



Lenovo® ThinkPad W540



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# ThinkPad W540 Platform Specifications

Product Specifications Reference (PSREF)

Positioning	<i>Mobile workstation; two spindles</i>								Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack							
Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor								WLAN <sup>4</sup>	<i>One of the following, configurable by model:</i>							
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	Processor Graphics		<ul style="list-style-type: none"> <li>• ThinkPad 11b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter, M.2 card</li> <li>• Intel Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card</li> <li>• Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card</li> <li>• Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card</li> </ul>							
	i5-4200M	2	4	2.5 GHz	3.1 GHz	3MB	DDR3L-1600	Intel HD Graphics 4600		<i>WWAN (optional) 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>							
	i5-4210M			2.6 GHz	3.2 GHz	3MB											
	i5-4330M			2.8 GHz	3.5 GHz	3MB											
	i7-4600M			2.9 GHz	3.6 GHz	4MB											
	i7-4700MQ	4	8	2.4 GHz	3.4 GHz	6MB											
	i7-4710MQ			2.5 GHz	3.5 GHz	6MB											
	i7-4800MQ			2.7 GHz	3.7 GHz	6MB											
	i7-4810MQ			2.8 GHz	3.8 GHz	6MB											
i7-4900MQ	2.8 GHz			3.8 GHz	8MB												
i7-4910MQ	2.9 GHz			3.9 GHz	8MB												
i7-4930MX	3 GHz	3.9 GHz	8MB														
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								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 (US models)</li> <li>• Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required (WE models)</li> <li>• User selectable, contract required with service provider</li> </ul>							
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable								Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter							
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high, bottom access								Ethernet	Intel Ethernet Connection I217-LM (Clarkville)							
Storage	<i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high								NFC	<i>Optional:</i> Near Field Communication							
	<i>Some:</i> Hard Disk Drive (HDD) / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™								Security chip	Power-on password, hard disk password, supervisor password, security keyhole							
M.2 SSD	<i>All:</i> removable, upgradable, supports the second disk, Shock Mounted								vPro (optional)	Trusted Platform Module, TCG 1.2-compliant							
	<i>Some:</i> M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card								Fingerprint reader	<i>Optional:</i> Fingerprint reader on the palm rest, swipe sensor							
Widescreen display	<i>Some:</i> 15.6" (396mm) <b>FHD (1920x1080)</b> , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio								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, IWS (International Warranty Service<sup>17</sup>)</li> </ul>							
Multi-touch	None								Preload	Windows® 7 Professional 64							
	Color calibration	<i>Optional:</i> Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator								preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit							
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus								<ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• ThinkVantage Product Recovery</li> <li>• Rescue and Recovery™</li> <li>• ThinkVantage System Update</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• PC Device Stage</li> <li>• Adobe® Reader®</li> <li>• Nitro Pro</li> <li>• Evernote®</li> <li>• Skype™</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security (30 days of virus definitions)</li> <li>• Cyberlink PowerDVD (DVD±RW)</li> <li>• Cyberlink Power2Go (DVD±RW)</li> <li>• Cyberlink PowerProducer (DVD±RW)</li> </ul>								
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4600</b> in processor, and <b>NVIDIA Quadro® K1100M</b> or <b>K2100M</b> , PCI Express® x16, <b>2GB</b> memory, supports external analog monitor via VGA and digital monitor via Mini DisplayPort / Thunderbolt™; supports three independent displays; <i>Max external resolution:</i> 3840x2160@60Hz (DisplayPort via MiniDP cable); 3840x2160@60Hz (Thunderbolt); 1920x1200@60Hz (VGA)								<i>Some:</i> Windows 8 / 8.1 64-bit <i>Some:</i> Windows 8 / 8.1 Pro 64-bit <ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• Lenovo Support</li> <li>• Lenovo Companion</li> <li>• ThinkVantage System Update</li> <li>• Lenovo Reach (Windows 8.1 model)</li> <li>• Hightail - Metro (Windows 8.1 model)</li> <li>• Lenovo Cloud Storage by SugarSync - Metro (Windows 8 model)</li> <li>• Lenovo Cloud Storage by SugarSync (Windows 8 model)</li> <li>• PC Device Stage</li> <li>• AccuWeather</li> <li>• Amazon Kindle</li> <li>• Nitro Pro</li> <li>• Evernote</li> <li>• Skype</li> <li>• Rara Streaming</li> <li>• Norton Studio</li> <li>• Microsoft Office preloaded; purchase a product key to activate</li> <li>• Norton Internet Security (30 days of virus definitions)</li> <li>• Cyberlink PowerDVD (DVD±RW)</li> <li>• Cyberlink Power2Go (DVD±RW)</li> <li>• Cyberlink PowerProducer (DVD±RW)</li> </ul>								
Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight								<i>For ISV certifications, please visit <a href="http://www.lenovo.com/support/ISV">www.lenovo.com/support/ISV</a></i>								
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch																
ThinkLight™	None																
Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm																
Weight <sup>2</sup>	6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)																
Case material	Glass-Fiber Reinforced Plastic																
Battery type	Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication																
Max battery life <sup>10</sup>	6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr																
AC adapter	<i>dual-core:</i> 135-watt AC adapter; <i>quad-core:</i> 170-watt AC adapter																
Chipset	<b>Mobile Intel QM87 Express Chipset</b>																
ExpressCard	One slot (ExpressCard/34)																
Smart card reader	<i>Optional:</i> Smart card reader																
Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card																
Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector																
Environment	EPEAT™ Gold; ENERGY STAR® 6.0; GREENGUARD®; RoHS-compliant																

