Lenovo PSREF
Product Specifications
Reference

OVERVIEW

1.	SD card reader	6.	Thunderbolt 4
2.	USB 3.2 Gen 1	7.	HDMI
3.	Ethernet (RJ-45)	8.	USB 3.2 Gen 1 (Always On)
4.	Kensington Nano Security Slot	9.	Headphone / microphone combo jack (3.5mm)
5.	USB-C 3.2 Gen 2		

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	Processor Graphics
Celeron 6305	2	2	1.8GHz	-	4MB	Intel UHD Graphics
Core i3-1115G4	2	4	3.0GHz	4.1GHz	6MB	Intel UHD Graphics
Core i5-1135G7[1]	4	8	2.4GHz	4.2GHz	8MB	Intel Iris® Xe Graphics
Core i7-1165G7[2]	4	8	2.8GHz	4.7GHz	12MB	Intel Iris Xe Graphics

Notes:

[1], [2] Intel Iris Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel Iris Xe Graphics will function as Intel UHD Graphics.

Operating System

Operating System**

- VM DOS
- Windows® 10 Government Edition 64
- Windows 10 Home 64
- Windows 10 Home 64 Single Language
- Windows 10 Pro 64
- Windows 11 Home Single Language

Graphics

Graphics**

Graphics	Type	Memory	TGP	Key Features
Intel UHD Graphics	Integrated	Shared	Share CPU TDP	DirectX® 12.1
Intel Iris Xe Graphics[1]	Integrated	Shared	Share CPU TDP	DirectX 12.1
NVIDIA® GeForce MX450	Discrete	2GB GDDR6	-	DirectX 12

Notes:

[1] Intel Iris Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel Iris Xe Graphics will function as Intel UHD Graphics.

Monitor Support

Monitor Support

Supports up to 4 independent displays (native display and 3 external monitors via HDMI®, USB-C® and Thunderbolt™)
• HDMI supports up to 3840x2160@30Hz
• USB-C supports up to 5120x3200@60Hz
• Thunderbolt supports up to 5120x3200@60Hz

Chipset

Chipset

Intel SoC (System on Chip) platform

Memory

Max Memory[1]

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

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[1][2]

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

Storage Slot

- HDD/SSD mode: one 2.5″ drive slot + one M.2 slot
  - One 2.5″ SATA HDD slot
  - One M.2 2280 PCIe® 4.0 x4 slot
- Dual SSD mode: two M.2 slots
  - One M.2 2280 PCIe 3.0 x2 slot
  - One M.2 2280 PCIe 4.0 x4 slot

Storage Type***[3]

Disk Type	Interface	RPM	Offering
2.5″ SATA HDD	SATA 6Gb/s	5.4K	1TB / 2TB
2.5″ SATA HDD	SATA 6Gb/s	7.2K	500GB / 1TB
M.2 2242 SSD	PCIe NVMe®, PCIe 3.0 x4	-	128GB / 256GB / 512GB
M.2 2280 SSD	PCIe NVMe, PCIe 3.0 x4	-	1TB

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo storage offerings. The system may support larger storage as the technology develops.
[2] System supports 1x M.2 2280 PCIe 4.0x4 SSD slot + 1x HDD bay or
1x M.2 2280 PCIe 4.0x4 SSD slot + 1x M.2 2280 PCIe 3.0x2 SSD slot, depends on model configuration.
[3] System that comes with two M.2 SSD slots doesn't support to adding an extra 2.5″ HDD.

