

# **Dell Pro Max 16 Premium**

MA16250

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 16 Premium MA16250

## Right



**Figure 1. Right view**

### 1. SD card slot

Reads from and writes to the SD card. The computer supports the following card types:

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

### 2. Thunderbolt 4 (40 Gbps) with Power Delivery and DisplayPort 2.1 port

Connect devices such as external storage devices and printers.

Supports DisplayPort 2.1, Thunderbolt 4 and also enables you to connect to an external display using a display adapter. Provides a data transfer rate of up to 40 Gbps for 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:** Thunderbolt 4 supports two 4K displays or one 8K display.

### 3. Global headset port

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

### 4. Security-cable slot (wedge-shaped)

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

# Left



**Figure 2. Left view**

## 1. HDMI 2.1 port

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

## 2. Two Thunderbolt 5 (Up to 120 Gbps) with Power Delivery and DisplayPort 2.1 ports

Supports DisplayPort 2.1, Thunderbolt 5 and also enables you to connect to an external display using a display adapter. Provides data transfer rates of up to 120 Gbps with Bandwidth Boost.

**i** **NOTE:** The power adapter is to be connected to one of these Thunderbolt 5 ports.

**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:** Thunderbolt 5 is compatible with USB4, USB 3.2, USB 2.0, Thunderbolt 4 and Thunderbolt 3.

**i** **NOTE:** Thunderbolt 5 supports up to three 4K displays or two 8K displays.

## 3. Power and battery-status light

Indicates the power state and battery state of the computer.

Solid white — Power adapter is connected and the battery is charging.

Solid amber — Computer is running on battery and the battery charge is low or critical.

Off — Power adapter is disconnected or the battery is fully charged.

**i** **NOTE:** On certain computer models, the power and battery-status light are also used for diagnostics. For more information, see the *Troubleshooting* section in this document.

# Top



**Figure 3.** Top view

## 1. Microphones

Provide digital sound input for audio recording, voice calls, and so on.

## 2. 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 sleep state; press and hold the power button for ten seconds to force shut-down the computer.

Place your finger on the power button to log in.



**Figure 4.** Active area of the fingerprint reader

**i** **NOTE:** The highlighted area indicates the active fingerprint reader area, and the image is for illustration purposes only.

**i** **NOTE:** You can customize power-button behavior in Windows. For more information, see [Manuals at Dell Support Site](#).

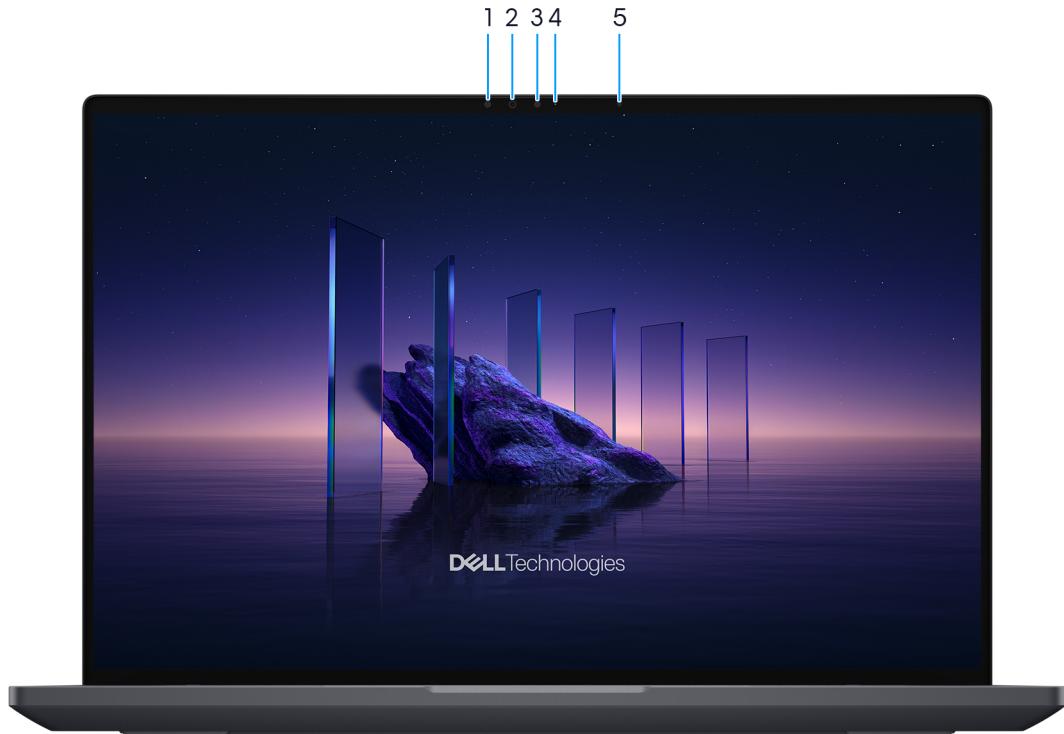
## 3. Speakers

Provides audio output.

