ThinkPad L590  20Q7000XGE

Product
ThinkPad L590
Region
WE
Country
Germany
Machine Type
20Q7
TopSeller
TopSeller
Processor
Core i5-8265U (4C / 8T, 1.6 / 3.9GHz, 6MB)
Graphics
Integrated Intel UHD Graphics 620
Chipset
Intel SoC Platform
Memory
1x 8GB DIMM DDR4-2666
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 9260 11ac, 2x2 + BT5.0
WWAN
None
SIM Card
None
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 45Wh
Power Adapter
65W USB-C
System Management
None
Operating System
Windows 10 Pro 64
Bundled Software
None
Warranty
1-year, Depot
Upsell Service Bundles
None
End of Support
2025-07-04
Announce Date
2019-06-04

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.
## ThinkPad L590 Platform Specifications

**Product Specifications Reference (PSREF)**

### Processor

<table>
<thead>
<tr>
<th>Processor Number</th>
<th># of Cores</th>
<th># of Threads</th>
<th>Base Frequency</th>
<th>Max Turbo Frequency</th>
<th>Cache</th>
<th>Memory Types</th>
<th>Processor Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cel 4305U</td>
<td>2</td>
<td>2</td>
<td>2.2 GHz</td>
<td>-</td>
<td>2MB</td>
<td>DDR4-2133</td>
<td>Intel UHD Graphics 610</td>
</tr>
<tr>
<td>5-8145U</td>
<td>4</td>
<td>8</td>
<td>2.1 GHz</td>
<td>3.9 GHz</td>
<td>4MB</td>
<td>DDR4-2133</td>
<td>Intel UHD Graphics 610</td>
</tr>
<tr>
<td>5-8265U</td>
<td>4</td>
<td>8</td>
<td>1.6 GHz</td>
<td>3.9 GHz</td>
<td>6MB</td>
<td>DDR4-2400</td>
<td>Intel UHD Graphics 620</td>
</tr>
<tr>
<td>5-8365U</td>
<td>4</td>
<td>8</td>
<td>1.6 GHz</td>
<td>4.1 GHz</td>
<td>6MB</td>
<td>DDR4-2400</td>
<td>Intel UHD Graphics 620</td>
</tr>
<tr>
<td>7-8656U</td>
<td>4</td>
<td>8</td>
<td>1.8 GHz</td>
<td>4.6 GHz</td>
<td>8MB</td>
<td>DDR4-2400</td>
<td>Intel UHD Graphics 620</td>
</tr>
<tr>
<td>7-8665U</td>
<td>4</td>
<td>8</td>
<td>1.9 GHz</td>
<td>4.8 GHz</td>
<td>8MB</td>
<td>DDR4-2400</td>
<td>Intel UHD Graphics 620</td>
</tr>
</tbody>
</table>

### Graphics

- Intel UHD Graphics 610 or 620 in processor only or Intel UHD Graphics 620 in processor and AMD Radeon 535, 2GB GDDR5 memory
- Discrete models are NOT available in EMEA
- Supports external digital monitor via HDMI or USB Type-C
- Supports three independent displays
- Max resolution: 4096x2304 @ 213MHz or 4096x2400 MHz due to Intel limitation

### Chipset

- Intel SoC (System on Chip) platform
- 64GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets
- Installed memory is actually 2666MHz but run at 2133MHz or 2400MHz due to Intel limitation

### Display

<table>
<thead>
<tr>
<th>Size</th>
<th>Resolution</th>
<th>Type</th>
<th>Surface</th>
<th>Brightness</th>
<th>Aspect Ratio</th>
<th>Contrast Ratio</th>
<th>Color Gamut</th>
<th>Viewing Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.6&quot; HD (1366x768)</td>
<td>TN Anti-glare</td>
<td>220 nits</td>
<td>16:9</td>
<td>400:1</td>
<td>45%</td>
<td>90°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.6&quot; FHD (1920x1080)</td>
<td>IPS Anti-glare</td>
<td>250 nits</td>
<td>16:9</td>
<td>700:1</td>
<td>45%</td>
<td>170°</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Multi-touch

- None

### Storage

- HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™
- SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high
- M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4
- M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2
- Installed M.2 2280 SSD is PCIe 3x4 but run at PCIe 3x2 due to M.2 SSD adapter limitation

### Optane™ memory

- Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2
- None

### Optical

- None

### Ethernet

- Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)
- vPro model: Intel Ethernet Connection I219-LM (Jacksonville)

### WLAN + Bluetooth™ (optional)

- One of the following, configurable by model:
  - Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card (NOT available in EMEA)
  - Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0
  - Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0

### WWAN (optional)

- One of the following, configurable by model:
  - Wireless WAN upgradeable
  - Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)
  - Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card

### SIM card

- None

### Media reader

- MicroSD card reader

### Ports

- Two USB 3.1 Gen 1 (one Always On)
- One USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort)
- 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

### Monitor cable (optional)

- HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
- USB-C to VGA: Lenovo USB-C to VGA Adapter
- USB-C to DP: Lenovo USB-C to DisplayPort Adapter

### Bundled Accy

- None

### Camera (optional)

- One of the following, configurable by model:
  - HD camera with ThinkShutter camera privacy, fixed focus
  - 1080p camera with ThinkShutter camera privacy, fixed focus
  - HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack

### Keyboard

- 6-row, spill-resistant, multimedia Fn keys, optional LED backlight

### Security chip

- Power-on password, hard disk password, supervisor password, security keyhole

### Security

- vPro Technology
- Intel vPro Technology

### Fingerprint reader

- Optional: Touch style fingerprint reader on the palm rest

### NFC (optional)

- Near Field Communication

### Battery

- Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
- MobileMark® 2014: 12 hr
- Battery life varies significantly with settings, usage, & other factors

### AC adapter

- 45W or 65W USB Type-C AC adapter

### Preload

- Windows® 10 Home 64 or Windows 10 Pro 64

### Limited warranty

- One of the following, configurable by model:
  - 1-year depot repair service
  - 3-year/1-yr battery depot repair service

### MIL-Spec test

- MIL-STD-810G military testing

### Environment

- EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

### Lenovo

- July 2019

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