, autosensing, 92% PSU			
Chipset	Intel H470 Chipset							Some: 380 watts, autosensing, 92% PSU			
Front ports* (Std.)	Front ports* (Std.) 2x USB 3.2 Gen 2, 2x USB 3.2 Gen 1, 1x USB 3.2 Type-C Gen 1 (15W charging),			* Discrete graphics card / 10-core processors need > 180w power supply							
Erant parta* (Opt	1x microphone (3.5m			phone c	ombo jack (3.5mr	n)	Limited warranty	Some: 1-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
Rear ports* (Std.)	) <i>Optional:</i> 3-iin-1 med 4x USB 2.0, 1x serial	la readei	· I v atharnat (R I_/	5) 2v Di	ienlavPort** 1v H		Preload	Some: Windows® 10 Pro 64-bit			
	1x line-out (3.5mm)							Some: Windows 10 Home 64-bit			
Rear ports* (Opt.)	) <i>Optional:</i> 2x USB 3.2	Gen 1 vi	a PCle x1, 2x US	SB 3.2 Ty	pe-C Gen 2 via F	Cle x4, 1x		Some: Windows 10 IoT Enterprise (only available via special bid model)			
	2nd serial (9-pin), 4x	serial (9-	pin) via PCIe x1,				Environment	ENERGY STAR [®] 8.0 [*] , EPEAT [™] Gold / Silver rating (on some models), ErP Lot 3,			
	1x parallel (25-pin), 2				dditional RJ-45 ai	nd video	TCO 8.0, TUV low noise / ultra low noise verified (or	TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS			
	ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed may be lower than theoretical speed							* Only available for MT 11D9/11DA			
	** Only available for the					ioui opecu	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
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Note: The specifications above may not be available in all regions.













## ThinkCentre M720 Tower Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel® Celeron®, Intel	Pentium®	, or 8th / 9th Ger	Intel Co	ore™ i3 / i5 / i7 / i9	Processor	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )			
	Processor	Cores /	Frequency	Cache	Memory Support		WLAN ¹³	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1			
			Base/Max(GHz)		(Up to)	Graphics		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2			
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2			
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Bluetooth™	<i>Some:</i> Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter			
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610 UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®			
	Pentium Gold G5500 Pentium Gold G5600	2/4 2/4	3.8G 3.9G	4 MB 4 MB	DDR4-2400 DDR4-2400	UHD 630 UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe x			
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		Some: Bitland BN8E88*, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)			
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630		* Choose either I350-T4 or BN8E88			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Manageability	None			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified			
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security leatures	Security slot (in rear for optional Kapping Source apple)     Power-on password     Administrator password			
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		Kensington® MicroSaver® cable)     Padlock loop     Administrator password     Hard disk password			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Optional cable lock to physically lock      Boot sequence control			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		both keyboard and mouse    Boot without keyboard and mouse			
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		Optional chassis intrusion switch     Individual USB port disablement     Optional chassis Intrusion switch     Optional chassis Intrusion sw			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional chassis E-Lock (special bid)</li> <li>Smart USB protection, allows keyboard/ mouse only, blocks all storage devices</li> </ul>			
	Core i5-9400F	6/6	2.9G / 4.1G	9 MB	DDR4-2666	None	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	Reyboard	Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i5-9500F	6/6	3.0G / 4.4G	9 MB	DDR4-2666	None		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver). black			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Mauraa	<i>Some:</i> Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	_	<i>Some:</i> Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
Memory	64GB max, UDIMM,		66*, four 288-pin	DIMM s	ockets, non-ECC	,		Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)			
	dual-channel capable		a controllo	Mechanical	Tower (15L), black color, metal case						
01	,	ally clocks down for the processors with lower memory controll / SATA 6.0Gb/s, 2.5" or 3.5", 5400 rpm or 7200 rpm			y controller	liteonanioa	• (WxDxH) 5.91" X 10.65" X 14.17"; 150mm X 270.5mm X 360mm				
Storage	Some: Hard Drive / Some: Solid State D				om or 7200 rpm			<ul> <li>Approx. 15.21 lb (6.9 kg), weight may vary by configuration</li> </ul>			
	Some: M.2 SSD (22)	42 / 2280	) / PCIe NVMe. I	PCIe 3.0	x2 or PCIe 3.0 x4	1		Optional dust filter			
	Some: Intel Optane	e: M.2 SSD (2242 / 2280) / PCIe NVMe, PCIe 3.0 x2 or PCIe 3.0 x4 e: Intel Optane™ Memory (not support Celeron / Pentium Processor), M.2				r), M.2		Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD			
Optical	Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm)				( <u>)</u>			Bay 3: 3.5", 1" high, internal, HDD/SSD (optional bay)			
Onboard SATA		Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm) Three onboard SATA 6.0Gb/s connectors						Slot 1: half-length full-height (length < 189mm, height < 104mm), PCIe 3.0 x16			
Media reader	Optional 7-in-1 media		CONTRECTORS					Slot 2: half-length full-height (length < 189mm, height < 104mm), PCIe 3.0 x1			
Graphics	Intel UHD Graphics		in some process	ors lises	s main memory Γ	)irectX® 12	-	Slot 3: half-length full-height (length < 189mm, height < 104mm), PCIe 3.0 x1 Slot 4: no slot, only bracket for optional port extension			
Grupinoo	one VGA (up to 2048							M.2 card slots: Two (one for WLAN, one for SSD/Optane)			
	supports 3 independent displays, more displays support via discrete graphics Some: NVIDIA Geforce® GT 730 (End Of Life), DirectX 12, 2GB, PCIe 2.0 x16,		phics	Power supply	Some: 180 watts, autosensing, 85% PSU						
						.0 x16,	i onoi ouppiy	Some: 210 watts, autosensing, 85% PSU			
	Some: AMD Radeon		ort (up to 3840x2 pirectX 12, 2GB (			vatts.		Some: 260 watts, autosensing, 92% PSU (only available via special bid)			
	two DisplayPo	ort (up to	4096x2160@60H	Hz)			Limited warranty	³ Some: 1-year or 3-year, depot service / service upgrades available			
	Some: AMD Radeon	RX 550	<b>(</b> , DirectX 12, 40	BGDDF	R5, PCle 3.0 x8, 5	50 watts,		Some: 1-year or 3-year, limited onsite service / service upgrades available			
			3840x2160@60 ne VGA (up to 20				Preload	Preloaded operating system			
Monitor Cable	Optional DP to VGA	donale. D	P to DVÌ-D dona	e. DP to	dual DP dongle (	for Collage		Some: Windows [®] 10 Pro 64-bit			
	Display with intel inte	grated gr	aphics), or DP to	HDMI 1	.4 dongle			Some: Windows 10 Home 64-bit Preloaded applications (only some listed)			
Chipset	Intel B360 Chipset						]	Lenovo Vantage			
Front ports* (Std	2x USB 3.1 Gen2 2x	USB 3 1	Gen1, 1x USB 3	3.1 Type-	C Gen1 (15W ch	arging).	1	<ul> <li>Microsoft Office preloaded;</li> </ul>			
	<ul> <li>* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x USB 3.1 Type-C Gen1 (15W charging), 1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)</li> <li>* (Opt.) Optional: 1x media reader</li> <li>* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort, 1x line-out (3.5mm)</li> </ul>				ombo jack (3.5mr	n)		purchase a product key to activate			
Front ports* (Opt.								<ul> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> </ul>			
near ports (Sta.,					JA, 2X DISPIAyPo	rt,		LinkedIn			
Rear ports* (Opt.	r ports* (Opt.) Optional: 2x USB 3.1 Gen1 via PCIe x1**. 2x USB 3.1 Type-C Gen2 via PCIe x4**						Environment	ENERGY STAR [®] 7.0, EPEAT™ Silver rating (North America), ErP Lot 3, TCO,			
	(special bid only), 1x 2nd serial (9-pin), 4x serial (9-pin) via PCIe x1,							TUV low noise verified (coming soon, on some models), RoHS-compliant			
	1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video ports available on optional graphics or ethernet card						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
	* Depending on many fa				e lower than theore	tical speed					
	** Choose either 2x USE										
			<i>,</i> ,								



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### ThinkCentre M80t Platform Specifications

Product Specifications Reference (PSREF)

Processor	Intel® Celeron®, Intel	Pentium®	, or 10th Gen Int	el Core™	' i3 / i5 / i7 / i9 Pr	ocessor	Audio support	High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (2 watt )					
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),					
		Threads			(Up to)	Graphics		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2					
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),					
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),					
	Pentium Gold G6400	2/4	4.0G	4 MB	DDR4-2666	UHD 610		Wi-Fi + Bluetooth 5.1 combo adapter, Intel vPro technology support, 2x2					
	Pentium Gold G6500	2/4	4.1G	4 MB	DDR4-2666	UHD 630	Bluetooth™	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter					
	Pentium Gold G6600	2/4	4.2G	4 MB	DDR4-2666	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®					
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter 1350-T4, gigabit ethernet, 4x RJ-45, PCIe x4					
	Core i3-10300	4/8	3.7G / 4.4G 3.8G / 4.6G	8 MB 8 MB	DDR4-2666 DDR4-2666	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1					
	Core i3-10320 Core i5-10400F	4/8 6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630 None	Manageability	Intel Active Management Technology 14 (Intel AMT 14);					
	Core i5-10400P	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi adapter to enable vPro function through wireless connection)					
	Core i5-10400	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified					
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630		s • Security slot (for Kensington® lock) • Power-on password					
	Core i7-10700F	8/12	2.9G / 4.8G	16 MB	DDR4-2000	None	Security leatures	Padlock loop     Administrator password					
	Core i7-10700P	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630		Optional Smart Cable Clip to     Hard disk password					
	Core i9-10900F	10/20	2.9G / 4.8G	20 MB	DDR4-2933	None		physically lock keyboard and mouse • Boot sequence control					
	Core i9-10900F	10/20	2.8G / 5.2G	20 MB	DDR4-2933 DDR4-2933	UHD 630		Optional chassis intrusion switch     Boot without keyboard and mouse					
								Optional chassis E-Lock     Individual USB port disablement     Smort USB protection allows keyhoord/					
	* Max freguency may ref Technology 3.0 / Intel Th					lax		<ul> <li>Smart USB protection, allows keyboard/ mouse only, blocks all storage devices</li> </ul>					
Memory	128GB max, DDR4-2	666 / DD	R4-2933*, four 2	288-pin D	IMM sockets, dua	al-channel	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black					
	capable						-	Some: Lenovo Traditional Keyboard (USB connector), black					
	* Memory module is DDR4-2933, but clocks down for the limitation of processors						Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black					
Storage	Support up to 2x HDI					RAID 0/1	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support					
	support for HDD (RAI	ID preset	only available vi	a special	bid)			<i>Some:</i> Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black					
	Some: Hard Drive / S Some: M.2 SSD (224	42 / 2280	) / PCIe NVMe	, 7200 IL PCIe 3.0	x2 or PCIe 3.0 x4	1	Mechanical						
	Some: Intel Optane	Memory	M10. M.2 2280	. PCle 3.0	0 x2		INIECHANICA	<ul> <li>Tower (13.6L), black color, metal case</li> <li>Dimensins with bezel &amp; PCI holder &amp; rubber foot:</li> </ul>					
Optical	Some: DVD-ROM, S	Sata 1.5Č	b/s Drive, slim (	9.0mm)				( <i>WxDxH</i> ) 5.7" X 11.7" X 13.6; 145mm X 296mm X 346mm					
	Some: DVD Burner			s Drive, s	lim (9.0mm)			<ul> <li>Weight (approx.): 10.6 lb (4.8 kg), weight may vary by configuration Bay 1: Slim ODD bay Bay 2: 3.5" HDD bay Bay 3: 2.5" HDD bay (optional bay, or bay comes with disk)</li> </ul>					
Onboard SATA Media reader	Four onboard SATA 6			JC and G			Bays						
	Optional 3-in-1 media	,			,		_						
Graphics	Intel UHD Graphics two DisplayPort [™] , on	610/630 I	n some process	ors, uses	s main memory, L	DirectX® 12,	Slots	Slot 1: full-height (length < 215mm), PCle 3.0 x16					
	support via discrete c	e nuivii, s tranhics	supports up to 3	independ	uent displays, mo	ore displays		Slot 2: full-height (length $< 215$ mm), PCle 3.0 x1					
	Max resolution: 4096		P)@60Hz: 1920;	x1080 (H	DMI)@60Hz			Slot 3: full-height (length < 215mm), PCIe 3.0 x4					
	Some: AMD Radeon	i™ <b>520</b> , D	irectX 12, 2GB (	GDDR5, I	PCIé 3.0 x8, 30 v	vatts,		Slot 4: no slot, only bracket for optional port extension					
			4096x2160@60I				EOU dooign	M.2 card slots: Two (one for WLAN, one for SSD/Optane) None					
	Some: AMD Radeon					60 watts,	EOU design						
		511 (up to 60Hz) or	3840x2160@60	HZ), UNE	@85Hz), occupie	e two elote	Power supply	Some: 180 watts, autosensing, 85% PSU					
Monitor Cable	Optional DP to VGA	donale. D	P to DVI-D dong	le. DP to	dual DP dongle	for Collage		Some: 260 watts, autosensing, 85% PSU Some: 310 watts, autosensing, 92% PSU					
	Display with intel inte					(·····g·		Some: 380 watts, autosensing, 92% PSU					
Chipset	Intel Q470 Chipset		• •		-			* Discrete graphics card / 10-core processors need > 180w power supply					
	) 2x USB 3.2 Gen 2, 2x						Limited warranty						
Front nortex (Ont	1x microphone (3.5m	m), 1x he	adphone / micro	phone co	ombo jack (3.5mr	Dualaad	Some: 1-year or 3-year, limited onsite service / service upgrades available						
Rear ports* (Std.	) <i>Optional:</i> 3-iin-1 med 4x USB 3.2 Gen 1, 1x	na reader x serial (9	-pin), 1x etherne	et (RJ-45)	), 2x DP**, 1x HD	Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 10 Interpretation (apply available via special bid model)						
Rear ports* (Ont	1x line-out (3.5mm) ) <i>Optional:</i> 2x USB 2.0	2x LISR	3.2 Gen 1 via Pi			Gen 2 via		Some: Windows 10 IoT Enterprise (only available via special bid model)					
	PCle x4, 1x 2nd seria	, 27 000 al (9-pin).	4x serial (9-pin)	via PCle	x 000 0.2 Type-C x1.		Environment	ENERGY STAR [®] 8.0 [*] , EPEAT [™] Gold / Silver rating (on some models), ErP Lot 3,					
	1x parallel (25-pin), 2	x PS/2 pc	orts (keyboard/m	iouse), ad	dditional RJ-45 a	nd video		TCO 8.0, TUV low noise / ultra low noise verified (on some models), RoHS					
	ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed may be lower than theoretical speed						A	* Only available for MT 11CS/11CT					
					e lower than theore	tical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com					
	** Only available for the			ICS									
Note: The energifie	ations above may not be	a vallable.	in all realians					Lenovo May 20					

Note: The specifications above may not be available in all regions.



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### ThinkCentre M90t Platform Specifications

Processor	Intel [®] Celeron [®] , Intel	Pentium®	, or 10th Gen Int	el Core™	' i3 / i5 / i7 / i9 Pr	ocessor		1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), additional RJ-45 and video					
	Processor	Cores /	Frequency	Cache	Memory Support			ports available on optional graphics or ethernet card					
		Threads	Base/Max(GHz)		(Up to)	Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed ** Only available for the models with integrated graphics					
	Celeron G5900	2/2	3.4G	2 MB	DDR4-2666	UHD 610	Audio ourport						
	Celeron G5920	2/2	3.5G	2 MB	DDR4-2666	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC623-CG / internal speaker (2 watt )					
	Pentium Gold G6400	2/4 2/4	4.0G 4.1G	4 MB 4 MB	DDR4-2666	UHD 610	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band),					
	Pentium Gold G6500 Pentium Gold G6600	2/4	4.1G 4.2G	4 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),					
	Core i3-10100	4/8	3.6G / 4.3G	6 MB	DDR4-2666	UHD 630		Wi-Fi + Bluetooth 5.0 combo adapter, 2x2					
	Core i3-10300	4/8	3.7G / 4.4G	8 MB	DDR4-2666	UHD 630		Some: 11ax wireless, M.2 Card, Intel Wi-Fi 6 AX201 (dual band),					
	Core i3-10320	4/8	3.8G / 4.6G	8 MB	DDR4-2666	UHD 630	Diucto oth™	Wi-Fi + Bluetooth 5.1 combo adapter, Intel vPro technology support, 2x2					
	Core i5-10400F	6/12	2.9G / 4.3G	12 MB	DDR4-2666	None	Bluetooth™ Ethernet	Some: Bluetooth 5.0/5.1 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®					
	Core i5-10400	6/12	2.9G / 4.3G	12 MB	DDR4-2666	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4					
	Core i5-10500	6/12	3.1G / 4.5G	12 MB	DDR4-2666	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1					
	Core i5-10600	6/12	3.3G / 4.8G	12 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 14 (Intel AMT 14);					
	Core i7-10700F	8/16	2.9G / 4.8G	16 MB	DDR4-2933	None		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi					
	Core i7-10700	8/16	2.9G / 4.8G	16 MB	DDR4-2933	UHD 630	Coourity obio	adapter to enable vPro function through wireless connection)					
	Core i9-10900F	10 / 20	2.8G / 5.2G	20 MB	DDR4-2933	None	Security chip	Discrete TPM 2.0, TCG Certified					
	Core i9-10900	10/20	2.8G / 5.2G	20 MB	DDR4-2933	UHD 630	Security features	<ul> <li>Security slot (for Kensington[®] lock)</li> <li>Padlock loop</li> <li>Power-on password</li> <li>Administrator password</li> </ul>					
	* Max freguency may ref					Лах		<ul> <li>Padlock loop</li> <li>Optional Smart Cable Clip to</li> <li>Administrator password</li> <li>Hard disk password</li> </ul>					
	Technology 3.0 / Intel Th	nermal Velo	city Boost, and ad	opt the ma	ax one of them			physically lock keyboard and mouse • Boot sequence control					
Memory	128GB max, DDR4-2666 / DDR4-2933*, four 288-pin DIMM sockets, dual-chann							Optional chassis intrusion switch     Boot without keyboard and mouse					
	capable		ut alaaka daxwa far	the limitet	ion of processors			Optional chassis E-Lock     Individual USB port disablement     Safe Happing PLOS					
	* Memory module is DD				•		_	Self-Healing BIOS     Smart USB protection, allows keyboard/ mouse only, blocks all storage devices					
Storage	Support up to 3x HDI RAID 0/1 support (RA					2X M2.55D,	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black					
	Some: Hard Drive / S						Reyboard						
	Some: M.2 SSD (224					4		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black					
	Some: Intel Optane™				0 x2		Mouse	Some: Lenovo Calliope Mouse (USB connector), black					
Optical	Some: DVD-ROM, S Some: DVD Burner		ab/s Drive, slim (	9.0mm)	lim (0.0mm)			Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black					
Onboard SATA	Four onboard SATA 6			s Drive, s	aiiii (9.011111)			Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black					
Media reader	Optional 3-in-1 media			HC, and S	SDXC)		Mechanical	Tower (17L), black color, metal case     Dimensiona with bazel & PCI belder & rubber fact:					
Graphics	Intel UHD Graphics	610/630	in some process	ors. uses	main memory. E	DirectX [®] 12.	1	<ul> <li>Dimensins with bezel &amp; PCI holder &amp; rubber foot: (WxDxH) 6.7" X 11.7" X 14.8"; 170mm X 298mm X 376mm</li> </ul>					
	two DisplayPort™, on	e optiona	l video port (cho	ose one	from HDMI / DP	/Type-C),	Bays	<ul> <li>Weight (approx.): 14.33 lb (6.5 kg), weight may vary by configuration Bay 1: Slim ODD bay</li> </ul>					
	supports up to 3 inde												
	Max resolution: 4096							Bay 2: 3.5" HDD bay					
	Some: AMD Radeon		4096x2160@60		FCIE 3.0 Xo, 30 V	valls,	Slots	Bay 3: 3.5" HDD bay (optional bay, or bay comes with disk) Bay 4: 2.5" HDD (bay comes with 2.5" disk)					
	Some: AMD Radeon				85, PCIe 3.0 x8, 5	50 watts,	01013	Slot 1: full-height (length < 245mm), PCle 3.0 x16					
			3840x2160@60					Slot 2: full-height (length < 245mm), PCIe 3.0 x1					
	4096x2160@	60Hz), or	ne VGA (up to 20	)48*1536	@85Hz), occupie	es two slots		Slot 3: full-height (length < 245mm), PCIe 3.0 x4					
	Some: NVIDIA Gefor				, 666 600 kg, 1600@60 Hz), 1x			Slot 4: no slot, only bracket for optional port extension M.2 card slots: Three (one for WLAN, two for SSD/Optane)					
					@60Hz with DS		EOU design	Toolless cover, disk, optical, extension card removal					
	occupies two	slots											
	Some: NVIDIA Gefor						Power supply	Some: 180 watts, autosensing, 85% PSU Some: 300 watts, autosensing, 85% PSU					
			2160@60Hz), c		60Hz with DSC)	,		Some: 300 watts, autosensing, 90% PSU					
Monitor Cable	Optional DP to VGA of					(for Collage		Some: 500 watts, autosensing, 92% PSU					
	Display with intel inte	grated gr	aphics), or DP to	HDMI 1	.4 dongle	(ioi o oilago		* Discrete graphics card / 10-core processors need > 180w power supply					
Chipset	Intel Q470 Chipset						Limited warranty	1-year or 3-year, limited onsite service / service upgrades available					
Front ports* (Std.)	2x USB 3.2 Gen 2, 2	x LISB 3.2	Gen 1 1x USB	32Type	-C. Gen 1 (15W (	charging)	Preload	Some: Windows [®] 10 Pro 64-bit					
	1x microphone (3.5m							Some: Windows 10 Home 64-bit					
Front ports* (Opt.	Optional: 3-iin-1 med	lia reader						Some: Windows 10 IoT Enterprise (only available via special bid model)					
Rear ports* (Std.)	4x USB 3.2 Gen 1, 1x	x serial (9	-pin), 1x etherne	et (RJ-45	), 2x DisplayPort	**,	Environment						
Rear ports* (Opt)	1x line-out (3.5mm) Optional: 1x optional	video por	t** (chocco ono	from UD				TCO 8.0, TUV low noise verified (on some models), RoHS * Only available for MT 11D0/11CY					
i ioui porto (Opt.,	Gen 1 with DP function	nueo por n). 2x LI	SB 2.0. 2x USB	3.2 Gen 1	1 via PCle x1 2x	USB 3.2	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com					
	Type-C Gen 2 via PC	le x4 1x	2nd serial (9-pin	). 4x seri	al (9-pin) via PCI	le x1.	170003301163	i or compatible accessories, please go to <b>http://sinartiniu.ienovo.com</b>					





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### ThinkCentre M920 Tower Platform Specifications

			011 /011 0		TH 10 / 15 / 17 / 10	-					
Processor	Intel® Celeron®, Intel			Intel Co	1			1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), 1x Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DisplayPort) via PCIe x4 (available on 09/30/2018).			
	Processor		Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Graphics		additional RJ-45 and video ports available on optional graphics or ethernet card			
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		* Depending on many factors, actual data transfer speed may be lower than theoretical speed			
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )			
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1			
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2			
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1			
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2			
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),			
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Bluetooth™	Intel vPro technology support, 2x2 Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter			
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®			
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter 1350-T4, gigabit ethernet, 4x RJ-45, PCIe x4			
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12);			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	linanagoabiiity	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi			
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		adapter to enable vPro function through wireless connection)			
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	Security features	Security slot (in rear for optional     Power-on password			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Kensington [®] MicroSaver [®] cable)  • Administrator password			
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		Padlock loop			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		Optional cable lock to physically lock      Boot sequence control			
	Core i5-9400F	6/6	2.9G / 4.1G	9 MB	DDR4-2666	None		both keyboard and mouse • Boot without keyboard and mouse			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Optional chassis E-Lock (special bid)</li> <li>Individual USB port disablement</li> <li>Smart USB protection, allows keyboard/</li> </ul>			
	Core i5-9500F	6/6	3.0G / 4.4G	9 MB	DDR4-2666	None		• Optional chassis E-Lock (special bid) • Small USB protection, allows keyboard/ mouse only, blocks all storage devices			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Kaubaard	,,			
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	Mouse	<i>Some:</i> Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
Memory	64GB max, DDR4-26 * System automatical	66*, four	288-pin DIMM s down for the pro	ockets, d cessors	ual-channel capa with lower memo	ible ry controlle		Some: Lenovo Keyboard (PS/2 connector), black (only available via special Some: Lenovo Calliope Mouse (USB connector), black			
Storage	Some: Hard Drive / Some: Solid State D Some: M.2 SSD (22)	SATA 6.00 prive (SSE 42 / 2280	ab/s, 2.5" or 3.5" ) / SATA 6.0Gb/s ) / PCIe NVMe, I	, 5400 rp s, 2.5" PCIe 3.0	om or 7200 rpm x2 or PCle 3.0 x4	4		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)			
- ·· ·	Some: Intel Optane ^T						Mechanical	<ul> <li>Tower (18L), black color, metal case</li> </ul>			
Optical	Optional DVD-ROM							• (WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm			
Onboard SATA	Four onboard SATA 6 available via special I			0/1 supp	ort (RAID preset	only		Approx. 15.45 lb (7 kg), weight may vary by configuration			
Media reader	Optional 7-in-1 media		)					<ul> <li>Toolless cover, disk, optical, extension card removal</li> <li>Optional carry handle, dust filter</li> </ul>			
					main mamany F	Nirro at V® 10	_	ay 1: Slim external ODD bay ay 2: 5.25", 1.6" high, external, ODD / optional front access HDD			
Graphics	Intel UHD Graphics one VGA (up to 2048										
	supports 3 independe	ent displa	/s. more display	s suppor	t via discrete gra	blics		Bay 3: 3.5", 1" high, internal, HDD/SSD			
	Some: NVIDIA Gefo							Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk)			
					840x2160@60Hz			Bay 5: 2.5", internal, HDD/SSD (optional bay)			
	Some: AMD Radeor				PCle 3.0 x8, 30 v	vatts,		Notes: M920 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and 1 eSATA device (front access HDD)			
	two DisplayPo	ort (up to 4	1096x2160@60H	HZ)		-0		Slot 1: full-length (< 268mm) full-height (< 112mm), PCIe 3.0 x16			
	Some: AMD Radeon		3840x2160@60			50 watts,		Slot 2: full-length (< 268mm) full-height (< 112mm), PCIe 3.0 x1			
			e VGA (up to 20					Slot 3: full-length (< 268mm) full-height (< 112mm), PCIe 3.0 x16 (x4 signal)			
						DDB5		Slot 4: no slot, only bracket for optional port extension			
	Some: NVIDIA Geforce GTX 1060 (special bid only), DirectX 12, 6GB GDDR5, PCIe 3.0 x16, 120 watts, 1x DVI-D (up to 2560x1600@60Hz), 1x HDMI (t							M.2 card slots: Two (one for WLAN, one for SSD/Optane)			
	to 4096x2160	@60Hz),	3x DP (up to 51)	20x3200	@60Hz), occupie	s two slots	Power supply	Some: 180 watts, autosensing, 85% PSU			
Monitor Cable	Optional DP to VGA of Display with intel inte	dongle, D	P to DVI-D dong	le, DP to	dual DP dongle	(for Collage		Some: 250 watts, autosensing, 85% PSU Some: 400 watts, autosensing, 92% PSU (only available via special bid)			
Chipset	Intel Q370 Chipset						Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available			
Front ports* (Std	) 2x USB 3.1 Gen2, 2x							Some: 1-year or 3-year, limited onsite service / service upgrades available			
Front ports* (Opt	1x microphone (3.5m ) <i>Optional:</i> 1x media re ) 4x USB 2 1 Cop1 1x	ader	•			,	Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit			
	) 4x USB 3.1 Gen1, 1x 1x line-out (3.5mm)					-	Environment	ENERGY STAR [®] 7.0, EPEAT [™] Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant			
near ports" (Opt.	) Optional: 2x USB 2.0 PCIe x4 (special bid	, 2x USB	3.1 Gen1 via PC	ie x1, 2x	USB 3.1 lype-C	Gen2 via	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
	F Ule X4 (special bld)	uiiy), IX ž	inu senai (a-pin)	, 4x seria	ai (9-piii) via POI	5 7 1,	170003301163	r or companiste accessories, please yo to <b>http://sinartiniu.ienovo.com</b>			

Note: The specifications above may not be available in all regions.

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**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

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# Product Specifications Reference for ThinkStation and ThinkPad P Series

Version 565 Last updated: September 2020

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Visit https://psref.lenovo.com for the latest version

## Summary of Changes

#### September 9, 2020 - Version 565

- Add new product ThinkStation P620
- Update EPEAT Silver on following products' platform specifications:

ThinkStation P330 Tower Gen 2 / P330 SFF Gen 2 / P340 Tower / P340 SFF / P340 Tiny

- Add 2x USB-A 3.2 Gen 1 optional ports on to ThinkStation P340 Tiny platform specifications
- Update power adapter value on some ThinkStation P340 Tiny models
- Add new product ThinkPad T15g
- Update ThinkPad P15v Battery life data (MobileMark 2018)
- Update EPEAT Gold on following products' platform specifications:

ThinkPad P1 Gen 2 / ThinkPad P1 Gen 3 / ThinkPad P14s Gen 1 / ThinkPad P15 Gen 1 /

ThinkPad P15s Gen 1 / ThinkPad P15v Gen 1 / ThinkPad P17 Gen 1 / ThinkPad P43s /

ThinkPad P53 / ThinkPad P73

#### August 19, 2020 - Version 564

- Add new product: ThinkPad P1 Gen 3, ThinkPad P15v Gen 1
- Update EPEAT Gold on ThinkStation P340 Tiny Platform Specifications
- Add UHD panel on ThinkPad P15s Gen 1 Platform specifications
- Combine ThinkPad P series and ThinkStation PSREF

#### July 29, 2020 - Version 563

• Add new processors for ThinkStation P340 Tower / SFF

#### June 17, 2020 - Version 561

- New ThinkStation P340 Tower / SFF annouced on June 9, 2020
- Add 625W / 1000W PSU, RTX 2070 Super, RTX 2080 Super, NVlink support

#### May 27, 2020 - Version 560

• New ThinkStation P340 Tiny annouced on May 21, 2020

#### May 6, 2020 - Version 559

• Update vPro information on ThinkStation P330 Tower Gen 2 / SFF Gen 2

#### April 15, 2020 - Version 558

- Update weight data on ThinkStation P330 Tower Gen 2
- Add new product ThinkStation P920 Rack

#### March 25, 2020 - Version 557

 Add Core i5-8700K, Geforce GTX 1660 Ti, RTX 2070, RTX 2080 on ThinkStation P330 Tower Gen 2 March 4, 2020 - Version 556

• Add Core i5-9400F on ThinkStation P330 Tower Gen 2 and ThinkStation P330 SFF Gen 2

December 31, 2019 - Version 553

• Add Xeon W-2200 series Processor and DDR4-2933 memory on ThinkStation P520c and P520

December 11, 2019 - Version 552

• Add Xeon Gold 6226 and 6244 on ThinkStation P920 and P720

August 7, 2019 - Version 546

• Update processor information on Thinktation P330 Tiny

July 17, 2019 - Version 545

• Update EPEAT rating to Silver on most ThinkStation

June 26, 2019 - Version 544

• Add ThinkStation P330 Tower Gen 2/P330 SFF Gen 2 CPU Async update

May 15, 2019 - Version 542

- New ThinkStation P330 Tower Gen 2/P330 SFF Gen 2 announced on April 2019
- Update ThinkStation P920/P720/P520 specifications, add Quadro RTX 8000, DDR4-2933, Xeon Scalable Gen 2

March 13, 2019 - Version 539

• Add Intel vPro information on ThinkStation P330 Tower/P330 SFF/P520c/P520/P720/P920

February 20, 2019 - Version 538

- New ThinkStation P330 Tower models announced on February 2019
- Update ThinkStation P920/P720/P520/P520c specifications, add Quadro RTX4000/5000/6000

August 22, 2018 - Version 529

- New ThinkStation P330 Tower/SFF/Tiny models announced on August 2018
- Update ThinkStation P920/P720 specifications, update flex bay and graphics adapter section

August 1, 2018 - Version 528

- New product ThinkStation P330 Tower/SFF/Tiny announced on July 2018
- Update ThinkStation P920/P720/P520/P520c, add Refresh 2.0 information
- Remove all MTM PNs from PDF version

June 20, 2018 - Version 526

- New ThinkStation P320 Tower models announced on June 2018
- Update ThinkStation P720 and P920 models, remove EOL models for US
- Update Windows 10 Pro 64 for Workstations for some ThinkStation P720/P920 models

May 30, 2018 - Version 525

• Added ThinkStation P720/P920 EMEA May 2018 models

April 18, 2018 - Version 523

New ThinkStation P320 Tower/ P320 SFF/P520c/P520/P720/P920 models announced on April 2018

March 28, 2018 - Version 522

• New ThinkStation P320 Tower/ P320 SFF/P520c/P520/P920 announced on March 2018

March 7, 2018 - Version 521

• New ThinkStation P320 Tower/ P320 SFF/P720/P920 announced on February 2018

January 30, 2018 - Version 519

- New ThinkStation P520c and P520 announced on January 2018
- New ThinkStation P320 Tower/P320 SFF announced on January 2018

December 20, 2017 - Version 517

- New ThinkStation P920 models announced on December 2017
- Add Optional Ports on ThinkStation P320 Tiny

September 29, 2017 - Version 513

- New ThinkStation P920 and P720 announced on September 2017
- New ThinkStation P320 Tower/P320 SFF/P410/P510/P710/P910 announced on September 2017

September 12, 2017 - Version 512

• New ThinkStation P320 Tower and P320 SFF models announced on August 2017

August 23, 2017 - Version 511

• New ThinkStation P320 Tiny models announced on August 2017

August 2, 2017 - Version 510

 New ThinkStation P320 Tiny/P320 Tower/ P320 SFF/P410/P510 models announced on July 2017

June 21, 2017 - Version 508

• New ThinkStation P320 Tiny announced on June 2017

May 26, 2017 - Version 507

• Add ThinkStation P410/P510/P710/P910 Refresh 3.0 Wave 1 models and update platform specifications

April 19, 2017 - Version 505

- New ThinkStation P320 Tower announced on April 2017
- New ThinkStation P320 SFF announced on April 2017

March 29, 2017 - Version 504

- Added ThinkStation P310 Tower and SFF models announced on March 2017
- Added ThinkStation P410 models announced on March 2017

January 25, 2017 - Version 501

• Update quantity of PCIe SSD adapter in ThinkStation P510/P910

January 4, 2017 - Version 500

• Added ThinkStation P310 models announced on December 2016

December 14, 2016 - Version 499

- Added ThinkStation P410/P510/P710/P910 EMEA models
- Added 1TB M.2 PCIe SSD, Quadro P5000, Quadro P6000 support on ThinkStation P510/P710/P910
- Added Quadro P5000 support on ThinkStation P410
- Added 6TB 7.2K SATA6Gbs HDD support on ThinkStation P410/P510/P710/P910
- Added ThinkStation P410/P510/P710/P910 models announced on December 2016

November 23, 2016 - Version 498

- Removed ThinkStation P500/P900 due to EOL
- Added ThinkStation P310 Tower and SFF models announced on November 2016

October 12, 2016 - Version 496

- Removed flash option on ThinkStation P510/P710/P910
- Added ThinkStation P310/P410/P510/P710/P910 models announced on September 2016

#### August 3, 2016 - Version 493

- Removed ThinkStation P500/P700/P900 Windows 7 DG from Win8.1 U.S. models
- Added keyboard and mouse features on all ThinkStation

July 13, 2016 - Version 492

- Added ThinkStation P500, P700, and P900 Windows 10 downgrade to Windows 7 models
- Updated Maximum configuration weight of ThinkStation P410
- Added ThinkStation P710 and P910 models announced on on July 2016
- Added "Maximum drives in 3.5" bay" feature on ThinkStation P500/P510/P700/P710/P900/P910

#### June 22, 2016 - Version 491

- Added new product ThinkStation P410/P510
- Added NVIDIA Quadro M2000 on ThinkStation P310 Tower
- Added keyboard and mouse information on ThinkStation P710/P910
- Added internal USB information on ThinkStation P710/P910

June 2, 2016 - Version 490

- Added ThinkStation P710/P910 US models
- Updated ThinkStation P710/P910 processor information

#### May 19, 2016 - Version 489

- Added NVIDIA Quadro M2000 on compatible product
- Updated maximum weight on ThinkStation P710
- Removed 30AT000BUS

#### April 27, 2016 - Version 488

- Added ThinkStation P710 and P910 models for EMEA, announced on April 2016
- Updated Energy star information on ThinkStation P500/P700/P710/P900/P910

April 6, 2016 - Version 487

• New ThinkStation P710 and P910, announced April 5, 2016 (specification only)

March 23, 2016 - Version 486

• Added processors specifications for P310/P500/P700/P900

February 24, 2016 - Version 485

- Added ThinkStation P310 and P700 models for US, announced on February 2016
- Added ThinkStation P700 and P900 models for EMEA, announced on February 2016

December 9, 2015 - Version 482

• New ThinkStation P310 Tower and SFF, announced November 24, 2015

November 18, 2015 - Version 481

- Combines ThinkStation PSREF United States version and Western Europe version.
- Extends the supported GEO into Europe, Middle East and Africa.
- Covers all TopSeller and Relationship models for US and all focus models for EMEA











### ThinkStation P330 SFF Gen 2 (30D1 and 30D2) Platform Specifications

Product Specifications Reference (PSREF)

Components	Specification			Components	Specification
Form factor	8.4L mini-tower				Up to 3 bays with two disk bays and one slim optical bay:
Dimensions	Height: 343.5 mm (1	3.5 in). Width: 92.5 mm (3.6 in). Depth: 305.6 mm	n (12 in)		Bay 1 Primary 3.5" SATA bay
	Maximum configurat	, , , ,	<b>\</b>	Storogo boy	Bay 2 2.5" SATA bay (Optional)
<u> </u>	Supports one of the			Storage bay	Bay 3 9mm Slim ODD bay
	Xeon E-2278G	8C/16T/3.4GHz/16MB/80W/DDR4-2666 (260W PS			
	Xeon E-2276G	6C/12T/3.8GHz/12MB/80W/DDR4-2666	SO needed)		M.2 3x M.2 SSD (1 onboard. 2 via PCIe to M.2 adapter) Notes: Support 1x M.2 SSD at present, 3x M.2 SSD support is pending availability
	Xeon E-2274G	4C/8T/4.0GHz/8MB/83W/DDR4-2666		M.2 slot for Wi-Fi	One dedicated onboard M.2 slot for optional Intel Wireless-AC 9560, 2x2,
	Xeon E-2246G	6C/12T/3.6GHz/12MB/80W/DDR4-2666		and Bluetooth	2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps
	Xeon E-2244G	4C/8T/3.8GHz/8MB/71W/DDR4-2666		Media reader	Optional 7-in-1 card reader on most models
	Xeon E-2236	6C/12T/3.4GHz/12MB/80W/DDR4-2666		Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports
	Xeon E-2234	4C/8T/3.6GHz/8MB/71W/DDR4-2666			Wake-on-LAN. Optional PCIe ethernet adapters are available
	Xeon E-2226G Xeon E-2224G	6C/6T/3.4GHz/12MB/80W/DDR4-2666 4C/4T/3.5GHz/8MB/71W/DDR4-2666		Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Optional chassis intrusion switch, E-lock, cable lock, Kensington lock, and pad
	Xeon E-2224	4C/4T/3.4GHz/8MB/71W/DDR4-2666			lock
	Xeon E-2174G	4C/8T/3.8GHz/8MB/71W/DDR4-2666		Intel v/Pro	Supports Intel vPro on Xeon and selected Core i7 or i5 models.
Processor	Core i9-9900	8C/16T/3.1GHz/16MB/65W/DDR4-2666		Intel vPro	vPro also requires Wireless-AC 9560 if Wi-Fi is needed
	Core i7-9700	8C/8T/3.0GHz/12MB/65W/DDR4-2666		Intel AMT	Intel Active Management Technology 12 on Xeon and selected Core i7 or i5
	Core i7-8700	6C/12T/3.2GHz/12MB/65W/DDR4-2666			models. Intel Standard Manageability on other models
	Core i5-9600 Core i5-9500	6C/6T/3.1GHz/9MB/65W/DDR4-2666 6C/6T/3.0GHz/9MB/65W/DDR4-2666		Base warranty	US models comes with 3-year limited onsite service with 9x5/NBD.
	Core i5-9400F	6C/6T/2.9GHz/9MB/65W/DDR4-2666		-	1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs
	Core i5-9400	6C/6T/2.9GHz/9MB/65W/DDR4-2666		HD Audio	Intel HD Audio interface with Realtek ALC233 Codec
	Core i5-8500	6C/6T/3.0GHz/9MB/65W/DDR4-2666		Front ports	2x USB 3.1 Gen 1 Type A. 2x USB 3.1 Gen 2 Type A. 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack
	Core i3-9300	4C/4T/3.7GHz/8MB/62W/DDR4-2400			2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x DP.
	Core i3-9100	4C/4T/3.6GHz/6MB/65W/DDR4-2400		Rear ports	1x Audio line-out
	Core i3-8300 Core i3-8100	4C/4T/3.7GHz/8MB/62W/DDR4-2400 4C/4T/3.6GHz/6MB/65W/DDR4-2400			Notes: DP needs Core, Pentium, or -G suffix Xeon processor
		2C/4T/4.0GHz/4MB/54W/DDR4-2400			Supports the following via cable: 1x COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0
Chipset	Intel C246 Chipset		]	Optional rear ports	Supports the following via PCIe adapter:
Memory Sockets	4 DIMM sockets with a	2 channels		╢ ' '	4x COM. 2x USB 3.1 Type-C. 2x USB 3.1 Gen 1. 1x Thunderbolt.
,	8GB/16GB DDR4-266			┨	Notes: DP or HDMI needs Core, Pentium, or -G suffix Xeon processor
Memory Types	4GB/8GB/16GB/32GE	B DDR4-2666 UDIMM non-ECC		Temperature	Operating: 50 ° F to 95 ° F (10 ° C to 35 ° C) Non operating (no package): 14 ° F to 140 ° F (-10 ° C to 60 ° C)
Memory Capacity	64GB with 4 x 16GB f	or UDIMM ECC or 128GB with 4 x 32GB UDIMM no	on-ECC		Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
Memory Protection		JDIMM ECC memeory		Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft).
	Three PCIe 3.0 slots	as following:		Altitude	Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Evenneige alata	Slot 1 PCIe 3.0 x16,	low profile, links to CPU		Humidity	Operating: 30%~90%, non-condensing
Expansion slots	Slot 2 PCIe 3.0 x1, le	ow profile, links to PCH		, ,	Storage (with package): 20%~90%, non-condensing
	Slot 3 PCIe 3.0 x16	(negotiable link width x4), low profile, links to PC	H	Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 gualified
	Integrated Intel UHD	Graphics P630 in -G suffix Xeon processors, or	Intel UHD		Supports one 210W or 260W power supply.
Processor graphics	Graphics 630 in Cor	e i5 or i3 processors.			210W is 100V - 240V, 85% PSU, Climate Savers Computing Bronze and 80
0 1	Works along with dis	crete graphics to support multi-display, enables t 2 DP standard, 1 DP or HDMI optional)	hree rear	Power supply	PLUS Bronze qualified.
		16 slots for discrete graphics adapter (Slot 1 and	12) Supporto	-	260W is 100V - 240V, 92% PSU, Climate Savers Computing Platinum and 80
	the following graphic		i 3). Supports		PLUS Platinum qualified
Discrete graphics	Adapter Cor		1	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
card	Quadro P400 25			Note: 1. Depending on many fact	ors, actual data transfer speed mentioned on this page may be lower than theoretical speed. on ThinkStation PSREF, please contact ThinkStation PSREF developer
		2 2GB GDDR5 40W 4x miniDP 2		2. Any questions or advice	on ThinkStation PSREF, please contact ThinkStation PSREF developer
	Quadro P1000 64	0 4GB GDDR5 47W 4x miniDP 2			
	Storage Controller	Type Interface Disk Type	RAID	Ba	y 2
Storage Controller	Onboard Intel RST SA		0/1		
	Onboard Intel RST P		0/1		
		limited, please see Storage bay section for more information			SD cord (optional)
			ax Qty	Slot 1-3	SD card (optional)
	3.5" SATA HDD SAT		1	(Top-down)	H Bay 3
Storage Support	2.5" SATA HDD SAT		2		
Sidiage Support			<i>(</i>		1 1917 (2001)
Storage Support					Onboard M 2 slot for M 2 SSD
Sionage Support	Optane Memory PCI M.2 PCIe SSD PCI	e NVMe 32GB 1, used w	rith HDD/SSD 3		Onboard M.2 slot for M.2 SSD













minkStatio	n P330 Tiny F	iau		Jeennea											
Components	Specification								Components	Specification					
Form factor	1L. Optional VE Optional floor s Optional tool-le Optional dust fi	tand fo ss cha	or vertical	orientation		ESA 75	mm and ⁻	100mm.	Expansion slots	One PCIe slot via specific riser card: PCIe 3.0 x16 (negotiable link width x8) and low profile for discrete graphics card; PCIe 3.0 x4 and low profile for i350-T4 adapter and quad COM ports adapt					
Dimensions	Height: 179 mm	ו (7.0 i	in). Width	: 37 mm (1	.5 in). D	epth: 18	3 mm (7	.2 in)		65W or 62W processor models supports processor graphics only.					
Veight	Maximum confi	guratio	, on: 2.9 lb	(1.3kg)	,	•		,	Graphics	35W processor models come with processor graphics plus a discrete graph					
Recommended	Lenovo recomn	nends			s monito	ors for b	est displa	ay performance	Graphics Brocosso	adapter Integrated Intel UHD Graphics 630. Works along with discrete graphics to					
nonitors	and productivity		مالميرنمور						graphics	support multi-display					
	Supports one o Processor			Base	г г	N	lomony	Processor		One of the following discrete graphics cards on 35W processor models:					
	Number	Cores	Threads	Frequency	Cache		lemory Types	Graphics	Graphics - Discrete	Adapter Cores Memory Pow- Connectors					
	Core i9-9900T	8	16	2.1GHz	16MB	35WDD	R4-2666	Intel UHD Graphics 630	graphics card	er           Quadro P620         512         2GB GDDR5         40W         4x miniDP					
	Core i7-9700T	8	8	2.0GHz	12MB	35\WDD	R4-2666	Intel UHD		Quadro P1000         640         4GB GDDR5         47W         4x miniDP					
		-	-					Graphics 630	Storage controllers	Integrated Intel SATA AHCI controller in chipset, 6Gbps SATA, one onboard					
	Core i7-9700	8	8	3.0GHz	12MB	55WDL	R4-2666	Graphics 630	Internal storage bay	SATA port for 2.5" HDD					
	Core i5-9600T	6	6	2.3GHz	9MB	35WDD	R4-2666	Intel UHD Graphics 630	Disks	2.5" HDD supports up to 2TB, SATA 6Gbps, 5.4K; or 1TB SATA 6Gbps, 7.2					
	Core i5-9600	6	6	3.1GHz	9MB	65WDD	R4-2666	Intal LIHD	M.2 slot for SSD	Two onboard M.2 slots for M.2 SSD, one for M.2 2280 SSD, one for M.2 228					
	Core i5-9500T	6	6	2.2GHz	9MB	35WDD	R4-2666	Intel UHD		or 2242 SSD M.2 2280 SSD supports up to 1TB each, optional Opal.					
		-	-						M.2 SSD	M.2 2242 SSD supports up to 512GB each					
	Core i5-9500	6	6	3.0GHz	9MB	35WDL	R4-2666	Graphics 630	Optane memory	Up to one 16GB Optane memory per system. Optane memory must work w a 2.5" HDD					
	Core i5-9400T	6	6	1.8GHz	9MB	35WDD	R4-2666	Intel UHD Graphics 630		One dedicated M.2 2230 slot for optional Wi-Fi card, supports one of the					
-	Core i5-9400	6	6	2.9GHz	9MB	65WDD	R4-2666	Intel UHD		following: Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac,					
	Core i3-9320	4	4	3.7GHz	8MB	20/0/00	R4-2400	Graphics 630 Intel UHD	M.2 slot for Wi-Fi and Bluetooth	Bluetooth 5, up to 1.73Gbps.					
		4						Graphics 630 Intel UHD		Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps.					
	Core i3-9300T	4	4	3.2GHz	8MB	35WDD	R4-2400	Graphics 630		Note: Wi-Fi card, or specific functions of Wi-Fi- card may not be supported in some countries					
	Core i3-9300	4	4	3.7GHz	8MB	62WDD	R4-2400	Intel UHD Graphics 630	Wi-Fi antenna	Optional Tiny 2.4GHz/5GHz SMA antenna kit Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±R					
Processor	Core i3-9100T	4	4	3.1GHz	6MB	35WDD	R4-2400	Intel UHD	Optical	VESA mount is required					
	Core i3-9100	4	4	3.6GHz	6MB	35WDD	R4-2400	Graphics 630 Intel UHD	Media reader	None. Using USB adapter					
	Core i7-8700T	6	12	2.4GHz			R4-2666	Intel UHD	Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, support Wake-on-LAN. Optional Intel i350-T4 for 4x GbE ports, using PCIe slot					
	Core i7-8700	6	12	3.2GHz			R4-2666	Intel UHD	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 complian Chassis intrusion switch. Optional Kensington lock					
		-							Intel vPro	Supports vPro on models with the following processors: Core i7-8700T, Core					
	Core i5-8600T	6	6	2.3GHz	9MB	35WDD	R4-2666	Graphics 630 Intel UHD	Technology	i7-8700, Core i5-8600T, Core i5-8600, Core i5-8500T, Core i5-8500. vPro also requires Wireless-AC 9560 if Wi-Fi is needed					
	Core i5-8600	6	6	3.1GHz	9MB	65WDD	R4-2666	Graphics 630	Systems	Intel Active Management Technology 12 on vPro models,					
	Core i5-8500T	6	6	2.1GHz	9MB	35WDD	R4-2666	Intel UHD Graphics 630	management	Intel Standard Manageability on other models US models comes with 3-year limited onsite service with 9x5/NBD.					
	Core i5-8500	6	6	3.0GHz	9MB	65WDD	R4-2666	Intal LIHD	Base warranty	1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs					
	Core i5-8400T	6	6	1.7GHz	9MB	35WDD	R4-2666		HD Audio	Intel HD Audio interface with Realtek ALC233 Codec 1x USB 3.1 Gen 1 Type A (charging). 1x USB 3.1 Gen 1 Type-C. 1x Mic-in.					
	Core i5-8400	6	6	2.8GHz	9MB	55WDD	R4-2666			Combo jack 2x USB 3.1 Gen 2 Type A. 2x USB 3.1 Gen 1 Type-A. 1x RJ-45. 1x DP.					
	Core i3-8300T	4	4	3.2GHz	8MB	35WDD	R4-2400		Rear standard ports	1x HDMI					
	Core i3-8300	4	4	3.7GHz	8MB	52WDD	R4-2400			Up to two optional rear ports via punch out cable. Port 1 supports one of the following:					
	Core i3-8100T	4	4	3.1GHz	6MB	35WDD	R4-2400		Optional rear ports -	1x USB 3.1 Gen 1 Type-C, also supports DP function. 1x COM.					
	Core i3-8100	4	4	3.6GHz	6MB	65WDD	R4-2400		via punch out cable	1x VGA. 1x DP.					
hipset	Intel Q370 Chip	oset			. 1	I			1	1x HDMI. Port 2 supports one COM					
lemory	2 DIMM socket	s DDF	34-2666	SoDIMM. N	Ion-ECC	2			7∟						

### ThinkStation P330 Tiny Platform Specifications - II of II

Components	Specification
Optional rear ports - via PCIe adapter	Supports one of the following: 4x miniDP with Quadro P620 or P1000, 35W processor models only 2x USB 3.1 Gen 1. 4x RJ-45 GbE with Intel I350-T4. 4x COM Note: Punch out cable and PCIe adapter are mutually exclusive
Temperature	Operating: 50 °F to 95 °F (10 °C to 35 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Humidity	Operating: 20%~80%, non-condensing Storage (with package): 20%~90%, non-condensing
MIL-SPEC	Certified
Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 gualified
Power supply	Supports one 135W power adaper, 100V - 240V, 88% PSU
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/













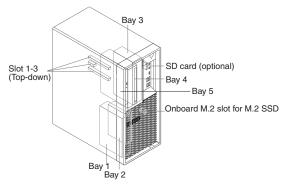
### ThinkStation P330 Tower Gen 2 (30CY and 30D0) Platform Specifications - I of II

