OVERVIEW



1. SD Express 7.0 card reader	6. Power connector
2. Nano-SIM card slot *	7. Thunderbolt 4
3. USB 3.2 Gen 1	8. Thunderbolt 4
4. USB 3.2 Gen 1 (Always On)	9. HDMI
5. Kensington Nano Security Slot	10. Headphone (3.5mm)

Notes:
- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

13th Generation H series Intel® Core™ i7 / i9 processor, supports up to 14 cores, up to 5.4GHz

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache
Core i7-13700H	14 (6 P-core + 8 E-core)	20	P-core 2.4GHz / E-core 1.8GHz	P-core 5.0GHz / E-core 3.7GHz	24MB
Core i7-13800H	14 (6 P-core + 8 E-core)	20	P-core 2.5GHz / E-core 1.8GHz	P-core 5.2GHz / E-core 4.0GHz	24MB
Core i9-13900H	14 (6 P-core + 8 E-core)	20	P-core 2.6GHz / E-core 1.9GHz	P-core 5.4GHz / E-core 4.1GHz	24MB

Operating System

Operating System**

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

Notes:

[1] Red Hat Enterprise Linux 9.2 certification will be available after Aug 31, 2023.

Graphics

Graphics

Graphics	Type	Memory	TGP	Key Features
NVIDIA® GeForce RTX™ 4080 Laptop GPU	Discrete	12GB GDDR6	80W	Advanced Optimus, Dynamic Boost 2.0, VR ready, DirectX® 12 Ultimate
NVIDIA RTX 3500 Ada Generation Laptop GPU	Discrete	12GB GDDR6 ECC	80W	DirectX 12 Ultimate, Vulkan Support, NVIDIA FXAA / TXAA Anti-Aliasing, NVIDIA RTX Desktop Manager
NVIDIA RTX 4000 Ada Generation Laptop GPU	Discrete	12GB GDDR6 ECC	80W	DirectX 12 Ultimate, Vulkan Support, NVIDIA FXAA / TXAA Anti-Aliasing, NVIDIA RTX Desktop Manager
NVIDIA GeForce RTX 4090 Laptop GPU	Discrete	16GB GDDR6	80W	Advanced Optimus, Dynamic Boost 2.0, VR ready, DirectX 12 Ultimate
NVIDIA RTX 5000 Ada Generation Laptop GPU	Discrete	16GB GDDR6 ECC	80W	DirectX 12 Ultimate, Vulkan Support, NVIDIA FXAA / TXAA Anti-Aliasing, NVIDIA RTX Desktop Manager
NVIDIA RTX A1000 Laptop GPU	Discrete	6GB GDDR6	35W	DirectX 12 Ultimate, Vulkan Support, NVIDIA FXAA / TXAA Anti-Aliasing, NVIDIA RTX Desktop Manager
NVIDIA GeForce RTX 4060 Laptop GPU	Discrete	8GB GDDR6	80W	Advanced Optimus (OTA), Dynamic Boost 2.0, DirectX 12 Ultimate
NVIDIA RTX 2000 Ada Generation Laptop GPU	Discrete	8GB GDDR6	35W	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 HDMI® and Thunderbolt™)
• HDMI supports up to 7680x4320@60Hz

• Thunderbolt supports up to 5120x3200@60Hz

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory

Up to 96GB (2x 48GB DDR5 SO-DIMM)

Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

Memory Type

DDR5-5600 non-ECC

Storage

Storage Support[1]

- Models with NVIDIA RTX A1000/2000 Ada:
  up to two drives, 2x M.2 SSD
  • M.2 2280 SSD up to 8TB, 4TB each
  • RAID 0/1 support
- Models with NVIDIA RTX 3500/4000/5000 Ada or GeForce RTX4060/4080/4090:
  one drive, up to 4TB M.2 2280 SSD

Storage Slot

- Models with NVIDIA RTX A1000/2000 Ada:
  Two M.2 2280 PCIe® 4.0 x4 slots
- Models with NVIDIA RTX 3500/4000/5000 Ada or GeForce RTX4060/4080/4090:
  One M.2 2280 PCIe 4.0 x4 slot

Storage Type**

Disk Type	Interface	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe 4.0 x4 Performance	512GB / 1TB / 2TB / 4TB	Opal 2.0
M.2 2280 SSD	PCIe NVMe, PCIe x4	256GB / 512GB / 1TB	Opal 2.0

RAID

RAID 0/1 support (for models with NVIDIA RTX A1000/2000 Ada)

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, optimized with Dolby® Atmos®

Microphone

Dual-microphone array, far-field, Dolby Voice

Camera**

- 5.0MP + IR hybrid, with privacy shutter and Ultrasonic Human Presence Detection, fixed focus
- FHD 1080p + IR hybrid, with privacy shutter and Ultrasonic Human Presence Detection, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 90Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Power Adapter

