

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.

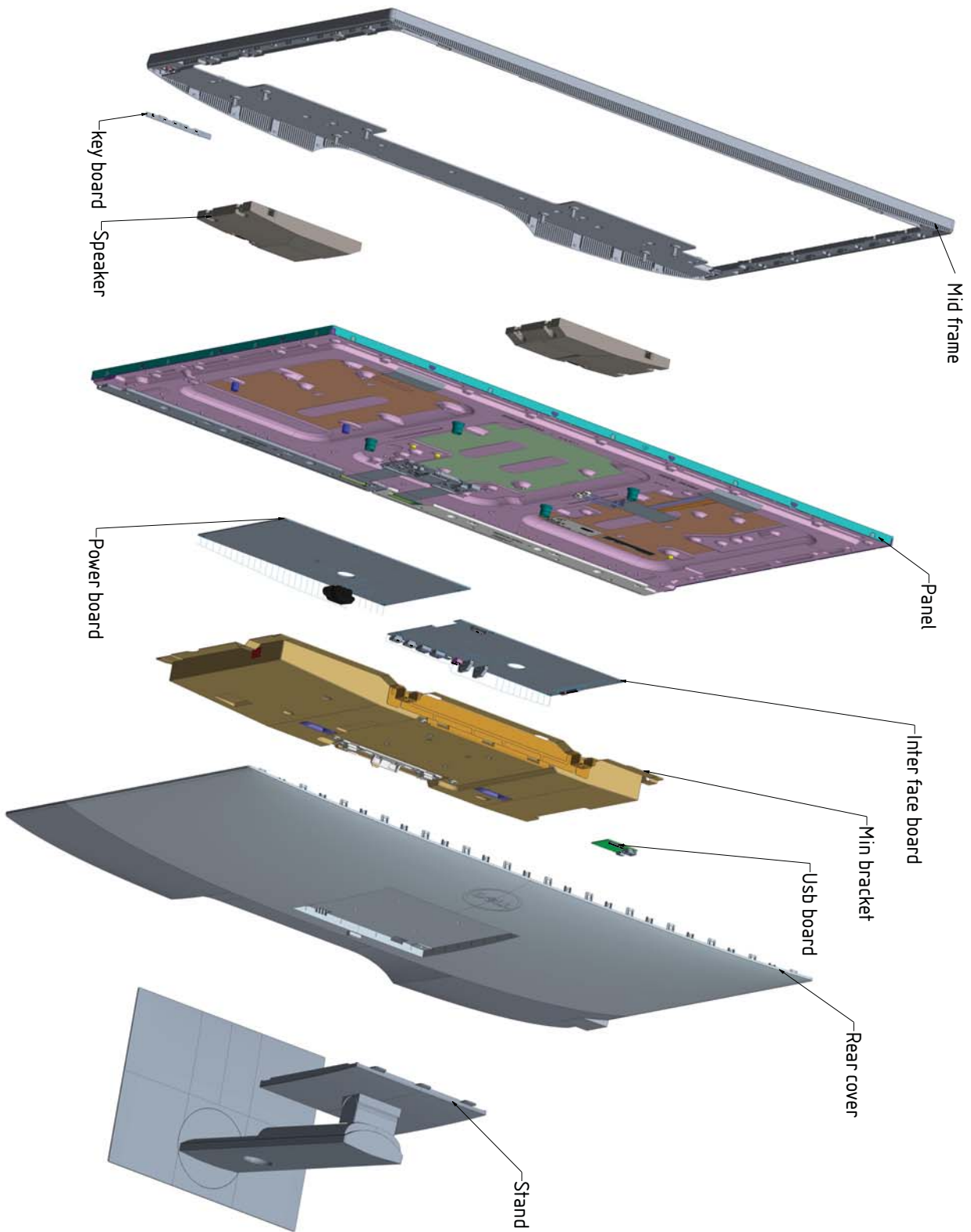
! To prevent the product away from water or expose in extremely high humidity environment.

