

# ThinkPad W541 Platform Specifications

Product Specifications Reference (PSREF)

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor								Dimensions <sup>3</sup>	15.6" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm	
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	Processor Graphics	Weight <sup>2</sup>	6-cell: starting at 5.57 lb (2.53 kg); 9-cell: starting at 5.95 lb (2.70 kg)	
	i5-4210M	2	4	2.6 GHz	3.2 GHz	3MB	DDR3L-1600	Intel HD Graphics 4600	Case material	Glass-Fiber Reinforced Plastic	
	i5-4340M			2.9 GHz	3.6 GHz	3MB			Smart card reader	Optional: Smart card reader	
	i7-4600M			2.9 GHz	3.6 GHz	4MB			ExpressCard	One slot (ExpressCard/34)	
	i7-4710MQ	4	8	2.5 GHz	3.5 GHz	6MB			Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card	
	i7-4810MQ			2.8 GHz	3.8 GHz	6MB			Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector	
	i7-4910MQ			2.9 GHz	3.9 GHz	8MB			Camera (optional)	HD720p resolution, low light sensitive, fixed focus	
i7-4940MX	3.1 GHz			4 GHz	8MB	Audio support			HD Audio, Realtek® ALC3232 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack		
Graphics	Intel HD Graphics 4600 in processor and NVIDIA Quadro® K1100M or K2100M, 2GB memory; supports external analog monitor via VGA and digital monitor via Mini DisplayPort / Thunderbolt™; supports three independent displays; Max resolution: 3840x2160@60Hz (DisplayPort via Mini DisplayPort cable); 3840x2160@60Hz (Thunderbolt); 1920x1200@60Hz (VGA)								Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight	
									UltraNav™	TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch	
Chipset	Mobile Intel QM87 Express Chipset								Security	Power-on password, hard disk password, supervisor password, security keyhole	
	Memory	<i>dual-core model:</i> 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets <i>quad-core model:</i> 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported <i>All:</i> PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable								Security chip	Trusted Platform Module, TCG 1.2-compliant
Display									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	
Multi-touch	None								Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor	
									Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator	
Storage	<i>Some:</i> SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Shock Mounted Hard Drive, Active Protection System™ <i>All:</i> removable, upgradable, supports the second disk								Battery type	Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication	
	M.2 SSD (opt)	16GB M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card								Max battery life <sup>10</sup>	6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable								AC adapter	<i>dual-core:</i> 135W AC adapter; <i>quad-core:</i> 170W AC adapter	
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high, bottom access								Preload	Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit or Windows 10 Pro 64	
Ethernet	Intel Ethernet Connection I217-LM (Clarkville)									<i>Some:</i> Windows 8.1 64-bit <i>Some:</i> Windows 8.1 Pro 64-bit <i>Some:</i> Windows 10 Pro 64	
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter								<ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• Lenovo SHAREit</li> <li>• Lenovo REACHit</li> <li>• Lenovo Companion</li> <li>• Microsoft Office preloaded; purchase a product key to activate</li> <li>• Norton Internet Security (30 days of virus definitions, Win8 w/o i5/i7 model)</li> <li>• McAfee® LiveSafe™ (30-day trial, Win8 i5/i7 and Win10 model)</li> </ul>		
WLAN <sup>4</sup>	<i>One of the following, configurable by model:</i> <ul style="list-style-type: none"> <li>• 11b/g/n, ThinkPad 11b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter, M.2 card</li> <li>• 11b/g/n, Intel Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card</li> <li>• 11a/b/g/n, Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT adapter, M.2 card</li> <li>• 11ac, Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT adapter, M.2 card</li> </ul>								• Norton Internet Security (30 days of virus definitions) • Cyberlink PowerDVD (DVD±RW) • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW) For ISV certifications, please visit <a href="http://www.lenovo.com/support/ISV">www.lenovo.com/support/ISV</a>		
WWAN (optional)	<i>One of the following, configurable by model (mutually exclusive with M.2 SSD):</i> <ul style="list-style-type: none"> <li>• Wireless WAN upgradable</li> <li>• Wireless WAN, Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/HSPA+/EVDO/GSM/GPRS/EDGE, GPS, M.2 card (US models)</li> <li>• Wireless WAN, Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS, M.2 card (WE models)</li> <li>• Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card (WE models)</li> </ul>								Limited warranty <sup>12</sup> <i>One of the following, configurable by model:</i> <ul style="list-style-type: none"> <li>• 1-year depot repair service</li> <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>		
SIM card (optional)	<i>One of the following, configurable by model:</i> <ul style="list-style-type: none"> <li>• AT&amp;T® or Verizon® LTE (4G), contract required with service provider</li> <li>• User selectable, contract required with service provider</li> </ul>								Mil-Spec test	MIL-STD-810G military certification	
									Environment	EPEAT™ Gold; ENERGY STAR® 6.1; GREENGUARD®; RoHS-compliant	

<b>Model</b>	<b>20EF001W++</b>
Product	W541
Region	WE
Machine Type	20EF
TopSeller	TopSeller
Processor	i7-4810MQ (4C, 2.8 / 3.8GHz, 6MB, 1600MHz)
vPro	vPro
Graphics	NVIDIA Quadro K2100M
Memory	8GBx1
Display	15.6" FHD (1920x1080)
Storage	500GB 7200rpm
RAID	No
Optical	DVD±RW
WLAN & Bluetooth	Intel 7260 ac + BT4.0
WWAN / M.2 SSD	WWAN upgradable
SIM Card	None
Smart Card Reader	Smart Card Reader
Camera	720p
Backlit Keyboard	Backlit Keyboard
Numeric Keypad	Numeric Keypad
Fingerprint Reader	Fingerprint Reader
NFC	None
Color Calibrator	X-Rite
Battery Cells	9-cell (99.9Wh)
Power Adapter (watt)	170W
Preload	Windows 10 DG Windows 7 Pro 64
Base Warranty	3-year onsite
Global	No
Ann Date (mm/yy)	08/15



