

# ***SERVICE MANUAL (COMMON)***

**ORIGINAL MANUAL ISSUE DATE: 2020.03**

(See next page for revision )

**GN6VU CHASSIS**  
**Segment: NR**

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**9-888-781-03**

**LCD TV**

**SONY®**

**Sony EMCS (M) Sdn. Bhd., SVPM**

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## REVISION HISTORY

Version	Date	Subject
1	2020.03	1 <sup>st</sup> Issue
2	2020.06	1. Update Factory Data Reset information (pg. 125 - 127). 2. Update Board naming (pg. 15 & 16). 3. Update Footer information of each page.
3	2020.12	Add Clearing Serial Number on Mainboard (pg. 110, 112)

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## MODEL LISTS

THIS SERVICE MANUAL CONTAINS COMMON INFORMATION FOR BELOW REGIONS AND MODELS:



### REGION

ASIA

AMERICA

### MODEL

KD-43X7\*H

KD-49X7\*H

KD-55X7\*H

KD-65X7\*H

KD-75X7\*H

KD-55X7\*CH

KD-65X7\*CH

KD-75X7\*CH

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**Please refer Service Manual – Unique for below information :**

- Disassembly and Removal Caution
- Wire Dressing
- Circuit Board Location
- Exploded Views and Part Lists

**Note: Pictures provided in this manual may have difference from actual sets**



# SECTION 1

## SAFETY NOTES

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### 1-1. Warnings and Caution

1)CAUTION :These servicing instructions are for use by qualified service personnel only.

2)To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

3)WARNING!! : An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the ac power line.

The replaceable fuse could be in the neutral of the mains supply. When replacing the fuse, the mains shall be disconnected for de-energize the phase conductors.

(\*Except AC ADAPTOR, Because it does not carry out replacing an internal fuse.)

4) CARRYING THE TV : Be sure to follow these guidelines to protect your property and avoid causing serious injury :

- Carry the TV with an adequate number of people; larger size TVs require two or more people.
- Correct hand placement while carrying the TV is very important for safety and to avoid damages.

5) SAFETY-RELATED COMPONENT WARNING!! : Components identified by shading and ! mark on the exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.

6) IMPORTANT REMINDER FOR TV MAINBOARD REPLACEMENT :

It is mandatory for service centers to confirm the TV's system information after each repair carried out with Mainboard replacement.

Whenever a TV Main board is replaced, the correct TV Model and Serial number must be reinserted into memory.

This is a MANDATORY procedure that each service center must apply.

Please refer to the chapter of ADJUSTMENT in this service manual to find out how to set the model number and serial number in service mode.

### 1-2-1. Caution Handling of LCD Panel

When repairing the LCD Panel, make sure you are grounded with a wrist band.

When repairing the LCD Panel on the wall, the panel must be secured using the 4 mounting holes on the rear cover.

- 1) Do not press the panel or frame edge to avoid the risk of electric shock.
- 2) Do not scratch or press on the panel with any sharp objects.
- 3) Do not leave the module in high temperature or in areas of high humidity for an extended period of time.
- 4) Do not expose the LCD panel to direct sunlight.
- 5) Avoid contact with water. It may cause short circuit within the module.
- 6) Disconnect the AC power when replacing the backlight (CCFL) or inverter circuit. (High voltage occurs at the inverter circuit at 650Vrms)
- 7) Always clean the LCD panel with a soft cloth material.
- 8) Use care when handling the wires or connectors of the inverter circuit. Damaging the wires may cause a short circuit.
- 9) Protect the panel from ESD to avoid damaging the electronic circuit (C-MOS).

SAFETY NOTES	SELF DIAGNOSTIC FUNCTION	TROUBLESHOOTING	SERVICE ADJUSTMENT	DIAGRAMS	PANEL HANDLING	FACTORY DATA RESET
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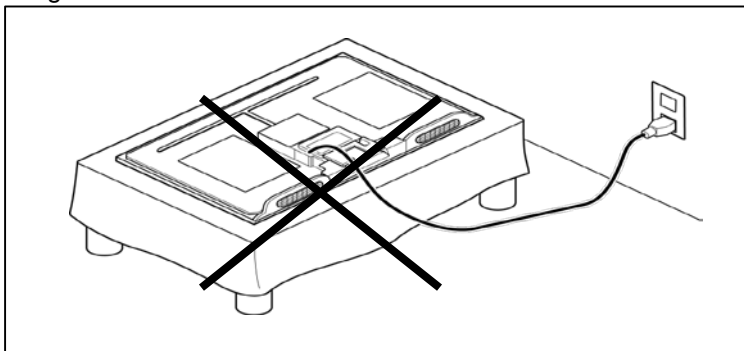
# SECTION 1

## SAFETY NOTES

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10) During the repair, DO NOT leave the Power On or Burn-in period for more than 1 hour while the TV is face down on a cloth. Refer Figure 1

Figure 1.



### 1-2-2. Caution for OLED Panel

#### 1) Handling

When repairing the TV set, be sure you are grounded by using a wrist band.

- \*Do not press on the panel or frame edge to avoid the risk of electric shock.
- \*Do not scratch or press on the panel with any sharp objects.
- \*Do not leave the module in high temperatures or in areas of high humidity for an extended period of time.
- \*Do not expose the panel to direct sunlight.
- \*Avoid contact with water. It may cause a short circuit within the module.
- \*Disconnect the AC power when replacing.
- \*Always clean the panel with a soft cloth material.
- \*Use care when handling the wires or connectors. Damaging the wires may cause a short.
- \*Protect the panel from ESD to avoid damaging the electronic circuit.
- \*Do not recommend power-on in the conditions which laid face down the panel, in repair activity. Refer Figure 1.
- \*When transporting by hand, do not put stress on the panel and the frame around the screen.

Refer to the panel handling chapter of each Service manual, or the "Transporting" information of the Reference Guide of each model for how to hold it.

#### 2) OLED Screen

- Although the OLED screen is made with high-precision technology and 99.99% or more of the pixels are effective, black dots may appear or bright points of light (white, red, blue, or green) may appear constantly on the OLED screen. This is a structural property of the OLED screen and is not a malfunction.
- Do not push or scratch the front filter, or place objects on top of this TV set. The image may be uneven or the OLED screen may be damaged.
- The screen and cabinet get warm when this TV set is in use. This is not a malfunction.

#### 3) Precautions to Protect the Screen from Damage

##### Image retention

OLED TV's are susceptible to image retention (burn-in) due to the characteristics of the materials used. Image retention may occur if images are displayed in the same location on the screen repeatedly or over extended periods of time. This is not a malfunction of the TV. Avoid displaying images that may cause image retention.

##### The following are examples of images that may cause image retention:

- Content with black bars either on the top and bottom and/or the left and right sides of the screen. (for example, Letterboxed, 4:3 screen, Standard definition)
- Static images such as photos.
- Video games that might have static content in some part of the screen.
- On-screen menus, program guides, channel logos etc.
- Static content from applications.
- On-screen tickers, such as those used for news and headlines.

# SECTION 1

## SAFETY NOTES

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### To reduce the risk of image retention:

- Fill the screen by changing [Wide mode] to eliminate the black bars. Select [Wide mode] other than [Normal].
  - Turn off the OSD (On Screen Display) by pressing the DISPLAY button, and turn off the menus from connected equipment. For details, refer to the instruction manuals for the connected equipment.
  - Avoid displaying static images with bright colours (including white), clocks or logos on any portion of the screen.
  - Set the picture settings based on the ambient conditions. The Standard Picture is recommended for home use and when viewing content that often displays the station logos, etc.
- The TV has following features to help reduce/ prevent image retention. Press the HOME button, then select [Settings] – [Picture & Display] – [Expert panel settings] – the desired option.

### Panel refresh

Panel refresh will automatically run to adjust the uniformity of the TV screen after it has been in use for long periods of time.  
Panel refresh can also be performed manually and should only be used if image retention is very noticeable or you see the following message:  
[Panel refresh did not finish...]

#### Caution:

- The Panel refresh function may affect the panel. As a reference, perform the Panel refresh only once a year, do not perform it more than once a year as it may affect the usable life of the panel.
- Panel refresh takes about one hour to complete.
- A white line may be displayed on the screen during the Panel refresh, this is not a malfunction of the TV.
- Panel refresh will only work when the room temperature is between 10 °C and 40 °C.

### Pixel shift

Automatically moves the image on the screen to prevent image retention.

### Other feature

The screen brightness is automatically reduced when displaying still images, clocks, bright colours or logos etc.

### IMPORTANT REMINDER FOR OLED PANEL REPLACEMENT

When carrying out OLED panel replacement, it is mandatory of a service center to confirm and record Panel ON time & Panel Refresh times.

It is because they are indispensable information in order to clarify responsibility for image retention after panel replacement.  
Please refer to the chapter of SELF DIAGNOSIS FUNCTION in this service manual to find out how to confirm the Panel ON time & Panel Refresh times in service mode.

### 1-3. Caution\_for\_Board\_handling

Symptom : The following problems will occur due to handling of the IC mounted on the board

- Solder crack due to substrate handling (stress)
- IC breakdown due to static electricity (ESD)

When repairing the TV at the customer's home or service station or Repair of defect board, please pay attention to the handling of the board

#### ※Substrate that needs attention for handling

- Main Board (B\*\* - Board)
- Backend Board (D\*\* - Board)

# SECTION 1

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※Things to prepare in advance

ESD wrist-strap



ESD cushion/sheet

Please use a bag containing the board or a special seat



ESD wrist-strap to be checked daily.  
Use Multi-meter to make sure resistance of ESD wrist-strap is OK.  
(R=750K Ohms to 35Mega Ohms)

1) Caution for Board handling(Stress)

Be sure to observe the following contents.

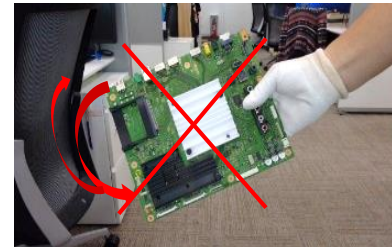
① Hold the board with both hands



② Do not hold/push Heat-Sink



③ Handle with care. Do not swing.





# SECTION 1 SAFETY NOTES

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- ④ Regardless of Good board or Defective board, always put it on ESD cushion/sheet slowly.



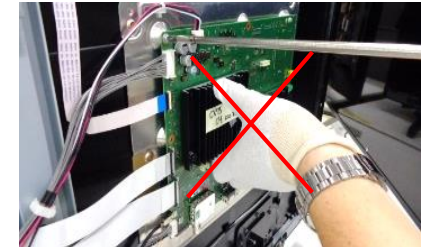
- ⑤ Do not stack up



- ⑥ Keep vertical position and put in/take out from Box.  
Always put in to ESD bag then place into Box/Container Box.



- ⑦ Do not hold Heat-Sink when take out or install it..



## 2) Caution for Board handling(ESD)

Be sure to observe the following contents.

- ① When take off Rear-Cover, do not touch to board



- ② Use ESD wrist-strap



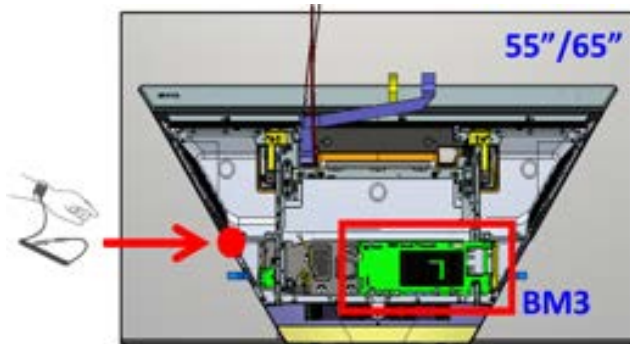
# SECTION 1 SAFETY NOTES

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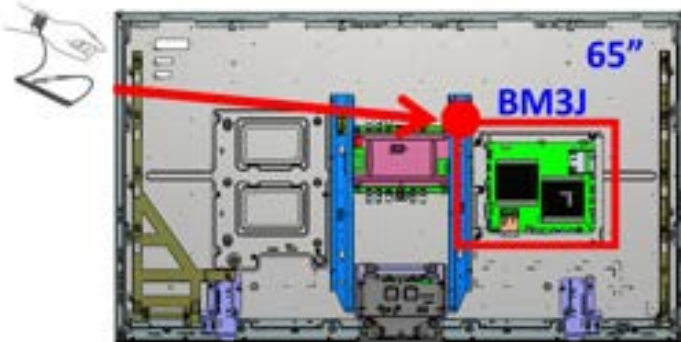
## ※Installation example of wrist-strap

Please connect the clip to the metal part of the chassis of the TV with the wristband grounded. Below is a grounding example of each model.

<K\*-55/65A9F>



<K\*-65Z9F>



## ※Caution

ESD wrist-strap to be checked daily.

Use Multi-meter to make sure resistance of ESD wrist-strap is OK. (R=750K Ohms to 35Mega Ohms)

## ③When holding board, do not hit/touch to Plastic part(s)



## ④After take defective board out from TV, put it into ESD bag. Do not place on floor mat/carpet direct. And, always put it on ESD cushion



# SECTION 1

## SAFETY NOTES

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### 1-4. Caution About the Lithium Battery

- 1) Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- 2) Outer case broken battery should not contact to water.

### 1-5. Safety Check-Out

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:-

- 1) Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
- 2) Check the inter board wiring to ensure that no wires are pinched or contact high-wattage resistors.
- 3) Check all control knobs, shields, covers, ground straps and mounting hardware have been replaced. Be absolutely certain you have replaced all the insulators.
- 4) Look for unauthorized replacement parts, particularly transistors that were installed during a previous repair. Point them out to the customer and recommend their replacement.
- 5) Look for parts which, though functioning show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
- 6) Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
- 7) Check the antenna terminals, metal trim, metalized knobs, screws and all other exposed metal parts for AC leakage. Check leakage test as described next.
8. For safety reasons, repairing the Power board and/or Inverter board is prohibited.

### 1-6. Leakage Test

(To protect electric shock when customer touch the terminal.)  
Leakage current can be measured by V: Voltmeter or oscilloscope (r.m.s. or peak reading)

Stabilized power supply instrument and isolated voltage transformer:  
Use too much current capacity and isolated voltage transformer does not need to use stabilized power supply equipment.

Specification of RMS volt meter: Input resistance > 1 Mohm, Input capacitance < 200 pF, Frequency range: 15 Hz – 1MHz . Refer Figure 2. Isolated type volt -meter (FLUKE 8921A etc \*1)

\*1 Not use FLUKE 8920A that connected to protective earth by diode  
# Leakage current of measurement instrument is less than 10μArms when under test equipment AC plug is opened

# Set up the following condition and turn on the set. Applied voltage: Nominal input voltage (Description on Nameplate)

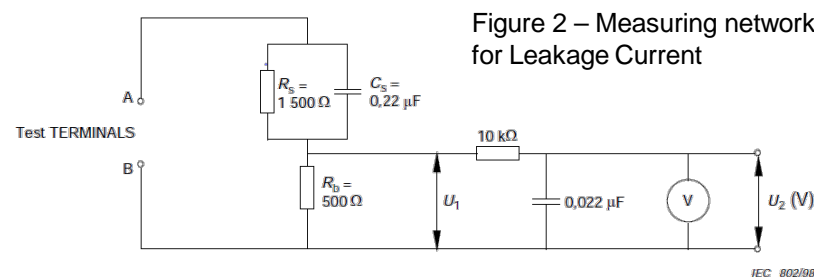
# Measure the leakage current between one phase conductor and neutral for terminal A and terminal B.

Read rms value, and then calculate to peak value  $PEAK\ VALUE = \sqrt{2}$  RMS VALUE

Comply with the following requirement

Class II equipment (2-pin plug): for each terminal, the worst value of measurement must not exceed AC 350uA peak).

Note: including AC adaptor, AC adaptor/DC operated unit combination



# SECTION 1 SAFETY NOTES

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## 1-7. How to Find a Good Earth Ground

- 1) A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground.
- 2) If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.
- 3) If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure 3).

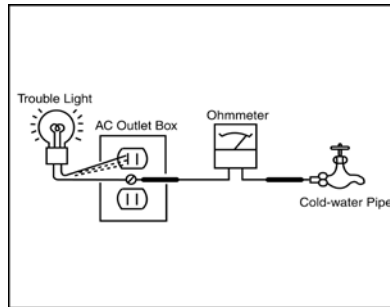


Figure 3. Checking for earth ground.

The servicing of these boards requires special precautions. It is strongly recommended to use Lead Free Solder material in order to guarantee optimal quality of new solder joints.

## 1-8. Lead Free Information

The circuit boards used in these models have been processed using Lead Free Solder. The boards are identified by the LF logo located close to the board designation.



Figure 4: LF Logo

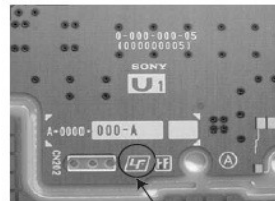


Figure 5: LF logo on circuit board



## SECTION 2

# SELF DIAGNOSTIC FUNCTION

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The units in this manual contain a self-diagnostic function. If an error occurs, the Smart Core Red LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem.

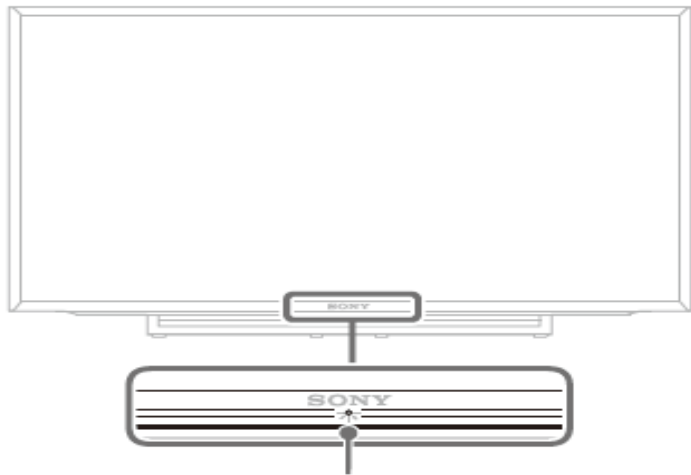
A definition of the Smart Core Red LED flash indicators is listed in the instruction manual for the user's knowledge and reference.

If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

### DIAGNOSTIC TEST INDICATORS

When an error occurs, the Smart Core Red LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen. If the screen displays a "0", no error has occurred .



#### LED Indicator

- Lights up in white when you select "Picture Off".
- Lights up in white when the TV is turned on.
- Flashes while the remote is being operated.

Amber = Red + Green

Status	LED Color	Remarks
Power Off ( AC Off and *1)	OFF	*1 power switch off (by Side Key)
Power On	White	
Standby ( by remote control off and Side Key off)	OFF	
Picture Off	White	
Failure	Red Blinking	The number of LED blinking indicates cause of failure.
Panel ID mismatch	Amber / Green Blinking	Blinking: 0.5sec Amber / 0.5sec Green
Software Updating	Amber Blinking	Blinking: 1sec On / 1sec Off
Software Updating failure	Amber Blinking	Blinking: 1sec On / 1sec Off OSD message will be shown to inform that the update failed and then TV reboots

## SECTION 2

### SELF DIAGNOSTIC FUNCTION

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#### Failure LED Display

Number of Red LED Blinking	Go to Standby State	Error Detection	Error Location
2	Yes	Main Power Error	Main Board or Power Supply Board or LD board or Power Adapter
3	No	Audio Error	Main Board or Speaker or LD board
5	No	Panel I2C COMM Error	Main Board or T-CON board or Panel Module
6	No	Backlight Error	Main Board or Power Supply Board or LD board

**[Note]**

Please be caution when checking failure board due to power is still supplied continuous when error is triggered.  
Please perform AC OFF/ON for trying of recovery method.

# SECTION 3

## TROUBLESHOOTING

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### Triage Chart

#### Sony KD-\* Technical Triage Summary Sheet

##### Before you make the service call...

1. Confirm the symptom from the customer.
2. Select that symptom from the chart.
3. Bring all the boards and cables listed for that symptom.
4. Follow the troubleshooting charts in the technical guides to isolate the board.
5. Chart Color Code

**CHASSIS: NR 43 / 49**

**RED DOT:** Most likely defective part

**BLUE TRIANGLE:** Secondary possible defective part

**GREEN SQUARE:** Tertiary possible defective part

**BLACK TEXT:** Board that may correct the symptom

Reference	Symptoms - Shutdown. Power LED blinking red diagnostics sequences									No Power	Video - missing or distorted			Remote	Network	Audio	Smart Core	Bluetooth (BT)
	2	3	4	5	6	7	8	9	10	No White Power LED & does not response to remote (Dead Set)	Stationary colored lines or dots	No video One of Inputs	No video all Inputs	No Remote	Wireless can't connect	No Audio	Smart Core no LED (Set is still alive)	Bluetooth / One Step Remote (OSR) can't connect
Main Board	▲	●		▲	▲					▲	▲	●	●	▲	▲	▲	▲	▲
Receiver Board										▲				●			●	
Power Adapter										●								
Speaker		▲														●		
Wifi & BT Module															●			●
Local Dimming Board	●				▲													
VBO FFC				▲							▲		▲					
Tcon				●							▲		▲					
LCD Panel				●	●						●		▲					

SAFETY NOTES	SELF DIAGNOSTIC FUNCTION	TROUBLESHOOTING	SERVICE ADJUSTMENT	DIAGRAMS	PANEL HANDLING	FACTORY DATA RESET
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# SECTION 3

## TROUBLESHOOTING

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**GREEN SQUARE:** Tertiary possible defective part

**BLACK TEXT:** Board that may correct the symptom

**CHASSIS: NR 55 / 65 / 75**

Reference	Symptoms - Shutdown. Power LED blinking red diagnostics sequences									No Power	Video - missing or distorted			Remote	Network	Audio	Smart Core	Bluetooth (BT)
	2	3	4	5	6		8	9	10	No White Power LED & does not response to remote (Dead Set)	Stationary colored lines or dots	No video One of Inputs	No video all Inputs	No Remote	Wireless can't connect	No Audio	Smart Core no LED (Set is still alive)	Bluetooth / One Step Remote (OSR) can't connect
Main Board	▲	●		▲	▲					▲	▲	●	●	▲	▲	▲	▲	▲
Receiver Board										▲				●			●	
Speaker		▲														●		
Wifi & BT Module															●			●
Power Board	●				▲					●								
VBO FFC				▲							▲		▲					
Tcon				●							▲		▲					
LCD Panel				●	●						●		▲					

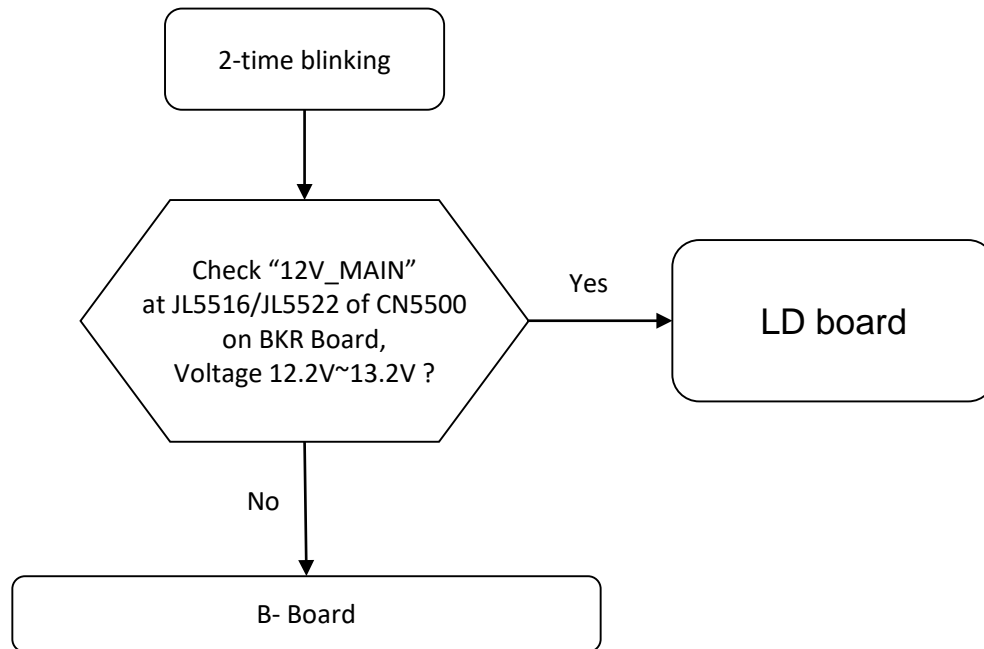
SAFETY NOTES	SELF DIAGNOSTIC FUNCTION	TROUBLESHOOTING	SERVICE ADJUSTMENT	DIAGRAMS	PANEL HANDLING	FACTORY DATA RESET
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## SECTION 3 TROUBLESHOOTING

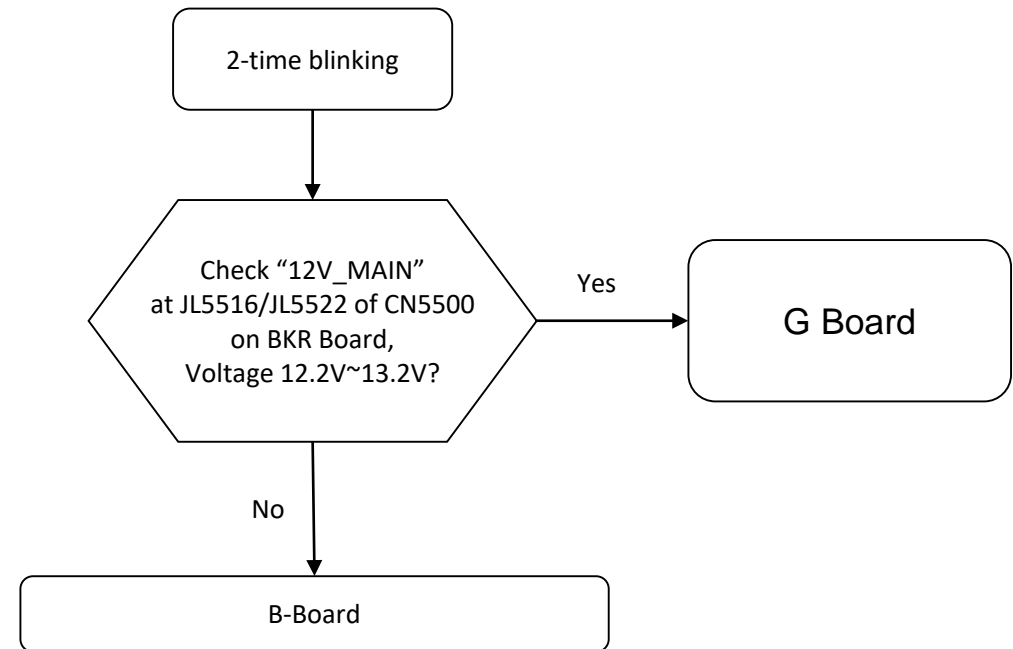
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### 2.1.1 LED Blinking: 2x (Main power Error)

#### Adaptor (43" and 49")



#### G-Board (55" and above)

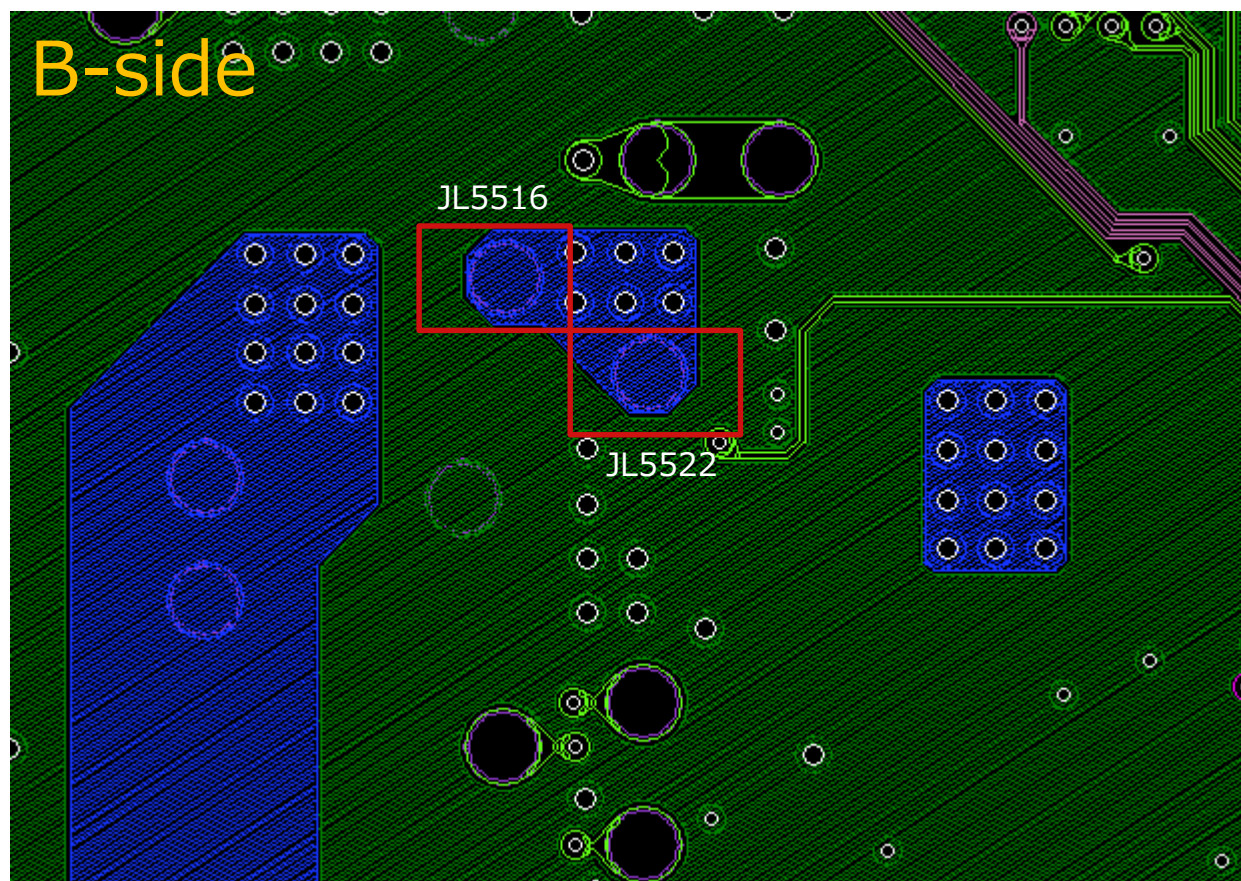


## SECTION 3 TROUBLESHOOTING

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Checking Point

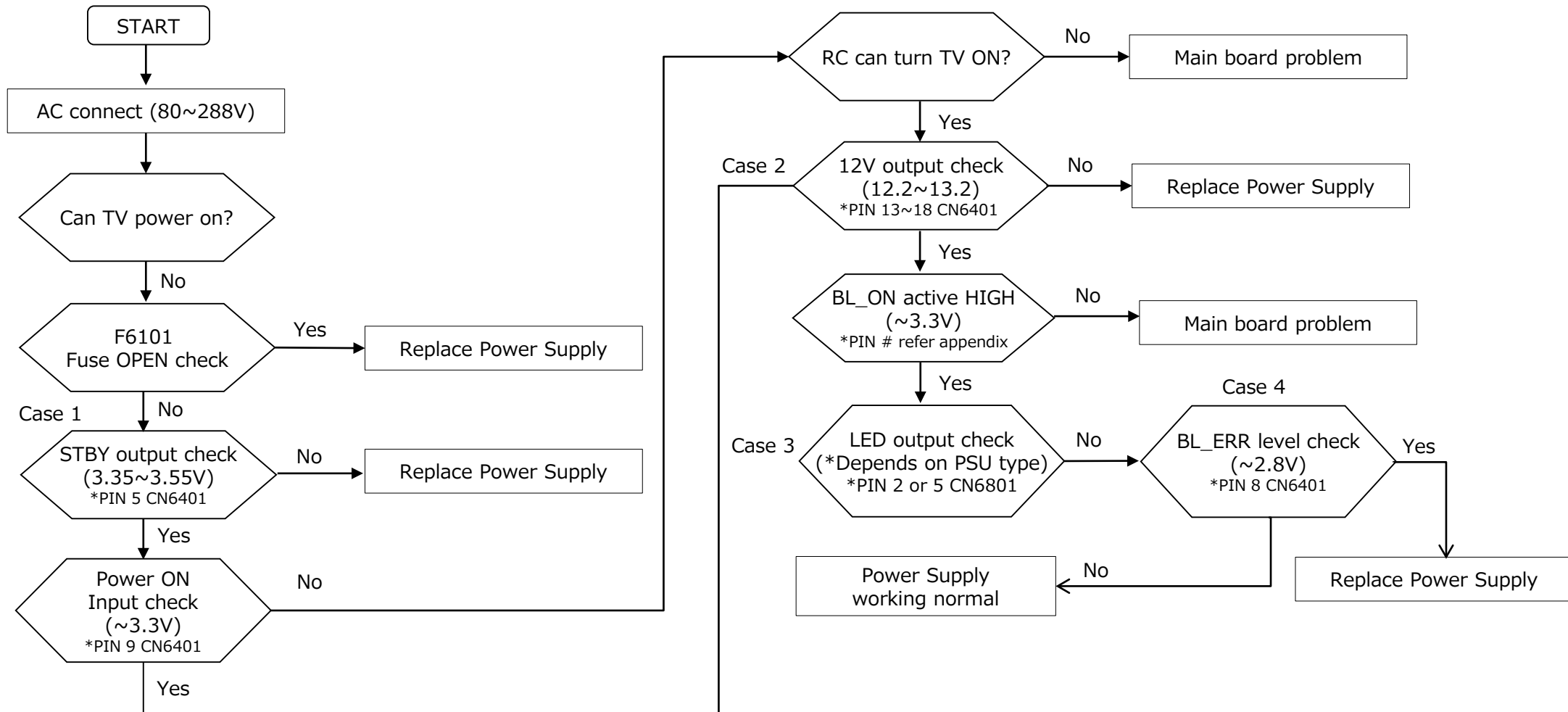
### 12V\_Main



## SECTION 3 TROUBLESHOOTING

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### 2.1.2 PSU trouble shooting flow



\*refer to Appendix

## SECTION 3 TROUBLESHOOTING

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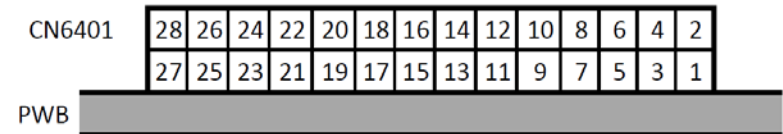
Pin Assignment of Connector CN6401 (Appendix)

### GL6 (NR55)

1:	NC
2:	DC_DIMMER
3:	BL_ON
4:	PWM_DIMMER
5:	STBY3.3V
6:	BLINKING
7:	AC_OFF_DET
8:	BL_ERR
9:	POWER_ON
10:	GND
11:	GND
12:	GND
13:	REG12V
14:	REG12V
15:	REG12V
16:	REG12V
17:	REG12V
18:	REG12V
19:	GND
20:	GND
21:	TCON_GND
22:	GND
23:	TCON_GND
24:	TCON_ON
25:	TCON_VCC12V
26:	TCON_VCC12V
27:	TCON_VCC12V
28:	TCON_VCC12V

### GL95 (NR65)

1:	BLINKING
2:	PWM1_DIMMER
3:	DC_DIMMER
4:	PWM2_DIMMER
5:	STBY3.3V
6:	NC
7:	BL_ON
8:	BL_ERR
9:	POWER_ON
10:	GND
11:	GND
12:	GND
13:	REG12V
14:	REG12V
15:	REG12V
16:	REG12V
17:	REG12V
18:	REG12V
19:	GND
20:	GND
21:	GND
22:	GND
23:	GND
24:	GND
25:	TCON_VCC12V
26:	TCON_ON
27:	TCON_VCC12V
28:	TCON_VCC12V





## SECTION 3 TROUBLESHOOTING

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### LED Output Voltage (Appendix)

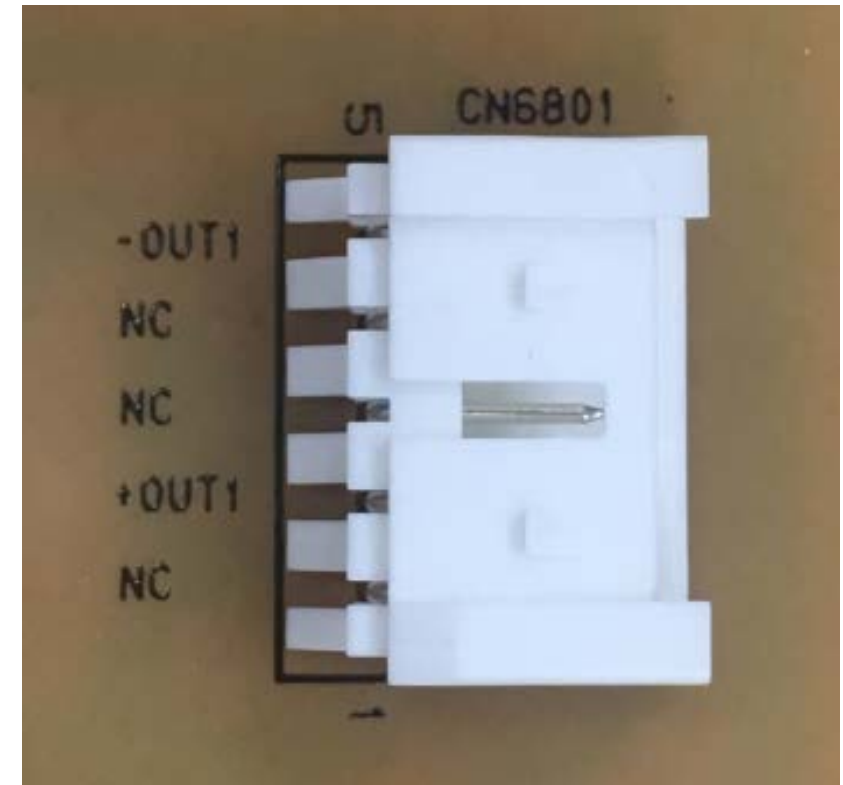
Segment	PSU Type	LED Output
NR 55"	GL6	174.87V ~ 216.09V
NR 65"	GL95	235.60V ~ 299.62V

## SECTION 3 TROUBLESHOOTING

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Pin Assignment of Connector CN6801 (Appendix)

1:	NC
2:	+OUT1
3:	NC
4:	NC
5:	-OUT1

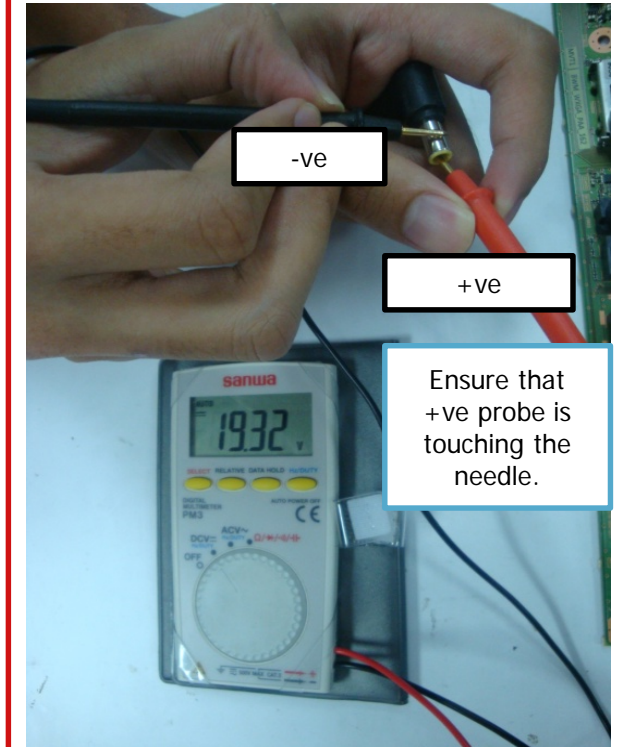
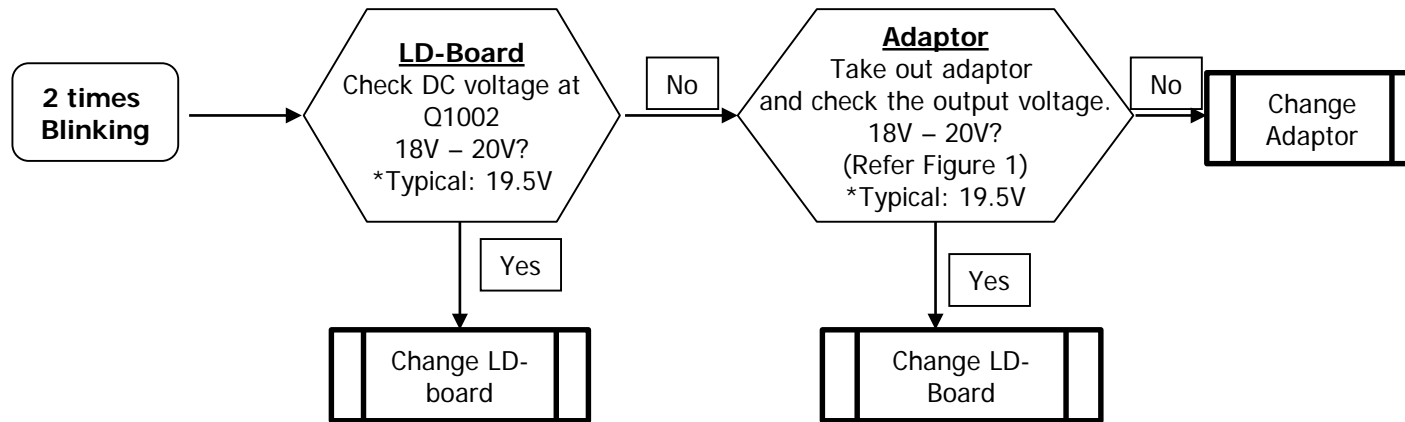


## SECTION 3 TROUBLESHOOTING

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### 2.1.3 : 2x Blinking – Main Power Error

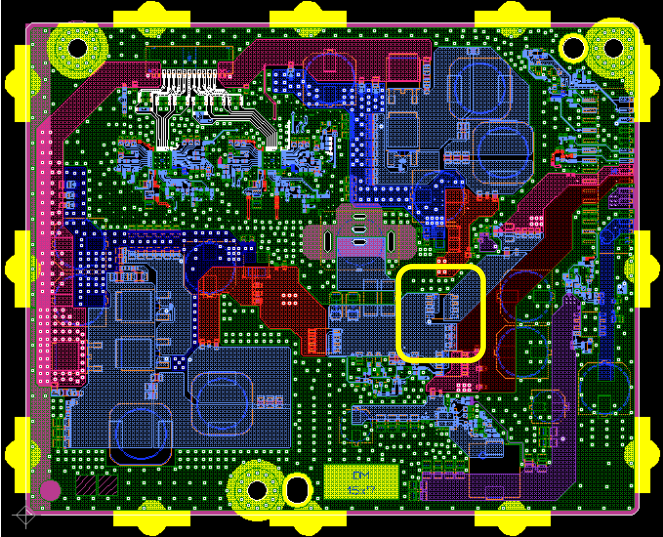
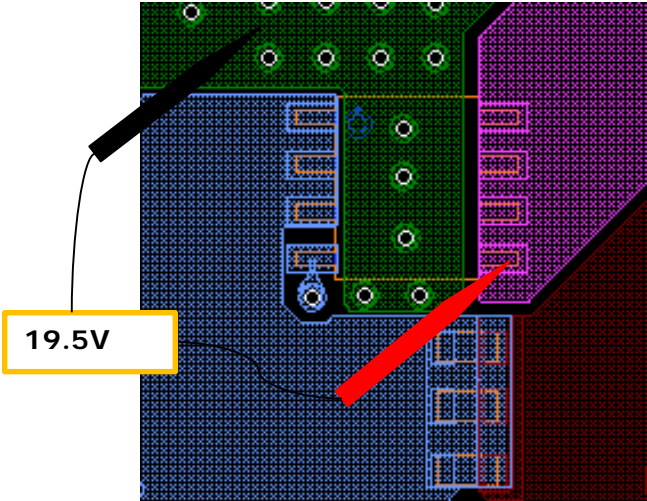
#### LD Board



**Figure 1:** How to check adaptor's output voltage.

# SECTION 3 TROUBLESHOOTING

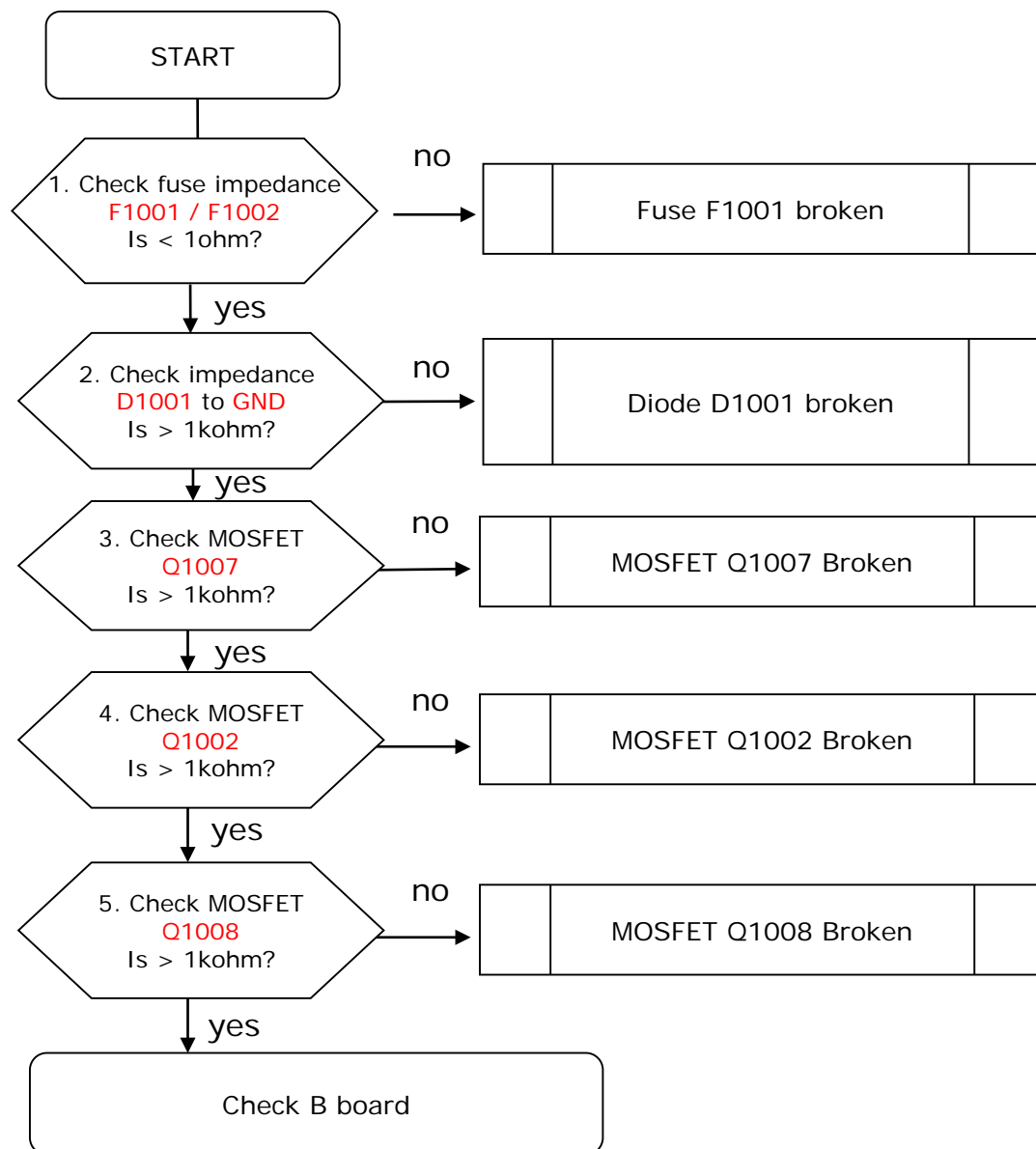
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Board Name	Board PWB (A side)	Detail
LD4 (Q1002)		 <p>19.5V</p> <p>Q1002</p>

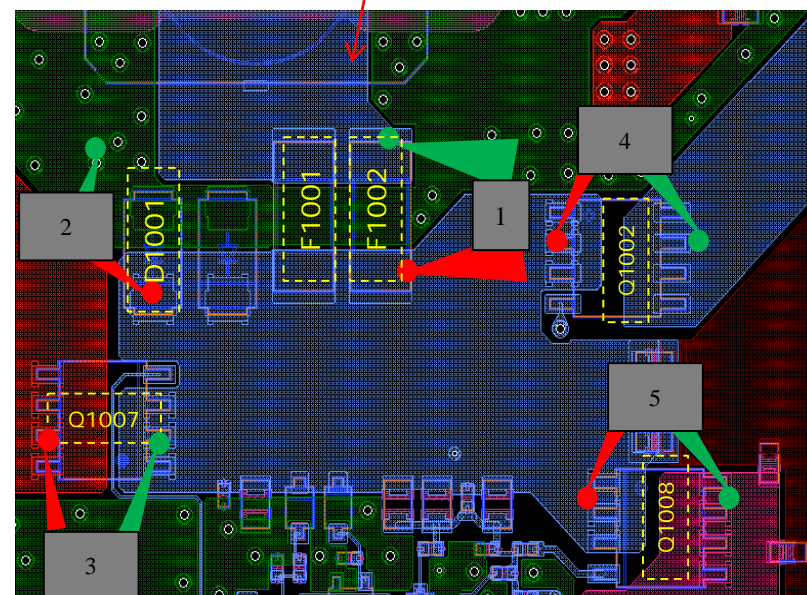
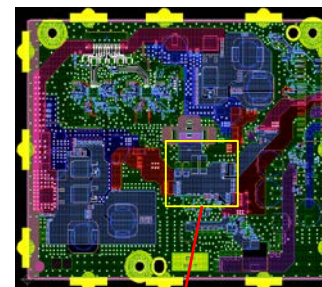
## SECTION 3 TROUBLESHOOTING

