HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

SERVICE MANUAL (COMMON)

GN4TR CHASSIS

Segment : CHML

ORIGINAL MANUAL ISSUE DATE: 08/2018

Version	Date	Subject
1	08/2018	1st Issue

LCD TV

SONY

9-888-757-01

For SM - Unique , please refer :

9-888-757-A1 (America)

9-888-757-C1(China)

9-888-757-E1 (Europe)

9-888-757-P1 (Asia)

SERVICE MANUAL (COMMON)

GN4TR CHASSIS

Segment : CHML

LCD TV

SONY

MODEL LIST

Self Diagnosis Supported model

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

REGION

ASIA AMERICA EUROPE CHINA

MODEL

KD-75X7800F

KD-75X780F

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Please refer Service Manual – Unique for below information :

-Disassembly and Removal Caution

-Wire Dressing

-Circuit Board Location

-Exploded Views and Parts List

Note: Pictures provided in this Service Manual might have slight difference from the actual sets.

SECTION 1
SAFETY NOTES

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 Main board 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)

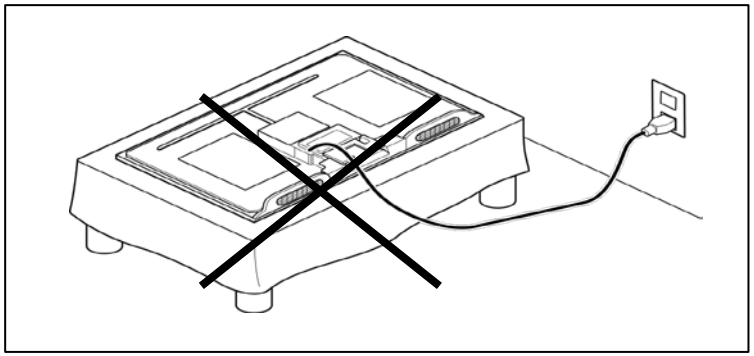
7) Always clean the LCD panel with a soft cloth material.

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).

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.

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 ºC and 40 ºC.

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 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.

1-4. 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.

1-5.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 =√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

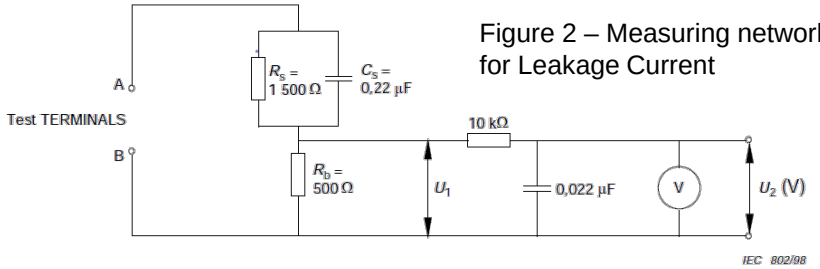


Figure 2 – Measuring network for Leakage Current

1-6. 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).

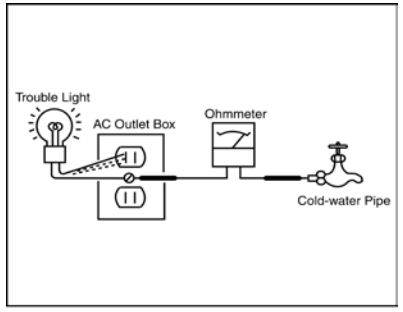


Figure 3. Checking for earth ground.

1-7. 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

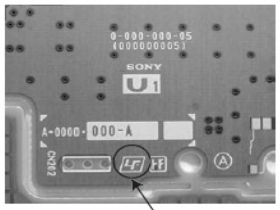


Figure 5: LF logo on circuit board

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.

SECTION 2
SELF DIAGNOSTIC FUNCTION

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 .

Self Diag. Quick Reference (LED blinking)

Smart Core RED LED blinking count	CHML
2x	<B/G/A/LD> Main 12V over voltage [MAIN_POWER]
3x	<B> Main 5.0V failure [DC_ALERT]
	<B/S> Audio amp. protection [AUD_ERR]
5x	<P/T/G/B/LD> *Panel ID EEPROM I2C No ACK (Also panel power failure is a suspect) [P_ID_ERR]*
6x	<G/P/B/LD> Backlight failure [BACKLIGHT]
7x	<B>Over temperature protection [TEMP_ERR] Temp. sensor I2C No ACK [TEMP_ERR]
8x	<B> 4KPQ WDT [4KPQ Error] *BOOTUP_NOTE low*

Blue italic: detect at startup sequence only.
<G>: Power supply board,
<B>: Main board,
<T>: T-con board,
<LD>: LD board (if AC adapter model, it would power supply for Set),
<P>: Panel module,
<S>: Speaker,
<A>: Power Adapter,
<Tu>: Tuner board,
<K> : Audio board

Self Diag. Quick Reference (Not LED blinking [Record Only])

Error Item (Not LED blinking [Record Only])	CHML
TU_DEMOD	<B/Tu> Tuner & Demodulator I2C communication failure Tuner board set detect signal monitoring
TCON ERR	<B/T> *T-CON device I2C communication failure*
FRCTC_I2C	<B> *FRC device is not finished Initial sequence* FRC device I2C communication failure
AUD_ERR_I2C	<B> Audio amp I2C communication failure
4KPQ_ERR_I2C	<B> 4KPQ device I2C communication failure

Blue italic: detect at startup sequence only.
<G>: Power supply board,
<B>: Main board,
<T>: T-con board,
<TE>: Temp Sensor board,
<LD>: LD board (if AC adapter model, it would power supply for Set),
<P>: Panel module,
<S>: Speaker,
<A>: Power Adapter,
<Tu>: Tuner board,
<K>: Audio Board

Self Diagnosis Service Menu and Display

Entry (Self Diagnosis Display)
- Go to the standby by a remote.
- Push the buttons sequentially:
  <Display><5><Vol-><Power>

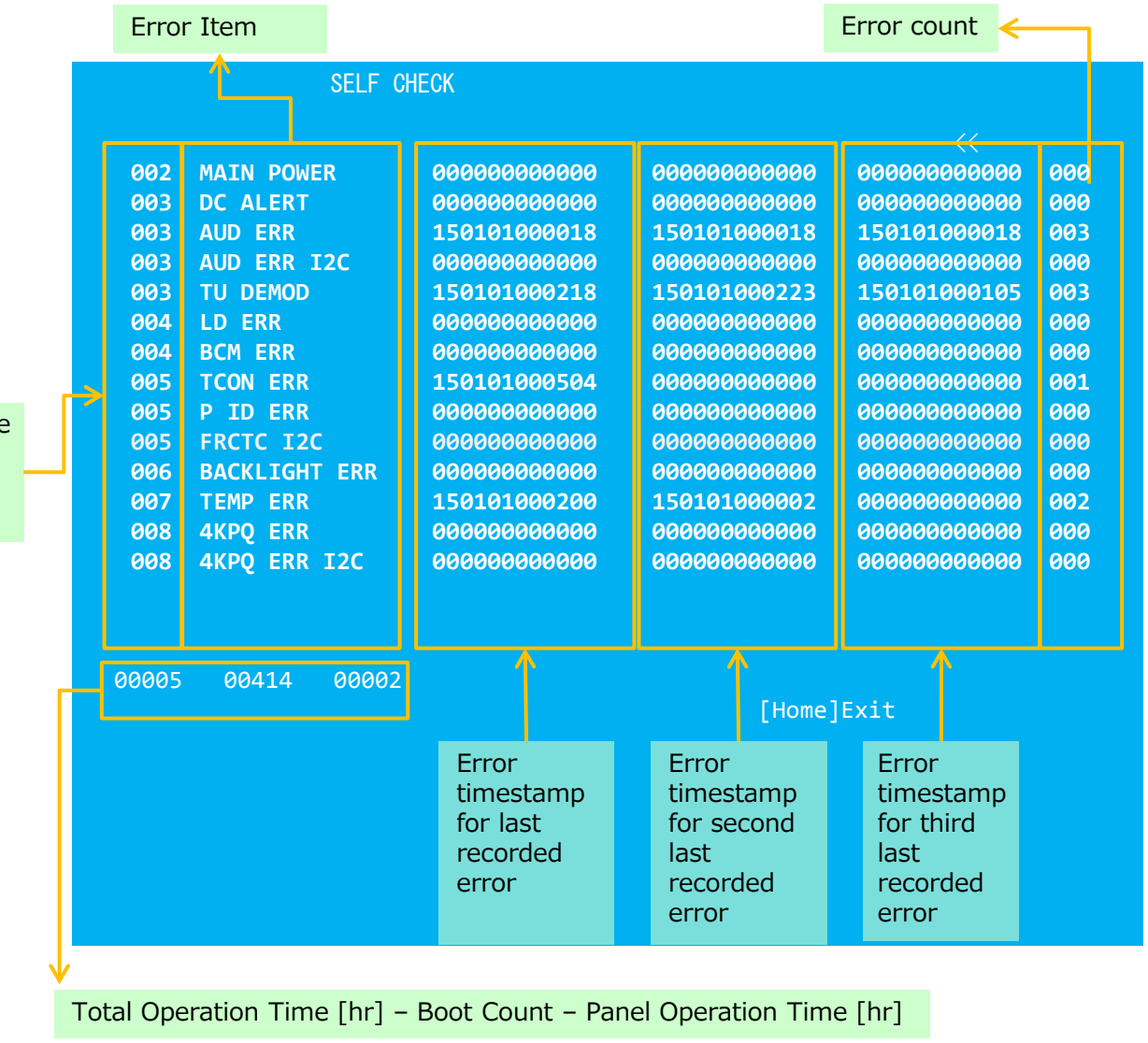
Exit
-If you want to finish service mode app, do **AC OFF/ON**
  → *Service mode app is disable perfectly
-if you want to move home menu, push <HOME>button
  → *Service mode app do background
  (not disable perfectly)

Format of error timestamps
YYMMDDhhmmss (in UTC)
Example:
120823132523 -> Aug 23 2012 13:25:23 UTC
* Only when time is set, an error timestamp is saved.

Panel Operation Time clear
<7> -> <0>

Timestamps and Error Count clear
<8> -> <0>

Total Operation Time and Boot Count clear
<9> -> <0>



•Panel Operation Time is recorded every 30 min, but Total Operation Time is recorded every 1 hr.
Therefore, the panel op. time might become larger than the total op. time.

SECTION 3
TROUBLESHOOTING

Triage Chart

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 Colour Code

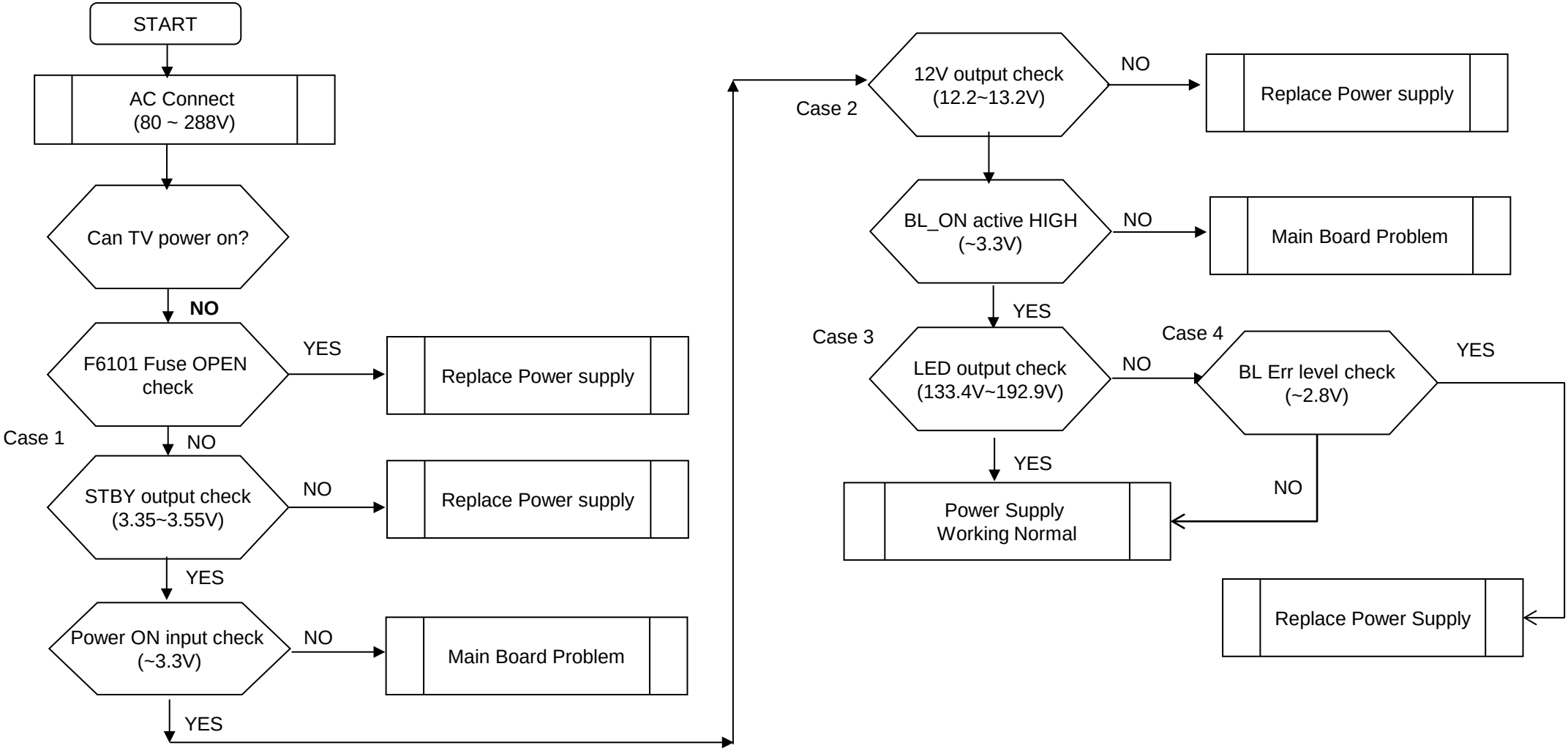
RED DOT: Most likely defective part

BLUE TRIANGLE: Secondary possible defective part

BLACK TEXT: Board that may correct the symptom

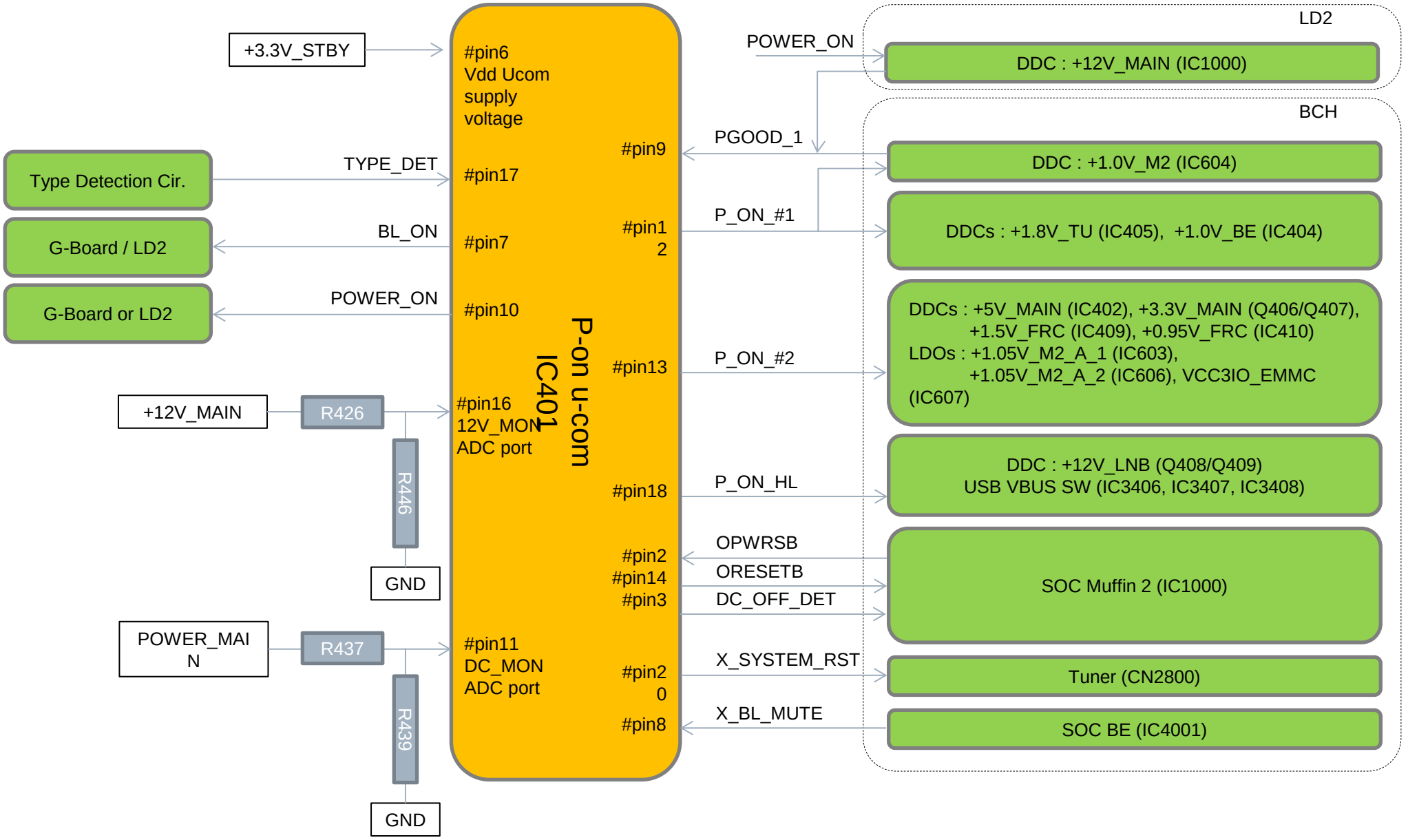
Reference	Symptoms - Shutdown. Power LED blinking red diagnostics sequences							Symptoms - no shutdown Error log record only					No Power	Video - missing or distorted				Remote	Network	Audio	Smart Core	Bluetooth (BT)
	2	3	4	5	6	7	8	TU_DEMOD	TCON_ERR	FRCT C_I2C	AUD_ERR_I2C	4KPQ_ERR_I2C	No White Power LED & does not reponse to remote (Dead Set)	Stationary colored lines or dots	No video One of Inputs	NO RF input	No video all Inputs	No Remote	Wireless can't connect	No Audio	Smart Core no LED (Set is still alive)	Bluetooth / Voice Remote can't connect
B* Board	▲	●		▲	▲	●	●	▲	▲	●	●	●	▲	▲	●	●	●	▲	▲	●	▲	▲
G* Board	●	▲		▲	●								●							▲		
H* Board													▲					●			●	
Speaker		▲																		●		
Tuner board								●							▲	●						
Wifi & BT Module																			●			●
V By One FFC				▲					▲					▲			▲					
Tcon				●					●					▲			▲					
LCD Panel				▲	●	▲								●			▲					
Problem	Power	Power Audio	LD BCM	Panel (Communication)	Panel (Backlight)	TEMP	4KPQ															

1.0 No Power

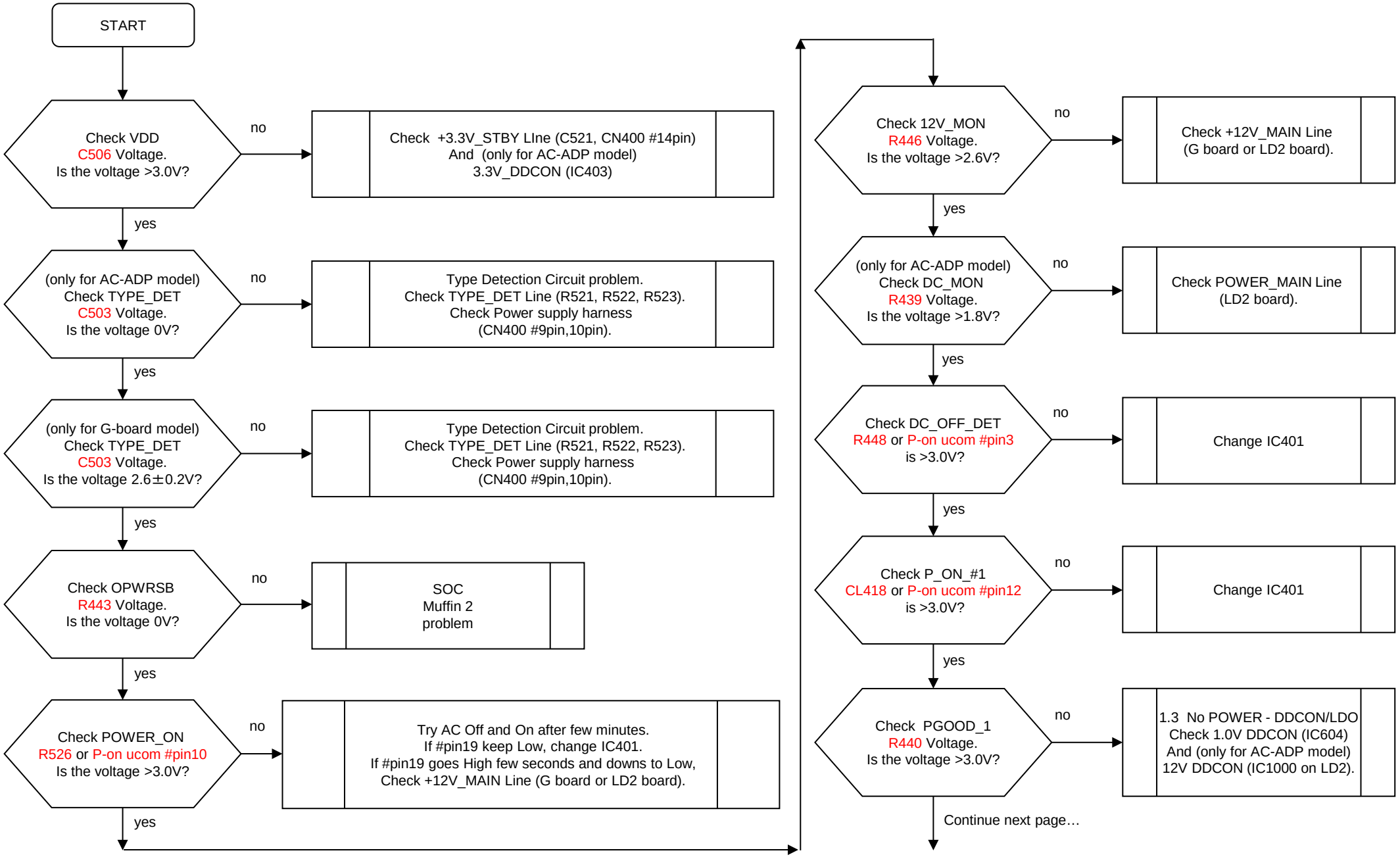

START
AC Connect
(80 ~ 288V)
Can TV power on?
NO
F6101 Fuse OPEN check
YES
Replace Power supply
Case 1
NO
STBY output check
(3.35~3.55V)
NO
Replace Power supply
YES
Power ON input check
(~3.3V)
NO
Main Board Problem
YES
Case 2
12V output check
(12.2~13.2V)
NO
Replace Power supply
BL_ON active HIGH
(~3.3V)
NO
Main Board Problem
YES
Case 3
LED output check
(133.4V~192.9V)
NO
Case 4
BL Err level check
(~2.8V)
YES
YES
NO
Power Supply
Working Normal
Replace Power Supply

1.2 No Power u-com Failure

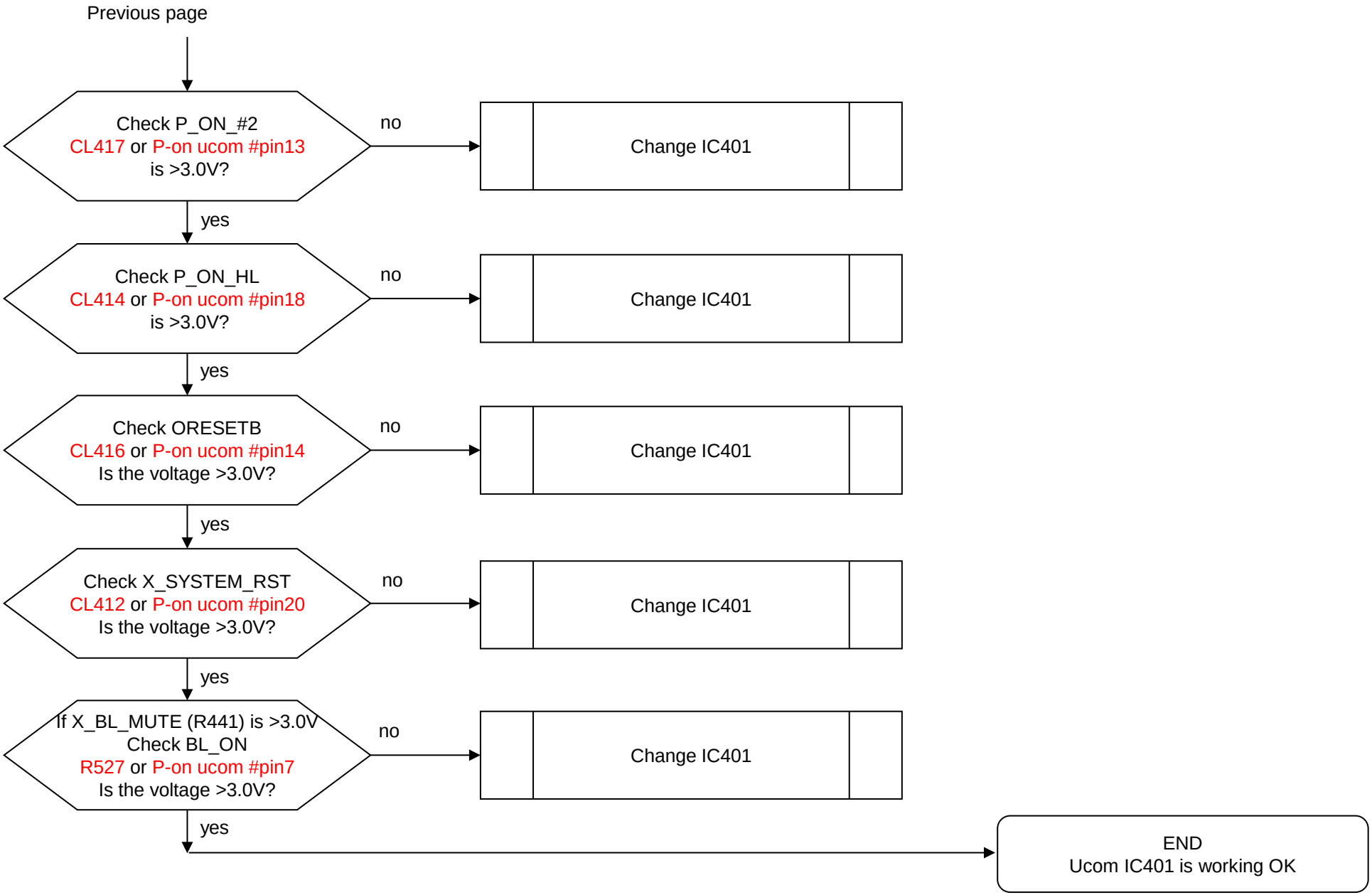
P-on u-com control signal path summary



1.2 No Power u-com Failure



1.2 No Power u-com Failure



1.3 No Power - DDCON/LDO

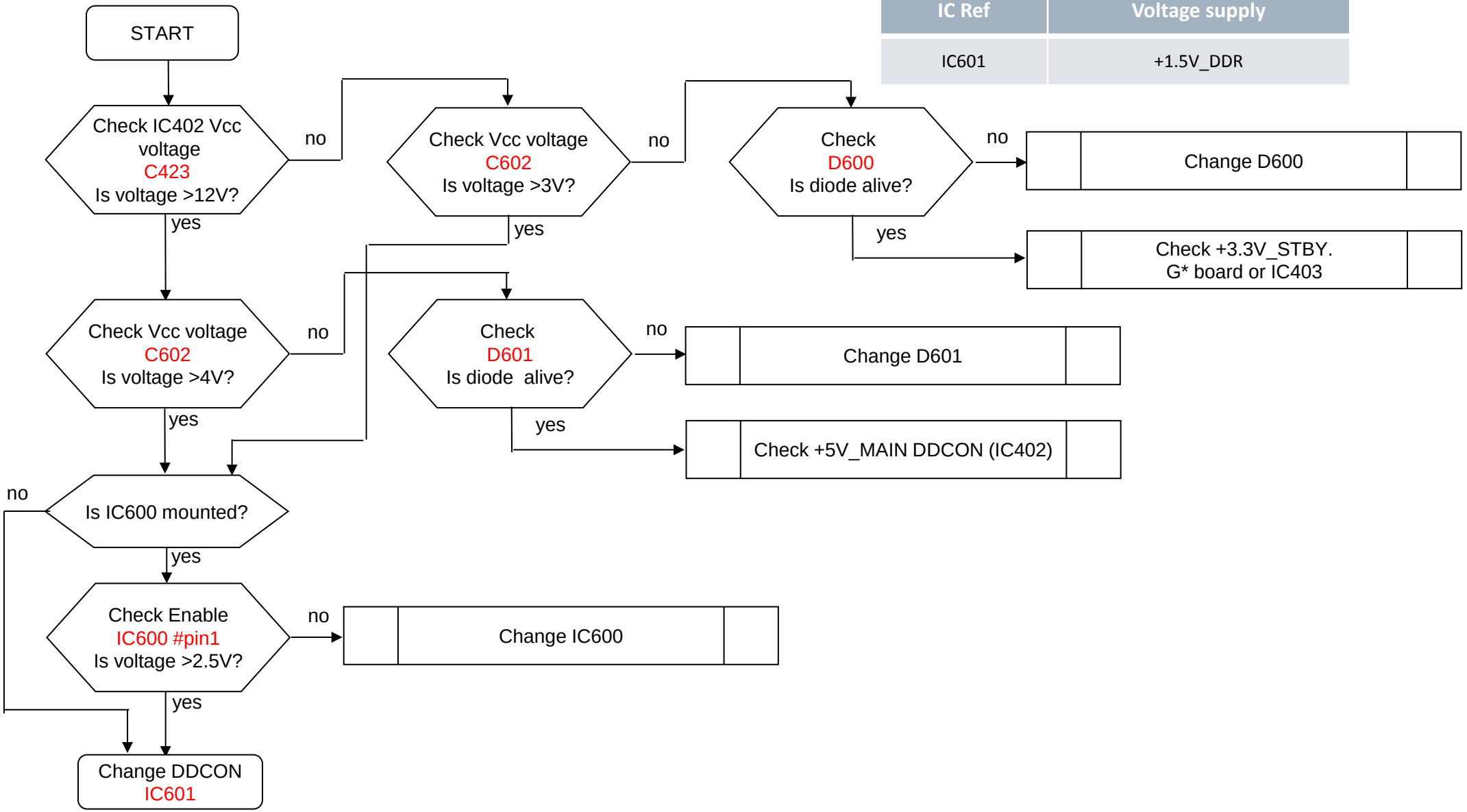
Check item summary

Board	IC Ref	Voltage supply	Output ref.	Enable pin	Enable source	Fuse	Vcc ref.
LD2		+12V_MAIN (AC-ADP only)			P-on ucom IC401 #pin10		
BCH	IC402	+5.0V_VBUS/+5V_MAIN	C430	R455	P-on ucom IC401 #pin13	F400	C423
BCH	IC403	+3.3V_STBY (AC-ADP only) /+3.3V_MAIN	C445	R467	R464 (POWER_MAIN)	F401	C436
BCH	Q407	+3.3V_MAIN		Q406	P-on ucom IC401 #pin13		C445
BCH	IC405	+1.8V_TU/+1.8V_BE	C463	IC405 #PIN5	P-on ucom IC401 #pin12	F403	C461
BCH	IC404	+1.0V_BE	C456	R480(No M't)	P-on ucom IC401 #pin12	F402	C454
BCH	IC409	+1.5V_FRC	C478	IC409 #PIN5	P-on ucom IC401 #pin13	F404	C476
BCH	IC410	+0.95V_FRC	C493	R506	P-on ucom IC401 #pin13	F405	C485
BCH	IC601	+1.5V_DDR	C609	C605	R603 (3.3V or 5V)	-	C602
BCH	IC602	+1.05V_M2_STBY	C611	IC602 #PIN3	C610 (+3.3V _STBY)	-	C610
BCH	IC603	+1.05V_M2_A_1	C613	IC603 #PIN3	P-on ucom IC401 #pin13	-	C612
BCH	IC604	+1.0V_M2	C625	R623	P-on ucom IC401 #pin12	F600	C618
BCH	IC605	+1.05V_M2_ST_ET	C631	IC605 #PIN3	M2 IC1000 #AP34	-	C630
BCH	IC606	+1.05V_M2_A_2	C633	IC606 #PIN3	P-on ucom IC401 #pin13	-	C632
BCH	IC607	VCC3IO_EMMC (1.8V)	C635	IC607 #PIN3	P-on ucom IC401 #pin13	-	C634

1.3 No Power - DDCON/LDO

DDCON check

IC Ref	Voltage supply
IC601	+1.5V_DDR

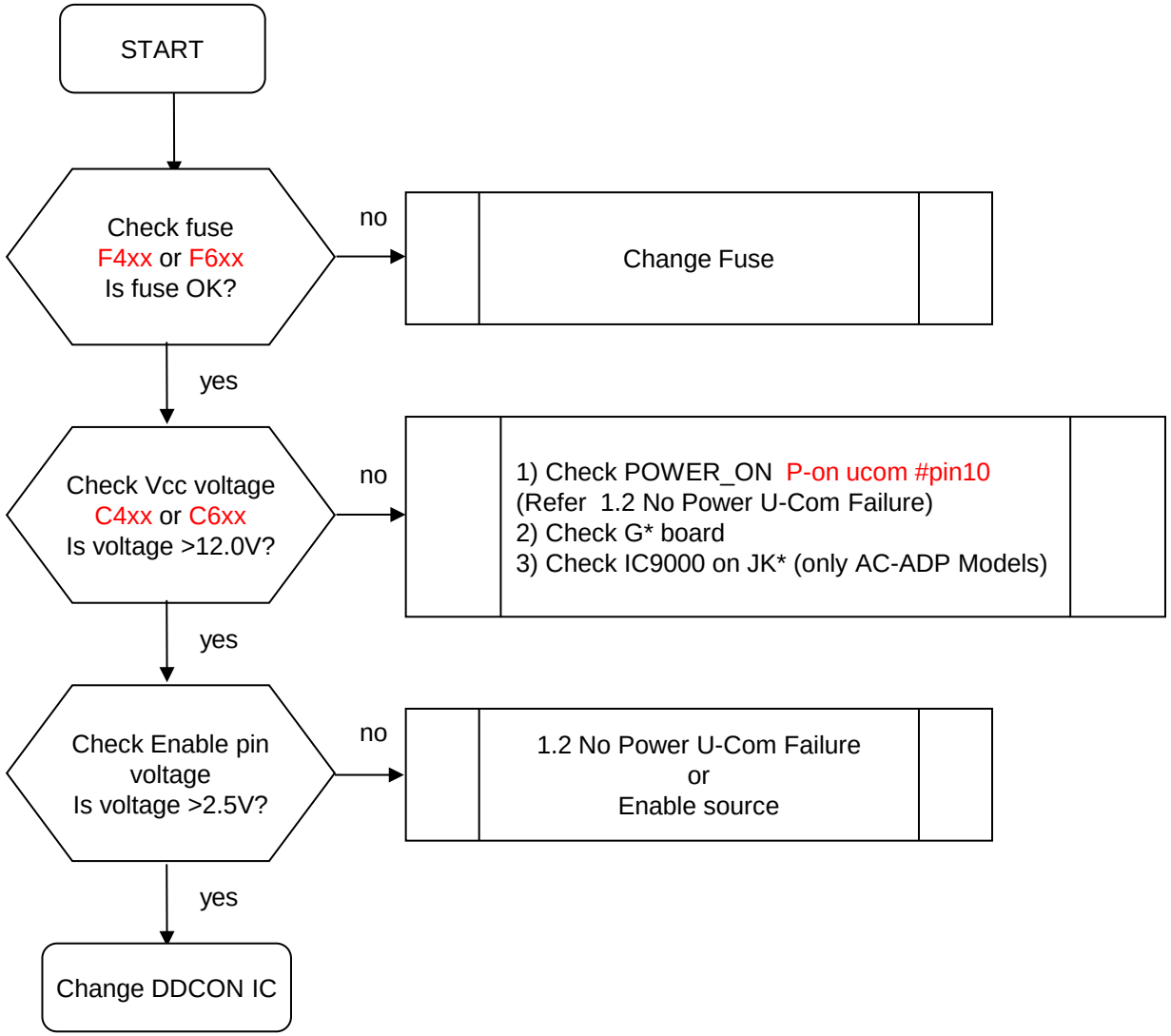


1.3 No Power DDCON/LDO

DDCONs check

IC Ref	Voltage supply
IC402	+5.0V_VBUS/+5V_MAIN
IC403	+3.3V_STBY (AC-ADP only) /+3.3V_MAIN
IC405	+1.8V_TU/+1.8V_BE
IC404	+1.0V_BE
IC409	+1.5V_FRC
IC410	+0.95V_FRC
IC604	+1.0V_M2

Please refer page-18 (if necessary)

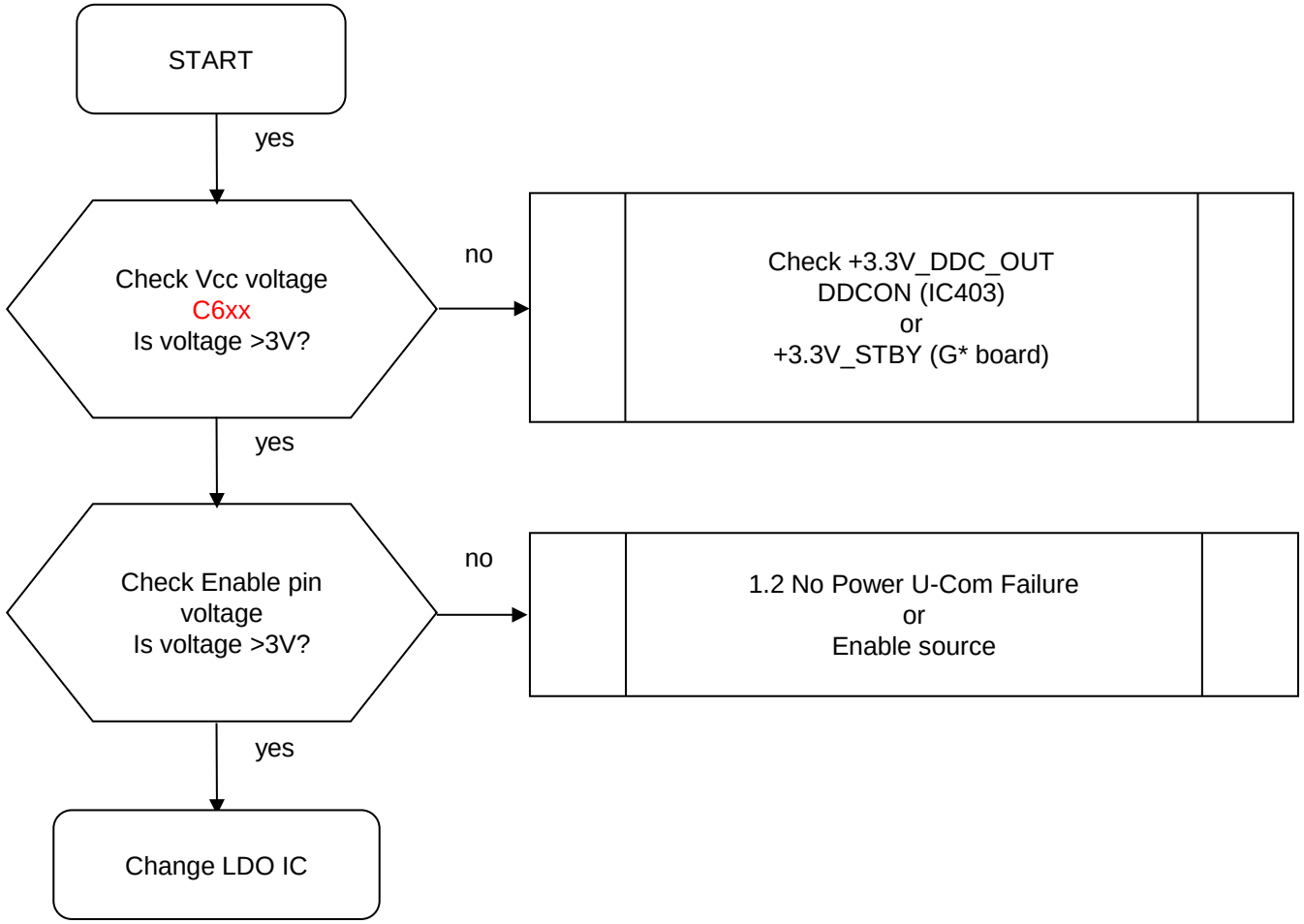


1.3 No Power DDCON/LDO

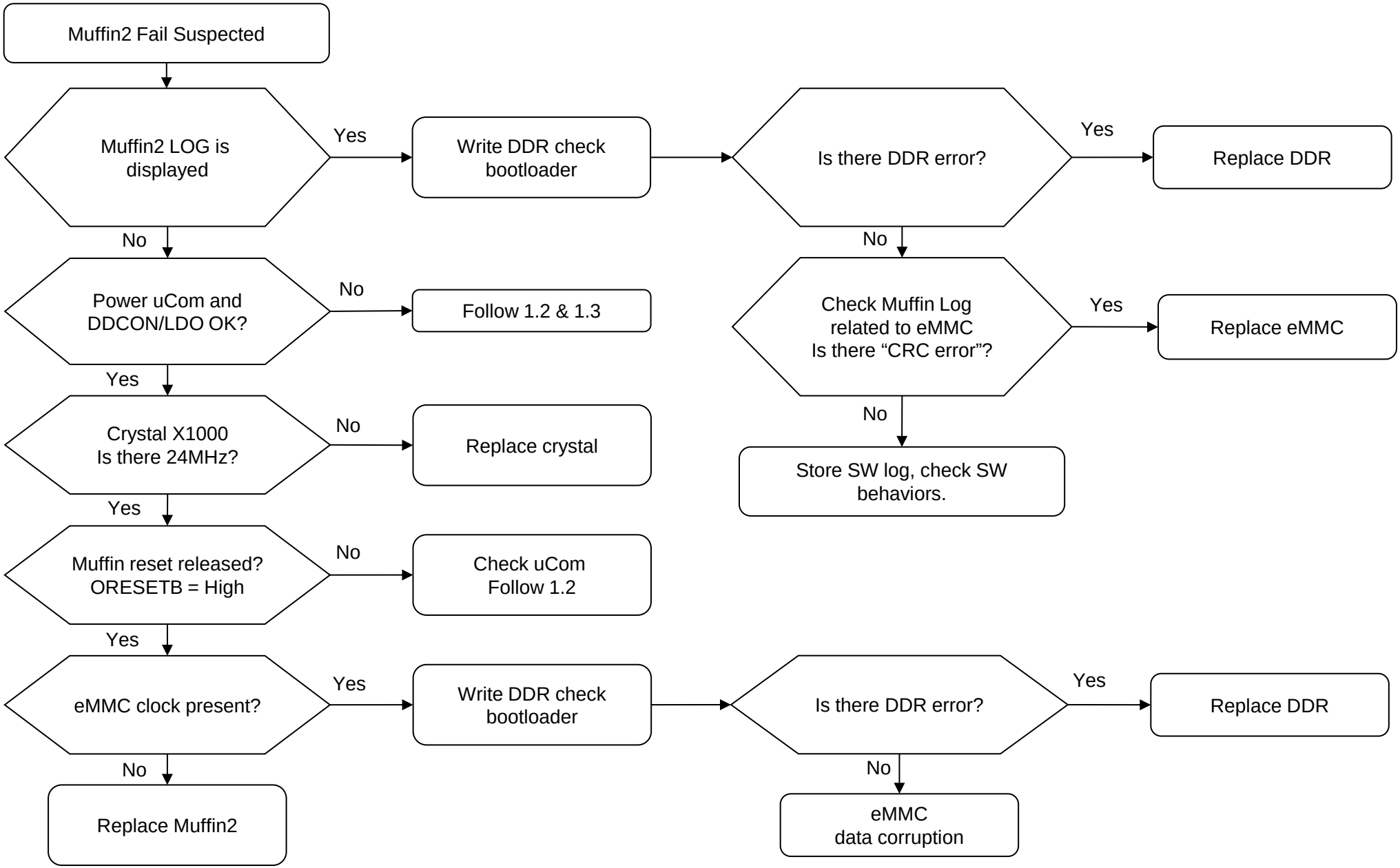
LDOs check

IC Ref	Voltage supply
IC602	+1.05V_M2_STBY
IC603	+1.05V_M2_A_1
IC605	+1.05V_M2_ST_ET
IC606	+1.05V_M2_A_2
IC607	VCC3IO_EMMC (1.8V)

