

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.

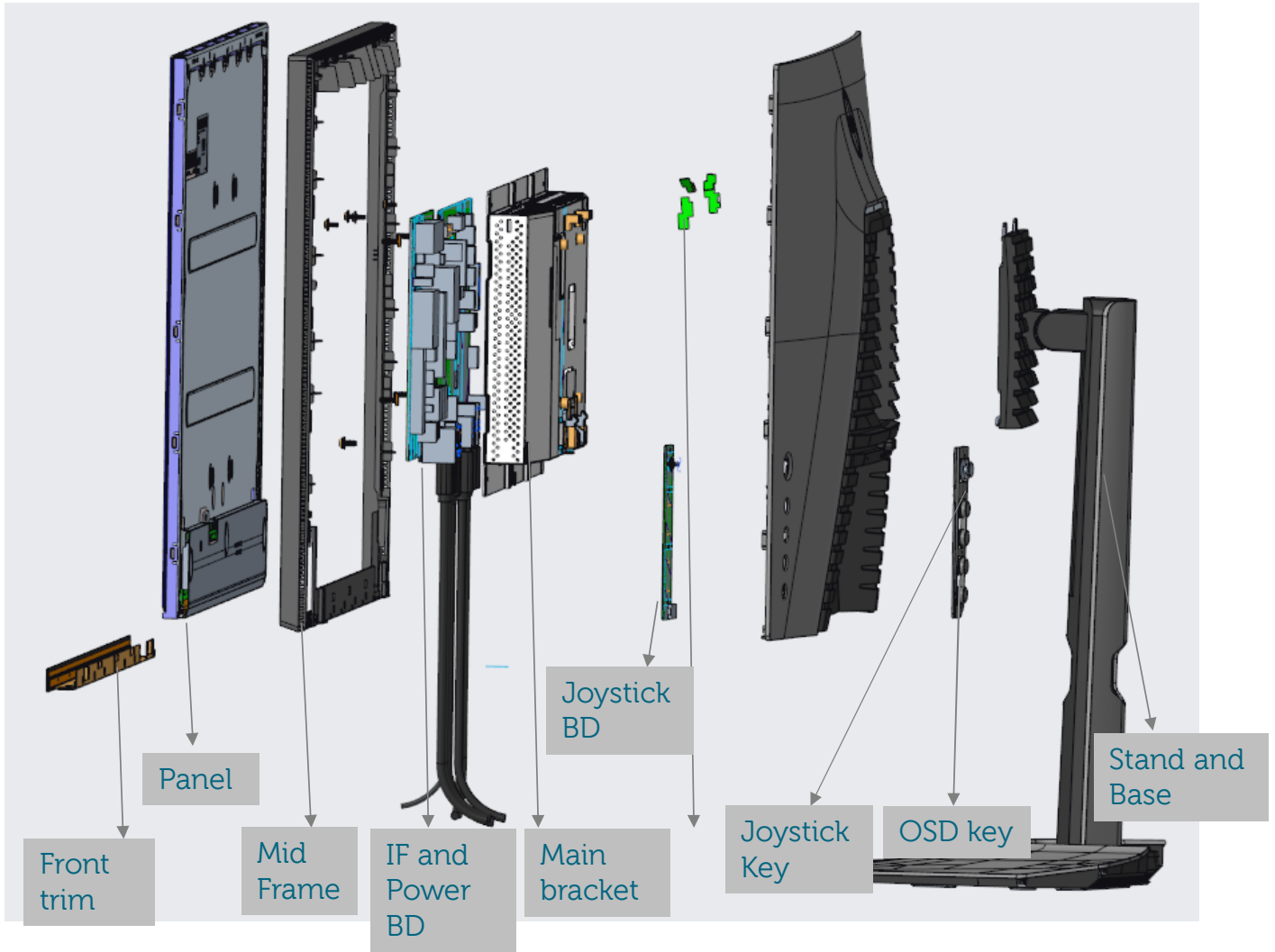
! To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.

! To ensure using a proper screwdriver, follow the torque and force listed in assembly and disassembly procedures to unscrew screws.

