

# Product Specifications Reference for ThinkStation and ThinkPad P Series

Version 569 Last updated: December 2020

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#### **Summary of Changes**

November 11, 2020 - Version 569

Add Core i7-10710U and i7-10810U on ThinkPad P14s Gen 1 and ThinkPad P15s
 Gen 1

November 11, 2020 - Version 568

- Add new product ThinkPad P14s Gen 1 AMD
- Update weight on ThinkStation P330 Tower Gen 2 / P330 SFF Gen 2 / P340
   Tower Gen 2 / P340 SFF Gen 2 / P720 / P920 Platform specifications
- Add missing information on ThinkStation P520c / P520 (300GB / 600GB SAS HDD) and ThinkStation P720 (DDR4-2933 RIMM) Platform specifications
- Add 8GB DDR4-3200 RDIMM on ThinkStation P620 Platform specifications
- Add Ubuntu Linux LTS and Fedora Linux support on ThinkPad P1 Gen 3
   Platform specifications
- Add "Optional" to Lenovo USB-C to Ethernet Adapter on ThinkPad P1 Gen 3 Platform specifications

October 21, 2020 - Version 567

- Remove pad lock support from ThinkStation P520c / P520 / P620 / P720 / P920
   Platform specifications
- Update Energy Star 8.0 on ThinkStation P330 Tower Gen 2 / P330 SFF Gen 2 / P330 Tiny / P520c / P520 / P620 / P720 / P920 Platform specifications
- Update Energy Star 8.0 on ThinkPad P73 / P53 / P53s / P43s Platform specifications
- Update NVIDIA GeForce RTX 2070 SUPER / RTX 2080 SUPER on ThinkPad T15g
   Gen 1 model configurations
- Correct ECC memory speed to DDR4-2933 on ThinkPad P17 Gen 1 model configurations

September 30, 2020 - Version 566

- Add 16GB Optane Memory on ThinkStation P340 Tower / P340 SFF Platform specifications
- Add WWAN ready on ThinkPad P15v Platform specifications
- Update Graphics description on ThinkPad P1 Gen 3 Platform specifications
- Add footnote for PCIe 4.0 SSD on both ThinkStation P620 Platform specifications and MTM configuration
- Remove ThinkPad P1, ThinkPad P51, ThinkPad P52, ThinkPad P52, ThinkPad P72 from PSREF alive product list and move to withdrawn products list

September 9, 2020 - Version 565

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

 $Think Station\ P330\ Tower\ Gen\ 2\ /\ P330\ SFF\ Gen\ 2\ /\ P340\ Tower\ /\ P340\ SFF\ /\ P340\ Tiny$ 

- 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, 202 - 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

• 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









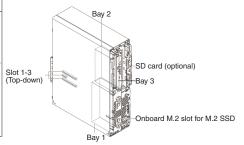


## ThinkStation P330 SFF Gen 2 (30D1 and 30D2) Platform Specifications

Components	Specification											
Form factor	8.4L mini-tower											
Dimensions		0 = :-\ '	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0 5	(O, C :	\ Dandle.	005 0	(10:)				
	Height: 343.5 mm (1				(3.6 111	). Depth.	305.6 11111	(12111)				
Weight	Maximum configurati											
	Supports one of the	followin	g proces	ssor:								
	Xeon E-2278G					DR4-2666 DR4-2666	(260W PS	U needed)				
	Xeon E-2276G	<u> </u>										
	Xeon E-2274G		4.0GHz/									
	Xeon E-2246G					DR4-2666	j					
	Xeon E-2244G		3.8GHz/									
	Xeon E-2236					DR4-2666	)					
	Xeon E-2234 Xeon E-2226G		<u>/3.6GHz/</u> /3.4GHz/									
	Xeon E-2224G		3.4GHz/									
	Xeon E-2224		3.4GHz/									
	Xeon E-2174G		3.8GHz/									
Processor	Core i9-9900					DR4-2666	;					
	Core i7-9700		3.0GHz/									
	Core i7-8700					DR4-2666	;					
	Core i5-9600	6C/6T/	3.1GHz/	9MB/65	W/DDR	4-2666						
	Core i5-9500	6C/6T/	3.0GHz/	9MB/65	W/DDR	4-2666						
	Core i5-9400F		2.9GHz/									
	Core i5-9400		2.9GHz/									
	Core i5-8500		3.0GHz/									
	Core i3-9300		3.7GHz/									
	Core i3-9100 Core i3-8300		<u>/3.6GHz/</u> /3.7GHz/									
	Core i3-8100		3.6GHz/									
	Pentium Gold G5620		4.0GHz/									
Chipset	Intel C246 Chipset	<u> </u>	1.00112/	IIVID/OI	11,0011	1 2 100						
Memory Sockets	4 DIMM sockets with 2	2 chann	ale									
	8GB/16GB DDR4-266			or								
Memory Types	4GB/8GB/16GB/32GE				n-ECC							
Memory Capacity	64GB with 4 x 16GB f	or UDIM	IM ECC	or 128G	B with 4	1 x 32GB	UDIMM noi	n-ECC				
Memory Protection	ECC on models with U	JDIMM I	ECC mer	meory								
	Three PCIe 3.0 slots	as follo	wing:									
	Slot 1 PCle 3.0 x16, low profile, links to CPU											
Expansion slots	Slot 2 PCle 3.0 x1, low profile, links to PCH											
	Slot 3 PCle 3.0 x16 (negotiable link width x4), low profile, links to PCH											
	Integrated Intel UHD	Graphi	cs P630	) in -G s	uffix Xe	eon proce	essors, or I	ntel UHD				
Processor graphics	Graphics 630 in Core	e i5 or i	3 proces	sors.			-					
i rocessor grapriics	Works along with dis	crete g	raphics t	to suppo	ort mult	i-display,	enables th	ree rear				
	display connectors (2							2, 0				
	Up to two PCIe 3.0 x the following graphic			crete gra	aphics	adapter (	Slot 1 and	3). Supports				
Digarata graphica				1_	_							
Discrete graphics card	Adapter Cor		emory	Power		nectors	Max qty					
Cara	Quadro P400 25 Quadro P620 513		GDDR5 GDDR5			miniDP miniDP	2 2					
	Quadro P1000 64		GDDR5			miniDP	2					
	Storage Controller	- 100	Туре				< Type	RAID				
0. 0	Onboard Intel RST SA	ATA RAI			6Gb/s		or SSD	0/1				
Storage Controller	Onboard Intel RST Po						Cle SSD	0/1				
	Notes: M.2 SSD support is											
		erface	RPM		Offering			x Qty				
		A 6Gb/s			3/2TB/4	TB	ivia	1				
Ctorogo C		A 6Gb/s			GB FIF			2				
Storage Support		A 6Gb/s			3/512GE			2				
	Optane Memory PCI	e NVMe			32GB		1, used wi	th HDD/SSD				
	M.2 PCIe SSD PCIe	e NVMe		256GE	3/512GE	3/1TB		3				

	Components	Specification										
		Up to 3 bays with two disk bays and one slim optical bay:										
		Bay 1 Primary 3.5" SATA bay										
	Storage bay	Bay 2 2.5" SATA bay (Optional)										
		Bay 3 9mm Slim ODD bay										
		M.2 3x M.2 SSD (1 onboard. 2 via PCle to M.2 adapter) Notes: Support 1x M.2 SSD at present, 3x M.2 SSD support is pending availability										
	M.2 slot for Wi-Fi and Bluetooth	One dedicated onboard M.2 slot for optional Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps										
and Bluetooth  2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps  Media reader  Optional 7-in-1 card reader on most models  One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available  Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Optional chassis intrusion switch, E-lock, cable lock, Kensington lock, and pad lock  Supports Intel vPro on Xeon and selected Core i7 or i5 models.												
	Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available										
	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										
M.2 SSD (1 onboard, 2 via PCle to M.2 adapter) Wotes: Support 1x M.2 SSD at present, 3x M.2 SSD support is pending availability  M.2 slot for Wi-Fi and Bluetooth 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps  Media reader Optional 7-in-1 card reader on most models  One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCle ethernet adapters are available  Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Optional chassis intrusion switch, E-lock, cable lock, Kensington lock, and pad lock  Intel vPro Supports Intel vPro on Xeon and selected Core i7 or i5 models. vPro also requires Wireless-AC 9560 if Wi-Fi is needed  Intel AMT Intel Active Management Technology 12 on Xeon and selected Core i7 or i5 models. Intel Standard Manageability on other models  US models comes with 3-year limited onsite service with 9x5/NBD. 1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs  HD Audio Intel HD Audio interface with Realtek ALC233 Codec  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  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  Supports the following via cable: 1x COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0  Optional rear ports												
											Base warranty	
-	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec										
	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										
	Ontional rear ports	1x COM. 1x Parallel. Žx PS/2. 1x DP or 1x HDMI. 2x USB 2.0										
	Optional real ports	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)										
7	Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing										
	Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 8 qualified										
3	Power supply	Supports one 210W or 260W power supply. 210W is 100V - 240V, 85% PSU, Climate Savers Computing Bronze and 80 PLUS Bronze qualified. 260W is 100V - 240V, 92% PSU, Climate Savers Computing Platinum and 80 PLUS Platinum qualified										
	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 P330 Tiny Platform Specifications - I of II

Components	Specification							Components	Specification
Form factor	Optional floor s	tand fo	or vertical	orientation		75mm and 1	00mm.	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 adapter
Dimensions	Height: 179 mm	า (7.0 i	n). Width	: 37 mm (1	.5 in). Depth:	183 mm (7.	2 in)		65W or 62W processor models supports processor graphics only.
Weight	Maximum confi	guratio	n: 2.9 lb	(1.3kg)		,	·	Graphics	35W processor models come with processor graphics plus a discrete graphics
Recommended monitors	and productivity	/		ion P series	s monitors fo	r best displa	y performance	Graphics - Processor	adapter Integrated Intel UHD Graphics 630. Works along with discrete graphics to support multi-display
	Supports one o	of the fo	ollowing:					grapriios	One of the following discrete graphics cards on 35W processor models:
	Processor Number	ESA mount bracket kit, supports stand for vertical orientation. ess chassis open. filter m (7.0 in). Width: 37 mm (1.5 in) figuration: 2.9 lb (1.3kg) mends ThinkVision P series moty of the following:    Cores   Threads   Base   Frequency   Cac	Cache TDP	Memory Types	Processor Graphics	Graphics - Discrete	Adapter Cores Memory Pow- er Connectors		
	Core i9-9900T	8	16	2.1GHz	16MB 35WI	DDR4-2666	Graphics 630	graphics card	Quadro P620 512 2GB GDDR5 40W 4x miniDP
	Core i7-9700T	8	8	2.0GHz	12MB 35WI	DDR4-2666			
	Core i7-9700	8	8	3.0GHz	12MB 65WI	DDR4-2666	الللا المؤما	Storage controllers	SATA port for 2.5" HDD
	Core i5-9600T	6	6	2.3GHz	9MB 35WI	DDR4-2666	Intel UHD		
	Core i5-9600	6	6	3 1GHz	9MB 65WI	DDB4-2666	Intel UHD	M.2 slot for SSD	Two onboard M.2 slots for M.2 SSD
	Core i5-9500T	_	-				Intel UHD	M.2 SSD	M.2 2280 SSD supports up to 1TB each, optional Opal. M.2 2242 SSD supports up to 512GB each
	Core i5-9500	6	6	3.0GHz	9MB 65WI	DDR4-2666	Intel UHD	Optane memory	Up to one 16GB Optane memory per system. Optane memory must work with
	Core i5-9400T	6	6	1.8GHz	9MB 35WI	DDR4-2666	Intel UHD		One dedicated M.2 2230 slot for optional Wi-Fi card, supports one of the
	Core i5-9400	6	6	2.9GHz	9MB 65WI	DDR4-2666	Intel UHD	M.2 slot for Wi-Fi	Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac,
	Core i3-9320	4	4	3.7GHz	8MB 62WI	DDR4-2400	Intel UHD	and Bluetooth	Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to
	Core i3-9300T	4	4	3.2GHz	8MB 35WI	DDR4-2400	Intel UHD	W: Fi antonno	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 62WI	DDR4-2400	Intel UHD	Optical	Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±RW.
Processor	Core i3-9100T	4	4	3.1GHz	6MB 35WI	DDR4-2400	Intel UHD	Media reader	
	Core i3-9100	4	4	3.6GHz			Intel UHD	Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional Intel i350-T4 for 4x GbE ports, using PCIe slot
	Core i7-8700T	M.2 2280 SSD supprises 630	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant.						
	Core i7-8700		Supports vPro on models with the following processors: Core i7-8700T, Core						
	Core i5-8600T	6	6	2.3GHz	Graphics 630   Grap	vPro also requires Wireless-AC 9560 if Wi-Fi is needed			
	Core i5-8600	6	6	3.1GHz	9MB 65WI	DDR4-2666	Intel UHD Graphics 630		
	Core i5-8500T	6	6	2.1GHz	9MB 35WI	DDR4-2666	Graphics 630	Base warranty	US models comes with 3-year limited onsite service with 9x5/NBD.  1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs
	Core i5-8500	6	6	3.0GHz	9MB 65WI	DDR4-2666		HD Audio	Intel HD Audio interface with Realtek ALC233 Codec
	Core i5-8400T	6	6	1.7GHz	9MB 35W	DDR4-2666	Graphics 630	Front standard ports	1x USB 3.1 Gen 1 Type A (charging). 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack
	Core i5-8400	6	6	2.8GHz	9MB 65W	DDR4-2666	Graphics 630	Rear standard ports	2x USB 3.1 Gen 2 Type A. 2x USB 3.1 Gen 1 Type-A. 1x RJ-45. 1x DP. 1x HDMI
	Core i3-8300T	4	4	3.2GHz	8MB 35W	DDR4-2400	Graphics 630		Up to two optional rear ports via punch out cable.
	Core i3-8300	4	4	3.7GHz	8MB 62W	DDR4-2400	Graphics 630	Ontional rear ports -	1x USB 3.1 Gen 1 Type-C, also supports DP function.
	Core i3-8100T	4	4	3.1GHz	6MB 35W	DDR4-2400	Graphics 630	via punch out cable	1x VGA.
	Core i3-8100	4	4	3.6GHz	6MB 65W	DDR4-2400			1x HDMI.
Chipset	Intel Q370 Chip								FOIL 2 SUPPOILS ONE COM
Memory			R4-2666.	SoDIMM. N	Ion-ECC				
Memory Capacity	64GB (2x 32GE	3)							

# 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 8 qualified
Power supply	Supports one 135W power adaper, 100V - 240V, 88% PSU
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/













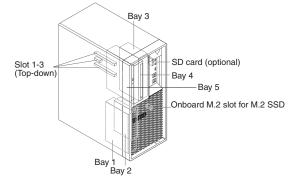
# ThinkStation P330 Tower Gen 2 (30CY and 30D0) Platform Specifications - I of II

Components	Specification			Components		ication						
Form factor	18L Tower									aphics card (SI	ot 1 and 3)	
Dimensions	Height: 376 mm (14.8 in	). Width: 165 mm (6.5 in). Depth: 328	3 mm (12.9 in)		Suppo	rts the foll	lowing	graphics ada	apters:			
Weight	Maximum configuration:	, , , , ,	( - /	-		Graphics		Memory	Power	Connector	Max Qt	ty
vvoigni	Supports one of the follo	- 7/		1	Quadro			2GB GDDR5	30W	3x miniDP	2	
					Quadro			2GB GDDR5	_	4x miniDP	2	
		C/12T/4.0GHz/12MB/95W/DDR4-2666		Discrete Graphics		P1000		4GB GDDR5		4x miniDP		_
		C/16T/3.4GHz/16MB/80W/DDR4-2666	400W PSU needed	Offering		P2000		5GB GDDR5		4x DP		
		C/12T/3.8GHz/12MB/80W/DDR4-2666				P2200		GB GDDR5		4x DP		_
		C/8T/4.0GHz/8MB/83W/DDR4-2666 C/12T/3.6GHz/12MB/80W/DDR4-2666				P4000		8GB GDDR5				-
		C/8T/3.8GHz/12MB/80W/DDR4-2666			Quadro	P5000	1	6GB GDDR5	X 180W		DP 1	_
		C/12T/3.4GHz/12MB/80W/DDR4-2666			Quadro	RTX 400	00	8GB GDDR6	160W	1x VirtualLin	, 1	
		C/8T/3.6GHz/8MB/71W/DDR4-2666			Mata. Ou	Oundra DOO	00 0000	In DAGOO Ound	- BE000 e			DCU.
		C/6T/3.4GHz/12MB/80W/DDR4-2666										
		C/4T/3.5GHz/8MB/71W/DDR4-2666		Ctavana Cantuallau		e Controlle		Type			r Max Qty 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	RAID
		C/4T/3.4GHz/8MB/71W/DDR4-2666		Storage Controller				A RAID Std				0/1/10/5
		C/12T/3.8GHz/12MB/95W/DDR4-2666	400W PSU needed		Onboa	ra intel HS	ST PUR	RAID Std	POIEN	IVIVIE   M.2 P		0/1
		C/8T/3.8GHz/8MB/71W/DDR4-2666			Disk Ty			ace RPM	0	ffering	Max C	Qty
Processor		C/16T/3.6GHz/16MB/95W/DDR4-2666	400W PSU needed		3.5" SA	TA HDD	SATA 6	6Gb/s 7.2K	1TB/	2TB/4TB	3	
FIOCESSOI		C/16T/3.1GHz/16MB/65W/DDR4-2666						6Gb/s 7.2K	500	GB FIPS	4	
	Core i7-9700K 8C	C/8T/3.6GHz/12MB/95W/DDR4-2666	400W PSU needed	Storage Support	2.5" SA	ATA SSD	SATA 6	6Gb/s	256GB/	/512GB/1TB		
		C/8T/3.0GHz/12MB/65W/DDR4-2666			Ontane	Memory	PCIe N	JVMe	9	32GB .		
	Core i7-8700K 6C	C/12T/3.7GHz/12MB/95W/DDR4-2666										DD/SSD_
	Core i7-8700 6C	C/12T/3.2GHz/12MB/65W/DDR4-2666			M.2 PC	Cle SSD	PCIEN	NVIME	256GB/	/512GB/1TB	3	
		C/6T/3.7GHz/9MB/95W/DDR4-2666	400W PSU needed		Up to f	ive bays v	with fou	ır disk bays p	olus one	slim optical ba	y, supports	up to 3x
		C/6T/3.1GHz/9MB/65W/DDR4-2666			3.5" HI	DD plus 1:	x 2.5" \$	SSD, or 4x 2	.5" HDD	D/SSD		
		C/6T/3.0GHz/9MB/65W/DDR4-2666			Bav 1	Primary o	disk ba	y, 3.5" or 2.5	ıı			
		C/6T/2.9GHz/9MB/65W/DDR4-2666								when 2nd Quad	ro P2000 is	sused
		C/6T/2.9GHz/9MB/65W/DDR4-2666						bay, 3.5" or 2		viicii Ziia Qaaa	Ax DP 1 Ax DP	3 4304
		C/6T/3.0GHz/9MB/65W/DDR4-2666								la Havrilla av		
		C/4T/3.7GHz/8MB/62W/DDR4-2400		Storage Bays	вау 4			supports one			iniDP 2 iniDP 2 DP 2 DP 2 DP 2 DP 2 DP 1 L + 4x DP 1 DP, tualLink 1 TX 4000 needs 400W PSU  Disk Type R HDD or SSD 0/1 M.2 PCle SSD 0  Max Qty 3 4 TB 4 1, used with HDD/S TB 3 Ical bay, supports up  Quadro P2000 is us  Rerbolt/IEEE1394 Ont Access Storage TA mode HDD Kit  ter)  et Intel i219LM, supp available ireless-AC 9560, 2x2 both 5, up to 1.73Gbg odule, TCG 2.0 compl Kensington lock, and r i5 models. Is ded diselected Core i7 or is with 9x5/NBD. MEA or other GEOs	
		C/4T/3.6GHz/6MB/65W/DDR4-2400										
		C/4T/3.7GHz/8MB/62W/DDR4-2400				<ul> <li>3rd disk</li> </ul>	k bay, 3	5.5" or 2.5", r	emovab	le, via Front Ac	cess Stora	ge
01:		C/4T/3.6GHz/6MB/65W/DDR4-2400		-						r as eSATA mo		
Chipset	Intel C246 Chipset								ia 5.25"	to 3.5" HDD K	t	
Memory Sockets	4 DIMM sockets with 2 ch				Bay 5	9mm Slin	n ODD	bay				
Memory Types	8GB/16GB DDR4-2666 U				M.2	3x M.2 SS	SD (1 or	nboard. 2 via	PCIe to	M.2 adapter)		
Memory Capacity		DR4-2666 UDIMM non-ECC IDIMM ECC or 128GB with 4 x 32GB L	IDIMM non ECC	Media reader	Option	al 7-in-1 c	card rea	ader on mos	t models	S		
	ECC on models with UDI		DDIIVIIVI HOH-ECC	Network	One or	nboard Gb	E port	via integrate	ed gigat	oit ethernet Inte	i219LM, s	upports
Memory Frotection		,		interfaces	Wake-	on-LAN. C	Optiona	ıl PCIe ether	net ada	pters are availa	ble	
	Three PCIe 3.0 slots as			WLAN + Bluetooth	One de	edicated o	onboard	d M.2 slot for	optiona	al Intel Wireless	-AC 9560,	2x2,
Expansion slots		height, half length, links to CPU		VVEX.IV I BIGCIOOTII								
Expansion siots	Slot 2 PCle 3.0 x1, full h	neight, full length, links to PCH			Power-	on and a	dmin p	assword. Tru	sted Pla	atform Module,	ГСG 2.0 cc	mpliant.
	Slot 3 PCIe 3.0 x16 (neg	gotiable link width x4), full height, hal	f length, links to PCH	Security features	Option	al chassis	sintrus	ion switch, E	-lock, c	able lock, Kens	ngton lock	, and pad
	Integrated Intel UHD Gra	aphics P630 in -G suffix Xeon proces	ssors, or Intel UHD			rte Intol vi	Dro on	Voon and co	locted (	Coro i7 or i5 m	dolc	
Processor graphics	Cropbing CON in Core i7	iF iO or Dontium processors		Intel vPro	vPro a	lso requir	es Wire	Aeon and Se	in if Wi-	Fi is needed	ueis.	
Processor graphics	Works along with discre-	te graphics to support multi-display,	enables three rear								otod Coro	i7 or i5
	display connectors (2 DI	P standard, 1 DP or HDMI optional)		Intel AMT	model	Sintel Sta	ayeme andard	Manageabili	jy i∠ 0∏ tv on ot	her models	cied Core	17 01 13
											v5/NRD	
				Base warranty	1 or 3-	vear limite	ed onsi	te service wi	th 9x5/N	VBD in FMFA	r other GF	Os
				HD Audio				e with Realte			. calor GL	
				i ib Audio	ппен П	- Audio II	nenact	willi nealle	K ALUZ	JJ COUEL		

# 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 PCle 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 8 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														
Form factor	8.2L														
Dimensions	Height: 339.5 m	nm (13	3.4 in). V	Vidth: 9	92.5	mm (3	3.6 in)	. Depth: 30	9.7 m	m (9.3 in)					
Weight	Maximum confid	,				,	,	гр г -		(0.0)					
Processor Sockets			011. 12.4	0 10 (5	.00	Kg)									
Processor Support			a i0 i7	i5 or i	3 nr	00000	r								
Tiocessor Support	Processor			Doo				Memory		Processor					
	Number	Cores	Threads	Freque		Cache	TDP	Types	ECC	Graphics	vPro				
	Xeon W-1290	10	20	3.2G	Hz	20MB		DDR4-2933		UHD P630					
	Xeon W-1270	8	16							UHD P630					
		_									Yes Yes				
Processor											Yes				
1 10063301		_									Yes				
	Core i5-10500	6	12							UHD 630	Yes				
	Core i5-10400	6	12	2.9G	Hz	12MB				UHD 630	No				
		4	8			8MB				UHD 630	No				
											No				
Ob to a set			8	3.6G	HZ	PINIB	6544	DDR4-2666	INO	UHD 630	No				
		·													
Memory Sockets		0/400P/000P PPP4 0000 HPH44 F00													
Memory Types	8GB/16GB/32G	ACD/OCD/16CD/22CD DDD4 2022 LIDIMM non ECC													
Momory Canacity		90													
, , ,															
Memory Protection					ie C	PU are	need	iea							
Evnancian alata															
Expansion siots															
	Slot 3 PCle 3.0 x16 (negotiable link width x4), low profile, links to PCH														
	Integrated Intel UHD Graphics P630 in Xeon processors, or Intel UHD Graphics 63														
	in Core processors.														
Processor graphics	s 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)														
			Ma			Dower		Cann	a ot o r		Max				
	Graphics	5	IVIE	iviemory				Conne	ector	tor					
Discrete Graphics	Quadro P400		2GB	GDDB	5	30W		3x mir	niDP		Qty 2				
Offering					_						2				
Name	2														
_	Storage Contro	ller		T	vne	Inter	face	Disk Tv	/ne	BAID					
			SATA RA												
Controller															
				_	_	,									
					_	1TR/					-				
											_				
Storage Support		_		_	`					1					
					2				-						
	IIVI.Z FUIE SSD									1					
		y PC													
	Optane Memor	•		e <sub> </sub> -	<u> </u>										
	Optane Memor Bay 1 First 3.5	' disk	bay	<u>e  -</u>											
Storago Povo	Bay 1 First 3.5 Bay 2 First 2.5	disk SAT	bay A bay	<u>e  -</u>											
Storage Bays	Optane Memor Bay 1 First 3.5 Bay 2 First 2.5 Bay 3 9mm Sli	disk SATA OD	bay A bay	e <sub> </sub> -											
Storage Bays	Optane Memor Bay 1 First 3.5 Bay 2 First 2.5 Bay 3 9mm Slii Bay 4 Media re	disk SATA ODeader	bay A bay D bay		- 5	Ola ta 1	14.0 -	donton							

