# **OVERVIEW**



| 1. Headphone / microphone combo jack (3.5mm) | 8. HDMI                                |
|--|--|
| 2. USB 3.2 Gen 2                             | 9. USB 3.2 Gen 1 (with Smart Power On) |
| 3. USB 3.2 Gen 2 (Always On and fast charge) | 10. USB 3.2 Gen 2                      |
| 4. USB-C 3.2 Gen 2                           | 11. USB 3.2 Gen 2                      |
| 5. Power connector                           | 12. Ethernet (RJ-45)                   |
| 6. DisplayPort 1.4a                          | 13. Punch out port 1 *                 |
| 7. USB 3.2 Gen 1                             | 14. Punch out port 2 *                 |

Notes:

• Items with \* are only available on selected models

# ThinkCentre M80q Gen 4

# PERFORMANCE

# Processor

## **Processor Family**

13th Generation Intel $^{\rm e}$  Core $^{\rm m}$  i3 / i5 / i7 / i9 Processor, 35W

# Processor\*\*[1]

| Processor<br>Name  | Cores                        | Threads | Base Frequency                    | Max Frequency  | Cache | Memory<br>Support | Processor<br>Graphics      |
|--------------------|------------------------------|---------|-----------------------------------|--|-------|-------------------|----------------------------|
| Core i3-<br>13100T | 4 (4 P-core<br>+ 0 E-core)   | 8       | P-core 2.5GHz                     | P-core 4.2GHz  | 12MB  | DDR5-<br>4800     | Intel® UHD<br>Graphics 730 |
| Core i5-<br>13400T | 10 (6 P-core<br>+ 4 E-core)  | 16      | P-core 1.3GHz /<br>E-core 1.0GHz  | P-core 4.4GHz / E-core<br>3.0GHz                             | 20MB  | DDR5-<br>4800     | Intel® UHD<br>Graphics 730 |
| Core i5-<br>13500T | 14 (6 P-core<br>+ 8 E-core)  | 20      | P-core 1.6GHz /<br>E-core 1.2GHz  | P-core 4.6GHz / E-core<br>3.2GHz                             | 24MB  | DDR5-<br>4800     | Intel® UHD<br>Graphics 770 |
| Core i5-<br>13600T | 14 (6 P-core<br>+ 8 E-core)  | 20      | P-core 1.8GHz /<br>E-core 1.3GHz  | P-core 4.8GHz / E-core<br>3.4GHz                             | 24MB  | DDR5-<br>4800     | Intel® UHD<br>Graphics 770 |
| Core i7-<br>13700T | 16 (8 P-core<br>+ 8 E-core)  | 24      | P-core 1.4GHz /<br>E-core 1.0GHz  | Max Turbo up to 4.9GHz /<br>P-core 4.8GHz / E-core<br>3.6GHz | 30MB  | DDR5-<br>5600     | Intel® UHD<br>Graphics 770 |
| Core i9-<br>13900T | 24 (8 P-core<br>+ 16 E-core) | 32      | P-core 1.1GHz / E-<br>core 0.8GHz | Max Turbo up to 5.3GHz / P-<br>core 5.1GHz / E-core 3.9GHz   | 36MB  | DDR5-<br>5600     | Intel® UHD<br>Graphics 770 |

Notes:

[1] Intel<sup>®</sup> Max Turbo frequency will vary depending on application workload and the hardware and software configurations, see http://www.intel.com/technology/turboboost/ for more information.

# **Operating System**

### **Operating System**\*\*

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows<sup>®</sup> 10 IoT Enterprise LTSC 2021
- Ubuntu Linux<sup>[1]</sup>
- No preload operating system

Notes:

[1] Some features may not be supported on the system with Linux preload, including but not limited to Intel® RST RAID, Human Presence Detection, etc.

# Graphics

#### Graphics\*\*

| Graphics                      | Туре       | Memory | Max Resolution   | Connector   | Key<br>Features |
|-------------------------------|------------|--------|--|---|-----------------|
| Intel® UHD<br>graphics<br>730 | Integrated | Shared | 4096x2160@60Hz(HDMI <sup>®</sup> ),<br>1920x1200@60Hz(VGA),<br>4096x2304@60Hz(DP),<br>4096x2304@60Hz(USB-C <sup>®</sup> with DP<br>function) | 1x HDMI® 2.1 TMDS, 1x DP 1.4a<br>(HBR2, DSC), 2x optional punch out<br>ports([2x HDMI®/VGA/DP] or<br>[USB-C® with DP function,<br>HDMI®/VGA/DP])  | DirectX®<br>12  |
| Intel® UHD<br>graphics<br>770 | Integrated | Shared | 4096x2160@60Hz(HDMI <sup>®</sup> ),<br>1920x1200@60Hz(VGA),<br>4096x2304@60Hz(DP),<br>4096x2304@60Hz(USB-C <sup>®</sup> with DP<br>function) | 1x HDMI® 2.1 TMDS, 1x DP 1.4a<br>(HBR2, DSC), 2x optional punch out<br>ports ([2x HDMI®/VGA/DP] or<br>[USB-C® with DP function,<br>HDMI®/VGA/DP]) | DirectX®<br>12  |