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### No Power



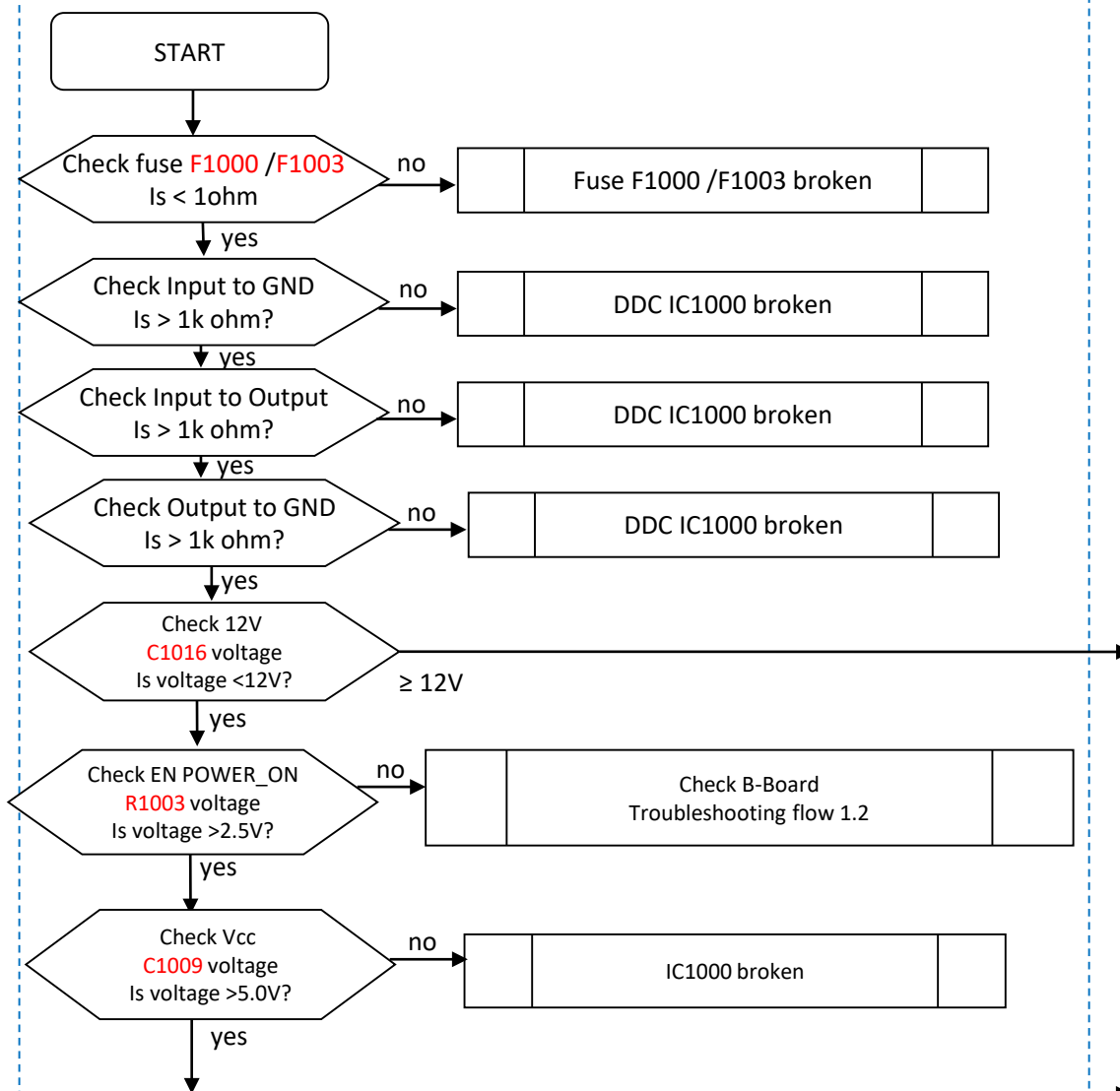
### LD board



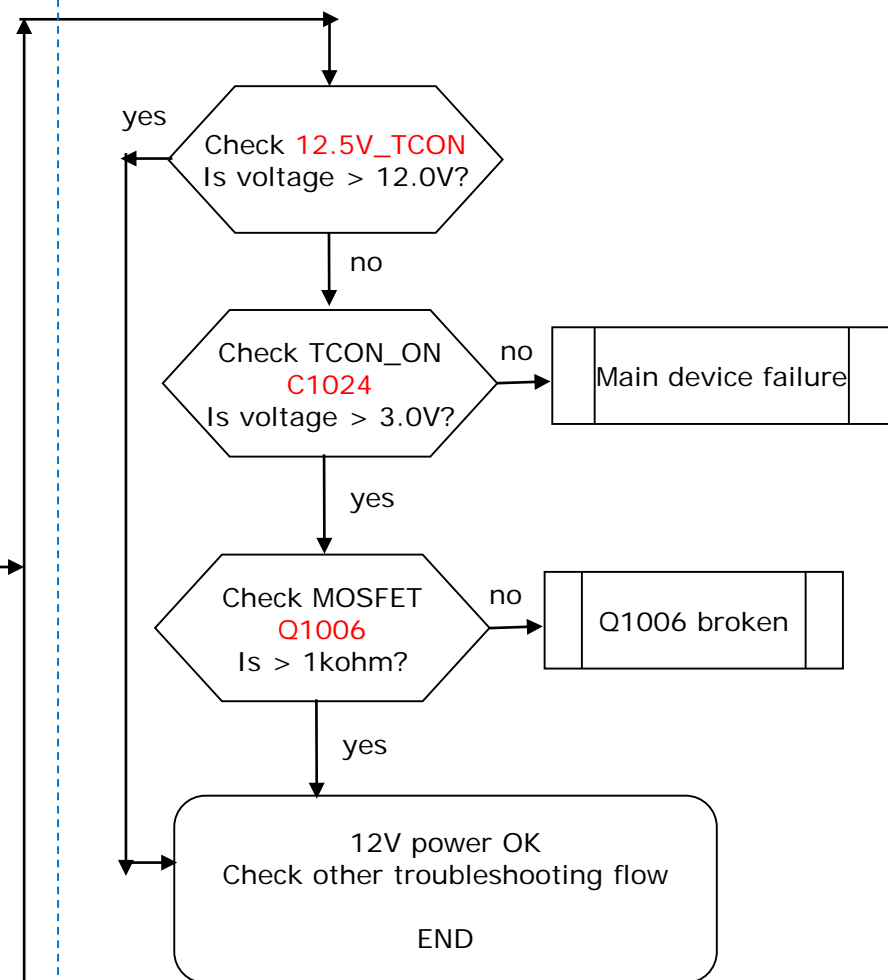
# SECTION 3 TROUBLESHOOTING

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## 12V DDCON check



## 12V\_TCON check

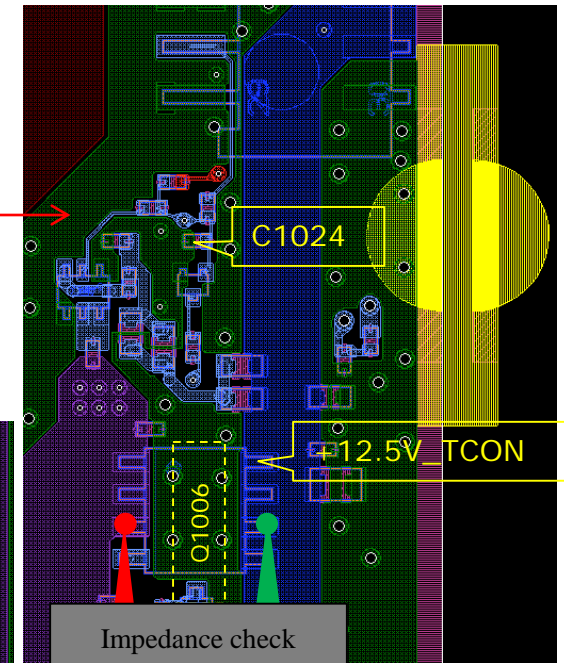
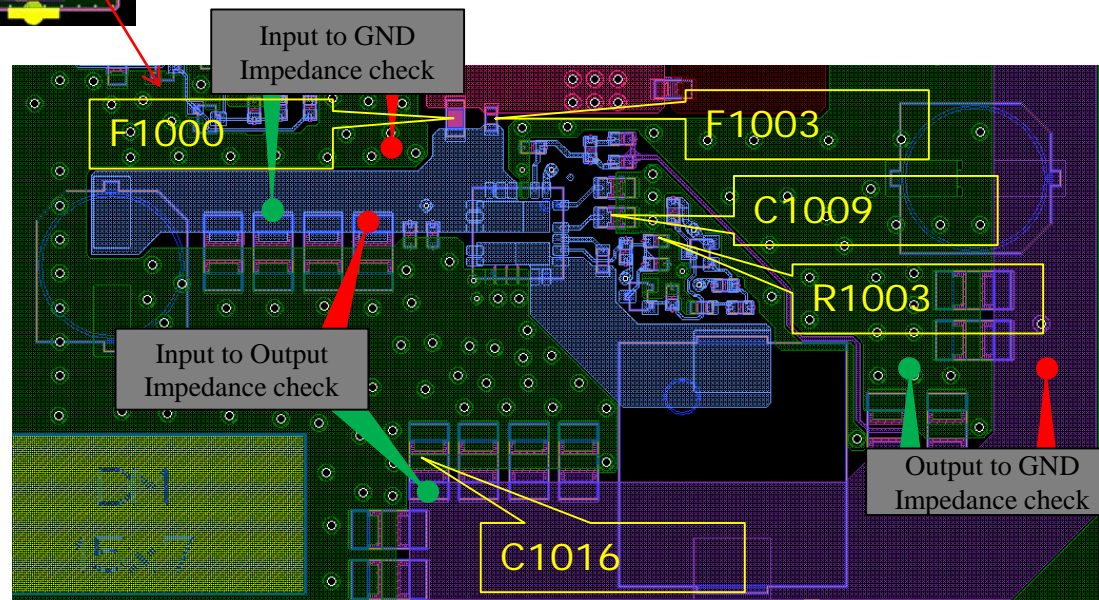
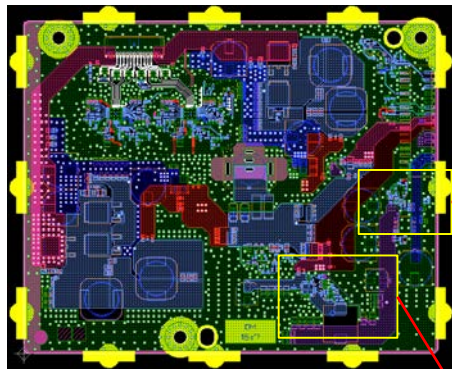


Check point on PWB refer slide 27



# SECTION 3 TROUBLESHOOTING

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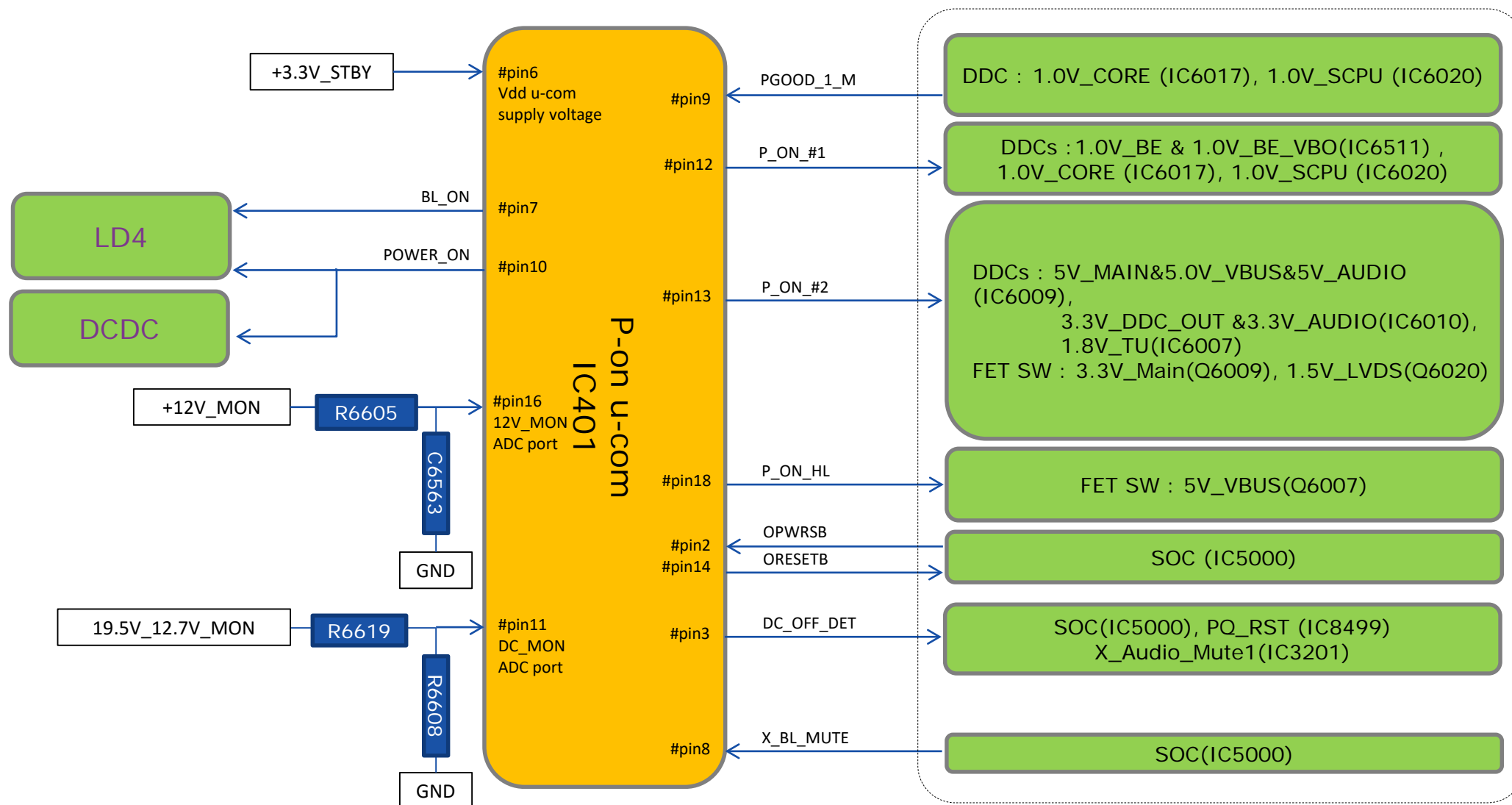
## SECTION 3 TROUBLESHOOTING

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### 2.1.4 Power u-com Failure

#### BKR Board Model

#### P-on u-com control signal path summary

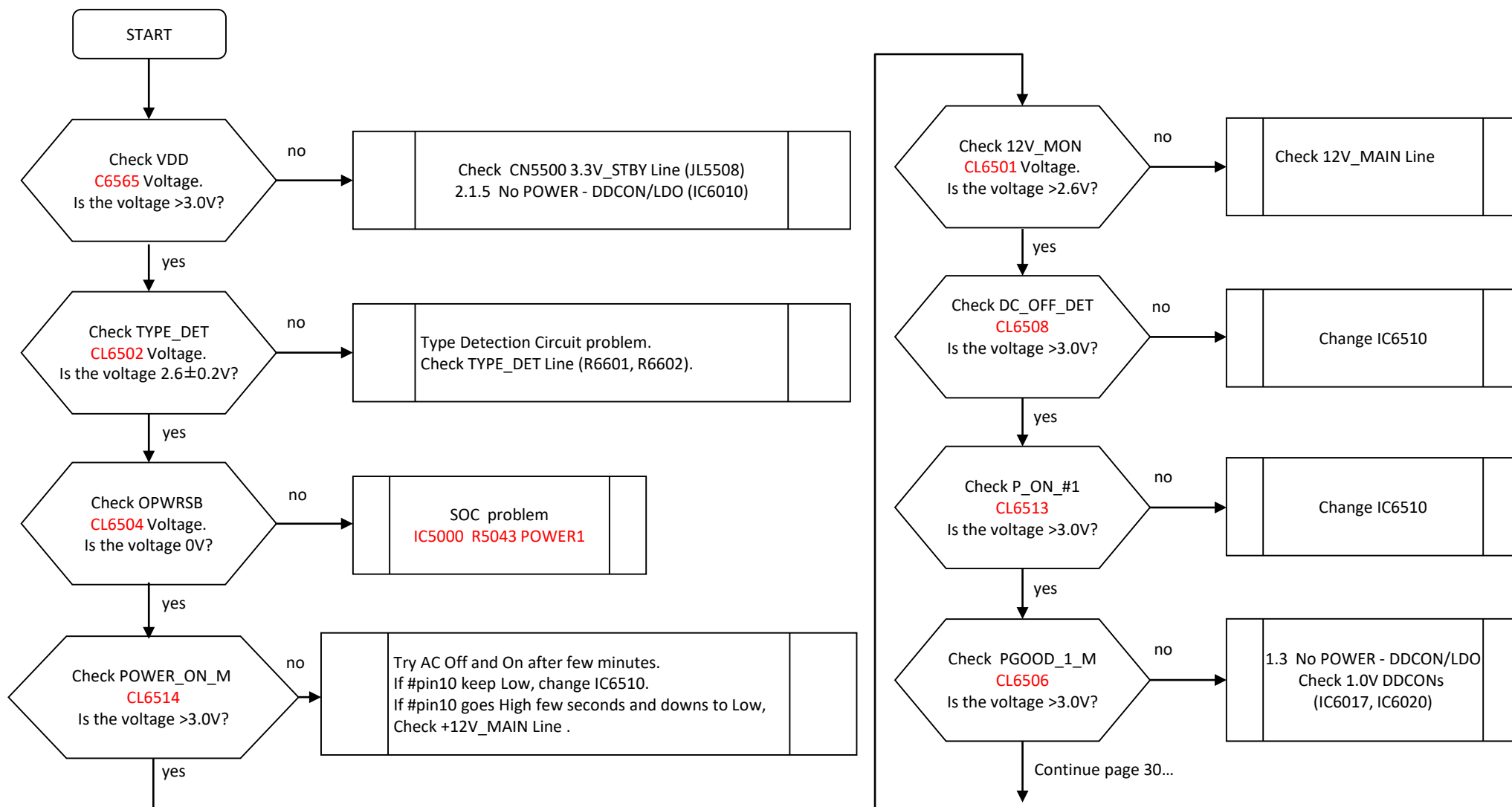




# SECTION 3 TROUBLESHOOTING

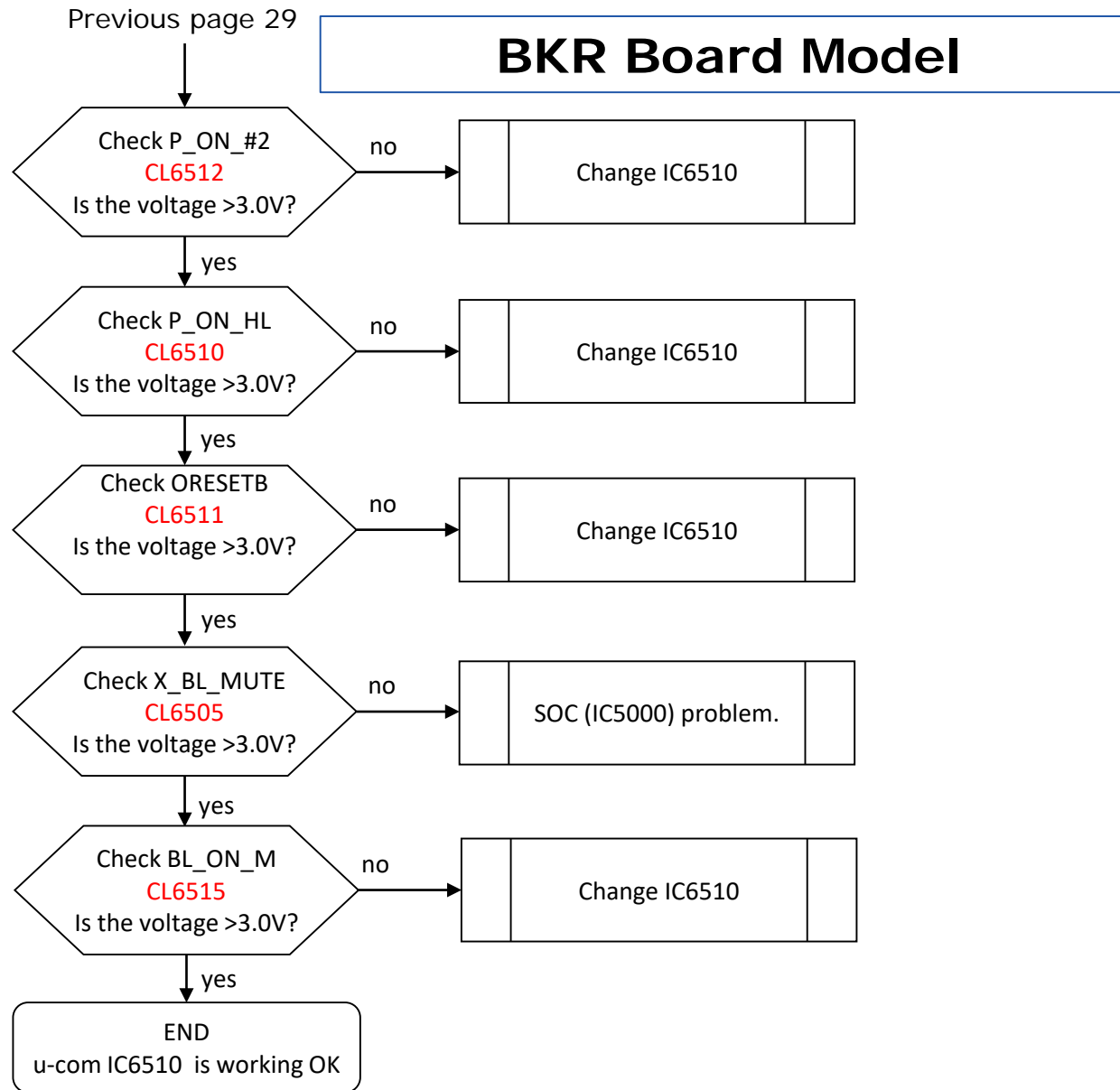
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## BKR Board Model



## SECTION 3 TROUBLESHOOTING

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## SECTION 3

### TROUBLESHOOTING

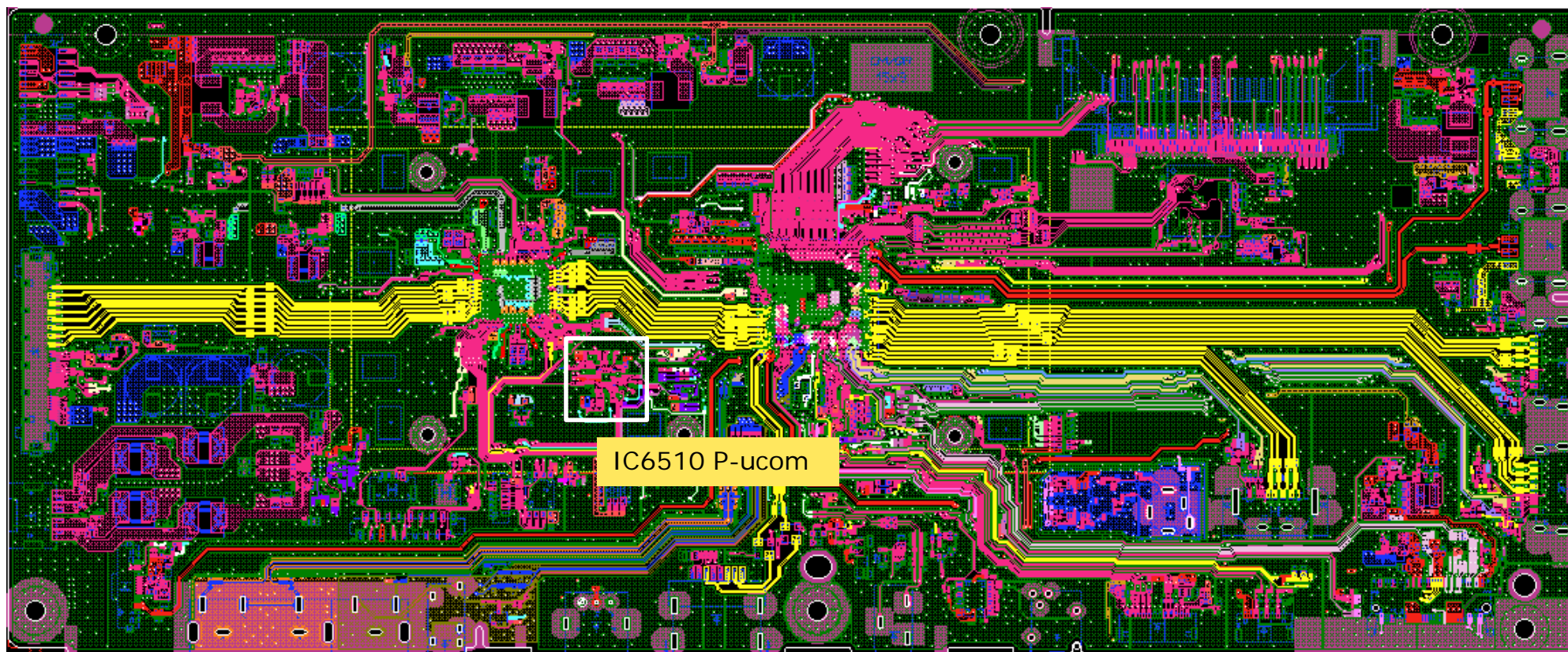
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Condition	Actions to be taken						
<table><tr><td></td><td>Type Detection Circuit problem. Check TYPE_DET Line (R6601, R6602).</td><td></td></tr><tr><td></td><td>SOC problem IC5000 R5043 POWER1</td><td></td></tr></table>		Type Detection Circuit problem. Check TYPE_DET Line (R6601, R6602).			SOC problem IC5000 R5043 POWER1		Change B-board
	Type Detection Circuit problem. Check TYPE_DET Line (R6601, R6602).						
	SOC problem IC5000 R5043 POWER1						

## SECTION 3 TROUBLESHOOTING

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Top side

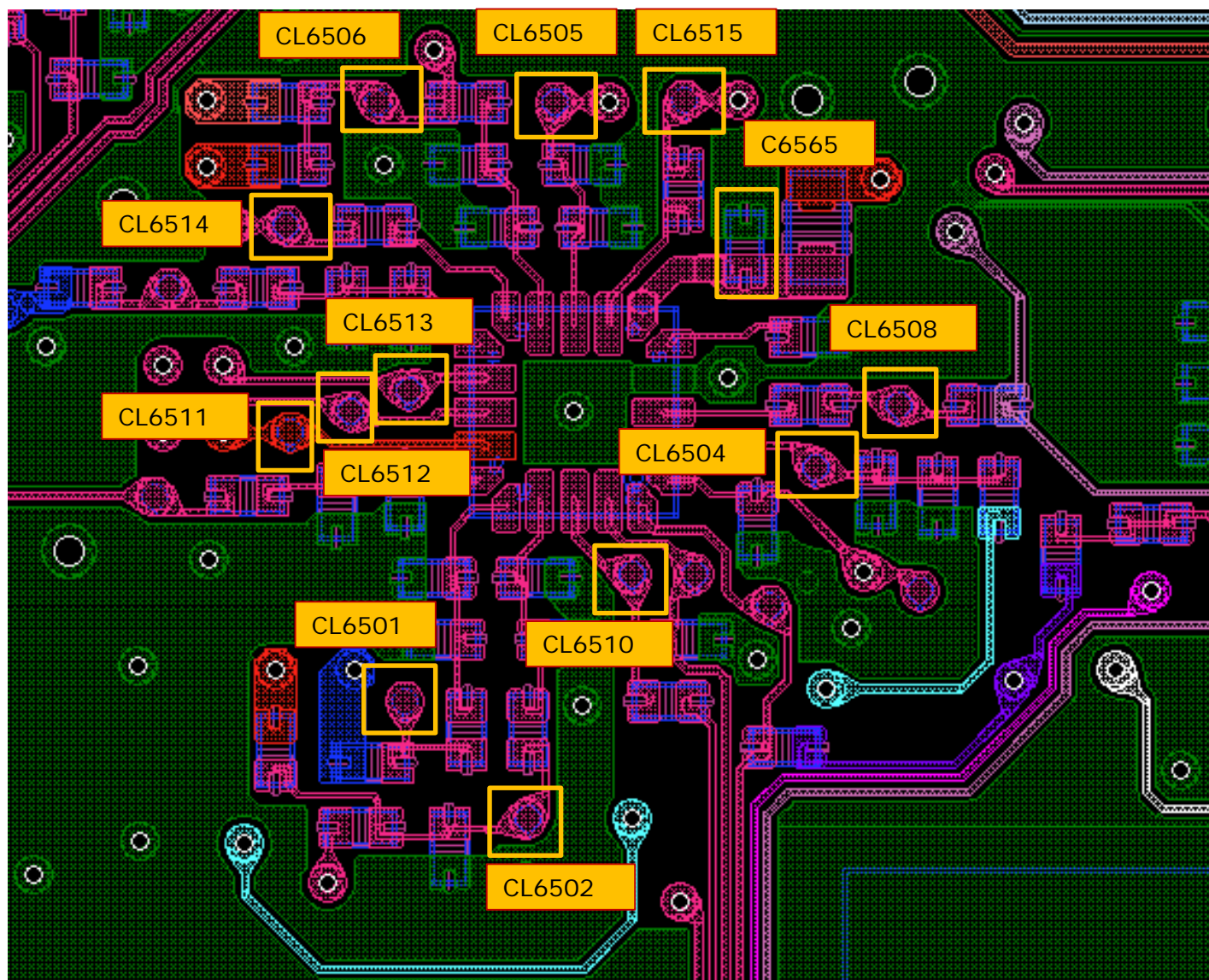




## SECTION 3 TROUBLESHOOTING

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### Checking Point



## SECTION 3 TROUBLESHOOTING

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### 2.1.5 No Power DDCON/LDO

## Check item summary

Board	Operation	IC Ref	Voltage supply	Output ref.	Enable pin	Enable source	Fuse	Vin ref.
BKR	DC/DC	IC6007	1.8V_TU	C6060	R6227	P-ucom IC6510 #pin13(CL6512)	-	C6055
	DC/DC	IC6009	5V_MAIN/5V_VBUS	C6069	IC6009 #PIN15	P-ucom IC6510 #pin13(CL6512)	F6009/F6010	C6066
	DC/DC	IC6010	3.3V_MAIN/3.3V_AUDIO	C6214	IC6010 #PIN11	Vin (C6210)	F6011/F6012	C6201
	DC/DC	IC6004	1.5V_DDR	C6047	C6153	Vin(C6040)	-	C6040
	DC/DC	IC6511	1.0V_BE/1.0V_BE_VBO	C6570	IC6511 #PIN4	P-ucom IC6510 #pin13(CL6512)	F6506/F6507	C6568
	DC/DC	IC6017	1.0V_CORE	C6196	R6256	P-ucom IC6510 #pin13(CL6512)	F6013/F6014	C6185
	DC/DC	IC6020	1.0V_SCPU	C6226	IC6020 #PIN11	P-ucom IC6510 #pin13(CL6512)	F6015/F6016	C6222
	DC/DC	IC6014	1.0V_A	C6132	C6131	Vin(C6131)	-	C6131
	LDO	IC5505	3.3V_Main (SoC)	C5596	C5595	Vin(C5595)	-	C5595
	LDO	IC6508	1.0V_STBY_ETH	C6553	R6595	SoC IC5000 (NET_PWR_SHTDWN) CL5024	-	C6552
	LDO	IC6506	1.8V_EMMC_SOC	C6546	C6544	Vin(C6544)	-	C6544
	LDO	IC6507	1.8V_EMMC	C6549	C5098	SoC IC5000 (EMMC_PWR_CTRL )	-	C6547

pin12 : P\_ON\_#1

pin13 : P\_ON\_#2

# SECTION 3 TROUBLESHOOTING

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**BKR Board Model**

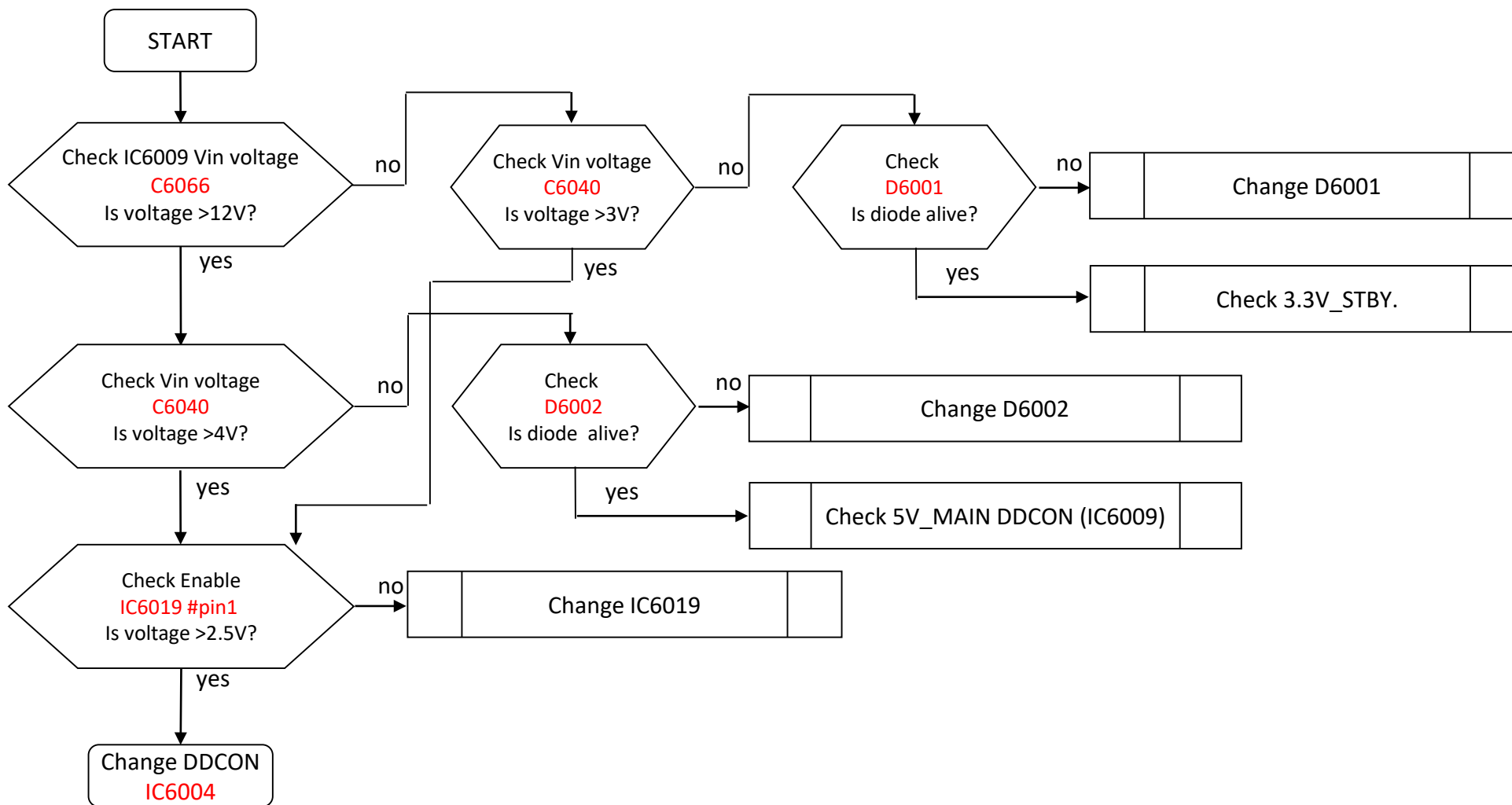
## DDCON check

**IC Ref**

IC6004

**Voltage supply**

1.5V\_DDR



## SECTION 3 TROUBLESHOOTING

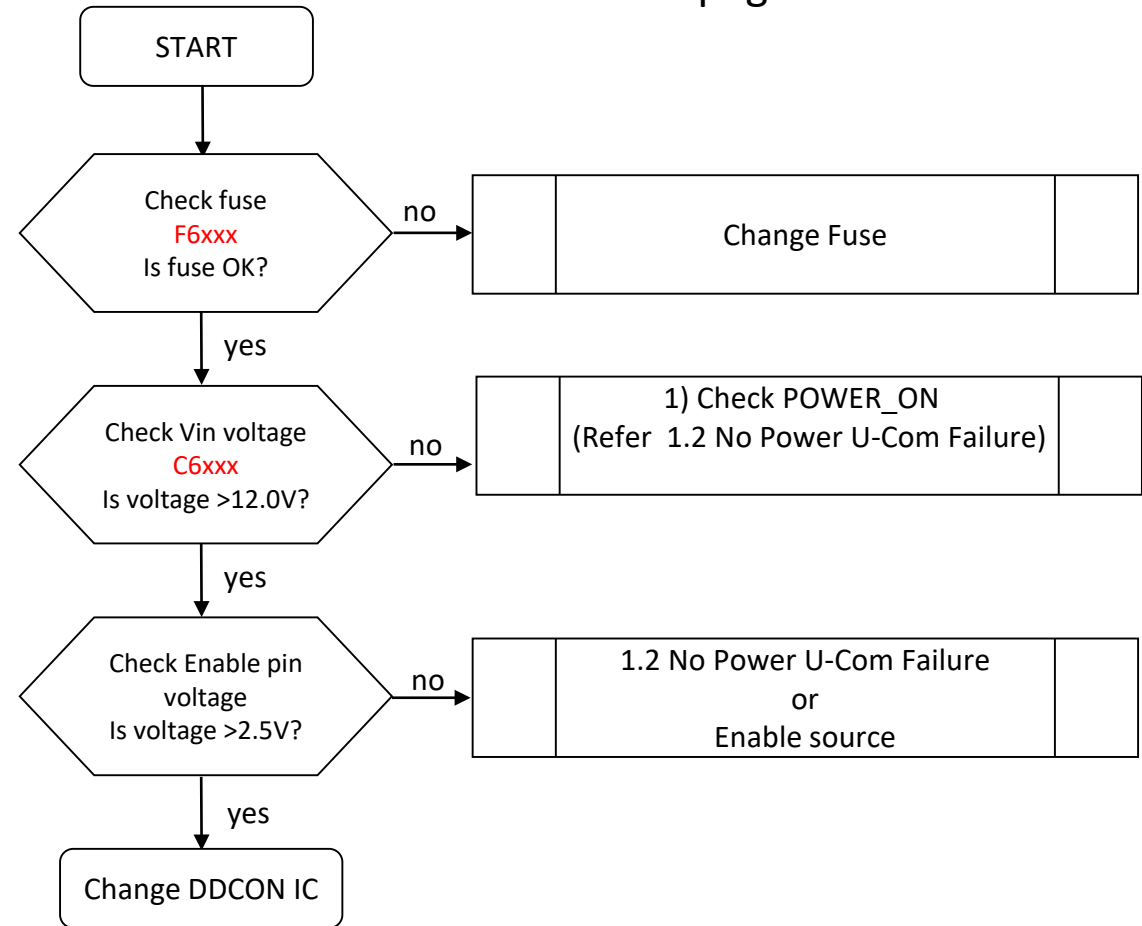
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### BKR Board Model

Board	Operation	IC Ref	Voltage supply
BKR	DC/DC	IC6009	5V_MAIN/5V_VBUS
		IC6010	3.3V_MAIN/3.3V_AUDIO
		IC6511	1.0V_BE/1.0V_BE_VBO
		IC6017	1.0V_CORE
		IC6020	1.0V_SCPU

### DDCONs check

Please refer page-34 for Ref number.





## SECTION 3 TROUBLESHOOTING

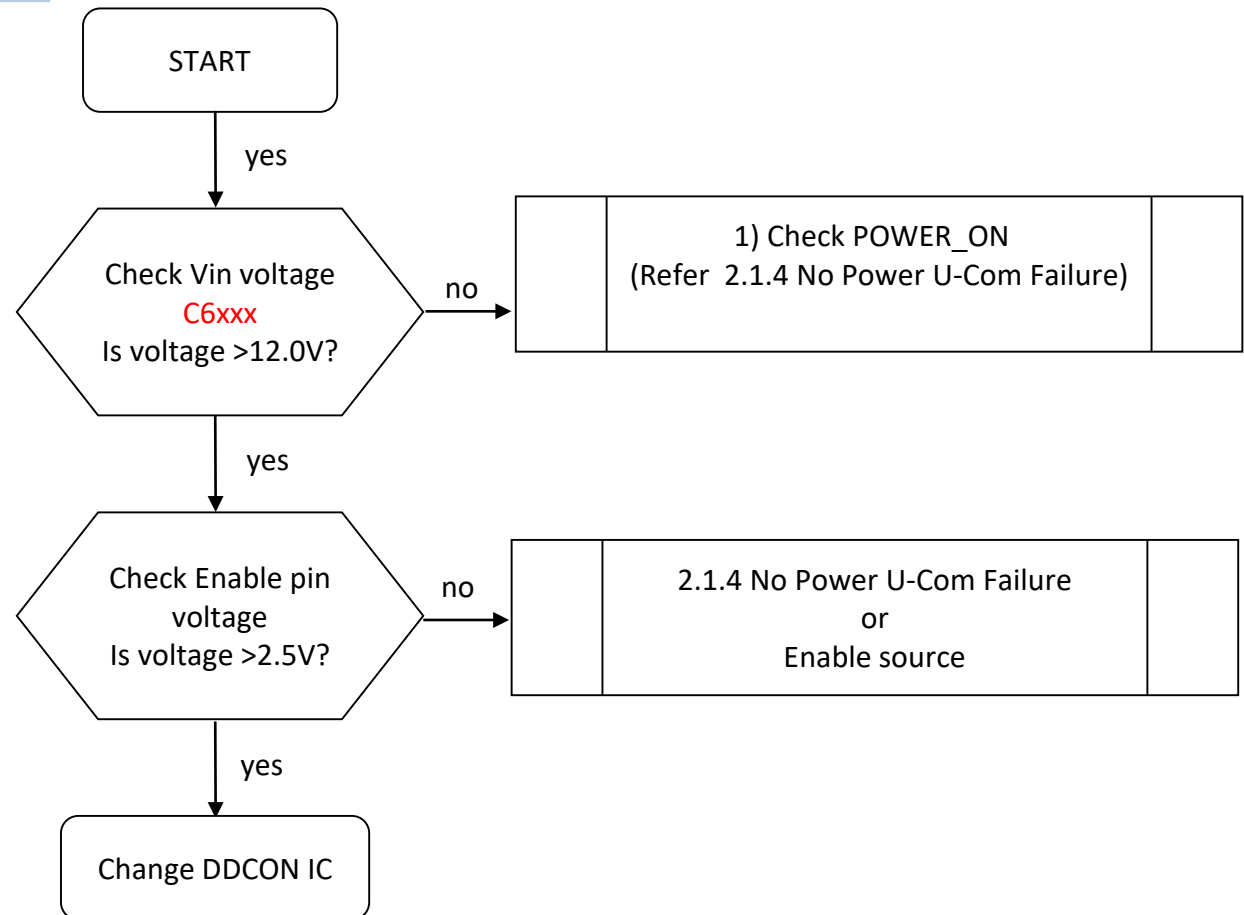
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### BKR Board Model

### DDCONs check

Board	Operation	IC Ref	Voltage supply
BKR	DC/DC	IC6007	1.8V_TU
		IC6014	1.0V_A

Please refer page-34 for Ref number.

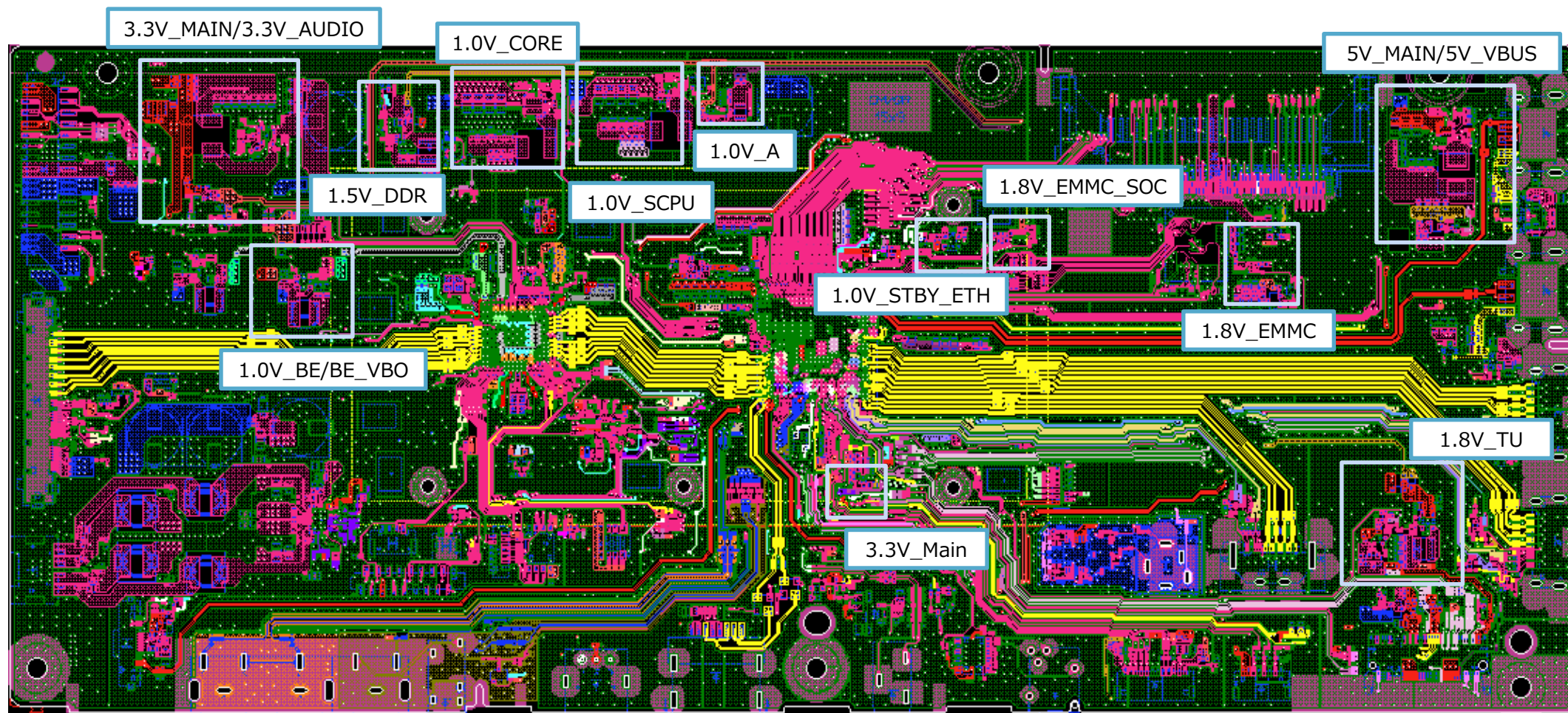


## SECTION 3 TROUBLESHOOTING

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Board View (BKR)

A-side



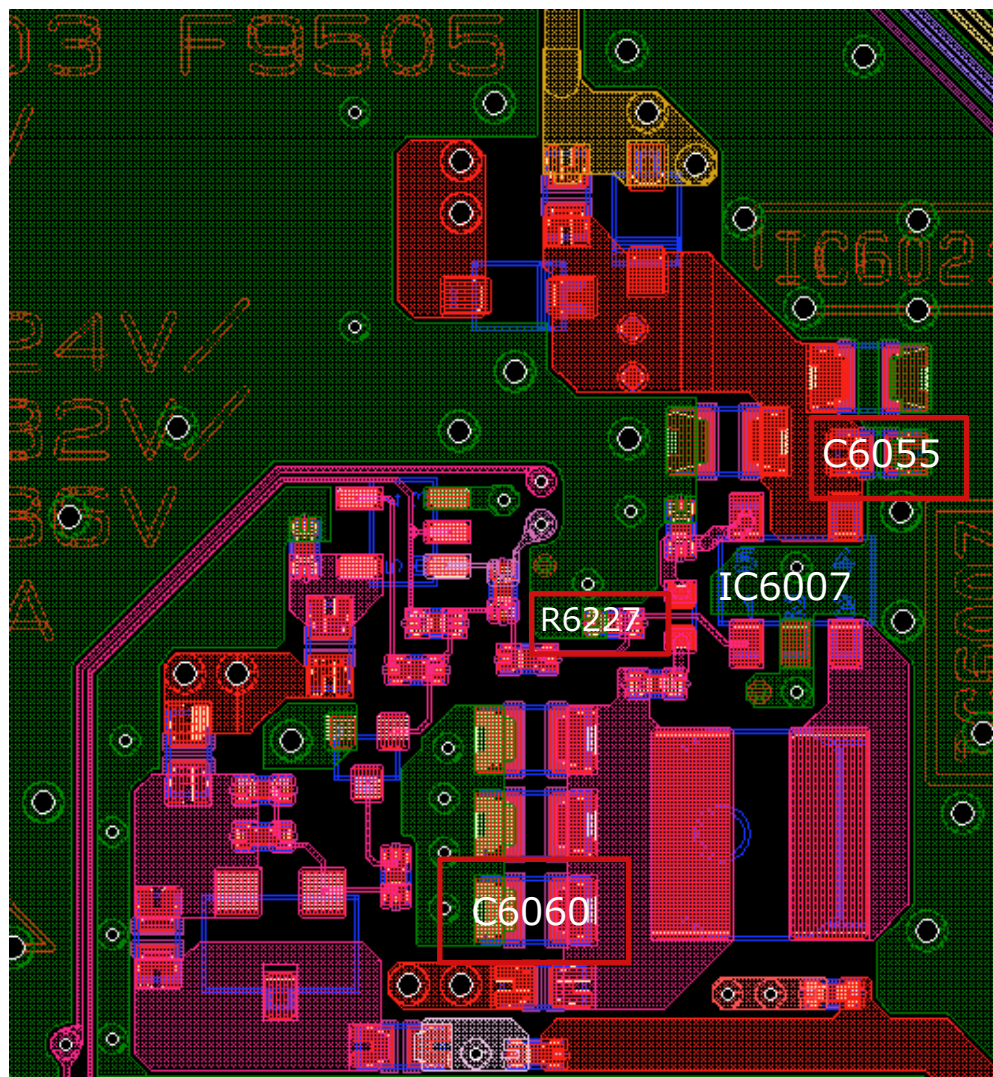


## SECTION 3 TROUBLESHOOTING

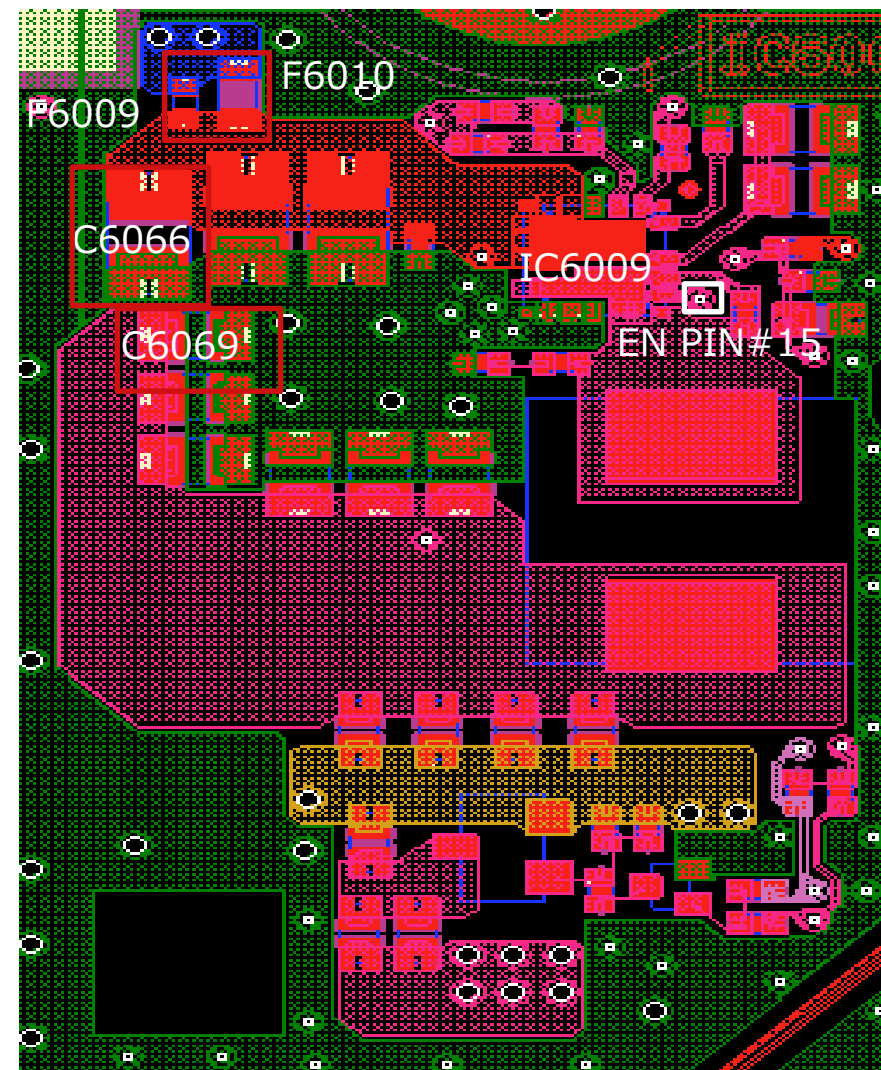
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Checking Point

### 1.8V\_TU



### 5V\_MAIN/5V\_VBUS

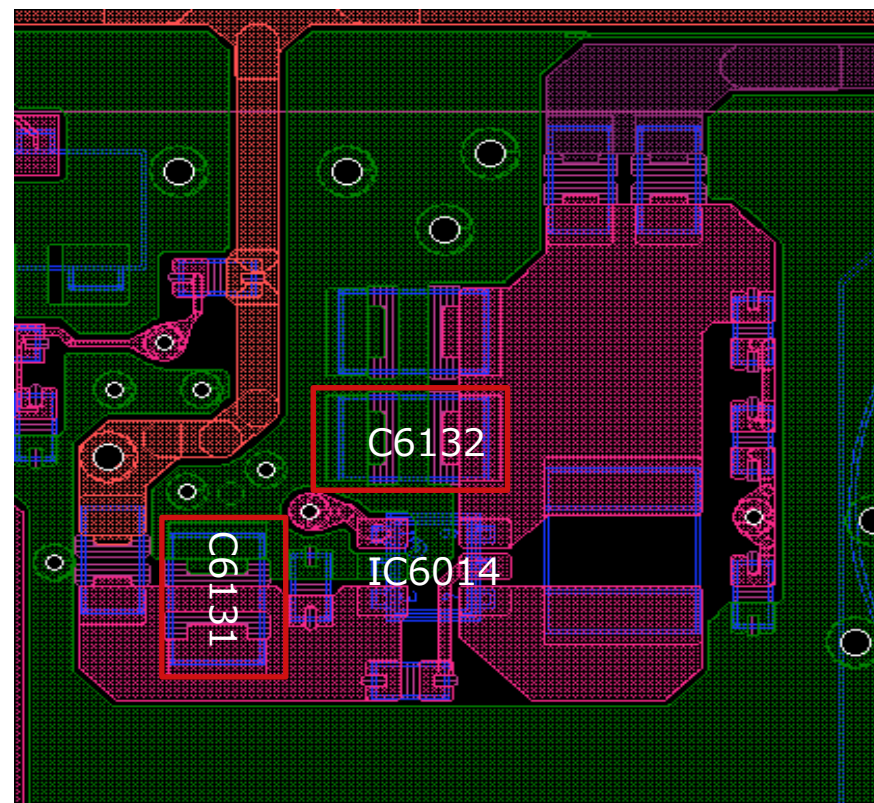
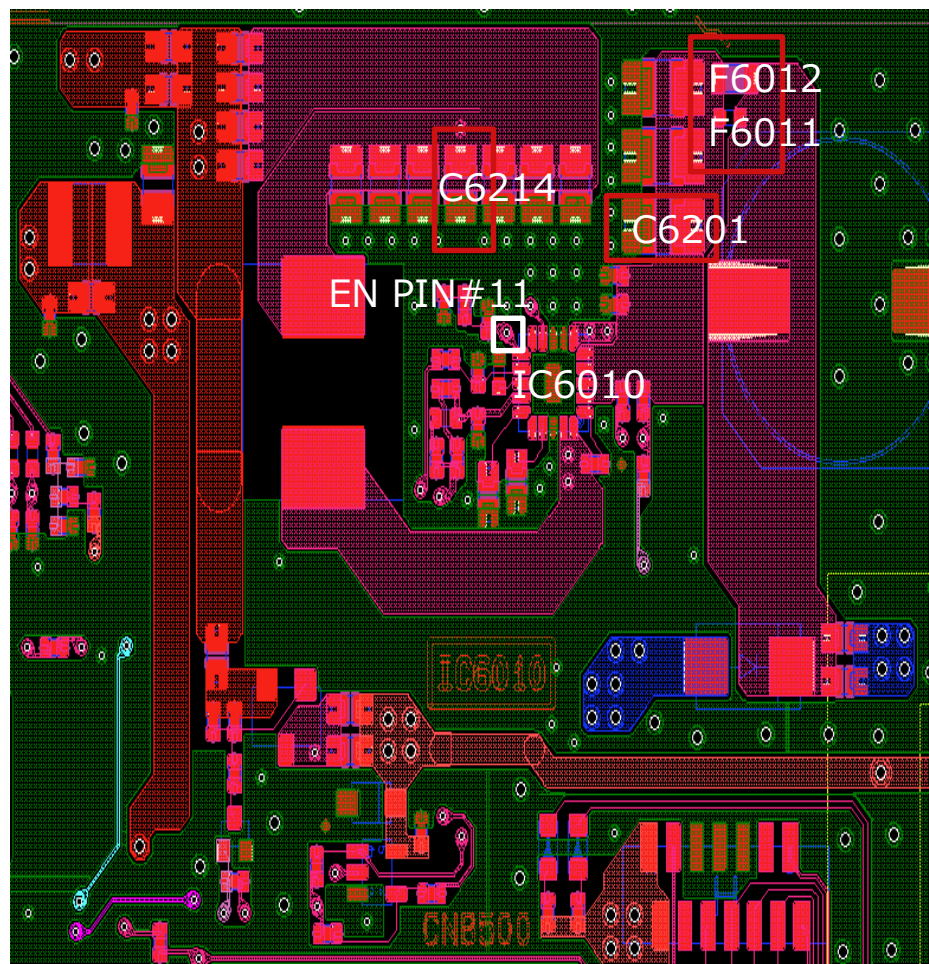


