DELL Technologies

Alienware m16 R1 AMD

Setup and Specifications

DELL Technologies

Notes, cautions, and warnings

(i) **NOTE:** A NOTE indicates important information that helps you make better use of your product.

⚠ **CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**

⚠ **WARNING: A WARNING indicates a potential for property damage, personal injury, or death.**

Contents

Set up your Alienware m16 R1 AMD

ⓘ **NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

Connect the power adapter and press the power button.

Views of Alienware m16 R1 AMD

Display

1. **Left microphone**

   Provides digital sound input for audio recording and voice calls.

2. **Infrared emitter**

   Emits infrared light, which enables the infrared camera to sense and track motion.

3. **Infrared camera**

   Enhances security when paired with Windows Hello face authentication.

4. **Camera**

   Enables you to video chat, capture photos, and record videos.

5. **Camera-status light**

   Turns on when the camera is in use.

6. **Right microphone**

   Provides digital sound input for audio recording and voice calls.

Left
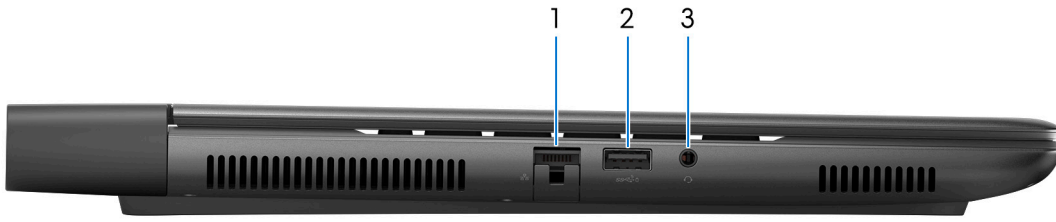
1. **Network port**

   Connect an Ethernet (RJ45) cable from a router or a broadband modem for network or Internet access.

2. **USB 3.2 Gen 1 port with PowerShare**

   Connect devices such as external storage devices and printers.

   Provides data transfer speeds up to 5 Gbps. PowerShare enables you to charge your USB devices even when your computer is turned off.

   ⓘ **NOTE:** If your computer is turned off or in hibernate state, you must connect the power adapter to charge your devices using the PowerShare port. You must enable this feature in the BIOS setup program.

   ⓘ **NOTE:** Certain USB devices may not charge when the computer is turned off or in sleep state. In such cases, turn on the computer to charge the device.

3. **Universal audio jack**

   Connect headphones or a headset (headphone and microphone combo).