Removable Storage

Optical

None

Card Reader

4-in-1 card reader (SD, SDHC, SDXC, MMC)

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers

Stereo speakers, 2W x2, Dolby® Audio™

Microphone

Single microphone

Camera

HD 720p, with privacy shutter, fixed focus

Battery

Battery

Integrated Li-Polymer 45Wh battery, supports Rapid Charge Pro (charge up to 50% in 30min)

Max Battery Life[1]

MobileMark® 2018: 6 hr (45Wh)

Notes:

[1] All battery life claims are approximate maximum and based on results using the MobileMark 2014, MobileMark 2018, MobileMark 25, 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 depending 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 (3-pin) AC adapter, supports PD 3.0, 100-240V, 50-60Hz

DESIGN

Display

Display**[1]

Size	Resolution	Touch	Type	Brightness	Surface	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle (L/R/U/D)
15.6″	FHD (1920x1080)	None	TN	220 nits	Anti-glare	16:9	500:1	45% NTSC	45°/45°/-/-
15.6″	FHD (1920x1080)	None	IPS[2]	250 nits	Anti-glare	16:9	700:1	45% NTSC	85°/85°/-/-

Touchscreen

Non-touch

Notes:

[1] California Electronic Waste Recycling Fee
In California USA, 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, please go to https://www.calrecycle.ca.gov/Electronics/Consumer.
[2] IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

Input Device

Keyboard

6-row, spill-resistant, multimedia Fn keys, SMB Service Hot key, numeric keypad

Keyboard Backlight

Non-backlight

Touchpad

Buttonless Mylar® surface multi-touch touchpad, supports Precision TouchPad (PTP), 70 x 105 mm (2.76 x 4.13 inches)

Mechanical

Dimensions (WxDxH)[1]

357 x 235 x 18.9 mm (14.1 x 9.25 x 0.74 inches)

Weight[2]

Starting at 1.67 kg (3.68 lbs)

Case Color

Black

Surface Treatment

Anodizing sandblasting

Case Material

Aluminium (top), PC-ABS (bottom)

Notes:

[1] The system dimensions may vary depending on configurations.

[2] The system weight is approximate and based on results in Lenovo lab, which varies depending on the source of component, variance of the distribution of each component, and manufacturing process. It may not be the exact weight for each specific model.

CONNECTIVITY

Network

Ethernet

Gigabit Ethernet, 1x RJ-45, supports Wake-on-LAN

WLAN + Bluetooth®**

- 802.11ac 2x2 Wi-Fi® + Bluetooth 5.1, M.2 card
- Wi-Fi 6, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 card[1]
- No WLAN and Bluetooth

Notes:

[1] Bluetooth 5.2 is hardware ready but may run at a lower version due to OS limitations.
Wi-Fi 6 full features might be limited by country-level restrictions.

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 3.0 and DisplayPort™ 1.4)
- 1x Thunderbolt 4 / USB4® 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort 1.4)
- 1x HDMI 1.4b
- 1x SD card reader
- 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;
USB4 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
USB4 40Gbps (USB 40Gbps): 40 Gbit/s;
Thunderbolt 3/4: 40 Gbit/s.

SECURITY & PRIVACY

Security

Security Chip

No security chip

Physical Locks

Kensington® Nano Security Slot™, 2.5 x 6 mm

Fingerprint Reader

- Touch style fingerprint reader integrated in power button
- No fingerprint reader

BIOS Security

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

Other Security

Camera privacy shutter

SERVICE

Warranty[1]

Base Warranty[2]

1-year carry-in service

Notes:

[1] The warranty upgrades may be bundled with some models, please check the "Included upgrade" column in the specific model's configurations. To learn more details of warranty policy, please access https://newsupport.lenovo.com.cn.
[2] More information of warranty policy, please access https://newsupport.lenovo.com.cn.

ENVIRONMENTAL

Operating Environment

Temperature[1]

- At altitudes above 2438 m (8,000 ft)
  - Maximum temperature when operating under the unpressurized condition: 31.3°C (88°F)
- At altitudes up to 2438 m (8,000 ft)
  - Operating: 5°C to 35°C (41°F to 95°F)
  - Storage: 5°C to 43°C (41°F to 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[1]

Green Certifications

- CCC
- (Optional) CECP
- CEL
- EMC Class-B
- (Optional) ENERGY STAR® 8.0
- RoHS compliant

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration.

Other Certifications

Mil-Spec Test

MIL-STD-810H military test passed

Other Certifications[1]

(Optional) TÜV Rheinland® Low Blue Light

Notes:

[1] TÜV Rheinland Low Blue Light is Not applicable for TN 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.

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