#### 4. Haptic 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 5. Front view**

#### 1. IR sensor

Provides digital sound input for audio recording and voice calls.

#### 2. Infrared LED

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

#### 3. Camera

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

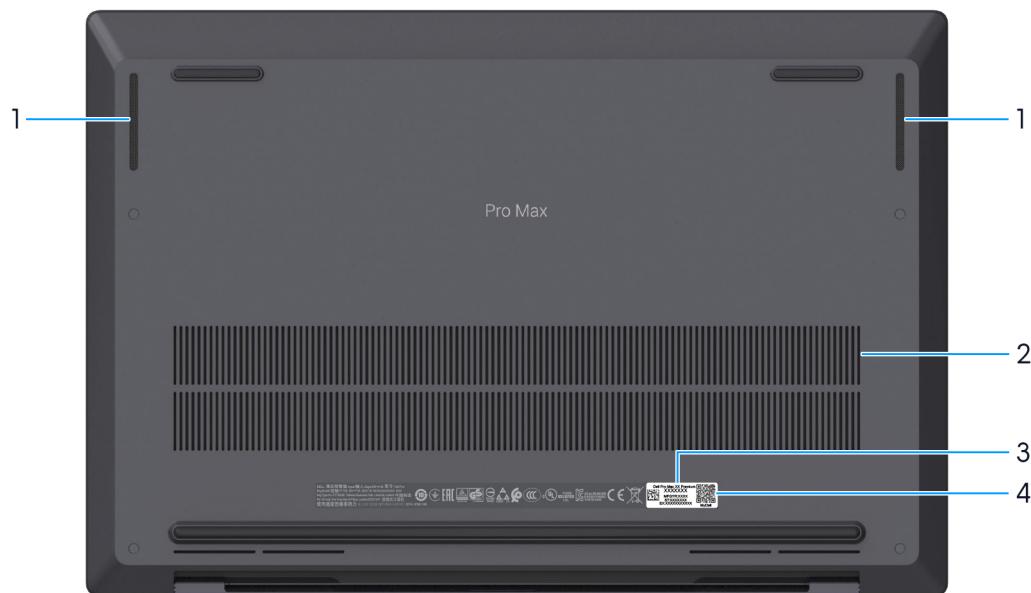
#### 4. Camera-status light

Turns on when the camera is in use.

#### 5. Ambient-light sensor

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

## Bottom



**Figure 6. Bottom view**

### 1. Speakers

Provide audio output.

### 2. Air vents

Air vents provide ventilation for your computer. Clogged air vents can cause overheating and can affect your computer's performance and potentially cause hardware issues. Keep the air vents clear of obstructions and clean them regularly to prevent the build-up of dust and dirt.

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

### 3. MyDell QR code

MyDell is your hub for content that is personalized for your Dell Pro Max 16 Premium MA16250, including videos, articles, manuals, and easy access to support.

