



Maintenance and Service Guide

HP 14 Laptop PC

Models: 14-dq6xxx

SUMMARY

This guide provides maintenance information about such topics as spare parts, removal and replacement of parts, security, and backing up.

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Product notice

This guide describes features that are common to most models. Some features may not be available on your computer.

To access the latest user guides, go to <http://www.hp.com/support>, and follow the instructions to find your product. Then select **Manuals**.

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For any further information or to request a full refund of the price of the computer, please contact your seller.

Safety warning notice

Reduce the possibility of heat-related injuries or of overheating the computer by following the practices described.

 **WARNING!** To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to come into contact with the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter provided by HP comply with the user-accessible surface temperature limits defined by applicable safety standards.

Important notice about Customer Self-Repair parts

Your computer includes Customer Self-Repair parts and parts that should be accessed only by an authorized service provider.



IMPORTANT: See [Removal and replacement procedures for Customer Self-Repair parts on page 34](#) for details.

Accessing parts described in [Removal and replacement procedures for authorized service provider parts on page 41](#) can damage the computer or void your warranty.

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1 Product description

This table provides detailed product information.

Table 1-1 Product components and their descriptions

Category	Description
Product Name	HP 14 Laptop PC
	Model numbers: 14-dq6xxx
Processors	Intel® processors
	Intel N250 processor
	Intel N150 processor
Graphics	Integrated Graphics
	Intel Graphics
Display panel	14.0 in (35.6 cm), antiglare, 45% NTSC
	FHD (1920 × 1080), LED, ultra wide viewing angle (UWVA), embedded DisplayPort™ (eDP) 1.2 without Panel Self-Refresh (PSR), low power, 300 nits
	FHD (1920 × 1080), WLED, standard viewing angle (SVA), eDP 1.2 without PSR, 250 nits
	HD (1366 × 768), WLED, SVA, touch-on panel (TOP), eDP 1.2 without PSR, 250 nits
	HD (1366 × 768), WLED, SVA, eDP, 250 nits
Memory	DDR4-3200, single-channel support
	One SODIMM slot
	Not accessible, not upgradeable
	Supports the following configurations:
	<ul style="list-style-type: none">• 16 GB
	<ul style="list-style-type: none">• 8 GB
	<ul style="list-style-type: none">• 4 GB
Primary storage	Embedded MultiMedia Controller (eMMC) 5.0
	64 GB
	Universal Flash Storage (UFS) v3.x
	128 GB
Audio	Dual speakers
	Supports XiaoWei
Video	HP True Vision HD Camera (indicator LED, USB 2.0)
	720p by 30 frames per second
	Dual-array microphone with appropriate software - beam forming, echo cancellation, noise suppression

Table 1-1 Product components and their descriptions (continued)

Category	Description
	Narrow field-of-view (NFOV)
	Indicator LED
	HD BSI sensor, f2.0
Wireless	Wireless Local Area Network (WLAN) (dual antennas)
	MediaTek MT7920 Wi-Fi® 6 + Bluetooth® 5.4
	Realtek 8852BE-VT Wi-Fi 6 + Bluetooth 5.4
Ports	USB 3.2 Gen 2 Type-C® (right side)
	USB 3.2 Gen 1 Type-A (2 on right side)
	HDMI v1.4b
	HDMI v2.1
	AC smart pin adapter plug
	Audio-out (headphone)/audio-in (microphone) combo jack
Keyboard/pointing devices	Keyboard with clickpad
	Backlit or not backlit
	Clickpad requirements
	Clickpad with image sensor
	Multitouch gestures enabled
	Precision Touchpad
	Modern Trackpad Gestures
	Taps enabled by default
Multimedia card	HP Multi-Format Digital Media Card Reader
Power requirements	Battery
	41 Whr, 3 cell
	Long life, fast charge
	Smart AC adapter (nPFC)
	45 W, straight, USB Type-C, 1.8 m (6 ft)
	45 W, right angle, 3 pin, 4.5 mm
	Power cord
	C5, conventional, power cord with sticker, 1.0 m (3.3 ft)
Security	Trusted Platform Module TPM 2.0 - Firmware
Operating system	Windows® 11 Pro
	Windows 11 Pro High End
	Windows 11 Pro High End China
	Windows 11 Pro China

Table 1-1 Product components and their descriptions (continued)

Category	Description
	Windows 11 Pro Value
	Windows 11 Pro Value China
	Windows 11 Pro Entry
	Windows 11 Pro Entry China
	Windows 11 Home 64 Desktop AIO Chinese Market CPPP
	Windows 11 Home in S Mode for Developed Markets (ML)
	Windows 11 Home in S Mode Advanced ML
	Windows 11 Home in S Mode Plus ML
	Windows 11 Home in S Mode ML
	Windows 11 Home in S Mode Value ML
	Windows 11 Home in S Mode Entry ML
	Windows 11 Home in S Mode for Emerging Markets (EM/SL)
	Windows 11 Home in S Mode Advanced SL
	Windows 11 Home in S Mode Plus SL
	Windows 11 Home in S Mode SL
	Windows 11 Home in S Mode Value SL
	Windows 11 Home in S Mode Entry SL
	Windows 11 Home in S Mode for China Market
	Windows 11 Home in S Mode High End CPPP
	Windows 11 Home in S Mode CPPP
	Windows 11 Home in S Mode for APAC Markets
	Windows 11 Home in S Mode Plus SL APAC PPP
	Windows 11 Home in S Mode SL APAC PPP
	Windows 11 Home in S Mode Value SL APAC PPP
	Windows 11 Home in S Mode Entry SL APAC PPP
	Windows 11 Home in S Mode for Africa Markets
	Windows 11 Home in S Mode SL Africa PPP
	Windows 11 Home in S Mode for Indonesia Market
	Windows 11 Home in S Mode Plus SL Indonesia PPP (IDPPP)
	Windows 11 Home in S Mode SL Indonesia PPP (IDPPP)
	Windows 11 Home in S Mode Value SL Indonesia PPP (IDPPP)
	Windows 11 Home in S Mode Entry SL Indonesia PPP (IDPPP)
	Windows 11 Home in S Mode for India Market
	Windows 11 Home in S Mode Plus SL India PPP (IPPP)

Table 1-1 Product components and their descriptions (continued)

Category	Description
	Windows 11 Home in S Mode SL India PPP (IPPP)
	Windows 11 Home in S Mode Value SL India PPP (IPPP)
	Windows 11 Home in S Mode Entry SL India PPP (IPPP)
	Windows 11 Home for Developed Market (ML)
	Windows 11 Home Advanced ML
	Windows 11 Home Plus ML
	Windows 11 Home ML
	Windows 11 Home for Developed Market (ML)
	Windows 11 Home Advanced ML
	Windows 11 Home Plus ML
	Windows 11 Home ML
	Windows 11 Home for Emerging Market (EM/SL)
	Windows 11 Home Advanced SL
	Windows 11 Home Plus SL
	Windows 11 Home SL
	Windows 11 Home Value SL
	Windows 11 Home Entry SL
	Windows 11 Home for China Market
	Windows 11 Home High End China PPP (CPPP)
	Windows 11 Home China PPP (CPPP)
	Windows 11 Home for India Market
	Windows 11 Home Plus SL India PPP (IPPP)
	Windows 11 Home SL India PPP (IPPP)
	Windows 11 Home Value SL India PPP (IPPP)
	Windows 11 Home Entry SL India PPP (IPPP)
	Windows 11 Home for Indonesia Market
	Windows 11 Home Plus SL Indonesia PPP (IDPPP)
	Windows 11 Home SL Indonesia PPP (IDPPP)
	Windows 11 Home Value SL Indonesia PPP (IDPPP)
	Windows 11 Home Entry SL Indonesia PPP (IDPPP)
	Windows 11 Home for APAC Market
	Windows 11 Home Plus SL APAC PPP
	Windows 11 Home SL APAC PPP
	Windows 11 Home Value SL APAC PPP

Table 1-1 Product components and their descriptions (continued)

Category	Description
	Windows 11 Home Entry SL APAC PPP
	Windows 11 Home for Africa PPP Market
	Windows 11 Home Plus SL Africa PPP
	Windows 11 Home SL Africa PPP
	Windows 11 Home Value SL Africa PPP
	Windows 11 Home Entry SL Africa PPP
Serviceability	End user replaceable parts
	AC adapter
	Battery

2 Getting to know your computer

Your computer features top-rated components. This chapter provides details about your components, where they are located, and how they work.

Right side

Identify the components on the right side of the computer.

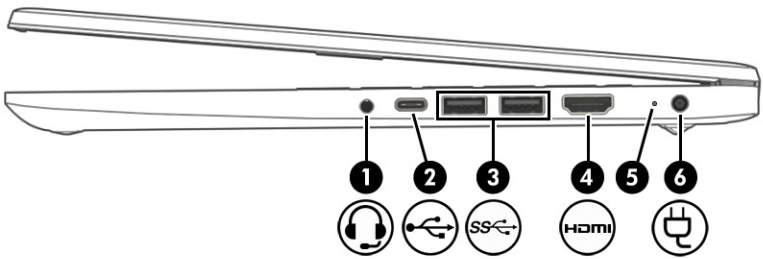


Table 2-1 Right-side components and their descriptions






Compo nents	Description
(1) 	<p>Audio-out (headphone)/Audio-in (microphone) combo jack</p> <p>Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional standalone microphones.</p> <p>WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the <i>Regulatory, Safety, and Environmental Notices</i>.</p> <p>To access this guide:</p> <ul style="list-style-type: none">■ Select the Search icon in the taskbar, type HP Documentation in the search box, and then select HP Documentation. <p>NOTE: When a device is connected to the jack, the computer speakers are disabled.</p>
(2) 	<p>USB Type-C® port</p> <p>Connects a USB device, provides data transfer, and (for select products) charges small devices (such as a smartphone) when the computer is on or in Sleep mode.</p> <p>NOTE: Use a standard USB Type-C charging cable or cable adapter (purchased separately) when charging a small external device.</p>

Table 2-1 Right-side components and their descriptions (continued)

Compo nents	Description
(3) 	USB 5 Gbps ports (2) Connect a USB device, provide high-speed data transfer, and (for select products) charge small devices (such as a smartphone) when the computer is on or in Sleep mode. NOTE: Use a standard USB Type-A charging cable or cable adapter (purchased separately) when charging a small external device.
(4) 	HDMI port Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed High-Definition Multimedia Interface (HDMI) device.
(5)	AC adapter and battery light <ul style="list-style-type: none">• White: The AC adapter is connected and the battery is fully charged.• Blinking amber: The AC adapter is disconnected and the battery has reached a low battery level.• Amber: The AC adapter is connected and the battery is charging.• Off: The battery is not charging.
(6) 	Power connector Connects an AC adapter.

Left side

Identify the components on the left side of the computer.

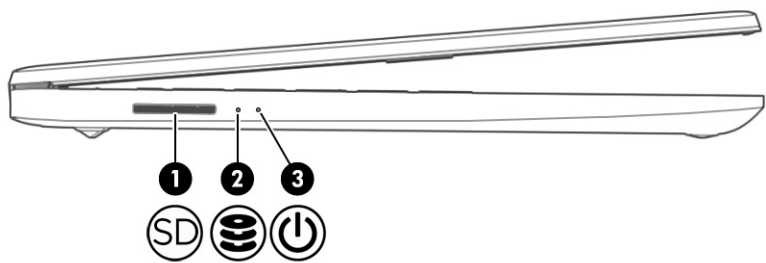





Table 2-2 Left-side components and their descriptions

	Component	Description
(1)	 Memory card reader (select products only)	<p>Reads optional memory cards that enable you to store, manage, share, or access information.</p> <p>To insert a card:</p> <ol style="list-style-type: none"> 1. Hold the card label-side up, with connectors facing the computer. 2. Insert the card into the memory card reader, and then press in on the card until it is firmly seated. <p>To remove a card:</p> <ul style="list-style-type: none"> ■ Press in on the card, and then remove it from the memory card reader.
(2)	 Drive light (select products only)	<ul style="list-style-type: none"> • Blinking white: The hard drive is being accessed. • Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(3)	 Power light	<ul style="list-style-type: none"> • On: The computer is on. • Blinking: (select products only): The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unnecessary components. • Off: Depending on your computer model, the computer is off, in Hibernation, or in Sleep. Hibernation is the power-saving state that uses the least amount of power.

Display

The computer display can include essential components such as speakers, antennas, cameras, and microphones.

Low blue light mode (select products only)

Your computer display is shipped from the factory in low blue light mode for improved eye comfort and safety. Also, blue light mode automatically adjusts blue light emissions when you are using the computer at night or for reading.

⚠ WARNING! To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup and proper posture, health, and work habits for computer users. The *Safety & Comfort Guide* also provides important electrical and mechanical safety information. The *Safety & Comfort Guide* is available on the web at <http://www.hp.com/ergo>.

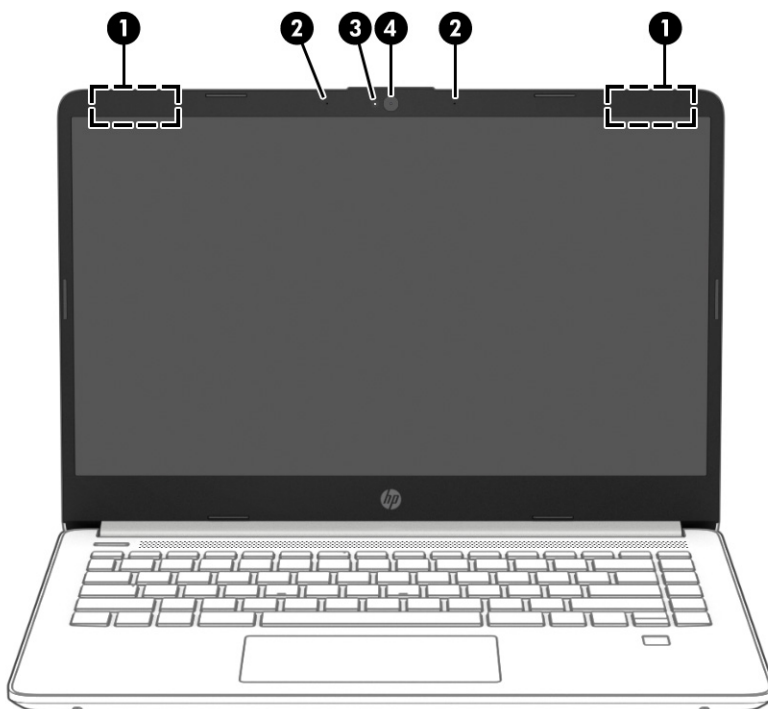


Table 2-3 Display components and their descriptions

	Component	Description
(1)	WLAN antennas* (select products only) (2)	Send and receive wireless signals to communicate with wireless local area networks (WLANs).
(2)	Internal microphones (2)	Record sound.
(3)	Camera light	On: The camera is in use.
(4)	Camera	Allows you to video chat, record video, and record still images. Some cameras also allow a facial recognition logon to Windows®, instead of a password logon.
NOTE: Camera functions vary depending on the camera hardware and software installed on your product.		

*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions.

For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region.

To access this guide:

- Select the **Search** icon in the taskbar, type **HP Documentation** in the search box, and then select **HP Documentation**.

Keyboard area

Keyboards can vary by language.



NOTE: The keyboard area, including the function keys and (select products only) power key, is disabled in stand, tent, and tablet modes. To enable the keyboard, including the power key, change to the clamshell mode.

Touchpad settings and components

Learn the touchpad settings and components.

Touchpad settings

Learn how to adjust touchpad settings.

Adjusting touchpad settings

Use these steps to adjust touchpad settings and gestures.

1. Select the **Search** icon in the taskbar, type `touchpad settings` in the search box, and then press `enter`.
2. Choose a setting.

Turning on the touchpad

Follow these steps to turn on the touchpad.

1. Select the **Search** icon in the taskbar, type `touchpad settings` in the search box, and then press `enter`.
2. Using an external mouse, click the **touchpad** button.

If you are not using an external mouse, press the **Tab** key repeatedly until the pointer rests on the **touchpad** button. Then press the `spacebar` to select the button.

Touchpad components

Identify the touchpad components.

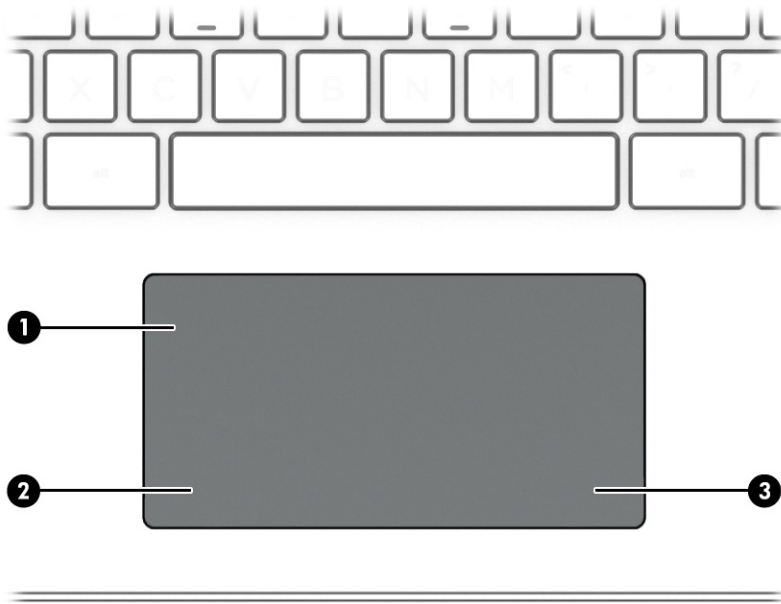


Table 2-4 Touchpad components and their descriptions

Component		Description
(1)	Touchpad zone	Reads your finger gestures to move the pointer or activate items on the screen.
(2)	Left control zone	Textured area that allows you to perform additional gestures.
(3)	Right control zone	Textured area that allows you to perform additional gestures.

Lights

Identify the lights on the computer.