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

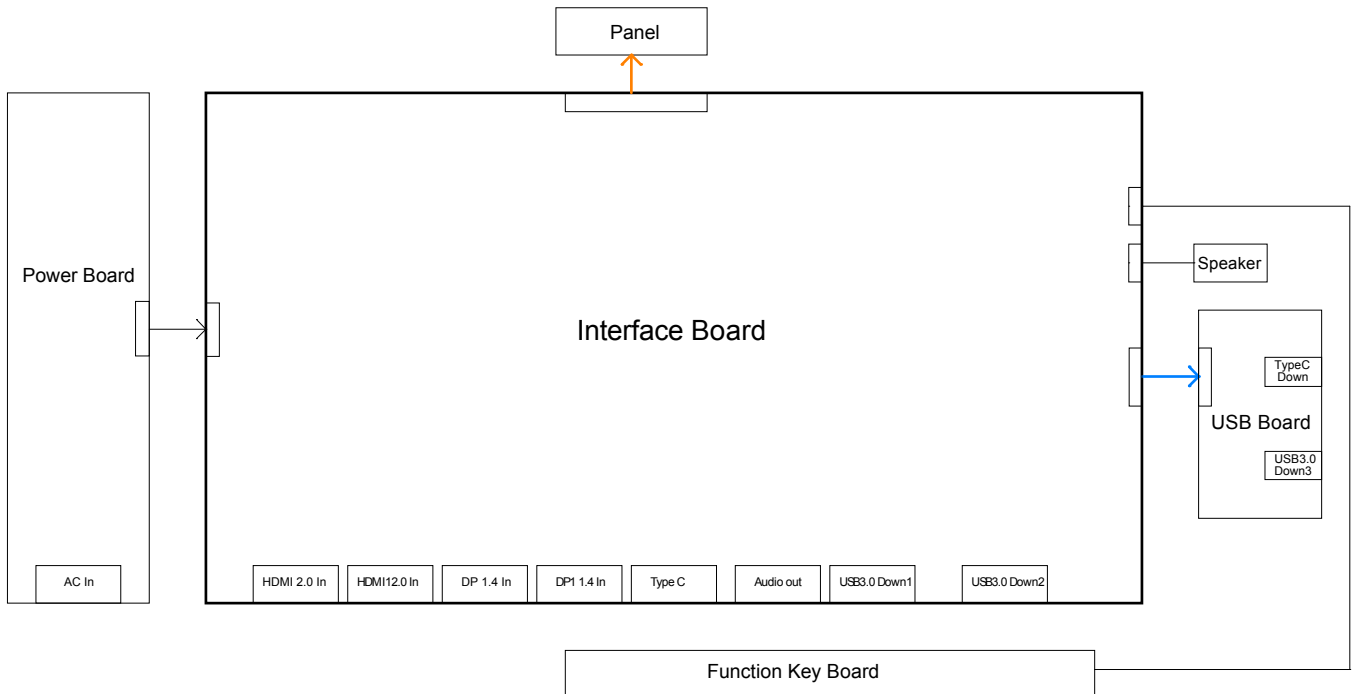
! To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.

- ! 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:

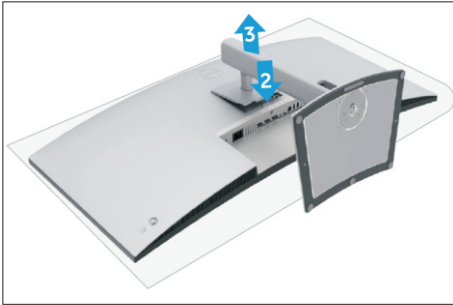
1. Philips-head screwdriver

4.1 Disassembly Procedures:

Remove the monitor stand base:

S1

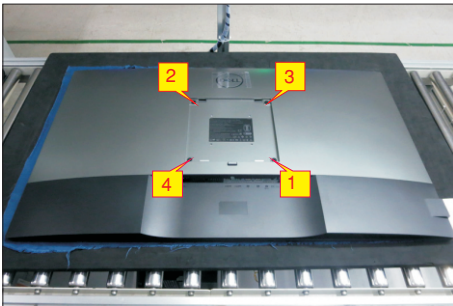
1. Place the monitor on a soft cloth or cushion.
2. Press and hold the stand-release button.
3. Lift the stand up and away from the monitor.



S2

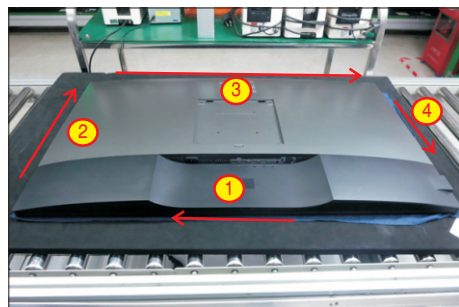
Use a Philips-head screwdriver to remove 4pcs screws for unlocking mechanisms.

(No.1~4 screw size=M6x12; Torque=9±0.5kgfxcM)



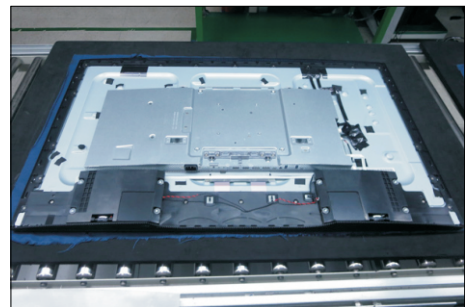
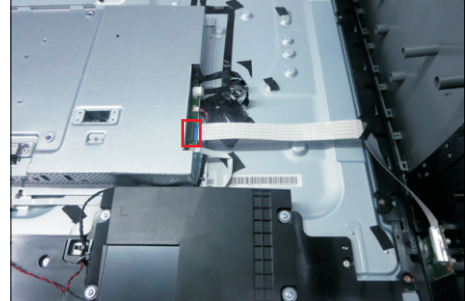
S3

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

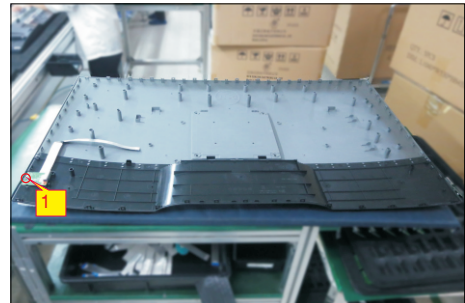
Lift the rear cover up carefully. Disconnect the USB LVDS cable and function key cable from the connectors of the interface board, and then remove the rear cover.



