

Maintenance and Service Guide Z40c G3 model

SUMMARY

This guide provides information about spare parts, removal and replacement of parts, diagnostic tests, problem troubleshooting, and more.

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Product notice

Only trained service personnel familiar with this product should service it. Before performing any maintenance or service, be sure to read "Important Safety Information".

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1 Getting started

Read this chapter to learn about safety information and where to find additional HP resources.

Important safety information

Carefully read the cautions and notes within this document to minimize the risk of personal injury to service personnel. The cautions and notes are not exhaustive. Proper service methods are important to the safe, reliable operation of equipment. Improper service methods can damage equipment.

The service procedures recommended and described in this service manual provide effective methods of performing service operations. Service engineers should have prior repair knowledge and experience as well as appropriate training for the product before performing service procedures.

- Be sure your working environment is dry and clean and meets all government safety requirements.
- Be sure that other persons are safe while you are servicing the product.
- Do not perform any action that can cause a hazard to the customer or make the product unsafe.
- Use proper safety devices to ensure your personal safety.
- Always use approved tools and test equipment for servicing.
- Never assume the product's power is disconnected from the main power supply. Check that it is disconnected before opening the product's cabinet.
- Modules containing electrical components are sensitive to electrostatic discharge (ESD). Follow ESD safety procedures while handling these parts.
- Some products contain more than one battery. Do not disassemble or expose a battery to high temperatures, such as throwing into fire, or the battery may explode.
- Refer to government requirements for battery recycling or disposal.

This information provides general service information for the monitor. Adherence to the procedures and precautions is essential for proper service.

IMPORTANT: Only trained service personnel who are familiar with this HP product should perform service or maintenance for it. Before performing any service or maintenance, personnel must read the important safety information.

IMPORTANT: You must disconnect the power cord from the power source before opening the monitor to prevent component damage.

Important service information and precautions

- Repair must be performed by professional service technicians in a repair center. End users should not perform these procedures.
- Please note during servicing that the primary side is the high voltage area.
- This monitor meets ROHS requirements. Be sure to use lead-free solder wire when soldering.
- If you must change a capacitor, be sure to match the polarity as printed on the PCB.
- If you must replace a capacitor, make sure the specification and part number match the BOM and

location.

- If you must replace a capacitor, insert new parts carefully to avoid a short circuit caused by the near pin.
- Do not get the board wet. Water and moisture can cause a short circuit that causes malfunctions.
- To avoid damage, be sure to use lead-free solder.
- When soldering, work quickly to avoid overheating the circuit board.
- Keep the soldering iron tip clean and well tinned when replacing parts.
- After repair, perform a close inspection of the circuit board to confirm it is in good condition.
- After repair, perform a function test to confirm the power supply is working properly.

ERP Lot5 requirement

- 1. A professional repairer must have the technical competence to repair electronic displays and comply with the applicable regulations for repairers of electrical equipment in the Member States where the repairer operates. Reference to an official registration system as professional repairer, where such a system exists in the Member States, shall be accepted as proof of compliance.
- 2. A professional repairer must have insurance that covers liabilities resulting from repairs, regardless of whether required by the Member State.

RoHS (2002/95/EC) requirements

Applied to all countries that require RoHS.

The RoHS (Restriction of Hazardous Substance in Electrical and Electronic Equipment Directive) is a legal requirement by the EU (European Union) for the global electronics industry sold in the EU and other countries. Any electrical and electronics products launched in the market after June 2006 should meet this RoHS requirement. Products launched in the market before June 2006 are not required to be compliant with RoHS parts. If the original parts are not RoHS complaint, the replacement parts can be non-ROHS complaint. If the original parts are RoHS compliant, the replacement parts MUST be RoHS complaint.

If product service or maintenance requires replacing parts, confirm the RoHS requirement before replacement.

General descriptions

This manual contains general information. There are two levels of service:

Level 1: Cosmetic/appearance/alignment service

Level 2: Circuit board or standard parts replacement

Firmware updates

Firmware updates for the monitor are available at <u>support.hp.com</u>. If no firmware is posted, the monitor does not need a firmware update.

