

## 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.

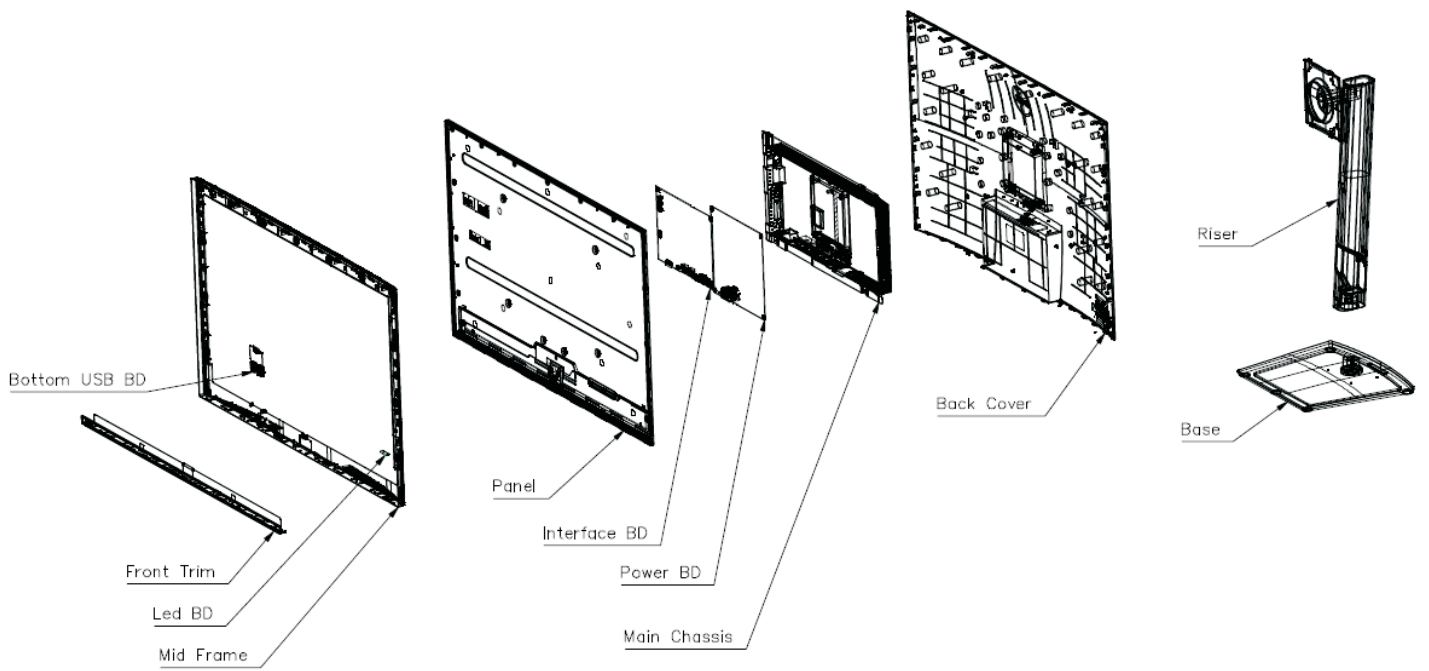
! To prevent the product away from water or expose in extremely high humidity environment.

! To ensure the continued reliability of this product, use only original manufacturer's specified parts.

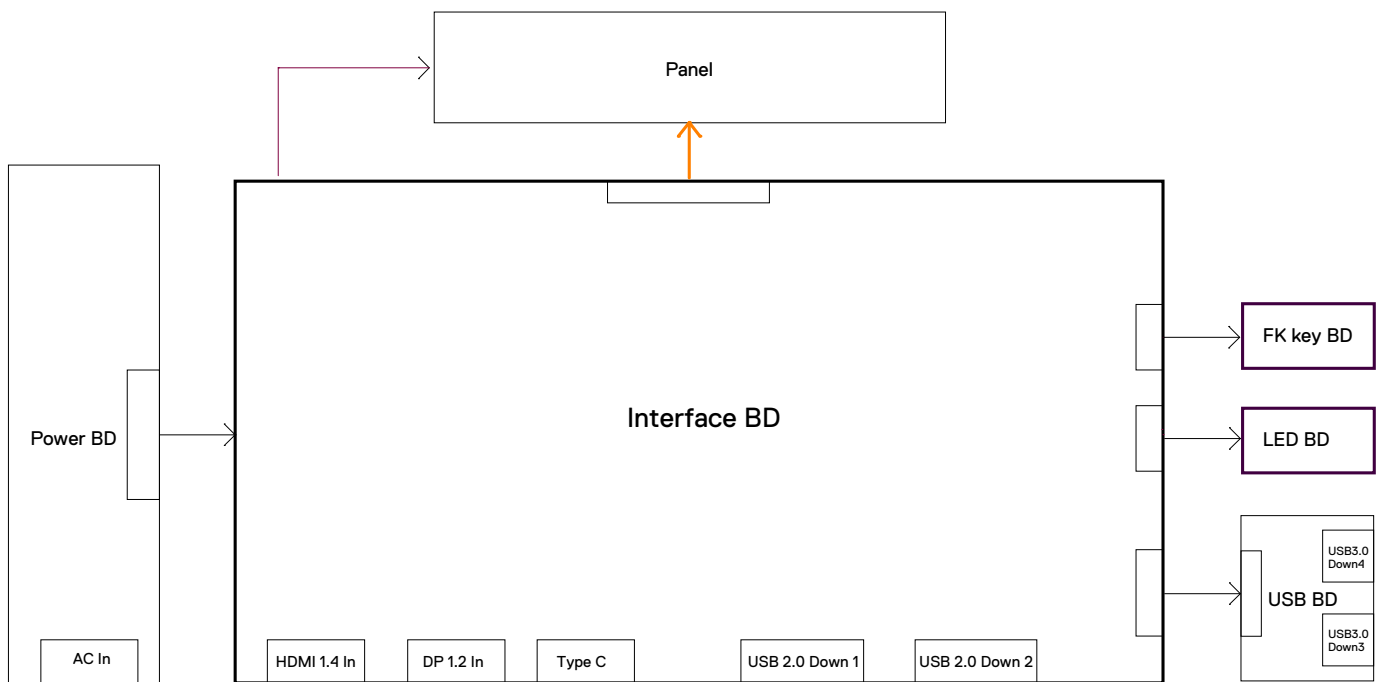
! To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.

