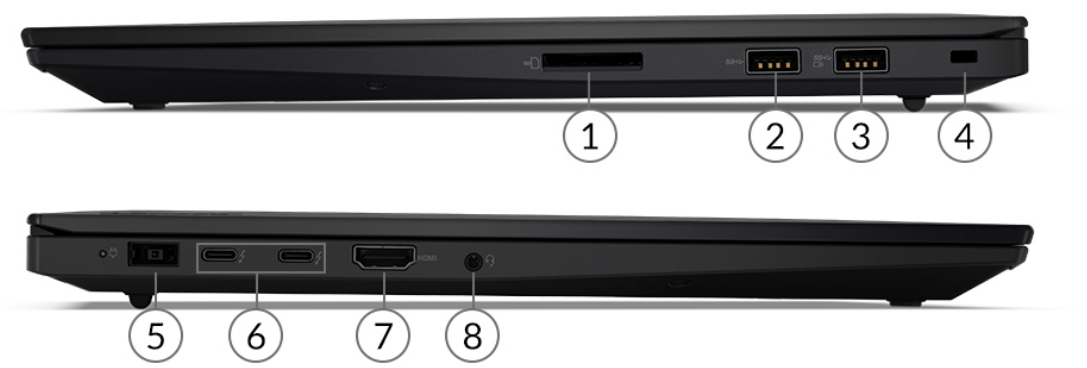


OVERVIEW



1. SD card reader	5. Power connector
2. USB 3.2 Gen 1	6. 2x Thunderbolt 4
3. USB 3.2 Gen 1 (Always On)	7. HDMI 2.0 / 2.1
4. Kensington Nano Security Slot	8. Headphone / microphone combo jack (3.5mm)

- Notes:
- Optional nano-SIM card slot on the right side (not shown on the sample product above)

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i7 / i9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	Intel UHD Graphics
Core i9-11950H	8	16	2.6GHz	5.0GHz	24MB	Intel UHD Graphics

Operating System

Operating System**

- Linux^[1]
- Ubuntu Linux^[2]
- Windows® 10 Home 64
- Windows 10 Home 64 Single Language
- Windows 10 Pro 64
- Windows 11 DG Windows 10 Pro 64
- Windows 11 Home
- Windows 11 Home Single Language
- Windows 11 Pro
- No operating system

Notes:

[1], [2] Some features may not be supported on the system with Linux preload, including but not limited to Intel RST RAID, MIPI computer vision camera, WWAN, Human Presence Detection, etc.

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12.1
NVIDIA® GeForce RTX™ 3050 Ti Laptop GPU	Discrete	4GB GDDR6	DirectX 12
NVIDIA GeForce RTX 3060 Laptop GPU	Discrete	6GB GDDR6	DirectX 12
NVIDIA GeForce RTX 3070 Laptop GPU	Discrete	8GB GDDR6	DirectX 12
NVIDIA GeForce RTX 3080 Laptop GPU	Discrete	16GB GDDR6	DirectX 12

Monitor Support

Monitor Support

Supports up to 4 independent displays (native display and 3 external monitors via HDMI® and Thunderbolt™)

- HDMI supports up to 4K@60Hz
- Thunderbolt supports up to 5K@60Hz

Chipset

Chipset

Intel WM590 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-3200

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type

DDR4-3200

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^[1]

- Models with RTX 3060/3070/3080 graphics:
one drive, up to 2TB M.2 2280 SSD
- Models with Intel UHD Graphics or RTX 3050 Ti graphics:
up to two drives, 2x M.2 SSD
 - M.2 2280 SSD up to 2TB
 - RAID 0/1 support

Storage Slot

- Models with Intel UHD Graphics or RTX 3050 Ti Graphics: two M.2 slots
 - One M.2 2280 PCIe® 3.0 x4 slot
 - One M.2 2280 PCIe 4.0 x4 slot
- Models with RTX 3060/3070/3080 Graphics: one M.2 slot
 - One M.2 2280 PCIe 4.0 x4 slot

Storage Type^{***[2]}

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

RAID^[3]

RAID 0/1 support

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.

[2] M.2 PCIe 4.0 x4 SSD in the M.2 PCIe 3.0 x4 slot is downgraded to PCIe 3.0 x4 performance. Opal capability is not available in RAID mode.

[3] Both SSD drives work at PCIe Gen 3 performance in RAID mode.

Removable Storage

Card Reader

SD card reader, supports UHS-II SD card

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

Speakers

Stereo speakers, 2W x2, Dolby® Atmos®

Microphone

- Dual-microphone array, far-field
- No microphone^[1]

Camera^{**}

- FHD 1080p, with privacy shutter, fixed focus
- FHD 1080p + IR hybrid, with privacy shutter, fixed focus
- No camera^[2]

Notes:

[1] No microphone is for special bid only.

[2] No camera is for special bid only.