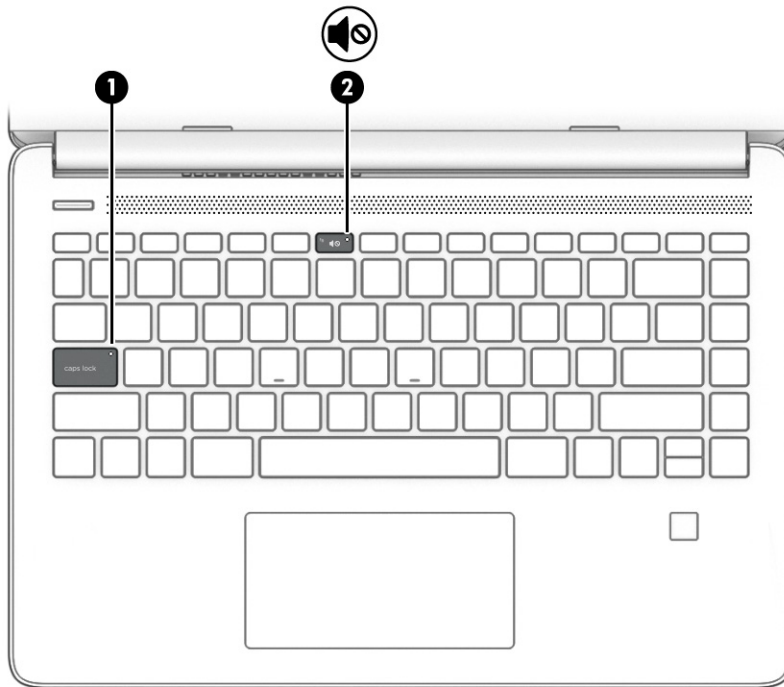

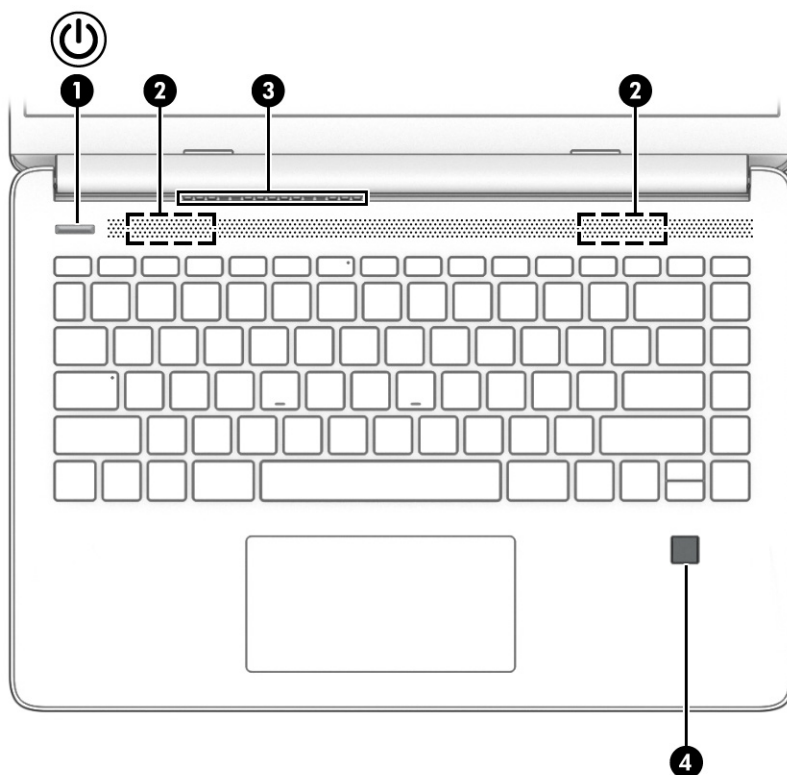


Table 2-5 Lights and their descriptions

	Component	Description
(1)	Caps lock light	On: Caps lock is on, which switches the key input to all capital letters.
(2)	 Mute light	<ul style="list-style-type: none">• On: Computer sound is off.• Off: Computer sound is on.

Buttons, speakers, and fingerprint reader

Identify the computer buttons, speakers, and fingerprint reader.



Fingerprint readers, which enable a fingerprint logon, can be located on the touchpad, on a side panel of the computer, or on the top cover below the keyboard.




 **IMPORTANT:** To verify that your computer supports fingerprint reader sign-in, select the **Search** icon in the taskbar, type `Sign-in options` in the search box and press [enter](#). If **Fingerprint recognition** is not listed as an option, then your computer does not include a fingerprint reader.

Table 2-6 Buttons, speakers, and fingerprint reader and their descriptions

	Component	Description
(1)	 Power button	<ul style="list-style-type: none"> When the computer is off, press the button briefly to turn on the computer. When the computer is on, press the button briefly to initiate Sleep. When the computer is in the Sleep state, press the button briefly to exit Sleep (select products only). When the computer is in Hibernation, press the button briefly to exit Hibernation. <p>IMPORTANT: Pressing and holding down the power button results in the loss of unsaved information.</p> <p>If the computer has stopped responding and shutdown procedures are ineffective, press and hold the power button down for at least 10 seconds to turn off the computer.</p> <p>To learn more about your power and sleep settings:</p> <ul style="list-style-type: none"> Right-click the Power icon , and then select Power and sleep settings.
(2)	Speakers (2)	Produce sound.
(3)	Vent	Enables airflow to cool internal components. <p>NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.</p>
(4)	Fingerprint reader (select products only)	Allows a fingerprint logon to Windows, instead of a password logon. <ul style="list-style-type: none"> Swipe the upper-left corner of the touchpad. <p>IMPORTANT: To prevent fingerprint logon issues, make sure when you register your fingerprint that all sides of your finger are registered by the fingerprint reader.</p>

Special keys

Identify the special keys.

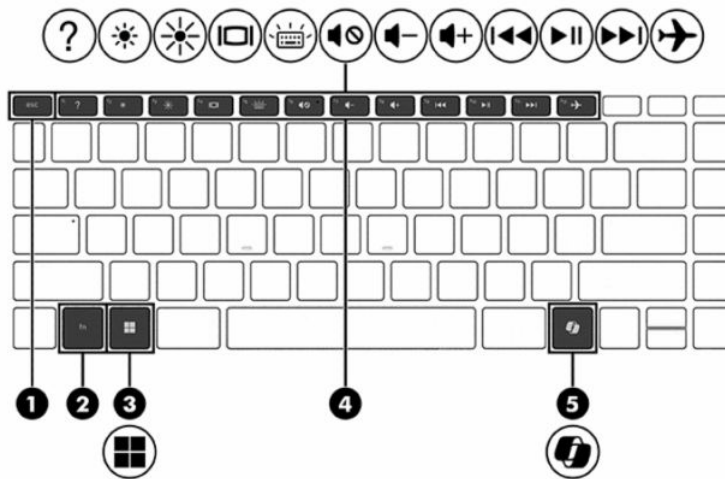


Table 2-7 Special keys and their descriptions

	Component	Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	fn key	Executes specific functions when pressed in combination with another key.
(3)	Windows key	Opens the Start menu. NOTE: Pressing the Windows key again will close the Start menu.
(4)	Action keys	Execute frequently used system functions as defined by the icon symbols on f1 through f12 function keys.
(5)	Copilot key	Opens Windows Copilot (select products only). Copilot in Windows (select products only) requires Windows 11. Some features require a neural processing unit (NPU). The timing of feature delivery and availability varies by market and device. You must have a Microsoft account to use the Copilot feature. When the Copilot feature is not available, pressing the Copilot key opens the Bing search engine. See http://aka.ms/WindowsAIFeatures .

Bottom

Identify the bottom components.

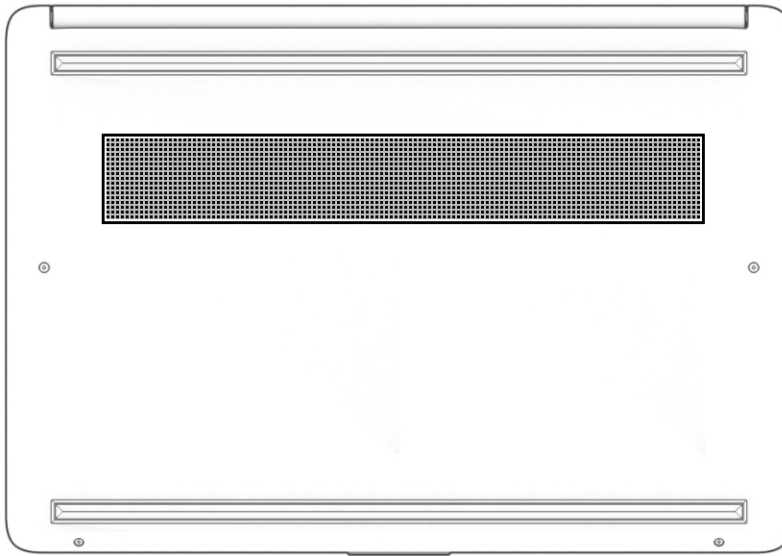



Table 2-8 Bottom component and its description

Component	Description
Vent	Enables airflow to cool internal components. NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.

Labels

The labels affixed to the computer provide information that you might need when you troubleshoot system problems or travel internationally with the computer. Labels can be in paper form or imprinted on the product.

 **IMPORTANT:** Check the following locations for the labels described in this section: the bottom of the computer, inside the battery bay, under the service door, on the back of the display, or on the bottom of a tablet kickstand.

- Service label—Provides important information to identify your computer. When contacting support, you might be asked for the serial number, the product number, or the model number. Locate this information before you contact support.

Your service label will resemble the following example.




Table 2-9 Service label components

Component	
(1)	Serial number
(2)	Product ID
(3)	HP product name and model number

- Regulatory labels—Provide regulatory information about the computer.
- Wireless certification labels—Provide information about optional wireless devices and the approval markings for the countries or regions in which the devices have been approved for use.

Using a SIM card (select products only)

Use these instructions to insert a SIM card.

 **IMPORTANT:** You can damage the SIM card if you insert the wrong size card or insert it or the SIM card tray in the wrong direction. The card might also become stuck in the slot. Do not use SIM card adapters. To prevent damage to the SIM card or connectors, use minimal force when inserting or removing a SIM card.

Determining the correct SIM card size for your computer


Before purchasing a SIM card, follow these instructions to determine the correct SIM card size for your computer.


1. Go to <http://www.hp.com/support>, and then search for your computer by product name or number.
2. Select **Product Information**.
3. Refer to the listed options to determine which card to purchase.

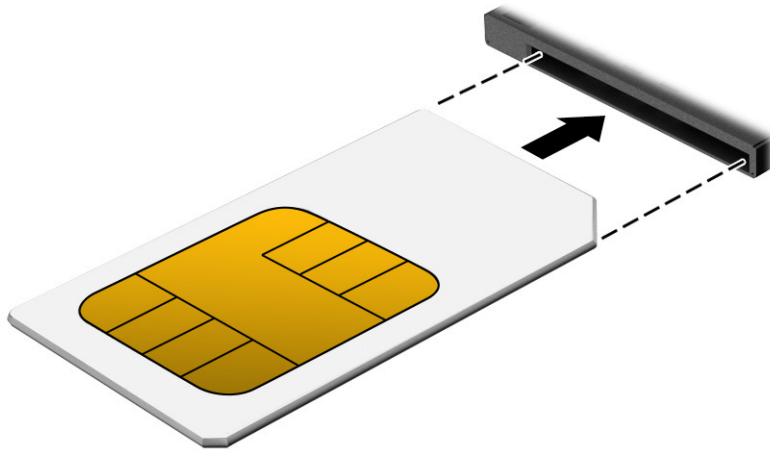
Inserting a SIM card in an external slot

To insert a SIM card in an external slot, follow these steps.

1. Turn off the computer by using the Shut down command.
2. Insert the SIM card into the SIM card slot, and then press in on the SIM card until it is firmly seated.

 **NOTE:** Your SIM card or the SIM card slot in your computer might look different from the illustration in this section.

 **NOTE:** Your SIM card slot may have an icon to show which way the card should be inserted into the computer.



To remove the SIM card, press in gently on the card to disengage the SIM lock, and then remove it from the slot.


3 Illustrated parts catalog

Use this chapter to determine the spare parts that are available for the computer.

Computer major components

To identify the computer major components, use this illustration and table.

 **NOTE:** HP continually improves and changes product parts. For complete and current information about supported parts for your computer, go to <http://partsurfer.hp.com>, select your country or region, and then follow the on-screen instructions.

 **NOTE:** Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer.

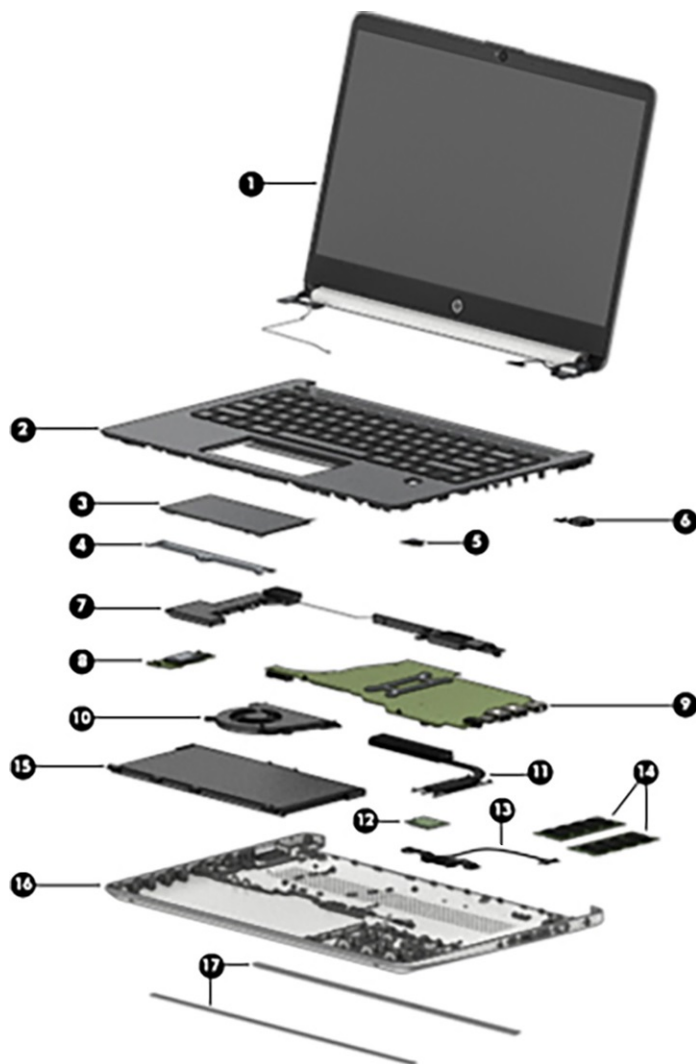


Table 3-1 Computer major component descriptions and part numbers

Item	Component	Spare part number
(1)	Display assembly NOTE: Display assemblies are offered as spare parts only at a subcomponent level. For more information, see Display assembly subcomponents on page 21 .	
(2)	Top cover with keyboard For a detailed list of country codes, see Top cover with keyboard on page 64 .	
	Natural silver, with fingerprint reader, not backlit keyboard	L61506-xx1
	Natural silver, with fingerprint reader, backlit keyboard	L61507-xx1
	Natural silver, no fingerprint reader, not backlit keyboard	L88206-xx1
	Natural silver, with fingerprint reader, not backlit keyboard, CO	P25909-xx1
	Natural silver, with fingerprint reader, backlit keyboard, CO	P25910-xx1
	Natural silver, no fingerprint reader, not backlit keyboard, CO	P25911-xx1
	Natural silver, no fingerprint reader, backlit keyboard, CO	P25912-xx1
	Snowflake white, not backlit keyboard	L61508-xx1
	Snowflake white, backlit keyboard	L61509-xx1
	Snowflake white, no fingerprint reader, not backlit keyboard	P25914-xx1
	Snowflake white, no fingerprint reader, backlit keyboard, CO	P25915-xx1
	Jet black, no fingerprint reader, not backlit keyboard	M03796-xx1
	Jet black, no fingerprint reader, not backlit keyboard, CO	P25913-xx1
	Indigo blue, no fingerprint reader, not backlit keyboard	M03797-xx1
(3)	Touchpad NOTE: The touchpad cable is available as spare part number L64900-001.	
	Natural silver	L64897-001
	Snowflake white	L64899-001
	Jet black	M03782-001
	Indigo blue	M03783-001
(4)	Touchpad bracket	not available as a spare part
(5)	Fingerprint reader board The fingerprint reader board cable is available as spare part number L64902-001-001.	P34242-001
(6)	Power connector cable	808155-010
(7)	Speakers	M16590-001
(8)	Power button/card reader board NOTE: The power button/card reader board cable is available as spare part number L64887-001.	L64886-001
(9)	System board (includes processor and system storage)	

Table 3-1 Computer major component descriptions and part numbers (continued)

Item	Component	Spare part number
	Intel N250 processor, 128 GB UFS memory	P25894-601
	Intel N250 processor, 64 GB eMMC memory	P25892-601
	Intel N150 processor, 128 GB UFS memory	P25898-601
	Intel N150 processor, 64 GB eMMC memory	P25896-601
(10)	Fan	L63588-001
(11)	Heat sink (includes replacement thermal material)	P25916-001
(12)	WLAN module	N85245-001
	MediaTek MT7920 Wi-Fi 6 + Bluetooth 5.4	P17386-005
	Realtek 8852BE-VT Wi-Fi 6 + Bluetooth 5.4	P06350-005
(13)	Battery connector	L64889-001
(14)	Memory modules (DDR4-3200)	
	8 GB	L46598-005
	4 GB	L83673-005
(15)	Battery	L11119-855
(16)	Bottom cover	P24057-001
	Natural silver	L64894-001
	Snowflake white	L64896-001
	Jet black	M03777-001
	Indigo blue	M03778-001
	Pale rose gold	M29047-001
	Moonlight blue	P08130-001
	Winter lavender	P08134-001
(17)	Feet	
	Natural silver	L65866-001
	Jet black	M03779-001
	Indigo blue	M03780-001
	Pale rose gold	M29049-001
	Moonlight blue	P08132-001
	Winter lavender	P08136-001

Display assembly subcomponents

To identify the display assembly subcomponents, use this illustration and table.

