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# Informacije o proizvodu (EN)

## LENOVO laptop ThinkPad X1 2in1 G9 Core Ultra 7 32GB/2TB (21KE003LCX)

Lenovo

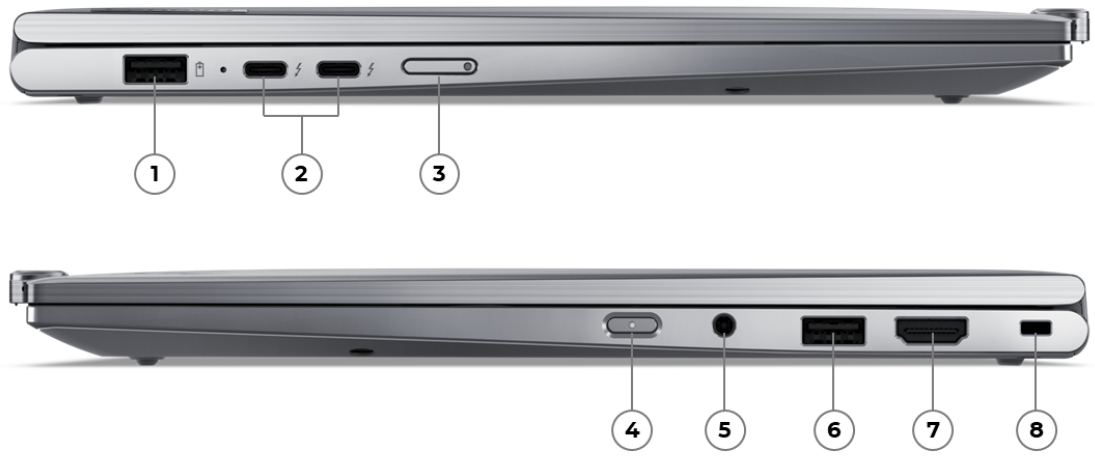


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https://tehnoteka.rs/p/lenovo-laptop-thinkpad-x1-2in1-g9-core-ultra-7-32gb2tb-21ke003lcx-akcija-cena/

# OVERVIEW




| | |
|---|---|
| 1. USB-A (USB 5Gbps), Always On | 5. Headphone / microphone combo jack (3.5mm) |
| 2. 2x Thunderbolt 4 | 6. USB-A (USB 5Gbps) |
| 3. Nano-SIM card slot * | 7. HDMI |
| 4. Power button | 8. Kensington Nano Security Slot |

Notes:

- Items with * are only available on selected models

# PERFORMANCE

## Processor

**Processor Family**

Intel® U Series Core Ultra 5 / 7 Processor (Series 1)

**Processor****

| Processor Name | Cores | Threads | Base Frequency | Max Frequency | Cache | Processor Graphics | NPU |
|---|---|---|---|---|---|---|---|
| Core Ultra 5 125U | 12 (2 P-core + 8 E-core + 2 LPE-core) | 14 | P-core 1.3GHz / E-core 800MHz / LPE-core 700MHz | P-core 4.3GHz / E-core 3.6GHz / LPE-core 2.1GHz | 12MB | Intel® Graphics | Intel® AI Boost |
| Core Ultra 5 135U | 12 (2 P-core + 8 E-core + 2 LPE-core) | 14 | P-core 1.6GHz / E-core 1.1GHz / LPE-core 700MHz | P-core 4.4GHz / E-core 3.6GHz / LPE-core 2.1GHz | 12MB | Intel® Graphics | Intel® AI Boost |
| Core Ultra 7 155U | 12 (2 P-core + 8 E-core + 2 LPE-core) | 14 | P-core 1.7GHz / E-core 1.2GHz / LPE-core 700MHz | P-core 4.8GHz / E-core 3.8GHz / LPE-core 2.1GHz | 12MB | Intel® Graphics | Intel® AI Boost |
| Core Ultra 7 165U | 12 (2 P-core + 8 E-core + 2 LPE-core) | 14 | P-core 1.7GHz / E-core 1.2GHz / LPE-core 700MHz | P-core 4.9GHz / E-core 3.8GHz / LPE-core 2.1GHz | 12MB | Intel® Graphics | Intel® AI Boost |

## AI (Artificial Intelligence)

**AI PC Category**

AI PC

**NPU**

Integrated Intel® AI Boost, up to 11 TOPS

## Operating System

**Operating System****

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Windows® 11 DG Windows® 10 Pro 64
- Ubuntu Linux[1]
- Linux[2]
- No preload 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® Graphics | Integrated | Shared | DirectX® 12.1 |

## Monitor Support

**Monitor Support[1]**

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 8K@60Hz[2]

Notes:

[1] Refresh rates >60hz also supported, however max resolution will be limited.
[2] 8K resolution support needs 2 display pipes. That is, simultaneous display number will “-1” when 8K resolution

displayed.

