Service Manual

LCD Monitor

P2723QE

DELL™ **Service Manual**

Service Manual Versions and Revision

No.	Version	Release Date	Revision
1	1.0	2022/02/14	Initial Release

1. Important Safety Notice

Product Announcement:

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

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

NOTICE:

! To avoid electrical shocks, the products should be connected to an authorized power cord, and turn off the master power switch each time before removing the AC power cord.

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

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

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

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

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

! The fusion point of Lead-Free solder requested in the degree of 220°C.

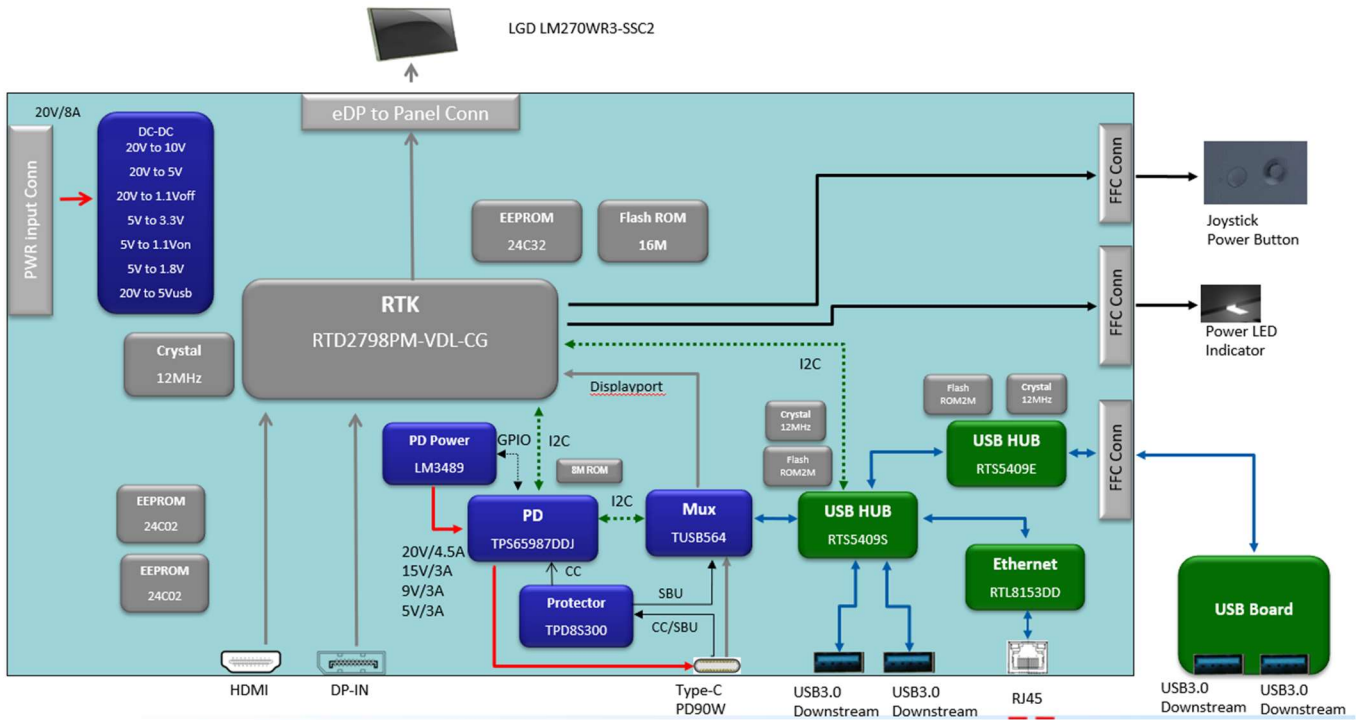## 2. Exploded view diagram with list of items
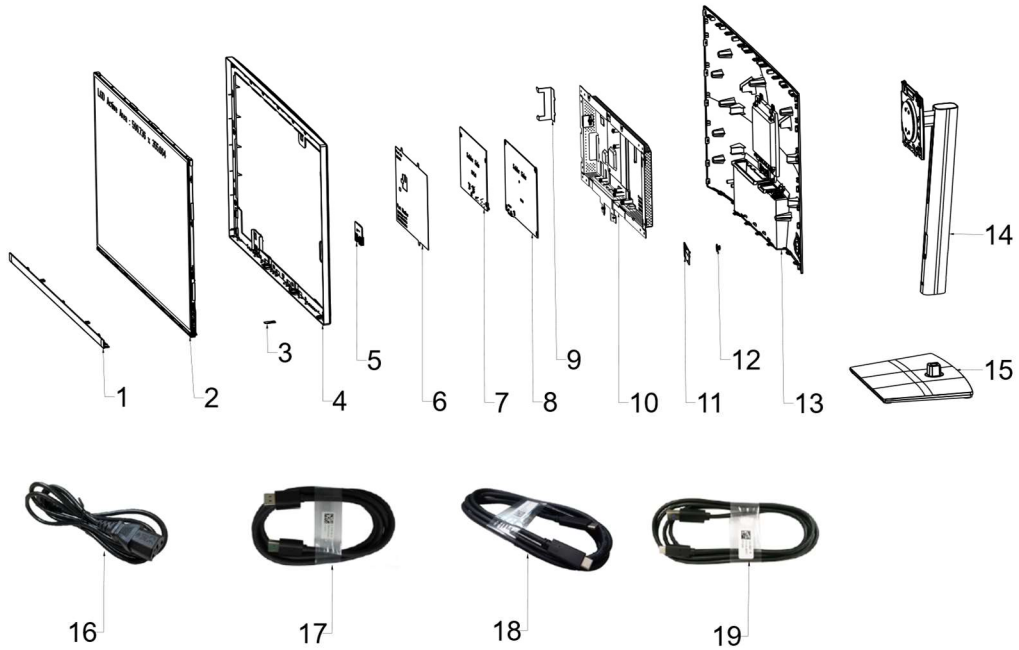
Item	Description	Q'TY	Remark
1	ASSY Front Trim	1	
2	Panel	1	
3	LED BD	1	
4	ASSY Middle Frame	1	
5	Side USB BD	1	
6	Mylar- panel	1	
7	Interface BD	1	
8	Power BD	1	For EMEA Only, not for other regions
9	Mylar- side chassis	1	
10	ASSY Main Chassis	1	
11	Key BD	1	
12	Joystick	1	
13	ASSY Back Cover	1	
14	ASSY Stand Riser	1	
15	ASSY Stand Base	1	
16	Power cord	1	See"NOTE"
17	DP to DP (v1.4)	1	See"NOTE"
18	USB Type-C to Type-C cable	1	See"NOTE"
19	USB Type-C to Type-A cable	1	See"NOTE"