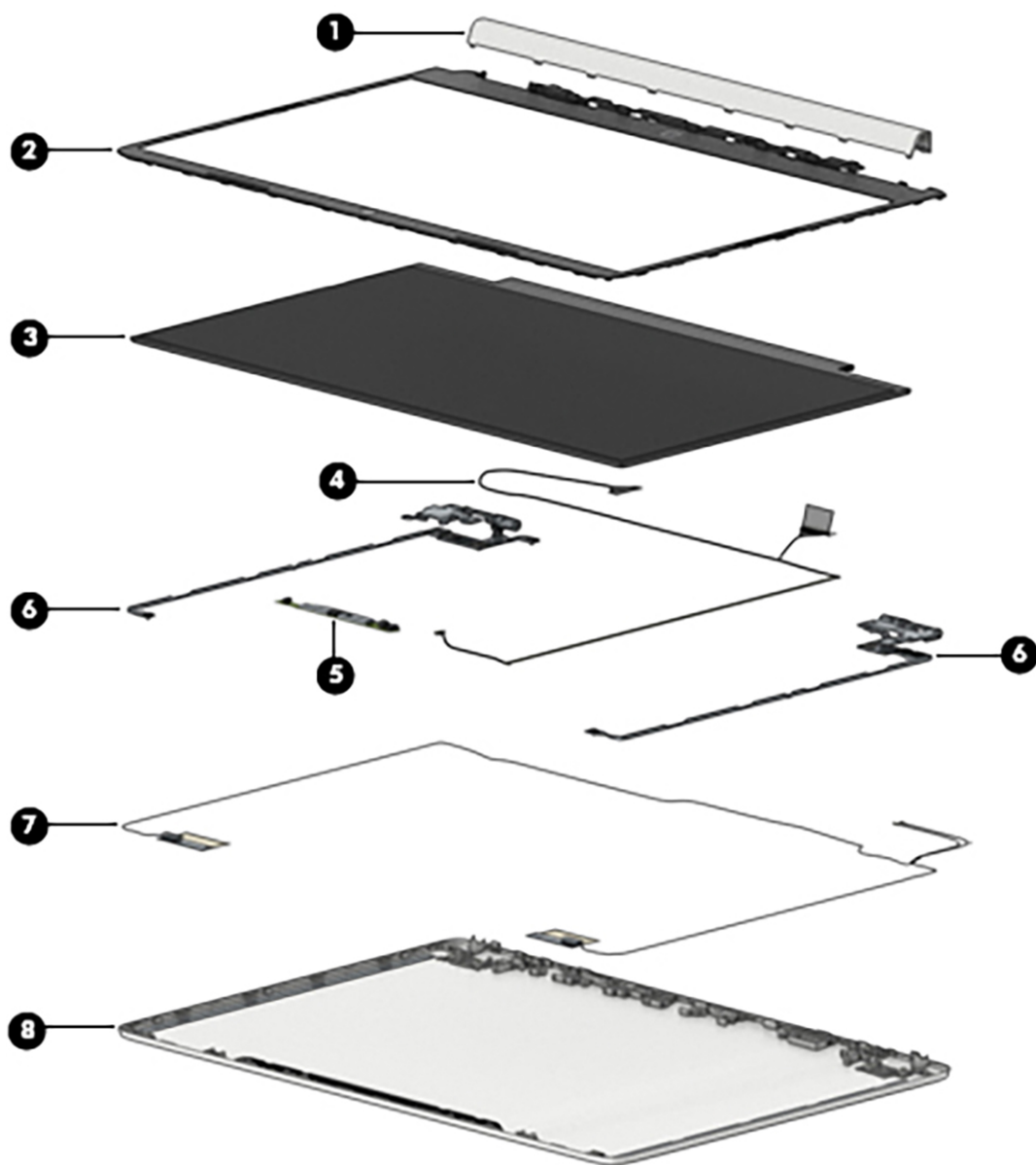


Table 3-2 Display component descriptions and part numbers

Item	Component	Spare part number
(1)	Hinge cover	
	Natural silver	L64911-001
	Snowflake white	L64913-001
	Jet black	M03788-001
	Indigo blue	M03789-001
	Pale rose gold	M29048-001
	Moonlight blue	P08131-001
	Winter lavender	P08135-001

Table 3-2 Display component descriptions and part numbers (continued)

Item	Component	Spare part number
(2)	Display bezel (includes hinge cover)	L64907-001
(3)	Display panel NOTE: The display panel adhesive kit is available as spare part number M27499-001.	
	HD, SVA, 250 nits, nontouch	M13564-001
	HD, SVA, 250 nits, touch	P25907-001
	FHD, SVA, 250 nits, nontouch	M13563-001
	FHD, UWVA, 300 nits, nontouch	P25908-001
(4)	Display cable	P24067-001
	Touch displays	L64908-001
	Nontouch displays	L64909-001
(5)	Camera module	N07276-001
(6)	Hinges (includes left and right display hinges)	L64910-001
(7)	Wireless antennas NOTE: Included with the Display Back Cover spare part kits.	
(8)	Display back cover (includes wireless antennas)	P24059-001
	Natural silver	L66227-001
	Snowflake white	L66229-001
	Jet black	M03785-001
	Indigo blue	M03786-001
	Pale rose gold	M29046-001
	Moonlight blue	P08129-001
	Winter lavender	P08133-001

Miscellaneous parts

To identify the miscellaneous parts, use this table.

Table 3-3 Miscellaneous part descriptions and part numbers

Component	Spare part number
AC adapter (nPFC)	
45 W (nonslim, RC, 4.5 mm)	741727-001
45 W (USB Type-C, 1.8 m [6 ft])	L43407-001
Adhesive kit (includes panel conductive tape, display cover tape, and bezel adhesives)	L64916-001
Screw Kit	L64915-001
External DVD drive	747080-001

Table 3-3 Miscellaneous part descriptions and part numbers (continued)

Component	Spare part number
Power cord (C5, 1.0 m [3.3 ft], conventional with sticker)	
For use in Argentina	L19357-001
For use in Australia	L19358-001
For use in Denmark	L19360-001
For use in India	L19363-001
For use in Italy	L19364-001
For use in Israel	L19362-001
For use in Japan	L19365-001
For use in North America	L19367-001
For use in the People's Republic of China	L19368-001
For use in South Africa	L19369-001
For use in South Korea	L19366-001
For use in Switzerland	L19370-001
For use in Taiwan	L19372-001
For use in Thailand (bundle)	M85418-001
For use in Thailand	L19371-001
For use in the United Kingdom	L19373-001

4 Removal and replacement procedures preliminary requirements

Use this information to properly prepare to disassemble and reassemble the computer.

Tools required

You need the following tools to complete the removal and replacement procedures:

- Tweezers
- Nonconductive, nonmarking pry tool
- Magnetic Phillips P1 screwdriver

Service considerations

The following sections include some of the considerations that you must keep in mind during disassembly and assembly procedures.



NOTE: As you remove each subassembly from the computer, place the subassembly and all accompanying screws away from the work area to prevent damage.

Plastic parts

Using excessive force during disassembly and reassembly can damage plastic parts.

Cables and connectors

Handle cables with extreme care to avoid damage.



IMPORTANT: When servicing the computer, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the computer.

Apply only the tension required to unseat or seat the cables during removal and insertion. Handle cables by the connector whenever possible. In all cases, avoid bending, twisting, or tearing cables. Be sure that cables are routed so that they cannot be caught or snagged as you remove or replace parts. Handle flex cables with extreme care; these cables tear easily.

Drive handling

Note the following guidelines when handling drives.



IMPORTANT: Drives are fragile components. Handle them with care. To prevent damage to the computer, damage to a drive, or loss of information, observe these precautions:

- Before removing or inserting a hard drive, shut down the computer. If you are unsure whether the computer is off or in Hibernation or Sleep mode, turn the computer on, and then shut it down through the operating system.

- Before handling a drive, be sure that you are discharged of static electricity. While handling a drive, avoid touching the connector.
 - Before removing an optical drive, be sure that a disc is not in the drive, and be sure that the optical drive tray is closed.
 - Handle drives on surfaces covered with at least 2.54 cm (1 inch) of shock-proof foam.
 - Avoid dropping drives from any height onto any surface.
 - After removing a hard drive or an optical drive, place it in a static-proof bag.
 - Avoid exposing an internal hard drive to products that have magnetic fields, such as monitors or speakers.
 - Avoid exposing a drive to temperature extremes or liquids.
 - If a drive must be mailed, place the drive in a bubble pack mailer or other suitable form of protective packaging, and label the package "FRAGILE."
-

Electrostatic discharge information

A sudden discharge of static electricity from your finger or other conductor can destroy static-sensitive devices or microcircuitry. Often the spark is neither felt nor heard, but damage occurs. An electronic device exposed to electrostatic discharge (ESD) might not appear to be affected at all and can work perfectly throughout a normal cycle. The device might function normally for a while, but it has been degraded in the internal layers, reducing its life expectancy.

Networks built into many integrated circuits provide some protection, but in many cases, the discharge contains enough power to alter device parameters or melt silicon junctions.



IMPORTANT: To prevent damage to the device when you remove or install internal components, observe these precautions:

- Keep components in their electrostatic-safe containers until you are ready to install them.
 - Before touching an electronic component, discharge static electricity by using the guidelines described in [Personal grounding methods and equipment on page 27](#).
 - Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.
 - If you remove a component, place it in an electrostatic-safe container.
-

Generating static electricity

Follow these static electricity guidelines:

- Different activities generate different amounts of static electricity.
- Static electricity increases as humidity decreases.

Table 4-1 Static electricity occurrence based on activity and humidity

Event	55% relative humidity	40% relative humidity	10% relative humidity
Walking across carpet	7,500 V	15,000 V	35,000 V
Walking across vinyl floor	3,000 V	5,000 V	12,000 V
Motions of bench worker	400 V	800 V	6,000 V
Removing dual in-line packages (DIPs) from plastic tube	400 V	700 V	2,000 V
Removing DIPs from vinyl tray	2,000 V	4,000 V	11,500 V
Removing DIPs from polystyrene foam	3,500 V	5,000 V	14,500 V
Removing bubble pack from PCB (printed circuit board)	7,000 V	20,000 V	26,500 V
Packing PCBs in foam-lined box	5,000 V	11,000 V	21,000 V



NOTE: Multiple electric components can be packaged together in plastic tubes, trays, or polystyrene foam.

As little as 700 V of static electricity can degrade a product.

Preventing electrostatic damage to equipment

Many electronic components are sensitive to ESD. Circuitry design and structure determine the degree of sensitivity.

The following packaging and grounding precautions are necessary to prevent static electricity damage to electronic components:

- To avoid hand contact, transport products in static-safe containers such as tubes, bags, or boxes.
- Protect all electrostatic parts and assemblies with conductive or approved containers or packaging.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free stations.
- Place items on a grounded surface before removing them from their container.
- Always be properly grounded when touching a sensitive component or assembly.
- Avoid contact with pins, leads, or circuitry.
- Place reusable electrostatic-sensitive parts from assemblies in protective packaging or conductive foam.

Personal grounding methods and equipment

Using certain equipment can prevent static electricity damage to electronic components.

- **Wrist straps** are flexible straps with a maximum of $1\text{ M}\Omega \pm 10\%$ resistance in the ground cords. To provide proper ground, wear a strap snug against bare skin. Verify that the ground cord is connected and fits snugly into the banana plug connector on the grounding mat or workstation.
- You can use **heel straps, toe straps, and boot straps** at standing workstations. These straps are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use them on both feet with a maximum of $1\text{ M}\Omega \pm 10\%$ resistance between the operator and ground.

Table 4-2 Static shielding protection levels

Method	Voltage
Antistatic plastic	1,500
Carbon-loaded plastic	7,500
Metallized laminate	15,000

Grounding the work area

To prevent static damage at the work area, follow these precautions:

- Cover the work surface with approved static-dissipative material.
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use static-dissipative mats, foot straps, or air ionizers to give added protection.
- Handle electrostatic sensitive components, parts, and assemblies by the case or PCB laminate. Handle them only at static-free work areas.
- Turn off power and input signals before inserting and removing connectors or test equipment.
- Use fixtures made of static-safe materials when fixtures must directly contact dissipative surfaces.
- Keep the work area free of nonconductive materials, such as ordinary plastic assembly aids and polystyrene foam.
- Use conductive field service tools, such as cutters, screwdrivers, and vacuums.
- Avoid contact with pins, leads, or circuitry.

Recommended materials and equipment

HP recommends certain materials and equipment to prevent static electricity:

- Antistatic tape
- Antistatic smocks, aprons, or sleeve protectors
- Conductive bins and other assembly or soldering aids
- Conductive foam
- Conductive tabletop workstations with ground cord of $1\text{ M}\Omega \pm 10\%$ resistance
- Static-dissipative table or floor mats with hard tie to ground
- Field service kits
- Static awareness labels
- Wrist straps and footwear straps providing $1\text{ M}\Omega \pm 10\%$ resistance
- Material handling packages
- Conductive plastic bags

- Conductive plastic tubes
- Conductive tote boxes
- Opaque shielding bags
- Transparent metallized shielding bags
- Transparent shielding tubes

Cleaning your computer

Cleaning your computer regularly removes dirt and debris so that your device continues to operate at its best. Use the following information to safely clean the external surfaces of your computer.

Enabling HP Easy Clean (select products only)

HP Easy Clean helps you to avoid accidental input while you clean the computer surfaces. This software disables devices such as the keyboard, touch screen, and touchpad for a preset amount of time so that you can clean all computer surfaces.


1. Start HP Easy Clean in one of the following ways:
 - Select the **Start** menu, and then select **HP Easy Clean**.
 - Select the **HP Easy Clean** icon in the taskbar.
 - Select **Start**, and then select the **HP Easy Clean** tile.
2. Now that your device is disabled for a short period, see [Removing dirt and debris from your computer on page 29](#) for the recommended steps to clean the high-touch, external surfaces on your computer. After you remove the dirt and debris, you can also clean the surfaces with a disinfectant. See [Cleaning your computer with a disinfectant on page 30](#) for guidelines to help prevent the spread of harmful bacteria and viruses.

Removing dirt and debris from your computer


Here are the recommended steps to clean dirt and debris from your computer.

For computers with wood veneer, see [Caring for wood veneer \(select products only\) on page 31](#).


1. Wear disposable gloves made of latex (or nitrile gloves, if you are latex-sensitive) when cleaning the surfaces.
2. Turn off your device and unplug the power cord and other connected external devices. Remove any installed batteries from items such as wireless keyboards.

 **CAUTION:** To prevent electric shock or damage to components, never clean a product while it is turned on or plugged in.

3. Moisten a microfiber cloth with water. The cloth should be moist, but not dripping wet.

 **IMPORTANT:** To avoid damaging the surface, avoid abrasive cloths, towels, and paper towels.

4. Wipe the exterior of the product gently with the moistened cloth.

 **IMPORTANT:** Keep liquids away from the product. Avoid getting moisture in any openings. If liquid makes its way inside your HP product, it can cause damage to the product. Do not spray liquids directly on the product. Do not use aerosol sprays, solvents, abrasives, or cleaners containing hydrogen peroxide or bleach that might damage the finish.

5. Start with the display (if applicable). Wipe carefully in one direction, and move from the top of the display to the bottom. Finish with any flexible cables, like power cord, keyboard cable, and USB cables.
6. Be sure that surfaces have completely air-dried before turning the device on after cleaning.
7. Discard the gloves after each cleaning. Clean your hands immediately after you remove the gloves.

See [Cleaning your computer with a disinfectant on page 30](#) for recommended steps to clean the high-touch, external surfaces on your computer to help prevent the spread of harmful bacteria and viruses.


Cleaning your computer with a disinfectant

The World Health Organization (WHO) recommends cleaning surfaces, followed by disinfection, as a best practice for preventing the spread of viral respiratory illnesses and harmful bacteria.


After cleaning the external surfaces of your computer using the steps in [Removing dirt and debris from your computer on page 29](#), [Caring for wood veneer \(select products only\) on page 31](#), or both, you might also choose to clean the surfaces with a disinfectant. A disinfectant that is within HP's cleaning guidelines is an alcohol solution consisting of 70% isopropyl alcohol and 30% water. This solution is also known as rubbing alcohol and is sold in most stores.


Follow these steps when disinfecting high-touch, external surfaces on your computer:

1. Wear disposable gloves made of latex (or nitrile gloves, if you are latex-sensitive) when cleaning the surfaces.
2. Turn off your device and unplug the power cord and other connected external devices. Remove any installed batteries from items such as wireless keyboards.


 **CAUTION:** To prevent electric shock or damage to components, never clean a product while it is turned on or plugged in.

3. Moisten a microfiber cloth with a mixture of 70% isopropyl alcohol and 30% water. The cloth should be moist, but not dripping wet.

 **CAUTION:** Do not use any of the following chemicals or any solutions that contain them, including spray-based surface cleaners: bleach, peroxides (including hydrogen peroxide), acetone, ammonia, ethyl alcohol, methylene chloride, or any petroleum-based materials, such as gasoline, paint thinner, benzene, or toluene.

 **IMPORTANT:** To avoid damaging the surface, avoid abrasive cloths, towels, and paper towels.

4. Wipe the exterior of the product gently with the moistened cloth.

 **IMPORTANT:** Keep liquids away from the product. Avoid getting moisture in any openings. If liquid makes its way inside your HP product, it can cause damage to the product. Do not spray liquids directly on the product. Do not use aerosol sprays, solvents, abrasives, or cleaners containing hydrogen peroxide or bleach that might damage the finish.

5. Start with the display (if applicable). Wipe carefully in one direction, and move from the top of the display to the bottom. Finish with any flexible cables, like power cord, keyboard cable, and USB cables.
6. Be sure that surfaces have completely air-dried before turning the device on after cleaning.
7. Discard the gloves after each cleaning. Clean your hands immediately after you remove the gloves.

Caring for wood veneer (select products only)

Your product might feature high-quality wood veneer. As with all natural wood products, proper care is important for best results over the life of the product. Because of the nature of natural wood, you might see unique variations in the grain pattern or subtle variations in color, which are normal.

- Clean the wood with a dry, static-free microfiber cloth or chamois.
- Avoid cleaning products containing substances such as ammonia, methylene chloride, acetone, turpentine, or other petroleum-based solvents.
- Do not expose the wood to sun or moisture for long periods of time.
- If the wood becomes wet, dry it by dabbing with an absorbent, lint-free cloth.
- Avoid contact with any substance that might dye or discolor the wood.
- Avoid contact with sharp objects or rough surfaces that might scratch the wood.

See [Removing dirt and debris from your computer on page 29](#) for the recommended steps to clean the high-touch, external surfaces on your computer. After you remove the dirt and debris, you can also clean the surfaces with a disinfectant. See [Cleaning your computer with a disinfectant on page 30](#) for sanitizing guidelines to help prevent the spread of harmful bacteria and viruses.

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

- To avoid hand contact, transport products in static-safe tubes, bags, or boxes.
- Protect ESD-sensitive parts and assemblies with conductive or approved containers or packaging.
- Keep ESD-sensitive parts in their containers until the parts arrive at static-free workstations.
- Place items on a grounded surface before removing items from their containers.
- Always be properly grounded when touching a component or assembly.
- Store reusable ESD-sensitive parts from assemblies in protective packaging or nonconductive foam.
- Use transporters and conveyors made of antistatic belts and roller bushings. Be sure that mechanized equipment used for moving materials is wired to ground and that proper materials are selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

Accessing support information

To find the HP support that you need, use this information.

Table 4-3 Support information locations


Service consideration	Path to access information
Records of reported failure incidents stored on the computer	<p>Windows®:</p> <p>Preoperating system failures are logged in the BIOS Event Log. To view the BIOS Event Log:</p> <ol style="list-style-type: none"> 1. Press the power button. 2. Immediately and repeatedly press esc when the power button light turns white. <p>NOTE: If you do not press esc at the appropriate time, you must restart the computer and again repeatedly press esc when the power button light turns white to access the utility.</p> <ol style="list-style-type: none"> 3. Press f10 to enter the BIOS setup. 4. Complete one of these tasks: <ul style="list-style-type: none"> • (On commercial products) Under the Main tab, select BIOS event log, and then select View BIOS Event Log. • (On consumer products) Under the Main tab, select System Log. <p>Post-operating system failures are logged in the Event Viewer.</p> <ol style="list-style-type: none"> 1. Turn on the computer and allow the operating system to open. 2. Select the search icon  in the taskbar. 3. Type <code>Event Viewer</code>, and then press enter. 4. Select the log from the left panel. Details display in the right panel. <p>Chrome™:</p> <ol style="list-style-type: none"> 1. Go to support.google.com/chrome. 2. Search <code>collect Chrome device logs</code>.
Technical bulletins	<p>To locate technical bulletins:</p> <ol style="list-style-type: none"> 1. Go to www.hp.com. 2. Place the cursor over Problem solving to display more options. 3. Select Support & Troubleshooting. 4. Type the serial number, product number, or product name to go to the product support page. 5. Select Advisories to view technical bulletins.
Repair professionals	<p>To locate repair professionals:</p> <ol style="list-style-type: none"> 1. Go to www.hp.com. 2. Place the cursor over Support resources to display more options. 3. Select Authorized service providers.