Power Adapter[**][1]

- 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[**]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
16″	WUXGA (1920x1200)	None	IPS[1]	300nits	Anti-glare	16:10	1200:1	100% sRGB	60Hz	89° / 89° / 80° / 80°	TÜV Low Blue Light, X-Rite® Factory Color Calibration, 86.2% screen to body ratio, DC dimming
16″	WQXGA (2560x1600)	None	IPS[2]	500nits	Anti-glare	16:10	1200:1	100% sRGB	165Hz	89° / 89° / 80° / 80°	TÜV Low Blue Light, X-Rite Factory Color Calibration, 86.2% screen to body ratio, DC dimming
16″	WQUXGA (3840x2400)	Add-on Film Touch	OLED	SDR 400nits / HDR 500nits	Anti-reflection, anti-smudge	16:10	100000:1	100% DCI-P3	60Hz	87.5° / 87.5° / 87.5° / 87.5°	DisplayHDR™ 400, Dolby Vision™, TÜV Low Blue Light, X-Rite Factory Color Calibration, 86.1% screen to body ratio

Color Calibration

X-Rite factory color calibration

Touchscreen

- Add-on Film Touch, supports 10-point touch (OLED models only)
- Non-touch

Notes:

[1], [2] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard

6-row, spill-resistant, multimedia Fn keys with Unified Communications controls

Keyboard Backlight

LED backlight

UltraNav™

3-button TrackPoint® pointing device and glass surface multi-touch touchpad, 67.6 x 115 mm (2.66 x 4.53 inches)

Mechanical

Dimensions (WxDxH)[1]

Models	Dimensions
Touch models	359.5 x 253.8 x 17.3 mm (14.15 x 9.99 x 0.68 inches)
Non-touch models	359.5 x 253.8 x 17.5 mm (14.15 x 9.99 x 0.69 inches)

Weight[2]

Models	Weight
Touch models	Starting at 1.78 kg (3.92 lbs)
Non-touch models	Starting at 1.86 kg (4.11 lbs)

Case Color**

- Black
- Black, weave

Case Material**

- CFRP / GFRP (top), aluminium (bottom)
- CFRP / GFRP hybrid (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[1]

WLAN + Bluetooth®

Intel Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi + Bluetooth 5.3[2]

WWAN

- Fibocom L860-GL-16, 4G LTE CAT16, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No physical SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

[1] Ethernet support via optional docking or Lenovo USB-C® to Ethernet Adapter, up to 2.5GbE.
[2] Wi-Fi 6E full features might be limited by country-level restrictions.
Wi-Fi 6E is only enabled on Windows 11 and operates as Wi-Fi 6 with Windows 10.
6GHz Wi-Fi 6E operation is dependent on the support of the operating system, routers/APs/Gateways that support Wi-Fi 6E, and the regional regulatory certifications & spectrum allocation.
Bluetooth 5.3 operation requires Windows 11. For more information please see General Bluetooth Support Information on Microsoft®.

Ports[1]

Standard Ports

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

- 1x Security keyhole
- 2x Thunderbolt 4 / USB4® 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 2x USB 3.2 Gen 1 (one Always On)

Optional Ports

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;
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.

Docking

Docking

Various docking solutions supported via Thunderbolt or USB-C.
For more compatible docking solutions, please visit
Docking for ThinkPad® P1 Gen 6

Monitor Cable

Monitor Cable

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to VGA Adapter
- Lenovo USB-C to DisplayPort Adapter
- No monitor cable

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

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro® Enterprise[1]

- Non-vPro

Notes:

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

SERVICE

Warranty[1]

Base Warranty**

- 1-year courier or carry-in service
- 1-year courier or carry-in with 2-year system board service (Korea only)
- 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

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://pcsupport.lenovo.com/warranty.

ENVIRONMENTAL

Sustainability

Material

90% PCC recycled plastic used in speaker enclosure
90% PCC recycled plastic used in the battery
30% PCC recycled plastic used in 170W power adapter
90% recycled and/or sustainable packaging

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)

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).

ACCESSORIES

Bundled Accessories

Bundled Accessories

- Lenovo USB-C to Ethernet Adapter (2.5Gbps)
- None

CERTIFICATIONS

Green Certifications[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered[2]
- 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.
[2] EPEAT is registered where applicable, please see https://www.epeat.net for registration status by country.

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications

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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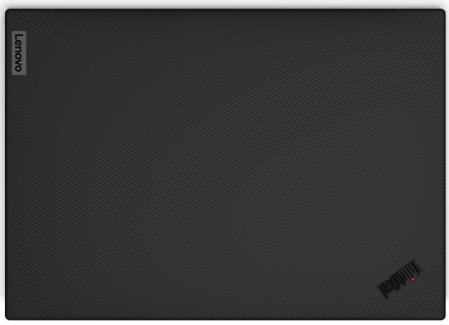
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