Components	Specification
Media reader	Optional SD reader on most models
Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available
WLAN + Bluetooth	Optional Intel Wi-Fi 6 AX201, 2x2, 2.4GHz/5GHz (160MHz channels), WiFi 6, Bluetooth 5
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 lock
Intel vPro	Supports Intel vPro on models with vPro-enable processor. vPro also requires AX201 if Wi-Fi function is needed
Intel AMT	Intel Active Management Technology 14 on vPro models, Intel Standard Manageability on other models
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
HD Audio	Intel HD Audio interface with Realtek ALC623 Codec
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
Rear ports	2x USB-A 3.2 Gen 1, 2x USB-A 2.0, 1x RJ-45, 1x COM, 2x DP, 1x Audio line-out
Optional rear ports	Supports the following via cable: 1x COM, 1x Parallel, 2x PS/2, 1x video (DP, HDMI, or USB-C), 2x USB 2.0, Supports the following via PCle adapter: 4x COM*, 1x USB-C 3.2 Gen 2, 2x USB-A 3.2 Gen 1*, 1x Thunderbolt Notes: 4x COM and 2x USB-A 3.2 Gen 1 are special bids only.
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, EPEAT Silver rating, and ENERGY STAR 8 qualified
Power supply	Supports one of the following: <ul> <li>310W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified</li> <li>380W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified</li> </ul>
	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>
Note:	factors, actual data transfer speed mentioned on this page may be lower than theoretical speed

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 Lenovo workstation PSREF developer













# ThinkStation P340 Tiny Platform Specifications

Components	Specificatio	n									
Form factor	1L. Optional VES Optional floo Optional tool Optional dus	r stand -less c	for verti	cal orienta			SA 75	5mm	and 10	0mm.	
Dimensions	Height: 179 r	nm (7.	0 in). Wic	dth: 37 mn	ı (1.5	5 in).	. Dept	h: 18	2.9 mn	n (7.2 in)	
Weight	Maximum co	nfigura	tion: 3 lb	(1.4kg)							
•	Processor Number	Cores	Threads	Base Frequenc	V .		TDP	T\	mory pes		ro
	i9-10900T i9-10900 i7-10700T	10 10 8	20 20 16	1.9GHz 2.8GHz 2.0GHz	20	MB	65W	DDR	<u>4-2933</u> 4-2933 4-2933	Ye	es es es
	i7-107001 i7-10700 i5-10600T	8	16 12	2.9GHz 2.4GHz	16	MB	65W	DDR	4-2933 4-2933 4-2666	Ye	98 98
Processor	i5-10600 i5-10500T	6	12 12	3.3GHz 2.3GHz	12 12	MB MB	65W 35W	DDR DDR	4-2666 4-2666	S Ye	es es
	i5-10500 i5-10400T	6	12 12	3.1GHz 2.0GHz	12	MB	35W	DDR	4-2666 4-2666	S N	es lo
	i5-10400 i3-10320 i3-10300T	6 4 4	12 8 8	2.9GHz 3.8GHz 3.0GHz	81	ИΒ	65W	DDR	4-2666 4-2666 4-2666	S N	lo lo lo
	i3-10300 i3-10100T	4	8 8	3.7GHz 3.0GHz	81 61	MB MB	65W 35W	DDR DDR	4-2666 4-2666	6 N	lo lo
Chipset	i3-10100 Intel Q470 C	4 hipoot	8	3.6GHz	61	MB	65W	טטא	4-2666	i N	lo
Memory Sockets	2 DIMM sock										
Memory Types	4GB/8GB/16			4 0000 0	DIM	11.4 10	an F(	20			
			GD DDR	4-2933 50	ואווטנ	IIVI II	011-E0				
Memory Capacity	64GB (2x 32	GB)									
Memory Protection  Expansion slots	One PCIe slo PCIe 3.0 x16 PCIe 3.0 x4	(nego	tiable lin	k width x8							s card;
Processor graphics	Integrated In multi-display	tel UH	D Graphi	cs 630. W	orks	alor	ng wit	h disc	crete gi	raphics to	support
Discrete Graphics Offering	Graphic Quadro P620 Quadro P100	)	Mem 2GB G 4GB G	DDR5 4	wer DW DW			4x n	nector niniDP niniDP		Max Qt 1
Storage Controller	Supports M.	2 SSD	RAID 0 /	1. for spe	cial I	bids	only				
Storage Support	Disk Type M.2 PCIe SS	- II		RPM	С	Offeri		3/2T	N	Max Qty 2	
Storage Bays	Two M.2 slots	for M.	2 SSD								
Media reader	None										
Network interfaces	One onboard on-LAN. Opt								el i219l	LM, suppo	rts Wak

	Components	Specification
	WLAN + Bluetooth	One dedicated M.2 slot for optional Wi-Fi card, supports one of the following:  Intel Wi-Fi 6 AX201, 2x2, 2.4GHz/5GHz (160MHz channels), WiFi 6, Bluetooth 5  Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5  Realtek 8822CE, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 5
	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Chassis intrusion switch. Kensington slot
	Intel vPro	Supports vPro on models with the vPro enable processors vPro also requires Wi-Fi 6 AX201 if WiFi is needed
	Systems management	Intel Active Management Technology 14 on vPro models, Intel Standard Manageability on other models
7	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
	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec
	Optical	Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±RW.
4		1x USB-A 3.2 Gen 2 (charging). 1x USB-C 3.2 Gen 1. 1x Combo jack
	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
	Optional rear ports	Reserved area for two optional ports.  Ports 1 supports one of the following:  1 x USB-C, also supports DP function  1 x COM  1 x VGA  1 x DP  1 x HDMI  Port 2 supports 2nd COM.  Also supports optional Thunderbolt or 2x USB-A 3.2 Gen 1
	Temperature	Also supports optional Thunderbolt or 2x USB-A 3.2 Gen 1  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: 20%~80%, non-condensing Storage (with package): 20%~90%, non-condensing
4	MIL-SPEC	Certified
4	Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 8 qualified
	Power supply	<ul> <li>170W power adaper, 100V - 240V, 89% PSU</li> <li>230W power adaper, 100V - 240V, 89% PSU</li> </ul>
$\dashv$	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/













# ThinkStation P340 Tower Platform Specifications

Dimension	Components	Specification						Components	Specification						
Maurimum configuration: 20.68 b( 9.38 kg)	Form factor	17L Tower													
Maurimum configuration: 20.88 bg (9.38 kg)   Storage Support   S	Dimensions	Height: 376 mm (14.8 i	n). Width: 170 r	nm (6.7 in). I	Depth: 315.35 mm	n (12.4 in)			3.5" SATA HDD   SATA 6Gb/s   7.2K   1TB/2TB/4TB/6TB   2						
Processor Soukets 1x FCLGA1200 Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to one Xeon, Core 19, 17, 15, or 13 processor Processor Support Up to 0, 20, 26, 17, 15, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18	Weight		,	,		, ,		Storage Support							
Processor Support Up to one Xeon, Core 8,17, 15, or 3 processor Pr			. 20.00 15 (0.00	rig)				Otorage Support							
Number   N			9 i7 i5 ori3 n	rocassor				-							
Number   N	1 10003301 Oupport	Processor	Baco		Memory	Processor	I								
		Number Cores II	Frequenc	y	Types ECC	Graphics	1								
Xeon.W1270   8   16   3.4GHz   16MB 80W DDR42933   Ves UHD P630   Ves Neon.W1250   6   12   4.1GHz   12MB 12W DDR42966   Ves UHD P630   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   Ves UHD P630   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   Ves UHD P630   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   Ves UHD P630   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   Ves Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   6   12   3.3GHz   12MB 80W DDR42968   No UHD 830   No Neon.W1250   12MB 80W DDR42968   No UHD 830   No Neon.W1250   12MB 80W DDR42968   No UHD 830   No Neon.W1250   12MB 80W 80W MERCO   12MB 80W 80W MERCO   12MB 80W MERCO   12MB 80W 80W M								-	, , ,						
Name								Storage Bays							
Core ii   1-1090K   10   20   3.76Hz   20MB   125W   DDR4-2933   No   UHD 630   Yes   Media reader   Optional SD reader on more models   Optional Intel Wild SD   Optional Int									Bay 5 9mm Slim ODD bay						
Core   1-1000K   8				12MB 80W	/ DDR4-2666 Yes	<b>UHD P630</b>			Bay 6 Media reader						
Cone (P-10700K)   8   16   3.961/z   16MB   128/W DORH-2933   No UHD 630   Yes									M.2 4x M.2 SSD (2 onboard. 2 via PCle to M.2 adapter)						
Construction   Cons	Processor							Media reader	Optional SD reader on most models						
Core   1-10000   6   12   1.4 GHz   24MB   12MB								Network	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports						
Core   5-10600   6   12   3.3 GHz   2.3 MB   68W   DDR4-2666   No   UHD 630   Yes   Core   5-10400   6   12   2.9 GHz   2.2 MB   68W   DDR4-2666   No   UHD 630   Yes   Core   3-10300   4   8   3.8 GHz   2.2 MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   4   8   3.6 GHz   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   4   8   3.6 GHz   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   4   8   3.6 GHz   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   4   8   3.6 GHz   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   4   8   3.6 GHz   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   4   8   3.6 GHz   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   4   8   3.6 GHz   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   4   8   3.6 GHz   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   MB   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   MB   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   MB   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   MB   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-10300   MB   MB   68W   DDR4-2666   No   UHD 630   No   Core   3-103000   MB   MB   68W   DDR4-2666   No   UHD 630   No								interfaces	Wake-on-LAN. Optional PCIe ethernet adapters are available						
Secrete Graphics   Core is-10500   6   8   2   3.1GHz   12MB   65W   DDR-2666   No   UHD 630   No   Core is-10320   4   8   3.8GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10320   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10320   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.6GHz   6MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.6GHz   6MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3.3GHz   8MB   65W   DDR-2666   No   UHD 630   No   Core is-10100   4   8   3   6   4   4   4   4   4   4   4   4   4															
Core i3-10320		Core i5-10500 6 12 3.1GHz 12MB 65W DDR4-2666 No UHD 630 Yes Core i5-10400 6 12 2.9GHz 12MB 65W DDR4-2666 No UHD 630 No 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 i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 No UHD 630 No UHD 630 No Core i3-10100 4 8 3.6GHz 6MB 65W DDR4-2666 No UHD 630 NO UHD													
Cries 3-10300 4 8 3.7GHz 8MB SSW DDR4-2866 No UHD 630 No Core 3-10100 4 8 3.7GHz 8MB SSW DDR4-2866 No UHD 630 No Core 3-10100 4 8 3.7GHz 8MB SSW DDR4-2866 No UHD 630 No Core 3-10100 4 8 3.7GHz 8MB SSW DDR4-2866 No UHD 630 No United VPro also requires AX201 if Wi-Fi function is needed Nemory Sockets 4 DIMM sockets with 2 channels SGR4F6GB/32GB DDR4-2933 UDIMM ECC or 4GB/8GB/16GB/32GB DDR4-2933 UDIMM ECC or 4GB/8GB/16GB/32GB DDR4-2933 UDIMM non-ECC Memory Capacity 128GB Memory Capacity 128GB Memory Protection ECC. ECC memory and ECC-enable CPU are needed HD Audio Interface with Realtek ALC623 Codec Intel HD Audio								Coourity footures							
Intel W480 Chipset   Intel W							_	Security features							
Chipset															
Memory Sockets 4 DIMM sockets with 2 channels Memory Types 86B/16GB/32GB DDR4-2933 UDIMM non-ECC or 46B/8GB/16GB/32GB DDR4-2933 UDIMM non-ECC Memory Capacity 126GB Memory Protection ECC. ECC memory and ECC-enable CPU are needed Three PCle 3.0 slots as following:  Expansion slots Slot 1 PCle 3.0 x16, full height, full length, links to CPU Slot 2 PCle 3.0 x16, full height, full length, links to PCH Integrated Intel UHD Graphics P630 in Xoon processors, or Intel UHD Graphics 630 in Core processors graphics 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, HDM), or USB-C)  Discrete Graphics Offering Discrete Graphics Offering Onboard Intel RST SATA RAID Sld SATA 6Gb/s   HDD or SSD 0/10/16   Storage Onboard Intel RST SATA RAID Sld SATA 6Gb/s   HDD or SSD 0/10/16   Controller  Addition  Intel AMT Intel Amanagability on other models Intel AMA Managability on other models Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year limited onsite service with 9x5r/NBD. Other models may have 1 of 2-year lim	Chinset		0   0.00112	OIVID   OSVV	/  DD114-2000  NO	OTID 000	INO	Intel vPro	vPro also requires AX201 if Wi-Fi function is needed						
Memory Types 8GB/16GB/32GB DDR4-2933 UDIMM ECC or 4GB/8GB/16GB/32GB DDR4-2933 UDIMM non-ECC  Memory Protection ECC. ECC memory and ECC-enable CPU are needed Three PCIe 3.0 slots as following:  Expansion slots Slot 1 PCIe 3.0 x16, full height, full length, links to CPU Slot 2 PCIe 3.0 x16, full height, full length, links to PCH Slot 3 PCIe 3.0 x16, full height, full length, links to PCH Slot 3 PCIe 3.0 x16, full height, full length, links to PCH Slot 3 PCIe 3.0 x16, full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, full length, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, full length, fu	-		channels					Intel AMT	Intel Active Management Technology 14 on vPro models,						
Memory Capacity Memory Protection ECC. ECC memory and ECC-enable CPU are needed  Three PCle 3.0 slots as following:  Expansion slots  Expansion slots  Slot 1 PCle 3.0 x16, full height, full length, links to CPU  Integrated Intel UHD Graphics P630 in Xeon processors, or Intel UHD Graphics 630 in Core processors.  Processor graphics 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, HDMI, or USB-C)  Discrete Graphics Offering  Discrete Graphics Offering  Storage  Storage Controller  Storage Controller  Type Integrated Intel RST SATA RAID Sid SATA 6Gb/s HDD or SSD 0/1/10/5  Storage Controller  Type Integrated Intel ST SATA RAID Sid SATA 6Gb/s HDD or SSD 0/1/10/5  Storage Controller  Type Integrated Intel UHD Graphics 630 in Xeon processors, or Intel UHD Graphics 630 in Xeon proce				ECC.				I III CI AWII	<u> </u>						
Memory Protection ECC. ECC memory and ECC-enable CPU are needed Three PCle 3.0 slots as following:  Expansion slots  Expansio	, ,,		B DDR4-2933	UDIMM non	n-ECC			Base warranty							
Three PCle 3.0 slots as following:  Expansion slots    Slot 1   PCle 3.0 x16, full height, full length, links to CPU			l FCC-enable (	CPU are nee	eded			HD Audio	Intel HD Audio interface with Realtek ALC623 Codec						
Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   Signature   PCle 3.0 x16, full height, full length, links to PCH   PCle 3.0 x16, full height, full length, li	Women's Protection			31 0 a10 1100	7404			Front ports							
Slot 2   PCle 3.0 x1, full height, full length, links to PCH				ath links to	CPII			· .							
Slot 3   PCle 3.0 x16 (negotiable link width x4), full height, full length, links to PCH	Expansion slots							Rear ports							
Integrated Intel UHD Graphics P630 in Xeon processors, or Intel UHD Graphics 630 in Core processors.  Processor graphics 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, HDMI, or USB-C)    Graphics						links to P	СН								
Processor graphics 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, HDMI, or USB-C)    Graphics   Memory   Power   Connector   Max   Qty   Quadro P400   2GB GDDR5   30W   3x miniDP   2   Quadro P620   2GB GDDR5   50W   4x miniDP   2   Quadro P200   5GB GDDR5   50W   4x miniDP   2   Quadro P2200   5GB GDDR5   50W   4x DP   2   Quadro RTX 4000   8GB GDDR6   160W   3x DP, 1x VirtualLink   1   Quadro RTX 5000   16GB GDDR6   265W   4x DP, 1x VirtualLink   1   Notes: RTX 4000/RTX 5000/2x P2200 needs 500W PSU.    Storage   Storage   Controller   Conboard Intel RST SATA RAID   Std   SATA 66b/s   HDD or SSD   0/110/5   Controller   Conboard Intel RST SCIE RAID   Std   SCIE ROW   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST SCIE RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST SCIE RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST SCIE RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST SCIE RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST SCIE RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIe SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIE SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIE SSD   0/110/5   Controller   Conboard Intel RST PCIe RAID   Std   PCIe NVMe   M2 PCIE SSD   0/110/5   Controller								Ontional rear							
Processor graphics 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, HDMI, or USB-C)    Graphics		in Core processors.	apriics F030 ii	i Aeon proce	essors, or fried or	ib Grapini	CS 030	ports	Supports the following via PCIe adapter:						
display connectors (2 DP standard, 1 video port optional (Video port can be DP, HDMI, or USB-C)  Graphics Memory Power Connector Qty Quadro P400 2GB GDDR5 30W 3x miniDP 2 Quadro P620 2GB GDDR5 40W 4x miniDP 2 Quadro P1000 4GB GDDR5 50W 4x miniDP 2 Quadro P2200 5GB GDDR5 50W 4x miniDP 2 Quadro P2200 5GB GDDR5 75W 4x DP 2 Quadro RTX 4000 8GB GDDR6 160W 3x DP, 1x VirtualLink 1 Quadro RTX 5000 16GB GDDR6 265W 4x DP, 1x VirtualLink 1 Notes: RTX 4000/RTX 5000/2x P2200 needs 500W PSU.  Storage Onboard Intel RST SATA RAID Std SATA 6Gb/s HDD or SSD 0/1/10/5 Onboard Intel RST PCIe RAID Std PCIe NVMe M.2 PCIe SSD 0/1	Processor graphics		ete graphics to	support mult	ti-display, enables	three rea	r								
Graphics Memory Power Connector Max Qty Quadro P400 2GB GDDR5 30W 3x miniDP 2 Quadro P620 2GB GDDR5 40W 4x miniDP 2 Quadro P1000 4GB GDDR5 50W 4x miniDP 2 Quadro P2200 5GB GDDR5 75W 4x DP 2 Quadro RTX 4000 8GB GDDR5 16GB GDDR6 160W 3x DP, 1x VirtualLink 1 Quadro RTX 4000 16GB GDDR6 265W 4x DP, 1x VirtualLink 1 Notes: RTX 4000/RTX 50000/2x P2200 needs 500W PSU.  Storage Controller Type Interface Disk Type RAID Onboard Intel RST SATA RAID Std SATA 6Gb/s HDD or SSD 0/110/5 Controller Onboard Intel RST PCIe RAID Std PCIe NVMe M.2 PCIe SSD 0/1			P standard, 1	video port op	otional (Video por	t can be D	P,								
Graphics   Memory   Power   Connector   Max Qty		HDMI, or USB-C)						Temperature	Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C)						
Quadro P400   2GB GDDR5   30W   3x miniDP   2		Graphics	Memory	Power	Connector				Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)						
Discrete Graphics Offering  Discrete Graphics Offering  Ouadro P620  Quadro P1000  Quadro P1000  Quadro P2200  Quadro P2200  Quadro RTX 4000  RGB GDDR5  Av DP  Quadro RTX 4000  RGB GDDR6  Av DP, 1x VirtualLink  Quadro RTX 5000  Include RTX 5000		Quadro P400	2GB GDDB5	30W	3x miniDP			Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft).						
Discrete Graphics Offering  Quadro P1000															
Quadro P2200   5GB GDDR5X   75W   4x DP   2   Quadro RTX 4000   8GB GDDR6   160W   3x DP, 1x VirtualLink   1   Quadro RTX 5000   16GB GDDR6   265W   4x DP, 1x VirtualLink   1   Notes: RTX 4000/RTX 5000/RTX 5000								Humidity							
Quadro RTX 4000 8GB GDDR6 160W 3x DP, 1x VirtualLink 1 Quadro RTX 5000 16GB GDDR6 265W 4x DP, 1x VirtualLink 1 Notes: RTX 4000/RTX 5000/2x P2200 needs 500W PSU.  Storage Controller Type Interface Disk Type RAID Onboard Intel RST SATA RAID Std SATA 6Gb/s HDD or SSD 0/1/10/5 Controller Onboard Intel RST PCIe RAID Std PCIe NVMe M.2 PCIe SSD 0/1	Offering	Quadro P2200	GB GDDR5X	75W	4x DP		2	Environmental							
Quadro RTX 5000   16GB GDDR6   265W   4x DP, 1x VirtualLink   1   Supports one of the following:  Notes: RTX 4000/RTX 5000/2x P2200 needs 500W PSU.  Storage Controller   Type   Interface   Disk Type   RAID   Onboard Intel RST SATA RAID   Std   SATA 6Gb/s   HDD or SSD   0/1/10/5   Onboard Intel RST PCIe RAID   Std   PCIe NVMe   M.2 PCIe SSD   0/1   Onboard Intel RST PCIe RAID   Std   PCIe NVMe   M.2 PCIe SSD   0/1   Note:		Quadro RTX 4000	8GB GDDR6	160W	3x DP, 1x Virtual	Link	1		RoHS-compliant, EPEAT Silver rating, and ENERGY STAR 8 qualified						
Notes: RTX 4000/RTX 5000/2x P2200 needs 500W PSU.  Storage Controller  Onboard Intel RST SATA RAID  Onboard Intel RST PCIe RAID  Onboard Intel RST PCIe RAID  Std PCIe NVMe M.2 PCIe SSD  Ontroller  Note:  Power supply  * 300W, 90% PSU, 100V - 240V, 80 PLUS Gold qualified  500W, 92% PSU, 100V - 240V, 80 PLUS Platinum qualified  ISV certifications  Note:  Note:		Quadro RTX 5000	16GB GDDR6	265W	4x DP, 1x Virtual	Link	1	oor unoution	Supports one of the followina:						
Storage Onboard Intel RST SATA RAID Std SATA 6Gb/s HDD or SSD 0/1/10/5 Controller Onboard Intel RST PCIe RAID Std PCIe NVMe M.2 PCIe SSD 0/1  Note:		Notes: RTX 4000/RTX 5000/2x	P2200 needs 500V	/ PSU.			_	Power supply	<ul> <li>300W. 90% PSU. 100V - 240V. 80 PLUS Gold qualified</li> </ul>						
Controller Onboard Intel RST PCIe RAID Std PCIe NVMe M.2 PCIe SSD 0/1 Note:									· · · · · · · · · · · · · · · · · · ·						
Controller Onboard Intel RST PCIe RAID   Std   PCIe NVMe   M.2 PCIe SSD   0/1   Note: RAID 5 and 10 are available on 2.5" HDD/SSD.  Notes: RAID 5 and 10 are available on 2.5" HDD/SSD.  Note: Any questions or advice on ThinkStation PSREF, please contact Lenovo workstation PSREF developer	Storage						5		Please visit <u>www.thinkworkstations.com/isv-certifications/</u>						
Notes: RAID 5 and 10 are available on 2.5" HDD/SSD.  1. Depending of many factors, act at large and a	Controller				e   M.2 PCIe SSD	0/1		Note:	factors, actual data transfer speed mentioned on this page may be lower than theoretical speed						
		Notes: RAID 5 and 10 are avai	able on 2.5" HDD/S	SD.				2. Any questions or adv	rice on ThinkStation PSREF, please contact Lenovo workstation PSREF developer						



# ThinkStation P520 Platform Specifications - I of II

Form factor	33L Tower												
Dimensions	165mm/6.5" W x	460mm/	18.1" D	x 440mn	n/17.3"	H (with feet	)						
Weight	Maximum configu					(	/						
		# of	# of	Bas	se	Caaba	TDD	Memo	ory				
	Processor	Cores	Threads	Freque	ency	Cache	TDP	Type	s				
	Xeon W-2295	18	36	3.0G	iHz	24.75MB	165W	DDR4-2	2933				
	Xeon W-2275	14	28	3.3G	iHz	19.25MB	165W	DDR4-2	2933				
	Xeon W-2265	12	24	3.5G		19.25MB	165W	DDR4-2					
	Xeon W-2255	10	20	3.7G		19.25MB	165W	DDR4-2					
	Xeon W-2245	8	16	3.9G		16.5MB	155W	DDR4-2					
	Xeon W-2235	6	12	3.8G		8.25MB	130W	DDR4-2					
	Xeon W-2225	4	8	4.1G		8.25MB	105W	DDR4-2					
Processor Support	Xeon W-2223	4	8	3.6G		8.25MB	120W	DDR4-2					
	Xeon W-2195	18	36	2.3G		24.75MB	140W	DDR4-2					
	Xeon W-2175	14	28	2.5G		19MB	140W	DDR4-2					
	Xeon W-2155	10	20	3.3G 3.7G		13.75MB 11MB	140W	DDR4-2 DDR4-2	2000				
	Xeon W-2145 Xeon W-2135	8 6	16 12	3.7G 3.7G		8.25MB	140W 140W	DDR4-2					
	Xeon W-2133	6	12	3.6G		8.25MB	140W	DDR4-2					
	Xeon W-2125	4	8	4.0G		8.25MB	120W	DDR4-2					
	Xeon W-2123	4	8	3.6G		8.25MB	120W	DDR4-2					
	Xeon W-2104	4	4	3.2G		8.25MB	120W	DDR4-2					
	Xeon W-2102	4	4	2.9G		8.25MB	120W	DDR4-2					
Processor Sockets				2.00		O.LOIVID	12011	DDITT	_ 100				
Chipset	Intel C422 Chipse	at t											
Memory Sockets	8 DIMM sockets v		annale										
Memory Types	DDR4-2666 RDIN			3 DUIM	N/I								
	512GB with 8 x 6												
Memory Capacity		4GB DL	1H4-2933	RUIMIN	/IS								
Memory Protection						n, 25W, opei							
Expansion slots	Slot 2 (CPU) Slot 3 (PCH) Slot 4 (CPU) Slot 5 Slot 6 (PCH) PCIe 3.0 x16, full height, full length, 75W, double-width PCIe 3.0 x4, full height, half length, 25W, open ended PCIe 3.0 x16, full height, full length, 75W, double-width PCI, full height, full length, 25W PCIe 3.0 x4, full height, half length, 25W, open ended												
	Slot 6 (PCH) P	Cle 3.0	x4, full h	eight, ha	alf lengt	n, 25W, ope	en ended	d 					
	Graphics			nory	Pow- er	Connec	tor	SLI / NVlink	Max Qty				
	NVS 810			DDR3	68W	8xmini l			2				
	Quadro P400			DDR5	30W	3xmini[			2				
	Quadro P600			DDR5	45W	4xmini[			2				
	Quadro P620			DDR5	40W	4xmini[			2				
	Quadro P1000			DDR5	50W	4xmini[			2				
Discrete Graphics	Quadro P2000			DDR5	75W	4xDP			2				
Offering	Quadro P4000 Quadro P5000		16GB (	<u>ADDR5</u> ADDR5X	120W	4xDP DVI-D DL+		SLI	2				
	Quadro P6000		24GB G		25011	DVI-D DL+	4XDF 4vDD	SLI	1				
	Quadro RTX 400	0				3xDP, 1xVirt			2				
	Quadro RTX 500					4xDP, 1xVirt		NVLink	2				
	Quadro RTX 600					4xDP, 1xVirt			2				
	Quadro RTX 800					4xDP, 1xVirt		. 4 V LIIII	1				
	Quadro GP100					1xDVI-D DL		NVLink	2				
	Quadro GV100					4xDP			1				
	Storage Controlle	er Type		nterface		RAID		Cache					
	Onboard Intel RS			ATA 6Gb		0/1/10/5		Oudilo					
			CVC.	12Gb/s,									
Storage Controller	9440-8i PCle	Opt	242	6Gb/s 12Gb/s,		0/1/10/5			_				
S.S.ago Somiono	9460-16i PCle	Opt		6Gb/s		0/1/10/5/6	4GB D	DR4, Sup	erCap				
I	NVMe Basic NVMe Premium	Opt Opt		<u>Cle NVM</u> Cle NVM		0/1/10 0/1/10/5							
						1							
	NVMe for Intel S			Cle NVM		0/1/10/5							