Top
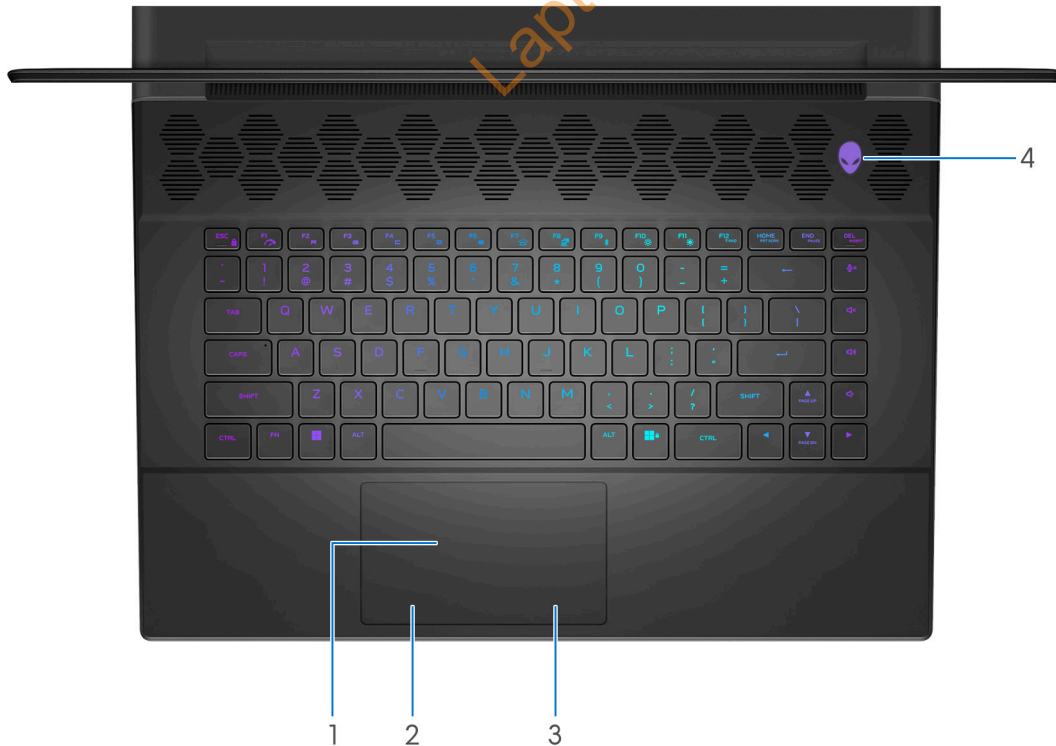
1. **Touchpad**

   Move your finger on the touchpad to move the mouse pointer. Tap to left-click and two fingers tap to right-click.

2. **Left-click area**

   Press to left-click.

3. **Right-click area**

   Press to right-click.

4. **Power button (Alien head)**

   Press to turn on the computer if it is turned off, in sleep state, or in hibernate state.

   Press to put the computer into sleep state if it is turned on.

   When the computer is turned on, press and hold the power button for four seconds to force shut-down the computer.

   ⓘ **NOTE:** You can customize power-button behavior in Windows. For more information, see *Me and My Dell* at www.dell.com/support/manuals.

Back
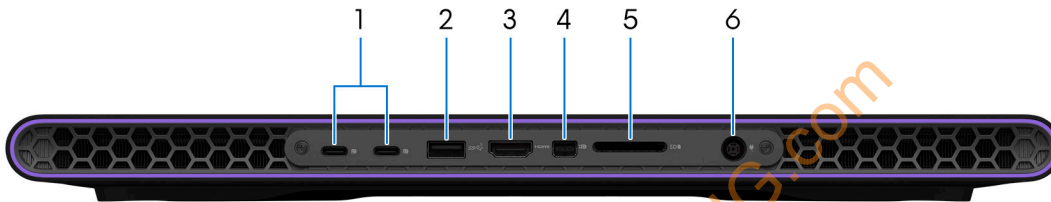
1. **USB 3.2 Gen 2 (Type-C) port with DisplayPort**

   Connect devices such as external storage devices, printers, and external displays. Provides data transfer rate of up to 10 Gbps.

   Supports DisplayPort 1.4 and also enables you to connect an external display using a display adapter.

   ⓘ **NOTE:** A USB Type-C to DisplayPort adapter (sold separately) is required to connect a DisplayPort device.

2. **USB 3.2 Gen 1 port**

   Connect devices such as external storage devices and printers. Provides data transfer speeds up to 5 Gbps.

3. **HDMI 2.1 port**

   Connect to a TV, external display or another HDMI-in enabled device. Provides video and audio output.

4. **Mini-DisplayPort**

   Connect to a TV or another DisplayPort-in enabled device. Mini DisplayPort provides video and audio output.

5. **SD-card slot**

   Reads from and writes to the SD card.

6. **Power-adapter port**

   Connect a power adapter to provide power to your computer.