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NOTE:

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

1. Go to https://www.dell.com/support.

2. Verify your country or region in the Choose A Country/Region drop-down menu at the bottom-right corner of the page.

3. Click Contact Us next to the country dropdown.

4. Select the appropriate service or support link based on your need.

5. Choose the method of contacting Dell that is convenient for you.

3. Wiring Connectivity Diagram

LGD LM270WR3-SSC2

eDP to Panel Conn

20V/8A

PWR input Conn

DC-DC
20V to 10V
20V to 5V
20V to 1.1Voff
5V to 3.3V
5V to 1.1Von
5V to 1.8V
20V to 5Vusb

EEPROM 24C32

Flash ROM 16M

FFC Conn — Joystick Power Button

FFC Conn — Power LED Indicator

RTK
RTD2798PM-VDL-CG

Crystal 12MHz

I2C

Displayport

EEPROM 24C02

EEPROM 24C02

PD Power LM3489

GPIO I2C

8M ROM

PD TPS65987DDJ

20V/4.5A
15V/3A
9V/3A
5V/3A

I2C

Mux TUSB564

CC

Protector TPD8S300

SBU

CC/SBU

Crystal 12MHz

Flash ROM2M

Flash ROM2M

Crystal 12MHz

USB HUB RTS5409E

USB HUB RTS5409S

Ethernet RTL8153DD

FFC Conn

USB Board

HDMI

DP-IN

Type-C PD90W

USB3.0 Downstream

USB3.0 Downstream

RJ45

USB3.0 Downstream

USB3.0 Downstream

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

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

Connecting the HDMI cable (optional)
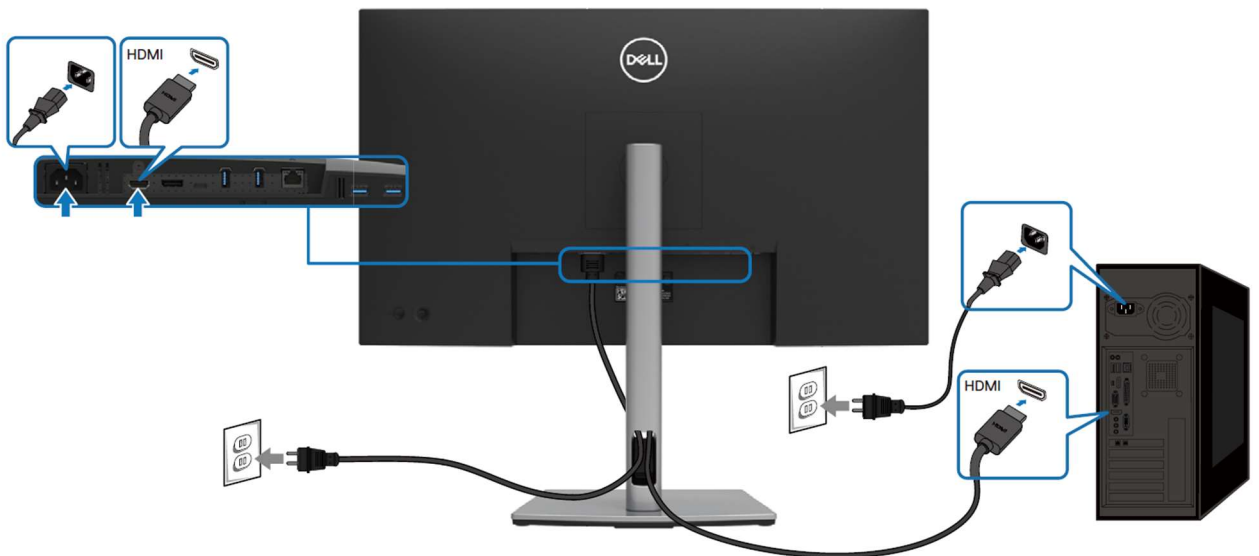
Connecting the DisplayPort (DisplayPort to DisplayPort) cable
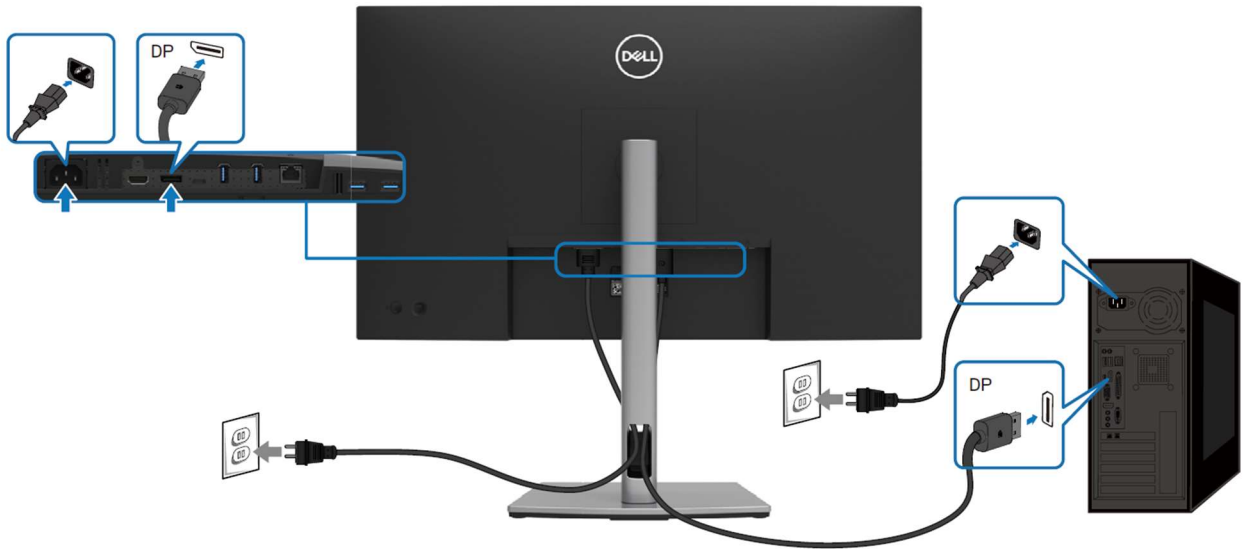
Connecting the USB Type-C cable (C to C)
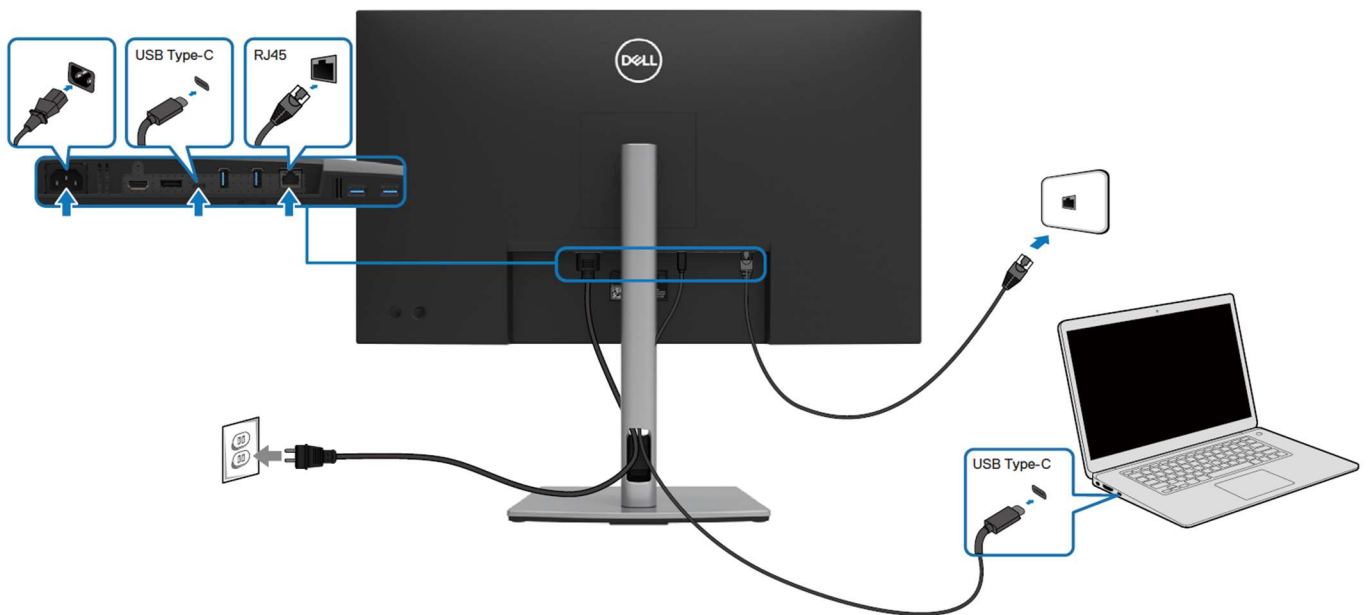
The USB Type-C port on your monitor:
  - Can be used as USB Type-C or DisplayPort 1.4, alternatively.
  - Supports USB Power Delivery (PD), with profiles up to 90 W.