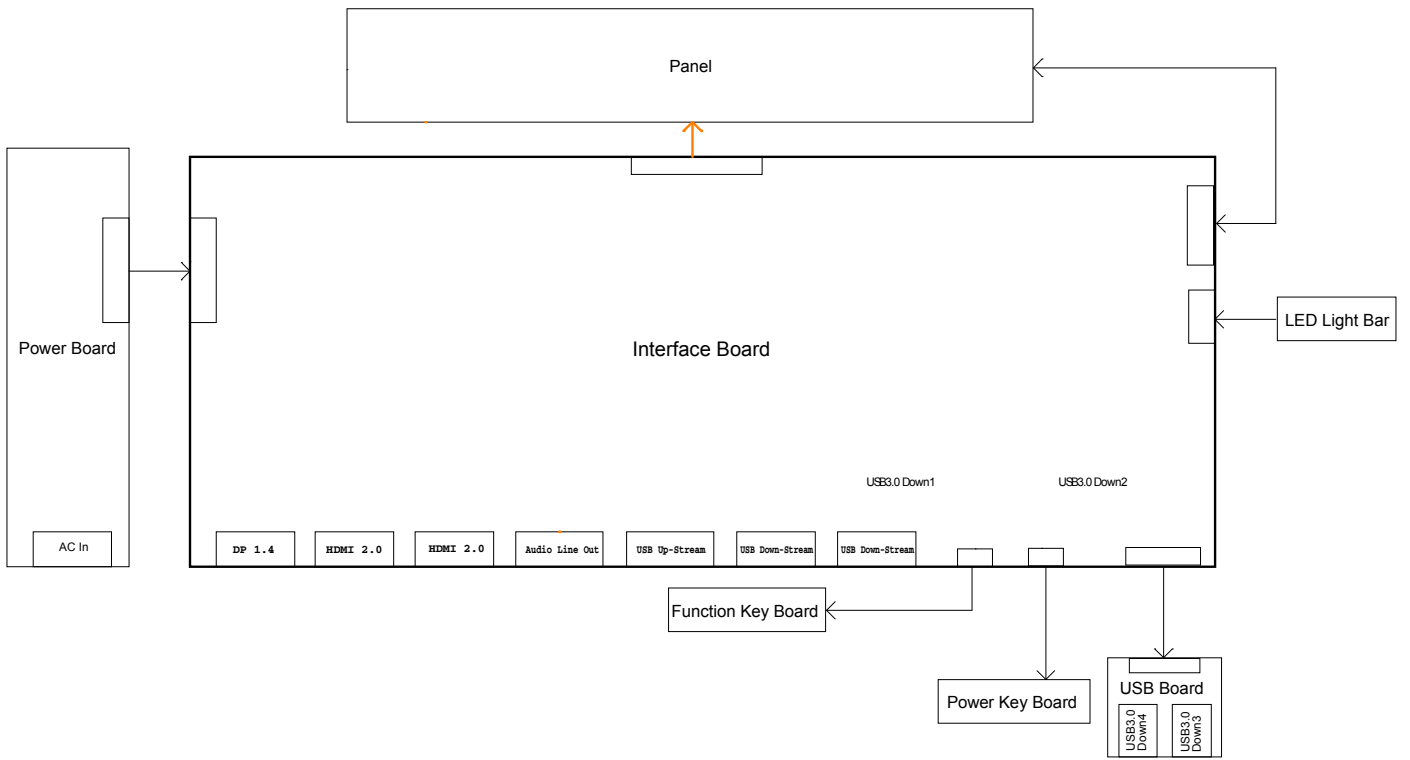
! Using Lead-Free solder to well mounted the parts.

! 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

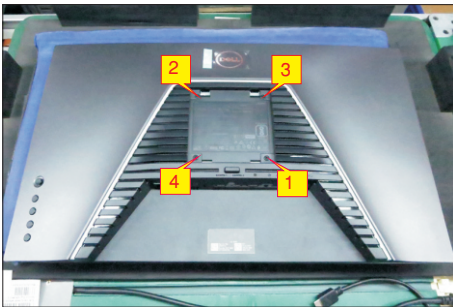
1. Place the monitor on a soft cloth or cushion.
2. Press and hold the stand-release button.
3. Lift the stand up and away from the monitor.



S2

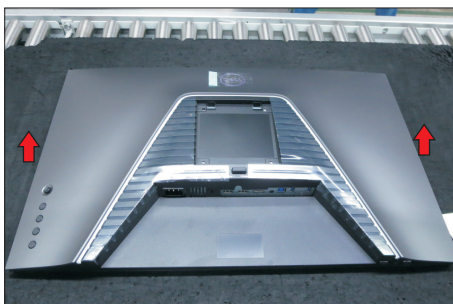
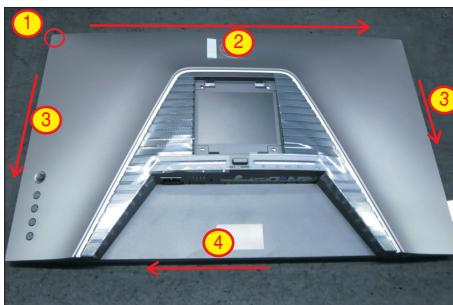
Use a Philips-head screwdriver to remove four screws for unlocking mechanisms.

