1. Important Safety Notice

Product Announcement:

This product is certificated to meet RoHS Directive and Lead-Free produced definition. Using approved critical components only is recommended when the situation to replace defective parts. Vender assumes no liability express or implied, arising out of any unauthorized modification of design or replacing non-RoHS parts. Service providers assume all liability.

Qualified Repairability:

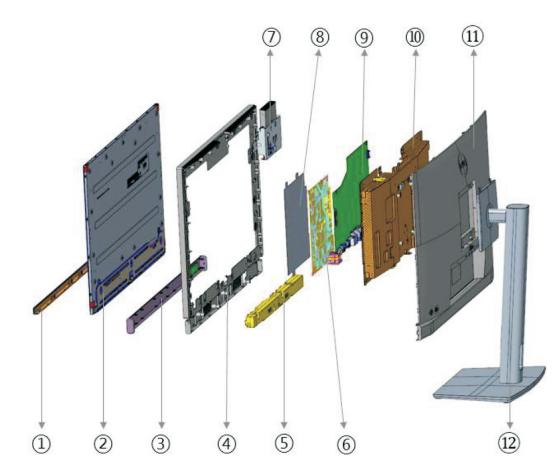
Proper service and repair is important to the safe, reliable operation of all series products. The service providers recommended by vender should be aware of notices listed in this service manual in order to minimize the risk of personal injury when perform service procedures. Furthermore, the possible existed improper repairing method may damage equipment or products. It is recommended that service engineers should have repairing knowledge, experience, as well as appropriate product training per new model before performing the service procedures.

NOTICE:

- ! To avoid electrical shocks, the products should be connected to an authorized power cord, and turn off the master power switch each time before removing the AC power cord.
- ! To prevent the product away from water or expose in extremely high humility environment.
- ! To ensure the continued reliability of this product, use only original manufacturer's specified parts.
- ! To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.

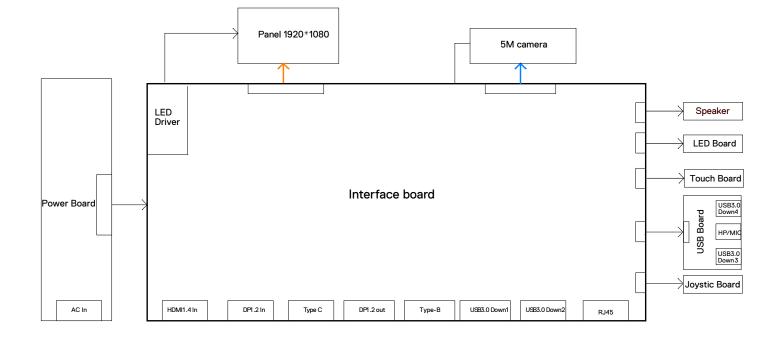
- ! To ensure using a proper screwdriver, follow the torque and force listed in assembly and disassembly procedures to unscrew screws.
- ! Using Lead-Free solder to well mounted the parts.
- ! The fusion point of Lead-Free solder requested in the degree of 220°C.





Item	Description
1	Front trim
2	Panel
3	Speaker cover
4	Mid frame
5	Speaker
6	Power BD
7	Webcam module
8	Safety Mylar
9	IF BD
10	Main chassis
11	Rear cover
12	Stand assembly

3. Wiring Connectivity Diagram



Necessary repair and test equipment:

- 1. Philips-head screwdriver
- 4.1 Disassembly Procedures:
 - Remove the monitor stand base:
 - 1. Place the monitor on a soft cloth or cushion.
 - 2. Press and hold the stand-release button.
 - 3. Lift the stand up and away from the monitor.



S2

S1

Use a Philips-head screwdriver to remove 4pcs screws for unlocking mechanisms. Remove DP cap. (No.1~4 screw size=M4x11; Torque=11±1kgfxcm)



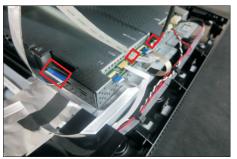
S3

Wedge your fingers between rear cover and the middle bezel on the corners of the top side of the monitor to release the rear cover, then use one hand to press the middle bezel, the other hand to pull up carefully the rear cover in order of arrow preference for unlocking mechanisms of rear cover.





