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Informacije o proizvodu (EN)

LENOVO laptop ThinkPad X1 Carbon G12 (21KC004WCX)

Lenovo



Tehnoteka je online destinacija za upoređivanje cena i karakteristika bele tehnike, potrošačke elektronike i IT uređaja kod trgovinskih lanaca i internet prodavnica u Srbiji. Naša stranica vam omogućava da istražite najnovije informacije, detaljne karakteristike i konkurentne cene proizvoda.

Posetite nas i uživajte u ekskluzivnom iskustvu pametne kupovine klikom na link:

https://tehnoteka.rs/p/lenovo-laptop-thinkpad-x1-carbon-g12-21kc004wcx-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 or H Series Core Ultra 5 / 7 Processor (Series 1)

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Processor Graphics	NPU
Core Ultra 5 125H	14 (4 P-core + 8 E-core + 2 LPE-core)	18	P-core 1.2GHz / E-core 700MHz / LPE-core 700MHz	P-core 4.5GHz / E-core 3.6GHz / LPE-core 2.5GHz	18MB	Intel® Arc™ Graphics	Intel® AI Boost
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 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 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 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 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
- Fedora Linux[1]
- Ubuntu Linux[2]
- Linux[3]
- No preload operating system

Notes:

[1], [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	Type	Memory	Key Features
Intel® Arc™ Graphics	Integrated	Shared	DirectX® 12.2

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 touch 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 16.0 hr with 604 performance score @250nits
JEITA-BAT 3.0 (Video/Idle): up to 12.8 hr / 35.4 hr @200nits
Local video playback: up to 23.4 hr @150nits

Alternate configuration 2
MobileMark® 25: up to 14.6 hr with 725 performance score @250nits
JEITA-BAT 3.0 (Video/Idle): up to 12.4 hr / 36.4 hr @200nits
Local video playback: up to 25.2 hr @150nits

Alternate configuration 3
MobileMark® 25: up to 11.6 hr with 768 performance score @250nits
JEITA-BAT 3.0 (Video/Idle): up to 9.2 hr / 15.5 hr @200nits
Local video playback: up to 15.9 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 400nits (non-touch), Intel® Core™ Ultra 5 125U, 16GB LPDDR5x, Win 11, 57Wh battery, best power efficiency power mode
Alternate configuration 2: WUXGA 400nits (non-touch), Intel® Core™ Ultra 7 155H, 16GB LPDDR5x, Win 11, 57Wh battery, best power efficiency power mode
Alternate configuration 3: 2.8K OLED (non-touch), Intel® Core™ Ultra 7 155H, 16GB LPDDR5x, Win 11, 57Wh battery, best power efficiency 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
- No power adapter[2]

Notes:

[1] AC adapter offerings depend on the country.
[2] No power adapter is for special bid only.

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)	None	IPS[1]	400nits	Anti-glare	16:10	1000:1	100% sRGB	60Hz	85° / 85° / 85° / 85°	Low power, Eyesafe® Certified 2.0, 89.2% screen to body ratio
14″	WUXGA (1920x1200)	On-cell touch	IPS[2]	400nits	Anti-glare	16:10	1000:1	100% sRGB	60Hz	85° / 85° / 85° / 85°	Low power, Eyesafe® Certified 2.0, 89.2% screen to body ratio
14″	WUXGA (1920x1200)	None	IPS[3]	500nits	Anti-glare	16:10	1500:1	100% sRGB	60Hz	85° / 85° / 85° / 85°	ThinkPad® Privacy Guard, Eyesafe® Certified 2.0, 89.2% screen to body ratio
14″	2.8K (2880x1800)	None	OLED	400nits	Anti-glare, anti-reflection, anti-smudge	16:10	100,000:1	100% DCI-P3	120Hz	85° / 85° / 85° / 85°	DisplayHDR™ True Black 500, Dolby Vision®, Eyesafe® Certified 2.0, 89.2% screen to body ratio
14″	2.8K (2880x1800)	Add-on Film touch	OLED	400nits	Anti-glare, anti-reflection, anti-smudge	16:10	100,000:1	100% DCI-P3	120Hz	85° / 85° / 85° / 85°	DisplayHDR™ True Black 500, Dolby Vision®, Eyesafe® Certified 2.0, 89.2% screen to body ratio

Touchscreen**

- Add-on Film Touch, supports 10-point touch
- On-cell multi-touch, supports 10-point touch
- Non-touch

Notes:

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

Input Device

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 214.75 x 14.96 mm (12.31 x 8.45 x 0.59 inches)

Weight[2]

Models	Weight
Models with Trackpad	Starting at 1.08 kg (2.37 lbs)
Models with Haptic Touchpad	Starting at 1.09 kg (2.40 lbs)

Case Color**

- Black, paint
- Black, weave

Case Material

Carbon fiber (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 Carbon Gen 12

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

- Supervisor password
- Power-on password
- System management password
- NVMe® password
- Certificate based BIOS authentication
- FIDO (Fast Identity Online) authentication
- Self-healing BIOS

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 Carbon Gen 12.

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

Recycled carbon fiber contained in plastic frame on top cover
90% recycled magnesium on keyboard frame
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

CERTIFICATIONS

Green Certifications[1]

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 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
- 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.
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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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