Table 4-3 Support information locations (continued)

Service consideration	Path to access information
Component and diagnosis information, failure detection, and required action	<p>To locate diagnosis information and actions:</p> <ol style="list-style-type: none">1. Go to http://www.hp.com/go/techcenter/pcdiags.2. Select Get Support.3. Near the bottom of the window, select Notebook PCs, and then select your location.

5 Removal and replacement procedures for Customer Self-Repair parts

This chapter provides removal and replacement procedures for Customer Self-Repair parts.



NOTE: The Customer Self-Repair program is not available in all locations. Installing a part that is not supported by the Customer Self-Repair program can void your warranty. Check your warranty to determine whether Customer Self-Repair is supported in your location.



NOTE: The [HP Support YouTube Channel](#) (in English) has videos that provide step-by-step removal and replacement instructions for many common parts and models.

Component replacement procedures

To remove and replace computer components, use these procedures.



NOTE: Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer.



NOTE: HP continually improves and changes product parts. For complete and current information about supported parts for your computer, go to <https://partsurfer.hp.com/>, select your country or region, and then follow the on-screen instructions.

Make special note of each screw size and location during removal and replacement.

Preparation for disassembly

To remove and replace computer components, use these procedures:

For initial safety procedures, see [Removal and replacement procedures preliminary requirements on page 25](#).

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation or Sleep mode, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.

Battery

The battery removal procedure differs depending on whether you are removing and replacing the existing battery or installing a new battery. To install a new battery, you must use a revive kit.

- To remove and replace the existing battery, see [Removing and reinstalling the same battery on page 35](#).
- To install a new battery, see [Installing a new battery on page 36](#).


Removing and reinstalling the same battery

To remove the battery and reinstall it, use this procedure and illustration.

If you are replacing the battery you must use a revive kit. See [Installing a new battery on page 36](#).

Table 5-1 Battery description and part number


Description	Spare part number
3 cell, 41 Whr, Li-ion battery	L11119-855


 **WARNING!** To avoid personal injury and damage to the product:

- Do *not* puncture, twist, or crack the battery.
- Do *not* cause an external puncture or rupture to the battery. Punctures can cause a short inside the battery, which can result in battery thermal runaway.
- Do *not* handle or touch the battery enclosure with sharp objects such as tweezers or pliers, which might puncture the battery.
- Do *not* compress or squeeze the battery case with tools or heavy objects stacked on top of the case. These actions can apply undue force to the battery.
- Do *not* touch the connectors with any metallic surface or object, such as metal tools, screws, or coins, which can cause shorting across the connectors.

Before removing the battery, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).

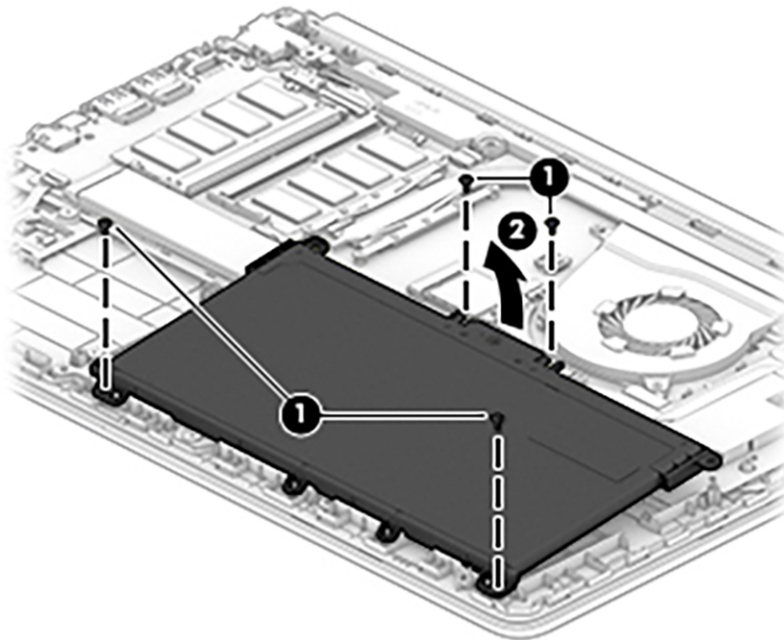
 **WARNING!** To reduce potential safety issues, use only the user-replaceable battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased from HP.

 **IMPORTANT:** Removing a battery that is the sole power source for the computer can cause loss of information. To prevent loss of information, save your work or shut down the computer through Windows before you remove the battery.

Remove the battery:

1. Remove the four Phillips M2.0 × 3.0 screws **(1)** that secure the battery to the computer.

2. Remove the battery (2) from the computer.



To reinstall the battery, reverse the removal procedures.



NOTE: When reinstalling the battery, be sure to completely reassemble the computer and plug in the AC adapter before turning the computer on.

Installing a new battery

To install a battery, use these procedures and illustrations. You must use a revive kit to remove the old battery and install a new one. The revive kit includes an empty containment tray and a containment tray with a battery preinstalled.

Table 5-2 Battery description and part number

Description	Spare part number
3 cell, 41 Whr, Li-ion battery	P24056-001

Before starting this replacement procedure:

- Ensure other individuals are sufficiently clear of your workspace.
- Ensure your workspace is clear of any flammable material such as paper or oils.
- Locate the nearest ABC dry chemical fire-extinguisher for use in an emergency.




WARNING! This procedure requires removing the battery or disconnecting the battery cable. Use care to avoid bending, twisting, or puncturing the battery regardless of its condition. Failure to follow this replacement guide or to use HP recommended tools might damage the system and/or cause a safety hazard.

- Do *not* remove the battery from the containment tray.


- Do *not* handle or touch the battery enclosure with sharp objects such as tweezers or pliers, which might puncture the battery.
- Do *not* touch the connectors with any metallic surface or object, such as metal tools, screws, or coins, which can cause shorting across the connectors.


Should a part become stuck or difficult to remove when opening a unit where a swollen battery is suspected, or if the battery becomes stuck in the unit, stop, and contact HP Support for assistance. Do not try to remove a battery by force.

 **NOTE:** Screw locations, latch locations, and internal components might vary.

Before removing the battery, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).

 **WARNING!** To reduce potential safety issues, use only the user-replaceable battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased from HP.

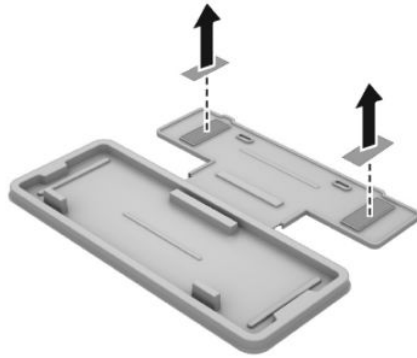
 **IMPORTANT:** Removing a battery that is the sole power source for the computer can cause loss of information. To prevent loss of information, save your work or shut down the computer through Windows before you remove the battery.

Remove the battery:

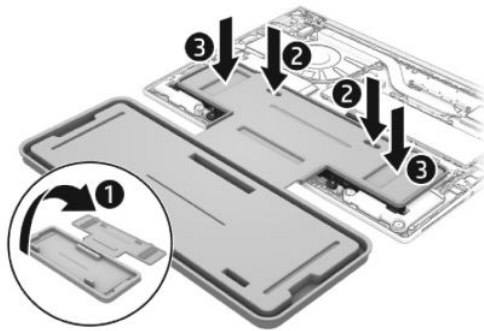
1. To remove the battery using the revive kit:
 - a. Open the empty battery containment tray.



- b. Remove the backing from the adhesive on the tray.

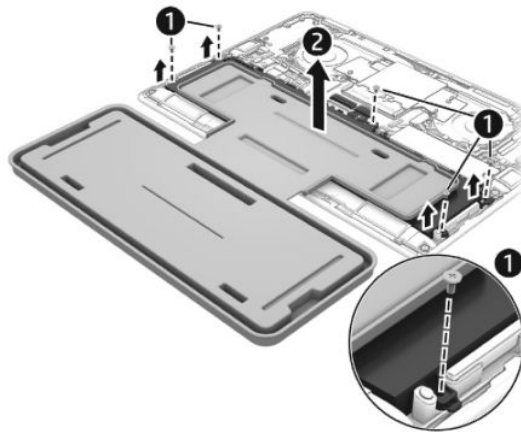


- c. Turn the tray (1) over so that the adhesive is facing down.
- d. Place the tray (2) centered on the battery.
- e. Press down on the indentations on the tray (3) to adhere it to the battery.

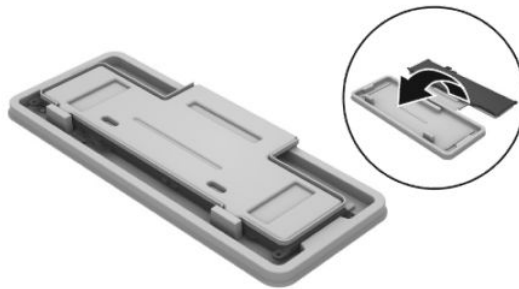


- f. Remove the Phillips screws (1) that secure the battery to the computer. Screw locations might vary.

- g. Lift the top of the tray (2) to remove the battery from the computer.



- h. Rotate the battery up and over into the cavity of the containment tray.

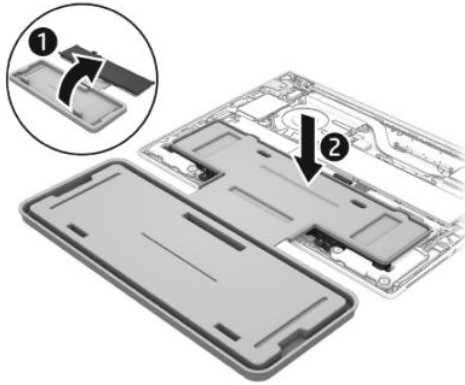


NOTE: Please recycle responsibly. For more information about recycling programs, see the HP website at <http://www.hp.com/recycle>.

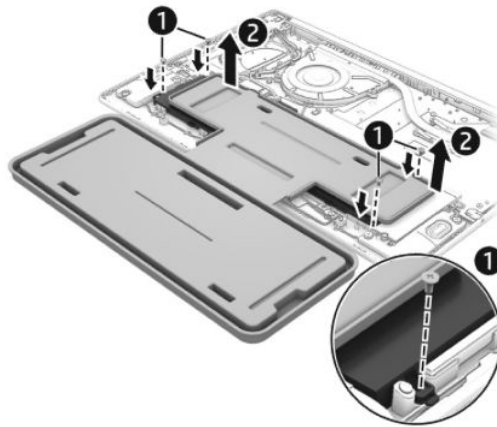
2. To install the battery using the revive kit:
- a. Open the containment tray that includes the new battery.
 - b. Turn the tray (1) over so the battery is facing downward, and then insert the battery (2) into the computer.



NOTE: To avoid damage when inserting the battery into the computer, be sure that the power connector on the battery lines up and successfully mates with the connector on the system board.




- c. Install the screws (1) to secure the battery. Screw locations might vary.
- d. Lift the containment tray (2) off the battery,





NOTE: When replacing the battery, be sure to completely reassemble the computer and plug in the AC adapter before turning the computer on.

6 Removal and replacement procedures for authorized service provider parts

This chapter provides removal and replacement procedures for authorized service provider parts.


 **IMPORTANT:** Only an authorized service provider should access the components described in this chapter. Accessing these parts can damage the computer or void the warranty.

 **NOTE:** Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer.

 **NOTE:** The [HP Support YouTube Channel](#) (in English) has videos that provide step-by-step removal and replacement instructions for many common parts and models.

Component replacement procedures

To remove and replace computer components, use the procedures described in this section.

 **NOTE:** HP continually improves and changes product parts. For complete and current information about supported parts for your computer, go to <https://partsurfer.hp.com/>, select your country or region, and then follow the on-screen instructions.

Make special note of each screw size and location during removal and replacement.

Bottom cover

To remove the bottom cover, use this procedure and illustration.

Table 6-1 Bottom cover and feet descriptions and part numbers

Description	Spare part number
Bottom cover	
Natural silver	L64894-001
Snowflake white	L64896-001
Jet black	M03777-001
Indigo blue	M03778-001
Pale rose gold	M29047-001
Moonlight blue	P08130-001
Winter lavender	P08134-001
Feet	
Natural silver	L65866-001
Jet black	M03779-001
Indigo blue	M03780-001

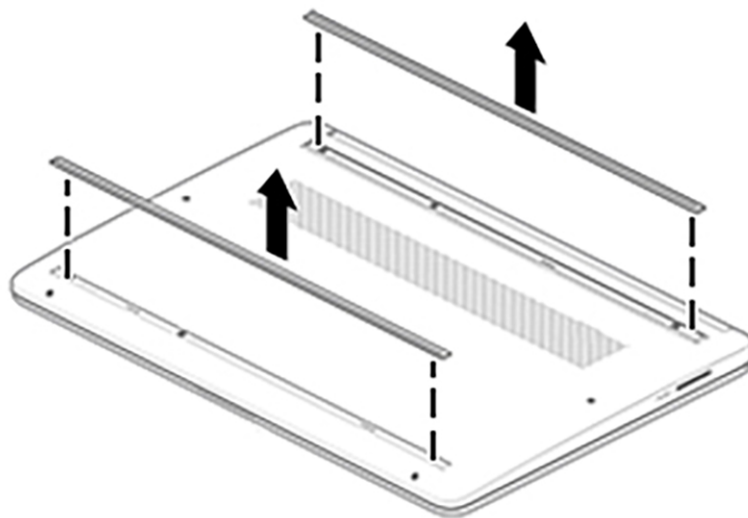
Table 6-1 Bottom cover and feet descriptions and part numbers (continued)

Description	Spare part number
Pale rose gold	M29049-001
Moonlight blue	P08132-001
Winter lavender	P08136-001

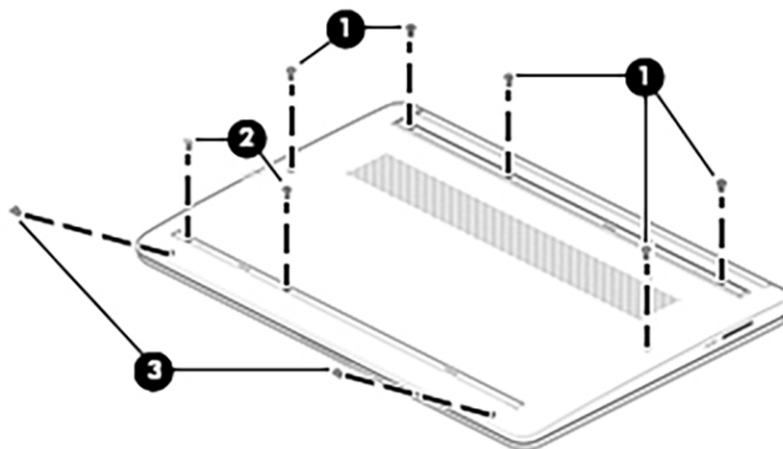
Before removing the bottom cover, prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).

Remove the bottom cover:

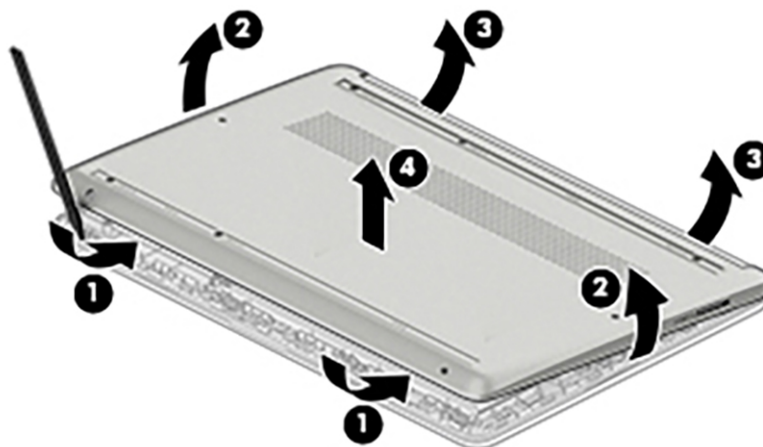
1. Peel the two rubber feet off the bottom cover.



2. Remove the five Phillips M2.0 × 6.0 screws (1).
3. Remove the two Phillips M2.5 × 6.0 screws (2).
4. Remove the two Phillips M2.0 × 4.0 screws (3).



5. Insert a plastic tool (1) between the bottom cover and the computer chassis, and then flex and lift the sides (2) and the top edge (3) of the bottom cover enough to separate it from the computer.
6. Remove the bottom cover (4).



To install the bottom cover, reverse the removal procedures.

Memory modules

To remove the memory modules, use this procedure and illustration.

Table 6-2 Memory module descriptions and part numbers

Description	Spare part number
Memory module, 8 GB (DDR4-3200)	L46598-005
Memory module, 4 GB (DDR4-3200)	L83673-005

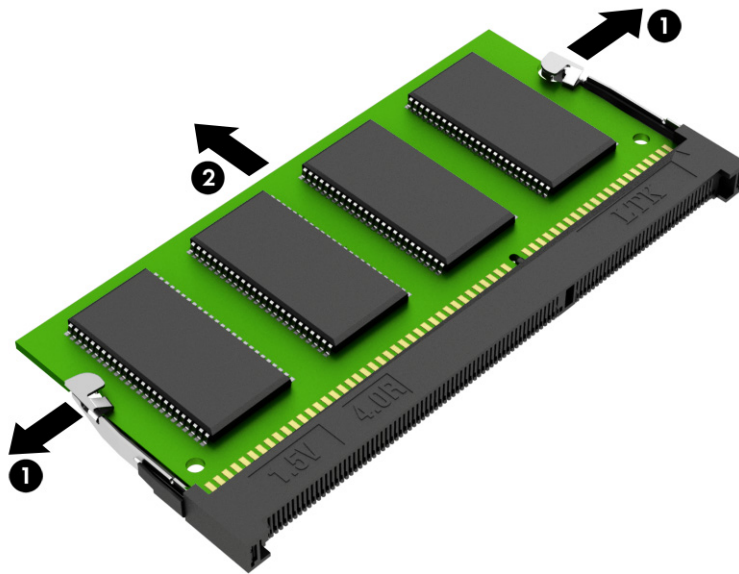
Before removing a memory module, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).

If you are replacing a memory module, remove the existing memory module:

- Spread the two retention clips (1) outward until the memory module tilts up at a 45° angle, and then remove the module (2). Use the same procedure to remove all memory modules.

