

ThinkPad W541 Platform Specifications

Product Specifications Reference (PSREF)

| | | | | | | | | | | |
|---------------------|---|------------|--------------|----------------|---------------------|--|--------------|--|--|--|
| Processor | 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor | | | | | | | Dimensions ³ | 15.6" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm | |
| | Processor Number | # of Cores | # of Threads | Base Frequency | Max Turbo Frequency | Cache | Memory Types | Processor Graphics | Weight ² Case material | 6-cell: starting at 5.57 lb (2.53 kg); 9-cell: starting at 5.95 lb (2.70 kg) Glass-Fiber Reinforced Plastic |
| | i5-4210M | 2 | 4 | 2.6 GHz | 3.2 GHz | 3MB | DDR3L-1600 | Intel HD Graphics 4600 | Smart card reader | Optional: Smart card reader |
| | i5-4340M | | | 2.9 GHz | 3.6 GHz | 3MB | | | ExpressCard | One slot (ExpressCard/34) |
| | i7-4600M | 2.9 GHz | 3.6 GHz | 4MB | Media reader | 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card | | | | |
| | i7-4710MQ | 2.5 GHz | 3.5 GHz | 6MB | Ports | Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector | | | | |
| | i7-4810MQ | 2.8 GHz | 3.8 GHz | 6MB | | | | | | |
| | i7-4910MQ | 2.9 GHz | 3.9 GHz | 8MB | | | | | | |
| | i7-4940MX | 3.1 GHz | 4 GHz | 8MB | | | | | | |
| | | | | | | | | Camera (optional) | HD720p resolution, low light sensitive, fixed focus | |
| | | | | | | | | Audio support | HD Audio, Realtek® ALC3232 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack | |
| Graphics | Intel HD Graphics 4600 in processor and NVIDIA Quadro® K1100M or K2100M, 2GB memory; supports external analog monitor via VGA and digital monitor via Mini DisplayPort / Thunderbolt™; supports three independent displays; Max resolution: 3840x2160@60Hz (DisplayPort via Mini DisplayPort cable); 3840x2160@60Hz (Thunderbolt); 1920x1200@60Hz (VGA) | | | | | | | Keyboard | 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight | |
| | | | | | | | | UltraNav™ | TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch | |
| | | | | | | | | Security | Power-on password, hard disk password, supervisor password, security keyhole | |
| | | | | | | | | Security chip | Trusted Platform Module, TCG 1.2-compliant | |
| | | | | | | | | ThinkEngine | Delivers improved thermal and power efficiency, up to 30 day standby, faster resume time, enhanced security, as well as anti-tampering measures | |
| Chipset | Mobile Intel QM87 Express Chipset | | | | | | | vPro (optional) | Intel vPro Technology | |
| Memory | dual-core model: 16GB max ⁷ , 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 | | | | | | | Fingerprint reader | Optional: Fingerprint reader on the palm rest, swipe sensor | |
| | | | | | | | | Color calibration | Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator | |
| 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 | | | | | | | Battery type | Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication | |
| | | | | | | | | Max battery life ¹⁰ | 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr | |
| | | | | | | | | AC adapter | dual-core: 135W AC adapter; quad-core: 170W AC adapter | |
| Multi-touch | None | | | | | | | Preload | Windows® 7 Professional 64 preinstalled Some: Windows 8.1 64-bit through downgrade rights in Some: Windows 8.1 Pro 64-bit Some: Windows 10 Pro 64 | |
| 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, Shock Mounted Hard Drive, Active Protection System™ All: removable, upgradable, supports the second disk | | | | | | | Windows 8 / 8.1 Pro 64-bit or Windows 10 Pro 64 | • Lenovo Solution Center • Lenovo SHAREit • Lenovo REACHit • Lenovo Companion • Microsoft Office preloaded; • Norton Internet Security (30 days of virus definitions, Win8 w/o i5/i7 model) • McAfee® LiveSafe™ (30-day trial, Win8 i5/i7 and Win10 model) | |
| M.2 SSD (opt) | 16GB M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card | | | | | | | • ThinkVantage Product Recovery • Rescue and Recovery™ • ThinkVantage System Update • Lenovo Cloud Storage by SugarSync • PC Device Stage • Adobe® Reader® • Microsoft® Office preloaded; • Norton™ Internet Security (30 days of virus definitions) • Cyberlink PowerDVD (DVD±RW) • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW) For ISV certifications, please visit www.lenovo.com/support/ISV | | |
| Optical (optional) | DVD burner, 9.5mm Ultrabay slim, removable | | | | | | | | | |
| Ultrabay | One modular bay for removable devices (right side, cold swap), 9.5mm high, bottom access | | | | | | | | | |
| Ethernet | Intel Ethernet Connection I217-LM (Clarkville) | | | | | | | | | |
| Bluetooth™ | Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter | | | | | | | | | |
| WLAN ⁴ | One of the following, configurable by model: • 11b/g/n, ThinkPad 11b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter, M.2 card • 11b/g/n, Intel Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card • 11a/b/g/n, Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT adapter, M.2 card • 11ac, Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT adapter, M.2 card | | | | | | | | | |
| WWAN (optional) | One of the following, configurable by model (mutually exclusive with M.2 SSD): • Wireless WAN upgradable • Wireless WAN, Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/HSPA+/EVDO/GSM/GPRS/EDGE, GPS, M.2 card (US models) • Wireless WAN, Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS, M.2 card (WE models) • Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card (WE models) | | | | | | | Limited warranty ¹² | One of the following, configurable by model: • 1-year depot repair service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service ²⁴ • 3-year/1-yr battery limited onsite service, OID (Onsite International Delivery) | |
| SIM card (optional) | One of the following, configurable by model: • AT&T® or Verizon® LTE (4G), contract required with service provider • User selectable, contract required with service provider | | | | | | | Mil-Spec test | MIL-STD-810G military certification | |
| | | | | | | | | Environment | EPEAT™ Gold; ENERGY STAR® 6.1; GREENGUARD®; RoHS-compliant | |

