

## **PERFORMANCE**

### **Processor**

#### **Processor Family**

8th generation Intel® Core™ i5 / i7 Processor

#### **Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-8365U	4	8	1.6GHz	4.1GHz	6MB	DDR4-2400	Intel UHD Graphics
Core i7-8565U	4	8	1.8GHz	4.6GHz	8MB	DDR4-2400	Intel UHD Graphics
Core i7-8665U	4	8	1.9GHz	4.8GHz	8MB	DDR4-2400	Intel UHD Graphics

## **Operating System**

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

## **Graphics**

Graphics	Туре	Memory	Key Features	
NVIDIA® Quadro® P520	Discrete	2GB GDDR5	DirectX® 12	

## **Monitor Support**

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 3840x2160@30Hz) or USB-C (up to 3840x2160@60Hz)

### Chipset

Intel SoC (System on Chip) platform

### Memory

## **Memory Type**

DDR4-2400

### **Memory Slots**

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

### **Max Memory**

- Up to 48GB (16GB soldered + 32GB SO-DIMM)
- Up to 40GB (8GB soldered + 32GB SO-DIMM)

#### Notes:

• The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.

## **Storage**

## Storage Support

One drive, up to 2TB M.2 2280 SSD

### Storage Type

<b>.</b>			
Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe NVMe, PCIe 3.0 x2	-	-
M.2 2280 SSD	SATA 6Gb/s	-	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane™ Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-



## **Removable Storage**

### **Optical**

None

#### **Card Reader**

MicroSD card reader

#### Multi-Media

### **Audio Chip**

High Definition (HD) Audio, Realtek® ALC3287 codec

#### **Speakers**

Stereo speakers, 2W x2, Dolby® Audio™ Premium

#### Microphone

- · Dual array microphone, far-field
- No microphone

#### Camera

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

## **Battery**

### **Battery**

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

#### **Max Battery Life**

MobileMark® 2014: 15 hr (FHD ) or 10 hr (UHD)

## Notes:

 All battery life claims are approximate maximum and based on results using the MobileMark 2014 and/or MobileMark 2018 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**

- 65W USB-C AC adapter
- · 65W USB-C slim AC adapter

## **DESIGN**

### **Display**

## Display

	•									
Size	Resolution	Touch	Туре	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	Multi- touch	IPS	250 nits	Anti- glare	16:9	700:1	45%	170°	-
15.6"	UHD (3840x2160)	None	IPS	500 nits	Anti- glare	16:9	1200:1	100% Adobe®	170°	Dolby Vision™, HDR

#### Notes:

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

#### **Touchscreen**

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



## **Input Device**

### Keyboard

6-row, spill-resistant, multimedia Fn keys, numeric keypad

#### **Keyboard Backlight**

LED backlight

#### UltraNav™

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

#### Mechanical

### Dimensions (WxDxH)

365.8 x 248 x 19.1 mm (14.40 x 9.76 x 0.75 inches)

#### Weight

1.75 kg (3.87 lbs)

#### **Case Color**

Black

#### **Case Material**

PPS / 50% GF (top), PA / 50% GF (bottom)

### CONNECTIVITY

### **Network**

#### **Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)

#### WLAN + Bluetooth™

- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card
- No WLAN and Bluetooth

## **WWAN**

- Wireless WAN upgradable
- Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card
- Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card
- Not Support

### SIM Card

No SIM card

## NFC

- Near Field Communication
- Not support

### **Ports**

### **Standard Ports**

- 2x USB 3.1 Gen 1 (one Always On)
- 1x USB-C 3.1 Gen 1 (support data transfer, Power Delivery and DisplayPort™)
- 1x USB-C 3.1 Gen 2 / Thunderbolt™ 3 (support data transfer, Power Delivery and DisplayPort)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x headphone / microphone combo jack (3.5mm)
- 1x side docking connector
- 1x Security keyhole

#### Notes:

· Depending on many factors, actual data transfer speed may be lower than theoretical speed

### **Optional Ports**

· 1x smart card reader



• 1x Nano-SIM card slot (WWAN models)

### **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

#### **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
- No fingerprint reader

### **BIOS Security**

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

#### Other Security

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

## **MANAGEABILITY**

## **System Management**

- Intel vPro Technology, DASH
- None

## **SERVICE**

## **Warranty**

# Base Warranty

- 1-year depot service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service

## **ACCESSORIES**

### **Bundled Accessories**

None

## **CERTIFICATIONS**

### **Green Certifications**

- EPEAT™ Gold
- ENERGY STAR® 8.0



RoHS compliant

## **Other Certifications**

Mil-Spec Test

MIL-STD-810G military test passed

## **ISV Certifications**

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

Laptop VANG.com







Lapto VANG.com.