Lift the rear cover up carefully. Disconnect the joystick key cable and two USB cables from the connectors of the board, and then remove the rear cover and put it aside for later disassembling.



Use a Philips-head screwdriver to remove 1pcs screw for unlocking the USB board, then tear off all the tapes and release the Usb power cable and joystick cable.

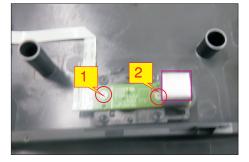
(No.1 screw size=M3x6, Torque=4±0.5kgfxcm)

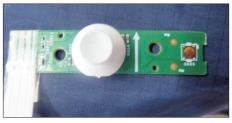




S5

Use a Philips-head screwdriver to remove 2pcs screws for unlocking the joystick board, then release the Joystick board from the hook of the rear cover. (No.1~2 screw size=M2x2.4, Torque=0.8~1kgfxcm)







Tear off 1pcs tape for releasing the touch cable, then disconnect the touch cable from the board, then tear off 2pcs conductive tapes and 1pcs aluminum foil for releasing the cables. Disconnect the LED cable, camera connective cable and panel lamp cable from the connectors.



Remove the panel lamp cable by releasing the cable from the hooks of the bezel, then release the LED cable by tearing off 2pcs tapes on the back of the cable. Use a Philips-head screwdriver to remove 4pcs screws for unlocking the speakers with middle bezel. (No.1~4 screw size=M3x6, Torque=3~4 kgfxcm)

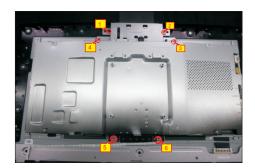


Disconnect the speaker cable away from the board, then release speakers' cable from the hooks of the middle bezel, and then release the speakers from the probers of the middle bezel.



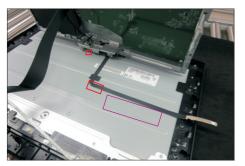
Use a Philips-head screwdriver to remove 2pcs screws for unlocking the camera module with the middle bezel, to remove 4pcs screws for unlocking the bracket with the panel module.

(No.1~2 Screw size= M3x3.5, Torque=2±0.5kgfxcm; No.3~6 Screw size= M3x3, Torque=5±0.5kgfxcm)



Disconnect the LVDS cable away from the connector of the panel module, then lift up and disconnect the camera cable away from the camera board, then take away the bracket chassis module and put it on a protective cushion. Tear off the tape for releasing the camera connective cable.







S11

Use a Philips-head screwdriver to remove one screw for unlocking the camera board, and then remove assembled camera unit from the probers of the middle bezel and put it aside for later disassembling. (No.1 screw size=M3x4, Torque=5±0.5kgfxcm)



S7

S8

S9

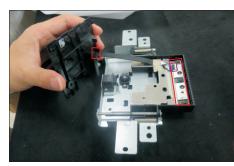
Tear off the camera glass and tape of the camera connective cable, then use a Philips-head

S13 screwdriver to remove 2pcs screws for unlocking the rear cover with front cover, and then disassemble the rear cover of camera from the unit, and then tear off the camera from the front cover.

(No.1~2 screw size=M3x5, Torque=3±0.5kgfxcm)









S14

Use a Philips-head screwdriver to remove 13pcs screws for unlocking the middle bezel with the panel. (No.1~11 screw size=M3x4,Torque=3±0.5kgfxcm;



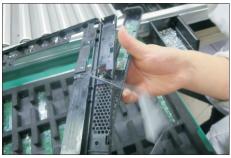
S15

Lift up and take away the middle bezel, then put it on a cushion foam.



