

PSREF

Product Specifications Reference

ThinkPad Laptops

The ThinkPad logo, featuring the word "ThinkPad" in a white, sans-serif font. The dot above the "i" is a small red square.

Version 589
January 26, 2022

The Lenovo logo, consisting of the word "Lenovo" in white, sans-serif font, oriented vertically within a blue rectangular background.

Contents

Cover	1
Contents	2
Summary Of Change	4
11e Series	5
ThinkPad 11e (5th Gen)	5
ThinkPad 11e Yoga Gen 6	12
ThinkPad Yoga 11e (5th Gen)	19
C Series	26
ThinkPad C13 Yoga Gen 1 Chromebook	26
E Series	34
ThinkPad E14 Gen 2 (Intel)	34
ThinkPad E14 Gen 3 (AMD)	42
ThinkPad E15 Gen 2 (Intel)	50
ThinkPad E15 Gen 3 (AMD)	58
L Series	66
ThinkPad L13	66
ThinkPad L13 Gen 2 (AMD)	74
ThinkPad L13 Gen 2 (Intel)	82
ThinkPad L13 Yoga	90
ThinkPad L13 Yoga Gen 2 (AMD)	98
ThinkPad L13 Yoga Gen 2 (Intel)	106
ThinkPad L14 Gen 1 (AMD)	114
ThinkPad L14 Gen 1 (Intel)	122
ThinkPad L14 Gen 2 (AMD)	131
ThinkPad L14 Gen 2 (Intel)	139
ThinkPad L15 Gen 1 (AMD)	148
ThinkPad L15 Gen 1 (Intel)	156
ThinkPad L15 Gen 2 (AMD)	165
ThinkPad L15 Gen 2 (Intel)	173
P Series	182
ThinkPad P1 Gen 3	182
ThinkPad P1 Gen 4	190
ThinkPad P14s Gen 1 (AMD)	199
ThinkPad P14s Gen 1 (Intel)	207
ThinkPad P14s Gen 2 (AMD)	215
ThinkPad P14s Gen 2 (Intel)	223
ThinkPad P15 Gen 1	232
ThinkPad P15 Gen 2	240
ThinkPad P15s Gen 1	249
ThinkPad P15s Gen 2	257
ThinkPad P15v Gen 1	266
ThinkPad P15v Gen 2	274
ThinkPad P17 Gen 1	282
ThinkPad P17 Gen 2	290
T Series	298
ThinkPad T14 Gen 1 (AMD)	298
ThinkPad T14 Gen 1 (Intel)	306
ThinkPad T14 Gen 2 (AMD)	314
ThinkPad T14 Gen 2 (Intel)	322
ThinkPad T14 Secure Access / Healthcare Edition Gen 1	331
ThinkPad T14s Gen 1 (AMD)	339

Contents

ThinkPad T14s Gen 1 (Intel)	347
ThinkPad T14s Gen 2 (AMD)	355
ThinkPad T14s Gen 2 (Intel)	364
ThinkPad T15 Gen 1	373
ThinkPad T15 Gen 2	381
ThinkPad T15g Gen 1	389
ThinkPad T15g Gen 2	397
ThinkPad T15p Gen 1	406
ThinkPad T15p Gen 2	414
X Series	422
ThinkPad X13 Gen 1 (AMD)	422
ThinkPad X13 Gen 1 (Intel)	430
ThinkPad X13 Gen 2 (AMD)	438
ThinkPad X13 Gen 2 (Intel)	447
ThinkPad X13 Yoga Gen 1	456
ThinkPad X13 Yoga Gen 2 (Intel)	464
X1 Series	472
ThinkPad X1 Carbon Gen 8	472
ThinkPad X1 Carbon Gen 9	480
ThinkPad X1 Extreme Gen 3	488
ThinkPad X1 Extreme Gen 4	496
ThinkPad X1 Fold Gen 1	505
ThinkPad X1 Nano Gen 1	512
ThinkPad X1 Titanium Yoga Gen 1	520
ThinkPad X1 Yoga Gen 5	528
ThinkPad X1 Yoga Gen 6	536
Legal Information	544

Summary of Changes

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

January 26, 2022 - Version 589

Additions in this update

► **New product(s)**

None

► **Spec updated**

ThinkPad E14 Gen 2 (Intel)

ThinkPad E15 Gen 2 (Intel)

ThinkPad L14 Gen 2 (Intel)

ThinkPad L15 Gen 2 (Intel)

Withdrawals in this update

► **Withdrawn product(s)**

ThinkPad E14 Gen 2 (AMD)

ThinkPad E15 Gen 2 (AMD)

OVERVIEW



1. Power button	7. Pen tether hole
2. Headphone / microphone combo jack (3.5mm)	8. Power connector
3. USB 3.1 Gen 1	9. Ethernet (RJ-45)
4. USB-C 3.1 Gen 1	10. HDMI 1.4b
5. Kensington Security Slot	11. USB 3.1 Gen 1
6. Pen tether hole	12. MicroSD card reader

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or Intel Pentium® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron N4120	4	4	1.1GHz	2.6GHz	4MB	DDR4-2400	Intel UHD Graphics 600
Pentium Silver N5030	4	4	1.1GHz	3.1GHz	4MB	DDR4-2400	Intel UHD Graphics 605

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Pro in S mode
- Windows 10 Home 64
- Ubuntu Linux
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics 600	Integrated	Shared	DirectX® 12
Intel UHD Graphics 605	Integrated	Shared	DirectX 12

Monitor Support

Monitor Support

Supports up to 2 independent displays via native display and 1 external monitor; supports external monitor via HDMI® (up to 4096x2160@30Hz) or USB-C (up to 3840x2160@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots

Memory Type

DDR4-2400

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]

- One drive, up to 256GB M.2 2242 SSD
- 64GB eMMC on systemboard
- 128GB eMMC on systemboard

Storage Type**

Disk Type	Interface	RPM	Security
Flash Memory	eMMC	-	-
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-

Notes:

1. System has one eMMC on systemboard or one M.2 2242 SSD exclusively

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

Single microphone

Camera

720p, fixed focus

Battery

Battery

Integrated Li-Polymer 42Wh battery

Max Battery Life^[1]

MobileMark® 2014: 13.9 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**

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

DESIGN

Display

Display**^[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
11.6"	HD (1366x768)	None	TN	250 nits	Anti-glare	16:9	400:1 or 500:1	45% NTSC	90°	-
11.6"	HD (1366x768)	Multi-touch	IPS	250 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-

Touchscreen^[3]

- 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>
2. IPS display is not available in EMEA
3. NOT available in EMEA

Input Device

Keyboard

6-row, spill-resistant, multimedia Fn keys

Keyboard Backlight

No support

Touchpad

Buttonless Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	300 x 210 x 21.9 mm (11.81 x 8.27 x 0.86 inches)

Weight^[1]

Models	Weight
All models	1.36 kg (2.99 lbs)

Case Color

Black

Case Material

PC + ABS + GF (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111GUS

WLAN + Bluetooth^{**[1]}

- Realtek RTL8852AE, Wi-Fi® 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wireless-AC 9260, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

- 2x USB 3.1 Gen 1
- 1x USB-C 3.1 Gen 1 (support data transfer, Power Delivery and DisplayPort™)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Power connector

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- Hard disk password

SERVICE**Warranty****Base Warranty****

- 1-year depot service
- 3-year (1-yr battery) depot service

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)

CERTIFICATIONS

Green Certifications

Green Certifications

RoHS compliant

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Pen slot	6. Pen tether hole
2. Power button	7. USB-C 3.2 Gen 1
3. MicroSD card reader	8. HDMI 1.4
4. USB 3.2 Gen 1	9. USB 3.2 Gen 1
5. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)

PERFORMANCE

Processor

Processor Family

8th Generation Intel® Core™ m / i5 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core m3-8100Y	2	4	1.1GHz	3.4GHz	4MB	LPDDR3-1866	Intel UHD Graphics 615
Core i5-8200Y	2	4	1.3GHz	3.9GHz	4MB	LPDDR3-1866	Intel UHD Graphics 615

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
Intel UHD Graphics 615	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 3840x2160@30Hz) or USB-C (up to 3840x2160@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots

Memory Type^[2]

LPDDR3-1866

Notes:

- The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.
- Installed memory is actually 2133MHz, but may run at 1866MHz depending on the memory support capability of processor

Storage

Storage Support

One drive, up to 256GB M.2 2242 SSD

Storage Type

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Advanced Audio

Microphone

Single microphone

Camera**

- Front 720p, fixed focus
- Front 720p, fixed focus; rear 5.0-megapixel, auto focus

Battery

Battery

Integrated Li-Polymer 46Wh battery

Max Battery Life^[1]

MobileMark® 2014: 15.69 hr

MobileMark 2018: 11.05 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**

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

DESIGN

Display

Display^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
11.6"	HD (1366x768)	Multi-touch	IPS	250 nits	Glossy	16:9	800:1	45% NTSC	170°	Corning® Gorilla® Glass

Touchscreen

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

Multi-mode

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

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

Pen

- ThinkPad® Pen Pro, batteries required, on-board garaged
- No support

Keyboard

6-row, spill-resistant, multimedia Fn keys

Keyboard Backlight

No support

Touchpad

Buttonless Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	293 x 207 x 19.9 mm (11.54 x 8.15 x 0.78 inches)

Weight^[1]

Models	Weight
All models	1.41 kg (3.1 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^[1]

No Ethernet

WLAN + Bluetooth®**^[2]

- Realtek RTL8852AE, Wi-Fi® 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Dual Band Wireless-AC 8265, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 4.2, M.2 Card
- Intel Wireless-AC 9260, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. support MAC pass through
2. WiFi 6 full features might be limited by country level restrictions
BT5.2 is supported on Windows 10 version 20H2 or above (limited to BT5.0 on earlier version)

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 1x HDMI 1.4
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- Hard disk password

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Power button	8. Power connector
2. Headphone / microphone combo jack (3.5mm)	9. Ethernet (RJ-45)
3. USB 3.1 Gen 1	10. HDMI 1.4
4. USB-C 3.1 Gen 1	11. USB 3.1 Gen 1
5. Kensington Security Slot	12. MicroSD card reader
6. Pen tether hole	13. Pen slot
7. Pen tether hole	

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or Intel Pentium® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron N4120	4	4	1.1GHz	2.6GHz	4MB	DDR4-2400	Intel UHD Graphics 600
Pentium Silver N5030	4	4	1.1GHz	3.1GHz	4MB	DDR4-2400	Intel UHD Graphics 605

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Pro in S mode
- Windows 10 Home 64
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics 600	Integrated	Shared	DirectX® 12
Intel UHD Graphics 605	Integrated	Shared	DirectX 12

Monitor Support

Monitor Support

Supports up to 2 independent displays via native display and 1 external monitor; supports external monitor via HDMI® (up to 4096x2160@30Hz) or USB-C (up to 3840x2160@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots

Memory Type

DDR4-2400

Notes:

- 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]

- One drive, up to 256GB M.2 2242 SSD

ThinkPad Yoga 11e (5th Gen)

- 64GB eMMC on systemboard
- 128GB eMMC on systemboard

Storage Type**

Disk Type	Interface	RPM	Security
Flash Memory	eMMC	-	-
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-

Notes:

1. System has one eMMC on systemboard or one M.2 2242 SSD exclusively

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

Single microphone

Camera**

- Front 720p, fixed focus
- Front 720p, fixed focus; rear 5.0-megapixel, auto focus

Battery

Battery

Integrated Li-Polymer 42Wh battery

Max Battery Life^[1]

MobileMark® 2014: 12 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**

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

DESIGN

Display

Display^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
11.6"	HD (1366x768)	Multi-touch	IPS	250 nits	Glossy	16:9	800:1	45% NTSC	170°	Corning® Gorilla® Glass

Touchscreen

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

Multi-mode

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

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

Pen

- ThinkPad® Pen Pro, batteries required, on-board garaged
- No pen (with a pen garage ready, pen sold separately)
- No support

Keyboard

6-row, multimedia Fn keys

Keyboard Backlight

No support

Touchpad

Buttonless Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	300 x 210 x 22.5 mm (11.81 x 8.27 x 0.89 inches)

Weight^[1]

Models	Weight
All models	1.54 kg (3.4 lbs)

Case Color

Black

Case Material

PC + ABS + GF (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111GUS

WLAN + Bluetooth®**^[1]

- Realtek RTL8852AE, Wi-Fi® 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wireless-AC 9260, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card

WWAN

No support

SIM Card

ThinkPad Yoga 11e (5th Gen)

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 2x USB 3.1 Gen 1
- 1x USB-C 3.1 Gen 1 (support data transfer, Power Delivery and DisplayPort™)
- 1x HDMI 1.4
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Power connector

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- Hard disk password

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 3-year (1-yr battery) depot service

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)

CERTIFICATIONS

Green Certifications

Green Certifications

RoHS compliant

Other Certifications

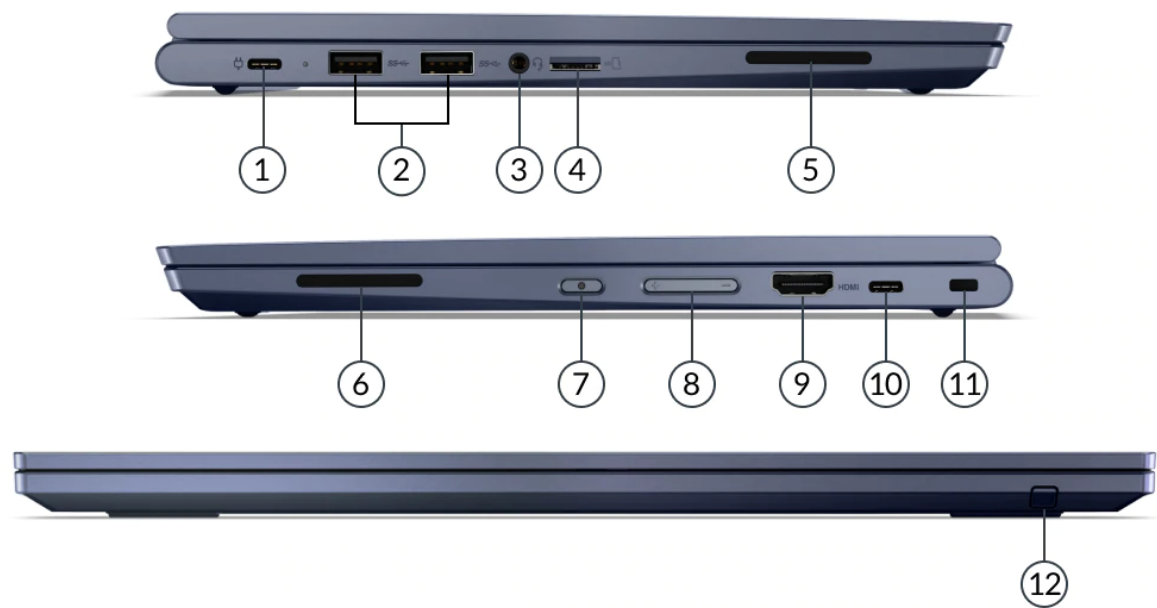
Mil-Spec Test

MIL-STD-810G military test passed

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. USB-C 3.2 Gen 1	7. Power button
2. 2x USB 3.2 Gen 1	8. Volume button
3. Headphone / microphone combo jack (3.5mm)	9. HDMI 2.0
4. MicroSD card reader	10. USB-C 3.2 Gen 1
5. Speaker	11. Kensington Security Slot
6. Speaker	12. Pen slot

PERFORMANCE

Processor

Processor Family

AMD Athlon™ or AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Athlon Gold 3150C	2	4	2.4GHz	3.3GHz	1MB L2 / 4MB L3	DDR4-2400	AMD Radeon™ Graphics
AMD Ryzen 3 3250C	2	4	2.6GHz	3.5GHz	1MB L2 / 4MB L3	DDR4-2400	AMD Radeon Graphics
AMD Ryzen 5 3500C	4	8	2.1GHz	3.7GHz	2MB L2 / 4MB L3	DDR4-2400	AMD Radeon Graphics
AMD Ryzen 7 3700C	4	8	2.3GHz	4.0GHz	2MB L2 / 4MB L3	DDR4-2400	AMD Radeon Graphics

Operating System

Operating System**

- Google Chrome OS
- Google Chrome OS (with Chrome Education Upgrade)
- Google Chrome OS (with Chrome Enterprise Upgrade)

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

- Ryzen 5 / Ryzen 7 model: supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 3840x2160@60Hz) or USB-C (up to 3840x2160@60Hz)
- Athlon / Ryzen 3 model: supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI (up to 3840x2160@30Hz) or USB-C (up to 3840x2160@30Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable

Memory Slots**

- Memory soldered to systemboard, no slots (4GB model)
- Memory soldered to systemboard, no slots, dual-channel (8GB or 16GB model)

Memory Type^[2]

DDR4-2400

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.
2. Installed memory is actually 3200MHz but run at 2400MHz due to processor limitation

Storage

Storage Support^[1]

- One drive, up to 256GB M.2 2280 SSD
- 32GB eMMC 5.1 on systemboard
- 64GB eMMC 5.1 on systemboard

Storage Slot

- eMMC on systemboard, no slots
- One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type^{**}

Disk Type	Interface	RPM	Security
Flash Memory	eMMC	-	-
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-

Notes:

1. System has one eMMC on systemboard or one M.2 2280 SSD exclusively

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® 5682I-CGT codec

Speakers

Stereo speakers, 2W x2

Microphone^{**}

- Dual array microphone, far-field
- Dual array far-field microphone and a single microphone (models with rear camera)

Camera^{**}

- Front 720p, with privacy shutter, fixed focus
- Front 720p, with privacy shutter, fixed focus; rear 5.0-megapixel, auto focus

Battery

Battery

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

Max Battery Life^[1]

Google power load test: 12.5 hr
JEITA 2.0: 12.5 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^{**}

- 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 (3-pin) AC adapter

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	1400:1	72% NTSC	170°	-
13.3"	UHD (3840x2160)	Multi-touch	OLED	400 nits	Anti-reflection, Anti-smudge	16:9	100000:1	100% DCI-P3	170°	-

Touchscreen

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

Multi-mode

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

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

Pen

- Lenovo USI Pen, on-board garaged and rechargeable
- No pen (pen sold separately)

Keyboard

Chrome keyboard, 6-row, spill-resistant

Keyboard Backlight

LED backlight

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	307 x 212.1 x 15.5-17.9 mm (12.09 x 8.35 x 0.61-0.70 inches)

Weight[1]

Models	Weight
All models	1.497 kg (3.3 lbs)

Case Color

Abyss blue

Case Material

Aluminium (top), aluminium (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

No Ethernet

WLAN + Bluetooth®**^[1]

- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.0, M.2 card
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.0, M.2 card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Intel WiFi 6 card supports BT5.2 but is limited to BT5.0 by Chrome OS

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1
- 2x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

SECURITY & PRIVACY

Security

Security Chip

Google Security Chip H1

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

No support

Other Security

ThinkShutter camera cover

MANAGEABILITY

System Management

System Management

None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: 5°C (41°F) to 43°C (109°F)

Humidity

- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage: 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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.





AMD



AMD



AMD



AMD

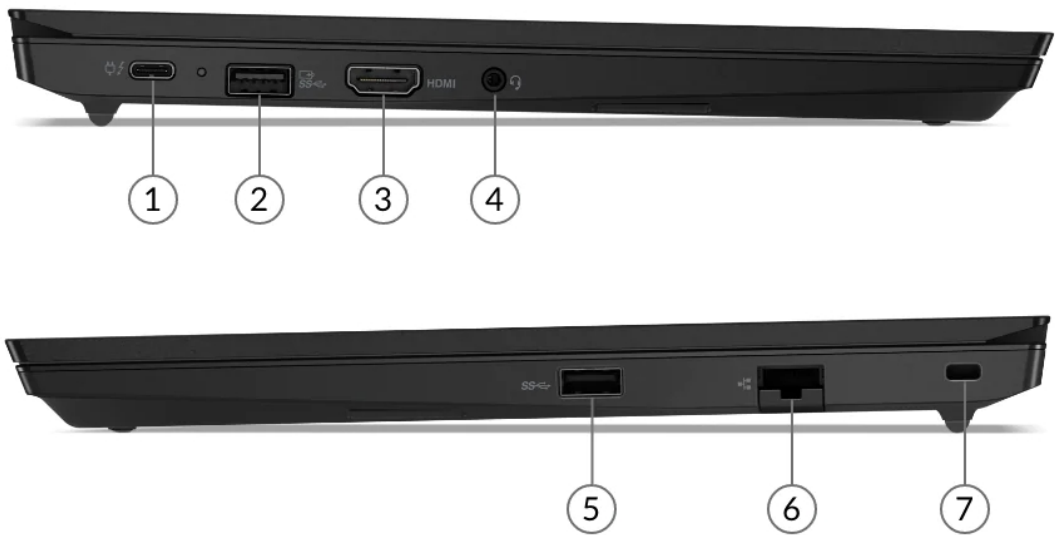


AMD



AMD

OVERVIEW



1. Thunderbolt 4	5. USB 2.0
2. USB 3.2 Gen 1 (Always On)	6. Ethernet (RJ-45)
3. HDMI 1.4b	7. Kensington Security Slot
4. Headphone / microphone combo jack (3.5mm)	

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-1115G4	2	4	3.0GHz	4.1GHz	6MB	DDR4-3200	Intel UHD Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics**[1]

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
Intel Iris Xe Graphics	Integrated	Shared	DirectX 12
NVIDIA® GeForce® MX350	Discrete	2GB GDDR5	DirectX 12
NVIDIA GeForce MX450	Discrete	2GB GDDR5	DirectX 12

Notes:

1. The integrated graphics of i5 / i7 models is Intel Iris Xe Graphics but function as Intel UHD graphics due to single channel memory limitation

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@30Hz) or Thunderbolt™ (up to 5120x3200@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory[1]

Up to 32GB DDR4-3200

Memory Slots

One DDR4 SO-DIMM slot

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

- Up to two drives, 2x M.2 SSD
- M.2 2242 SSD up to 512GB
 - M.2 2280 SSD up to 1TB

Storage Slot

- Two M.2 slots
- One M.2 2242 PCIe® Gen 3x4 slot, supports M.2 2242 SSD
 - One M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD

Storage Type***

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™, Harman Speakers

Microphone

Dual array microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2014: 11.9 hr
MobileMark 2018: 8.7 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**^[1]

- 65W USB-C (2-pin) AC adapter
- 65W USB-C (3-pin) AC adapter
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	TN	220 nits	Anti-glare	16:9	500:1	45% NTSC	90°	-
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	1200:1	100% sRGB	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-

Touchscreen

- Capacitive-type on-cell 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>
2. Displays with 300nits brightness (multi-touch and non-touch) are NOT available in EMEA

Input Device

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad, 57 x 100 mm (2.24 x 3.94 inches)

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Aluminium (top), aluminium (bottom) models	324 x 220 x 17.9 mm (12.76 x 8.66 x 0.7 inches)
Aluminium (top), PC + ABS (bottom) models	324 x 220 x 18.9 mm (12.76 x 8.66 x 0.74 inches)
PC + ABS (top), PC + ABS (bottom) models	324 x 220 x 19.9 mm (12.76 x 8.66 x 0.78 inches)

Weight^[1]

Models	Weight
Aluminium (top), aluminium (bottom) models	1.64 kg (3.62 lbs)
Aluminium (top), PC + ABS (bottom) models	1.59 kg (3.51 lbs)
PC + ABS (Top), PC + ABS (Bottom) models	1.69 kg (3.73 lbs)

Case Color**

- Black
- Mineral metallic

Case Material**

- Aluminium (top), aluminium (bottom)

- Aluminium (top), PC + ABS (bottom)
- PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111H-CG

WLAN + Bluetooth®^[1]**

- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 2.0
- 1x USB 3.2 Gen 1 (Always On)
- 1x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x HDMI 1.4b
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on power button
- No fingerprint reader

BIOS Security

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

Other Security

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

SERVICE

Warranty

Base Warranty**

- 1-year mail-in service
- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- No base warranty

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 15.6" laptop casual toploader T210 (grey)
- None

CERTIFICATIONS

Green Certifications

Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- ErP Lot 3
- TCO
- RoHS compliant

Other Certifications

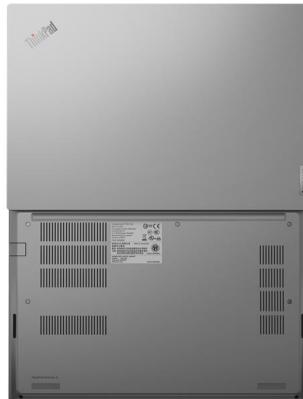
Mil-Spec Test

MIL-STD-810H military test passed

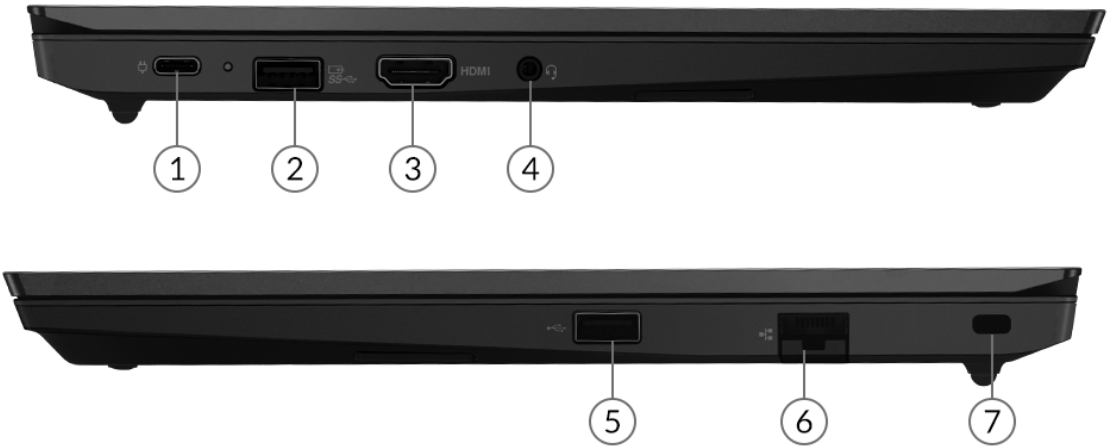
Other Certifications

TÜV Rheinland® Low Blue Light

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. USB-C 3.2 Gen 1	5. USB 2.0
2. USB 3.2 Gen 1 (Always On)	6. Ethernet (RJ-45)
3. HDMI 1.4b	7. Kensington Security Slot
4. Headphone / microphone combo jack (3.5mm)	

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 5300U	4	8	2.6GHz	3.8GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 5 5500U	6	12	2.1GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 5700U	8	16	1.8GHz	4.3GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 5800U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics

Notes:

1. Ryzen 5 5600U, Ryzen 5 PRO 5650U and Ryzen 7 5800U are NOT available in EMEA

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@30Hz) or USB-C (up to 4K@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory[2]

- Up to 20GB (4GB soldered + 16GB SO-DIMM) DDR4-3200
- Up to 24GB (8GB soldered + 16GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, 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.
 - 2. 4GB soldered memory is NOT available in EMEA

Storage

Storage Support

- Up to two drives, 2x M.2 SSD
- M.2 2242 SSD up to 512GB
 - M.2 2280 SSD up to 1TB

Storage Type***

Disk Type	Interface	Offering
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	128GB / 256GB / 512GB
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	1TB

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™, Harman Speakers

Microphone

Dual array microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery**

- Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
- Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

- MobileMark® 2018: 12.8 hr (45Wh)
- MobileMark 2018: 15.8 hr (57Wh)

- 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**^[1]

- 65W USB-C (2-pin) AC adapter
- 65W USB-C (3-pin) AC adapter
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	TN	250 nits	Anti-glare	16:9	500:1	45% NTSC	90°	-
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	1200:1	100% sRGB	170°	-

Touchscreen

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>
2. Display with FHD 100% sRGB is NOT available in EMEA

Input Device

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad, 57 x 100 mm (2.24 x 3.94 inches)

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Aluminium (top), aluminium (bottom) models	324 x 220.7 x 17.9 mm (12.76 x 8.69 x 0.7 inches)
PC + ABS (top), PC + ABS (bottom) models	324 x 220.7 x 20.9 mm (12.76 x 8.69 x 0.82 inches)

Weight^[1]

Models	Weight
Aluminium (top), aluminium (bottom) models	1.64 kg (3.62 lbs)
PC + ABS (Top), PC + ABS (Bottom) models	1.69 kg (3.73 lbs)

Case Color**[2]

- Black
- Mineral metallic

Case Material**

- Aluminium (top), aluminium (bottom)
- PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

2. Color mineral metallic is NOT available in EMEA

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111GUS

WLAN + Bluetooth[®]**^[1]

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, M.2 card
- Intel[®] Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 2.0
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.2)
- 1x HDMI 1.4b
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

Physical Locks

Kensington[®] Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on power button
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

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

SERVICE**Warranty****Base Warranty****

- 1-year mail-in service
- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- No base warranty

ENVIRONMENTAL**Operating Environment****Temperature^[2]**

- 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)
2. When you charge the battery, its temperature must be no lower than 10°C (50°F)

CERTIFICATIONS**Green Certifications****Green Certifications**

- EPEAT™ Gold
- ENERGY STAR® 8.0
- ErP Lot 3
- GREENGUARD®
- TCO
- RoHS compliant

Other Certifications**Mil-Spec Test**

MIL-STD-810H military test passed

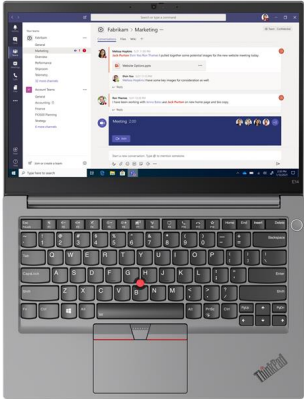
Other Certifications

TÜV Rheinland® Low Blue Light (Software Solution)

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

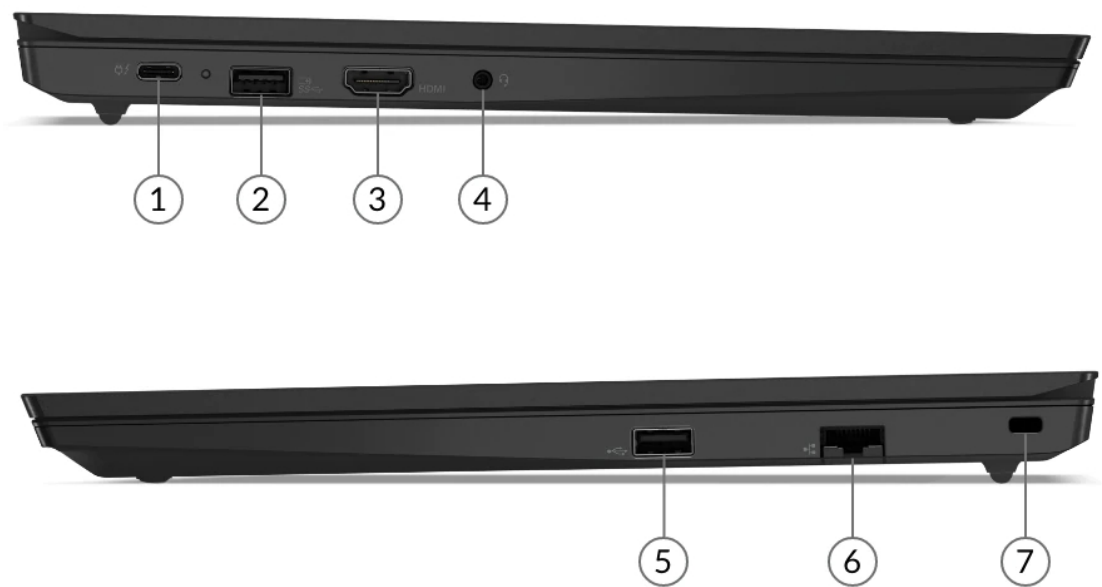


AMD



AMD

OVERVIEW



1. Thunderbolt 4	5. USB 2.0
2. USB 3.2 Gen 1 (Always On)	6. Ethernet (RJ-45)
3. HDMI 1.4b	7. Kensington Security Slot
4. Headphone / microphone combo jack (3.5mm)	

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-1115G4	2	4	3.0GHz	4.1GHz	6MB	DDR4-3200	Intel UHD Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics**[1]

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
Intel Iris Xe Graphics	Integrated	Shared	DirectX 12
NVIDIA® GeForce® MX350	Discrete	2GB GDDR5	DirectX 12
NVIDIA GeForce MX450	Discrete	2GB GDDR5	DirectX 12

Notes:

1. The integrated graphics of i5 / i7 models is Intel Iris Xe Graphics but function as Intel UHD graphics due to single channel memory limitation

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@30Hz) or Thunderbolt™ (up to 5120x3200@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory[1]

Up to 32GB DDR4-3200

Memory Slots

One DDR4 SO-DIMM slot

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

- Up to two drives, 2x M.2 SSD
- M.2 2242 SSD up to 512GB
 - M.2 2280 SSD up to 1TB

Storage Slot

- Two M.2 slots
- One M.2 2242 PCIe® Gen 3x4 slot, supports M.2 2242 SSD
 - One M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD

Storage Type***

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™, Harman Speakers

Microphone

Dual array microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2014: 10.8 hr
MobileMark 2018: 8.2 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**^[1]

- 65W USB-C (2-pin) AC adapter
- 65W USB-C (3-pin) AC adapter
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	TN	220 nits	Anti-glare	16:9	500:1	45% NTSC	90°	-
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	1200:1	100% sRGB	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-

Touchscreen

- Capacitive-type on-cell 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>
2. Displays with 300nits brightness (multi-touch and non-touch) are NOT available in EMEA

Input Device

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad, 69 x 100 mm (2.72 x 3.94 inches)

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	365 x 240 x 18.9 mm (14.37 x 9.45 x 0.74 inches)

Weight^[1]

Models	Weight
All models	1.7 kg (3.75 lbs)

Case Color**

- Black
- Mineral metallic

Case Material

Aluminium (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111H-CG

WLAN + Bluetooth®**^[1]

- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 2.0
- 1x USB 3.2 Gen 1 (Always On)
- 1x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x HDMI 1.4b
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on power button
- No fingerprint reader

BIOS Security

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

Other Security

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

SERVICE

Warranty

Base Warranty**

- 1-year mail-in service
- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- No base warranty

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***

- ThinkPad® Integrated Earbuds
- Lenovo 15.6" laptop casual toplayer T210 (grey)
- None

CERTIFICATIONS

Green Certifications

Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- ErP Lot 3
- TCO
- RoHS compliant

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

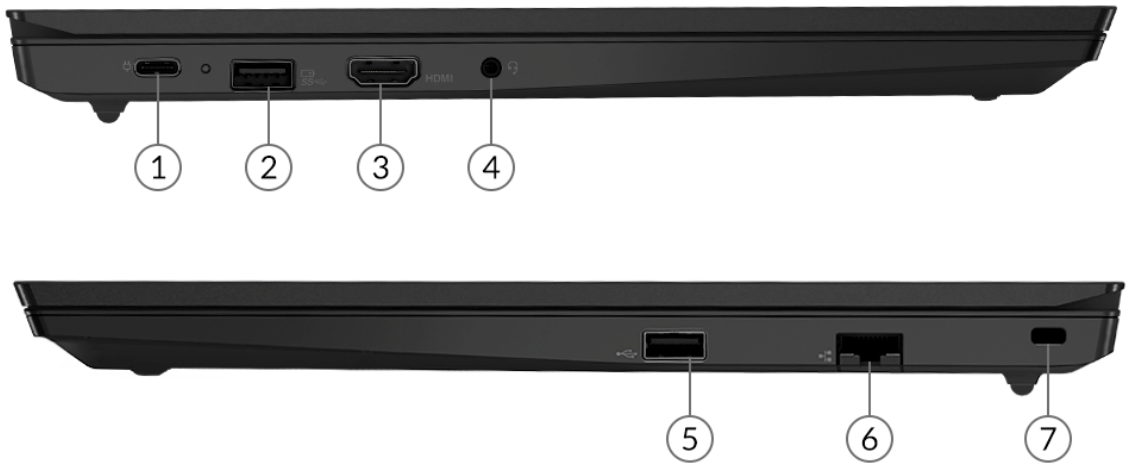
Other Certifications

TÜV Rheinland® Low Blue Light

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. USB-C 3.2 Gen 1	5. USB 2.0
2. USB 3.2 Gen 1 (Always On)	6. Ethernet (RJ-45)
3. HDMI 1.4b	7. Kensington Security Slot
4. Headphone / microphone combo jack (3.5mm)	

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 5300U	4	8	2.6GHz	3.8GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 5 5500U	6	12	2.1GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 5700U	8	16	1.8GHz	4.3GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 5800U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics

Notes:

1. Ryzen 5 5600U, Ryzen 5 PRO 5650U and Ryzen 7 5800U are NOT available in EMEA

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@30Hz) or USB-C (up to 4K@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory[2]

- Up to 20GB (4GB soldered + 16GB SO-DIMM) DDR4-3200
- Up to 24GB (8GB soldered + 16GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, 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.
 - 2. 4GB soldered memory is NOT available in EMEA

Storage

Storage Support

- Up to two drives, 2x M.2 SSD
- M.2 2242 SSD up to 512GB
 - M.2 2280 SSD up to 1TB

Storage Type***

Disk Type	Interface	Offering
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	128GB / 256GB / 512GB
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	1TB

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™, Harman Speakers

Microphone

Dual array microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery**

- Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
- Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

- MobileMark® 2018: 10.3 hr (45Wh)
- MobileMark 2018: 13.6 hr (57Wh)

- 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**^[1]

- 65W USB-C (2-pin) AC adapter
- 65W USB-C (3-pin) AC adapter
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	TN	250 nits	Anti-glare	16:9	500:1	45% NTSC	90°	-
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	1200:1	100% sRGB	170°	-

Touchscreen

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>
2. Display with FHD 100% sRGB is NOT available in EMEA

Input Device

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad, 69 x 100 mm (2.72 x 3.94 inches)

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	365 x 240 x 18.9 mm (14.37 x 9.45 x 0.74 inches)

Weight[1]

Models	Weight
All models	1.7 kg (3.75 lbs)

Case Color

Black

Case Material

Aluminium (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111GUS

WLAN + Bluetooth®^[1]**

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.0, M.2 card
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

- 1x USB 2.0
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.2)
- 1x HDMI 1.4b
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on power button
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

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

SERVICE**Warranty****Base Warranty****

- 1-year mail-in service
- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- No base warranty

ENVIRONMENTAL**Operating Environment****Temperature^[2]**

- 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)
2. When you charge the battery, its temperature must be no lower than 10°C (50°F)

ACCESSORIES**Bundled Accessories****Bundled Accessories**

- ThinkPad® Integrated Earbuds
- None

CERTIFICATIONS**Green Certifications****Green Certifications**

- EPEAT™ Gold
- ENERGY STAR® 8.0
- ErP Lot 3
- GREENGUARD®
- TCO
- RoHS compliant