S5

Use a Philips-head screwdriver to remove 1pc 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)



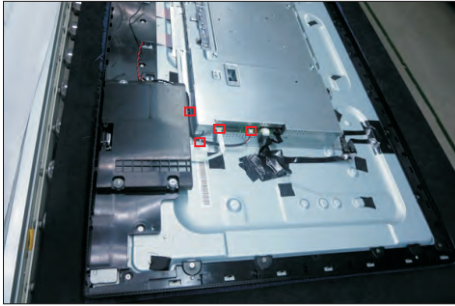
S6

Use a Philips-head screwdriver to remove 8pcs screws for unlocking the speakers with middle bezel. Release the speakers' cables from the hooks of the middle bezel, and then disconnect the speaker cable away from the connector of the circuit board.

(No.1~8 screw size=M3x8, Torque=5±0.5kgfxcM)

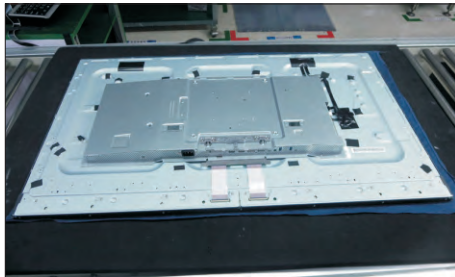
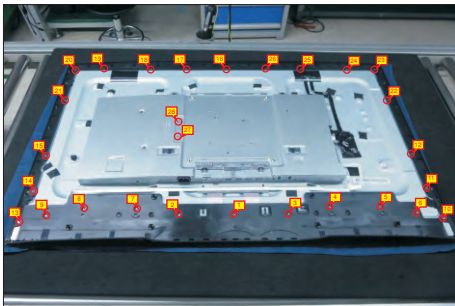


4. Disassembly and Assembly Procedures



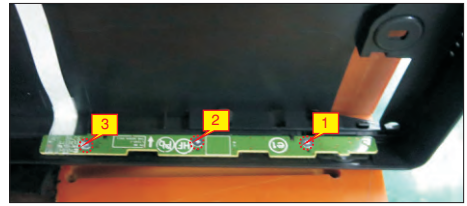
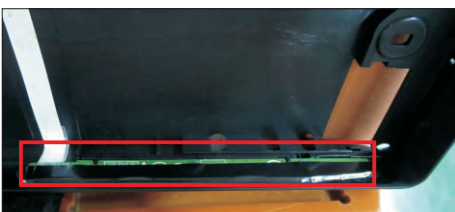
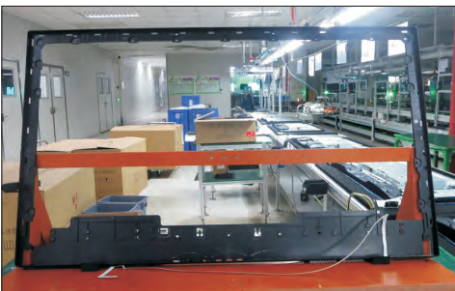
S7

Use a Philips-head screwdriver to remove 2pcs screws for unlocking the heat-sink. Use a Philips-head screwdriver to remove 26pcs screws for unlocking the middle bezel, then remove the bezel.
(No.1~28 Screw size= M3x0.5x4, Torque=5±0.5kgfxcM)



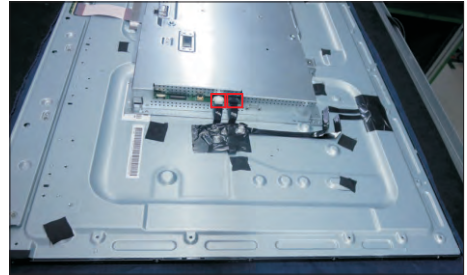
S8

Put the rear cover with function key board into a Jip. Tear off the mylar tape on the function key board, then use a Philips-head screwdriver to tighten 3pcs screws for locking the function key board with the front bezel.
(No.1~3 Screw size= M2x2.4, Torque=0.8±0.2kgfxcM)



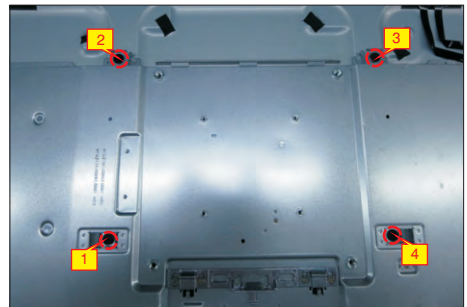
S9

Tear off acetate tape, then disconnect the panel lamp cables from the connectors of the circuit board.



