

**OVERVIEW**



1. Power connector	6. SD card reader
2. Thunderbolt 4	7. Nano-SIM card slot
3. Thunderbolt 4	8. USB 3.2 Gen 1
4. HDMI	9. USB 3.2 Gen 1 (Always On)
5. Headphone (3.5mm)	10. Kensington Security Slot

## PERFORMANCE

### Processor

#### Processor Family

11th Generation Intel® Core™ i7 / i9 Processor or Intel Xeon® W Processor

#### Processor

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i9-11950H	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics
Xeon W-11855M	6	12	3.2GHz	4.9GHz	18MB	DDR4-3200	Intel UHD Graphics

### Operating System

#### Operating System<sup>[1]</sup>

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

#### Notes:

1. As preloaded OS, Fedora and Ubuntu Linux will be available on October 2021

### Graphics

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

Graphics	Type	Memory	Boost Clock	TGP	Connector	Max Resolution	Key Features	Remark
Intel UHD Graphics	Integrated	Shared			-	-	DirectX® 12	-
NVIDIA® GeForce® RTX™ 3070	Discrete	8GB GDDR6	-	-	-	-	DirectX 12	-
NVIDIA GeForce RTX 3080	Discrete	16GB GDDR6	-	-	-	-	DirectX 12	-
NVIDIA RTX A3000	Discrete	6GB GDDR6	-	-	-	-	DirectX 12	-
NVIDIA RTX A5000	Discrete	16GB GDDR6	-	-	-	-	DirectX 12	-
NVIDIA T1200	Discrete	4GB GDDR6	-	-	-	-	DirectX 12	-
NVIDIA RTX A4000	Discrete	8GB GDDR6	-	-	-	-	DirectX 12	-
NVIDIA RTX A2000	Discrete	4GB GDDR6	-	-	-	-	DirectX 12	-

#### Notes:

1. Vapor Chamber cooling is available only with NV RTX A3000 / A4000 / A5000 and GeForce RTX 3070 / 3080 GPUs

### Monitor Support

#### Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via one HDMI® (up to 4K@60Hz on NVIDIA T1200 or Intel UHD model, or 8K@60Hz on other discrete graphics model) or two Thunderbolt™ (up to 5120x3200@60Hz each)

### Chipset

#### Chipset

Intel WM590 chipset

## Memory

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

Up to 64GB

### Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

### Memory Type

- DDR4-3200 ECC
- DDR4-3200 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.

## Storage

### Storage Support<sup>[1]</sup>

Up to two M.2 2280 SSD, up to 2TB each

### Storage Slot<sup>[2]</sup>

Three M.2 2280 PCIe slots for SSD:

- 1x M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD
- 1x M.2 2280 PCIe Gen 3x4 slot, supports M.2 2280 SSD

### Storage Type

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe	-	256GB / 512GB / 1TB / 2TB	Opal2

### RAID

RAID 0/1 support (All M.2 SSD drives will work at PCIe Gen 3 in RAID mode)

#### Notes:

1. Dual storage is only available on models with Intel UHD graphics, NVIDIA T1200, and NVIDIA RTX A2000
2. M.2 PCIe Gen 4 SSD in a M.2 PCIe Gen 3 slot runs at PCIe Gen 3 speeds

## Removable Storage

### Optical

None

### Card Reader

SD card reader

## Multi-Media

### Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

### Speakers

Stereo speakers, Dolby® Atmos® Speaker System certified

### Microphone

- Dual array microphone, far-field
- No microphone

### Camera

- 1080p, with privacy shutter, fixed focus
- IR & 1080p hybrid, with privacy shutter, fixed focus
- No camera

## Battery

### Battery

Integrated Li-Polymer 90Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

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

MobileMark® 2018: 10.9 hr  
JEITA 2.0: 13.7 hr

#### Notes:

- 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 AC adapter (3-pin)
- 170W slim tip AC adapter (3-pin)
- 230W slim tip AC adapter (3-pin)

## DESIGN

### Display

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

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
16.0"	16" WQXGA (2560x1600)	None	IPS	400 nits	Anti-glare	16:10	1200:1	100% sRGB	170°	Low blue light, DC dimming
16.0"	WQUXGA (3840x2400)	Multi-touch	IPS	600 nits	Anti-reflection, Anti-smudge	16:10	1500:1	100% Adobe®	170°	Low blue light, Dolby Vision™, HDR 400, DC dimming
16.0"	WQUXGA (3840x2400)	None	IPS	600 nits	Anti-glare	16:10	1500:1	100% Adobe	170°	Low blue light, Dolby Vision, HDR 400, DC dimming

#### Color Calibration

- X-Rite Pantone factory color calibration
- No color calibration

#### Touchscreen

- Capacitive-type on-cell multi-touch, supports 10-point touch
- Non-touch

#### 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>
- For non-OLED display, HDR is only supported under hybrid mode

## Input Device

#### Pen

- Lenovo Pen Pro
- None

#### 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)

Models	Dimensions
Touch models	359.5 x 253.8 x 18.2 mm (14.15 x 9.99 x 0.72 inches)
Non-touch models	359.5 x 253.8 x 17.7 mm (14.15 x 9.99 x 0.7 inches)

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

Models	Weight
Touch models	1.86 kg (4.1 lbs)
Non-touch models	1.81 kg (3.99 lbs)

### Case Color

Black

### Case Material

- CF plate / GFRP hybrid (top), Aluminium (bottom)
- 37-degree twill CF Weave (top), Aluminium (bottom)

### Notes:

1. The system weight varies depending on configurations

## CONNECTIVITY

### Network

#### Onboard Ethernet

- Lenovo USB-C to Ethernet Adapter
- No Ethernet

#### WLAN + Bluetooth™

Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

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

- Integrated Mobile Broadband 4G LTE, Quectel EM05-CE, M.2 card, China only
- Qualcomm® Snapdragon™ X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

#### SIM Card

- Nano SIM card, Lenovo Connect 24 months, 4G LTE
- No SIM card inbox

#### NFC

No support

### Notes:

1. WWAN is only available on models with Intel UHD graphics, NVIDIA T1200, and NVIDIA RTX A2000

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

#### Standard Ports<sup>[2]</sup>

- 2x USB 3.2 Gen 1 (one Always On)
- 2x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4a)
- 1x HDMI 2.1 (HDMI 2.0 on NVIDIA T1200 or integrated graphics only model)
- 1x SD card reader
- 1x headphone / microphone combo jack (3.5mm)
- 1x Security keyhole

#### 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 (2.5 x 6 mm)

#### Fingerprint Reader

Touch style fingerprint reader on power button, match-on-chip

#### BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

## 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>

- 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)
- Operating: 5°C (41°F) to 35°C (95°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)

# CERTIFICATIONS

## Green Certifications

### Green Certifications

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

## Other Certifications

### Mil-Spec Test

MIL-STD-810H military test passed

## ISV Certifications

### ISV Certifications

Please visit [www.thinkworkstations.com/isv-certifications/](http://www.thinkworkstations.com/isv-certifications/)