# ThinkPad W540 20BG (Optimus) - TopSeller

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Camera	Backlit key-board	Finger-print reader	NFC	Color calibrator	Battery cells	Power adapter (watt)	Preload	Base warranty (year)	Global	Ann date (m/y)	
20BG003X++	i7-4810MQ	vPro	K1100M	8GBx2	15.6" FHD	1T 5400	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	Smart	720p	None	Finger	None	None	9	170W	Win8.1 DG	Win7	3-depot	No	06/14
20BG003Y++	i7-4710MQ	No	K1100M	8GBx1	15.6" FHD	1T 5400	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	Smart	720p	None	Finger	None	None	9	170W	Win8.1 DG	Win7	3-depot	No	06/14
20BG0040++	i7-4810MQ	vPro	K1100M	8GBx1	15.6" FHD	1T 5400	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	Smart	720p	None	Finger	None	None	9	170W	Win8.1 DG	Win7	3-depot	No	06/14
20BG0041++	i7-4810MQ	vPro	K1100M	8GBx2	15.6" FHD	512G SSD	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	Smart	720p	None	Finger	None	None	9	170W	Win8.1 DG	Win7	3-depot	No	06/14

Country Code"+": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)  
 Note: models listed above might not be available in all WE countries

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications sheet](#)

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor						Dimensions <sup>3</sup>		15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm													
	Processor # of Cores Base Frequency Max Turbo Frequency Cache Memory Speed						Weight <sup>2</sup>		6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)													
	i5-4200M 2 2.5 GHz 3.1 GHz 3MB						Case material		Glass-Fiber Reinforced Plastic													
	i5-4210M 2 2.6 GHz 3.2 GHz 3MB						Battery type		Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication													
	i5-4330M 2 2.8 GHz 3.5 GHz 3MB						Max battery life <sup>10</sup>		6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr													
	i7-4600M 4 2.9 GHz 3.6 GHz 4MB						AC adapter		dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter													
	i7-4700MQ 4 2.4 GHz 3.4 GHz 6MB						Audio support		HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack													
	i7-4710MQ 4 2.5 GHz 3.5 GHz 6MB						Chipset		Mobile Intel QM87 Express Chipset													
	i7-4800MQ 4 2.7 GHz 3.7 GHz 6MB						ExpressCard		One slot (ExpressCard/34)													
	i7-4810MQ 4 2.8 GHz 3.8 GHz 6MB						Smart card reader		Optional: Smart card reader													
	i7-4900MQ 4 2.8 GHz 3.8 GHz 8MB						Media reader		4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card													
	i7-4910MQ 4 2.9 GHz 3.9 GHz 8MB						Ports		Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector													
i7-4930MX 4 3 GHz 3.9 GHz 8MB						WLAN <sup>4</sup>		11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card														
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable						WWAN (optional)		Upg: Wireless WAN upgradable EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS													
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable						SIM card (opt)		Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required Select: User selectable, contract required with service provider													
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high						Bluetooth™		Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter													
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS						Ethernet		Intel Ethernet Connection I217-LM (Clarkville)													
M.2 SSD (opt)	M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card						NFC (optional)		Near Field Communication													
Widescreen display	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS						Security		Power-on password, hard disk password, supervisor password, security keyhole													
Multi-touch	None						Security chip		Trusted Platform Module, TCG 1.2-compliant													
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest						vPro (optional)		Intel vPro Technology													
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus						Fingerprint reader		Optional: Fingerprint reader on the palm rest, swipe sensor													
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory						Preload		Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit													
Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight						Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite															
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch																					
ThinkLight™	None																					

