

# **Dell Pro 13 Premium**

PA13250

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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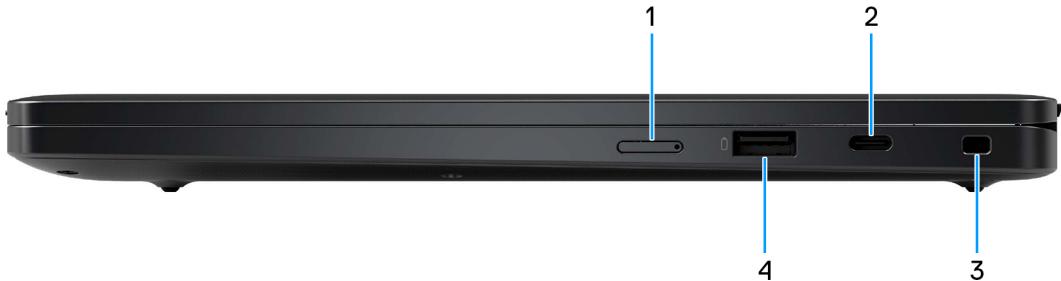
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# Views of Dell Pro 13 Premium PA13250

## Right



**Figure 1. Right view**

### 1. nano-SIM card slot

Insert a nano-SIM card to connect to a mobile broadband network.

### 2. Thunderbolt 4 port with DisplayPort Alt Mode/USB4/Power Delivery

Supports USB4, DisplayPort 1.4, Thunderbolt 4 and also enables you to connect to an external display using a display adapter. Supports 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. Wedge-shaped lock slot

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

### 4. USB 3.2 Gen 1 port with PowerShare

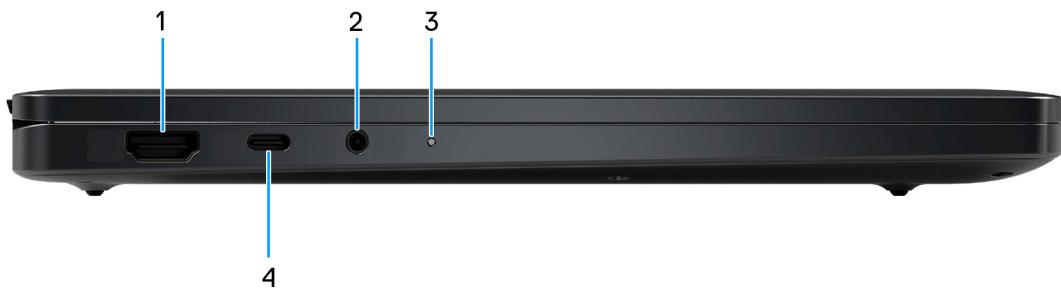
Connect devices such as external storage devices and printers.

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 hibernating 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.

# Left



**Figure 2. Left view**

**1. HDMI 2.1 port**

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

**2. Global headset jack**

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

**3. Battery indicator LED**

Indicates the battery-charge status.

- Solid amber-Battery charge is low.
- Off-Battery is fully charged.

**4. Thunderbolt 4 port with DisplayPort Alt Mode/USB4/Power Delivery**

Supports USB4, DisplayPort 1.4, Thunderbolt 4 and also enables you to connect to an external display using a display adapter. Supports data transfer rates of up to 40 Gbps for USB4 and Thunderbolt 4.

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**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.

# Top



**Figure 3. Top view**

## 1. Camera shutter

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

## 2. Power button with optional fingerprint reader

Press to turn on the computer if it is turned off, in sleep state, or in hibernating 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 s 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:** You can customize the power-button behavior in Windows.

## 3. Speakers

Provides audio output.

## 4. Zero-Lattice Keyboard with battery-saving backlight

Compact keyboard with larger keycaps and power-saving mini-LED backlight. Use the keyboard to input characters and perform functions.

## 5. Touchpad

Move your finger on the touchpad to move the mouse pointer.

# Top (for computers shipped with Collaboration Touchpad)



**Figure 4. Top view**

## 1. Camera shutter

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

## 2. Power button with optional fingerprint reader

Press to turn on the computer if it is turned off, in sleep state, or in hibernating 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 s 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:** You can customize the power-button behavior in Windows.

## 3. Speakers

Provides audio output.

## 4. Zero-Lattice Keyboard with battery-saving backlight

Compact keyboard with larger keycaps and power-saving mini-LED backlight. Use the keyboard to input characters and perform functions.

## 5. Microphone control (Zoom app and Teams for work or school (Windows desktop) app support only)

Tap to mute or unmute the microphone. The microphone control indicates the status of the microphone as follows:

- Red – The microphone is muted.
- White – The microphone is unmuted.

## 6. Chat box control (Zoom app and Teams for work or school (Windows desktop) app support only)

Tap to show or hide the chat window. The control blinks when you receive a new chat message.

## 7. Screen share control (Zoom app and Teams for work or school (Windows desktop) app support only)

Tap to start or stop sharing your screen.

## 8. Webcam control (Zoom app and Teams for work or school (Windows desktop) app support only)

Tap to turn on or turn off the camera. The webcam control indicates the status of the camera as follows:

- Red – The camera is turned off.
- White – The camera is turned on.

