

**S65FA-CA6351A-M**



**Service Manual V1.0**

## Document Revision History

[illegible]

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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:

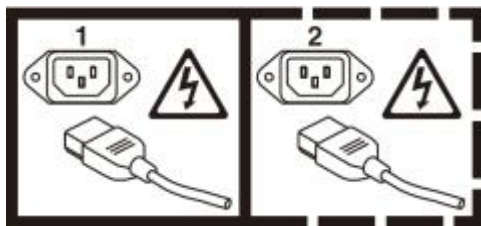
- Be aware that the device may have several power supply cables at the same time. To cut off the power, make sure all power supply cables are disconnected.
- Do not connect or disconnect any cables, install, maintain, or reset the product during thunderstorm.
- Connect all power cables to the right and 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.

<p>To connect cables :</p> <ol style="list-style-type: none"><li>1. Turn off all devices.</li><li>2. Connect power cords to devices.</li><li>3. Connect signal/ communication cables to devices.</li><li>4. Connect the power cord to power supply socket.</li></ol>	<p>To disconnect cables :</p> <ol style="list-style-type: none"><li>1. Turn off all devices.</li><li>2. Unplug power cords from the socket.</li><li>3. Disconnect signal /communication cables from connector.</li></ol>
--	--

5. Turn on devices.	4. Disconnect the power cords from devices
---------------------	--

## II. Notice

1. When replacing the system battery, please use the same kind of battery.
2. Battery containing lithium, improper operation or handling will cause explode. Please DO NOT:
  - Put the battery into water
  - Heat the battery to more than 100 degrees C (212 degrees F)
  - Repair or disassemble the battery without authorization
3. The AC switch or button mightn't cut off the AC power supply, Please disconnect the AC cable if you need.
4. Do not remove any cover of the module with the danger label attached.



## Product Appearance

➤ Front view



➤ Back view



➤ Side view



PC Module I/O

TV main  
board I/O

AC socket and switch

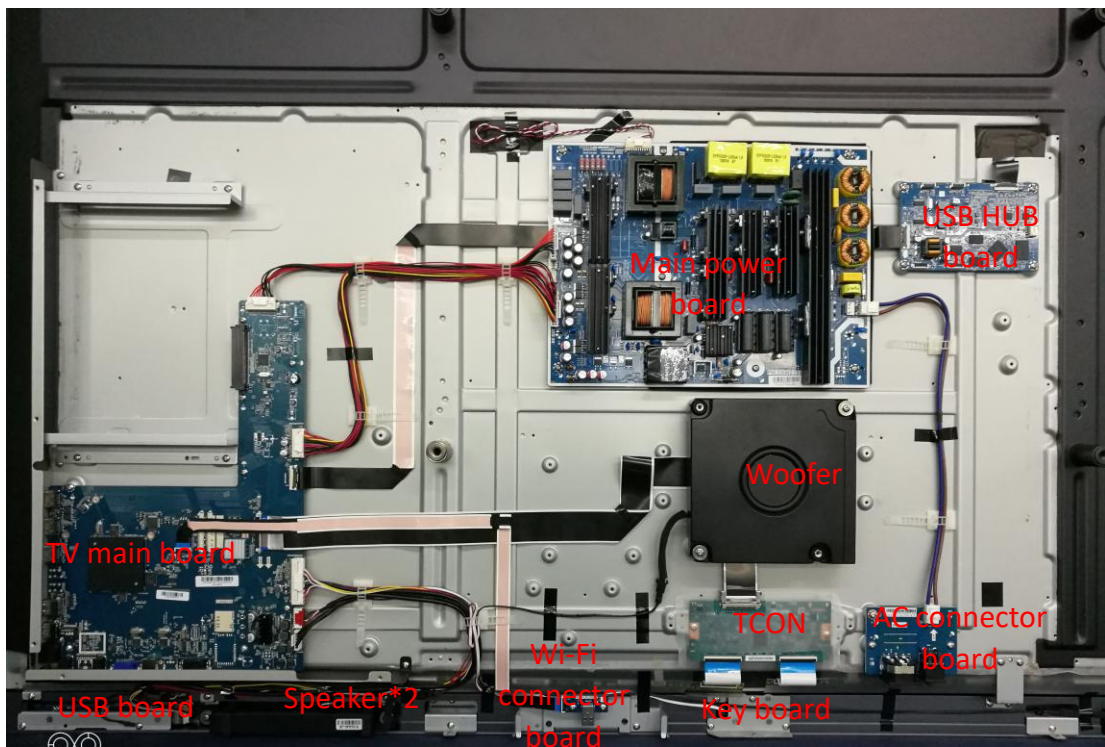


Bottom I/O of TV main board

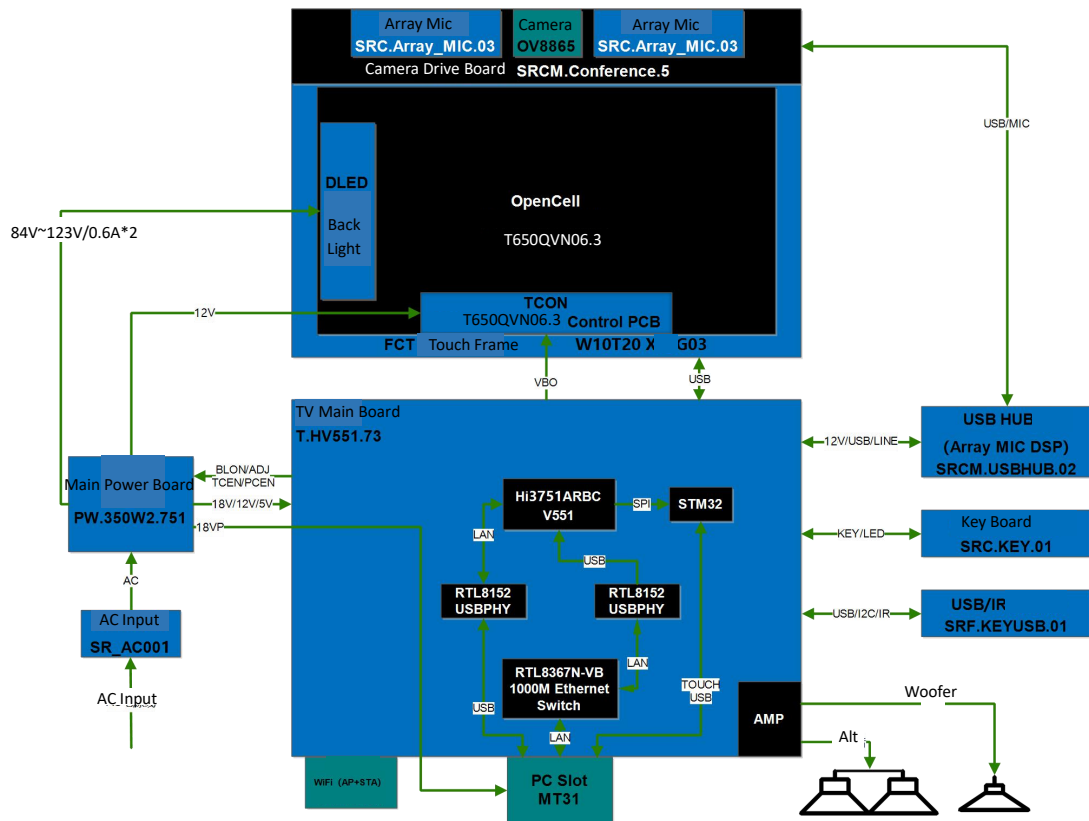




➤ Back view of the screen

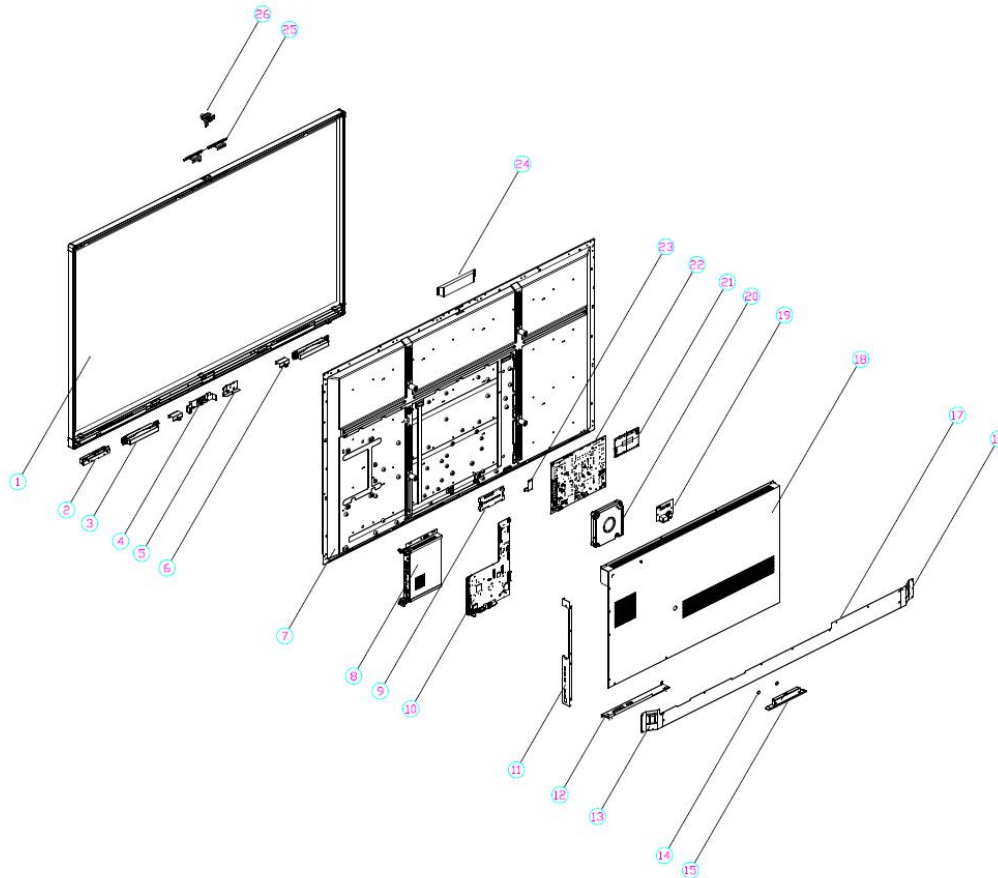


# Electrical Diagram



# Disassembly guide









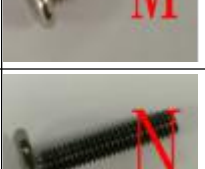

## I. Exploded Views









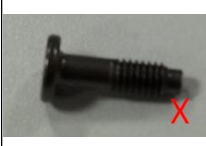



NO.	NAME	QTY	NO.	NAME	QTY	NO.	NAME	QTY
1	Bezel & Corner module	1	11	Side terminal bracket	1	21	USB HUB board	1
2	USB module	1	12	Bottom terminal bracket	1	22	Main power board	1
3	Speaker	2	13	Left small back cover	1	23	Panel pressing block	1
4	SiO2 chute	1	14	Magnet	2	24	Upper camera cover	1
5	Key module	1	15	WIFI module	1	25	MIC module	2
6	Magnetic module	2	16	Right small back cover	1	26	Camera module	1
7	Backlight module	1	17	Middle small back cover	1			
8	PC module	1	18	Big back cover	1			
9	TCON	1	19	AC connector board	1			
10	TV main board	1	20	Woofer	1			

## II. Screw fastening torque reference table

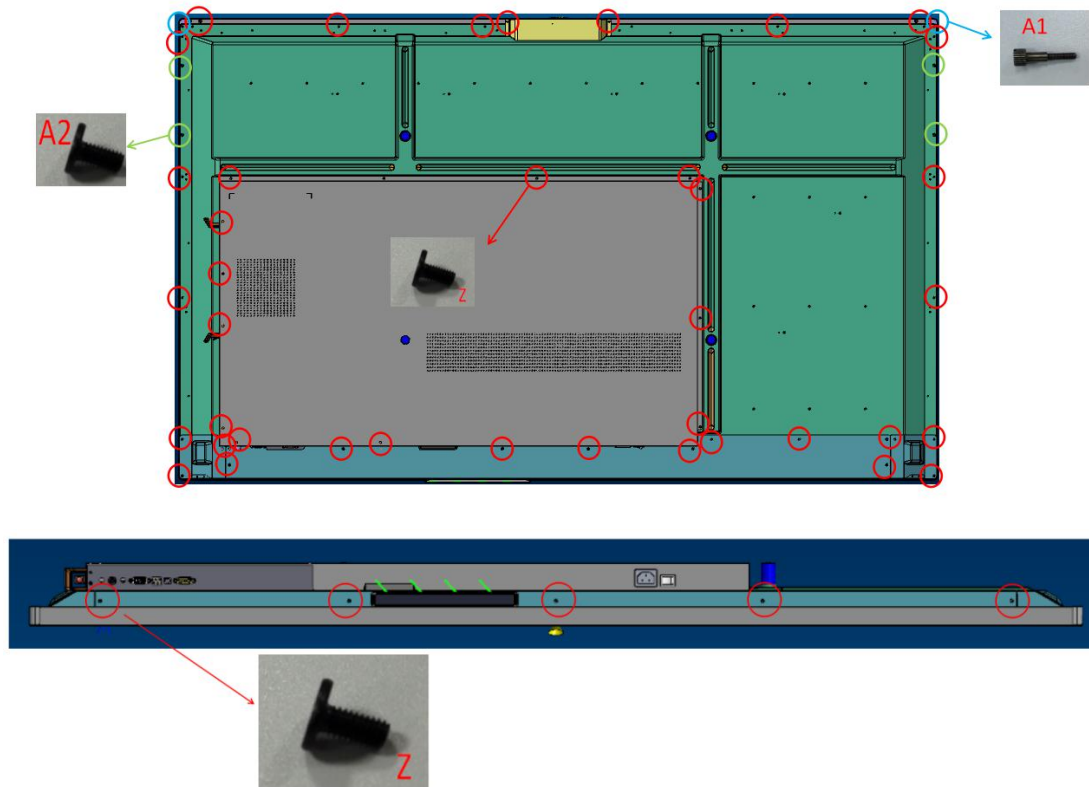
Torque Requirement (except the hand screws and nuts)			
Screw Specification (mm)		Tightening Torque	
		N.M	(kgf.cm)
M3x4~M3x8		0.5-0.7	5-7
M4x8~M4x12		0.7-1.0	7-10
M5		1.2-1.5	12-15
Tool to Use			
ITEM	Screw Image	NAME	Specification
A		Phillips Countersunk Head Screw	KM3×8mm-Black Nickel plated
B		Phillips 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	TM3×3mm-Black 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	PM4×8mm-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 Truss Head Screw	TM4×6mm-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		Cross recessed flat head screw	CM3×10mm-Black Nickel plated
Z		Cross recessed flat head screw	CM3×6mm-Black Nickel plated

### III. Shell Disassemble

#### 1. Screw Location



#### 2. Maintenance Description

To remove the rear shells of the screen, placing the screen face down on the flat table is recommended to do first, then screw out the hanging strip on the left.

Figures above shows the location and the type of every screw, after screwing out all these screws, the rear shells can be removed.

**⚠ Please note that the tightening torque used must be compliant to the reference value of specific type of screw showed above. Otherwise the screw may be permanent damaged.**

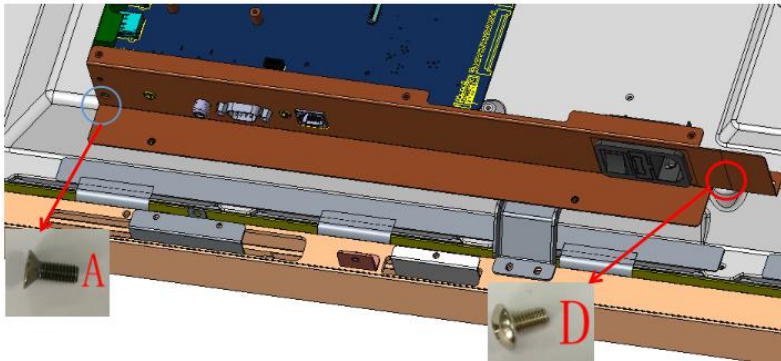


## IV. Circuit Boards Disassemble

### 1. Screw Location

#### ◆ TV Main Board

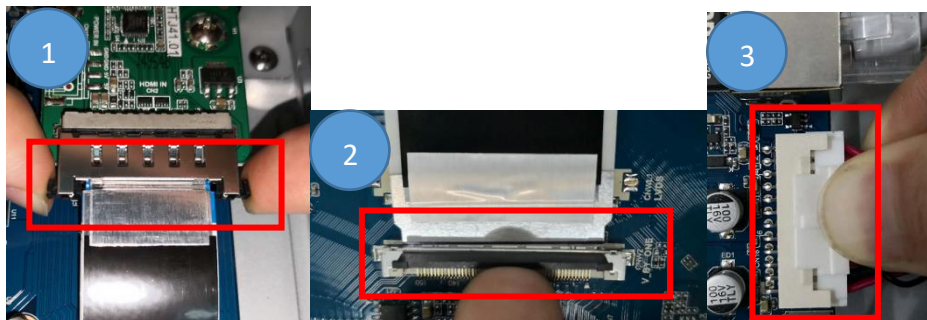
STEP 1 Remove the bottom terminal bracket.



STEP 2 Remove the cable on the TV main board, remember to take photos in case you forget the cable connection.

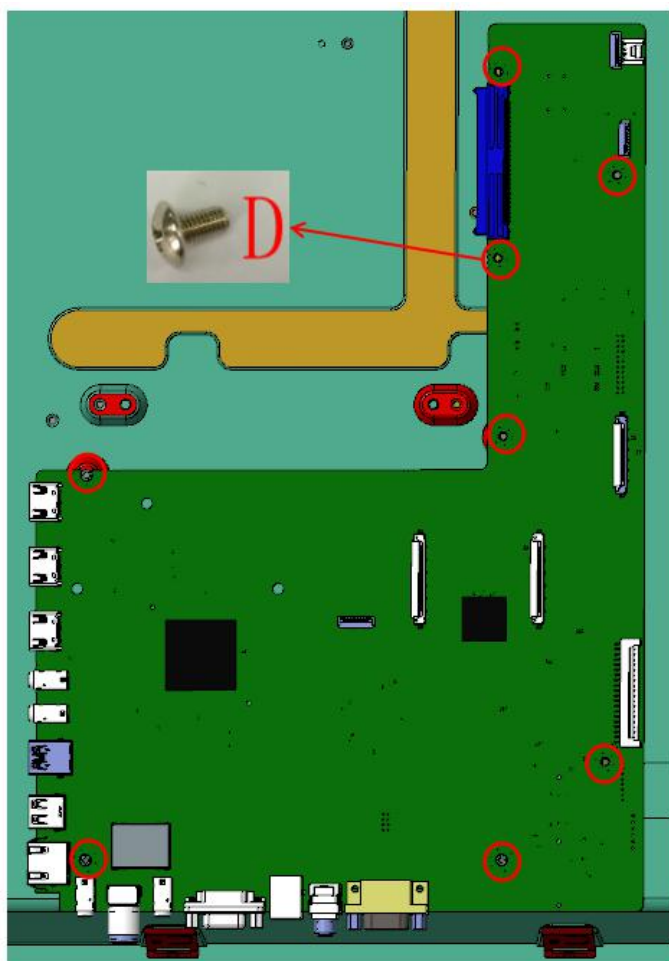
For the FFC cable removal (pic1 & pic2), need to pull up the black buckle and pull it out.

For the ordinary cable removal (pic3), need to hold the clips on the terminal of the cable and pull it out.

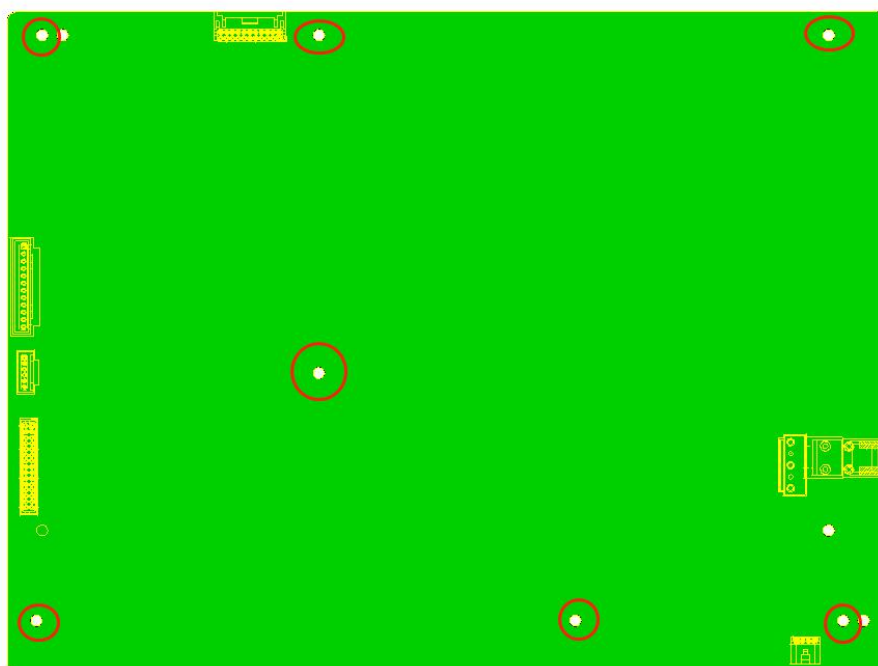


STEP 3 Remove the screw on TV main board

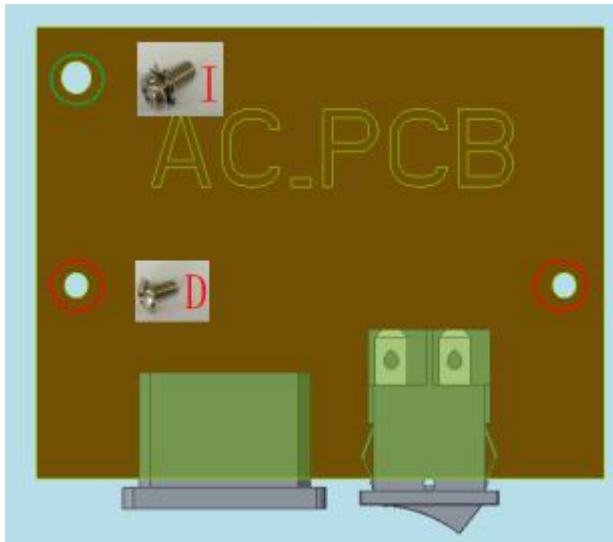




◆ Main Power Board

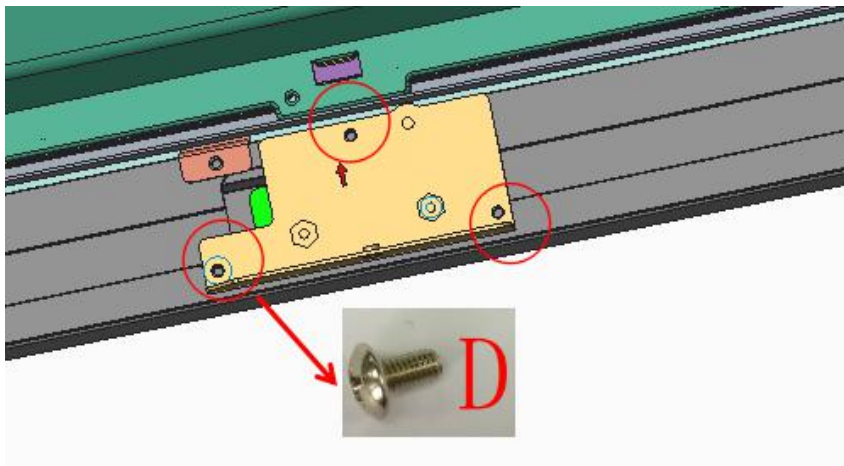


◆ **AC Connector Board**

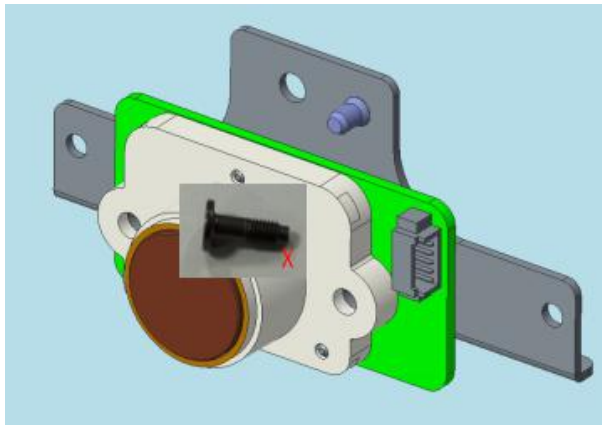


◆ **Key Board**

STEP 1 Remove the screws (3pcs) fixed on the key mounting bracket. Take off the mounting bracket.