8
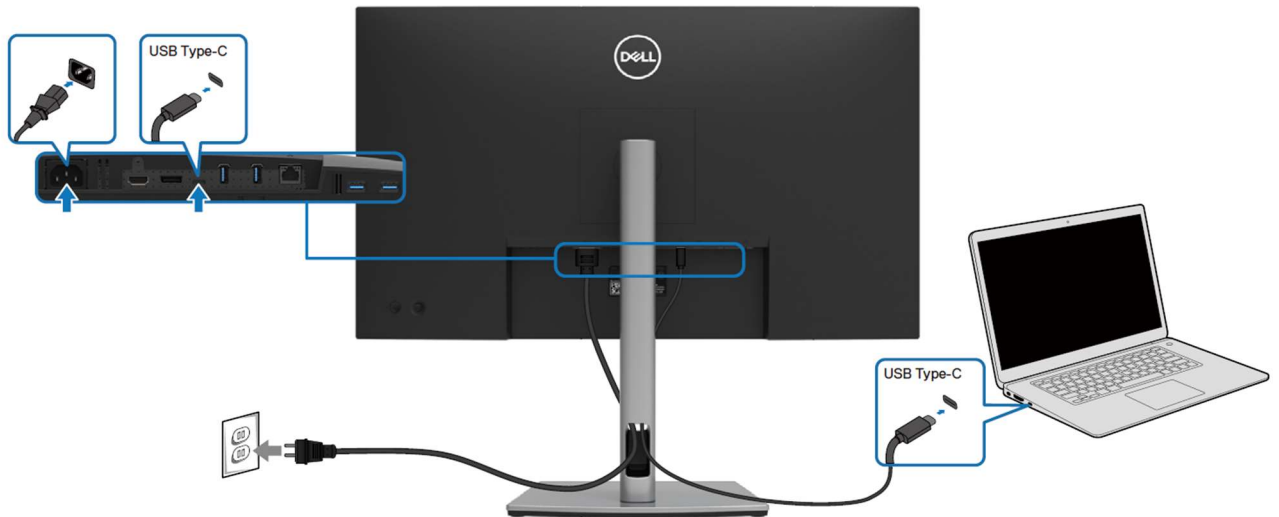
Connecting the USB Type-C cable (C to A)