## SECTION 3 TROUBLESHOOTING

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### 3.3V\_MAIN/3.3V\_AUDIO

### 1.0V\_A

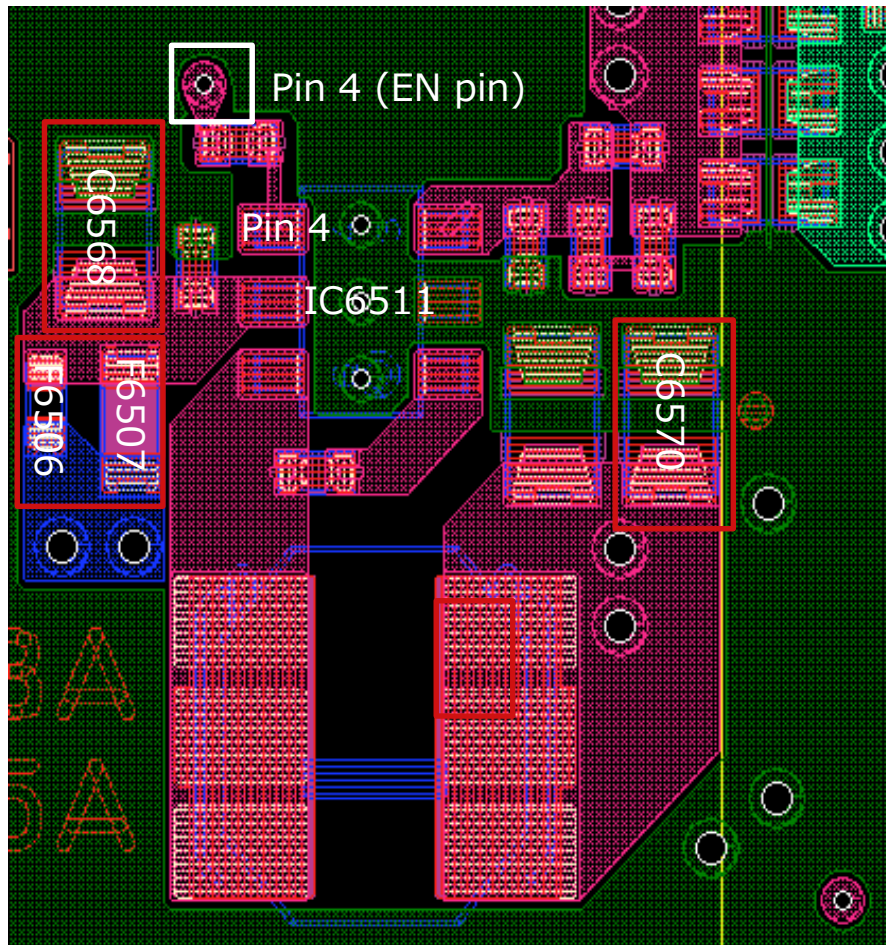




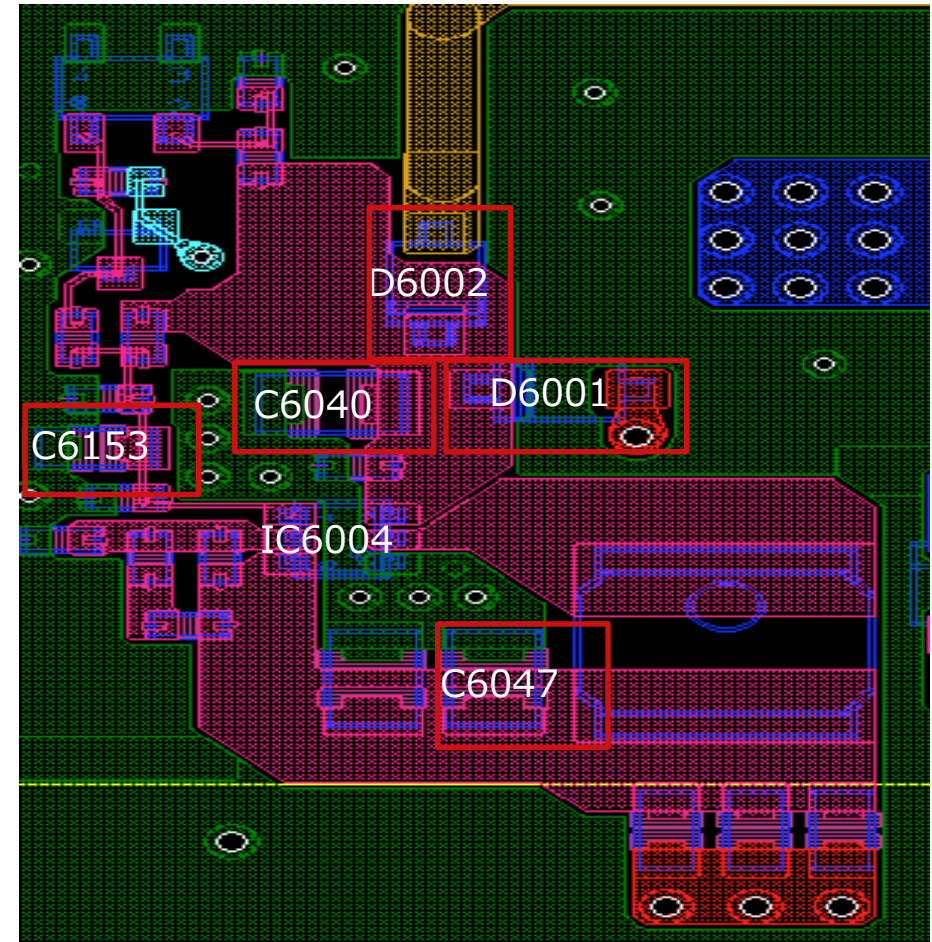
## SECTION 3 TROUBLESHOOTING

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### 1.0V\_BE/1.0V\_BE\_VBO



### 1.5V\_DDR

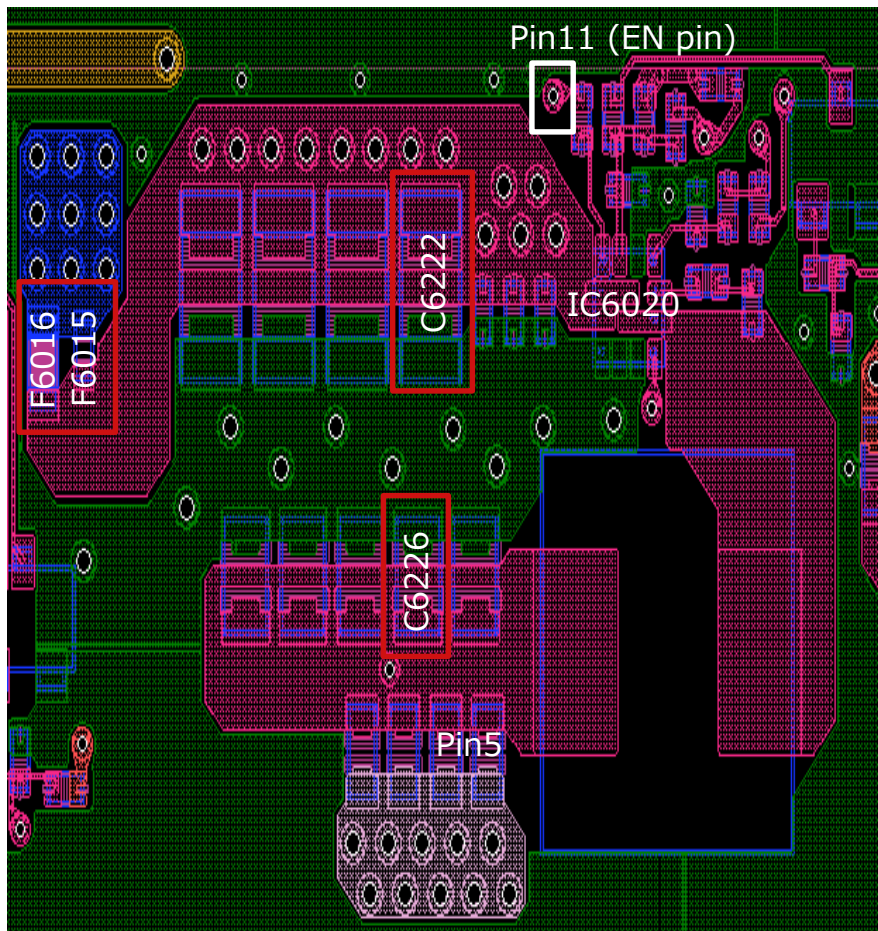




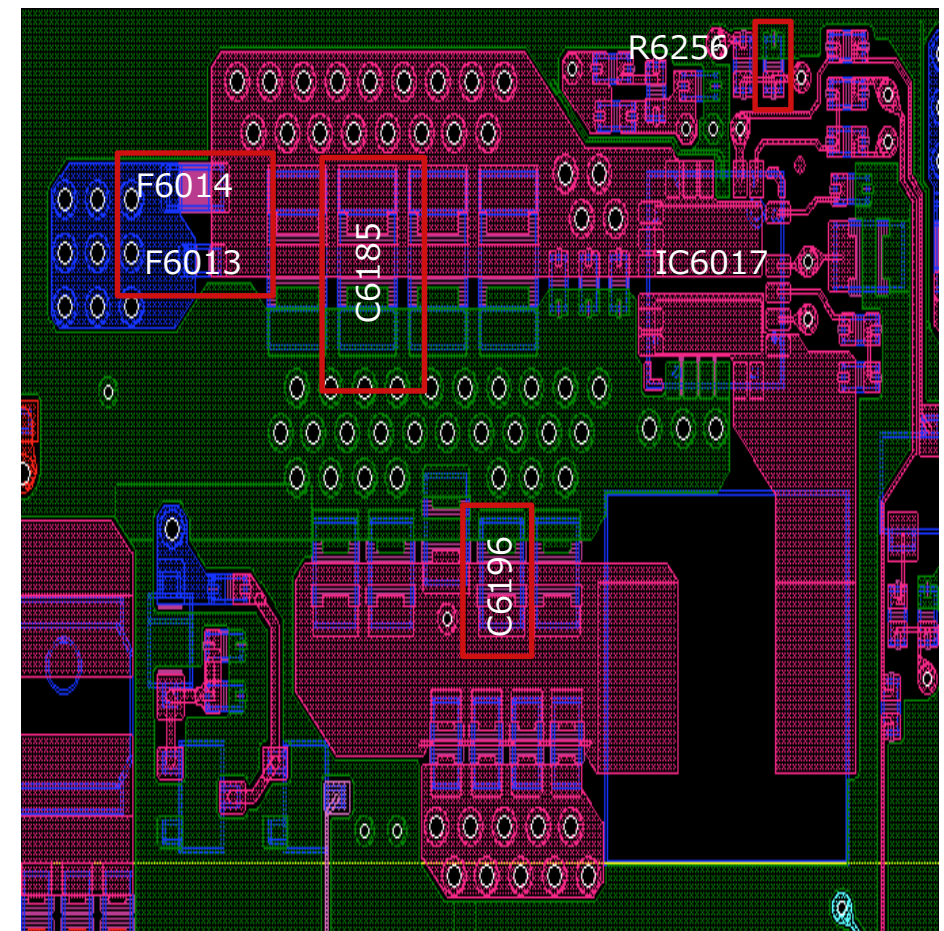
## SECTION 3 TROUBLESHOOTING

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### 1.0V\_SCPU



### 1.0V\_CORE





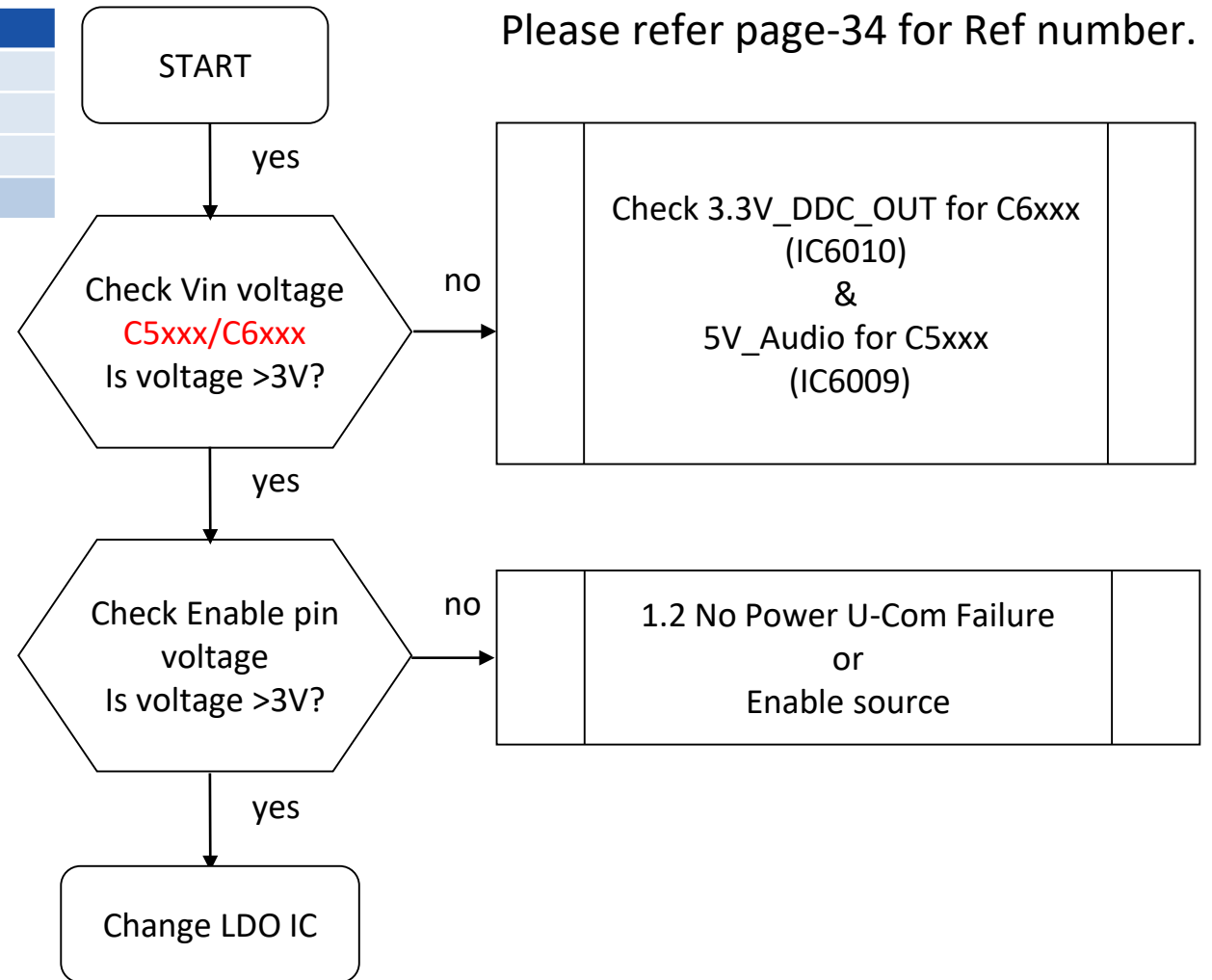
## SECTION 3 TROUBLESHOOTING

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### BKR Board Model

## LDOs check

Board	Operation	IC Ref	Voltage supply
BKR	LDO	IC5505	3.3V_Main (SoC)
		IC6508	1.0V_STBY_ETH
		IC6506	1.8V_EMMC_SOC
		IC6507	1.8V_EMMC

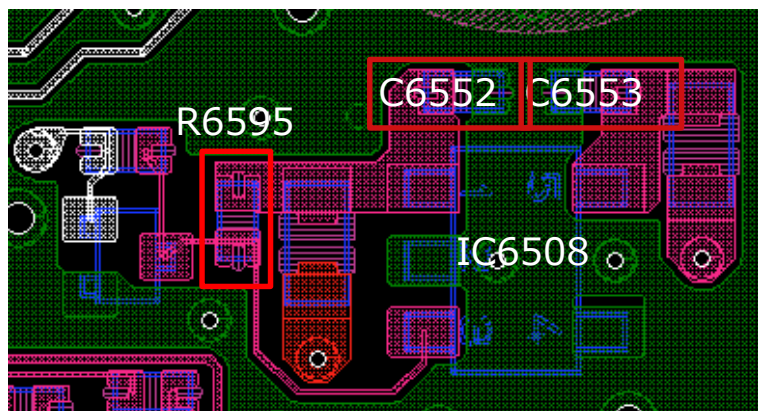


## SECTION 3 TROUBLESHOOTING

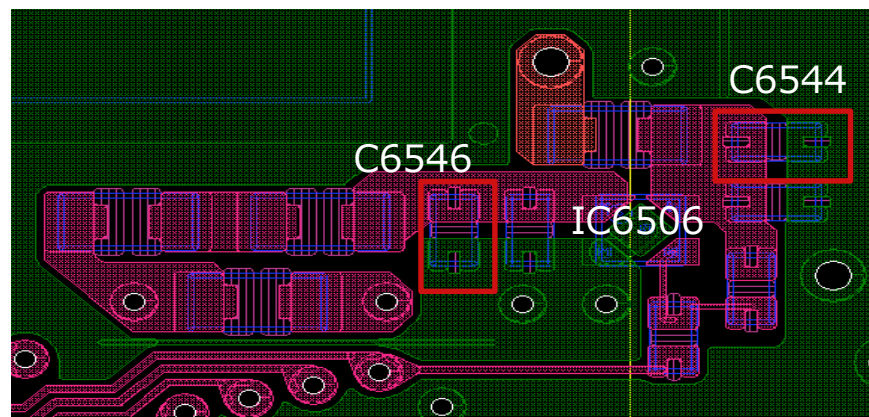
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Checking Point

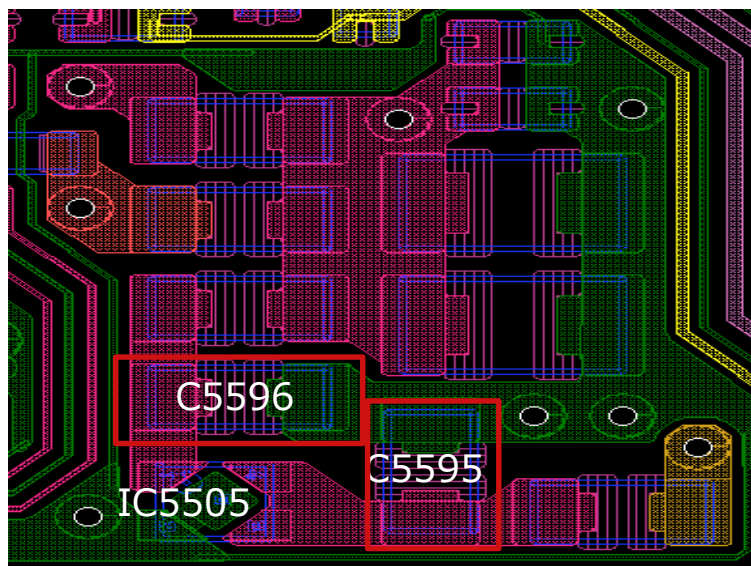
### 1.0V\_STBY\_ETH



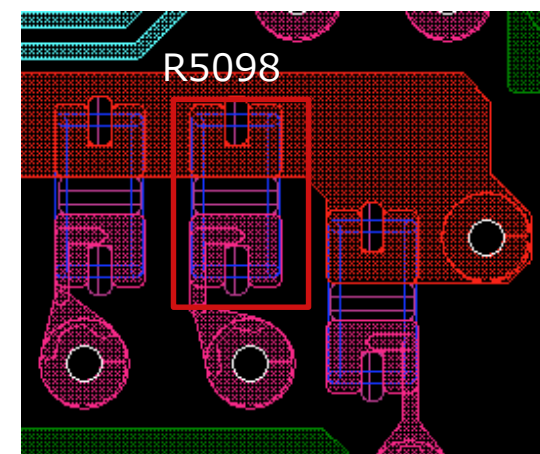
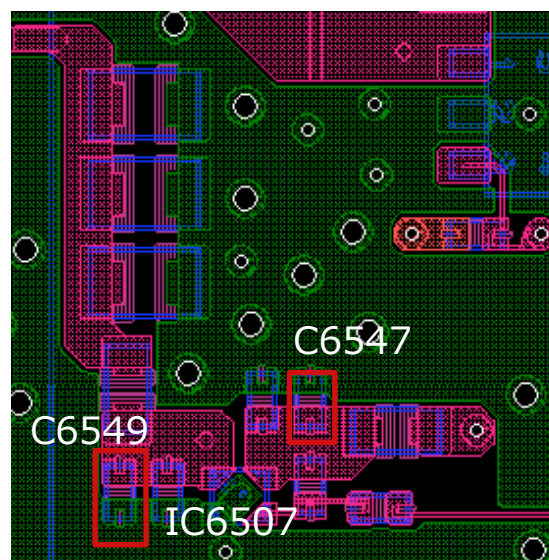
### 1.8V\_EMMC\_SoC



### 3.3V\_Main (SoC)



### 1.8V\_EMMC

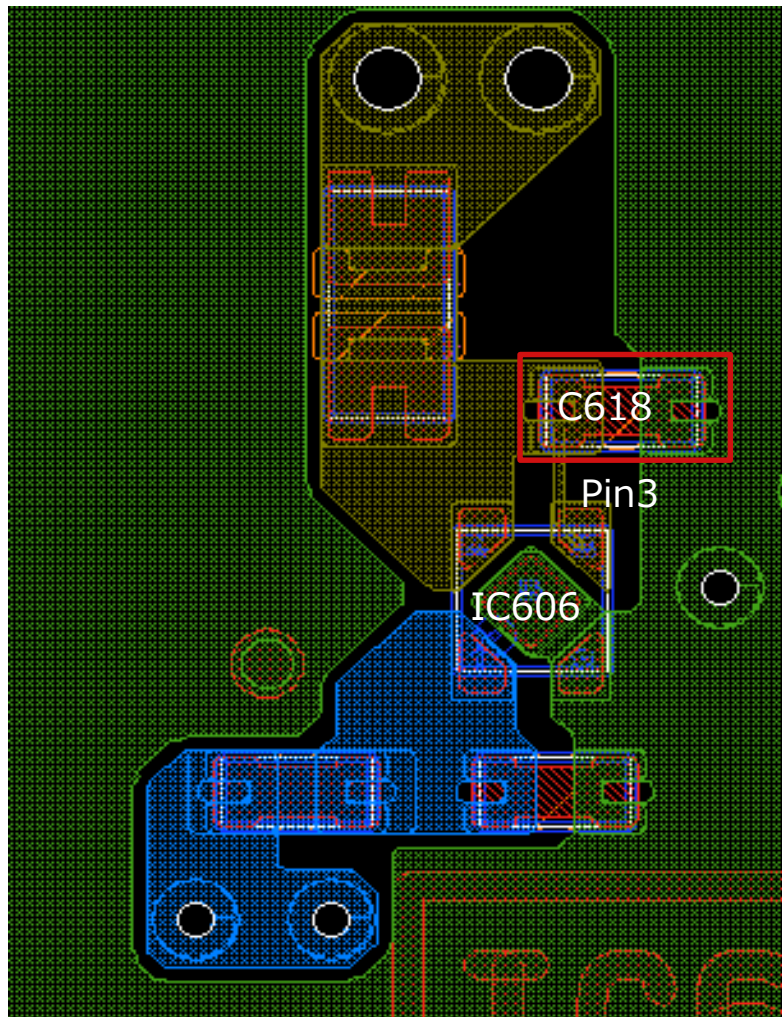




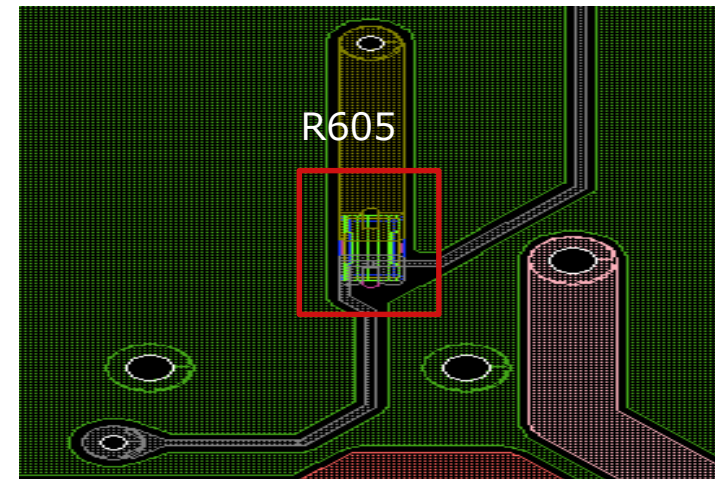
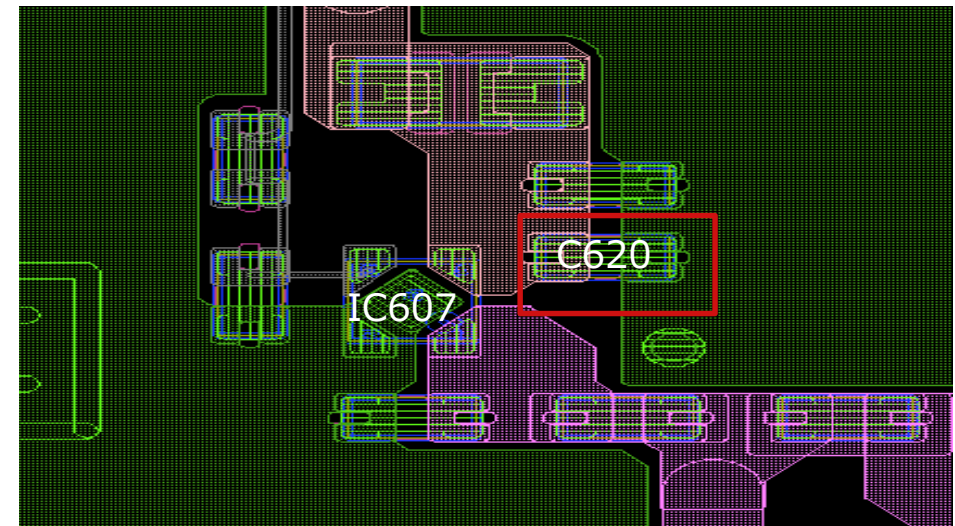
## SECTION 3 TROUBLESHOOTING

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### 2.5V\_M3\_DDR



### 1.8V\_EMMC



## SECTION 3 TROUBLESHOOTING

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### 2.2 No Sound

Section	Index	Title
2.2 No Sound	2.2.1	3x Blinking
	2.2.2	Main Speaker No Sound
	2.2.3	Headphone Out No Sound
	2.2.4	Analog Audio Input No Sound
	2.2.5	Analog RF No Sound
	2.2.6	HDMI Audio No Sound/ARC failure
	2.2.7	Optical Out No Sound

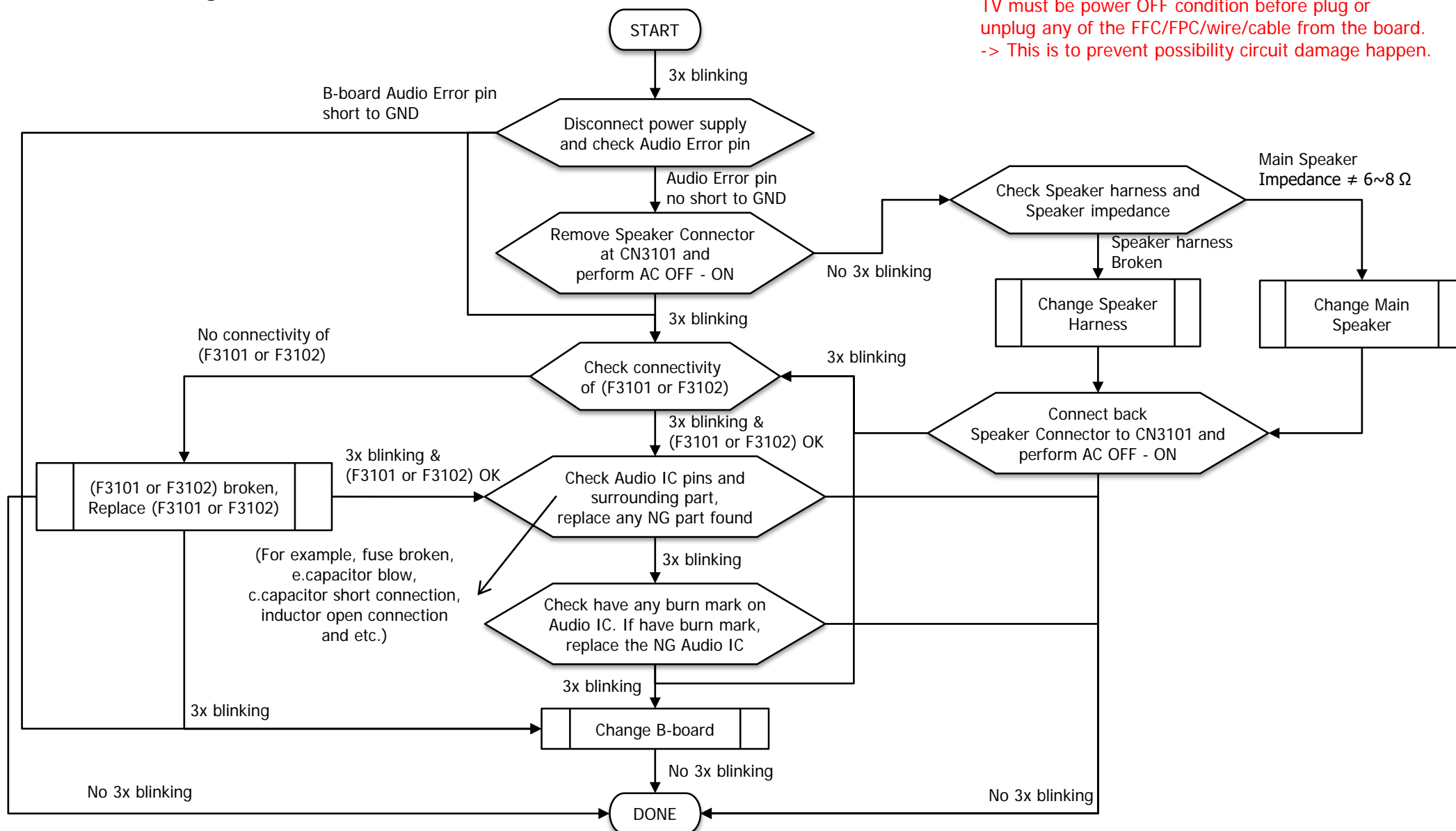
## SECTION 3 TROUBLESHOOTING

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### 2.2.1 : 3x Blinking – Audio Error

#### Important Note :

TV must be power OFF condition before plug or unplug any of the FFC/FPC/wire/cable from the board.  
-> This is to prevent possibility circuit damage happen.

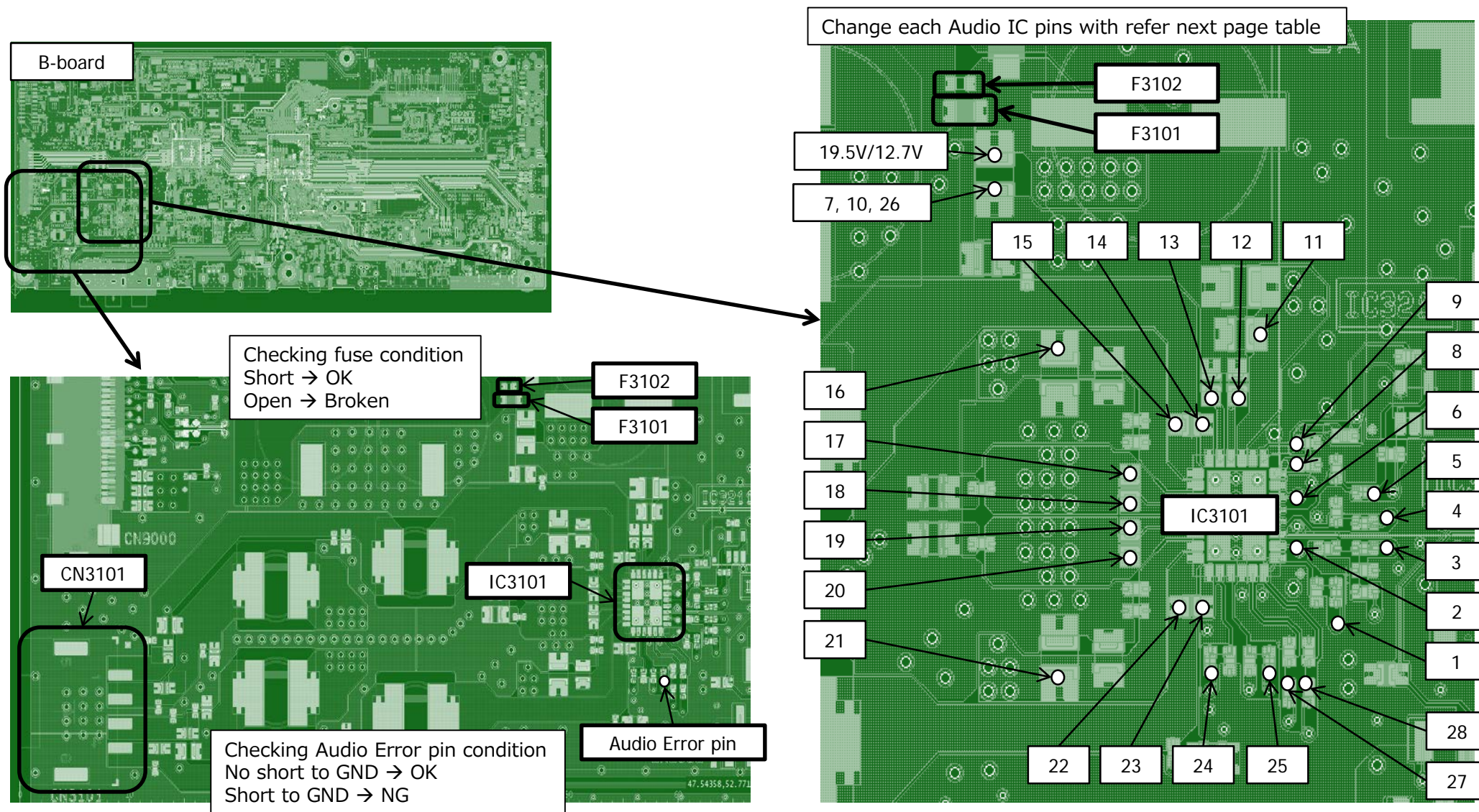




## SECTION 3 TROUBLESHOOTING

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### 2.2.1 : 3x Blinking – Audio D Amp IC Normal Operation Condition





## SECTION 3 TROUBLESHOOTING

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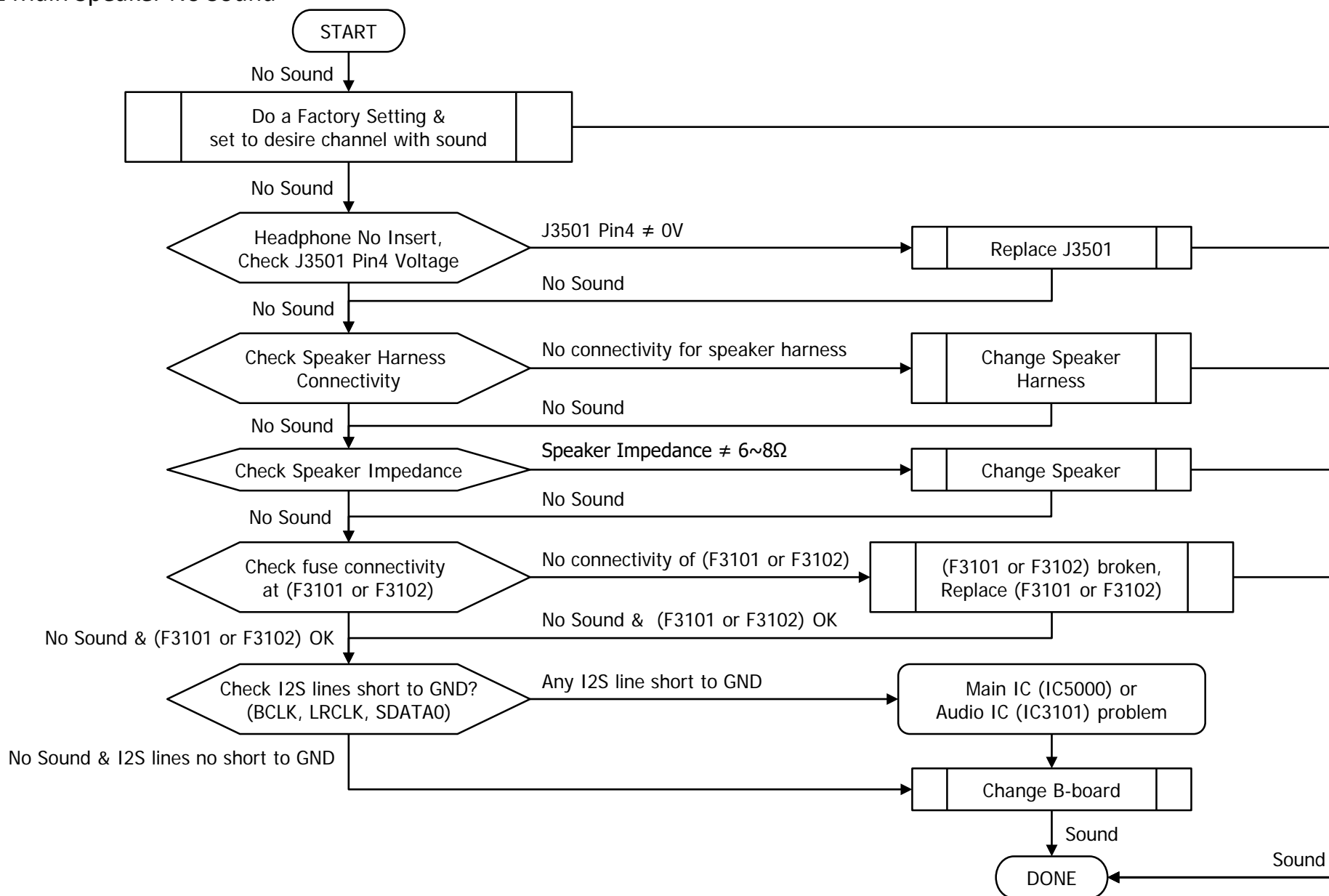
Label	Name	AC Adapter	PSU board	Common
		Voltage	Voltage	Frequency
1	SDI	3.3Vpp	3.3Vpp	Clock signal
2	SDO	0V	0V	-
3	RESETB	3.3V	3.3V	-
4	LRCK	3.3Vpp	3.3Vpp	48kHz
5	SCLK	3.3Vpp	3.3Vpp	3.07MHz
6	MCLK	0V	0V	-
7	DVSS	0V	0V	-
8	VR_DIG	1.8V	1.8V	-
9	DVDD	3.3V	3.3V	-
10	AVSS	0V	0V	-
11	AVCC	19.5V	12.7V	-
12	GVDD	5V	5V	-
13	VR_ANA	5V	5V	-
14	BSTPR	14.7Vrms	11.4Vrms	-

Label	Name	AC Adapter	PSU board	Common
		Voltage	Voltage	Frequency
15	VOUTPR	9.7Vrms	6.4Vrms	~800kHz
16	PVDDR	19.5V	12.7V	
17	VOUTNR	9.7Vrms	6.4Vrms	~800kHz
18	BSTNR	14.7Vrms	11.4Vrms	-
19	BSTNL	14.7Vrms	11.4Vrms	-
20	VOUTNL	9.7Vrms	6.4Vrms	~800kHz
21	PVDDL	19.5V	12.7V	-
22	VOUTPL	9.7Vrms	6.4Vrms	~800kHz
23	BSTPL	14.7Vrms	11.4Vrms	-
24	PWDNN	3.3V	3.3V	-
25	FAULTB	3.3V	3.3V	-
26	A_SEL	0V	0V	-
27	SDA	3.3Vpp	3.3Vpp	Clock signal
28	SCL	3.3Vpp	3.3Vpp	Clock signal

## SECTION 3 TROUBLESHOOTING

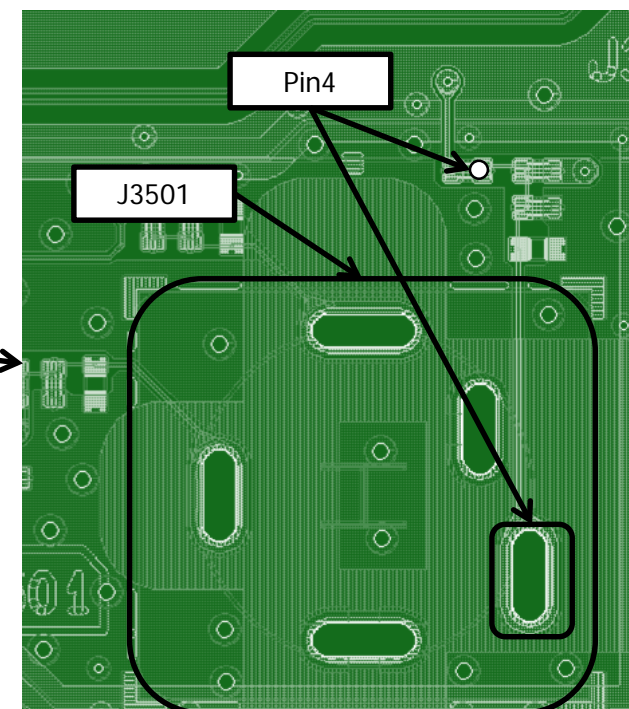
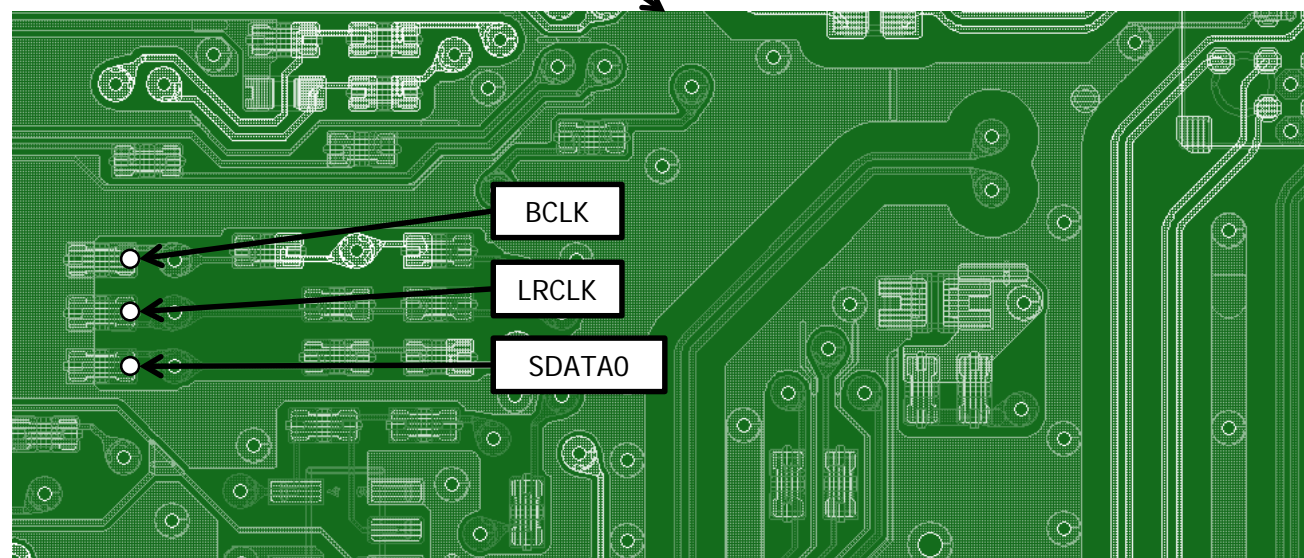
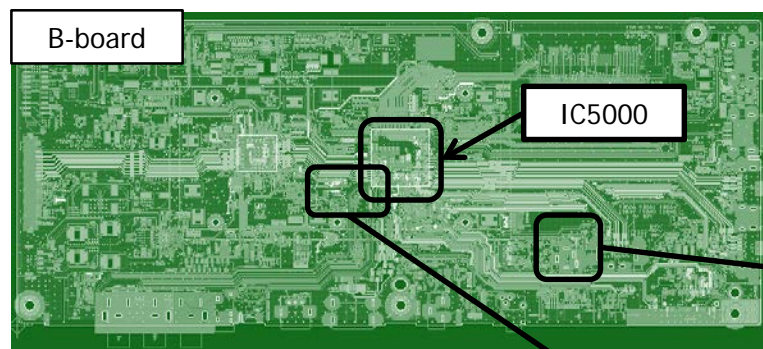
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### 2.2.2 Main Speaker No Sound



## SECTION 3 TROUBLESHOOTING

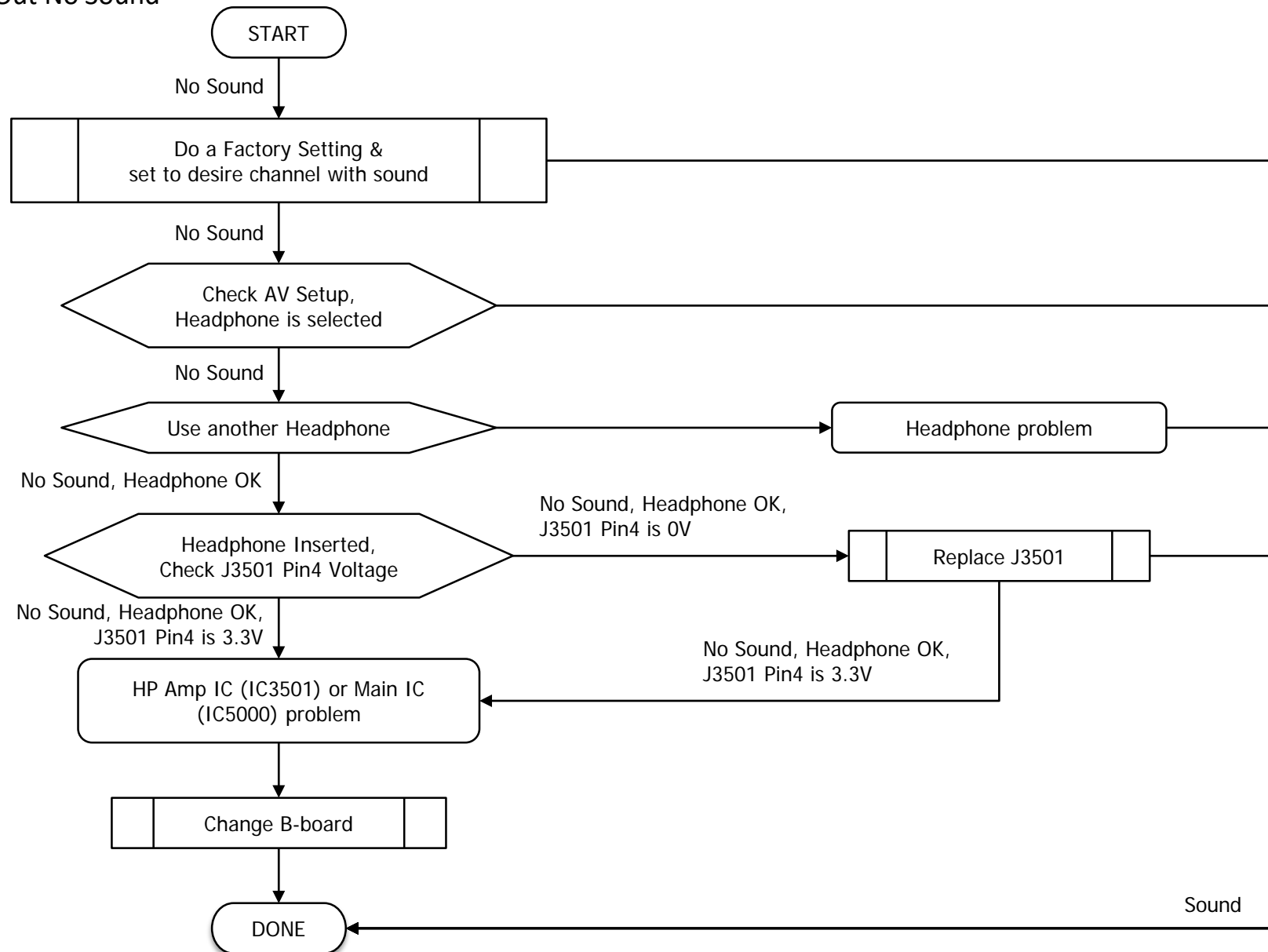
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## SECTION 3 TROUBLESHOOTING

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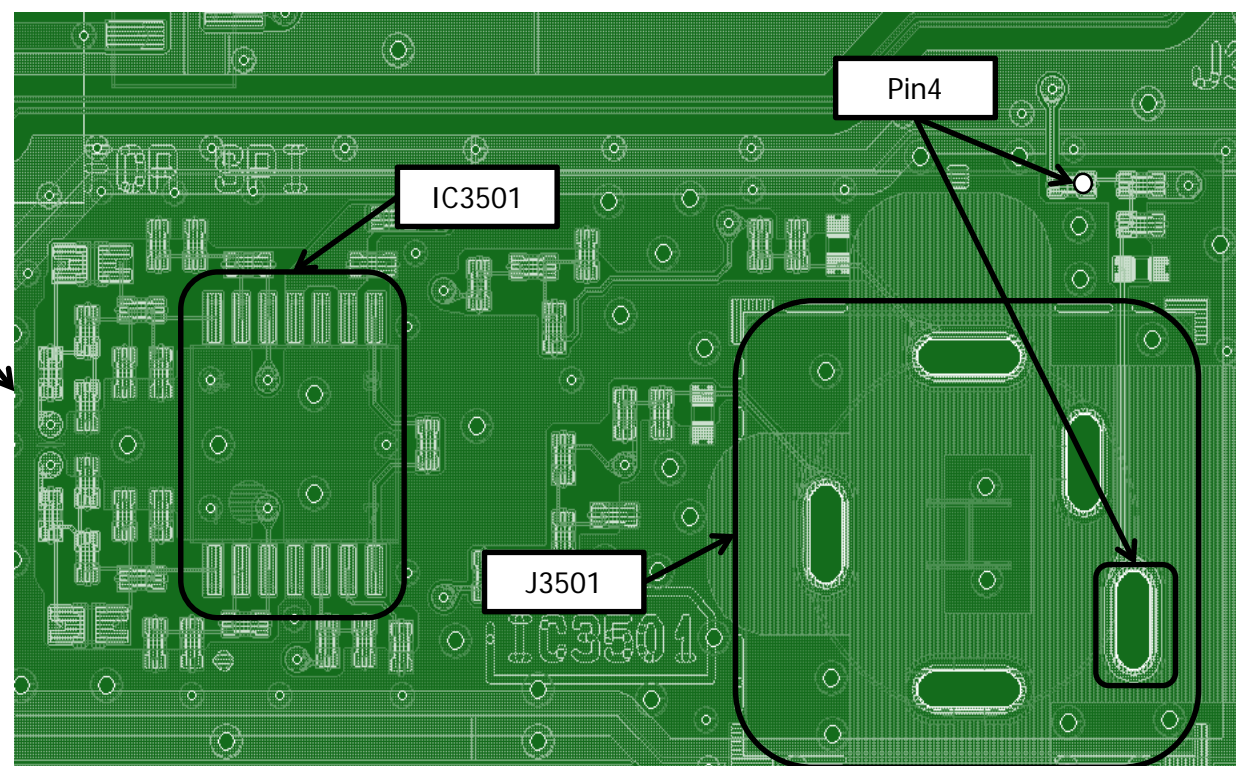
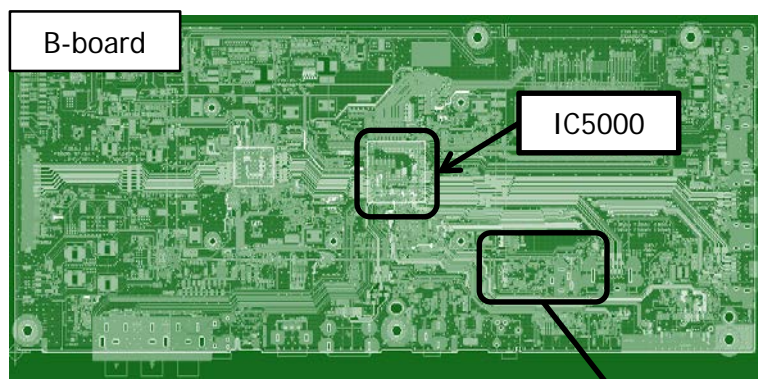
### 2.2.3 Headphone Out No Sound