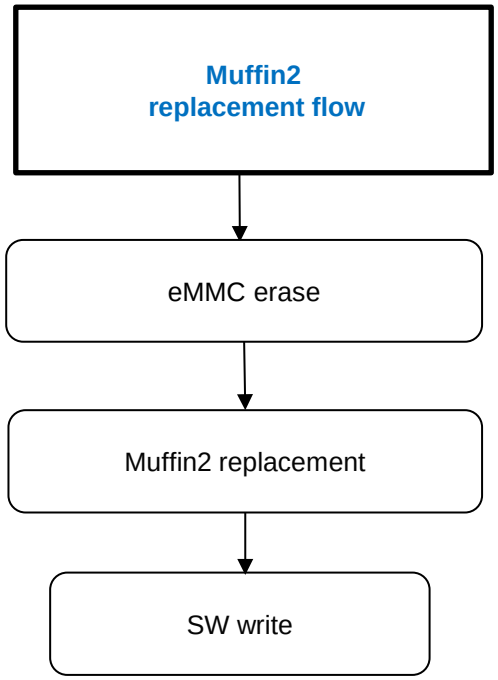
Please refer page-18 (if necessary)



1.4 NO POWER-Muffin2 Failure

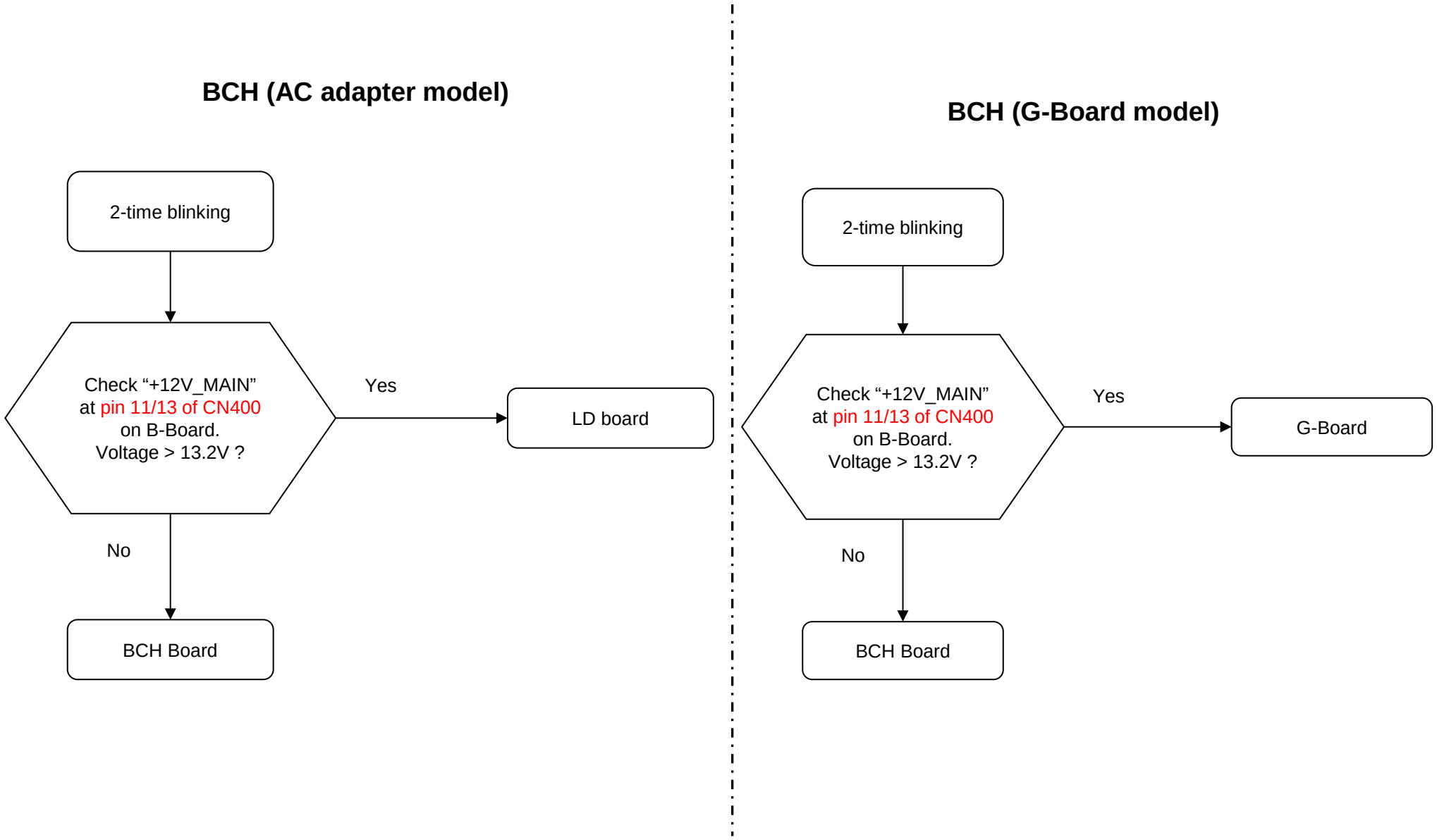


1.5 NO POWER-Muffin2 Replacement

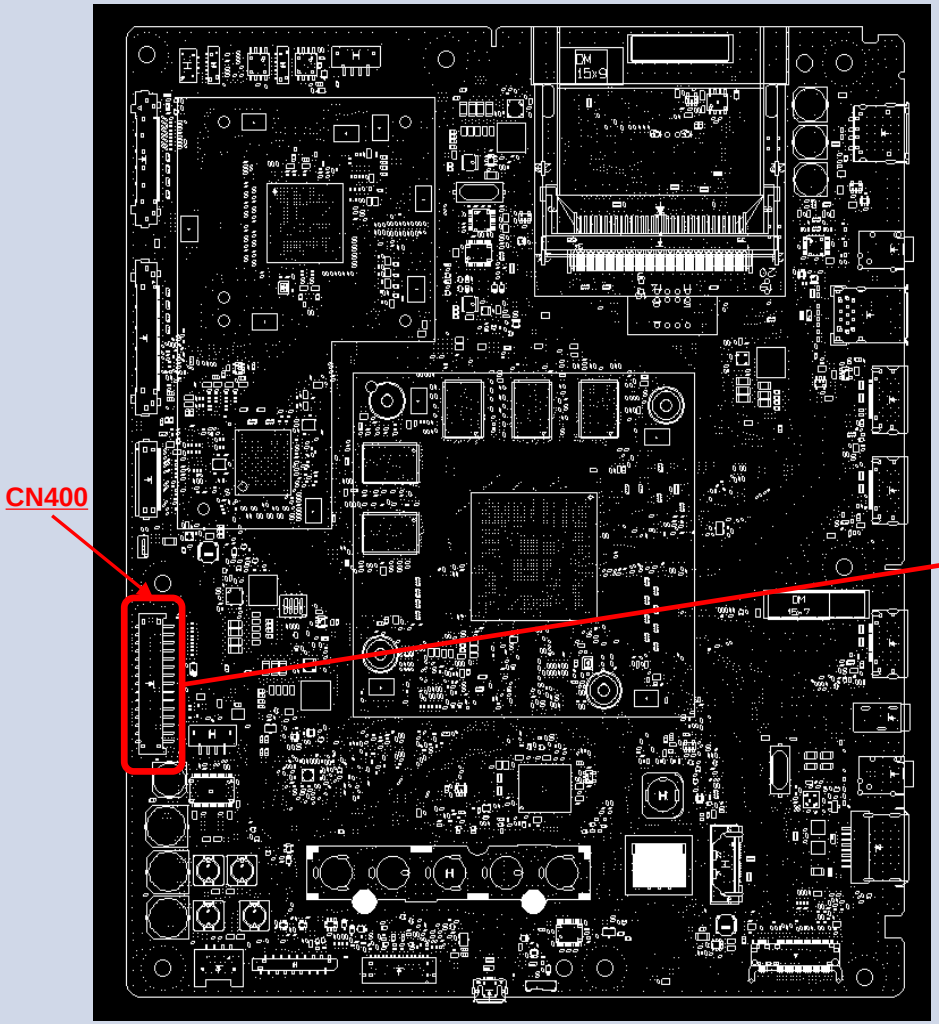
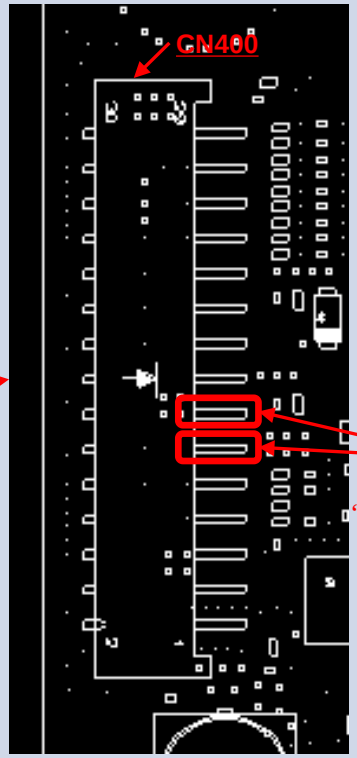


Data on eMMC need to be erase first before changing Muffin
If cannot be erased, erase after replacing Muffin

2.0 LED Blinking: 2x (Main power Error)

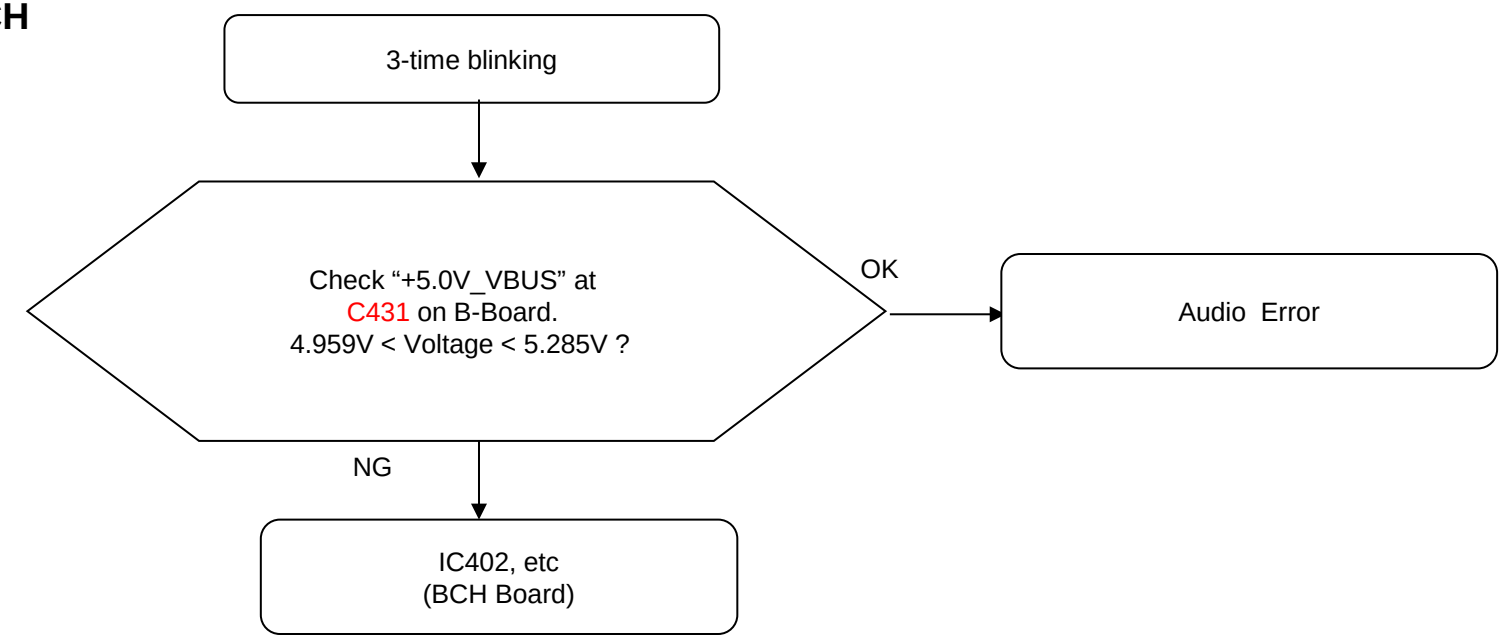


Check point for BCH

BCH (A side)	Detail
	

2.1 LED Blinking: 3x (DC Alert Error)

BCH

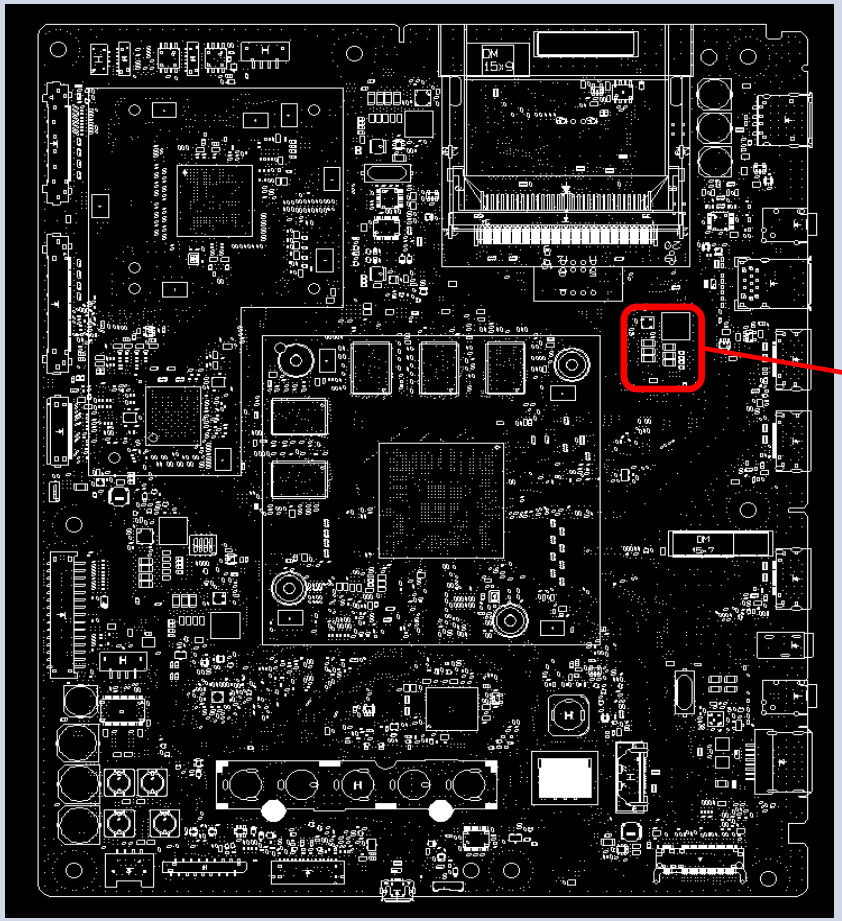
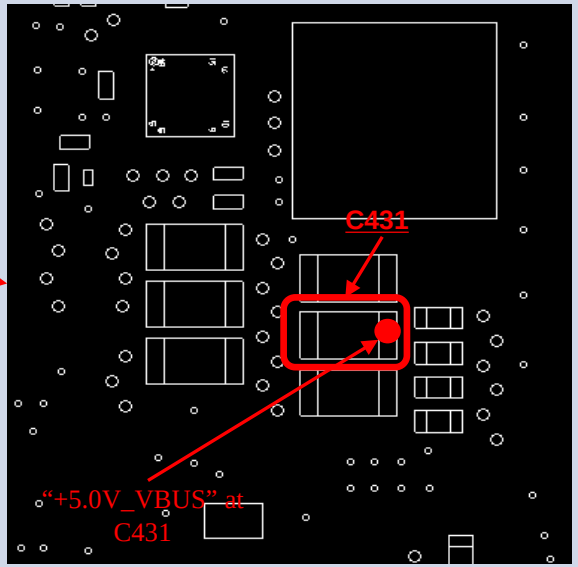


Detail of 3x LED Blinking

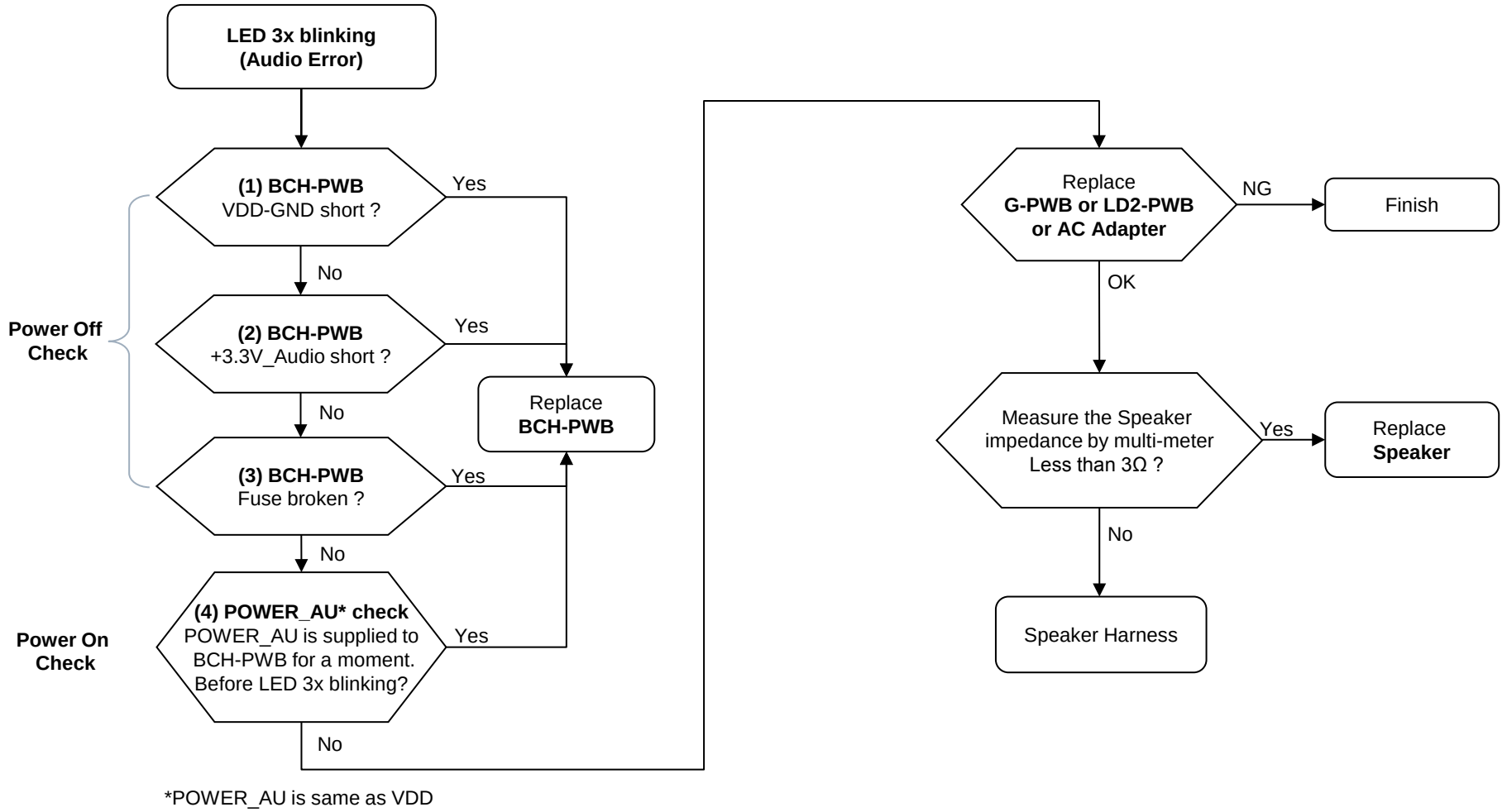
	Error Item	Number of STBY LED flashing	Description
Trinity3	DC_ALERT	3	Main board 5V power rail monitoring
	AUD_ERR	3	Audio amp error detection

Trinity3 Board: BCH

Check point for BCH

BCH (A side)	Detail
	

2.2 LED Blinking: 3x (Audio Error)



*POWER_AU is same as VDD

Detail of 3x LED Blinking

	Error Item	Number of STBY LED flashing	Description
Trinity	DC_ALERT	3	Main board 5V power rail monitoring
	AUD_ERR	3	Audio amp error detection

Trinity3 Board: BCH

2.2 LED Blinking: 3x (Audio Error)

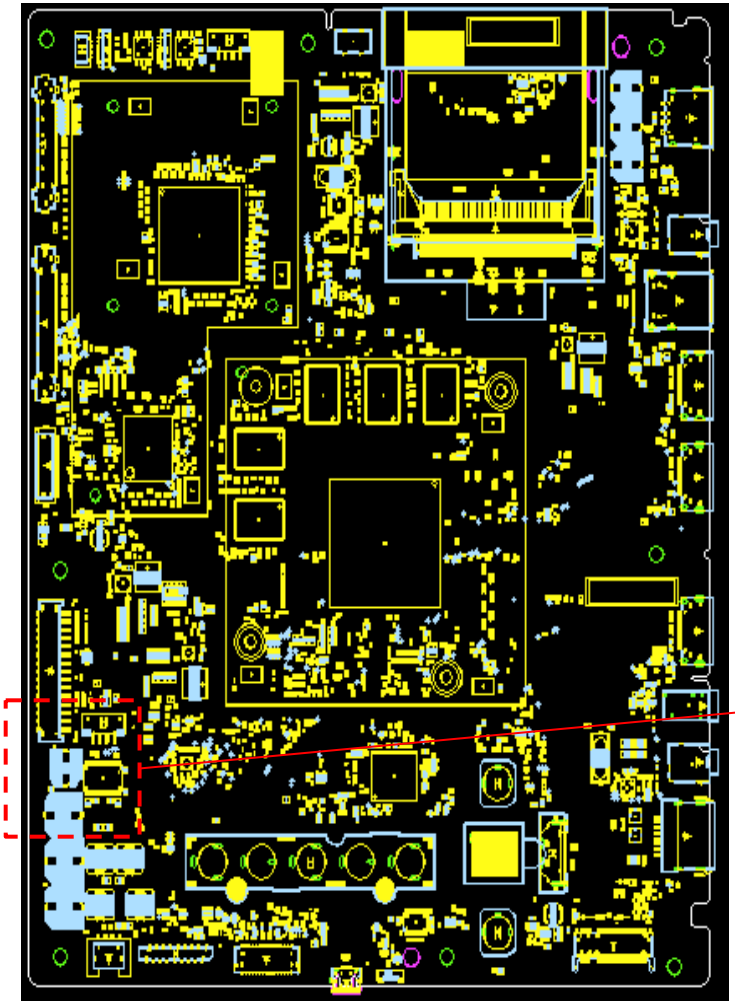
BCH-PWB

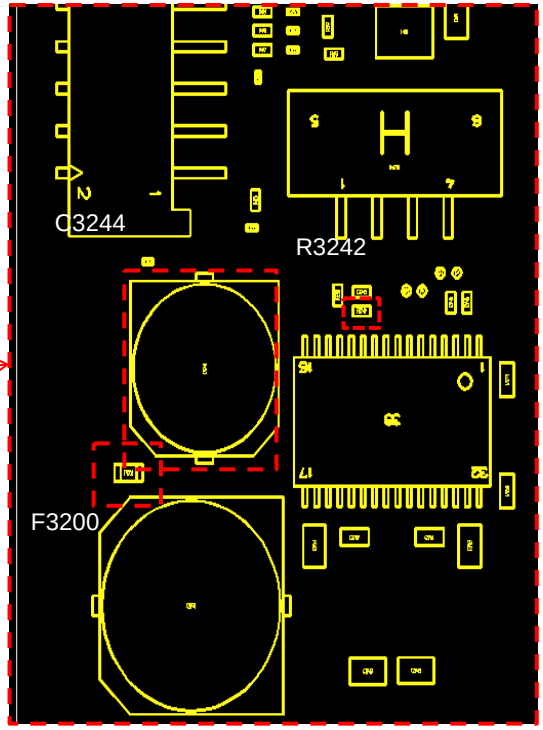
(1) VDD-GND short check
Measure impedance between VDD and GND at capacitor C3244.
impedance is <100Ω → NG

(2) +3.3V_Audio short check
Measure impedance between +3.3V and GND at R3242(1).
impedance is <100Ω → NG

(3) Fuse open check
Measure impedance of fuse F3200 5A (12.5V or 19.5V)
fuse open → NG

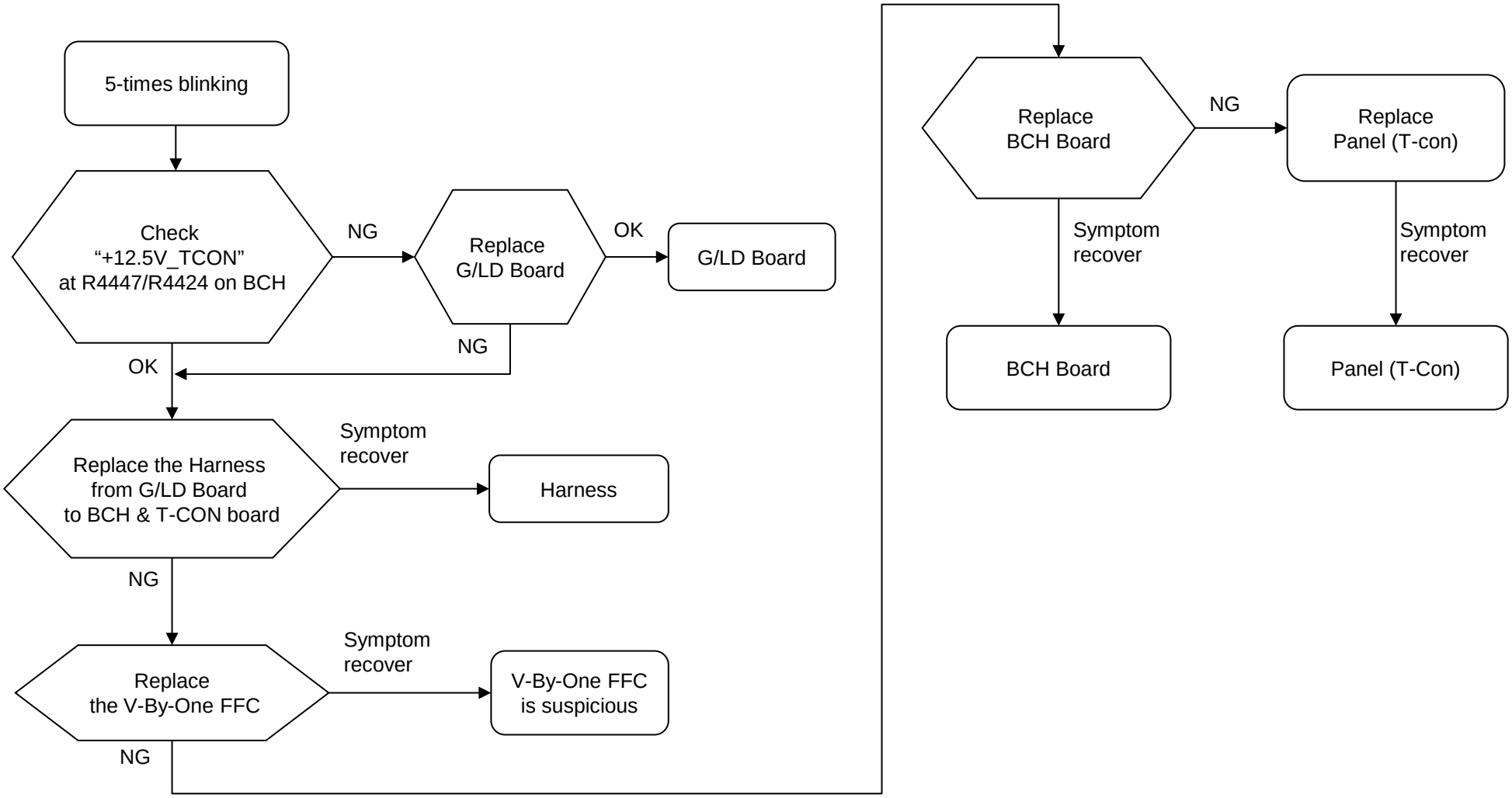
(4) POWER_AU check
Measure voltage at capacitor C3244.
voltage is < → NG





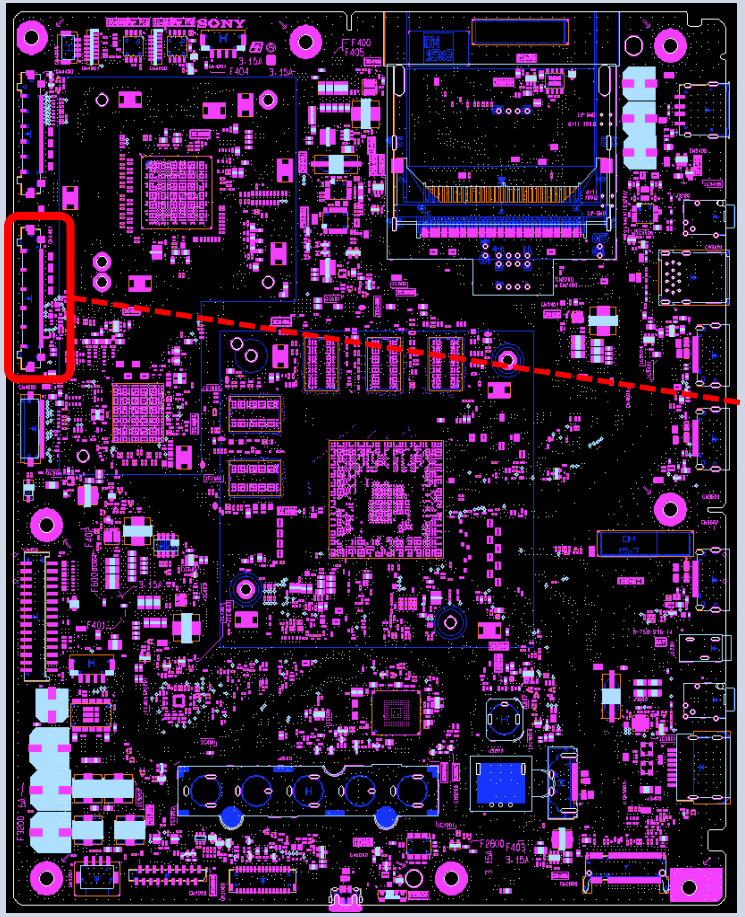
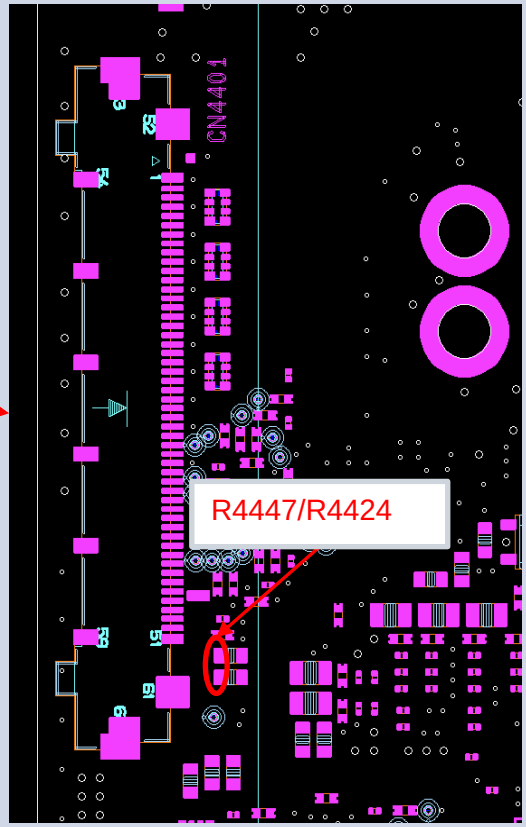
2.5 LED BLINKING: 5x (Panel ID Read Error)