Components	Specification			Components	Specification					
Form factor	18L Tower			•	Up to two PCIe 3.0 x	16 slots for dis	crete gra	phics card (S	lot 1 and 3)	).
Dimensions	Height: 376 mm (14	1.8 in) Width: 165 mm (6.5 in) Depth: 328 n	nm (12 9 in)		Supports the followin	g graphics ada	pters:		,	
		, , , ,			Graphics	Memory	Power	Connector	Max Q	tv
weight					Quadro P400	2GB wGDDR		3x miniDP	2	-2
	Supports one of the	e following processors:			Quadro P620	2GB GDDR5		4x miniDP	2	
	Ifactor       18L Tower         pnsions       Height 376 mm (14.8 in). Width: 165 mm (6.5 in). Depth: 328 mm (12.9 in)         ph       Maximum configuration: 23.37 lb (10.6kg)         Supports one of the following processors:       Xeon E-2276G         Xeon E-2276G       6C/1217.4.0GHz/12MB/9SW/DDR4-2666         Xeon E-2276G       6C/1217.4.0GHz/12MB/9SW/DDR4-2666         Xeon E-2274G       4C/817.3.0GHz/12MB/9SW/DDR4-2666         Xeon E-2274G       6C/1217.3.0GHz/12MB/9SW/DDR4-2666         Xeon E-2244G       4C/817.3.0GHz/12MB/9SW/DDR4-2666         Xeon E-2224G       6C/1217.3.4GHz/12MB/9SW/DDR4-2666         Xeon E-2224G       4C/817.3.6GHz/MB/71 W/DDR4-2666         Xeon E-22244       4C/817.3.6GHz/MB/71 W/DDR4-2666         Xeon E-22244       4C/817.3.6GHz/MB/71 W/DDR4-2666         Xeon E-22244       4C/817.3.6GHz/12MB/9SW/DDR4-2666         Core is 9-9900K       BC/1617.3.6GHz/12MB/9SW/DDR4-2666         Core is 7-9700K       BC/817.3.6GHz/12MB/9SW/DDR4-2666         Core is 7-9700K       BC/817.3.6GHz/12MB/9SW/DDR4-2666         Core is 7-9700K       BC/1217.3.2GHz/12MB/9SW/DDR4-2666         Core is 7-9700K       BC/1217.3.2GHz/12MB/9SW/DDR4-2666         Core is 7-9700K       BC/1217.3.6GHz/MB/9SW/DDR4-2666         Core is 7-9700K       BC/1217.3.2GHz/12MB/9SW/DDR4-2666	Quadro P1000	4GB GDDR5		4x miniDP	2				
orm factor 18 imensions He /eight Ma Su /eight Su Xe Xe Xe Xe Xe Xe Xe Xe Xe Xe Xe Xe Xe			00W PSU needed		Quadro P2000	5GB GDDR5	75W	4x DP	2	
				Chonnig	Quadro P2200	5GB GDDR5>	( 75W	4x DP	2	
					Quadro P4000	8GB GDDR5		4x DP	1	
					Quadro P5000	16GB GDDR5	X 180W	DVI-D DL + 4x	DP 1	
					Quadro RTX 4000	8GB GDDR6	160W	3x DP,	. 1	
								1x VirtualLin	K	
					Note: 2x Quadro P2000, Qu	adro P4000, Quadr	o P5000 or	Quadro RTX 4000	0 needs 400W	PSU
					Storage Controller	Туре			k Type	RAID
				Storage Controller	Onboard Intel RST SA				or SSD	0/1/10/5
					Onboard Intel RST PC	Cle RAID Std	PCIe N	Me M.2 P	Cle SSD	0/1
			IOW PSU needed		Disk Type Inte	erface RPM	Off	fering	Max C	)tv
					3.5" SATA HDD SATA			TB/4TB	3	sty
Processor			JUW PSU needed		2.5" SATA HDD SATA			B FIPS	4	
				Storage Support				512GB/1TB	4	
			JOW PSU needed						1.	
					Optane Memory PCIe	e NVMe	32	2GB	used with H	DD/SSD
					M.2 PCIe SSD PCIe	NVMe	256GB/5	12GB/1TB	3	
			NW PSI I peeded		Up to five bays with fe			alim antiaal be	N/ oupporte	a up to 2v
			JOW FSO Needed		3.5" HDD plus 1x 2.5	3 SSD or $4$ 2		Siin optical ba	ay, supports	s up to Sx
								000		
					Bay 1 Primary disk b					
					Bay 2 2.5" SATA bay	, cannot be ava	ailable w	hen 2nd Quac	lro P2000 i	s used
				Storage Bays	Bay 3 Secondary dis	sk bay, 3.5" or 2	2.5"			
					Bay 4 5.25" Flex bay	, supports one	of the fo	llowing:		
						for optional fro			/IFFF1394	
						3.5" or 2.5", re				
					Enclosure u	ising SATA 4 co	nnector	as eSATA mo	de	ge
Chipset	Intel C246 Chipset					3.5" or 2.5", v				
		2 channels			Bay 5 9mm Slim OD		la 5.25			
Memory Types					M.2 3x M.2 SSD (1			/		
Memory Capacity			IMM non-ECC		Optional 7-in-1 card r					
, , ,			200		One onboard GbE po	ort via integrate	ed gigabi	t ethernet Inte	el i219LM, s	supports
		•		interfaces	Wake-on-LAN. Option					
		5		WI AN + Bluetooth	One dedicated onboa	ard M.2 slot for	optional	Intel Wireless	s-AC 9560,	2x2,
Expansion slots				TEAT Placeout	2.4GHz/5GHz (160M					
	Slot 2 PCIe 3.0 x1,	full height, full length, links to PCH			Power-on and admin					
	Slot 3 PCIe 3.0 x16	(negotiable link width x4), full height, half l	ength, links to PCH	Security features	Optional chassis intru	usion switch, E	-lock, ca	ble lock, Kens	ington lock	, and pad
			0		lock					
	Graphics 630 in Co	re i7, i5, i3, or Pentium processors.		Intel vPro	Supports Intel vPro o vPro also requires W	n Xeon and se		ore 17 or 15 m	odels.	
Processor graphics			ables three rear							
	display connectors	(2 DP standard, 1 DP or HDMI optional)		Intel AMT	Intel Active Managem	nent Technolog	y 12 on	Xeon and sele	ected Core	17 or i5
					models. Intel Standar					
				Base warranty	US models comes wi	ith 3-year limite	ed onsite	service with 9	)x5/NBD.	0
				,	1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs					
				HD Audio	Intel HD Audio interfa	ce with Realte	k ALC23	3 Codec		

### ThinkStation P330 Tower Gen 2 (30CY and 30D0) Platform Specifications - II of II

Components	Specification
Front ports	2x USB 3.1 Gen 1 Type A. 2x USB 3.1 Gen 2 Type A. 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack
Rear ports	2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x DP. 1x Audio line-out Notes: DP needs Core, Pentium, or -G suffix Xeon processor
Optional front ports (on flex module)	2x Thunderbolt (USB Type-C), one of two ports supports video-out. 1x eSATA. 1x IEEE1394
Optional rear ports	Supports the following via cable: 1x COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0 Supports the following via PCIe adapter: 4x COM. 2x USB 3.1 Type-C. 2x USB 3.1 Gen 1. 1x Thunderbolt. Notes: DP or HDMI needs Core, Pentium, or -G suffix Xeon processor
Temperature	Operating: 50 °F to 95 °F (10 °C to 35 °C) Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing
Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 qualified
Power supply	Supports one 250W or 400W power supply, 100V - 240V, 92% PSU. Climate Savers Computing Platinum and 80 PLUS Platinum qualified. 400W PSU supports one 6+2-pin aux power connector.
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/

Note: 1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed. 2. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer















### ThinkStation P340 SFF Platform Specifications

Components	Specification	Components	Specification				
Form factor	8.2L	Media reader	Optional SD reader on most models				
Dimensions	Height: 339.5 mm (13.4 in). Width: 92.5 mm (3.6 in). Depth: 309.7 mm (9.3 in)	Network	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports				
Weight	Maximum configuration: 12.6 lb (5.7 kg)	interfaces	Wake-on-LAN. Optional PCIe ethernet adapters are available				
Processor Sockets		WLAN + Bluetooth	Optional Intel Wi-Fi 6 AX201, 2x2, 2.4GHz/5GHz (160MHz channels), WiFi 6, Bluetooth 5				
	Up to one Xeon, Core i9, i7, i5, or i3 processor	Bidetootii	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant.				
	Processor Number Cores Threads Base Frequency Cache TDP Memory Types ECC Processor vPro	Security features					
	Xeon W-1290         10         20         3.2GHz         20MB         80W         DDR4-2933         Yes         UHD P630         Yes           Xeon W-1270         8         16         3.4GHz         16MB         80W         DDR4-2933         Yes         UHD P630         Yes           Xeon W-1270         8         16         3.4GHz         16MB         80W         DDR4-2933         Yes         UHD P630         Yes           Xeon W-1250         6         12         3.3GHz         12MB         80W         DDR4-2666         Yes         UHD P630         Yes	Intel vPro	Supports Intel vPro on models with vPro-enable processor. vPro also requires AX201 if Wi-Fi function is needed				
Processor	Core i9-10900         10         20         2.8GHz         20MB         65W         DDR4-2933         No         UHD 630         Yes           Core i7-10700         8         16         2.9GHz         16MB         65W         DDR4-2933         No         UHD 630         Yes	Intel AMT	Intel Active Management Technology 14 on vPro models, Intel Standard Manageability on other models				
	Core i5-10600         6         12         3.3GHz         12MB         65W         DDR4-2666         No         UHD 630         Yes           Core i5-10500         6         12         3.1GHz         12MB         65W         DDR4-2666         No         UHD 630         Yes	Base warranty	Most models comes with 3-year limited onsite service with 9x5/NBD. Other models may have 1 or 2-year limited onsite service				
	Core i5-10400 6 12 2.9GHz 12MB 65W DDR4-2666 No UHD 630 No	HD Audio	Intel HD Audio interface with Realtek ALC623 Codec				
	Core i3-10320         4         8         3.8GHz         8MB         65W         DDR4-2666         No         UHD 630         No           Core i3-10300         4         8         3.7GHz         8MB         65W         DDR4-2666         No         UHD 630         No           Core i3-10300         4         8         3.7GHz         8MB         65W         DDR4-2666         No         UHD 630         No           Core i3-10100         4         8         3.6GHz         6MB         65W         DDR4-2666         No         UHD 630         No	Front ports	2x USB-A 3.2 Gen 1. 2x USB-A 3.2 Gen 2. 1x USB-C 3.2 Gen 1. 1x Mic-in. 1x Combo jack				
Chipset	Core i3-10100         4         8         3.6GHz         6MB         65W         DDR4-2666         No         UHD 630         No           Intel W480 Chipset	Rear ports	2x USB-A 3.2 Gen 1. 2x USB-A 2.0. 1x RJ-45. 1x COM. 2x DP.				
	4 DIMM sockets with 2 channels		1x Audio line-out Supports the following via cable:				
Memory Types	8GB/16GB/32GB DDR4-2933 UDIMM ECC, or 4GB/8GB/16GB/32GB DDR4-2933 UDIMM non-ECC	Optional rear	1x COM. 1x Parallel. 2x PS/2. 1x video (DP, HDMI, or USB-C). 2x USB 2.0. Supports the following via PCIe adapter: 4x COM*. 1x USB-C 3.2 Gen 2. 2x USB-A 3.2 Gen 1*. 1x Thunderbolt				
	128GB	_  <b>`</b>	4X COWI . TX USD-C 3.2 Gen 2. 2X USD-A 3.2 Gen 1 . TX Thuriderbolt Notes: 4x COM and 2x USB-A 3.2 Gen 1 are special bids only.				
Memory Protection	ECC. ECC memory and ECC-enable CPU are needed	_	Operating: 50 ° F to 95 ° F (10 ° C to 35 ° C)				
Evennion alata	Three PCIe 3.0 slots as following: Slot 1 PCIe 3.0 x16, low profile, links to CPU	Temperature	Non operating (no package): 14 ° F to 140 ° F (-10 ° C to 60 ° C) Non operating (with package): -40 ° F to 140 ° F (-40 ° C to 60 ° C)				
Expansion slots	Slot 2 PCIe 3.0 x1, low profile, links to PCH	Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)				
	Slot 3 PCIe 3.0 x16 (negotiable link width x4), low profile, links to PCH Integrated Intel UHD Graphics P630 in Xeon processors, or Intel UHD Graphics 630	Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing				
Processor graphics	in Core processors. Works along with discrete graphics to support multi-display, enables three rear display connectors (2 DP standard, 1 video port optional (Video port can be DP,	Environmental certification	RoHS-compliant, EPEAT Silver rating, and ENERGY STAR 8 qualified				
	HDMI, or USB-C ) Graphics Memory Power Connector Max	Power supply	<ul> <li>Supports one of the following:</li> <li>310W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified</li> <li>380W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified</li> </ul>				
Discrete Graphics	Qty	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/				
Offering	Quadro P400 2GB GDDR5 30W 3x miniDP 2	Note:					
	Quadro P620         2GB GDDR5         40W         4x miniDP         2           Quadro P1000         4GB GDDR5         50W         4x miniDP         2	1. Depending on many 2. Any questions or adv	factors, actual data transfer speed mentioned on this page may be lower than theoretical speed. rice on ThinkStation PSREF, please contact Lenovo workstation PSREF developer				
	Storage Controller Type Interface Disk Type RAID		······································				
Storage	Onboard Intel RST SATA RAID Std SATA 6Gb/s HDD or SSD 0/1						
Controller	Onboard Intel RST PCIe RAID Std PCIe NVMe M.2 PCIe SSD 0/1						
	Disk Type         Interface         RPM         Offering         Max Qty           3.5"         SATA HDD         SATA 6Gb/s         7.2K         1TB/2TB/4TB/6TB         1	-					
Storage Support	2.5" SATA HDD SATA 6Gb/s 7.2K 1TB FIPS 2						
0	2.5" SATA SSD         SATA 6Gb/s         -         512GB/1TB         2           M.2 PCIe SSD         PCIe NVMe         -         256GB/512GB/1TB/2TB         4						
	Bay 1 First 3.5" disk bay	-					
	Bay 2 First 2.5" SATA bay						
Storage Bays	Bay 3 9mm Slim ODD bay						
-	Bay 4 Media reader						
	M.2 4x M.2 SSD (2 onboard. 2 via PCIe to M.2 adapter)	]					











### ThinkStation P340 Tiny Platform Specifications

Components	Specification	Components	Specification
Form factor	1L. Optional VESA mount bracket kit, supports VESA 75mm and 100mm. Optional floor stand for vertical orientation. Optional tool-less chassis open. Optional dust filter	WLAN + Bluetooth	<ul> <li>One dedicated M.2 slot for optional Wi-Fi card, supports one of the following:</li> <li>Intel Wi-Fi 6 AX201, 2x2, 2.4GHz/5GHz (160MHz channels), WiFi 6, Bluetooth 5</li> <li>Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5</li> <li>Bluetooth 5</li> </ul>
Dimensions	Height: 179 mm (7.0 in). Width: 37 mm (1.5 in). Depth: 182.9 mm (7.2 in)		Realtek 8822CE, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 5
Weight	Maximum configuration: 3 lb (1.4kg)	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Chassis intrusion switch. Kensington slot
	Processor Number         Cores         Threads         Base Frequency         Cache         TDP         Memory Types         vPro           i9-10900T         10         20         1.9GHz         20MB         35W DDR4-2933         Yes	Intel vPro	Supports vPro on models with the vPro enable processors vPro also requires Wi-Fi 6 AX201 if WiFi is needed
	i9-10900T         10         20         1.9GHz         20MB         35W         DDR4-2933         Yes           i9-10900         10         20         2.8GHz         20MB         65W         DDR4-2933         Yes           i7-10700T         8         16         2.0GHz         16MB         35W         DDR4-2933         Yes	Systems management	Intel Active Management Technology 14 on vPro models, Intel Standard Manageability on other models
	i7-10700         8         16         2.9GHz         16MB         65W         DDR4-2933         Yes           i5-10600T         6         12         2.4GHz         12MB         35W         DDR4-2666         Yes	Base warranty	Most models comes with 3-year limited onsite service with 9x5/NBD. Other models may have 1 or 2-year limited onsite service
-	i5-10600 6 12 3.3GHz 12MB 65W DDR4-2666 Yes	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec
Processor	i5-10500T 6 12 2.3GHz 12MB 35W DDR4-2666 Yes	Optical	Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±RW
	i5-10500         6         12         3.1GHz         12MB         65W         DDR4-2666         Yes           i5-10400T         6         12         2.0GHz         12MB         35W         DDR4-2666         No	Front standard ports	1x USB-A 3.2 Gen 2 (charging). 1x USB-C 3.2 Gen 1. 1x Combo jack
	ID-104001         ID-12         2.0GHz         12/MB         65W         DDR4-2666         No           I3-10320         4         8         3.8GHz         8MB         65W         DDR4-2666         No	Rear standard ports	2x USB-A 3.2 Gen 2, 2x USB-A 3.2 Gen 1 (one supports smart power-on), 1x RJ-45, 1x DP, 1x HDMI, 1x security-lock slot, Wi-Fi antenna slot
	I3-10300T         4         8         3.0GHz         8MB         35W DDR4-2666         No           I3-10300         4         8         3.7GHz         8MB         65W DDR4-2666         No           I3-10100T         4         8         3.0GHz         6MB         35W DDR4-2666         No           I3-10100T         4         8         3.0GHz         6MB         35W DDR4-2666         No           I3-10100         4         8         3.6GHz         6MB         65W DDR4-2666         No		Reserved area for two optional ports. Ports 1 supports one of the following: • 1x USB-C, also supports DP function • 1x COM
Chipset	Intel Q470 Chipset	Optional rear ports	<ul> <li>1x VGA</li> <li>1x DP</li> </ul>
Memory Sockets	2 DIMM sockets		• 1x HDMI
Memory Types	4GB/8GB/16GB/32GB DDR4-2933 SoDIMM non-ECC		Port 2 supports 2nd COM.
Memory Capacity	64GB (2x 32GB)		Also supports optional Thunderbolt or 2x USB-A 3.2 Gen 1
Memory Protection	None One PCIe slot via specific riser card:	Temperature	Operating: 50 ° ^{$f$} to 95 ° ^{$f$} (10 ° ^{$c$} to 35 ° ^{$c$} ) Non operating (no package): 14 ° ^{$f$} to 140 ° ^{$f$} (-10 ° ^{$c$} to 60 ° ^{$c$} ) Non operating (with package): -40 ° ^{$f$} to 140 ° ^{$f$} (-40 ° ^{$c$} to 60 ° ^{$c$} )
	PCIe 3.0 x16 (negotiable link width x8) and low profile for discrete graphics card; PCIe 3.0 x4 and low profile for ethernet adapter and Thunderbolt adapter	Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
	Integrated Intel UHD Graphics 630. Works along with discrete graphics to support multi-display	Humidity	Operating: 20%-80%, non-condensing Storage (with package): 20%-90%, non-condensing
Discrete Graphics	Graphics Memory Power Connector Max Qty	MIL-SPEC	Certified
Offoring .	Quadro P620         2GB GDDR5         40W         4x miniDP         1           Quadro P1000         4GB GDDR5         50W         4x miniDP         1	Environmental	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 8
	Supports M.2 SSD RAID 0 / 1, for special bids only	certification	qualified
Storage Support	Disk Type Interface RPM Offering Max Qty M.2 PCIe SSD PCIe NVMe - 256GB/512GB/1TB/2T 2	Power supply	<ul> <li>170W power adaper, 100V - 240V, 89% PSU</li> <li>230W power adaper, 100V - 240V, 89% PSU</li> </ul>
	Two M.2 slots for M.2 SSD	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
	None		
	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-		

Network interfaces on-LAN. Optional PCIe ethernet adapters are available













### ThinkStation P340 Tower Platform Specifications

Components	Specification						Components	Specification			
Form factor	17L Tower							Disk Type Interface RPM Offering Max Qty			
Dimensions	Height: 376 mm (14.8	in). Width: 170 r	nm (6.7 in)	Depth: 315.35 mr	m (12.4 in)			3.5" SATA HDD SATA 6Gb/s 7.2K 1TB/2TB/4TB/6TB 2			
	Maximum configuratio	/	, ,				Storage Support	2.5" SATA HDD SATA 6Gb/s 7.2K 1TB FIPS 4			
Processor Sockets		11. 20.7 ID (9.4 K	J)					2.5" SATA SSD SATA 6Gb/s - 512GB/1TB 4			
	Up to one Xeon, Core	io iz is orizo	raaaaar					M.2 PCIe SSD PCIe NVMe - 256GB/512GB/1TB/2TB 4			
Flocessol Support	Processor			Momory	Processor			Bay 1 First 3.5" disk bay			
	Number Cores	Threads Frequenc	V Cache TE	P Memory ECC	Graphics	vPro		Bay 2 First 2.5" SATA bay			
	Xeon W-1290P 10	20 3.7GHz		W DDR4-2933 Yes		Yes		Bay 3 Secondary 3.5" disk bay			
	Xeon W-1290 10	20 3.2GHz		W DDR4-2933 Yes			Storage Bays	Bay 4 Secondary 2.5" disk bay			
	Xeon W-1270P 8 Xeon W-1270 8	16 3.8GHz		W DDR4-2933 Yes				Bay 5 9mm Slim ODD bay			
	Xeon W-1270 8 Xeon W-1250P 6	16 <u>3.4GHz</u> 12 <u>4.1GHz</u>		W DDR4-2933 Yes W DDR4-2666 Yes			-	Bay 6 Media reader			
	Xeon W-1250 6	12 3.3GHz		W DDR4-2666 Yes				M.2 4x M.2 SSD (2 onboard. 2 via PCIe to M.2 adapter)			
	Core i9-10900K 10	20 3.7GHz		W DDR4-2933 No			Media reader	Optional SD reader on most models			
Processor	Core i9-10900 10	20 2.8GHz		W DDR4-2933 No		Yes	Network	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports			
	Core i7-10700K 8	16 3.8GHz		W DDR4-2933 No		Yes Yes	interfaces	Wake-on-LAN. Optional PCIe ethernet adapters are available			
	Core i7-10700 8	16 2.9GHz		W DDR4-2933 No		Optional Intel Wi-Fi 6 AX201, 2x2, 2.4GHz/5GHz (160MHz channels), WiFi 6,					
	Core i5-10600K 6 Core i5-10600 6	12 4.1GHz 12 3.3GHz		W DDR4-2666 No W DDR4-2666 No		Yes Yes	WLAN + Bluetooth	Bluetooth 5			
	Core i5-10500 6	12 3.1GHz		W DDR4-2666 No		Yes	-	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant.			
	Core i5-10400 6	12 2.9GHz		W DDR4-2666 No		No	Security features	Optional chassis intrusion switch, E-lock, cable lock, Kensington lock, and pad			
	Core i3-10320 4	8 3.8GHz		W DDR4-2666 No		No		lock			
	Core i3-10300 4 Core i3-10100 4	8 3.7GHz 8 3.6GHz		W DDR4-2666 No W DDR4-2666 No		No No	Intel vPro	Supports Intel vPro on Xeon and selected Core i7 or i5 models. vPro also requires AX201 if Wi-Fi function is needed			
Chipset	Intel W480 Chipset	8 3.00112			0110 030			Intel Active Management Technology 14 on vPro models.			
<b>'</b>	4 DIMM sockets with 2	2 channels					Intel AMT	Intel Standard Manageability on other models			
Momony Typos	8GB/16GB/32GB DDF or 4GB/8GB/16GB/32	R4-2933 UDIMM		n-ECC			Base warranty	Most models comes with 3-year limited onsite service with 9x5/NBD. Other models may have 1 or 2-year limited onsite service			
	128GB						HD Audio	Intel HD Audio interface with Realtek ALC623 Codec			
	ECC. ECC memory ar	nd ECC-enable (	CPU are ne	eded			Front ports	2x USB-A 3.2 Gen 1. 2x USB-A 3.2 Gen 2. 1x USB-C 3.2 Gen 1. 1x Mic-in. 1x			
	Three PCIe 3.0 slots a	as following:						Combo jack 2x USB-A 3.2 Gen 1. 2x USB-A 2.0. 1x RJ-45. 1x COM. 2x DP.			
– · · ·	Slot 1 PCIe 3.0 x16, ft	ull height, full ler	ngth, links t	o CPU			Rear ports	1x Audio line-out			
Expansion slots	Slot 2 PCIe 3.0 x1, ful	I height, full leng	th, links to	PCH				Supports the following via cable:			
	Slot 3 PCIe 3.0 x16 (n				. links to P	СН	Optional rear	1x COM. 1x Parallel. 2x PS/2. 1x video (DP, HDMI, or USB-C). 2x USB 2.0.			
	Integrated Intel UHD (							Supports the following via PCIe adapter: 4x COM*. 1x USB-C 3.2 Gen 2. 2x USB-A 3.2 Gen 1*. 1x Thunderbolt			
	in Core processors.		i Xeon pio		ib alapin	000		AX COM . IX USD-C 3.2 Gen 2. 2X USD-A 3.2 Gen 1 . IX Inunderboll Notes: 4x COM and 2x USB-A 3.2 Gen 1 are special bids only.			
	Works along with disc							Operating: 50 ° F to 95 ° F (10 ° C to 35 ° C)			
	display connectors (2	DP standard, 1	video port	optional (Video por	rt can be D	P,	Temperature	Non operating (no package): 14 ° F to 140 ° F (-10 ° C to 60 ° C)			
	HDMI, or USB-C)			-				Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)			
	Graphics	Memory	Power	Connector		Max Qty	Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft).			
	Quadro P400	2GB GDDR5	30W	3x miniDP		2		Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)			
	Quadro P620	2GB GDDR5	40W	4x miniDP		2	Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing			
Discrete Graphics	Quadro P1000	4GB GDDR5	50W	4x miniDP		2		Storage (with package). 20%~90%, non-condensing			
Offering	Quadro P2200	5GB GDDR5X		4x DP		2	Environmental certification	RoHS-compliant, EPEAT Silver rating, and ENERGY STAR 8 qualified			
	Quadro RTX 4000	8GB GDDR6	160W	3x DP, 1x Virtua		1		Supports one of the following:			
	Quadro RTX 5000	16GB GDDR6	265W	4x DP, 1x Virtua	lLink	1	Power supply	<ul> <li>300W, 90% PSU, 100V - 240V, 80 PLUS Gold qualified</li> </ul>			
	Notes: RTX 4000/RTX 5000/2	2x P2200 needs 500V	V PSU.					<ul> <li>500W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified</li> </ul>			
	Storage Controller		e Interfac		RAID		ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/			
Storage	Onboard Intel RST SA		SATA 6G			5	Note:	factors, actual data transfer analytic manufactor of this page may be lower than the section and			
Controller	Onboard Intel RST PO	Cle RAID   Std	PCIe NV	Me M.2 PCIe SSE	D 0/1		2. Any questions or adv	factors, actual data transfer speed mentioned on this page may be lower than theoretical speed. rice on ThinkStation PSREF, please contact Lenovo workstation PSREF developer			
	Notes: RAID 5 and 10 are av	ailable on 2.5" HDD/S	SD.				]				



### ThinkStation P520 Platform Specifications - I of II

Product Specifications Reference (PSREF)

Form factor	33L Tower									Disk Type	Interface	RPM	Offering	Max Qtv	
	165mm/6.5" W x	460mm/*	18.1" D x 44	0mm/17.3"	H (with feet	)			1	3.5" SATA	SATA		-		
	Maximum configu		-			/				HDD	6Gb/s	7.2K	11B/21B/41B/61B	0	
	Processor	# of Cores 1	# of Threads Fr	Base equency	Cache	TDP	Memo Type		Storage Sup-	2.5" SATA HDD	6Gb/s	7.2K	500GB/500GB FIPS	6	
	Xeon W-2295 Xeon W-2275	18 14	36 3	3.0GHz 3.3GHz	24.75MB 19.25MB	165W 165W	DDR4-2	2933	port	2.5" SATA SSD	6Gb/s       1.2.K       1115/21B/41B/61B       0         SATA       7.2K       500GB/500GB FIPS       6         SATA       256GB/512GB/1TB/2TB       6         PCIe       256GB/512GB/1TB/2TB       9         PCIe       256GB/512GB/1TB/2TB       9         PCIe       480GB       2 (1 when quad M.2 adapter used)         Maximum Drives Qty         2 SSD (2 onboard, 7 via PCle to M.2 adapter)       adapter used)         Days. Supports the following:         adapter used)         Maximum Drives Qty         2 SSD (2 onboard, 7 via PCle to M.2 adapter)         bays. Supports the following:         adapter used)         Maximum Drives Qty         2 SSD (2 onboard, 7 via PCle to M.2 adapter)         bays. Supports the following:         adapter used)         SATA SSD/HDD         SATA SSD/HDD         Symm optical drives         colspan="2">SATA SSD/HDD         Symm optical drives         SATA SSD/HDD         SATA SSD/HDD         SATA SSD/HDD         SATA SSD/SATA				
	Xeon W-2265 Xeon W-2255	12 10	24 3	3.5GHz 3.7GHz	19.25MB 19.25MB	165W 165W	DDR4-2	2933		M.2 PCIe SSD		ATA       7.2K       1TB/2TB/4TB/6TB       6         Bb/s       7.2K       500GB/500GB FIPS       6         ATA       256GB/512GB/1TB/2TB       6         Cle       256GB/512GB/1TB/2TB       9         Cle       256GB/512GB/1TB/2TB       9         Cle       480GB       2 (1 when quad M.2 adapter used)         Maximum Drives Qty       0       (2 onboard, 7 via PCle to M.2 adapter)         Supports the following:       eight optical drives       9         9.0mm optical drives       9.0mm optical drives       9         9.0mm optical drives       9.0mm optical       5" SATA SSD/HDD         .5" SATA SSD/HDD with Front Access Storage Enclosure iodule for the following options:       .0mm optical         .0mm optical       5" or 2.5" disks with 4 disk bays (2 bays standard, 2 bays         .2 SSD + 6x 3.5" HDD/6x 2.5" SATA disks/4x 2.5" SAS HDD +       16x 3.5" HDD         16x 3.5" HDD       ing 6x 2.5" SATA SSD, 9x M.2 SSD, and 1x PCle AIC SSD         following:       utosensing, 92%, 80 PLUS Platinum qualified         autosensing, 92%, 80 PLUS Platinum qualified       1000000000000000000000000000000000000			
	Xeon W-2245	8	16 3	3.9GHz	16.5MB	155W	DDR4-2	2933		PCIe AIC SSD			480GB		
	Xeon W-2235 Xeon W-2225	6	8 4	3.8GHz 4.1GHz	8.25MB 8.25MB	105W	DDR4-2 DDR4-2	2933		Bay			Maximum Drives Qty		
Processor Support	Xeon W-2223 Xeon W-2195	W-2195 18 36 2.3GHz 24.75MB 140W DDR4-2666								er)					
	Xeon W-2175 Xeon W-2155	14 10	20 3	2.5GHz 3.3GHz	19MB 13.75MB	140W	DDR4-2	2666		• 2x h	nalf-height	optical	drives		
	Xeon W-2145 Xeon W-2135	8	12 3	3.7GHz 3.7GHz	11MB 8.25MB	140W	DDR4-2 DDR4-2	2666		• 1x 5	5.25" 9.0m	im optic	al drive + 2x 3.5"/2.5" SA	TA SSD/HDD	
	Xeon W-2133 Xeon W-2125	6 4		3.6GHz 4.0GHz	8.25MB 8.25MB	140W 120W	DDR4-2 DDR4-2		Storage Bays	• 1x 3 Flex Bay • 1x f	3.5"/2.5" S ilex module	ATA SS e for the	D/HDD with Front Access following options:	Storage Enclosure	
	Xeon W-2123 Xeon W-2104	4	8 3	3.6GHz 3.2GHz	8.25MB 8.25MB		DDR4-2 DDR4-2	2666		Tray	y 1: 9.0mm y 2: 15-in-1	n optica		derbolt, or 4-digit diag-	
	Xeon W-2102	4		2.9GHz	8.25MB		DDR4-2		_	nostic	display				
Processor Sockets		- 1							-1	• 2x l	M.2 SSD v	vith 2x I	Front Removable Drive Er	nclosures	
	Intel C422 Chipse 8 DIMM sockets v		annels						-	Disk bay Up to option	4x 3.5" or	2.5" dis	sks with 4 disk bays (2 bay	ys standard, 2 bays	
	DDR4-2666 RDIN			DIMM					-			-			
Memory Capacity									-	Supports up to	9x M.2 SS	SD + 6x	3.5" HDD/6x 2.5" SAIA d	isks/4x 2.5" SAS HDD +	
Memory Protection			111 2000 112						Max Storage	1x PCle AIC SS			r		
		Cle 3.0	(8, full heigh)	n. 25W. oper	n ended			-					nd 1x PCIe AIC SSD		
S Expansion clots	Slot 3 (PCH) P	Cle 3.0 >	<16, full heig <4, full heigh <16, full heig	th, 25W, ope	en ended			Power supply	Supports one o • One fixed 690 • One fixed 900	W. autose	nsina.	92%, 80 PLUS Platinum c 92%, 80 PLUS Platinum c	ualified ualified		
	Slot 5 P	CI, full h	eight, full ler	ngth, 25W						One fixed 1000W, autosensing, 92%, 80 PLUS Platinum qualified     USB 2.0 9-in-1 card reader on most models. Optional UHS-II 15-in-1 USB 3.1 Gen 1					
	Slot 6 (PCH) P Graphics	Cle 3.0 >	(4, full heigh Memory		h, 25W, ope		SLI /	Max	Media reader	reader on flex n	nodule		•		
	NVS 810		4GB DDF	er	8xmini I		NVlink	Qty 2	interfaces	ethernet or wire	eless adap	ters are	available		
	Quadro P400 Quadro P600		2GB GDD 2GB GDD	R5 30W	<u>3xminiE</u> 4xminiE	DP		2	WLAN + Bluetooth	867Mbps				· · ·	
	Quadro P620		2GB GDD	R5 40W	4xmini[	DP		2	Security						
	Quadro P1000 Quadro P2000		4GB GDD 5GB GDD		<u>4xminiE</u> 4xDP			2	Intel vPro						
Discrete Graphics	Quadro P4000		8GB GDD		4xDP			2	Intel AMT	Intel Active Mar	nagement	Techno	logy 11		
Offering	Quadro P5000 Quadro P6000		16GB GDD	R5X 180W	DVI-D DL+4xDP SLI 2 DVI-D DL+4xDP 1				Diagnostic	with Lenovo PC	Diag-nos				
	Quadro RTX 400	0	8GB GDD	R6 160W	3xDP, 1xVirt	ualLink		2	Baco warranti	display on flex r		convico	with 0x5/NRD		
	Quadro RTX 500 Quadro RTX 600				<u>4xDP, 1xVirt</u> 4xDP, 1xVirt			2	HD Audio			Service	WIT 9X3/NDD		
	Quadro RTX 800		48GB GDD	DR6 295W	4xDP, 1xVirt	ualLink		1	11	Realtek ALC662 codec					
	Quadro GP100		16GB HB	M2 235W	1xDVI-D DL	., 4xDP	NVLink	2	Front ports	(3.5mm)		0.3 0110	TTW charging), TX combe		
	Quadro GV100			M2 250W	4xDP	<b>)</b>		1	Rear ports			Gen 1, ⁻	Ix RJ-45, 3x analog audic	ports (line-in, line-out,	
	Storage Controlle Onboard Intel RS	age Controller Type Interface RAID Cache ard Intel RSTe Std SATA 6Gb/s 0/1/10/5								mic-in), 2x PS/2 Front:	2				
	9440-8i PCle	Opt	SAS 12GI 6G	b/s, SATA	0/1/10/5					<ul> <li>2x Thunderbo</li> </ul>		ISB Typ	e-C) on flex module, one	of two ports	
Storage Controller	9460-16i PCIe	Opt	SAS 12GI 6G	b/s, SATA	0/1/10/5/6	4GB DI	DR4, Sup	erCap		<ul> <li>supports video-out</li> <li>1x eSATA on flex module</li> <li>1x USB 1 Com 1</li> </ul>					
	NVMe Basic	Opt	PCIe I		0/1/10				Optional ports	Rear:		nouule			
	NVMe Premium	Opt	PCIe I	NVMe	0/1/10/5					<ul> <li>1x COM port</li> </ul>					
	NVMe for Intel S				0/1/10/5				] []	<ul> <li>2x USB Type-</li> </ul>		a PCle	adapter, USB 3.1 gen 2.0	One 15W, one 5W	
									-1	Internal:					

### ThinkStation P520 Platform Specifications - II of II

specification	Temperature - operating	50 ° F to 95 ° F (10 ° C to 35 ° C)							
	Temperature - storage (no package)	14 °F to 140 °F (-10 °C to 60 °C)							
	Temperature - storage (with package)	-40 ° F to 140 ° F (-40 ° C to 60 ° C)							
	Altitude - operating	(Unpressurized): -50ft-10000ft (-15.2m-3048m)							
	Humidity - operating	10%~80%, non-condensing							
	Humidity - storage (with package) 10%~90%, non-condensing								
Environmental Certifications	RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 qualified on model 30BE0008US and 30BE0009US								
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/								

Note:

Note: 1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed. 2. To support the maximum expandability, 900W power supply may be needed. 3. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer

Product Specifications Reference (PSREF)



#### ThinkStation P520c Platform Specifications

Product Specifications Reference (PSREF)

Dimensions         172mm/9.89* W. 4426mm/16.77* Dx 376mm/14.8* H (with feet)           Weight         Maximum configuration: 315* II (14.5kg)           Weight         Maximum configuration: 315* II (14.5kg)           Processor         6* 01         Baseba         Cache         Tip Pace           Storage Bays         Storage Bays         Storage Bays         Storage Bays           Processor Support         II (14.5kg)         Dimensional Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top Pace Top	Form factor	25L Tower		-						Bay		Maximum Drives Qty				
Processor         # of	Dimensions															
Processor Super         Processor Super         Cash Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue Tissue	Weight	Maximum conf	iguration: 3	31.97 lb	(14.5kg)					M.2 slot 5x M.2 SSD (2 onboard, 3 via PCIe to M.2 adapter)						
Keon W-2123         4         8         3.6GHz         8.25MB         120W         DDR4-2400           Xeon W-2102         4         4         2.9GHz         8.25MB         120W         DDR4-2400           Chipset         Intel C422 Chipset         4         2.9GHz         8.25MB         120W         DDR4-2400           Memory Types         DDR4-2668 RDIMM or DDR4-2933 RDIMM         Media reader         USB 2.0 9-in-1 card reader on most models. Optional UHS-II 15-in-1 USB 3.1 Gen treader on a glabit ethernet (Intel 1219LM), supports Wake-on-LAN. Optional Memory Types           Memory Types         DDR4-2668 RDIMM or DDR4-2933 RDIMM         Hetwork interfaces         Integrated one glabit ethernet (Intel 1219LM), supports Wake-on-LAN. Optional Memory Types           Memory Types         DDR4-2668 RDIMM or DDR4-2933 RDIMM         Bluetooth         06 87/Mpps           Memory Types         Stot 1 (CPU)         PCle 3.0 x16, full height, full length, 75W, Stot 1 (CPU)         PCle 3.0 x16, full height, full length, 75W, open ended         Stot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, open ended         Intel AVP on Intel AVE Management Technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is is needed           NVS 810         4 GB DDR3         68W         8xmin DP         1         1         1         1         1         1         1         1         1         1	Processor Support	Xeon W-2245 Xeon W-2235 Xeon W-2225 Xeon W-2195 Xeon W-2175 Xeon W-2155 Xeon W-2145 Xeon W-2135 Xeon W-2135	Cores T 8 6 4 18 14 10 8 6 6 6	Threads           16           12           8           36           28           20           16           12           12	Frequency 3.9GHz 3.8GHz 4.1GHz 3.6GHz 2.3GHz 2.5GHz 3.3GHz 3.7GHz 3.7GHz 3.6GHz	16.5MB 8.25MB 8.25MB 24.75MB 19MB 13.75MB 11MB 8.25MB 8.25MB	AB         155W           AB         130W           AB         105W           AB         120W           MB         140W           B         140W           B         140W           B         140W           B         140W           B         140W           B         140W	Types DDR4-2933 DDR4-2933 DDR4-2933 DDR4-2666 DDR4-2666 DDR4-2666 DDR4-2666 DDR4-2666 DDR4-2666 DDR4-2666		<ul> <li>2x half-height optical drives</li> <li>2x 5.25" 9.0mm optical drives</li> <li>1x 5.25" 9.0mm optical drive + 2x 3.5"/2.5" SATA SSD/HDD</li> <li>1x 3.5"/2.5" SATA SSD/HDD with Front Access Storage Enclosure</li> <li>Flex Bay</li> <li>1x flex module for the following options: Tray 1: 9.0mm optical Tray 2: 15-in-1 USB 3.1 Gen 1 reader, 2x Thunderbolt, or 4-digit diagnostic display Port 1 and 2: Front USB 3.1 Gen 1 Type-C or eSATA</li> <li>2x M.2 SSD with 2x Front Removable Drive Enclosures</li> <li>Disk bay Up to 2x 3.5"/2.5" disks with 2 disk bays</li> </ul>						
Processor Sockets         Ix FCLGA2068         Intel C42 Chipset         Intel C42 Chipset           Memory Sockets         4 DIMM sockets with 4 channels         Network         Integrated one gigabit ethernet (Intel i219LM), supports Wake-on-LAN. Optional Intel Wet2 Chipset           Memory Sockets         4 DIMM sockets with 4 channels         Network         Integrated one gigabit ethernet (Intel i219LM), supports Wake-on-LAN. Optional Intel Wet2 Chipset           Memory Capacity         256G8 BDIMM or DDR4-2633 RDIMM         WLAN +         Optional Intel Wrieless-AC 8265, 2x2, 2.4GHz/SGHz, 802.11ac, Bluetooth 4.2, up           Memory Protection ECC         Stot 1 (CPU)         PCle 3.0 x16, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x16, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)         PCle 3.0 x4, full height, full length, 75W, Slot 2 (CPU)		Xeon W-2104	4	4	3.2GHz	8.25MB	120W	DDR4-2400		<ul> <li>One fixed 625W, autosensing, 92%, 80 PLUS Platinum qualified</li> </ul>						
Chipset         Intel C422 Chipset         Intel C422 Chipset         Intel C422 Chipset           Memory Sockets 4 DIMM sockets with 4 channels         Wetwork         Police ethernet or vireless adaptes         Police ethernet or vireless adapte	Processor Sockets			<u> </u>						1 reader	on flex module	•				
Memory Type       DPR-42933 RDIMM         Memory Type       DPR-42966 RDIMM or DDR-2933 RDIMM         Memory Capacity       256GB with 4 x 64GB RDIMMs         Memory Type       DPR-42966 RDIMMs         Memory Capacity       256GB with 4 x 64GB RDIMMs         Memory Protection ECC       Stot 1 (CPU)       PCIe 3.0 x8, full height, full length, 75W, Stot 2 (CPU)       PCIe 3.0 x4, full height, full length, 75W, Stot 2 (CPU)       PCIe 3.0 x4, full height, full length, 75W, Stot 2 (CPU)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full length, 75W, Stot 4 (PCH)       PCIe 3.0 x4, full height, full lengt										etwork Integrated one gigabit ethernet (Intel i219LM), supports Wake-on-LAN.						
Memory Types         DDFA-2266 HDIMM or DDFA-2233 HDIMM           Memory Protection         ECC           Memory Protection         ECC           Expansion slots         Slot 1 (CPU)         PCIe 3.0 x16, full height, full length, 75W, Slot 2 (CPU)         PCIe 3.0 x16, full height, full length, 75W, Slot 2 (CPU)         Slot 3 (CPU)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W, Slot 4 (PCH)         Slot 4 (PCH)         Slot 4 (PCH)         PCIe 3.0 x4, full height, full length, 75W,	Memory Sockets	kets 4 DIMM sockets with 4 channels														
Memory Capacity       2563B with 4 x 64GB RUIMMS         Memory Protection       ECC         Sint 2 (CPU)       PCIe 3.0 x6, full height, full length, 75W, Sint 2 (CPU)       Sold 12 (CPU)       PCIe 3.0 x6, full height, full length, 75W, Sint 2 (CPU)       Security features       Switch to 1.2 via UEFI setting. Optional access panel lock, Kensington lock, and pad lock         Intel VPro         Stor 4 (PCH)       PCIe 3.0 x6, full height, full length, 75W, Slot 4 (PCH)       Connector       SLI / Max       NVS         NVS 810       4GB DDR3       68W       8xmini DP       1       Diagnostic       ThinkStation Diagnostics for Windows. Optional front 4-digit diagnostic display on flex module         NVS 810       4GB DDR3       68W       8xmini DP       2         Quadro P600       2GB GDDR5       3W       4xmini DP       2         Quadro P600       2GB GDDR5       4W       4xmini DP       2         Quadro P600       2GB GDDR5       5W       4xmini DP       2         Quadro P2000       5GB GDDR5       5W       4xDP       2         Quadro P2000       16GB GDDR5 / 12W       4xDP       1         Quadro P2000       16GB GDDR5 / 12				33 RDIMM							2, 2.40112/30112, 002.11ac, Didetooti1 4.2, up					
Stot 2 (CPU)       PCle 3.0 x8, full height, full length, 25W, open ended         Stot 3 (CPU)       PCle 3.0 x16, full height, full length, 75W         Stot 3 (CPU)       PCle 3.0 x4, full height, full length, 75W         Stot 4 (PCH)       PCle 3.0 x4, full height, full length, 75W         Stot 4 (PCH)       PCle 3.0 x4, full height, full length, 75W         Stot 3 (CPU)       PCle 3.0 x4, full height, full length, 75W         Stot 3 (CPU)       PCle 3.0 x4, full height, full length, 75W         Stot 3 (CPU)       PCle 3.0 x4, full height, full length, 75W         Stot 3 (CPU)       PCle 3.0 x4, full height, full length, 75W         Stot 3 (CPU)       PCle 3.0 x4, full height, full length, 75W         Storage Controller       Memory       Power       Connector       NUink       Oty         Discrete Graphics       Quadro P2000       2GB GDDR5       45W       4xminiDP       2         Quadro P2000       5GB GDDR5       50W       4xDP       2       2       0.4 xUSB 3.1 Gen 1, microphone (3.5mm), headphone (3.5mm)         Quadro P2000       5GB GDDR5       120W       4xDP       2       2       0.4 xUSB 3.1 Gen 1, nr.Pl-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2       Supports the following optional ports:         Quadro P2000       5GB GDDR5       150W       4xDP       1		ECC						4	Power-or switch to	and admin password. True						
Slot 4 (PCH)       PCIe 3.0 x4, full height, half length, 25W, open ended         Intel AMT       Intel Adtive Management Technology 11         Discrete Graphics       Graphics       Memory       Power       Connector       SLI / Max         Discrete Graphics       0.4GB DDR3       68W       8xminiDP       -       1         Quadro P400       2GB GDDR5       30W       3xminiDP       -       2         Quadro P600       2GB GDDR5       45W       4xminiDP       -       2         Quadro P620       2GB GDDR5       45W       4xminiDP       -       2         Quadro P620       2GB GDDR5       45W       4xminiDP       -       2         Quadro P6200       2GB GDDR5       45W       4xminiDP       -       2         Quadro P2000       5GB GDDR5       12W       4xDP       -       2         Quadro P4000       8GB GDDR5       12W       4xDP       -       1         Quadro P5000       16GB GDDR5       10W       4xDP       -       1         Quadro P5000       16GB GDDR6       160W 3xDP       1xVirualLink       -       1         Quadro P5000       16GB GDDR5       10W VI-D L+4xDP       -       1       -	Expansion slots	Slot 2 (CPU) PCIe 3.0 x8, full height, full length, 25W, open ended								Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is needed						
Graphics       Interface       Power       Connection       Storage Controller       Multink       City       Multink       Multink       City       Multink       Multik       Multink       Multink<			PCle 3.0	x4, full l	height, half le	ength, 25W, c	pen ended	b	Intel AMT							
NVS 8104GB DDR368W8xmini DP-1Quadro P4002GB GDDR530W3xminiDP-2Quadro P6002GB GDDR545W4xminiDP-2Quadro P6002GB GDDR540W4x miniDP-2Quadro P10004GB GDDR550W4xminiDP-2Quadro P20005GB GDDR575W4xDP-2Quadro P20005GB GDDR5120W4xDP-2Quadro P200016GB GDDR5120W4xDP-1Quadro P500016GB GDDR5120W4xDP-1Quadro P500016GB GDDR5120W4xDP-1Quadro RTX 40008GB GDDR6160W 3x0P, 1xVirtualLink-1Quadro RTX 500016GB GDDR6265W 4xDP, 1xVirtualLink-1Quadro RTX 500016GB GDDR6265W 4xDP, 1xVirtualLink-1Storage ControllerTypeInterfaceRAIDCacheOnboard Intel RSTEStdSATA 6Gb/s0/1/10/5-NVMe BasicOptPCIe NVMe0/1/10/5-NVMe for Intel SSDOptPCIe NVMe0/1/10/5-NVMe for Intel SSDS		Graphics		1	Memory F	Power Co	onnector			flex mod	lle					
Biscrete Graphics       Control P600       2GB GDDR5       45W       4xminiDP       -       2         Offering       Quadro P600       2GB GDDR5       40W       4xminiDP       -       2         Quadro P600       2GB GDDR5       40W       4xminiDP       -       2         Quadro P1000       4GB GDDR5       50W       4xminiDP       -       2         Quadro P2000       5GB GDDR5       75W       4xDP       -       2         Quadro P4000       8GB GDDR5       120W       4xDP       -       2         Quadro P5000       16GB GDDR5X       180W       DVI-D L+4xDP       -       1         Quadro RTX 4000       8GB GDDR6       160W 3xDP. 1xVirtualLink       -       1         Quadro RTX 5000       16GB GDDR6       265W 4xDP, 1xVirtualLink       -       1         Quadro RTX 5000       16GB GDDR6       265W 4xDP, 1xVirtualLink       -       1         Storage Controller       Type       Interface       RAID       Cache       -         Onboard Intel RSTE       Std       SATA 6Gb/s       0/1/10/5       -       -         NVMe Basic       Opt       PCIe NVMe       0/1/10/5       -       +       1x COM port       -								- 1			· · · · · · · · · · · · · · · · · · ·					
Discrete Graphics Offering       Quadro P620       2GB GDDR5       40W       4x miniDP       -       2         Quadro P1000       4GB GDDR5       50W       4xminiDP       -       2         Quadro P2000       5GB GDDR5       75W       4xDP       -       2         Quadro P4000       8GB GDDR5       120W       4xDP       -       2         Quadro P4000       8GB GDDR5       120W       4xDP       -       2         Quadro P4000       8GB GDDR5       120W       4xDP       -       1         Quadro RTX 4000       8GB GDDR6       160W 3xDP. 1xVirtualLink       -       1         Quadro RTX 5000       16GB GDDR6       265W 4xDP. 1xVirtualLink       -       1         Quadro RTX 5000       16GB GDDR6       266b/s       0/1/10/5       -         Storage Controller       Type       Interface       RAID       Cache         Ohooard Intel RSTE       Std       SATA 6Gb/s       0/1/10/5       -         NVMe Basic       Opt       PCIe NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCIe NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCIe NVMe       0/1/10/5       -				<u>2G</u>	B GDDR5	<u>30W 3</u>		- 2								
Other Hing       Quadro P 1000       4GB GDDR5       50W       4xminit/DP       -       2         Quadro P 2000       5GB GDDR5       75W       4xDP       -       2         Quadro P 4000       8GB GDDR5       120W       4xDP       -       2         Quadro P 5000       16GB GDDR5       120W       4xDP       -       2         Quadro P 5000       16GB GDDR5       180W       DVI-D DL+4xDP       -       1         Quadro RTX 4000       8GB GDDR6       160W 3xDP, 1xVirtualLink       -       1         Quadro RTX 5000       16GB GDDR6       265W 4xDP, 1xVirtualLink       -       1         Storage Controller       Type       Interface       RAID       Cache         Onboard Intel RSTe       Std       SATA 6Gb/s       0/1/10/5       -         NVMe Basic       Opt       PCIe NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCIe NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCIe NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCIe NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCIe NVMe       0/1/10/5       -		Quadro P620 2GB GDDR5 40W 4x miniDP						- 2	· · · · · · · · · · · · · · · · · · ·		x USB 2.0, 4x USB 3.1 Gen 1, 1x RJ-45, 3x analog audio ports (line-in, line-ou					
Quadro P4000       8GB GDDR5       120W       4xDP       -       2         Quadro P5000       16GB GDDR5X       180W       DVI-D DL+4xDP       -       1         Quadro RTX 4000       8GB GDDR6       160W 3xDP. 1xVirtualLink       -       1         Quadro RTX 5000       16GB GDDR6       265W 4xDP, 1xVirtualLink       -       1         Quadro RTX 5000       16GB GDDR6       265W 4xDP, 1xVirtualLink       -       1         Storage Controller       Type       Interface       RAID       Cache         Onboard Intel RSTe       Std       SATA 6Gb/s       0/1/10/5       -         9440-8i PCle       Opt       SAS 12Gb/s, SATA 6Gb/s       0/1/10/5       -         NVMe Basic       Opt       PCle NVMe       0/1/10/5       -         VMMe for Intel SSD       Opt       PCle NVMe       0/1/10/5       -         Str Type       Interface       RPM       Offering       Max Qty       * 1x internal USB 3.1 Gen 1 port         * 1x internal       SATA 6Gb/s       7.2K       1TB/2TB/4TB/6TB       4       *	Offering															
Quadro RTX 4000       8GB GDDR6       160W 3xDP, 1xVirtualLink       -       1         Quadro RTX 5000       16GB GDDR6       265W 4xDP, 1xVirtualLink       -       1         Storage Controller       Type       Interface       RAID       Cache         Onboard Intel RSTe       Std       SATA 6Gb/s       0/1/10/5       -         Storage Controller       Opt       SAS 12Gb/s, SATA 6Gb/s       0/1/10/5       -         NVMe Basic       Opt       PCIe NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCIe NVMe       0/1/10/5       -         Disk Type       Interface       RPI       Offering       Max Qty         0timernal:       -       -       -       -         0tisk Type       Interface       RPI       Offering       Max Qty         0timernal:       -       -       -       -         0tisk Type       Interface       RPM       Offering       Max Qty         0timernal:       -       -       -       -         0tisk Type       Interface       RPM       -       -         0tisk Type       Interface       RPM       -       -         0tisk Type       S		Quadro P4000	8G	B GDDR5 1	120W	4xDP	- 2		Front:							
Quadro RTX 5000       16GB GDDR6       265W       4xDP, 1xVirtualLink       -       1         Storage Controller       Type       Interface       RAID       Cache         Onboard Intel RSTe       Std       SATA 6Gb/s       0/1/10/5       -         Storage Controller       Opt       SATA 6Gb/s       0/1/10/5       -         NVMe Basic       Opt       PCle NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCle NVMe       0/1/10/5       -         Disk Type       Interface       RPM       Offering       Max Qty         3 5" SATA HDD       SATA 6Gb/s       7.2K       1TB/2TB/4TB/6TB       4				16G	B GDDR5X 1	180W DVI-E	DL+4xDF	<u>- 1</u>		<ul> <li>2x Thunderbolt ports (USB Type-C) on flex module, one of two ports</li> </ul>						
Storage Controller       Type       Interface       RAID       Cache         Onboard Intel RSTe       Std       SATA 6Gb/s       0/1/10/5       -         Storage Controller       Opt       SAS 12Gb/s, SATA 6Gb/s       0/1/10/5       -         NVMe Basic       Opt       PCIe NVMe       0/1/10/5       -         NVMe for Intel SSD       Opt       PCIe NVMe       0/1/10/5       -         Disk Type       Interface       RPM       Offering       Max Qty         Disk Type       Interface       RPM       Offering       Max Qty         Temperature - operating       50 °F to 95 °F (10 °C to 35 °C)       -				160	B GDDR6	265W 4xDP	1xVirtualLi 1xVirtualLi	<u>nk - 1</u> nk - 1		<ul> <li>1x eSATA on flex module</li> <li>1x USB Type-C on flex module, USB 3.1 Gen 1 Rear:</li> </ul>						
Onboard Intel RSTe       Štd       SATA 6Gb/s       0/1/10/5       -         Storage Controller       9440-8i PCle       Opt       SAS 12Gb/s, SATA 6Gb/s       0/1/10/5       -         NVMe Basic       Opt       PCle NVMe       0/1/10/5       -       -       1 x COM port         NVMe for Intel SSD       Opt       PCle NVMe       0/1/10/5       -       -       -         Disk Type       Interface       RPM       Offering       Max Qty       -       -       1 x internal USB 3.1 Gen 1 port         Disk Type       Interface       RPM       Offering       Max Qty       Temperature - operating       50 ° F to 95 ° F (10 ° C to 35 ° C)		-			· · · · · · · · · · · · · · · · · · ·				Optional ports							
Otorage controller         Opt		Onboard Intel	RSTe	Std	SATA	6Gb/s	0/1/10	0/5 -								
NVMe     Opt     Fore NVMe     O/1/10/5       NVMe for Intel SSD     Opt     PCIe NVMe     0/1/10/5       Disk Type     Interface     RPM     Offering     Max Qty       35"     SATA HDD     SATA 6Gb/s     7.2K     1TB/2TB/4TB/6TB	Storage Controller									<ul> <li>2x USB Type-C ports via PCIe adapter, USB 3.1 gen 2. One 15W, one 5W</li> </ul>						
Disk Type     Interface     RPM     Offering     Max Qty       3 5" SATA HDD     SATA 6Gb/s     7 2K     1TB/2TB/4TB/6TB     4																
3 5" SATA HDD SATA 6Gb/s 7 2K 1TB/2TB/4TB/6TB 4		-						1	ī							
		3.5" SATA HDI	D SA	TA 6Gb/	's 7.2K 1		6TB			Temperature - storage (no pack-						
age)	Storage Support						•									
M.2 PCIe SSD PCIe NVMe 256GB/512GB/1TB/2TB 5 Privronmental age -40 °F to 140 °F (-40 °C to 60 °C)		2.5" SATA SSD         SATA 6Gb/s         256GB/512GB/1TB/2TB         4           M.2 PCIe SSD         PCIe NVMe         256GB/512GB/1TB/2TB         5									ture - storage (with pack-					
Altitude - operating 3048m)								specification	Annude - operating 3048m)							
Humidity - operating 10%~80%, non-condensing										<b>,</b>	<u> </u>					
Humidity - storage (with package) 10%~90%, non-condensing										Humidity	- storage (with package)	10%~90%, non-condensing				
Environmental Certifications RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 gualified on model 30BX0008US and 30BX0009US																
ISV certifications Please visit <u>www.thinkworkstations.com/isv-certifications/</u>									Certifications	gualified	on model 30BX0008US ar	nd 30BX0009US				

