PERFORMANCE

Processor

Processor Family

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

Processor[1]

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 Pro 64
- Windows 10 Home 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

Max Memory[1][2]

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

Memory Slots

Memory soldered to systemboard, no slots

Memory Type[3]

DDR4-2400

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. 32GB memory is NOT available for models with 10th Gen processor.
3. Installed memory is actually 2666MHz but run at 2400MHz due to processor limitation.

Storage

Storage Support[1]

One drive, up to 128GB M.2 2242 SSD or 1TB M.2 2280 SSD, 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	PCIe NVMe, PCIe 3.0 x4	-	Opal2
M.2 2280 SSD	SATA 6Gb/s	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Notes:

1. The storage capacity supported is based on the test results with current Lenovo storage offerings. The system may support larger storage as the technology develops.

Removable Storage

Optical

None

Card Reader

- MicroSD card slot (WLAN models)
- Nano-SIM + microSD card slot (WWAN models)

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

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

Microphone[1]

- Dual array microphone, far-field
- No microphone

Camera

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

Notes:

1. No microphone is for special 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[1]

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, JEITA 2.0, continuous 1080p video playback (with 150nits brightness and default volume level) or Google Power Load Test (PLT) 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[1]

- 45W USB-C® (2-pin) AC adapter
- 45W USB-C (3-pin) AC adapter
- 65W USB-C slim (3-pin) AC adapter
- 65W USB-C slim (2-pin) AC adapter
- 65W USB-C (2-pin) AC adapter
- 65W USB-C (3-pin) AC adapter

Notes:
1. AC adapter offerings depend on the country.

DESIGN

Display

Display[1]

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)	None	IPS	300 nits	Anti-glare	16:9	800:1	72% NTSC	170°	-
13.3″	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	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
- Non-backlight

UltraNav™

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

Mechanical[1]

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[2]

Carbon fiber or PPS (top), magnesium-aluminium (bottom)

Notes:
1. The system dimensions and weight vary depending on configurations.
2. Carbon Fiber top cover is for FHD non-touch models only.

CONNECTIVITY

Network

Ethernet

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

WLAN + Bluetooth®[1][2]

- 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 5.1
- No WLAN and Bluetooth

WWAN[3]

- Wireless WAN upgradable to 4G
- Fibocom L850-GL, 4G LTE CAT9, M.2 card
- Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:
1. Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitation
2. Wi-Fi 6 full features might be limited by country-level restrictions.
3. 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[1]

Standard Ports

- 1x USB 3.1 Gen 1
- 1x USB 3.1 Gen 1 (Always On)
- 1x USB-C 3.1 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.1 Gen 1 (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 models)

- 1x Nano-SIM + microSD 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 3/4: 40 Gbit/s

Monitor Cable

Monitor Cable

- Lenovo HDMI to VGA Monitor 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
- (Optional) Privacy Guard with Privacy Alert

MANAGEABILITY

System Management

System Management

- Intel vPro
- None

SERVICE

Warranty

Base Warranty[1]

- 1-year depot service
- 1-year courier with 2-year system board service (Korea only)
- 1-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service

- No base warranty

Notes:
1. More information of warranty policy, please access https://pcsupport.lenovo.com/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 Certified
- RoHS compliant

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

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