

## PERFORMANCE

### Processor

#### Processor Family

8th Generation Intel® Core™ i3 / i5 / i7 or 10th Generation Intel Core i5 / i7 Processor

#### Processor<sup>[1]</sup>

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-8145U	2	4	2.1GHz	3.9GHz	4MB	DDR4-2400	Intel UHD Graphics
Core i5-8265U	4	8	1.6GHz	3.9GHz	6MB	DDR4-2400	Intel UHD Graphics
Core i5-8365U	4	8	1.6GHz	4.1GHz	6MB	DDR4-2400	Intel UHD Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	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
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics

#### Notes:

1. 10th Generation Intel Core Processors are NOT available in EMEA

### Operating System

#### Operating System

- Windows® 10 Home 64
- Windows 10 Pro 64
- Linux
- Ubuntu Linux
- No operating system

### Graphics

#### Graphics

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	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 4096x2160@24Hz), Thunderbolt™ (up to 4096x2304@60Hz)

### Chipset

#### Chipset

Intel SoC (System on Chip) platform

### Memory

#### Memory Type<sup>[1]</sup>

DDR4-2400

#### Memory Slots

Memory soldered to systemboard, no slots

#### Max Memory<sup>[3]</sup>

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

#### Notes:

1. Installed memory is actually 2666MHz but run at 2400MHz due to processor limitation
2. The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.
3. 32GB memory is NOT available for models with 10th Gen processor

## Storage

### Storage Support

One drive, 1x M.2 2280 SSD or 1x M.2 2242 SSD

- M.2 2280 SSD up to 1TB
- M.2 2242 SSD up to 128GB
- Optional Intel Optane™ Memory integrated with SSD, M.2

### Storage Type

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	-	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 slot (WiFi model)
- Nano-SIM + microSD card slot (WWAN model)

## Multi-Media

### Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

### Speakers

Stereo speakers, 1W x2, Dolby® Audio™ Premium

### Microphone<sup>[1]</sup>

- Dual array microphone, far-field
- No microphone

### Camera

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

### Notes:

1. Microphone not configured is for speical bid only

## Battery

### Battery

Integrated Li-Polymer 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

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

MobileMark® 2014: 17.6 hr

JEITA 2.0: 19 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

- 45W USB-C AC adapter
- 65W USB-C slim AC adapter
- 65W USB-C AC adapter

## DESIGN

### Display

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

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	HD (1366x768)	None	TN	250 nits	Anti-glare	16:9	500:1	45% NTSC	90°	-
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-
13.3"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	72% NTSC	170°	-
13.3"	FHD (1920x1080)	None	IPS	400 nits	Anti-glare	16:9	1000:1	72% NTSC	178°	ThinkPad® Privacy Guard

#### 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

#### Keyboard

6-row, spill-resistant, multimedia Fn keys

#### Keyboard Backlight

- LED backlight
- Not support

#### UltraNav™

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

### Mechanical

#### Dimensions (WxDxH)

Models	Dimensions
FHD non-touch models with carbon fiber case	311.9 x 217.0 x 16.5 mm (12.28 x 8.54 x 0.65 inches)
FHD non-touch models with PPS case	312.0 x 217.2 x 16.9 mm (12.28 x 8.55 x 0.67 inches)
HD / FHD touch / FHD Privacy Guard models with PPS case	311.9 x 217.2 x 16.9 mm (12.28 x 8.55 x 0.67 inches)

#### Weight

Models	Weight
FHD non-touch models with Carbon Fiber case	1.22 kg (2.70 lbs)
FHD non-touch models with PPS case	1.29 kg (2.85 lbs)
FHD touch / FHD Privacy Guard models with PPS case	1.28 kg (2.84 lbs)
HD models with PPS case	1.33 kg (2.93 lbs)

#### Case Color

Black

#### Case Material<sup>[1]</sup>

Carbon Fiber or PPS (top), Magnesium-aluminium (bottom)

Notes:

1. Carbon Fiber top cover is for FHD non-touch models only

## CONNECTIVITY

### Network

#### Onboard Ethernet

- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2
- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2

#### WLAN + Bluetooth™<sup>[1]</sup>

- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.1
- Intel Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

#### WWAN<sup>[2]</sup>

- 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

- Gemalto eSIM
- Nano-SIM Card, Verizon LTE (US)
- No SIM card

#### NFC

- Near Field Communication
- Not support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions  
Bluetooth 5.2 is supported with driver version 22.30 and later
2. In EMEA, WWAN upgradable is for special bid only  
Fibocom L830-EB is only available in EMEA  
For non-WWAN model, it means the model is NOT WWAN upgradable

### Ports

#### Standard Ports<sup>[1]</sup>

- 1x USB 3.1 Gen 1
- 1x USB 3.1 Gen 1 (Always On)
- 1x USB-C 3.1 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.1 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x Ethernet extension connector
- 1x headphone / microphone combo jack (3.5mm)
- 1x side docking connector

#### Optional Ports

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

Notes:

1. 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
- 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
- (Optional) Privacy Guard with Privacy Alert

## MANAGEABILITY

### System Management

#### System Management

- Intel vPro Technology, DASH
- None

## SERVICE

### Warranty

#### Base Warranty

- 1-year depot service
- 1-year limited onsite service
- 1-year depot with 2-year system board 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

## ACCESSORIES

### Bundled Accessories

#### Bundled Accessories

- ThinkPad Ethernet Extension Adapter Gen 2
- None

## CERTIFICATIONS

### Green Certifications

#### Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO
- RoHS compliant

### Other Certifications

#### Mil-Spec Test

MIL-STD-810G military test passed

