

# ThinkPad T590 [20N40032GE](#)

**Product**  
ThinkPad T590

**Region**  
WE

**Country**  
Germany

**Machine Type**  
20N4

**TopSeller**  
TopSeller

**Processor**  
Core i5-8265U (4C, 1.6 / 3.9GHz, 6MB)

**Graphics**  
Integrated Intel UHD Graphics 620

**Chipset**  
Intel SoC Platform

**Memory**  
8GB Soldered DDR4-2400

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

**Multi-touch**  
None

**Storage**  
256GB SSD M.2 2280 PCIe NVMe Opal2

**Optane Memory**  
None

**Optical**  
None

**WLAN + Bluetooth**  
Intel 9560 11ac, 2x2 + BT5.0

**WWAN**  
Fibocom L830-EB

**Smart Card Reader**  
Smart Card Reader

**Monitor Cable**  
None

**Bundled Accessories**  
None

**Color**  
Black

**Camera**  
720p + IR

**Keyboard**  
Backlit

**Fingerprint Reader**  
Fingerprint Reader

**NFC**  
None

**TPM**  
Discrete TPM 2.0

**Battery**  
Integrated 57Wh

**Power Adapter**  
65W USB-C

**System Management**  
None

**Operating System**  
Windows 10 Pro 64

**Bundled Software**  
None

**Warranty**  
3-year, Depot

**End of Support**  
2025-05-30

**Announce Date**  
2019-04-30

#### 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.  
<https://www.lenovo.com/hk/en/battery-info>



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# ThinkPad T590 Platform Specifications

Product Specifications Reference (PSREF)



|                               |                                                                                                                                                                                                                                                                                                                                                       |                                      |              |                |                     |              |                |                        |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|----------------|---------------------|--------------|----------------|------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor                     | 8th Generation Intel® Core™ i5 / i7 Processor                                                                                                                                                                                                                                                                                                         |                                      |              |                |                     |              |                |                        |               | Dimensions<br>WxDxH: 14.40" x 9.76" x 0.79"; 365.8mm x 248.0mm x 19.95mm<br>Weight<br>FHD model: 3.87 lb / 1.75 kg; UHD model: 3.86 lb / 1.75 kg<br>Case color<br>Black<br>Case material<br>Display cover: PPS / 50% GF;<br>Bottom: 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<br>Media reader<br>Ports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Chipset<br>Memory             | Intel SoC (System on Chip) platform<br>48GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket<br>* Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation                                                                                                        |                                      |              |                |                     |              |                |                        |               | Optional: Smart card reader<br>MicroSD card reader<br>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>* Depending on many factors, actual data transfer speed may be lower than theoretical speed<br>Monitor cable (optional)<br>HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter<br>USB-C to VGA: Lenovo USB-C to VGA Adapter<br>USB-C to DP: Lenovo USB-C to DisplayPort Adapter<br>Bundled Accy<br>None |
| Display                       | Size                                                                                                                                                                                                                                                                                                                                                  | Resolution                           | Type         | Surface        | Brightness          | Aspect Ratio | Contrast Ratio | Color Gamut            | Viewing Angle | Camera (optional)<br>One of the following, configurable by model:<br>• HD720p camera with ThinkShutter camera privacy, fixed focus<br>• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus<br>Audio support<br>HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack                                                                                                                                                                                                                                                                                                                                                           |
|                               | 15.6"                                                                                                                                                                                                                                                                                                                                                 | FHD (1920x1080)                      | IPS          | Anti-glare     | 250 nits            | 16:9         | 700:1          | 45%                    | 170°          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                               | 15.6"                                                                                                                                                                                                                                                                                                                                                 | UHD (3840x2160)<br>Dolby Vision™ HDR | IPS          | Anti-glare     | 500 nits            | 16:9         | 1200:1         | 100% Adobe             | 170°          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Multi-touch (opt)             | On-cell touch, supports 10-finger gesture (FHD only)                                                                                                                                                                                                                                                                                                  |                                      |              |                |                     |              |                |                        |               | Keyboard<br>UltraNav™                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 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> </ul>                                                                                                                                                                         |                                      |              |                |                     |              |                |                        |               | Security<br>Security chip<br>System Mgt (opt)<br>Fingerprint reader<br>NFC (optional)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Optane™ memory<br>Optical     | Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2<br>None                                                                                                                                                                                                                                                                                        |                                      |              |                |                     |              |                |                        |               | Power-on password, hard disk password, supervisor password, security keyhole<br>Discrete TPM 2.0, TCG Certified<br>Intel vPro Technology<br>Optional: Touch style match on chip fingerprint reader on the palm rest<br>Near Field Communication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Ethernet                      | Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)<br>vPro model: Intel Ethernet Connection I219-LM (Jacksonville)                                                                                                                                                                                                                       |                                      |              |                |                     |              |                |                        |               | Battery<br>Max battery life                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| WLAN (optional)<br>Bluetooth™ | Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0<br>Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter                                                                                                                                                                                                                   |                                      |              |                |                     |              |                |                        |               | Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)<br>MobileMark® 2014: 14.98 hr (9.5 hr for UHD model with discrete graphics)<br>* Battery life varies significantly with settings, usage, & other factors<br>AC adapter<br>45W or 65W USB Type-C AC adapter                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| WWAN (optional)               | One of the following, configurable by model:<br><ul style="list-style-type: none"> <li>Wireless WAN upgradable</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> * For non-WWAN model, it means the model is NOT WWAN upgradable |                                      |              |                |                     |              |                |                        |               | Preload<br>Limited warranty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                               |                                                                                                                                                                                                                                                                                                                                                       |                                      |              |                |                     |              |                |                        |               | Windows® 10 Home 64 or Windows 10 Pro 64<br>One of the following, configurable by model:<br><ul style="list-style-type: none"> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                               |                                                                                                                                                                                                                                                                                                                                                       |                                      |              |                |                     |              |                |                        |               | Mil-Spec test<br>Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                               |                                                                                                                                                                                                                                                                                                                                                       |                                      |              |                |                     |              |                |                        |               | MIL-STD-810G military certification<br>EPEAT™ Bronze; ENERGY STAR® 7.0; RoHS-compliant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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

Lenovo  
May 2019

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