- ! 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



### 3. Wiring Connectivity Diagram



## 4. Disassembly and Assembly Procedures

Necessary repair and test equipment:

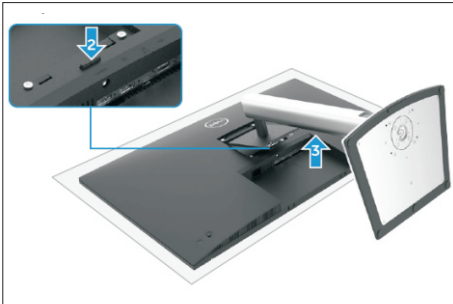
1. Philips-head screwdriver

### 4.1 Disassembly Procedures:

Remove the monitor stand base:

S1

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

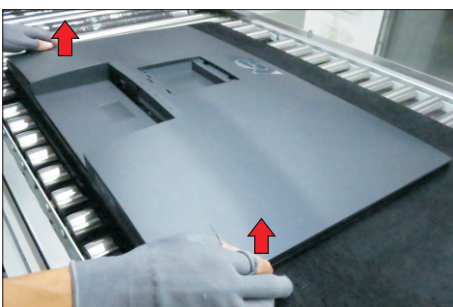
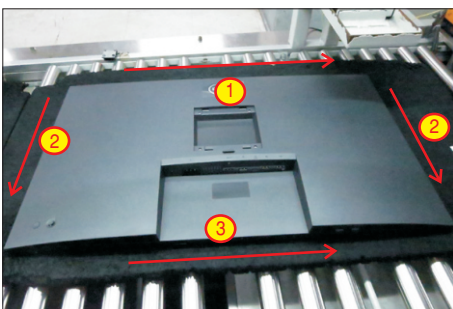
Use a Philips-head screwdriver to remove four screws for unlocking mechanisms.

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



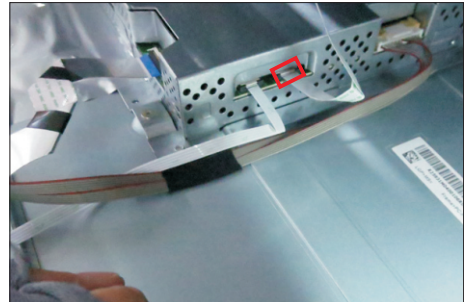
S3

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.



S4

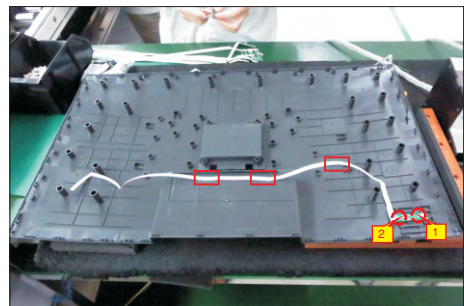
Lift the rear cover up carefully. Disconnect the joystick key cable from the connector of the interface board, and then remove the rear cover and put it aside for later disassembling.



S5

Use a Philips-head screwdriver to remove 2pcs screw for unlocking the key board, then tear off the tapes and release the key board.

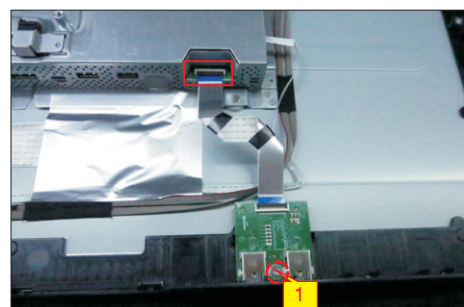
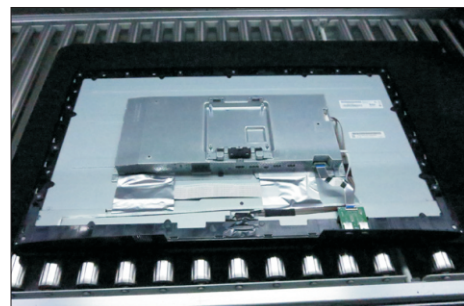
(No.1~2 screw size=M2x2.4, Torque=0.8~1kgfxcM)



S6

Use a Philips-head screwdriver to release 1 screws for unlocking the USB board, then disconnect the USB FFC cable away from the connector of the interface board and remove the USB board unit.

