Service Manual - U4323QE

Version: 01

Date: 2022/07/22

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.

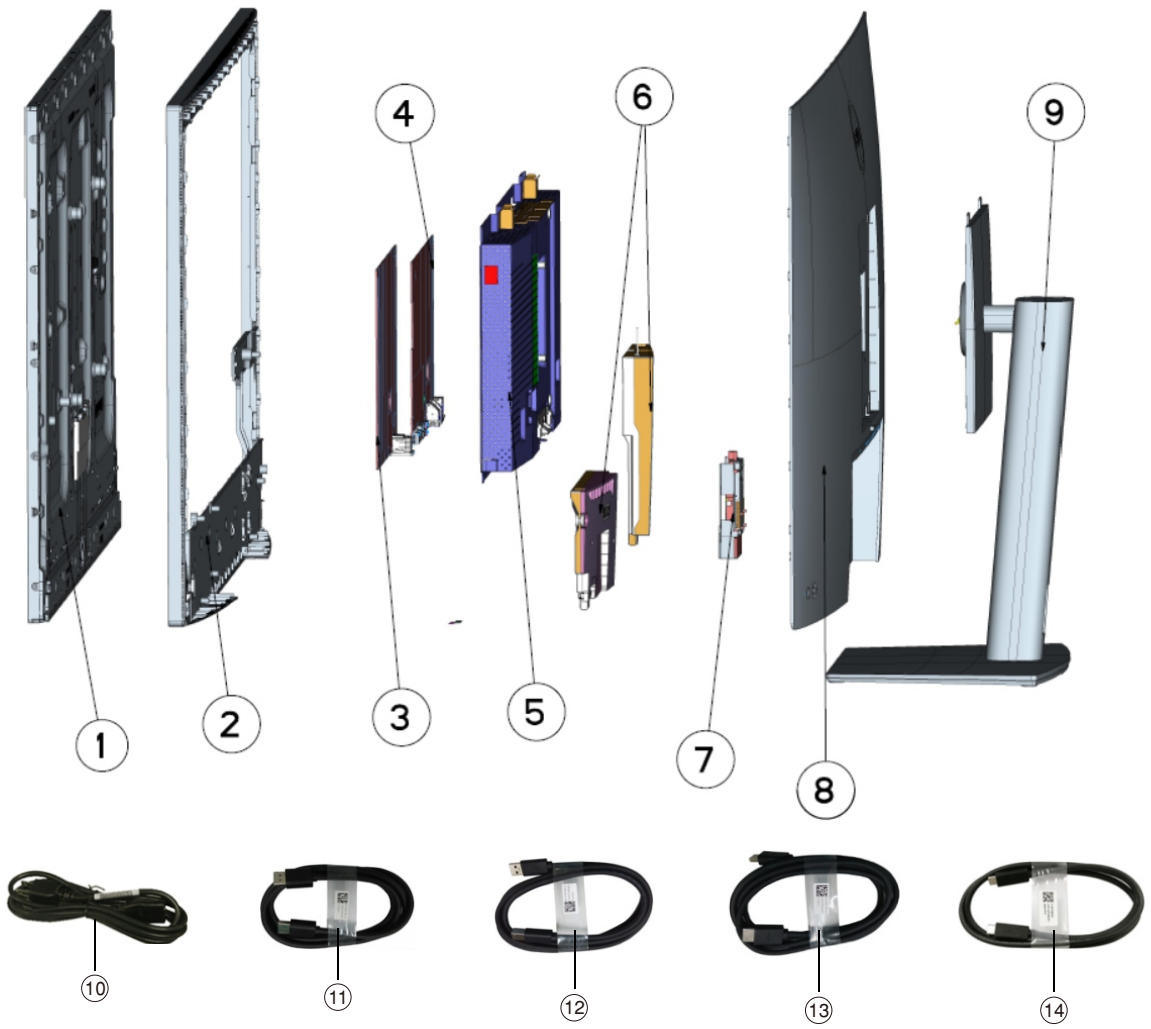
! To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.

! 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.

2. Exploded view diagram with list of items



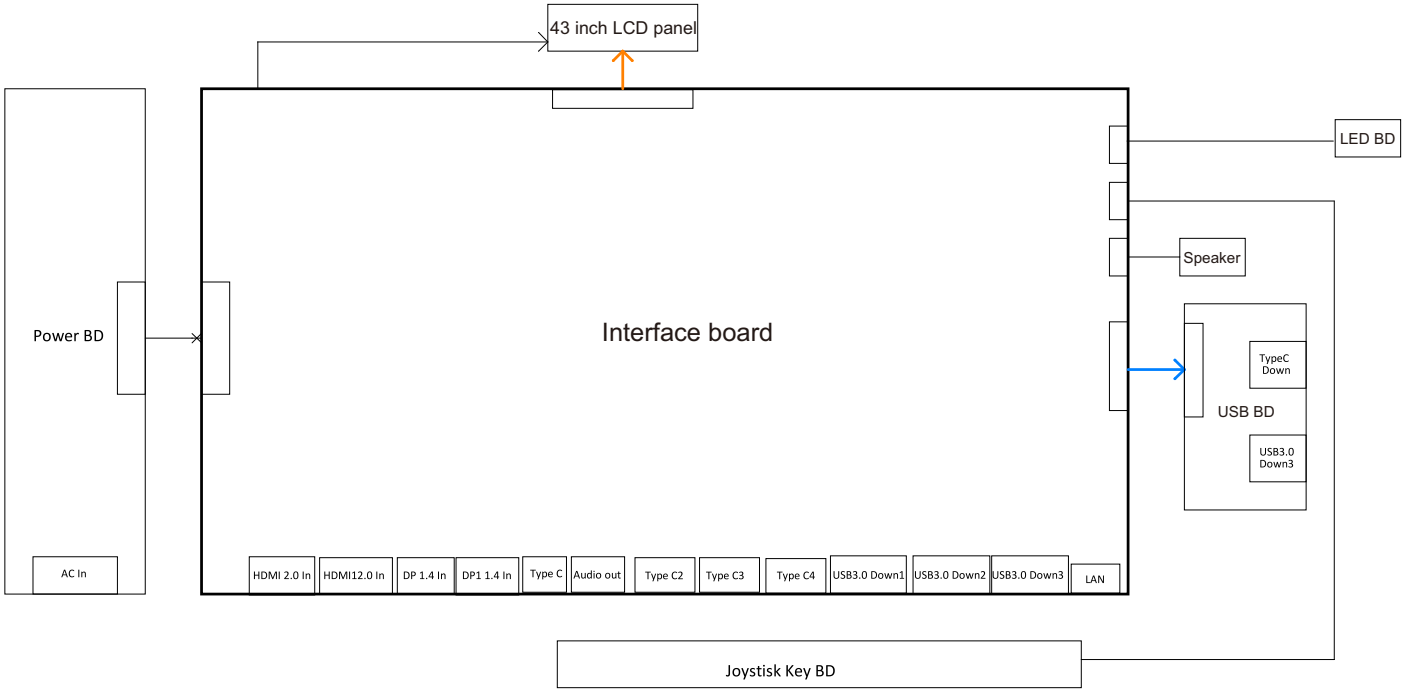
Item	Description	Q'ty	Remark
1	Panel	1	For EMEA Only, not for other regions
2	ASSY Middle Frame	1	
3	Power BD	1	
4	Interface BD	1	
5	Main bracket ASSY	1	
6	Speaker	1	
7	QAP	1	
8	Rear Cover	1	
9	Stand Base ASSY	1	
10	Power cable	1	See “NOTE”
11	DisplayPort 1.8 cable	1	See “NOTE”
12	USB_C Gen2 1.0 M cable(A to C)	1	See “NOTE”
13	USB_C Gen2 PD 3.0 1.0 M cable(A to C)	1	See “NOTE”
14	Premium High Speed HDMI 1.8 M cable	1	See “NOTE”