BCH



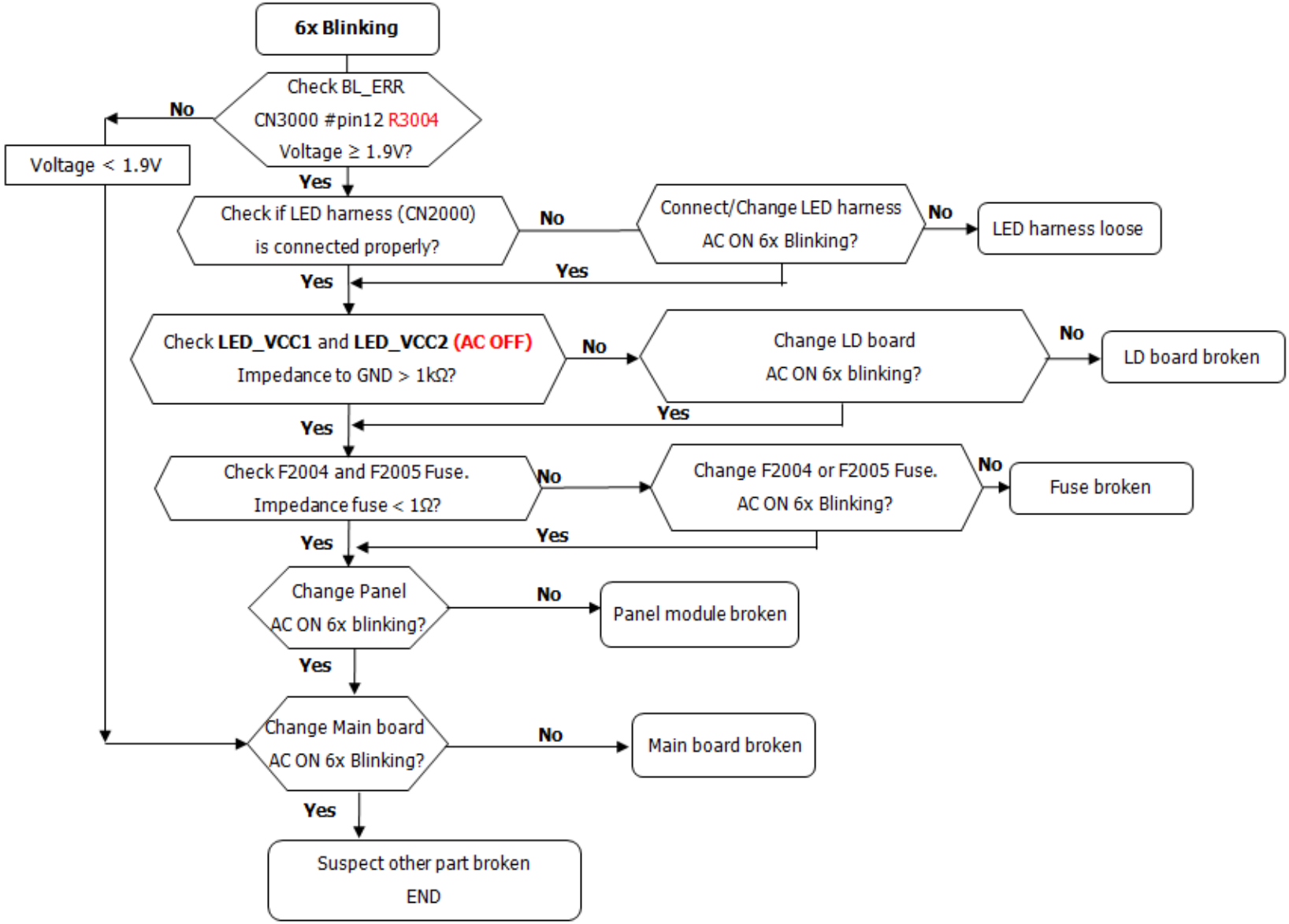
G/LD Board: G board or LD board

Check point for BCH

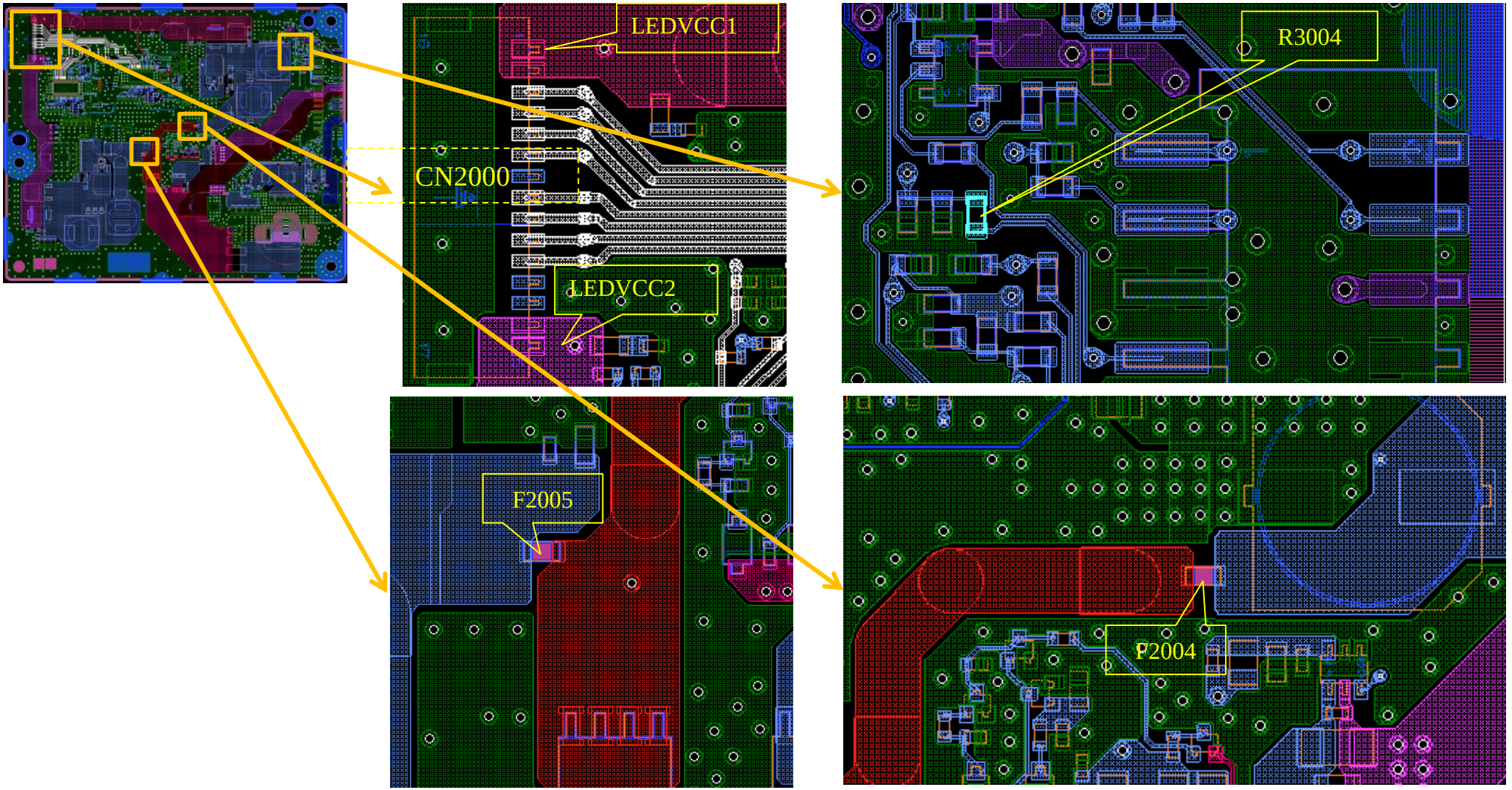
Name	Board PWB (A side)	Detail
BCH		

2.6 LED BLINKING: 6x (Panel Backlight Error)

BCH

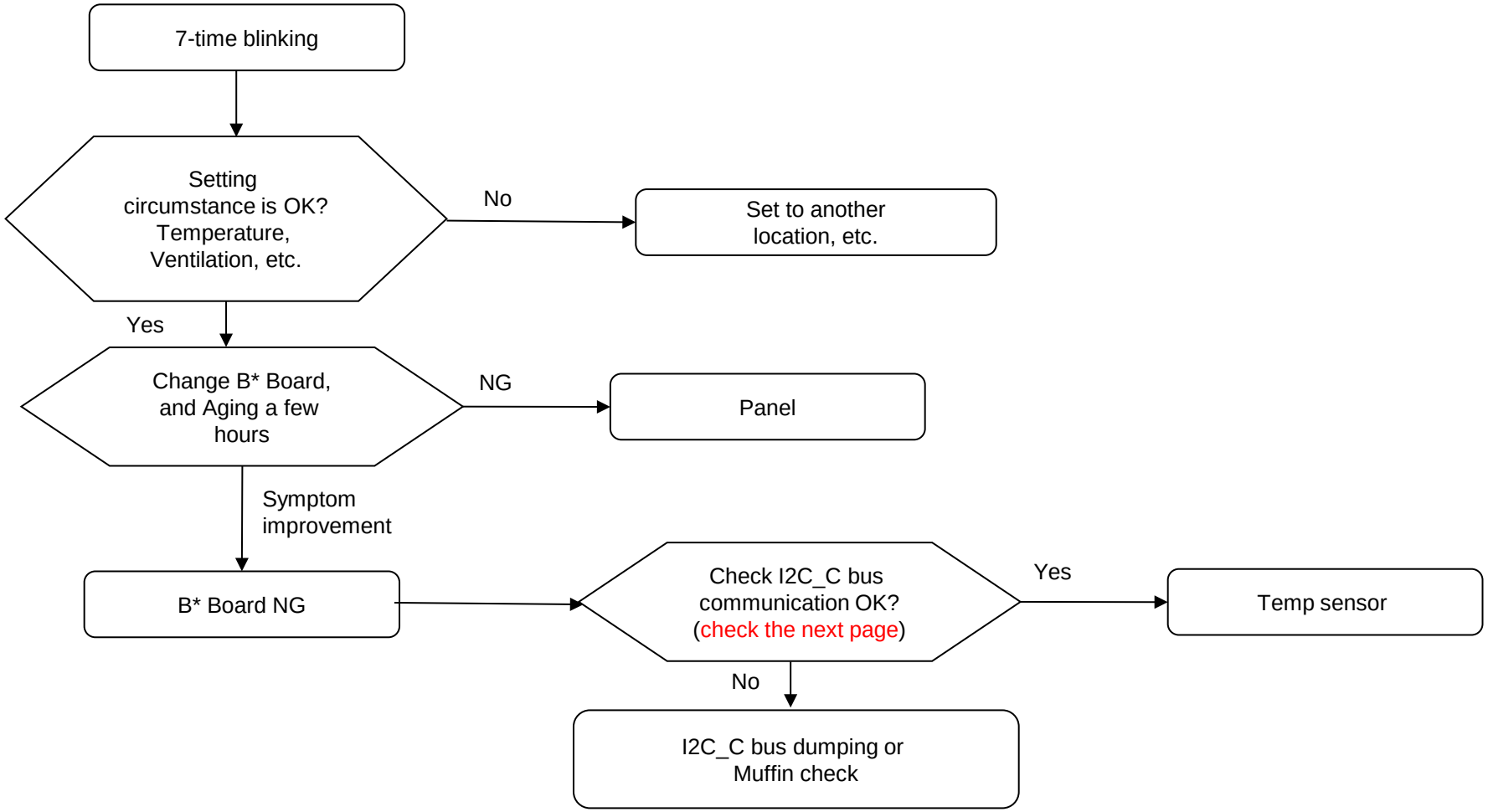


Check point for BCH

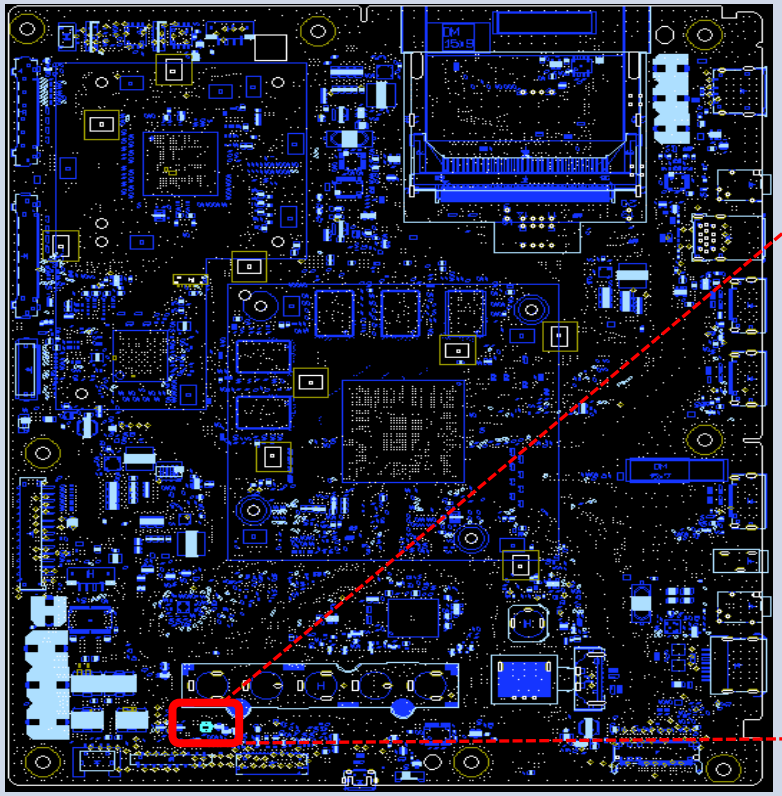
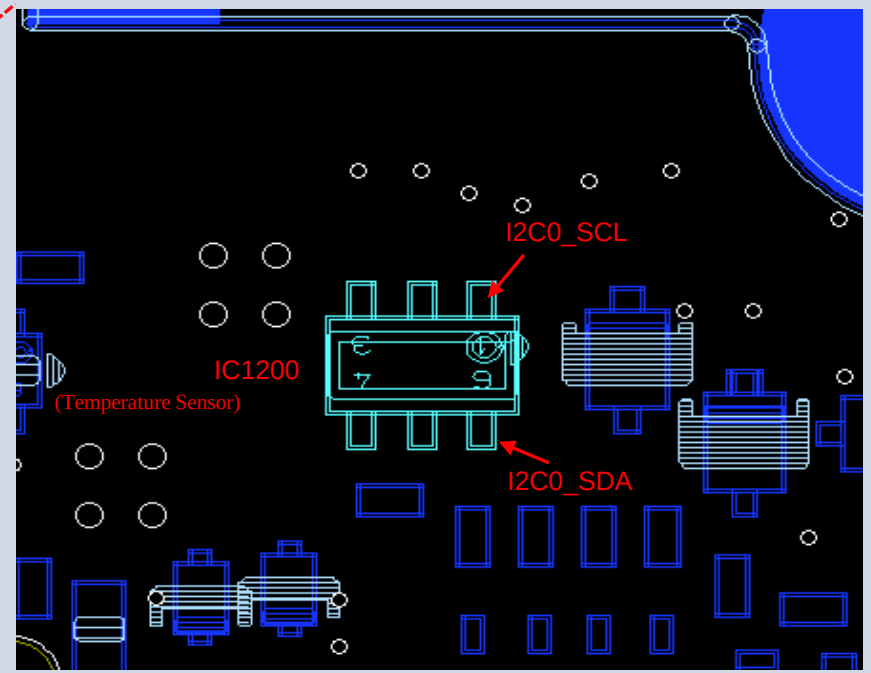


2.7 LED BLINKING: 7x (Temperature Error)

BCH

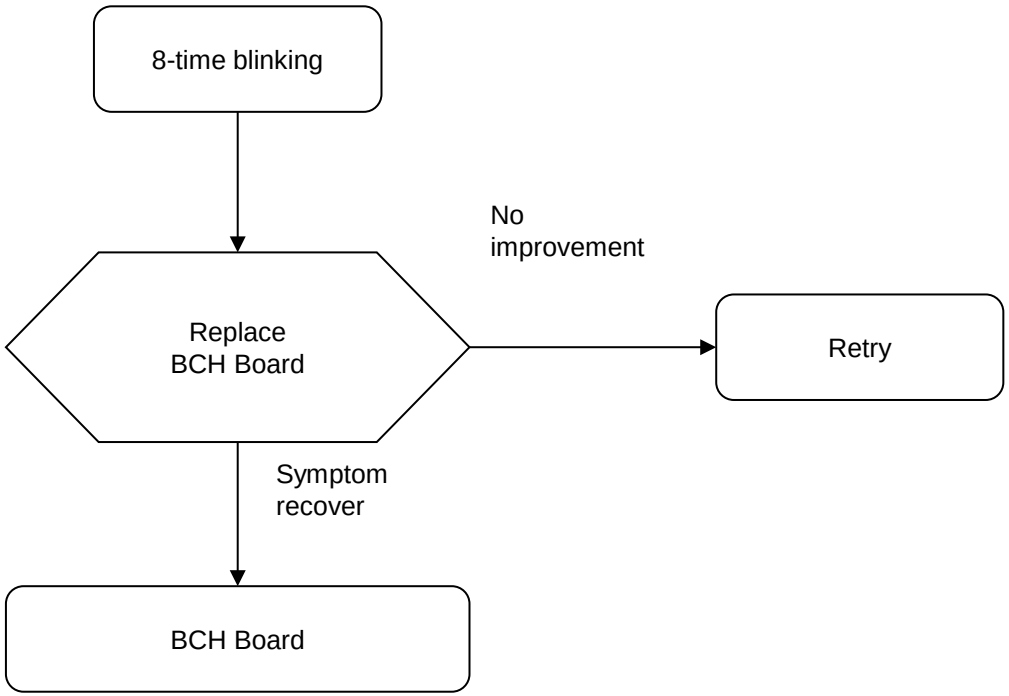


Check point for BCH

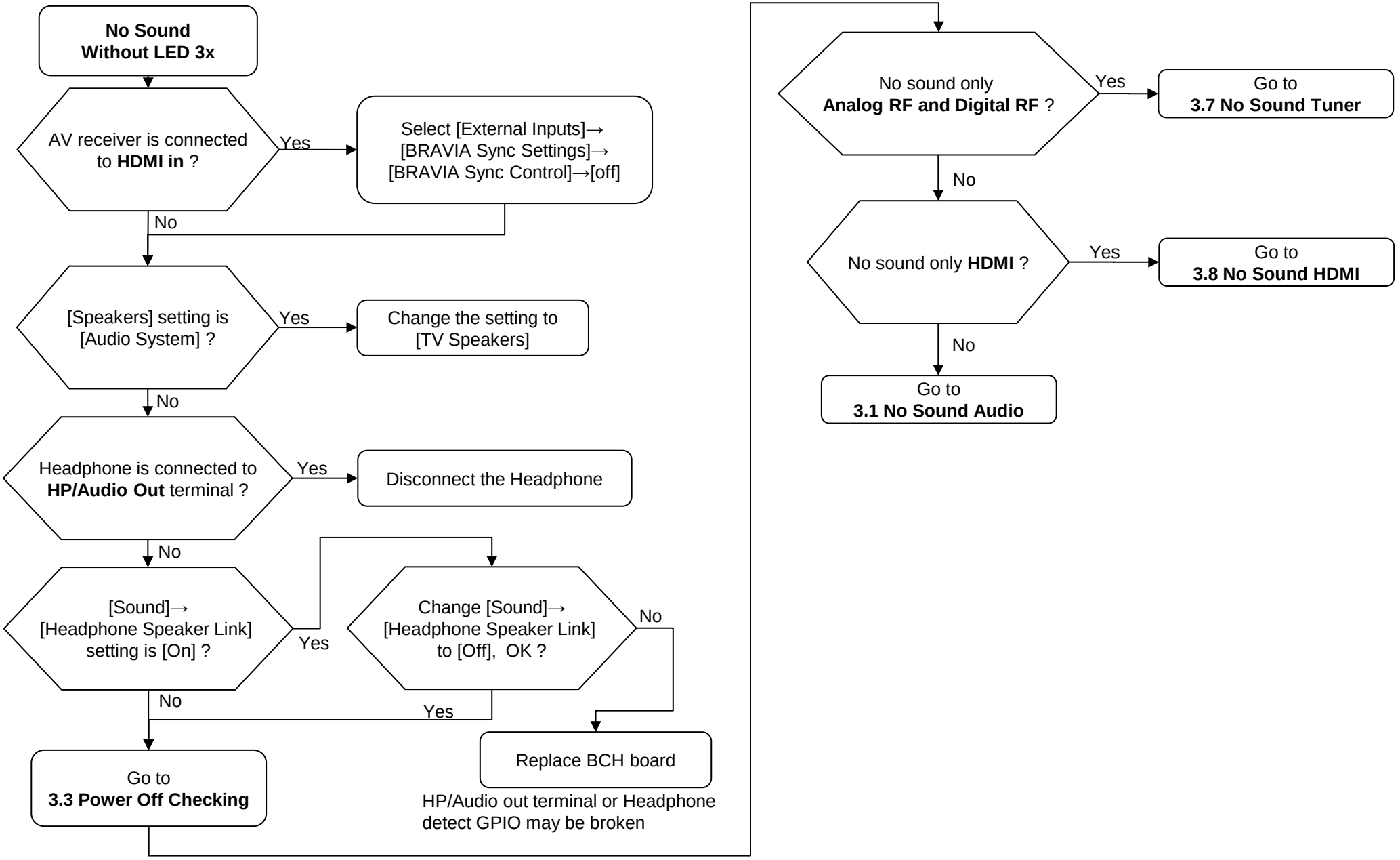
BCH board (A side)	Detail
	

2.8 LED BLINKING: 8x (4KPQ/BE Error)

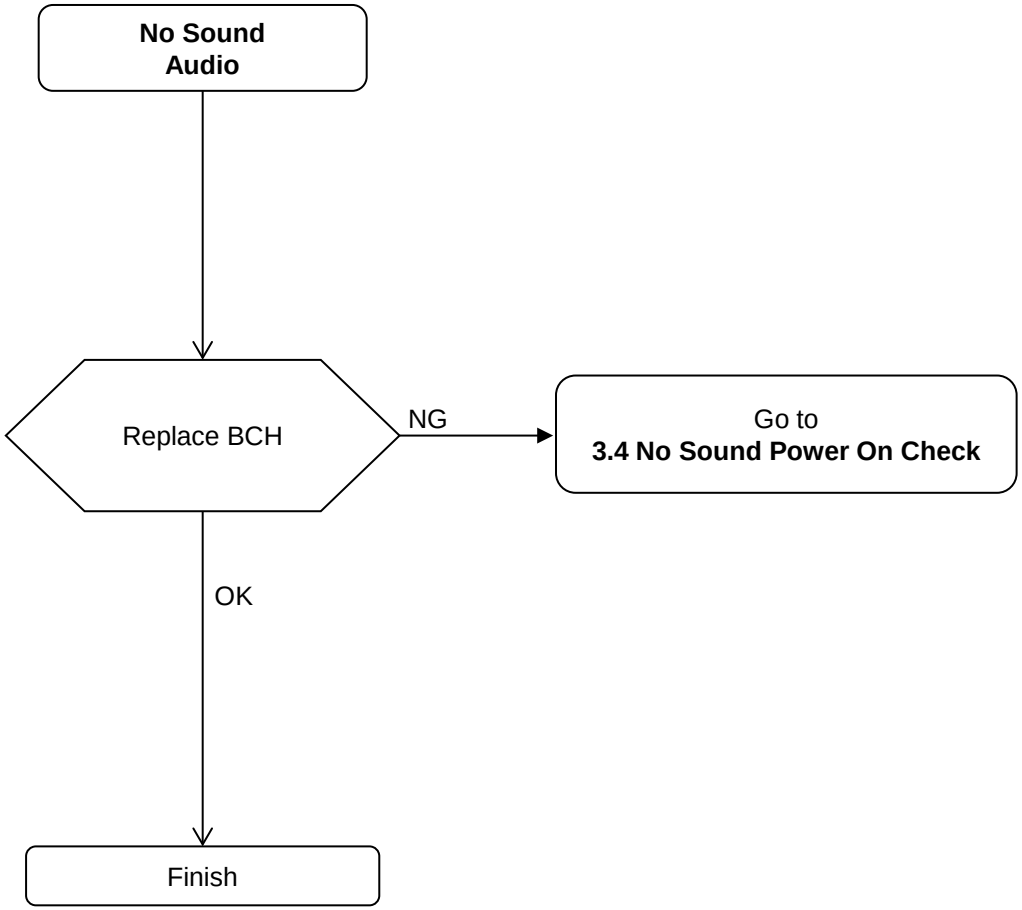
BCH



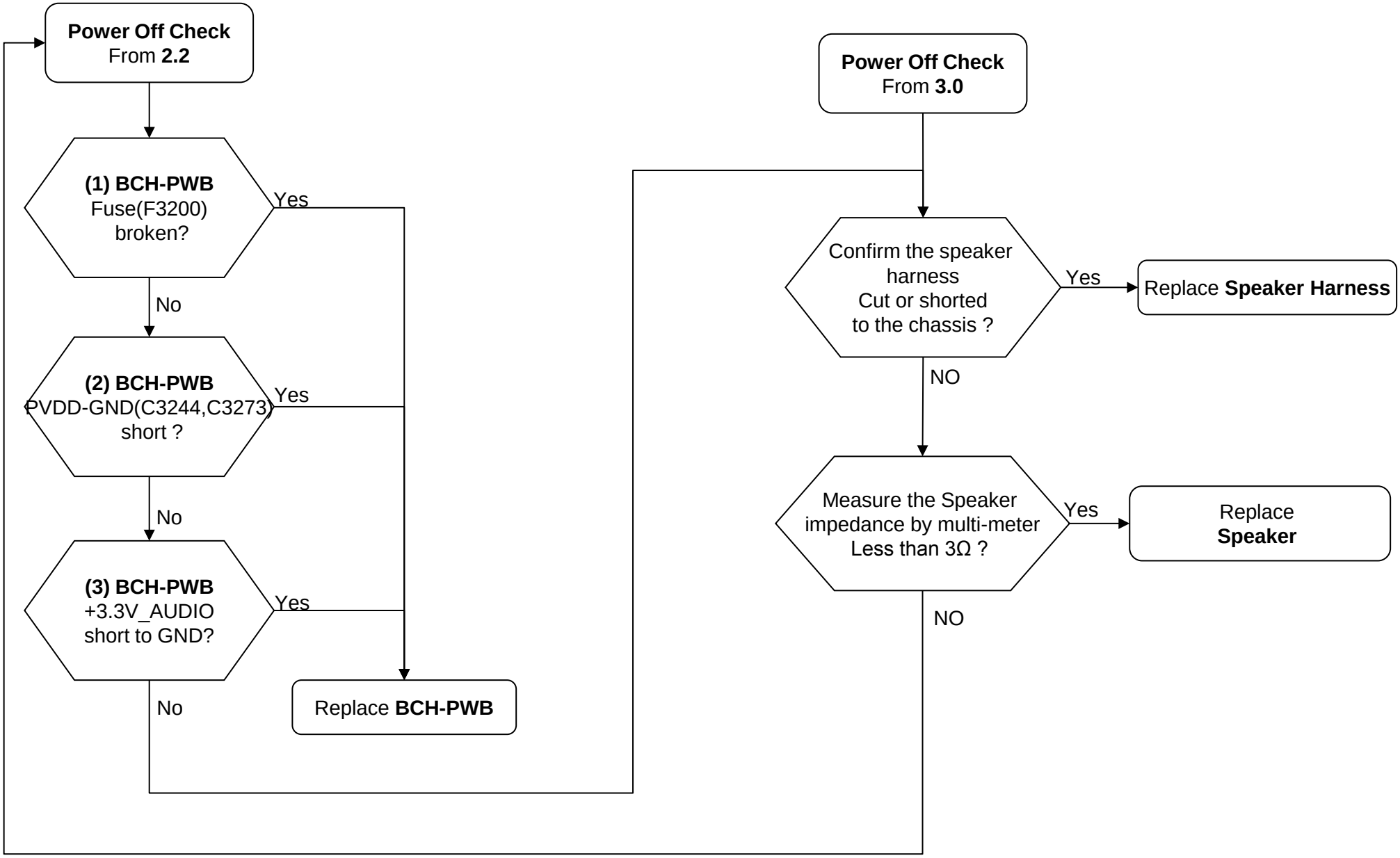
3.0 No Sound


No Sound
Without LED 3x
AV receiver is connected to HDMI in ?
Yes
Select [External Inputs]→ [BRAVIA Sync Settings]→ [BRAVIA Sync Control]→[off]
No
[Speakers] setting is [Audio System] ?
Yes
Change the setting to [TV Speakers]
No
Headphone is connected to HP/Audio Out terminal ?
Yes
Disconnect the Headphone
No
[Sound]→ [Headphone Speaker Link] setting is [On] ?
Yes
Change [Sound]→ [Headphone Speaker Link] to [Off], OK ?
No
Yes
No
Go to 3.3 Power Off Checking
Replace BCH board
HP/Audio out terminal or Headphone detect GPIO may be broken
No sound only Analog RF and Digital RF ?
Yes
Go to 3.7 No Sound Tuner
No
No sound only HDMI ?
Yes
Go to 3.8 No Sound HDMI
No
Go to 3.1 No Sound Audio

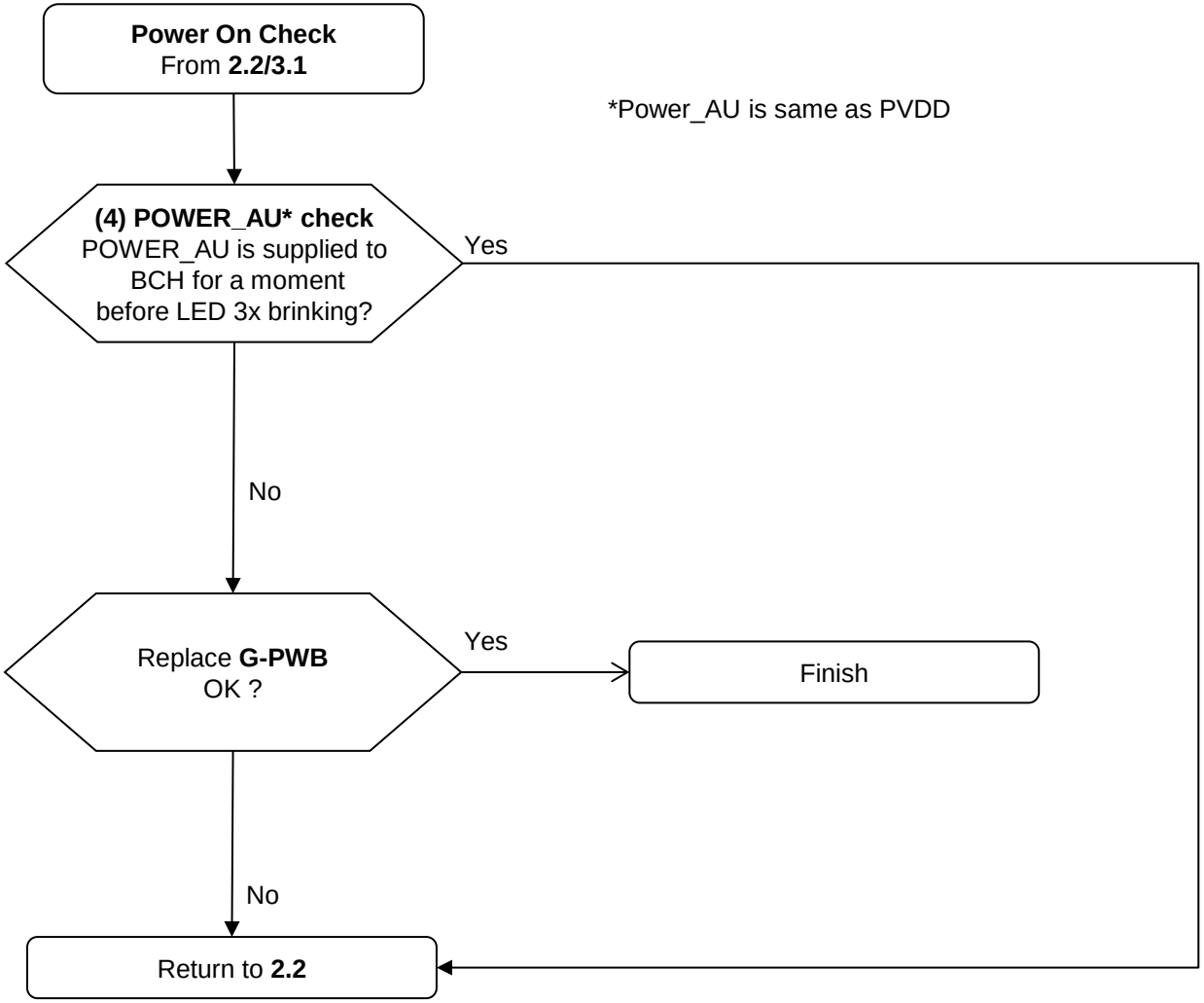
3.1 No Sound Audio



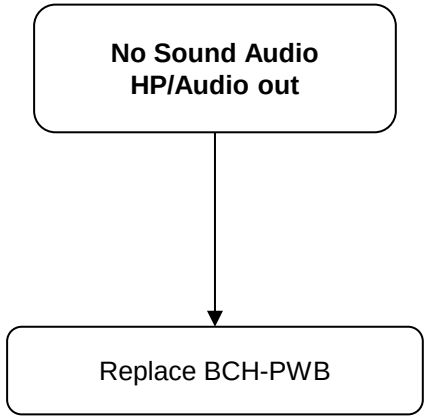
3.3 No Sound Power Off Check



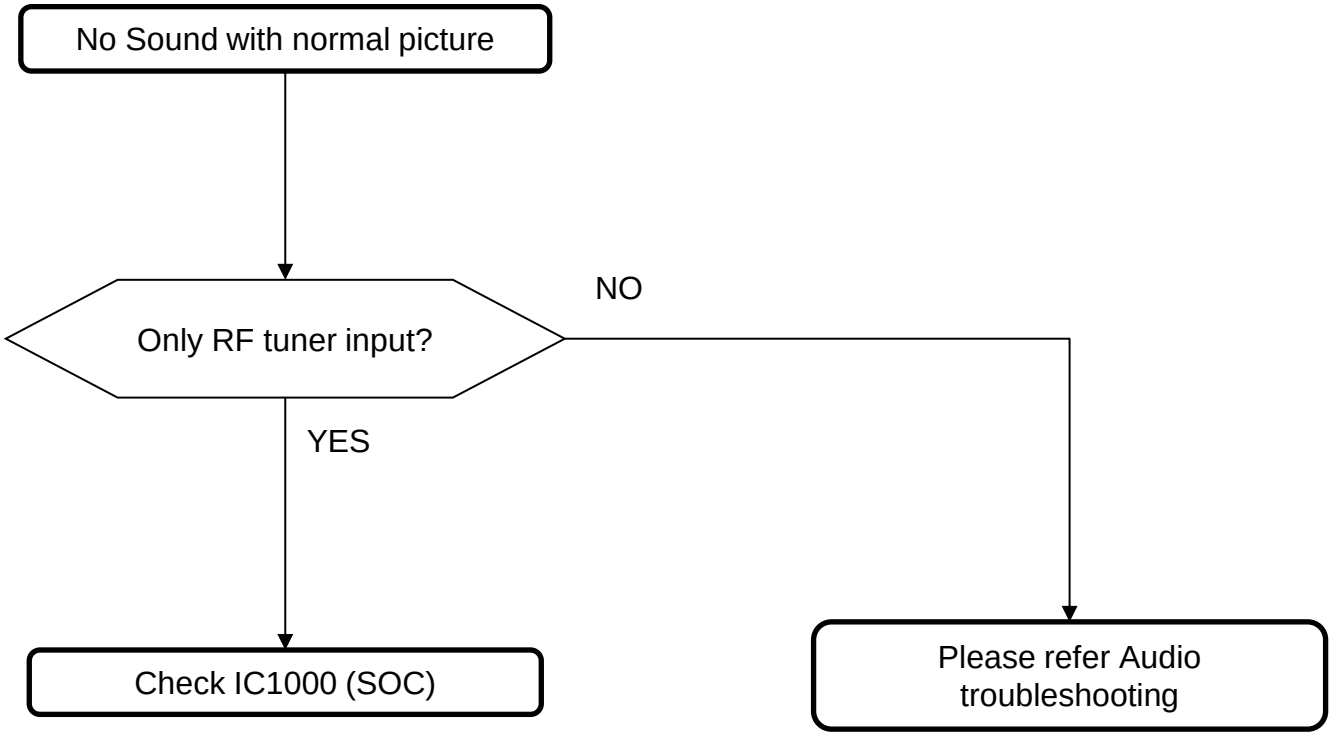
3.4 No Sound Power On Check



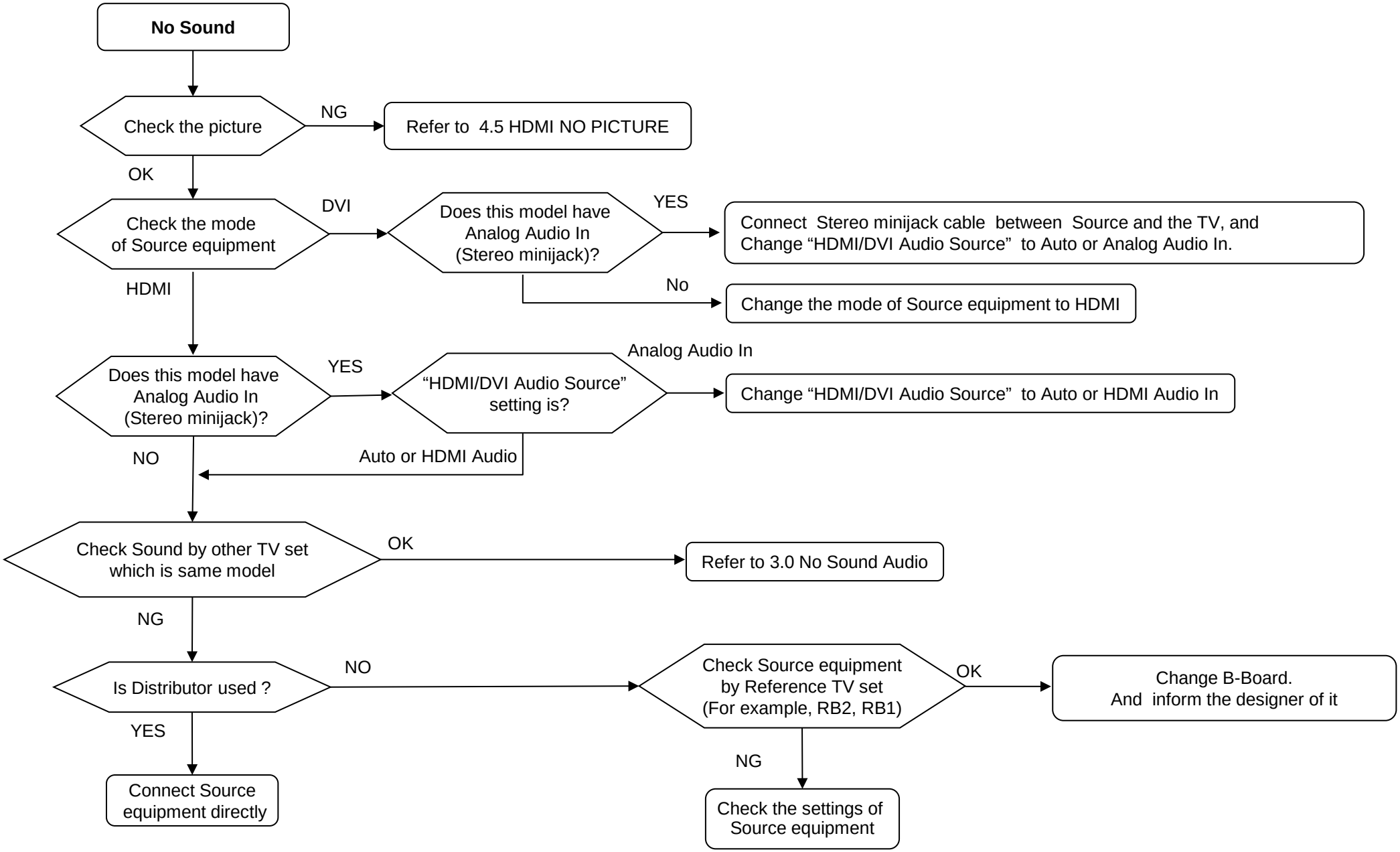
3.5 No Sound Audio HP/Audio out



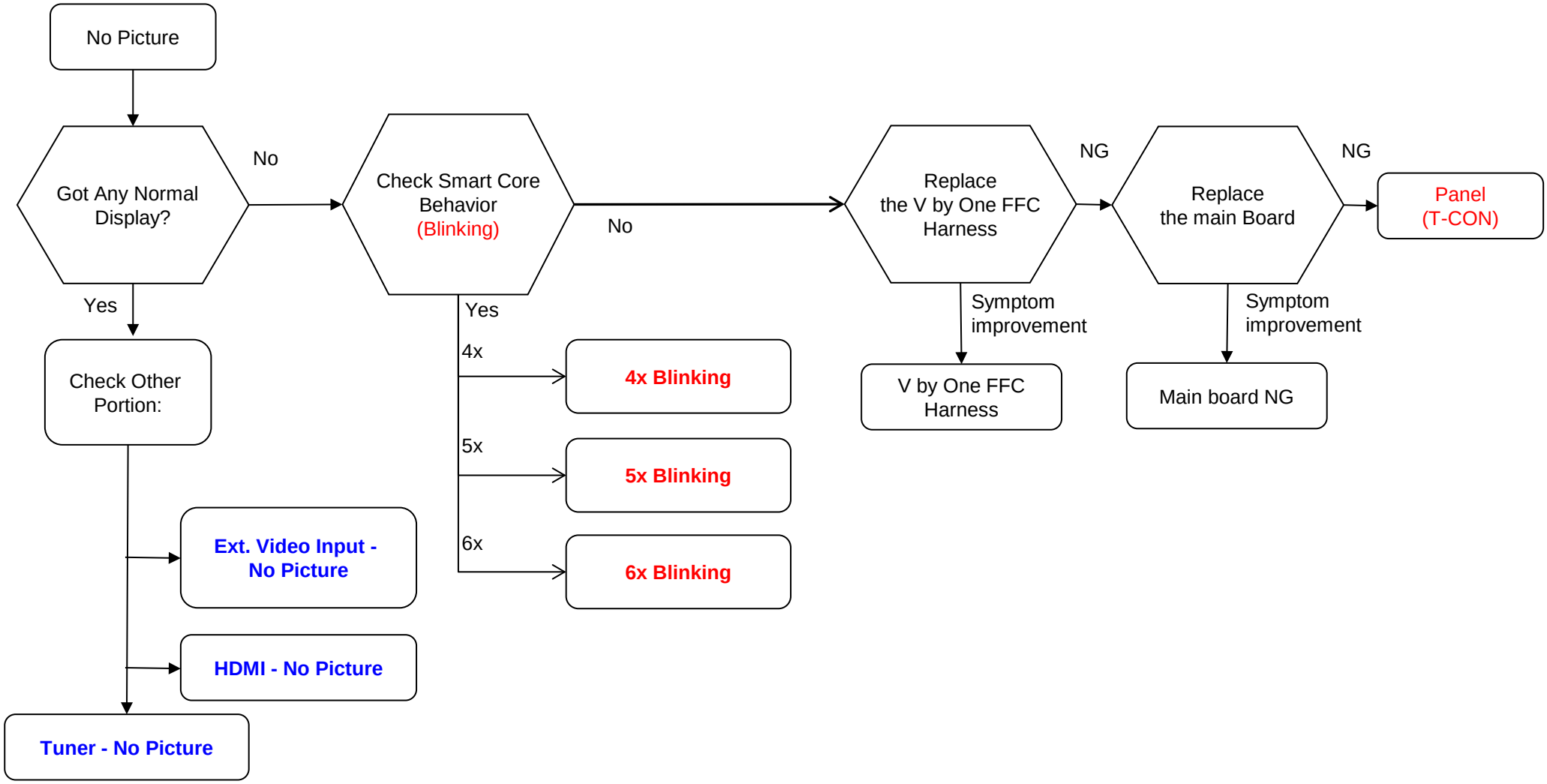
3.7 NO SOUND: @ TUNER



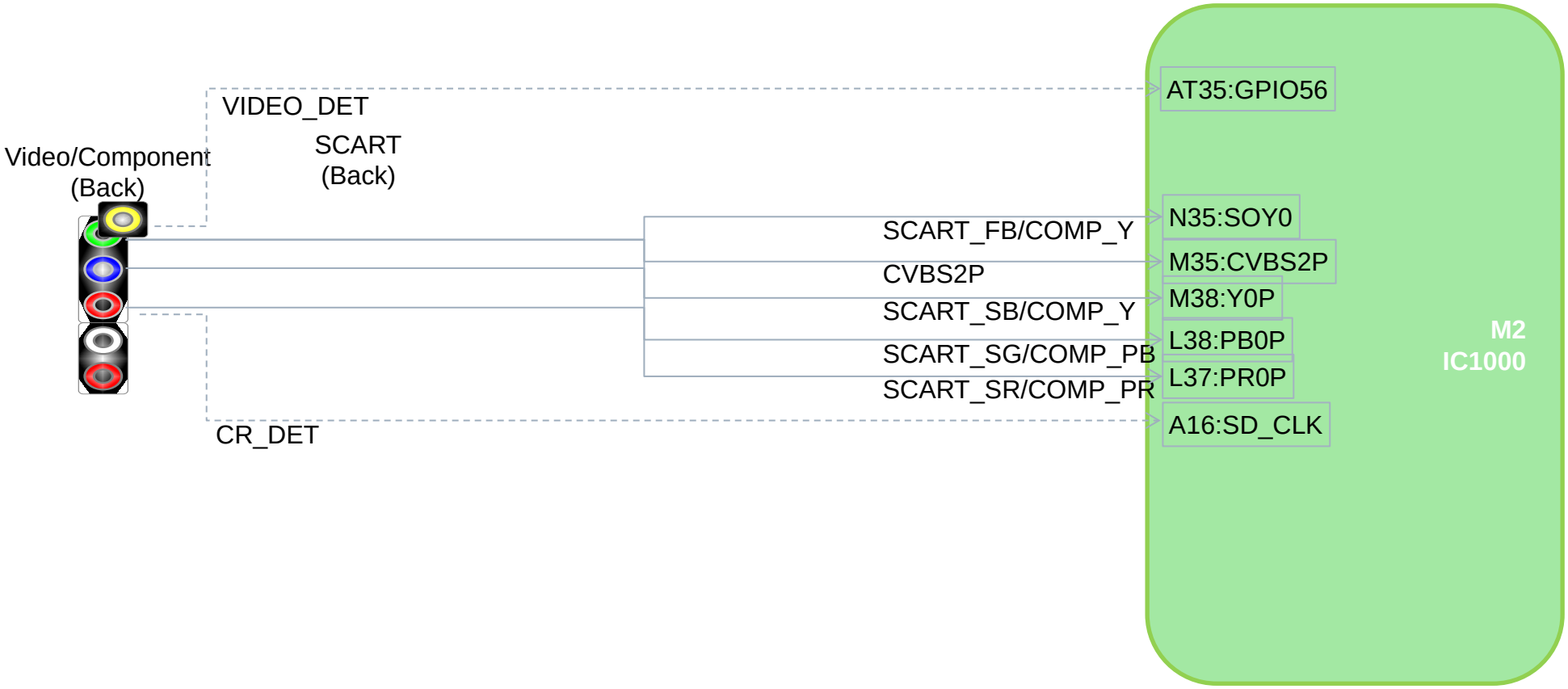
3.8 NO SOUND: HDMI 1/2/3/4



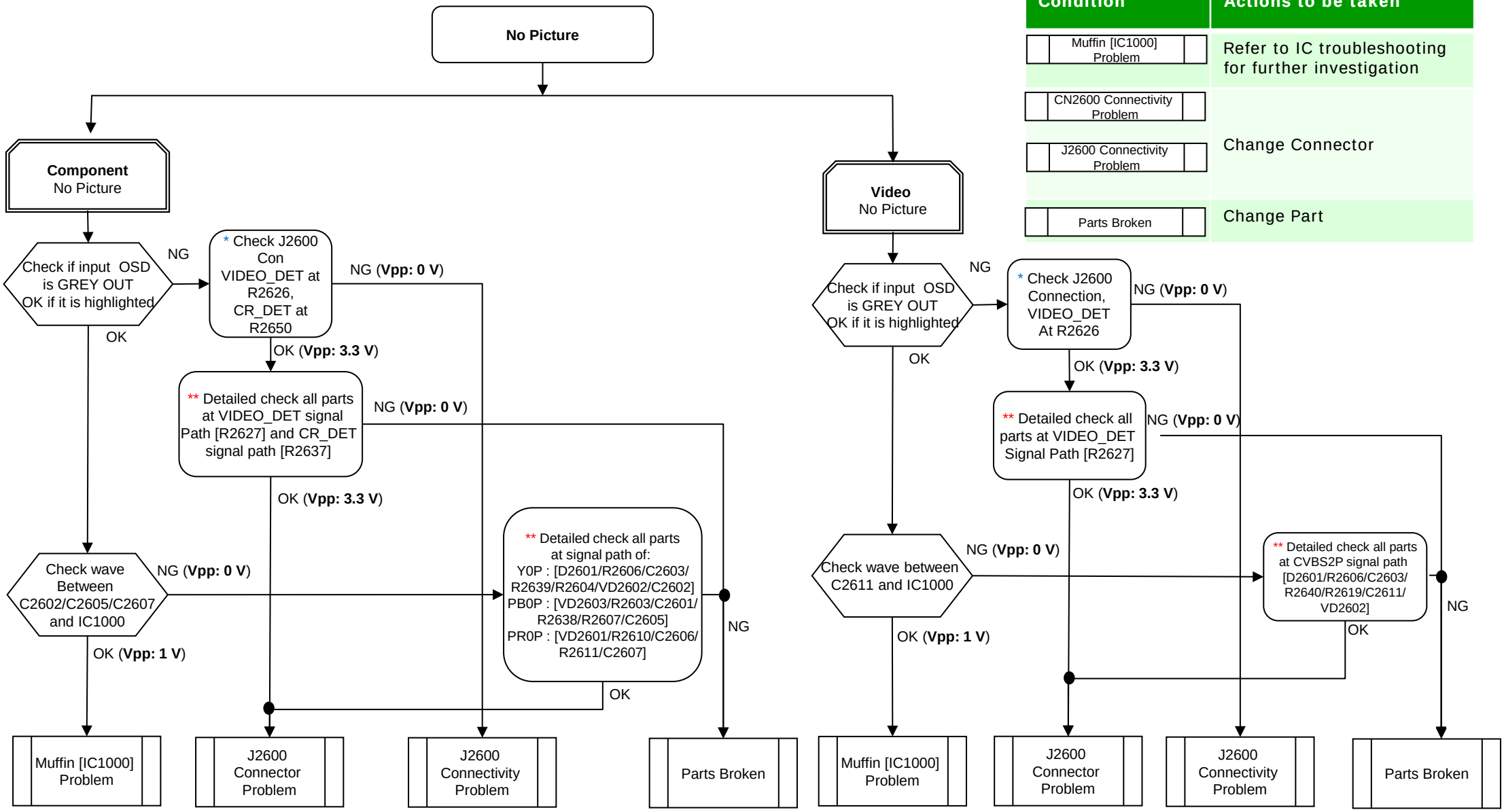
4.0 No Picture



4.1: Video Analog Signal Path



4.2: No Picture (BCH)