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

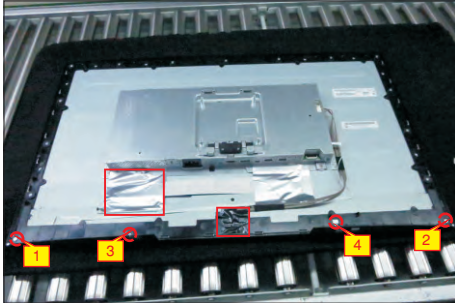


## 4. Disassembly and Assembly Procedures

S7

Tear off 1pcs conductive tape and 1pcs aluminum foil as the picture below shown. Use a Philips-head screwdriver to remove 4pcs screws for unlocking the middle bezel with front bezel.

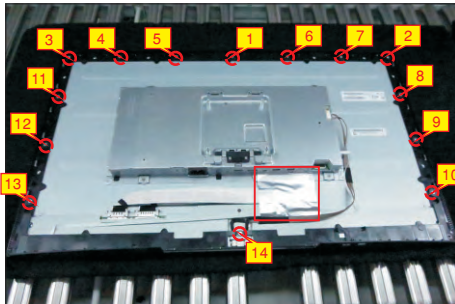
(No.1~4 screw size=M2x3.5, Torque=2.5±0.5kgfxcM)



S8

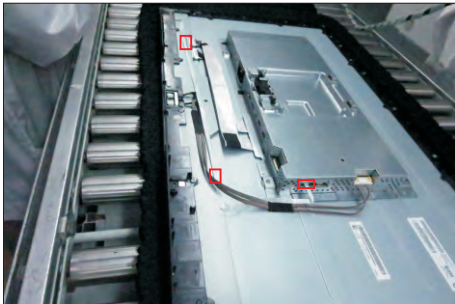
Use a Philips-head screwdriver to remove 14pcs screws for unlocking the middle bezel with the panel module, then tear off the aluminum.

(No.1~14 screw size=M3x5, Torque=5±0.5kgfxcM)



S9

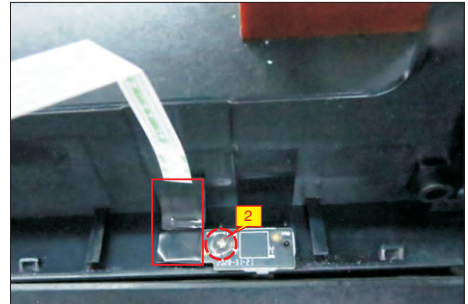
Disconnect the LED cable from the connector of the interface board, then release the LED cable by tearing off the tapes.



S10

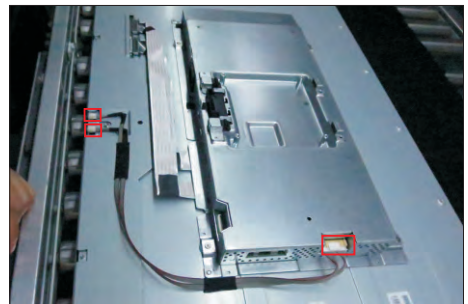
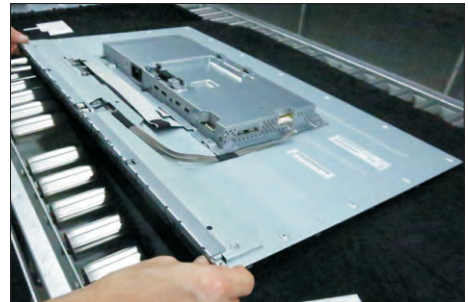
Take away the middle bezel. Use a Philips-head screwdriver to remove 1pcs screw for unlocking the LED board with the middle bezel, and then tear off the tape for releasing the LED cable.

(No.1~3 screw size=M2x2.4, Torque=0.8±0.2kgfxcM)



S11

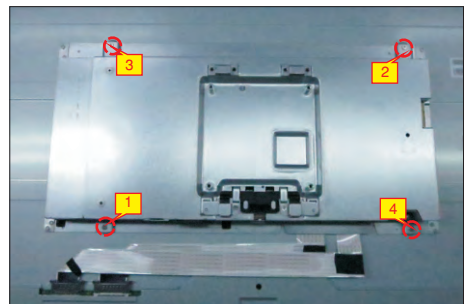
Lift up the panel with the bracket chassis for releasing the front bezel away from the panel. Disconnect the panel lamp cables away from the connectors of the interface board and the panel module.



S12

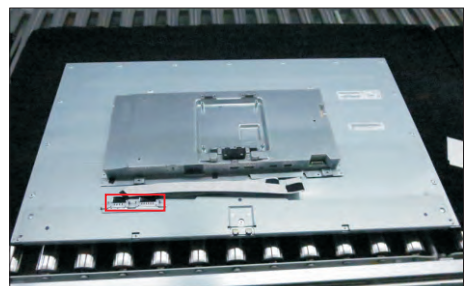
Use a Philips-head screwdriver to remove 4pcs screws for unlocking the bracket with panel module.

