

# ThinkPad P1 20MD000S++

**Region**  
EMEA

**Machine Type**  
20MD

**TopSeller**  
TopSeller

**Processor**  
Core i7-8850H (6C, 2.6 / 4.3GHz, 9MB)

**vPro**  
vPro

**Graphics**  
NVIDIA Quadro P2000 4GB

**Chipset**  
Intel CM246

**Memory**  
16GBx1 non-ECC

**Display**  
15.6" 4K (3840x2160) IPS AR

**Multi-touch**  
10-point Multi-touch

**Pen**  
None

**Storage**  
1TB SSD M.2 PCIe NVMe Opal2

**RAID**  
No

**Optical**  
None

**WLAN + Bluetooth**  
Intel 9560 ac, 2x2 + BT5.0

**WWAN**  
None

**SIM Card**  
None

**Smart Card Reader**  
Smart Card Reader

**Monitor Cable**  
None

**Adapter**  
ThinkPad Ethernet Extension Cable

**Camera**  
IR &720p

**Keyboard**  
Backlit

**Fingerprint Reader**  
Fingerprint Reader

**NFC**  
None

**TPM**  
dTPM 2.0

**Battery**  
80Wh

**Power Adapter**  
135W Slim Tip

**Operating System**  
Windows 10 Pro 64

**Warranty**  
3-year, Onsite

**End of Support**  
Sep 28, 2024

**Ann Date (mm/yy)**  
08/18

## Note:

Country Code "US" is for United States, "++" is for EMEA countries (e.g. AD - Saudi, Arabia, AT - Austria, BM - Bulgaria, etc.), "xx" is for EAST countries (e.g. BM - Bulgaria, CX - Hungary, CY - Cyprus, etc.), and "\*\*\*" is for MEA countries (e.g. AD - Saudi, Arabia, ED - Egypt, EQ - Sweden, etc.). Please be aware that the EMEA/ EAST/MEA models listed above might not be available in all countries



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# ThinkPad P1 Platform Specifications

Product Specifications Reference (PSREF)