Bottom
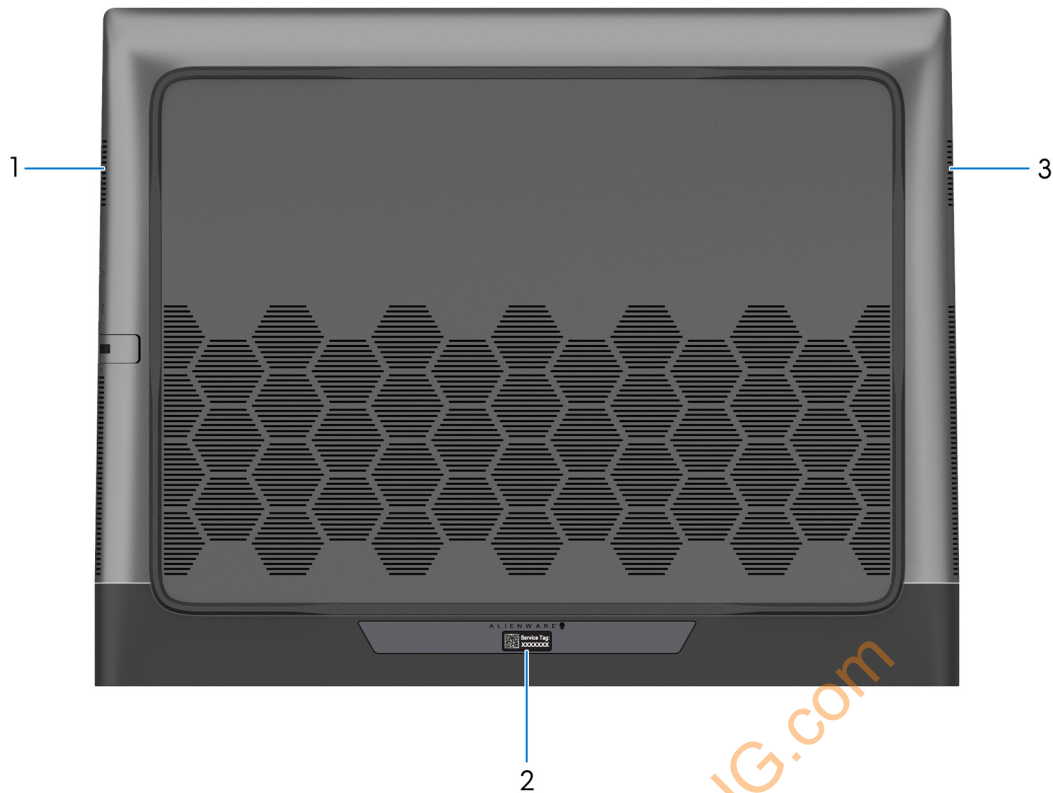
1. **Left speaker**

   Provides audio output.

2. **Service Tag label**

   The Service Tag is a unique alphanumeric identifier that enables Dell service technicians to identify the hardware components in your computer and access warranty information.

3. **Right speaker**

   Provides audio output.

Specifications of Alienware m16 R1 AMD

Dimensions and weight

The following table lists the height, width, depth, and weight of your Alienware m16 R1 AMD.

Table 1. Dimensions and weight

Description	Values
Height:	
Front height	23.10 mm (0.91 in.)
Rear height	23 mm (0.90 in.)
Width	368.90 mm (14.52 in.)
Depth	289.90 mm (11.41 in.)
Weight ⓘ **NOTE:** The weight of your computer depends on the configuration ordered and manufacturing variability.	3.30 kg (7.28 lb)

Processor

The following table lists the details of the processors supported by your Alienware m16 R1 AMD.

Table 2. Processor

Description	Option one	Option two	Option three
Processor type	AMD Ryzen R7 7745HX	AMD Ryzen R9 7845HX	AMD Ryzen R9 7945HX
Processor wattage	55 W	55 W	55 W
Processor total core count	8	12	16
Performance-cores	8	12	16
Processor total thread counts ⓘ **NOTE:** Intel® Hyper-Threading Technology is only available on Performance-cores.	16	24	32
Processor speed	Up to 5.10 GHz	Up to 5.20 GHz	Up to 5.40 GHz
Performance-cores frequency			
Processor base frequency	3.60 GHz	3 GHz	2.50 GHz
Maximum turbo frequency	5.10 GHz	5.20 GHz	5.40 GHz

Table 2. Processor (continued)

Description	Option one	Option two	Option three
Processor cache	32 MB	64 MB	64 MB
Integrated graphics	AMD Radeon 610M	AMD Radeon 610M	AMD Radeon 610M

Chipset

The following table lists the details of the chipset supported by your Alienware m16 R1 AMD.

Table 3. Chipset

Description	Values
Chipset	AMD Ryzen 7/9
Processor	Integrated in the processor
DRAM bus width	64-bit
Flash EPROM	32 MB
PCIe bus	Up to Gen 4.0

Operating system

Your Alienware m16 R1 AMD supports the following operating systems:

● Windows 11 Home (64-bit)
● Windows 11 Professional (64-bit)

Memory

The following table lists the memory specifications of your Alienware m16 R1 AMD.

Table 4. Memory specifications

Description	Values
Memory slots	Two-SODIMM slots
Memory type	DDR5
Memory speed	4800 MHz
Maximum memory configuration	64 GB
Minimum memory configuration	16 GB
Memory size per slot	8 GB, 16 GB and 32 GB
Memory configurations supported	● 16 GB, 2 x 8 GB, DDR5, 4800 MHz, dual-channel ● 32 GB, 2 x 16 GB, DDR5, 4800 MHz, dual-channel ● 64 GB, 2 x 32 GB, DDR5, 4800 MHz, dual-channel

External ports

The following table lists the external ports of your Alienware m16 R1 AMD.