NOTE:

For replacement of power cord, connectivity cable and external power supply (if applicable), contact Dell:

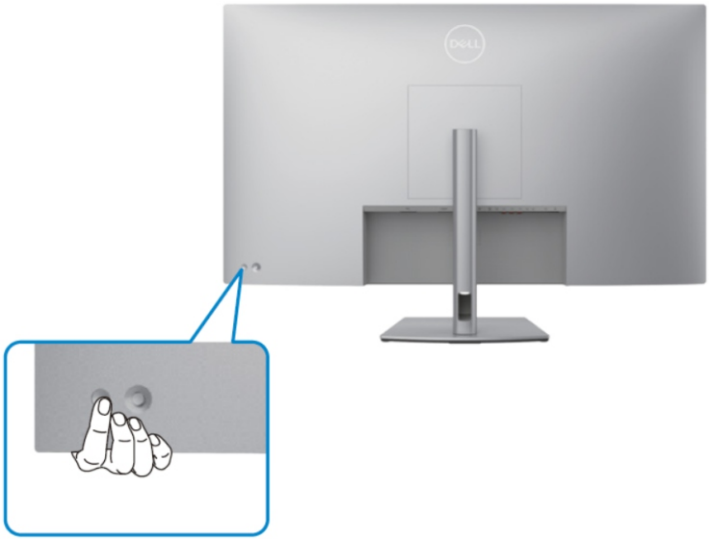
1. Go to https://www.dell.com/support.
2. Verify your country or region in the Choose A Country/Region drop-down menu at the bottom-right corner of the page.
3. Click Contact Us next to the country dropdown.
4. Select the appropriate service or support link based on your need.
5. Choose the method of contacting Dell that is convenient for you.

3. Wiring Connectivity Diagram



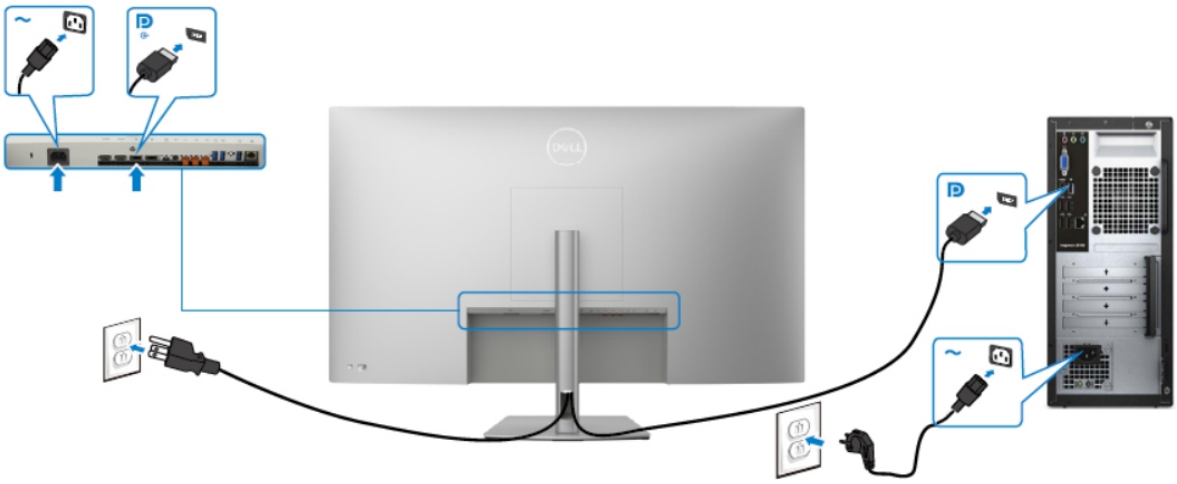
4. How to connect and disconnect power cable/ connectivity cable

WARNING: To change power cable/ connectivity cable, switch off power before unplugging the cable and replugging in required cable.