	Disk Type		RPM	Offering	Max Qty			
	3.5" SATA HDD	SATA 6Gb/s	7.2K	1TB/2TB/4TB/6TB	6			
	2.5" SATA HDD	SATA 6Gb/s	7.2K	500GB/500GB FIPS	6			
Storage Sup-	2.5" SATA SSD	SATA 6Gb/s		256GB/512GB/1TB/2TB	6			
Port	2.5" SAS HDD	SAS 12Gb/s	10K	300GB/600GB	4			
	M.2 PCIe SSD	PCIe NVMe		256GB/512GB/1TB/2TB	9			
	PCIe AIC SSD PCIe NVMe 480GB 2 (1 when of adapter							
	Bay			Maximum Drives Qty				
	Type M.2 slot 9x M.2	2 SSD (2 or	board	I, 7 via PCIe to M.2 adapt	er)			
Storage Bays	2 flex bays. Supports the following:  2 x half-height optical drives  2 x 5.25" 9.0mm optical drives  1 x 5.25" 9.0mm optical drive + 2x 3.5"/2.5" SATA SSD/HDD							
Max Storage	Supports up to 9x M.2 SSD + 6x 3.5" HDD/6x 2.5" SATA disks/4x 2.5" SAS HDD + 1x PCIe AIC SSD. All HDD: 36TB using 6x 3.5" HDD All SSD: 30.48TB using 6x 2.5" SATA SSD, 9x M.2 SSD, and 1x PCIe AIC SSD							
Power supply	Supports one of the following:  • One fixed 690W autosepsing, 92%, 80 PLUS Platinum qualified							
Media reader	USB 2.0 9-in-1 reader on flex n		on m	ost models. Optional UHS	S-II 15-in-1 USB 3.1 Gen 1			
Network interfaces	ethernet or wire	eless adapte	rs are	available	ake-on-LAN. Optional PCIe			
WLAN + Bluetooth	867Mbps				11ac, Bluetooth 4.2, up to			
Security features	to 1.2 via UEFI	setting. Opt	ional a	access panel lock, Kensin	TCG 2.0 compliant, switch			
Intel vPro Intel AMT					C 8265 if Wi-Fi is needed			
Diagnostic	Front panel war with Lenovo PC display on flex r	ning LED. T Diag-nostic	hinkS		dows. Photo-audio transfer I front 4-digit diagnostic			
	1 or 3-year limit		ervice	with 9x5/NBD				
HD Audio	Realtek ALC66			A ANN also and a No. 1	and the feet and the state of t			
Front ports	(3.5mm)			11W charging), 1x combo				
Rear ports	mic-in), 2x PS/2		en 1, 1	x RJ-45, 3x analog audio	ports (line-in, line-out,			
Front:  • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out  • 1x eSATA on flex module  Optional ports  • 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:  1 x internal USB 3.1 Gen 1 port							
	ix internal Uc	0.1 QCII	, puit		Lanava luna 2020			

## ThinkStation P520 Platform Specifications - II of II

Environmental 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					
	RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 8.0 qualified on selected models						
ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>						

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 P520c Platform Specifications

Form factor	25L Tower											
Dimensions	175mm/6.89" W x 426mm/16.77" D x 376mm/14.8" H (with feet)											
Weight	Maximum configuration: 31.97 lb (14.5kg)											
		# of	# of		Bas						Memor	V
	Proceeer		Threa		Freque	_	,   0	ache	TDP	'	Types	'
	Xeon W-2245	8	16		3.9G			S.5MB	155V	V D	DR4-29	33
	Xeon W-2235	6	12		3.8G			25MB	130V		DR4-29	
	Xeon W-2225	4	8		4.1G			25MB	105V		DR4-29	
	Xeon W-2223	4	8		3.6G		8.	25MB	120V	V D	DR4-26	66
	Xeon W-2195	18	36		2.3G		24	.75MB	140V		DR4-26	
Dragger Cumpert	Xeon W-2175	14	28		2.5G			9MB	140V		DR4-26	
Processor Support	Xeon W-2155	10	20		3.3G	Hz	13	.75MB	140V	V D	DR4-26	66
	Xeon W-2145	8	16		3.7G			1MB	140V		DR4-26	
	Xeon W-2135	6	12		3.7G			25MB	140V		DR4-26	
	Xeon W-2133	6	12		3.6G			25MB	140V		DR4-26	
	Xeon W-2125	4	8		4.0G			25MB	120V		DR4-26	
	Xeon W-2123	4	8		3.6G			25MB	120V		DR4-26	
	Xeon W-2104	4	4		3.2G			25MB	120V		DR4-24	
	Xeon W-2102	4	4		2.9G			25MB	120V	V D	DR4-24	00
Processor Sockets	1x FCI GA2066											
Chipset	Intel C422 Chipse	e†										
Memory Sockets	4 DIMM sockets v		channe	ale.								
	DDR4-2666 RDIN				אוחם כ	11.1						
Memory Types					אוטא כ	/IIVI						
Memory Capacity	256GB with 4 x 6	4GB F	KDIMM	S								
Memory Protection	ECC											
	Slot 1 (CPU) PCIe 3.0 x16, full height, full length, 75W, Slot 2 (CPU) PCIe 3.0 x8, full height, full length, 25W, open ended											
Expansion slots									en end	iea		
'			0 x16,									
	Slot 4 (PCH) P	Cle 3.	.0 x4, fu	ıll he	eight, h	alf I	ength,	25W, op	en en	ded		
	Graphics			Me	emory		Power	Cor	necto	r	SLI /	Max
	NVS 810			4GF	DDR:	3	68W	8yn	nini DF	<b>)</b>	NVlink -	Qty 1
	Quadro P400		- 1		GDDF		30W		niniDF		-	2
	Quadro P600				GDDF		45W		niniDF		-	2
Discrete Graphics	Quadro P620				GDDF		40W		miniDF		-	2
Offering	Quadro P1000				GDDF		50W		niniDF		-	2
	Quadro P2000				GDDF		75W		xDP		-	2
	Quadro P4000				GDDF		120W		xDP		-	2
	Quadro P5000						180W			(DP	-	1
	Quadro RTX 400	0			GDDF			3xDP, 1:			-	1
	Quadro RTX 500							4xDP, 1				1
	Storage Controlle		Type				erface	, ,		RAID	Cad	sho
			Std		0			`				JI IC
Storage Controller	Onboard Intel RSTe   Std   SATA 6Gb/s   0/1/10/5   - r   9440-8i PCle   Opt   SAS 12Gb/s, SATA 6Gb/s   0/1/10/5   - r											
Otorage Controller	NVMe Basic		Opt				NVMe			/1/10	-	
	NVMe for Intel S	2D					NVM			1/10/5		
		טע	Opt			CIE	INVIVIE			1/ 10/5		
	Disk Type Interface RPM Offering Max Qty								y			
	3.5" SATA HDD		ATA 60					B/4TB/6			4	
Storage Support	2.5" SATA HDD		ATA 60					500GB F			4	
Sicrage Support	2.5" SATA SSD		ATA 60			256	GB/51	2GB/1TI	3/2TB		4	
	2.5" SAS HDD		AS 120					B/600GI			4	
	M.2 PCIe SSD	P	Cle NV	/Me		256	GB/51	2GB/1TI	3/2TB		5	

	Bay Type	Maximum Drives Qty						
	M.2 slot 5x M.2 SSD (2 onboard,	3 via PCIe to M.2 adapter)						
	2 flex bays. Supports the							
	<ul><li>2x half-height optical d</li><li>2x 5.25" 9.0mm optica</li></ul>							
		l drives l drive + 2x 3.5"/2.5" SATA SSD/HDD						
Storago Baye	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, 2x Thunderbolt, or 4-digit							
Storage Bays								
	diagnostic display	Gen I reader, 2x I nunderbolt, or 4-digit						
		SB 3.1 Gen 1 Type-C or eSATA						
	<ul><li>2x M.2 SSD with 2x Fr</li></ul>	ont Removable Drive Enclosures						
	Disk bay Up to 2x 3.5"/2.5" disks with 2 disk bays							
	One of the following:							
Power supply		92%, 80 PLUS Platinum qualified						
		92%, 80 PLUS Platinum qualified						
Media reader	1 reader on flex module	t models. Optional UHS-II 15-in-1 USB 3.1 Gen						
Network		el i219LM), supports Wake-on-LAN. Optional						
interfaces	PCIe ethernet or wireless adapters							
WLAN +	Optional Intel Wireless-AC 8265, 2x	(2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up						
Bluetooth	to 867Mbps							
Security features		sted Platform Module, TCG 2.0 compliant,						
1	switch to 1.2 via UEFI setting. Optional access panel lock, Kensington lock Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is							
Intel vPro	needed							
Intel AMT	Intel Active Management Technology 11							
Diognostio	ThinkStation Diagnostics for Windows. Optional front 4-digit diagnostic display on							
Diagnostic	flex module							
Base warranty	1 or 3-year limited onsite service wi	ith 9x5/NBD						
HD Audio	Realtek ALC662 codec	(0.5						
Front ports	2x USB 3.1 Gen 1, microphone (3.5							
Rear ports	mic-in), 2x PS/2	RJ-45, 3x analog audio ports (line-in, line-out,						
	Supports the following optional port	rs.						
]	Front:							
	<ul> <li>2x Thunderbolt ports (USB Type-0</li> </ul>	C) on flex module, one of two ports						
	supports video-out							
Optional ports	<ul> <li>1x eSATA on flex module</li> <li>1x USB Type-C on flex module, U</li> </ul>	SR 3.1 Gan 1						
Optional porto	Rear:	OB 6.1 Gen 1						
	• 1x COM port							
		apter, USB 3.1 gen 2. One 15W, one 5W						
	Internal:  1 1x internal USB 3.1 Gen 1 port							
	Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)						
	Temperature - storage (no pack-	, ,						
	age)	14 °F to 140 °F (-10 °C to 60 °C)						
   Environmental	Temperature - storage (with pack-	-40 °F to 140 °F (-40 °C to 60 °C)						
specification	age)	(Unpressurized): -50ft-10000ft (-15.2m-						
	Altitude - operating	(Onpressurized): -5011-1000011 (-15.2111-						
Humidity - operating 10%~80%, non-condensing								
_	Humidity - storage (with package)	10%~90%, non-condensing						
Environmental	RoHS-compliant GREENGLIAPD	EPEAT Silver rating. ENERGY STAR 8.0 quali-						
Certifications	fied on selected models	LI LAI Silver fatting. LINENGT STAN 6.0 quali-						
ISV certifications		.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













# ThinkStation P620 Platform Specifications

Form factor	33L Tower								
Dimensions	165mm/6.5" W x 460mm/18.1" D x 446mm/17.6" H (with feet)								
Weight	Maximum configuration:	52.91 lb	(24kg)						
	Processor	# of Cores			Base equency	Cache	TDP		mory pes
	AMD Ryzen Threadripp PRO 3995WX		128		2.7GHz	256MB L3	280W		4-3200
Processor Support	AMD Ryzen Threadripp PRO 3975WX	er 32	64	3	3.5GHz	128MB L3	280W	DDR	4-3200
	AMD Ryzen Threadripp PRO 3955WX	er 16	32	3	3.9GHz	64MB L3	280W	DDR	4-3200
	AMD Ryzen Threadripp PRO 3945WX	er 12	24	4	.0GHz	64MB L3	280W	DDR	4-3200
Processor Sockets	1x Socket sWRX4								
Chipset	AMD WRX80								
Memory Sockets	8 DIMM sockets with 8 d	channels							
Memory Types	DDR4-3200 RDIMM EC	C, 8GB /	16GB	/ 32G	B / 64GE	3 available			
Memory Capacity	512GB with 8 x 64GB D					-			
Memory Protection									
,		0 x16, ful	l heigh	full b	anath				
	` ,		_	-	-				
	Slot 2 (CPU) PCle 4.0 x8, full height, full length								
Expansion slots	Slot 3 (CPU) PCIe 4.0 x16, full height, full length								
	Slot 4 (CPU) PCIe 4.0 x16, full height, full length								
	Slot 5 (CPU) PCIe 4.0 x16, full height, full length								
	Slot 6 (IOH) PCIe 4.0	0 x8, full l	height,	full le	ngth				
	Graphics	Memo	ory	Pow- er	Co	Connector		SLI / Vlink	Max Qtv
	Quadro P620	2GB GE	DDR5	40W	4:	xminiDP		-	4
	Quadro P1000	4GB GE		50W		xminiDP		-	4
Discrete Graphics	Quadro P2200	5GB GE		75W		4xDP		-	4
Offering .	Quadro RTX 4000	8GB GE	DDR6	160W	3xDP,	1xVirtualLir	nk	-	4
•	Quadro RTX 5000	16GB GI		265W		1xVirtualLir		/Link	2
	Quadro RTX 6000	24GB GI	DDR6	295W	4xDP,	1xVirtualLir	nk N	/Link	2
	Quadro RTX 8000	48GB GI	DDR6	295W	4xDP,	1xVirtualLir	nk N	/Link	2
	Quadro GV100	32GB H	IBM2	250W	1	4xDP	N\	/Link	2
	Storage Controller	ΙTι	/pe	Inte	erface	RAID	)	Cach	ne l
Storage Controller	Integrated SATA control					TA 6Gb/s 0/1/10/			
- · · · · · · · · · · · · · · · · · · ·	Integrated NVMe contro		Std		NVMe	0/1/10		-	
		terface	RP			ering			
		A 6Gb/s	7.2			TB/4TB	_		
Storage Type		3.0 NVM				GB/1TB/2T	В		
	M.2 PCIe SSD   PCIe 4	4.0 NVM	e*   -	2	256GB/5	12GB/1TB			
	* M.2 PCIe 4.0 SSD is available	later this ye	ear						
	Up to 5x 3.5" SATA HDD	):							
	<ul> <li>4x 3.5" HDD bay</li> </ul>								
	<ul> <li>1x Flex Bay (Front Ace</li> </ul>	cess Stor	rage Er	ıclosu	re or 5.2	5" Slim OD	D and	HDD c	age)
Storage Support	Up to 11x M.2 SSD:		•						• ,
• 2 via onboard M.2									
	• 8 via two quad M.2 to								
Dower cupply	1 via Single M.2 to PC     One fixed 1000W, autoes			<u> </u>					
Power supply Optical	One fixed 1000W, autos Optional one slim optica				o rialiiil	ını qualilled	1		
						an a al. I -			
Media reader	Optional UHS-II 15-in-1								
Network interfaces	Integrated one 10GbE e wireless adapters are av		Marvel	AQtio	on AQN-	107). Optior	nai PC	e ethe	rnet or
/LAN + Bluetooth Optional Intel Wireless-AC 9260, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 5.1							Bluetoo	th 5.1	

Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Chassis intrusion switch. Optional access panel lock, Kensington lock						
System Mgmt	AMD Pro Manageability						
Diagnostic	Front panel warning LED. Front 4-digit diagnostic. ThinkStation Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diagnostics for Android and iOS.						
Base warranty	Most models comes with 3-year limit	ted onsite service with 9x5/NBD					
HD Audio	Realtek ALC4050H codec						
Front ports	2x USB-A 3.2 Gen 2 (includes one 11W charging), 2x USB-C 3.2 Gen 2 (15W), 1x combo audio / microphone jack (3.5mm)						
Rear ports	2x USB-A 2.0, 4x USB-A 3.2 Gen 2, 1x 10GbE RJ-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2						
Optional ports	ports Optional one COM port						
4	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)					
Environmental	Temperature - storage (with package)	-40 °F to 140 °F (-40 °C to 60 °C)					
specification	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 8.0 qualified						
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/						

Note: Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.

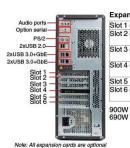












Expansion slots

Slot 1 (CPU2) PCle 3.0 x16, full height, full length, 75W
Slot 2 (CPU1) PCle 3.0 x16, full height, full length, 75W, double-width

Slot 3 (CPU1) PCle 3.0 x8, full height, full length, 25W, open ended

Slot 4 (CPU1) PCle 3.0 x16, full height, full length, 75W, double-width

Slot 5 PCl, full height, full length, 25W
Slot 6 (PCH) PCle 3.0 x4, full height, half length, 25W, open ended

900W PSU supports two 6+2-pin aux power connectors. 690W PSU supports one 6+2-pin aux power connector.

# ThinkStation P720 Platform Specifications

Form factor	36L Tower								
Dimensions	175mm/6.89" W x 48	5mm/19	.1" D x 4	46mm/17	7.6" H (with f	eet)			
Weight	Maximum configurati				,	,			
Processor Sockets	2x FCLGA3647								
Processor Support	Up to two 165 W Ger ver, Gold, or Platinun		en 2 Intel	Xeon So	alable family	y process	ors, Bronze, Sil-		
	Processor	# of Cores	# of Threads			TDP	Memory Types		
	Xeon Gold 6246	12	24	3.3GH			DDR4-2933		
	Xeon Gold 6244	8	16	3.6GH		150W	DDR4-2933		
	Xeon Gold 6242	16	32	2.8GH		150W	DDR4-2933		
	Xeon Gold 6238T	22	44	1.9GH		125W	DDR4-2933		
	Xeon Gold 6234 Xeon Gold 6230	20	16 40	3.3GH 2.1GH		130W 125W	DDR4-2933 DDR4-2933		
	Xeon Gold 6226	12	24	2.7GH		125W	DDR4-2933		
	Xeon Gold 5222	4	8	3.8GH		105W	DDR4-2933		
	Xeon Gold 5218	16	32	2.3GH		125W	DDR4-2666		
	Xeon Gold 5217	8	16	3.0GH		115W	DDR4-2666		
	Xeon Gold 5215	10	20	2.5GH			DDR4-2666		
	Xeon Silver 4216	16	32	2.1GH		100W	DDR4-2400		
	Xeon Silver 4215	8	16	2.5GH	z 11MB	85W	DDR4-2400		
	Xeon Silver 4214	12	24	2.2GH		85W	DDR4-2400		
	Xeon Silver 4210	10	20	2.2GH		85W	DDR4-2400		
D 0" :	Xeon Silver 4209T	8	16	2.2GH		70W	DDR4-2400		
Processor Offering	Xeon Silver 4208	8	16	2.1GH		85W	DDR4-2400		
	Xeon Bronze 3204	6 T 04	6	1.9GH			DDR4-2133		
	Xeon Platinum 8160	T 24 12	48	2.1GH		150W	DDR4-2666		
	Xeon Gold 6146 Xeon Gold 6142	16	32	3.2GH 2.6GH		165W 150W	DDR4-2666 DDR4-2666		
	Xeon Gold 6136	12	24	3.0GH			DDR4-2666		
	Xeon Gold 6134	8	16	3.2GH			DDR4-2666		
	Xeon Gold 6128	6	12	3.4GH			DDR4-2666		
	Xeon Gold 5122	4	8	3.6GH			DDR4-2666		
	Xeon Gold 5120T	14	28	2.2GH			DDR4-2400		
	Xeon Gold 5118	12	24	2.3GH	z 16.5MB	105W	DDR4-2400		
	Xeon Gold 5115	10	20	2.4GH			DDR4-2400		
	Xeon Silver 4116	12	24	2.1GH		85W	DDR4-2400		
	Xeon Silver 4114T	10	20	2.2GH			DDR4-2400		
	Xeon Silver 4114	10	20	2.2GH			DDR4-2400		
	Xeon Silver 4112 Xeon Silver 4110	8	8 16	2.6GH 2.1GH		85W	DDR4-2400 DDR4-2400		
	Xeon Silver 4109T	8	16	2.1GH		85W 70W	DDR4-2400 DDR4-2400		
	Xeon Silver 4108	8	16	1.8GH		85W	DDR4-2400		
Chipset	Intel C621 Chipset			1.0011	<u> </u>		BB111 E100		
Memory Sockets	12 DIMM sockets wit	h 12 cha	nnels 6	DIMM sc	ckets with 6	channels	ner processor		
Memory Types	DDR4-2666 RDIMM				onoto with o	onamioio	por processor		
Memory Capacity	768GB (DDR4-2933				1-2666 RDIN	/I//)			
Memory Protection		T (DIIVIIVI)	01 00+0	יווטט) ט	+ 2000 HDIII	/IIVI)			
Memory i rotection		20 116	full baia	ht full la	nath 75\M				
					ngth, 75W	الماريما	مالمال		
					ngth, 75W, c				
Expansion slots					gth, 25W, op				
					ngth, 75W, c	double-wid	dth		
			nt, full ler						
				t, half ler	ngth, 25W, o	pen ende	d		
	Graphics	Memo	,	ow- er	Connector	SLI / NVlin			
	NVS 810	4GB DI			8xmini DP		2		
		2GB GD			3xminiDP		3		
Discrete Graphics	Quadro P600	2GB GD			4xminiDP		3		
Offering	Quadro P620	2GB GD	DR5 40	W	4xminiDP		3		
Onorning		4GB GD			4xminiDP		3		
		5GB GD		5W	4xDP		3		
		8GB GD		0W DV	4xDP		2		
			DR5X 18 DR5X 25	OW DV	I-D DL+4xDI	P SLI	2		
	Quadro P6000 2	<u>400 GD</u>	<u>⊿H3X 25</u>	עט ואאט	I-D DL+4xDI	P SLI	2		

				1							
-	Graphics	N	lemory	Pow-	Connecto	r	SLI / NVlink	Max Qtv			
-	Quadro RTX 4000	8GE	GDDR6	160W	3xDP, 1xVirtua	alLink	d	2			
	Quadro RTX 5000							2			
Offering	Quadro RTX 6000 Quadro RTX 8000	48G	B GDDR6	295W	4xDP, 1xVirtua	alLink all ink	NVIINK	2 2			
	Quadro GP100	160	B HBM2	235W	1xDVI-D DL,	4xDP	NVIIIK	2			
	Quadro GV100		B HBM2		4xDP		NVlink	2			
	Storage Controller	Туре	Inter	face	RAID		Cach	е			
	Onboard Intel RSTe			6Gb/s	0/1/10/5						
	9440-8i PCle	Ont	SAS 12	2Gb/s,	0/1/10/5						
0		Opt	SATA		0/1/10/5						
Storage Controller	9460-16i PCIe	Opt	SAS 12		0/1/10/5/6	4GE	B DDR4, S	SuperCap			
	NVMe Basic	Opt	PCIe I		0/1/10						
	NVMe Premium	Opt	PCIe I	VVMe	0/1/10/5						
	NVMe for Intel	Opt	PCIe l	√VMe	0/1/10/5						
		nterfac	ce RPM		Offerina		Mari	Otv			
	Disk Type I	ntenac	ce RPIVI		Offering		Max (Blind co	nnection			
							+ 9460	used)			
								supports ional			
	3.5" SATA HDD SA	ATA 6G	3b/s 7.2K	1TB	1TB/2TB/4TB/6TB			' SATA			
Storage Support							SSD/HDD)				
	2.5" SATA HDD SA 2.5" SAS HDD SA				B/500GB FIP 0GB/600GB	S		0			
	2.5" SATA SSD SA				/512GB/1TB/2	PTB		0			
	2.5" PCIe SSD PC	Cle NV	/Me		1.5TB			2			
	M.2 PCIe SSD PC	Cle NV	/Me	256GB	<u>/512GB/1TB/2</u> 480GB	2TB	9 2				
		JIE INV	rivie	Massina				<u> </u>			
	Bay Type			waximi	um Drives Qty						
	M.2 slot 9x M.2 SSD (2 onboard, 7 via PCIe to M.2 adapter)										
	2 flex bays. Supports the following:										
	<ul> <li>2x half-height optical drives</li> <li>2x 5.25" 9.0mm optical drives</li> </ul>										
	1x 5.25" 9.0mm optical drive + 1x 3.5"/2.5" SATA SSD/HDD     1x 3.5"/2.5" SATA SSD/HDD with Front Access Storage Enclosure										
			SAIA SSD le for the f			ess Si	torage En	closure			
			n optical	Ollowing	g options.						
Storage Bays					reader or 2x						
-					en 1 Type-C o novable Drive						
-	4 disk ba	ys (2 t	ays stand		pays optional).			of the fol-			
1	lowing co										
1	• 4x 3.5"			25" SA	ATA SSD/HDD	(Blin	d connect	tion			
	needed)					`					
8X 2.5" SAIA SSD/HDD OF 8X 2.5" SAS HDD (Blind Co							d connect	ion			
	needed) • 2x 2.5"	PCIe S	SSD + 2x	3.5"/2.5	" disks (Blind	conn	ection nee	eded)			
	Supports one of th							,			
Power supply	<ul> <li>One fixed 690W,</li> </ul>	autose	ensing, 92								
11	<ul><li>One fixed 900W,</li><li>One fixed 1000W</li></ul>	autose	ensing, 92	2%, 80 F	LUS Platinun בעבר יימילים PLLIS Platinun	n qua	litied alified				
	One incu 1000W	, auto	oononig, s	, <u> </u>	. 200 i latillu	qu	amou				