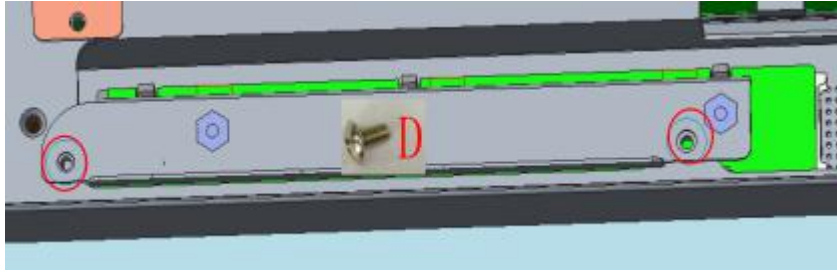


STEP 2 Remove the screws fixed on key board. Take off the Key board.

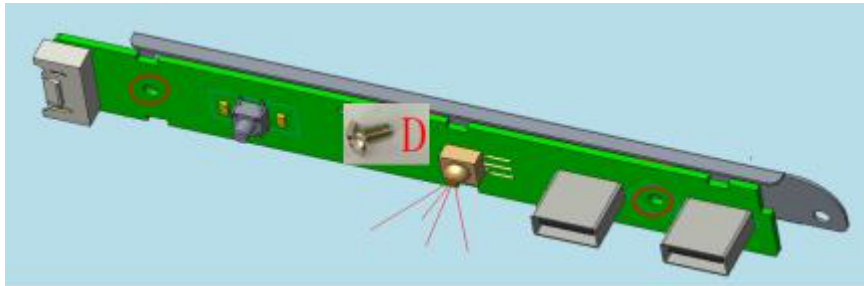


### ◆ USB board

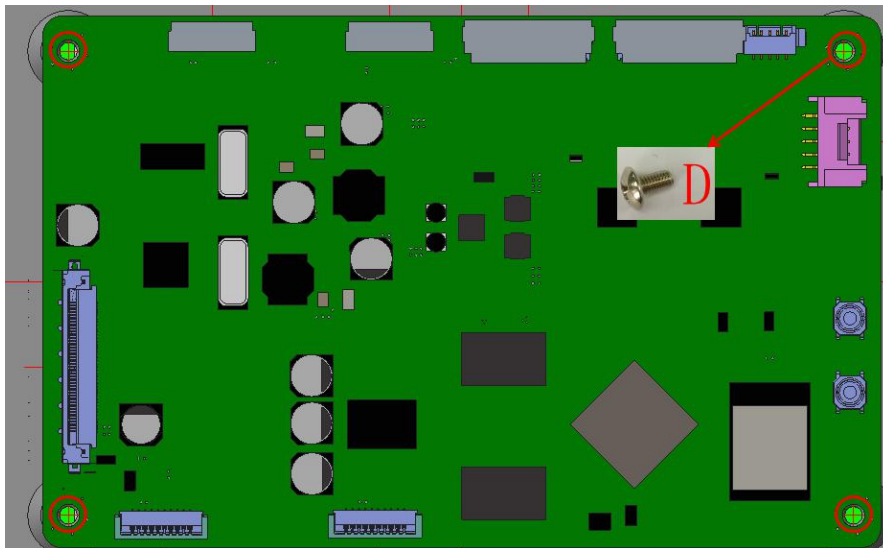
STEP 1 Remove the screws (2pcs) fixed on the USB mounting bracket. Take off the mounting bracket.



STEP 2 Remove the screws(2pcs) fixed on USB board. Take off the USB board.

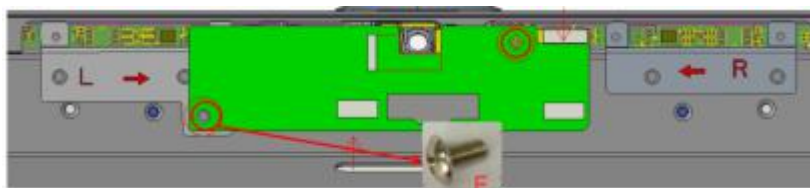


### ◆ USB HUB board

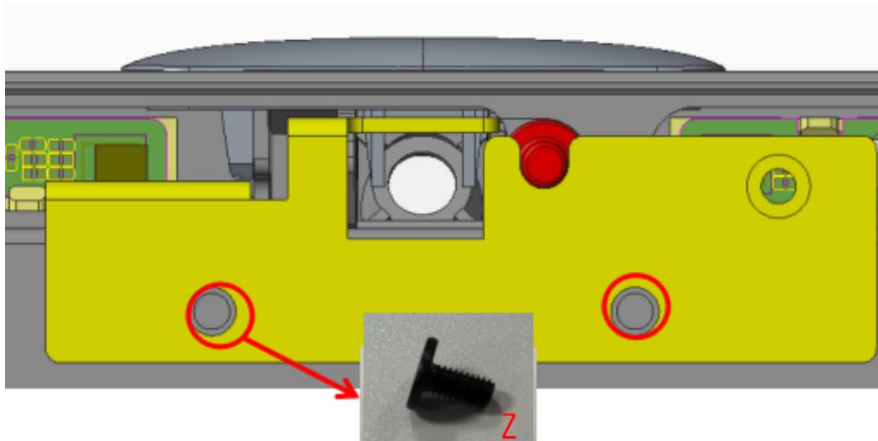


### ◆ MIC & Camera module

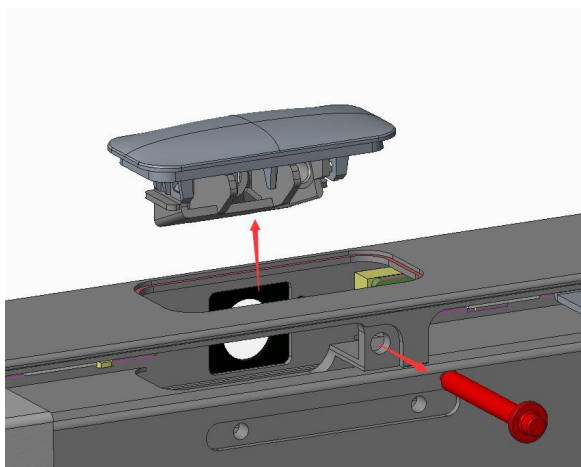
STEP 1 Remove camera board



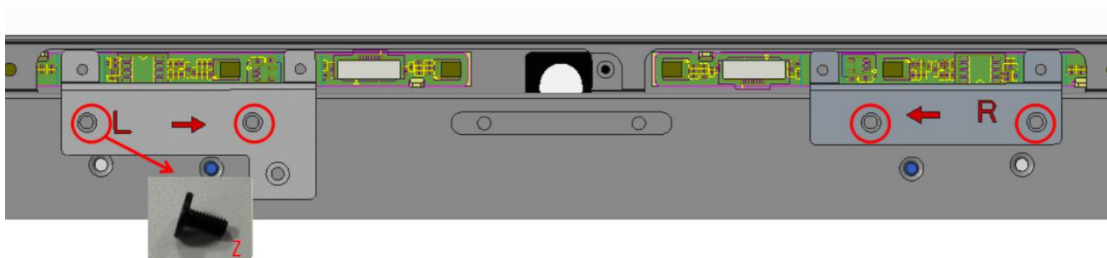
STEP 2 Remove the bracket of camera board



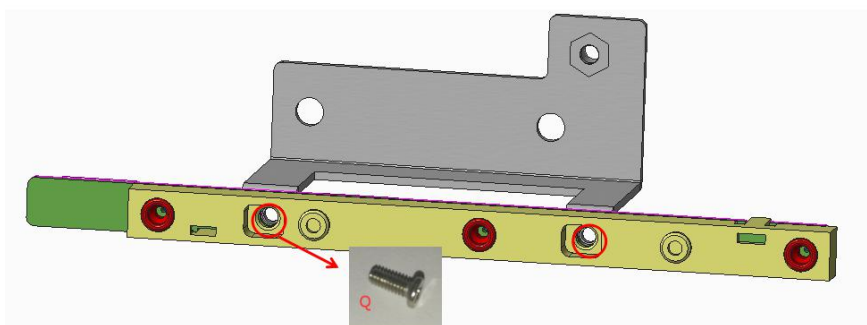
STEP 3 Remove the bracket of camera




STEP 4 Remove the bracket of MIC board




STEP 5 Remove the MIC board



## 2. Maintenance Description

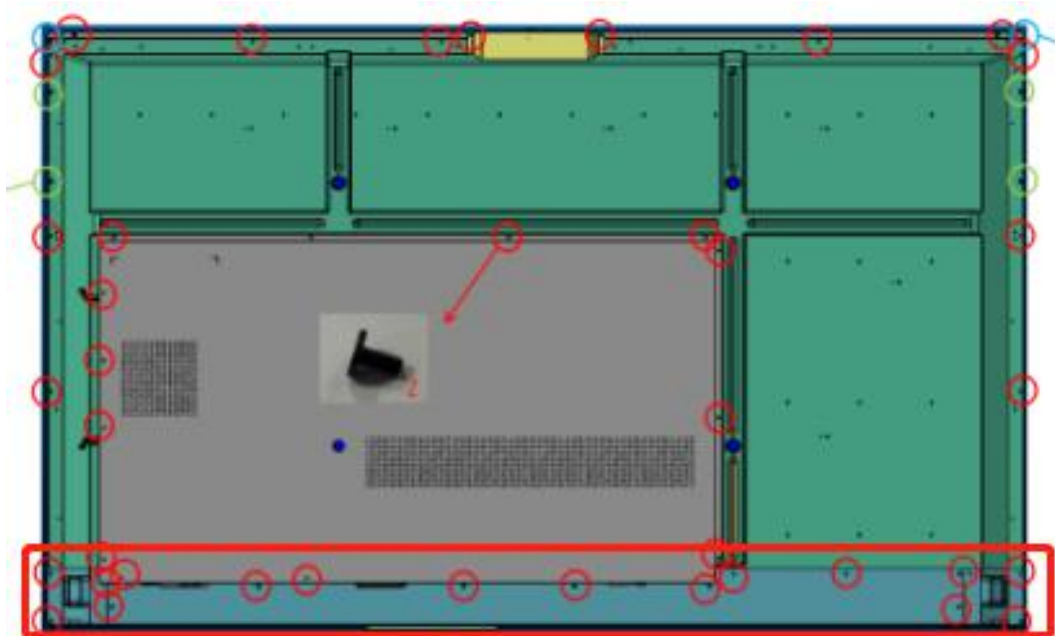
 To replace the circuit boards you need to remove first the rear covers, the lower terminal block, the side terminal block and wires. Remove the power before performing replacement, so as to prevent any short circuit resulting from contact of wires.

 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.

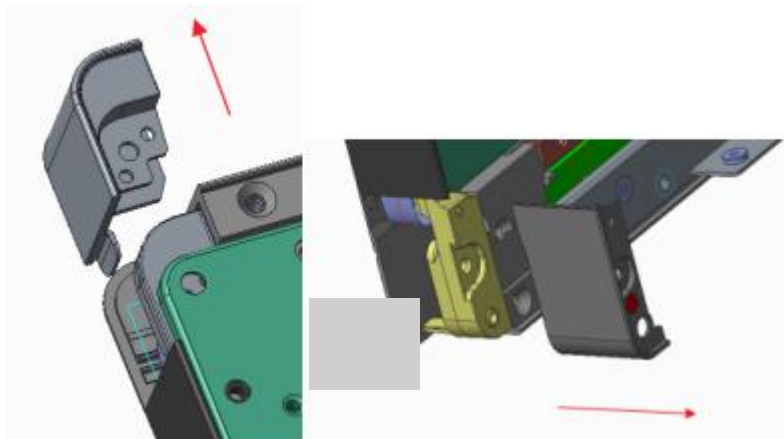
## V. Touch Frame Disassembly

STEP 1: Put the IFP on the soft table

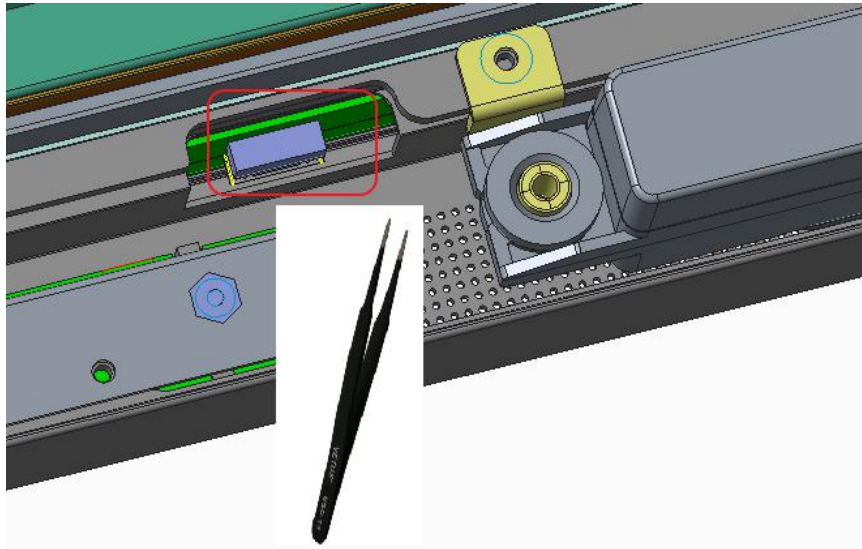
STEP 2: Remove the small back cover



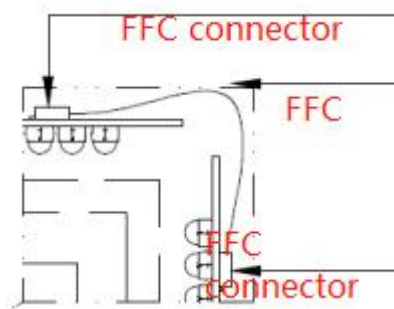
STEP 3: Remove the 4 external corners.



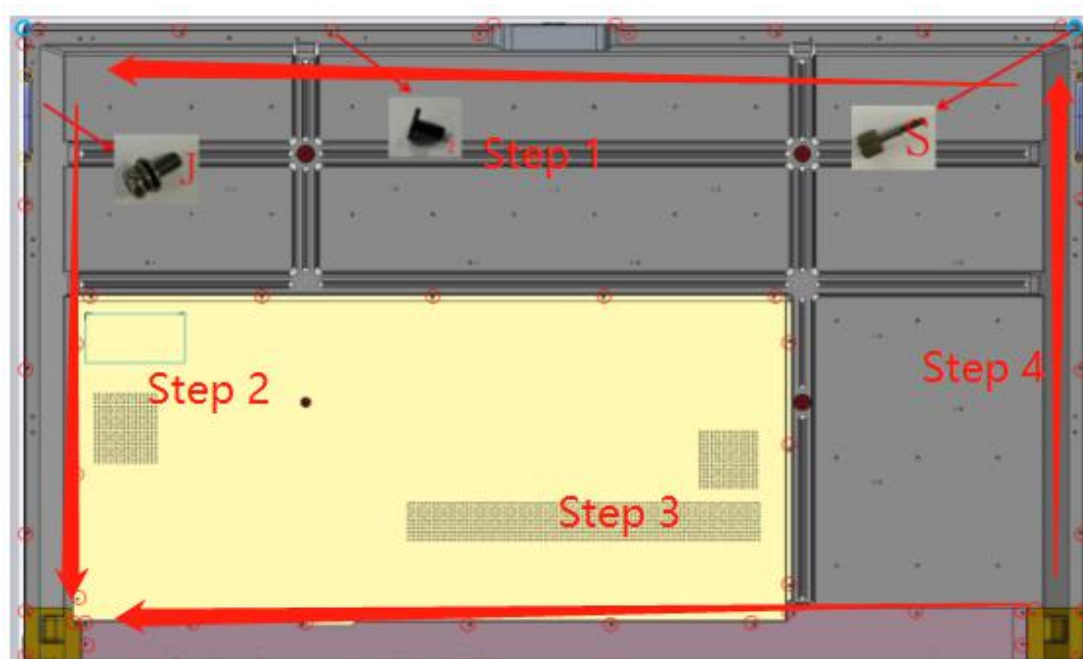
STEP 4: Remove the touch cable between touch frame and TV main board, using the tweezers to clamp the touch cable's connector and pull out the cable.



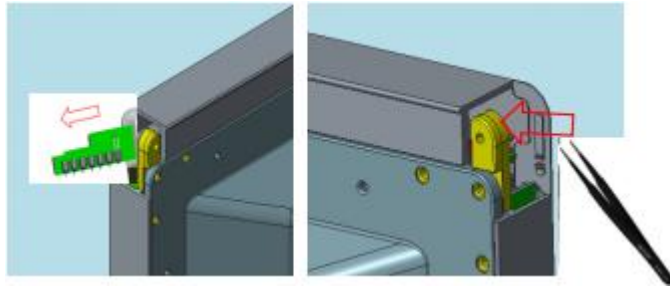
STEP 5: Remove the upper-left, bottom-left, bottom-right FFC cables.(working with STEP 6 together)



STEP 6: Using the tweezers to pull the IR touch frame, remove the touch frame by below steps.

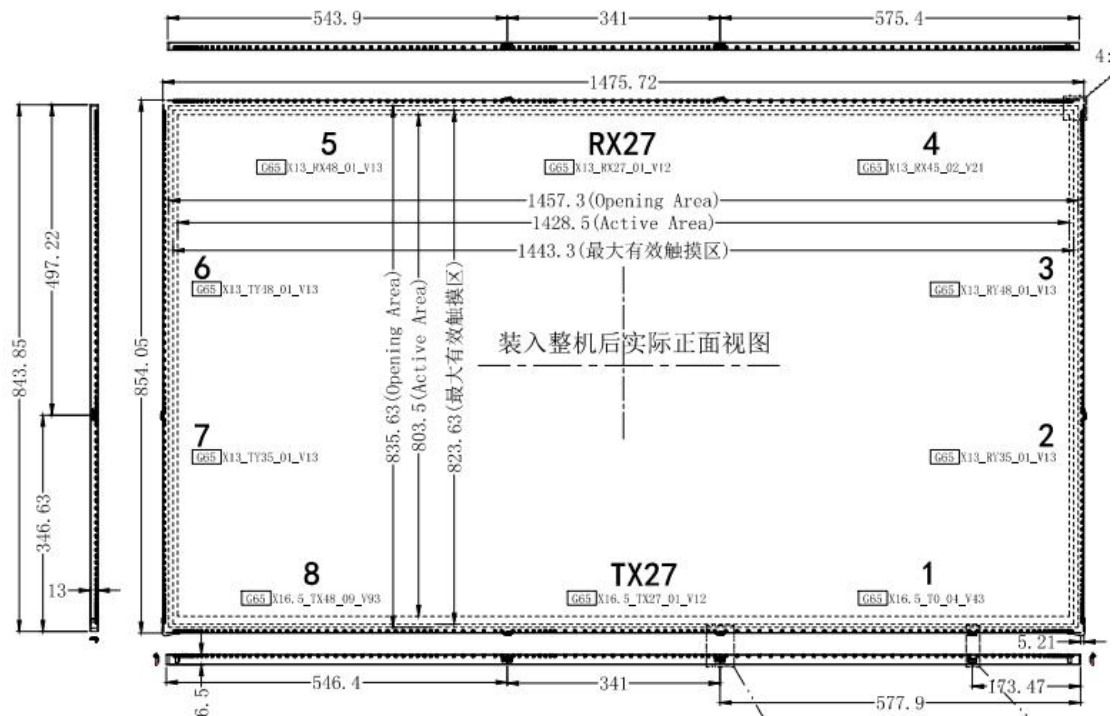






STEP 7: Completed

## VI. Appendix(X65G03)



Notes:

The IR touch frame is disconnected on the upper right corner in the back view of the machine.



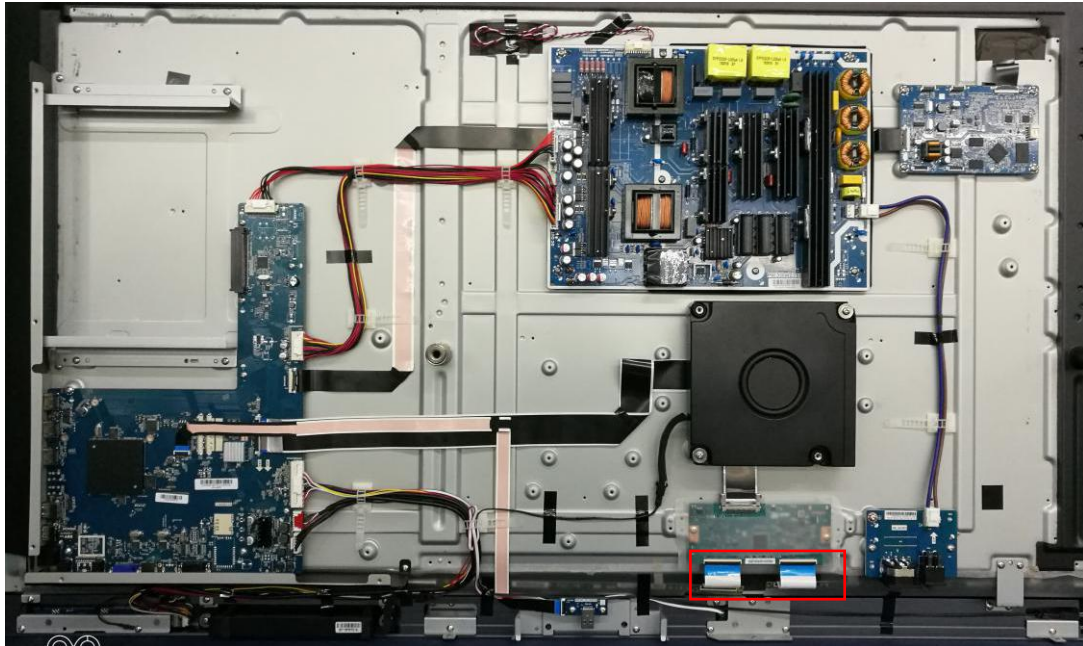
## Internal Cables

### I. Cable Connection Guide

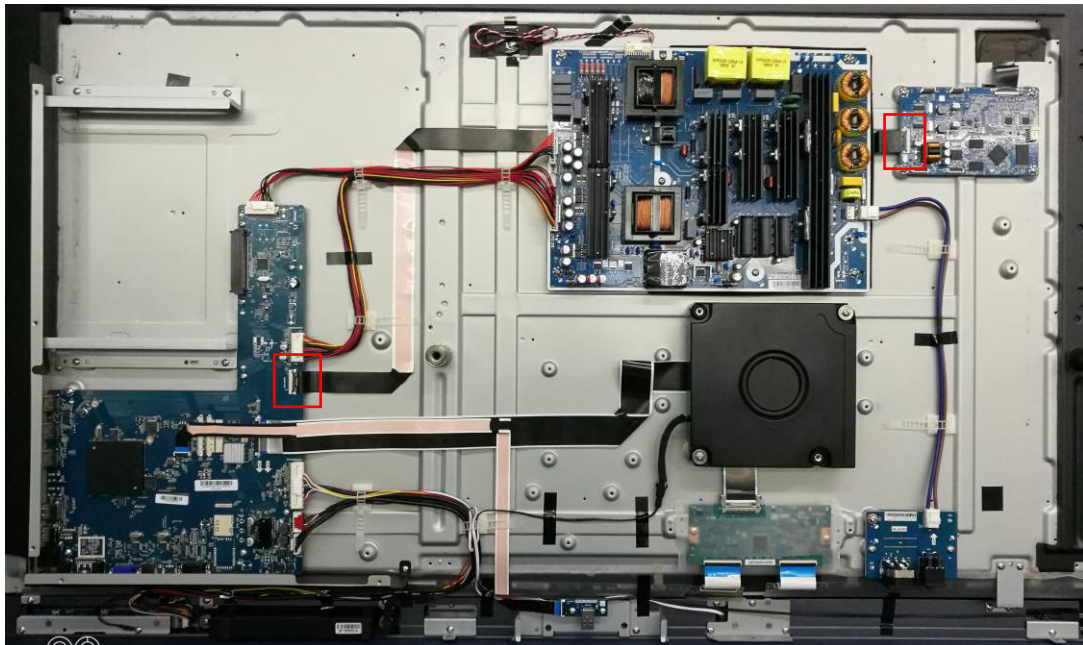
Part Name	Part No	Cable Connection Guide
1.COF cable	004.050.0002450	TCON to panel
2.USB HUB FFC	004.050.0003656	TV main board to USB HUB board
3.TCON FFC	004.050.0003657	TV main board to TCON
4.WIFI FFC	004.050.0003658	TV main board to WIFI connector board
5.Touch frame FFC	004.050.0003249	Connect touch frame at the corner
6.MIC FFC 1	004.050.0003269	Camera connector board to left MIC board
7.MIC FFC 2	004.050.0003270	Camera connector board to right MIC board
8.Camera FFC	004.050.0003782	USB HUB board to camera connector board
9.Internal AC connect cable	004.050.0001746	AC connector board to TV main board
10.PC power supply cable	004.050.0002874	Main power board to TV main board
11.Main power supply cable	04.050.00032530	Main power board to TV main board
12.USB cable	004.050.0003652	TV main board to USB board
13.Backlight power supply cable	004.050.0003788	Main power board to backlight module
14.Speaker cable	004.050.0003660	TV main board to speaker
15.Touch cable	004.050.0003285	TV main board to touch frame

