

## OVERVIEW



1. Nano-SIM card slot *	7. SD Express 7.0 card reader
2. Headphone / microphone combo jack (3.5mm)	8. Smart card reader *
3. Thunderbolt 4	9. Ethernet (GbE RJ-45)
4. USB-A (USB 5Gbps), Always On	10. Thunderbolt 4
5. Kensington Nano Security Slot	11. Power connector
6. HDMI	

Notes:

- Items with \* are only available on selected models

## PERFORMANCE

### Processor

#### Processor Family

Intel® H Series Core™ Ultra 7 / 9 Processor; supports up to 16 cores; up to 5.1GHz; TDP ratings of up to 45W

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

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	AI Engine
Core™ Ultra 7 155H	16 (6 P-core + 8 E-core + 2 LPE-core)	22	P-core 1.4GHz / E-core 900MHz / LPE-core 700MHz	P-core 4.8GHz / E-core 3.8GHz / LPE-core 2.5GHz	24MB	Intel® Arc™ Graphics	Intel® AI Boost
Core™ Ultra 7 165H	16 (6 P-core + 8 E-core + 2 LPE-core)	22	P-core 1.4GHz / E-core 900MHz / LPE-core 700MHz	P-core 5.0GHz / E-core 3.8GHz / LPE-core 2.5GHz	24MB	Intel® Arc™ Graphics	Intel® AI Boost
Core™ Ultra 9 185H	16 (6 P-core + 8 E-core + 2 LPE-core)	22	P-core 2.3GHz / E-core 1.8GHz / LPE-core 1GHz	P-core 5.1GHz / E-core 3.8GHz / LPE-core 2.5GHz	24MB	Intel® Arc™ Graphics	Intel® AI Boost

Notes:

<sup>[1]</sup> Intel® Arc™ graphics only available on select H-series Intel® Core™ Ultra processor powered systems with at least 16GB of system memory in a dual-channel configurations, otherwise it will function as Intel® Graphics.

### Operating System

#### Operating System\*\*

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Red Hat Enterprise Linux 9.2 (certified only, for detailed and latest information, please visit [Red Hat Certified Hardware](#))<sup>[1]</sup>
- Ubuntu Linux LTS
- No preload operating system

Notes:

<sup>[1]</sup> Red Hat Enterprise Linux 9.2 certification will be available after June 28th, 2024.

### Graphics

#### Graphics

Graphics	Type	Memory	TGP	Key Features
Intel® Arc™ Graphics <sup>[1]</sup>	Integrated	Shared	Share CPU TDP	DirectX® 12.1
Intel® Graphics	Integrated	Shared	Share CPU TDP	DirectX® 12.1
NVIDIA® RTX 1000 Ada Generation Laptop GPU	Discrete	6GB GDDR6	35W	DirectX® 12 Ultimate, Vulkan Support, NVIDIA® FXAA / TXAA Anti-Aliasing, NVIDIA® RTX Desktop Manager
NVIDIA® RTX 2000 Ada Generation Laptop GPU	Discrete	8GB GDDR6	35W	DirectX® 12 Ultimate, Vulkan Support, NVIDIA® FXAA / TXAA Anti-Aliasing, NVIDIA® RTX Desktop Manager
NVIDIA® RTX 3000 Ada Generation Laptop GPU	Discrete	8GB GDDR6	35W	DirectX® 12 Ultimate, Vulkan Support, NVIDIA® FXAA / TXAA Anti-Aliasing, NVIDIA® RTX Desktop Manager
NVIDIA® RTX 500 Ada Generation Laptop GPU	Discrete	4GB GDDR6	35W	DirectX® 12 Ultimate, Vulkan Support, NVIDIA® FXAA / TXAA Anti-Aliasing, NVIDIA® RTX Desktop Manager

Notes:

<sup>[1]</sup> Intel® Arc™ Graphics only available on select H-series Intel® Core™ Ultra processor powered systems with at least 16GB of system memory in a dual-channel configurations, otherwise it will function as Intel® Graphics.

## Monitor Support

### Monitor Support

Supports up to 4 independent displays (native display and 3 external monitors via Thunderbolt™ 4 and HDMI®).

