

## OVERVIEW



|  |                              |
|--|------------------------------|
| 1. Headphone / microphone combo jack (3.5mm) | 6. USB 3.2 Gen 2             |
| 2. Card reader                               | 7. USB 3.2 Gen 1             |
| 3. Thunderbolt 4                             | 8. USB 3.2 Gen 1 (Always On) |
| 4. USB-C 3.2 Gen 2                           | 9. Power connector           |
| 5. HDMI                                      |                              |

## PERFORMANCE

### Processor

#### Processor Family

12th Generation Intel® Core™ i5 / i7 / i9 Processor

#### 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 i9-12900H | 14 (6 P-core + 8 E-core) | 20      | P-core 2.5GHz / E-core 1.8GHz | P-core 5.0GHz / E-core 3.8GHz | 24MB  | DDR5-4800      | Intel Iris Xe Graphics  |

### Operating System

#### Operating System

- Windows® 11 Pro 64
- Windows 11 Home 64
- No operating system

### Graphics

#### Graphics

| Graphics                              | Type     | Memory    | Boost Clock | TGP  | Key Features  |
|---------------------------------------|----------|-----------|-------------|------|---|
| NVIDIA® GeForce RTX™ 3060 Laptop GPU  | Discrete | 6GB GDDR6 | 1605 MHz    | 100W | Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, VR ready, DirectX® 12 Ultimate  |
| NVIDIA GeForce RTX 3050 Ti Laptop GPU | Discrete | 4GB GDDR6 | 1695 MHz    | 95W  | Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX 12 Ultimate   |
| NVIDIA GeForce RTX 3070 Laptop GPU    | Discrete | 8GB GDDR6 | 1410 MHz    | 100W | Max-Q Technologies: Advanced Optimus, Optimal Playable Settings, Rapid Core Scaling, CPU Optimizer, Dynamicboost, DLSS and Resizable BAR, VR ready, DirectX 12 Ultimate |

### Monitor Support

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

Supports up to 4 independent displays (native display and 3 external monitors via HDMI® and USB-C®)

- HDMI supports up to 8K@60Hz
- USB-C supports up to 8K@30Hz

#### Notes:

1. For Max resolution, DSC-enabled display is required. Three external output display devices cannot be supported at the same time when displaying 8K resolution.

### Chipset

#### Chipset

Intel SoC (System on Chip) platform

### Memory

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

Up to 24GB (8GB soldered + 16GB SO-DIMM) DDR5-4800 offering

#### Memory Slots

One memory soldered to systemboard, one DDR5 SO-DIMM slot, dual-channel capable

#### Memory Type

DDR5-4800

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 1TB

### Storage Slot

Two M.2 slots

- Two M.2 2280 PCIe® Gen 4x4 slots, support M.2 2242/2280 SSD

### Storage Type

| Disk Type    | Interface               | Offering    |
|--------------|-------------------------|-------------|
| M.2 2280 SSD | PCIe NVMe®, PCIe 4.0 x4 | 512GB / 1TB |

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

### Card Reader

4-in-1 card reader (SD, SDHC, SDXC, MMC)

## Multi-Media

### Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

### Speakers

Stereo speakers, 2W x2, audio by HARMAN certification, optimized with Nahimic Audio

### Microphone

Dual array microphone

### Camera

- HD 720p, with E-camera shutter, fixed focus
- FHD 1080p, with E-camera shutter, fixed focus

## Battery

### Battery

- Integrated Li-Polymer 71Wh battery, supports Rapid Charge Pro (charge up to 50% in 30min)
- Integrated Li-Polymer 99.99Wh battery, supports Super Rapid Charge (charge up to 70% in 30min)

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

- Model with 71Wh battery:  
MobileMark® 2018: 6.4 hr  
Local video (1080p) playback: 7.8 hr
- Model with 99.99Wh battery:  
MobileMark 2018: 8.6 hr  
Local video (1080p) playback: 11.3 hr

Notes:

1. All battery life claims are approximate maximum and based on results using the MobileMark 2018, continuous 1080p video playback (with quiet mode, 60Hz, lighting off and hybrid mode) 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<sup>[1]</sup>