Before returning the repaired product to the customer

Perform an AC leakage current check on exposed metallic parts to be sure the product is safe to operate without the potential of electrical shock. Do not use a line isolation transformer during this check.

Measurements that are not within specified limits present a possible shock hazard. You must check and repair the product before returning it to the customer.

2 Monitor features

This chapter provides an overview of the monitor's features.

Features

Depending on the model, your monitor might include the following features:

Display features

- Three-sided borderless 100.8 cm (39.7 in) curved diagonal viewable screen area with 5120 × 2160 @
 60 Hz resolution, plus full-screen support for lower resolutions; includes custom scaling for
 maximum imagesize while preserving original aspect ratio
- Liquid crystal display (LCD) with active matrix and in-plane switching (IPS)
- Wide color gamut to provide coverage of sRGB and P3(D65) color spaces
- Nonglare panel with an LED backlight
- Wide viewing angle to allow viewing from a sitting or standing position, or moving from side to side
- Tilt, swivel, and height adjustment capabilities
- Dual Picture beside Picture (PbP) functionality to enable the DisplayPort, HDMI, and Thunderbolt inputs tobe viewed in each half of the screen
- Integrated HP Device Bridge technology that allows you to use a single keyboard and mouse across twoconnected computers to control software and transfer files and data from one computer to the other
- Five on-screen display (OSD) buttons, four that you can reconfigure to quickly allow selection of the most commonly used operations
- On-screen display (OSD) adjustments in several languages for easy setup and screen optimization
- Color space presets for P3(D65)
- Energy saver feature to meet requirements for reduced power consumption
- Security cable slot on the rear of the monitor for an optional security cable
- Cable management feature for placement of cables and cords

Connectors

- DisplayPort™ video input (cable included in select regions)
- High-Definition Multimedia Interface™ (HDMI) video input
- Two USB Type-C[®] Thunderbolt[™] ports (cable included in select regions)
- RJ-45 (network) jack
- Four USB ports (downstream)
- Plug and Play capability, if supported by your operating system

Monitor stand

Removable stand for flexible monitor head mounting solutions

- HP Quick Release 2 device to quickly attach the monitor head to the stand with a simple click, and thenremove it with the convenient sliding tab release
- VESA® mounting bracket for attaching the monitor head to a wall-mount device or swing arm
- VESA mounting capability (100 × 100 mm) for attaching the monitor to a swing arm mount
- Support for a mounting bracket to attach the monitor to a workstation

NOTE: For safety and regulatory information, refer to the Product Notices provided in your documentation kit. To access the latest user guides or manuals for your product, go to http://www.hp.com/support and follow the instructions to find your product. Then select **Manuals**.

Front components

To identify the components on the front of the monitor, use this illustration and table.

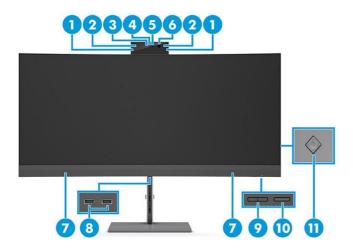


Table 2-1 Front components and their descriptions

Component		Description	
(1)	Tilt levers Allow you to tilt the camera.		
(2)	Camera microphones	Allow you to participate in a video conference.	
(3)	Camera light	On: The camera is in use.	
(4)	Camera RGB lens	Transmits your image in a video conference.	
(5)	Camera IR lens	Transmits your image for Windows Hello facial recognition.	
(6)	Camera IR light	Additional IR light for facial recognition.	
		NOTE: You might not be able to see the camera IR light when it is on.	
(7)	Speakers	Produce sound. You can control the audio volume from the OSD menu in the Input menu.	
		NOTE: For the best audio experience, connect a USB cable from your monitor to your computer, and then select your monitor as the sound device.	
(9)	PbP or brightness buttons	The buttons function as left and right when PbP is on and brightness plus and minus when PbP is off.	
(10)	Power button	Turns the monitor on or off.	
(11)	OSD control	Activates the OSD buttons so that the button labels appear on the right side of the screen.	

Rear and side components

To identify the components on the rear of the monitor, use this illustration and table.