S10

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)



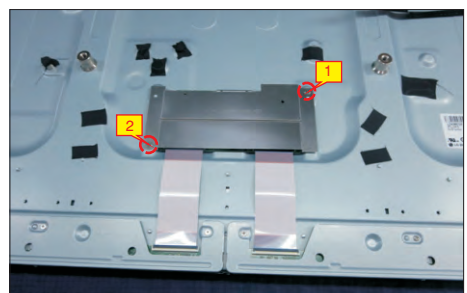
S11

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



S12

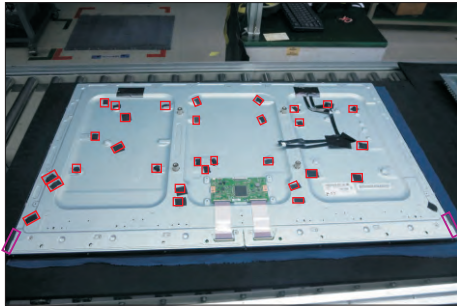
Use a Philips-head screwdriver to remove 2pcs screws for unlocking the small bracket with T-Con board, then remove the small bracket.
(No.1~2 Screw size= M3x0.5x4, Torque=3~5kgfxcM)



4. Disassembly and Assembly Procedures

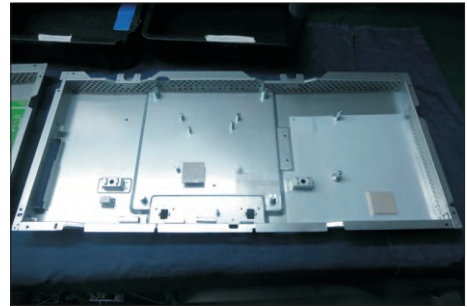
S13

Remove 2pcs shading tape on the left and right side of the panel corner, then remove 32pcs acetate tapes on the specific positions of the back of panel.



S16

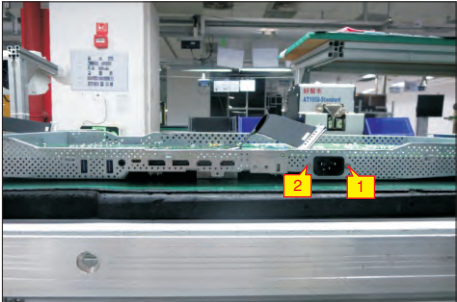
Remove the circuit boards from the bracket chassis module carefully, and then disconnect all of the cables.



S14

Turn over the bracket chassis module. Remove the Mylar from the hooks of the bracket, and then use a Philips-head screwdriver to remove two screws for unlocking AC power outlet.

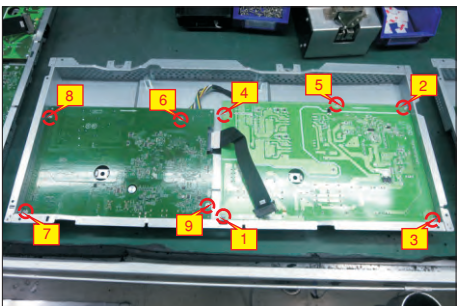
(No.1~2 screw size=M3x10, Torque=6±0.5kgfxcM)



S15

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

(No.1 screw size=M4x8, Torque=6±0.5kgfxcM;
No.2~9 screw size=M3x7.5, Torque=6±0.5kgfxcM)

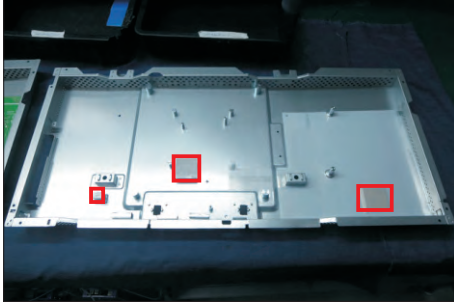


4. Disassembly and Assembly Procedures

4.2 Assembly Procedures:

S1

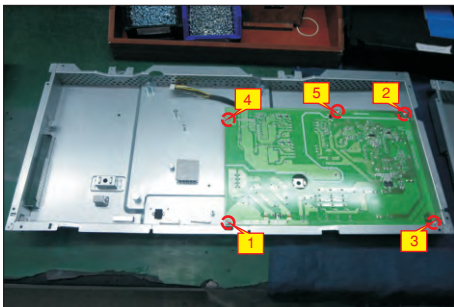
Place a bracket chassis base on a protective cushion, then stick 3pcs Silicon sheets on the position as the picture below shown.



S2

Put 1pcs power board into the bracket, then use a Philips-head screwdriver to tighten 5pcs screws for locking the power board.

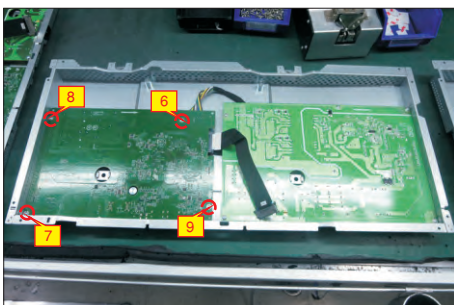
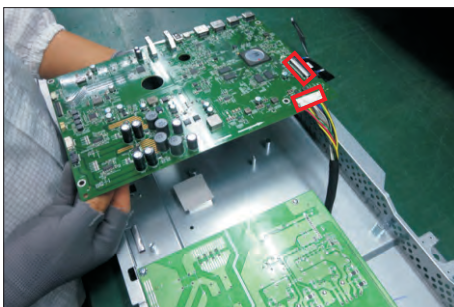
(No.1 screw size=M4x8, Torque=6±0.5kgfxcn;
No.2~5 screw size=M3x7.5, Torque=6±0.5kgfxcn)



S3

Take 1pcs interface board, connect a LVDS cable to the connector of the interface board, then connect the power connective cable to the 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.