|                   |                                                                                                                                                                                                                                                                                                                                                    |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|----------------|---------------------|-------|--------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor         | 8th Generation Intel® Core™ i5 / i7 Processor or Intel Xeon® E Processor                                                                                                                                                                                                                                                                           |            |              |                |                     |       |              |                        | Smart card reader<br>ExpressCard<br>Media reader<br>Ports<br><br>Monitor cable<br>(optional)<br><br>Camera (optional)<br><br>Audio support<br><br>Keyboard<br>UltraNav™<br><br>Security<br>Security chip<br>vPro (optional)<br>Fingerprint reader<br>Color calibration<br>NFC<br><br>Battery<br>Max battery life<br>(MobileMark® 2014)<br>AC adapter<br><br>Preload<br><br><br><br>Limited warranty<br><br><br><br>Mil-Spec test<br>Environment | Optional: Smart card reader<br>None<br>4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card<br>Two USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3,<br>HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack,<br>optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC),<br>security keyhole<br>HDMI to VGA:   Lenovo HDMI to VGA Monitor Adapter<br>USB-C to DP:   Lenovo USB-C to DisplayPort Adapter<br><br>One of the following, configurable by model:<br>• HD720p camera with ThinkShutter camera privacy, fixed focus<br>• IR camera and HD720p camera, fixed focus<br>HD Audio, Realtek® ALC3286 codec,<br>stereo speakers, 2W x 2, Dolby® Audio™ Premium, headphone / microphone<br>combo jack, Dolby Atmos® headphone, dual array microphone<br><br>6-row, spill-resistant, multimedia Fn keys, LED backlight<br>TrackPoint® pointing device and buttonless glass surface multi-touch touchpad<br><br>Power-on password, hard disk password, supervisor password, security keyhole<br>Discrete TPM 2.0, TCG Certified<br>Intel vPro Technology<br>Touch style match on chip fingerprint reader on the keyboard bezel<br>None<br>None<br><br>Integrated Li-Ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)<br>Discrete mode: 7.36 hr;   Hybrid mode: 13.87 hr<br>* Battery life varies significantly with settings, usage, & other factors<br>135W slim tip AC adapter<br><br>One of the following, configurable by model:<br>• Windows® 10 Home 64<br>• Windows 10 Pro 64<br>• Windows 10 Pro 64 for Workstations<br><br>One of the following, configurable by model:<br>• 1-year depot repair service<br>• 3-year/1-yr battery depot repair service<br>• 3-year/1-yr battery limited onsite service<br><br>MIL-STD-810G military certification<br>EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant |
|                   | Processor Number                                                                                                                                                                                                                                                                                                                                   | # of Cores | # of Threads | Base Frequency | Max Turbo Frequency | Cache | Memory Types | Processor Graphics     |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                   | i5-8400H                                                                                                                                                                                                                                                                                                                                           | 4          | 8            | 2.5 GHz        | 4.2 GHz             | 8MB   | DDR4-2400    | Intel UHD Graphics 630 |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                   | i7-8750H                                                                                                                                                                                                                                                                                                                                           | 6          | 12           | 2.2 GHz        | 4.1 GHz             | 9MB   |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                   | i7-8850H                                                                                                                                                                                                                                                                                                                                           |            |              | 2.6 GHz        | 4.3 GHz             | 9MB   |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| E-2176M           | 2.7 GHz                                                                                                                                                                                                                                                                                                                                            |            |              | 4.4 GHz        | 12MB                |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Graphics          | Intel UHD Graphics 630 in processor and<br>NVIDIA® Quadro® P1000 (4GB memory) or P2000 (4GB memory);<br>supports external digital monitor via HDMI or Thunderbolt™;<br>supports four independent displays;<br>Max resolution: 5120x2880@30Hz (Thunderbolt); 4096x2160@60Hz (HDMI)                                                                  |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Chipset           | Mobile Intel CM246 Chipset                                                                                                                                                                                                                                                                                                                         |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Memory            | 64GB non-ECC or 32GB ECC max / 2400MHz DDR4 (ECC function supported only on Xeon processor), dual-channel capable, two DDR4 SO-DIMM sockets<br>* Installed DIMMs are actually 2666MHz but run at 2400MHz due to Intel limitation                                                                                                                   |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Display           | Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle<br>Some: 15.6" (396mm) 4K (3840x2160), anti-glare, LED backlight, IPS, 400 nits, 16:9 aspect ratio, 1200:1 contrast ratio, 100% gamut, 170° viewing angle, multi-touch, anti-reflection (AR) |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Multi-touch (opt) | Capacitive-type multi-touch, supports 10-finger gesture (4K only)                                                                                                                                                                                                                                                                                  |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Pen               | Supports pen accessory, please see the accessory compatibility for details                                                                                                                                                                                                                                                                         |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Storage           | Up to 2 drives (two M.2 SSD)<br>M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s                                                                                                                                                                                                                                                                          |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RAID (optional)   | RAID 0/1 support                                                                                                                                                                                                                                                                                                                                   |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Optical           | None                                                                                                                                                                                                                                                                                                                                               |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Ethernet          | Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)) via optional ThinkPad Ethernet Extension Cable                                                                                                                                                                                                                               |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WLAN              | Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card                                                                                                                                                                                                                                                                               |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Bluetooth™        | Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter                                                                                                                                                                                                                                                                              |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WWAN              | None                                                                                                                                                                                                                                                                                                                                               |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SIM card          | None                                                                                                                                                                                                                                                                                                                                               |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Dimensions        | WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm<br>WxDxH (multi-ouch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm                                                                                                                                                                                                    |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Weight            | Non-touch model: starting at 3.76 lb (1.7 kg);<br>Multi-touch model: starting at 4.06 lb (1.8 kg)                                                                                                                                                                                                                                                  |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Case color        | Black                                                                                                                                                                                                                                                                                                                                              |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Case material     | Display cover: CFRP/GFRP hybrid;<br>Bottom: Aluminum alloy                                                                                                                                                                                                                                                                                         |            |              |                |                     |       |              |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

Note: The specifications above may not be available in all regions.

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August 2018

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