S16

Disassemble the speakers' cover with the middle bezel by releasing all locks, then put the middle bezel into a fixture, then tear off the mylar tape for releasing the LED board. Tear off the mylar tape for releasing the touch board from the speakers' cover.









S17

Disassemble the front bezel with the panel module, then remove the front bezel.





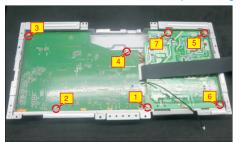


S19

Remove the Mylar tape from the hooks of the bracket.



Use a Philips-head screwdriver to remove 7pcs screws for interface board and power board. (No.1 screw size=M4x8, Torque=7±1kgfxcm; No.2~7 screw size=M3x7.5, Torque=7±1kgfxcm)



S20

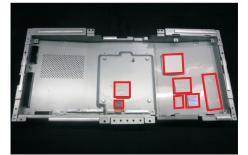
Remove the power board and interface board from the bracket chassis module carefully, and then disconnect all of the cables.



4.2 Assembly Procedures:

Place a bracket chassis base on a protective

S1 cushion, then stick 7pcs Silicon sheets on the positions as the picture below shown.



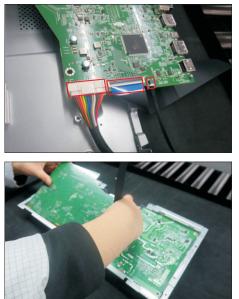
S2

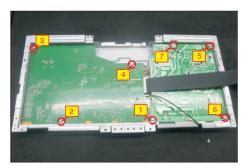
Turn over a power board and put the power board into the bracket chassis, settle the panel power cable to the correct position.



Take a interface board, connect 1pcs LVDS cable and 1pcs camera cable to the connectors of the interface board, then connect the cable of the power board to the connector of the interface board. Turn over the interface board and locate it into the bracket chassis module. Use a Philips-head screwdriver to tighten 7pcs screws for locking the interface board and power board.

(No.1 screw size=M4x8, Torque=7.5±0.5kgfxcm; No.2~7 screw size=M4x8, Torque=7.5±0.5kgfxcm)

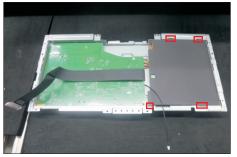




S4

S5

Take 1pcs black mylar to insert the hooks of the bracket to cover the power board.



Panel preparation: Take out 1pcs panel module from the carton, remove the protective film by tearing off the tapes, then Examine the panel surface according to inspection criteria. Turn over the panel to place screen faced down for later assembling.





S6

Take 1pcs front bezel close to the panel module, then assemble the front bezel with the panel module.



Take 1pcs LED board and 1pcs middle bezel, then put the middle bezel into a fixture jip to fix the middle bezel. Tear off the release paper on the back of the board, and then paste the LED board on the correct position of the middle bezel, then paste 1pcs mylar tape to cover the LED board.







Take 1pcs touch board and 1pcs speakers' cover, and tear off the release paper of the cover, and then paste the touch board on the correct position of the speakers' cover. Take the speaker's cover close to the middle bezel, then thread the touch cable to the hole of the middle bezel, then assemble the speakers' cover with the middle bezel by locking all the hooks as the picture below shown.





S9

Move the middle bezel with speaker's cover close to the panel unit, then assemble the middle bezel unit with the front bezel and panel module.



S10

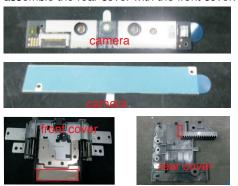
S11

Use a Philips-head screwdriver to lock 13pcs screws for locking the middle bezel unit with the panel module. (No.1~11 screw size=M3x4,Torque=3±0.5kgfxcm;

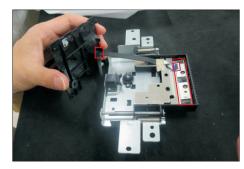
No.12~13 screw size=M2x3.3,Torque=3±0.5kgfxcm)



Take 1pcs camera, 1pcs front cover of the camera, 1pcs rear cover of the camera, 1pcs connective cable and 2pcs rubbers. Tear off the release paper of the camera, and then paste the camera on the correct position of front cover. Thread the cable to the hole of the rear cover and connect it with the camera, and then assemble 2pcs rubbers with the rear cover, then assemble the rear cover with the front cover.



