

Service Manual - AW2523HF

Version: 01

Date: 2022/7/7

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:

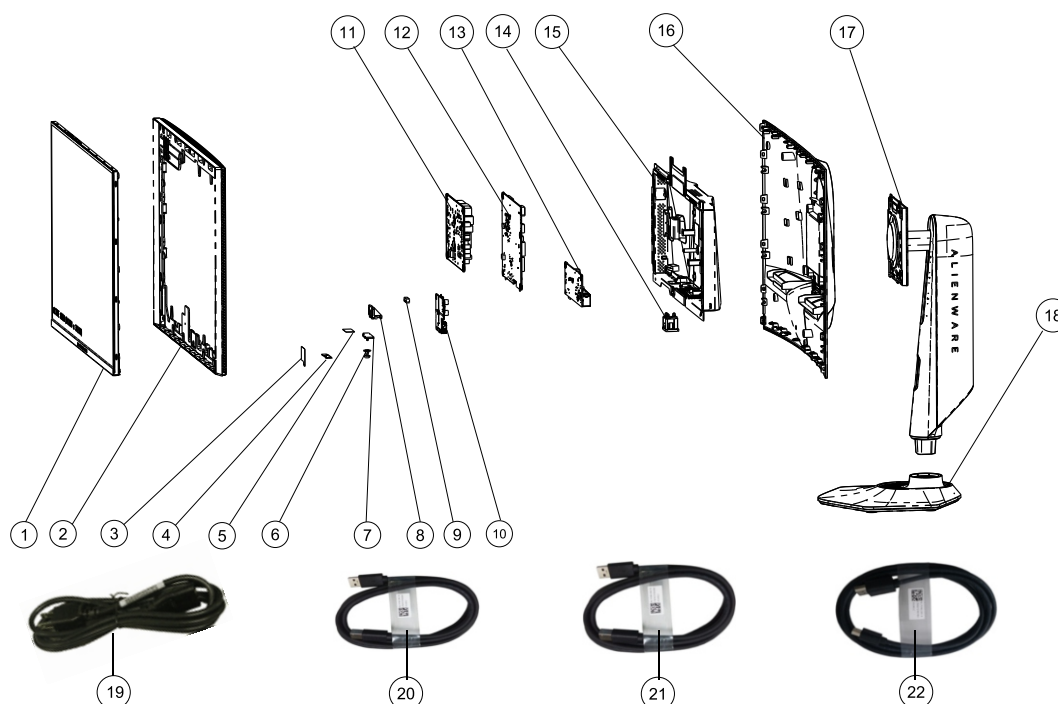
Proper service and repair is important to the safe, reliable operation of all series products. The service providers recommended by vender should be aware of notices listed in this service manual in order to minimize the risk of personal injury when perform service procedures. Furthermore, the possible 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



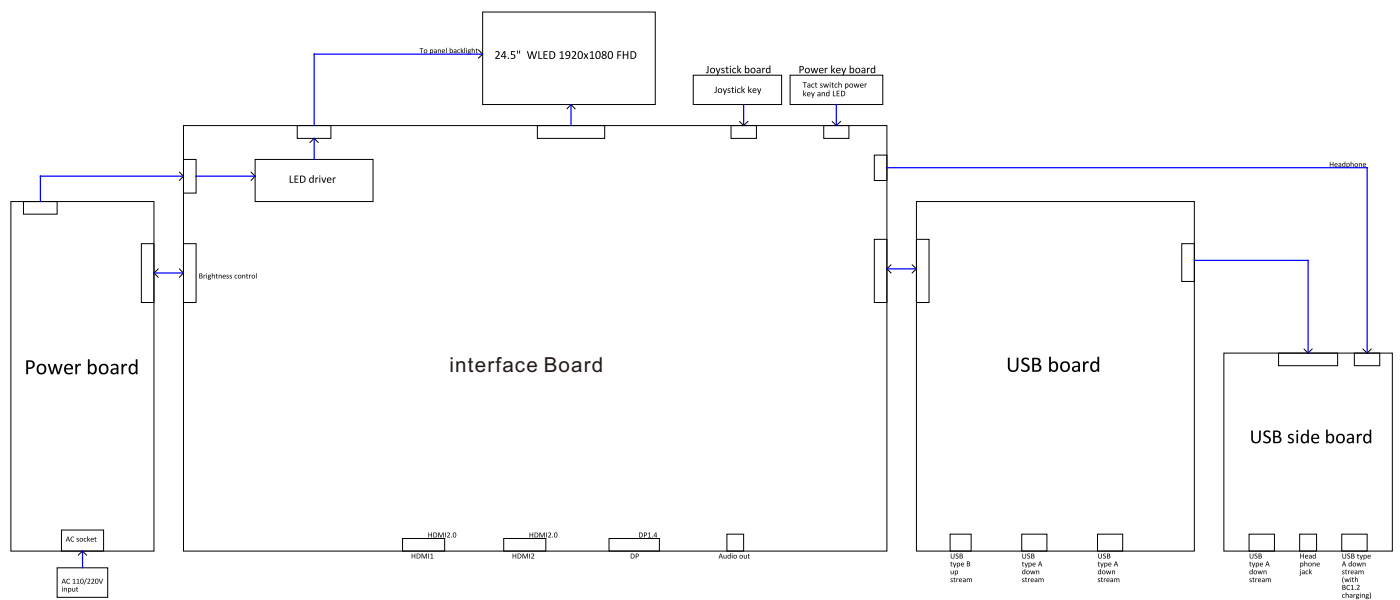
Item	Description	Q'ty	Remark
1	Panel	1	For EMEA Only, not for other regions
2	Assy_Front Trim	1	
3	Shielding tape for panel	1	
4	Key Board	1	
5	Shielding tape for key board	1	
6	Joystick button	1	
7	Joystick Board	1	
8	Joystick holder	1	
9	USB Sub Board	1	
10	EMI Sponge	1	
11	Power board	2	
12	Interface board	1	
13	USB Main Board	1	
14	AC socket	1	
15	Chassis	1	
16	Rear Cover	1	
17	Stand Assy	1	
18	Base Assy	1	
19	Power cable	1	See "NOTE"
20	USB 3.2 Gen 1 (5 Gbps) upstream cable (1.8 m)	1	See "NOTE"
21	DisplayPort 1.8 M cable (DisplayPort to DisplayPort)	1	See "NOTE"
22	DisplayPort 1.0 M cable(Mini DisplayPort to DisplayPort)	1	See "NOTE"