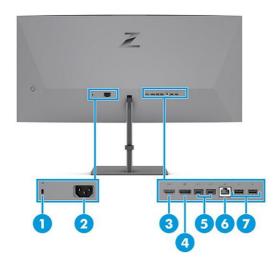


Table 2-2 Rear components and their descriptions

Component		Description	
(1)	Security cable slot	Connects an optional security cable.	
(2)	Power connector	Connects your monitor to a power outlet.	
(3)	HDMI port	Connects the HDMI cable to a source device such as a computer or game console.	
(4) DisplayPort connector		Connects the DisplayPort cable to a source device such as a computer or game console.	
(5)	USB Type-C Thunderbolt ports	Connect a display device that has a USB Type-C connector, providing DisplayPort output.	
		NOTE: Use a standard USB Type-C charging cable or cable adapter (purchased separately) when charging a small external device.	
(6)	RJ-45 (network) jack	Connects a network cable.	
(7)	USB ports (downstream)	Connect a USB cable to a peripheral device, such as a keyboard, mouse, or USB hard drive, and supports battery charging.	

Locating the serial number and product number

The serial number and product number are located on the rear of the monitor. You may need these numbers when contacting HP about the monitor model.



For worldwide models(except India):

Barcode label & Spec label



For India:

Barcode label & Spec label



3 Illustrated parts catalog

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

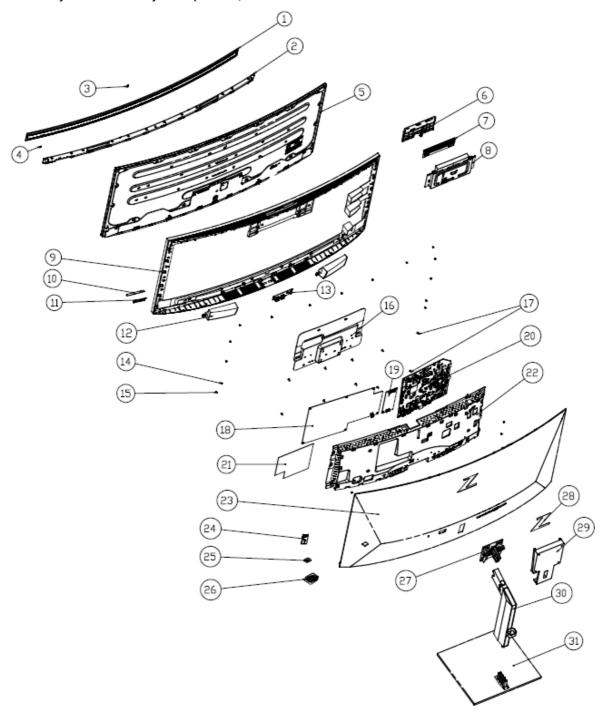


Table 3-1: Monitor major components and their descriptions

Item	Description	Part number	Qty
1	1 # ASSY_BEZEL_CHIP_Z40C		1
2	#FRONT_BEZEL_ABS_Ocean_Jack_black_Z40C		1

3	#HP_LOGO_FRONT_Z40C_7122-0613	1
4	#LENS_Z40C	1
5	#LCM_Module_Z40c G3	1
6	#ASSY_WEBCAM_MOBILE_Z40C	1
7	#ASSY_WEBCAM_TILL_HOLDER_PLASTIC_ABS_Z40C	1
8	#ASSY_WEBCAM_COVER_Z40C	1
9	#ASSY_MC_ABS_OCEAN_JACK_BLACK_Z40C	1
10	#OSD_KEY_BD_Z40C	1
11	#OSD_KEY_ABS_Ocean_Jack_black_Z40c	1
12	#SPEAKER_BAR	2
13	#USB_BD-Z40C	1
14	#SCREW_M3X5	29
15	#SCREW_M2X2.8	4
16	#ASSY_HINGE_BRACKET_SGCC_T1.5_Z40C	1
17	#Screw_M3X6	3
18	#POWER_BD_Z40C	1
19	#DRIVER_BD_Z40C	1
20	#IF_BD_Z40C	1
21	#MYLAR _Power_BD_Z40c _ 150*147	1
22	#ASSY_MAIN_BRACKET_SGCC_TO.8_Z40C	1
23	#ASSY_REAR_COVER_ABS_TURBO SILVER_Z40C	1
24	#OSD_BD	1
25	#JOYSTICK_CAP_Z_SERIES_NEW	1
26	#OSD_KEY_HOLDER_ABS_Ocean_Turbo Silver_Z40c	1
27	#HIINGE_Z40_ASSY	1
28	#Z LOGO_BACK_Z40C_7122-0597	1
29	#ASSY_VESA_MOUNT_Z40C	4
30	#ASSY_STAND_Z40C	1
31	#ASSY_BASE_Z40C	1

