



Maintenance and Service Guide

HP Fortis G2m 14 inch Chromebook

HP Fortis G2m 14 inch Chromebook Enterprise

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 products. Some features might 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 **Setup & User Guides**.

Software Terms

By installing, copying, downloading, or otherwise using any software product preinstalled on this computer, you agree to be bound by the terms of the HP End User License Agreement (EULA). If you do not accept these license terms, your sole remedy is to return the entire unused product (hardware and software) within 14 days for a full refund subject to the refund policy of your seller.

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, 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, 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 25](#) for details.

Accessing parts described in [Removal and replacement procedures for authorized service provider parts on page 38](#) can damage the computer or void your warranty.

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1 Product description

This table provides detailed product information.



NOTE: For the latest specifications related to your computer, go to <http://www.hp.com/support> and follow the instructions to find your product. Select **Specifications & Accessories**, select **Product information**, and then select the specifications link.

Table 1-1 Product components and their descriptions

Category	Description
Product name	HP Fortis G2m 14 inch Chromebook™ Enterprise
	HP Fortis G2m 14 inch Chromebook
Processor	MediaTek Kompanio 540
Display	14.0 in (35.6 cm) display
	FHD (1920 × 1080), LCD, antiglare, WLED, UWVA, 45% NTSC, low power, 300 nits
	FHD (1920 × 1080), LCD, antiglare, WLED, UWVA, 45% NTSC, 250 nits, touch-on panel
	HD (1368 × 768), LCD, antiglare, WLED, SVA, 45% NTSC, 250 nits
Memory	HD (1368 × 768), LCD, antiglare, WLED, UWVA, 45% NTSC, 250 nits, touch-on panel
	Memory is onboard and not accessible or upgradeable
	Supports LPDDR5x-8533 memory in the following configurations:
	• 16 GB • 8 GB • 4 GB
Primary storage	eMMC v5.0
	64 GB
	Universal Flash (UFS) v3.x
Audio and video	128 GB
	Dual speakers
Video	FHD camera (USB2, HDR, fixed, narrow field-of-view (NFOV))
	Dual-array microphone
Wireless	Integrated wireless LAN (M.2 2230 with dual antennas, onboard)
	MediaTek MT7925 Wi-Fi® 7 + Bluetooth® 6.0
	MediaTek RZ616 Wi-Fi 6E + Bluetooth 5.3
	Wireless WWAN (select products only)
	Qualcomm® SDX35 5G RedCap WWAN
Ports	Audio-out (headphone)/audio-in (microphone) combo jack

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

Category	Description
	HDMI 1.4b
	USB 3.1 Gen 1 Type-A
	USB Type-C® (2)
	- supports up to 2560 × 1600 @ 60 Hz
Keyboard	Spill- and pick-resistant keyboard, top mount design
	Clickpad
Power requirements	Battery (HP Long Life, polymer)
	3 cell, 41 Wh
	HP Fast Charge Technology
	USB-C® power adapters (select products only)
	45 W, GaN, wall mount, halogen free, foldable, 2.0 m (6.6 ft)
	45 W, GaN, wall mount, halogen free, fixed, 2.0 m (6.6 ft)
	45 W, GaN, standard, straight
	Power cord (select products only)
	C5, conventional, straight, 1.0 m (3.3 ft)
	C5, conventional, 1.0 m (3.3 ft)
	Nonstandard, black, straight, duckhead, halogen free
Security	Camera privacy cover
	Nano lock slot
	NuvoTitan security chip
Operating system	ChromeOS™
	ChromeOS with Chrome™ Education Upgrade
	ChromeOS with Chrome Enterprise Upgrade
Serviceability	End user replaceable parts
	AC adapter
	Bottom cover
	Battery

2 Components

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

Right

Use the illustration and table to identify the components on the right side of the computer.



Table 2-1 Right-side components and their descriptions

	Component	Description
(1)	Nano SIM card slot (select products only)	Supports optional Nano SIM cards.
(2)	Audio-out (headphone)/Audio-in (microphone) combo jack	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. 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>. NOTE: When a device is connected to the jack, the computer speakers are disabled.
(3)	AC adapter and battery light	• White: The AC adapter is connected and the battery is fully charged. • Amber: The AC adapter is connected and the battery is charging. • Slow blinking amber: The battery has 8% or less charge. • Fast blinking amber: The battery has an error. • Off: The battery is not charging.

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

	Component	Description
(4)	USB Type-C 5 Gbps power connector and port	Connects an AC adapter that has a USB Type-C connector, supplying power to the computer and, if needed, charging the computer battery. - and - 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. NOTE: Use a standard USB Type-C charging cable or cable adapter (purchased separately) when charging a small external device. - and - Connects a display device that has a USB Type-C connector, providing DisplayPort™ output.
(5)	Security cable slot	Attaches an optional security cable to the computer. NOTE: The security cable is designed to act as a deterrent, but it might not prevent the computer from being mishandled or stolen.

Left

Use the illustration and table to identify the components on the left side of the computer.

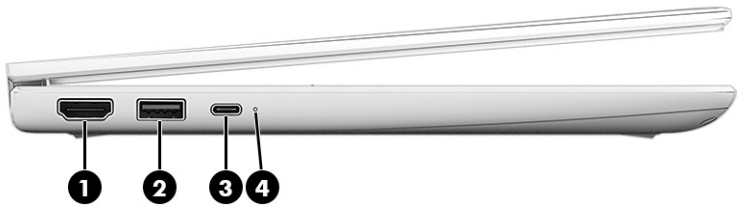


Table 2-2 Left-side components and their descriptions

	Component	Description
(1)	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.
(2)	USB 5 Gbps port	Connects a USB device, provides high-speed data transfer, and (for select products) charges 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.

Table 2-2 Left-side components and their descriptions (continued)

Component	Description
(3) USB Type-C 5 Gbps power connector and port	Connects an AC adapter that has a USB Type-C connector, supplying power to the computer and, if needed, charging the computer battery. - and - 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. NOTE: Use a standard USB Type-C charging cable or cable adapter (purchased separately) when charging a small external device. - and - Connects a display device that has a USB Type-C connector, providing DisplayPort output.
(4) AC adapter and battery light	• White: The AC adapter is connected and the battery is fully charged. • Amber: The AC adapter is connected and the battery is charging. • Slow blinking amber: The battery has 8% or less charge. • Fast blinking amber: The battery has an error. • Off: The battery is not charging.

Display

Use these illustrations and tables to identify the components on the display.



NOTE: Refer to the illustration that most closely matches your computer.

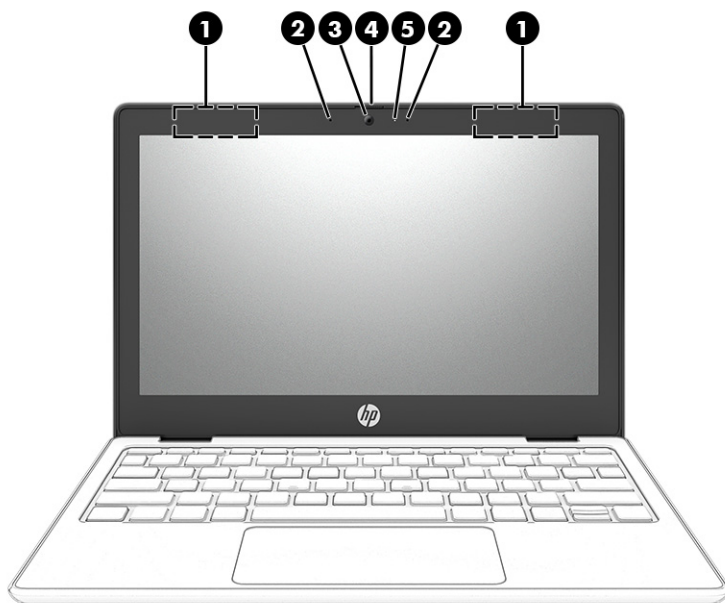


Table 2-3 Display components and their descriptions

	Component	Description
(1)	WLAN antennas* (2)	Send and receive wireless signals to communicate with wireless local area networks (WLANs).
(2)	Internal microphones (2)	Record sound.
(3)	Camera	Allows you to video chat, record video, and record still images. NOTE: Camera functions vary depending on the camera hardware and software installed on your product.
(4)	Camera privacy cover	By default, the camera lens is uncovered, but you can slide the camera privacy cover to block the camera's view. To use the camera, slide the camera privacy cover in the opposite direction to reveal the lens.
(5)	Camera light	On (white): The camera is in use. On (amber): The camera is turned off. Off: The camera is turned off by the software.

*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.

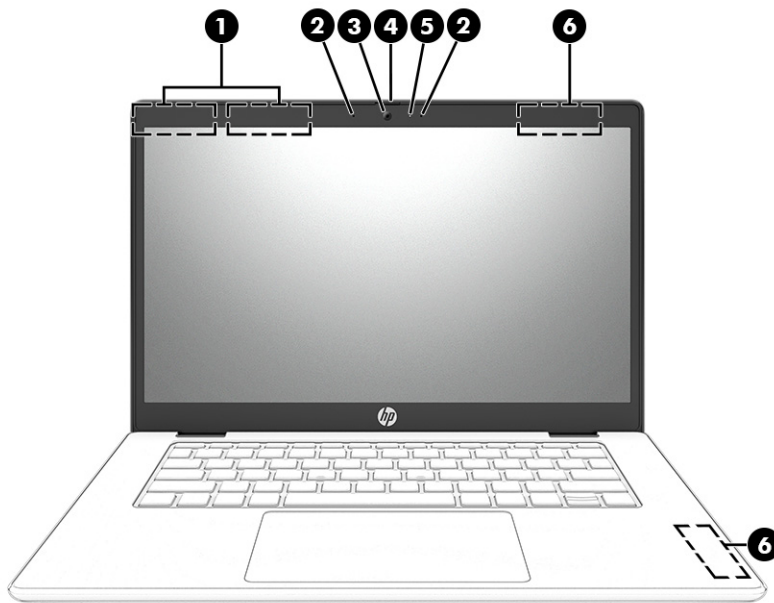


Table 2-4 Display components and their descriptions

Component	Description
(1) WLAN antennas* (2)	Send and receive wireless signals to communicate with wireless local area networks (WLANs).
(2) Internal microphones (2)	Record sound.
(3) Camera	Allows you to video chat, record video, and record still images. NOTE: Camera functions vary depending on the camera hardware and software installed on your product.
(4) Camera privacy cover	By default, the camera lens is uncovered, but you can slide the camera privacy cover to block the camera's view. To use the camera, slide the camera privacy cover in the opposite direction to reveal the lens.
(5) Camera light	On (white): The camera is in use. On (amber): The camera is turned off. Off: The camera is turned off by the software.
(6) WWAN antennas* (2) (select products only)	Send and receive wireless signals to communicate with wireless wide area networks (WWANs).

*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.

Keyboard area

Keyboards can vary by language.

Touchpad

The touchpad component is described here.

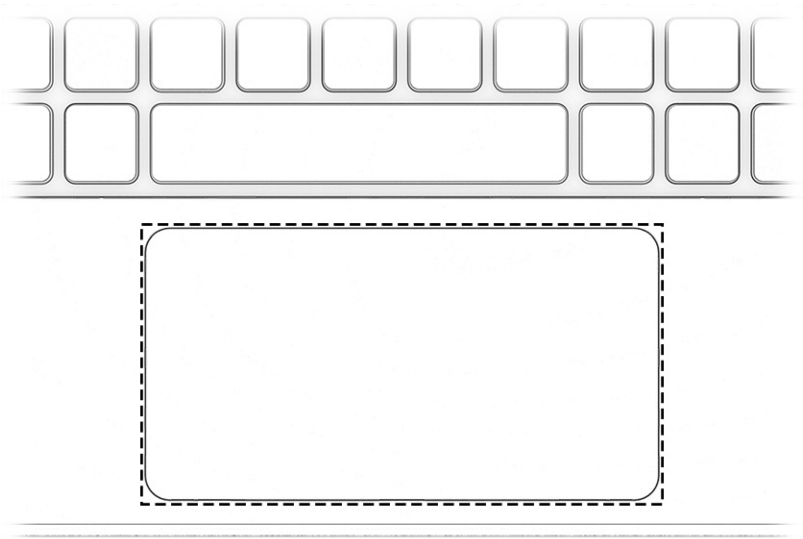


Table 2-5 Touchpad component and description

Component	Description
Touchpad zone	Reads your finger gestures to move the pointer or activate items on the screen.

Special keys

Use the illustration and table to locate the special keys.

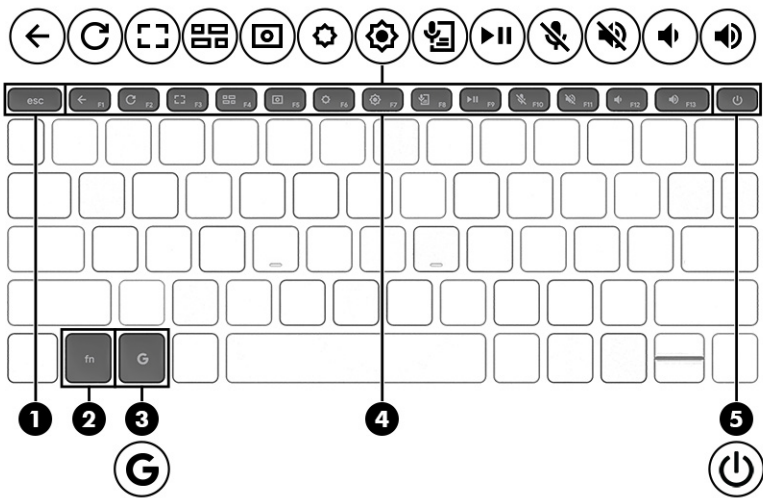


Table 2-6 Special keys and their descriptions

	Component	Description
(1)	esc key	Activates certain computer functions when pressed in combination with other keys, such as tab or shift.
(2)	fn key	Executes frequently used system functions when pressed in combination with another key.
(3)	 Google search key	Opens Google search.
(4)	Action keys	Execute frequently used system functions.
(5)	 Power key	- When the computer is off, press the key briefly to turn on the computer. - When the computer is on, press the key briefly to initiate sleep. - When the computer is in the sleep state, press the key briefly to exit sleep (select products only). IMPORTANT: Pressing and holding down the power key results in the loss of unsaved information. If the computer has stopped responding and shutdown procedures are ineffective, press and hold the power key for at least 10 seconds to turn off the computer.

Bottom

Use the illustration and table to identify the bottom components.