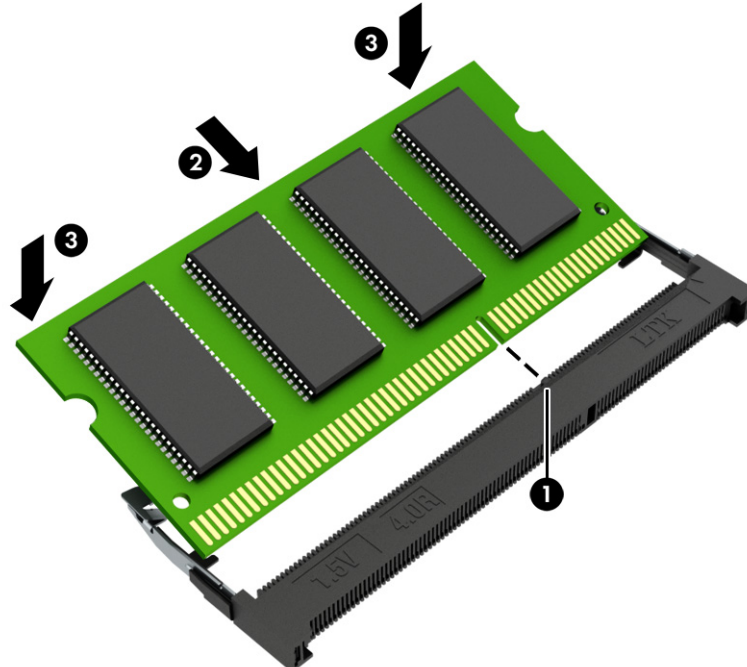
IMPORTANT: To prevent damage to the memory module, hold the memory module by the edges only. Do not touch the components on the memory module.



To protect a memory module after removal, place it in an electrostatic-safe container.

To install a memory module:

1. Align the notched edge of the module with the tab in the slot (1), and then press the module (2) into the slot at an angle until it is seated.
2. Press down on the module (3) until the side retention clips snap into place.




WLAN module

To remove the WLAN module, use this procedure and illustration.

Table 6-3 WLAN module descriptions and part numbers

Description	Spare part number
MediaTek MT7920 Wi-Fi 6 + Bluetooth 5.4	P17386-005
Realtek 8852BE-VT Wi-Fi 6 + Bluetooth 5.4	P06350-005

 **IMPORTANT:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore device functionality, and then contact technical support.

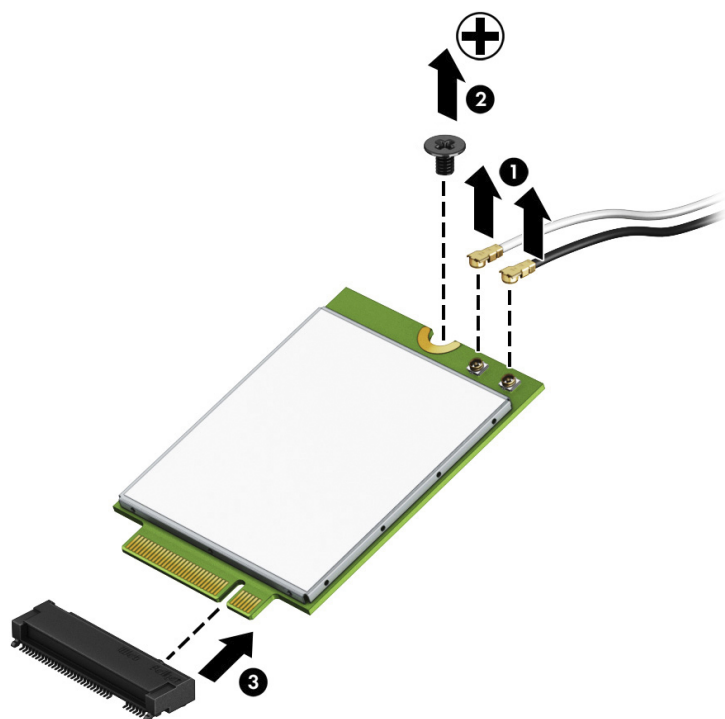
Before removing the WLAN module, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).

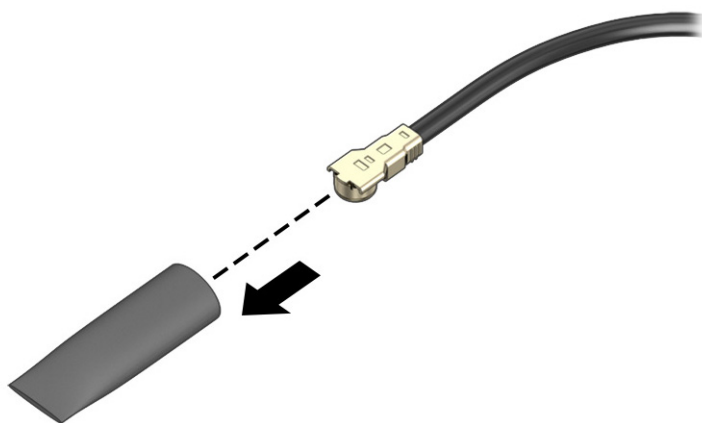
Remove the WLAN module:

1. If installed, remove the antenna protector from the module.
2. Disconnect the antenna cables **(1)** from the module terminals.
3. Remove the Phillips M2.0 × 3.0 screw **(2)** that secures from the WLAN module.
4. Remove the module **(3)** by pulling it away from the slot at an angle.

 **NOTE:** WLAN modules are notched to prevent incorrect installation.



5. If the WLAN antenna is not connected to the terminal on the WLAN module, install a protective sleeve on the antenna connector, as shown in the following illustration.



To install the WLAN module, reverse this procedure.

Power button/card reader board

To remove the power button/card reader board, use these procedures and illustrations.

Table 6-4 Power button/card reader board descriptions and part numbers

Description	Spare part number
Power button/card reader board	L64886-001

Table 6-4 Power button/card reader board descriptions and part numbers (continued)

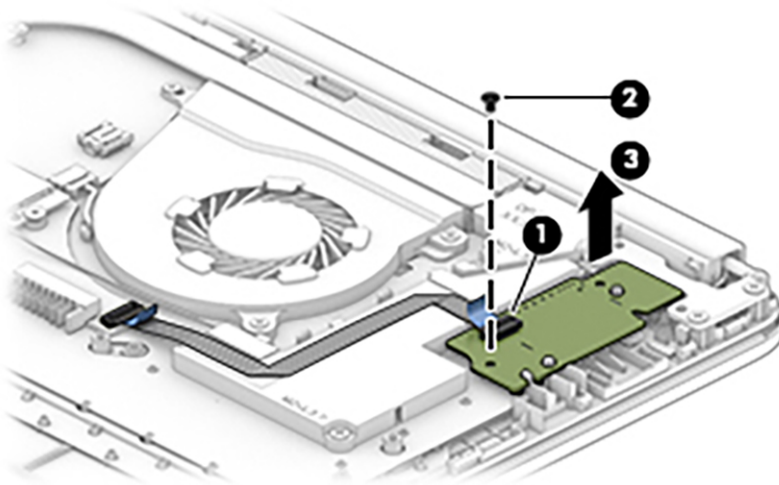
Description	Spare part number
Power button/card reader board cable	L64887-001

Before removing the power button/card reader board, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).

Remove the power button/card reader board:

1. Disconnect the cable **(1)** from the board.
2. Remove the Phillips M2.0 × 3.0 screw **(2)** that secures the board to the computer.
3. Remove the board **(3)** from the computer.



To install the power button/card reader board, reverse this procedure.

Touchpad

To remove the touchpad, use this procedure and illustration.

Table 6-5 Touchpad descriptions and part numbers

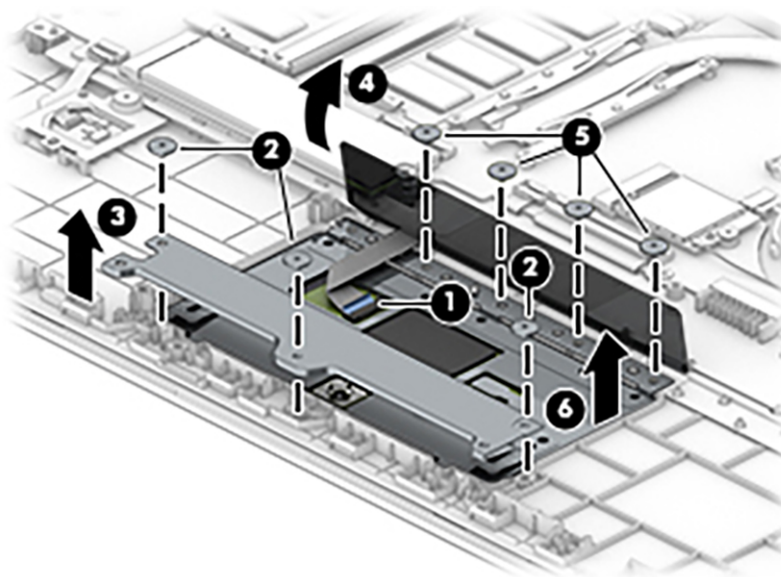
Description	Spare part number
Touchpad, natural silver	L64897-001
Touchpad, snowflake white	L64899-001
Touchpad, jet black	M03782-001
Touchpad, indigo blue	M03783-001
Touchpad cable	L64900-001

Before removing the touchpad, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).

Remove the touchpad:

1. Disconnect the cable (1) from the ZIF connector on the touchpad.
2. Remove the three Phillips M2.0 × 2.0 screws (2) that secure the touchpad bracket to the computer, and then remove the bracket (3).
3. Lift the tape (4) that covers the screws on the top of the touchpad.
4. Remove the four Phillips M2.0 × 2.0 screws (5) that secure the touchpad to the computer, and then remove the touchpad (6).



To install the touchpad, reverse this procedure.

Fingerprint reader board

To remove the fingerprint reader board, use these procedures and illustrations.

Table 6-6 Fingerprint reader board descriptions and part numbers

Description	Spare part number
Fingerprint reader board	P34242-001
Fingerprint reader board cable	L64902-001

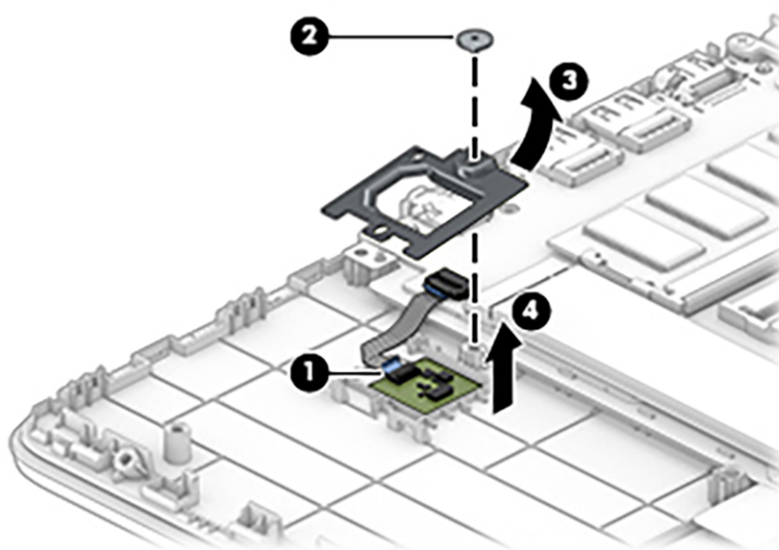
Before removing the fingerprint reader board, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).

2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).

Remove the fingerprint reader board:

1. Disconnect the cable (1) from the ZIF connector on the fingerprint reader board.
2. Remove the Phillips M2.0 × 2.0 screw (2) that secures the fingerprint reader bracket to the computer.
3. Remove the bracket (3), and then remove the fingerprint reader board (4) from the computer.



To install the fingerprint reader board, reverse this procedure.

Fan

To remove the fan, use these procedures and illustrations.

Table 6-7 Fan description and part number

Description	Spare part number
Fan	L63588-001

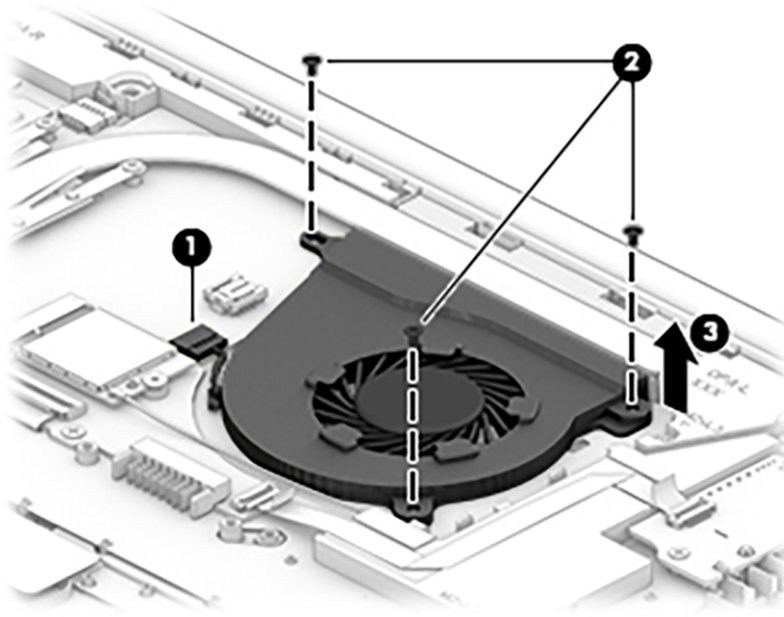
Before removing the fan, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).

Remove the fan:

1. Disconnect the fan cable (1) from the system board.
2. Remove the three Phillips M2.0 × 3.0 screws (2) that secure the fan to the computer.

3. Remove the fan **(3)** from the computer.



To install the fan, reverse this procedure.

Heat sink

To remove the heat sink, use these procedures and illustrations.

Table 6-8 Heat sink description and part number

Description	Spare part number
Heat sink (includes replacement thermal material)	P25916-001

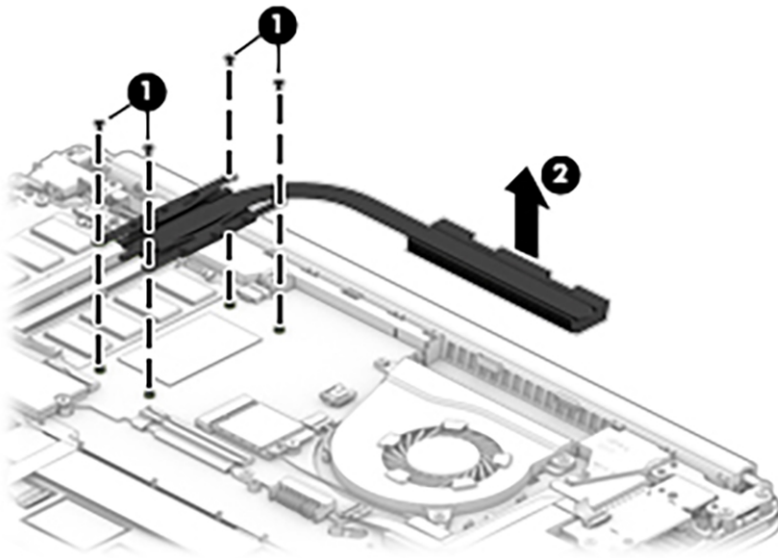
Before removing the heat sink, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).

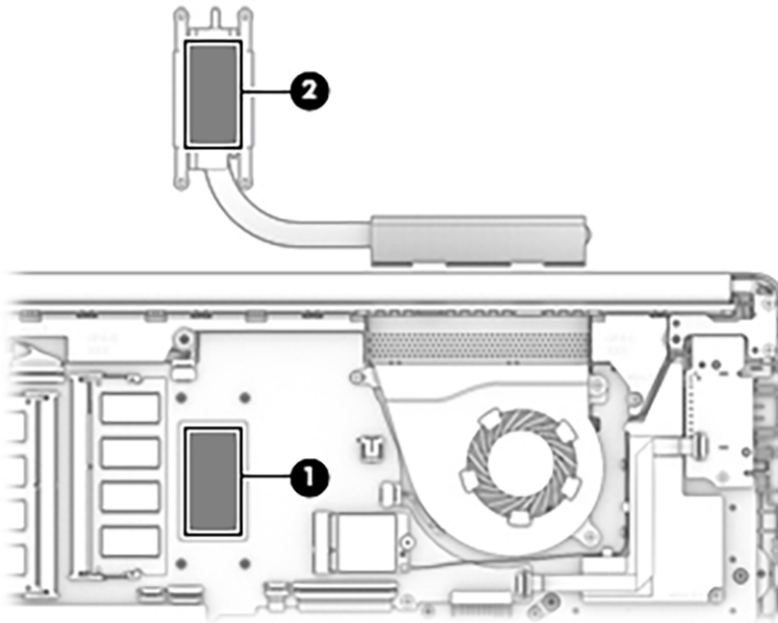
Remove the heat sink:

1. Remove the four Phillips M2.0 × 2.5 screws **(1)** in the order indicated on the heat sink.

2. Remove the heat sink (2).



3. Apply thermal grease to the integrated processor on the system board (1) and associated location on the heat sink (2).



To install the heat sink, reverse this procedure.

Battery connector

To remove the battery connector, use these procedures and illustrations.

Table 6-9 Battery connector description and part number

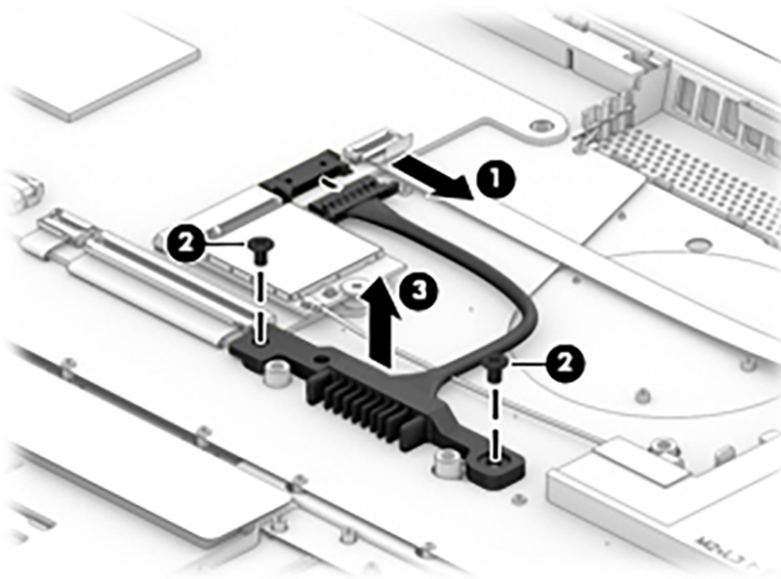
Description	Spare part number
Battery connector	L64889-001

Before removing the battery connector, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).
4. Remove the heat sink ([Heat sink on page 50](#)).

Remove the battery connector:

1. Disconnect the battery connector cable (1) from the system board.
2. Remove the two Phillips M2.0 × 3.0 screws (2) that secure the connector to the computer
3. Lift the battery connector (3) out of the computer.



To install the battery connector, reverse this procedure.

System board

To remove the system board, use these procedures and illustrations.