(No.1~4 screw size=M4x8; Torque=10~11kgfxcM)



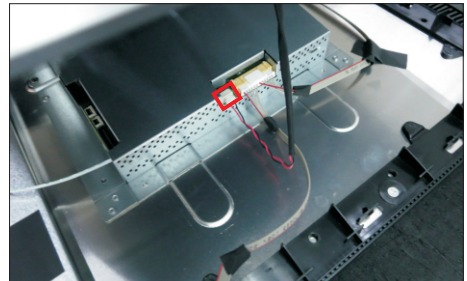
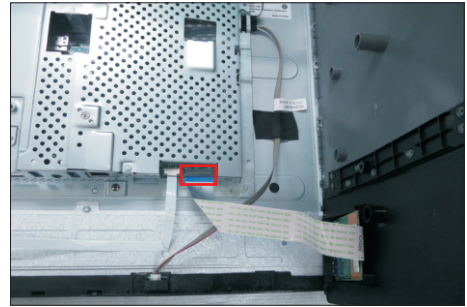
S3

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

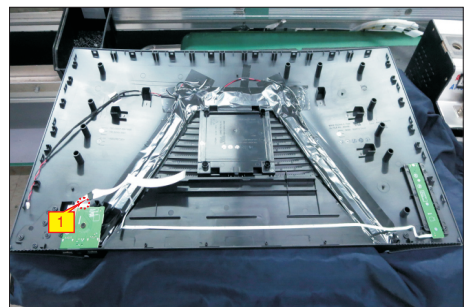
Lift the rear cover up carefully. Disconnect the USB FFC cable, joystick key cable and power key cable from the connectors of the interface board, and then disconnect the back LED light bar cable from the connector of the power board, and then remove the rear cover.



S5

Use a Philips-head screwdriver to remove one screw for unlocking the USB board unit, then release the USB board unit and put it aside.

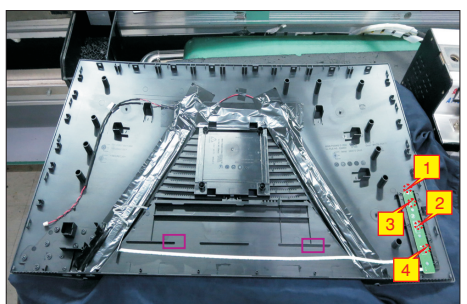
(No.1 screw size=M3x6, Torque=4±0.5kgfxcM)



S6

Use a Philips-head screwdriver to remove 4pcs screws for unlocking the joystick key board with the rear cover. Tear off the joystick key tapes and release the joystick key board from the hook of the rear cover.

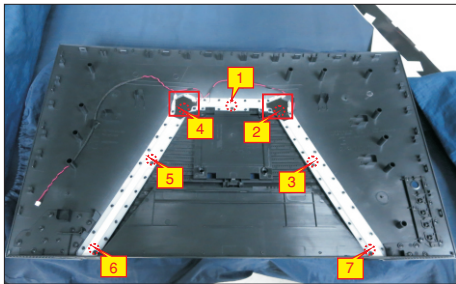
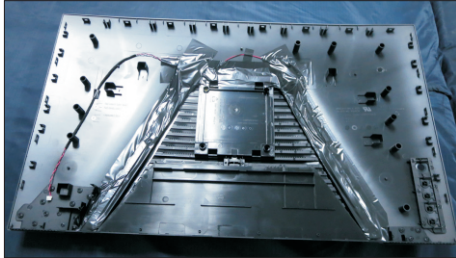
(No.1~4 screw size=M2x0.2, Torque=0.8±0.2kgfxcM)



4. Disassembly and Assembly Procedures

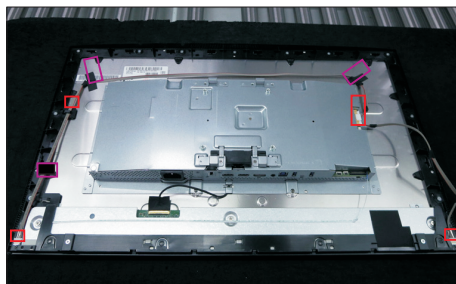
S7

Tear off all the mylar and tapes, then use a Philips-head screwdriver to remove 7pcs screws for releasing the diffuser, reflector and LGP.



S8

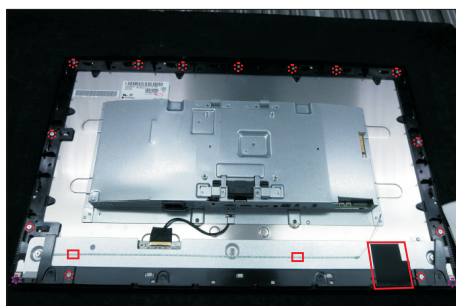
Tear off all the adhesive tapes for releasing the panel lamp cable, then disconnect the cable away from the connectors of the power board and panel.



S9

Tear off the mylar tape on the position as the picture below shown. Use a Philips-head screwdriver to remove 13pcs screws for unlocking the middle bezel with the panel module. Use a Philips-head screwdriver to remove 2pcs screws for unlocking the middle bezel with the front bezel.

