

PERFORMANCE

Processor

Processor Family

12th Generation H series Intel® Core™ i5 / i7 processor, supports processors up to 14 cores; up to 4.8 GHz

Processor

| Processor Name | Cores                    | Threads | Base Frequency                | Max Frequency                 | Cache | Memory Support | Processor Graphics      |
|----------------|--------------------------|---------|-------------------------------|-------------------------------|-------|----------------|-------------------------|
| Core i5-12500H | 12 (4 P-core + 8 E-core) | 16      | P-core 2.5GHz / E-core 1.8GHz | P-core 4.5GHz / E-core 3.3GHz | 18MB  | DDR5-4800      | Intel Iris® Xe Graphics |
| Core i7-12700H | 14 (6 P-core + 8 E-core) | 20      | P-core 2.3GHz / E-core 1.7GHz | P-core 4.7GHz / E-core 3.5GHz | 24MB  | DDR5-4800      | Intel Iris Xe Graphics  |
| Core i7-12800H | 14 (6 P-core + 8 E-core) | 20      | P-core 2.4GHz / E-core 1.8GHz | P-core 4.8GHz / E-core 3.7GHz | 24MB  | DDR5-4800      | Intel Iris Xe Graphics  |

Operating System

Operating System

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Ubuntu Linux
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics<sup>[1]</sup>

| Graphics                    | Type       | Memory    | TGP           | Key Features |
|-----------------------------|------------|-----------|---------------|--------------|
| Intel Iris Xe Graphics      | Integrated | Shared    | Share CPU TDP | DirectX® 12  |
| NVIDIA® T600 Laptop GPU     | Discrete   | 4GB GDDR6 | 35W           | DirectX 12   |
| NVIDIA T1200 Laptop GPU     | Discrete   | 4GB GDDR6 | 35W           | DirectX 12   |
| NVIDIA RTX A2000 Laptop GPU | Discrete   | 4GB GDDR6 | 35W           | DirectX 12   |

Notes:

1. Intel Iris Xe Graphics capability requires system to be configured with Intel Core i5 or i7 processor and dual-channel memory. On the system with Intel Core i5 or i7 processor and single-channel memory, Intel Iris Xe Graphics will function as Intel UHD graphics.

Monitor Support

Monitor Support

Supports up to 3 independent displays (native display and 2 external monitors via HDMI® and Thunderbolt™)

- HDMI supports up to 3840x2160@60Hz
- Thunderbolt supports up to 5120x3200@60Hz (Thunderbolt or USB-C to DP)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

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

Up to 64GB DDR5-4800

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-4800 non-ECC

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 drives, 2x M.2 SSD

- M.2 2280 SSD up to 4TB, 2TB each
- RAID 0/1 support

Storage Slot

Two M.2 2280 PCIe® Gen 4x4 slots

Storage Type

| Disk Type    | Interface                           | RPM | Offering            | Security |
|--------------|-------------------------------------|-----|---------------------|----------|
| M.2 2280 SSD | PCIe NVMe®, PCIe 4.0 x4 Performance | -   | 512GB / 1TB / 2TB   | Opal2    |
| M.2 2280 SSD | PCIe NVMe, PCIe 4.0 x4 Value        | -   | 256GB / 512GB / 1TB | Opal2    |

RAID

RAID 0/1 support

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

SD 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, Dolby Voice
- No microphone

Camera

- IR & 720p hybrid, with privacy shutter, fixed focus
- Front 720p, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 68Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Power Adapter

Power Adapter<sup>[1]</sup>

- 135W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz
- No power adapter

Notes:

1. AC adapter offerings depend on the country.

DESIGN

Display

Display<sup>[1]</sup>

| Size  | Resolution      | Touch       | Type | Brightness | Surface    | Aspect Ratio | Contrast Ratio | Color Gamut     | Viewing Angle | Key Features                                                                           |
|-------|-----------------|-------------|------|------------|------------|--------------|----------------|-----------------|---------------|----------------------------------------------------------------------------------------|
| 15.6" | FHD (1920x1080) | None        | IPS  | 300 nits   | Anti-glare | 16:9         | 1200:1         | 100% sRGB       | 170°          | DC dimming                                                                             |
| 15.6" | FHD (1920x1080) | None        | IPS  | 300 nits   | Anti-glare | 16:9         | 800:1          | 45% NTSC        | 170°          | DC dimming                                                                             |
| 15.6" | UHD (3840x2160) | None        | IPS  | 600 nits   | Anti-glare | 16:9         | 1400:1         | 100% Adobe® RGB | 170°          | Dolby Vision™, DisplayHDR™ 400, X-Rite® Pantone® Factory Color Calibration, DC dimming |
| 15.6" | FHD (1920x1080) | Multi-touch | IPS  | 300 nits   | Anti-glare | 16:9         | 800:1          | 45% NTSC        | 170°          | DC dimming                                                                             |

Color Calibration

- X-Rite Pantone factory color calibration (selected UHD display)
- No color calibration

Touchscreen

- On-cell touch, supports 10-point touch (FHD models only)
- 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- Non-backlight

UltraNav™

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

Mechanical<sup>[1]</sup>

Dimensions (WxDxH)

366.5 x 250 x 22.7 mm (14.43 x 9.84 x 0.89 inches)

Weight

| Models                         | Weight                          |
|--------------------------------|---------------------------------|
| Model with integrated graphics | Starting at 2.096 kg (4.62 lbs) |
| Model with discrete graphics   | Starting at 2.226 kg (4.91 lbs) |

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system dimensions and weight vary depending on configurations.

CONNECTIVITY

## Network

### Onboard Ethernet

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

### WLAN + Bluetooth<sup>[1]</sup>

- Intel Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Qualcomm® NFA-725A Wi-Fi 6E, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

### WWAN

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, CAT16, MIMO 4x4, M.2 card
- No support

### SIM Card

No SIM card inbox

### NFC

No support

#### Notes:

1. Bluetooth 5.2 is hardware ready but may run at lower version due to OS limitation

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

### Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 1x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0, and DisplayPort™ 1.4)
- 1x HDMI, up to 4K/60Hz
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Power connector

### 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;  
USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;  
Thunderbolt 3/4: 40 Gbit/s;  
FireWire 400: 400 Mbit/s;  
FireWire 800: 800 Mbit/s

## Docking

### Docking

Various docking solutions supported via Thunderbolt, USB-C, or USB-A.

For more compatible docking solutions, please visit

[Docking for ThinkPad® P15v Gen 3 \(Intel\)](#)

## Monitor Cable

### Monitor Cable

- (Optional) Lenovo USB-C to DisplayPort Adapter
- (Optional) Lenovo HDMI to VGA Monitor Adapter
- (Optional) Lenovo USB-C to VGA Adapter

## SECURITY & PRIVACY

## Security

## Security Chip

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

## 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

## BIOS Security

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

## Other Security

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello

# MANAGEABILITY

## System Management

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

- Intel vPro Enterprise
- Intel vPro Essentials
- Non-vPro

Notes:

1. Intel vPro offers a superset of DASH's defined capabilities.

# SERVICE

## Warranty

### Base Warranty<sup>[1]</sup>

- 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

Notes:

1. More information of warranty policy, please access <https://pcsupport.lenovo.com/warranty>

# ENVIRONMENTAL

## 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)

### 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
- TCO Certified 9.0
- RoHS compliant

### Other Certifications

#### Mil-Spec Test

MIL-STD-810H military test passed

### ISV Certifications

#### ISV Certifications

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

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