# Front



**Figure 5. Front view**

### 1. IR camera

Enhances security when paired with Windows Hello face authentication.

### 2. IR emitter

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

### 3. RGB UHD camera

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

### 4. Camera indicator LED

Turns on when the camera is in use.

### 5. Ambient Light Sensor

Detects the ambient light and automatically adjusts the display brightness.

### 6. Display panel

Provides visual output to the user.

## Bottom



**Figure 6. Bottom view**

### 1. Speakers

Provide audio output.

### 2. MyDell QR code

MyDell is your hub for content personalized to your Dell Pro 13 Premium PA13250, including videos, articles, manuals, and easy access to support.

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

### 4. 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 about cleaning air vents, search for articles in the Knowledge Base Resource at the [Dell Support site](#).

## 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-charge status light

The following table lists the battery-charge status light of your Dell Pro 13 Premium PA13250.

**Table 1. Battery charge and status light behavior**

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

- S0 (ON): Computer is turned on.
- 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 when the computer is turned on.
- S5 (OFF): The computer is in a shutdown state.

# Set up your Dell Pro 13 Premium PA13250

## 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 8. 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.

3. Locate and use Dell apps from the Windows Start menu—Recommended.

**Table 2. Locate Dell apps**

Resources	Description
 Dell Optimizer	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. For more information, see Dell Optimizer User's Guide at <a href="#">Dell Support Site</a> .
	<b>Dell Product Registration</b> Register your computer with Dell.
	<b>Dell Help &amp; Support</b> Access help and support for your computer.
	<b>SupportAssist</b> SupportAssist keeps your computer running at its best by optimizing settings, detecting issue, and removing viruses. It also notifies when updates are available for your computer. SupportAssist proactively checks the health of your computer hardware and software. When an issue is detected, the necessary system state information is sent to Dell to begin troubleshooting. SupportAssist is preinstalled on most of the Dell devices running the Windows operating system. For more information, see Support Assist documentation at <a href="#">Dell Support Site</a> . <b>NOTE:</b> In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.

# Specifications of Dell Pro 13 Premium PA13250

## Dimensions and weight

The following table lists the height, width, depth, and weight of your Dell Pro 13 Premium PA13250.

**Table 3. Dimensions and weight**

Description	Values		
Display Panel	Full High Definition Plus (FHD+)	Full High Definition Plus (FHD+), Battery saving, ComfortView Plus	Quad High Definition Plus (QHD+), Battery saving, ComfortView Plus
Height:			
Front height	16.85 mm (0.66 in)	16.85 mm (0.66 in)	16.85 mm (0.66 in)
Rear height	18.08 mm (0.71 in)	17.20 mm (0.67 in)	17.20 mm (0.67 in)
Maximum height	20.05 mm (0.79 in)	17.95 mm (0.71 in)	17.95 mm (0.71 in)
Width	295.64 mm (11.64 in)	295.64 mm (11.64 in)	295.64 mm (11.64 in)
Depth	208.93 mm (8.23 in)	208.93 mm (8.23 in)	208.93 mm (8.23 in)
Weight (Minimum)  ① <b>NOTE:</b> The weight of your computer depends on the configuration that is offered.	1.20 kg (2.63 lb)	1.07 kg (2.36 lb)	1.16 kg (2.55 lb)

## Processor

The following table lists the details of the processors that are supported in your Dell Pro 13 Premium PA13250.

**Table 4. Processor**

Description	Option one	Option two	Option three	Option four
Processor type	Intel Core Ultra 5 236V vPro Enterprise	Intel Core Ultra 5 238V vPro Enterprise	Intel Core Ultra 7 266V vPro Enterprise	Intel Core Ultra 7 268V vPro Enterprise
Processor wattage	17 W	17 W	17 W	17 W
Processor core count	8	8	8	8
Processor thread count	8	8	8	8
Processor speed	up to 4.7 GHz	up to 4.7 GHz	up to 5 GHz	up to 5 GHz
Processor cache	8 MB	8 MB	12 MB	12 MB
Integrated graphics	Intel Arc Graphics 130V	Intel Arc Graphics 130V	Intel Arc Graphics 140V	Intel Arc Graphics 140V

# Chipset

The following table lists the details of the chipset that is supported by your Dell Pro 13 Premium PA13250.

**Table 5. Chipset**

Description	Values
Chipset	Integrated in the processor
Processor	Intel Core Ultra 5/7
DRAM bus width	64-bit
Flash EPROM	64 MB
PCIe bus	up to Gen4

# Operating system

Your Dell Pro 13 Premium PA13250 supports the following operating systems:

- Windows 11 24H2
- Windows 11 23H2
- Windows 10 22H2
- Ubuntu Linux 24.04

**i** **NOTE:** Windows 10 22H2 is only for custom configured computers downgraded by end users from Windows 11. Windows 10 22H2 downgraded installations are supported by customer internal IT and is subjected to the Microsoft Windows 10 End of Support plan.

# Memory

The following table lists the memory specifications of your Dell Pro 13 Premium PA13250.