## **ThinkStation P720 Platform Specifications**

	•						
Media reader	USB 2.0 9-in-1 card reader on most m 1 reader on flex module	nodels. Optional UHS-II 15-in-1 USB 3.1 Gen					
Network	Integrated two-port gigabit ethernet (Intel i219LM and i210AT), supports Wake-on-						
interfaces	LAN on both two ports. Optional PCle ethernet are available						
WLAN +		2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up					
Bluetooth	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						
Intel vPro	Intel vPro technology supported. vPro needed	requires Wireless-AC 8265 if Wi-Fi is					
Intel AMT	Intel Active Management Technology	11					
Diagnostic	Front panel warning LED. ThinkSta-tic transfer with Lenovo PC Diag-nostics diagnostic display on flex module	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					
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 specification	Temperature - operating Temperature - storage (no package) Temperature - storage (with package) Altitude - operating Humidity - operating Humidity - storage (with package)	50 ° F to 95 ° F (10 ° C to 35 ° C) 14 ° F to 140 ° F (-10 ° C to 60 ° C) -40 ° F to 140 ° F (-40 ° C to 60 ° C) (Unpressurized): 0-10000ft (0-3048m) 10%~80%, non-condensing 10%~90%, non-condensing					
Environmental Certifications	RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 8.0 qualified on selected models						
ISV certifications	Please visit www.thinkworkstations.co	om/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

55L Tower

Form factor

	001 101101							11	
Dimensions	200mm/7.87" W x 620								
Weight	Maximum configuration: 81.6 lb (31kg)								
Processor Sockets								1	
Processor Support	Lin to two 205 W Con	1 or Gen	2 Intel X	eon Scalable	e family pro	cessors,	Bronze, Sil-		
	ver, Gold, or Flatinum	# of	# of	Page			Momory	-	
	Processor			Base Frequency	Cache	TDP	Memory Types	Discrete Graphi	
	Xeon Platinum 8280	28	56	2.7GHz	39MB	205W	DDR4-2933	Offering	
	Xeon Gold 6254	18	36	3.1GHz	25MB	200W	DDR4-2933		
	Xeon Gold 6244	8	16	3.6GHz	25MB	150W	DDR4-2933		
	Xeon Gold 6242	16	32	2.8GHz	22MB	150W	DDR4-2933		
	Xeon Gold 6238T	22	44	1.9GHz	30MB	125W	DDR4-2933		
	Xeon Gold 6234	8	16	3.3GHz	25MB	130W	DDR4-2933		
	Xeon Gold 6230	20	40	2.1GHz	28MB	125W	DDR4-2933		
	Xeon Gold 6226	12	24	2.7GHz	19MB	125W	DDR4-2933		
	Xeon Gold 5222	4	8	3.8GHz	16.5MB	105W	DDR4-2933		
	Xeon Gold 5218	16	32	2.3GHz	22MB	125W	DDR4-2666		
	Xeon Gold 5217	8	16	3.0GHz	11MB	115W	DDR4-2666		
	Xeon Gold 5215	10	20	2.5GHz	13.75MB	85W	DDR4-2666	Storage	
	Xeon Silver 4216	16	32	2.1GHz	22MB	100W	DDR4-2400	Controller	
	Xeon Silver 4215	8	16	2.5GHz	11MB	85W	DDR4-2400	Controller	
	Xeon Silver 4214	12	24	2.2GHz	17MB	85W	DDR4-2400		
	Xeon Silver 4210	10	20	2.2GHz	14MB	85W	DDR4-2400		
Processor Offering	Xeon Silver 4209T	8	16	2.2GHz	11MB	70W	DDR4-2400		
r roccocci Chomig	Xeon Silver 4208	8	16	2.1GHz	11MB	85W	DDR4-2400		
	Xeon Bronze 3204	6	6	1.9GHz	8.25MB	85W	DDR4-2133		
	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 6142	16	32	2.6GHz	22MB	150W	DDR4-2666		
	Xeon Gold 6136	12	24	3.0GHz	24.75MB	150W	DDR4-2666		
	Xeon Gold 6134	8	16	3.2GHz	24.75MB	130W	DDR4-2666		
	Xeon Gold 6128	6	12	3.4GHz	19.25MB	115W	DDR4-2666	Storage Suppor	
	Xeon Gold 5122	4	8	3.6GHz	16.5MB	105W	DDR4-2666	aranaga aappa	
	Xeon Gold 5120T	14	28	2.2GHz	19.25MB	105W	DDR4-2400		
	Xeon Gold 5118	12	24	2.3GHz	16.5MB	105W	DDR4-2400		
	Xeon Gold 5115	10	20	2.4GHz	13.75MB	85W	DDR4-2400		
	Xeon Silver 4116	12	24	2.1GHz	16.5MB	85W	DDR4-2400		
	Xeon Silver 4114T	10	20	2.2GHz	13.75MB	85W	DDR4-2400		
	Xeon Silver 4114	10	20	2.2GHz	13.75MB	85W	DDR4-2400		
	Xeon Silver 4112	4	8	2.6GHz	8.25MB	85W	DDR4-2400		
	Xeon Silver 4110	8	16	2.1GHz	11MB	85W	DDR4-2400		
	Xeon Silver 4109T	8	16	2.0GHz	11MB	70W	DDR4-2400		
Ola in a sat	Xeon Silver 4108	8	16	1.8GHz	11MB	85W	DDR4-2400		
Chipset	Intel C621 Chipset							.	
Memory Sockets	16 DIMM sockets with						r processor		
Memory Types	DDR4-2666 RDIMM, D	DR4-26	66 LRDII	MM, or DDR	4-2933 RD	IMM			
Memory Capacity	1TB (DDR4-2666 LRD	IMM or I	DDR4-29	33 RDIMM)	or 512GB (	DDR4-26	666 RDIMM)	1	
Memory Protection	ECC			,			,		
Expansion slots								Storage Bays	
	Slot 8 (CPU2) PCIe 3	s.u x16, f	ruli neight	t, tull length,	/5W			J	

	Graphics		N	Memo	ory	Power	Conne	ector	SLI / NVlink	Max Qty
1	NVS 810		40	3B DI	DR3	68W	8xmin	i DP		2
1	Quadro P400		2G	B GE	DR5	30W	3xmir	niDP		5
1	Quadro P600		2G	B GE	DR5	45W	4xmir	niDP		4
	Quadro P620		2G	B GE	DR5	40W	4xmir	iDP		4
-	Quadro P1000		4GB GI		DR5	50W	4xmir	niDP		4
Discrete Graphics	Quadro P2000		5G	B GE	DR5	75W	4xD	)P		4
Offering	Quadro P4000				DR5	120W	4xD			4
Ollering	Quadro P5000	1	6G	<u>B GD</u>	DR5X	180W	DVI-D DL		SLI	3
	Quadro P6000					250W			SLI	3
	Quadro RTX 40				DR6	160W	3xDP, 1xV	irtualLink		3
	Quadro RTX 50				DDR6		4xDP, 1xV		NVLink	3
	Quadro RTX 60				DDR6	295W	4xDP, 1xV	irtualLink	NVLink	2
	Quadro RTX 80				DDR6	295W	4xDP, 1xV	irtualLink	NVLink	2
	Quadro GP100				BM2		1xDVI-D D		NVLink	3
	Quadro GV100	1	320	GB H	BM2	250W	4xD	)P	NVLink	3
	Storage Contro		Typ			Interfac		RAID		che
	Onboard Intel F	RSTe	Sto			ata 6G		0/1/10/5		
	9440-8i PCle		Op	ot S	AS 120	<u> 3b/s, S/</u>	ATA 6Gb/s	0/1/10/5		
Storage Controller	9460-16i PCle		Op	ot S	AS 120	ab/s, SA	ATA 6Gb/s	0/1/10/5/		DDR4, erCap
	NVMe Basic		Op	ot	P	Cle NV	Me	0/1/10	1	
	<b>NVMe Premiun</b>	n	Op		P	Cle NV	Me	0/1/10/5	5	
	NVMe for Intel	SSD	Op	ot	P	Cle NV	Ме	0/1/10/5		
	Disk Type	Interfa	ce	RPM	1 Offering				Max Qty 1460 used	)
	3.5" SATA HDD	SATA 6Gb/		7.2K	1TE	3/2TB/4	TB/6TB	6 (Also supports additional 4x 2.5" SATA SSD/HDD)		
	2.5" SATA HDD	SATA 6Gb/		7.2K	500GB/500GB FIPS				10	,
Storage Support	2.5" SAS HDD	SAS 12Gb		10K	30	00GB/6	00GB		8	
Storage Support	2.5" SATA SSD	SATA 6Gb/			256GE	3/512GI	B/1TB/2TB		10	
	2.5" PCIe SSD	PCI6 NVM	е			1.5TB		4		
	M.2 PCIe SSD	PCI6 NVM	е		256GB/512GB/1TB/2TB		9			
	PCIe AIC SSD	PCI6 NVM				4800	ìВ	2		
	Bay Type				M	laximun	n Drives Qt	ty		
1	M.2 slot 9x M.2							apter)		
]	2x 3.5	" or 2.5	5" d	lisks.	Suppo	rts the t	following:	. ,		
]	• 3x h	nalf-hei	ight	optio	al drive	es	_			
					tical dr					
]	1x 5	25" 9	.0m	m op	tical dr	ive + 1	x 3.5"/2.5"	SAIA SSE	J/HDD	
							Front Acc	ess Stora	ge Enclos	ure
Storage Bays		1: 9.0				owing o	puons.			
						an 1 ra	ader or 2x	Thunderh	olt	
							1 Type-C		Oit	
							vable Drive		es	
							andard, 2 b			orts
						rations:		7 1	· /	
	Disk bay • 4x 3	.5" SAT	TA F	HDĎ						
1							SSD/HDD			
	• 8x 2.5" SATA SSD/HDD or 8x 2.5" SAS HDD									

# ThinkStation P920 Platform Specifications

	Supports up to 9x M.2 SSD + 6x 3.5" AIC SSD.	HDD/10x 2.5" SSD/10x 2.5" HDD + 2x PCle						
Max Storage	AIL 55D. 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							
One fixed 1400 watte autocopeing 92% PSLL 90 PLUS Platinum qualified								
Power supply	Countries with input voltage under 115V, output power limited to 1125 watts							
Media reader	1 reader on flex module	odels. Optional UHS-II 15-in-1 USB 3.2 Gen						
Network interfaces	Integrated two-port gigabit ethernet (Ir LAN on both two ports. Optional PCIe	ntel i219LM and i210AT), supports Wake-on- ethernet are available						
WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, to 867Mbps	2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up						
	Power-on and admin password. Truste	d Platform Module, TCG 2.0 compliant, intrusion switch. Optional access panel						
Intel vPro	Intel vPro technology supported. vPro needed	requires Wireless-AC 8265 if Wi-Fi is						
Intel AMT	Intel Active Management Technology	11						
Diagnostic	Front 4-digit diagnostic display. ThinkS transfer with Lenovo PC Diagnostics for	tation Diagnostics for Windows. Photo-audio or Android and iOS						
Base warranty	1 or 3-year limited onsite service with 9x5/NBD							
HD Audio	Realtek ALC662 codec							
Front ports	4x USB-A 3.2 Gen 1 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm)							
Rear ports	2x USB-A 2.0, 4x USB-A 3.2 Gen 1, 2x RJ-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2							
	Supports the following optional ports: Front:							
	<ul> <li>2x Thunderbolt ports (USB-C form) on flex module, one of two ports supports video-out</li> </ul>							
Ontional norta	• 1x eSATA on flex module							
Optional ports	• 1x USB-C 3.2 Gen 1 on flex module Rear:							
	• 1x COM port							
	• 2x USB-C 3.2 gen 2 ports via PCIe a	adapter. One 15W, one 5W						
	Internal:	•						
	• 1x internal USB-A 3.2 Gen 1 port							
	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)						
Environmental	Temperature - storage (with package)							
specification	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)						
	Humidity - operating Humidity - storage (with package)	10%~80%, non-condensing 10%~90%, non-condensing						
	ridinidity - Storage (with package)	10 /0~30 /0, 11011-CUHUEHSHIY						
Environmental Certifications	RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 8.0 qualified on selected models							
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. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer (houyt@lenovo.com)













Form factor	2U rack								
Dimensions									
	110191111 07 111111 (01 1 111) 111111 11111 (11 110 111) 2 0 0 111 1 2 0 11111 (2010 111)								
Weight	Maximum configuration: 70.54 lb (32 kg)								
Processor Sockets	2x FCLGA3647								
Processor Support	Up to two Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, or Gold								
	Processor		# of Threads	Base Frequenc		TDP	Typ	nory oes	
	Xeon Gold 6252	24	48	2.1GHz	35.75MB			-2933	
Processor Offering	Xeon Gold 6234	8	16	3.3GHz	25MB	130W		-2933	
	Xeon Gold 6230	20	40	2.1GHz	28MB	125W		-2933	
	Xeon Gold 5218	16	32	2.3GHz	22MB	125W		-2666	
i roccocci onomig	Xeon Gold 5215	10	20	2.5GHz	13.75MB			-2666	
	Xeon Silver 4215	8	16	2.5GHz	11MB	85W		-2400	
	Xeon Silver 4214	12	24	2.2GHz	17MB	85W		-2400	
	Xeon Silver 4210	10	20	2.2GHz	14MB	85W	DDR4	-2400	
	Xeon Silver 4208	8	16	2.1GHz		85W		-2400	
	Xeon Bronze 3204	6	6	1.9GHz	8.25MB	85W	DDR4	-2133	
Chipset	Intel C624 Platform (	Controller	Hub						
Memory Sockets	24 DIMM sockets wit			DIMM soc	kets with 6 c	hannels	per prod	essor	
Memory Types	DDR4-2933 RDIMM,				note with o c	1101010	por prov	,00001	
Memory Capacity	768GB with 24x 32GB DDR4-2933 RDIMM								
Memory protection	ECC, memory mirroring, and memory sparing								
	Slot 1 (riser card 1)	Full heic	ht, half le	ngth, doub	ole-wide				
	Slot 2					1			
	Slot 2 Not present, for double-wide card in slot 1 Slot 3 (riser card 1) PCIe 3.0 x16 (x8 lanes). Full height, half length								
Expansion slots	Slot 4 (onboard) PCle 3.0 x8, low profile								
	Slot 5 (riser card 2) PCIe 3.0 x16, full height, half length, requires 2nd CPU								
	Slot 6 (riser card 2) PCIe 3.0 x16, full height, half length, requires 2nd CPU								
	Slot 7 (onboard) PCIe 3.0 x8 (dedicated to an internal storage controller)								
Integrated Graphics	Integrated Matrox G2					ago oo			
intogratoa arapinoo					Cannas	to r	CLI/	Max	
	Graphics		mory	Power	Connec		SLI / NVlink	Max Qty	
Discrete Graphics	Quadro P620		GDDR5	40W	4xminiE			3	
Offering	Quadro RTX 4000		GDDR6		3xDP, 1xVirt			3	
- Chermig	Quadro RTX 5000		GDDR6		4xDP, 1xVirt	ualLink		2	
	T4		GDDR6	70W	-			5	
	V100	16GB/32	<u>2GB HBM</u>	250W	-			2	
Storage Controller	Storage Controller	Type	Interfa	ce	RAID		Cac	he	
	530-8i	Optional	12Gbps	SAS	0/1/10/5/5	0	-		
	Disk Type Int	terface	RPM		Offering		Ma	ax Qty	
Storage Support	3.5" SATA HDD SAT			B/ATB/6TE		12TR/14		8	
	3.5" SATA SSD SAT	A 6Gb/s	7.2K 24C	0/410/01E	3/01D/101D/	2TR/3 8	4TB	8	
			7.21\240	7GD/400GI	480GB	Z 1 D/ 3.0	+10	2	
Storage Bays	Bay Type Maximum Drives Qty								
	M.2 2x M.2 SATA SSD non-hot swap								
	Disk bay 8x 3.5" SATA/SAS hot-swap disk bays								
Power supply	Up to two redundant hot-swap 1100W or 1600W 80 PLUS Platinum qualified AC								
i ower supply	power supply power supplies. 100V - 240V								
Media reader	None								
	One dedicated management port. One LOM slot for customized LOM with up to four RJ-45 10GbE ports. Wake-on-LAN and NC-SI are available on Port 0 of LOM								
Network interfaces	RJ-45 10GbF ports								
		vvanc on							
WLAN + Bluetooth	None			l Platform	Module TCC	3 1 2 cor	nnliant		
	None Power-on and admin	passwor	d. Trusted				npliant,		
WLAN + Bluetooth Security features	None Power-on and admin upgrade to 2.0 via UI	passwor EFI settin	d. Trusted g. Option	al lockable	security be:	zel		Canac-	
WLAN + Bluetooth	None Power-on and admin	passwor EFI settin tandard.	d. Trusted g. Option Energy M	al lockable anager, X0	security be:	zel		Capac-	

			Product Specifications Reference (PSREF)					
	Diagnostic	Light Path Diagnostics						
┪	Base warranty	3-year limited onsite service with 9x5/NBD						
┪		5WS7A72784 Foundation Service - 3Yr Next Business Day Response						
┪		5WS7A72785 Foundation Service - 4Yr Next Business Day Response						
┪	Warranty	5WS7A72786 Foundation Service - 5Yr Next Business Day Response						
┪	upgrades	5PS7A72787 Essential Service - 3Yr 24x7 4	ntial Service - 3Yr 24x7 4Hr Response + YourDrive YourData					
	. 0	5PS7A72788 Essential Service - 4Yr 24x7 4Hr Response + YourDrive YourData						
1		5PS7A72789 Essential Service - 5Yr 24x7 4Hr Response + YourDrive YourData						
1	HD Audio	None						
1	Front ports	One XClarity Controller USB connector, one USB 3.0, one optional VGA						
]	Rear ports	One VGA, two USB 3.0, one XClarity Controller network connector						
	Operating system	Microsoft Windows Server 2016 and 2019. Red Hat Enterprise Linux (RHEL) 7						
41		Supports ASHRAE A4 with limitations.						
		Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)					
		Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)					
╛								
╛		Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)					
	Environmental specification	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:8%~80%					
1	specification	Humidity - storage (with package), non- condensing	8%~90%					
┨		Models should meet the following requirements to support A3 and A4:						
٦		nie te capportrie ana ren						
		<ul> <li>NVMe drives not installed</li> <li>PCIe flash adapter not installed</li> </ul>						
		Graphic processing unit (GPU) not installed						
(	Environmental	Processors with TDP more than or equal to 150-watt not installed						
Ц	Certifications	Energy Star Server 2.1 certified. More environmental information please see: www.lenovo.com/social_responsibility/us/en/environment/						
4	ISV certifications							
$\dashv$		4XB7A62801						
┨		4XB7A62802   Intel S4510 3.5" 480G SSD OPT   4XB7A62803   Intel S4510 3.5" 960G SSD OPT						
┪		4XB7A62804 Intel S4510 3.5 900G S5D OPT						
H		4XB7A62805 Intel S4510 3.5" 3.84T	SSD OPT					
╣		4XB7A62806 4TB7.2K 6GSATA 3.5G						
-		4XB7A62807 6TB7.2K 6GSATA512e	3.5G4HS OPT					
$\dashv$	Options	4XB7A62808 8TB7.2K 6GSATA512e 3.5G4HS OPT						
$\dashv$		4XB7A62809 10T7.2K 6GSATA512e 4XB7A62810 3.5" 12TB 7.2K SATA 5						
Ħ		12e HDD						
1		4XB7A62811 14T 3.5" 7.2 SATA HDE						
1		4ZC7A62797 8GB 1RX8 PC4-2933R 8Gb 1.2V 4ZC7A62798 16GB 1RX4 PC4-2933R 8Gb 1.2V						
-		4ZC7A62796 16GB 1RX4 PC4-2933 4ZC7A62799 16GB 2RX8 PC4-2933	R 8Gh 1 2V					
		RR 8Gb 1.2V						
┪		4ZC7A62800 32GB 2RX4 PC4-2933	110001.2					













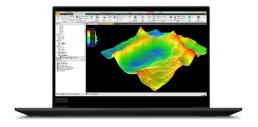
# ThinkPad P1 (2nd Gen) Platform Specifications

Processor	9th Gener	ation I	ntel® Co	e™ i5 / i7	/ i9 Pro	ocessor or	Intel X	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						
	Processor Number	# of Cores	# of Threads	Base Frequer		Turbo quency Cach		emory ypes	Proce Grapl		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 4.0 lb / 1.81 kg						
	i5-9400H i7-9750H i7-9850H	6 6	8 12 12	2.5 GH 2.6 GH 2.6 GH	lz 4.5	3 GHz 8MI 5 GHz 12M 5 GHz 12M	В	In 4-2666	ntel UHD 63	Graphics 0	Case color Case material	Black paint (FHD model) or black weave (UHD model)  Display cover: CFRP/GFRP hybrid;  Bottom: Aluminum alloy						
	i9-9880H E-2276M	8	16 12	2.3 GH 2.8 GH		GHz 16M GHz 12M	В		ntel UHD P63	Graphics 30	Smart card reade Media reader Ports	er Optional: Smart card reader 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	supports of Up to 4 dis	Graph Quadro externa splays	nics 630 ( )® T1000 al digital ( with 3 e)	or P630 or T200 monitor v cternal m	in proce 0, 4GB via HDN onitors	y or essor and GDDR5 me II or Thund plus syste ); 4K@60H	erboĺť m 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 Memory		x / 266	6MHz D	DR4, EC		on-ECC (EC two DDR4				only on	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable  1) One of the following, configurable by model:						
Display	Size Reso	olution		Type S	urface	Brightness	Aspect Ratio	Contrast Ratio	Gamut	Viewing Angle	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec /						
	15.6" FHD		, ,	WVA Ar	ti-glare	300 nits	16:9	700:1	72% NTSC	170°	Audio Support	stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array far-field microphone, headphone / microphone combo jacl						
		y visioni	חטוו	WVA Ar	ti-glare	500 nits	16:9	1200:1	72% NTSC	170°		Dolby Atmos® sound system						
	15.6 Dolby Vision™ HDR										Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad						
	15.6" Dolby	(3840x y Vision -touch	2160) HDR,	OLED re	Anti- flection Anti- nudge	SDR 400nit, HDR 500nit (peak)	16:9	100000:1	100% DCI-P3	170°		Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology						
Multi-touch (opt) Pen (optional)	Capacitive AR (anti-re Lenovo Pe	eflection	on) / AS (	anti-sm	idge) co	-finger gest pating	ure (U	HD OLEI	D only),		Color calibration NFC	r Touch style match on chip fingerprint reader on the keyboard bezel  Optional: X-Rite Pantone factory color calibration (UHD model only)  None						
Storage RAID (optional) Optical		<i>1.2 SSD</i> /	D, supports PCIe NV	s single si	ded M.2	2280 drives	only				Battery Max battery life AC adapter	Integrated Li- Polymer 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  **MobileMark** 2014: 13.8 hr  **Battery life varies significantly with hardware configurations, settings, usage, & other factors 135W slim tip AC adapter						
Ethernet						( <i>Non-vPro</i> ) et Extensio			Pro))		Operating system	One of the following, configurable by model:  Windows® 10 Home 64						
	Intel Wi-Fi Bluetooth					+ Bluetooth i + Bluetoo		ıbo adap	ter		1	<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  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						
Note: The specifica				20.11.2							Environment	EPEAT™ Gold; ENERGY STAR® 8.0; RoHS-compliant						