## II. Cable Connection Diagram

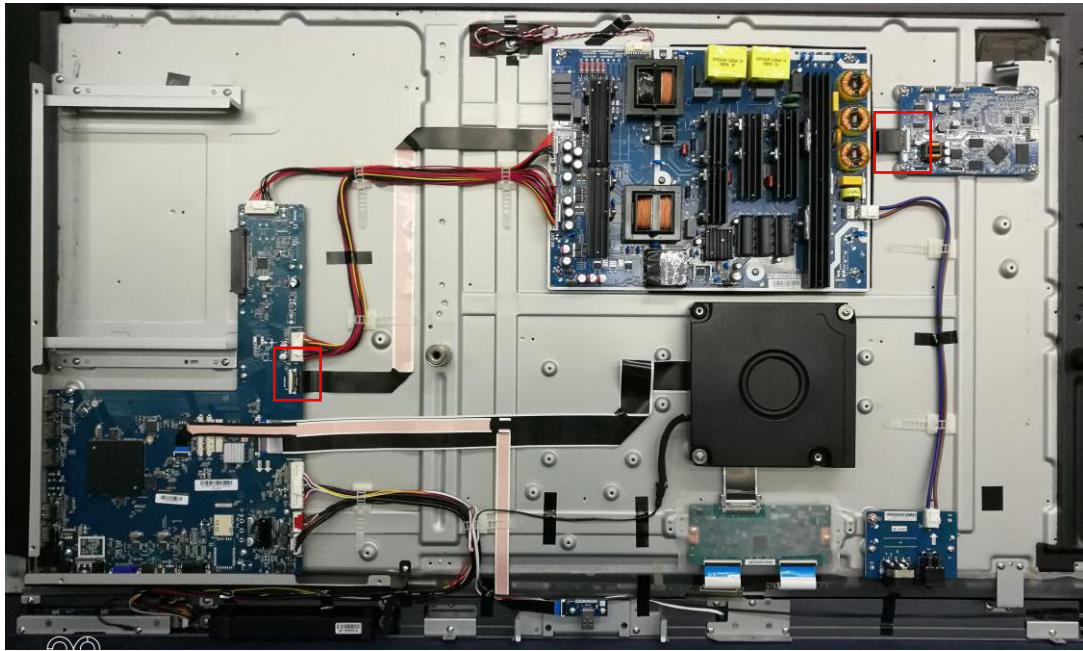
### 1. COF cable (TCON to panel)



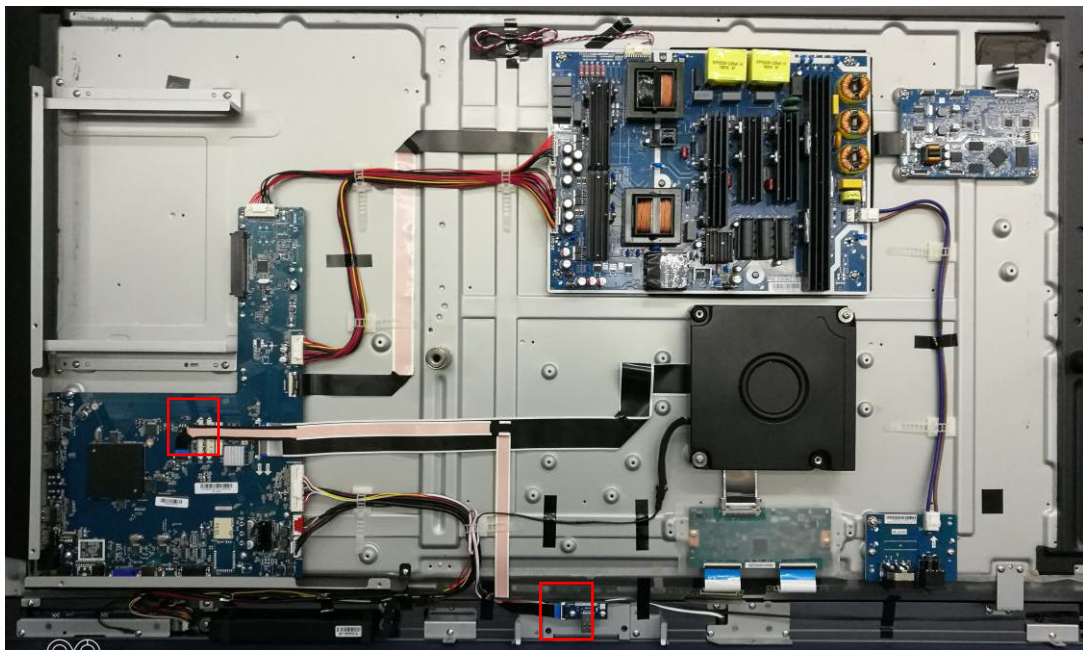
### 2. USB HUB FFC (TV main board to USB HUB board)



### 3. TCON FFC (TV main board to TCON)

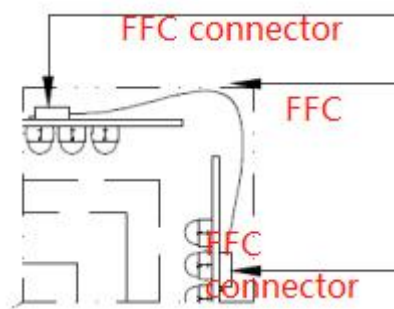
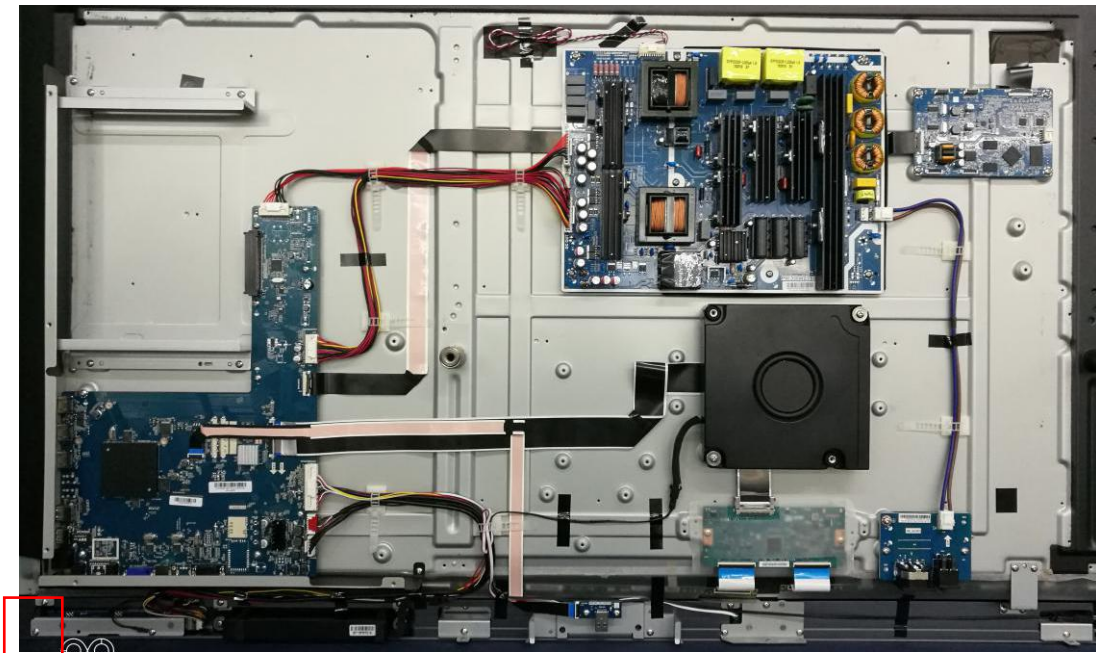


### 4. WIFI FFC (TV main board to WIFI connector board)

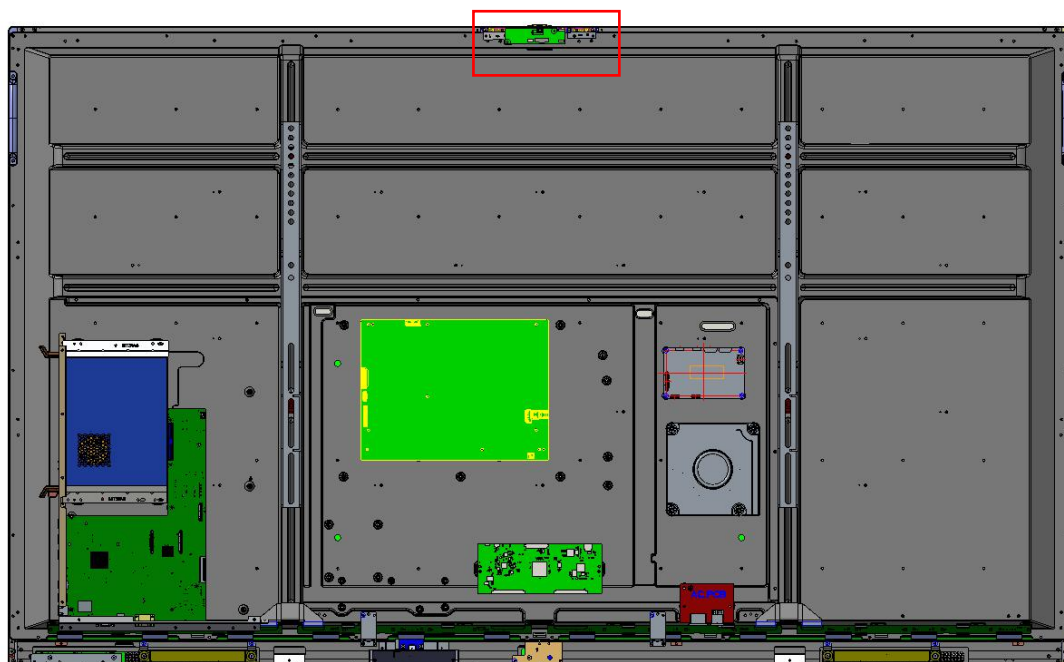


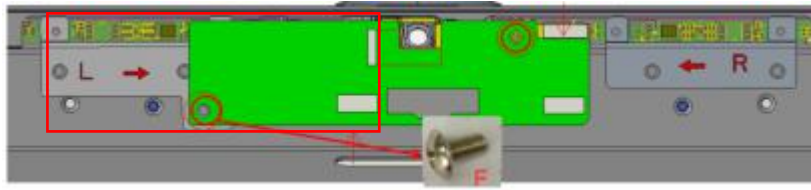


5. Touch frame FFC\*3pcs (connect touch frame at the corner )

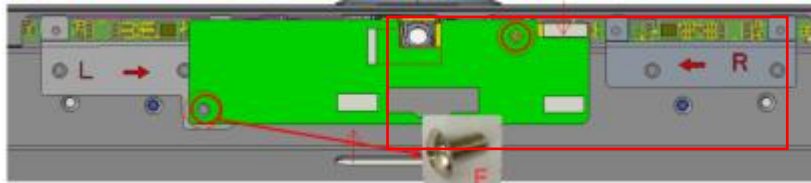


6. MIC FFC 1 (Camera connector board to left MIC board)

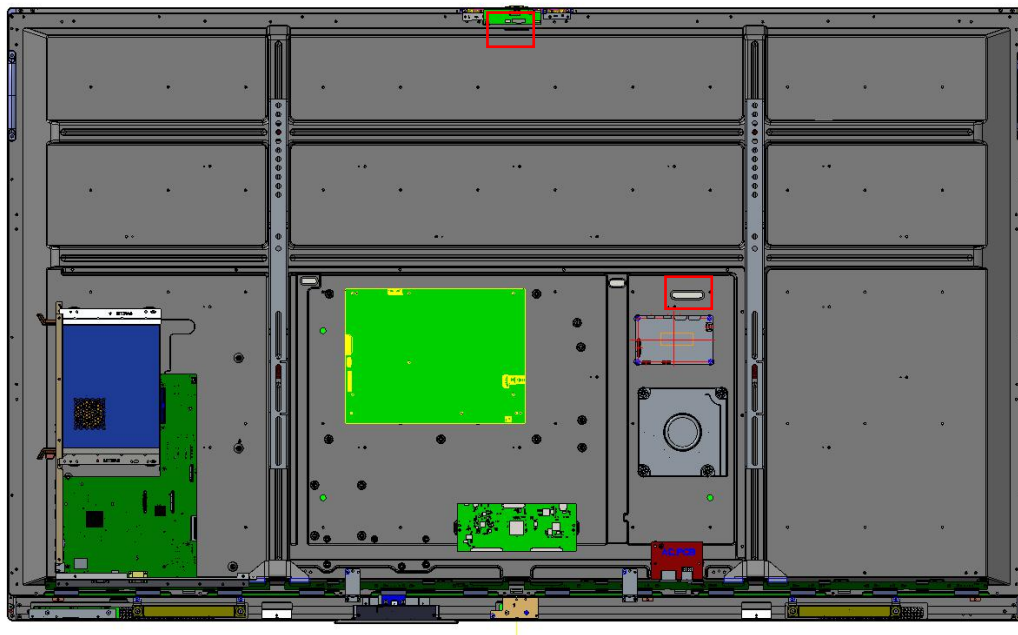


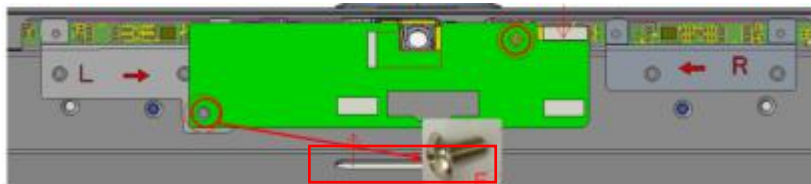
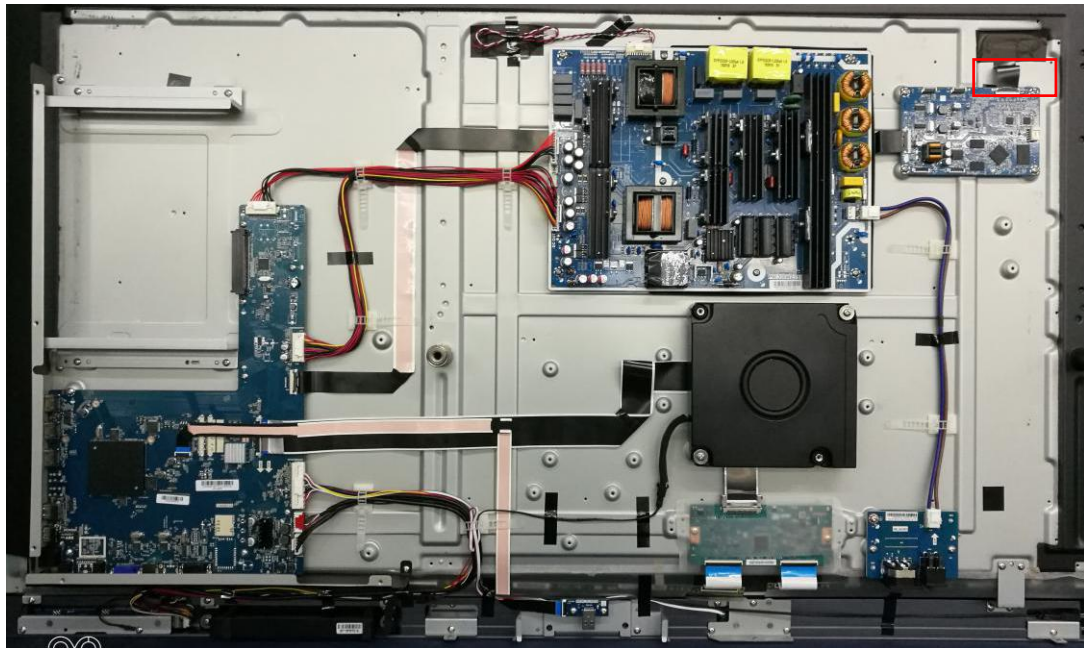


**7. MIC FFC 2 (Camera connector board to right MIC board)**

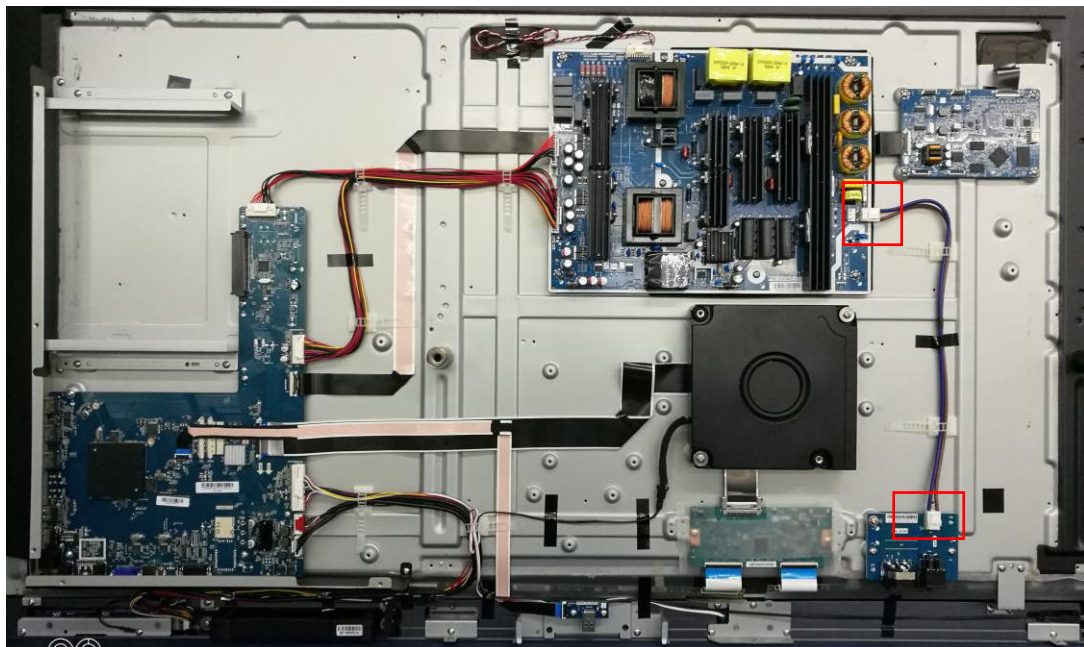


**8. Camera FFC (USB HUB board to camera connector board)**



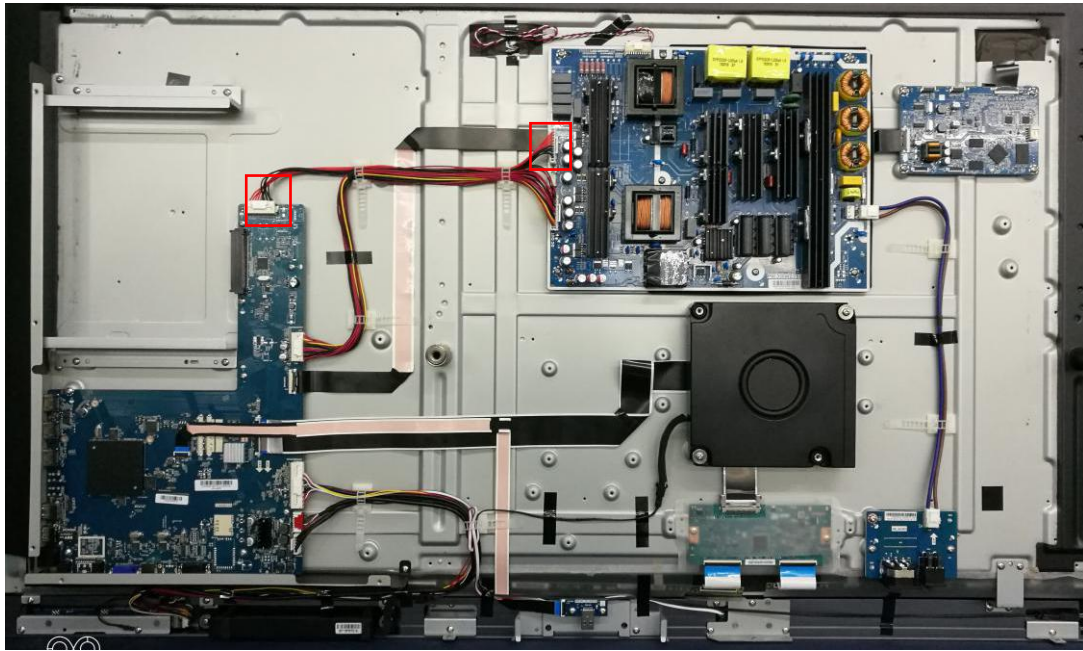


**9. Internal AC connect cable (AC connector board to main power board)**

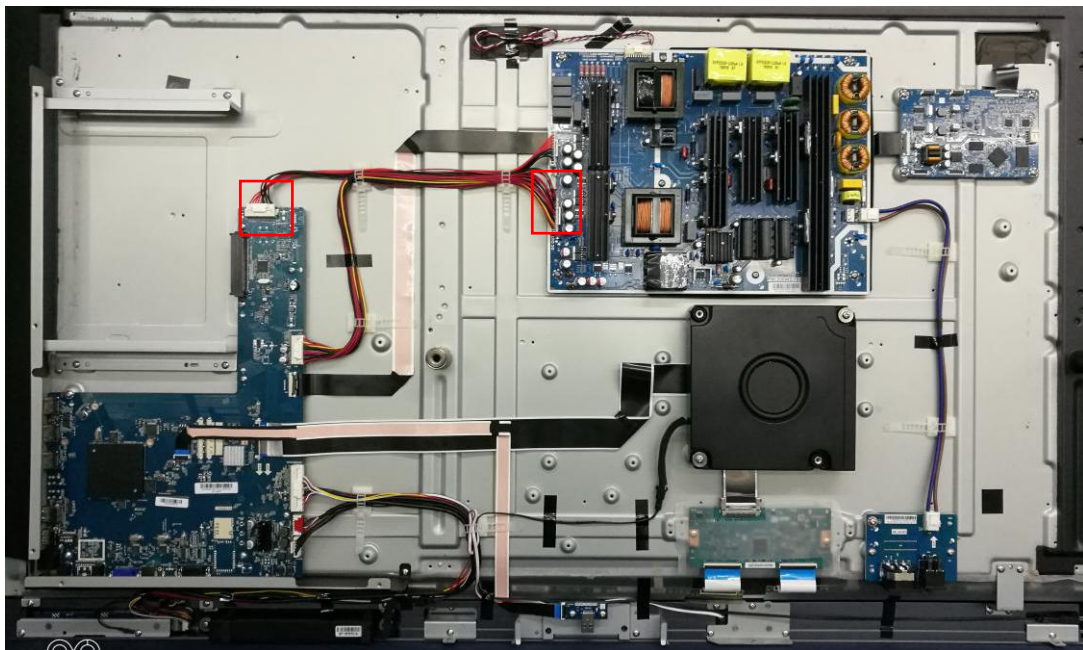




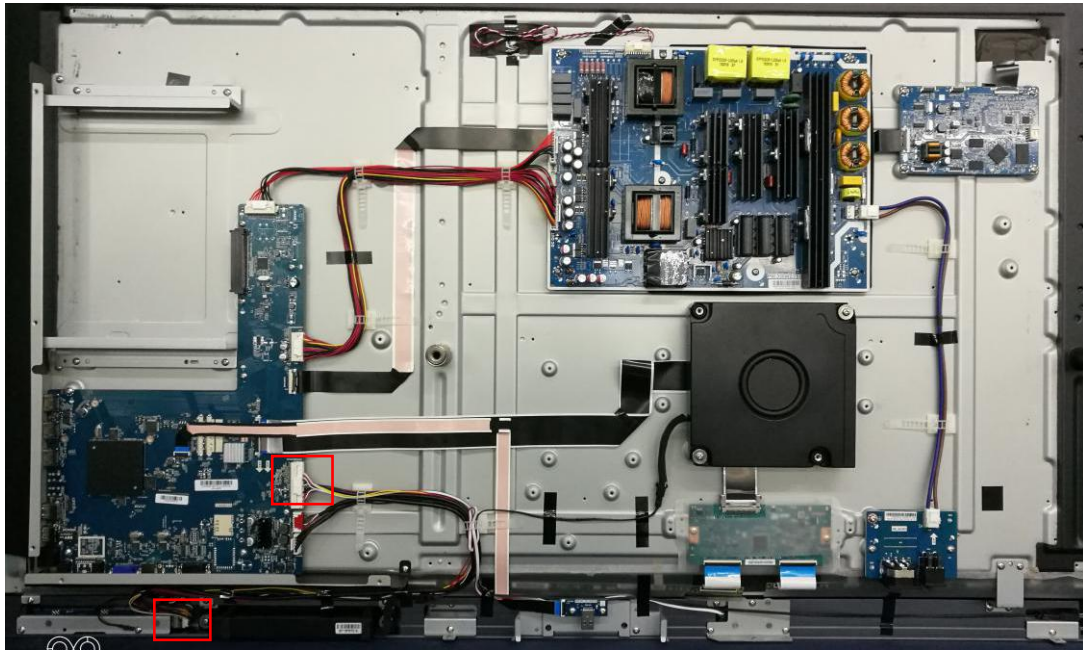
**10.PC power supply cable (Main power board to TV main board)**