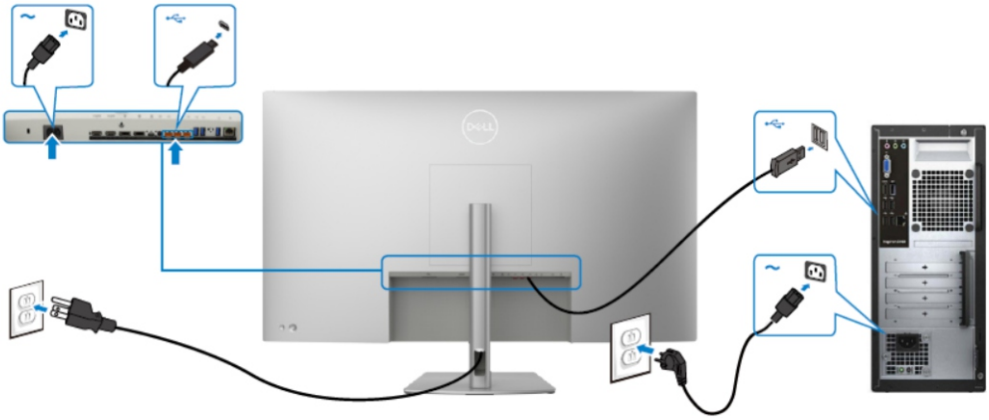
Connecting the HDMI Cable

Connecting the DP Cable

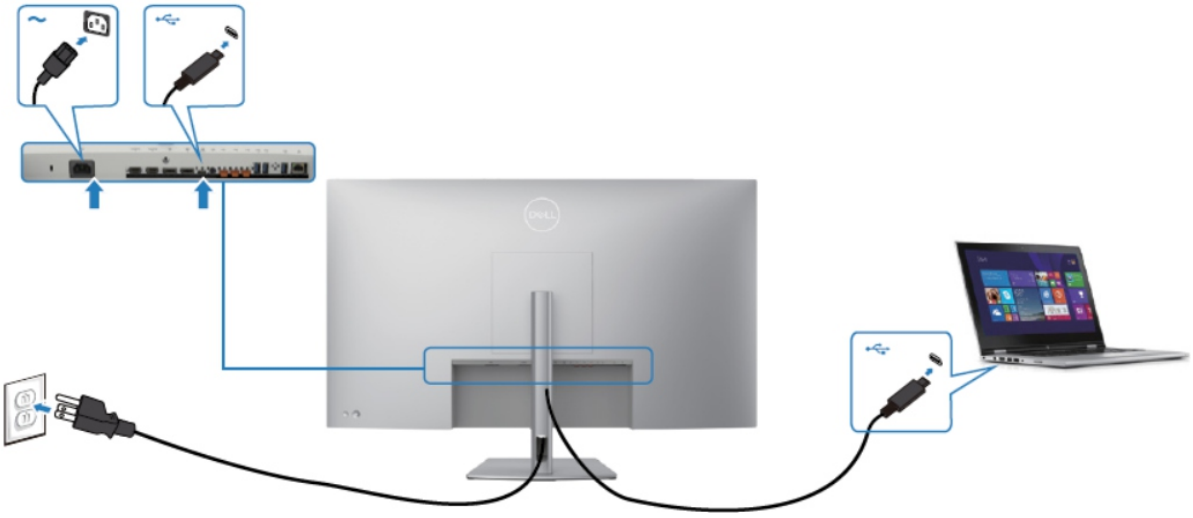


4. How to connect and disconnect power cable/ connectivity cable

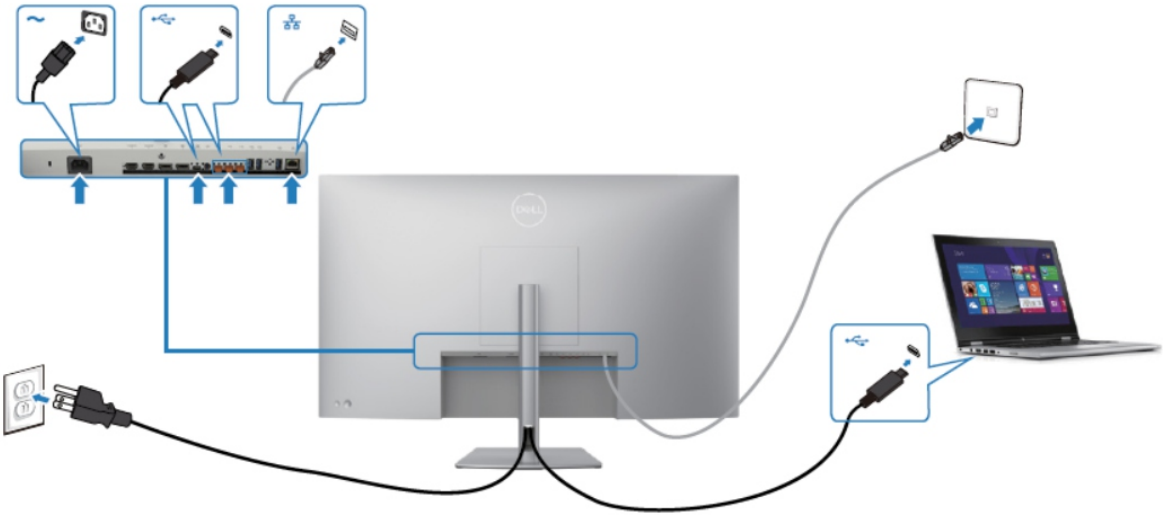
Connecting the USB-C Cable (A to C)



Connecting the USB-C Cable (C to C)



Connecting the Monitor for RJ45 Cable (optional)



5. Disassembly and Assembly Procedures

NOTE:
This "Disassembly and Assembly Procedures" is for EMEA only, not for other regions. Please note that Dell will deem warranty void if any disassembly is done on the monitors.

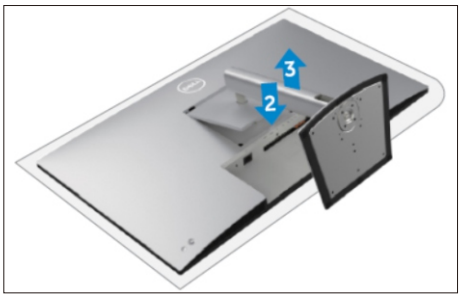
Tool Required:
List the type and size of the tools that would typically can be used to disassemble the product to a point where components and materials requiring selective treatment can be removed.

Tool Description:
- Screwdriver(Phillip head) #1
- Screwdriver(Phillip head) #2
- Penknife
- Soldering iron and absorber

5.1 Disassembly Procedures:

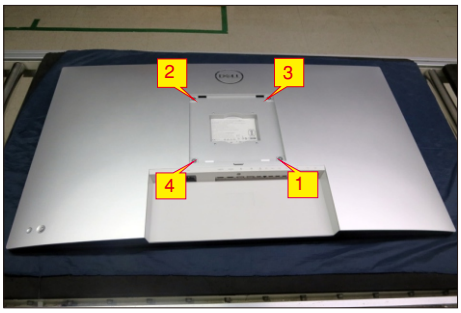
S1

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.



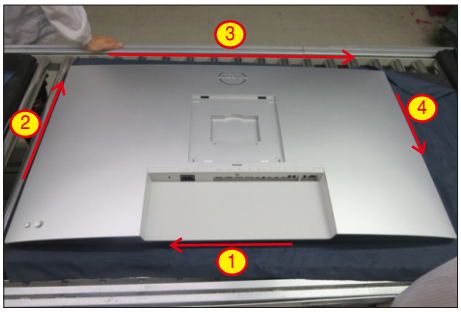
S2

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



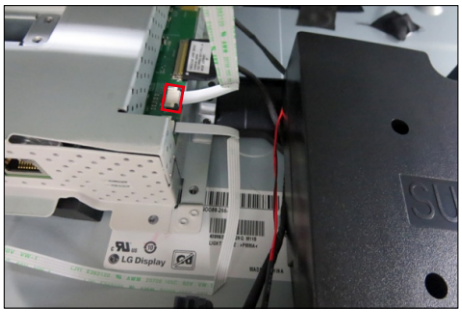
S3

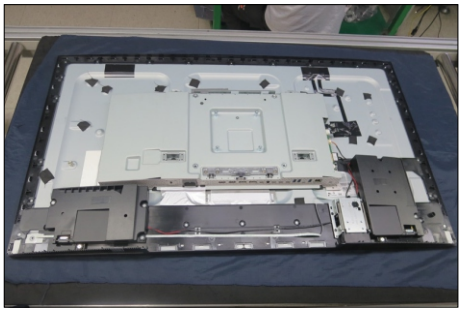
Wedge your fingers between the rear cover and the middle bezel on the corners of the top side of the monitor to release the rear cover, then use one hand to press the middle bezel, the other hand to pull up carefully the rear cover in order of arrow preference for unlocking mechanisms of rear cover.