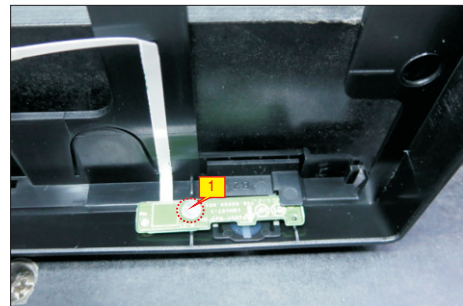
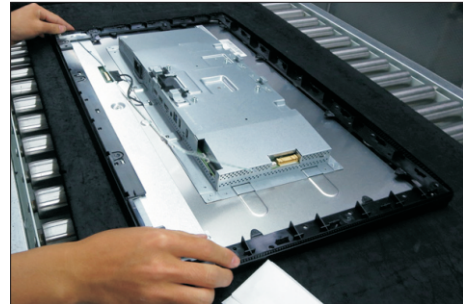
(No.1~13 Screw size= M3x5, Torque=3~4kgfxcM;
No.14~15 Screw size= M2x2.7, Torque=1~2kgfxcM)



S10

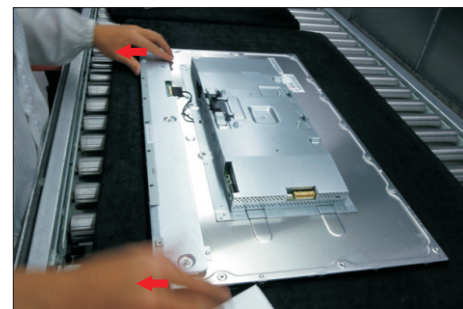
Remove the middle bezel and put it into a fixture jip, then use a Philips-head screwdriver to remove 1pcs screw for unlocking the power key board with the front bezel.

(No.1 Screw size= M2x2.4, Torque=0.8±0.2kgfxcM)



S11

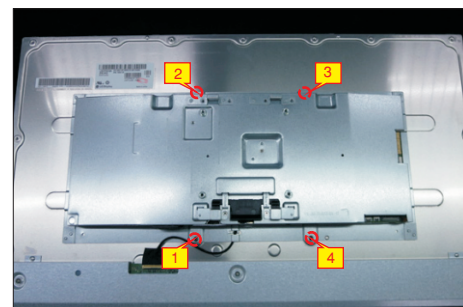
Lift up the panel module and pull out the front bezel for releasing the front bezel.



S12

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

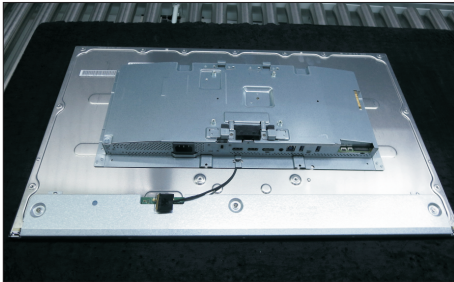
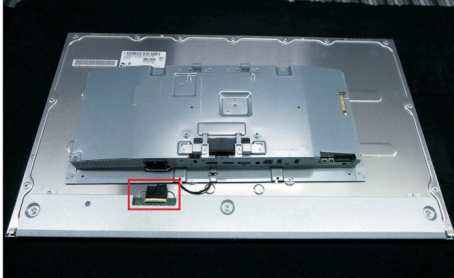
(No.1~4 Screw size= M3x0.5x2.8, Torque=5~6kgfxcM)



4. Disassembly and Assembly Procedures

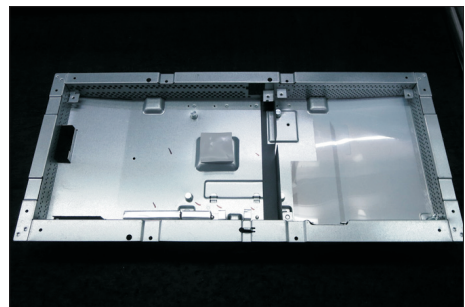
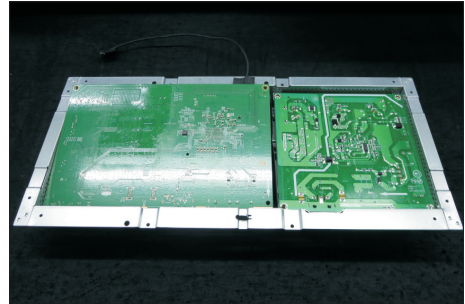
S13

Tear off the adhesive tape, and then disconnect the EDP cable from the connector of the panel module, then put the bracket chassis on a protective cushion.



S15

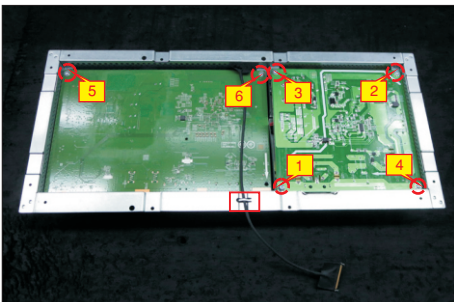
Remove the circuit boards from the bracket chassis module carefully, and then disconnect all of the cables.