Table 5. External ports

Description	Values
Network port	One RJ-45 port
USB ports	- One USB 3.2 Gen 1 port - One USB 3.2 Gen 1 port with PowerShare - Two USB 3.2 Gen 2 Type-C ports with DisplayPort for computers shipped with NVIDIA GeForce RTX 4080, RTX 4090, and AMD RX 7600M XT graphics card - One USB 3.2 Gen 2 Type-C ports with DisplayPort and one USB 3.2 Gen 2 Type-C ports for computers shipped with NVIDIA GeForce RTX 4060/4070 graphics card
Audio port	One universal audio jack (RCA, 3.5 mm)
Video port	- One HDMI 2.1 port - One mini-DisplayPort
Media-card reader	One SD-card slot
Power-adapter port	One 7.40 mm x 5.10 mm DC-in
Security-cable slot	Not supported

Internal slots

The following table lists the internal slots of your Alienware m16 R1 AMD.

Table 6. Internal slots

Description	Values
M.2	- One M.2 2230 and two M.2 2280 solid-state drive slots, for computers shipped with NVIDIA GeForce RTX 4080, RTX 4090, and AMD RX 7600M XT graphics card - Two M.2 2280 solid-state drive slots, for computers shipped with NVIDIA GeForce RTX 4060/4070 graphics card (i) NOTE: To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at www.dell.com/support.

Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your Alienware m16 R1 AMD.

Table 7. Ethernet specifications

Description	Values
Model number	Realtek RTL8125 integrated Ethernet controller, for computers shipped with NVIDIA GeForce RTX 4060/4070/4080/4090, and AMD RX 7600M XT graphics card
Transfer rate	2.50 Gbps for Realtek RTL8125 Gigabit Ethernet controller

Wireless module

The following table lists the Wireless Local Area Network (WLAN) modules that are supported on your Alienware m16 R1 AMD.

Table 8. Wireless module specifications

Description	Option one	Option two
Model number	Qualcomm WCN6856-DBS	MediaTek MT7922
Transfer rate	Up to 3571 Mbps	Up to 2400 Mbps
Frequency bands supported	2.4 GHz/ 5 GHz/ 6 GHz	2.4 GHz/ 5 GHz/ 6 GHz
Wireless standards	- WiFi 802.11a/b/g - Wi-Fi 4 (WiFi 802.11n) - Wi-Fi 5 (WiFi 802.11ac) - Wi-Fi 6E (WiFi 802.11ax)	- WiFi 802.11a/b/g - Wi-Fi 4 (WiFi 802.11n) - Wi-Fi 5 (WiFi 802.11ac) - Wi-Fi 6E (WiFi 802.11ax)
Encryption	64-bit/128-bit WEP - AES-CCMP - TKIP	64-bit/128-bit WEP - AES-CCMP - TKIP
Bluetooth wireless card	Bluetooth 5.2 wireless card	Bluetooth 5.2 wireless card
	ⓘ **NOTE:** The version of the Bluetooth wireless card may vary depending on the operating system that is installed on your computer.	

Audio

The following table lists the audio specifications of your Alienware m16 R1 AMD.

Table 9. Audio specifications

Description	Values
Audio controller	Realtek ALC3254
Stereo conversion	Supported
Internal audio interface	High definition audio interface
External audio interface	One universal audio jack (RCA, 3.5 mm)

Table 9. Audio specifications (continued)

Description	Values
	● One HDMI 2.1 port
Number of speakers	2
Internal-speaker amplifier	Supported
External volume controls	Keyboard shortcut controls
Speaker output:	
Average speaker output	2 W
Peak speaker output	4 W
Subwoofer output	Not supported
Microphone	Digital-array microphones in camera assembly

Storage

This section lists the storage options on your Alienware m16 R1 AMD.

Your Alienware m16 R1 AMD supports the following storage configuration:
● One M.2 2230 and two M.2 2280 solid-state drive slots, for computers shipped with NVIDIA GeForce RTX 4080, RTX 4090, and AMD RX 7600M XT graphics card
● Two M.2 2280 solid-state drive slots, for computers shipped with NVIDIA GeForce RTX 4060/4070 graphics card

The primary drive of your Alienware m16 R1 AMD varies with the storage configuration. The primary drive of your computer is the M.2 2280 drive where the operating system is installed.

Table 10. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 solid-state drive	PCIe Gen4 x4 NVMe, up to 64 Gbps	Up to 512 GB
M.2 2280 solid-state drive	PCIe Gen4 x4 NVMe, up to 64 Gbps	Up to 4 TB

Media-card reader

The following table lists the media cards supported by your Alienware m16 R1 AMD.