Note: 1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed. 2. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer













#### ThinkStation P620 Platform Specifications

Product Specifications Reference (PSREF)

rm Module, TCG 2.0 compliant. el lock, Kensington lock, and pad lock stic. ThinkStation Diagnostics for Win- iagnostics for Android and iOS. service with 9x5/NBD jing), 2x USB-C 3.2 Gen 2 (15W),				
agnostics for Android and iOS. service with 9x5/NBD jing), 2x USB-C 3.2 Gen 2 (15W),				
agnostics for Android and iOS. service with 9x5/NBD jing), 2x USB-C 3.2 Gen 2 (15W),				
service with 9x5/NBD jing), 2x USB-C 3.2 Gen 2 (15W),				
E RJ-45, 3x analog audio ports (line-in				
°F (10 °C to 35 °C)				
0 ° F (-10 ° C to 60 ° C)				
0 °F (-40 °C to 60 °C)				
(Unpressurized): -50ft-10000ft (-15.2m-3048m)				
non-condensing				
non-condensing				
al RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 8.0				
fications Please visit <u>www.thinkworkstations.com/isv-certifications/</u>				
age may be lower than theoretical speed.				
, I , I				

#### ThinkStation P720 Photography

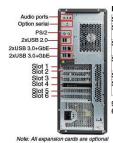












Expansion slots

Slot 1 (CPU2)	PCle 3.0 x16, full height, full length, 75W
Slot 2 (CPU1)	PCIe 3.0 x16, full height, full length, 75W, double-width
Slot 3 (CPU1)	PCIe 3.0 x8, full height, full length, 25W, open ended
Slot 4 (CPU1)	PCIe 3.0 x16, full height, full length, 75W, double-width
Slot 5	PCI, full height, full length, 25W
Slot 6 (PCH)	PCIe 3.0 x4, full height, half length, 25W, open ended

### ThinkStation P720 Platform Specifications

Product Specifications Reference (PSREF)

	36L Tower								Graphics	Me	mory	Pow-	Connecto		Max	
	175mm/6.89" W x 485				6" H (with f	eet)		_	Quedre DTV 4000		00000	er		NVlink		
	Maximum configuratio	n: 52.25	5 lb (23.7	7kg)				Discrete Graphics	Quadro RTX 4000						2	
Processor Sockets								Offering	Quadro RTX 5000 Quadro RTX 6000	24GB	GDDR6	205104	1xDP, 1XVIIIua	alLink NVIINK	2	
Processor Support	Up to two 165 W Gen	1 or Ge	n 2 Inte	Xeon Sca	lable family	process	ors, Bronze, Sil-	Ollering	Quadro RTX 8000	) <u>48</u> GB	GDDR6	295W4	1xDP 1xVirtuz	all ink NVlink	2	
	ver, Gold, or Platinum							_	Quadro GP100				1xDVI-D DL, 4			
	Processor	# of	_,# of ,	Base	Cache	TDP	Memory Types		Quadro GV100		3 HBM2		4xDP	NVlink		
				Frequency	/				Storage Controller		Interf		RAID	Cac	he	
	Xeon Gold 6246	12	<u>24</u> 16	3.6GHz	24.75MB 25MB		DDR4-2933 DDR4-2933		Onboard Intel							
	Xeon Gold 6244 Xeon Gold 6242	8	32	2.8GHz	22MB	<u>150W</u> 150W	DDR4-2933		RSTe	Std	SATA 6		0/1/10/5			
	Xeon Gold 6238T	22	44	1.9GHz	30MB	125W	DDR4-2933	Storage Controller	9440-8i PCle	Opt	SAS 12		0/1/10/5			
	Xeon Gold 6234	8	16	3.3GHz	25MB	130W	DDR4-2933		0440 011 010	Opt	SATA 6		0/1/10/3			
	Xeon Gold 6230	20	40	2.1GHz	28MB	125W	DDR4-2933		9460-16i PCle	Opt	SAS 12 SATA 6		0/1/10/5/6	4GB DDR4,	SuperCap	
	Xeon Gold 6226	12	24	2.7GHz	19MB	125W	DDR4-2933		NVMe Basic	Opt	PCIe N		0/1/10			
	Xeon Gold 5222	4	8	3.8GHz	16.5MB		DDR4-2933		NVMe Premium	Opt	PCIe N		0/1/10/5			
	Xeon Gold 5218	16	32	2.3GHz	22MB	125W	DDR4-2666		NVMe for Intel							
	Xeon Gold 5217 Xeon Gold 5215	8	16 20	3.0GHz	11MB 13.75MB	<u>115W</u> 85W	DDR4-2666 DDR4-2666		SSD	Opt	PCIe N	IVIVIE	0/1/10/5			
	Xeon Silver 4216	16	32	2.1GHz	22MB	100W	DDR4-2400		Disk Type	Interface	RPM		Offering	Ma	x Qty	
	Xeon Silver 4215	8	16	2.5GHz	11MB	85W	DDR4-2400			menace			Ollering			
	Xeon Silver 4214								(Blind connection + 9460 used)							
	Xeon Silver 4210	10	20	2.2GHz	14MB	85W	DDR4-2400							6 (Also	supports	
	Xeon Silver 4209T	8	16	2.2GHz	11MB	70W	DDR4-2400		3.5" SATA HDD S	ATA AGH	/s 7 2K	1TB/	2TB/4TB/6TE	add	itional	
Processor Offering	Xeon Silver 4208	8	16	2.1GHz	11MB	85W	DDR4-2400		0.5 041411000/		//3 / .21	TTD/	210/410/010	4X 2.	5" SATA	
	Xeon Bronze 3204	6	6		8.25MB	85W	DDR4-2133	Storage Support	2.5" SATA HDD S	ATA COL	10 7 0K	5000			<u>/HDD)</u>	
	Xeon Platinum 8160T Xeon Gold 6146	24 12	48 24	2.1GHz	33MB 24.75MB	<u>150W</u> 165W	DDR4-2666 DDR4-2666		2.5" SAS HDD SA				B/500GB FIP: 0GB/600GB	5	10 8	
	Xeon Gold 6142	12	32	2.6GHz		150W	DDR4-2666		2.5" SASTIDD SA				512GB/1TB/2	TB	10	
	Xeon Gold 6136	12	24		24.75MB		DDR4-2666		2.5" PCIe SSD P		//e	200000/	1.5TB		2	
	Xeon Gold 6134	8	16		24.75MB		DDR4-2666		M.2 PCIe SSD PC		/le	256GB/	512GB/1TB/2	2TB	9	
	Xeon Gold 6128	6	12		19.25MB		DDR4-2666		PCIe AIC SSD P				480GB		2	
	Xeon Gold 5122	4	8		16.5MB	105W	DDR4-2666		Bay			Maximu	Im Drives Qty	,		
	Xeon Gold 5120T	14	28		19.25MB		DDR4-2400		Type							
	Xeon Gold 5118	12	24		16.5MB		DDR4-2400		M.2 slot 9x M.2 S	SD (2 o	nboard, 7	7 via PC	le to M.2 ada	pter)		
	Xeon Gold 5115 Xeon Silver 4116	10	<u>20</u> 24		13.75MB 16.5MB	<u>85W</u> 85W	DDR4-2400 DDR4-2400		<ul><li>2 flex bays. Supports the following:</li><li>2x half-height optical drives</li></ul>							
	Xeon Silver 4114T	12	24		13.75MB		DDR4-2400		• 2x half	-height	optical dr	rives				
	Xeon Silver 4114	10	20		13.75MB		DDR4-2400		<ul> <li>2x 5.25" 9.0mm optical drives</li> <li>1x 5.25" 9.0mm optical drive + 1x 3.5"/2.5" SATA SSD/HDD</li> </ul>							
	Xeon Silver 4112	4	8		8.25MB	85W	DDR4-2400		Flex Bay • 1x 3.5"/2.5" SATA SSD/HDD with Front Access Storage Enclosure • 1x flex module for the following options: Tray 1: 9.0mm optical Tray 2: 15-in-1 USB 3.1 Gen 1 reader or 2x Thunderbolt							
	Xeon Silver 4110	8	16	2.1GHz	11MB	85W	DDR4-2400									
	Xeon Silver 4109T	8	16	2.0GHz	11MB	70W	DDR4-2400									
	Xeon Silver 4108	8	16	1.8GHz	11MB	85W	DDR4-2400	Storage Bays								
	Intel C621 Chipset								Port 1 and 2: Front USB 3.1 Gen 1 Type-C or eSATA • 2x M.2 SSD with 2x Front Removable Drive Enclosures							
	12 DIMM sockets with	12 cha	nnels. 6	DIMM soci	kets with 6	channels	s per processor		• 2x M.2	2 SSD w	ith 2x Fro	ont Rem	ovable Drive	Enclosures		
	DDR4-2666 RDIMM								lowing co			aru, 2 D	ays optional).	Supports on	e or the lor-	
	768GB (DDR4-2933 F	RDIMM)	or 3840	B (DDR4-2	2666 RDIN	IM)			• 4x 3.5"							
Memory Protection												2.5" SA	TA SSD/HDD	(Blind conne	ction	
				ht, full leng					² needed)							
Expansion slots	Slot 2 (CPU1) PCIe 3							• 8x 2.5" SATA SSD/HDD or 8x 2.5" SAS HDD (Blind connection								
	Slot 3 (CPU1) PCIe 3	3.0 x8, f	ull heigh	nt, full lengt	en ende	b		needed)				dialco (Dlind	oonnootion n			
	Slot 4 (CPU1) PCIe 3				ouble-wi	dth					3.5 /2.5	' disks (Blind	connection ne	eded)		
				ngth, 25W					Supports one of th	e follow	ing:					
	Slot 6 (PCH) PCIe 3	3.0 x4, f	ull heigh	nt, half leng	oen ende	d	Power supply	<ul> <li>One fixed 690W, autosensing, 92%, 80 PLUS Platinum qualified</li> <li>One fixed 900W, autosensing, 92%, 80 PLUS Platinum qualified</li> </ul>								
	Graphics	Memo	ry P	ow- Co	SLI	/ Max		<ul> <li>One fixed 900W,</li> <li>One fixed 1000W</li> </ul>								
			-	er	NVlin				<i>i</i> , aatoot	shoring, o	2 /0, 00		in quainea			
	NVS 810	4GB DE	DR3 6	8W 8×	mini DP		2									
	Quadro P400 2	<u>GB GD</u>	DR5 3	0W 3x	<u>kminiDP</u>		3									
			DR5 4		<u>kminiDP</u>		3									
			DR5 4				3									
-			DR5 5 DR5 7		<u>kminiDP</u> 4xDP		3									
			DR5 12		4xDP 4xDP		2									
				BOW DVI-E		> SLI										
				50W DVI-E			2							Lenovo	June 2020	
	E	0.0												Lenovo,	00110 2020	

#### ThinkStation P720 Platform Specifications

(3.5mm)	Media reader	1 reader on flex module	odels. Optional UHS-II 15-in-1 USB 3.1 Gen							
Bluetooth         to 867Mbps           Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant, Security features           Security features           Security features           Intel vPro           Internal           Intel vPro <td>interfaces</td> <td colspan="9">LAN on both two ports. Optional PCIe ethernet are available</td>	interfaces	LAN on both two ports. Optional PCIe ethernet are available								
Security features       switch to 1.2 via UEFI setting. Chassis intrusion switch. Optional access panel lock, Kensington lock, and pad lock         Intel vPro       Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is needed         Intel AMT       Intel Active Management Technology 11         Front panel warning LED. ThinkSta-tion Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagnostic display on flex module         Base warranty       1 or 3-year limited onsite service with 9x5/NBD         HD Audio       Reatlek ALC662 codec         Front ports       4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone ja (3.5mm)         Rear ports       2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-ou mic-in), 2x PS/2         Supports the following optional ports: Front:       • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports vide-out         • 1 x eSATA on flex module       • 1 x USB Type-C on flex module, USB 3.1 Gen 1         Optional ports       • 1 x COM port         • 2x USB Type-C on the port sign of the port of the protect of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of the of th		to 867Mbps								
Intel vPro         Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is needed           Intel AMT         Intel Active Management Technology 11           Diagnostic         Front panel warning LED. ThinkSta-tion Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagnostic display on flex module           Base warranty         1 or 3-year limited onsite service with 9x5/NBD           HD Audio         Realtek ALC662 codec           Front ports         4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone ja (3.5mm)           Rear ports         2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-ou mic-in), 2x PS/2           Supports the following optional ports: Front:         • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out           • 1x USB Type-C on flex module         • 1x USB Type-C on flex module, USB 3.1 Gen 1 Rear:           • 1x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:           • 1x internal USB 3.1 Gen 1 port           Temperature - operating           Temperature - storage (no package)           Intel verture - storage (with package)           Numidity - operating           Internal           • 1x internal USB 3.1 Gen 1 port           Temperature - storage (with package)           Intinternal           specif	Security features	switch to 1.2 via UEFI setting. Chassis	ed Platform Module, TCG 2.0 compliant, s intrusion switch. Optional access panel							
Diagnostic       Front panel warning LED. ThinkSta-tion Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagnostic display on flex module         Base warranty       1 or 3-year limited onsite service with 9x5/NBD         HD Audio       Realtek ALC662 codec         Front ports       4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone ja (3.5mm)         Rear ports       2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-ou mic-in), 2x PS/2         Supports the following optional ports: Front:       • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out         • 1x eSATA on flex module       • 1x USB Type-C on flex module, USB 3.1 Gen 1 Rear:       • 1x COM port         • 2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:       • 1x internal USB 3.1 Gen 1 port         Environmental specification       Temperature - operating       50 °F to 95 °F (10 °C to 35 °C)         Temperature - storage (with package)       14 °F to 140 °F (-40 °C to 60 °C)         Altitude - operating       (Unpressurized): 0-10000ft (0-3048m)         Humidity - storage (with package)       10%~80%, non-condensing         Environmental Certifications       RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 quartified on model 30BA0007US and 30BA0008US	Intel vPro	Intel vPro technology supported. vPro	requires Wireless-AC 8265 if Wi-Fi is							
Diagnostic       transfer with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagnostic display on flex module         Base warranty       1 or 3-year limited onsite service with 9x5/NBD         HD Audio       Realtek ALC662 codec         Front ports       4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone ja (3.5mm)         Rear ports       2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-ou mic-in), 2x PS/2         Supports the following optional ports:       Front:         • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out       • 1x eSATA on flex module         • 1x USB Type-C on flex module       • 1x USB 3.1 Gen 1 Rear:         • 1x COM port       • 2x USB Type-C on flex module, USB 3.1 Gen 1 Rear:         • 1x COM port       • 2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:         • 1x internal USB 3.1 Gen 1 port       Temperature - operating         • 1x internal USB 3.1 Gen 1 port       Temperature - storage (no package) 14 ° F to 140 ° F (-10 ° C to 60 ° C)         Temperature - storage (with package)       -40 ° F to 140 ° F (-40 ° C to 60 ° C)         Representing       10%~80%, non-condensing         Humidity - operating       10%~80%, non-condensing         Environmental pecifications       RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 quartifications	Intel AMT	Intel Active Management Technology	11							
HD Audio       Realtek ALC662 codec         Front ports       4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone ja (3.5mm)         Rear ports       2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-ou mic-in), 2x PS/2         Supports the following optional ports: Front:       2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-ou mic-in), 2x PS/2         Supports the following optional ports: Front:       2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out         0ptional ports       1x eSATA on flex module         • 1x COM port       • 1x USB Type-C on flex module, USB 3.1 Gen 1 Rear:         • 1x COM port       • 2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:         • 1x internal USB 3.1 Gen 1 port       1x internal USB 3.1 Gen 1 port         Environmental specification       Temperature - storage (no package)       14 ° F to 140 ° F (-10 ° C to 60 ° C)         Temperature - storage (with package)       -40 ° F to 95 ° F (10 ° C to 60 ° C)       14 flitude - operating         Humidity - operating       10%~80%, non-condensing       10%~80%, non-condensing         Humidity - storage (with package)       10%~90%, non-condensing       10%~90%, non-condensing         RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 qua fied on model 30BA0007US and 30BA0008US       10%	Diagnostic	transfer with Lenovo PC Diag-nostics								
Front ports       4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone ja (3.5mm)         Rear ports       2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-ou mic-in), 2x PS/2         Supports the following optional ports: Front:       2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out         0 ptional ports       1 x eSATA on flex module         1 x USB Type-C on flex module       1 x USB Type-C on flex module, USB 3.1 Gen 1 Rear:         1 x COM port       2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:         1 x internal USB 3.1 Gen 1 port       1 x internal USB 3.1 Gen 1 port         Environmental specification       Temperature - storage (no package)       14 ° F to 140 ° F (-10 ° C to 60 ° C)         Temperature - storage (with package) -40 ° F to 140 ° F (-40 ° C to 60 ° C)       Temperature - storage (with package) -40 ° F to 140 ° F (-40 ° C to 60 ° C)         Temperature - storage (with package) 10%~80%, non-condensing       Humidity - operating 10%~80%, non-condensing         Humidity - storage (with package) 10%~90%, non-condensing       Humidity - storage (with package) 10%~90%, non-condensing         Environmental Certifications       RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 qua fied on model 30BA0007US and 30BA0008US	Base warranty	1 or 3-year limited onsite service with	9x5/NBD							
Profit ports       (3.5mm)       (3.5mm)         Rear ports       2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-ou mic-in), 2x PS/2         Supports the following optional ports: Front:       • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out         • 1x eSATA on flex module       • 1x USB Type-C on flex module, USB 3.1 Gen 1 Rear:         • 1x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:         • 1x cOM port         • 2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:         • 1x internal USB 3.1 Gen 1 port         Temperature - operating       50 ° F to 95 ° F (10 ° C to 35 ° C)         Temperature - storage (no package)       14 ° F to 140 ° F (-40 ° C to 60 ° C)         Temperature - storage (with package) -40 ° F to 140 ° F (-40 ° C to 60 ° C)         Temperature - storage (with package)       00 ° F to 95 ° K (10 ° C to 35 ° C)         Temperature - storage (with package)       10 ° F (-40 ° C to 60 ° C)         Temperature - storage (with package)       10 ° F (-40 ° C to 60 ° C)         Temperature - storage (with package)       10 ° F (-40 ° C to 60 ° C)         Temperature - storage (with package)       10 ° F (-40 ° C to 60 ° C)         Altitude - operating       (Unpressurized): 0-10000ft (0-3048m)         Humidity - operating       10 ° ~ 90%, non-condensing	HD Audio	Realtek ALC662 codec								
Inear ports       mic-in), 2x PS/2         Supports the following optional ports: Front:       • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out         • 1x eSATA on flex module       • 1x eSATA on flex module, USB 3.1 Gen 1 Rear:         • 1x USB Type-C on flex module, USB 3.1 Gen 1 Rear:       • 1x COM port         • 1x COM port       • 2x USB Type-C ports via PCIe adapter, USB 3.1 gen 2. One 15W, one 5W Internal:         • 1x internal USB 3.1 Gen 1 port         Environmental specification         Environmental Certifications         RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 quaditied on model 30BA0007US and 30BA0008US	Front ports	4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm)								
Front:       • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out         • 1x eSATA on flex module       • 1x eSATA on flex module, USB 3.1 Gen 1 Rear:         • 1x USB Type-C on flex module, USB 3.1 Gen 1 Rear:       • 1x COM port         • 2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:       • 1x internal USB 3.1 Gen 1 port         • 1x internal USB 3.1 Gen 1 port       • 1x internal USB 3.1 Gen 1 port         Environmental specification       Temperature - operating (Unpressurized): 0-10000ft (0-3048m) Humidity - operating 10%~80%, non-condensing Humidity - storage (with package) 10%~90%, non-condensing         Environmental Certifications       RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 qua fied on model 30BA0007US and 30BA0008US	Rear ports	2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2								
Temperature - storage (no package)       14 ° F to 140 ° F (-10 ° C to 60 ° C)         Temperature - storage (with package)       -40 ° F to 140 ° F (-40 ° C to 60 ° C)         Temperature - storage (with package)       -40 ° F to 140 ° F (-40 ° C to 60 ° C)         Altitude - operating       (Unpressurized): 0-10000ft (0-3048m)         Humidity - operating       10%~80%, non-condensing         Humidity - storage (with package)       10%~90%, non-condensing         Environmental Certifications       RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 quaditied on model 30BA0007US and 30BA0008US	Optional ports	Front: • 2x Thunderbolt ports (USB Type-C) supports video-out • 1x eSATA on flex module • 1x USB Type-C on flex module, USE Rear: • 1x COM port • 2x USB Type-C ports via PCIe adap Internal: • 1x internal USB 3.1 Gen 1 port	3 3.1 Gen 1							
Certifications fied on model 30BA0007US and 30BA0008US	Environmental specificationTemperature - storage (no package)14 ° F to 140 ° F (-10 ° C to 60 ° C)Temperature - storage (with package)-40 ° F to 140 ° F (-40 ° C to 60 ° C)Altitude - operating(Unpressurized): 0-10000ft (0-3048m)Humidity - operating10%~80%, non-condensing									
ISV certifications Please visit www.tbinkworkstations.com/isv-certifications/		RoHS-compliant. GREENGUARD. EP fied on model 30BA0007US and 30B/	EAT Silver rating. ENERGY STAR 6.1 quali-							
to v oor anoualono i ricaco viola www.annitworkotaalono.oom//ov oor anoualono/	ISV certifications	Please visit www.thinkworkstations.co	m/isv-certifications/							

Note: 1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed. 2. To support the maximum expandability, 900W power supply may be needed. 3. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer



#### ThinkStation P920 Platform Specifications

Product	Specifications	Reference	(PSREE
1 100000	opecilications	1101010100	(I OLILI )

Form factor	55L Tower								Graphics	Memory	Power Coni	nector SLI	
Dimensions	200mm/7.87" W x 620	mm/24.4	l" D x 44	6mm/17.56" H	H (with feet	t)						NVlii	
Neight	Maximum configuratio	n: 71.3 lb	o (32.3kg	)					NVS 810	4GB DDR3		ni DP	2
Processor Sockets	2x FCLGA3647								Quadro P400	2GB GDDR5		iniDP	5
	Up to two 205 W Gen	1 or Gen	1 2 Intel X	eon Scalable	e family pro	cessors.	Bronze, Sil-	1	Quadro P600	2GB GDDR5		iniDP	4
Processor Support	ver, Gold, or Platinum				, ,	,	,		Quadro P620 Quadro P1000	2GB GDDR5 4GB GDDR5		iniDP iniDP	4
	Processor	# of	# of	Base	Cacha	TDP	Memory		Quadro P2000	5GB GDDR5		DP	4
		Cores	Threads		Cache		Types	Discrete Graphics	Quadro P4000	8GB GDDR5		DP	4
	Xeon Platinum 8280	28	56	2.7GHz	39MB	205W	DDR4-2933	Offering	Quadro P5000		K 180W DVI-D D		
	Xeon Gold 6254	18	36	3.1GHz	25MB	200W	DDR4-2933		Quadro P6000	24GB GDDR5)	( 250W DVI-D D		I 3
	Xeon Gold 6244	8	16	3.6GHz	25MB		DDR4-2933		Quadro RTX 4000				3
	Xeon Gold 6242	16 22	32 44	2.8GHz	22MB 30MB		DDR4-2933 DDR4-2933		Quadro RTX 5000	) 16GB GDDR6	265W 4xDP, 1x	VirtualLink NVLi	
	Xeon Gold 6238T Xeon Gold 6234	8	16	1.9GHz 3.3GHz	25MB		DDR4-2933 DDR4-2933		Quadro RTX 6000	24GB GDDR6	295W 4xDP, 1x	VirtualLink NVLi	
	Xeon Gold 6230	20	40	2.1GHz	28MB		DDR4-2933	-	Quadro RTX 8000		295W 4xDP, 1x		
	Xeon Gold 6226	12	24	2.7GHz	19MB		DDR4-2933	-	Quadro GP100		235W 1xDVI-D		
	Xeon Gold 5222	4	8	3.8GHz	16.5MB		DDR4-2933	11	Quadro GV100	32GB HBM2		DP NVLi	
	Xeon Gold 5218	16	32	2.3GHz	22MB		DDR4-2666	1	Storage Controller		Interface	RAID	Cache
	Xeon Gold 5217	8	16	3.0GHz	11MB	115W	DDR4-2666	1	Onboard Intel RS		SATA 6Gb/s	0/1/10/5	
	Xeon Gold 5215	10	20	2.5GHz	13.75MB	85W	DDR4-2666	Storage	9440-8i PCle	Opt SAS 12	Gb/s, SATA 6Gb/s		
	Xeon Silver 4216	16	32	2.1GHz	22MB	100W	DDR4-2400	Controller	9460-16i PCle	Opt SAS 12	Gb/s, SATA 6Gb/s		SuperCap
	Xeon Silver 4215	8	16	2.5GHz	11MB	85W	DDR4-2400	]	NVMe Basic	Opt I	PCIe NVMe	0/1/10	ouperca
	Xeon Silver 4214	12	24	2.2GHz	17MB	85W	DDR4-2400		NVMe Premium		PCIe NVMe	0/1/10/5	
	Xeon Silver 4210	10	20	2.2GHz	14MB	85W	DDR4-2400		NVMe for Intel SS		PCIe NVMe	0/1/10/5	
Processor Offering	Xeon Silver 4209T	8	16	2.2GHz	11MB	70W	DDR4-2400			· · · · · · · · · · · · · · · · · · ·	0//	Maria	NI
-	Xeon Silver 4208 Xeon Bronze 3204	8	16 6	2.1GHz 1.9GHz	11MB 8.25MB	85W 85W	DDR4-2400 DDR4-2133		Disk Type Inte	terface RPM	Offering	Max C (9460 u	and)
	Xeon Platinum 8160T         24         48         2.1GHz         33MB         150W         DDR4-2666           Xeon Gold 6154         18         36         3.0GHz         24.75MB         200W         DDR4-2666           Xeon Gold 6154         18         36         3.0GHz         24.75MB         200W         DDR4-2666           Xeon Gold 6142         16         32         2.6GHz         22MB         150W         DDR4-2666		3.5" SATA S	SATA ZOK 1T		6 (Also support							
							Gb/s 7.2K 1T	B/2TB/4TB/6TB	4x 2.5" SATA S				
	Xeon Gold 6136	12	24		24.75MB		DDR4-2666			Gb/s 7.2K 500	)GB/500GB FIPS	10	
	Xeon Gold 6134	8	16	3.2GHz	24.75MB		DDR4-2666			242	300GB/600GB	8	
	Xeon Gold 6128	6	12	3.4GHz	19.25MB	115W	DDR4-2666	Storage Support	12	ZGD/S	300GB/000GB	0	
	Xeon Gold 5122	4	8	3.6GHz	16.5MB	105W	DDR4-2666		2.5" SATA S	SATA 256G	B/512GB/1TB/2T	3 10	
	Xeon Gold 5120T	14	28	2.2GHz	19.25MB		DDR4-2400		SSD 6	GD/S			
	Xeon Gold 5118	12	24	2.3GHz	16.5MB		DDR4-2400		2.5" PCIe SSD	PCIe IVMe	1.5TB	4	
	Xeon Gold 5115	10	20	2.4GHz	13.75MB	85W	DDR4-2400			DCIa			
	Xeon Silver 4116 Xeon Silver 4114T	12 10	24	2.1GHz 2.2GHz	16.5MB 13.75MB	<u>85W</u> 85W	DDR4-2400 DDR4-2400		M.2 PCle SSD	IVMe 256G	B/512GB/1TB/2T	3 9	
	Xeon Silver 41141 Xeon Silver 4114	10	20	2.2GHz	13.75MB	85W	DDR4-2400			PCle		-	
	Xeon Silver 4112	4	8	2.6GHz	8.25MB	85W	DDR4-2400			IVMe	480GB	2	
	Xeon Silver 4110	8	16	2.1GHz	11MB	85W	DDR4-2400		Bay		Maximum Drives (	)tv	
	Xeon Silver 4109T	8	16	2.0GHz	11MB	70W	DDR4-2400		Type	· · · · · · · · · · · · · · · · · · ·		ary	
	Xeon Silver 4108	8	16	1.8GHz	11MB	85W	DDR4-2400	]	M.2 slot 9x M.2 S	SD (2 onboard, 7	via PCIe to M.2 a	dapter)	
Chipset	Intel C621 Chipset							7	2x 3.5" o	or 2.5" disks. Supp	orts the following:		
Iemory Sockets	16 DIMM sockets with	12 chan	nels. 8 D	IMM sockets	with 6 cha	nnels pe	r processor	1	<ul> <li>3x half</li> </ul>	f-height optical dri	ves		
Aemory Types	DDR4-2666 RDIMM, [	DR4-26	66 LRDI	MM. or DDR	4-2933 RD	IMM .		-1	• 2x 5.25	5" 9.0mm optical of	drives		
	1TB (DDR4-2666 LRD			,			666 RDIMM)	1	• 1x 5.25	5" 9.0mm optical o "/2.5" SATA SSD/H	drive + 1x 3.5"/2.5	SATA SSD/HDD	)
lemory Protection	FCC			/	,			-1	Flex Bay 1x 3.5	"/2.5" SATA SSD/H module for the fo	HDD with Front Ac	cess Storage En	closure
xpansion slots	Slot 1 (CPU1) PCIe 3 Slot 2 (CPU1) PCIe 3 Slot 3 (CPU1) PCIe 3 Slot 4 (CPU1) PCIe 3 Slot 5 (PCH) PCIe 3 Slot 6 (CPU2) PCIe 3 Slot 6 (CPU2) PCIe 3 Slot 8 (CPU2) PCIe 3	3.0 x16, f 3.0 x4, fu 3.0 x16, f 3.0 x4, fu 3.0 x4, fu 3.0 x16, f 3.0 x16, f 3.0 x16, f	full heigh III height, full height, III height, full height full heigh full heigh full heigh	t, full length, full length, 2 t, full length, full length, 2 half length, 2 t, half length, t, full length, t, full length,	75W, doub 5W, open e 5W, open e 25W, open 75W 75W, doub 75W	le-width ended le-width ended ended le-width		Storage Bays       Tray 1: 9.0mm optical         Tray 2: 15-in-1 USB 3.1 Gen 1 reader or 2x Thunderbolt         Port 1 and 2: Front USB 3.1 Gen 1 Type-C or eSATA         • 3x M.2 SSD with 3x Front Removable Drive Enclosures         8 disk drives with 4 bays (2 bays standard, 2 bays optional)         one of the following configurations:         Disk bay • 4x 3.5" SATA HDD					
	Slot 8 (CPU2) PCIe 3.0 x16, full heiğht, full lenğth, 75W								Disk bay • 4x 3.5" • 4x 3.5"	SATA HDD SATA HDD + 4x 2 SATA SSD/HDD (	2.5" SATA SSD/HE		

#### ThinkStation P920 Platform Specifications

	•									
Max Storage	Supports up to 9x M.2 SSD + 6x 3.5" HDD/10x 2.5" SSD/10x 2.5" HDD + 2x PCIe AIC SSD. All HDD: 36TB using 6x 3.5" HDD									
	All SSD: 38.96TB using 10x 2.5" SATA SSD, 9x M.2 SSD, and 2x PCIe AIC SSD									
Power supply	One fixed 1400 watts, autosensing, 92% PSU, 80 PLUS Platinum qualified. Countries with input voltage under 115V, output power limited to 1125 watts									
Media reader	USB 2.0 9-in-1 card reader on most models. Optional UHS-II 15-in-1 USB 3.1 Gen 1 reader on flex module									
Network interfaces	Integrated two-port gigabit ethernet (Intel i219LM and i210AT), supports Wake-on-LAN on both two ports. Optional PCIe ethernet are available									
WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps									
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant, switch to 1.2 via UEFI setting. Chassis intrusion switch. Optional access panel lock, Kensington lock, and pad lock									
Intel vPro	Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is needed									
Intel AMT	Intel Active Management Technology 11									
Diagnostic	Front 4-digit diagnostic display. ThinkStation Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diagnostics for Android and iOS									
Base warranty	1 or 3-year limited onsite service with 9x5/NBD									
HD Audio	Realtek ALC662 codec									
Front ports	4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm)									
Rear ports	2x USB 2.0, 4x USB 3.1 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2									
Optional ports	Supports the following optional ports: Front: • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out • 1x eSATA on flex module • 1x USB Type-C on flex module, USB 3.1 Gen 1									
	Rear: • 1x COM port • 2x USB Type-C ports via PCIe adapter, USB 3.1 gen 2. One 15W, one 5W Internal: • 1x internal USB 3.1 Gen 1 port									
Environmental specificationTemperature - operating50 ° F to 95 ° F (10 ° C to 35 ° C)Temperature - storage (no package)14 ° F to 140 ° F (-10 ° C to 60 ° C)Temperature - storage (with package)-40 ° F to 140 ° F (-40 ° C to 60 ° C)Altitude - operating(Unpressurized): 0-10000ft (0-3048tHumidity - operating10%~80%, non-condensingHumidity - storage (with package)10%~90%, non-condensing										
Environmental Certifications	RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 qualified on model 30BC0008US and 30BC0009US									
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/									
Note:										

Note: 1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed. 2. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer (houyf@lenovo.com)









## ThinkStation P920 Rack Platform Specifications

Form factor	2U rack						Diagnostic	Light Path Diagnostics		
Dimensions	Height: 87 mm (3.4 in)	). Width: 445 m	nm (17.5 in). De	epth: 720 m	m (28.3 i	in)	Base warranty	3-year limited onsite service with 9x5/NBD		
Weight	Maximum configuratio	/	· /		(	/		5WS7A72784Foundation Service - 3Yr Next Business Day Response		
Processor Sockets	2x FCLGA3647							5WS7A72785 Foundation Service - 4Yr Next Business Day Response		
Processor Support	Up to two Gen 2 Intel	Xeon Scalable	e family process	sors, Bronz	e, Silver,	or Gold	Warranty	5WS7A72786 Foundation Service - 5Yr Next Business Day Response		
	Processor	# of # o Cores Threa	f Base Ids Frequency	Cache	TDP	Memory Types	upgrades	5PS7A72787 Essential Service - 3Yr 24x7 4Hr Response + YourDrive YourData 5PS7A72788 Essential Service - 4Yr 24x7 4Hr Response + YourDrive YourData 5PS7A72789 Essential Service - 5Yr 24x7 4Hr Response + YourDrive YourData		
	Xeon Gold 6252	24 48		35.75MB	150W	DDR4-293	B HD Audio	None		
	Xeon Gold 6234 Xeon Gold 6230	8 16 20 40		25MB 28MB		DDR4-293		One XClarity Controller USB connector, one USB 3.0, one optional VGA		
	Xeon Gold 5230 Xeon Gold 5218	20 40 16 32		281VIB 22MB		DDR4-293		One VGA, two USB 3.0, one XClarity Controller network connector		
Processor Offering	Xeon Gold 5215	10 20		13.75MB	85W	DDR4-266		Microsoft Windows Server 2016 and 2019. Red Hat Enterprise Linux (RHEL) 7		
	Xeon Silver 4215 Xeon Silver 4214	8 16 12 24	2.5GHz	11MB 17MB	85W 85W	DDR4-240	Operating system			
	Xeon Silver 4210	10 20		14MB	85W	DDR4-240		Supports ASHRAE A4 with limitations.		
	Xeon Silver 4208	8 16		11MB	85W	DDR4-240				
	Xeon Bronze 3204	6 6	1.9GHz	8.25MB	85W	DDR4-213		A4: 5°C to 45°C (41°F to 113°F) Temperature - operating A3: 5°C to 40°C (41°F to 104°F)		
Chipset	Intel C624 Platform C	ontroller Hub					_	Temperature - operating         A3: 5°C to 40°C (41°F to 104°F)           A2: 10°C to 35°C (50°F to 95°F)         A2: 10°C to 35°C (50°F to 95°F)		
Memory Sockets	24 DIMM sockets with	12 channels.	12 DIMM socke	ets with 6 cl	hannels i	per processo	r	Temperature - non operating (no package) -10°C to 60°C (14°F to 140°F)		
Memory Types	DDR4-2933 RDIMM, 8	8GB/16GB/32	GB available					Temperature - non operating (with package) -40°C to 70°C (-40°F to 158°F)		
Memory Capacity	768GB with 24x 32GE	3 DDR4-2933	RDIMM					Altitude - operating (Unpressurized): 0-10000ft (0-3048m)		
Memory protection							Environmental	Humidity - operating, non-condensing A4: 8%~90%. A3:8%~85%. A2:8%~80%		
	Slot 1 (riser card 1)   Slot 2		r double-wide		1		specification	Humidity - storage (with package), non-		
								condensing 0%~90%		
Expansion slots	Slot 3 (riser card 1)         PCIe 3.0 x16 (x8 lanes). Full height, half length           Slot 4 (onboard)         PCIe 3.0 x8, low profile							Models should meet the following requirements to support A3 and A4:		
	Slot 5 (riser card 2) PCIe 3.0 x16, full height, half length, requires 2nd CPU							NVMe drives not installed		
			ull height, half l					PCIe flash adapter not installed		
			edicated to an in	<u>nternal stora</u>	age contr	roller)		Graphic processing unit (GPU) not installed		
Integrated Graphics	Integrated Matrox G20	00 in XClarity (	Controller					Must have redundant PSU     Processors with TDP more than or equal to 150-watt not installed		
	Graphics	Memory	Power	Connect		SLI / Ma		Energy Star Server 2.1 certified. More environmental information please see:		
	Ouedre DC00	2GB GDDF	5 40W	AuminiD		NVlink Qt 3	Contifications	www.lenovo.com/social_responsibility/us/en/environment/		
Discrete Graphics	Quadro P620 Quadro RTX 4000	8GB GDDF		4xminiD DP, 1xVirtu		3	ISV certifications	Certifications from NVIDIA Quadro ISV Certified		
Offering	Quadro RTX 5000	16GB GDDF		DP, 1xVirtu		2		4XB7A62801 Intel S4510 3.5" 240G SSD OPT		
	T4	16GB GDDF		-		5		4XB7A62802 Intel S4510 3.5" 480G SSD OPT		
		16GB/32GB H		-		2		4XB7A62803 Intel S4510 3.5" 960G SSD OPT		
Charles Construeller	Storage Controller	Type Inte	erface	RAID	1	Cache		4XB7A62804 Intel S4510 3.5" 1.92T SSD OPT		
Storage Controller		Optional 12Gb		0/1/10/5/50	)	-		4XB7A62805 Intel S4510 3.5" 3.84T SSD OPT		
		erface RPM	•	Offerina	÷	Max Qt	/	4XB7A62806 4TB7.2K 6GSATA 3.5G4HS HDD OPT		
Storago Support	3.5" SATA HDD SATA	A 6Gb/s 7.2K	1TB/4TB/6TB/	8TB/10TB/	12TB/14	TB 8	Ontiono	4XB7A62807 6TB7.2K 6GSATA512e 3.5G4HS OPT		
Storage Support	3.5" SATA SSD SATA	A 6Gb/s 7.2K	240GB/480GB/	960GB/1.9	2TB/3.84	ITB 8	- Options	4XB7A62808 8TB7.2K 6GSATA512e 3.5G4HS OPT		
	M.2 SATA SSD SATA	A 6Gb/s		480GB		2		4XB7A62809         10T7.2K 6GSATA512e 3.5G4HS OPT           4XB7A62810         3.5" 12TB 7.2K SATA 512e HDD		
	Bay Type		Maximum D	rives Qty				4XB7A62810 5.5 121B7.2K SATA 5126 HDD 4XB7A62811 14T 3.5" 7.2 SATA HDD OPT		
Storage Bays	M.2 2x M.2 S	SATA SSD nor	-hot swap	· · ·				4ZC7A62797 8GB 1RX8 PC4-2933R 8Gb 1.2V		
			-swap disk bay					4ZC7A62798 16GB 1RX4 PC4-2933R 8Gb 1.2V		
Power supply	Up to two redundant h power supplies. 100V		W or 1600W 80	) PLUS Pla	tinum qu	alified AC		4ZC7A62799 16GB 2RX8 PC4-2933R 8Gb 1.2V 4ZC7A62800 32GB 2RX4 PC4-2933R 8Gb 1.2V		
Media reader	None									
Network interfaces	One dedicated manager RJ-45 10GbE ports. W						r			
WLAN + Bluetooth	None					0	-			
Security features	Power-on and admin pupgrade to 2.0 via UE	FI setting. Opt	ional lockable s	security bez	zel	•				
Systems management	XClarity Controller Sta ity Planner. Provisioni	andard. Energy	/ Manager. XCI	arity Admin	istrator. L	_enovo Capa	c-			
<b>v</b> • •		0 .0	-							









# ThinkPad P1 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Generation Intel [®] Core [™] i5 / i7 Processor or Intel Xeon [®] E Processor	Smart card reader Optional: Smart card reader
	Processor         # of         # of         Base         Max Turbo         Cache         Memory         Processor           Number         Cores         Threads         Frequency         Frequency         Cache         Types         Graphics	ExpressCard None Media reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Ports Two USB 3.1 Gen 1 (one Always On),
	i5-8400H         4         8         2.5 GHz         4.2 GHz         8MB         Intel UHD Graphics           i7-8750H         2.2 GHz         4.1 GHz         9MB         DDR4-2666         630           i7-8850H         6         12         2.6 GHz         4.3 GHz         9MB         DDR4-2666	two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole
	E-2176M 2.7 GHz 4.4 GHz 12MB Intel UHD Graphics P630	* Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	Intel UHD Graphics 630 or P630 in processor and NVIDIA® Quadro® P1000 or P2000, 4GB GDDR5 memory; supports external digital monitor via HDMI or Thunderbolt™;	(optional) USB-C to DP: Lenovo USB-C to DisplayPort Adapter Bundled Accy Optional: ThinkPad Ethernet Extension Cable
	Up to 4 displays with 3 external monitor via HDWi of Thunderboit ; Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (HDMI)	Camera <i>(optional)</i> One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera, fixed focus
Chipset Memory	Mobile Intel CM246 Chipset 64GB max / 2666MHz DDR4, ECC or non-ECC (ECC function supported only on Xeon processor), dual-channel capable, two DDR4 SO-DIMM sockets	Audio support HD Audio, Realtek [®] ALC3286 code / stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos [®] headphone
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio,	Keyboard         6-row, spill-resistant, multimedia Fn keys, LED backlight           UltraNav™         TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
Multi-touch (opt)	72% gamut, 170° viewing angle Some: 15.6" (396mm) UHD (3840x2160), anti-reflection, LED backlight, WVA, 400 nits, 16:9 aspect ratio, 1200:1 contrast ratio, 100% gamut, 170° viewing angle, multi-touch Consolitive two multi touch coursette 10 finger geneture (4K only)	Security Power-on password, hard disk password, supervisor password, security keyhole Security chip Discrete TPM 2.0, TCG Certified vPro (optional) Intel vPro Technology Fingerprint reader Touch style match on chip fingerprint reader on the keyboard bezel
Pen <i>(optional)</i>	Capacitive-type multi-touch, supports 10-finger gesture (4K only) Lenovo Pen Pro	Color calibration None
Storage RAID <i>(optional)</i> Optical	Up to two M.2 SSD, supports single sided M.2 2280 drives only M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s RAID 0/1 support None	Battery         Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)           Max battery life         Discrete mode: 7.36 hr; Hybrid mode: 13.87 hr           (MobileMark 2014)         * Battery life varies significantly with hardware configurations, settings, usage, & other factors           AC adapter         135W slim tip AC adapter
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> )) via bundled or optional ThinkPad Ethernet Extension Cable	Operating system One of the following, configurable by model: • Windows® 10 Home 64
WLAN Bluetooth™	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	<ul> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>
WWAN SIM card	None None	Limited warranty One of the following, configurable by model: • 1-year depot repair service
Dimensions	<i>WxDxH (non-touch):</i> 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm <i>WxDxH (multi-touch):</i> 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm	<ul> <li>1-year depot with 2-year system board repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
Weight	Non-touch model: starting at 3.76 lb / 1.7 kg; Multi-touch model: starting at 4.06 lb / 1.8 kg	Mil-Spec test MIL-STD-810G military testing
Case color Case material	Black Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy	Environment EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Note: The specific	ations above may not be available in all regions.	Lenov

Note: The specifications above may not be available in all regions.













# ThinkPad P1 (2nd Gen) Platform Specifications

Product Specifications Reference (PSREF)

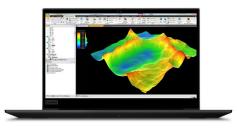
Processor	9th Ge	neration	Intel [®] Co	re™ i5 / i7	/ i9 Proce	ssor or I	ntel Xe	eon® E P	rocesso	r	Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Proces		# of	Base	Max Tu cv Freque			emory	Proce		Weight	<i>WxDxH</i> ( <i>multi-touch</i> ): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm <i>Non-touch model:</i> starting at 3.75 lb / 1.7 kg;
	Numbe i5-9400		Threads	2.5 GH			_	/pes	Grapl	nics		Multi-touch model: starting at 4.0 lb / 1.81 kg
	i7-9750		12	2.6 GH			_	In	itel UHD	Graphics	Case color Case material	Black paint (FHD model) or black weave (UHD model) <i>Display cover:</i> CFRP/GFRP hybrid;
	i7-9850		12	2.6 GH				4-2666	63		Case material	Bottom: Aluminum alloy
	i9-9880	H 8	16	2.3 GH	z 4.8 G	Hz 16M	В	4-2000			Smart card reade	er Optional: Smart card reader
	E-2276	M 6	12	2.8 GH	z 4.7 G	Hz 12M	в	In	itel UHD P63		Media reader Ports	SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3
Graphics	Intel UI NVIDIA suppor Up to 4	HD Graph ® Quadro ts extern displays	hics 630 p [®] T1000 al digital s with 3 e	or P630 i or T2000 monitor \ xternal m	sor only c n process , 4GB GI ia HDMI ( onitors pl derbolt); 4	or and DR5 me or Thund us syster	erboĺt" n LCD	screen.			Monitor cable (optional)	(with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
Chipset		Intel CM			-							USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Memory	64GB max / 2666MHz DDR4, ECC or non-ECC (ECC function supported only o Xeon processor), dual-channel capable, two DDR4 SO-DIMM sockets										Bundled Accy	Optional: ThinkPad Ethernet Extension Cable
Display	Xeon P	10063301	), uuai-ci				r			1.0	a <i>'' '</i>	<ul> <li>I) One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
Display	Size R	esolution		Type S	Irface Bi	ightness	Aspect Ratio	Contrast Ratio	Gamut	Viewing Angle		• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" F	HD (1920×	(1080)	WVA An	i-glare 3	00 nits	16:9	700:1	72% NTSC	170°	Audio support	HD Audio, Synaptic [®] CX11880 codec /
			,		i-giare (	00 1113	10.3	700.1	-	170	-	stereo speakers, 2W x 2, Dolby [®] Audio™ Premium / optional dual array far-field microphone, headphone / microphone combo jack,
		HD (1920x olby Visior		WVA An	i-glare 5	00 nits	16:9	1200:1	72% NTSC	170°		Dolby Atmos® sound system
	15.6" <mark>U</mark>	HD (3840) olby Visior	(2160) 1 HDR	WVA An	i-glare 5	00 nits	16:9	1200:1	100% Adobe	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	15.6" D	HD (3840) olby Visior ulti-touch	k2160) 1 HDR,	OLED ref	Anti- HE	R 400nit, R 500nit (peak)	16:9	100000:1	100% DCI-P3	170°	Security Security chip System Mgt <i>(opt)</i>	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt)	Capaci AR (an	tive-type ti-reflection	multi-tou on) / AS	ch, supp	orts 10-fir dge) coat	ger gest	ure (U	HD OLEI	D only),	1	Color calibration	r Touch style match on chip fingerprint reader on the keyboard bezel <i>Optional:</i> X-Rite Pantone factory color calibration (UHD model only) None
Pen (optional)	Lenovo	Pen Pro	(special	bid only)	• /	•					Battery	Integrated Li- Polymer 80Wh battery, supports Rapid Charge (charge up to 80% ir
Storage	Up to tw	o M.2 SSI	D, support	s single si	led M.2 22	80 drives	only				Max battery life	1hr)
RAID (optional)		80 SSD / /1 suppo		/ Me 3.0 3	4						AC adapter	MobileMark® 2014: 13.8 hr
Optical	None	, i cuppo									AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 135W slim tip AC adapter
Ethernet	Native via bur	Intel Ethe	ernet Cor ptional T	nnection hinkPad	219-V ( <i>N</i> Ethernet I	o <i>n-vPro</i> ) Extensior	or I21 1 Cable	9-LM ( <i>vF</i> ə	Pro))		Operating system	One of the following, configurable by model: ● Windows® 10 Home 64
WLAN (optional)					2.11ax + E						1	Windows 10 Pro 64
Bluetooth™ (opť)	Blueto	oth 5.1 wi	ireless, ir	itegrated	in Wi-Fi +	Bluetoo	th com	ibo adapt	ter			Windows 10 Pro 64 for Workstations
WWAN	None										Limited warranty	One of the following, configurable by model: • 1-year depot repair service
SIM card	None											<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
												<ul> <li>3-year/1-yr battery depot repair service</li> </ul>
												3-year/1-yr battery limited onsite service
											Mil-Spec test	MIL-STD-810G military testing
											Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; RoHS-compliant
Note: The specifica	ations at	ove may	not he av	ailable in a	Il regions							Len

Note: The specifications above may not be available in all regions.