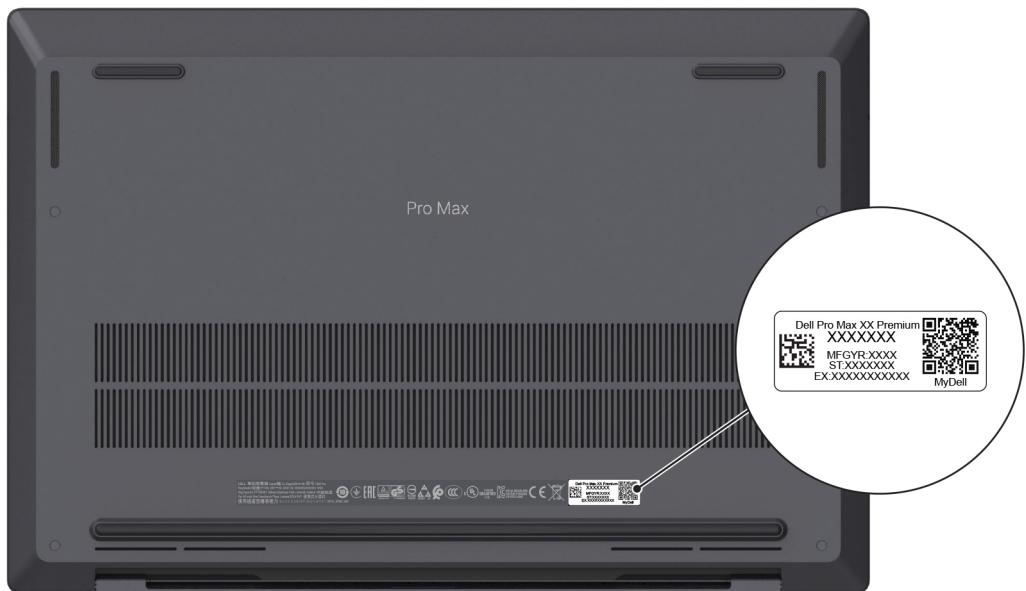
### 4. Service Tag/Express Service Code label

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. The Express Service Code is a numeric version of the Service Tag.

## 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 7. Service Tag/Express Service Code location**

## Battery-status light

The following table lists the battery-status light of your Dell Pro Max 16 Premium MA16250.

**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	S0 or S5	< 10%

- S0 (ON): The computer is turned on.
- S3 (Sleep): Screen is off and computer is in sleep mode.
- S4 (Hibernate): The computer consumes the least power in the Hibernate state than in the ON or OFF state. 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 16 Premium MA16250

## 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.

**i** **NOTE:** To conserve battery power, the battery might enter power-saving mode. Ensure that the power adapter is connected before turning on the computer.



**Figure 8. Connect the power adapter and press the power button**

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. This step is optional but 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 <a href="#">Dell Support Site</a>.</p>
	<p><b>Dell Product Registration</b></p> <p>Register your computer with Dell.</p>
	<p><b>Dell Help &amp; Support</b></p> <p>Access help and support for your computer.</p>
	<p><b>SupportAssist</b></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 the SupportAssist documentation at <a href="#">Dell Support Site</a>.</p> <p><b>NOTE:</b> In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.</p>

# Specifications of Dell Pro Max 16 Premium MA16250

## Dimensions and weight

The following table lists the height, width, depth, and weight of your Dell Pro Max 16 Premium MA16250.

**Table 3. Dimensions and weight**

Description	Values
Height:	
Front height	<ul style="list-style-type: none"> <li>For computers shipped with UHD+ OLED displays: 20.24 mm (0.8 in.)</li> <li>For computers shipped with FHD displays: 20.85 mm (0.82 in.)</li> </ul>
Rear height	<ul style="list-style-type: none"> <li>For computers shipped with UHD+ OLED displays: 20.24 mm (0.8 in.)</li> <li>For computers shipped with FHD displays: 20.85 mm (0.82 in.)</li> </ul>
Peak height	<ul style="list-style-type: none"> <li>For computers shipped with UHD+ OLED displays: 21.05 mm (0.83 in.)</li> <li>For computers shipped with FHD displays: 22 mm (0.87 in.)</li> </ul>
Width	353.80 mm (13.93 in.)
Depth	240.28 mm (9.46 in.)
Weight <b>(1) NOTE:</b> The weight of your computer depends on the configuration that you ordered.	Minimum: 2.19 kg (4.82 lb)

## Processor

The following table lists the details of the processors that are supported in your Dell Pro Max 16 Premium MA16250.

**Table 4. Processor**

Description	Option one	Option two	Option three
Processor type	Intel Core Ultra 7 255H	Intel Core Ultra 7 265H vPro Enterprise	Intel Core Ultra 9 285H vPro Enterprise