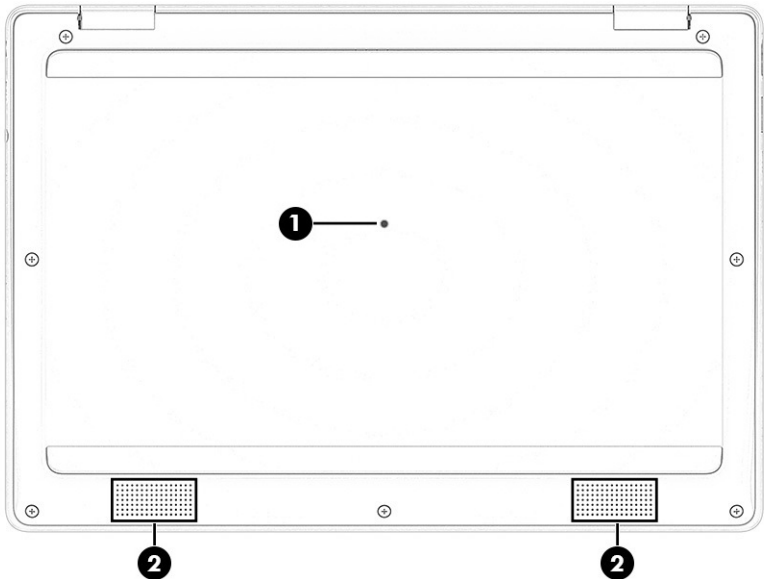


Table 2-7 Bottom components and descriptions

	Components	Description
(1)	Drain hole	Allows liquid to drain from the computer.

Table 2-7 Bottom components and descriptions (continued)

	Components	Description
(2)	Speakers (2)	Produce sound.

Labels

The labels affixed to the computer provide information you might need when you troubleshoot system problems or travel internationally with the computer. Labels might 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 one of the following examples. Refer to the illustration that most closely matches the service label on your computer.

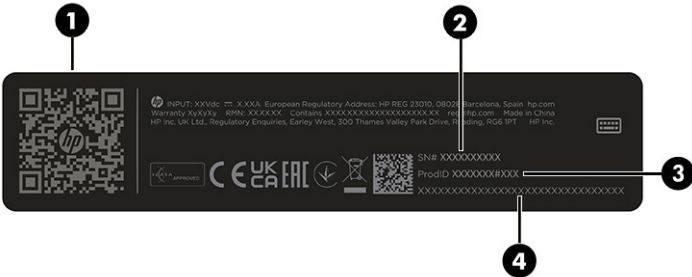


Table 2-8 Service label components

	Component
(1)	Digital passport
(2)	Serial number
(3)	Product ID
(4)	HP product name

- 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 where the devices have been approved for use.

3 Illustrated parts catalog

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

Computer major components

Use this illustration and table to identify the computer major components.

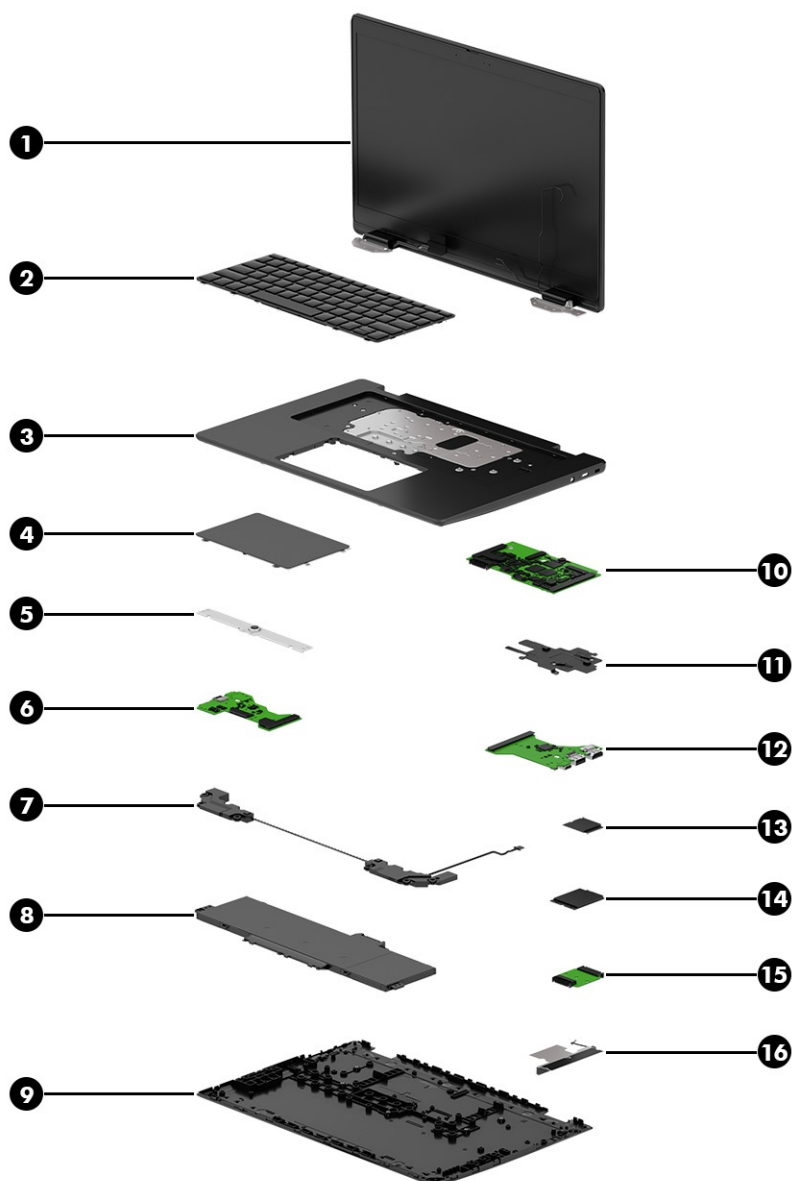


Table 3-1 Computer major component descriptions and part numbers

Item	Component	CSR category*	Spare part number
(1)	Display assembly		not available as a spare part
(2)	Keyboard	A	Q32637-xx1
	NOTE: For a detailed list of country codes, see Keyboard on page 25 .		
(3)	Top cover		
	WLAN models	N	Q32622-001
	WWAN models	N	Q32623-001
(4)	Touchpad (includes cable)	N	Q32625-001
(5)	Touchpad bracket (available in the Bracket Kit)	N	Q32630-001
(6)	Right I/O board		
	WLAN models	N	Q32614-001
	WWAN models	N	Q32615-001
(7)	Speakers (left and right)	N	Q32627-001
(8)	Battery (includes revive kit)	A	Q32638-001
(9)	Bottom cover	A	Q32624-001
(10)	System board (includes MediaTek Kompanio 540 processor, system memory, and system storage)		
	16 GB system memory, 128 GB UFS system storage	N	Q32607-001
	16 GB system memory, 128 GB UFS system storage, WWAN models	N	Q32608-001
	8 GB system memory, 128 GB UFS system storage	N	Q32604-001
	8 GB system memory, 64 GB eMMC system storage	N	Q32605-001
	8 GB system memory, 64 GB eMMC system storage, WWAN models	N	Q32606-001
	4 GB system memory, 64 GB eMMC system storage	N	Q32602-001
	4 GB system memory, 64 GB eMMC system storage, WWAN models	N	Q32603-001
(11)	Heat sink assembly (includes thermal pad)	N	Q33430-001
(12)	Left I/O board		
	WLAN models	N	Q32614-001
	WWAN models	N	Q32615-001
(13)	WLAN module		
	MediaTek MT7925 Wi-Fi 7 + Bluetooth 6.0	N	Q32633-001
	MediaTek MT7922 Wi-Fi 6E + Bluetooth 5.2	N	Q32634-001
(14)	WWAN module	N	Q32635-001
(15)	Battery adapter	N	Q32628-001
(16)	WWAN antenna	N	Q32617-001

Table 3-2 CSR part categories*

Category	Description	Replacement responsibility
CSR A	Self-service parts	Customers can replace these easily replaceable parts. Replacement by trained technicians might incur additional cost.
CSR B/C	Optional self-service parts	Skilled customers can replace these parts. Warranty replacement available via trained technicians.
CSR N	Non-self-service parts	Only trained service technicians should replace these complex parts.

Display assembly subcomponents

Use this illustration and table to identify the display assembly subcomponents.

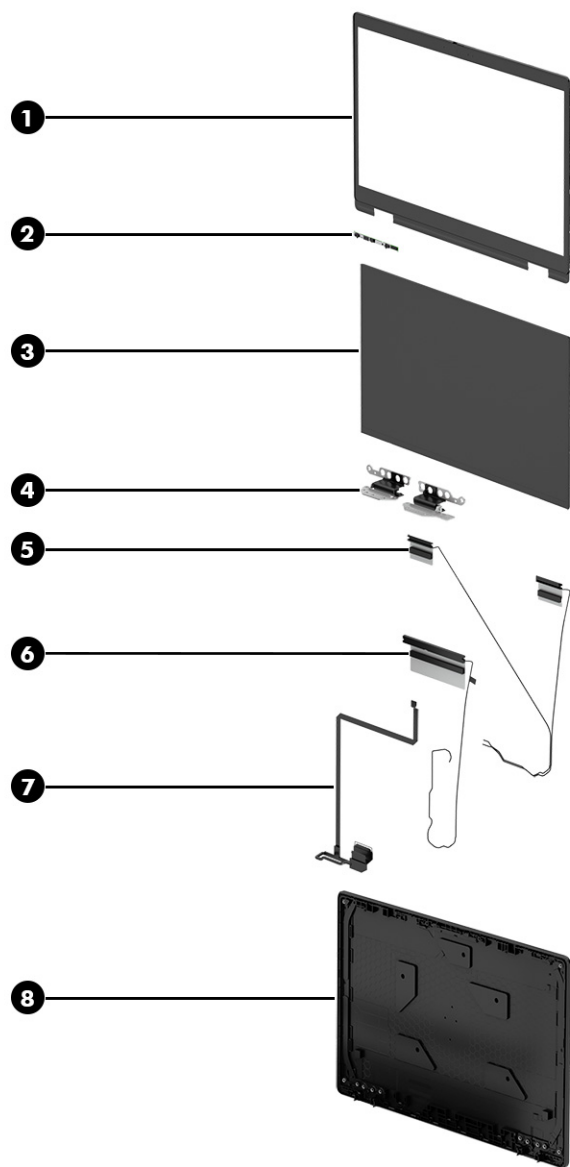


Table 3-3 Display component descriptions and part numbers

Item	Component	Spare part number
(1)	Display bezel (includes panel stretchable tape)	Q32620-001
(2)	Camera module (includes rubber and panel stretchable tape)	Q32632-001
(3)	Display panel (includes absorber, bezel adhesive and panel stretchable tape)	
	UWVA, 250 nits, touch	Q32609-001
	UWVA, 300 nits	Q32610-001
	SVA, 250 nits	Q32611-001
	SVA, 250 nits, touch	Q32612-001
(4)	Hinges (left and right) (includes hinge covers and panel stretchable tape)	Q32621-001
(5)	WLAN antennas (includes panel stretchable tape)	Q32616-001
(6)	WWAN antennas (includes panel stretchable tape)	Q32617-001
(7)	Display/camera cable (includes panel stretchable tape)	Q32613-001
(8)	Display back cover	
	WLAN models	Q32618-001
	WWAN models	Q32619-001
	Display Support Parts Kit (includes panel stretchable tape, bezel adhesive, LCD absorber, and antenna rubber (not illustrated))	Q32629-001

Miscellaneous parts

Use this table to identify the miscellaneous parts.

Table 3-4 Miscellaneous part descriptions and part numbers

Component	Spare part number
Screw Kit	Q33499-001
Bracket Kit (includes LCD top support bracket, touchpad click bracket, left and right I/O support brackets, and display panel stretchable tape)	Q32630-001
Misc Parts Kit (includes WWAN gaskets, LCD WWAN absorber, top cover touchpad protective tape, WLAN and WWAN protective tape, SIM tray, USB support bracket, system board I/O connector absorbers, WWAN absorber, waterproof protective tape, and display panel stretchable tape)	Q32631-001
Cable Kit (includes I/O board cables and touchpad cable)	Q32626-001
USB BT700 USB-C adapter	N46131-001
Nano lock	918431-001
HP Thunderbolt™ 4 100 W G6 Dock (with cable)	P34015-001
Bottom case for use with G6 docking station	P34055-001
Top cover for use with G6 docking station	P34054-001
Cable Kit (100 W/180 W) for use with G6 docking station	P34060-001
PCA board for use with G6 docking station	P34056-001

Table 3-4 Miscellaneous part descriptions and part numbers (continued)

Component	Spare part number
Power button for use with Thunderbolt 4 G6 docking station	P34106-001
Power button for use with USB-C G6 docking station	P62170-001
Fan for use with G6 docking station	P34059-001
Cable Kit for use with USB-C 100 W USB-C G6 docking station	P62172-001
Screw Kit for use with G6 docking station	P34017-001
HP USB-C 100 W G6 dock	P62168-001
HP USB-C 100 W G6 dock, standard management	Q11865-001
Poly Voyager 4320 USB-A Headset	N57159-001
Blackwire 3325 BW3325 USB-A Headset	N45998-001
Blackwire 5220 USB-A Headset	N46012-001
VY 60UC USB-C Headset with touchscreen	N73088-001
HP Prelude 15.6 backpack	M16116-001
HP Prelude 15.6 top load case	M16117-001
HP 13-14 laptop sleeve	P64772-001
AC adapter	
45 W, USB-C, GaN, 2 pin, wall mount, 2.0 m (6.6 ft), fixed	Q05687-001
45 W, GaN, wall mount, fixed, 2 pin, 2.0 m (6.6 ft), IN	Q12867-001
45 W, USB-C, GaN, 2 pin, wall mount, 2.0 m (6.6 ft), foldable	P97931-001
45 W, USB-C, standard, straight	P38778-001
Power cord (C13, premium, 1.0 m [3.3 ft])	
Thailand bundle	M85413-001
Power cord (C13, conventional, red, 1.83 m [6.0 ft])	P79414-001
Power cord (C5, conventional, red, 1.83 m [6.0 ft])	P79415-001
Argentina	L19357-001
Australia	L19358-001
Brazil	L19359-001
Denmark	L19360-001
Europe (Austria, Belgium, Finland, France, Germany, the Netherlands, Norway, and Sweden)	L19361-001
India	L19363-001
Israel	L19362-001
Italy	L19364-001
Japan	L19365-001
North America	L19367-001
The People's Republic of China (PRC)	L19368-001

Table 3-4 Miscellaneous part descriptions and part numbers (continued)

Component	Spare part number
South Africa	L19369-001
South Korea	L19366-001
Switzerland	L19370-001
Taiwan	L19372-001
Thailand	L19371-001
Thailand (ADP + cord)	M85418-001
The United Kingdom	L19373-001
Duckhead power cord (non-standard, halogen free)	
Argentina	P57788-001
Australia	P57784-001
Brazil	P57789-001
Europe (Austria, Belgium, Finland, France, Germany, the Netherlands, Norway, and Sweden)	P57782-001
India	P57790-001
Japan	L33157-001
South Korea	P57785-001
Thailand	P57786-001
The United Kingdom	P57783-001

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.
 - 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 19](#).
 - 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	7500 V	15,000 V	35,000 V
Walking across vinyl floor	3000 V	5000 V	12,000 V
Motions of bench worker	400 V	800 V	6000 V
Removing dual in-line packages (DIPs) from plastic tube	400 V	700 V	2000 V
Removing DIPs from vinyl tray	2000 V	4000 V	11,500 V
Removing DIPs from polystyrene foam	3500 V	5000 V	14,500 V
Removing bubble pack from PCB (printed circuit board)	7000 V	20,000 V	26,500 V
Packing PCBs in foam-lined box	5000 V	11,000 V	21,000 V



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



NOTE: 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 M Ω $\pm$ 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 M Ω $\pm$ 10% resistance between the operator and ground.

