

# ThinkPad W540 20BG (Optimus) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Discrete graphics	Cam-era	Storage	RAID	Optical	Backlit key-board	M.2 Card WLAN	M.2 Card WWAN/SSD	SIM card	Finger print reader	NFC	Color calib	Smart Card Reader	Bat-tery cells	Preload	Base Warranty (year)	Ann Date (m/y)		
20BG0013US	i7-4800MQ	4GBx2	15.6" FHD	K1100M	720p	1x180G SSD	OPAL	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0017US	i7-4800MQ	8GBx1	15.5" 3K	K2100M	720p	1x180G SSD	OPAL	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	X-Rite	None	9	Win7 P64 DG Win8	3-Depot	No	11/13
20BG0010US	i7-4700MQ	4GBx2	15.6" FHD	K1100M	720p	1x256G SSD	eDrive	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0011US	i7-4700MQ	4GBx2	15.6" FHD	K1100M	720p	1x500G	7200	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0012US	i7-4800MQ	4GBx2	15.6" FHD	K1100M	720p	1x500G	7200	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0014US	i7-4800MQ	4GBx2	15.6" FHD	K1100M	720p	1x256G SSD	eDrive	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0015US	i7-4800MQ	4GBx2	15.6" FHD	K2100M	720p	1x256G SSD	eDrive	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG001YUS	i7-4700MQ	8GBx1	15.6" FHD	K1100M	720p	1x240G SSD	OPAL	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0020US	i7-4800MQ	8GBx1	15.6" FHD	K1100M	720p	1x240G SSD	OPAL	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0021US	i7-4800MQ	8GBx1	15.6" FHD	K2100M	720p	1x240G SSD	OPAL	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0022US	i7-4800MQ	8GBx1	15.5" 3K	K1100M	720p	1x240G SSD	OPAL	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	None	9	Win7 P64 DG Win8	3-Depot	No	11/13	
20BG0016US	i7-4800MQ	8GBx1	15.5" 3K	K2100M	720p	1x256G SSD	eDrive	No	DVD±RW	Backlit	7260 ac	upg	None	Finger	None	X-Rite	None	9	Win7 P64 DG Win8	3-Depot	No	11/13

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

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor	Chipset	<b>Mobile Intel QM87 Express Chipset</b>
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 <i>All:</i> PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable	ExpressCard	One slot (ExpressCard/34)
Optical	<i>Some:</i> DVD burner, 9.5mm Ultrabay slim, removable	Smart Card Read	<i>Optional:</i> Smart Card reader
Ultrabay	One modular bay for removable devices (right side, cold swap), 9.5mm high	Multicard Reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
SATA disk	<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, APS	Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, ethernet (RJ-45), Dock connector
M.2 SSD	<i>Some:</i> M.2 Solid State Drive (SSD), via M.2 Card slot, exclusive with WWAN card	Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack
Widescreen display	<i>Some:</i> <b>15.6"</b> (396mm) <b>FHD (1920x1080)</b> , 300 nits, 500:1 contrast ratio <i>Some:</i> <b>15.5"</b> (394mm) <b>3K (2880x1620)</b> , 350 nits, 1000:1 contrast ratio, IPS	WLAN <sup>4</sup>	<i>TP 11b/g/n:</i> ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 Card <i>7260 b/g/n:</i> Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 Card <i>7260 a/b/g/n:</i> Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 Card <i>7260 ac:</i> Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 Card
MultiTouch	None	WWAN (optional)	<i>upg:</i> Wireless WAN upgradable <i>EM7355:</i> Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/ HSPA+/EVDO/GSM/GPRS/EDGE, GPS
Color calibration	<i>Optional:</i> Pantone® color calibrator by X-Rite® color calibration sensor in palm rest	SIM card (optional)	<i>AT&amp;T / Verizon:</i> AT&T® / Verizon® LTE (4G), contract required with service provider <i>select:</i> User selectable, contract required with service provider
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter
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	Ethernet	Intel Ethernet Connection I217-LM (Clarkville)
Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight	NFC	<i>Optional:</i> Near Field Communication
UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch	Security	Power-on password, hard disk password, supervisor password, security keyhole
ThinkLight™	None	Security chip	Trusted Platform Module, TCG 1.2-compliant
Dimensions <sup>3</sup>	<i>15.6W"</i> (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm	vPro & iAMT	vPro and Intel Active Management Technology (iAMT) support on selected models
Weight <sup>2</sup>	<i>6-cell:</i> starting at 5.57 lb (2.53kg); <i>9-cell:</i> starting at 5.95 lb (2.70kg)	Fingerprint reader	<i>Optional:</i> Fingerprint reader on the palm rest, swipe sensor
Case material	Glass-Fiber Reinforced Plastic	Preload	<i>Win7 P64 DG Win8 / 8.1:</i> Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit <i>Win8 / 8.1 64:</i> Windows 8 / 8.1 64-bit <i>Win8 / 8.1 P64:</i> Windows 8 / 8.1 Pro 64-bit
Battery - type	Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication	Limited warranty <sup>12</sup>	<b>1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite</b>
Battery - life <sup>10</sup>	<i>6-cell:</i> up to 6.2 hr; <i>9-cell:</i> up to 11.1 hr		
AC adapter	<i>dual-core:</i> 135-watt AC adapter; <i>quad-core:</i> 170-watt AC adapter		

See footnotes for more detailed information