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

- 230W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz

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   |
|-------|-------------------|-------|--------------|------------|------------|--------------|----------------|-------------------------------|---------------|--|
| 16.0" | WUXGA (1920x1200) | None  | IPS          | 300 nits   | Anti-glare | 16:10        | 1200:1         | 100% sRGB                     | 178°          | Refresh rate 165Hz, Dolby® Vision™, G-Sync, DC dimmer, Advanced Optimus, TÜV Low Blue Light                            |
| 16.0" | WQXGA (2560x1600) | None  | IPS          | 500 nits   | Anti-glare | 16:10        | 1200:1         | 100% sRGB                     | 178°          | Refresh rate 165Hz, Dolby Vision, DisplayHDR™ 400, G-Sync, DC dimmer, TÜV Low Blue Light, TÜV High Gaming Performance  |
| 16.0" | WQXGA (2560x1600) | None  | IPS          | 500 nits   | Anti-glare | 16:10        | 1200:1         | 100% sRGB                     | 178°          | Refresh rate 240Hz, Dolby Vision, G-Sync, DC dimmer, Advanced Optimus, TÜV Low Blue Light, TÜV High Gaming Performance |
| 16.0" | WQXGA (2560x1600) | None  | Mini-LED IPS | 1250 nits  | Anti-glare | 16:10        | 100000:1       | 100% DCI-P3 & 100% Adobe® RGB | 178°          | Refresh rate 165Hz, Dolby Vision, DisplayHDR 1000, TÜV Low Blue Light  |

#### Color Calibration

X-Rite® Pantone® factory color calibration

#### Touchscreen

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, numeric keypad, swtichable keycaps

#### Keyboard Backlight

- RGB backlight
- White backlight

#### Touchpad

Buttonless glass surface multi-touch touchpad, supports Precision TouchPad (PTP), 75 x 120 mm (2.95 x 4.72 inches)

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

#### Dimensions (WxDxH)

357.7 x 260 x 16.9 mm (14.08 x 10.24 x 0.67 inches)

**Weight**

| Models                                  | Weight                       |
|---|------------------------------|
| Mini LED Model with 99.99Wh battery     | Less than 2.36 kg (5.2 lbs)  |
| Model with 71Wh battery                 | Less than 2.175 kg (4.8 lbs) |
| Non-Mini LED Model with 99.99Wh battery | Less than 2.23 kg (4.9 lbs)  |

**Case Color**

- Onyx grey
- Storm grey

**Surface Treatment**

Iron sandblasting (anodized)

**Case Material**

Aluminium (top), aluminium (bottom)

**System Lighting**

No system lighting

**Notes:**

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

**CONNECTIVITY****Network****Onboard Ethernet**

No Ethernet

**WLAN + Bluetooth<sup>®</sup><sup>[1]</sup>**

- Wi-Fi<sup>®</sup> 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Wi-Fi 6E, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Killer Wi-Fi 6E AX1675i, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Intel Killer Wi-Fi 6E AX1690i, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card

**Notes:**

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

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

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB 3.2 Gen 2
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 135W and DisplayPort™ 1.4)
- 1x Thunderbolt™ 4 / USB4<sup>®</sup> 40Gbps (support data transfer, Power Delivery 135W and DisplayPort 1.4)
- 1x HDMI, up to 8K/60Hz
- 1x Card reader
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Power connector

**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

**SECURITY & PRIVACY****Security**

**Security Chip**

Firmware TPM 2.0 integrated in SoC

**Fingerprint Reader**

Touch style fingerprint reader on power button

**BIOS Security**

- Administrator password
- Power-on password
- Hard disk password

**Other Security**

E-Camera shutter

## SERVICE

### Warranty

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

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

**Notes:**

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

## ENVIRONMENTAL

### Operating Environment

**Temperature**

- At altitudes up to 2438 m (8,000 ft)
  - Operating: 5°C to 35°C (41°F to 95°F)
  - Storage: 5°C to 43°C (41°F to 109°F)
- At altitudes above 2438 m (8,000 ft)
  - Maximum temperature when operating under the unpressurized condition: 31.3°C (88°F)

**Humidity**

- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage: 5% to 95% at wet-bulb temperature 27°C (81°F)

**Altitude**

Maximum altitude (without pressurization): 3048 m (10,000 ft)

## CERTIFICATIONS

### Green Certifications

**Green Certifications**

- ErP Lot 3
- RoHS compliant

### Other Certifications

**Other Certifications**

- TÜV Rheinland® High Gaming Performance
- TÜV Rheinland Low Blue Light (Hardware Solution)

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