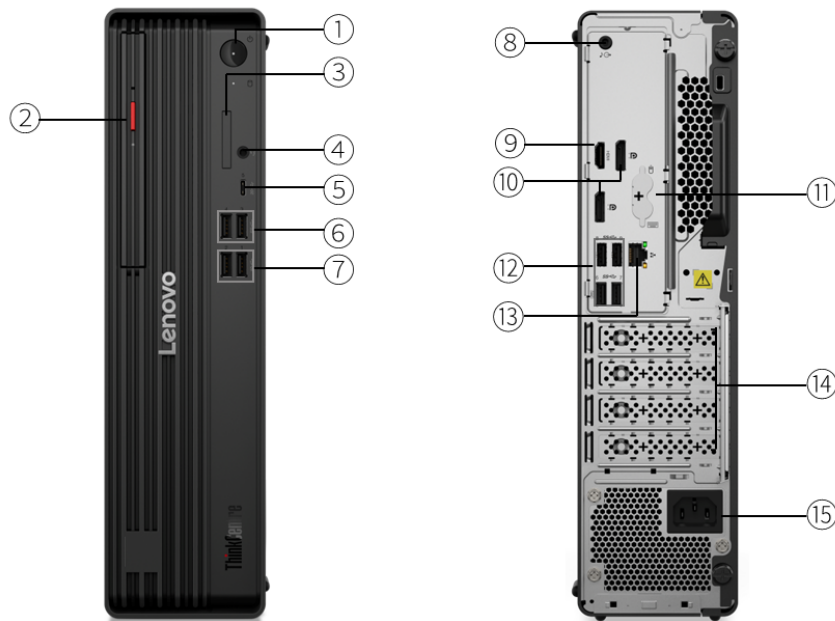


## OVERVIEW



1. Power button	9. HDMI 2.1 TMDS
2. Optical drive *	10. 2x DisplayPort 1.4a
3. Card reader *	11. 2x PS/2 ports (keyboard / mouse) *
4. Headphone / microphone combo jack (3.5mm)	12. 4x USB-A (USB 5Gbps)
5. USB-C (USB 5Gbps), data transfer only	13. Ethernet (RJ-45)
6. 2x USB-A (USB 5Gbps)	14. Optional ports on expansion cards *
7. 2x USB-A (USB 10Gbps)	15. Power connector
8. Audio-out (3.5mm)	

Notes:

- Items with \* are only available on selected models
- More ports are available through the optional expansion cards (not shown on the sample product above)

## PERFORMANCE

### Processor

#### Processor Family

Intel® Core™ Ultra 5 / 7 Processor (Series 2)

#### Processor\*\*

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU	Overall TOPS
Core Ultra 5 225	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost, up to 13 TOPS	Up to 23 TOPS
Core Ultra 5 225F	10 (6 P-core + 4 E-core)	10	P-core 3.3GHz / E-core 2.7GHz	P-core 4.9GHz / E-core 4.4GHz	22MB L2 Cache / 20MB Intel® Smart Cache	-	Intel® AI Boost, up to 13 TOPS	Up to 19 TOPS
Core Ultra 5 235	14 (6 P-core + 8 E-core)	14	P-core 3.4GHz / E-core 2.9GHz	P-core 5.0GHz / E-core 4.4GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost, up to 13 TOPS	Up to 27 TOPS
Core Ultra 5 245	14 (6 P-core + 8 E-core)	14	P-core 3.5GHz / E-core 3.0GHz	P-core 5.1GHz / E-core 4.5GHz	26MB L2 Cache / 24MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost, up to 13 TOPS	Up to 29 TOPS
Core Ultra 7 265	20 (8 P-core + 12 E-core)	20	P-core 2.4GHz / E-core 1.8GHz	Max Turbo up to 5.3GHz / P-core 5.2GHz / E-core 4.6GHz	36MB L2 Cache / 30MB Intel® Smart Cache	Intel® Graphics	Intel® AI Boost, up to 13 TOPS	Up to 33 TOPS
Core Ultra 7 265F	20 (8 P-core + 12 E-core)	20	P-core 2.4GHz / E-core 1.8GHz	Max Turbo up to 5.3GHz / P-core 5.2GHz / E-core 4.6GHz	36MB L2 Cache / 30MB Intel® Smart Cache	-	Intel® AI Boost, up to 13 TOPS	Up to 25 TOPS

### AI (Artificial Intelligence)

#### AI PC Category

AI PC<sup>[1]</sup>

#### NPU

Integrated Intel® AI Boost, up to 13 TOPS

Notes:

[1] AI PCs have a NPU capable of 10+ TOPs to run the Copilot assistant by pressing the optional Microsoft® Copilot key or using Win + C.