How to order parts

The HP authorized repair center can purchase the power board from HP.

Power board

Description	HP spare part number	Manufacturer part number
PWR BD MA40UHC-BZCL(C)Z40c	N06249-001	755.04C05.0001

Capacitors and connectors are available for purchase from the following EU distributors:

Digi-Key(RUBYCON ALU CAP): <u>www.digikey.com</u>

Capacitors by distributor

Component description		Location	Component distributor	Distributor part number
	CAP EL 470U 35V M RT5 10*16	AC651,AC652,AC653,AC654, AC655,AC656,AC657,AC658	RUBYCON	35ZLH470MEFCT810X16

Connectors by manufacturer

Component description	Location identifier	Component distributor	Distributer part number	Remark
HDMI	HDMI1	Molex	https://www.digikey.com PN: 0476591100	
DP	DP1	TE Connectivity AMP Connectors	https://www.digikey.com PN: 2041441-1	
USB-C	SKT1/SKT 2	JAE Electronics	https://www.digikey.com PN: DX07S024WJ1R350	
RJ45	RJ1	Würth Elektronik	https://www.digikey.com PN: <u>732-3170-ND</u>	
USB-A	USB3 USB4	Tensility International Corp	https://www.digikey.com PN: 54-00013	

NOTE: The connector may need to be modified to meet functionality, regulatory and safety requirements if it is not an exact match.

You can purchase cables from the HP part store at https://partsurfer.hp.com/Search.aspx.

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

Internal and External Power Supplies are available for purchase from the following EU distributor: EET https://www.eetgroup.com/en-eu/

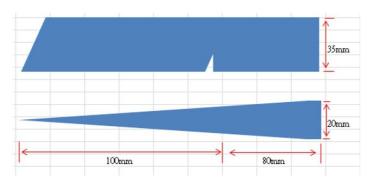
4 Removal and replacement procedures

Adherence to these procedures and precautions is essential for proper service.

Preparation for disassembly

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

- 1) Read the "Important safety information" and "Important service information and precautions" sections in the "Getting started" chapter of this guide.
- 2) Clean the room for disassembly.
- 3) Identify the disassembly area.
- 4) Check the position that the monitors are to be placed along with the number of monitors. Prepare the area for material flow according to the disassembly layout.
- 5) Be sure to have the following equipment and materials:
 - Press fixture
 - Working table
 - Screwdriver
 - Knife
 - Gloves
 - Cleaning cloth
 - ESD protection
 - Scraper bar in the following dimensions:



Rear Cover

Before removing the Rear Cover, follow these steps:

- A Prepare the monitor for disassembly. See Preparation for disassembly on page 11.
- 1) Remove Stand Base From Display Head by pushing the release button





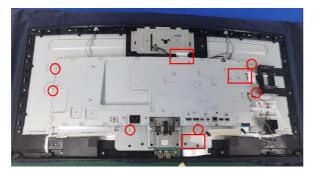
2) Remove Rear Cover From Display Head: Loose all the hooks by hand for pulling the rear cover, and disconnect the key cable away from the connector.