# **Monitor Support**

## **Monitor Support**

Supports up to 4 independent displays via (onboard DP, onboard HDMI®, optional punch out port 1 [VGA / HDMI® / DP / USB-C®], and optional punch out port 2 [VGA / HDMI® / DP])

# Chipset

# Chipset

Intel<sup>®</sup> Q670 chipset

# Memory

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

Up to 64GB (2x 32GB DDR5 SO-DIMM)

### Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

## Memory Type\*\*[2]

- DDR5-4800
- DDR5-5200
- DDR5-5600

### Notes:

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

[2] Installed memory is actually DDR5-5600 but may run as DDR5-4800, DDR5-5200, or DDR5-5600 depending on the memory support capability of processor.

# Storage

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

Up to three drives, 1x 2.5" HDD + 2x M.2 SSD • 2.5" HDD up to 1TB

• M.2 SSD up to 2TB each

## Storage Type\*\*\*

| Disk Type     | Interface                             | RPM  | Offering            | Security |
|---------------|---------------------------------------|------|---------------------|----------|
| 2.5" SATA HDD | SATA 6Gb/s                            | 7.2K | 1TB                 | -        |
| M.2 2280 SSD  | PCIe® NVMe®, PCIe® 4.0 x4             | -    | 256GB / 512GB / 1TB | Opal 2.0 |
| M.2 2280 SSD  | PCle® NVMe®, PCle® 4.0 x4 Performance | -    | 512GB / 1TB / 2TB   | Opal 2.0 |

#### RAID

None

Notes:

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

# **Removable Storage**

Optical

None

# Card Reader

No card reader

# **Multi-Media**

## Audio Chip

High Definition (HD) Audio, Realtek® ALC256VB codec

## Speakers\*\*

- Premium single speaker, 2W x1
- Single speaker, 2W x1

## Microphone

No microphone

# **Power Supply**

## Power Supply\*\*

| Power            | Туре    | Efficiency | Key Features |
|------------------|---------|------------|--------------|
| 65W              | Adapter | 89%        | Autosensing  |
| 90W              | Adapter | 89%        | Autosensing  |
| 135W             | Adapter | 90%        | Autosensing  |
| No power adapter | -       | -          | -            |

# DESIGN

# **Input Device**

#### Keyboard\*\*

- Lenovo<sup>®</sup> Calliope Keyboard (USB connector), black
- Lenovo<sup>®</sup> Calliope Wireless Keyboard, black
- Lenovo<sup>®</sup> Traditional Keyboard (USB connector), black
- No keyboard

## Mouse\*\*

- Lenovo<sup>®</sup> Calliope Mouse (USB connector), black
- Lenovo® Calliope Wireless Mouse (2.4GHz via USB receiver), black
- No mouse

# Mechanical

#### Form Factor

#### Tiny (1L)

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

| Models     | Dimensions  |
|------------|---|
| Tiny only  | 179 x 182.9 x 36.5 mm with rubber feet (7.05 x 7.2 x 1.44 inches)                   |
| Tiny & ODD | 204.2 x 186.6 x 64 mm with rubber feet (8.04 x 7.35 x 2.52 inches with rubber feet) |

#### Packaging Dimensions (WxDxH)<sup>[2]</sup>

- Tiny only: 490 x 250 x 130 mm (19.29 x 9.84 x 5.12 inches)
- Tiny & ODD: 490 x 268 x 166 mm (19.29 x 10.55 x 6.54 inches)

### Weight<sup>[3]</sup>

| Models                    | Weight             |
|---------------------------|--------------------|
| Tiny only                 | 1.25 kg (2.76 lbs) |
| With VESA mount & ODD box | 1.74 kg (3.84 lbs) |

#### Packaging Weight<sup>[4]</sup>

- Tiny only: Around 3.2 kg (7.05 lbs)
- Tiny & ODD: Around 3.9 kg (8.6 lbs)

#### Case Color

Black

Bays

- 1x 2.5" disk bay (optional, or bay comes with disk)
- No bays

## **Expansion Slots**

- Two M.2 PCIe® Gen 4x4 slots (for SSD)
- One M.2 slot (for WLAN)

#### EOU

- (Optional) toolless chassis open (toolless chassis screw required) and toolless M.2 SSD, HDD, memory assembly / removal
- No support

### Stand

- Vertical stand
- No stand

### IO Box

### No IO box

Mounting

- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- None

## Others

- (Optional) Dust filter
- (Optional) Power adapter cage

#### Notes:

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

[2] The new packages take effect from September 2023. The old packages are:

Tiny only: 500 x 150 x 280 mm (19.69 x 5.91 x 11.02 inches)

Tiny & ODD: 500 x 175 x 280 mm (19.69 x 6.89 x 11.02 inches)

[3] The system weight is approximate and based on results in Lenovo<sup>®</sup> 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.