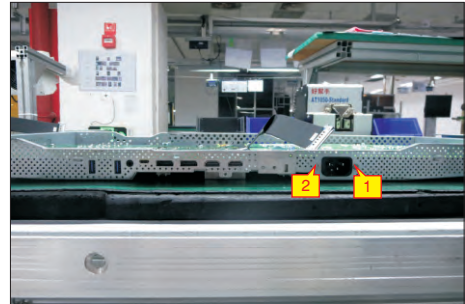
(No.6~9 screw size=M3x7.5, Torque=6±0.5kgfxcn)



S4

Use a Philips-head screwdriver to tighten two screws for locking the AC-power outlet connector.

(No.1~2 screw size=M3x8, Torque=6~8kgfxcn)



S5

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.

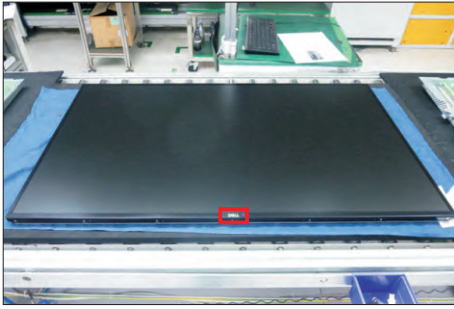


S6

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 front bezel of the panel module firmly attachment.

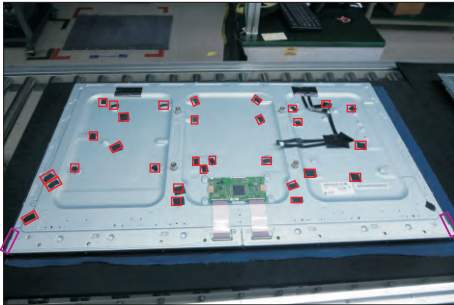


4. Disassembly and Assembly Procedures



S7

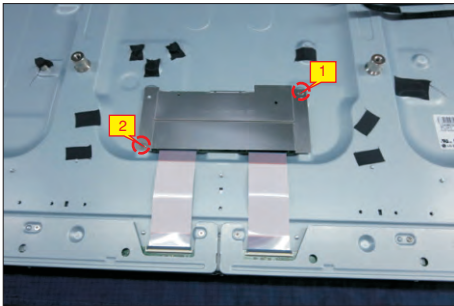
Turn over the panel module to place screen faced down. Paste 2pcs shading tape on the left and right side of the panel corner, then paste 32pcs acetate tapes on the specific position of the back of panel as the picture below shown.



S8

Take 1pcs small bracket to assemble with T-Con board, then use a Philips-head screwdriver to tighten 2pcs screws for locking the small bracket with T-Con board.

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



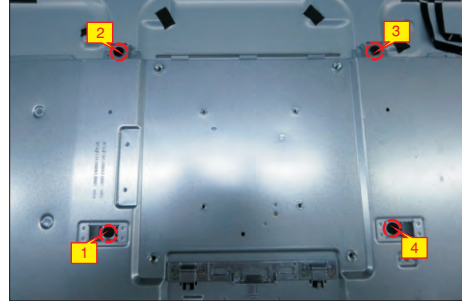
S9

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.



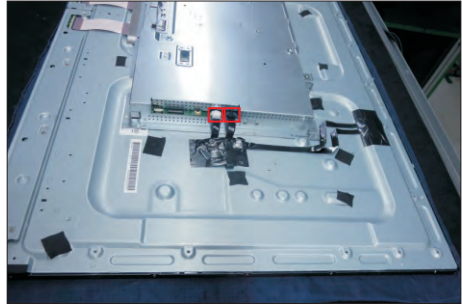
S10

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



S11

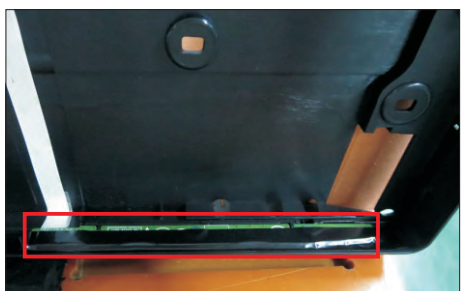
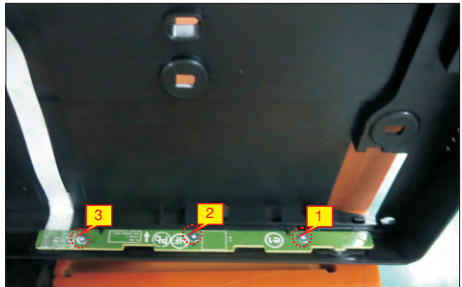
Plug 2pcs panel lamp cables to the connectors of the circuit board, then fix the cables with tapes pasted on the panel module.



