

Dell Pro Max 14

MC14255

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.

Contents

Chapter 1: Views of Dell Pro Max 14 MC14255.....	7
Left.....	7
Right.....	8
Top.....	9
Front.....	10
Bottom.....	11
Locate the Service Tag or Express Service Code label of your computer.....	11
Battery-status light.....	12
Chapter 2: Set up your Dell Pro Max 14 MC14255.....	13
Chapter 3: Specifications of Dell Pro Max 14 MC14255.....	15
Dimensions and weight.....	15
Processor.....	15
Chipset.....	16
Operating system.....	16
Memory.....	16
External ports and slots.....	17
Internal slots.....	17
Ethernet.....	17
Wireless module.....	18
Audio.....	18
Storage.....	19
Keyboard.....	19
Keyboard shortcuts of Dell Pro Max 14 MC14255.....	20
Camera.....	21
Touchpad.....	22
Power adapter.....	22
Power adapter requirements of Dell Pro Max 14 MC14255.....	23
Battery.....	24
Power requirements	24
Display.....	25
Fingerprint reader (optional).....	26
Sensors	26
GPU—Integrated.....	26
Multiple display support matrix.....	27
Hardware security.....	27
Smart-card reader.....	27
Contactless smart-card reader.....	27
Contacted smart-card reader.....	31
Operating and storage environment.....	31
ComfortView Plus.....	32
Dell Optimizer.....	32

Chapter 4: Working inside your computer.....	33
Safety instructions.....	33
Before working inside your computer.....	33
Safety precautions.....	34
Electrostatic discharge—ESD protection.....	34
ESD Field Service kit	35
Transporting sensitive components.....	36
After working inside your computer.....	36
BitLocker.....	36
Recommended tools.....	37
Screw list.....	37
Major components of Dell Pro Max 14 MC14255.....	38
Customer Replaceable Units (CRUs) and Field Replaceable Units (FRUs) list.....	40
Chapter 5: Removing and installing Customer Replaceable Units (CRUs).....	41
Base cover.....	41
Removing the base cover.....	41
Installing the base cover.....	44
Battery.....	46
Rechargeable Li-ion battery precautions.....	46
Removing the battery	47
Installing the battery	48
Battery cable.....	48
Disconnecting the battery cable	48
Connecting the battery cable	49
Solid state drive (SSD).....	50
Removing the M.2 2230 solid state drive.....	50
Installing the M.2 2230 solid state drive.....	51
Removing the M.2 2280 solid state drive.....	52
Installing the M.2 2280 solid state drive.....	53
Wireless card.....	54
Removing the wireless card	54
Installing the wireless card	55
Speakers.....	57
Removing the speakers	57
Installing the speakers	58
Fan.....	59
Removing the fan	59
Installing the fan	60
Chapter 6: Removing and installing Field Replaceable Units (FRUs).....	62
Battery frame.....	62
Removing the battery frame.....	62
Installing the battery frame.....	63
USH board.....	65
Removing the USH board.....	65
Installing the USH board.....	66
Smart-card reader.....	67

Removing the smart-card reader.....	67
Installing the smart-card reader.....	67
Heat sink.....	68
Removing the heat sink.....	68
Installing the heat sink.....	69
I/O board.....	70
Removing the I/O board.....	70
Installing the I/O board.....	71
Power button.....	73
Removing the power button	73
Installing the power button	74
Display assembly.....	74
Removing the display assembly	74
Installing the display assembly	77
Display bezel.....	79
Removing the display bezel	79
Installing the display bezel	84
Display panel.....	85
Removing the display panel	85
Installing the display panel	88
Display hinges.....	90
Removing the display hinges	90
Installing the display hinges	92
Display cable.....	93
Removing the display cable	93
Installing the display cable	94
Camera.....	96
Removing the camera	96
Installing the camera	97
Display back-cover and antenna assembly.....	98
Removing the display back-cover and antenna assembly	98
Installing the display back-cover and antenna assembly	99
System board.....	100
Removing the system board.....	100
Installing the system board.....	103
USB Type-C module.....	107
Removing the USB Type-C module.....	107
Installing the USB Type-C module	108
Keyboard.....	109
Removing the keyboard.....	109
Installing the keyboard	111
Palm-rest assembly.....	113
Removing the palm-rest assembly	113
Installing the palm-rest assembly	114
Chapter 7: Software.....	116
Operating system.....	116
Drivers and downloads.....	116

Chapter 8: BIOS Setup.....	117
Entering BIOS Setup program.....	117
Navigation keys.....	117
F12 One Time Boot menu.....	117
View Advanced Setup options.....	118
View Service options.....	118
BIOS Setup options.....	118
Updating the BIOS.....	135
Updating the BIOS in Windows.....	135
Updating the BIOS in Linux and Ubuntu.....	136
Updating the BIOS using the USB drive in Windows.....	136
Updating the BIOS from the One-Time boot menu.....	137
System and setup password.....	137
Assigning a System Setup password.....	137
Deleting or changing an existing system password or setup password.....	138
Clearing system and setup passwords.....	138
Chapter 9: Troubleshooting.....	139
Handling swollen rechargeable Li-ion batteries.....	139
Dell SupportAssist Pre-boot System Performance Check diagnostics.....	139
Running the SupportAssist Pre-Boot System Performance Check.....	140
Built-in self-test (BIST).....	140
Motherboard Built-In Self-Test (M-BIST).....	140
Logic Built-in Self-test (L-BIST).....	141
LCD Built-in Self-Test (LCD-BIST).....	141
System-diagnostic lights.....	141
Recovering the operating system.....	142
Real-Time Clock (RTC Reset).....	143
Backup media and recovery options.....	143
Network power cycle.....	143
Drain flea power (perform hard reset).....	143
Chapter 10: Getting help and contacting Dell.....	145
Chapter 11: Revision history.....	146