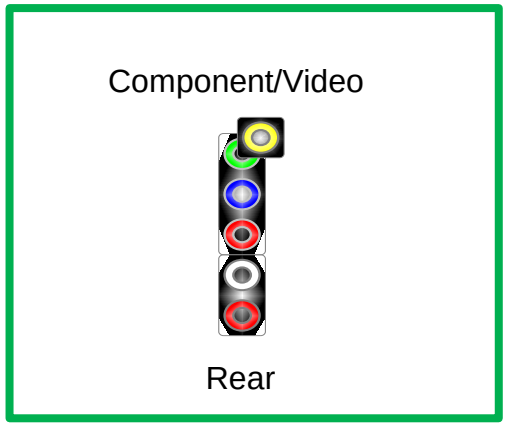
Condition	Actions to be taken
Muffin [IC1000] Problem	Refer to IC troubleshooting for further investigation
CN2600 Connectivity Problem	Change Connector
J2600 Connectivity Problem	
Parts Broken	Change Part

* → OK Condition : No solder splash can be seen
→ NG Condition : Solder splash can be seen

** → OK Condition : No part short-circuited
→ NG Condition : Part short-circuited

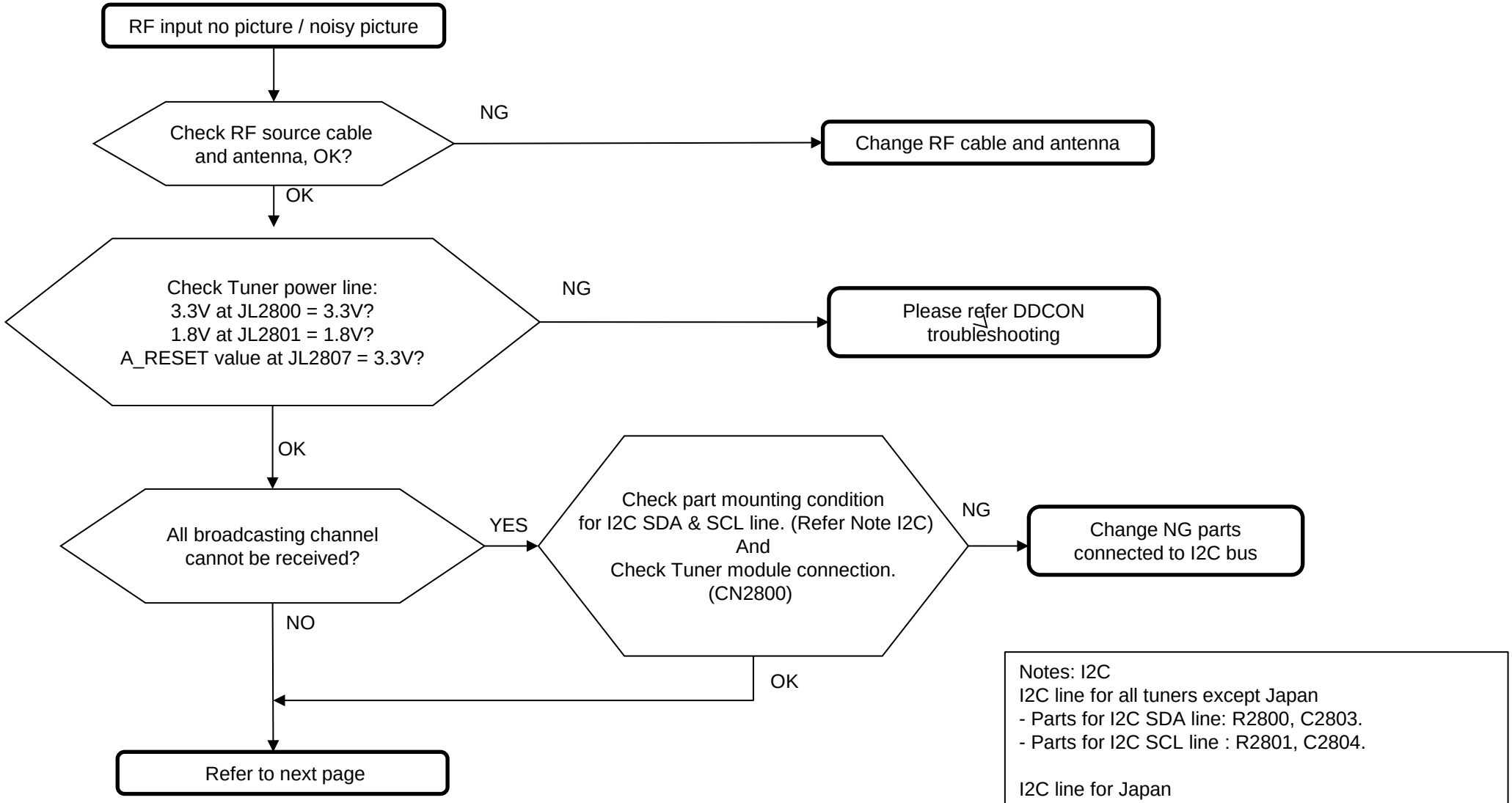
4.2: Input Skip function (BCH)

Input	Signal	Non-Detect (Typical)	Detect (Typical)
Component /Video	VIDEO_DET IC1000 AT35-GPIO56	0V	3.3V
	CR_DET IC1000 A16-SD_CLK	0V	3.3V

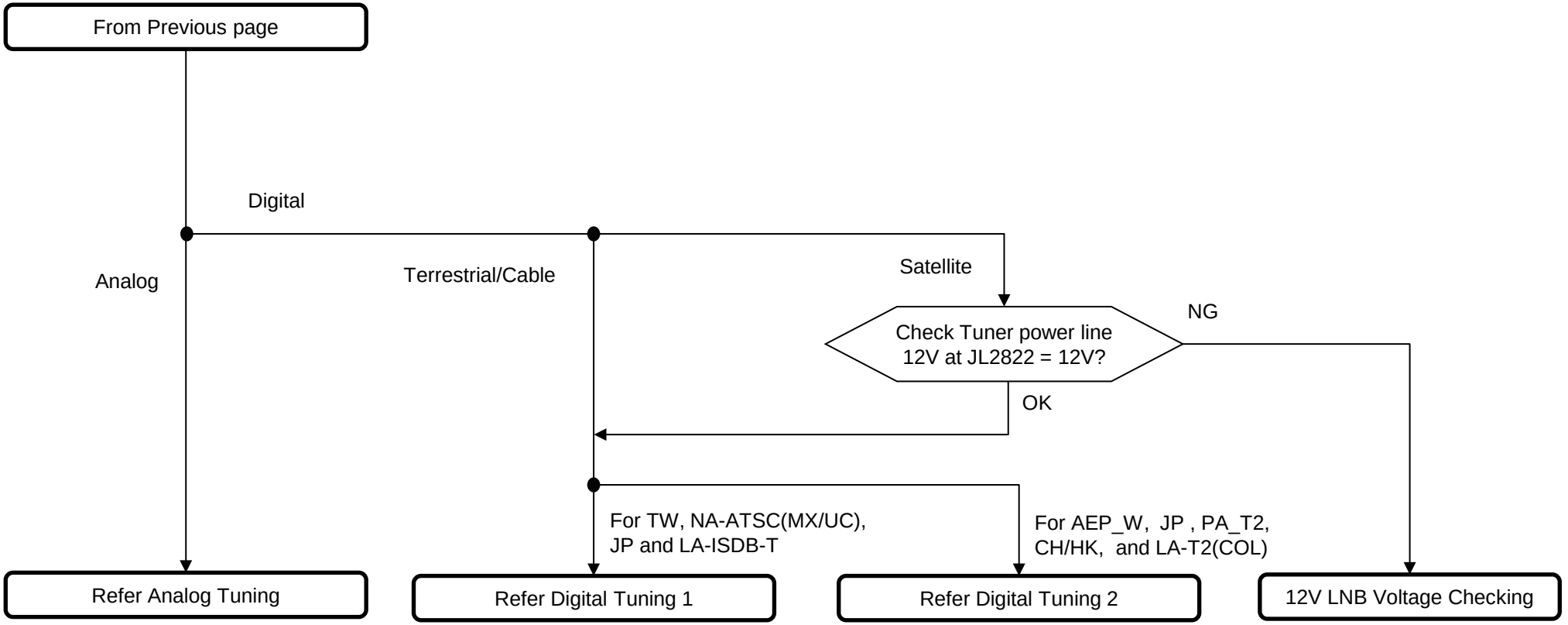


Except AEP

4.4 NO PICTURE TUNER

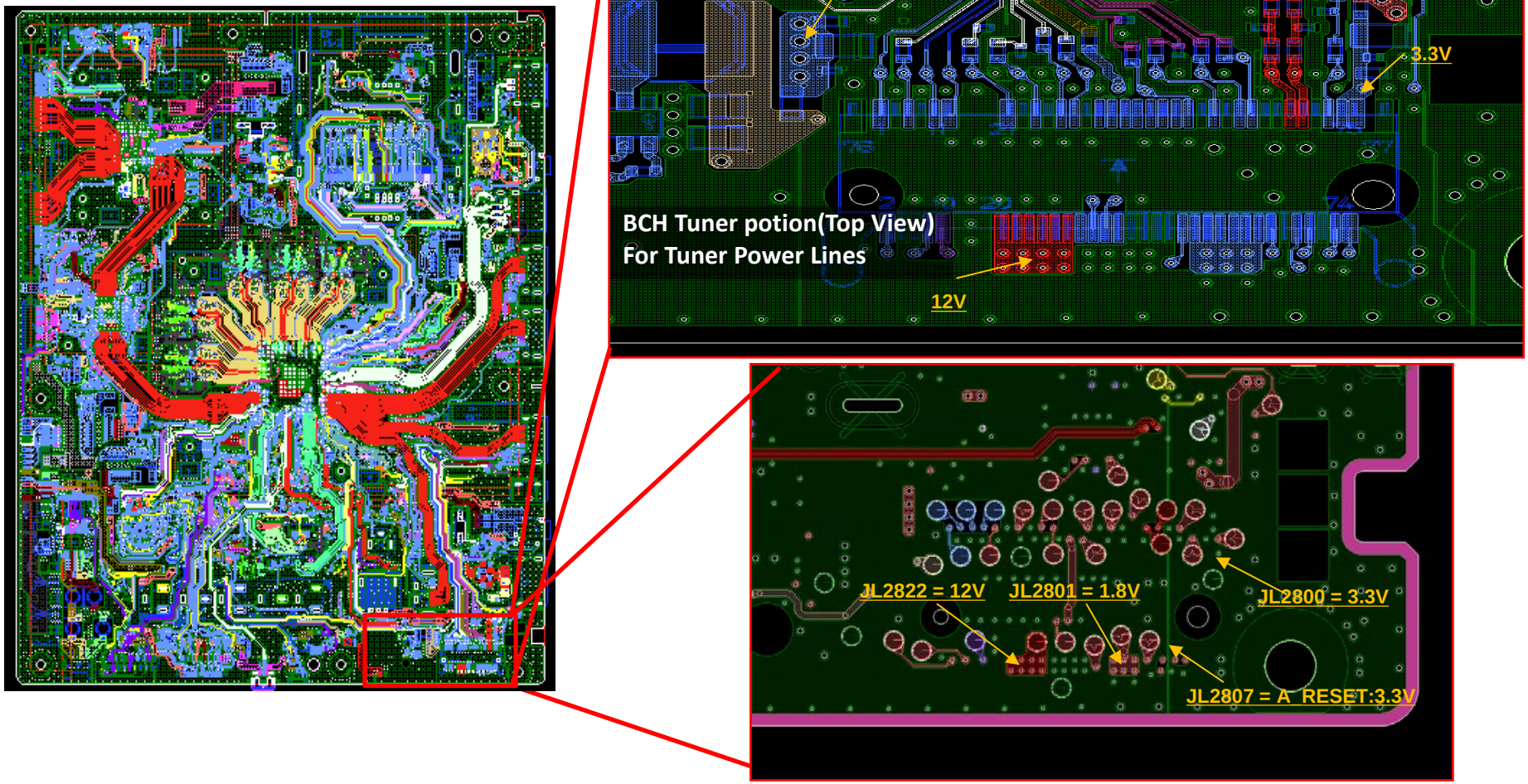


4.4 NO PICTURE TUNER



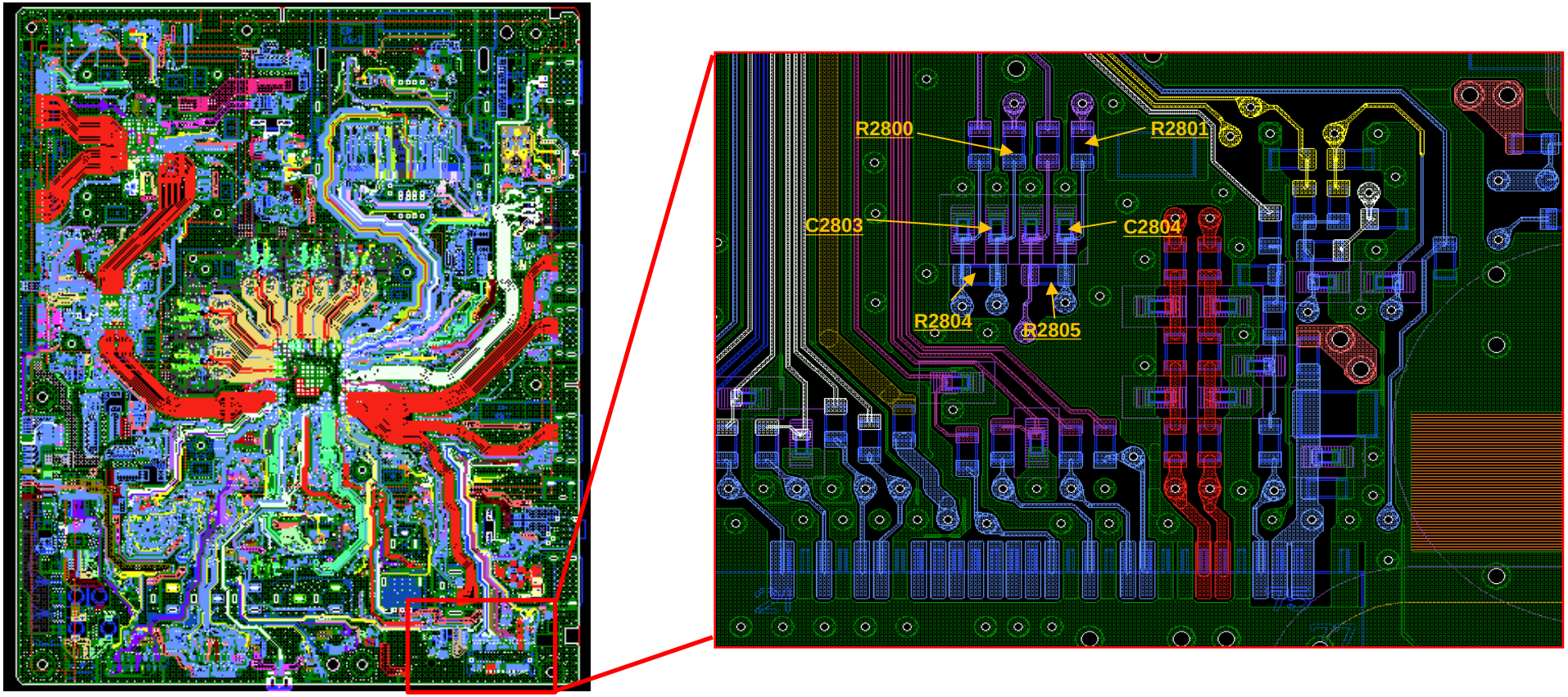
4.4 NO PICTURE TUNER

BCH (Top View)
For Tuner Power Lines



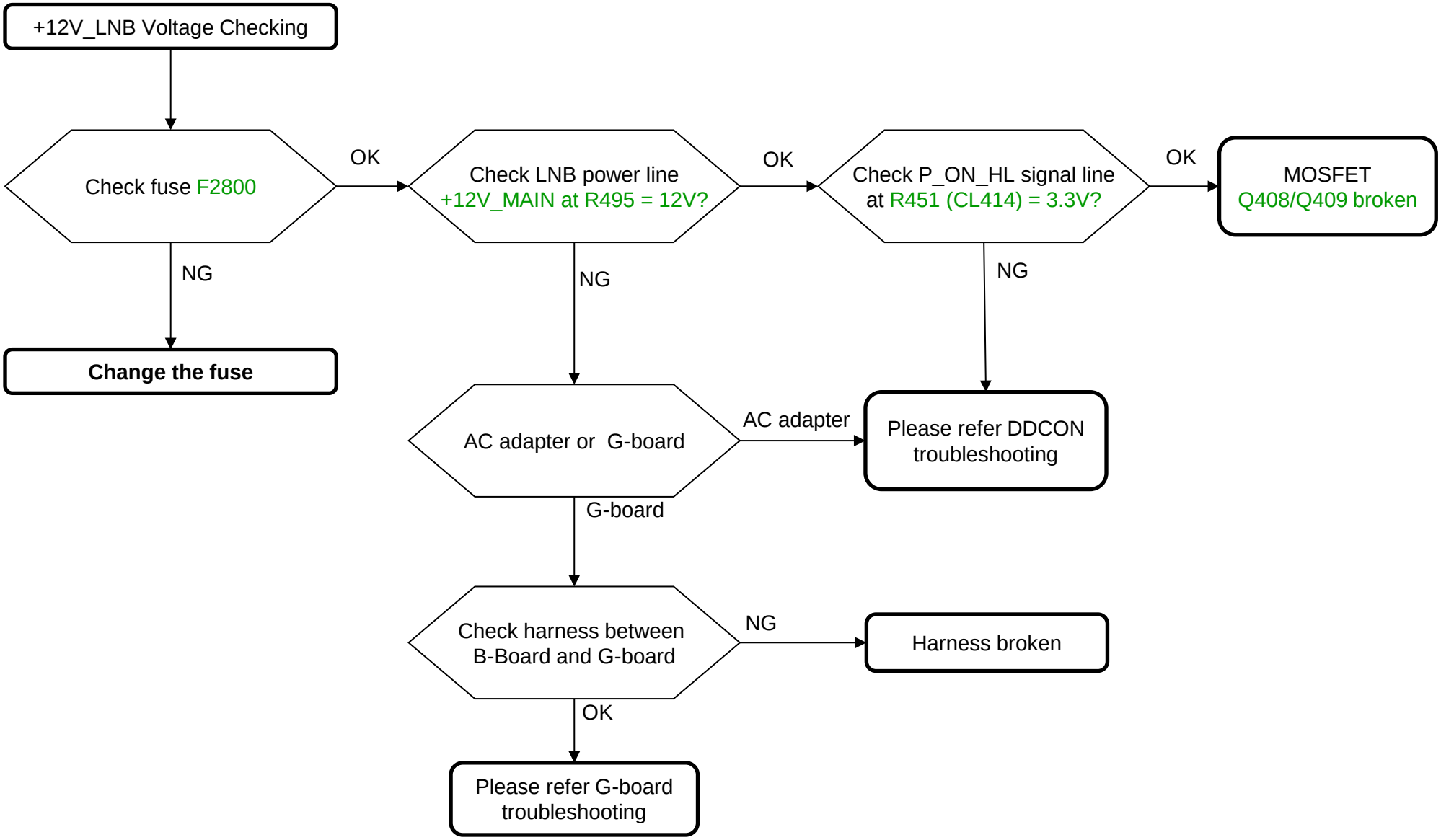
4.4 NO PICTURE TUNER

BCH (Top View)
For Tuner I2C line



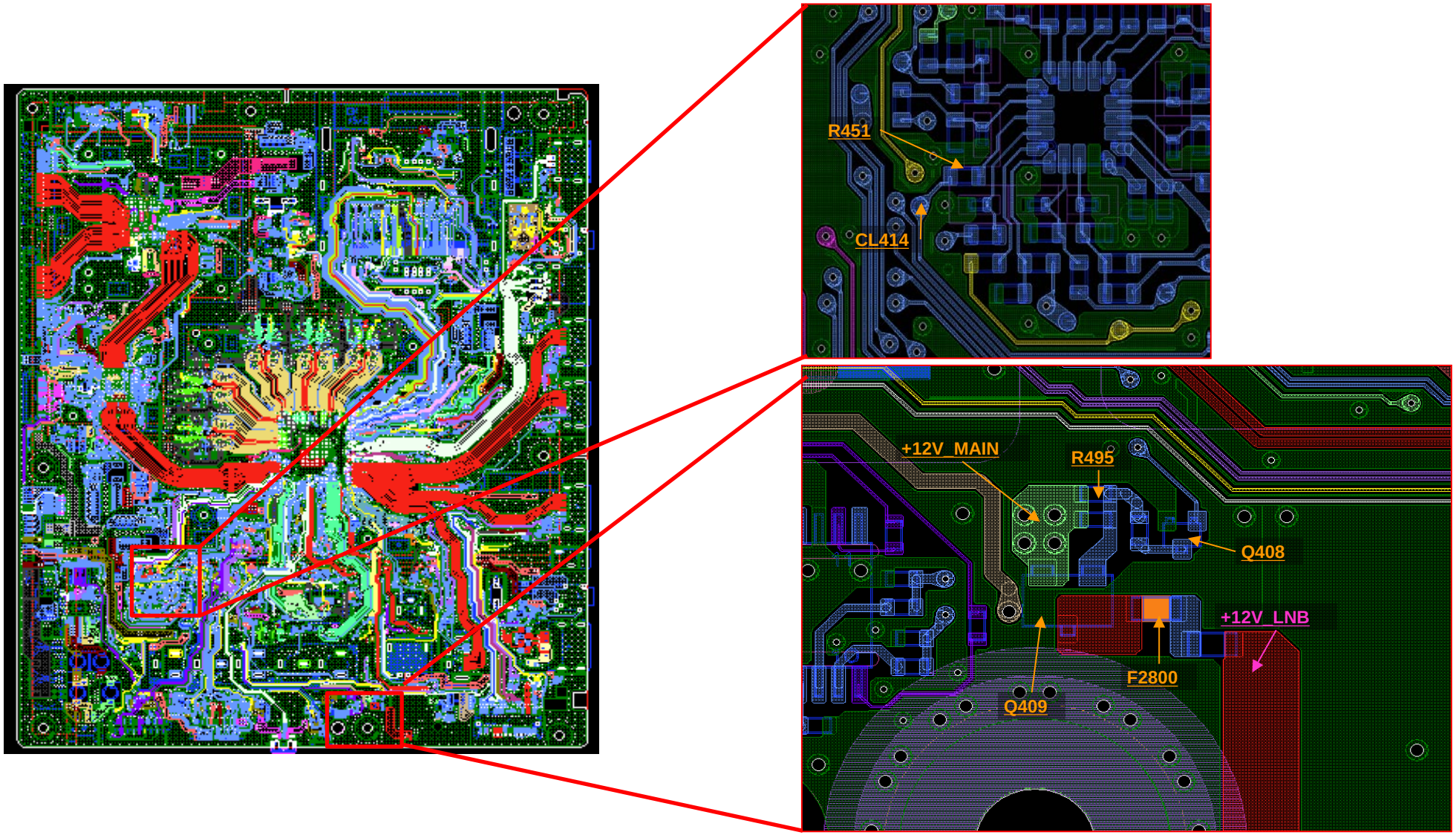
4.4 NO PICTURE TUNER

FOR 12V LNB Voltage Checking: @ AEP_W and JP



4.4 NO PICTURE TUNER

BCH (Top View)
12V LNB Voltage line

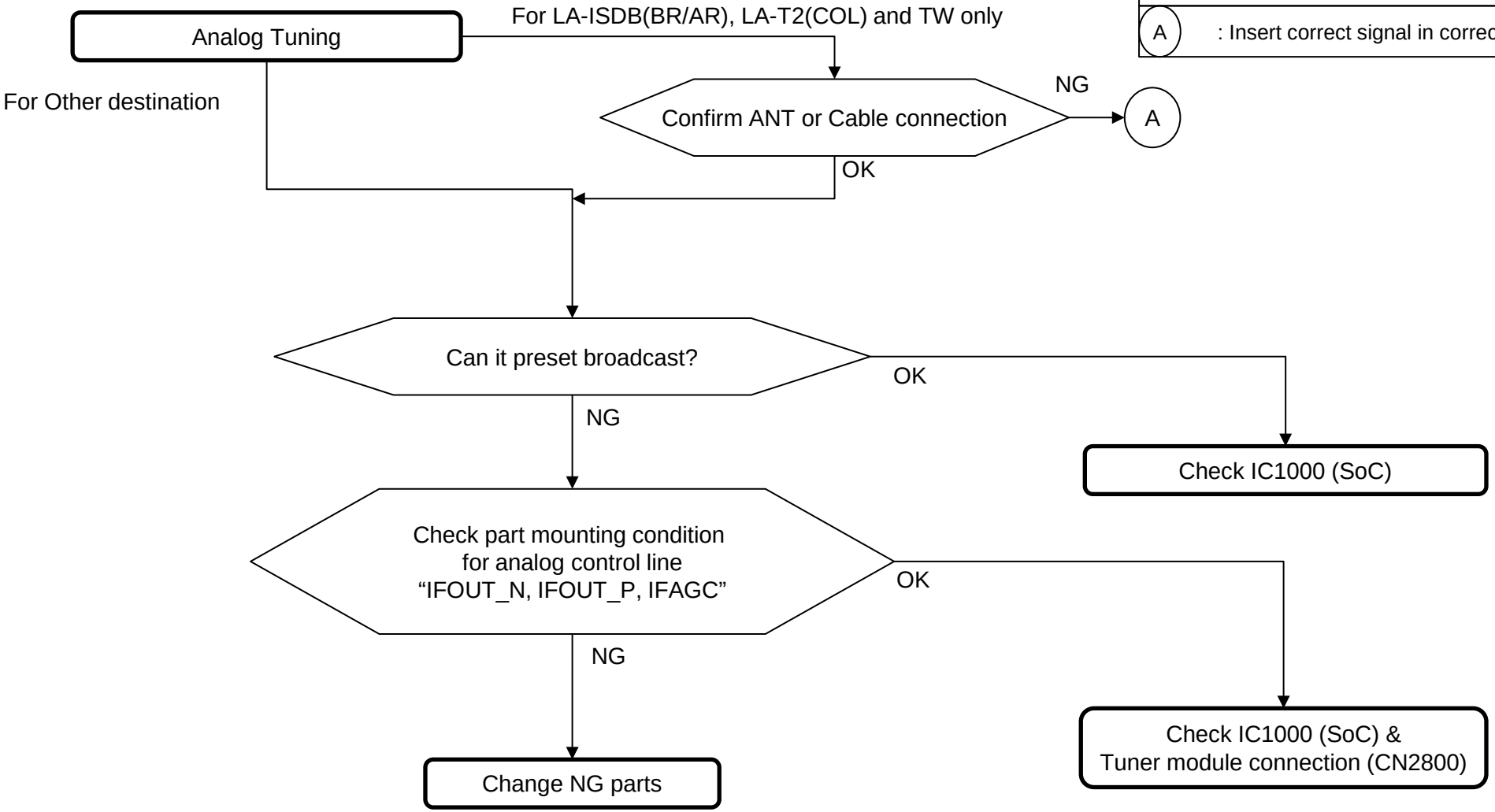


4.4 NO PICTURE TUNER

FOR ANALOG TUNING: @ All destination except JP

Notes:
- Parts for IFOUT_N line : FB2801, C2807, C2826
- Parts for IFOUT_P line : FB2802, C2808, C2825
- Parts for IFAGC line : R2838, C2827

A : Insert correct signal in correct terminal.

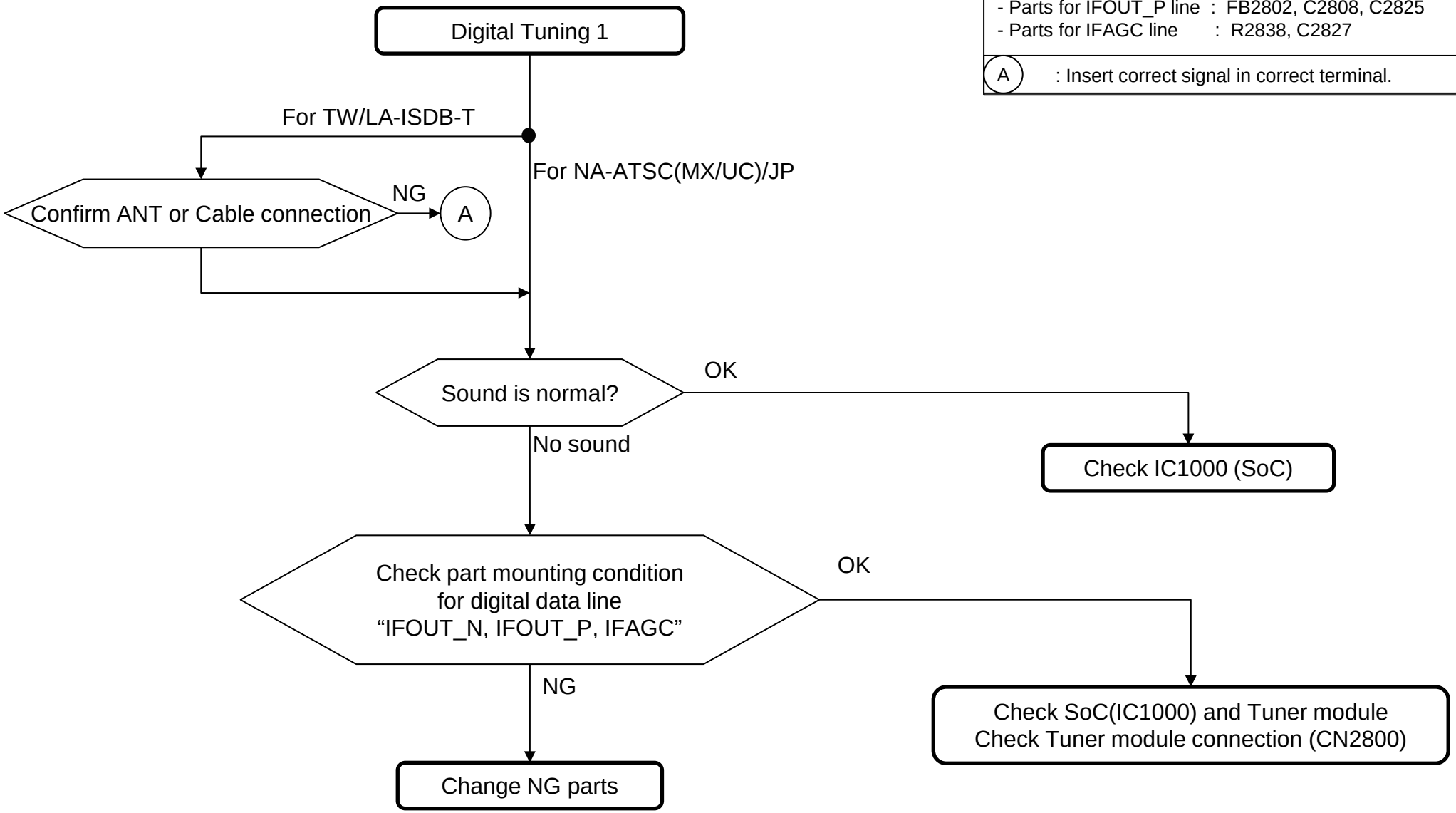


4.4 NO PICTURE TUNER

FOR DIGITAL TUNNING 1: @ TW, NA-ATSC(MX/UC), JP and LA-ISDB-T.

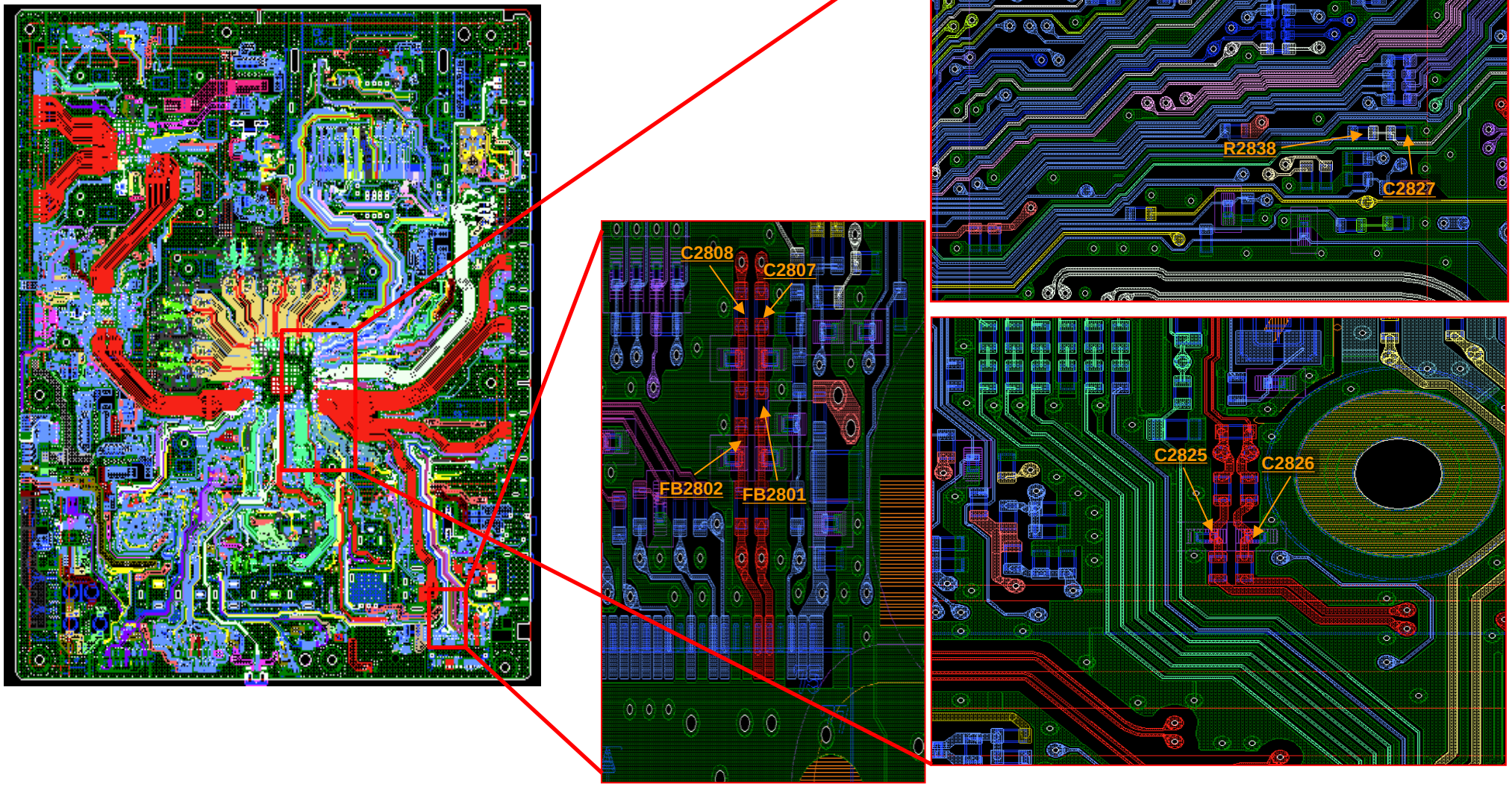
Notes:
- Parts for IFOUT_N line : FB2801, C2807, C2826
- Parts for IFOUT_P line : FB2802, C2808, C2825
- Parts for IFAGC line : R2838, C2827

A : Insert correct signal in correct terminal.