See footnotes for more detailed information

(G-KM1W-1) © Lenovo

# ThinkPad W540 20BG (Optimus) - TopSeller (Onsite)

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Camera	Backlit key-board	Finger-print reader	NFC	Color cali-brator	Bat-tery adapter (watt)	Power	Preload	Base warranty (year)	Glob-al	Ann date (m/y)	
20BG0045++	i7-4710MQ	No	K1100M	4GBx1	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8.1 DG	Win7	3-onsite	No	06/14
20BG0046++	i7-4710MQ	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	None	9	170W	Win8.1 DG	Win7	3-onsite	No	06/14
20BG0047++	i5-4210M	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	135W	Win8.1 DG	Win7	3-onsite	No	06/14
20BG001E++	i7-4700MQ	No	K1100M	4GBx1	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No	11/13
20BG001H++	i5-4200M	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	135W	Win8 DG	Win7	3-onsite	No	11/13
20BG001K++	i7-4700MQ	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	None	9	170W	Win8 DG	Win7	3-onsite	No	11/13
20BG001T++	i5-4330M vPro	K1100M	8GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	135W	Win8 DG	Win7	3-onsite	No	11/13	
20BG002W++	i7-4700MQ	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	EM7345 Select	Smart	720p	Backlit	Finger	None	None	9	170W	Win8 DG	Win7	3-onsite	No	01/14	
20BG0032++	i7-4700MQ	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	EM7345 Select	Smart	None	Backlit	Finger	None	None	9	170W	Win8 DG	Win7	3-onsite	No	03/14	
20BG0042++	i7-4910MQ vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8.1 DG	Win7	3-onsite	No	06/14	
20BG0044++	i7-4810MQ vPro	K2100M	8GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8.1 DG	Win7	3-onsite	No	06/14	
20BG001B++	i7-4800MQ vPro	K2100M	8GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No	11/13	
20BG001C++	i7-4900MQ vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No	11/13	
20BG001S++	i7-4930MX vPro	K2100M	8GBx2	15.5" 3K IPS	2x512G SSD	0	None	7260 ac+BT	N5321 Select	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No	11/13		
20BG002V++	i7-4900MQ vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	EM7345 Select	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No	01/14		
20BG0031++	i7-4900MQ vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	EM7345 Select	None	None	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No	03/14		

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications sheet](#)