S4

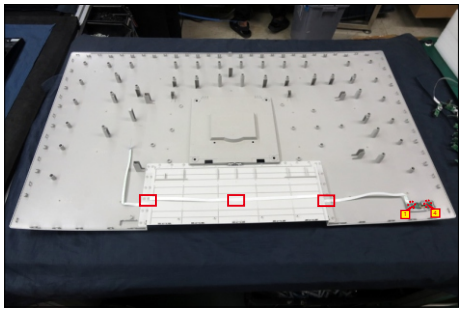
Lift the rear cover up carefully. Disconnect the joystick key cable from the connector of the interface board, and then remove the rear cover and put it aside for later disassembling





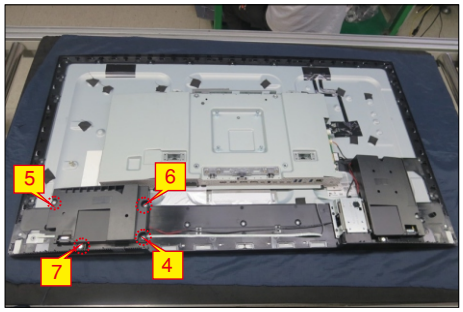
S5

Use a Philips-head screwdriver to remove 2pcs screw for unlocking the joystick board, then tear off the tapes and release the joystick board.
(No.1~2 screw size=M2x2.4,Torque=1±0.2kgfxcm)

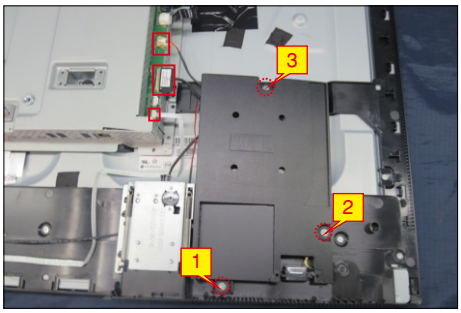


S6

Use a Philips-head screwdriver to remove 7pcs screws for unlocking the two speakers. Release the left speaker cables from the probers of the middle frame, and then disconnect the speaker cable, LED cable and USB cable away from the connector.
(No.1~7 screw size=M3x8, Torque=4±1kgfxcm)

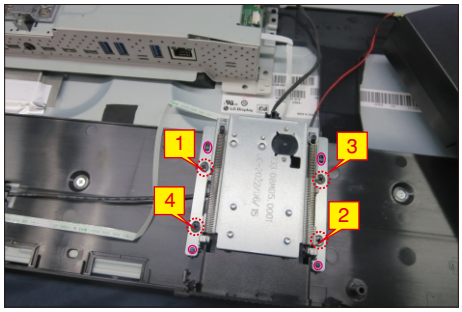


5. Disassembly and Assembly Procedures



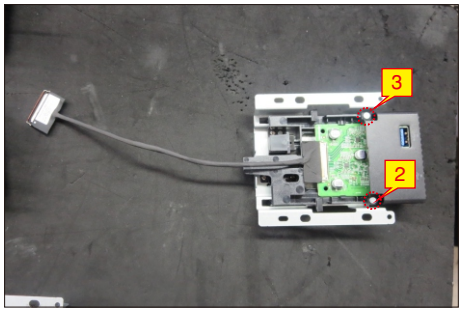
S7 Use a Philips-head screwdriver to remove 4pcs screw for unlocking the USB unit with the middle frame, and then release the USB unit from the hooks of middle frame.

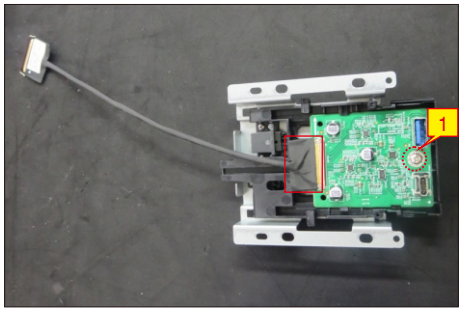
(No.1~4 screw size=M3x4, Torque=3.5±0.5kgfxcm)



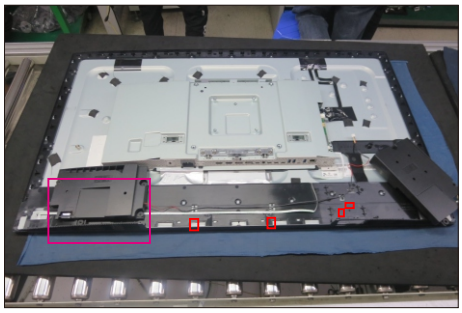
S8 Use a Philips-head screwdriver to remove 2pcs screws for unlocking the USB cover, remove the USB cover, then use a Philips-head screwdriver to remove 1pcs screw for locking the USB board with the USB bracket. Disconnect the USB connective cable.

(No.1 screw size=M3x3, Torque=3.5±0.5kgfxcm;
No.2~3 screw size=M3x4, Torque=1±0.2kgfxcm)



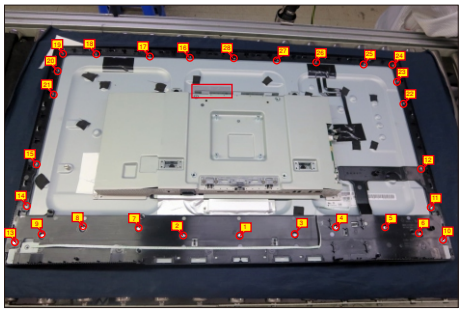


S9 Release the speakers' cable to from the hooks of the middle frame, then remove the speakers.



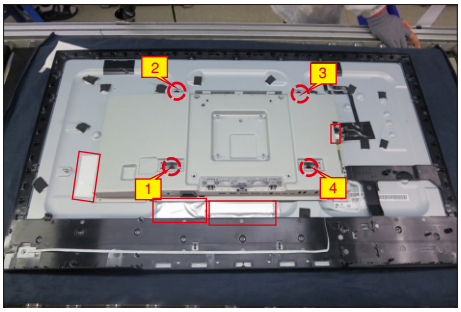
S10 Tear off 1pcs aluminum foil to release the bracket chassis. Use a Philips-head screwdriver to remove 28pcs screws for unlocking the middle frame with the panel module.