## 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**

LPDDR5x-6400[1]

Notes:

[1] Installed memory is actually LPDDR5x-7500 but run as LPDDR5x-6400 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, Dolby Atmos®

**Microphone**

Dual-microphone array, far-field, Dolby Voice®

**Camera****

- FHD 1080p + IR discrete, with privacy shutter, fixed focus, temporal noise reduction
- UHD 8.0MP + IR discrete, with privacy shutter, MIPI, fixed focus, Computer Vision, temporal noise reduction[1]

Notes:

[1] UHD 8.0MP + IR camera is only available (100% attach) on Privacy Guard or 2.8K OLED display.

## Battery

**Battery**[1]

Integrated Li-Polymer 57Wh 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 15.1 hr with 597 performance score @250nits
JEITA-BAT 3.0 (Video/Idle): up to 13.2 hr / 32.0 hr @200nits
Local video playback: up to 23.2 hr @150nits

Alternate configuration 2
MobileMark® 25: up to 14.4 hr with 605 performance score @250nits
JEITA-BAT 3.0 (Video/Idle): up to 11.7 hr / 28.4 hr @200nits
Local video playback: up to 23.0 hr @150nits

Alternate configuration 3
MobileMark® 25: up to 9.9 hr with 732 performance score @250nits
JEITA-BAT 3.0 (Video/Idle): up to 8.6 hr / 14.8 hr @200nits
Local video playback: up to 14.8 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® Core™ Ultra 7 165U, 16GB LPDDR5x, Win 11, 57Wh battery, best power efficiency power mode
Alternate configuration 2: WUXGA (touch), Intel® Core™ Ultra 5 125U, 32GB LPDDR5x, Win 11, 57Wh battery, best power efficiency power mode
Alternate configuration 3: 2.8K OLED (touch), Intel® Core™ Ultra 7 165U, 64GB LPDDR5x, Win 11, 57Wh battery, balanced power mode

All battery life claims are approximate maximum and based on results using MobileMark® 25, JEITA 3.0, 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 Microsoft® link 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® (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® 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
- 65W USB-C® slim GaN (2-pin) AC adapter, supports PD 3.0, 100-240V, 50-60Hz
- 65W USB-C® slim GaN (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 | Type | Brightness | Surface | Aspect Ratio | Contrast Ratio | Color Gamut | Refresh Rate | Viewing Angle (L/R/U/D) | Key Features |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14" | WUXGA (1920x1200) | Multi-touch | IPS[1] | 400nits | Anti-glare, anti-smudge | 16:10 | 1000:1 | 100% sRGB | 60Hz | 85° / 85° / 85° / 85° | Low power, Eyesafe® Certified 2.0, 87.8% screen to body ratio |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14″ | WUXGA (1920x1200) | Multi-touch | IPS[2] | 400nits | Anti-reflection, anti-smudge | 16:10 | 1000:1 | 100% sRGB | 60Hz | 85° / 85° / 85° / 85° | Low power, Eyesafe® Certified 2.0, 87.8% screen to body ratio |
| 14″ | WUXGA (1920x1200) | Multi-touch | IPS[3] | 500nits | Anti-glare, anti-smudge | 16:10 | 1000:1 | 100% sRGB | 60Hz | 85° / 85° / 85° / 85° | ThinkPad® Privacy Guard, TÜV Rheinland® Low Blue Light (Hardware Solution), 87.8% screen to body ratio |
| 14″ | 2.8K (2880x1800) | Multi-touch | OLED | 400nits | Anti-reflection, anti-smudge | 16:10 | 100,000:1 | 100% DCI-P3 | 120Hz | 85° / 85° / 85° / 85° | DisplayHDR™ 400, Dolby Vision®, Eyesafe® Certified 2.0, 87.8% screen to body ratio |