**Table 6. Memory specifications**

Description	Values
Memory slots	Onboard memory
Memory type	LPDDR5x
Memory speed	8533 MT/s
Maximum memory configuration	32 GB
Minimum memory configuration	16 GB
Memory configurations supported	<ul style="list-style-type: none"><li>• 16 GB, 1 x 16 GB, LPDDR5x, 8533 MT/s</li><li>• 32 GB, 1 x 32 GB, LPDDR5x, 8533 MT/s</li></ul>

# External ports and slots

The following table lists the external ports and slots of your Dell Pro 13 Premium PA13250.

**Table 7. External ports and slots**

Description	Values
USB ports	<ul style="list-style-type: none"><li>One USB 3.2 Gen 1 (5 Gbps) with PowerShare port</li></ul>
Audio port	One global headset jack
Video port(s)	<ul style="list-style-type: none"><li>Two Thunderbolt 4 (40 Gbps) with DisplayPort Alt Mode/USB Type-C/USB4/Power Delivery ports</li><li>One HDMI 2.1 port</li></ul>
Media-card reader	Not supported
Power-adapter port	Supported through the Thunderbolt 4 ports available on the computer
Security-cable slot	One wedge-shaped security slot
SIM-card slot	One nano-SIM card slot (optional)

# Internal slots

The following table lists the internal slots of your Dell Pro 13 Premium PA13250.

**Table 8. Internal slots**

Description	Values
M.2	<ul style="list-style-type: none"><li>One M.2 2230 slot for solid-state drive</li><li>One M.2 3052 slot for 5G WWAN card</li></ul> <p><b>i</b> <b>NOTE:</b> To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at <a href="#">Dell Support Site</a>.</p>

# Wireless module

The following table lists the Wireless Local Area Network (WLAN) module that is supported on your Dell Pro 13 Premium PA13250.

**Table 9. Wireless module specifications**

Description	Values
Model number	Intel WiFi 7 BE201
Transfer rate	5670 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz
Wireless standards	<ul style="list-style-type: none"><li>WiFi 802.11a/b/g</li><li>Wi-Fi 4 (WiFi 802.11n)</li><li>Wi-Fi 5 (WiFi 802.11ac)</li></ul>

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

Description	Values
	<ul style="list-style-type: none"><li>• Wi-Fi 6E (WiFi 802.11ax)</li><li>• Wi-Fi 7 (WiFi 802.11be)</li></ul>
Encryption	<ul style="list-style-type: none"><li>• 64-bit/128-bit WEP</li><li>• AES-CCMP</li><li>• TKIP</li></ul>
Bluetooth wireless card	Bluetooth 5.4

## WWAN module

The following table lists the Wireless Wide Area Network (WWAN) module that is supported in your Dell Pro 13 Premium PA13250.

**(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 depends on your region and mobile carrier's requirements.

**(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 10. WWAN module specifications**

Description	Values
Model number	Qualcomm Snapdragon X72 Global 5G Modem (DW5934e)
Form factor	M.2 3052 Key-B
Host interface	PCIe Gen3
Network standard	NR FR1(Sub6) FDD/TDD, LTE FDD/TDD, WCDMA/HSPA+, GPS/GLONASS/Galileo/Beidou
Transfer data rate	<ul style="list-style-type: none"><li>• 5G NR: DL 4.14Gbps/UL 900Mbps</li><li>• LTE: DL 2.0Gbps (CAT20)/UL 211Mbps (CAT18)</li><li>• UMTS: DL DC-HSPA+ Rel8:42 Mbps/UL 5.76 Mbps</li></ul>
Operating frequency bands	<ul style="list-style-type: none"><li>• 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)</li><li>• 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)</li><li>• WCDMA/HSPA+ (1, 2, 4, 5, 8)</li></ul>
Power supply	DC 3.135V to 3.63V, typical 3.3V
SIM card	Supported through external SIM slot
eSIM with dual SIM (DSSA)	Supported
Antenna diversity	Supported
Radio on/off	Supported

**Table 10. WWAN module specifications (continued)**

Description	Values
Wake On Wireless	Supported in Morden Standby mode
Temperature	<ul style="list-style-type: none"><li>Normal operating temperature: -30°C to +70°C</li><li>Extended operating temperature: -40°C to +85°C</li><li>Storage temperature: -40°C to +85°C</li></ul>
Antenna connector	<ul style="list-style-type: none"><li>WWAN Main Antenna x 1</li><li>WWAN Diversity Antenna x 1</li><li>4x4 MIMO Antenna x 2</li></ul>

**(i) 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 13 Premium PA13250.

**Table 11. Audio specifications**

Description	Values
Audio controller	Cirrus CS42L43 and Cirrus CS35L56
Stereo conversion	Supported
Internal audio interface	High-definition audio
External audio interface	Global headset jack
Number of speakers	Four
Internal-speaker amplifier	Supported (audio codec integrated)
External volume controls	Keyboard shortcut controls
Speaker output:	
Average	2 W
Peak	2.5 W
Microphone	Digital-array microphones in camera assembly

## Storage

This section lists the storage options on your Dell Pro 13 Premium PA13250.

Your computer supports the following storage configuration:

- One M.2 2230 solid-state drive

The M.2 2230 solid-state drive is the primary drive of your computer.

