ThinkPad T450 Platform Specifications

Processor	4th Generation Intel® Core™ i3 / i5 or 5th Generation Intel Core i3 / i5 / i7 Processor

Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	Processor Graphics
i3-4030U			1.9 GHz	-	3MB		Intel HD Graphics 4400
i5-4300U			1.9 GHz	2.9 GHz			
i3-5010U			2.1 GHz	-	3MB	DDR3L-1600	Intel HD Graphics 5500
i5-5200U	2	4	2.2 GHz	2.7 GHz			
i5-5300U			2.3 GHz	2.9 GHz			
i7-5500U			2.4 GHz	3 GHz	4MB		
i7-5600U			2.6 GHz	3.2 GHz			

Graphics	Intel HD Graphics 4400 or 5500 in processor, supports external analog monitor via VGA and digital monitor via Mini DisplayPort; supports three independent displays; Max resolution: 3840x2160@60Hz (DP via mDP cable); 1920x1200@60Hz (VGA)
Chipset	Intel SoC (System on Chip) platform
Memory	16GB max[7] / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
Display	*Some:* 14.0" (355mm) HD (1366x768), anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 350:1 contrast ratio *Some:* 14.0" (355mm) HD+ (1600x900), anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio
Multi-touch *(opt)*	Capacitive-type multi-touch, supports 10-finger gesture, 212.5 nits
Storage	*Some:* SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable *Some:* HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Shock Mounted Hard Drive, Active Protection System™ *Some:* SSHD with 8GB NAND flash memory
M.2 SSD *(opt)*	Single-sided M.2 SSD, via M.2 card slot
Optical	None
Ethernet	*Non-vPro model:* Intel Ethernet Connection I218-V (Clarkville) *vPro model:* Intel Ethernet Connection I218-LM (Clarkville)
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter
WLAN[4]	One of the following, configurable by model: • 11b/g/n, ThinkPad 11b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter, M.2 card • 11b/g/n, Intel Wireless-N 7265, 2x2, Wi-Fi + BT, M.2 card (WE only) • 11a/b/g/n, Intel Dual Band Wireless-N 7265, 2x2, Wi-Fi + BT, M.2 card (WE only) • 11ac, Intel Dual Band Wireless-AC 7265, 2x2, Wi-Fi + BT adapter, M.2 card
WWAN *(optional)*	One of the following, configurable by model: • Wireless WAN upgradable • Wireless WAN, Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS, M.2 card (WE only) • Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card
SIM card *(opt)*	AT&T® or Verizon® LTE (4G), contract required with service provider
Dimensions[3]	*14.0" (WxDxH):* 13.35" x 9.15" x 0.83"; 339mm x 232.5mm x 21mm *14.0" Touch (WxDxH):* 13.35" x 9.15" x 0.91"; 339mm x 232.5mm x 23mm

Weight[2]	Models	No + 3-cell	3-cell + 3-cell	3-cell + 6-cell
	Non-touch	3.58 lb / 1.63 kg	3.81 lb / 1.73 kg	4.21 lb / 1.91 kg
	Multi-touch	3.89 lb / 1.76 kg	4.11 lb / 1.87 kg	4.52 lb / 2.05 kg

Case material	*Display cover:* Glass-Fiber Reinforced Plastic (non-touch model) or Carbon-Fiber Reinforced Plastic (multi-touch model); *Bottom:* Glass-Fiber Reinforced Plastic

Smart card reader	*Optional:* Smart card reader
Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC)
Ports	Three USB 3.0 (one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector (integrated models only)
Camera	HD720p resolution, low light sensitive, fixed focus
Audio support	HD Audio, Realtek® ALC3232 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack
Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight
UltraNav™	TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Security	Power-on password, hard disk password, supervisor password, security keyhole
Security chip	Trusted Platform Module, TCG 1.2-compliant
ThinkEngine	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	*Optional:* Fingerprint reader on the keyboard bezel, swipe sensor
Internal battery	*Optional:* Integrated Li-Ion or Li-Polymer 3-cell *(23Wh)*
External battery	Li-Ion 3-cell *(23Wh)* or 6-cell *(48Wh or 72Wh)*

Max battery life[10]	Models	3-cell + 3-cell	3-cell + 6-cell 48Wh	3-cell + 6-cell 72Wh
	Battery life	10.08 hr	14.78 hr	19.78 hr

AC adapter	45W AC adapter, 65W Slim AC adapter, or 65W AC adapter
Preload	Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8.1 Pro 64-bit • Lenovo Solution Center • Lenovo SHAREit • ThinkVantage Product Recovery • Rescue and Recovery™ • ThinkVantage System Update • PC Device Stage • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions) *Some:* Windows 8.1 64-bit *Some:* Windows 8.1 Pro 64-bit • Lenovo Solution Center • Lenovo SHAREit • Lenovo Companion • ThinkVantage System Update • PC Device Stage • Norton Studio • Microsoft Office preloaded; purchase a product key to activate • Norton Internet Security (30 days of virus definitions)
Limited warranty[12]	One of the following, configurable by model: • 1-year depot repair service • 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, IWS (International Warranty Service[17])
Environment	EPEAT™ Gold (US) or EPEAT Silver (WE); ENERGY STAR® 6.1; GREENGUARD®; RoHS-compliant