NOTE:

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

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

3. Wiring Connectivity Diagram

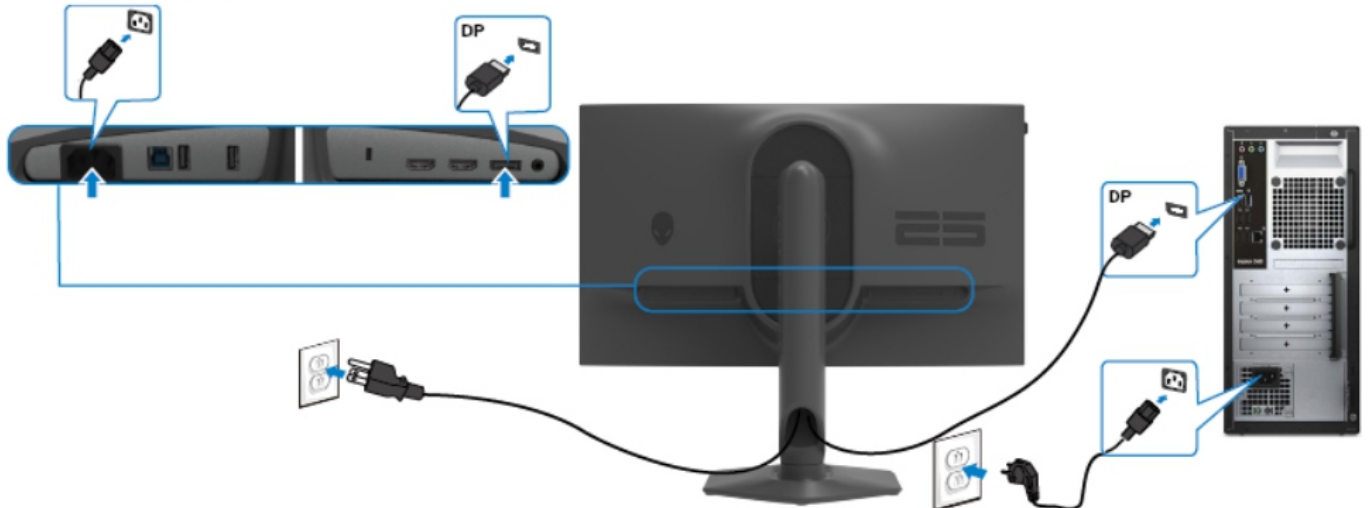


4. How to connect and disconnect power cable/ connectivity cable

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



Connecting the DP cable



Connecting the USB cable



5. Disassembly and Assembly Procedures

NOTE:

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

Tool Required:

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

Tool Description:

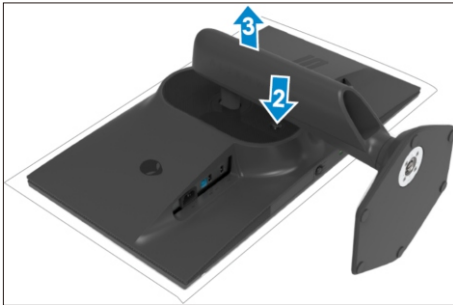
- Screwdriver(Phillip head) #1
- Screwdriver(Phillip head) #2
- Penknife
- Soldering iron and absorber

5.1 Disassembly Procedures:

Remove the monitor stand base:

S1

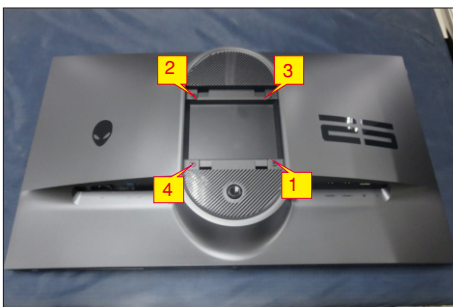
1. Place the monitor on a soft cloth or cushion.
2. Press and hold the stand-release button.
3. Lift the stand up and away from the monitor.



S2

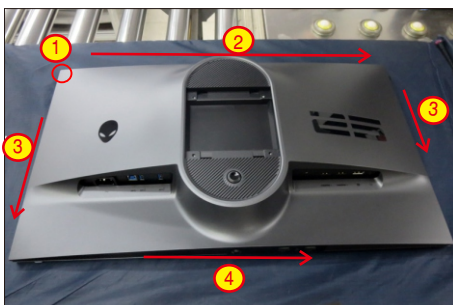
Use a Philips-head screwdriver to remove four screws for unlocking mechanisms.

(No.1~4 screw size=M4x10; Torque=10~11kgfxcmm)



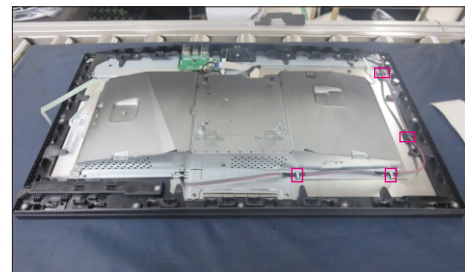
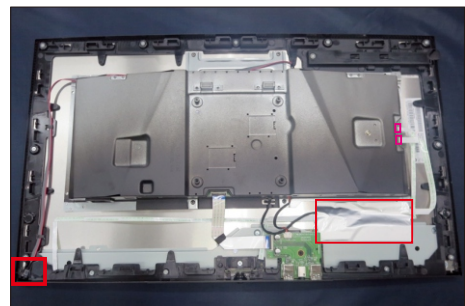
Wedge your fingers between the rear cover and the middle bezel on the corners of the top side of the monitor to release the rear cover, then use one hand to press the middle bezel, the other hand to pull up carefully the rear cover in order of arrow preference for unlocking mechanisms of rear cover.

S3



S4

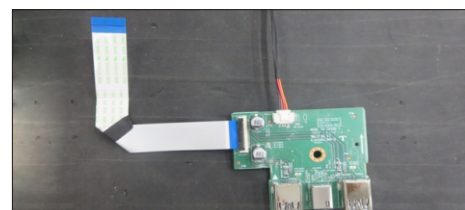
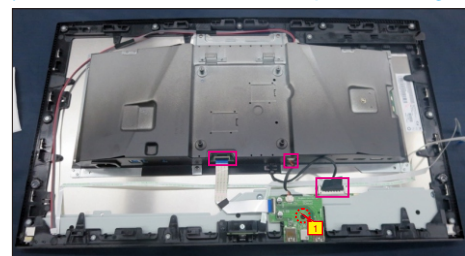
Remove the rear cover, then tear off 1pcs aluminum foil for uncovering the EDP connector, then disconnect power key cable and joystick key cable away from the connectors of the board. Tear off 1pcs shading mylar, then disconnect the panel lamp connector, then release the cable from the hooks.



S5

Disconnect EDP cable from the panel connector, then disconnect two USB cable from the connector of the board. Use a Philips-head screwdriver to remove one screw for unlocking the USB sub board unit, then release the USB sub board unit.