**Table 12. Storage specifications**

Storage type	Interface type	Capacity
M.2 2230 solid state drive, Class 35	TLC PCIe Gen4 NVMe	256 GB/512 GB/1 TB

**Table 12. Storage specifications (continued)**

<b>Storage type</b>	<b>Interface type</b>	<b>Capacity</b>
M.2 2230 solid-state drive, Self-encrypting drive, Opal 2.0, Class 35	TLC PCIe Gen4 NVMe	512 GB
M.2 2230 solid state drive, Class 25	QLC PCIe Gen4 NVMe	2 TB

## Keyboard

The following table lists the keyboard specifications of your Dell Pro 13 Premium PA13250.

**Table 13. Keyboard specifications**

<b>Description</b>	<b>Values</b>
Keyboard type	Battery-saving mini LED backlit zero-lattice keyboard
Keyboard layout	QWERTY
Number of keys	<ul style="list-style-type: none"> <li>• English US, English International, Arabic, Canada bilingual (MUI), Chinese traditional, French-Canadian, Greek, Hebrew, Korean, Russian, Thai, Ukrainian: 79 keys</li> <li>• French-Canadian Quebec, Belgian, Bulgarian, Czech &amp; Slovakian (MUI), Danish, English UK, Estonian, French European, German, Hungarian, Icelandic, Italian, Nordic (MUI), Norwegian, Portuguese Iberian, Slovenian, Spanish (Castilian), Spanish (Latin America), Swedish/Finnish, Swiss European (MUI), Turkish, Turkish (F): 80 keys</li> <li>• Japanese: 83 keys</li> <li>• Portuguese Brazilian: 81 keys</li> </ul>
Keyboard size	X=18.05 mm key pitch Y=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. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key.</p> <p><b>i   NOTE:</b> You can define the primary behavior of the function keys (F1–F12) changing <b>Function Key Behavior</b> in the BIOS setup program.</p> <p><b>i   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, search in the Knowledge Base Resource at the <a href="#">Dell Support site</a>.</p>

## Keyboard shortcuts of Dell Pro 13 Premium PA13250

**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
F9	Stealth mode
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
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 F6 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

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

<b>Function key</b>	<b>Secondary behavior</b>
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 13 Premium PA13250.

**Table 16. Camera specifications**

<b>Description</b>	<b>Values</b>
Number of cameras	Two
Camera type	<p>There are 2 camera options:</p> <ul style="list-style-type: none"> <li>• IR Camera</li> <li>• IR Camera with Presence Detection (Synaptics)</li> </ul>
Camera location	Front camera
Camera sensor type	CMOS sensor technology
Camera resolution:	
Still image	8.0 megapixel
Video	<p>2560 x 1440 at 30 fps</p> <p><b>NOTE:</b> The default resolution for video is set at 1080p. For more information about changing the camera resolution, search for information about changing the camera resolution in Windows 11 at the <a href="#">Microsoft Support Site</a>.</p>
Infrared camera resolution:	
Still image	0.23 megapixel
Video	640 x 360 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 13 Premium PA13250.

**Table 17. Touchpad specifications**

Description	Values
Touchpad resolution:	>300 dpi
Touchpad dimensions:	
Horizontal	125 mm (4.92 in.)
Vertical	71 mm (2.79 in.)
Touchpad gestures	For more information about the touchpad gestures available on Windows, see the Microsoft Knowledge Base article at <a href="#">Microsoft Support Site</a> .

# Touchpad with collaboration controls (optional)

The following table lists the touchpad specifications of your Dell Pro 13 Premium PA13250 (for computers shipped with Collaboration Touchpad).

**Table 18. Touchpad specifications**

Description	Values
Touchpad type	Collaboration Touchpad
Collaboration controls on touchpad	Four controls are available to control video, share screen, chat, and mute functions during conference calls. The controls are visible on the touchpad during any conference calls. Compatible with Zoom and Teams for work or school.
Collaboration controls settings	<ul style="list-style-type: none"><li>Control brightness manually or configure icon brightness to automatically adjust to the ambient light.</li><li>Customize settings to activate collaboration controls with a single tap or a double tap.</li><li>Customize specific controls to be activated or deactivated.</li></ul>
Collaboration controls functionality	Video icon: Turn on or off the camera. <ul style="list-style-type: none"><li>White icon: The camera is turned on.</li><li>Red icon: The camera is off.</li></ul> Share screen icon: Tap once to share your screen. Tap again to stop sharing. Chat icon: Show or hide the chat window. The icon blinks when you receive a new chat message. Microphone icon: Turn on or mute the microphone. <ul style="list-style-type: none"><li>White icon: The microphone is turned on.</li><li>Red icon: The microphone is muted.</li></ul>
Required apps for collaboration controls	<ul style="list-style-type: none"><li>Dell Optimizer Version 6.0 or higher</li><li>Zoom Client Version 5.9.3 or higher</li><li>Teams for work or school (Windows desktop) Version 1.6.00.24078 and higher</li></ul>
Touchpad resolution:	
Horizontal	>300 dpi

