



Lenovo® ThinkPad W540



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**ThinkPad W540 Platform Specifications** *Product Specifications Reference (PSREF)*

## ThinkPad W540 Platform Specifications

Positioning	Mobile workstation; two spindles							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>	One of the following, configurable by model: <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>	
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	Processor Graphics		WWAN (optional) One of the following, configurable by model (mutually exclusive with M.2 SSD): <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>	
	i5-4200M	2	4	2.5 GHz	3.1 GHz	3MB	DDR3L-1600	Intel HD Graphics 4600			
	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	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								SIM card (optional)	One of the following, configurable by model: <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) Ultrabay	DVD burner, 9.5mm Ultrabay slim, removable One modular bay for removable devices (right side, cold swap), 9.5mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive (HDD) / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Some: M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card								Bluetooth™ Ethernet NFC	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Intel Ethernet Connection I217-LM (Clarkville) Optional: Near Field Communication	
Storage									Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology	
									Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor	
M.2 SSD									Limited warranty <sup>12</sup> One of the following, configurable by model: <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>		
Widescreen display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), anti-glare, LED backlight, 350 nits, 16:9 aspect ratio, 1000:1 contrast ratio, IPS								Preload	Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit <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>	
Multi-touch Color calibration	None Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator								Some: Windows 8 / 8.1 64-bit Some: 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</li><li>• 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>		
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus								For ISV certifications, please visit <a href="http://www.lenovo.com/support/ISV">www.lenovo.com/support/ISV</a>		
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, supports external analog monitor via VGA and digital monitor via Mini DisplayPort / Thunderbolt™; supports three independent displays; Max external resolution: 3840x2160@60Hz (DisplayPort via MiniDP cable); 3840x2160@60Hz (Thunderbolt); 1920x1200@60Hz (VGA)								Environment	EPEAT™ Gold; ENERGY STAR® 6.0; GREENGUARD®; RoHS-compliant	
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										
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	dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter										
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										

# 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 calibration	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	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	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		2.5 GHz	3.5 GHz	6MB		Chipset	Mobile Intel QM87 Express Chipset	
	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	
							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	
							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	
							Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	
							Ethernet	Intel Ethernet Connection I217-LM (Clarkville)	
							NFC (optional)	Near Field Communication	
							Security	Power-on password, hard disk password, supervisor password, security keyhole	
							Security chip	Trusted Platform Module, TCG 1.2-compliant	
							vPro (optional)	Intel vPro Technology	
							Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor	
							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
							Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite		
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								
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable								
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high								
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 SSD (opt)	M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card								
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								
Multi-touch	None								
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest								
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus								
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								
Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight								
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	Cam-era	Backlit key-board	Finger-print reader	NFC	Color cali-brator	Bat-tery cells	Power adapter (watt)	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	
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack
	i5-4200M	2	2.5 GHz	3.1 GHz	3MB	DDR3L-1600	Chipset	Mobile Intel QM87 Express Chipset
	i5-4210M		2.6 GHz	3.2 GHz	3MB		ExpressCard	One slot (ExpressCard/34)
	i5-4330M		2.8 GHz	3.5 GHz	3MB		Smart card reader	Optional: Smart card reader
	i7-4600M		2.9 GHz	3.6 GHz	4MB		Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
	i7-4700MQ	2.4 GHz	3.4 GHz	6MB	Ports		Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector	
	i7-4710MQ	2.5 GHz	3.5 GHz	6MB	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	
	i7-4800MQ	2.7 GHz	3.7 GHz	6MB	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	
	i7-4810MQ	2.8 GHz	3.8 GHz	6MB	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	
i7-4900MQ	2.8 GHz	3.8 GHz	8MB	Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter			
i7-4910MQ	2.9 GHz	3.9 GHz	8MB	Ethernet	Intel Ethernet Connection I217-LM (Clarkville)			
i7-4930MX	3 GHz	3.9 GHz	8MB	NFC (optional)	Near Field Communication			
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					Security	Power-on password, hard disk password, supervisor password, security keyhole	
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable					Security chip	Trusted Platform Module, TCG 1.2-compliant	
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high					vPro (optional)	Intel vPro Technology	
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					Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor	
M.2 SSD (opt)	M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card					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	
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					Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite		
Multi-touch	None							
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest							
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus							
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							
Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight							
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch							
ThinkLight™	None							

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 cells	Power adapter ( 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	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		2.5 GHz	3.5 GHz	6MB		Chipset ExpressCard Smart card reader Media reader Ports	Mobile Intel QM87 Express Chipset 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	
	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	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						Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	
M.2 SSD (opt)	M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card						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
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch							Win8 / 8.1 64: Win8 / 8.1 P64:	Windows 8 / 8.1 64-bit 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-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	Cam- era	Backlit key- board	Finger- print reader	NFC	Color cali- brator	Bat- tery cells	Power adapter (watt)	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>	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	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		2.5 GHz	3.5 GHz	6MB		Chipset	Mobile Intel QM87 Express Chipset	
	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						
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						Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	
M.2 SSD (opt)	M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card						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
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch							Win8 / 8.1 64: Win8 / 8.1 P64:	Windows 8 / 8.1 64-bit 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-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	Fingerprint reader	NFC	Color calibration	Battery cells	Power adapter (watt)	Preload	Base warranty (year)	Global	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>	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	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		2.5 GHz	3.5 GHz	6MB		Chipset	Mobile Intel QM87 Express Chipset	
	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					
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets						WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card	
	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							7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card	
	All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable							7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card	
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable							7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card	
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high						WWAN (optional)	Upg: Wireless WAN upgradable	
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high							EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS	
	Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS							N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS	
M.2 SSD (opt)	M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card						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	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio						Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	
Multi-touch	Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS						Ethernet	Intel Ethernet Connection I217-LM (Clarkville)	
Color calibration	None						NFC (optional)	Near Field Communication	
Camera (optional)	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest						Security	Power-on password, hard disk password, supervisor password, security keyhole	
	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus						Security chip	Trusted Platform Module, TCG 1.2-compliant	
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						vPro (optional)	Intel vPro Technology	
							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
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch							Win8 / 8.1 64:	through downgrade rights in Windows 8 / 8.1 Pro 64-bit
	None							Win8 / 8.1 P64:	Windows 8 / 8.1 64-bit
ThinkLight™									Windows 8 / 8.1 Pro 64-bit
							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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