

Dell Pro Max 18 Plus

MB18250

Owner's Manual

Notes, cautions, and warnings

 **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.

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Views of Dell Pro Max 18 Plus MB18250

Right



Figure 1. Right view

1. Global headset port

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

2. Thunderbolt 4 (40 Gbps) port with Power Delivery and DisplayPort

Supports USB4, DisplayPort 2.1, Thunderbolt 4 and also enables you to connect to an external display using a display adapter. Provides data transfer rates of up to 40 Gbps for USB4 and Thunderbolt 4.

i **NOTE:** You can connect a Dell Docking Station to the Thunderbolt 4 ports. For more information, search in the Knowledge Base Resource at [Dell Support Site](#).

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

i **NOTE:** USB4 is backward compatible with USB 3.2, USB 2.0, and Thunderbolt 3.

i **NOTE:** Thunderbolt 4 supports two 4K displays or one 8K display.

3. USB 3.2 Gen 1 port

Connect peripherals such as a keyboard, mouse, printer, and external storage device. Supports data transfer speeds of up to 5 Gbps.

4. USB 3.2 Gen 1 port with PowerShare

Connect devices such as external storage devices and printers.

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

i **NOTE:** If your computer is turned off or in a 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.

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

5. Security-cable slot (for Noble lock)

Attach a security cable to prevent unauthorized movement of your computer.

Left



Figure 2. Left view

1. RJ45 Ethernet port (2.5 Gbps)

Connect an RJ45 ethernet cable from a router or a broadband modem for network or Internet access, with a transfer rate of 10/100/1000/2500 Mbps (maximum 2.5 Gbps).

2. HDMI 2.1 Fixed Rate Link (FRL) port

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

3. Thunderbolt 5 (80 Gbps) ports with Power Delivery and DisplayPort (2)

Supports USB4, DisplayPort 2.1, Thunderbolt 4 and also enables you to connect to an external display using a display adapter. Provides data transfer rates of up to 80 Gbps for USB4 and Thunderbolt 5.

i | NOTE: You can connect a Dell Docking Station to the Thunderbolt 5 ports. For more information, search in the Knowledge Base Resource at [Dell Support Site](#).

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

i | NOTE: USB4 is backward compatible with USB 3.2, USB 2.0, and Thunderbolt 3.

i | NOTE: Thunderbolt 5 supports two 4K displays or one 8K display.

4. Battery-status light

Indicates the battery-charge status.

If the computer is connected to an electrical outlet, the battery light operates as follows:

- Solid white: The battery is charging. When the charge is complete the LED turns off.

If the computer is running on a battery, the battery light operates as follows:

- Off: The battery is adequately charged, or the computer is turned off.
- Solid amber: The battery charge is critically low. A low battery state is approximately 30 minutes or less of battery life remaining (Amber 590 nm +/- 3 nm).

5. SD-card slot

Insert an SD card to expand your storage and store photos, videos, and data from your computer. The computer supports the following card types:

- Secure Digital (SD)
- Secure Digital High Capacity (SDHC)
- Secure Digital Extended Capacity (SDXC)

6. Smart-card reader slot

Using smart card provides authentication in corporate networks.

Top



Figure 3. Top view

1. Power button with optional fingerprint reader

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

When the computer is turned on, press the power button to put the computer into a sleep state. Press and hold the power button for 10 seconds to force shut-down the computer.

If the power button has a fingerprint reader, place your finger on the power button steadily to log in.

i **NOTE:** The power-status light on the power button is available only on computers without the fingerprint reader.

i **NOTE:** Register your fingerprint as password in Windows settings.

2. Fingerprint reader (optional)

Press your finger on the FIPS 201-certified fingerprint reader to log in to your computer. The fingerprint reader enables your computer to recognize your fingerprints as a password.

i **NOTE:** Configure the fingerprint reader to register your fingerprint and enable access.

3. NFC/Contactless smart card reader

Provides contactless reading of smart cards. Enables NFC-enabled devices to connect to your computer and supports data transfer across the devices.

4. Touchpad

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

Front



Figure 4. Front view

1. Left microphone

Provides digital sound input for audio recording and voice calls.

2. Infrared camera (optional)

Enhances security when paired with Windows Hello face authentication.

3. Infrared emitter (optional)

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

4. Camera

A camera enables you to video chat, capture photos, and record videos.

5. Camera shutter

Slide the privacy shutter to the left to access the camera lens.

6. Camera-status light

Turns on when the camera is in use.

7. Right microphone

Provides digital sound input for audio recording and voice calls.

8. Ambient-light sensor

The sensor detects the ambient light and automatically adjusts the display brightness.

Bottom

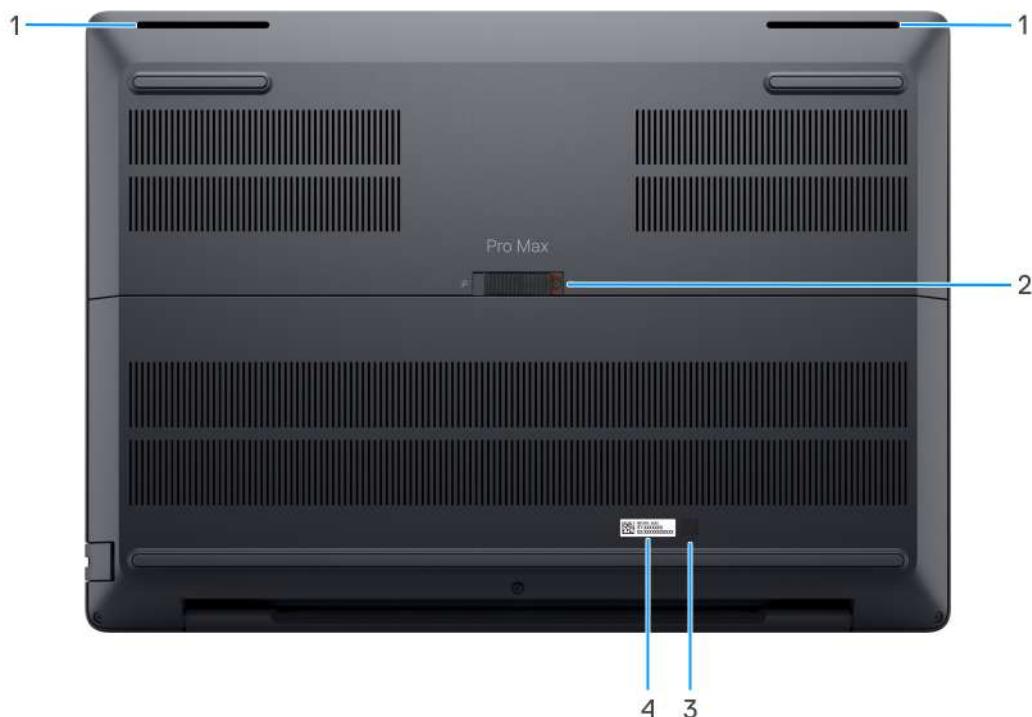


Figure 5. Bottom view

1. Speakers (2)

Provide audio output.

2. Security latch (optional)

The security latch provides easy, quick, and toolless access to the solid state drive (SSD).

Remove the screw to unlock the latch, release, and remove the door to gain access to the toolless SSD slot. The screw can be stored on the back of the removable door.

i | NOTE: The security latch is not available on computers that are shipped with full base cover.

3. MyDell QR code

MyDell is your hub for content that is personalized to your Dell Pro Max 18 Plus MB18250, including videos, articles, manuals, and access to support.

4. 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.

Locate the Service Tag or Express Service Code label of your computer

The service tag is a unique alphanumeric identifier that allows Dell service technicians to identify the hardware components in your computer and access warranty information. The Express Service Code is a numeric version of the Service Tag.

For more information about how to find the Service Tag of your computer, search in the Knowledge Base Resource at the [Dell Support Site](#).



Figure 6. Service Tag/Express Service Code location

Battery-status light

The following table lists the battery-status light behavior of your Dell Pro Max 18 Plus MB18250.

Table 1. Battery-status light behavior

Power source	LED behavior	System power state	Battery charge level
AC adapter	Off	S0 or S5	100%
AC adapter	Solid white	S0 or S5	< 100%
Battery	Off	S0 or S5	11-100%
Battery	Solid amber (590+/-3 nm)	S0 or S5	< 10%

- S0 (ON): The computer is turned on.
- S4 (Hibernate): The computer consumes the least power in the Hibernate state compared to the ON or OFF states. The computer is almost in the OFF state. The context data is written to a storage device, allowing you to resume from where you left after the computer is turned on.
- S5 (OFF): The computer is in a shutdown state.

Set up your Dell Pro Max 18 Plus MB18250

About this task

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

Steps

1. Connect the power adapter and press the power button.



Figure 7. Connect the power adapter and press the power button.

i **NOTE:** The battery may go into power-saving mode during shipment to conserve charge on the battery. Ensure that the power adapter is connected to your computer when it is turned on for the first time.

2. Finish the operating system setup.

For Ubuntu:

Follow the on-screen instructions to complete the setup. For more information about installing and configuring Ubuntu, search in the Knowledge Base Resource at [Dell Support Site](#).