ThinkPad W541 20EF (Discrete) - 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 cali-brator | Bat-tery adapter (watt) | Power Preload | Base warranty (year) | Glob-al | Ann date (m/y) | |
|------------|----------------|------|----------|--------|--------------|-----------------|------|---------|------------------|----------------|----------|-------------------|--------|-------------------|---------------------|------|-------------------|-------------------------|---------------|----------------------|--------------|----------------|-------|
| 20EF000HUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000KUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000NUS | i7-4810MQ vPro | | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000PUS | i7-4810MQ vPro | | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000JUS | i7-4810MQ vPro | | K2100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000LUS | i7-4810MQ vPro | | K2100M | 8GBx1 | 15.5" 3K IPS | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000MUS | i7-4810MQ vPro | | K1100M | 8GBx1 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | X-Rite | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF001EUS | i7-4710MQ | No | K1100M | 8GBx2 | 15.6" FHD | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 03/15 |
| 20EF001DUS | i7-4810MQ vPro | | K2100M | 8GBx2 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 03/15 |
| 20EF002MUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 07/15 |
| 20EF002LUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 07/15 |
| 20EF002KUS | i7-4810MQ vPro | | K2100M | 8GBx1 | 15.5" 3K IPS | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | None | Finger | None | None | 9 | 170W | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002NUS | i7-4810MQ 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 | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002PUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002QUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002RUS | i7-4810MQ vPro | | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 DG | Win7 3-depot | No | 09/15 |

• For detailed platform specifications, please see [ThinkPad W541 Platform Specifications sheet](#)