(No.1~28 Screw size= M3x0.5x4, Torque=5±0.5kgfxcm)

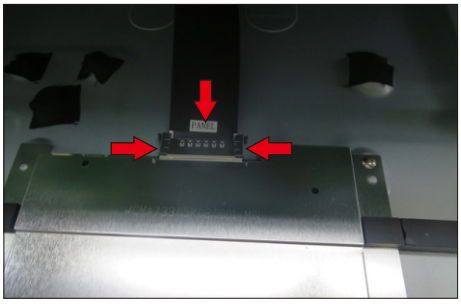


S11 Tear off 3pcs aluminum foil, then use a Philips-head screwdriver to remove 4pcs screws for locking the bracket chassis module with the panel.

(No.1~4 Screw size= M6x12, Torque=9±0.5kgfxcm)



S12 Lift up the bracket chassis, and disconnect the LVDS cable from the connector of the T-CON board of panel module, then put the bracket chassis on a protective cushion for later disassembling.

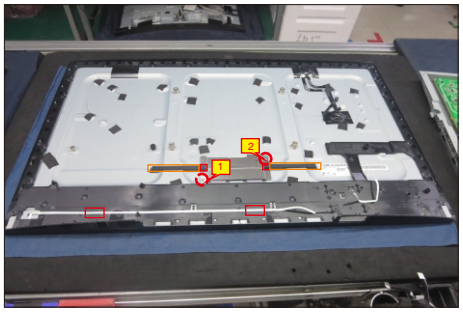


5. Disassembly and Assembly Procedures

S13

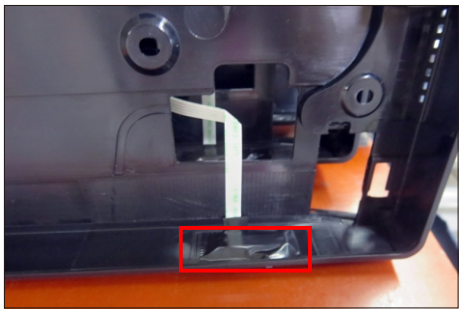
Tear off 4pcs rubbers , then use a Philips-head screwdriver to remove 2pcs screws for unlocking the small bracket with T-Con board, then remove the small bracket, then release the LED key cable by tearing off tapes on the back of the cable.

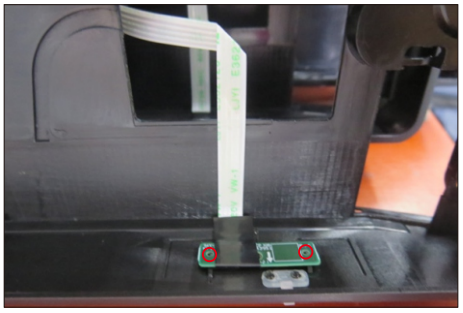
(No.1~2 Screw size= M3x0.5x4, Torque=3~5kgfxcm)



S14

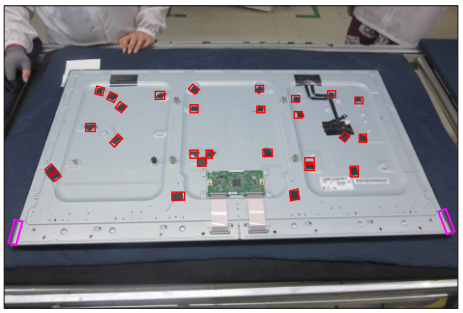
Lift up the middle frame and put it into a fixture, tear off the maylar tape for releasing the LED key board away from the middle frame.





S15

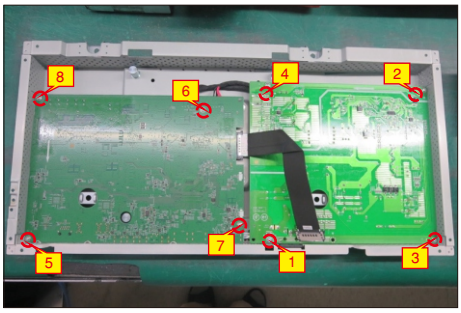
Remove 2pcs shading tape on the left and right side of the panel corner, then remove 27pcs acetate tapes on the specific positions of the back of panel.



S16

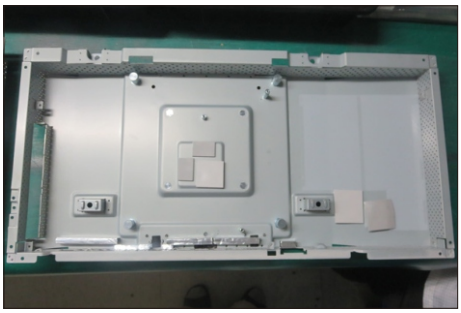
Use a Philips-head screwdriver to remove 9pcs screws for unlocking power board and interface board with the bracket.

(No.1 screw size=M4x8, Torque=6±0.5kgfxcm;
No.2~8 screw size=M3x7.5, Torque=6±0.5kgfxcm)



S17

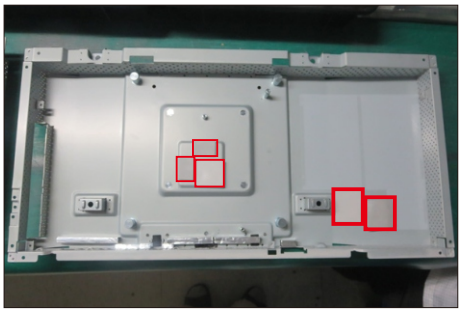
Remove the circuit boards from the bracket chassis module carefully, and then disconnect all of the cables.



5. Disassembly and Assembly Procedures

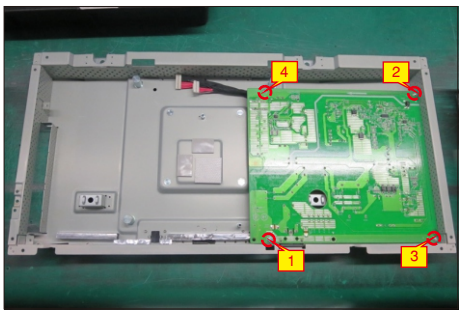
5.2 Assembly Procedures:

S1 Place a bracket chassis base on a protective cushion, then stick 5pcs Silicon sheets on the position as the picture below shown.



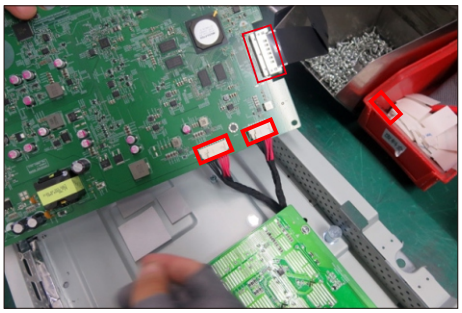
S2 Put 1pcs power board into the bracket, then use a Philips-head screwdriver to tighten 4pcs screws for locking the power board.