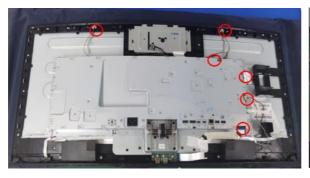


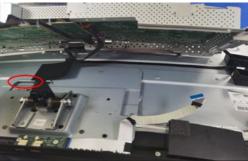


3) Remove 3pcs EMI AL and 6pcs screws From Display Head

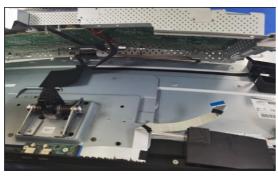


4) Disconnect all the cables from the connectors of Display Head

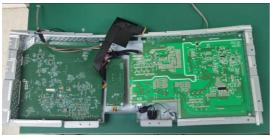




5) Remove Bracket Assembly From Display Head







6) Remove USB board From the Display Head by unlocking 2pcs screws





7) Remove 6pcs screws for releasing Hinge bracket holder From Display Head





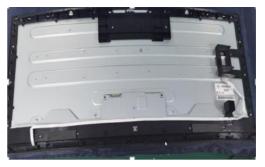
8) Remove 7pcs screws for unlocking Webcam module assembly with Display Head by





9) Tear off 1pcs AL tape. Remove Speaker assembly From Display Head by unlocking 4pcs screws







10) Remove Bezel assembly From Display Head by unlocking 2pcs screws





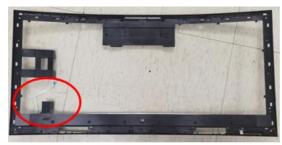
11) Remove Middle cover assembly From Display Head by unlocking 19pcs screws







12) Remove Power key BD From Middle Bezel





13) Remove Joystick Board From back cover by unlocking 2pcs screws





14) Remove Power Board, Driver Board and interface Board From bracket Assembly by unlocking 11pcs screws





Power board

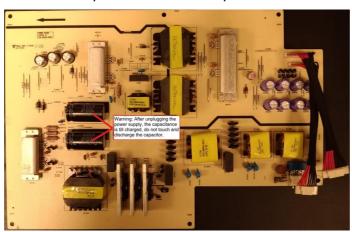
The power board part number is 755.04C05.0001.

Before removing the power board, follow these steps:

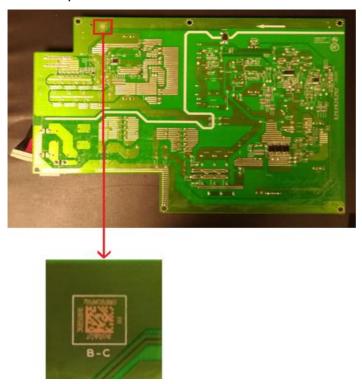
▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 11.

Remove the power board:

1) The HP Z40c G3 power board connector position is as follows:



2) Locate the part number location on the board.



3) Pin solder with soldering iron and absorber.

NA

4) Lift the connector up and away from the PCB.

NA

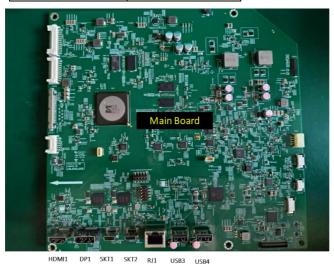
Connector repair

This procedure includes HDMI, Display Port, Mini Display Port, USB-C LAN and USB-A connectors.

The connectors are on the main board (board part number 7ZB.04C01.0011).

The connector identifiers are as follows:

Connector	Location
HDMI	HDMI1
DP	DP1
USB-C	SKT1, SKT2
LAN	RJ1
USB-A	USB3, USB4



Before repairing connectors, follow these steps:

▲ Prepare the monitor for disassembly. See <u>Preparation for disassembly</u> on page 11.

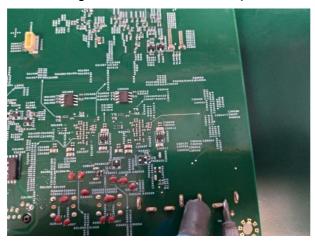
HDMI connector HDMI1

Repair the HDMI connector:

1) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.



2) Use a hot air gun to melt the solder on the pins.



- 3) Lift the HDMI connector from the PCB.
- 4) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 5) Solder the new component.

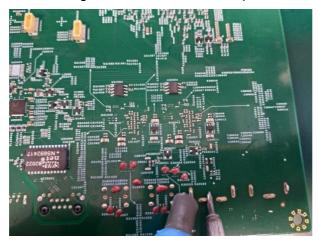
DP connector **DP1**

Repair the DP connector:

1) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.