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

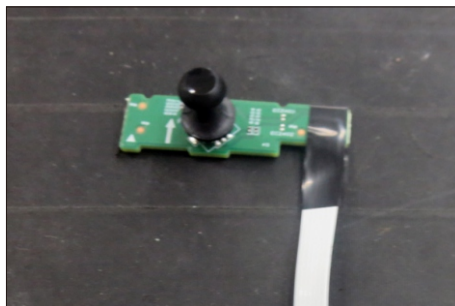
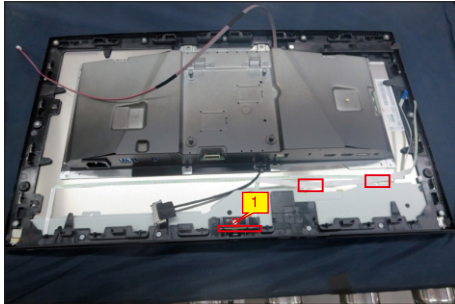


5. Disassembly and Assembly Procedures

S6

Use a Philips-head screwdriver to remove 1pcs screw for unlocking the joystick board with middle frame, then release the key cable by tearing off 2pcs tapes, then release the joystick board from the hooks of the middle frame.

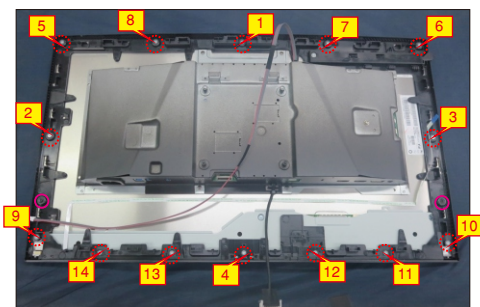
(No.1 Screw size= M3x6, Torque=2~2.5kgfxcn)



S7

Use a Philips-head screwdriver to remove 14pcs screws for unlocking the middle bezel with the panel module, then tear off 2pcs shading mylar tape for uncovering the two screws holes of the middle frame.

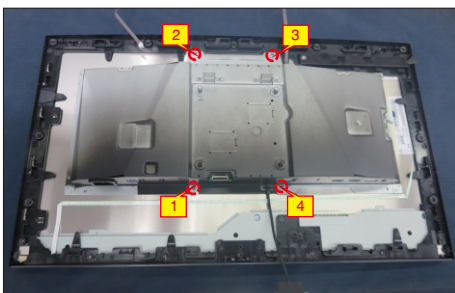
(No.1~14 Screw size= M3x5, Torque=3~4kgfxcn)



S8

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

(No.1~4 Screw size= M3x2.6, Torque=3~4kgfxcn)



S9

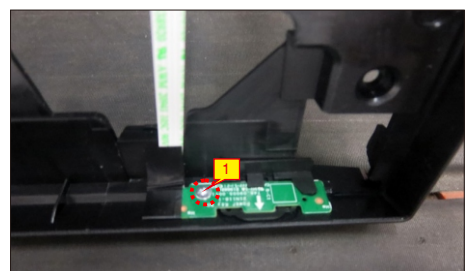
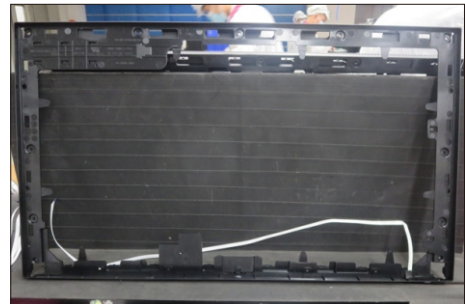
Tear off 2pcs tapes on the back of the power key cable, then lift up the middle bezel and remove the middle bezel.



S10

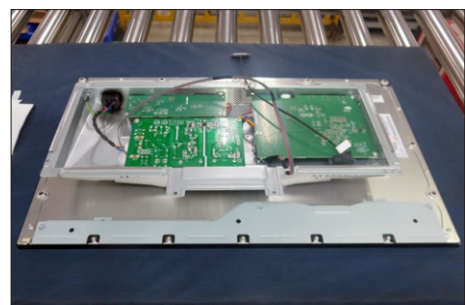
Put the middle frame into a fixture jip, then tear off the mylar tape, and then use a Philips-head screwdriver to remove 1pcs screw for unlocking the power key board with the middle bezel.

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



S11

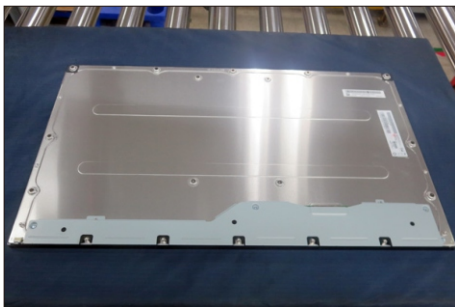
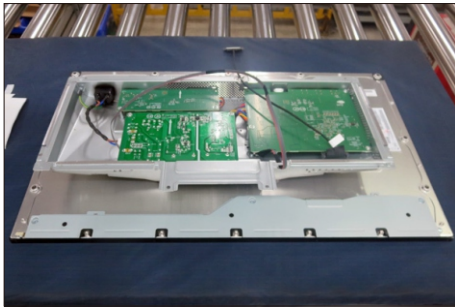
Lift up the bracket chassis module and put the bracket chassis module on a protective cushion.