S12

Take 1pcs function key board and 1pcs middle bezel, and then locate the function board into the specific position of the middle bezel. Put the unit into a fixture, use a Philips-head screwdriver to tighten 3pcs screws for locking the function key board with the middle bezel. Paste 1pcs mylar tape to cover the function key board.

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



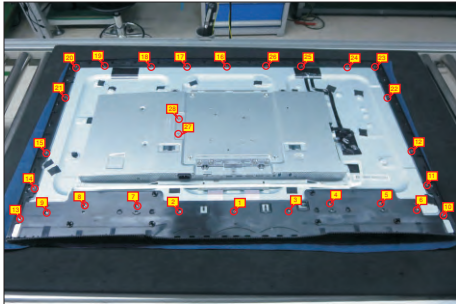
4. Disassembly and Assembly Procedures



S13

Assemble the middle bezel with function key board to the unit, then settle and paste the function key cable with tapes as the picture below shown. Use a Philips-head screwdriver to tighten 26pcs screws for locking the middle bezel with the panel module. Use a Philips-head screwdriver to lock 2pcs screws for locking the heat-sink.

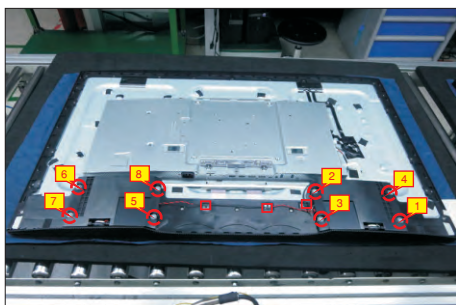
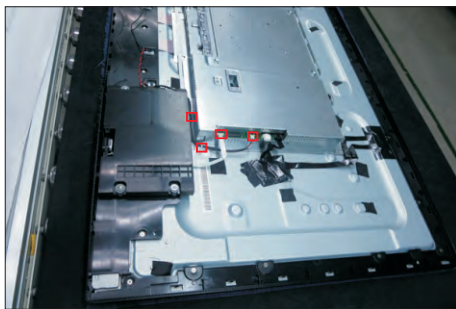
(No.1~28 Screw size= M3x0.5x4, Torque=5±0.5kgfxcM)



S14

Take a pair of speakers to locate the probers of the middle bezel, then locate the speakers' cable to the hooks of the middle bezel, and then connect the speaker cable to the connector of the circuit board. Use a Philips-head screwdriver to tighten 8pcs screws for locking the speakers with middle bezel.

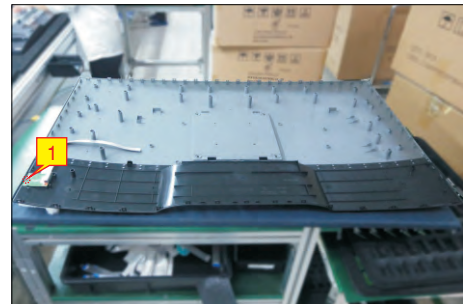
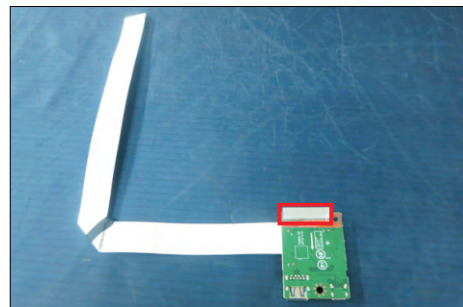
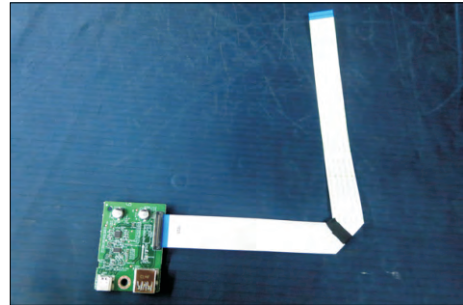
(No.1~8 screw size=M3x8, Torque=5±0.5kgfxcM)



S15

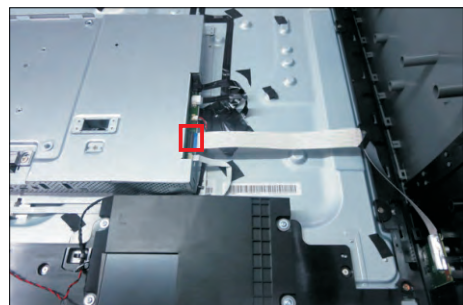
Take 1pcs USB board, 1pcs conductive foam, 1pcs LVDS cable and 1pcs rear cover. Connect the LVDS cable to the connector of the USB board, then paste 1pcs conductive foam on the back of the USB board, and then locate the USB board into the correct position of the rear cover. Use a Philips-head screwdriver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

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



S16

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

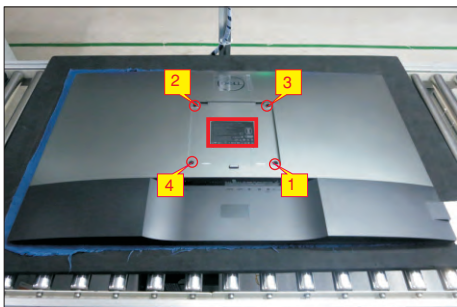


4. Disassembly and Assembly Procedures



S17

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



S18

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.