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|--------------------|--|------------|----------------|---------------------|-------|--------------|--|--|--|
| Processor | 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor | | | | | | SIM card (optional) | AT&T / Verizon: AT&T® / Verizon® LTE (4G), contract required with service provider | |
| | Processor | # of Cores | Base Frequency | Max Turbo Frequency | Cache | Memory Types | | Select: User selectable, contract required with service provider | |
| Graphics | i5-4210M | 2 | 2.6 GHz | 3.2 GHz | 3MB | DDR3L-1600 | Dimensions ³ | 15.6" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm | |
| | i5-4340M | | 2.9 GHz | 3.6 GHz | 3MB | | Weight ² | 6-cell: starting at 5.57 lb (2.53 kg); 9-cell: starting at 5.95 lb (2.70 kg) | |
| | i7-4600M | | 2.9 GHz | 3.6 GHz | 4MB | | Case material | Glass-Fiber Reinforced Plastic | |
| | i7-4710MQ | 4 | 2.5 GHz | 3.5 GHz | 6MB | | Smart card reader | Optional: Smart card reader | |
| | i7-4810MQ | | 2.8 GHz | 3.8 GHz | 6MB | | ExpressCard | One slot (ExpressCard/34) | |
| | i7-4910MQ | | 2.9 GHz | 3.9 GHz | 8MB | | Media reader | 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card | |
| | i7-4940MX | | 3.1 GHz | 4 GHz | 8MB | | Ports | Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector | |
| Chipset | Intel HD Graphics 4600 and NVIDIA Quadro® K1100M or K2100M, 2GB memory | | | | | | Camera (optional) | HD720p resolution, low light sensitive, fixed focus | |
| Memory | Mobile Intel QM87 Express Chipset dual-core model: 16GB max ⁷ , 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 | | | | | | Audio support | HD Audio, Realtek® ALC3232 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack | |
| 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 | | | | | | Keyboard | 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight | |
| Multi-touch | None | | | | | | UltraNav™ | TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch | |
| 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 | | | | | | Security | Power-on password, hard disk password, supervisor password, security keyhole | |
| M.2 SSD (opt) | M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card | | | | | | Security chip | Trusted Platform Module, TCG 1.2-compliant | |
| Optical (optional) | DVD burner, 9.5mm Ultrabay slim, removable | | | | | | vPro (optional) | Intel vPro Technology | |
| Ultrabay | One modular bay for removable devices (right side, cold swap), 9.5mm high | | | | | | Fingerprint reader | Optional: Fingerprint reader on the palm rest, swipe sensor | |
| Ethernet | Intel Ethernet Connection I217-LM (Clarkville) | | | | | | Color calibration | Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest | |
| Bluetooth™ | Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter | | | | | | Battery type | Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication | |
| WLAN ⁴ | 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 | | | | | | Max battery life ¹⁰ | 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr | |
| WWAN (optional) | Upg: Wireless WAN upgradable EM7355: Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/ HSPA+/EVDO/GSM/GPRS/EDGE, GPS | | | | | | AC adapter | dual-core: 135W AC adapter; quad-core: 170W AC adapter | |
| | | | | | | | Preload | Win8 / 8.1 / 10 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit or Windows 10 Pro 64 | |
| | | | | | | | Limited warranty ¹² 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID | | |

See footnotes for more detailed information

(KM15W-1) © Lenovo

ThinkPad W541 20EF (Discrete) - TopSeller (Windows 10)