## ThinkPad P1 Gen 3 Platform Specifications

	Supports one 10	th Xeor	W. Core	i9. i7. or	i5 process	or as fo	ollowina:				Woven Carbon Fiber Finish (standard on OLED models, optional on UHD WVA
			,		•			Dre	ocessor	Case color	models) or black
	Processor Number	. # of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Gr	aphics	Case material	Display cover: Carbon Fiber (Black or woven pattern) + PC + PPS Hybrid Bottom: Aluminum + PC / ABS
	Xeon W-10855M	1 6	12	2.8GHz	5.1GHz	12MB	DDR4-29		el UHD aphics	Media reader	SD card reader 2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP),
Processor	Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-29		el UHD aphics	Standard Ports	2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro- phone combo jack, 1x SD card reader, 1x security keyhole
	0 17 4007511		10		= 1011	10140		Into	JUHD	Optional Ports	One optional Nano-SIM card slot on right
	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-29		aphics		Up to 4 displays with 3 external monitors plus system LCD screen. External
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-29		el UHD aphics	Monitor support	monitors supported via 2x Thunderbolt and 1x HDMI. HDMI supports up to 4K@60Hz.
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-29		el UHD	Monitor cable	Two Thunderbolt support up to 5K@60Hz each Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Object		<u> </u>						Gra	aphics	Bundled Accy	None
Chipset	Intel WM490 Chi	pset			4.0000 (	500					Supports one optional camera as following:
Memory Type	SO-DIMM. DDR4 Both ECC and n	4-3200 1	or non-E	JC, DDR	4-2933 for	ECC.				Camera	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
Memory Type	8GB/16GB/32GE	3 availal	he for ho	h FCC a	nd non-EC	933. C					<ul> <li>Hybrid IR camera with ThinkShutter camera privacy, fixed focus</li> </ul>
Memory Sockets	2 DIMM sockets	Javana				0				Audio chip	Realtek ALC3286 codec
Memory Protection		with EC		and You	nnrocoss	or				Speaker	Stereo speakers, Dolby ATMOS Speaker System
Max Memory	64GB		C DIMINS	anu vec	in processo	51				Microphone	Optional dual far-field microphone
	Intel UHD Graph discrete graphics		ocessor,	also sup	oorts one c	of the fo	llowing op	otional		Keyboard	6-row, spill-resistant, LED backlight, multimedia Fn keys with Unified Communi- cations controls.
Graphics	NVIDIA Quadro	T1000								UltraNav	3-button TrackPoint pointing device and 2-button glass surface multi-touch touchpad
	<ul> <li>NVIDIA Quadro</li> </ul>	<u>5 T2000</u>	with Max	-Q Desig	<u>n, 4GB GE</u>					Password	Power-on password, hard disk password, supervisor password
	Size Resolution	Т	ype Surf	ace Touc	h Brightness	Aspec	t Contrast	Color	Viewing	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
			ypo our		Blighthood	Ratio	Ratio	Gamut	Angle	System mgmt	Optional Intel vPro Technology supported on vPro enable models
					000 site	16:0	700:1	70%		Security locks	Security keyhole for optional Kensington lock
	15.6" FHD (1920x	1080)   V	VVA Anti-g	lare -	300 nits	16:9		72% NTSC	170°	Smart card reader	rNone
										Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest
Display	15.6" FHD (1920x Dolby Vision	1080) HDR V	VVA Anti-g	lare -	500 nits	16:9	800:1	72% NTSC	170°	Battery	Integrated Li-Polymer 80Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter
	15.6" UHD (3840x Dolby Vision	2160) HDR V	VVA Anti-g	lare -	600 nits	16:9	1400:1	100% Adobe	178°	Max battery life	MobileMark 2014: 15.9 hr. MobileMark 2018: 12 hr
	UHD (3840x		An		400 nits.			100%		íí	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
	15.6" Dolby Vision			tion multi	- 540 pitc	16:9	100000:1	DCI-	170°		One of the following:
	500 True Bla	ck	Smu		(peak)			P3		Power Adapter	135W slim AC adapter
Color Calibration	Factory Color Ca	libratio	1	• 1						4	<ul> <li>170W slim AC adapter</li> <li>Supports one optional preloaded operating system as following:</li> </ul>
Touchscreen	Touch enable on					rto 10	finger geo	turo		-	• Windows 10 Home 64
	Optional Lenovo				ieis, suppo	nis iu-	inger ges	luie		-	• Windows 10 Pro 64
Pen		-	-	///						Operating system	<ul> <li>Windows 10 Pro 64 for Workstations</li> </ul>
Storage	Up to two M.2 22		), PCIe N	vivie, 250	GB / 5120	аВ / 1 П	B/21B ea	acn			Windows 10 Government Edition 64
RAID	RAID 0 / 1 suppo	ort									Ubuntu Linux LTS (available later)
Optical	None										Fedora Linux (available later)
Ethernet	Lenovo USB-C to	o Etheri	net Adapt	er							Optional warranty plans as following: • Non-warranty (special bids only)
NFC	None										• 1-year depot repair service
WLAN + Bluetooth	Intel Wi-Fi 6 AX2 Bluetooth 5.1 rec								ove)	- Base Warranty	<ul> <li>3-year depot repair service</li> <li>1-year + 2-year depot repair service</li> </ul>
	One of the follow	ing, cor	nfigurable	by mode	l:						• 1-year limited onsite service
WWAN	No WWAN care	and no	on upgrad	able					0		• 3-year limited onsite service
SIM oord	<ul> <li>Integrated Mob Optional Nano-S</li> </ul>			i LIE-A,	-IDOCOM L	860-GL	$_{\rm , MIMO 2}$	x2, M.2	2 card	-	<ul> <li>1-year + 2-year limited onsite service</li> </ul>
SIM card	Width: 361.8 mr			h 2/5 7	mm (0 67 i	n)					1-year depot with 2-year system board repair service
Dimensions	Thickness for no									Mil-Spec test	MIL-STD-810G military testing
20.0000										Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
	Thickness for tou	ich mor	leis: 18.7	mm (0.74	1 in)					ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/





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## ThinkPad P14s Gen 1 Platform Specifications

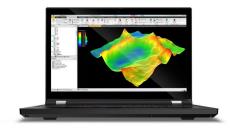
	Supp	orts o	ne 10th	n Core i7	and i5 -U	suffix	processor	as follow	ing:			Weight	Starting at 3.24 lb (1.47kg)
	Proce	agar	# of	# of	Base	Max Tu	urbo	Momory		Process	or	Case color	Black
	Numb		# of Cores 1	-	Frequency	Freque	Cache	Memory Types		Graphic	-		Display cover: PPS / 50% GF;
					requericy	Tieque	псу	Types				Case material	Bottom: PA / 50% GF
Processor	i7-106	610U	4	8	1.8GHz	4.9GI		DDR4-266				Media reader	MicroSD card reader
	i7-105	510U	4	8	1.8GHz	4.9Gł	Hz 8MB	DDR4-266	66 Inte	UHD G	raphics		On left: 1x USB-C (USB 3.2 Gen 1, PD, DP), 1x Thunderbolt (USB-C form,
	i5-103	310U	4	8	1.7GHz	4.4G	Hz 6MB	DDR4-266	6 Inte	UHD G	raphics		Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 1x side docking connector,
			4	8		4.2GI	-	DDR4-266	_			Standard Ports	1x USB-A 3.2 Gen 1, 1x HDMI 1.4b, 1x headphone / microphone combo jack,
	i5-102		· ·	-	1.6GHz	4.261				опр а	raphics		1x microSD card reader On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On)
Chipset					) platform								One optional smart card reader on right, one optional Nano-SIM card slot on
· · ·					DR4-2666		500 (	<b>D</b> 1111				Optional Ports	rear
Memory Type					200 SO-DI on-ECC for				ocket,				Up to 3 displays with 2 external monitors plus system LCD screen. External
Mamany Caalvata					ered DIMN							Monitor support	monitors supported via USB-C, Thunderbolt, and HDMI. 4096x2304@60Hz on
Memory Sockets Memory Protection			скет ріс	is i solu	erea Diiviiv	n, uua	I-channel	capable					USB-C and Thunderbolt, 4096x2160 @24Hz on HDMI
									4			Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters, up to two
Max Memory					DIMM plus							Bundled Accy	None
Graphics	Inter	UHD	Graphic	s in proc	cessor and		IA Quadro			-	,		Supports one optional camera as following:
	Size	Resolu	ution	Туре	e Surface	Touch	Brightness	Aspect C	ontrast			Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			0	Ratio	Ratio	Gamut	Angle	Audio chip	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus Realtek ALC3287 codec
												Speaker	Stereo speakers, 2W x 2, Dolby Audio Speaker System
	14.0"	FHD (	1920x10	180) WV/	A Anti-glare	-	250 nits	16:9	700:1	45%	170°		Optional dual array near-field microphone
												Microphone	6 row spill resistant, multimedia En keys with Unified Communications controls
	14.0"	FHD (	1920x10	80) WV/	A Anti-glare	multi- touch	300 nits	16:9	700:1	45%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls. LED backlight on most models, non LED backlight is for special bids
Display			1920x10	90)		touch						UltraNav	TrackPoint pointing device and Mylar surface multi-touch touchpad
	14.0"	Low P	ower	WV/	A Anti-glare	-	400 nits	16:9	800:1	72%	170°	Password	Power-on password, hard disk password, supervisor password
			1920x10			mou ulti						Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
			Pad Priva	acy WV/	A Anti-glare	multi- touch	500 nits	16:9 1	000:1	72%	170°	System mgmt	Optional Intel vPro Technology supported on vPro enable models
		Guard										Security locks	Security keyhole for optional Kensington lock
	14.0"	UHD (	3840x21 Vision,	60) WV/	A Glossy	_	500 nits	16:9 1	500:1	100%	170°	Smart card reader	
		HDR 4		***/	Clossy	_	500 1113	10.3	500.1	Adobe	170	Fingerprint reader	
Color Calibration	Facto	ry Co	lor Cali	bration o	n UHD pa	nels		· · · ·		· · · ·		Battery	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80%
Touchscreen	Optio	nal or	n-cell to	uch on s	elected FI	-ID mo	dels, supp	oorts 10-fi	nger g	esture			in 1hr) with 65W AC adapter
Pen	None								0 0			Max battery life	MobileMark 2014: 15.1 hr. MobileMark 2018: 10.96 hr.
-	Up to	onel	M.2 SSI	D as follo	owing, 2TE	3 max:						indic ballory mo	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage	• M.2	2280	PCIe N	IVMe, P	Cle 3.0 x4,	, 256G	B / 512GI	3/1TB/2	2TB			Power Adapter	65W or 65W slim USB-C AC adapter
Otorage	• M.2	2242	PCIe N	IVMe, P	Cle 3.0 x2	, 128G	B, for spe	cial bids					Supports one optional preloaded operating system as following:
	• M.2	2280	512GB	SSD +	32 GB Opt	tane, F	Cle NVM	e 3.0 x 4,	tor spe	ecial bio	ls		Windows 10 Home 64
Optical	None											Operating system	• Windows 10 Pro 64
Ethernet					integrated	l gigat	oit etherne	t, Intel i21	9LM fo	or vPro	models		<ul> <li>Windows 10 Government Edition 64 for special bids</li> <li>Ubuntu Linux LTS</li> </ul>
			r non-v	Pro mod	els								Optional warranty plans as following:
NFC	Optio		1.1.1.A.C. E		A			0.000.44			L E 4		• 1-year depot repair service
WLAN + Bluetooth		ptional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetoc uetooth 5.1 requires the latest version of Windows 10 (version 2004 or ab											<ul> <li>3-year depot repair service</li> </ul>
		One of the following, configurable by model:										Base Warranty	<ul> <li>1-year + 2-year depot repair service</li> </ul>
	• No V	WWA	N card a	and non	upgradable	e							1-year limited onsite service
WWAN	<ul> <li>Inter</li> </ul>	grated	d Mobile	Broadb	and Upgra	adable	, No WWA	N Card. V	VWAN	Antenr	na Only		3-year limited onsite service
	<ul> <li>Integration</li> </ul>	grated	d Mobile	e Broadb	and 4Ġ LT	E-A, F	- ibocom L	850-GL, N	1.2 cai	ď	,		<ul> <li>1-year + 2-year limited onsite service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
					and 4G LT	E-A, F	-ibocom L	860-GL, N	AIMO 4	4x4, M.	2 card	Mil-Spec test	MIL-STD-810G military testing
SIM card				A card s		7	0.04 1 )						EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
Dimensions	Width	1:329	mm (12	2.95 m). m (0 7 ∺	Depth: 227	/ mm (	8.94 in).						Please visit www.thinkworkstations.com/isv-certifications/
	THICK	ness:	17.9 M	<u>m (0.7[′] ir</u>	icnes)								













## ThinkPad P15 Gen 1 Platform Specifications

	Supports one 10th	1 Xeon	W, Core	i9, i7, or i	5 process	or as fo	llowing:			SIM card	Optional Nano-SIM card slot
		# of	# of	Base	Max Turbo		Memory	Pro	ocessor		Width: 375.4 mm (14.78 in). Depth: 252.3 mm (9.93 in).
	Processor Number	Cores	Threads	Frequency	Frequency	Cache	Types		raphics	Dimensions	Thickness for non-touch models: $24.5 \sim 31.45$ mm ( $0.96 \sim 1.24$ in)
						10140		Inte	el UHD		Thickness for touch models: 25.25 ~ 32.2mm (0.99 ~ 1.27 in)
	Xeon W-10885M	8	16	2.4GHz	5.3GHz	16MB	DDR4-29		aphics	Weight Case color	Starting at 2.74 kg (6.05 lb, FHD) Black
	Xeon W-10855M	6	12	2.8GHz	5.1GHz	10MB	DDR4-29		el UHD		<i>Display cover:</i> GFRP 50% (PPS695 + GF 50%).
	Xe011 W-100001W	0	12	2.00112	5.10112		DDN4-29	Gr	aphics	Case material	Bottom: PPS + GF
	Core i9-10980HK	8	16	2.4GHz	5.3GHz	16MB	DDR4-29		el UHD	Media reader	SD card reader
D		Ŭ	10	2.10112	0.00112	TOME	BBITT 20	G	aphics		1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt
Processor	Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-29		el UHD	Standard Ports	3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI
									aphics el UHD		2.0, 1x headphone / microphone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45
	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-29		aphics	Ontional Darta	One optional smart card reader on right, one optional Nano-SIM card slot on
								Int	el UHD	Optional Ports	left
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-29		aphics		Up to 5 displays with 4 external monitors plus system LCD screen. External
	0	~	10	0.0011-		10140		Inte	el UHD	Monitor support	monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. USB-C and HDMI support up to 4K@60Hz.
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12IVIB	DDR4-29		aphics		With Thunderbolt, one supports up to 5K@60Hz and one supports up to
	Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-29		el UHD		4K@60Hz
	001010-1040011	-	0	2.00112	4.00112			Gr   Gr	aphics	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Chipset	Intel WM490 Chip									Bundled Accy	None
Memory Type	SO-DIMM. DDR4-	3200 f	or non-E	CC, DDR4	1-2933 for	ECC. C	perates a	t DDR	4-2933.	Comoro	Supports one optional camera as following:
	8GB/16GB/32GB	avallar	Die for bo	in ECC ai	na non-EC	C				Camera	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>Hybrid IR camera with ThinkShutter camera privacy, fixed focus</li> </ul>
Memory Sockets Memory Protection	4 DIMM sockets			and Vaa		~ ~				Audio chip	Realtek ALC3286 codec
Max Memory	128GB			and Xeo	n process	51				Speaker	Stereo speakers, Dolby Atmos sound system
Max Memory	Support one of the	- follow	vina discr	ete aranh	ics:					Microphone	Optional dual array far-field microphone
	NVIDIA Quadro									Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with
Graphics	<ul> <li>NVIDIA Quadro</li> </ul>	T2000,	4GB GE	DR6 mer	nory						Unified Communications controls.
Chapmes	<ul> <li>NVIDIA Quadro</li> </ul>	RTX 3	000, 6GE	GDDR6	memory					UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch touchpad
	NVIDIA Quadro	RTX 40	000 with	Max-Q De	esign, 8GE		16 memor	У		Password	Power-on password, hard disk password, supervisor password
	NVIDIA Quadro		<u>000 with</u>						Viewing	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	Size Resolution	T	ype Surf	ace Touch	Brightnes	Ratio	Contrast Ratio	Gamut	Angle	System mgmt	Optional Intel vPro Technology supported on vPro enable models
								72%		Security locks	Security keyhole for optional Kensington lock
	15.6" FHD (1920x10	080)   W	/VA Anti-g	glare -	300 nits	16:9	700:1	NTSC	160°	Smart card reader	
	FHD (1920x10	080)						700/		Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest
	15.6" Dolby Vision,	( N	/VA Anti-g	glare -	500 nits	16:9	1200:1	72% NTSC	160°	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter
Display	HDR 400							11100			MobileMark 2014: 16.4 hr.
1 5	UHD (3840x21 15.6" Dolby Vision,		/VA Anti-g	ilare -	600 nits	16:9	1400:1	100%	178°	Max battery life	MobileMark 2014: 10:4 III. MobileMark 2018: 10:3 hr
	HDR 400	1		Jiaro	000 1113	10.0	1400.1	Adobe	170	, 	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
			An	ti-	SDR					Power Adapter	One of the following:
	UHD (3840x21 15.6" Dolby Vision,		FD reflec	ction multi-		16:9	100000:1	100% DCI-	170°	Power Adapter	230W slim AC adapter     170W slim AC adapter
	HDR 400		/ AI		500nit	10.5	100000.1	P3	170		Supports one optional preloaded operating system as following:
			smu	0	(peak)						• Windows 10 Home 64
Color Calibration	Factory Color Cali									Operating system	• Windows 10 Pro 64
Touchscreen	Touch enable on s			LED mod	els, suppo	orts 10-f	inger ges	ture			Windows 10 Pro 64 for Workstations     Ubuntu Linux LTS
Pen	Optional Lenovo F				00/0/0						Fedora Linux
Storage	Up to two M.2 228		, PCle N	VMe, 256	GB / 5120	iB / 1TE	3 / 2TB ea	ach			Optional warranty plans as following:
RAID	RAID 0 / 1 suppor	t									1-year depot repair service
Optical	None										<ul> <li>3-year depot repair service</li> <li>1-year + 2-year depot repair service</li> </ul>
Ethernet	One onboard GbE	port v	via integra	ated gigat	oit etherne	t, Intel i	219LM to	r vPro	models	Base Warranty	1-year limited onsite service
NFC	or i219V for non-v None		Jueis							-	<ul> <li>3-year limited onsite service</li> </ul>
	Optional Intel Wi-F	i 6 4 X	201 on m	iost mode	ls Wi-Fi 2	x2 802	11ax + RI	uetoot	h 5 1		• 1-year + 2-year limited onsite service
WLAN + Bluetooth	Bluetooth 5.1 requ									Mil-Spec test	1-year depot with 2-year system board repair service
	One of the following	ng, con	figurable	by mode					-,	Environment	MIL-STD-810G military testing EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
	<ul> <li>No WWAN card a</li> </ul>	and no	n upgrad	lable			14/14/4 51	A		ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
WWAN	<ul> <li>Integrated Mobile</li> <li>Integrated Mobile</li> </ul>										
	Note: WWAN cannot be	supporte	ed on UHD I	VVA models		JUD-GL	, 1011010 4	∧ <del>,</del> ivi.			









## ThinkPad P15s Gen 1 Platform Specifications

	Supp	orts o	ne 10th C	ore i7	and i5 -U	suffix	processo	r as foll	owing:			Casa matarial	Display cover: PPS / 50% GF;
	Draga		<b>Д</b> об Ш	of	Deee	Max Tu	wha	Mam		Proces		Case material	Bottom: PA / 50% GF
	Proce Numb			-		Max Tu Freque		Mem		Graph		Media reader	MicroSD card reader
	i7-10			8	Frequency	4.9GF	-				Graphics		On left: 1x USB-C (USB 3.2 Gen 1, PD, DP), 1x Thunderbolt (USB-C form,
Processor	i7-10		-	8	1.8GHz	4.9GF	-				Graphics	Standard Ports	Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 1x side docking connector, 1x USB-A 3.2 Gen 1, 1x HDMI 1.4b, 1x headphone / microphone combo jack,
		310U	-	8	1.7GHz	4.4GF	-				Graphics		1x microSD card reader
				•	-	-	-	_					On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On) One optional smart card reader on right, one optional nano-SIM card slot on
		i5-10210U 4 8 1.6GHz 4.2GHz 6MB DDR4-2666 Intel UHD Graphi ntel SoC (System on Chip) platform									araphics	Optional Ports	rear
												_	Up to 3 displays with 2 external monitors plus system LCD screen. Two external
Memory Type	8GB/	16GB/	32GB DE	DR4-32	DR4-2666 200 SO-D n-ECC for	IMM no	on-ECC fo	or DIMN	/I socket	S,		Monitor support	monitors supported via USB-C, Thunderbolt, and HDMI. 4096x2304@60Hz on USB-C and Thunderbolt, 4096x2160 @24Hz on HDMI
					ered DIMN				•			Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters, up to two
			sket plus	i solu		vi, uuai	-channei	capable	e			Bundled Accy	None
Memory Protection												-	Supports one optional camera as following:
					DIMM plus					DDR5 n	nemorv	Camera	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
		Intel UHD Graphics in processor and NVIDIA Quadro P520, 2GB GDDR5 mem Size Resolution Type Surface Touch Brightness Aspect Contrast Color View									Viewing	Audio chip	Realtek ALC3287 codec
	Size	Resolu	tion	Туре	Surface	Touch	Brightness	Ratio	Ratio	Gamut	Angle	Speaker	Stereo speakers, 2W x 2, Dolby Audio Speaker System
												Microphone	Optional dual array near-field microphone
Display	15.6"	FHD (1	920x1080	) WVA	Anti-glare		250 nits	16:9	800:1	45%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad. LED backlight on most models, non LED backlight is for special bids
	15.6"	FHD (1	920x1080	) WVA	Anti-glare	multi-	300 nits	16:9	800:1	45%	170°	UltraNav	TrackPoint pointing device and Mylar surface multi-touch touchpad
			040 0400	, 		touch						Password	Power-on password, hard disk password, supervisor password
15	15.6"	Dolby \	8840x2160		Anti-glare	_	600 nits	16:9	1400:1	100%	170°	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
		HDR 4					000 1113	10.5	1400.1	Adobe	170	System mgmt	Optional Intel vPro Technology supported on vPro enable models
Color Calibration	Facto	ry Col	or Calibra	ation o	n UHD m	odels						Security locks	Security keyhole for optional Kensington lock
					elected FI		dels, sup	ports 1	0-finger	gesture		Smart card reader	Optional
Pen	None							•		<u> </u>		Fingerprint reader	
_	Up to • M 2	one N 2280	1.2 SSD a PCIe NV	as follo Me. Pi	owing, 2TE Cle 3.0 x 4	3 max:	GB / 512G	6B / 1TF	3/2TB			Battery	Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Slorage	• M.2	2242	PCIe NV	Me. P	Cle 3.0 x 2	2. 1280	GB. for sp	ecial bi	ds				MobileMark 2014: 16.5 hr.
	• M.2	2280	512GB S	SD + 3	32 GB Op	tane, F	PCIe NVIV	le 3.0 x	4, for sp	becial bi	ids	Max battery life	MobileMark 2018: 10.48 hr.
Optical	None											Power Adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
	One	onboa	rd GbE p	ort via	integrated	d gigab	it etherne	et, Intel	i219LM	for vPro	models		65W or 65W slim USB-C AC adapter Supports one optional preloaded operating system as following:
Ethernet	or i21	9V for	non-vPr	o mod	els	00		-					• Windows 10 Home 64
	Optio											Operating system	
					1 on most								Windows 10 Government Edition 64 for special bids
	Bluet	ooth 5	<u>1 require</u>	es the	latest vers	sion of	Windows	<u>10 (ver</u>	rsion 200	)4 or ab	ove)	_	Ubuntu Linux LTS
	One	of the	following,	config	gurable by	model	:						Optional warranty plans as following:
WWAN	• NO	No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Anten								Anton			1-year depot repair service
VVVAN	<ul> <li>Inte</li> </ul>	grated	Mobile E	Proadb	and Upgra		, INO VVVVA Filocom I			N Anten	ina Only		3-year depot repair service
	<ul> <li>Into</li> </ul>	grated	Mohile F	Broadb	and 4G L	TE-A, F	ibocom I	-000-GI	∟, ivi.∠ Ca I MIMO	4x4 M	2 card	Base Warranty	1-year + 2-year depot repair service
		ntegrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 otional Nano-SIM card slot										1 .	<ul> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> </ul>
					Depth: 24	8 mm	(9.76 in).					1	• 1-year + 2-year limited onsite service
			19.1 mm				(200 0 00)						<ul> <li>1-year depot with 2-year system board repair service</li> </ul>
	THON											<b>□</b> }	
		ng at :	3.86 lb (1	.75kg)								Mil-Spec test	MIL-STD-810G military testing
Weight			3.86 lb (1	.75kg)									MIL-STD-810G military testing EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant













## ThinkPad P15v Gen 1 Platform Specifications

	Supports one 10th	n Xeor	n W, Core	i7, or i5 p	processor	as follo	wing:		Case color	Black
		# of	# of	Base	Max Turbo		Memory	Proces	or Case material	Display cover: PC / ABS
	Processor Number	Cores		Frequency	Frequency	Cache	Types	Graphi	s	Bottom: PC / ABS
				. ,				Intol I II		SD card reader
	Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293	³ Graphi		1x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP),
								Intol I II	-IStandard Ports	2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro-
Processor	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293	³ Graphi		phone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45
								Intol I II		One optional smart card reader on left, one optional Nano-SIM card slot on rear Up to 3 displays with 2 external monitors plus system LCD screen. External
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293	³ Graphi		monitors supported via Thunderbolt and HDMI.
								Intol I II		HDMI supports up to 4K@60Hz.
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293	³ Graphi		Thunderbolt supports up to 5K@60Hz
								Intol III		Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
	Core i5-10300H	4	8	2.5GHz	4.5GHz	8MB	DDR4-293	³ Graphi		None
Chipset	Intel WM490 Chip	cot			1			- Circipin		Supports one optional camera as following:
· ·	SO-DIMM. DDR4-				-2033 EC(	Oner	atos at DDI	R1-2033	Camera	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
Memory Type	8GB/16GB/32GB	availal	ble for bo	th FCC a	nd non-FC	C Oper		14-2300.		Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Memory Sockets	2 DIMM sockets	avana				0			Audio chip	Realtek ALC3287 codec
Memory Protection		ith FC		s and Xec	n nrocess	or .			Speaker	Stereo speakers with Dolby Audio support
Max Memory	64GB		O DIMIN		in process	51			Microphone	Optional dual array near-field microphone
	Intel UHD Graphic	e in n	rocossor	aleo euni	oorte optio	nal NV		0 P620 /	<b>GR</b> Keyboard	6-row, spill-resistant, numeric keypad, multimedia Fn keys with Unified Com-
Graphics	GDDR5 memory	,s in pi	10065501,	also sup			IDIA Quaur	01020,4		munications controls, optional LÉD backlight
						Asnec	t Contrast	Color View	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch touchpad
	Size Resolution Type Surface Touch Brightness Aspect Contrast Cond Ratio Ratio Gam	amut An	le Password	Power-on password, hard disk password, supervisor password						
	15.6" FHD (1920x10	20v1080) M				s 16:9		45%	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
		080)   V	VVA Anti-	glare -	250 nits	16:9	700:1	45% NTSC 17	System mgmt	Optional Intel vPro Technology supported on vPro enable models
Display				aloro multi				45% 17	Security locks	Security keyhole for optional Kensington lock
	15.6" FHD (1920x10	080)   V	VVA Anti-	glare toucl	n 300 nits	16:9	800:1	VTSC 17	Smart card read	
	UHD (3840x2							100%	Fingerprint read	er Touch style match on chip fingerprint reader on the palm rest
	15.6" Dolby Vision,	·   v	VVA Anti-	glare -	600 nits	16:9		Adobe 17	3°	Integrated Li-Polymer 68Wh battery. Supports Rapid Charge (charge up to 80%
	HDR 400								Battery	in 1hr) with 135W AC adapter
Color Calibration	Factory Color Cal									MobileMark 2014: 10 hr.
Touchscreen	Touch enable on s	selecte	ed FHD n	nodels, su	pports 10-	tinger g	gesture		Max battery life	MobileMark 2018: 7.2 hr
Pen	None								Dower Adeptor	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage	Up to two M.2 228	30 SSE	D, PCle N	IVMe, 256	GB / 5120	ЪВ / 1Т	B / 2TB ead	ch	Power Adapter	135W slim AC adapter
RAID	RAID 0 / 1 suppor	ť								Supports one optional preloaded operating system as following: • Windows 10 Home 64
Optical	None								Operating syster	
Ethorpot	One onboard GbE	E port \	via integr	ated gigal	oit etherne	t, Intel	i219LM for	vPro moo	els	Windows 10 Pro 64 for Workstations
Ethernet	or i219V for non-v	Pro m	odels							Ubuntu Linux LTS
NFC	None									Optional warranty plans as following:
WLAN + Bluetooth	Optional Intel Wi-F								.	<ul> <li>1-year depot repair service</li> </ul>
	Bluetooth 5.1 requ	uires th	<u>ne latest</u>	version of	Windows	10 (ver	<u>sion 2004 c</u>	or above)		• 3-year depot repair service
	One of the following	ng, cor	nigurable	e by mode	91:				Base Warranty	<ul> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> </ul>
WWAN	<ul> <li>No WWAN card</li> <li>Integrated Mobil</li> </ul>	anu no	dband U	Jable		N Care		ntonno O		• 3-year limited onsite service
	<ul> <li>Integrated Mobil</li> <li>Integrated Mobil</li> </ul>	e Broa	dhand 4	$\beta I TF_{\Delta}$	Fibocom I	850-GI		2 M 2 ca	d II	• 1-year + 2-year limited onsite service
SIM card	Optional Nano-SI	M card	slot	$\sim$ $\sim$ $\sim$ $\sim$ $\sim$ $\sim$ $\sim$ $\sim$ $\sim$ $\sim$			_, 1711110 2A	_, wi.∠ 0a	<u> </u>	<ul> <li>1-year depot with 2-year system board repair service</li> </ul>
	Width: 366.5 mm			h: 250 mr	n (9.84 in)				Mil-Spec test	MIL-STD-810G military testing
Dimensions	Thickness: 24.2 m	im (0.9	95 in)		. /				Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
Weight	Starting at 2.07 kg	a (4.57	lb, UHD	)					ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/

## ThinkPad P15v Gen 1 Platform Specifications

Processor Number         # of Core         # of The processor         Max Turbol Core         Max Turbol Core         Max Turbol Core         Case material (Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Graphical Gr		Supports one 10th	ו Xeon	W. Core	i7. or i5 p	rocessor	as follo	wina:		Case color	Black
Processor         Processor Number         Cores         Threads         Fragmence         Construction         Batterini         PC/ABS         Batterini         PC/ABS           Vecome         Vecom         V-108/5M         8         12         2.8 GHz         5.1 GHz         12MD         DDR4-2933         Intel UHD         Standard Ports         Standard Ports         None Common Transmeterion         None Common Transmeterion </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Durana</td> <td></td> <td></td>									Durana		
Network         Non-		Processor Number			Base	Max Iurbo	Cache	Memory		Case material	Bottom: PC / ABS
Keen W-10855M         6         12         2.80Hz         5.1GHz         12.80Hz         5.1GHz         12.80Hz         5.1GHz         12.80Hz         13.1 Tunderboil (USB-A 3.2 Gen 1, Gen Aways-on), to the applone) micro-phone contrasted method (USB-A 3.2 Gen 1, Gen Aways-on), to me optional smart and reader on Micro-phone SM and sight on mear phone contrasted method (USB-A 3.2 Gen 1, Gen Aways-on), to me optional smart and reader on Micro-phone SM and sight on mear phone contrasted method (USB-A 3.2 Gen 1, Gen Aways-on), to me optional smart and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and reader on Micro-phone SM and sight on mear phone contrast and mean phone Micro-phone SM and sight on mear phone contrast and micro-phone SM and sight on mear phone contrast and micro-phone SM and sight on mear phone contrast and micro-phone SM and sight on mear phone SM and sight on micro-phone SM and sight on micro-phone SM and sight on micro-phone SM and sight on mear phone SM and sight on micro-phone SM and sight on m			Cores	Threads	Frequency	Frequency		Types		Media reader	
Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Processor Proces		Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293			
Processor         Core i7-10875H         8         6         6         2.3.4Fz         5.1.6Hz         1.6Hz         Direl VH0 Graphics           Core i7-10850H         6         12         2.7.6Hz         5.1.6Hz         1.6Hz         Direl VH0 Graphics         Direl VH0 Graphics <thdirel vh0<br="">Graphics         Dire VH0 Graphic</thdirel>									Graphics		2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro-
Pricessol  Core I7-10850H  Core I7-10850H  Core I7-10850H  Core I7-10850H  Core I7-10850H  Core I7-10850H  Core I7-10850H  Core I7-10750H  Co	Duesees	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293			phone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45
Long (1-10050H         b         12         2.7.0Hz         5.1.0HZ         12.0Hz         2.0Hz         12.0Hz         2.0Hz         12.0Hz         2.0Hz         12.0Hz         2.0Hz         12.0Hz         2.0Hz         12.0Hz	Processor		_	_			-		Graphics		
Display         Outputs Monitor supported via 1 numberoli and HUM.           Original Core 15-10300H         4         12         2.6GHz         5.0GHz         12.0Hz         DDR4-2933         Intel Wide Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Carpital Ca		Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293			Up to 3 displays with 2 external monitors plus system LCD screen. External
Core i7:107:0H         6         12         2.6 GHz         5.0 GHz         12MB (DDR4-2933 (THE UTL) Core i5:103:0H         Thumasholit supports up to 5K (60Hz           Chipset         Crie i5:103:0H         4         8         2.5 GHz         4.5 GHz         8MB         DDR4-2933         Intel UHL Monitor cable         Optional HDMI to VGA, USB-C to DP or USB-C to VGA adapters           Memory Type SGB / 166/X2GB available for both ECC and non-ECC         Core and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second			-						Graphics	Monitor support	monitors supported via Thunderbolt and HDMI.
Original         Original         Original         Original         Original           Core i5-10300H         4         8         2.5GHz         4.5GHz         BMB         DDR4-2933         Monitor cable         Optional HDMI to VGA. USB-C to VGA adapters           Chipset         Intel WM490 Chipset         SO-DIMM. DDR4-3200 non-ECC or DDR4-2933         Socients one optional camera as following:           Wemory Yope         SO-DIMM sockets         Zolimal camera as following:         HD7200 camera with ThinkShuter camera privacy, fixed focus           Wemory Yope         SO-DIMM sockets         Zolimal camera as following:         HD7200 camera with ThinkShuter camera privacy, fixed focus           Memory Protection         ECC on models with ECC DIMMs and Xeon processor         Fealus         Realite ALC3287 code           Max Memory         GGB         Stee Resolution         Type         Stee Resolution         Resolution         Resolution           15:ef         FHD (1920x108)         WA         Anti-gare         Stee Resolution         Ste		Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293			
Core is -10300H       4       8       2 5 GHz 4       2 4 Graphics       Bundled Accy       None         Chipset       Intel WM400 Chipset       Supports one optional camera as following:       Camera       Supports one optional camera as following:         Wemory Type       SO-DIMM. DDR4-29320 non-ECC vn DPA+2933       Graphics       Supports one optional camera as following:         Wemory Topetsion       SCC On models with ECC DIMMs and Xeon processor       Speaker       Speaker       Speaker         Memory Topetsion       ECC on models with ECC DIMMs and Xeon processor       Speaker       Speaker       Speaker       Microphone         Memory Topetsion       ECC on models with ECC DIMMs and Xeon processor       Speaker       Speasord       Speaker       S			-						Graphics	Manitar askla	
Chipset       Intel WM490 Chipset       Chapters       Subject to one optional camera as following:         Wemory Type       SO-DIMM. DDR4-3200 non-ECC or DDR4-2933 ECC Operates at DDR4-2933.       Camera       Horzy Cop camera with ThinkShutter camera privacy, fixed focus         Wemory Type       SO-DIMM sockets       Zolf /68/23/23/26 available for both ECC and non-ECC       So-Differ to the ECC and non-ECC       Microphone         Wemory Type       64/36       ECC binds and Xeon processor       Speaker       Utra Nav       Speaker       Speaker       Speaker       Utra Nav       Speaker       Speaker       Utra Nav       Speaker       Speaker       Speaker       Speaker       Speaker       Utra Nav       Speaker		Core i5-10300H	4	8	2.5GHz	4.5GHz	8MB	DDB4-293			
Biology         Schulikk         DDR4-2933         Camera         • HD/20p camera with ThinkShutter camera privacy, fixed focus           Wemory Type Sockets         2 DIMM sockets         2 DIMM sockets         - MD/200 camera with ThinkShutter camera privacy, fixed focus           Wemory Type Sockets         2 DIMM sockets         - MD/200 camera with ThinkShutter camera privacy, fixed focus           Memory Type Sockets         2 DIMM sockets         - MD/200 camera with ThinkShutter camera privacy, fixed focus           Max Memory Type Sockets         2 DIMM sockets         - MD/200 camera with ThinkShutter camera privacy, fixed focus           Max Memory Type Sockets         2 DIMM sockets         - MD/200 camera with ThinkShutter camera privacy, fixed focus           Graphics         Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDRs         - Security Locks         - Security Locks         - Security Lock and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and the plush and			· ·				0	22111 200	Graphics	Bundled Accy	
<ul> <li>Memory Type</li> <li>Bidd /i Gd/S2GB available for both ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC and non-ECC a</li></ul>	Chipset	Intel WM490 Chip	set							Camora	Supports one optional camera as following:
Memory Sockets       2 DIM Nockets       Audio chip       Realitek ALC3287 codec         Memory Protection       ECC on models with ECC DIMMs and Xeon processor       Microphone       Microphone         Max Memory       64 GB       Microphone       Microphone       Microphone         Graphics       Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDFS       Microphone       Microphone       Microphone         Max Memory       56 ° FhD (1920x1080       WA Anti-glare       Aspect Contrast Color Heading Angel       Security chip       Discrete TPM 2.0, TCG Certified, may be disabled in some regions         56 ° FhD (1920x1080)       WA Anti-glare       a son its       16.9       900:1       17% C       170°         15.6 ° FhD (1920x1080)       WA Anti-glare       600 nits       16.9       800:1       45% 170°       NTSC       170°         Color Calibration       Factory Color Calibration on UHD panels       600 nits       16.9       100% 1160° dia       178°       170°         Storage       Up to two J.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each       MobileMark 2014: 10 hr.       MobileMark 2014: 10 hr.       MobileMark 2014: 10 hr.         Storage       Up to two J.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each       MobileMark 2014: 10 hr.       MobileMark 2014: 10 hr.       MobileMark 2014: 10 hr.	Memory Type	SO-DIMM. DDR4-	3200 r	ion-ECC	or DDR4	-2933 ECC	C. Oper	ates at DDF	34-2933.	Camera	HD/200 camera with ThinkShutter camera privacy, fixed focus
Weindernory         Sockets         Z Jumin sockets         Z Jumin sockets         Sockets         Z Jumin sockets         Sockets         Z Jumin sockets         Sockets         Z Jumin sockets         Sockets         Z Jumin sockets         Sockets         Z Jumin sockets         Sockets         Z Jumin sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Sockets         Socke	, ,,		availat	ole for bo	th ECC a	nd non-EC	С			Audio chin	
Memory Protection ECC on models with ECC DIMMs and Xeon processor       Microphone       Optional dual array near-field microphone         Max Memory       64.08         Graphics       Intel UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5       Microphone       Optional dual array near-field microphone         Microphone       Size       Resolution       Type       Surface       Touch       Field UHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5         Microphone       Size       Resolution       Type       Surface       Touch       Field UH20x1080       WVA       Anti-glare       Color Viewing         15.6°       FHD (1920x1080)       WVA       Anti-glare       multi-       250 nits       16.9       100°// NTSC       170°       Security clap											
With Memory         Description         Intel WHD Graphics in processor plus optional NVIDIA Quadro P620, 4GB GDDR5         Keyboard         Grow, spill-resistant, numeric keypad, multimedia Fn keys with Unified Communications controls, optional LED backlight           Size         Resolution         Type         Surface         Touch         Brightness         Aspect         Color Viewing           15.6°         FHD (1920x1080)         WVA         Anti-glare         -         250 nits         16.9         700.1         4%%         170°           System mgmt         Optional LED backlight         Security Angle         Security Char         Security Char         Security Char         Security Char         Security Char         Basword         Power-on password, hard disk password, security Reyfole for optional LED backlight           15.6°         FHD (1920x1080)         WVA         Anti-glare         600 nits         16.9         100°         178°           15.6°         FHD (1920x1080)         WVA         Anti-glare         600 nits         16.9         100°         178°           Color Calibration         Factory Color Calibration on UHD panels         Touch enable on selected FHD models, supports 10-finger gesture         MobileMark 2014: 10 hr.         MobileMark 2014: 10 hr.           RAID         RAID 0 / 1 support         Touch enable on selected FHD models, supports 10			ith EC	C DIMMs	and Xeo	n processo	or				
Graphics       Intel UHD Graphics in processor plus optional NVIDA Quadro P620, 4GB GDDRs       Numications controls, optional LÉD backlight       Integrate         Main Security       Size       Resolution       Type       Surface       Touch       Brightness       Aspect Contrast       Color Viewing       Witraw       Southon TrackPoint pointing device and 2-button Mylar surface multi-touch         Display       Size       Resolution       Type       Surface       Touch       Brightness       Aspect Contrast       Color Viewing       Power-on password, hard disk password, supervisor password         Display       Size       FHD (1920x1080)       WVA       Anti-glare       250 nits       16:8       700:1       45%       170°       Security chip       Discrete TPM 2.0, TCG Certified, may be disabled in some regions         System mgmt       Optional Intel VPT Technology supported on VPro enable models       Security chip       Discrete TPM 2.0, TCG Certified, may be disabled in some regions         System mgmt       Optional Intel VPT Technology supported on VPro enable models       Security chip       Security	Max Memory										
Internation       Type       Surface       Touch       Brightness       Aspect Ratio       Contrast Ratio       Contreater Ratin the dowinthant and the pain service Rations on right	Graphics		s in pr	ocessor	plus optio	nal NVIDI/	A Quad	lro P620, 40	GB GDDR5	Keyboard	munications controls, optional LED backlight
Size         Resolution         Type         Surface         Touch         Brightness         Passe         Color Verify Ratio         Password         Power-on password, hard disk password, supervisor password           Display         15.6°         FHD (1920x1080)         WVA         Anti-glare         -         250 nits         16.9         700:1         Afs%         170°           Signed         HD (3840x2160)         WVA         Anti-glare         -         600 nits         16.9         800:1         NTSC         170°           Signed         HD (3840x2160)         WVA         Anti-glare         -         600 nits         16.9         800:1         170°         170°         Security locks		memory			1		1			Lilitro Nov	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
Display       Image: Control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the contr		Size Resolution	l Τ	vpe Surf	ace Toucl	Brightness	Aspec	t Contrast	Color Viewin	]	
Display       Iss       Prod (1920x1000)       WVA       Anti-glare       -       250 mis       16.9       70.0.1       NTSC       170       System mgmt       Optional Intel VPro Technology supported on VPro enable models         Display       15.6*       FHD (1920x1000)       WVA       Anti-glare       16.9       900 nits       16.9       900 nits       16.9       170*       Security locks				,			Ratio	Ratio	amut Angle		
Display       Image: FHD (1920x1080)       WVA       Anti-glare       multi-louch       300 nits       16:9       800:1       45%       170°       Security locks       Security keyhole for optional Kensington lock         15.6°       UHD (3840x2160)       WVA       Anti-glare       -       600 nits       16:9       800:1       10%       178°       Security locks       Security keyhole for optional Kensington lock         Color Calibration       Factory Color Calibration on UHD panels       16:9       1400:1       100%       178°         Findegrated Li-Polymer 68Wh battery. Supports Rapid Charge (charge up to 80%)       in 1h') with 135W AC adapter         Touch enable on selected FHD models, supports 10-finger gesture       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       - <t< td=""><td></td><td>15.6" FHD (1920x10</td><td>180) N</td><td>/VA Anti-</td><td>alare -</td><td>250 nits</td><td>16.9</td><td>700.1</td><td>45% 170°</td><td></td><td></td></t<>		15.6" FHD (1920x10	180) N	/VA Anti-	alare -	250 nits	16.9	700.1	45% 170°		
15.6° FHD (1920x1080)       WVA       Anti-glare       Induits       300 nits       16.9       800.1       NTSC       170°       Smart card reader [Ootinal]       Fingerprint reader on the palm rest         Color Calibration       Factory Color Calibration on UHD panels       Integrated Li-Polymer 68Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter         Touch enable on selected FHD models, supports 10-finger gesture       Mone       MobileMark 2014: 10 hr.         Storage       Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each       MobileMark 2014: 10 hr.         RAID       One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models       Power Adapter         NFC       None       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.       Supports one optional preloaded operating system as following:         WAAN       • Now WAN card and non upgradable       • Optional varianty plans as following:       • 1-year depot repair service         WWAN       • No WMAN card and non upgradable       • 1-year imited onsite service       • 3-year limited onsite service         WIAN + Bluetooth 5.1. requires the latest version of Windows 10 (version 2004 or above)       • Seattery if onsite service       • 1-year imited onsite service	Diamlari				J 0	2001110		N	IISC	System mgmt	Optional Intel vPro Technology supported on vPro enable models
WH0 (3840x2160) Dolby Vision. HDR 400       WVA       Anti-glare       -       600 nits       16:9       1400:1       100% Adobe       178°         Color Calibration       Factory Color Calibration on UHD panels       Image and the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the	Display	15.6" FHD (1920x10	180) N	/VA Anti-	ulare multi	300 nits	16.9	800.1	45% 170°	Security locks	Security keyhole for optional Kensington lock
15.6" Doley Vision, WWA       WWA       Anti-glare       -       600 nits       16.9       1400:1       100%       178°         Most of the DR 400       Factory Color Calibration on UHD panels       Integrated Li-Polymer 68Wh battery. Supports Rapid Charge up to 80% in 1hr) with 135W AC adapter         Touch enable on selected FHD models, supports 10-finger gesture       Mobile Mark 2014: 10 hr. MobileMark 2018: 7.2 hr         Pen       None       Mobile Mark 2018: 7.2 hr         Storage       Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each       None         RAID       RAID 0 / 1 support       -         Optical       None       Supports one optional preloaded operating system as following:         Windows 10 Pro 64       Windows 10 Pro 64         Windows 10 Pro 64       'Year depot repair service         -1-year depot repair service       '-year depot repair service			,		touch		10.0	000.1 N	ITSC 110		
HDF 400       Color Calibration       Adduce       Battery       Integrated LP-Polymer sown pattery. Supports Hapid Charge up to 80% pattery.         Color Calibration       Factory Color Calibration on UHD panels       Mone       MobileMark 2018; 7.2 hr       MobileMark 2018; 7.2 hr         Pen       None       Mone       Power Adapter       MobileMark 2018; 7.2 hr       MobileMark 2018; 7.2 hr         Storage       Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each       Power Adapter       Na battery life       MoseileMark 2014; 10 hr.         ALD       RAID 0 / 1 support       One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models       Power Adapter       Supports one optional preloaded operating system as following:         NFC       None       • Ubuntu Linux LTS       • Windows 10 Pro 64       • Windows 10 Pro 64         WAN       • No WWAN       • Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.       Base Warranty       • Optional warranty plans as following:       • 1-year depot repair service         WWAN       • No WWAN card and non upgradable       • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card       Base Warranty         Silk card       Optional Nano-Silk card slot       • Integrated onsite service       • 1-year depot repair service         • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card </td <td></td> <td></td> <td></td> <td>1/A Amti</td> <td>-</td> <td>COO mito</td> <td>10.0</td> <td>1400.1</td> <td>00% 1700</td> <td>Fingerprint reader</td> <td></td>				1/A Amti	-	COO mito	10.0	1400.1	00% 1700	Fingerprint reader	
Color Calibration       Factory Color Calibration on UHD panels       in 1hr/ with 135W AC adapter         Touchscreen       Touch enable on selected FHD models, supports 10-finger gesture       MobileMark 2014: 10 hr.         Pen       None       MobileMark 2014: 10 hr.         Storage       Up to two M.2 2280 SSD, PCle NVMe, 256GB / 512GB / 1TB / 2TB each       Power Adapter         RAID       RAID 0 / 1 support       Power Adapter         Optical       None       Vindows 10 Home 64         Windows 10 Pro 64       • Windows 10 Pro 64         NFC       None       • Windows 10 Pro 64 for Workstations         WLAN + Bluetooth       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.       Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)         WWAN       • No WWAN card and non upgradable       • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card         Silk card       Optional Nano-SIM card slot       • Jeatter / Ited onsite service         Dimensions       • Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).         Thickness: 24.2 mm (0.95 in)       Weight       Starting at 2.07 kg (4.57 lb, UHD)					giare -	600 mis	10:9	1400:1 A	dobe 178	Battery	Integrated Li-Polymer 68Wh battery. Supports Rapid Charge (charge up to 80%
Touch enable on selected FHD models, supports 10-finger gesture       Max battery life       MobileMark 2014: 10 Hr.         Pen       None       MobileMark 2014: 10 Hr.         Pen       None       *Battery life varies significantly with hardware configurations, settings, usage, & other factors         Storage       Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each         RAID       RAID 0 / 1 support         Optical       None         Ethernet       One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models         NFC       None         WLAN + Bluetooth       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)         WWAN       • No eof the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card         SIM card       Optional Nano-SIM card slot         Dimensions       Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)         Weight       Starting at 2.07 kg (4.77 lb, UHD)	Calar Calibratian		bration								
Pen       None       Mone       Mone       Battery file values significantly with hardware configurations, settings, usage, & other factors         Storage       Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each       Power Adapter       135W slim AC adapter         RAID       RAID 0 / 1 support       Supports one optional preloaded operating system as following:       Windows 10 Pro 64         Optical       One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models       Operating system       Windows 10 Pro 64         NFC       None       Windows 10 Pro 64 for Workstations       Up to the following, configurable by model:       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.       Durus Linux LTS         WWAN       One of the following, configurable by model:       0 potional Intel warranty plans as following:       1-year depot repair service         WWAN       • No WWAN card and non upgradable       • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card       Base Warranty         Dimensions       Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).       Mil-Spec test         MileSpec test       Mil-Spec test       Mil-Spec test         Weight       Starting at 2.07 kg (4.57 lb, UHD)       Environment						oporto 10	linger	octure			
Storage       Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each       Power Adapter       135W slim AC adapter         RAID       RAID 0 / 1 support       Supports one optional preloaded operating system as following:       Windows 10 Pro 64         Optical       One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models       Operating system       Supports one optional preloaded operating system as following:         NFC       None       Windows 10 Pro 64       Windows 10 Pro 64         WLAN + Bluetooth       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)       Optional warranty plans as following:         WWAN       One of the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card       Base Warranty       Base Warranty         Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)       Mil-Spec test       Mil-Spec test         Wieght       Starting at 2.07 kg (4.57 lb, UHD)       Environment       EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant			electe		ouels, su	Spons 10-	inger g	Jesture		INAX Dattery life	MobileMark 2018: 7.2 hr
RAID       RAID 0 / 1 support         Optical       None         Ethernet       One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models       Operating system         NFC       None         WLAN + Bluetooth       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)       Optional warranty plans as following:         WVAN       • No WWAN card and non upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card       Base Warranty         Silm card       Optional Nano-SIM card slot       • 1year depot repair service • 1-year ilmited onsite service • 1-year setvice • 1-year ether the onsite service • 1-year ether there in there there there in the onsite service • 1-year ether th						00/5400			- la	Power Adapter	
And D       INALD       Indicase Stations       Indinal stations       Indicase Stations<				, PCIe N	vivie, 256	GB / 5120	aB / TT	B/21B ead	n		
Optical         None         Operating system         Windows 10 Pro 64           Ethernet         One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models         • Windows 10 Pro 64           NFC         None         • Ubuntu Linux LTS           WLAN + Bluetooth         Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)         • Optional warranty plans as following: • 1-year depot repair service • 3-year depot repair service • 3-year depot repair service • 1-year + 2-year depot repair service • 1-year = 1-year depot repair service • 3-year limited onsite service • 3-year limited onsite service • 1-year + 2-year limited onsite service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair service • 1-year depot with 2-year system board repair serv			t								• Windows 10 Home 64
Ethernet       or i219V for non-vPro models       or or i219V for non-vPro models       or i219V for non-vPro models       or i219V for non-vPro models         NFC       None       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)       Optional warranty plans as following:         WLAN + Bluetooth       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)       Optional warranty plans as following:         WWAN       • No WWAN card and non upgradable       • 1-year depot repair service         • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card       Base Warranty         SIM card       Optional Nano-SIM card slot       -1-year depot repair service         Dimensions       Widh: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).       -1-year depot with 2-year system board repair service         MII-Spec test       MIL-STD-810G military testing         Weight       Starting at 2.07 kg (4.57 lb, UHD)       Environment	Optical									Operating system	
One       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.         WLAN + Bluetooth       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.       Optional varranty plans as following:         WLAN + Bluetooth       Difference	Ethernet	One onboard GbE	_port v	via integra	ated gigat	oit etherne	t, Intel i	i219LM for	vPro model	s∥ ' ° '	
WLAN + Bluetooth       Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1. Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) <ul> <li>One of the following, configurable by model:</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card</li> <li>SIM card</li> <li>Optional Nano-SIM card slot</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card</li> <li>Mith: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)</li> <li>Weight</li> <li>Starting at 2.07 kg (4.57 lb, UHD)</li> </ul> <li>Anticipate of the starting at 2.07 kg (4.57 lb, UHD)</li> <li>Anticipate of the starting at 2.07 kg (4.57 lb, UHD)</li> <li>Anticipate of the starting at 2.07 kg (4.57 lb, UHD)</li> <li>Anticipate of the starting at 2.07 kg (4.57 lb, UHD)</li>			Pro mo	odels						_	
WLAN + Bluetooth       Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)         One of the following, configurable by model:          • No WWAN card and non upgradable         • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card         SIM card       Optional Nano-SIM card slot         Dimensions       Widh: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).         Thickness: 24.2 mm (0.95 in)       MIL-STD-810G military testing         Weight       Starting at 2.07 kg (4.57 lb, UHD)	NFC										
Bibletoon 5.1 requires the latest version of Windows 10 (version 2004 or above)         One of the following, configurable by model:         • No WWAN card and non upgradable         • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card         SIM card       Optional Nano-SIM card slot         • Understand       0.9 to 3 be an upgradable         • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card         SIM card       Optional Nano-SIM card slot         • Integrated Mobile Stratig at 2.07 kg (4.57 lb, UHD)         Weight       Starting at 2.07 kg (4.57 lb, UHD)	WI AN + Bluetooth	Optional Intel Wi-F	i 6 AX	201 on n	nost mode	ls, Wi-Fi 2	x2 802	.11ax + Blu			
WWAN          • No WWAN card and non upgradable         • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card           • 1-year limited onsite service         • 3-year limited onsite service         • 3-year limited onsite service         • 1-year depot with 2-year system board repair service         • 1-year depot with 2-year system board repair service         • 1-year depot with 2-year system board repair service         • 1-year depot with 2-year system board repair service         • 1-year depot with 2-year system board repair service         • 1-year depot with 2-year system board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service         • 1-year depot with 2-year System board repair service          Weight       Starting at 2.07 kg (4.57 lb, UHD)       Environment       EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		Bluetooth 5.1 requires the latest version of windows 10 (version 2004 or above)									• 3-year depot repair service
With the formed and the formed band 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card         • 3-year limited onsite service           SIM card         Optional Nano-SIM card slot         • 1-year + 2-year limited onsite service           Dimensions         Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in). Thickness: 24.2 mm (0.95 in)         • Mil-Spec test           Wildth:         Starting at 2.07 kg (4.57 lb, UHD)         Environment	UNAN New York and and and any upgradable									Base Warranty	
SIM card       Optional Nano-SIM card slot       • 1-year + 2-year limited onsite service         Dimensions       Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).       • 1-year depot with 2-year system board repair service         Dimensions       Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).       • Mil-Spec test         Mil-Spec test       Mil-STD-810G military testing         Weight       Starting at 2.07 kg (4.57 lb, UHD)		<ul> <li>Integrated Mobile</li> </ul>	anu no Broa	dhand 40	AUTE-A I	-	850-GI				
Dimensions         Width: 366.5 mm (14.43 in). Depth: 250 mm (9.84 in).         • 1-ýear depót with 2-year system board repair service           Dimensions         Thickness: 24.2 mm (0.95 in)         Mil-Spec test         MIL-STD-810G military testing           Weight         Starting at 2.07 kg (4.57 lb, UHD)         Environment         EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant					$A \subseteq \Box = A, \Box$	10000111 L		-, 1911010 224		-1	<ul> <li>1-year + 2-year limited onsite service</li> </ul>
Dimensions         Thickness: 24.2 mm (0.95 in)         Mil-Spec test         Mil-STD-810G military testing           Weight         Starting at 2.07 kg (4.57 lb, UHD)         Environment         EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		Width: 366.5 mm (	14.43	in). Dept	h: 250 mn	ו (9.84 in).				1	<ul> <li>1-year depot with 2-year system board repair service</li> </ul>
	Dimensions	Thickness: 24.2 m	<u>m (0.9</u>	<u>5 in)</u>							
ISV certifications Please visit <u>www.thinkworkstations.com/isv-certifications/</u>	Weight	Starting at 2.07 kg	(4.57	lb, ÚHD)							
				,						ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/