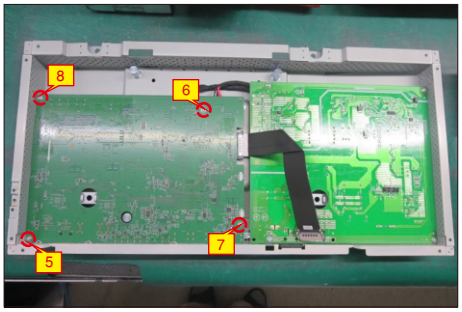
(No.1 screw size=M4x8, Torque=6±0.5kgfxcm;
No.2~4 screw size=M3x7.5, Torque=6±0.5kgfxcm)



S3 Take 1pcs interface board, connect a LVDS cable to the connector of the interface board, then connect the power connective cables to the interface board. Turn over the interface board and locate it into the bracket. Use a Philips-head screwdriver to tighten 4pcs screws for locking the interface board.

(No.6~9 screw size=M3x7.5, Torque=6±0.5kgfxcm)

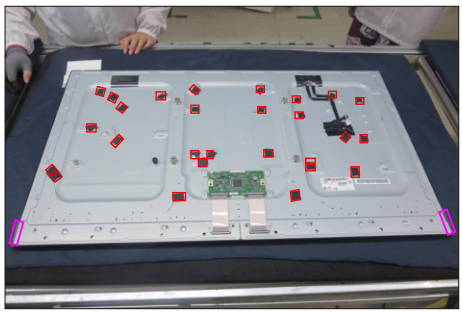




S4 Panel preparation: Take out 1pcs panel module from the carton, remove the protective film by tearing off all the tapes of screen and four sides, then examine the panel surface according to inspection criteria carefully.

S5 Take 1pcs Dell nameplate, then use a locating fixture to fix the nameplate to the front bezel of the module, and then move the whole unit into a laminating fixture, use the laminating fixture to press the nameplate with the bottom side of the panel module firmly attachment.

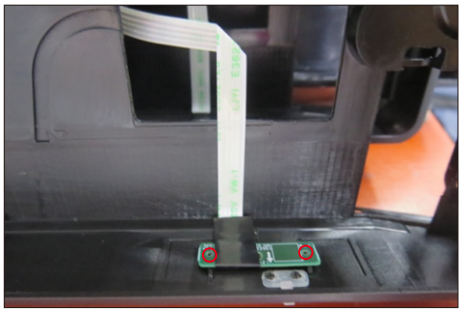
S6 Turn over the panel module to place screen faced down. Paste 2pcs shading tape on the left and right side of the panel corner, then paste 27pcs acetate tapes on the specific position of the back of panel as the picture below shown.

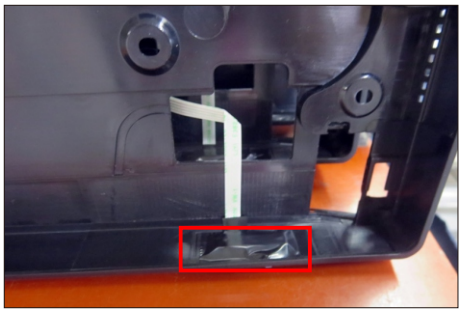


5. Disassembly and Assembly Procedures

S7

Take 1pcs LED board and 1pcs middle frame, and then locate the LED board into the specific position of the middle frame. Paste 1pcs mylar tape to fix the LED board with middle frame, then thread the cable through the hole of the middle frame.





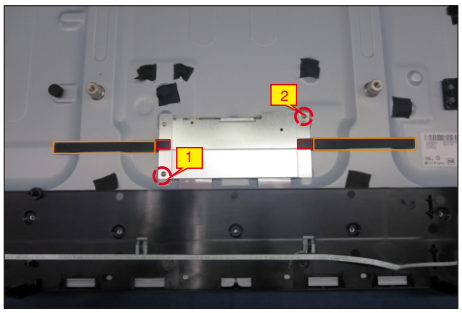
S8

Assemble the middle frame with the panel unit, then tear off 3pcs adhesive tape papers on the back of cable and fix the LED cable on the middle frame as the picture below shown.

S9

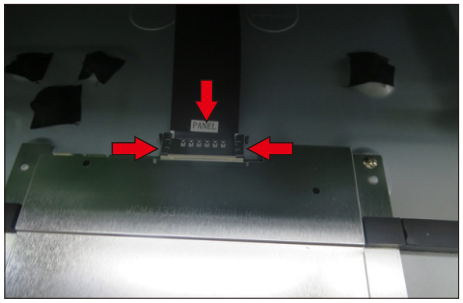
Take 1pcs T-Con cover to assemble with T-Con board, then use a Philips-head screwdriver to tighten 2pcs screws for locking the cover with T-Con board. Paste 4pc black rubbers on the T-Con cover and panel as the picture below shown.

(No.1~2 Screw size= M3x0.5x4, Torque=3~5kgfxcm)



S10

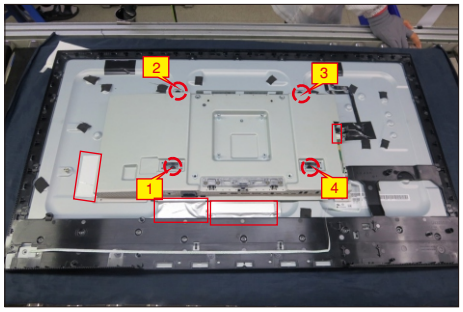
Move the bracket chassis module close to the panel module, then connect the LVDS cable to the connector of the T-Con board, then put the bracket on the back of the panel module.



S11

Use a Philips-head screwdriver to tighten 4pcs screws for locking the bracket with the panel, then connect the panel lamp cable to the connectors of the board and fix the LVDS connector, T-con connector and bracket with 3pcs aluminum foil.

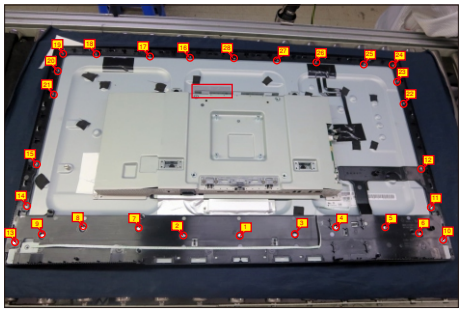
(No.1~4 Screw size= M6x12, Torque=9±0.5kgfxcm)



S12

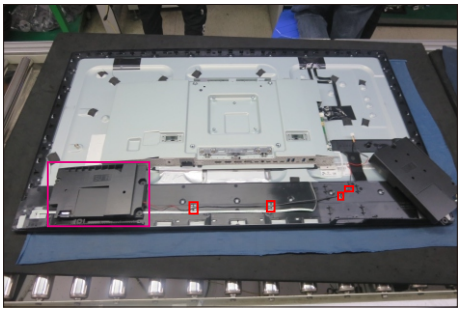
Use a Philips-head screwdriver to tighten 28pcs screws for locking the middle frame with the panel. Paste 1pcs aluminum foil to fix the bracket chassis.