Table 6-10 System board descriptions and part numbers

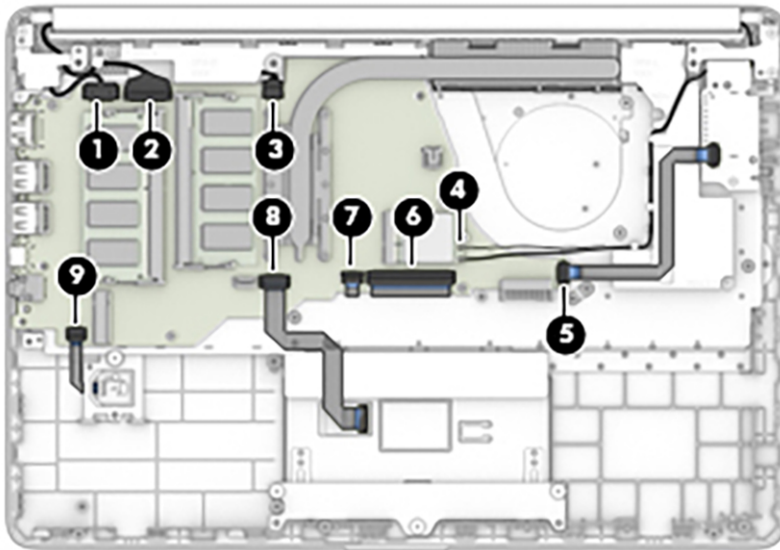
Description	Spare part number
System board (includes processor and system storage)	
Intel N250 processor, 128 GB UFS memory	P25894-601
Intel N250 processor, 64 GB eMMC memory	P25892-601
Intel N150 processor, 128 GB UFS memory	P25898-601
Intel N150 processor, 64 GB eMMC memory	P25896-601

Before removing the system board, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).

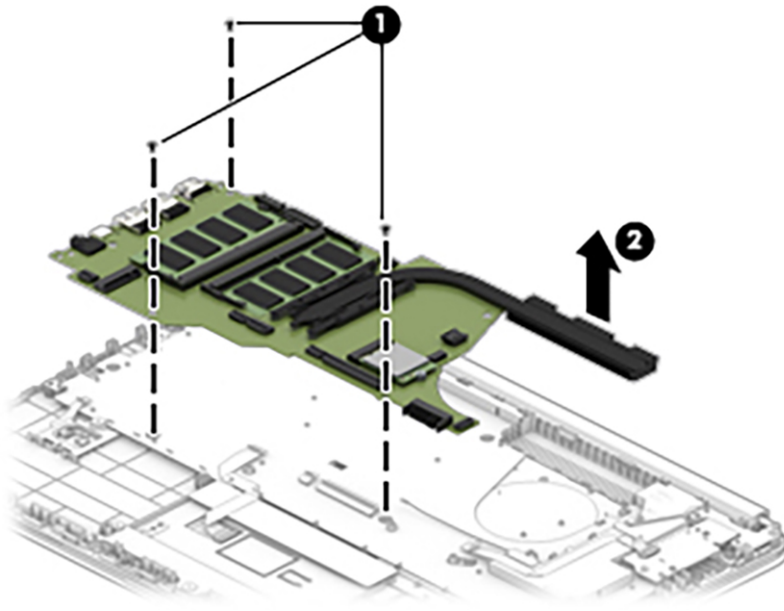
Remove the system board:

1. Disconnect the following cables from the system board:
 - Power connector cable **(1)**
 - Display cable **(2)**
 - Speaker cable **(3)**
 - WLAN module antennas **(4)**
 - Power button/card reader board cable (ZIF) **(5)**
 - Keyboard cable (ZIF) **(6)**
 - Keyboard backlight cable (ZIF) **(7)**
 - Touchpad cable (ZIF) **(8)**
 - Fingerprint reader cable (ZIF) **(9)**



2. Remove the three Phillips M2.0 × 2.0 screws **(1)** that secure the system board to the computer.

3. Remove the system board (2) from the computer.



To install the system board, reverse this procedure.

Speakers

To remove the speakers, use this procedure and illustration.

Table 6-11 Speakers description and part number

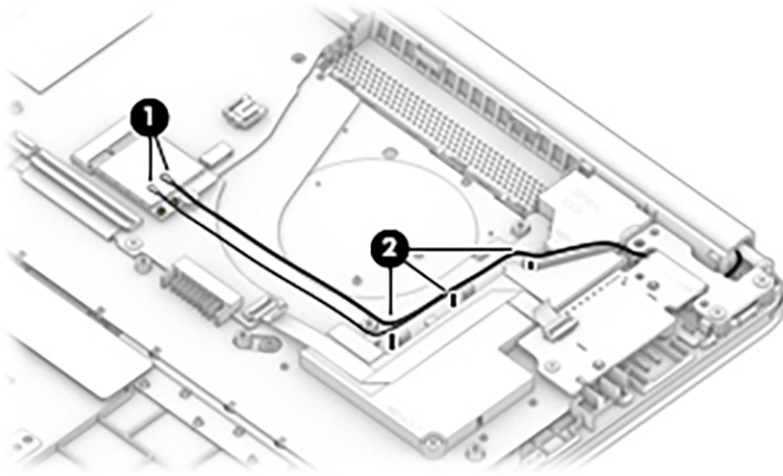
Description	Spare part number
Speakers	M16590-001

Before removing the speakers, follow these steps:

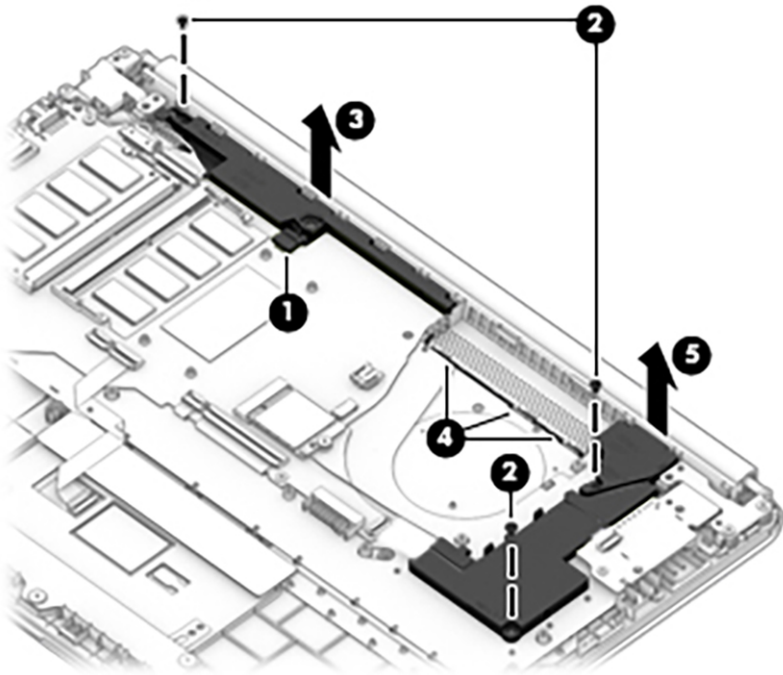
1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).
4. Remove the fan (see [Fan on page 49](#)).
5. Remove the heat sink (see [Heat sink on page 50](#)).

Remove the speakers:

1. Disconnect the antennas **(1)** from the WLAN module, and then remove the antenna cables from the channel **(2)** in the left speaker.



2. Disconnect the speaker cable **(1)** from the system board.
3. Remove the three Phillips M2.0 × 3.0 screws **(2)** that secure the speakers to the computer.
4. Lift the left speaker **(3)** out of the computer, remove the speaker cable from the clips **(4)** in the computer chassis, and then remove the right speaker **(5)** from the computer.



To install the speakers, reverse this procedure.

Display assembly

To remove and disassemble the display assembly, use these procedures and illustrations.



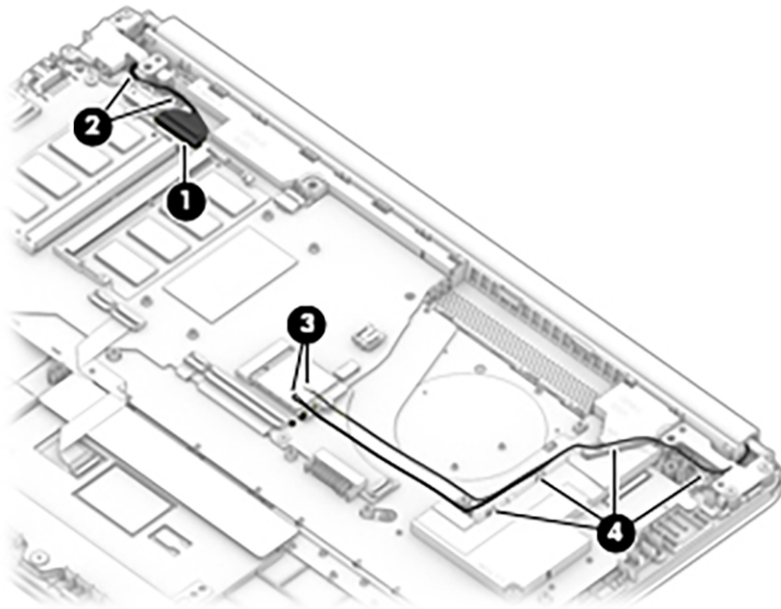
NOTE: The display assembly is spared at the subcomponent level. For display assembly spare part information, see the individual removal subsections.

Before removing the display panel, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).
4. Remove the power button/card reader board (see [Power button/card reader board on page 46](#)).

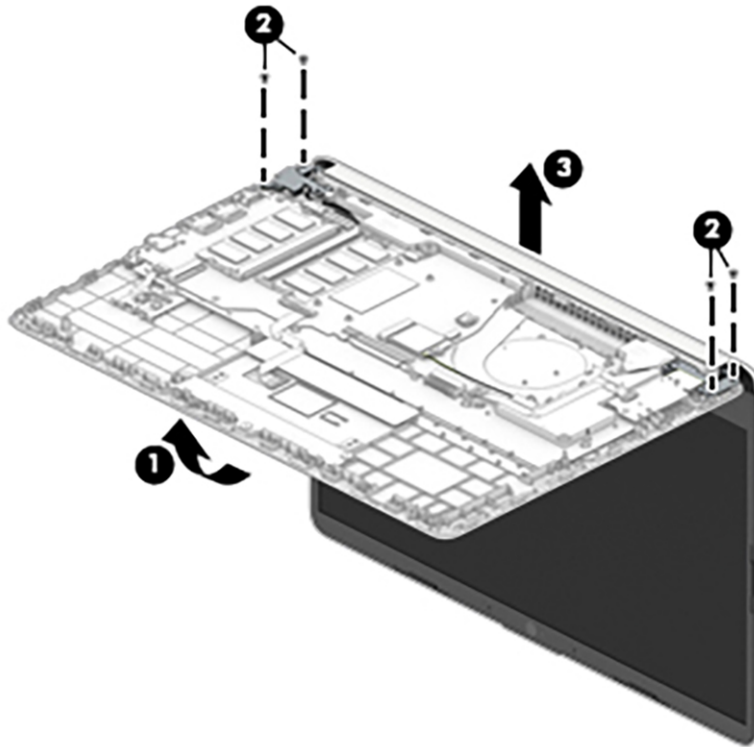
Remove the display assembly:

1. Disconnect the display cable **(1)** from the system board, and then remove the cable from the clips **(2)** in the left hinge.
2. Disconnect the wireless antenna cables **(3)** from the WLAN module, and then remove the cables from the channel and clips **(4)** in the right speaker.



3. Open the display **(1)**.
4. Remove the two Phillips M2.5 × 5.0 screws **(2)** from each hinge.

5. Separate the display (3) from the computer.



6. To remove the hinge cover:

- Squeeze both ends of the cover (1), and then pull the cover (2) off the display.

Hinge covers are available as the following spare part numbers:

L64911-001: Natural silver

M29048-001: Pale rose gold

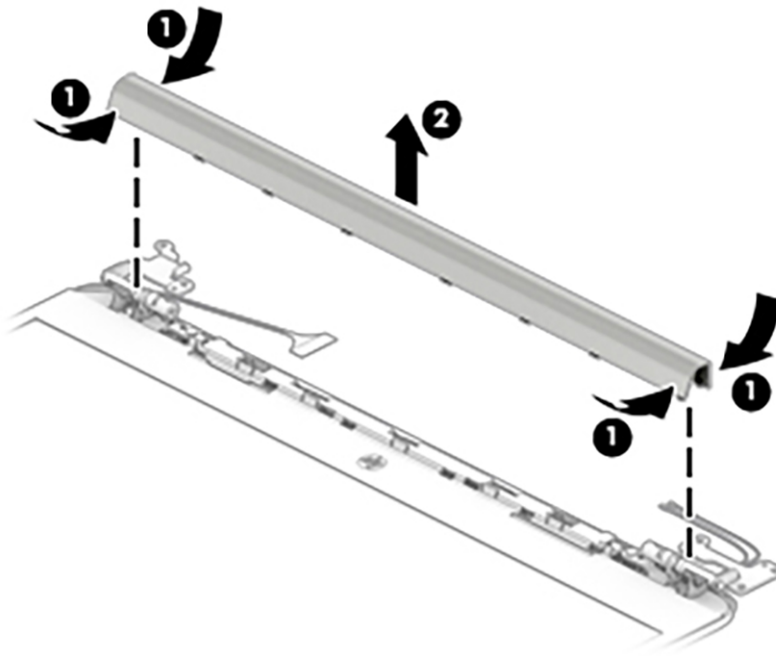
L64913-001: Snowflake white

M03788-001: Jet black

M03789-001: Indigo blue

P08131-001: Moonlight blue

P08135-001: Winter lavender



7. To remove the bezel:

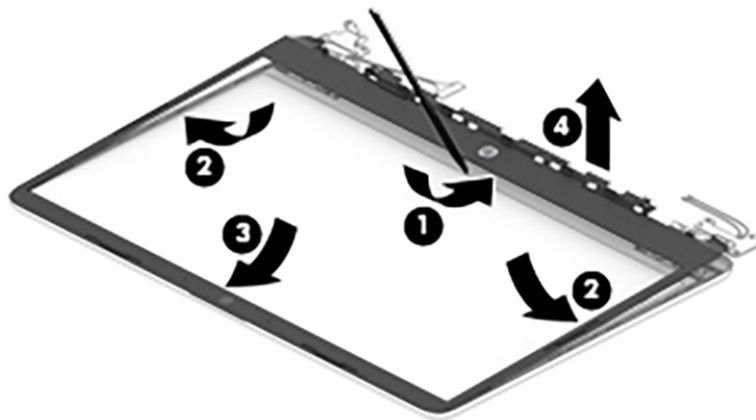
- a.** Use a tool to release the bottom edge **(1)** of the display bezel from the display assembly.



NOTE: Be careful not to bend or break the narrow sections of the bezel during removal.

- b.** Release the left and right edges **(2)** of the display bezel from the display assembly.
- c.** Release the top **(3)** of the display bezel from the display assembly.
- d.** Remove the bezel **(4)** from the display panel.

The display bezel is available as spare part number L64907-001.

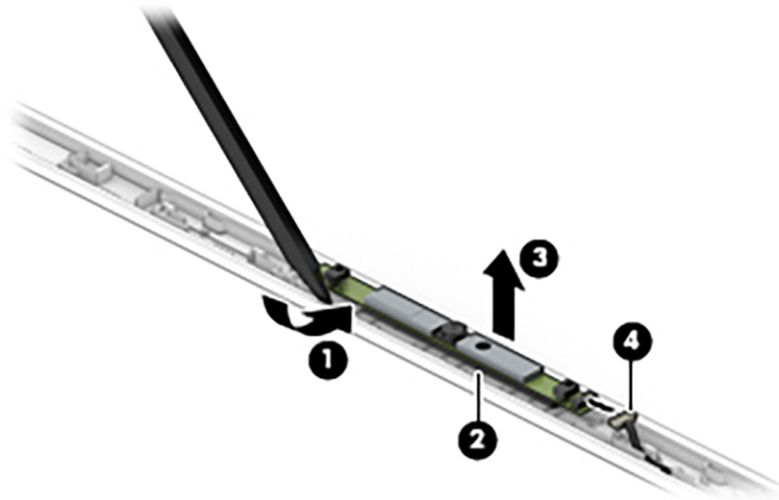


8. To remove the camera module:

- a.** Starting from the side, use a tool **(1)** to lift and release the camera module from the metal tape **(2)** behind it.


- b. Remove the module (3) from the display back cover, and then disconnect the cable (4).

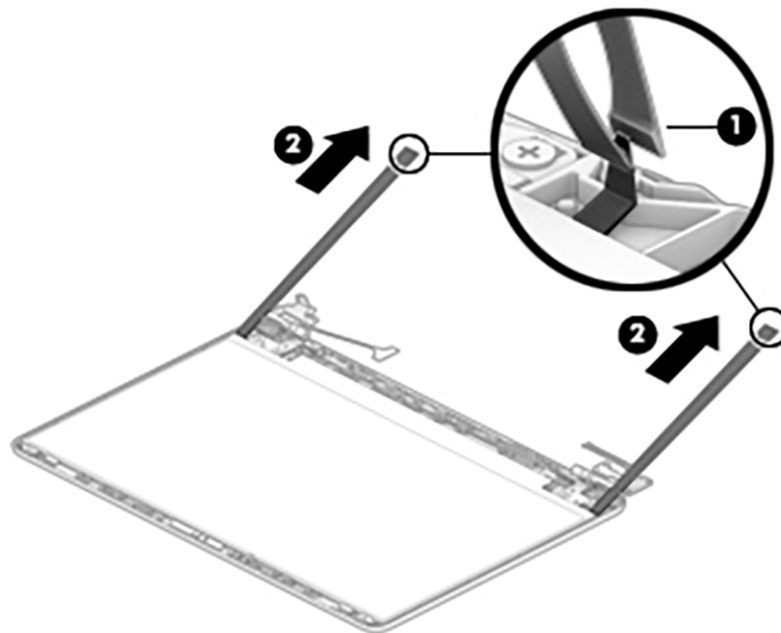
The camera module is available as spare part number N07276-001.



- 9. To remove the display panel:

- a. Use tweezers (1) to grasp the tape that routes behind both the left and right sides of the display panel.
- b. Pull the tape (2) from behind the left and right sides of the panel.

 **IMPORTANT:** You have to pull on the tape multiple times before it is completely removed. To avoid tearing the tape, pull the tape evenly and carefully. Rolling the tape around the tweezers or the shaft of a screwdriver as you pull it can help to avoid pulling too hard and breaking the tape. Be sure to pull the tape straight out – do not pull it out along the sides of the panel.



- c. Rotate the display panel (1) over and place next to the display back cover.

- d. Lift the tape **(2)** from the connector on the rear of the panel, and then disconnect the cable **(3)** from the panel.