## ThinkPad P1 Gen 3 Platform Specifications

	Supp	orts one 10th	Xeor	n W, Core	i9, i7, o	i5 process	or as fo	ollowing:			Case color	Woven Carbon Fiber Finish (standard on OLED models, optional on UHD WVA
	_		# of	# of	Base	Max Turbo		Memory	Pro	ocessor	Case color	models) or black
	Proce	ssor Number	Cores			Frequency		Types	Gr	raphics	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		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	DDR4-293		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
1 10003301									_	el UHD	Optional Ports	One optional Nano-SIM card slot on right
	Core	i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293		aphics	Optional Forts	Up to 4 displays with 3 external monitors plus system LCD screen. External
									lote	el UHD		monitors supported via 2x Thunderbolt and 1x HDMI.
	Core	i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293		aphics	Monitor support	HDMI supports up to 4K@60Hz.
	_		_						Inte	el UHD		Two Thunderbolt support up to 5K@60Hz each
	Core	i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293		aphics	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
Chipset	Intel \	WM490 Chips	set								Bundled Accy	None
- P		IMM. DDR4-		for non-E	CC, DDF	R4-2933 for	ECC.				Camara	Supports one optional camera as following:
Memory Type		ECC and nor									Camera	HD720p camera with ThinkShutter camera privacy, fixed focus     Hybrid IR camera with ThinkShutter camera privacy, fixed focus
		16GB/32GB	availa	ble for bo	th ECC	ind non-E0	C				Audio chip	Realtek ALC3286 codec
Memory Sockets		/IM sockets									Speaker	Stereo speakers, Dolby ATMOS Speaker System
Memory Protection			ith EC	C DIMM	and Xe	on process	or				Microphone	Optional dual far-field microphone
Max Memory	64GE	•									1	6-row, spill-resistant, LED backlight, multimedia Fn keys with Unified Communi-
	Intel UHD Graphics in processor, also supports one of the following optional discrete graphics:										Keyboard	cations controls.
Graphics			T4000		. O D:	40D 0	>DDC				UltraNav	3-button TrackPoint pointing device and 2-button glass surface multi-touch
	• NVI	DIA Quadro <sup>-</sup> DIA Quadro <sup>-</sup>	T2000	) with Ma	-Q Desi	jii, 4GB G nn 4GB G	DDR6 n	nemory			Password	touchpad Power-on password, hard disk password, supervisor password
									Color	Viewing	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	Size	Resolution	1	Гуре   Sur	ace Tou	ch Brightnes	s Ratio	t Contrast Ratio	Gamut	Angle	System mgmt	Optional Intel vPro Technology supported on vPro enable models
											Security locks	Security keyhole for optional Kensington lock
	15.6"	FHD (1920x10	80) V	VVA Anti-	glare -	300 nits	16:9	700:1	72%	170°	Smart card reader	
		•	´						NTSC			Touch style match on chip fingerprint reader on the palm rest
Disales	45.01	FHD (1920x10	80) ,	A () (A ) ()		500 'I	40.0	000.4	72%	4700		Integrated Li-Polymer 80Wh battery. Supports Rapid Charge (charge up to 80%
Display		DOIDY VISION H	חח	VVA Anti-	giare -	500 nits	16:9	800:1	72% NTSC	170°	Battery	in 1hr) with 135W AC adapter
	15.6"	UHD (3840x21	60)	VVA Anti-	nlare -	600 nits	16:9		100%	178°		MobileMark 2014: 15.9 hr.
		Dolby Vision H	DH .				10.0	1.00	Adobe		Max battery life	MobileMark 2018: 12 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
		UHD (3840x21	60)	Ar	ti- ction mul	400 nits			100%			One of the following:
	15.6"	Dolby Vision, F 500 True Black	HDR C	/LED  / A	nti- tou	540 nits (peak)	16:9	100000:1	DCI- P3	170°	Power Adapter	• 135W slim AC adapter
		500 True Diack	,	smu	dge	(peak)			гэ		· ·	• 170W slim AC adapter
Color Calibration		ry Color Cali										Supports one optional preloaded operating system as following:
Touchscreen		n enable on s			LED mo	dels, supp	orts 10-	finger gest	ture			Windows 10 Home 64 Windows 10 Pro 64
Pen	- 1	nal Lenovo F									Operating system	
Storage	Up to	two M.2 228	0 SSI	D, PCIe N	VMe, 25	6GB / 512	3B / 1T	B / 2TB ea	ıch		-   -   -   -   -   -   -   -   -   -	Windows 10 Government Edition 64
RAID	RAID	0 / 1 suppor	t									Ubuntu Linux LTS
Optical	None											• Fedora Linux
Ethernet		nal Lenovo L	JSB-C	to Ether	net Adap	ter					]	Optional warranty plans as following:
NFC	None										]	Non-warranty (special bids only)     1-year depot repair service
WLAN + Bluetooth		Ni-Fi 6 AX20										3-year depot repair service
	Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or abound one of the following, configurable by model:										Base Warranty	• 1-year + 2-year depot repair service
WWAN	• No V	WWAN card	iy, col and n	nigurable on unare	lahle	JI.						1-year limited onsite service
VVVVAIV	• Inte	grated Mobile	Broa	adband 4	3 LTE-A.	Fibocom I	860-GL	MIMO 2>	x2. M.:	2 card		• 3-year limited onsite service
SIM card	<ul> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.3.</li> <li>Optional Nano-SIM card slot</li> <li>Width: 361.8 mm (14.34 in) Ponth 345.7 mm (0.67 in)</li> </ul>										]	1-year + 2-year limited onsite service     1-year depot with 2-year system board repair service
	Width: 361.8 mm (14.24 in). Depth: 245.7 mm (9.67 in).										Mil-Spec test	MIL-STD-810G military testing
Dimensions	Thickness for touch models: 18.4 mm (0.72 in) Thickness for touch models: 18.7 mm (0.74 in)										Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
Weight		ness for touc ng at 1.7 kg (					3 07 lh	OI ED tour	ch)		ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
vveigni	Starti	ng at 1.7 kg	0.73	וט, רחט ו	on-touci	<i>) /</i> 1.0 kg (	J. 37 ID,	OFED 100	UII)		]	







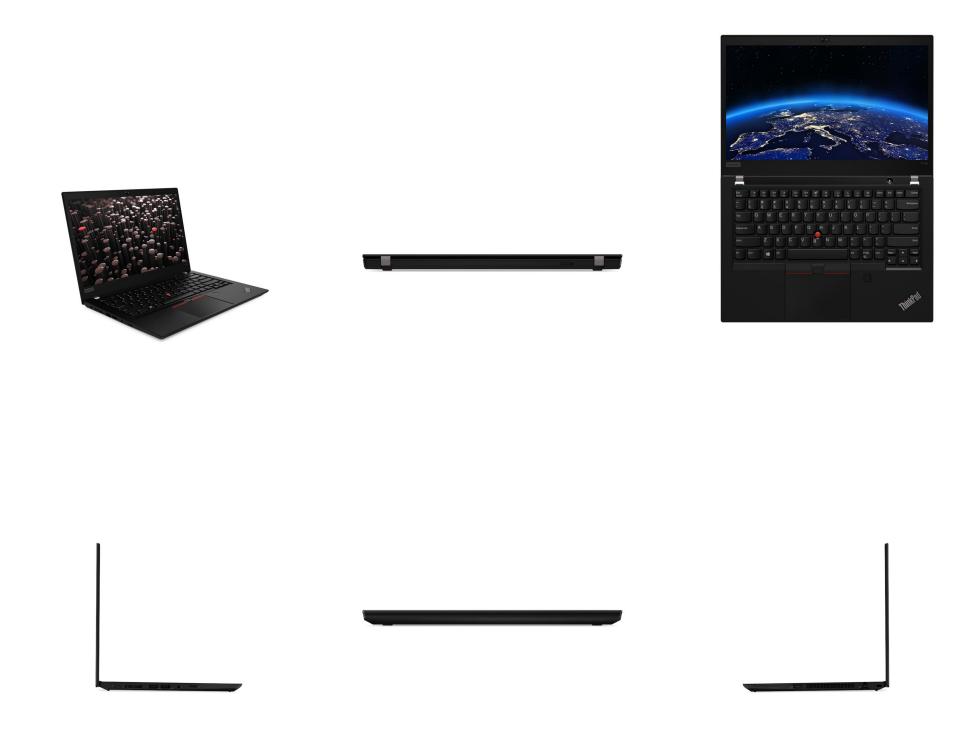






## ThinkPad P14s Gen 1 (AMD) Platform Specifications

	-					1						Media reader	MicroSD card reader
	Proce		-	# of	Base		x Turbo C	ache	Memory		cessor		On left: 2x USB-C (USB 3.2 Gen 2, PD, DP), 1x side docking connector,
Processor	Numb		Cores Th	nread	s Frequen	cy Fre	equency		Types		aphics		1x USB-A 3.2 Gen 1, 1x HDMI 2.0, 1x headphone / microphone combo jack, 1x
		n 7 PRO	8	16	1.7GH	2 4		B L2 /	DR4-3200		Radeon	Standard Ports	microSD card reader
	4750						81	∕IB L3 L		Gra	aphics		On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On)
Chipset	Integ	rated SoC	(Syster	m on	Chip) pla	tform							One optional smart card reader on right, one optional Nano-SIM card slot on
		4-3200.			. , .							Optional Ports	rear
Memory Type	8GB/	16GB/320	GB DDR	4-32	00 SO-DI	MM n	on-ECC fo	r DIMN	I socket,				Up to 4 displays with 3 external monitors plus system LCD screen. External
, ,,	8GB/	16GB DD	R4-3200	0 nor	n-ECC for	solde	red DIMM.					Monitor support	monitors supported via two USB-C and HDMI. 5120x2880@60Hz on USB-C.
Memory Sockets	1 DIN	/IM socket	t plus 1 s	solde	red DIMN	1, dua	l-channel d	capable	)			Wioriitor Support	3840x2160@60Hz on HDMI
Memory Protection	None	)	•									Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters, up to two
Max Memory	48GE	3 with one	32GB S	SO-D	IMM plus	one 1	6GB solde	ered DII	MM			Bundled Accv	None
,							2GB dedic			norv. a	llocated		Supports one optional camera as following:
Graphics		system m		р		ap to	_0,_ 0,0	,		, a		Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
								Acnost	Contrast	Color	Viowina	Joannoia	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	Size	Resolution	1	Type	Surface	Touch	Brightness	Ratio		Gamut		Audio chip	Realtek ALC3287 codec
								7 101.10	110110	Garriat	7 m i g i o		Stereo speakers, 2W x 2, Dolby Audio Speaker System
	140	EUD (4000	1000)	IDO	A 4:		050 - 14-	10.0	700.4	450/	1700		Optional dual array near-field microphone
	14.0	FHD (1920	)X 1080)	IP5	Anti-glare	-	250 nits	16:9	700:1	45%	170°		6-row, spill-resistant, multimedia Fn keys with Unified Communications controls.
													Optional LED backlight
Display	14.0"	FHD (1920	0x1080)	IPS	Anti-glare	multi-	300 nits	16:9	700:1	45%	170°		TrackPoint pointing device and Mylar surface multi-touch touchpad
	touch											Password	Power-on password, hard disk password, supervisor password
	14.0"	FHD (1920 Low Power	)x1080)	<b>IPS</b>	Anti-glare	-	400 nits	16:9	800:1	72%	170°	Security chip	Discrete TPM 2.0, TCG Certified
													AMD Pro Manageability
	14 0"	FHD (1920 ThinkPad I	DX1080)   Privacy	IPS	Anti-glare	multi-	500 nits	16:9	1000:1	72%	170°	, ,	Security keyhole for optional Kensington lock
		Guard	iiivacy	11 0	Anti giare	touch	300 11113	10.5	1000.1	12/0	'''	Smart card reader	
Color Calibration	None	1										Fingerprint reader	
Touchscreen			II touch	on se	alacted FF	ID mo	dels, supr	orte 10	)-finger a	actura		i ingerprint reader	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80%)
Pen	None		ii toucii i	011 30	JICCICA I I	ווו טוו	acis, supp	70113 10	iniger g	Coluic		Battery	in 1hr) with 65W AC adapter
ren		one M.2	CCD 00	follo	wing 1TD	mov							MobileMark 2014: 13.25 hr.
Storage							B / 512GE	2 / 1TD				Max battery life	MobileMark 2014: 13.23 fil.  MobileMark 2018: 10.5 hr.
Otorage							B, for spe		e				* Battery life varies significantly with hardware configurations, settings, usage, & other factors
0	None		IC INVIVIO	٥, ١ ٠	71C O.O XZ,	1200	ib, ioi spc	ciai bia				-	<ul> <li>45W USB-C AC adapter</li> </ul>
Optical			11EDV	0:	la i a Esta a sua							Power Adapter	65W USB-C AC adapter
Ethernet NFC		tek RTL81	HEPV	Giga	Dit Etnerr	et cor	inection						65W USB-C slim AC adapte
NEC	None		A/: F: C A	VOO	) M: F: O	.0.00	2.11ax + B		1			-	Supports one optional preloaded operating system as following:
WLAN + Bluetooth	Optio	nai intei v	VI-FI 6 A	1X2U	J, WI-FI 2	x2 802	Windows	10 (vor	15.1. sion 2007	1 or ob	01(0)	Operating system	• Windows 10 Home 64
	One	of the follo	equires	onfia	urabla by	modo	VVIIIUOWS	io (veis	51011 2004	+ 01 ab	ove)	╢ '	Windows 10 Pro 64     Ubuntu Linux LTS
	• No	WWAN ca	ard and r	oning onn i	ınable by ınaradahlı	11100C	١.						Optional warranty plans as following:
WWAN							, No WWA	N Card	WWAN	Anten	na Only		• 1-year depot repair service
	• Inte	grated Mo	obile Bro	adba	and 4G LT	E-A. I	ibocom L	850-GL	. M.2 car	rd	iia Oiliy		• 3-year depot repair service
SIM card	Optio	nal Nano	-SIM car	rd slo	ot				,			1	• 1-year + 2-year depot repair service
Dimensions	Width	n: 329 mm	1 (12.95	in). E	epth: 227	mm	(8.94 in).					Base Warranty	1-year limited onsite service
		ness: 17.			ches)		,						3-year limited onsite service
Weight	Starting at 3.22 lb (1.46kg)												• 1-year + 2-year limited onsite service
Case color	Black												1-year depot with 2-year system board repair service
Case material	Display cover: PPS / 50% GF; Bottom: PA / 50% GF												MIL-STD-810G military testing
	Botto	om:	PA / 50	% G	Ε								EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
												ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>



## ThinkPad P14s Gen 1 (Intel) Platform Specifications

	Supp	orts o	one 10	th Co	re i7	and i5 -U	suffix	proc	essor	as follo	wing:	:		
	Proce		# of Cores	# o Threa		Base	Max Tu Fregue		Cache	Memo Type			Process	
	-	810U	6	12		1.1GHz	4.9Gl	псу		DDR4-2		ntel		
_	i7-10		6	12		1.1GHz	4.7GI			DDR4-	_			
Processor		610U	4	8		1.8GHz	4.9GI		8MB	DDR4-	_			raphics
			4	8		1.8GHz	4.9GI		8MB	DDR4-	_			
		510U	-	_							_			iraphics
		310U	4	8		1.7GHz	4.4GI		6MB	DDR4-	_			iraphics
		210U	4	8		1.6GHz	4.2GI	Hz	6MB	DDR4-	2666	Intel	UHD G	iraphics
Chipset						platform								
Memory Type	8GB/	16GE	3/32ĠE	DDF	34-32	DR4-2666 200 SO-D n-ECC for	IMM n			r DIMN	1 sock	et,		
Memory Sockets						ered DIMI				capable	)			
Memory Protection	None	)				_				•				
Max Memory						IMM plus								
Graphics	Intel	UHD	Graph	ics in	proc	essor and	INVID	IA C	uadro					
	Size Resolution Type Surface Touch Brightness Aspect Contrast Ratio Gamut Angle  14.0" FHD (1920v1090) WWA Anti-glars 250 pits 16:0 700:1 45% 170°													
	14.0" FHD (1920x1080) WVA Anti-glare - 250 nits 16:9 700:1 45% 170°													
Diaploy		14.0" FHD (1920x1080) WVA Anti-glare multi-touch 300 nits 16:9 700:1 45% 170°												
Display	14.0"	14.0" FHD (1920x1080) WVA Anti-glare - 400 nits 16:9 800:1 72% 170°												
	ThinkPad Privacy   WVA   Anti-glare   multi-touch   500 nits   16:9   1000:1   72%   170°													
	14.0"		(3840x2 Vision, 400		WVA	Glossy	-	50	0 nits	16:9	1500	):1	100% Adobe	170°
Color Calibration						n UHD pa								
Touchscreen			n-cell t	ouch	on s	elected F	HD mc	dels	s, supp	orts 10	)-finge	er g	esture	
Pen	None		MAGG		falla	wing, 2TE	2 max							
Storage	• M.2 • M.2	2280	PCle PCle	NVM NVM	e, PO e, PO	Cle 3.0 x4 Cle 3.0 x2 Cle 3.0 x2 Cle GB Op	, 256G , 128G	BB/SB, fo	or spe	cial bid	S		ecial bi	ds
Optical	None	)												
Ethernet			ard Gb or non-			integrated els	d gigat	oit et	herne	t, Intel	219LI	M fo	r vPro	models
NFC	Optio													
WLAN + Bluetooth						1 on most atest vers								
WWAN	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 Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card													
SIM card	Optio	nal N	lano-S	IM ca	rd slo	ot					,		,	
Dimensions			mm ( <sup>*</sup> : 17.9 r			Depth: 22' ches)	7 mm (	(8.94	1 in).					

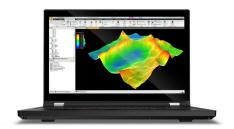
Weight	Starting at 3.24 lb (1.47kg)
Case color	Black
Case material	Display cover: PPS / 50% GF; Bottom: PA / 50% GF
Media reader	MicroSD card reader
Standard Ports	On left: 1x USB-C (USB 3.2 Gen 1, PD, DP), 1x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP), 1x side docking connector, 1x USB-A 3.2 Gen 1, 1x HDMI 1.4b, 1x headphone / microphone combo jack, 1x microSD card reader On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On)
Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on rear
Monitor support	Up to 3 displays with 2 external monitors plus system LCD screen. External monitors supported via USB-C, Thunderbolt, and HDMI. 4096x2304@60Hz on USB-C and Thunderbolt, 4096x2160 @24Hz on HDMI
Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters, up to two
Bundled Accy	None
Camera	Supports one optional camera as following:  • HD720p camera with ThinkShutter camera privacy, fixed focus  • IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Audio chip	Realtek ALC3287 codec
Speaker	Stereo speakers, 2W x 2, Dolby Audio Speaker System
Microphone	Optional dual array near-field microphone
Keyboard	6-row, spill-resistant, multimedia Fn keys with Unified Communications controls. LED backlight on most models, non LED backlight is for special bids
UltraNav	TrackPoint pointing device and Mylar surface multi-touch touchpad
Password	Power-on password, hard disk password, supervisor password
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
Security locks	Security keyhole for optional Kensington lock
Smart card reader	Optional
Fingerprint reader	Optional
Battery	Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Max battery life	MobileMark 2014: 15.1 hr. MobileMark 2018: 10.96 hr.
Power Adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
- Javel Adaptel	65W or 65W slim USB-C AC adapter Supports one optional preloaded operating system as following:
-11	
Operating system	Windows 10 Pro 64     Windows 10 Government Edition 64 for special bids     Ubuntu Linux LTS
Operating system  Base Warranty	Windows 10 Home 64     Windows 10 Pro 64     Windows 10 Government Edition 64 for special bids
	Windows 10 Home 64 Windows 10 Pro 64 Windows 10 Government Edition 64 for special bids Ubuntu Linux LTS Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year - 2-year depot repair service  3-year limited onsite service  1-year - 2-year limited onsite service  1-year + 2-year limited onsite service
Base Warranty	Windows 10 Home 64 Windows 10 Pro 64 Windows 10 Government Edition 64 for special bids Ubuntu Linux LTS Optional warranty plans as following:  1-year depot repair service 3-year depot repair service 1-year - 2-year depot repair service 3-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 depot with 2-year system board repair service
Base Warranty  Mil-Spec test	Windows 10 Home 64 Windows 10 Pro 64 Windows 10 Government Edition 64 for special bids Ubuntu Linux LTS Optional warranty plans as following:  1-year depot repair service 3-year depot repair service 1-year limited onsite service 3-year limited onsite service 1-year + 2-year depot repair service 1-year limited onsite service 1-year Home Service 1-year + 2-year limited onsite service 1-year depot with 2-year system board repair service MIL-STD-810G military testing













## ThinkPad P15 Gen 1 Platform Specifications

	Supp	orts one 10th	1 Xeor	ı W, Co	ore i9, i	7, or i	5 process	or as fo	ollowing:			S			
	Proce	essor Number	# of Cores	# of	f Ba	ase uencv	Max Turbo Frequency	Cache	Memory Types		ocessor raphics	D			
	Xeor	n W-10885M	8	16		GHz		16MB	DDR4-29	33 Int	el UHD aphics	W			
	Xeor	n W-10855M	6	12	2.80	GHz	5.1GHz	12MB	DDR4-29		el UHD aphics	C			
	Core	i9-10980HK	8	16	2.40	GHz	5.3GHz	16MB	DDR4-29		el UHD aphics	N			
Processor	Core	i9-10885H	8	16	2.40	GHz	5.3GHz	16MB	DDR4-29	Gr Gr	el UHD aphics	s			
	Core	i7-10875H	8	16	2.30	GHz	5.1GHz	16MB	DDR4-29	Gr	el UHD aphics	С			
	Core	i7-10850H	6	12	2.70	GHz	5.1GHz	12MB	DDR4-29	Gr Gr	el UHD aphics				
	Core	i7-10750H	6	12	2.60	GHz	5.0GHz	12MB	DDR4-29	Gr	el UHD aphics	N			
Chinast		i5-10400H	4	8	2.60	GHz	4.6GHz	8MB	DDR4-29		el UHD aphics	M			
Chipset		WM490 Chip					1 0000 for	FCC (	)narataa a	+ DDE	14 0000	В			
Memory Type	8GB/	SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. Operates at DDR4-2933. BGB/16GB/32GB available for both ECC and non-ECC 4 DIMM sockets													
Memory Sockets		ECC on models with ECC DIMMs and Xeon processor													
Memory Protection	_	128GB													
Max Memory		120GB													
Graphics	• NV	NVIDIA Quadro T1000, 4GB GDDR6 memory     NVIDIA Quadro T2000, 4GB GDDR6 memory													
Стартноз	• NV	NVIDIA Quadro RTX 3000, 6GB GDDR6 memory  NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory													
	NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory														
	Size	Resolution	1	ype S	Surface	Touch	Brightness	Ratio		Color Gamut	Viewing Angle	S			
	15.6"	FHD (1920x10	(080) V	VVA A	nti-glare	-	300 nits	16:9	700:1	72% NTSC	160°	S			
Dioploy	15.6"	FHD (1920x10 Dolby Vision, HDR 400	)80) V	VVA A	nti-glare	-	500 nits	16:9	1200:1	72% NTSC	160°	<u>.</u> В			
Display	15.6"	UHD (3840x21 Dolby Vision, HDR 400		VVA A	nti-glare	-	600 nits	16:9	1400:1	100% Adobe	178°	М			
		UHD (3840x21 Dolby Vision, HDR 400	0	s	Anti- eflection / Anti- smudge	multi- touch		16:9	100000:1	100% DCI- P3	170°	P			
Color Calibration		ory Color Cali										Ю			
Touchscreen		h enable on s			OLED	) mod	els, suppo	rts 10-	tinger ges	ture		1			
Pen		nal Lenovo F										1			
Storage	Up to	two M.2 228	O SSI	D, PCI	e NVMe	, 256	GB / 5120	iB / 1T	B / 2TB ea	ach					
RAID		0 / 1 suppor	t												
Optical	None														
Ethernet		onboard GbE 19V for non-v			egrated	gigat	oit etherne	t, Intel	i219LM fo	r vPro	models	В			
NFC	None	9													
WLAN + Bluetooth															
WWAN	One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Note: WWAN cannot be supported on UHD WVA models														

_		
	SIM card	Optional Nano-SIM card slot
-		Width: 375.4 mm (14.78 in). Depth: 252.3 mm (9.93 in).
	Dimensions	Thickness for non-touch models: 24.5 ~ 31.45 mm (0.96 ~ 1.24 in)
5	VA/a : a-la-t	Thickness for touch models: 25.25 ~ 32.2mm (0.99 ~ 1.27 in)
;	Weight	Starting at 2.74 kg (6.05 lb, FHD)
5	Case color	Black Display cover: GFRP 50% (PPS695 + GF 50%).
;	Case material	Bottom: PPS + GF
5	Media reader	SD card reader
; ∥	IVIOUIU TOUUGI	1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt
5	Ctandard Darta	3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI
;	Standard Ports	2.0, 1x headphone / microphone combo jack, 1x SD card reader,
5		1x security keyhole, 1x RJ-45
	Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on
5		left Line to E displays with 4 outstand manitars plus avetem LCD carean. External
;		Up to 5 displays with 4 external monitors plus system LCD screen. External
5	Monitor support	monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. USB-C and HDMI support up to 4K@60Hz.
	Worldon Support	With Thunderbolt, one supports up to 5K@60Hz and one supports up to
5		4K@60Hz
	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
4	Bundled Accy	None
3.		Supports one optional camera as following:
٥.	Camera	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
$\dashv$		Hybrid IR camera with ThinkShutter camera privacy, fixed focus
$\dashv$		Realtek ALC3286 codec
$\dashv$	Speaker	Stereo speakers, Dolby Atmos sound system
$\dashv$	Microphone	Optional dual array far-field microphone
	Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with
	*	Unified Communications controls.
	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
	Password	touchpad  Power on password, hard disk password, supervisor password
		Power-on password, hard disk password, supervisor password
g	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
	Security locks	Security keyhole for optional Kensington lock
-	Smart card reader	
┪	Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest
	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter
7	May bottom, life	MobileMark 2014: 16.4 hr.
- [	Max battery life	MobileMark 2018: 10.3 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
$\dashv$		One of the following:
- [	Power Adapter	• 230W slim AC adapter
- [		170W slim AC adapter
- [		Supports one optional preloaded operating system as following:
4		• Windows 10 Home 64
_	Operating system	• Windows 10 Pro 64
		Windows 10 Pro 64 for Workstations     Ubuntu Linux LTS
		Obuntu Linux Li S     Fedora Linux
		Optional warranty plans as following:
$\exists$		1-year depot repair service
$\dashv$		• 3-year depot repair service
s	D \\\\	• 1-vear + 2-vear depot repair service
-		1-year limited onsite service
$\dashv$		3-year limited onsite service
$\dashv$		1-year + 2-year limited onsite service
	Mil Coop toot	1-year depot with 2-year system board repair service
$\exists$		MIL-STD-810G military testing
		EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
y	ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>
- 1		