Battery

Battery

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

Max Battery Life^[1]

MobileMark® 2018: 10.7 hr
JEITA 2.0: 12.8 hr

Notes:

[1] All battery life claims are approximate maximum and based on results using the MobileMark 2014, MobileMark 2018, MobileMark 25, JEITA 2.0, continuous 1080p video playback (with 150nits brightness and default volume level) or Google Power Load Test (PLT) battery-life benchmark tests. Actual battery life will vary depending 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^{**[1]}

- 135W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz^[2]
- 170W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz^[3]
- 230W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz^[4]

Notes:

- [1] AC adapter offerings depend on the country.
[2] 135W is for Intel UHD Graphics.
[3] 170W is for RTX 3050 Ti Graphics.
[4] 230W is for RTX 3060/3070/3080 Graphics.

DESIGN

Display

Display^{**[1][2]}

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Refresh Rate	Viewing Angle (L/R/U/D)	Key Features
16" ^[3]	WQXGA (2560x1600)	None	IPS	400 nits	Anti-glare	16:10	1200:1	100% sRGB	-	85°/85°/85°/85°	Low blue light
16" ^[4]	WQUXGA (3840x2400)	None	IPS	600 nits	Anti-glare	16:10	1500:1	100% Adobe® RGB	-	85°/85°/85°/85°	Low blue light, Dolby Vision™, DisplayHDR™ 400
16" ^[5]	WQUXGA (3840x2400)	Multi-touch	IPS	600 nits	Anti-reflection, anti-smudge	16:10	1500:1	100% Adobe RGB	-	85°/85°/85°/85°	Low blue light, Dolby Vision, DisplayHDR 400

Color Calibration

- X-Rite® factory color calibration (WQUXGA display)
- No color calibration

Touchscreen

- OGM (One Glass Metal mesh) multi-touch, supports 10-point touch
- Non-touch

Notes:

- [1] California Electronic Waste Recycling Fee
In California USA, 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, please go to <https://www.calrecycle.ca.gov/Electronics/Consumer>.
[2] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.
[3] WQXGA display comes with black paint top cover only.
In marketing terms, WQXGA is QHD+.
[4], [5] WQUXGA display comes with black weave top cover only.

In marketing terms, WQUXGA is UHD+.

Input Device

Pen

- Lenovo Precision Pen 2 with built-in rechargeable battery, 4096 levels of pressure sensitivity, tilt detection, supports WGP, AES 2.0 and MPP 2.0 protocols. For more information, please read [Lenovo Precision Pen 2](#)
- No pen (purchase separately)
- No support (non-touch display doesn't support pen input)

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

TrackPoint® pointing device and glass surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)^[1]

Models	Dimensions
Non-touch models	359.5 x 253.8 x 17.7 mm (14.15 x 9.99 x 0.7 inches)
Touch models	359.5 x 253.8 x 18.2 mm (14.15 x 9.99 x 0.72 inches)

Weight^[2]

Models	Weight
Touch models	Starting at 1.86 kg (4.1 lbs)
Non-touch models	Starting at 1.81 kg (3.99 lbs)

Case Color**

- Black, paint
- Black, weave

Case Material

Carbon fiber hybrid (top), aluminium alloy (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®^[2]

Intel Wi-Fi® 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1^[3]

WWAN^[4]

- Qualcomm® Snapdragon™ X55 5G Modem-RF System, Sub-6 GHz, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No physical SIM card inbox

NFC

No support

Notes:

[1] Ethernet support via optional Lenovo USB-C® to Ethernet Adapter.

[2] Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitations.

[3] 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.

[4] WWAN is not available for the models with RTX 3060/3070/3080 graphics.

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x Thunderbolt 4 / USB4® 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x SD card reader
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Power connector

Optional Ports^{***}

- 1x Nano-SIM card slot (WWAN support models)
- 1x HDMI 2.0 (models with integrated graphics)
- 1x HDMI 2.1 (models with discrete graphics)

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 / USB-C.

For more compatible docking solutions, please visit [Docking for ThinkPad® X1 Extreme Gen 4](#)

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

Physical Locks

Kensington® Nano Security Slot™

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) Camera privacy shutter
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro[®]^[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^[2]

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>.

[2] No base warranty is for special bid only.

ENVIRONMENTAL

Operating Environment

Temperature^[1]

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage and transportation in original shipping package: -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

- None

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered^[2]
- TCO Certified
- RoHS compliant

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

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
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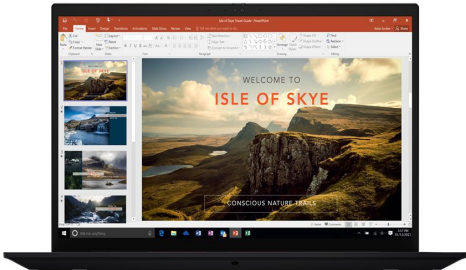
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