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) | |
|------------|----------------|------|----------|--------|--------------|-----------------|------|---------|------------------|----------------|----------|-------------------|--------|-------------------|---------------------|------|-------------------|-------------------------|---------------|----------------------|--------------|----------------|-------|
| 20EF000HUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000KUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000NUS | i7-4810MQ vPro | | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000PUS | i7-4810MQ vPro | | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000JUS | i7-4810MQ vPro | | K2100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000LUS | i7-4810MQ vPro | | K2100M | 8GBx1 | 15.5" 3K IPS | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF000MUS | i7-4810MQ 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 | Win8.1 DG | Win7 3-depot | No | 01/15 |
| 20EF001EUS | i7-4710MQ | No | K1100M | 8GBx2 | 15.6" FHD | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 03/15 |
| 20EF001DUS | i7-4810MQ vPro | | K2100M | 8GBx2 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 03/15 |
| 20EF002MUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 07/15 |
| 20EF002LUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 07/15 |
| 20EF002KUS | i7-4810MQ vPro | | K2100M | 8GBx1 | 15.5" 3K IPS | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | None | Finger | None | None | 9 | 170W | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002NUS | i7-4810MQ 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 | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002PUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002QUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002RUS | i7-4810MQ vPro | | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 DG | Win7 3-depot | No | 09/15 |
| 20EF002TUS | i7-4810MQ vPro | | K2100M | 8GBx1 | 15.5" 3K IPS | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 P64 | 3-depot | No | 09/15 |
| 20EF002SUS | i7-4810MQ vPro | | K1100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 P64 | 3-depot | No | 09/15 |
| 20EF002UUS | i7-4710MQ | No | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win10 P64 | 3-depot | No | 09/15 |

• For detailed platform specifications, please see [ThinkPad W541 Platform Specifications sheet](#)

| Processor | 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor | SIM card (optional) | AT&T / Verizon: AT&T® / Verizon® LTE (4G), contract required with service provider Select: User selectable, contract required with service provider | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|--------------------------------|---|----------------|---------------------|-------|--------------|----------|---|---------|---------|-----|------------|----------|---------|---------|-----|----------|---------|---------|-----|-----------|---|---------|---------|-----|-----------|---------|---------|-----|-----------|---------|---------|-----|-----------|---------|-------|-----|---|
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| Processor | # of Cores | Base Frequency | Max Turbo Frequency | Cache | Memory Types | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i5-4210M | 2 | 2.6 GHz | 3.2 GHz | 3MB | DDR3L-1600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i5-4340M | | 2.9 GHz | 3.6 GHz | 3MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4600M | | 2.9 GHz | 3.6 GHz | 4MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4710MQ | 4 | 2.5 GHz | 3.5 GHz | 6MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4810MQ | | 2.8 GHz | 3.8 GHz | 6MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4910MQ | | 2.9 GHz | 3.9 GHz | 8MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4940MX | | 3.1 GHz | 4 GHz | 8MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Graphics | Intel HD Graphics 4600 and NVIDIA Quadro® K1100M or K2100M, 2GB memory | Smart card reader | Optional: Smart card reader | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chipset | Mobile Intel QM87 Express Chipset | ExpressCard | One slot (ExpressCard/34) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Memory | dual-core model: 16GB max ⁷ , 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 | Media reader | 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | Ports | Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multi-touch | None | Camera (optional) | HD720p resolution, low light sensitive, fixed focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | Audio support | HD Audio, Realtek® ALC3232 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M.2 SSD (opt) | M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card | Keyboard | 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Optical (optional) | DVD burner, 9.5mm Ultrabay slim, removable | UltraNav™ | TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ultrabay | One modular bay for removable devices (right side, cold swap), 9.5mm high | Security | Power-on password, hard disk password, supervisor password, security keyhole | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ethernet | Intel Ethernet Connection I217-LM (Clarkville) | Security chip | Trusted Platform Module, TCG 1.2-compliant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bluetooth™ | Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter | vPro (optional) | Intel vPro Technology | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WWAN ⁴ | 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 | Fingerprint reader | Optional: Fingerprint reader on the palm rest, swipe sensor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Color calibration | Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Battery type | Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Max battery life ¹⁰ | 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | AC adapter | dual-core: 135W AC adapter; quad-core: 170W AC adapter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Preload | Win8 / 8.1 / 10 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit or Windows 10 Pro 64 Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit Win10 P64: Windows 10 Pro 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Limited warranty ¹² | 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WWAN (optional) | Upg: Wireless WAN upgradable EM7355: Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/ HSPA+/EVDO/GSM/GPRS/EDGE, GPS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