S8







Use a Philips-head screwdriver to tighten 2pcs screws for locking the rear cover with front cover, then tear off the tape paper on the back of the connective cable, and fix the cable with tape. Paste

S12

1 pcs camera glass on the back of the rear cover by tearing the gum of the tape.

(No.1~2 screw size=M3x5, Torque=3±0.5kgfxcm)





S13

S14

S15

Locate the assembled camera unit into the pins of middle bezel, then take 1pcs camera board to assemble with the camera unit, then use a Philipshead screwdriver to tighten one screw for locking it. (No.1 screw size=M3x4, Torque=5±0.5kgfxcm)



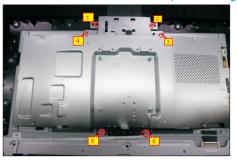
Move the bracket close to the panel module, and connect the camera cable to the camera board, then tearing off the gum of the connective cable and fix the cable with it and 1pcs PVC tape. Put down the bracket on the back of panel, then connect the LVDS cable to the connector of the panel module.





Use a Philips-head screwdriver to tighten 2pcs screws for locking the camera module with the middle bezel, to tighten 4pcs screws for locking the bracket with the panel module.

(No.1~2 Screw size= M3x3.5, Torque=2±0.5kgfxcm; No.3~6 Screw size= M3x3, Torque=5±0.5kgfxcm)



S20

S21

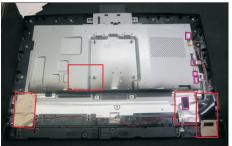
S16Take a pair of speakers to locate the probers of the middle bezel, then locate the speakers' cable to the hooks of the middle bezel, and then connect the speaker cable to the connector of the circuit board.



Use a Philips-head screwdriver to tighten 4pcs screws for locking the speakers with middle bezel. Tear off 2pcs gum, and paste the LED cable on the panel. Take 1pcs panel lamp to connect the panel with interface board, then locate the cable into hooks. (No.1~4 screw size=M3x6, Torque=3±0.5 kgfxcm)



Connect the LED cable, and camera connective cable to the main board. Paste 1pcs aluminum foil and 2pcs acetate tapes for fixing the cables and bracket, then connect the touch cable to the board. Fix the touch cable with 1pcs tape.



Take 1pcs joystick key, 1pcs joystick board and 1pcs rear cover, then assemble the joystick key with board. Locate the joystick board to the correct position of the rear cover, then use a Philips-head screwdriver to tighten 2pcs screws for locking the joystick board with rear cover, paste 1pcs conductive foam on the board. (No.1~2 screw size=M2x3.3,Torque=1±0.2kgfxcm)



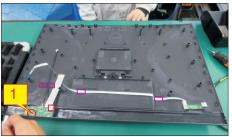




Tear off the papers on the back of the cable, and then fix the joystick cable with tapes. Take 1pcs USB board, 2pcs cable, 1pcs conductive foam. Connect the two cables to the connectors of the USB board, then paste 1pcs conductive foam on the back of the USB board, and then locate the USB board into the rear cover. Use a Philips-head screwdriver to tighten one screw for locking the USB unit with the rear cover, then fix the USB power cable with 1pcs PVC tape.

(No.1 screw size=M3x3.5, Torque=2±0.5kgfxcm)





Move the assembled rear cover close to the panel unit, then connect the joystick cable and 2pcs Usb cables to the connectors of interface board. Put down the rear cover and push the rear cover on the positions marked as the picture below shown for mechanisms engagement.



S18

S19



S24

Use a Philips-head screwdriver to tighten 4pcs screws for locking the rear cover with the unit. Stick two pieces of label on the specific positions.