(No.1~28 Screw size= M3x0.5x4, Torque=5±0.5kgfxcm)



S13

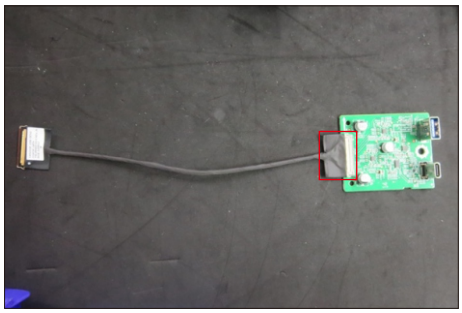
Take a pair of speakers, locate the left speakers to the probers of the middle frame, then locate the speakers' cable to the hooks of the middle frame.

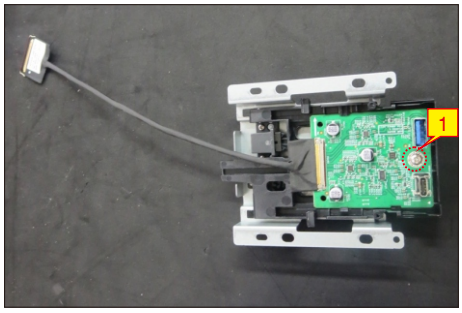


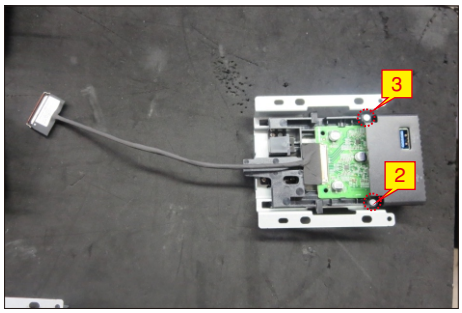
S14

Take 1pcs USB board, 1pcs USB connective cable and 1pcs USB bracket. Connect the USB cable to the connector of the USB board, and then locate the USB board into the USB bracket and use a Philips-head screwdriver to tighten 1pcs screw for locking the USB board with the bracket. Take 1pcs USB hub cover to assemble with the USB bracket, then use a Philips-head screwdriver to tighten 2pcs screws for locking the cover with the whole unit.

(No.1 screw size=M3x3, Torque=3.5±0.5kgfxcm;
No.2~3 screw size=M3x4, Torque=1±0.2kgfxcm)



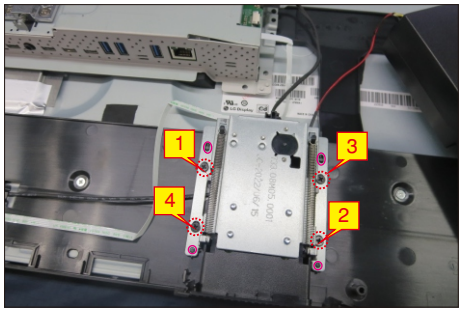




S15

Locate the USB unit to the hooks of middle frame, then use a Philips-head screwdriver to tighten 4pcs screw for locking the USB unit with the middle frame.

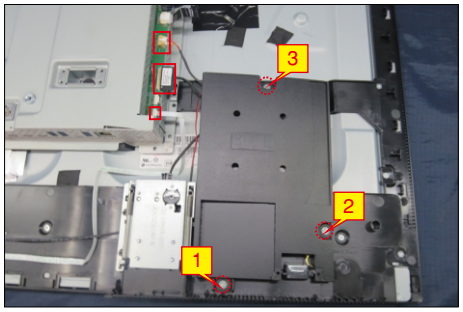
(No.1~4 screw size=M3x4, Torque=3.5±0.5kgfxcm)

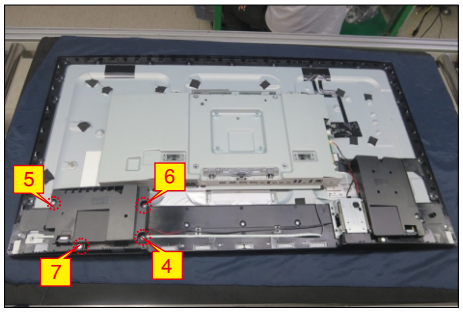


S16

Locate the right speakers into the provers of the middle frame, then connect the LED cable, USB connective cable and speaker's cable to the connectors of the board. Use a Philips-head screwdriver to tighten 7pcs screws for locking the two speakers with middle frame.

(No.1~7 screw size=M3x6, Torque=4±1kgfxcm)

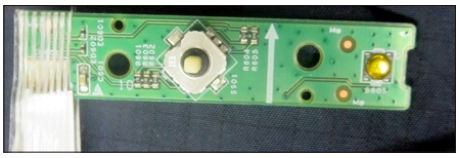


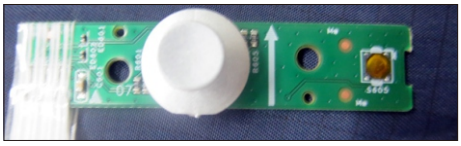


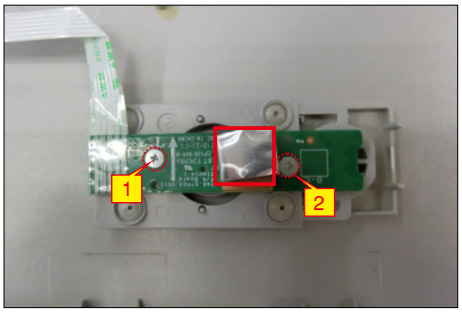
S17

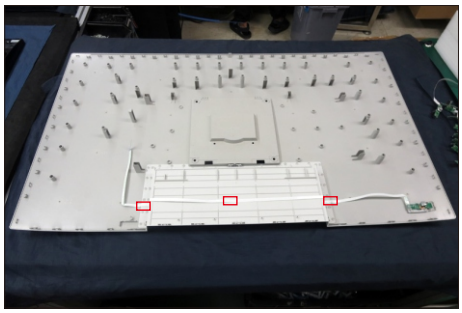
Take 1pcs joystick key, 1pcs joystick board and 1pcs rear cover, then assemble the joystick key with the board, then paste 1pcs conductive foam on the back of the board. Locate the joystick board to the correct position of the rear cover, then use a Philips-head screwdriver to lock 2pcs screws for locking the joystick board with rear cover. Tear off the papers on the back of the cable, and then fix the joystick cable with tapes.