Other Certifications**Mil-Spec Test**

MIL-STD-810H military test passed

Other Certifications

TÜV Rheinland® Low Blue Light (Software Solution)

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD



AMD



AMD

OVERVIEW



1. USB-C 3.1 Gen 1	7. MicroSD card reader
2. USB-C 3.1 Gen 1	8. USB 3.1 Gen 1
3. Ethernet extension connector	9. HDMI 1.4b
4. USB 3.1 Gen 1 (Always On)	10. Kensington Security Slot
5. Headphone / microphone combo jack (3.5mm)	11. Smart card reader *
6. Power button	

- Notes:
- Ports with * are only available on selected models
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or 10th Generation Intel Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron 5205U	2	2	1.9GHz	-	2MB	DDR4-2400	Intel UHD Graphics
Core i3-10110U	2	4	2.1GHz	4.1GHz	4MB	DDR4-2666	Intel UHD Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Pro in S mode
- Windows 10 Home 64
- 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 via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@30Hz) or USB-C (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable

Memory Slots**

- Memory soldered to systemboard, no slots (4GB model)
- Memory soldered to systemboard, no slots, dual-channel (8GB or 16GB model)

Memory Type**

- DDR4-2400
- DDR4-2666

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Synaptic® CX11880 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

Microphone

Dual array microphone

Camera**

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

Battery

Battery

Integrated Li-Polymer 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 14.1 hr
JEITA 2.0: 14.7 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**

- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect	Contrast	Color	Viewing	Key
------	------------	-------	------	------------	---------	--------	----------	-------	---------	-----

						Ratio	Ratio	Gamut	Angle	Features
13.3"	HD (1366x768)	None	TN	250 nits	Anti-glare	16:9	500:1	-	90°	-
13.3"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	800:1	-	170°	-
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	-	170°	-

Touchscreen

- On-cell 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
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	311.5 x 219 x 17.6 mm (12.26 x 8.62 x 0.69 inches)

Weight^[1]

Models	Weight
All models	1.38 kg (3.04 lbs)

Case Color**

- Black
- Silver

Case Material

Aluminium (top), GFRP (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet***

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), RJ45 via optional ThinkPad® Ethernet Extension Adapter Gen 2 or Lenovo USB-C to Ethernet Adapter
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2 or Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth®**^[1]

- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

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

Optional Ports

1x Smart card reader

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to HDMI Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest
- No fingerprint reader

BIOS Security

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

Other Security

- ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY**System Management****System Management**

- Intel vPro Technology, DASH
- None

SERVICE**Warranty****Base Warranty****

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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 USB-C Cable 2m
- Lenovo USB-C to Ethernet Adapter
- Lenovo USB-C to USB-A Adapter
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. USB-C 3.2 Gen 1	6. Power button
2. USB-C 3.2 Gen 2	7. MicroSD card reader
3. Ethernet extension connector *	8. USB 3.2 Gen 1
4. USB 3.2 Gen 1 (Always On)	9. HDMI 2.0
5. Headphone / microphone combo jack (3.5mm)	10. Kensington Security Slot

- Notes:
- Ports with * are only available on selected models
 - Optional smart card reader on the front side (not shown on the sample product above)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 5400U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 5850U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 3840x2160@60Hz) or USB-C (up to 5120x2880@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

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

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

DDR4-3200

Notes:

- 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

One drive, up to 128GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Slot

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x2	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

Microphone

Dual array microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 10.93 hr
JEITA 2.0: 13.863 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	HD (1366x768)	None	TN	250 nits	Anti-glare	16:9	500:1	45% NTSC	90°	-
13.3"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	311.5 x 219 x 17.6 mm (12.26 x 8.62 x 0.69 inches)

Weight[1]

Models	Weight
All models	1.39 kg (3.06 lbs)

Case Color**[2]

- Black
- Silver

Case Material

Aluminium (top), GFRP (bottom)

Notes:

- The system weight varies depending on configurations
- Storm grey case is NOT available in EMEA

CONNECTIVITY

Network

Onboard Ethernet

- Gigabit Ethernet, RJ45 via optional ThinkPad® Ethernet Extension Adapter Gen 2
- No Ethernet

WLAN + Bluetooth®**[1]

ThinkPad L13 Gen 2 (AMD)

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports^{***[2]}

- 1x Ethernet extension connector
- 1x Smart card reader

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. If your computer has Ethernet icon, it supports wired Ethernet connection with ThinkPad Ethernet Extension Adapter or ThinkPad Basic/Pro/Ultra Docking Station.
If your computer does not have Ethernet icon, the Ethernet connector does not support Ethernet connection. We recommend you use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable^{***}

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to HDMI Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip^{**}

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

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

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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 USB-C Cable 2m
- Lenovo USB-C to Ethernet Adapter
- Lenovo USB-C to USB-A Adapter
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

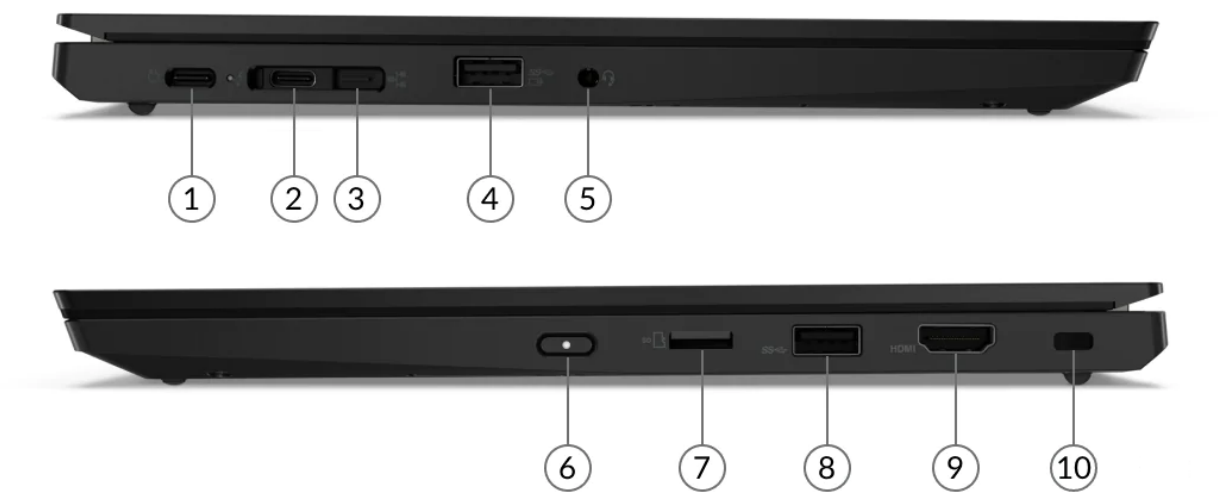


AMD



AMD

OVERVIEW



1. USB-C 3.2 Gen 2	6. Power button
2. Thunderbolt 4	7. MicroSD card reader
3. Ethernet extension connector *	8. USB 3.2 Gen 1
4. USB 3.2 Gen 1 (Always On)	9. HDMI 2.0
5. Headphone / microphone combo jack (3.5mm)	10. Kensington Security Slot

- Notes:
- Ports with * are only available on selected models
 - Optional smart card reader on the front side (not shown on the sample product above)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or 11th Generation Intel Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron 6305	2	2	1.8GHz	-	4MB	DDR4-3200	Intel UHD Graphics
Core i3-1115G4	2	4	3.0GHz	4.1GHz	6MB	DDR4-3200	Intel UHD Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux
- No operating system

Graphics

Graphics**

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

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 3840x2160@60Hz), USB-C (up to 5120x2160@60Hz) or Thunderbolt™ (up to 5120x2160@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable

Memory Slots**

- Memory soldered to systemboard, no slots (4GB model)
- Memory soldered to systemboard, no slots, dual-channel (8GB or 16GB model)

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Synaptic® CX11880 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

Microphone

Dual array microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 12.25 hr
MobileMark 2018: 8.91 hr
JEITA 2.0: 11.9 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	HD (1366x768)	None	TN	250 nits	Anti-glare	16:9	500:1	45% NTSC	90°	-
13.3"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	311.5 x 219 x 17.6 mm (12.26 x 8.62 x 0.69 inches)

Weight^[1]

Models	Weight
All models	1.39 kg (3.06 lbs)

Case Color**

- Black
- Silver

Case Material

Aluminium (top), GFRP (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), RJ45 via optional ThinkPad® Ethernet Extension Adapter Gen 2 or Lenovo USB-C to Ethernet Adapter
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2 or Lenovo USB-C to Ethernet Adapter

- No Ethernet

WLAN + Bluetooth®[1]**

- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports*[2]**

- 1x Ethernet extension connector
- 1x Side docking connector (Ethernet model only)
- 1x Smart card reader

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. If your computer has Ethernet icon, it supports wired Ethernet connection with ThinkPad Ethernet Extension Adapter or ThinkPad Basic/Pro/Ultra Docking Station.
If your computer does not have Ethernet icon, the Ethernet connector does not support Ethernet connection. We recommend you use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to HDMI Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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 USB-C Cable 2m
- Lenovo USB-C to Ethernet Adapter
- Lenovo USB-C to USB-A Adapter
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. USB-C 3.1 Gen 1	7. Power button
2. USB-C 3.1 Gen 1	8. MicroSD card reader
3. Ethernet extension connector	9. USB 3.1 Gen 1
4. USB 3.1 Gen 1 (Always On)	10. HDMI 1.4b
5. Headphone / microphone combo jack (3.5mm)	11. Kensington Security Slot
6. Pen slot	12. Smart card reader *

- Notes:
- Ports with * are only available on selected models
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-10110U	2	4	2.1GHz	4.1GHz	4MB	DDR4-2666	Intel UHD Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Pro in S mode
- Windows 10 Home 64
- 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 via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@30Hz) or USB-C (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable

Memory Slots**

- Memory soldered to systemboard, no slots (4GB model)
- Memory soldered to systemboard, no slots, dual-channel (8GB or 16GB model)

Memory Type

DDR4-2666

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Synaptic® CX11880 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

Microphone

Dual array microphone

Camera**[]

- Front 720p, with ThinkShutter, fixed focus
- Front 720p, with ThinkShutter, fixed focus; rear 5.0-megapixel, auto focus
- Front IR & 720p hybrid, with ThinkShutter, fixed focus
- Front IR & 720p hybrid, with ThinkShutter, fixed focus; rear 5.0-megapixel, auto focus

Notes:

1. Rear camera is only selectable for models with fingerprint reader

Sensor

Sensors

Accelerometer (G) sensor

Battery

Battery

Integrated Li-Polymer 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life[]

MobileMark® 2014: 12.23 hr
JEITA 2.0: 13.7 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**

- 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

DESIGN

Display

Display^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-reflection, Anti-smudge	16:9	800:1	72% NTSC	170°	-

Touchscreen

Capacitive-type multi-touch, supports 10-point touch, could reduce the brightness by up to 10%

Multi-mode

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

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

Pen

- ThinkPad® Pen Pro, on-board garaged and rechargeable
- No pen (pen sold separately)

Keyboard

6-row, spill-resistant, multimedia Fn keys

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	311.5 x 219 x 17.6 mm (12.26 x 8.62 x 0.69 inches)

Weight^[1]

Models	Weight
All models	1.43 kg (3.15 lbs)

Case Color**

- Black
- Silver

Case Material

Magnesium-aluminium (top), GFRP (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

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

WLAN + Bluetooth®^[1]**

- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

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

Optional Ports

1x Smart card reader

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to HDMI Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest
- No fingerprint reader

BIOS Security

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

Other Security

- ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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 USB-C Cable 2m
- Lenovo USB-C to Ethernet Adapter

- Lenovo USB-C to USB-A Adapter
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

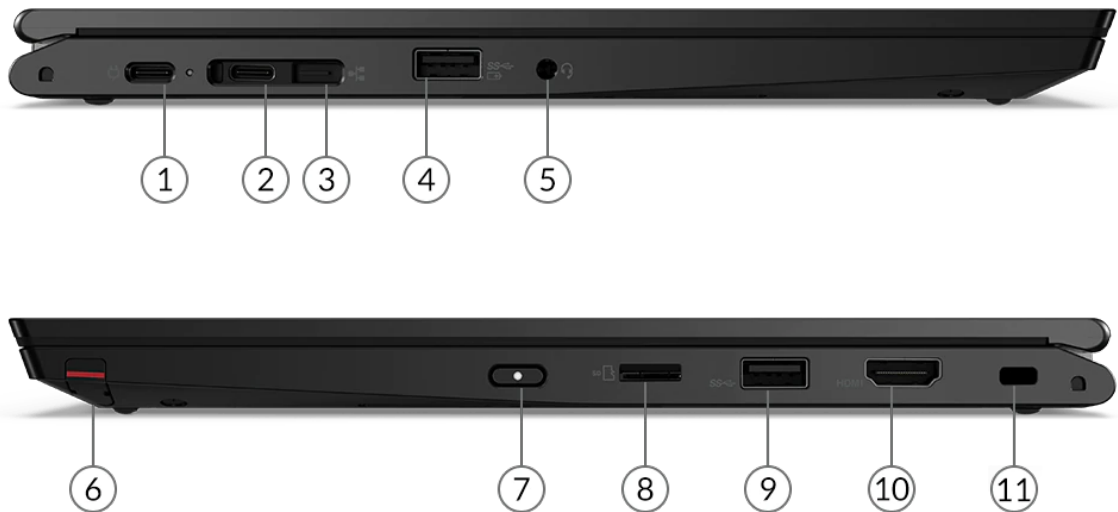
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. USB-C 3.2 Gen 1	7. Power button
2. USB-C 3.2 Gen 2	8. MicroSD card reader
3. Ethernet extension connector *	9. USB 3.2 Gen 1
4. USB 3.2 Gen 1 (Always On)	10. HDMI 2.0
5. Headphone / microphone combo jack (3.5mm)	11. Kensington Security Slot
6. Pen slot *	

- Notes:
- Ports with * are only available on selected models
 - Optional smart card reader on the front side (not shown on the sample product above)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 5400U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 5850U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 3840x2160@60Hz) or USB-C (up to 5120x2880@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

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

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

DDR4-3200

Notes:

- 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

One drive, up to 128GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Slot

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type**

Disk Type	Interface	Offering	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x2	128GB	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	256GB / 512GB / 1TB	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

Microphone

Dual array microphone

Camera**[1]

- Front 720p, with privacy shutter, fixed focus
- Front 720p, with privacy shutter, fixed focus; rear 5.0-megapixel, auto focus
- Front IR & 720p hybrid, with privacy shutter, fixed focus
- Front IR & 720p hybrid, with privacy shutter, fixed focus; rear 5.0-megapixel, auto focus

Notes:

1. Rear camera is selectable for fingerprint reader model only

Sensor

Sensors

Accelerometer (G) sensor

Battery

Battery

Integrated Li-Polymer 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life[1]

MobileMark® 2018: 10.55 hr
JEITA 2.0: 13.645 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**

- 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

DESIGN

Display

Display^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-reflection, Anti-smudge	16:9	800:1	72% NTSC	170°	-

Touchscreen

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

Multi-mode

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

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

Pen

- ThinkPad® Pen Pro, on-board garaged and rechargeable
- No pen (with a pen garage ready, pen sold separately)

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	311.5 x 219 x 17.6 mm (12.26 x 8.62 x 0.69 inches)

Weight^[1]

Models	Weight
All models	1.44 kg (3.17 lbs)

Case Color^{**[2]}

- Black
- Silver

Case Material

Aluminium (top), GFRP (bottom)

Notes:

1. The system weight varies depending on configurations
2. Storm grey case is NOT available in EMEA

CONNECTIVITY

Network

Onboard Ethernet

- Gigabit Ethernet, RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2
- No Ethernet

WLAN + Bluetooth^{***[1]}

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel[®] Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports^{***[2]}

- 1x Ethernet extension connector
- 1x Smart card reader

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. If your computer has Ethernet icon, it supports wired Ethernet connection with ThinkPad Ethernet Extension Adapter or ThinkPad Basic/Pro/Ultra Docking Station.
If your computer does not have Ethernet icon, the Ethernet connector does not support Ethernet connection. We recommend you use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable^{***}

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to HDMI Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

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

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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 USB-C Cable 2m
- Lenovo USB-C to Ethernet Adapter
- Lenovo USB-C to USB-A Adapter
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

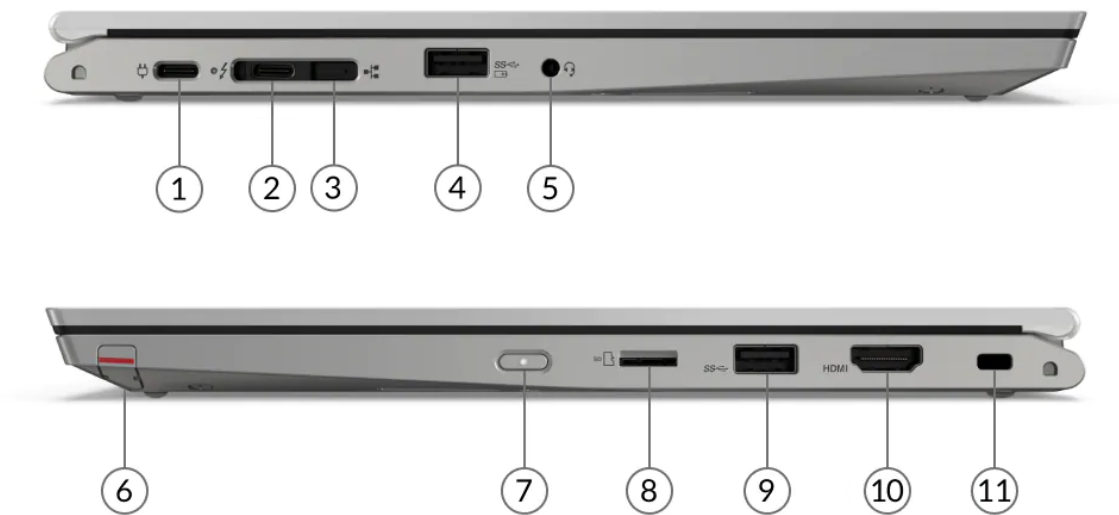


AMD



AMD

OVERVIEW



1. USB-C 3.2 Gen 2	7. Power button
2. Thunderbolt 4	8. MicroSD card reader
3. Ethernet extension connector *	9. USB 3.2 Gen 1
4. USB 3.2 Gen 1 (Always On)	10. HDMI 2.0
5. Headphone / microphone combo jack (3.5mm)	11. Kensington Security Slot
6. Pen slot	

- Notes:
- Ports with * are only available on selected models
 - Optional smart card reader on the front side (not shown on the sample product above)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-1115G4	2	4	3.0GHz	4.1GHz	6MB	DDR4-3200	Intel UHD Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux
- No operating system

Graphics

Graphics**

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

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 3840x2160@60Hz), USB-C (up to 5120x2160@60Hz) or Thunderbolt™ (up to 5120x2160@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 4GB soldered memory, not upgradable
- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable

Memory Slots**

- Memory soldered to systemboard, no slots (4GB model)
- Memory soldered to systemboard, no slots, dual-channel (8GB or 16GB model)

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Synaptic® CX11880 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

Microphone

Dual array microphone

Camera**^[1]

- Front 720p, with privacy shutter, fixed focus
- Front 720p, with privacy shutter, fixed focus; rear 5.0-megapixel, auto focus
- Front IR & 720p hybrid, with privacy shutter, fixed focus
- Front IR & 720p hybrid, with privacy shutter, fixed focus; rear 5.0-megapixel, auto focus

Notes:

1. Rear camera is selectable for fingerprint reader model only

Sensor

Sensors

Accelerometer (G) sensor

Battery

Battery

Integrated Li-Polymer 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 10.36 hr

MobileMark 2018: 8.36 hr

JEITA 2.0: 10.3 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**

- 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

DESIGN

Display

Display^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-reflection, Anti-smudge	16:9	800:1	72% NTSC	170°	-

Touchscreen

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

Multi-mode

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

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

Pen

- ThinkPad® Pen Pro, on-board garaged and rechargeable
- No pen (pen sold separately)

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	311.5 x 219 x 17.6 mm (12.26 x 8.62 x 0.69 inches)

Weight^[1]

Models	Weight
All models	1.44 kg (3.17 lbs)

Case Color**

- Black
- Silver

Case Material

Aluminium (top), GFRP (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

ThinkPad L13 Yoga Gen 2 (Intel)

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2 or Lenovo USB-C to Ethernet Adapter
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2 or Lenovo USB-C to Ethernet Adapter
- No Ethernet

WLAN + Bluetooth^{®**[1]}

- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi[®] + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card

WWAN

No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort[™] 1.2)
- 1x Thunderbolt 4 / USB4[™] 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports^{***[2]}

- 1x Ethernet extension connector
- 1x Side docking connector (Ethernet model only)
- 1x Smart card reader

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. If your computer has Ethernet icon, it supports wired Ethernet connection with ThinkPad Ethernet Extension Adapter or ThinkPad Basic/Pro/Ultra Docking Station.
If your computer does not have Ethernet icon, the Ethernet connector does not support Ethernet connection. We recommend you use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable^{***}

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to HDMI Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip^{**}

ThinkPad L13 Yoga Gen 2 (Intel)

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

- ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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 USB-C Cable 2m
- Lenovo USB-C to Ethernet Adapter
- Lenovo USB-C to USB-A Adapter
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

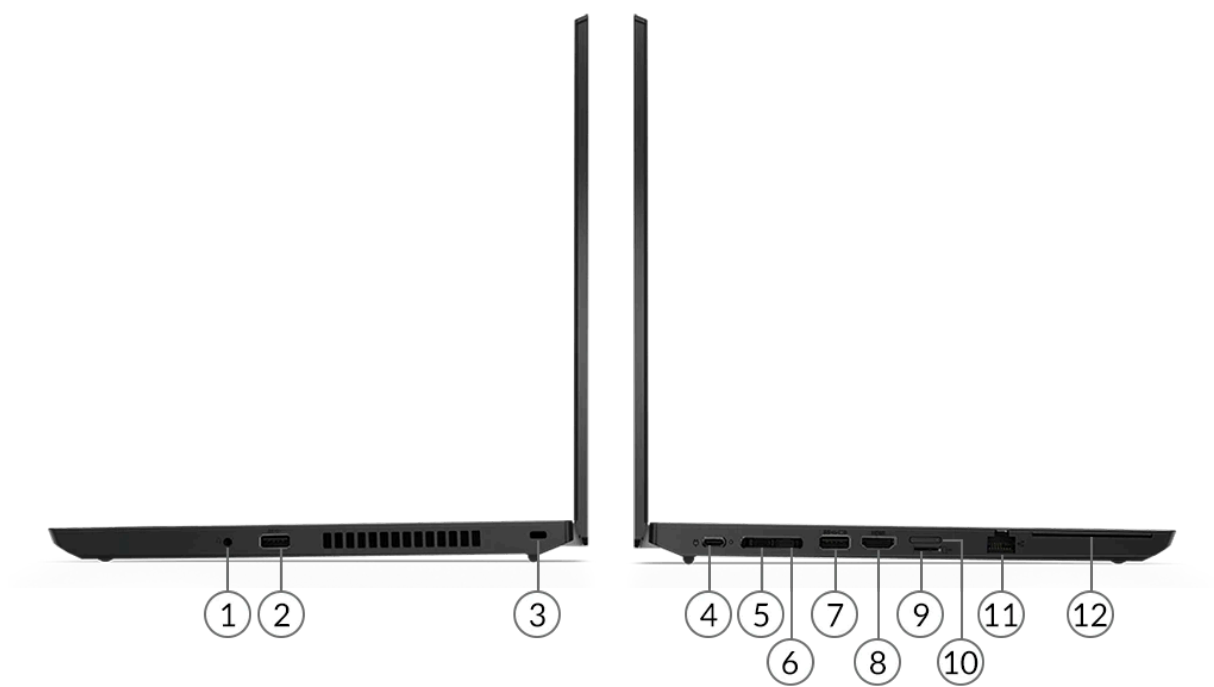
Mil-Spec Test

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	7. USB 3.2 Gen 1 (Always On)
2. USB 3.2 Gen 1	8. HDMI 1.4b
3. Kensington Security Slot	9. MicroSD card reader
4. USB-C 3.2 Gen 1	10. Nano-SIM card slot *
5. USB-C 3.2 Gen 2	11. Ethernet (RJ-45)
6. Side docking connector	12. Smart card reader *

- Notes:
- Ports with * are only available on selected models
 - The combination of 5 and 6 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 4300U	4	4	2.7GHz	3.7GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 3 PRO 4450U	4	8	2.5GHz	3.7GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 4500U	6	6	2.3GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 4650U	6	12	2.1GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 4750U	8	16	1.7GHz	4.1GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz) or USB-C (up to 3840x2160@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone^[1]

- Dual array microphone, far-field
- No microphone

Camera**^[2]

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Notes:

1. No microphone is for special bid only
2. No camera is for special bid only

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 14.36 hr
MobileMark 2018: 10.7 hr
JEITA 2.0: 15.7 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**^[1]

- 45W USB-C (2-pin) AC adapter
- 45W USB-C (3-pin) AC adapter
- 65W USB-C (2-pin) AC adapter
- 65W USB-C (3-pin) AC adapter
- No power adapter

Notes:

- 1. No power adapter is for special bid only

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-

Touchscreen

- On-cell 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>
- 2. FHD Low Power display is NOT available in EMEA

Input Device

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	331 x 235 x 20.4 mm (13.03 x 9.25 x 0.80 inches)

Weight^[1]

Models	Weight
All models	1.61 kg (3.56 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

- 1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Realtek RTL8111HN (non-DASH models)
- Gigabit Ethernet, Realtek RTL8111EPV (DASH models)

WLAN + Bluetooth®**^[1]

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- No WLAN and Bluetooth

WWAN**^[2]

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-host
- No fingerprint reader

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

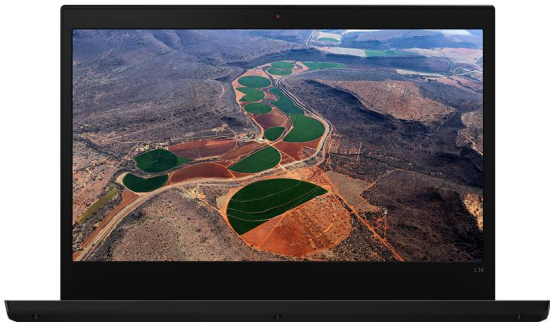
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

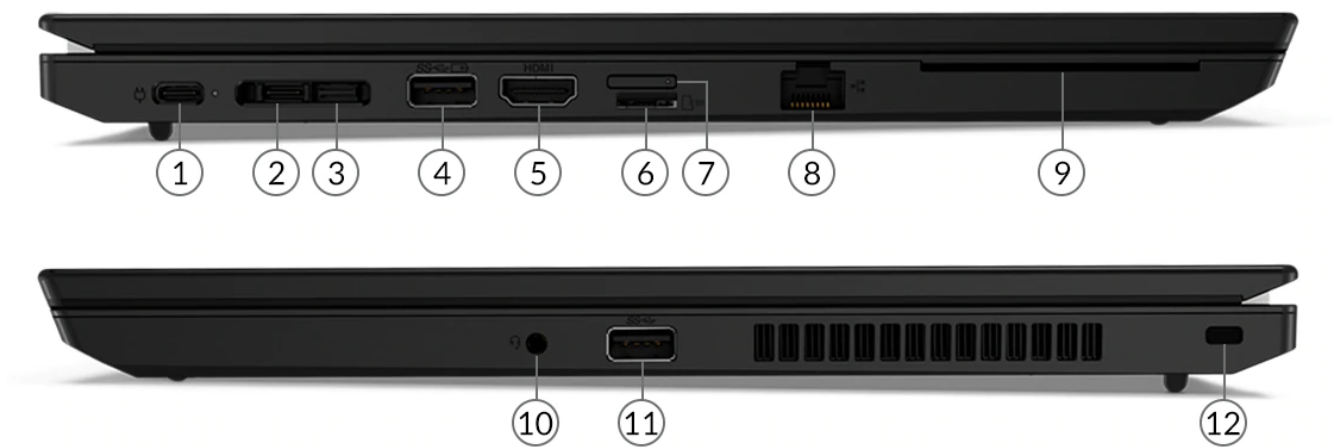


AMD



AMD

OVERVIEW



1. USB-C 3.2 Gen 1	7. Nano-SIM card slot *
2. USB-C 3.2 Gen 2	8. Ethernet (RJ-45)
3. Side docking connector	9. Smart card reader *
4. USB 3.2 Gen 1 (Always On)	10. Headphone / microphone combo jack (3.5mm)
5. HDMI 1.4b	11. USB 3.2 Gen 1
6. MicroSD card reader	12. Kensington Security Slot

- Notes:
- Ports with * are only available on selected models
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

Intel® Pentium® or 10th Generation Intel Core™ i3 / i5 / i7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Pentium Gold 6405U	2	4	2.4GHz	-	2MB	DDR4-2400	Intel UHD Graphics
Core i3-10110U	2	4	2.1GHz	4.1GHz	4MB	DDR4-2666	Intel UHD Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics

Notes:

- 1. i7-10610U is NOT available in EMEA

Operating System

Operating System**

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

Graphics

Graphics**[1]

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
AMD Radeon™ 625	Discrete	2GB GDDR5	DirectX 12

Notes:

- 1. Discrete graphics is NOT available in EMEA

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz) or USB-C (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory[1]

- Up to 64GB DDR4-2400
- Up to 64GB DDR4-2666

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type**[2]

- DDR4-2400
- DDR4-2666

- 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.
 2. Installed memory is actually 3200MHz but run at 2400MHz or 2666MHz depending on the memory support capability of processor

Storage

Storage Support^[1]

- HDD/SSD mode: up to two drives, 1x 2.5" HDD + 1x M.2 SSD
 - 2.5" HDD up to 2TB
 - M.2 2242 SSD up to 512GB
- One SSD mode: one drive, 1x M.2 SSD
 - M.2 2280 SSD up to 1TB
 - M.2 2242 SSD up to 512GB
 - Optional Intel Optane™ Memory integrated with SSD, M.2

Storage Slot^[2]

- HDD/SSD mode: one 2.5" drive slot + one M.2 slot
 - One 2.5" drive slot, supports 2.5" SATA HDD
 - One M.2 2242 PCIe® Gen 3x2 slot, supports M.2 2242 SSD
- One SSD mode: one M.2 slot
 - One M.2 2280 PCIe Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	5.4K	APS (Active Protection System™)
2.5" SATA HDD	SATA 6Gb/s	7.2K	APS (Active Protection System)
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

- Notes:
1. HDD/SSD mode is NOT available in EMEA
 2. System has one HDD slot or one M.2 2280 slot exclusively for storage

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone^[1]

- Dual array microphone, far-field
- No microphone

Camera^{**[2]}

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Notes:

- 1. No microphone is for special bid only
- 2. No camera is for special bid only

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 12.3 hr
MobileMark 2018: 7.95 hr
JEITA 2.0: 12 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^{**[1]}

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

Notes:

- 1. 45W USB-C AC adapter is NOT available in EMEA

DESIGN

Display

Display^{**[2]}

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-

Touchscreen

- On-cell 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>
- 2. FHD Low Power display is NOT available in EMEA

Input Device

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Aluminium models	331 x 235 x 19.1 mm (13.03 x 9.25 x 0.75 inches)
PC + ABS models	331 x 235 x 20.4 mm (13.03 x 9.25 x 0.80 inches)

Weight^[1]

Models	Weight
Aluminium models	1.73 kg (3.83 lbs)
PC + ABS models	1.61 kg (3.56 lbs)

Case Color

Black

Case Material^[2]

PC + ABS or aluminium (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations
2. Aluminum top cover is NOT available in EMEA

CONNECTIVITY

Network

Onboard Ethernet^{**}

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)

WLAN + Bluetooth®^{**[1]}

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- No WLAN and Bluetooth

WWAN^{**[2]}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable
WWAN is not supported on HDD models

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader[1]**

- Touch style fingerprint reader on palm rest, match-on-chip
- Touch style fingerprint reader on palm rest, match-on-host
- No fingerprint reader

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

Notes:

1. Preboot authentication is only available on the models with match-on-chip fingerprint reader
Match-on-chip fingerprint reader is for special bid only

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

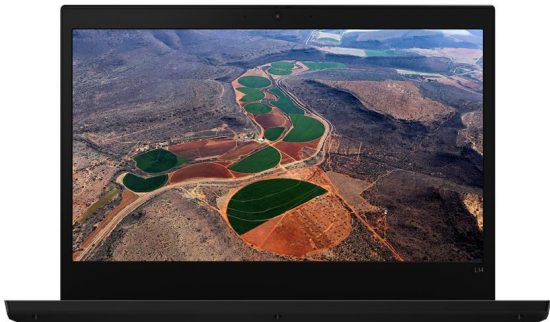
Mil-Spec Test

MIL-STD-810G military test passed

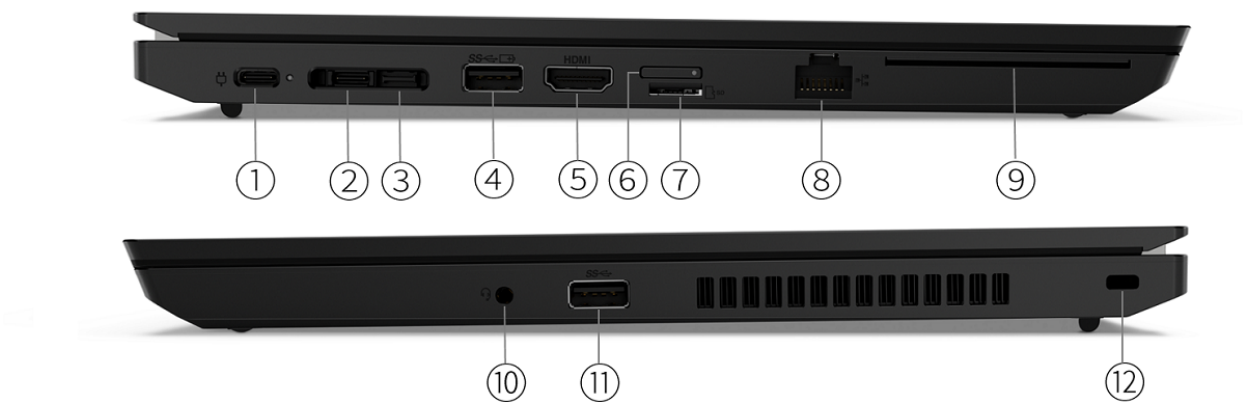
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected

models.

- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. USB-C 3.2 Gen 1	7. MicroSD card reader
2. USB-C 3.2 Gen 2	8. Ethernet (RJ-45)
3. Side docking connector	9. Smart card reader *
4. USB 3.2 Gen 1 (Always On)	10. Headphone / microphone combo jack (3.5mm)
5. HDMI 2.0	11. USB 3.2 Gen 1
6. Nano-SIM card slot *	12. Kensington Security Slot

- Notes:
- Ports with * are only available on selected models
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 5400U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 3 PRO 5450U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 5850U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4096x2160@60Hz) or USB-C (up to 5120x3200@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	RPM	Offering	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	-	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	-	-	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

Dual array microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 11.8 hr

JEITA 2.0: 15.3 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only
45W USB-C AC adapter and 65W USB-C slim AC adapter are NOT available in EMEA

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	331 x 235 x 20.4 mm (13.03 x 9.25 x 0.80 inches)

Weight[1]

Models	Weight
All models	1.59 kg (3.49 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

- The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Realtek RTL8111HN (non-DASH models)
- Gigabit Ethernet, Realtek RTL8111EPV (DASH models)

WLAN + Bluetooth®^[1]**

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Qualcomm® QCNFA765, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 2.0 and DisplayPort™ 1.4)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 2.0 and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

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

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

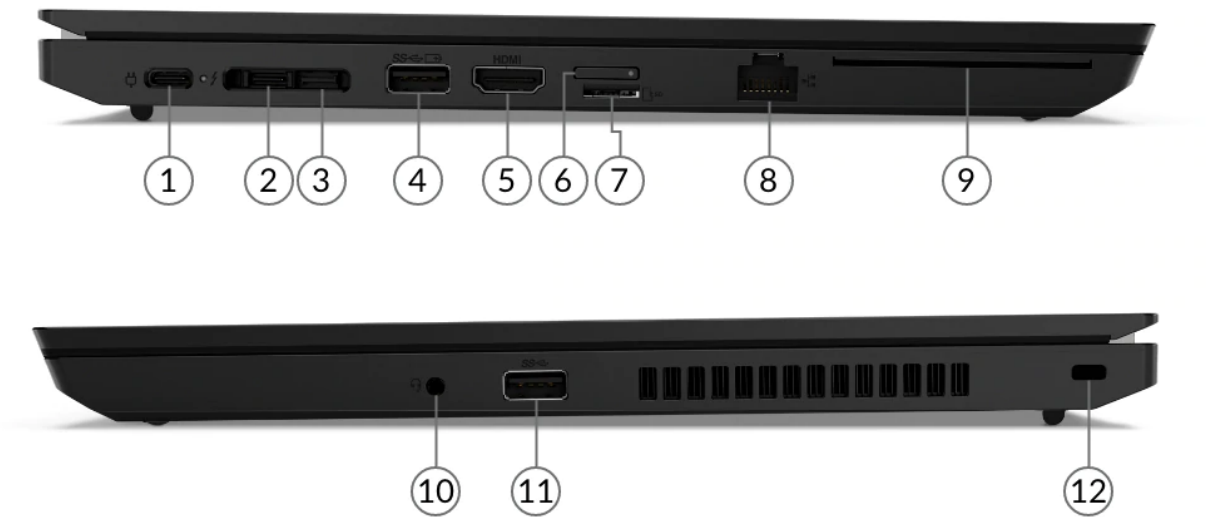


AMD



AMD

OVERVIEW



1. USB-C 3.2 Gen 1	7. MicroSD card reader
2. Thunderbolt 4	8. Ethernet (RJ-45) *
3. Side docking connector *	9. Smart card reader *
4. USB 3.2 Gen 1 (Always On)	10. Headphone / microphone combo jack (3.5mm)
5. HDMI 2.0	11. USB 3.2 Gen 1
6. Nano-SIM card slot *	12. Kensington Security Slot

- Notes:
- Ports with * are only available on selected models
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

Intel® Pentium® or 11th Generation Intel Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Pentium Gold 7505	2	4	2.0GHz	3.5GHz	4MB	DDR4-3200	Intel UHD Graphics
Core i3-1115G4	2	4	3.0GHz	4.1GHz	6MB	DDR4-3200	Intel UHD Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**[]

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise LTSC
- Linux
- Ubuntu Linux
- No operating system

Notes:

- Windows 10 IoT Enterprise LTSC is for special bid only

Graphics

Graphics**[]

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
Intel Iris Xe Graphics	Integrated	Shared	DirectX 12
NVIDIA® GeForce® MX450	Discrete	2GB GDDR6	DirectX 12

Notes:

- Intel Iris Xe Graphics capability requires system to be configured with Intel Core i5 or i7 processor and dual-channel memory. On the system with Intel Core i5 or i7 processor and single-channel memory, Intel Iris Xe Graphics will function as Intel UHD graphics
NVIDIA GeForce MX450 is NOT available in EMEA

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@60Hz), USB-C (up to 5120x3200@60Hz) or Thunderbolt™ (up to 5120x3200@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory[]

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]

- HDD/SSD mode: up to two drives, 1x 2.5" HDD + 1x M.2 SSD
 - 2.5" HDD up to 2TB
 - M.2 2242 SSD up to 512GB
- One SSD mode: one drive, 1x M.2 SSD
 - M.2 2280 SSD up to 1TB
 - M.2 2242 SSD up to 512GB

Storage Slot^[2]

- HDD/SSD mode: one 2.5" drive slot + one M.2 slot
 - One 2.5" drive slot, supports 2.5" SATA HDD
 - One M.2 2242 PCIe® Gen 3x4 slot, supports M.2 2242 SSD
- One SSD mode: one M.2 slot
 - One M.2 2280 PCIe Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	5.4K	APS (Active Protection System™)
2.5" SATA HDD	SATA 6Gb/s	7.2K	APS (Active Protection System)
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Notes:

- 1. HDD/SSD mode is NOT available in EMEA
- 2. System has one HDD slot or one M.2 2280 slot exclusively for storage

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

Microphone^[1]

- Dual array microphone, far-field
- No microphone

Camera^{**[2]}

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Notes:

- 1. No microphone is for special bid only
- 2. No camera is for special bid only

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 9.01 hr
JEITA 2.0: 11.815 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^{**[1]}

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only
45W USB-C AC adapter and 65W USB-C slim AC adapter are NOT available in EMEA

DESIGN

Display

Display^{**[1]}

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Aluminium models	331 x 235 x 19.1 mm (13.03 x 9.25 x 0.75 inches)
PC + ABS models	331 x 235 x 20.4 mm (13.03 x 9.25 x 0.80 inches)

Weight^[1]

Models	Weight
Aluminium models	1.74 kg (3.84 lbs)
PC + ABS models	1.59 kg (3.49 lbs)

Case Color

Black

Case Material^{**[2]}

- Aluminium (top), PC + ABS (bottom)
- PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations
2. Aluminium top cover is NOT available in EMEA

CONNECTIVITY

Network

Onboard Ethernet^{**}

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)
- No Ethernet

WLAN + Bluetooth^{®**[1]}

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- No WLAN and Bluetooth

WWAN^{**}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
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 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports^{***[2]}

- 1x Ethernet (RJ-45)
- 1x Side docking connector
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. For the models without Ethernet connector, it is recommended to use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable^{***}

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip^{**}

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- Hard disk password (for HDD)
- NVMe password (for NVMe SSD)
- Self-healing BIOS

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

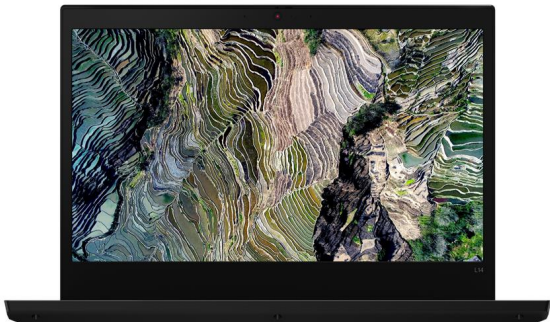
Mil-Spec Test

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



intel



intel

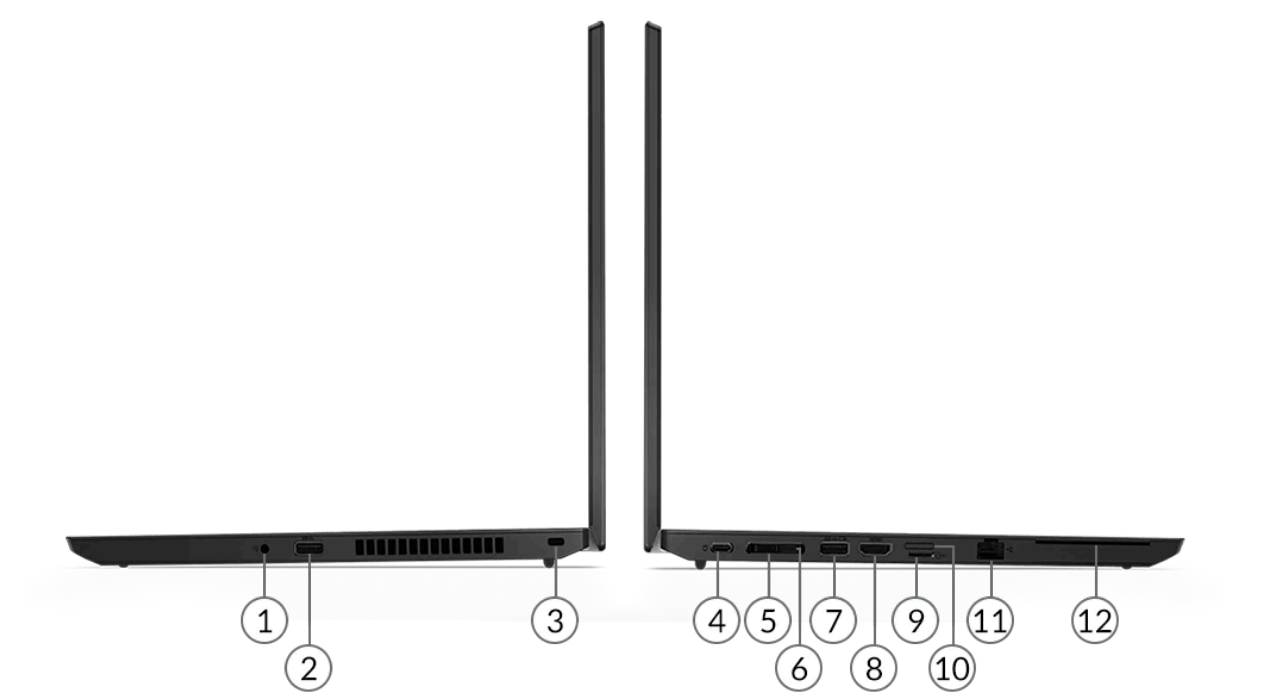


intel



intel

OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	7. USB 3.2 Gen 1 (Always On)
2. USB 3.2 Gen 1	8. HDMI 1.4b
3. Kensington Security Slot	9. MicroSD card reader
4. USB-C 3.2 Gen 1	10. Nano-SIM card slot *
5. USB-C 3.2 Gen 2	11. Ethernet (RJ-45)
6. Side docking connector	12. Smart card reader *

- Notes:
- Ports with * are only available on selected models
 - The combination of 5 and 6 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 4300U	4	4	2.7GHz	3.7GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 3 PRO 4450U	4	8	2.5GHz	3.7GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 4500U	6	6	2.3GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 4650U	6	12	2.1GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 4750U	8	16	1.7GHz	4.1GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz) or USB-C (up to 3840x2160@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone^[1]

- Dual array microphone, far-field
- No microphone

Camera**^[2]

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Notes:

1. No microphone is for special bid only
2. No camera is for special bid only

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 13.78 hr

MobileMark 2018: 10.43 hr

JEITA 2.0: 15.7 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**^[1]

- 45W USB-C (2-pin) AC adapter
- 45W USB-C (3-pin) AC adapter
- 65W USB-C (2-pin) AC adapter
- 65W USB-C (3-pin) AC adapter
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-

Touchscreen

- On-cell 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	366.5 x 250 x 21 mm (14.43 x 9.84 x 0.83 inches)

Weight[1]

Models	Weight
All models	1.98 kg (4.37 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Realtek RTL8111HN (non-DASH models)
- Gigabit Ethernet, Realtek RTL8111EPV (DASH models)

WLAN + Bluetooth®[1]**

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- No WLAN and Bluetooth

WWAN[2]**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-host
- No fingerprint reader

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

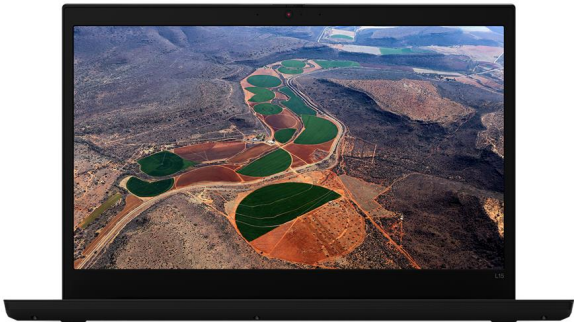
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

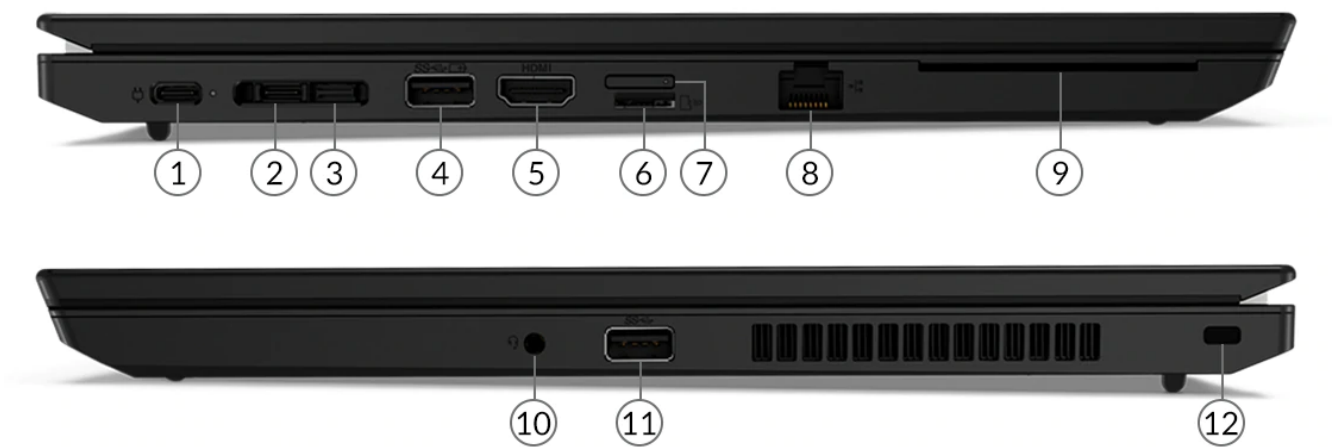


AMD



AMD

OVERVIEW



1. USB-C 3.2 Gen 1	7. Nano-SIM card slot *
2. USB-C 3.2 Gen 2	8. Ethernet (RJ-45)
3. Side docking connector	9. Smart card reader *
4. USB 3.2 Gen 1 (Always On)	10. Headphone / microphone combo jack (3.5mm)
5. HDMI 1.4b	11. USB 3.2 Gen 1
6. MicroSD card reader	12. Kensington Security Slot

- Notes:
- Ports with * are only available on selected models
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or 10th Generation Intel Core™ i3 / i5 / i7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron 5205U	2	2	1.9GHz	-	2MB	DDR4-2400	Intel UHD Graphics
Core i3-10110U	2	4	2.1GHz	4.1GHz	4MB	DDR4-2666	Intel UHD Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics

Notes:

1. i7-10610U is NOT available in EMEA

Operating System

Operating System**

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

Graphics

Graphics**[1]

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
AMD Radeon™ 625	Discrete	2GB GDDR5	DirectX 12

Notes:

1. Discrete graphics is NOT available in EMEA

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz) or USB-C (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory[1]

- Up to 64GB DDR4-2400
- Up to 64GB DDR4-2666

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type**[2]

- DDR4-2400
- DDR4-2666

- 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.
 2. Installed memory is actually 3200MHz but run at 2400MHz or 2666MHz depending on the memory support capability of processor

Storage

Storage Support^[1]

- HDD/SSD mode: up to two drives, 1x 2.5" HDD + 1x M.2 SSD
 - 2.5" HDD up to 2TB
 - M.2 2242 SSD up to 512GB
- One SSD mode: one drive, 1x M.2 SSD
 - M.2 2280 SSD up to 1TB
 - M.2 2242 SSD up to 512GB
 - Optional Intel Optane™ Memory integrated with SSD, M.2

Storage Slot^[2]

- HDD/SSD mode: one 2.5" drive slot + one M.2 slot
 - One 2.5" drive slot, supports 2.5" SATA HDD
 - One M.2 2242 PCIe® Gen 3x2 slot, supports M.2 2242 SSD
- One SSD mode: one M.2 slot
 - One M.2 2280 PCIe Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	5.4K	APS (Active Protection System™)
2.5" SATA HDD	SATA 6Gb/s	7.2K	APS (Active Protection System)
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

- Notes:
1. HDD/SSD mode is NOT available in EMEA
 2. System has one HDD slot or one M.2 2280 slot exclusively for storage

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone^[1]

- Dual array microphone, far-field
- No microphone

Camera^{**[2]}

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Notes:

- 1. No microphone is for special bid only
- 2. No camera is for special bid only

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 11.6 hr
MobileMark 2018: 8.56 hr
JEITA 2.0: 10.8 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^{**[1]}

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

Notes:

- 1. 45W USB-C AC adapter is NOT available in EMEA

DESIGN

Display

Display^{**[1]}

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-

Touchscreen

- On-cell 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	366.5 x 250 x 21 mm (14.43 x 9.84 x 0.83 inches)

Weight^[1]

Models	Weight
All models	1.98 kg (4.37 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

- 1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{**}

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)

WLAN + Bluetooth^{®**[1]}

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- No WLAN and Bluetooth

WWAN^{**[2]}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

- 1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
- 2. For non-WWAN model, it means the model is NOT WWAN upgradable
WWAN is not supported on HDD models

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)

ThinkPad L15 Gen 1 (Intel)

- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader**[1]

- Touch style fingerprint reader on palm rest, match-on-chip
- Touch style fingerprint reader on palm rest, match-on-host
- No fingerprint reader

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

Notes:

1. Preboot authentication is only available on the models with match-on-chip fingerprint reader
Match-on-chip fingerprint reader is for special bid only

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

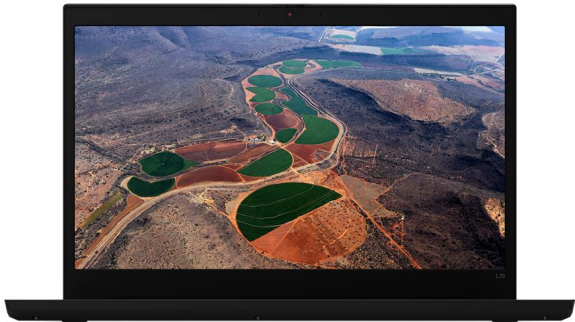
Mil-Spec Test

MIL-STD-810G military test passed

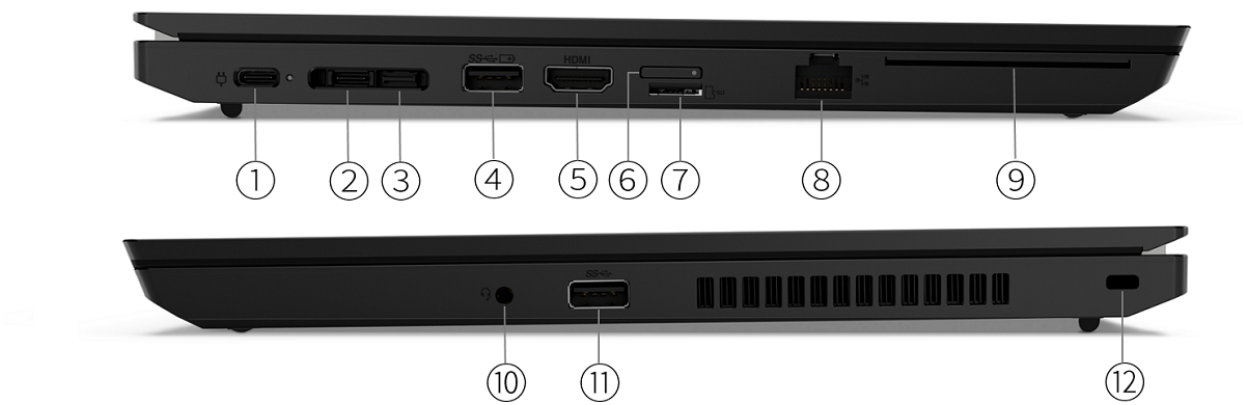
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES

OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.

- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. USB-C 3.2 Gen 1	7. MicroSD card reader
2. USB-C 3.2 Gen 2	8. Ethernet (RJ-45)
3. Side docking connector	9. Smart card reader *
4. USB 3.2 Gen 1 (Always On)	10. Headphone / microphone combo jack (3.5mm)
5. HDMI 2.0	11. USB 3.2 Gen 1
6. Nano-SIM card slot *	12. Kensington Security Slot

- Notes:
- Ports with * are only available on selected models
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 5400U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 3 PRO 5450U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 5850U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4096x2160@60Hz) or USB-C (up to 5120x3200@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	RPM	Offering	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	-	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	-	-	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

Dual array microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 10.6 hr
JEITA 2.0: 13.6 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only
45W USB-C AC adapter and 65W USB-C slim AC adapter are NOT available in EMEA

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	366.5 x 250 x 21 mm (14.43 x 9.84 x 0.83 inches)

Weight[1]

Models	Weight
All models	1.99 kg (4.39 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

- The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Realtek RTL8111HN (non-DASH models)
- Gigabit Ethernet, Realtek RTL8111EPV (DASH models)

WLAN + Bluetooth®**[1]

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Qualcomm® QCNFA765, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 2.0 and DisplayPort™ 1.4)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 2.0 and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

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

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

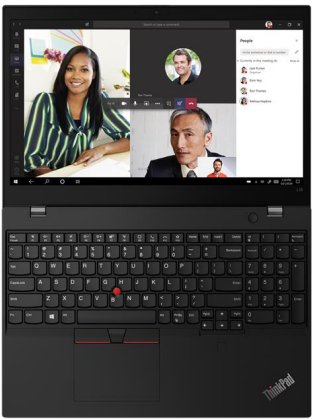
Mil-Spec Test

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

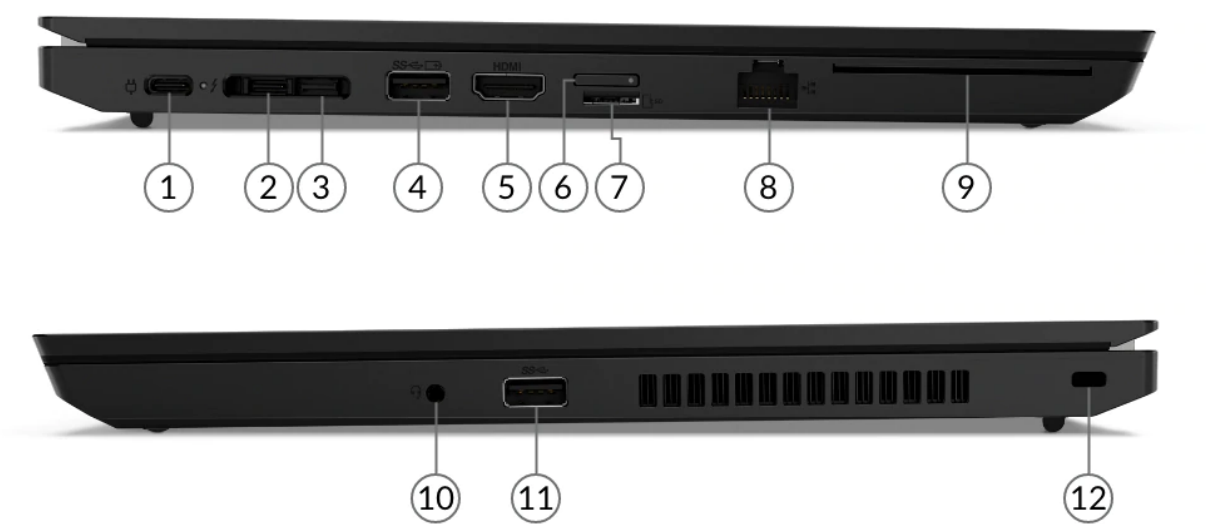


AMD



AMD

OVERVIEW



1. USB-C 3.2 Gen 1	7. MicroSD card reader
2. Thunderbolt 4	8. Ethernet (RJ-45) *
3. Side docking connector *	9. Smart card reader *
4. USB 3.2 Gen 1 (Always On)	10. Headphone / microphone combo jack (3.5mm)
5. HDMI 2.0	11. USB 3.2 Gen 1
6. Nano-SIM card slot *	12. Kensington Security Slot

- Notes:
- Ports with * are only available on selected models
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

Intel® Celeron® or 11th Generation Intel Core™ i3 / i5 / i7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron 6305	2	2	1.8GHz	-	4MB	DDR4-3200	Intel UHD Graphics
Core i3-1115G4	2	4	3.0GHz	4.1GHz	6MB	DDR4-3200	Intel UHD Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Notes:

1. Intel Celeron processor is NOT available in EMEA

Operating System

Operating System**[1]

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise LTSC
- Linux
- Ubuntu Linux
- No operating system

Notes:

1. Windows 10 IoT Enterprise LTSC is for special bid only

Graphics

Graphics**[1]

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
Intel Iris Xe Graphics	Integrated	Shared	DirectX 12
NVIDIA® GeForce® MX450	Discrete	2GB GDDR6	DirectX 12

Notes:

1. Intel Iris Xe Graphics capability requires system to be configured with Intel Core i5 or i7 processor and dual-channel memory. On the system with Intel Core i5 or i7 processor and single-channel memory, Intel Iris Xe Graphics will function as Intel UHD graphics
NVIDIA GeForce MX450 is NOT available in EMEA

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@60Hz), USB-C (up to 5120x3200@60Hz) or Thunderbolt™ (up to 5120x3200@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

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]

- HDD/SSD mode: up to two drives, 1x 2.5" HDD + 1x M.2 SSD
 - 2.5" HDD up to 2TB
 - M.2 2242 SSD up to 512GB
- One SSD mode: one drive, 1x M.2 SSD
 - M.2 2280 SSD up to 1TB
 - M.2 2242 SSD up to 512GB

Storage Slot^[2]

- HDD/SSD mode: one 2.5" drive slot + one M.2 slot
 - One 2.5" drive slot, supports 2.5" SATA HDD
 - One M.2 2242 PCIe® Gen 3x4 slot, supports M.2 2242 SSD
- One SSD mode: one M.2 slot
 - One M.2 2280 PCIe Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type

Disk Type	Interface	RPM	Security
2.5" SATA HDD	SATA 6Gb/s	5.4K	APS (Active Protection System™)
2.5" SATA HDD	SATA 6Gb/s	7.2K	APS (Active Protection System)
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Notes:

1. HDD/SSD mode is NOT available in EMEA
2. System has one HDD slot or one M.2 2280 slot exclusively for storage

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

Microphone^[1]

- Dual array microphone
- No microphone

Camera^{**[2]}

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

- No camera

Notes:

- No microphone is for special bid only
- No camera is for special bid only

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 7.53 hr
JEITA 2.0: 11.255 hr

Notes:

- 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^{**[1]}

- 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
- No power adapter

Notes:

- No power adapter is for special bid only
45W USB-C AC adapter and 65W USB-C slim AC adapter are NOT available in EMEA

DESIGN

Display

Display^{**[1]}

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	366.5 x 250 x 21 mm (14.43 x 9.84 x 0.83 inches)

Weight^[1]

Models	Weight
All models	1.98 kg (4.37 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{**}

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)
- No Ethernet

WLAN + Bluetooth^{**[1]}

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- No WLAN and Bluetooth

WWAN^{**}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)

- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***[2]

- 1x Ethernet (RJ-45)
- 1x Side docking connector
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. For the models without Ethernet connector, it is recommended to use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- Hard disk password (for HDD)
- NVMe password (for NVMe SSD)
- Self-healing BIOS

Other Security

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

MANAGEABILITY**System Management**

System Management

- Intel vPro Technology, DASH
- None

SERVICE**Warranty****Base Warranty****

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS**Green Certifications****Green Certifications**

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

Other Certifications**Mil-Spec Test**

MIL-STD-810H military test passed

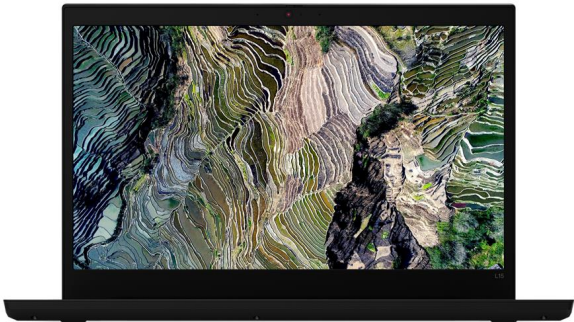
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS,"

WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.

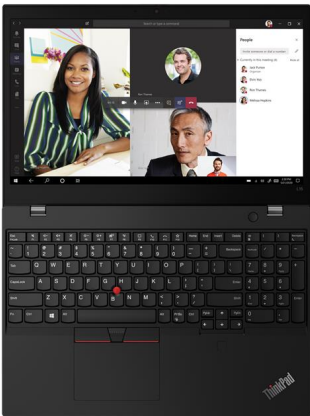
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



intel



intel



intel



intel

OVERVIEW



1. Nano-SIM card slot *	6. Power connector
2. SD card reader	7. 2x USB-C 3.2 Gen 2 / Thunderbolt 3
3. USB 3.2 Gen 1	8. HDMI 2.0
4. USB 3.2 Gen 1	9. Headphone / microphone combo jack (3.5mm)
5. Kensington Security Slot	

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-3200	Intel UHD Graphics
Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-2933	Intel UHD Graphics
Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Fedora Linux
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® Quadro® T1000 with Max-Q Design	Discrete	4GB GDDR6	DirectX 12
NVIDIA Quadro T2000 with Max-Q Design	Discrete	4GB GDDR6	DirectX 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (up to 5K@60Hz)

Chipset

Chipset

Intel WM490 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-2933

Memory Slots

Two DDR4 DIMM slots, dual-channel capable

Memory Type**^[2]

- DDR4-2933 ECC
- DDR4-2933 non-ECC

Memory Protection

ECC on models with ECC DIMMs and Xeon processor

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.
2. Non-ECC memory is actually DDR4-3200 but may run at DDR4-2933 due to processor limitation

Storage

Storage Support

Up to two drives, 2x M.2 SSD
• M.2 2280 SSD up to 2TB

Storage Type

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0	-	Opal2

RAID

RAID 0/1 support

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3286 codec

Speakers

Stereo speakers, Dolby® Atmos®

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 135W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 15.9 hr
MobileMark 2018: 12 hr
JEITA 2.0: 17.1 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**

- 135W slim tip (2-pin) AC adapter
- 135W slim tip (3-pin) AC adapter
- 170W slim tip (2-pin) AC adapter
- 170W slim tip (3-pin) AC adapter

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-
15.6"	FHD (1920x1080)	None	IPS	500 nits	Anti-glare	16:9	800:1	72% NTSC	170°	Dolby Vision™, HDR
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	178°	Dolby Vision, HDR
15.6"	UHD (3840x2160)	Multi-touch	OLED	SDR 400nit, HDR 540nit (peak)	Anti-reflection Anti-smudge	16:9	100000:1	100% DCI-P3	170°	Dolby Vision, HDR

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell 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>
2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

Pen

- Lenovo Pen Pro (for UHD OLED models)
- 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™

3-button TrackPoint® pointing device and glass surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Touch models	361.8 x 245.7 x 18.7 mm (14.24 x 9.67 x 0.74 inches)
Non-touch models	361.8 x 245.7 x 18.4 mm (14.24 x 9.67 x 0.72 inches)

Weight[1]

Models	Weight
Non-touch models	1.7 kg (3.75 lbs)
Touch models	1.8 kg (3.97 lbs)

Case Color

Black

Case Material**

- Carbon fiber (black) + PC + PPS hybrid (top), aluminium + PC + ABS (bottom)
- Carbon fiber (woven pattern) + PC + PPS hybrid (top), aluminium + PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY**Network****Onboard Ethernet**

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth®

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

WWAN

- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card
- No support

SIM Card

No SIM card inbox

NFC

No support

Ports⁽¹⁾**Standard Ports**

- 2x USB 3.2 Gen 1 (one Always On)
- 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports

1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

- Disabled (in some regions)

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

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

Green Certifications

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

Other Certifications

Mil-Spec Test

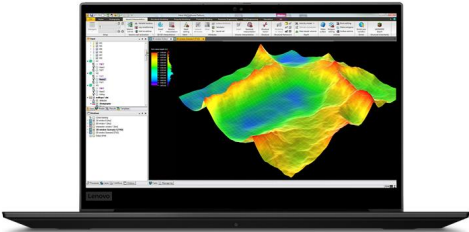
MIL-STD-810G military test passed

ISV Certifications

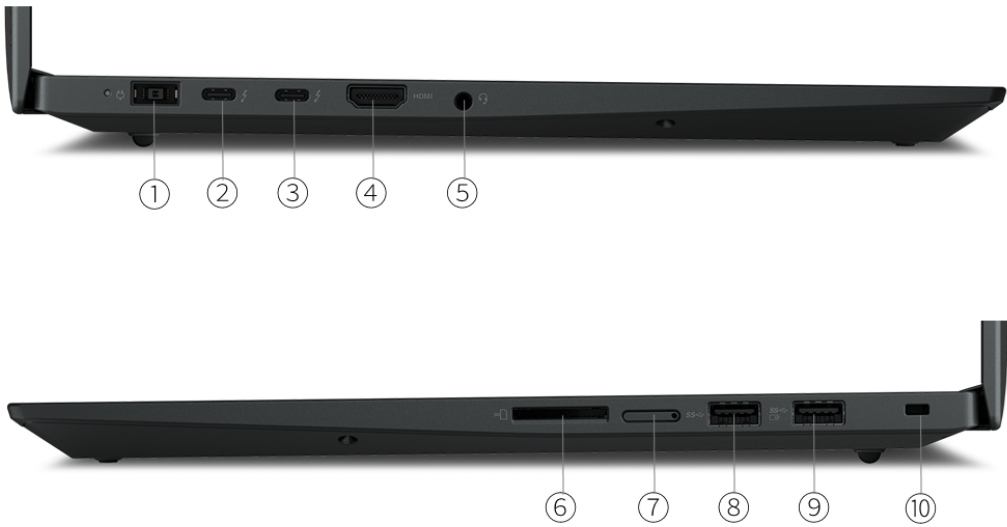
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Power connector	6. SD card reader
2. Thunderbolt 4	7. Nano-SIM card slot
3. Thunderbolt 4	8. USB 3.2 Gen 1
4. HDMI	9. USB 3.2 Gen 1 (Always On)
5. Headphone (3.5mm)	10. Kensington Security Slot

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i7 / i9 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i9-11950H	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics
Xeon W-11855M	6	12	3.2GHz	4.9GHz	18MB	DDR4-3200	Intel UHD Graphics

Operating System

Operating System**[1]

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 11 DG Windows 10 Pro 64 for Workstations
- Windows 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Fedora Linux
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Notes:

1. As preloaded OS, Fedora and Ubuntu Linux will be available in October 2021

Graphics

Graphics**[1]

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® RTX™ 3070 Laptop GPU	Discrete	8GB GDDR6	Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX 12
NVIDIA GeForce RTX 3080 Laptop GPU	Discrete	16GB GDDR6	Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX 12
NVIDIA RTX A3000 Laptop GPU	Discrete	6GB GDDR6	DirectX 12
NVIDIA RTX A4000 Laptop GPU	Discrete	8GB GDDR6	DirectX 12
NVIDIA RTX A5000 Laptop GPU	Discrete	16GB GDDR6	DirectX 12
NVIDIA T1200 Laptop GPU	Discrete	4GB GDDR6	DirectX 12
NVIDIA RTX A2000 Laptop GPU	Discrete	4GB GDDR6	DirectX 12

Notes:

1. Vapor Chamber cooling is available only with NV RTX A3000 /A4000 / A5000 and GeForce RTX 3070 / 3080 GPUs

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI®

(up to 4K@60Hz on NVIDIA T1200 or Intel UHD model, or 8K@60Hz on other discrete graphics model) or Thunderbolt™
(up to 5120x3200@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 ECC
• DDR4-3200 non-ECC

Memory Protection
ECC on models with ECC DIMMs and Xeon processor

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]
Up to two drives, 2x M.2 SSD
• M.2 2280 SSD up to 2TB

Storage Slot^[2]
Two M.2 slots
• One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2280 SSD
• One M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD

Storage Type***

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	-	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	512GB / 1TB / 2TB	Opal2

RAID^[3]
RAID 0/1 support (All M.2 SSD drives will work at PCIe Gen 3 in RAID mode)

Notes:
1. Dual storage is only available on models with Intel UHD graphics, NVIDIA T1200, and NVIDIA RTX A2000
2. M.2 PCIe Gen 4 SSD in a M.2 PCIe Gen 3 slot runs at PCIe Gen 3 speeds
3. Opal capability is not available in RAID mode

Removable Storage

Optical
None
Card Reader
SD card reader, supports UHS-II SD card

Multi-Media

Audio Chip
High Definition (HD) Audio, Realtek® ALC3306 codec
Speakers
Stereo speakers, Dolby® Atmos®
Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 1080p, with privacy shutter, fixed focus
- IR & 1080p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

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

Max Battery Life^[1]

MobileMark® 2018: 10.9 hr
JEITA 2.0: 13.7 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**

- 135W slim tip (3-pin) AC adapter
- 170W slim tip (3-pin) AC adapter
- 230W slim tip (3-pin) AC adapter

DESIGN

Display

Display**^[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
16.0"	WQXGA (2560x1600)	None	IPS	400 nits	Anti-glare	16:10	1200:1	100% sRGB	170°	Low blue light, DC dimming
16.0"	WQUXGA (3840x2400)	None	IPS	600 nits	Anti-glare	16:10	1500:1	100% Adobe® RGB	170°	Low blue light, Dolby Vision™, HDR 400, DC dimming
16.0"	WQUXGA (3840x2400)	Multi-touch	IPS	600 nits	Anti-reflection, Anti-smudge	16:10	1500:1	100% Adobe RGB	170°	Low blue light, Dolby Vision, HDR 400, DC dimming

Color Calibration

- X-Rite® Pantone® factory color calibration
- No color calibration

Touchscreen

- Capacitive-type on-cell 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>
2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

Pen

- Lenovo Pen Pro
- No pen (pen sold 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™

3-button TrackPoint® pointing device and glass surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

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

Weight^[1]

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

Case Color

Black

Case Material**

- 37-degree twill CF Weave (top), Aluminium (bottom)
- CF plate / GFRP hybrid (top), aluminium (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

- Ethernet support via optional Lenovo USB-C to Ethernet Adapter
- No Ethernet

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^[2]

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

SIM Card

- Nano SIM card, Lenovo Connect 24 months, 4G LTE
- No SIM card inbox

NFC

No support

Notes:

1. 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 5.2 is supported with driver version 22.30 and later
2. WWAN is only available on models with Intel UHD graphics, NVIDIA T1200, and NVIDIA RTX A2000

Ports^[1]

Standard Ports

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

Optional Ports^{***}

- 1x Nano-SIM card slot (WWAN model)
- 1x HDMI 2.0 (model with integrated graphics)
- 1x HDMI 2.0 (model with NVIDIA T1200 graphics)
- 1x HDMI 2.1 (model with GeForce RTX graphics)
- 1x HDMI 2.1 (model with NVIDIA RTX 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;
USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
Thunderbolt 3: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable^{***}

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip^{**}

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot (2.5 x 6 mm)

Smart Card Reader

No smart card reader

Fingerprint Reader

Touch style fingerprint reader on power button, match-on-chip

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

(Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

ISV Certifications

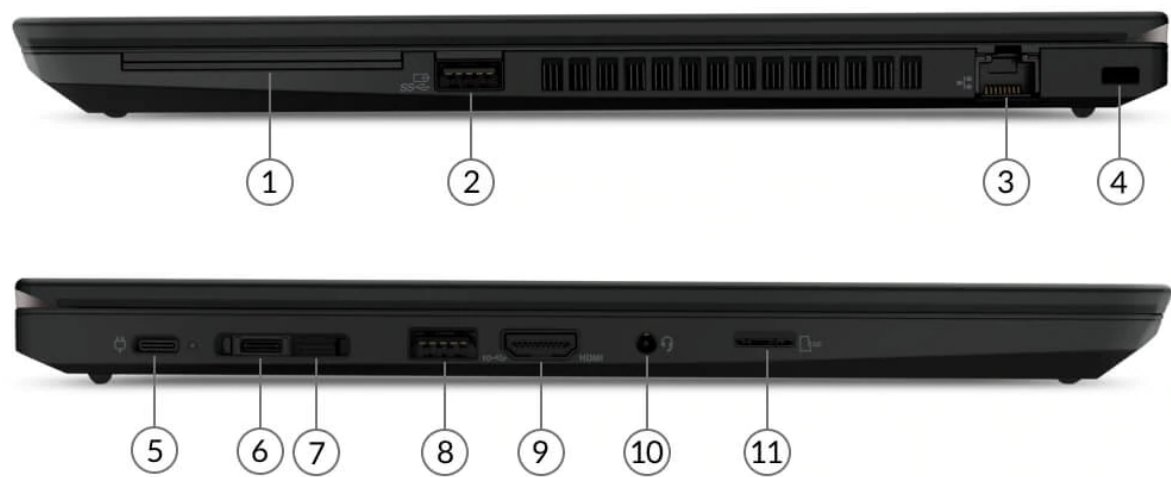
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Smart card reader *	7. Side docking connector
2. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
3. Ethernet (RJ-45)	9. HDMI 2.0
4. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2	11. MicroSD card reader
6. USB-C 3.2 Gen 2	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 5, 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 7 Processor

Processor

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 7 PRO 4750U	8	16	1.7GHz	4.1GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4096x2160@60Hz) or USB-C (up to 5120x2880@60Hz, DP mode via USB-C to DP dongle)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-3200
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type

DDR4-3200 non-ECC

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

One drive, up to 1TB M.2 2280 SSD

Storage Type**^[1]

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Notes:

1. M.2 2242 is special bid only

Removable Storage

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

Dual array microphone, near-field

Camera**

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

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 13.25 hr.
MobileMark 2018: 10.5 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**

- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard

Touchscreen

- On-cell touch, supports 10-point touch (FHD models only)
- 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight^[1]

Models	Weight
FHD Low Power / Privacy Guard models	1.46 kg (3.22 lbs)
HD / FHD non-touch models	1.55 kg (3.41 lbs)

Case Color

Black

Case Material

PPS / 50% GF (top), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111EPV, supports Wake-on-LAN

WLAN + Bluetooth®**

- Mediatek Wi-Fi® 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

No support

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort™)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

No fingerprint reader

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

AMD Pro Manageability

SERVICE

Warranty

Base Warranty**

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

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

ISV Certifications

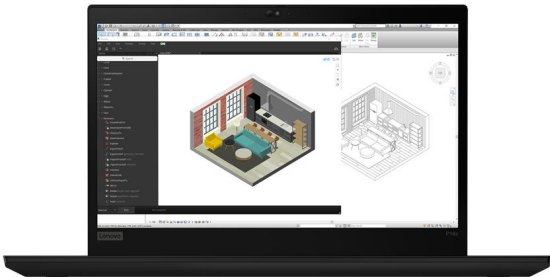
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

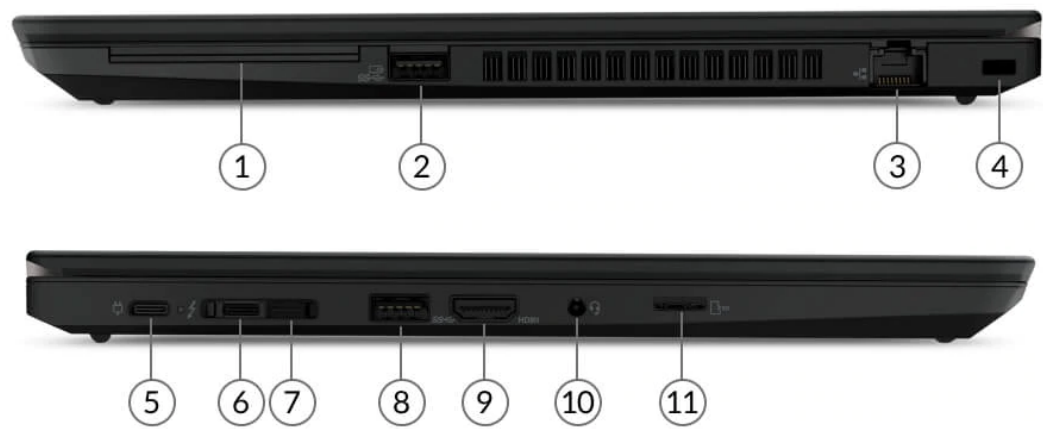
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. **LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** Some jurisdictions do not allow

disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.

- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Smart card reader *	7. Side docking connector
2. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
3. Ethernet (RJ-45)	9. HDMI 1.4b
4. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 1	11. MicroSD card reader
6. USB-C 3.2 Gen 2 / Thunderbolt 3	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 5, 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
NVIDIA® Quadro® P520	Discrete	2GB GDDR5	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz), USB-C (up to 4096x2304@60Hz) or Thunderbolt™ (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-2666
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-2666

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type^[2]

DDR4-2666 non-ECC

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.
2. Installed memory is actually DDR4-3200 but may run at DDR4-2666 due to processor limitation

Storage

Storage Support

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

Storage Type**[1]

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane™ Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Notes:

1. M.2 2242 is special bid only

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, near-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 15.1 hr

MobileMark 2018: 10.96 hr

JEITA 2.0: 15.1 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**

- 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

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
14.0"	UHD (3840x2160)	None	IPS	500 nits	Glossy	16:9	1500:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell touch, supports 10-point touch (FHD models only)
- 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

Pen

No support

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight^[1]

Models	Weight
FHD Low Power models	1.49 kg (3.28 lbs)
FHD models	1.55 kg (3.43 lbs)
FHD Privacy Guard models	1.61 kg (3.56 lbs)
FHD touch models	1.55 kg (3.41 lbs)
UHD models	1.49 kg (3.28 lbs)

Case Color

Black

Case Material

PPS / 50% GF (top), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth®

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

- Near Field Communication
- No support

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 2x USB-C 3.1 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

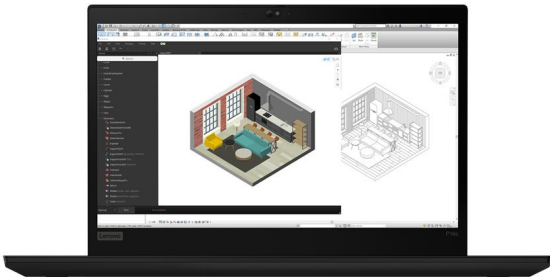
MIL-STD-810G military test passed

ISV Certifications

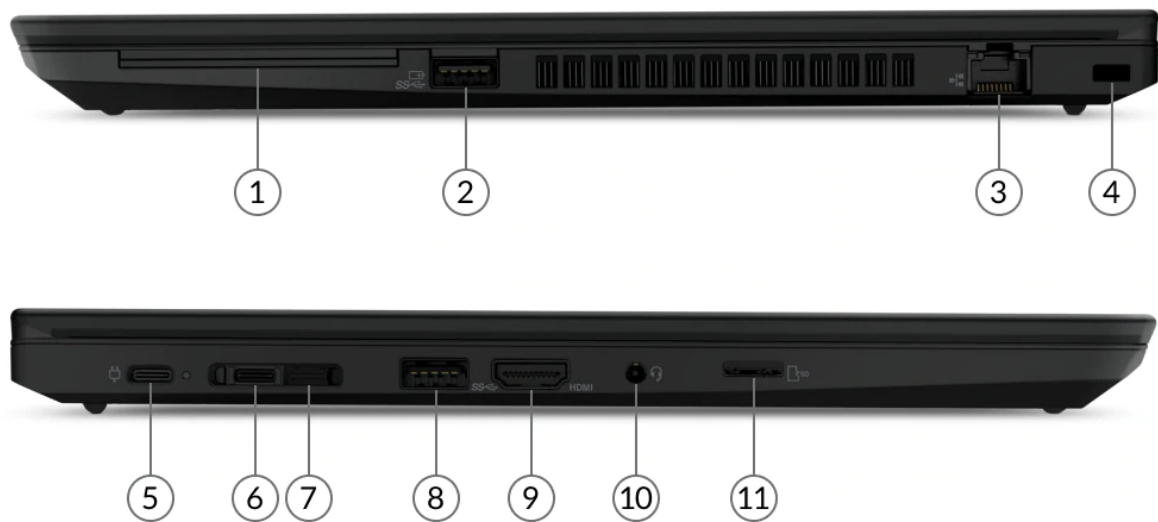
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Smart card reader *	7. Side docking connector
2. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
3. Ethernet (RJ-45)	9. HDMI 2.0
4. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2	11. MicroSD card reader
6. USB-C 3.2 Gen 2	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 5, 6, and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 7 PRO 5850U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Connector	Max Resolution	Key Features	Remark
AMD Radeon Graphics	Integrated	Shared	-	-	DirectX® 12	-

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4096x2160@60Hz) or USB-C (up to 5120x2880@60Hz, DP mode via USB-C to DP dongle)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type

DDR4-3200 non-ECC

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

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

Storage Slot

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type**

Disk Type	Interface	RPM	Offering	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	-	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	-	-	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	-	Opal 2.0

Removable Storage

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, near-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 12.5 hr
JEITA 2.0: 15.8 hr (idle, 150 nits)

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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	DC dimming
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	45% NTSC	170°	DC dimming
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard, DC dimming
14.0"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1500:1	100% DCI-P3	170°	Dolby Vision™, HDR 400, DC dimming, X-Rite® FCC

Color Calibration

- X-Rite Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight^[1]

Models	Weight
FHD Low Power / Privacy Guard models	1.46 kg (3.22 lbs)
FHD touch models	1.55 kg (3.41 lbs)
HD / FHD non-touch models	1.55 kg (3.41 lbs)
UHD models	1.46 kg (3.23 lbs)

Case Color**

- Black
- Storm grey

Case Material**

- Aluminium (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)
- PPS / 50% GF (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111H, supports Wake-on-LAN

WLAN + Bluetooth[®]**^[1]

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Qualcomm[®] QCNFA765, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Intel[®] Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel AX200 and Mediatek MT7921 is for special bid only
Intel Wi-Fi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort[™] 1.4a)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot (3 x 7 mm)

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert

MANAGEABILITY

System Management

System Management

AMD Pro Manageability

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage and transportation in original shipping packaging: -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): 2438 m (8,000 ft)

Notes:

1. When you charge the battery, its temperature must be no lower than 10°C (50°F)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

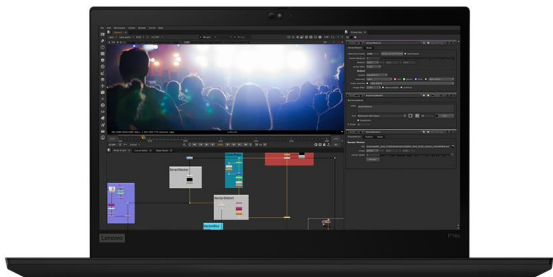
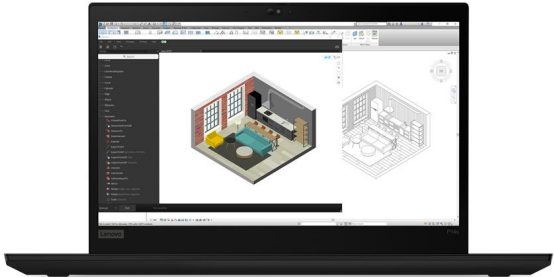
MIL-STD-810H military test passed

ISV Certifications

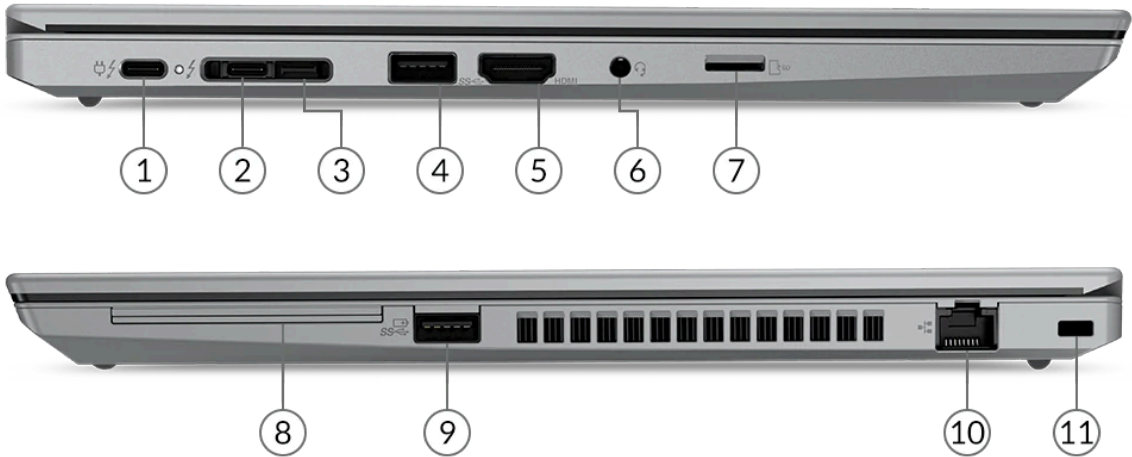
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Thunderbolt 4	7. MicroSD card reader
2. Thunderbolt 4	8. Smart card reader *
3. Side docking connector	9. USB 3.2 Gen 1 (Always On)
4. USB 3.2 Gen 1	10. Ethernet (RJ-45) *
5. HDMI 2.0	11. Kensington Security Slot
6. Headphone / microphone combo jack (3.5mm)	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 1, 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**^[1]

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
Intel Iris Xe Graphics	Integrated	Shared	DirectX 12
NVIDIA® T500 Laptop GPU	Discrete	4GB GDDR6	DirectX 12

Notes:

1. Intel Iris Xe Graphics requires dual-channel memory. On models with single-channel memory, Intel Iris Xe Graphics will function as Intel UHD graphics.

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (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^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-3200
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type

DDR4-3200 non-ECC

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

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

Storage Slot^[1]

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type^{**[2]}

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	-	-	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	-	Opal 2.0

RAID

No support

Notes:

- 1. M.2 PCIe Gen 4 SSD in a M.2 PCIe Gen 3 slot runs at PCIe Gen 3 speeds
- 2. System comes with one M.2 SSD slot that supports PCIe 3.0

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

Dual array microphone, far-field

Camera^{**}

- 720p, with privacy shutter, fixed focus
- Front IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[3]

MobileMark® 2018: 9.7 hr
JEITA 2.0: 16 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**

- 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
- No power adapter

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	DC dimming
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	45% NTSC	170°	DC dimming
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard, DC dimming
14.0"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1500:1	100% DCI-P3	170°	Dolby Vision™, HDR 400, DC dimming, X-Rite® FCC

Color Calibration

- X-Rite Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Aluminium models	329.4 x 227.5 x 17.9 mm (12.97 x 8.96 x 0.70 inches)
PC + ABS models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight[1]

Models	Weight
Aluminium models	1.502 kg (3.31 lbs)
PC + ABS models	1.469 kg (3.24 lbs)

Case Color**

- Black
- Storm grey

Case Material**

- Aluminium (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)
- PC + ABS (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN
- No Ethernet (Using optional ethernet adapter or dock)

WLAN + Bluetooth®**^[1]

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Integrated Mobile Broadband 4G LTE, Quectel EM160R, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
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 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x Thunderbolt 4 / USB4™ 40Gbps / USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***

- 1x Ethernet (RJ-45)
- 1x Side docking connector (Ethernet model only)
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service

- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

CERTIFICATIONS

Green Certifications

Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO Certified Notebooks 8
- RoHS compliant

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

ISV Certifications

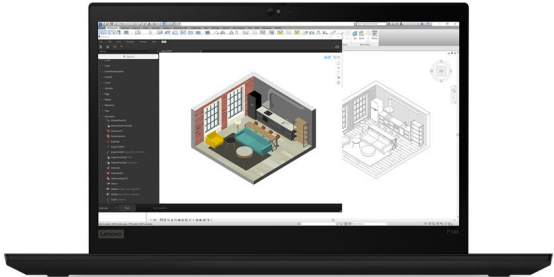
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without



notice.



OVERVIEW



1. SD card reader	7. Headphone / microphone combo jack (3.5mm)
2. USB 3.2 Gen 1	8. Ethernet (RJ-45)
3. Kensington Security Slot	9. USB-C 3.2 Gen 1
4. HDMI 2.0	10. 2x USB-C 3.2 Gen 2 / Thunderbolt 3
5. USB 3.2 Gen 1	11. Power connector
6. Nano-SIM card slot *	

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-2933	Intel UHD Graphics
Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-3200	Intel UHD Graphics
Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-2933	Intel UHD Graphics
Core i9-10980HK	8	16	2.4GHz	5.3GHz	16MB	DDR4-3200	Intel UHD Graphics
Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Xeon W-10885M	8	16	2.4GHz	5.3GHz	16MB	DDR4-2933	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Fedora Linux
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	Key Features
NVIDIA® Quadro® T1000	Discrete	4GB GDDR6	DirectX® 12
NVIDIA Quadro T2000	Discrete	4GB GDDR5	DirectX 12
NVIDIA Quadro RTX 3000	Discrete	6GB GDDR6	DirectX 12
NVIDIA Quadro RTX 4000 with Max-Q Design	Discrete	8GB GDDR6	DirectX 12
NVIDIA Quadro RTX 5000 with Max-Q Design	Discrete	16GB GDDR6	DirectX 12

Monitor Support

Monitor Support

Supports up to 5 independent displays via native display and 4 external monitors; supports external monitors via HDMI® (up to 4K@60Hz), USB-C (up to 4K@60Hz) or Thunderbolt™ (one supports up to 5K@60Hz and the other supports up to 4K@60Hz)

Chipset

Chipset

Intel WM490 chipset

Memory

Max Memory^[1]

Up to 128GB DDR4-2933

Memory Slots

Four DDR4 SO-DIMM slots, dual-channel capable

Memory Type**^[2]

- DDR4-2933 ECC
- DDR4-2933 non-ECC

Memory Protection

ECC on models with ECC DIMMs and Xeon processor

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.
2. Non-ECC memory is actually DDR4-3200 but may run at DDR4-2933 due to processor limitation

Storage

Storage Support

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Type

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	Opal2

RAID

RAID 0/1 support

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3286 codec

Speakers

Stereo speakers, Dolby® Atmos®

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 94Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 16.4 hr

MobileMark 2018: 10.3 hr

JEITA 2.0: 17.4 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**

- 170W slim tip (2-pin) AC adapter
- 170W slim tip (3-pin) AC adapter
- 230W slim tip (3-pin) AC adapter

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	160°	-
15.6"	FHD (1920x1080)	None	IPS	500 nits	Anti-glare	16:9	1200:1	72% NTSC	160°	Dolby Vision™, HDR
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	178°	Dolby Vision, HDR
15.6"	UHD (3840x2160)	Multi-touch	OLED	SDR 400nit, HDR 500nit (peak)	Anti-reflection Anti-smudge	16:9	100000:1	100% DCI-P3	170°	Dolby Vision, HDR

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell 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>
2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

Pen

- Lenovo Pen Pro (for UHD OLED models)
- No support (non-touch display doesn't support pen input)

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Touch models	375.4 x 252.3 x 25.25-32.2 mm (14.24 x 9.67 x 0.99-1.27 inches)
Non-touch models	375.4 x 252.3 x 24.5-31.45 mm (14.24 x 9.67 x 0.96-1.24 inches)

Weight[1]

Models	Weight
--------	--------

FHD models	2.74 kg (6.05 lbs)
------------	--------------------

Case Color

Black

Case Material

PPS695 + GF 50% (top), PPS + GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{*}**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth®

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

WWAN^{}**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card
- No support

SIM Card

No SIM card inbox

NFC

No support

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports^{*}**

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable^{*}**

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

ISV Certifications

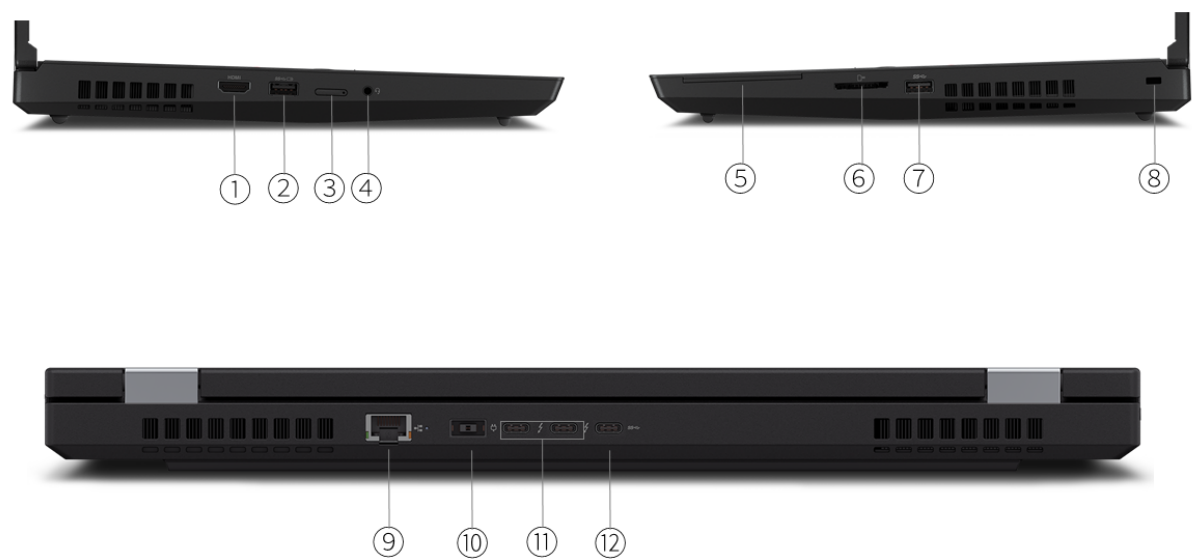
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. HDMI 2.1 / 2.0	7. USB 3.2 Gen 1
2. USB 3.2 Gen 1 (Always On)	8. Kensington Security Slot
3. Nano-SIM card slot *	9. 2.5GbE (RJ-45)
4. Headphone / microphone combo jack (3.5mm)	10. Power connector
5. Smart card reader *	11. 2x Thunderbolt 4
6. SD card reader	12. USB-C 3.2 Gen 2

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-11500H	6	12	2.9GHz	4.6GHz	12MB	DDR4-3200	Intel UHD Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i9-11950H	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics
Xeon W-11855M	6	12	3.2GHz	4.9GHz	18MB	DDR4-3200	Intel UHD Graphics
Xeon W-11955M	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Pro 64 for Workstations
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 11 DG Windows 10 Pro 64 for Workstations
- Windows 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Fedora Linux
- Ubuntu Linux LTS
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	TGP	Key Features
NVIDIA® T1200 Laptop GPU	Discrete	4GB GDDR6	60W	DirectX® 12
NVIDIA RTX A2000 Laptop GPU	Discrete	4GB GDDR6	60W	DirectX 12
NVIDIA RTX A3000 Laptop GPU	Discrete	6GB GDDR6	90W	DirectX 12
NVIDIA RTX A4000 Laptop GPU	Discrete	8GB GDDR6	90W	DirectX 12
NVIDIA RTX A5000 Laptop GPU	Discrete	16GB GDDR6	90W	DirectX 12

Monitor Support

Monitor Support

Supports up to 5 independent displays via native display and 4 external monitors, hybrid mode only; supports external monitors via HDMI® (up to 4K@60Hz on NVIDIA T1200 / 8K@60Hz on other discrete graphics), USB-C (up to 5120x3200@60Hz) or Thunderbolt™ (up to 5120x3200@60Hz)

Chipset

Chipset

Intel WM590 chipset

Memory

Max Memory^[1]

Up to 128GB DDR4-3200

Memory Slots

Four DDR4 SO-DIMM slots, dual-channel capable

Memory Type**

- DDR4-3200 ECC
- DDR4-3200 non-ECC

Memory Protection

ECC on models with ECC DIMMs and Xeon processor

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

Up to three drives, 3x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Slot^[1]

Three M.2 slots

- Two M.2 2280 PCIe® Gen 3x4 slots, support M.2 2280 SSD
- One M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD

Storage Type***

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	-	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	512GB / 1TB / 2TB	Opal2

RAID^[2]

RAID 0/1 support on two M.2 PCIe Gen 3x4 slots

Notes:

1. M.2 PCIe Gen 4 SSD in a M.2 PCIe Gen 3 slot runs at PCIe Gen 3 speeds
2. Opal capability is not available in RAID mode

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

Speakers

Stereo speakers, Dolby® Atmos®

Microphone

- Dual array microphone, near-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 94Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2018: 9 hr

JEITA 2.0: 11.5 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**
- 170W slim tip (3-pin) AC adapter
 - 230W slim tip (3-pin) AC adapter

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	100% sRGB	170°	-
15.6"	FHD (1920x1080)	None	IPS	500 nits	Anti-glare	16:9	1200:1	100% sRGB	170°	Dolby Vision™
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1200:1	100% Adobe® RGB	170°	Dolby Vision, HDR 400
15.6"	UHD (3840x2160)	Multi-touch	OLED	SDR 400nit, HDR 500nit (peak)	Anti-reflection Anti-smudge	16:9	100000:1	100% DCI-P3	170°	Dolby Vision, HDR 500 True Black

- Color Calibration
- X-Rite® Pantone® factory color calibration (UHD display)
 - No color calibration

- Touchscreen
- On-cell 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>

2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

- Pen
- Lenovo Pen Pro
 - No pen (pen sold separately)
 - No support (non-touch display doesn't support pen input)

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Touch models	375.4 x 252.3 x 25.25-32.2 mm (14.24 x 9.67 x 0.99-1.27 inches)
Non-touch models	375.4 x 252.3 x 24.5-31.45 mm (14.24 x 9.67 x 0.96-1.24 inches)

Weight^[1]

Models	Weight
Non-touch models	2.87 kg (6.32 lbs)
Touch models	3.07 kg (6.75 lbs)

Case Color

Black

Case Material

PPS / 50% GF (top), PA / 50% GF (bottom)

Notes:

- 1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{**}

- 2.5GbE, Intel Ethernet Connection I225-LM (vPro models), supports Wake-on-LAN
- 2.5GbE, Intel Ethernet Connection I225-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth^[1]

- Intel Wi-Fi® 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN^{**}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM160R, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

- 1. WiFi 6 full features might be limited by country level restrictions
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 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 2x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4a)
- 1x SD card reader
- 1x Ethernet (2.5GbE RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports^{***}

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

- 1x HDMI 2.0 (model with NVIDIA T1200 graphics)
- 1x HDMI 2.1 (model with NVIDIA RTX 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;
USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
Thunderbolt 3: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot (3 x 7 mm)

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service

- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

ISV Certifications

ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

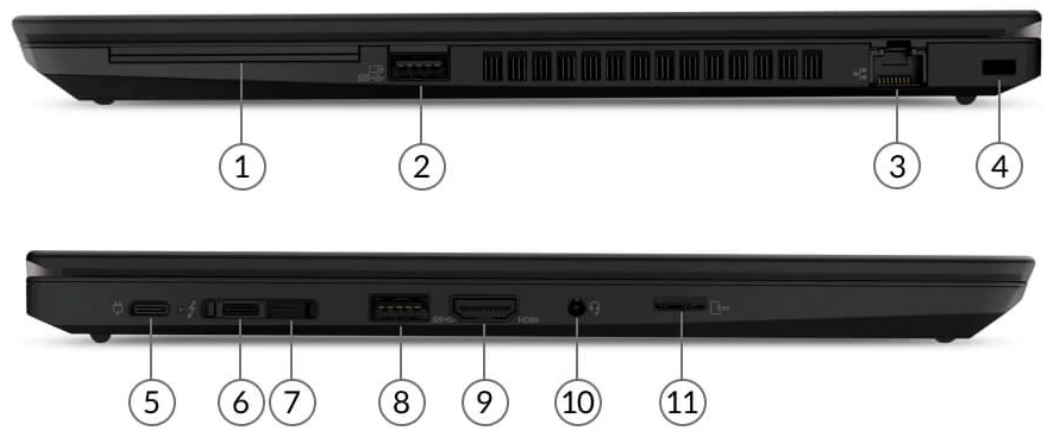
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without



notice.



OVERVIEW



1. Smart card reader *	7. Side docking connector
2. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
3. Ethernet (RJ-45)	9. HDMI 1.4b
4. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 1	11. MicroSD card reader
6. USB-C 3.2 Gen 2 / Thunderbolt 3	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 5, 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
NVIDIA® Quadro® P520	Discrete	2GB GDDR5	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz), USB-C (up to 4096x2304@60Hz) or Thunderbolt™ (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-2666
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-2666

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type^[2]

DDR4-2666 non-ECC

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.
2. Installed memory is actually DDR4-3200 but may run at DDR4-2666 due to processor limitation

Storage

Storage Support

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

Storage Type**[1]

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane™ Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Notes:

1. M.2 2242 is special bid only

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, near-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life[1]

MobileMark® 2014: 16.5 hr
MobileMark 2018: 10.48 hr
JEITA 2.0: 16.5 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**[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell touch, supports 10-point touch (FHD models only)
- 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

Pen

No support

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	365.8 x 248 x 19.1 mm (14.40 x 9.76 x 0.75 inches)

Weight[1]

Models	Weight
All models	1.75 kg (3.86 lbs)

Case Color

Black

Case Material

PPS / 50% GF (top), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth®

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, 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

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.1 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

- Storage and transportation in original shipping packaging: -20°C (-4°F) to 60°C (140°F)
- Storage without package: 5°C (41°F) to 43°C (109°F)

Humidity

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

None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

ISV Certifications

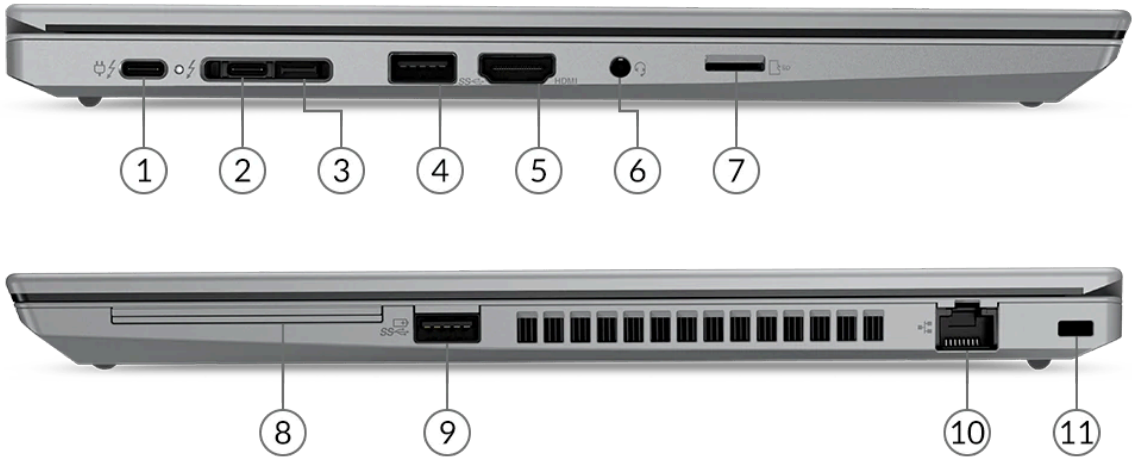
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Thunderbolt 4	7. MicroSD card reader
2. Thunderbolt 4	8. Smart card reader *
3. Side docking connector	9. USB 3.2 Gen 1 (Always On)
4. USB 3.2 Gen 1	10. Ethernet (RJ-45) *
5. HDMI 2.0	11. Kensington Security Slot
6. Headphone / microphone combo jack (3.5mm)	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 1, 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**[]

Graphics	Type	Memory	TGP	Key Features
Intel UHD Graphics	Integrated	Shared	Share CPU TDP	DirectX® 12
Intel Iris Xe Graphics	Integrated	Shared	Share CPU TDP	DirectX 12
NVIDIA® T500 Laptop GPU	Discrete	4GB GDDR6	18W	DirectX 12

Notes:

1. Intel Iris Xe Graphics requires dual-channel memory. On models with single-channel memory, Intel Iris Xe Graphics will function as Intel UHD graphics.

Monitor Support

Monitor Support[]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (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[]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-3200
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type

DDR4-3200 non-ECC

- 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

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

Storage Slot^[1]

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type^{**[2]}

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	-	-	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	-	Opal 2.0

RAID

No support

- Notes:
1. M.2 PCIe Gen 4 SSD in a M.2 PCIe Gen 3 slot runs at PCIe Gen 3 speeds
 2. System comes with one M.2 SSD slot that supports PCIe 3.0

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera^{**}

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 9.3 hr
JEITA 2.0: 15.8 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**[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	365.8 x 248 x 19.1 mm (14.40 x 9.76 x 0.75 inches)

Weight[1]

Models	Weight
--------	--------

Aluminium models	1.783 kg (3.93 lbs)
PC + ABS models	1.75 kg (3.86 lbs)

Case Color**

- Black
- Storm grey

Case Material**

- Aluminium (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)
- PC + ABS (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN
- No Ethernet (Using optional ethernet adapter or dock)

WLAN + Bluetooth®^[1]**

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Integrated Mobile Broadband 4G LTE, Quectel EM160R, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

SIM Card

- eSIM
- No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
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 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x Thunderbolt 4 / USB4™ 40Gbps / USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Ethernet (RJ-45)
- 1x Side docking connector (Ethernet model only)
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
 - FireWire 400: 400 Mbit/s;
 - FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on 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 Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service

- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

CERTIFICATIONS

Green Certifications

Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO Certified Notebooks 8
- RoHS compliant

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

ISV Certifications

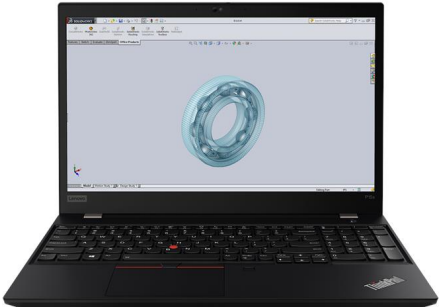
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without



notice.



OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	6. Kensington Security Slot
2. SD card reader	7. Power connector
3. HDMI 2.0	8. USB-C 3.2 Gen 2 / Thunderbolt 3
4. 2x USB 3.2 Gen 1	9. Smart card reader *
5. Ethernet (RJ-45)	

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10300H	4	8	2.5GHz	4.5GHz	8MB	DDR4-2933	Intel UHD Graphics
Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-3200	Intel UHD Graphics
Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® Quadro® P620	Discrete	4GB GDDR5	DirectX 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (up to 5K@60Hz)

Chipset

Chipset

Intel WM490 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-2933

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type**^[2]

- DDR4-2933 ECC
- DDR4-2933 non-ECC

Memory Protection

ECC on models with ECC DIMMs and Xeon processor

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.
2. Non-ECC memory is actually DDR4-3200 but may run at DDR4-2933 due to processor limitation

Storage

Storage Support

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Type

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	Opal2

RAID

RAID 0/1 support

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, Dolby® Audio™

Microphone

- Dual array microphone, near-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 68Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2014: 10 hr
MobileMark 2018: 7.2 hr
JEITA 2.0: 11 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**

- 135W slim tip (2-pin) AC adapter
- 135W slim tip (3-pin) AC adapter

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell 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

Pen

No support

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	366.5 x 250 x 22.7 mm (14.43 x 9.84 x 0.89 inches)

Weight^[1]

Models	Weight
UHD models	2.07 kg (4.57 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{**}

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN

- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth®

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card
- No support

SIM Card

No SIM card inbox

NFC

No support

Ports^[1]**Standard Ports**

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY**System Management****System Management**

- Intel vPro Technology, DASH
- None

SERVICE**Warranty****Base Warranty****

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL**Operating Environment****Temperature^[1]**

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

None

CERTIFICATIONS**Green Certifications**

Green Certifications

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

Other Certifications**Mil-Spec Test**

MIL-STD-810G military test passed

ISV Certifications**ISV Certifications**

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	6. Kensington Security Slot
2. SD card reader	7. Power connector
3. HDMI 2.0	8. Thunderbolt 4
4. 2x USB 3.2 Gen 1	9. Smart card reader *
5. Ethernet (RJ-45)	

- Notes:
- Ports with * are only available on selected models
 - Nano-SIM card slot on the rear side (not shown on the sample product above)

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 / i9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-11400H	6	12	2.7GHz	4.5GHz	12MB	DDR4-3200	Intel UHD Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i9-11950H	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)

Graphics

Graphics**

Graphics	Type	Memory	TGP
Intel UHD Graphics	Integrated	Shared	Share CPU TDP
NVIDIA® T600 Laptop GPU	Discrete	4GB GDDR6	25W
NVIDIA T1200 Laptop GPU	Discrete	4GB GDDR6	35W
NVIDIA RTX A2000 Laptop GPU	Discrete	4GB GDDR6	35W

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (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 non-ECC

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

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Slot^[1]

Two M.2 slots

- Two M.2 2280 PCIe® Gen 3x4 slots, support M.2 2280 SSD

Storage Type^{*}**

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe 3.0	-	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	2TB	Opal2

RAID^[2]

RAID 0/1 support

Notes:

1. M.2 PCIe Gen 4 SSD in a M.2 PCIe Gen 3 slot runs at PCIe Gen 3 speeds
2. Opal capability is not available in RAID mode

Removable Storage

Optical

None

Card Reader

SD card reader, supports UHS-II SD card

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, near-field
- No microphone

Camera^{}**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 68Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2018: 7.5 hr
JEITA 2.0: 9.5 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

135W slim tip (3-pin) AC adapter

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	1200:1	100% sRGB	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell touch, supports 10-point touch (FHD models only)
- 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	366.5 x 250 x 22.7 mm (14.43 x 9.84 x 0.89 inches)

Weight^[1]

Models	Weight
All models	2.07 kg (4.58 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel Wi-Fi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

- 2x USB 3.2 Gen 1 (one Always On)
- 1x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)
- 1x microSD card slot (WLAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

ISV Certifications

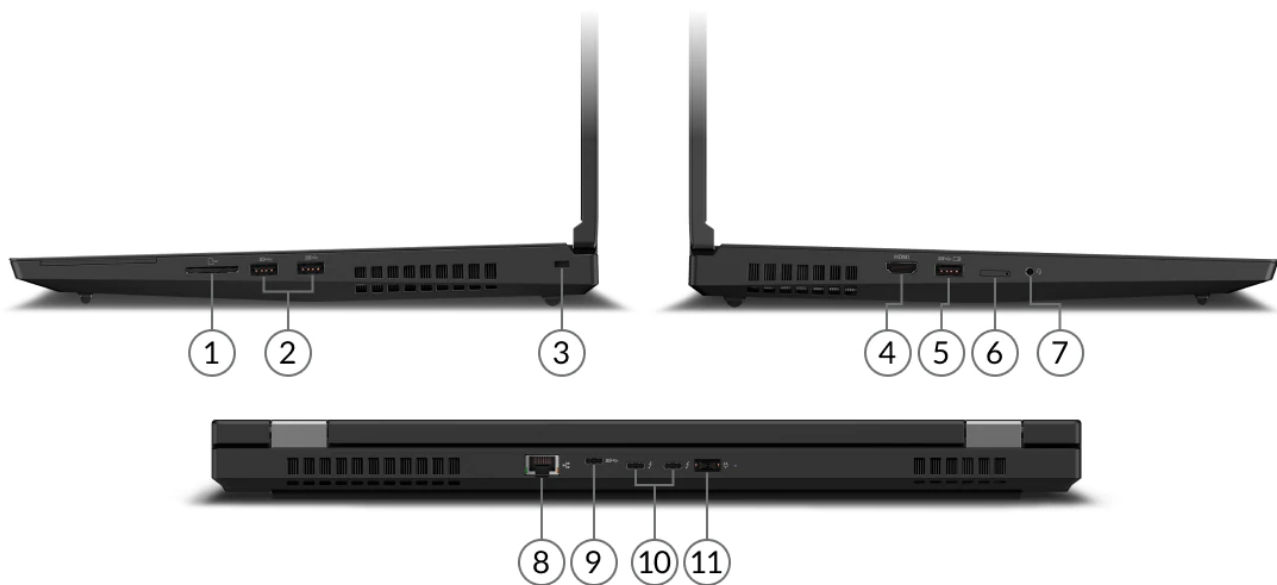
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. SD card reader	7. Headphone / microphone combo jack (3.5mm)
2. 2x USB 3.2 Gen 1	8. Ethernet (RJ-45)
3. Kensington Security Slot	9. USB-C 3.2 Gen 1
4. HDMI 2.0	10. 2x USB-C 3.2 Gen 2 / Thunderbolt 3
5. USB 3.2 Gen 1	11. Power connector
6. Nano-SIM card slot *	

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-2933	Intel UHD Graphics
Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-3200	Intel UHD Graphics
Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-2933	Intel UHD Graphics
Core i9-10980HK	8	16	2.4GHz	5.3GHz	16MB	DDR4-3200	Intel UHD Graphics
Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Xeon W-10885M	8	16	2.4GHz	5.3GHz	16MB	DDR4-2933	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	Key Features
NVIDIA® Quadro® T1000	Discrete	4GB GDDR6	DirectX® 12
NVIDIA Quadro T2000	Discrete	4GB GDDR5	DirectX 12
NVIDIA Quadro RTX 3000	Discrete	6GB GDDR6	DirectX 12
NVIDIA Quadro RTX 4000 with Max-Q Design	Discrete	8GB GDDR6	DirectX 12
NVIDIA Quadro RTX 5000 with Max-Q Design	Discrete	16GB GDDR6	DirectX 12