Views of Dell Pro Max 14 MC14255

Left

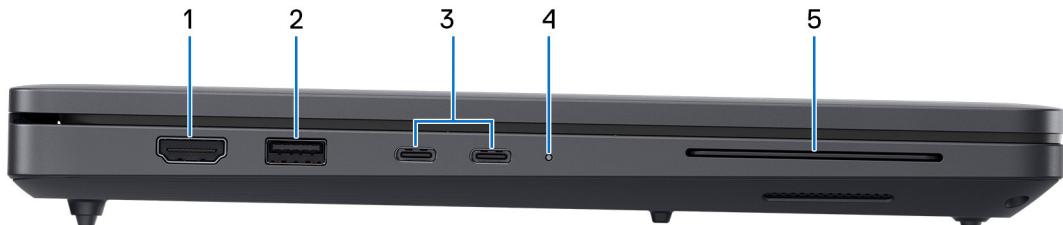


Figure 1. Left view

1. HDMI 2.1 port

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

2. USB 3.2 Gen 1 (5 Gbps) port

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

3. Two Thunderbolt 4 (40 Gbps) ports with Power Delivery and DisplayPort

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

i **NOTE:** The power adapter is to be connected to one of these Thunderbolt 4 ports.

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.

4. 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.

5. Smart-card reader slot (optional)

Reads information from a smart card with a built-in-chip.

Right



Figure 2. Right view

1. Global headset port

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

2. USB 3.2 Gen 1 (5 Gbps) port with PowerShare

Connect devices such as external storage devices and printers.

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

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

3. RJ45 ethernet port (1 Gbps)

Connect an RJ45 ethernet cable from a router or a broadband modem for network or Internet access, with a transfer rate of 10/100/1000 Mbps (maximum 1 Gbps).

4. Security-cable slot (wedge-shaped)

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

Top



Figure 3. Top view

1. Power button with optional fingerprint reader

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

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

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

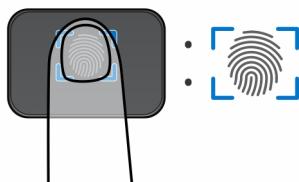


Figure 4. Active area of the fingerprint reader

(i) NOTE: The highlighted area indicates the actual 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](#).

2. Precision touchpad

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

Front

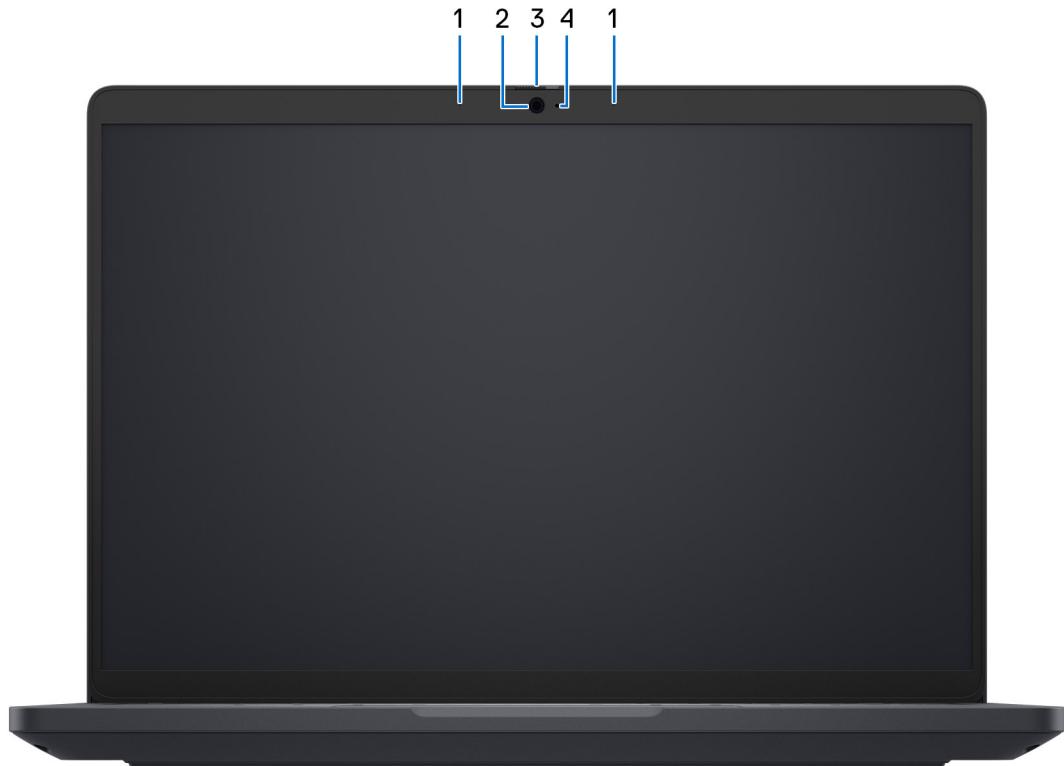


Figure 5. Front view

1. Microphones

Provide digital sound input for audio recording and voice calls.

2. Camera

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

3. Privacy shutter

Slide the privacy shutter to cover the camera lens and protect your privacy when the camera is not in use.

4. Camera-status light

Turns on when the camera is in use.