**Table 18. Touchpad specifications (continued)**

<b>Description</b>	<b>Values</b>
Vertical	Not supported
Touchpad dimensions:	
Horizontal	125 mm (4.92 in.)
Vertical	71 mm (2.79 in.)
Touchpad gestures	For more information about touchpad gestures available on Windows, see the Microsoft Knowledge Base article at <a href="#">Microsoft Support Site</a> .
<b>NOTE:</b> To enjoy the collaboration touchpad (CTP) controls feature on your keyboard, ensure that you have the latest versions of the Dell Optimizer app and Zoom or Teams for work or school that is installed on your computer. Dell Optimizer offers a modular installation which allows you to select the modules you want to install. Install the collaboration touchpad module within the Dell Optimizer app to enjoy the functionality of collaboration controls. For more information, search for <a href="#">Dell Optimizer</a> in the Knowledge Base Resource at the <a href="#">Dell Support Site</a> .	
<b>NOTE:</b> For more information about how to configure and use your collaboration controls, search for the Collaboration Touchpad Reference Guide in the Knowledge Base Resource at <a href="#">Dell Support Site</a> . Or, watch the video at <a href="#">Dell Collaboration Touchpad</a> .	
<b>NOTE:</b> Collaboration Touchpad is supported only on Teams for work or school (Windows desktop) application. Teams for home and Teams on web are not supported.	

## Power adapter

The following table lists the power adapter specifications of your Dell Pro 13 Premium PA13250.

**Table 19. Power-adapter specifications**

<b>Description</b>	<b>Option one</b>	<b>Option two</b>	<b>Option three</b>
Type	60W AC ultralight mini adapter, USB Type-C	65 W AC adapter, USB Type-C	100 W AC adapter, USB Type-C
Power-adapter dimensions:			
Height	22 mm (0.86 in)	28 mm (1.10 in)	26.50 mm (1.04 in)
Width	55 mm (2.16 in.)	51 mm (2.01 in.)	60.00 mm (2.36 in.)
Depth	66 mm (2.59 in.)	112 mm (4.41 in.)	122.00 mm (4.80 in.)
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC	100 VAC to 240 VAC
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz	50 Hz to 60 Hz
Input current (maximum)	1.7 A	1.7 A	1.7 A
Output current (continuous)	<ul style="list-style-type: none"> <li>• 20 V/3 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>• 20 V/3.25 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>• 20 V/5 A</li> <li>• 15 V/3 A</li> <li>• 9 V/3 A</li> <li>• 5 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>• 20 VDC</li> <li>• 15 VDC</li> <li>• 9 VDC</li> <li>• 5 VDC</li> </ul>	<ul style="list-style-type: none"> <li>• 20 VDC</li> <li>• 15 VDC</li> <li>• 9 VDC</li> <li>• 5 VDC</li> </ul>

**Table 19. Power-adapter specifications (continued)**

Description	Option one	Option two	Option three
Temperature range:			
Operating	0°C to 40°C (32°F to 104°F)	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)	-40°C to 70°C (-40°F to 158°F)
 <b>CAUTION:</b> 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 13 Premium PA13250 (for computers shipped with 2-cell, 40 Wh battery)

 **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 13 Premium PA13250 (for computers that are shipped with 2-cell, 40 Wh battery).

**Table 20. Power adapter requirements**

Description	Value
Power that is required from a power adapter to achieve optimal performance	45 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 45 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.	27 W
USB Power Delivery (PD) fast charging	Supported
ExpressCharge mode	Supported   <b>NOTE:</b> Ensure that the computer is connected to a 100 W power adapter for this feature to be supported.   <b>NOTE:</b> ExpressCharge mode must also be enabled in the BIOS Setup screen. Select <b>Power &gt; Battery Configuration &gt; ExpressCharge</b> , then press <b>Enter</b> .

## Power adapter requirements of Dell Pro 13 Premium PA13250 (for computers shipped with 3-cell, 60 Wh battery)

 **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 13 Premium PA13250 (for computers that are shipped with 3-cell, 60 Wh battery).

**Table 21. Power adapter requirements**

Description	Value
Power that is required from a power adapter to achieve optimal performance	45 W
Power that charges the computer at a slower speed  ① <b>NOTE:</b> A warning message may appear informing you about the use of a lower-powered adapter and slower charging speed.	Less than 45 W
Minimum power that is required from a power adapter to operate the computer and charge the battery  ① <b>NOTE:</b> A warning message appears informing you about the use of a lower-powered adapter and slower charging speed.	27 W
USB Power Delivery (PD) fast charging	Supported
ExpressCharge mode	Supported  ① <b>NOTE:</b> Ensure that the computer is connected to a 100 W power adapter for this feature to be supported.  ① <b>NOTE:</b> ExpressCharge mode must also be enabled in the BIOS Setup screen. Select <b>Power &gt; Battery Configuration &gt; ExpressCharge</b> , then press <b>Enter</b> .

## Battery

The following table lists the battery specifications of your Dell Pro 13 Premium PA13250.