## SECTION 3 TROUBLESHOOTING

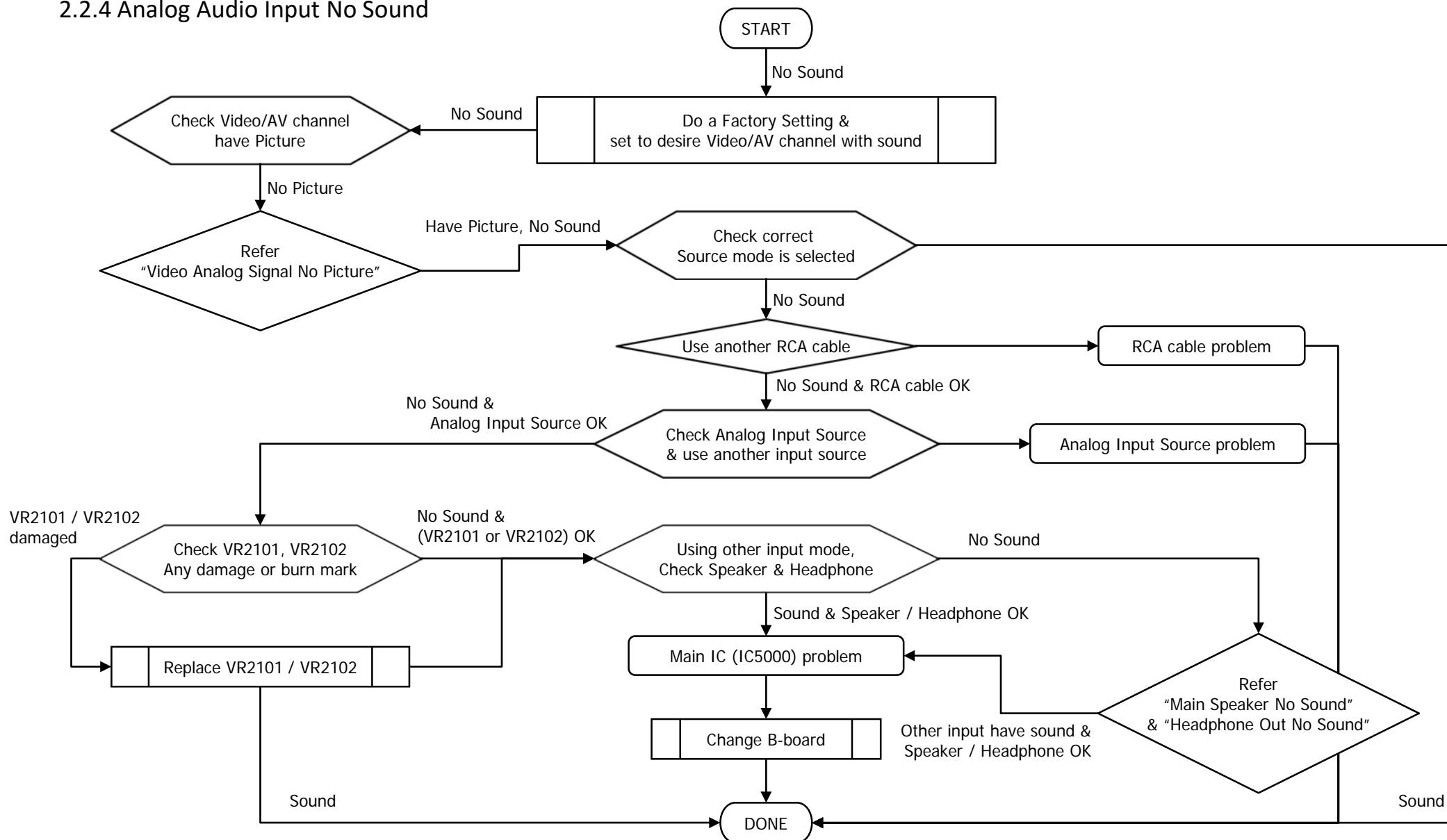
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## SECTION 3 TROUBLESHOOTING

**Sony CONFIDENTIAL**  
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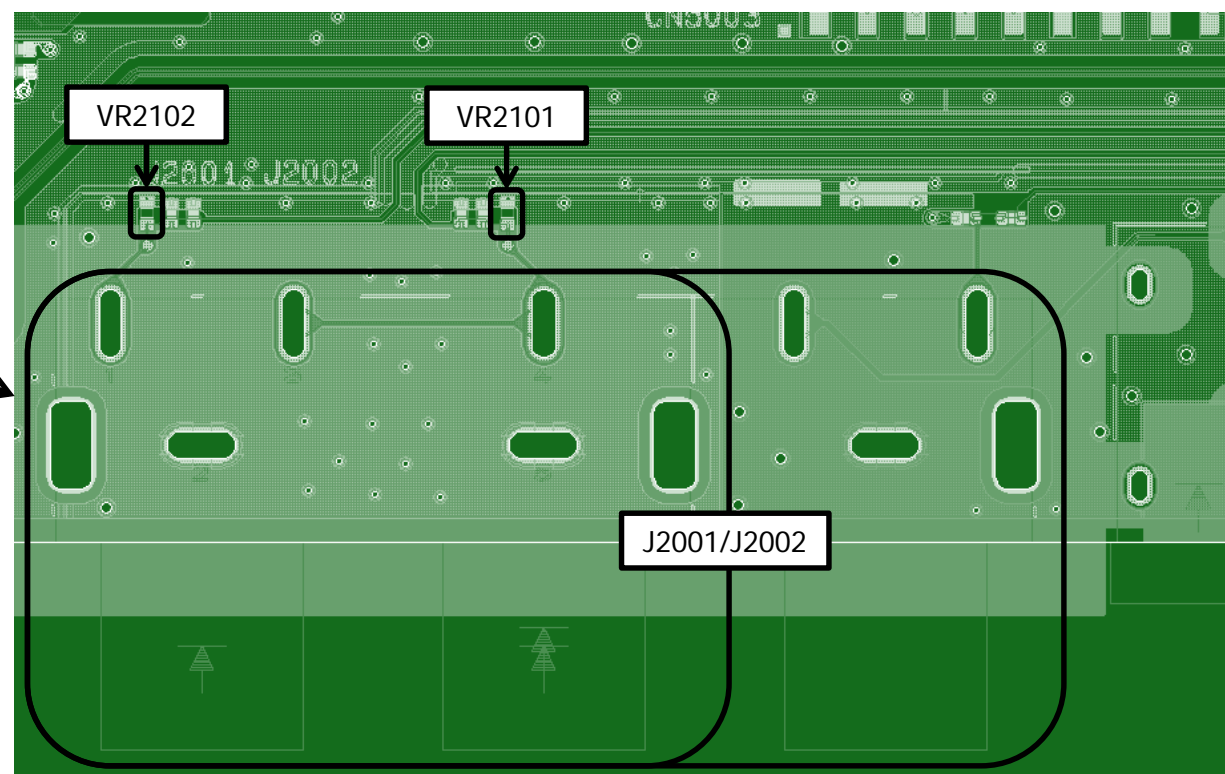
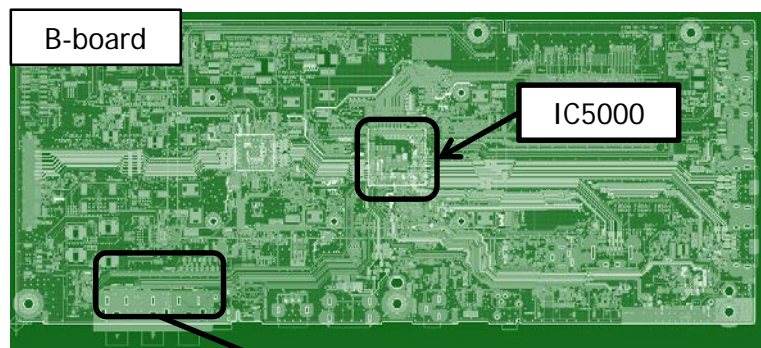
### 2.2.4 Analog Audio Input No Sound





## SECTION 3 TROUBLESHOOTING

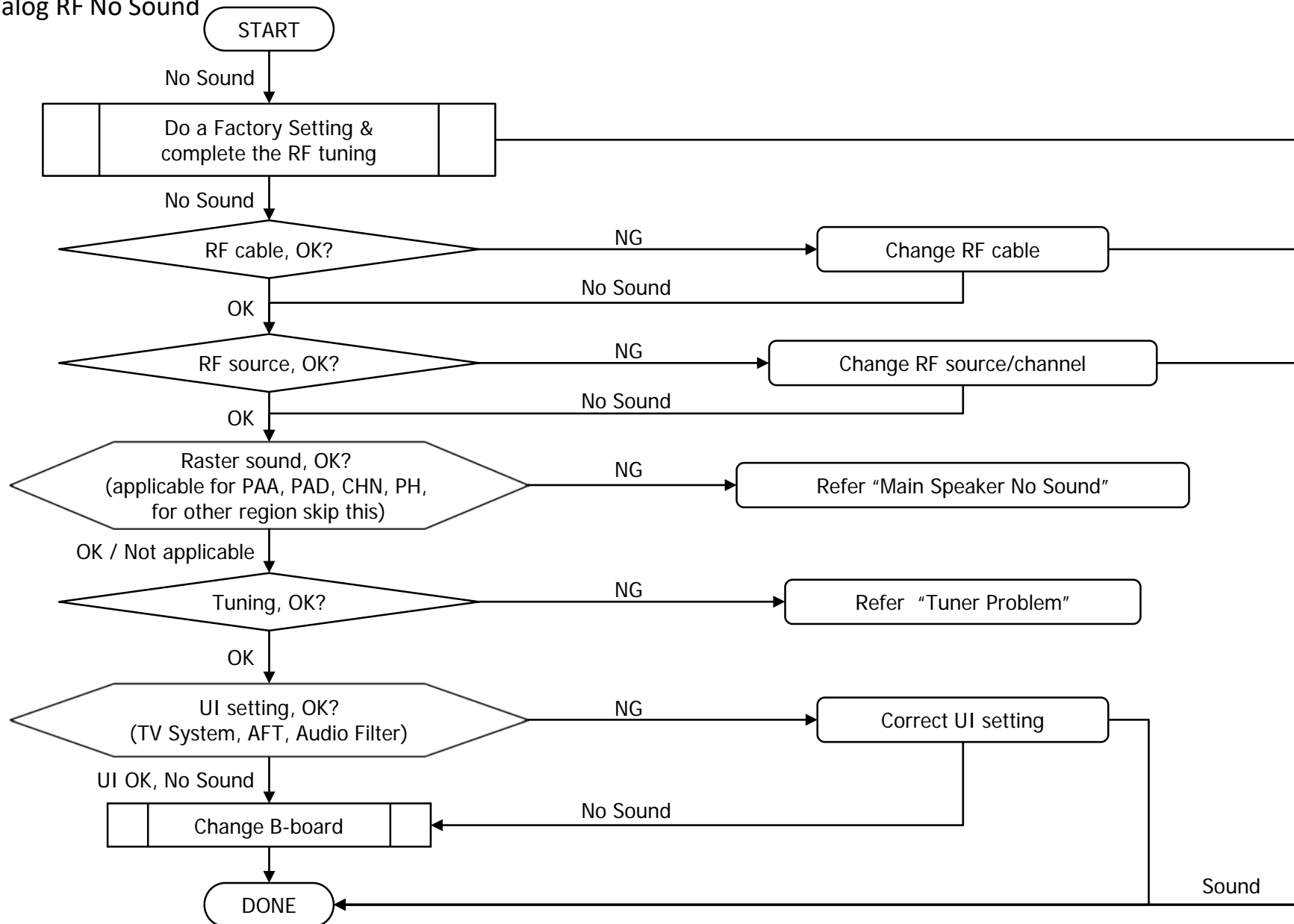
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## SECTION 3 TROUBLESHOOTING

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### 2.2.5 Analog RF No Sound

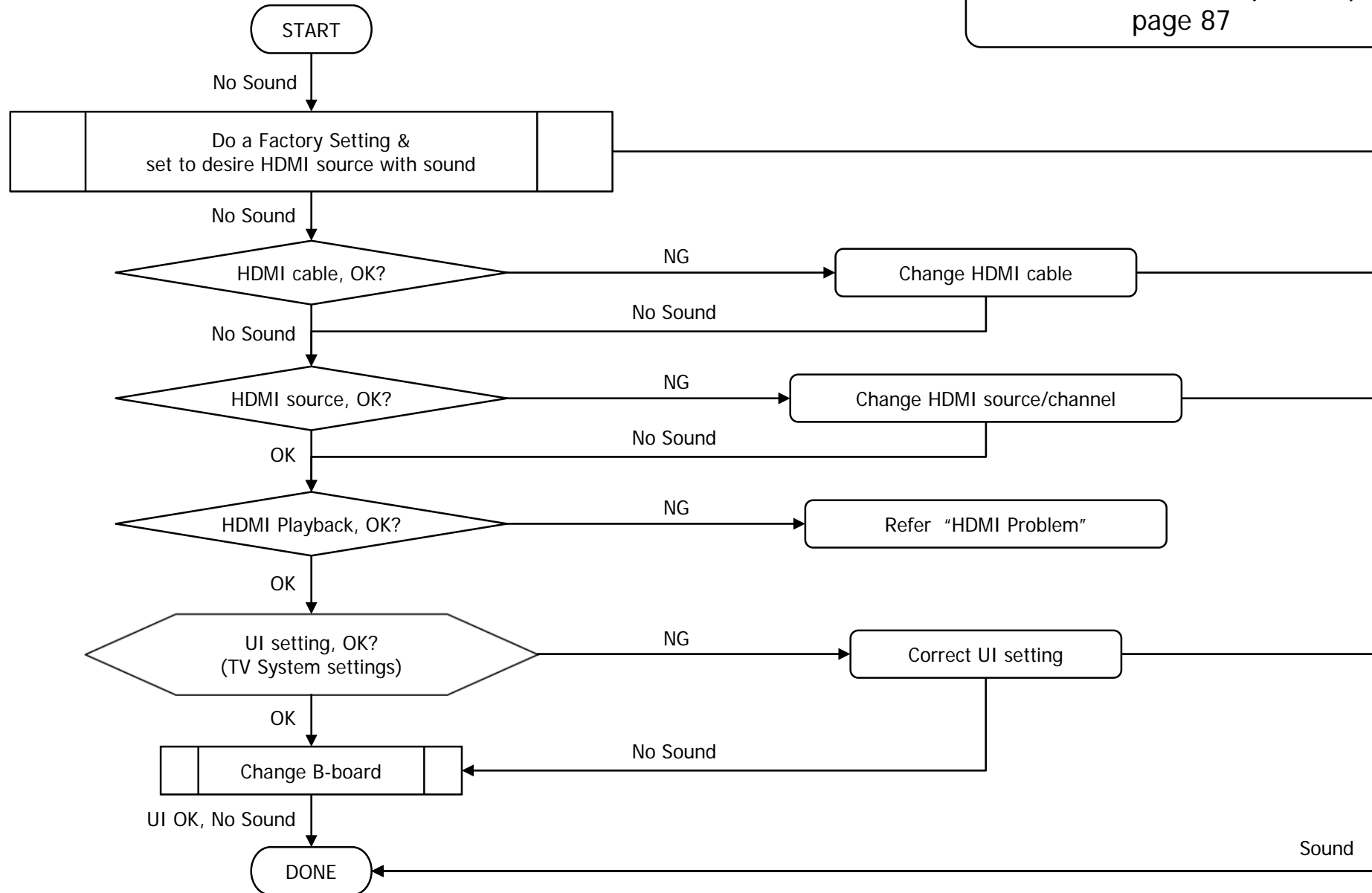


## SECTION 3 TROUBLESHOOTING

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### 2.2.6 HDMI Audio No Sound

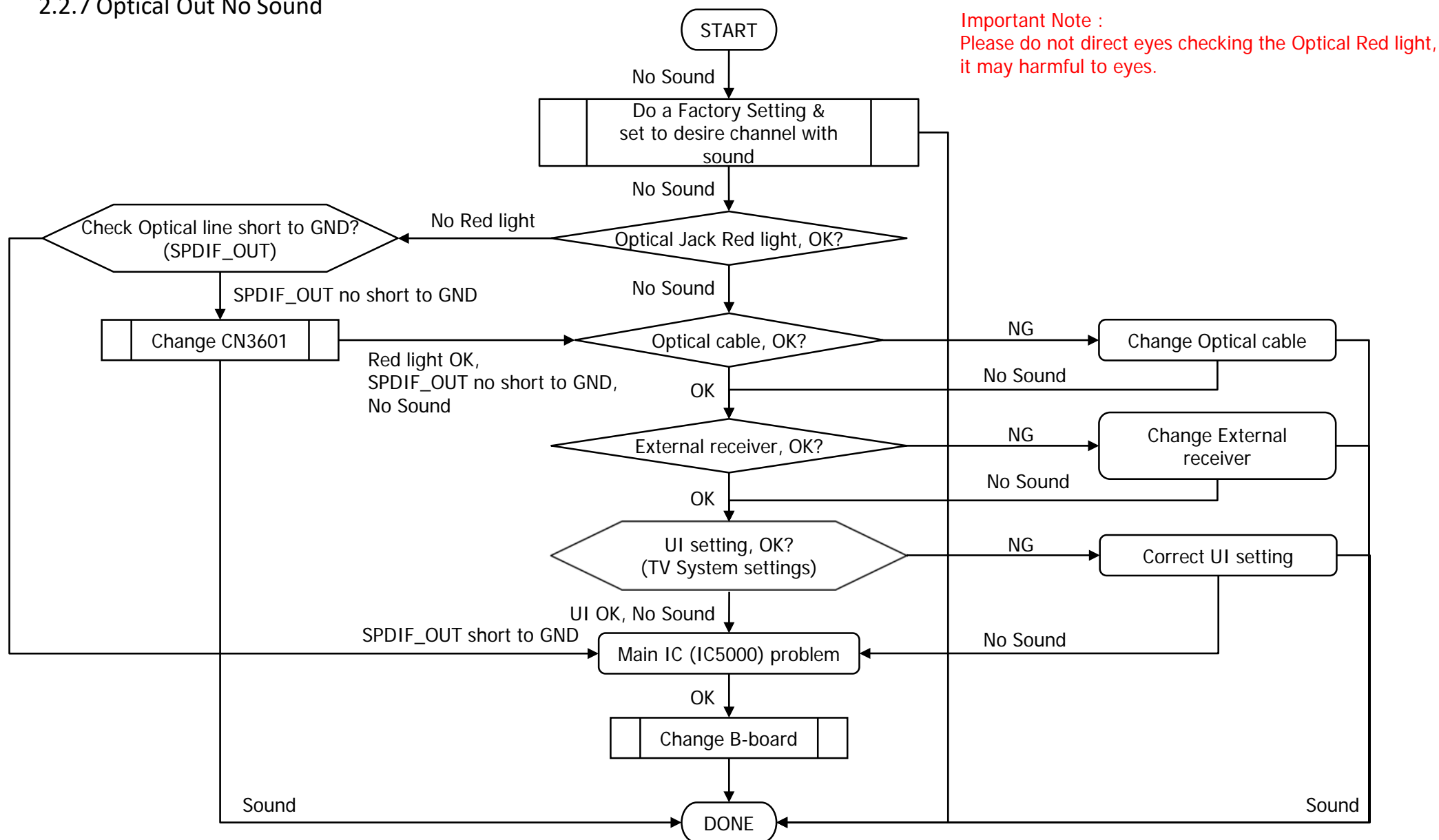
Refer "HDMI Failure (No ARC)"  
page 87



## SECTION 3 TROUBLESHOOTING

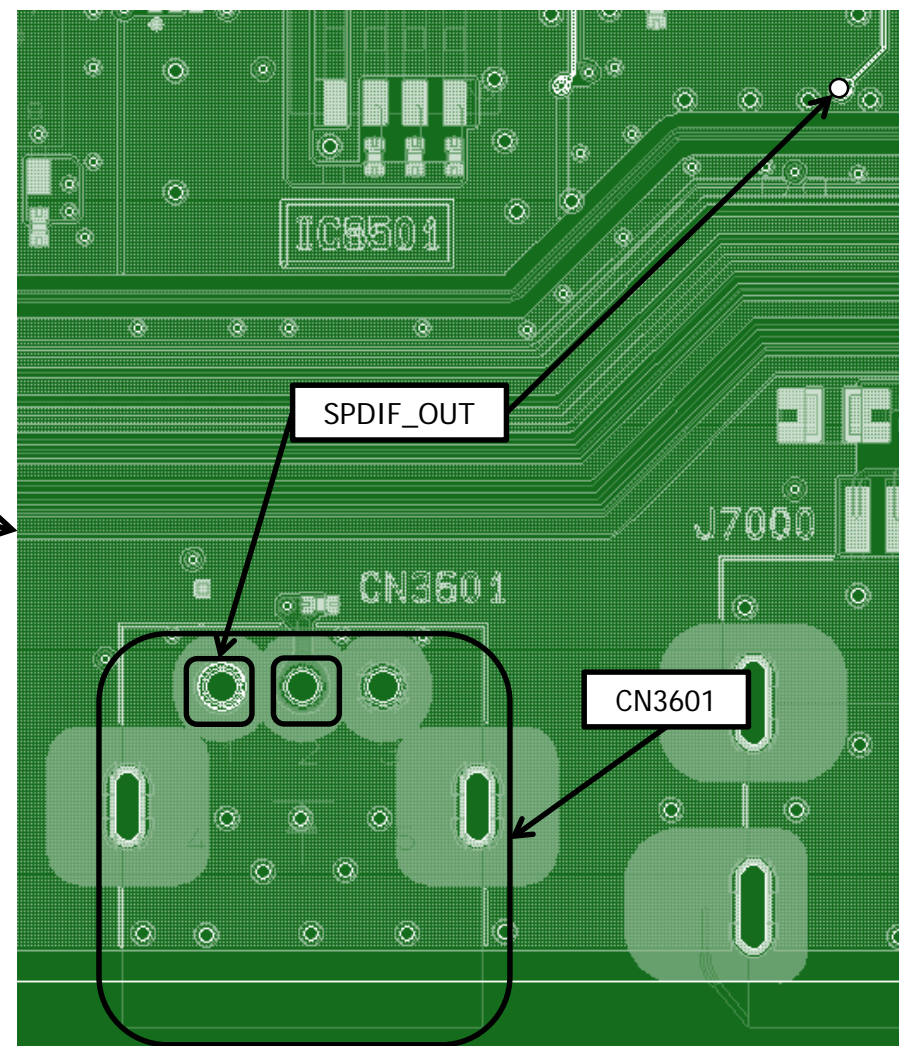
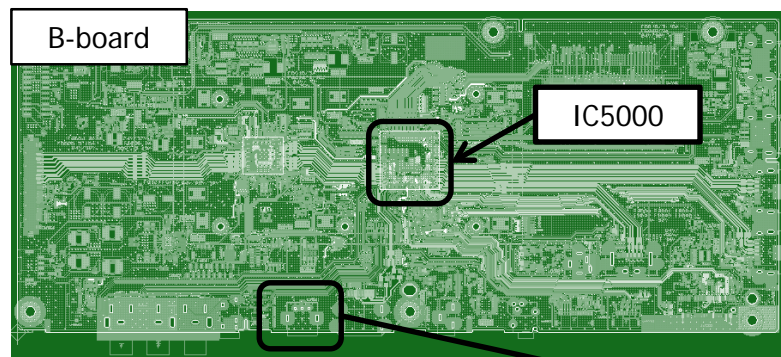
**Sony CONFIDENTIAL**  
For Authorized Servicer

### 2.2.7 Optical Out No Sound



# SECTION 3 TROUBLESHOOTING

**Sony CONFIDENTIAL**  
For Authorized Servicer

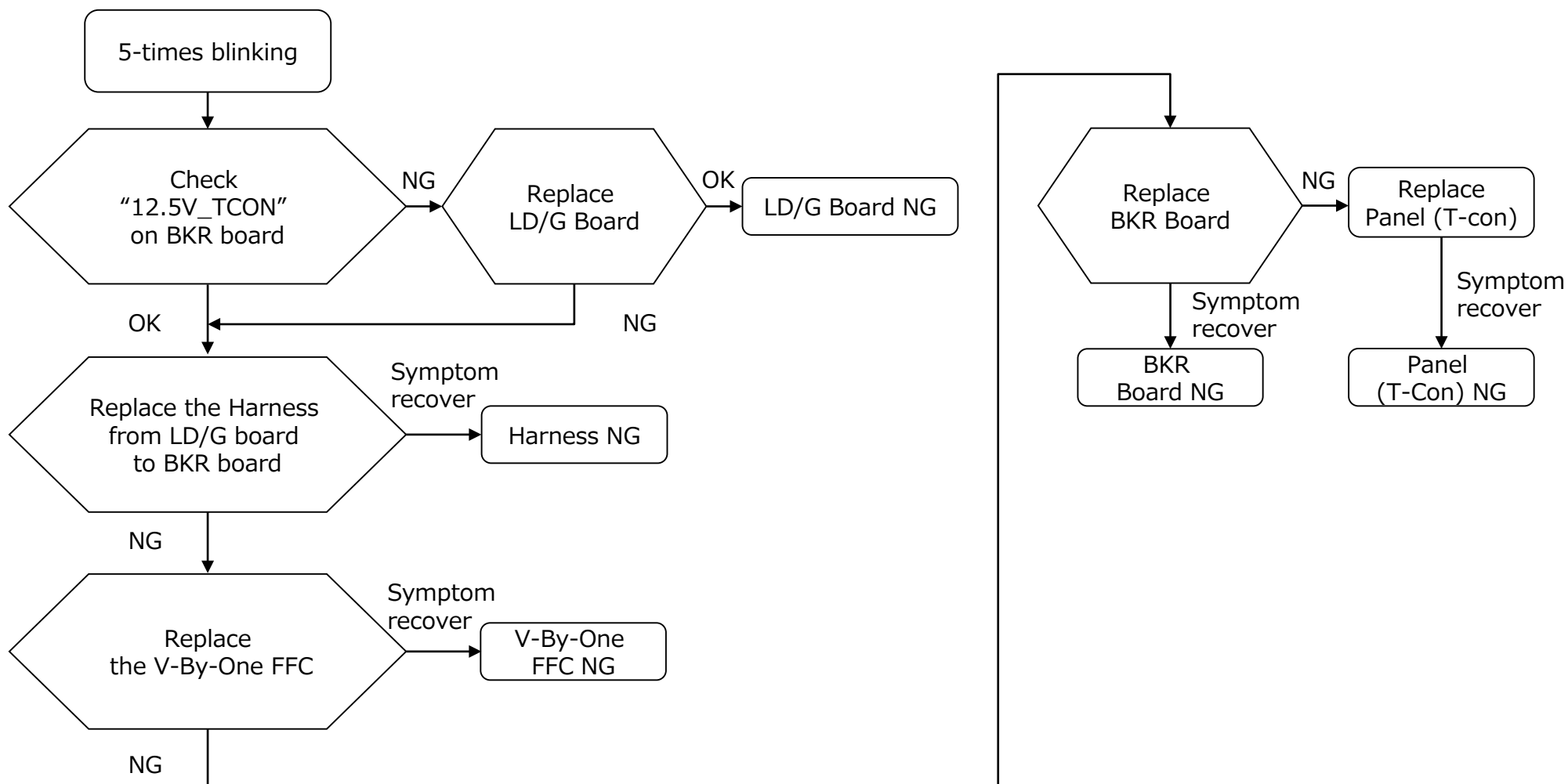


## SECTION 3 TROUBLESHOOTING

**Sony CONFIDENTIAL**  
For Authorized Servicer

### 2.3.1 LED Blinking : 5x (Panel ID Read Error)

#### BKR

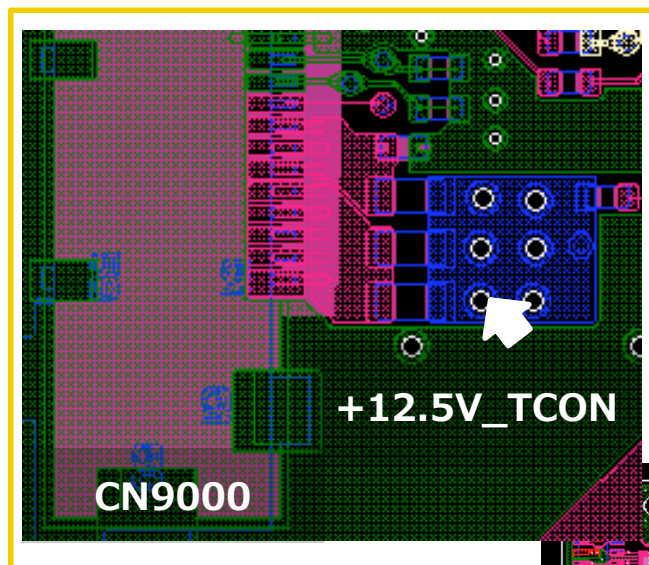




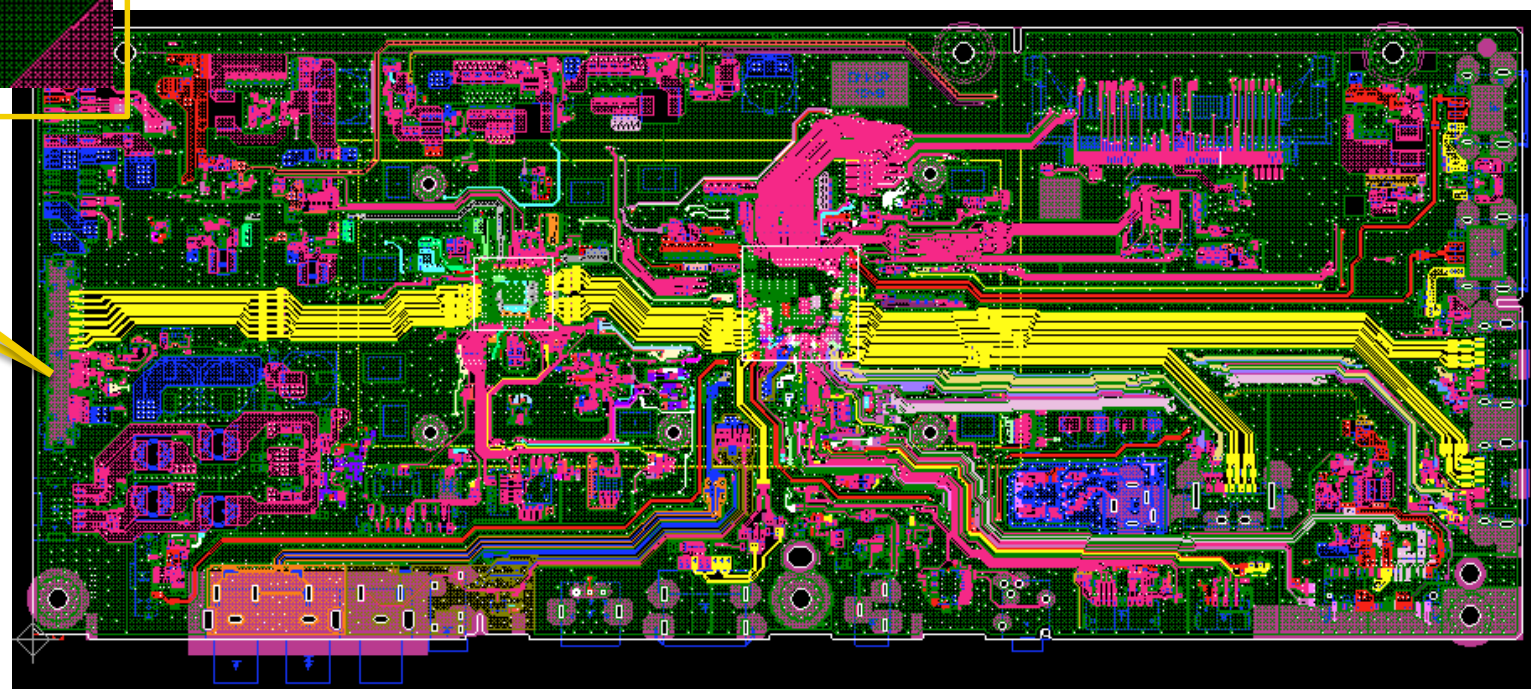
## SECTION 3 TROUBLESHOOTING

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BKR PWB Layout



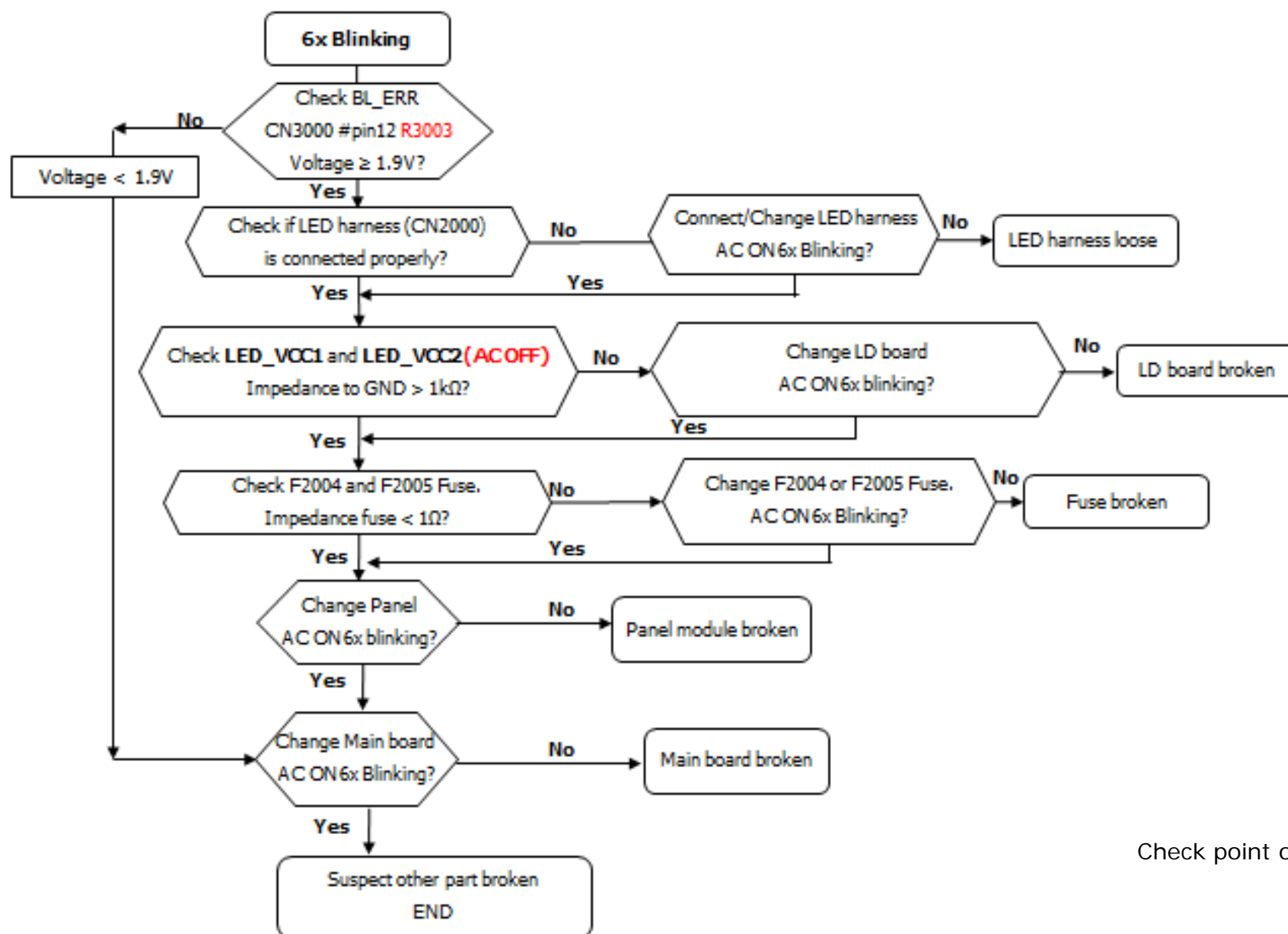
BKR Full Layout



## SECTION 3 TROUBLESHOOTING

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### 2.3.2 6x Blinking backlight error

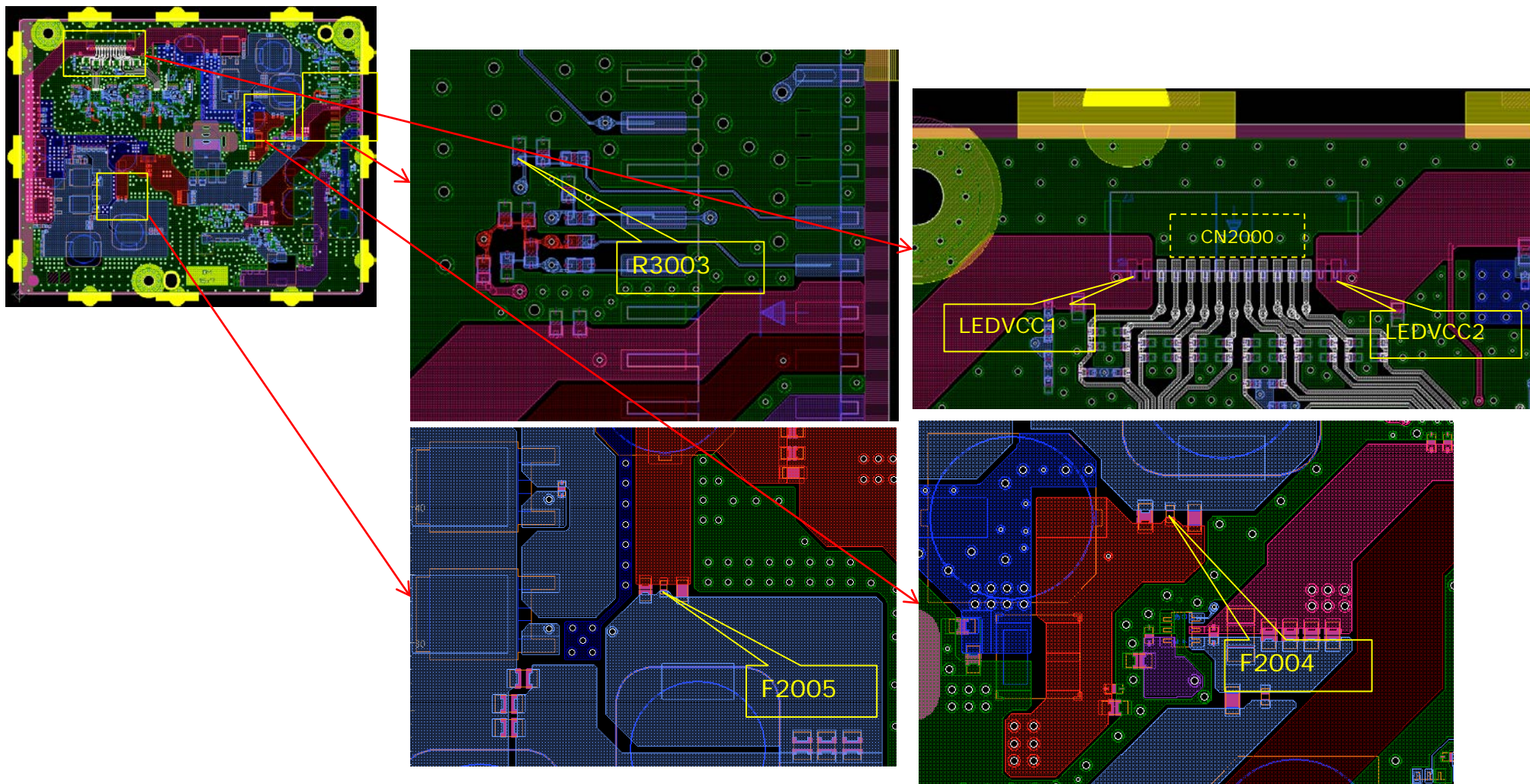


Check point on PWB refer slide 63



## SECTION 3 TROUBLESHOOTING

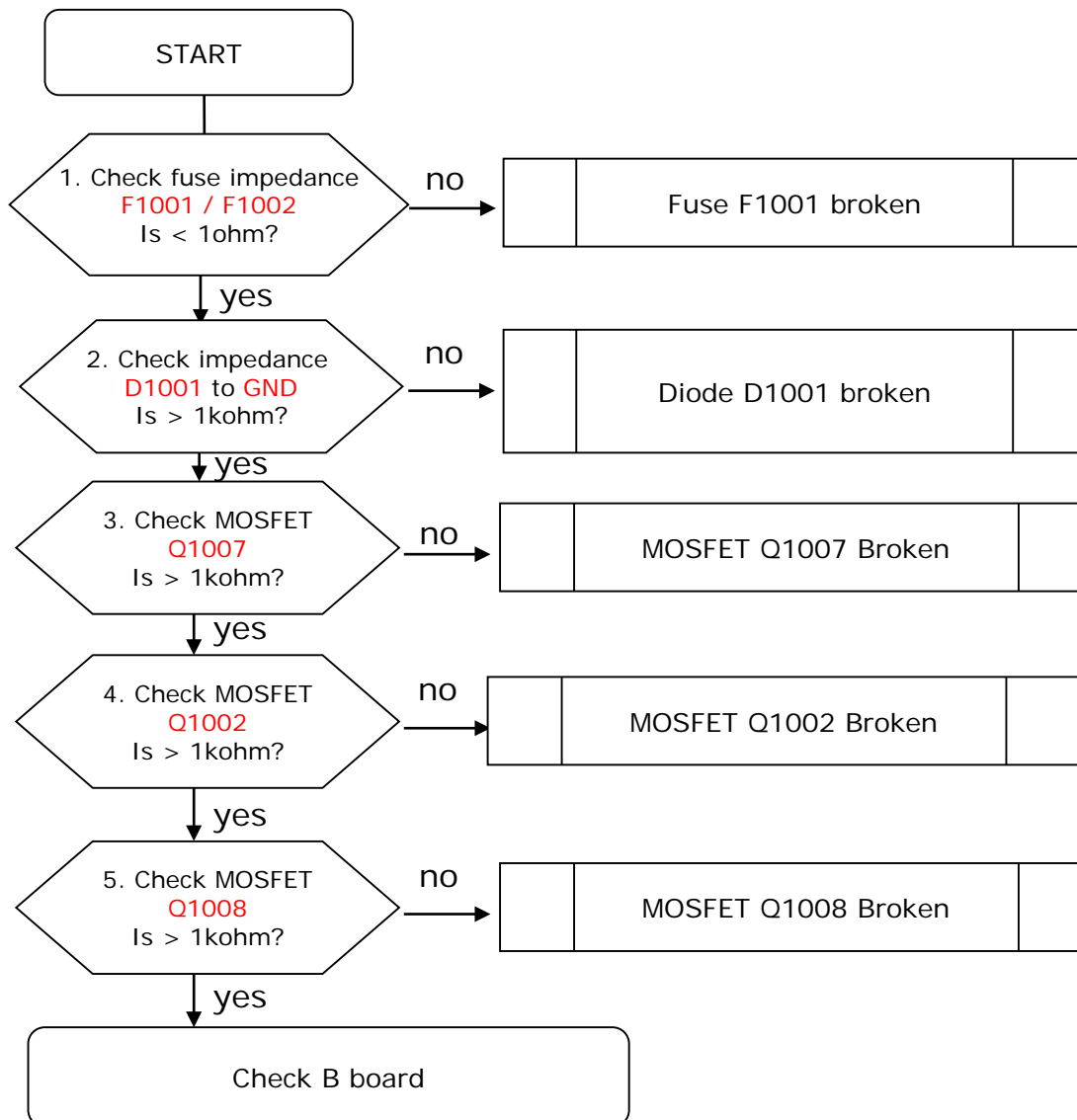
**Sony CONFIDENTIAL**  
For Authorized Servicer



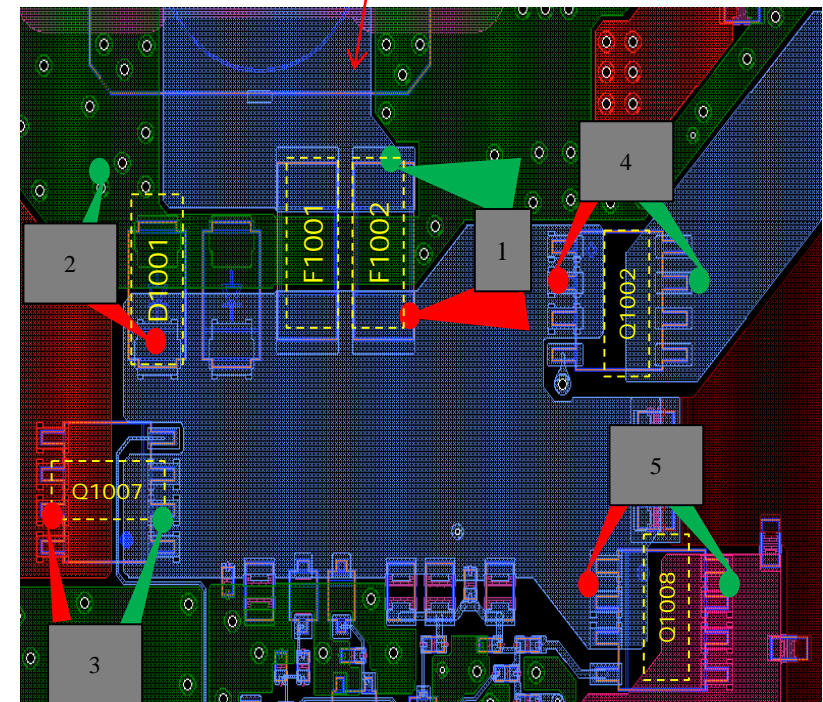
## SECTION 3 TROUBLESHOOTING

**Sony CONFIDENTIAL**  
For Authorized Servicer

### 2.3.3 No power(Screen Blank, No backlight)



LD board

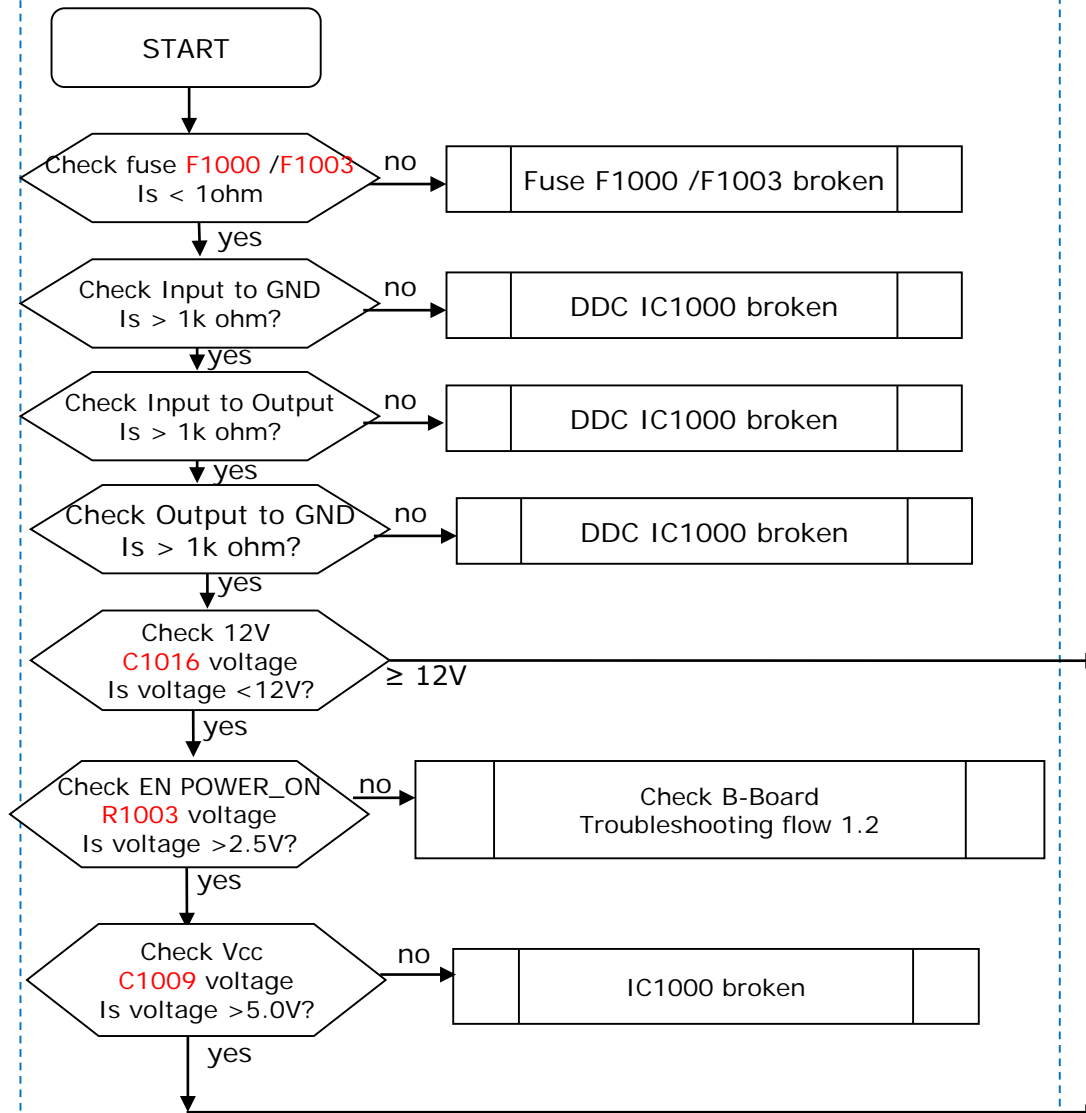




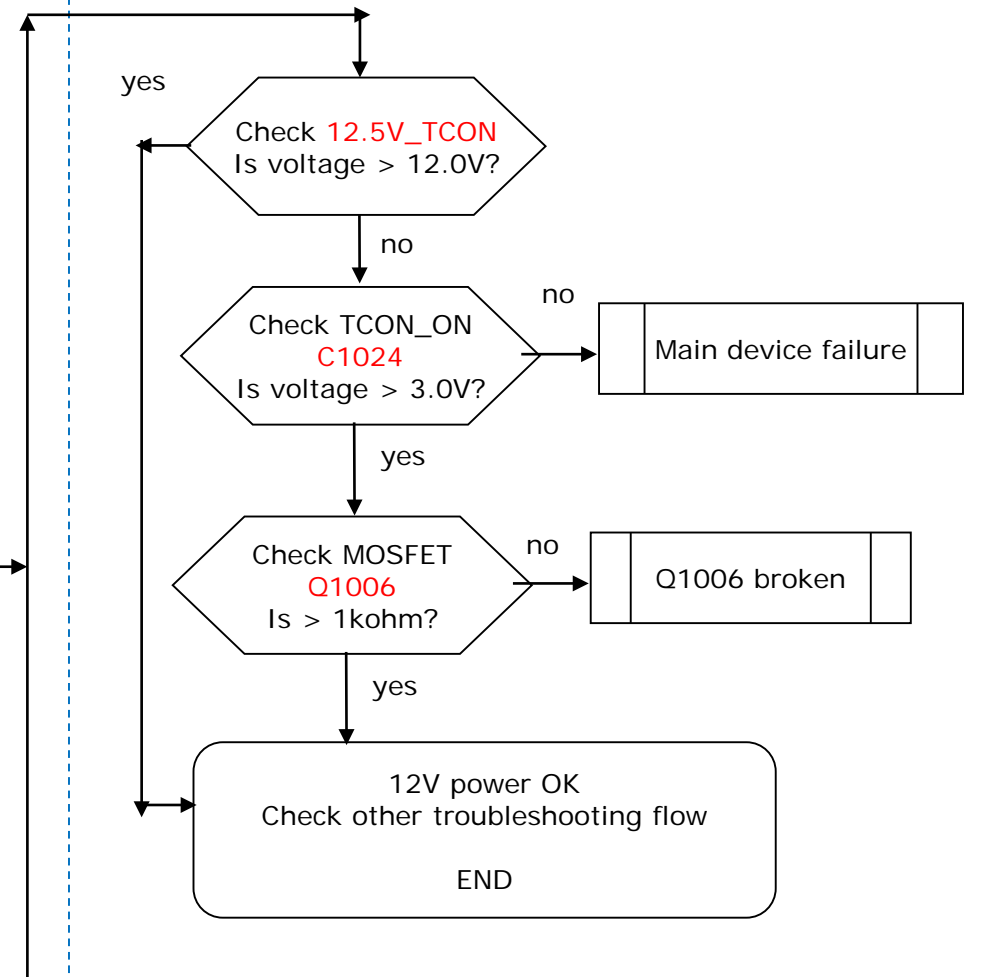
# SECTION 3 TROUBLESHOOTING

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## 12V DDCON check



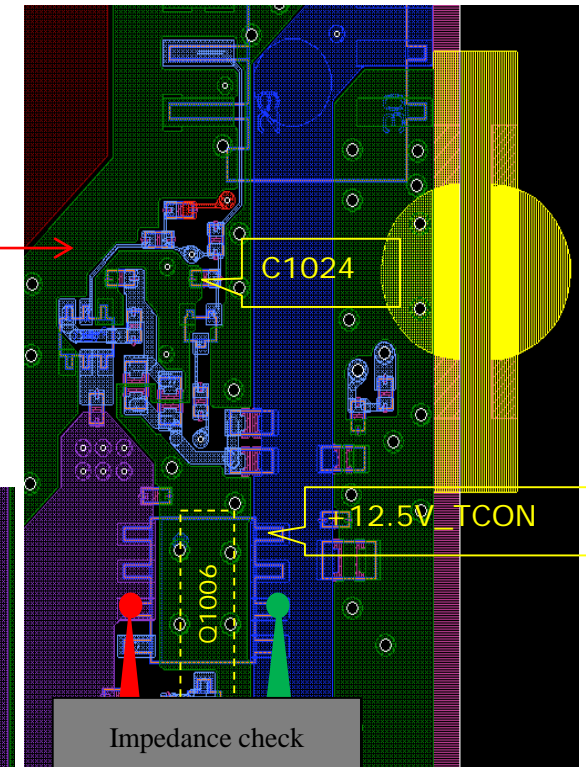
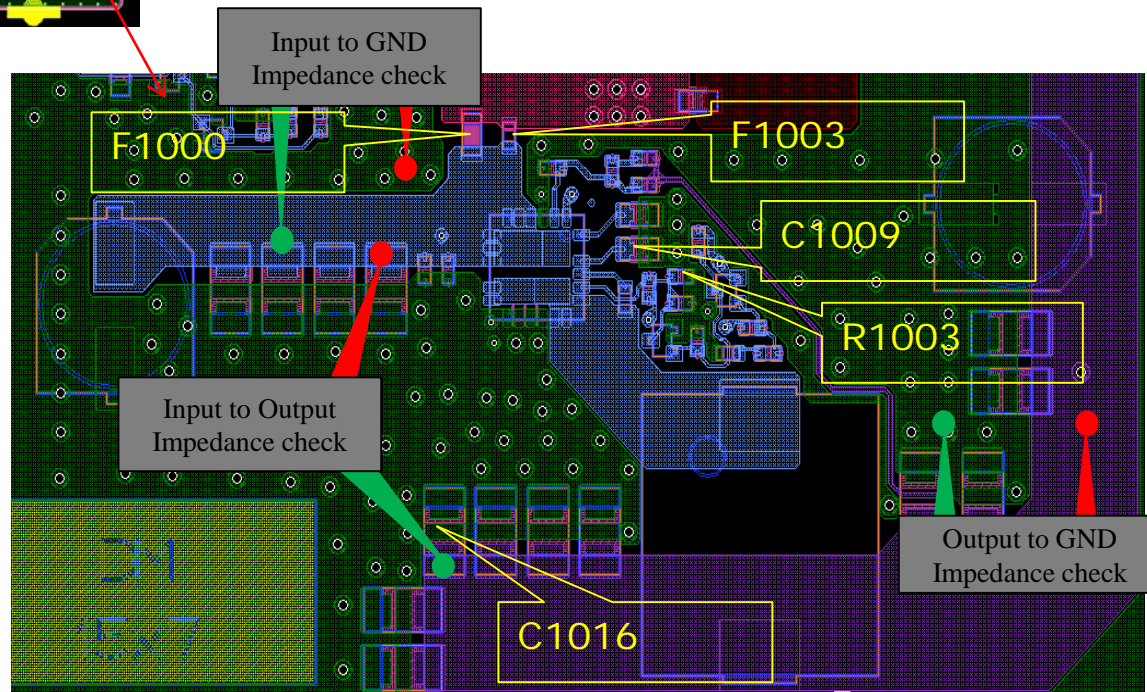
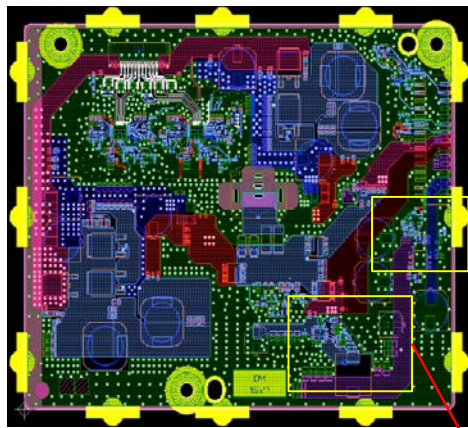
## 12V\_TCON check