Bottom

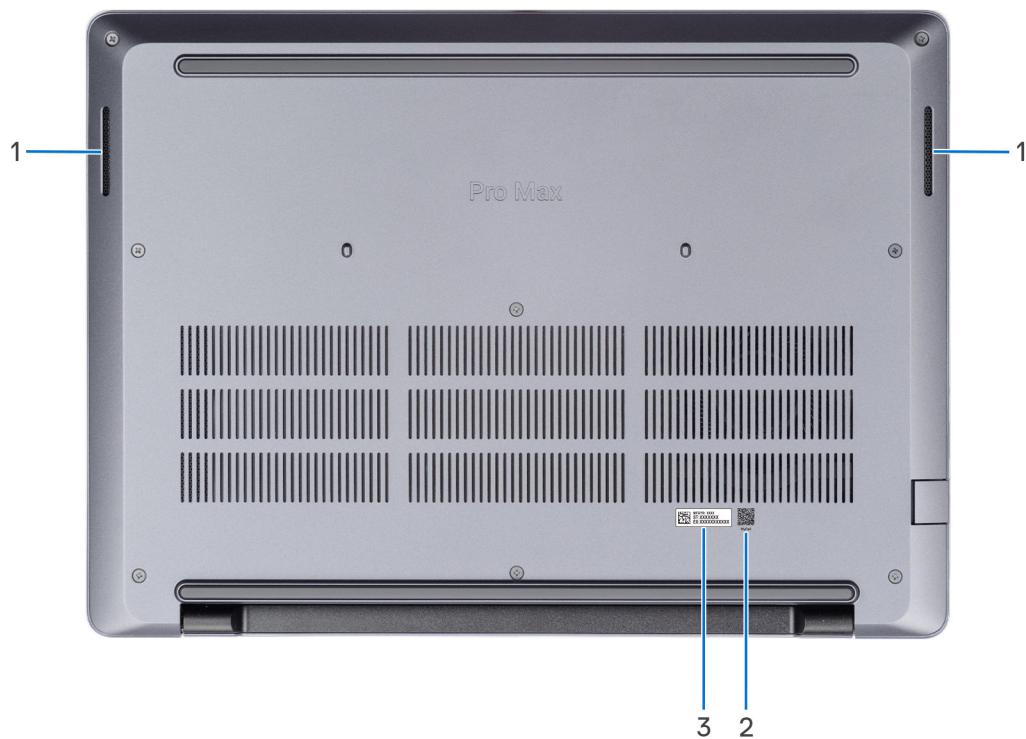


Figure 6. Bottom view

1. Speakers

Provide audio output.

2. MyDell QR code

MyDell is your hub for content that is personalized for your Dell Pro Max 14 MC14255, including videos, articles, manuals, and access to support.

3. 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](#).

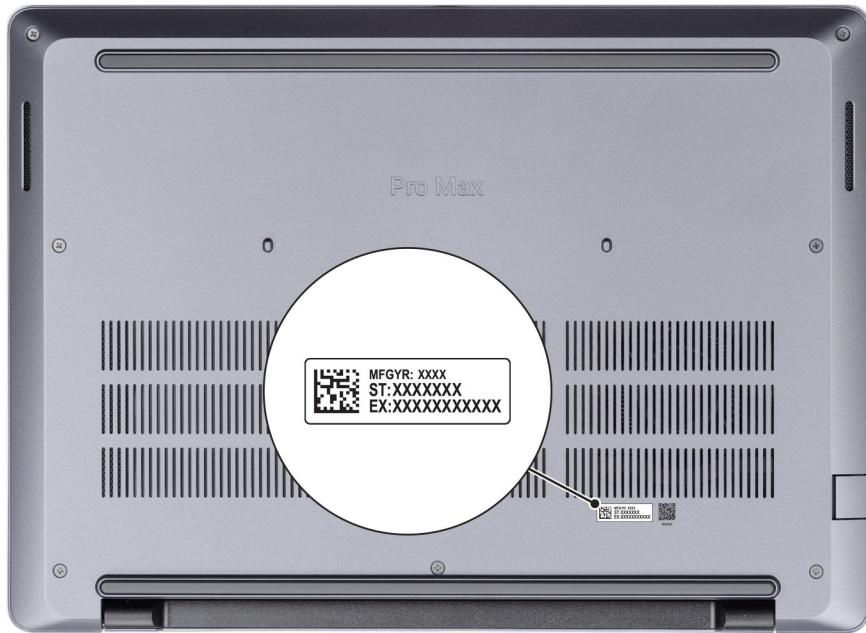


Figure 7. Service Tag/Express Service Code location

Battery-status light

The following table lists the battery-status light of your Dell Pro Max 14 MC14255.

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 14 MC14255

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 to one of the Thunderbolt 4 ports 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.
- 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.
- On the **Support and Protection** screen, enter your contact details.

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

Table 2. Locate Dell apps

Resources	Description
	<p>Dell Product Registration Register your computer with Dell.</p>
	<p>Dell Help & Support Access help and support for your computer.</p>
	<p>SupportAssist 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. For more information, see the SupportAssist documentation at Dell Support Site. (i) NOTE: In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.</p>
	<p>Dell Update Updates your computer with critical fixes and latest device drivers as they become available. For more information about using Dell Update, see the product guides and third-party license documents at Dell Support Site.</p>
	<p>Dell Optimizer is an application that is 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 Dell Support Site.</p>

Specifications of Dell Pro Max 14 MC14255

Dimensions and weight

The following table lists the height, width, depth, and weight of your Dell Pro Max 14 MC14255.

Table 3. Dimensions and weight

Description	Values
Height:	
Front height	14.79 mm (0.58 in.)
Rear height	18.90 mm (0.74 in.)
Width	313 mm (12.32 in.)
Depth	227.30 mm (8.75 in.)
Weight NOTE: The weight of your computer depends on the configuration that you ordered.	Minimum: 1.79 kg (3.95 lb)

Processor

The following table lists the details of the processors that are supported in your Dell Pro Max 14 MC14255.

Table 4. Processor

Description	Option one	Option two	Option three
Processor type	AMD Ryzen AI 5 PRO 340	AMD Ryzen AI 7 PRO 350	AMD Ryzen AI 9 HX PRO 370
Configurable Thermal Design Power (cTDP)	15 W–54 W	15 W–54 W	15 W–54 W
Thermal Mode/Thermal Design Power (TDP)			
Optimized	32 W	32 W	41 W
Performance	37 W	37 W	46 W
Processor core count	6	8	12
Processor thread count	12	16	24
Processor speed	Up to 4.8 GHz	Up to 5.0 GHz	Up to 5.1 GHz
Processor cache L2	6 MB	8 MB	12 MB
Processor cache L3	16 MB	16 MB	24 MB
Integrated graphics	AMD Radeon 840M Graphics	AMD Radeon 860M Graphics	AMD Radeon 890M Graphics

Table 4. Processor (continued)

Description	Option one	Option two	Option three
Neural Processing Units (NPU) performance	Up to 50 TOPS	Up to 50 TOPS	Up to 50 TOPS

Chipset

The following table lists the details of the chipset that is supported by your Dell Pro Max 14 MC14255.