S14

Turn over the bracket chassis module. Use a Philips-head screwdriver to remove 6pcs screws for unlocking power board and interface board, and then release the EDP cable from the hook of the bracket.

(No.1 screw size=M4x8, Torque=6±0.5kgfxcM;
No.2~7 screw size=M3x7.5, Torque=6±0.5kgfxcM)

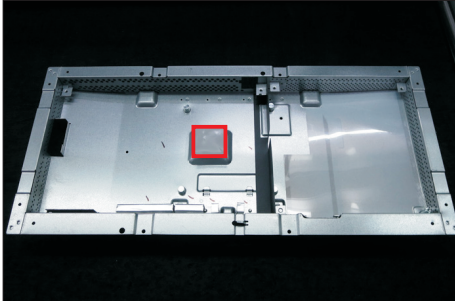


4. Disassembly and Assembly Procedures

4.2 Assembly Procedures:

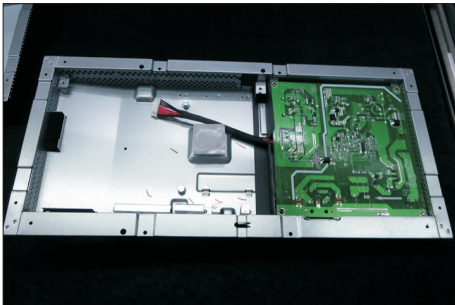
S1

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



S2

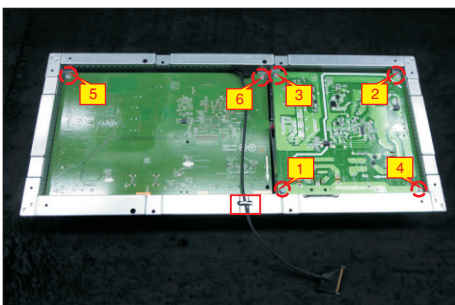
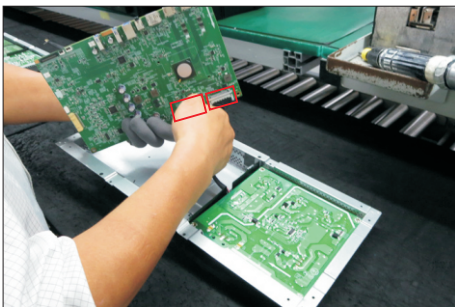
Turn over a power board and put the power board into the bracket chassis, settle the panel power cable to the correct position.



S3

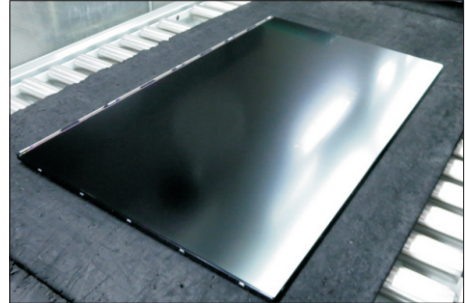
Take 1pcs interface board, connect 1pcs EDP cable to the interface board, then connect the cable of the power board to the interface board. Turn over the interface board and locate it into the bracket. Use a Philips-head screwdriver to tighten 6pcs screws for locking the circuit board, then locate the EDP cable into the hook of the bracket.

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



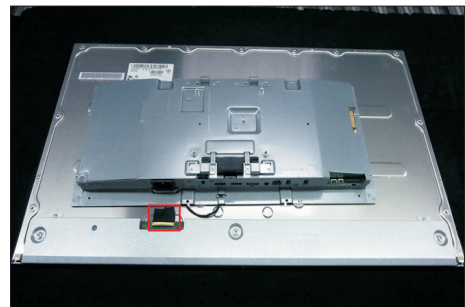
S4

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



S5

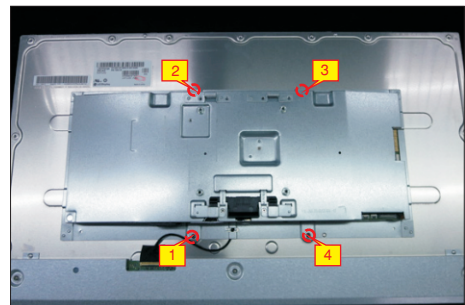
Move the bracket chassis module close to the panel module, and then put the bracket on the back of the panel module. Connect the EDP cable to the connector of the panel module, then fix the EDP cable with tape on the back of cable as the picture below shown.



S6

Adjust the bracket chassis module, and then use a Philips-head screwdriver to tighten 4pcs screws for locking the bracket chassis module with the panel module.