USB Type-C

USB
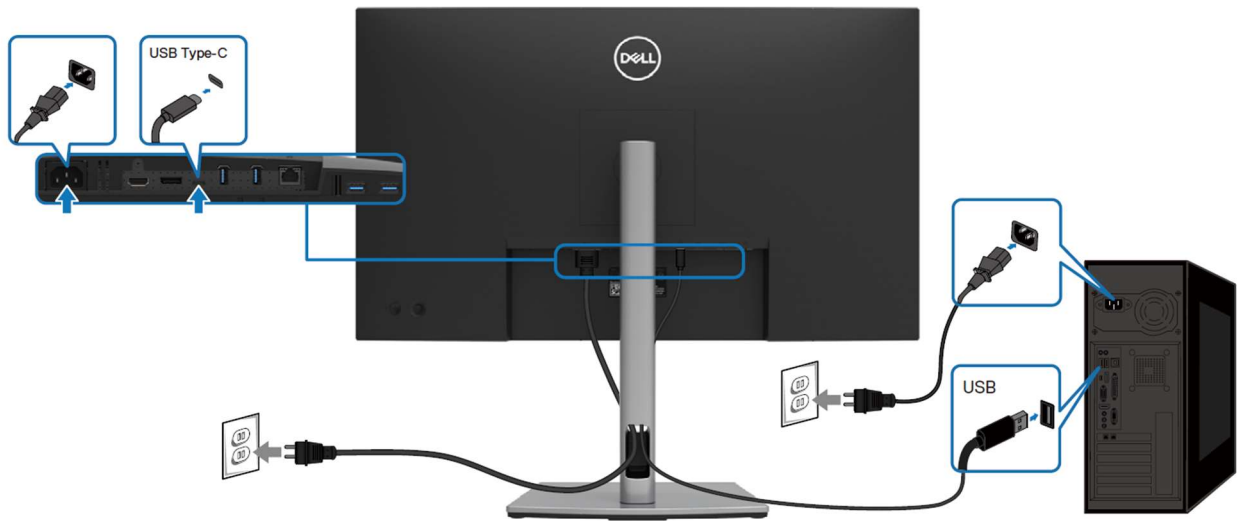
Connecting the RJ45 cable (optional)

USB Type-C   RJ45

USB Type-C

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5. Disassembly Procedure

S1

1. Remove Rear Cover Screw

Remove screws "1~4" on rear cover with electric screwdriver. Torque: 12.0 ± 0.5Kgf/cm

S2

2. Remove Rear Cover 1:

Panel side down, remove rear cover with both hands in sequence of "1->2->3", then "1->4->5->6"

S3

3. Remove Rear Cover 2:
a. Set up rear cover, remove mylar "1"
b. Remove keypad cable "2"
c. Remove light bar "3"

S4

4. Remove Keypad:
a. Remove keypad cable in sequence of "1, 2, 3"
b. Remove screws "5, 6" with electric screwdriver. Screwdriver torque: 2.5 ± 0.5 Kgf/cm
c. Separate keypad and rear cover

S5

5. Remove Light Bar and USB Cable:
a. Remove acetate tape "1", grasp on pin, then remove light bar cable horizontally
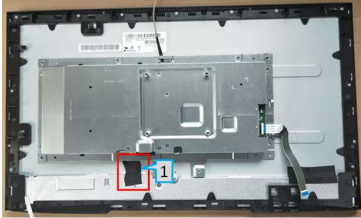b. Remove aluminium foil "2", lift up USB pin cover, then remove USB cable
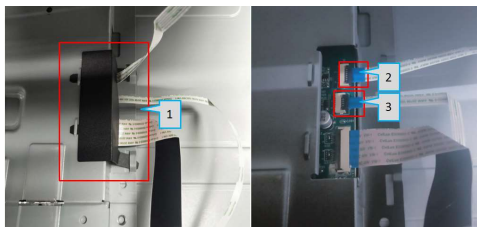
S6

6. Remove Chassis and USB Board Screws：
a. Remove chassis screws "1~4" and USB board screw "5" with electric screwdriver. Torque: 3.5 ± 0.5Kgf/cm
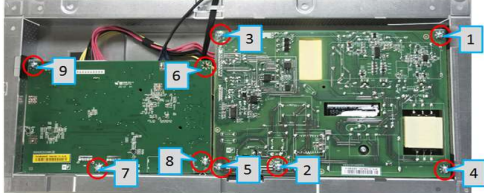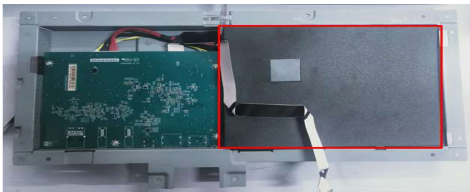b. Remove USB board
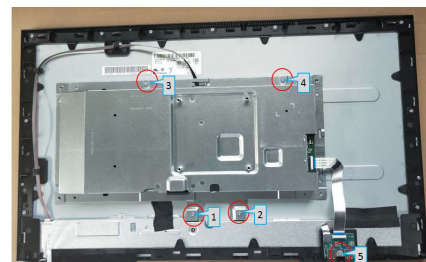
S7