Table 5. Chipset

Description	Values
Chipset	Integrated with the processor
Processor	<ul style="list-style-type: none"> • AMD Ryzen AI 5 PRO 340 • AMD Ryzen AI 7 PRO 350 • AMD Ryzen AI 9 HX PRO 370
DRAM bus width	64-bit
Flash EPROM	Up to 64 MB
PCIe bus	Up to Gen4

Operating system

Your Dell Pro Max 14 MC14255 supports the following operating systems:

- Windows 11 Home
- Windows 11 Pro
- Ubuntu Linux 22.04 LTS, 64-bit

Memory

The following table lists the memory specifications of your Dell Pro Max 14 MC14255.

Table 6. Memory specifications

Description	Values
Memory slots	Onboard memory
Memory type	LPDDR5x
Memory speed	8000 MT/s
Maximum memory configuration	64 GB
Minimum memory configuration	16 GB
Memory configurations supported	<ul style="list-style-type: none"> • 16 GB: 4 x 4 GB, LPDDR5x, 8000 MT/s, dual-channel (onboard), Non-ECC • 32 GB: 4 x 8 GB, LPDDR5x, 8000 MT/s, dual-channel (onboard), Non-ECC • 64 GB: 4 x 16 GB, LPDDR5x, 8000 MT/s, dual-channel (onboard), Non-ECC

External ports and slots

The following table lists the external ports and slots on your Dell Pro Max 14 MC14255.

Table 7. External ports and slots

Description	Values
Network port	One RJ45 ethernet port (1 Gbps)
USB ports	<ul style="list-style-type: none">Two Thunderbolt 4 (40 Gbps) ports with Power Delivery and DisplayPortOne USB 3.2 Gen 1 (5 Gbps) port with PowerShareOne USB 3.2 Gen 1 (5 Gbps) port
Audio port	One global headset port
Video port(s)	<ul style="list-style-type: none">Two Thunderbolt 4 (40 Gbps) ports with Power Delivery and DisplayPortOne HDMI 2.1 port
Media-card reader	One optional smart-card reader slot
Power-adapter port	Supported via two Thunderbolt 4 (40 Gbps) ports with Power Delivery and DisplayPort
Security-cable slot	One wedge-shaped lock slot

Internal slots

The following table lists the internal slots of your Dell Pro Max 14 MC14255.

Table 8. Internal slots

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

Ethernet

The following table lists the wired ethernet Local Area Network (LAN) specifications of your Dell Pro Max 14 MC14255.

Table 9. Ethernet specifications

Description	Values
Model	Integrated Realtek RTL811H-CG
Transfer rate	10/100/1000 Mbps

Wireless module

The following table lists the Wireless Local Area Network (WLAN) module that is supported on your Dell Pro Max 14 MC14255.

Table 10. Wireless module specifications

Description	Values
Model number	MediaTek Wi-Fi 7 MT7925
Transfer rate	Up to 2882 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz
Wireless standards	<ul style="list-style-type: none">Wi-Fi 802.11 a/b/gWi-Fi 4 (WiFi 802.11n)Wi-Fi 5 (WiFi 802.11ac)Wi-Fi 6E (WiFi 802.11ax)Wi-Fi 7 (WiFi 802.11be)
Encryption	<ul style="list-style-type: none">64-bit/128-bit WEPAES-CCMPTKIP
Bluetooth wireless card (i) NOTE: The functionality of the Bluetooth wireless card may vary based on the operating system.	Bluetooth 5.4

Audio

The following table lists the audio specifications of your Dell Pro Max 14 MC14255.

Table 11. Audio specifications

Description	Values
Audio controller	Realtek ALC3329
Stereo conversion	Supported
Internal audio interface	SoundWire interface
External audio interface	One global headset port
Number of speakers	Two
Internal-speaker amplifier	Supported via Realtek ALC1708
External volume controls	Keyboard shortcut controls
Speaker output:	
Average	$2 \text{ W} \times 2 = 4 \text{ W}$
Peak	$2.5 \text{ W} \times 2 = 5 \text{ W}$
Microphone	Dual-array digital microphones

Storage

This section lists the storage options on your Dell Pro Max 14 MC14255.

Your Dell Pro Max 14 MC14255 supports one M.2 2230/2280 solid state drive. The M.2 2230/2280 solid state drive is the primary storage drive of your computer.

Table 12. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 solid state drive	Gen 4 x4 PCIe NVMe	256 GB
M.2 2280 solid state drive, Self-Encrypting	Gen 4 x4 PCIe NVMe	512 GB, 1 TB or 2 TB

Keyboard

The following table lists the keyboard specifications of your Dell Pro Max 14 MC14255.

Table 13. Keyboard specifications

Description	Values
Keyboard type	<ul style="list-style-type: none">Standard backlit keyboardStandard non-backlit keyboard
Keyboard layout	QWERTY
Number of keys	<ul style="list-style-type: none">Arabic, Canada (Bilingual) MUI, Chinese (Traditional), English International, English US, French (Canadian) (MUI), Greek, Hebrew, Korean, Russian, Thai, Ukrainian: 79 keysBelgian, Bulgarian, Czech/Slovak (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 keysPortuguese (Brazil): 81 keysJapanese: 83 keys
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">To type the alternate character, press Shift and the desired key.To perform secondary functions, press Fn and the desired key. <p>NOTE: You can define the primary behavior of the function keys (F1–F12) by changing Function Key Behavior in the BIOS Setup program.</p> <p>NOTE: If Copilot in Windows is not available on your computer, pressing the Copilot key launches Windows search. For more information about Copilot in Windows,</p>

Table 13. Keyboard specifications (continued)

Description	Values
	see the Knowledge Base Resource at the Dell Support site .

Keyboard shortcuts of Dell Pro Max 14 MC14255

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
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

Table 15. Secondary behavior (continued)

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

Camera

The following table lists the camera specifications of your Dell Pro Max 14 MC14255.