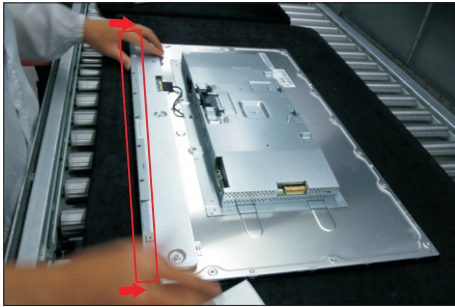
(No.1~4 Screw size= M3x0.5x2.8, Torque=5~6kgfxcm)



4. Disassembly and Assembly Procedures

S7

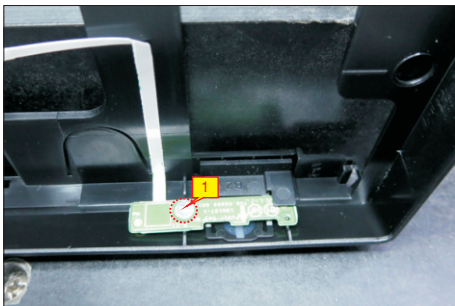
Take 1pcs front bezel, lift up the panel module and then assemble the front bezel with the panel module unit.



Take 1pcs power key board, 1pcs key cable and 1pcs middle bezel, connect the key cable to the connector of the power key board, and then locate the power key board to the specific position of the middle bezel. Put the unit into a fixture, use a Philips-head screwdriver to tighten 1pcs screw for locking the power key board with the middle bezel.

(No.1 Screw size= M2x2.4, Torque=0.8±0.2kgfxcM)

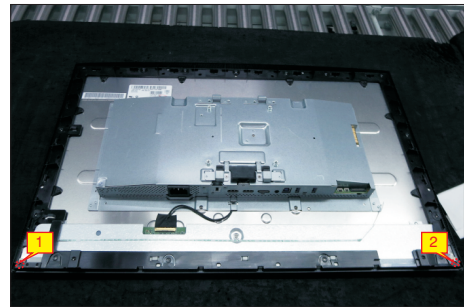
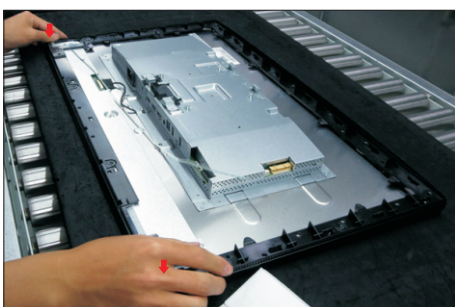
S8



Assemble the middle bezel unit with the front bezel and panel module. Use a Philips-head screwdriver to tighten 2pcs screws for locking the middle bezel with front bezel.

(No.1~2 Screw size= M2x2.7, Torque=1~2kgfxcM)

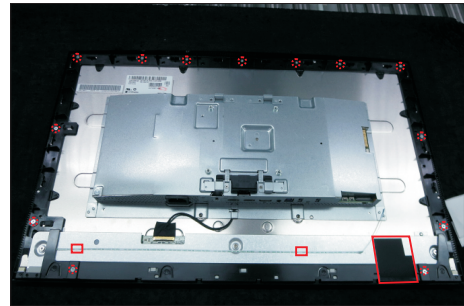
S9



Fix the power key cable by tear off 2pcs tape papers on the back of the cable. Paste 1pcs mylar tape on the specific position of the panel as the picture below shown. Use a Philips-head screwdriver to tighten 13pcs screws for locking the middle bezel with the panel module.

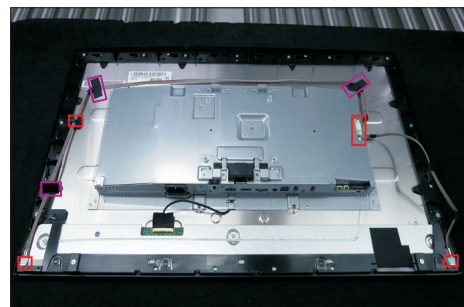
(No.1~13 Screw size= M3x5, Torque=3~4kgfxcM)

S10



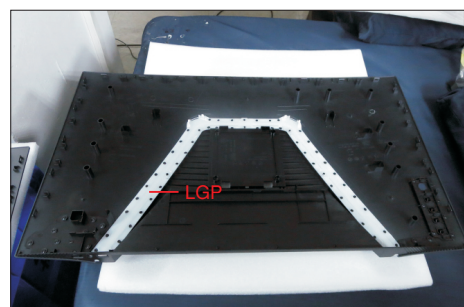
Take 1pcs panel lamp cable to connect the power board and panel module, then locate the lamp cable into the hooks of the middle bezel, then fix the lamp cable with 3pcs adhesive tapes as the following picture shown.

S11

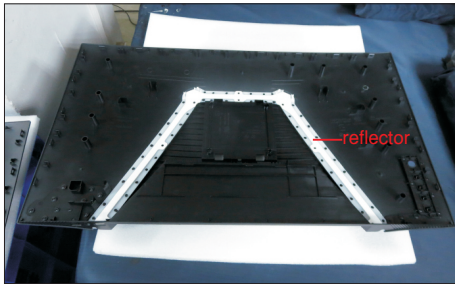


Take 1pcs LGP, 1pcs reflector and 1pcs rear cover, put the rear cover on a cushion foam, assemble the LGP with the rear cover first, then assemble the reflector with the LGP as the picture below shown.