## ThinkPad P15s Gen 1 Platform Specifications

	Suppo	orts o	one 10	th Co	re i7	and i5 -U	suffix	proc	essor	as follo	owing:	:		
	Proces		# of Cores	# c		Base requency	Max Tu Freque		Cache	Mem Type	- /		Proces Graphi	
	i7-108	310U	6	12	2	1.1GHz	4.9G	Hz	12MB	DDR4-	2666 I	ntel	UHD G	raphics
Processor	i7-107	10U	6	12	2	1.1GHz	4.7G	Hz	12MB	DDR4-	2666 I	ntel	UHD G	iraphics
1 10003301	i7-106	10U	4	8		1.8GHz	4.9G	Hz	8MB	DDR4-	2666 I	Inte	I UHD G	araphics
	i7-105	10U	4	8		1.8GHz	4.9G	Hz	8MB	DDR4-	2666 I	Inte	I UHD G	araphics
	i5-103	10U	4	8		1.7GHz	4.4G	Hz	6MB	DDR4-	2666 I	Inte	I UHD G	araphics
	i5-102	10U	4	8		1.6GHz	4.2G	Hz	6MB	DDR4-	2666 I	Inte	I UHD G	araphics
Chipset	Intel S	SoC (	Syster	n on	Chip	) platform								
Memory Type	8GB/1	6GE	3/32ĠE	DDF	34-32	DR4-2666 200 SO-D n-ECC fo	IMM n			r DIMN	/I sock	ets	,	
Memory Sockets	1 DIM					ered DIMI				capable	9			
Memory Protection														
Max Memory						DIMM plus								
Graphics	Intel L	JHD	Graph	ics in	proc	essor and	DIVN E	IA C	uadro			GD	DR5 m	nemory
	Size F	Resol	ution		Туре	Surface	Touch	Brigh	ntness	Aspect Ratio	Contra Ratio		Color Gamut	Viewing Angle
Display	15.6" F	FHD (	(1920x1	080)	WVA	Anti-glare	-	250	) nits	16:9	800:	1	45%	170°
2.66.00	15.6" FHD (1920x1080) WVA Anti-glare multi-touch 300 nits 16:9 800:1 45% 170°													
	15.6"	JHD Dolby HDR	(3840x2 Vision, 400	2160)	WVA	Anti-glare	-	600	) nits	16:9	1400	:1	100% Adobe	170°
Color Calibration						n UHD m								
Touchscreen	<u> </u>	nal o	n-cell t	ouch	on s	elected F	HD mo	odels	, supp	orts 10	)-finge	er g	esture	
Pen	None													
Storage	• M.2	2280 2242	PCle PCle	NVM NVM	le, Po le, Po	owing, 2TI Cle 3.0 x 4 Cle 3.0 x 2 32 GB Op	4, 2560 2, 1280	GB/ GB, f	or spe	cial bid	ds		ecial bi	ds
Optical	None													
Ethernet			ard Gb or non-			integrate els	d gigal	oit et	herne	t, Intel	i219Ll	M fo	or vPro	models
NFC	Option													
WLAN + Bluetooth						1 on mos								
WWAN	One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card													
SIM card	Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card Optional Nano-SIM card slot													
Dimensions	Width: 365.8 mm (14.4 in). Depth: 248 mm (9.76 in).													
Weight	Thickness: 19.1 mm (0.75 inches) Starting at 3.86 lb (1.75kg)													
Case color	Black													

	Case material	Display cover: PPS / 50% GF; Bottom: PA / 50% GF
Н	Media reader	MicroSD card reader
	Standard Ports	On left: 1x USB-C (USB 3.2 Gen 1, PD, DP), 1x Thunderbolt (USB-C form, 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, 1x microSD card reader On right: 1x security keyhole, 1x RJ-45, 1x USB-A 3.2 Gen 1 (Always On)
	Optional Ports	One optional smart card reader on right, one optional nano-SIM card slot on rear
	Monitor support	Up to 3 displays with 2 external monitors plus system LCD screen. Two external monitors supported via USB-C, Thunderbolt, and HDMI. 4096x2304@60Hz on USB-C and Thunderbolt, 4096x2160@24Hz on HDMI
$\dashv$	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters, up to two
	Bundled Accy	None
	Camera	Supports one optional camera as following:  • HD720p camera with ThinkShutter camera privacy, fixed focus  • IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
$\dashv$	Audio chip	Realtek ALC3287 codec
4	Speaker	Stereo speakers, 2W x 2, Dolby Audio Speaker System
ᅱ	Microphone	Optional dual array near-field microphone
	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
Ш	UltraNav	TrackPoint pointing device and Mylar surface multi-touch touchpad
Ш	Password	Power-on password, hard disk password, supervisor password
$\  \ $	Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
Ш	System mgmt	Optional Intel vPro Technology supported on vPro enable models
11	Security locks	Security keyhole for optional Kensington lock
Ш	Smart card reader	
╽	Fingerprint reader	
	Battery	Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
	Max battery life	MobileMark 2014: 16.5 hr. MobileMark 2018: 10.48 hr. *Battery life varies significantly with hardware configurations, settings, usage, & other factors
	Power Adapter	65W or 65W slim USB-C AC adapter
S		Supports one optional preloaded operating system as following:  • Windows 10 Home 64  • Windows 10 Pro 64  • Windows 10 Government Edition 64 for special bids  • Ubuntu Linux LTS
╝		Optional warranty plans as following:
,	Base Warranty	1-year depot repair service     3-year depot repair service     1-year + 2-year depot repair service     1-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
	Mil-Spec test	MIL-STD-810G military testing
٦	Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
	10 V Certifications	i idade vidit www.tiiiikwofkatatiofia.com/18V-CEI tiiiCatiofia/













## ThinkPad P15v Gen 1 Platform Specifications

	Supports one 10th	n Xeon	W, Core	i7, or i5 p	rocessor a	as follo	wing:			Case color	Black
		# of	# of	Base	Max Turbo		Memory	Pro	ocessor	Case material	Display cover: PC / ABS
	Processor Number	Cores			Frequency	Cache	Types		raphics	Case material	Bottom: PC / ABS
				, ,	1 7			Inte	el UHD	Media reader	SD card reader
	Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293	Gr Gr	aphics el UHD	Standard Ports	1x 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-
Processor	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293		aphics	Optional Ports	phone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45 One optional smart card reader on left, one optional Nano-SIM card slot on rear
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-290		el UHD aphics	Manitar aumnart	Up to 3 displays with 2 external monitors plus system LCD screen. External monitors supported via Thunderbolt and HDMI.
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-290		el UHD aphics	Monitor support	HDMI supports up to 4K@60Hz. Thunderbolt supports up to 5K@60Hz
	Core i5-10300H	4	8	2.5GHz	4.5GHz	8MB	DDR4-293		el UHD aphics	Monitor cable Bundled Accy	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters None
Chipset	Intel WM490 Chip	set									Supports one optional camera as following:
Memory Type	SO-DIMM. DDR4- 8GB/16GB/32GB	3200 r	non-ECC	or DDR4 th ECC a	2933 ECC	C. Oper	ates at DD	R4-29	933.	Camera	HD720p camera with ThinkShutter camera privacy, fixed focus     Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Memory Sockets	2 DIMM sockets									Audio chip	Realtek ALC3287 codec
Memory Protection		ith FC	C DIMMs	and Xeo	n processo	or				Speaker	Stereo speakers with Dolby Audio support
Max Memory	64GB	0	<u> </u>	, and , 100	р. ссссс					Microphone	Optional dual array near-field microphone
Graphics	Intel UHD Graphic GDDR5 memory	s in pr	ocessor,	also supp	orts option	nal NVI	IDIA Quad	ro P62	20, 4GB	Keyboard	6-row, spill-resistant, numeric keypad, multimedia Fn keys with Unified Communications controls, optional LED backlight
						Aanaa	t Contrast	Color	Viouina	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
	Size Resolution	T	pe Surf	ace Touch	Brightness	Ratio	Ratio	Gamut		Password	touchpad Power-on password, hard disk password, supervisor password
						1 101110	1.0.00			Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	15.6" FHD (1920x10	080)   W	/VA Anti-o	glare -	250 nits	16:9	700:1	45% NTSC	170°		Optional Intel vPro Technology supported on vPro enable models
Display		_				-				System mgmt	1 07 11
,	15.6" FHD (1920x10	080)   W	/VA Anti-o	glare multi-		16:9	800:1	45% NTSC	170°	Security locks	Security keyhole for optional Kensington lock
	UHD (3840x2	160)		todoi	<u>'                                     </u>	+				Smart card reader	r Optional
	15.6" Dolby Vision,		/VA Anti-o	glare -	600 nits	16:9	1400:1	100% Adobe	178°	l .	Touch style match on chip fingerprint reader on the palm rest Integrated Li-Polymer 68Wh battery. Supports Rapid Charge (charge up to 80%)
Oalan Oalibnatian	HDR 400 Factory Color Cal	brotion	on HUD	) papala						Battery	in 1hr) with 135W AC adapter
Color Calibration	Touch enable on s				anarta 10	inaar a					MobileMark 2014: 10 hr.
Touchscreen		seiecte	מ רחט ווו	odels, su	oports 10-	inger g	jesture			Max battery life	MobileMark 2018: 7.2 hr
Pen	None		- DOL N	\/\\	OD / 5400	D / 4T	D / OTD			Power Adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors  135W slim AC adapter
Storage	Up to two M.2 228		, PCIe N	VMe, 256	GB / 5120	iB / 11	B / 21B ea	cn		I Owel Adapter	Supports one optional preloaded operating system as following:
RAID	RAID 0 / 1 suppor	t								]	• Windows 10 Home 64
Optical	None									Operating system	
Ethernet	One onboard GbE or i219V for non-v			ated gigal	oit etherne	t, Intel i	i219LM for	vPro	models		Windows 10 Pro 64 for Workstations     Ubuntu Linux LTS
NFC	None										Optional warranty plans as following:
WLAN + Bluetooth	Optional Intel Wi-F Bluetooth 5.1 requ										1-year depot repair service     3-year depot repair service
WWAN	One of the following  No WWAN card  Integrated Mobil  Integrated Mobil	ng, cor and no e Broa	ifigurable in upgrad dband Ut	by mode lable ogradable	: . No WWA	N Card	i. WWAN A	Antenr	na Only	Base Warranty	<ul> <li>1-year + 2-year depot repair service</li> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> </ul>
SIM card	Optional Nano-SI			л ∟I ⊏-A, I	IDOCOIII L	00U-GL	_, IVIIIVIO 22	<∠, IVI	∠ card	-	1-year 4 2-year inflited offsite service     1-year depot with 2-year system board repair service
	Width: 366.5 mm			h· 250 mn	(9.84 in)					Mil-Spec test	MIL-STD-810G military testing
Dimensions	Thickness: 24.2 m			200 IIIII	· (0.04 III).					Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant
Weight	Starting at 2.07 kg									ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
	3 115										

## ThinkPad P15v Gen 1 Platform Specifications

	Supports one 10th	n Xeor	W, Core	i7, or i5 p	rocessor a	as follo	wing:			Case color	Black
		# of	# of	· ·			0	Dre	ocessor		Display cover: PC / ABS
	Processor Number	# OI	# 01	Base	Max Turbo Frequency	Cache	Memory Types		raphics	Case material	Bottom: PC / ABS
		Coles	Tilleaus	requericy	rrequericy		Турез	Inte	el UHD	Media reader	SD card reader
	Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-293		aphics		1x Thunderbolt (USB-C form, Thunderbolt 3, USB 3.2 Gen 2, PD, DP),
										Standard Ports	2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI 2.0, 1x headphone / micro-
Dragonor	Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293		el UHD		phone combo jack, 1x SD card reader, 1x security keyhole, 1x RJ-45
Processor								GI	aphics	Optional Ports	One optional smart card reader on left, one optional Nano-SIM card slot on real
	Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293		el UHD		Up to 3 displays with 2 external monitors plus system LCD screen. External
								Gr	aphics	Monitor support	monitors supported via Thunderbolt and HDMI.
	Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293		el UHD	Wiermon Support	HDMI supports up to 4K@60Hz.
					0.002			Gr	aphics		Thunderbolt supports up to 5K@60Hz
	Core i5-10300H	4	8	2.5GHz	4.5GHz	8MB	DDR4-293		el UHD	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters
	0010 10 1000011			2.00112	+.0GI12	OIVID	DD114 200	<sup>∞</sup>   Gr	aphics	Bundled Accy	None
Chipset	Intel WM490 Chip									0	Supports one optional camera as following:  • HD720p camera with ThinkShutter camera privacy, fixed focus
Memory Type	SO-DIMM. DDR4	-3200 i	non-ECC	or DDR4-	2933 ECC	C. Oper	ates at DD	R4-29	933.	Camera	HD720p camera with I ninkShutter camera privacy, fixed focus     Hybrid IR camera with ThinkShutter camera privacy, fixed focus
iviemory rype	8GB/16GB/32GB	availal	ole for bot	th ECC ar	nd non-EC	C				Audio chip	Realtek ALC3287 codec
Memory Sockets	2 DIMM sockets									Speaker	Stereo speakers with Dolby Audio support
Memory Protection	ECC on models w	ith EC	C DIMMs	and Xeo	n processo	or				Microphone	Optional dual array near-field microphone
Max Memory	64GB									wiicropriorie	6-row, spill-resistant, numeric keypad, multimedia Fn keys with Unified Com-
Graphica	Intel UHD Graphic	s in pi	rocessor p	plus optio	nal NVIDI	A Quad	Iro P620, 4	GB G	DDR5	Keyboard	munications controls, optional LED backlight
Graphics	memory									J	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch
	Oine Decelution			T	Duiadata	Aspec	t Contrast	Color	Viewing	UltraNav	touchpad
	Size Resolution	1	ype Surfa	ace   loucr	Brightness	Ratio	Ratio	Gamut	Angle	Password	Power-on password, hard disk password, supervisor password
								45%		Security chip	Discrete TPM 2.0, TCG Certified, may be disabled in some regions
	15.6" FHD (1920x10	)80)   V	VVA Anti-g	glare -	250 nits	16:9	700:1	NTSC	170°	System mgmt	Optional Intel vPro Technology supported on vPro enable models
Display				multi-				45%		Security locks	Security keyhole for optional Kensington lock
	15.6" FHD (1920x10	080)   V	VVA Anti-g	glare touch	300 nits	16:9	800:1	NTŚC	170°	Smart card reade	, , , ,
	UHD (3840x2	160)						1000/			Touch style match on chip fingerprint reader on the palm rest
	15.6" Dolby Vision,	´   V	VVA Anti-g	glare -	600 nits	16:9	1400:1	100% Adobe	178°		Integrated Li-Polymer 68Wh battery. Supports Rapid Charge (charge up to 80%)
	HDR 400							10000		Battery	in 1hr) with 135W AC adapter
Color Calibration	Factory Color Cal										MobileMark 2014: 10 hr.
Touchscreen	Touch enable on s	selecte	d FHD m	odels, sup	ports 10-	finger g	gesture			Max battery life	MobileMark 2018: 7.2 hr
Pen	None										* Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage	Up to two M.2 228	30 SSE	D, PCIe N'	VMe, 256	GB / 5120	B / 1T	B / 2TB ea	ch		Power Adapter	135W slim AC adapter
RAID	RAID 0 / 1 suppor	1								1	Supports one optional preloaded operating system as following:
Optical	None									On a rating a vatam	• Windows 10 Home 64
	One onboard GbE	nort v	/ia integra	ated ninah	it etherne	t Intel	i219I M for	vPro	models	Operating system	Windows 10 Pro 64  Windows 10 Pro 64 for Workstations
Ethernet	or i219V for non-v	Pro m	odels	atou gigut	at otherno	t, into	IZ TOLIVI IOI	VI 10	modelo		Ubuntu Linux LTS
NFC	None										Optional warranty plans as following:
	Optional Intel Wi-f	Fi 6 A X	201 on m	nost mode	ls Wi-Fi 2	x2 802	11ax + Rlı	ietoot	h 5 1	1	1-year depot repair service
WLAN + Bluetooth	Bluetooth 5.1 regi										3-year depot repair service
	One of the following	na. cor	nfigurable	by model		- ,				Base Warranty	• 1-year + 2-year depot repair service
WWAN	<ul> <li>No WWAN card</li> </ul>	and no	on upgrad	lable						Dase wallally	1-year limited onsite service
	<ul> <li>Integrated Mobil</li> </ul>	e Broa	dband 40	LTE-A, F	ibocom L	850-GL	_, MIMO 2>	(2, M.:	2 card		3-year limited onsite service
SIM card	Optional Nano-SII									_	• 1-year + 2-year limited onsite service
Dimensions	Width: 366.5 mm	(14,43	in). Depth	h: 250 mm	ı (9.84 in).					Mil-Spec test	1-year depot with 2-year system board repair service  MULSTD 810C military testing
	Thickness: 24.2 m										MIL-STD-810G military testing
Weight	Starting at 2.07 kg	j (4.57	ib, UHD)							Environment	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant Please visit www.thinkworkstations.com/isv-certifications/
										ISV certifications	













## ThinkPad P17 Gen 1 Platform Specifications

Processor Number		Supp	orts one 10th	Xeor	W, Cor	e i9, i	7, or i	i5 process	or as fo	ollowing:			D		
Xeon W-10855M   8   16   Z-4GHZ   5.3GHZ   12MB   DDR4-2933   Graphics   Core i9-10980HK   8   16   Z-4GHZ   5.3GHZ   16MB   DDR4-2933   Intel UHD   Graphics   Core i9-10885H   8   16   Z-4GHZ   5.3GHZ   16MB   DDR4-2933   Intel UHD   Graphics   Core i7-10875H   8   16   Z-4GHZ   5.3GHZ   16MB   DDR4-2933   Intel UHD   Graphics   Core i7-10875H   8   16   Z-3GHZ   5.1GHZ   16MB   DDR4-2933   Intel UHD   Graphics   Core i7-10850H   6   12   Z-7GHZ   5.1GHZ   12MB   DDR4-2933   Intel UHD   Graphics   Core i7-10750H   6   12   Z-7GHZ   5.1GHZ   12MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   5.0GHZ   12MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ   8MB   DDR4-2933   Intel UHD   Graphics   Core i5-10400H   4   8   Z-6GHZ   4.6GHZ		Proce	essor Number						Cache				W		
Processor		Xeor	n W-10885M	8	16	2.40	GHz	5.3GHz	16MB	DDR4-29			C		
Core i9-10885H 8 16		Xeor	n W-10855M	6	12	2.80	ЭНz	5.1GHz	12MB	DDR4-29			М		
Core i9-10885H   8   16   2.4GHz   5.3GHz   16MB   DDR4-2933   Graphics		Core	i9-10980HK	8	16	2.40	GHz	5.3GHz	16MB	DDR4-29			St		
Core	Processor	Core	i9-10885H	8	16	2.40	GHz	5.3GHz	16MB	DDR4-29			0		
Core i7-10/509H   6   12   2.6GHz   5.0GHz   12MB   DDR4-2933   Intel UHD   Graphics		Core	i7-10875H	8	16	2.30	GHz	5.1GHz	16MB	DDR4-29			<u> </u>		
Core i5-10400H		Core	i7-10850H	6	12	2.70	ЭНz	5.1GHz	12MB	DDR4-29			М		
Chipset Intel WM490 Chipset  Memory Type SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC operate at DDR4-293. 8GB/16GB/32GB available for both ECC and non-ECC o		Core	i7-10750H	6	12	2.60	GHz	5.0GHz	12MB	DDR4-29	3.3		M		
Memory Type  SO-DIMM. DDR4-3200 for non-ECC, DDR4-2933 for ECC. ECC and non-ECC operate at DDR4-2933. 8GB/16GB/32GB available for both ECC and non-ECC  Memory Sockets  Memory Protection  ECC on models with ECC DIMMs and Xeon processor  Max Memory  128GB  Support one of the following discrete graphics:  NVIDIA Quadro T1000, 4GB GDDR6 memory  NVIDIA Quadro T2000, 4GB GDDR6 memory  NVIDIA Quadro RTX 3000, 6GB GDDR6 memory  NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory  NTSC TOOL Tallbration Type Surface Touch Brightness Ratio Gamut Angle  None  None  None  None  None  Touch Brightness Ratio Gamut Ratio Gamut Angle  None  N		Core	i5-10400H	4	8	2.60	ЭНz	4.6GHz	8MB	DDR4-29			Bı Ca		
Memory Sockets   A DIMM sockets	Chipset	Intel	WM490 Chips	set									Αι		
Memory Protection   ECC on models with ECC DIMMs and Xeon processor	Memory Type	SO-E	DIMM. DDR4- ate at DDR4-2	3200 1 2933.	for non- 8GB/16	ECC, I GB/32	DDR4 GB a	4-2933 for vailable fo	ECC. I r both	ECC and r	non-E( non-E	CC CC	Sr M		
Max Memory   128GB   Support one of the following discrete graphics:													Ke		
Support one of the following discrete graphics:  NVIDIA Quadro T1000, 4GB GDDR6 memory NVIDIA Quadro T2000, 4GB GDDR6 memory NVIDIA Quadro T2000, 4GB GDDR6 memory NVIDIA Quadro RTX 3000, 6GB GDDR6 memory NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory    Size				ith EC	C DIM	ls and	Xeo	n processo	or						
e NVIDIA Quadro T1000, 4GB GDDR6 memory • NVIDIA Quadro T2000, 4GB GDDR6 memory • NVIDIA Quadro RTX 3000, 6GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 5000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory • NVIDIA Quadro RTX 4000 with Max-Q Design, 16GB GDDR6 memory •	Max Memory												.∥UI		
Display    17.3"   FHD (1920x1080)   WVA   Anti-glare   -   300 nits   16:9   700:1   72%   NTSC   160°	Graphics	• NVI • NVI • NVI	NVIDIA Quadro T1000, 4ĞB GDDR6 memory     NVIDIA Quadro T2000, 4GB GDDR6 memory     NVIDIA Quadro RTX 3000, 6GB GDDR6 memory     NVIDIA Quadro RTX 4000 with Max-Q Design, 8GB GDDR6 memory     Section 100, 100, 100, 100, 100, 100, 100, 100												
Display    17.3   Color Calibration   WVA   Anti-glare   -   500 nits   16:9   1500:1   100%   Adobe   178°		Size	Resolution	Т	ype Su	ırface	Touch	Brightness					Fi		
17.3"   Dolby Vision,   WVA   Anti-glare   -   500 nits   16:9   1500:1   No0e   178°	Display	17.3"	FHD (1920x10	80) V	VVA Ant	i-glare	-	300 nits	16:9	700:1	72% NTSC	160°	Ba Ma		
Touchscreen None  Pen None  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)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card		17.3"	Dolby Vision,	(60) V	VVA Ant	i-glare	-	500 nits	16:9	1500:1		178°	Pc		
Pen None 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) One of the following, configurable by model:  NOWWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Color Calibration	Facto	ory Color Cali	bratio	n on UH	D pan	els						]		
Storage Up to two M.2 2280 SSD, PCIe NVMe, 256GB / 512GB / 1TB / 2TB each  RAID RAID 0 / 1 support  Optical None  Che 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)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Touchscreen												4.		
RAID Optical None 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) One of the following, configurable by model: No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card													_  O		
Optical  Ethernet  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models or i219V for non-vPro models  NFC  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)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card					), PCle	NVMe	, 256	GB / 5120	3B / 1T	B / 2TB ea	ach				
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)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	RAID	_		t											
or i219V for non-vPro models  NFC  WLAN + Bluetooth  Description  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)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	Optical												4		
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)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card		or i2	19V for non-v			rated	gigat	oit etherne	t, Intel	i219LM fo	r vPro	models	Ba		
WWAN  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 Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card	NFC							=: -					150		
<ul> <li>No WWAN card and non upgradable</li> <li>Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card</li> </ul>	WLAN + Bluetooth	Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above)													
	WWAN	No WWAN card and non upgradable     Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only													
SIM card Optional Nano-SIM card slot	SIM card	Optio	nal Nano-SIN	/ card	slot						, .		]		

_												
	Dimensions	Width: 415.44 mm (16.36 in). Depth: 280.81 mm (11.06 in).										
		Thickness: 25.11~ 33.25 mm (0.99 ~ 1.31 in)										
IJ	Weight	Starting at 3.5 kg (7.7 lb, FHD) Black										
	Case color	Display cover: GFRP 50% (PPS695 + GF 50%).										
4	Case material	Bottom: PPS + GF										
	Media reader	SD card reader										
1	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, 1x security keyhole, 1x RJ-45										
$\ $	Optional Ports	One optional smart card reader on right, one optional Nano-SIM card slot on left										
	Monitor support	Jp to 5 displays with 4 external monitors plus system LCD screen. External monitors supported via 1x USB-C, 2x Thunderbolt, and 1x HDMI. JSB-C and HDMI support up to 4K@60Hz. With Thunderbolt, one supports up to 5K@60Hz and one supports up to 14K@60Hz										
4	Monitor cable	Optional HDMI to VGA, USB-C to DP, or USB-C to VGA adapters										
	Bundled Accy	None										
4	Camera	Optional Hybrid IR camera with ThinkShutter camera privacy, fixed focus										
Ц	Audio chip	Realtek ALC3286 codec										
	Speaker	Stereo speakers, Dolby Atmos sound system										
4	Microphone	Optional dual array far-field microphone										
	Keyboard	6-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with Unified Communications controls										
$\exists$	UltraNav	3-button TrackPoint pointing device and 2-button Mylar surface multi-touch touchpad										
	Password	Power-on password, hard disk password, supervisor password										
	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										
	Security locks	Security keyhole for optional Kensington lock										
7	Smart card reader											
ᅦ	Fingerprint reader	Touch style match on chip fingerprint reader on the palm rest										
1	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter										
	Max battery life	MobileMark 2014: 14.6 hr. MobileMark 2018: 9.75 hr. * Battery life varies significantly with hardware configurations, settings, usage, & other factors										
	Power Adapter	One of the following:  • 230W slim AC adapter										
-	Operating system	170W slim AC adapter Supports one optional preloaded operating system as following:     Windows 10 Home 64     Windows 10 Pro 64     Windows 10 Pro 64 for Workstations										
- - 3	Base Warranty	Ubuntu Linux LTS Optional warranty plans as following:  1-year depot repair service  3-year depot repair service  1-year + 2-year depot repair service										
	,	<ul> <li>1-year limited onsite service</li> <li>3-year limited onsite service</li> <li>1-year + 2-year limited onsite service</li> <li>1-year depot with 2-year system board repair service</li> </ul>										
	Mil-Spec test Environment	MIL-STD-810G military testing										
	ISV certifications	EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant Please visit www.thinkworkstations.com/isv-certifications/										
۱	10 v Certifications	1 ICASC VISIL WWW.LIIIINWOINSLALIOIIS.COIII/ISV-CETLIIICALIOIIS/										
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# ThinkPad P43s Platform Specifications

