

## PERFORMANCE

### Processor

#### Processor Family

8th / 10th Generation Intel® Core™ i5 / i7 Processor

#### Processor<sup>[1]</sup>

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-8265U	4	8	1.6GHz	3.9GHz	6MB	LPDDR3-2133	Intel UHD Graphics
Core i5-8365U	4	8	1.6GHz	4.1GHz	6MB	LPDDR3-2133	Intel UHD Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	LPDDR3-2133	Intel UHD Graphics
Core i7-8565U	4	8	1.8GHz	4.6GHz	8MB	LPDDR3-2133	Intel UHD Graphics
Core i7-8665U	4	8	1.9GHz	4.8GHz	8MB	LPDDR3-2133	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	LPDDR3-2133	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	LPDDR3-2133	Intel UHD Graphics

#### Notes:

1. 10th Generation Intel Core Processors are NOT available in EMEA.

### Operating System

#### Operating System

- Windows® 10 Pro 64
- Windows 10 Home 64
- Fedora Linux
- Linux
- Ubuntu Linux
- No operating system

### Graphics

#### Graphics

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12

### Monitor Support

#### Monitor Support

Supports up to 3 independent displays (native display and 2 external monitors via HDMI® and Thunderbolt™)

- HDMI supports up to 4K@24Hz
- Thunderbolt supports up to 5K@60Hz

### Chipset

#### Chipset

Intel SoC (System on Chip) platform

### Memory

#### Max Memory<sup>[1]</sup>

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable

#### Memory Slots

Memory soldered to systemboard, no slots

#### Memory Type

LPDDR3-2133

#### 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<sup>[1]</sup>

One drive, up to 2TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

### Storage Type

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	Opal2
M.2 2280 SSD	SATA 6Gb/s	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

### 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.

## Removable Storage

### Optical

None

### Card Reader

No card reader

## Multi-Media

### Audio Chip

High Definition (HD) Audio, Realtek® ALC3286 codec

### Speakers

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

### Microphone

Four microphones, quad-array, 360° far-field

### Camera

- HD 720p, with ThinkShutter, fixed focus
- IR & HD 720p hybrid, with ThinkShutter, fixed focus

## Battery

### Battery

Integrated Li-Polymer 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

### Max Battery Life<sup>[1]</sup>

MobileMark® 2014: 18.3 hr

JEITA 2.0: 18.9 hr

### Notes:

1. All battery life claims are approximate maximum and based on results using the MobileMark 2014, MobileMark 2018, 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 and depends 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<sup>[1]</sup>

- 45W USB-C® (2-pin) AC adapter
- 45W USB-C (3-pin) AC adapter
- 65W USB-C slim (3-pin) AC adapter
- 65W USB-C slim (2-pin) AC adapter
- 65W USB-C (2-pin) AC adapter
- 65W USB-C (3-pin) AC adapter

### Notes:

# ThinkPad X1 Carbon (7th Gen)

1. AC adapter offerings depend on the country.

## DESIGN

### Display

#### Display<sup>[1]</sup>

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	400 nits	Anti-glare	16:9	800:1	72% NTSC	170°	Low power
14.0"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-
14.0"	FHD (1920x1080)	None	IPS	400 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
14.0"	UHD (3840x2160)	None	IPS	500 nits	Glossy	16:9	1400:1	90%	170°	Dolby Vision™, HDR 400
14.0"	WQHD (2560x1440)	None	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-

#### Touchscreen

- Capacitive-type multi-touch, supports 10-point touch
- Non-touch

#### Notes:

1. California Electronic Waste Recycling Fee

In California, 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, go to <https://www.calrecycle.ca.gov/Electronics/Consumer>

### Input Device

#### Keyboard

6-row, spill-resistant, multimedia Fn keys

#### Keyboard Backlight

LED backlight

#### UltraNav™

TrackPoint® pointing device and glass surface multi-touch touchpad

### Mechanical<sup>[1]</sup>

#### Dimensions (WxDxH)

Models	Dimensions
FHD Privacy Guard models	323 x 217 x 15.4 mm (12.72 x 8.54 x 0.61 inches)
Non-Privacy Guard models	323 x 217 x 14.95 mm (12.72 x 8.54 x 0.59 inches)

#### Weight

Models	Weight
FHD Privacy Guard models	1.21 kg (2.66 lbs)
Non-Privacy Guard models	1.09 kg (2.4 lbs)

#### Case Color

- Black, paint
- Black, weave

#### Case Material

Carbon fiber (top), magnesium alloy (bottom)

#### Notes:

1. The system dimensions and weight vary depending on configurations.

## CONNECTIVITY

### Network

#### Ethernet

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2

#### WLAN + Bluetooth<sup>[1][2]</sup>

Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.1

#### WWAN<sup>[3]</sup>

- Wireless WAN upgradable to 4G
- Fibocom L850-GL, 4G LTE CAT9, M.2 card
- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card
- No support

#### SIM Card

- Gemalto eSIM
- No SIM card inbox

#### NFC

- Near Field Communication
- No support

#### Notes:

1. Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitation
2. BT5.1 is supported on Windows 10 version 2004 or above (limited to BT5.0 on earlier version).
3. WWAN upgradable is for special bid only.  
For non-WWAN model, it means the model is NOT WWAN upgradable.

### Ports<sup>[1]</sup>

#### Standard Ports

- 1x USB 3.1 Gen 1
- 1x USB 3.1 Gen 1 (Always On)
- 2x USB-C 3.1 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x HDMI 1.4b
- 1x Ethernet extension connector
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

#### 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;  
USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;  
Thunderbolt 3/4: 40 Gbit/s

### Monitor Cable

#### Monitor Cable

- Lenovo HDMI to VGA Monitor Adapter
- No monitor cable

## SECURITY & PRIVACY

### Security

#### Security Chip<sup>[1]</sup>

# ThinkPad X1 Carbon (7th Gen)

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Discrete TPM 2.0, TCG certified

## Physical Locks

Kensington® Security Slot™

## Smart Card Reader

No smart card reader

## Fingerprint Reader

Touch style fingerprint reader on palm rest, match-on-chip

## BIOS Security

- Power-on password
- Supervisor password
- Hard disk password
- Self-healing BIOS

## Other Security

- ThinkShutter camera cover
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert

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Notes:

1. Discrete TPM 2.0 with L3 Security Support is for special bid only.

## MANAGEABILITY

### System Management

#### System Management

- Intel vPro
- None

## SERVICE

### Warranty

#### Base Warranty<sup>[1]</sup>

- 1-year depot service
- 1-year courier with 2-year system board service (Korea only)
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service

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Notes:

1. More information of warranty policy, please access <https://pcsupport.lenovo.com/warranty>

## ACCESSORIES

### Bundled Accessories

#### Bundled Accessories

- ThinkPad Ethernet Extension Adapter Gen 2
- None

## CERTIFICATIONS

### Green Certifications

#### Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO Certified
- RoHS compliant

## Other Certifications

### Mil-Spec Test

MIL-STD-810G military test passed

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