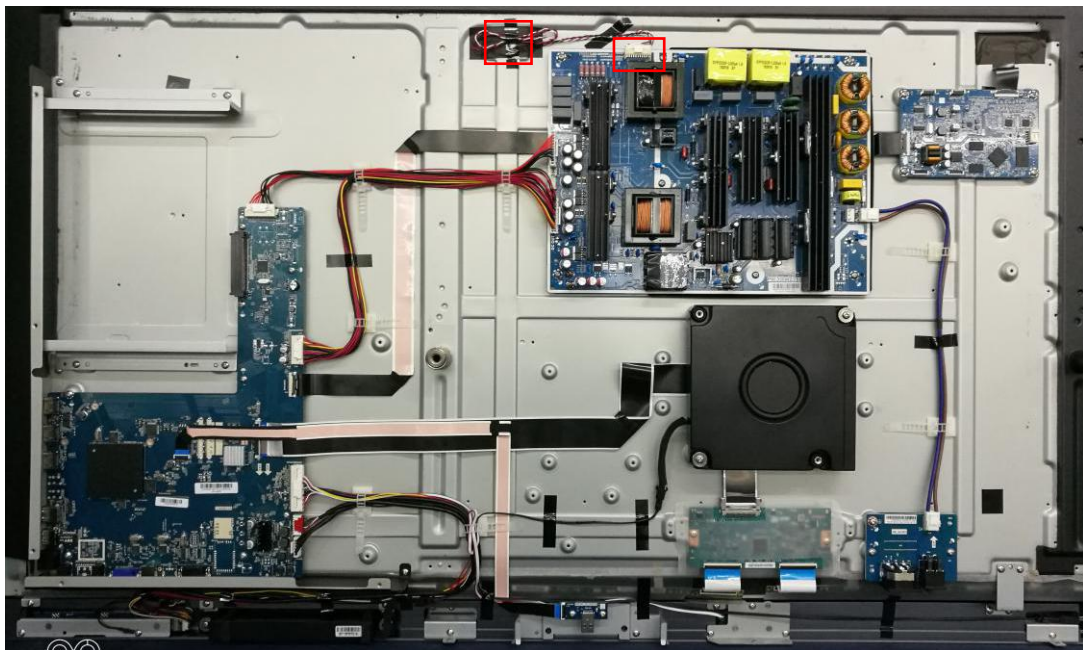
**11.Main power supply cable (Main power board to TV main board)**



**12.USB cable (TV main board to USB board)**

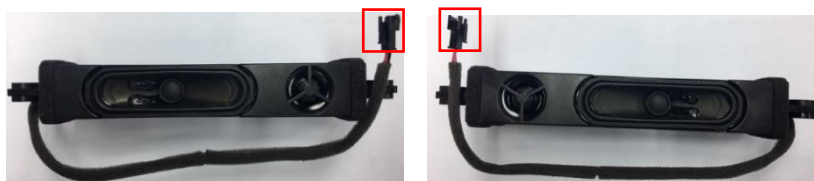
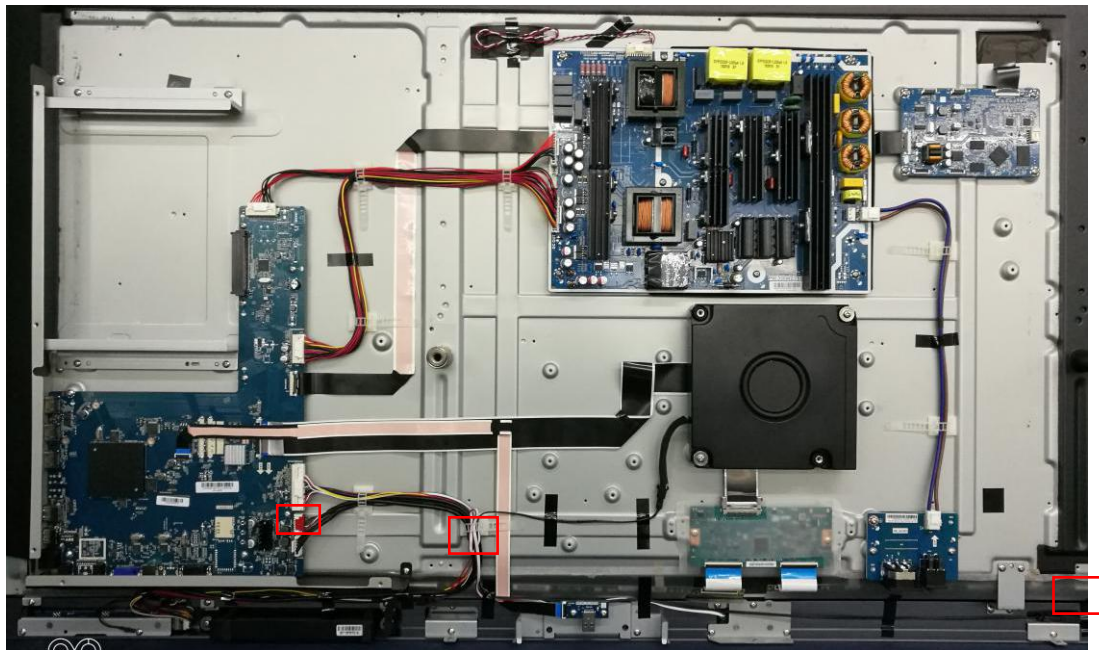


**13.Backlight power supply cable (Main power board to backlight module)**

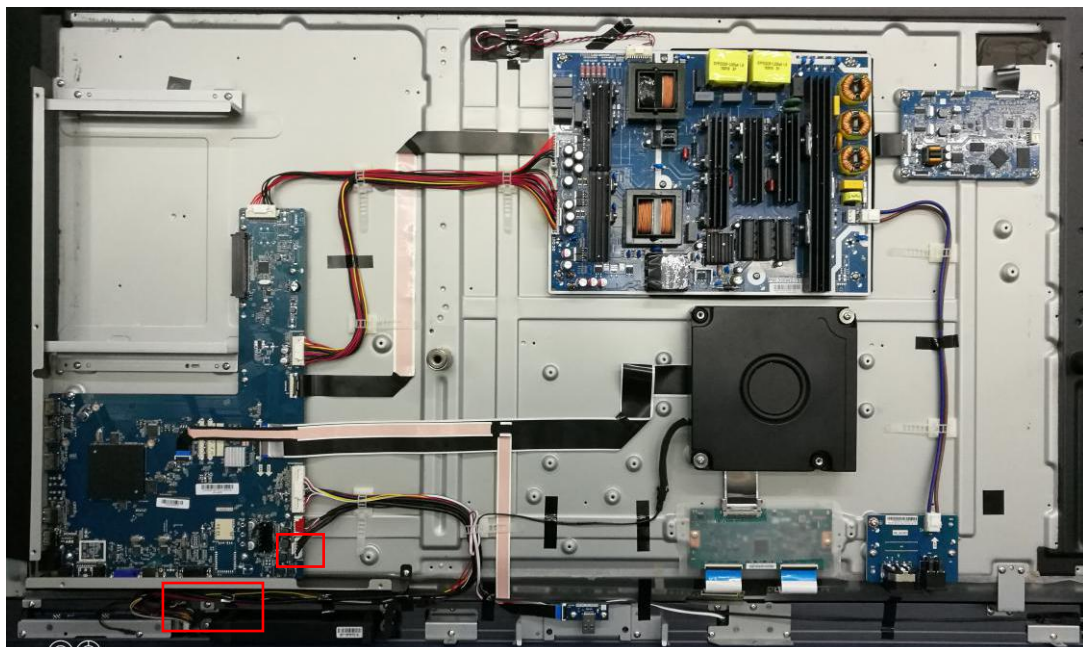




**14.Speaker cable(TV main board to speaker)**

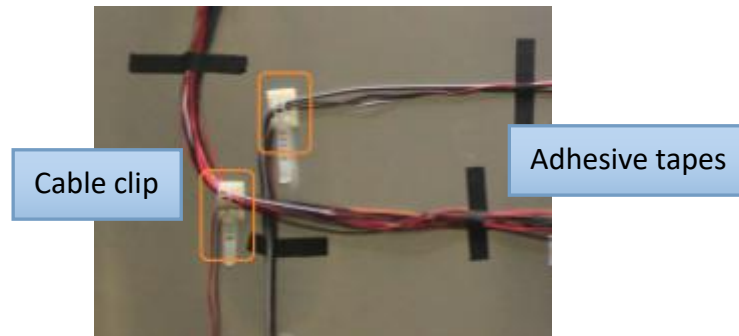


**15.Touch cable(TV main board to touch frame)**



### III. Maintenance Description

■ To replace the internal cables you need to remove the rear covers first, and then remove the cable clips and the adhesive tapes fixed on the screen ( showed as below ).



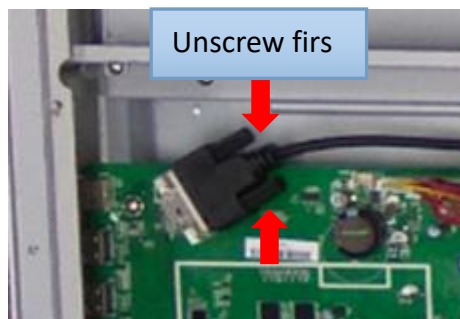
■ when the step above is done, pinch the cable plug and press to unlock, then pull out the plug from the socket. (To the cables without lock structure, just pull out the plug from the socket)

■ unplug the another plug of the cable to finish the cable removal.

■ Plug a new cable to replace the removed one, and fix the cable back to the screen by cable clips and adhesive tapes.

⚠ 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.

⚠ Some cables (such as HDMI Cable) are fixed on metal structural parts or even circle boards with screws, to replace these cables, unscrewing the screws shall be done first.



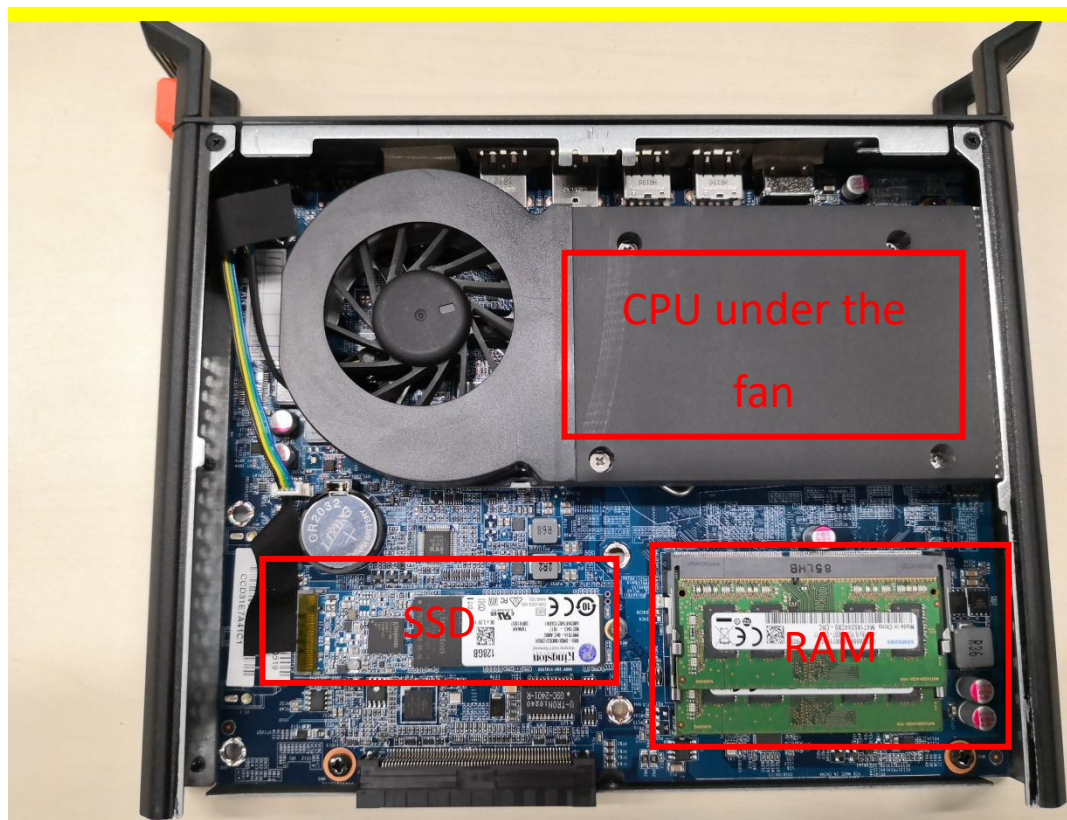
⚠ Cable replacement must be operated under the condition that all power supply has been fully cut off.

## Key Parts List (For reference only)

Part No	Component Name	Description	Quantity
004.034.0000766	AUO 65" Open Cell	60Hz,UHD,T650QVN06.3	1
004.034.0000765	AUO 65" TCON	T650QVN06.3 Control PCB	1
004.057.0000518	AC connector board	SR_AC001A,90~264Vac	1
004.057.0000084	Key board	SRC.KEY.01A	1
004.057.0000673	USB board	SRF.KEYUSB.01B	1
004.057.0000548	USB HUB board	SRCM.USBHUB.02D	1
004.057.0000547	MIC board	SRC.Array_MIC.03B	2
004.057.0000546	Camera board	SRCM.Conference.5A	1
004.033.0000272	Camera	OV8865,8M,MIPI,1801	1
004.028.0000514	Speaker	190*20.6*39,YX130-R,8ohm,10W	2
004.028.0000513	Woofer	150x150x25,YX129-R,4ohm,16W	1
004.057.0000663	Main power board	PW.350W2.751G	1
004.057.0000594	TV main board	T.HV551.73D,2G,32G	1
004.057.0000672	WIFI connector board	SRC.Wi-Fi_AP_TRAN.02C	1
004.034.0001316	IR touch frame	X65G03	1

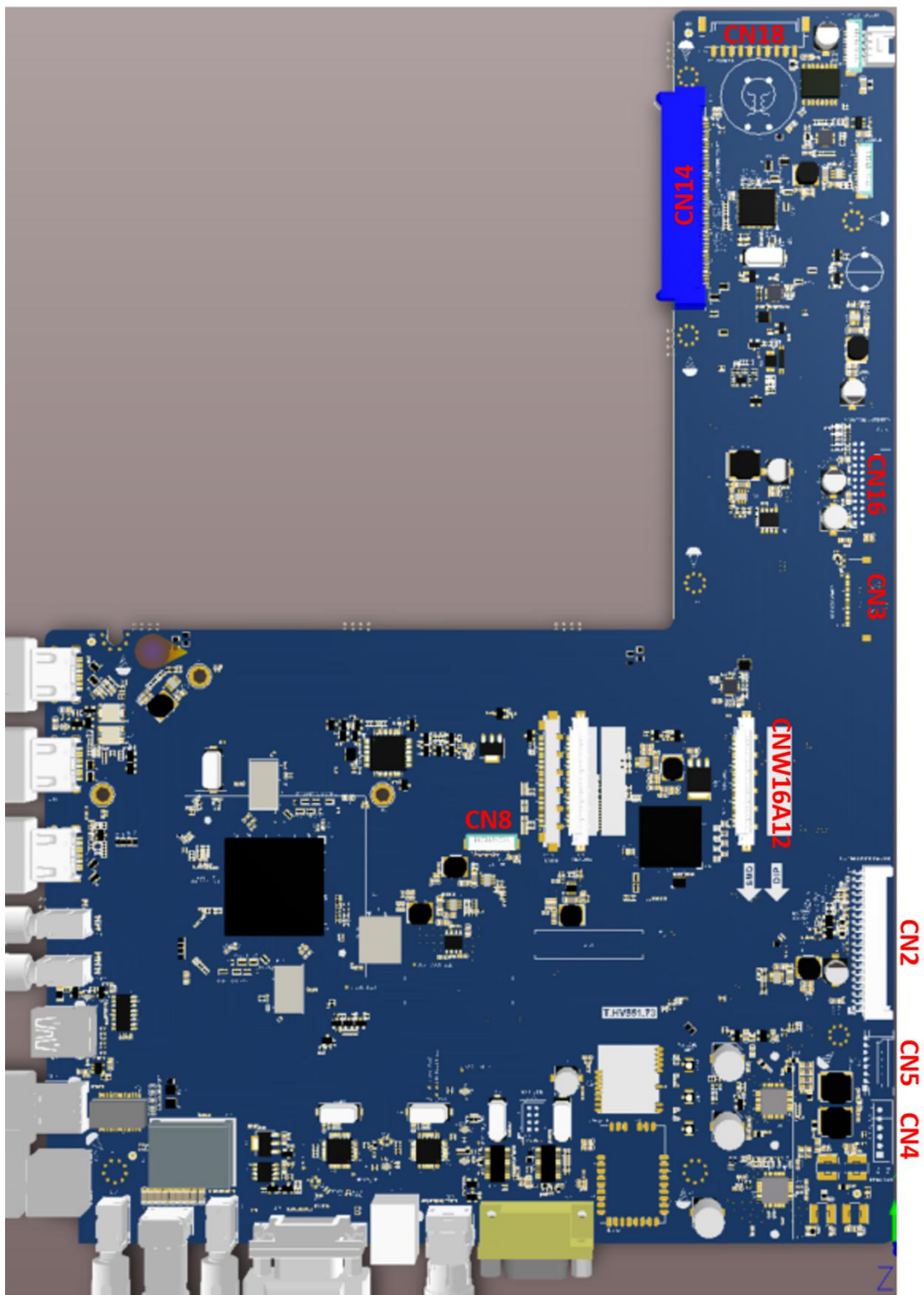
# Principle of Key Components

## I. PC Module (MT31)

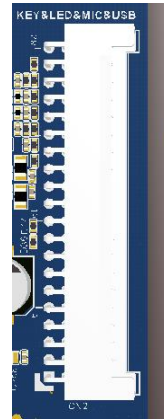
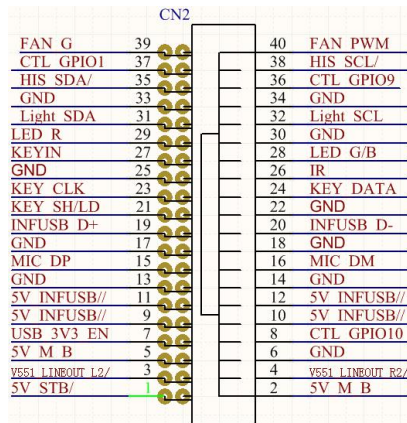




## II. TV Main Board (T.HV551.73D)

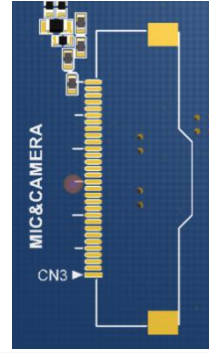
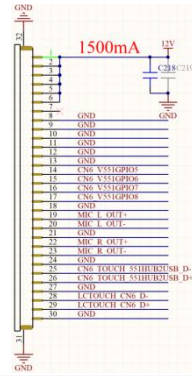


## 1、CN2: USB&KEY



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	5V_STB	NC	5V
2	5V_M_B	NC	5V
3	551_LINEOUT_L	LINE OUT	\
4	551_LINEOUT_R	LINE OUT	\
5	5V_M_B	NC	5V
6	GND	GND	0V
7	USB_3V3_EN	NC	3.3V
8	CTL_GPIO10	NC	\
9	5V_INFUSB	Front USB power supply	5V
10	5V_INFUSB	Front USB power supply	5V
11	5V_INFUSB	Front USB power supply	5V
12	5V_INFUSB	Front USB power supply	5V
13	GND	GND	0V

14	GND	GND	0V
15	MIC+	USB	Follow USB protocol
16	MIC-	USB	Follow USB protocol
17	GND	GND	0V
18	GND	GND	0V
19	INFUSB D+	USB	Follow USB protocol
20	INFUSB D-	USB	Follow USB protocol
21	KEY_SH/LD	GND	0V
22	GND	GND	0V
23	KEY_CLK	KEY_CLK	\
24	KEY_DATA	KEY_DATA	\
25	GND	GND	0V
26	IR	IR	\
27	KEYIN	KEYIN	\
28	LED_G/B	LED signal	Red light: 0V; Blue light: 2.7V
29	LED_R	LED signal	Red light: 2.0V; Blue light: 1.3V
30	GND	GND	0V
31	LIGHT_SDA	Light-sensitive	Follow I2C protocol
32	LIGHT_SCL	Light-sensitive	Follow I2C protocol
33	GND	GND	0V
34	GND	GND	0V
35	HIS_SDA	HIS I2C	Follow I2C protocol
36	CTL_GPIO9	\	\
37	CTL_GPIO1	\	\
38	HIS_SCL	HIS I2C	Follow I2C protocol
39	FAN_G	Fan detect	3.3V
40	FAN_PWM	FAN_PWM	High level: 3.3V-PWM signal
2、CN3: to USB HUB board			

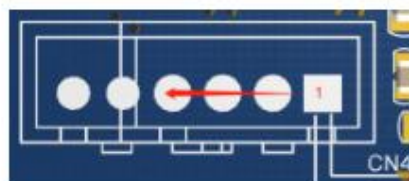
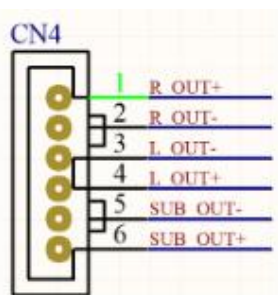


SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	12V	Power supply	12V
2	12V	Power supply	12V
3	12V	Power supply	12V
4	12V	Power supply	12V
5	12V	Power supply	12V
6	12V	Power supply	12V
7	NC	\	\
8	GND	GND	0V
9	GND	GND	0V
10	GND	GND	0V
11	GND	GND	0V
12	GND	GND	0V
13	GND	GND	0V
14	CN6_V551GPIO 5	NC	\
15	CN6_V551GPIO 6	NC	\
16	CN6_V551GPIO 7	NC	\
17	CN6_V551GPIO 8	NC	\
18	GND	GND	0V



19	MIC_L_OUT+	Audio output	\
20	MIC_L_OUT-	Audio output	\
21	GND	GND	0V
22	MIC_R_OUT+	Audio output	\
23	MIC_R_OUT-	Audio output	\
24	GND	GND	0V
25	CN6_TOUCH_5 51HUB2USB_D-	Touch USB(NC)	Follow USB protocol
26	CN6_TOUCH_5 51HUB2USB_D +	Touch USB(NC)	Follow USB protocol
27	GND	GND	0V
28	LCTOUCH_CN6 _D-	Camera&MIC USB	Follow USB protocol
29	LCTOUCH_CN6 _D+	Camera&MIC USB	Follow USB protocol
30	GND	GND	0V

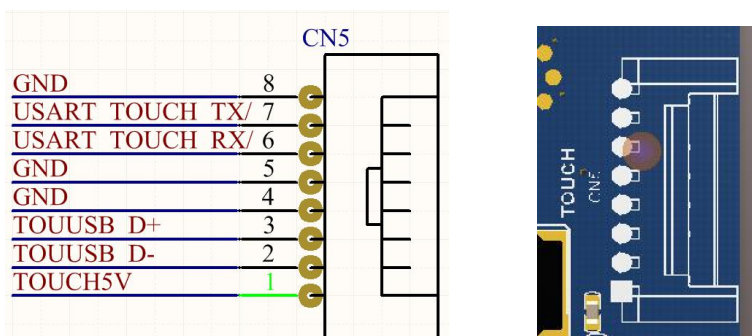
### 3、CN4: Speaker



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	R_OUT+	Right speaker+	Play 1KHz maximum audio around 9V
2	R_OUT-	Right speaker-	

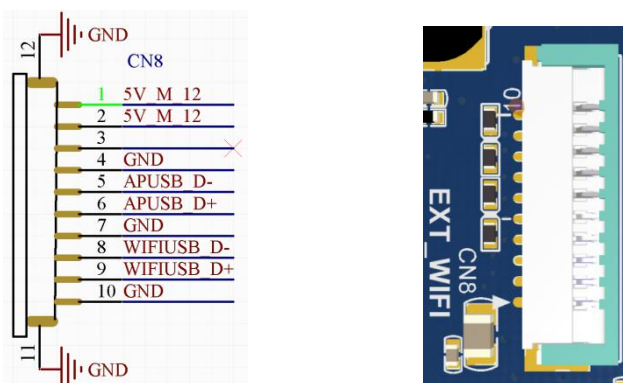
3	L_OUT-	Left speaker-	
4	L_OUT+	Left speaker+	
5	SUB_OUT-	Bass speaker-	Play 1KHz maximum audio around 8V
6	SUB_OUT+	Bass speaker+	Play 1KHz maximum audio around 8V

#### 4、CN5: Touch port



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	TOUCH_5V	Power supply	5V
2	TOUCHUSB_D-	USB	Follow USB protocol
3	TOUCHUSB_D+	USB	Follow USB protocol
4	GND	GND	0V
5	GND	GND	0V
6	TOUCH_RX	UART	\
7	TOUCH_TX	URAT	\
8	GND	GND	0V

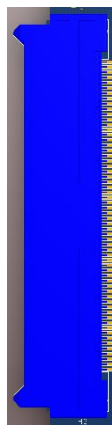
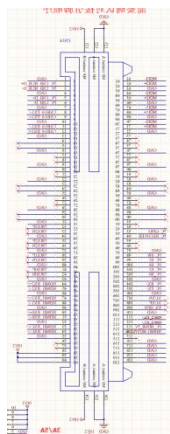
#### 5、CN8: WIFI&AP



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
-----	--------	-------------	---------------

1	5V_M_12	Power supply	5V
2	5V_M_12	Power supply	5V
3	NC	\	\
4	GND	GND	0V
5	APUSB_D-	AP USB	Follow USB protocol
6	APUSB_D+	AP USB	Follow USB protocol
7	GND	GND	0V
8	WIFIUSB_D-	WIFI USB	Follow USB protocol
9	WIFIUSB_D+	WIFI USB	Follow USB protocol
10	GND	GND	0V

#### 6、CN14: PC signal connector



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	GND	GND	0V
2	PC_USB_HUB_D+	PC USB	Follow USB protocol
3	PC_USB_HUB_D-		
4	GND	GND	0V
5	PC_USB_D+	PC USB	Follow USB protocol
6	PC_USB_D-		
7	GND	GND	0V

8	USB3.0_TX1-	USB3.0	Follow USB protocol
9	USB3.0_TX1+		
10	GND	GND	0V
11	USB3.0_RX1-	USB3.0	Follow USB protocol
12	USB3.0_RX1+		
13	GND	GND	0V
14	NC	\	\
15	NC	\	\
16	GND	GND	0V
17	NC	\	\
18	NC	\	\
19	GND	GND	0V
20	NC	\	\
21	NC	\	\
22	GND	GND	0V
23	NC	\	\
24	NC	\	\
25	GND	GND	0V
26	NC	\	\
27	NC	\	\
28	GND	GND	0V
29	NC	\	\
30	NC	\	\
31	GND	GND	0V
32	NC	\	\
33	NC	\	\
34	GND	GND	0V
35	NC	\	\

36	NC	\	\
37	GND	GND	0V
38	NC	\	\
39	NC	\	\
40	GND	GND	0V
41	NC	\	\
42	NC	\	\
43	GND	GND	0V
44	HDMI1_RX2+	HDMI signal	Follow HDMI protocol GND 0V
45	HDMI1_RX2-		
46	GND		
47	HDMI1_RX1+		
48	HDMI1_RX1-		
49	GND		
50	HDMI1_RX0+		
51	HDMI1_RX0-		
52	GND		
53	HDMI1_RXC+		
54	HDMI1_RXC-		
55	GND		
56	NC	\	\
57	NC	\	\
58	+18V	PC Power supply	18V
59	+18V	PC Power supply	18V
60	+18V	PC Power supply	18V
61	MDI3-	Ethernet	Follow Ethernet protocol

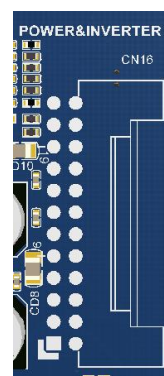
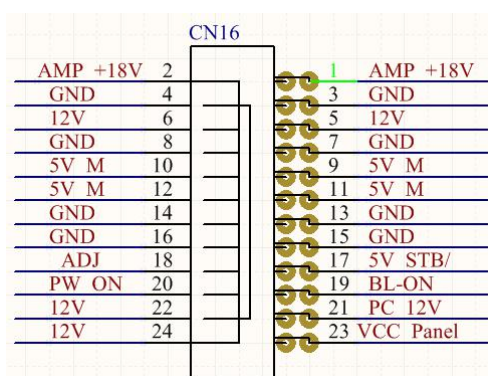
62	MDI3+	GND	GND 0V
63	GND		
64	MDI2-		
65	MDI2+		
66	GND		
67	MDI1-		
68	MDI1+		
69	GND		
70	MDI0-		
71	MDI0+		
72	GND		
73	NC	\	\
74	NC	\	\
75	NC	\	\
76	GND	GND	0V
77	NC	\	\
78	NC	\	\
79	GND	GND	0V
80	NC	\	\
81	NC	\	\
82	GND	GND	0V
83	NC	\	\
84	NC	\	\
85	GND	GND	0V
86	NC	\	\
87	NC	\	\
88	GND	GND	0V
89	NC	\	\
90	NC	\	\



91	NC	\	\
92	NC	\	\
93	PC_GPIO	Fault detection, reservation	\
94	PC_RECOVER	PC recovery	\
95	NC	\	\
96	NC	\	\
97	GND	GND	0V
98	PC_SW	Switch pulse	There is a 500ms pulse when the power is turned off, and the rest is 0V.
99	PC_S5	PC status detection	Shutdown is high and the rest is low
100	PC_S4		Status indication: power on and sleep are high, others are low
101	PC_S3		Status indication: power on is low, the rest is high
102	PC_S0		Status indication: Insert is low, the rest is high
103	GND	GND	0V
104	PC_RX	Serial signal	\
105	PC_TX		
106	GND	GND	0V
107	NC	\	\
108	NC	\	\
109	NC	\	\
110	GND	GND	0V
111	HDMI2_SDA	I2C	Follow the I2C protocol
112	HDMI2_SCL	I2C	
113	PC_HDMI_5V	Signal	Signal output 5V

		Detection	
114	HDMI-HPD	HPD signal	Signal output 5V/3.3V
115	NC	\	\
116	GND	GND	0V
117	GND	GND	0V
118	GND	GND	0V
119	GND	GND	0V
120	GND	GND	0V

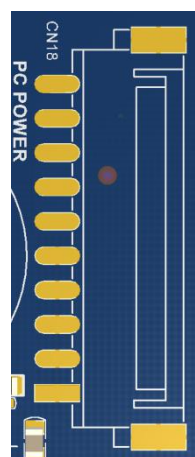
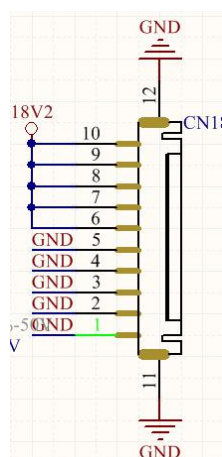
## 7、CN16: TV main board power supply



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	AMP18V	AMP 24V	24V
2	AMP18V		24V
3	GND	GND	0V
4	GND		0V
5	12V	12V	12V
6	12V		12V
7	GND	GND	0V
8	GND		0V
9	5VM	5V	5V
10	5VM		5V
11	5VM		5V
12	5VM		5V

13	GND	GND	0V
14	GND		0V
15	GND		0V
16	GND		0V
17	5VSTB	5VSTB	5V
18	ADJ	Backlight adjust	3.3V
19	BLON	Backlight power supply control	5V
20	PWON	Power supply control	5V
21	PC-12V	PC power replay control	12V
22	VBO_12V	VBO Power supply	12V

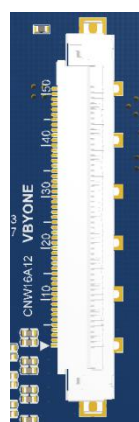
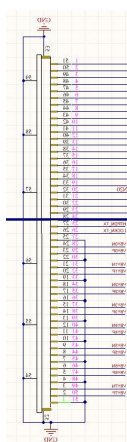
#### 8、CN18: PC Power supply



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	GND	GND	0V
2	GND	GND	0V
3	GND	GND	0V

4	GND	GND	0V
5	GND	GND	0V
6	18V	Power supply	18V
7	18V	Power supply	18V
8	18V	Power supply	18V
9	18V	Power supply	18V
10	18V	Power supply	18V

#### 9、CNW16A12: Panel driver(TCON)

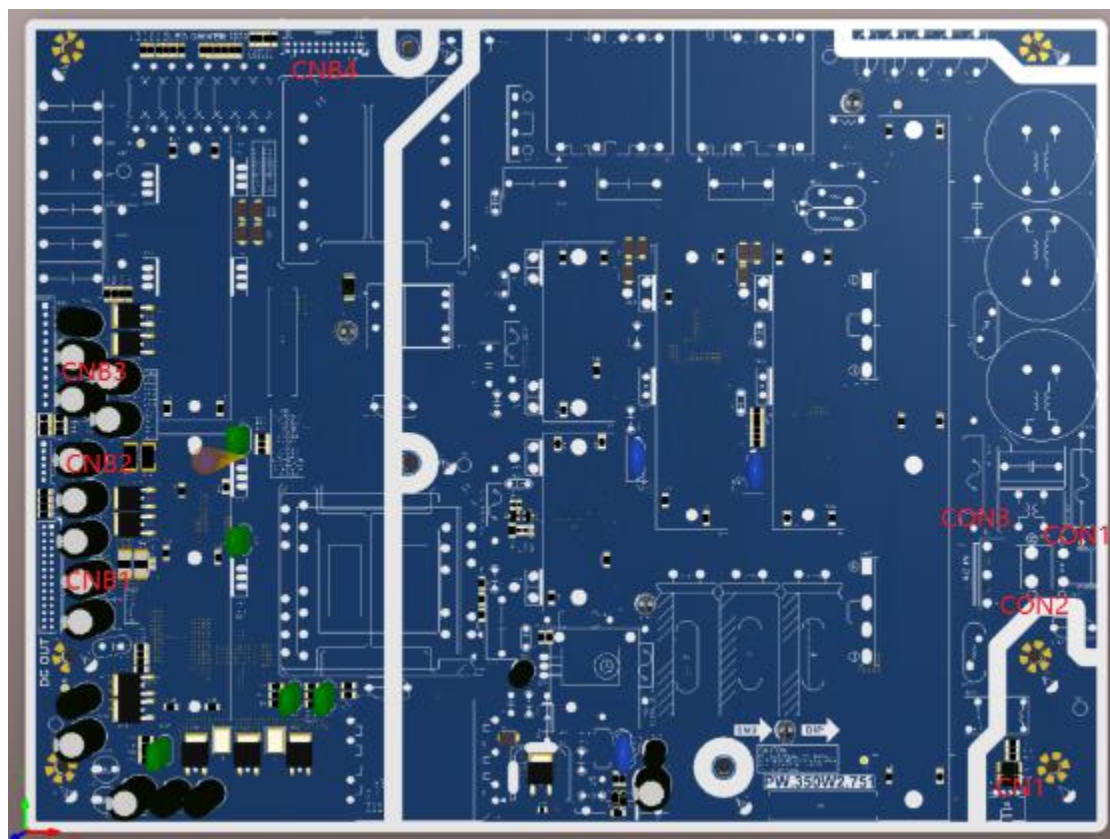


SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	GND	VBO signal	Follow protocol
2	VBY7P		
3	VBY7N		
4	GND		
5	VBY6P		
6	VBY6N		
7	GND		
8	VBY5P		
9	VBY5N		
10	GND		
11	VBY4P		
12	VBY4N		

13	GND		
14	VBY3P		
15	VBY3N		
16	GND		
17	VBY2P		
18	VBY2N		
19	GND		
20	VBY1P		
21	VBY1N		
22	GND		
23	VBY0P		
24	VBY0N		
25	GND		
26	LOCKN		
27	HTPDN		
28	GND	GND	0V
29	AGP	NC	0V
30	LD_EN	NC	0V
31	Bit-Sel	GND	0V
32	JAE_PIN20	JAE_PIN20	0V
33	SCL	NC	0V
34	SDA	NC	0V
35	PCID_EN_PIN1 7	NC	0V
36	D_Fomat1	NC	0V
37	D_Fomat0	NC	0V
38	JAE_PIN14	NC	0V
39	JAE_PIN13	GND	0V
40	JAE_PIN12	GND	0V

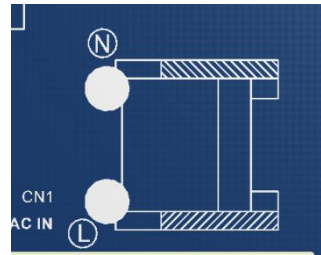
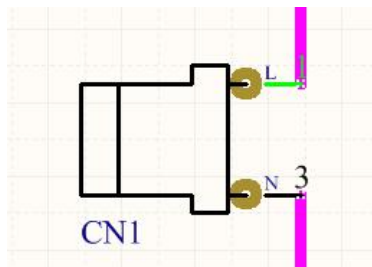
41	JAЕ_PIN11	GND	0V
42	JAЕ_PIN10	GND	0V
43	NC	NC	0V
44	VCC	VCC	12V
45	VCC	VCC	12V
46	VCC	VCC	12V
47	VCC	VCC	12V
48	VCC	VCC	12V
49	VCC	VCC	12V
50	VCC	VCC	12V
51	VCC	VCC	12V

### III. Main power board (PW.350W2.751)



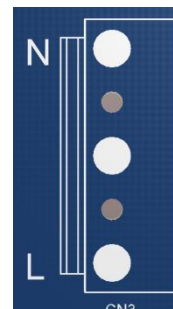
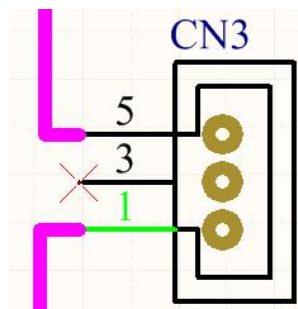


## 1. CON1 (AC IN)



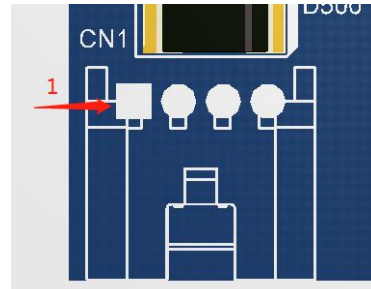
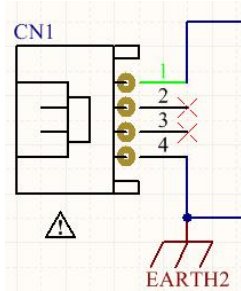
SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	L	Fire	220Vac (According to the local voltage)
2	NC	NC	NC
3	N	GND	220Vac (According to the local voltage)

## 2. CON3 (POWER control)



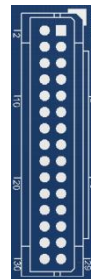
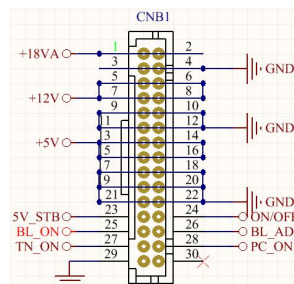
SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	L	Fire	220Vac (According to the local voltage)
2	NC	NC	NC
3	NC	NC	NC
4	NC	NC	NC
5	N	GND	220Vac (According to the local voltage)

### 3. CN1 (Relay control)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	12V	12V control	12V
2	NC	NC	NC
3	NC	NC	NC
4	GND	GND	0V

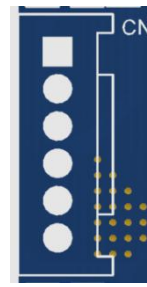
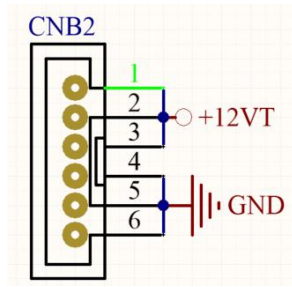
### 4. CNB1 (Main power supply)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	18VA	AMP power supply	18V
2	18VA	AMP power supply	18V
3	GND	GND	0V
4	GND	GND	0V
5	12V	12V	12V
6	12V	12V	12V
7	12V	12V	12V

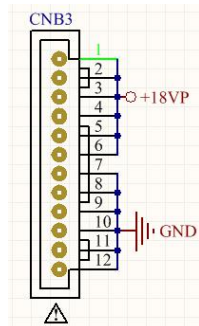
8	12V	12V	12V
9	GND	GND	0V
10	GND	GND	0V
11	GND	GND	0V
12	GND	GND	0V
13	5V	5V	5V
14	5V	5V	5V
15	5V	5V	5V
16	5V	5V	5V
17	GND	GND	0V
18	GND	GND	0V
19	GND	GND	0V
20	GND	GND	0V
21	GND	GND	0V
22	GND	GND	0V
23	5V_STB	5V	5V
24	ON/OFF	IFP power supply on/off	3.3V
25	BL_ON	Backlight power supply control	3.3V
26	BL_ADJ	ADJ	PWM with a high level of 3.3V
27	TN_ON	TCON power supply	5V
28	PC_ON	PC AC power supply control	12V
29	GND	GND	0V
30	NC	NC	NC

### 5. CNB2 (12V power supply)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	12V	12V TCON	12V
2	12V	12V TCON	12V
3	12V	12V TCON	12V
4	GND	GND	0V
5	GND	GND	0V
6	GND	GND	0V

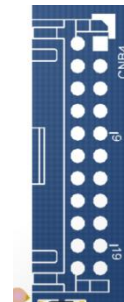
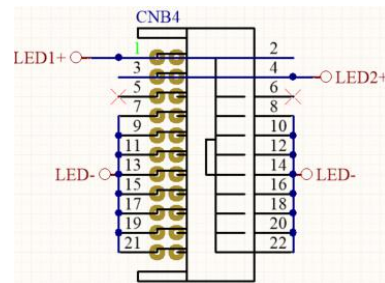
### 6. CNB3 (18V power supply)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	18V	18V FOR PC	18V
2	18V	18V FOR PC	18V
3	18V	18V FOR PC	18V
4	18V	18V FOR PC	18V
5	18V	18V FOR PC	18V

6	18V	18V FOR PC	18V
7	GND	GND	0V
8	GND	GND	0V
9	GND	GND	0V
10	GND	GND	0V
11	GND	GND	0V
12	GND	GND	0V

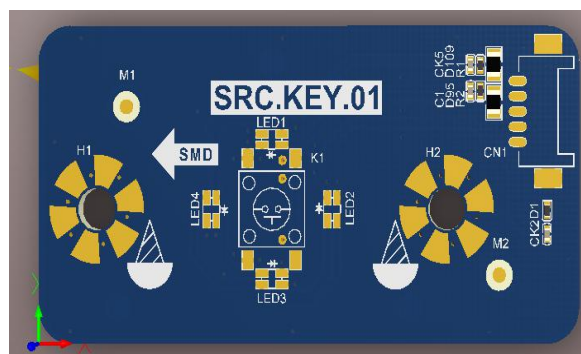
#### 7. CNB4:Backlight



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	LED1+	LED1+	/
2	LED1+	LED1+	/
3	LED2+	LED2+	/
4	LED2+	LED2+	/
5	NC	NC	NC
6	NC	NC	NC
7	LED-	LED-	/
8	LED-	LED-	/
9	LED-	LED-	/
10	LED-	LED-	/

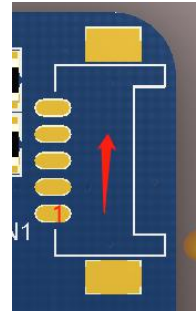
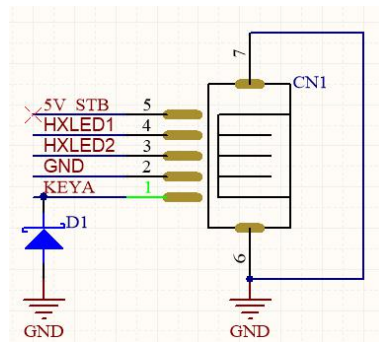
11	LED-	LED-	/
12	LED-	LED-	/
13	LED-	LED-	/
14	LED-	LED-	/
15	LED-	LED-	/
16	LED-	LED-	/
17	LED-	LED-	/
18	LED-	LED-	/
19	LED-	LED-	/
20	LED-	LED-	/
21	LED-	LED-	/
22	LED-	LED-	/

