## OVERVIEW

1. Nano-SIM card slot *
2. SD card reader
3. USB 3.2 Gen 1
4. USB 3.2 Gen 1
5. Kensington Security Slot
6. Power connector
7. 2x USB-C 3.2 Gen 2 / Thunderbolt 3
8. HDMI 2.0
9. Headphone / microphone combo jack (3.5mm)

### Notes:
- Ports with * are only available on selected models
PERFORMANCE

Processor

Processor Family
10th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

<table>
<thead>
<tr>
<th>Processor Name</th>
<th>Cores</th>
<th>Threads</th>
<th>Base Frequency</th>
<th>Max Frequency</th>
<th>Cache</th>
<th>Memory Support</th>
<th>Processor Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core i7-10750H</td>
<td>6</td>
<td>12</td>
<td>2.6GHz</td>
<td>5.0GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i7-10850H</td>
<td>6</td>
<td>12</td>
<td>2.7GHz</td>
<td>5.1GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i7-10875H</td>
<td>8</td>
<td>16</td>
<td>2.3GHz</td>
<td>5.1GHz</td>
<td>16MB</td>
<td>DDR4-3200</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i9-10885H</td>
<td>8</td>
<td>16</td>
<td>2.4GHz</td>
<td>5.3GHz</td>
<td>16MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Xeon W-10855M</td>
<td>6</td>
<td>12</td>
<td>2.8GHz</td>
<td>5.1GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
</tbody>
</table>

Operating System

Operating System
• Windows® 10 Home 64
• Windows 10 Pro 64
• Windows 10 Pro 64 for Workstations
• Fedora Linux
• Ubuntu Linux LTS
• Red Hat Enterprise Linux (certified only)
• No operating system

Graphics

Graphics

<table>
<thead>
<tr>
<th>Graphics</th>
<th>Type</th>
<th>Memory</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel UHD Graphics</td>
<td></td>
<td></td>
<td>DirectX® 12</td>
</tr>
<tr>
<td>NVIDIA® Quadro® T1000 with Max-Q Design</td>
<td></td>
<td></td>
<td>DirectX 12</td>
</tr>
<tr>
<td>NVIDIA Quadro T2000 with Max-Q Design</td>
<td></td>
<td></td>
<td>DirectX 12</td>
</tr>
</tbody>
</table>

Monitor Support

Monitor Support
Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (up to 5K@60Hz)

Chipset

Chipset
Intel WM490 chipset

Memory

Max Memory
Up to 64GB DDR4-2933

Memory Slots
Two DDR4 DIMM slots, dual-channel capable

Memory Type
• DDR4-2933 ECC
• DDR4-2933 non-ECC

Memory Protection
ECC on models with ECC DIMMs and Xeon processor

Notes:
1. The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.
2. Non-ECC memory is actually DDR4-3200 but may run at DDR4-2933 due to processor limitation

**Storage**

**Storage Support**
Up to two drives, 2x M.2 SSD
- M.2 2280 SSD up to 2TB

**Storage Type**

<table>
<thead>
<tr>
<th>Disk Type</th>
<th>Interface</th>
<th>RPM</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.2 2280 SSD</td>
<td>PCIe NVMe, PCIe 3.0</td>
<td>-</td>
<td>Opal2</td>
</tr>
</tbody>
</table>

**RAID**

RAID 0/1 support

**Removable Storage**

**Optical**

None

**Card Reader**

SD card reader

**Multi-Media**

**Audio Chip**

High Definition (HD) Audio, Realtek® ALC3286 codec

**Speakers**

Stereo speakers, Dolby® Atmos®

**Microphone**

- Dual array microphone, far-field
- No microphone

**Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

**Battery**

**Battery**

Integrated Li-Polymer 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter

**Max Battery Life**

MobileMark® 2014: 15.9 hr
MobileMark 2018: 12 hr
JEITA 2.0: 17.1 hr

**Notes:**

1. All battery life claims are approximate maximum and based on results using the MobileMark 2014, MobileMark 2018, and/or JEITA 2.0 battery-life benchmark tests. Actual battery life will vary and depends on many factors such as product configuration and usage, software use, wireless functionality, power management settings, and screen brightness. The maximum capacity of the battery will decrease with time and use.

**Power Adapter**

**Power Adapter**

- 135W slim tip (2-pin) AC adapter
- 135W slim tip (3-pin) AC adapter
- 170W slim tip (2-pin) AC adapter
- 170W slim tip (3-pin) AC adapter

**DESIGN**

**Display**
## Display\(^2\)

<table>
<thead>
<tr>
<th>Size</th>
<th>Resolution</th>
<th>Touch</th>
<th>Type</th>
<th>Brightness</th>
<th>Surface</th>
<th>Aspect Ratio</th>
<th>Contrast Ratio</th>
<th>Color Gamut</th>
<th>Viewing Angle</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.6”</td>
<td>FHD (1920x1080)</td>
<td>None</td>
<td>IPS</td>
<td>300 nits</td>
<td>Anti-glare</td>
<td>16:9</td>
<td>700:1</td>
<td>72% NTSC</td>
<td>170°</td>
<td>-</td>
</tr>
<tr>
<td>15.6”</td>
<td>FHD (1920x1080)</td>
<td>None</td>
<td>IPS</td>
<td>500 nits</td>
<td>Anti-glare</td>
<td>16:9</td>
<td>800:1</td>
<td>72% NTSC</td>
<td>170°</td>
<td>Dolby Vision™, HDR</td>
</tr>
<tr>
<td>15.6”</td>
<td>UHD (3840x2160)</td>
<td>None</td>
<td>IPS</td>
<td>600 nits</td>
<td>Anti-glare</td>
<td>16:9</td>
<td>1400:1</td>
<td>100% Adobe® RGB</td>
<td>178°</td>
<td>Dolby Vision, HDR</td>
</tr>
<tr>
<td>15.6”</td>
<td>UHD (3840x2160)</td>
<td>Multi-touch</td>
<td>OLED</td>
<td>SDR 400nit, HDR 540nit (peak)</td>
<td>Anti-reflection Anti-smudge</td>
<td>16:9</td>
<td>1000000:1</td>
<td>100% DCI-P3</td>
<td>170°</td>
<td>Dolby Vision, HDR</td>
</tr>
</tbody>
</table>