[4] The new packages take effect from September 2023. The old package are:

Tiny only: 2.85 kg (6.28 lbs) Tiny & ODD: 3.58 kg (7.89 lbs)

# CONNECTIVITY

# Network

## WLAN + Bluetooth®\*\*

- Realtek® Wi-Fi® 6 RTL8852BE, 802.11ax Dual Band 2x2 Wi-Fi® + Bluetooth® 5.3, M.2 card<sup>[1]</sup>
- Intel<sup>®</sup> Wi-Fi<sup>®</sup> 6 AX201, 802.11ax 2x2 Wi-Fi<sup>®</sup> + Bluetooth<sup>®</sup> 5.2, M.2 Card<sup>[2]</sup>
- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support, M.2 Card[3]
- No WLAN and Bluetooth<sup>®</sup>

## 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
- No optional Ethernet

## Notes:

[1], [3] Bluetooth<sup>®</sup> 5.3 requires Windows<sup>®</sup> 11.
[2] Bluetooth<sup>®</sup> 5.2 requires Windows<sup>®</sup> 11.

# Ports<sup>III</sup>

#### **Front Ports**

- 1x USB-C<sup>®</sup> 3.2 Gen 2 (support data transfer)
- 1x USB 3.2 Gen 2 (Always On and 5V@2.1A charging)
- 1x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)

## **Optional Front Ports**

#### None

#### **Rear Ports**

- 2x USB 3.2 Gen 1 (one supports Smart Power On)
- 2x USB 3.2 Gen 2
- 1x HDMI<sup>®</sup> 2.1 TMDS
- 1x DisplayPort™ 1.4a (HBR2, DSC)
- 1x Ethernet (RJ-45)

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## **Optional Rear Ports**

- Punch out port 1 (one of VGA / DisplayPort<sup>™</sup> / HDMI<sup>®</sup> / serial / USB-C<sup>®</sup> 3.2 Gen 1 with DisplayPort<sup>™</sup> functions 100W PD in)
- Punch out port 2 (one of VGA / DisplayPort<sup>™</sup> / HDMI<sup>®</sup> / serial / RJ-45)
- 2x USB 3.2 Gen 1 (share one USB 3.2 Gen 1 bandwidth, occupies port 1 and 2)
- 4x USB 3.2 Gen 1 (share one USB 3.2 Gen 1 bandwidth, occupy port 1 and 2)

#### 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<sup>™</sup> 3/4: 40 Gbit/s.

# **SECURITY & PRIVACY**

# Security

#### Security Chip

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

#### Physical Locks

Kensington® Security Slot™, 3 x 7 mm

#### **Chassis Intrusion Switch**

Chassis intrusion switch<sup>[1]</sup>

#### **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
- Certificate-based BIOS authentication
- Certificate based BIOS management
- Cover presence switch
- Individual USB port disablement
- Secure wipe
- Secure boot
- Self-healing BIOS
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)

Notes:

[1] Chassis intrusion switch is hardware ready function and needs to be special bid or manually enabled in BIOS.

# MANAGEABILITY

# System Management

#### System Management

- Intel<sup>®</sup> vPro<sup>®</sup> Enterprise with Intel<sup>®</sup> AMT 16<sup>[1]</sup>
- Non-vPro®

Notes:

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

# SERVICE

# **Warranty**<sup>III</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 <u>https://smartfind.lenovo.com/</u>. To learn more details of warranty policy, please access <u>https://support.lenovo.com/warrantylookup/warrantypolicy</u>.

# ACCESSORIES

# **Bundled Accessories**

### **Bundled Accessories**

- DP to DVI dongle
- DP to Dual DP dongle
- DP to HDMI<sup>®</sup> dongle
- DP to VGA dongle
- HDMI® to HDMI® cable (1.5m)
- HDMI<sup>®</sup> to VGA dongle
- 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>

85% PCC recycled plastic used in product chassis 95% PCC recycled plastic used in USB keyboard/mouse 90% PIC recycled plastic EPE cushion or 90% PCC recycled plastic thermal shell with 30% OBP material 30% OBP used in bag FSC certified paper in packaging

#### 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>III</sup>

### **Green Certifications**

- (Optional) ENERGY STAR<sup>®</sup> 8.0
- (Optional) EPEAT<sup>™</sup> Silver Registered<sup>[2]</sup>
- (Optional) EPEAT<sup>™</sup> Gold Registered<sup>[3]</sup>
- ErP Lot 3
- 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. For ESG & regulatory compliance documents, please visit <u>https://compliance.lenovo.com</u>.
 [2], [3] EPEAT<sup>™</sup> is registered where applicable, please visit <u>epeat.net</u> for registration status by country.

# **Other Certifications**

## **Other Certifications**

(Optional) TÜV Rheinland® Ultra Low Noise **Mil-Spec Test** MIL-STD-810H military test passed

- 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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