

SYNETECH

Service Manual

G7576



Document Revision History					
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1.0	2026/03/14	All	Release Version	Zesen Zheng	Spencer

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Safety Instructions

Please read the safety information carefully before installing, maintaining, or disassembling this product.

I. Safety warning

The current of power supply, telephone and communication cable is dangerous and the on/off button, power switch on the device do not cut off the current completely. To avoid the danger of electric shock:

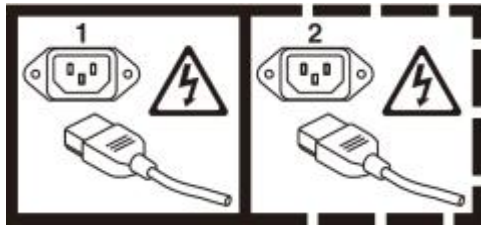
- Be aware that the device may have several power supply cables at the same time. To cut off the power, make sure all power supply cables are disconnected.
- Do not connect or disconnect any cables, install, maintain, or reset the product during thunderstorm.
- Connect all power cables to the right and use the well grounding power supply socket.
- Connect all devices to the proper connector.
- Connect or disconnect cables with one hand is recommended.
- Do not turn on any device when there is a fire, flood, or collapse of a house.
- Please disconnect the power cable, remote communication system, network, modem, and other devices before opening the screen, unless otherwise specified in the installation and configuration process.
- When the product is installed, moved or opened, the step of cable connection or disconnection is provided as below.

To connect cables : 1. Turn off all devices. 2. Connect power cords to devices. 3. Connect signal/communication cables to devices. 4. Connect the power cord to	To disconnect cables : 1. Turn off all devices. 2. Unplug power cords from the socket. 3. Disconnect signal /communication cables from connector.
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power supply socket. 5. Turn on devices。	4. Disconnect the power cords from devices
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II. Notice

1. The AC switch or button mightn't cut off the AC power supply, Please disconnect the AC cable if you need.
2. Do not remove any cover of the module with the danger label attached.



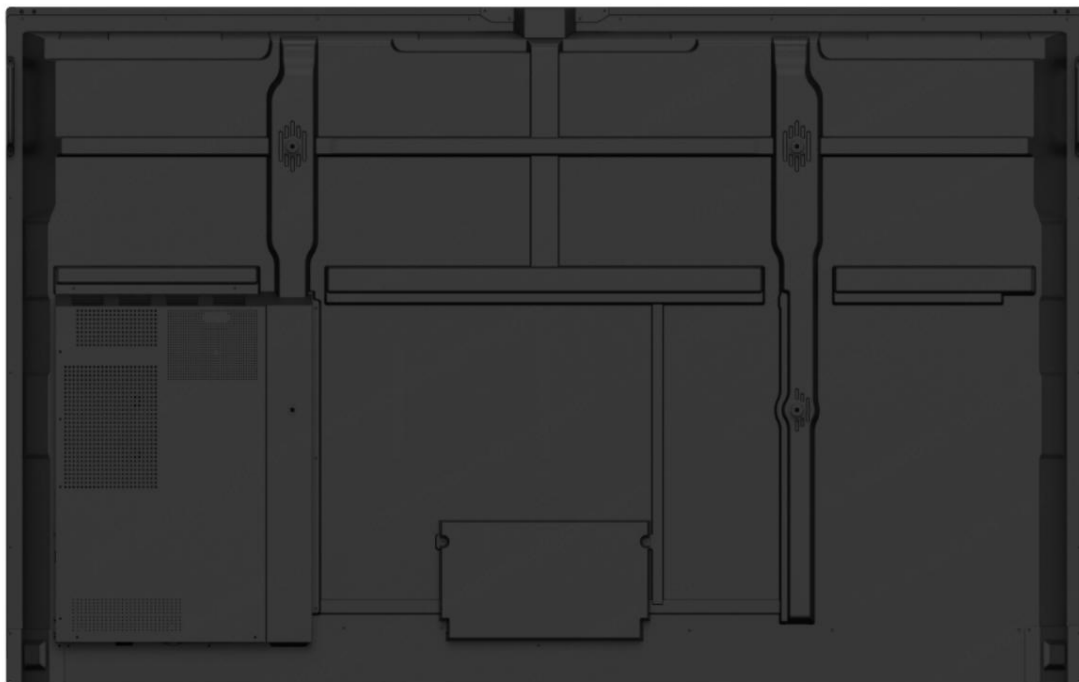
Product Basic Specifications

I. Product Appearance

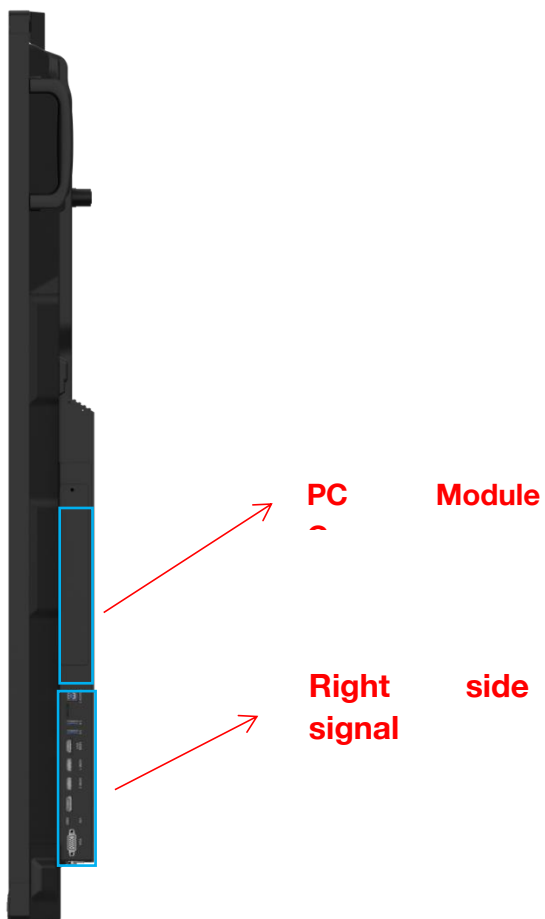
➤ Front view



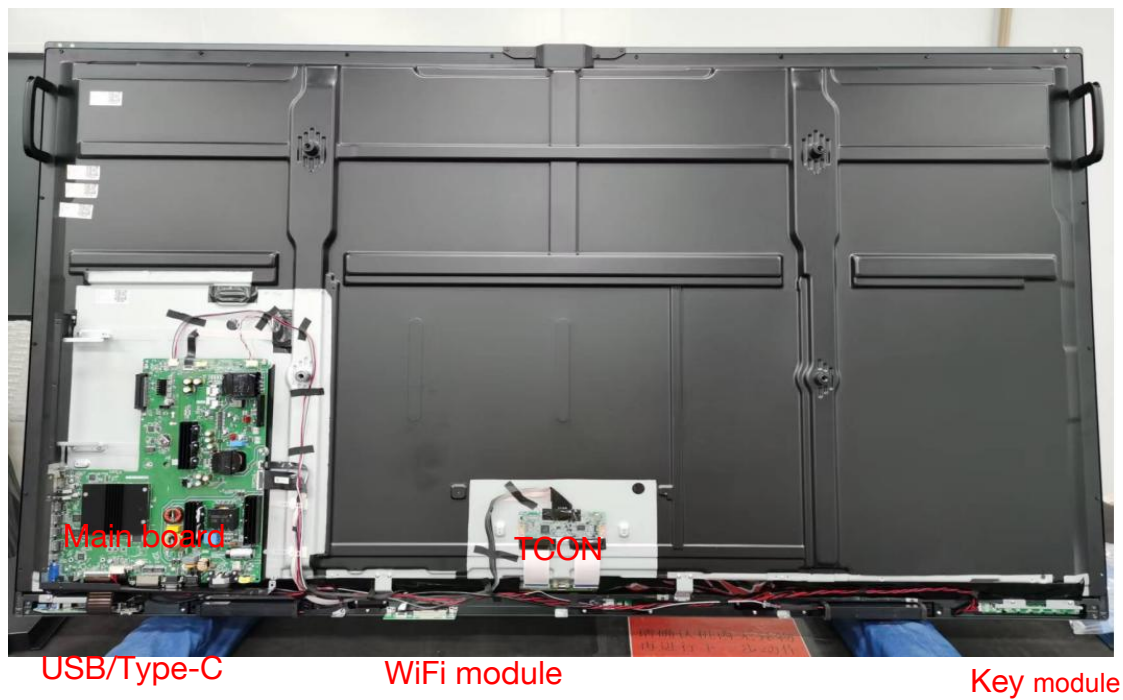
➤ Back view



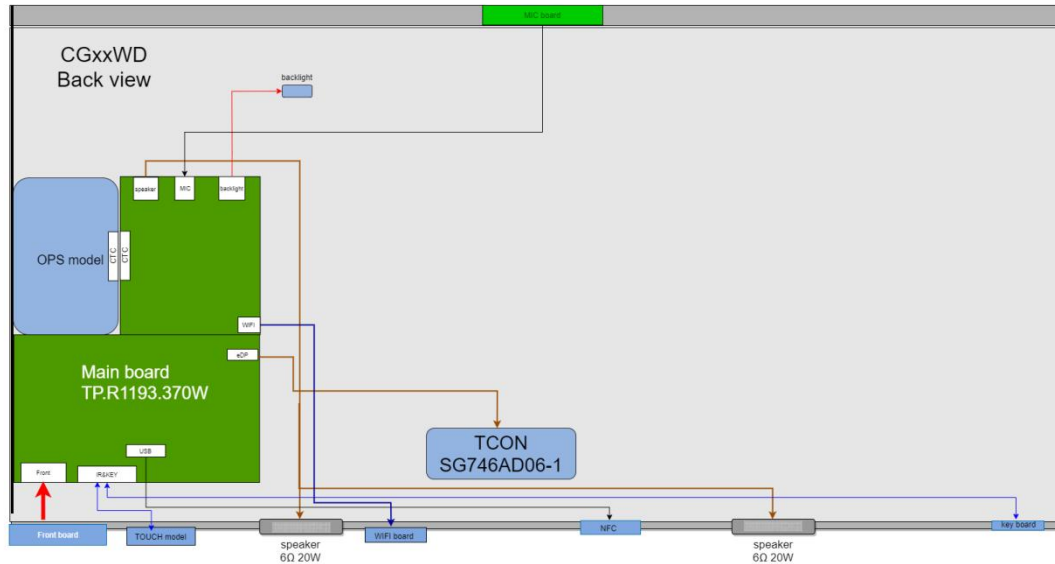
➤ Side view



➤ Back view of the screen

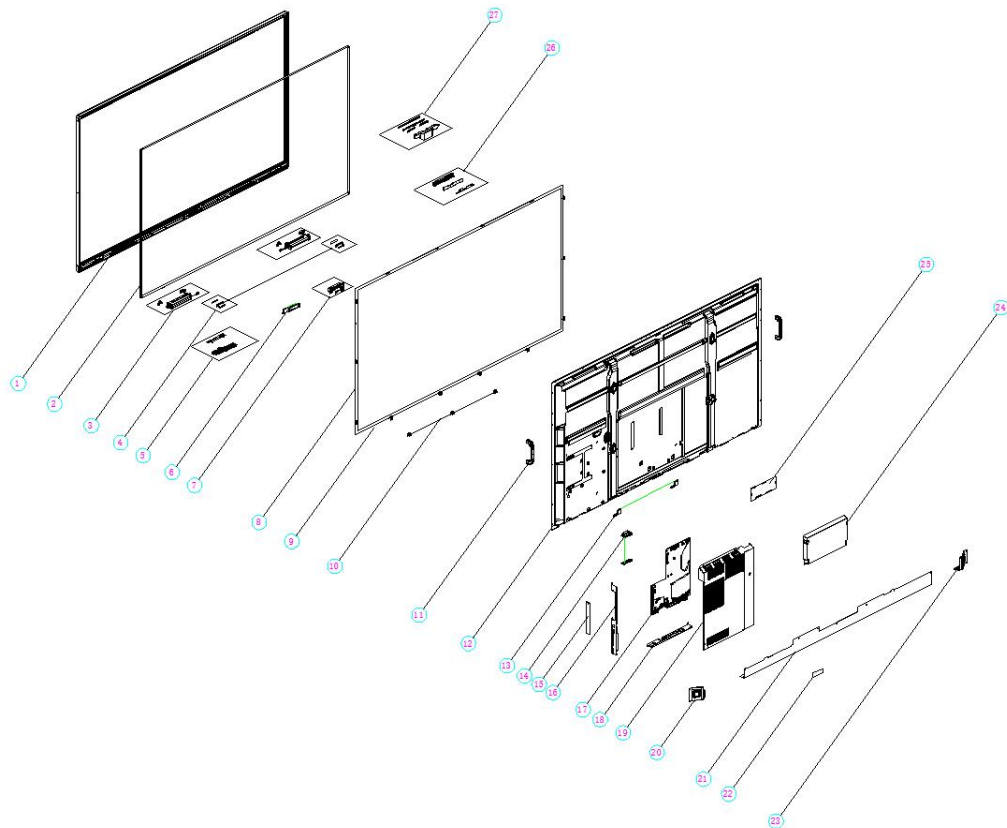


II. Electrical Diagram



Disassembly guide

I. Exploded Views



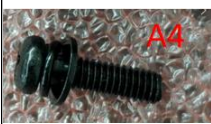
NO.	NAME	QTY	NO.	NAME	QTY	NO.	NAME	QTY
1	Front Frame	1	10	Back shell bracket	3	19	Big back cover	1
2	Touch box	1	11	Handle	10	20	Left small back cover	1
3	Speaker	2	12	Backlight module	1	21	Middle small back cover	1
4	Magnet	2	13	Panel pressing block	2	22	WiFi Cover	1
5	Preprocessing module	1	14	OPS Bracket	2	23	Right small back cover	1
6	WiFi module	2	15	OPS Cover	1	24	T-CON Cover	1
7	NFC module	1	16	Side terminal bracket	1	25	T-CON board	1
8	WiFi module	1	17	Main board	1	26	Key module	1
9	AG glass	1	18	Bottom terminal bracket	1	27	Microphone module	1

II. Screw fastening torque reference table

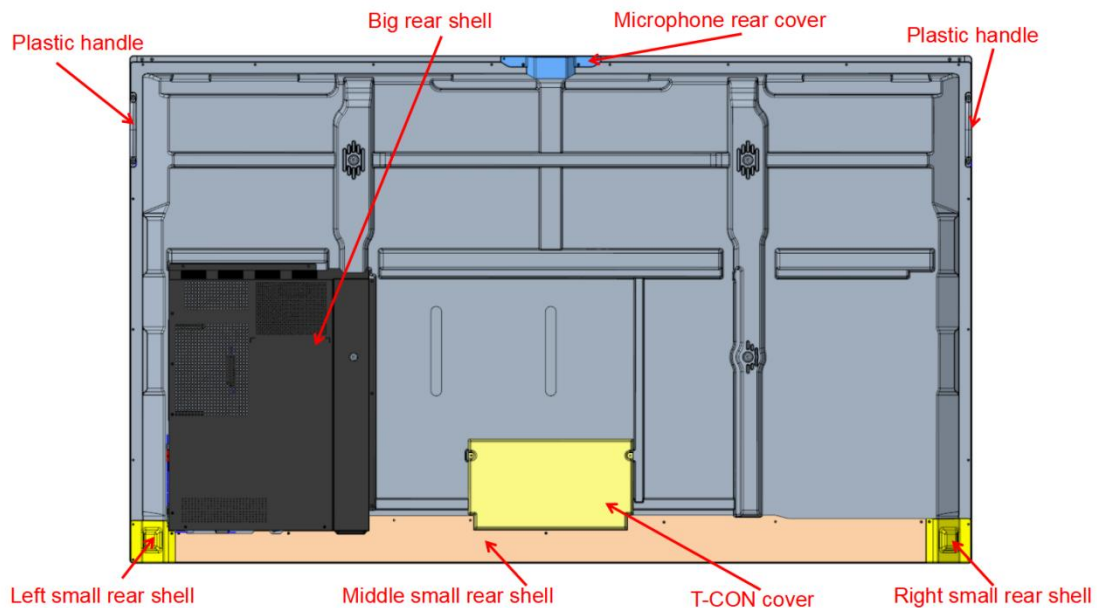
Torque Requirement (except the hand screws and nuts)			
Screw Specification (mm)		Tightening Torque	
		N.M	(kgf.cm)
M3x4 ~ M3x8		0.5-0.7	5-7
M4x8 ~ M4x12		0.7-1.0	7-10
M5		1.2-1.5	12-15
Tool to Use			
ITEM	Screw Image	NAME	Specification
A		Phillips Countersunk Head Screw	KM3×8mm-Black Nickel plated
B		Phillips Countersunk Head Screw	KM3×3.8mm(φ4.6)-Black Nickel plated
C		Phillips Countersunk Head Screw	KM3×5mm-Black Nickel plated
D		Phillips Truss Head Screw	TM3×6mm-Nickel plated
E		Phillips Truss Head Screw	TM3×6mm-Black Nickel plated

F		Phillips Truss Head Screw	TM3×4mm-Silver Nickel plated
G		Phillips Truss Head Screw	TM3×4mm-Black Nickel plated
H		Phillips Truss Head Screw	TM4×8mm-Black Nickel plated
I		Phillips Pan Head Screw	PM4x8mm-with external tooth washer - Nickel plated
J		Phillips Pan Head Screw	PM5×16mm-with external tooth washer -Black Nickel Plated
K		Phillips Pan Head Screw	PM5×6mm-Black oxidized
L		Phillips Pan Head Screw with Washer	PWM4.0×6mm-Nickel Plated
M		Phillips Flat Head Screw	CM3×6mm-Nickel Plated
N		Phillips Flat Head Screw	CM4×20mm-Black Nickel Plated
O		Phillips Countersunk Head Tapping Screw	KA3×10mm-Black Nickel Plated

P		Phillips Truss Head Tapping Screw	TB4×10mm-Black Nickel plated
Q		Phillips C Head Screw	CM2 × 5mm-Nickel plated
R		Phillips Flat Head Screw (Non-standard)	CM3×4mm-Nickel Plated (Non-standard)
S		Hand screw (Non-standard)	M3×11mm(L=28)-Black Nickel Plated
T		Hand screw (Non-standard)	M3×7.5mm(L=21.5)-Black Nickel Plated
U		Nut	M3×5.3mm-Nickel Plated
V		Phillips Pan Head Screw	PM5×20mm-Black Nickel plated
W		Phillips Truss Head Screw	TM3×8mm-Black Nickel plated
X		Phillips Flat Head Screw	CM3×10mm-Black Nickel plated
Z		Phillips Flat Head Screw	CM3×6mm-Black Nickel plated

A1		Hand screw (Non-standard)	Customize-M3×4×7-14.5mm-Black Nickel plated
A2		Phillips C Head Screw	CM4×6mm-Black Nickel plated
A3		Phillips Truss Head Screw	TM3×5mm-Black Nickel plated
A4		Screw	PM4.0×14.0mm-Black Nickel plated
A5		Cross recessed C-head screws	CM3 × 5mm--Silver
A6		Phillips C Head Screw	CM2.5 × 4mm--Black galvanized

III. Shell Disassemble



STEP 0: Get machine from the movable bracket and lie it down on the table(Be careful on protection)

STEP 1: Use an electric screwdriver and M3 adapter to remove all screws corresponding to the red circles in the Figure 1 and Figure 2.