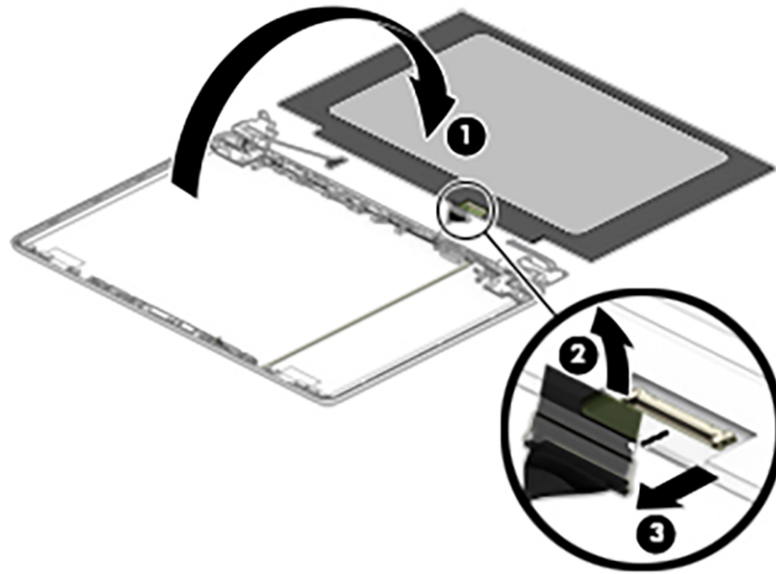
Display panels are available as the following spare part numbers:

P25907-001: HD, SVA, 250 nits, touch

M13564-001: HD, SVA, 250 nits, nontouch

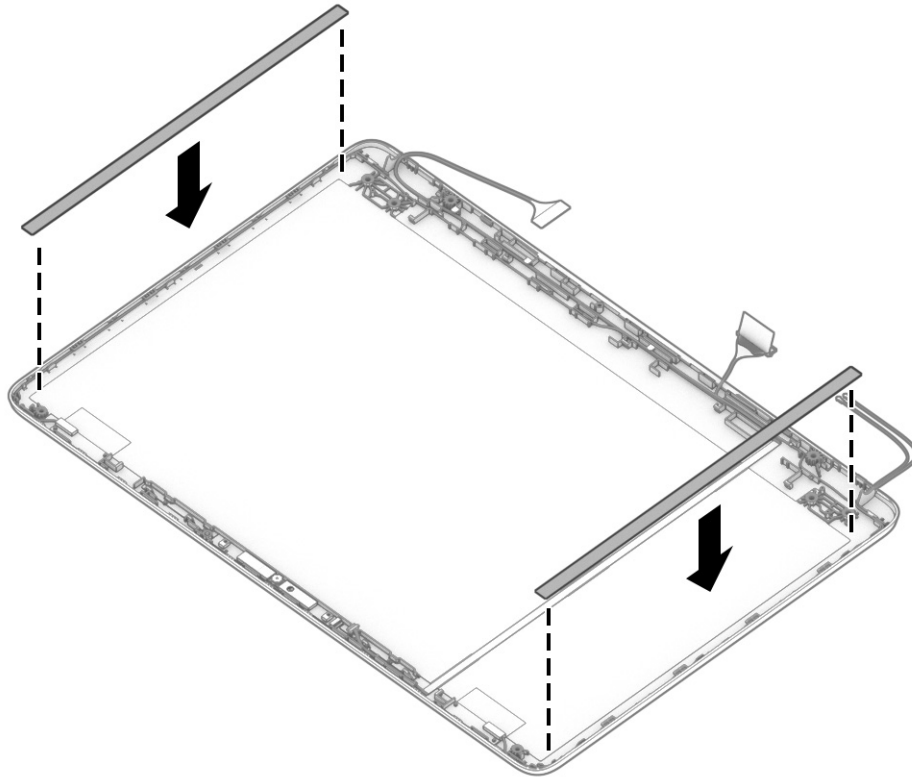
P25908-001: FHD, UWVA, 300 nits, nontouch

M13563-001: FHD, SVA, 250 nits, nontouch



- e. When installing the display panel, apply the adhesive in the locations as shown in the following illustration.

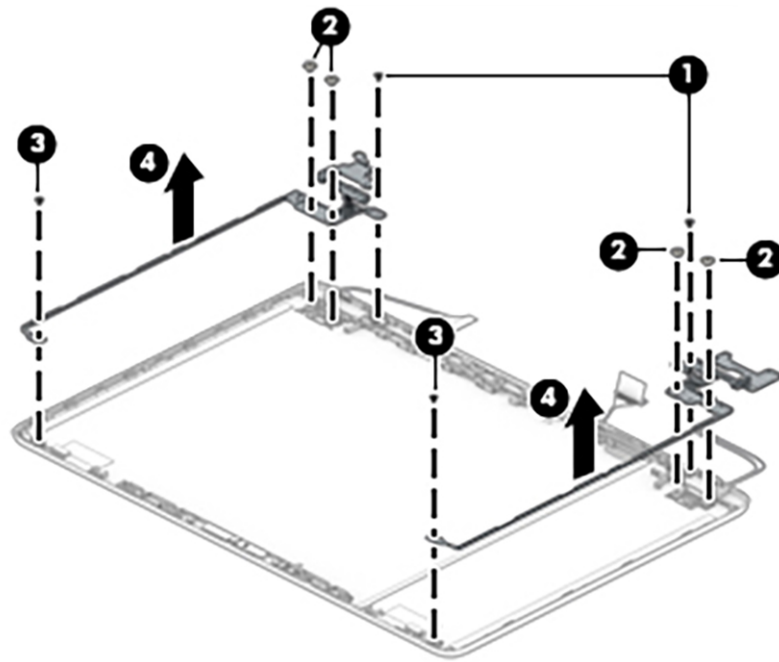
The display panel adhesive kit is available as spare part number M27499-001.



10. To remove the hinges from the display rear cover:

- a.** Remove the Phillips M2.0 × 2.5 screw **(1)** from the bottom of each hinge.
- b.** Remove the two Phillips M2.5 × 2.5 screws **(2)** from the bottom of each hinge.
- c.** Remove the Phillips M2.5 × 3.0 screw **(3)** from the top of each hinge.
- d.** Remove the hinges **(4)** from the display back cover.

The display hinges are available as spare part number L64910-001.



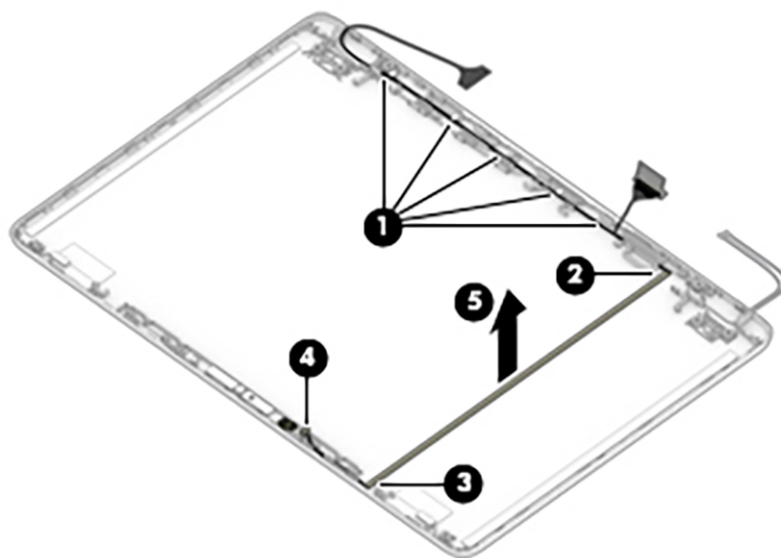
11. To remove the display cable:

- a. Remove the cable from the channel (1) along of the bottom of the display back cover.
- b. Remove the cable from the clips at the bottom (2) and at the top (3) of the display back cover.
- c. Disconnect the cable from the camera module (4), and then remove the cable (5) from the display back cover.

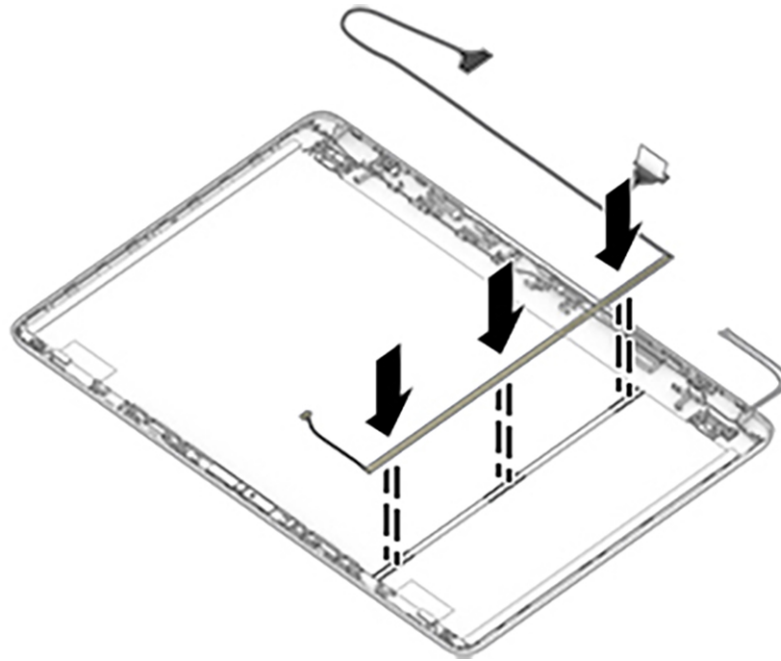
The display cable is available as the following spare part numbers:

L64908-001: Touch displays

L64909-001: Nontouch displays



- d. When installing the display cable, position the cable in the middle of the alignment notch as marked on the inside of the display back cover.



To reassemble and replace the display assembly, reverse these procedures.

Power connector cable

To remove the power connector cable, use these procedures and illustrations.

Table 6-12 Power connector cable description and part number

Description	Spare part number
Power connector cable	808155-010

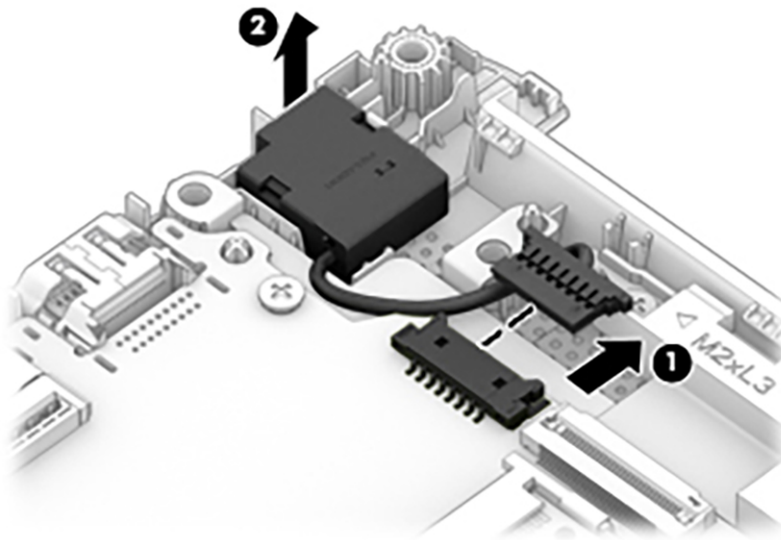
Before removing the power connector cable, follow these steps:

1. Prepare the computer for disassembly ([Preparation for disassembly on page 34](#)).
2. Remove the bottom cover (see [Bottom cover on page 41](#)).
3. Remove the battery (see [Removing and reinstalling the same battery on page 35](#)).
4. Remove the power button/card reader board (see [Power button/card reader board on page 46](#)).
5. Remove the display assembly (see [Display assembly on page 56](#)).

Remove the power connector cable:

1. Disconnect the cable **(1)** from the system board.

2. Remove the power connector and cable (2) from the computer.



To install the power connector cable, reverse this procedure.

Top cover with keyboard

The top cover with keyboard remains after removing all other spare parts from the computer. The first table provides the main spare part number for the top cover with keyboards. The second table provides the keyboard country codes.

Table 6-13 Top cover with keyboard descriptions and part numbers

Description	Spare part number
Natural silver, with fingerprint reader, not backlit keyboard	L61506-xx1
Natural silver, with fingerprint reader, backlit keyboard	L61507-xx1
Natural silver, no fingerprint reader, not backlit keyboard	L88206-xx1
Natural silver, with fingerprint reader, not backlit keyboard, CO	P25909-xx1
Natural silver, with fingerprint reader, backlit keyboard, CO	P25910-xx1
Natural silver, no fingerprint reader, not backlit keyboard, CO	P25911-xx1
Natural silver, no fingerprint reader, backlit keyboard, CO	P25912-xx1
Snowflake white, not backlit keyboard	L61508-xx1
Snowflake white, backlit keyboard	L61509-xx1
Snowflake white, no fingerprint reader, not backlit keyboard	P25914-xx1
Snowflake white, no fingerprint reader, backlit keyboard, CO	P25915-xx1
Jet black, no fingerprint reader, not backlit keyboard	M03796-xx1
Jet black, no fingerprint reader, not backlit keyboard, CO	P25913-xx1
Indigo blue, no fingerprint reader, not backlit keyboard	M03797-xx1

Table 6-14 Spare part country codes

For use in country or region	Spare part number	For use in country or region	Spare part number	For use in country or region	Spare part number
Belgium	-A41	Hungary	-211	Saudi Arabia	-171
Brazil	-201	Iceland	-DD1	Slovenia	-BA1
Bulgaria	-261	India	-D61	South Korea	-AD1
Chile	-161	Israel	-BB1	Spain	-071
Czech Republic/Slovakia	-FL1	Italy	-061	Switzerland	-BG1
Denmark	-081	Japan	-291	Taiwan	-AB1
Denmark, Finland, and Norway	-DH1	The Netherlands	-B31	Thailand	-281
French Canada	-DB1	Northern Africa	-FP1	Turkey	-141
Finland/Sweden	-B71	Norway	-091	Turkey-F	-541
France	-051	Portugal	-131	Ukraine	-BD1
Germany	-041	Romania	-271	United Kingdom	-031
Greece	-151	Russia	-251	United States	-001

7 Using Setup Utility (BIOS)

Setup Utility, or Basic Input/Output System (BIOS), controls communication between all the input and output devices on the system (such as disk drives, display, keyboard, mouse, and printer). Setup Utility (BIOS) includes settings for the types of devices installed, the startup sequence of the computer, and the amount of system and extended memory.



NOTE: To start Setup Utility on convertible computers, your computer must be in notebook mode and you must use the keyboard attached to your notebook.

Starting Setup Utility (BIOS)

You have several ways to access the Setup Utility (BIOS).



IMPORTANT: Use extreme care when making changes in Setup Utility (BIOS). Errors can prevent the computer from operating properly.

Use one of these options:

- Turn on or restart the computer and quickly press **f10**.
- Turn on or restart the computer, quickly press **esc**, and then press **f10** when the Start menu is displayed.

Updating Setup Utility (BIOS)

Updated versions of Setup Utility (BIOS) might be available on the HP website. Most BIOS updates on the HP website are packaged in compressed files called *SoftPaqs*. Some download packages contain a file named `Readme.txt`, which contains information regarding installing and troubleshooting the file.

Determining the BIOS version

To decide whether you need to update Setup Utility (BIOS), first determine the BIOS version on your computer.

To reveal the BIOS version information (also known as *ROM date* and *System BIOS*), use one of these options.

- HP Support Assistant
 1. Select the **Search** icon in the taskbar, type `support` in the search box, and then select the **HP Support Assistant** app.
– or –
Select the question mark icon in the taskbar.
 2. Under **My notebook**, select **Specifications**.
- Setup Utility (BIOS)
 1. Start Setup Utility (BIOS) (see [Starting Setup Utility \(BIOS\) on page 66](#)).

2. Select **Main**, and then make note of the BIOS version.
 3. Select **Exit**, select one of the options, and then follow the on-screen instructions.
- In Windows, press **ctrl+alt+s**.

To check for later BIOS versions, see [Preparing for a BIOS update on page 67](#).

Preparing for a BIOS update

Be sure to follow all prerequisites before downloading and installing a BIOS update.



IMPORTANT: To reduce the risk of damage to the computer or an unsuccessful installation, download and install a BIOS update only when the computer is connected to reliable external power using the HP AC adapter provided with the computer (select products only), a replacement AC adapter provided by HP, or an AC adapter with the power rating specified on the product label. Do not download or install a BIOS update while the computer is running on battery power, docked in an optional docking device, or connected to an optional power source. During the download and installation, follow these instructions:

- Do not disconnect power from the computer by unplugging the power cord from the AC outlet.
- Do not shut down the computer or initiate Sleep.
- Do not insert, remove, connect, or disconnect any device, cable, or cord.



NOTE: If your computer is connected to a network, consult the network administrator before installing any software updates, especially system BIOS updates.

Downloading a BIOS update

After you review the prerequisites, you can check for and download BIOS updates.

1. Perform one of these tasks:
 - Select the **Search** icon in the taskbar, type `support` in the search box, and then select the **HP Support Assistant** app.
 - Select the question mark icon in the taskbar.
2. Select **Updates**. The **Checking for Updates** window opens, and Windows checks for updates.
3. Follow the on-screen instructions.
4. At the download area, follow these steps:
 - a. Identify the most recent BIOS update and compare it to the BIOS version currently installed on your computer. If the update is more recent than your BIOS version, make a note of the date, name, or other identifier. You might need this information to locate the update later, after it has been downloaded to your hard drive.
 - b. Follow the on-screen instructions to download your selection to the hard drive.

Make a note of the path to the location on your hard drive where the BIOS update is downloaded. You will need to access this path when you are ready to install the update.

Installing a BIOS update

BIOS installation procedures vary. Follow any instructions that appear on the screen after the download is complete. If no instructions appear, follow these steps.

1. Select the **Search** icon in the taskbar, type `file` in the search box, and then select **File Explorer**.
2. Select your hard drive designation. The hard drive designation is typically Local Disk (C:).
3. Using the hard drive path you recorded earlier, open the folder that contains the update.
4. Double-click the file that has an .exe extension (for example, *filename.exe*).

The BIOS installation begins.

5. Complete the installation by following the on-screen instructions.



NOTE: After a message on the screen reports a successful installation, you can delete the downloaded file from your hard drive.

8 Using HP PC Hardware Diagnostics

You can use the HP PC Hardware Diagnostics utility to determine whether your computer hardware is running properly. The three versions are HP PC Hardware Diagnostics Windows, HP PC Hardware Diagnostics UEFI (Unified Extensible Firmware Interface), and (for select products only) Remote HP PC Hardware Diagnostics UEFI, a firmware feature.

Using HP PC Hardware Diagnostics Windows (select products only)

HP PC Hardware Diagnostics Windows is a Windows-based utility that allows you to run diagnostic tests to determine whether the computer hardware is functioning properly. The tool runs within the Windows operating system to diagnose hardware failures.

If HP PC Hardware Diagnostics Windows is not installed on your computer, you must download and install it. To download HP PC Hardware Diagnostics Windows, see [Downloading HP PC Hardware Diagnostics Windows on page 70](#).

Using an HP PC Hardware Diagnostics Windows hardware failure ID code

When HP PC Hardware Diagnostics Windows detects a failure that requires hardware replacement, a 24-digit failure ID code is generated for select component tests. For interactive tests, such as keyboard, mouse, or audio and video palette, you must perform troubleshooting steps before you can receive a failure ID.

You have several options after you receive a failure ID:

- Select **Next** to open the Event Automation Service (EAS) page, where you can log the case.
- Scan the QR code with your mobile device, which takes you to the EAS page, where you can log the case.
- Select the box next to the 24-digit failure ID to copy your failure code and send it to support.

Accessing HP PC Hardware Diagnostics Windows

After HP PC Hardware Diagnostics Windows is installed, you can access it from HP Support Assistant or the Start menu.

Accessing HP PC Hardware Diagnostics Windows from HP Support Assistant

After HP PC Hardware Diagnostics Windows is installed, follow these steps to access it from HP Support Assistant:

1. Complete one of the following tasks:
 - Select the **Search** icon in the taskbar, type `support` in the search box, and then select the **HP Support Assistant** app.
 - Select the question mark icon in the taskbar.
2. Select **Fixes & Diagnostics**.