## ThinkPad P17 Gen 1 Platform Specifications

	Supports one 10th	N Xeon	W, Core	i9, i7, or	5 process	or as fo	ollowing:			Dimensions	Width: 415.44 mm (16.36 in). Depth: 280.81 mm (11.06 in).
		# of	# of	Base	Max Turbo		Memory	Pro	cessor		Thickness: 25.11~ 33.25 mm (0.99 ~ 1.31 in)
	Processor Number	Cores			Frequency		Types		aphics	Weight	Starting at 3.5 kg (7.7 lb, FHD)
		-						Into	UHD	Case color	Black
	Xeon W-10885M	8	16	2.4GHz	5.3GHz	16MB	DDR4-293	³³ Gra	aphics	Case material	Display cover: GFRP 50% (PPS695 + GF 50%). Bottom: PPS + GF
	Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293		el UHD aphics	Media reader	SD card reader
Dresser	Core i9-10980HK	8	16	2.4GHz	5.3GHz	16MB	DDR4-293	33 Inte Gra	i UHD aphics	Standard Ports	1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 3x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / microphone combo jack, 1x SD card reader,
Processor	Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-293		el UHD aphics	Optional Ports	1x security keyhole, 1x RJ-45 One optional smart card reader on right, one optional Nano-SIM card slot on
	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293		el UHD aphics		left Up to 5 displays with 4 external monitors plus system LCD screen. External
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293	ag Inte	UHD aphics	Monitor support	monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. USB-C and HDMI support up to 4K@60Hz.
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293	ag Inte	UHD aphics		With Thunderbolt, one supports up to 5K@60Hz and one supports up to 4K@60Hz
										Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
	Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-293		el UHD aphics	Bundled Accy	None
Ohinaat		4						Gia	aprilos	Camera	Optional Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Chipset	Intel WM490 Chips			00 000	1 0000 (	<b>FOO I</b>				Audio chip	Realtek ALC3286 codec
Memory Type	SO-DIMM. DDR4- operate at DDR4-2	3200 to	OF NON-E		4-2933 for	ECC. E	ECC and n	on-EC		Speaker	Stereo speakers, Dolby Atmos sound system
Memory Sockets	4 DIMM sockets	2933.0		ID/32GD 8	valiable ic	DOUT	ECC and I	IOII-EC	<i>.</i> C	Microphone	Optional dual array far-field microphone
										Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with Unified Communications controls
Memory Protection				s and Xeo	n process	or					3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
Max Memory	128GB									UltraNav	touchpad
	Support one of the									Password	Power-on password, hard disk password, supervisor password
	NVIDIA Quadro     NVIDIA Quadro	11000,	4GB GL	JDR6 mer	nory					Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
Graphics	NVIDIA Quadro	12000, RTX 30			momory					System mgmt	Optional Intel vPro Technology supported on vPro enable models
	NVIDIA Quadro I						36 memor	v		Security locks	Security keyhole for optional Kensington lock
	NVIDIA Quadro I									Smart card reader	
		-		· - ·		Aspec	t Contrast	Color	Viewina		Touch style match on chip fingerprint reader on the palm rest
	Size Resolution	Iy	pe Sur	face Touch	Brightnes	Ratio	Ratio	Gamut	Angle	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter
Display	17.3" FHD (1920x10	80) W	VA Anti-	glare -	300 nits	16:9	700:1	72% NTSC	160°	Max battery life	MobileMark 2014: 14.6 hr. MobileMark 2018: 9.75 hr. * Battery life varies significantly with hardware configurations, settings, usage, & other factors
	UHD (3840x21 17.3" Dolby Vision, HDR 400	60) W	VA Anti-	glare -	500 nits	16:9	1500:1	100% Adobe	178°	Power Adapter	One of the following: • 230W slim AC adapter • 170W slim AC adapter
Color Calibration	Factory Color Cali	bration	on UHE	) panels							Supports one optional preloaded operating system as following:
Touchscreen	None										• Windows 10 Home 64
Pen	None									Operating system	Windows 10 Pro 64
Storage	Up to two M.2 228	0 SSD	, PCle N	IVMe, 256	GB / 5120	GB / 1T	B/2TB ea	ich		1	Windows 10 Pro 64 for Workstations
RAID	RAID 0 / 1 suppor	t	-							1	Ubuntu Linux LTS
Optical	None	-								1	Optional warranty plans as following: • 1-year depot repair service
Ethernet	One onboard GbE			ated gigat	oit etherne	t, Intel	i219LM for	r vPro i	models	1	3-year depot repair service
NFC	or i219V for non-v	Pro mo	dels							Base Warranty	<ul> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> </ul>
	Optional Intel Wi	i 6 AX	201 on n	nost mode	ls, Wi-Fi 2	x2 802	.11ax + Bl	uetootl	า 5.1.	1	<ul> <li>3-year limited onsite service</li> </ul>
WLAN + Bluetooth	Bluetooth 5.1 requ One of the following	ires th	e latest v	version of	Windows					-	<ul> <li>1-year + 2-year limited onsite service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
	No WWAN card a									Mil-Spec test	MIL-STD-810G military testing
WWAN	<ul> <li>Integrated Mobile</li> </ul>	e Broad	lband U	pgradable	, No WWA	N Card	i, wwan A	Antenn	a Onlv	Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
	<ul> <li>Integrated Mobile</li> </ul>	<u>e Broac</u>	band 40	G LTE-A, I	-ibocom L	860-GI	, MIMO 4	x4, M.2	2 card	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
SIM card	Optional Nano-SIN	/ card	slot								









# ThinkPad P43s Platform Specifications

Processor	8th G	eneration	Intel® Co	ore™	i7 Proces	sor					Dimensions	WxDxH:	12.95" x 8.94" x 0.	70"; 329mm x 227ı	mm x 17.9mm	
	Proce Numb		f # of s Thread			lax Turbo requency	ache	Memory Types	Proce Grap		Weight	Models Weight	FHD 3.43 lb / 1.55 kg	FHD Low Power 3.28 lb / 1.49 kg	WQHD 3.24 lb / 1.47 kg	
	i5-836 i7-856	35U 35U 4	8	1.	.6 GHz .8 GHz	4.1 GHz 6 4.6 GHz 8	MB MB MB		'		Case color Case material	Black	over: PPS / 50% GF PA / 50% GF	· · · · · · · · · · · · · · · · · · ·	5.241071.47 kg	]
Graphics	NVID suppo Up to	orts exterr 3 display	o® P520, nal digita s with 2 (	2GB I mon exterr	GDDR5 n nitor via HI nal monito	nemory; DMI or USB ors plus syst SB-C); 384	tem LC	D screen.	HDMI)		Smart card reade Media reader Ports	er Optional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPor one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical spee HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter				splayPort), d DP),
Chipset Memory	48GE	SoC (Syst 3 max / 24 or 16GB r alled memo	00MHz [	DDŔ4	I. dual-cha	annel capab temboard, c <i>run at 2400</i>	ole, one DE <i>1Hz due</i>	R4 SO-DI	, MM socl	ket	Monitor cable					retical speed
Display	Size	Resolution		Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio		Viewing Angle	(optional)	USB-C to		-C to VGA Adapter -C to HDMI Adapter -C to DisplayPort Ad	lantar	
	14.0"	FHD (1920	v1080)		Anti-glare	250 nits (non-touch)	16:9	700:1	45%	170°	Bundled Accy	None			lapter	
	14.0				Anii-giare	300 nits (multi-touch)	10.5	700.1	4376	170	Camera (optional	• HD720p		Shutter camera privad		
	14.0"	FHD (1920 Low Power	x1080)	WVA	Anti-glare	400 nits	16:9	800:1	72%	170°	Audio support	• IR came HD Audio,	er camera privacy, fix	ed focus		
	14.0"	FHD (1920 ThinkPad F Guard	x1080) Privacy	WVA	Anti-glare	400 nits	16:9	1000:1	72%	170°		stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array far-field microphone, headphone / microphone combo j				bo jack
	14.0"	WQHD (25 Dolby Visio	60x1440) n™ HDB	WVA	Glossy	500 nits	16:9	1500:1	100% Adobe	170°	Keyboard UltraNav™	6-row, spil TrackPoint	ll-resistant, multimed t®pointing device an	lia Fn keys, LED bac d buttonless Mylar si	klight urface multi-touch to	uchpad
Multi-touch <i>(opt)</i> Pen	On-co None	ell touch, s		10-fii	nger gesti	ure (FHD or	ıly)	1			Security Security chip	Discrete T	PM 2.0. TCG Certifi	a password, supervise ed	or password, securit	y keyhole
Storage	• M.2	2280 SS	D / SATA	6.00							- System Mgt (opt) Fingerprint reade NFC (optional)	r Optional:	Touch style match of Communication	on chip fingerprint rea	ader on the palm res	t
	• M.2	2242 SS	D / PCle	NVN	le, PCIe 3 le, PCIe 3	8.0 x 2					Battery		I Li- Polymer 50Wh b	pattery, supports Rap	oid Charge (charge ι	ip to 80% in
Optical		2 2280, PC				id State Sto	orage,				Max battery life AC adapter	* Battery lin	<i>rk[®] 2014:</i> 14.7 hr <i>fe varies significantly w</i> 5W slim USB Type-C	ith hardware configurati AC adapter	ions, settings, usage, &	other factors
Ethernet		vPro mode model:				ction I219-V ction I219-L					Operating system		10 Home 64 or Wir			
WLAN Bluetooth™	Intel	Nireless-A	AC 9560,	Wi-F	i 2x2 802.	11ac + Blue i-Fi + Blueto	etooth	5.0	ter		Limited warranty	<ul> <li>1-year d</li> </ul>	following, configurable lepot repair service -yr battery depot rep			
WWAN (optional)	One c	of the follow	ing, config	<i>gurable</i>	e by model: (special b	id only in Fl					]	• 3-year/1	-yr battery limited o	nsite service		
	<ul> <li>Inte</li> </ul>	grated Mo	bile Bro	adbai	nd 4G LTE	id only in El	L830-E	B, M.2 car	d (EME/	A only)	Mil-Spec test		810G military testing	,	· .	
SIM card (opt)	<ul> <li>Inte</li> <li>* For I</li> <li>Nano</li> </ul>	grated Mo non-WWAN -SIM card	obile Bro <i>I model, it</i> I slot, opt	adbaı <i>mean</i> tional	nd 4G LTE is the mode Verizon L	É-A, Fibocor I <i>is NOT WW</i> TE (US) SII	m L850 <i>'AN upg</i> <u>M car</u> d	)-GL, M.2 c radable	ard		Environment	EPEAT™ (	Gold; ENERGY STA	R [®] 7.1; RoHS-compl	liant	
Note: The specifica	ations	ahove may	not he a	vailah	le in all red	nions										Lenovo

Note: The specifications above may not be available in all regions.

Lenovo July 2020









## ThinkPad P51 Platform Specifications

Product Specifications Reference (PSREF)

Processor	6th or 7th Ge Intel Xeon® I					or			Dimensions	WxDxH: 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4m WxDxH(Touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7m			
	Processor	# of	# of	Base	Max Turbo			Weight	Models 4-cell 6-cell				
	Number	Cores	Threads	Frequency	Frequency	Cacille	Types	Graphics Intel HD Graphics		Non-touch         5.6 lb / 2.55kg         5.9 lb / 2.67kg           Multi touch         6.0 lb / 0.00 lb         0.4 lb / 0.00 lb			
	i7-6820HQ			2.7 GHz	3.6 GHz		DB4-2133	530	Case color	Multi-touch 6.2 lb / 2.82kg 6.4 lb / 2.90kg Black			
	E3-1505M v5			2.8 GHz	3.7 GHz	SIVIB		Intel HD Graphics P530	Case material	Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum			
	i7-7700HQ	4	8	2.8 GHz	3.8 GHz	6MB		Intel HD Graphics		er Optional: Smart card reader			
	i7-7820HQ	-		2.9 GHz	3.9 GHz		DDR4-2400	630	ExpressCard	One slot (ExpressCard/34)			
	E3-1505M v6	-		3.0 GHz	4.0 GHz	8MB		Intel HD Graphics	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Four USB 3.1 Gen 1 (USB 3.0, one Always On), USB Type-C / Thunderbolt 3,			
	E3-1535M v6			3.1 GHz	4.2 GHz			P630	FOILS	Mini DisplayPort 1.2a, HDMI 1.4b, Ethernet (RJ-45), Dock connector			
Graphics	Intel HD Gra	phics §	530, 630	, P530, or I	P630 in pro	cesso	r and			* Depending on many factors, actual data transfer speed may be lower than theoretical spee			
	NVIDIA Qua						Port or Th	underbolt™	Camera (optional)	/)HD720p resolution, fixed focus			
	supports external digital monitor via HDMI, Mini DisplayPort, or Thunderbolt™; Up to 4 displays with 3 external monitors plus system LCD screen.							,	Audio support	HD Audio, Realtek [®] ALC3268 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone iack			
	Max resolution: 3840x2160@60Hz (DisplayPort via Mini DisplayPort cable);							ort cable);	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backligh			
Obligged	3840x2160@60Hz (Thunderbolt); 4096x2160@24Hz (HDŴI) Mobile Intel CM238 Chipset								UltraNav™	3-button TrackPoint® pointing device and			
Chipset Memory					non-ECC (	FCC f	unction sur	norted only on		3-button Mylar surface multi-touch touchpad			
Wentery	64GB max / 2400MHz DDR4, ECC or non-ECC (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets								Security	Power-on password, hard disk password, supervisor password, security keyhole			
	* System clocks down for processors with lower memory controller								Security chip vPro <i>(optional)</i>	Discrete TPM 2.0, TCG Certified Intel vPro Technology			
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 250 nit 16:9 aspect ratio, 700:1 contrast ratio, 160° viewing angle						ED backligh	t, WVA, 250 nits,		r Touch style match on chip fingerprint reader on the palm rest			
	Some: 15.6	" (396r	nm) 4K (	(3840x2160	0), anti-glar	e, LED	) backlight,	WVA, 300 nits, viewing angle	Color calibration				
Multi-touch (opt)	Capacitive-ty	ype mu	Ilti-touch	, supports	10-finger g	esture			Battery	Lithium Polymer 4-cell (66Wh) or 6-cell (90Wh)			
Pen (optional)	ThinkPad Pe	,				,			Max battery life ¹⁰	Model 4-cell 6-cell			
Storage	Up to 3 drives								(MobileMark® 2014)				
	Some: HDE Some: M.2						ve Protectio	on System™		Hybrid Graphics 6.5 hr 8.9 hr			
RAID <i>(optional)</i> Optical	RAID 0/1 su None			lile, i Ole (	5.0 x 4, 520	JD/3			AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factor 170W slim tip AC adapter			
Ethernet	Non-vPro m vPro model:						ksonville) acksonville)		Operating system	<ul> <li>One of the following, configurable by model:</li> <li>Windows[®] 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64</li> </ul>			
WLAN	One of the foll	lowing, d	configural	ble by model.	:	```	,		1	Windows® 10 Home 64			
	<ul> <li>Intel Dual Band Wireless-AC 8260, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card</li> <li>Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card</li> </ul>						c + BT4.1, I	VI.2 card		Windows 10 Pro 64			
Bluetooth™	<ul> <li>Intel Dual I Bluetooth 4.</li> </ul>	Band W	Vireless-	AC 8265, V	VI-Fi 2x2 80	)2.11a	c + BT4.1, I	VI.2 card		Windows 10 Pro 64 for Workstations			
Dideloolii	* Intel 8260ac	/ 8265a	ac card su	ipport BT4.2	but is limited	to BT4	4.1 by Windov	vs OS	Limited warranty	One of the following, configurable by model: • 1-year depot repair service			
WWAN (optional)	One of the foll	lowing, d	configural	ble by model.	:		-		1	<ul> <li>3-year/1-yr battery depot repair service</li> </ul>			
,	Wireless W								<ul> <li>3-year/1-yr battery limited onsite service</li> </ul>				
	<ul> <li>Integrated Qualcomm</li> </ul>					ireless	s EM7455),	M.2 card	Mil-Spec test	MIL-STD-810G military testing			
SIM card (opt)								IEA) SIM card	Environment	EPEAT™ Gold (US only); ENERGY STAR [®] 6.1; RoHS-compliant			

Note: The specifications above may not be available in all regions.









# ThinkPad P52 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Genera	ation I	ntel [®] Core	e [™] i7 / i9 Pr	ocessor or	Intel X	eon® E Pro	ocessor	Dimensions	<i>WxDxH:</i> 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4mm			
	Processor Number		# of Threads		Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight	<i>WxDxH(Touch):</i> 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm <i>Non-touch model:</i> starting at 5.4 lb / 2.45kg; <i>Multi-touch model:</i> starting at 6.4 lb / 2.9kg			
	i7-8750H i7-8850H i9-8950HK	6	12	2.6 GHZ 4.3 GHZ 910B 630			Case color Case material	Black Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum					
	E-2176M			2.7 GHz	4.4 GHz	12MB		Intel UHD Graphics P630	ExpressCard	r <i>Optional:</i> Smart card reader None			
	Intel LIHD Graphics 630 or P630 in processor and							hunderbolt [™] ; n. Port cable);	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Three USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Power Delivery only supports power-out for charging peripherals			
Chipset Memory	only on Xe * Installed E	n-ECC on pro	C or 64GE ocessor), are actually	BECC max	nel capable out run at 24	, four E	DR4 SO-E	ction supported DIMM sockets <i>imitation</i>		<ul> <li>* Depending on many factors, actual data transfer speed may be lower than theoretical speed</li> <li>One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera, fixed focus</li> <li>HD Audio, Realtek® ALC3286 codec /</li> </ul>			
Display	y Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 160° viewing angle Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, WVA,									optional dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone			
Multi-touch <i>(opt)</i>	400 nits, 16:9 aspect ratio, 1000:1 contrast ratio, 100% gamut, 170° viewing angle, multi-touch						io, e (4K only)		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad			
Pen Storage	Supports p Up to 3 driv Some: Some:	oen ac <i>es (two</i> HDD / M.2 SS	Cessory, M.2 SSD SATA 6.0 SD / PCIe	please see and one HD OGb/s, 2.5" NVMe, PO	the access D), supports wide, 7mm Cle 3.0 x 4	sory co <i>single s</i> high, , 32Gb/	mpatibility <i>ided M.2 22</i> Active Prote 's	for details 80 drives only ection System™		Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Touch style match on chip fingerprint reader on the palm rest			
Optane [™] memory RAID <i>(optional)</i> Optical	RAID 0/1 s			emory, PCI	e invivie, P	Cie 3.0	) X 2			Near Field Communication Swappable Li-ion 90Wh battery			
Ethernet	Non-vPro vPro mode	əl:	Intel Eth	ernet Conr	nection I21	9-LŇ (、	Jacksonville	e)	Max battery life	Discrete mode: 6.1 hr; Hybrid mode: 8.9 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W slim tip AC adapter			
	Intel Wirele Bluetooth								<b>'</b>	One of the following, configurable by model:			
	One of the i • Wireless • Integrate	WAN	upgradat	ble						<ul> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>			
		M™ 73	60 (Fiboo	om L850-0	GL), M.2 ca		rd			<ul> <li>One of the following, configurable by model:</li> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>			
									Mil-Spec test	MIL-STD-810G military testing			
Noto: The openified									Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant			

Note: The specifications above may not be available in all regions.









# ThinkPad P52s Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Generation Intel [®] Core™ i5 / i7 Processor	Dimensions WxDxH: 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm
	Processor# of Cores# of ThreadsBase FrequencyMax Turbo FrequencyCacheMemory TypesProcessor Graphicsi5-8350U481.7 GHz3.6 GHz6MB1.7 GHz1.7 GHz6MBi7-8550U481.8 GHz4.0 GHz8MBDDR4-2400Intel UHD Graphicsi7-8650U1.9 GHz4.2 GHz8MB620	Weight starting at 4.39 lb / 1.99 kg Case color Black Case material Display cover: GFRP + PPS; Bottom: GFRP Smart card reader Optional: Smart card reader
Graphics	Intel UHD Graphics 620 in processor and NVIDIA Quadro® P500, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; Up to 3 displays with 2 external monitors plus system LCD screen. Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI) Intel SoC (System on Chip) platform	Media reader       4-in-1 reader (MMC, SD, SDHC, SDXC)         Ports       Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), add deliver accurate keybelo
Memory Display	32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * System clocks down for processors with lower memory controller Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 250 nits.	side docking connector, security keyhole <i>Depending on many factors, actual data transfer speed may be lower than theoretical speed</i> <i>HDMI to VGA:</i> Lenovo HDMI to VGA Monitor Adapter <i>USB-C to DP:</i> Lenovo USB-C to DisplayPort Adapter
Multi-touch (opt)	<ul> <li>Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 200 mls.</li> <li>Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 300 nits 16:9 aspect ratio, 1000:1 contrast ratio, 72% gamut, 170° viewing angle</li> <li>On-cell touch, supports 10-finger gesture (FHD only)</li> </ul>	Camera (optional) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera, fixed focus
Pen Storage	None System has one HDD slot or one M.2 2280 slot exclusively for storage, and	Audio support HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array microphone, headphone / microphone combo jack
J.	supports single sided M.2 2280 drives only Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high (e.g. xxxGB SSD)	Keyboard UltraNav™         6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Optane™ memory Optical	Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s Some: 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, in WWAN slot as 2nd Storage, mutually exclusive with WWAN Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2 None	Security Power-on password, hard disk password, supervisor password, security keyhole Security chip vPro (optional) Intel vPro Technology Fingerprint reader Optional: Touch style match on chip fingerprint reader on the palm rest anti-spoofing technology
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)	NFC (optional) Near Field Communication Battery Optional integrated Li-ion 32Wh battery and
WLAN + Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS One of the following, configurable by model:	Swappable Li-ion 24Wh, 48Wh, or 72Wh battery           Max battery life         Models         48Wh         72Wh         32Wh + 24Wh         32Wh + 48Wh         32Wh + 72Wh           (MobileMark® 2014)         Max battery life         12.2 hr         18.5 hr         13.5 hr         20.1 hr         26.3 hr
WWAN (optional)	Wireless WAN upgradable     Integrated Mobile Broadband 4G LTE,	AC adapter [*] Battery life varies significantly with hardware configurations, settings, usage, & other factors 65W USB Type-C AC adapter
SIM card (opt)	Inteľ XMM [™] 7262 (Fibocom L830-EB), M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A, Intel XMM [™] 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card	Operating system Windows® 10 Home 64 or Windows 10 Pro 64         Limited warranty       One of the following, configurable by model:         • 1-year depot repair service         • 3-year/1-yr battery depot repair service         • 3-year/1-yr battery limited onsite service         • 3-year (including battery) limited onsite service
		Mil-Spec test MIL-STD-810G military testing
		Environment EPEAT™ Silver; ENERGY STAR [®] 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.









# ThinkPad P53 Platform Specifications

Processor	9th Gen	eration Inte	el® Cor	e™ i5 / i7	/ i9 Proces	sor or Ir	ntel Xe	on® E P	rocessor		Dimensions	WxDxH (non-touch): 14.86" x 9.93" x 0.96-1.16";
	Processo		# of	Base	Max Turb		21	mory	Proces			377.4mm x 252.3mm x 24.5-29.4mm WxDxH (multi-touch): 14.86" x 9.93" x 1.02-1.21";
	Number i5-9400H		hreads 8	Frequer 2.5 GH		_		pes	Graph	lics	Maight	377.4mm x 252.3mm x 25.8-30.7mm
	i7-9750H		12	2.6 G⊦	z 4.5 GHz	_	-	In	ntel UHD (		Weight	Non-touch model: starting at 5.51 lb / 2.5 kg; Multi-touch model: starting at 6.4 lb / 2.9 kg
	i7-9850H i9-9880H		12 16	2.6 GH		_	-11/1/184	4-2666	630	)	Case color Case material	Black Display cover: Glass-Fiber Reinforced Plastic;
	E-2276M	6	12	2.8 GF			-	In	ntel UHD (	Graphics		Bottom: Magnesium/Aluminum
							<b>'</b>		P63	0	Smart card reader	r <i>Optional:</i> Smart card reader None
·	Intel UHD Graphics 630 or P630 in processor and NVIDIA® Quadro® T1000 (4GB GDDR5), T2000 (4GB GDDR5), RTX 3000 (6GB GDDR6, VR ready), RTX 4000 (8GB GDDR6, VR ready), or RTX 5000 (16GB GDDR6, VR ready); supports external digital monitor via HDMI or Thunderbolt [™] ; Up to 5 displays with 4 external monitors plus system LCD screen. Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (USB-C or HDMI)											<ul> <li>Hone</li> <li>4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card</li> <li>Two USB 3.1 Gen 1 (one Always On),</li> <li>one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),</li> <li>two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),</li> <li>HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models),</li> <li>headphone / microphone combo jack, optional smart card reader,</li> <li>4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole</li> </ul>
Memory	128GB r	ntel CM246 nax / 2666 nnel capal	MHz C	DR4 (E	CC function	suppor ockets	ted on	ily on Xe	eon proce	essor),	Monitor cable	* Power Delivery only supports power-out for charging peripherals * USB-C Dock is not supported in right-side USB-C port * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Display	Size Res	solution	1	īype Su	rface Brigh	tness A	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
		D (1920x108	/	VVA Ant	-glare 300	nits	16:9	700:1	72%	160°	Bundled Accy	None
	15.6" FH	O (1920x108 by Vision™ I	B0) HDR   V	VVA Ant	-glare 500	nits	16:9	1200:1	72%	160°	Camera (optional)	) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus
		D (3840x21 by Vision HI		VVA Ant	-glare 500	nits	16:9	1200:1	100%	170°	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio. Synaptic® CX11880 codec / stereo speakers. 2W x 2 /
	15.6" Dol	D (3840x21) by Vision HI ti-touch	60) DR, C	LED ref	Anti-		16:9	100000:1	100% DCI-P3	170°		optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
Multi-touch (opt)	Capaciti anti-refle	ve-type mu	ulti-tou	ch. supp	udge   (P orts 10-fing AS) coating	er aestu	ıre (UH	HD only)	,		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint [®] pointing device and 3-button Mylar surface multi-touch touchpad
Pen (optional)	Lenovo I	Pen Pro (s	pecial	bid only)							Security	Power-on password, hard disk password, supervisor password, security keyhole
	<ul> <li>Upports</li> <li>HDD /</li> <li>M.2 22</li> <li>HDD is</li> </ul>	single sided SATA 6.00 80 SSD / only availab	<i>M.2 22</i> Gb/s, 2 PCIe N <i>le for T</i> :	80 drives .5" wide IVMe, P 000 and	7mm high, Cle 3.0 x 4 2000 graphi	Active I	I	tion Syst	em™			Discrete TPM 2.0, TCG Certified Intel vPro Technology r Touch style match on chip fingerprint reader on the palm rest <i>Optional:</i> X-Rite Pantone factory color calibration (UHD model only) Near Field Communication
	Optional RAID 0/ None	: Intel Opt I/5 suppor	ane m t	emory, F	Cle NVMe,	PCIe 3	.0 x 2				Battery Max battery life ( <i>MobileMark</i> [®] 2014)	Integrated Li- Polymer 90Wh battery, supports Rapid Charge (charge up to 80% ir 1hr) Discrete mode: 8 hr; Hybrid mode: 13 hr
	Non-vPr vPro mo				onnection I2						AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter
Bluetooth™ (opt) WWAN (optional)	Bluetoot One of th	h 5.1 wirel	ess, in <i>configu</i>	tegrated	2.11ax + Blu in Wi-Fi + E odel:	luetoot	h com	bo adap	ter			One of the following, configurable by model: • Windows® 10 Home 64 • Windows 10 Pro 64 • Windows 10 Pro 64 for Workstations
	Integra     * For non-	ted Mobile	e Broad del, it m	band 40 eans the	ial bid only LTE-A, Fil nodel is NO on LTE (US	ocom L WWAN	.850-G		card			One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service
											Mil-Spec test	MIL-STD-810G military testing
		vo mov not									Environment	EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant

Note: The specifications above may not be available in all regions.









# ThinkPad P53s Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Ge	eneration Ir	ntel® Coi	re™ i	7 Proces	sor					Dimensions	<i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
	Proces Numbe i5-8365 i7-8565	or Cores 5U 5U 4	# of Threads 8	Free 1.6	quency F 6 GHz 8 GHz	4.1 GHz 4.6 GHz		Memory Types DDR4-2400 Ir	Proce Grap ntel UHD	hics	Weight Case color Case material	starting at 3.87 lb / 1.75 kg Black <i>Display cover:</i> PPS / 50% GF; <i>Bottom:</i> PA / 50% GF r <i>Optional:</i> Smart card reader
	NVIDI. suppo suppo	IHD Graphi A Quadro [®] rts externa rts 3 indep	P520, 2 Il digital endent o	oces GB ( moni displa	sor and GDDR5 r tor via H avs with 2	nemory; DMI or US 2 external	monito	e-C; ors plus syste 60@30Hz (H	em LCD IDMI)	screen.	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
Chipset Memory	48GB 8GB o		0MHz Di emory so	DŔ4, oldere	, dual-cha ed to sys	temboard,	one D	DR4 SO-DII ue to Intel limit		ket	Monitor cable (optional)	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Display	Size F	Resolution	Т	ӯре	Surface	Brightness	Aspect Ratio	t Contrast Ratio	Color Gamut	Viewing Angle	Bundled Accy	None ) One of the following, configurable by model:
	15.6" F	-HD (1920x1	1080) V	VVA /	Anti-glare	250 nits	16:9	700:1	45%	170°		HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" <mark>[</mark>	JHD (3840x2 Dolby Vision™	2160) ™ HDR V	VVA /	Anti-glare	500 nits	16:9	1200:1	100% Adobe	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek[®] ALC3287 codec / stereo speakers, 2W x 2, Dolby[®] Audio[™] Premium /</li> </ul>
Multi-touch <i>(opt)</i> Pen	On-ce None	ll touch, su	pports 1	0-fin	iger gest	ure (FHD o	only)				Keyboard	optional dual array far-field microphone, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight
Storage	Suppor	rts single sid	led M.2 2	280 d	lrives only						UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Ortical	<ul> <li>M.2</li> <li>M.2</li> <li>Intel M.2</li> </ul>	2280 SSD 2280 SSD 2242 SSD Optane™ N 2280, PCIe	/ PCIe I / PCIe I Memory	NVM NVM H10	e, PCIe 3 e, PCIe 3 with Sol	3.0 x 2	orage,				Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology <i>r Optional:</i> Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Optical Ethernet	None Non-v	Pro model:	Intel Et	herne	et Conne	ction 1219	V (Jac	cksonville)			Battery	Integrated Li- Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in
WLAN Bluetooth™	vPro n Intel W	<i>nodel:</i> /ireless-AC	Intel Et 9560, V	herne Ni-Fi	et Conne 2x2 802	ection I219 .11ac + Blu	LM (Ja Jetooth	acksonville)	er		Max battery life AC adapter	1hr) MobileMark [®] 2014: 15 hr (FHD model) / 10 hr (UHD model) * Battery life varies significantly with hardware configurations, settings, usage, & other factors 65W USB Type-C AC adapter
WWAN (optional)	One of	the following	g, configu	irable	by model.	:					Operating system	Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	<ul> <li>Integ</li> <li>Integ</li> <li>* For no</li> </ul>		ile Broa ile Broa nodel, it n	dban dban <i>neans</i>	d 4G LTE d 4G LTE the mode	E, Fibocom E-A, Fiboco <i>el is NOT W</i> I	i L830- om L85 <i>NAN up</i>	-EB, M.2 car 50-GL, M.2 c ogradable		A only)		One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service
			-9 - F			()-					'	MIL-STD-810G military testing
											Environment	EPEAT™ Gold; ENERGY STAR [®] 7.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

Lenovo September 2020









## ThinkPad P72 Platform Specifications

Product Specifications Reference (PSREF)

Graphics In Pr	7-8750H 7-8850H E-2176M E-2186M The UHD Graph VIDIA Quadro®	# of Threads 12	Frequency         I           2.2 GHz         I           2.6 GHz         I           2.7 GHz         I	Max Turbo Frequency 4.1 GHz 4.3 GHz 4.4 GHz	Cache 9MB 9MB	Memory Types	Processor Graphics	Weight Case color	Starting at 7.5 lb / 3.4kg Black			
Graphics In N Pr	7-8850H E-2176M E-2186M NUDIA Quadro®		2.6 GHz 2.7 GHz	4.3 GHz	OMB		Graphics Intel UHD Graphics	Case material	Black <i>Display cover:</i> GFRP + PPS;			
Graphics In N P	E-2176M E-2186M Itel UHD Graph			4.4 GHz		17-8850H 2.6 GHz 4.3 GHz 9MB 630		0	Bottom: Magnesium/Aluminum			
· N P:	VIDIA Quadro®		· · · · · · · · · · · · · · · · · · ·	4.8 GHz	12MB 12MB	DDR4-2400	Intel UHD Graphics P630	ExpressCard Media reader	r <i>Optional:</i> Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card			
SL	supports externa supports 4 indep Max resolution: 3	P600 (40 nory), P4 I digital n endent d 3840X21	GB memory) 200 (8GB n nonitor via H isplays with 60@60Hz (I	), P2000 ( nemory), o IDMI, Min 3 externa DisplayPo	4GB m or P520 i Displa I monit rt via M	00 (16Ġ́B r ayPort, or T ors plus sy 1ini Display	hunderbolt™; stem LCD screen.	Ports Monitor cable	Four USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable			
Memory 12 or	Mobile Intel CM246 Chipset 128GB non-ECC or 64GB ECC max / 2400MHz DDR4 (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets * Installed DIMMs are actually 2666MHz but run at 2400MHz due to Intel limitation				DDR4 SO-I	DIMM sockets		IR camera and HD720p camera, fixed focus HD Audio, Realtek [®] ALC3286 codec / stereo speakers, 2W x 2, Dolby [®] Audio [™] Premium / optional dual array micro- phone, headphone / microphone combo jack, Dolby Atmos [®] headphone				
	y Some: 17.3" (439mm) FHD (1920x1080), anti-glare, LED backlight, WVA, 300 nits 16:9 aspect ratio, 800:1 contrast ratio, 72% gamut, 170° viewing angle Some: 17.3" (439mm) UHD (3840x2160), anti-glare, LED backlight, WVA, 400 nits 16:9 aspect ratio, 1000:1 contrast ratio, 100% Adobe gamut,			viewing angle ght, WVA, 400 nits	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad						
Pen N	lone lone	170° viewing angle ne ne			Security chip vPro <i>(optional)</i>	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Touch style match on chip fingerprint reader on the palm rest						
S	Jp to 3 drives (two Some: HDD / S Some: M.2 SS	SATA 6.0	Gb/s, 2.5" w	vide, 7mm	high, A	Active Prote		Color calibration				
RAID (optional) R	nemory Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2				MobileMark® 2014: 16 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors							
	Non-vPro model: /Pro model:		ernet Connernet					AC adapter Operating system	230W slim tip AC adapter One of the following, configurable by model:			
Bluetooth™ Bl	ntel Wireless-AC Bluetooth 5.0 wir							(optional)	<ul> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>			
				Limited warranty	One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service							
								Mil-Spec test	MIL-STD-810G military testing			
Note: The specificatio								Environment	EPEAT™ Gold (US only); ENERGY STAR [®] 7.0; RoHS-compliant			

Note: The specifications above may not be available in all regions.

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## ThinkPad P73 Platform Specifications

Product Specifications Reference (PSREF)

Processor	9th Genera	ation I	ntel [®] Cor	e™ i5 / i7 / i	Processo	or or Inte	el Xeon® E	Process	or	Dimensions	<i>WxDxH:</i> 16.38" x 11.06" x 1.02-1.22"; 416mm x 281mm x 25.9-31mm					
	Processor Number i5-9400H	4	# of Threads 8	2.5 GHz	Max Turbo Frequency 4.3 GHz	Cache 8MB	Memory Types		cessor phics	Weight Case color Case material	Starting at 7.5 lb (3.4kg) Black <i>Display cover:</i> GFRP + PPS; <i>Bottom:</i> Magnesium/Aluminum					
	i7-9750H i7-9850H i9-9880H	6 6 8	12 12 16	2.6 GHz 2.6 GHz 2.3 GHz	4.5 GHz 4.6 GHz 4.8 GHz	12MB 12MB 16MB	DDR4-2666		D Graphics 30	Smart card reade ExpressCard Media reader	or <i>Optional:</i> Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card					
	E-2276M	6	12	2.8 GHz	4.7 GHz	12MB			D Graphics 630	Ports	Three USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),					
Graphics	NVIDIA Qu RTX 3000 or RTX 50 Up to 5 dis tors suppo	adro® (6GB 00 Ma plays orted vi	P620 (4) GDDR6, x-Q (16G with 4 ex ia USB-C	or P630 in p GB GDDR5 VR ready), BB GDDR6, ternal mon C, Thunderb Hz (Thunde	i), T2000 (4 RTX 4000 VR ready) tors plus s olt, and HE	4GB GI ) Max-G ; ystem   )MI	Q (8GÉ GD LCD scree	n. Extern	• • •	Monitor cable (optional)	two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter					
Chipset Memory	Mobile Inte 128GB ma dual-chan	ax / 26	66MHz D	set DR4 (ECC ır DDR4 S0	function s D-DIMM so	upporte ckets	ed only on	Xeon pro	ocessor),	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None /)IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus					
Display	Size Resol			Type Surfac		R	atio Contra	o Gamu	t Angle	Audio support	HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 / dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system					
	Dolby	(3840x	<u>, , , , , , , , , , , , , , , , , , , </u>	VVA Anti-gla VVA Anti-gla			6:9     700:       6:9     1000:		160° 5 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad					
Multi-touch Pen	None None									Security Power-on password, hard disk password, supervisor password, security keyho						
RAID (optional)	Up to 3 drives (two M.2 SSD and one HDD), supports single sided M.2 2280 drives only <ul> <li>HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> </ul> <li>ory Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2</li> <li>NAID 0/1 support</li>								only	Security chip vPro (optional)         Discrete TPM 2.0, TCG Certified           Intel vPro Technology         Intel vPro Technology           Fingerprint reader Touch style match on chip fingerprint reader on the palm rest         Color calibration           Optional         V-Rite Pantone factory color calibration (UHD model only)           NFC (optional)         Near Field Communication						
Optical Ethernet	None Non-vPro vPro mode		: Intel Eth	nernet Coni nernet Coni	nection I21	9-V (Ja 9-I M (.	cksonville) lacksonvill	e)		Battery Max battery life	Integrated Li- Polymer 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 17.2 hr					
WLAN (optional) Bluetooth™ (opt)	Intel Wi-Fi	6 AX2	200, Wi-F	i 2x2 802.1	1ax + Blue	tooth 5.	.1	,		AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter					
WWAN SIM card							None							aptor	Operating system	<ul> <li>One of the following, configurable by model:</li> <li>Windows[®] 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>
										Limited warranty	One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service					
										Mil-Spec test	MIL-STD-810G military testing					
Noto: The specifics										Environment	EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant					

Note: The specifications above may not be available in all regions.

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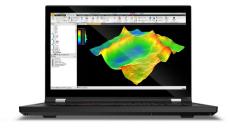












## ThinkPad T15g Gen 1 Platform Specifications

	Suppo	orts one 10th	Xeor	W, Core	e i9, i7,	or i5 proce	ssor as f	ollowing:			SIM card	Optional Nano-SIM card slot
	Processor Number # of # of Base Max Turbo Cache Memory Processor								Pr	ocessor		Width: 375.4 mm (14.78 in). Depth: 252.3 mm (9.93 in).
	Proce	ssor Number				ncy Frequen	cy Cache	Types		raphics	Dimensions	Thickness for non-touch models: 24.5 ~ 31.45 mm (0.96 ~ 1.24 in) Thickness for touch models: 25.25 ~ 32.2mm (0.99 ~ 1.27 in)
	Yoon	W-10885M	8	16	2.4Gł	17 5 3 G H	7 16ME	DDR4-29		el UHD	Weight	Starting at 2.74 kg (6.05 lb, FHD)
	760II	VV-10005IVI	0	10	2.401	12 5.5011		00114-23	G	raphics	Case color	Black
	Xeon	W-10855M	6	12	2.8GH	Iz 5.1GH	z 12ME	DDR4-29		el UHD		Display cover: GFRP 50% (PPS695 + GF 50%).
									G	raphics	Case material	Bottom: PPS + GF
	Core	i9-10980HK	8	16	2.4GH	lz 5.3GH	z 16ME	DDR4-293		el UHD	Media reader	SD card reader
Processor									Int	el UHD		1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI
	Core	i9-10885H	8	16	2.4Gł	lz 5.3GH	z  16ME	DDR4-29		raphics	Standard Ports	2.0, 1x headphone / microphone combo jack, 1x SD card reader,
	Coro	i7-10875H	8	16	2.3Gł		7 16146	DDR4-29	, Int	el UHD	1	1x security keyhole, 1x RJ-45
	Core	1/-108/5日	0	16	2.3Gr	12 5.160		DDR4-29	³³ Gi	raphics	Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on left
	Core	i7-10850H	6	12	2.7Gł	Iz 5.1GH	7 12ME	DDR4-29		el UHD		Up to 5 displays with 4 external monitors plus system LCD screen. External
	0010		Ũ		2.7 0.	0.1011			G	raphics	-	monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI.
	Core	i7-10750H	6	12	2.6GH	Iz 5.0GH	z 12ME	DDR4-29		el UHD	Monitor support	USB-C and HDMI support up to 4K@60Hz.
									Int	raphics el UHD	-	With Thunderbolt, one supports up to 5K@60Hz and one supports up to 4K@60Hz
	Core	i5-10400H	4	8	2.6GH	lz 4.6GH	z 8MB	DDR4-293		raphics	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Chipset	Intel V	VM490 Chips	ot							apriloo	Bundled Accy	None
		IMM. DDR4-		non-FCC	or DD	B4-2933 F	CC.					Supports one optional camera as following:
Memory Type	Both I	ECC and nor	n-ECC	operate	at DDI	34-2933.					Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
		6GB/32GB	availa	ble for bo	oth ECC	and non-l	ECC					Hybrid IR camera with ThinkShutter camera privacy, fixed focus
	4 DIMM sockets n ECC on models with ECC DIMMs and Xeon processor			Audio chip Speaker	Realtek ALC3286 codec Stereo speakers, Dolby Atmos sound system							
			th EC	C DIMM	s and )	eon proce	ssor				Microphone	Optional dual array far-field microphone
Max Memory	128GB			6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with								
Graphics	Support one of the following discrete graphics: • NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory		morv	Keyboard	Unified Communications controls.							
on apriloo	NVII	DIA GeForce	RTX	2080 SU	PER w	ith Max-Q	Design, 8	SGB GDDR	16 me	mory	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
	Sizo	Resolution	1	ype Sur	e Surface Touch Brightness Aspect Contu					Viewing	Password	touchpad Power-on password, hard disk password, supervisor password
	0120	lesolution		ype Oui			Ratio	Ratio	Gamu	t Angle	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	15.6"	FHD (1920x10	80) V	VVA Anti-	alare	- 300 n	ts 16:9	700:1	72%	160°	System mgmt	Optional Intel vPro Technology supported on vPro enable models
		,	· ·		g			100.1	NTSC		Security locks	Security keyhole for optional Kensington lock
		FHD (1920x1080)		VVA Anti-	alara	- 500 n	ts 16:9		72%	160°	Smart card reader	
Disalar	15.6" Dolby Vision, HDR 400		×		giare	- 50011	10.5		NTSC	100	Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest
Display		JHD (3840x21							100%		Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80%
		Dolby Vision, HDR 400	V	VVA Anti-	glare	- 600 n	ts 16:9		100% Adobe		, 	in 1hr) with 230W AC adapter MobileMark 2014: 16.4 hr.
		IDH 400				SDF	2				Max battery life	MobileMark 2014: 10.4 m. MobileMark 2018: 10.3 hr
		JHD (3840x21	60)		nti-		t,		100%			* Battery life varies significantly with hardware configurations, settings, usage, & other factors
		Dolby Vision, HDR 400	0	/ A	unu- 10	uch 500n		100000:1	DCI- P3	170°	Power Adapter	One of the following: • 230W slim AC adapter
	1 1	1011 400		smu	udge	(peal			10			• 170W slim AC adapter
Color Calibration	Facto	ry Color Calil	oratio	n on UHE	) pane	S						Supports one optional preloaded operating system as following:
Touchscreen	Touch	enable on s	electe	d UHD C	DLED n	nodels, sup	ports 10	-finger gest	ture			• Windows 10 Home 64
Pen		nal Lenovo P	-	-							Operating system	Windows 10 Pro 64     Windows 10 Pro 64 for Workstations
0	- P	two M.2 228		D, PCle N	IVMe, 2	256GB / 51	2GB / 11	B / 2TB ea	ich			Ubuntu Linux LTS
	-	0 / 1 support	t									• Fedora Linux
	None										_	Optional warranty plans as following:
Ethernet	One c	nboard GbE 9V for non-vl	port	/la integr	ated gi	gabit ether	net, Intel	1219LM for	' vPro	models	;	<ul> <li>1-year depot repair service</li> <li>3-year depot repair service</li> </ul>
	None		10 10	00615							Base Warranty	• 1-year + 2-year depot repair service
		nal Intel Wi-F	i 6 A X	201 on r	nost m	odels, Wi-F	i 2x2 802	P.11ax + Bl	uetoo	th 5.1		<ul> <li>1-year limited onsite service</li> </ul>
WLAN + Diuelooth	Blueto	oth 5.1 requ	ires th	ne latest	version	of Window						<ul> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> </ul>
		of the followin	a col	nfigurable	e by mo							1-year depot with 2-year system board repair service
	One	One of the following, configurable by model: • No WWAN card and non upgradable										
	<ul> <li>No V</li> </ul>	VWAN card a	and no	on upgra	dable				Anton	no Only	Mil-Spec test	MIL-STD-810G military testing
WWAN	<ul> <li>No V</li> <li>Integration</li> </ul>	VWAN card a grated Mobile grated Mobile WAN cannot be	and no Broa	on upgrad	dable porada	ble. No WV	VAN Car	d, WWAN A	Anten x4. M	na Only 2 card	Mil-Spec test Environment ISV certifications	MIL-STD-810G military testing EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant None

## ThinkPad T15g Gen 1 Platform Specifications

	Suppo	orts one 10th	Xeor	W, Core	e i9, i7,	or i5 proce	ssor as f	ollowing:			SIM card	Optional Nano-SIM card slot
	Processor Number # of # of Base Max Turbo Cache Memory Processor								Pr	ocessor		Width: 375.4 mm (14.78 in). Depth: 252.3 mm (9.93 in).
	Proce	ssor Number				ncy Frequen	cy Cache	Types		raphics	Dimensions	Thickness for non-touch models: 24.5 ~ 31.45 mm (0.96 ~ 1.24 in) Thickness for touch models: 25.25 ~ 32.2mm (0.99 ~ 1.27 in)
	Yoon	W-10885M	8	16	2.4Gł	17 5 3 G H	7 16ME	DDR4-29		el UHD	Weight	Starting at 2.74 kg (6.05 lb, FHD)
	760II	VV-10005IVI	0	10	2.401	12 5.5011		00114-23	G	raphics	Case color	Black
	Xeon	W-10855M	6	12	2.8GH	Iz 5.1GH	z 12ME	DDR4-29		el UHD		Display cover: GFRP 50% (PPS695 + GF 50%).
									G	raphics	Case material	Bottom: PPS + GF
	Core	i9-10980HK	8	16	2.4GH	lz 5.3GH	z 16ME	DDR4-293		el UHD	Media reader	SD card reader
Processor									Int	el UHD		1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI
	Core	i9-10885H	8	16	2.4Gł	lz 5.3GH	z  16ME	DDR4-29		raphics	Standard Ports	2.0, 1x headphone / microphone combo jack, 1x SD card reader,
	Coro	i7-10875H	8	16	2.3Gł		7 16146	DDR4-29	, Int	el UHD	1	1x security keyhole, 1x RJ-45
	Core	1/-108/5日	0	16	2.36	12 5.160		DDR4-29	³³ Gi	raphics	Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on left
	Core	i7-10850H	6	12	2.7Gł	Iz 5.1GH	7 12ME	DDR4-29		el UHD		Up to 5 displays with 4 external monitors plus system LCD screen. External
	0010		Ũ		2.7 0.	0.1011			G	raphics	-	monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI.
	Core	i7-10750H	6	12	2.6GH	Iz 5.0GH	z 12ME	DDR4-29		el UHD	Monitor support	USB-C and HDMI support up to 4K@60Hz.
									Int	raphics el UHD	-	With Thunderbolt, one supports up to 5K@60Hz and one supports up to 4K@60Hz
	Core	i5-10400H	4	8	2.6GH	lz 4.6GH	z 8MB	DDR4-293		raphics	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Chipset	Intel V	VM490 Chips	ot							apriloo	Bundled Accy	None
		IMM. DDR4-		non-FCC	or DD	B4-2933 F	CC.					Supports one optional camera as following:
Memory Type	Both I	ECC and nor	n-ECC	operate	at DDI	34-2933.					Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
		6GB/32GB	availa	ble for bo	oth ECC	and non-l	ECC					Hybrid IR camera with ThinkShutter camera privacy, fixed focus
	4 DIMM sockets n ECC on models with ECC DIMMs and Xeon processor			Audio chip Speaker	Realtek ALC3286 codec Stereo speakers, Dolby Atmos sound system							
			th EC	C DIMM	s and )	eon proce	ssor				Microphone	Optional dual array far-field microphone
Max Memory	128GB			6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with								
Graphics	Support one of the following discrete graphics: • NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory		morv	Keyboard	Unified Communications controls.							
on apriloo	NVII	DIA GeForce	RTX	2080 SU	PER w	ith Max-Q	Design, 8	SGB GDDR	16 me	mory	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
	Sizo	Resolution	1	ype Sur	e Surface Touch Brightness Aspect Contu					Viewing	Password	touchpad Power-on password, hard disk password, supervisor password
	0126	lesolution		ype Oui			Ratio	Ratio	Gamu	t Angle	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	15.6"	FHD (1920x10	80) V	VVA Anti-	alare	- 300 n	ts 16:9	700:1	72%	160°	System mgmt	Optional Intel vPro Technology supported on vPro enable models
		,	· ·		g			100.1	NTSC		Security locks	Security keyhole for optional Kensington lock
		FHD (1920x1080)		VVA Anti-	alara	- 500 n	ts 16:9		72%	160°	Smart card reader	
Disalar	15.6" Dolby Vision, HDR 400		×		giare	- 50011	10.5		NTSC	100	Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest
Display		JHD (3840x21							100%		Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80%
		Dolby Vision, HDR 400	V	VVA Anti-	glare	- 600 n	ts 16:9		100% Adobe		, 	in 1hr) with 230W AC adapter MobileMark 2014: 16.4 hr.
		IDH 400				SDF	2				Max battery life	MobileMark 2014: 10.4 m. MobileMark 2018: 10.3 hr
		JHD (3840x21	60)		nti-		t,		100%			* Battery life varies significantly with hardware configurations, settings, usage, & other factors
		Dolby Vision, HDR 400	0	/ A	unu- 10	uch 500n		100000:1	DCI- P3	170°	Power Adapter	One of the following: • 230W slim AC adapter
	1 1	1011 400		smu	udge	(peal			10			• 170W slim AC adapter
Color Calibration	Facto	ry Color Calil	oratio	n on UHE	) pane	S						Supports one optional preloaded operating system as following:
Touchscreen	Touch	enable on s	electe	d UHD C	DLED n	nodels, sup	ports 10	-finger gest	ture			• Windows 10 Home 64
Pen		nal Lenovo P	-	-							Operating system	Windows 10 Pro 64     Windows 10 Pro 64 for Workstations
0	- P	two M.2 228		D, PCle N	IVMe, 2	256GB / 51	2GB / 11	B / 2TB ea	ich			Ubuntu Linux LTS
	-	0 / 1 support	t									• Fedora Linux
	None										_	Optional warranty plans as following:
Ethernet	One c	nboard GbE 9V for non-vl	port	/la integr	ated gi	gabit ether	net, Intel	1219LM for	' vPro	models	;	<ul> <li>1-year depot repair service</li> <li>3-year depot repair service</li> </ul>
	None		10 10	00615							Base Warranty	• 1-year + 2-year depot repair service
		nal Intel Wi-F	i 6 A X	201 on r	nost m	odels, Wi-F	i 2x2 802	P.11ax + Bl	uetoo	th 5.1		<ul> <li>1-year limited onsite service</li> </ul>
WLAN + Diuelooth	Blueto	oth 5.1 requ	ires th	ne latest	version	of Window						<ul> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> </ul>
		of the followin	a col	nfigurable	e by mo							1-year depot with 2-year system board repair service
	One	One of the following, configurable by model: • No WWAN card and non upgradable										
	<ul> <li>No V</li> </ul>	VWAN card a	and no	on upgra	dable				Anton	no Only	Mil-Spec test	MIL-STD-810G military testing
WWAN	<ul> <li>No V</li> <li>Integration</li> </ul>	VWAN card a grated Mobile grated Mobile WAN cannot be	and no Broa	on upgrad	dable porada	ble. No WV	VAN Car	d, WWAN A	Anten x4. M	na Only 2 card	Mil-Spec test Environment ISV certifications	MIL-STD-810G military testing EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant None

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This section describes the technical changes made in this edition. This edition might also include minor corrections and editorial changes which are not identified.