S19

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.



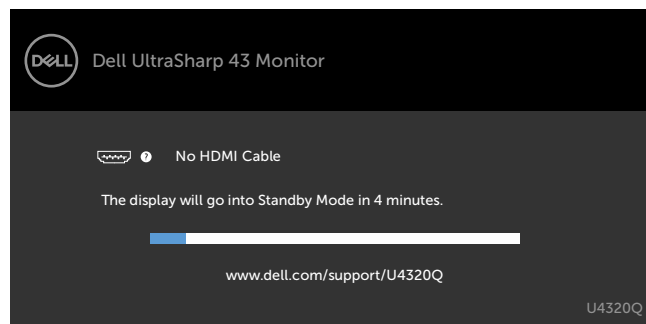
5. Trouble Shooting Instructions

Self-Test

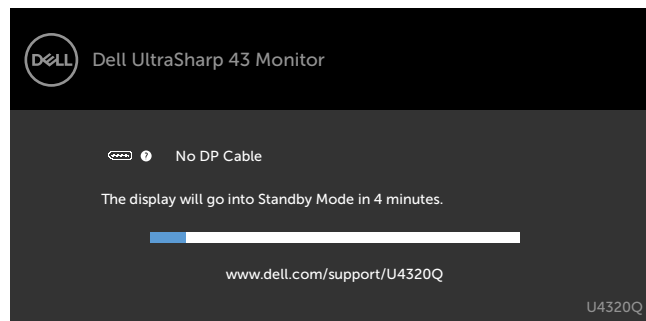
Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

- 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.

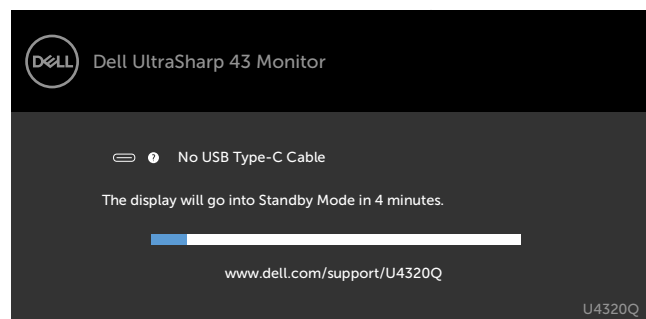
The floating dialog box should appear on-screen (against a black background), if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains white. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through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

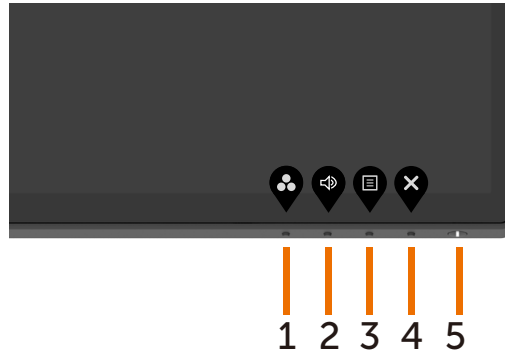
If your monitor screen remains blank after you use the previous procedure, check your video controller and computer, because your monitor is functioning properly.

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 Make sure that the screen is clean (no dust particles on the surface of the screen).
- 2 Unplug the video cable(s) from the back of the computer or monitor. The monitor then goes into the self-test mode.
- 3 Press and hold **Button 4** for 4 seconds. System will pop OSD message, select and press , then system enter BID mode. A gray screen appears. 
- 4 Carefully inspect the screen for abnormalities.
- 5 Press **Button 1** on the front panel again. The color of the screen changes to red.
- 6 Inspect the display for any abnormalities.
- 7 Repeat steps 5 and 6 to inspect the display in green, blue, black, white, and text screens.

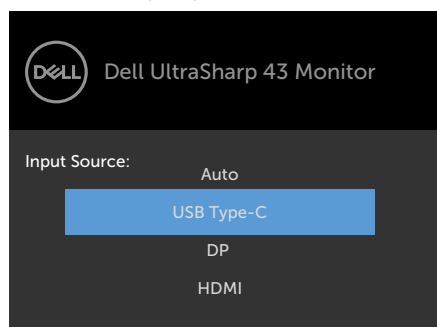
The test is complete when the text screen appears. To exit, press **Button 1** again.

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.