7. Remove FFC:

a. Remove aluminium foil "1"

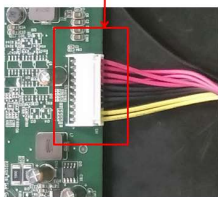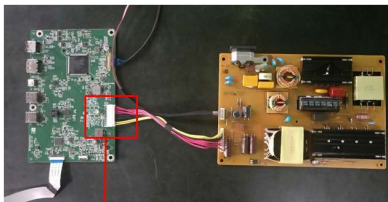b. Lift up FFC cover, grasp on pinch, then remove light bar cable horizontally

S8

8. Remove PCBA 1:

a. Remove mylar

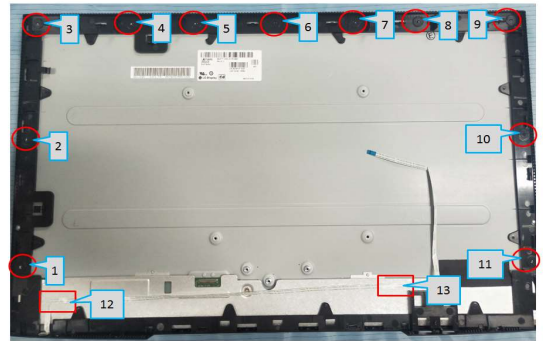b. Remove screws "1~9" with electric screwdriver. Torque: 5.5 ± 0.5Kgf/cm

S9

9. Remove PCBA 2:

a. Remove Power Board and IF Board
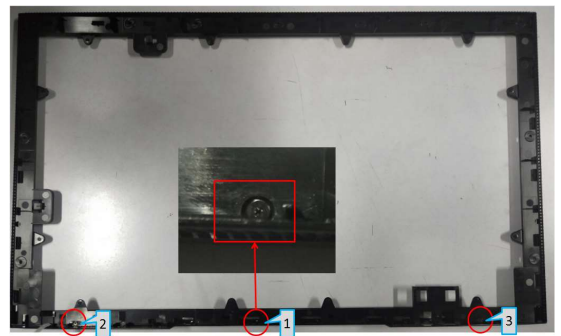
b. Sperate Power Board and IF Board

S10

10. Remove Front Trim Screws 1:

a. Remove screws "1~11" on mid frame with electric screwdriver. Screwdriver torque: 3.5 ± 0.5 Kgf/cm
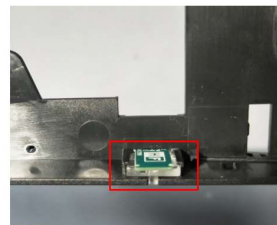
b. Separate mid frame from panel

S11

11. Remove Front Trim Screws 2:

a. Remove screws "1~3" with electric screwdriver. Screwdriver torque: 0.8 ± 0.1 Kgf/cm

b. Separate front trim from mid frame

S12

12. Remove LED

a. Remove LED from mid frame with jig.

b. Separate lens from LED Board
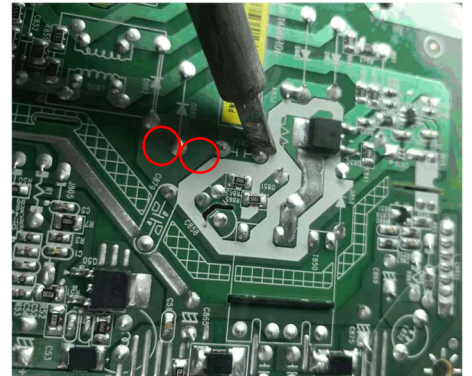
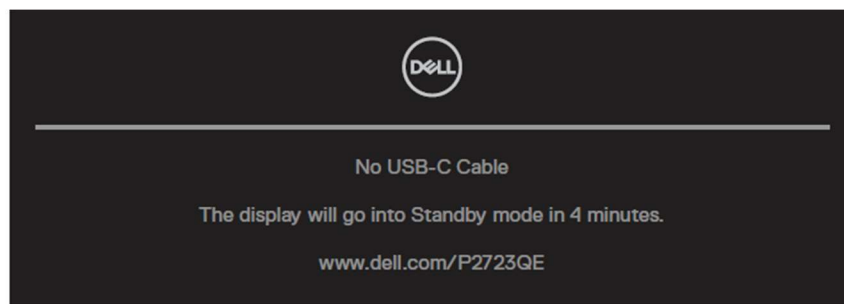|			
S13	Remove electrolyte capacitor >25mm height (red mark) from printed circuit boards. Cut the glue between bulk cap and PCBA with knife – ensure cutting path within the glue, don't touch bulk cap and PCBA. 	S14	Take out the capacitor pin solder with soldering iron. Lift the bulk capacitor away from power board.