Check point on PWB refer slide 66

## SECTION 3 TROUBLESHOOTING

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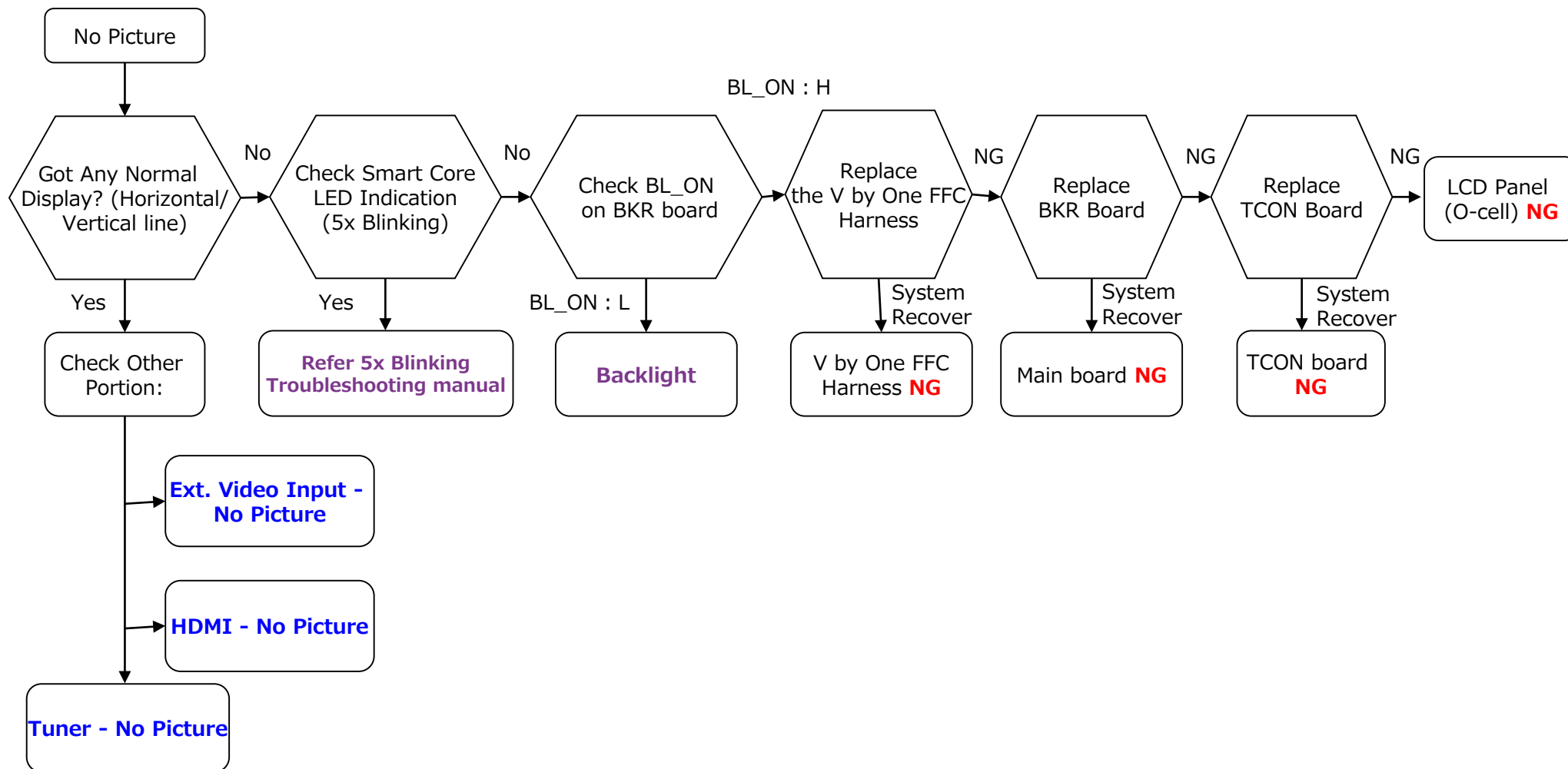


## SECTION 3 TROUBLESHOOTING

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### 2.3.4 No Picture

#### BKR

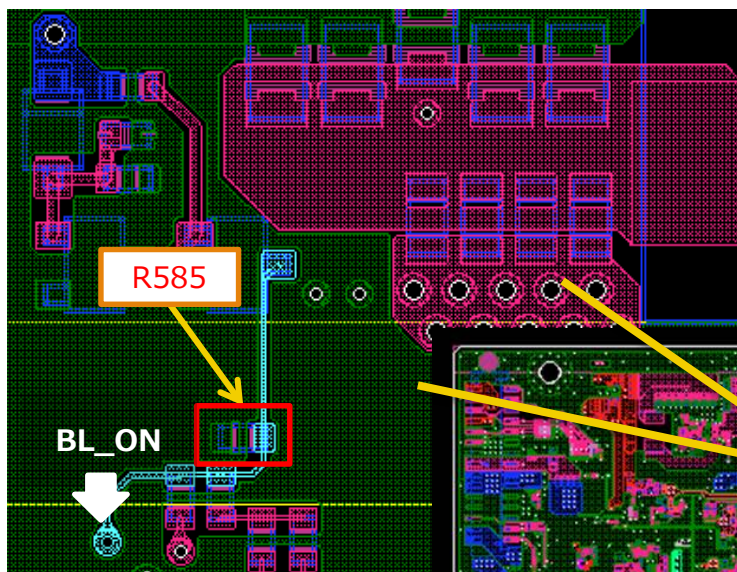




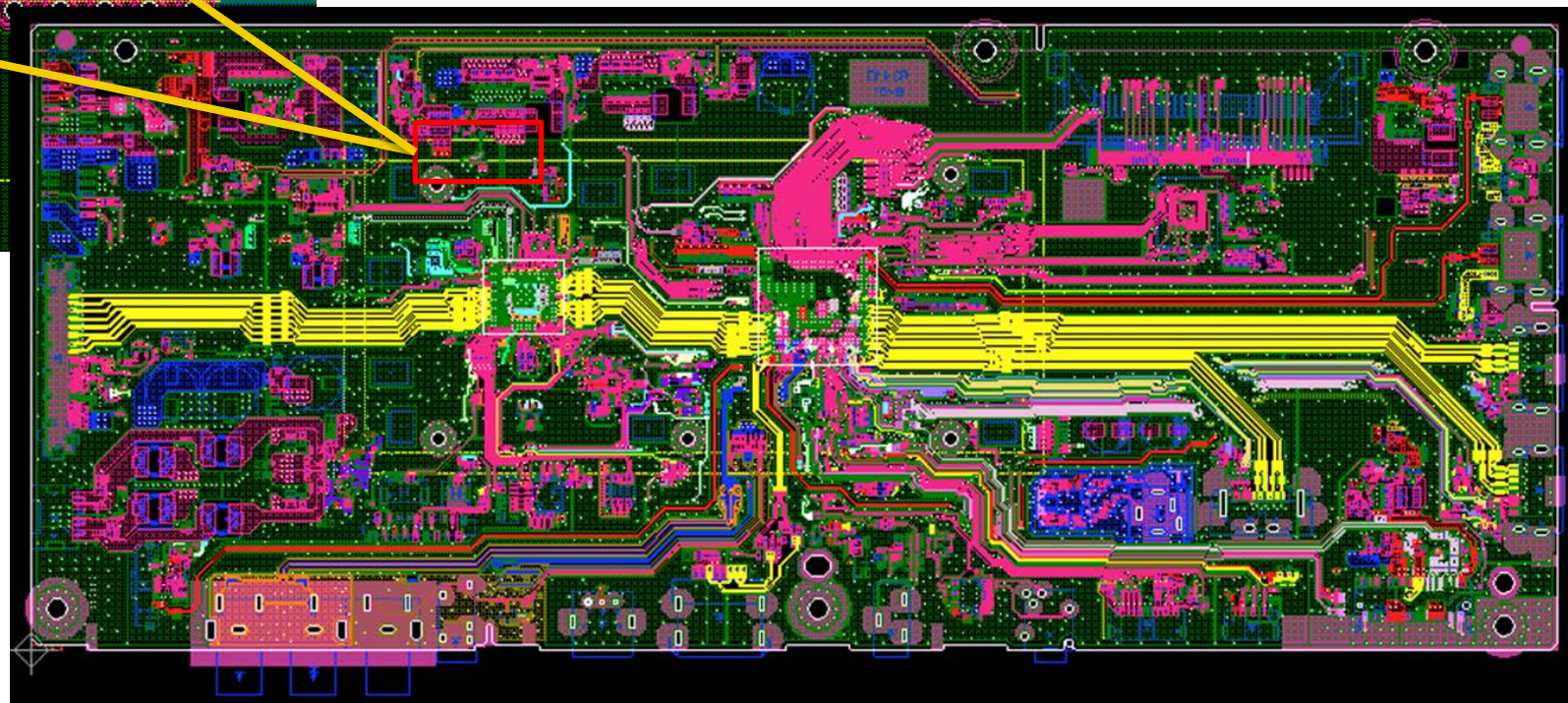
## SECTION 3 TROUBLESHOOTING

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BKR PWB Layout



BKR Full Layout

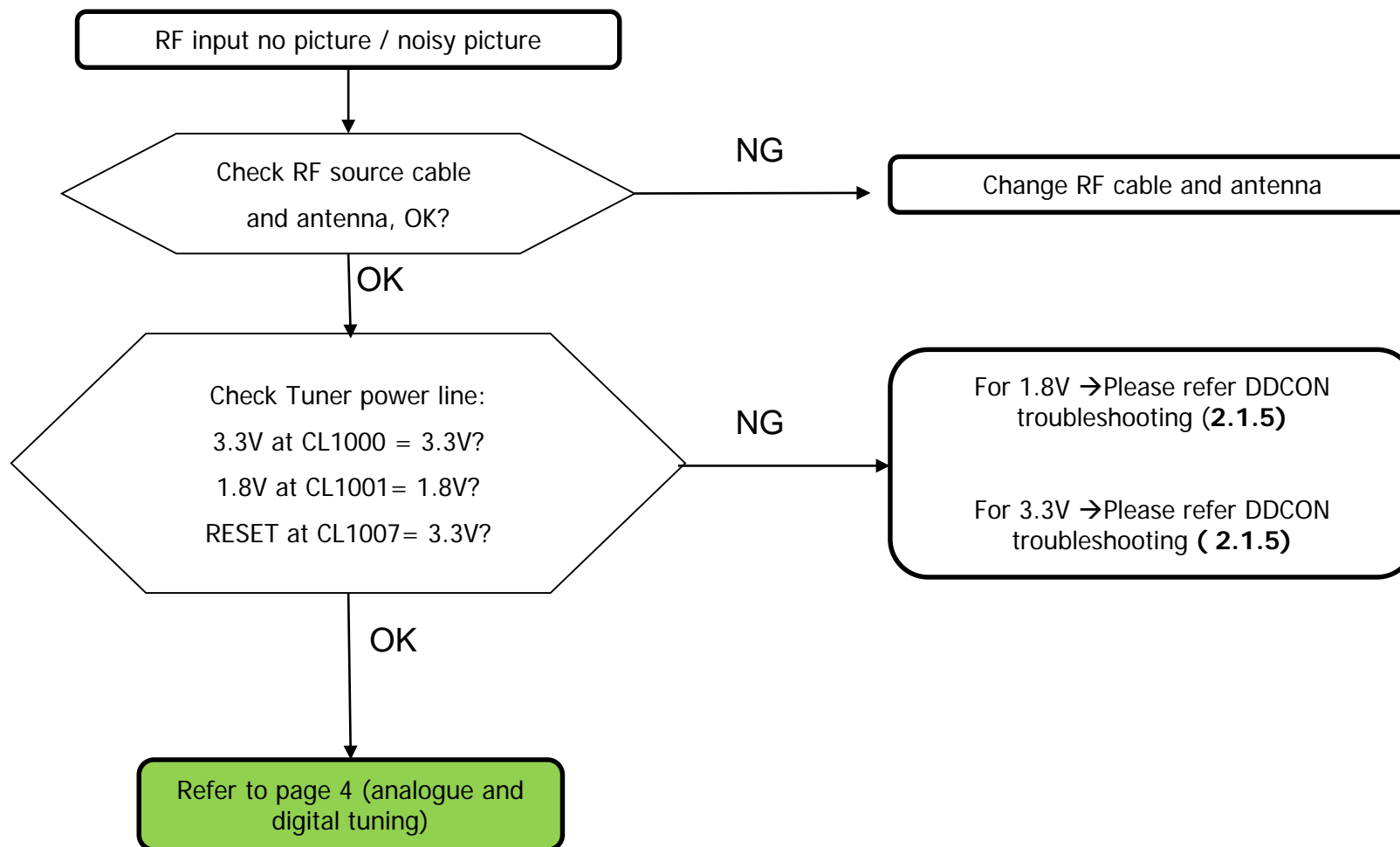




## SECTION 3 TROUBLESHOOTING

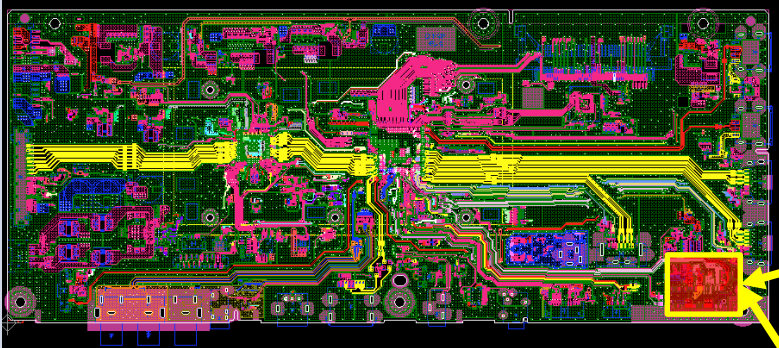
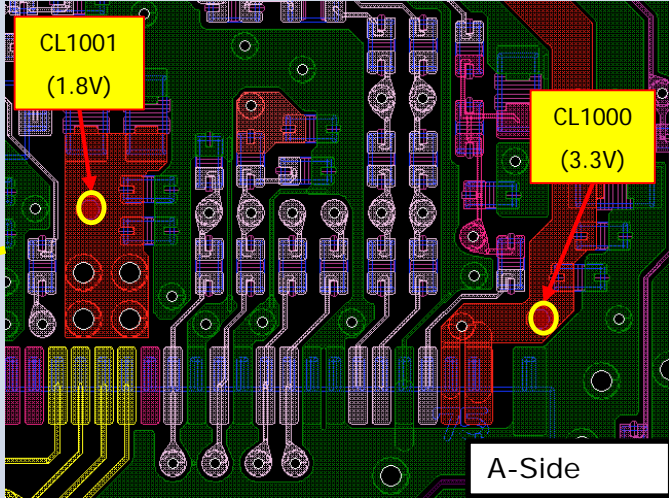
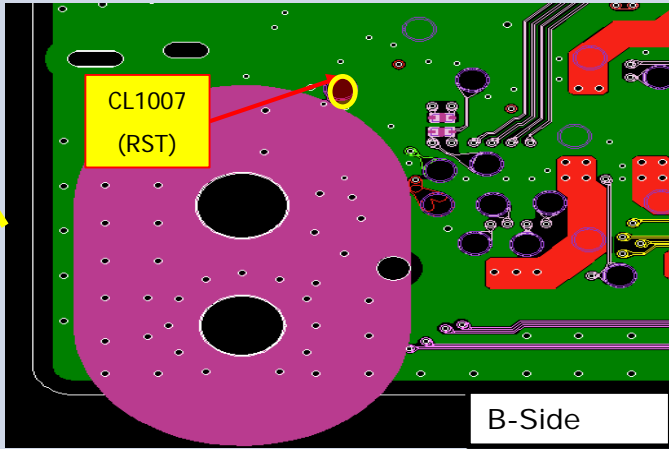
**Sony CONFIDENTIAL**  
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### 2.3.5 NO PICTURE: TUNER (for Analogue and Digital)



# SECTION 3 TROUBLESHOOTING

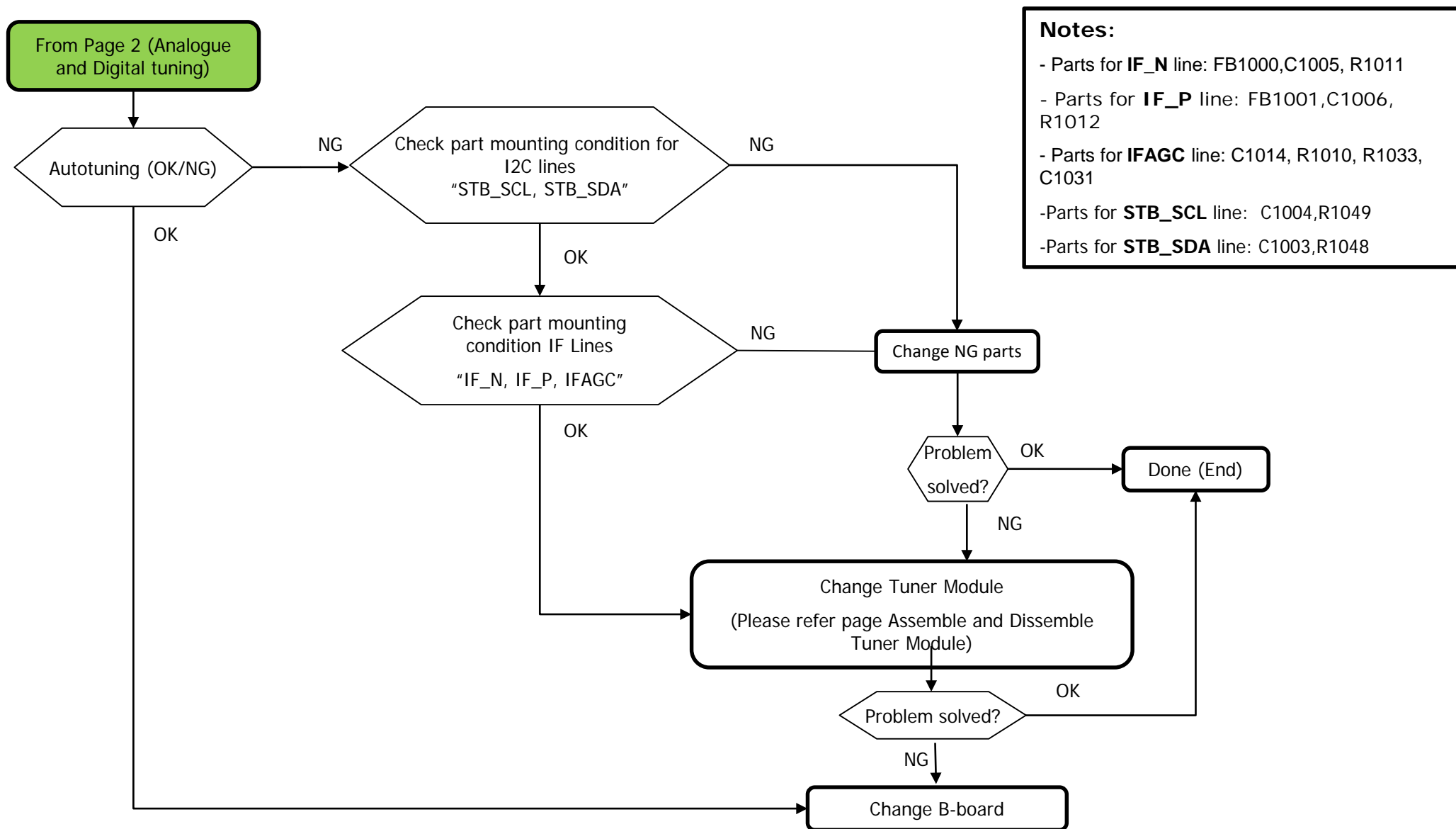
Sony CONFIDENTIAL  
For Authorized Servicer

Board Name	Board PWB (A side)	Detail
<b>BKR board</b>  <b>(3.3V)</b> CL1000  <b>(1.8V)</b> CL1001  <b>(RESET)</b> CL1007	<b>BKR board</b>  	 <p>A-Side</p>  <p>B-Side</p>

## SECTION 3 TROUBLESHOOTING

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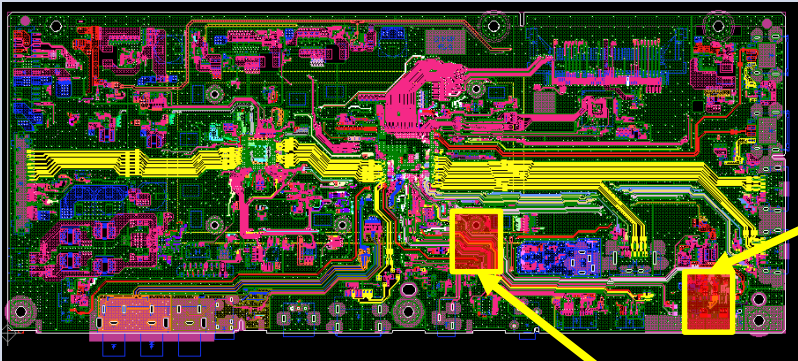
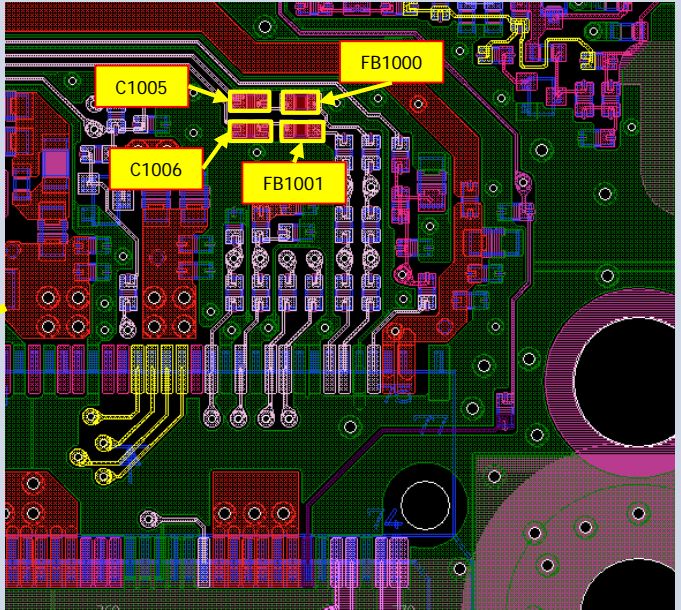
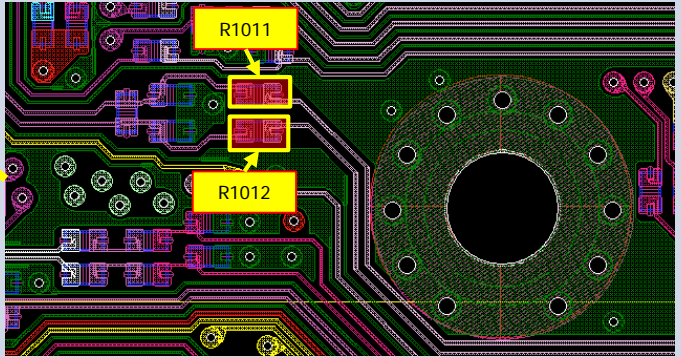
### 2.3.5 For Analogue and Digital Tuning Failed (PA-T2 and AM-ATSC)



# SECTION 3

## TROUBLESHOOTING

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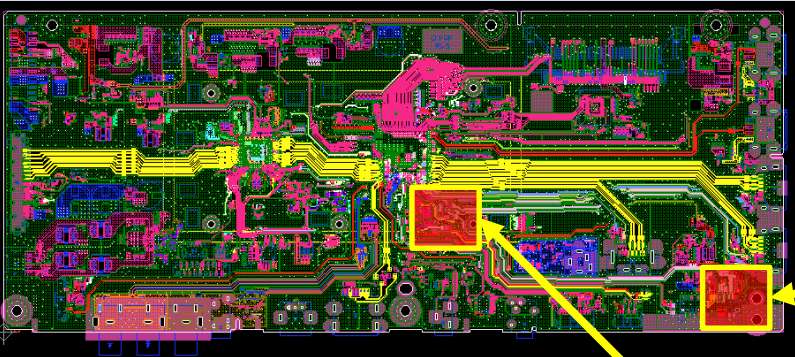
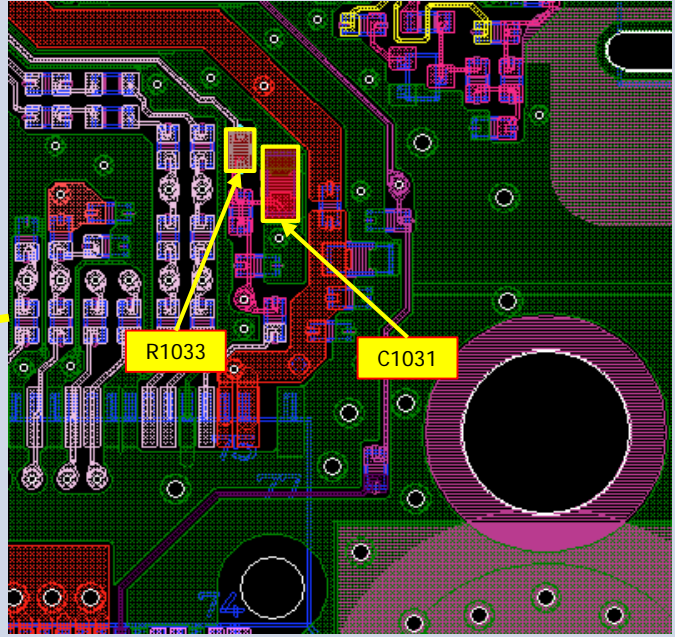
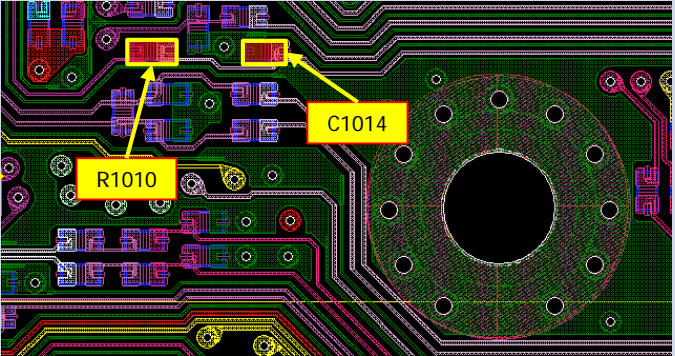
Board Name	Board PWB (A side)	Detail
<b>BKR board</b> (A side)  <b>(IF_N)</b> FB1000 C1005 R1011  <b>(IF_P)</b> FB1001 C1006 R1012		 



# SECTION 3

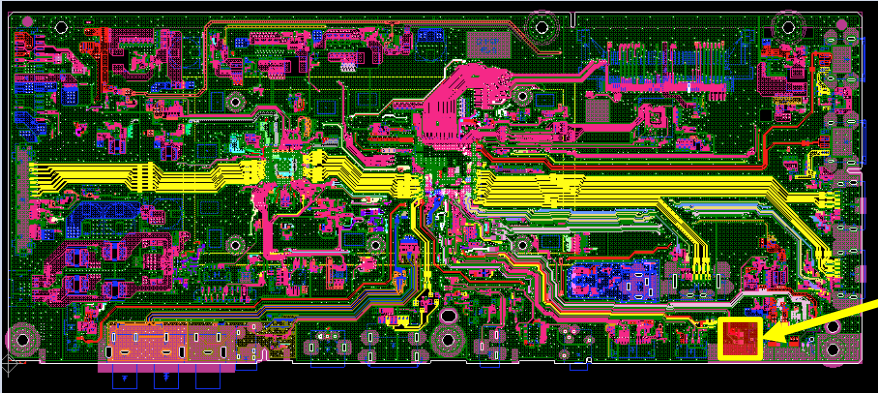
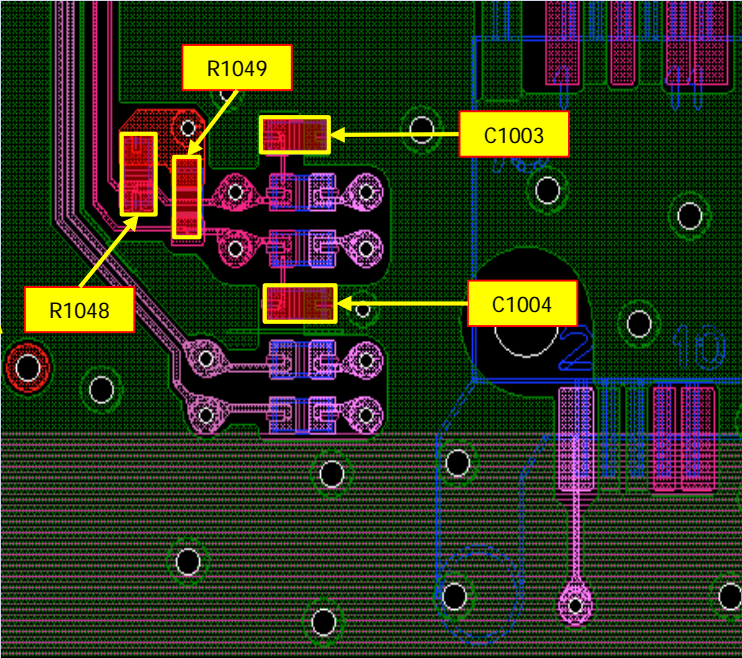
## TROUBLESHOOTING

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Board Name	Board PWB (A side)	Detail
<b>BKR board</b> (A side)  <b>(IFAGC)</b> C1014 R1010 R1033 C1031		 

# SECTION 3 TROUBLESHOOTING

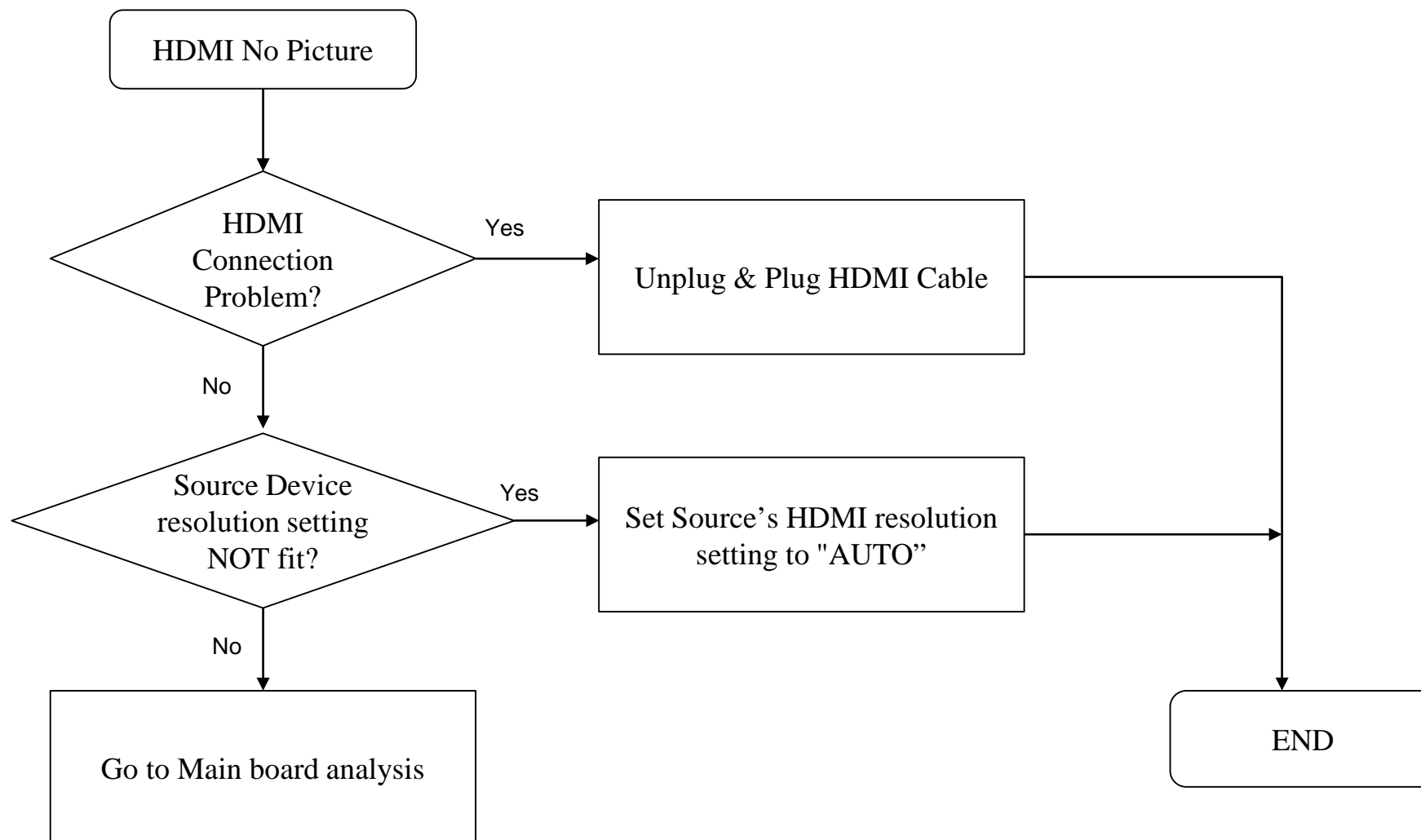
Sony CONFIDENTIAL  
For Authorized Servicer

Board Name	Board PWB (A side)	Detail
<b>BKR board</b> (A side)  <b>(STB-SCL)</b> C1004 R1049  <b>(STB-SDA)</b> C1003 R1048		

## SECTION 3 TROUBLESHOOTING

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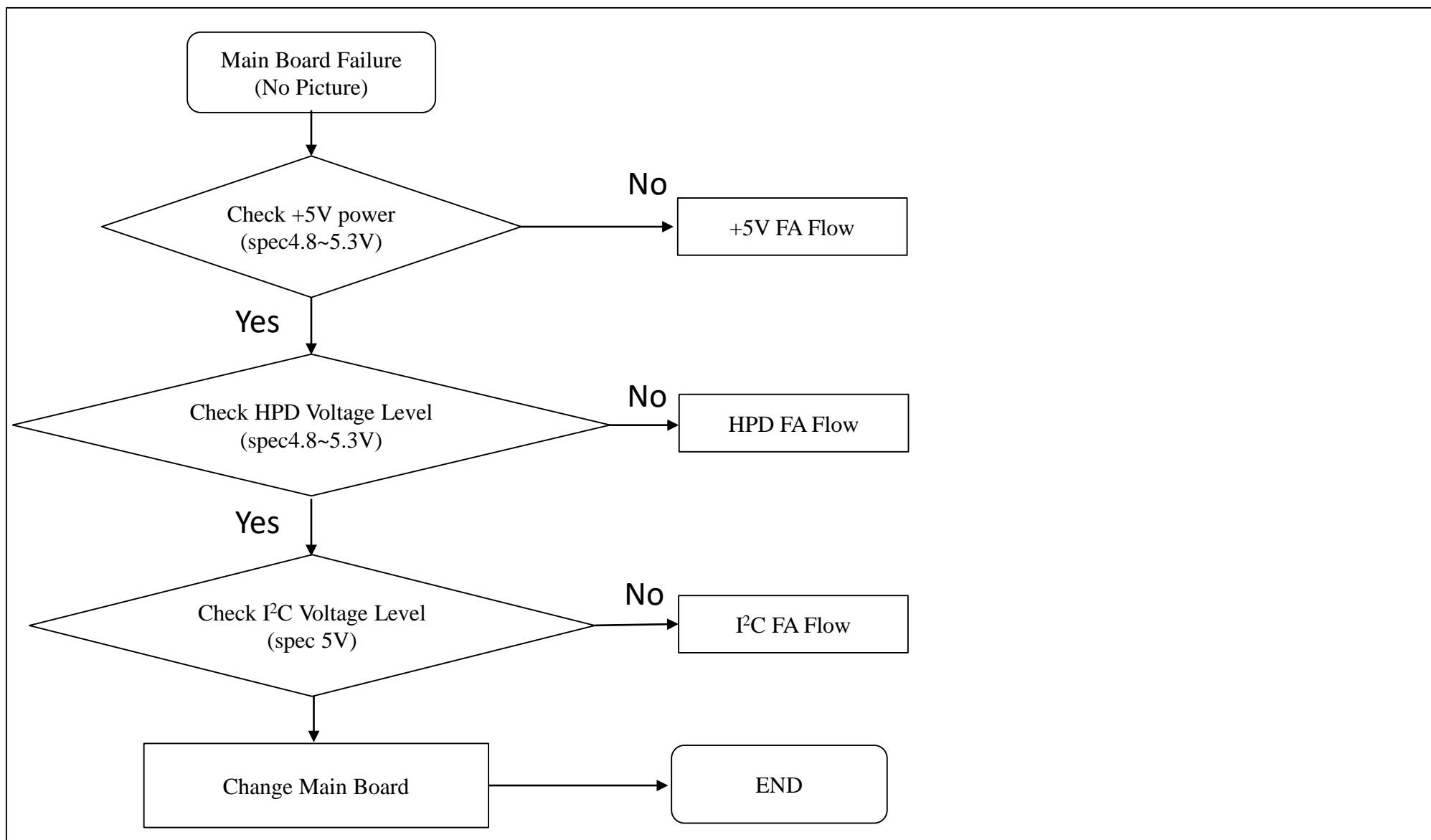
### 2.3.6 HDMI No Picture Basic Checking



## SECTION 3 TROUBLESHOOTING

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For Authorized Servicer

### 2.3.6 HDMI Failure(No Picture) – Main board analysis Flowchart

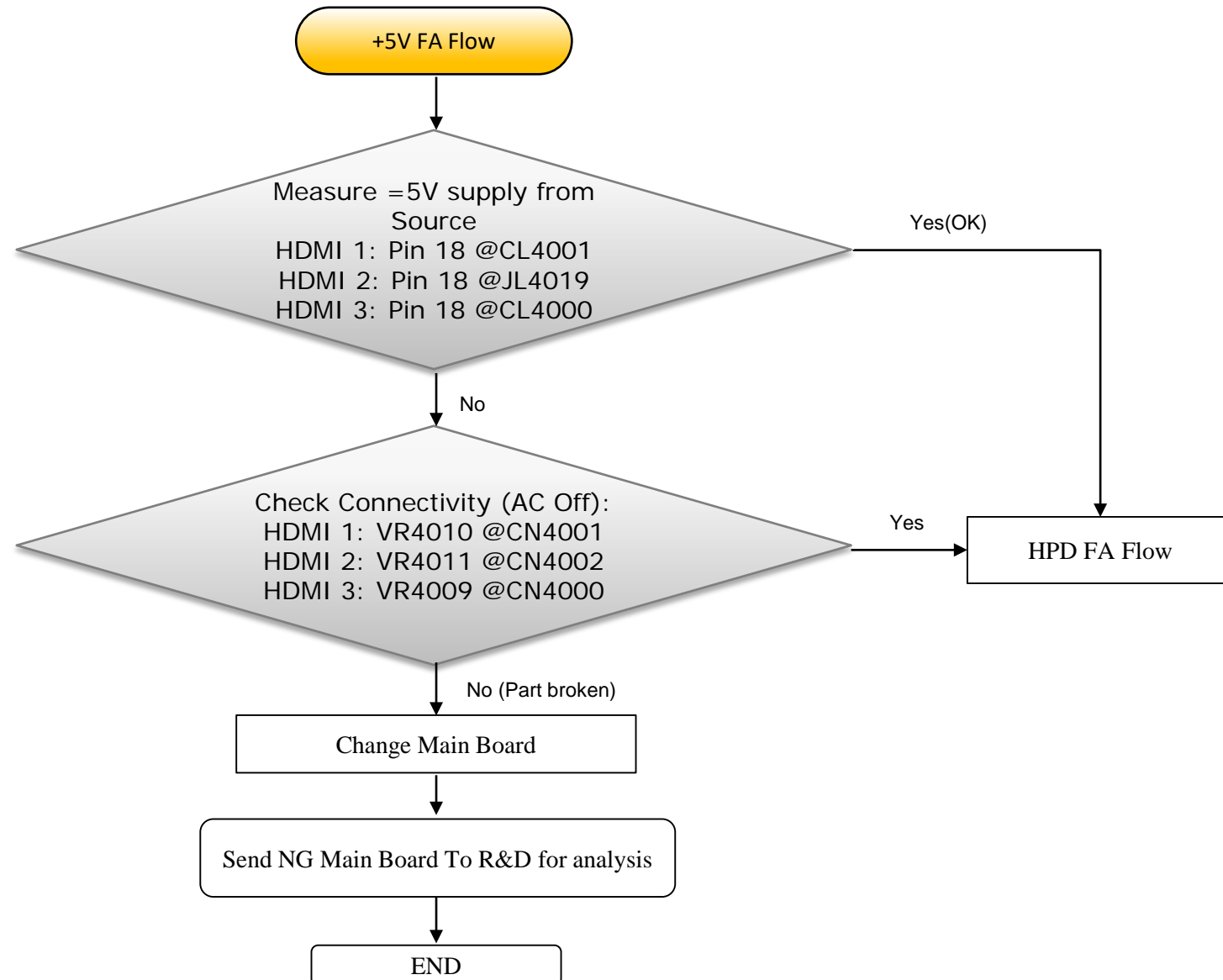




## SECTION 3 TROUBLESHOOTING

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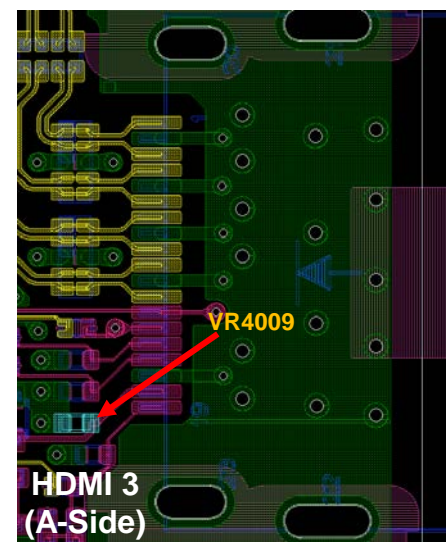
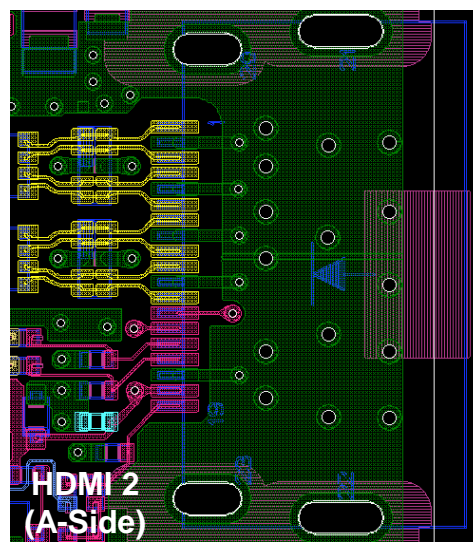
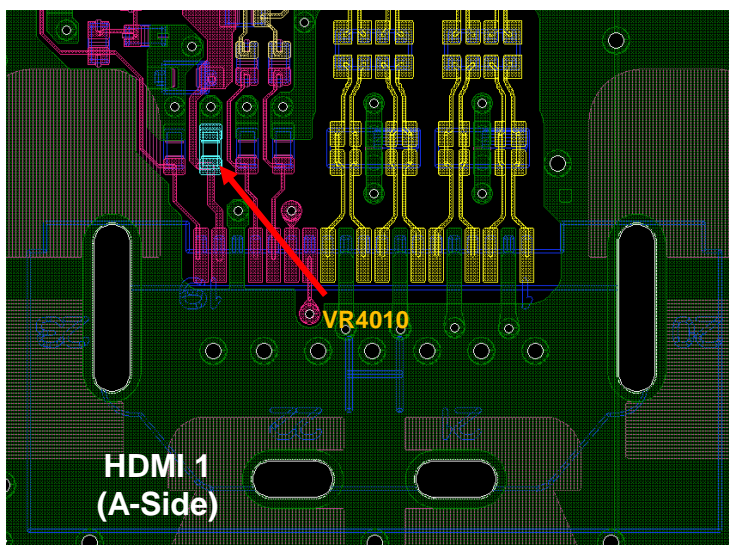
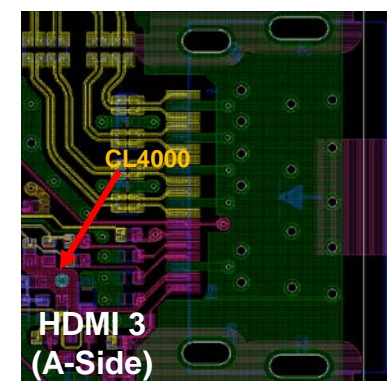
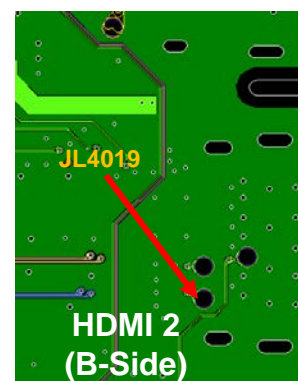
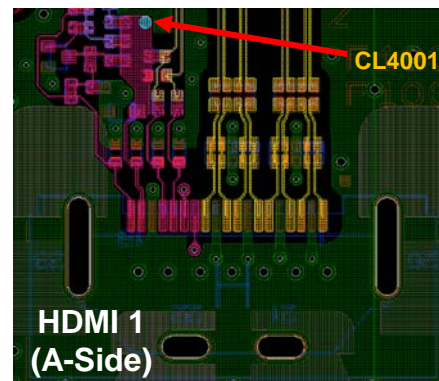
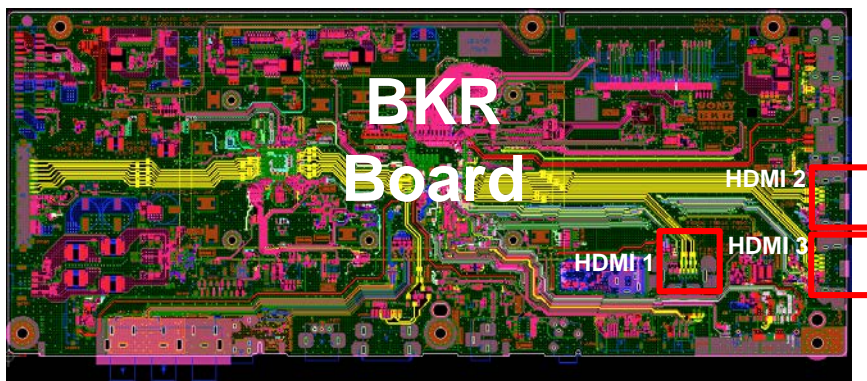
### 2.3.6 HDMI Failure(No Picture) – +5V FA Flowchart