(No.1~4 screw size=M3x4, Torque=5±0.5kgfxcM)



S13

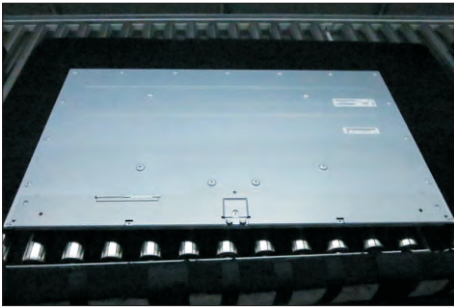
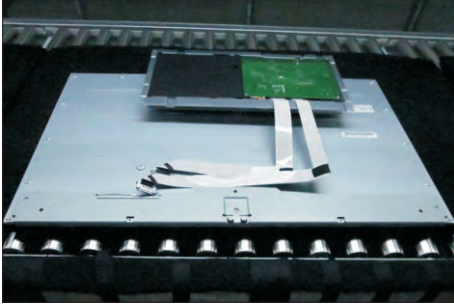
Move up the bracket, then disconnect the 2pcs LVDS cables away from the connectors of the panel.



## 4. Disassembly and Assembly Procedures

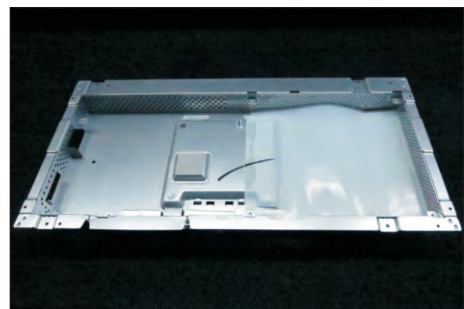
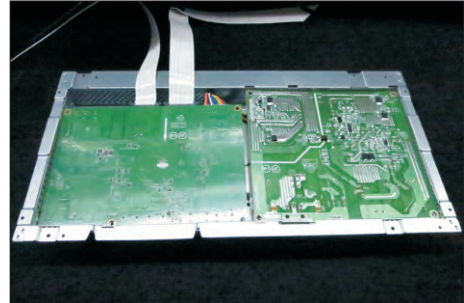
S14

Take away the bracket chassis module and then put the bracket chassis module on a protective cushion.



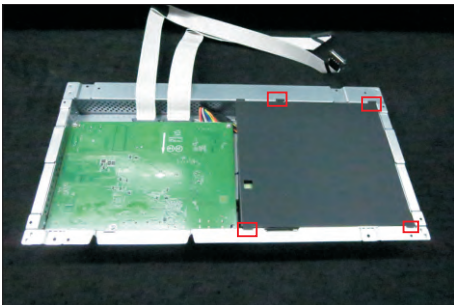
S17

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



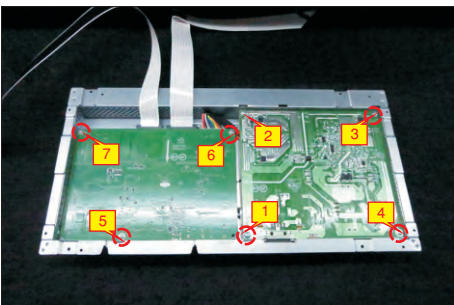
S15

Remove the Mylar tape from the hooks of the bracket.



S16

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

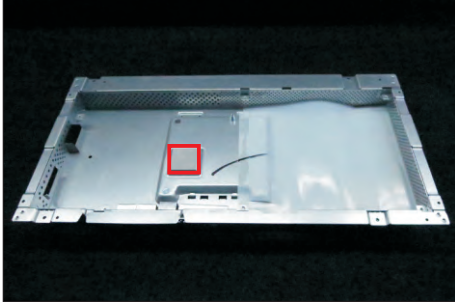


## 4. Disassembly and Assembly Procedures

### 4.2 Assembly Procedures:

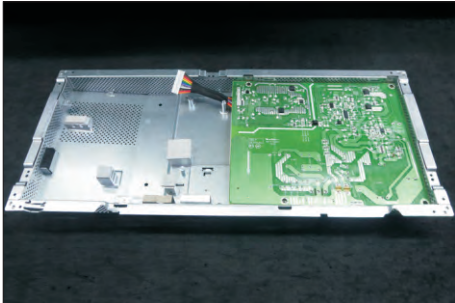
S1

Place a bracket chassis base on a protective cushion, then stick 1pcs Silicon sheet on the position as the picture below shown.



S2

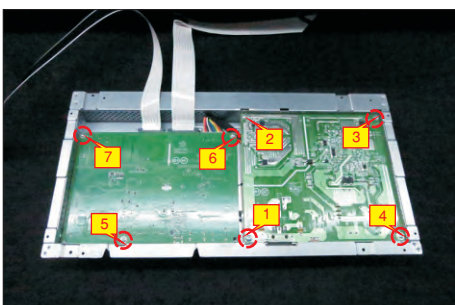
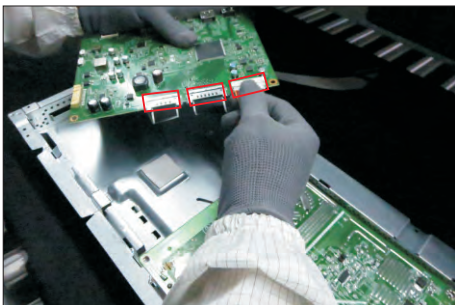
Turn over a power board and put the power board into the bracket chassis.



S3

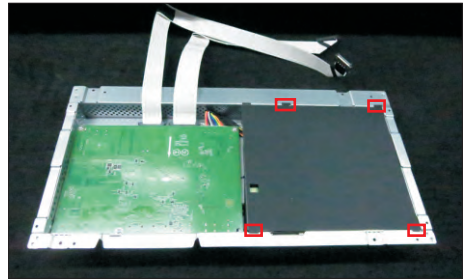
Take a interface board, connect 2pcs LVDS cable to the connectors of the interface board, then connect the cable of the power board to the connector of the interface board. Turn over the interface board and locate it into the bracket, then locate all the cables into the correct position of the bracket. Use a Philips-head screwdriver to tighten 7pcs screws for locking the circuit board, .

