

# ThinkPad T590 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Generation Intel® Core™ i5 / i7 Processor									Dimensions Weight Case color Case material Smart card reader Media reader Ports	<i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm <i>FHD model:</i> 3.99 lb / 1.81 kg; <i>UHD model:</i> 3.84 lb / 1.74 kg Black <i>Display cover:</i> PPS / 50% GF; <i>Bottom:</i> PA / 50% GF Optional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics			
	i5-8265U	4	8	1.6 GHz	3.9 GHz	6MB	DDR4-2400	Intel UHD Graphics			
	i5-8365U			1.6 GHz	4.1 GHz	6MB					
	i7-8565U			1.8 GHz	4.6 GHz	8MB					
i7-8665U	1.9 GHz			4.8 GHz	8MB						
Graphics	Intel UHD Graphics in processor only or Intel UHD Graphics in processor and NVIDIA® GeForce® MX250, 2GB GDDR5 memory; supports external digital monitor via HDMI or Thunderbolt; supports three independent displays; Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI)										
Chipset Memory	Intel SoC (System on Chip) platform 40GB or 48GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation									Monitor cable (optional) Bundled Accy	<i>HDMI to VGA:</i> Lenovo HDMI to VGA Monitor Adapter <i>USB-C to VGA:</i> Lenovo USB-C to VGA Adapter (NOT available in EMEA) <i>USB-C to DP:</i> Lenovo USB-C to DisplayPort Adapter (NOT available in EMEA) None
Display	Size	Resolution	Type	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Camera (optional) Audio support	
	15.6"	FHD (1920x1080)	IPS	Anti-glare	250 nits	16:9	700:1	45%	170°		
	15.6"	UHD (3840x2160) HDR, Dolby Vision™	IPS	Anti-glare	500 nits	16:9	1200:1	100% Adobe	170°		
Multi-touch (opt)	On-cell touch, supports 10-finger gesture (FHD only)									One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone (for special bid model, microphone is optional), headphone / microphone combo jack	
Storage	<ul style="list-style-type: none"> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> <li>M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2</li> <li>Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4</li> </ul>									Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Optical	None									Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)
Ethernet	<i>Non-vPro model:</i> Intel Ethernet Connection I219-V (Jacksonville) <i>vPro model:</i> Intel Ethernet Connection I219-LM (Jacksonville)									System Mgt (opt) Fingerprint reader NFC (optional)	Intel vPro Technology Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication
WLAN + Bluetooth™	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.1 * BT5.1 is supported on Windows 10 version 2004 or above (limited to BT5.0 on earlier version)									Battery	Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
WWAN (optional)	One of the following, configurable by model: • Wireless WAN upgradable (special bid only in EMEA) • Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable									Max battery life	<i>MobileMark® 2014:</i> 14.98 hr (9.5 hr for UHD model with discrete graphics) * Battery life varies significantly with hardware configurations, settings, usage, & other factors
SIM card (opt)	<ul style="list-style-type: none"> <li>Verizon LTE (US) SIM card</li> <li>Gemalto eSIM</li> </ul>									AC adapter	<ul style="list-style-type: none"> <li>45W USB-C AC adapter</li> <li>65W USB-C AC adapter</li> <li>65W USB-C slim AC adapter</li> </ul>
Operating system										Optional: Windows® 10 Home 64 or Windows 10 Pro 64	
Limited warranty										<ul style="list-style-type: none"> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>1-year limited onsite service</li> <li>1-year + 2-year depot repair service</li> <li>1-year + 2-year limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>	
Mil-Spec test										MIL-STD-810G military testing	
Environment										EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant	

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

Lenovo  
October 2020