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor	Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery type Max battery life <sup>10</sup> AC adapter	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg) Glass-Fiber Reinforced Plastic Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter																																																						
	<table border="1"> <thead> <tr> <th>Processor</th> <th># of Cores</th> <th>Base Frequency</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>Memory Speed</th> </tr> </thead> <tbody> <tr> <td>i5-4200M</td> <td rowspan="4">2</td> <td>2.5 GHz</td> <td>3.1 GHz</td> <td>3MB</td> <td rowspan="12">DDR3L-1600</td> </tr> <tr> <td>i5-4210M</td> <td>2.6 GHz</td> <td>3.2 GHz</td> <td>3MB</td> </tr> <tr> <td>i5-4330M</td> <td>2.8 GHz</td> <td>3.5 GHz</td> <td>3MB</td> </tr> <tr> <td>i7-4600M</td> <td>2.9 GHz</td> <td>3.6 GHz</td> <td>4MB</td> </tr> <tr> <td>i7-4700MQ</td> <td rowspan="8">4</td> <td>2.4 GHz</td> <td>3.4 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-4710MQ</td> <td>2.5 GHz</td> <td>3.5 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-4800MQ</td> <td>2.7 GHz</td> <td>3.7 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-4810MQ</td> <td>2.8 GHz</td> <td>3.8 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-4900MQ</td> <td>2.8 GHz</td> <td>3.8 GHz</td> <td>8MB</td> </tr> <tr> <td>i7-4910MQ</td> <td>2.9 GHz</td> <td>3.9 GHz</td> <td>8MB</td> </tr> <tr> <td>i7-4930MX</td> <td rowspan="2">3 GHz</td> <td rowspan="2">3.9 GHz</td> <td rowspan="2">8MB</td> </tr> <tr> <td>i7-4930MX</td> </tr> </tbody> </table>	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	i5-4200M	2	2.5 GHz	3.1 GHz	3MB	DDR3L-1600	i5-4210M	2.6 GHz	3.2 GHz	3MB	i5-4330M	2.8 GHz	3.5 GHz	3MB	i7-4600M	2.9 GHz	3.6 GHz	4MB	i7-4700MQ	4	2.4 GHz	3.4 GHz	6MB	i7-4710MQ	2.5 GHz	3.5 GHz	6MB	i7-4800MQ	2.7 GHz	3.7 GHz	6MB	i7-4810MQ	2.8 GHz	3.8 GHz	6MB	i7-4900MQ	2.8 GHz	3.8 GHz	8MB	i7-4910MQ	2.9 GHz	3.9 GHz	8MB	i7-4930MX	3 GHz	3.9 GHz	8MB	i7-4930MX	Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack
Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed																																																				
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i7-4930MX		3 GHz	3.9 GHz	8MB																																																					
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		Chipset ExpressCard Smart card reader Media reader Ports	<b>Mobile Intel QM87 Express Chipset</b> One slot (ExpressCard/34) Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector																																																						
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable	WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card																																																						
Optical (optional) Ultrabay Storage	DVD burner, 9.5mm Ultrabay slim, removable One modular bay for removable devices (right side, cold swap), 9.5mm high Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card	WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS																																																						
M.2 SSD (opt)		SIM card (opt)	Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required Select: User selectable, contract required with service provider																																																						
Widescreen display Multi-touch Color calibration Camera (optional)	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS None Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	Bluetooth™ Ethernet NFC (optional)	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Intel Ethernet Connection I217-LM (Clarkville) Near Field Communication																																																						
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory	Security Security chip vPro (optional) Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology Optional: Fingerprint reader on the palm rest, swipe sensor																																																						
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch	Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit																																																						
ThinkLight™	None	Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite																																																							

See footnotes for more detailed information

(G-KM1W-2) © Lenovo

# ThinkPad W540 20BG (Optimus) - TopSeller (Onsite) - II

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Camera	Backlit key-board	Finger-print reader	NFC	Color cali-brator	Bat-tery adapter (watt)	Power (watt)	Preload	Base warranty (year)	Glob-al	Ann- date (m/y)
20BG001U++	i7-4600M	vPro	K1100M	8GBx1	15.6" FHD	256G SSD eDrive + 500G 7200	No	None	7260 ac+BT	N5321	Select	None	720p	Backlit	Finger	None	X-Rite	9	135W	Win8 DG Win7	3-onsite	No	11/13
20BG0043++	i7-4810MQ	vPro	K2100M	8GBx1	15.6" FHD	256G SSD eDrive + 1T 5400	No	None	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8.1 DG Win7	3-onsite	No	06/14
20BG001D++	i7-4800MQ	vPro	K2100M	8GBx1	15.6" FHD	256G SSD eDrive + 1T 5400	No	None	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG Win7	3-onsite	No	11/13

Country Code"+": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)  
 Note: models listed above might not be available in all WE countries

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications sheet](#)