Table 16. Camera specifications

Description	Option one	Option two
Number of cameras	One	Two
Camera type	FHD RGB camera	FHD RGB and IR camera
Camera location	Front camera	Front camera
Camera sensor type	CMOS sensor technology	CMOS sensor technology
Camera resolution:		
Still image	2.07 megapixel	2.07 megapixel
Video	1920 x 1080 (FHD) at 30 fps	1920 x 1080 (FHD) at 30 fps
Infrared camera resolution:		
Still image	N/A	0.23 megapixel
Video	N/A	640 x 360 at 15 fps
Diagonal viewing angle:		

Table 16. Camera specifications (continued)

Description	Option one	Option two
Camera	80.20 degrees	80.20 degrees
Infrared camera	N/A	86.60 degrees

Touchpad

The following table lists the touchpad specifications of your Dell Pro Max 14 MC14255.

Table 17. Touchpad specifications

Description	Values
Touchpad resolution:	
Horizontal	>= 300 dpi
Vertical	>= 300 dpi
Touchpad dimensions:	
Horizontal	125 mm (4.92 in.)
Vertical	73 mm (2.87 in.)
Touchpad gestures	<p>For more information about the touchpad gestures that are available on:</p> <ul style="list-style-type: none"> • Windows, see the Microsoft Knowledge Base article at Microsoft Support Site. • Ubuntu, see Ubuntu Support Site.

Power adapter

The following table lists the power adapter specifications of your Dell Pro Max 14 MC14255.

Table 18. Power-adapter specifications

Description	Option one	Option two
Type	65 W AC adapter, USB Type-C	100 W AC adapter, USB Type-C
Power-adapter dimensions:		
Height	28 mm (1.10 in.)	26.50 mm (1.04 in.)
Width	51 mm (2.01 in.)	60 mm (2.36 in.)
Depth	112 mm (4.41 in.)	122 mm (4.80 in.)
Input voltage	100 VAC - 240 VAC	100 VAC - 240 VAC
Input frequency	50 Hz - 60 Hz	50 Hz - 60 Hz
Input current (maximum)	1.70 A	1.70 A
Output current (continuous)	<ul style="list-style-type: none"> • 20 V/3.25 A • 15 V/3 A 	<ul style="list-style-type: none"> • 20 V/5 A • 15 V/3 A

Table 18. Power-adapter specifications (continued)

Description	Option one	Option two
	<ul style="list-style-type: none"> • 9 V/3 A • 5 V/3 A 	<ul style="list-style-type: none"> • 9 V/3 A • 5 V/3 A
Rated output voltage	<ul style="list-style-type: none"> • 20 VDC • 15 VDC • 9 VDC • 5 VDC 	<ul style="list-style-type: none"> • 20 VDC • 15 VDC • 9 VDC • 5 VDC
Temperature range:		
Operating	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

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

Power adapter requirements of Dell Pro Max 14 MC14255

 **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 14 MC14255.

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	Less than 60 W
 NOTE: A warning message may appear informing you about the use of a lower-powered adapter and slower charging speed.	
Minimum power that is required from a power adapter to operate the computer and charge the battery	45 W
 NOTE: A warning message appears informing you about the use of a lower-powered adapter and slower charging speed.	
USB Power Delivery (PD) fast charging	Supported
ExpressCharge mode	Supported  NOTE: Ensure that the computer with a 72 Wh battery is connected to a 100 W power adapter for this feature to be supported.

Battery

The following table lists the battery specifications of your Dell Pro Max 14 MC14255.

Table 20. Battery specifications

Description	Option one	Option two
Battery type	4-cell, 72 Wh, Lithium Ion Polymer, ExpressCharge, ExpressCharge Boost, Standard Life	4-cell, 72 Wh, Lithium Ion Polymer, ExpressCharge, ExpressCharge Boost, Long Cycle Life
Battery voltage	15.60 VDC	15.60 VDC
Battery weight (maximum)	0.27 kg (0.60 lb)	0.27 kg (0.60 lb)
Battery dimensions:		
Height	7.64 mm (0.30 in.)	7.64 mm (0.30 in.)
Width	266.62 mm (10.45 in.)	266.62 mm (10.45 in.)
Depth	72.68 mm (2.86 in.)	72.68 mm (2.86 in.)
Temperature range:		
Operating	<ul style="list-style-type: none">Charge: 0°C to 50°C (32°F to 122°F)Discharge: 0°C to 60°C (32°F to 140°F)	<ul style="list-style-type: none">Charge: 0°C to 50°C (32°F to 122°F)Discharge: 0°C to 60°C (32°F to 140°F)
Storage	-20°C to 65°C (-4°F to 149°F)	-20°C to 65°C (-4°F to 149°F)
Battery operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions
Battery charging time (approximate) NOTE: You can control the charging time, duration, start and end time, and so on, using the Dell Power Manager application. For more information about Dell Power Manager, search in the Knowledge Base Resource at Dell Support Site .	<ul style="list-style-type: none">ExpressCharge Boost - From 0% to 35% in almost 20 minutesExpressCharge - 2 hoursStandard charge - 3 hours	<ul style="list-style-type: none">ExpressCharge Boost - From 0% to 35% in almost 20 minutesExpressCharge - 2 hoursStandard charge - 3 hours
Coin-cell battery	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.		

Power requirements

NOTE: The information in this section is applicable to the European Union (EU) countries.

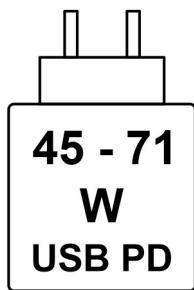


Figure 9. Pictogram for 72 Wh battery

The power that is delivered by the charger must be between a minimum of 45 Watts that is required by the radio equipment, and a maximum of 71 Watts in order to achieve the maximum charging speed.

This computer supports USB Power Delivery (PD) fast charging.

Display

The following table lists the display specifications of your Dell Pro Max 14 MC14255.