## SECTION 3 TROUBLESHOOTING

**Sony CONFIDENTIAL**  
For Authorized Servicer

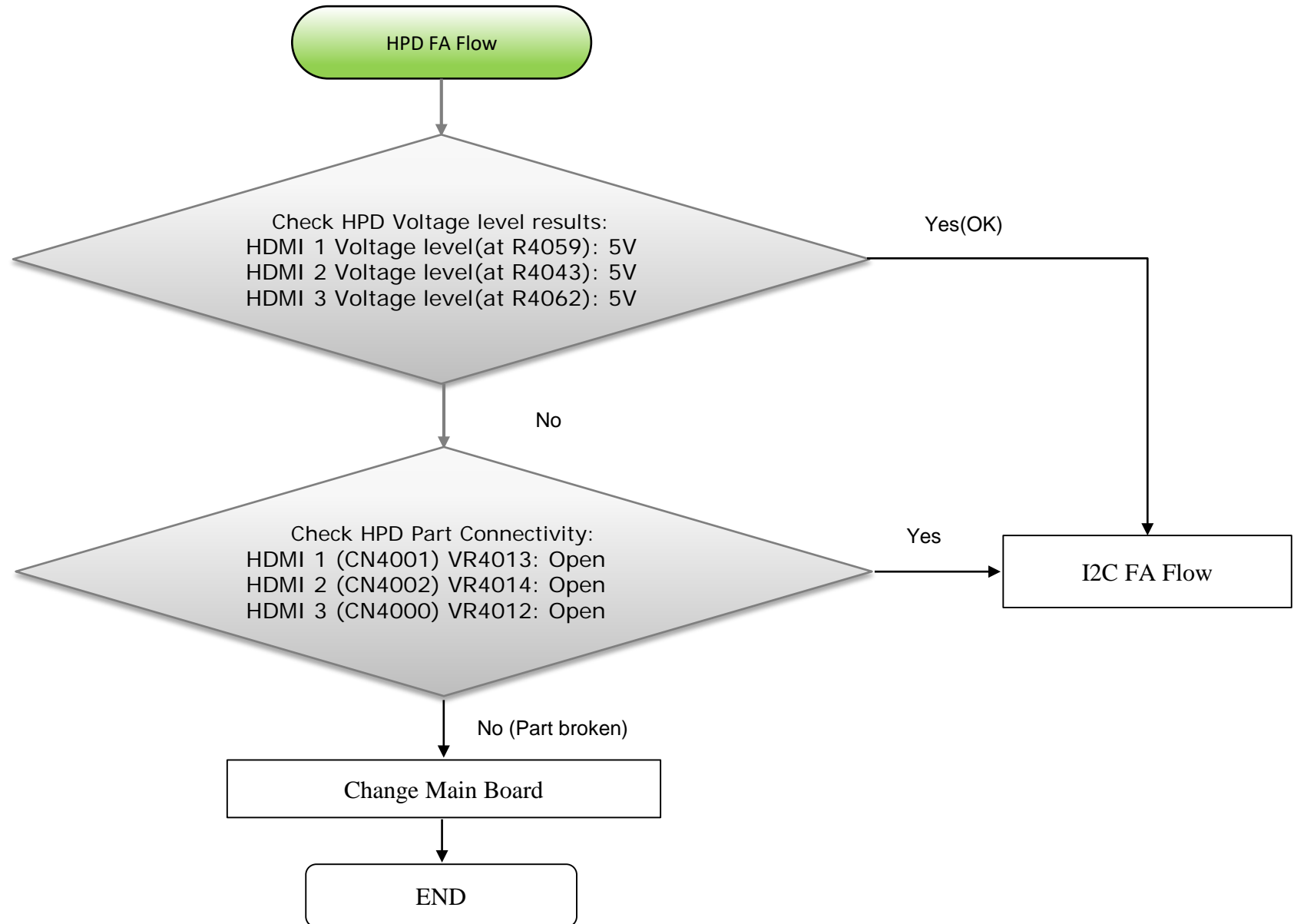
### HDMI +5V Check Point



## SECTION 3 TROUBLESHOOTING

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For Authorized Servicer

### 2.3.6 HDMI Failure(No Picture) – HPD FA Flowchart

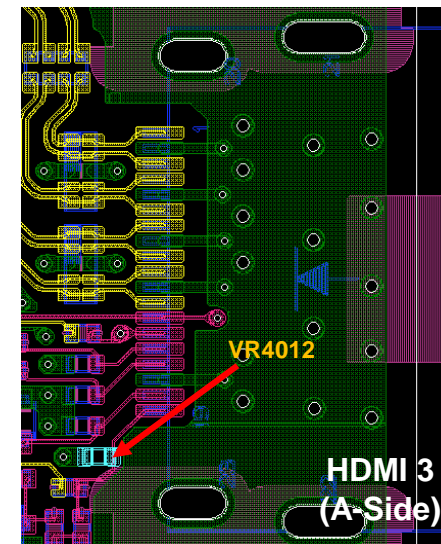
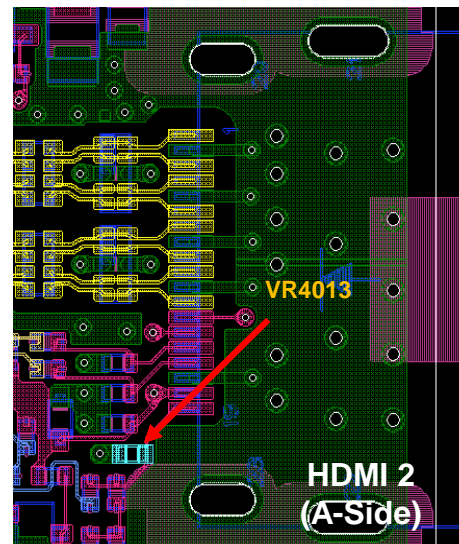
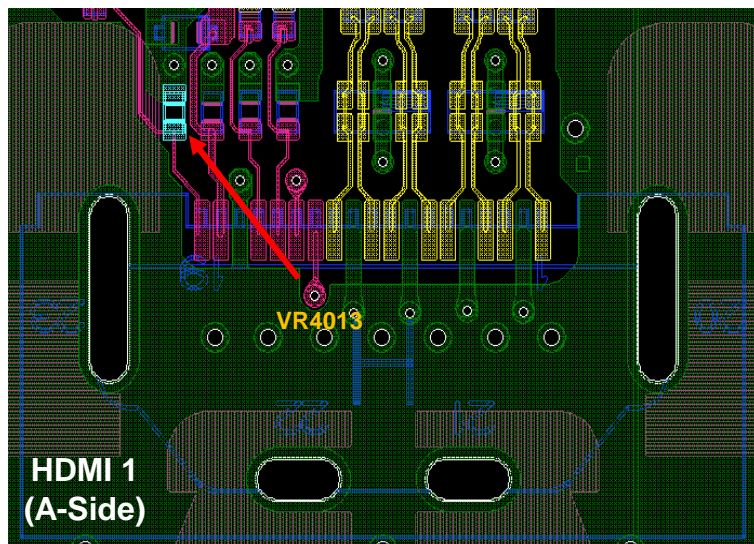
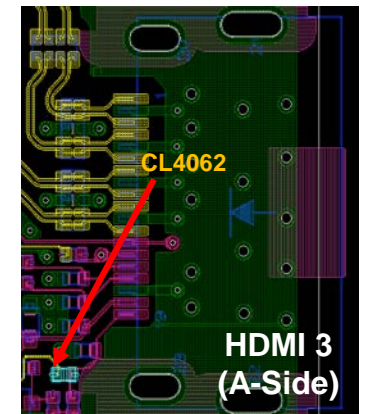
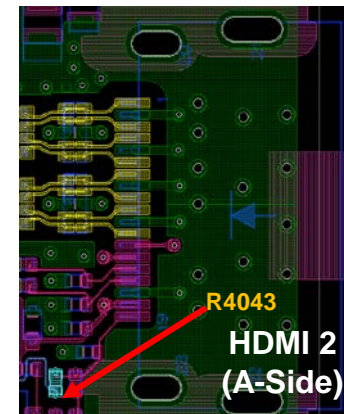
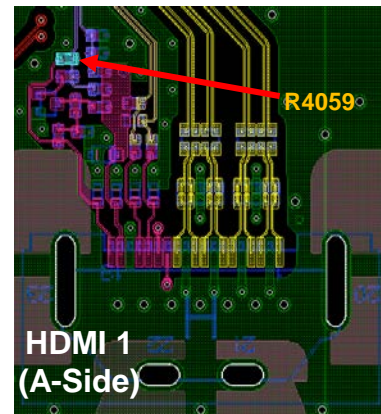
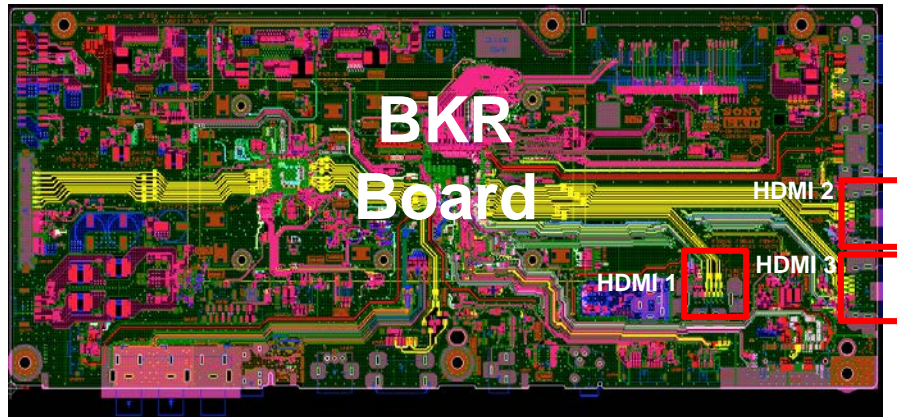




## SECTION 3 TROUBLESHOOTING

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### HDMI HPD Check Point

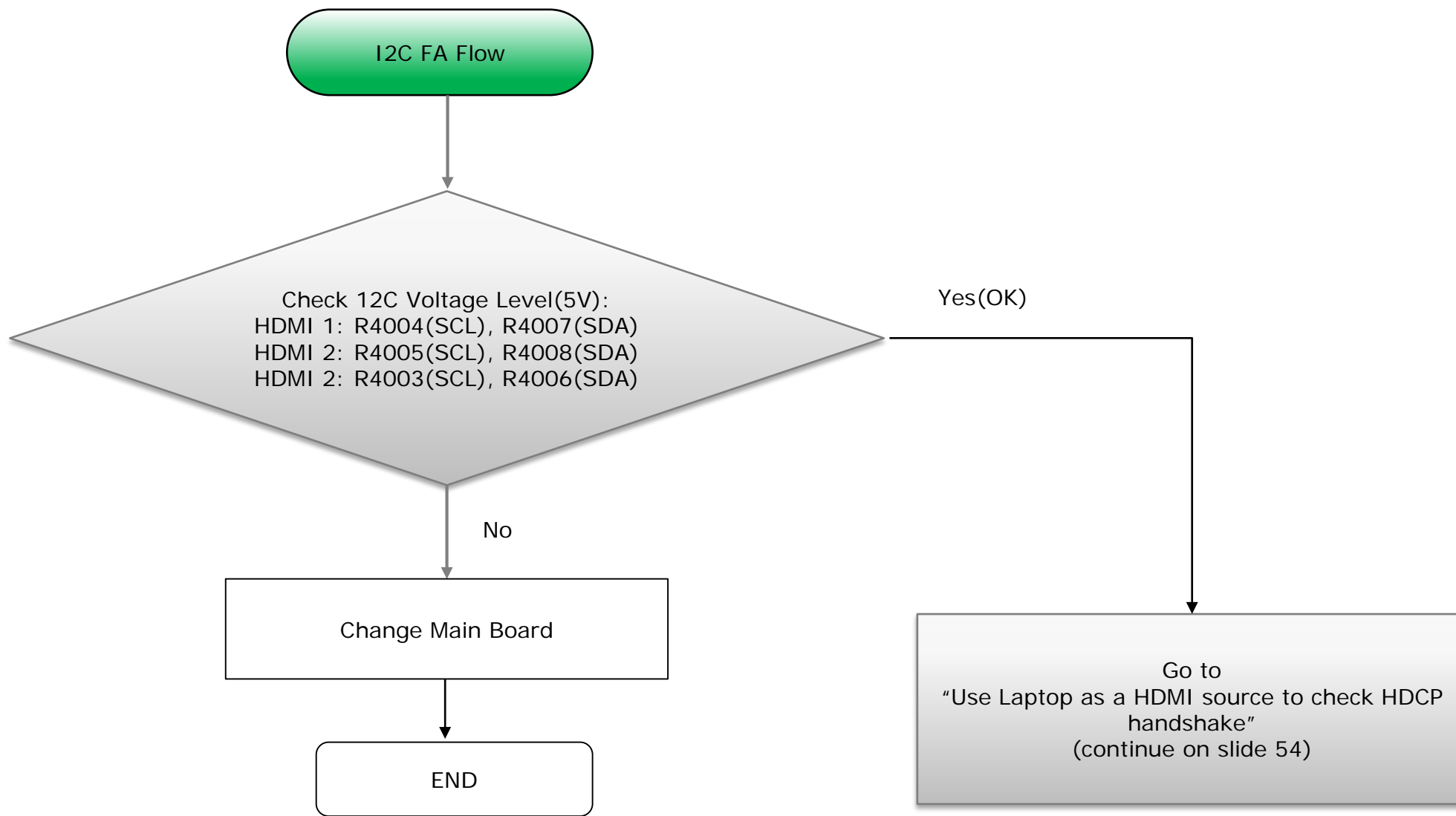




## SECTION 3 TROUBLESHOOTING

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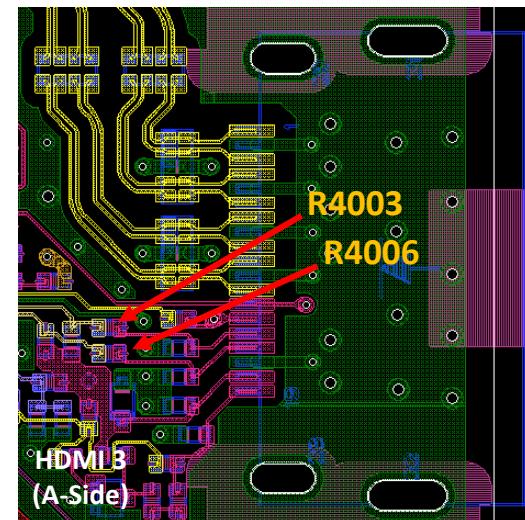
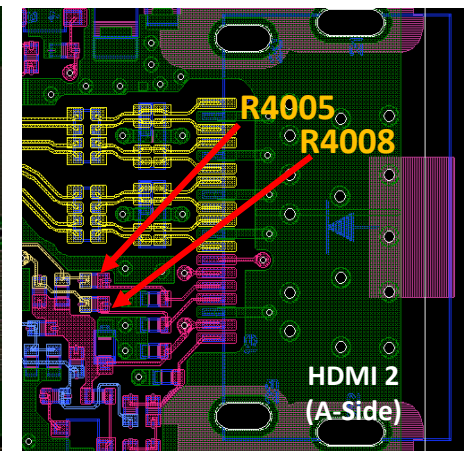
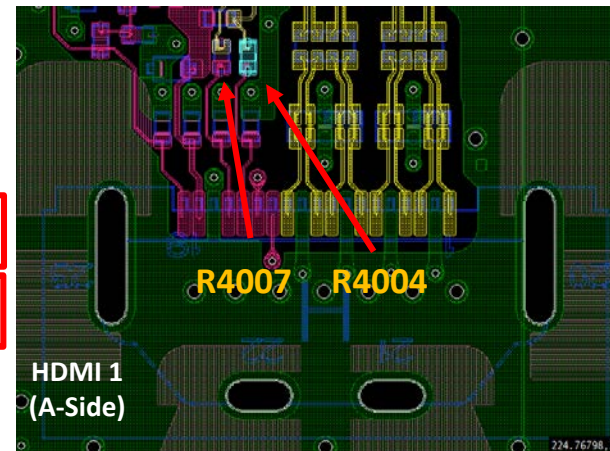
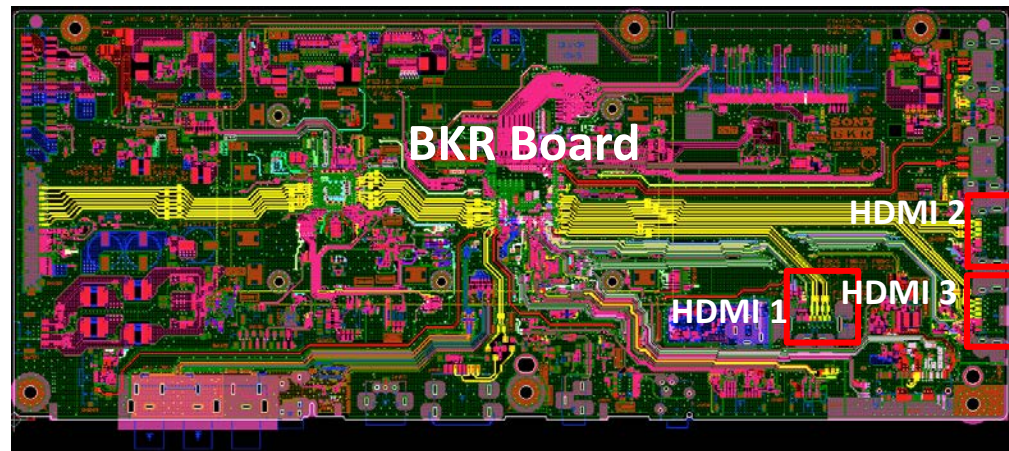
### 2.3.6 HDMI Failure(No Picture) – I2C(SCL&SDA) FA Flowchart



## SECTION 3 TROUBLESHOOTING

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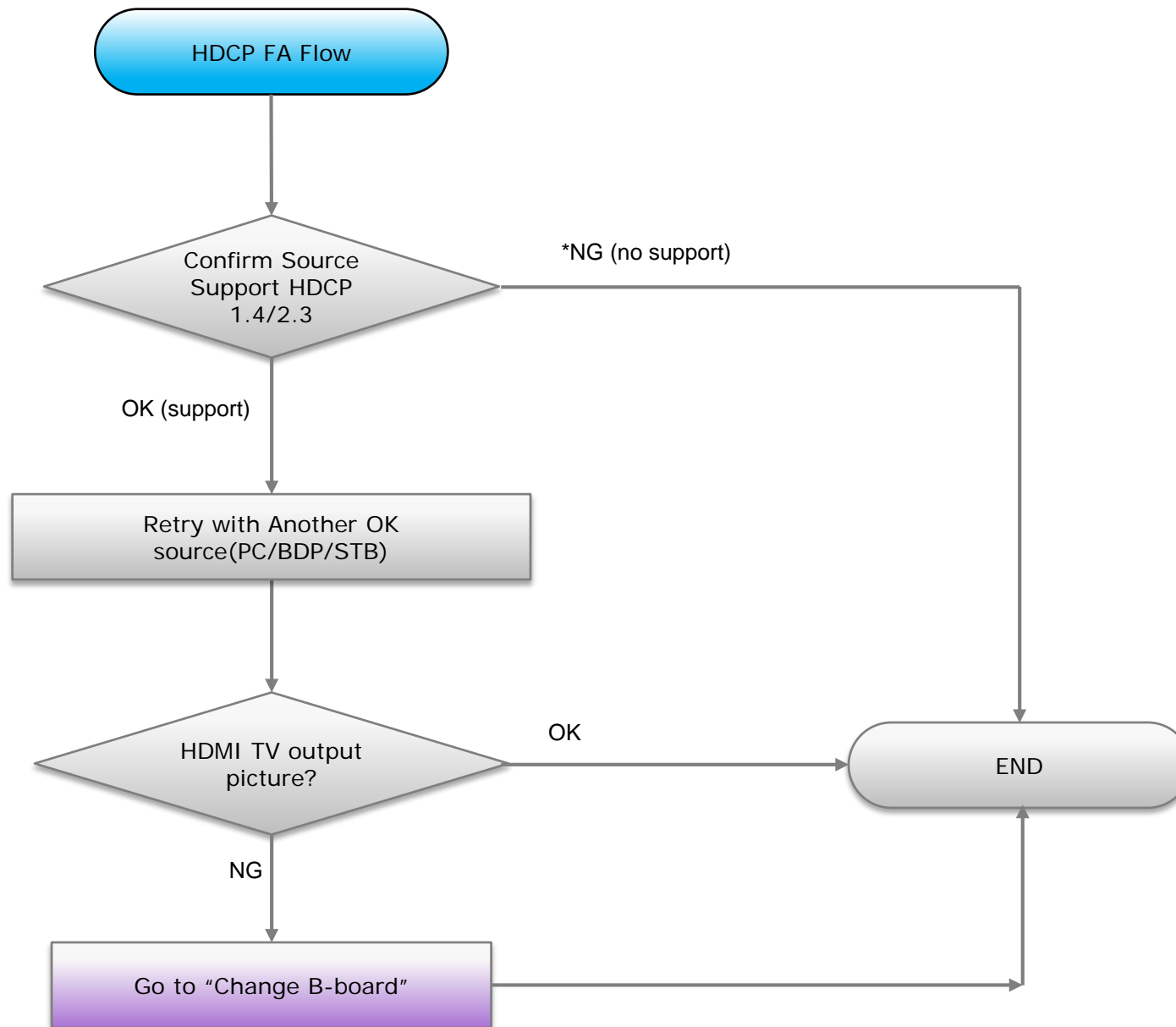
### HDMI I2C Check Point



## SECTION 3 TROUBLESHOOTING

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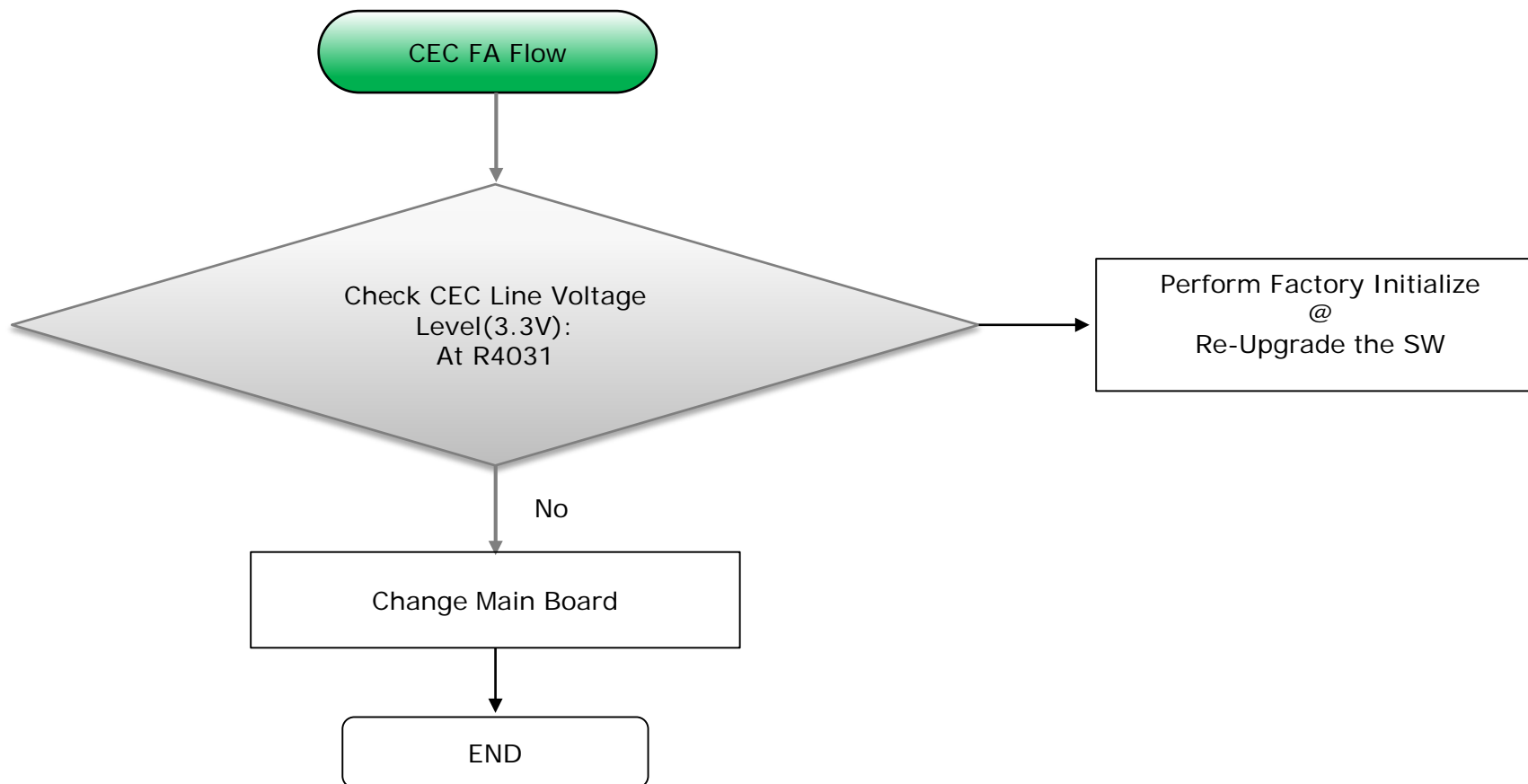
### 2.3.6 HDMI Failure(No Picture) – HDCP FA Flowchart



## SECTION 3 TROUBLESHOOTING

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### 2.3.6 HDMI Failure(CEC no function) – CEC FA Flowchart

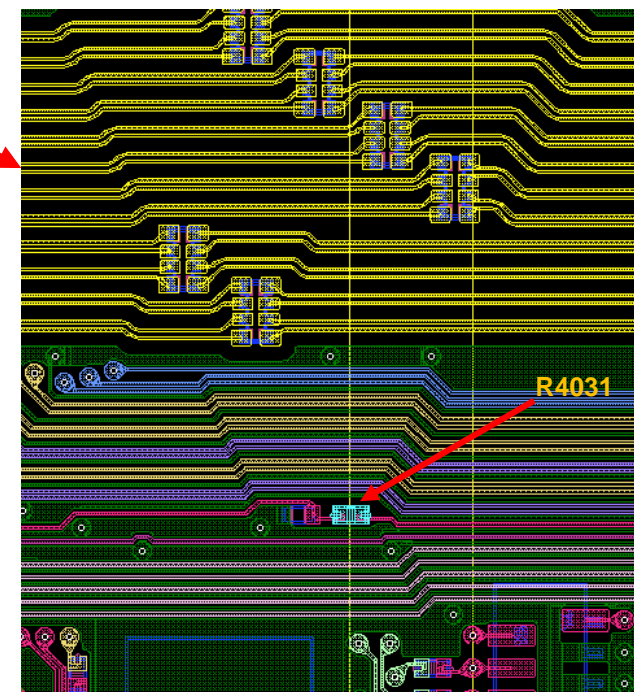
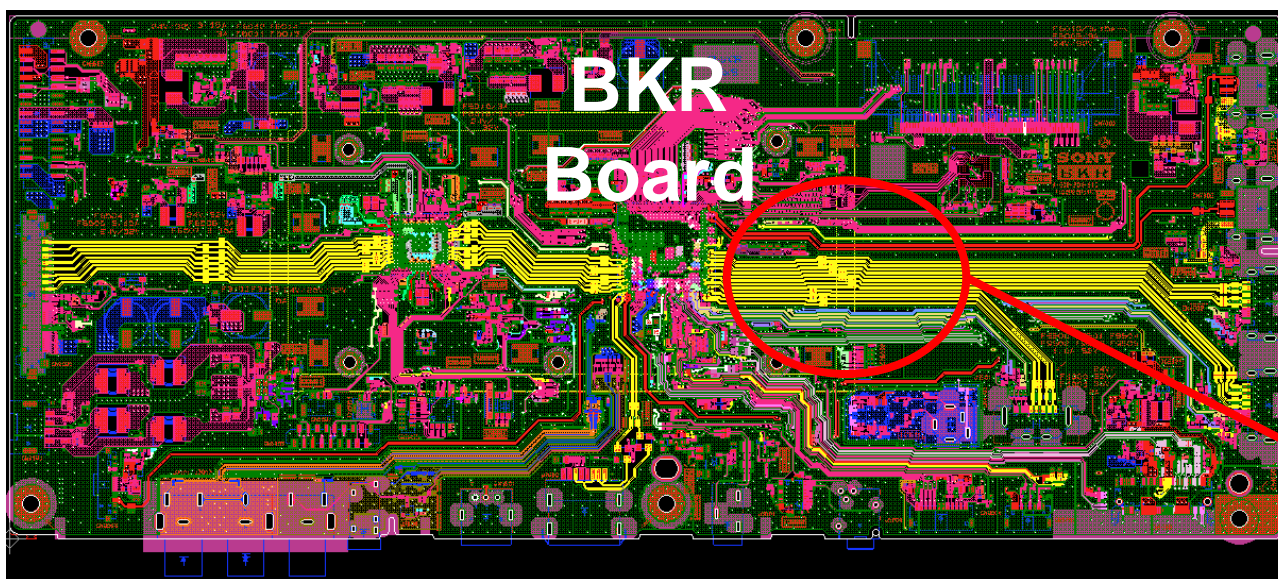




## SECTION 3 TROUBLESHOOTING

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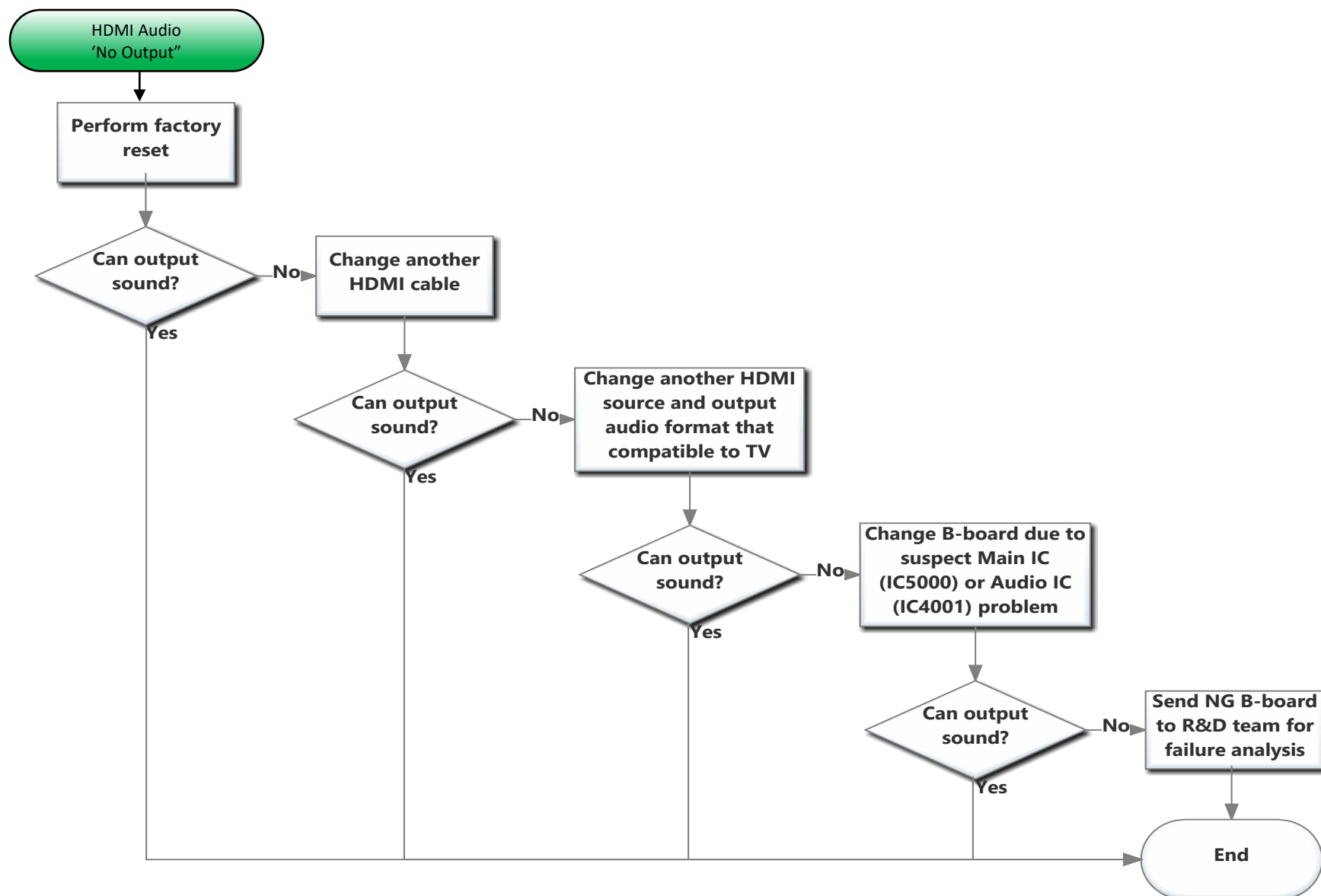
### HDMI CEC Check Point



## SECTION 3 TROUBLESHOOTING

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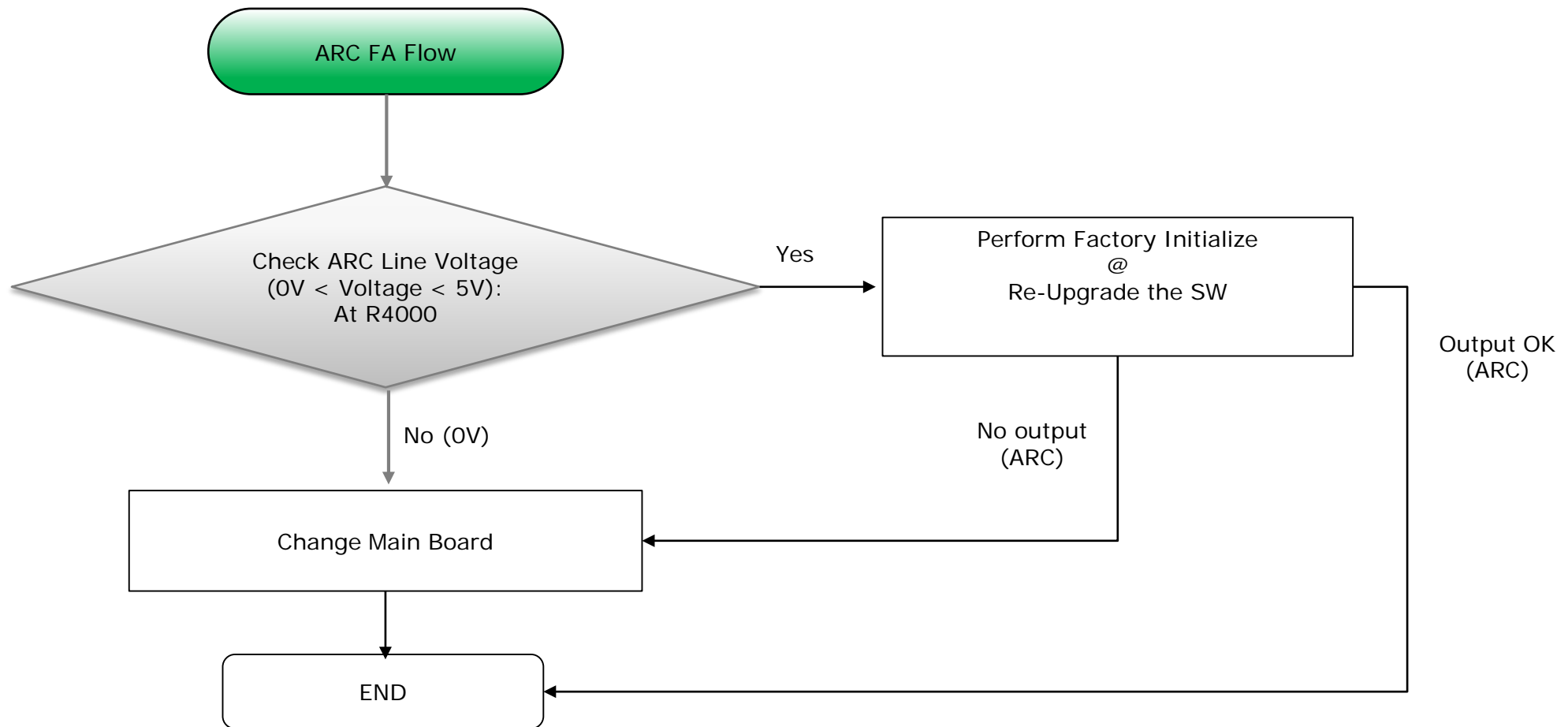
### 2.3.6 HDMI Failure(No Audio) – HDMI No Audio FA Flowchart



## SECTION 3 TROUBLESHOOTING

**Sony CONFIDENTIAL**  
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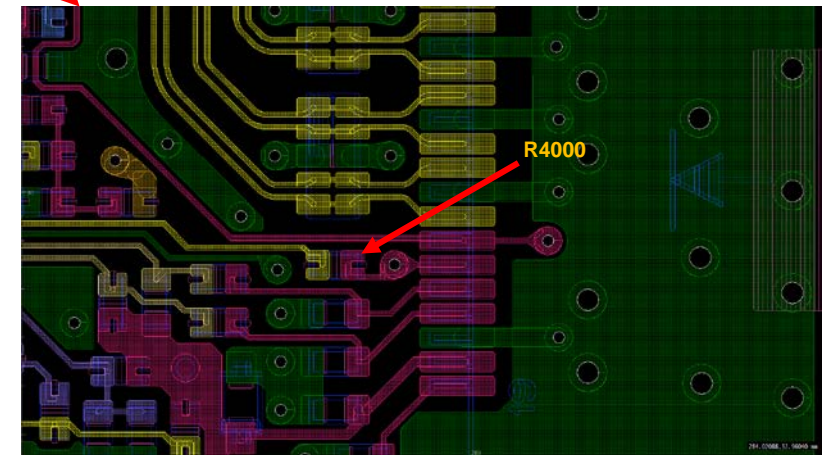
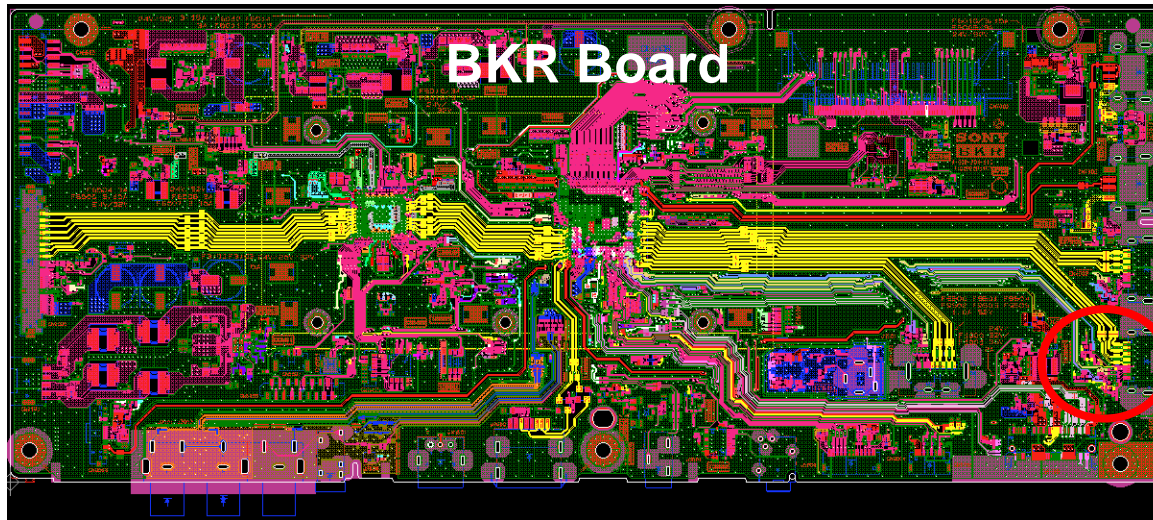
### 2.3.6 HDMI Failure(No ARC) – HDMI No ARC FA Flowchart



## SECTION 3 TROUBLESHOOTING

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### HDMI CEC Check Point





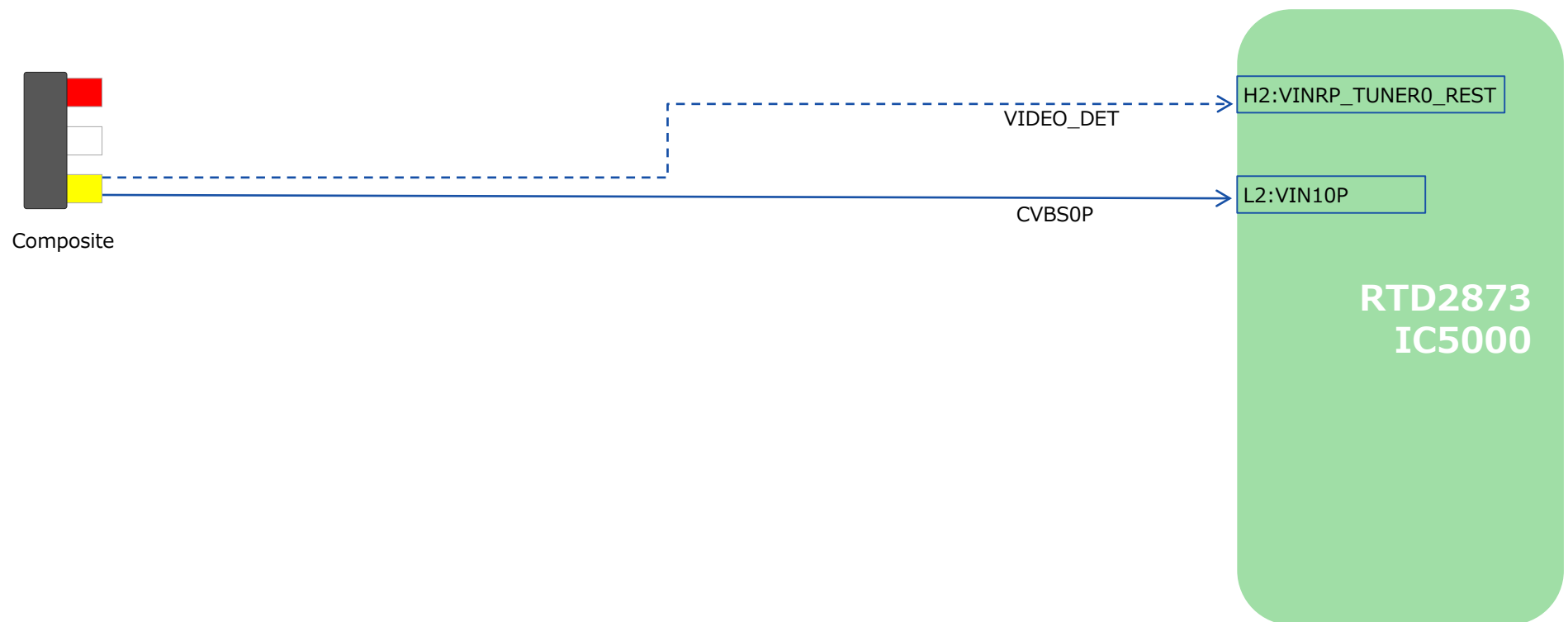
# SECTION 3

## TROUBLESHOOTING

**Sony CONFIDENTIAL**  
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### 2.3.7 Video Analog Signal Path (WW Destination)

**BKR**



## SECTION 3 TROUBLESHOOTING

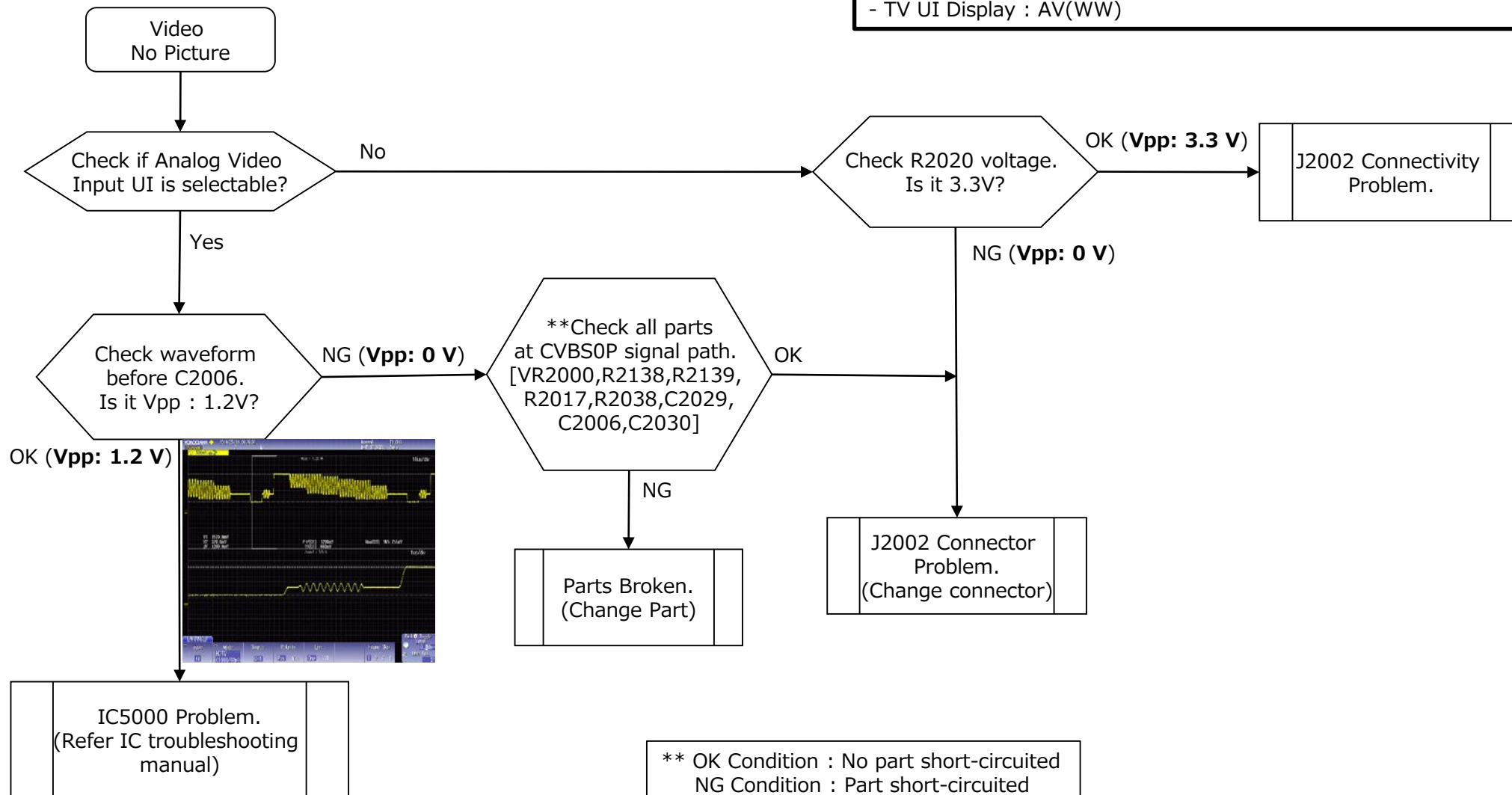
**Sony CONFIDENTIAL**  
For Authorized Servicer

### 2.3.7 No Picture – Investigation flow (WW Destination)

**BKR**

Checking condition:

- TV ON, \*RCA video cable is connected to composite source output at TV side
- TV UI Display : AV(WW)



## SECTION 3

### TROUBLESHOOTING

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#### 2.3.7 No Picture – Actions (WW Destination)

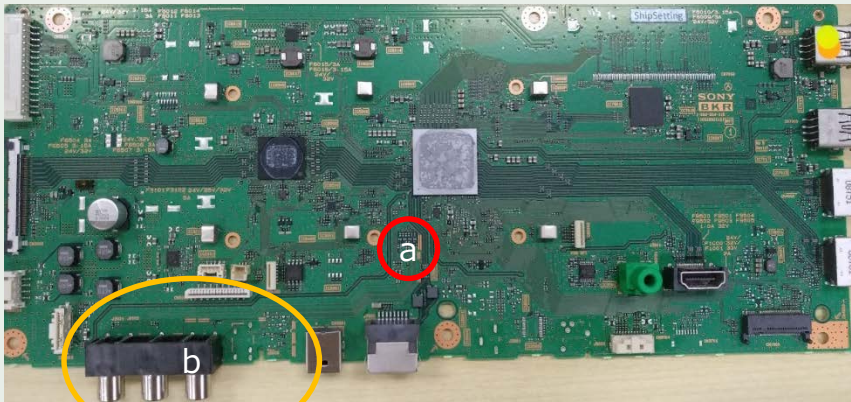
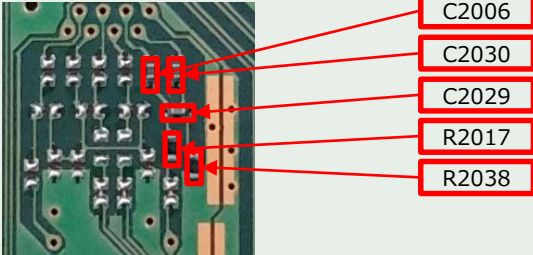
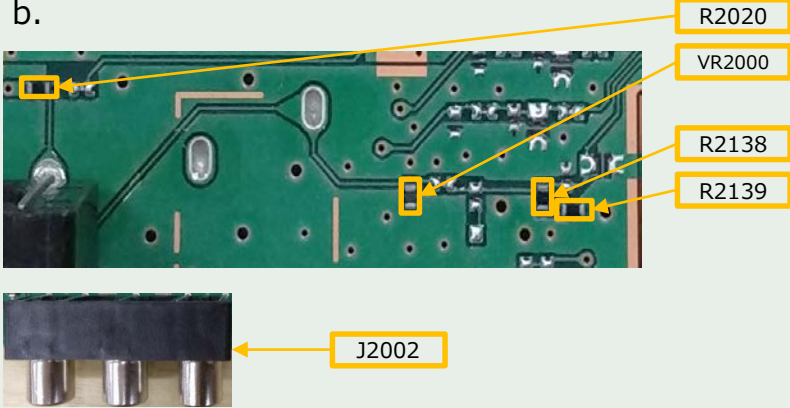
**BKR**

Condition	Actions to be taken
<div>Muffin [IC5000] Problem</div>	Change B-board
<div>Connector Problem</div> <div>Connectivity Problem</div>	Change Connector
<div>Parts Broken</div>	Change Part according to ** remarks

# SECTION 3 TROUBLESHOOTING

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## 2.3.7 No Picture – Parts location (WW Destination)

Board Name	Board PWB	Details
BKR (WW) J2002 VR2000 R2138 R2139 R2017 R2038 C2029 C2006 C2030  R2020		<p>a.</p>  <p>C2006 C2030 C2029 R2017 R2038</p> <p>b.</p>  <p>R2020 VR2000 R2138 R2139 J2002</p>



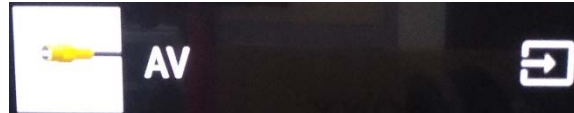
## SECTION 3 TROUBLESHOOTING

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### 2.3.7 No Picture – Input Skip Function (WW Destination)

#### Under default condition;

If user insert analog video cables into composite video terminal, the AV will have an input indicator as:



The detection mechanism is based on below tables.