5. Disassembly and Assembly Procedures

S12

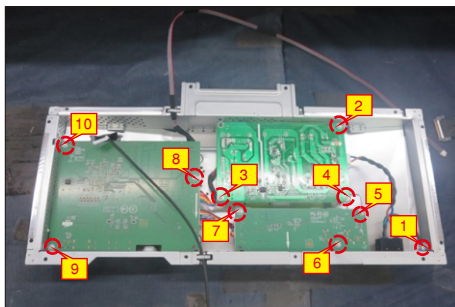
Lift up the bracket chassis module and put the bracket chassis module on a protective cushion.



Use a Philips-head screwdriver to remove 10pcs screws for unlocking the power board, interface board and main USB board with the bracket, then release the EDP cable and panel lamp cable from the hooks of the bracket chassis module.

S13

(No.1 screw size=M4x8, Torque=6±0.5kgfxcn;
No.2~10 screw size=M3x7.5, Torque=6±0.5kgfxcn)



S14

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

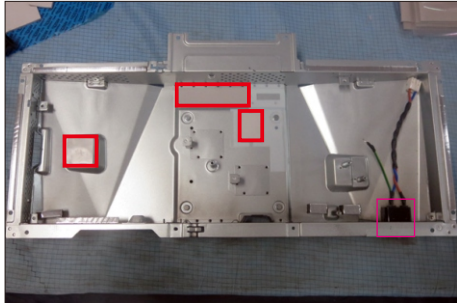


5. Disassembly and Assembly Procedures

5.2 Assembly Procedures:

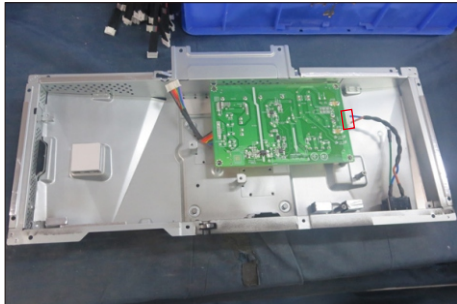
S1

Place a bracket chassis base on a protective cushion, then paste 3pcs Silicon sheet on the correct positions as the picture below shown, then assemble 1pcs AC outlet with the bracket.



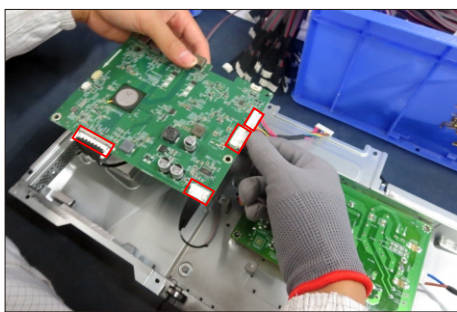
S2

Take 1pcs power board, then connect the AC wire to the connector of the power board, then turn over a power board and put it into the bracket chassis.



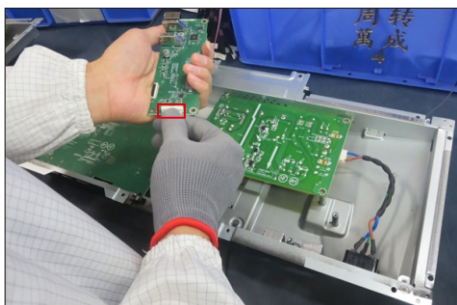
S3

Take 1pcs interface board, connect 1pcs EDP cable, 1pcs panel lamp cable and 1pcs USB connective cable to the connectors of the interface board, then connect the cable of the power board to the interface board, then turn over and locate it into the bracket.



S4

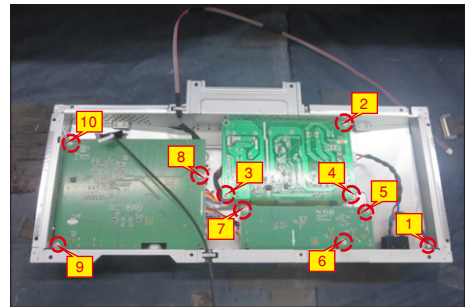
Take 1pcs main USB board, then connect USB connective cable to the connector of the main USB board, then locate the board into the bracket.



