

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 ExpressCard Media reader Ports	Optional: Smart card reader One slot (ExpressCard/34) 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Four USB 3.0 (one Always On), USB Type-C / Thunderbolt 3, Mini DisplayPort, HDMI, Ethernet (RJ-45), Dock connector											
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		Camera (optional) Audio support	HD720p resolution, low light sensitive, fixed focus HD Audio, Realtek® ALC3268 codec / stereo speakers, 1.5W x 2 / dual array microphone, combo audio/microphone jack										
	i7-6700HQ	4	8	2.6 GHz	3.5 GHz	6MB	DDR4-2133	Intel HD Graphics 530													
	i7-6820HQ			2.7 GHz	3.6 GHz	8MB		Intel HD Graphics P530													
	E3-1505M v5			2.8 GHz	3.7 GHz	8MB															
E3-1535M v5	2.9 GHz			3.8 GHz	8MB																
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 UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight 3-button TrackPoint® pointing device and 3-button crystal silk surface multi-touch touchpad											
Chipset	Mobile Intel CM236 Chipset (Intel GL82CM236 PCH)								Security chip	Power-on password, hard disk password, supervisor password, security keyhole											
Memory	64GB max ⁷ / 2133MHz DDR4, ECC or non-ECC (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets								ThinkEngine	Discrete TPM 1.2 TCG Certified and Firmware TPM 2.0 integrated in chipset Delivers improved thermal and power efficiency, up to 30 day standby, faster resume time, enhanced security, as well as anti-tampering measures											
Display	<i>Some:</i> 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 <i>Some:</i> 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								vPro (optional) Fingerprint reader	Intel vPro Technology Touch style fingerprint reader on the palm rest											
Multi-touch (opt) Pen (optional)	Capacitive-type multi-touch, supports 10-finger gesture, 220 nits ThinkPad Pen Pro, active pen for multi-touch display								Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest											
Storage	Up to 3 drives (two M.2 SSD and one HDD) <i>Some:</i> M.2 SSD / SATA 6.0Gb/s (e.g. xxxG SSD) <i>Some:</i> M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxG SSD PCIe NVMe) <i>Some:</i> 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 ¹⁰ (MobileMark® 2014)	<table><tr><td>Model</td><td>4-cell</td><td>6-cell</td></tr><tr><td>Discrete Graphics</td><td>7.1 hr</td><td>9.7 hr</td></tr><tr><td>Hybrid Graphics</td><td>9.6 hr</td><td>13.2 hr</td></tr></table>			Model	4-cell	6-cell	Discrete Graphics	7.1 hr	9.7 hr	Hybrid Graphics	9.6 hr	13.2 hr
Model	4-cell	6-cell																			
Discrete Graphics	7.1 hr	9.7 hr																			
Hybrid Graphics	9.6 hr	13.2 hr																			
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)								AC adapter	170W AC adapter											
WLAN ⁴ Bluetooth™	11ac+BT, Intel Dual Band Wireless-AC 8260, 2x2, M.2 card Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter								Preload	<i>Some:</i> Genuine Windows® 7 Professional 64 <i>Some:</i> Windows 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64 • Lenovo Solution Center • Lenovo SHAREit • ThinkVantage Product Recovery • Rescue and Recovery™ • ThinkVantage System Update • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • McAfee® LiveSafe™ (30-day trial) • Lenovo Solution Center • Lenovo SHAREit • ThinkVantage Product Recovery • Rescue and Recovery™ • ThinkVantage System Update • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • McAfee® LiveSafe™ (30-day trial) • Microsoft Office preloaded; purchase a product key to activate • McAfee® LiveSafe™ (30-day trial) For ISV certifications, please visit www.lenovo.com/support/ISV											
WWAN (optional)	Wireless WAN, Sierra Wireless EM7455, Qualcomm® 4G LTE-Advanced/DC-HSPA+/HSPA+/HSPA/UMTS/GNSS, M.2 card Micro-SIM card slot								Limited warranty ¹²	One of the following, configurable by model: • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service ²⁴ • 3-year/1-yr battery limited onsite service, OID (Onsite International Delivery)											
SIM card									Mil-Spec test	MIL-STD-810G military certification											
Dimensions ³	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								Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; GREENGUARD®; RoHS-compliant											
Weight ²	<table><tr><td>Models</td><td>4-cell</td><td>6-cell</td></tr><tr><td>Non-touch</td><td>5.6 lb / 2.55kg</td><td>5.9 lb / 2.67kg</td></tr><tr><td>Multi-touch</td><td>6.2 lb / 2.82kg</td><td>6.4 lb / 2.90kg</td></tr></table>								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				
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; Bottom: Magnesium/Aluminum																				

Model	20EN004A++
Product	ThinkPad P50
Region	EMEA
Machine Type	20EN
TopSeller	TopSeller
Processor	Core i7-6820HQ (4C, 2.7 / 3.6GHz, 8MB)
vPro	vPro
Graphics	NVIDIA Quadro M2000M 4GB
Chipset	Intel CM236
Memory	8GBx1 non-ECC
Display	15.6" FHD (1920x1080) IPS
Multi-touch	None
Pen	None
Storage	256GB SSD M.2 Opal2
RAID	No
Optical	None
WLAN + Bluetooth	Intel 8260 ac, 2x2 + BT4.1
WWAN	WWAN Upgradable
SIM Card	None
Smart Card Reader	Smart Card Reader
Camera	720p
Keyboard	Backlit
Fingerprint Reader	Fingerprint Reader
Color Calibrator	X-Rite
Battery	6-cell (90Wh)
Power Adapter	170W
Operating System	Windows 10 Pro 64
Warranty	3-year, Onsite
Global	No
Ann Date (mm/yy)	01/17