For Windows:

Follow the on-screen instructions to complete the setup. When setting up, it is recommended that you:

- Connect to a network for Windows updates.

i **NOTE:** If connecting to a secured wireless network, enter the password for the wireless network access when prompted.

- If connected to the Internet, sign-in with an existing Microsoft account or create an account. If not connected to the Internet, create an offline account.

- On the **Support and Protection** screen, enter your contact details.
3. Locate and use Dell apps from the Windows Start menu—Recommended.

Table 2. Locate Dell apps

Resources	Description
 Dell Optimizer	<p>Dell Optimizer is an application designed to enhance computer performance and productivity by optimizing settings for power, battery, display, collaboration touchpad, and presence detection. It also provides access to applications purchased with your new computer.</p> <p>For more information, see Dell Optimizer User's Guide at Dell Support Site.</p>
	<p>Dell Product Registration</p> <p>Register your computer with Dell.</p>
	<p>Dell Help & Support</p> <p>Access help and support for your computer.</p>
	<p>SupportAssist</p> <p>SupportAssist is a proactive and predictive technology that offers automated technical support for Dell computers. It proactively monitors both hardware and software, addressing performance issues, preventing security threats, and automating engagement with Dell Technical Support.</p> <p>For more information, see SupportAssist documentation at Dell Support Site.</p> <p>i NOTE: In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.</p>

Specifications of Dell Pro Max 18 Plus MB18250

Dimensions and weight

The following table lists the height, width, depth, and weight of your Dell Pro Max 18 Plus MB18250.

Table 3. Dimensions and weight

Description	Values
Height:	
Front height	17.92 mm (0.71 in.)
Rear height	19.56 mm (0.77 in.)
Peak height	<ul style="list-style-type: none"> For computers without a sliding door: 30.20 mm (1.19 in.) For computers with a sliding door: 31.70 mm (1.25 in.)
Width	15.83 in. (402 mm)
Depth	11.02 in. (279.95 mm)
Weight	3.25 kg (7.17 lb)
NOTE: The weight of your computer depends on the configuration that you ordered.	

Processor

The following table lists the details of the processors that are supported on your Dell Pro Max 18 Plus MB18250.

Table 4. Processor

Description	Option one	Option two	Option three
Type	Intel Core Ultra 5 245HX	Intel Core Ultra 7 265HX	Intel Core Ultra 9 285HX
Wattage	55 W	55 W	55 W
Core count	14	20	24
Thread count	14	20	24
Speed	Up to 5.1 GHz	Up to 5.3 GHz	Up to 5.5 GHz
Cache	26 MB	36 MB	40 MB
Integrated graphics	Intel Graphics	Intel Graphics	Intel Graphics

Chipset

The following table lists the details of the chipset that is supported by your Dell Pro Max 18 Plus MB18250.

Table 5. Chipset

Description	Values
Chipset	Intel WM880
Processor	Intel Core Ultra 5/7/9
DRAM bus width	64-bit
Flash EPROM	64 MB
PCIe bus	Up to Gen4

Operating system

Your Dell Pro Max 18 Plus MB18250 supports the following operating systems:

- Windows 11 Pro
- Windows 11 Home
- Ubuntu Linux 24.04

i | NOTE: Windows 10 22H2 is supported only for computers downgraded by end users from Windows 11. Support by Dell Technologies is subjected to the Microsoft Windows 10 End of Support plan.

i | NOTE: Dell computers with operating systems installed by Dell conform to energy-efficiency regulations.

i | NOTE: Dell computers without operating systems installed by Dell may not comply with energy-efficiency regulations. For operating system support, go to [Windows Support Site](#) or [Linux Support Site](#).

Memory

The following table lists the memory specifications that are supported by your Dell Pro Max 18 Plus MB18250.

CAMM (Compression Attached Memory Module) is a new type of memory module form factor which uses a land grid array (LGA) and a compression connection, allowing for a smaller and more compact design.

Your Dell Pro Max 18 Plus MB18250 supports both CAMM and CSoDIMM and may have either CAMM or CSoDIMM installed depending on the configuration ordered.

i | NOTE: CSoDIMM and CAMM configurations are not customer interchangeable. To upgrade from a CSoDIMM configuration to a CAMM configuration, contact technical support at Dell.com.

Table 6. Memory specifications

Description	Values
Memory slots	<ul style="list-style-type: none">• One CAMM module• One module with two CSoDIMM slots
Memory type	DDR5
Memory speed	<p>For computers shipped with one CAMM module:</p> <ul style="list-style-type: none">• 128 GB: 1 x 128 GB, 6400 MT/s, CAMM, dual-channel <p>For computers shipped with one module with two CSoDIMM slots:</p>

Table 6. Memory specifications (continued)

Description	Values
	<ul style="list-style-type: none">• 16 GB: 1 x 16 GB, DDR5, 6400 MT/s, CSoDIMM, Non-ECC• 32 GB: 2 x 16 GB, DDR5, 6400 MT/s, CSoDIMM, Non-ECC• 64 GB: 2 x 32 GB, DDR5, 6400 MT/s, CSoDIMM, Non-ECC
Maximum memory configuration	<ul style="list-style-type: none">• For computers shipped with one CAMM module: 128 GB• For computers shipped with one module with two CSoDIMM slots: 64 GB
Minimum memory configuration	<ul style="list-style-type: none">• For computers shipped with one CAMM module: 128 GB• For computers shipped with one module with two CSoDIMM slots: 16 GB
Memory size per slot	<p>For computers shipped with one CAMM module:</p> <ul style="list-style-type: none">• 128 GB <p>For computers shipped with one module with two CSoDIMM slots:</p> <ul style="list-style-type: none">• 16 GB• 32 GB
Memory configurations supported	<p>For computers shipped with one CAMM module:</p> <ul style="list-style-type: none">• 64 GB: 1 x 64 GB, 6400 MT/s, CAMM, dual-channel• 128 GB: 1 x 128 GB, 6400 MT/s, CAMM, dual-channel <p>For computers shipped with one module with two CSoDIMM slots:</p> <ul style="list-style-type: none">• 16 GB: 1 x 16 GB, DDR5, 6400 MT/s, CSoDIMM, Non-ECC• 32 GB: 2 x 16 GB, DDR5, 6400 MT/s, CSoDIMM, Non-ECC• 64 GB: 2 x 32 GB, DDR5, 6400 MT/s, CSoDIMM, Non-ECC

External ports and slots

The following table lists the external ports and slots on your Dell Pro Max 18 Plus MB18250.

Table 7. External ports and slots

Description	Values
Network port	One RJ45 ethernet port (2.5 Gbps)
USB ports	<ul style="list-style-type: none">• Two Thunderbolt 5 (80 Gbps) ports with Power Delivery and DisplayPort<ul style="list-style-type: none">• NOTE: You can connect a Dell Docking Station to this port. For more information, search in the Knowledge Base Resource at Dell Support Site.• One Thunderbolt 4 (40 Gbps) port with Power Delivery and DisplayPort<ul style="list-style-type: none">• NOTE: You can connect a Dell Docking Station to this port. For more information, search in the Knowledge Base Resource at Dell Support Site.• One USB 3.2 Gen 1 (5 Gbps) port with PowerShare• One USB 3.2 Gen 1 (5 Gbps) port

Table 7. External ports and slots (continued)

Description	Values
Audio port	One global headset port
Video port(s)	One HDMI 2.1 FRL port
Media-card reader	<ul style="list-style-type: none"> One smart card reader slot One SD-card slot
Power-adapter port	USB Type-C power input
Security-cable slot	One security-cable slot (noble lock)

Internal slots

The following table lists the internal slots of your Dell Pro Max 18 Plus MB18250.

Table 8. Internal slots

Description	Values
M.2	<ul style="list-style-type: none"> One M.2 2230 slot for WiFi and Bluetooth combo card Four M.2 2230/2280 slots for solid state drives <p>i NOTE: To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at Dell Support Site.</p>

Ethernet

The following table lists the wired ethernet Local Area Network (LAN) specifications of your Dell Pro Max 18 Plus MB18250.

Table 9. Ethernet specifications

Description	Values
Model	Intel Ethernet Controller I226-LM
Transfer rate	10/100/1000/2500 Mbps

Wireless module

The following table lists the Wireless Local Area Network (WLAN) module that is supported on your Dell Pro Max 18 Plus MB18250.

Table 10. Wireless module specifications

Description	Values
Model number	Intel BE200
Transfer rate	Up to 5760 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz
Wireless standards	<ul style="list-style-type: none"> WiFi 802.11a/b/g

Table 10. Wireless module specifications (continued)

Description	Values
	<ul style="list-style-type: none">Wi-Fi 4 (WiFi 802.11n)Wi-Fi 5 (WiFi 802.11ac)Wi-Fi 6E (WiFi 802.11ax)Wi-Fi 7 (WiFi 802.11be)
Encryption	<ul style="list-style-type: none">64-bit/128-bit WEPAES-CCMPTKIP
Bluetooth wireless card (i) NOTE: The functionality of the Bluetooth wireless card may vary based on the operating system.	Bluetooth 5.4

WWAN module

The following table lists the Wireless Wide Area Network (WWAN) module that is supported in your Dell Pro Max 18 Plus MB18250.