Monitor Support

Monitor Support

Supports up to 5 independent displays via native display and 4 external monitors; supports external monitors via HDMI® (up to 4K@60Hz), USB-C (up to 4K@60Hz) or Thunderbolt™ (one supports up to 5K@60Hz and the other supports up to 4K@60Hz)

Chipset

Chipset

Intel WM490 chipset

Memory

Max Memory^[1]

Up to 128GB DDR4-2933

Memory Slots

Four DDR4 SO-DIMM slots, dual-channel capable

Memory Type**^[2]

- DDR4-2933 ECC

- DDR4-2933 non-ECC

Memory Protection

ECC on models with ECC DIMMs and Xeon processor

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.
2. Non-ECC memory is actually DDR4-3200 but may run at DDR4-2933 due to processor limitation

Storage

Storage Support

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Type

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	Opal2

RAID

RAID 0/1 support

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3286 codec

Speakers

Stereo speakers, Dolby® Atmos®

Microphone

- Dual array microphone, far-field
- No microphone

Camera

- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 94Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 14.6 hr

MobileMark 2018: 9.75 hr

JEITA 2.0: 16.6 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**

- 170W slim tip (2-pin) AC adapter
- 170W slim tip (3-pin) AC adapter

- 230W slim tip (3-pin) AC adapter

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
17.3"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	160°	-
17.3"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1500:1	100% Adobe® RGB	178°	Dolby Vision™, HDR 400

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

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>
2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

Pen

No support

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	415.44 x 280.81 x 25.11-33.25 mm (16.36 x 11.06 x 0.99-1.31 inches)

Weight^[1]

Models	Weight
FHD models	3.5 kg (7.7 lbs)

Case Color

Black

Case Material

PPS695 + GF 50% (top), PPS + GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth®

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card
- No support

SIM Card

No SIM card inbox

Ports^[1]

Standard Ports

- 3x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;

FireWire 400: 400 Mbit/s;

FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader

- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

(Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

ISV Certifications

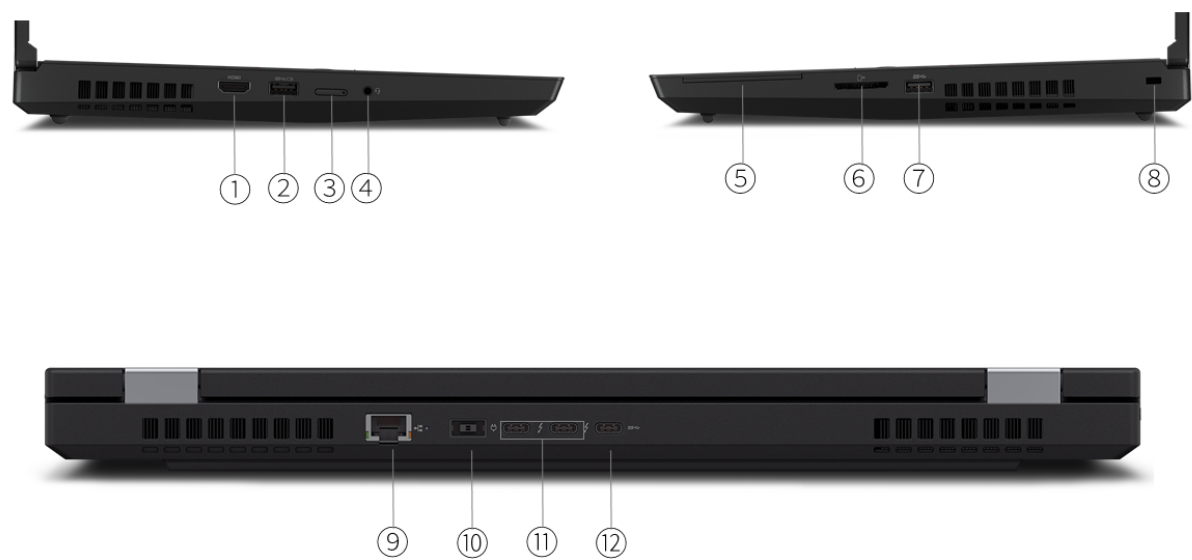
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. HDMI 2.1 / 2.0	7. USB 3.2 Gen 1
2. USB 3.2 Gen 1 (Always On)	8. Kensington Security Slot
3. Nano-SIM card slot *	9. 2.5GbE (RJ-45)
4. Headphone / microphone combo jack (3.5mm)	10. Power connector
5. Smart card reader *	11. 2x Thunderbolt 4
6. SD card reader	12. USB-C 3.2 Gen 2

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-11500H	6	12	2.9GHz	4.6GHz	12MB	DDR4-3200	Intel UHD Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i9-11950H	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics
Xeon W-11855M	6	12	3.2GHz	4.9GHz	18MB	DDR4-3200	Intel UHD Graphics
Xeon W-11955M	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Pro 64 for Workstations
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 11 DG Windows 10 Pro 64 for Workstations
- Windows 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)

Graphics

Graphics**

Graphics	Type	Memory	TGP	Key Features
NVIDIA® T1200 Laptop GPU	Discrete	4GB GDDR6	60W	DirectX® 12
NVIDIA RTX A2000 Laptop GPU	Discrete	4GB GDDR6	60W	DirectX 12
NVIDIA RTX A3000 Laptop GPU	Discrete	6GB GDDR6	115W	DirectX 12
NVIDIA RTX A5000 Laptop GPU	Discrete	16GB GDDR6	115W	DirectX 12
NVIDIA RTX A4000 Laptop GPU	Discrete	8GB GDDR6	115W	DirectX 12

Monitor Support

Monitor Support

Supports up to 5 independent displays via native display and 4 external monitors, hybrid mode only; supports external monitors via HDMI® (up to 4K@60Hz on NVIDIA T1200 / 8K@60Hz on other discrete graphics), USB-C (up to 5120x3200@60Hz) or Thunderbolt™ (up to 5120x3200@60Hz)

Chipset

Chipset

Intel WM590 chipset

Memory

Max Memory^[1]

Up to 128GB DDR4-3200

Memory Slots

Four DDR4 SO-DIMM slots, dual-channel capable

Memory Type**

- DDR4-3200 ECC
- DDR4-3200 non-ECC

Memory Protection

ECC on models with ECC DIMMs and Xeon processor

- 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

Up to three drives, 3x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Slot^[1]

Three M.2 slots

- Two M.2 2280 PCIe® Gen 3x4 slots, support M.2 2280 SSD
- One M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD

Storage Type***

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	-	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	512GB / 1TB / 2TB	Opal2

RAID^[2]

RAID 0/1 support on two M.2 PCIe Gen 3x4 slots

- Notes:
1. M.2 PCIe Gen 4 SSD in a M.2 PCIe Gen 3 slot runs at PCIe Gen 3 speeds
 2. Opal capability is not available in RAID mode

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

Speakers

Stereo speakers, Dolby® Atmos®

Microphone

- Dual array microphone, near-field
- No microphone

Camera

- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 94Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 8.3 hr
JEITA 2.0: 11 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**

- 170W slim tip (3-pin) AC adapter
- 230W slim tip (3-pin) AC adapter

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
17.3"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	100% sRGB	170°	-
17.3"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1000:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

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>
2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	415.44 x 280.81 x 24.31-32.45 mm (16.36 x 11.06 x 0.96-1.28 inches)

Weight^[1]

Models	Weight
All models	Starting at 3.564 kg (7.86 lbs)

Case Color

Black

Case Material

PPS / 50% GF (top), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- 2.5GbE, Intel Ethernet Connection I225-LM (vPro models), supports Wake-on-LAN
- 2.5GbE, Intel Ethernet Connection I225-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth^[1]

- Intel Wi-Fi® 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM160R, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. 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 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 2x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4a)
- 1x SD card reader
- 1x Ethernet (2.5GbE RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)
- 1x HDMI 2.0 (model with NVIDIA T1200 graphics)
- 1x HDMI 2.1 (model with NVIDIA RTX graphics)

Docking

Various docking solutions supported via Thunderbolt or USB-C.

Visit [Docking for ThinkPad® P17 Gen 2](#) for full docking options list.

Ethernet port on Thunderbolt Docking supports Intel vPro Technology

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter

- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot (3 x 7 mm)

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

(Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ENVIRONMENTAL

Operating Environment

Temperature^[1]

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

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

ISV Certifications

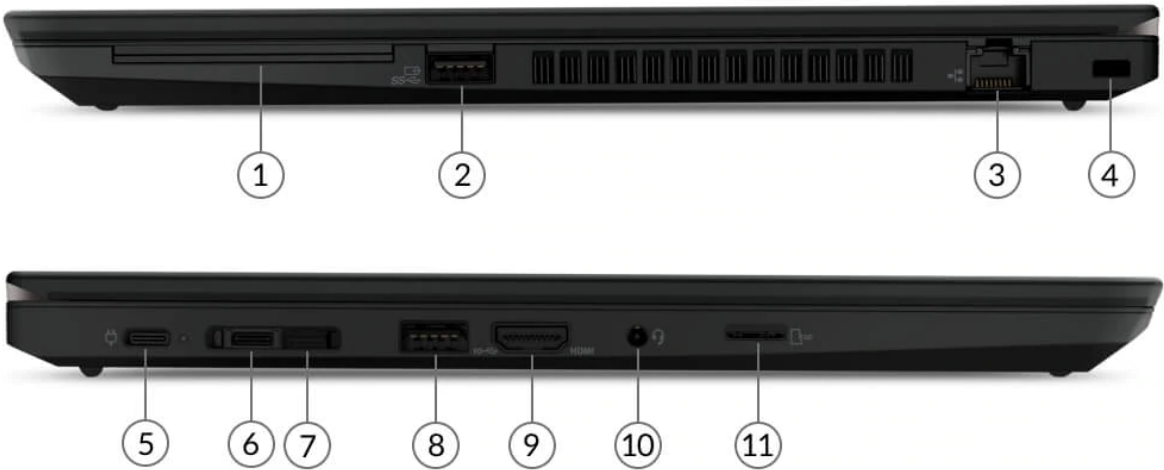
ISV Certifications

Please visit [ISV certifications for Lenovo Workstations](#)

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Smart card reader *	7. Side docking connector
2. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
3. Ethernet (RJ-45)	9. HDMI 2.0
4. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2	11. MicroSD card reader
6. USB-C 3.2 Gen 2	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 PRO 4450U	4	8	2.5GHz	3.7GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 5 PRO 4650U	6	12	2.1GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 4750U	8	16	1.7GHz	4.1GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or USB-C (up to 5K@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

- Up to 24GB (8GB soldered + 16GB SO-DIMM) DDR4-3200
- Up to 32GB (16GB soldered + 16GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, 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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 14 hr

MobileMark 2018: 11.5 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight[1]

Models	Weight
FHD Low Power / Privacy Guard models	1.46 kg (3.22 lbs)
HD / FHD touch / FHD non-touch models	1.55 kg (3.41 lbs)

Case Color

Black

Surface Treatment

- ISO 22196 compliant anti-microbial surface treatment (not including keyboard, display, and display bezel)
- Not anti-microbial surface treatment

Case Material

PPS / 50% GF (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

- The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111EPV

WLAN + Bluetooth^{®**[1]}

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel[®] Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

WWAN^{**[2]}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports^{***}

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable^{***}

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

DASH

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

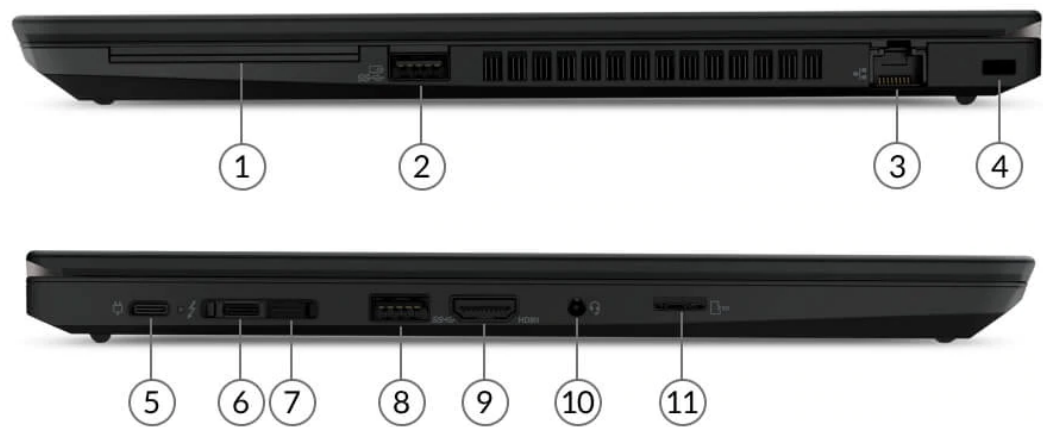


AMD



AMD

OVERVIEW



1. Smart card reader *	7. Side docking connector
2. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
3. Ethernet (RJ-45)	9. HDMI 1.4b
4. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 1	11. MicroSD card reader
6. USB-C 3.2 Gen 2 / Thunderbolt 3	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

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

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® MX330	Discrete	2GB GDDR5	DirectX 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz), USB-C (up to 4096x2304@60Hz) or Thunderbolt™ (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-2666
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-2666

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type^[2]

DDR4-2666

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.
2. Installed memory is actually 3200MHz but run at 2666MHz due to processor limitation

Storage

Storage Support

One drive, up to 128GB M.2 2242 SSD or 2TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 16.5 hr
MobileMark 2018: 11.45 hr
JEITA 2.0: 17.05 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**

- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	HD (1366x768)	None	TN	220 nits	Anti-glare	16:9	400:1	45% NTSC	90°	-
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	178°	ThinkPad® Privacy Guard
14.0"	UHD (3840x2160)	None	IPS	500 nits	Glossy	16:9	1500:1	100% Adobe® RGB	178°	Dolby Vision™, HDR 400

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight⁽¹⁾

Models	Weight
FHD Low Power models	1.49 kg (3.28 lbs)
FHD non-touch models	1.55 kg (3.41 lbs)
FHD Privacy Guard models	1.61 kg (3.56 lbs)
FHD touch models	1.55 kg (3.41 lbs)
HD models	1.53 kg (3.37 lbs)
UHD models	1.49 kg (3.28 lbs)

Case Color

Black

Surface Treatment

- ISO 22196 compliant anti-microbial surface treatment (not including keyboard, display, and display bezel)
- Not anti-microbial surface treatment

Case Material

PPS / 50% GF (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)

WLAN + Bluetooth^[1]

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN**[2]

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, 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. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

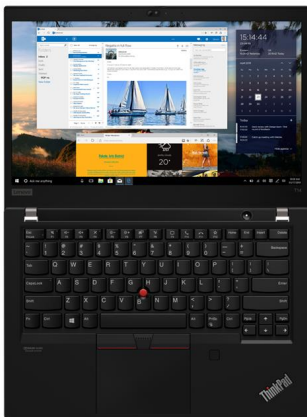
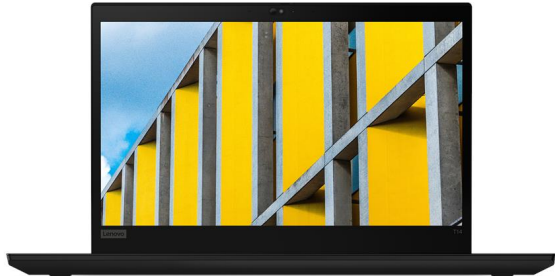
- EPEAT™ Gold
- ENERGY STAR® 8.0
- RoHS compliant

Other Certifications

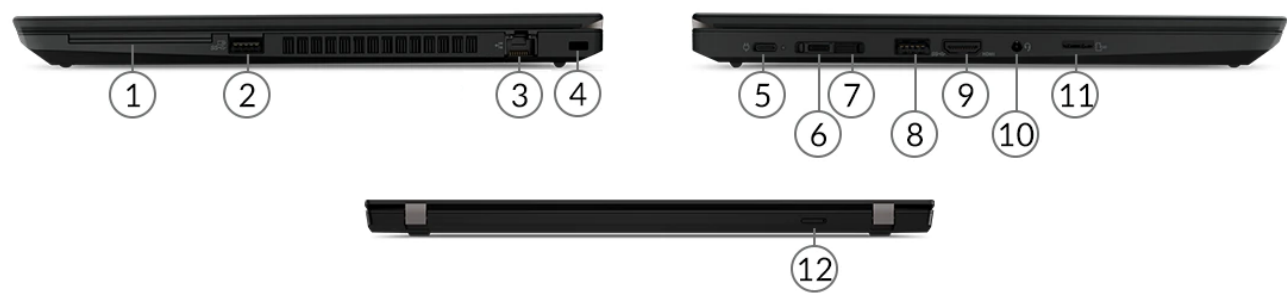
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Smart card reader *	7. Side docking connector
2. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
3. Ethernet (RJ-45)	9. HDMI 2.0
4. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2	11. MicroSD card reader
6. USB-C 3.2 Gen 2	12. Nano-SIM card slot *

- Notes:
- Ports with * are only available on selected models
 - The combination of 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 PRO 5450U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 5850U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or USB-C (up to 5K@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-3200
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, 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

One drive, up to 256GB M.2 2242 SSD or 2TB M.2 2280 SSD

Storage Slot

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type**[1]

Disk Type	Interface	RPM	Offering	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	-	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	-	-	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	-	Opal 2.0

- Notes:
1. The SSD with PCI 4.0x4 performance is downgraded to closer to PCIe 3.0x4 performance due to the system slot limitation

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone[1]

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

- Notes:
1. No microphone is for special bid only

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life[1]

MobileMark® 2018: 13.0 hr
JEITA 2.0: 16.9 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**[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	None	IPS	400 nits	Anti-glare	16:9	1200:1	72% NTSC	170°	Low power
14.0"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	178°	ThinkPad® Privacy Guard
14.0"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1500:1	100% Adobe® RGB	178°	Dolby Vision™, HDR 400

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight^[1]

Models	Weight
FHD Low Power / FHD Privacy Guard / UHD models	1.46 kg (3.23 lbs)
HD / FHD touch / FHD non-touch models	1.55 kg (3.41 lbs)

Case Color**[2]

- Black
- Storm grey

Surface Treatment

Not anti-microbial surface treatment

Case Material**

- Aluminium (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)
- PPS / 50% GF (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations
2. Storm grey case is NOT available in EMEA

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111H-CG

WLAN + Bluetooth®^[1]**

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Qualcomm® QCNFA765, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^[2]**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel AX200 is for special bid only
Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. WWAN upgradable is only available in EMEA

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4a)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**[1]

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

- No base warranty

Notes:

1. 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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

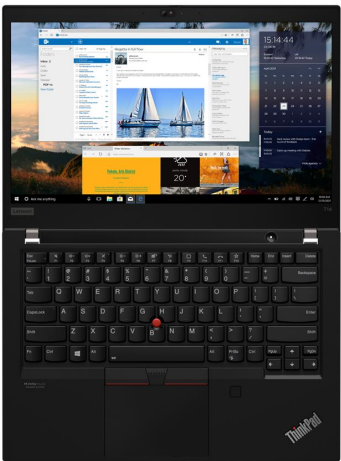
Mil-Spec Test

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. **LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

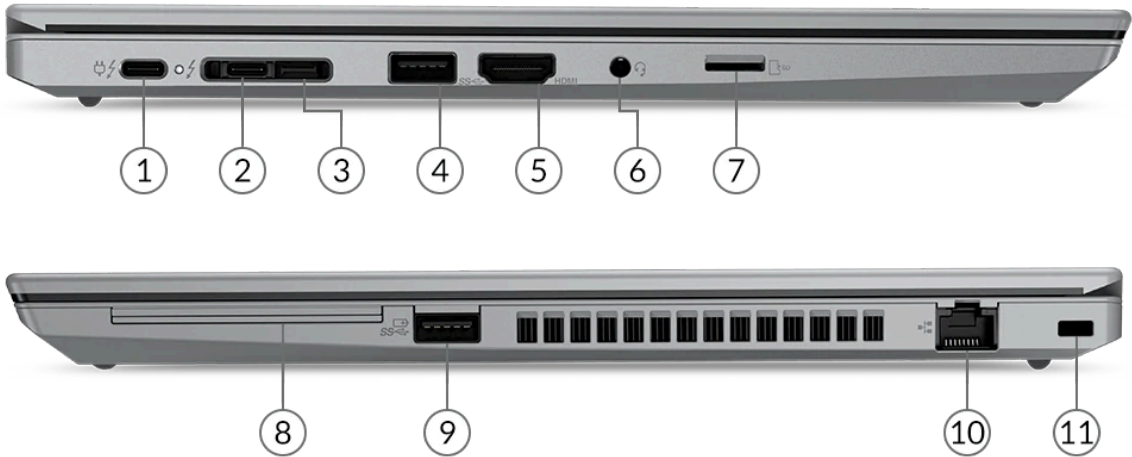


AMD



AMD

OVERVIEW



1. Thunderbolt 4	7. MicroSD card reader
2. Thunderbolt 4	8. Smart card reader *
3. Side docking connector *	9. USB 3.2 Gen 1 (Always On)
4. USB 3.2 Gen 1	10. Ethernet (RJ-45) *
5. HDMI 2.0	11. Kensington Security Slot
6. Headphone / microphone combo jack (3.5mm)	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise LTSC
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics**[1]

Graphics	Type	Memory	Key Features
Intel Iris Xe Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® MX450	Discrete	2GB GDDR6	DirectX 12

Notes:

1. Intel Iris Xe Graphics capability requires system to be configured with Intel Core i5 or i7 processor and dual-channel memory. On the system with Intel Core i5 or i7 processor and single-channel memory, Intel Iris Xe Graphics will function as Intel UHD graphics

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via Thunderbolt™ (5K@60Hz) or HDMI® (up to 4K@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^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-3200
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, 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

One drive, up to 256GB M.2 2242 SSD or 2TB M.2 2280 SSD

Storage Slot

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type**^[1]

Disk Type	Interface	Offering	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	-	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	Opal 2.0

Notes:

1. The SSD with PCI 4.0x4 performance is downgraded to closer to PCIe 3.0x4 performance due to the system slot limitation

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone^[1]

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Notes:

1. No microphone is for special bid only

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 10.7 hr
JEITA 2.0: 14.5 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**[1]

- 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
- No power adapter

Notes:

1. 45W USB-C AC adapter is only available for the models with integrated graphics
No power adapter is for special bid only
In EMEA only 65W USB-C AC adapter is available

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	178°	ThinkPad® Privacy Guard
14.0"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1500:1	100% Adobe® RGB	178°	Dolby Vision™, HDR 400

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

Touchscreen

- On-cell 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>

2. 250 nits display is available in Brazil only

Input Device

Keyboard

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

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Aluminium models	329.4 x 227.5 x 17.9 mm (12.97 x 8.96 x 0.70 inches)
PPS models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight^[1]

Models	Weight
FHD Low Power model with PPS top cover	1.47 kg (3.23 lbs)
FHD non-touch model with aluminium top cover	1.502 kg (3.31 lbs)
FHD non-touch model with PPS top cover	1.53 kg (3.37 lbs)
FHD Privacy Guard model with aluminium top cover	1.55 kg (3.42 lbs)
FHD Privacy Guard model with PPS top cover	1.58 kg (3.49 lbs)
FHD touch model with aluminium top cover	1.502 kg (3.31 lbs)
FHD touch model with PPS top cover	1.53 kg (3.37 lbs)
UHD model with PPS top cover	1.47 kg (3.24 lbs)

Case Color^{**[2]}

- Black
- Storm grey

Surface Treatment^[3]

- ISO 22196 compliant anti-microbial surface treatment (not including keyboard, display, and display bezel)
- Not anti-microbial surface treatment

Case Material^{**}

- Aluminium (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)
- PPS / 50% GF (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations
2. Storm grey case is NOT available in EMEA
3. Anti-microbial surface treatment is NOT available for aluminium models

CONNECTIVITY

Network

Onboard Ethernet

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)
- No Ethernet

WLAN + Bluetooth^{**[1]}

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^{**[2]}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Integrated Mobile Broadband 4G LTE, Quectel EM160R, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC^[3]

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
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 5.2 is supported with driver version 22.30 and later
2. WWAN is NOT available for aluminium models
3. NFC is NOT available for aluminium models, and is mutually exclusive with FIPS 201 fingerprint reader and RFID reader

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™ 1.4a)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports^{*[2]}**

- 1x Ethernet (RJ-45)
- 1x Side docking connector
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. For the models without Ethernet connector, it is recommended to use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.
Smart card reader is NOT available with FIPS 201 fingerprint reader and anti-microbial covers

Monitor Cable**Monitor Cable^{***}**

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip^{**}**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader^{[1]}**

- FIPS 201 fingerprint reader on palm rest
- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security^[2]

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert
- (Optional) RFID reader

Notes:

1. Match-on-chip fingerprint reader is mutually exclusive with RFID reader
FIPS 201 fingerprint reader is ONLY available for the models with anti-microbial black covers and is mutually exclusive with NFC
No fingerprint reader is ONLY available for the models with black cover
2. RFID reader is ONLY available with FIPS 201 fingerprint reader and anti-microbial covers, and NOT available on Aluminium models

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty^{[1]}**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

Notes:

1. 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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

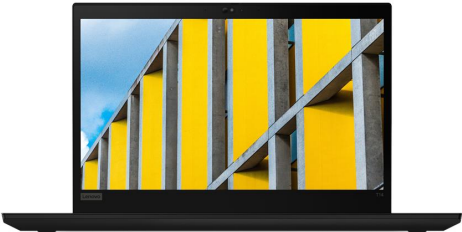
Mil-Spec Test

MIL-STD-810H military test passed

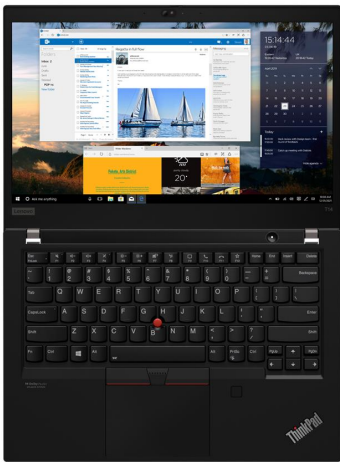
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



intel



intel

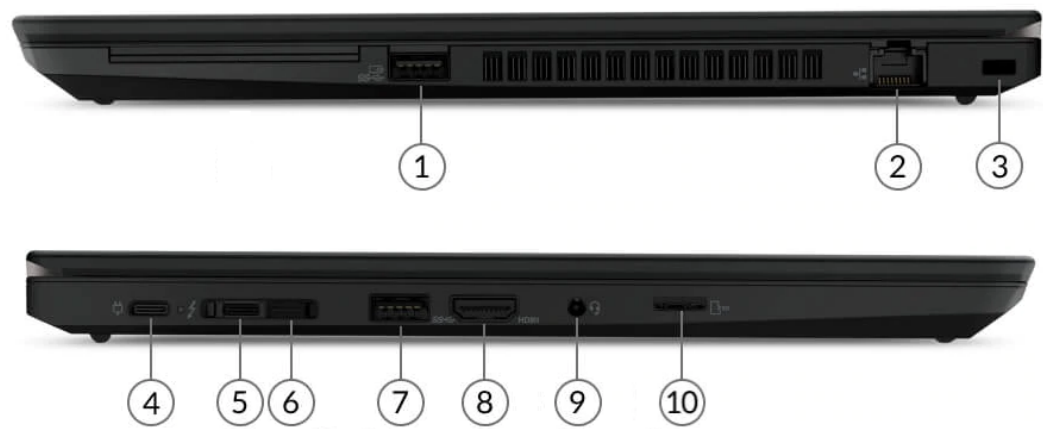


intel



intel

OVERVIEW



1. USB 3.2 Gen 1 (Always On)	6. Side docking connector
2. Ethernet (RJ-45)	7. USB 3.2 Gen 1
3. Kensington Security Slot	8. HDMI 1.4b
4. USB-C 3.2 Gen 1	9. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2 / Thunderbolt 3	10. MicroSD card reader

- Notes:
- Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 5 and 6 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

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

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® MX330	Discrete	2GB GDDR5	DirectX 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz), USB-C (up to 4096x2304@60Hz) or Thunderbolt™ (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-2666
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-2666

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type^[2]

DDR4-2666

Notes:

- The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.
- Installed memory is actually 3200MHz but run at 2666MHz due to processor limitation

Storage

Storage Support

One drive, up to 128GB M.2 2242 SSD or 2TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-

M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

- Optical**
None
- Card Reader**
MicroSD card reader

Multi-Media

- Audio Chip**
High Definition (HD) Audio, Realtek® ALC3287 codec
- Speakers**
Stereo speakers, 2W x2, Dolby® Audio™
- Microphone**
- Dual array microphone, far-field
 - No microphone

- Camera****
- 720p, with ThinkShutter, fixed focus
 - IR & 720p hybrid, with ThinkShutter, fixed focus
 - No camera

Battery

- Battery**
Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
- Max Battery Life^[1]**
MobileMark® 2014: 16.5 hr
MobileMark 2018: 10.5 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****
- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-

14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	178°	ThinkPad® Privacy Guard
-------	--------------------	-------------	-----	----------	------------	------	--------	----------	------	-------------------------

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls

Keyboard Backlight

LED backlight

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	329 x 227 x 17.9 mm (12.95 x 8.94 x 0.70 inches)

Weight^[1]

Models	Weight
FHD non-touch models	1.55 kg (3.41 lbs)
FHD Privacy Guard models	1.61 kg (3.56 lbs)
FHD touch models	1.55 kg (3.41 lbs)

Case Color

Black

Surface Treatment

ISO 22196 compliant anti-microbial surface treatment (not including keyboard, display, and display bezel)

Case Material

PPS / 50% GF (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Others

RFID reader supporting RFID / NFC

Notes:

- The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)

WLAN + Bluetooth®^[1]

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN**^[2]

- Wireless WAN upgradable to 4G (with antenna ready)

- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

NFC support via RFID reader

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports

1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable^{***}**

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip^{**}**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

FIPS 201 fingerprint reader on palm rest

BIOS Security

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

Other Security

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

MANAGEABILITY**System Management****System Management**

- Intel vPro Technology, DASH
- None

SERVICE**Warranty****Base Warranty****

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS**Green Certifications****Green Certifications**

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

Other Certifications

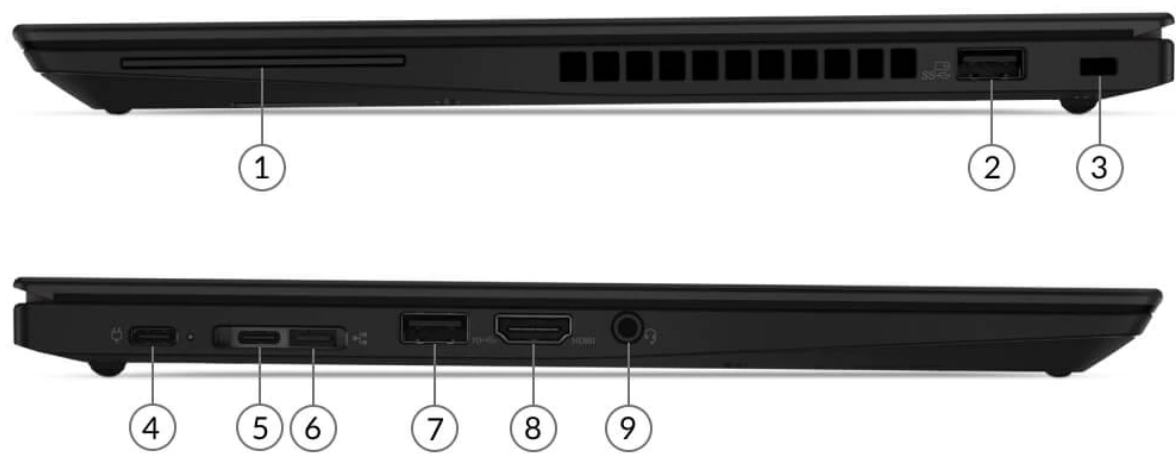
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Smart card reader *	6. Ethernet extension connector
2. USB 3.2 Gen 1 (Always On)	7. USB 3.2 Gen 1
3. Kensington Security Slot	8. HDMI 2.0
4. USB-C 3.2 Gen 2	9. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2	

- Notes:
- Ports with * are only available on selected models
 - Card slot on the rear side (not shown on the sample product above) is for microSD card (WLAN model) or nano-SIM + microSD card (WWAN model)
 - The combination of 5 and 6 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 5 PRO 4650U	6	12	2.1GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 7 PRO 4750U	8	16	1.7GHz	4.1GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or USB-C (up to 5K@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Removable Storage

Optical

None

Card Reader**

- MicroSD card slot (WLAN model)
- Nano-SIM + microSD card slot (WWAN model)

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 1W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 15.9 hr
MobileMark 2018: 13.6 hr
JEITA 2.0: 17.4 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
FHD Low Power models	328.8 x 225.8 x 16.1 mm (12.94 x 8.89 x 0.63 inches)
FHD touch / FHD non-touch / FHD Privacy Guard models	329.0 x 226.15 x 16.7 mm (12.95 x 8.90 x 0.66 inches)

Weight^[1]

Models	Weight
FHD Low Power / FHD Privacy Guard models	1.27 kg (2.81 lbs)
FHD touch / FHD non-touch models	1.35 kg (2.98 lbs)

Case Color

Black

Case Material

Carbon fiber hybrid (top), magnesium (keyboard cover & bottom)

Notes:

- The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111EPV, RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2

WLAN + Bluetooth[®]^[1]**

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel[®] Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

WWAN^[2]**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x Ethernet extension connector
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM & microSD card slot (WWAN model)
- 1x microSD card slot (WLAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset

- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

DASH

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

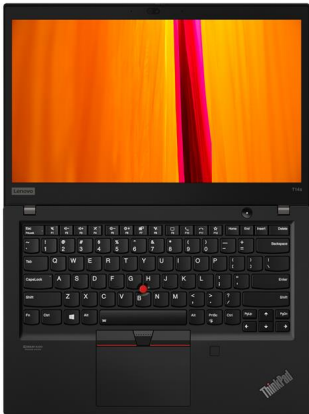
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

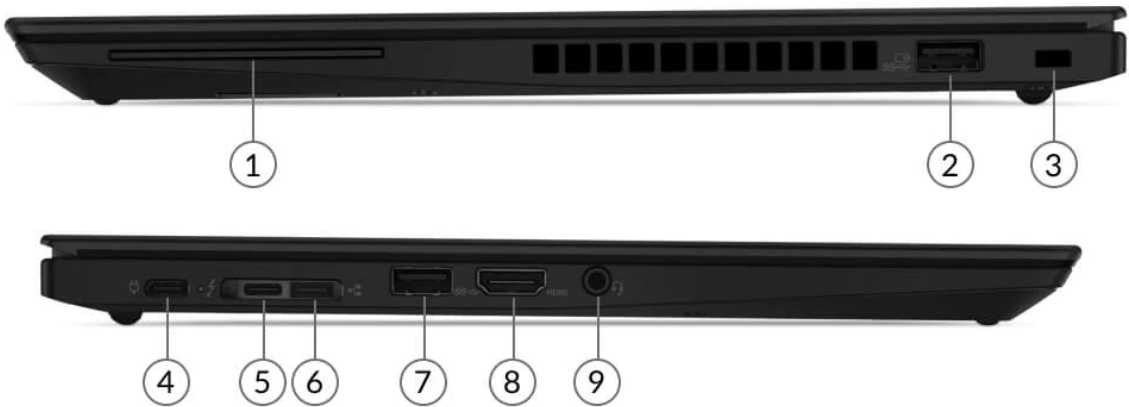


AMD



AMD

OVERVIEW



1. Smart card reader *	6. Ethernet extension connector
2. USB 3.2 Gen 1 (Always On)	7. USB 3.2 Gen 1
3. Kensington Security Slot	8. HDMI 1.4b
4. USB-C 3.2 Gen 1	9. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2 / Thunderbolt 3	

- Notes:
- Ports with * are only available on selected models
 - Card slot on the rear side (not shown on the sample product above) is for microSD card (WLAN model) or nano-SIM + microSD card (WWAN model)
 - The combination of 5 and 6 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Home 64
- 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 via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz), USB-C (up to 4096x2304@60Hz) or Thunderbolt™ (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type^[2]

DDR4-2666

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.
2. Installed memory is actually 3200MHz but run at 2666MHz due to processor limitation

Storage

Storage Support

One drive, up to 512GB M.2 2242 SSD or 2TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader**

- MicroSD card slot (WLAN model)
- Nano-SIM + microSD card slot (WWAN model)

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 1W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 21 hr

MobileMark 2018: 14.28 hr

JEITA 2.0: 23.1 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**

- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
14.0"	UHD (3840x2160)	None	IPS	500 nits	Glossy	16:9	1500:1	100% DCI-P3	170°	Dolby Vision™, HDR 400

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Model with black cover and FHD Low Power / UHD display	328.8 x 225.8 x 16.1 mm (12.94 x 8.89 x 0.63 inches)
Model with black cover and FHD touch / FHD non-touch / FHD Privacy Guard display	329.0 x 226.15 x 16.7 mm (12.95 x 8.90 x 0.66 inches)
Silver models	329.15 x 226.45 x 17.2 mm (12.96 x 8.92 x 0.68 inches)

Weight^[1]

Models	Weight
Model with black cover and FHD Low Power / UHD display	1.27 kg (2.81 lbs)
Model with black cover and FHD touch / FHD non-touch / FHD Privacy Guard display	1.35 kg (2.98 lbs)
Silver models	1.49 kg (3.29 lbs)

Case Color^{**}

- Black
- Silver

Case Material^{**[2]}

- Black models: carbon fiber hybrid (top), magnesium (keyboard cover & bottom)
- Silver models: aluminium (top), magnesium (keyboard cover & bottom)

Notes:

1. The system weight varies depending on configurations
2. CFRP Hybrid top cover for black models; Aluminum top cover for silver models

CONNECTIVITY

Network

Onboard 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^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**[2]

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, 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. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 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 Smart card reader
- 1x Nano-SIM & microSD card slot (WWAN model)
- 1x microSD card slot (WLAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter

- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

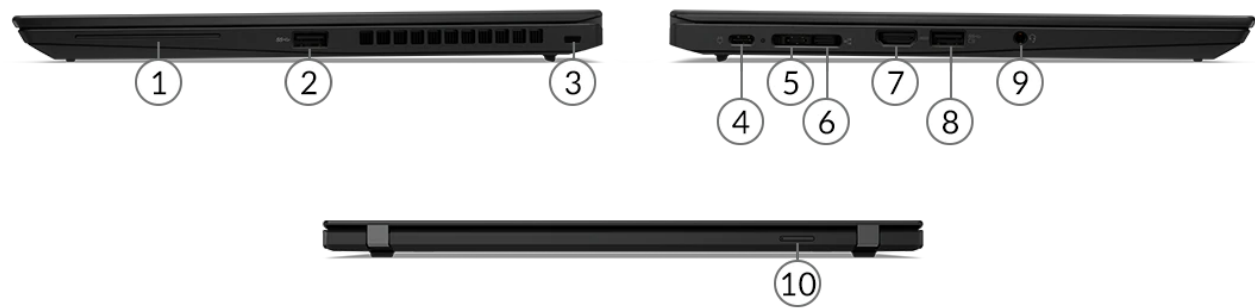
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Smart card reader *	6. Ethernet extension connector *
2. USB 3.2 Gen 1	7. HDMI 2.0
3. Kensington Nano Security Slot	8. USB 3.2 Gen 1 (Always On)
4. USB-C 3.2 Gen 2	9. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2	10. Nano-SIM card slot *

- Notes:
- Ports with * are only available on selected models
 - The combination of 5 and 6 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 PRO 5450U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	LPDDR4-4266	AMD Radeon™ Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	LPDDR4-4266	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	LPDDR4-4266	AMD Radeon Graphics
AMD Ryzen 7 5800U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 5850U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	LPDDR4-4266	AMD Radeon Graphics

Notes:

1. Ryzen 3 PRO 5450U and Ryzen 5 5600U are NOT available in EMEA

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise LTSC
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or USB-C (up to 5K@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

LPDDR4x-4266

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

One drive, up to 256GB M.2 2242 SSD or 2TB M.2 2280 SSD

Storage Slot

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type**[1]

Disk Type	Interface	RPM	Offering	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	256GB	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	-	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	2TB	Opal2

Notes:

- 1. The SSD with PCI 4.0x4 performance is downgraded to closer to PCIe 3.0x4 performance due to the system slot limitation

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- IR & 1080p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life[3]

MobileMark® 2018: 14.9 hr

JEITA 2.0: 19.4 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**[1]

- 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
- No power adapter

Notes:

1. 45W USB-C AC adapter is only available for the models with integrated graphics
No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	None	IPS	400 nits	Anti-glare	16:9	1200:1	72% NTSC	170°	Low power
14.0"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	178°	ThinkPad® Privacy Guard
14.0"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1500:1	100% Adobe® RGB	178°	Dolby Vision™, HDR 400

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight[1]

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Notes:

1. Non-backlit keyboard is only available for the models with black cover

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Model with black cover and FHD Low Power / UHD display	327.5 x 224 x 16.14 mm (12.89 x 8.82 x 0.64 inches)
Model with black cover and FHD touch / FHD non-touch / FHD Privacy Guard display	327.5 x 224.4 x 16.81 mm (12.89 x 8.83 x 0.66 inches)
Storm grey models	327.5 x 225.3 x 16.81 mm (12.89 x 8.87 x 0.66 inches)

Weight^[1]

Models	Weight
Model with black cover and FHD Low Power / UHD display	1.28 kg (2.83 lbs)
Model with black cover and FHD Privacy Guard display	1.415 kg (3.12 lbs)
Model with black cover and FHD touch / FHD non-touch display	1.36 kg (2.99 lbs)
Storm grey with FHD Low Power / UHD models	1.51 kg (3.32 lbs)
Storm grey with FHD Privacy Guard models	1.62 kg (3.57 lbs)
Storm grey with FHD touch / FHD non-touch models	1.57 kg (3.46 lbs)

Case Color^{**[2]}

- Storm grey
- Villi black

Case Material^{**}

- Villi black models: carbon fiber hybrid (top), magnesium (keyboard cover), aluminium (bottom)
- Storm grey models: aluminium (top), aluminium (keyboard cover & bottom)

Notes:

1. The system weight varies depending on configurations
2. Storm grey case is NOT available in EMEA

CONNECTIVITY

Network

Onboard Ethernet

- Gigabit Ethernet, Realtek RTL8111EPV, RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2
- No Ethernet

WLAN + Bluetooth^{®**[1]}

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Qualcomm[®] QCNFA765, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Intel[®] Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^{**[2]}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Qualcomm Snapdragon[™] X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC^[3]

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. WWAN is NOT available for the models with storm grey cover

3. NFC is NOT available for the models with storm grey cover

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports^{***[2]}

- 1x Ethernet extension connector
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. If your computer has Ethernet icon, it supports wired Ethernet connection with ThinkPad Ethernet Extension Adapter or ThinkPad Basic/Pro/Ultra Docking Station.
If your computer does not have Ethernet icon, the Ethernet connector does not support Ethernet connection. We recommend you use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable^{***}

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip^{**}

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on power button, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- (Optional) Camera privacy shutter

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

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

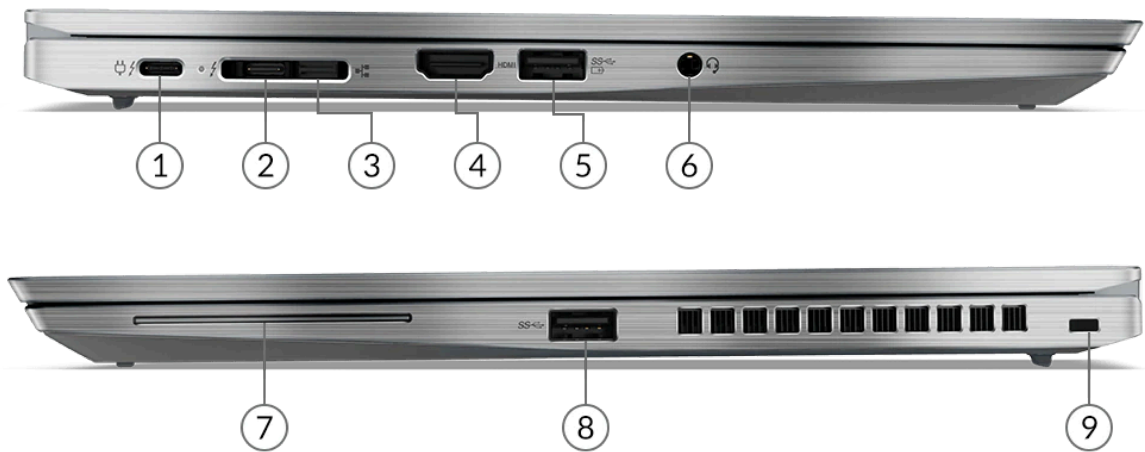


AMD



AMD

OVERVIEW



1. Thunderbolt 4	6. Headphone / microphone combo jack (3.5mm)
2. Thunderbolt 4	7. Smart card reader *
3. Ethernet extension connector *	8. USB 3.2 Gen 1
4. HDMI 2.0	9. Kensington Nano Security Slot
5. USB 3.2 Gen 1 (Always On)	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	LPDDR4x-4266	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise LTSC
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
Intel Iris Xe Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via Thunderbolt™ (5K@60Hz) or HDMI® (up to 4K@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^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

LPDDR4x-4266

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

One drive, up to 256GB M.2 2242 SSD or 2TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	Opal 2.0

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- IR & 1080p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 14.5 hr
JEITA 2.0: 23.6 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
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	45% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	800:1	72% NTSC	170°	ThinkPad® Privacy Guard
14.0"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1500:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Model with black cover and FHD Low Power / UHD display	327.5 x 224 x 16.14 mm (12.89 x 8.82 x 0.64 inches)
Model with black cover and FHD touch / FHD non-touch / FHD Privacy Guard display	327.5 x 224.4 x 16.81 mm (12.89 x 8.83 x 0.66 inches)
Storm grey models	327.5 x 225.3 x 16.81 mm (12.89 x 8.87 x 0.66 inches)

Weight^[1]

Models	Weight
Model with black cover and FHD Low Power / UHD display	1.28 kg (2.83 lbs)
Model with black cover and FHD touch / FHD non-touch / FHD Privacy Guard display	1.36 kg (2.99 lbs)
Storm grey with FHD Low Power / UHD models	1.51 kg (3.32 lbs)
Storm grey with FHD touch / FHD non-touch / FHD Privacy Guard models	1.57 kg (3.46 lbs)

Case Color**

- Storm grey
- Villi black

Case Material**

- Villi black models: carbon fiber hybrid (top), magnesium (keyboard cover), aluminium (bottom)
- Storm grey models: aluminium (top), aluminium (keyboard cover & bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard 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
- No Ethernet

WLAN + Bluetooth®[1]**

- Intel Wi-Fi® 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Qualcomm® Snapdragon™ X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel Wi-Fi 6 full features might be limited by country level restrictions
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 5.2 is supported with driver version 22.30 and later

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™ 1.4a)
- 1x HDMI 2.0
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports*[2]**

- 1x Ethernet extension connector
- 1x Side docking connector (Ethernet model only)
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

2. Ethernet and side docking connector are coexisting. On some models, both of them are equipped. On some models, neither of them is equipped.
If your computer has Ethernet icon, it supports wired Ethernet connection with ThinkPad Ethernet Extension Adapter or ThinkPad Basic/Pro/Ultra Docking Station.
If your computer does not have Ethernet icon, the Ethernet connector does not support Ethernet connection. We recommend you use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on power button, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert
- (Optional) Human Presence Detection

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service

- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications^[1]

(Optional) Intel Evo™ Platform

Notes:

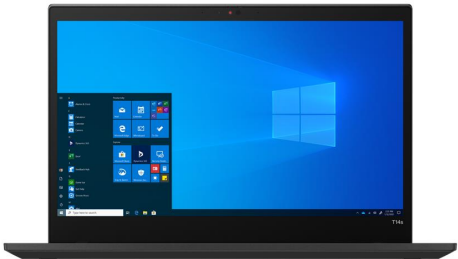
1. Intel Evo is only available for the models with FHD Low Power, FHD Privacy Guard, or UHD display

- 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.

- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



intel



intel

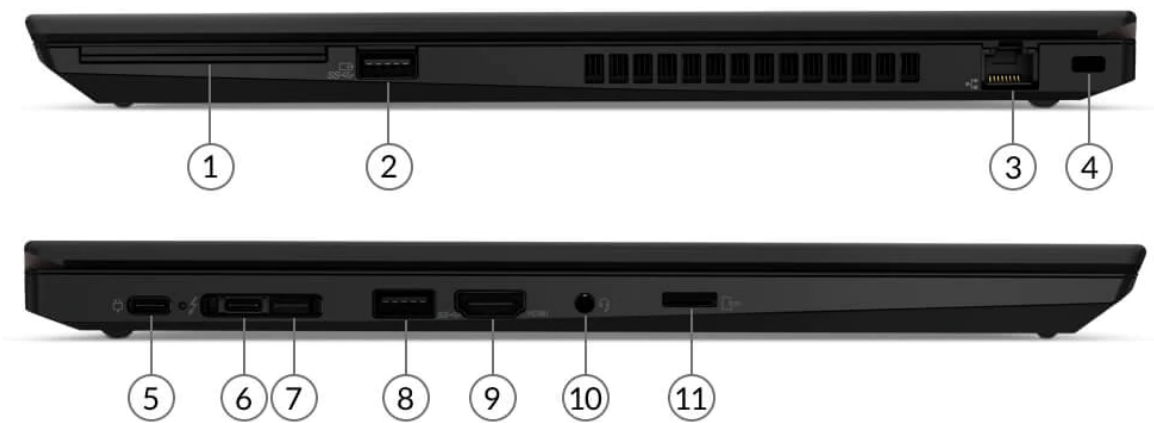


intel



intel

OVERVIEW



1. Smart card reader *	7. Side docking connector
2. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
3. Ethernet (RJ-45)	9. HDMI 1.4b
4. Kensington Security Slot	10. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 1	11. MicroSD card reader
6. USB-C 3.2 Gen 2 / Thunderbolt 3	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

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

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® MX330	Discrete	2GB GDDR5	DirectX 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz), USB-C (up to 4096x2304@60Hz) or Thunderbolt™ (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-2666
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-2666

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, dual-channel capable

Memory Type^[2]

DDR4-2666

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.
2. Installed memory is actually 3200MHz but run at 2666MHz due to processor limitation

Storage

Storage Support

One drive, up to 128GB M.2 2242 SSD or 2TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 15.26 hr
MobileMark 2018: 10.81 hr
JEITA 2.0: 14.9 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**

- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	500 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Touchscreen

- On-cell 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	365.8 x 248 x 19.1 mm (14.40 x 9.76 x 0.75 inches)

Weight^[1]

Models	Weight
FHD non-touch models	1.81 kg (3.99 lbs)
FHD touch models	1.81 kg (3.99 lbs)
UHD models	1.74 kg (3.84 lbs)

Case Color

Black

Surface Treatment

- ISO 22196 compliant anti-microbial surface treatment (not including keyboard, display, and display bezel)
- Not anti-microbial surface treatment

Case Material

PPS / 50% GF (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{**}

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)

- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)

WLAN + Bluetooth^[1]

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN^{[2]}**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, 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. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports^{*}**

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable^{***}**

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip^{**}**

- Discrete TPM 2.0, TCG certified

- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

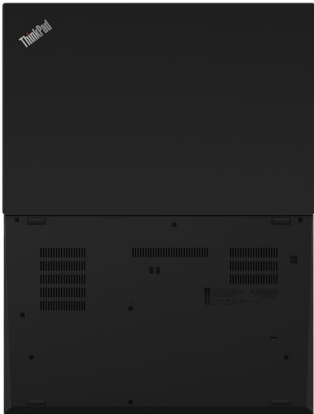
- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO
- RoHS compliant

Other Certifications

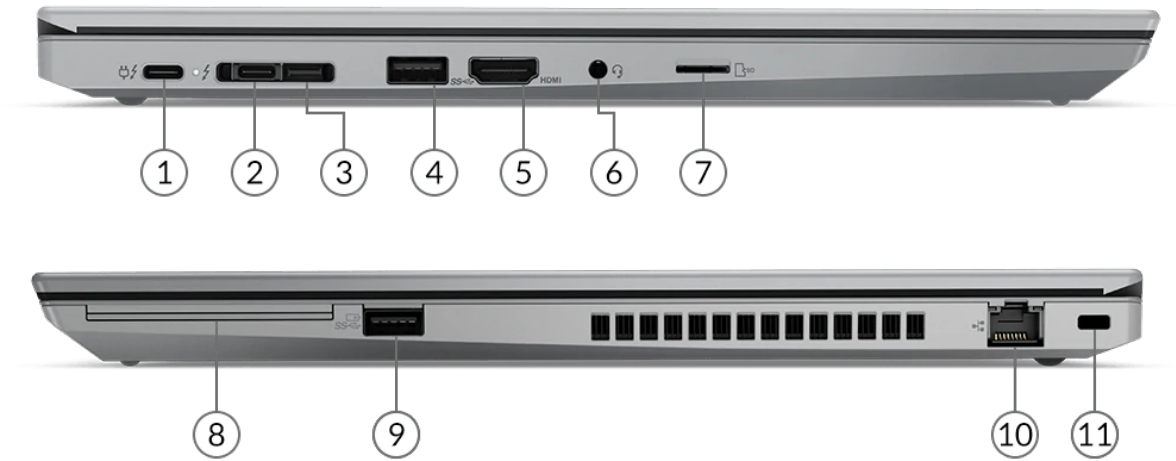
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Thunderbolt 4	7. MicroSD card reader
2. Thunderbolt 4	8. Smart card reader *
3. Side docking connector *	9. USB 3.2 Gen 1 (Always On)
4. USB 3.2 Gen 1	10. Ethernet (RJ-45) *
5. HDMI 2.0	11. Kensington Security Slot
6. Headphone / microphone combo jack (3.5mm)	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	DDR4-3200	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	DDR4-3200	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	DDR4-3200	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics**^[1]

Graphics	Type	Memory	Key Features
Intel Iris Xe Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® MX450	Discrete	2GB GDDR6	DirectX 12

Notes:

1. Intel Iris Xe Graphics capability requires system to be configured with Intel Core i5 or i7 processor and dual-channel memory. On the system with Intel Core i5 or i7 processor and single-channel memory, Intel Iris Xe Graphics will function as Intel UHD graphics

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via Thunderbolt™ (5K@60Hz) or HDMI® (up to 4K@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^[1]

- Up to 40GB (8GB soldered + 32GB SO-DIMM) DDR4-3200
- Up to 48GB (16GB soldered + 32GB SO-DIMM) DDR4-3200

Memory Slots

One memory soldered to systemboard, one DDR4 SO-DIMM slot, 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

One drive, up to 256GB M.2 2242 SSD or 2TB M.2 2280 SSD

Storage Slot

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type**[1]

Disk Type	Interface	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	Opal 2.0

Notes:

1. The SSD with PCI 4.0x4 performance is downgraded to closer to PCIe 3.0x4 performance due to the system slot limitation

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone[1]

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Notes:

1. No microphone is for special bid only

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life[1]

MobileMark® 2018: 12 hr
JEITA 2.0: 16.8 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**[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only
In EMEA only 65W USB-C AC adapter is available

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Touchscreen

- On-cell 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	365.8 x 248 x 19.1 mm (14.40 x 9.76 x 0.75 inches)

Weight[1]

Models	Weight
FHD non-touch model with aluminium top cover	1.79 kg (3.96 lbs)
FHD non-touch model with PPS top cover	1.82 kg (4.02 lbs)
FHD touch model with aluminium top cover	1.81 kg (3.999 lbs)

FHD touch model with PPS top cover	1.84 kg (4.07 lbs)
UHD model with PPS top cover	1.75 kg (3.86 lbs)

Case Color[2]**

- Black
- Storm grey

Surface Treatment

- ISO 22196 compliant anti-microbial surface treatment (not including keyboard, display, and display bezel)
- Not anti-microbial surface treatment

Case Material**

- Aluminium (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)
- PPS / 50% GF (top), PC + ABS / Talc15 + magnesium alloy (keyboard cover), PA / 50% GF (bottom)

Notes:

1. The system weight varies depending on configurations
2. Storm grey case is NOT available in EMEA

CONNECTIVITY

Network

Onboard Ethernet

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)
- No Ethernet

WLAN + Bluetooth®[1]**

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Integrated Mobile Broadband 4G LTE, Quectel EM160R, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
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 5.2 is supported with driver version 22.30 and later

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™ 1.4a)
- 1x HDMI 2.0
- 1x microSD card reader
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports*[2]**

- 1x Ethernet (RJ-45)
- 1x Side docking connector
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. For the models without Ethernet connector, it is recommended to use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on 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 Technology, DASH
- None

SERVICE

Warranty

Base Warranty**^[1]

- 1-year depot service

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

Notes:

1. 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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



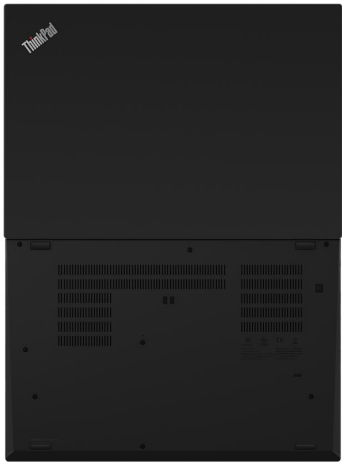
intel



intel



intel



intel

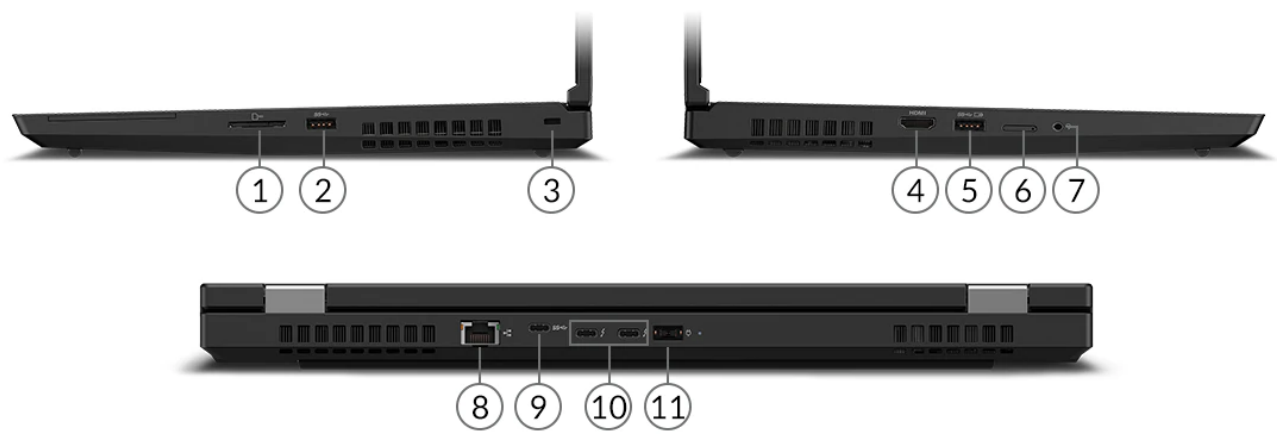


intel



intel

OVERVIEW



1. SD card reader	7. Headphone / microphone combo jack (3.5mm)
2. USB 3.2 Gen 1	8. Ethernet (RJ-45)
3. Kensington Security Slot	9. USB-C 3.2 Gen 1
4. HDMI 2.0	10. 2x USB-C 3.2 Gen 2 / Thunderbolt 3
5. USB 3.2 Gen 1	11. Power connector
6. Nano-SIM card slot *	

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-2933	Intel UHD Graphics
Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-3200	Intel UHD Graphics
Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-2933	Intel UHD Graphics
Core i9-10980HK	8	16	2.4GHz	5.3GHz	16MB	DDR4-3200	Intel UHD Graphics
Xeon W-10855M	6	12	2.8GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Xeon W-10885M	8	16	2.4GHz	5.3GHz	16MB	DDR4-2933	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Fedora Linux
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	Key Features
NVIDIA® GeForce® RTX™ 2070 SUPER with Max-Q Design	Discrete	8GB GDDR6	VR ready, DirectX® 12
NVIDIA GeForce RTX 2080 SUPER with Max-Q Design	Discrete	8GB GDDR6	VR ready, DirectX 12

Monitor Support

Monitor Support

Supports up to 5 independent displays via native display and 4 external monitors; supports external monitors via HDMI® (up to 4K@60Hz), USB-C (up to 4K@60Hz) or Thunderbolt™ (one supports up to 5K@60Hz and the other supports up to 4K@60Hz)

Chipset

Chipset

Intel WM490 chipset

Memory

Max Memory^[1]

Up to 128GB DDR4-2933

Memory Slots

Four DDR4 SO-DIMM slots, dual-channel capable

Memory Type**^[2]

- DDR4-2933 ECC
- DDR4-2933 non-ECC

Memory Protection

ECC on models with ECC DIMMs and Xeon processor

- 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.
 - 2. Non-ECC memory is actually DDR4-3200 but may run at DDR4-2933 due to processor limitation

Storage

Storage Support

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Type

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	Opal2

RAID^[1]

RAID 0/1 support

- Notes:
- 1. Opal capability is not available in RAID mode

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3286 codec

Speakers

Stereo speakers, Dolby® Atmos®

Microphone

- Dual array microphone, far-field
- No microphone

Camera^{**}

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 94Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 230W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 16.4 hr
MobileMark 2018: 10.3 hr
JEITA 2.0: 17.4 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^{**}

- 170W slim tip (2-pin) AC adapter
- 170W slim tip (3-pin) AC adapter
- 230W slim tip (3-pin) AC adapter

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	160°	-
15.6"	FHD (1920x1080)	None	IPS	500 nits	Anti-glare	16:9	1200:1	72% NTSC	160°	Dolby Vision™, HDR
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	178°	Dolby Vision, HDR
15.6"	UHD (3840x2160)	Multi-touch	OLED	SDR 400nit, HDR 500nit (peak)	Anti-reflection Anti-smudge	16:9	100000:1	100% DCI-P3	170°	Dolby Vision, HDR

Color Calibration

No color calibration

Touchscreen

- On-cell 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>
2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

Pen

- Lenovo Pen Pro (for UHD OLED models)
- No support (non-touch display doesn't support pen input)

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Touch models	375.4 x 252.3 x 25.25-32.2 mm (14.24 x 9.67 x 0.99-1.27 inches)
Non-touch models	375.4 x 252.3 x 24.5-31.45 mm (14.24 x 9.67 x 0.96-1.24 inches)

Weight^[1]

Models	Weight
--------	--------

FHD models	2.74 kg (6.05 lbs)
------------	--------------------

Case Color

Black

Case Material

PPS695 + GF 50% (top), PPS + GF (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{}**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth®

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

WWAN^{}**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 4x4, M.2 card
- No support

NFC

No support

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.4)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports^{*}**

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable^{*}**

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

ISV Certifications

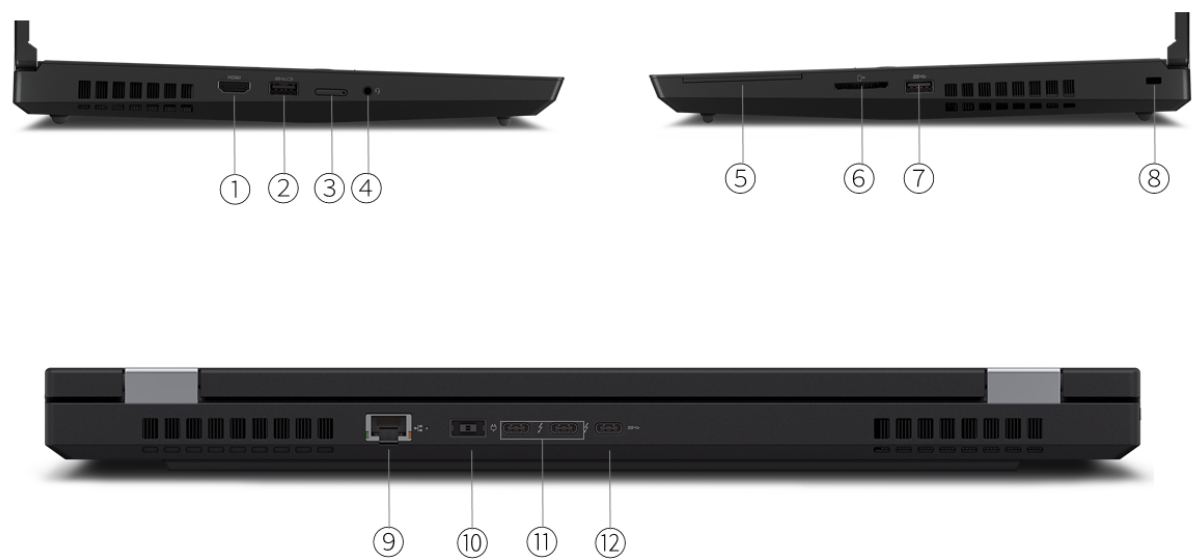
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. HDMI 2.1 / 2.0	7. USB 3.2 Gen 1
2. USB 3.2 Gen 1 (Always On)	8. Kensington Security Slot
3. Nano-SIM card slot *	9. 2.5GbE (RJ-45)
4. Headphone / microphone combo jack (3.5mm)	10. Power connector
5. Smart card reader *	11. 2x Thunderbolt 4
6. SD card reader	12. USB-C 3.2 Gen 2

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 / i9 or Intel Xeon® Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-11500H	6	12	2.9GHz	4.6GHz	12MB	DDR4-3200	Intel UHD Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i9-11950H	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics
Xeon W-11855M	6	12	3.2GHz	4.9GHz	18MB	DDR4-3200	Intel UHD Graphics
Xeon W-11955M	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics

Operating System

Operating System**^[1]

- Windows® 11 Pro 64
- Windows 11 Pro 64 for Workstations
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 11 DG Windows 10 Pro 64 for Workstations
- Windows 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Windows 10 Home 64
- Fedora Linux
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)

Notes:

1. As preloaded OS, Fedora and Ubuntu Linux will be available in October 2021

Graphics

Graphics**

Graphics	Type	Memory	TGP	Key Features
NVIDIA® GeForce® RTX™ 3070 Laptop GPU	Discrete	8GB GDDR6	90W	Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX® 12
NVIDIA GeForce RTX 3080 Laptop GPU	Discrete	16GB GDDR6	90W	Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX 12

Monitor Support

Monitor Support

Supports up to 5 independent displays via native display and 4 external monitors, hybrid mode only; supports external monitors via HDMI® (up to 4K@60Hz on NVIDIA T1200 / 8K@60Hz on other discrete graphics), USB-C (up to 5120x3200@60Hz) or Thunderbolt™ (up to 5120x3200@60Hz)

Chipset

Chipset

Intel WM590 chipset

Memory

Max Memory^[1]

Up to 128GB DDR4-3200

Memory Slots

Four DDR4 SO-DIMM slots, dual-channel capable

Memory Type**

- DDR4-3200 ECC
- DDR4-3200 non-ECC

Memory Protection

ECC on models with ECC DIMMs and Xeon processor

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

Up to three drives, 3x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Slot^[1]

Three M.2 slots

- Two M.2 2280 PCIe® Gen 3x4 slots, support M.2 2280 SSD
- One M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD

Storage Type***

Disk Type	Interface	RPM	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	-	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	512GB / 1TB / 2TB	Opal2

RAID^[2]

RAID 0/1 support on two M.2 PCIe Gen 3x4 slots

Notes:

1. M.2 PCIe Gen 4 SSD in a M.2 PCIe Gen 3 slot runs at PCIe Gen 3 speeds
2. Opal capability is not available in RAID mode

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

Speakers

Stereo speakers, Dolby® Atmos®

Microphone

- Dual array microphone, near-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 94Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2018: 7 hr

JEITA 2.0: 11 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**
- 170W slim tip (3-pin) AC adapter
 - 230W slim tip (3-pin) AC adapter

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	100% sRGB	170°	-
15.6"	FHD (1920x1080)	None	IPS	500 nits	Anti-glare	16:9	1200:1	100% sRGB	170°	Dolby Vision™
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1200:1	100% Adobe® RGB	170°	Dolby Vision, HDR 400
15.6"	UHD (3840x2160)	Multi-touch	OLED	SDR 400nit, HDR 500nit (peak)	Anti-reflection Anti-smudge	16:9	100000:1	100% DCI-P3	170°	Dolby Vision, HDR 500 True Black

- Color Calibration
- X-Rite® Pantone® factory color calibration (UHD display)
 - No color calibration

- Touchscreen
- On-cell 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>

2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

- Pen
- Lenovo Pen Pro
 - No pen (pen sold separately)
 - No support (non-touch display doesn't support pen input)

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Touch models	375.4 x 252.3 x 25.25-32.2 mm (14.24 x 9.67 x 0.99-1.27 inches)
Non-touch models	375.4 x 252.3 x 24.5-31.45 mm (14.24 x 9.67 x 0.96-1.24 inches)

Weight^[1]

Models	Weight
Non-touch models	2.87 kg (6.32 lbs)
Touch models	3.07 kg (6.75 lbs)

Case Color

Black

Case Material

PPS / 50% GF (top), PA / 50% GF (bottom)

Notes:

- 1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{**}

- 2.5GbE, Intel Ethernet Connection I225-LM (vPro models), supports Wake-on-LAN
- 2.5GbE, Intel Ethernet Connection I225-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth^[1]

- Intel Wi-Fi® 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN^{**}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM160R, MIMO 4x4, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

- 1. 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 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 2x USB 3.2 Gen 1 (one Always On)
- 1x USB-C 3.2 Gen 2 (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 2x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4a)
- 1x SD card reader
- 1x Ethernet (2.5GbE RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports^{***}

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)
- 1x HDMI 2.1 (model with Geforce RTX 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;
 - USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
 - Thunderbolt 3: 40 Gbit/s;
 - FireWire 400: 400 Mbit/s;
 - FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot (3 x 7 mm)

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service

- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

ISV Certifications

ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.





OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	6. Kensington Security Slot
2. Card reader	7. Power connector
3. HDMI 2.0	8. USB-C 3.2 Gen 2 / Thunderbolt 3
4. 2x USB 3.2 Gen 1 (one Always On)	9. Smart card reader *
5. Ethernet (RJ-45)	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10300H	4	8	2.5GHz	4.5GHz	8MB	DDR4-2933	Intel UHD Graphics
Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-2933	Intel UHD Graphics
Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10875H	8	16	2.3GHz	5.1GHz	16MB	DDR4-3200	Intel UHD Graphics

Notes:

- i7-10875H is NOT available in EMEA

Operating System

Operating System**

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

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® GTX 1050	Discrete	3GB GDDR5	DirectX 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (up to 5K@60Hz)

Chipset

Chipset

Intel WM490 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-2933

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type^[2]

DDR4-2933

Notes:

- The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.
- Installed memory is actually 3200MHz but run at 2933MHz due to processor limitation

Storage

Storage Support

- Up to two drives, 2x M.2 SSD
- M.2 2280 SSD up to 2TB
 - RAID 0/1 support

Storage Type

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	Opal2

RAID

RAID 0/1 support

Removable Storage

Optical

None

Card Reader

SD card reader, supports UHS-II SD card

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 68Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2014: 12.1 hr
MobileMark 2018: 7.9 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**

- 135W slim tip (2-pin) AC adapter
- 135W slim tip (3-pin) AC adapter

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
------	------------	-------	------	------------	---------	--------------	----------------	-------------	---------------	--------------

15.6"	FHD (1920x1080)	None	IPS	250 nits	Anti-glare	16:9	700:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	178°	Dolby Vision™, HDR 400

Touchscreen

- On-cell 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	366.5 x 250 x 22.7 mm (14.43 x 9.84 x 0.89 inches)

Weight^[1]

Models	Weight
All models	2.07 kg (4.57 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet^{**}

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)

WLAN + Bluetooth[®]^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^{**}^[2]

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Power connector

Optional Ports^{*}**

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable^{***}**

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip^{**}**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

- Supervisor password

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	6. Kensington Security Slot
2. SD card reader	7. Power connector
3. HDMI 2.0	8. Thunderbolt 4
4. 2x USB 3.2 Gen 1	9. Smart card reader *
5. Ethernet (RJ-45)	

- Notes:
- Ports with * are only available on selected models
 - Nano-SIM card slot on the rear 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	Memory Support	Processor Graphics
Core i5-11400H	6	12	2.7GHz	4.5GHz	12MB	DDR4-3200	Intel UHD Graphics
Core i5-11500H	6	12	2.9GHz	4.6GHz	12MB	DDR4-3200	Intel UHD Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	DDR4-3200	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Home 64
- Ubuntu Linux LTS
- Red Hat Enterprise Linux (certified only)
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® GTX 1650	Discrete	4GB GDDR6	DirectX 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (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 non-ECC

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

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB

Storage Slot

Two M.2 slots

- Two M.2 2280 PCIe® Gen 3x4 slots, support M.2 2280 SSD

Storage Type***

Disk Type	Interface	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	2TB	Opal2

RAID^[1]

RAID 0/1 support

Notes:

1. Opal capability is not available in RAID mode

Removable Storage

Optical

None

Card Reader

SD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, Dolby® Audio™

Microphone

- Dual array microphone, near-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 68Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2018: 10 hr
JEITA 2.0: 10.6 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

135W slim tip (3-pin) AC adapter

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
------	------------	-------	------	------------	---------	--------------	----------------	-------------	---------------	--------------

15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	1200:1	100% sRGB	170°	-
15.6"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	800:1	45% NTSC	170°	-
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	170°	Dolby Vision™, HDR 400

Touchscreen

- On-cell touch, supports 10-point touch (FHD models only)
- 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 with Unified Communications controls, numeric keypad

Keyboard Backlight

- LED backlight
- No support

UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	366.5 x 250 x 22.7 mm (14.43 x 9.84 x 0.89 inches)

Weight^[1]

Models	Weight
All models	2.07 kg (4.58 lbs)

Case Color

Black

Case Material

PC + ABS (top), PC + ABS (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet**

- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models), supports Wake-on-LAN
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models), supports Wake-on-LAN

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)

- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

- Nano SIM card, Lenovo Connect 24 months, 4G LTE
- No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]**Standard Ports**

- 2x USB 3.2 Gen 1 (one Always On)
- 1x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

- Supervisor password

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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)

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

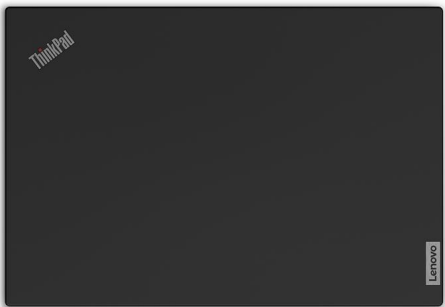
MIL-STD-810H military test passed

ISV Certifications

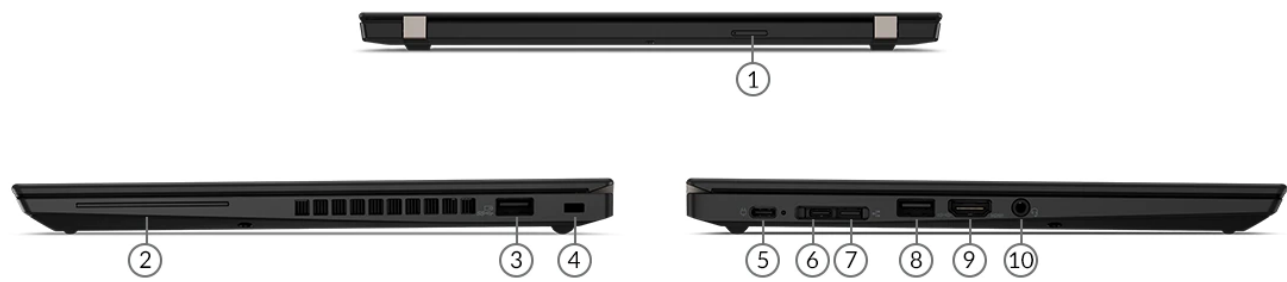
ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Card slot	6. USB-C 3.2 Gen 2
2. Smart card reader *	7. Ethernet extension connector
3. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
4. Kensington Security Slot	9. HDMI 2.0
5. USB-C 3.2 Gen 2	10. Headphone / microphone combo jack (3.5mm)

- Notes:
- Ports with * are only available on selected models
 - Card slot is for microSD card (WLAN model) or nano-SIM + microSD card (WWAN model)
 - The combination of 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 PRO 4450U	4	8	2.5GHz	3.7GHz	2MB L2 / 4MB L3	DDR4-3200	AMD Radeon™ Graphics
AMD Ryzen 5 PRO 4650U	6	12	2.1GHz	4.0GHz	3MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 4750U	8	16	1.7GHz	4.1GHz	4MB L2 / 8MB L3	DDR4-3200	AMD Radeon Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or USB-C (up to 5K@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

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

One drive, up to 512GB M.2 2242 SSD or 1TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

Removable Storage

Optical

None

Card Reader**

- MicroSD card slot (WLAN model)
- Nano-SIM + microSD card slot (WWAN model)

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 1W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 12.8 hr

MobileMark 2018: 10.35 hr

JEITA 2.0: 13.9 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	HD (1366x768)	None	TN	250 nits	Anti-glare	16:9	300:1	45% NTSC	90°	-
13.3"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	72% NTSC	170°	-
13.3"	FHD (1920x1080)	None	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-