#### IV. Key board



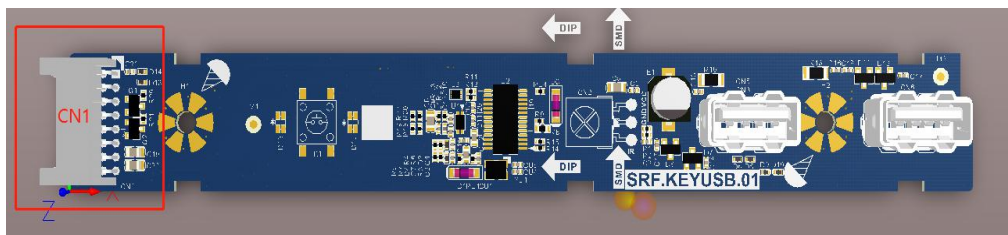


## 1. CN1: key

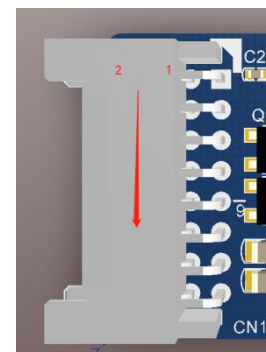
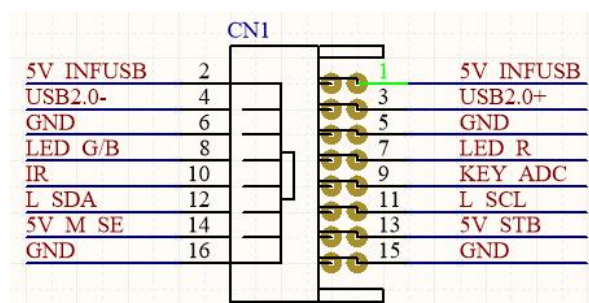


SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	KEYA	Power key	Power button is 0V when pressed, otherwise 3.3V
2	GND	GND	0V
3	HXLED2	Blue light	Red light is about 0V; blue light is about 2.7V
4	HXLED1	Red light	About 2.0V for red light and 1.3V for blue light
5	5V_STB	5V_STB	Standby: 5V

## v. USB board

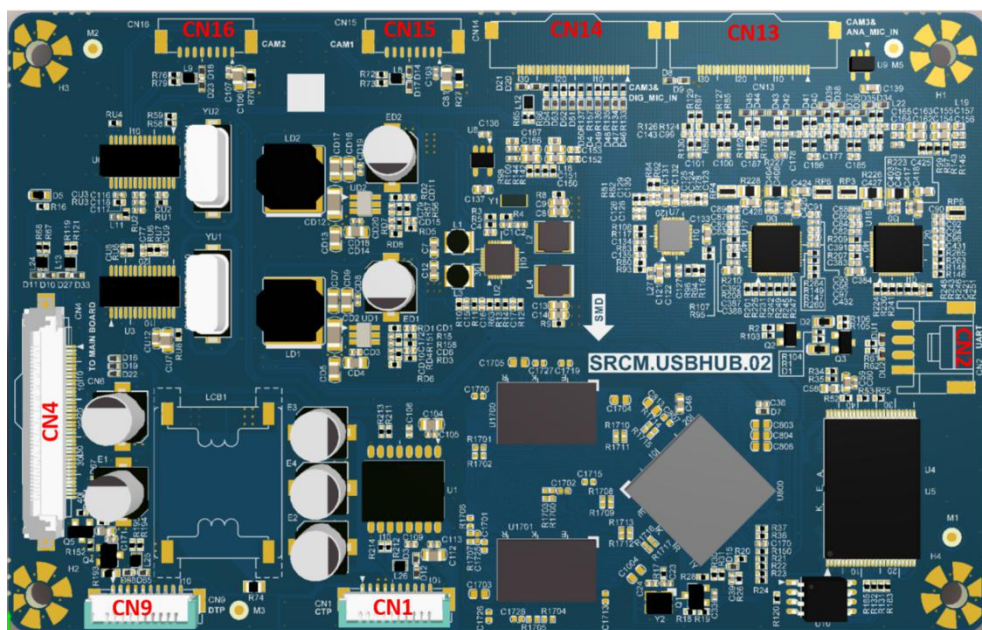


### 1. CN1

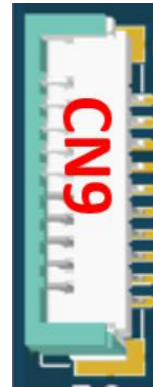
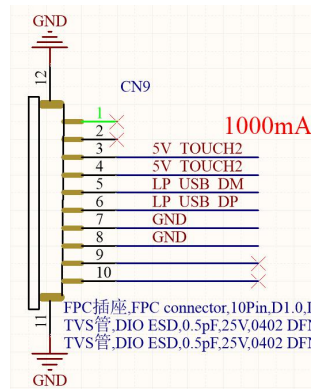


SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	5V_INFUSB	USB power supply	5V
2	5V_INFUSB		
3	USB2.+	Front USB D+	Follow USB2.0 protocol
4	USB2.-	Front USB D-	
5	GND	GND	0V
6	GND	GND	0V
7	LED_R	NC	0V
8	LED_G/B	NC	0V
9	KEY_ADC	NC	0V
10	IR	IR receive	5V
11	L_SCL	SCL	Follow IIC protocol
12	L_SDA	SAD	
13	5V_STB	5V_STB	Standby 5V
14	5V_M_SE	5V_M	5V
15	GND	GND	0V
16	GND	GND	0V

## VI. USB HUB board

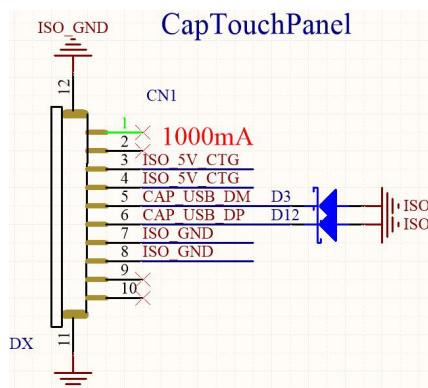


## 1. CN9 (EMR connector)



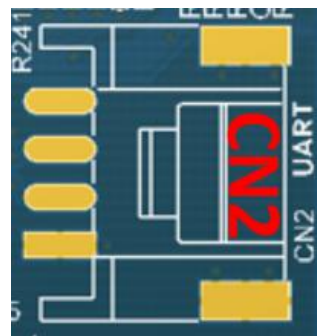
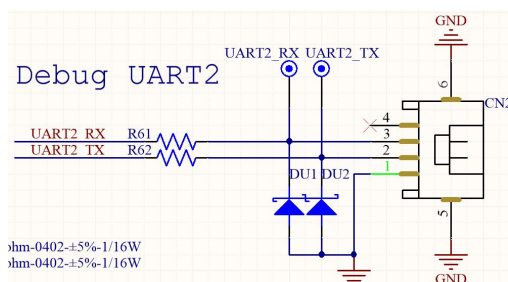
SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	NC	NC	0V
2	NC	NC	0V
3	5V_TOUCH 2	EMR 5V power supply	5V
4	5V_TOUCH 2	EMR 5V power supply	5V
5	LP_USB_D M	USB D-	Follow USB2.0 protocol
6	LP_USB_D P	USB D+	
7	GND	GND	0V
8	GND	GND	
9	NC	NC	0V
10	NC		

## 2. CN1 (P-cap connector)



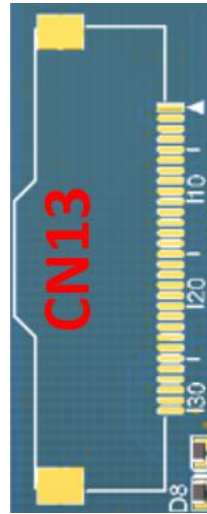
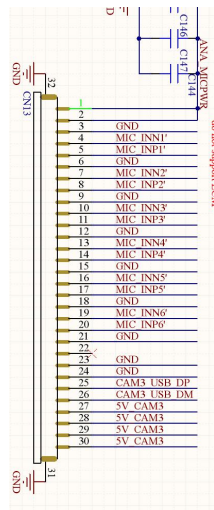
SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	NC	NC	0V
2	NC	NC	0V
3	ISO_5V_CTG	P-CAP 5V power supply	5V
4	ISO_5V_CTG	P-CAP 5V power supply	5V
5	CAP_USB_DM	USB D-	Follow USB2.0 protocol
6	CAP_USB_DP	USB D+	
7	ISO_GND	GND	0V
8	ISO_GND	GND	
9	NC	NC	0V
10	NC		

## 2. CN2 (Serial Debug port)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	GND	GND	0V
2	UART2_RX	UART2_RX	High level 3.3V waveform, follow serial protocol
3	UART2_TX	UART2_TX	
4	NC	NC	0V

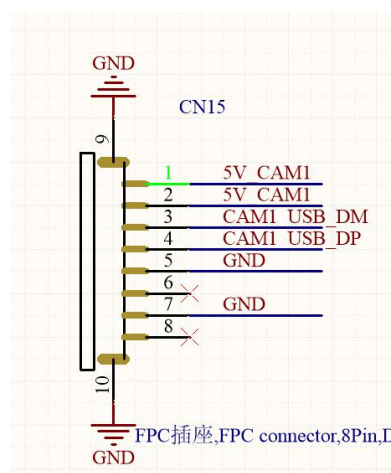
#### 4.CN13 ( Camera board-->USB HUB board)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	ANA_MICP WR	System power supply	3.3V
2	ANA_MICP WR		
3	GND	GND	0
4	MIC_INN1'	GND	0
5	MIC_INP1'	Microphone ADC acquisition channel 1	About 1V
6	GND	GND	0
7	MIC_INN2'	GND	0
8	MIC_INP2'	Microphone ADC acquisition channel 2	About 1V
9	GND	GND	0
10	MIC_INN3'	GND	0
11	MIC_INP3'	Microphone ADC acquisition channel 3	About 1V
12	GND	GND	0
13	MIC_INN4'	GND	0
14	MIC_INP4'	Microphone ADC acquisition channel 4	About 1V
15	GND	GND	0

16	MIC_INN5'	GND	0
17	MIC_INP5'	Microphone ADC acquisition channel 5	About 1V
18	GND	GND	0
19	MIC_INN6'	GND	0
20	MIC_INP6'	Microphone ADC acquisition channel 6	About 1V
21	GND	GND	0
22	NC	GND	0
23	GND	GND	0
24	GND		
25	CAM3_USB_DP	USB D+	Follow USB2.0 protocol
26	CAM3_USB_DM	USB D-	
27	5V_CAM3	Camera board power supply	5V
28			
29			
30			

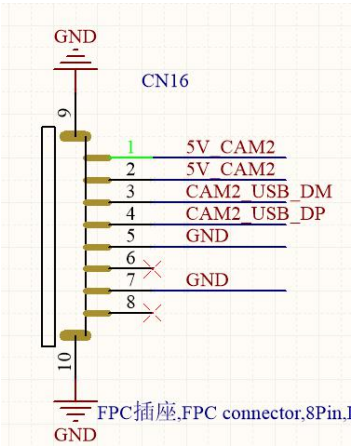
#### 5.CN15（CAM1 port）



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	5V_CAM1	Camera board power supply	5V
2			
3	CAM1_USB_DM	USB D-	Follow USB2.0 protocol

4	CAM1_USB_DP	USB D+	
5	GND	GND	0V
6	NC	NC	0V
7	GND	GND	0V
8	NC	NC	0V

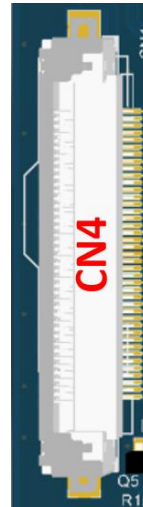
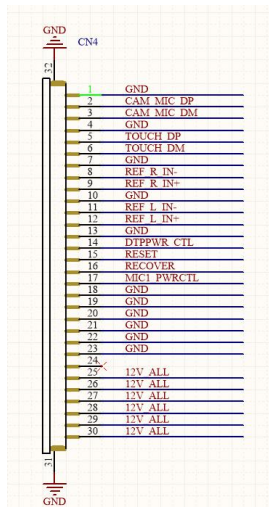
6.CN16（CAM2 port）



1	5V_CAM2	Camera board power supply	5V
2			
3	CAM2_USB_DM	USB D-	Follow USB2.0 protocol
4	CAM2_USB_DP	USB D+	
5	GND	GND	0V
6	NC	NC	0V
7	GND	GND	0V
8	NC	NC	0V



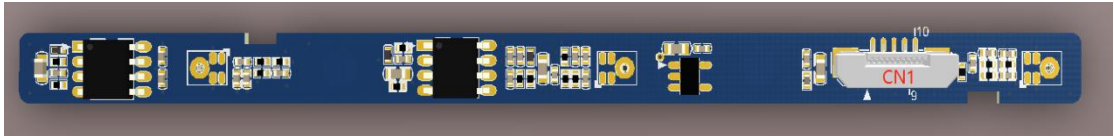
## 7.CN4(TV main board to USB HUB board)

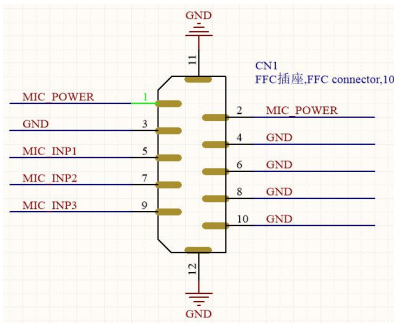
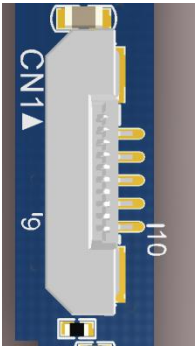


SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	GND	GND	0V
2	CAM_MIC_DP	USB D+	Follow USB2.0 protocol
3	CAM_MIC_DM	USB D-	
4	GND	GND	0V
5	TOUCH_DP	USB D+	Follow USB2.0 protocol
6	TOUCH_DM	USB D-	
7	GND	GND	0V
8	REF_R_IN-	Right channel sampling signal D+	Follow USB2.0 protocol
9	REF_R_IN+	Right channel sampling signal D-	
10	GND	GND	0V
11	REF_L_IN-	Left channel sampling signal D+	Follow USB2.0 protocol
12	REF_L_IN+	Left channel sampling signal D-	
13	GND	GND	0V
14	DTPWR_CTL	MIC board power control pin	Follow USB2.0 protocol
15	RESET	Upgrade mode control pin	
16	RECOVER	Reset control pin	

17	MIC1_PWR CTL	Power control pin	
18	GND	GND	0V
19			
20			
21			
22			
23			
24	NC	NC	0V
25	12V_ALL	USB HUB board 12V power supply	12V
26			
27			
28			
29			
30			

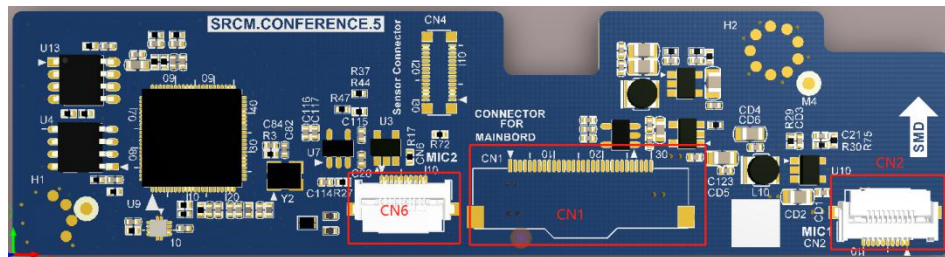
VII.MIC board



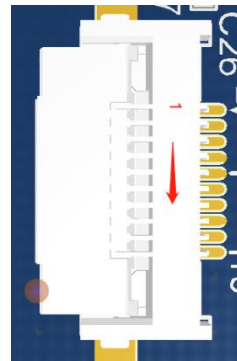
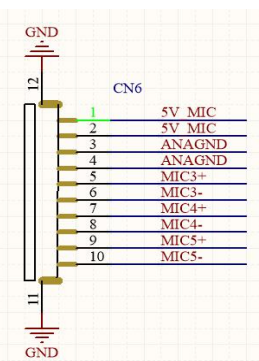
1. CN1 MIC port			
<div>   </div>			
SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	MIC_POWE R	MIC board power supply	5V

2	MIC_POWER	MIC board power supply	5V
3	GND	GND	0V
4	GND	GND	0V
5	MIC_NP1	Microphone ADC acquisition channel 1	About 1V
6	GND	GND	0V
7	MIC_NP2	Microphone ADC acquisition channel 2	About 1V
8	GND	GND	0V
9	MIC_NP3	Microphone ADC acquisition channel 3	About 1V
10	GND	GND	0V
11	GND		
12	GND		

## VIII. Camera board



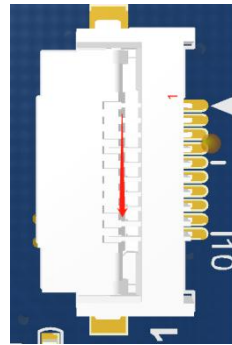
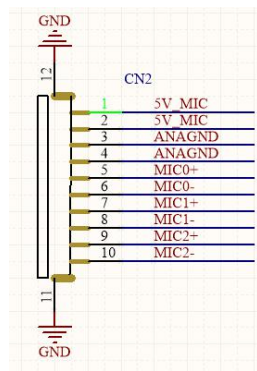
### 1. CN6 (MIC board->Camera board)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	5V_MIC	MIC power supply	5V

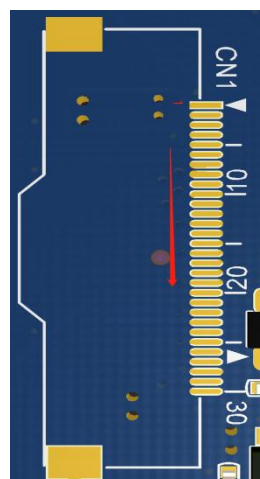
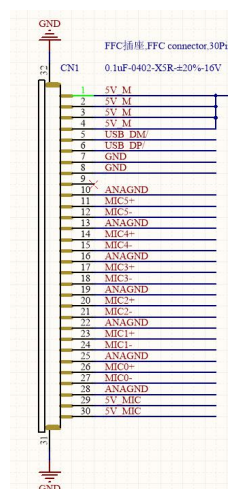
2	5V_MIC	MIC power supply	5V
3	ANAGND	GND	0V
4	ANAGND	GND	0V
5	MIC3+	Microphone ADC acquisition channel	About 1V
6	MIC3-	GND	0V
7	MIC4+	Microphone ADC acquisition channel	About 1V
8	MIC4-	GND	0V
9	MIC5+	Microphone ADC acquisition channel	About 1V
10	MIC5-	GND	0V

## 2. CN2 (MIC board->camera board)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	5V_MIC	MIC power supply	5V
2	5V_MIC	MIC power supply	5V
3	ANAGND	GND	0V
4	ANAGND	GND	0V
5	MIC0+	Microphone ADC acquisition channel	About 1V
6	MIC0-	GND	0V
7	MIC1+	Microphone ADC acquisition channel	About 1V
8	MIC1-	GND	0V
9	MIC2+	Microphone ADC acquisition channel	About 1V
10	MIC2-	GND	0V

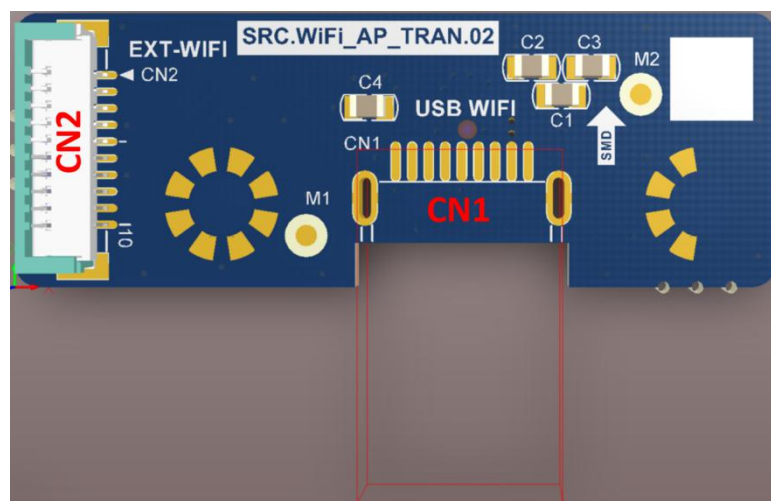
### 3. CN1 ( Camera board-->USB HUB board )



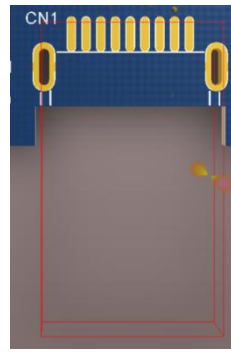
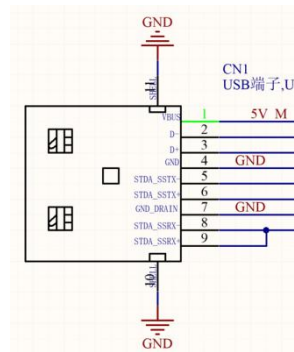
SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	5V_M	5V_M	5V
2	5V_M	5V_M	5V
3	5V_M	5V_M	5V
4	5V_M	5V_M	5V
5	USB_DM/	USB D-	Follow USB2.0 protocol
6	USB_DP/	USB D+	
7	GND	GND	0V
8	GND	GND	0V
9	NC	NC	0V
10	ANAGND	GND	0V
11	MIC5+	Microphone ADC acquisition channel 5	About 1V
12	MIC5-	GND	0V
13	ANAGND	GND	0V
14	MIC4+	Microphone ADC acquisition channel 4	About 1V
15	MIC4-	GND	0V
16	ANAGND	GND	0V
17	MIC3+	Microphone ADC acquisition channel 3	About 1V

18	MIC3-	GND	0V
19	ANAGND	GND	0V
20	MIC2+	Microphone ADC acquisition channel 2	About 1V
21	MIC2-	GND	0V
22	ANAGND	GND	0V
23	MIC1+	Microphone ADC acquisition channel 1	About 1V
24	MIC1-	GND	0V
25	ANAGND	GND	0V
26	MIC0+	Microphone ADC acquisition channel 0	About 1V
27	MIC0-	GND	0V
28	ANAGND	GND	0V
29	5V_MIC	MIC power power supply	5V
30	5V_MIC	MIC power power supply	5V

## IX. WIFI connector board

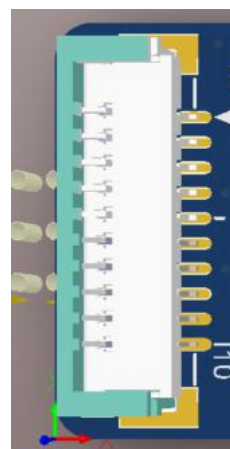
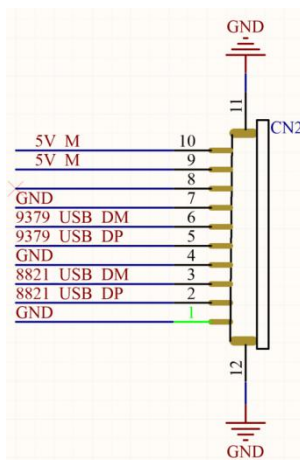


## 1. CN1 (to SI02)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
1	5V_M	SI02 power supply	5V
2	9379_USB_DM	AP USB	Follow USB2.0 protocol
3	9379_USB_DP	AP USB	Follow USB2.0 protocol
4	GND	GND	0V
5	8821_USB_DM	WiFi USB	Follow USB protocol
6	8821_USB_DM	WiFi USB	Follow USB protocol
7	GND	GND	0V
8	8821_USB_DP	WiFi USB	Follow USB protocol
9	8821_USB_DP	WiFi USB	Follow USB protocol

## 2. CN2 (Connect to TV main board CN8)



SN.	SYMBOL	DESCRIPTION	DEFAULT VALUE
-----	--------	-------------	---------------



1	GND	GND	0V
2	8821_USB_ DP	WiFi USB	Follow USB protocol
3	8821_USB_ DM	WiFi USB	Follow USB protocol
4	GND	GND	0V
5	9379_USB_ DP	AP USB	Follow USB protocol
6	9379_USB_ DM	AP USB	Follow USB protocol
7	GND	GND	0V
8	NC	\	\
9	5V_M	SI02 power supply	5V
10	5V_M	SI02 power supply	5V

## X. Touch Frame

### 1. Top view of touch frame main board



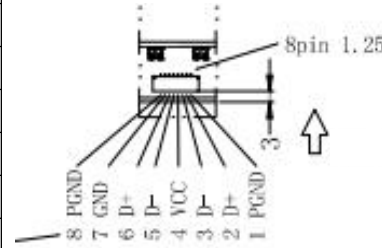
### 2. Back view of touch frame main board