(i) NOTE: The WWAN module is available only on certain configurations and in certain regions.

(i) NOTE: Availability of the eSIM feature on this module may vary depending on your region and the support that is offered by your mobile carrier.

(i) NOTE: For instructions on how to setup SIM or eSIM connections on your computer, see the *SIM/eSIM Setup Guide for Windows* available with your product documentation at [Dell Support Site](#).

Table 11. WWAN module specifications

Description	Values
Model number	DW5934e, Qualcomm Snapdragon X72 Global 5G Modem
Form factor	M.2 3052 Key-B
Host interface	PCIe Gen3
Network standard	<ul style="list-style-type: none">NR FR1 (Sub6) FDD/TDDLTE FDD/TDDWCDMA/HSPA+GPS/GLONASS/Galileo/Beidou
Transfer data rate	<ul style="list-style-type: none">5G NR: DL 4.14 Gbps/UL 900 MbpsLTE: DL 2.0 Gbps (CAT20)/UL 211 Mbps (CAT18)UMTS: DL DC-HSPA+ Rel8: 42 Mbps/UL 5.76 Mbps
Operating frequency bands	<ul style="list-style-type: none">NR (n1, n2, n3, n5, n7, n8, n12, n13, n14, 18, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n66, n67, n70, n71, n75, n76, n77, n78, n79, n91, n92, n93, n94)LTE (B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43, B46, B48, B66, B67, B68, B70, B71)WCDMA/HSPA+ (1, 2, 4, 5, 8)
Power supply	DC 3.135 V to 3.63 V, typical 3.30 V
SIM card	Supported through external SIM slot

Table 11. WWAN module specifications (continued)

Description	Values
eSIM with dual SIM (DSSA)	Supported NOTE: The availability of eSIM functionality embedded on the module is dependent on the region and specific carrier requirements.
Antenna diversity	Supported
Radio on/off	Supported
Wake On Wireless WAN	Supported in Modern Standby mode
Operating temperature	<ul style="list-style-type: none">Normal operating temperature: -30°C to + 70°CExtended operating temperature: -40°C to +85°CStorage temperature: -40°C to +85°C
Antenna connector	<ul style="list-style-type: none">WWAN Main Antenna x 1WWAN Diversity Antenna x 14 x 4 MIMO Antenna x 2
NOTE: For instructions to find your computer's International Mobile Equipment Identity (IMEI) number, search in the Knowledge Base Resource at Dell Support Site .	

Audio

The following table lists the audio specifications of your Dell Pro Max 18 Plus MB18250.

Table 12. Audio specifications

Description	Values
Audio controller	Cirrus Logic CS42L43
Stereo conversion	Supported
Internal audio interface	Soundwire
External audio interface	Global headset port
Number of speakers	Two
Internal-speaker amplifier	Supported
External volume controls	Keyboard shortcut controls
Speaker output:	
Average	2 W + 2 W
Peak	2.5 W +2.5 W
Microphone	Dual-array microphones

Storage

This section lists the storage options on your Dell Pro Max 18 Plus MB18250.

Your Dell Pro Max 18 Plus MB18250 supports up to four M.2 2230/2280 solid state drives.

Table 13. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 Class 35 SSD	TLC PCIe NVMe Gen4 x4, up to 64 Gbps	512 GB
M.2 2280 Class 40 single sided SED (Self-Encrypting Drive)	TLC PCIe NVMe Gen4 x4, up to 64 Gbps	Up to 4 TB
M.2 2280 Class 40 SED (Self-Encrypting Drive)	TLC PCIe NVMe Gen5 x4, up to 64 Gbps	Up to 2 TB

Redundant Array of Independent Disks (RAID)

For optimal performance when configuring drives as a RAID volume, Dell Technologies recommends using identical drive models.

 **NOTE:** RAID is not supported on Intel Optane configurations.

RAID 0 (Striped, Performance) volumes benefit from higher performance when drives are matched because the data is split across multiple drives; However, any I/O operations with block sizes larger than the stripe size will be constrained by the slowest drive in the array. For RAID 0 I/O operations where block sizes are smaller than the stripe size, whichever drive the I/O operation targets, determines the performance, which increases variability and results in inconsistent latencies. This variability is particularly pronounced for write operations, and it can be problematic for applications that are latency sensitive. One such example of this is any application that performs thousands of random writes per second in very small block sizes.

RAID 1 (Mirrored, Data Protection) volumes benefit from higher performance when drives are matched because the data is mirrored across multiple drives all I/O operations must be performed identically to both drives, thus variations in drive performance when the models are different result in the I/O operations completing only as fast as the slowest drive. While this does not suffer from the variable latency issue in small random I/O operations as with RAID 0 across heterogeneous drives, the impact is nonetheless large because the higher performing drive becomes limited in all I/O types. One of the worst examples of constrained performance here is when using unbuffered I/O. To ensure that that writes are fully committed to nonvolatile regions of the RAID volume, unbuffered I/O bypasses cache (for example by using the Force Unit Access bit in the NVMe protocol) and the I/O operation will not complete until all the drives in the RAID volume have completed the request to commit the data. This kind of I/O operation completely negates any advantage of a higher performing drive in the volume.

Care must be taken to match not only the drive vendor, capacity, and class, but also the specific model. Drives from the same vendor, with the same capacity, and even within the same class, can have different performance characteristics for certain types of I/O operations. Thus, matching by model ensures that the RAID volume consists of a homogeneous array of drives that deliver all the benefits of a RAID volume without incurring the additional penalties when one or more drives in the volume are lower performing.

Dell Pro Max 18 Plus MB18250 supports RAID with more than one hard drive configuration.

Media-card reader

The following table provides the specification of media cards that are supported by your Dell Pro Max 18 Plus MB18250.

Table 14. Media-card reader specifications

Description	Values
Media-card slot type	One SD card slot - SD Express 7.0 (PCIe Gen3 x 1)
Media-cards supported	<ul style="list-style-type: none">Secure Digital (SD)Secure Digital High Capacity (SDHC)Secure Digital Extended Capacity (SDXC)

Table 14. Media-card reader specifications (continued)

Description	Values
(i) NOTE: The maximum capacity of the media-card reader varies depending on the standard of the media card that is inserted in your computer.	

Keyboard

The following table lists the keyboard specifications of your Dell Pro Max 18 Plus MB18250.

Table 15. Keyboard specifications

Description	Values
Keyboard type	<ul style="list-style-type: none"> Standard backlit keyboard Standard non-backlit keyboard
Keyboard layout	QWERTY
Number of keys	<ul style="list-style-type: none"> Arabic, Canada (Bilingual) (MUI), Chinese (Traditional), English International, English US, French (Canadian) (MUI), Greek, Hebrew, Korean, Russian, Thai, and Ukrainian: 99 keys Belgian, Bulgarian, Czech/Slovak (MUI), Danish, English UK, Estonian, French (European), German, Hungarian, Italian, Nordic (MUI), Norwegian, Portuguese, Spanish (Castilian), Spanish (Latin America), Swedish/Finnish, Swiss/European (MUI), Turkish, Turkish (F), and Slovenian: 100 keys Portuguese (Brazil) and French Canadian Quebec Acnor: 101 keys Japanese: 103 keys
Key pitch	Horizontal=18.05 mm key pitch Vertical=18.05 mm key pitch
Keyboard shortcuts	<p>Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions.</p> <ul style="list-style-type: none"> To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key. <p>(i) NOTE: You can define the primary behavior of the function keys (F1–F12) by changing Function Key Behavior in the BIOS Setup program.</p> <p>(i) NOTE: If Copilot in Windows is not available on your computer, pressing the Copilot key launches Windows search. For more information about Copilot in Windows, see the Knowledge Base Resource at the Dell Support site.</p>

Keyboard function keys

The **F1-F12** keys at the top of the keyboard are function keys. By default, these keys are used to perform specific functions defined by the software application in use.

You can run the specific functions that are indicated by the symbols on the function keys by pressing the function key with **fn**, for example, **fn** and **F1**. See the table below for the list of secondary tasks and the key combinations to run them.

(i) NOTE: Keyboard characters may differ depending on the keyboard language configuration. Keys that are used for tasks remain the same, regardless of the keyboard language.

(i) NOTE: You can define the primary behavior of function keys in the **Function Key Behavior** menu of the BIOS setup program.

