

## ThinkPad T590 Platform Specifications

Product Specifications Reference (PSREF)

Processor	8th Generation Intel® Core™ i5 / i7 Processor								Dimensions WxDxH: 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm Weight FHD model: 3.87 lb / 1.75 kg; UHD model: 3.86 lb / 1.75 kg Case color Black Case material Display cover: PPS / 50% GF; Bottom: PA / 50% GF	
	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 620		
	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 620 in processor only or Intel UHD Graphics 620 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)								Smart card reader Media reader Ports	
Chipset	Intel SoC (System on Chip) platform								Optional: Smart card reader	
Memory	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								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	
Display	Size	Resolution	Type	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Monitor cable (optional)
	15.6"	FHD (1920x1080)	IPS	Anti-glare	250 nits	16:9	700:1	45%	170°	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	15.6"	UHD (3840x2160) HDR, Dolby Vision™	IPS	Anti-glare	500 nits	16:9	1200:1	100% Adobe	170°	USB-C to VGA: Lenovo USB-C to VGA Adapter (NOT available in EMEA) USB-C to DP: Lenovo USB-C to DisplayPort Adapter (NOT available in EMEA)
Multi-touch (opt)	On-cell touch, supports 10-finger gesture (FHD only)								Bundled Accy	
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>								Camera (optional)	
Optical	None								One of the following, configurable by model: <ul style="list-style-type: none"><li>• HD720p camera with ThinkShutter camera privacy, fixed focus</li><li>• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li></ul>	
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)								Audio support	
WLAN (optional)	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0								HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone (optional for special bid model), headphone / microphone combo jack	
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter								Keyboard	
WWAN (optional)	One of the following, configurable by model: <ul style="list-style-type: none"><li>• Wireless WAN upgradable (special bid only in EMEA)</li><li>• Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)</li><li>• Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li></ul> * For non-WWAN model, it means the model is NOT WWAN upgradable								UltraNav™	
SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card								6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad	
									Security	
									Power-on password, hard disk password, supervisor password, security keyhole	
									Security chip	
									Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)	
									System Mgt (opt)	
									Intel vPro Technology	
									Fingerprint reader	
									Optional: Touch style match on chip fingerprint reader on the palm rest	
									NFC (optional)	
									Near Field Communication	
									Battery	
									Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter	
									Max battery life	
									MobileMark® 2014: 14.98 hr (9.5 hr for UHD model with discrete graphics) * Battery life varies significantly with settings, usage, & other factors	
									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® 7.1; RoHS-compliant	

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

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