### Operating System

#### Operating System\*\*

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 IoT Enterprise LTSC 2024
- Ubuntu Linux
- No preload operating system

### Graphics

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

Graphics	Type	Memory	AI TOPS (Peak)	Max Resolution	Connector	Key Features

Intel® Graphics	Integrated	Shared	-	5120x2880@60Hz(DP), 4096x2160@60Hz(HDMI®)	2x DP 1.4a (HBR3, DSC), 1x HDMI® 2.1 TMDS	DirectX® 12
Intel® Arc™ A310 LP Graphics	Discrete	4GB GDDR6	60.2 TOPS	7680x4320@60Hz(DP)	2x DisplayPort™ 2.0	DirectX® 12, OpenGL 4.6
NVIDIA® GeForce RTX™ 3050	Discrete	6GB GDDR6	108 TOPS	7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP)	1x HDMI® 2.1 FRL, 1x DP 1.4a	DirectX® 12, OpenGL 4.6

**Notes:**

[1] The information of integrated graphics are not applicable for the models with processor which has no integrated graphics inside (for the details, please refer to processor section).

## Monitor Support

### Monitor Support

Supports up to 3 independent displays via onboard ports (2x DP and 1x HDMI®), more displays support via discrete graphics

## Chipset

### Chipset

Intel® Q870 chipset

## Memory

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

Up to 128GB DDR5

### Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

### Memory Type\*\*

- DDR5-4400<sup>[2]</sup>
- DDR5-4800<sup>[3]</sup>
- DDR5-5600

### Memory Protection

Non-ECC

**Notes:**

[1] The max memory is based on the test results with current Lenovo® memory offerings.

[2] Installed memory is actually DDR5-5600 but may run as DDR5-4400 depending on the memory support capability of processor.

[3] Installed memory is actually DDR5-5600 but may run as DDR5-4800 depending on the memory support capability of processor.

## Storage

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

Up to four drives, 1x 3.5" HDD + 1x 2.5" HDD + 2x M.2 SSD

- 3.5" HDD up to 2TB
- 2.5" HDD bay is only for customer self upgrade
- M.2 SSD up to 2TB each<sup>[2]</sup>

### Storage Type\*\*\*

Disk Type	Interface	RPM	Security
3.5" SATA HDD	SATA 6Gb/s	7.2K	-
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	Opal 2.0

## RAID

RAID 0/1 support

## Notes:

[1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.

[2] 2.5" HDD bay is optional part, only for customer self upgrade purpose and the hard drive is sold separately.

## Removable Storage

### Optical\*\*

- DVD-ROM, SATA connector, slim (9.0mm)
- DVD burner (DVD±RW), SATA connector, slim (9.0mm)
- None

### Card Reader

- 3-in-1 card reader (SD, SDHC, SDXC)
- No card reader

## Multi-Media

### Audio Chip

High Definition (HD) Audio, Realtek® ALC623-CG codec

### Speakers

Single speaker, 1W x1

## Power Supply

### Power Supply\*\*

Power	Type	Efficiency	Key Features
200W	Fixed	90%	100-240V, 50-60Hz
260W	Fixed	90%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz

## DESIGN

## Input Device

### Keyboard\*\*

- Lenovo® Calliope Keyboard (USB connector), black
- Lenovo® Traditional Keyboard (USB connector), black
- No keyboard

### Mouse

- Lenovo® Calliope Mouse (USB connector), black
- No mouse

## Mechanical

### Form Factor

SFF (8.2L)

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

92.5 x 299.7 x 339.5 mm (3.6 x 11.8 x 13.4 inches)

### Packaging Dimensions (WxDxH)

195 x 395 x 530 mm (7.7 x 15.6 x 20.9 inches)

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

5.1 kg (11.2 lbs, maximum configuration)

### Packaging Weight

6.7 kg (14.8 lbs, maximum configuration)

### Case Color

Black

### Bays

- 1x 2.5" disk bay (optional, or bay comes with disk)

- 1x 3.5" disk bay
- 1x slim ODD bay

**Expansion Slots**

- One PCIe® 4.0 x16, low-profile, length ≤ 155mm, height ≤ 70mm
- Two PCIe® 3.0 x1, low-profile, length ≤ 155mm, height ≤ 70mm
- Three M.2 slots (one for WLAN, two for SSD)<sup>[3]</sup>

**EOU**

Toolless cover, memory, disk, optical, extension card assembly / removal<sup>[4]</sup>

**Stand**

- Vertical stand
- No stand

**Others**

- (Optional) Dust filter
- Supports Smart Power On

**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.

[3] M.2 slot for SSD is M.2 PCIe® 4.0 x4 slot, supports up to 64Gbps on NVMe® drives

[4] To comply with UL 4200A, the toolless features are not available for the following countries:

Argentina, Belize, Bolivia, Canada, Caribbean Group, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, TAA, Uruguay, USA, Venezuela.