Table 4-2 Static shielding protection levels

Method	Voltage
Antistatic plastic	1500
Carbon-loaded plastic	7500
Metalized 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 21](#) 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 22](#) 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 23](#).

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 22](#) 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 21](#), [Caring for wood veneer \(select products only\) on page 23](#), 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 21](#) 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 22](#) 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

Use this information to find the HP support that you need.

Table 4-3 Support information locations

Service consideration	Path to access information
Records of reported failure incidents stored on the computer	Windows®: Pre-operating system failures are logged in the BIOS Event Log. To view the BIOS Event Log: 1. Press the power button. 2. Immediately and repeatedly press esc when the power button light turns white. 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. 3. Press f10 to enter the BIOS setup. 4. Complete one of these tasks: • (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. Post-operating system failures are logged in the Event Viewer. 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.
Technical bulletins and alerts	To find technical bulletins, alerts, guides, and whitepapers: 1. Go to www.hp.com/support. 2. Follow the instructions to find your product. 3. Select Bulletins and Alerts to view technical bulletins.
Repair professionals	To locate repair professionals: 1. Go to www.hp.com. 2. Select Authorized service providers. 3. Select your location.
Component and diagnosis information, failure detection, and required action	To locate diagnosis information and actions: 1. Go to http://www.hp.com/go/techcenter/pcdiags. 2. Select the issue you want to diagnose.

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

Use these procedures to remove and replace computer components.



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

Use these procedures to remove and replace computer components.

For initial safety procedures, see [Removal and replacement procedures preliminary requirements on page 17](#).

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 power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.

Keyboard

Use this procedure to remove the keyboard. The first table includes the keyboard spare part numbers. The second table includes keyboard country codes.

Table 5-1 Keyboard description and part number

Description	Spare part number
Keyboard	Q32637-xx1

Table 5-2 Spare part country codes

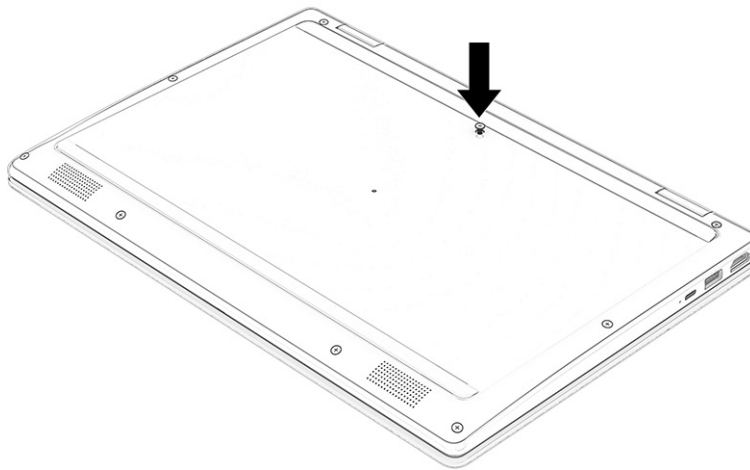
For use in country or region	Spare part number
Belgium	-A41
Denmark, Finland, and Norway	-DH1
French Canada	-DB1
France	-051
Germany	-041
Italy	-061
The Netherlands	-B31
Portugal	-131
Spain	-071
Switzerland	-BG1
United Kingdom	-031
United States	-001

Before removing the keyboard, follow these steps:

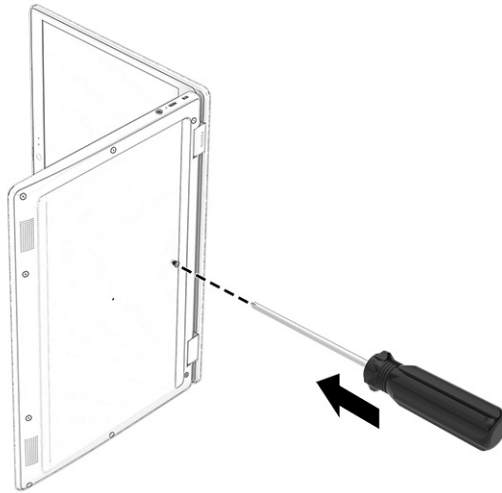
- Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).

Remove the keyboard:

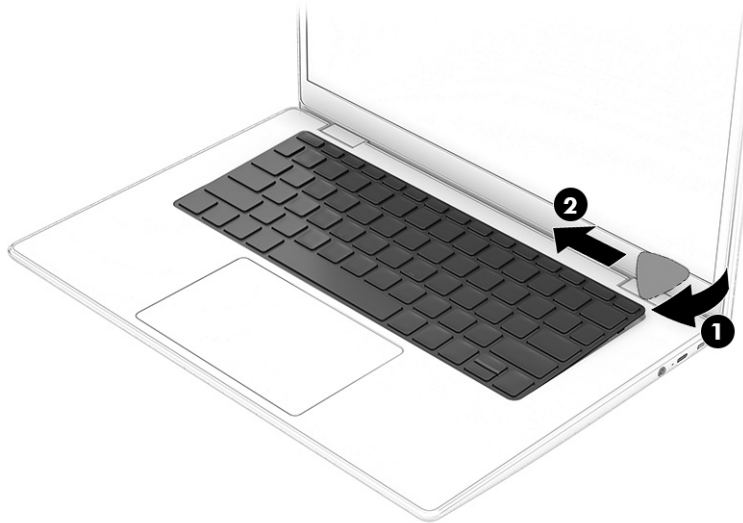
1. Position the computer upside down.
2. Loosen the top middle captive Phillips screw on the bottom cover.



3. Use a screwdriver to press the top middle screw just loosened. This pushes out the top of the keyboard so you can insert a tool in the seam to remove it.

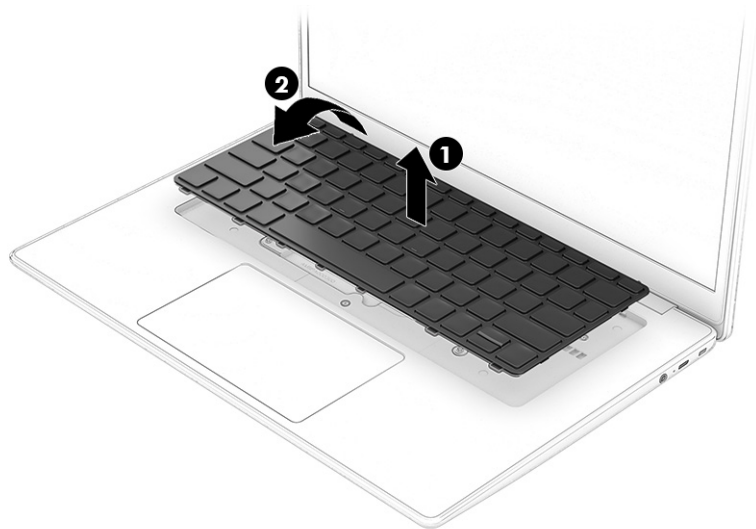


4. Insert a flat pick tool (1) into the seam at the top of the keyboard.
5. Pull the tool (2) across the entire length of the top of the keyboard.

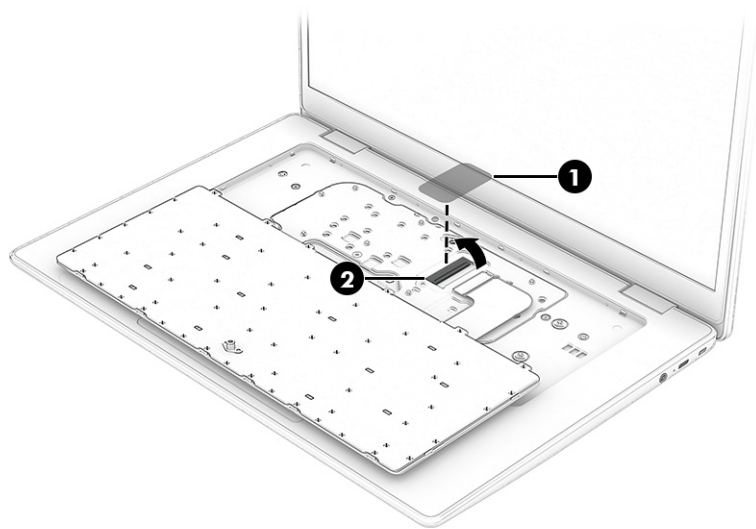


6. Lift the keyboard (1) up off the computer.

7. Place the keyboard (2) upside down on the computer.



8. Remove the plastic protector (1) from the ZIF connector and disconnect the cable from the connector (2).



Reverse this procedure to install the keyboard.

Bottom cover

Use this procedure to remove the bottom cover.

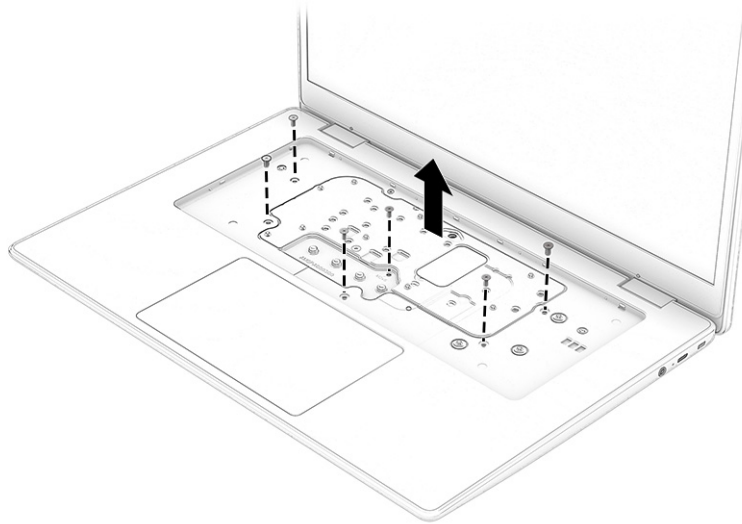
Table 5-3 Bottom cover description and part number

Description	Spare part number
Bottom cover	Q32624-001

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).

Remove the bottom cover:

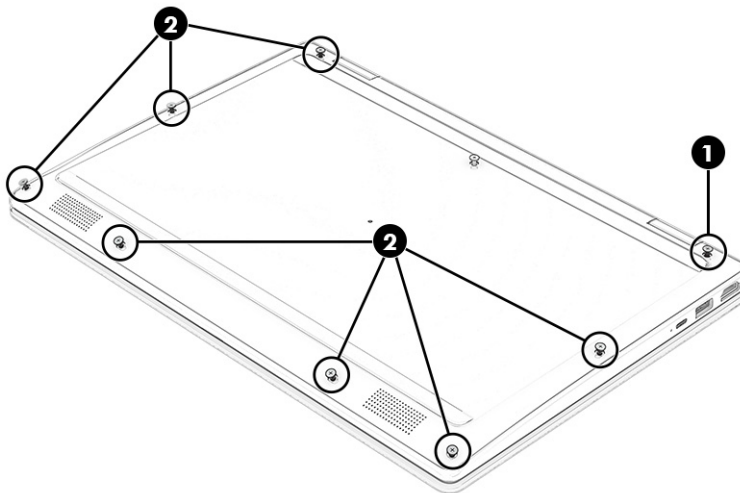
1. Position the computer upright.
2. Remove the six Phillips M2.0 × 5.0 screws from under the keyboard



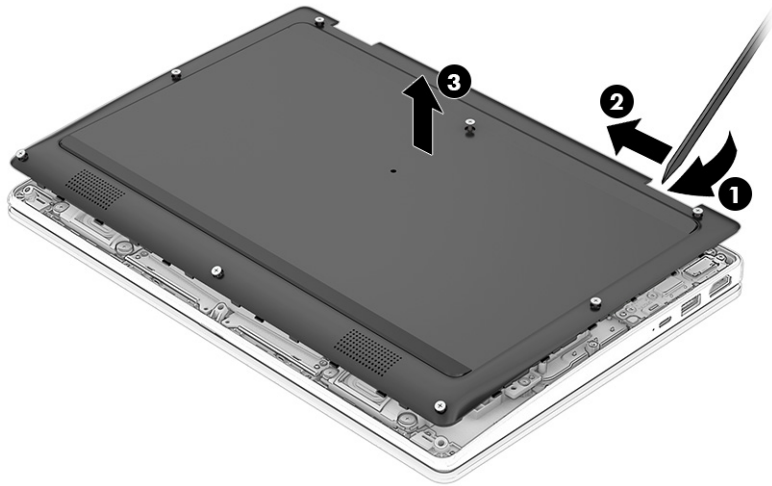
3. Position the computer upside down.
4. Loosen the captive screw **(1)** from the top right corner.

 **NOTE:** The corner of the bottom cover should pop up when you loosen this screw. The screw remains in the bottom cover. After the cover pops up, do not continue to loosen the captive screw.

5. Loosen seven captive screws **(2)** from the edges of the computer.



6. Insert a tool **(1)** into the seam at the top of the bottom cover.
7. Pull the tool **(2)** along the entire length of the seam to release the cover.
8. Remove the bottom cover **(3)** from the computer.



Reverse the removal procedures to replace the bottom cover.

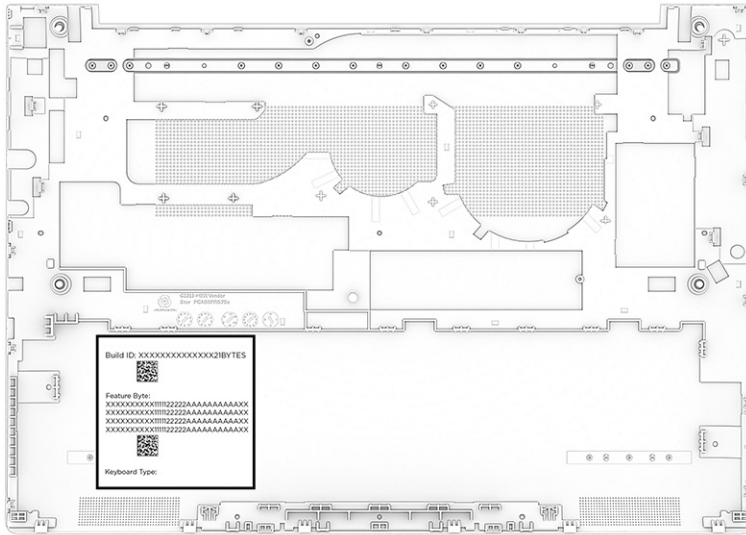
When replacing the bottom cover, remove the Feature Byte label from the inside of the old bottom cover and place it on the inside of the new bottom cover. Be sure to keep this label with the computer, because the label is required for any future repairs.