Max resolution for multiple external display:

- 3x 3840x2160@60Hz (Thunderbolt™ 4 and HDMI®)

Max resolution for single external display:

- Thunderbolt™ 4 supports up to 7680x4320@60Hz
- HDMI® supports up to 7680x4320@60Hz

## Chipset

### Chipset

Intel® SoC (System on Chip) platform

## Memory

### Max Memory

Up to 96GB (2x 48GB DDR5 SO-DIMM)

### Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

### Memory Type

DDR5-5600 non-ECC

## Storage

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

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 4TB, 2TB each

### Storage Slot

Two M.2 2280 PCIe® 4.0 x4 slots

### Storage Type\*\*

Disk Type	Interface	Offering	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	512GB / 1TB	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	512GB / 1TB / 2TB	Opal 2.0

### RAID

RAID 0/1 support

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo® storage offerings.

## Removable Storage

### Card Reader

SD Express 7.0 card reader

## Multi-Media

### Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

### Speakers

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

### Microphone

- Dual-microphone array, far-field, Dolby® Voice®
- No microphone

### Camera\*\*

- 5.0MP + IR with privacy shutter and Ultrasonic Human Presence Detection, fixed focus
- FHD 1080p with privacy shutter, fixed focus
- No camera

## Battery

### Battery

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

## Power Adapter

### Power Adapter\*\*[1]

- 135W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz
- 170W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz

Notes:

[1] AC adapter offerings depend on the country.

## DESIGN

## Display

### Display\*\*

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
16"	WUXGA (1920x1200)	None	IPS	300nits	Anti-glare	16:10	800:1	45% NTSC	60Hz	85°/85°/85°/85°	83.9% screen to body ratio, DC dimming
16"	WUXGA (1920x1200)	On-cell touch	IPS	300nits	Anti-glare	16:10	1000:1	45% NTSC	60Hz	85°/85°/85°/85°	83.9% screen to body ratio, Eyesafe® Certified 2.0, TÜV Low Blue Light, DC dimming
16"	WUXGA (1920x1200)	None	IPS	400nits	Anti-glare	16:10	1200:1	100% sRGB	60Hz	89°/89°/89°/89°	83.9% screen to body ratio, TÜV Low Blue Light, DC dimming
16"	WQUXGA (3840x2400)	None	IPS	800nits	Anti-glare	16:10	1500:1	100% DCI-P3	60Hz	85°/85°/85°/85°	83.9% screen to body ratio, DisplayHDR™ 400, Dolby® Vision®, Eyesafe® Certified 2.0, TÜV Low Blue Light, X-Rite® Factory Color Calibration, DC dimming

### Color Calibration

- X-Rite® factory color calibration (WQUXGA display)
- No color calibration

### Touchscreen

- On-cell multi-touch, supports 10-point touch (selected FHD display)
- Non-touch

## Input Device

### Keyboard

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

### Keyboard Backlight

LED backlight

**UltraNav™**

3-button TrackPoint® pointing device and Mylar® surface multi-touch Trackpad, 67.6 x 115 mm (2.66 x 4.53 inches)

## Mechanical

**Dimensions (WxDxH)<sup>[1]</sup>**

365 x 262 x 24.66 mm (14.37 x 10.31 x 0.97 inches)

**Weight<sup>[2]</sup>**

Starting at 2.22 kg (4.90 lbs)

**Case Color**

Black

**Case Material**

PC-ABS (top), PC-ABS (bottom)

Notes:

[1] The system dimensions may vary depending on configurations.

[2] The system weight is approximate and based on results in Lenovo® lab, which varies depending on the source of component, variance of the distribution of each component, and manufacturing process. It may not be the exact weight for each specific model.

## CONNECTIVITY

### Network

**Ethernet\*\***

- Gigabit Ethernet, Intel® Ethernet Connection I219-LM (vPro® models), 1x RJ-45, supports Wake-on-LAN
- Gigabit Ethernet, Intel® Ethernet Connection I219-V (non-vPro® models), 1x RJ-45, supports Wake-on-LAN

**WLAN + Bluetooth®**

Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3<sup>[1]</sup>

**WWAN\*\***

- Wireless WAN upgradable to 4G or 5G (with antenna ready)
- Quectel EM160R-GL, 4G LTE CAT16, M.2 card, with embedded eSIM functionality
- Quectel RM520N-GL, 5G Sub-6 GHz, M.2 Card, with embedded eSIM functionality
- No support

**SIM Card**

No physical SIM card inbox

**NFC**

- Near Field Communication
- No support

Notes:

[1] Wi-Fi® 6E full features might be limited by country-level restrictions.