### 3. Touch Cable Connector of Touch frame main board

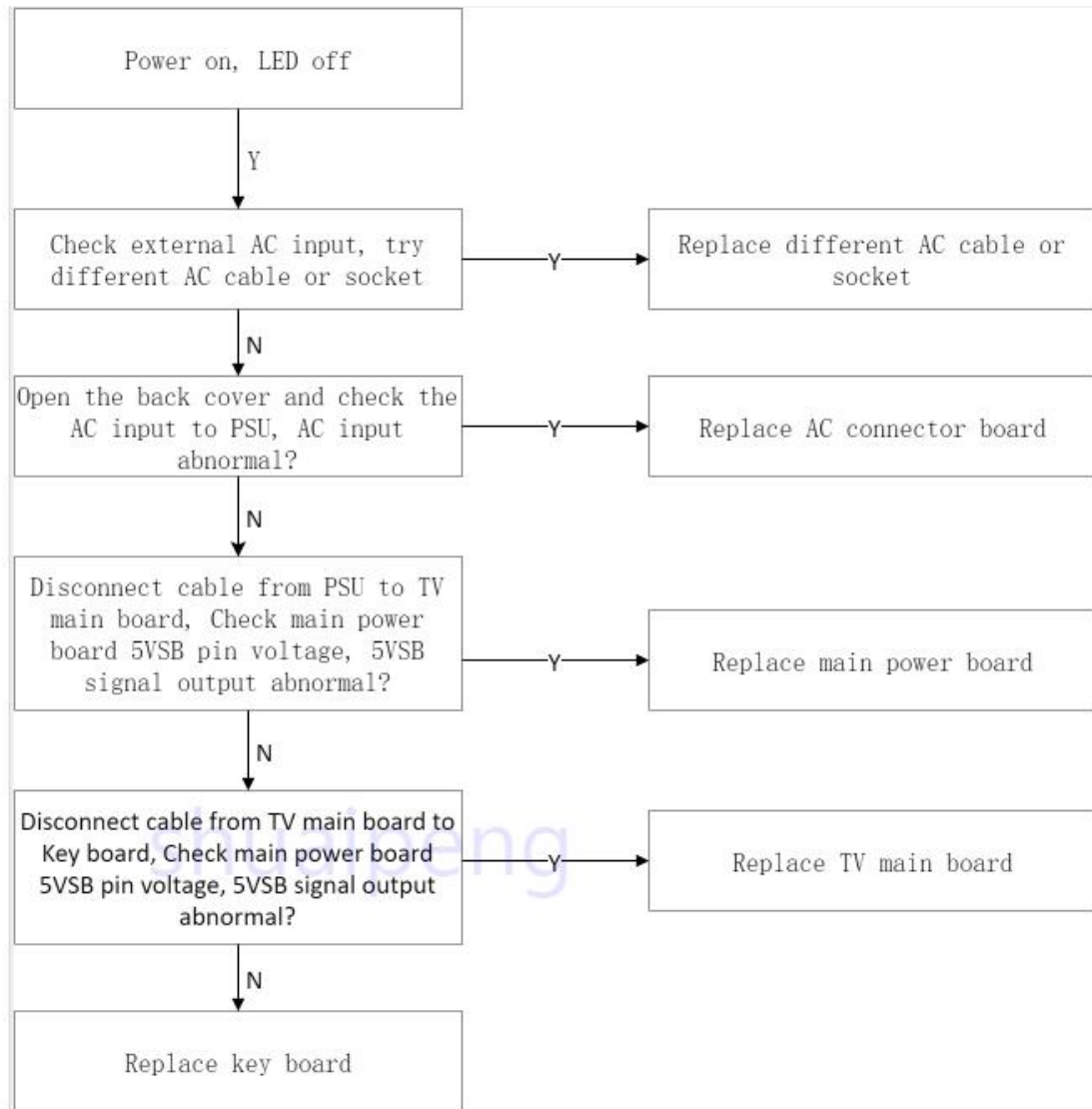


### 4. Touch Frame Connector Pin Definition

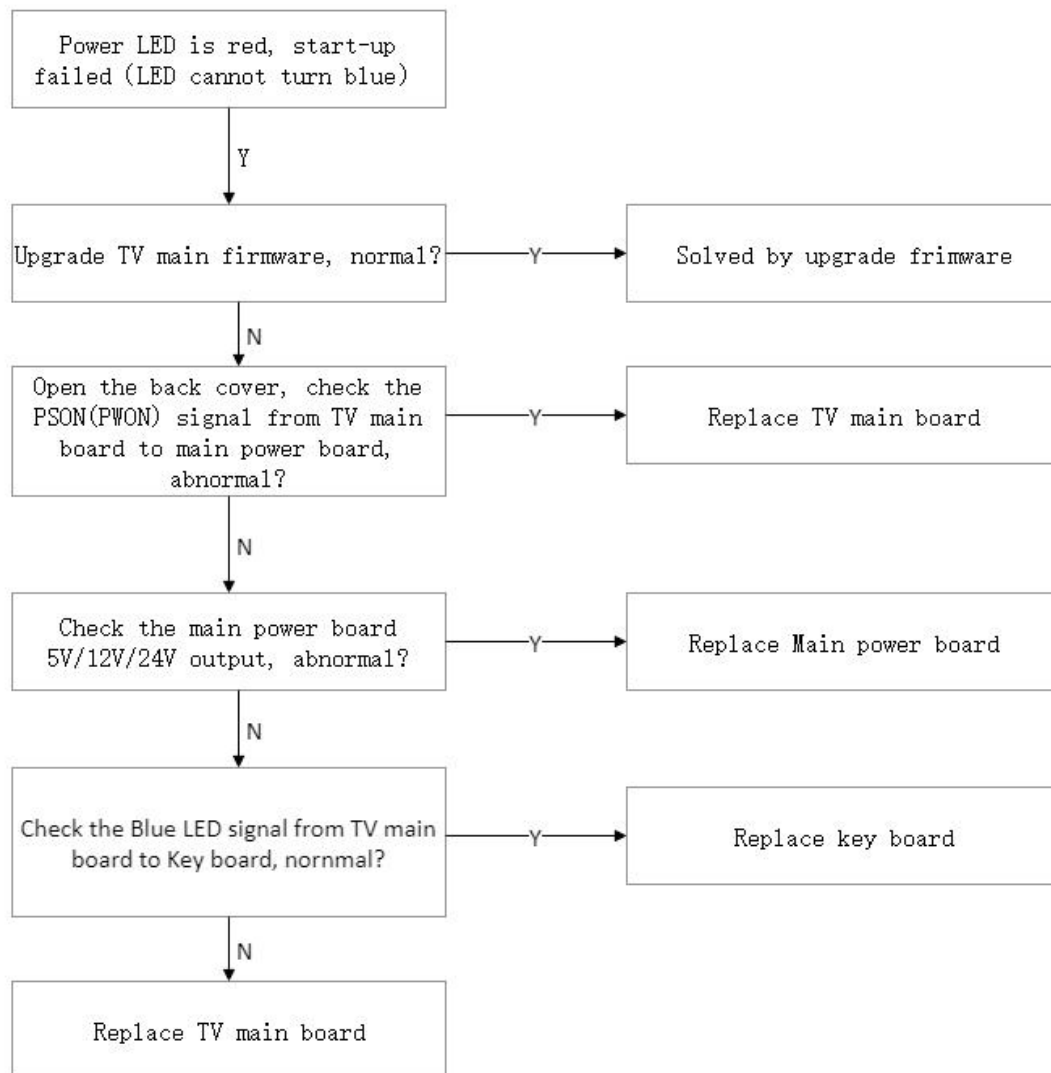
Pin	USB(connect TV main board)	USB(connect PC)	
1 PGND	/	√	
2 D+	/	√	
3 D-	/	√	
4 VCC	√	/	
5 D-	√	/	
6 D+	√	/	
7 GND	√	/	
8 PGND	√	/	

## Troubleshoot steps

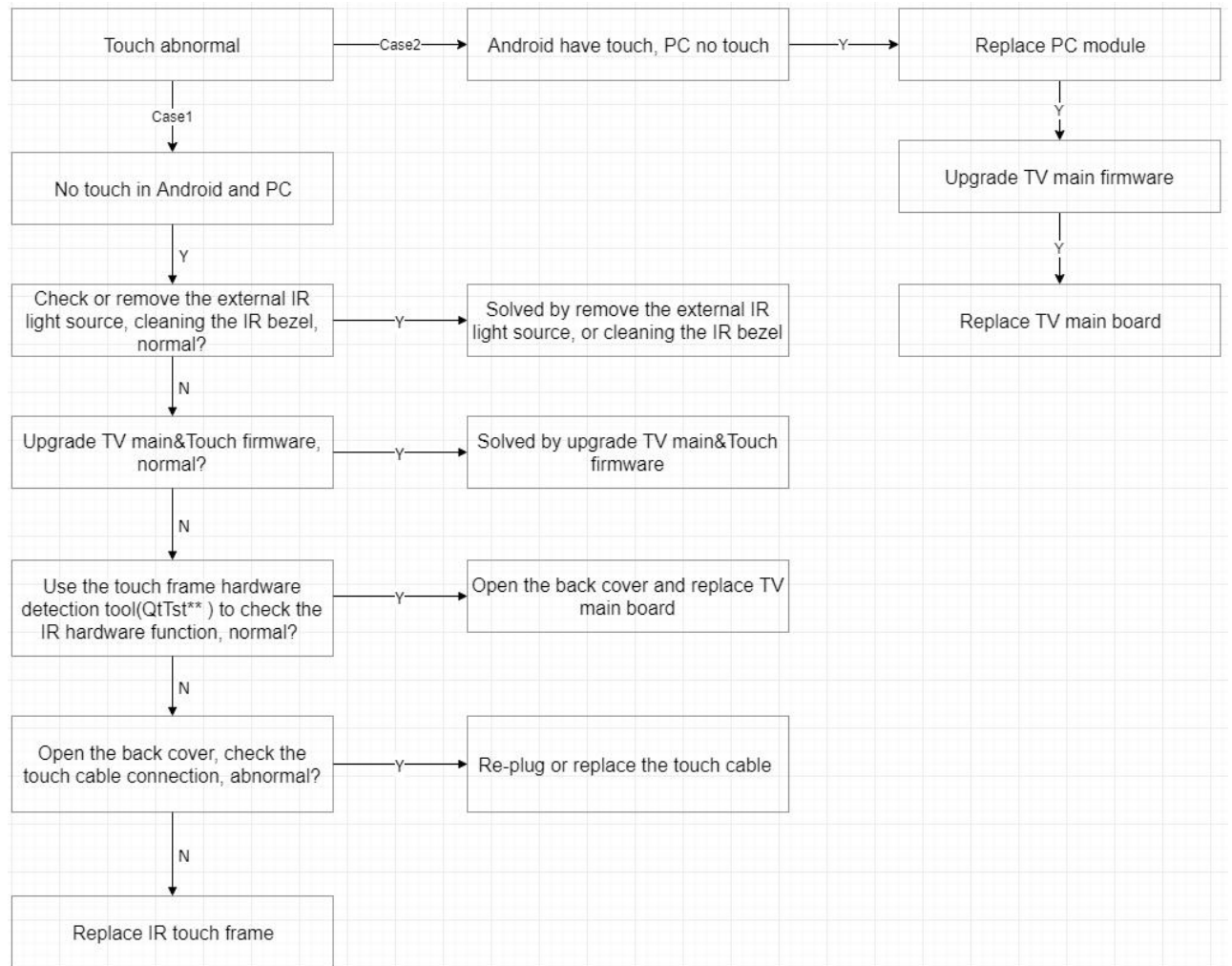
### I. LED does not turn red.



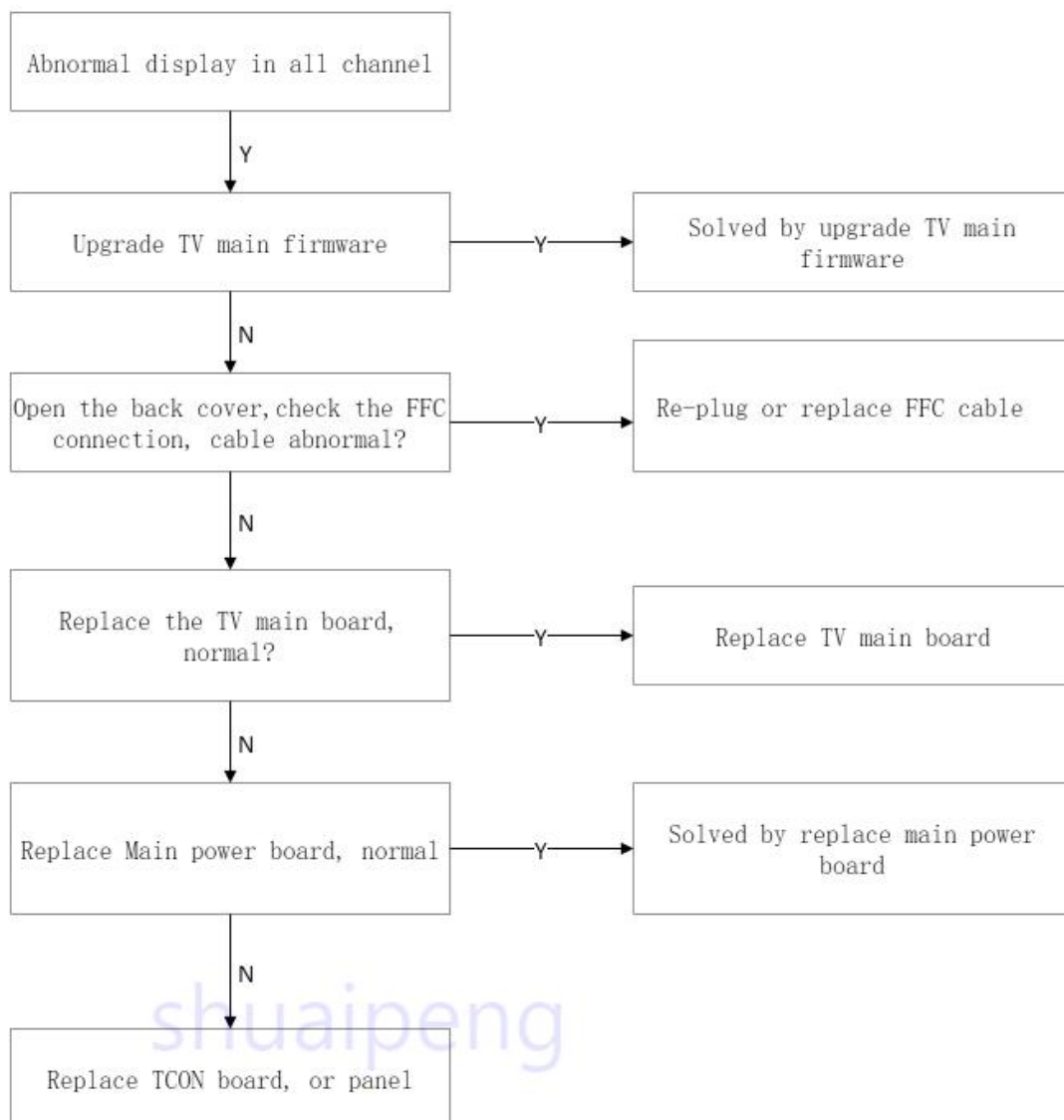
## II. LED does not turn blue.



