ThinkPad P50 Platform Specifications

Processor	6th Generation Intel® Core™ i7 Processor or Intel Xeon® Processor E3 v5 Family

Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics
i7-6700HQ			2.6 GHz	3.5 GHz	6MB		Intel HD Graphics 530
i7-6820HQ	4	8	2.7 GHz	3.6 GHz	8MB	DDR4-2133	
E3-1505M v5			2.8 GHz	3.7 GHz	8MB		Intel HD Graphics P530
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)
Chipset	Mobile Intel CM236 Chipset (Intel GL82CM236 PCH)
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
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 *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
Multi-touch *(opt)*	Capacitive-type multi-touch, supports 10-finger gesture, 220 nits
Pen *(optional)*	ThinkPad Pen Pro, active pen for multi-touch display
Storage	*Up to 3 drives (two M.2 SSD and one HDD)* • HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Shock Mounted Hard Drive, Active Protection System™ • M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2) • M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)
Optical	None
Ethernet	*Non-vPro model:* Intel Ethernet Connection I219-V (Jacksonville) *vPro model:* Intel Ethernet Connection I219-LM (Jacksonville)
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
WWAN *(optional)* SIM card	Wireless WAN, Sierra Wireless EM7455, Qualcomm® 4G LTE-Advanced/DC-HSPA+/HSPA+/HSPA/UMTS/GNSS, M.2 card Micro-SIM card slot
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

Weight[2] 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

Smart card reader	*Optional:* Smart card reader
ExpressCard	One slot (ExpressCard/34)
Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
Ports	Four USB 3.0 (one Always On), USB Type-C / Thunderbolt 3, Mini DisplayPort, HDMI, Ethernet (RJ-45), Dock connector
Camera *(optional)*	HD720p resolution, low light sensitive, fixed focus
Audio support	HD Audio, Realtek® ALC3268 codec / stereo speakers, 1.5W x 2 / dual array microphone, combo audio/microphone jack
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
Security Security chip ThinkEngine	Power-on password, hard disk password, supervisor password, security keyhole 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
vPro *(optional)*	Intel vPro Technology
Fingerprint reader	Touch style fingerprint reader on the palm rest
Color calibration	*Optional:* Pantone® color calibrator by X-Rite® color calibration sensor in palm rest
Battery	Lithium Polymer 4-cell *(66Wh)* or 6-cell *(90Wh)*

Max battery life[10] *(MobileMark® 2014)* Model	4-cell	6-cell
Discrete Graphics	7.1 hr	9.7 hr
Hybrid Graphics	9.6 hr	13.2 hr

AC adapter	170W slim tip AC adapter
Preload	*Some:* Genuine Windows® 7 Professional 64 *Some:* 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) Windows 10 Pro 64 • Lenovo Solution Center • Lenovo SHAREit • Lenovo Companion • Lenovo Setting • Microsoft Office preloaded; purchase a product key to activate • McAfee® LiveSafe™ (30-day trial) *For ISV certifications, please visit www.lenovo.com/support/ISV*
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)
Mil-Spec test	MIL-STD-810G military certification
Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; GREENGUARD®; RoHS-compliant