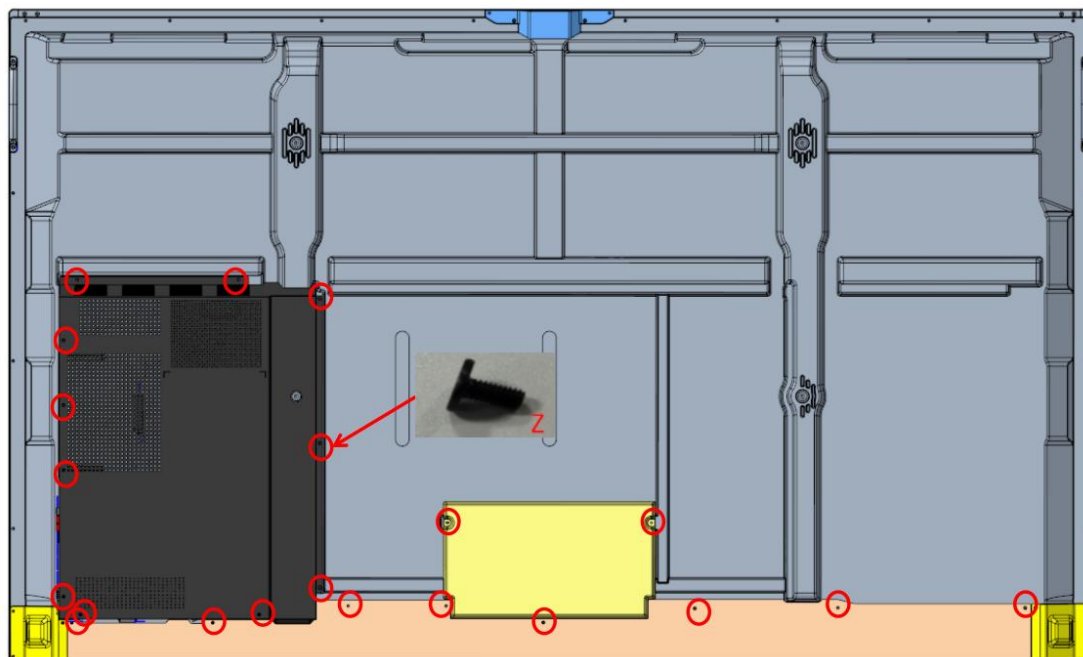


Figure 1

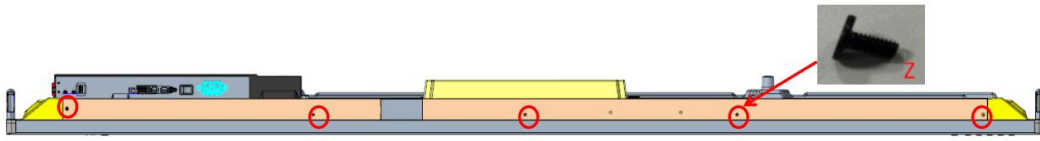


Figure 2

STEP 2: Disassemble the Big rear shell and Middle small rear shell by hand.
As shown in Figure 3.

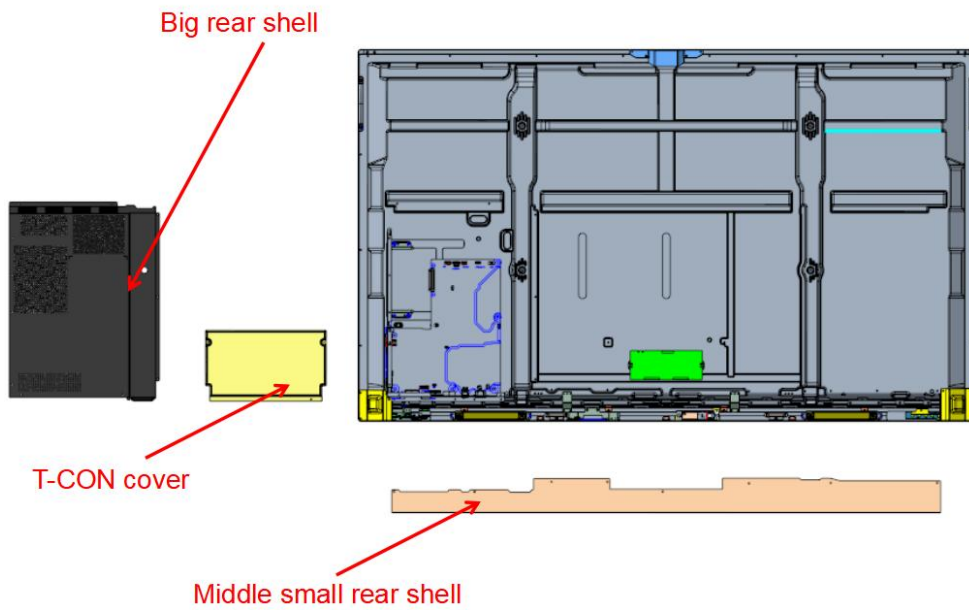


Figure 3

After dismantling, as shown in Figure 4.

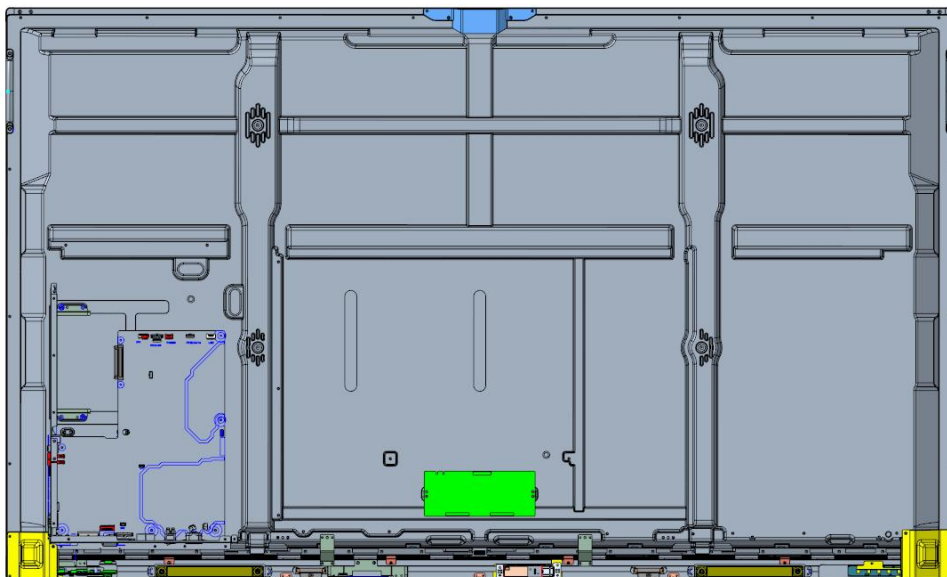


Figure 4

STEP 3: Continue to use an electric screwdriver and M3 adapter to remove all screws corresponding to the red circles in the Figure 5.

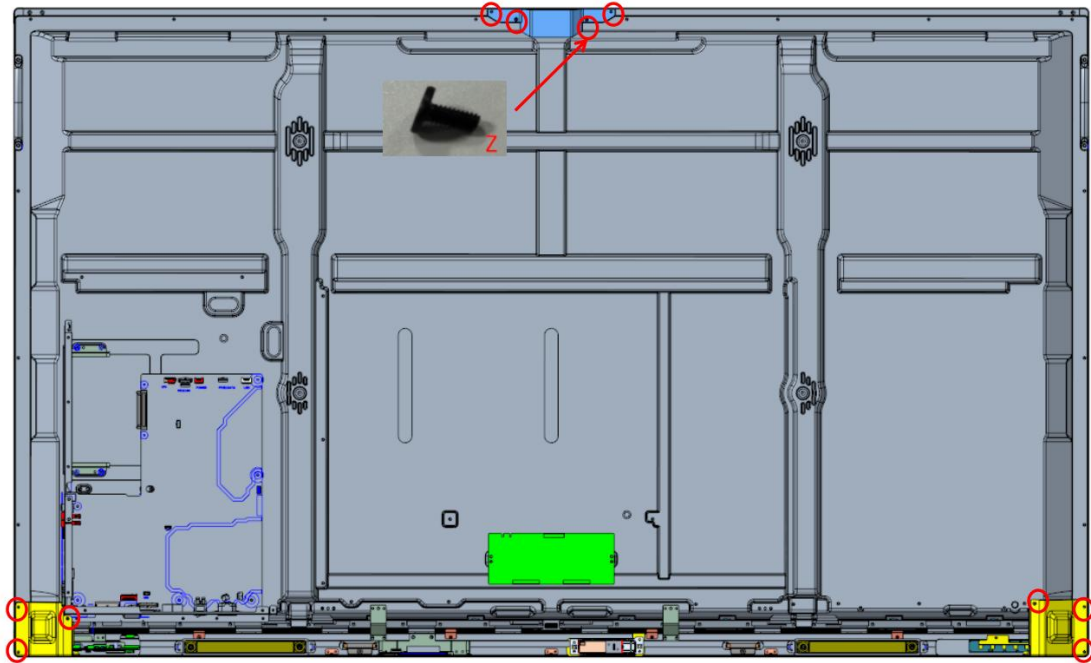


Figure 5

STEP 4: Disassemble the Left rear shell and Right small rear shell by hand. As shown in Figure 6.

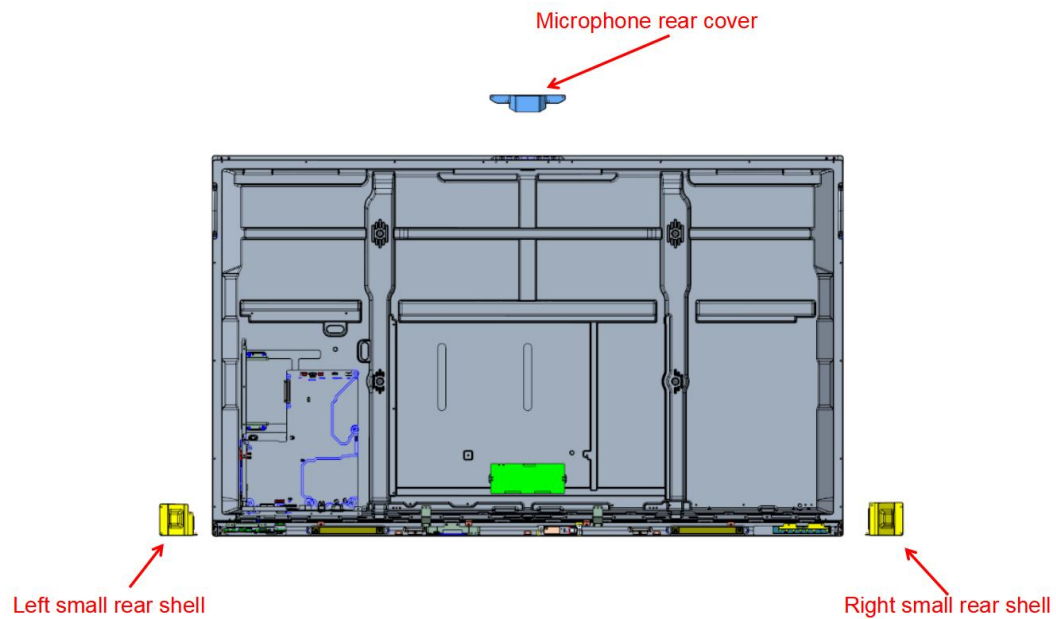


Figure 6

After dismantling, as shown in Figure 7.

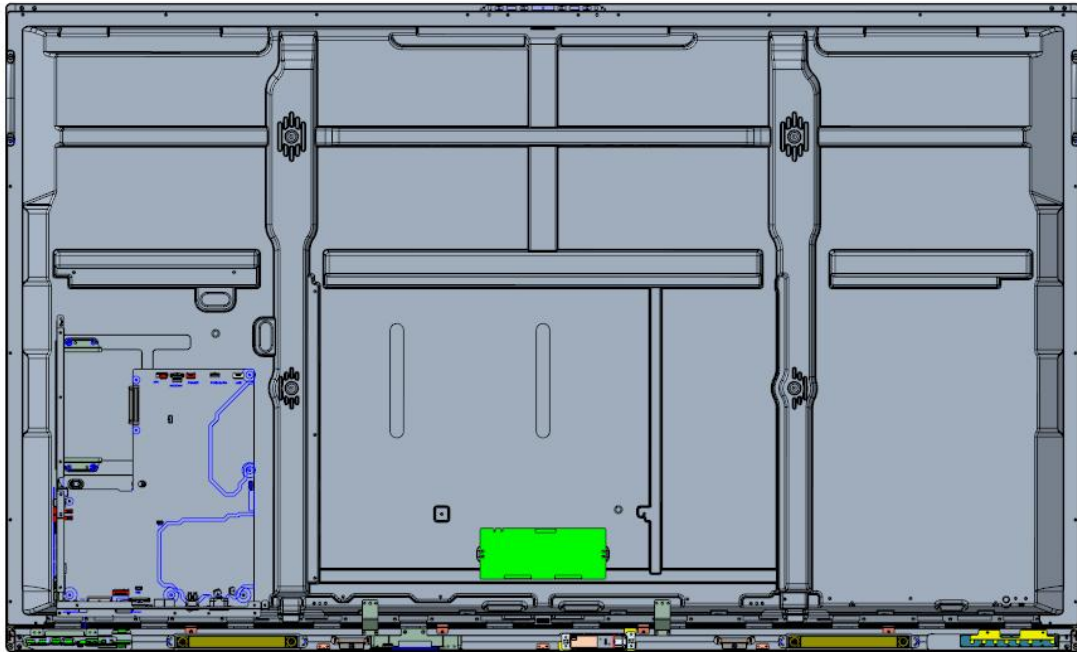


Figure 7

STEP 5: Continue to use an electric screwdriver and M4 adapter to remove all screws corresponding to the red circles in the Figure 8.