S5

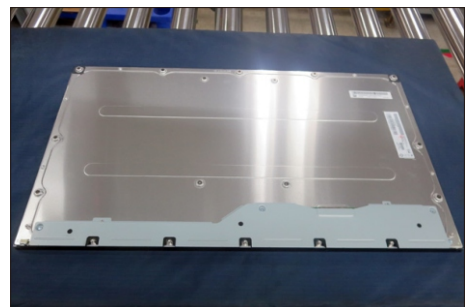
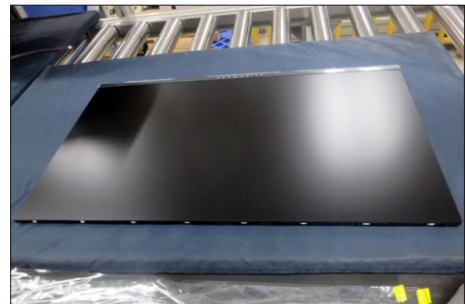
Use a Philips-head screwdriver to tighten 10pcs screws for locking the power board, interface board and main USB board with the bracket, then locate the EDP cable and panel lamp cable into the hooks of the bracket chassis module.

(No.1 screw size=M4x8, Torque=6±0.5kgfxcn;
No.2~10 screw size=M3x7.5, Torque=6±0.5kgfxcn)



S6

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 the screen faced down for later assembling.



S7

Move and put the bracket chassis module on the back of the panel module.

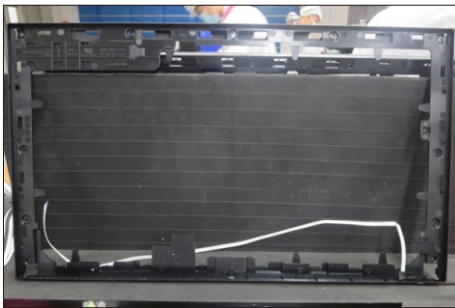
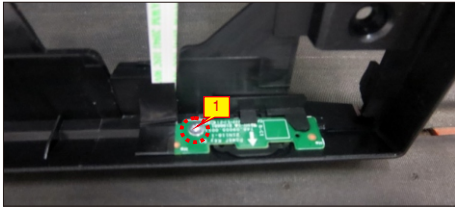


5. Disassembly and Assembly Procedures

S8

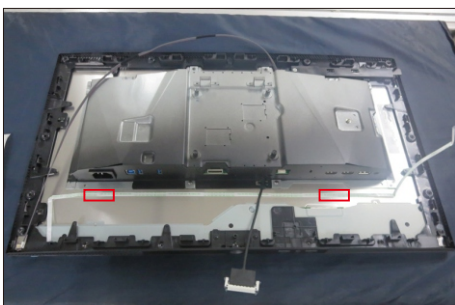
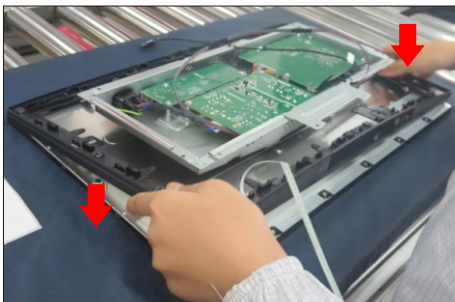
Take 1pcs power key board with key cable and 1pcs middle frame, and then locate the power key board to the specific position of the middle frame. Put the unit into a fixture, use a Philips-head screwdriver to tighten 1pcs screw for locking the power key board with the middle frame, then cover the power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

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



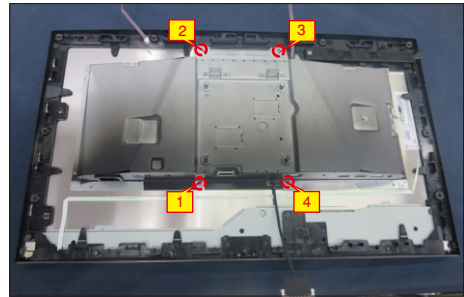
S9

Assemble the middle frame with the panel module. Tear off 2pcs tape papers on the back of the power key cable, then fix the power key cable on the back of the panel with tapes on the back of the cable.



S10

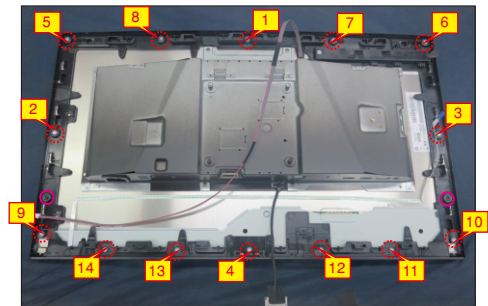
Use a Philips-head screwdriver to tighten 4pcs screws for locking the bracket with the panel. (No.1~4 Screw size= M3x2.6, Torque=3~4kgfxcn)



S11

Use a Philips-head screwdriver to tighten 14pcs screws for locking the middle bezel with the panel module, then paste 2pcs shading mylar tape to cover the two screws holes of the middle frame.