### Color Calibration
- X-Rite Pantone factory color calibration (UHD display)
- No color calibration

### Touchscreen
- On-cell touch, supports 10-point touch
- Non-touch

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### Notes:
1. California Electronic Waste Recycling Fee
   - In California, per state law, Lenovo charges an electronic waste recycling fee on this covered device at the time of sale of the product.
   - For more information, go to https://www.calrecycle.ca.gov/Electronics/Consumer
2. For non-OLED display, HDR is only supported under hybrid mode

## Input Device

### Pen
- Lenovo Pen Pro (for UHD OLED models)
- No support (non-touch display doesn’t support pen input)

### Keyboard
- 6-row, spill-resistant, multimedia Fn keys with Unified Communications controls

### Keyboard Backlight
- LED backlight

### UltraNav™
- 3-button TrackPoint® pointing device and glass surface multi-touch touchpad

## Mechanical

### Dimensions (WxDxH)

<table>
<thead>
<tr>
<th>Models</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch models</td>
<td>361.8 x 245.7 x 18.7 mm (14.24 x 9.67 x 0.74 inches)</td>
</tr>
<tr>
<td>Non-touch models</td>
<td>361.8 x 245.7 x 18.4 mm (14.24 x 9.67 x 0.72 inches)</td>
</tr>
</tbody>
</table>

### Weight\(^1\)

<table>
<thead>
<tr>
<th>Models</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-touch models</td>
<td>1.7 kg (3.75 lbs)</td>
</tr>
<tr>
<td>Touch models</td>
<td>1.8 kg (3.97 lbs)</td>
</tr>
</tbody>
</table>

### Case Color
- Black

### Case Material
- Carbon fiber (black) + PC + PPS hybrid (top), aluminium + PC + ABS (bottom)
• Carbon fiber (woven pattern) + PC + PPS hybrid (top), aluminium + PC + ABS (bottom)

Notes:
1. The system weight varies depending on configurations

CONNECTIVITY

Network
Onboard Ethernet
Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth®
Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card

WWAN
• Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card
• No support

SIM Card
No SIM card inbox

NFC
No support

Ports[1]

Standard Ports[2]
• 2x USB 3.2 Gen 1 (one Always On)
• 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™ 1.4)
• 1x HDMI 2.0
• 1x SD card reader
• 1x Headphone / microphone combo jack (3.5mm)

Optional Ports
1x Nano-SIM card slot (WWAN model)

Notes:
1. The transfer speed of following ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes and other factors related to system configuration and your operating environment, will be slower than theoretical speed.
   - USB 2.0: 480 Mbit/s;
   - USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;
   - USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;
   - USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
   - Thunderbolt 3: 40 Gbit/s;
   - FireWire 400: 400 Mbit/s;
   - FireWire 800: 800 Mbit/s
2. Depending on many factors, actual data transfer speed may be lower than theoretical speed

Monitor Cable

Monitor Cable
• Lenovo HDMI to VGA Monitor Adapter
• Lenovo USB-C to DisplayPort Adapter
• Lenovo USB-C to VGA Adapter

SECURITY & PRIVACY

Security
Security Chip
• Discrete TPM 2.0, TCG certified
• Firmware TPM 2.0 integrated in chipset
• Disabled (in some regions)

Physical Locks
Kensington® Security Slot
Smart Card Reader
No smart card reader

Fingerprint Reader
Touch style fingerprint reader on palm rest, match-on-chip

BIOS Security
- Supervisor password
- Power-on password
- Hard disk password
- Self-healing BIOS

Other Security
- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management
System Management
- Intel vPro Technology, DASH
- None

SERVICE

Warranty
Base Warranty
- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment
Temperature
- Operating: 5°C (41°F) to 35°C (95°F)
- Storage and transportation in original shipping packaging: -20°C (-4°F) to 60°C (140°F)
- Storage without package: 5°C (41°F) to 43°C (109°F)

Humidity
- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage and transportation: 5% to 95% at wet-bulb temperature 27°C (81°F)

Altitude
Maximum altitude (without pressurization): 3048 m (10,000 ft)

Notes:
1. When you charge the battery, its temperature must be no lower than 10°C (50°F)

ACCESSORIES

Bundled Accessories
Bundled Accessories
- Lenovo USB-C to Ethernet Adapter
CERTIFICATIONS

Green Certifications

Green Certifications
• EPEAT™ Gold
• ENERGY STAR® 8.0
• RoHS compliant

Other Certifications

Mil-Spec Test
MIL-STD-810G military test passed

ISV Certifications

ISV Certifications
Please visit www.thinkworkstations.com/isv-certifications/