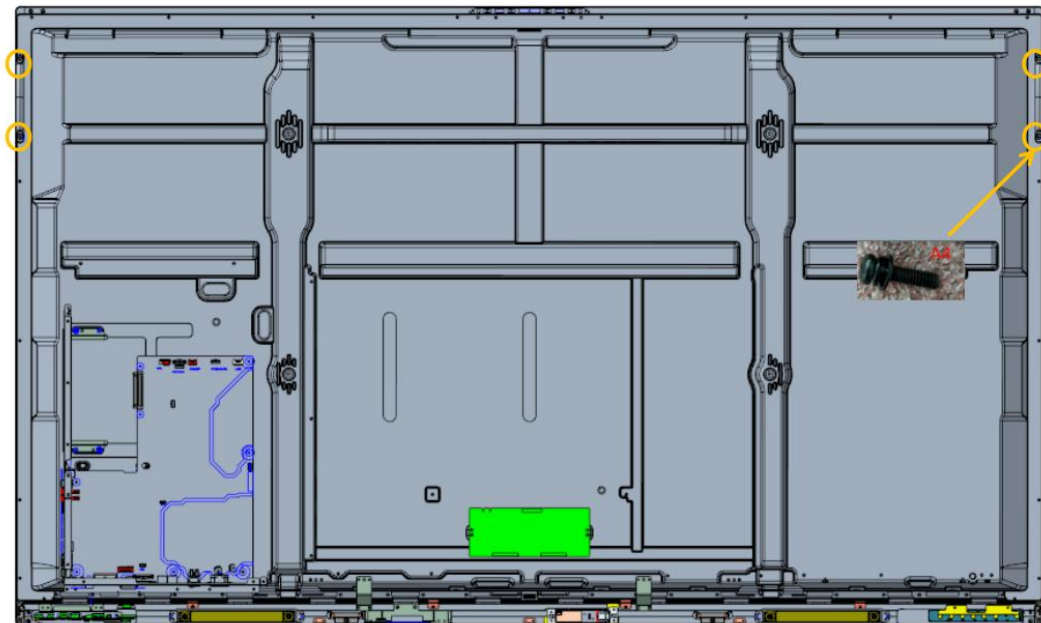


Figure 8

STEP 6: Disassemble the Plastic handles by hand.
As shown in Figure 9.

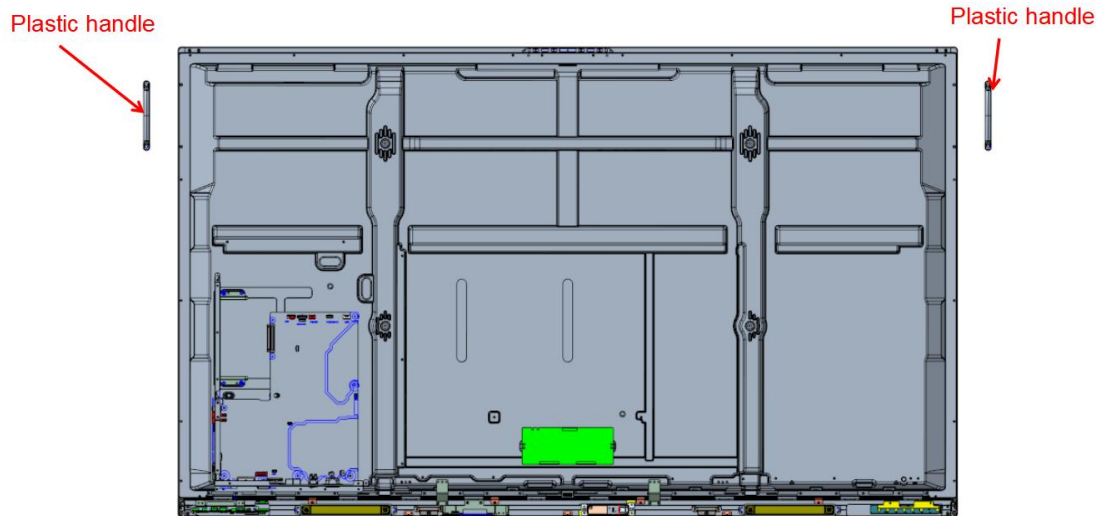


Figure 9

After dismantling, as shown in Figure 10.

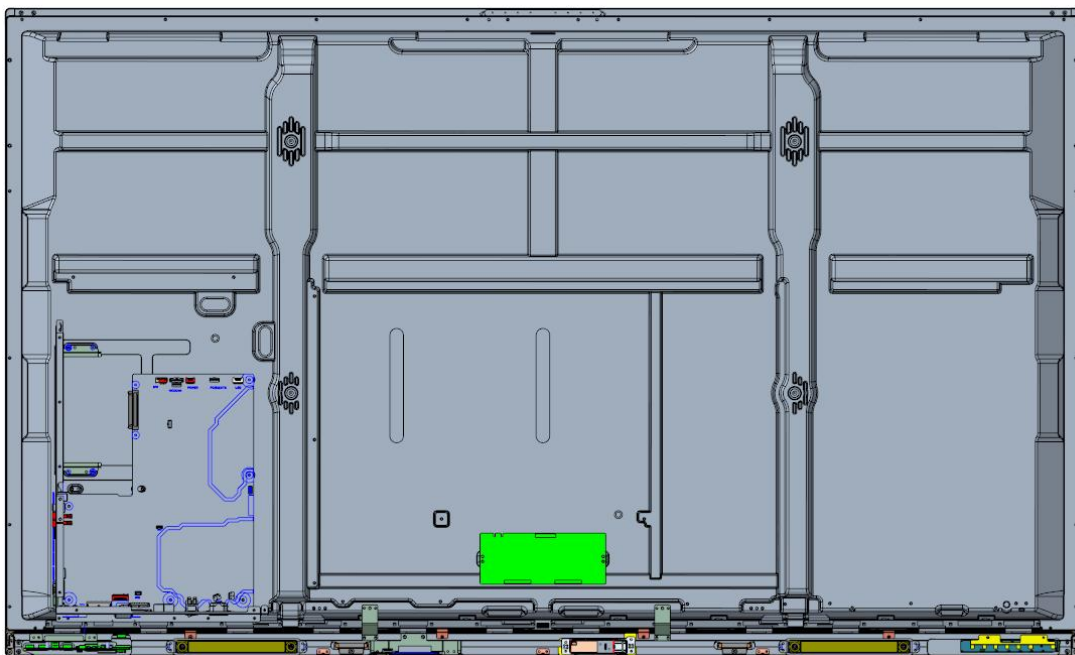


Figure 10

STEP 7: Completed.

Tips: Please refer to "IV. Circuit Boards Disassembly" for the disassembly and repair of the board.

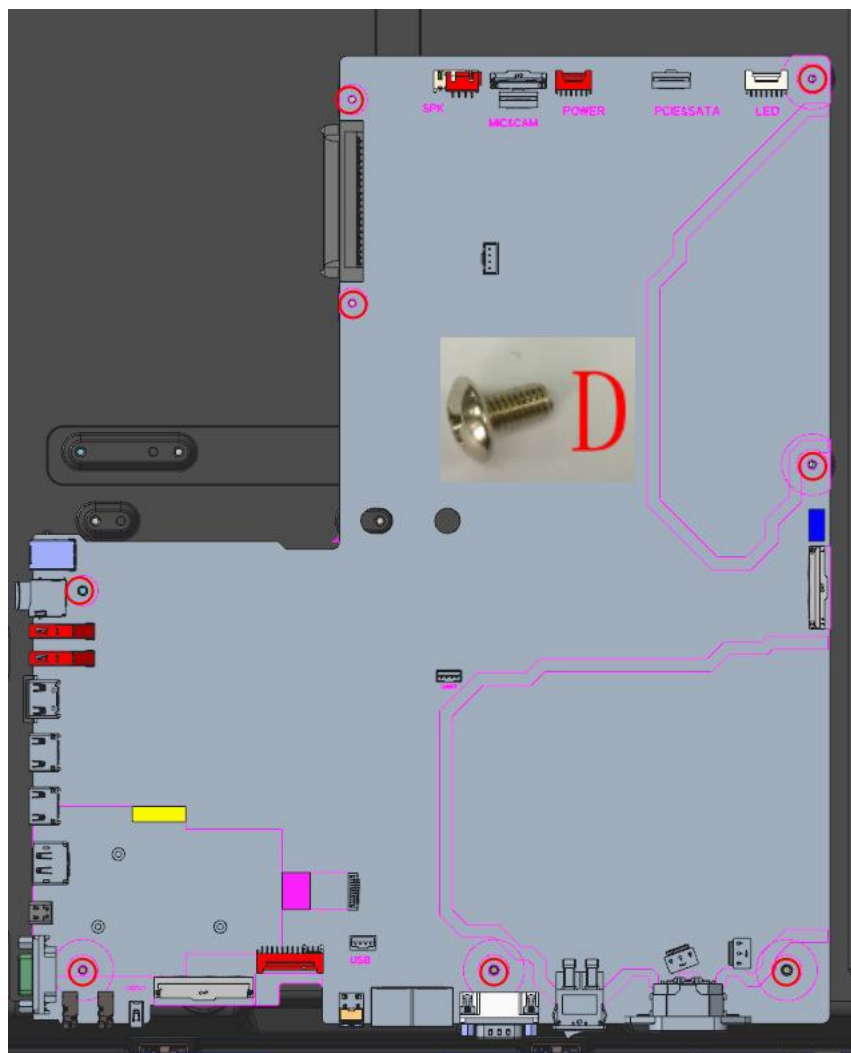
IV. Circuit Boards Disassemble

⚠ Before removing the entire rear case, it is recommended that the machine screen face down flat on the platform, and then unscrew the wall-mounted bar with a screwdriver. The above diagram shows the location of the screws of the entire rear case, different colors represent different types of screws, after unscrewing these screws, you can remove the entire rear case.

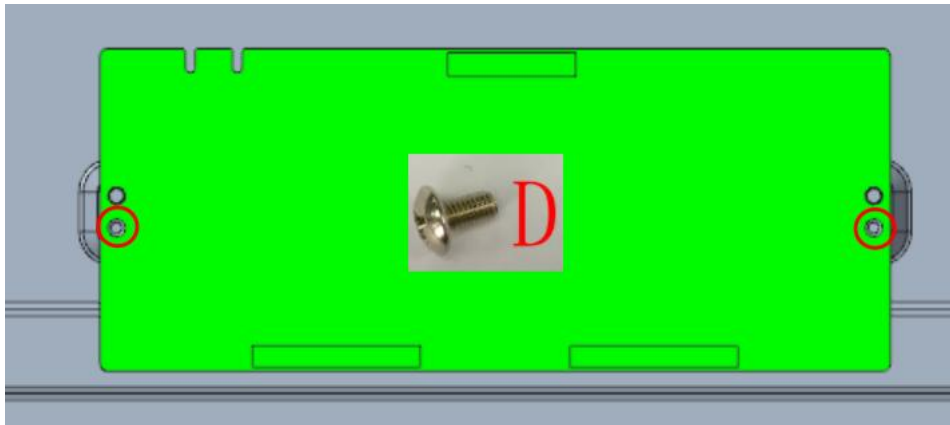
⚠ Please note that the tightening torque used must be in accordance with the reference values for the particular type of screw. otherwise the screws may be permanently damaged.

1. Screw Location

◆ Main Board

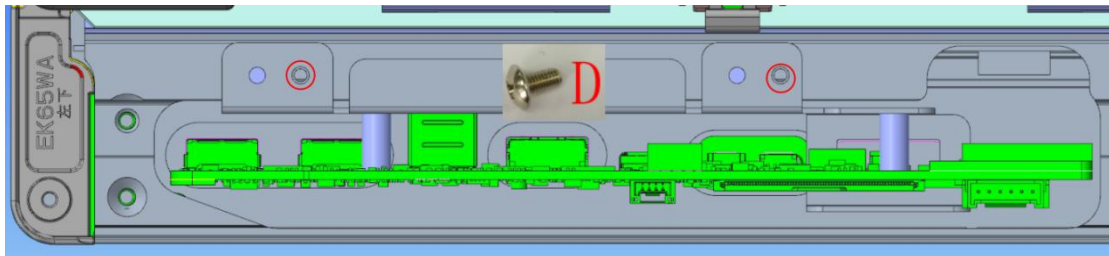


◆ TCON

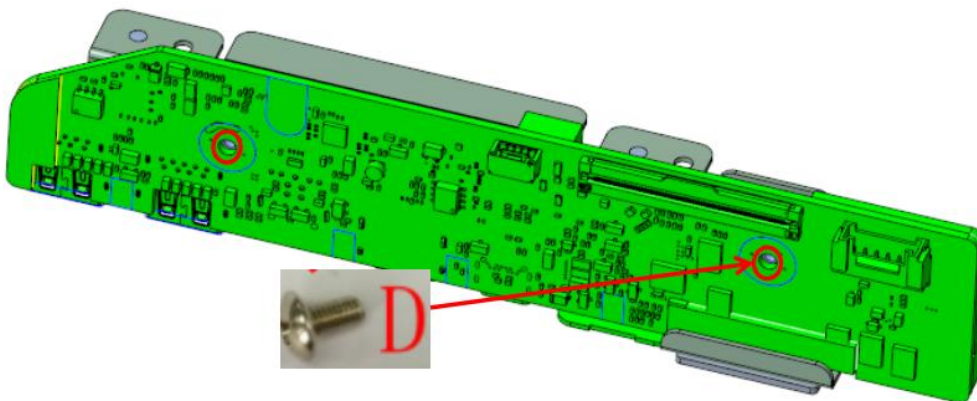


◆ USB Board

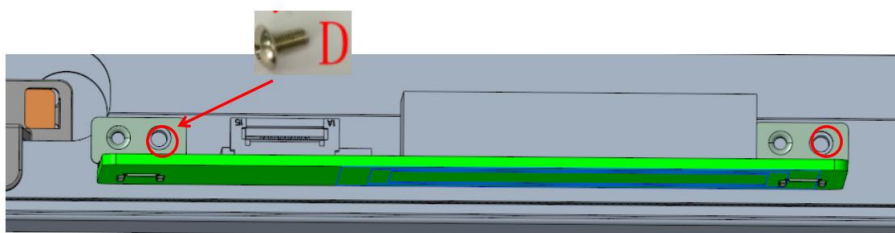
(1) Take off the screws of USB board bracket



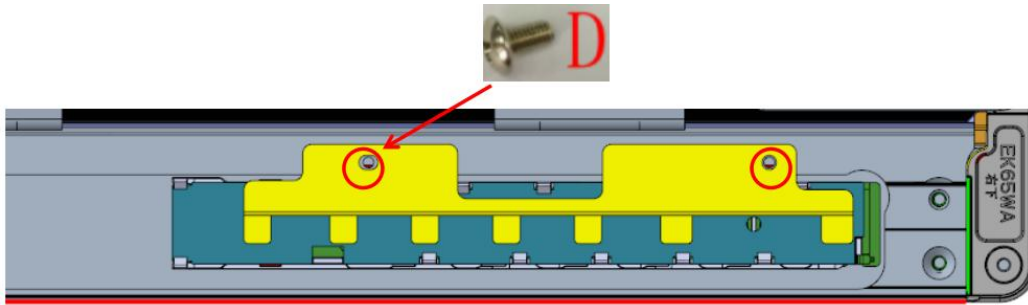
(2) Remove the screws and take USB board



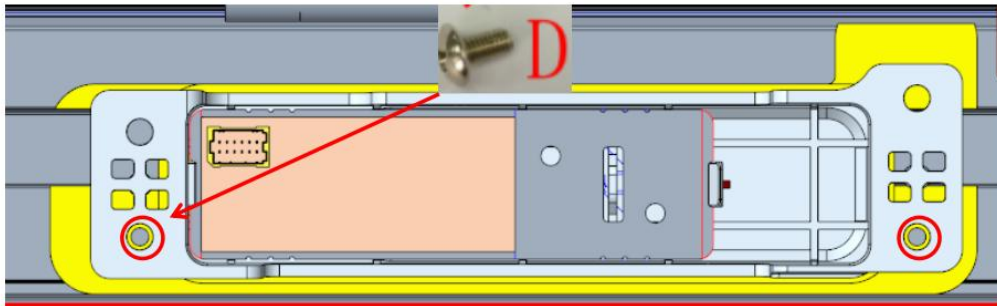
◆ WiFi board



◆ KEY board



◆ NFC module



2. Maintenance Description

■ To replace the circuit boards you need to remove first the rear covers and wires.

■ To replace the main board, you need to remove the lower terminal block, the side terminal block.

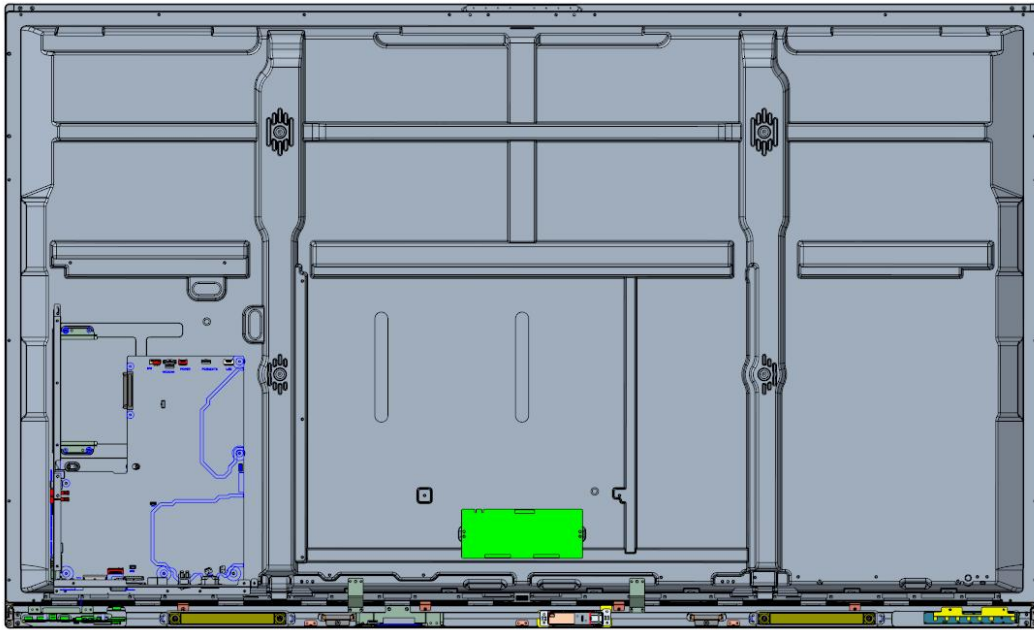
■ Cut off the power before performing replacement, so as to prevent any short circuit resulting from contact of wires.