Setting USB-C Prioritization when USB-C Charging is set to On During Power Off

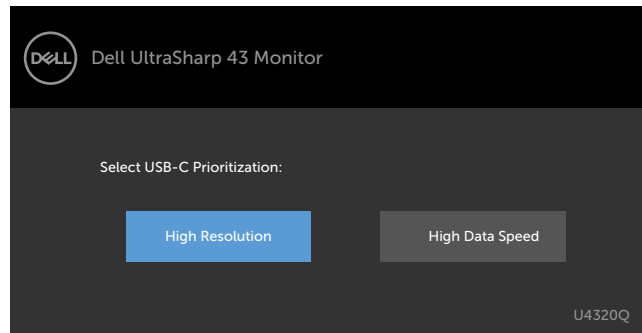
If [USB-C Charging](#) is set to **On During Power Off**, the monitor allows you to specify the USB-C Prioritization settings only when your PC is powered off.



- 1 Ensure that your PC is powered off.
- 2 Press any control button other than the power button to display the shortcut menu of **Input Source**.
- 3 Use the  or  button to highlight **USB Type-C**.



5. Trouble Shooting Instructions

- 4 Press and hold the  button for approximately 8 seconds.
- 5 The **USB-C Prioritization** configuration message will appear.

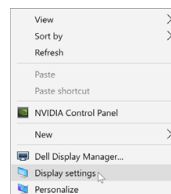


- 6 Use the  or  button to specify the preferred transfer priority.
- 7 The setting will be effective after you turn on the PC.

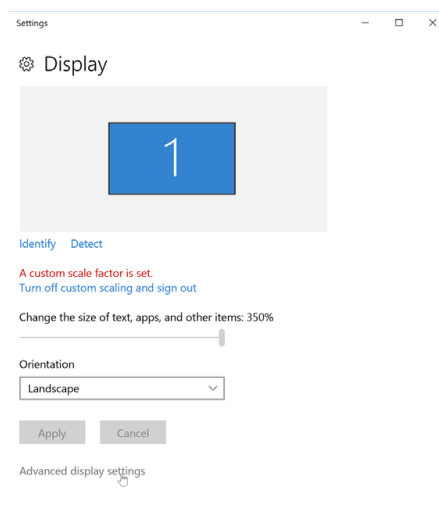
PIP/PBP Mode

If your monitor does not display full screen or the resolution is not of the native resolution of the PIP/PBP mode, it could be due to the graphic card's behavior. Please follow the steps below.

- 1 Right Click in desktop and Select **Display settings**.

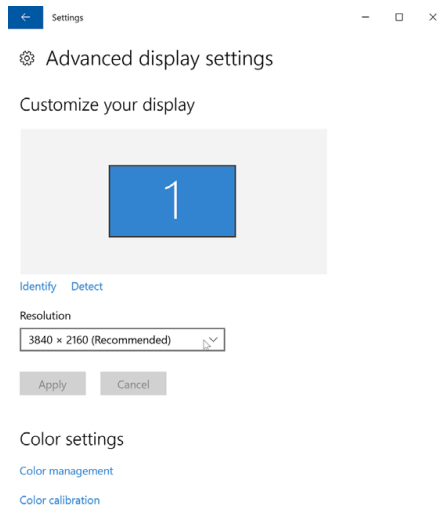


- 2 Select **Advanced display settings**.



5. Trouble Shooting Instructions

- 3 Select the recommended resolution per the graphic card, and then click **Apply**.



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.
No video at HDMI/DisplayPort/USB Type-C port	When connected to some dongle/docking device at the port, there is no video when unplugging/plugging the Thunderbolt cable from the notebook	<ul style="list-style-type: none">• Unplug the HDMI/DisplayPort/USB Type C cable from dongle/docking device, then plug the docking Thunderbolt cable to the notebook. Plug the HDMI/DisplayPort/USB Type-C cable 7 seconds later.
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/support/monitors.


5. Trouble Shooting Instructions

Common Symptoms	What You Experience	Possible Solutions
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/support/monitors.
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.
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.
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"> • 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	<ul style="list-style-type: none"> • Check the Aspect Ratio setting in the Display menu OSD. • Reset the monitor to factory settings.

5. Trouble Shooting Instructions

Problem	What you experience	Possible solutions
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 USB Type-C connection to computer, laptop, and so on	Black screen	<ul style="list-style-type: none"> • Verify if the USB Type-C interface of the device can support DP alternate mode. • Verify if the device required more than 65 W power charging. • USB Type-C interface of device cannot support DP alternate mode. • Set Windows to Projection mode. • Ensure that the USB Type-C cable is not damaged.
No charging when using USB Type-C connection to computer, laptop, and so on	No charging	<ul style="list-style-type: none"> • Verify if the device can support one of 5 V/9 V/15 V/20 V charging profiles. • Verify if the Notebook requires a >65 W power adaptor. • If the Notebook requires a >65 W power adaptor, it may not charge with the USB Type-C connection. • Ensure that you use only Dell approved adapter or the adapter that comes with the product. • Ensure that the USB Type-C cable is not damaged.
Intermittent charging when using USB Type-C connection to computer, laptop, and so on	Intermittent charging	<ul style="list-style-type: none"> • Check if the maximum power consumption of device is over 65 W. • Ensure that you use only Dell approved adapter or the adapter that comes with the product. • Ensure that the USB Type-C cable is not damaged.
No image when using 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  key for 8 sec to change the monitor setting from DP 1.4 to DP 1.1a.