(No.1~4 screw size=M4x11; Torque=11±1kgfxcm)



Insert a DP out Cap into the DP out connector. Take a stand base close to the monitor. Fit the two tabs on the upper part of the stand into the grooves, and then lower the stand so that the monitor mounting area snaps onto the stand.



Lift up the monitor to check the gap between the front bezel and the panel, then provide power supply and a video signal to the monitor, then turn on the monitor for functionality check.

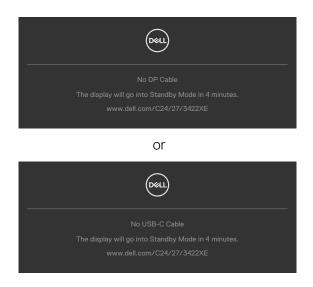


Self-test

Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

- **1.** Turn off both your computer and the monitor.
- **2.** Unplug the video cable from the back of the computer. To ensure proper Self-Test operation, remove all digital and the analog cables from the back of computer.
- **3.** Turn on the monitor.

The floating dialog box should appear on-screen (against a black background), if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains white. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through the screen.



- **4.** This box also appears during normal system operation if the video cable becomesdisconnected or damaged.
- **5.** Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after you use the previous procedure, check your video controller and computer, because your monitor is functioning properly.

Built-in diagnostics

Your monitor has a built-in diagnostic tool that helps you determine if the screen abnormality you are experiencing is an inherent problem with your monitor, or with your computer and video card.



To run the built-in diagnostics:

- 1. Ensure that the screen is clean (no dust particles on the surface of the screen).
- **2.** Press and hold Up or Down or Left or Right direction for four seconds until a menu appears on the screen.
- **3.** Using the joystick control, highlight the Diagnostics option and press the joystick button to start the diagnostics. A gray screen is displayed.
- 4. Observe if the screen has any defects or abnormalities.
- 5. Toggle the joystick once again until a red screen is displayed.
- 6. Observe if the screen has any defects or abnormalities.
- **7.** Repeat steps 5 and 6 until the screen displays green, blue, black, and white colors. Note any abnormalities or defects.

The test is complete when a text screen is displayed. To exit, toggle the joystick control again.

If you do not detect any screen abnormalities upon using the built-in diagnostic tool, the monitor is functioning properly. Check the video card and computer.

Common Problems

The following table contains general information about common monitor problems you might encounter and the possible solutions:

Common Symptoms	What You Experience	Possible Solutions
No Video/ Power LED off	No picture	 Ensure that the video cable connecting the monitor and the computer is properly connected and secure. Verify that the power outlet is functioning properly using any other electrical equipment. Ensure that the power button is depressed fully. Ensure that the correct input source is selected in the Input Source menu.
No Video/ Power LED on	No picture or no brightness	 Increase brightness and contrast controls via OSD. Perform monitor self-test feature check. Check for bent or broken pins in the video cable connector. Run the built-in diagnostics. Ensure that the correct input source is selected in the Input Source menu.
Missing Pixels	LCD screen has spots	 Cycle power on-off. Pixel that is permanently off is a natural defect that can occur in LCD technology. For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: https://www.dell.com/pixelguidelines.
Stuck-on Pixels	LCD screen has bright spots	 Cycle power On-Off. Pixel that is permanently off is a natural defect that can occur in LCD technology. For more information on Dell Monitor Quality and PixelPolicy, see Dell Support site at: https://www.dell.com/pixelguidelines.
Brightness Problems	Picture too dim or too bright	 Reset the monitor to factory settings. Adjust brightness and contrast controls via OSD.