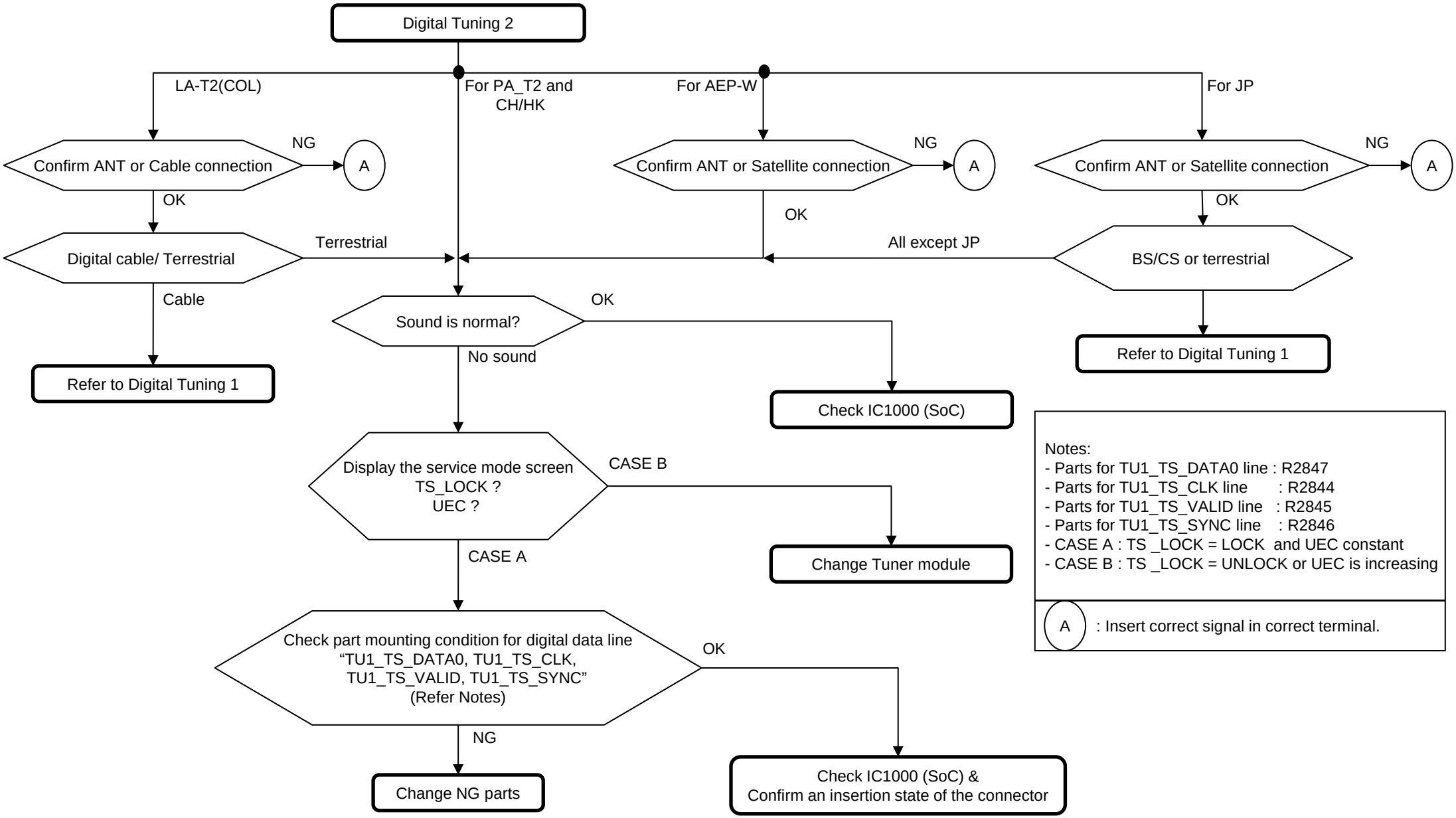
4.4 NO PICTURE TUNER

BCH (Top View)
IF & IFAGC line



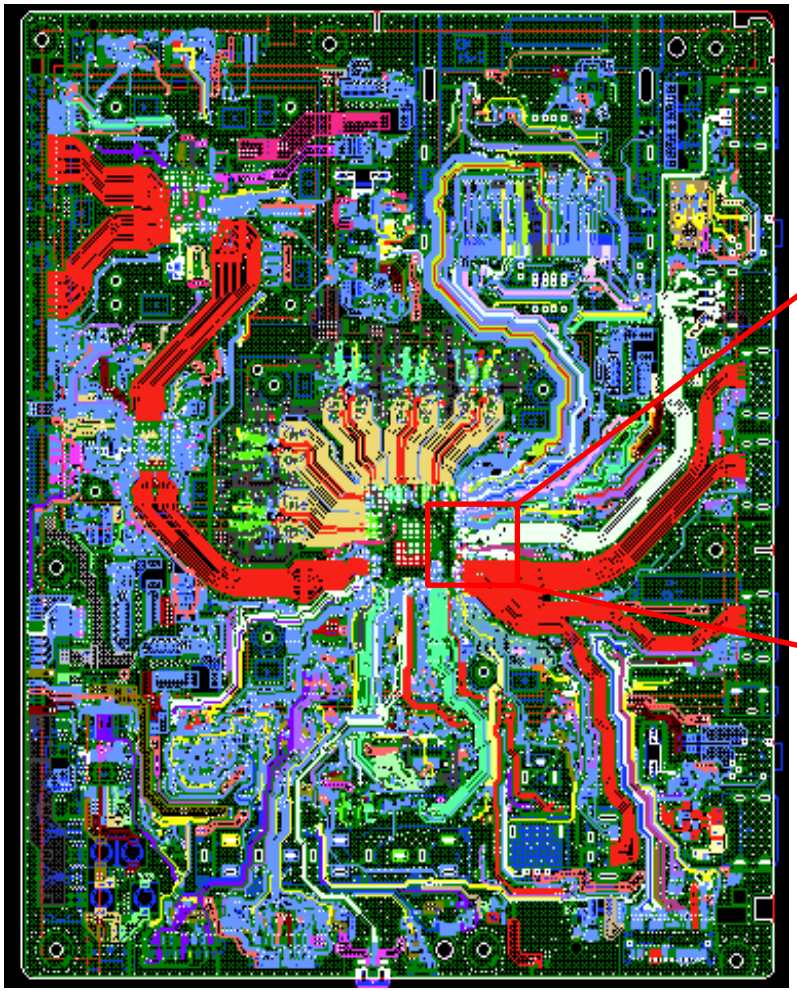
4.4 NO PICTURE TUNER

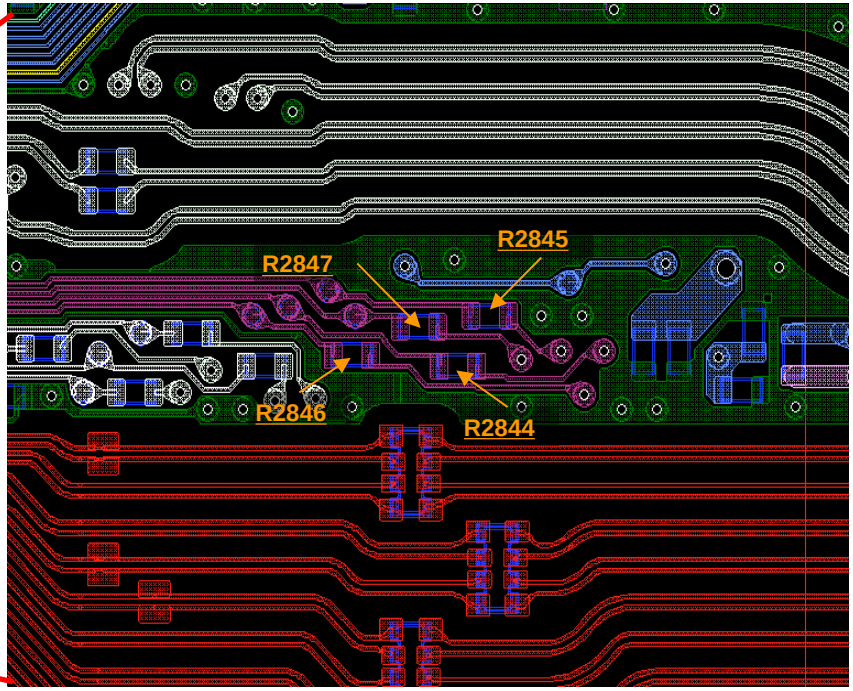
FOR DIGITAL TUNNING 2: @ AEP_W, JP, PA_T2, CH/HK, and LA-T2(COL)



4.4 NO PICTURE TUNER

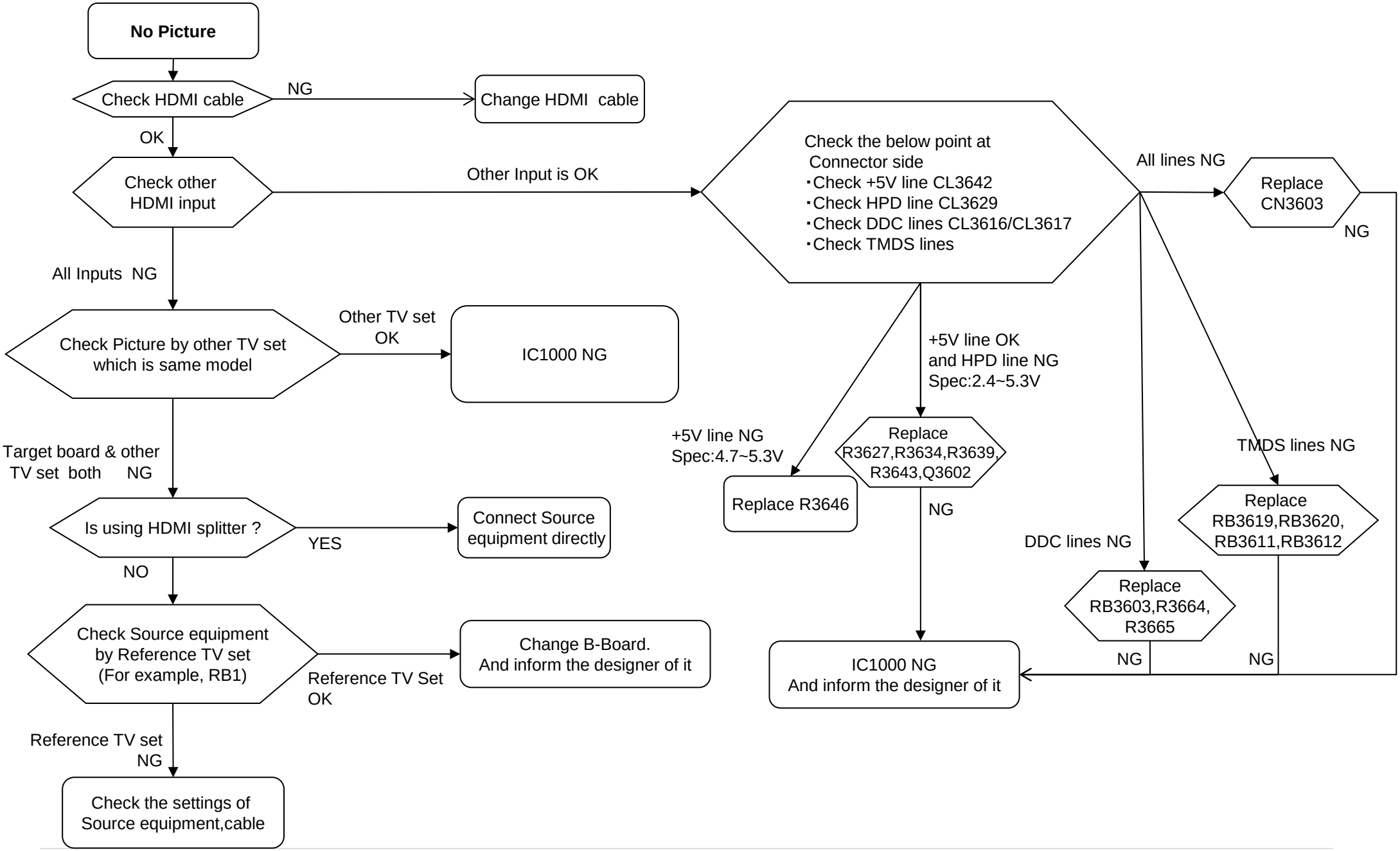
BCH (Top View)
TS1 line



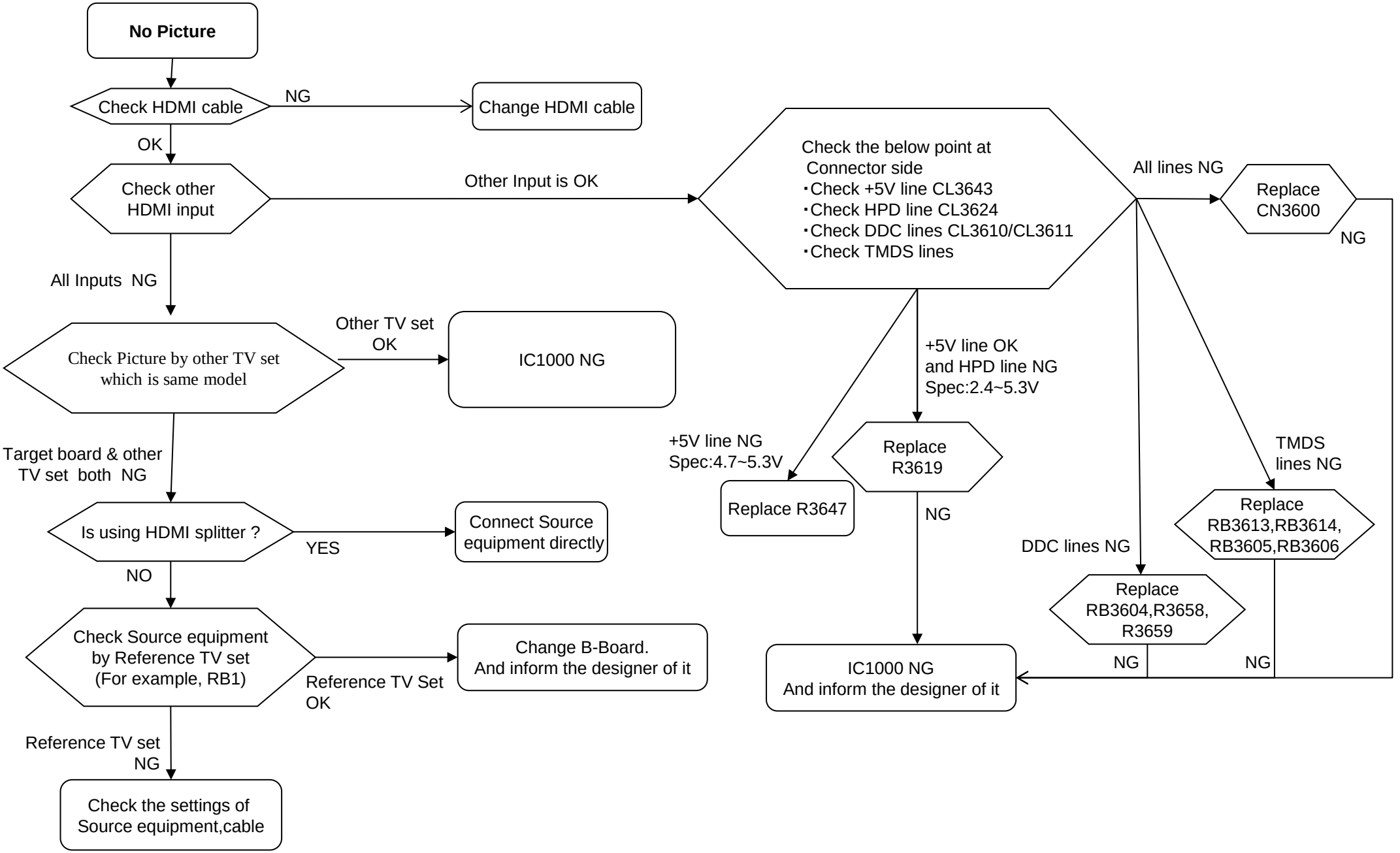


(Under the heatsink)