You can locate product labels:

- Laser etched on the old bottom cover.
- In HP System Information by pressing **fn + esc** when you turn on the computer.

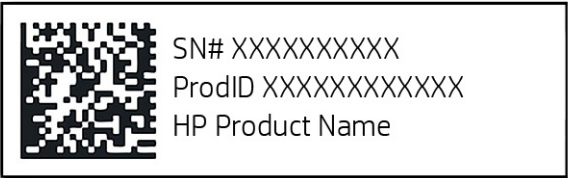


NOTE: Bottom cover appearance might vary.

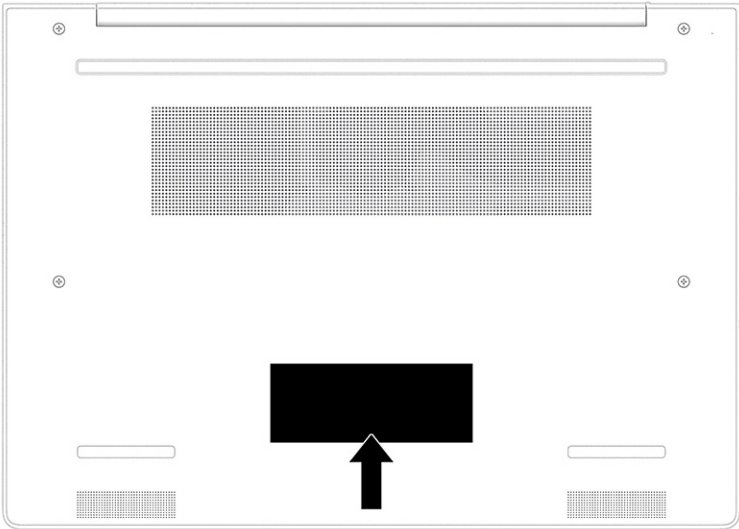


Hand write the product information onto the label of the new bottom cover. Use a ballpoint pen or marker to avoid smudging.

Example of label information



New bottom cover label location



Battery

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

- To remove and replace the existing battery, see [Removing and reinstalling the same battery on page 32](#).
- To install a new battery, see [Installing a new battery on page 33](#).

Removing and reinstalling the same battery

Use this procedure to remove the battery and reinstall it.

 **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, which can cause a short inside the battery that 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 on 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.
-

For additional battery information, see the *Regulatory, Safety, and Environmental Notices*. To access this guide, select the **Search** icon in the taskbar, type `HP Documentation` in the search box, and then select **HP Documentation**.

Before removing the battery, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).

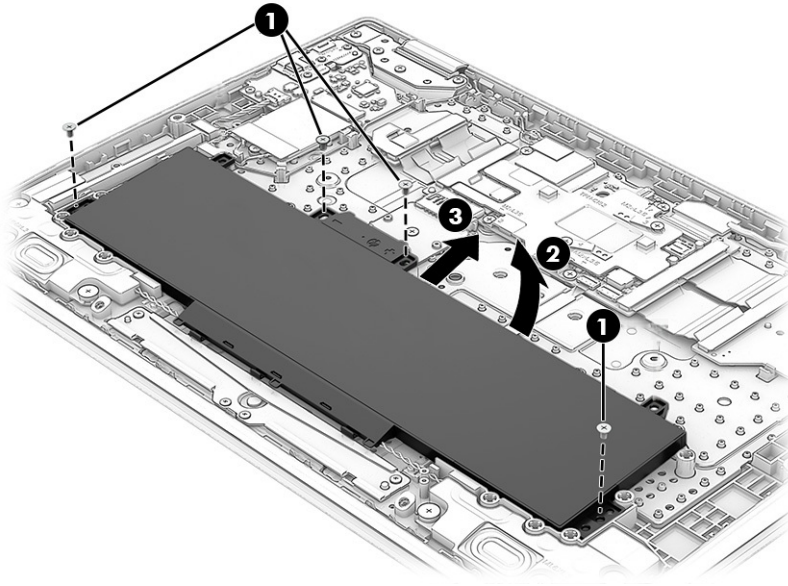
 **WARNING!** To reduce potential safety issues, use only the user-replaceable battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased from HP.

 **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. Lift up the top of the battery (2), and then pull the battery (3) toward the computer to remove it.



Reverse the removal procedures to reinstall 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.

Installing a new battery

Use this procedure to install a battery. 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 5-4 Battery description and part number

Description	Spare part number
Battery (includes revive kit)	Q32638-001

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 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).

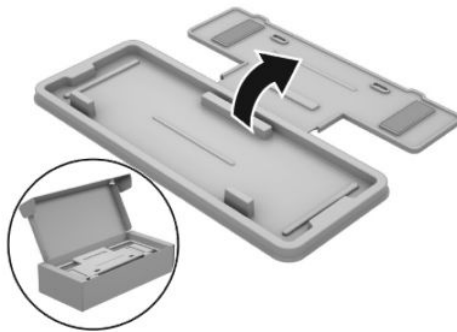


WARNING! To reduce potential safety issues, use only the user-replaceable battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased from HP.

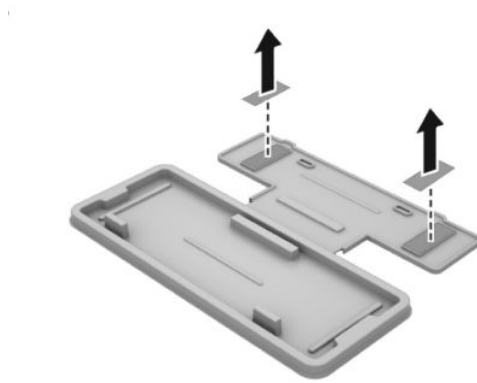


IMPORTANT: Removing a battery that is the sole power source for the computer can cause loss of information. To prevent loss of information, save your work or shut down the computer through Windows before you remove the battery.

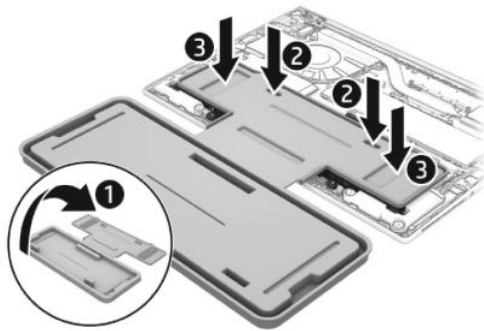
1. To remove the battery using the revive kit:
 - a. Open the empty battery containment tray.



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

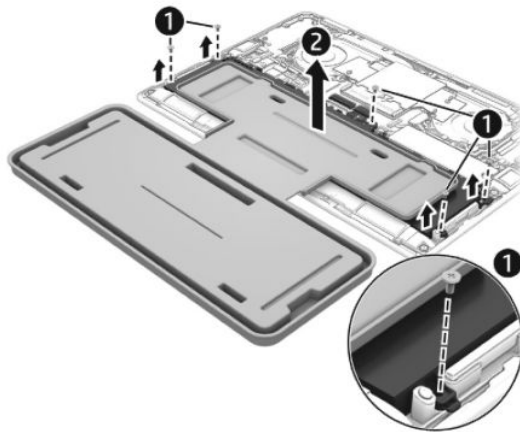


- c. Turn the tray **(1)** over so that the adhesive is facing down.
- d. Place the tray **(2)** centered on the battery.
- e. Press down on the indentations on the tray **(3)** to adhere it to the battery.

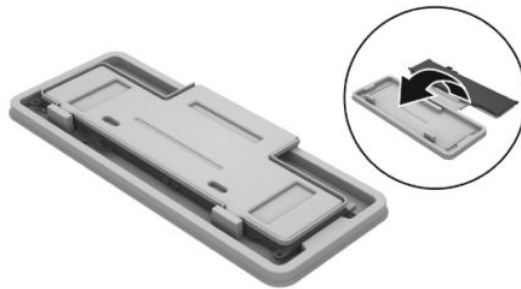


- f. Remove the Phillips screws **(1)** that secure the battery to the computer. Number of screws and screw locations might vary.

- 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.

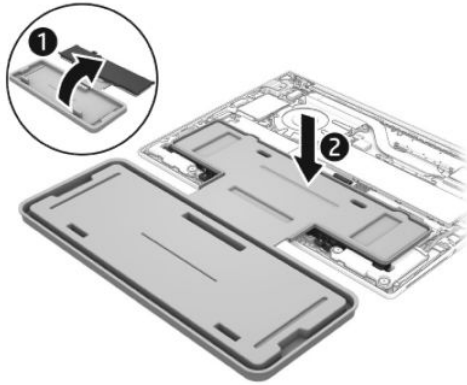


NOTE: Please recycle responsibly. For more information about recycling programs, see the HP website at <http://www.hp.com/recycle>.

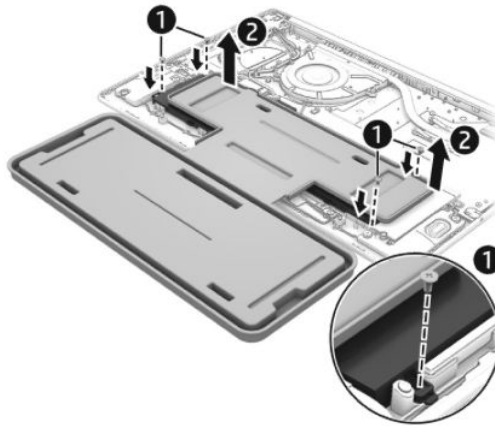
2. To install the battery using the revive kit:
- a. Open the containment tray that includes the new battery.
 - b. Turn the tray **(1)** over so the battery is facing downward, and then insert the battery **(2)** into the computer. Adhesive secures the battery to the tray.



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 Phillips screws **(1)** to secure the battery. Number of screws and 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

Use the procedures described in this section to remove and replace computer components.

-  **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.

WLAN module

Use this procedure to remove the WLAN module.

Table 6-1 WLAN module descriptions and part numbers

Description	Spare part number
MediaTek MT7925 Wi-Fi 7 + Bluetooth 6.0	Q32633-001
MediaTek MT7922 Wi-Fi 6E + Bluetooth 5.2	Q32634-001

-  **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:

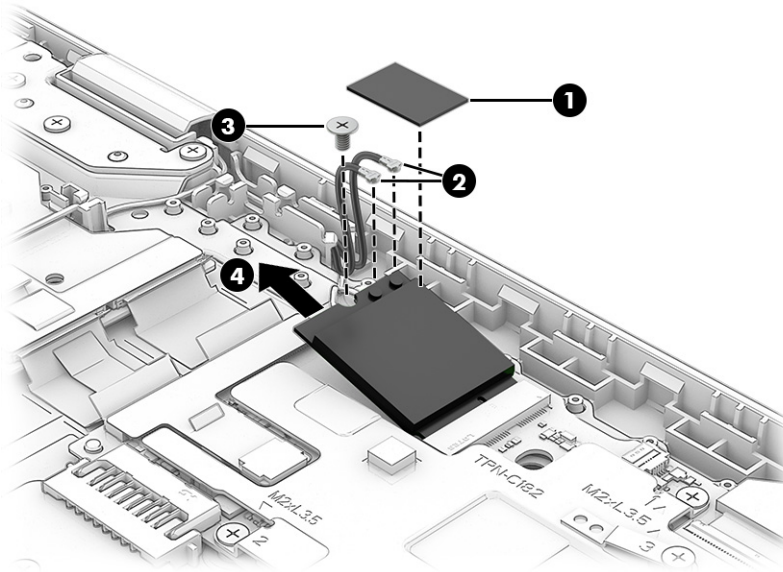
1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

Remove the WLAN module:

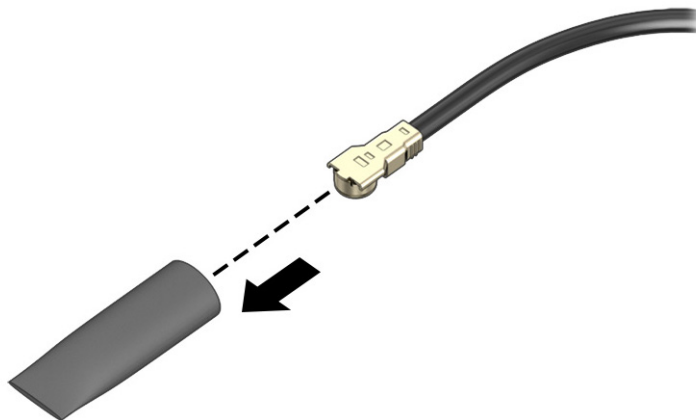
1. Remove the plastic protector **(1)** that covers the antennas.
2. Carefully disconnect the antenna cables **(2)** from the module.
3. Remove the Phillips M2.0 × 3.0 screw **(3)**, and then pull the WLAN module **(4)** out of the socket.



NOTE: The #1 white WLAN antenna cable connects to the WLAN module #1 Main terminal. The #2 black WLAN antenna cable connects to the WLAN module #1 Aux terminal.



4. 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.



Reverse this procedure to install the WLAN module.

WWAN module

Use this procedure to remove the WWAN module.

Table 6-2 WWAN module description and part number

Description	Spare part number
WWAN module	Q32635-001

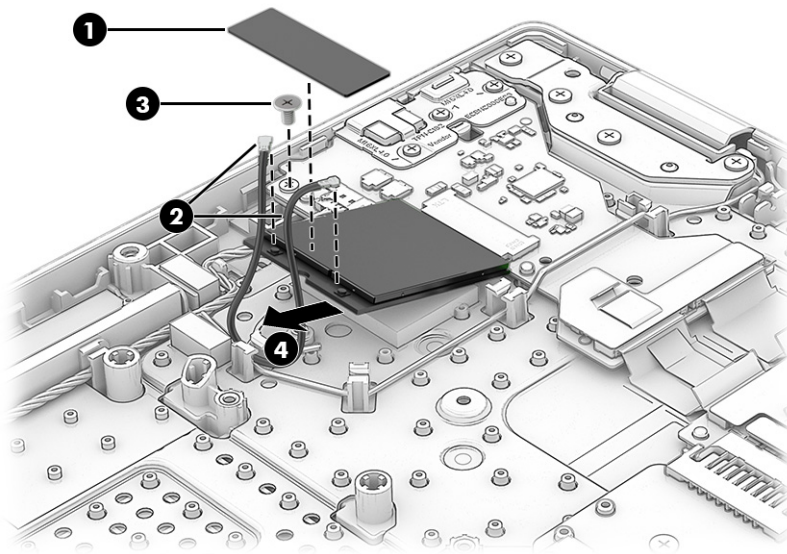
 **IMPORTANT:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module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

Before removing the WWAN module, follow these steps:

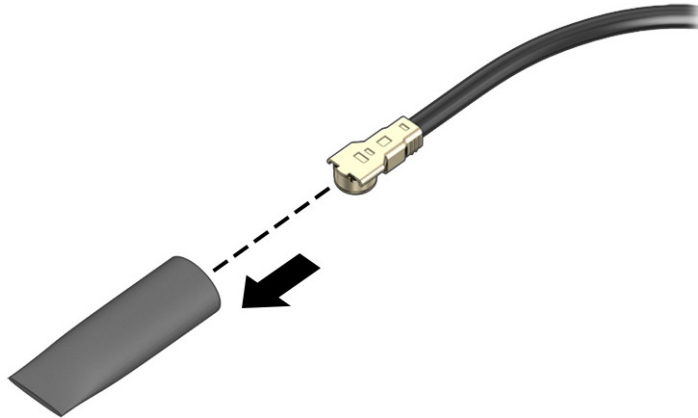
1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

Remove the WWAN module:

1. Remove the antenna protector **(1)** from the module.
2. Disconnect the antenna cables **(2)** from the terminals on the module.
3. Remove the Phillips M2.0 × 3.0 screw **(3)** that secures the module. The module tilts up.
4. Remove the module **(4)** by pulling it away from the slot at an angle.