See footnotes for more detailed information

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ThinkPad W541 20EG (Discrete)

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 adapter | Power (watt) | Preload | Base warranty (year) | Glob-al | Ann date (m/y) |
|------------|-----------|------|----------|--------|-----------|-----------|------|---------|------------------|----------------|----------|-------------------|---------|-------------------|---------------------|------|-------------------|------------------|--------------|-----------|----------------------|---------|----------------|
| 20EG0001US | i7-4810MQ | vPro | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG | Win7 3-depot | No | 01/15 |

• For detailed platform specifications, please see [ThinkPad W541 Platform Specifications sheet](#)

| | | | | | | | | | |
|--------------------|--|------------|----------------|---------------------|---|--------------|--------------------------------|---|--|
| Processor | 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor | | | | | | SIM card (optional) | AT&T / Verizon: AT&T® / Verizon® LTE (4G), contract required with service provider | |
| | Processor | # of Cores | Base Frequency | Max Turbo Frequency | Cache | Memory Types | | User selectable, contract required with service provider | |
| | i5-4210M | 2 | 2.6 GHz | 3.2 GHz | 3MB | DDR3L-1600 | | Dimensions ³ 15.6" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm | |
| | i5-4340M | | 2.9 GHz | 3.6 GHz | 3MB | | | Weight ² 6-cell: starting at 5.57 lb (2.53 kg); 9-cell: starting at 5.95 lb (2.70 kg) | |
| | i7-4600M | | 2.9 GHz | 3.6 GHz | 4MB | | | Case material Glass-Fiber Reinforced Plastic | |
| | i7-4710MQ | 4 | 2.5 GHz | 3.5 GHz | 6MB | | | Smart card reader Optional: Smart card reader | |
| | i7-4810MQ | | 2.8 GHz | 3.8 GHz | 6MB | | | ExpressCard One slot (ExpressCard/34) | |
| | i7-4910MQ | | 2.9 GHz | 3.9 GHz | 8MB | | | Media reader 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card | |
| i7-4940MX | 3.1 GHz | | 4 GHz | 8MB | Ports Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector | | | | |
| Graphics | Intel HD Graphics 4600 and NVIDIA Quadro® K1100M or K2100M, 2GB memory | | | | | | Camera (optional) | HD720p resolution, low light sensitive, fixed focus | |
| Chipset | Mobile Intel QM87 Express Chipset | | | | | | Audio support | HD Audio, Realtek® ALC3232 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack | |
| Memory | <i>dual-core model:</i> 16GB max ⁷ , 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 | | | | | | Keyboard | 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight | |
| Display | <i>Some:</i> 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio <i>Some:</i> 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS | | | | | | UltraNav™ | TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch | |
| Multi-touch | None | | | | | | Security | Power-on password, hard disk password, supervisor password, security keyhole | |
| Storage | <i>Some:</i> SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS | | | | | | vPro (optional) | Trusted Platform Module, TCG 1.2-compliant | |
| M.2 SSD (opt) | M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card | | | | | | Fingerprint reader | Optional: Fingerprint reader on the palm rest, swipe sensor | |
| Optical (optional) | DVD burner, 9.5mm Ultrabay slim, removable | | | | | | Color calibration | Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest | |
| Ultrabay | One modular bay for removable devices (right side, cold swap), 9.5mm high | | | | | | Battery type | Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication | |
| Ethernet | Intel Ethernet Connection I217-LM (Clarkville) | | | | | | Max battery life ¹⁰ | 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr | |
| Bluetooth™ | Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter | | | | | | AC adapter | <i>dual-core:</i> 135W AC adapter; <i>quad-core:</i> 170W AC adapter | |
| WLAN ⁴ | <i>11b/g/n+BT:</i> ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card <i>7260 b/g/n+BT:</i> Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card <i>7260 a/b/g/n+BT:</i> Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card <i>7260 ac+BT:</i> Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card | | | | | | Preload | <i>Win8 / 8.1 / 10 DG Win7:</i> Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit or Windows 10 Pro 64 <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 <i>Win10 P64:</i> Windows 10 Pro 64 | |
| WWAN (optional) | <i>Upg:</i> Wireless WAN upgradable <i>EM7355:</i> Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/ HSPA+/EVDO/GSM/GPRS/EDGE, GPS | | | | | | Limited warranty ¹² | 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID | |

See footnotes for more detailed information

(KM15W-2) © Lenovo

ThinkPad W541 20EG (Discrete) - 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 calibrator | Battery adapter | Power (watt) | Preload | Base warranty (year) | Glob-al | Ann date (m/y) | |
|------------|-----------|------|----------|--------|--------------|-----------------|------|---------|------------------|----------------|----------|-------------------|--------|-------------------|---------------------|------|------------------|-----------------|--------------|----------------|----------------------|---------|----------------|-------|
| 20EG0002US | i7-4810MQ | 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 | Win8.1 DG Win7 | 3-onsite | No | 01/15 | |
| 20EG0003US | i7-4810MQ | vPro | K2100M | 8GBx1 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG Win7 | 3-onsite | No | 01/15 | |
| 20EG0004US | i7-4810MQ | vPro | K2100M | 8GBx1 | 15.6" FHD | 256G SSD eDrive | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG Win7 | 3-onsite | No | 01/15 | |
| 20EG000HUS | i7-4940MX | vPro | K2100M | 8GBx4 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | X-Rite | 9 | 170W | Win8.1 DG Win7 | 3-onsite | No | 01/15 | |
| 20EG0006US | i7-4810MQ | vPro | K1100M | 8GBx1 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | X-Rite | 9 | 170W | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG0009US | i7-4810MQ | vPro | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | X-Rite | 9 | 170W | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG000BUS | i7-4810MQ | vPro | K1100M | 8GBx1 | 15.6" FHD | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG000EUS | i7-4810MQ | vPro | K1100M | 8GBx1 | 15.5" 3K IPS | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | X-Rite | 9 | 170W | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG0005US | i7-4810MQ | 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 | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG0007US | i7-4910MQ | vPro | K2100M | 8GBx1 | 15.5" 3K IPS | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | X-Rite | 9 | 170W | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG0008US | i7-4810MQ | vPro | K2100M | 8GBx1 | 15.5" 3K IPS | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG000AUS | i7-4810MQ | vPro | K2100M | 8GBx1 | 15.6" FHD | 512G SSD | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG000CUS | i7-4810MQ | vPro | K2100M | 8GBx1 | 15.5" 3K IPS | 500G 7200 | No | DVD±RW | 7260 ac+BT | Upg | None | None | 720p | Backlit | Finger | None | None | 9 | 170W | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |
| 20EG000DUS | i7-4910MQ | 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 | Win8.1 DG Win7 | 3-onsite | OID | Yes | 01/15 |

• For detailed platform specifications, please see [ThinkPad W541 Platform Specifications sheet](#)