(No.1 screw size=M4x8, Torque=7±1kgfxcM;  
No.2~7 screw size=M3x7.5, Torque=7±1kgfxcM)



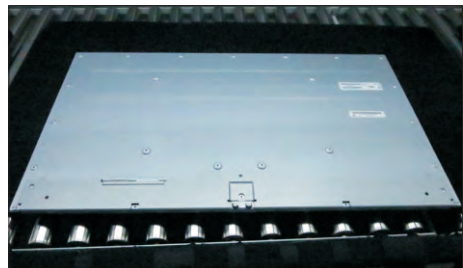
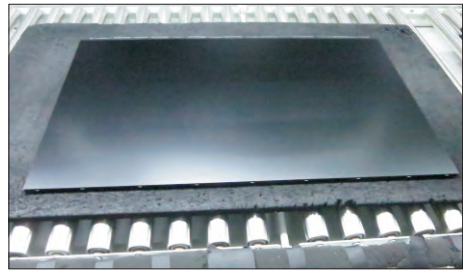
S4

Take a mylar to insert the hooks of the bracket to cover the power board as the following picture shown.



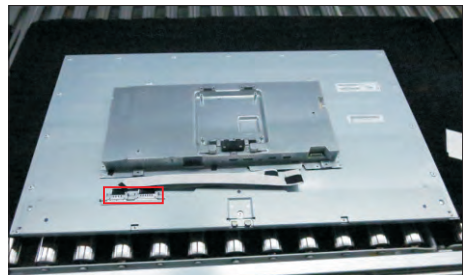
S5

Panel preparation: Take a panel and then examine the panel surface according to inspection criteria. Tear off the protective film of the panel screen, and then turn over the panel to place screen faced down.



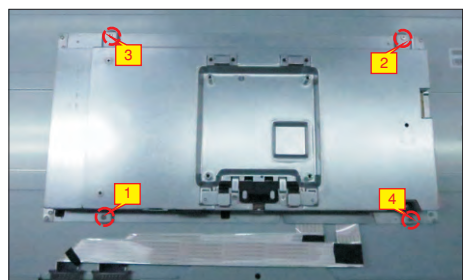
S6

Put down the bracket chassis module on the back of panel module, then connect the two LVDS cables to the connectors of the panel module.



S7

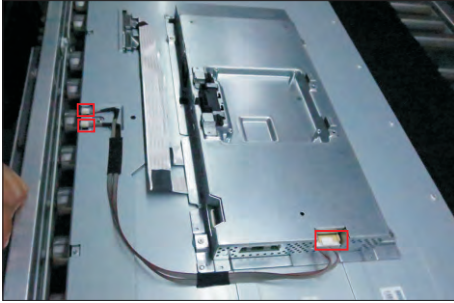
Use a Philips-head screwdriver to tighten 4pcs screws for locking the bracket with panel module.  
(No.1~4 screw size=M3x4, Torque=5±0.5kgfxcM)



## 4. Disassembly and Assembly Procedures

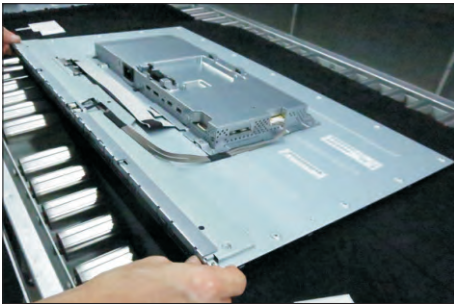
S8

Take 1pcs panel lamp cable to connect the circuit board with the connectors of the panel module.



S9

Take 1pcs front bezel, then lift up the panel with bracket and assemble the front bezel with the panel module.



S10

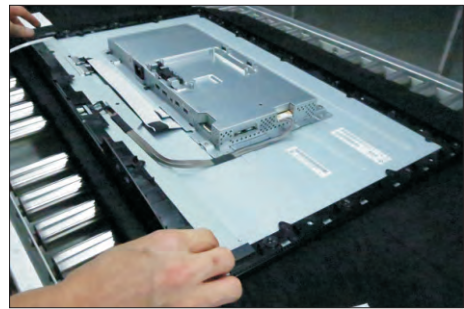
Take 1pcs LED board and 1pcs middle bezel, then put the middle bezel into a fixture jig to fix the middle bezel. Locate the LED board to the correct positions of the middle bezel. Use a Philips-head screwdriver to tighten 1pcs screw for locking the LED board with middle bezel. Stick a big piece of mylar tape to cover the LED board.

(No.1 screw size=M2x2.4, Torque=0.8~1kgfxcM)



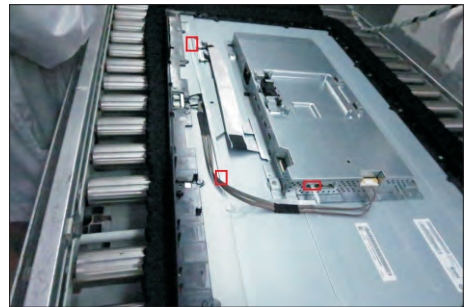
S11

Move the middle bezel with the LED board close to the panel unit, then assemble the middle bezel with the front bezel and panel module.