⚠ Please note whether the ports of the cables are properly connected in order to prevent the component from being burnt due to inserting in the wrong ports.

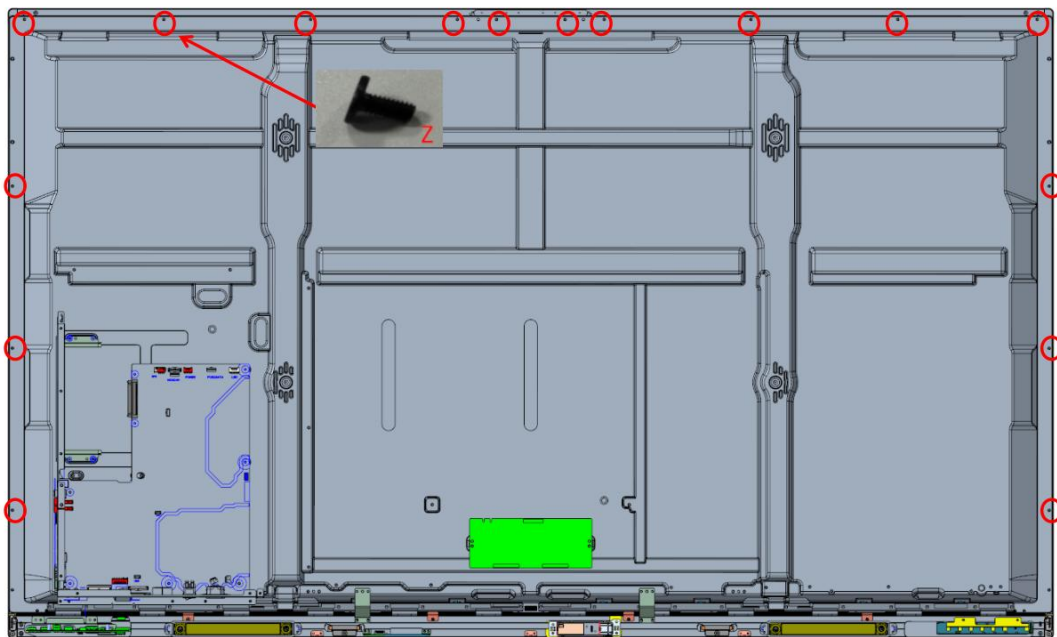
V. Touch Frame Disassembly

STEP 0: Get machine from the movable bracket and lie it down on the table(Be careful on protection)

STEP 1: Use the method of “III.Shell Disassemble” is to remove the corresponding rear shells and handles.



STEP 2: And continue to remove the screws corresponding to the red circle in the following figure.



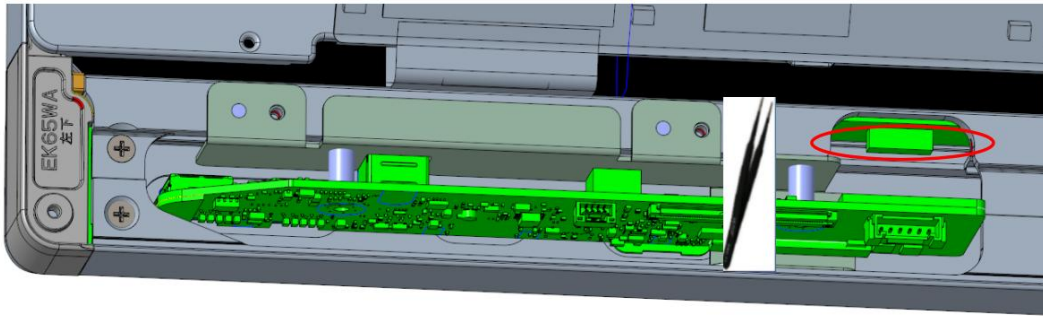
⚠ Recommend you keep some screws on corner to prevent the OC dropping during panel flipping process.

STEP 3: Use an electric screwdriver and M3 adapter to remove all screws corresponding to the yellow circles in the following figure. Remove the screen pressing block that fixes the OC and the bezel, the bottom terminal bracket, the WIFI bracket and remove the wire between the bezel and the OC, the tape and source mylar, etc by hand.



Caution: Please pay attention to the FFC cables that connect to OC panel, Those cables are non-removable and cannot be repaired.

STEP 4: Disconnect the touch frame from the motherboard connection cable: use tweezers to press the snap of the touch cable connection block, while pulling out the cable by hand.



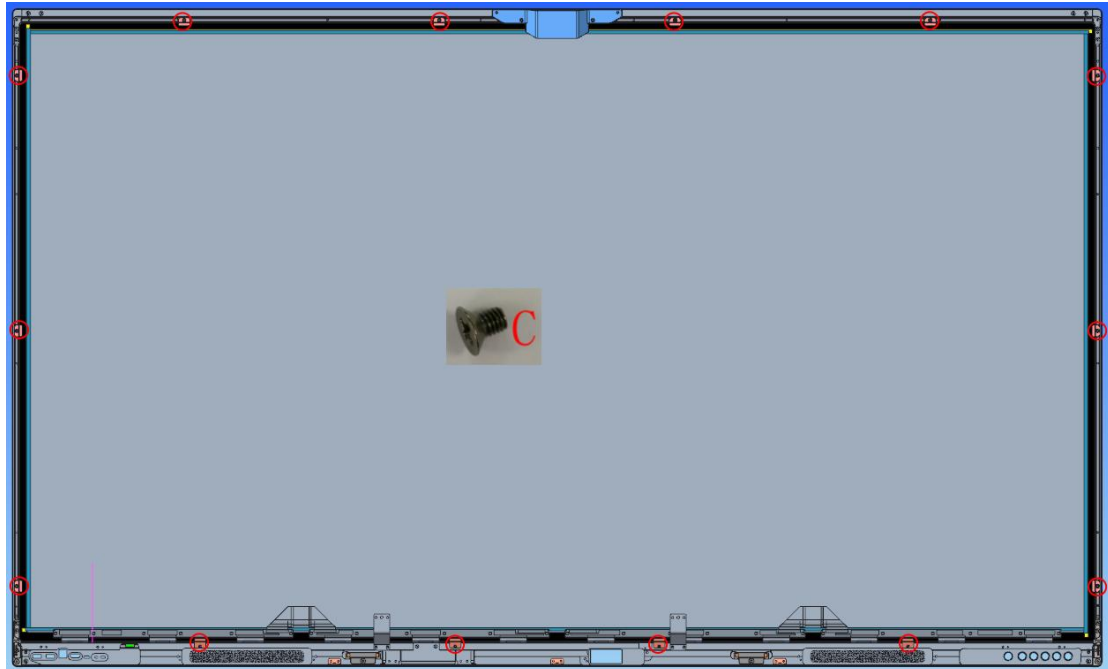
Caution: This series of IFP without iron front frame, the flipping process should be careful to prevent the OC from falling!

STEP 5: Turn over the machine 180 ° and put it on table, make sure the OC side face up.

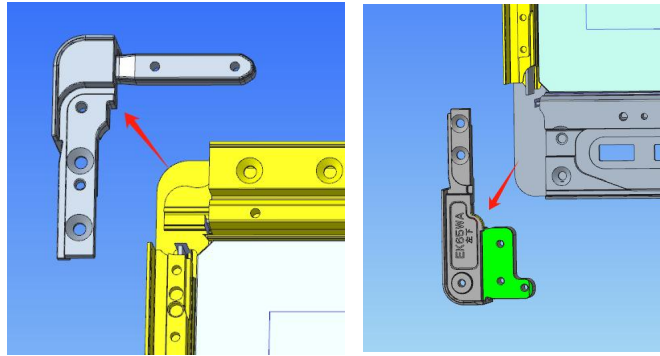
STEP 6: Remove rest screws from back frame to bezel.

STEP 7: Lift up the front frame, then put it flat on table.

STEP 8: Remove glass pressing block, then separate bezel and toughened glass.

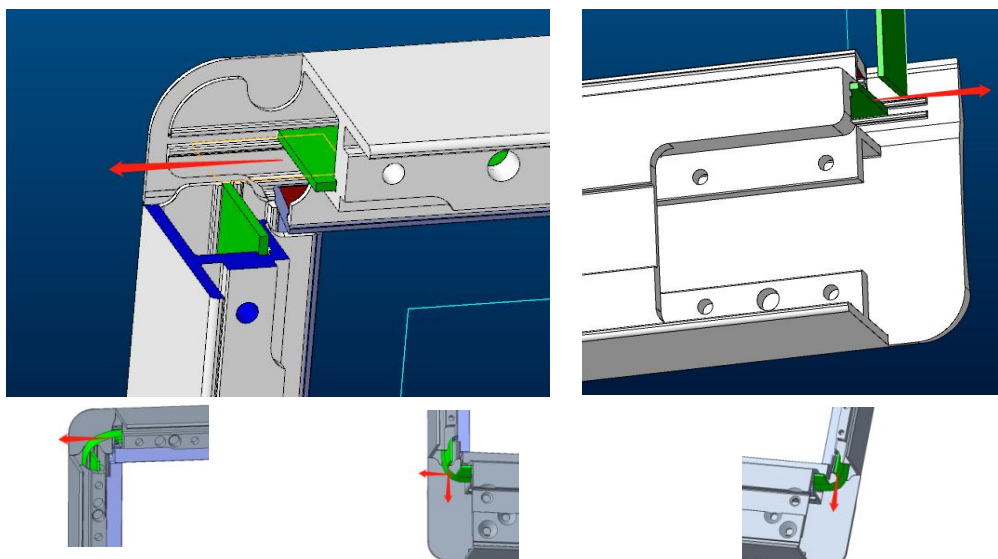
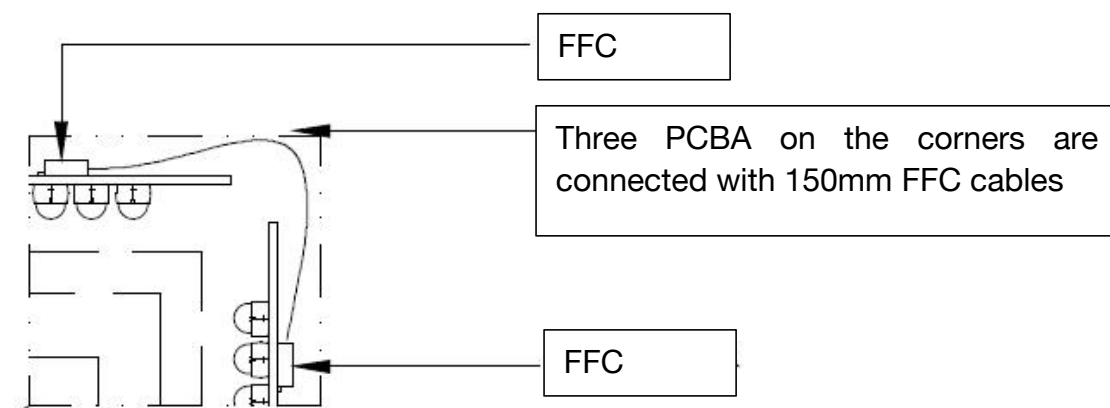


STEP 8: Remove corners



STEP 10: Disconnect the FFC connection line at the upper left, lower left and lower right splices of the touch frame: first disconnect the upper left FFC connection cable and pull out the upper touch frame; then disconnect the lower left FFC connection cable and pull out the left touch frame; then disconnect the lower right FFC connection cable and pull out the right touch frame; finally pull out the lower touch frame.

(Note: Use tweezers to push out the touch frame from one side of the bezel to the other side, and pull out the touch frame by hand on the other side. Disassembly order: top - left (right) - bottom)



STEP 13: Completed.

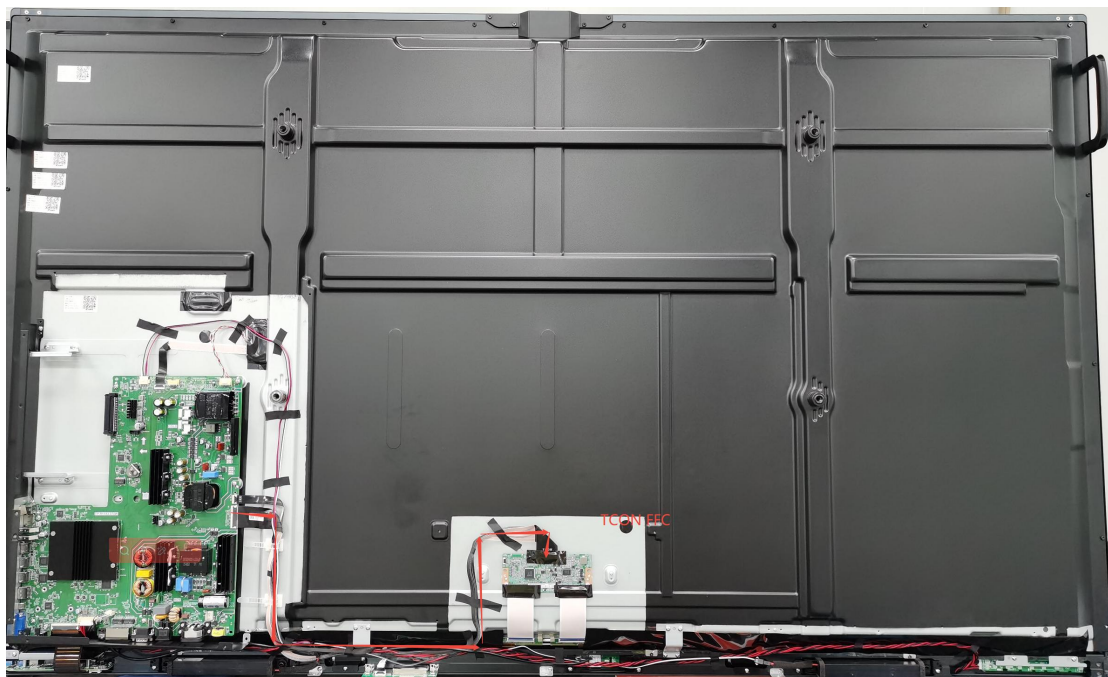
Internal Cables

I. Cable Connection Guide

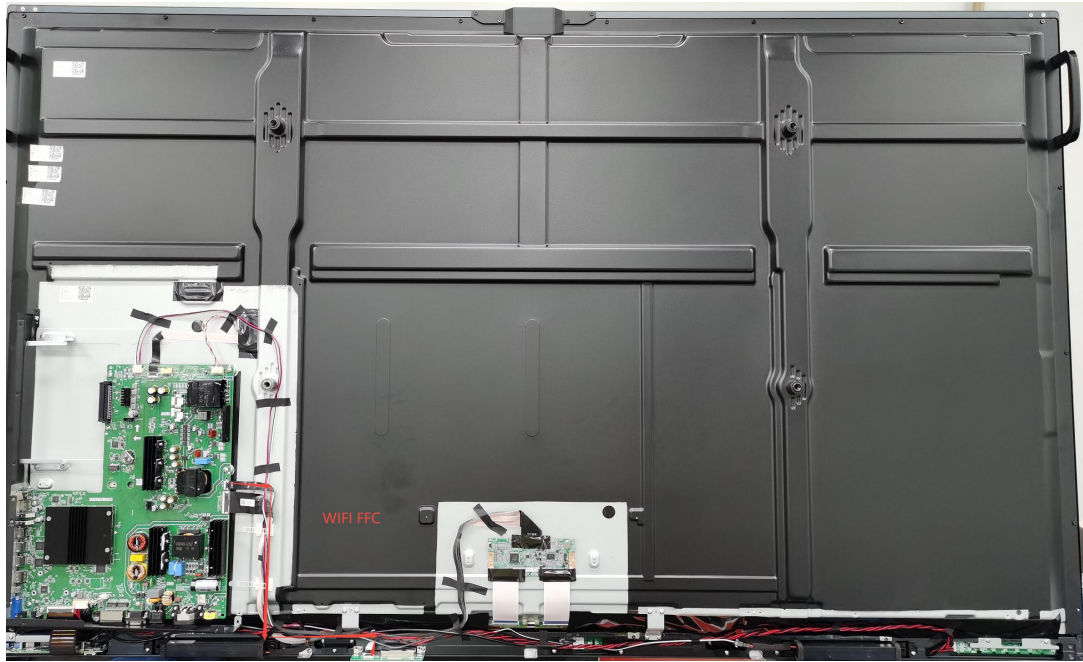
Part Name	Part No	Cable Connection Guide
1.TCON FFC	004.034.0053615	Main board CNW1 to TCON board CN1
2.WiFi FFC	004.050.0064499	WIFI connector board CN2 to main board CN5
3.COF FFC	004.050.0063458	TCON board to panel
4.Touch and Key cable	004.050.0064204	Main board CN18 to touch frame CN1 and Main board CN18 to touch frame CN1
5.Speaker cable	004.050.0055848	Main board CN22 to speakers
6.NFC cable	004.050.0064704	Main board CN13 to NFC frame CN1
7.MIC cable	004.050.0062155	Main board CN14 to MIC frame CN1