**Table 22. Battery specifications**

Description	Option one	Option two	Option three	Option four
Battery type	2-cell, 40 Wh, Lithium Ion, ExpressCharge 2.0, ExpressCharge Boost	2-cell, 40 Wh, Lithium Ion, ExpressCharge 2.0, ExpressCharge Boost, Long Life Cycle	3-cell, 60 Wh, Lithium Ion, ExpressCharge, ExpressCharge Boost	3-cell, 60 Wh, Lithium Ion, ExpressCharge, ExpressCharge Boost, Long Life Cycle
Battery voltage	7.80 VDC	7.80 VDC	11.70 VDC	11.70 VDC
Battery weight (maximum)	155 gm	155 gm	215 gm	215 gm
Battery dimensions:				
Height	6.15 mm (0.24 in.)	6.15 mm (0.24 in.)	6.15 mm (0.24 in.)	6.15 mm (0.24 in.)
Width	248 mm (9.76 in.)	248 mm (9.76 in.)	248 mm (9.76 in.)	248 mm (9.76 in.)
Depth	65.10 mm (2.56 in.)	65.10 mm (2.56 in.)	65.10 mm (2.56 in.)	65.10 mm (2.56 in.)
Temperature range:				
Operating	0°C to 60°C (32°F to 140°F)	0°C to 60°C (32°F to 140°F)	0°C to 60°C (32°F to 140°F)	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)	-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	Varies depending on operating	Varies depending on operating conditions and	Varies depending on operating conditions and

**Table 22. Battery specifications (continued)**

Description	Option one	Option two	Option three	Option four
	conditions and can significantly reduce under certain power-intensive conditions.	conditions and can significantly reduce under certain power-intensive conditions.	can significantly reduce under certain power-intensive conditions.	can significantly reduce under certain power-intensive conditions.
Battery charging time (approximate)  <span style="color: blue;">(i) NOTE:</span> You can control the charging time, duration, start and end time, and so on, using the settings on the MyDell application (Power option). For more information about MyDell application, search in the Knowledge Base Resource at <a href="#">Dell Support Site</a> .	<b>Express Charge Method:</b> <ul style="list-style-type: none"> <li>• 0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>• 16 - 45°C normal express charge</li> <li>• 46 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <b>Standard Charge/ Predominately AC User Charge Method:</b> <ul style="list-style-type: none"> <li>• 0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>• 16 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <b>Express Charge Boost Charge Method (Fast Charge for Initial 35%):</b> <ul style="list-style-type: none"> <li>• 16 - 45°C target charge time from 0 to 35% RSOC is 20 mins for Accelerated Charge</li> </ul>	<b>Express Charge Method:</b> <ul style="list-style-type: none"> <li>• 0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>• 16 - 45°C normal express charge</li> <li>• 46 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <b>Standard Charge/ Predominately AC User Charge Method:</b> <ul style="list-style-type: none"> <li>• 0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>• 16 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <b>Express Charge Boost Charge Method (Fast Charge for Initial 35%):</b> <ul style="list-style-type: none"> <li>• 16 - 45°C target charge time from 0 to 35% RSOC is 20 mins for Accelerated Charge</li> </ul>	<b>Express Charge Method:</b> <ul style="list-style-type: none"> <li>• 0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>• 16 - 45°C normal express charge</li> <li>• 46 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <b>Standard Charge/ Predominately AC User Charge Method:</b> <ul style="list-style-type: none"> <li>• 0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>• 16 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <b>Express Charge Boost Charge Method (Fast Charge for Initial 35%):</b> <ul style="list-style-type: none"> <li>• 16 - 45°C target charge time from 0 to 35% RSOC is 20 mins for Accelerated Charge</li> </ul>	
Coin-cell battery	Not Supported	Not Supported	Not Supported	Not Supported

⚠ **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 13 Premium PA13250.

**Table 23. Display specifications**

Description		Option one	Option two	Option three
Display type		Full High Definition Plus (FHD+)	Full High Definition Plus (FHD+), Battery saving, ComfortView Plus	Quad High Definition Plus (QHD+), Battery saving, ComfortView Plus
Touch options		No	No	Yes
Display-panel technology		Wide-viewing angle (WVA/IPS)	Wide-viewing angle (WVA/IPS)	Wide-viewing angle (WVA/IPS)
Display-panel dimensions (active area):				
	Height	178.78 mm	178.78 mm	178.80 mm
	Width	286.04 mm	286.04 mm	286.08 mm
	Diagonal	337.31 mm	337.31 mm	337.36 mm
Display-panel native resolution		1920 x 1200	1920 x 1200	2560 x 1600
Luminance (typical)		300 nits	400 nits	500 nits
Megapixels		8.0	8.0	8.0
Color gamut		45% NTSC	100% sRGB	100% sRGB
Pixels Per Inch (PPI)		170 ppi	170 ppi	227 ppi
Contrast ratio (typical)		800:1	1500:1	1500:1
Response time (maximum)		35 ms	35 ms	35 ms
Refresh rate		48 Hz to 60 Hz	30 Hz to 60 Hz	48 Hz to 60 Hz
Horizontal view angle		+/- 85 degrees (typ.)	+/- 85 degrees (typ.)	+/- 85 degrees (typ.)
Vertical view angle		+/- 85 degrees (typ.)	+/- 85 degrees (typ.)	+/- 85 degrees (typ.)
Pixel pitch		0.14 mm x 0.14 mm	0.14 x 0.14 mm	0.11 x 0.11 mm
Power consumption (maximum)		3.77 W	2.45 W	3.28 W
Anti-glare vs glossy finish		Anti-glare	Anti-glare	Anti-reflection/Anti-smudge

# Fingerprint reader (optional)

The following table lists the specifications of the optional fingerprint-reader of your Dell Pro 13 Premium PA13250.