S12

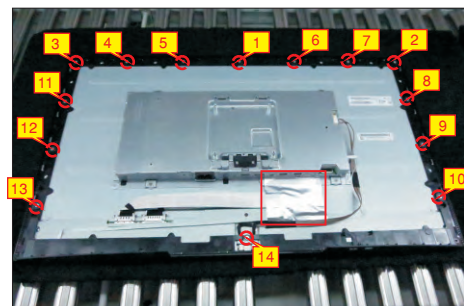
Tear off the papers of the tapes on the back of the LED cable, and then fix the LED cable on the panel with 2pcs tapes, then connect the LED cable with the connector of the board.



S13

Paste 1pcs aluminum foil to fix the bracket, LED cable and LVDS cable on the specific position as the picture below shown. Use a Philips-head screwdriver to tighten 14pcs screws for locking the middle bezel with the panel module.

(No.1~14 screw size=M3x5, Torque=5±0.5kgfxcM)



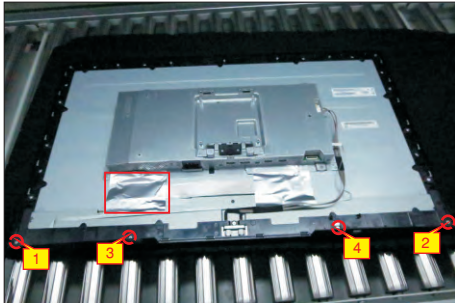


## 4. Disassembly and Assembly Procedures

S14

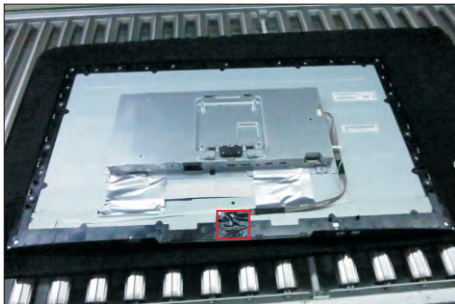
Paste 1pcs aluminum foil to cover the two LVDS connectors, then use a Philips-head screwdriver to tighten 4pcs screws for locking the middle bezel with front bezel.

(No.1~4 screw size=M2x3.5, Torque=2.5±0.5kgfcm)



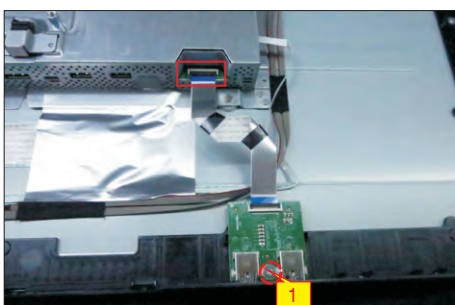
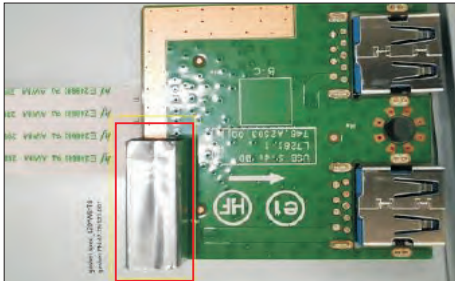
S15

Paste 1pcs conductive tape to cover the panel lamp connectors as the picture below shown.



Take 1pcs USB board, 1pcs LVDS cable, 1pcs conductive foam. Connect the LVDS cable to the connector of the USB board, then paste 1pcs conductive foam on the back of the USB board, and then locate the USB board into the correct position of the middle bezel. Use a Philips-head screwdriver to tighten 1pcs screw for locking the USB unit with the middle bezel, then connect the cable with assemble unit.

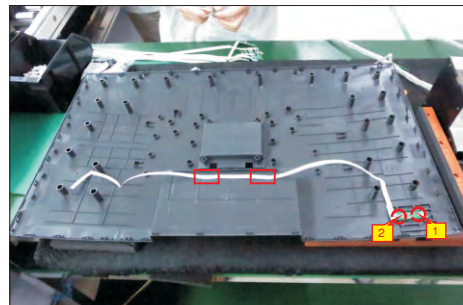
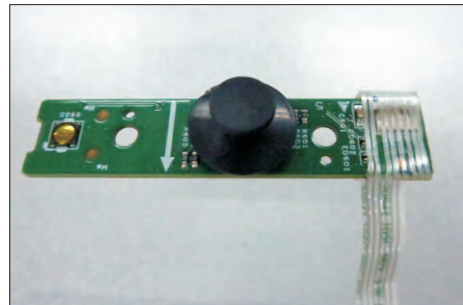
(No.1 screw size=M3x6, Torque=4±0.5kgfcm)



S17

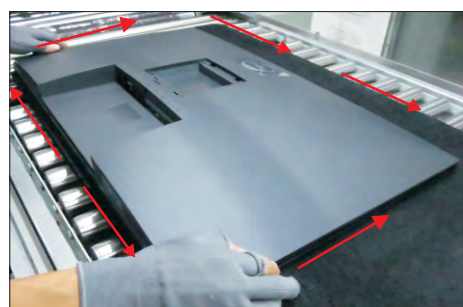
Take 1pcs joystick key and 1pcs OSD board, assemble the joystick key with the OSD board. Locate the board to the correct position of the rear cover, then use a Philips-head screwdriver to tighten 2pcs screws for locking the board with rear cover. Tear off the tape papers on the back of the cable, and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

(No.1 screw size=M2x2.4, Torque=0.9±0.1kgfcm)



S18

Move the assembled rear cover close to the panel unit, then connect the 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.

