## ThinkPad E590 Platform Specifications

### 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>i3-8145U</td>
<td>2</td>
<td>4</td>
<td>2.1 GHz</td>
<td>3.9 GHz</td>
<td>4 MB</td>
<td>DDR4-2400</td>
<td>Intel UHD Graphics 620</td>
</tr>
<tr>
<td>i5-8265U</td>
<td>4</td>
<td>8</td>
<td>1.6 GHz</td>
<td>3.9 GHz</td>
<td>8 MB</td>
<td>DDR4-2400</td>
<td>Intel UHD Graphics 620</td>
</tr>
<tr>
<td>i7-8565U</td>
<td>4</td>
<td>8</td>
<td>1.8 GHz</td>
<td>4.6 GHz</td>
<td>8 MB</td>
<td>DDR4-2400</td>
<td>Intel UHD Graphics 620</td>
</tr>
</tbody>
</table>

### Graphics

- Intel UHD Graphics 620 in processor only or
- Intel UHD Graphics 620 in processor and
  - AMD Radeon RX 550X Graphics, 2GB GDDR5 memory;
  - supports external digital monitor via HDMI or USB Type-C;
  - supports dual independent display;
- Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)

### Chipset

- Intel SoC (System on Chip) platform

### Memory

- 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets
  - * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation

### Display

- 15.6" HD (1366x768) TN Anti-glare 220 nits 16:9 400:1 90° Non-touch
- 15.6" FHD (1920x1080) IPS Anti-glare 250 nits 16:9 600:1 170° Non-touch

### Storage

- Up to two drives (one M.2 SSD and one HDD)
  - HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™
  - M.2 2280 SSD / SATA 6.0Gb/s
  - M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2
  - M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4
  - * 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

### Ethernet

- Gigabit Ethernet Connection, Realtek R8111GUS

### WLAN + Bluetooth™

- One of the following, configurable by model:
  - Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card
  - Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card

### WWAN

- None

### SIM card

- None

### Dimensions

<table>
<thead>
<tr>
<th>WxDxH:</th>
<th>14.53&quot; x 9.94&quot; x 0.78&quot;;</th>
<th>369mm x 252.5mm x 19.9mm</th>
</tr>
</thead>
</table>

### Weight

- Starting at 4.68 lb / 2.12 kg

### Case color

- Black or silver

### Case material

- Aluminum; Bottom: PC/ABS plastic

### Smart card reader

- None

### Media reader

- MicroSD card reader

### Ports

- One USB 2.0, 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), headphone / microphone combo jack, microSD card reader, security keyhole
  - * Depending on many factors, actual data transfer speed may be lower than theoretical speed

### Monitor cable

- Bundled Accy

### Camera

- HD720p camera, fixed focus

### Audio support

- HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack

### Keyboard

- 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight
  - TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad

### Security

- Power-on password, hard disk password, supervisor password, security keyhole
  - Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified (may be disabled in some region)

### Security chip

- None

### Battery

- Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

### Operating system

- Optional: Windows® 10 Home 64 or Windows 10 Pro 64

### Limited warranty

- One of the following, configurable by model:
  - 1-year mail-in repair service
  - 1-year depot repair service
  - 1-year limited onsite service

### Mil-Spec test

- MIL-STD-810G military testing

### Environment

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

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