5. Trouble Shooting Instructions

Common Symptoms	What You Experience	Possible Solutions
Safety Related Issues	Visible signs of smoke or sparks	 Do not perform any troubleshooting steps. Contact Dell immediately.
Intermittent Problems	Monitor malfunctions on & off	 Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. Reset the monitor to factory settings. Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.
Missing Color	Picture missing color	 Perform monitor self-test. Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. Check for bent or broken pins in the video cable connector.
Wrong Color	Picture color not good	 Change the settings of the Preset Modes in the Color menu OSD depending on the application. Adjust R/G/B value under Custom Color in Color menu OSD. Change the Input Color Format to PC RGB or YPbPr in the Color menu OSD. Run the built-in diagnostics.
Image retention from a static image left on the monitor for a long period of time	Faint shadow from the static image displayed appears on the screen	 Set the screen to turn off after a few minutes of screen idle time. These can be adjusted in Windows Power Options or Mac Energy Saver setting. Alternatively, use a dynamically changing screensaver.
Mic/Webcam does not work	 Webcam module not pop up USB cable not plug in or not select the correct USB source Not set the monitor Mic/ webcam as the default device 	 Pop up the webcam module. Plug in the USB Cable (Type-A to Type-B or Type-C to Type-C), and if you connect both USB-B port and USB-C port, please switch the USB source in the OSD menu.

Problem	What you experience	Possible solutions
Screen image is too small	Image is centered on screen, but does not fill entire viewing area	 Check the Aspect Ratio setting in the Display menu OSD. Reset the monitor to factory settings.
Cannot adjust the monitor with the buttons on the front panel	OSD does not appear on the screen	 Turn off the monitor, unplug the monitor power cable, plug it back, and then turn on the monitor.
No Input Signal when user controls are pressed	No picture, the LED light is white	 Check the signal source. Ensure the computer is not in the power saving mode by moving the mouse or pressing any key on the keyboard. Check whether the signal cable is plugged in properly. Connect the signal cable again, if necessary. Reset the computer or video player.
The picture does not fill the entire screen	The picture cannot fill the height or width of the screen	 Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen. Run the built-in diagnostics.
No image when using DP connection to the PC	Blank screen	 Verify which DP standard (C2422HE/ C3422WE:DP 1.1a or DP 1.2)(C2722DE:DP 1.1a or DP 1.4) is your Graphics Card certified to. Download and install the latest graphics card driver. Some DP 1.1a graphics card cannot support DP 1.2(C2422HE/C3422WE),DP1.4(C2722DE) monitors. Go to OSD menu, under Input Source selection, press and hold DP select joystick key for 8 seconds to change the monitor setting from DP 1.2 to DP 1.1a, DP 1.4 to DP 1.1a
No image when using USB Type-C connection to computer, laptop, and so on	Blank screen	 Verify if the USB Type-C interface of the device can support DP alternate mode. Verify if the device required more than 90 W power charging. USB Type-C interface of device cannot support DP alternate mode. Set Windows to Projection mode. Ensure that the USB Type-C cable is not damaged.

Product specific problems

5. Trouble Shooting Instructions

Problem	What you experience	Possible solutions
No charging when using USB Type-C connection to computer, laptop, and so on	No charging	 Verify if the device can support one of 5 V/9 V/15 V/20 V charging profiles. Verify if the Notebook requires a >90 W power adaptor. If the Notebook requires a >90 W power adaptor, it may not charge with the USB Type-C connection. Ensure that you use only Dell approved adapter or the adapter that comes with the product. Ensure that the USB Type-C cable is not damaged.
Intermittent charging when using USB Type-C connection to computer, laptop, and so on	Intermittent charging	 Check if the maximum power consumption of device is over 90 W. Ensure that you use only Dell approved adapter or the adapter that comes with the product. Ensure that the USB Type-C cable is not damaged.
No image when using USB Type-C MST	Blank screen or 2nd DUT is not Prime mode	 USB Type-C input, Go to OSD menu, under Display Info check the Link Rate is HBR2 or HBR3, if Link Rate is HBR2, suggest to use USE Type-C to DP cable to turn on MST.
No network connection	Network dropped or Intermittent	 Do not toggle Off/On the power button when network is connected, keeps the power button On.
The LAN port is not functioning	OS setting or cable connection issue	 Ensure that the latest BIOS and drivers for your computer are installed on your computer. Ensure that the RealTek Gigabit Ethernet Controller is installed in the Windows Device Manager. If your BIOS Setup has a LAN/GBE Enabled/ Disabled option, make sure it is set to Enabled. Ensure that the Ethernet cable is connected securely on the monitor and the hub/router/ firewall. Check the status LED of the Ethernet cable to confirm connectivity. Re-connect both ends of the Ethernet cable if the LED is not lit. First power off the Computer and unplug the Type-C cable and power cord of the monitor. Then, power on the computer, plug in the monitor power cord and Type-C cable.