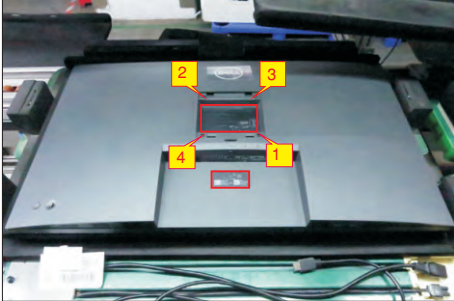


## 4. Disassembly and Assembly Procedures

S19

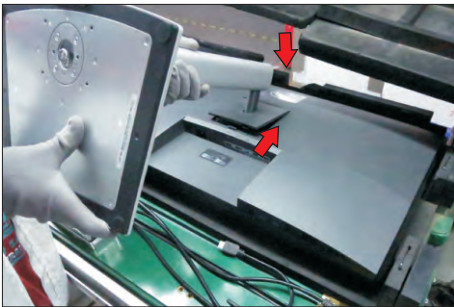
Use a Philips-head screwdriver to tighten 4pcs screws for locking the rear cover with the assembled unit. Stick 2pcs labels on the specific positions of the rear cover as the picture below shown.

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



S20

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.



S21

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.



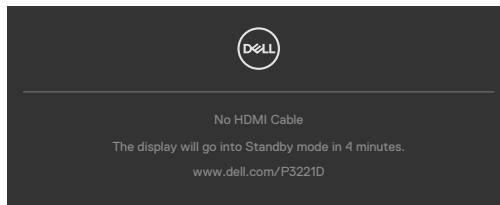
## 5. Trouble Shooting Instructions

### Self-test

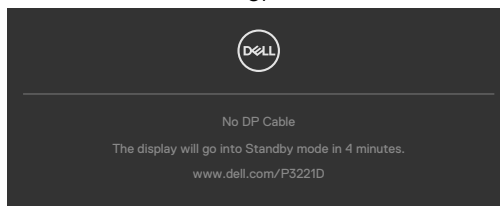
Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

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.

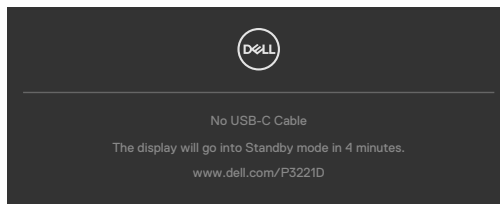
The floating dialog box should appear on-screen (against a black background), if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains white. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through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

## 5. Trouble Shooting Instructions


### 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.

**NOTE:** You can run the built-in diagnostics only when the video cable is unplugged and the monitor is in self-test mode.



To run the built-in diagnostics:

1. Ensure that the screen is clean (no dust particles on the surface of the screen).
2. Press the left directional navigation of Joystick 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 the text screen appears. 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.

## 5. Trouble Shooting Instructions

### 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	<ul style="list-style-type: none"><li>· Ensure that the video cable connecting the monitor and the computer is properly connected and secure.</li><li>· Verify that the power outlet is functioning properly using any other electrical equipment.</li><li>· Ensure that the power button is depressed fully.</li><li>· Ensure that the correct input source is selected in the <a href="#">Input Source</a> menu.</li></ul>
No Video/ Power LED on	No picture or no brightness	<ul style="list-style-type: none"><li>· Increase brightness and contrast controls via OSD.</li><li>· Perform monitor self-test feature check.</li><li>· Check for bent or broken pins in the video cable connector.</li><li>· Run the built-in diagnostics.</li><li>· Ensure that the correct input source is selected in the <a href="#">Input Source</a> menu.</li></ul>
Missing Pixels	LCD screen has spots	<ul style="list-style-type: none"><li>· Cycle power on-off.</li><li>· Pixel that is permanently off is a natural defect that can occur in LCD technology.</li><li>· For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: <a href="http://www.dell.com/support/monitors">www.dell.com/support/monitors</a>.</li></ul>
Stuck-on Pixels	LCD screen has bright spots	<ul style="list-style-type: none"><li>· Cycle power On-Off.</li><li>· Pixel that is permanently off is a natural defect that can occur in LCD technology.</li><li>· For more information on Dell Monitor Quality and PixelPolicy, see Dell Support site at: <a href="http://www.dell.com/support/monitors">www.dell.com/support/monitors</a>.</li></ul>
Brightness Problems	Picture too dim or too bright	<ul style="list-style-type: none"><li>· Reset the monitor to factory settings.</li><li>· Adjust brightness and contrast controls via OSD.</li></ul>
Safety Related Issues	Visible signs of smoke or sparks	<ul style="list-style-type: none"><li>· Do not perform any troubleshooting steps.</li><li>· Contact Dell immediately.</li></ul>