Touchscreen

- On-cell touch, supports 10-point touch
- Non-touch

Notes:

- 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	311.9 x 217.2 x 16.9 mm (12.28 x 8.55 x 0.67 inches)

Weight^[1]

Models	Weight
FHD touch models	1.28 kg (2.84 lbs)
HD / FHD non-touch / FHD Privacy Guard models	1.29 kg (2.85 lbs)

Case Color

Black

Case Material

PPS / GF (top), magnesium-aluminium (keyboard cover & bottom)

Notes:

- The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Realtek RTL8111EPV, RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2

WLAN + Bluetooth®[1]**

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2, M.2 card
- Intel® Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 card

WWAN[2]**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x Ethernet extension connector
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM & microSD card slot (WWAN model)
- 1x microSD card slot (WLAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

DASH

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

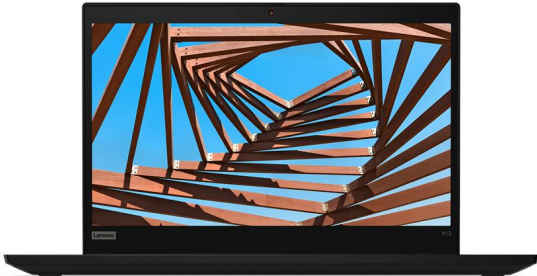
Mil-Spec Test

MIL-STD-810G military test passed

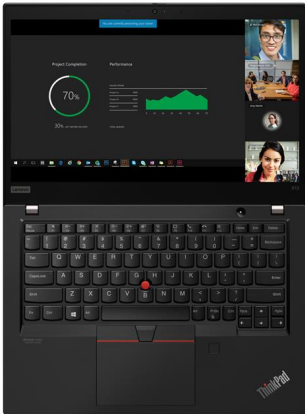
- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

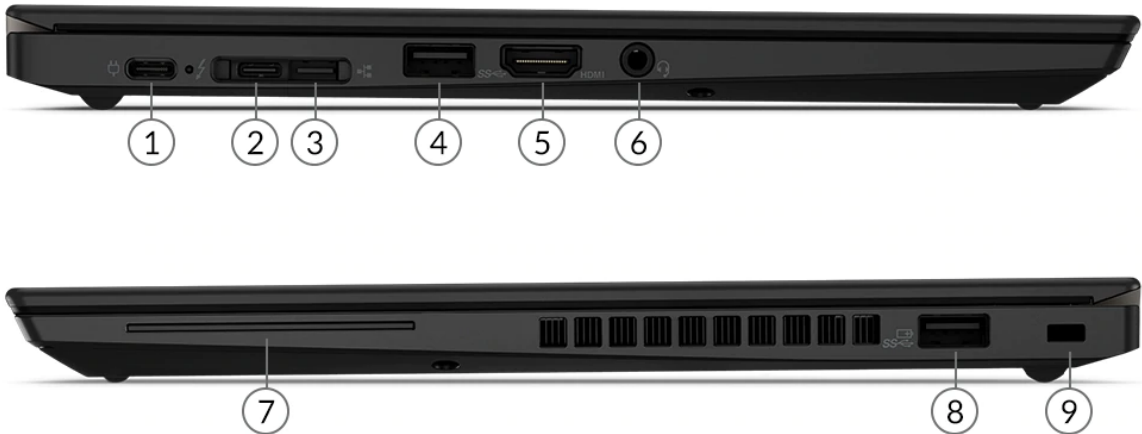


AMD



AMD

OVERVIEW



1. USB-C 3.2 Gen 1	6. Headphone / microphone combo jack (3.5mm)
2. USB-C 3.2 Gen 2 / Thunderbolt 3	7. Smart card reader *
3. Ethernet extension connector	8. USB 3.2 Gen 1 (Always On)
4. USB 3.2 Gen 1	9. Kensington Security Slot
5. HDMI 1.4b	

- Notes:
- Ports with * are only available on selected models
 - Card slot on the rear side (not shown on the sample product above) is for microSD card (WLAN model) or nano-SIM + microSD card (WWAN model)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-10110U	2	4	2.1GHz	4.1GHz	4MB	DDR4-2666	Intel UHD Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Home 64
- 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 via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz), USB-C (up to 4096x2304@60Hz) or Thunderbolt™ (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type^[2]

DDR4-2666

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.
2. Installed memory is actually 3200MHz but run at 2666MHz due to processor limitation

Storage

Storage Support

One drive, up to 512GB M.2 2242 SSD or 2TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader**

- MicroSD card slot (WLAN model)
- Nano-SIM + microSD card slot (WWAN model)

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 1W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Battery

Battery

Integrated Li-Polymer 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 15.9 hr

MobileMark 2018: 10.45 hr

JEITA 2.0: 16 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**

- 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

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	HD (1366x768)	None	TN	250 nits	Anti-glare	16:9	300:1	45% NTSC	170°	-
13.3"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	800:1	72% NTSC	170°	-
13.3"	FHD (1920x1080)	None	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
FHD non-touch models with PPS case models	312.0 x 217.2 x 16.9 mm (12.28 x 8.55 x 0.67 inches)
FHD non-touch models with carbon fiber case models	311.9 x 217.0 x 16.5 mm (12.28 x 8.54 x 0.65 inches)
HD / FHD touch / FHD Privacy Guard models with PPS case	311.9 x 217.2 x 16.9 mm (12.28 x 8.55 x 0.67 inches)

Weight[1]

Models	Weight
FHD non-touch models with carbon fiber case	1.22 kg (2.70 lbs)
FHD non-touch models with PPS case	1.29 kg (2.85 lbs)
FHD touch / FHD Privacy Guard models with PPS case	1.28 kg (2.84 lbs)
HD models with PPS case	1.33 kg (2.93 lbs)

Case Color

Black

Case Material[2]

Carbon fiber or PPS (top), magnesium-aluminium (keyboard cover & bottom)

Notes:

1. The system weight varies depending on configurations
2. Carbon Fiber top cover is for FHD non-touch models only

CONNECTIVITY

Network

Onboard 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^[1]

- Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- No WLAN and Bluetooth

WWAN**[2]

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card
- Integrated Mobile Broadband 4G LTE, Quectel EM05-CE, M.2 card
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 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 Smart card reader
- 1x Nano-SIM & microSD card slot (WWAN model)
- 1x microSD card slot (WLAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on palm rest, match-on-chip
- No fingerprint reader

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

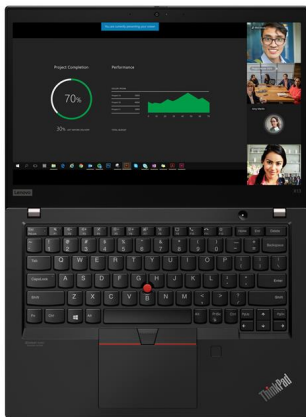
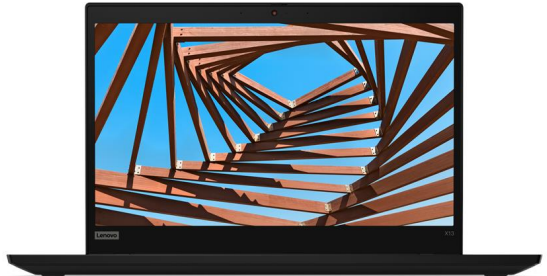
- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO
- RoHS compliant

Other Certifications

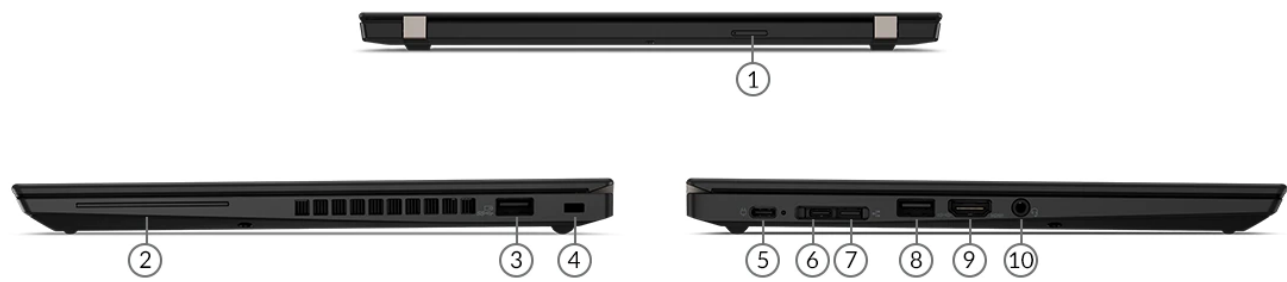
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Nano-SIM card slot *	6. USB-C 3.2 Gen 2
2. Smart card reader *	7. Ethernet extension connector *
3. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
4. Kensington Nano Security Slot	9. HDMI 2.0
5. USB-C 3.2 Gen 2	10. Headphone / microphone combo jack (3.5mm)

- Notes:
- Ports with * are only available on selected models
 - The combination of 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

AMD Ryzen™ 3 / 5 / 7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
AMD Ryzen 3 PRO 5450U	4	8	2.6GHz	4.0GHz	2MB L2 / 8MB L3	LPDDR4-4266	AMD Radeon™ Graphics
AMD Ryzen 5 5600U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	LPDDR4-4266	AMD Radeon Graphics
AMD Ryzen 5 PRO 5650U	6	12	2.3GHz	4.2GHz	3MB L2 / 16MB L3	LPDDR4-4266	AMD Radeon Graphics
AMD Ryzen 7 5800U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	DDR4-3200	AMD Radeon Graphics
AMD Ryzen 7 PRO 5850U	8	16	1.9GHz	4.4GHz	4MB L2 / 16MB L3	LPDDR4-4266	AMD Radeon Graphics

Notes:
1. Ryzen 5 5600U is NOT available in EMEA

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise LTSC
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
AMD Radeon Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or USB-C (up to 5K@60Hz)

Chipset

Chipset

AMD SoC (System on Chip) platform

Memory

Max Memory[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

LPDDR4x-4266

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

One drive, up to 256GB M.2 2242 SSD or 2TB M.2 2280 SSD

Storage Slot

One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2242/2280 SSD

Storage Type**[1]

Disk Type	Interface	RPM	Offering	Security
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	128GB / 256GB	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	-	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	2TB	Opal2

Notes:

- 1. The SSD with PCI 4.0x4 performance is downgraded to closer to PCIe 3.0x4 performance due to the system slot limitation

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 1080p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery**

- Integrated Li-Polymer 41Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
- Integrated Li-Polymer 54.7Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life[1]

- Model with 41Wh battery:
MobileMark® 2018: 10.7 hr
JEITA 2.0: 13.5 hr
- Model with 54.7Wh battery:
MobileMark 2018: 15.4 hr
JEITA 2.0: 18.1 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**[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	WUXGA (1920x1200)	None	IPS	300 nits	Anti-glare	16:10	1000:1	72% NTSC	170°	-
13.3"	WUXGA (1920x1200)	None	IPS	500 nits	Anti-glare	16:10	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
13.3"	WUXGA (1920x1200)	Multi-touch	IPS	300 nits	Anti-glare	16:10	1000:1	72% NTSC	170°	-
13.3"	WQXGA (2560x1600)	None	IPS	400 nits	Anti-glare	16:10	1200:1	100% sRGB	170°	Low power, low blue light

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight[1]

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Notes:

1. Non-backlit keyboard is only available for the models with black cover

Mechanical

Dimensions (WxDxH)

Models	Dimensions
--------	------------

Models with aluminium top cover	305.8 x 217.89 x 18.06 mm (12.04 x 8.58 x 0.71 inches)
Models with carbon fiber top cover	305.8 x 217.39 x 18.97 mm (12.04 x 8.56 x 0.75 inches)
Models with PPS top cover	305.8 x 217.06 x 18.19 mm (12.04 x 8.55 x 0.72 inches)

Weight^[1]

Models	Weight
Models with WQXGA display, 41Wh battery, and black PPS top cover	1.21 kg (2.67 lbs)
Models with WQXGA display, 41Wh battery, and storm grey top cover	1.28 kg (2.82 lbs)
Models with WQXGA display, 54.7Wh battery, and black PPS top cover	1.26 kg (2.78 lbs)
Models with WQXGA display, 54.7Wh battery, and storm grey top cover	1.34 kg (2.94 lbs)
Models with WUXGA display, 41Wh battery, and black carbon fiber top cover	1.19 kg (2.62 lbs)
Models with WUXGA display, 41Wh battery, and black PPS top cover	1.25 kg (2.77 lbs)
Models with WUXGA display, 41Wh battery, and storm grey top cover	1.33 kg (2.93 lbs)
Models with WUXGA display, 54.7Wh battery, and black carbon fiber top cover	1.26 kg (2.77 lbs)
Models with WUXGA display, 54.7Wh battery, and black PPS top cover	1.31 kg (2.88 lbs)
Models with WUXGA display, 54.7Wh battery, and storm grey top cover	1.38 kg (3.04 lbs)

Case Color^{**}

- Storm grey
- Villi black

Case Material^{**}

- Villi black models: carbon fiber or PPS (top), magnesium (keyboard cover), aluminium (bottom)
- Storm grey & WWAN models: aluminium (top), magnesium (keyboard cover), aluminium (bottom)
- Storm grey & non-WWAN models: aluminium (top), aluminium (keyboard cover & bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

- Gigabit Ethernet, Realtek RTL8111EPV, RJ45 via optional ThinkPad Ethernet Extension Adapter Gen 2
- No Ethernet

WLAN + Bluetooth^{®**[1]}

- Wi-Fi[®] 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Mediatek Wi-Fi 6 MT7921, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Realtek RTL8852AE, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Qualcomm[®] QCNFA765, Wi-Fi 6, 802.11ax Dual Band 2x2 Wi-Fi + Bluetooth 5.2
- Intel[®] Wi-Fi 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^{**}

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Qualcomm Snapdragon[™] X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC^[2]

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions

- Bluetooth 5.2 is supported with driver version 22.30 and later
2. NFC is NOT available for the models with storm grey cover

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort™ 1.4)
- 1x HDMI 2.0
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports^{***[2]}

- 1x Ethernet extension connector
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s
2. If your computer has Ethernet icon, it supports wired Ethernet connection with ThinkPad Ethernet Extension Adapter or ThinkPad Basic/Pro/Ultra Docking Station.
If your computer does not have Ethernet icon, the Ethernet connector does not support Ethernet connection. We recommend you use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable^{***}

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip^{**}

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on power button, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert

MANAGEABILITY

System Management

System Management

- DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO

- RoHS compliant

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



AMD



AMD



AMD



AMD

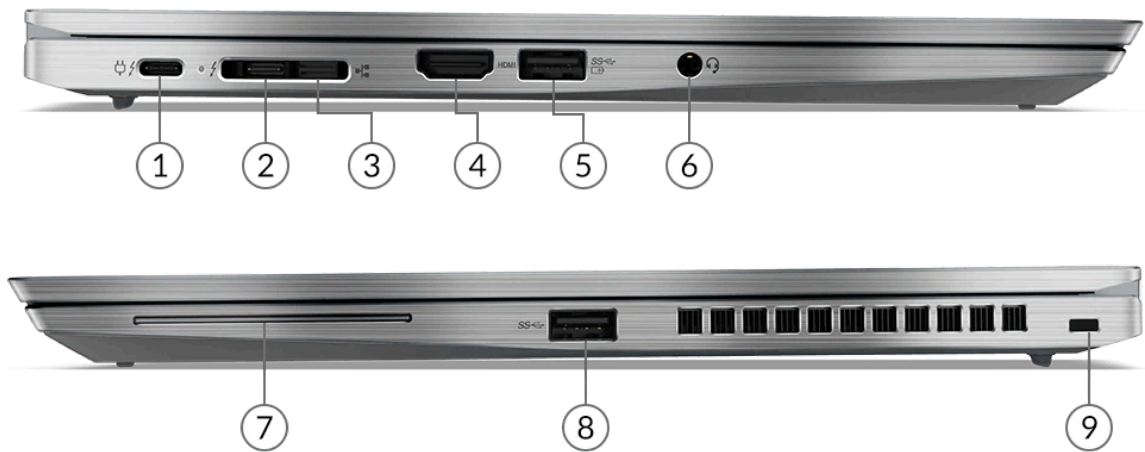


AMD



AMD

OVERVIEW



1. Thunderbolt 4	6. Headphone / microphone combo jack (3.5mm)
2. Thunderbolt 4	7. Smart card reader *
3. Ethernet extension connector *	8. USB 3.2 Gen 1
4. HDMI 2.0	9. Kensington Nano Security Slot
5. USB 3.2 Gen 1 (Always On)	

- Notes:
- Ports with * are only available on selected models
 - Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 2 and 3 is side docking connector

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i3 / i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i3-1115G4	2	4	3.0GHz	4.1GHz	6MB	LPDDR4x-3733	Intel UHD Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	LPDDR4x-4266	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise LTSC
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics**[1]

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

Notes:

1. Intel Iris Xe Graphics is not available for Intel Core i3 models

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via Thunderbolt™ (5K@60Hz) or HDMI® (up to 4K@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^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type^[2]

LPDDR4x-4266

- 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.
 - 2. Installed memory is actually 4266MHz, but may run at 3733MHz depending on the memory support capability of processor

Storage

Storage Support

One drive, up to 256GB M.2 2242 SSD or 2TB M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	Opal2
M.2 2242 SSD	PCIe NVMe, PCIe 3.0 x4	-
M.2 2280 SSD	PCIe NVMe, PCIe x4	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	Opal 2.0

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

- Dual array microphone, far-field
- No microphone

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 1080p hybrid, with privacy shutter, fixed focus
- No camera

Battery

Battery**

- Integrated Li-Polymer 41Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
- Integrated Li-Polymer 54.7Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^{††}

- Model with 41Wh battery:
MobileMark® 2018: 10.5 hr
JEITA 2.0: 16.5 hr
- Model with 54.7Wh battery:
MobileMark 2018: 14.5 hr
JEITA 2.0: 22.2 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**[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	WUXGA (1920x1200)	None	IPS	300 nits	Anti-glare	16:10	1000:1	72% NTSC	170°	-
13.3"	WUXGA (1920x1200)	None	IPS	500 nits	Anti-glare	16:10	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
13.3"	WUXGA (1920x1200)	Multi-touch	IPS	300 nits	Anti-glare	16:10	1000:1	72% NTSC	170°	-
13.3"	WQXGA (2560x1600)	None	IPS	400 nits	Anti-glare	16:10	1200:1	100% sRGB	170°	Low power, low blue light

Touchscreen

- On-cell 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 with Unified Communications controls

Keyboard Backlight

- LED backlight
- No support

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Models with aluminium top cover	305.8 x 217.89 x 18.06 mm (12.04 x 8.58 x 0.71 inches)
Models with carbon fiber top cover	305.8 x 217.39 x 18.97 mm (12.04 x 8.56 x 0.75 inches)
Models with PPS top cover	305.8 x 217.06 x 18.19 mm (12.04 x 8.55 x 0.72 inches)

Weight[1]

Models	Weight
Models with WQXGA display, 41Wh battery, and black PPS top cover	1.21 kg (2.67 lbs)

Models with WQXGA display, 41Wh battery, and storm grey top cover	1.28 kg (2.82 lbs)
Models with WQXGA display, 54.7Wh battery, and black PPS top cover	1.26 kg (2.78 lbs)
Models with WQXGA display, 54.7Wh battery, and storm grey top cover	1.34 kg (2.94 lbs)
Models with WUXGA display, 41Wh battery, and black carbon fiber top cover	1.19 kg (2.62 lbs)
Models with WUXGA display, 41Wh battery, and black PPS top cover	1.25 kg (2.77 lbs)
Models with WUXGA display, 41Wh battery, and storm grey top cover	1.33 kg (2.93 lbs)
Models with WUXGA display, 54.7Wh battery, and black carbon fiber top cover	1.26 kg (2.77 lbs)
Models with WUXGA display, 54.7Wh battery, and black PPS top cover	1.31 kg (2.88 lbs)
Models with WUXGA display, 54.7Wh battery, and storm grey top cover	1.38 kg (3.04 lbs)

Case Color**

- Storm grey
- Villi black

Case Material**

- Villi black models: carbon fiber or PPS (top), magnesium (keyboard cover), aluminium (bottom)
- Storm grey & WWAN models: aluminium (top), magnesium (keyboard cover), aluminium (bottom)
- Storm grey & non-WWAN models: aluminium (top), aluminium (keyboard cover & bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard 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
- No Ethernet

WLAN + Bluetooth®**[1]

- Intel Wi-Fi® 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2
- Intel Wi-Fi 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Qualcomm® Snapdragon™ X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
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 5.2 is supported with driver version 22.30 and later

Ports[1]

Standard Ports

- 1x USB 3.2 Gen 1

ThinkPad X13 Gen 2 (Intel)

- 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 2.0
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***[2]

- 1x Ethernet extension connector
- 1x Side docking connector (Ethernet model only)
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
 FireWire 400: 400 Mbit/s;
 FireWire 800: 800 Mbit/s
2. Ethernet and side docking connector are coexisting. On some models, both of them are equipped. On some models, neither of them is equipped.
 If your computer has Ethernet icon, it supports wired Ethernet connection with ThinkPad Ethernet Extension Adapter or ThinkPad Basic/Pro/Ultra Docking Station.
 If your computer does not have Ethernet icon, the Ethernet connector does not support Ethernet connection. We recommend you use the Lenovo USB-C to Ethernet Adapter for Ethernet connection.

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

- Touch style fingerprint reader on power button, match-on-chip
- No fingerprint reader

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- (Optional) Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert
- (Optional) Human Presence Detection

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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
- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications^[1]

(Optional) Intel Evo™ Platform

Notes:

1. Intel Evo is NOT available for the models with i3 processor, 41Wh battery, or 128GB storage

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



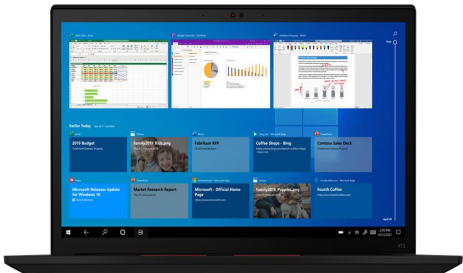
intel



intel



intel

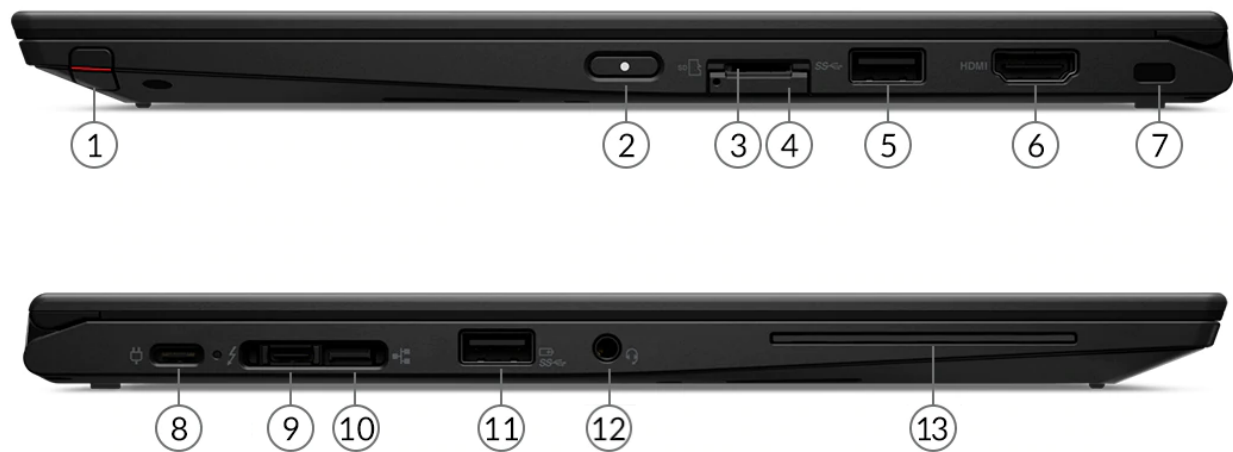


intel



intel

OVERVIEW



1. Pen slot	8. USB-C 3.2 Gen 1
2. Power button	9. USB-C 3.2 Gen 2 / Thunderbolt 3
3. MicroSD card reader	10. Ethernet extension connector
4. Nano-SIM card slot *	11. USB 3.2 Gen 1 (Always On)
5. USB 3.2 Gen 1	12. Headphone / microphone combo jack (3.5mm)
6. HDMI 1.4b	13. Smart card reader *
7. Kensington Security Slot	

- Notes:
- Ports with * are only available on selected models
 - The combination of 9 and 10 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	DDR4-2666	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Home 64
- 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 via native display and 2 external monitors; supports external monitors via HDMI® (up to 4096x2160@24Hz), USB-C (up to 4096x2304@60Hz) or Thunderbolt™ (up to 4096x2304@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

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

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type^[2]

DDR4-2666

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.
2. Installed memory is actually 3200MHz but run at 2666MHz due to processor limitation

Storage

Storage Support

One drive, up to 512GB M.2 2242 SSD or 2TB M.2 2280 SSD, optional Intel Optane™ Memory integrated with SSD, M.2

Storage Type**

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x2	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

MicroSD card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

Dual array microphone, far-field

Camera**

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

Sensor

Sensors

- Accelerometer (G) sensor
- Proximity (P) sensor (WWAN model)
- Gyroscope sensor

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 18.2 hr

MobileMark 2018: 12.05 hr

JEITA 2.0: 16.2 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**

- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	FHD (1920x1080)	Multi-touch	IPS	300 nits	Anti-reflection, Anti-smudge	16:9	800:1	72% NTSC	170°	-
13.3"	FHD (1920x1080)	Multi-touch	IPS	400 nits	Anti-reflection, Anti-smudge	16:9	1500:1	72% NTSC	170°	Low power
13.3"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-reflection, Anti-smudge	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
13.3"	UHD (3840x2160)	Multi-touch	OLED	400 nits	Anti-reflection, Anti-smudge	16:9	100000:1	100% DCI-P3	170°	-

Touchscreen

Capacitive-type multi-touch, supports 10-point touch, could reduce the brightness by up to 10%

Multi-mode

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

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

Pen

- ThinkPad Pen Pro, on-board garaged and rechargeable
- No pen (pen sold separately)

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	310.4 x 219 x 15.95 mm (12.22 x 8.62 x 0.63 inches)

Weight^[1]

Models	Weight
All models	1.25 kg (2.76 lbs)

Case Color

Black

Case Material

Carbon fiber hybrid (top), carbon fiber hybrid (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard 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^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN[2]**

- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, 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. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 1x USB-C 3.2 Gen 1 (support data transfer, Power Delivery and DisplayPort™ 1.2)
- 1x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.2)
- 1x HDMI 1.4b
- 1x microSD card reader
- 1x Ethernet extension connector
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Side docking connector

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security**

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

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

BIOS Security

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

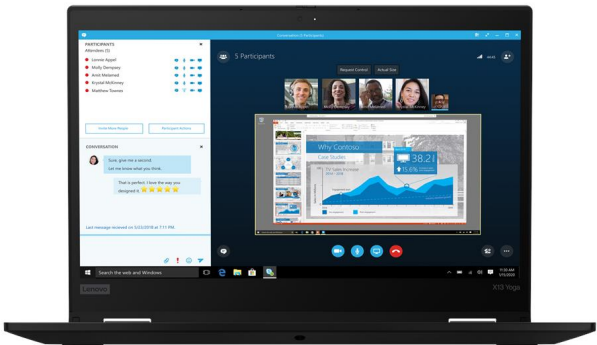
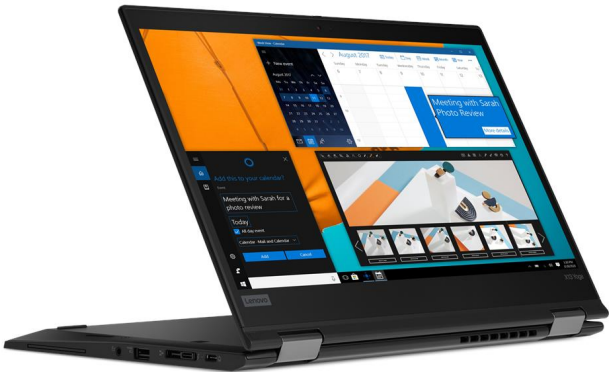
- EPEAT™ Gold
- ENERGY STAR® 8.0
- TCO
- RoHS compliant

Other Certifications

Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Pen slot	6. Thunderbolt 4
2. Headphone / microphone combo jack (3.5mm)	7. Thunderbolt 4
3. Nano-SIM card slot *	8. HDMI 2.0
4. USB 3.2 Gen 1	9. USB 3.2 Gen 1 (Always On)
5. Kensington Nano Security Slot	10. Smart card reader *

Notes:

- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	LPDDR4x-4266	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
Intel Iris Xe Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via Thunderbolt™ (5K@60Hz) or HDMI® (up to 4K@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^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

LPDDR4x-4266

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

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

Storage Type**

Disk Type	Interface	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe x4	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	Opal 2.0

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, Dolby® Audio™

Microphone

Dual array microphone, far-field

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Sensor

Sensors

- Accelerometer (G) sensor
- Proximity (P) sensor (WWAN model)
- Gyroscope sensor

Battery

Battery

Integrated Li-Polymer 52.8Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2018: 12.2 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**

- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	WUXGA (1920x1200)	Multi-touch	IPS	300 nits	Anti-glare	16:10	1000:1	100% sRGB	170°	-
13.3"	WUXGA (1920x1200)	Multi-touch	IPS	300 nits	Anti-reflection, Anti-smudge	16:10	1000:1	100% sRGB	170°	-
13.3"	WUXGA (1920x1200)	Multi-touch	IPS	500 nits	Anti-glare	16:10	1000:1	100% sRGB	170°	ThinkPad® Privacy Guard
13.3"	WQXGA (2560x1600)	Multi-touch	IPS	400 nits	Anti-reflection, Anti-smudge	16:10	1200:1	100% sRGB	170°	Low power, low blue light

Touchscreen

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

Multi-mode

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

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

Pen

- Lenovo Integrated Pen, on-board garaged and rechargeable
- No pen (pen sold separately)

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	305 x 213.9 x 15.39 mm (12.0 x 8.42 x 0.61 inches)

Weight^[1]

Models	Weight
All models	1.2 kg (2.65 lbs)

Case Color

Black

Case Material

Carbon fiber hybrid (top), carbon fiber hybrid (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

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™ 1.4a)
- 1x HDMI 2.0
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports***

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable*****

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

- Smart card reader
- No smart card reader

Fingerprint Reader

Touch style fingerprint reader on power button, match-on-chip

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert
- (Optional) Human Presence Detection

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

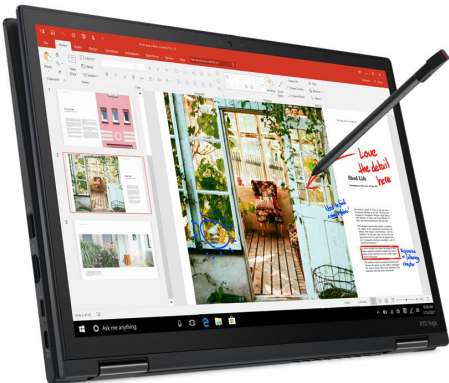
Other Certifications

(Optional) Intel Evo™ Platform

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



intel



intel

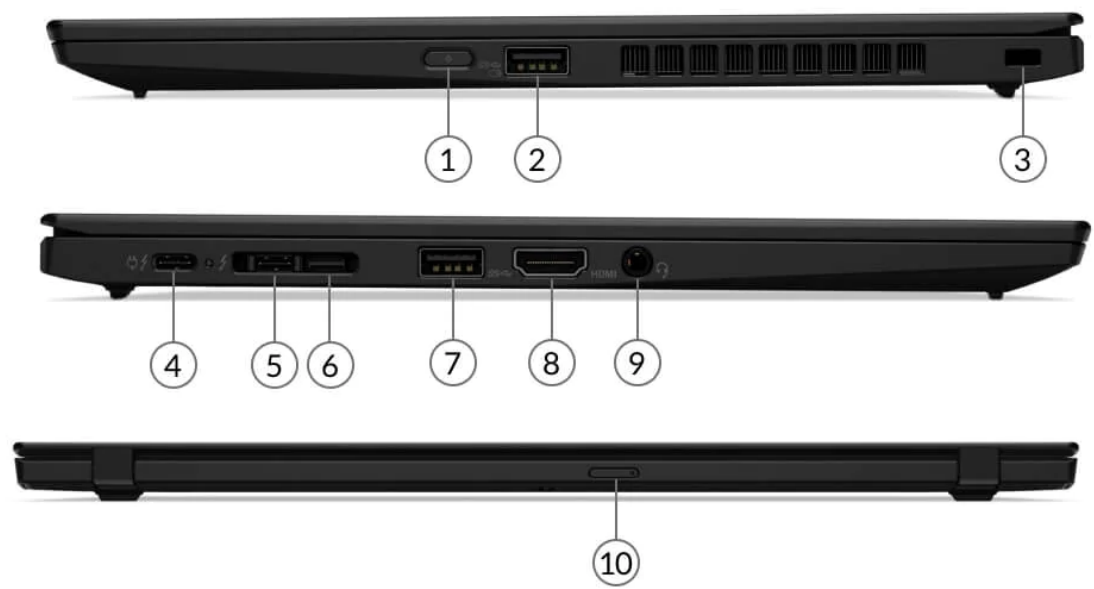


intel



intel

OVERVIEW



1. Power button	6. Ethernet extension connector
2. USB 3.2 Gen 1 (Always On)	7. USB 3.2 Gen 1
3. Kensington Security Slot	8. HDMI 1.4b
4. USB-C 3.2 Gen 2 / Thunderbolt 3	9. Headphone / microphone combo jack (3.5mm)
5. USB-C 3.2 Gen 2 / Thunderbolt 3	10. Nano-SIM card slot *

- Notes:
- Ports with * are only available on selected models
 - The combination of 5 and 6 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	LPDDR3-2133	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	LPDDR3-2133	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	LPDDR3-2133	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	LPDDR3-2133	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

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 via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@24Hz) or Thunderbolt™ (up to 5K@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

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

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

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

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
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, USI 4551-513711-00 codec

Speakers

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

Microphone

Four array microphones, 360° far-field

Camera**

- 720p, with ThinkShutter, fixed focus
- IR & 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^[1]

MobileMark® 2014: 19.5 hr
MobileMark 2018: 13.8 hr
JEITA 2.0: 19.8 hr

Notes:

- 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**

- 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

DESIGN

Display

Display**^[2]

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°	-

14.0"	FHD (1920x1080)	Multi-touch	IPS	400 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
14.0"	WQHD (2560x1440)	None	IPS	300 nits	Anti-glare	16:9	1000:1	72% NTSC	170°	-
14.0"	UHD (3840x2160)	None	IPS	500 nits	Glossy	16:9	1500:1	90% DCI-P3	170°	Dolby Vision™, HDR 400

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>
2. WQHD is not available in EMEA

Input Device

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)

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^[1]

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 weight varies depending on configurations

CONNECTIVITY

Network

Onboard 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[®]^[1]

Intel Wi-Fi[®] 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^{}^[2]**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card
- Integrated Mobile Broadband 4G LTE, Quectel EM05-CE, M.2 card
- No support

SIM Card^{}**

- Gemalto eSIM
- Nano SIM card, Lenovo Connect 4 months, 4G LTE
- No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery 3.0 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 model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable**

- Lenovo HDMI to VGA Monitor Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip^{**}**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

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

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

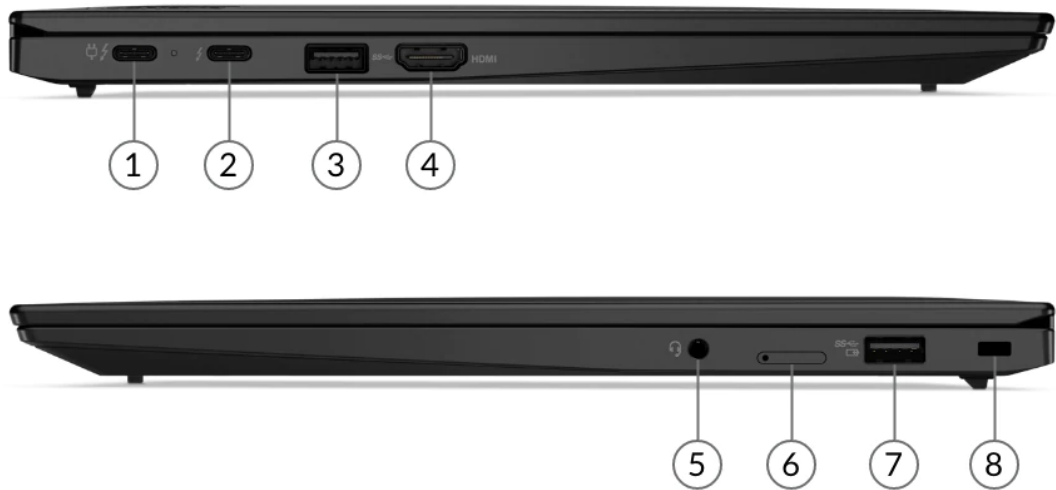
Other Certifications

Athena certified

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Thunderbolt 4	5. Headphone / microphone combo jack (3.5mm)
2. Thunderbolt 4	6. Nano-SIM card slot *
3. USB 3.2 Gen 1	7. USB 3.2 Gen 1 (Always On)
4. HDMI 2.0	8. Kensington Nano Security Slot

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	LPDDR4x-4266	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Fedora Linux
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
Intel Iris Xe Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via Thunderbolt™ (5K@60Hz) or HDMI® (up to 4K@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^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, 8-channel

Memory Type

LPDDR4x-4266

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

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

Storage Slot

One M.2 2280 PCIe® Gen 4x4 slot, supports M.2 2280 SSD

Storage Type**

Disk Type	Interface	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	Opal 2.0

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

Speakers

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

Microphone

Four array microphones, 360° far-field

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 21.3 hr
MobileMark 2018: 16.7 hr
JEITA 2.0: 26.0 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**^[1]

- 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
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	WUXGA (1920x1200)	None	IPS	400 nits	Anti-glare	16:10	1000:1	100% sRGB	170°	Low power, low blue light
14.0"	WUXGA (1920x1200)	Multi-touch	IPS	400 nits	Anti-glare	16:10	1000:1	100% sRGB	170°	Low power, low blue light
14.0"	WUXGA (1920x1200)	Multi-touch	IPS	500 nits	Anti-glare	16:10	1000:1	100% sRGB	170°	Low power, ThinkPad® Privacy Guard
14.0"	WQUXGA (3840x2400)	None	IPS	500 nits	Glossy	16:10	1500:1	100% DCI-P3	170°	Low blue light, HDR 400

Touchscreen

- Capacitive-type on-cell 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>
2. In marketing terms, WUXGA is FHD+ and WQUXGA is UHD+

Input Device

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)