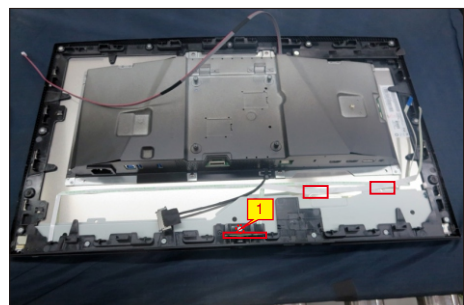
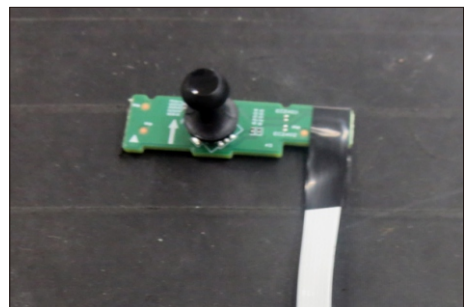
(No.1~14 Screw size= M3x5, Torque=3~4kgfxcn)



Take 1pcs joystick board and 1pcs cap, and assemble the cap with joystick key, then locate the joystick board unit into the hooks of the middle frame.

S12

Use a Philips-head screwdriver to tighten 1pcs screw for locking the joystick board with middle frame, then tear off 2pcs tape papers on the back of the key cable, then fix the cable on the back of the panel. (No.1 Screw size= M3x6, Torque=2~2.5kgfxcn)

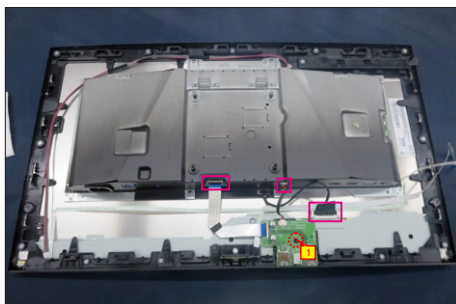
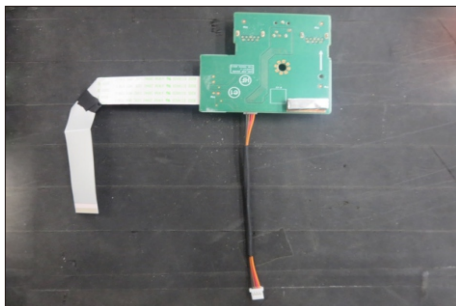
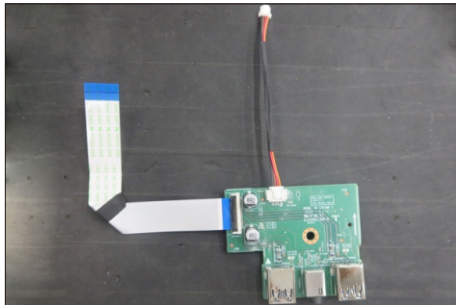


5. Disassembly and Assembly Procedures

S13

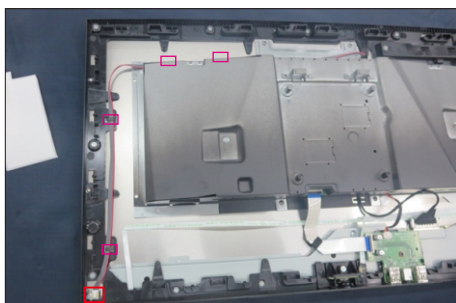
Take 1pcs USB sub board, 1pcs connective cable and 1pcs FFC cable. Connect the two cables to the connectors of the USB sub board, paste 1pcs conductive foam on the back of USB sub board, then locate the USB sub board into the hooks of the middle frame. Use a Philips-head screwdriver to tighten 1pcs screw for locking the USB sub board with the middle frame. Connect the USB sub cable to the USB main board, then connect the EDP cable to the panel connector.

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



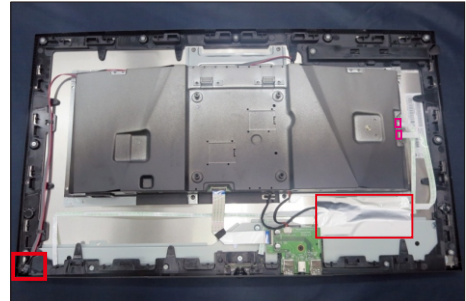
S14

Locate the panel lamp cable into the hooks of the middle frame, then plug the cable to the connector of the panel, then cover the panel lamp cable with 1pcs shading mylar tape.



S15

Connect the power key cable and joystick key cable to the connectors of the board, then paste 1pcs aluminum foil on the specific position to fix the cables and EDP connectors.



S16

Take 1pcs rear cover close to the panel unit, then put down the rear cover and push the rear cover for mechanisms engagement.



S17

Use a Philips-head screwdriver to tighten 4pcs screws for locking the rear cover with the assembled unit.