Table 16. Function key primary behavior

Function key	Primary behavior
F1	Mute or unmute audio
F2	Decrease volume
F3	Increase volume
F4	Mute the microphone
F5	Turn on or turn off backlit keyboard (optional)
F6	Decrease display brightness
F7	Increase display brightness
F8	Switch to external display
F9	Stealth mode
F10	Print screen
F11	Home
F12	End

Table 17. Secondary behavior

Function key	Secondary behavior
fn + F1	Operating system and application-specific F1 behavior
fn + F2	Operating system and application-specific F2 behavior
fn + F3	Operating system and application-specific F3 behavior
fn + F4	Operating system and application-specific F4 behavior
fn + F5	Operating system and application-specific F5 behavior
fn + F6	Operating system and application-specific F6 behavior
fn + F7	Operating system and application-specific F7 behavior
fn + F8	Operating system and application-specific F8 behavior
fn + F9	Operating system and application-specific F9 behavior
fn + F10	Operating system and application-specific F10 behavior
fn + F11	Operating system and application-specific F11 behavior
fn + F12	Operating system and application-specific F12 behavior
fn + Ctrl	Open the application menu
fn + Esc	Toggle between multimedia and function key behavior
fn + PgUp (cursor up)	Scroll up the document or page
fn + PgDn (cursor down)	Scroll down the document or page
fn + Home	Move to the beginning of the document
fn + End	Move to the end of the document

Table 17. Secondary behavior (continued)

Function key	Secondary behavior
Copilot	<p>Launch Copilot in Windows</p> <p>NOTE: If Copilot in Windows is not available on your computer, the Copilot key launches Recall. If both Recall and Copilot in Windows are not available on your computer, the Copilot key launches Windows Search. For more information about Copilot in Windows and Recall, search in the Knowledge Base Resource at the Dell Support Site.</p>

Camera

The following table lists the camera specifications of your Dell Pro Max 18 Plus MB18250.

Table 18. Camera specifications

Description	Option 1	Option 2
Number of cameras	One	One
Camera type	HDR FHD RGB camera	HDR RGB+IR camera
Camera location	Front camera	Front camera
Camera sensor type	CMOS sensor technology	CMOS sensor technology
Camera resolution:		
Still image	2.07 megapixels	8.29 megapixels
Video	1920 x 1080 at 30 fps	1920 x 1080 at 30 fps
Infrared camera resolution:		
Still image	Not applicable	0.23 megapixels
Video	Not applicable	640 x 360 at 30 fps
Diagonal viewing angle:		
Camera	80.20 degrees	88.10 degrees
Infrared camera	Not applicable	86.60 degrees

Touchpad

The following table lists the touchpad specifications of your Dell Pro Max 18 Plus MB18250.

Table 19. Touchpad specifications

Description	Values
Touchpad resolution:	> 300 DPI
Touchpad dimensions:	
Horizontal	133.00 mm (5.23 in.)
Vertical	90.00 mm (3.54 in.)

Table 19. Touchpad specifications (continued)

Description	Values
Touchpad gestures	<p>For more information about the touchpad gestures that are available on:</p> <ul style="list-style-type: none"> Windows, see the Microsoft Knowledge Base article at Microsoft Support Site. Ubuntu, see Ubuntu Support Site.

Power adapter

The following table lists the power adapter specifications of your Dell Pro Max 18 Plus MB18250.

Table 20. Power-adapter specifications

Description	Option one	Option two
Type	165 W AC adapter	280 W AC adapter
Power-adapter dimensions:		
Height	22 mm (0.87 in.)	23 mm (0.91 in.)
Width	66 mm (2.59 in.)	78 mm (3.07 in.)
Depth	136 mm (5.35 in.)	162 mm (6.38 in.)
Input voltage	100 VAC–240 VAC	<ul style="list-style-type: none"> • 100 VAC–240 VAC • 200 VAC–240 VAC
Input frequency	50 Hz–60 Hz	50 Hz–60 Hz
Input current (maximum)	2.20 A	<ul style="list-style-type: none"> • 4 A • 2 A
Output current (continuous)	<ul style="list-style-type: none"> • 28 V/5.893 A (continuous) • 20 V/6.50 A (continuous) • 15 V/3 A (continuous) • 9 V/3 A (continuous) • 5 V/3 A (continuous) 	<ul style="list-style-type: none"> • 48 V/5.83 A (continuous) • 36 V/5.83 A (continuous) • 28 V/5.89 A (continuous) • 20 V/6.50 A (continuous) • 15 V/3 A (continuous) • 9 V/3 A (continuous) • 5 V/3 A (continuous) • 12 V–48 V/5.3 A(maximum)
Rated output voltage	<ul style="list-style-type: none"> • 28 VDC • 20 VDC • 15 VDC • 9 VDC • 5 VDC 	<ul style="list-style-type: none"> • 48 VDC • 36 VDC • 28 VDC • 20 VDC • 15 VDC • 9 VDC • 5 VDC
Temperature range:		
Operating	0°C to 40°C (32°F to 104°F)	0°C to 35°C (32°F to 95°F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

Table 20. Power-adapter specifications (continued)

Description	Option one	Option two
 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.		

Power adapter requirements of Dell Pro Max 18 Plus MB18250

 **NOTE:** If you did not purchase the Dell-branded power adapter that is recommended for your computer, ensure that the power adapter you use meets the following requirements.

The following table lists the power adapter requirements for your Dell Pro Max 18 Plus MB18250.

Table 21. Power adapter requirements

Description	Value
Power that is required from a power adapter to achieve optimal performance	<ul style="list-style-type: none"> Computers shipped with integrated graphics: 165 W Computers shipped with discrete graphics: 280 W Type-C PDO: <ul style="list-style-type: none"> 28 V at 5 A (140 W) 36 V at 5 A (180 W) 48 V at 5 A (240 W)
Power that charges the computer at a slower speed  NOTE: A warning message may appear informing you about the use of a lower-powered adapter and slower charging speed.	<ul style="list-style-type: none"> Computers shipped with integrated graphics: Less than 165 W Computers shipped with discrete graphics: Less than 280 W
Minimum power that is required from a power adapter to operate the computer and charge the battery  NOTE: A warning message appears informing you about the use of a lower-powered adapter and slower charging speed.	90 W (at 19.50 V and 20 V)
USB Power Delivery (PD) fast charging	Supported
ExpressCharge mode	Supported  NOTE: Ensure that the computer with a 96 Wh battery is connected to a 165 W power adapter for this feature to be supported.  NOTE: ExpressCharge mode must also be enabled in the BIOS Setup screen. Select Power > Battery Configuration > ExpressCharge , then press Enter .

Battery

The following table lists the battery specifications of your Dell Pro Max 18 Plus MB18250.

Table 22. Battery specifications

Description	Option one	Option two
Battery type	6-cell lithium-ion (96 Wh), ExpressCharge and ExpressChargeBoost, Standard	6-cell lithium-ion (96 Wh), ExpressCharge and ExpressChargeBoost, LCL
Battery voltage	11.70 VDC	11.70 VDC

Table 22. Battery specifications (continued)

Description	Option one	Option two
Battery weight (maximum)	0.38 kg (0.84 lb)	0.39 kg (0.87 lb)
Battery dimensions:		
Height	15.45 mm (0.60 in.)	15.45 mm (0.60 in.)
Width	199 mm (7.83 in.)	199 mm (7.83 in.)
Depth	73 mm (2.87 in.)	73 mm (2.87 in.)
Temperature range:		
Operating	<ul style="list-style-type: none"> Charge: 0°C to 50°C (32°F to 122°F) Discharge: 0°C to 60°C (32°F to 140°F) 	<ul style="list-style-type: none"> Charge: 0°C to 50°C (32°F to 122°F) Discharge: 0°C to 60°C (32°F to 140°F)
Storage	-20°C to 60°C (4°F to 140°F)	-20°C to 60°C (4°F to 140°F)
Battery operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions
Battery charging time (approximate) ① NOTE: You can 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 Dell Support Site .	When the computer is turned off: <ul style="list-style-type: none"> From 0% up to 35% in 20 minutes (ExpressCharge Boost) 2 hours (Express charge) 3 hours (Standard charge) 	When the computer is turned off: <ul style="list-style-type: none"> From 0% up to 35% in 20 minutes (ExpressCharge Boost) 2 hours (Express charge) 3 hours (Standard charge)
Coin-cell battery	Not applicable	Not applicable
△ 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 Technologies recommends that you charge the battery regularly for optimal power consumption.		

Display

The following table lists the display specifications of your Dell Pro Max 18 Plus MB18250.

Table 23. Display specifications

Description	Values
Display type	18-inch Quad-High Definition Plus (QHD+), Low Blue Light
Touch options	No
Display-panel technology	Wide-viewing angle (WVA)
Display-panel dimensions (active area):	
Height	242.35 mm (9.54 in.)

Table 23. Display specifications (continued)

Description		Values
	Width	387.76 mm (15.26 in.)
	Diagonal	457.27 mm (18.00 in.)
Display-panel native resolution		2560 x 1600
Luminance (typical)		500 nits
Megapixels		4.09
Color gamut		DCI-P3 100% (typical)
Pixels Per Inch (PPI)		168
Contrast ratio (minimum)		1000:1 (minimum)
Response time (maximum)		30 milliseconds
Refresh rate		120 Hz
Horizontal view angle		+/- 85 degrees (typical)
Vertical view angle		+/- 85 degrees (typical)
Pixel pitch		0.15 mm
Power consumption (maximum)		7.40 W
Anti-glare vs glossy finish		Anti-glare

Fingerprint reader

The following table lists the fingerprint-reader specifications of your Dell Pro Max 18 Plus MB18250.