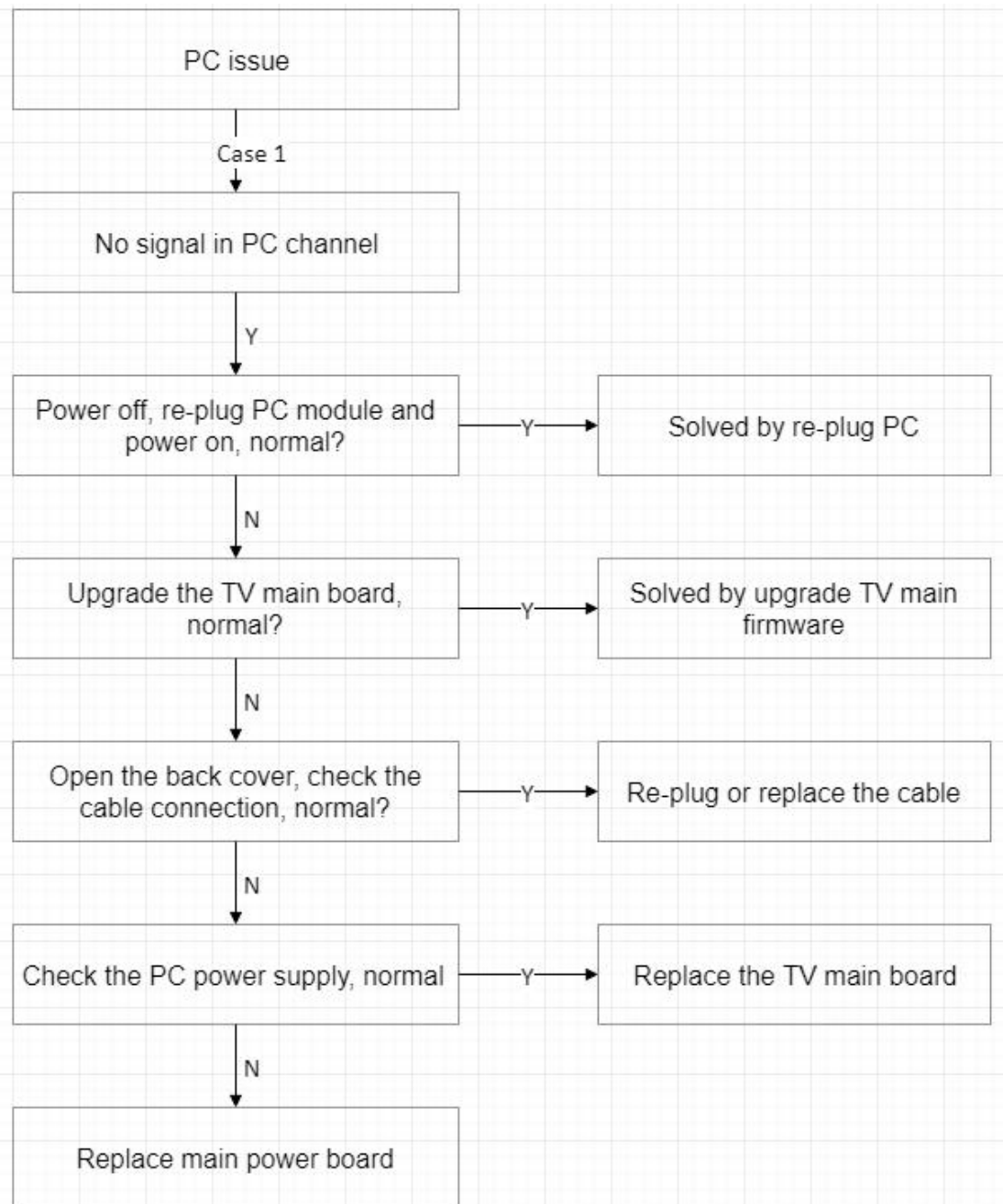
### III. Touch issue



#### IV. Abnormal Display (Flicker / Blurry / Black)

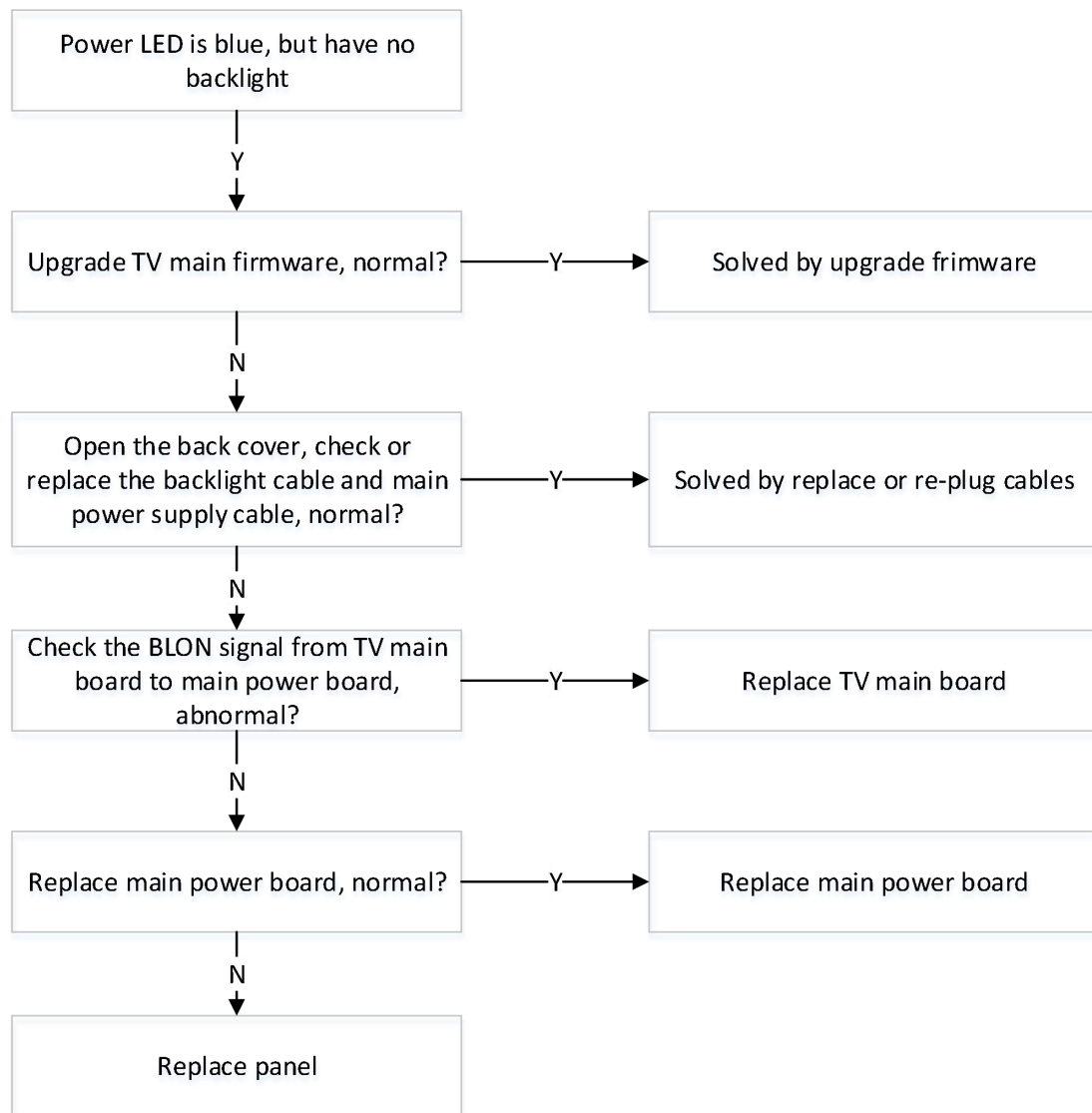


## V. PC issue

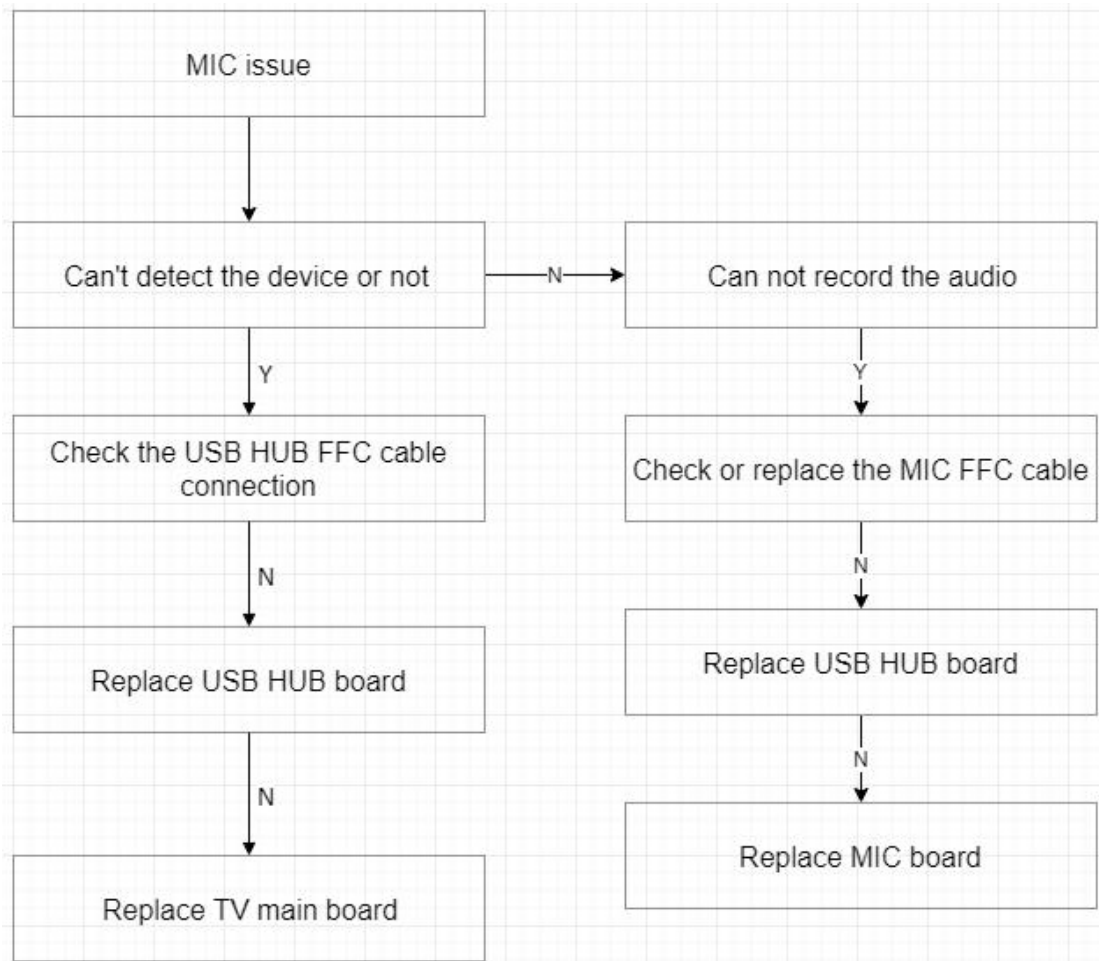




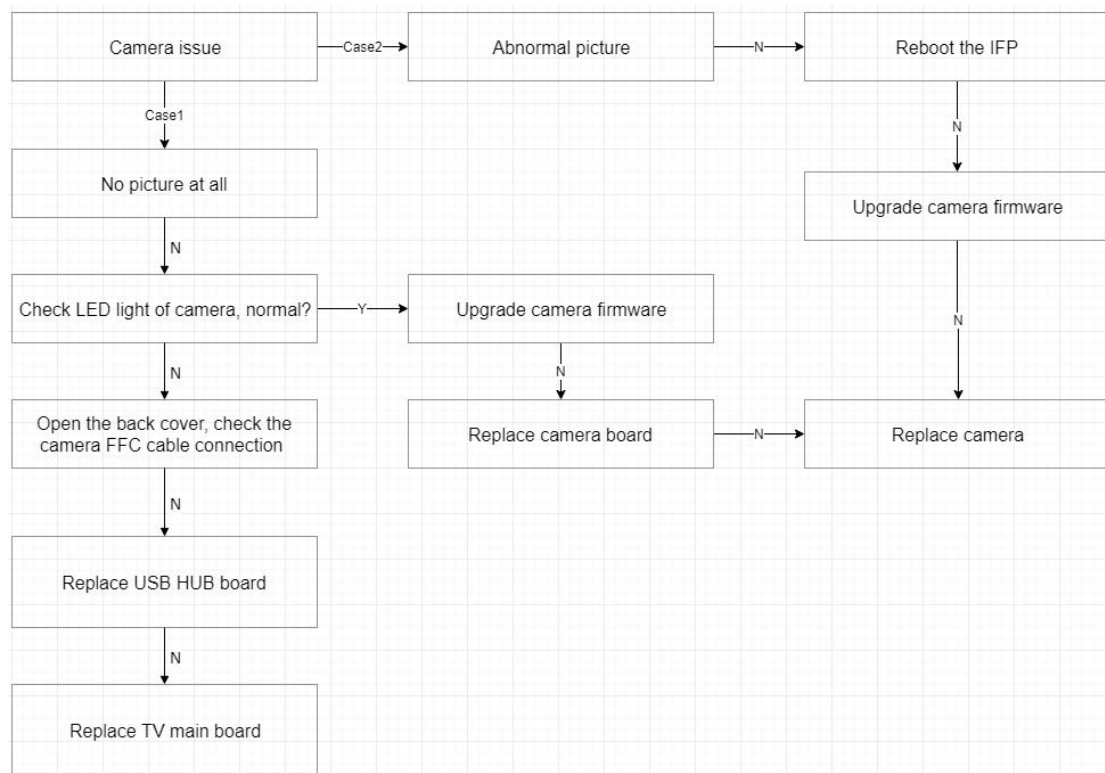
## VI. LED turn blue but no backlight



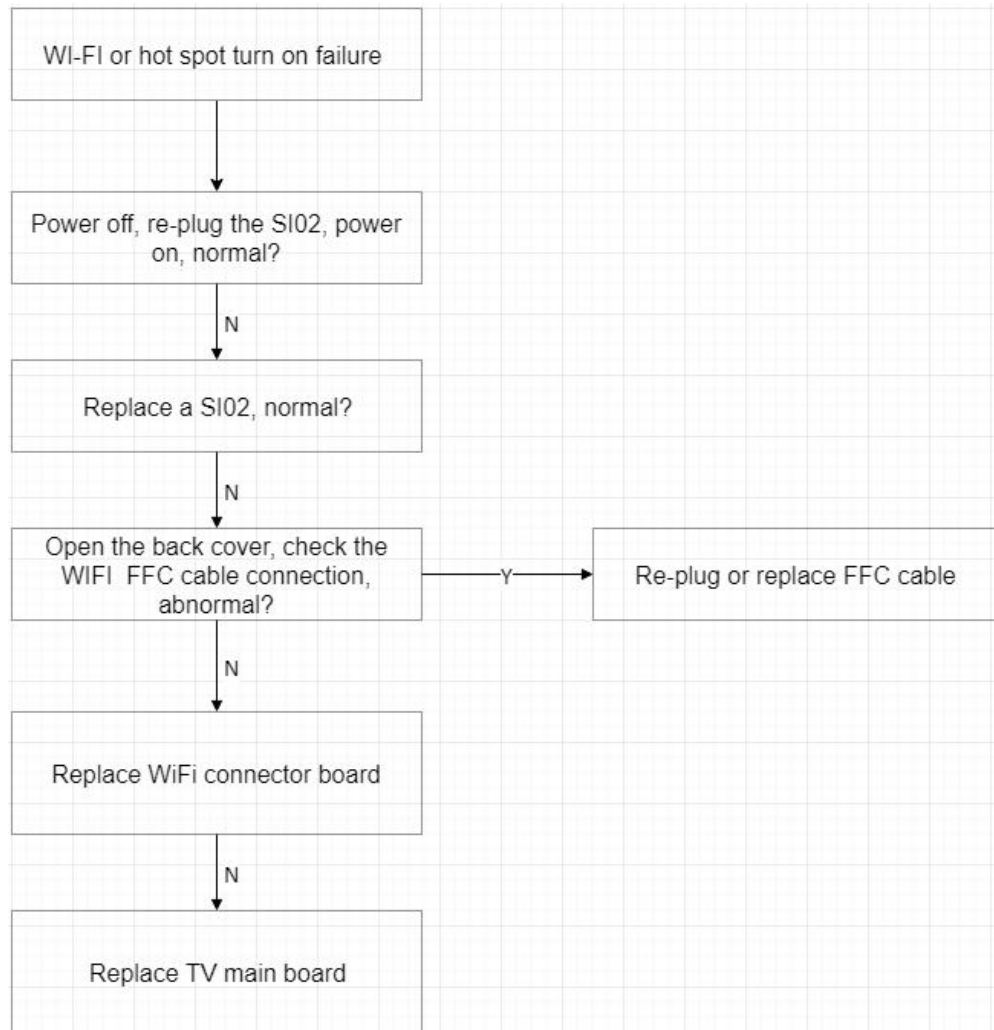
## VII. Mic-phone issue



## VIII. Camera issue



## IX. WIFI/hot spot issue



# Firmware update procedure

## I. Upgrade All (TV & MCU)

### 1. Debug Menu Upgrade Procedure (recommend)

Tools:

(1) USB disk (SanDisk, 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

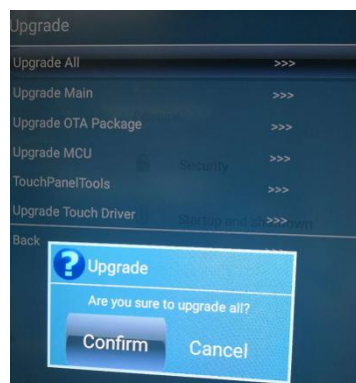
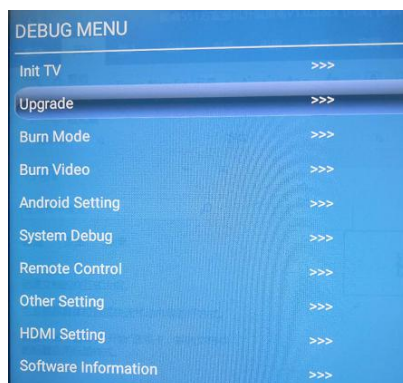
"upgrade\_551" folder. Insert

USB disk into the USB port of the TV main board.



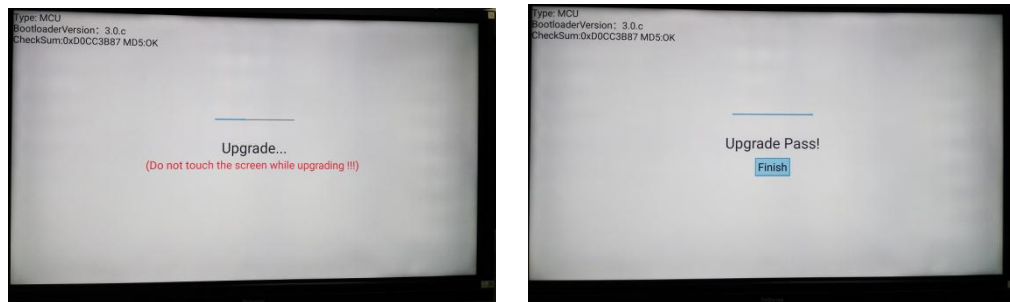
(3) Turn on the panel. Press "INPUT 1379" with remote controller, and then the debug menu will pop up. Select

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

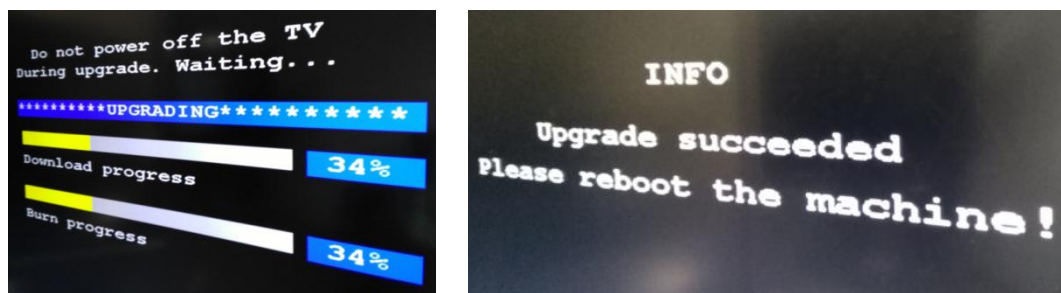


(4) The power LED will keep twinkle in red and blue during upgrade process. After finished, the panel will reboot and enter Android channel. It will take 3 minutes to complete the upgrade procedure.

MCU upgrade:



TV upgrade:



**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.

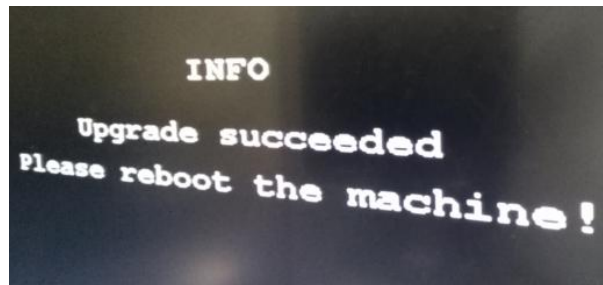
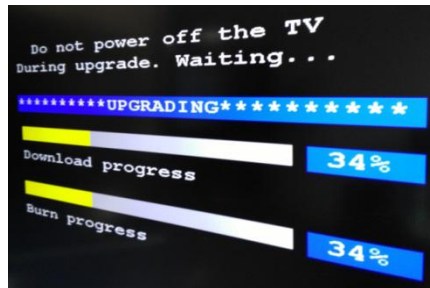
(2) Extract upgrade file to the U disk (FAT32) in the root directory. You will get "upgrade\_551" folder. Insert

USB disk into the USB port of the TV main board.

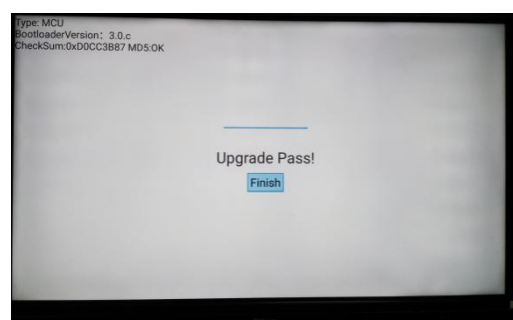
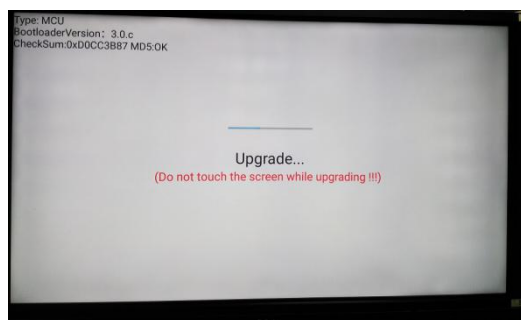
(3) Power on the panel. Press the **POWER** key and hold it for 6 seconds until the power LED twinkles in red and blue.

The TV will upgrade first. When finished, the screen will reboot and upgrade MCU automatically. It will take 3 minutes to complete the upgrade procedure.

TV upgrade:



MCU upgrade:



## II. Touch frame upgrade

### Internal android

Tools:

- (1) USB disk (SanDisk, 4G, Format FAT32) \*1PCS.
- (2) Remote controller \*1PCS.

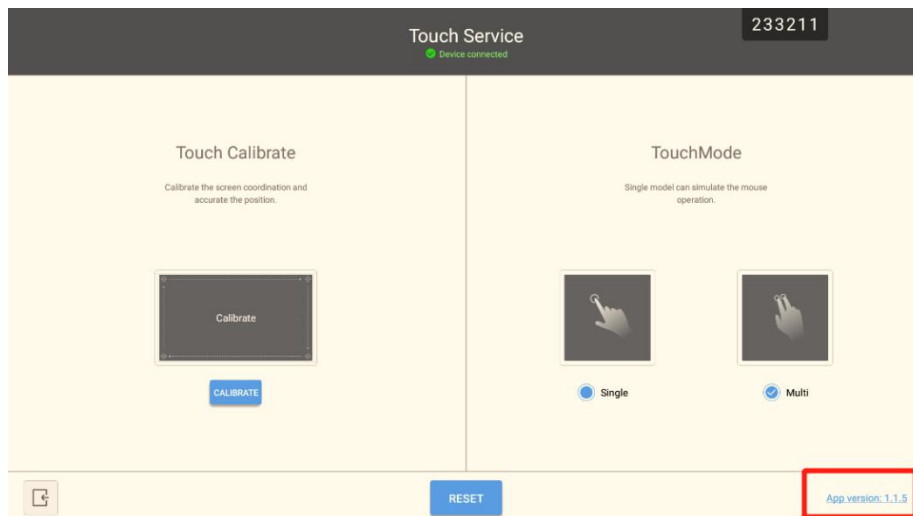
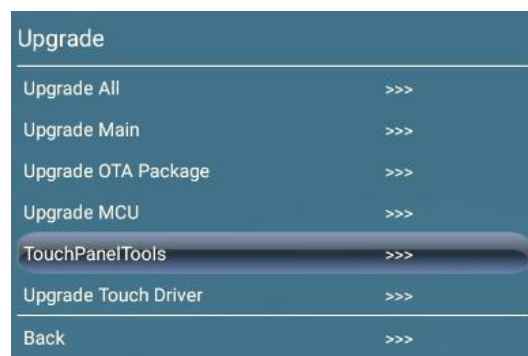
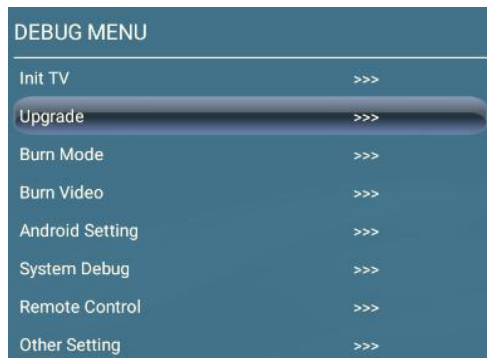
Procedure:

- (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 USB3.0 port of the TV main board.

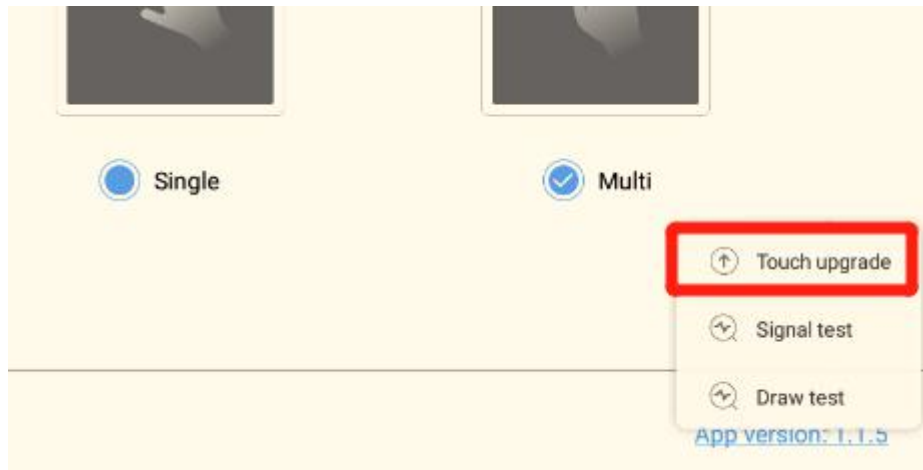




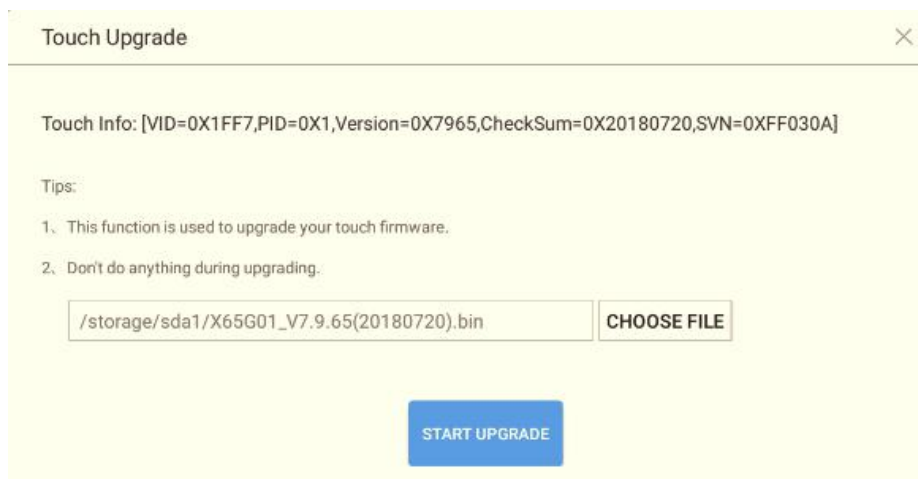
(3) Turn on the panel. Press “INPUT 1379” with remote controller, and then the debug menu will pop up. Select Upgrade-> TouchPanelTools.



(4) Long press the “App version” and select “Touch upgrade”.



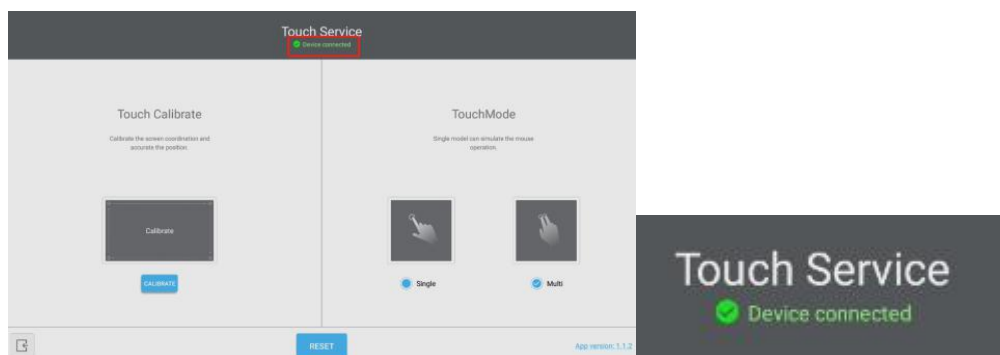
(5) Choose the touch file from the USB disk, press “START UPGRADE”



(6) After finished, exit the tool and restart the IFP.

Note:

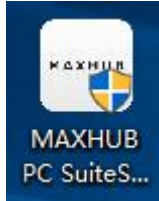
When running the “TouchPanelTools” application, the Touch Service should be showing “Device connected”. If not, please reboot and upgrade again.



### III. PC firmware upgrade

#### Procedure

(1) Open 'MAXHUB PC SuiteSetup.exe' in PC module.



(2) Directly install it with default path without any changing.



(3) Wait until it finish.

### IV. SA05 firmware upgrade

#### Procedure

(1) Format the U disk as FAT32.

(2) Extract upgrade file to the U disk (FAT32) in the root directory. You will get "update.img" file. Insert USB disk into the USB port of the Android Module.

(3) It will jump up the update information. Click 'update' and wait until it finish.

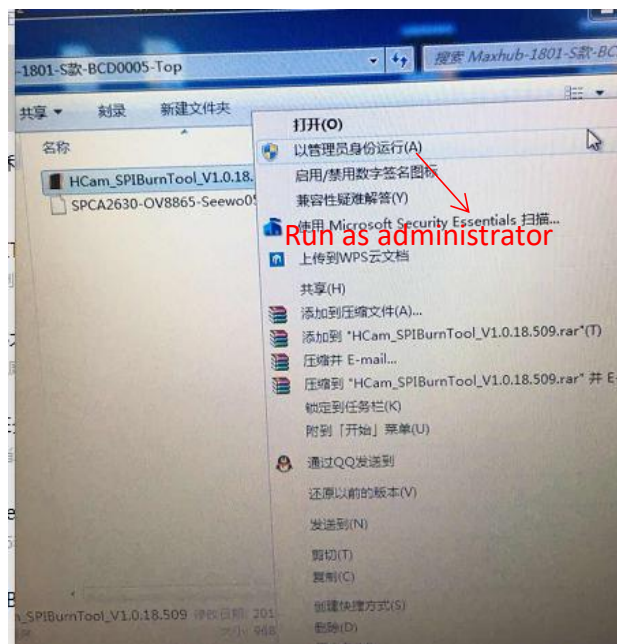
## V. Camera firmware upgrade

Tools:

- 1) USB disk(FAT32 format)\*1pcs
- 2) MT31 PC module\*1pcs

Procedure

- 1) Unzip the “Maxhub-1801-S 款-BCD0005-Top” file.
- 2) Right click the upgrade tool and run as administrator.



- 3) Open the upgrade tool and add the firmware(.bin), click the download, the camera firmware will be upgraded.