5. If the WWAN antenna is not connected to the terminal on the WWAN module, a protective sleeve must be installed on the antenna connector, as shown in the following illustration.



Reverse this procedure to install the WWAN module.

Speakers

Use this procedure to remove the speakers.

Table 6-3 Speaker description and part number

Description	Spare part number
Speakers	Q32627-001

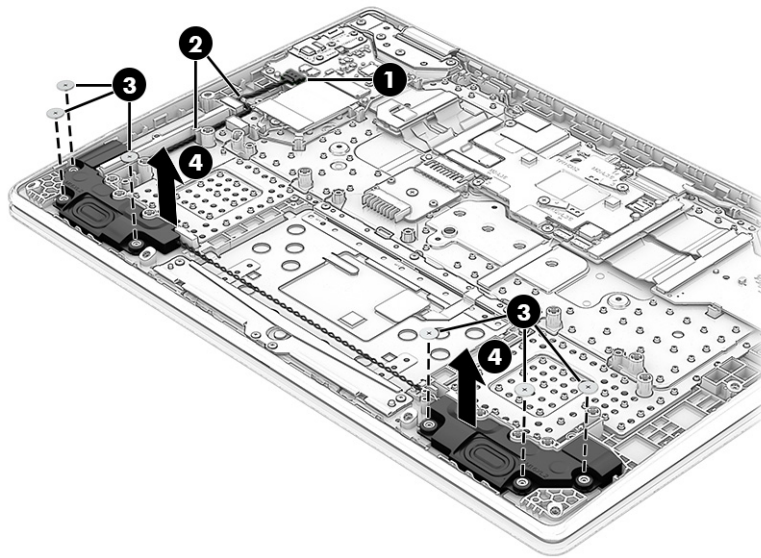
Before removing the speakers, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

Remove the speakers:

1. Disconnect the speaker cable **(1)** from the system board.
2. Remove the cable from the clips **(2)** above the left speaker.
3. Remove the six Phillips M1.2 × 2.0 screws **(3)** that secure the speakers.

4. Remove the speakers **(4)** from the computer.



Reverse this procedure to install the speakers.

WWAN antenna

Use this procedure to remove the WWAN antenna.

Table 6-4 WWAN antenna description and part number

Description	Spare part number
WWAN antenna	Q32617-001

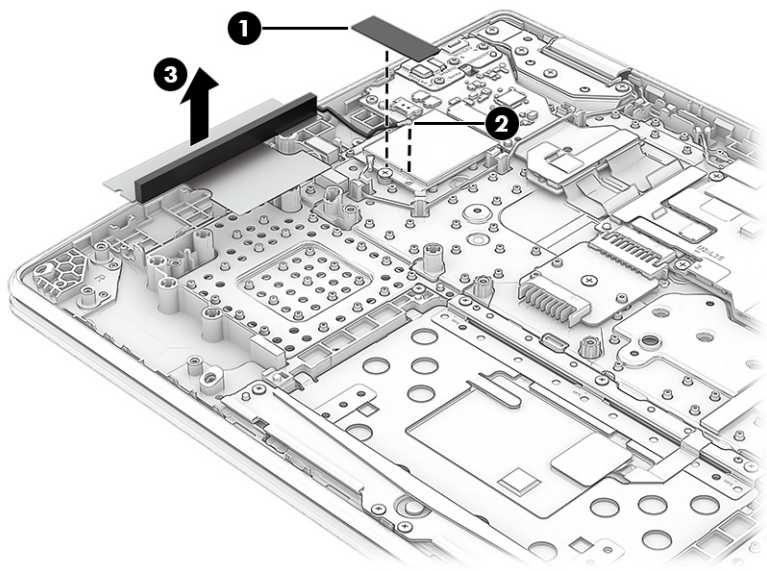
Before removing the WWAN antenna, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).
5. Remove the left speaker (see [Speakers on page 41](#)).

Remove the WWAN antenna:

1. Remove the plastic **(1)** that covers the antenna connectors.
2. Disconnect the right antenna cable **(2)** from the WWAN module.

3. Peel the antenna **(3)** off the computer.



Reverse this procedure to install the WWAN antenna.

Touchpad

Use this procedure to remove the touchpad.

Table 6-5 Touchpad description and part number

Description	Spare part number
Touchpad (includes cable)	Q32625-001

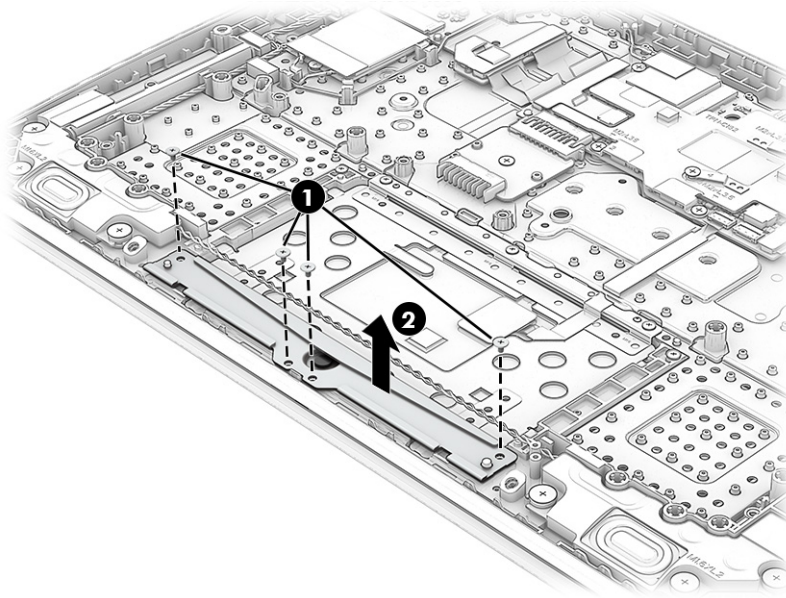
Before removing the touchpad, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

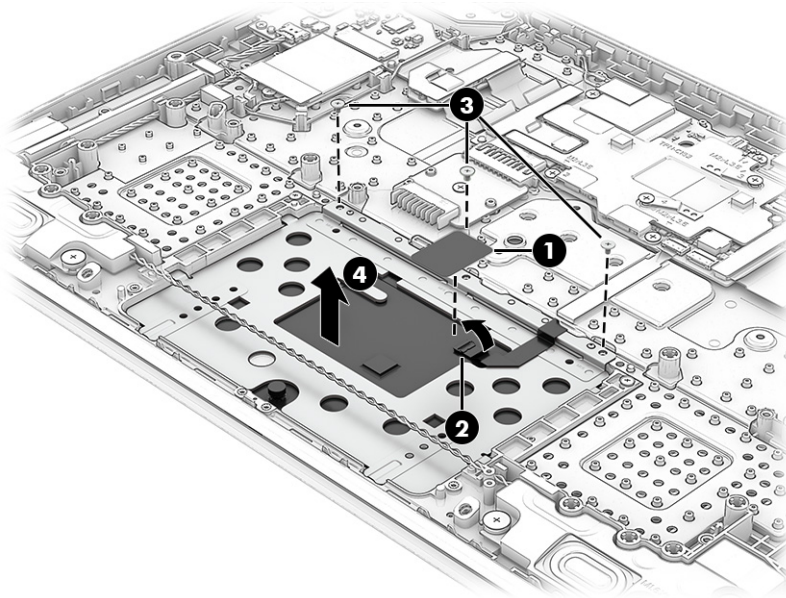
Remove the touchpad:

1. Remove the four Phillips M1.6 × 2.5 screws **(1)** from the touchpad bracket.

2. Remove the bracket **(2)** from the computer.



3. Remove the protective tape **(1)** from the touchpad connector.
4. Disconnect the cable **(2)** from the ZIF connector on the touchpad.
5. Remove the three Phillips M1.6 × 2.5 screws **(3)** from the touchpad.
6. Remove the touchpad **(4)** from the computer.



Reverse the removal procedures to install the touchpad.

Battery adapter

Use this procedure to remove the battery adapter.

Table 6-6 Battery adapter description and part number

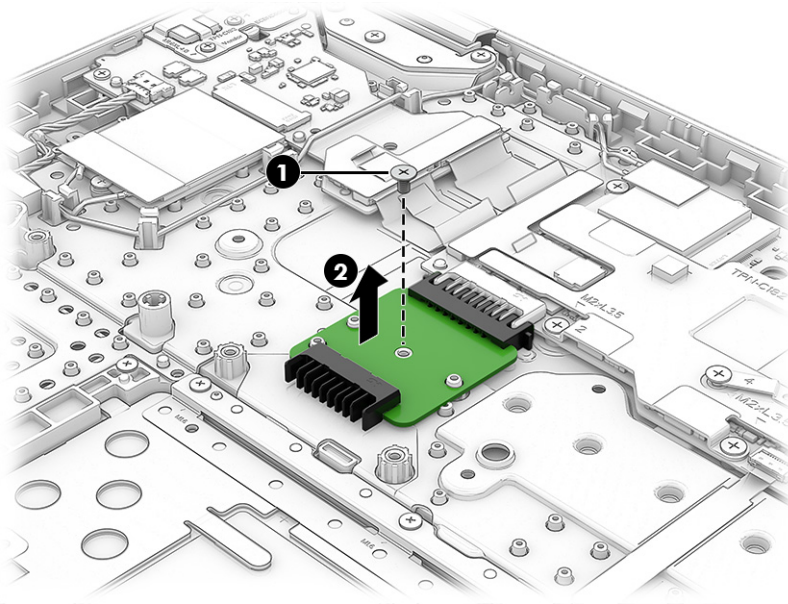
Description	Spare part number
Battery adapter	Q32628-001

Before removing the battery adapter, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

Remove the battery adapter:

1. Remove the Phillips M2.0 × 3.5 screw **(1)** that secures the battery adapter.
2. Disconnect the adapter **(2)** from the system board



Reverse this procedure to install the battery adapter.

Left I/O board

Use this procedure to remove the left I/O board.

Table 6-7 Left I/O board descriptions and part numbers

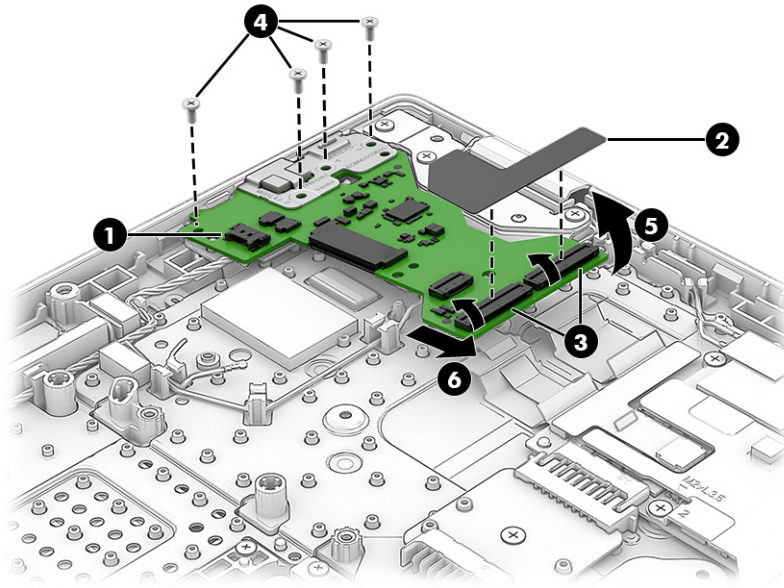
Description	Spare part number
WLAN models	Q32614-001
WWAN models	Q32615-001

Before removing the left I/O board, follow these steps:

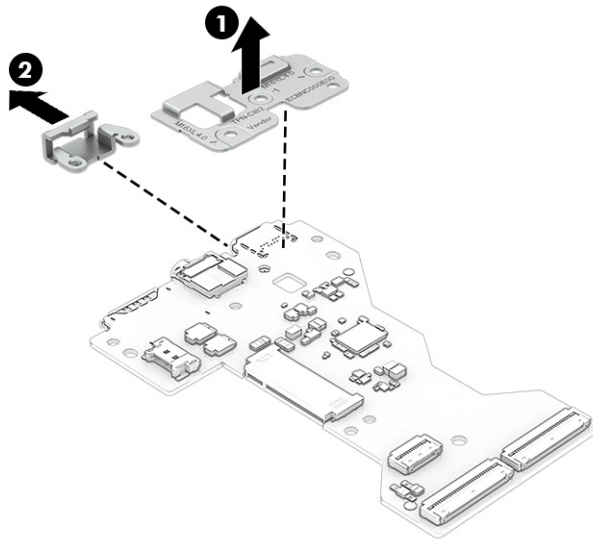
1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

Remove the left I/O board:

1. Disconnect the speaker cable **(1)** from the board.
2. Remove the tape **(2)** that covers both ZIF connectors on the board.
3. Disconnect the two cables from the ZIF connectors **(3)**.
4. Remove the four Phillips M1.6 × 4.0 screws **(4)** that secure the board.
5. Lift up the inside of the board **(5)** and pull it **(6)** into the computer to remove it.



6. When replacing the I/O board, remove the large bracket **(1)** and small bracket **(2)** from the old board and install them on the new board.



Reverse this procedure to install the left I/O board.

Right I/O board

Use this procedure to remove the right I/O board.