**Table 4. Processor (continued)**

Description	Option one	Option two	Option three
Processor wattage	45 W	45 W	45 W
Processor total core count	16	16	16
Performance-cores	6	6	6
Efficient-cores	8	8	8
Low Power Efficient-cores	2	2	2
Processor total thread counts  ① <b>NOTE:</b> Intel Hyper-Threading Technology is only available on Performance-cores.	16	16	16
Processor speed	Up to 5.10 GHz	Up to 5.30 GHz	Up to 5.40 GHz
Performance-cores frequency			
Processor base frequency	2.00 GHz	2.20 GHz	2.90 GHz
Maximum turbo frequency	5.10 GHz	5.30 GHz	5.40 GHz
Efficient-cores frequency			
Processor base frequency	1.50 GHz	1.70 GHz	2.70 GHz
Maximum turbo frequency	4.50 GHz	4.50 GHz	4.40 GHz
Low Power Efficient-cores frequency			
Processor base frequency	700 MHz	700 MHz	1.00 GHz
Maximum turbo frequency	2.50 GHz	2.50 GHz	2.50 GHz
Processor cache	24 MB	24 MB	24 MB
Integrated graphics	Intel Arc 140T GPU	Intel Arc Pro 140T GPU	Intel Arc Pro 140T GPU
Neural Processing Units (NPU) Performance	Up to 13 TOPS	Up to 13 TOPS	Up to 13 TOPS

## Chipset

The following table lists the details of the chipset that is supported by your Dell Pro Max 16 Premium MA16250.

**Table 5. Chipset**

Description	Values
Chipset	Integrated (Intel Arrow Lake-H)
Processor	<ul style="list-style-type: none"><li>Intel Core Ultra 7 processor</li></ul>

**Table 5. Chipset (continued)**

Description	Values
	<ul style="list-style-type: none"><li>Intel Core Ultra 7/9 vPro Enterprise processors</li></ul>
DRAM bus width	128-bit
Flash EPROM	64 MB (SBIOS) + 32 MB (VBIOS)
PCIe bus	Up to Gen5

## Operating system

Your Dell Pro Max 16 Premium MA16250 supports the following operating systems:

- Windows 11 Home
- Windows 11 Pro
- Ubuntu Linux 24.04 LTS, 64-bit

## Memory

The following table lists the memory specifications of your Dell Pro Max 16 Premium MA16250.

**Table 6. Memory specifications**

Description	Values
Memory slots	Onboard memory <b>(i) NOTE:</b> The memory is integrated on the system board and is not upgradable.
Memory type	Dual-channel LPDDR5x
Memory speed	8400 MT/s
Maximum memory configuration	64 GB
Minimum memory configuration	16 GB
Memory configurations supported	<ul style="list-style-type: none"><li>16 GB, LPDDR5x, 8400 MT/s, dual-channel (onboard)</li><li>32 GB, LPDDR5x, 8400 MT/s, dual-channel (onboard)</li><li>64 GB, LPDDR5x, 8400 MT/s, dual-channel (onboard)</li></ul>

## External ports and slots

The following table lists the external ports and slots on your Dell Pro Max 16 Premium MA16250.

**Table 7. External ports and slots**

Description	Values
USB ports	<ul style="list-style-type: none"><li>Two USB Type-C Thunderbolt 5 (up to 120 Gbps) with Power Delivery and DisplayPort 2.1 ports</li><li>One USB Type-C Thunderbolt 4 (40 Gbps) with Power Delivery and DisplayPort 2.1 port</li></ul>
Audio port	One global headset port

**Table 7. External ports and slots (continued)**

Description	Values
Video port(s)	<ul style="list-style-type: none"><li>Two USB Type-C Thunderbolt 5 (up to 120 Gbps) with Power Delivery and DisplayPort 2.1 ports</li><li>One USB Type-C Thunderbolt 4 (40 Gbps) with Power Delivery and DisplayPort 2.1 port</li><li>One HDMI 2.1 port</li></ul>
Media-card reader	One SD-card slot
Power-adapter port	USB Type-C
Security-cable slot	One wedge-shaped lock slot

## Internal slots

The following table lists the internal slots of your Dell Pro Max 16 Premium MA16250.

**Table 8. Internal slots**

Description	Values
M.2	Two M.2 Key-M (2230 or 2280) slots for solid state drives  <b>i</b> <b>NOTE:</b> To learn more about the features of different types of M.2 cards, search <a href="#">Dell Support Site</a> .

## Wireless module

The following table lists the Wireless Local Area Network (WLAN) module that is supported on your Dell Pro Max 16 Premium MA16250.