Models	Dimensions
All models	315 x 221.6 x 14.9 mm (12.4 x 8.72 x 0.59 inches)

Weight^[1]

Models	Weight
All models	1.133 kg (2.49 lbs)

Case Color**

- Black, paint
- Black, weave

Case Material

Carbon fiber (top), magnesium alloy (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Wireless WAN upgradable to 4G (with antenna ready)
- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Qualcomm® Snapdragon™ X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

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™ 1.4a)
- 1x HDMI 2.0
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports

1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable**

- Lenovo HDMI to VGA Monitor Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

Touch style fingerprint reader on power button, match-on-chip

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert
- (Optional) Human Presence Detection

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty^[1]**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

Notes:

1. 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

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications

- (Optional) Intel Evo™ Platform
- (Optional) TÜV Rheinland® Low Blue Light
- TÜV Rheinland Dynamic Privacy Filter (DPF) Certification

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



intel

intel

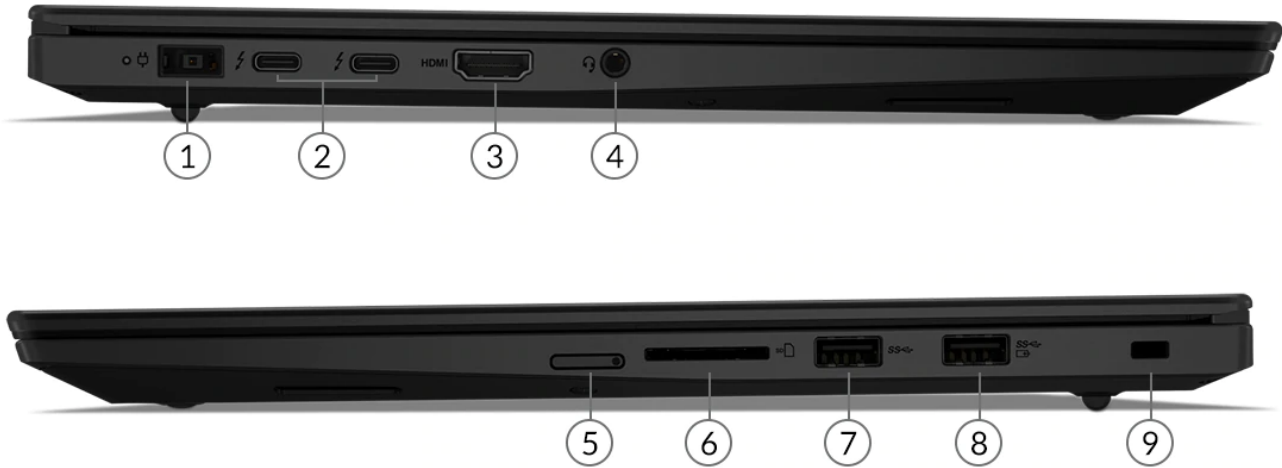


intel



intel

OVERVIEW



1. Power connector	6. Card reader
2. 2x USB-C 3.2 Gen 2 / Thunderbolt 3	7. USB 3.2 Gen 1
3. HDMI 2.0	8. USB 3.2 Gen 1 (Always On)
4. Headphone / microphone combo jack (3.5mm)	9. Kensington Security Slot
5. Nano-SIM card slot *	

Notes:

- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 / i9 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10400H	4	8	2.6GHz	4.6GHz	8MB	DDR4-2933	Intel UHD Graphics
Core i7-10750H	6	12	2.6GHz	5.0GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i7-10850H	6	12	2.7GHz	5.1GHz	12MB	DDR4-2933	Intel UHD Graphics
Core i9-10885H	8	16	2.4GHz	5.3GHz	16MB	DDR4-2933	Intel UHD Graphics

Operating System

Operating System**

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

Graphics

Graphics**

Graphics	Type	Memory	Key Features
Intel UHD Graphics	Integrated	Shared	DirectX® 12
NVIDIA® GeForce® GTX 1650 Ti with Max-Q Design	Discrete	4GB GDDR6	DirectX 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (up to 5K@60Hz for hybrid model / 4K@60Hz for integrated model)

Chipset

Chipset

Intel WM490 chipset

Memory

Max Memory^[1]

Up to 64GB DDR4-2933

Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

Memory Type^[2]

DDR4-2933

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.
2. Installed memory is actually 3200MHz but run at 2933MHz due to processor limitation

Storage

Storage Support

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 2TB
- RAID 0/1 support

Storage Type***

Disk Type	Interface	RPM	Security
M.2 2280 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	-
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	Opal2

RAID

RAID 0/1 support

Removable Storage

Optical

None

Card Reader

SD card reader, supports UHS-II SD card

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3286 codec

Speakers

Stereo speakers, 2W x2, Dolby® Atmos®, 3-magnet

Microphone^[1]

- Dual array microphone
- No microphone

Camera**^[2]

- 720p, with ThinkShutter, fixed focus
- IR & 720p hybrid, with ThinkShutter, fixed focus
- No camera

Notes:

1. No microphone is for special bid only
2. No camera is for special bid only

Battery

Battery

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

Max Battery Life^[1]

MobileMark® 2014: 15.6 hr
MobileMark 2018: 11.8 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**^[1]

- 135W slim tip (2-pin) AC adapter
- 135W slim tip (3-pin) AC adapter
- 170W slim tip (2-pin) AC adapter
- 170W slim tip (3-pin) AC adapter

Notes:

1. 170W for i9-10885H models only

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
15.6"	FHD (1920x1080)	None	IPS	300 nits	Anti-glare	16:9	700:1	72% NTSC	170°	-
15.6"	FHD (1920x1080)	None	IPS	500 nits	Anti-glare	16:9	800:1	72% NTSC	170°	Dolby Vision™, HDR
15.6"	UHD (3840x2160)	None	IPS	600 nits	Anti-glare	16:9	1400:1	100% Adobe® RGB	178°	Dolby Vision, HDR
15.6"	UHD (3840x2160)	Multi-touch	OLED	SDR 400nit, HDR 500nit (peak)	Anti-reflection Anti-smudge	16:9	100000:1	100% DCI-P3	170°	Dolby Vision, HDR

Color Calibration

- X-Rite® Pantone® factory color calibration (UHD display)
- No color calibration

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>
2. For non-OLED display, HDR is only supported under hybrid mode

Input Device

Pen

- Lenovo Precision Pen 2
- No pen (pen sold 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)

Models	Dimensions
Touch models	361.8 x 245.7 x 18.7 mm (14.24 x 9.67 x 0.74 inches)
Non-touch models	361.8 x 245.7 x 18.4 mm (14.24 x 9.67 x 0.72 inches)

Weight[1]

Models	Weight
Non-touch models	1.7 kg (3.75 lbs)
Touch models	1.81 kg (4.0 lbs)

Case Color**

- Black, paint
- Black, weave

Case Material

Carbon fiber hybrid (top), aluminium alloy (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^[2]

- Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card
- No support

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™ 1.2, for integrated graphics models)
- 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort 1.4, for discrete graphics models)
- 1x HDMI 2.0
- 1x SD card reader
- 1x Headphone / microphone combo jack (3.5mm)
- 1x Power connector

Optional Ports

1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter

- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

Touch style fingerprint reader on keyboard bezel, match-on-chip

BIOS Security

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

Other Security

- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

Green Certifications

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

Other Certifications

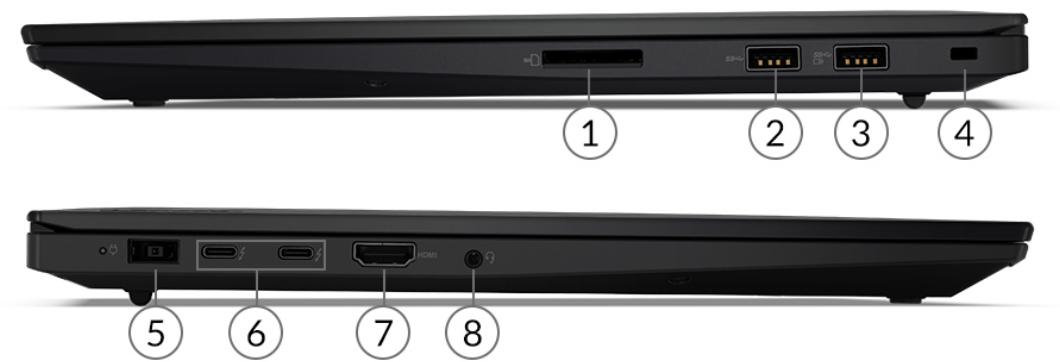
Mil-Spec Test

MIL-STD-810G 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



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:
- 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	Memory Support	Processor Graphics
Core i7-11800H	8	16	2.3GHz	4.6GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i7-11850H	8	16	2.5GHz	4.8GHz	24MB	DDR4-3200	Intel UHD Graphics
Core i9-11950H	8	16	2.6GHz	5.0GHz	24MB	DDR4-3200	Intel UHD Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics**

Graphics	Type	Memory	TGP	Key Features
Intel UHD Graphics	Integrated	Shared	Share CPU TDP	DirectX® 12
NVIDIA® GeForce® RTX™ 3050 Ti	Discrete	4GB GDDR6	-	Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX 12
NVIDIA GeForce RTX 3060 Laptop GPU	Discrete	6GB GDDR6	-	Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX 12
NVIDIA GeForce RTX 3070 Laptop GPU	Discrete	8GB GDDR6	-	Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX 12
NVIDIA GeForce RTX 3080 Laptop GPU	Discrete	16GB GDDR6	-	Advanced Optimus, Resizable BAR, Dynamic Boost 2.0, DirectX 12

Monitor Support

Monitor Support

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (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

- Model with RTX 3060/3070/3080 Graphics:
one drive, up to 2TB M.2 2280 SSD
- Model 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^[1]

- Model with Intel UHD Graphics or RTX 3050 Ti Graphics: two M.2 slots
 - One M.2 2280 PCIe® Gen 3x4 slot, supports M.2 2280 SSD
 - One M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD
- Model with RTX 3060/3070/3080 Graphics: one M.2 slot
 - One M.2 2280 PCIe Gen 4x4 slot, supports M.2 2280 SSD

Storage Type^{***[2]}

Disk Type	Interface	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	256GB / 512GB / 1TB	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	512GB / 1TB / 2TB	Opal2

RAID^[3]

RAID 0/1 support

- Notes:
1. M.2 PCIe Gen 4 SSD in the M.2 PCIe Gen 3 slot is downgraded to PCIe Gen 3 performance
 2. Opal capability is not available in RAID mode
 3. Both SSD drives work at PCIe Gen 3 performance in RAID mode

Removable Storage

Optical

None

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^[1]

- Dual array microphone, far-field
- No microphone

Camera^{**[2]}

- 1080p, with privacy shutter, fixed focus
- IR & 1080p hybrid, with privacy shutter, fixed focus
- No camera

- 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, 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^{**[1]}

- 135W slim tip (3-pin) AC adapter
- 170W slim tip (3-pin) AC adapter
- 230W slim tip (3-pin) AC adapter

Notes:

1. 135W for Intel UHD Graphics, 170W for RTX 3050 Ti Graphics, and 230W for RTX 3060/3070/3080 Graphics

DESIGN

Display

Display^{**[2]}

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
16.0"	WQXGA (2560x1600)	None	IPS	400 nits	Anti-glare	16:10	1200:1	100% sRGB	170°	Low blue light
16.0"	WQUXGA (3840x2400)	None	IPS	600 nits	Anti-glare	16:10	1500:1	100% Adobe® RGB	170°	Low blue light, Dolby Vision™, HDR 400
16.0"	WQUXGA (3840x2400)	Multi-touch	IPS	600 nits	Anti-reflection, Anti-smudge	16:10	1500:1	100% Adobe RGB	170°	Low blue light, Dolby Vision, HDR 400

Color Calibration

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

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>

2. In marketing terms, WQXGA is QHD+ and WQUXGA is UHD+
WQXGA display comes with black paint top cover only
WQUXGA display comes with black weave top cover only

Input Device

Pen

- Lenovo Precision Pen 2
- No pen (pen sold 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)

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

Weight^[1]

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

Case Color**

- Black, paint
- Black, weave

Case Material

Carbon fiber hybrid (top), aluminium alloy (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6E AX210, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^[2]

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

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. 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 5.2 is supported with driver version 22.30 and later

2. 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 model)

- 1x HDMI 2.0 (model with integrated graphics)
- 1x HDMI 2.1 (model 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;
 - USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
 - Thunderbolt 3: 40 Gbit/s;
 - FireWire 400: 400 Mbit/s;
 - FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

Touch style fingerprint reader on power button, match-on-chip

BIOS Security

- Supervisor password
- Power-on 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 Technology, DASH
- None

SERVICE

Warranty

Base Warranty**^[1]

- 1-year depot service
- 1-year depot with 2-year system board service

- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

Notes:

1. 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

Green Certifications

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

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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,”

WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.

- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



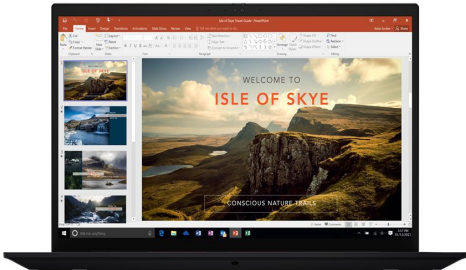
intel



intel



intel



intel

OVERVIEW



1. 2x USB-C 3.2 Gen 2	2. Nano-SIM card slot *
-----------------------	-------------------------

- Notes:
- Ports with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Intel® Core™ Processor with Intel Hybrid Technology

Processor

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-L16G7	5	5	1.4GHz	3.0GHz	4MB	LPDDR4x-4266 POP Memory	Intel UHD Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64

Graphics

Graphics

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

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via USB-C (up to 3840x2160@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

8GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

LPDDR4x-4266, PoP (Package on Package) memory

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

One drive, up to 1TB M.2 2242 SSD

Storage Type

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

Speakers

Stereo speakers, 1W x2, Dolby® Atmos®

Microphone

Four array microphones

Camera

IR & 5.0-megapixel hybrid, fixed focus

Sensor

- Sensors**
- Accelerometer (G) sensor
 - Proximity (P) sensor (WWAN model)
 - Gyroscope sensor

Battery

Battery

Integrated Li-Polymer 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2018: 8.5 hr

Video Playback: 10.6 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****
- 65W USB-C slim (3-pin) AC adapter
 - 65W USB-C slim (2-pin) AC adapter

DESIGN

Display

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.3"	QXGA (2048x1536)	Multi-touch	Folding OLED	300 nits	Anti-fingerprint	4:3	5000:1	95% DCI-P3	170°	-

Touchscreen

On-cell touch, supports 10-point 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

Pen**

- Lenovo Mod Pen
- Lenovo Pen Pro
- No pen (pen sold separately)

Keyboard

Lenovo Fold Mini Keyboard, Bluetooth® pairing, with a pen loop (left side), magnetically attachable to X1 Fold (the side without camera), wireless charging when closed inside folded device or charging via micro USB cable

Keyboard Backlight

No support

Touchpad

- Glass surface touchpad on Lenovo Fold Mini Keyboard, 2-finger scrolling support
- No touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	Folded: 158 x 235.6 x 27.8 mm (6.22 x 9.28 x 1.09 inches) Unfolded: 299 x 235.6 x 11.3 mm (11.77 x 9.28 x 0.44 inches)

Weight^[1]

Models	Weight
All models	0.999 kg (2.2 lbs)

Case Color

Black

Case Material

Magnesium alloy + authentic leather (top), magnesium alloy + authentic leather (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6 AX200, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN^[2]

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

SIM Card

No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]

Standard Ports

2x USB-C 3.2 Gen 2 (support data transfer, Power Delivery and DisplayPort™ 1.2)

Optional Ports

1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
 - FireWire 400: 400 Mbit/s;
 - FireWire 800: 800 Mbit/s

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Smart Card Reader

No smart card reader

Fingerprint Reader

No fingerprint reader

BIOS Security

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

MANAGEABILITY

System Management

System Management

None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year + 2-year depot service
- 3-year (1-yr battery) depot service
- No base warranty

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: 10% to 90% at wet-bulb temperature 23°C (73°F)
- Storage and transportation: 10% to 90% 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 Powered USB-C Travel Hub
- Lenovo USB-C to Ethernet Adapter
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

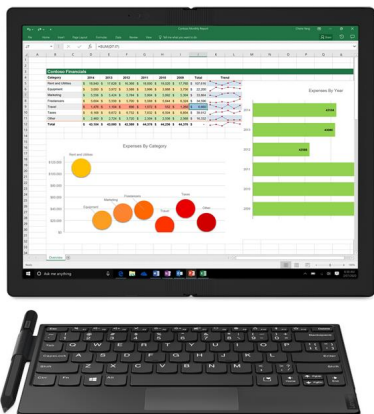
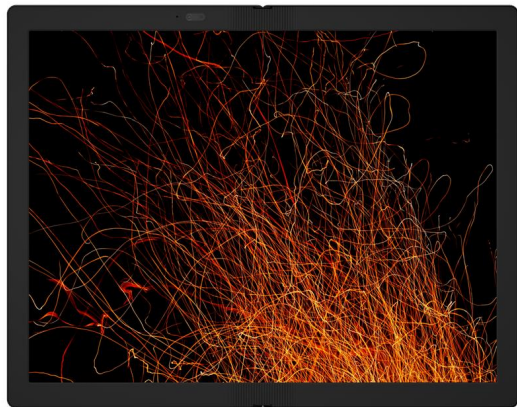
Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications

Athena certified

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Headphone / microphone combo jack (3.5mm)	3. Thunderbolt 4
2. Thunderbolt 4	4. Power button

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

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1130G7	4	8	1.8GHz	4.0GHz	8MB	LPDDR4x-4266	Intel Iris® Xe Graphics
Core i5-1140G7	4	8	1.8GHz	4.2GHz	8MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1160G7	4	8	2.1GHz	4.4GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1180G7	4	8	2.2GHz	4.6GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise LTSC
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
Intel Iris Xe Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via Thunderbolt™ (5120x3200@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[2]

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

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

LPDDR4x-4266

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.
2. 8GB memory is NOT available in EMEA

Storage

Storage Support

One drive, up to 1TB M.2 2242 SSD

Storage Type

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

Speakers

Stereo speakers, 2W x2 woofers and 1W x2 tweeters, Dolby® Atmos®

Microphone

Four array microphones, 360° far-field

Camera

IR & 720p hybrid, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life^[1]

MobileMark® 2018: 13.6 hr

JEITA 2.0: 22.87 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^{**[1]}

- 65W USB-C slim (3-pin) AC adapter
- 65W USB-C slim (2-pin) AC adapter
- No power adapter

Notes:

1. No power adapter is for special bid only

DESIGN

Display

Display^{**[1]}

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.0"	2K (2160x1350)	None	IPS	450 nits	Anti-glare	16:10	1000:1	100% sRGB	170°	Low power
13.0"	2K (2160x1350)	Multi-touch	IPS	450 nits	Anti-reflection, Anti-smudge	16:10	1000:1	100% sRGB	170°	Low power

Touchscreen

- Capacitive-type on-cell 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 with Unified Communications controls

Keyboard Backlight

LED backlight

UltraNav™

TrackPoint® pointing device and glass surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
Touch models	292.9 x 207.8 x 14.27-17.2 mm (11.53 x 8.18 x 0.56-0.68 inches)
Non-touch models	292.8x 207.7 x 13.87-16.7 mm (11.53 x 8.18 x 0.55-0.66 inches)

Weight^[1]

Models	Weight
Non-touch with Wi-Fi® models	907 g (1.99 lbs)
Non-touch with WWAN models	939 g (2.07lbs)
Touch with Wi-Fi models	969 g (2.14 lbs)
Touch with WWAN models	1001 g (2.21 lbs)

Case Color**

- Black, paint
- Black, weave

Case Material

Carbon fiber (top), magnesium alloy (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth^[1]

Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**[2]

- Wireless WAN upgradable to 4G or 5G (with antenna ready)
- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- Qualcomm® Snapdragon™ X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]**Standard Ports**

- 2x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4a)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports

1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable**Monitor Cable**

- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY**Security****Security Chip****

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Smart Card Reader

No smart card reader

Fingerprint Reader

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

BIOS Security

- Supervisor password
- Power-on password
- Hard disk password
- Firmware Resiliency 2.0

Other Security

- ThinkShutter camera cover
- (Optional) IR camera for Windows Hello
- (Optional) Human Presence Detection

MANAGEABILITY**System Management****System Management**

- Intel vPro Technology, DASH

- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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
- Lenovo USB-C Port Replicator
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

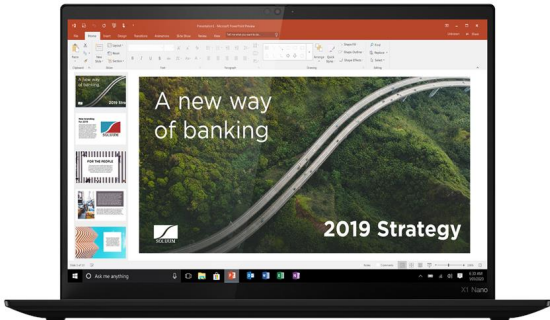
Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications

(Optional) Intel Evo™ Platform

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. 2x Thunderbolt 4	3. Headphone / microphone combo jack (3.5mm)
2. Power button	4. Kensington Nano Security Slot

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

PERFORMANCE

Processor

Processor Family

11th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1130G7	4	8	1.8GHz	4.0GHz	8MB	LPDDR4x-4266	Intel Iris® Xe Graphics
Core i5-1140G7	4	8	1.8GHz	4.2GHz	8MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1160G7	4	8	2.1GHz	4.4GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1180G7	4	8	2.2GHz	4.6GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
Intel Iris Xe Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via Thunderbolt™ (5120x3200@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[2]

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

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

Memory Type

LPDDR4x-4266, PoP (Package on Package) memory

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.
2. 8GB memory is NOT available in EMEA

Storage

Storage Support

One drive, up to 1TB M.2 2242 SSD

Storage Type

Disk Type	Interface	RPM	Security
M.2 2242 SSD	PCIe® NVMe®, PCIe 3.0 x4	-	-

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, optimized with Dolby® Atmos®

Microphone

Four array microphones

Camera

IR & 720p hybrid, with privacy shutter, fixed focus

Sensor

Sensors

- Accelerometer (G) sensor
- Proximity (P) sensor (WWAN model)
- Gyroscope sensor
- ToF sensor

Battery

Battery

Integrated Li-Polymer 44.5Wh battery

Max Battery Life^[1]

MobileMark® 2018: 11.7 hr

JEITA 2.0: 16.8 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**

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

DESIGN

Display

Display^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
13.5"	QHD (2256x1504)	Multi-touch	IPS	450 nits	Anti-reflection, Anti-smudge	3:2	1200:1	72% NTSC	170°	Dolby Vision™

Touchscreen

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

Multi-mode

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

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

Pen

- Lenovo Precision Pen, magnetically attached to the system
- No pen (pen sold separately)

Keyboard

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

Keyboard Backlight

LED backlight

UltraNav™

TrackPoint® pointing device and Mylar® surface multi-touch touchpad

Mechanical

Dimensions (WxDxH)

Models	Dimensions
All models	297.5 x 232.7 x 11.5 mm (11.71 x 9.16 x 0.45 inches)

Weight^[1]

Models	Weight
WLAN models	1.15 kg (2.54 lbs)
WWAN models	1.18 kg (2.60 lbs)

Case Color

Titanium

Case Material

Titanium + carbon fiber (top), magnesium-aluminium (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Integrated Mobile Broadband 4G LTE-A, CAT9, Fibocom L850-GL, M.2 card
- Qualcomm® Snapdragon™ X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

SIM Card

- Gemalto eSIM
- No SIM card inbox

NFC

No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

Ports^[1]

Standard Ports

- 2x Thunderbolt 4 / USB4™ 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4a)
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports

1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable***

- Lenovo USB-C to HDMI® Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

Touch style fingerprint reader on the top right of keyboard bezel with Prometheus slim type sensor, match-on-chip

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- Camera privacy shutter
- IR camera for Windows Hello
- Human Presence Detection

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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
- Lenovo USB-C to USB-A Adapter
- Lenovo USB-C Port Replicator
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications

(Optional) Intel Evo™ Platform

- 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.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



intel



intel

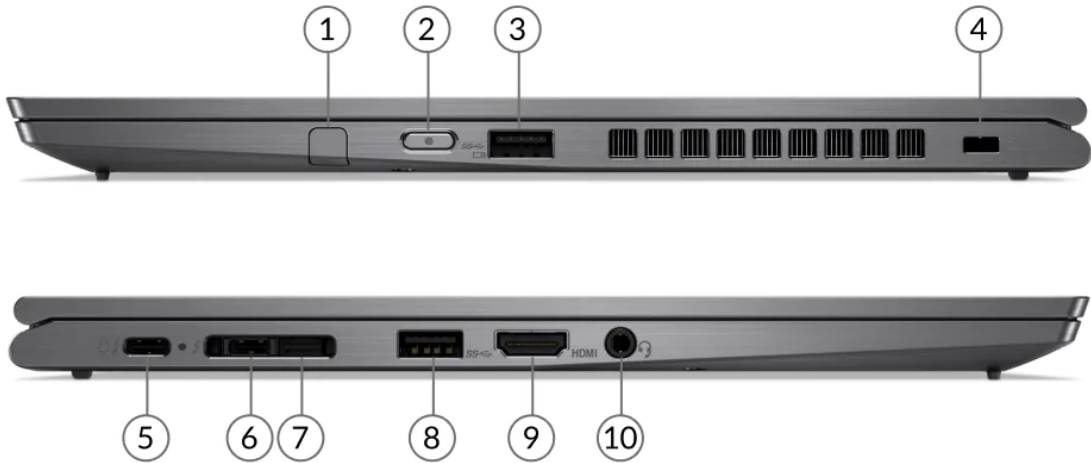


intel



intel

OVERVIEW



1. Pen slot	6. USB-C 3.2 Gen 2 / Thunderbolt 3
2. Power button	7. Ethernet extension connector
3. USB 3.2 Gen 1 (Always On)	8. USB 3.2 Gen 1
4. Kensington Security Slot	9. HDMI 1.4b
5. USB-C 3.2 Gen 2 / Thunderbolt 3	10. Headphone / microphone combo jack (3.5mm)

- Notes:
- Optional nano-SIM card slot on the rear side (not shown on the sample product above)
 - The combination of 6 and 7 is side docking connector

PERFORMANCE

Processor

Processor Family

10th Generation Intel® Core™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-10210U	4	8	1.6GHz	4.2GHz	6MB	LPDDR3-2133	Intel UHD Graphics
Core i5-10310U	4	8	1.7GHz	4.4GHz	6MB	LPDDR3-2133	Intel UHD Graphics
Core i7-10510U	4	8	1.8GHz	4.9GHz	8MB	LPDDR3-2133	Intel UHD Graphics
Core i7-10610U	4	8	1.8GHz	4.9GHz	8MB	LPDDR3-2133	Intel UHD Graphics
Core i7-10710U	6	12	1.1GHz	4.7GHz	12MB	DDR4-2666	Intel UHD Graphics
Core i7-10810U	6	12	1.1GHz	4.9GHz	12MB	DDR4-2666	Intel UHD Graphics

Operating System

Operating System**

- Windows® 10 Pro 64
- Windows 10 Home 64
- 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 via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@24Hz) or Thunderbolt™ (up to 5K@60Hz)

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory^[1]

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

Memory Slots

Memory soldered to systemboard, no slots, dual-channel

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

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
Intel Optane Memory with Solid State Storage, M.2 2280	PCIe NVMe, PCIe 3.0 x4	-	-

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, USI 4551-513711-00 codec

Speakers

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

Microphone

Four array microphones, 360° far-field

Camera**

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

Sensor

Sensors

- Accelerometer (G) sensor
- Proximity (P) sensor
- Ambient light sensor (ALS)
- e-Compass
- Gyroscope sensor

Battery

Battery

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

Max Battery Life^[1]

MobileMark® 2014: 19.3 hr

MobileMark 2018: 13.0 hr

JEITA 2.0: 19.3 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**

- 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

DESIGN

Display

Display**[2]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	FHD (1920x1080)	Multi-touch	IPS	400 nits	Anti-reflection Anti-smudge	16:9	700:1	72% NTSC	170°	Low power
14.0"	FHD (1920x1080)	Multi-touch	IPS	500 nits	Anti-reflection Anti-smudge	16:9	1000:1	72% NTSC	170°	ThinkPad® Privacy Guard
14.0"	WQHD (2560x1440)	Multi-touch	IPS	300 nits	Anti-reflection Anti-smudge	16:9	1000:1	72% NTSC	170°	-
14.0"	UHD (3840x2160)	Multi-touch	IPS	500 nits	Anti-reflection Anti-smudge	16:9	1500:1	90% DCI-P3	170°	Dolby Vision™, HDR 400

Touchscreen

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

Multi-mode

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

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>
2. WQHD is not available in EMEA

Input Device

Pen

ThinkPad Pen Pro, on-board garaged and rechargeable

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)

Models	Dimensions
Privacy Guard models	323 x 218 x 15.95 mm (12.71 x 8.58 x 0.63 inches)
Non-Privacy Guard models	323 x 218 x 15.5 mm (12.71 x 8.58 x 0.61 inches)

Weight^[1]

Models	Weight
Non-Privacy Guard models	1.36 kg (2.99 lbs)
Privacy Guard models	1.47 kg (3.24 lbs)

Case Color

Iron grey

Case Material

Aluminium (top), magnesium (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard 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^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**^[2]

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

SIM Card**

- Gemalto eSIM
- Nano SIM card, Lenovo Connect 4 months, 4G LTE
- No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel Wi-Fi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later
2. For non-WWAN model, it means the model is NOT WWAN upgradable

Ports^[1]

Standard Ports

- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 1 (Always On)
- 2x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery 3.0 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 model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable

- Lenovo HDMI to VGA Monitor Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

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

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

Other Security

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

MANAGEABILITY

System Management

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

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

- ThinkPad Ethernet Extension Adapter Gen 2
- None

CERTIFICATIONS

Green Certifications

Green Certifications

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

Other Certifications

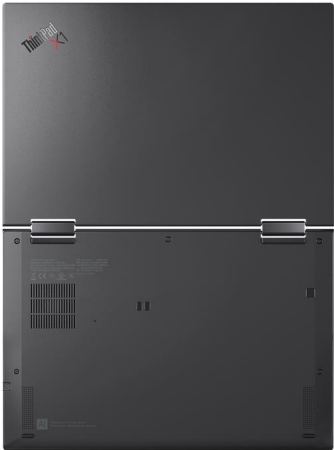
Mil-Spec Test

MIL-STD-810G military test passed

Other Certifications

Athena certified

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



OVERVIEW



1. Thunderbolt 4	5. Pen slot
2. Thunderbolt 4	6. Headphone / microphone combo jack (3.5mm)
3. USB 3.2 Gen 1	7. USB 3.2 Gen 1 (Always On)
4. HDMI 2.0	8. Kensington Nano Security Slot

- 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™ i5 / i7 Processor

Processor**

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-1135G7	4	8	2.4GHz	4.2GHz	8MB	LPDDR4x-4266	Intel Iris® Xe Graphics
Core i5-1145G7	4	8	2.6GHz	4.4GHz	8MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1165G7	4	8	2.8GHz	4.7GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics
Core i7-1185G7	4	8	3.0GHz	4.8GHz	12MB	LPDDR4x-4266	Intel Iris Xe Graphics

Operating System

Operating System**

- Windows® 11 Pro 64
- Windows 11 Home 64
- Windows 11 DG Windows 10 Pro 64
- Windows 10 Pro 64
- Windows 10 Home 64
- Linux
- Ubuntu Linux
- No operating system

Graphics

Graphics

Graphics	Type	Memory	Key Features
Intel Iris Xe Graphics	Integrated	Shared	DirectX® 12

Monitor Support

Monitor Support^[1]

Supports up to 4 independent displays via native display and 3 external monitors; supports external monitors via Thunderbolt™ (5K@60Hz) or HDMI® (up to 4K@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^[1]

- 8GB soldered memory, not upgradable
- 16GB soldered memory, not upgradable
- 32GB soldered memory, not upgradable

Memory Slots

Memory soldered to systemboard, no slots, 8-channel

Memory Type

LPDDR4x-4266

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

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

Storage Slot

One M.2 2280 PCIe® Gen 4x4 slot, supports M.2 2280 SSD

Storage Type**

Disk Type	Interface	Offering	Security
M.2 2280 SSD	PCIe NVMe®, PCIe x4	-	Opal2
M.2 2280 SSD	PCIe NVMe, PCIe 4.0 x4 Performance	-	Opal 2.0

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3306 codec

Speakers

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

Microphone

Four array microphones, 360° far-field

Camera**

- 720p, with privacy shutter, fixed focus
- IR & 720p hybrid, with privacy shutter, fixed focus

Sensor

Sensors

- Accelerometer (G) sensor
- Proximity (P) sensor

Battery

Battery

Integrated Li-Polymer 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter

Max Battery Life^[1]

MobileMark® 2014: 21.0 hr

MobileMark 2018: 16.1 hr

JEITA 2.0: 23.9 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**

- 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

DESIGN

Display

Display**^[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Key Features
14.0"	WUXGA (1920x1200)	Multi-touch	IPS	400 nits	Anti-glare	16:10	1000:1	100% sRGB	170°	Low power, low blue light
14.0"	WUXGA (1920x1200)	Multi-touch	IPS	400 nits	Anti-reflection, Anti-smudge	16:10	1000:1	100% sRGB	170°	Low power, low blue light
14.0"	WUXGA (1920x1200)	Multi-touch	IPS	500 nits	Anti-glare	16:10	1000:1	100% sRGB	170°	Low power, ThinkPad® Privacy Guard
14.0"	WQUXGA (3840x2400)	Multi-touch	IPS	500 nits	Anti-reflection, Anti-smudge	16:10	1500:1	100% DCI-P3	170°	Low blue light, HDR 400

Touchscreen

Capacitive-type on-cell multi-touch, supports 10-point touch

Multi-mode

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

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

Pen

Lenovo Integrated Pen, on-board garaged and rechargeable

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)

Models	Dimensions
All models	314.4 x 223 x 14.99 mm (12.38 x 8.78 x 0.59 inches)

Weight^[1]

Models	Weight
All models	1.399 kg (3 lbs)

Case Color

Storm grey

Case Material

Aluminium (top), aluminium (bottom)

Notes:

1. The system weight varies depending on configurations

CONNECTIVITY

Network

Onboard Ethernet

Ethernet support via optional Lenovo USB-C to Ethernet Adapter

WLAN + Bluetooth^[1]

Intel Wi-Fi® 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2

WWAN**

- Integrated Mobile Broadband 4G LTE, Quectel EM120R-GL, M.2 card, with embedded eSIM functionality
- Qualcomm® Snapdragon™ X55 5G Modem M.2 card - RF System with embedded eSIM functionality
- No support

SIM Card

No SIM card inbox

NFC

- Near Field Communication
- No support

Notes:

1. Intel WiFi 6 full features might be limited by country level restrictions
Bluetooth 5.2 is supported with driver version 22.30 and later

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™ 1.4a)
- 1x HDMI 2.0
- 1x Headphone / microphone combo jack (3.5mm)

Optional Ports

1x Nano-SIM card slot (WWAN model)

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: 40 Gbit/s;
FireWire 400: 400 Mbit/s;
FireWire 800: 800 Mbit/s

Monitor Cable

Monitor Cable

- Lenovo HDMI to VGA Monitor Adapter
- No monitor cable

SECURITY & PRIVACY

Security

Security Chip**

- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks

Kensington® Nano Security Slot

Smart Card Reader

No smart card reader

Fingerprint Reader

Touch style fingerprint reader on power button, match-on-chip

BIOS Security

- Supervisor password
- Power-on password
- NVMe password
- Self-healing BIOS

Other Security

- Camera privacy shutter
- (Optional) IR camera for Windows Hello
- (Optional) Privacy Guard with Privacy Alert
- (Optional) Human Presence Detection

MANAGEABILITY**System Management****System Management**

- Intel vPro Technology, DASH
- None

SERVICE**Warranty****Base Warranty**^[1]**

- 1-year depot service
- 1-year depot with 2-year system board service
- 1-year limited onsite service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

Notes:

1. 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

Green Certifications

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

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications

- (Optional) Intel Evo™ Platform
- (Optional) TÜV Rheinland® Low Blue Light
- TÜV Rheinland Dynamic Privacy Filter (DPF) Certification

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION “AS IS,” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.
- The specifications on this page may not be available in all regions, and may be changed or updated without notice.



intel



intel



intel



intel



intel



intel

This publication was developed for products and services offered in the North America, E.M.E.A and Asia & Pacific countries. Lenovo may not offer the products, services or features discussed in this document in other countries. Lenovo may withdraw an offering at any time. Information is subject to change without notice. Consult your local representative for information on offerings available in your area.

Lenovo reserves the right to change specifications or other product information without notice. Lenovo is not responsible for photographic or typographical errors.

LENOVO PROVIDES THIS PUBLICATION "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore this disclaimer may not apply to you.

Availability: All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors.

General: Review [key information provided by Microsoft](#) that may apply to your system purchase, including details on Windows 10, Windows 8, Windows 7, and potential upgrades/downgrades. Lenovo makes no representation or warranty regarding third-party products or services.

Trademarks: Lenovo, ThinkPad, ThinkBook, ThinkCentre, ThinkStation, ThinkVision and the Lenovo logo are trademarks of Lenovo. Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation. Ultrabook, Celeron, Celeron Inside, Core Inside, Intel, Intel Logo, Intel Atom, Intel Atom Inside, Intel Core, Intel Inside, Intel Inside Logo, Intel vPro, Itanium, Itanium Inside, Pentium, Pentium Inside, vPro Inside, Xeon, Xeon Phi, and Xeon Inside are trademarks of Intel Corporation in the U.S. and/or other countries. Other company, product or service names may be trademarks or service marks of others.

Warranty: For a copy of applicable warranties, write to: Lenovo Warranty Information, 1009 Think Place, Morrisville, NC, 27560. Lenovo makes no representation or warranty regarding third party products or services. The Lenovo Limited Warranty applies only to Lenovo hardware products purchased for your own use, and does not transfer upon resale.

Limited warranty: Support unrelated to a warranty issue may be subject to additional charges.

Lenovo Services:

Carry-in or Mail-in Service: Parts and labor repair coverage where the customer is responsible for shipping (including packaging) or delivery to authorized warranty provider or repair center.

Depot or Courier Service: Parts and labor repair coverage where shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

Expedited Depot: Parts and labor coverage with expedited turnaround. Shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

Onsite / In-home Service: Parts and labor repair coverage where labor is provided onsite at your place of business.

If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

Included software: may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

Battery life: Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit <http://psref.lenovo.com/> for the latest version of Product Specifications Reference.

© Lenovo, 2022. All rights reserved.

Lenovo 1009 Think Place Morrisville, NC 27560 U.S.A.