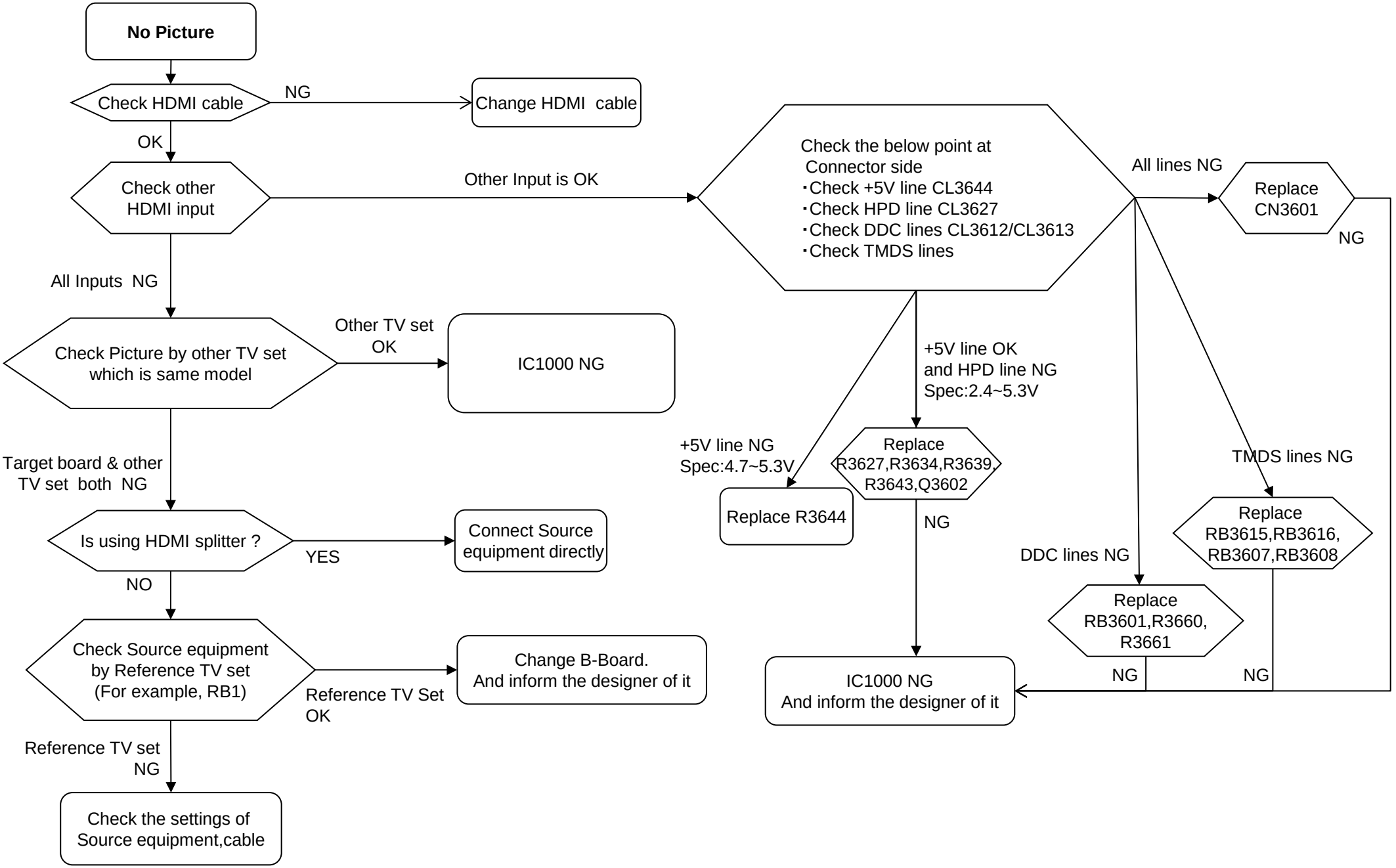
4.5 NO PICTURE: HDMI 1



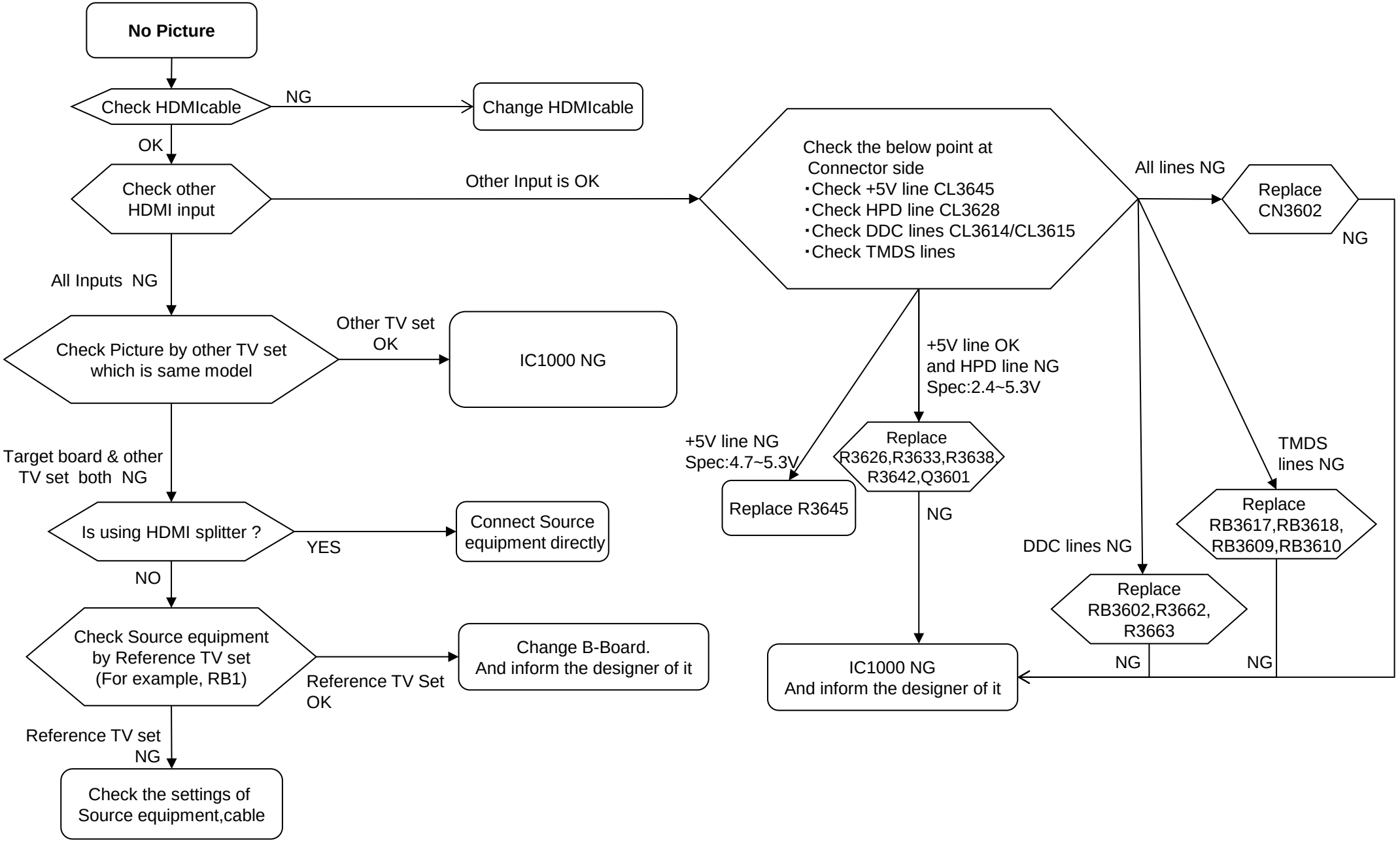
4.5 NO PICTURE: HDMI 2



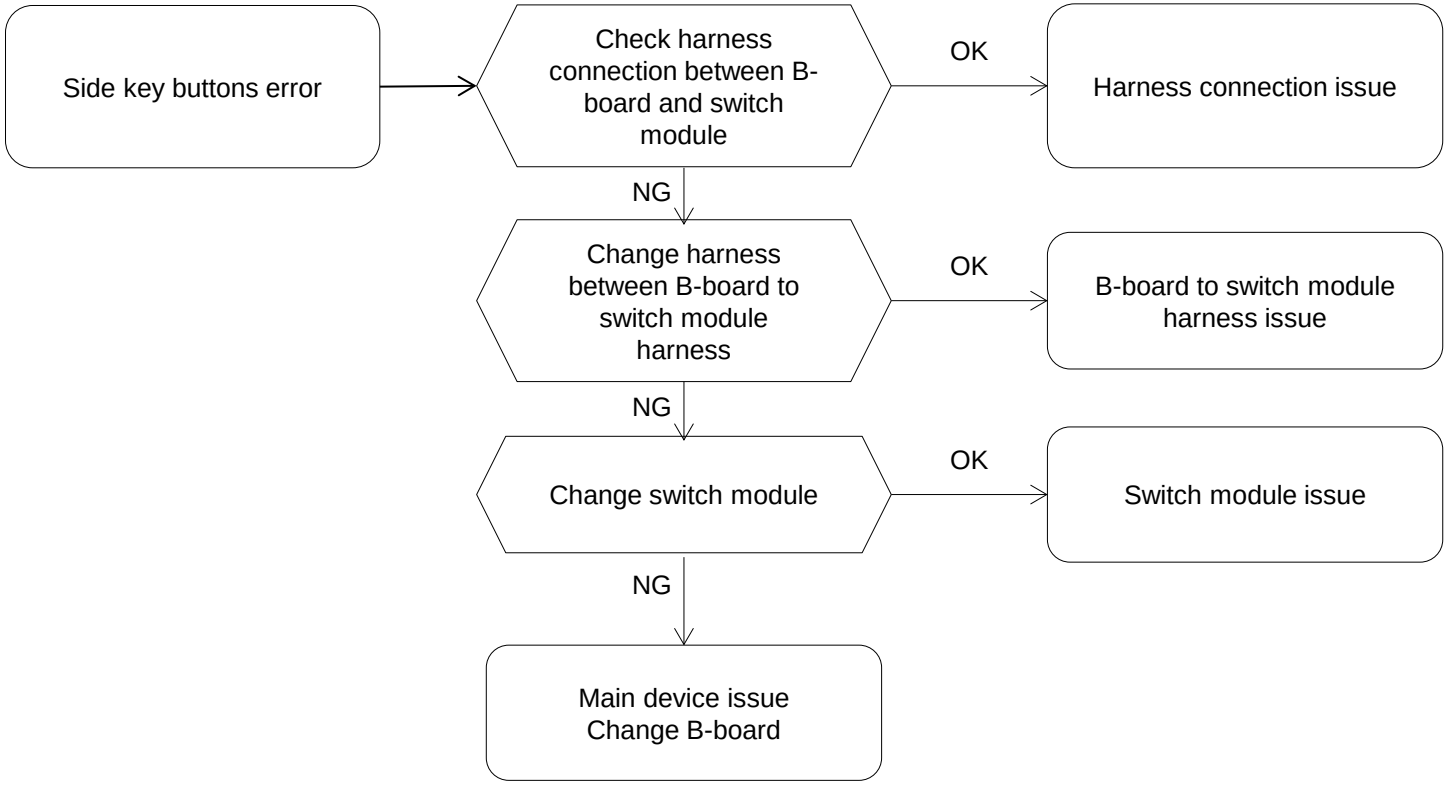
4.5 NO PICTURE: HDMI 3



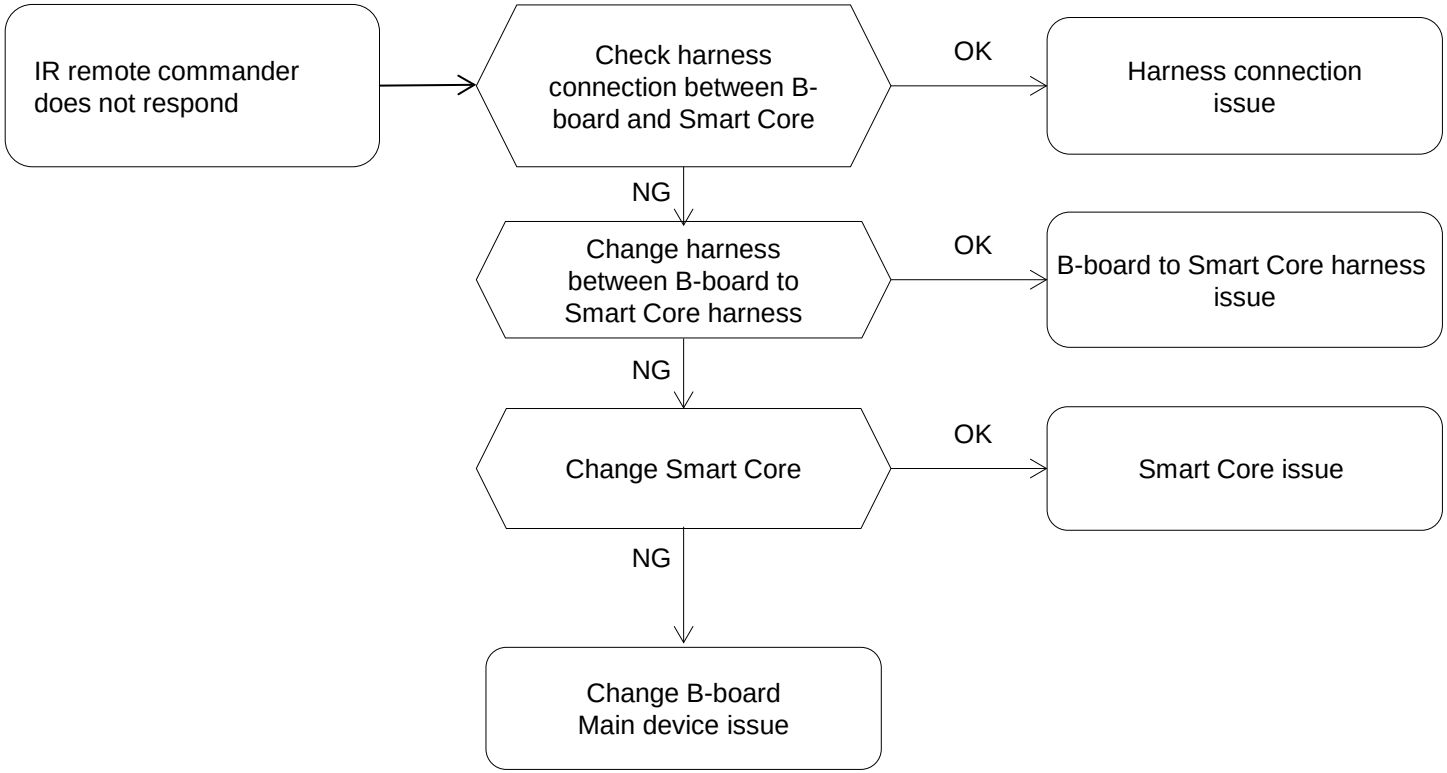
4.5 NO PICTURE: HDMI 4



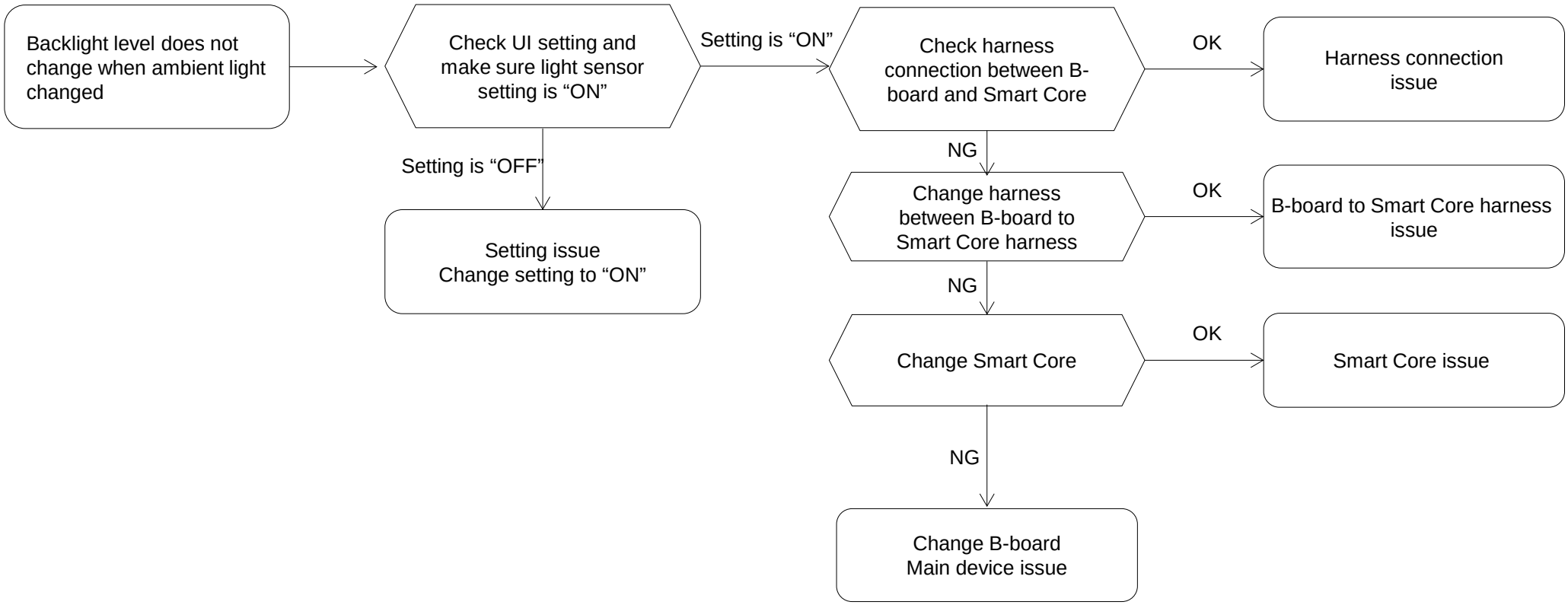
5.0 Key Switch Buttons Error



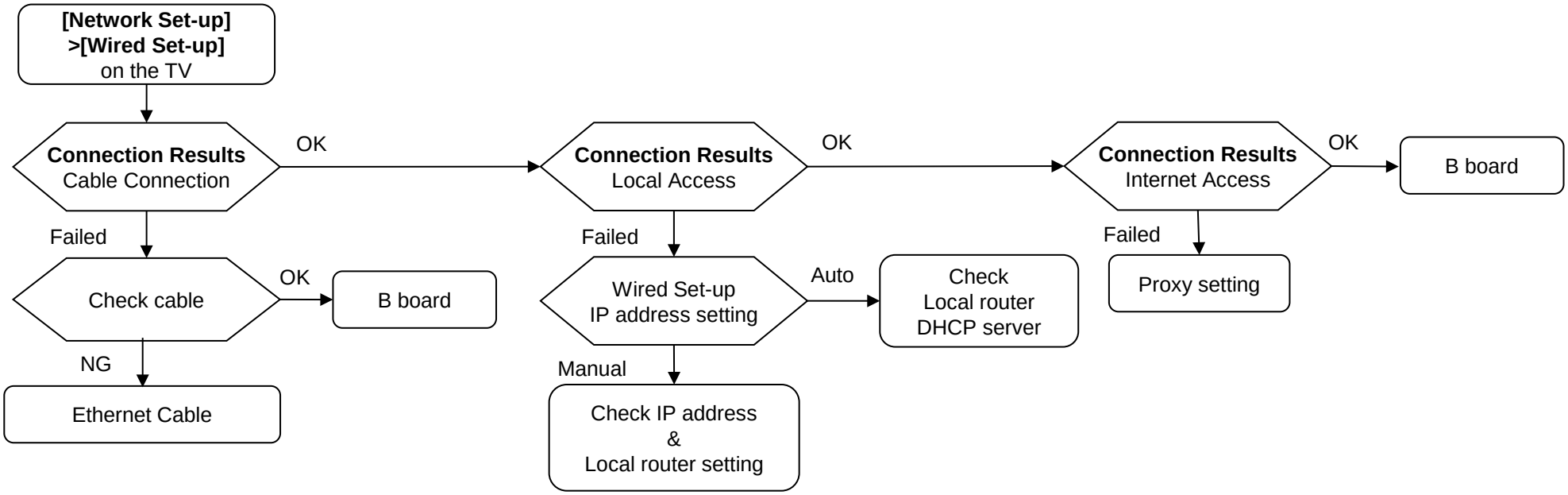
5.1 IR Remote Commander Error



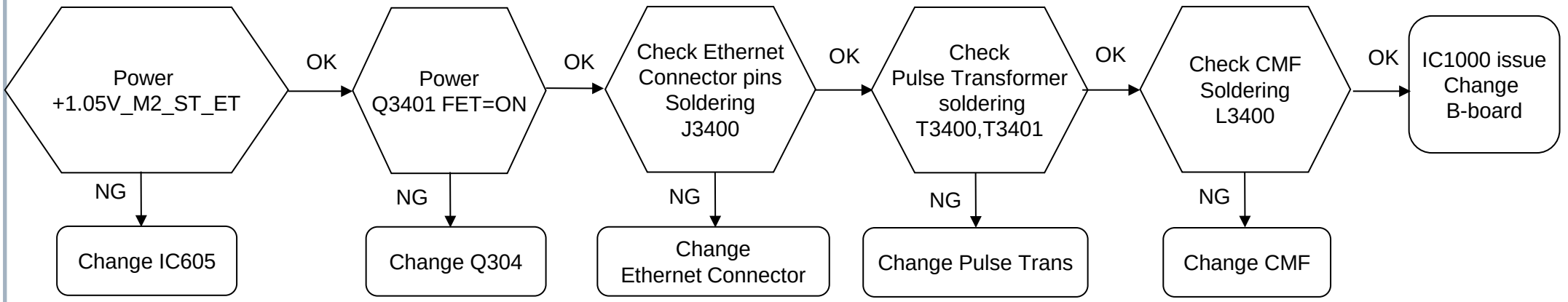
5.2 Light Sensor Error



6.0 Network Malfunction: Ethernet (Wired)

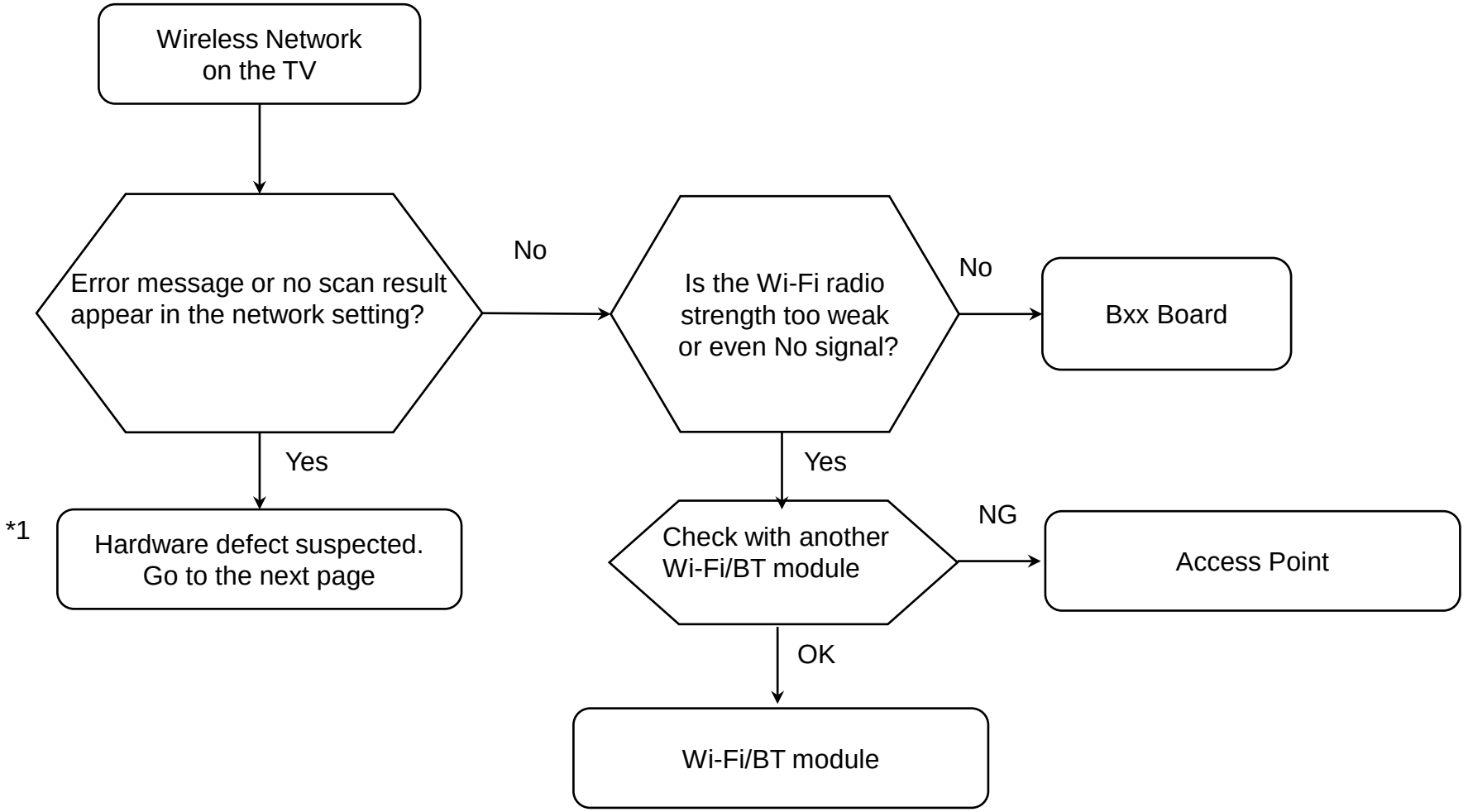


B Board

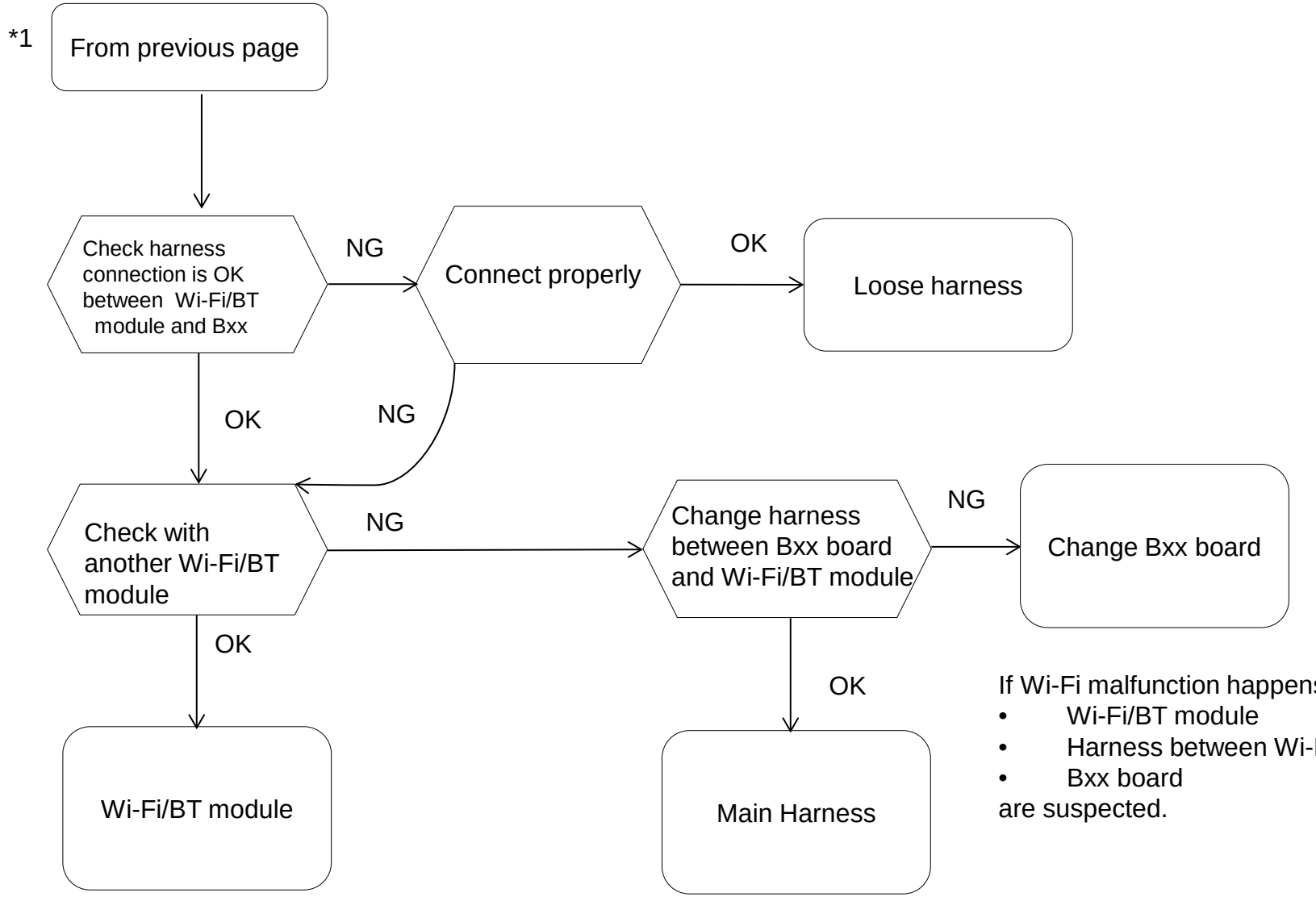


6.2 Wireless Network malfunction (1/2)

1) Internal Wireless Network malfunction



6.2 Wireless Network malfunction (2/2)

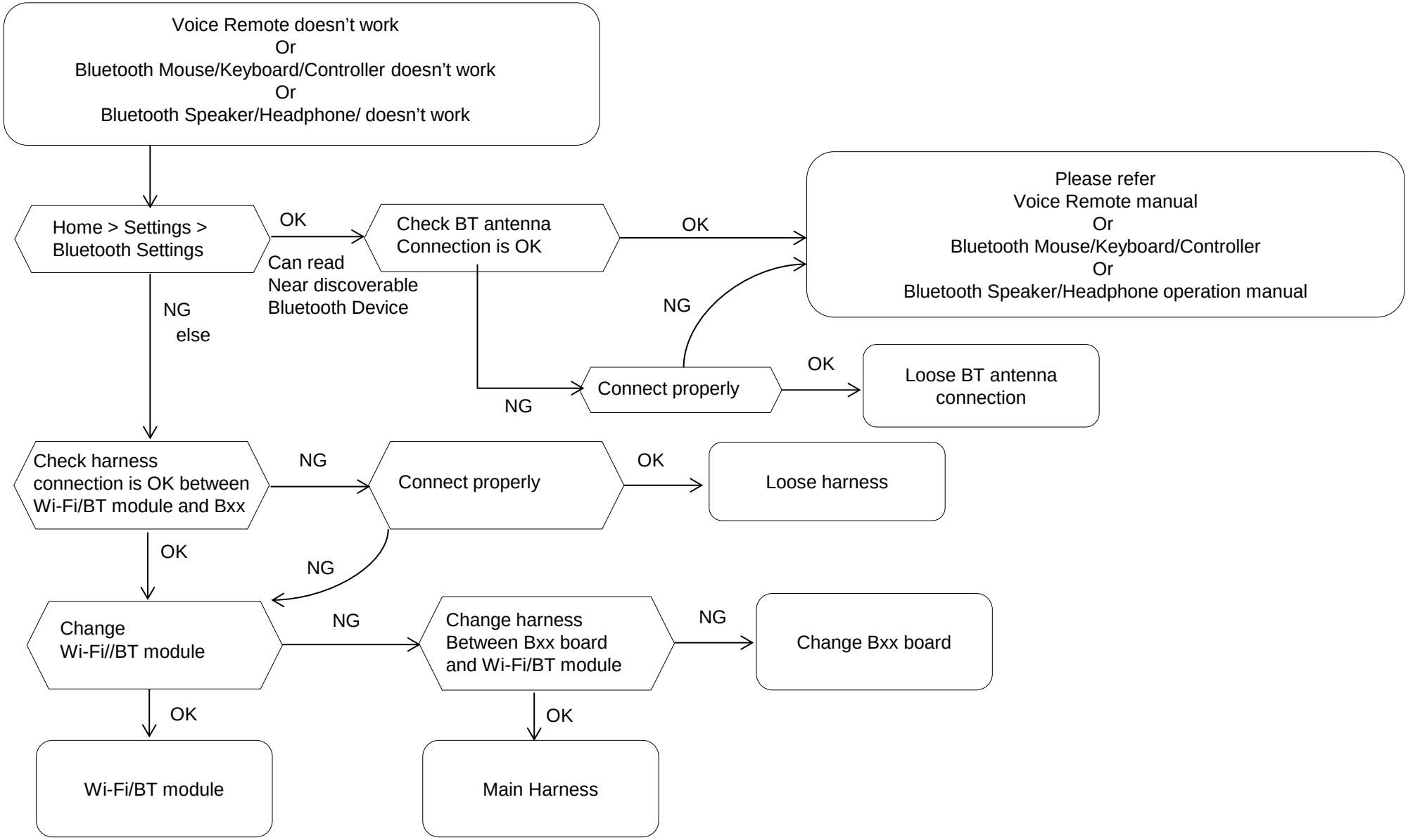


If Wi-Fi malfunction happens,

- Wi-Fi/BT module
- Harness between Wi-Fi/BT and Bxx
- Bxx board

are suspected.

6.3 Bluetooth malfunction



SECTION 4
SERVICE ADJUSTMENT

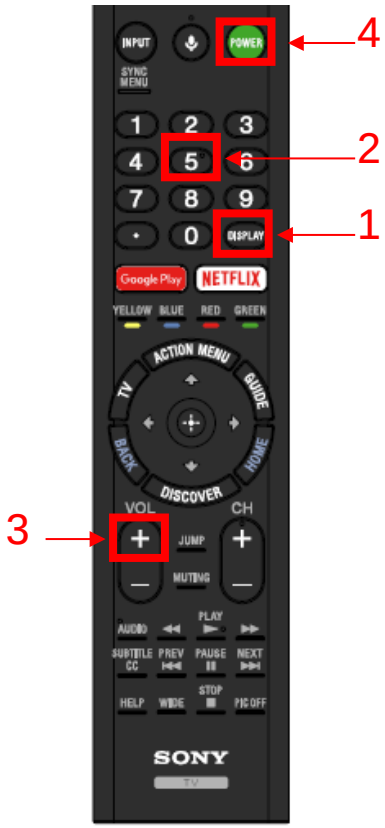
When finished the operation of service mode , please AC Plug OFF/ON the TV set

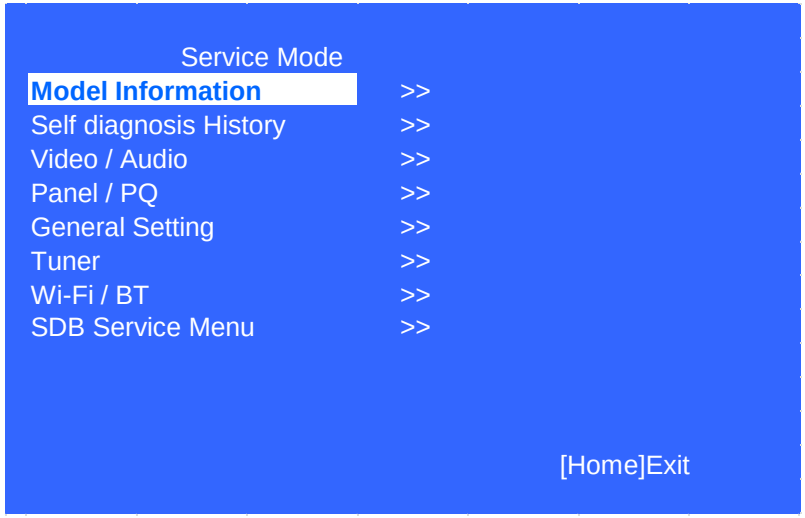
*If you don't do AC plug OFF/ON, remain the Service Mode App and user can see the Service Mode after RC ON.

4.1 How to Enter Service Mode

From Standby Mode

1. Go to TV standby condition by remote commander.
2. Press "Display or i+ (info)", "5", "Volume+" then "TV power" on remote.
3. You can see Service menu on display.



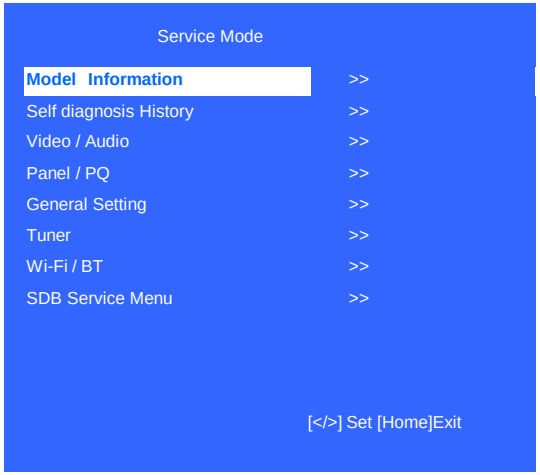


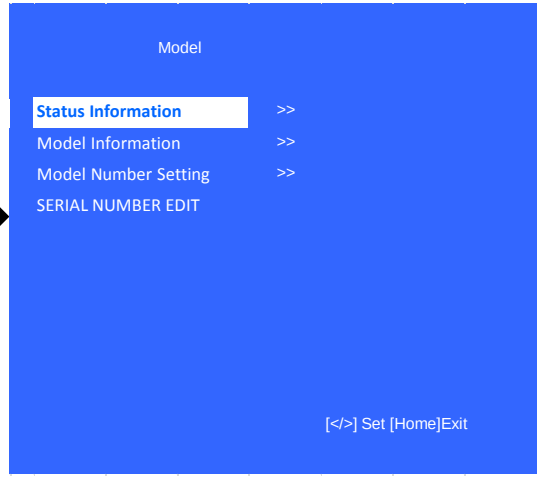
Summary of Service Control

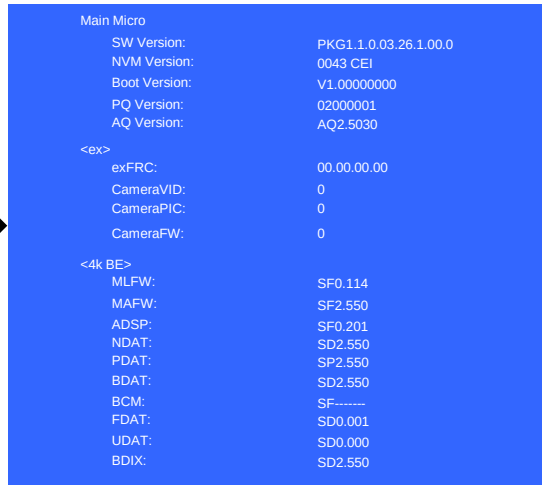
Function	The flow of control
Service mode on	<Display or i+(info)> <5> <Vol. Up> <Power>
Close Service menu	<Home>
Service mode off	AC plug OFF
Item up / down	<↑> / <↓>
Item select left/right	<←> / <→>
Execute	<Enter>

4.2 Software Version

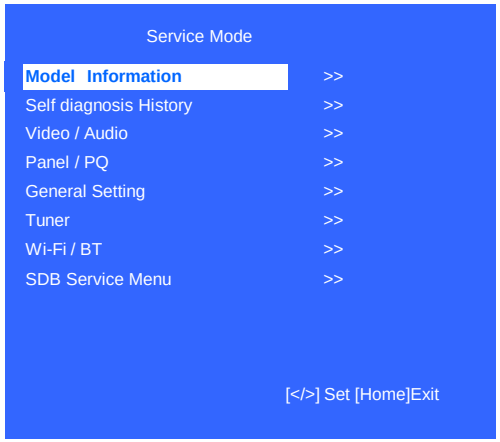
1) In Service Mode, select “Model Information”, press “Enter” or → button to enter **Status Information**







2) Press “Enter” or “BACK” button to return to Service Mode



4.3 Serial Number Edit (1)

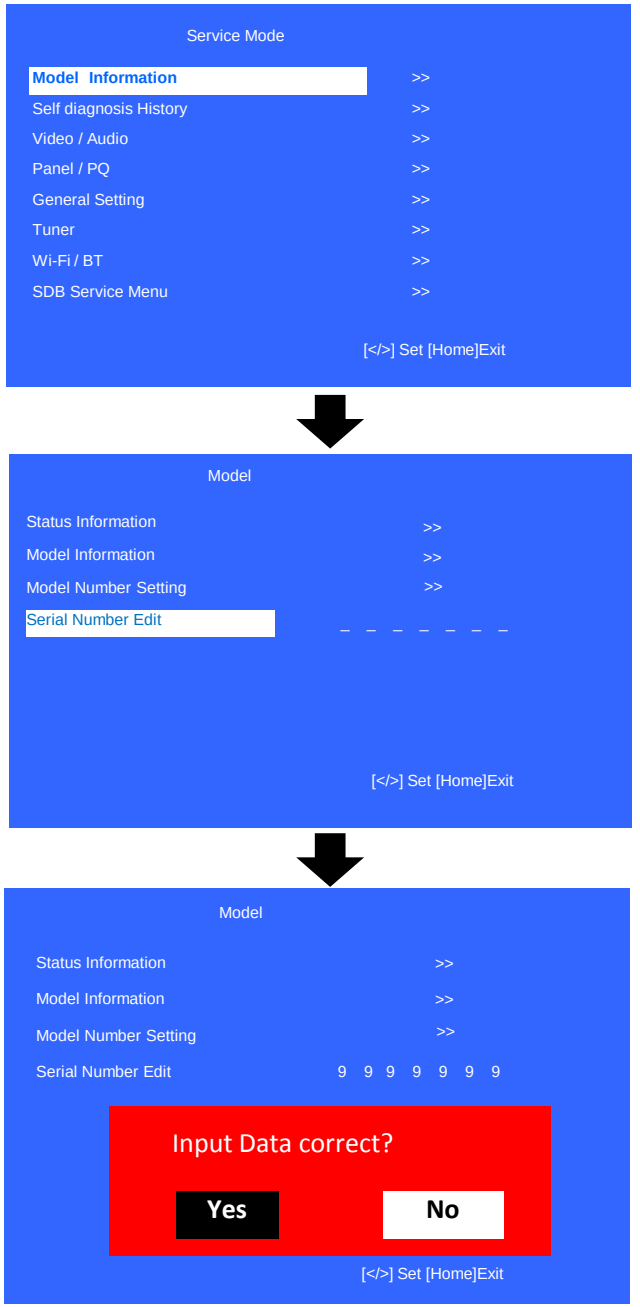
1) In “Service Mode”, select “Model Information” by pressing “↑” or “↓” then pressing “Enter” or “→” button to enter inside.

2) Select “Serial Number Edit” by pressing “↑” or “↓” button then pressing “→” button

3) Press “↑” or “↓” to input numbers

4) After user input data , press <Enter>
   - ☐ Pop-up dialog appear to confirm input data correct
   - ☐ **Serial Number can be set ONLY ONCE**

5) Press “→” or “←” button to select YES or NO. Select YES if input data is correct. Select NO if input data is incorrect. Press <Enter> to save answer.

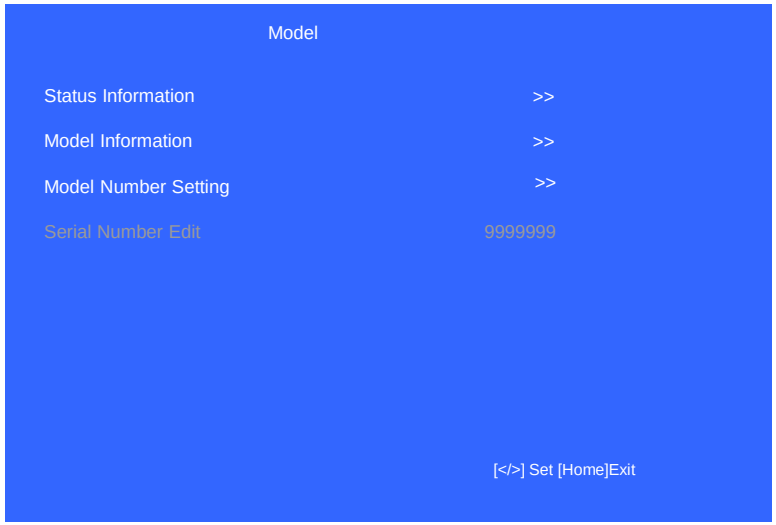


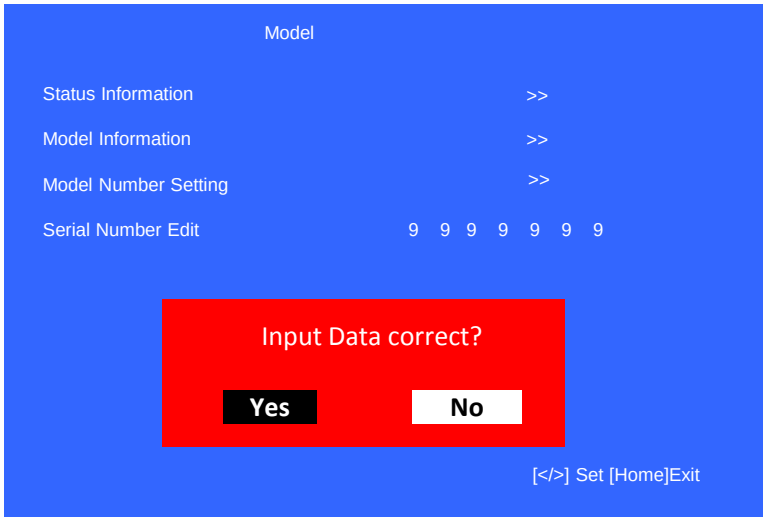
* The font color of YES/NO is change to black when it is selected.

4.3 Serial Number Edit (2)

If YES is selected, the input data is saved into EEPROM. SERIAL NUMBER EDIT is grayed out and the serial number that has been input is displayed. Operator will not able to edit anymore.

If NO is selected, the input data is not saved into EEPROM. The serial number that has been input is displayed. Operator can still edit the Serial Number.





*The font color of YES/NO is change to black when it is selected.

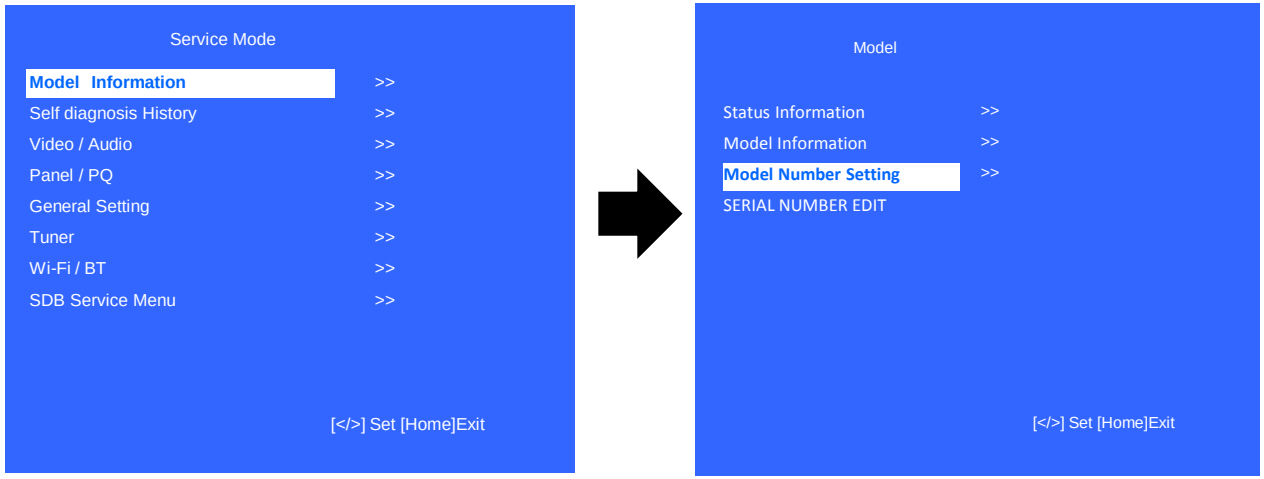
4.4 Model Number Setting

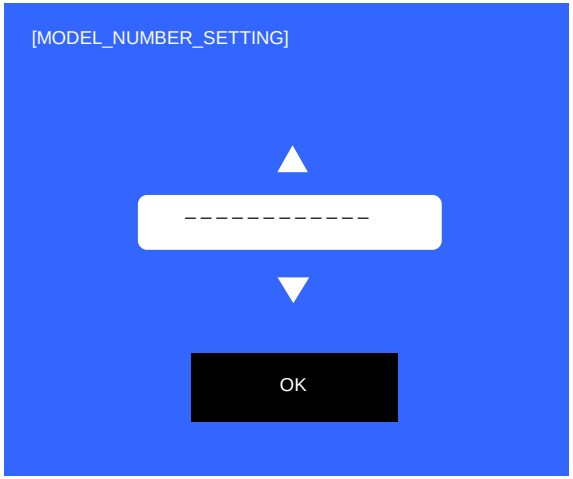
1) In “Service Mode”, select “Model Information” by pressing “↑” or “↓” then pressing “Enter” or “→” button to enter inside.

2) Select “Model Number Setting” by pressing “↑” or “↓” button then pressing “Enter” or “→” button

3) Press “↑” or “↓” arrow key to scroll Product Name Candidate. (e.g. KD-65XF9005 CEI)

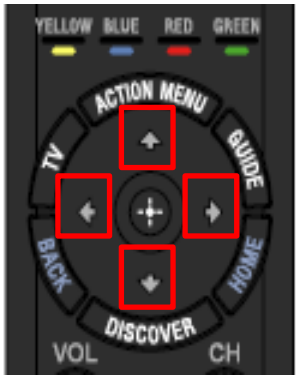
4) Select one Product Name from the list. After that select “[OK]” and press “Enter” button.



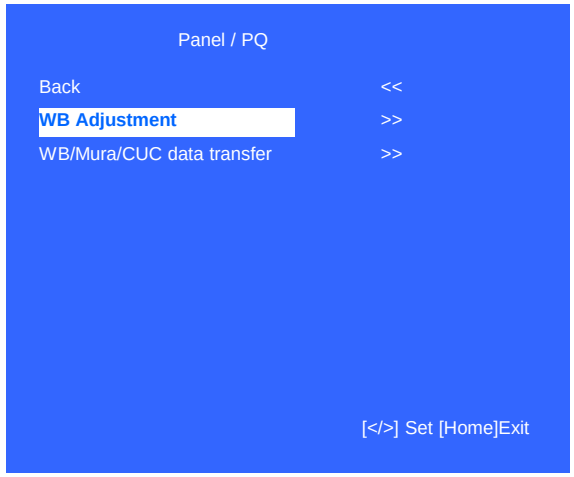


4.5 WB Adjustment (If necessary)

1. In **“Panel/PQ”** service mode
   a. Go to **“WB Adjustment”** category by “↑” or “↓”.
   b. To select **“WB Adjustment”**, press → button.
   c. To change data , press “←” or “→” on remote commander.

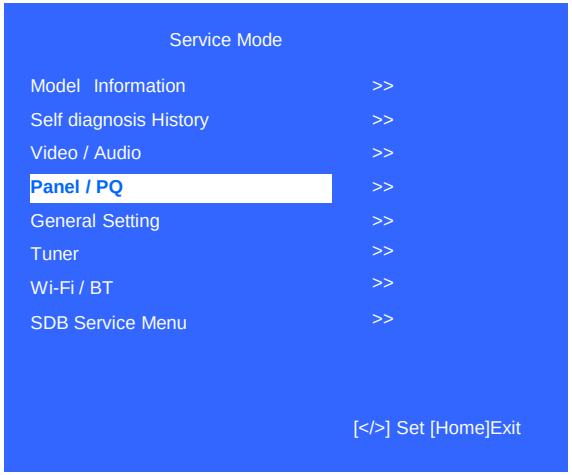


b.



c.

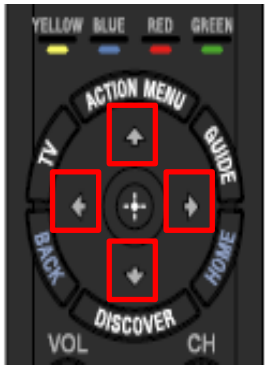
a.

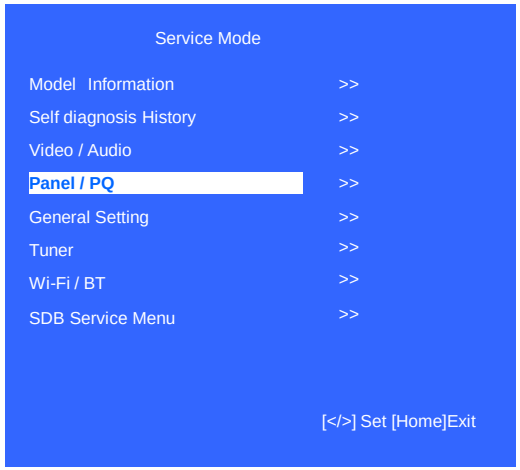


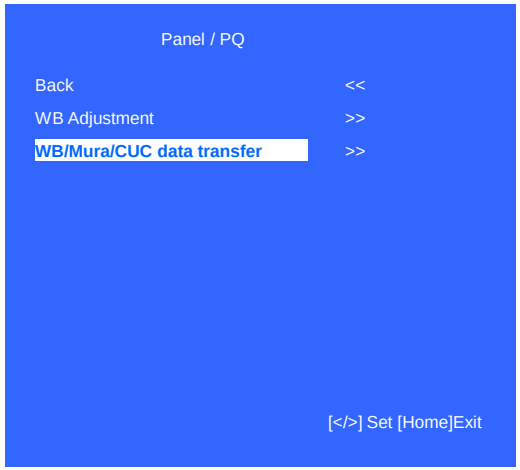
4.6 WB/Mura/CUC data transfer

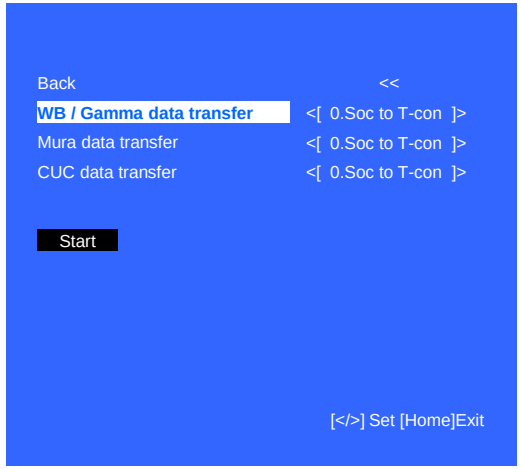
Please apply Main board or panel is replaced.

1. In **“Panel/PQ”** service mode
   a. Go to **“WB/Mura/CUC data transfer”** category by “↑” or “↓”.
   b. To select **“WB/Mura/CUC data transfer”**, press → button.
   c. To change data , press “←” or “→” on remote commander.









2. In **“WB/Mura/CUC data transfer”**
   a. Select “**WB/Gamma data transfer**” by pressing “↑” or “↓” on remote commander .
   b. To change the items, press “←” or “→” on remote commander and press “Enter” button.
      Selectable items are:
      - 0. SoC to T-con
      - 1. T-con to SoC
      - 2. Not action
   c. Similarly, to select the items in Mura and CUC data.
   d. Select “[start]” and press “Enter” button to start transfer.

4.7 HDD Performance Check (EU only)

1) In “Service Mode”, select “General Setting” by pressing “↑” or “↓” then pressing “Enter” or “→” button to enter inside.

2) Select “HDD Performance check ” by pressing “↑” or “↓” then pressing “Enter” or “→” button to enter inside.

3) A message "Please wait ..." is displayed during performance check processing.

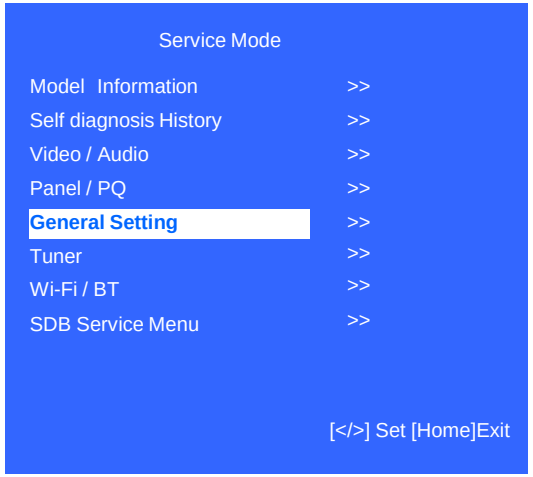
4) Result **OK** or **NG** will be displayed after performance of HDD is checked

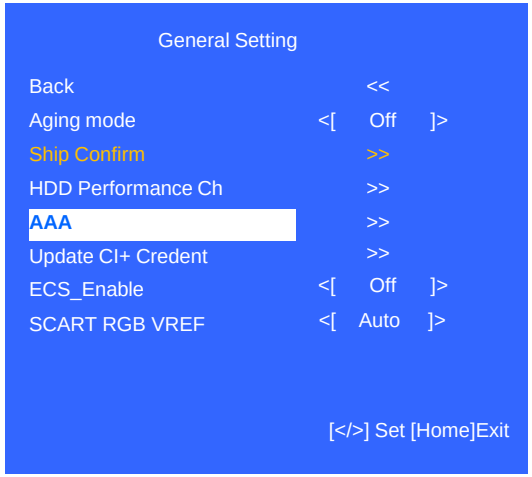
4.8 HDD Re-Register (EU only)

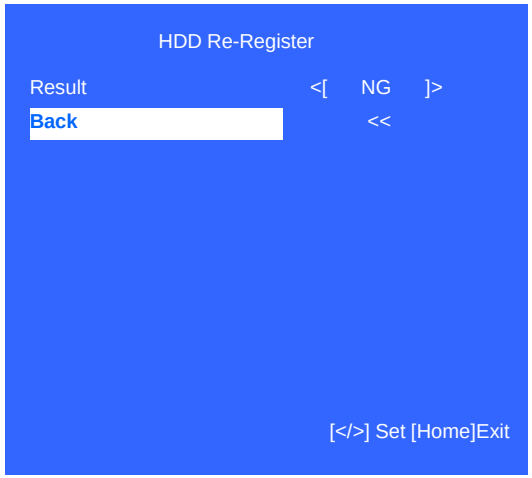
1) In “Service Mode”, select “General Setting” by pressing “↑” or “↓” then pressing “Enter” or “→” button to enter inside.

2) Select “AAA” by pressing “↑” or “↓” then pressing “Enter” or “→” button to enter inside.

3) Result **OK** or **NG** will be displayed after HDD re-registration is succeed/failed







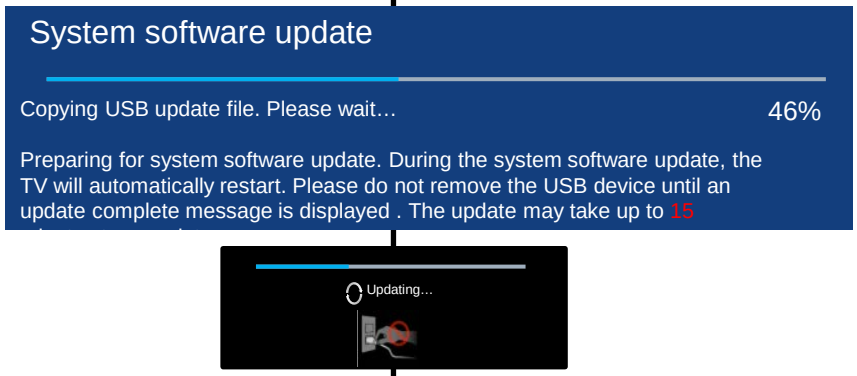
USB Update

1:Download USB image and unzip file.

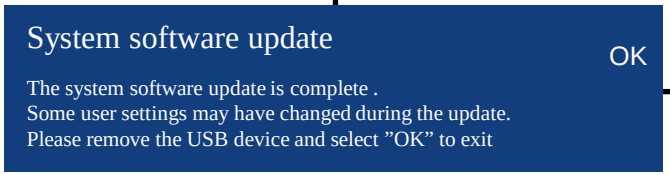
2: copy unzip file to USB memory root folder.

3: USB memory insert TV.

4-a:USB image is newer soft version.
Automatically show message and start update.
Please follow directions.

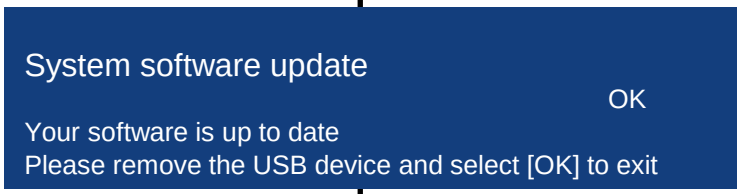


***BR/CO/LA only**
TV will reboot and enter STBY status.
Press "Power" key of remote commander to turn on TV.



5: finished

4-b:USB image is not newer soft version.
Automatically show message.
Please follow directions.



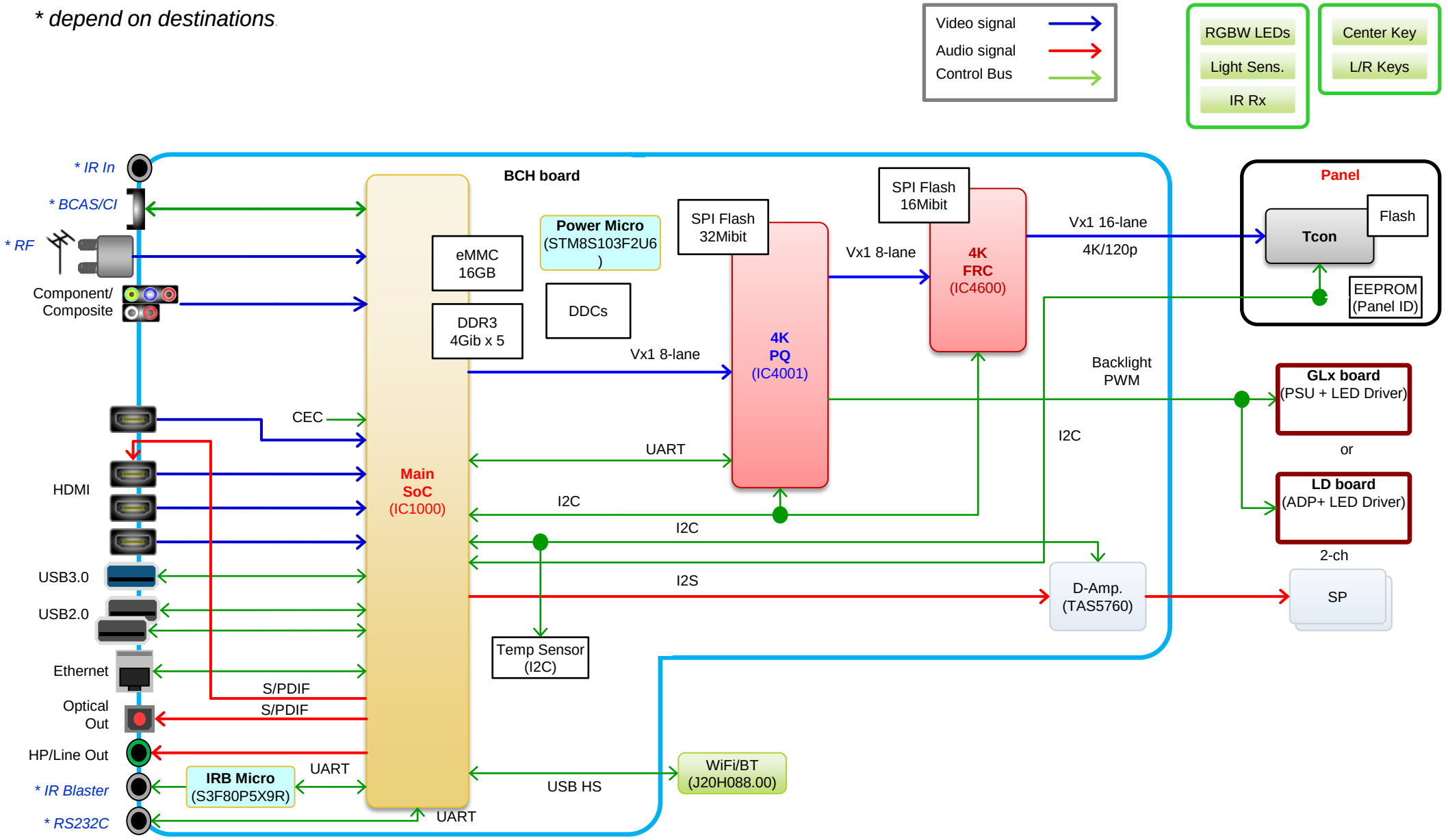
5: finished

Caution:
Do not power off while the update is in progress.

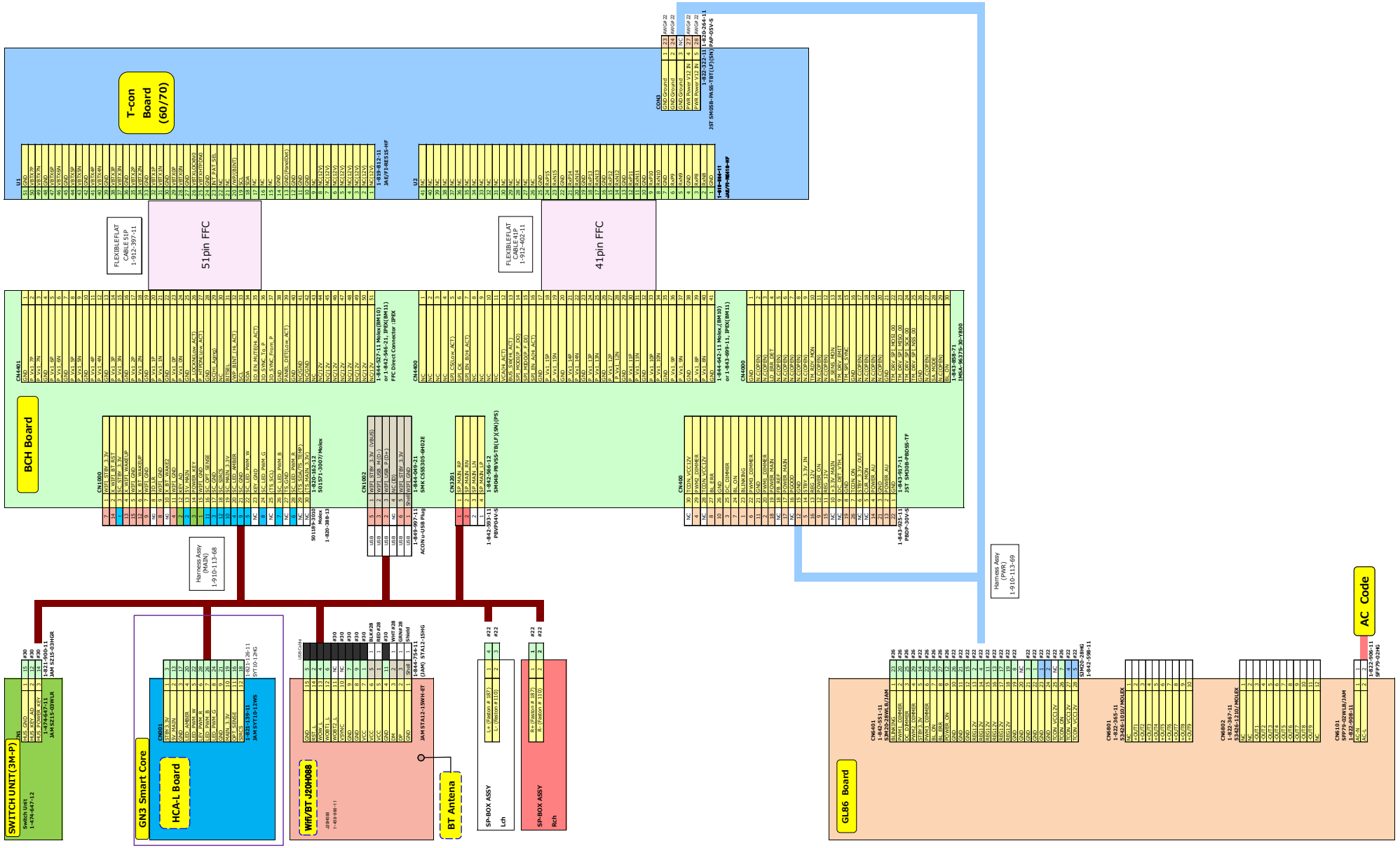
SECTION 5
DIAGRAMS

5.1 Block Diagram

** depend on destinations*



5.2 Connector Diagram 75”



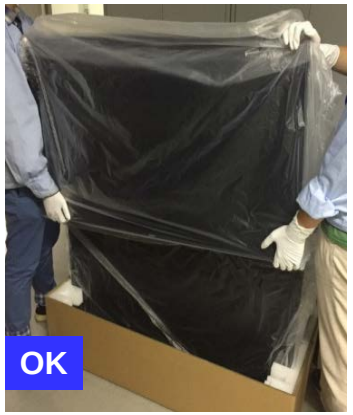
SECTION 6
PANEL and TV SET HANDLING

1. Unpacking

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

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

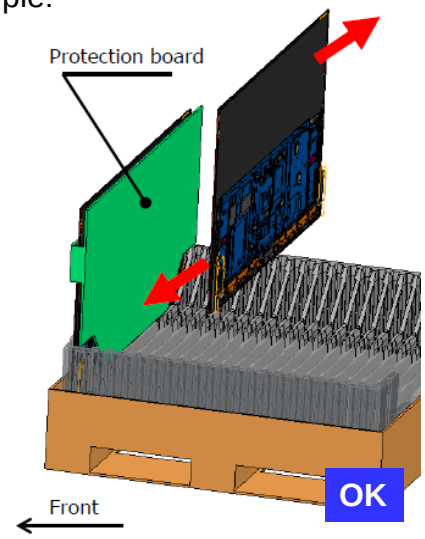
2. Take out panel vertically from carton box.
And do not hit other panel.