**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® Slim Pen
- No pen (purchase separately)

**Keyboard**

6-row, spill-resistant, air intake design, multimedia Fn keys

**Keyboard Backlight**

LED backlight

**UltraNav™****

- TrackPoint® pointing device, double-tap to open the TrackPoint® Quick Menu
  Glass surface multi-touch Haptic Touchpad, 70.5 x 120 mm (2.78 x 4.72 inches)[1]
- TrackPoint® pointing device, double-tap to open the TrackPoint® Quick Menu
  Glass surface multi-touch 3-button Trackpad, 56.2 x 120 mm (2.21 x 4.72 inches)

Notes:

[1] Haptic Touchpad is mutually exclusive with NFC.

## Mechanical

**Dimensions (WxDxH)**[1]

312.80 x 217.65 x 15.49 mm (12.31 x 8.57 x 0.61 inches)

**Weight**[2]

Starting at 1.35 kg (2.97 lbs)

**Case Color**

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®**[2]

- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3[3]
- Intel® Wi-Fi® 7 BE200, 802.11be 2x2 Wi-Fi® + Bluetooth® 5.3 (Bluetooth® 5.4 hardware ready)[4]

### WWAN**

- Wireless WAN upgradable to 4G or 5G (with antenna ready)
- Quectel EM160R-GL, 4G LTE CAT16, M.2 card, with embedded eSIM functionality
- Quectel RM520N-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[5]
- No support

Notes:

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

[2] Intel® Wi-Fi® 7 BE200 is for special bid only.

[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.
Bluetooth® 5.3 operation requires Windows® 11. For more information please visit General Bluetooth® Support Information on Microsoft®.

[4] Wi-Fi® 7 is only enabled on Windows® 11 and operates as Wi-Fi® 6 with Windows® 10.
6GHz Wi-Fi® 7 operation is subject to the regulation rules in each country.
Bluetooth® 5.3 operation requires Windows® 11. For more information please visit General Bluetooth® Support Information on Microsoft®.

[5] NFC is mutually exclusive with Haptic Touchpad.

## Ports[1]

### Standard Ports

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

## Docking

### Docking

Various docking solutions supported via Thunderbolt™ / USB-C®.
For more compatible docking solutions, please visit Docking for ThinkPad® X1 2-in-1 Gen 9

# 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 in keyboard key, match-on-chip

**BIOS Security**

- NVMe® password
- Power-on password
- Supervisor password
- System management password
- Certificate based BIOS authentication
- FIDO (Fast Identity Online) authentication
- Self-healing BIOS
- More BIOS security features, please visit BIOS Simulator

**Other Security**

- Computer Vision-based User Presence Sensing including lock on leave (UHD 8.0MP + IR camera models)
- Privacy Guard with Privacy Alert (models with ThinkPad® Privacy Guard display)
- IR camera for Windows® Hello (facial recognition)
- Ultrasonic Human Presence Detection (FHD 1080p + IR camera models)
- Camera privacy shutter

# 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

**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 2-in-1 Gen 9.

# 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]

75% recycled aluminium on top cover
90% recycled magnesium on keyboard frame (WWAN models)
75% recycled aluminium on keyboard frame (WLAN models)
55% recycled aluminium and 45% hydro aluminum on bottom cover
85% PCC recycled plastic used in keycaps
90% PCC recycled plastic used in speaker enclosure
90% PCC recycled plastic used in the 57Wh battery pack enclosure
90% PCC recycled plastic used in standard 45W and 65W adapters
Low-temperature solder
FSC certified plastic free packaging
Bamboo + sugarcane retail packaging / standard cushions

Notes:

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

# CERTIFICATIONS

## Green Certifications[1]

**Green Certifications**[2]

- ENERGY STAR® 8.0
- EPEAT™ Gold Registered[3]
- ErP Lot 6/26
- RoHS compliant
- TCO Certified 10.0

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 optional and only available on the models with preloaded 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 (Hardware Solution)
- 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.
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Za najnovije informacije o ceni, dostupnim akcijama i tehničkim karakteristikama proizvoda koji se pominje u ovom dokumentu, molimo posetite našu stranicu klikom na sledeći link:

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