Table 6-8 Right I/O board descriptions and part numbers

Description	Spare part number
WLAN models	Q32614-001
WWAN models	Q32615-001

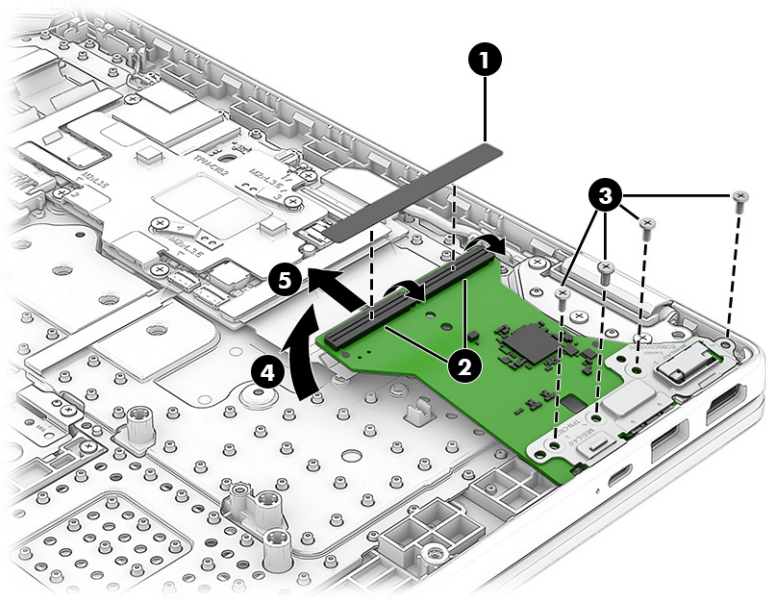
Before removing the right I/O board, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

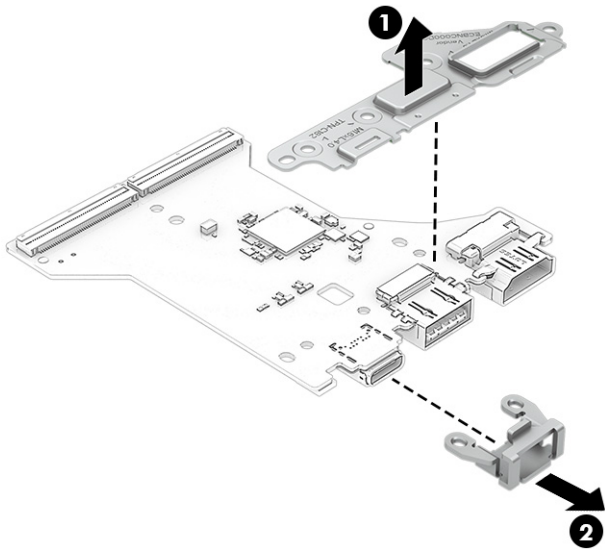
Remove the right I/O board:

1. Remove the tape **(1)** that covers both ZIF connectors on the board.
2. Disconnect the two cables from the ZIF connectors **(2)**.
3. Remove the four Phillips M1.6 × 4.0 screws **(3)** that secure the board.

4. Lift up the inside of the board (4) and pull it (5) into the computer to remove it.



5. When replacing the I/O board, remove the large bracket (1) and small bracket (2) from the old board and install them on the new board.



Reverse this procedure to install the right I/O board.

System board

Use this procedure to remove the system board.

Table 6-9 System board descriptions and part numbers

Description	Spare part number
System board (includes MediaTek Kompanio 540 processor, system memory, and system storage)	

Table 6-9 System board descriptions and part numbers (continued)

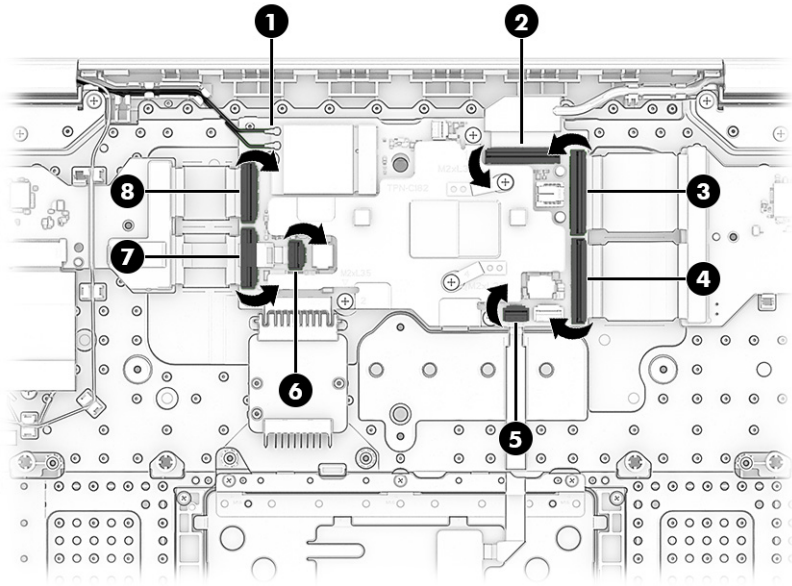
Description	Spare part number
16 GB system memory, 128 GB UFS system storage	Q32607-001
16 GB system memory, 128 GB UFS system storage, WWAN models	Q32608-001
8 GB system memory, 128 GB UFS system storage	Q32604-001
8 GB system memory, 64 GB eMMC system storage	Q32605-001
8 GB system memory, 64 GB eMMC system storage, WWAN models	Q32606-001
4 GB system memory, 64 GB eMMC system storage	Q32602-001
4 GB system memory, 64 GB eMMC system storage, WWAN models	Q32603-001

Before removing the system board, follow these steps:

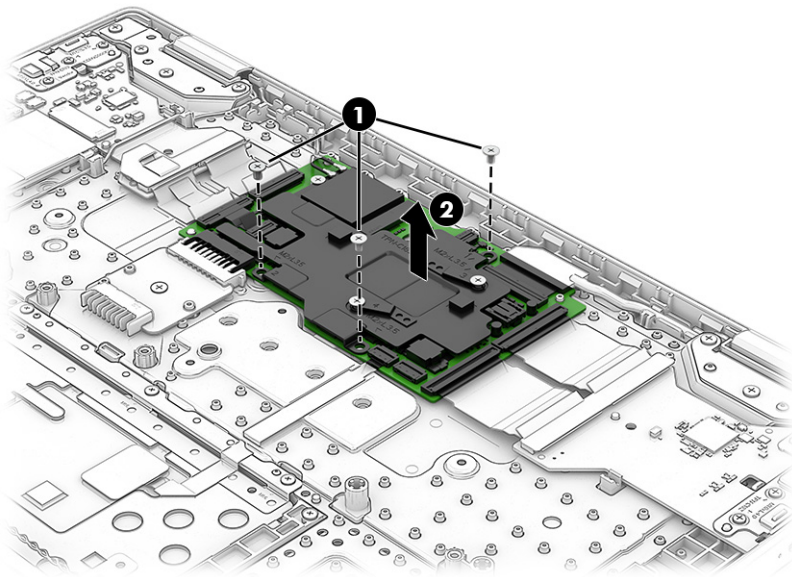
1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

Remove the system board:

1. Disconnect the following cables from the system board:
 - WLAN antennas **(1)**
 - Display cable (ZIF) **(2)**
 - Right I/O board cables **(3) (4)**
 - Touchpad cable (ZIF) **(5)**
 - Left I/O board cable **(6)**
 - Left I/O board cables (ZIF) **(7) (8)**



2. Remove the three Phillips M2.0 × 3.5 screws (1) from the system board.
3. Remove the system board (2) from the computer.



Reverse this procedure to install a system board.

Heat sink assembly

Use this procedure to remove the heat sink assembly.

Table 6-10 Heat sink assembly description and part number

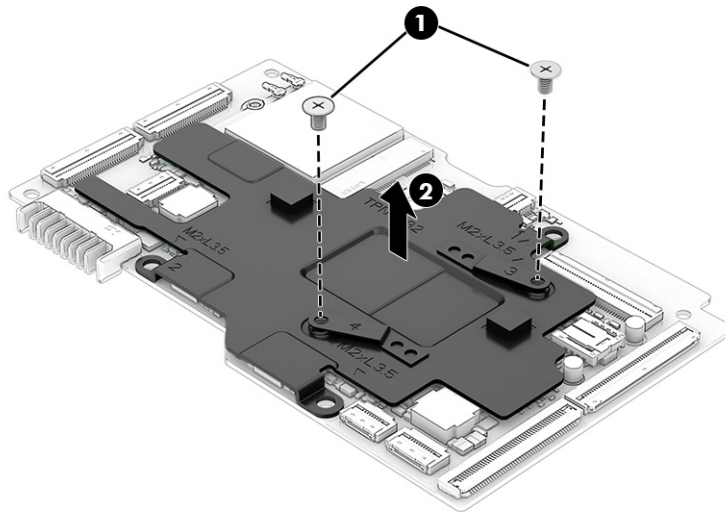
Description	Spare part number
Heat sink assembly	Q33430-001

Before removing the heat sink assembly, follow these steps:

1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

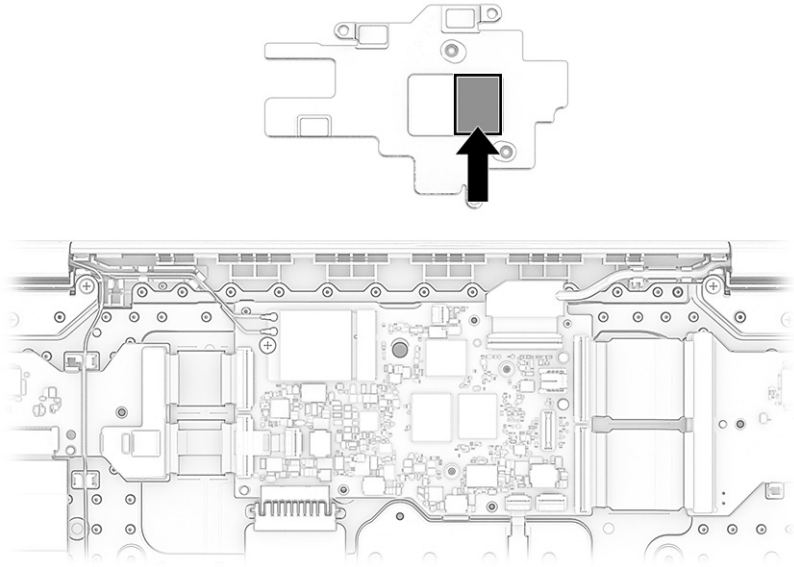
Remove the heat sink assembly:

1. Remove the two Phillips M2.0 × 3.0 screws (1) from the heat sink.
2. Lift the heat sink (2) out of the computer.



3. Thoroughly clean and replace the gray thermal paste each time it is removed.

Each time the heat sink is removed, thoroughly clean and replace the gray thermal grease from the surfaces of the heat sink and system board. Thoroughly clean the gray thermal grease from system boards that you plan to recycle, because the gray grease will no longer be in a sealed space.



Reverse this procedure to install the heat sink assembly.

Display assembly

Use this procedure to remove and disassemble the display assembly.

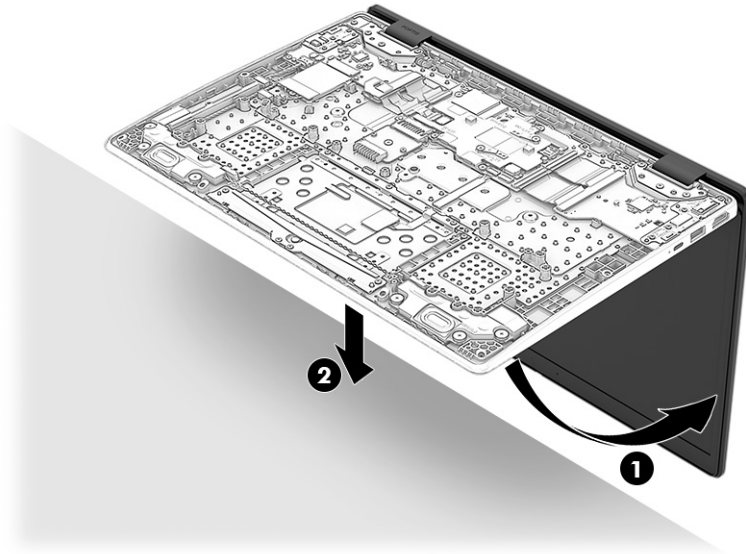
 **NOTE:** The display assembly is only available as spare parts at the subcomponent level. For display assembly spare part information, see [Display assembly subcomponents on page 13](#).

Before removing the display panel, follow these steps:

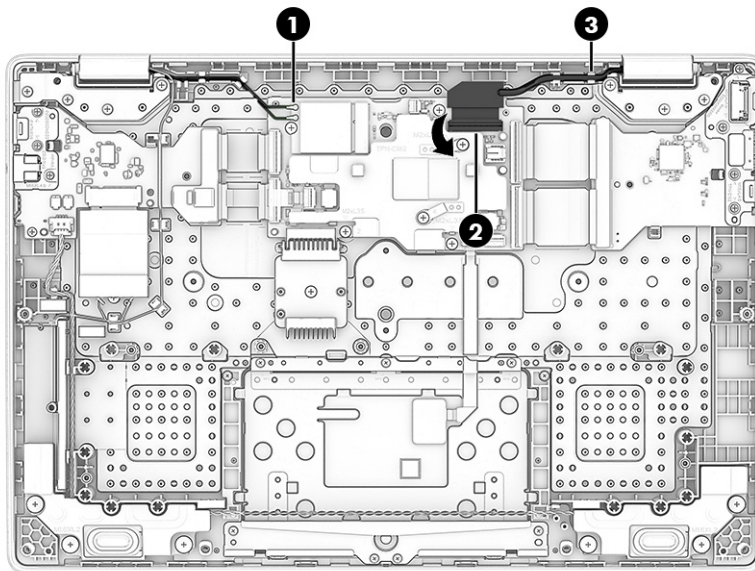
1. Prepare the computer for disassembly (see [Preparation for disassembly on page 25](#)).
2. Remove the keyboard (see [Keyboard on page 25](#)).
3. Remove the bottom cover (see [Bottom cover on page 28](#)).
4. Remove the battery (see [Removing and reinstalling the same battery on page 32](#)).

Remove the display assembly:

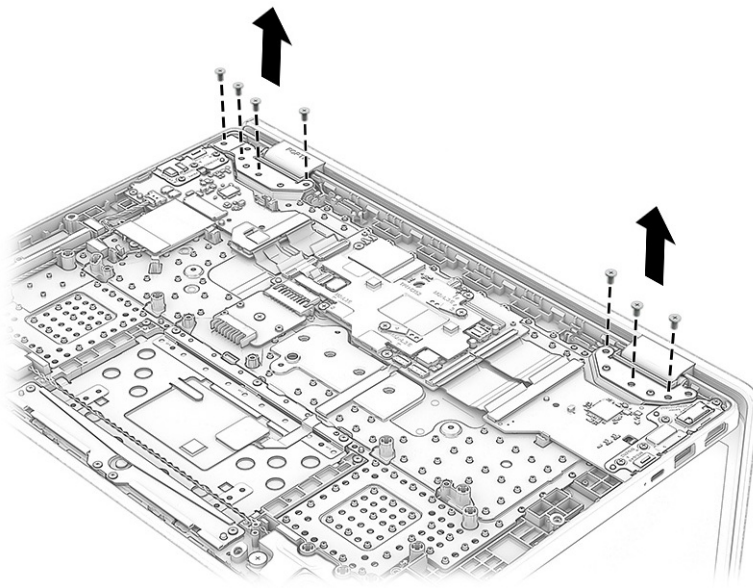
1. Open the display **(1)** and place the computer **(2)** with the keyboard facing down and the display hanging down off the side of a table.



