OVERVIEW

1.	SD Express 7.0 card reader	5.	Power connector
2.	USB-A (USB 5Gbps), Always On	6.	2x Thunderbolt 4
3.	USB-C (USB 10Gbps), with USB PD 3.0 & DP 1.4	7.	HDMI
4.	Kensington Nano Security Slot	8.	Headphone / microphone combo jack (3.5mm)

PERFORMANCE

Processor

Processor Family

Intel® H Series Core™ Ultra 5 / 7 / 9 Processor; supports up to 16 cores; up to 5.1GHz

Processor[**]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	AI Engine
Core™ Ultra 5 135H	14 (4 P-core + 8 E-core + 2 LPE-core)	18	P-core 1.7GHz / E-core 1.2GHz / LPE-core 700MHz	P-core 4.6GHz / E-core 3.6GHz / LPE-core 2.5GHz	18MB	Intel® Arc™ Graphics	Intel® AI Boost
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

Operating System

Operating System[**]

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 Government Edition 64
- Fedora Linux[1]
- Ubuntu Linux LTS[2]
- Red Hat Enterprise Linux 9.2 (certified only, for detailed and latest information, please visit Red Hat Certified Hardware)
- No preload operating system

Notes:

[1] Fedora Linux will be available after July 30th, 2024.
[2] Ubuntu Linux LTS will be available after July 30th, 2024.

NPU

NPU

Intel® AI Boost integrated in Intel® Core™ Ultra processor

Graphics

Graphics

Graphics	Type	Memory	TGP	Key Features
Intel® Arc™ Graphics	Integrated	Shared	Share CPU TDP	DirectX® 12.1
NVIDIA® GeForce RTX™ 4060 Laptop GPU	Discrete	8GB GDDR6	60W	Advanced Optimus (OTA), Dynamic Boost 2.0, DirectX® 12 Ultimate
NVIDIA® GeForce RTX™ 4070 Laptop GPU	Discrete	8GB GDDR6	60W	Advanced Optimus (OTA), Dynamic Boost 2.0, DirectX® 12 Ultimate
NVIDIA® RTX 1000 Ada Generation Laptop GPU	Discrete	6GB GDDR6	60W	DirectX® 12 Ultimate, Vulkan Support, NVIDIA® FXAA / TXAA Anti-Aliasing, NVIDIA® RTX Desktop Manager
NVIDIA® RTX 2000 Ada Generation Laptop GPU	Discrete	8GB GDDR6	60W	DirectX® 12 Ultimate, Vulkan Support, NVIDIA® FXAA / TXAA Anti-Aliasing, NVIDIA® RTX Desktop Manager

NVIDIA® RTX 3000 Ada Generation Laptop GPU	Discrete	8GB GDDR6	60W	DirectX® 12 Ultimate, Vulkan Support, NVIDIA® FXAA / TXAA Anti-Aliasing, NVIDIA® RTX Desktop Manager

Monitor Support

Monitor Support

Supports up to 4 independent displays (native display and 3 external monitors via 2x Thunderbolt™ 4, 1x USB-C®, and 1x HDMI®).
Max resolution for multiple external display:
• 3x 3840x2160@60Hz (Thunderbolt™ 4, USB-C®, and HDMI®)
Max resolution for single external display:
• Thunderbolt™ 4 supports up to 7680x4320@60Hz
• HDMI® supports up to 7680x4320@60Hz
• USB-C® supports up to 7680x4320@60Hz (with DSC)

Chipset

Chipset

Intel® SoC (System on Chip) platform

Memory

Max Memory

Up to 64GB (1x 64GB LPCAMM2), upgradable

Memory Slots

One LPCAMM2 connector, dual-channel

Memory Type

LPDDR5x-7467

Storage

Storage Support[1]

Up to two drives, 2x M.2 SSD
• M.2 2280 SSD up to 8TB, 4TB each
• RAID 0/1 support

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	256GB / 512GB / 1TB	Opal 2.0
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4 Performance	512GB / 1TB / 2TB / 4TB	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® ALC3306 codec

Speakers

Stereo speakers, 2W x2, Dolby Atmos®

Microphone

• Dual-microphone array, far-field, Dolby Voice®
• No microphone (for special bid model)

Camera

- 5.0MP + IR with privacy shutter and Ultrasonic Human Presence Detection, fixed focus
- No camera (for special bid model)