Table 24. Fingerprint reader specifications

Description	Fingerprint reader on power button	FIPS 201-certified fingerprint reader on palmrest
Sensor technology	Capacitive	Capacitive
Sensor resolution	500 dpi	508 dpi
Sensor pixel size	108 x 88 pixel	256 x 360 pixel

Sensors

The following table lists the sensors of your Dell Pro Max 18 Plus MB18250.

Table 25. Sensor

Sensor support
Accelerometer (for positional sensing)
Windows Auto Brightness
Gyro + Accelerometer

Table 25. Sensor (continued)

Sensor support
Ambient Light Sensor (only with 8MP camera configuration)
Sensor Hub
Hall Effect Sensor

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Dell Pro Max 18 Plus MB18250.

Table 26. GPU—Integrated

Controller	Memory size	Processor
Intel Graphics	Shared system memory	Intel Core Ultra 5/7/9

GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Dell Pro Max 18 Plus MB18250.

Table 27. GPU—Discrete

Controller	Memory size	Memory type
NVIDIA RTX PRO 1000 Blackwell	8 GB	GDDR7
NVIDIA RTX PRO 2000 Blackwell	8 GB	GDDR7
NVIDIA RTX PRO 3000 Blackwell	12 GB	GDDR7
NVIDIA RTX PRO 4000 Blackwell	16 GB	GDDR7
NVIDIA RTX PRO 5000 Blackwell	24 GB	GDDR7

External display support

The following table lists the external display support for your Dell Pro Max 18 Plus MB18250.

Table 28. External display support

Graphics card	Supported external displays with laptop display enabled	Supported external displays with laptop display disabled
Intel Graphics	3	4
NVIDIA RTX PRO 1000 Blackwell	3	4
NVIDIA RTX PRO 2000 Blackwell	3	4
NVIDIA RTX PRO 3000 Blackwell	3	4
NVIDIA RTX PRO 4000 Blackwell	3	4
NVIDIA RTX PRO 5000 Blackwell	3	4

Hardware security

The following table lists the hardware security of your Dell Pro Max 18 Plus MB18250.

Table 29. Hardware security

Hardware security
One noble lock slot
Windows Hello - Fingerprint Reader
Trusted Platform Module (TPM) 2.0 discrete
FIPS 140-2 certification for TPM
TCG Certification for TPM (Trusted Computing Group)
Finger Print Reader in Power Button available with and without ControlVault 3 Plus
ControlVault 3 Plus Advanced Authentication with FIPS 140-3 Level 3 Certification
Contacted Smart Card and ControlVault 3 Plus
Contactless Smart Card, NFC, and ControlVault 3 Plus
SED (Opal 2.0 only - PCIe Interface)
Chassis Intrusion Detection

Smart-card reader

Contactless smart card reader

This section lists the contactless smart card reader specifications of your Dell Pro Max 18 Plus MB18250. This module is only available in computers that are shipped with smart card readers.

Table 30. Contactless smart card reader specifications

Title	Description	Dell ControlVault 3 Plus Contactless smart card reader with NFC
FeliCa Card Support	Reader and software capable of supporting FeliCa contactless cards	Yes
Prox (Proximity) (125 KHz) Card support	Reader and software capable of supporting Prox /Proximity/125 KHz contactless cards	No
ISO 14443 Type A Card Support	Reader and software capable of supporting ISO 14443 Type A contactless cards	Yes
ISO 14443 Type B Card Support	Reader and software capable of supporting ISO 14443 Type B contactless cards	Yes
ISO/IEC 21481	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO/IEC 18092	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO 15693 Card Support	Reader and software capable of supporting ISO15693 contactless cards	Yes

Table 30. Contactless smart card reader specifications (continued)

Title	Description	Dell ControlVault 3 Plus Contactless smart card reader with NFC
NFC Tag Support	Supports reading and processing of NFC-compliant tag information	Yes
NFC Reader Mode	Support for NFC Forum Defined Reader mode	Yes
NFC Writer Mode	Support for NFC Forum Defined Writer mode	Yes
NFC Peer-to-Peer Mode	Support for NFC Forum Defined Peer to Peer mode	Yes
NFC Proximity OS Interface	Enumerates NFP (Near Field Proximity) device for operating system to use	Yes
PC/SC operating system interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for operating system level drivers	Yes
Dell ControlVault support	The device connects to Dell ControlVault for usage and processing	Yes

 **NOTE:** 125 KHz proximity cards are not supported.

Table 31. Contactless card types supported

Interface	Card type	Supported functionality
NFC Forum (Microsoft Proximity Device)	Type 1 tag	Read/Write NDEF
	Type 2 tag	Read/Write NDEF
	Type 3 tag	Read/Write NDEF
	Type 4 tag	Read/Write NDEF
	Type 5 tag	Read/Write NDEF
	P2P	Exchange NDEF
RFID (Microsoft Smartcard Device)	ISO14443A	Read UUID and APDU Exchange (ISO7816)
	ISO14443B	Read UUID and APDU Exchange (ISO7816)
	Sony FeliCa	Read UUID only
	Legacy iClass (ISO15693)	Read UUID only
	Mifare Classic	Read UUID only
	Low Frequency (125 KHz)	Not supported

Table 32. Supported cards

Manufacturer	Card
HID	jCOP readertest3 A card (14443a)
	1430 1L
	DESFire D8H

Table 32. Supported cards (continued)

Manufacturer	Card
	DESFIRE 4K Standard - 1450NGGNN
	iClass 16K/16 - 2002PGGMN
	iClass SR 16K/16 - 2002HPGGMN
	iCLASS 2K tag
	iCLASS GP - 2003 PGGMN
	iClass Clamshell - 2080PMSMV
	iClass Prox 16K/16 - 2022BGGMNN
	Mifare M1P 1430 NGGNN
	iClass Prox 2020BGGMNM
	DesFire D8P 1456CSGMN
	iCLASS MIFARE Px GM49Y 2623BNPGGBNAB
	iCLASS MIFARE Px 8M1L
	iClass SEOS JW 5006PGGMN
	Crescendo iCLASS Px G8H
	iCLASS Seos IY
	SEOS JMC4 J1Y 5806VNG1NNN4
	SEOS Key FOB 5266PNNA
	SEOS Clamshell 5656PMSAV
	SEOS + Prox 5106RGGMNN
	SEOS + DESFire 5906PNG1ANN7
	SEOS iClass 5006PGGMN7
	Seos Essential + Prox 551PPGGANN
	iCLASS 2K 2000PGGMN
	iCLASS 2K 3000PGGMN
	MIFARE DESFire 3700CPGGAN
	iCLASS DP
	DESFire 1Y
NXP/Mifare	Mifare DESFire 8K White PVC card
	Mifare Classic 1K White PVC card
	NXP Mifare Classic S50 ISO card
	Mifare DESFire 2K
	Mifare Plus S 2K/4K
	Mifare Plus X 4K
G&D	idOnDemand - SCE3.2 144K
	SCE6.0 FIPS 80K Dual + 1K Mifare
	SCE6.0 nonFIPS 80K Dual + 1K Mifare
	SCE6.0 FIPS 144K Dual + 1K Mifare

Table 32. Supported cards (continued)

Manufacturer	Card
	SCE6.0 nonFIPS 144K Dual + 1K Mifare
	SCE7.0 FIPS 144K
Oberthur	idOnDemand - OCS5.2 80K
	ID-One Cosmo 64 RSA D V5.4 T = 0 card
	ID-One Cosmo 128K V5.5 card
Gemalto	TOP DL GX4 144K card
Sony	FeliCa RC-S962
	FeliCa RC-S965
	FeliCa RC-S966
PIVKey	C910 PKI
NIST	PIV1
IDENTIV	PIV programmed cards
	uTrust
Transport cards	Oyster (London) MIFARE DESFire
	T-Money (Korea)
	Octopus Card (Hong Kong)
	SUICA (Japan)

Table 33. Qualified NFC tags

NFC tag	Supported
Tap and do - NFC Forum Type 1 Tag - Topaz 512 (BCM920203)	Yes
Tap and do - NFC Forum Type 1 Tag - Topaz 512 (BCM20203T512)	Yes
Tap and do - NFC Forum Type 1 Tag - Topaz (BCM20203T96)	Yes
Tap and do - NFC Forum Type 2 Tag - Mifare UltraLight	Yes
Tap and do - NFC Forum Type 2 Tag - Mifare UltraLight C	Yes
Tap and do - NFC Forum Type 2 Tag - NTAG203	Yes
Tap and do - NFC Forum Type 3 Tag - FeliCa Lite RC-S965	Yes
Tap and do - NFC Forum Type 3 Tag - FeliCa RC-S962	Yes
Tap and do - NFC Forum Type 4 Tag - Mifare DESFire EV1Card 2K	Yes
Tap and do - NFC Forum Type 4 Tag - Mifare DESFire EV1Card 4K	Yes
Tap and do - NFC Forum Type 4 Tag - Mifare DESFire EV1Card 8K	Yes
Tap and do - ISO 15693 - Tag-it Plus	Yes
HID I-code ISO card	Yes

Contacted smart card reader

The following table lists the contacted smart card reader specifications of your Dell Pro Max 18 Plus MB18250.