Processor	8th G	eneration Ir	ntel® Co	re™	i7 Proces	sor					Dimensions	WxDxH:	12.95" x 8.94" x 0	.70"; 329mm x 227	mm x 17.9mm		
	Proce		# of			ax Turbo	ıche	Memory	Proce		Weight	Models	FHD	FHD Low Power	WQHD		
	Numb		Thread			equency		Types	Graphics		_	Weight	3.43 lb / 1.55 kg	3.28 lb / 1.49 kg	3.24 lb / 1.47 kg		
	i5-83						MB				Case color	Black	DDC / 500/ O	<b>-</b> .			
	i7-850		8				MB DI	DR4-2400 In	tel UHD	Graphics	Case material	Bottom:	over: PPS / 50% G PA / 50% GF	Γ;			
						+.0 GHZ   0	VID				Smart card reade						
Graphics	Intel	UHD Graph IA Quadro®	NCS IN PI	roces	Sor and	nemory.					Media reader						
	supp	orts externa	al digital	mon	itor via H	DMI or USB	Type-	C:			Ports		3.1 Gen 1 (one Alw		au Daliuanu anal Dia		
	Up to	3 displays	with 2 e	exterr	nal monito	rs plus syst	em LC	D screen.	<b></b>			one USB	3.1 Type-C Gen 1 (\ 3.1 Type-C Gen 2 /	With the function of Pt Thunderbolt 3 (with the	ower Delivery and Dis ne function of PD and	piayPort), LDP)	
		resolution:			` `	SB-C); 384	0x216	0@30Hz (H	DMI)		_	HDMI 1.4	o, Ethernet (RJ-45).	nano-SIM card slot (	WWAN models),	D1 ),	
Chipset	Intel	SoC (Syster 3 max / 2400	m on Cl	nip) p	latform	anal aanah	lo.					headphon	e / microphone con	nbo jack, optional sm	art card reader,		
Memory	8GB	or 16GB me	emory s	older	ed to sys	temboard, c	ne, one DC	R4 SO-DIN	1M sock	cet .		* Dependin	card reader, side do a on many factors, act	cking connector, sectional data transfer speed	urity keyhole may be lower than theore	etical speed	
	* Insta	or 16GB me	is actua	lly 266	66MHz but	run at 2400N	lHz due	to Intel limita	tion		Monitor cable	HDMI to V	<i>'GA:</i> Lenovo HDN	√II to VGA Monitor Ad	apter		
Display	Size Resolution Type Surface Brightness Aspect Ratio Ga										(optional)	USB-C to	VGA: Lenovo USE	3-C to VGA Adapter 3-C to HDMI Adapter		ļ	
	Oize	1 lesolution		туре	Ouriace	Ŭ	Ratio	Ratio	Gamut	Angle				3-C to Fibrii Adapter 3-C to DisplayPort Ad	apter		
	440	EUD (4000 d	1000)	\ A (\ / A		250 nits (non-touch)	40.0	700.4	450/	4700	Bundled Accy	None		. ,			
	14.0"	FHD (1920x1	1080)	WVA	Anti-glare	300 nits	16:9	700:1	45%	170°	Camera (optional)	One of the	following, configurable	by model:			
		FHD (1920x1	1090)			(multi-touch)						<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>					
-	14.0"	Low Power	1000)	WVA	Anti-glare	400 nits	16:9	800:1	72%	170°	Audio support			ALC3287 codec /			
		FHD (1920x1080) 14.0" ThinkPad Privacy WVA Anti-glare 400 nits 16:9								4=00		stereo spe	eakers, 2W x 2, Dol	by® Audio™ Premium	/		
	14.0"	ThinkPad Pri Guard	optional adar array fair							,	array far-field microphone, headphone / microphone combo jack sistant, multimedia Fn keys, LED backlight						
	14.0"	WQHD (2560	0x1440)	WVA	Classy	FOO mito	16:9	1500:1	100%	170°	Keyboard UltraNav™	klight urface multi-touch tou	ichnod				
	14.0	Dolby Vision <sup>1</sup>	™ HDR	VVVA	Glossy	500 nits	16:9	1500:1	Adobe	170							
Multi-touch (opt)		ell touch, su	upports	10-fir	nger gestu	ire (FHD on	ıly)				Security Power-on password, hard disk password, supervisor password, security key Discrete TPM 2.0, TCG Certified					кеупоје	
Pen	None										System Mgt (opt)	Intel vPro	Technology				
Storage	• M 2	orts single sid 2 2280 SSD	ded M.2 2 ) / SATA	2280 G	drives only Sh/s						Fingerprint reade		Touch style match I Communication	on chip fingerprint rea	ader on the palm rest		
	• M.2	2 2280 SSD	/ PCle	NVM	le, PCIe 3									hottorii oumnorto Dor	oid Charga (abarga ur	- to 000/ in	
		2 2242 SSD									Battery Max battery life	Thr)	Li- Polymer Sovvii	ballery, supports Hap	oid Charge (charge up	) 10 80% III	
	• Inte	el Optane™ 2 2280, PCI	NIEMOR	3 H I (	) with Soii V 4	a State Sto	rage,					MobileMa	<i>rk</i> ® <i>2014:</i> 14.7 hr				
Optical	None		0 144 1410	0.0	Λ 1						AC adapter	* Battery li	fe varies significantly v SW slim USB Type-(	vith hardware configurat	ions, settings, usage, & o	other factors	
Ethernet	Non-	vPro model.	: Intel E	therr	net Conne	ction I219-\	/ (Jack	(sonville)			Operating aveters		10 Home 64 or Wi	<u> </u>			
		model:	Intel E	therr	et Conne	ction I219-L	-M (Ja	cksonville)			I						
WLAN		Wireless-AC									Limited warranty		following, configurable epot repair service	by model:			
Bluetooth™		ooth 5.0 wir					oth co	mbo adapte	er		_	<ul> <li>3-year/1</li> </ul>	-yr battery depot re				
WWAN (optional)	One o	of the following	g, config	urable	by model:	d only in E	<b>4</b> □ <b>4</b> )						-yr battery limited o				
	<ul><li>vvir</li><li>Inte</li></ul>	eless WAN grated Mob	upgrada oile Bros	abie ( adbar	special bl nd 4G LTF	u only in El	vi⊏A) _830-F	B. M.2 card	(EMF	A only)	Mil-Spec test	MIL-STD-	810G military testin	g			
	• Inte	egrated Mob non-WWAN n	oile Broa	dbar	nd 4G LTE	-A, Fibocor	n L850	)-GL, M.2 ca	ard	,/	Environment	EPEAT™ (	Gold; ENERGY STA	AR® 8.0; RoHS-compl	iant		
SIM card (opt)	* For	non-WWAN n -SIM card s	nodel, it i	mean	s the mode	lis NOT WW. TE (LIS) SIN	AN upg	radable									
Note: The specifics							n caiu									Lenovo	

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













## ThinkPad P53 Platform Specifications

Processor 9th Generation Intel® Core™ i5 / i7 / i9 Processor or Intel Xeon® E Processor												WxDxH (non-touch): 14.86" x 9.93" x 0.96-1.16";				
	Processor Number	# of Cores	# of Threads	Base Frequenc	Max Tu y Freque			emory ypes	Proces Graph			377.4mm x 252.3mm x 24.5-29.4mm WxDxH (multi-touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm				
	i5-9400H i7-9750H	6	8 12	2.5 GHz	_		_	l.	stal LIUD (	Cropbico	Weight	Non-touch model: starting at 5.51 lb / 2.5 kg;				
	i7-9750H	6	12	2.6 GHz				İ	Intel UHD Graphics 630 C		Case color	Multi-touch model: starting at 6.4 lb / 2.9 kg Black				
	i9-9880H	8	16	2.3 GHz	4.8 GI	dz 16M	В	R4-2666			Case material	Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum				
	E-2276M	6	12	2.8 GHz	4.7 GI	lz 12M	В	Ir	ntel UHD ( P63		Smart card reade	er Optional: Smart card reader				
Graphics	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)									or	ExpressCard Media reader Ports	None 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	Mobile Intel CM246 Chipset 128GB max / 2666MHz DDR4 (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets										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 Reso	lution	-	Гуре Ѕи	face Bri	ghtness	Aspect Ratio	Contrast Ratio	Color	Viewing Angle	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
	15.6" FHD	(1920x	1080) \	VVA Anti	glare 3	00 nits	16:9	700:1	72%	160°	Bundled Accy	None				
		(1920x		WVA Anti-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				
	15.6" UHD (3840x2160) Dolby Vision HDR UHD (3840x2160) 15.6" Dolby Vision HDR, Multi-touch		2160) HDR	Anti- reflection SDR 400nit,		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 /					
			2160) HDR, C			R 500nit			100% DCI-P3	170°	Keyboard	optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system  6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight				
Multi-touch (opt)	Capacitive anti-reflec	e-type	multi-tou R), anti-s	ch, suppo	rts 10-fin	ger gest	ure (U	IHD only)	,	l	UltraNav™ 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad					
Pen (optional)	Lenovo Pe	en Prò	(special	bid only)							Security	Power-on password, hard disk password, supervisor password, security keyhole				
Storage	Up to 3 driv supports si. • HDD / S • M.2 228 * HDD is or	inglè sia SATA 6. 30 SSD nly avail	led M.2 22 .0Gb/s, 2 ) / PCIe N lable for T	280 drives 1.5" wide, NVMe, PC 1000 and T	only 7mm higl de 3.0 x 4 2000 grap	n, Active I hics mode	el		em™		Security chip					
Optane™ memory RAID <i>(optional)</i> Optical	RAID 0/1/ None	5 supp	ort								Battery Max battery life (MobileMark® 2014)	Integrated Li- Polymer 90Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 8 hr; Hybrid mode: 13 hr				
Ethernet	Non-vPro vPro mod	model 'el:	Intel Etl: Intel Etl	nernet Co nernet Co	nnection nnection	I219-V ( I219-LM	Jacks (Jack	onville) (sonville)			AC adapter	* Battery life varies significantly with hardware configurations, settings, usage, & other factors 170W or 230W slim tip AC adapter				
Bluetooth™ (opt)	Intel Wi-Fi	5.1 wi	reléss, in	tegrated	n Wi-Fi +			nbo adap	ter		Operating system	One of the following, configurable by model:  Windows® 10 Home 64  Windows 10 Pro 64				
( ) /	* For non-WWAN model, it means the model is NOT WWAN upgradable										Limited warranty	Windows 10 Pro 64 for Workstations				
												MIL-STD-810G military testing				
											Environment	EPEAT™ Gold; ENERGY STAR® 8.0; RoHS-compliant				



# ThinkPad P53s Platform Specifications

Processor	8th G	eneration In	ntel® Co	re™ i7	7 Proces	ssor					Dimensions	<i>WxDxH</i> : 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm				
	Proce		# of			Max Turbo C	Cache	Memory	Proce		Weight Case color	starting at 3.87 lb / 1.75 kg Black				
	Numb		Threads			requency	6MB	Types	Grap	nics	Case material	Display cover: PPS / 50% GF;				
	i7-856	55U 4	8	1.8	GHz	4.6 GHz	8MB	DDR4-2400	Intel UHD Graphics		Smart card roads	Bottom: PA / 50% GF Optional: Smart card reader				
	i7-866	55U		1.9	GHz	4.8 GHz	8MB				Media reader	MicroSD card reader				
Graphics		JHD Graphi IA Quadro®				momory:					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),				
	suppo	orts external	l digital	monit	or via H	IDMI or ÚS						one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),				
								ors plus syst 60@30Hz (		screen.		HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,				
Chipset		SoC (Syster				<i>,</i> 00 0), 00	TOXET	00 000112 (	(1121111)			microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed				
Memory		max / 2400						DR4 SO-DI	IMM sock	rat	Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter				
								ue to Intel lim		ve i	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Display	Size	Resolution	-	Type	Surface	Brightness	Aspec			Viewing	Bundled Accy	None				
				-		-	Ratio		Gamut	Angle		) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus				
		FHD (1920x1			nti-glare		16:9	700:1	45%	170°		• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus				
	15.6"	UHD (3840x2 Dolby Vision <sup>T</sup>	2160) ™ HDR	WVA A	nti-glare	500 nits	16:9	1200:1	100% Adobe	170°	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /				
Multi-touch (opt) Pen		ell touch, su	pports '	10-fin	ger gest	ure (FHD c	nly)					optional dual array far-field microphone, headphone / microphone combo jack				
Storage	None	erts single side	ed M.2 2	2280 dı	rives only	,					_Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
9	• M.2	2280 SSD 2280 SSD	/ SATA	6.0Gk	o/s						Security	Power-on password, hard disk password, supervisor password, security keyhole				
	• M.2	2242 SSD	/ PCle	NVMe	, PCIe	3.0 x 2					Security chip	Discrete TPM 2.0, TCG Certified Intel vPro Technology				
		l Optane™ N 2280, PCIe				lid State St	orage,				Fingerprint reader	r Optional: Touch style match on chip fingerprint reader on the palm rest				
Optical	None	*									- (-,,	Near Field Communication				
Ethernet	Non-	/Pro model: model:	Intel Et	therne	t Conne	ection I219-	V (Jac	cksonville) acksonville)			Battery Max battery life	Integrated Li- Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)				
WLAN		Vireless-AC							1		AC adapter	MobileMark® 2014: 15 hr (FHD model) / 10 hr (UHD model) * Battery life varies significantly with hardware configurations, settings, usage, & other factors				
Bluetooth™	Blueto	ooth 5.0 wire	eless, ir	ntegra	ted in W	Vi-Fi + Blue	tooth	combo adap	oter		'	65W USB Type-C AC adapter				
WWAN (optional)		f the following					- N A III A Y					Windows® 10 Home 64 or Windows 10 Pro 64				
	<ul><li>Inte</li></ul>	eless WAN ı grated Mobi	ile Broa	idband	d 4G LTI	E. Fibocom	L830	-EB. M.2 ca	rd (EMEA	only)		One of the following, configurable by model:  1-year depot repair service				
	<ul> <li>Inte</li> </ul>	grated Mobi	ile Broa	ıdbanı	d 4G LTI	E-A, Fiboco	om L8	50-GL, M.2	card	•		3-year/1-yr battery depot repair service				
SIM card (opt)	* For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card											3-year/1-yr battery limited onsite service  MIL STD 9190 military testing				
											Mil-Spec test Environment	MIL-STD-810G military testing  EPEAT™ Gold; ENERGY STAR® 8.0; RoHS-compliant				
											Liviloilileili	LI LAI GOIG, LIVENGT STAN 6.0, NOTIS-CONTIPIIANT				
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# ThinkPad P73 Platform Specifications

Processor				e™ i5 / i7 / i9			el Xeon® E			Dimensions	WxDxH: 16.38" x 11.06" x 1.02-1.22"; 416mm x 281mm x 25.9-31mm				
	Processor Number	# of	# of Threads		Max Turbo Frequency	Cache	Memory Types	Process Graphi		Weight Case color	Starting at 7.5 lb (3.4kg) Black				
	i5-9400H	4	8	2.5 GHz	4.3 GHz	_	Types	Grapinos		Case material	Display cover: GFRP + PPS;				
	i7-9750H	6	12	2.6 GHz	4.5 GHz	12MB		Intel UHD G	raphics		Bottom: Magnesium/Aluminum				
	i7-9850H	6	12	2.6 GHz	4.6 GHz	12MB	DDR4-2666 630 Intel UHD G P630	630	Smart card reade ExpressCard	r <i>Optional:</i> Smart card reader None					
	i9-9880H	8	16	2.3 GHz	4.8 GHz	16MB					4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card				
	E-2276M	6	12	2.8 GHz	4.7 GHz	12MB				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),				
	Intel UHD Graphics 630 or P630 in processor and NVIDIA Quadro® P620 (4GB GDDR5), T2000 (4GB GDDR5), RTX 3000 (6GB GDDR6, VR ready), RTX 4000 Max-Q (8GB GDDR6, VR ready), or RTX 5000 Max-Q (16GB GDDR6, VR ready); Up to 5 displays with 4 external monitors plus system LCD screen. External monitors supported via USB-C, Thunderbolt, and HDMI Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (USB-C or HDMI)									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 spee HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter				
Chipset	Mobile Inte	el CM2	246 Chips	et :	,.			,			USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Memory	128GB ma	ax / 266	66MHz <sup>'</sup> D	DR4 (ECC	function s	upporte	ed only on 2	Xeon proces	ssor),	Bundled Accy	None				
<u> </u>	dual-channel capable, four DDR4 SO-DIMM sockets										IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus				
Display	Size Reso			ype Surfac		R	spect Contra latio Ratio	Gamut	Viewing 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				
	17.3" FHD			VVA Anti-gla		its 1	6:9 700:1	72%	160°	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight				
	17.3" UHD Dolby	(3640x2 Vision	≥160)   V ™ HDR   V	VVA Anti-gla	are 400 n	its 1	6:9   1000:	1 100%	170°	UltraNav™	3-button TrackPoint® pointing device and				
Multi-touch	None		·	,							3-button Mylar surface multi-touch touchpad				
Pen	None									Security	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified				
Storage				<i>and one HDI</i> .5" wide, 7n				80 drives only	y	Security chip vPro (optional)	Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest				
				IVMe, PCIe		Clive Fi	olection by	Stelli		Fingerprint reade					
Optane™ memory				emory, PCI	e NVMe, F	PCIe 3.0	0 x 2			Color calibration NFC (optional)	Optional: X-Rite Pantone factory color calibration (UHD model only) Near Field Communication				
RAID (optional) Optical	RAID 0/1 s None	suppor	t												
Ethernet		model	·Intal Eth	ernet Conr	action I21	0-\/ ( la	ckeonvilla)			Battery Max battery life	Integrated Li- Polymer 99Wh battery, supports Rapid Charge (charge up to 80% ir 1hr)				
Linemei	vPro mode			ernet Con				e)		,	<i>MobileMark</i> ® <i>2014:</i> 17.2 hr				
WLAN (optional)	Intel Wi-Fi	6 AX2	00, Wi-Fi	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				
Bluetooth <sup>™</sup> (opt)	Bluetooth	5.1 wir	reless, int	egrated in	Wi-Fi + ΒΙι	uetooth	combo ada	apter		Operating system	One of the following, configurable by model:				
WWAN	None									operating eyetem	Windows® 10 Home 64				
SIM card	None										Windows 10 Pro 64     Windows 10 Pro 64 for Worksteiner				
										Lineite eleure est.	Windows 10 Pro 64 for Workstations  One of the following configurable by model:				
										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					
										Environment	EPEAT™ Gold; ENERGY STAR® 8.0; RoHS-compliant				