5. Trouble Shooting Instructions

Problem	What you experience	Possible solutions
Monitor buttons (Mute / Volume down / Volume up / Hookswitch) not working with Microsoft Teams® App	Monitor buttons (Mute / Volume down / Volume up / Hookswitch) not working on Microsoft Teams® App with Chrome OS / Ubuntu	Use Microsoft Teams® App to perform the below tasks: • Call Icon to accept / hang up call • Volume down / Volume up adjustment • Mic mute / unmute • Camera on / off
Video recording not working	Video recording App not working with Win 7	Windows 7 not supportSwitch to Windows 10
Headset with Mic (3.5mm combo jack) not working with monitor mute / unmute button	Headset with Mic (3.5mm combo jack) not working with monitor mute / unmute button when camera module is pop in (retracted)	 Use UC App (e.g. Microsoft Teams, Skype for Business, Zoom, etc.) Mic Icon to mute / unmute
When press either Volume down / Volume up or Mute button, LED not blink	When press either Volume down / Volume up or Mute button, LED not blink when connected to HDMI or DP only	Connect USB A – B cable
Camera or Mic not working	Camera or Mic not working when connected to HDMI or DP only	Connect USB A – B cable

Problem	What you experience	Possible solutions
Ethernet port (RJ45) cannot connect to internet	Ethernet port (RJ45) cannot connect to internet on Win 10	Change the LAN Controller Power Saving from Enable to Disable
Microphone not working or not detect	Microphone not working or not detect on the Voice recorder App with Intel Gen 11th CPU (Tiger Lake) platform	Disable Intel Smart Sound Technology for USB Audio driver in the Device Manager and re-boot the PC
No sound can be heard from recorded video	No sound can be heard from recorded video with Intel Gen 11th CPU (Tiger Lake) platform	Disable Intel Smart Sound Technology for USB Audio driver in the Device Manager and re-boot the PC
When press either Volume down/ Volume up, OSD volume bar response is lagging/delayed	When press either Volume down/ Volume up, OSD volume bar response is lagging/delayed with monitor connected to Intel Gen 11th CPU (Tiger Lake) platform	Disable Intel Smart Sound Technology for USB Audio driver in the Device Manager and re-boot the PC

Universal Serial Bus (USB) specific problems

Specific Symptoms	What You Experience	Possible Solutions
USB interface is not working	USB peripherals are not working	 Check that your display is turned ON. Reconnect the upstream cable to your computer. Reconnect the USB peripherals (downstream connector). Turn off the monitor and turn it on again. Reboot the computer. Certain USB devices such as portable hard drives require higher power source; connect the drive to the computer directly.
super speed USB 3.2 Gen 1 interface is slow.	super speed USB 3.2 Gen 1 peripherals working slowly or not working at all	 Check that your computer is USB 3.0-capable. Some computers have USB 3.0, USB 2.0, and USB 1.1 ports. Ensure that the correct USB port is used. Reconnect the upstream cable to your computer. Reconnect the USB peripherals (downstream connector). Reboot the computer.
Wireless USB peripherals stop working when a USB 3.0 device is plugged in	Wireless USB peripherals responding slowly or only working as the distance between itself and its receiver decreases	 Increase the distance between the USB 3.0 peripherals and the wireless USB receiver. Position your wireless USB receiver as close as possible to the wireless USB peripherals. Use a USB-extender cable to position the wireless USB receiver as far away as possible from the USB 3.0 port.
USB is not working	No USB functionalities	Refer to input source and USB pairing table.