II. Cable Connection Diagram

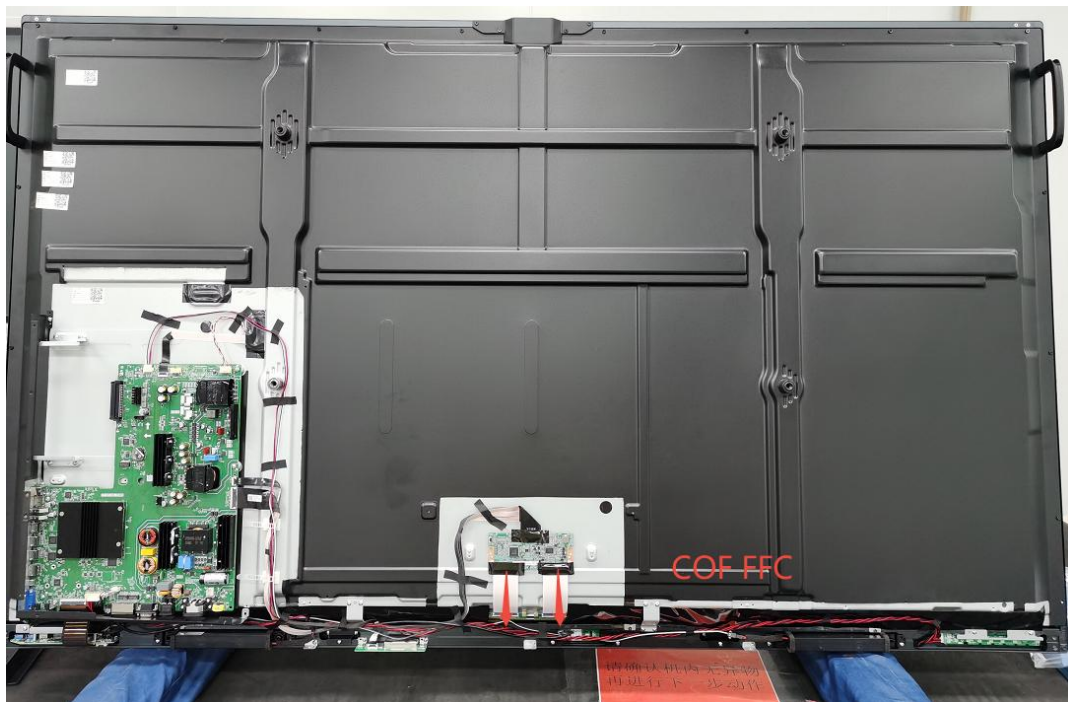
1. TCON FFC



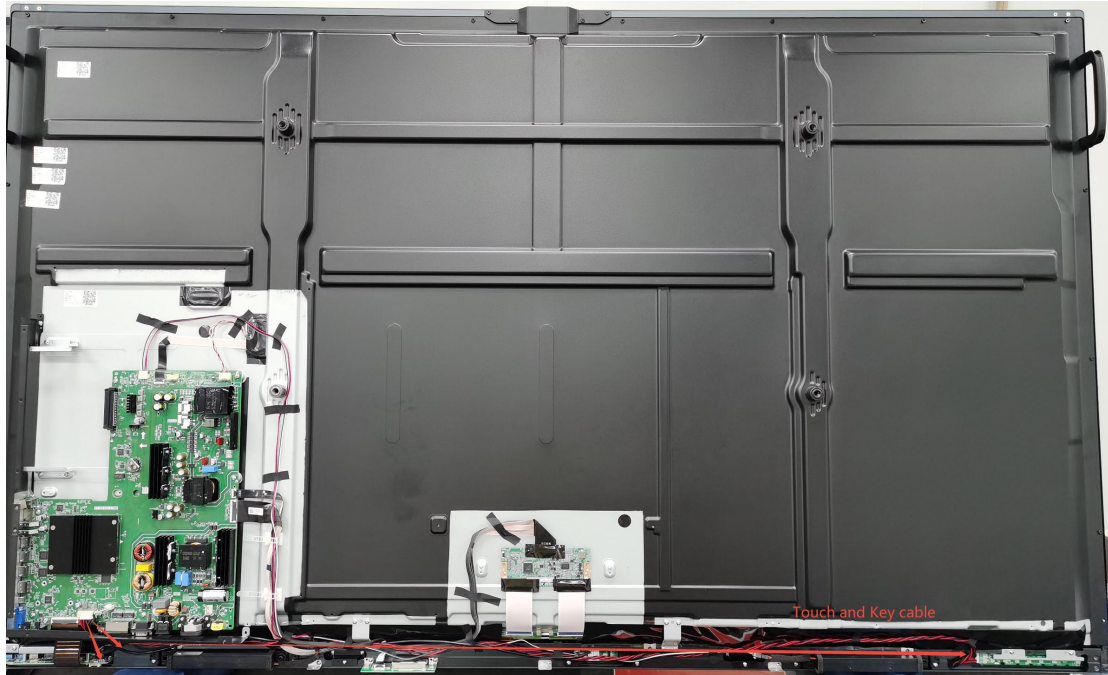
2. WiFi FFC



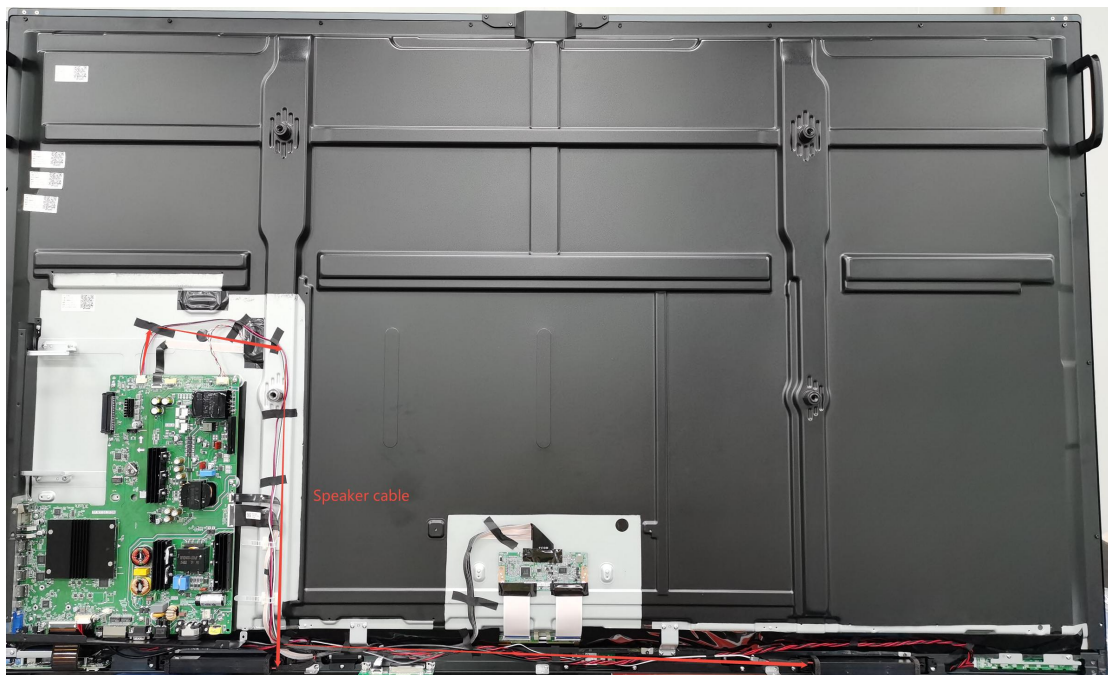
3.COF FFC



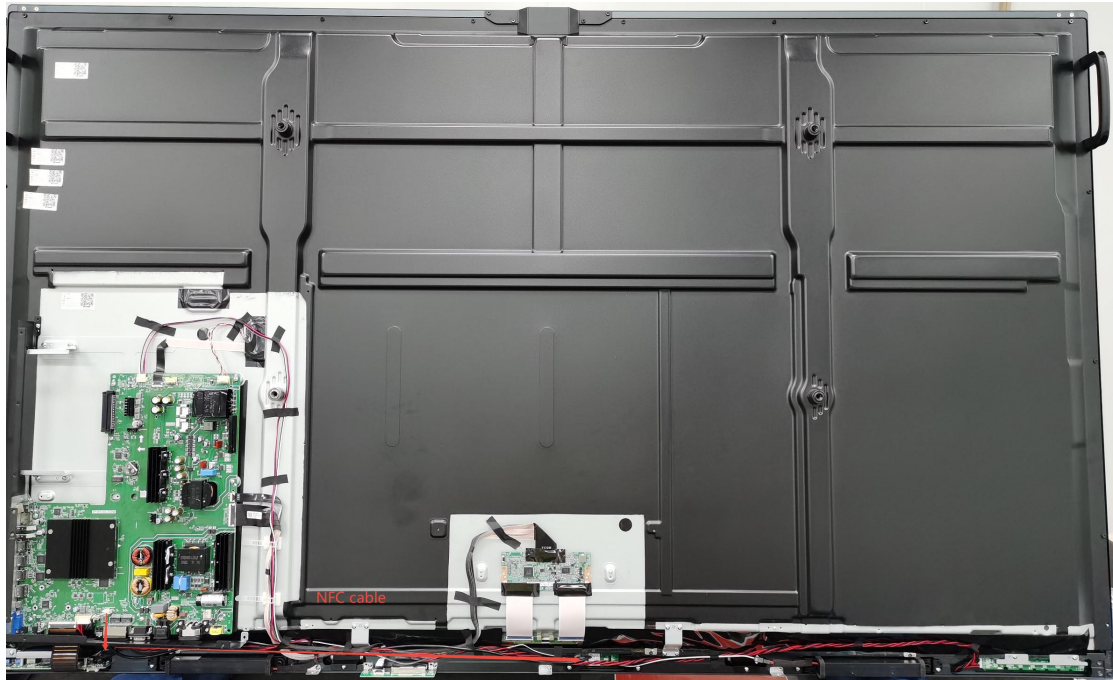
4.Touch and Key cable



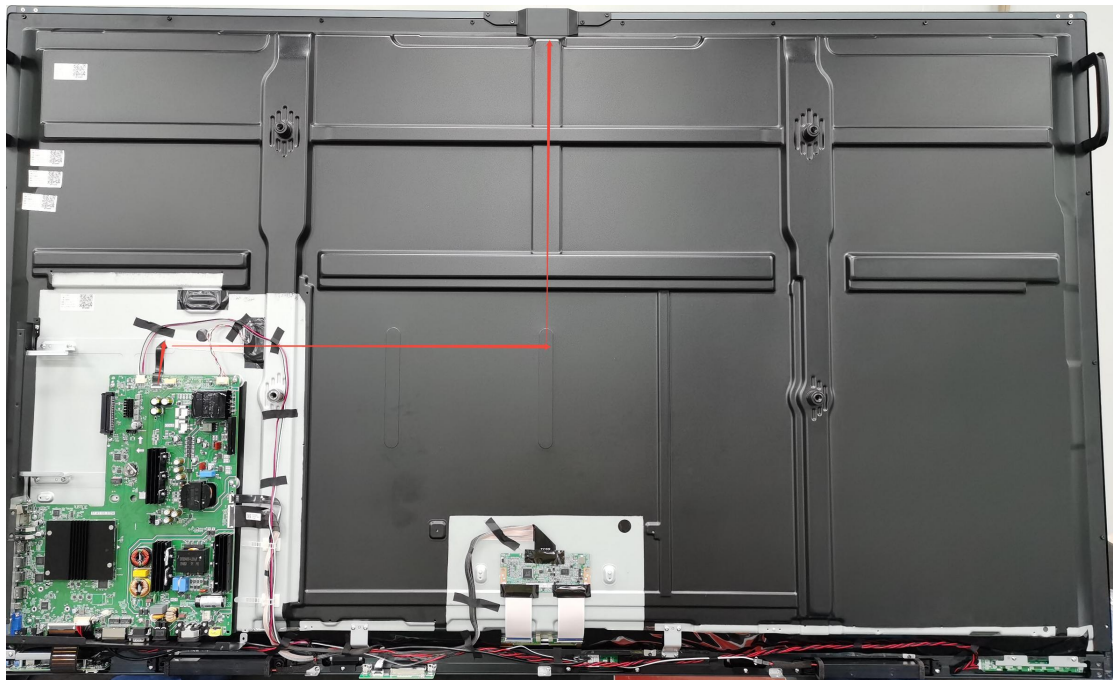
5. Speaker cable



6. NFC cable



7. MIC cable

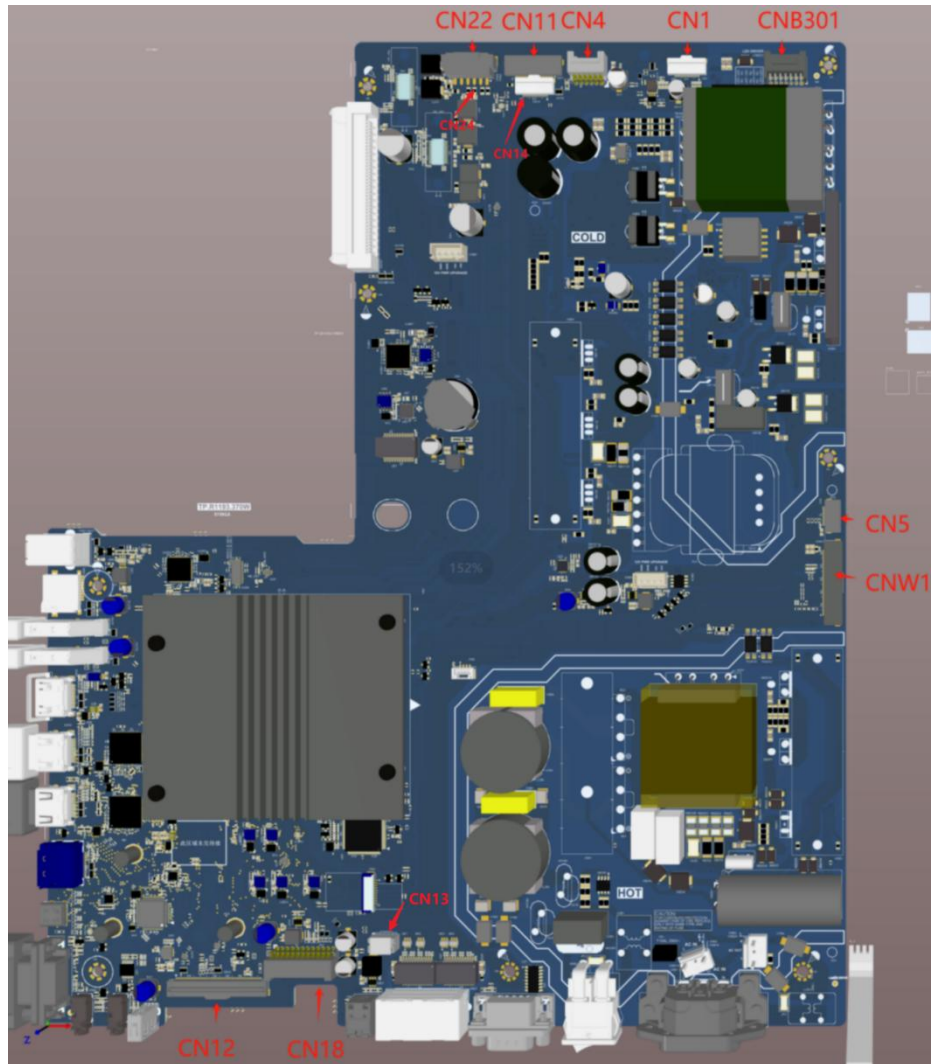


Key Parts List (For reference only)

Part No	Component Name	Description	Quantity
004.034.0053615	75" TCON	TCON-SG746AD06-1	1
004.064.0052926	Touch Frame	W10T50,R30G75N-C-A1	1
004.057.0056700	Main Board	TP.R1193.370WC,8GB RAM,128GB ROM	1
004.057.0056888	USB board	SRGM.HDMI_USBC.01B	1
004.057.0057572	WIFI connector board	SRC.WIFI_BT.01B	1
004.028.0052956	Speaker	190 × 20.6 × 39mm,180 ~ 20000Hz,6ohm,20W,78dB	2
004.057.0056696	MIC board	SRG.ARRAY_8MIC.01B	1
004.057.0053843	KEY board	SRF.KEY.01E	1
004.057.0057506	NFC board	SRT.NFC.03B	1