Table 34. Contacted smart card reader specifications

Title	Description	Dell ControlVault 3 Plus Contacted smart card reader
ISO 7816-3 Class A Card Support	Reader capable of reading 5 V powered smart card	Yes
ISO 7816-3 Class B Card Support	Reader capable of reading 3 V powered smart card	Yes
ISO 7816-3 Class C Card support	Reader capable of reading 1.8 V powered smart card	Yes
T = 0 support	Cards support character level transmission	Yes
T = 1 support	Cards support block level transmission	Yes
EMVCo Certified	Formally certified based on EMVCo smart card standards	Yes
PC/SC operating system interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for operating system level drivers	Yes
Windows Certified	Certified by the Windows Hardware Certification program	Yes
FIPS 201 (PIV/HSPD-12) Compliant	Device compliant with FIPS 201/PIV/HSPD-12 requirements	Yes
ISO 7816-1 Compliant	Specification for the physical characteristics of integrated circuit cards with contacts	Yes
ISO 7816-2 Compliant	Specification for the dimensions and location of the contacts	Yes
ISO 7816-3 Compliant	Specification for electrical interface and transmission protocols	Yes
ISO 7816-4 Compliant	Specification for organization, security, and commands for interchange	Yes
Dell ControlVault support	The device connects to Dell ControlVault for usage and processing	Yes

Operating and storage environment

This table lists the operating and storage specifications of your Dell Pro Max 18 Plus MB18250.

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

Table 35. 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)

Table 35. Computer environment (continued)

Description	Operating	Storage
Relative humidity (maximum)	10% to 90% (non-condensing)	0% to 95% (non-condensing)
Vibration (maximum)*	0.66 GRMS	1.30 GRMS
Shock (maximum)	110 G†	160 G†
Altitude range	-15.20 m to 3048 m (-49.87 ft to 10,000 ft)	-15.20 m to 10,668 m (-49.87 ft to 35,000 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 the user environment.

† Measured using a 2 ms half-sine pulse.

Dell support policy

For information about Dell support policy, search in the Knowledge Base Resource at [Dell Support Site](#).

Dell low blue light display

 **WARNING:** Prolonged exposure to blue light from the display may lead to long-term effects such as eye strain, eye fatigue, or damage to the eyes.

Blue light is a color in the light spectrum which has a short wavelength and high energy. Chronic exposure to blue light, particularly from digital sources may disrupt sleep patterns and cause long-term effects such as eye strain, eye fatigue, or damage to the eyes.

The display on this computer is designed to minimize blue light and complies with TÜV Rheinland's requirement for low blue light displays.

Low blue light mode is enabled at the factory, so no further configuration is necessary.

To reduce the risk of eye strain, it is also recommended that you:

- Position the display at a comfortable viewing distance between 20 and 28 inches (50 cm and 70 cm) from your eyes.
- Blink frequently to moisten your eyes, wet your eyes with water, or apply suitable eye drops.
- Take an extended break for 20 minutes every two hours.
- Look away from your display, and gaze at a distant object at 20 ft (609.60 cm) away for at least 20 seconds during each break.

ComfortView Plus

 **WARNING:** Prolonged exposure to blue light from the display may lead to long-term effects such as eye strain, eye fatigue, or damage to the eyes.

Blue light is a color in the light spectrum which has a short wavelength and high energy. Chronic exposure to blue light, particularly from digital sources may disrupt sleep patterns and cause long-term effects such as eye strain, eye fatigue, or damage to the eyes.

The display on this computer is designed to minimize blue light and complies with TÜV Rheinland's requirement for low blue light displays.

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To reduce the risk of eye strain, it is also recommended that you:

- Position the display at a comfortable viewing distance between 20 and 28 inches (50 cm and 70 cm) from your eyes.

- Blink frequently to moisten your eyes, wet your eyes with water, or apply suitable eye drops.
- Take an extended break for 20 minutes every two hours.
- Look away from your display, and gaze at a distant object at 20 ft (609.60 cm) away for at least 20 seconds during each break.

Using the privacy shutter

1. Slide the privacy shutter to the left to access the camera lens.
2. Slide the privacy shutter to the right to cover the camera lens.

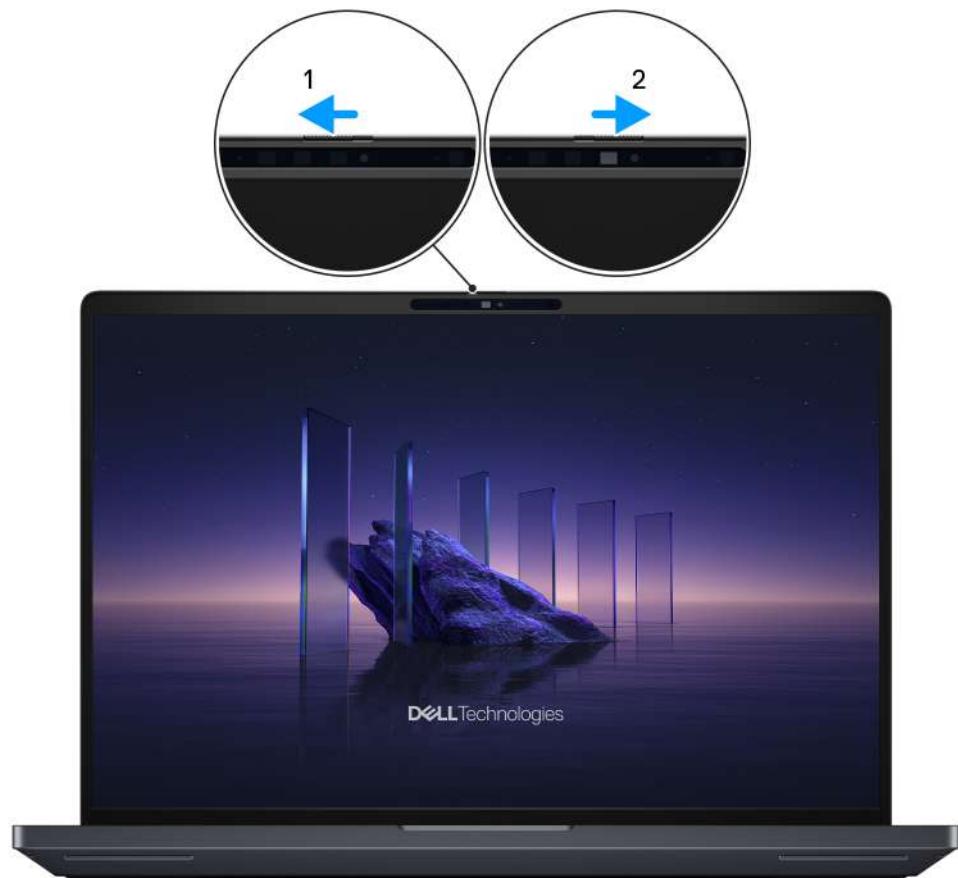


Figure 8. Camera shutter

Dell Optimizer

Dell Optimizer is an AI-based software application that allows you to customize your computer settings for power and battery, and more.

For Dell Pro Max 18 Plus MB18250 with Dell Optimizer, you can:

- Extend the battery life of your computer with Intelligent Battery Extender and Dynamic Charge.
- Tune the performance, power consumption, cooling, and fan noise with selectable thermal modes.
- Access and secure your computer depending on your physical presence.
- Download and redeem the apps that are purchased with your computer.

For more information about configuring and using these features, search for *Dell Optimizer* at the [Dell Support Site](#).

Working inside your computer

Safety instructions

Use the following safety guidelines to protect your computer from potential damage and to ensure your personal safety. Unless otherwise noted, each procedure in this document assumes that you have read the safety information that shipped with your computer.

- ⚠ WARNING:** Before working inside your computer, read the safety information that is shipped with your computer. For more safety best practices, see [Dell Regulatory Compliance Home Page](#).
- ⚠ WARNING:** Disconnect your computer from all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting your computer to an electrical outlet.
- ⚠ WARNING:** For laptops, discharge the battery completely before removing it. Disconnect the AC power adapter from the computer and operate the computer solely on battery power—the battery is fully discharged when the computer no longer turns on when the power button is pressed.
- ⚠ CAUTION:** To avoid damaging the computer, ensure that the work surface is flat, dry, and clean.
- ⚠ CAUTION:** You should only perform troubleshooting and repairs as authorized or directed by the Dell technical support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty.
- ⚠ CAUTION:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity which could harm internal components.
- ⚠ CAUTION:** To avoid damaging the components and cards, handle them by their edges, and avoid touching the pins and the contacts.
- ⚠ CAUTION:** When you disconnect a cable, pull it by its connector or its pull tab, not the cable itself. Some cables have connectors with locking tabs or thumbscrews that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending the connector pins. When connecting cables, ensure that the connector on the cable is correctly oriented and aligned with the port.
- ⚠ CAUTION:** Press and eject any installed card from the media-card reader.

Before working inside your computer

About this task

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

Steps

1. Save and close all open files and exit all open applications.
2. Shut down your computer. For Windows operating system, click **Start > Power > Shut down**.
 - i NOTE:** If you are using a different operating system, see the documentation of your operating system for instructions.
3. Turn off all the attached peripherals.
4. Disconnect your computer from the electrical outlet.