## CONNECTIVITY

### Network

**WLAN + Bluetooth®\*\***

- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 card
- Realtek® Wi-Fi® 7 RTL8922AE, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4
- No WLAN and Bluetooth®
- Realtek® Wi-Fi® 6E RTL8852CE, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card

**Onboard Ethernet**

Gigabit Ethernet, Intel® Ethernet Connection I219-LM, 1x RJ-45, supports Wake-on-LAN

**Optional Ethernet**

- 2.5 Gigabit Ethernet, Realtek® RTL8125BGS, 1x RJ-45, PCIe® x1
- No optional Ethernet

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

**Front Ports**

- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with 15W charging
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)

**Optional Front Ports**

1x card reader

**Rear Ports<sup>[2]</sup>**

- 4x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4a (HBR3, DSC)
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)

**Optional Rear Ports\*\*\***

- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via 2-port USB expansion card, PCIe® x1
- 1x 2.5GbE RJ-45, via additional PCIe® adapter

- 1x parallel
- 1x serial
- 1x 2nd serial
- 4x serial (via 4-port serial expansion card, PCIe® x1)
- 2x PS/2

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**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.

Thunderbolt™ 5: 80 Gbit/s (bidirectional), up to 120 Gbit/s in bandwidth boost mode for video-intensive applications.

[2] For video ports on discrete graphics, please see [graphics section](#)

## SECURITY & PRIVACY

### Security

#### Security Chip

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

#### Physical Locks

- (Optional) E-lock
- (Optional) Smart Cable Clip
- Kensington® Security Slot™, 3 x 7 mm
- Padlock Loop

#### Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

#### Fingerprint Reader

No fingerprint reader

#### BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- Absolute persistence module
- Boot sequence control
- Boot without keyboard and mouse
- Cover tamper detected<sup>[1]</sup>
- Certificate-based BIOS authentication
- Configuration change detection
- Individual USB port disablement
- Intel® BIOS guard
- Secure wipe
- Secure boot
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- More BIOS security features, please visit [BIOS Simulator](#)

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**Notes:**

[1] Only available for the models with Chassis Intrusion Switch

## MANAGEABILITY

### System Management

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

- Intel® vPro® Enterprise
- Non-vPro®

Notes:

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

## SERVICE

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

#### Base Warranty\*\*

- 1-year courier or carry-in service
- 1-year limited onsite service
- 3-year limited onsite service
- No base warranty

Notes:

[1] The warranty upgrades may be bundled with some models, please check the "Included upgrade" column in the specific model's configurations. For more service extensions, please go to <https://smartfind.lenovo.com/>. To learn more details of warranty policy, please access <https://support.lenovo.com/warrantylookup/warrantypolicy>.

## ACCESSORIES

### Bundled Accessories

#### Bundled Accessories\*\*\*

- DP to DVI dongle
- DP to HDMI® dongle
- HDMI® to VGA dongle
- Smart Cable (USB-A to USB-C®)
- None

## OPERATING REQUIREMENTS

### Operating Environment

#### Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -40°C (-40°F) to 60°C (140°F)

#### Relative Humidity

- Operating: 20% to 80%
- Storage: 10% to 90%

#### Altitude

- Operating: 0 m (0 ft) to 3048 m (10,000 ft)
- Storage: 0 m (0 ft) to 12192 m (40,000 ft)

## ENVIRONMENTAL

### Sustainability

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

60% PIC + 30% OBP Cushion and 30% OBP bag FSC carton in packaging  
85% PCC ABS in chassis  
95% PCC ABS in KB/mouse  
65% PCC ABS (EOS 2.4G wireless)

Notes:

[1] PCC: Post Consumer Content, recycled materials from customers.  
PIC: Post Industry Content, recycled materials from internal factories.

EPE: Expanded Polyethylene.  
OBP: Ocean Bound Plastic, reducing plastic spill into the sea.  
FSC: Forest Stewardship Council.

## CERTIFICATIONS

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

#### Green Certifications

- (Optional) ENERGY STAR® 9.0
- (Optional) EPEAT™ Gold Registered
- (Optional) TCO Certified 10.0
- ErP Lot 3
- GREENGUARD®
- RoHS compliant

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration. For ESG & regulatory compliance documents, please visit <https://compliance.lenovo.com>.

### Other Certifications

#### Other Certifications

(Optional) TÜV Rheinland® Ultra Low Noise

#### Mil-Spec Test

MIL-STD-810H military test passed (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Solar Radiation, Contamination by Fluids, Salt Fog)

- Feature with \*\* means that only one option listed under the feature can be configured on selected models. Please refer to the model configuration for specific information.
- Feature with \*\*\* means that one or more options listed under the feature can be configured on selected models. Please refer to the model configuration for specific information.
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