Principle of Key Components

I. Main board



CN12 front 68PIN FPC socket

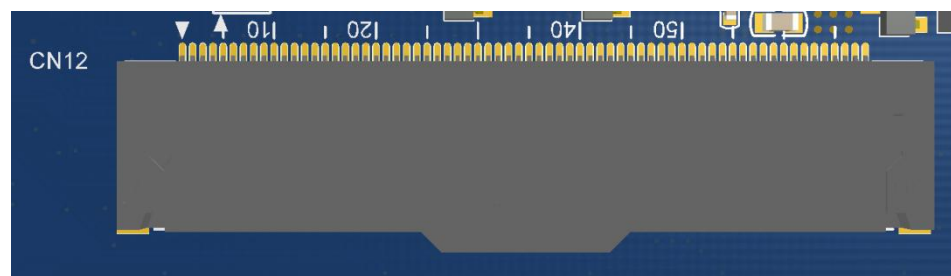
Pin	Signal	Notes
68	18V T	
67	18V T	
66	18V T	
65	18V T	
64	18V T	
63	18V T	
62	18V T	
61	18V T	
60	GND	
59	GND	
58	GND	
57	GND	
56	GND	
55	GND	
54	GND	
53	GND	
52	GND	
51	5V INFUSB	
50	5V INFUSB	
49	5V INFUSB	
48	5V INFUSB	
47	5V INFUSB	
46	5V STB	
45	IR IN	
44	KEYIN	
43	LED G-B	
42	LED R	
41	CTL_GPIO1	
40	CTL_GPIO2	
39	Light SDA	
38	Light_SCL	
37	GND	
36	INF_USB3.0_TXN	
35	INF_USB3.0_TXP	
34	GND	
33	INF_USB3.0_RXN	
32	INF_USB3.0_RXP	
31	GND	
30	INF_USB3.0_DM	
29	INF_USB3.0_DP	
28	GND	
27	CRC_IO	
26	HDMI_INF_HPD	
25	HDMI_INF_5V	
24	HDMI_INF_SDA	
23	HDMI_INF_SCL	
22	GND	
21	HDMI_INF_RX1P	
20	HDMI_INF_RX2N	
19	GND	
18	HDMI_INF_RX1P	
17	HDMI_INF_RX1N	
16	GND	
15	HDMI_INF_RX0P	
14	HDMI_INF_RX0N	
13	GND	
12	HDMI_INF_RXCKP	
11	HDMI_INF_RXCKN	
10	GND	
9	CHL_INF_RXN	
8	CHL_INF_RXP	
7	GND	
6	CHL_INF_TXN	
5	CHL_INF_TXP	
4	GND	
3	EXTOUT_DM	
2	EXTOUT_DP	
1	GND	

I_{max}=4A

I_{max}=2.5A

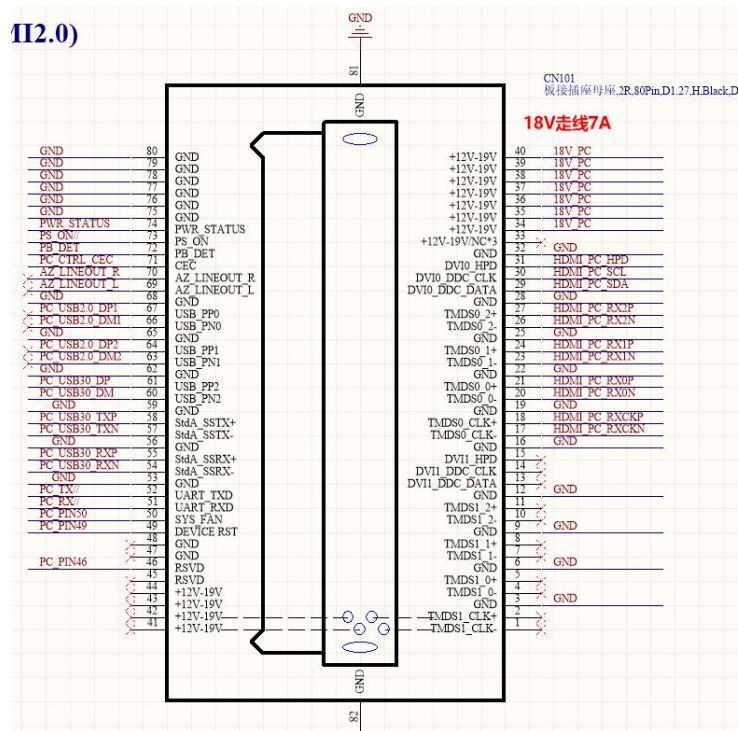
200mA

根据走线决定是否端

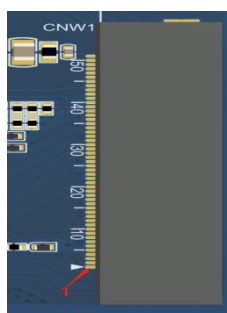
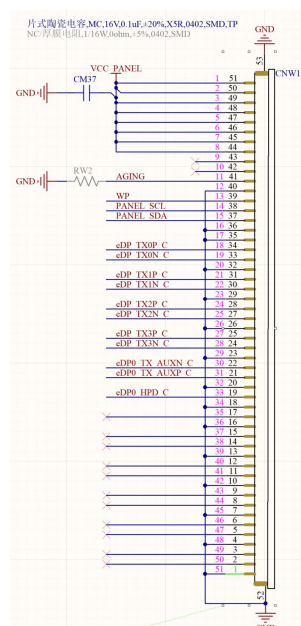


CN101 OPS Connector

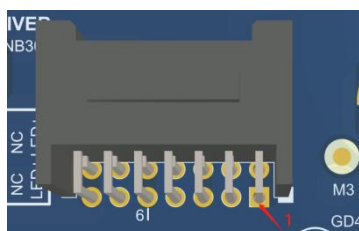
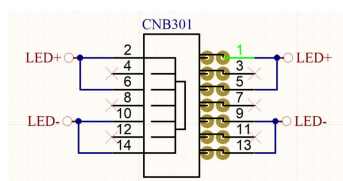
II2.0)



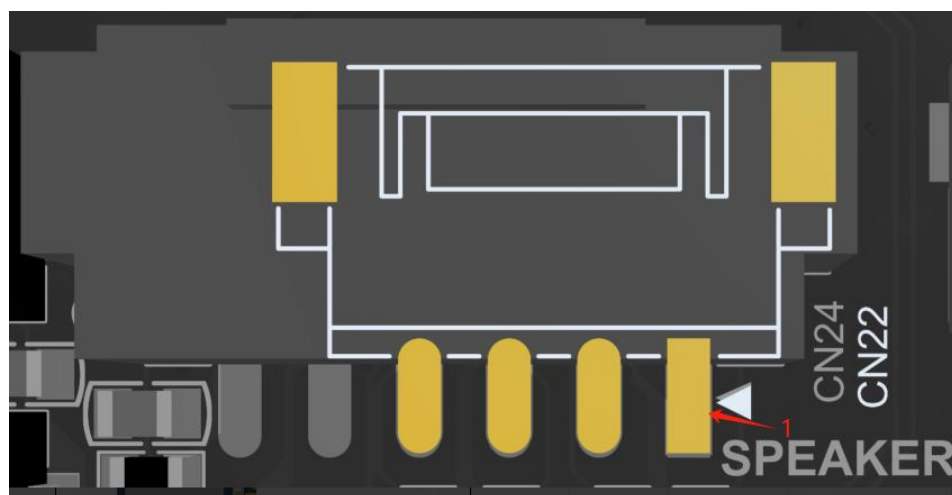
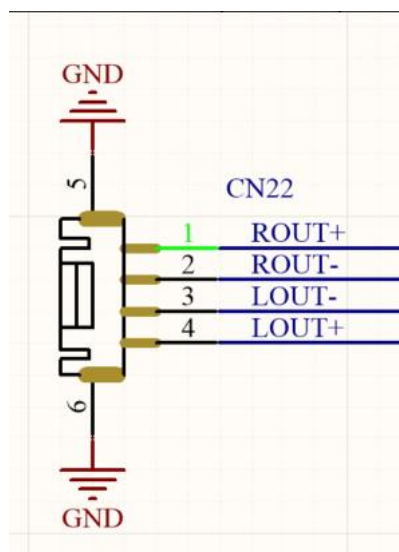
CNW1 VBO Connector



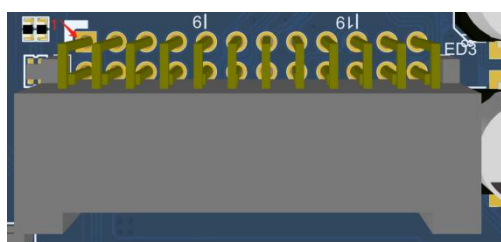
CNB301 Backlight



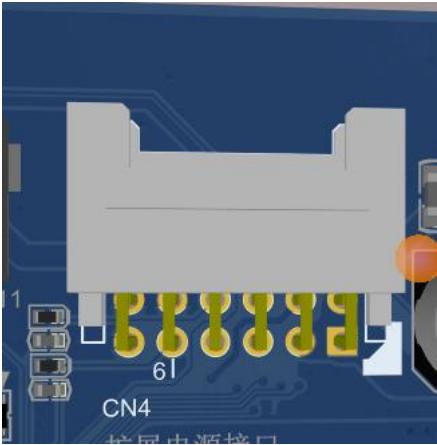
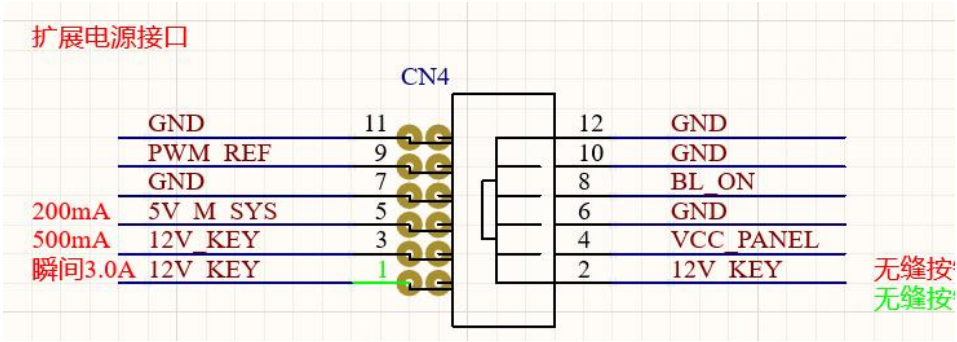
CNA22 Speaker Connector



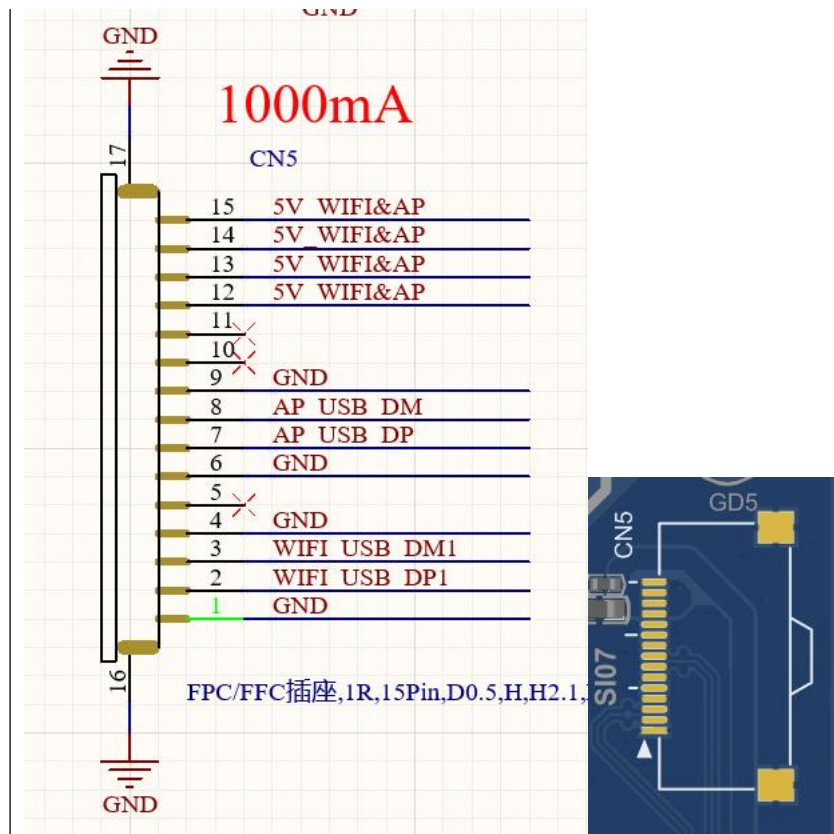
CN18 Main board multiple function connector