Wi-Fi® 6E is only enabled on Windows® 11 and operates as Wi-Fi® 6 with Windows® 10.

6GHz Wi-Fi® 6E operation is dependent on the support of the operating system, routers/APs/Gateways that support Wi-Fi® 6E, and the regional regulatory certifications & spectrum allocation.

Bluetooth® 5.3 operation requires Windows® 11. For more information please see [General Bluetooth® Support Information on Microsoft®](#).

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

**Standard Ports**

- 1x USB-A (USB 5Gbps / USB 3.2 Gen 1), Always On
- 2x USB-C® (Thunderbolt™ 4 / USB4® 40Gbps), with USB PD 3.0 and DisplayPort™ 2.1<sup>[2]</sup>
- 1x HDMI® 2.1, up to 8K/60Hz
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Ethernet (RJ-45)
- 1x SD Express 7.0 card reader
- 1x Security keyhole

### Optional Ports

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

#### 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;

USB4® 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;

USB4® 40Gbps (USB 40Gbps): 40 Gbit/s;

Thunderbolt™ 3/4: 40 Gbit/s.

[2] Power Delivery only supports power-out for charging peripherals.

## Docking

### Docking

Various docking solutions supported via Thunderbolt™ or USB-C®.

For more compatible docking solutions, please visit

[Docking for ThinkPad® P16v Gen 2](#)

## SECURITY & PRIVACY

### Security

#### Security Chip

Discrete TPM 2.0, TCG certified, FIPS 140-2 certified

#### Physical Locks

Kensington® Nano Security Slot™, 2.5 x 6 mm

#### Smart Card Reader

Smart card reader

#### Fingerprint Reader

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

#### BIOS Security

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

#### Other Security

- (Optional) IR camera for Windows® Hello (facial recognition)
- (Optional) Ultrasonic Human Presence Detection for IR camera
- (Optional) Camera privacy shutter

## MANAGEABILITY

### System Management

#### System Management

- Intel® vPro® Enterprise
- Non-vPro®

## SERVICE

### Warranty

#### Base Warranty\*\*

- 1-year courier or carry-in service

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

## ENVIRONMENTAL

### Sustainability

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

85% PCC recycled plastic used in key caps  
90% PCC recycled plastic used in speaker enclosure  
90% PCC recycled plastic used in the battery  
30% PCC recycled plastic used in SIM tray  
30% PCC recycled plastic used in 135W and 170W adapters  
Plastic free packaging with 90% recycled and/or FSC certified content (retail / standard / bluk packaging)

Notes:

[1] PCC: Post Consumer Content, recycled materials from customers.  
FSC: Forest Stewardship Council.

### 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)

#### Relative 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

- Lenovo® HDMI® to VGA Monitor Adapter
- Lenovo® USB-C® to DisplayPort™ Adapter
- Lenovo® USB-C® to VGA Adapter

## CERTIFICATIONS

### Green Certifications<sup>[1]</sup>

#### Green Certifications<sup>[2]</sup>

- ENERGY STAR® 8.0
- EPEAT™ Gold Registered<sup>[3]</sup>
- RoHS compliant
- TCO Certified 9.0

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration.

[2] EPEAT™ registration and ENERGY STAR® certification are dependent on system OS. Please visit [epeat.net](https://epeat.net) and [energystar.gov](https://energystar.gov) for more information.

[3] EPEAT™ is registered where applicable, please see [epeat.net](https://epeat.net) for registration status by country.

## Other Certifications

### Mil-Spec Test

MIL-STD-810H military test passed

### Other Certifications

- (Optional) Eyesafe® Certified 2.0
- (Optional) TÜV Rheinland® Low Blue Light

## ISV Certifications

### ISV Certifications

Please visit [ISV certifications for Lenovo® Workstations](#)

- Feature with \*\* means that only one offering listed under the feature is configured on selected models.
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