Destination	Input	Signal	Non-Detect (Typical)	Detect (Typical)
WW	AV	VIDEO_DET IC5000 H2 : VINRP_TUNER0_REST	0V	3.3V

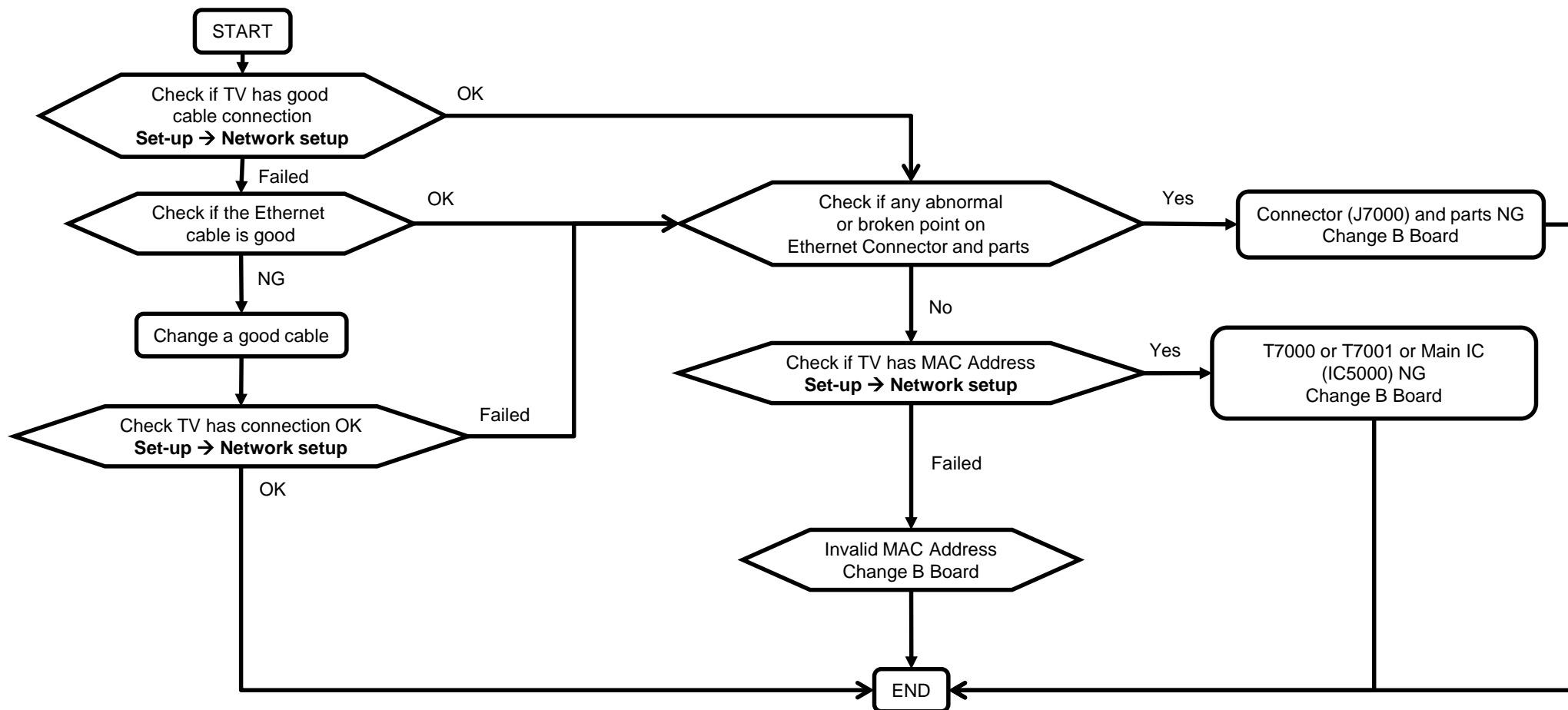
## SECTION 3 TROUBLESHOOTING

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### 2.4.1 Ethernet

#### 2f.5 Ethernet – No Connect – General Checking

TV turn ON condition:



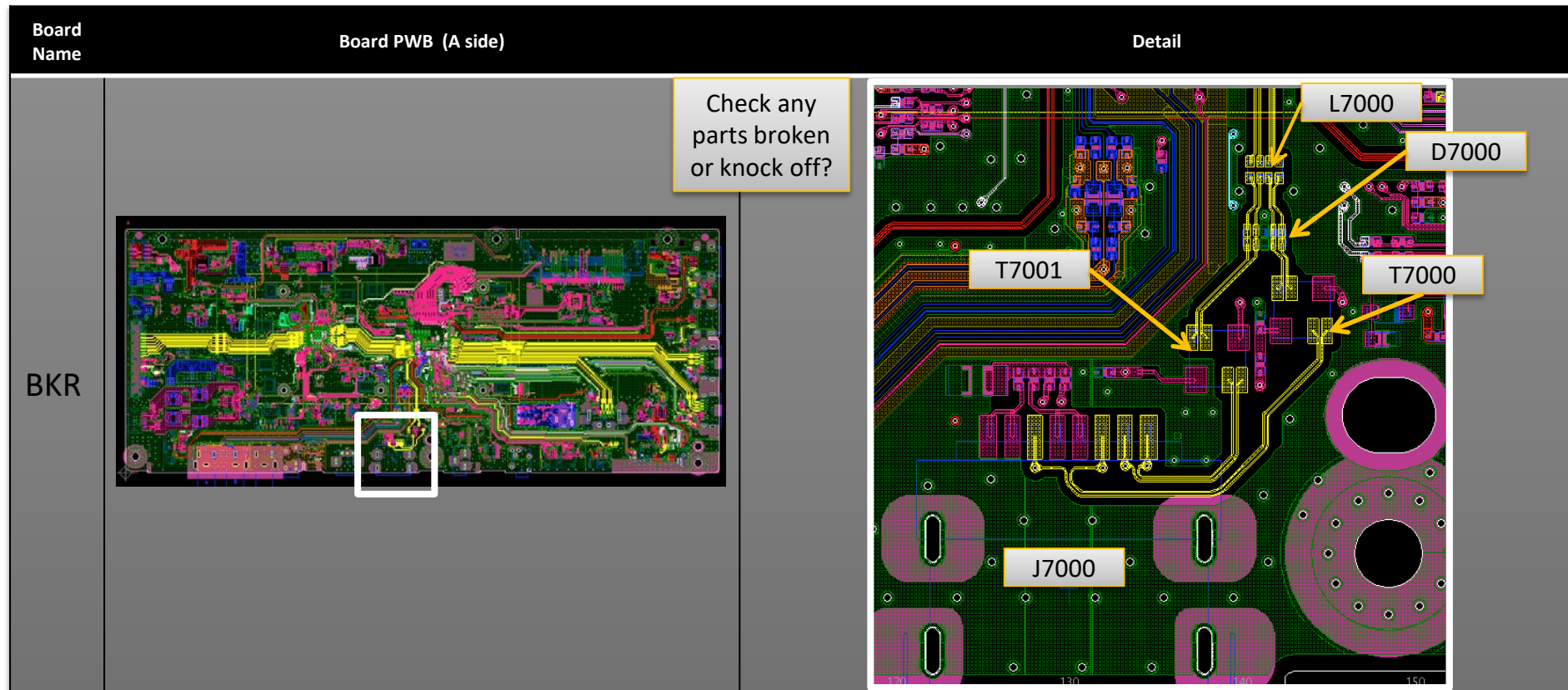
## SECTION 3 TROUBLESHOOTING

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### 2f.5 Ethernet

#### 2f.5 Ethernet – No Connect – Checking Point

Ethernet (B-board Checking) – Checking parts broken or knock off

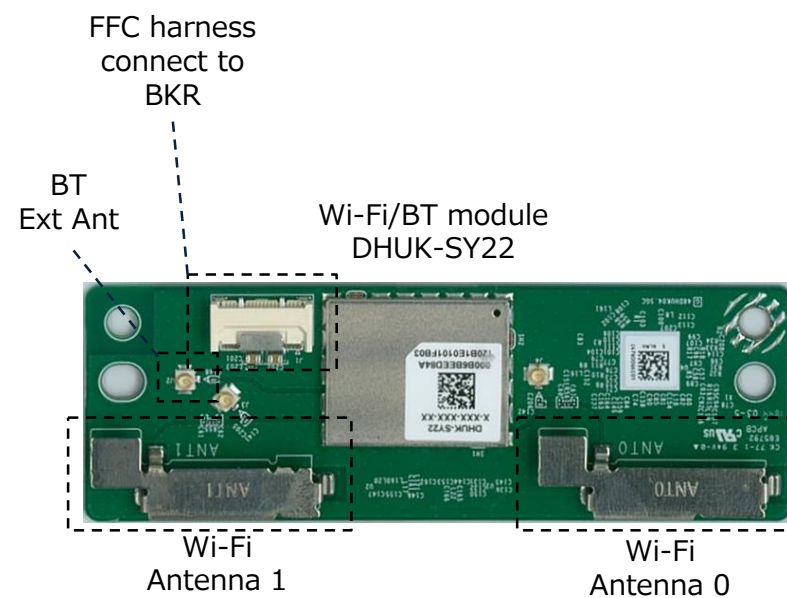
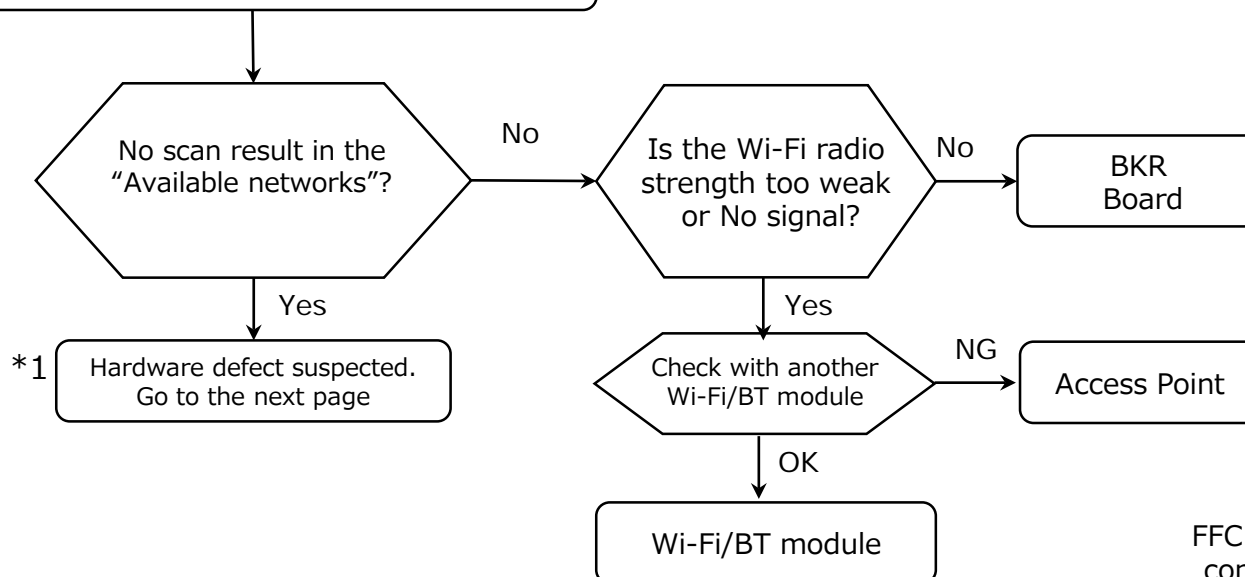


## SECTION 3 TROUBLESHOOTING

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For Authorized Servicer

### WiFi malfunction

Home → Settings → Network & Internet

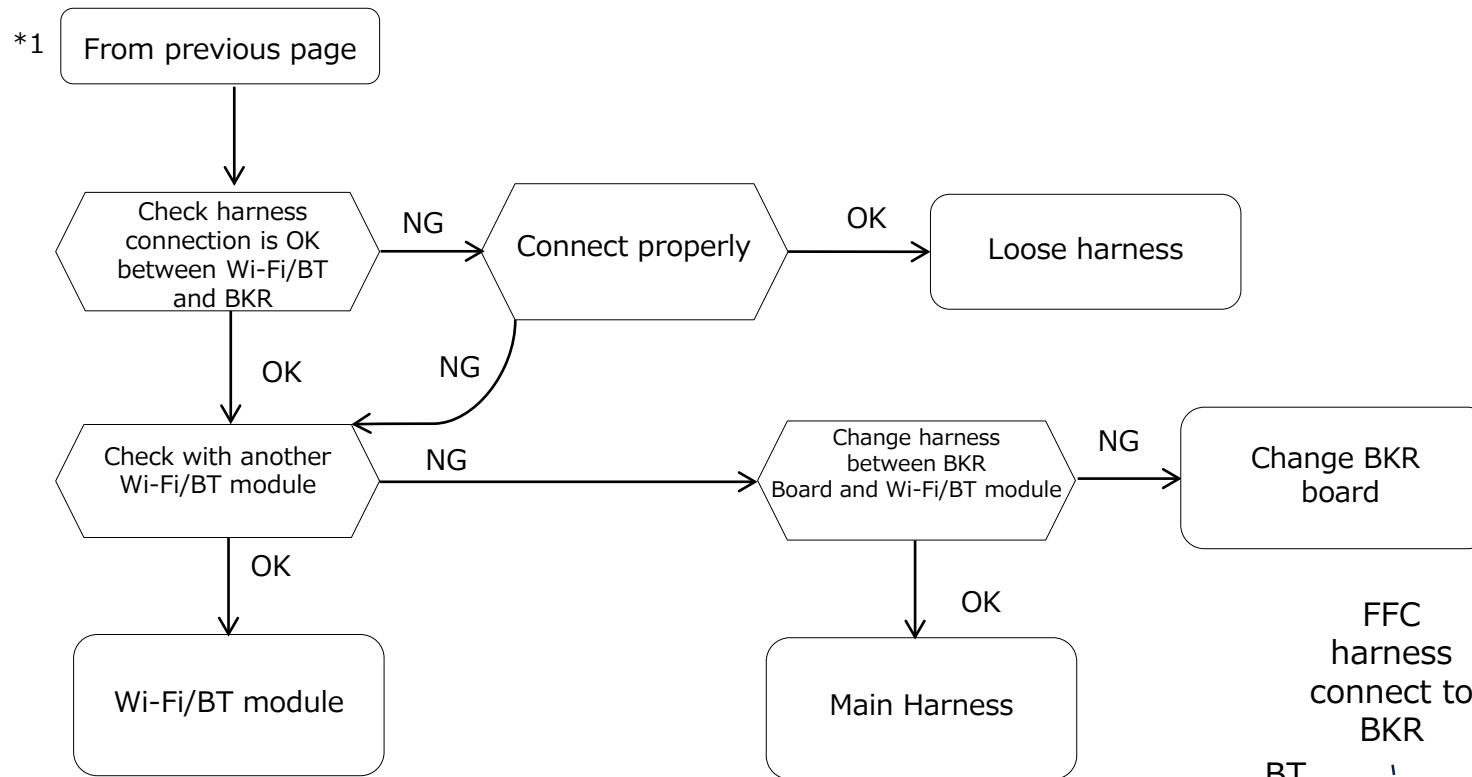




## SECTION 3 TROUBLESHOOTING

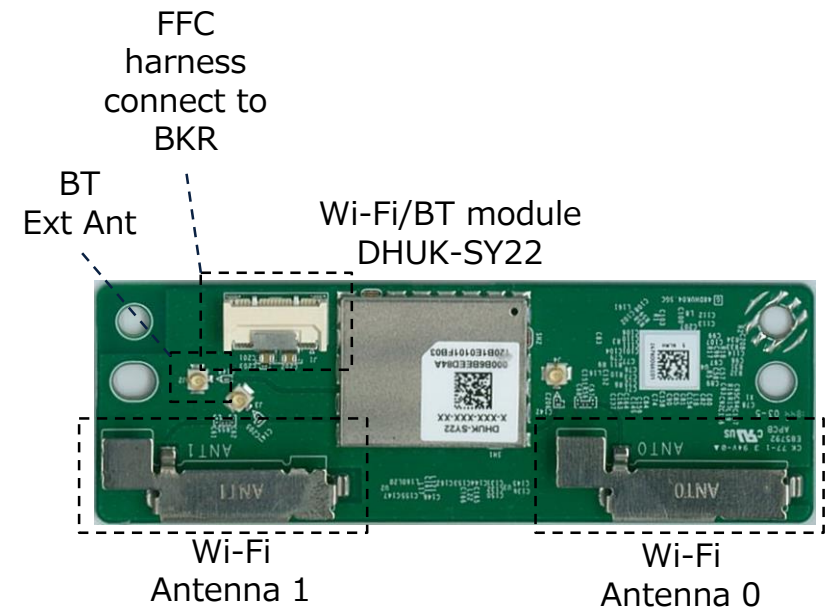
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### WiFi malfunction - continue



If Wi-Fi malfunction happens,

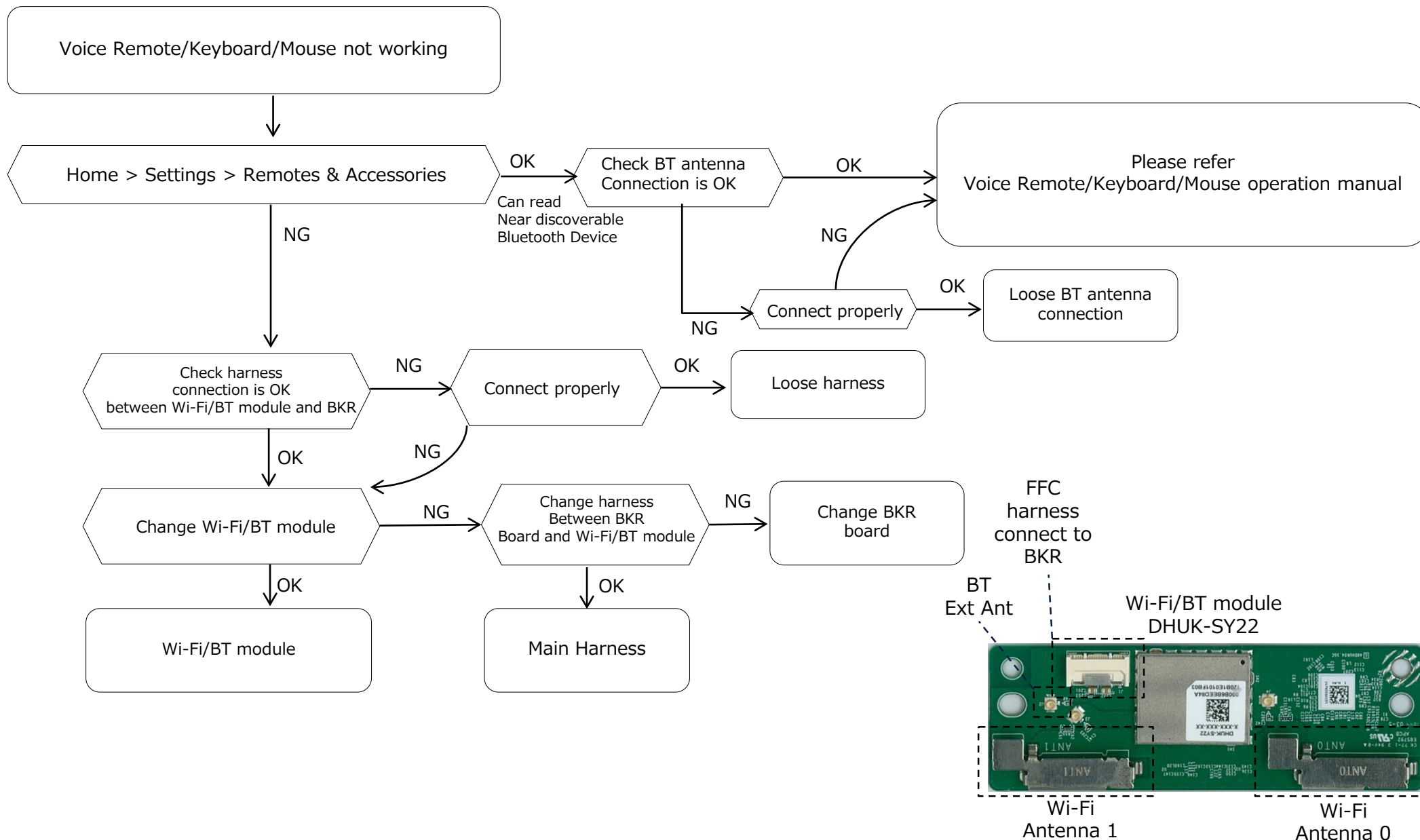
- Wi-Fi/BT module
  - Harness between WiFi/BT module and BKR board
  - BKR board
- are suspected.



# SECTION 3 TROUBLESHOOTING

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## BT malfunction



## SECTION 3 TROUBLESHOOTING

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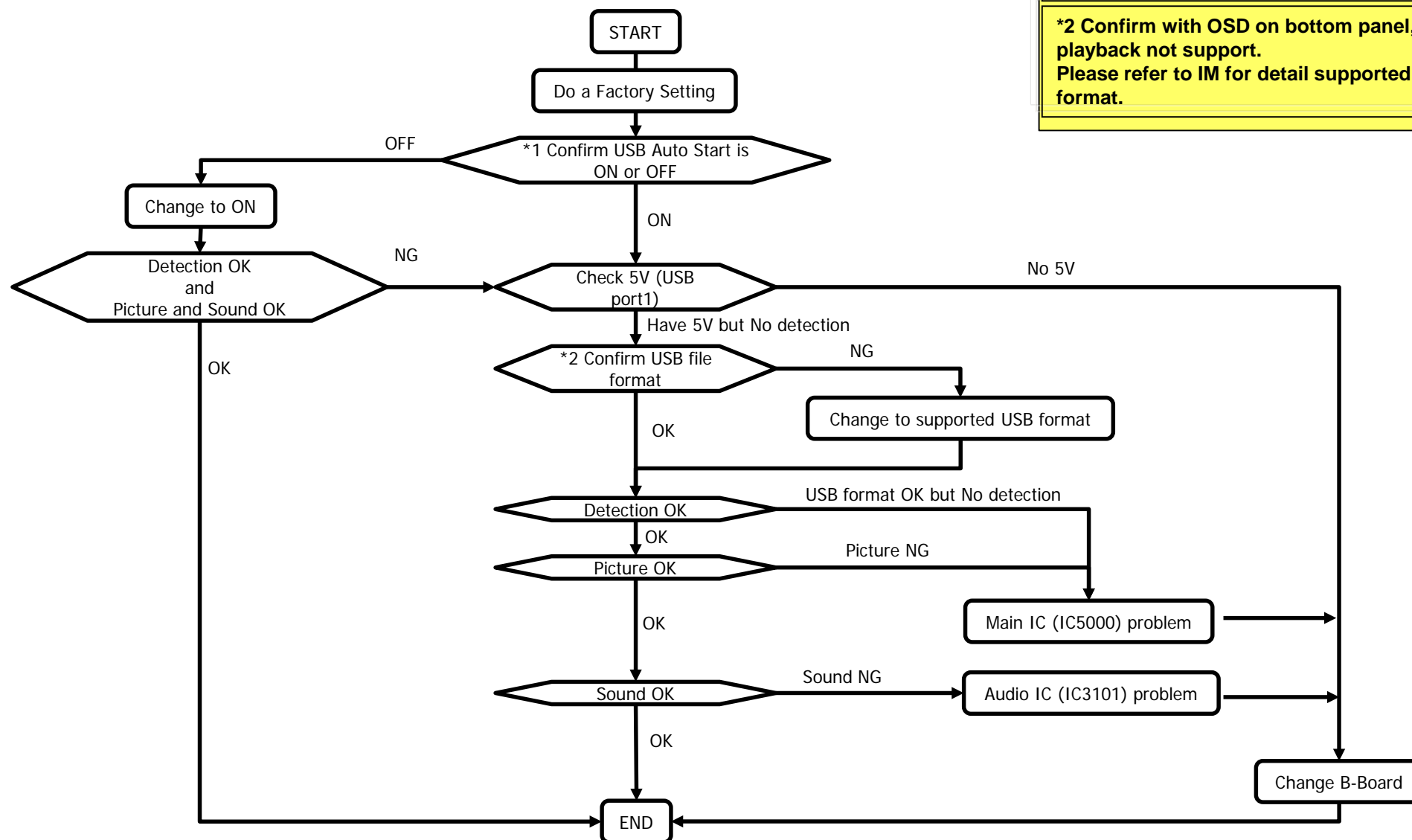
### 2.5.1 USB Port 1

**2f.4.1 USB Port 1– No Detection / Cannot Play / No picture / No Sound – General Checking**  
TV turn ON condition:

#### Remarks:

**\*1 Confirm USB Auto Start at Set-up Menu.**

**\*2 Confirm with OSD on bottom panel, if playback not support. Please refer to IM for detail supported USB format.**

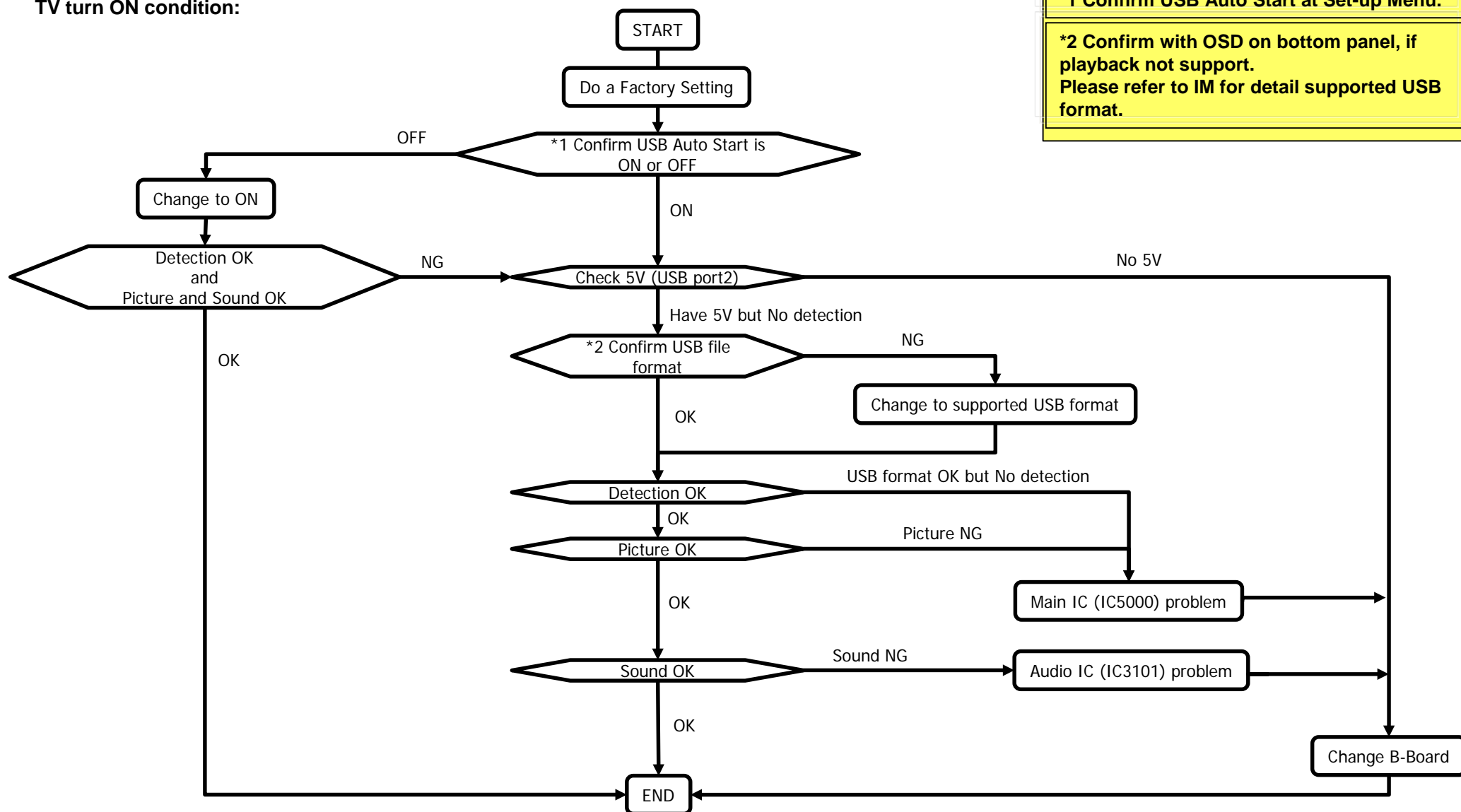


# SECTION 3 TROUBLESHOOTING

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## 2.5.1 USB Port 2

**2f.4.2 USB Port 2– No Detection / Cannot Play / No picture / No Sound – General Checking**  
**TV turn ON condition:**



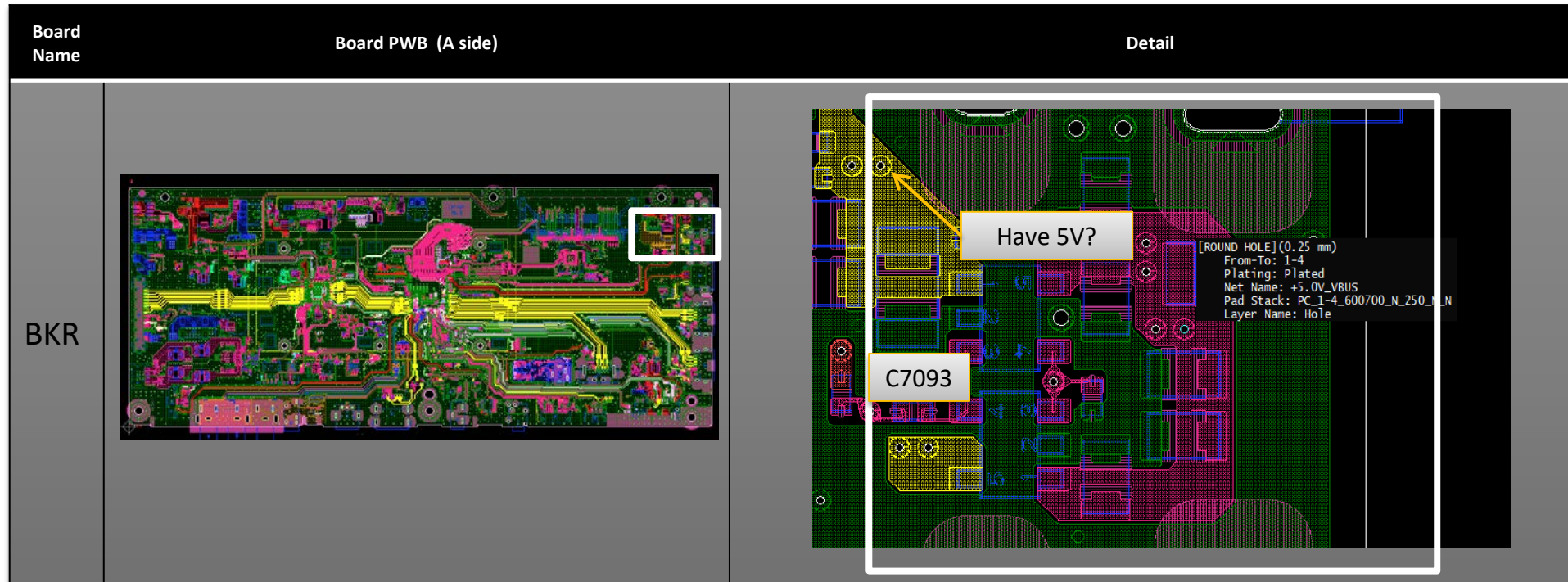


## SECTION 3 TROUBLESHOOTING

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### 2.5.1 USB Port 1

**2f.4.4 USB Port 1**– No Detection / Cannot Play / No picture / No Sound – **Checking Point**  
**USB (B-board Checking)** – **Checking 5V Points [USB Port 1 or 3]**

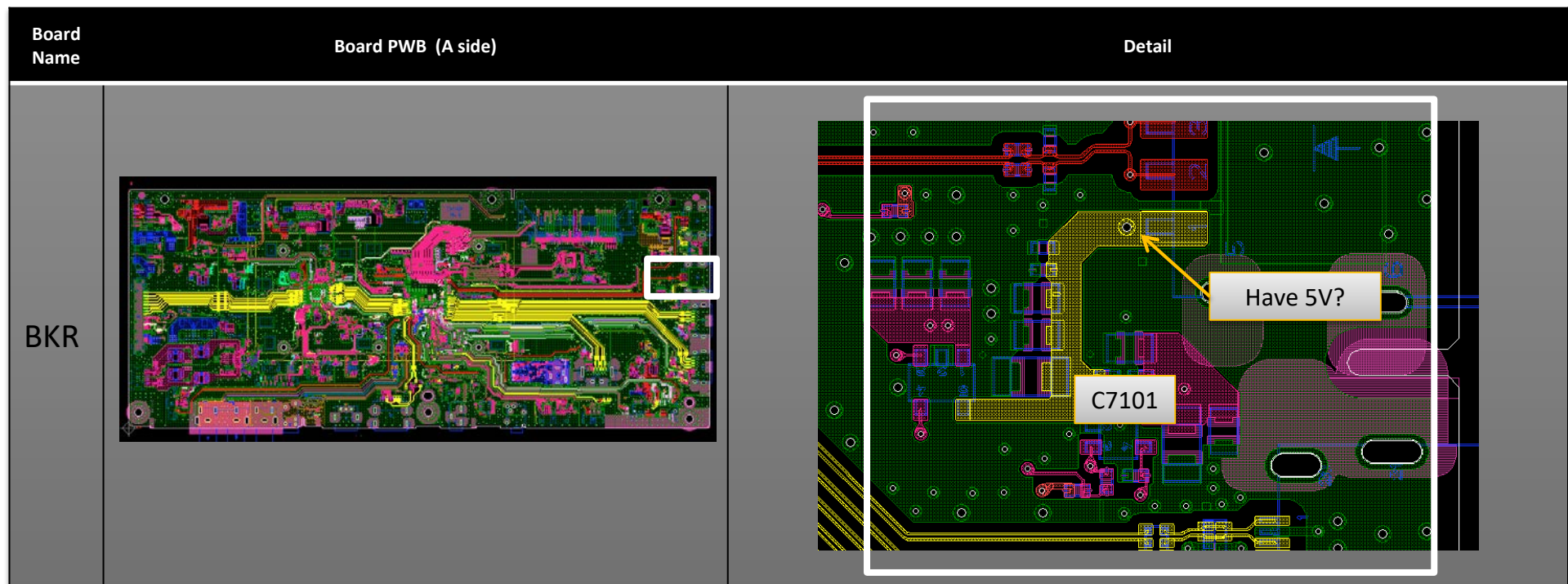


# SECTION 3 TROUBLESHOOTING

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## 2.5.1 USB Port 2

**2f.4.4 USB Port 2**– No Detection / Cannot Play / No picture / No Sound – **Checking Point**  
**USB (B-board Checking) – Checking 5V Points [USB Port 1 or 3]**

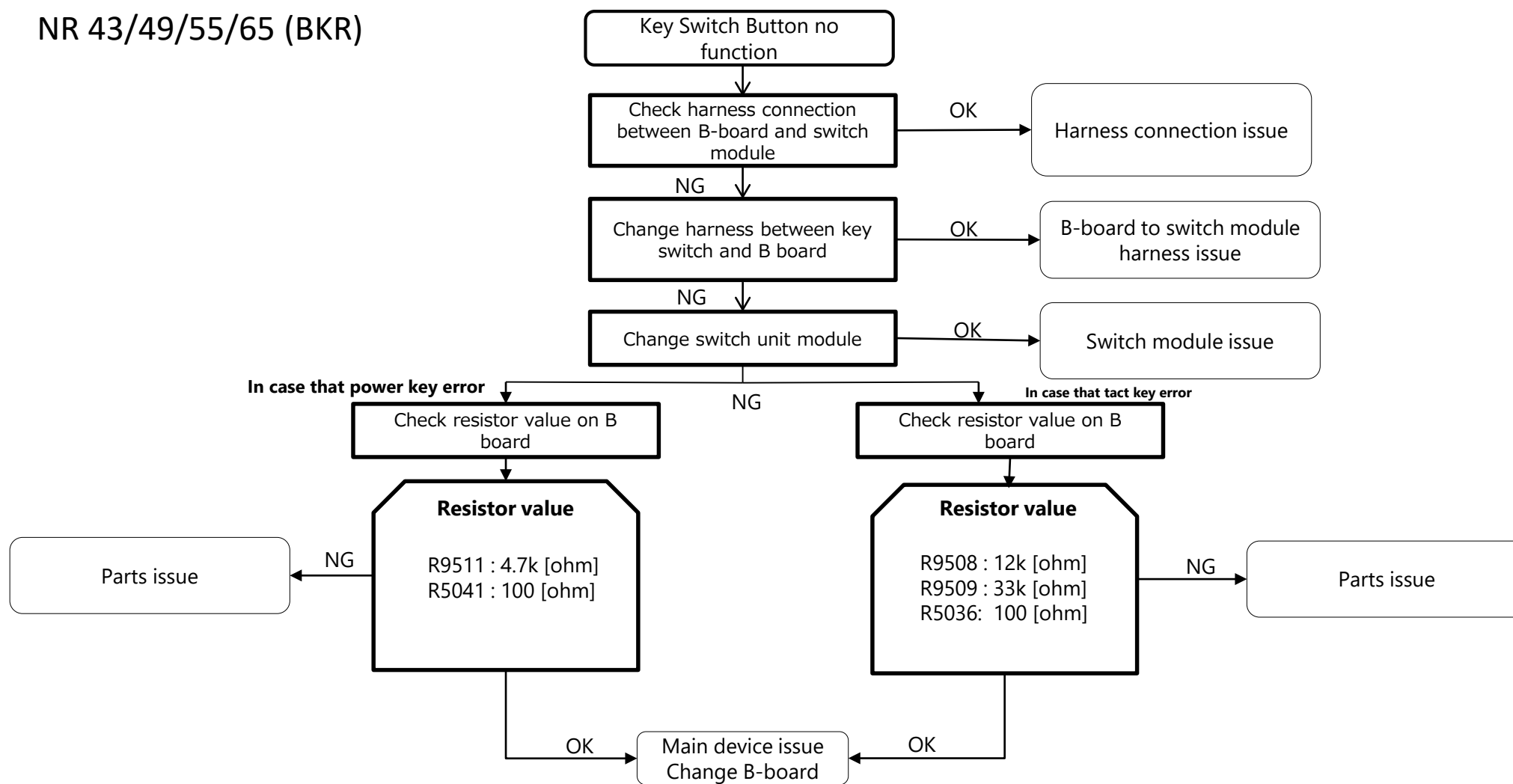


## SECTION 3 TROUBLESHOOTING

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### 2.5.2 Key Switch Buttons Error

NR 43/49/55/65 (BKR)



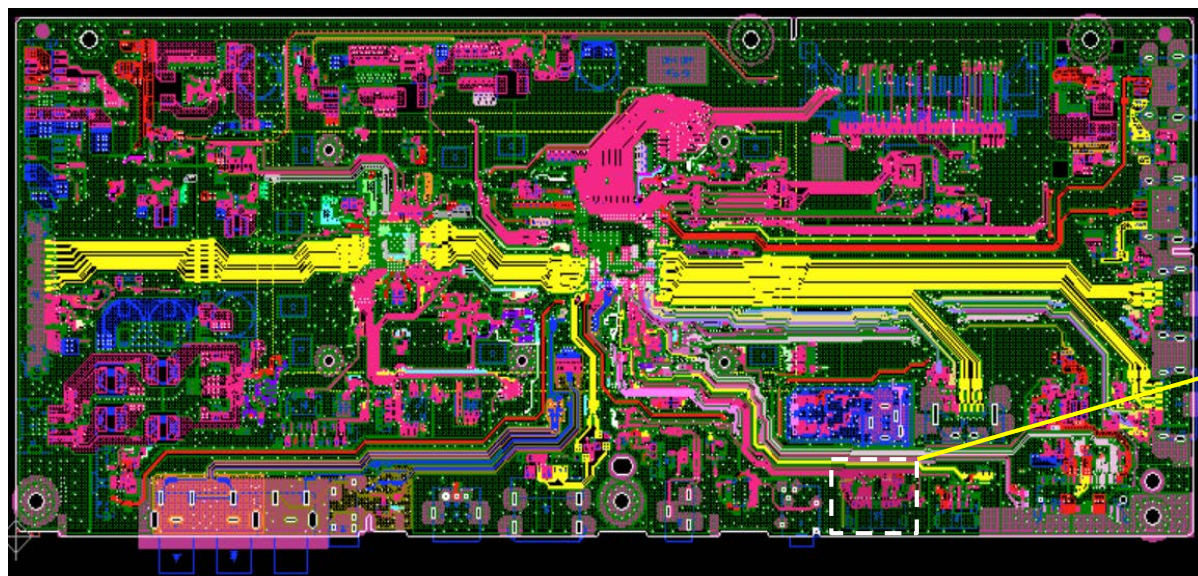


## SECTION 3 TROUBLESHOOTING

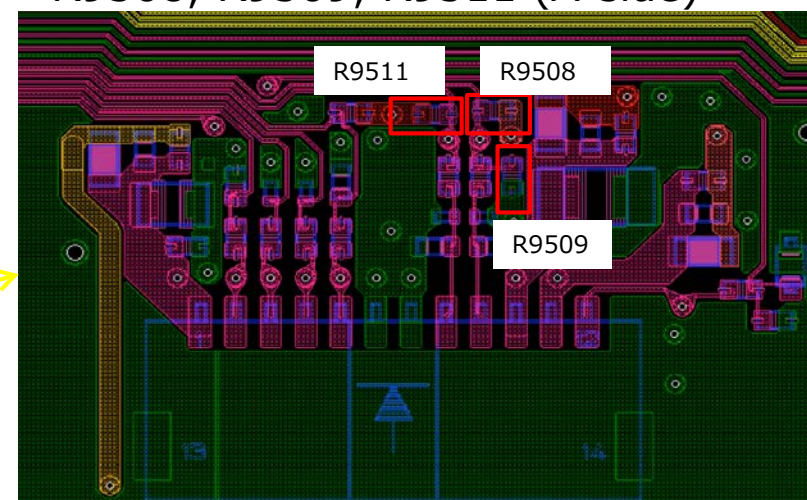
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Resistor location (BKR)

### BKR Full Layout



R9508, R9509, R9511 (A-side)



3-Key connector

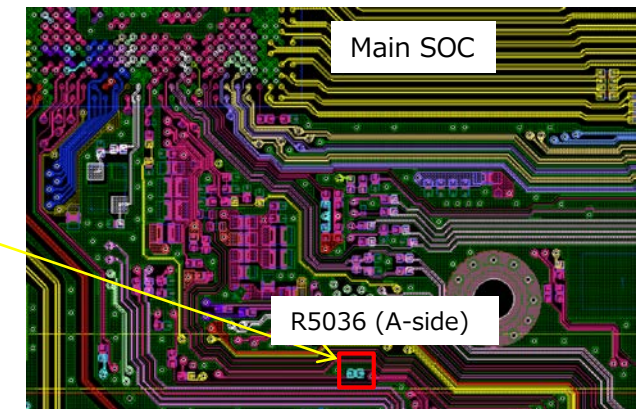
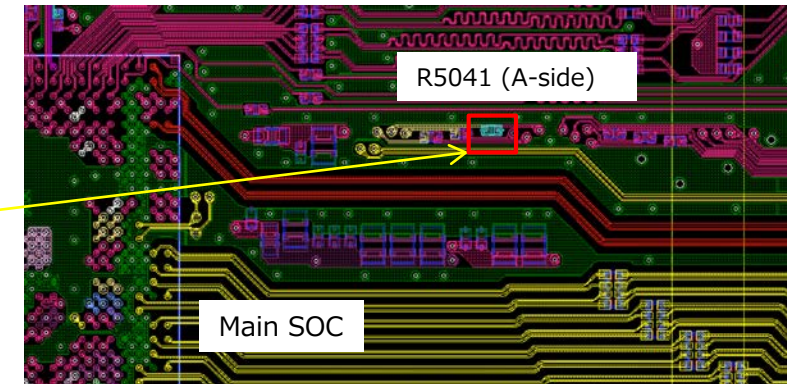
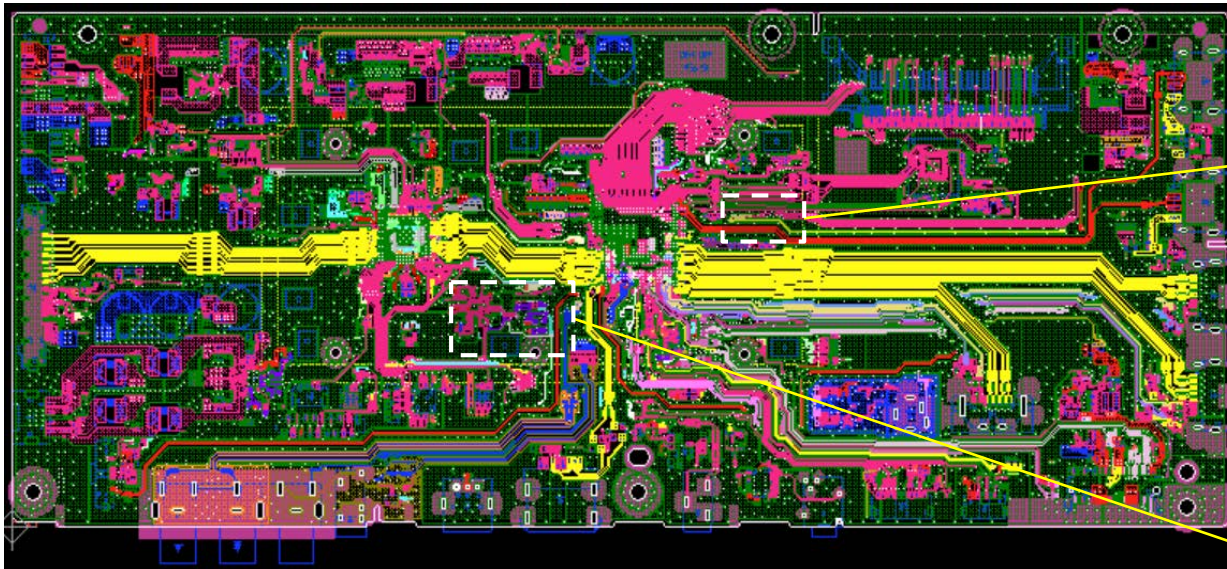


## SECTION 3 TROUBLESHOOTING

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Resistor location (BKR)

BKR Full Layout



## SECTION 4 SERVICE ADJUSTMENT

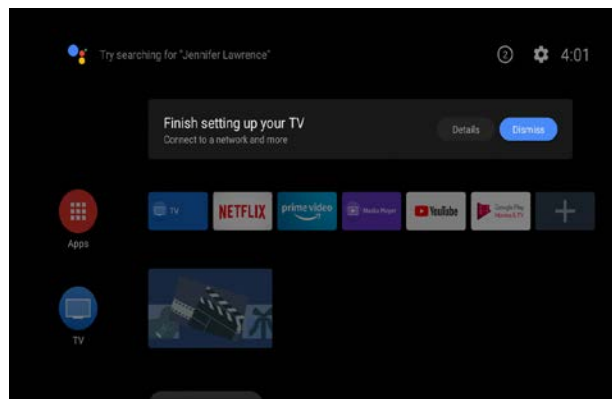
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### How to Enter Service Menu

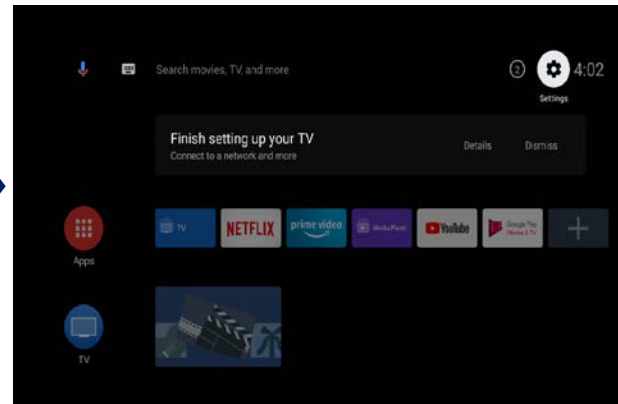
When finished the operation of service mode, please AC Plug OFF/ON the TV set

\*If you don't do AC plug OFF/ON, remain the Service Mode App and user can see the Service Mode after RC ON

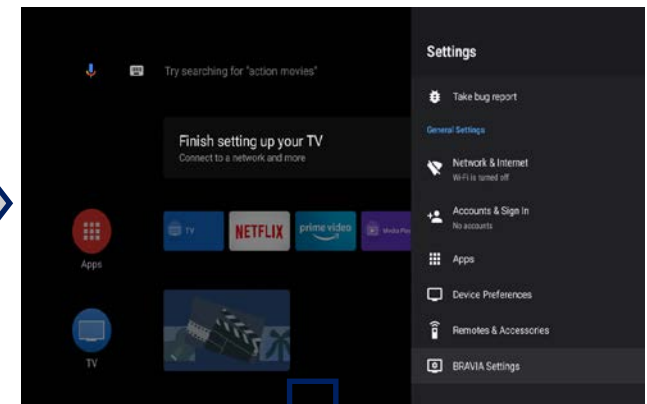
1) Initial Condition : TV Power On in Home Page



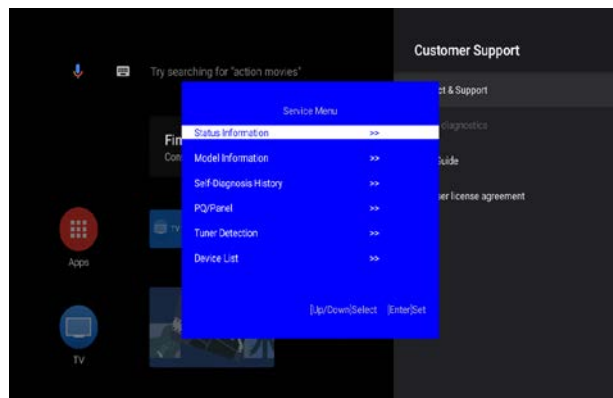
2) Go to Settings



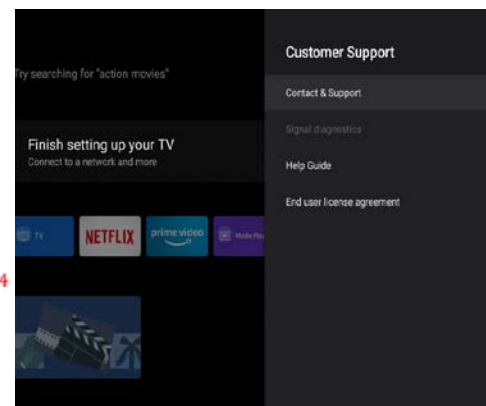
3) Select BRAVIA Settings



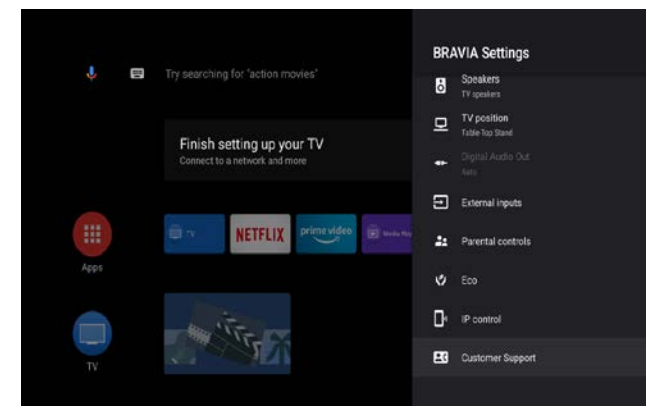
6) Service Menu Launch.



5) In Customer Support Page , Use Remote Control press following sequential command  
**<Yellow><5><Red><Display>**



4) In BRAVIA Settings choose Customer Support and Enter



## SECTION 4

### SERVICE ADJUSTMENT

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#### Key Behavior Summary

Key	Behavior
Menu	Close service menu
Cursor/Enter	Return Previous page, Change portion of focus item, Enter next page of focus item, etc..
Return	Return to previous page, close service menu etc..

Note:

For changes made to Service Menu items to take effect, please perform AC OFF/ON

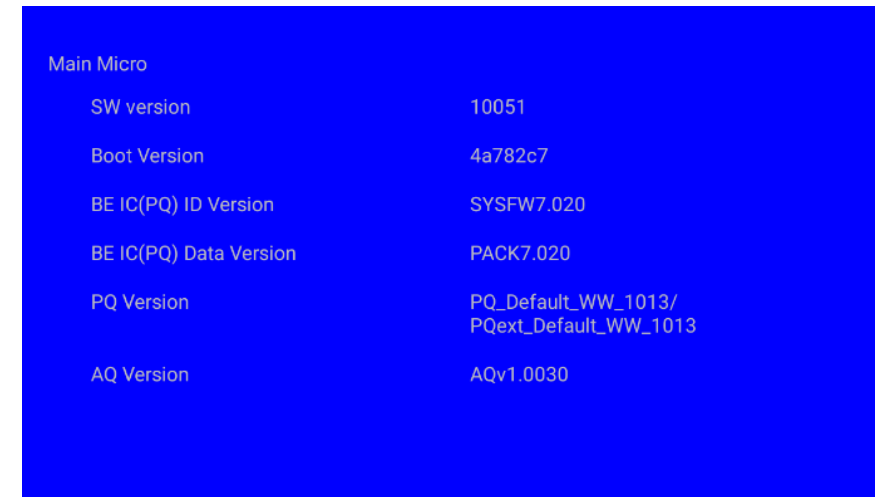
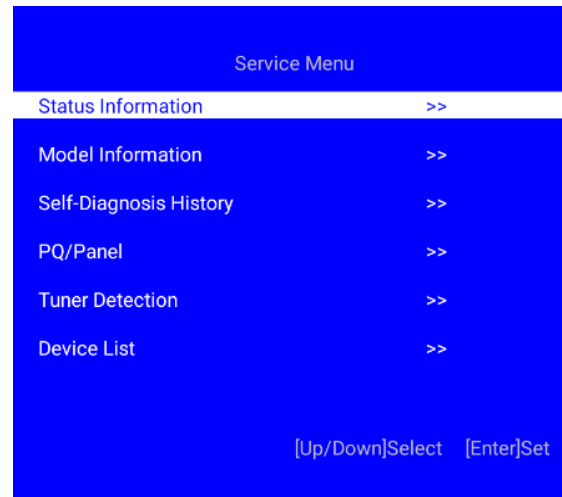
*\*If AC OFF/ON is not performed, Service Mode Apps will be remain & user able to see the Service Mode after RC ON.*

## SECTION 4 SERVICE ADJUSTMENT

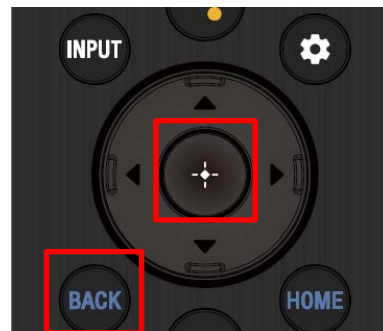
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### Software Version

- 1) Press "Enter" button to enter "Status Information"



- 2) Press "Enter" or "Back" button to return to Service Menu





## SECTION 4 SERVICE ADJUSTMENT

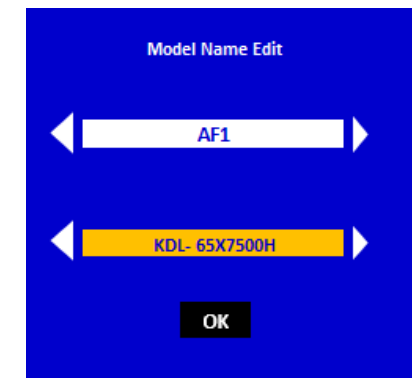
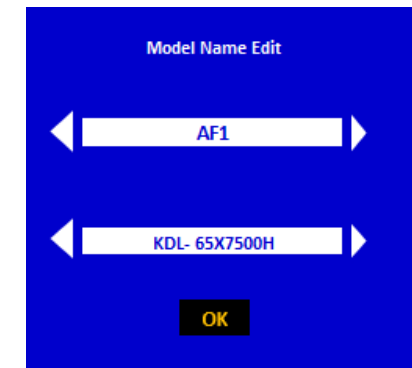
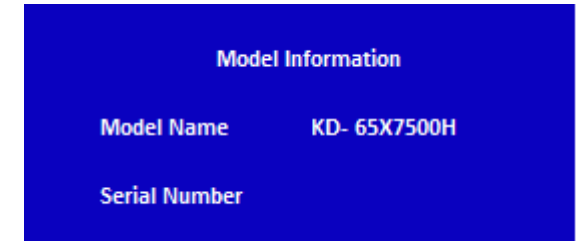
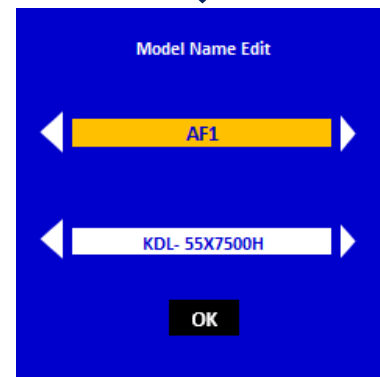
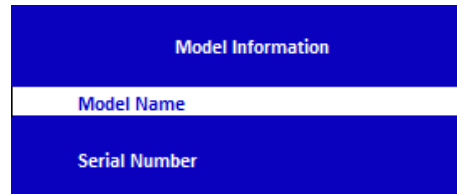
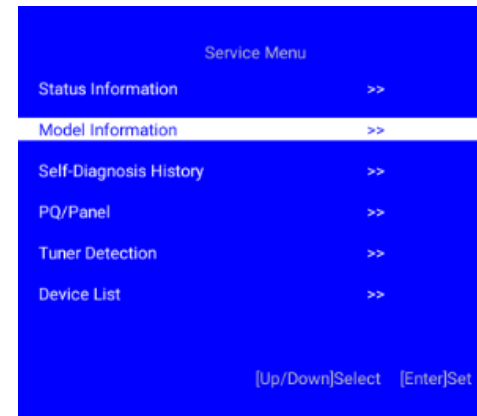
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### Model Information – Model Name

- 1) In "Service Menu", select "Model Information" by pressing "↑" or "↓" then pressing "Enter" button to enter Model Information.
- 2) Select "Model Name" by pressing "↑" or "↓" button then pressing "Enter" button
- 3) Press "→" or "←" arrow key to scroll the Country/Spec Code candidate.  
➤ (e.g. AF1)
- 4) Press "↓" or 'Enter' button to select Model Name Candidate.
- 5) Press "→" or "←" arrow key to scroll the Model Name candidate.
- 6) Press "↓" or 'Enter' to move selection to OK button once confirm.
- 7) All Model Environment setting will be written in factory partition based on Model Name selection.