3. Select **Run hardware diagnostics**, and then select **Launch**.
4. When the tool opens, select the type of diagnostic test that you want to run, and then follow the on-screen instructions.



NOTE: To stop a diagnostic test, select **Cancel**.

Accessing HP PC Hardware Diagnostics Windows from the Start menu (select products only)

After HP PC Hardware Diagnostics Windows is installed, follow these steps to access it from the Start menu:

1. Select the **Start** button, and then select **All apps**.
2. Select **HP PC Hardware Diagnostics Windows**.
3. When the tool opens, select the type of diagnostic test that you want to run, and then follow the on-screen instructions.



NOTE: To stop a diagnostic test, select **Cancel**.

Downloading HP PC Hardware Diagnostics Windows

The HP PC Hardware Diagnostics Windows downloading instructions are provided in English only. You must use a Windows computer to download this tool because only .exe files are provided.

Downloading the latest HP PC Hardware Diagnostics Windows version from HP

To download HP PC Hardware Diagnostics Windows from HP, follow these steps:

1. Go to <http://www.hp.com/go/techcenter/pcdiags>. The HP PC Diagnostics home page is displayed.
2. Select **Download HP Diagnostics Windows**, and then select the specific Windows diagnostics version to download to your computer or a USB flash drive.

The tool downloads to the selected location.

Downloading the HP PC Hardware Diagnostics Windows from the Microsoft Store

You can download the HP PC Hardware Diagnostics Windows from the Microsoft Store:

1. Select the Microsoft Store app on your desktop or select the **Search** icon in the taskbar, and then type `Microsoft Store` in the search box.
2. Type `HP PC Hardware Diagnostics Windows` in the **Microsoft Store** search box.
3. Follow the on-screen directions.

The tool downloads to the selected location.

Downloading HP Hardware Diagnostics Windows by product name or number (select products only)

You can download HP PC Hardware Diagnostics Windows by product name or number.



NOTE: For some products, you might have to download the software to a USB flash drive by using the product name or number.

1. Go to <http://www.hp.com/support>.
2. Select **Software and Drivers**, select your type of product, and then enter the product name or number in the search box that is displayed.
3. In the **Diagnostics** section, select **Download**, and then follow the on-screen instructions to select the specific Windows diagnostics version to be downloaded to your computer or USB flash drive.

The tool downloads to the selected location.

Installing HP PC Hardware Diagnostics Windows

To install HP PC Hardware Diagnostics Windows, navigate to the folder on your computer or the USB flash drive where the .exe file downloaded, double-click the .exe file, and then follow the on-screen instructions.

Using HP PC Hardware Diagnostics UEFI

HP PC Hardware Diagnostics Unified Extensible Firmware Interface (UEFI) allows you to run diagnostic tests to determine whether the computer hardware is functioning properly. The tool runs outside the operating system so that it can isolate hardware failures from issues that are caused by the operating system or other software components.



NOTE: For some products, you must use a Windows computer and a USB flash drive to download and create the HP UEFI support environment because only .exe files are provided. For more information, see [Downloading HP PC Hardware Diagnostics UEFI to a USB flash drive on page 72](#).

If your PC does not start in Windows, you can use HP PC Hardware Diagnostics UEFI to diagnose hardware issues.

Using an HP PC Hardware Diagnostics UEFI hardware failure ID code

When HP PC Hardware Diagnostics UEFI detects a failure that requires hardware replacement, a 24-digit failure ID code is generated.

For assistance in solving the problem, complete one of these tasks:

- Select **Contact HP**, accept the HP privacy disclaimer, and then use a mobile device to scan the failure ID code that appears on the next screen. The HP Customer Support - Service Center page appears with your failure ID and product number automatically filled in. Follow the on-screen instructions.
- Contact support, and provide the failure ID code.

Starting HP PC Hardware Diagnostics UEFI

To start HP PC Hardware Diagnostics UEFI, follow this procedure.

1. Turn on or restart the computer, and quickly press **esc**.
2. Press **f2**.

The BIOS searches three places for the diagnostic tools, in the following order:

- a. Connected USB flash drive



NOTE: To download the HP PC Hardware Diagnostics UEFI tool to a USB flash drive, see [Downloading the latest HP PC Hardware Diagnostics UEFI version on page 73](#).

- b. Hard drive

- c. BIOS

3. When the diagnostic tool opens, select the type of diagnostic test that you want to run, and then follow the on-screen instructions.

Starting HP PC Hardware Diagnostics UEFI through HP Hotkey Support software (select products only)

This section describes how to start HP PC Hardware Diagnostics UEFI through HP Hotkey Support software.



NOTE: You must disable fast boot to access HP PC Hardware Diagnostics UEFI from the HP System Information application.

To disable fast boot:

1. Turn on or restart the computer, and when the HP logo appears, press **f10** to enter Computer Setup.
2. Select **Advanced**, and then select **Boot Options**.
3. Clear **Fast Boot**.
4. Select **Save Changes and Exit**, and then select **Yes**.

To start HP PC Hardware Diagnostics UEFI through HP Hotkey Support software, follow this procedure:

1. From the **Start** menu, open the HP System Information Application or press **fn+esc**.
2. In HP System Information screen, select **Run System Diagnostics**, select **Yes** to run the application, and then select **Restart**.



IMPORTANT: To prevent loss of data, save your work in all open apps before restarting your computer.



NOTE: When the restart is complete, the computer opens the HP PC Hardware Diagnostics UEFI Application. Proceed with the troubleshooting tests.

Downloading HP PC Hardware Diagnostics UEFI to a USB flash drive

Downloading HP PC Hardware Diagnostics UEFI to a USB flash drive can be useful in some situations.

- HP PC Hardware Diagnostics UEFI is not included in the preinstallation image.
- HP PC Hardware Diagnostics UEFI is not included in the HP Tool partition.
- The hard drive is damaged.



NOTE: The HP PC Hardware Diagnostics UEFI downloading instructions are provided in English only, and you must use a Windows computer to download and create the HP UEFI support environment because only `.exe` files are provided.

Downloading the latest HP PC Hardware Diagnostics UEFI version

To download the latest HP PC Hardware Diagnostics UEFI version to a USB flash drive, follow this procedure:

1. Go to <http://www.hp.com/go/techcenter/pcdiags>. The HP PC Diagnostics home page is displayed.
2. Select **Download HP Diagnostics UEFI**, and then select **Run**.

Downloading HP PC Hardware Diagnostics UEFI by product name or number (select products only)

You can download HP PC Hardware Diagnostics UEFI by product name or number (select products only) to a USB flash drive.



NOTE: For some products, you might have to download the software to a USB flash drive by using the product name or number.

1. Go to <http://www.hp.com/support>.
2. Enter the product name or number, select your computer, and then select your operating system.
3. In the **Diagnostics** section, follow the on-screen instructions to select and download the specific UEFI Diagnostics version for your computer.

Using Remote HP PC Hardware Diagnostics UEFI settings (select products only)

Remote HP PC Hardware Diagnostics UEFI is a firmware (BIOS) feature that downloads HP PC Hardware Diagnostics UEFI to your computer. It can then run the diagnostics on your computer, and it might upload results to a preconfigured server.

For more information about Remote HP PC Hardware Diagnostics UEFI, go to <http://www.hp.com/go/techcenter/pcdiags>, and then select **Find out more**.

Downloading Remote HP PC Hardware Diagnostics UEFI

Remote HP PC Hardware Diagnostics UEFI is also available as a SoftPaq that you can download to a server.

Downloading the latest Remote HP PC Hardware Diagnostics UEFI version

You can download the latest Remote HP PC Hardware Diagnostics UEFI version to a USB flash drive.

1. Go to <http://www.hp.com/go/techcenter/pcdiags>. The HP PC Diagnostics home page is displayed.
2. Select **Download Remote Diagnostics**, and then select **Run**.

Downloading Remote HP PC Hardware Diagnostics UEFI by product name or number

You can download Remote HP PC Hardware Diagnostics UEFI by product name or number.



NOTE: For some products, you might have to download the software by using the product name or number.

1. Go to <http://www.hp.com/support>.

2. Select **Software and Drivers**, select your type of product, enter the product name or number in the search box that is displayed, select your computer, and then select your operating system.
3. In the **Diagnostics** section, follow the on-screen instructions to select and download the **Remote UEFI** version for the product.

Customizing Remote HP PC Hardware Diagnostics UEFI settings

Using the Remote HP PC Hardware Diagnostics setting in Computer Setup (BIOS), you can perform several customizations.

- Set a schedule for running diagnostics unattended. You can also start diagnostics immediately in interactive mode by selecting **Execute Remote HP PC Hardware Diagnostics UEFI**.
- Set the location for downloading the diagnostic tools. This feature provides access to the tools from the HP website or from a server that has been preconfigured for use. Your computer does not require the traditional local storage, such as a hard drive or USB flash drive, to run remote diagnostics.
- Set a location for storing the test results. You can also set the user name and password that you use for uploads.
- Display status information about the diagnostics run previously.

To customize Remote HP PC Hardware Diagnostics UEFI settings, follow these steps:

1. Turn on or restart the computer, and when the HP logo appears, press **F10** to enter Computer Setup.
2. Select **Advanced**, and then select **Settings**.
3. Make your customization selections.
4. Select **Main**, then select **Save Changes and Exit** to save your settings.

Your changes take effect when the computer restarts.

9 Backing up, restoring, and recovering

You can use Windows tools or HP software to back up your information, create a restore point, reset your computer, create recovery media, or restore your computer to its factory state. Performing these standard procedures can return your computer to a working state faster.



IMPORTANT: If you are performing recovery procedures on a tablet, the tablet battery must be at least 70% charged before you start the recovery process.



IMPORTANT: For a tablet with a detachable keyboard, connect the tablet to the keyboard base before beginning any recovery process.

Backing up information and creating recovery media

These methods of creating recovery media and backups are available on select products only.

Using Windows tools for backing up

HP recommends that you back up your information immediately after initial setup. You can do this task either using Windows Backup locally with an external USB flash drive or using online tools.



NOTE: If computer storage is 32 GB or less, Microsoft System Restore is disabled by default.

Using the HP Cloud Recovery Download Tool to create recovery media (select products only)

You can use the HP Cloud Recovery Download Tool to create HP Recovery media on a bootable USB flash drive.

For details:

- Go to <http://www.hp.com>, search for HP Cloud Recovery, and then select the result that matches the type of computer that you have.



NOTE: If you cannot create recovery media yourself, contact support to obtain recovery discs. Go to <http://www.hp.com/support>, select your country or region, and then follow the on-screen instructions.



IMPORTANT: HP recommends that you follow the [Restoring and recovery methods on page 76](#) to restore your computer before you obtain and use the HP recovery discs. Using a recent backup can return your machine to a working state sooner than using the HP recovery discs. After the system is restored, reinstalling all the operating system software released since your initial purchase can be a lengthy process.

Restoring and recovering your system

You have several tools available to recover your system both within and outside of Windows if the desktop cannot load.

HP recommends that you attempt to restore your system using the [Restoring and recovery methods on page 76](#).

Creating a system restore

System Restore is available in Windows. The System Restore software can automatically or manually create restore points, or snapshots, of the system files and settings on the computer at a particular point.

When you use System Restore, it returns your computer to its state at the time you made the restore point. Your personal files and documents should not be affected.

Restoring and recovery methods

After you run the first method, test to see whether the issue still exists before you proceed to the next method, which might now be unnecessary.

1. Run a Microsoft System Restore.
2. Run Reset this PC.



NOTE: The options **Remove everything** and then **Fully clean the drive** can take several hours to complete and leave no information on your computer. It is the safest way to reset your computer before you recycle it.

3. Recover using HP Recovery media. For more information, see [Recovering using HP Recovery media on page 76](#).

For more information about the first two methods, see the Get Help app:

- Select the **Start** button, select **All apps**, select the **Get Help** app, and then enter the task you want to perform.



NOTE: You must be connected to the internet to access the Get Help app.

Recovering using HP Recovery media

You can use HP Recovery media to recover the operating system and drivers that were installed at the factory. On select products, you can create recovery media on a bootable USB flash drive using the HP Cloud Recovery Download Tool.

For details, see [Using the HP Cloud Recovery Download Tool to create recovery media \(select products only\) on page 75](#).



NOTE: If you cannot create recovery media yourself, contact support to obtain recovery discs. Go to <http://www.hp.com/support>, select your country or region, and then follow the on-screen instructions.

To recover your system:

- Insert the HP Recovery media, and then restart the computer.



NOTE: HP recommends that you follow the [Restoring and recovery methods on page 76](#) to restore your computer before you obtain and use the HP recovery discs. Using a recent backup can return your machine to a working state sooner than using the HP recovery discs. After the system is restored, reinstalling all the operating system software released since your initial purchase can be a lengthy process.

Changing the computer boot order

If your computer does not restart using the HP Recovery media, you can change the computer boot order, which is the order of devices listed in BIOS for startup information. You can select an optical drive or a USB flash drive, depending on the location of your HP Recovery media.



IMPORTANT: For a tablet with a detachable keyboard, connect the tablet to the keyboard base before beginning these steps.

To change the boot order:

1. Insert the HP Recovery media.
2. Access the system **Startup** menu.
 - For computers or tablets with keyboards attached, turn on or restart the computer or tablet, quickly press **esc**, and then press **f9** for boot options.
 - For tablets without keyboards, turn on or restart the tablet, and then quickly press and hold one of the following buttons:
 - Volume up
 - Volume down

Then select **f9**.
3. Select the optical drive or USB flash drive from which you want to boot, and then follow the on-screen instructions.

Using HP Sure Recover (select products only)

Select computer models are configured with HP Sure Recover, a PC operating system (OS) recovery solution built into the hardware and software. HP Sure Recover can fully restore the HP OS image without installed recovery software.

Using HP Sure Recover, an administrator or user can restore the system and install:

- Latest version of the operating system
- Platform-specific device drivers
- Software applications, in the case of a custom image

To access the latest documentation for HP Sure Recover, go to <http://www.hp.com/support>. Follow the on-screen instructions to find your product and locate your documentation.

10 Specifications

This chapter provides specifications for your computer system.

Computer specifications

This section provides specifications for your computer. When traveling with your computer, the computer dimensions and weights, input power ratings, and operating specifications provide helpful information.

Table 10-1 Computer specifications

	Metric	U.S.
Dimensions		
Width	324.0 mm	12.76 in
Depth	225.0 mm	8.86 in
Height	17.99 mm	0.71 in
Weight	1468 g	3.24 lb
Input power		
Operating voltage and current	19.5 V DC @ 2.31 A - 45 W	
	5 V DC @ 2 A / 12 V DC @ 3 A / 15 V DC @ 3 A - 45 W USB-C®	
	5 V DC @ 3 A / 9 V DC @ 3 A / 12 V DC @ 3.75 A / 15 V DC @ 3 A - 45 W USB-C	
	5 V DC @ 3 A / 9 V DC @ 3 A / 10 V DC @ 3.75 A / 12 V DC @ 3.75 A / 15 V DC @ 3 A / 20 V DC @ 2.25 A - 45 W USB-C	
Temperature		
Operating	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity (noncondensing)		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		
Operating	-15 m to 3,048 m	-50 ft to 10,000 ft
Nonoperating	-15 m to 12,192 m	-50 ft to 40,000 ft



NOTE: Applicable product safety standards specify thermal limits for plastic surfaces. The device operates well within this range of temperatures.

29.5 cm (11.6 in) display specifications

This section provides specifications for your display.

Table 10-2 Display specifications

	Metric	U.S.
Active diagonal size	35.6 cm	14.0 in
Resolution	1920 × 1080 (FHD)	
	1366 × 768 (HD)	
Surface treatment	Antiglare	
Brightness	300 nits	
	250 nits	
Viewing angle	SVA	
	UWVA	
Backlight	LED	
	WLED	
Display panel interface	eDP	

11 Power cord set requirements

This chapter provides power cord requirements for countries and regions.

The wide-range input feature of the computer permits it to operate from any line voltage from 100 V AC to 120 V AC, or from 220 V AC to 240 V AC.

The three-conductor power cord set included with the computer meets the requirements for use in the country or region where the equipment is purchased.

Power cord sets for use in other countries or regions must meet the requirements of the country and region where the computer is used.

Requirements for all countries

These power cord requirements are applicable to all countries and regions.

- The length of the power cord set must be at least **1.0 m** (3.3 ft) and no more than **2.0 m** (6.5 ft).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.
- The power cord sets must have a minimum current capacity of 10 A and a nominal voltage rating of 125 V AC or 250 V AC, as required by the power system of each country or region.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the computer.

Requirements for specific countries and regions

To determine power cord requirements for specific countries and regions, use this table.

Table 11-1 Power cord requirements for specific countries and regions

Country/region	Accredited agency	Applicable note number
Argentina	IRAM	1
Australia	SAA	1
Austria	OVE	1
Belgium	CEBEC	1
Brazil	ABNT	1
Canada	CSA	2
Chile	IMQ	1
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1

Table 11-1 Power cord requirements for specific countries and regions (continued)

Country/region	Accredited agency	Applicable note number
Germany	VDE	1
India	BIS	1
Israel	SII	1
Italy	IMQ	1
Japan	JIS	3
Netherlands	KEMA	1
New Zealand	SANZ	1
Norway	NEMKO	1
People's Republic of China	CCC	4
Saudi Arabia	SASO	7
Singapore	PSB	1
South Africa	SABS	1
South Korea	KTL	5
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	6
Thailand	TISI	1
United Kingdom	ASTA	1
United States	UL	2

1. The flexible cord must be Type HO5VV-F, three-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
2. The flexible cord must be Type SVT/SJT or equivalent, No. 18 AWG, three-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V AC) or NEMA 6-15P (15 A, 250 V AC) configuration. CSA or C-UL mark. UL file number must be on each element.
3. The appliance coupler, flexible cord, and wall plug must bear a T mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCTF, three-conductor, 0.75 mm² or 1.25 mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V AC) configuration.
4. The flexible cord must be Type RVV, three-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the CCC certification mark.
5. The flexible cord must be Type HO5VV-F three-conductor, 0.75 mm² conductor size. KTL logo and individual approval number must be on each element. Approval number and logo must be printed on a flag label.
6. The flexible cord must be Type HVCTF three-conductor, 1.25 mm² conductor size. Power cord set fittings (appliance coupler, cable, and wall plug) must bear the BSMI certification mark.

7. For 127 V AC, the flexible cord must be Type SVT or SJT 3-conductor, 18 AWG, with plug NEMA 5-15P (15 A, 125 V AC), with UL and CSA or C-UL marks. For 240 V AC, the flexible cord must be Type H05VV-F three-conductor, 0.75 mm² or 1.00 mm² conductor size, with plug BS 1363/A with BSI or ASTA marks.

12 Recycling

When a nonrechargeable or rechargeable battery has reached the end of its useful life, do not dispose of the battery in general household waste. Follow the local laws and regulations in your area for battery disposal.

HP encourages customers to recycle used electronic hardware, HP original print cartridges, and rechargeable batteries. For more information about recycling programs, see the HP website at <http://www.hp.com/recycle>.

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