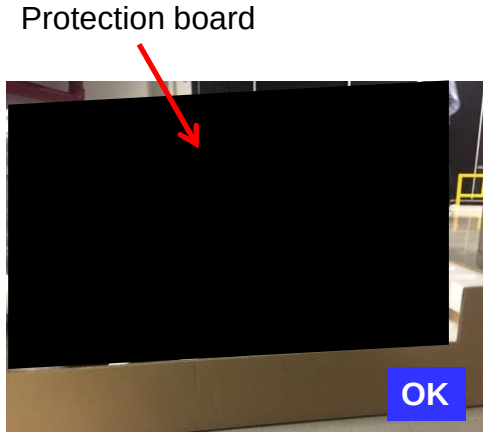


1. Unpacking

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

Example:





Front view

Side view

1. Unpacking

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

4. Do not hold or press O-Cell.

OK

NG

NG

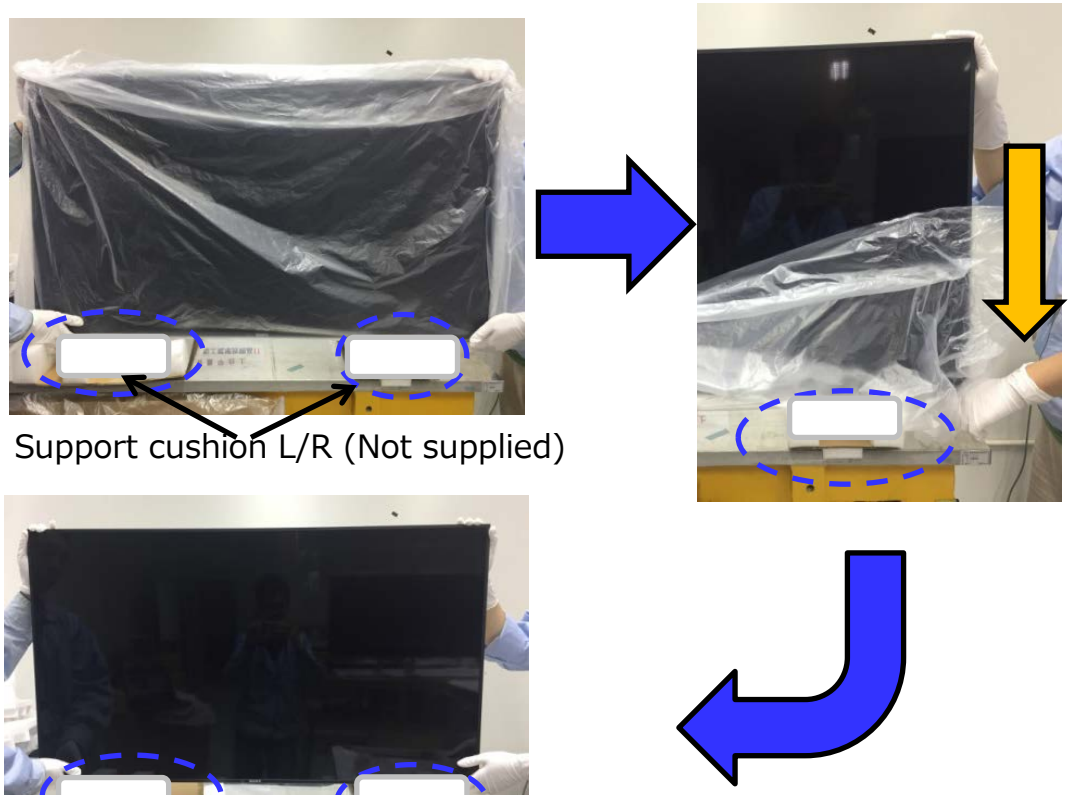
OK

NG

1. Unpacking

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

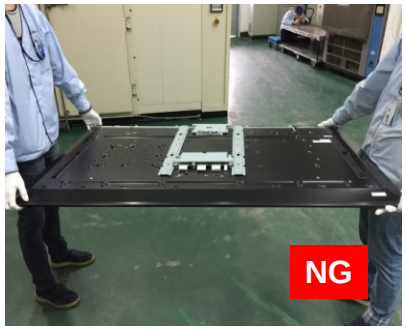
5. Put on to table & remove the protection bag.
   Caution: To avoid hitting the center area of Plastic BEZEL bottom for smart core.
   Please prepare and use support cushion on both side as below.



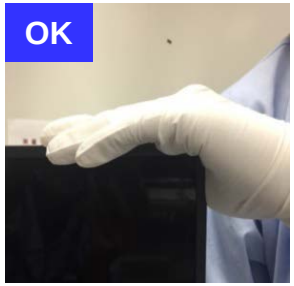
2. Carrying

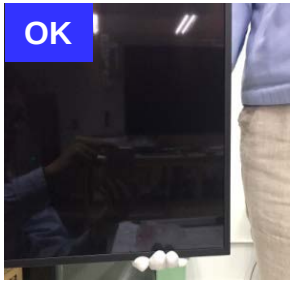
Caution:
Does not apply when vacuum handling jig is used.

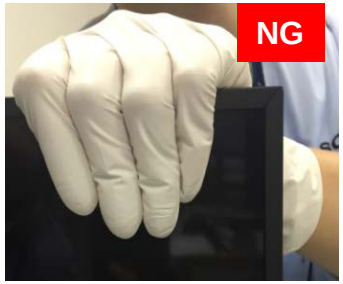
1. Carry panel vertically.



2. Do not hold or press O-Cell.





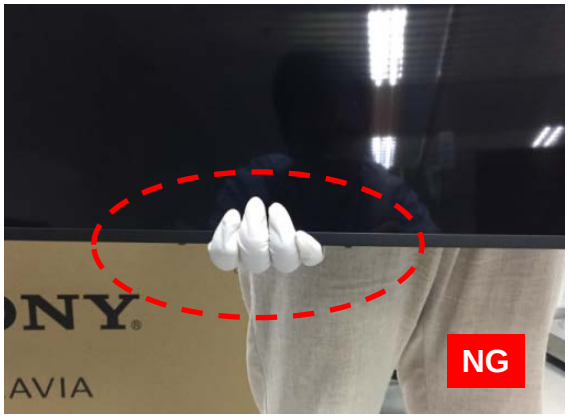


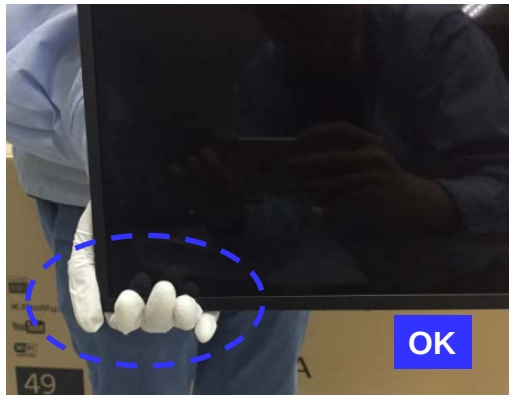
2. Carrying

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

3. Hold panel by 2 people.

4. Do not hold the panel at the center area.

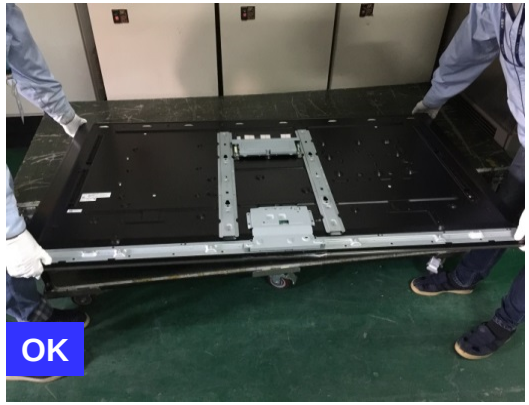




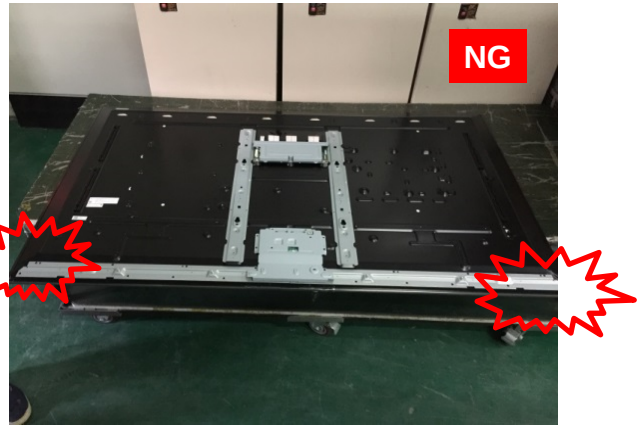
3. Placing on table

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

1. Put the Panel by 2 operators.

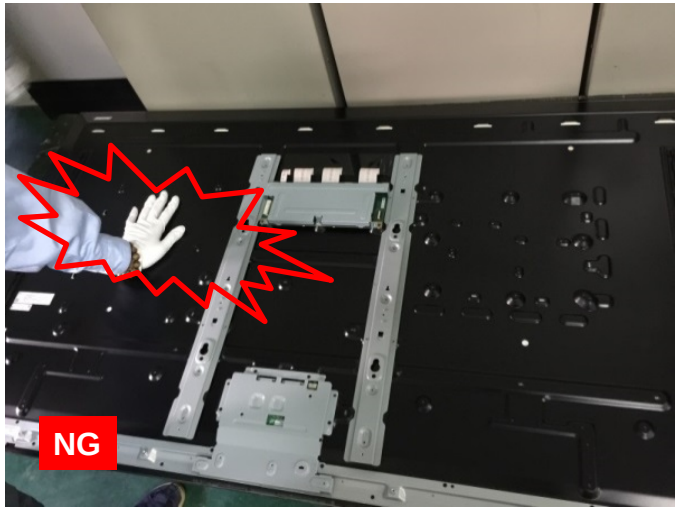


2. Put the Panel within one flat table surface.

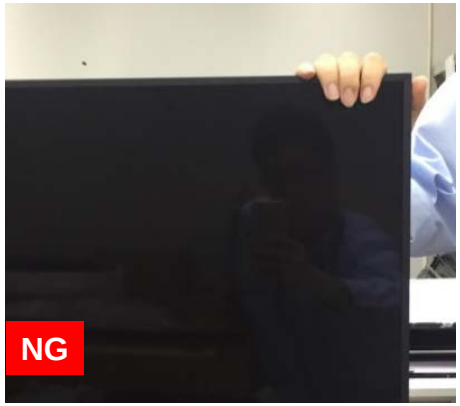


4. Others

1. Do not press the panel during assembly and disassembly.



2. Do not touch Panel module without gloves.



4. Others

3. Do not grasp Source Shield.

4. Do not grasp the BC hook.

5. Do not grasp the T-CON Shield.

HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

SERVICE MANUAL (UNIQUE)

GN4TR CHASSIS

Segment : CHML

ORIGINAL MANUAL ISSUE DATE: 08/2018

Version	Date	Subject
1	08/2018	1st Issue

LCD TV

SONY

9-888-757-A1

For SM - Common , please refer :

9-888-757-01

SERVICE MANUAL (UNIQUE)

GN4TR CHASSIS

Segment : CHML

LCD TV

SONY

MODEL LIST

MODEL	REMOTE	DESTINATION
KD-75X780F	RMF-TX310U	UC2, LA1

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Please refer Service Manual – Common for below information :

- General Safety Notes
- Self Diagnostic Function
- Triage Chart
- Troubleshooting, Troubleshooting reference
- Adjustments
- Diagrams : Block Diagram , Connector Diagram
- Panel Handling

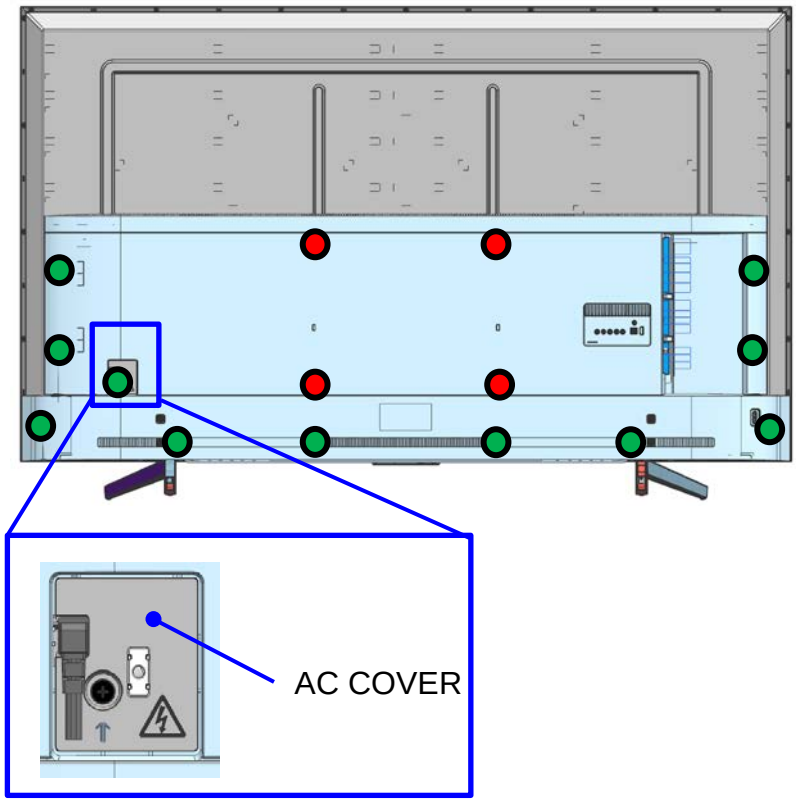
Note: Pictures provided in all this manual might have slight difference from the actual sets

SECTION 1
DISASSEMBLY AND REMOVAL CAUTION

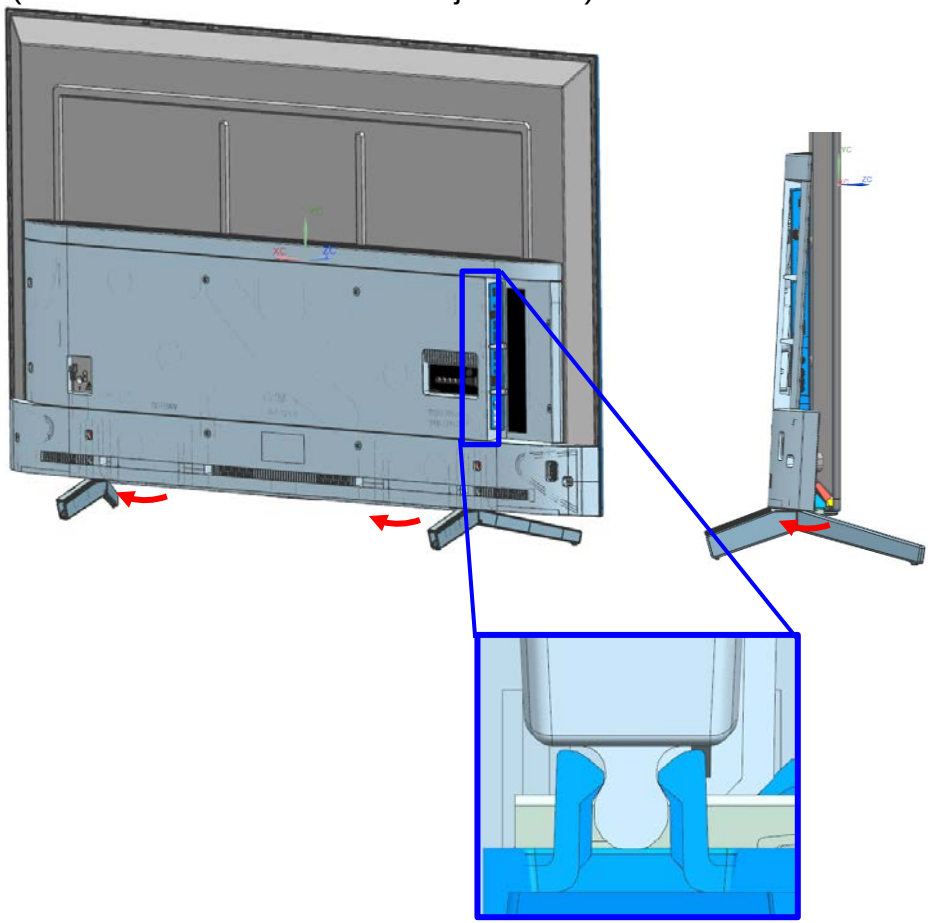
1-1. Rear Cover Disassemble and Re-Assemble Method CHML *75”*

Rear Cover Disassemble Method

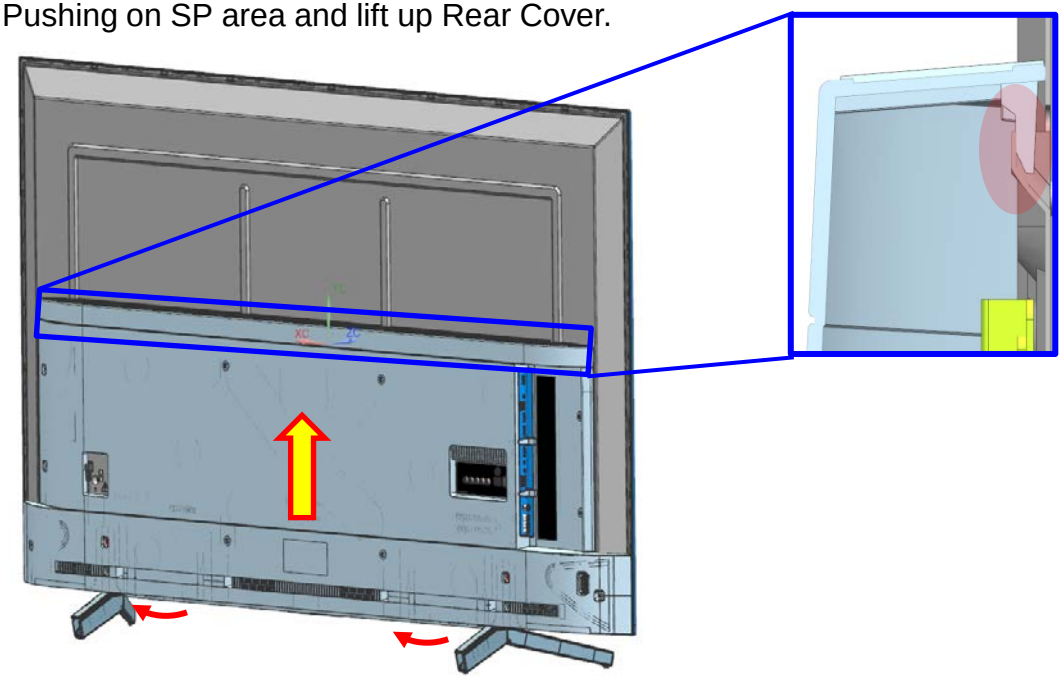
1. Remove the screw of Rear Cover and remove AC-Cover/AC-cord.

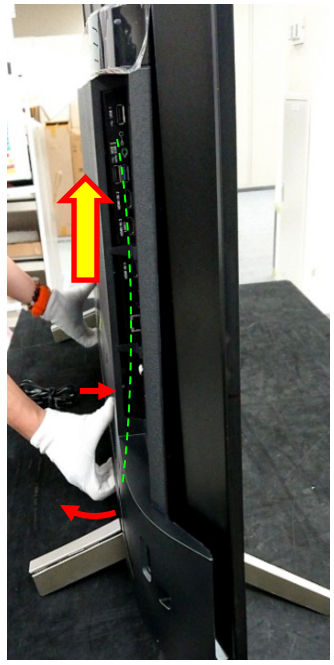


2. Pull up at Reflector area on Rear Cover. (unhook on Rear Cover at side jack area)



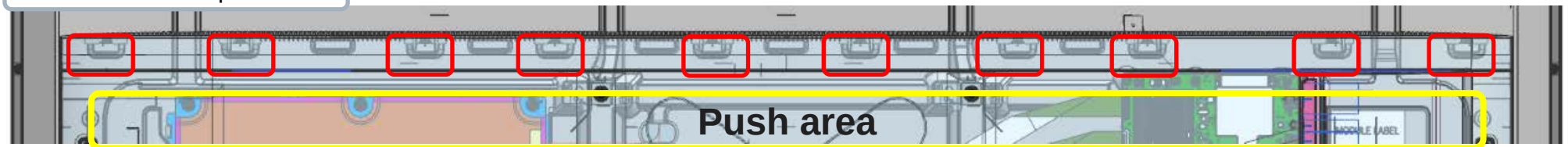
3. Pushing on SP area and lift up Rear Cover.



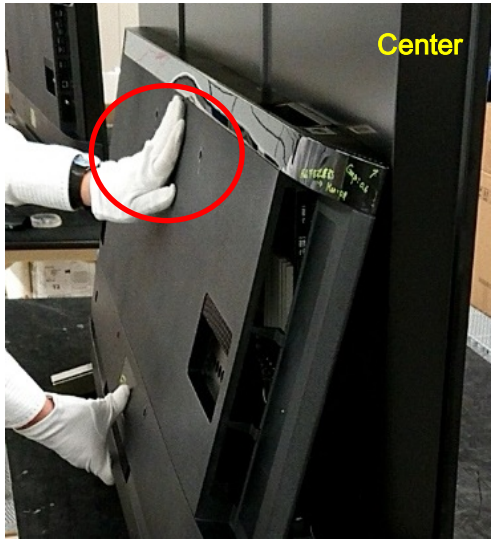


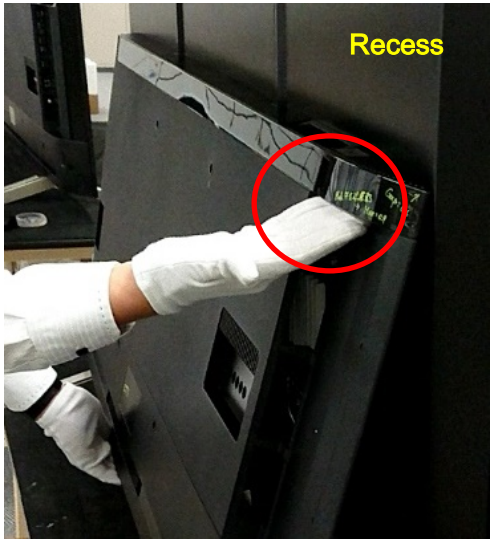
4. If difficult disassemble, please push Rear Cover below area.
*except Hi-gloss area

CHML75 Hook position



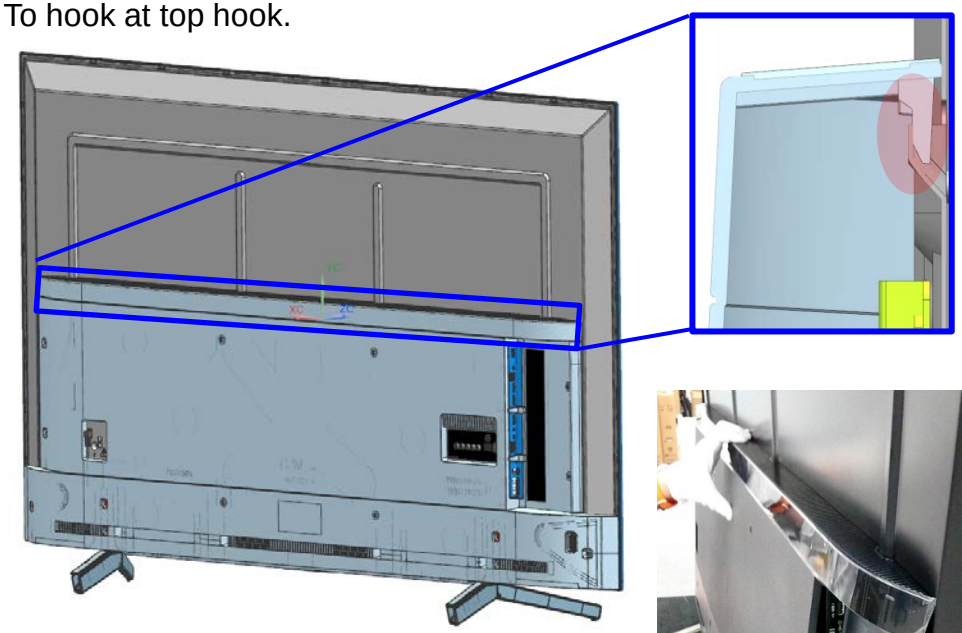
Push position
Nearly hook area.



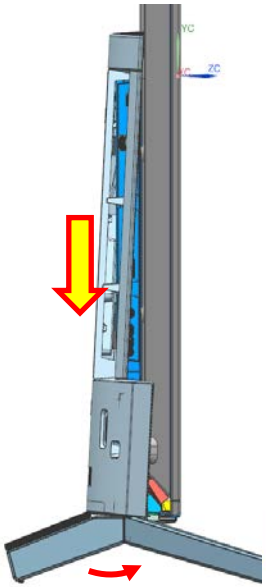


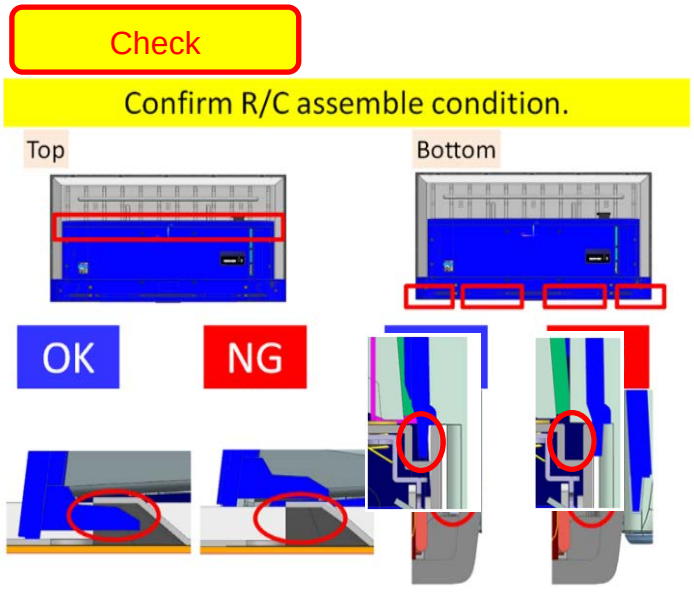
Rear Cover Re-assemble Method

1. To hook at top hook.

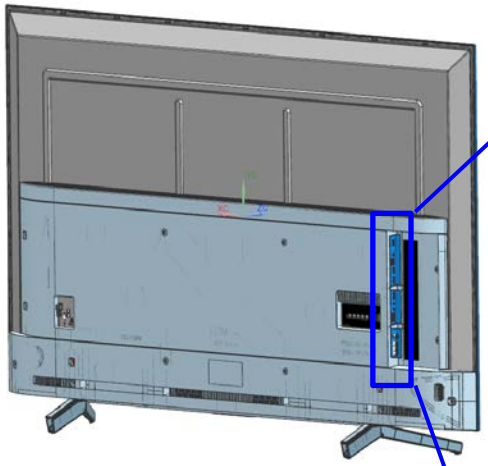


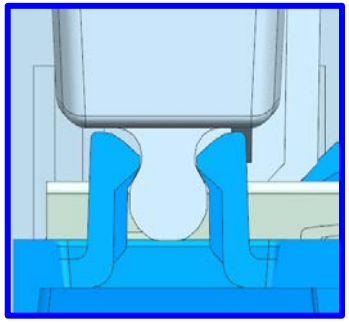
2. Pull down at Rear Cover.
   →Please check assemble condition.



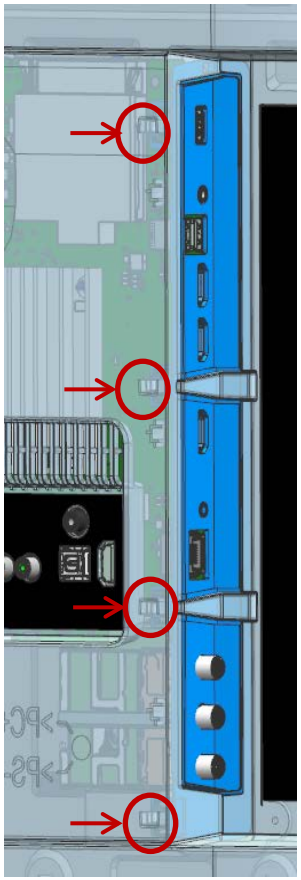


3. Push Rear Cover at Side jack area.
   After push, please check gap at side recess.

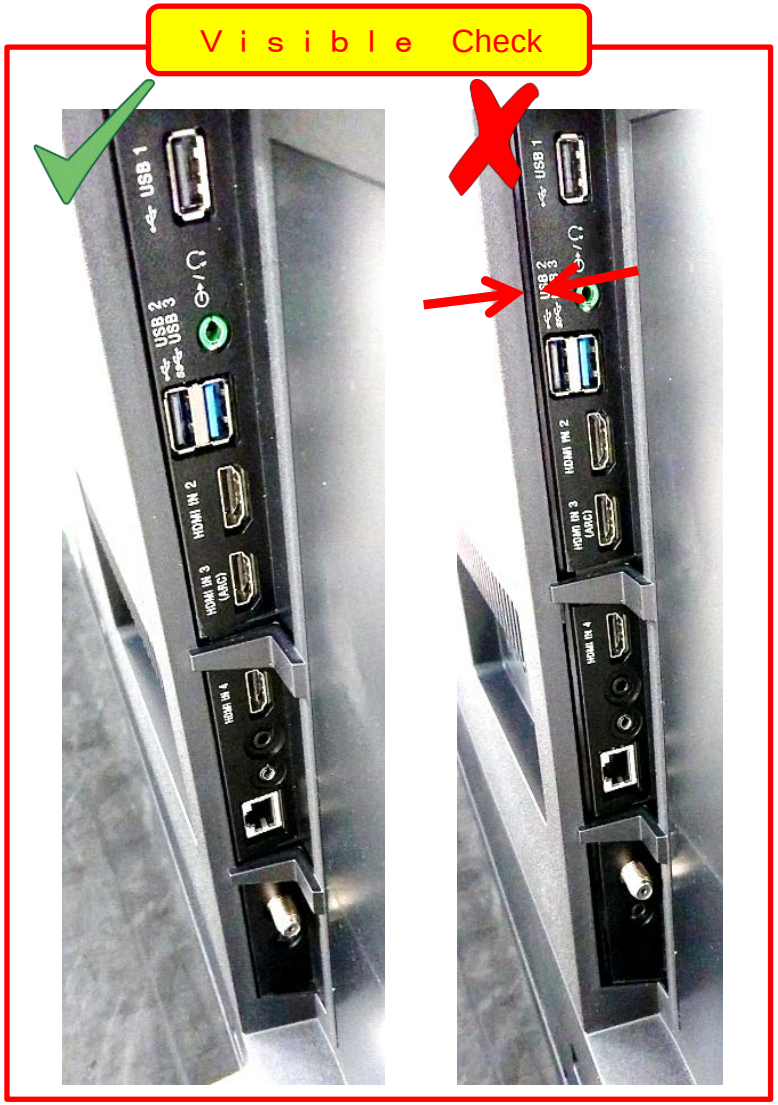




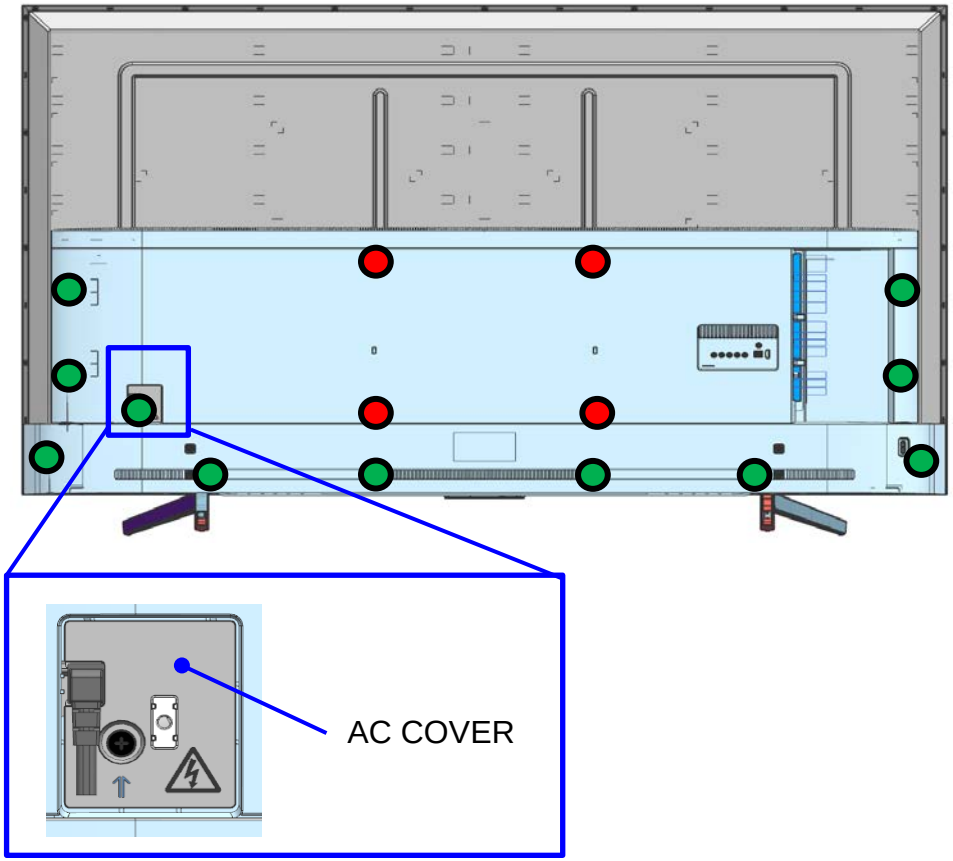
Hook condition



Rear Cover pushing area
4position



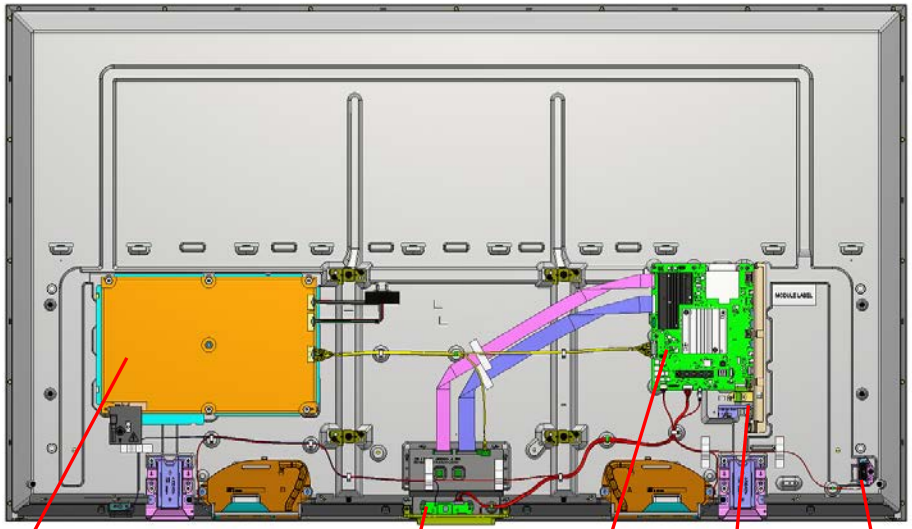
4. Fix the screw of Rear Cover and AC-Cover/AC-cord.



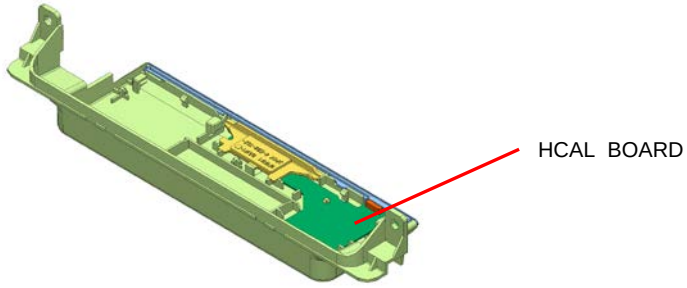
SECTION 2
DIAGRAMS

2-1 Circuit Board Location

75”



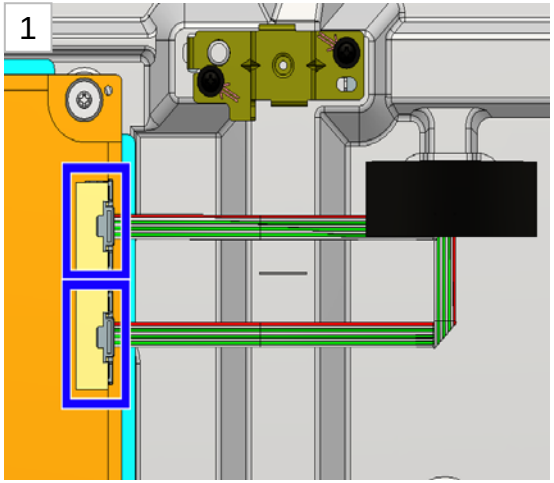
Smart Core



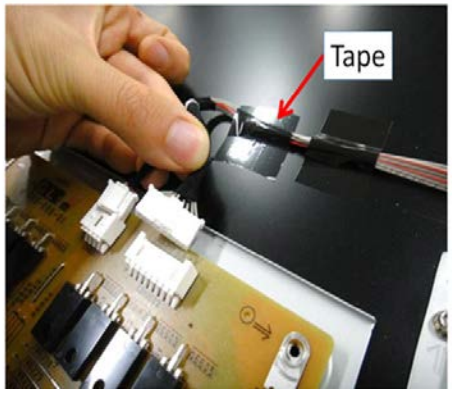
2-2 Wire Dressing : 75”

CONNECT

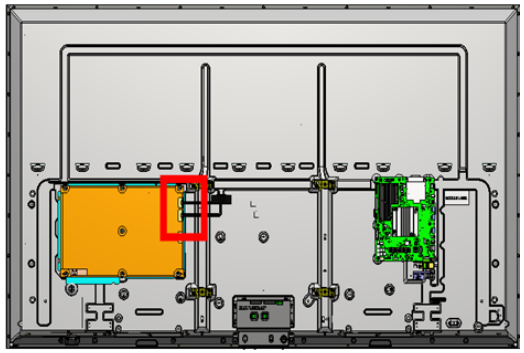
1



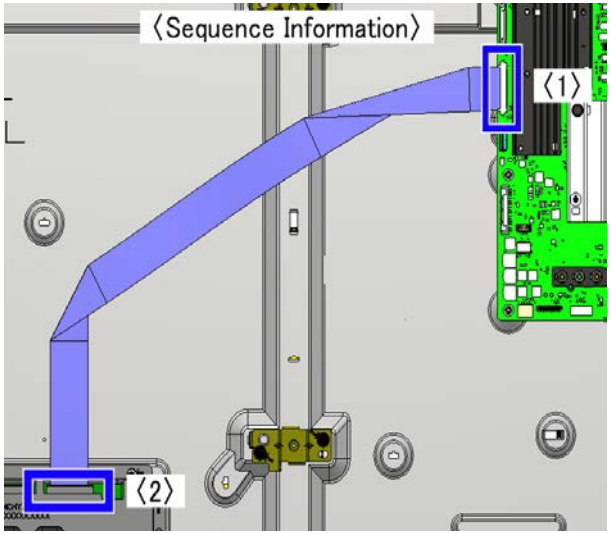
2 Don’t strongly pull the harness while connecting.
*If tape is peeled off, it is NG.



