

# ThinkPad P50 Platform Specifications

Product Specifications Reference (PSREF)

Processor	6th Generation Intel® Core™ i7 Processor or Intel Xeon® Processor E3 v5 Family							Smart card reader	Optional: Smart card reader	
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	ExpressCard	One slot (ExpressCard/34)
	i7-6700HQ	4	8	2.6 GHz	3.5 GHz	6MB	DDR4-2133	Intel HD Graphics 530	Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
	i7-6820HQ			2.7 GHz	3.6 GHz	8MB			Ports	Four USB 3.0 (one Always On), USB Type-C / Thunderbolt 3, Mini DisplayPort, HDMI, Ethernet (RJ-45), Dock connector
	E3-1505M v5			2.8 GHz	3.7 GHz	8MB			Camera (optional)	HD720p resolution, low light sensitive, fixed focus
E3-1535M v5	2.9 GHz			3.8 GHz	8MB	Audio support			HD Audio, Realtek® ALC3268 codec / stereo speakers, 1.5W x 2 / dual array microphone, combo audio/microphone jack	
Graphics	Intel HD Graphics 530 or P530 in processor and NVIDIA Quadro® M1000M (2GB or 4GB memory) or M2000M (4GB memory); supports external digital monitor via HDMI, Mini DisplayPort, or Thunderbolt™; supports four independent displays; Max resolution: 3840x2160@60Hz (DisplayPort via Mini DisplayPort cable); 3840x2160@60Hz (Thunderbolt); 3840x2160@30Hz (HDMI)							Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight	
Chipset	Mobile Intel CM236 Chipset (Intel GL82CM236 PCH)							UltraNav™	3-button TrackPoint® pointing device and 3-button crystal silk surface multi-touch touchpad	
Memory	64GB max <sup>7</sup> / 2133MHz DDR4, ECC or non-ECC (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets							Security	Power-on password, hard disk password, supervisor password, security keyhole	
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 600:1 contrast ratio, 45% gamut, 160° viewing angle							Security chip	Discrete TPM 1.2 TCG Certified and Firmware TPM 2.0 integrated in chipset	
	Some: 15.6" (396mm) 4K (3840x2160), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 1000:1 contrast ratio, 100% gamut, 178° viewing angle							ThinkEngine	Delivers improved thermal and power efficiency, up to 30 day standby, faster resume time, enhanced security, as well as anti-tampering measures	
Multi-touch (opt)	Capacitive-type multi-touch, supports 10-finger gesture, 220 nits							vPro (optional)	Intel vPro Technology	
Pen (optional)	ThinkPad Pen Pro, active pen for multi-touch display							Fingerprint reader	Touch style fingerprint reader on the palm rest	
Storage	Up to 3 drives (two M.2 SSD and one HDD)							Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest	
	Some: M.2 SSD / SATA 6.0Gb/s (e.g. xxxG SSD) Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxG SSD PCIe NVMe) Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Shock Mounted Hard Drive, Active Protection System™							Battery	Lithium Polymer 4-cell (66Wh) or 6-cell (90Wh)	
Optical	None							Max battery life <sup>10</sup>	(MobileMark® 2014)	
	None							Model	4-cell	6-cell
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)							Discrete Graphics	7.1 hr	9.7 hr
	vPro model: Intel Ethernet Connection I219-LM (Jacksonville)							Hybrid Graphics	9.6 hr	13.2 hr
WLAN <sup>4</sup>	11ac+BT, Intel Dual Band Wireless-AC 8260, 2x2, M.2 card							AC adapter	170W AC adapter	
Bluetooth™	Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter							Preload	Some: Genuine Windows® 7 Professional 64	Windows 10 Pro 64
WWAN (optional)	Wireless WAN, Sierra Wireless EM7455, Qualcomm® 4G LTE-Advanced/DC-HSPA+/HSPA+/HSPA/UMTS/GNSS, M.2 card								Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64	<ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• Lenovo SHAREit</li> <li>• Lenovo Companion</li> <li>• Lenovo Setting</li> <li>• Microsoft Office preloaded; purchase a product key to activate</li> <li>• McAfee® LiveSafe™ (30-day trial)</li> </ul>
SIM card	Micro-SIM card slot								<ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• Lenovo SHAREit</li> <li>• ThinkVantage Product Recovery</li> <li>• Rescue and Recovery™</li> <li>• ThinkVantage System Update</li> <li>• Adobe® Reader®</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• McAfee® LiveSafe™ (30-day trial)</li> </ul>	
Dimensions <sup>3</sup>	WxDxH: 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4mm WxDxH(Touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm									
Weight <sup>2</sup>	Models	4-cell		6-cell						
	Non-touch	5.6 lb / 2.55kg		5.9 lb / 2.67kg						
	Multi-touch	6.2 lb / 2.82kg		6.4 lb / 2.90kg						
Case material	Display cover: Glass-Fiber Reinforced Plastic;							Limited warranty <sup>12</sup>	One of the following, configurable by model:	
	Bottom: Magnesium/Aluminum								<ul style="list-style-type: none"> <li>• 3-year/1-yr battery depot repair service</li> <li>• 3-year/1-yr battery limited onsite service<sup>24</sup></li> <li>• 3-year/1-yr battery limited onsite service, OID (Onsite International Delivery)</li> </ul>	
								Mil-Spec test	MIL-STD-810G military certification	
								Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; GREENGUARD®; RoHS-compliant	