S12



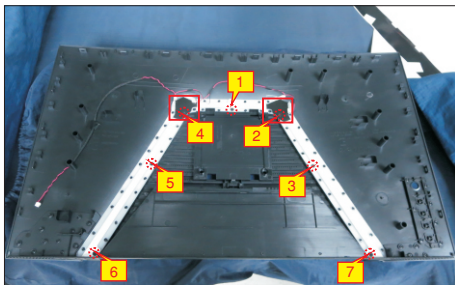
4. Disassembly and Assembly Procedures



S13

Assemble 1pcs left diffuser mylar and 1pcs right diffuser mylar with the left and right corners as the following picture. Use a Philips-head screwdriver to tighten 7pcs screws for locking the diffuser, reflector and LGP with the rear cover.

(No.1~7 screw size=M3x3.5x7, Torque=2~3kgfxcM)



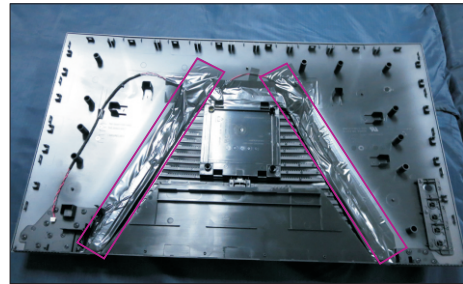
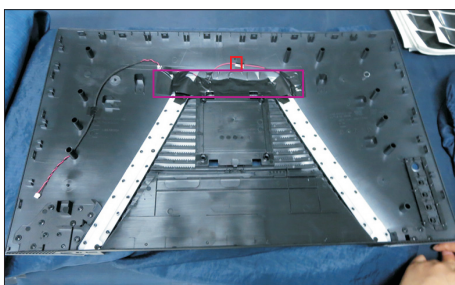
S14

Take 1pcs LED lamp cable and 1pcs LED light board, connect the cable to the LED light board, then locate the light cable into the hooks of the rear cover, then past 1pcs acetate tape to cover the light unit.



S15

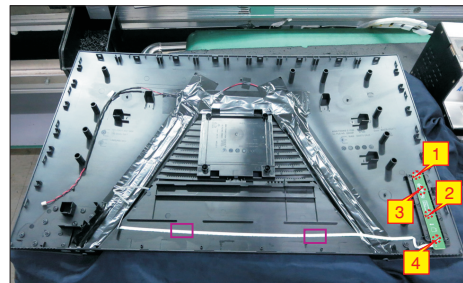
Paste 1pcs mylar tape to cover the light unit, then fix the light cable with 1pcs acetate tape as the picture below shown. Paste 2pcs mylar tape to cover the light bar unit as the picture below shown. Make sure not light-leaking between the mylar tapes, then connect the light cable to the circuit board, and provide power supply to the light bar to check if light bar work normally.



S16

Take 1pcs joystick key board, plug key cable to the joystick key board, then locate the joystick key board to the specific position of the rear cover, then use a Philips-head screwdriver to tighten 4pcs screws for locking the joystick key board with the rear cover. Tear off the tape papers on the back of the key cable, and then fix the key cable with tapes of the cable.

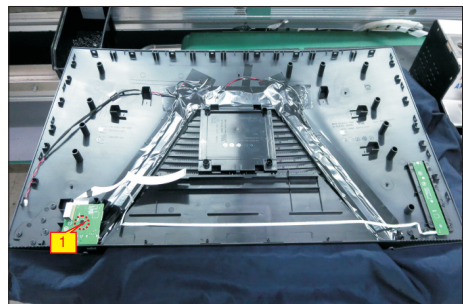
(No.1~4 screw size=M2x0.2, Torque=0.8±0.2kgfxcM)



S17

Take 1pcs USB board and 1pcs connective cable. Connect the cable to the USB board, paste 1pcs conductive foam on the USB board, then locate the USB unit into the hooks of a rear cover. Use a Philips-head screwdriver to tighten 1pcs screw for locking the USB unit with the rear cover.

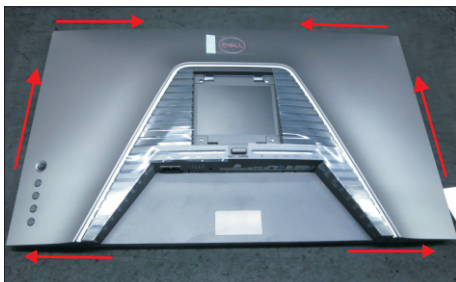
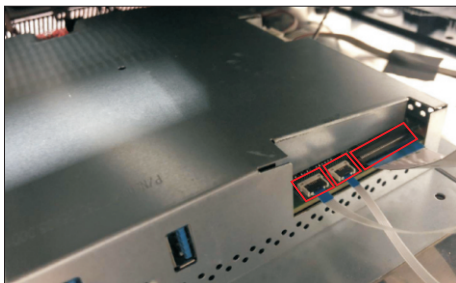
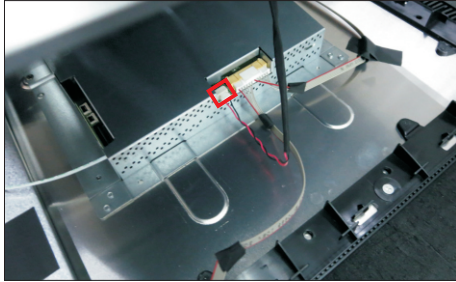
(No.1 screw size=M3x6, Torque=4±0.5kgfxcM)