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor					Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm							
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	Weight <sup>2</sup>	6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)						
	i5-4200M	2	2.5 GHz	3.1 GHz	3MB	DDR3L-1600	Case material	Glass-Fiber Reinforced Plastic						
	i5-4210M		2.6 GHz	3.2 GHz	3MB		Battery type	Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication						
	i5-4330M		2.8 GHz	3.5 GHz	3MB		Max battery life <sup>10</sup>	6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr						
	i7-4600M		2.9 GHz	3.6 GHz	4MB		AC adapter	dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter						
	i7-4700MQ		2.4 GHz	3.4 GHz	6MB		Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack						
	i7-4710MQ	4	2.5 GHz	3.5 GHz	6MB		Chipset	<b>Mobile Intel QM87 Express Chipset</b>						
	i7-4800MQ		2.7 GHz	3.7 GHz	6MB		ExpressCard	One slot (ExpressCard/34)						
	i7-4810MQ		2.8 GHz	3.8 GHz	6MB		Smart card reader	Optional: Smart card reader						
	i7-4900MQ		2.8 GHz	3.8 GHz	8MB		Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card						
	i7-4910MQ		2.9 GHz	3.9 GHz	8MB		Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector						
	i7-4930MX		3 GHz	3.9 GHz	8MB		WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card						
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable						WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS						
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable						SIM card (opt)	Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required Select: User selectable, contract required with service provider						
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high					Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter							
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card					Ethernet	Intel Ethernet Connection I217-LM (Clarkville)							
M.2 SSD (opt)						NFC (optional)	Near Field Communication							
Widescreen display	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS					Security	Power-on password, hard disk password, supervisor password, security keyhole							
Multi-touch	None					Security chip	Trusted Platform Module, TCG 1.2-compliant							
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest					vPro (optional)	Intel vPro Technology							
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus					Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor							
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory					Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit							
Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight					Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite								
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch													
ThinkLight™	None													

See footnotes for more detailed information

(G-KM1W-5) © Lenovo

# ThinkPad W540 20BH (Optimus) - Windows 8

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Camera	Backlit key-board	Finger-print reader	NFC	Color cali-brator	Bat-tery adapter (watt)	Power Preload	Base warranty (year)	Glob-al	Ann date (m/y)	
20BH002C++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002D++	i7-4800MQ	vPro	K1100M	4GBx2	15.5" 3K IPS	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002F++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002H++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002R++	i7-4800MQ	vPro	K1100M	8GBx1	15.6" FHD	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002T++	i7-4800MQ	vPro	K1100M	8GBx1	15.5" 3K IPS	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH004M++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
20BH004N++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p	None	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
20BH004Q++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	128G SSD	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
20BH002K++	i7-4800MQ	vPro	K2100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002P++	i7-4800MQ	vPro	K2100M	4GBx2	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 P64	3-depot	Yes	11/13
20BH004P++	i7-4800MQ	vPro	K2100M	4GBx2	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 P64	3-depot	Yes	04/14
20BH004R++	i7-4900MQ	vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p	Backlit	Finger	NFC	X-Rite	9	170W	Win8 P64	3-depot	Yes	04/14

Country Code"+": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications sheet](#)

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor	Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery type Max battery life <sup>10</sup> AC adapter	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg) Glass-Fiber Reinforced Plastic Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter																																																						
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i7-4910MQ		2.9 GHz	3.9 GHz	8MB																																																					
i7-4930MX		3 GHz	3.9 GHz	8MB																																																					
		Chipset	Mobile Intel QM87 Express Chipset																																																						
		ExpressCard	One slot (ExpressCard/34)																																																						
		Smart card reader	Optional: Smart card reader																																																						
		Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card																																																						
		Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector																																																						
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable	WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card																																																						
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable	WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS																																																						
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high	SIM card (opt)	Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required Select: User selectable, contract required with service provider																																																						
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card	Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter																																																						
M.2 SSD (opt)		Ethernet	Intel Ethernet Connection I217-LM (Clarkville)																																																						
Widescreen display	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS	NFC (optional)	Near Field Communication																																																						
Multi-touch	None	Security	Power-on password, hard disk password, supervisor password, security keyhole																																																						
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest	Security chip	Trusted Platform Module, TCG 1.2-compliant																																																						
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	vPro (optional)	Intel vPro Technology																																																						
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory	Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor																																																						
Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight	Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit																																																						
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch																																																								
ThinkLight™	None																																																								
			Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite																																																						

See footnotes for more detailed information

(G-KM1W-3) © Lenovo

# ThinkPad W540 20BH (Optimus) - Onsite (Windows 8)

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Camera	Backlit key-board	Finger-print reader	NFC	Color cali-brator	Bat-tery adapter (watt)	Power Preload	Base warranty (year)	Glob-al	Ann date (m/y)	
20BH002E++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	2x500G 7200	0	None	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13
20BH002J++	i7-4800MQ	vPro	K1100M	4GBx2	15.5" 3K IPS	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13
20BH002M++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13
20BH002N++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13
20BH002Q++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13
20BH002S++	i7-4800MQ	vPro	K1100M	8GBx1	15.6" FHD	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13
20BH002U++	i7-4800MQ	vPro	K1100M	8GBx1	15.5" 3K IPS	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13
20BH002G++	i7-4800MQ	vPro	K2100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13
20BH002L++	i7-4800MQ	vPro	K2100M	4GBx2	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 P64	3-onsite	Yes	11/13