(No.1~2 screw size=M2x2.4,Torque=1±0.2kgfxcm)



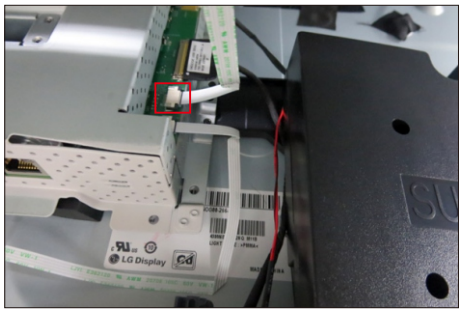


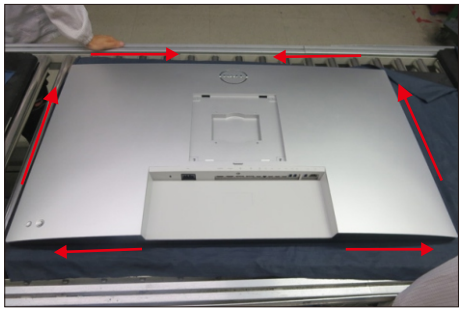




S18

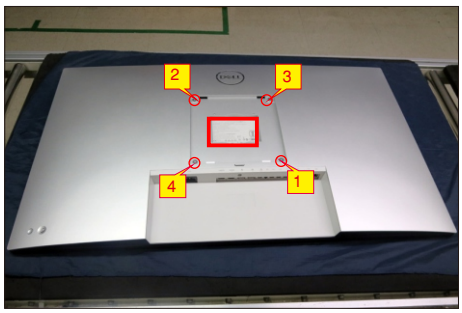
Move the assembled rear cover close to the panel unit, then connect the joystick key cable to the connector of interface board. Put down the rear cover and push the rear cover on the positions marked as the picture below shown for mechanisms engagement.





S19

Use a Philips-head screwdriver to tighten four screws for locking mechanisms. Paste 1pcs label on the specific positions as the picture below shown.
(No.1~4 screw size=M6x12; Torque=9±0.5kgfxcm)



S20

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

S21

Use a protective bag to pack the stand base, then lift up the monitor to checking the gap between the front bezel with panel module , then provide power supply and a video signal to the monitor, then turn on the monitor for functionality check.

Troubleshooting

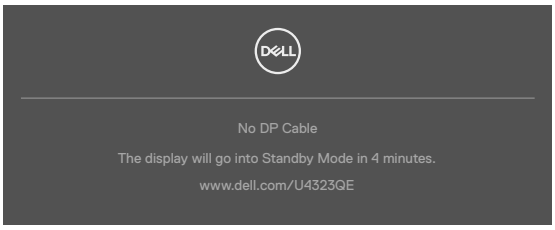
⚠ **WARNING: Before you begin any of the procedures in this section, follow the Safety instructions.**

Self-test

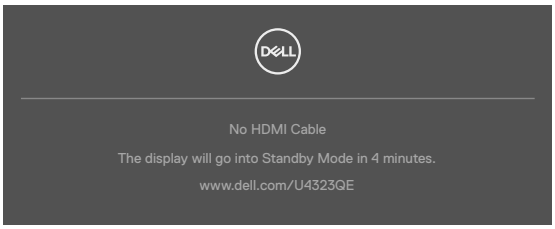
Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

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.

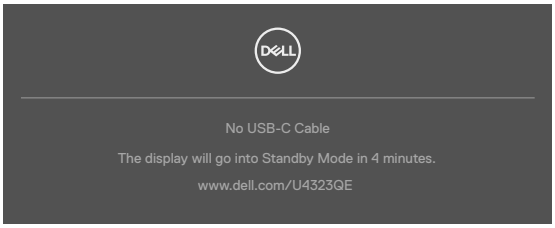
The floating dialog box should appear on-screen (against a black background), if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains white. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through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



or



or

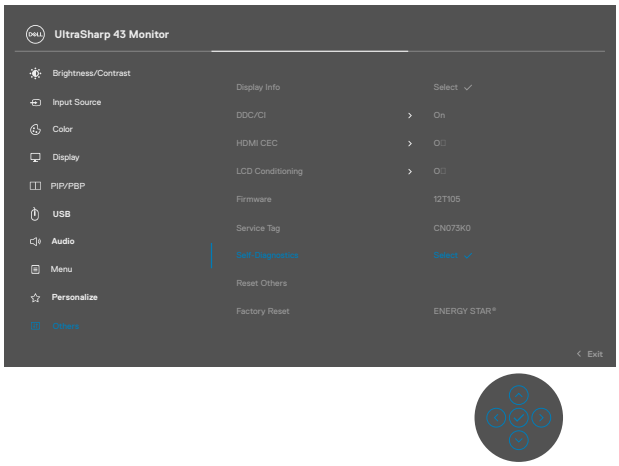


4. This box also appears during normal system operation if the video cable becomes disconnected or damaged.
5. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

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. Select OSD items of Self-Diagnostics in Others feature.
3. 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 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 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.
Safety Related Issues	Visible signs of smoke or sparks	· Do not perform any troubleshooting steps. · Contact Dell immediately.

6. Trouble Shooting Instructions

Common symptoms	What you experience	Possible solutions
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	· Try different Preset Modes in Color settings OSD. · Adjust R/G/B value under Custom Color in Color menu OSD. · Change the Input Color Format to RGB or YCbCr in the Color settings 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.

Product specific problems

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	Black screen	· Verify which DP standard (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 1.4 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 1.4 to DP 1.1a.

6. Trouble Shooting Instructions

Problem	What you experience	Possible solutions
No image when using USB-C connection to computer, laptop, and so on	Black screen	· Verify if the USB-C interface of the device can support DP alternate mode. · Verify if the device required more than 90 W power charging. · USB-C interface of device cannot support DP alternate mode. · Set Windows to Projection mode. · Ensure that the USB-C cable is not damaged.
No charging when using USB-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-C connection. · Ensure that you use only Dell approved adapter or the adapter that comes with the product. · Ensure that the USB-C cable is not damaged.
Intermittent charging when using USB-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-C cable is not damaged.
No image when using USB-C MST	Black screen or 2nd DUT is not Prime mode	· USB-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 USB-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.

Problem	What you experience	Possible solutions
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.

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.

6. Trouble Shooting Instructions

Specific symptoms	What you experience	Possible solutions
Super speed USB 3.2 Gen 2 interface is slow.	Super speed USB 3.2 Gen 2 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.