4. Disassembly and Assembly Procedures

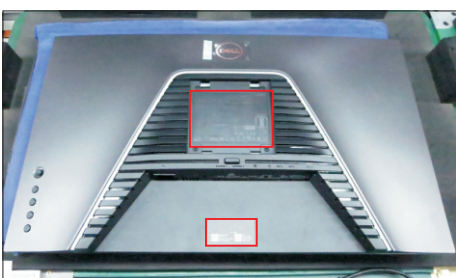
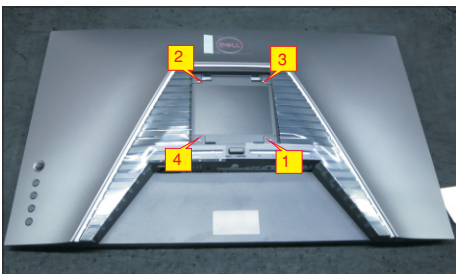
S18

Move the assembled rear cover close to the panel unit, then connect light bar cable to the connector of the power board, then connect the power key cable, joystick key cable and USB FFC cable to the connectors of interface board. Put down the rear cover and push the rear cover for mechanisms engagement.



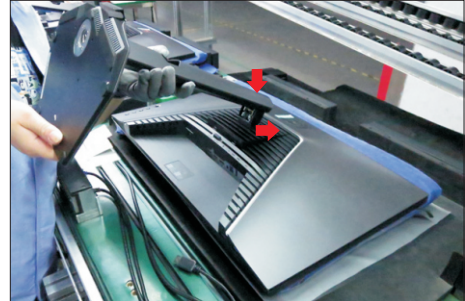
S19

Use a Philips-head screwdriver to tighten 4pcs screws for locking the rear cover with the assembled unit. Paste 2pcs labels on the specific positions. (No.1~4 screw size=M4x10; 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

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. Stick an energy label on top left bezel of the monitor for European region; Stick an energy label on top right bezel of the monitor for Australia and New Zealand.



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.



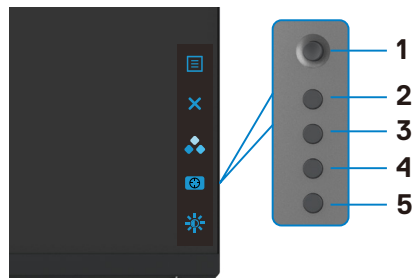
4. This box also appears during normal system operation if the video cable becomes disconnected or damaged.
5. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

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.



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 Button 5 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.

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">· 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	<ul style="list-style-type: none">· 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	<ul style="list-style-type: none">· 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: www.dell.com/pixelguidelines.
Stuck-on Pixels	LCD screen has bright spots	<ul style="list-style-type: none">· 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: www.dell.com/pixelguidelines.
Brightness Problems	Picture too dim or too bright	<ul style="list-style-type: none">· Reset the monitor to factory settings.· Adjust brightness and contrast controls via OSD.
Safety Related Issues	Visible signs of smoke or sparks	<ul style="list-style-type: none">· Do not perform any troubleshooting steps.· Contact Dell immediately.

5. Trouble Shooting Instructions

Common Symptoms	What You Experience	Possible Solutions
Intermittent Problems	Monitor malfunctions on & off	<ul style="list-style-type: none">• 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.
HDR Problems	Cannot set GFX solution into HDR mode after switching into Desktop/ Movie HDR/ Game HDR/ DisplayHDR Presets	<ul style="list-style-type: none">• Ensure your computer or graphics solution meets the minimum requirement for HDR playback and install the latest software drivers for the graphics card.• Ensure that the HDMI 2.0 cable that comes with the package is used.• If the above steps fail, choose the resolution 2560 x 1440 from the Display Properties to force the proper HDR signaling.
Missing Color	Picture missing color	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Use the Power Management feature to turn off the monitor at all times when not in use (for more information, see Power Management Modes).• Alternatively, use a dynamically changing screensaver.

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">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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 sec to change the monitor setting from DP 1.4 to DP 1.1a.

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">· 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.
SuperSpeed USB 3.0 interface is slow.	SuperSpeed USB 3.0 peripherals working slowly or not working at all	<ul style="list-style-type: none">· 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	<ul style="list-style-type: none">· 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.