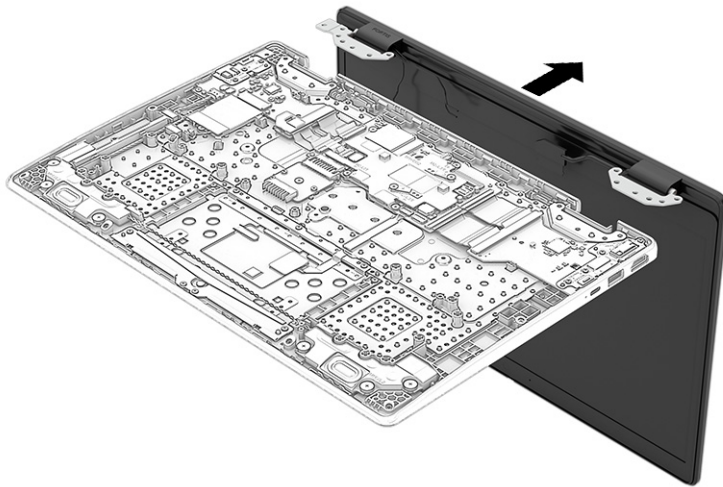
2. Remove the plastic protector from the antenna connectors on the WLAN module, and then disconnect the antenna cables **(1)** from the WLAN module.
3. Disconnect the display cable from the ZIF connector **(2)** on the system board.
4. Remove the display cable from the clip **(3)** at the top of the computer.



5. Remove the seven Phillips M2.0 × 4.5 screws that secure the display assembly to the computer.



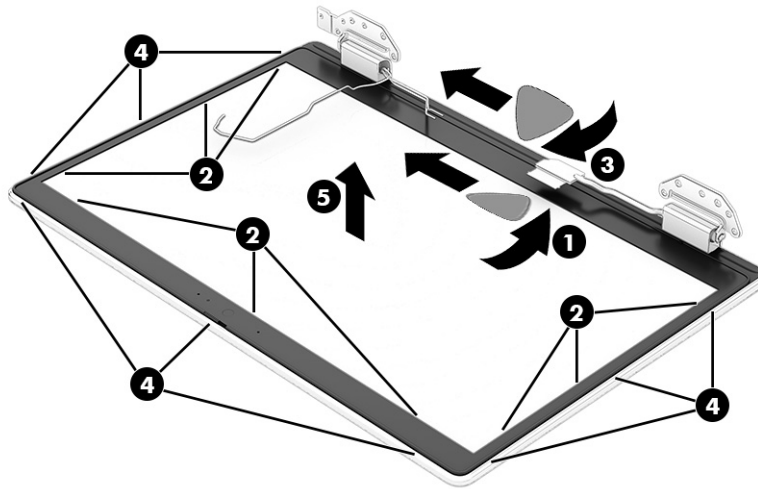
6. Separate the display from the computer.



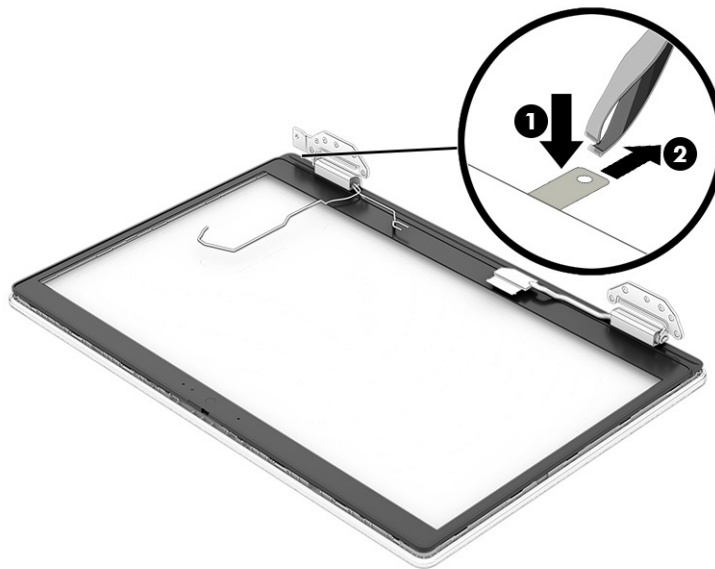
7. To remove the bezel, following these steps:

- a. Insert a pick **(1)** into the seam inside the bezel and pull the pick around all four sides **(2)** of the panel.
- b. Insert the pick **(3)** into the outside seam between the bezel and display rear cover and pull the pick around the top, left, and right sides **(4)** of the bezel.

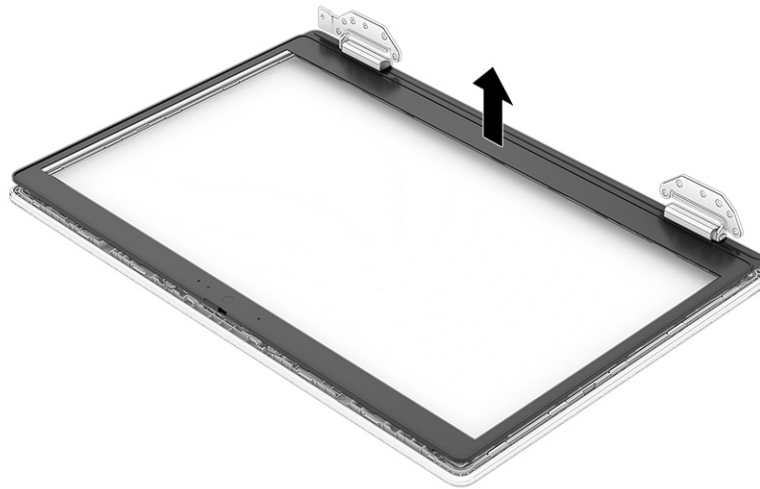
- c. Lift the bezel **(5)** to release the top, left, and right sides.



- d. Use tweezers **(1)** to grasp the stretchable tape from the bottom-right side of the bezel, and then pull the tape **(2)** out from behind the bezel.

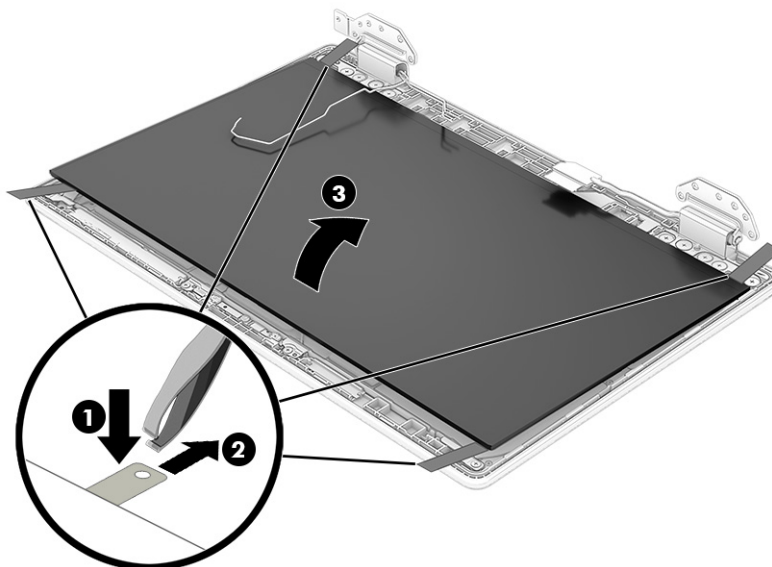


- e. Remove the bezel from the display.

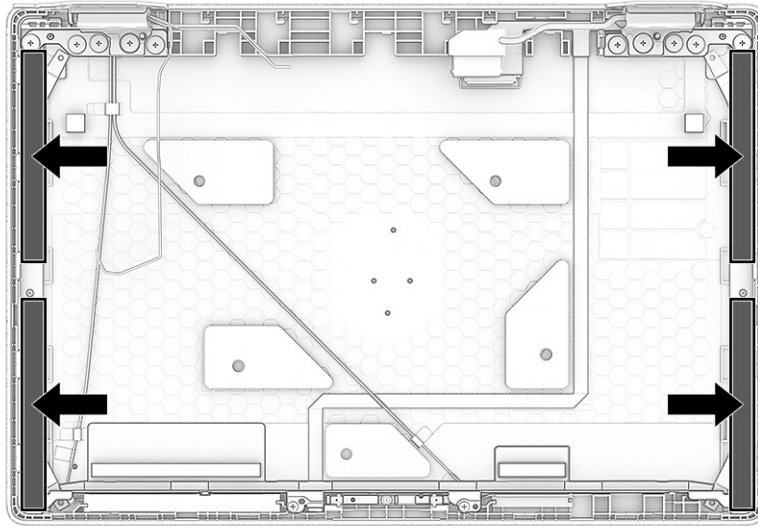


- 8. To remove the display panel:

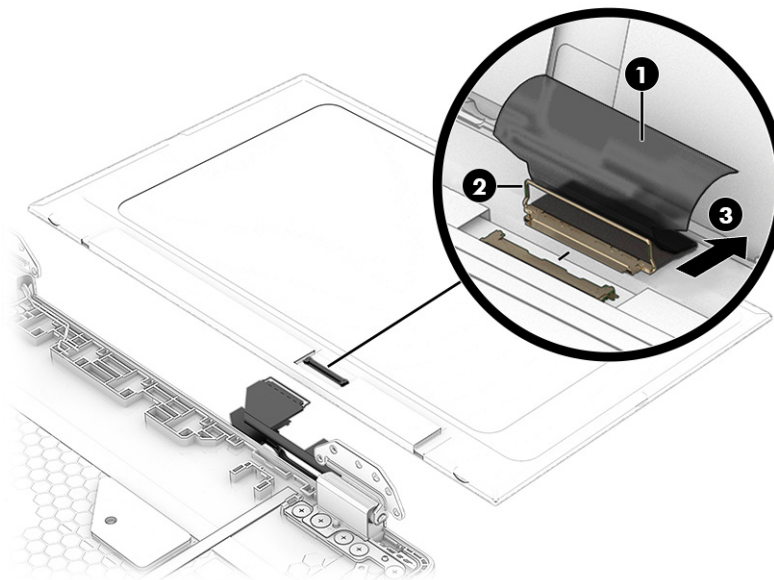
- a. Use tweezers to grasp the stretchable tape **(1)** from the bottom right side of the bezel, and then carefully pull the tape **(2)** out.
- b. Lift the top of the panel **(3)** and place it upside down next to the display rear cover.



- c.** Note the locations of the stretchable panel tape for installation of a panel.

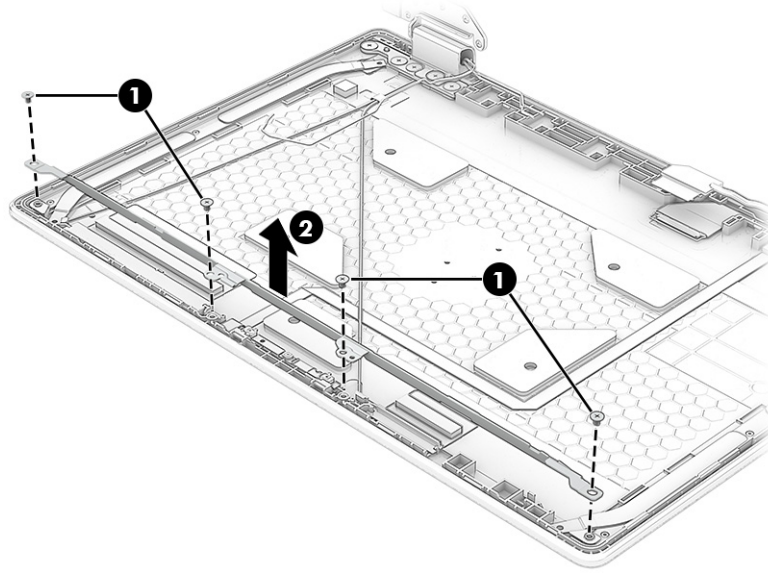


9. To remove the display cable:
 - a. Position the removed display panel upside down on a protected surface.
 - b. Peel the conductive tape **(1)** off the connector on the bottom of the panel.
 - c. Open the locking bar **(2)**, and then disconnect the cable **(3)** from the panel.

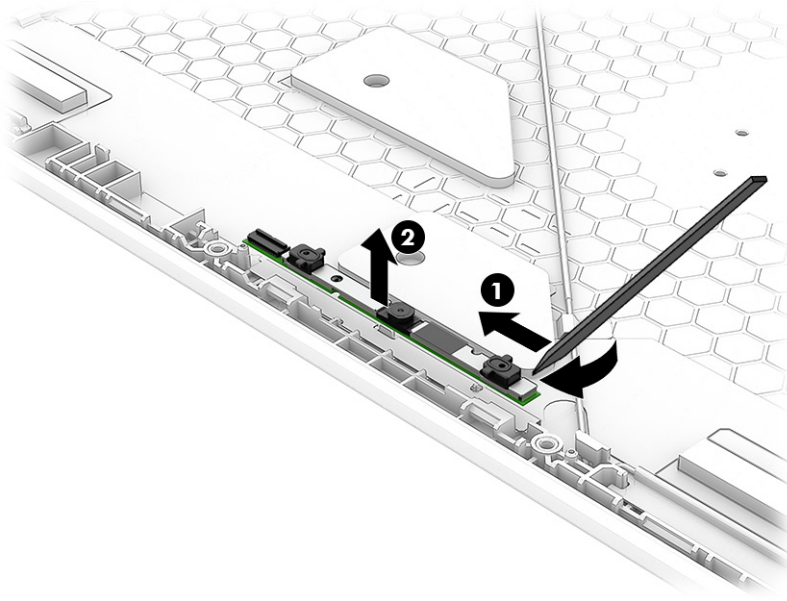


- 10.** To remove the camera module:

- a. Remove the top bracket, remove four Phillips M2.0 × 2.0 screws **(1)** from the bracket and remove the bracket **(2)** from the top of the display.



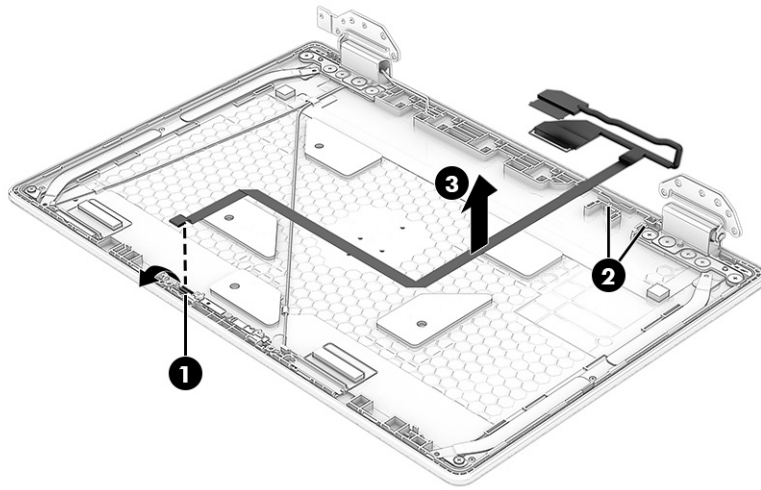
- b. Insert a tool **(1)** under the end of the camera and pull the tool the length of the module to release it.
- c. Remove the module **(2)** from the display rear cover.