Table 21. Display specifications

Description		Option one	Option two
Display type		14" Full High Definition Plus (FHD+)	14" Quad High Definition Plus (QHD+), ComfortView Plus
Touch options		Not supported	Not supported
Display-panel technology		Wide-Viewing Angle (WVA)	Wide-Viewing Angle (WVA)
Display-panel dimensions (active area):			
	Height	188.50 mm (7.42 in.)	188.50 mm (7.42 in.)
	Width	301.59 mm (11.87 in.)	301.59 mm (11.87 in.)
	Diagonal	355.65 mm (14 in.)	355.65 mm (14 in.)
Display-panel native resolution		1920 x 1200	2560 x 1600
Luminance (typical)		300 nits	300 nits
Megapixels		2.3	4.1
Color gamut		45% NTSC	100% sRGB
Pixels Per Inch (PPI)		162	215.6
Contrast ratio (minimum)		800:1	1200:1
Response time (maximum)		35 ms	35 ms
Refresh rate		60 Hz	120 Hz
Horizontal view angle		<ul style="list-style-type: none"> • Minimum: 80 +/- degrees • Typical: 85 +/- degrees 	<ul style="list-style-type: none"> • Minimum: 80 +/- degrees • Typical: 85 +/- degrees
Vertical view angle		<ul style="list-style-type: none"> • Minimum: 80 +/- degrees 	<ul style="list-style-type: none"> • Minimum: 80 +/- degrees

Table 21. Display specifications (continued)

Description	Option one	Option two
	<ul style="list-style-type: none"> Typical: 85 +/- degrees 	<ul style="list-style-type: none"> Typical: 85 +/- degrees
Pixel pitch	0.157 x 0.157	0.1178
Power consumption (maximum)	3.68 W	4.80 W
Anti-glare vs glossy finish	Anti-glare	Anti-glare

Fingerprint reader (optional)

The following table lists the specifications of the optional fingerprint reader of your Dell Pro Max 14 MC14255.

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

Table 22. Fingerprint reader specifications

Description	Values
Sensor technology	Capacitive sensing
Sensor resolution	500 dpi
Sensor pixel size	108 x 88 pixels

Sensors

The following table lists the sensors of your Dell Pro Max 14 MC14255.

Table 23. Sensor

Sensor support
Accelerometer (for positional sensing)
Hall Effect Sensor

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Dell Pro Max 14 MC14255.

Table 24. GPU—Integrated

Controller	Memory size	Processor
AMD Radeon 840M Graphics	Shared system memory	AMD Ryzen AI 5 PRO 340 processors
AMD Radeon 860M Graphics	Shared system memory	AMD Ryzen AI 7 PRO 360 processors
AMD Radeon 890M Graphics	Shared system memory	AMD Ryzen AI 9 HX PRO 370 processors

Multiple display support matrix

The following table lists the multiple display support matrix for your Dell Pro Max 14 MC14255.

Table 25. 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
AMD Radeon 840M Graphics	Not supported	3	4
AMD Radeon 860M Graphics	Not supported	3	4
AMD Radeon 890M Graphics	Not supported	3	4

Hardware security

The following table lists the hardware security of your Dell Pro Max 14 MC14255.

Table 26. Hardware security

Hardware security
One wedge-shaped lock slot
Windows Hello - Fingerprint Reader (optional)
Trusted Platform Module (TPM) 2.0 discrete
FIPS 140-2 certification for TPM
TCG Certification for TPM (Trusted Computing Group)
Fingerprint reader in power button available with and without ControlVault 3 Plus
ControlVault 3 Plus Advanced Authentication with FIPS 140-3 Level 3 Certification (optional)
Contacted Smart Card and ControlVault 3 Plus
Contactless Smart Card, NFC, and ControlVault 3 Plus
SED SSD NVMe, SSD per SDA

Smart-card reader

Contactless smart-card reader

This section lists the contactless smart-card reader specifications of your Dell Pro Max 14 MC14255.

Table 27. Contactless smart-card reader specifications

Title	Description	Dell ControlVault 3 Plus Contactless smart-card reader with NFC
Felica Card Support	Reader and software capable of supporting Felica contactless cards	Yes

Table 27. Contactless smart-card reader specifications (continued)

Title	Description	Dell ControlVault 3 Plus Contactless smart-card reader with NFC
Prox (Proximity) (125kHz) Card support	Reader and software capable of supporting Prox /Proximity/125 kHz contactless cards	No
ISO 14443 Type A Card Support	Reader and software capable of supporting ISO 14443 Type A contactless cards	Yes
ISO 14443 Type B Card Support	Reader and software capable of supporting ISO 14443 Type B contactless cards	Yes
ISO/IEC 21481	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO/IEC 18092	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO 15693 Card Support	Reader and software capable of supporting ISO15693 contactless cards	Yes
NFC Tag Support	Supports reading and processing of NFC compliant tag information	Yes
NFC Reader Mode	Support for NFC Forum Defined Reader mode	Yes
NFC Writer Mode	Support for NFC Forum Defined Writer mode	Yes
NFC Peer-to-Peer Mode	Support for NFC Forum Defined Peer to Peer mode	Yes
NFC Proximity OS Interface	Enumerates NFP (Near Field Proximity) device for operating system to utilize	Yes
PC/SC operating system interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for operating system level drivers	Yes
Dell ControlVault support	The device connects to Dell ControlVault for usage and processing	Yes

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

Table 28. Supported contactless smart-card types

Interface	Card type	Supported functionality
NFC Forum (Microsoft Proximity Device)	Type 1 tag	Read/Write NDEF
	Type 2 tag	Read/Write NDEF
	Type 3 tag	Read/Write NDEF
	Type 4 tag	Read/Write NDEF
	Type 5 tag	Read/Write NDEF

Table 28. Supported contactless smart-card types (continued)

Interface	Card type	Supported functionality
	P2P	Exchange NDEF
RFID (Microsoft Smartcard Device)	ISO14443A	Read UUID and APDU Exchange (ISO7816)
	ISO14443B	Read UUID and APDU Exchange (ISO7816)
	Sony FeliCa	Read UUID only
	Legacy iClass (ISO15693)	Read UUID only
	Mifare Classic	Read UUID only
	Low Frequency (125 KHz)	Not supported