5. Disconnect all attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.
6. Remove any media card and optical drive from your computer, if applicable.
7. To clean the air vents, use a soft brush and move vertically.

 **NOTE:** Do not remove the base cover or use any blower to clean the vents.

8. Enter the Service Mode.

Service Mode

Service Mode is used to cut off power without disconnecting the battery cable from the system board before conducting repairs in the computer.

 **CAUTION:** If you are unable to turn on the computer to put it into Service Mode, disconnect the battery cable. To disconnect the battery cable, follow the steps in [Removing the battery](#).

 **NOTE:** Ensure that your computer is shut down and the power adapter is disconnected.

- a. Press and hold the B key and the power button for 3 seconds or until the Dell logo appears on the screen.
- b. Press any key to continue.
- c. If the power adapter is not disconnected, a message prompting you to disconnect the power adapter appears on the screen. Disconnect the power adapter and then press any key to enter into the Service Mode. The Service Mode setup automatically skips the following step if the **Owner Tag** of the computer is not set up in advance by the user.
- d. When the **ready-to-proceed** message appears on the screen, press any key to proceed. The computer emits three short beeps and shuts down immediately.

The computer shuts down and enters the Service Mode.

Safety precautions

This section details the primary steps to be followed before disassembling any device or component.

Observe the following safety precautions before any installation or break-fix procedures involving disassembly or reassembly:

- Turn off the computer and all attached peripherals.
- Disconnect the computer from AC power.
- Disconnect all network cables and peripherals from the computer.
- Use an ESD field service kit when working inside your computer to avoid electrostatic discharge (ESD) damage.
- Place the removed component on an anti-static mat after removing it from the computer.
- Press and hold the power button for 15 seconds to discharge the residual power in the system board.

Bonding

Bonding is a method for connecting two or more grounding conductors to the same electrical potential. This is done by using a field service electrostatic discharge (ESD) kit. When connecting a bonding wire, ensure that it is connected to bare metal and never to a painted or nonmetal surface. Ensure that the wrist strap is secure and in full contact with your skin. Remove all jewelry, watches, bracelets, or rings before grounding yourself and the equipment.

Electrostatic discharge—ESD protection

ESD is a major concern when you handle electronic components, especially sensitive components such as expansion cards, processors, memory modules, and system boards. A slight charge can damage circuits in ways that may not be obvious, such as intermittent problems or a shortened product life span. As the industry pushes for lower power requirements and increased density, ESD protection is an increasing concern.

Two recognized types of ESD damage are catastrophic and intermittent failures.

- **Catastrophic** – Catastrophic failures represent approximately 20 percent of ESD-related failures. The damage causes an immediate and complete loss of device functionality. An example of catastrophic failure is a memory module that has received a static shock and immediately generates a "No POST/No Video" symptom with a beep code that is emitted for missing or nonfunctional memory.
- **Intermittent** – Intermittent failures represent approximately 80 percent of ESD-related failures. The high rate of intermittent failures means that most of the time when damage occurs, it is not immediately recognizable. The memory

module receives a static shock, but the tracing is merely weakened and does not immediately produce outward symptoms that are related to the damage. The weakened trace may take weeks or months to melt, and in the meantime may cause degradation of memory integrity, intermittent memory errors, and so on.

Intermittent failures that are also called latent or "walking wounded" are difficult to detect and troubleshoot.

Perform the following steps to prevent ESD damage:

- Use a wired ESD wrist strap that is properly grounded. Wireless anti-static straps do not provide adequate protection. Touching the chassis before handling parts does not ensure adequate ESD protection on parts with increased sensitivity to ESD damage.
- Handle all static-sensitive components in a static-safe area. If possible, use anti-static floor pads and workbench pads.
- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the anti-static packing material until you are ready to install the component. Before unwrapping the anti-static packaging, use the anti-static wrist strap to discharge the static electricity from your body.

 **NOTE:** You can protect against ESD and discharge static electricity from your body by touching a metal-grounded object before you interact with anything electronic, for example, an unpainted metal surface on your computer's I/O panel. When connecting a peripheral (including handheld digital assistants) to your computer, you should always ground both yourself and the peripheral before connecting it to the computer. In addition, as you work inside the computer, periodically touch a metal-grounded object to remove any static charge that your body may have accumulated.

For more information about the wrist strap and ESD wrist strap tester, see [Components of an ESD Field Service Kit](#).

- Before transporting a static-sensitive component, place it in an anti-static container or packaging.

ESD Field Service kit

The unmonitored field service kit is the most commonly used service kit. Each Field Service kit includes three main components: anti-static mat, wrist strap, and bonding wire.

 **CAUTION:** It is critical to keep ESD-sensitive devices away from internal parts that are insulated and often highly charged, such as plastic heat sink casings.

Working environment

Before the ESD Field Service kit is deployed, conduct an evaluation of the site to ensure proper setup and readiness. For example, deploying the kit for a server environment is different than for a desktop or laptop environment. Servers are typically installed in a rack within a data center; desktops or laptops are typically placed on office desks or cubicles. Always look for a large open flat work area that is free of clutter and large enough to deploy the ESD kit with additional space to accommodate the type of computer that is being repaired. The workspace should also be free of insulators that can cause an ESD event. On the work area, insulators such as styrofoam and other plastics should always be moved at least 12 inches or 30 centimeters away from sensitive parts before physically handling any hardware components.

ESD packaging

All ESD-sensitive devices must be shipped and received in static-safe packaging. Metal, static-shielded bags are preferred. However, you should always return the damaged component using the same ESD bag and packaging that the new part arrived in. The ESD bag should be folded over and taped shut and all the same foam packing material should be used in the original box that the new part arrived in. ESD-sensitive devices should be removed from packaging only at an ESD-protected work surface, and parts should never be placed on top of the ESD bag because only the inside of the bag is shielded. Always place parts in your hand, on the anti-static mat, in the computer, or inside an ESD bag.

Components of an ESD Field Service kit

The components of an ESD Field Service kit are:

- **Anti-Static Mat** – The anti-static mat is dissipative and parts can be placed on it during service procedures. When using an anti-static mat, your wrist strap should be snug and the bonding wire should be connected to the anti-static mat and to any bare metal on the computer being worked on. Once deployed properly, service parts can be removed from the ESD bag and placed directly on the anti-static mat. ESD-sensitive items are safe in your hand, on the anti-static mat, in the computer, or inside an ESD bag.

- **Wrist Strap and Bonding Wire** – If an anti-static mat is not being used, the wrist strap and bonding wire should be connected directly between your wrist and an exposed metal part of the hardware. If you are using an anti-static mat, connect the wrist strap and bonding wire to the anti-static mat to ensure protection for any hardware placed on the mat. The physical connection of the wrist strap and bonding wire between your skin, the anti-static mat, and the hardware is known as bonding. Use only Field Service kits with a wrist strap, anti-static mat, and bonding wire. Never use wireless wrist straps. Always be cautious that the internal wires of a wrist strap are prone to damage from normal wear and tear, and must be checked regularly with a wrist strap tester in order to avoid accidental ESD hardware damage. It is recommended to test the wrist strap and bonding wire at least once per week.
- **ESD Wrist Strap Tester** – The wires inside an ESD strap are prone to damage over time. When using an unmonitored ESD kit, it is recommended to test the wrist strap regularly—ideally before each service session, and at a minimum, once per week. The most reliable method for testing is with a wrist strap tester. To perform the test, connect the bonding wire of the wrist strap to the tester while wearing the strap. Press the test button to initiate the check. A green LED indicates a successful test, while a red LED and audible alarm signal a failure.

 **NOTE:** It is recommended to always use the traditional wired ESD grounding wrist strap and protective anti-static mat when servicing Dell products. In addition, it is critical to keep sensitive parts separate from all insulator parts while servicing the computer.

Transporting sensitive components

When transporting ESD sensitive components such as replacement parts or parts to be returned to Dell, it is critical to place these parts in anti-static bags for safe transport.

After working inside your computer

About this task

 **CAUTION:** Leaving stray or loose screws inside your computer may severely damage your computer.

Steps

1. Replace all screws and ensure that no stray screws remain inside your computer.
2. Connect any external devices, peripherals, or cables you removed before working on your computer.
3. Replace any media cards, disks, or any other parts that you removed before working on your computer.
4. Connect your computer to their electrical outlets.

 **NOTE:** To exit service mode, ensure to connect the AC adapter to the power-adapter port on your computer.

5. Press the power button to turn on the computer.

BitLocker

When updating the BIOS on a computer with BitLocker enabled, consider the following precautions.

 **CAUTION:** If BitLocker is not suspended before updating the BIOS, the BitLocker key will not be recognized the next time that you reboot the computer. You are prompted to enter the recovery key to progress, and the computer displays a prompt for the recovery key on each reboot. If the recovery key is not known, this can result in data loss or an operating system reinstall. For more information, see Knowledge Article: [updating the BIOS on Dell computers with BitLocker enabled](#).