11. To remove the display/camera cable:

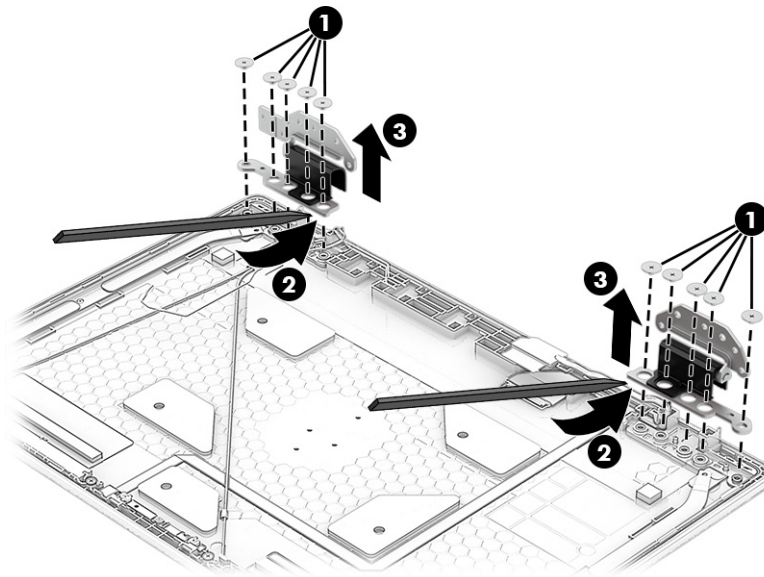
- a. Disconnect the cable from the ZIF connector **(1)** on the camera module.
- b. Remove the cable from the clips **(2)** at the bottom right of the display rear cover.

- c. Peel the cable **(3)** off the inside of the display rear cover.



12. To remove the hinges and hinge covers:

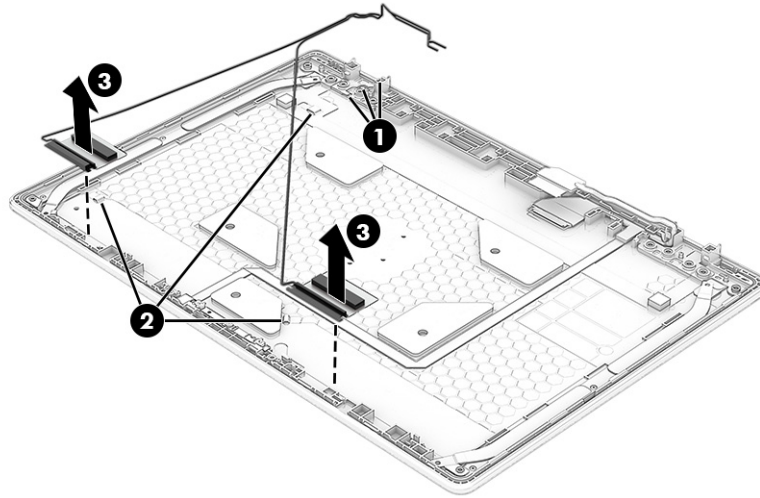
- a. Remove five Phillips M2.0 × 3.0 screws **(1)** from each hinge.
- b. Use a tool **(2)** to release the hinges **(3)** from the display rear cover.



13. To remove the WLAN antennas and cables:

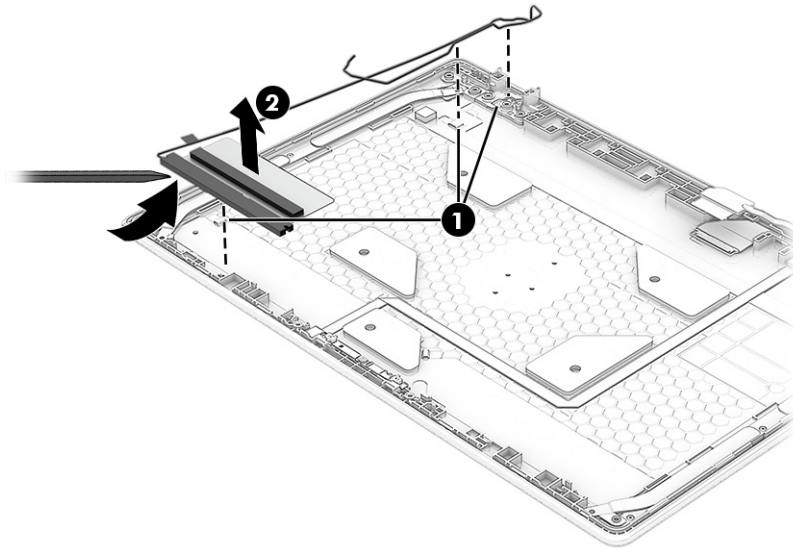
- a. Remove the antenna cables **(1)** from the clips at the bottom left of the display rear cover.
- b. Remove the cables from the clips **(2)** on the inside of the display rear cover.

- c. Peel the antennas **(3)** off the display back cover.



14. To remove the WWAN antennas and cables:

- a. Remove the antenna cables **(1)** from the clips along the bottom and top of the display back cover.
- b. Peel the antennas **(2)** off the display back cover.



Reverse this procedure to reassemble and replace the display assembly.

Top cover

The top cover remains after removing all other spare parts from the computer.

Table 6-11 Top cover descriptions and part numbers

Description	Spare part number
WLAN models	Q32622-001
WWAN models	Q32623-001

7 Backing up, resetting, and recovering

This chapter provides information about the standard procedures of backing up your personal data, resetting your computer to original factory conditions, and recovering your operating system.

Backing up

You can back up your data to an optional USB flash drive or SD memory card or through Google Drive™.

For detailed information about creating a backup, go to <http://www.support.google.com>.

Resetting

A factory reset erases the information on your computer hard drive, including files in the Downloads folder. Before you reset, back up your files to an optional USB flash drive, to an SD memory card, or through Google Drive. The factory reset will not delete your files at these locations.

You might want to reset your computer in the following circumstances:

- You see the message "Reset this Chrome device."
- You are having problems with your user profile or settings.
- You restarted your computer, and it still doesn't work properly.
- You want to change the owner of your computer.

To reset your computer:

1. Under the **Settings** menu, select **Advanced**.
2. In the **Powerwash** section, select **Powerwash**.
3. Select **Restart**.
4. In the window that opens, select **Powerwash**, and then select **Continue**.
5. Follow the on-screen instructions to reset your computer, and sign in with your Google Account.



NOTE: The account you sign in with after you reset your computer is recognized as the owner account.

6. After you complete the reset, you can set up your computer and check to see whether the problem is fixed.

Recovering

When your ChromeOS™ doesn't work properly, you can perform a recovery.

A recovery reinstalls the operating system, software programs, and original factory settings. It deletes locally saved files and saved networks for all accounts. A system recovery does not affect Google Accounts and data synced to Google Drive.



IMPORTANT: Recovery permanently erases everything on your computer hard drive, including your downloaded files. If possible, back up your files before you recover your computer.



NOTE: For more information about performing a system recovery on your computer, go to <http://www.support.google.com>.

Before you begin the recovery process, you need the following prerequisites:

- A USB flash drive or SD memory card with a capacity of 4 GB or greater. All data is erased from this storage device when the recovery media is created, so back up all files from the device before you begin.
- A computer with internet access. You must also have administrative rights to the computer.
- A computer AC adapter. The computer must be plugged into AC power during recovery.
- The “ChromeOS is missing or damaged” screen displaying on your computer. If this message is not already displayed:
 - Turn on the computer, press and hold the **esc+f3** keys, and then press the power button. The computer restarts, and the screen shows the “ChromeOS is missing or damaged” screen.

Option 1: Recovering using an internet connection

Use these instructions to recover the Chrome operating system on your computer without recovery media:

1. Disconnect any external devices connected to your computer, plug in the power cord, and then turn on the computer.
2. To enter recovery mode, press and hold the **esc+f3** keys, and then press the power button. When the “ChromeOS is missing or damaged” screen appears, select **Recover using internet connection** and follow the on-screen instructions.



NOTE: The computer must have internet access.

3. When the “System Recovery is complete” message appears, reboot your computer.

The computer restarts with ChromeOS reinstalled.

Option 2: Installing the Chromebook Recovery Utility

The Chromebook™ Recovery Utility recovers the original operating system and software programs that were installed at the factory. You can install this utility from the Chrome Web Store on any computer.



NOTE: Use this option if you do not have internet access on your computer.

To install the Chromebook Recovery Utility:

- Open the Chrome Web Store, search for **chrome recovery**, select **Chromebook Recovery Utility** from the Apps list, and follow the on-screen instructions.

Creating recovery media

You can use recovery media to recover the original operating system and software programs that were installed at the factory.

To create recovery media:

1. Turn on a computer that has internet access.



NOTE: You must have administrative rights to the computer.

2. Select the **Launcher** icon, and then select **All Apps**.
3. In the Apps window, select **Recovery**, and then select **Get started**.
4. Follow the on-screen instructions to create the recovery media.



NOTE: All data and partitions on your recovery media will be deleted. Do not remove the USB flash drive or SD memory card until the process is complete.

Recovering the Chrome operating system with recovery media

Use these instructions to recover the Chrome operating system on your computer using the recovery media that you created.

1. Disconnect any external devices connected to your computer, plug in the power cord, and then turn on the computer.
2. To enter recovery mode, press and hold **esc+f3**, and then press the power button. When the “ChromeOS is missing or damaged” screen appears, insert the recovery media into your computer. The recovery process begins immediately.
3. Wait while Chrome verifies the integrity of the recovery media.



NOTE: If you need to cancel the recovery during the verification process, press and hold the power button until the computer turns off. Do not disrupt the system recovery process after the verification step is complete.



NOTE: If an error message is displayed, you might need to run the Chrome Recovery Utility again or use a different USB flash drive or SD memory card.

4. When the “System Recovery is complete” message appears, remove the recovery media.

The computer restarts with ChromeOS reinstalled.

Setting up your computer after a reset or recovery

After a reset or recovery is complete, perform the initial setup process.

For details about setting up the computer, go to <http://www.support.google.com>.

Erasing and reformatting the recovery media

When you create recovery media, the USB flash drive or SD memory card is formatted as a recovery tool. After recovery, you must erase the recovery media to reuse your storage device. Follow these steps to use the Chromebook Recovery Utility to erase the recovery media.

1. Select the **Launcher** icon, and then select **All Apps**.
2. In the apps window, select **Recovery**.
3. Select the **Settings** icon, and then select **Erase recovery media**.
4. Select the USB flash drive or SD memory card that you inserted, select **Continue**, and then select **Erase now**.
5. After the recovery media is erased, select **Done** to close the Chromebook Recovery Utility, and then remove the USB flash drive or SD memory card.

The media is ready to be formatted using a formatting tool provided by your operating system.

8 Specifications

This chapter provides specifications for your computer system.

Computer specifications

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

Table 8-1 Computer specifications

	Metric	U.S.
Dimensions		
Width	329.0 mm	12.95 in
Depth	225.0 mm	8.86 in
Height (front)	14.12 mm	0.56 in
Height (rear)	19.31 mm	0.76 in
Weight	1490 g	3.3 lbs
Input power		
Operating voltage and current	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	
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.

Display specifications

This section provides specifications for your display.

Table 8-2 Display specifications

	Metric	U.S.
Active diagonal size	35.66 cm	14.0 in
Resolution	1920 × 1080 (FHD)	
	1368 × 768 (HD)	
Surface treatment	Antiglare	
Brightness	300 nits (FHD)	
	250 nits (HD)	
Viewing angle	UWVA	
	SVA	
Backlight	LED	
Display panel interface	eDP	

9 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 3-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 9-1 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
Germany	VDE	1

Table 9-1 Power cord requirements for specific countries and regions (continued)

Country/region	Accredited agency	Applicable note number
India	BIS	1
Israel	SII	1
Italy	IMQ	1
Japan	JIS	3
Netherlands	KEMA	1
New Zealand	SANZ	1
Norway	NEMKO	1
The 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, 3-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, 3-conductor. The wall plug must be a 2-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, 3-conductor, 0.75 mm² or 1.25 mm² conductor size. The wall plug must be a 2-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V AC) configuration.
4. The flexible cord must be Type RVV, 3-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 3-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 3-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 3-conductor, 0.75 mm² or 1.00 mm² conductor size, with plug BS 1363/A with BSI or ASTA marks.

10 Swelling or deformation of notebook battery

To protect your hardware from potential damage, HP recommends that if you are experiencing battery swelling, stop using the notebook until you can replace the battery.

You can contact HP to understand what battery replacement options are available. To learn more about lithium-ion batteries and the factors that can accelerate battery swelling, see https://support.hp.com/us-en/document/ish_6824662-6824706-16.

Swollen notebook batteries

You might notice that your notebook battery has become somewhat deformed or swollen over time. In some cases, the battery swelling might be significant enough to impact other components of the system including the touchpad, keyboard, and chassis.

Swollen battery is not a safety issue

A swollen battery does not present a safety issue. It is the result of the generation of gases per the normal degradation of the battery cell over time.

HP has worked closely with our battery cell suppliers and third-party industry experts to help minimize the potential for HP batteries to swell over time and to identify that swollen batteries are not a safety issue.

Discontinue using a swollen battery

To protect your hardware from potential damage, HP recommends that, if you are experiencing battery swelling, you stop using the notebook until the battery can be replaced.

You can contact <https://www.hp.com/go/contacthp> to understand what battery replacement options are available.

Replace a swollen battery

If a battery is under warranty, HP will replace the battery per the terms and conditions of the HP Worldwide Limited Warranty or applicable HP Care Packs.

For batteries no longer under warranty, contact HP to purchase a genuine HP replacement battery.

Minimize battery swelling

Multiple factors can accelerate battery swelling.

To help mitigate battery swelling over time, you can use either HP Adaptive Battery Optimizer (consumer notebooks) or HP Battery Health Manager (commercial notebooks) settings to improve battery longevity and performance for various use scenarios.

Adaptive Battery Optimizer (consumer notebooks)

Adaptive Battery Optimizer technology can help mitigate the factors that cause the battery to swell. It is available on select HP OMEN, HP Spectre, HP Pavilion, and HP ENVY notebook computers.

Adaptive Battery Optimizer has been available on select gaming notebooks since 2019 and select consumer notebooks since 2020. To learn more about enabling Adaptive Battery Optimizer on your HP notebook, see https://support.hp.com/us-en/document/ish_9908083-9908127-16.

HP Battery Health Manager (commercial notebooks)

HP Battery Health Manager provides an easy-to-manage solution to help mitigate factors that cause the battery to swell. It is available on select HP ProBook and HP EliteBook notebook computers.

HP Battery Health Manager is available on select commercial notebooks manufactured since 2016. To learn more about HP Battery Health Manager, see https://support.hp.com/us-en/document/ish_4449597-3519507-16.

11 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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