

# ThinkPad T590 20N4004WPB

**Product**

ThinkPad T590

**Region**

EET

**Country/Region**

Poland

**Machine Type**

20N4

**TopSeller**

TopSeller

**Processor**

Intel Core i7-8565U (4C / 8T, 1.8 / 4.6GHz, 8MB)

**Graphics**

Integrated Intel UHD Graphics 620

**Chipset**

Intel SoC Platform

**Memory**

8GB Soldered DDR4-2400 + 8GB SO-DIMM DDR4-2400

**Storage**

512GB SSD M.2 2280 PCIe NVMe Opal2

**Display**

15.6" FHD (1920x1080) IPS 250nits Anti-glare

**Touchscreen**

None

**Media Reader**

MicroSD Reader

**Ethernet**

100/1000M

**Optical**

None

**WLAN + Bluetooth**

Intel 9560 11ac, 2x2 + BT5.0

**WWAN**

Fibocom L830-EB

**SIM Card**

None

**Smart Card Reader**

Smart Card Reader

**Monitor Cable**

None

**Case Material**

PPS / 50% GF (Top) + PA / 50% GF (Bottom)

**Bundled Accessories**

None

**Camera**

720p with ThinkShutter

**Microphone**

2x, Array

**Color**

Black

**Keyboard**

Backlit, English (EU)

**Fingerprint Reader**

Touch Style, Match-on-Chip

**NFC**

None

**TPM**

Discrete TPM 2.0

**Battery**

Integrated 57Wh

**Power Adapter**

65W USB-C

**System Management**

None

**Operating System**

Windows 10 Pro 64, Polish / English

**Bundled Software**

None

**Base Warranty**

3-year, Depot

**Bundled Service**

3Y Onsite upgrade from 3Y Depot/CCI (5WS0A23006)

**EAN / UPC / JAN**

0193638805496

**End of Support**

2025-10-15

**Announce Date**

2019-07-23

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**Recommended Services****Best**

5Y Premier Support Upgrade from 3Y Onsite (5WS0T36125)

**Good**

3Y Premier Support Upgrade from 3Y Onsite (5WS0U26641)

**Notes:**

**Battery life** is an estimated maximum. Actual battery life may vary based on many factors, including screen brightness, active applications, features, power management settings, battery age and conditioning, and other customer preferences.

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# ThinkPad T590 Platform Specifications

Product Specifications Reference (PSREF)