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 Featur
16″	WUXGA (1920x1200)	None	IPS	400nits	Anti-glare	16:10	1200:1	100% sRGB	60Hz	89°/89°/89°/89°	91.7% scree to body ratio, TÜV Low Blue Light, X-Rite® Factory Color Calibration, DC dimmin
16″	WQXGA (2560x1600)	None	IPS	500nits	Anti-glare	16:10	1200:1	100% sRGB	165Hz	89°/89°/89°/89°	91.7% scree to body ratio, TÜV Low Blue Light, X-Rite® Factory Color Calibration, DC dimmin
16″	WQUXGA (3840x2400)	Add On Film Touch	OLED	SDR 400nits / HDR 500nits	Anti-reflection / Anti-smudge	16:10	100,000:1	100% DCI-P3	60Hz	87.5°/87.5°/87.5°/87.5°	91.7% scree to body ratio, Eyesafe® Certified 2. X-Rite® Factory Color Calibration, DisplayHDR 400, Dolby Vision®, PWM dimming

Color Calibration

X-Rite® factory color calibration

Touchscreen

- Add-on Film Touch, supports 10-point touch (WQUXGA display)
- Non-touch

Input Device

Keyboard

6-row, spill-resistant, multimedia Fn keys

Keyboard Backlight

LED backlight

UltraNav™

3-button TrackPoint® pointing device and glass surface multi-touch Haptic Touchpad, 85 x 135 mm (3.35 x 5.31 inches)

Mechanical

Dimensions (WxDxH)[1]

354.4 x 241.2 x 17.05 mm (13.95 x 9.49 x 0.67 inches)

Weight[2]

Starting at 1.82 kg (4.03 lbs)

Case Color

Black

Case Material

Aluminium (top), aluminium (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

No onboard Ethernet

WLAN + Bluetooth®[1]

Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.4

WWAN

No support

SIM Card

No physical SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

[1] Wi-Fi® 7 and Bluetooth® 5.4 require the supported Windows® OS.
Wi-Fi® 7 requires a separate Wi-Fi® 7 router and / or other networking devices to meet full WiFi 7 requirements.
Wi-Fi® 7 is backwards compatible with prior WiFi standards.
Wi-Fi® 7 is available in countries where Wi-Fi® 7 is supported.

Ports[1]

Standard Ports[2]

- 1x USB-A (USB 5Gbps / USB 3.2 Gen 1), Always On
- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), with USB PD 3.0 (135W input) and DisplayPort™ 1.4
- 2x USB-C® (Thunderbolt™ 4 / USB4® 40Gbps), with USB PD 3.0 (135W input) and DisplayPort™ 2.1

- 1x HDMI® 2.1, up to 8K/60Hz
- 1x Headphone / microphone combo jack (3.5mm)
- 1x SD Express 7.0 card reader
- 1x Security keyhole

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] Thunderbolt™ and USB-C® ports support 135W inputs, and charging speed and system performance may be degraded if a lower-power charger is used. Chargers should be higher than 65W
.

Docking

Docking

Various docking solutions supported via Thunderbolt™ or USB-C®.
For more compatible docking solutions, please visit
[Docking for ThinkPad® P1 Gen 7](#)

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

No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

- (Optional) IR camera for Windows® Hello (facial recognition)
- (Optional) Ultrasonic Human Presence Detection for IR camera
- Bottom cover tamper detection
- Camera privacy shutter (camera models)

MANAGEABILITY

System Management

System Management

- Intel® vPro® Enterprise
- Non-vPro®

SERVICE

Warranty

Base Warranty**

- 1-year courier or carry-in service
- 1-year limited onsite service
- 3-year (1-yr battery) courier or carry-in service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ACCESSORIES

Bundled Accessories

Bundled Accessories

- Lenovo® HDMI® to VGA Monitor Adapter
- Lenovo® USB-C® to DisplayPort™ Adapter
- Lenovo® USB-C® to Ethernet Adapter (2.5Gbps)
- Lenovo® USB-C® to VGA Adapter

OPERATING REQUIREMENTS

Operating Environment

Temperature[1]

- 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).

ENVIRONMENTAL

Sustainability

Material[1]

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 power adapter
Plastic free packaging with 90% recycled and/or FSC certified content

Notes:

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

CERTIFICATIONS

Green Certifications[1]

Green Certifications[2]

- ENERGY STAR® 8.0
- EPEAT™ Gold Registered[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 https://compliance.lenovo.com.

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

[3] EPEAT™ is registered where applicable, please visit epeat.net for registration status by country.

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications

- (Optional) Intel® Evo™ Platform
- (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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