Table 29. Supported cards

Manufacturer	Card
HID	jCOP readertest3 A card (14443a) 1430 1L DESFire D8H DESFIRE 4K Standard - 1450NGGNN iClass 16K/16 - 2002PGGMN iClass SR 16K/16 - 2002HPGGMN iCLASS 2K tag iCLASS GP - 2003 PGGMN iClass Clamshell - 2080PMSMV iClass Prox 16K/16 - 2022BGGMNN Mifare M1P 1430 NGGNN iclass Prox 2020BGGMNM DesFire D8P 1456CSGMN iCLASS MIFARE Px GM49Y 2623BNPGGBNAB iCLASS MIFARE Px 8M1L iClass SEOS JW 5006PGGMN Crescendo iCLASS Px G8H iCLASS Seos IY SEOS JMC4 J1Y 5806VNG1NNN4 SEOS Key FOB 5266PNNA SEOS Clamshell 5656PMSAV SEOS + Prox 5106RGGMNN SEOS + DESFire 5906PNG1ANN7 SEOS iClass 5006PGGMN7 Seos Essential + Prox 551PPGGANN iCLASS 2K 2000PGGMN iCLASS 2K 3000PGGMN

Table 29. Supported cards (continued)

Manufacturer	Card
	MIFARE DESFire 3700CPGGAN
	iCLASS DP
	DESFire 1Y
NXP/Mifare	Mifare DESFire 8K White PVC card
	Mifare Classic 1K White PVC card
	NXP Mifare Classic S50 ISO card
	Mifare DESFire 2K
	Mifare Plus S 2K/4K
	Mifare Plus X 4K
G&D	idOnDemand - SCE3.2 144K
	SCE6.0 FIPS 80K Dual + 1K Mifare
	SCE6.0 nonFIPS 80K Dual + 1K Mifare
	SCE6.0 FIPS 144K Dual + 1K Mifare
	SCE6.0 nonFIPS 144K Dual + 1K Mifare
	SCE7.0 FIPS 144K
Oberthur	idOnDemand - OCS5.2 80K
	ID-One Cosmo 64 RSA D V5.4 T = 0 card
	ID-One Cosmo 128K V5.5 card
Gemalto	TOP DL GX4 144K card
Sony	Felica RC-S962
	Felica RC-S965
	Felica RC-S966
PIVKey	C910 PKI
NIST	PIV1
IDENTIV	PIV programmed cards
	uTrust
Transport cards	Oyster (London) MIFARE DESFire
	T-Money (Korea)
	Octopus Card (Hong Kong)
	SUICA (Japan)

Contacted smart-card reader

The following table lists the contacted smart-card reader specifications of your Dell Pro Max 14 MC14255.

Table 30. Contacted smart-card reader specifications

Title	Description	Dell ControlVault 3 smart-card reader
ISO 7816 -3 Class A Card Support	Reader capable of reading 5V powered smart mcard	Yes
ISO 7816 -3 Class B Card Support	Reader capable of reading 3V powered smart card	Yes
ISO 7816 -3 Class C Card support	Reader capable of reading 1.8V powered smart card	Yes
ISO 7816-1 Compliant	Specification for the reader	Yes
ISO 7816 -2 Compliant	Specification for smart card device physical characteristics (size, location of connection points, etc.)	Yes
T=0 support	Cards support character level transmission	Yes
T=1 support	Cards support block level transmission	Yes
EMVCo Compliant	Compliant with EMVCo (for electronic payment standards) smart card standards as posted to www.emvco.com	Yes
EMVCo Certified	Formally certified based on EMVCO smart card standards	Yes
PC/SC OS interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers.	Yes
Windows Certified	Device certified by WHCK	Yes
FIPS 201 (PIV/HSPD-12) Compliant via GSA	Device compliant with FIPS 201/PIV/HSPD-12 requirements	Yes
FIDO2 compliance	Dell ControlVault 3 Smart-card reader is compliant with the FIDO SPEC	Yes

Operating and storage environment

This table lists the operating and storage specifications of your Dell Pro Max 14 MC14255.

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

Table 31. 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

Table 31. Computer environment (continued)

Description	Operating	Storage
Shock (maximum)	110 G†	160 G†
Altitude range	-15.2 m to 3048 m (-49.87 ft to 10,000 ft)	-15.2 m to 10,668 m (-49.87 ft to 35,000 ft)

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

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

† Measured using a 2 ms half-sine pulse.

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, and more.

For Dell Pro Max 14 MC14255 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.
- ⚠ 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

About this task

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

Steps

1. Save and close all open files and exit all open applications.
 2. Shut down your computer. For Windows operating system, click **Start > ⏪ Power > Shut down**.
- i NOTE:** If you are using a different operating system, see the documentation of your operating system for instructions.

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

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

8. Enter the Service Mode.

Service Mode

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

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

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

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

The computer shuts down and enters the Service Mode.

Safety precautions

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

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

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

Bonding

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

Electrostatic discharge—ESD protection

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

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

- **Catastrophic** – Catastrophic failures represent approximately 20 percent of ESD-related failures. The damage causes an immediate and complete loss of device functionality. An example of catastrophic failure is a memory module that has received a static shock and immediately generates a "No POST/No Video" symptom with a beep code that is emitted for missing or nonfunctional memory.

- **Intermittent** – Intermittent failures represent approximately 80 percent of ESD-related failures. The high rate of intermittent failures means that most of the time when damage occurs, it is not immediately recognizable. The memory module receives a static shock, but the tracing is merely weakened and does not immediately produce outward symptoms that are related to the damage. The weakened trace may take weeks or months to melt, and in the meantime may cause degradation of memory integrity, intermittent memory errors, and so on.

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

Perform the following steps to prevent ESD damage:

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

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

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

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

ESD Field Service kit

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

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

Working environment

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

ESD packaging

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

Components of an ESD Field Service kit

The components of an ESD Field Service kit are:

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

placed directly on the anti-static mat. ESD-sensitive items are safe in your hand, on the anti-static mat, in the computer, or inside an ESD bag.

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

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

Transporting sensitive components

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

After working inside your computer

About this task

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

Steps

1. Replace all screws and ensure that no stray screws remain inside your computer.
 2. Connect any external devices, peripherals, or cables you removed before working on your computer.
 3. Replace any media cards, disks, or any other parts that you removed before working on your computer.
 4. Connect your computer to their electrical outlets.
-  **NOTE:** To exit service mode, ensure to connect the AC adapter to the power-adapter port on your computer.
5. Press the power button to turn on the computer.