## Sep, 2020 - Version 565

### Additions in this update

- New product(s) None
- New model(s)
  None
- ► Others None

### Withdrawals in this update

Withdrawn product(s) None



## **ThinkVision E2054 Monitor**

## **SPECIFICATIONS**

#### 

DISPLAY		MECHANICAL	
Panel Size Panel Type Backlight Viewable Area (Diagonal) Screen Dimensions (W x H) (mm) Resolution Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Number of Colors Response Time Extreme Mode Normal Mode Off-Mode	19.5" IPS WLED 19.5" 418.61 (H) × 262.35 (V) 1440 × 900 16:10 178°/178° 250 cd/m² 1000:1 3M:1 0.0969 × 0.2915 87.3 72% 16.7 Million <5 ms 7 ms 14 ms	Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Ambient Light Sensor Control Buttons Bezel Color Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches)	-5° - 22° No No No 100 x 100 Yes Raven Black 17.9 / 0.7″ 18 / 0.7″ 26 / 1.02″
Anti-Glare	Yes		
SIGNAL INPUT Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied	VGA VGA 1.8 m No No	SIGNAL INTERFACE / PERF Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth Default Color Temperature Preset Display Modes User-defined Display Modes OSD Buttons OSD Languages	30 kHz - 83 kHz 50 Hz - 75 Hz 1440 x 900 VGA : 205 MHz 7200K 18 10 5 8
POWER CONSUMPTION		ENVIRONMENTAL	
Power Consumption Typical Maximum Sleep-Mode Off-Mode Heat Dissipation Typical Maximum Power Supply Power Voltage Voltage Dynamic Frequency	16 W 20 W 0.5 W 54.56 Btu/h 68.2 Btu/h Internal 100 VAC - 240 VAC, 0.75 A - 0.3 A 47 Hz - 63 Hz	Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating	0°C - 45°C (non-condensing) -20°C - 60°C (non-condensing) 8% - 80% (non-condensing) 5% - 95% (non-condensing) 5,000 m 40,000 ft
DIMENSIONS (W x D x H)		COMPLIANCE	
Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen	513 x 388 x 124 20.2" x 15.27" x 4.88" 456 x 188.3 x 372 17.95" x 7.41" x 14.65" 456 x 44.5 x 308 17.95" x 1.75" x 12.13" 90 / 3.54"	Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins EPEAT ENERGY STAR Rating TCO TCO Edge TUV RoHS (EU 2002/95/EC) China Energy Efficiency Standard Windows Certification	Yes Yes 85% Silver 8.0 6.0 No No Yes Tier 1 Windows 7, Windows 8, Windows 8.1, Windows 10
Stand Base Footprint Area	354 / 13.94"	WARRANTY AND AVAILAE	BILITY
(mm / inches) Weight Packed Unpacked Monitor Head	162.3 x 200.8 / 6.39" x 7.91" Starting at 8.7 lbs (3.96 kg) Starting at 6.2 lbs (2.8 kg) Starting at 5.4 lbs (2.45 kg)	Warranty Geography Availability ThinkVision Logo Global Model	3 Years World Wide Yes No

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## ThinkVision F22-20

#### DISPLAY

Panel Size 21.5-inch

Screen Dimensions 476.06 mm x 267.79 mm

Panel Type In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 1920 x 1080

**Pixel Pitch** 0.2480 x 0.2480 mm

Dot/Pixel Per Inch (DPI/PPI) 102

Viewing angle (H x V @ CR 10:1) 178°/178°

**Response Time** 14ms

**Refresh Rate** 60 Hz

**Brightness (typical)** 250 cd/m²

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M·1

Color Gamut 72% NTSC (CIE 1931)

Color Support (typical) 16.7 Million

Color Depth 8-bit

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2 1 x VGA

#### MULTI-MEDIA

**Integrated Speakers** Yes (2 x 1.5W)

#### POWFR

Power Consumption (typ./max) 18W / 24W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch Off-Mode < 0.5W

**ENERGY STAR Power** Consumption **(Р_{оп}/Е_{тес})** 11.24W / 35.64kWh

**Power Supply** Internal

Voltage Required AC 90 to 264 V (47-63 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 22°

Lift (max range) 155 mm

Pivot -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

Bezel Color Raven Black

Bezel Width (side) 15 mm

Bezel Width (top/bottom) 17.25 / 21.15 mm

DIMENSION

Size Packed (D x H x W, mm/inch) 131.0 x 405.0 x 610.0 mm 5.16 x 15.94 x 24.02 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 178.6 x 301.6 x 508.0 mm 7.03 x 11.87 x 20.00 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 178.6 x 443.4 x 508.0 mm

Size Unpacked w/o Stand (head only) ( $D \times H \times W$ , mm/inch) 43.4 x 307.9 x 508.0 mm 1.71 x 12.12 x 20.00 inches

Weight Packed (kg/lbs.) 5.40 kg / 11.90 lbs.

Weight Unpacked (kg/lbs.) 3.90 kg / 8.60 lbs.

(ka/lbs.) 2.20 kg / 4.85 lbs.

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR Certification** Yes

CCC Yes

тсо 8.0

TCO Edge 2.0

EPEAT

Silver

RoHS (2011/65/EU) Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eve Comfort** Yes





Depends on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments.

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7.03 x 17.46 x 20.00 inches

Weight (Monitor Head Only)









### ThinkVision S22e-19

#### DISPLAY

Panel Size 21.5-inch

Screen Dimensions (W x H) (mm) 476.06 mm × 267.79 mm

Panel Type 3-side NearEdgelss, VA

Backlight WLED

Aspect Ratio 16:9

Resolution 1920 x 1080 mm

Pixel Pitch (H x V) (mm) 0.2480 × 0.2480 mm

Dot/Pixel Per Inch (DPI/PPI) 102

Viewing Angle (H x V) 178°/178°

Response Time (gray to gray) 4 ms (extreme mode) 6 ms (normal mode)

Contrast Ratio (typical) 3000.1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut NTSC (CIE 1931) 72% NTSC

Color Support (typical) 16 7 M

Refresh rate

60 Hz

#### Brightness (typical)

250 cd/m²

#### CONNECTIVITY

Video Input Signals 1 x VGA 1 x HDMI14

Audio Out Yes (3.5 mm)

#### MULTI-MEDIA

**Optional Soundbar Support** Yes

#### SPECIAL FEATURES

Anti-Glare Yes

> Thin Client Support (Tiny) Yes (by VESA mount PN:4XF0N03161)

Sync Technology FreeSync™

#### POWFR

Power Consumption (Typ./Max) 18W / 22W

#### MECHANICAL

Tilt Angle (front / back) -5°/22°

**VESA Mount** Yes (100 x 100 mm)

Kensington Lock Slot Yes

Cable Management Yes

Bezel Color Raven Black

Bezel Width (side) 20 mm

Bezel Width (top / bottom) 2.0 mm / 21.2 mm

#### DIMENSIONS

Size Packed (D x H x W) (mm/inch) 120 x 350 x 582 mm / 4.7 x 13.7 x 22.9 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position) 200.0 x 373.8 x 489.3 mm / 7.87 x 14.71 x 19.26 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position) 200.0 x 373.8 x 489.3 mm / 7.87 x 14.71 x 19.26 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only) 41.5 x 296.8 x 489.3 mm / 1.63 x 11.68 x 19.26 inch

Weight Packed (kg/lbs.) 4.07kg / 8.97 lbs.

Weight Unpacked (kg/lbs.) 2.75kg / 6.06 lbs.

Weight (Monitor Head Only) (kg/lbs.) 2.46kg / 5.42 lbs.

#### WHAT'S IN THE BOX

Monitor with stand 1 x HDMI Cable 1 x Power Cable Quick setup guide

#### CERTIFICATIONS

ENERGY STAR Rating 80

CCC

Yes

TCO TCO 7.0/TCO Edge 2.0

EPEAT Silver

ULE Gold

> RoHS Yes

Windows Certification Windows 7. Windows 10

China Energy Efficiency Standard Tier 2

Ambient Operating Temperature 0°C to 40°C

Low Blue Light Yes







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## ThinkVision T2054p Monitor

19.5″ IPS

WLED 19.5"

87.3 72% 16.7 M 7 ms Yes

VGA

1.8 m

No

No

14.5 W

21 W

N/A

0.3 W

0.3 W

49.45 Btu/h

71.61 Btu/h

47 - 63 Hz

Internal

262.35 x 418.61

0.0969 x 0.2915

VGA, HDMI, DisplayPort

1440 x 900 16:10 178° / 178° 250 cd/m² 1000.1

## **SPECIFICATIONS**

#### DISPLAY

Panel Size
Panel Type
Backlit
Viewable Area (Diagonal)
Screen Dimensions (W x H) (mm)
Resolution
Aspect Ratio
Viewing Angle (H/V at CR 10:1)
Maximum Brightness (Typical)
Contrast Ratio (Typical)
Pixel Pitch (W x H) (mm)
Dot/Pixel Per Inch (DP / PPI)
Color Gamut (CIE 1931)
Number of Colors
Response Time
Anti-Glare

SIGNAL INPUT

Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied

POWER CONSUMPTION

#### Power Consumption Typical Max. without USB Hub Max. with USB Hub Sleep-Mode Off-Mode Heat Dissipation Typical Max. Power Supply Power Voltage Voltage Dynamic Frequency

#### DIMENSIONS (W X D X H)

Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Head Only) (mm)(inches) Distance from Table to Panel Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen Stand Base Footprint Area (mm / inches) Weight Packed

Unpacked Monitor Head 509 x 176 x 368 20.04" x 6.93" x 14.49"

90 - 264 VAC, 1.5 A

454.2 x 242.6 x 345.9 ~ 455.9 17.88" x 9.55" x 13.62" ~ 17.95'

454.2 x 53 x 297.9 17.88" x 2.09" x 11.73"

(mm / inches) 65.8 / 2.59" 328.2 / 12.92"

Diameter 240 / 9.45"

Starting at 10.8 lbs (4.9 kg) Starting at 8.15 lbs (3.7 kg) Starting at 4.85 lbs (2.2 kg)

#### MECHANICAL

Tilt Angle (Front / Back)	-5° ~ 22°
Swivel Angle (Left / Right)	-45° - 45°
Lift (mm)	110
Pivot	No
VESA Mount (mm)	100 x 100
Kensington Lock Slot	Yes
Cable Management	Yes
Ambient Light Sensor	No
Control Buttons	Yes
Bezel Color	Raven Black
Bezel Width (Side) (mm / inches)	17 / 0.67"
Bezel Width (Top / Bottom) (mm / inches)	17 / 0.67"

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth

Default Color Temperature Preset Display Modes User-defined Display Modes **OSD** Buttons **OSD** Languages

1440 x 900 VGA : 150 MHz HDMI : 150 MHz DisplayPort: 150 MHz 7200K 22 16 5

8

30 kHz - 81 kHz 50 Hz - 75 Hz

#### COMPLIANCE

FPFAT **ENERGY STAR Rating** ULE TCO TCO Edge TUV GREENGUARD RoHS (EU 2002/95/EC) Windows Certification

Silver 8.0 Gold 6.0 2.0 Yes No Yes Windows 7, Windows 8, Windows 8.1, Windows 10 Tier 1

China Energy Efficiency Standard

#### **ENVIRONMENTAL**

Temperature	
Operating	0 °C - 45 °C
Non-operating	-20 °C - 60 °C (non-condensing)
	20 0 00 0 (non condensity)
Humidity	
Operating	10% - 80%
Non-operating	5% - 95% (non-condensing)
Altitude	
Operating	8,000 ft
Non-operating	40,000 ft
Arsenic-free Glass	Yes
PVC Free	Yes
Mercury Free	Yes
PCC % of Plastic Resins	85%
Low Halogen	No

#### WARRANTY AND AVAILABILITY

Warranty Geography Availability ThinkVision Logo Global Model

3 Years World Wide Yes Yes

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## Think Vision T2224d MONITOR

## **SPECIFICATIONS**

DISPLAY		MECHANICAL	
Panel Size Panel Type Backlight Screen Dimensions (W x H) (mm) Resolution Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) NTSC Number of Colors Response Time Anti-Glare	21.5" IPS WLED 476.064 (H) x 267.786 (V) 1920 x 1080 16:9 (Wide) 178°/178° 250 cd/m² 1000:1 3000000:1 0.248 102 72% 16.7 Million 4 ms (extreme mode) Yes	Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Range Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Ambient Light Sensor Control Buttons Bezel Color Bezel Width Bottom (mm / inches) Top (mm / inches) Sides (mm / inches)	-5° / 22° No No No 100 x 100 Yes Yes No Yes Raven Black 25.6 / 1.01″ 17.6 / 0.69″
SIGNAL INPUT		POWER CONSUMPTION	
Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied	VGA + DisplayPort VGA + DisplayPort 1.8 m No No	Typical Maximum Sleep-Mode Switch-Off Mode Power Supply Power Voltage Voltage Dynamic Frequency	20 W 25 W <0.5 W <0.5 W Internal 90 VAC - 264 VAC 47 Hz - 63 Hz
SIGNAL INTERFACE / PERFOR	MANCE	DIMENSIONS (W x D x H)	
Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed Bandwidth VGA DisplayPort Default Color Temperature Plug 'n' Play Preset Display Modes User-defined Display Modes OSD Buttons OSD Languages Lockable Controls	30 kHz ~ 83 kHz 50 Hz - 75 Hz 1920 x 1080 205 MHz 165 MHz 7200K Yes 22 22 5 8 No	Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only	512.9 x 204.9 x 381.4 20.19" x 8.07" x 15.01" 512.9 x 51 x 312.6 20.19" x 2.01" x 12.31" 94.4 / 3.72" 363.9 / 14.33" 180 x 180 / 7.09" x 7.09" Starting at 9.19 lbs (4.17 kg) Starting at 6.48 lbs (2.94 kg) Starting at 5.93 lbs (2.69 kg)
ENVIRONMENTAL		COMPLIANCE	
Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating	0°C - 45°C -20°C - 60°C 10% - 80% 5% - 95% 5000 m 0 ft - 40,000 ft	EPEAT ENERGY STAR Rating TCO RoHS (EU 2002/95/EC) Windows Certification Image Quality Capability China Energy Efficiency Standard	Silver 8.0 Display 7.0 / Edge 2.0 Yes Windows 7, Windows 10 ISO 9241-307 Tier 1
Arsenic-free Glass PVC-free	Yes Yes	WARRANTY AND AVAILABILIT	ΓY
Mercury-free PCC % of Plastic Resins Low Halogen	Yes >85% No	Warranty Geography Availability Global Model	3 Years World Wide Yes



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## SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Viewable Area (Diagonal) Screen Dimensions (W x H) Resolution Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Number of Colors Response Time Anti-Glare

#### 22" Wide ΤN WIED 22" (558.8 mm) 473.76 mm x 296.1 mm 1680 x 1050 16:10 170°/160° 250 cd/m² 1000:1 3M:1 0.282 (H) x 0.282 (W) ٩N 72% 16.7 M 5 ms (On/Off) Yes

#### SIGNAL INPUT

Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied VGA, DVI VGA, DVI 1.8 m None None

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth Default Color Temperature Preset Display Modes User-defined Display Modes OSD Buttons OSD Languages

50 kHz to 75 Hz 1680 x 1050 146.25 MHz 7200 K 28 20 5

8

30 kHz to 83 kHz

#### COMPLIANCE

EPEAT° ENERGY STAR Rating ULE TCO° TCO° Edge TUV GREENGUARD° RoHS (EU 2002/95/EC) Windows Certification GOLD 6.0 Gold Display 6.0 2.0 Yes No Yes Windows 7, Windows 8.0, Windows 8.1 Tier 1

#### WARRANTY AND AVAILABILITY

China Energy Efficiency Standard

Warranty Geography Availability 3 Years EMEA, ASEAN, Japan

#### MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (left/right) Lift Pivot VESA® Mount Kensington® Lock Slot Cable Management Ambient Light sensor Bezel Color Bezel Width (Side) Bezel Width (Top / Bottom) -5° to 30° NA 110 mm NA 100 x 100 mm Yes Yes No Raven Black 17 mm 17 mm

#### POWER CONSUMPTION

Power 16 W Typical Max 22 W Sleep Mode 0.5 W 0.5 W Off Mode Heat Dissipation Typical 54.56 Btu/h 75.02 Btu/h Max. Power Supply Internal Power Voltage 90-264 VAC, 0.75-0.3 A Voltage Dynamic Frequency 47-63 Hz

#### DIMENSIONS (W x D x H)

Size Packed

Size Unpacked with stand

Size Unpacked without stand (Head Only) Min. Distance from Table to Panel (lowest pixel at bottom of screen) Max. Distance from Table to Panel (highest pixel at top of screen) Stand Base Footprint Area Weight Packed Weight Unpacked Weight (Monitor Head Only)

#### ENVIRONMENTAL

Temperature – Operating Temperature – Non-operating Humidity – Operating Altitude – Operating Altitude – Operating Arsenic-free Glass PVC free Mercury free PCC % of plastic resins Low Halogen 0 °C to 45 °C -20 °C to 60 °C (non-condensing) 10% to 80% 5% to 95% (non-condensing) 5,000 m 40,000 ft Yes Yes

22.44" x 7.52" x 16.57"

20.05" x 9.61" x 14.97"

20.05" x 1.73" x 13.06"

8.31" (211 mm) (diameter)

2.58" (65.5 mm)

14.30" (363.2 mm)

6.98 kg (15.38 lbs) 4.71 kg (10.38 lbs)

3.09 kg (6.81 lbs)

85%

No

(570 mm x 191 mm x 421 mm)

(509.3 mm x 244.2 mm x 380.2 mm)

(509.3 mm x 44 mm x 331.7 mm)

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# ThinkVision T22i-10 MONITOR



## SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Resolution (H x V) Aspect Ratio Anti-Glare Borderless Screen Screen Dimensions (W x H) (mm) (inches) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut NTSC (CIE 1931) Color Support (Typical) **Response Time** 

#### CONNECTIVITY

Video Input Signals Video Cables Supplied (Length) Audio OSD Languages

#### MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm / inches) Pivot Cable Management Kensington Lock VESA Mounting Bezel Color Bezel Width Top (mm / inches) Bottom (mm / inches) Sides (mm / inches)

21.5" Wide IPS WLED 1920 x 1080 16:9 Yes Yes 476.064 x 267.786 18.74" x 10.54" 250 cd/m² 178°/178° 1000:1 3M:1 0.248 x 0.248 72% 16.7 Million 4/6/14 ms

#### DIMENSIONS (W x D x H)

Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Monitor Head Only (mm) (inches) Stand Base Footprint Area (mm) (inches) Weight Packed Unpacked Monitor Head Only

#### POWER CONSUMPTION

ort Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage

#### COMPLIANCE

Arsenic-Free Glass ULE PVC-Free Mercury-Free EPEAT ENERGY STAR Rating TCO TCO Edge RoHS (EU 2002/95/EC) China Energy Efficiency Standard Windows Certification Yes Gold Yes; Without Cable Yes Silver 8.0 7.0 2.0 Yes Tier 2

100 VAC - 240 VAC

Windows 7 / Windows 10



SNOVO

577 x 378 x 191 22.7" x 14.9" x 7.5" 489.7 x 251.9 x 357.6

19.28" × 9.92" × 14.08" 489.7 × 43.5 × 297

19.28" x 1.71" x 11.69" 240 x 240

9.45" x 9.45"

20 W

55 W

<0.5 W

<0.5 W

Internal

Starting at 16.36 lbs (7.42 kg) Starting at 10.85 lbs (4.92 kg) Starting at 6.94 lbs (3.15 kg)

VGA + HDMI 1.4 + DisplayPort 1.2 1.8 m Audio-Out English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

Aack) -5°/30° Right) +/-45° 110/4.33″ -90°/90° Yes Yes Yes (100 mm)

> 2 / 0.08" 21.4 / 0.84" 2 / 0.08"

Raven Black

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#### ThinkVision T22i-20

#### DISPLAY

Panel Size 21.5-inch

Screen Dimensions 476.06 mm x 267.79 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 1920 x 1080

**Pixel Pitch** 0.2479 x 0.2479 mm

Dot/Pixel Per Inch (DPI/PPI) 102

Viewing Angle (H x V @ CR 10:1) 178°/178°

**Response Time** 4ms (extreme mode)

**Refresh Rate** 60 Hz

**Brightness (typical)** 250 cd/m²

Brightness (peak) 250 cd/m²

Contrast Ratio (typical) 1000:1

3M:1 Color Gamut 72% NTSC (CIE 1931)

Color Support (typical) 16.7 Million

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2 1 x VGA

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub

USB Upstream 1 x USB 3.2 Gen1

Yes

USB Downstream 4 x USB 3.2 Gen1 (1 x BC 1.2)

**Optional Soundbar Support** Yes (PN: 0A36190)

#### POWER

**Power Consumption** (typ./max.) 12W / 43W

**Power Consumption** Sleep/Off Mode <0.3W

Dynamic Contrast Ratio (typical) Power Consumption Switch Off-Mode <0.3W

> **ENERGY STAR Power** Consumption ( $P_{or}/E_{TEC}$ ) 10.4W / 32.97kWh

**Power Supply** Internal

Voltage Required AC 100 to 240 V (50-60 Hz)

#### **MECHANICAL**

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right)  $+45^{\circ}/-45^{\circ}$ 

Lift (max range) 150 mm

Pivot -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Tiny Bracket Support Yes (sold separately)

**Kensington Lock Slot** Yes

Yes

**Bezel Color** Raven Black

Bezel Width (side)

Bezel Width (top/bottom) 1.8 / 22 mm

#### DIMENSION

Size Packed (D x H x W, mm/inch) 390.0 x 187.0 x 577.0 mm 15.35 x 7.36 x 22.72 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 205.0 x 396.0 x 489.3 mm 8.07 x 15.59 x 19.26 inches

Size Unpacked w/ Stand  $(D \times H \times W. mm/inch)$ (highest position) 205.0 x 546.0 x 489.3 mm 8.07 x 21.50 x 19.26 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 48.5 x 297.4 x 489.3 mm 1.91 x 11.71 x 19.26 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 121.6 mm

Max. Distance from Table to Panel (highest pixel at bottom of screen, mm) 539.4 mm

Weight Packed (kg/lbs.) 7.20 kg / 15.87 lbs.

Weight Unpacked (kg/lbs.) 5.47 kg / 12.06 lbs.

Weight (monitor head only) (kg/lbs.) 3.01 kg / 6.66 lbs.

**Full Container Load** (40' STD / 20' STD) 1188 / 550 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m)  $1 \times DP$  cable (1.8 m) 1 x USB Type-A to B cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0 CCC Yes

тсо 80

TCO Edge 2.0

EPEAT Silver

RoHS (EU 2002/95/EC) Yes

Windows Certification Yes

**China Energy Efficiency Standard** Tier 1

**TÜV Rheinland Eye Comfort** Yes





Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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Cable Management

18 mm

MULTI-MEDIA









# Think Vision T22V-10 MONITOR

## SPECIFICATIONS

DISPLAY		ENVIRONMENTAL	
Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Response Time (Extreme/Typical/Off)	21.5" In-Plane Switching WLED 1920 x 1080 16:9 Yes 476.06 x 267.79 250 cd/m ² 178°/178° 1000:1 3M:1 0.25 x 0.25 102 72% sRGB 4/6/14 ms (G-to-G)	Temperature Operating Non-Operating Humidity Operating Non-Operating Altitude Operating Non-Operating Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins	0°C - 40°C -20°C - 60°C 10% - 80% 5% - 95% 0 m - 8000 m 0 ft - 40,000 ft Yes Yes Yes Yes >85%
POWER CONSUMPTION		DIMENSIONS (W x D x H)	
Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage	18 W 43 W <0.5 W <0.3 W Internal 90 VAC - 264 VAC	Size Packed (mm) (inches) Size Unpacked with Stand Lowest Position (mm)	554 x 365 x 187 21.81" x 14.37" x 7.36" 489.7 x 251.9 x 375.8
Voltage Dynamic Frequency	47 Hz - 63 Hz	(inches)	19.28" x 9.92" x 14.79"
SIGNAL INPUT Video Input Signals	HDMI 1.4 + DisplayPort 1.2 + VGA	Highest Position (mm) (inches)	489.7 x 251.9 x 485.8 19.28" x 9.92" x 19.13"
Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied Audio-Out	HDMI (ROW) + DisplayPort + VGA + USB 3.0 ¹ 1.8 m Yes Yes Yes (3.5 mm)	Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Distance from Table to Panel	489.7 x 43.5 x 315.1 19.28" x 1.71" x 12.41"
SIGNAL INTERFACE / PERFO		Lowest Pixel at Bottom of Screen	
Horizontal Frequency Vertical Frequency Native Resolution	30 kHz - 81 kHz 50 Hz - 75 Hz 1920 x 1080	(mm / inches) Highest Pixel at Top of Screen (mm / inches)	82.1 / 3.23" 192.1 / 7.56"
Maximum Pixel Clock Speed/ Bandwidth	VGA : 205 MHz HDMI : 165 MHz DisplayPort : 165 MHz	Stand Base Footprint Area (mm / inches) Weight	232 x 203.6 / 9.13" x 8.02"
Default Color Temperature Preset/User Modes OSD Buttons OSD Languages	6500K 24/20 5+2 Buttons English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian	Packed Unpacked Monitor Head Only	Starting at 14.46 lbs (6.56 kg) Starting at 10.16 lbs (4.61 kg) Starting at 6.48 lbs (2.94 kg)
MECHANICAL		COMPLIANCE	
Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount (mm) Kensington Lock Slot Cable Management	-5° / 30° +/-45° Yes (110) +/-90° Yes (100 x 100) Yes Yes	EPEAT ENERGY STAR Rating ULE TCO RoHS (EU 2002/95/EC) Windows Certification China Energy Efficiency Standard TÜV Eye Comfort	Silver 8.0 Gold TCO Display 7.0 / TCO Edge 2.0 Yes Windows 7 / Windows 10 Grade 2 Yes
Bezel Color Bezel Width	Raven Black	WARRANTY AND AVAILAB	ILITY
Top (mm / inches) Bottom (mm / inches)	2 / 0.08" 21.4 / 0.84"	Warranty ROW	3 Years

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

18 Months

ww

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PRC

Geography Availability

2 / 0.08"

WWW.LENOVO.COM

Sides (mm / inches)

E













#### ThinkVision T22v-20

#### DISPLAY

Panel Size 21.5-inch

Screen Dimensions 476.06 mm x 267.79 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 1920 x 1080

Pixel Pitch 0.2479 x 0.2479 mm

Dot/Pixel Per Inch (DPI/PPI) 102

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode)

Refresh Rate 60 Hz

**Brightness (typical)** 250 cd/m²

**Brightness** (peak) 250 cd/m²

Contrast Ratio (typical) 1000.1

Dynamic Contrast Ratio (typical) 3M·1

Colour Gamut 72% NTSC (CIE 1931)

Color Support (typical) 16.7 Million

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2 1 x VGA

Audio Signal 1 x Audio Combo (3.5 mm; in/out)

USB Hub Yes

USB Upstream 1 x USB 3.2 Gen1

USB Downstream 2 x USB 3.2 Gen1 (1 x BC 1.2)

MULTI-MEDIA Integrated Webcam Yes

Integrated Microphone Yes

**Integrated Speakers** Yes  $(2 \times 3W)$ 

POWFR Power Consumption (typ./max.)

13W / 43W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption ( $P_{on}/E_{TEC}$ ) 10.75W / 33.81kWh

Power Supply Internal

Voltage Required AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max, range) 150 mm

-90° / 90°

Tiny Bracket Support Yes (sold separately)

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (side) 1.8 mm

Bezel Width (top/bottom) 1.8 / 22.0 mm

#### DIMENSION

Size Packed (D x H x W. mm/inch) 390.0 x 187.0 x 577.0 mm 15.35 x 7.36 x 22.72 inches

Size Unpacked w/ Stand (D x H x W, mm/inch)(lowest position) 205.0 x 413.0 x 489.3 mm 8.07 x 16.26 x 19.26 inches

Size Unpacked w/ Stand (D x H x W, mm/inch)(highest position) 205.0 x 563.0 x 489.3 mm 8.07 x 22.17 x 19.26 inches

Size Unpacked w/o Stand (head only) ( $D \times H \times W$ , mm/inch) 48.3 x 314.4 x 489.3 mm 1.90 x 12.38 x 19.26 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 121.7 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 539.4 mm

Weight Packed (kg/lbs.) 7.22 kg/15.92 lbs.

Weight Unpacked (kg/lbs.) 5.49 kg/12.10 lbs.

Weight (monitor head only) (kg/lbs.) 3.03 kg/6.68 lbs.

Full Container Load (40' STD/20' STD) 1188/550 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m)  $1 \times DP$  cable (1.8 m) 1 x USB Type-A to Type-B cable (1.8 m) Quick setup quide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0

CCC Yes

тсо

80

TCO Edge 20

EPEAT Silver

RoHS (EU 2002/95/EC) Yes

Windows Certification Yes

**China Energy Efficiency Standard** Tier 1

**TÜV Rheinland Eye Comfort** Yes





Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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Pivot

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot

Yes









### ThinkVision T23d-10

#### DISPLAY

Panel Size 22.5 inch

**Screen Dimensions (H x V) (mm)** 496.2 x 313.9

Panel Type In-Plane Switching

Backlight WLED

Aspect Ratio

**Resolution** 1920 × 1200

**Pixel Pitch (H x V) (mm)** 0.25 × 0.25

**Viewing Angle (H x V)** 178°/178°

**Response Time (gray to gray)** 4 ms (extreme mode) 6 ms (normal mode)

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

Color Gamut NTSC (CIE 1931) 72%

Color Support 16.7M

#### CONNECTIVITY

Video Input Signals VGA + HDMI 1.4 + DP 1.2

**Video Cable Length** 1.8 m

#### MULTI-MEDIA

**Optional Soundbar Support** Yes

#### DIMENSIONS

**Size Packed (D x H x W) (mm/inch)** 655 x 422 x 160 mm / 25.78 x 16.61 x 6.30 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position) 251.9 x 381.9 x 501.2 mm / 9.9 x 15.04 x 19.73 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position)

251.9 x 491.9 x 501.2 mm / 9.9 x 19.37 x 19.73 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only) 43.4 x 326.5 x 501.2 mm / 1.71 x 13.54 x 19.73 inch

Weight Packed (kg/lbs.) 6.84 kg / 15.05 lbs.

**Weight Unpacked (kg/lbs.)** 4.85 kg / 10.67 lbs.

Weight (Monitor Head Only) (kg/lbs.) 2.87 kg / 6.31 lbs.

#### SPECIAL FEATURES

Anti-Glare Yes

Thin Client Support (Tiny) Yes (by Tiny Clamp Bracket Kit+VESA mount PN:4XF0N82412+PN:4XF0N03161)

#### MECHANICAL

**Tilt Angle (front/back)** -5°/30°

Swivel Angle (left/right) -45°/+45°

Lift (Max range)

**Pivot** -90°/+90°

VESA Mount Yes (100 mm)

Kensington Lock Slot Yes

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (Side) 2.3 mm

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable 1 x DP-DP cable 1 x VGA cable Quick setup guide

#### CERTIFICATIONS

ENERGY STAR Rating 8.0 CCC Yes

TCO 7.0/TCO Edge 2.0

**EPEAT** Silver

**ULE** Gold

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 2

Ambient Operating Temperature 0°C to 50°C

**Eye Comfort Certification** Yes





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# ThinkVision T23i-10 MONITOR



## SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Resolution (H x V) Aspect Ratio Anti-Glare Borderless Screen Screen Dimensions (W x H) (mm) (inches) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut NTSC (CIE 1931) Color Support (Typical) Response Time

#### CONNECTIVITY

Video Input Signals Video Cables Supplied (Length) Audio OSD Languages

#### MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm / inches) Pivot Cable Management Kensington Lock VESA Mounting Bezel Color Bezel Width Top (mm / inches) Bottom (mm / inches) Sides (mm / inches)

23 Wide IPS WIFD 1920 x 1080 16:9 Yes Yes 517.2 x 302.8 20.36" x 11.92" 250 cd/m² 178°/178° 1000:1 3M:1 0.265 x 0.265 72% 16.7 Million 4/6/14 ms

VGA + HDMI 1.4 + DisplayPort 1.2 1.8 m Audio-Out English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

-5°/ 30° +/-45° 110 / 4.33″ -90° / 90° Yes Yes Yes (100 mm) Raven Black 2 / 0.08″

2 / 0.08" 23.7 / 0.93" 2 / 0.08"

#### DIMENSIONS (W x D x H)

Size Packed (mm) (inches) Size Unpacked with Stand (mm)(inches) Size Monitor Head Only (mm) (inches) Stand Base Footprint Area (mm) (inches) Weight Packed Unpacked Monitor Head Only

#### POWER CONSUMPTION

Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage 16 W 45 W <0.5 W <0.5 W Internal 100 VAC - 240 VAC

#### COMPLIANCE

Arsenic-Free Glass Yes Yes; Without Cable PVC-Free Mercury-Free Yes EPEAT Silver **ENERGY STAR Rating** 8.0 тсо 7.0 TCO Edge 2.0 RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard Tier 2 Windows Certification Windows 7 / Windows 10

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590 x 187 x 422 23.23" x 7.36" x 16.61"

522.2 × 264.2 × 337.7 20.56" × 10.4" × 13.3"

522.2 x 42.7 x 317.6 20.56" x 1.68" x 12.5"

218.7 x 218.7 8.61" x 8.61"

Starting at 16.36 lbs (7.42 kg) Starting at 10.85 lbs (4.92 kg) Starting at 6.94 lbs (3.15 kg)



**(**)









### ThinkVision T23i-20

#### DISPLAY

Panel Size 23-inch

Screen Dimensions 509.19 mm × 286.42 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio

**Resolution** 1920 x 1080

**Pixel Pitch** 0.2652 × 0.2652 mm

**Dot/Pixel Per Inch (DPI/PPI)** 95.78

Viewing Angle (H x V @ CR 10:1) 178°/ 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

Refresh Rate

**Brightness (typical)** 250 cd/m²

**Contrast Ratio (typical)** 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1 Color Gamut 75% NTSC (CIE 1931)

**Color Support (typical)** 16.7 Million

**Anti-glare** Yes

#### CONNECTIVITY

**Video Signal** 1 x HDMI 1.4 1 x DP 1.2 1 x VGA

Yes

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub

**USB Upstream** 1 x USB 3.2 Gen 1 Type-B

**USB Downstream** 4 x USB 3.2 Gen 1 (1 x BC1.2)

#### POWER

Power Consumption (typ./max.) 14.5W / 52W

Power Consumption Sleep/Off Mode < 0.5 W

Power Consumption Switch-off Mode < 0.3 W Energystar Power Consumption (P_{or}/E_{TEC}) 10.52W / 33.73kWh

Power Supply Internal

Voltage Required AC 100 to 240 V (47-63 Hz)

#### MECHANICAL

**Tilt Angle (front/back)** -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max. range) 150 mm

**Pivot** -90° / 90°

VESA Mount Capability Yes (100 x 100 mm)

**Tiny Bracket Support** Yes (sold separately)

Nano Bracket Support Yes (sold separately)

Kensington Lock Slot Yes

Cable Management Yes

Bezel Color Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 22.0 mm

#### DIMENSION

**Size Packed (D x H x W, mm/inch)** 175 x 387 x 599 mm 6.89 x 15.24 x 23.58 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 200 x 404.34 x 521.8 mm 7.87 x 15.92 x 20.54 inches

**Size Unpacked w/ Stand** (D x H x W, mm/inch) (highest position) 200 x 554.34 x 521.8 mm 7.87 x 21.82 x 20.54 inches

**Size Unpacked w/o Stand** (head only) (D x H x W, mm/inch) 44.82 x 316.31 x 521.8 mm 1.76 x 12.45 x 20.54 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 111.62 mm

Max. Distance from Table to Panel (highest pixel at bottom of screen, mm) 398.04 mm

Weight Packed (kg/lbs.) 7.5 kg / 16.53 lbs.

Weight Unpacked (kg/lbs.) 5.59 kg / 12.32 lbs.

Weight (monitor head only) (kg/lbs.) 3.32 kg / 7.32 lbs.

**Full Container Load** (40' STD / 20' STD) 1260 / 600 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0

**CCC** Yes

**TCO** 8.0

**TCO Edge** 2.0

**EPEAT** Gold

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes







Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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# ThinkVision E24-10 MONITOR

23.8"

WLED

Yes

16:9

In-Panel Switching

527.04 x 296.46

1920 x 1080

178°/178°

1000:1

92.5 PPI

72% sRGB

3M:1

18W

23W

<0.3W

<0.3W

Internal

250 cd/m²

0.2745 x 0.2745

4/6/14 ms (G to G)

90 VAC - 264 VAC 47 Hz - 63 Hz

VGA + DisplayPort 1.2

Cable (for RoW)

1.8 m

No

No

No

Analog Cable DisplayPort to DisplayPort

# SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Screen Dimensions (H x V) Resolution Anti-Glare Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (H x V) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut NTSC (CIE 1931) Response Time (Extreme/Default/Off)

#### POWER CONSUMPTION

Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage Voltage Dynamic Frequency

#### SIGNAL INPUT

Video Input Signals Video Cables Supplied

Video Cable Length USB Hub USB Cable Supplied Audio-Out

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution (H x V) Maximum Pixel Clock Speed/ Bandwidth VGA DisplayPort Default Color Temperature Preset/User Modes OSD Buttons OSD Languages

COMPLIANCE

EPEAT ENERGY STAR Rating ULE TCO RoHS (EU 2002/95/EC) Windows Certification China Energy Efficiency Standard 30 kHz - 81 kHz 50 Hz - 75 Hz 1920 x 1080

Silver

8.0

Gold

Yes

Tier 2

Edge 2.0

205 MHz 165 MHz 6500 K 24/20 5 Buttons English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

Windows 7 / Windows 10

#### ENVIRONMENTAL

Temperature Operating Non-Operating Humidity Operating Non-Operating Altitude Operating Non-Operating Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins

0°C - 40°C -20°C - 60°C

10% - 80% 5% - 95%

5,000 m 0 ft - 40,000 ft Yes Yes (without cable) Yes >85%

#### DIMENSIONS (W x D x H)

Size Packed (mm) (inches)	617 x 399 x 140 24.3" x 15.7" x 5.51"
Size Unpacked with Stand (mm) (inches)	554 x 204.9 x 403.8 21.8" x 8.07" x 15.9"
Size Unpacked without Stand (mm) (inches)	336.7 x 554 x 49.2 13.3" x 21.8" x 1.9"
Distance from Table to Panel Lowest Pixel at Bottom of Screen (mm / inches) Highest Pixel at Top of Screen (mm / inches)	93.4 / 3.7" 390.8 / 15.4"
Stand Base Footprint Area (mm / inches) Weight	200 x 200 / 7.9" x 7.9"
Packed Unpacked Monitor Head Only	Starting at 11.7 lbs (5.3 kg) Starting at 8.2 lbs (3.7 kg) Starting at 7.7 lbs (3.5 kg)

MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Pivot VESA Mount (mm x mm) Kensington Lock Slot Cable Management Bezel Color Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches) -5° / 22° No No Yes (100 x 100) Yes Yes Raven Black

13 / 0.51" 13 / 0.51" 26.3 / 1.03"

#### WARRANTY AND AVAILABILITY

Warranty Geography Availability 3 Years WW



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## ThinkVision F24-20

#### DISPLAY

Panel Size 23.8-inch

Screen Dimensions 527.04 mm x 296.46 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 1920 x 1080

**Pixel Pitch** 0.2745 x 0.2745 mm

Dot/Pixel Per Inch (DPI/PPI) 92

Viewing angle (H x V @ CR 10:1) 178°/178°

**Response Time** 14ms

**Refresh Rate** 60 Hz

**Brightness (typical)** 250 cd/m²

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M·1

Color Gamut 72% NTSC (CIE 1931)

Color Support (typical) 16.7 Million

Color Depth 8-bit

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2 1 x VGA

#### MULTI-MEDIA

**Integrated Speakers** Yes (2 x 1.5W)

#### POWFR

Power Consumption (typ./max) 18W / 24W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch Off-Mode < 0.5W

**ENERGY STAR Power** Consumption  $(P_{on}/E_{TEC})$ 

**Power Supply** Internal

Voltage Required AC 90 to 264 V (47-63 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 22°

Lift (max range) 155 mm

-90° / 90°

Yes (100 x 100 mm)

Kensington Lock Slot Yes

Bezel Width (side) 3.1 mm

3.1 / 20.9 mm

DIMENSION

Size Packed (D x H x W, mm/inch) 145.0 x 397.0 x 638.0 mm 5.71 x 15.63 x 25.12 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 178.6 x 317.1 x 541.8 mm 7.03 x 12.48 x 21.33 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 178.6 x 462.5 x 541.8 mm 7.03 x 18.21 x 21.33 inches

Size Unpacked w/o Stand (head only)(D x H x W, mm/inch) 41.7 x 326.4 x 541.8 mm 1.64 x 12.85 x 21.33 inches

Weight Packed (kg/lbs.) 5.70 kg / 12.57 lbs.

Weight Unpacked (kg/lbs.) 4.80 kg / 10.58 lbs.

Weight (Monitor Head Only) (ka/lbs.) 3.10 kg / 6.83 lbs.

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR Certification** Yes

CCC Yes

тсо 8.0

TCO Edge 2.0

EPEAT Silver

RoHS (2011/65/EU) Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eve Comfort** Yes



W	'indows [.]	
	TÜVRheinland CERTIFIED	

Depends on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments.

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12.98W / 40.98kWh

Pivot

**VESA Mount Capability** 

Bezel Color Raven Black

Bezel Width (top/bottom)













# ThinkVision P24h-10 MONITOR



# SPECIFICATIONS

DISPLAY		DIMENSIONS (W x D x H)	
Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Borderless Screen Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut (CIE 1931)	23.8" Wide IPS WLED 2560 x 1440 16:9 Yes Yes 526.848 (H) x 296.352 (V) 300 cd/m ² 178°/178° 1000:1 3M:1 0.2058 99% sRGB	Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Stand Base Footprint Area (mm / inches) Weight Packed	635 x 188 x 422 25" x 7.4" x 16.61" 540.2 x 261.75 x 373.4 21.26" x 10.3" x 14.7" 540.2 x 46.45 x 325.98 21.26" x 1.82" x 12.83" 250 x 250 / 9.84" x 9.84" Starting at 19.73 lbs (8.95 kg)
Display Colors (Typical) Response Time	16.7 Million 4/6/14 ms (G-to-G)	Unpacked Monitor Head Only	Starting at 12.54 lbs (5.69 kg) Starting at 8.42 lbs (3.82 kg)
SIGNAL INPUT		POWER CONSUMPTION	
Video Input Signals Video Cables Supplied (Length)	2 x HDMI 1.4 + USB-C + DisplayPort 1.2 + DisplayPort-Out USB-C - USB-C Cable (1.8 m)	Typical Maximum Sleep-Mode Off-Mode Power Supply	24 W 120 W <0.5 W <0.5 W Internal
SIGNAL INTERFACE / PERF Audio OSD Languages	Audio-Out English, French, Italian, German, Spanish, Japanese, Chinese, Russian	Power Voltage	90 VAC – 264 VAC
MECHANICAL		COMPLIANCE	
Tilt Angle (Front / Back) Cable Management Kensington Lock VESA Mounting Bezel Color Bezel Width Top (mm / inches) Bottom (mm / inches) Sides (mm / inches)	-5°/ 30° Yes Yes Yes (100 mm) Raven Black 2 / 0.08″ 22 / 0.87″ 2 / 0.08″	Arsenic-Free Glass PVC-Free Mercury-Free EPEAT ENERGY STAR Rating ULE TCO TCO Edge TÜV Eye Comfort Certification. RoHS (EU 2002/95/EC)	Yes Yes Silver 8.0 Gold 7.0 2.0 Yes Yes

¹ Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: -5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.



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China Energy Efficiency Standard

Windows Certification

Tier 2

Windows 7 / Windows 10













### ThinkVision P24h-20

#### DISPLAY

Panel Size 23.8-inch

Screen Dimensions 526.85 mm x 296.35 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16.9

Resolution 2560 x 1440

**Pixel Pitch** 0.2058 x 0.2058 mm

Dot/Pixel Per Inch (DPI/PPI) 123

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

**Brightness (typical)**  $300 \text{ cd/m}^2$ 

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M-1

# Color Gamut 99% sRGB,

99% BT.709, 84% DCI-P3 Color Support (typical) 16.7 Million

Processor LUT 8-bit

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x HDMI 1.4 1 x DP 1.2 1 x DP 1.2 (Out)

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub Yes

Ethernet Yes (10M/100M/1000M)

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C Gen1)

USB Downstream 4 x USB 3.1 Gen1 (1 x BC1.2)

#### MULTI-MEDIA

Integrated Speakers Yes (2 x 1W)

**Optional Soundbar Support** Yes (PN 0A36190)

#### SPECIAL FEATURES

**Factory Calibration** Yes (Avg.  $\Delta E < 2$ )

#### POWFR

Power Consumption (tvp./max.) 23W / 132W

**Power Consumption** Sleep/Off Mode ≤0.5W

Power Consumption Switch-off Mode ≤0.3W

ENERGY STAR Power Consumption ( $P_{\rm ex}/E_{\rm rec}$ ) 18.49W / 60.11kWh

Power Supply Internal

USB Type-C Power Delivery (W) up to 75 W*

Smart Power Yes

Voltage Required AC 100 to 240 V (47-63 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max. range) 150 mm

Pivot -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (side) 2 mm

Bezel Width (top/bottom) 2 / 21.4 mm

#### DIMENSION

Size Packed (D x H x W. mm/inch) 620 x 149 x 423 mm 24.4 x 5.9 x 16.7 inches

Size Unpacked w/ Stand  $(D \times H \times W. mm/inch)$ (lowest position) 205 x 420 x 539.8 mm 8.07 x 16.5 x 21.3 inches

Size Unpacked w/ Stand (D x H x W, mm/inch)(highest position) 205 x 570 x 539.8 mm 8.07 x 22.4 x 21.3 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 44.6 x 325.7 x 539.8 mm 1.8 x 12.8 x 21.3 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen.

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 415 mm

Weight Packed (kg/lbs.) 8.1 kg / 17.86 lbs.

Weight Unpacked (kg/lbs.) 6.18 kg / 13.6 lbs.

Weight (monitor head only) (kg/lbs.) 3.85 kg / 7.89 lbs.

Full Container Load (40' STD/20' STD) 1395 / 645 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) Factory calibration report Quick setup guide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0

CCC Yes

TCO

80

TCO Edge 2.0

EPEAT Silver

RoHS (EU 2002/95/EC) Yes

Windows Certification Windows 7. Windows 10

**China Energy Efficiency Standard** Tier 1

**TÜV Rheinland Eye Comfort** Yes







*up to 75 W power delivery to compatible devices by USB Type-C

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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Specifications may vary depending upon region.

mm) 117.9 mm













# ThinkVision P24q-10 MONITOR **SPECIFICATIONS**

#### DISPLAY

Panel Size Panel Type Backlight Resolution Aspect Ratio Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Minimum Brightness (Typical) Viewable Area (Diagonal) (mm / inches) Viewing Angle (H/V at CR 10:1) Viewing Angle (H/V at CR 5:1) Contrast Ratio (Typical) Dynamic Contrast Ratio (Typical) Pixel Pitch (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Color Support (Typical) Response Time (Typical) Processor LUT

23.8" In-Plane Switching WIFD 2560 x 1440, QHD 16.9 526.848 (H) x 296.352 (V) 300 cd/m² 240 cd/m² 604.5 / 23.8" 178°/178° 178°/178° 1000:1 3M:1 0.2058 123.6 99% sRGB 16.7 Million 4/6/14 ms (G to G) 8-bit (6-bit + 2-bit FRC)

635 x 188 x 422

25" x 7.4" x 16.61"

540.2 x 261.75 x 373.4

21.26" x 10.3" x 14.7"

540.2 x 42 x 325.98

21.26" x 1.65" x 12.83"

250 x 250 / 9.84" x 9.84"

Starting at 19.69 lbs (8.93 kg) Starting at 12.35 lbs (5.6 kg)

Starting at 8.22 lbs (3.73 kg)

70.64 / 2.78"

366.99 / 14.45"

#### DIMENSIONS (W x D x H)

#### Size Packed (mm) (inches) Size Unpacked with Stand (mm)(inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only Full Container Load (40' STD / 20' STD) 1050 Units / 500 Units

SIGNAL INPUT

Video Input Signals

Video Cables Supplied Video Cable Length Daisy Chain Support USB Hub USB Cable Supplied USB Cable Length

Audio-Out

2 x HDMI14 DisplayPort 1.2 Mini DisplayPort DisplayPort-Out Mini DisplayPort -DisplayPort Cable 1.8 m Yes USB 3.0¹ (1 x Up, 4 x Down (1 x BC 1.2) Yes 1.8 m Yes (3.5 mm)

#### POWER CONSUMPTION

Typical Maximum Sleep-Mode Off-Mode Power Supply Power Voltage Voltage Dynamic Frequency

#### WARRANTY AND AVAILABILITY

Geography Availability ThinkVision Logo Global Model Warranty

Worldwide Yes Yes 3 Years

24 W

67 W

<0.5 W

<0.5 W

Internal

90 VAC - 264 VAC

47 Hz - 63 Hz

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**ENVIRONMENTAL** 

Temperature Operating Non-operating Humidity Operating Non-operating . Altitude Operating Non-operating Ambient Operating Temperature Heat Dissipation Typical Maximum Arsenic-Free Glass **PVC-Free** Mercury-Free PCC % of Plastic Resins

MECHANICAL

Lift (mm)

Bezel Color

Bezel Width

Anti-Glare

Others

Pivot VESA Mount

Tilt Angle (Front / Back)

Kensington Lock Slot

Pivot Auto Rotation

Cable Management

Sides (mm / inches)

Bottom (mm / inches)

SPECIAL FEATURES

Thin Client Support (Tiny)

Top (mm / inches)

Swivel Angle (Left / Right)

-5° / 30° +/-45° 110 CW/CCW 90° Yes (100 mm) Yes No Yes Raven Black 2 / 0.08"

2 / 0.08" 22 / 0.87"

Yes Yes Daisy Chain

0 °C - 40 °C -20 °C - 60 °C 10% - 80%

5% - 95%

0 m - 5000 m 0 ft - 40,000 ft 0 °C - 40 °C

75.02 Btu/h 228.47 Btu/h Yes Yes (Without Cable) Yes >85%

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth HDMI DisplayPort Default Color Temperature Preset/User Modes On Screen Display (OSD) Controls Buttons Languages

#### CERTIFICATIONS

TCO GREENGUARD RoHS (EU 2002/95/EC) Windows Certification Image Quality Capability Reduction of Hazardous Substances China Energy Efficiency Standard

50 Hz - 76 Hz 30 kHz - 99 KHz 2560 x 1440

300 MHz 5.4 GHz 6500K 20/24

5 Buttons English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

TCO 7.0 / TCO Edge 2.0 VOC Yes Windows 7 / Windows 10 ISO 9241-307 Arsenic-Free / Mercury-Free Tier 2

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

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# ThinkVision P24q-20

#### DISPLAY

Panel Size 23.8-inch

Screen Dimensions 526.85 mm x 296.35 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 2560 × 1440

**Pixel Pitch** 0.2058 x 0.2058 mm

Dot/Pixel Per Inch (DPI/PPI) 123

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

Brightness (typical) 300 cd/m²

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut 99% sRGB, 99% BT.709,

84 % DCI-P3

Color Support (typical) 16.7 Million

**Anti-glare** Yes CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2 1 x DP 1.2 (out)

**Audio Signal** 1 x Audio Out (3.5 mm)

**USB Hub** Yes

USB Upstream 1 x USB3.1 Gen1 Type-B

USB Downstream 4 x USB3.1 Gen1 (1 x BC1.2)

#### SPECIAL FEATURES

Factory Calibration Yes (Avg. Delta E<2)

#### POWER

Power Consumption (typical/max) 20W / 61W

Power Consumption Sleep/Off Mode ≤ 0.5W

Power Consumption Switch-off Mode ≤ 0.3W

ENERGY STAR Power Consumption (P_{or}/E_{rec}) 16.04W / 51.61kWh

Power Supply Internal

Voltage Required AC 100 to 240 V (47-63 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (Max range) 150 mm **Pivot** -90° / 90°

VESA Mount Capability Yes (100 X 100 mm)

Kensington Lock Slot Yes

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 21.4 mm

#### DIMENSION

**Size Packed (D x H x W, mm/inch)** 620 x 149 x 423 mm / 24.4 x 5.9 x 16.7 inches

**Size Unpacked w/ Stand** (**D x H x W, mm/inch) (lowest position)** 205 x 420 x 539.8 mm / 8.07 x 16.5 x 21.3 inches

**Size Unpacked w/ Stand** (**D x H x W, mm/inch) (highest position)** 205 x 570 x 539.8 mm / 8.07 x 22.4 x 21.3 inches

**Size Unpacked w/o Stand** (head only) (D x H x W, mm/inch) 44.6 x 325.7 x 539.8 mm / 1.8 x 12.8 x 21.3 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 117.9 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 415 mm

Weight Packed (kg/lbs.) 8.1 kg / 17.86 lbs. Weight Unpacked (kg/lbs.) 6.18 kg / 13.6 lbs. Weight (monitor head only) (kg/lbs.) 3.85 kg / 7.89 lbs.