**(i) NOTE:** The fingerprint reader is on the power button.

**Table 24. Fingerprint reader specifications**

Description	Values
Sensor technology	Trans-capacitive sensing
Sensor resolution	500 dpi
Sensor pixel size	<ul style="list-style-type: none"><li>• X: 108</li><li>• Y: 88</li></ul>

## Sensor

The following table lists the sensor of your Dell Pro 13 Premium PA13250.

**Table 25. Sensor**

Sensor support
Accelerometer (ST Micro LIS2DW12TR): On the base of the system board
Accelerometer (ST Micro LNG2DMTR-GP): On the hinge-up midboard in the upsell configuration for a clamshell computer with MIPI RGB+IR camera
Ambient Light Sensor (optional)
Proximity for SAR compliance (for the WWAN module) Near Field Proximity Sensor
Hall Effect Sensor
Sensor Hub (integrated)

## GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Dell Pro 13 Premium PA13250.

**Table 26. GPU—Integrated**

Controller	Memory size	Processor
Intel Arc Graphics 130V	Shared system memory	Intel Core Ultra 5
Intel Arc Graphics 140V	Shared system memory	Intel Core Ultra 7

## Multiple display support matrix

The following table lists the multiple display support matrix for your Dell Pro 13 Premium PA13250.

**Table 27. Multiple display support matrix**

Graphics Card	Direct Graphics Controller Direct Output Mode	Supported external displays with computer internal display on	Supported external displays with computer internal display off
Intel Arc Graphics	Not applicable	3	4

# Hardware security

The following table lists the hardware security of your Dell Pro 13 Premium PA13250.

**Table 28. Hardware security**

Hardware security
Trusted Platform Module (TPM) 2.0 discrete
FIPS 140-2 certification for TPM
Trusted Computing Group (TCG) Certification for TPM
SED SSD NVMe, SSDSSD (Opal and non-Opal) per SDL
One wedge-shaped lock slot
SED (Opal 2.0 only - PCIe Interface)
Windows Hello - Fingerprint Reader (optional)
Mechanical privacy shutter for camera (only for metal laptops)
Chassis Intrusion Detection

# Operating and storage environment

This table lists the operating and storage specifications of your Dell Pro 13 Premium PA13250.

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

**Table 29. Computer environment**

Description	Operating	Storage
Temperature range	0°C to 35°C (32°F to 95°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	10% to 90% (non-condensing)	0% to 95% (non-condensing)
Vibration (maximum)*	0.66 GRMS	1.30 GRMS
Shock (maximum)	110 G†	160 G†
Altitude range	-15.2 m to 3048 m (4.64 ft to 5518.4 ft)	-15.2 m to 10668 m (4.64 ft to 19234.4 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](#).

## 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.

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, collaboration touchpad, and more.

For Dell Pro 13 Premium PA13250 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 Zoom and Microsoft Teams meeting controls with the Collaboration Touchpad.
- 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.
- ⚠ 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. See the safety instructions that are shipped with the product or at [Dell Regulatory Compliance Home Page](#).
- ⚠ 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.
- ⚠ CAUTION:** Exercise caution when handling rechargeable Li-ion batteries in laptops. Swollen batteries should not be used and should be replaced and disposed properly.

## Before working inside your computer

### 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, proceed to 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 process 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.
- Wear shoes with nonconductive rubber soles to reduce the chance of getting electrocuted.
- Press and hold the power button for 15 seconds to discharge the residual power in the system board.

## Standby power

Dell products with standby power must be unplugged before you open the back cover. Systems that are equipped with standby power are powered while turned off. The internal power enables the computer to be remotely turned on (Wake-on-LAN) and suspended into a sleep mode and has other advanced power management features.

## 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. 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 deploying the ESD Field Service kit, assess the situation at the customer location. 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** – The wrist strap and bonding wire can be either directly connected between your wrist and bare metal on the hardware if the anti-static mat is not required, or connect to the anti-static mat to protect hardware that is temporarily 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 kit, it is a best practice to regularly test the strap before each service, and at a minimum, test once per week. A wrist strap tester is the best method for doing this test. To perform the test, plug the bonding-wire of the wrist-strap into the tester while it is strapped to your wrist and push the button to test. A green LED is lit if the test is successful; a red LED is lit and an alarm sounds if the test fails.

 **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

 **CAUTION:** If BitLocker is not suspended before updating the BIOS, the BitLocker key is not recognized the next time that you reboot the computer. You will be 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 30. Screw list**

