

## OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	6. Kensington Security Slot
2. SD card reader	7. Power connector
3. HDMI 2.0	8. USB-C 3.2 Gen 2 / Thunderbolt 3
4. 2x USB 3.2 Gen 1	9. Smart card reader *
5. Ethernet (RJ-45)	

Notes:

- Ports with \* are only available on selected models

## PERFORMANCE

### Processor

#### Processor Family

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

#### Processor

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10300H	4	8	2.5GHz	4.5GHz	8MB	DDR4-2933	Intel UHD Graphics
Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-3200	Intel UHD Graphics
Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics

### Operating System

#### Operating System

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

### Graphics

#### Graphics

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® Quadro® P620	Discrete	4GB GDDR5	DirectX 12

### Monitor Support

#### Monitor Support

Supports up to 3 independent displays via native display and 2 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<sup>[1]</sup>

Up to 64GB DDR4-2933

#### Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

#### Memory Type<sup>[2]</sup>

- 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**

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

**RAID**

RAID 0/1 support

**Removable Storage**

**Optical**

None

**Card Reader**

SD card reader

**Multi-Media**

**Audio Chip**

High Definition (HD) Audio, Realtek® ALC3287 codec

**Speakers**

Stereo speakers, Dolby® Audio™

**Microphone**

- Dual array microphone, near-field
- No microphone

**Camera**

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

**Battery**

**Battery**

Integrated Li-Polymer 68Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

**Max Battery Life<sup>[1]</sup>**

MobileMark® 2014: 10 hr  
 MobileMark 2018: 7.2 hr  
 JEITA 2.0: 11 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

**DESIGN**

**Display**

**Display<sup>[1]</sup>**

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD	None	IPS	250 nits	Anti-	16:9	800:1	45% NTSC	170°	-

	(1920x1080)				glare					
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

**Color Calibration**

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

**Touchscreen**

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

**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>

**Input Device****Pen**

No support

**Keyboard**

6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad

**Keyboard Backlight**

- LED backlight
- No support

**UltraNav™**

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

**Mechanical****Dimensions (WxDxH)**

366.5 x 250 x 22.7 mm (14.43 x 9.84 x 0.89 inches)

**Weight<sup>[1]</sup>**

2.07 kg (4.57 lbs)

**Case Color**

Black

**Case Material**

PC + ABS (top), PC + ABS (bottom)

**Notes:**

1. The system weight varies depending on configurations

**CONNECTIVITY****Network****Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN

**WLAN + Bluetooth®**

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

**WWAN**

- Wireless WAN upgradable to 4G
- Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card

- No support

**SIM Card**

No SIM card inbox

**NFC**

No support

**Ports<sup>[1]</sup>****Standard Ports<sup>[2]</sup>**

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

**Optional Ports**

- 1x Nano-SIM card slot (WWAN model)
- 1x Smart card reader

**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
- No monitor cable

**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**

- 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<sup>[1]</sup>

- 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

None

## 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/](http://www.thinkworkstations.com/isv-certifications/)