Table 11. Media-card reader specifications

Description	Values
Media-card type	One SD card slot
Media-cards supported	● Secure Digital (SD) ● Secure Digital High Capacity (SDHC) ● Secure Digital Extended Capacity (SDXC)
ⓘ **NOTE:** The maximum capacity supported by the media-card reader varies depending on the standard of the media card installed in your computer.	

Keyboard

The following table lists the keyboard specifications of your Alienware m16 R1 AMD.

Table 12. Keyboard specifications

Description	Values
Keyboard type	1-zone RGB keyboard - RGB per key - RGB per key, backlit Cherry mechanical keyboard
Keyboard layout	QWERTY
Number of keys	- United States and Canada: 85 keys - United Kingdom: 86 keys - Japan: 89 keys
Keyboard size	X=19.05 mm key pitch Y=19.05 mm key pitch
Keyboard shortcuts	Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key. ⓘ **NOTE:** You can define the primary behavior of the function keys (F1–F12) changing **Function Key Behavior** in BIOS setup program. For more information, see Keyboard shortcuts.

Camera

The following table lists the camera specifications of your Alienware m16 R1 AMD.

Table 13. Camera specifications

Description		Values
Number of cameras		One
Camera type		- One FHD RGB camera, for computers shipped with a 165 Hz QHD+ display - One FHD-RGB Infrared camera, for computers shipped with a 240 Hz QHD+ and 480 Hz FHD+ display
Camera location		Front camera
Camera sensor type		CMOS sensor technology
Camera resolution:		
	Still image	2.07 megapixel
	Video	1920 x 1080 (FHD) at 30 fps
Infrared camera resolution:		
	Still image	0.23 megapixel

Table 13. Camera specifications (continued)

	Description	Values
	Video	640 x 360 at 30 fps
Diagonal viewing angle:		
	Camera	• FHD RGB: 82 degrees • FHD-RGB Infrared: 80 degrees
	Infrared camera	86.6 degrees

Touchpad

The following table lists the touchpad specifications of your Alienware m16 R1 AMD.

Table 14. Touchpad specifications

	Description	Values
Touchpad resolution:		
	Horizontal	>300 DPI
	Vertical	749
Touchpad dimensions:		
	Horizontal	112 mm (4.41 in.)
	Vertical	65 mm (2.56 in.)
Touchpad gestures		For more information about touchpad gestures available on Windows, see the Microsoft knowledge base article at support.microsoft.com.

Power adapter

The following table lists the power adapter specifications of your Alienware m16 R1 AMD.

Table 15. Power adapter specifications

	Description	Option one	Option two
Type		330 W AC adapter	330 W SFF AC adapter
Connector dimensions:			
	External diameter	7.40 mm	7.40 mm
	Internal diameter	5.10 mm	5.10 mm
Power-adapter dimensions:			
	Height	43 mm (1.69 in.)	25.40 mm (1 in.)
	Width	100 mm (3.94 in.)	86 mm (3.39 in.)
	Depth	200 mm (7.87 in.)	184 mm (7.24 in.)
Input voltage		100 VAC–240 VAC	100 VAC–240VAC

Table 15. Power adapter specifications (continued)

Description		Option one	Option two
Input frequency		50 Hz–60 Hz	50 Hz–60 Hz
Input current (maximum)		4.40 A	4.40 A
Output current (continuous)		16.92 A	16.92 A
Rated output voltage		19.50 VDC	19.50 VDC
Temperature range:			
	Operating	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)
	Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

⚠ **CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.**

Battery

The following table lists the battery specifications of your Alienware m16 R1 AMD.

Table 16. Battery specifications

Description		Values
Battery type		6-cell lithium-ion (86 Wh)
Battery voltage		11.40 VDC
Battery weight (maximum)		0.34 kg (0.75 lb)
Battery dimensions:		
	Height	7.56 mm (0.30 in.)
	Width	295.20 mm (11.62 in)
	Depth	77.70 mm (3.06 in.)
Temperature range:		
	Operating	• Charging: 0°C to 50°C (32°F to 122°F) • Discharging: 0°C to 60°C (32°F to 140°F)
	Storage	-20°C to 65°C (-4°F to 149°F)
Battery operating time		Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.
Battery charging time (approximate) ⓘ **NOTE:** Control the charging time, duration, start and end time, and so on using the Dell Power Manager application. For more information about Dell Power Manager, search in the Knowledge Base Resource at www.dell.com/support.		• Standard charging: 3 hours, when computer is turned off • ExpressCharge: 2 hours, when computer is turned off • ExpressChargeBoost: 20 minutes, from 0% up to 35% when computer is turned off
Coin-cell battery		None

Table 16. Battery specifications (continued)

Description	Values
⚠ **CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.**	
⚠ **CAUTION: Dell recommends that you charge the battery regularly for optimal power consumption. If your battery charge is completely depleted, connect the power adapter, turn on your computer, and then restart your computer to reduce the power consumption.**	

Display

The following table lists the display specifications of your Alienware m16 R1 AMD.

