OVERVIEW



1. Thunderbolt 4	6. Headphone / microphone combo jack (3.5mm)
2. Thunderbolt 4	7. Nano-SIM card slot *
3. USB 3.2 Gen 1	8. USB 3.2 Gen 1 (Always On)
4. HDMI	9. Kensington Nano Security Slot
5. Pen slot	

5

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Notes:

• Items with * are only available on selected models

ThinkPad X1 Yoga Gen 8

PERFORMANCE

Processor

Processor Family

13th Generation Intel $^{\rm e}$ U or P Series Core i5 / i7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	ncy Max Frequency		Processor Graphics
Core i5-1335U	Ore 15-15.55U 12		P-core 1.3GHz / E-core 0.9GHz	P-core 4.6GHz / E-core 3.4GHz	12MB	Intel® Iris® Xe Graphics
Core i5-1340P	ore i5-1340P 12 (4 P-core + 8 E-core) 16 P-core 1.9GHz / E-core 1.4GHz		P-core 4.6GHz / E-core 3.4GHz	12MB	Intel® Iris® Xe Graphics	
Core i5-1345U	10 (2 P-core + 8 E-core)	12	P-core 1.6GHz / E-core 1.2GHz	P-core 4.7GHz / E-core 3.5GHz	12MB	Intel® Iris® Xe Graphics
Core i7-1355U	10 (2 P-core + 8 E-core)	12	P-core 1.7GHz / E-core 1.2GHz	P-core 5.0GHz / E-core 3.7GHz	12MB	Intel® Iris® Xe Graphics
Core i7-1360P	12 (4 P-core + 8 E-core)	16	P-core 2.2GHz / E-core 1.6GHz	P-core 5.0GHz / E-core 3.7GHz	18MB	Intel® Iris® Xe Graphics
Core i7-1365U	10 (2 P-core + 8 E-core)	12	P-core 1.8GHz / E-core 1.3GHz	P-core 5.2GHz / E-core 3.9GHz	12MB	Intel® Iris® Xe Graphics
Core i7-1370P	14 (6 P-core + 8 E-core)	20	P-core 1.9GHz / E-core 1.4GHz	P-core 5.2GHz / E-core 3.9GHz	24MB	Intel® Iris® Xe Graphics

Notes:

[1] Intel[®] Core[™] i5-1340P, i5-1350P and i7-1360p are for special bid only.

Operating System

Operating System**

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Windows® 10 IoT Enterprise LTSC 2021^[1]
- Ubuntu Linux^[2]
- Linux^[3]
- No preload operating system

Notes:

[1] Windows® 10 IoT Enterprise LTSC 2021 is for special bid only.

[2], [3] 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	Туре	Memory	TGP	Key Features
Inte	I® Iris® Xe Graphics	Integrated	Shared	Share CPU TDP	DirectX® 12.1

Monitor Support

Monitor Support^[1]

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

• HDMI $^{\circ}$ supports up to 4K@60Hz

Thunderbolt[™] supports up to 5K@60Hz

Notes:

[1] Refresh rates >60hz also supported, however max resolution will be limited.

Chipset

Chipset

Intel[®] SoC (System on Chip) platform

Memory

Max Memory

- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable
- 64GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, 8-channel

Memory Type**

- LPDDR5/x-6000 (32GB)^[1]
- LPDDR5/x-6400 (16GB)^[2]
- LPDDR5x-6000 (64GB)^[3]

Notes:

[1] Installed memory is actually LPDDR5-6400 or LPDDR5x-7500 but run as LPDDR5-6000 or LPDDR5x-6000 due to platform limitation.

[2] Installed LPDDR5x memory is actually LPDDR5x-7500 but run as LPDDR5x-6400 due to platform limitation.

[3] Installed memory is actually LPDDR5x-7500 but run as LPDDR5x-6000 due to platform limitation.

Storage

Storage Support^[1]

One drive, up to 2TB M.2 2280 SSD

Storage Slot

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

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo® storage offerings.

