

ThinkPad P51s Platform Specifications

Product Specifications Reference (PSREF)

Processor	6th Generation Intel® Core™ i7 Processor <table border="1"> <thead> <tr> <th>Processor Number</th> <th># of Cores</th> <th># of Threads</th> <th>Base Frequency</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>Memory Types</th> <th>Processor Graphics</th> </tr> </thead> <tbody> <tr> <td>i7-6500U</td> <td rowspan="2">2</td> <td rowspan="2">4</td> <td>2.5 GHz</td> <td>3.1 GHz</td> <td>4MB</td> <td rowspan="2">DDR4-2133</td> <td rowspan="2">Intel HD Graphics 520</td> </tr> <tr> <td>i7-6600U</td> <td>2.6 GHz</td> <td>3.4 GHz</td> <td>4MB</td> </tr> </tbody> </table> or 7th Generation Intel Core i5 / i7 Processor <table border="1"> <thead> <tr> <th>Processor Number</th> <th># of Cores</th> <th># of Threads</th> <th>Base Frequency</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>Memory Types</th> <th>Processor Graphics</th> </tr> </thead> <tbody> <tr> <td>i5-7300U</td> <td rowspan="3">2</td> <td rowspan="3">4</td> <td>2.6 GHz</td> <td>3.5 GHz</td> <td>3MB</td> <td rowspan="3">DDR4-2133</td> <td rowspan="3">Intel HD Graphics 620</td> </tr> <tr> <td>i7-7500U</td> <td>2.7 GHz</td> <td>3.5 GHz</td> <td>4MB</td> </tr> <tr> <td>i7-7600U</td> <td>2.8 GHz</td> <td>3.9 GHz</td> <td>4MB</td> </tr> </tbody> </table>	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	i7-6500U	2	4	2.5 GHz	3.1 GHz	4MB	DDR4-2133	Intel HD Graphics 520	i7-6600U	2.6 GHz	3.4 GHz	4MB	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	i5-7300U	2	4	2.6 GHz	3.5 GHz	3MB	DDR4-2133	Intel HD Graphics 620	i7-7500U	2.7 GHz	3.5 GHz	4MB	i7-7600U	2.8 GHz	3.9 GHz	4MB	Dimensions WxDxH: 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm
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		Case color	Black																																											
		Case material	Display cover: Glass-Fiber Reinforced Plastic (PPS); Bottom: Glass-Fiber Reinforced Plastic																																											
		Smart card reader	Optional: Smart card reader																																											
		Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I																																											
		Ports	Three USB 3.1 Gen 1 / USB 3.0 (one Always On), USB 3.1 Type-C Gen 2 / Thunderbolt 3, HDMI 1.4b, Ethernet (RJ-45), Dock connector																																											
		WiGig dock (opt)	ThinkPad WiGig dock																																											
		Monitor cable (optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter																																											
		Camera (optional)	720p: HD720p resolution, fixed focus IR & 720p: IR camera and HD720p camera (mutually exclusive with WiGig)																																											
		Audio support	HD Audio, Realtek® ALC3268 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack																																											
		Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight																																											
		UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad																																											
		Security	Power-on password, hard disk password, supervisor password, security keyhole																																											
		Security chip	Discrete TPM 2.0, TCG Certified																																											
		vPro (optional)	Intel vPro Technology																																											
		Fingerprint reader	Optional: Touch style match on chip fingerprint reader on the palm rest																																											
		NFC (optional)	Near Field Communication																																											
		Internal battery	Optional: Integrated Li-Polymer 4-cell (32Wh)																																											
		External battery	Li-Polymer 3-cell (24Wh) or Li-Ion 6-cell (48Wh or 72Wh)																																											
		Max battery life (MobileMark® 2014)	<table border="1"> <thead> <tr> <th>Models</th> <th>4 + 3-cell</th> <th>6-cell 48Wh</th> <th>6-cell 72Wh</th> <th>4 + 6-cell 48Wh</th> <th>4 + 6-cell 72Wh</th> </tr> </thead> <tbody> <tr> <td>Max battery life</td> <td>13.8 hr</td> <td>12.5 hr</td> <td>18.5 hr</td> <td>20.0 hr</td> <td>26.8 hr</td> </tr> </tbody> </table>	Models	4 + 3-cell	6-cell 48Wh	6-cell 72Wh	4 + 6-cell 48Wh	4 + 6-cell 72Wh	Max battery life	13.8 hr	12.5 hr	18.5 hr	20.0 hr	26.8 hr																															
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		AC adapter	65W AC adapter (slim tip), 65W USB Type-C AC adapter																																											
		Preload	Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64 Some: Windows 10 Home 64 Some: Windows 10 Pro 64 <ul style="list-style-type: none"> Lenovo Companion Lenovo Setting Microsoft Office preloaded; purchase a product key to activate <ul style="list-style-type: none"> Lenovo Solution Center Lenovo PowerEngage ThinkVantage Product Recovery ThinkVantage System Update Adobe® Reader® Microsoft® Office preloaded; purchase a product key to activate McAfee® LiveSafe™ (30-day trial) 																																											
		Limited warranty	One of the following, configurable by model: <ul style="list-style-type: none"> 1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 																																											
		Mil-Spec test	MIL-STD-810G military certification																																											
		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant																																											
Graphics	Intel HD Graphics 520 or 620 in processor and NVIDIA Quadro® M520M, 2GB 2.5GHz GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 3840x2160@30Hz (HDMI)																																													
Chipset	Intel SoC (System on Chip) platform																																													
Memory	32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * System clocks down for processors with lower memory controller																																													
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 700:1 contrast ratio, 170° viewing angle Some: 15.6" (396mm) 4K (3840x2160), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 1000:1 contrast ratio, 72% gamut, 170° viewing angle																																													
Multi-touch (opt)	On-cell touch, supports 10-finger gesture (FHD only)																																													
Storage	System has one HDD slot or one M.2 2280 slot exclusively for storage Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high (e.g. xxxGB SSD) Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s Some: 128GB M.2 SSD / SATA 6.0Gb/s, in WWAN slot as 2nd Storage, mutually exclusive with WWAN and WiGig																																													
Optical	None																																													
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)																																													
WLAN	One of the following, configurable by model (WiGig can coexist with WWAN): <ul style="list-style-type: none"> Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card Intel Dual Band Wireless-AC 8260, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card Intel Tri-Band Wireless-AC 18265, WiGig 802.11ad + Wi-Fi 2x2 802.11ac + BT4.1, M.2 card 																																													
Bluetooth™	Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter * Intel 8265ac / 18265ac card support BT4.2 but is limited to BT4.1 by Windows OS																																													
WWAN (optional)	One of the following, configurable by model (WWAN can coexist with WiGig): <ul style="list-style-type: none"> Wireless WAN upgradable Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455), M.2 card Integrated Mobile Broadband 4G LTE, Intel XMM™ 7160 (Fibocom L831-EAU), M.2 card (EMEA only) 																																													
SIM card (opt)	Micro-SIM card slot, opt Verizon LTE (US) or Lenovo® Connect (EMEA) SIM card																																													