Table 17. Display specifications

Description		Option one	Option two	Option three
Display type		16-inch, Quad High Definition plus (QHD+)	16-inch, Quad High Definition plus (QHD+)	16-inch, Full High Definition plus (FHD+)
Display-panel technology		Wide Viewing Angle (WVA)	Wide Viewing Angle (WVA)	Wide Viewing Angle (WVA)
Display-panel dimensions (active area):				
	Height	215.42 mm	215.42 mm	215.42 mm
	Width	344.68 mm	344.68 mm	344.68 mm
	Diagonal	406.46 mm	406.46 mm	406.46 mm
Display-panel native resolution		2560 x 1600	2560 x 1600	1920 x 1200
Luminance (typical)		300 nits	300 nits	300 nits
Megapixels		4.1	4.1	2.3
Color gamut (typical)		sRGB 100%	DCI-P3 100%	DCI-P3 100%
Pixels Per Inch (PPI)		188.70	188.70	141.50
Contrast ratio (typical)		1000:1	1000:1	1000:1
Response time (typical)		• With Overdrive: 3 ms • Without Overdrive: 7 ms	• With Overdrive: 3 ms • Without Overdrive: 7 ms	• With Overdrive: 3 ms • Without Overdrive: 7 ms
Refresh rate		165 Hz	240 Hz	480 Hz
Horizontal view angle (typical)		+/- 85 degrees	+/- 85 degrees	+/- 85 degrees
Vertical view angle (typical)		+/- 85 degrees	+/- 85 degrees	+/- 85 degrees
Pixel pitch		0.13 mm	0.13 mm	0.18 mm
Power consumption (maximum)		6 W	7.2 W	6.75 W
Anti-glare vs glossy finish		Anti-glare	Anti-glare	Anti-glare

Table 17. Display specifications (continued)

Description	Option one	Option two	Option three
Touch options	Not supported	Not supported	Not supported
Adaptive sync support	G-SYNC, AdaptiveSync, FreeSync	G-SYNC, AdaptiveSync, FreeSync	G-SYNC, AdaptiveSync, FreeSync

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Alienware m16 R1 AMD.

Table 18. GPU—Integrated

Controller	Memory size	Processor
AMD Radeon 610M	Shared system memory	AMD Ryzen R7/R9

GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Alienware m16 R1 AMD.

Table 19. GPU—Discrete

Controller	Memory size	Memory type
NVIDIA GeForce RTX 4060	8 GB	GDDR6
NVIDIA GeForce RTX 4070	8 GB	GDDR6
NVIDIA GeForce RTX 4080	12 GB	GDDR6
NVIDIA GeForce RTX 4090	16 GB	GDDR6
AMD Radeon RX 7600M XT	8 GB	GDDR6

External display support

The following table lists the external display support for your Alienware m16 R1 AMD.

Table 20. External display support

Graphics card	Supported external displays with laptop display enabled	Supported external displays with laptop display disabled
● AMD Radeon RX 7600M XT ● NVIDIA GeForce RTX 4060 ● NVIDIA GeForce RTX 4070 ● NVIDIA GeForce RTX 4080 ● NVIDIA GeForce RTX 4090	● 2 ● 2 ● 2 ● 2 ● 2	● 2 ● 2 ● 2 ● 2 ● 2

Operating and storage environment

This table lists the operating and storage specifications of your Alienware m16 R1 AMD.

Airborne contaminant level: G1 as defined by ISA-S71.04-1985

Table 21. Computer environment

Description	Operating	Storage
Temperature range	0°C to 35°C (32°F to 95°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	10% to 90% (non-condensing)	5% to 95% (non-condensing)
Vibration (maximum)*	0.66 GRMS	Not applicable
Shock (maximum)	140 G†	Not applicable
Altitude range	-15.2 m to 3048 m (-49.87 ft to 10000 ft)	-15.2 m to 10668 m (-49.87 ft to 35000 ft)

⚠ **CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.**

* Measured using a random vibration spectrum that simulates user environment.

† Measured using a 2 ms half-sine pulse.