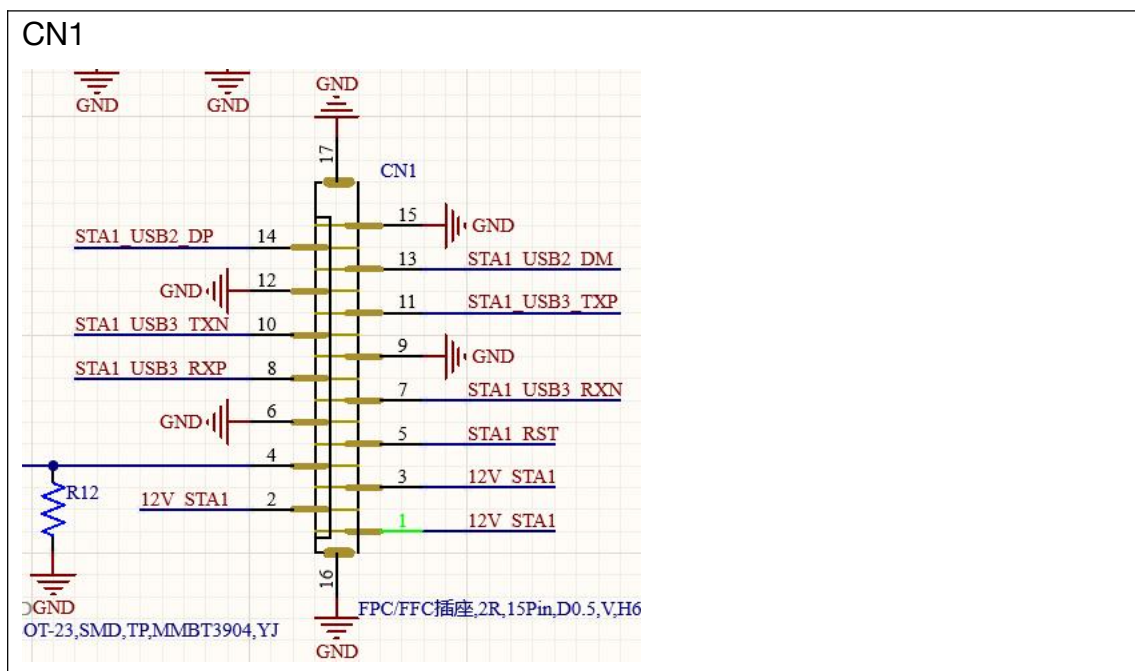
CN4 Connector

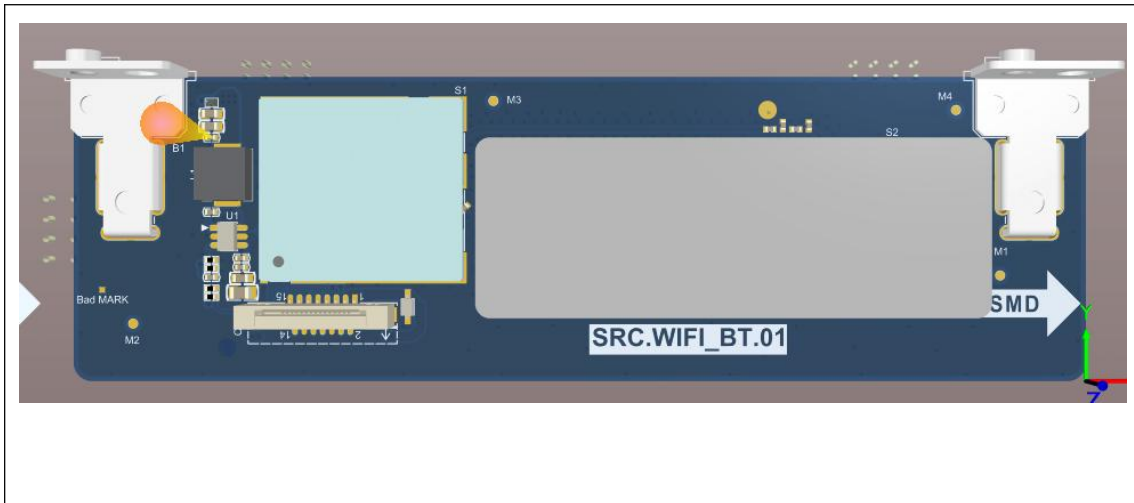


CN5 WIFI Connector

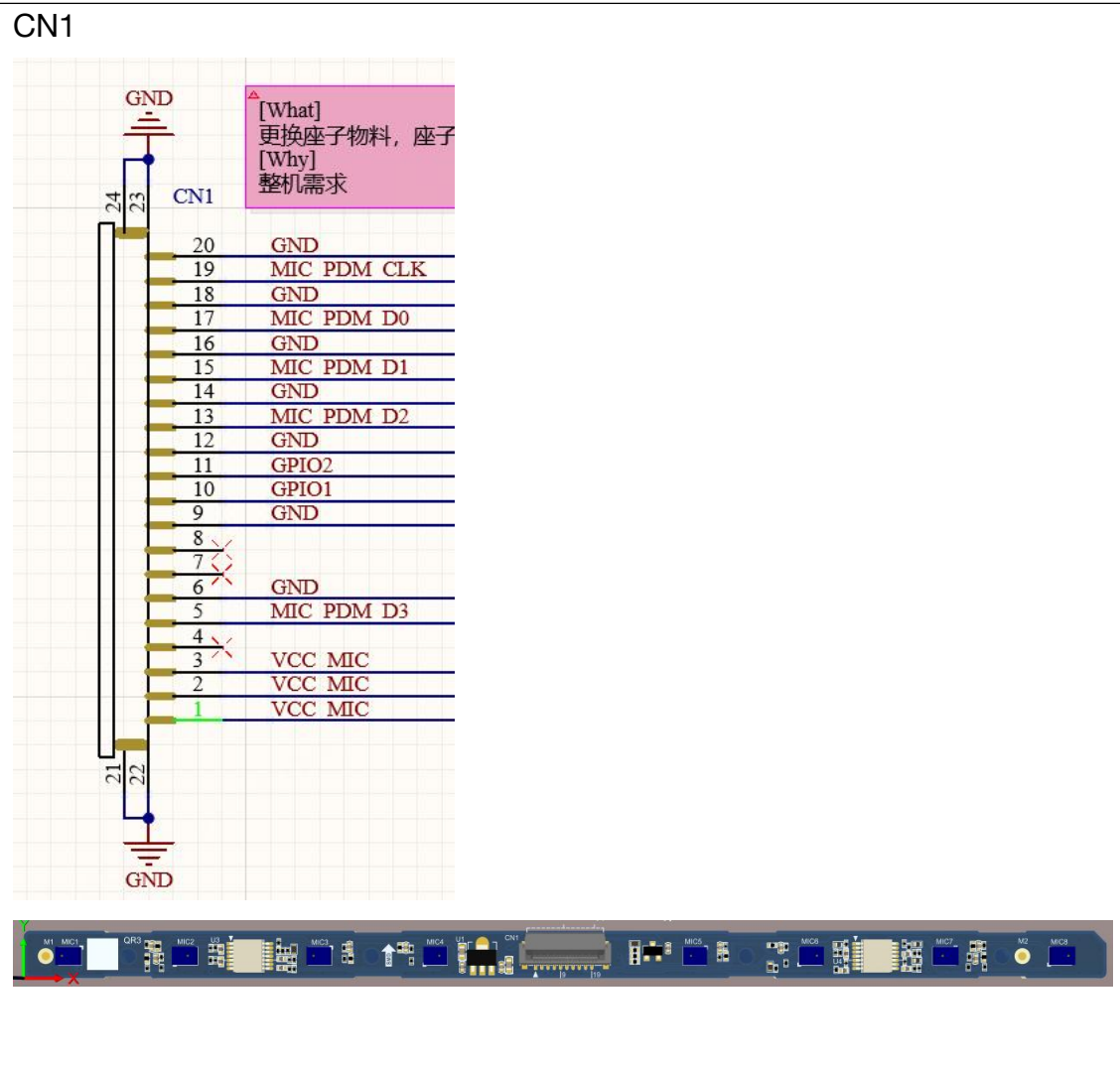


II. WiFi Connector board



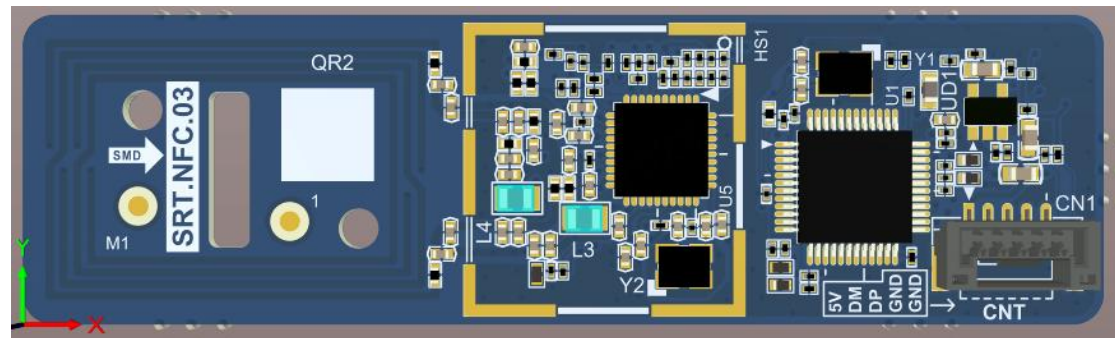
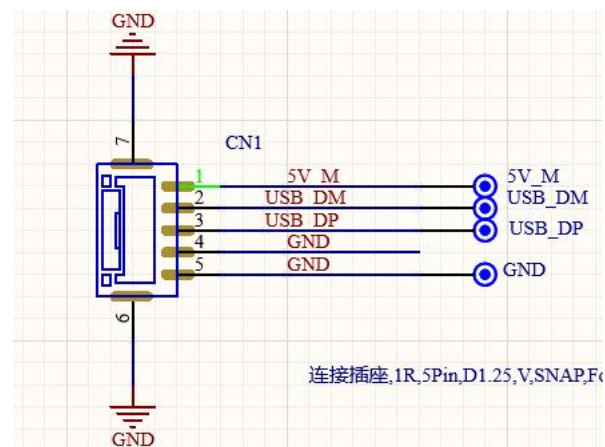


III. MIC Connector board



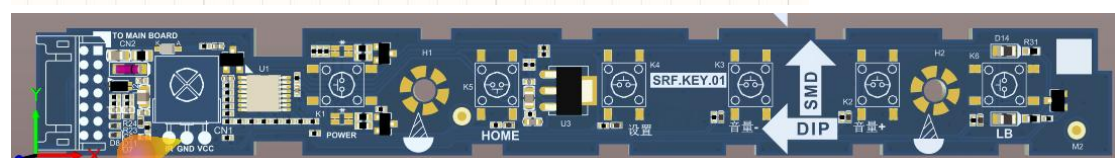
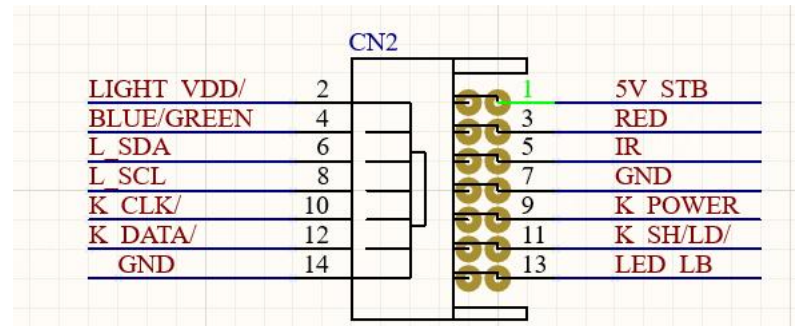
IV. NFC Connector board

CN1



V. KEY Connector board

CN2





VI. Touch Frame

1. Top view of touch frame main board



2. Back view of touch frame main board



3. Touch Cable Connector of Touch frame main board

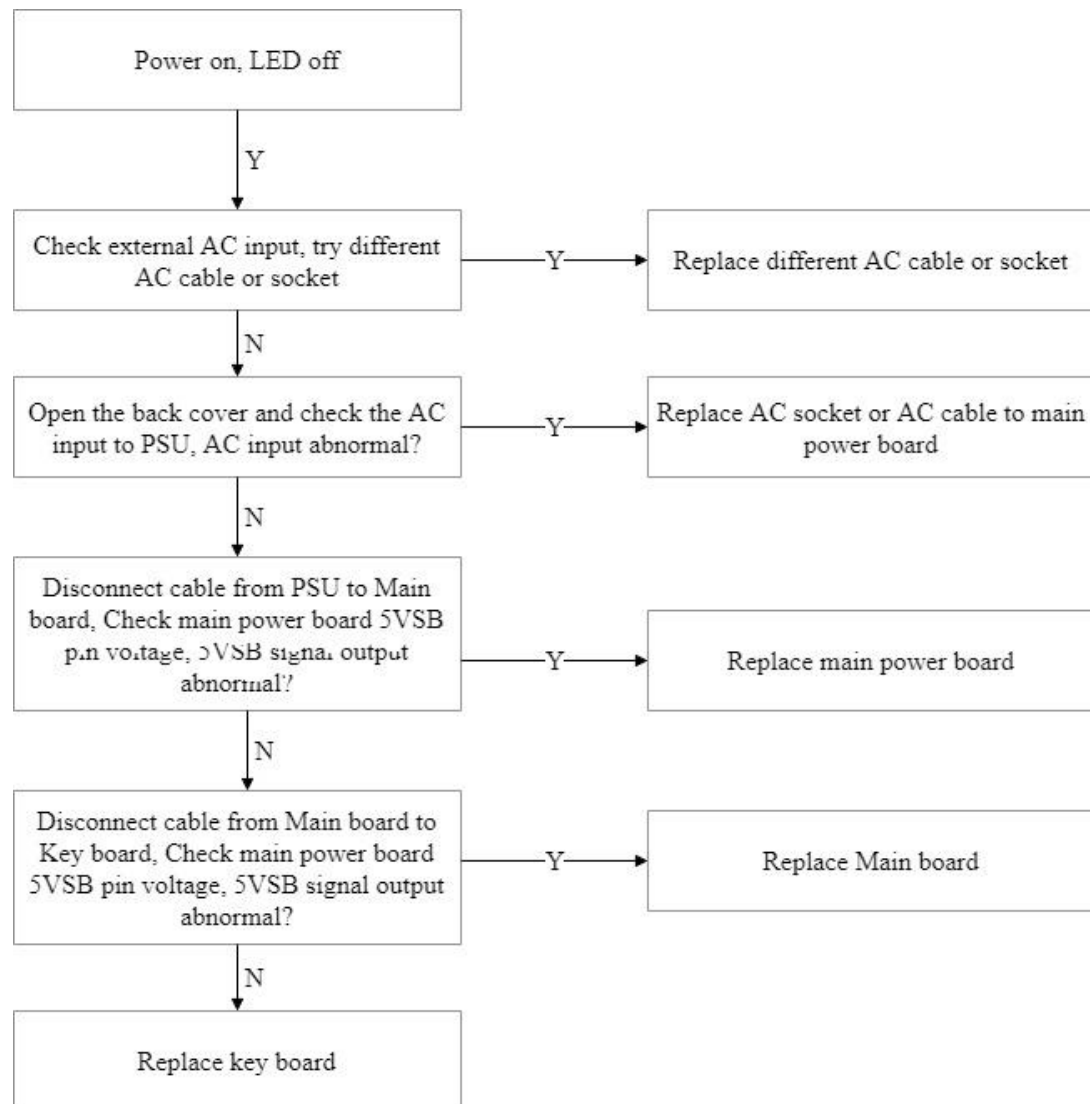


4. Touch Frame Connector Pin Definition

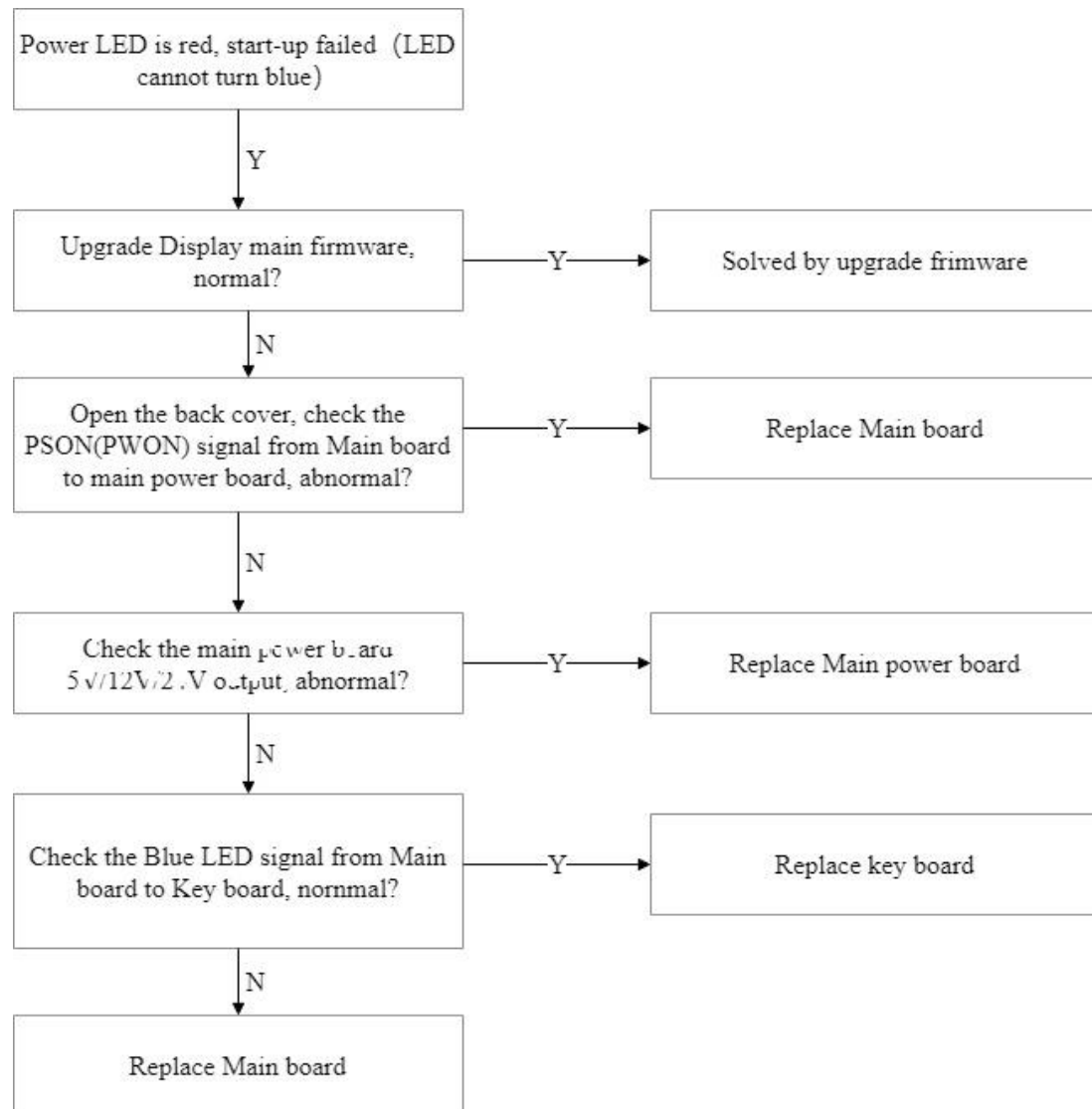
Pin	Define	Description	
1	PGND	Ground connect to board	
2	GND	Ground	
3	USB DP	USB FS data cable D+	
4	USB DM	USB FS data cable D -	
5	VCC	+5V	
6	RXD	Serial port data receiving	
7	TXD	Serial port data transmission	
8	GND	Ground	

Troubleshoot steps

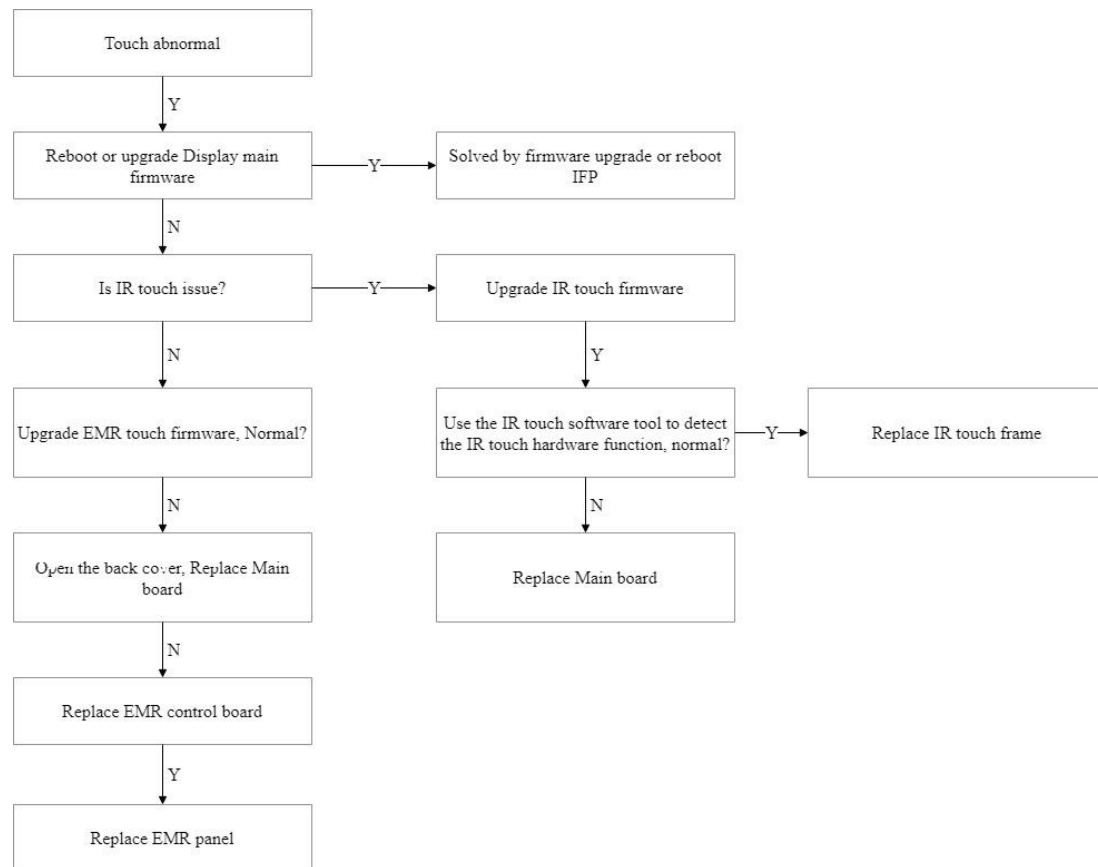
I. LED does not turn red.