Removable Storage

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek[®] ALC3306 codec

Speakers

Stereo speakers, 2W x2 woofers and 0.8W x2 tweeters, Dolby Atmos®

Microphone

Quad-microphone array, 360° far-field, Dolby Voice®

Camera**

- FHD 1080p + IR discrete, with privacy shutter, MIPI, fixed focus, Computer Vision
- FHD 1080p + IR hybrid, with privacy shutter, fixed focus
- FHD 1080p, with privacy shutter, fixed focus

Battery

Battery^[1]

ThinkPad X1 Yoga Gen 8

Lenovo

57Wh Rechargeable Li-ion Battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Battery Life^[2]

Configuration 1 (max battery life) MobileMark® 25: up to 13.7 hr with 667 performance score @250nits JEITA 2.0: up to 27.7 hr @150nits Local video playback: up to 22.4 hr @150nits

Alternate configuration 2 MobileMark® 25: up to 13.05 hr with 637 performance score @250nits JEITA 2.0: up to 24.7 hr @150nits Local video playback: up to 20.1 hr @150nits

Alternate configuration 3 MobileMark® 25: up to 13.4 hr with 659 performance score @250nits JEITA 2.0: up to 24.2 hr @150nits Local video playback: up to 19.5 hr @150nits

Notes:

[1] Rapid charge is only guaranteed when the computer is turned off or in standby mode or in hibernation mode. When the computer is powered on, the Charge Time will vary depending on system power consumption and AC adapter power.
[2] Configuration 1 (max battery life): WUXGA (touch), Intel[®] i5-1345U, 16GB LPDDR5x, Win 11, 57Wh battery, best power efficiency power mode

Alternate configuration 2: WUXGA (touch), Intel[®] i5-1340P, 16GB LPDDR5x, Win 11, 57Wh battery, best power efficiency power mode

Alternate configuration 3: WUXGA (touch), Intel® i5-1350P, 16GB LPDDR5x, Win 11, 57Wh battery, best power efficiency power mode

All battery life claims are approximate maximum and based on results using <u>MobileMark® 25</u>, JEITA 2.0, continuous 1080p local video playback (using default Media Player in Fullscreen mode 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, software, wireless functionality, power management settings, and screen brightness.

The maximum capacity of the battery will decrease with time, ambient temperature and use.

Refer to <u>Microsoft[®] link</u> for more information about the Windows[®] Performance power slider.

Power Adapter

Power Adapter**[1]

- 45W USB-C[®] (2-pin) AC adapter, supports PD 3.0, 100-240V, 50-60Hz
- 45W USB-C[®] (3-pin) AC adapter, supports PD 3.0, 100-240V, 50-60Hz
- * 65W USB-C $^{\circ}$ (2-pin) AC adapter, supports PD 3.0, 100-240V, 50-60Hz
- 65W USB-C[®] (3-pin) AC adapter, supports PD 3.0, 100-240V, 50-60Hz
- + 65W USB-C $^{\circ}$ slim (2-pin) AC adapter, supports PD 3.0, 100-240V, 50-60Hz
- 65W USB-C[®] slim (3-pin) AC adapter, supports PD 3.0, 100-240V, 50-60Hz

Notes:

[1] AC adapter offerings depend on the country.

DESIGN

Display

Display**

Size	Resolution	Touch	Туре	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle (L/R/U/D)	Key Features
14"	WUXGA (1920x1200)	Multi- touch	IPS ^[1]	400nits	Anti- reflection, anti- smudge	16:10	1000:1	100% sRGB	85° / 85° / 85° / 85°	Low power, Eyesafe® Certified 2.0
14″	WUXGA (1920x1200)	Multi- touch	IPS ^[2]	400nits	Anti-glare	16:10	1000:1	100% sRGB	85° / 85° / 85° / 85°	Low power, Eyesafe® Certified

ThinkPad X1 Yoga Gen 8



PSREF Product Specifications Reference

										2.0
14″	WUXGA (1920x1200)	Multi- touch	IPS ^[3]	500nits	Anti-glare	16:10	1000:1	100% sRGB	85° / 85° / 85° / 85°	ThinkPad® Privacy Guard
14″	WQUXGA (3840x2400)	Multi- touch	OLED	500nits	Anti- reflection, anti- smudge	16:10	100,000:1	100% DCI-P3	85° / 85° / 85° / 85°	DisplayHDR™ 400, Dolby Vision®, Eyesafe® Certified 2.0