BitLocker

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

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

The installation of the following components triggers BitLocker:

- Hard disk drive or solid state drive
- System board

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver #0
- 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 32. Screw list

Component	Screw type	Quantity	Screw image
Base cover	Captive screw (i) NOTE: Screws are part of the base cover.	8	
Battery	M2x4	5	
Solid state drive bracket	M2x3	2	
Solid state drive	M2x4	1	
Wireless-card bracket	M2x3	1	
Speakers	M1.6x3	4	
Fan	M2x4	2	
Battery frame	M2x3	7	
USH board	M2x2	2	
Smart-card reader	M2x2.2	4	
Heat sink	Captive screw (i) NOTE: Screws are part of the heat sink.	4	
I/O board	M2x3	2	
Fingerprint-reader bracket	M2x4	1	

Table 32. Screw list (continued)

Component	Screw type	Quantity	Screw image
Power button	M2x2	1	
Display-cable bracket	M2x3	3	
Display assembly	M2.5x4.5	6	
Display panel	M2x3	4	
Display hinges	M2.5x3.5	6	
System board	M2x6	2	
	M2x3	3	
USB Type-C module	M2x5	3	
Keyboard	M2x2.2	18	
Keyboard bracket	M2x2.2	3	

Major components of Dell Pro Max 14 MC14255

The following image shows the major components of Dell Pro Max 14 MC14255.

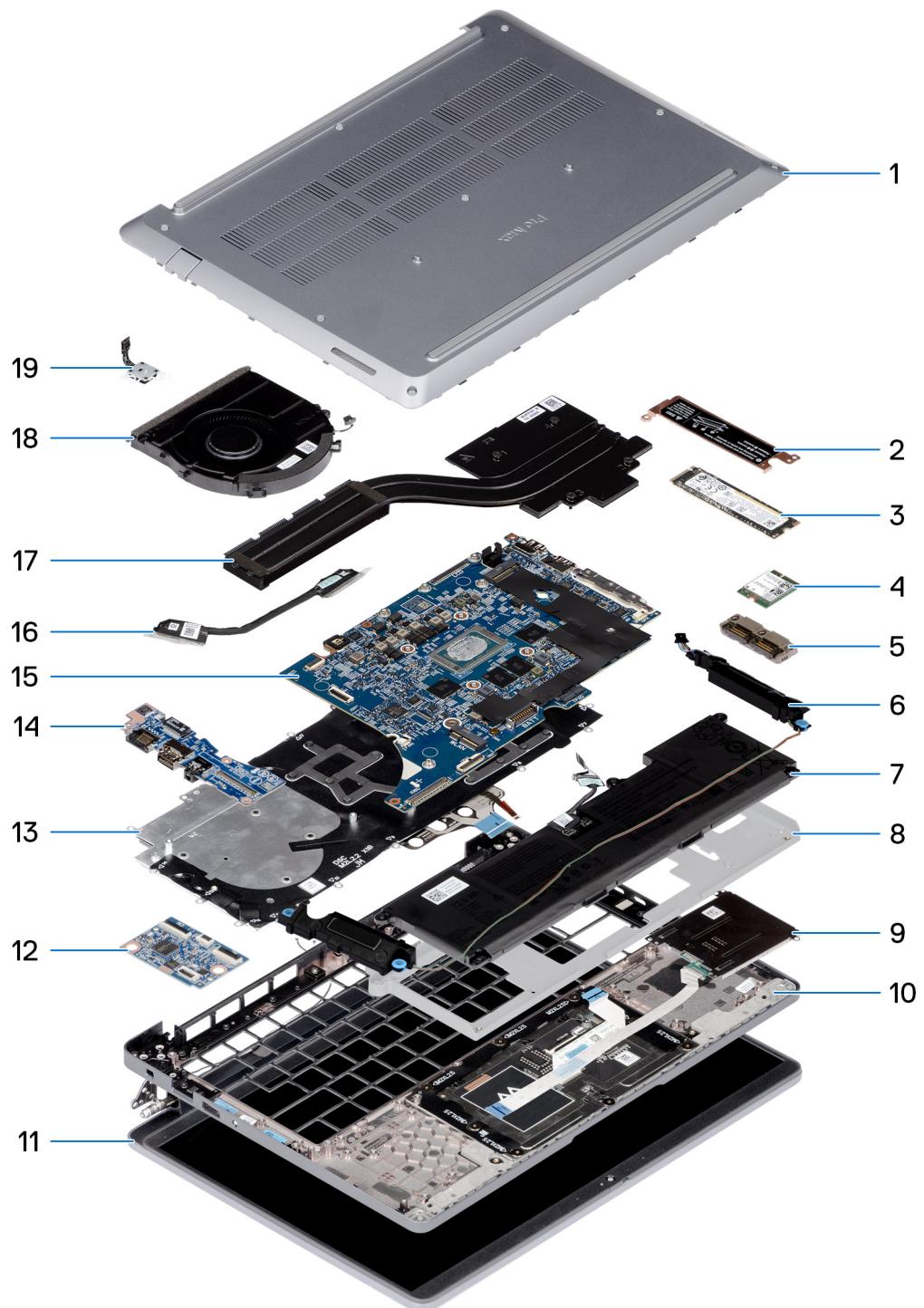


Figure 10. Major components of your Dell Pro Max 14 MC14255

1. Base cover
2. Solid state drive bracket
3. Solid state drive
4. Wireless card
5. USB Type-C module
6. Speakers
7. Battery
8. Battery frame
9. Smart-card reader

10. Palm-rest assembly
11. Display assembly
12. USH board
13. Keyboard assembly
14. I/O board
15. System board
16. I/O-board cable
17. Heat sink
18. Fan
19. Power button with optional fingerprint reader

 **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 14 MC14255 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 33. CRU and FRU list

Customer Replaceable Unit (CRU)	Field Replaceable Unit (FRU)
Base cover	Battery frame
Battery	USH board
Battery cable	Smart-card reader
Solid state drive	Heat sink
Wireless card	I/O board
Speakers	Power button
Fan	Display assembly
	Display bezel
	Display panel
	Display hinges
	Display cable
	Camera
	Display back-cover and antenna assembly
	System board
	USB Type-C module
	Keyboard
	Palm-rest assembly