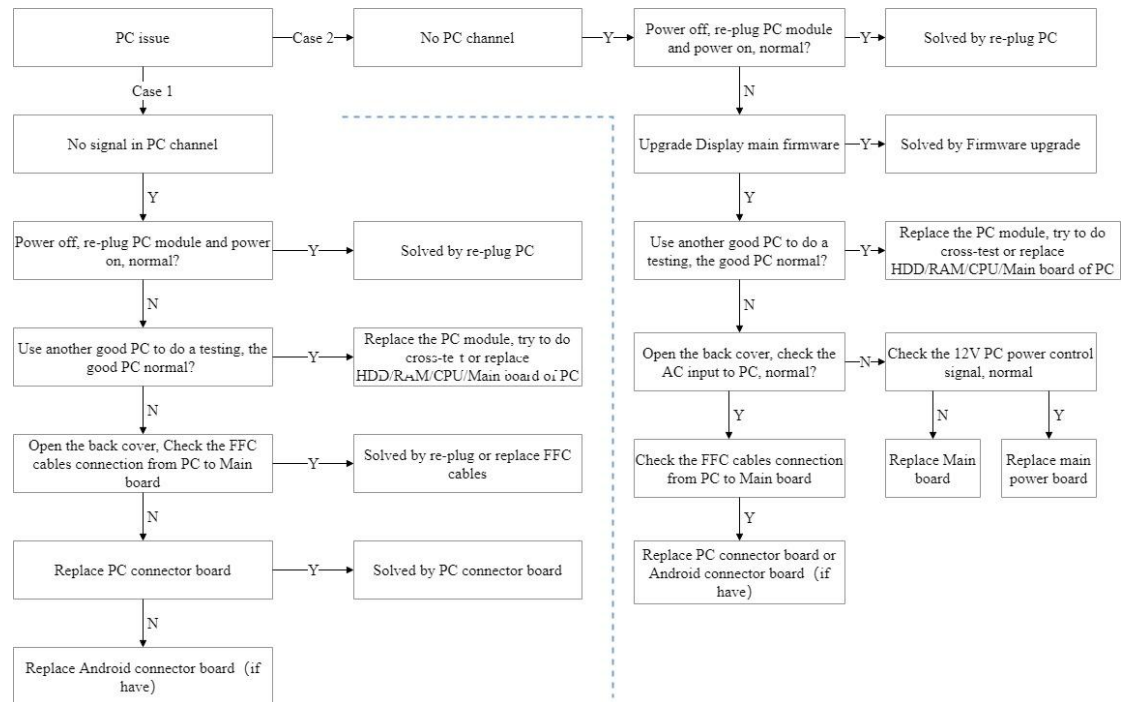
II. LED does not turn blue.



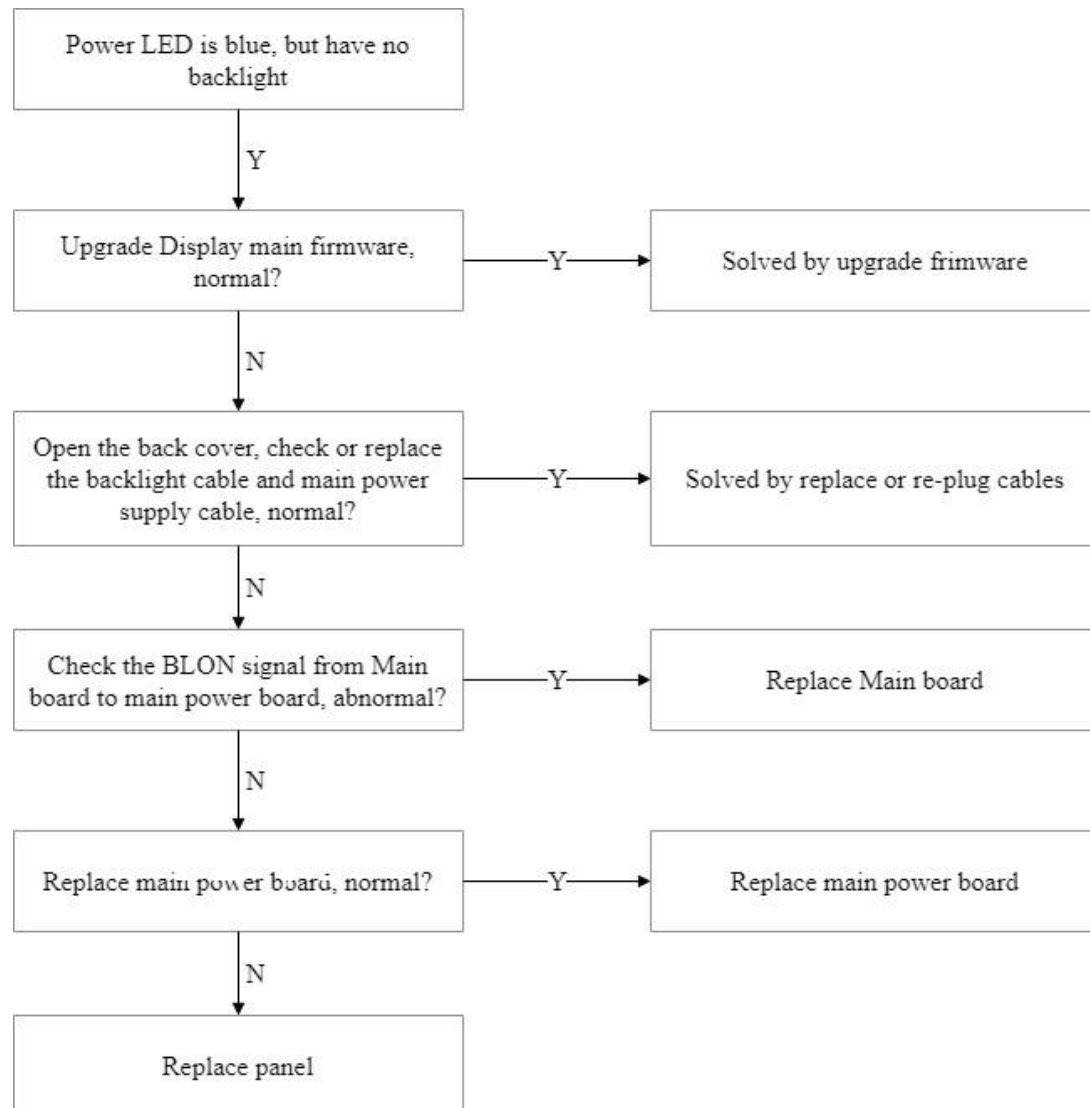
III. Touch issue



IV. PC issue



V. LED turn blue but no backlight



Firmware update procedure

I. Upgrade All

1. Debug Menu Upgrade Procedure (recommend)

Tools:

(1) USB disk (Format FAT32) *1PCS.

(2) Remote controller *1PCS.

Procedure:

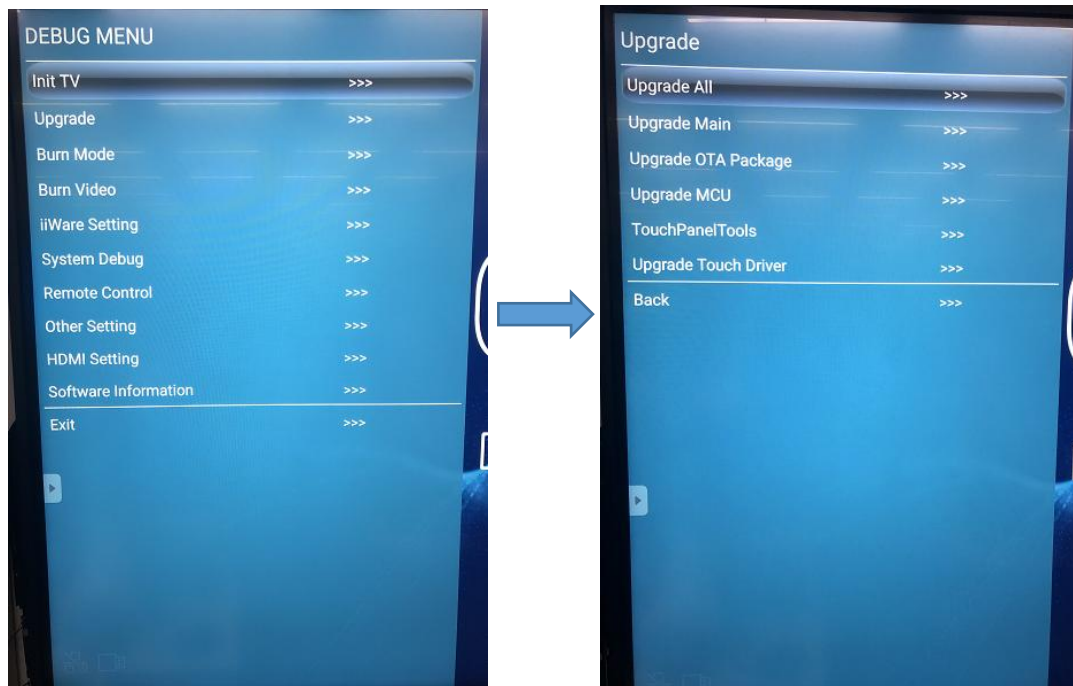
(1) Format the USB disk as FAT32.

(2) Extract upgrade file to the U disk (FAT32) in the root directory. You will get "upgrade_982" folder.(contains allupgrade_v982.bin、MCU.bin)

(3) Insert USB disk into the USB port of the main board.

(4) Turn on the panel. Press "INPUT 1379" with remote controller, and then the debug menu will pop up. Select

Upgrade-> Upgrade All, press "Enter", and confirm.



(4) The power LED will keep twinkle in red and green during upgrade process. After finished, the panel will reboot and enter Android channel. It will take 4 minutes to complete the upgrade procedure.

Note: If MCU upgrade is failure with tips “Do not power off, please re-upgrade MCU”, press “Back” on the remote controller to exit the process. Upgrade MCU separately by Debug Menu – Upgrade – Upgrade MCU.

2. Power Key Upgrade Procedure

Tools:

USB disk (SanDisk, Format FAT32) *1PCS.

Procedure:

(1) Format the U disk as FAT32.

(2) Extract upgrade file to the U disk (FAT32) in the root directory. You will get "upgrade_982" folder. Insert

USB disk into the USB2.0 port of the main board.

(3) Power on the panel. Press the **POWER** key and hold it until the power LED twinkles in red and blue.

The display will upgrade first. When finished, the screen will reboot and upgrade MCU automatically. It will take 4 minutes to complete the upgrade procedure.

II. Touch frame Update

Tools:

(1) USB disk (Format FAT32) *1PCS.

(2) Remote controller *1PCS.

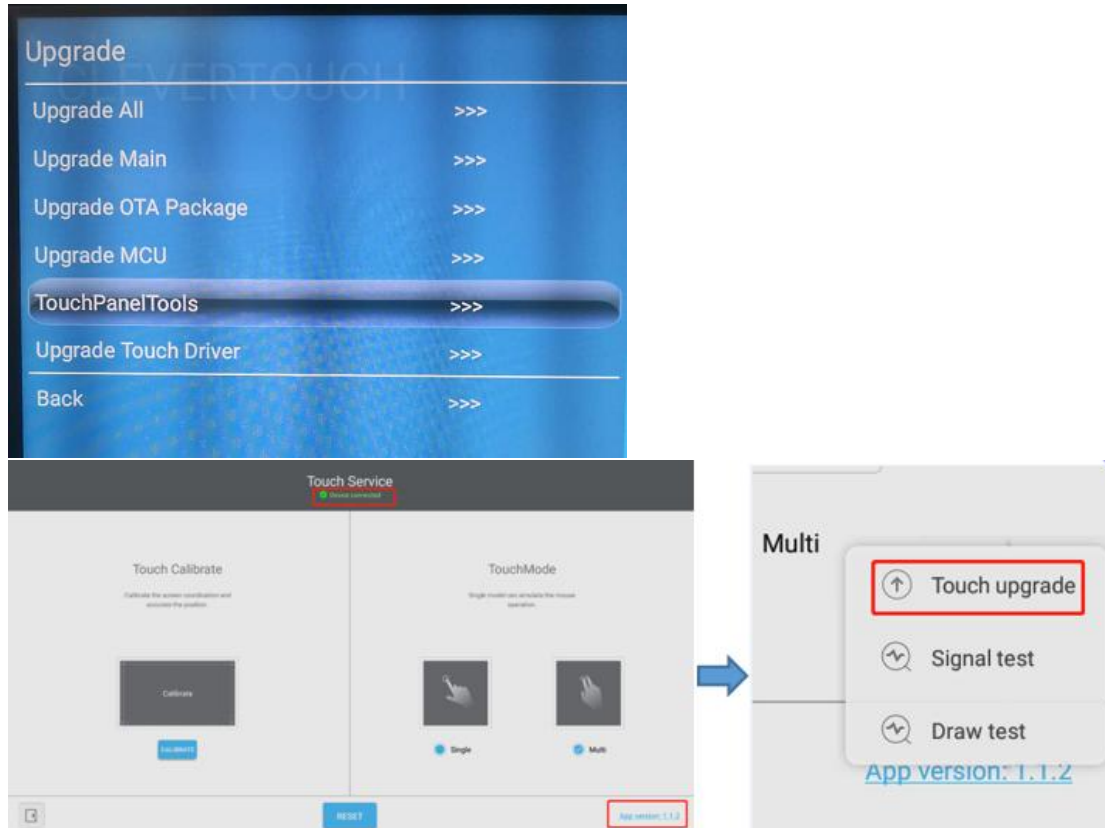
Procedure:

(1) Format the USB disk as FAT32.

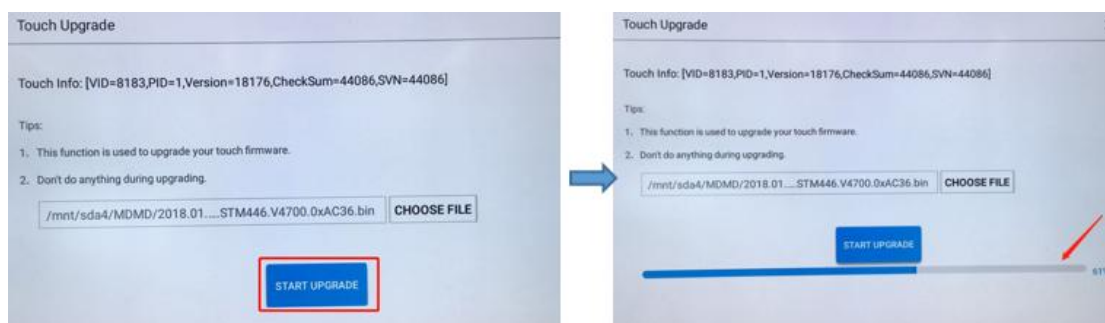
(2) Extract upgrade file to the U disk (FAT32) in the root directory. You will get a “.bin” touch file. Insert USB disk into the USB port of the main board.

(3) Turn on the panel. Press “INPUT 1379” with remote controller, and then the debug menu will pop up. Select

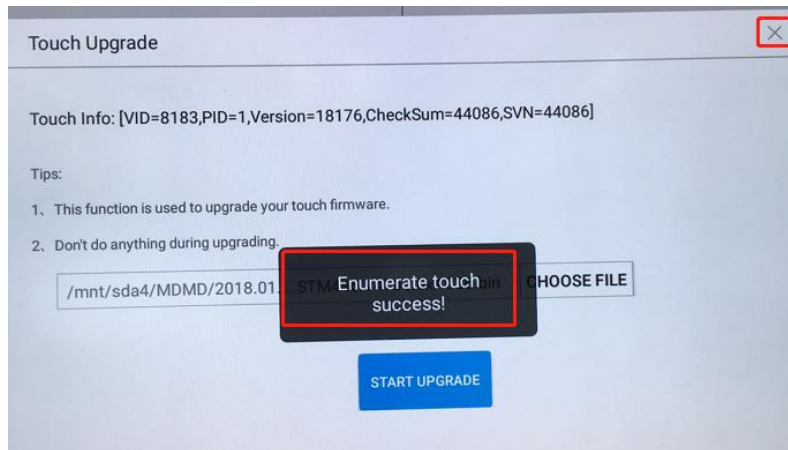
Upgrade-> TouchPanelTools, press “Enter”, long press the “App version”



(4) Select “Touch upgrade” and get into the upgrade interface, choose the touch file(bin file) from the USB disk, press “START UPGRADE”



(5) After upgrade finished, press the “X” button in the right corner and exit.



Note:

When running the “TouchPanelTools” application, the Touch Service should be showing “Device connected”. If not, please reboot and upgrade again.