Country Code"++": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications sheet](#)

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor	Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery type Max battery life <sup>10</sup> AC adapter	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg) Glass-Fiber Reinforced Plastic Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter																																																						
	<table border="1"> <thead> <tr> <th>Processor</th> <th># of Cores</th> <th>Base Frequency</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>Memory Speed</th> </tr> </thead> <tbody> <tr> <td>i5-4200M</td> <td rowspan="4">2</td> <td>2.5 GHz</td> <td>3.1 GHz</td> <td>3MB</td> <td rowspan="10">DDR3L-1600</td> </tr> <tr> <td>i5-4210M</td> <td>2.6 GHz</td> <td>3.2 GHz</td> <td>3MB</td> </tr> <tr> <td>i5-4330M</td> <td>2.8 GHz</td> <td>3.5 GHz</td> <td>3MB</td> </tr> <tr> <td>i7-4600M</td> <td>2.9 GHz</td> <td>3.6 GHz</td> <td>4MB</td> </tr> <tr> <td>i7-4700MQ</td> <td rowspan="6">4</td> <td>2.4 GHz</td> <td>3.4 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-4710MQ</td> <td>2.5 GHz</td> <td>3.5 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-4800MQ</td> <td>2.7 GHz</td> <td>3.7 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-4810MQ</td> <td>2.8 GHz</td> <td>3.8 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-4900MQ</td> <td>2.8 GHz</td> <td>3.8 GHz</td> <td>8MB</td> </tr> <tr> <td>i7-4910MQ</td> <td>2.9 GHz</td> <td>3.9 GHz</td> <td>8MB</td> </tr> <tr> <td>i7-4930MX</td> <td></td> <td>3 GHz</td> <td>3.9 GHz</td> <td>8MB</td> </tr> </tbody> </table>	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	i5-4200M	2	2.5 GHz	3.1 GHz	3MB	DDR3L-1600	i5-4210M	2.6 GHz	3.2 GHz	3MB	i5-4330M	2.8 GHz	3.5 GHz	3MB	i7-4600M	2.9 GHz	3.6 GHz	4MB	i7-4700MQ	4	2.4 GHz	3.4 GHz	6MB	i7-4710MQ	2.5 GHz	3.5 GHz	6MB	i7-4800MQ	2.7 GHz	3.7 GHz	6MB	i7-4810MQ	2.8 GHz	3.8 GHz	6MB	i7-4900MQ	2.8 GHz	3.8 GHz	8MB	i7-4910MQ	2.9 GHz	3.9 GHz	8MB	i7-4930MX		3 GHz	3.9 GHz	8MB	Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack
Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed																																																				
i5-4200M	2	2.5 GHz	3.1 GHz	3MB	DDR3L-1600																																																				
i5-4210M		2.6 GHz	3.2 GHz	3MB																																																					
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i7-4710MQ		2.5 GHz	3.5 GHz	6MB																																																					
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i7-4900MQ		2.8 GHz	3.8 GHz	8MB																																																					
i7-4910MQ		2.9 GHz	3.9 GHz	8MB																																																					
i7-4930MX		3 GHz	3.9 GHz	8MB																																																					
		Chipset ExpressCard Smart card reader Media reader Ports	<b>Mobile Intel QM87 Express Chipset</b> One slot (ExpressCard/34) Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector																																																						
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable	WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card																																																						
Optical (optional) Ultrabay Storage	DVD burner, 9.5mm Ultrabay slim, removable One modular bay for removable devices (right side, cold swap), 9.5mm high Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card	WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS																																																						
M.2 SSD (opt)		SIM card (opt)	Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required Select: User selectable, contract required with service provider																																																						
Widescreen display Multi-touch Color calibration Camera (optional)	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS None Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	Bluetooth™ Ethernet NFC (optional)	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Intel Ethernet Connection I217-LM (Clarkville) Near Field Communication																																																						
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory	Security Security chip vPro (optional) Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology Optional: Fingerprint reader on the palm rest, swipe sensor																																																						
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch	Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit																																																						
ThinkLight™	None	Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite																																																							

See footnotes for more detailed information

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