6. Trouble Shooting Instructions
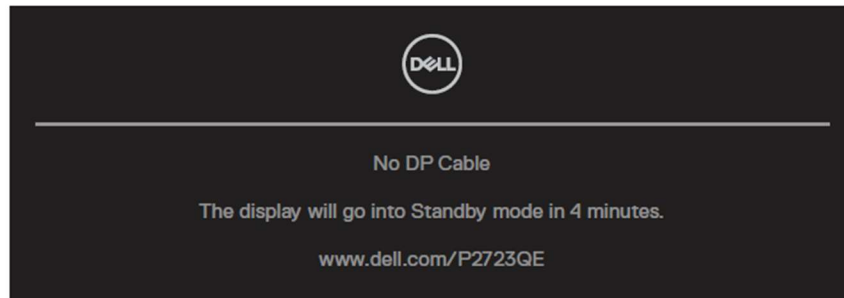
Self-test

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.

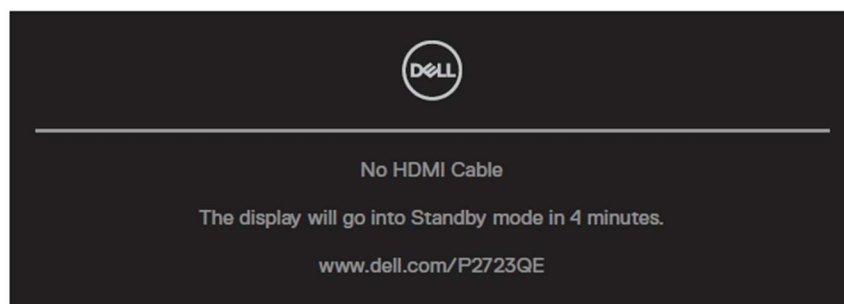2. Unplug the video cable from the computer.

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.


No USB-C Cable

The display will go into Standby mode in 4 minutes.

www.dell.com/P2723QE

or

No DP Cable

The display will go into Standby mode in 4 minutes.

www.dell.com/P2723QE

or

No HDMI Cable

The display will go into Standby mode in 4 minutes.

www.dell.com/P2723QE

4. This message 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.

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6. Trouble Shooting Instructions

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.
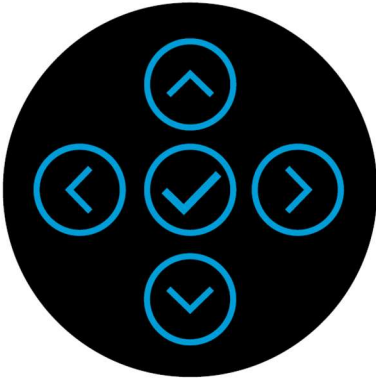
To run the built-in diagnostics:

To run the built-in diagnostics:

1. Ensure that the screen is clean (no dust particles on the surface of the screen).

2. When there is no video input, press and hold in Up or Down or Left or Right direction will be able to access the Main Menu.

3. Use up or down direction to select the Self-Diagnostic function in the Main **Menu > Others** and confirm with center key. A gray test pattern appears at the beginning of the diagnostic program.

4. Carefully inspect the screen for abnormalities.

5. Select Up or Down or Left or Right key to change the test patterns.

6. Repeat steps 4 and 5 to inspect red, green, blue, black, white and text screens.

7. When in White color test screen, check for white color uniformity and if there white color appears greenish/reddish, etc.