The installation of the following components triggers BitLocker:

- Hard disk drive or solid state drive
- System board

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver #0
- Phillips screwdriver #1
- Plastic scribe

Screw list

i **NOTE:** When removing screws from a component, it is recommended to note the screw type and the quantity of screws, and then place them in a screw storage box. This is to ensure that the correct number of screws and correct screw type is restored when the component is replaced.

i **NOTE:** Some computers have magnetic surfaces. Ensure that the screws are not left attached to such surfaces when replacing a component.

i **NOTE:** Screw color may vary depending on the configuration ordered.

Table 36. Screw list

Component	Screw type	Quantity	Screw image
Sliding door	M2x4.5	1	
Base cover with sliding door	M2x3	1	
Base cover with sliding door	M2x4	2	
CAMM memory heat sink	M2x6	3	
Retention bracket	M2x6	3	
M.2 SSD on slot 1	M2x3	2	
M.2 SSD on slot 3	M2x3	2	
M.2 SSD on slot 2	M2x3	2	
M.2 SSD on slot 4	M2x3	2	
M.2 2230 SSD	M2x2.5	1	
Battery	M2x5	3	
GPU card	M2x4	4	
i NOTE: Applicable for computers shipped with discrete GPU card.			
Integrated FPC beam connector	M2x4	4	

Table 36. Screw list (continued)

Component	Screw type	Quantity	Screw image
Discrete FPC beam connectors	M2x4	4	
Fan assembly	M2x3	4	
Fan assembly	M2x5	7	
Display assembly	M2x3	1	
Display assembly	M2x5	1	
Display assembly	M2.5x5	6	
Memory interposer board	M2x6	3	
Memory interposer board	M2x4	2	
Power board	M2x3	2	
Power board	M2x7	2	
Heat sink for computers shipped with integrated graphics	M2x5	2	
Heat sink for computers shipped with discrete graphics	M2x5	2	
Heat sink for computers shipped with discrete graphics	M2x2	1	
WLAN antenna module	M2x5	3	
Display panel	M2x3		
Display hinges	M2.5x8	6	
Inner frame	M2x5	8	
Inner frame	M2x3.5	1	
Speakers	M2x2	4	
System board	M2x5	7	
USH board cable	M1.4x1.2	2	

Table 36. Screw list (continued)

Component	Screw type	Quantity	Screw image
Keyboard	M2x2.5	24	
Keyboard	M2x2	1	
Keyboard	M1.2x1.5	6	
Smart card reader	M2x2.5	2	
Power button board	M2x4	1	
Power button board with fingerprint reader	M2x4	1	
Power button	M2x2	2	

Major components of Dell Pro Max 18 Plus MB18250

The following image shows the major components of Dell Pro Max 18 Plus MB18250.

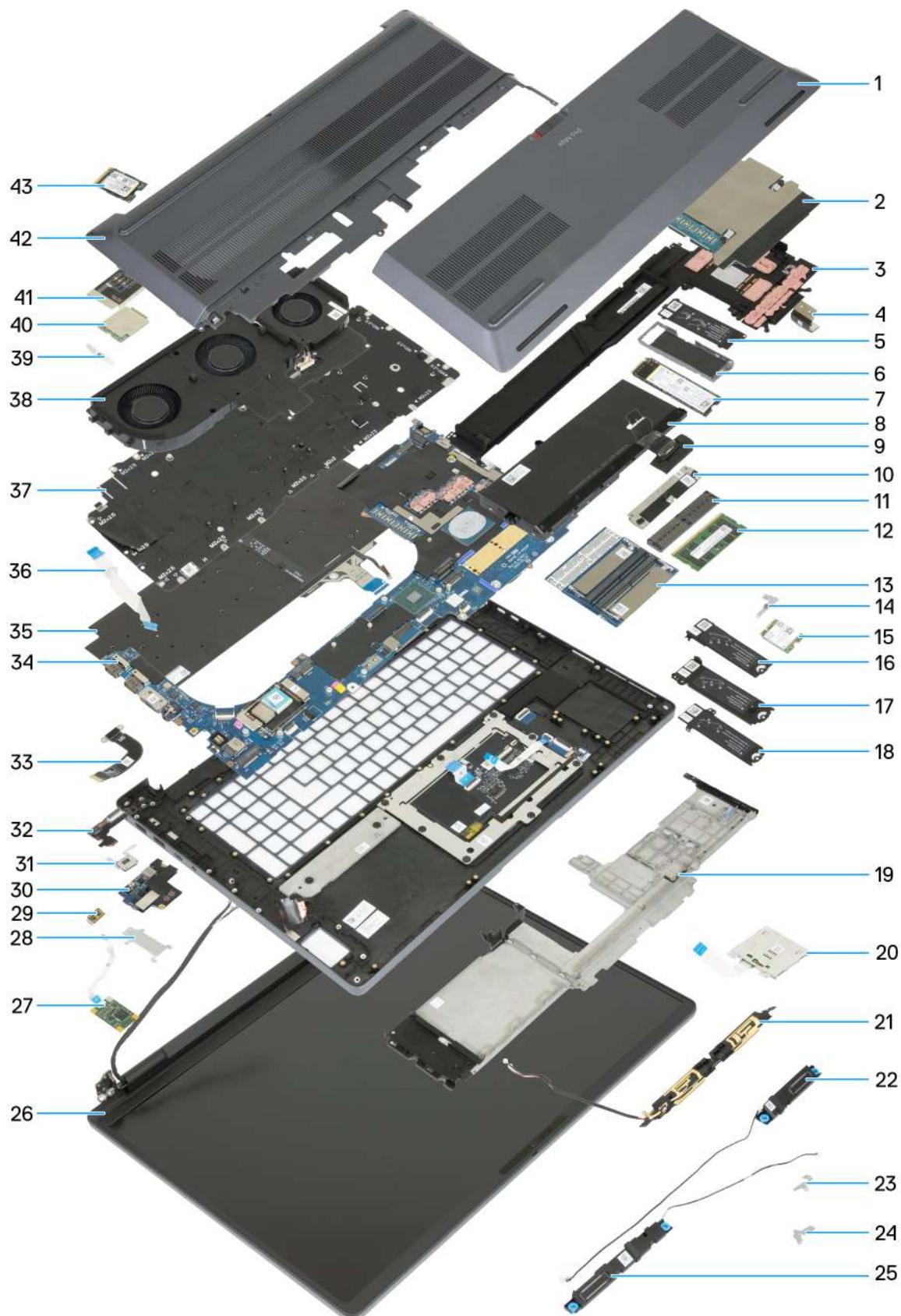


Figure 9. Major components of Dell Pro Max 18 Plus MB18250

1. Sliding door (optional)

2. GPU card
3. Heat sink for computers shipped with discrete graphics
4. Discrete FPC beam connector cable
5. SSD1 thermal shield
6. SSD holder
7. M.2 2280 SSD
8. Battery
9. Battery cable
10. Memory interposer board bracket
11. Memory connector
12. Memory module
13. Memory interposer board
14. WLAN card bracket
15. WLAN card
16. SSD3 thermal shield
17. SSD2 thermal shield
18. SSD4 thermal shield
19. Inner frame
20. Smart card reader
21. WLAN antenna module
22. Left speaker
23. Darwin bracket
24. Display bracket
25. Right speaker
26. Display assembly
27. Power button board with fingerprint reader (FIPS)
28. Power button board with fingerprint reader bracket
29. Interposer board
30. Power board
31. Power button
32. Power button board
33. USH board cable
34. System board
35. Keyboard
36. Power button board cable
37. Keyboard bracket
38. Fan assembly
39. WWAN card bracket
40. WWAN card
41. WWAN card shielding cover
42. Base cover for computers with sliding door
43. M.2 2230 SSD

 **NOTE:** Dell provides a list of components and their part numbers for the original computer configuration purchased. These parts are available according to warranty coverage purchased by the customer. Contact your Dell sales representative for purchase options.

Customer Replaceable Units (CRUs) and Field Replaceable Units (FRUs) list

The replaceable components in your Dell Pro Max 18 Plus MB18250 are either Customer Replaceable Units (CRUs) or Field Replaceable Units (FRUs).

 **CAUTION:** To avoid any potential damage to the component or loss of data, ensure that an authorized service technician replaces the Field Replaceable Units (FRUs). Customers can replace only the Customer Replaceable Units (CRUs) following the safety precautions and replacement procedures.

Table 37. CRU and FRU list

Customer Replaceable Unit (CRU)	Field Replaceable Unit (FRU)
SD card	GPU card
Sliding door	FPC beam connector
Base cover	Fan assembly
CAMM module	Display assembly
Memory module	Memory interposer board
M.2 2230 solid state drive	Memory connector
M.2 2280 solid state drive	Power board
Battery	Heat sink
WLAN card	Discrete GPU cable
SIM card	Display bezel
WWAN card	Display panel
	WLAN antenna module
	Display hinges
	Camera module
	Display cable
	Display back cover
	Inner frame
	Speakers
	System board
	Left USB Type-C connector module
	Right USB Type-C connector module
	USH board
	Keyboard
	Smart card reader
	Power button board
	Power button board cable
	Power button
	Palm-rest assembly