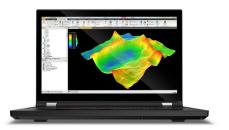












# ThinkPad T15g Gen 1 Platform Specifications

Processor Number   First   F	Supports one 10th Xeon W, Core i9, i7, or i5 processor as following:											SIM card	Optional Nano-SIM card slot
Xeon W+10858M   6   6   24 GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   5.4GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   5.4GHz   6MB   DDR4-2935   Intel UHD   Core i7-10750H   6   12   2.7GHz   5.1GHz   2.4GHz   2.4GH				# of	# of	Rase	May Turbo		Memory	Pro	ncessor		
		Proce	ssor Number				Frequency	Cache	Types			Dimensions	
Note		.,							7.	Int	· .	144	
		Xeon	W-10885M	8	16	2.4GHz	5.3GHz	16MB	DDR4-293				
Processor  Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866Hz 6-15GHz 6-15		V	. VA/ 400EEN4	_	10	0.0011-	5 4 O L I -	10110	DDD4 000	Int		Case color	
Model areader   SD Card reader   SD Ca		xeor	I VV-10855IVI	б	12	2.8GHZ	5. IGHZ	12IVIB	DDR4-293			Case material	Bottom: PPS + GF
Processor    Core   1-10876H   8   16   2.46Hz   5.36Hz   16MB   DDR4-2933   Intel UHD   Core   1-10876H   8   16   2.36Hz   5.16Hz   16MB   DDR4-2933   Graphics   Core   1-10876H   8   16   2.36Hz   5.16Hz   16MB   DDR4-2933   Graphics   Core   1-10876H   8   16   2.36Hz   5.16Hz   12MB   DDR4-2933   Graphics   Core   1-10876H   8   16   2.36Hz   5.36Hz   12MB   DDR4-2933   Graphics   Core   1-10750H   6   12   2.76Hz   5.16Hz   12MB   DDR4-2933   Intel UHD   Core   1-10750H   6   12   2.66Hz   5.66Hz   8MB   DDR4-2933   Intel UHD   Core   1-10750H   6   12   2.66Hz   5.66Hz   8MB   DDR4-2933   Intel UHD   Core   1-10476Hz   1-10476H		Coro	:0 10000UK	0	16	2.404-	E 20U-	16MD	DDD4 202	Inte	el UHD	Media reader	
Processor   Core is 1-0868H   8   16   2.4GHz   5.3GHz   16MB DDR4-2933   Intel UHD   Graphics   Core ir 7-10875H   8   16   2.2GHz   5.1GHz   16MB DDR4-2933   Graphics   Core ir 7-10850H   6   12   2.7GHz   5.1GHz   12MB DDR4-2933   Graphics   Core ir 7-10850H   6   12   2.7GHz   5.1GHz   12MB DDR4-2933   Intel UHD   Graphics   Core ir 7-10750H   8   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 7-10750H   8   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz		Core	19-109001110	0	10	2.40112	5.5GI IZ	TOIVID	DDN4-290	Gr	aphics		1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt
Core i7-108/5H 8 16 2.3 GHz 51 GHz 16MB DDR4-2933 Glaza philos Core i7-108/5H 8 16 2.3 GHz 51 GHz 12MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 6 12 2.7 GHz 5.1 GHz 12MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 6 12 2.6 GHz 5.0 GHz 12MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 8 18.2 GHz 4.6 GHz 8MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 8 18.2 GHz 4.6 GHz 8MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-293 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Co	Processor	Core	i9-10885H	8	16	2 4GHz	5.3GHz	16MB	DDR4-293			Standard Ports	3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI
Core 17-10850H   8   16   2.50Hz   5.10Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10850H   6   12   2.70Hz   5.10Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750Hz   12MB   DDR4-2933		0010	10 1000011		10	2.40112	0.00112	TOWIE	DDITH ZOO	Gr	•	Otaridara i orto	
Core I7-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Intel UHD Core I7-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Intel UHD Core I5-10400H 4 8 2.6GHz 4.6GHz 8MB DDR4-2933 Intel UHD Chipset Intel WM490 Chipset  Memory Type Beh ECC and non-ECC or DBR4-2933 ECC. Beh ECC and non-ECC or BR4-2933 ECC. Beh ECC and non-ECC or DBR4-2933 ECC. Bundled Acov. Bundled Acov. Beh ECC and non-ECC or DBR4-2935 ECC. Bundled Acov. Bundled Acov. Beh ECC and non-ECC or DBR4-2935 ECC. Bundled Acov. Bun		Core	i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293				One ontional smart card reader on right, one ontional Nano-SIM card slot on
Core   17-10950H   6   12   2.6GHz   5.0GHz   12MB   DR4-2933   Intell PLD   DR4-2935   Intell PLD										Gr		Optional Ports	
Core I7-10750H 6 1 12 2.6GHz 5.0GHz 12MB DR4-2933 Graphics Core I5-10400H 4 8 2.6GHz 4.6GHz 8MB DR4-2933 Graphics Chipset Intel WM90 Chipset Intel		Core	i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293				Up to 5 displays with 4 external monitors plus system LCD screen. External
Core										In+			
Cripset   Intel IWM490 Chipset   So-DIMM DDR4-2930 non-ECC or DDR4-2933 ECC   Both ECC and non-ECC Or pDR4-2933 ECC   Both ECC and non-ECC   Bot		Core	i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293			Monitor support	USB-C and HDMI support up to 4K@60Hz.
Chipset Intel IWMsQ Chipset  Memory Type  SO-DIMM. DDR4-3290 non-ECC or DDR4-2933 ECC. Both ECC and non-ECC or DDR4-2933 ECC.  Memory Type  Memory Sockets  4 DIMM sockets  Memory Protection  Memory Sockets  Memory Protection  Memory Protection  Memory Sockets  Memory Protection  Memory Protection  Memory Protection  Memory Sockets  Memory Protection  M										Local			
Scholm NDR4-3200 non-ECC or DDR4-2933 ECC		Core	i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-293			Monitor cable	
Supports one optional camera as following:   Support one optiona	Chinset	Intal \	MM490 Chine	eat							артноо	4	
Memory Type   Both ECC and non-ECC operate at DDR4-2933.   Camera   HÖ720p camera with ThinkShutter camera privacy, fixed focus   SBB16GBX2GB available for both ECC and non-ECC   SBB26GBX2GB 2GBX2GBX2GBX2GBX2GBX2GBX2GBX2GBX2	Onipact	SO-D	IMM DDR4-	3200	non-FCC	or DDR	L-2933 FC(					Barraica 7 tooy	
Memory Sockets 4 DIMM sockets Memory Protection ECC on models with ECC DIMMs and Xeon processor Memory Protection ECC on models with ECC DIMMs and Xeon processor Max Memory 128GB  Graphics  Support one of the following discrete graphics: NVIDIA GeForce RTX 2078 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2078 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GEFORCE with Max-Q	Memory Type	Both	ECC and nor	n-ECC	operate	at DDR4	-2933.					Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
Memory Protection   ECC on models with ECC DIMMs and Xeon processor	, , , , , , , , , , , , , , , , , , ,	8GB/	16GB/32GB	availa	ble for bo	th ECC a	ind non-EC	C					Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Max Memory   128GB   Support one of the following discrete graphics:   Support one of the following discrete graphics   Support one of the following discrete graphics   Support one of the following discrete graphics   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA Geforce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   Ultraval Color of Power-on password, and disk password, supervisor password   Security More of Power-on password, hard disk password, supervisor password   Security More of Power-on password, hard disk password, supervisor password   Ultraval Responsive Responsi	Memory Sockets	4 DIN	/IM sockets										
Support one of the following discrete graphics:  N/IDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design Resource Resou				ith EC	C DIMMs	and Xe	on process	or					
Available   Avai	Max Memory											Microphone	Optional dual array far-field microphone
NVIDIA GEFORE RTX 2005 SUPER with Max-Q Design, 8GB GDPR6 memory   NVIDIA GEFORE RTX 2005 SUPER with Max-Q Design, 8GB GDPR6 memory   Supervisor special points   Supervisor													b-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with
Size Resolution Type Surface Touch Brightness Aspect Contrast Color 15.6° FHD (1920x1080) WVA Anti-glare - 300 nits 16.9 70.1 NTSC 160° Dolby Vision   15.6° FHD (1920x1080) WVA Anti-glare - 500 nits 16.9 1200x1 NTSC 160° Dolby Vision   15.6° Dolby Vision   15.6	Graphics	• NVI	DIA GeForce	RTX	2070 SUI	PER with	Max-Q De	sign, 8	GB GDDR	6 mer	mory		
Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions												1	
Security chip   Discrete I PM 2.0, I CG Certified, may be disabled in some regions   Security chip   Discrete I PM 2.0, I CG Certified, may be disabled in some regions   Security locks   Secu		Size	Resolution	Ι   Τ	ype Surf	ace Tou	h Brightnes	S Aspec	t Contrast	Color	Viewing	III accincia	
Fib   1920x1080   WA   Anti-glare   - 500 nits   16:9   1200:1   NTSC   160°   Security locks   Security l								Tiatio	Tidio		Aligic		
Display   Security (section   Security (sect		15.6"	FHD (1920x10	80) V	VVA Anti-	glare -	300 nits	16:9	700:1	NTSC	160°		
Display			ELID (1000v10	(1090)									
Display    HDR 400   LDR (340x2160)   LDR (340x2160)   LDR (400x)   LD					VVA Anti-	olare -	500 nits	16:9	1200:1	72%	160°		
15.6"   Dibly Vision, HDR 400   HD	Dicplay					,				NISC		Fingerprint reader	
Max battery life   MobileMark 2014: 16.4 hr.	Display		UHD (3840x21	0x2160)				16:9		100%	4=00	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% lin 1br) with 230W AC adapter.
UHD (3840x2160)   15.6"   UHD (3840x2160)		15.6"	Dolby Vision,	V	VVA   Anti-	glare -	600 nits		1400:1		178°	ļ	
Touch calibration   Factory Color Calibration on UHD panels   Factory Color Calibration   Factory Color Calibration on UHD panels   Factory Color Calibration   Factory			11011400				SDR					Max battery life	MobileMark 2018: 10.3 hr
15.6"   Doby Vision,   HDR 400			UHD (3840x21	60)			400nit,			100%		, ,	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
Color Calibration Factory Color Calibration on UHD panels  Touchscreen Touch enable on selected UHD OLED models, supports 10-finger gesture  Pen Optional Lenovo Pen Pro 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 District following, configurable by model:  NowWAN card and non upgradable  WWAN  WAN  WAN  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated		15.6"	Dolby Vision,	´  0			h UDK	16:9	100000:1	DCI-	170°	Dower Adenter	One of the following:
Color Calibration Factory Color Calibration on UHD panels Touchscreen Touch enable on selected UHD OLED models, supports 10-finger gesture Pen Optional Lenovo Pen Pro Storage Up to two M.2 2280 SSD, PCle NVMe, 256GB / 512GB / 1TB / 2TB each RAID RAID O / 1 support Optical None Chernet Orical 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 Diutoth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model: NWAN NWAN card and non upgradable WWAN Elegated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadban			HDR 400		smu		SUUTIIL			P3		Power Adapter	
Touch enable on selected UHD OLED models, supports 10-finger gesture  Pen Optional Lenovo Pen Pro 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 Dottional 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) One of the following, configurable by model:  NWAN Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgra	Color Calibration	Facto	ry Color Cali	bratio	n on UHC	nanels	(poun)						
Pen Optional Lenovo Pen Pro Storage Up to two M.2 2280 SSD, PCle 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 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NWAN • Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WINDO 4x4, M.2 card							dels, suppo	rts 10-	finger gest	ure		1	• Windows 10 Home 64
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 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NOWWAN eard and non upgradable  NWAN Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WW						LLD IIIO	aoio, oappt	710 10	migor goot	.u.o		Operating system	
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)  One of the following, configurable by model:  • No WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only entegrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only entegrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only entegrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card Environment  *Fedora Linux  Optional warranty plans as following:  • 1-year depot repair service • 3-year depot repair service • 1-year heaptor repair service • 1-year heaptor repair service • 1-year depot repair service • 1-year heaptor repair service • 1-year depot repair service • 1-year heaptor repair service • 1-year depot repair service						VMe. 25	6GB / 5120	3B / 1T	B / 2TB ea	ch			
Optical  None  Cone 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)  One of the following, configurable by model:  NOWWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Glarband Glar					5, 1 010 11	*1110, 20	00070120	,,,,,	B / E   B 0a			-	
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) One of the following, configurable by model:  NOWWAN card and non upgradable No WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models  3-year depot repair service 1-year 4-2-year depot repair service 3-year depot repair service 1-year 4-2-year limited onsite service 1-year 4-2-year depot repair service 1-year 4-2-year limited onsite service 1-year 4-2-year limited onsite service 1-year 4-2-year limited onsite service 1-year 4-2-year depot repair s		1										1	
Ethernet  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)  One of the following, configurable by model:  No WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card Environment  *3-year depot repair service  1-year + 2-year imited onsite service  3-year depot repair service  1-year tepot repair service  1-year tepot mimited onsite service  1-year 42-year limited onsite service  1-year 42-year limited onsite service  1-year tepot with 2-year system board repair service  1-year 1-year 42-year depot repair service  1-year Hording 1-year 42-year depot repair service  1-year Hording 1-year 42-year depot repair service  1-year Hording 1-year 42-year limited onsite service  1-year 42-year limited onsite service  1-year 42-year limited onsite service  1-year 42-year depot repair service  1-year 1-year 42-year depot repair service  1-year 1-year 42-year depot repair service  1-year 1-year 42-year limited onsite service  1-year 1-year 42-year limited onsite service  1-year 1-year 42-year limited onsite service  1-year 1-year 42-year depot repair service	•			nort v	via integra	ated aias	hit etherno	t Intel	i219I M for	vPro	modele	-	• 1-year depot repair service
NFC 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) One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card    None	Ethernet	or i21	9V for non-vi	Pro m	odels	atou gigo	2.1. 01.101110	.,	O L IVI 101	VI 10			3-year depot repair service
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)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  3-year limited onsite service  3-year limited onsite service  1-year depot with 2-year limited onsite service  1-year depot with 2-year limited onsite service  1-year milited onsite service  1-year have a system board repair service  1-year milited onsite service  1-year milited onsit	NFC	-										Base Warranty	
WLAN + 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 Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  Mil-Spec test Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		Optio	nal Intel Wi-F	i 6 AX	(201 on m	nost mod	els, Wi-Fi 2	x2 802	.11ax + Blu	uetoot	th 5.1.	1	
One of the following, configurable by model:  No WWAN card and non upgradable  No WWAN card Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  Note of the following, configurable by model:  No WWAN card and non upgradable  No WWAN card and non upgradable  Nil-Spec test  Mil-Spec test  Mil-Spec test  Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant	VVLAIN + DIUCIOOIII	Bluet	ooth 5.1 requ	iires th	ne latest v	ersion o	f Windows	10 (ver	sion 2004	or abo	ove)	1	
WWAN  • No WWAN card and non upgradable  • Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  • Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  • Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card		One o	of the followin	ig, coi	ntigurable	by mod	el:						• 1-year depot with 2-year system board repair service
Integrated Mobile Broadband Opgradable, Not WWAN Card, WWAN Anterna City     Integrated Mobile Broadband of LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card     Note: WWAN cannot be supported on UHD WVA models    Environment   EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant     ISV certifications   None	WWAN	• Into	vvvvAIN Card 8	and no	on upgrac	iaDië Saradahl	- No W/M	N Care	1 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\ntan-	na Only	<u> </u>	MIL-STD-810G military testing
Note: WWAN cannot be supported on UHD WVA models   ISV certifications   None		• Inte	grated Mobile	Broa	dband 40	3 LTE-A	Fibocom I	860-GI	., MIMO 4)	κ4. Μ	2 card		
		Note: V	WAN cannot be	support	ed on UHD	NVA model	5		,	-,		ISV certifications	None

# ThinkPad T15g Gen 1 Platform Specifications

Processor Number   First   F	Supports one 10th Xeon W, Core i9, i7, or i5 processor as following:											SIM card	Optional Nano-SIM card slot
Xeon W+10858M   6   6   24 GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   5.4GHz   6MB   DDR4-2935   Intel UHD   Core i9-10980HK   8   16   2.4GHz   5.3GHz   5.4GHz   6MB   DDR4-2935   Intel UHD   Core i7-10750H   6   12   2.7GHz   5.1GHz   2.4GHz   2.4GH				# of	# of	Rase	May Turbo		Memory	Pro	ncessor		
		Proce	ssor Number				Frequency	Cache	Types			Dimensions	
Note		.,							7.	Int	· .	144	
		Xeon	W-10885M	8	16	2.4GHz	5.3GHz	16MB	DDR4-293				
Processor  Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 16 2-4GHz 5-3GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866H 8 12 2-7GHz 6-15GHz 16MB) DDR4-2933 intel UHD Core (8-10866Hz 6-15GHz 6-15		V	. VA/ 400EEN4	_	10	0.0011-	5 4 O L I -	10110	DDD4 000	Int		Case color	
Model areader   SD Card reader   SD Ca		xeor	I VV-10855IVI	б	12	2.8GHZ	5. IGHZ	12IVIB	DDR4-293			Case material	Bottom: PPS + GF
Processor    Core   1-10876H   8   16   2.46Hz   5.36Hz   16MB   DDR4-2933   Intel UHD   Core   1-10876H   8   16   2.36Hz   5.16Hz   16MB   DDR4-2933   Graphics   Core   1-10876H   8   16   2.36Hz   5.16Hz   16MB   DDR4-2933   Graphics   Core   1-10876H   8   16   2.36Hz   5.16Hz   12MB   DDR4-2933   Graphics   Core   1-10876H   8   16   2.36Hz   5.36Hz   12MB   DDR4-2933   Graphics   Core   1-10750H   6   12   2.76Hz   5.16Hz   12MB   DDR4-2933   Intel UHD   Core   1-10750H   6   12   2.66Hz   5.66Hz   8MB   DDR4-2933   Intel UHD   Core   1-10750H   6   12   2.66Hz   5.66Hz   8MB   DDR4-2933   Intel UHD   Core   1-10476Hz   1-10476H		Coro	:0 10000UK	0	16	2.404-	E 20U-	16MD	DDD4 202	Inte	el UHD	Media reader	
Processor   Core is 1-0868H   8   16   2.4GHz   5.3GHz   16MB DDR4-2933   Intel UHD   Graphics   Core ir 7-10875H   8   16   2.2GHz   5.1GHz   16MB DDR4-2933   Graphics   Core ir 7-10850H   6   12   2.7GHz   5.1GHz   12MB DDR4-2933   Graphics   Core ir 7-10850H   6   12   2.7GHz   5.1GHz   12MB DDR4-2933   Intel UHD   Graphics   Core ir 7-10750H   8   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 7-10750H   8   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz   8MB DDR4-2933   Intel UHD   Graphics   Core ir 1-10400H   4   8   2.6GHz   4.6GHz		Core	19-109001110	0	10	2.40112	5.5GHZ	TOIVID	DDN4-290	Gr	aphics		1x USB-C (USB 3.2 Gen 1, PD, DP), 2x Thunderbolt (USB-C form, Thunderbolt
Core i7-108/5H 8 16 2.3 GHz 51 GHz 16MB DDR4-2933 Glaza philos Core i7-108/5H 8 16 2.3 GHz 51 GHz 12MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 6 12 2.7 GHz 5.1 GHz 12MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 6 12 2.6 GHz 5.0 GHz 12MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 8 18.2 GHz 4.6 GHz 8MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 8 18.2 GHz 4.6 GHz 8MB DDR4-2933 Intel LHD Graphics Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5H 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-293 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Core i7-108/5Hz 200 non-ECC parts at 108/4-2933 ECC Solution Co	Processor	Core	i9-10885H	8	16	2 4GHz	5.3GHz	16MB	DDR4-293			Standard Ports	3, USB 3.2 Gen 2, PD, DP), 2x USB-A 3.2 Gen 1 (one Always-on), 1x HDMI
Core 17-10850H   8   16   2.50Hz   5.10Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10850H   6   12   2.70Hz   5.10Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750H   6   12   2.66Hz   12MB   DDR4-2933   Intell. UPID   Core 17-10750Hz   12MB   DDR4-2933		0010	10 1000011		10	2.40112	0.00112	TOWIE	DDITH ZOO	Gr	•	Otaridara i orto	
Core I7-10850H 6 12 2.7GHz 5.1GHz 12MB DDR4-2933 Intel UHD Core I7-10750H 6 12 2.6GHz 5.0GHz 12MB DDR4-2933 Intel UHD Core I5-10400H 4 8 2.6GHz 4.6GHz 8MB DDR4-2933 Intel UHD Chipset Intel WM490 Chipset  Memory Type Beh ECC and non-ECC or DBR4-2933 ECC. Beh ECC and non-ECC or BR4-2933 ECC. Beh ECC and non-ECC or DBR4-2933 ECC. Bundled Acov. Bundled Acov. Beh ECC and non-ECC or DBR4-2935 ECC. Bundled Acov. Bundled Acov. Beh ECC and non-ECC or DBR4-2935 ECC. Bundled Acov. Bun		Core	i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-293				One ontional smart card reader on right, one ontional Nano-SIM card slot on
Core   17-10950H   6   12   2.6GHz   5.0GHz   12MB   DR4-2933   Intell PLD   DR4-2935   Intell PLD										Gr		Optional Ports	
Core I7-10750H 6 1 12 2.6GHz 5.0GHz 12MB DR4-2933 Graphics Core I5-10400H 4 8 2.6GHz 4.6GHz 8MB DR4-2933 Graphics Chipset Intel WM90 Chipset Intel		Core	i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-293				Up to 5 displays with 4 external monitors plus system LCD screen. External
Core										In+			
Cripset   Intel IWM490 Chipset   So-DIMM DDR4-2930 non-ECC or DDR4-2933 ECC   Both ECC and non-ECC Or pDR4-2933 ECC   Both ECC and non-ECC   Bot		Core	i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-293			Monitor support	USB-C and HDMI support up to 4K@60Hz.
Chipset Intel IWMsQ Chipset  Memory Type  SO-DIMM. DDR4-3290 non-ECC or DDR4-2933 ECC. Both ECC and non-ECC or DDR4-2933 ECC.  Memory Type  Memory Sockets  4 DIMM sockets  Memory Protection  Memory Sockets  Memory Protection  Memory Protection  Memory Sockets  Memory Protection  Memory Protection  Memory Protection  Memory Sockets  Memory Protection  M										Local			
Scholm NDR4-3200 non-ECC or DDR4-2933 ECC		Core	i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-293			Monitor cable	
Supports one optional camera as following:   Support one optiona	Chinset	Intal \	MM490 Chine	eat							артноо	4	
Memory Type   Both ECC and non-ECC operate at DDR4-2933.   Camera   HÖ720p camera with ThinkShutter camera privacy, fixed focus   SBB16GBX2GB available for both ECC and non-ECC   SBB26GBX2GB 2GBX2GBX2GBX2GBX2GBX2GBX2GBX2GBX2	Onipact	SO-D	IMM DDR4-	3200	non-FCC	or DDR	L-2933 FC(					Barraica 7 tooy	
Memory Sockets 4 DIMM sockets Memory Protection ECC on models with ECC DIMMs and Xeon processor Memory Protection ECC on models with ECC DIMMs and Xeon processor Max Memory 128GB  Graphics  Support one of the following discrete graphics: NVIDIA GeForce RTX 2078 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2078 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GIDR6 memory NVIDIA GEFORCE with Max-Q	Memory Type	Both	ECC and nor	n-ECC	operate	at DDR4	-2933.					Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
Memory Protection   ECC on models with ECC DIMMs and Xeon processor	, , , , , , , , , , , , , , , , , , ,	8GB/	16GB/32GB	availa	ble for bo	th ECC a	ind non-EC	C					Hybrid IR camera with ThinkShutter camera privacy, fixed focus
Max Memory   128GB   Support one of the following discrete graphics:   Support one of the following discrete graphics   Support one of the following discrete graphics   Support one of the following discrete graphics   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   NVIDIA Geforce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory   Ultraval Color of Power-on password, and disk password, supervisor password   Security More of Power-on password, hard disk password, supervisor password   Security More of Power-on password, hard disk password, supervisor password   Ultraval Responsive Responsi	Memory Sockets	4 DIN	/IM sockets										
Support one of the following discrete graphics:  N/IDIA GeForce RTX 2070 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GeForce RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design, 8GB GDDR6 memory  N/IDIA GEFORE RTX 2080 SUPER with Max-Q Design Resource Resou				ith EC	C DIMMs	and Xe	on process	or					
Available   Avai	Max Memory											Microphone	Optional dual array far-field microphone
NVIDIA GEFORE RTX 2005 SUPER with Max-Q Design, 8GB GDPR6 memory   NVIDIA GEFORE RTX 2005 SUPER with Max-Q Design, 8GB GDPR6 memory   Supervisor special points   Supervisor													b-row, spill-resistant, LED backlight, numeric keypad, multimedia Fn keys with
Size Resolution Type Surface Touch Brightness Aspect Contrast Color 15.6° FHD (1920x1080) WVA Anti-glare - 300 nits 16.9 70.1 NTSC 160° Dolby Vision   15.6° FHD (1920x1080) WVA Anti-glare - 500 nits 16.9 1200x1 NTSC 160° Dolby Vision   15.6° Dolby Vision   15.6	Graphics	• NVI	DIA GeForce	RTX	2070 SUI	PER with	Max-Q De	sign, 8	GB GDDR	6 mer	mory		
Security chip   Discrete TPM 2.0, TCG Certified, may be disabled in some regions												1	
Security chip   Discrete I PM 2.0, I CG Certified, may be disabled in some regions   Security chip   Discrete I PM 2.0, I CG Certified, may be disabled in some regions   Security locks   Secu		Size	Resolution	Ι   Τ	ype Surf	ace Tou	h Brightnes	S Aspec	t Contrast	Color	Viewing	III accincia	
Fib   1920x1080   WA   Anti-glare   - 500 nits   16:9   1200:1   NTSC   160°   Security locks   Security l								Tiatio	Tidio		Aligic		
Display   Security (section   Security (sect		15.6"	FHD (1920x10	80) V	VVA Anti-	glare -	300 nits	16:9	700:1	NTSC	160°		
Display			ELID (1000v10	(1090)									
Display    HDR 400   LDR (340x2160)   LDR (340x2160)   LDR (400x)   LD					VVA Anti-	olare -	500 nits	16:9	1200:1	72%	160°		
15.6"   Dibly Vision, HDR 400   HD	Dicplay					,				NISC		Fingerprint reader	
Max battery life   MobileMark 2014: 16.4 hr.	Display		UHD (3840x21	0x2160)				16:9		100%	4=00	Battery	Integrated Li-Polymer 94Wh battery. Supports Rapid Charge (charge up to 80% lin 1br) with 230W AC adapter.
UHD (3840x2160)   15.6"   UHD (3840x2160)		15.6"	Dolby Vision,	V	VVA   Anti-	glare -	600 nits		1400:1		178°	ļ	
Touch calibration   Factory Color Calibration on UHD panels   Factory Color Calibration   Factory Color Calibration on UHD panels   Factory Color Calibration   Factory			11011400				SDR					Max battery life	MobileMark 2018: 10.3 hr
15.6"   Doby Vision,   HDR 400			UHD (3840x21	60)			400nit,			100%		, ,	* Battery life varies significantly with hardware configurations, settings, usage, & other factors
Color Calibration Factory Color Calibration on UHD panels  Touchscreen Touch enable on selected UHD OLED models, supports 10-finger gesture  Pen Optional Lenovo Pen Pro 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 District following, configurable by model:  NowWAN card and non upgradable  WWAN  WAN  WAN  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated		15.6"	Dolby Vision,	´  0			h UDK	16:9	100000:1	DCI-	170°	Dower Adenter	One of the following:
Color Calibration Factory Color Calibration on UHD panels Touchscreen Touch enable on selected UHD OLED models, supports 10-finger gesture Pen Optional Lenovo Pen Pro Storage Up to two M.2 2280 SSD, PCle NVMe, 256GB / 512GB / 1TB / 2TB each RAID RAID O / 1 support Optical None Chernet Orical 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 Diutoth Bluetooth 5.1 requires the latest version of Windows 10 (version 2004 or above) One of the following, configurable by model: NWAN NWAN card and non upgradable WWAN Elegated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card integrated Mobile Broadban			HDR 400		smu		SUUTIIL			P3		Power Adapter	
Touch enable on selected UHD OLED models, supports 10-finger gesture  Pen Optional Lenovo Pen Pro 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 Dottional 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) One of the following, configurable by model:  NWAN Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgra	Color Calibration	Facto	ry Color Cali	bratio	n on UHC	nanels	(poun)						
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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 5.1 requires the latest version of Windows 10 (version 2004 or above)  One of the following, configurable by model:  NOWWAN eard and non upgradable  NWAN Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WW						LLD IIIO	aoio, oappt	710 10	migor goot	.u.o		Operating system	
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)  One of the following, configurable by model:  • No WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only entegrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only entegrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only entegrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card Environment  *Fedora Linux  Optional warranty plans as following:  • 1-year depot repair service • 3-year depot repair service • 1-year heaptor repair service • 1-year heaptor repair service • 1-year depot repair service • 1-year heaptor repair service • 1-year depot repair service • 1-year heaptor repair service • 1-year depot repair service						VMe. 25	6GB / 5120	3B / 1T	B / 2TB ea	ch			
Optical  None  Cone 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)  One of the following, configurable by model:  NOWWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Glarband Glar					5, 1 010 11	*1110, 20	00070120	,,,,,	B / E   B 0a			-	
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) One of the following, configurable by model:  NOWWAN card and non upgradable No WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  One onboard GbE port via integrated gigabit ethernet, Intel i219LM for vPro models  3-year depot repair service 1-year 4-2-year depot repair service 3-year depot repair service 1-year 4-2-year limited onsite service 1-year 4-2-year depot repair service 1-year 4-2-year limited onsite service 1-year 4-2-year limited onsite service 1-year 4-2-year limited onsite service 1-year 4-2-year depot repair s		1										1	
Ethernet  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)  One of the following, configurable by model:  No WWAN card and non upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card Environment  *3-year depot repair service  1-year + 2-year imited onsite service  3-year depot repair service  1-year tepot repair service  1-year tepot mimited onsite service  1-year 42-year limited onsite service  1-year 42-year limited onsite service  1-year tepot with 2-year system board repair service  1-year 1-year 42-year depot repair service  1-year Hording 1-year 42-year depot repair service  1-year Hording 1-year 42-year depot repair service  1-year Hording 1-year 42-year limited onsite service  1-year 42-year limited onsite service  1-year 42-year limited onsite service  1-year 42-year depot repair service  1-year 1-year 42-year depot repair service  1-year 1-year 42-year depot repair service  1-year 1-year 42-year limited onsite service  1-year 1-year 42-year limited onsite service  1-year 1-year 42-year limited onsite service  1-year 1-year 42-year depot repair service	•			nort v	via integra	ated aias	hit etherno	t Intel	i219I M for	vPro	modele	-	• 1-year depot repair service
NFC 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) One of the following, configurable by model:  No WWAN card and non upgradable Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card    None	Ethernet	or i21	9V for non-vi	Pro m	odels	atou gigo	2.1. 01.101110	.,	O L IVI 101	VI 10			3-year depot repair service
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)  One of the following, configurable by model:  No WWAN card and non upgradable  Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  Optional Intel Wi-Fi 6 AX201 on most models, Wi-Fi 2x2 802.11ax + Bluetooth 5.1.  3-year limited onsite service  3-year limited onsite service  1-year depot with 2-year limited onsite service  1-year depot with 2-year limited onsite service  1-year milited onsite service  1-year have a system board repair service  1-year milited onsite service  1-year milited onsit	NFC	-										Base Warranty	
WLAN + 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 Upgradable, No WWAN Card, WWAN Antenna Only Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  Mil-Spec test Environment  EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant		Optio	nal Intel Wi-F	i 6 AX	(201 on m	nost mod	els, Wi-Fi 2	x2 802	.11ax + Blu	uetoot	th 5.1.	1	
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WWAN  • No WWAN card and non upgradable  • Integrated Mobile Broadband Upgradable, No WWAN Card, WWAN Antenna Only  • Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card  • Integrated Mobile Broadband 4G LTE-A. Fibocom L860-GL, MIMO 4x4, M.2 card		One o	of the followin	ig, coi	ntigurable	by mod	el:						• 1-year depot with 2-year system board repair service
Integrated Mobile Broadband Opgradable, Not WWAN Card, WWAN Anterna City     Integrated Mobile Broadband of LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card     Note: WWAN cannot be supported on UHD WVA models    Environment   EPEAT Gold. ENERGY STAR 8.0. RoHS-compliant     ISV certifications   None	WWAN	• Into	vvvvAIN Card 8	and no	on upgrac	iaDië Saradahl	- No W/M	N Care	1 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\ntan-	na Only	<u> </u>	MIL-STD-810G military testing
Note: WWAN cannot be supported on UHD WVA models   ISV certifications   None		• Inte	grated Mobile	Broa	dband 40	3 LTE-A	Fibocom I	860-GI	., MIMO 4)	κ4. Μ	2 card		
		Note: V	WAN cannot be	support	ed on UHD	NVA model	5		,	-,		ISV certifications	None

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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.

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