## ThinkPad E450 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 Speed</th>
<th>Processor Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>i3-4005U</td>
<td>2</td>
<td>4</td>
<td>1.7 GHz</td>
<td>-</td>
<td>3MB</td>
<td>DDR3L-1600</td>
<td>HD4400</td>
</tr>
<tr>
<td>i3-5005U</td>
<td>2</td>
<td>4</td>
<td>2.0 GHz</td>
<td>-</td>
<td>3MB</td>
<td>DDR3L-1600</td>
<td>HD5500</td>
</tr>
<tr>
<td>i5-5200U</td>
<td>2</td>
<td>4</td>
<td>2.2 GHz</td>
<td>2.7 GHz</td>
<td>3MB</td>
<td>DDR3L-1600</td>
<td>HD5500</td>
</tr>
<tr>
<td>i7-5500U</td>
<td>2</td>
<td>4</td>
<td>2.4 GHz</td>
<td>3.0 GHz</td>
<td>4MB</td>
<td>DDR3L-1600</td>
<td>HD5500</td>
</tr>
</tbody>
</table>

### Graphics

- Intel HD Graphics in processor only, or AMD Radeon R5 M240 Graphics, 1GB DDR3 memory, AMD Radeon R7 M260 Graphics, 2GB DDR3 memory.
- Digital monitor support via HDMM™ (supporting HDCP to output protected content).
- Supports dual independent displays.
- Max resolution: 1920x1080 (HDMI)@60Hz.

### Chipset

- Intel SoC (System on Chip) platform.
- 16GB max / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets.

### Display

- Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio.
- Some: 14.0" (355mm) FHD (1920x1080) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio.

### Multi-touch

- Some: supports 10-finger gesture.

### Storage

- Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradeable.
- Some: SSD / SATA 6.0Gb/s, 2.5" wide, removable, upgradeable, Shock Mounted Hard Drive, Active Protection System™.
- Some: Hybrid drive with 8GB NAND flash memory.

### Optical M.2 SSD

- None.

### Ethernet

- Intel WGI218V Gigabit Ethernet Connection.
- Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter.

### WLAN

- One of the following, configurable by model:
  - Intel Wireless-AC 3160, 1x1, Wi-Fi + Bluetooth combo adapter, M.2 Card
  - Intel Dual Band Wireless-AC 7265, 2x2, Wi-Fi + BT combo adapter, M.2 Card
  - RTL8723BE, Realtek 11b/g/n, 1x1, Wi-Fi + Bluetooth combo adapter, M.2 Card
  - BCM43162, Broadcom 11-Ac, 1x1, Wi-Fi + BT combo adapter, M.2 Card

### WWAN

- None.

### SIM card

- None.

### Smart Card Reader

- None.

### ExpressCard

- None.

### Dimensions

- None Touch(WxH): 13.35" x 9.41" x 0.94"; 339mm x 239mm x 24mm
- Weight: 6-cell None Touch: from 4.00 lb (1.81kg)

### Case color

- Graphite Black

### Case material

- PolyCarbonate/Acrylonitrile-Butadiene-Styrene (PC/ABS) plastic

### Multicard Reader

- 4-in-1 reader (MMC, SD, SDHC, SDXC)

### Ports

- Two USB 3.0, one USB 2.0 (Always On), Ethernet (RJ-45), external monitor (HDMI), Lenovo OneLink connector.

### Monitor cable

- None.

### Camera

- Some: 0.3-megapixel, fixed focus
- Some: HD720p resolution, fixed focus

### Audio support

- HD Audio, Conexant® CX20751 codec, Dolby® Advanced Audio™ v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio / microphone jack.

### Keyboard

- 6-row, spill-resistant, multimedia Fn keys.
- Trackpoint® pointing device and multi-touch with 3+2 buttons click pad.

### UltraNav™

- ThinkLight™

### Security

- Power-on password, hard disk password, supervisor password, security keyhole.
- Security chip: Trusted Platform Module, TCG 1.2-compliant
- Soft: Software TPM enabled.
- vPro: None.
- Fingerprint reader: None.
- NFC: None.

### Battery type

- Li-Ion 6-cell (47Wh).

### Battery life

- 6-cell (47Wh): up to 9.0 hr.

### AC adapter


### Preload

- Some: No operating system.
- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8.1 Pro 64-bit.
- Some: Windows 8.1 64-bit.
- Some: Lenovo Solution Center.
- Some: Lenovo SHAREit.
- Some: ThinkVantage System Update.
- Some: Norton Internet Security (30 days of virus definitions).
- Some: Windows 7 Professional preinstalled through downgrade rights in Windows 10 Pro 64.
- Some: Windows 10 Pro 64.
- Some: Lenovo Solution Center.
- Some: Lenovo SHAREit.
- Some: ThinkVantage Product Recovery.
- Some: Rescue and Recovery™.
- Some: Microsoft Office preloaded; purchase a product key to activate.
- Some: Norton Internet Security (30 days of virus definitions).

### Preload (Some)

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- Lenovo Solution Center.
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### Environment

- EPEAT® Gold; ENERGY STAR®; RoHS-compliant.

### Limited warranty

- 1-year - depot repair service / service upgrades available.