Full Container Load (40' STD / 20' STD) 1395 / 645 units

#### WHAT'S IN THE BOX

MONITOR WITH STAND 1 X POWER CABLE (1.8 M) 1 X DP CABLE (1.8 M) 1 X USB TYPE-A TO TYPE-B CABLE (1.8 M) FACTORY CALIBRATION REPORT QUICK SETUP GUIDE

#### CERTIFICATION

ENERGY STAR Rating 8.0

CCC Yes

**TCO** 8.0

**TCO Edge** 2.0

EPEAT Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes



Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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## ThinkVision S24e-10

#### DISPLAY

Panel Size 23.8-inch

Screen Dimensions (H x V) 527.04 x 296.46 mm

Panel Type 3-side NearEdgelss, VA

Backlight WLED

Aspect Ratio 16:9

Resolution 1920 x 1080

Pixel Pitch (H x V) 0.2745 x 0.2745 mm

Dot/Pixel Per Inch (DPI/PPI) 92

Viewing Angle (H x V @ CR 10:1) 178°/178°

Response Time (gray to gray) 4 ms (Extreme Mode) 6 ms (Normal Mode)

**Refresh Rate** 60 Hz

Brightness (typical) 250 cd/m²

Contrast Ratio (typical) 3000.1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut NTSC (CIE 1931) 72% NTSC

Color Support 16.7 Million

#### CONNECTIVITY

Video Signal 1 x VGA 1 x HDMI 1.4

Video Cable Length 1.8 m

Audio Signal 1 x Audio Out (3.5 mm)

#### MULTI-MEDIA

**Optional Speakers Support** Yes

#### SPECIAL FEATURES

Sync Technology FreeSvnc™

Thin Client Support (Tiny) Yes (by VESA mount PN:4XF0N03161)

Anti-glare Yes

#### POWFR

Power Consumption (Typ./Max) 24W / 31W

Power Consumption Sleep/Off Mode < 0.3W

Power Consumption Switch-Off Mode < 0.3W

Power Supply Internal

Voltage Required AC 100 to 240 V (47/63 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 22°

**VESA Mount** Yes (100 mm)

Kensington Lock Slot Yes

**Cable Management** Yes

**Bezel Color** Raven Black

Bezel Width (Side) 2.0 mm

Bezel Width (top / bottom)

#### DIMENSION

Size Packed (D x H x W)

Size Unpacked w/stand (D x H x W)

Size Unpacked w/stand ( $D \times H \times W$ )

Size Unpacked w/o stand ( $D \times H \times W$ )

(lowest pixel at bottom of screen, mm)

(highest pixel at top of screen, mm) 399.9 mm

Weight Packed (kg/lbs.) 4.84kg / 10.67 lbs.

Weight Unpacked (kg/lbs.) 3.36kg / 7.41 lbs.

Weight (Monitor Head Only) (kg/lbs.) 3.07kg / 6.77 lbs.

Full Container Load (40' STD / 20' STD) 1660 / 800 Units

#### WHAT'S IN THE BOX

Monitor with stand interchange Quick setup guide

#### CERTIFICATIONS

**ENERGY STAR Rating** 80

CCC Yes

EPEAT Silver

ULE Gold

RoHS (EU 2002/95/EC) Yes (2011/65/EU)

Windows Certification Windows 7 Windows 10

China Energy Efficiency Standard Tier 2

Low Blue Light Yes





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2.0 / 22 mm

(mm/inch) 122 x 405 x 639 mm / 4.80 x 15.94 x 25.16 inch

(mm/inch) (Lowest Position) 200.0 x 402.7 x 539.5 mm / 7.87 x 15.85 x 21.24 inch

(mm/inch) (Highest Position) 200.0 x 402.7 x 539.5 mm / 787 x 1585 x 2124 inch

(mm/inch) (Head Only) 41.5 x 325.7 x 539.5 mm / 1.63 x 12.82 x 21.24 inch

Min. Distance from Table to Panel 99.0 mm

Max. Distance from Table to Panel









# ThinkVision S24q-10

#### DISPLAY

Panel Size 23.8-inch

Screen Dimensions 526.85 mm x 296.35 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 2560 x 1440

**Pixel Pitch** 0.2058 x 0.2058 mm

**Dot/Pixel Per Inch (DPI/PPI)** 124

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode)

Refresh Rate 60 Hz

Brightness (typical) 240 cd/m²

Brightness (peak) 300 cd/m²

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Gamut** > 99% sRGB **Color Support (typical)** 16.7 Million

**Anti-glare** Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2

> **Audio Signal** 1 x Audio Out (3.5 mm)

#### SPECIAL FEATURES

**Tiny Support** Yes

#### POWER

Power Consumption (typical/max) 20W / 31W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

Power Supply Internal

Energystar Power Consumption (P_{on}/E_{TEC}) 16.76 W / 52.75 kWh

**Voltage Required** AC 100 to 240 V (47/63 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 22°

**VESA Mount Capability** Yes (100 x 100 mm) Kensington[™] Lock Slot Yes

**Cable Management** Yes

**Bezel Color** Raven Black

Bezel Width (side) 2 mm

**Bezel Width (top/bottom)** 2 / 21.4 mm

#### DIMENSION

**Size Packed (D x H x W, mm/inch)** 122 x 405 x 639 mm / 4.80 x 15.94 x 25.16 inches

**Size Unpacked w/stand (D x H x W, mm/inch) (lowest position)** 200 x 402.7 x 539.8 mm / 7.87 x 15.85 x 21.25 inches

Size Unpacked w/stand (D x H x W, mm/inch) (highest position) 200 x 402.7 x 539.8 mm / 7.87 x 15.85 x 21.25 inches

**Size Unpacked w/o Stand (D x H x W, mm/inch) (head only)** 42 x 325.7 x 539.8 mm / 1.65 x 12.82 x 21.25 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 98.4 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 399.9 mm

**Weight Packed (kg/lb)** 5.10 kg / 11.24 lbs.

Weight Unpacked (kg/lb) 3.50 kg / 7.72 lbs. Weight (monitor head only) (kg/lb) 3.21 kg / 7.08 lbs.

**Full Container Load (40' STD / 20' STD)** 1660 / 800 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR® Rating** 8.0

ссс

Yes **TCO** 8.0

TCO Edge

**EPEAT™** Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Eye Comfort** Yes





Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2.

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# ThinkVision T24d-10 MONITOR

# **SPECIFICATIONS**

DISPLAY		DIMENSIONS (W x D x H)	
Panel Size Panel Type Resolution Backlight Aspect Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DPI/PPI) Anti-Glare Screen Dimensions (W x H) (mm) (inches) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Color Gamut (CIE 1931) Display Colors (Typical) Response Time Extreme Typical Off	24" In-Plane Switching 1920 x 1200 WLED 16:10 0.27 x 0.27 94 PPI Yes 518.4 x 324 20.41" x 12.75" 300 cd/m ² 178°/178° 1000:1 3M:1 99% sRGB 16.7 Million 4 ms 7 ms 15 ms	Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Monitor Head Only (mm) (inches) Distance from Table to Panel Lowest Pixel at Bottom of Screen (mm / inches) Highest Pixel at Top of Screen (mm / inches) Stand Base Footprint Area (mm) (inches) Weight Packed Unpacked Monitor Head Only	160 × 655 × 422 6.3" × 25.79" × 16.61" 533.2 × 260.4 × 497.4 20.99" × 10.25" × 19.58" 533.2 × 42.3 × 355.1 20.99" × 1.67" × 13.98" 56 / 2.2" 490 / 19.29" 250 × 250 9.84" × 9.84" Starting at 19.18 lbs (8.7 kg) Starting at 12.41 lbs (5.63 kg) Starting at 8.77 lbs (3.98 kg)
SIGNAL INPUT	10 1113	POWER CONSUMPTION	
Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied Audio-Out SIGNAL INTERFACE / PERFO Horizontal Frequency Vertical Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed/ Bandwidth VGA HDMI [™] DisplayPort [™] Default Color Temperature Preset Display Modes OSD Buttons OSD Languages	VGA + DisplayPort 1.2 + HDMI 1.4 VGA + DisplayPort + HDMI 1.8 m USB 3.0 ¹ Yes Yes (3.5 mm) <b>DRMANCE</b> 30 kHz - 83 KHz 50 Hz - 75 Hz 1920 x 1200 205 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHz 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MHZ 165 MH	Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage Voltage Dynamic Frequency <b>ENVIRONMENTAL</b> Temperature Operating Non-Operating Humidity Operating Non-Operating Altitude Operating Non-Operating Altitude Operating Non-Operating Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins	22 W 64 W <0.3 W <0.3 W Internal 100 VAC - 240 VAC 50 Hz - 60 Hz 0°C - 40°C -20°C - 60°C 10% - 80% 5% - 95% 0 m - 5000 m 0 ft - 40,000 ft Yes Yes Yes >85%
MECHANICAL		COMPLIANCE	
Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA* Mount (mm x mm) Cable Management Kensington* Lock Bezel Color Bezel Width Top (mm / inches) Bottom (mm / inches) Sides (mm / inches)	-5°/30° +/-45° 110 +/-90° 100 x 100 Yes Yes Business Black 2 / 0.08" 22.7 / 0.89" 2 / 0.08"	EPEAT ENERGY STAR Rating ULE TCO RoHS (EU 2002/95/EC) China Energy Efficiency Standard Windows Certification WARRANTY AND AVAILAB Warranty Geography Availability	Silver 8.0 Gold TCO Display 7.0 / TCO Edge 2.0 Yes Tier 2 Windows 7 / Windows 10 ILITY 3 Years WW

* NA only.

NA only.
Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.



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### ThinkVision T24h-20

#### DISPLAY

Panel Size 23 8-inch

Screen Dimensions 526 85 mm x 296 35 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WIFD

Aspect Ratio 16.9

Resolution 2560 x 1440

**Pixel Pitch** 0 2058 x 0 2058 mm

Dot/Pixel Per Inch (DPI/PPI) 123

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

**Refresh Rate** 60 Hz

**Brightness (typical)**  $300 \text{ cd/m}^2$ 

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio** (typical) 3M:1

Color Gamut 99% sRGB

Color Support (typical) 16.7 Million

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP 1.2 Alt Mode) 1 x HDMI 1.4 1 x DP 1.2

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (1 BC)

#### POWER

Power Consumption (tvp./max.) 23W / 120W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption ( $P_{on}/E_{TEC}$ ) 16.36W / 53.37kWh

Power Supply Internal

USB Type-C Power Delivery (W) up to 75W*

Smart Power Yes

Voltage Required AC 100 to 240 V (47-63 Hz)

#### **MECHANICAL**

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45°/-45°

Lift (max range) 150 mm

Pivot -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Yes

Yes

Raven Black

DIMENSIONS

Size Packed  $(D \times H \times W, mm/inch)$ 620 x 149 x 423 mm 24 4 x 5 9 x 16 7 inches

Size Unpacked w/ Stand  $(D \times H \times W. mm/inch)$ (lowest position) 205 x 420 x 539.8 mm 8.07 x 16.5 x 21.3 inches

Size Unpacked w/ Stand (D x H x W, mm/inch)(highest position) 205 x 570 x 539.8 mm 8.07 x 22.4 x 21.3 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 44.6 x 325.7 x 539.8 mm 1.8 x 12.8 x 21.3 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 117.9 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm)

Weight Packed (kg/lbs.)

Weight Unpacked (kg/lbs.) 6.18 kg / 13.6 lbs.

Weight (monitor head only) (kg/lbs.) 3.85 kg / 7.89 lbs.

**Full Container Load** (40' STD / 20' STD) 1395 / 645 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) Quick setup guide

#### CERTIFICATIONS

**ENERGY STAR Rating** 80

ccc Yes

TCO 8.0 TCO Edge 2.0

EPEAT Silver

RoHS (EU 2002/95/EC) Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort Yes





*Listed as maximum capacity of power delivery. Actual capacity of power delivery may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher brightness setting

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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Kensington Lock Slot

Cable Management

Bezel Color

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 24.1 mm

8.1 kg / 17.86 lbs.

415 mm









# ThinkVision T24i-10 MONITOR



# SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Resolution (H x V) Aspect Ratio Anti-Glare Near Edgeless Screen Screen Dimensions (W x H) (mm) (inches) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut (CIE 1931) Color Support (Typical) Response Time (gray to gray) OSD Controls Buttons Languages

#### CONNECTIVITY

Video Input Signals

Video Cables Supplied (Length) USB Hub

Audio Out

#### MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Range (mm) Pivot Cable Management Kensington Lock VESA Mount (mm x mm) Bezel Color Bezel Width Top (mm / inches) Sides (mm / inches)

1920 x 1080 16:9 Yes Yes 527.04 x 296.46 20 75" x 11 67" 250 cd/m² 178°/178° 1000:1 3M:1 0.2745 x 0.2745 72% NTSC 16.7 Million 4 ms (Extreme mode) 6 ms (Normal mode) 5 English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

VGA + HDMI 1.4 +

1 x USB 3.0¹ (Upstream)

(Downstream, Incl. 1 BC)

DisplayPort 1.2

4 x USB 3.01

Yes (3.5 mm)

-5°/ 30°

+/-45°

+/-90°

Yes (100 X 100)

Raven Black

2 / 0.08"

2 / 0.08"

110

Yes

Yes

1.8 m

23.8" Wide

WLED

In-Plane Switchng

## DIMENSIONS (W x D x H)

Size Packed (mm) (inches) Size Unpacked with Stand Lowest Position (mm) (inches) Highest Position (mm)(inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Stand Base Footprint Area (mm) (inches) Weight Packed Unpacked Monitor Head Only Full Container Load (40' STD / 20' STD)

#### POWER CONSUMPTION

Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage

#### WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable 1 x VGA Cable 1 x DisplayPort - DisplayPort Cable 1 x HDMI Cable (NA Only) Quick Setup Guide

#### CERTIFICATIONS

EPEAT	Silver
ENERGY STAR Rating	8.0
тсо	7.0
TCO Edge	2.0
ULE	Gold
RoHS (EU 2002/95/EC)	Yes
China Energy Efficiency Standard	Tier 2
Windows Certification	Windo
TüV Eye Comfort Certification	Yes

8.0 7.0 2.0 Gold Yes Tier 2 Windows 7 / Windows 10 Yes

422 x 622 x 190

16 61" x 24 48" x 7 48"

540.2 x 261.75 x 373.4

540.2 x 261.75 x 483.4

540 2 x 46 45 x 325 98

Starting at 16.39 lbs (7.45 kg)

Starting at 11.33 lbs (5.15 kg)

Starting at 7.26 lbs (3.3 kg)

21.26" x 1.82" x 12.83"

250 x 250

9.84" x 9.84"

1140 / 540 Units

16.5 W

<0.3 W

Internal

90 VAC - 264 VAC

55 W <0.5 W

21.26" x 10.3" x 14.7"

21.26" x 10.3" x 19"

¹ Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.



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# ThinkVision T24i-19 MONITOR



## **SPECIFICATIONS**

#### DISPLAY

Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Near Edgeless Screen Screen Dimensions (W x H) (mm) (inches) Brightness Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Speakers Pixel Pitch (mm) Color Gamut (CIE 1931) Color Depth Color Support (Typical) Response Time (GtG) Extreme / Normal **OSD** Controls Buttons Languages

#### CONNECTIVITY

Video Input Signals

Video Cables Supplied

USB Hub Audio Out Power Soundbar Support*

#### MECHANICAL

Optional.

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Range (mm) Pivot Stand Cable Management Kensington Lock VESA Mount (mm x mm) Bezel Color Bezel Width Top (mm / inches) Sides (mm / inches)

16:9 Yes Yes 527.04 x 296.46 20.75" x 11.67" 250 nits 178°/178° 1000:1 3M:1 2 x 2W 0.2745 x 0.2745 72% NTSC 8 bit 16.7 Million 4 ms / 6 ms 5 English, French, German,

23.8" Wide

WLED

In-Plane-Switching

FHD (1920 x 1080)

VGA + HDMI + DisplayPort VGA, DisplayPort, USB, Power, HDMI (for NA only) USB 3.0¹ (4 x down, 1 x BC)

Yes (3.5 mm)

Internal

-5°/ 30°

+/-45°

+/-90°

Yes (100 X 100)

Raven Black

2 / 0.08"

2 / 0.08"

LTPS

Yes

Yes

110

Yes

Spanish, Italian, Japanese, Simplified Chinese, Russian

#### DIMENSIONS (W x D Size Packed

(mm) (inches) Size Unpacked with Stand Lowest Position (mm) (inches) **Highest Position** (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Stand Base Footprint Area (mm) (inches) Weight Packed Unpacked Monitor Head Only Full Container Load (40' STD / 20' STD)

#### POWER CONSUMPTION

Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage ENERGY STAR (Pon) ENERGY STAR (ETEC)

#### WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable 1 x VGA Cable 1 x DisplayPort - DisplayPort Cable 1 x HDMI Cable (NA Only) Quick Setup Guide

#### CERTIFICATIONS

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EPEAT
ENERGY STAR Rating
TCO
TCO Edge
ULE
RoHS (EU 2002/95/EC)
China Energy Efficiency Standard
Windows Certification
TüV Eye Comfort Certification
TINY Support

Silver 8.0 7.0 2.0 Gold Yes Tier 2 Windows 7 / Windows 10 Yes Yes

<u>enovo</u>

250 x 250 9.84" x 9.84"

422 x 622 x 190

16.61" x 24.48" x 7.48"

540.2 x 261.75 x 373.4

540.2 x 261.75 x 483.4

540 2 x 46 45 x 325 98

21.26" x 1.82" x 12.83"

21.26" x 10.3" x 14.7"

21.26" x 10.3" x 19"

Starting at 16.39 lbs (7.45 kg) Starting at 11.33 lbs (5.15 kg) Starting at 7.26 lbs (3.3 kg) 1140 / 540 Units

90 VAC - 264 VAC 13.67 W 43.51 kWh

16.5 W 59 W <0.5 W <0.3 W Internal

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Depending on many factors such as the processing capability of peripheral devices, file attributes and other factors related to system configuration and operating environments, the actual transfe rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.





1









### ThinkVision T24i-20

#### DISPLAY

Panel Size 23.8-inch

Screen Dimensions 527.04 mm x 296.46 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 1920 x 1080

**Pixel Pitch** 0.2745 x 0.2745 mm

Dot/Pixel Per Inch (DPI/PPI) 93

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

**Refresh Rate** 60 Hz

Brightness (typical) 250 cd/m²

**Brightness** (peak) 250 cd/m²

Contrast Ratio (typical) 1000:1

3M:1 **Color Gamut** 72% NTSC (CIE 1931)

Color Support (typical) 16.7 Million

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2 1 x VGA

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub Yes

USB Upstream 1 x USB 3.2 Gen1

USB Downstream 4 x USB 3.2 Gen1 (1 x BC 1.2)

#### MULTI-MEDIA

**Optional Soundbar Support** Yes (PN 0A36190)

#### POWFR

**Power Consumption** (typ./max.) 14W / 55W

Power Consumption Sleep/Off Mode < 0.5W

Dynamic Contrast Ratio (typical) Power Consumption Switch-off Mode < 0.3W

> ENERGY STAR Power Consumption ( $P_{op}/E_{TEC}$ ) 12.35W / 38.83kWh

Power Supply Internal

Voltage Required AC 100 to 240 V (50-60 Hz)

#### **MECHANICAL**

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max. range) 150 mm

Pivot -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

**Tiny Bracket Support** Yes (sold separately)

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 mm / 22.2 mm

#### DIMENSION

Size Packed (D x H x W, mm/inch) 422.0 x 187.0 x 622.0 mm 16.61 x 7.36 x 24.49 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 205.0 x 409.3 x 539.8 mm 8.07 x 16.11 x 21.25 inches

Size Unpacked w/ Stand  $(D \times H \times W. mm/inch)$ (highest position) 205.0 x 559.3 x 539.8 mm 8.07 x 22.02 x 21.25 inches

Size Unpacked w/o Stand (head only) ( $D \times H \times W$ , mm/inch) 46.8 x 326.5 x 539.8 mm 1.84 x 12.85 x 21.25 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 106.62 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 557.0 mm

Weight Packed (kg/lbs.) 8.17 kg/18.01 lbs

Weight Unpacked (kg/lbs.) 5.90 kg/13.01 lbs.

Weight (monitor head only) (kg/lbs.) 3.30 kg/7.28 lbs.

**Full Container Load** (40' STD/20' STD) 1140/540 units

WHAT'S IN THE BOX Monitor with stand

1 x Power cable (1.8 m) 1 x DP cable (1.8 m) 1 x USB Type-A to B cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0

CCC Yes

TCO 8.0

TCO Edge 2.0

EPEAT Gold

> RoHS (EU 2002/95/EC) Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes







Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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# ThinkVision T24m-10 MONITOR

23.8"

WLED

16:9

Yes

3M:1

92

19 W 116 W

<0.5 W

<0.5 W

Internal

90 VAC - 264 VAC

47 Hz - 63 Hz

1920 x 1080

250 cd/m²

72% NTSC

178°/178° 1000:1

In-Plane Switching

527.04 (H) x 296.46 (V)

0.2745 (H) x 0.2745 (V)

4 ms (Extreme mode) 6 ms (Normal mode)

# **SPECIFICATIONS**

#### DISPLAY

Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio (Typical) Pixel Pitch (mm) Dot/Pixel Per Inch (DPI/PPI) Color Gamut (CIE 1931) Response Time (gray to gray)

#### POWER CONSUMPTION

Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage Voltage Dynamic Frequency

#### CONNECTIVITY

Video Input Signals

Video Cables Supplied Video Cable Length USB Hub

HDMI 1.4 + DisplayPort 1.2a + USB Type-C USB Type-C to Type-C Cable 1.8 m Yes 1 x USB 3.01 (Upstream, by USB Type-C) 4 x USB 3.01 (Downstream, incl. 1BC) Yes (3.5 mm)

Audio-Out

### MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Range (mm) Pivot VESA Mount (mm x mm) Kensington Lock Slot Cable Management Bezel Color Bezel Width Top (mm / inches) Sides (mm / inches)

-5° / 30° +/-45° 110 +/-90° Yes (100 x 100) Yes Yes Raven Black 2 / 0.08" 2 / 0.08"

DIMENSIONS (W x D x H)

Size Packed (mm) (inches)	422 x 622 x 190 16.61" x 24.48" x 7.48"
Size Unpacked with Stand	
Lowest Position	
(mm)	540.2 x 261.75 x 373.4
(inches)	21.26" x 10.3" x 14.7"
Highest Position	
(mm)	540.2 x 261.75 x 483.4
(inches)	21.26" x 10.3" x 19"
Size Unpacked without Stand	
(Monitor Head Only)	
(mm) (inches)	540.2 x 46.45 x 325.98 21.26" x 1.82" x 12.83"
Distance from Table to Panel	21.20 X 1.02 X 12.03
Lowest Pixel at Bottom of Screen	
(mm / inches)	70.37 / 2.77"
Highest Pixel at Top of Screen	, , , , , , , , , , , , , , , , , , , ,
(mm / inches)	476.8 / 18.77"
Stand Base Footprint Area	
(mm / inches)	250 x 250 / 9.84" x 9.84"
Weight	
Packed	Starting at 16.39 lbs (7.45 kg)
Unpacked	Starting at 11.33 lbs (5.15 kg)
Monitor Head Only	Starting at 7.26 lbs (3.3 kg)
Full Container Load	1140 / 540 Units
(40' STD / 20' STD)	

#### SPECIAL FEATURES

Thin Client Support (Tiny)

#### WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable 1 x USB Type-C[™] to Type-C[™] Cable Quick Setup Guide

#### CERTIFICATIONS

EPEAT ENERGY STAR Rating ULE TCO RoHS (EU 2002/95/EC) Windows Certification China Energy Efficiency Standard TüV Eye Comfort Certification

Silver 8.0 Gold TCO 7.0 / TCO Edge 2.0 Yes Windows 7 / Windows 10 Tier 2 Yes

(by Tiny Clamp Bracket Kit + VESA Mount)

Yes

¹ Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.



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# ThinkVision T24v-10 MONITOR

# SPECIFICATIONS

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DISPLAY		ENVIRONMENTAL	
Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Response Time (Extreme/Typical/Off)	23.8" In-Plane Switching WLED 1920 x 1080 16:9 Yes 527.04 x 296.46 250 cd/m ² 178°/178° 1000:1 3M:1 0.25 x 0.25 102 72% sRGB 4/6/14 ms (G-to-G)	Temperature Operating Non-Operating Humidity Operating Non-Operating Altitude Operating Non-Operating Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins	0°C - 40°C -20°C - 60°C 10% - 80% 5% - 95% 0 m - 8000 m 0 ft - 40,000 ft Yes Yes Yes Yes >85%
POWER CONSUMPTION		DIMENSIONS (W x D x H)	
Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage Voltage Dynamic Frequency SIGNAL INPUT	20 W 45 W <0.5 W <0.3 W Internal 90 VAC - 264 VAC 47 Hz - 63 Hz	Size Packed (mm) (inches) Size Unpacked with Stand Lowest Position (mm) (inches) Highest Position	608 x 395 x 187 23.94" x 15.55" x 7.36" 540.2 x 261.9 x 390.5 21.28" x 10.32" x 15.39"
Video Input Signals	HDMI 1.4 + DisplayPort 1.2 +	(mm) (inches)	540.2 x 261.9 x 500.5 21.28" x 10.32" x 19.72"
Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied Audio-Out SIGNAL INTERFACE / PERFO Horizontal Frequency	VGA HDMI (ROW) + DisplayPort + VGA + USB 3.01 1.8 m Yes Yes Yes (3.5 mm) <b>DRMANCE</b> 30 kHz - 81 kHz	Size Unpacked without Stand (Monitor Head Only) (mm) (inches) Distance from Table to Panel Lowest Pixel at Bottom of Screen (mm / inches) Highest Pixel at Top of Screen	540.2 x 43.8 x 343.7 21.27" x 1.72" x 13.53" 69.6 / 2.74"
Vertical Frequency Native Resolution Maximum Pixel Clock Speed/ Bandwidth Default Color Temperature Preset/User Modes OSD Buttons OSD Languages	50 Hz - 75 Hz 1920 x 1080 VGA : 205 MHz HDMI : 165 MHz DisplayPort : 165 MHz 6500K 27/21 5+2 Buttons English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian	(mm / inches) Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only	69.6 / 2.74" 242.5 x 212.8 / 9.55" x 8.38" Starting at 15.78 lbs (7.16 kg) Starting at 11.18 lbs (5.07 kg) Starting at 7.3 lbs (3.31 kg)
MECHANICAL		COMPLIANCE	
Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Bezel Color	-5° / 30° +/-45° Yes (110) +/-90° Yes (100 x 100) Yes Yes Raven Black	EPEAT ENERGY STAR Rating ULE TCO RoHS (EU 2002/95/EC) Windows Certification China Energy Efficiency Standard TÜV Eye Comfort	Silver 8.0 Gold TCO Display 7.0 / TCO Edge 2.0 Yes Windows 7 / Windows 10 Grade 2 Yes
Bezel Width	Raveli Didek	WARRANTY AND AVAILAB	ILITY
Top (mm / inches) Bottom (mm / inches) Sides (mm / inches)	2 / 0.08" 22 / 0.87" 2 / 0.08"	Warranty ROW PRC Geography Availability	3 Years 18 Months WW

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.2.

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Geography Availability





### ThinkVision T24v-20

#### DISPLAY

Panel Size 23.8-inch

Screen Dimensions 527.04 x 296.46 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 1920 × 1080

**Pixel Pitch** 0.2745 x 0.2745 mm

**Dot/Pixel Per Inch (DPI/PPI)** 93

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode)

Refresh Rate 60 Hz

Brightness (typical) 250 cd/m²

Brightness (peak) 250 cd/m²

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1 Color Gamut 72% NTSC (CIE 1931)

**Color Support (typical)** 16.7 Million

Anti-glare Yes

#### CONNECTIVITY

**Video Signal** 1 x HDMI 1.4 1 x DP 1.2 1 x VGA

Audio SignalTi1 x Audio combo (3.5 mm; in/out)-5

**USB Hub** Yes

USB Upstream 1 X USB 3.2 Gen1

USB Downstream 2 x USB 3.2 Gen1 (1 x BC 1.2)

#### MULTI-MEDIA

Integrated Webcam Yes

Integrated Microphone Yes

Integrated Speakers Yes  $(2 \times 3W)$ 

#### POWER

Power Consumption (typical/max) 13W / 44W

Power Consumption Sleep/Off Mode < 0.5W Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption (P_{or}/E_{TEC}) 11.36W / 35.68kWh

Power Supply Internal

Voltage Required AC 100 to 240 V (50-60 Hz) Size Unpacked w/ Stand

#### MECHANICAL

**Tilt Angle (front/back)** -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max range) 150 mm

**Pivot** -90° / 90°

VESA Mount Capability Yes (100 x 100 mm)

**Tiny Bracket Support** Yes (sold separately)

Kensington Lock Slot Yes

**Cable Management** Yes

Bezel Color Raven Black

Bezel Width (side) 1.8 mm

Bezel Width (top/bottom) 1.8 / 22.0 mm

#### DIMENSION

**Size Packed (D x H x W, mm/inch)** 418.0 x 187.0 x 644.0 mm 16.46 x 7.36 x 25.35 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 205.0 x 434.0 x 539.8 mm 8.07 x 17.0 x 21.2 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 205.0 x 584.0 x 539.8 mm 8.07 x 23.0 x 21.2 inches

**Size Unpacked w/o Stand** (head only) (D x H x W, mm/inch) 48.35 x 344.3 x 539.8 mm 1.9 x 13.55 x 21.25 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 114.1 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 560.56 mm

Weight Packed (kg/lbs.) 7.86 kg/17.33 lbs.

Weight Unpacked (kg/lbs.) 5.94 kg/13.10 lbs.

Weight (monitor head only) (kg/lbs.) 3.48kg/7.67 lbs.

Full Container Load (40' STD / 20' STD) 1012/440 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) 1 x USB Type-A to Type-B cable (1.8 m) Quick setup guide

#### CERTIFICATION

ENERGY STAR Rating 8.0

CCC Yes

**TCO** 8.0

TCO Edge 2.0

EPEAT Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes



Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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## ThinkVision T25d-10

#### DISPLAY

Panel Size 25.0 inches

Screen Dimensions (H x V) 533.45 x 338.76mm

Panel Type In-Plane Switching

Backlight WLED

Aspect Ratio

**Resolution** 1920 x 1200 pixels

Refresh Rate 60Hz

**Pixel Pitch (H x V)** 0.2789 x 0.2823mm

Viewing Angle (H x V) 178°/178°

Response Time (gray to gray) 4ms (extreme mode) 6ms (normal mode)

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Brightness (typical)** 300 cd/m²

Color Gamut sRGB (CIE 1931) 99% **Color Support** 16.7M

#### CONNECTIVITY

Video Input Signals HDMI 1.4 + DP 1.2 + VGA

> Video Cables Supplied DP + HDMI*

Video Cable Length 1.8m

**USB Hub** Yes

USB Upstream 1 x USB 3.1 Gen1

USB Downstream 4 x USB 3.1 Gen1 (with 1 BC

Audio Out Yes (3.5mm)

#### POWER

Power Consumption (Typical/Max) 25W/66W

Power Consumption Sleep/Off Mode <0.5W

Power Consumption Switch Off-Mode <0.3W

Power Supply Internal

ENERGY STAR (P_{on}) 16.54W **ENERGY STAR (Ε_{τεc})** 52.06kWh

**Voltage Required** 100-240VAC (50/60Hz)

#### DIMENSIONS

**Size Packed (D x H x W)** 706 x 450 x 160mm/ 27.79 x 17.72 x 6.30 inches

Size Unpacked w/stand (D x H x W)(mm/inch) (Lowest position) 260.4 x 399.5 x 548.7mm/ 10.25 x 15.73 x 21.60 inches

Size Unpacked w/stand (D x H x W)(mm/inch) (Highest position) 260.4 x 509.5 x 548.7mm/ 10.25 x 20.06 x 21.60 inches

Size Unpacked w/o stand (D x H x W)(mm/inch) (Head Only) 43.0 x 369.1 x 548.7mm/ 1.69 x 14.53 x 21.60 inches

Weight Packed 7.8kg/17.20lbs.

Weight Unpacked 5.5kg/12.13lbs.

Weight (Monitor Head Only) 3.58kg/7.89lbs.

#### SPECIAL FEATURES

Anti-glare Yes

**Optional Soundbar Support** Yes

ThinkCentre Tiny Support Yes

#### MECHANICAL

**Tilt Angle (front/back)** -5°/30°

Swivel Angle (left/right) +/-45°

**Lift** Yes (110mm)

**Pivot** +/-90°

**VESA Mount Capability** Yes (100 x 100mm)

Kensington Lock Slot Yes

Bezel Width (Side) 2.0mm

Bezel Width (top/bottom) 2.0/22.2mm

#### WHAT'S IN THE BOX

Monitor with stand 1 × Power Cable 1 × USB 3.1 Gen1 Cable 1 × HDMI Cable* 1 × DP Cable Quick Setup Guide

#### CERTIFICATIONS

**ENERGY STAR Rating** 8.0

EU RoHS Yes

ccc

Yes

TCO 8.0/TCO Edge 2.0

**EPEAT** Silver

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 2

**TÜV Eye Comfort** Yes









*For NA and LA only

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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### ThinkVision T25m-10

#### DISPLAY

Panel Size 25.0 inches

Screen Dimensions (H x V) 535 45 x 338 76mm

Panel Type In-Plane Switching

Backlight WIFD

Aspect Ratio 16.10

Resolution 1920 x 1200 pixels

Pixel Pitch (H x V) 02789 x 02823mm

Viewing Angle (H x V) 178°/178°

Response Time (gray to gray) 4ms (extreme mode) 6ms (normal mode)

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1

Brightness (typical) 300 cd/m²

Color Gamut sRGB (CIE 1931) 99%

Color Support 16 7 M

#### CONNECTIVITY

Video Input Signals HDMI 1.4 + DP 1.2 + USB 3.1 Type-C (DP 1.2 Alt Mode)

Video Cables Supplied USB 3.1 Type-C

Video Cable Length 1.8m

USB Hub Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (with 1 BC)

Audio Out Yes (3.5mm)

#### POWFR

Power Consumption (Typical/Max) 30W/150W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch Off-Mode < 0.3W

Power Supply Internal

ENERGY STAR (Par) 17.05W

ENERGY STAR (ETEC) 63.12kWh

**Power Voltage** 100-240VAC (50/60Hz)

#### DIMENSIONS

Size Packed (D x H x W) 706 x 450 x 160mm/ 27.79 x 17.72 x 6.30 inches

Size Unpacked w/stand  $(D \times H \times W)$  (mm/inch) (Lowest position) 260.4 x 399.5 x 548.7mm/ 10.25 x 15.73 x 21.60 inches

Size Unpacked w/stand (D x H x W) (mm/inch)(Highest position) 260.4 x 509.5 x 548.7mm/ 10.25 x 20.06 x 21.60 inches

Size Unpacked w/o stand  $(D \times H \times W) (mm/inch)$ (Head Only) 43.0 x 369.1 x 548.7mm/ 1.69 x 14.53 x 21.60 inches

Weight Packed 7.8kg/17.20lbs.

Weight Unpacked 5.5kg/12.13lbs.

Weight (Monitor Head Only) 3.58kg/7.89lbs.

#### SPECIAL FEATURES

Anti-glare Yes

#### Smart Power* Yes

ThinkCentre Tiny Support Yes

Internal Speakers Yes  $(3W \times 2)$ 

#### MECHANICAL

Swivel Angle (left/right) +/-45°

Lift Yes (110mm)

Pivot +/-90°

**VESA Mount Capability** Yes (100 x 100mm)

Kensington[™] Lock Slot Yes

Bezel Width (top/bottom) 2.0/22.2mm

#### WHAT'S IN THE BOX

Monitor with stand

#### CERTIFICATIONS

**ENERGY STAR Rating** 

8.0 EU RoHS

Yes

CCC Yes

TCO TCO 8.0/TCO Edge 2.0

EPEAT Silver

Windows Certification Windows 7. Windows 10

**China Energy Efficiency Standard** Tier 2

TÜV Eye Comfort Yes







*The Smart Power function intelligently detects overall power consumption and dynamically manages the power delivery to other devices. 75W power delivery by USB Type-C can be achieved when downstream USB ports are not connected and OSD brightness setting is <31.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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**Optional Soundbar Support** Yes

Tilt Angle (front/back) -5°/30°

Bezel Width (Side) 2.0mm

1 × Power Cable 1 × USB Type-C to Type-C cable Quick Setup Guide













# Think Vision P27h-10 MONITOR



## SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Borderless Screen Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut (CIE 1931) Display Colors (Typical) Response Time

#### SIGNAL INPUT

Video Input Signals

Video Cables Supplied (Length)

IPS WLED 2560 x 1440 16:9 Yes Yes 596.74 (H) x 335.66 (V) 350 cd/m² 178°/178° 1000:1 3M:1 0.233 99% sRGB 16.7 Million 4/6/15 ms (G-to-G)

27" Wide

#### 2 x HDMI 1.4 + USB-C + DisplayPort 1.2 + DisplayPort-Out USB-C - USB-C Cable (NA only: HDMI, DisplayPort - DisplayPort, USB-C - USB-C) (1.8 m)

#### SIGNAL INTERFACE / PERFORMANCE

Audio OSD Languages Audio-Out English French Italian German, Spanish, Japanese,

#### POWER CONSUMPTION

Typical	38 W
Maximum	140 W
Sleep-Mode	<0.5 W
Off-Mode	<0.5 W
Power Supply	Internal
Power Voltage	100 VAC - 240 VAC

Chinese, Russian

## COMPLIANCE

Arsenic-Free Glass Yes PVC-Free Yes Mercury-Free Yes EPEAT Silver **ENERGY STAR Rating** 8.0 тсо 7.0 TCO Edge 2.0 TÜV Eye Comfort Certification Yes RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard Tier 1 Windows Certification Windows 7 / Windows 10

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1: 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.



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#### DIMENSIONS (W x D x H)

Size Packed (mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm)(inches) Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only

#### MECHANICAL

Tilt Angle (Front / Back) Cable Management Kensington Lock VESA Mounting Bezel Color Bezel Width Top (mm / inches) Bottom (mm / inches) Sides (mm / inches)

-5°/ 30° Yes Yes Yes (100 mm) Raven Black

453 x 732 x 210

17.83" x 28.82" x 8.27"

24.08" x 10.62" x 20.2"

611.6 x 269.8 x 513

611.6 x 45.5 x 368.4

24.08" x 1.79" x 14.5"

260 x 260 / 10.24" x 10.24"

Starting at 24.25 lbs (11 kg)

Starting at 15.43 lbs (7 kg)

Starting at 11.02 lbs (5 kg)

2 / 0.08" 22.9 / 0.9" 2 / 0.08"









## **ThinkVision P27h-20 Monitor**

## **Specifications**

#### DISPLAY

Panel Size 27-inch

Screen Dimensions 596.74 mm x 335.66 mm

Panel Type 4-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 2560 x 1440

**Pixel Pitch** 0.2331 x 0.2331 mm

**Dot/Pixel Per Inch (DPI/PPI)** 109

**Viewing Angle (H x V @ CR 10:1)** 178° / 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

Brightness (typical) 350 cd/m²

**Contrast Ratio (typical)** 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Gamut** 99% sRGB, 99% BT.709, 85% DCI-P3

**Color Support (typical)** 16.7 Million

Processor LUT 8-bit

Anti-glare Yes

#### CONNECTIVITY

Video Signal

USB Downstream 4 x USB 3.1 Gen1 (1 x BC1.2)

#### **MULTI-MEDIA**

Integrated Speakers Yes (2 x 1W)

**Optional Soundbar Support** Yes (PN 0A36190)

#### SPECIAL FEATURES

Factory Calibration Yes (Avg. Delta E<2)

#### POWER

Power Consumption (typ./max.) 27W / 150W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption (P_{on}/E_{TEC}) 19W / 61kWh

Power Supply Internal

USB Type-C Power Delivery (W) up to 90 W*

Smart Power** Yes

Voltage Required AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45°/ -45°

Lift (max range) 135 mm

**Pivot** -90° / 90°

VESA Mount Capability Yes (100 x 100 mm)

Kensington Lock Slot

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 208 x 441.5 x 613.8 mm 8.19 x 17.38 x 27.17 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 208 x 576.5 x 613.8 mm 8.19 x 22.70 x 27.17 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 46.9 x 353.8 x 613.8 mm 1.85 x 13.92 x 27.17 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 97.3 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 567.9 mm

Weight Packed (kg/lbs.) 9.55 kg / 21.01 lbs.

Weight Unpacked (kg/lbs.) 7.35 kg / 16.17 lbs.

Weight (monitor head only) (kg/lbs.) 4.87 kg / 10.71 lbs.

Full Container Load (40' STD / 20' STD) 792 / 352 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) Factory calibration report Quick setup guide

#### CERTIFICATION

ENERGY STAR Rating 8.0

CCC Yes

**TCO** 8.0

TCO Edge 2.0

**EPEAT** Silver

RoHS (EU 2002/95/EC)

1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x HDMI 1.4 1 x DP 1.2 1 x DP 1.2 (Out)

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub Yes

Ethernet Yes (10M/100M/1000M)

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C Gen1) res

Cable Management Yes

Bezel Color Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 2.0 mm

#### DIMENSION

**Size Packed (D x H x W, mm/inch)** 182 x 463 x 722 mm 7.17 x 18.23 x 28.43 inches Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes



*Listed as maximum capacity of power delivery. Actual capacity may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher brightness setting.

**The Smart Power function intelligently detects overall power consumption and dynamically manages the power delivery to each device. Get up to 90 W* of power delivery through the USB Type-C cable with the Smart Power function.

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## ThinkVision P27q-10 MONITOR SPECIFICATIONS

#### DISPLAY

Viewing Angle (H/V at CR 10:1) Viewing Angle (H/V at CR 5:1) Contrast Ratio (Typical) Dynamic Contrast Ratio (Typical) Pixel Pitch (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Color Support (Typical) Response Time (Typical) Processor LUT
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

27" Wide In-Plane Switching WIFD 2560 x 1440, QHD 16.9 596.74 (H) x 335.66 (V) 350 cd/m² 300 cd/m² 685.8 / 27' 178°/178° 178°/178° 1000:1 3M:1 0.2331 109 99% sRGB 16.7 Million 4/6/15 ms (G to G)

True 8-bit

#### DIMENSIONS (W x D x H)

#### Size Packed 453 x 732 X 210 17.83" x 28.82" X 8.27" (mm) (inches) Size Unpacked with Stand 614 x 269.8 X 513 (mm)24.17" x 10.62" X 20.2" (inches) Size Unpacked without Stand (Monitor Head Only) 540.2 x 42 x 325.98 (mm) (inches) 21.26" x 1.65" x 12.83" Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen Highest Pixel at Top of Screen 58.8 / 2.31" 504.4 / 19.86" Stand Base Footprint Area (mm / inches) 260 x 260 / 10.24" x 10.24" Weight Packed Starting at 23.8 lbs (10.8 kg) Unpacked Starting at 15.43 lbs (7 kg) Starting at 10.58 lbs (4.8 kg) Monitor Head Only Full Container Load (40' STD / 20' STD) 800 Units / 350 Units

#### SIGNAL INPUT

Video Input Signals

Video Cables Supplied Video Cable Length Daisy Chain Support USB Hub USB Cable Supplied USB Cable Length

Audio-Out

2 x HDMI 1.4 DisplayPort 1.2 Mini DisplayPort DisplayPort-Out Mini DisplayPort -DisplayPort Cable 1.8 m Yes USB 3.0¹ (1 x Up, 4 x Down (1 x BC 1.2)) Yes 1.8 m Yes (3.5 mm)

#### POWER CONSUMPTION

Typical	
Maximum	
Sleep-Mode	
Off-Mode	
Power Supply	
Power Voltage	
Voltage Dynamic Frequency	
voltage by hanne i requeriey	

#### WARRANTY AND AVAILABILITY

Geography Availability ThinkVision Logo Global Model Warranty Worldwide Yes Yes 3 Years

38 W

75 W

<0.5 W

<0.5 W

Internal

100 VAC - 240 VAC

50 Hz - 60 Hz

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MECHANICAL Tilt Angle (Front / Back)

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount Kensington Lock Slot Cable Management Bezel Color Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches)	-5° / 30° +/-45° 110 CW/CCW 90° Yes (100 mm) Yes Raven Black 2 / 0.08″ 2 / 0.08″ 2.9 / 0.9″
SPECIAL FEATURES	
Anti-Glare Thin Client Support (Tiny) Others	Yes Yes Daisy Chain
ENVIRONMENTAL	

#### Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating Ambient Operating Temperature Heat Dissipation Typical Maximum Arsenic-Free Glass PVC-Free

Mercury-Free

PCC % of Plastic Resins

-20 °C - 60 °C 8% - 80% 5% - 95%

0 °C - 40 °C

0 m - 5000 m 0 ft - 40,000 ft 0 °C - 40 °C

129.68 Btu/h 255.75 Btu/h Yes Yes >85%

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth HDMI DisplayPort Default Color Temperature Preset/User Modes On Screen Display (OSD) Controls Buttons Languages

#### CERTIFICATIONS

TCO ULE GREENGUARD RoHS (EU 2002/95/EC) Windows Certification Image Quality Capability Reduction of Hazardous Substances China Energy Efficiency Standard 50 Hz - 76 Hz 30 kHz - 99 KHz 60 Hz (2560 x 1440)

300 MHz 5.4 GHz 6500K 20/24

5 Buttons English, French, Italian, German, Spanish, Japanese, Chinese, Russian

TCO 7.0 / TCO Edge 2.0 Gold VOC Yes Windows 7 / Windows 10 ISO 9241-307 Arsenic-Free / Mercury-Free Tier 1

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1, 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

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## Lenovo P27q-20

#### DISPLAY

Panel Size 27-inch

Screen Dimensions 596.74 mm x 335.66 mm

Panel Type 4-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 2560 x 1440

**Pixel Pitch** 0.2331 x 0.2331 mm

Dot/Pixel Per Inch (DPI/PPI) 109

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

Brightness (typical) 350 cd/m²

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut 99% sRGB

**Color Support (typical)** 16.7 Million

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2 1 x DP 1.2 (out)

**Audio Signal** 1 x Audio Out (3.5 mm)

**USB Hub** Yes

USB Upstream 1 x USB3.1 Gen1 (by USB Type-B)

USB Downstream 4 x USB3.1 Gen1 (1 BC)

#### POWER

Power Consumption (typical/max) 22W / 57W

Power Consumption Sleep/Off Mode < 0.5W Power Consumption Switch-off Mode

< 0.3W ENERGY STAR Power Consumption

(P_{on}/E_{τεc}) 18W / 57kWh

Power Supply Internal

Voltage Required AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

**Tilt Angle (front/back)** -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (Max range) 135 mm

**Pivot** -90° / 90° VESA Mount Capability Yes (100 X 100 mm)

Kensington Lock Slot Yes

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 2.0 mm

#### DIMENSION

**Size Packed (D x H x W, mm/inch)** 182.0 x 463.0 x 722.0 mm / 7.17 x 18.23 x 28.43 inches

**Size Unpacked w/ Stand** (D x H x W, mm/inch) (lowest position) 208.0 x 441.5 x 613.8 mm / 8.19 x 17.38 x 27.17 inches

**Size Unpacked w/ Stand** (**D x H x W, mm/inch) (highest position)** 208.0 x 576.5 x 613.8 mm / 8.19 x 22.70 x 27.17 inches

Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 46.9 x 353.8 x 613.8 mm / 1.85 x 13.92 x 27.17 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 97.3 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 567.9 mm

Weight Packed (kg/lbs.) 9.26 kg / 20.37 lbs.

Weight Unpacked (kg/lbs.) 7.12 kg / 15.7 lbs. Weight (monitor head only) (kg/lbs.) 4.64 kg / 10.23 lbs.

**Full Container Load (40' STD / 20' STD)** 792 / 352 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) 1 x USB Type-B to Type-A cable (1.8 m) Quick setup guide

#### CERTIFICATION

ENERGY STAR Rating 8.0

CCC Yes TCO 8.0

**TCO Edge** 2.0

EPEAT Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes



Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Genl; 10 Gbit/s for USB 3.1 Genl; 20 Gbit/s for USB 3.2.

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# Think Vision P27u-10 MONITOR

27'

WIFD

16:9

Yes

3840 x 2160

350 cd/m²

178°/178°

1.07 Billion

1000:1

3M:1

163

50 W

160 W

<0.5 W

<0.3 W

Internal

In-Panel Switching

596.74 (H) x 335.66 (V)

0.1554 (H) x 0.1554 (V)

99.5% Adobe RGB

100 VAC - 240 VAC

2 HDMI + DisplayPort +

HDMI*, DisplayPort,

Yes (USB Type-C to

Type-A Cable)

30 kHz - 160 kHz

3840 (H) x 2160 (V)

HDMI : 600 MHz DisplayPort : 5.4 Gbps USB Type-C : 5.4 Gbps/Lane

English, French, German,

Spanish, Italian, Japanese, Simplified Chinese, Russian

23 Hz - 80 Hz

6500K

5 Buttons

-5° / 30°

Yes (110)

Yes (100 x 100)

Raven Black

24.5 / 0.96"

2 / 0.08"

2 / 0.08"

+/-45°

+/-90°

Yes

Yes

27/20

50 Hz - 60 Hz

USB Type-C

USB Type-C

1.8 m

Yes

Yes

10-bit (8+ FRC) 4/6/14 ms (G-to-G)

## SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931) Color Support (Typical) Color Depth Response Time

#### POWER CONSUMPTION

Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage Voltage Dynamic Frequency

#### SIGNAL INPUT

Video Input Signals

Video Cables Supplied

Video Cable Length USB Hub USB Cable Supplied

Audio-Out

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed/ Bandwidth

Default Color Temperature Preset/User Modes OSD Buttons OSD Languages

#### MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount (mm x mm) Kensington Lock Slot Cable Management Bezel Color Bezel Width Top (mm / inches) Bottom (mm / inches) Sides (mm / inches)



#### ENVIRONMENTAL

Temperature Operating Non-Operating Humidity Operating Non-Operating Altitude Operating Non-Operating Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins

0°C - 45°C -20°C - 60°C

10% - 80% 5% - 95% 0 ft - 5000 ft

453 x 732 x 210

17.83" x 28.82" x 8.27"

0 ft - 40,000 ft Yes Yes (without Cable) Yes 0.85

#### DIMENSIONS (W x D x H)

Size Packed (mm) (inches) Size Unpacked with Stand Lowest Position (mm)(inches) **Highest Position** (mm) (inches) Size Unpacked without Stand (Monitor Head Only) (mm)(inches) Distance from Table to Panel Lowest Pixel at Bottom of Screen (mm / inches) Highest Pixel at Top of Screen (mm / inches) Stand Base Footprint Area (mm / inches) Weight Packed Unpacked Monitor Head Only

611.6 x 269.8 x 403.3 24.08" x 10.62" x 15.88" 611.6 x 269.8 x 513.3 24.08" x 10.62" x 20.21" 611.6 x 45.5 x 368.4 24.08" x 1.79" x 14.5" 60.2 / 2.37" 505.8 / 19.91" 260 x 260 / 10.24" x 10.24"

Starting at 24.25 lbs (11 kg) Starting at 15.32 lbs (6.95 kg) Starting at 11.02 lbs (5 kg)

#### COMPLIANCE

TCO RoHS (EU 2002/95/EC) Windows Certification China Energy Efficiency Standard TCO Edge 2.0 Yes Windows 7 / Windows 10 Tier 2

#### WARRANTY AND AVAILABILITY

Warranty Geography Availability

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2

3 Years

ww

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NA only









### ThinkVision S27i-10

#### DISPLAY

Panel Size 27-inch

Screen Dimensions (W x H mm) 597.89 mm × 336.31 mm

Panel Type 3-side NearEdgelss, In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 1920 x 1080

Pixel Pitch (H x V) (mm) 0.3110 × 0.3110

Dot/Pixel Per Inch(DPI/PPI) 81

Viewing angle (H x V) 178°/178°

Response Time (gray to gray) 4 ms (extreme mode) 6 ms (normal mode)

**Refresh rate** 60 Hz

Brightness (typical) 250 cd/m²

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut NTSC (CIE 1931) 72% NTSC

Color Support 16.7M

#### CONNECTIVITY

Video Input Signals 1 x VGA

1 x HDMI 1.4 Audio Out

1 x Audio Out (3.5 mm)

**Optional Speaker Support** Yes

#### MULTI-MEDIA

**Optional Soundbar Support** Yes

#### SPECIAL FEATURES

Sync technology FreeSync

Thin Client Support (Tiny) Yes (by Tiny Clamp Bracket Kit+VESA

mount PN:4XF0N82412+PN:4XF0N03161)

Anti-glare Yes

#### POWER

Power Consumption (Typ. / Max) 24W / 28W

#### **MECHANICAL**

Tilt Angle (front/back) -5° / 22°

**VESA Mount** Yes (100 x 100 mm)

Kensington Lock Slot Yes

Cable Management

Yes

**Bezel Color** Raven Black

Bezel Width (Side) 2.0 mm

Bezel Width(top/bottom) 2.0 / 21.7 mm

#### DIMENSIONS

Size Packed (D x H x W) (mm/inch) 132 x 455 x 715 mm 5 20 x 17 91 x 28 15 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position) 220.0 x 443.5 x 611.9 mm 8.66 x 17.46 x

24.10 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position) 269.8 x 513.3 x 611.9 mm / 10.62 x 20.21 x 24.09 inch

Size Unpacked w/o stand ( $D \times H \times W$ ) (mm/inch) (Head Only) 46.2 x 366.5 x 611.9 mm 1.82 x 14.43 x 24.10 inch

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 98.7 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 440.7 mm

Weight Packed (kg/lbs.) 6.80kg / 14.99 lbs.

Weight Unpacked (kg/lbs.) 4.76kg / 10.49 lbs.

Weight (Monitor Head Only) (kg/lbs.) 4.22kg / 9.30 lbs.

Full Container Load (40' STD / 20'STD) 1088 / 544 Units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

#### CERTIFICATIONS

**ENERGY STAR Rating** 80 CCC Yes тсо 7.0 TCO Edge 2.0 EPEAT Silver ULE Gold

RoHS (EU 2002/95/EC) Yes( 2011/65/EU)

Windows Certification Windows 7. Windows 10

China Energy Efficiency Standard Tier 2

TÜV Eye Comfort





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## ThinkVision S27q-10

#### DISPLAY

Panel Size 27-inch

Screen Dimensions 596.74 mm x 335.66 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 2560 x 1440

**Pixel Pitch** 0.2331 x 0.2331 mm

**Dot/Pixel Per Inch (DPI/PPI)** 109

**Viewing Angle (H x V @ CR 10:1)** 178° / 178°

**Response Time** 4ms (extreme mode)

Refresh Rate 60 Hz

Brightness (typical) 280 cd/m²

Brightness (peak) 350 cd/m²

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Gamut** > 99% sRGB

**Color Support (typical)** 1.07 Billion

**Anti-glare** Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2

**Audio Signal** 1 x Audio Port (3.5 mm)

#### SPECIAL FEATURES

**Tiny Support** Yes

#### POWER

Power Consumption (typical/max) 35W / 45W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

Power Supply Internal

Energystar Power Consumption (P_{on}/E_{TEC}) 19 W / 59.6 kWh

Voltage Required AC 100 to 240 VAC (50/60 Hz)

#### MECHANICAL

**Tilt Angle (front/back)** -5° / 22°

**VESA Mount Capability** Yes (100 x 100 mm) Kensington[™] Lock Slot Yes

**Cable Management** Yes

**Bezel Color** Raven Black

Bezel Width (side) 2 mm

Bezel Width (top/bottom) 2 / 22 mm

#### DIMENSION

**Size Packed (D x H x W, mm/inch)** 132 x 455 x 715 mm / 5.20 x 17.91 x 28.15 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 220 x 444.6 x 613.6 mm / 8.66 x 17.50 x 24.15 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 220 x 444.6 x 613.6 mm / 8.66 x 17.50 x 24.15 inches

**Size Unpacked w/o Stand (D x H x W, mm/inch) (head only)** 42 x 367.6 x 613.6 mm / 1.65 x 14.47 x 24.15 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 99 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 442.2 mm

Weight Packed (kg/lb) 6.36 kg / 14.02 lbs. **Weight Unpacked (kg/lb)** 4.65 kg / 10.25 lbs.