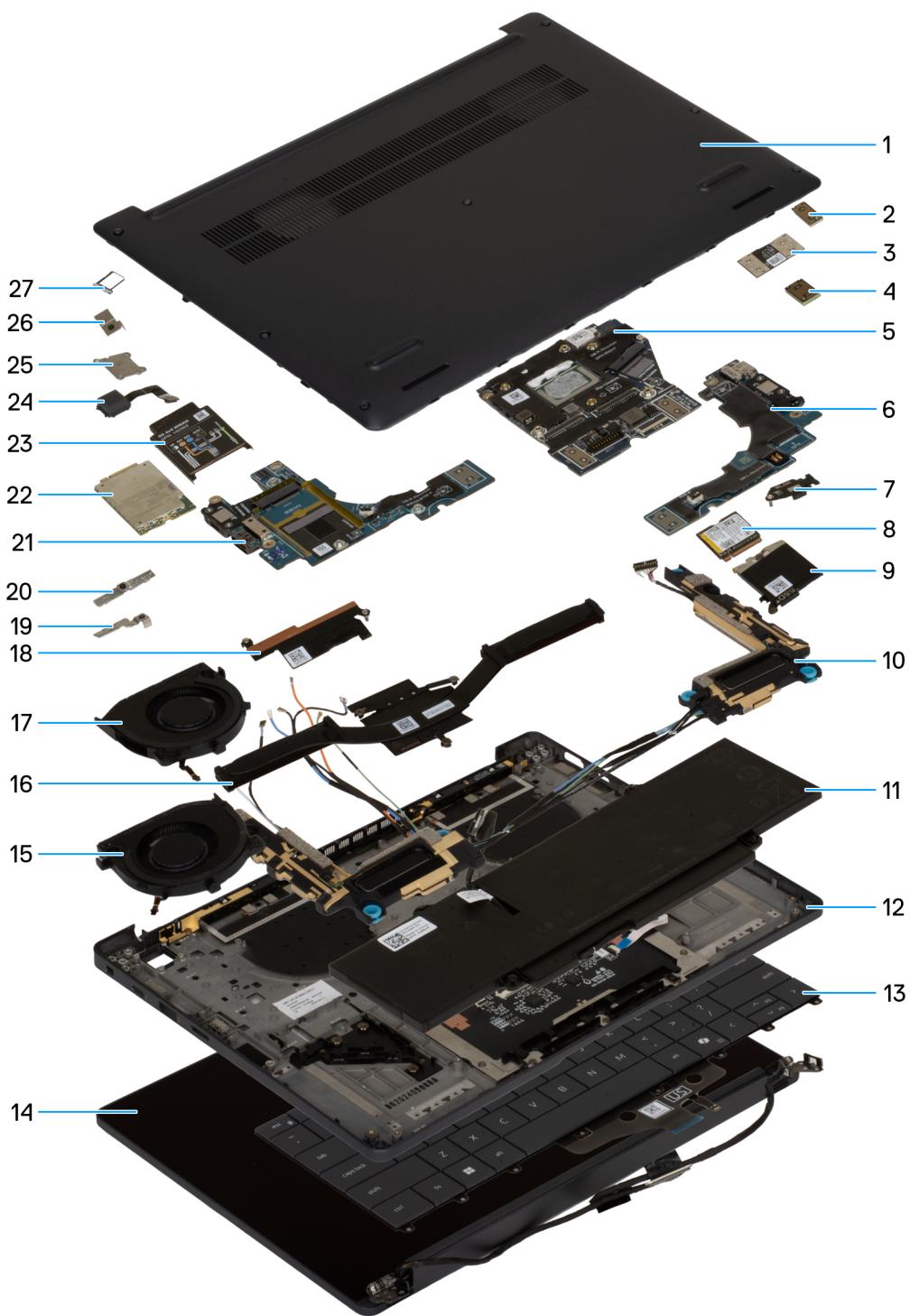
Component	Screw type	Quantity	Screw image
Base cover	M2.5x7 (Captive screw)	7	
Solid state drive (SSD) shield	M1.6x2 (Captive screw)	2	
WLAN bracket	M1.6x5.5 (Captive screw)	1	
Battery	M2x4.5 (Captive screw)	4	
WWAN-card bracket	M1.6x2.3 (Captive screw)	1	
Right fan	M1.6x3	2	
Left fan	M1.6x3	2	
Heat sink	M2x3.5 (Captive screw)	3	
Speaker	M2x2	6	
Left I/O-board	M1.6x5.5 M1.6x2.5	4 2	
Right I/O-board	M1.6x5.5 M1.6x2.5	4 3	

**Table 30. Screw list (continued)**

Component	Screw type	Quantity	Screw image
Left USB Type-C module	M2x5	2	
Right USB Type-C module	M2x5	2	
Power-button bracket	M1.6x2.3 (Captive screw)	1	
EDP-cable bracket	M1.6x5.5 (Captive screw)	2	
Display hinges	M2.5x5	6	
System board	M1.6x2.5	1	
Keyboard	M1.4x1.2 M1.6x2	19 8	

## Major components of Dell Pro 13 Premium PA13250

The following image shows the major components of Dell Pro 13 Premium PA13250.



**Figure 9. Major Components of your system/exploded view**

1. Base cover
2. Interposer board
3. I/O-board FPC
4. Interposer board
5. System board
6. Right I/O-board
7. WWAN-card bracket

8. Solid state drive (SSD)
9. Solid state drive (SSD) shield
10. Speakers
11. Battery
12. Palm-rest assembly
13. Keyboard
14. Display assembly
15. Right fan
16. Heat sink
17. Left fan
18. EDP-cable bracket
19. Darwin antenna-cable bracket
20. WWAN-card bracket
21. Left I/O-board
22. WWAN card
23. WWAN-card shield
24. Fingerprint-reader cable
25. Power-button bracket
26. Power button
27. nano-SIM card tray

 **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.