**Table 9. Wireless module specifications**

Description	Values
Model number	Intel Wi-Fi 7 BE201
Transfer rate	Up to 5 Gbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz <b>i</b> <b>NOTE:</b> The 6 GHz frequency is only supported on computers that are installed with the Windows 11 operating system.
Wireless standards	<ul style="list-style-type: none"><li>Wi-Fi 802.11 a/b/g</li><li>Wi-Fi 4 (WiFi 802.11n)</li><li>Wi-Fi 5 (WiFi 802.11ac)</li><li>Wi-Fi 6E (WiFi 802.11ax)</li><li>Wi-Fi 7 (WiFi 802.11be)</li></ul> <b>i</b> <b>NOTE:</b> Wi-Fi 7 standard is only supported on computers that are installed with Windows 11 operating system.
Encryption	<ul style="list-style-type: none"><li>64-bit/128-bit WEP</li></ul>

**Table 9. Wireless module specifications (continued)**

Description	Values
	<ul style="list-style-type: none"> <li>• AES-CCMP</li> <li>• TKIP</li> </ul>
Bluetooth wireless card <b>(i) NOTE:</b> The functionality of the Bluetooth wireless card may vary based on the operating system.	Bluetooth 5.4 wireless card

## Audio

The following table lists the audio specifications of your Dell Pro Max 16 Premium MA16250.

**Table 10. Audio specifications**

Description	Values
Audio controller	Cirrus Logic CS42L43
Stereo conversion	Supported
Internal audio interface	Soundwire interface
External audio interface	One global headset port
Number of speakers	Four (Two tweeter speakers and two woofer speakers)
Internal-speaker amplifier	Supported
External volume controls	Keyboard shortcut controls
Speaker output:	
Average	<ul style="list-style-type: none"> <li>• 2 W + 2 W = 4 W (tweeter)</li> <li>• 2 W + 2 W = 4 W (woofer)</li> </ul>
Peak	<ul style="list-style-type: none"> <li>• 2.5 W + 2.5 W = 5 W (tweeter)</li> <li>• 2.5 W + 2.5 W = 5 W (woofer)</li> </ul>
Microphone	Dual-array digital microphones

## Storage

This section lists the storage options on your Dell Pro Max 16 Premium MA16250.

Your Dell Pro Max 16 Premium MA16250 supports up to two M.2 solid state drive slots:

- 512GB SSD TLC M.2 2230 PCIe Gen4
- 512GB SSD TLC with DRAM M.2 2280 PCIe Gen4 SED Ready
- 1TB SSD TLC with DRAM M.2 2280 PCIe Gen4 SED Ready
- 2TB SSD TLC with DRAM M.2 2280 PCIe Gen4 SED Ready
- 4TB SSD TLC with DRAM M.2 2280 PCIe Gen4 SED Ready

**Table 11. Storage specifications**

Storage type	Interface type	Capacity
M.2 2280 solid state drive, TLC with DRAM, Self-Encrypting Ready	Gen 4 x4 PCIe NVMe	up to 4TB

**Table 11. Storage specifications (continued)**

<b>Storage type</b>	<b>Interface type</b>	<b>Capacity</b>
M.2 2230 solid state drive, TLC  ① <b>NOTE:</b> To replace your M.2 2280 with an M.2 2230 SSD, you must purchase the Dell SSD bracket kit to self-install the M.2 2230 SSD in the SSD slot.	Gen 4 x4 PCIe NVMe	512 GB

## Media-card reader

The following table provides the specification of media cards that are supported by your Dell Pro Max 16 Premium MA16250.

**Table 12. Media-card reader specifications**

<b>Description</b>	<b>Values</b>
Media-card slot type	One SD-card slot
Media-cards supported	<ul style="list-style-type: none"><li>Secure Digital (SD)</li><li>Secure Digital High Capacity (SDHC)</li><li>Secure Digital Extended Capacity (SDXC)</li></ul>
① <b>NOTE:</b> 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 16 Premium MA16250.

**Table 13. Keyboard specifications**

<b>Description</b>	<b>Values</b>
Keyboard type	Zero-lattice, spill-resistant keyboard with battery-saving mini-LED backlit technology and standard AI hotkey
Keyboard layout	QWERTY
Number of keys	<ul style="list-style-type: none"><li>United States and Canada: 79 keys</li><li>United Kingdom: 80 keys</li><li>Japan: 83 keys</li></ul>
Key pitch	X=19.05 mm key pitch Y=18.05 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. <ul style="list-style-type: none"><li>To type the alternate character, press Shift and the desired key.</li><li>To perform secondary functions, press Fn and the desired key.</li></ul>

**Table 13. Keyboard specifications (continued)**

Description	Values
	<p><b>i</b> <b>NOTE:</b> You can define the primary behavior of the function keys (F1–F12) by changing <b>Function Key Behavior</b> in the BIOS Setup program.</p> <p><b>i</b> <b>NOTE:</b> 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 <a href="#">Dell Support site</a>.</p>

## Keyboard shortcuts

**i** **NOTE:** Keyboard characters may differ depending on the keyboard language configuration. Keys that are used for shortcuts remain the same across all language configurations.

Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. The symbol that is shown on the lower part of the key refers to the character that is typed out when the key is pressed. If you press shift and the key, the symbol that is shown on the upper part of the key is typed out. For example, if you press **2**, 2 is typed out; if you press **Shift + 2**, @ is typed out.

The keys F1-F12 at the top row of the keyboard are function keys for multimedia control, as indicated by the icon on the key. Press the function key to enable the task represented by the icon. For example, pressing F1 mutes the audio (see the table below).

However, if the function keys F1-F12 are needed for specific software applications, multimedia functionality can be disabled by pressing **fn + Esc**. Later, multimedia control can be invoked by pressing **fn** and the respective function key. For example, mute audio by pressing **fn + F1**.

**i** **NOTE:** You can also define the primary behavior of the function keys (F1–F12) by changing **Function Key Behavior** in the BIOS setup program.

**Table 14. Function key primary behavior**

Function key	Primary behavior
F1	Mute or unmute audio
F2	Decrease volume
F3	Increase volume
F4	Microphone Mute
F5	Keyboard Illumination/Backlight
F6	Decrease brightness
F7	Increase brightness
F8	Switch to external display
F10	Print screen
F11	Home
F12	End

The **Fn** key is also used with selected keys on the keyboard to invoke secondary functions.

**Table 15. Secondary behavior**

Function key	Secondary behavior
<b>fn + F1</b>	Operating system and application-specific F1 behavior

**Table 15. Secondary behavior (continued)**

<b>Function key</b>	<b>Secondary behavior</b>
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	Scroll up the document or page
fn + PgDn	Scroll down the document or page
fn + Home	Move to the beginning of the document
fn + End	Move to the end of the document
Copilot	<p>Launch Copilot in Windows</p> <p><b>NOTE:</b> 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 <a href="#">Dell Support Site</a>.</p>

## Camera

The following table lists the camera specifications of your Dell Pro Max 16 Premium MA16250.

**Table 16. Camera specifications**

<b>Description</b>	<b>Values</b>
Number of cameras	One
Camera type	8MP RGB and IR camera
Camera location	Front camera
Camera sensor type	CMOS sensor technology
Camera resolution:	
Still image	8.29 megapixel
Video	2560 x 1440 at 30 fps

**Table 16. Camera specifications (continued)**

Description	Values
Infrared camera resolution:	
	Video 640 x 400 at 30 fps
Diagonal viewing angle:	
	Camera 88.1 degrees
	Infrared camera 86.6 degrees

## Touchpad

The following table lists the touchpad specifications of your Dell Pro Max 16 Premium MA16250.

**Table 17. Touchpad specifications**

Description	Values
Touchpad resolution:	
	Horizontal > 300 dpi
	Vertical > 300 dpi
Touchpad dimensions:	
	Horizontal 152 mm (5.98 in.)
	Vertical 90 mm (3.54 in.)
Touchpad gestures	For more information about the touchpad gestures that are available on: <ul style="list-style-type: none"><li>• Windows, search <a href="#">Microsoft Support Site</a>.</li><li>• Ubuntu, search <a href="#">Ubuntu Support Site</a>.</li></ul>

## Power adapter

The following table lists the power adapter specifications of your Dell Pro Max 16 Premium MA16250.

**Table 18. Power-adapter specifications**

Description	Option one	Option two
Type	100 W AC adapter, USB Type-C <b>NOTE:</b> The 100 W AC adapter is only available for purchase with computers that are shipped with integrated graphics.	165 W AC adapter, USB Type-C
Power-adapter dimensions:		
Height	26.50 mm (1.04 in.)	22 mm (0.87 in.)
Width	60 mm (2.36 in.)	66 mm (2.60 in.)
Depth	122 mm (4.80 in.)	136 mm (5.35 in.)
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC

**Table 18. Power-adapter specifications (continued)**

Description	Option one	Option two
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz
Input current (maximum)	1.70 A	2.20 A
Output current (continuous)	<ul style="list-style-type: none"><li>• 20 V/5 A</li><li>• 15 V/3 A</li><li>• 9 V/3 A</li><li>• 5 V/3 A</li></ul>	<ul style="list-style-type: none"><li>• 28 V/5.893 A</li><li>• 20 V/6.5 A</li><li>• 15 V/3 A</li><li>• 9.0 V/3 A</li><li>• 5.0 V/3 A</li></ul>
Rated output voltage	<ul style="list-style-type: none"><li>• 20 VDC</li><li>• 15 VDC</li><li>• 9 VDC</li><li>• 5 VDC</li></ul>	<ul style="list-style-type: none"><li>• 5 V</li><li>• 9 V</li><li>• 15 V</li><li>• 20 V</li><li>• 28 V</li></ul>
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.

## Power adapter requirements

 **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 16 Premium MA16250.

**Table 19. Power adapter requirements**

Description	Value
Power that is required from a power adapter to achieve optimal performance	100 W
Power that charges the computer at a slower speed  <b>NOTE:</b> A warning message may appear informing you about the use of a lower-powered adapter and slower charging speed.	Less than 100 W
Minimum power that is required from a power adapter to operate the computer and charge the battery  <b>NOTE:</b> A warning message appears informing you about the use of a lower-powered adapter and slower charging speed.	100 W
USB Power Delivery (PD) fast charging	Supported
ExpressCharge mode	Supported  <b>NOTE:</b> Ensure the computer with a 96 Wh battery is connected to a power adapter that is rated 100 W and above to support this feature.











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.

## 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 16 Premium MA16250 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. If the **Owner Tag** is set, it is displayed on the screen. Press any key to continue.
-  **NOTE:** If the **Owner Tag** information is not already set, the computer automatically skips this step and proceeds to enter Service Mode.
- c. If the power adapter is still connected, a message appears on the screen prompting you to disconnect it. Disconnect the power adapter, then press any key to continue.
  - d. When the **System Ready For Service** 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
- Flat-headed screwdriver (maximum width: 4 mm)
- 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 29. Screw list**

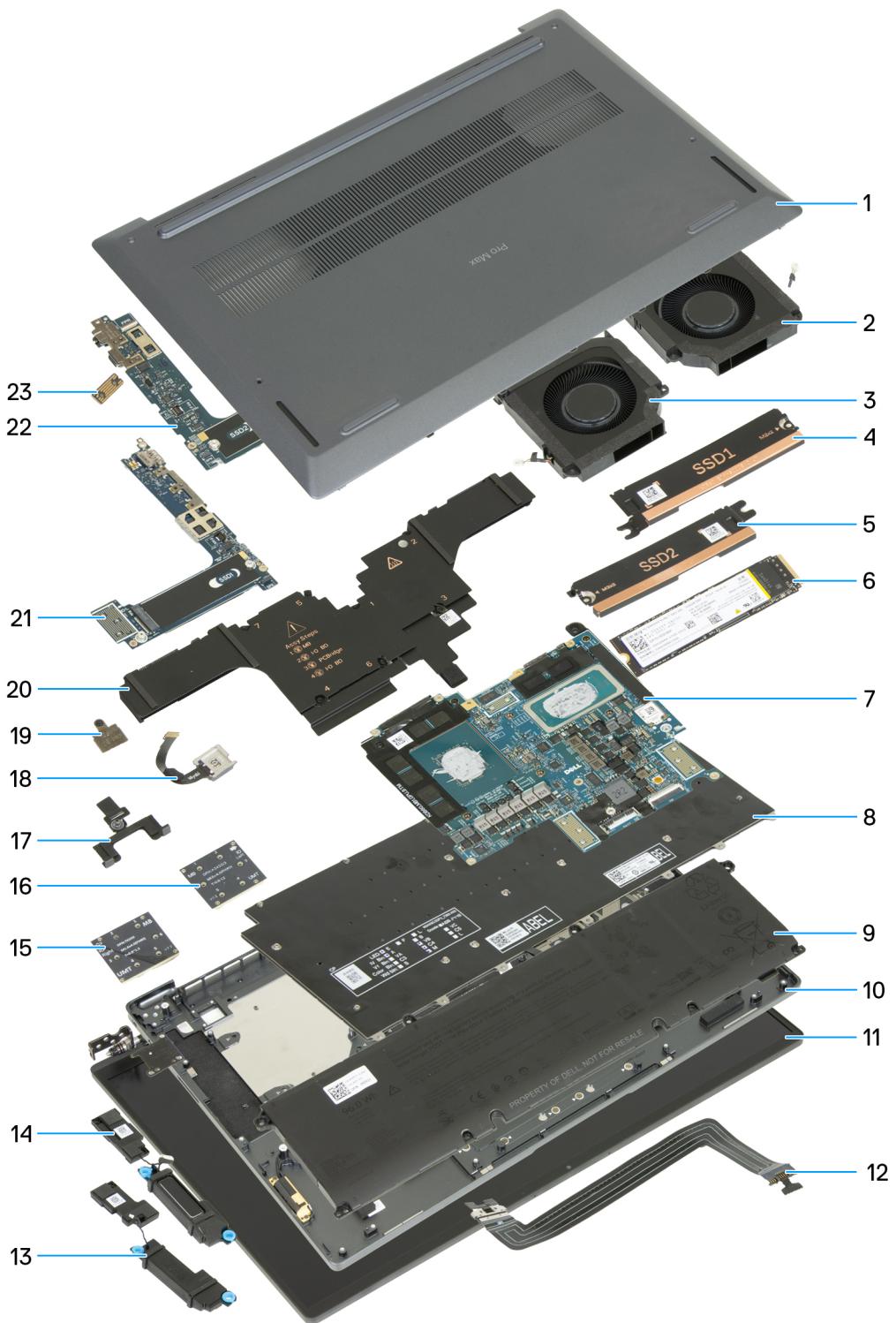
Component	Screw type	Quantity	Screw image
Base cover	M2x3 (T5 Torx screw)	4	
Battery-connector bracket	M2x3.5 (Captive screw)	1	
Battery	M2x4	8	
M.2 2230 solid state drive	M2x2	1	
M.2 2230 solid state drive bracket	M2x2	1	
M.2 2280 solid state drive thermal shield (SSD1)	M2x2	1	
M.2 2280 solid state drive thermal shield (SSD2)	M2x2	1	
Left fan	M2x4	3	
Right fan	M2x4	3	
Display-assembly cable	M1.4x4 (T5 Torx screw)	4	
Left display-assembly hinge	M2.5x5	4	
Right display-assembly hinge	M2.5x5	4	
Heat sink	Captive screw	7	