Weight (monitor head only) (kg/lb) 4.10 kg / 9.04 lbs.

**Full Container Load (40' STD / 20' STD)** 1088 / 544 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR® Rating** 8.0

CCC Yes

тсо

8.0

**EPEAT™** Silver

## RoHS (EU 2002/95/EC)

Windows Certification Window 7, Window 10

China Energy Efficiency Standard Tier 1

**TÜV Eye Comfort** Yes



Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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## ThinkVision S28u-10

#### DISPLAY

Panel Size 28-inch

Screen Dimensions 631.928 mm x 359.78 mm

Panel Type 3-side NearEdgeless, In-Plane Switching

Backlight WLED

Aspect Ratio

**Resolution** 3840 x 2160

Refresh Rate 60 Hz

**Pixel Pitch (H x V)** 0.16 × 0.16

**Dot/Pixel Per Inch (DPI/PPI)** 157.35

**Viewing Angle (H x V @ CR 10:1)** 178° / 178°

**Response Time** 4ms (Extreme Mode) 6ms (Normal Mode)

Brightness (typical) 300 cd/m²

**Contrast Ratio (typical)** 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Gamut** 99% sRGB, 90% DCI-P3 **Color Support (typical)** 1.07 Billion

CONNECTIVITY

Video Input Signals HDMI 2.0 + DP 1.2

**Audio Signal** 1 x Audio Out (3.5mm)

#### POWER

Power Consumption (Typical/Max) 31W / 48W

Power Consumption Sleep/Off Mode <0.3W

Power Consumption Switch Off-Mode <0.3W

Power Supply Internal

Energystar Power Consumption (Pon/Eτεc) 24.28W / 75.41kWh

Voltage Required AC 90 to 264 V (50/60 Hz)

#### DIMENSIONS

**Size Packed (D x H x W) (mm/inch)** 127 x 723 x 452 mm / 5 x 28.46 x 17.80 inches

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest position) 229.99 x 450.82 x 636.94 mm / 9.05 x 17.72 x 25.08 inches **Size Unpacked w/o stand (D x H x W)** (mm/inch) (Highest position) 229.99 x 450.82 x 636.94 mm / 9.05 x 17.72 x 25.08 inches

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only) 49.2 x 373.68 x 636.94 mm / 1.94 x 14.71 x 25.08 inches

Weight Packed 7.0 kg / 15.43 lbs.

Weight Unpacked 5.24 kg / 11.55 lbs.

Weight (Monitor Head Only) 4.58 kg / 10.10 lbs.

#### SPECIAL FEATURES

**Anti-glare** Yes

ThinkCentre Tiny Support Yes

#### MECHANICAL

Tilt Angle (front/back) -5° / 22°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

**Bezel Color** Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 22.8 mm

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

#### CERTIFICATIONS

**ENERGY STAR Rating** 8.0

**CCC** Yes

**TCO** 8.0

TCO Edge 2.0

EPEAT Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes



Windows

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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### ThinkVision T27h-20

#### DISPLAY

Panel Size 27-inch

Screen Dimensions 596.74 mm x 335.66 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 2560 x 1440

Pixel Pitch 0.2331 x 0.2331 mm

Dot/Pixel Per Inch (DPI/PPI) 109

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

Brightness (typical) 350 cd/m²

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut 99% sRGB

Color Support (typical) 16.7 Million

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP 1.2 Alt Mode) 1 x HDMI 1.4 1 x DP 1.2

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (1 BC)

#### POWER

Power Consumption (tvp./max.) 23W / 122W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

**ENERGY STAR Power** Consumption ( $P_{or}/E_{TEC}$ ) 18.1W / 57.6kWh

Power Supply Internal

USB Type-C Power Delivery (W) up to 75W*

Smart Power Yes

Voltage Required AC 100 to 240 V (50-60 Hz)

#### **MECHANICAL**

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max range) 135 mm

VESA Mount Capability

Kensington Lock Slot

Cable Management Yes

Raven Black

2 / 23.87 mm

Size Packed (D x H x W. mm/inch) 694.0 x 163.0 x 480.0 mm 27.32 x 6.42 x 18.90 inches

Size Unpacked w/ Stand  $(D \times H \times W. mm/inch)$ (lowest position) 614.0 x 429.4 x 208.0 mm 2417 x 16.9 x 819 inches

Size Unpacked w/ Stand  $(D \times H \times W. mm/inch)$ (highest position) 614.0 x 564.4 x 208.0 mm 24.17 x 22.22 x 8.19 inches

Size Unpacked w/o Stand (head only) ( $D \times H \times W$ , mm/inch) 614.0 x 369.1 x 46.7 mm 24.17 x 14.53 x 1.84 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 85.2 mm

Max. Distance from Table to Panel (highest pixel at top of screen. mm) 564.4 mm

Weight Packed (kg/lbs.) 9.75 kg / 21.50 lbs.

Weight Unpacked (kg/lbs.) 7.6 kg / 16.76 lbs.

Weight (monitor head only) (kg/lbs.) 5.09 kg / 11.22 lbs.

**Full Container Load** (40' STD / 20' STD) 952 / 448 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) Quick setup guide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0

CCC Yes

TCO 8.0

TCO Edge 2.0

EPEAT Gold

RoHS (EU 2002/95/EC) Yes

Windows Certification Windows 7. Windows 10

China Energy Efficiency Standard Tier 1

TÜV Rheinland Eye Comfort Yes









*Listed as maximum capacity of power delivery. Actual capacity of power delivery may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher brightness setting.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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Pivot -90° / 90°

Yes (100 x 100 mm)

Yes

Bezel Color

Bezel Width (side) 2 mm

Bezel Width (top/bottom)

DIMENSION











### ThinkVision T27i-10

#### DISPLAY

Panel Size 27 inch

**Screen Dimensions (H x V) (mm)** 597.89 (H) × 336.31 (V)

Panel Type In-Plane Switching

Backlight WLED

Aspect Ratio

**Resolution** 1920 × 1080

**Pixel Pitch (H x V) (mm)** 0.3110 × 0.3110

**Viewing angle (H x V)** 178°/178°

Response Time (gray to gray) 4 ms (extreme mode) 6 ms (normal mode)

**Contrast Ratio (typical)** 1000:1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut NTSC (CIE 1931) 72%

Color Support 16.7M

#### CONNECTIVITY

Video Input Signals VGA + HDMI 1.4 + DP 1.2

#### USB Hub

Yes 1 x USB 3.0 (Upstream) 4 x USB 3.0 (Downstream, incl. 1BC)

**Cable Length** 1.8 m

Audio Out Yes (3.5 mm)

Power Consumption 22W (Typical) / 58W (max) at On mode; <0.5W at Sleep mode; <0.3W at Switch off mode

#### MULTI-MEDIA

**Optional Soundbar Support** Yes

#### DIMENSIONS

**Size Packed (D x H x W) (mm/inch)** 187 x 455 x 715 mm / 7.362 x 17.913 x 28.15 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position) 269.8 x 403.3 x 611.9 mm / 10.62 x 15.88 x 24.09 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position) 269.8 x 513.3 x 611.9 mm / 10.62 x 20.21 x 24.09 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only) 49.9 x 366.5 x 611.9 mm / 1.96 x 14.43 x 24.09 inch

Weight Packed (kg/lbs.) 9.32kg / 20.55 lbs.

Weight Unpacked (kg/lbs.) 6.55kg / 14.44 lbs.

Weight (Monitor Head Only) (kg/lbs.) 4.60kg / 10.14 lbs.

#### SPECIAL FEATURES

**Anti-Glare** Yes

Thin Client Support (Tiny)

Yes (by Tiny Clamp Bracket Kit+VESA mount PN:4XF0N82412+ PN:4XF0N03161)

#### MECHANICAL

**Tilt Angle (front/back)** -5°/30°

Swivel Angle (left/right) -45°/+45°

Lift (Max range)

**Pivot** -90°/90°

**VESA Mount** Yes (100 mm)

Kensington Lock Slot Yes

Cable Management Yes

Bezel Color Raven Black

Bezel Width (Side) 2.0 mm

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable 1 x VGA cable 1 x DP-DP cable 1 x HDMI cable (NA only) 1 x USB 3.0 cable Quick setup guide

#### CERTIFICATIONS

ENERGY STAR Rating 8.0 CCC Yes TCO 7.0 EPEAT Silver ULE Gold

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 2

Ambient Operating Temperature 0°C to 40°C

**Eye Comfort Certification** Yes



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#### ThinkVision T27p-10

#### DISPLAY

Panel Size 27.0 inches

Screen Dimensions (H x V) 596.74 x 335.66mm

Panel Type In-Plane Switching

Backlight WLED

Aspect Ratio 16.9

Resolution 3840 x 2160 pixels

Pixel Pitch (H x V) 0.1554 x 0.1554mm

Viewing Angle (H x V) 178°/178°

Response Time (gray to gray) 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60H7

Contrast Ratio (typical) 1000:1

**Dynamic Contrast Ratio** (typical) 3M:1

**Brightness (typical)** 350 cd/m²

Color Gamut sRGB (CIE 1931) 99%

**Color Support** 1.07 Billion

#### POWER

Power Consumption (Typical/Max) 50W/140W

Power Consumption Sleep/Off Mode <0.5W

Power Consumption Switch Off-Mode <0.3W

**Power Supply** Internal

ENERGY STAR (Par) 23.40W

ENERGY STAR (E...) 101.94kWh

Voltage Required 100-240VAC (50/60Hz)

#### CONNECTIVITY

Video Input Signals HDMI 2.0 + DP 1.2 + USB 3.1 Type-C (DP 1.2 Alt Mode)

Video Cables Supplied USB 3.1 Type-C + HDMI

Video Cable Length 1.8m

**USB Hub** Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (with 1 BC)

#### Audio Out

Yes (3.5mm)

#### DIMENSIONS

Size Packed (D x H x W) 732 x 210 x 453mm/ 28.82 x 8.27 x 17.83 inches

Size Unpacked w/stand (D x H x W) (mm/inch)269.8 x 403.3 x 611.6mm/ 10.62 x 15.88 x 24.08 inches

Size Unpacked w/o stand (D x H x W) (mm/inch)(Head Only) 45.5 x 368.4 x 611.6mm/ 1.79 x 14.5 x 24.08 inches

Weight Packed 11.00kg/24.25lbs.

Weight Unpacked 6.95kg/15.32lbs.

Weight (Monitor Head Only) 5.0kg/11.02lbs.

#### SPECIAL FEATURES

Smart Power* Yes

Anti-glare

ThinkCentre Tiny Support Yes

Yes

#### **MECHANICAL**

Tilt Angle (front/back) -5°/30°

Swivel Angle (left/right) +/-45°

Lift Yes (110mm)

Pivot +/-90°

**VESA Mount Capability** Yes (100 x 100mm)

**Kensington Lock Slot** Yes

Bezel Width (Side) 2.0mm

Bezel Width (top/bottom) 2.0/24.5mm

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power Cable 1 x HDMI Cable 1 x USB Type-C to Type-C cable Quick Setup Guide

#### CERTIFICATIONS

**ENERGY STAR Rating** 80

EU RoHS Yes

CCC Yes

Windows Certification Windows 7. Windows 10

China Energy Efficiency Standard Tier 2

TÜV Eye Comfort Yes

TCO TCO 8.0/TCO Edge 2.0

EPEAT Silver





*The Smart Power function intelligently detects overall power consumption and dynamically manages the power delivery to each device. 75W power delivery can be achieved when downstream USB ports are not connected and OSD brightness setting is <61.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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Yes

**Optional Soundbar Support** 













## ThinkVision T27q-20

#### DISPLAY

Panel Size 27-inch

Screen Dimensions 596.74 mm x 335.66 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 2560 x 1440

**Pixel Pitch** 0.2331 x 0.2331 mm

**Dot/Pixel Per Inch (DPI/PPI)** 109

Viewing angle (H x V @ CR 10:1)  $178^{\circ}/\,178^{\circ}$ 

**Response Time** 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

**Brightness (typical)** 350 cd/m²

**Contrast Ratio (typical)** 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Gamut** 99% sRGB **Color Support (typical)** 16.7 Million

**Anti-glare** Yes

#### CONNECTIVITY

Video Signal 1 x HDMI 1.4 1 x DP 1.2

Audio Signal 1 x Audio Out (3.5 mm)

**USB Hub** Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-B)

USB Downstream 4 x USB 3.1 Gen1 (1 BC)

#### POWER

Power Consumption (typ./max.) 23W / 65W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption(P_{on}/E_{TEC}) 17.4W / 54.4kWh

Power Supply Internal

Voltage Required AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max range) 135 mm

**Pivot** -90° / 90°

VESA Mount Capability Yes (100 x 100 mm)

Kensington Lock Slot Yes

Cable Management Yes

Bezel Color Raven Black

Bezel Width (side) 2 mm

Bezel Width (top/bottom) 2 / 23.87 mm

#### DIMENSION

**Size Packed** (D x H x W, mm/inch) 694 x 163 x 480 mm 27.32 x 6.42 x 18.9 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 614 x 429.4 x 208 mm 24.17 x 16.9 x 8.19 inches Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 614 x 564.4 x 208 mm 24.17 x 22.22 x 8.19 inches

**Size Unpacked w/o Stand** (head only)(D x H x W, mm/inch) 614 x 369.1 x 46.7 mm 24.17 x 14.53 x 1.84 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 85.2 mm

Max. Distance from Table to Panel (highest pixel at bottom of screen, mm) 564.4 mm

Weight Packed (kg/lbs.) 9.59 kg / 21.14 lbs.

Weight Unpacked (kg/lbs.) 7.44 kg / 16.4 lbs.

Weight (Monitor Head Only) (kg/lbs.) 4.93 kg / 10.87 lbs.

**Full Container Load** (40' STD / 20' STD) 952 / 448 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power Cable (1.8 m) 1 x DP cable (1.8 m) 1 x USB Type-B to Type-A cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0

CCC

Yes

**TCO** 8.0

**TCO Edge** 2.0

**EPEAT** Gold

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes

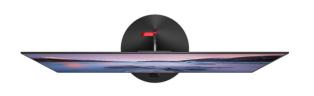




Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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# Think Vision X1 (2nd GEN) MONITOR



## SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (CIE 1931)
Color Gamut (CIE 1931) Response Time (Extreme/Typical/Off)
Response nine (Extreme, Typical, on)

27' IPS WIFD 3840 (H) x 2160 (V) 16:9 Yes 596.7 (H) x 335.7 (V) 350 cd/m² 178°/178° 1000:1 3M:1 0.1554 x 0.1554 163 99% sRGB 4/6/14 ms (G-to-G)

40 W

150 W

0.5 W

0.5 W

18 m

N/A

Yes

External

10 VAC - 240 VAC

DisplayPort 1.2 + HDMI 2.0 +

HDMI + Thunderbolt[™] 3

Yes (4 x USB 3.01)

30 KHz - 136 KHz

2 Buttons + Tracking Point

English, French, Italian, German, Spanish, Japanese, Chinese, Russian

30 Hz - 60 Hz 3840 x 2160

20 Gbps

-5° / 30°

N/A

N/A

N/A

N/A

Yes

Yes

N/A

1.2 / 0.04"

1.2 / 0.04"

1.2 / 0.04"

6500K

24

50 Hz - 60 Hz

Thunderbolt[™] 3

#### POWER CONSUMPTION

Typical Maximum Sleep-Mode Switch Off-Mode Power Supply Power Voltage Voltage Dynamic Frequency

#### SIGNAL INPUT

Video Input Signals Video Cables Supplied Video Cable Length USB Hub USB Cable Supplied Audio-Jack

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed/ Bandwidth Default Color Temperature Preset Modes **OSD** Buttons OSD Languages

#### MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift (mm) Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Bezel Color Bezel Width Top (mm / inches) Bottom (mm / inches) Sides (mm / inches)



#### ENVIRONMENTAL

Temperature Operating Non-Operating	0°C - 45°C -20°C - 60°C
Humidity Operating Non-Operating	8% - 80% 5% - 95%
Altitude Operating Non-Operating	16,000 ft 40,000 ft
Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins	Yes Yes (W/O cable) Yes 25%

#### DIMENSIONS (W x D x H)

Size Packed (mm) (inches)	718 x 140 x 470 28.27" x 5.51" x 18.5"
Size Unpacked with Stand (mm) (inches)	609.74 x 234.81 x 474.76 24" x 9.24" x 18.69"
Size Unpacked without Stand Monitor Head Only (mm) (inches)	609.74 x 32.7 x 351.71 24" x 1.29" x 13.85"
Distance from Table to Panel Lowest Pixel at Bottom of Screen (mm / inches) Highest Pixel at Top of Screen (mm / inches)	134 / 5.276" 450 / 17.717"
Stand Base Footprint Area (mm) (inches)	234.81 x 234.81 9.24" x 9.24"
Weight Packed Unpacked Monitor Head Only	Starting at 18.45 lbs (8.37 kg) Starting at 12.21 lbs (5.54 kg) Starting at 9.46 lbs (4.29 kg)
COMPLIANCE	
ULE TCO RoHS Windows Certification China Energy Label	Gold 7.0 Yes Windows 10 Grade 2

#### WARRANTY AND AVAILABILITY

Warranty	
Geography Availability	

3 Years ww

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.

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#### ThinkVision P32p-20

#### DISPLAY

Panel Size 31.5-inch

Screen Dimensions 697.31 mm x 392.23 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16.9

Resolution 3840 x 2160

**Pixel Pitch** 0.1816 x 0.1816 mm

Dot/Pixel Per Inch (DPI/PPI) 140

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 4ms (extreme mode) 6ms (normal mode)

**Refresh Rate** 60 Hz

**Brightness (typical)** 350 cd/m²

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut 99% sRGB 99% BT.709 90% DCI-P3

Color Support (typical) 1.07 Billion

Color Depth 10-bit

Processor LUT 14-bit

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x HDMI 2 0 1 x DP 1.2

Audio Signal 1 x Audio Out (3.5 mm)

USB Hub Yes

Ethernet Yes (10M/100M/1000M)

USB Upstream 2 x USB 3.2 Gen1 (1 by USB Type-C, 1 by USB Type-B)

**USB** Downstream 3 x USB 3.2 Gen1 (1 x BC1.2)

#### MULTI-MEDIA

**Optional Soundbar Support** Yes (PN:0A36190)

#### SPECIAL FEATURES

Factory Calibration Yes (Avg. Delta E<2)

**KVM Switch** Yes

#### POWER

**Power Consumption** (typ./max.) 36W / 186W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

**ENERGY STAR Power** Consumption ( $P_{u}/E_{rrc}$ ) 27W / 84kWh

Power Supply Internal

USB Type-C Power Delivery (W) up to 90 W

Voltage Required AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) +45° / -45°

Lift (max. range) 135 mm

Pivot -90° / 90°

Yes (100 x 100 mm)

ThinkCentre M Series Tiny support Yes, by Tiny/Nano monitor clamp II (PN: 4XH0Z42451) & Tiny VESA mount II (PN: 4XF0N03161)*

ThinkCentre M Series Nano support Yes, by Tiny/Nano monitor clamp II (PN: 4XH0Z42451) & Nano VESA mount (PN: 4XF0V81630)*

Kensington Lock Slot Yes

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 24.1 mm

#### DIMENSION

Size Packed (D x H x W, mm/inch) 528 x 190 x 845 mm 20.79 x 7.48 x 32.27 inches

Size Unpacked w/ Stand (D x H x W, mm/inch)(lowest position) 235.0 x 469.4 x 714.6 mm 9.25 x 18.48 x 28.13 inches

Size Unpacked w/ Stand  $(D \times H \times W. mm/inch)$ (highest position) 235.0 x 604.4 x 714.6 mm 9.25 x 23.79 x 28.13 inches

Size Unpacked w/o Stand (head only)  $(D \times H \times W, mm/inch)$ 714.6 x 426.0 x 51.0 mm 28.13 x 16.77 x 2.01 inches

Weight Packed (kg/lbs.) 13.30 kg/29.32 lbs.

Weight Unpacked (kg/lbs.) 10.21 kg/22.51 lbs.

Weight (monitor head only) (kg/lbs.) 6.96 kg/15.34 lbs.

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (for US and Canada only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-A to Type-B cable (1.8 m) Factory calibration report Quick setup guide

#### CERTIFICATION

ENERGY STAR Yes

CCC Yes

TCO

80

TCO Edge 2.0

EPEAT Gold

RoHS (EU 2002/95/EC) Yes

Windows Certification Windows 7. Windows 10

**China Energy Efficiency Standard** Tier 1

**TÜV Rheinland Eve Comfort** Yes







*Accessories sold separately

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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Specifications may vary depending upon region.

**VESA Mount Capability** 









## ThinkVision P32u-10 SPECIFICATIONS

## DISPLAY

Panel Size 32 inches

Screen Dimensions (H x V) 708.48 x 398.52mm

Panel Type In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

Resolution 3840 x 2160 pixels

**Pixel Pitch (H x V)** 0.1845 x 0.1845mm

Viewing Angle (H x V) 178°/178°

Response Time (gray to gray) 4ms (extreme mode) 6ms (normal mode)

**Contrast Ratio (typical)** 1000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Gamut** 99.5% Adobe RGB, 100% sRGB, 100% BT.709, 98.2% DCI-P3, 79.3% BT.2020

Color Support 1.07 Billion

## CONNECTIVITY

Video Input Signals 2 HDMI 2.0 + DP 1.2 + Thunderbolt™ 3 In + Thunderbolt™ 3 Out

Video Cable Length 2m for Thunderbolt[™] 1.8m for HDMI & DP

Audio Out Yes (3.5mm)

USB Hub

## DIMENSIONS

**Size Packed (D x H x W)** 844 x 228 x 528mm / 33.23 x 8.98 x 20.79 inches

Size Unpacked w/stand (D x H x W) (Lowest Position) 350.0 x 497.85 x 726.7mm/13.78 x 19.6 x 28.61 inches

Size Unpacked w/stand (D x H x W) (Highest Position) 350.0 x 607.85 x 726.7mm/13.78 x 23.93 x 28.61 inches

Size Unpacked w/o stand (D x H x W) (Head Only) 58.95 x 431.5 x 726.7mm/2.32 x 16.99 x 28.61 inches

## WEIGHT

Weight Packed 14.30kg/31.32lbs.

Weight Unpacked 10.97kg/24.18lbs.

Weight (Monitor Head Only) 6.97kg/15.37lbs.

## SPECIAL FEATURES

Factory Calibration Yes

**Anti-Glare** Yes

**PIP/PBP** Yes

KVM switch Yes

**Software** Yes (ThinkColor)

## MECHANICAL

Tilt Angle (front/back) -5°/22°

Swivel Angle (left/right)

Kensington Lock Slot Yes

**Cable Management** Yes

Bezel Color Raven Black

Bezel Width (side) 2mm

Bezel Width (top/bottom) 2.0/23.8mm

## WHAT'S IN THE BOX

Monitor with stand 1 x Power cable 1 x DP-DP cable 1 x HDMI cable 1 x USB 3.0 cable 1 x Thunderbolt[™] 3 cable (20Gbps) 1 x CD (ThinkColor) Factory calibration report Quick setup guide

## CERTIFICATIONS

**CCC** Yes

**RoHS** Yes

**TCO** 7.0

Windows Certification Windows 7, Windows 10

**China Energy Efficiency Standard** Tier 2

**TÜV Eye Comfort** Yes





Yes 2 x USB 3.0 (Upstream, 1 by Thunderbolt[™] 3) 4 x USB 3.0 (Downstream, incl. 1BC)

#### **Power Consumption**

<57W (Typical) / <190W (Max) at On mode <0.5W at Sleep mode <0.3W at Switch off mode -45°/+45°

**Lift (Max range)** 110mm

**Pivot** -90°/90°

VESA Mount Capability Yes (100 x 100mm)

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## ThinkVision P44w-10

# Specifications

#### DISPLAY

Panel Size 43.4 inches

**Screen Dimensions (H x V)** 1052.3 x 328.8mm 41.4 x 12.9 inches

**Panel Type** VA NearEdgeless, anti-glare

Curvature 1800R

Backlight WLED

Aspect Ratio 32:10

**Resolution** 3840 x 1200

HDR VESA Certified DisplayHDR™ 400

**Pixel Pitch (H x V)** 0.2740 x 0.2740mm

Viewing Angle (H x V) 178°/178°

Response Time (gray to gray) 4/6ms (extreme/typical)

**Refresh Rate** Max. 144Hz

Contrast Ratio (typical) 3000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Color Support (typical)** 16.7M

**Color Gamut** sRGB: 99.5% BT.709: 99.5% DCI-P3: 90%

Brightness 380 nits (typical) 450 nits (peak)

#### CONNECTIVITY

Video Input Signals 2 x HDMI 2.0 1 x DP1.4 1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x USB Type-C Gen2 (DP1.4 Alt Mode) USB Downstream 4 x USB 3.1 Gen1 (1 BC)

Power Internal

Power Consumption Typical/Max: 70W/250W Switch-off Mode: <0.5W Sleep/Off Mode: <0.5W Energy Star (P_{on}) - 42.18W Energy Star (E_{TEC}) - 138.17kWh

#### DIMENSIONS

**Size Packed (D x H x W)** 1219 x 500 x 376mm 47.99 x 19.68 x 14.80 inches

**Size Unpacked w/stand** (D x H x W) (Lowest Position) 269.8 x 461.1 x 1058.3mm 10.62 x 18.15 x 41.67 inches

Size Unpacked w/stand (D x H x W) (Highest Position) 269.8 x 591.1 x 1058.3mm 10.62 x 23.27 x 41.67 inches

Size Unpacked w/o stand (D x H x W) (Head Only) 137.2 x 366.1 x 1058.3mm 5.40 x 14.21 x 41.67 inches

Weight Packed 18.59kg/40.98lbs.

Weight Unpacked 13.45kg/29.65lbs.

Weight (Monitor Head Only) 9.35kg/20.61lbs.

#### SPECIAL FEATURES

**Anti-Glare** Yes

PIP/PBP Yes

**Software** Yes (ThinkColor)

**Speaker** Supports optional Harman Kardon certified speaker

#### MECHANICAL

Tilt Angle (front/back) -5°/22° Cable Management Yes

Bezel Color Raven Black

**Bezel Width (side)** 2.4mm

Bezel Width (top/bottom) 2.4/25.6mm

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable 1 x HDMI cable 1 x DP cable 1 x USB Type-C Gen2 cable 1 x USB Type-C to Type-A cable Quick setup guide

#### CERTIFICATIONS

ENERGY STAR Rating 8.0

CCC Yes

**RoHS** Yes

**TCO** 8.0

**EPEAT** Silver

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 2

**TÜV Eye Comfort** Yes





Video Cable Length 1.5m for USB Type-C Gen2 1.8m for others

Audio Out Yes (3.5mm)

USB Hub Yes

USB Upstream 2 x USB 3.1 (1 x USB Type-C Gen1, 1 x USB Type-C Gen2) Swivel Angle (left/right) ±30°

Lift (Max. range) Yes (130mm)

VESA Mount Capability Yes (100 x 100mm)

Kensington Lock Slot Yes

*with FreeSync support graphic cards

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### ThinkVision T32h-20 Monitor

#### DISPLAY

Panel Size 31.5-inch

Screen Dimensions 698.11 mm x 392.69 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16.9

Resolution 2560 x 1440

Pixel Pitch 0.2727 x 0.2727 mm

Dot/Pixel Per Inch (DPI/PPI) 94

Viewing Angle (H x V @ CR 10:1) 178° / 178°

Response Time 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

Brightness (typical) 350 cd/m²

Contrast Ratio (typical) 1000.1

Dynamic Contrast Ratio (typical) 3M·1

**Color Gamut** 99% sRGB

Color Support (typical) 1.07 Billion

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP 1.2 Alt Mode) 1 x HDMI 1.4 1 x DP 12

Audio Signal 1 x Audio out (3.5 mm)

USB Hub Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (1 BC)

#### POWFR

Power Consumption (typ./max.) 28W / 138W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption ( $P_{on}/E_{TEC}$ ) 21.6W / 69.2kWh

Power Supply Internal

USB Type-C Power Delivery (W) up to 75 W*

Smart Power Yes

Voltage Required AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

Tilt Angle (front/back) -5° / 35°

Swivel Angle (left/right) -45° / 45°

Lift (max range) 135 mm

Pivot -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

Cable Management Yes

Bezel Color Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 24.12 mm

#### DIMENSION

Size Packed (D x H x W. mm/inch) 528.0 x 190.0 x 845.0 mm / 20.79 x 7.48 x 32.27 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 235.0 x 469.4 x 714.6 mm / 9.25 x 18.48 x 28.13 inches

Size Unpacked w/ Stand  $(D \times H \times W, mm/inch)$ (highest position) 235.0 x 604.4 x 714.6 mm / 9.25 x 23.79 x 28.13 inches

Size Unpacked w/o Stand (head only) ( $D \times H \times W$ , mm/inch) 714.6 x 426.0 x 51.0 mm / 28.13 x 16.77 x 2.01 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 69.2 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 461.8 mm

Weight Packed (kg/lbs.) 12.96 kg / 28.57 lbs.

Weight Unpacked (kg/lbs.) 9.85 kg / 21.72 lbs.

Weight (monitor head only) (ka/lbs.) 6.78 kg / 14.95 lbs.

Full Container Load (40' STD / 20' STD) 672 / 320 units



*Listed as maximum capacity of power delivery. Actual capacity of power delivery may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher brightness setting.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) Quick setup guide

#### CERTIFICATION

**ENERGY STAR Rating** 8.0

CCC Yes

тсо

80

TCO Edge

20

#### EPEAT Gold

RoHS (EU 2002/95/EC) Yes

Windows Certification Windows 7. Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes

















#### ThinkVision T32p-20

#### DISPLAY

Panel Size 31.5-inch

Screen Dimensions 697.31 mm x 392.23 mm

Panel Type 3-side NearEdgeless In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 3840 x 2160

**Pixel Pitch** 0.1816 x 0.1816 mm

**Dot/Pixel Per Inch (DPI/PPI)** 140

Viewing Angle (H x V @ CR 10:1) 178° / 178°

**Response Time** 6ms (normal mode) 4ms (extreme mode)

Refresh Rate 60 Hz

**Brightness (typical)** 350 cd/m²

Contrast Ratio (typical) 1000:1

Dynamic Contrast Ratio (typical) 3M:1 **Color Gamut** 99% sRGB

**Color Support (typical)** 1.07 Billion

Anti-glare Yes

#### CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP1.2 Alt Mode)** 1 x HDMI 2.0 1 x DP 1.2

**Audio Signal** 1 x Audio Out (3.5 mm)

**USB Hub** Yes

USB Upstream 1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (1 BC)

#### POWER

Power Consumption (typ./max.) 39W / 135W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption (P_{on}/E_{TEC}) 26.9W / 84.9kWh Power Supply Internal

USB Type-C power delivery (W) up to 75W*

Smart Power Yes

Voltage Required AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

**Tilt Angle (front/back)** -5° / 35°

Swivel Angle (left/right) +45°/ -45°

Lift (max range) 135 mm

**Pivot** -90° / 90°

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

**Cable Management** Yes

**Bezel Color** Raven Black

Bezel Width (side) 2.0 mm

Bezel Width (top/bottom) 2.0 / 24.12 mm

#### DIMENSION

**Size Packed** (D x H x W, mm/inch) 190 x 528 x 845 mm 7.48 x 20.79 x 32.27 inches

**Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)** 235.0 x 469.4 x 714.6 mm 9.25 x 18.48 x 28.13 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 235.0 x 604.4 x 714.6 mm 9.25 x 23.79 x 28.13 inches

**Size Unpacked w/o Stand** (head only) (D x H x W, mm/inch) 51.0 x 426.0 x 714.6 mm 2.01 x 16.77 x 28.13 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 69.2 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 461.8 mm

**Weight Packed (kg/lbs.)** 12.96 kg / 28.57 lbs.

**Weight Unpacked (kg/lbs.)** 9.85 kg / 21.72 lbs.

Weight (monitor head only) (kg/lbs.) 6.78 kg / 14.95 lbs.

Full Container Load (40' STD / 20' STD) 672 / 320 units



*Listed as the maximum capacity of power delivery. The actual capacity of power delivery may vary depending upon devices connected or monitor configuration and may decline with downstream USB ports connected or higher brightness settings.

**When connecting one cable USB Type-C at 4K 60Hz, the USB downstream will be USB2.0 by default due to technical limitations. Users can still use USB 3.0 by selecting in OSD and as a result, the display will be adjusted to 4K 30Hz.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2.

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Specifications may vary depending upon region.

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) Quick setup guide

#### CERTIFICATION

ENERGY STAR Rating 8.0

**CCC** Yes

**TCO** 8.0

**TCO Edge** 2.0

**EPEAT** Gold

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 1

**TÜV Rheinland Eye Comfort** Yes













# ThinkVision T34w-20

# Specifications

### DISPLAY

Panel Size 34-inch

Screen Dimensions 797.20 mm x 333.70 mm

Panel Type 3-side NearEdgeless VA

Curvature 1500R

Backlight WLED

Aspect Ratio 21:9

**Resolution** 3440 × 1440

**Pixel Pitch** 0.2317 x 0.2317 mm

**Dot/Pixel Per Inch (DPI/PPI)** 109

Viewing Angle (H x V @ CR 10:1)  $178^{\circ}$  /  $178^{\circ}$ 

Response Time 4ms (extreme mode) 6ms (normal mode)

Refresh Rate 60 Hz

Brightness (typical) 350 cd/m²

Contrast Ratio (typical) 3000:1

**Dynamic Contrast Ratio (typical)** 3M:1

**Colour Gamut** 99% sRGB

**Color Support (typical)** 16.7 Million

**Anti-glare** Yes

#### CONNECTIVITY

Video Signal 1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x HDMI 2.0 1 x DP 1.2

udia Cianal

#### POWER

Power Consumption (typ./max.) 46W / 140W

Power Consumption Sleep/Off Mode < 0.5W

Power Consumption Switch-off Mode < 0.5W

ENERGY STAR Power Consumption (P_{on}/E_{TEC}) 34W / 107kWh

USB Type-C Power Delivery (W) Up to 75W*

Smart Power Yes

Voltage Required AC 100 to 240 V (50-60 Hz)

#### MECHANICAL

Tilt Angle (front/back)  $-5^{\circ}/35^{\circ}$ 

Swivel Angle (left/right) +45°/ -45°

Lift (max range) 135 mm

**VESA Mount Capability** Yes (100 x 100 mm)

Kensington Lock Slot Yes

**Cable Management** Yes

**Bezel Color** Raven Black

Bezel Width (side) 2.2 mm

Bezel Width (top/bottom) 2.2 / 27.8 mm

### DIMENSION

Size Packed (D x H x W, mm/inch) 523.0 x 250.0 x 980.0 mm / 20.59 x 9.84 x 38.58 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position) 245.0 x 462.4 x 808.6 mm / 9.65 x 18.21 x 31.84 inches Size Unpacked w/o Stand (head only) (D x H x W, mm/inch) 106.1 x 372.6 x 808.6 mm / 4.18 x 14.67 x 31.84 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 119.1 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 587.9 mm

Weight Packed (kg/lbs.) 13.85 kg / 30.53 lbs.

**Weight Unpacked (kg/lbs.)** 9.91 kg / 21.85 lbs.

Weight (monitor head only) (kg/lbs.) 6.91 kg / 15.23 lbs.

Full Container Load (40' STD / 20' STD) 432 / 216 units

#### WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x DP cable (1.8 m) (NA only) 1 x USB Type-C to Type-A cable (1.8 m) (NA only) 1 x USB Type-C to Type-C cable (1.8 m) Quick setup guide

#### CERTIFICATION

ENERGY STAR Rating 8.0

**CCC** Yes

**TCO** 8.0

**TCO Edge** 2.0

**EPEAT** Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard

Audio Signal 1 x Audio Out (3.5 mm)

USB Upstream

1 x USB 3.1 Gen1 (by USB Type-C)

USB Downstream 4 x USB 3.1 Gen1 (1 BC) Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position) 245.0 x 597.4 x 808.6 mm / 9.65 x 23.52 x 31.84 inches Tier 2

**TÜV Rheinland Eye Comfort** Yes



*Listed as maximum capacity of power delivery. Actual capacity of power delivery may vary depending upon devices connected or monitor configuration, and may decline with downstream USB ports connected or higher brightness setting.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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## Lenovo ThinkVision LT1913p Monitor

## SPECIFICATIONS

#### DISPLAY

Panel Size	19″
Panel Type	In Plane Switching
Aspect Ratio	5:4
Resolution	1280 x 1024
Viewable Area (mm)	479.958
Screen Dimensions (W x H) (mm)	374.7 x 299.8
Pixel Pitch (W x H) (mm)	0.0976 x 0.2928
Dot/Pixel Per Inch (DP / PPI)	86.78
Brightness (Typical)	250 nits
Contrast Ratio (Typical)	1000:1
Viewing Angle (H/V at CR 10:1)	178°/178°
Response Time (Typical)	7 ms
Color Gamut	72%
Number of Colors	16.7 Million

#### SIGNAL INPUT

Video Input Signals **Cables Supplied** Sync on Green Plug 'n' Play Preset Display Modes User-defined Display Modes OSD Buttons **OSD** Languages Lockable Controls

#### DIMENSIONS (W x D x H)

Size Unpacked (mm) (inches) Weight Unpacked

411 x 264 2 x 371 5 16.18" x 10.4" x 14.63" Starting at 10.69 lbs (4.85 kg)

#### MECHANICAL

Pivot

Tilt Angle (Front / Back) -5° ~ 30° Swivel Angle (Left / Right) 45° / 45° Lift (mm) 110 0° ~ 90° (Clockwise) VESA® Mount Yes Kensington® Lock Slot Yes USB Hub No Optional USB Sound Bar Multimedia Bezel Color Black Bezel Width Sides (mm / inches) 17.4 / 0.68" 17.4 / 0.68" 17.4 / 0.68" Top (mm / inches) Bottom (mm / inches)

24 W

27 W

<0.5 W

<0.5 W

Internal

81.84 Btu/h

92.07 Btu/h

#### POWER CONSUMPTION

Power Consumption Typical Maximum Sleep-Mode Off-Mode Heat Dissipation Typical Maximum Power Supply

#### COMPLIANCE

TCO TCO Edge EPEAT ENERGY STAR Rating TÜV Green Mark Windows Certification

China Energy Label

PCC

Display 7.0 11 Silver 8.0 Yes Windows 10 / Windows 8.1 / Windows 8 / Windows 7 Tier 1 (New Standard Tier 2) 85%

#### WARRANTY

Warranty

3 Years

VGA, DVI

VGA, DVI

DDC/CI

No

20

20

Yes

Yes

8





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## **TECH SPECS**

## LCD PANEL

Panel Size 14-inch

Screen Dimensions (W x H, mm) 309.31 x 173.99 mm

Panel Type In-Plane Switching

Backlight WLED

Aspect Ratio 16:9

**Resolution** 1920 x 1080

**Pixel Pitch (H x V, mm)** 0.1611 x 0.1611 mm

**Dot/Pixel Per Inch (DPI/PPI)** 157

Viewing angle (H x V @ CR 10:1) 178° / 178°

**Response Time (typical)** 6ms with OD

**Refresh Rate** 60 Hz

Brightness (typical) 300 cd/m²

**Contrast Ratio (typical)** 700:1

**Dynamic Contrast Ratio (typical)** 3M:1

Colour Gamut NTSC (CIE 1931) 72%

**Color Support (typical)** 16.7 Million

Color Depth 8bit (6bit + FRC)

**Anti-Glare** Yes Power Consumption Switch-Off Mode < 0.3 W

USB Type-C/Power Delivery Up to 65 W

**Power Supply** External (no adapter bundle)

Voltage Required DC 5 V to 20 V

## MECHANICAL

**Tilt Angle (front/back)** -5° / 90°

Mounting Support Yes (100 mm)

Kensington Lock Slot Yes

Cable Management Yes

**Bezel Color** Raven Black

**Bezel Width (Side)** 5.48mm

Bezel Width (top / bottom) 5.47 mm / 23.87 mm

## DIMENSIONS

Size Packed (D x H x W) (mm / inch) 276 x 61 x 402 mm / 10.87 x 2.40 x 15.83 inches

Size Unpacked w/stand (D x H x W) (mm / inch) (Lowest position) 96.54 x 209.03 x 323.37 mm / 3.8 x 8.23 x 12.73 inches

Size Unpacked w/stand (D x H x W) (mm / inch) (Highest position) 96.54 x 220.03 x 323.37 mm / 3.8 x 8.66 x 12.73 inches

## ENVIRONMENTAL

**Temperature - Operating** O° to 40°C

**Temperature - Non-operating** -20° to 60°C

Humidity - Operating 30 to 80%

Humidity - Non-operating 30 to 90%

Altitude - Operating 0 to 5000 m

Altitude - Non-operating 0 to 40,000 ft

**Arsenic-free Glass** Yes

PVC free Yes

Mercury free Yes

PCC % of plastic resins 85%

## WARRANTY

Geography Availability
WW

Warranty 3 Years

## CERTIFICATIONS

**ENERGY STAR Rating** 8.0

CCC Yes

EPEAT Silver

RoHS (EU 2002/95/EC) Yes (Arsenic free / Pb free / Mercury free)

## CONNECTIVITY

Video Input Signals 2 x USB 3.1 Type-C (DP1.2 Alt Mode)

## POWER

**Power Consumption (Typ./Max)** 6 W / 7.5 W (Without USB Type-C output)

ENERGY STAR Power Consumption (Pon) 4.88 W

ENERGY STAR Power Consumption (Ε_{τεc}) 15.53 kWh

Power Consumption Sleep/Off Mode < 0.3 W

*Actual weight may vary due to components, manufacturing process and options.

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**Stand base footprint area (mm²)** 260.87 x 69.55 mm / 10.27 x 2.74 inches

Weight Packed (kg / lbs.) 1.67 kg / 3.67 lbs.

Weight Unpacked (kg / lbs.) 0.598 kg / 1.31 lbs.*

## WHATS IN THE BOX

1 x Monitor with stand 1 x ThinkVision M14 sleeve 1 x USB Type-C cable (1 m) 1 x QSG 1 x Pair of clips

Windows Certification Windows 7 / 10

Image Quality Capability ISO 9241-307

**China Energy Efficiency Standard** Tier 2

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Low Blue Light / Eye Comfort Yes (Low Bluelight)













## ThinkVision M14t

## **Specifications**

#### DISPLAY

Panel Size 14-inch

Screen Dimensions 309.31 mm x 173.09 mm

Panel Type In-Plane Switching

Backlight WLED

Aspect Ratio

Resolution

**Pixel Pitch** 0.1611 x 0.1611 mm

Dot/Pixel Per Inch (DPI/PPI) 157

**Viewing Angle (H x V @ CR 10:1)** 178 °/ 178°

Response Time 6ms (extreme mode) 8ms (normal mode)

**Refresh Rate** 60 Hz

Brightness (typical) 300 cd/m²

**Contrast Ratio (typical)** 700:1

Dynamic Contrast Ratio (typical) 3M:1

Color Gamut 72% NTSC (CIE 1931)

**Color Support (typical)** 16.7 Million

Color Depth 8-bit (6-bit + FRC)

**Touch** Yes (10-point touch)

#### CONNECTIVITY

Video Signal 2 x USB 3.2 Type-C (DP1.2 Alt Mode)

USB Upstream 2 x USB 3.2 Type-C

**not bundled ***For selected regions and countries only. USB Downstream 2 x USB 3.2 Type-C

#### SPECIAL FEATURES

**Pen/Digitizer** Yes

#### POWER

Power Consumption (typ./max) 8W / 9.5W

Power Consumption Sleep/Off Mode < 0.3W

Power Consumption Switch-off Mode < 0.3W

ENERGY STAR Power Consumption (P_{on}/E_{rec}) 7.22W / 25.5kWH

Power Supply External**

USB Type-C Power Delivery (W) Up to 65 W

**Voltage Required** DC 5 / 9 / 15 / 20 V

#### MECHANICAL

Tilt Angle (front/back) -5° / 90°

Lift (max range) 11 mm

**Pivot** -90° / 90°

Mounting Support Yes (2 screws holes, 100 mm)

Kensington Lock Slot Yes

Cable Management Yes

**Bezel Color** Raven Black

Bezel Width (side) 5.43 mm

Bezel Width (top/bottom) 5.42 / 30.38 mm

#### DIMENSIONS

**Size Packed (D x H x W, mm/inch)** 377.0 x 68.0 x 267.0 mm 148.43 x 26.77 x 105.12 inches Size Unpacked w/ Stand (D x H x W, mm/ inch) (lowest position) 14.0 x 214.3 x 323.4 mm 0.55 x 8.44 x 12.73 inches

Size Unpacked w/ Stand (D x H x W, mm/ inch) (highest position) 14.0 x 226.5 x 323.4 mm 0.55 x 8.92 x 12.73 inches

Weight Packed (kg/lbs.) 1.87 kg / 4.12 lbs.

Weight Unpacked* (kg/lbs.) 0.698 kg* / 1.54 lbs.

#### WHAT'S IN THE BOX

1 x M14t Monitor
1 x USB Type-C to Type-C cable (1.0m)
1 x Active Pen with battery***
1 x Sleeve
1 x L-shaped dongle
1 x Pair of clips
Quick setup guide

#### CERTIFICATION

ENERGY STAR Rating

CCC Yes

EPEAT Silver

**RoHS (EU 2002/95/EC)** Yes

Windows Certification Windows 7, Windows 10

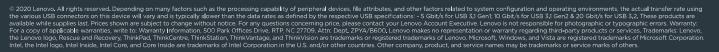
China Energy Efficiency Standard Tier 2

TÜV Rheinland Low Blue Light Yes





















## ThinkVision T1714 Essential Monitor

17″

ΤN

17"

5.4

NA

96.21

72%

Yes

Silver

8.0

WLED

270.34 x 337.92

1280 x 1024

170°/160°

1000:1

250 cd/m²

0.26 x 0.26

16.7 Million 5 ms (On / Off)

## SPECIFICATIONS

#### DISPLAY

Panel Size Panel Type Backlight Viewable Area (Diagonal) Screen Dimensions (W x H) (mm) Resolution Aspect Ratio Viewing Angle (H/V at CR 10:1) Maximum Brightness (Typical) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DPI / PPI) Color Gamut (CIE 1931) Number of Colors Response Time Anti-Glare

#### **POWER CONSUMPTION**

Power Consumption 14 W Typical 18 W Maximum 0.5 W Sleep-Mode Off-Mode 0.3 W Heat Dissipation 47.74 Btu/h Typical Maximum 61.38 Btu/h Power Supply Internal 90 VAC - 264 VAC, 1.5 A Power Voltage Voltage Dynamic Frequency 50 Hz - 60 Hz

#### MECHANICAL

V

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Tilt Angle (Front / Back) Swivel Angle (Left / Righ Lift Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Ambient Light Sensor Control Buttons Bezel Color	-5° - 22° t) No No 100 × 100 Yes Yes No Yes Raven Black
Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches)	17.5 / 0.69" 17.5 / 0.69" 17.5 / 0.69"

30 kHz - 83 kHz

50 Hz - 75 Hz

VGA : 205 MHz

DVI : 165 MHz 7200K

1280 x 1024

17

17

5

8

## SIGNAL INPUT

/ideo Input Signals	VGA, DV
/ideo Cables Supplied	VGA, DV
/ideo Cable Length	1.8 m
JSB Hub	No
ISB Cable Supplied	No

SIGNAL INTERFACE / PERFORMANCE

#### COMPLIANCE

FPFAT ENERGY STAR Rating ULE TCO TCO Edge TUV RoHS (EU 2002/95/EC) Windows Certification

Gold 7.0 2.0 Yes Yes Windows 10 / Windows 8.1 / Windows 8 / Windows 7 Tier 1 (New Standard Tier 2)

China Energy Efficiency Standard

#### **ENVIRONMENTAL**

Temperature 0°C - 45°C Operating -20°C - 60°C (non-condensing) Non-operating Humidity 10% - 80% Operating Non-operating 5% - 95% (non-condensing) Altitude 8 000 ft Operating Non-operating 40.000 ft Arsenic-Free Glass Yes PVC-Free Yes Mercury-Free Yes PCC % of Plastic Resins 85% Low Halogen No

#### WARRANTY AND AVAILABILITY

Warrantv Geography Availability ThinkVision Logo Global Model

3 Years PRC + AP Yes No

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#### Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth Default Color Temperature Preset Display Modes User-defined Display Modes OSD Buttons OSD Languages

#### DIMENSIONS (W x D x H)

Size Packed 432 x 428 x 140 (mm)17.01" x 16.85" x 5.51" (inches) Size Unpacked with Stand 374.5 x 200 x 373.9 (mm) (inches) 14.74" × 7.87" × 14.72" Size Unpacked without Stand (Monitor Head Only) (mm) 374.5 x 53 x 306.9 14.74" x 2.09" x 12.08" (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen 84.5 / 3.33" Highest Pixel at Top of Screen 356.4 / 14.03" Stand Base Footprint Area (mm / inches) 200 × 200 / 7.87" × 7.87" Weight Packed (EPS) Starting at 8.6 lbs (3.9 kg) Unpacked Starting at 5.75 lbs (2.61 kg) Monitor Head Only Starting at 5.11 lbs (2.32 kg)









## Lenovo ThinkVision T1714p Essential Monitor

## SPECIFICATIONS

#### DISPLAY

Panel Size	17
Panel Type	Т
Backlight	V
Viewable Area (Diagonal)	17
Screen Dimensions (W x H) (mm)	2
Resolution	12
Aspect Ratio	5
Viewing Angle (H/V at CR 10:1)	17
Maximum Brightness (Typical)	2
Contrast Ratio (Typical)	10
Dynamic Contrast Ratio	
Pixel Pitch (W x H) (mm)	С
Dot/Pixel Per Inch (DPI / PPI)	9
Color Gamut (CIE 1931)	7
Number of Colors	16
Response Time	5
Anti-Glare	Y

ΓN WLED 7' 270.34 x 337.92 280 x 1024 5:4 70°/160° 250 cd/m² 000:1 NA 0.26 x 0.26 96.21 72% 6.7 Million 5 ms (On / Off) Yes

VGA, DVI, DisplayPort

VGA, DVI

1.8 m

No

No

#### MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Pivot VESA Mount (mm) Kensington Lock Slot Cable Management Ambient Light Sensor Control Buttons Bezel Color	-5° ~ 22° No 110 No 100 × 100 Yes No Yes Raven Black
Bezel Width Sides (mm / inches) Top (mm / inches) Bottom (mm / inches)	17.5 / 0.69" 17.5 / 0.69" 17.5 / 0.69"

#### SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed / Bandwidth Default Color Temperature Preset Display Modes User-defined Display Modes

OSD Buttons

EPEAT

OSD Languages

COMPLIANCE

30 kHz - 83 kHz 50 Hz - 75 Hz 1280 x 1024 VGA 205 MHz DVI : 165 MHz DisplayPort : 165 MHz 7200K 22 22

5 8

Silver

#### **POWER CONSUMPTION**

SIGNAL INPUT

Video Input Signals

Video Cable Length

USB Cable Supplied

USB Hub

Video Cables Supplied

Power Consumption 14 W Typical 18 W Maximum 0.5 W Sleep-Mode Off-Mode 0.3 W Heat Dissipation 47.74 Btu/h Typical 61.38 Btu/h Maximum Power Supply Internal 90 VAC - 264 VAC, 1.5 A Power Voltage Voltage Dynamic Frequency 50 Hz - 60 Hz

#### DIMENSIONS (W x D x H)

Size Packed

(mm) (inches) Size Unpacked with Stand (mm) (inches) Size Unpacked without Stand (Head Only) (mm) (inches) Distance from Table to Panel (mm / inches) Lowest Pixel at Bottom of Screen 66 / 2.6" Highest Pixel at Top of Screen Stand Base Footprint Area (mm / inches) With Cable Cover Without Cable Cover Weight Packed (EPS) Unpacked Monitor Head Only

454 x 406 x 191 17.87" x 15.98" x 7.52"

374.5 x 244.2 x 337.9~447.9 14.74" × 9.61" × 13.3"~17.63"

374.5 x 53 x 306.9 14.74" x 2.09" x 12.08"

337.9 / 13.3"

244.2 × 240 / 9.61" × 9.45" 240 × 240 / 9.45" × 9.45"

Starting at 12.57 lbs (5.7 kg) Starting at 8.71 lbs (3.95 kg) Starting at 5.14 lbs (2.33 kg)

#### ENERGY STAR Rating 8.0 ULE Gold TCO 70 TCO Edge 20 TUV Yes RoHS (EU 2002/95/EC) Yes Windows Certification Windows 10 / Windows 8.1 / Windows 8 / Windows 7 China Energy Efficiency Standard Tier 1 (New Standard Tier 2)

#### **ENVIRONMENTAL**

Temperature Operating Non-operating Humidity Operating Non-operating Altitude Operating Non-operating Arsenic-Free Glass PVC-Free Mercury-Free PCC % of Plastic Resins Low Halogen

0°C - 45°C ⁻20°C - 60°C (non-condensing)

10% - 80% 5% - 95% (non-condensing)

8,000 ft 40,000 ft Yes Yes Yes 85% No

#### WARRANTY AND AVAILABILITY

Warranty Geography Availability ThinkVision Logo Global Model

3 Years World Wide Yes Yes



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shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

*Expedited Depot:* Parts and labor coverage with expedited turnaround. Shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

**Onsite / In-home Service:** Parts and labor repair coverage where labor is provided onsite at your place of business. If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day. **International Warranty Service (IWS):** PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit **http://psref.lenovo.com/** for the latest version of Product Specifications Reference.

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