| Processor | 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor | SIM card (optional) | AT&T / Verizon: AT&T® / Verizon® LTE (4G), contract required with service provider Select: User selectable, contract required with service provider | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|--------------------------------|--|----------------|---------------------|-------|--------------|----------|---|---------|---------|-----|------------|----------|---------|---------|-----|----------|---------|---------|-----|-----------|---|---------|---------|-----|-----------|---------|---------|-----|-----------|---------|---------|-----|-----------|--|---------|-------|-----|---|---|
| | <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 Types</th> </tr> </thead> <tbody> <tr> <td>i5-4210M</td> <td rowspan="3">2</td> <td>2.6 GHz</td> <td>3.2 GHz</td> <td>3MB</td> <td rowspan="6">DDR3L-1600</td> </tr> <tr> <td>i5-4340M</td> <td>2.9 GHz</td> <td>3.6 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>i7-4710MQ</td> <td rowspan="3">4</td> <td>2.5 GHz</td> <td>3.5 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>i7-4910MQ</td> <td>2.9 GHz</td> <td>3.9 GHz</td> <td>8MB</td> </tr> <tr> <td>i7-4940MX</td> <td></td> <td>3.1 GHz</td> <td>4 GHz</td> <td>8MB</td> </tr> </tbody> </table> | Processor | # of Cores | Base Frequency | Max Turbo Frequency | Cache | Memory Types | i5-4210M | 2 | 2.6 GHz | 3.2 GHz | 3MB | DDR3L-1600 | i5-4340M | 2.9 GHz | 3.6 GHz | 3MB | i7-4600M | 2.9 GHz | 3.6 GHz | 4MB | i7-4710MQ | 4 | 2.5 GHz | 3.5 GHz | 6MB | i7-4810MQ | 2.8 GHz | 3.8 GHz | 6MB | i7-4910MQ | 2.9 GHz | 3.9 GHz | 8MB | i7-4940MX | | 3.1 GHz | 4 GHz | 8MB | Dimensions ³ Weight ² Case material | 15.6" (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 (2.53 kg); 9-cell: starting at 5.95 lb (2.70 kg) Glass-Fiber Reinforced Plastic |
| Processor | # of Cores | Base Frequency | Max Turbo Frequency | Cache | Memory Types | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i5-4210M | 2 | 2.6 GHz | 3.2 GHz | 3MB | DDR3L-1600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i5-4340M | | 2.9 GHz | 3.6 GHz | 3MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4600M | | 2.9 GHz | 3.6 GHz | 4MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4710MQ | 4 | 2.5 GHz | 3.5 GHz | 6MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4810MQ | | 2.8 GHz | 3.8 GHz | 6MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4910MQ | | 2.9 GHz | 3.9 GHz | 8MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i7-4940MX | | 3.1 GHz | 4 GHz | 8MB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Graphics | Intel HD Graphics 4600 and NVIDIA Quadro® K1100M or K2100M, 2GB memory | Smart card reader | Optional: Smart card reader | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chipset | Mobile Intel QM87 Express Chipset | ExpressCard | One slot (ExpressCard/34) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Memory | dual-core model: 16GB max ⁷ , 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 PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable | Media reader | 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | All: | Ports | Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | Camera (optional) | HD720p resolution, low light sensitive, fixed focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multi-touch | None | Audio support | HD Audio, Realtek® ALC3232 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | Keyboard | 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M.2 SSD (opt) | M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card | UltraNav™ | TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Optical (optional) | DVD burner, 9.5mm Ultrabay slim, removable | Security | Power-on password, hard disk password, supervisor password, security keyhole | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ultrabay | One modular bay for removable devices (right side, cold swap), 9.5mm high | Security chip | Trusted Platform Module, TCG 1.2-compliant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ethernet | Intel Ethernet Connection I217-LM (Clarkville) | vPro (optional) | Intel vPro Technology | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bluetooth™ | Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter | Fingerprint reader | Optional: Fingerprint reader on the palm rest, swipe sensor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WLAN ⁴ | 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 | Color calibration | Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WWAN (optional) | Upg: Wireless WAN upgradable EM7355: Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/ HSPA+/EVDO/GSM/GPRS/EDGE, GPS | Battery type | Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Max battery life ¹⁰ | 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | AC adapter | dual-core: 135W AC adapter; quad-core: 170W AC adapter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Preload | Win8 / 8.1 / 10 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit or Windows 10 Pro 64 Win8 / 8.1 P64: Windows 8 / 8.1 64-bit Win10 P64: Windows 8 / 8.1 Pro 64-bit Windows 10 Pro 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Limited warranty ¹² | 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

See footnotes for more detailed information

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