**Table 29. Screw list (continued)**

Component	Screw type	Quantity	Screw image
Left I/O board	M2x4	6	
Right I/O board	M2x4	5	
Left PC bridge connector board	M1.6x4	6	
Right PC bridge connector board	M1.6x4	6	
System board (integrated graphics)	M2x4	5	
System board	M2x4	6	
Power-button bracket	M1.4x2	3	
Wireless-module bracket	M1.6x2.3 (captive screw)	1	
Left speaker	M2x2	1	
Right speaker	M2x2	1	
Keyboard	M1.4x1.4	7	
	M1.4x1.2	19	
Wireless antennas	M1.4x3.5 (captive screw)	4	

## Major components of Dell Pro Max 16 Premium MA16250

The following image shows the major components of Dell Pro Max 16 Premium MA16250.



**Figure 10. Major components of your Dell Pro Max 16 Premium MA16250**

1. Base cover
2. Left fan
3. Right fan
4. M.2 2280 solid state drive thermal shield (SSD1)
5. M.2 2280 solid state drive thermal shield (SSD2)
6. M.2 2280 solid state drive
7. System board

8. Keyboard
9. Battery
10. Palm rest and keyboard assembly
11. Display assembly
12. Battery cable
13. Left speaker
14. Right speaker
15. Right PC bridge connector board
16. Left PC bridge connector board
17. Battery connector bracket
18. Power button with fingerprint reader
19. Wireless module bracket
20. Heat sink
21. Left I/O-board
22. Right I/O-board
23. Display-assembly cable interposer board

 **NOTE:** Dell Technologies provides a list of components and their part numbers for the original system configuration purchased. These parts are available according to warranty coverages 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 16 Premium MA16250 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 30. CRU and FRU list**

Customer Replaceable Unit (CRU)	Field Replaceable Unit (FRU)
Base cover	Wireless-module bracket
Battery-connector bracket	Heat sink
Battery	System board
Battery cable	PC bridge connector board
M.2 2230 SSD bracket	I/O board
M.2 2230 SSD	Power button
M.2 2280 SSD thermal shield	Display assembly
M.2 2280 SSD	Speaker
Fan	Keyboard
	Palm rest and touchpad assembly