## 5. Trouble Shooting Instructions

<b>Common Symptoms</b>	<b>What You Experience</b>	<b>Possible Solutions</b>
Intermittent Problems	Monitor malfunctions on & off	<ul style="list-style-type: none"><li>• Ensure that the video cable connecting the monitor to the computer is connected properly and is secure.</li><li>• Reset the monitor to factory settings.</li><li>• Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.</li></ul>
Missing Color	Picture missing color	<ul style="list-style-type: none"><li>• Perform monitor self-test.</li><li>• Ensure that the video cable connecting the monitor to the computer is connected properly and is secure.</li><li>• Check for bent or broken pins in the video cable connector.</li></ul>
Wrong Color	Picture color not good	<ul style="list-style-type: none"><li>• Change the settings of the <b>Preset Modes</b> in the <b>Color</b> menu OSD depending on the application.</li><li>• Adjust R/G/B value under <b>Custom Color</b> in <b>Color</b> menu OSD.</li><li>• Change the <b>Input Color Format</b> to PC RGB or YPbPr in the <b>Color</b> menu OSD.</li><li>• Run the built-in diagnostics.</li></ul>
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	<ul style="list-style-type: none"><li>• 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.</li><li>• Alternatively, use a dynamically changing screensaver.</li></ul>

## 5. Trouble Shooting Instructions

### 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	<ul style="list-style-type: none"><li>• Check the <b>Aspect Ratio</b> setting in the <b>Display</b> menu OSD.</li><li>• Reset the monitor to factory settings.</li></ul>
Cannot adjust the monitor with the buttons on the front panel	OSD does not appear on the screen	<ul style="list-style-type: none"><li>• Turn off the monitor, unplug the monitor power cable, plug it back, and then turn on the monitor.</li></ul>
No Input Signal when user controls are pressed	No picture, the LED light is white	<ul style="list-style-type: none"><li>• 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.</li><li>• Check whether the signal cable is plugged in properly. Connect the signal cable again, if necessary.</li><li>• Reset the computer or video player.</li></ul>
The picture does not fill the entire screen	The picture cannot fill the height or width of the screen	<ul style="list-style-type: none"><li>• Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen.</li><li>• Run the built-in diagnostics.</li></ul>
No image when using USB Type-C connection to computer, laptop, and so on	Black screen	<ul style="list-style-type: none"><li>• Verify if the USB Type-C interface of the device can support DP alternate mode.</li><li>• Verify if the device required more than 65 W power charging.</li><li>• USB Type-C interface of device cannot support DP alternate mode.</li><li>• Set Windows to Projection mode.</li><li>• Ensure that the USB Type-C cable is not damaged.</li></ul>

## 5. Trouble Shooting Instructions

<b>Problem</b>	<b>What you experience</b>	<b>Possible solutions</b>
No charging when using USB Type-C connection to computer, laptop, and so on	No charging	<ul style="list-style-type: none"><li>• Verify if the device can support one of 5 V/9 V/15 V/20 V charging profiles.</li><li>• Verify if the Notebook requires a &gt;65 W power adaptor.</li><li>• If the Notebook requires a &gt;65 W power adaptor, it may not charge with the USB Type-C connection.</li><li>• Ensure that you use only Dell approved adapter or the adapter that comes with the product.</li><li>• Ensure that the USB Type-C cable is not damaged.</li></ul>
Intermittent charging when using USB Type-C connection to computer, laptop, and so on	Intermittent charging	<ul style="list-style-type: none"><li>• Check if the maximum power consumption of device is over 65 W.</li><li>• Ensure that you use only Dell approved adapter or the adapter that comes with the product.</li><li>• Ensure that the USB Type-C cable is not damaged.</li></ul>
No image when using DP connection to the PC	Black screen	<ul style="list-style-type: none"><li>• Verify which DP standard (DP 1.1a or DP 1.2) is your Graphics Card certified to. Download and install the latest graphics card driver.</li><li>• Some DP 1.1a graphics card cannot support DP 1.2 monitors. Go to OSD menu, under Input Source selection, press and hold DP select joystick key for 8 sec to change the monitor setting from DP 1.2 to DP 1.1a.</li></ul>



## 5. Trouble Shooting Instructions

### Universal Serial Bus (USB) specific problems

Specific Symptoms	What You Experience	Possible Solutions
USB interface is not working	USB peripherals are not working	<ul style="list-style-type: none"><li>• Check that your display is turned ON.</li><li>• Reconnect the upstream cable to your computer.</li><li>• Reconnect the USB peripherals (downstream connector).</li><li>• Turn off the monitor and turn it on again.</li><li>• Reboot the computer.</li><li>• Certain USB devices such as portable hard drives require higher power source; connect the drive to the computer directly.</li></ul>
SuperSpeed USB 5Gbps (USB 3.2 Gen1) interface is slow.	USB 3.2 Gen1 peripherals working slowly or not working at all	<ul style="list-style-type: none"><li>• Check that your computer is USB 3.2 Gen1-capable.</li><li>• Some computers have USB 3.2 Gen1, USB 2.0, and USB 1.1 ports. Ensure that the correct USB port is used.</li><li>• Reconnect the upstream cable to your computer.</li><li>• Reconnect the USB peripherals (downstream connector).</li><li>• Reboot the computer.</li></ul>
Wireless USB peripherals stop working when a USB 3.2 Gen1 device is plugged in	Wireless USB peripherals responding slowly or only working as the distance between itself and its receiver decreases	<ul style="list-style-type: none"><li>• Increase the distance between the USB 3.2 Gen1 peripherals and the wireless USB receiver.</li><li>• Position your wireless USB receiver as close as possible to the wireless USB peripherals.</li><li>• Use a USB-extender cable to position the wireless USB receiver as far away as possible from the USB 3.2 Gen1 port.</li></ul>
USB is not working	No USB functionalities	Refer to input source and USB pairing table.