2) Use a hot air gun to melt the solder on the pins.

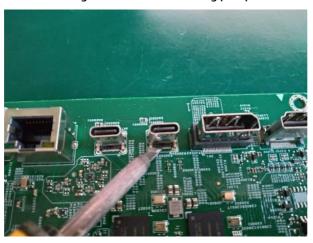


- 3) Lift the DP connector from the PCB.
- 4) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 5) Solder the new component.

USB-C connector SKT1/SKT2

Repair the USB-C connector:

1) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.



2) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin



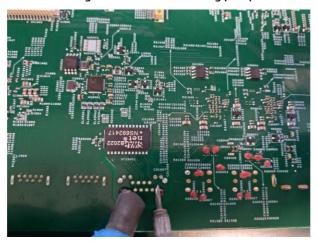
- 3) Lift the USB-B connector from the PCB.
- 4) Place the new component on the PCB. Be sure that it matches the PCB footprint.

Solder the new component

RJ45 connector RJ1

Repair the RJ45 connector:

1) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.

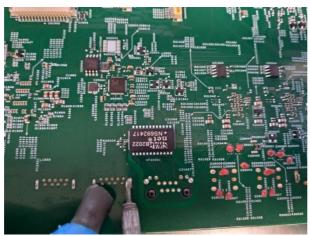


- 2) Lift the RJ45 connector from the PCB.
- 3) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 4) Solder the new component.

USB-A connector USB3/USB4

Repair the USB-A connector:

1) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.



- 2) Lift the USB-A connector from the PCB.
- 3) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 4) Solder the new component.

Function test

After repair, be sure to confirm that all functions are working.

Table 4-1: Function test

_		
Test item	Operating description	Tool used
HDMI test	Confirm whether image displays	Computer or DVD player
DP test	Confirm whether image displays	Computer or DVD player
USB-C Alt-Mode	Confirm whether image displays and sound plays correctly on the monitor.	Computer or Notebook
USB-C PD Function	Confirm PDO/Charging working normally.	Notebook
USB Hub Test	Confirm USB function of 4-USB Type-A working normally.	Computer or Notebook

Support and troubleshooting

The following table lists possible problems, the possible cause or each problem, and the recommended solutions.

Table 4-2: Solving common problems

Problem	Possible cause	Solution
Screen is blank or video is flashing.	Power cord is disconnected.	Connect the power cord.
	Monitor is turned off.	Power the power button. NOTE: If pressing the Power button has no effect, press and hold the power button for 10 seconds to disable the Power button lockout feature.
	Video cable is improperly connected.	Connect the video cable properly.
	System is in Sleep mode.	Press any key on the keyboard or move the mouse to exit Sleep mode.
	Video card is incompatible.	Open the OSD menu and select the Input menu. Set Auto-Switch Input to Off and manually select the input.
		or Replace the video card or

		connect the video cable to one of the computer's on-board video sources.
Image appears blurred, indistinct, or too dark.	Brightness is too low.	Open the OSD menu and select Brightness to adjust the brightness scale as needed.
Check Video Cable is displayed on screen.	Monitor video cable is disconnected.	Connect the appropriate video signal cable between the computer and monitor. Be sure that the computer power is off while you connect the video cable.
Input Signal Out of Range is displayed on screen.	Video resolution and/or refresh rate are set higher than what the monitor supports.	Change the settings to a supported setting.
The monitor does not enter into a low-power sleep state.	The monitor's power saving control is disabled.	Open the OSD menu and select Power , select Auto-Sleep Mode and set auto-sleep to On .
"OSD Lockout" is displayed.	The monitor's OSD lock function is enabled.	Press and hold the Menu button for 10 seconds to disable the OSD lockout function.
"Power Button Lockout" is displayed.	The monitor's power button is locked.	Press and hold the Power button for 10 seconds to disable the power button lock function.
The camera and USB ports do not work, but the monitor is turned on.	There is no upstream USB connection.	Be sure that the host computer is connected to the monitorwith a USB Type-C to USB Type-C cable or a USB Type-C to USB cable.

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