Touchscreen

OGS (One Glass Solution) multi-touch, supports 10-point touch

Notes:

[1], [2], [3] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Multi-mode

Multi-mode

Laptop, tent, stand, and tablet modes supported by 360° hinge

Input Device

Pen

Lenovo® Integrated Pen, with built-in rechargeable battery, 4096 levels of pressure sensitivity, on-board garaged and rechargeable

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

TrackPoint® pointing device and glass surface multi-touch touchpad, 56 x 110 mm (2.20 x 4.33 inches)

Mechanical

Dimensions (WxDxH)[1]

314.4 x 222.3 x 15.53 mm (12.38 x 8.75 x 0.61 inches)

Weight^[2]

Starting at 1.38 kg (3.04 lbs)

Case Color

Storm grey

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^[1]

WLAN + Bluetooth®

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

WWAN**

• Wireless WAN upgradable to 4G or 5G (with antenna ready)

Lenovo

- Fibocom L860-GL-16, 4G LTE CAT16, MIMO 4x4, M.2 card, with embedded eSIM functionality
- Fibocom FM350-GL, 5G Sub-6 GHz, 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 Lenovo® USB-C® to Ethernet Adapter.

[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 visit <u>General Bluetooth[®] Support Information</u> <u>on Microsoft[®]</u>.

Ports^{III}

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[™] 1.4a)
- 1x HDMI[®] 2.1, up to 4K/60Hz
- 1x Headphone / microphone combo jack (3.5mm)

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™ / USB-C®. For more compatible docking solutions, please visit <u>Docking for ThinkPad® X1 Yoga® Gen 8</u>

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
- Supervisor password
- System management password
- Certificate-based BIOS athentication
- FIDO (Fast Identity Online) authenticationSelf-healing BIOS

Other Security

- Camera privacy shutter
- (Optional) Computer Vision-based User Presence Sensing including lock on leave
- (Optional) IR camera for Windows® Hello (facial recognition)
- Glance by Mirametrix[®]
- Privacy Guard with Privacy Alert (models with ThinkPad® Privacy Guard display)

MANAGEABILITY

System Management

System Management**

- Intel[®] vPro[®] Enterprise^[1]
- Intel[®] vPro[®] Essentials^[2]
- Non-vPro[®]

Notes:

[1], [2] Intel® vPro® offers a superset of DASH's defined capabilities.

SERVICE

Warranty

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

ACCESSORIES

Bundled Accessories

Bundled Accessories***[1]

- Lenovo[®] HDMI[®] to VGA Monitor Adapter
- Lenovo[®] USB-C[®] to Ethernet Adapter (1Gbps)
- None
- Notes:

[1] For more compatible accessory solutions, please visit Accessories for ThinkPad® X1 Yoga® Gen 8.

OPERATING REQUIREMENTS

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)

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]

55% recycled aluminium on bottom cover 90% PCC recycled plastic used in speaker enclosure 25-30% PCC recycled plastic used in the 57Wh battery enclosure 90% PCC recycled plastic used in standard 45W and 65W adapters Low-temperature solder Retail or standard packaging: plastic free packaging with 100% bamboo sugarcane fiber Bulk packaging: 90% recycled and FSC certified content

Notes:

[1] PCC: Post Consumer Content, recycled materials from customers.

CERTIFICATIONS

Green Certifications

Green Certifications^[2]

- ENERGY STAR[®] 8.0
- EPEAT[™] Gold Registered^[3]
- ErP Lot 6/26
- 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] EPEAT[™] registration and ENERGY STAR[®] certification are optional and only available on the models with preloaded OS. Please visit <u>epeat.net</u> and <u>energystar.gov</u> for more information.

[3] EPEAT[™] is registered where applicable, please visit <u>epeat.net</u> 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
- TÜV Rheinland® Dynamic Privacy Filter (DPF) Certification (Privacy Guard models)
- 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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