(No.1~4 screw size=M4x10; Torque=9±0.5kgfxcn)



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.



6. Trouble Shooting Instructions

S19

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.



6. Trouble Shooting Instructions

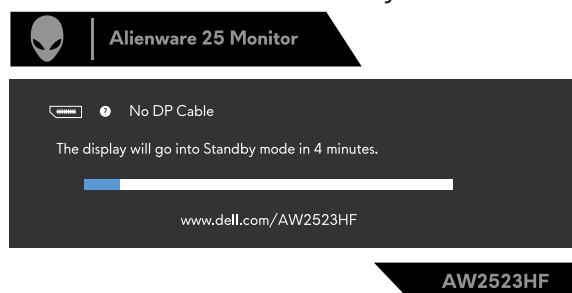
⚠ WARNING: Before you begin any of the procedures in this section, follow the [Safety Instructions](#).

Self-test

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

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer. To ensure proper self-test operation, remove all digital and the analog cables from the back of computer.
3. Turn on the monitor.

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



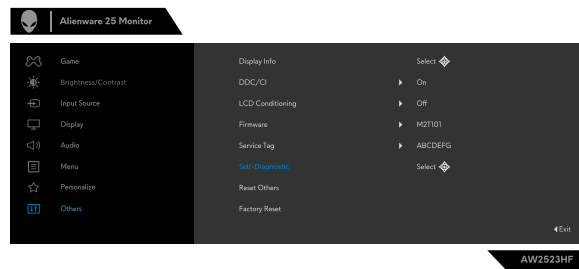
4. This box also appears during normal system operation if the video cable is disconnected or damaged.
5. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

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

6. 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 graphics card.



To run the built-in diagnostics:

1. Ensure that the screen is clean (no dust particles on the surface of the screen).
2. Using the joystick, navigate on the OSD menu and select **Others > Self-Diagnostic**.
3. Press the joystick button to start the diagnostics. A gray screen is displayed.
4. Observe if the screen has any defects or abnormalities.
5. Toggle the joystick once again until a red screen is displayed.
6. Observe if the screen has any defects or abnormalities.
7. Repeat steps 5 and 6 until the screen displays green, blue, black, and white colors. Note any abnormalities or defects.

If you do not detect any screen abnormalities upon using the built-in diagnostic tool, the monitor is functioning properly. Check the graphics card and computer. The test is complete when a text screen is displayed. To exit, toggle the joystick control again.

Disabling AMD FreeSync

AW2523HF monitor has FreeSync enabled by default. Please toggle between FreeSync on/off from AMD Software Adrenalin Edition.

Once disabled on the AMD Software side, FreeSync is disabled on the monitor also.

6. 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 pressed.▪ 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">▪ Turn off the monitor and turn it on again.▪ Pixel that is permanently off is a natural defect that can occur in LCD technology.▪ For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: https://www.dell.com/pixelguidelines
Stuck-on Pixels	LCD screen has bright spots	<ul style="list-style-type: none">▪ Turn off the monitor and turn it on again.▪ Pixel that is permanently off is a natural defect that can occur in LCD technology.▪ For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: https://www.dell.com/pixelguidelines
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.

6. 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 (see Self-test) check to determine if the intermittent problem is flagged in the self-test mode.
HDR Problems	Cannot set GFX solution into HDR mode after switching into Desktop/ Movie HDR/ Game HDR 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 1920 x 1080 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 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	<ul style="list-style-type: none">▪ Change the settings of the Preset Modes in the Game menu OSD depending on the application.▪ Adjust the Gain/Offset/Hue/Saturation values under Game1/Game 2/Game 3 in the Game menu OSD.▪ Change the Input Color Format to RGB or YCbCr/YPbPr in the Display 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.

6. 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 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) your graphics card is certified to. Download and install the latest graphics card driver.▪ Some DP 1.1a graphics card cannot support DP 1.4 monitors.
Loss of functionality or abnormal behavior with legacy devices on HDMI2.0 connection	Missing option or unable to turn on HDR under Windows Display Setting; Loss of audio or unable to detect audio device; Loss of visual while playing a video	<ul style="list-style-type: none">▪ Ensure the graphic card drivers are updated with latest version from the manufacturer's website.▪ In the absence of possible solutions, follow these steps to improve compatibility with legacy devices.▪ Go to OSD menu, under Input Source (HDMI 1/HDMI 2) selection, press and hold joystick key for 8 sec, Select Yes to prompt. Repeat steps to restore back to normal.

6. 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 your monitor and turn it on again.▪ Restart your computer.▪ Certain USB devices such as portable hard drives require higher power source; connect the drive to the computer directly.
Super speed USB 3.0 interface is slow	Super speed 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).▪ Restart your 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.