**[Note]**

Model Name is editable for 5 times only

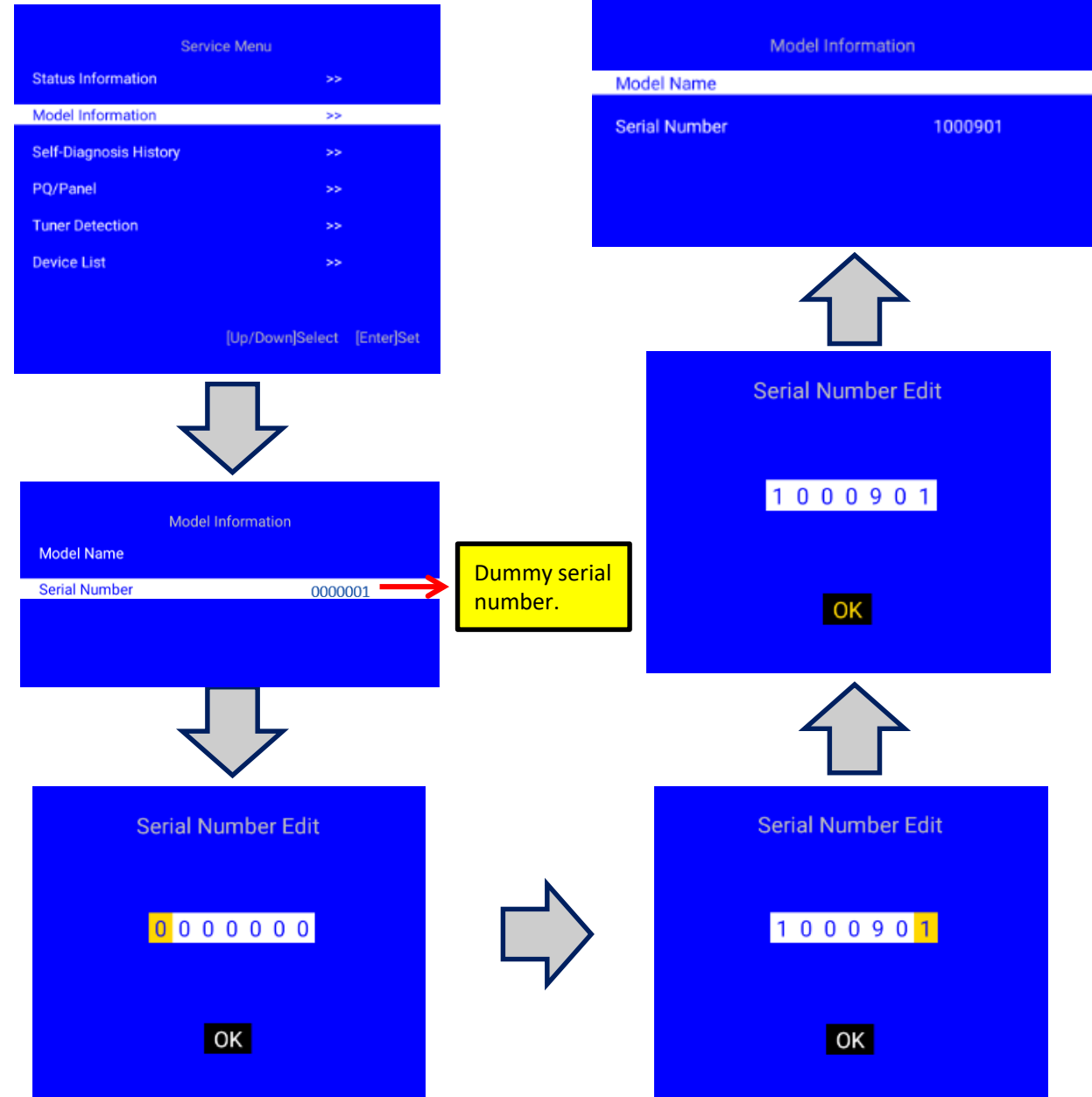


## SECTION 4 SERVICE ADJUSTMENT

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### Model Information – Serial Number

- 1) In "Service Menu", select "Model Information" by pressing "↑" or "↓" then pressing "Enter" button to enter Serial Number Edit.
- 2) Select "Serial Number Edit" by "↓" button then pressing "Enter" button
- 3) Press "↑" or "↓" to input numbers and "→" or "←" to move to next number
- 4) After user input data , press <Enter> and 'OK' box will be highlighted.
- 5) Press <Enter> to confirm the selection or <Back> to cancel.

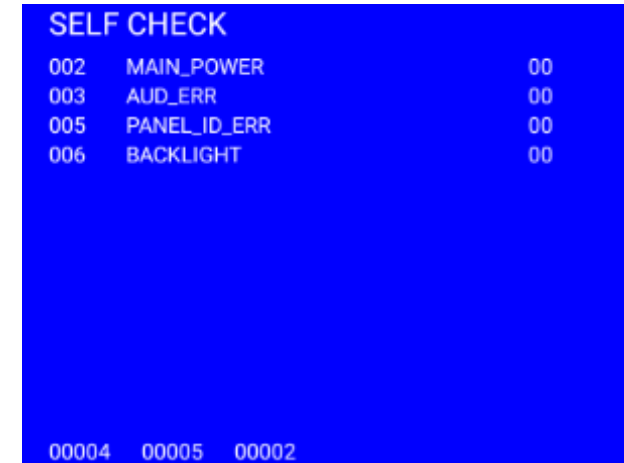
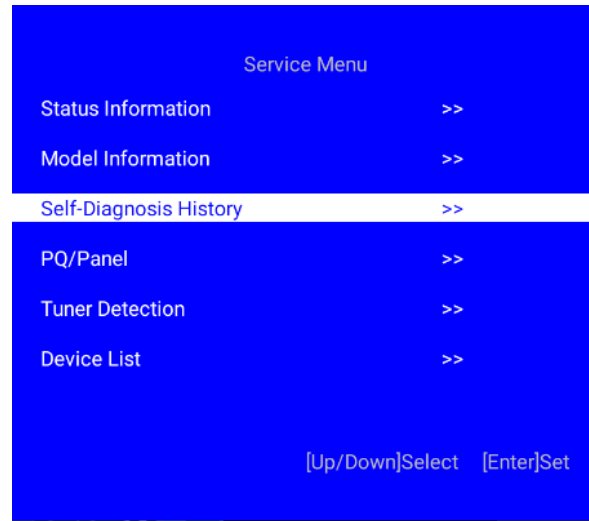


## SECTION 4 SERVICE ADJUSTMENT

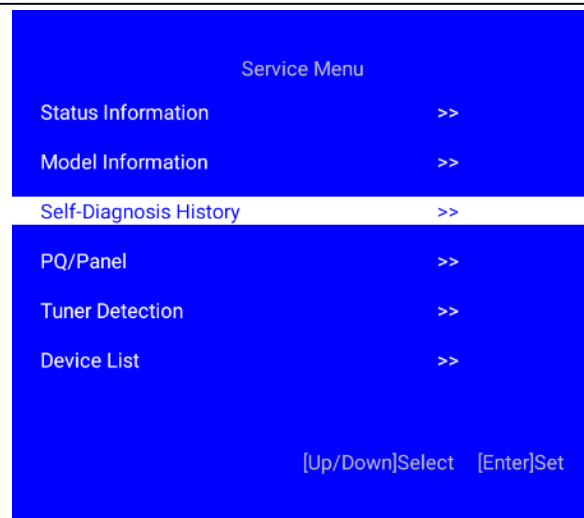
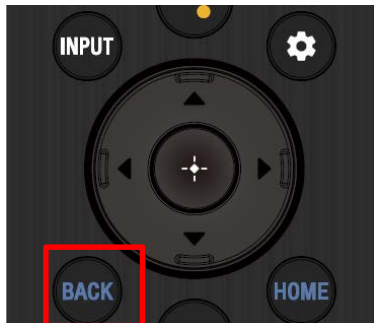
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For Authorized Servicer

### How To Enter Self Check

1) In Service Menu, select “Self diagnosis history”, press “Enter” button to enter **Self Check**.



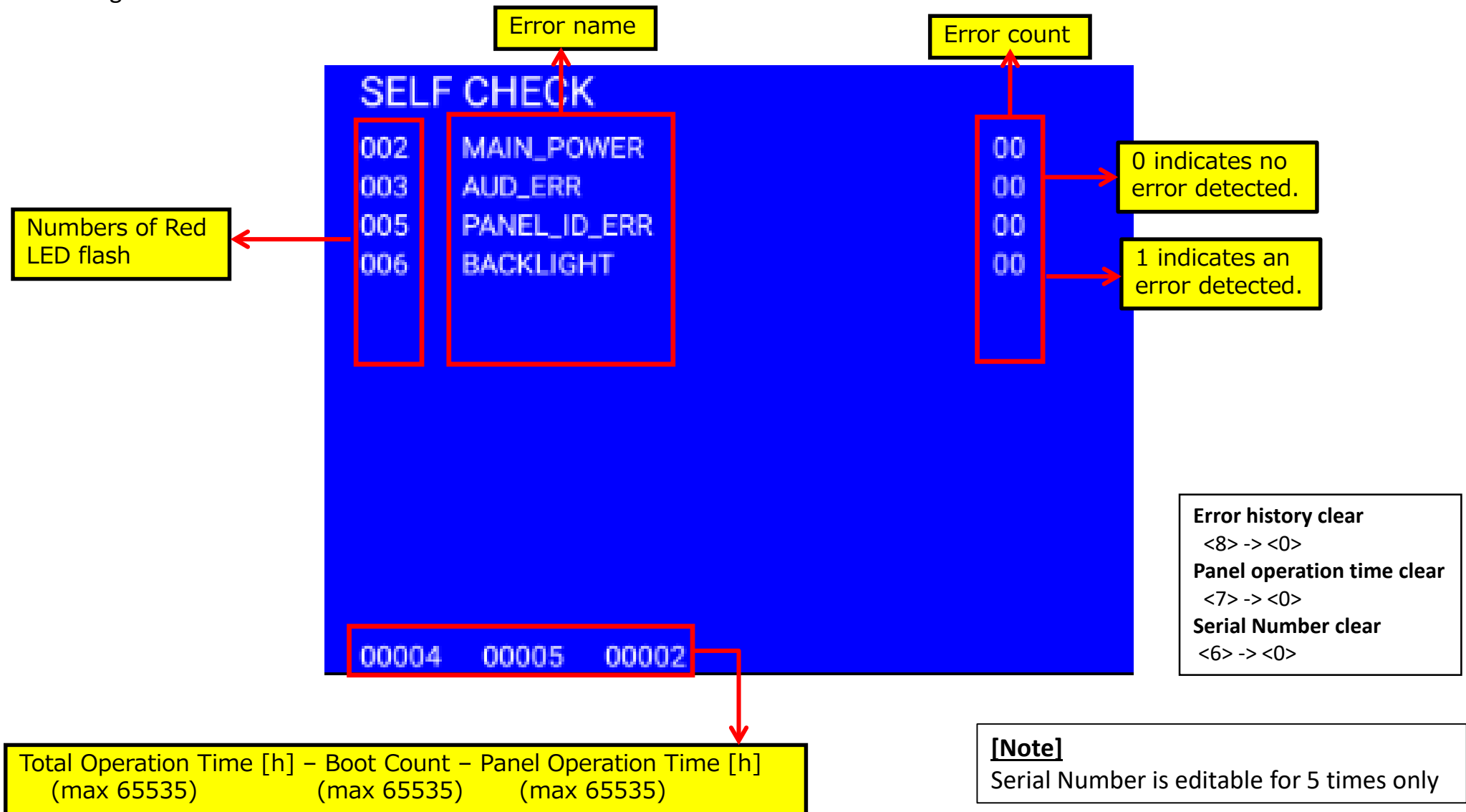
2) Press “Back” button to back to **Service Menu**.



## SECTION 4 SERVICE ADJUSTMENT

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### Self Diagnosis Menu Information



\*Total Operation Time and Panel Operation Time is recorded every 1h



## SECTION 4

### SERVICE ADJUSTMENT

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#### Failure Diagnosis by LED

Error Item	Number of RED LED flashing	Go to Standby State	Monitoring Items	Description
MAIN_POWER	2	Yes	12V_DET	Main power rail monitoring (12V) failure
AUD_ERR	3	No	X_AUDIO_MON1	Audio amp failure
PANEL_ID_ERR	5	No	Panel I2C ACK	Panel ID read failure
BACKLIGHT	6	No	BL_ERR	Backlight error

**[Note]**

Please be caution when checking failure board due to power is still supplied continuous when error is triggered.  
Please perform AC OFF/ON for trying of recovery method.

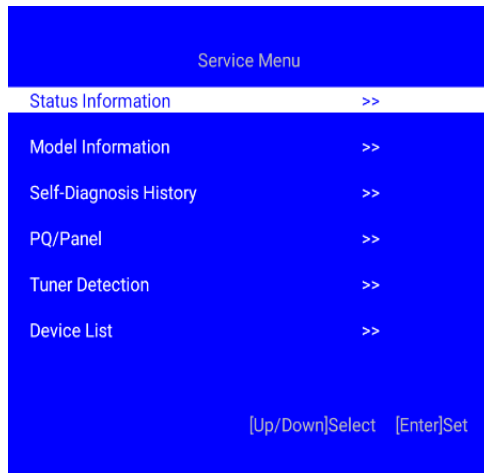
## SECTION 4 SERVICE ADJUSTMENT

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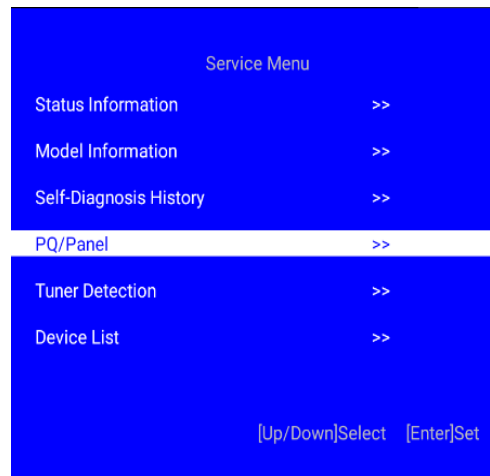
Transfer WB/MURA/CUC data TCON → Main Soc

Please apply after Main board or panel is replaced.

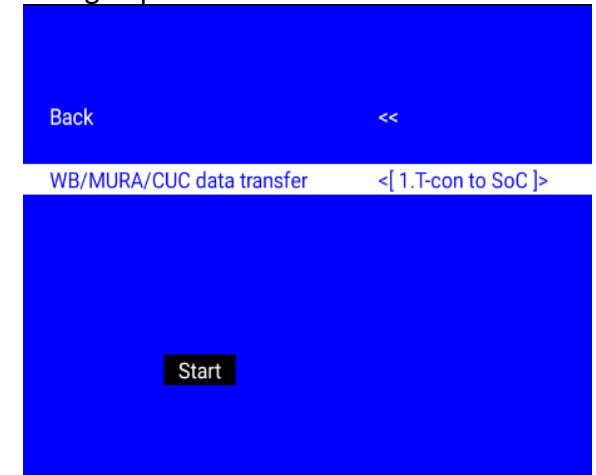
1. In service menu



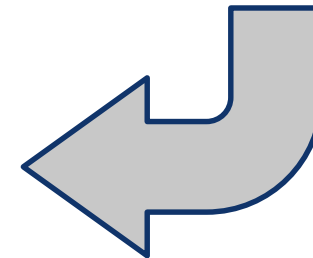
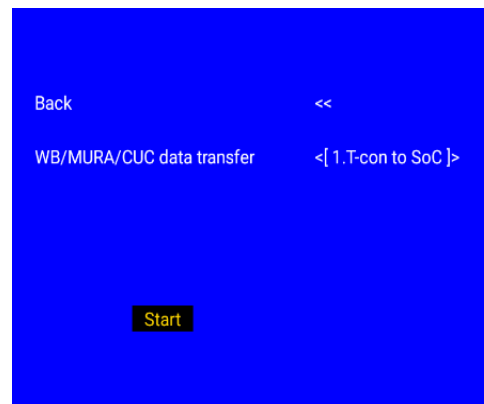
2. Select PQ/Panel >> press "enter"



3. Select WB/MURA/CUC data transfer >> change option to 1.T-con to SoC



4. Select start >> press "enter" >> wait for 5s and more, and exit service menu to Home screen



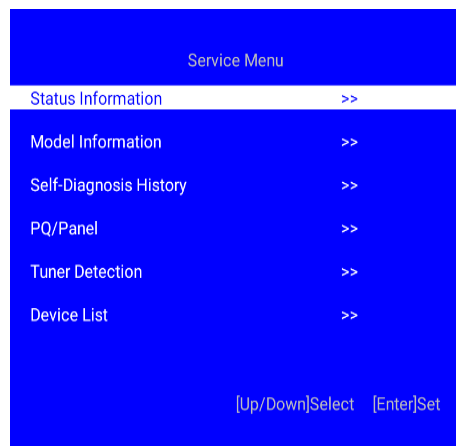
## SECTION 4 SERVICE ADJUSTMENT

**Sony CONFIDENTIAL**  
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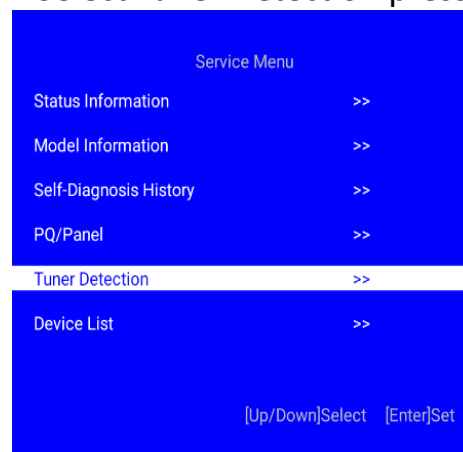
### Tuner Detection

1) Press “Enter” or “→” button to enter Tuner Detection

1. In service menu



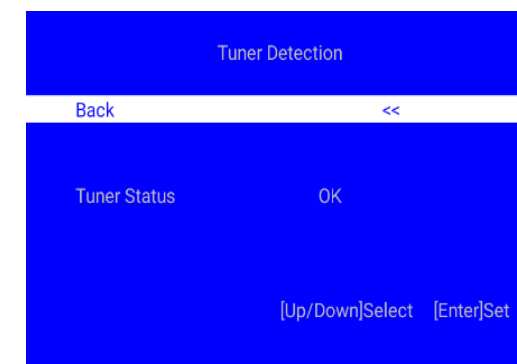
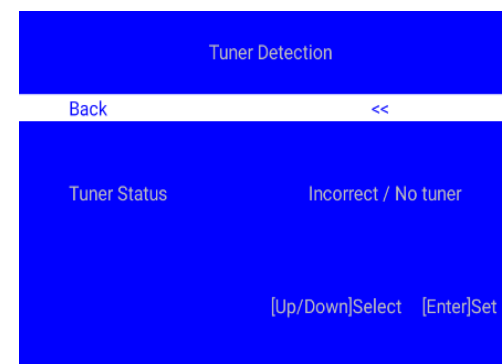
2. Select Tuner Detection press “enter” to execute Tuner Detection



3) “Tuner Status” has **2 values**. \*\*

- “Tuner Status” = **OK**. Tuner module is OK.
- “Tuner Status” = **Incorrect/No Tuner**. Tuner module is not inserted correctly/ Wrong tuner is inserted/ No tuner module inserted.

\*\*“Tuner Status” will be updated every time Tuner Detection is executed in Service Menu page



## SECTION 4

### SERVICE ADJUSTMENT

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#### Summary of Service Control

Function	Flow of Control
Service Menu ON	<Yellow> <5> <Red> <Display/i+>
Service Menu OFF	AC plug OFF
Item up/down	<↑>/ <↓>
Item select Left/Right	<←>/<→>
Execute (実行)	<ON>



## SECTION 4

### SERVICE ADJUSTMENT

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#### Appendix

Spec Code	remark
UCM	Mexico/USA/Puerto Rico/Canada/SOLA_MD_Jamaica/Dominican/Barbados/Saint Martin/Aruba/Trinidad and Toba/Belize/Guyana/Saint Licia/ Saint Vincent/ Saint Kitts & Nevis/Antigua and Barbu/Haiti/Bahamas/Montserrat
UC2	Same as UCM except Mexico
AF1	Africa
SP1	Singapore
IA2	Indonesia
MY1	Malaysia
TH8	Thailand
VN3	Vietnam
PL1	Philippines
IN5	India
UKA	UK/Ireland
E33	Egypt
E41	Bangladesh (Kit Model)
E91	South Africa

#### Note:

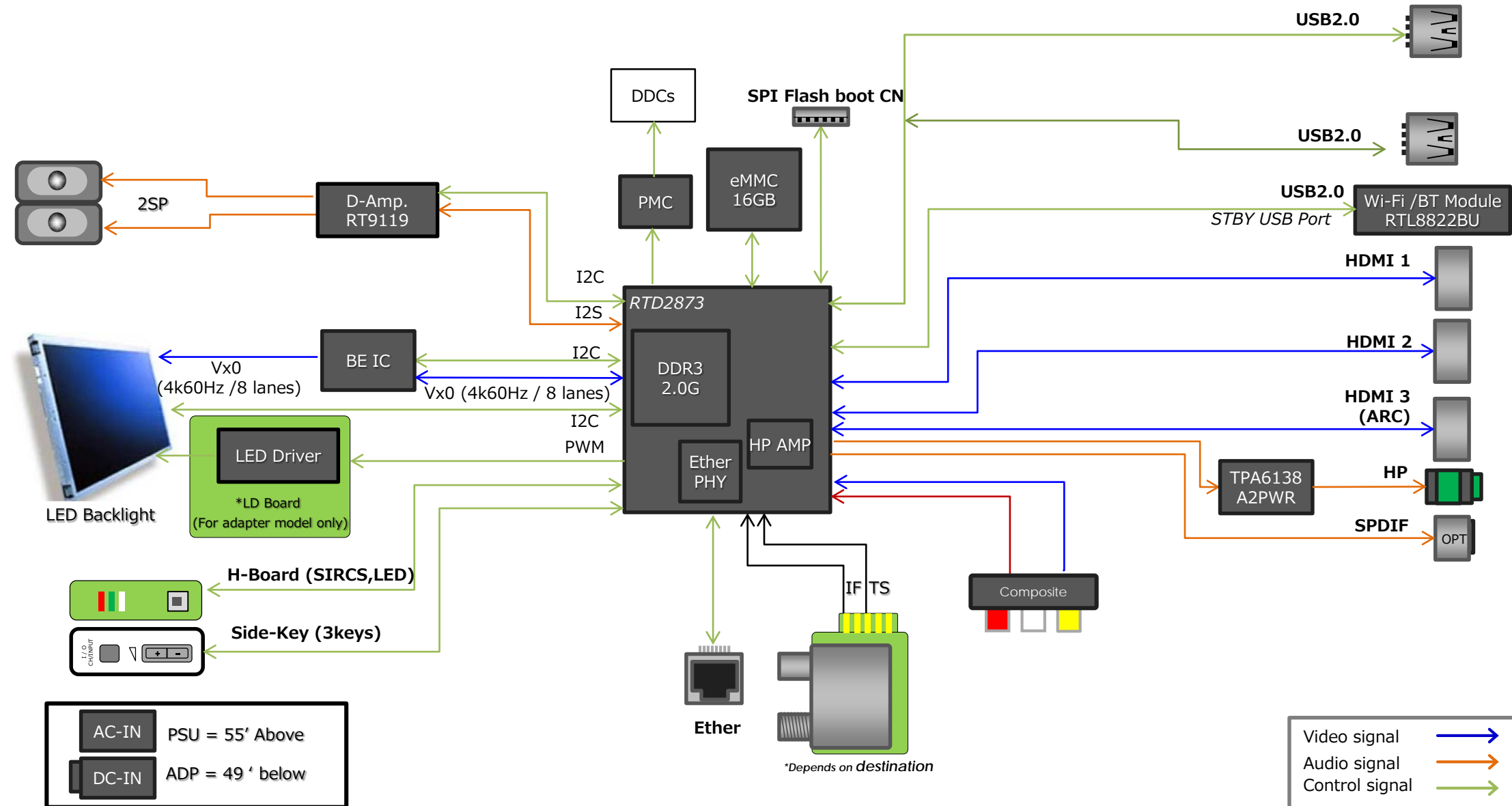
Once finish the operation in Service Mode, please perform AC plug OFF/ON the TV set.

p/s: If AC plug OFF/ON is not performed, Service Mode Apps will be remain & user able to see the Service Mode after RC ON.

# SECTION 5 DIAGRAMS

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## FY20\_4K System Block Diagram



## SECTION 6 PANEL HANDLING

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### 1. Unpacking

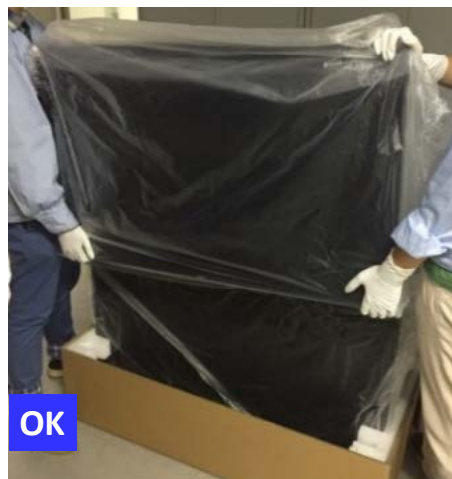
#### Caution:

Does not apply when vacuum handling jig is used.

#### 1. Take out panel from carton box by 2 operators.



#### 2. Take out panel vertically from carton box. And do not hit other panel.



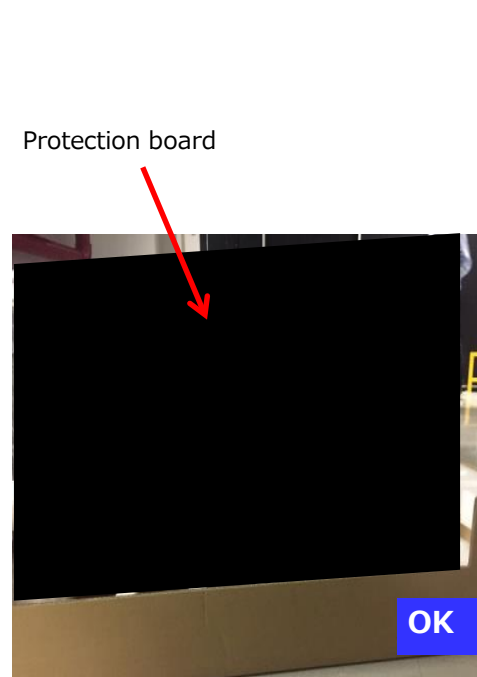
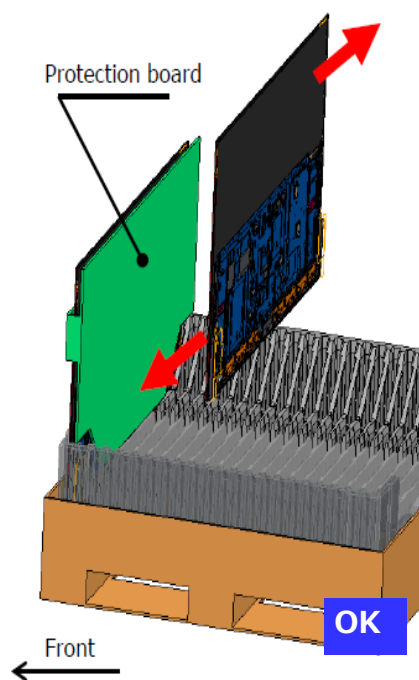
## SECTION 6 PANEL HANDLING

Sony CONFIDENTIAL  
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**Caution:**  
Does not apply when vacuum handling jig is used.

3. Please make protection for remaining modules to avoid abnormal hitting when take out modules.

Example:



Front view



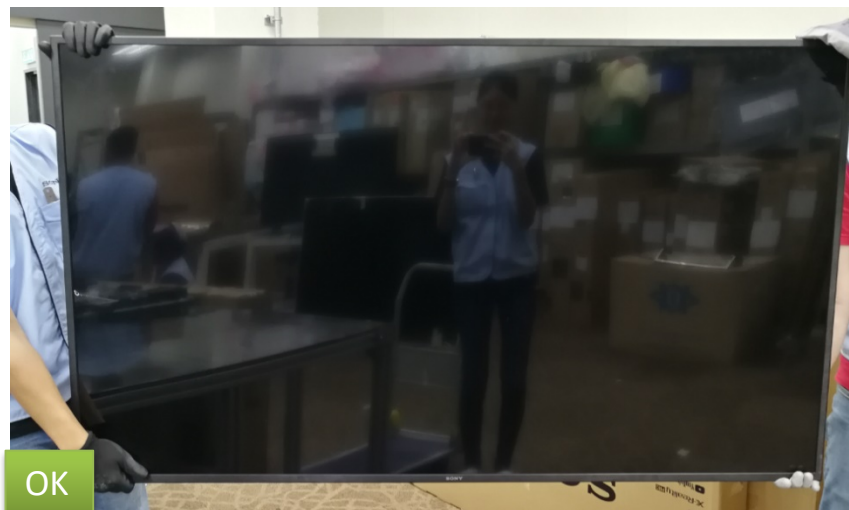
Side view



# SECTION 6 PANEL HANDLING

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## 1. Panel Handling Guide



Always have gloves on during P-mod handling



Holding edge of BZ  
without touching o-cell



Hand pressing o-cell



Support set at edge of BZ  
without touching o-cell



Hand pressing o-cell

## SECTION 6 PANEL HANDLING

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### 1. Panel Handling Guide



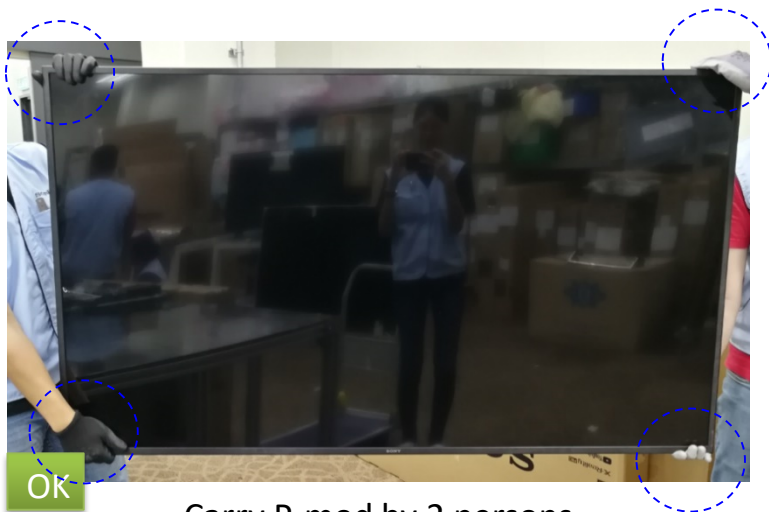
OK

Carry P-mod by vertical position



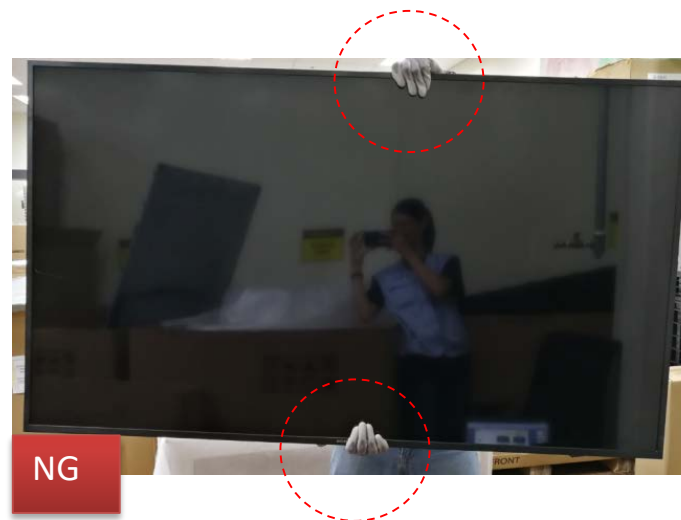
NG

Carry P-mod by horizontal position



OK

Carry P-mod by 2 persons



NG

## SECTION 6 PANEL HANDLING

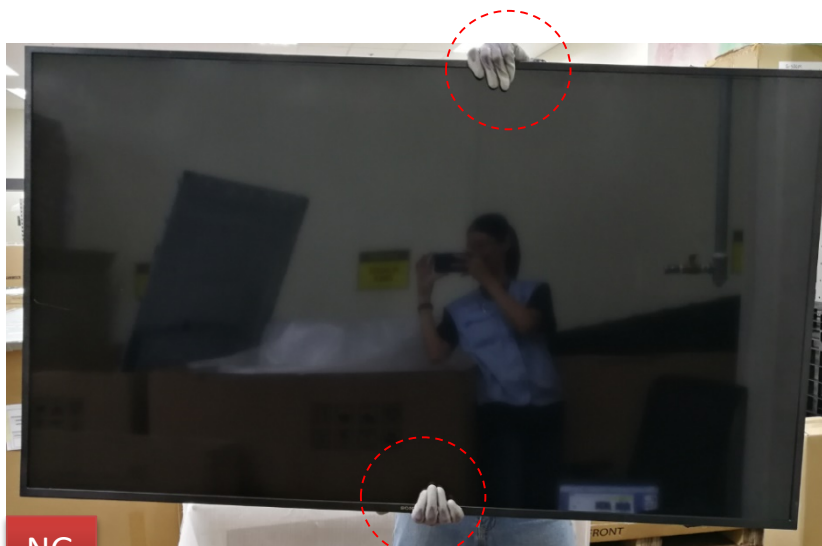
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### 1. Panel Handling Guide



OK

Carry P-mod by corners



NG

Carry P-mod at center area



OK

Resting P-mod by 2 person



NG

Resting P-mod by 1 person

## SECTION 6 PANEL HANDLING

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### 1. Panel Handling Guide



Handle P-mod without gloves on



Press on P-mod during assy & disassy

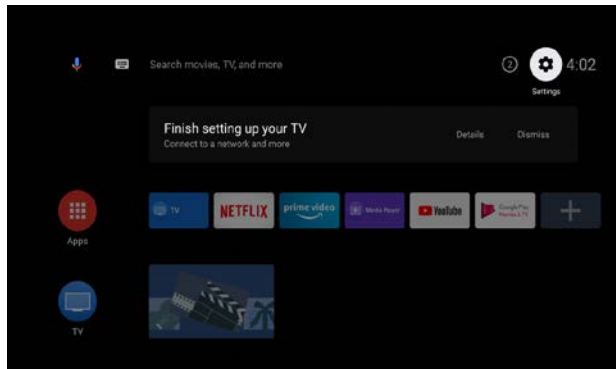


## SECTION 7

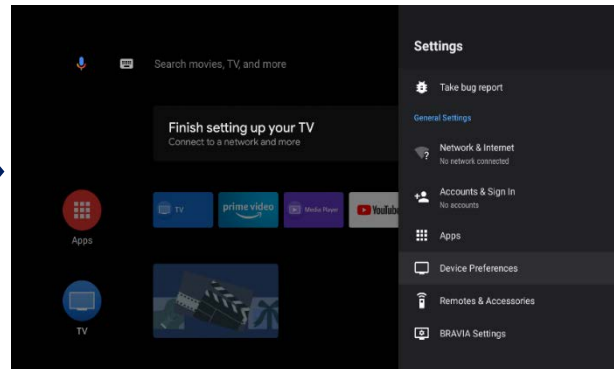
# FACTORY DATA RESET

How to do Factory Data Reset – with UI method (SW v60020 and below)

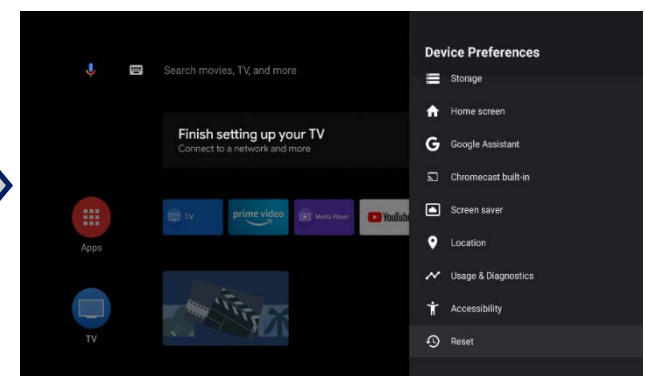
1) At Home Menu, go to Settings



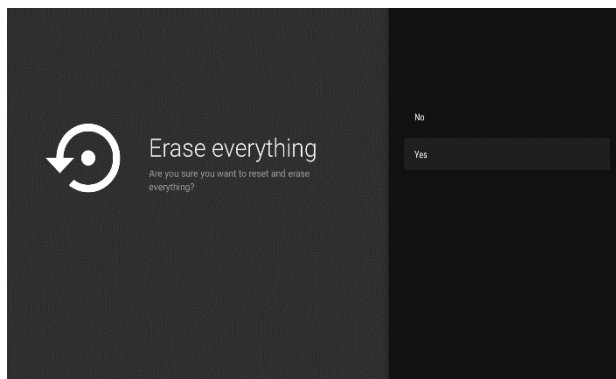
2) Select Device Preferences



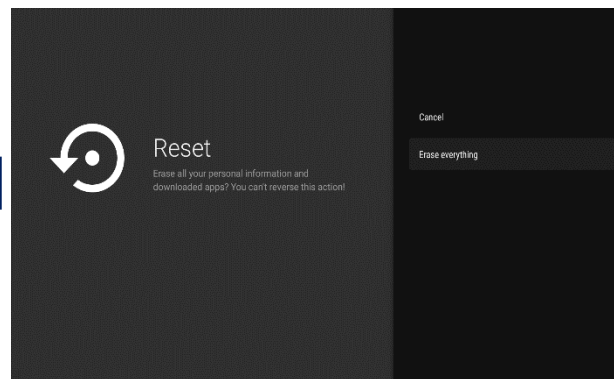
3) In Device Preferences select Reset



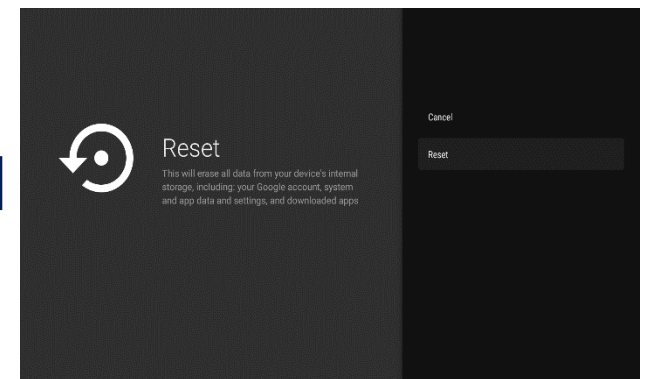
6) Select Yes



5) Select Erase everything



4) Select Reset



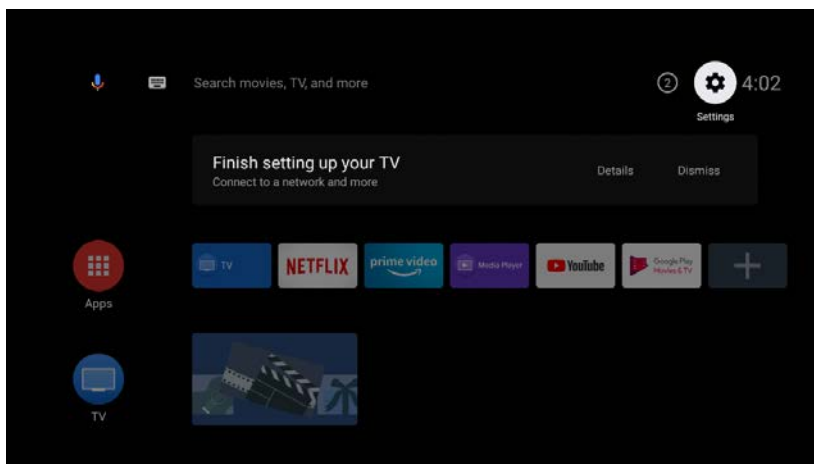
# SECTION 7

## FACTORY DATA RESET

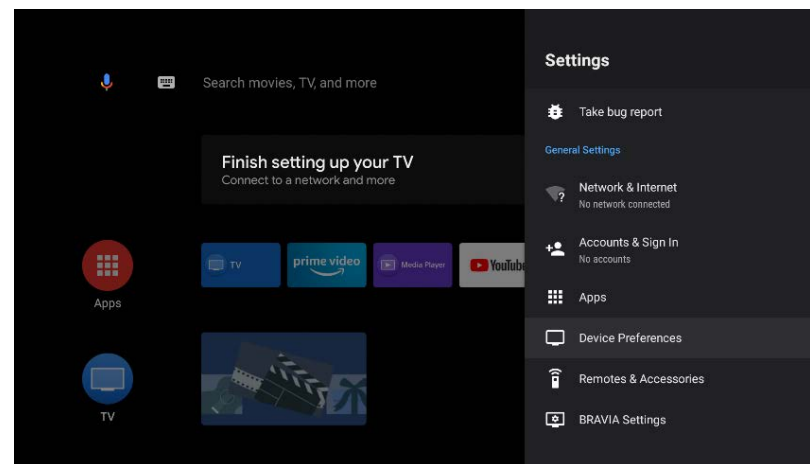
**Sony CONFIDENTIAL**  
For Authorized Servicer

How to do Factory Data Reset – with UI method (SW v60101 and above)

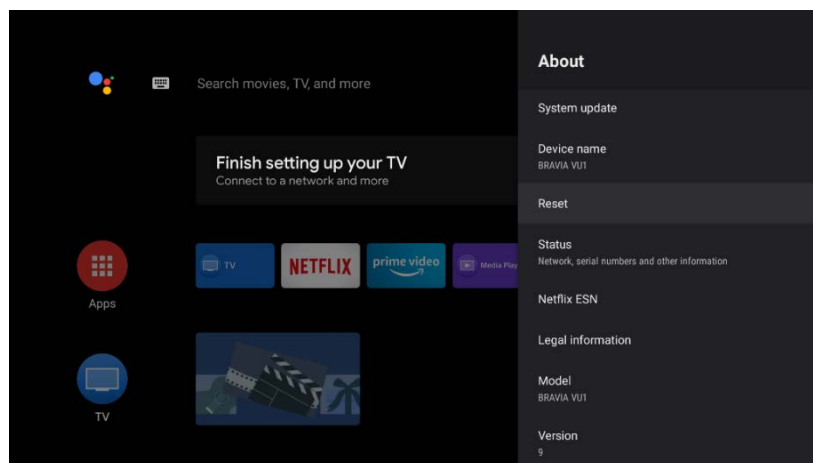
1) At Home Menu, go to Settings



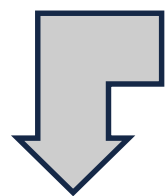
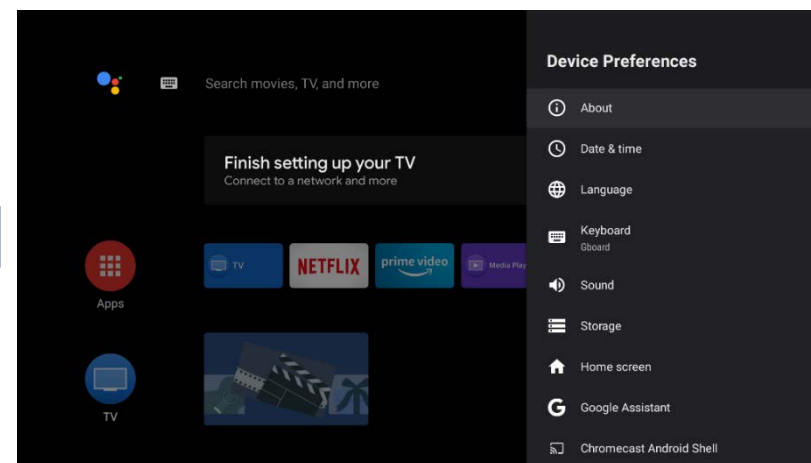
2) Select Device Preferences



4) In About, select Reset



3) In Device Preferences, select About



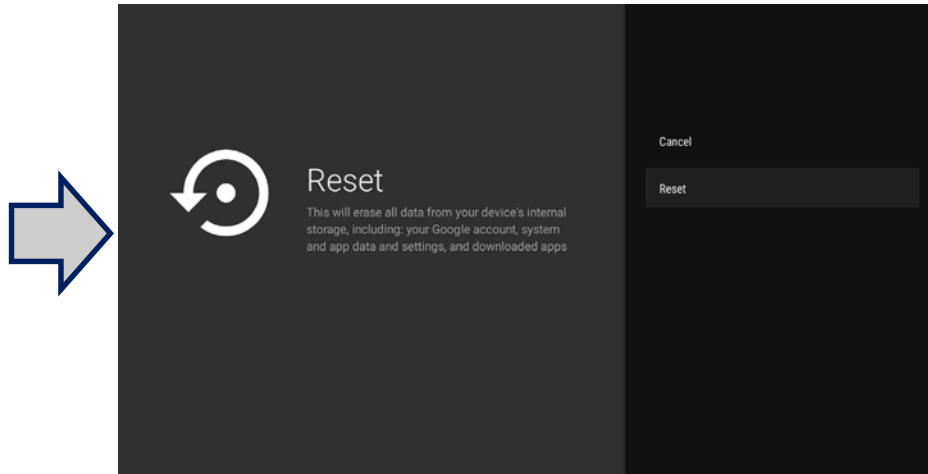
Go to  
Next slide

## SECTION 7 FACTORY DATA RESET

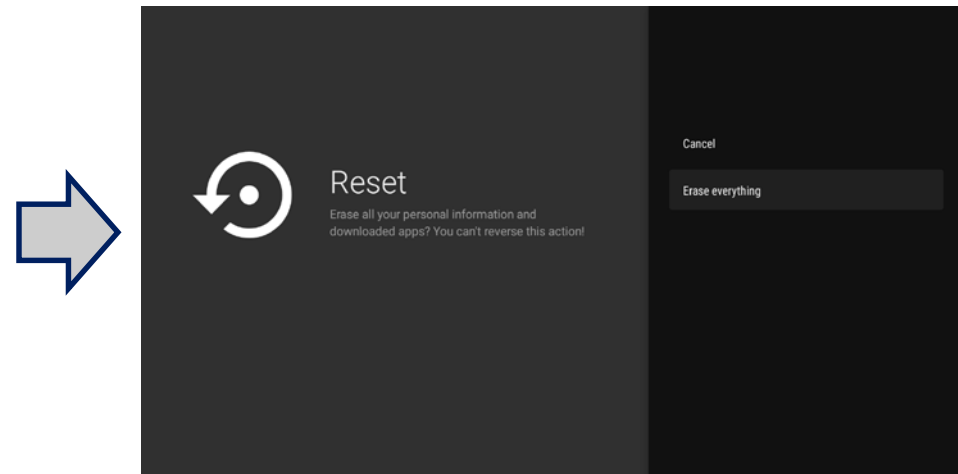
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How to do Factory Data Reset – with UI method (SW v60101 and above)

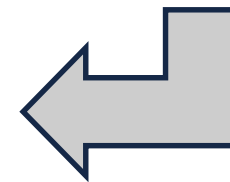
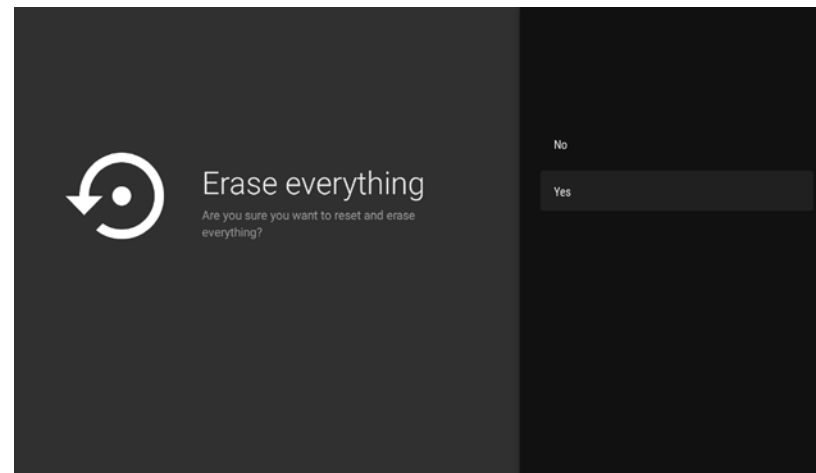
5) Select Reset



6) Select Erase everything



7) Select Yes



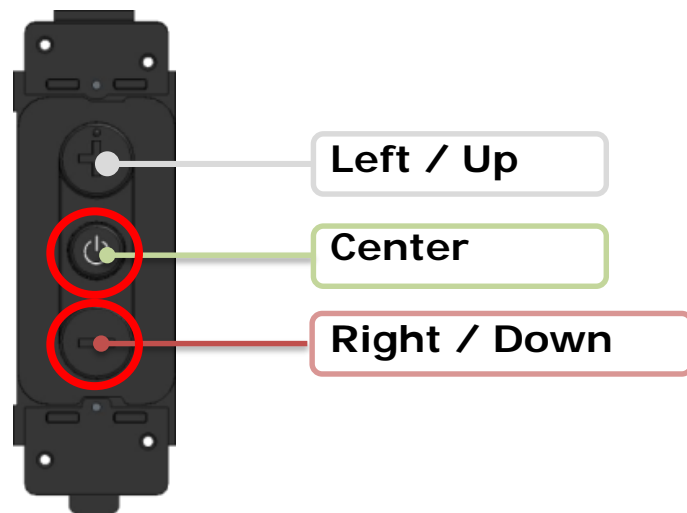
## SECTION 7

### FACTORY DATA RESET

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How to do Factory Data Reset – force method (without UI)

1. Press “Center” key + “Right / Down” key



2. AC on (while holding “Center” & “Right / Down” keys until Amber LED lit up)

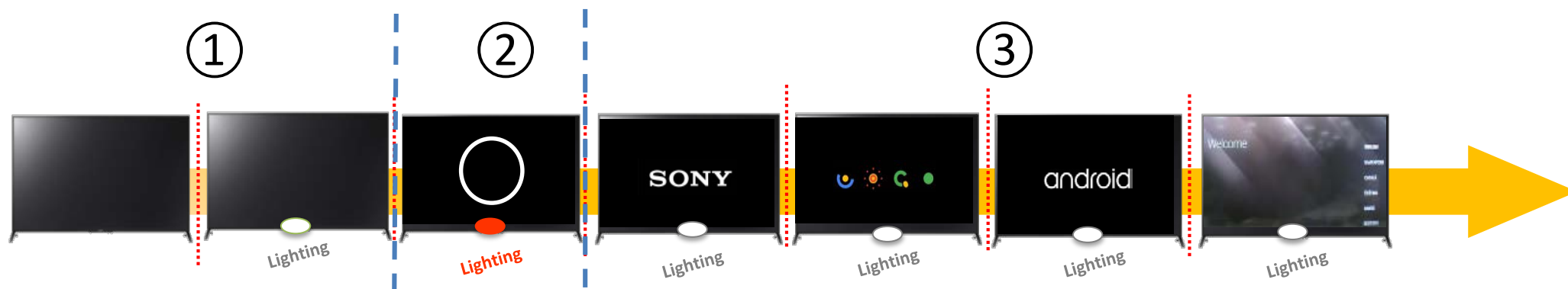


## SECTION 7

### FACTORY DATA RESET

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TV behavior during Factory Data Reset operation



- ① TV reboot with White LED
- ② Factory Reset logo with Amber LED blinking
- ③ TV Reboot with OOB condition