|                   |                                                                                                                                                                                                                                                                                                                                                                                               |                                    |              |                |                     |              |                |                        |               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------|----------------|---------------------|--------------|----------------|------------------------|---------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor         | 8th Generation Intel® Core™ i5 / i7 Processor                                                                                                                                                                                                                                                                                                                                                 |                                    |              |                |                     |              |                |                        |               | Dimensions<br>Weight<br>Case color<br>Case material | <i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm<br><i>FHD model:</i> 3.87 lb / 1.75 kg; <i>UHD model:</i> 3.86 lb / 1.75 kg<br>Black<br><i>Display cover:</i> PPS / 50% GF;<br><i>Bottom:</i> PA / 50% GF                                                                                                                                                                                                                                                                        |
|                   | Processor Number                                                                                                                                                                                                                                                                                                                                                                              | # of Cores                         | # of Threads | Base Frequency | Max Turbo Frequency | Cache        | Memory Types   | Processor Graphics     |               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                   | i5-8265U                                                                                                                                                                                                                                                                                                                                                                                      | 4                                  | 8            | 1.6 GHz        | 3.9 GHz             | 6MB          | DDR4-2400      | Intel UHD Graphics 620 |               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                   | i5-8365U                                                                                                                                                                                                                                                                                                                                                                                      |                                    |              | 1.6 GHz        | 4.1 GHz             | 6MB          |                |                        |               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                   | i7-8565U                                                                                                                                                                                                                                                                                                                                                                                      |                                    |              | 1.8 GHz        | 4.6 GHz             | 8MB          |                |                        |               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| i7-8665U          | 1.9 GHz                                                                                                                                                                                                                                                                                                                                                                                       |                                    |              | 4.8 GHz        | 8MB                 |              |                |                        |               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Graphics          | Intel UHD Graphics 620 in processor only or Intel UHD Graphics 620 in processor and NVIDIA® GeForce® MX250, 2GB GDDR5 memory; supports external digital monitor via HDMI or Thunderbolt; supports three independent displays; Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI)                                                                                             |                                    |              |                |                     |              |                |                        |               | Smart card reader                                   | <i>Optional:</i> Smart card reader                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Chipset           | Intel SoC (System on Chip) platform                                                                                                                                                                                                                                                                                                                                                           |                                    |              |                |                     |              |                |                        |               | Media reader                                        | MicroSD card reader                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Memory            | 40GB or 48GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket<br><i>* Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation</i>                                                                                                                                                                        |                                    |              |                |                     |              |                |                        |               | Ports                                               | Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole<br><i>* Depending on many factors, actual data transfer speed may be lower than theoretical speed</i> |
| Display           |                                                                                                                                                                                                                                                                                                                                                                                               |                                    |              |                |                     |              |                |                        |               | Monitor cable (optional)                            | <i>HDMI to VGA:</i> Lenovo HDMI to VGA Monitor Adapter<br><i>USB-C to VGA:</i> Lenovo USB-C to VGA Adapter (NOT available in EMEA)<br><i>USB-C to DP:</i> Lenovo USB-C to DisplayPort Adapter (NOT available in EMEA)                                                                                                                                                                                                                                                                           |
|                   | Size                                                                                                                                                                                                                                                                                                                                                                                          | Resolution                         | Type         | Surface        | Brightness          | Aspect Ratio | Contrast Ratio | Color Gamut            | Viewing Angle | Bundled Accy                                        | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                   | 15.6"                                                                                                                                                                                                                                                                                                                                                                                         | FHD (1920x1080)                    | IPS          | Anti-glare     | 250 nits            | 16:9         | 700:1          | 45%                    | 170°          | Camera (optional)                                   | <i>One of the following, configurable by model:</i><br>• HD720p camera with ThinkShutter camera privacy, fixed focus<br>• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus                                                                                                                                                                                                                                                                                             |
|                   | 15.6"                                                                                                                                                                                                                                                                                                                                                                                         | UHD (3840x2160) HDR, Dolby Vision™ | IPS          | Anti-glare     | 500 nits            | 16:9         | 1200:1         | 100% Adobe             | 170°          | Audio support                                       | HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone (optional for special bid model), headphone / microphone combo jack                                                                                                                                                                                                                                                                                                         |
| Multi-touch (opt) | On-cell touch, supports 10-finger gesture (FHD only)                                                                                                                                                                                                                                                                                                                                          |                                    |              |                |                     |              |                |                        |               | Keyboard                                            | 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight                                                                                                                                                                                                                                                                                                                                                                                                              |
| Storage           | <ul style="list-style-type: none"><li>• M.2 2280 SSD / SATA 6.0Gb/s</li><li>• M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li><li>• M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2</li><li>• Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4</li></ul>                                                                                                                      |                                    |              |                |                     |              |                |                        |               | UltraNav™                                           | TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Optical           | None                                                                                                                                                                                                                                                                                                                                                                                          |                                    |              |                |                     |              |                |                        |               | Security                                            | Power-on password, hard disk password, supervisor password, security keyhole                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Ethernet          | <i>Non-vPro model:</i> Intel Ethernet Connection I219-V (Jacksonville)<br><i>vPro model:</i> Intel Ethernet Connection I219-LM (Jacksonville)                                                                                                                                                                                                                                                 |                                    |              |                |                     |              |                |                        |               | Security chip                                       | Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)                                                                                                                                                                                                                                                                                                                                                                                       |
| WLAN (optional)   | Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0                                                                                                                                                                                                                                                                                                                                    |                                    |              |                |                     |              |                |                        |               | System Mgt (opt)                                    | Intel vPro Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Bluetooth™        | Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter                                                                                                                                                                                                                                                                                                                         |                                    |              |                |                     |              |                |                        |               | Fingerprint reader                                  | <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest                                                                                                                                                                                                                                                                                                                                                                                                                  |
| WWAN (optional)   | <i>One of the following, configurable by model:</i> <ul style="list-style-type: none"><li>• Wireless WAN upgradable (special bid only in EMEA)</li><li>• Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)</li><li>• Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li></ul> <i>* For non-WWAN model, it means the model is NOT WWAN upgradable</i> |                                    |              |                |                     |              |                |                        |               | NFC (optional)                                      | Near Field Communication                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SIM card (opt)    | <ul style="list-style-type: none"><li>• Verizon LTE (US) SIM card</li><li>• Gemalto eSIM Card</li></ul>                                                                                                                                                                                                                                                                                       |                                    |              |                |                     |              |                |                        |               | Battery                                             | Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter                                                                                                                                                                                                                                                                                                                                                                                         |
|                   |                                                                                                                                                                                                                                                                                                                                                                                               |                                    |              |                |                     |              |                |                        |               | Max battery life                                    | <i>MobileMark® 2014:</i> 14.98 hr (9.5 hr for UHD model with discrete graphics)<br><i>* Battery life varies significantly with hardware configurations, settings, usage, &amp; other factors</i>                                                                                                                                                                                                                                                                                                |
|                   |                                                                                                                                                                                                                                                                                                                                                                                               |                                    |              |                |                     |              |                |                        |               | AC adapter                                          | <ul style="list-style-type: none"><li>• 45W USB-C AC adapter</li><li>• 65W USB-C AC adapter</li><li>• 65W USB-C slim AC adapter</li></ul>                                                                                                                                                                                                                                                                                                                                                       |
|                   |                                                                                                                                                                                                                                                                                                                                                                                               |                                    |              |                |                     |              |                |                        |               | Operating system                                    | <i>Optional:</i> Windows® 10 Home 64 or Windows 10 Pro 64                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                   |                                                                                                                                                                                                                                                                                                                                                                                               |                                    |              |                |                     |              |                |                        |               | Limited warranty                                    | <ul style="list-style-type: none"><li>• 1-year depot repair service</li><li>• 1-year depot with 2-year system board repair service</li><li>• 1-year limited onsite service</li><li>• 1-year + 2-year depot repair service</li><li>• 1-year + 2-year limited onsite service</li><li>• 3-year/1-yr battery depot repair service</li><li>• 3-year/1-yr battery limited onsite service</li></ul>                                                                                                    |
|                   |                                                                                                                                                                                                                                                                                                                                                                                               |                                    |              |                |                     |              |                |                        |               | Mil-Spec test                                       | MIL-STD-810G military testing                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                   |                                                                                                                                                                                                                                                                                                                                                                                               |                                    |              |                |                     |              |                |                        |               | Environment                                         | EPEAT™ Gold; ENERGY STAR® 7.1; TCO Certified; RoHS-compliant                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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

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