8. Press Up or Down or Left or Right key to end the diagnostic program.

Lucy in London

Lucy in London

asdfjas

alt

 text
 code

Title2

endregion

Section

Chapter 1

> quote
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bold text

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6. Trouble Shooting Instructions

Common symptoms	What you experience	Possible solutions
Stuck-on pixels	LCD screen has bright spots	• Cycle power On-Off. • Pixel that is permanently off is a natural defect that can occur in LCD technology. • For more information about Dell Monitor Quality and Pixel Policy, see Dell support site at: **http://www.dell.com/pixelguidelines**.
Brightness problems	Picture too dim or too bright	• Reset the monitor to factory settings. • Adjust brightness & contrast controls via OSD.
Synchronization problems	Screen is scrambled or appears torn	• Reset the monitor to factory settings. • Perform monitor self-test feature check to determine if the scrambled screen appears in self-test mode. • Check for bent or broken pins in the video cable connector. • Restart the computer in the safe mode.
Safety related issues	Visible signs of smoke or sparks	• Do not perform any troubleshooting steps. • Contact Dell immediately.
Intermittent problems	Monitor malfunctions on & off	• Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Reset the monitor to factory settings. • Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.
Missing color	Picture missing color	• Perform monitor self-test feature check. • Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Check for bent or broken pins in the video cable connector.
Wrong color	Picture color not good	• Change the settings of the **Preset Modes** in the **Color** menu OSD depending on the application. • Adjust R/G/B value under **Custom Color** in the **Color** menu OSD. • Run the built-in diagnostics.

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6. Trouble Shooting Instructions

Common symptoms	What you experience	Possible solutions
Image retention from a static image left on the monitor for a long period of time	Faint shadow from the static image displayed appears on the screen	• Set the screen to turn off after a few minutes of screen idle time. These can be adjusted in Windows Power Options or Mac Energy Saver setting. • Alternatively, use a dynamically changing screensaver.

Product specific problems

Common Symptoms	What you experience	Possible Solutions
Screen image is too small	Image is centered on screen, but does not fill entire viewing area	· Check the **Aspect Ratio** setting in the **Display** menu OSD. · Reset the monitor to factory settings.
Cannot adjust the monitor with the Joystick on the back panel	OSD does not appear on the screen	· Turn Off the monitor, unplug the power cable, plug it back, and then turn On the monitor. · The OSD menu may be locked. Press and hold in Up or Down or Left or Right direction for 4 secs to unlock.
No Input Signal when user controls are pressed	No picture, the LED light is white	· Check the signal source. Ensure that 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. Re-plug the signal cable if necessary. · Reset the computer or video player.
The picture does not fill the entire screen	The picture cannot fill the height or width of the screen	· Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen. · Run the built-in diagnostics.
No image when using USB-C connection to computer, laptop, and so on	Black screen	· Verify if the USB-C interface of the device can support DP alternate mode. · Verify if the device required more than 90 W power charging. · USB-C interface of device cannot support DP alternate mode. · Set Windows to Projection mode. · Ensure that the USB-C cable is not damaged.

6.   Trouble Shooting Instructions

Common Symptoms	What you experience	Possible Solutions
No charging when using USB-C connection to computer, laptop, and so on	No charging	· Verify if the device can support one of 5 V/9 V/15 V/20 V charging profiles. · Verify if the Notebook requires a > 90 W power adapter. · If the Notebook requires a > 90 W power adapter, it may not charge with the USB-C connection. · Ensure that you use only Dell approved adapter or the adapter that comes with the product. · Ensure that the USB-C cable is not damaged.
Intermittent charging when using USB-C connection to computer, laptop, and so on	Intermittent charging	· Check if the maximum power consumption of device is over 90 W. · Ensure that you use only Dell approved adapter or the adapter that comes with the product. · Ensure that the USB-C cable is not damaged.
No image when using DP connection to the PC.	Black screen	· Verify which DP standard (DP 1.1a or DP 1.2 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 secs to change the monitor setting from DP 1.4 to DP 1.1a.

6.   Trouble Shooting Instructions

Universal Serial Bus (USB) specific problems

Common Symptoms	What you experience	Possible Solutions
USB interface is not working	USB peripherals are not working	• Check that your monitor is turned On. • Reconnect the upstream cable to your computer. • Reconnect the USB peripherals (downstream connector). • Switch Off and then turn On the monitor again. • Reboot the computer. • Some USB devices like external portable HDD require higher electric current; connect the device directly to the computer system.
SuperSpeed USB 5Gbps (USB 3.2 Gen1) interface is slow	USB 3.2 Gen1 (5Gbps) peripherals working slowly or not working at all	• Check that your computer is USB 3.2 Gen1 (5Gbps)-capable. • Some computers have USB 3.2 Gen1 (5Gbps), 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 3.2 Gen1 (5Gbps) device is plugged in	Wireless USB peripherals responding slowly or only working as the distance between itself and its receiver decreases	• Increase the distance between the USB 3.2 Gen1 (5Gbps) 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 3.2 Gen1 (5Gbps) port.