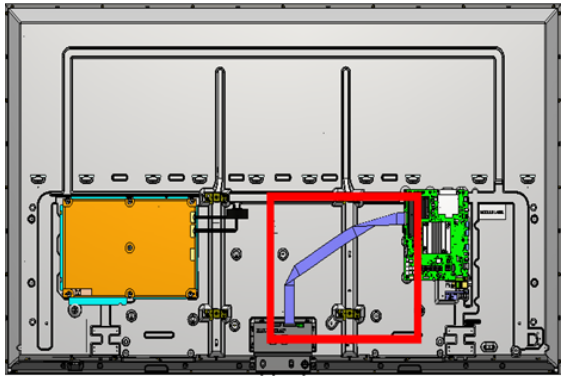
Overall View



CONNECT 51P



Overall View



2-2 Wire Dressing : 75”

TAPE

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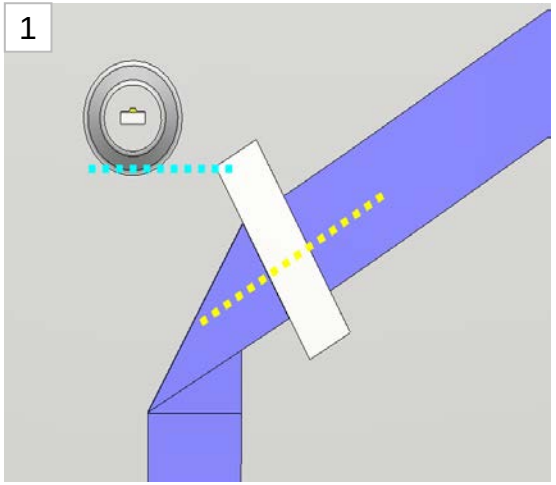
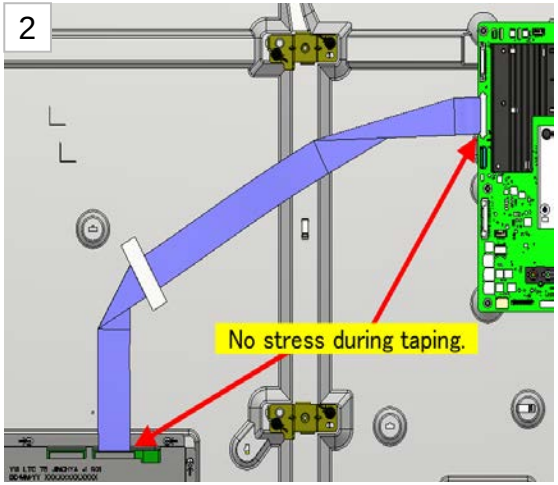
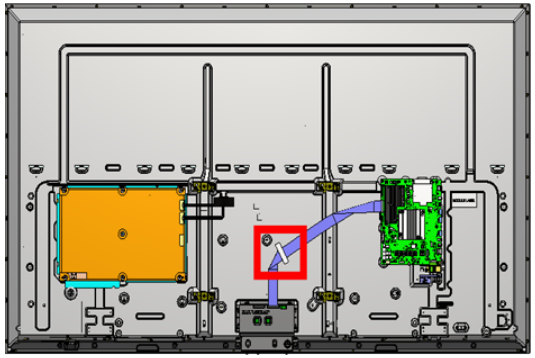


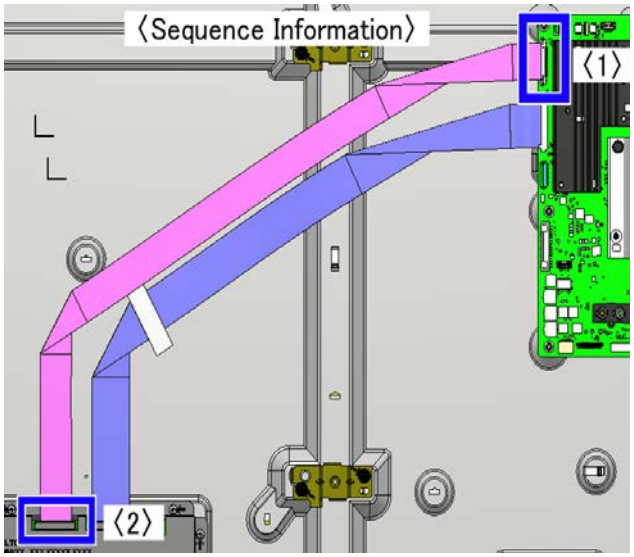
2



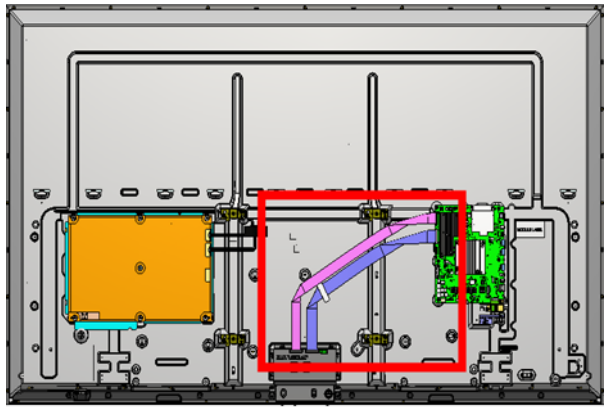
Overall View



CONNECT 41P



Overall View

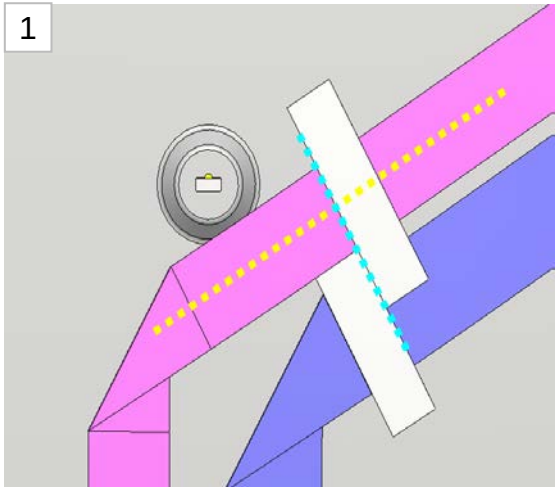


SYS SET

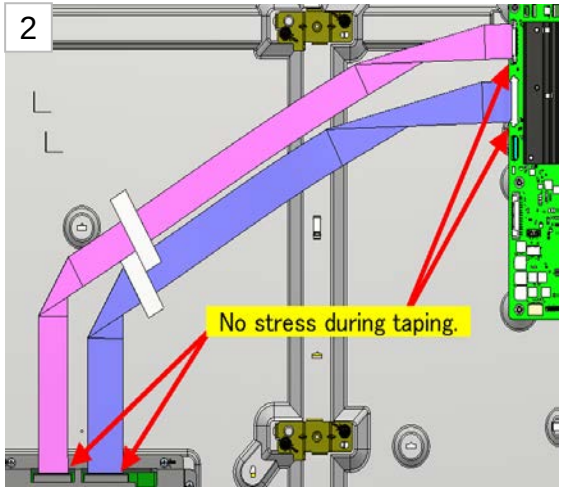
2-2 Wire Dressing : 75”

TAPE

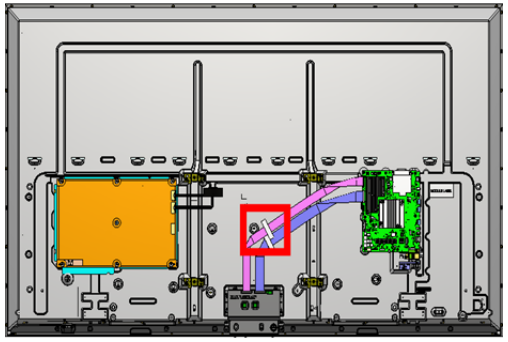
1



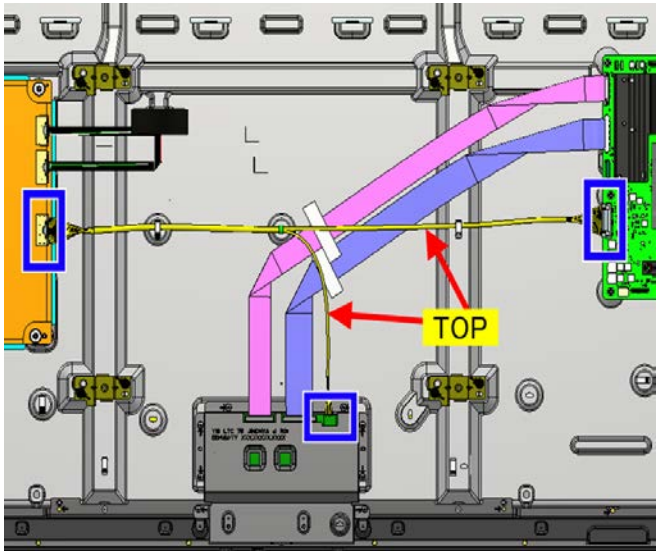
2



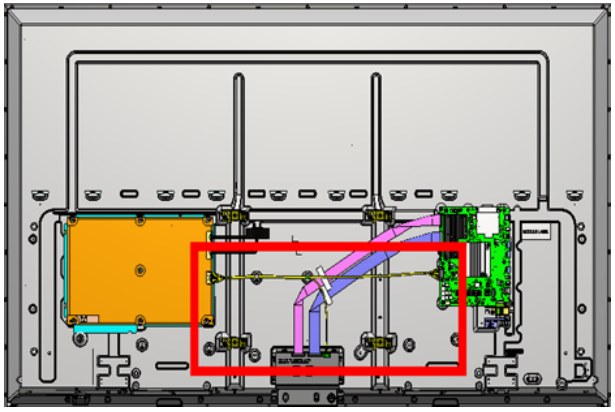
Overall View



CONNECT



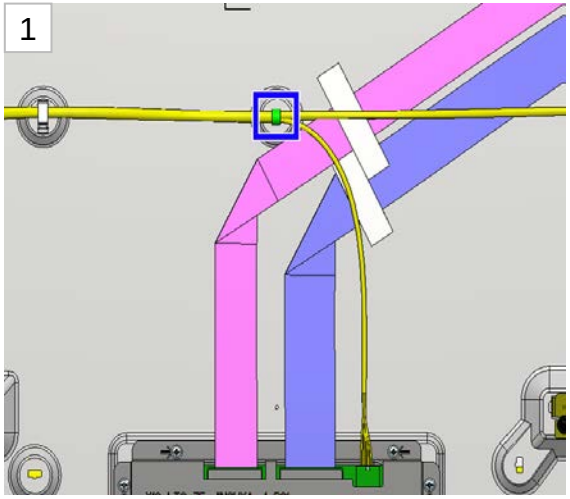
Overall View



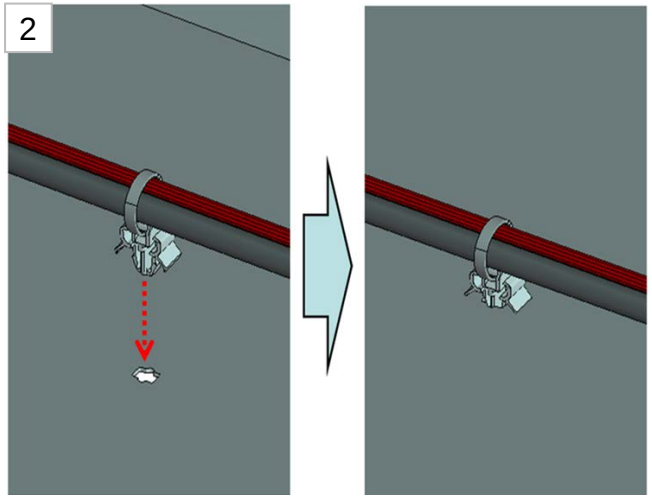
2-2 Wire Dressing : 75”

WIRE DRESSING

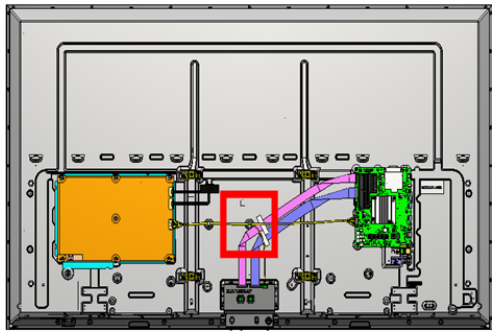
1



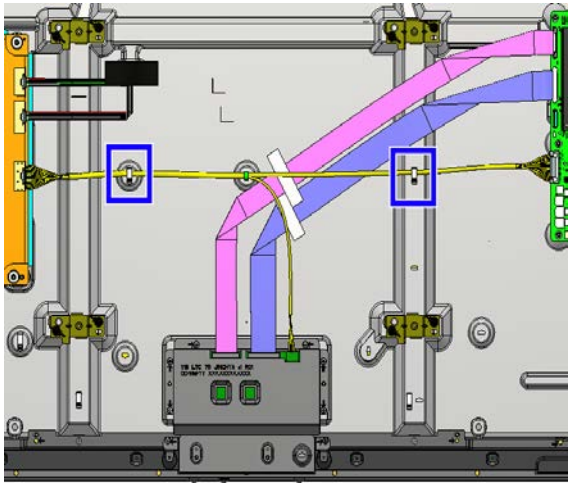
2



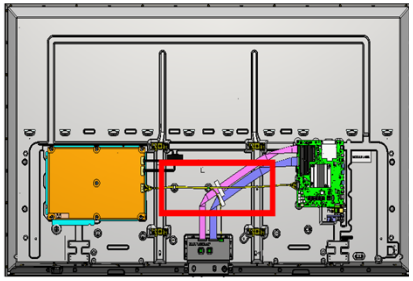
Overall View



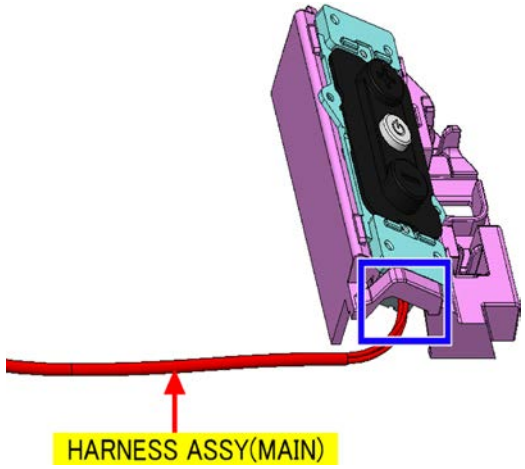
WIRE DRESSING



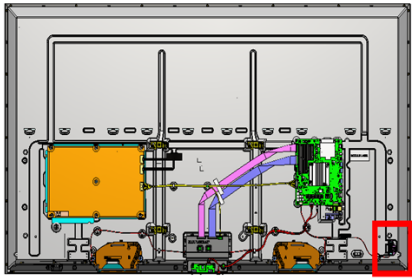
Overall View



CONNECT



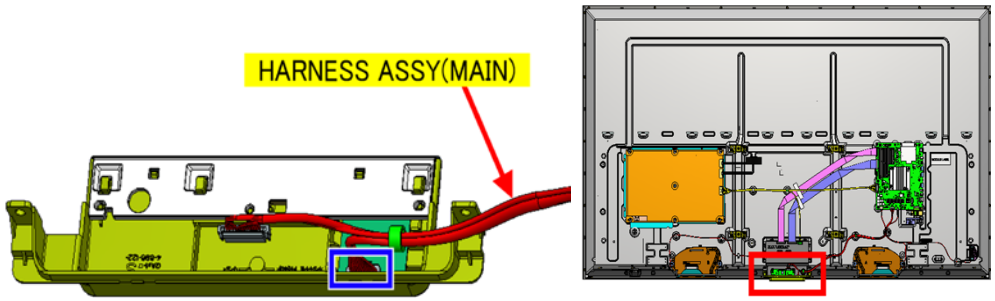
Overall View



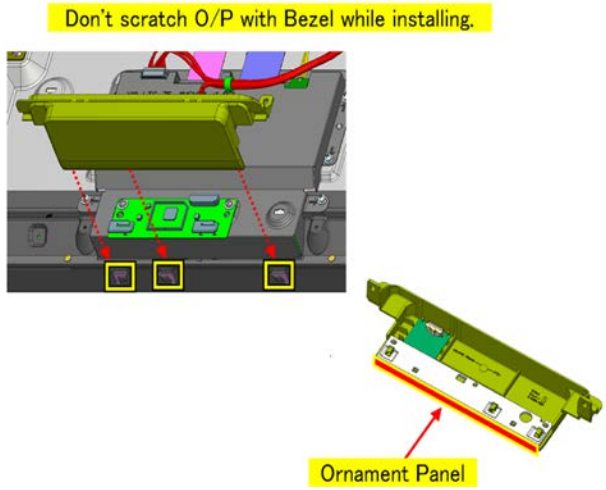
2-2 Wire Dressing : 75”

CONNECT

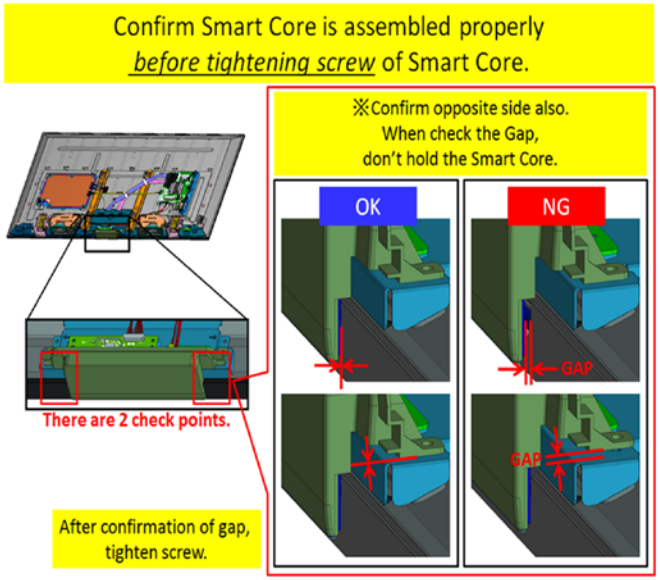
Overall View



INFORMATION



INFORMATION



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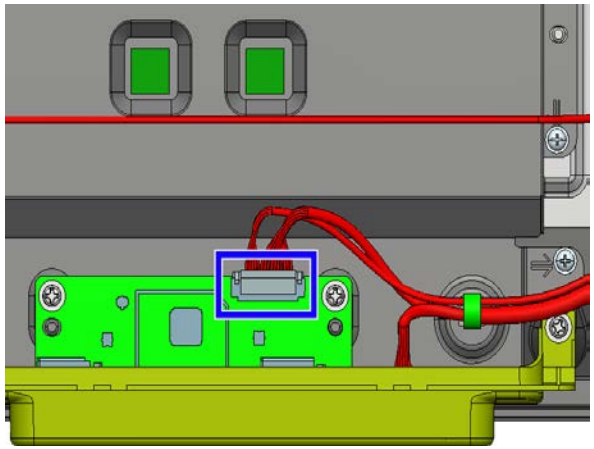
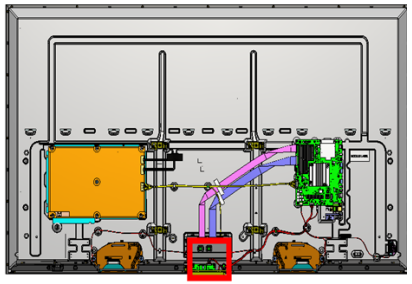


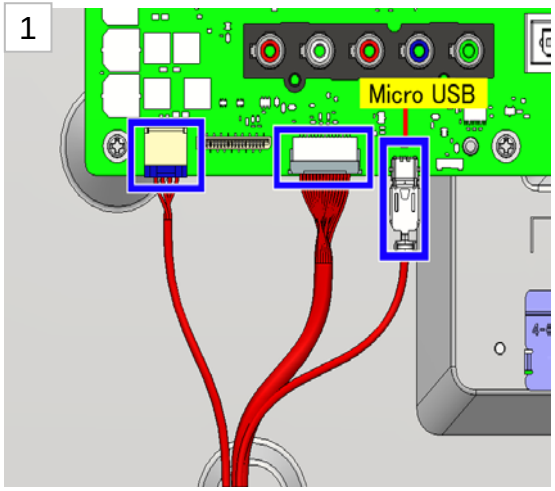
Overall View



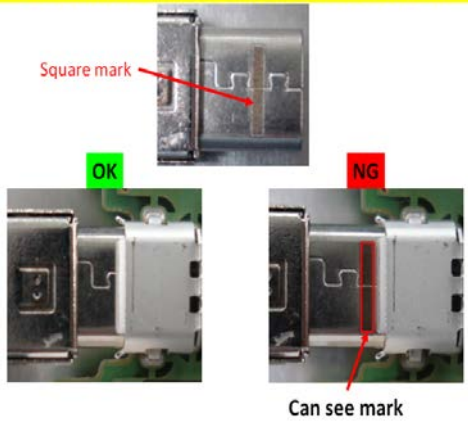
2-2 Wire Dressing : 75”

CONNECT

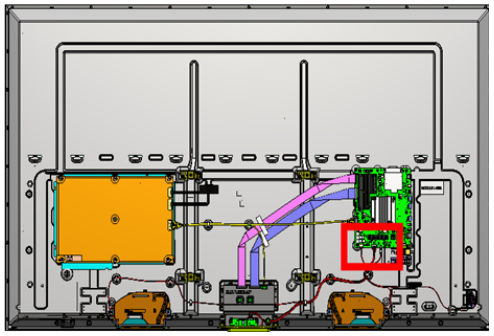
1



2 Check Micro USB connector condition.



Overall View



CONNECT

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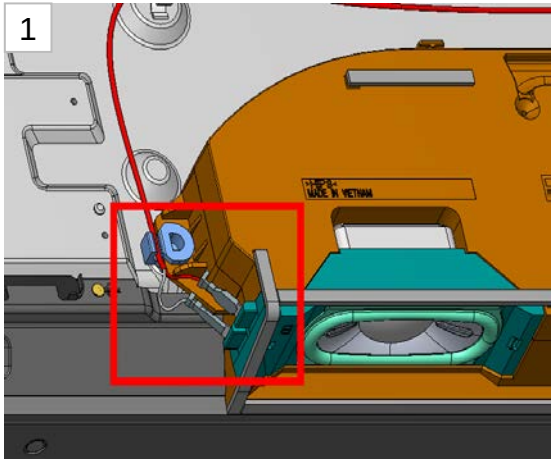

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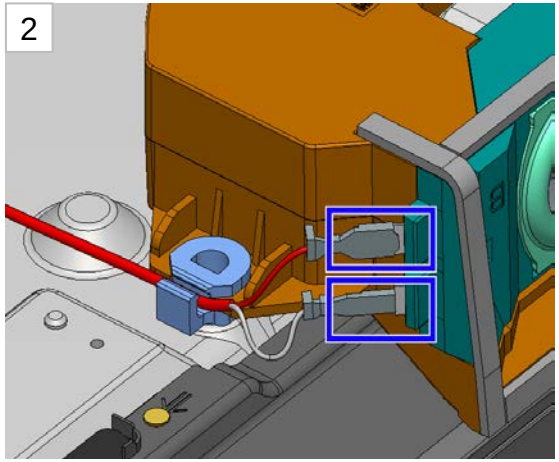
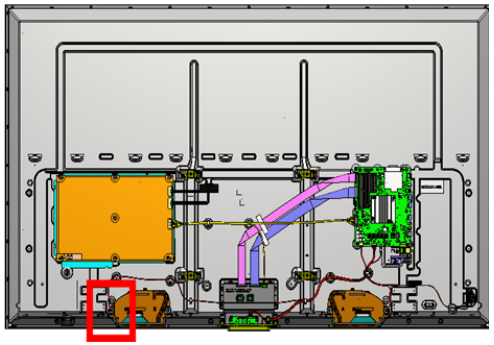


Overall View



2-2 Wire Dressing : 75”

WIRE DRESSING

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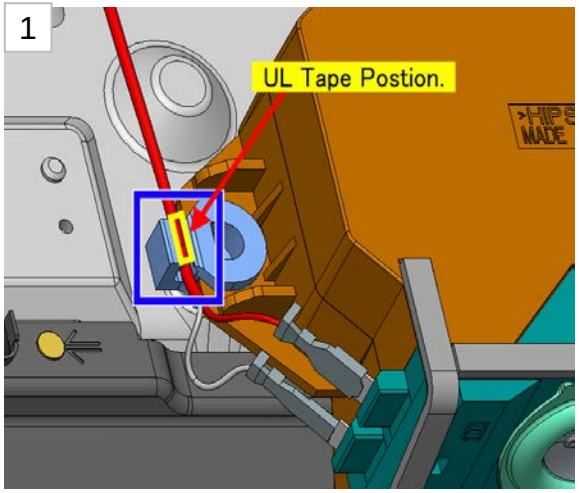

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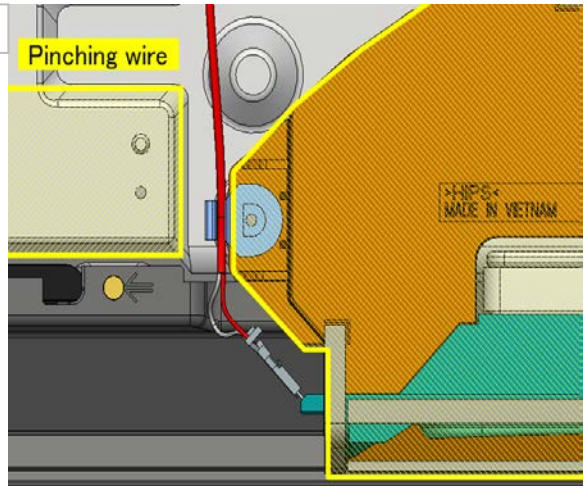
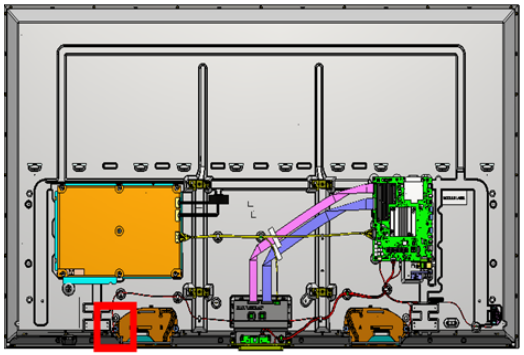
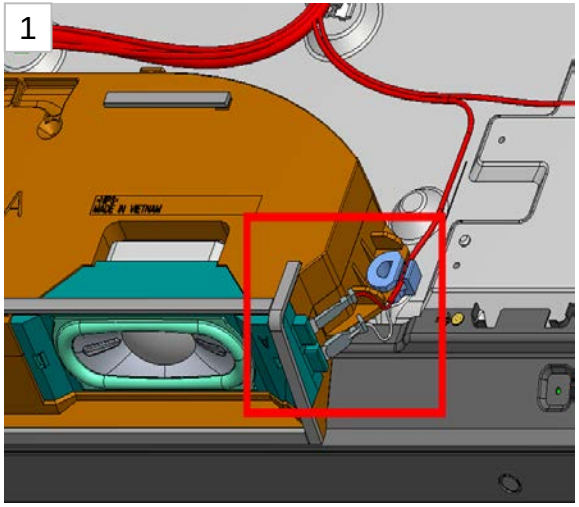


Overall View



CONNECT

1



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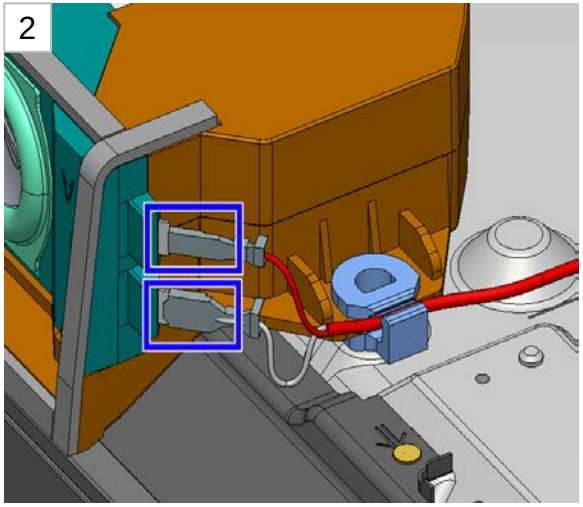
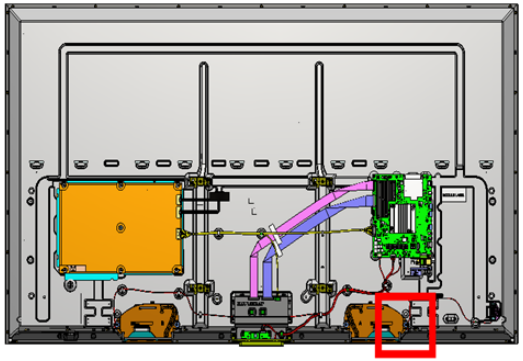


Overall View



2-2 Wire Dressing : 75”

WIRE DRESSING

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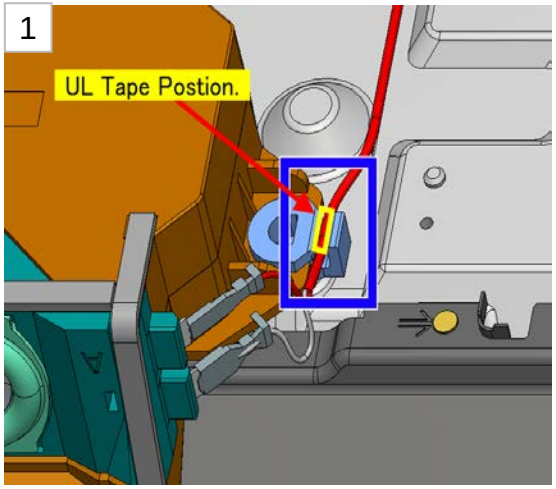

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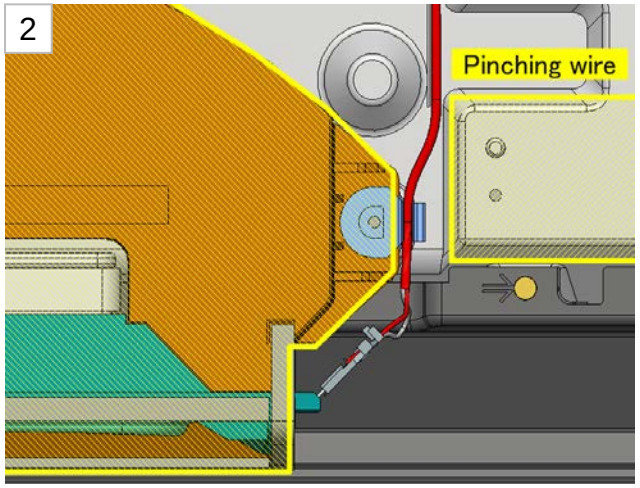
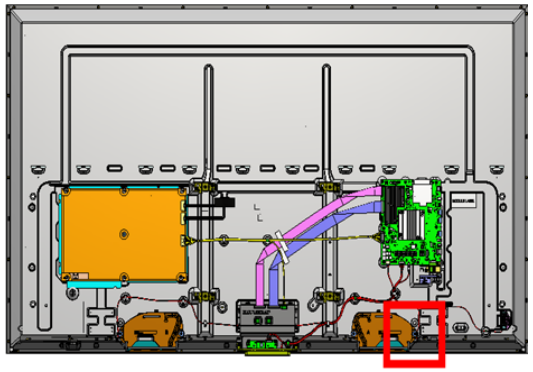
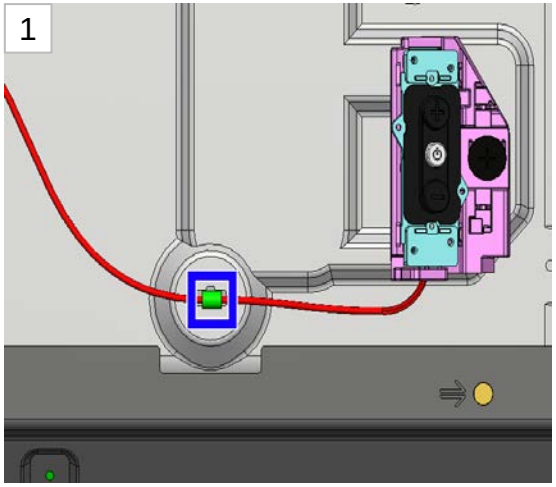


Overall View



WIRE DRESSING

1



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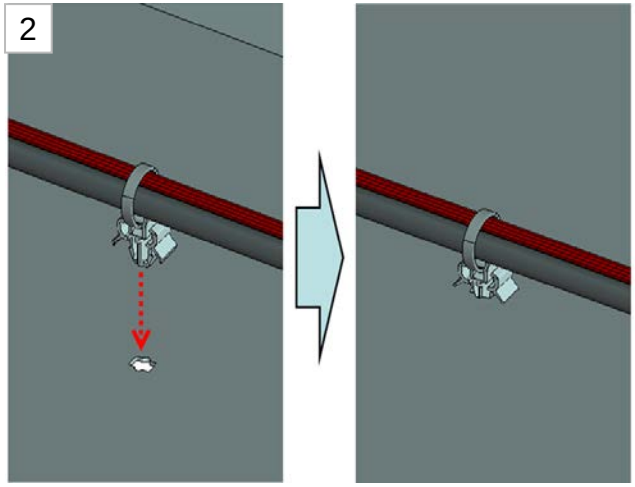
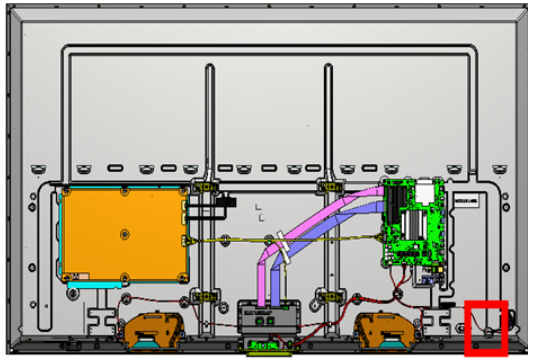


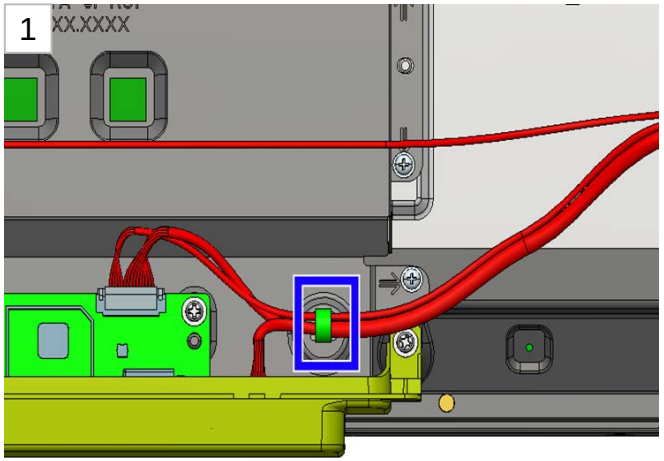
Overall View



2-2 Wire Dressing : 75”

WIRE DRESSING

1



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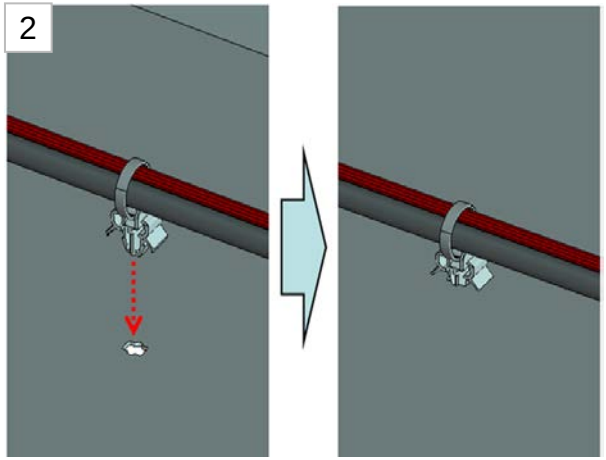
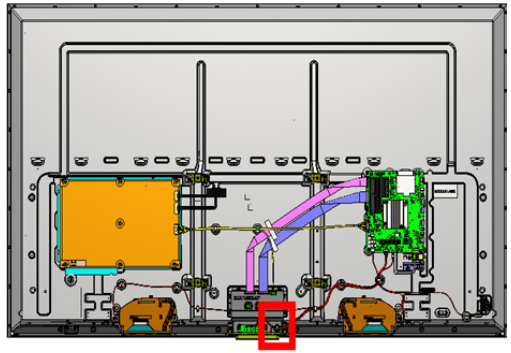
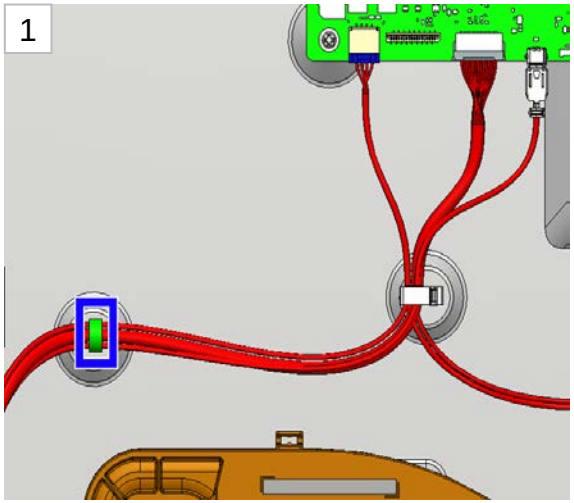


Overall View



WIRE DRESSING

1



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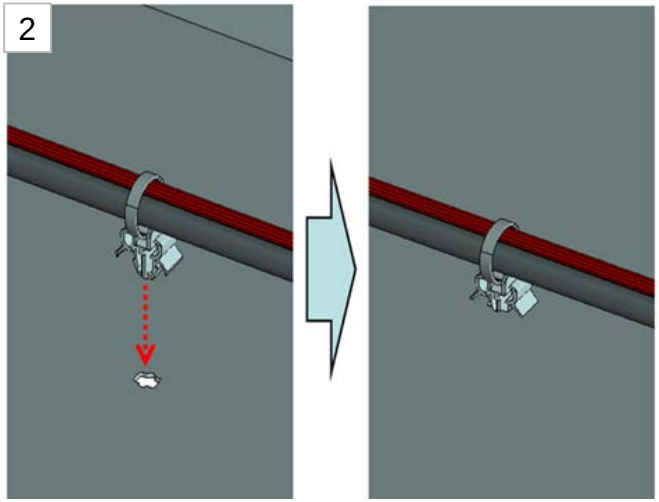
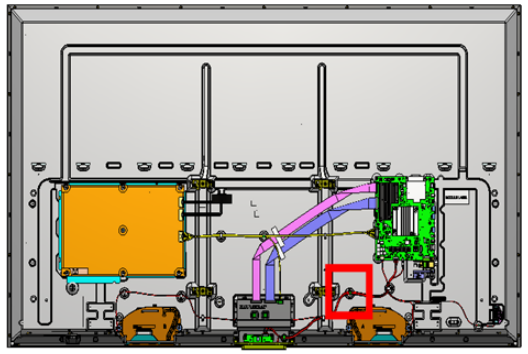


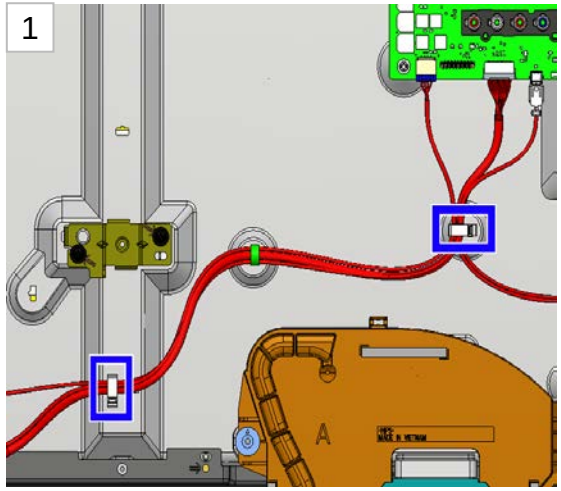
Overall View



2-2 Wire Dressing : 75”

WIRE DRESSING

1



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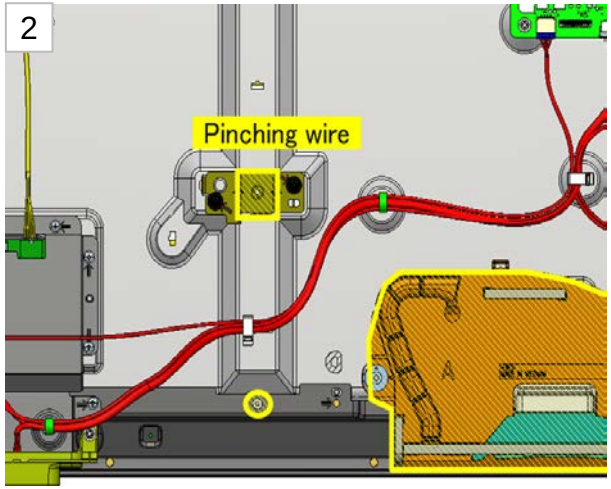
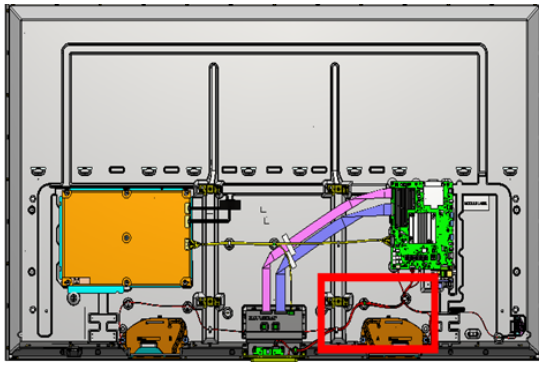
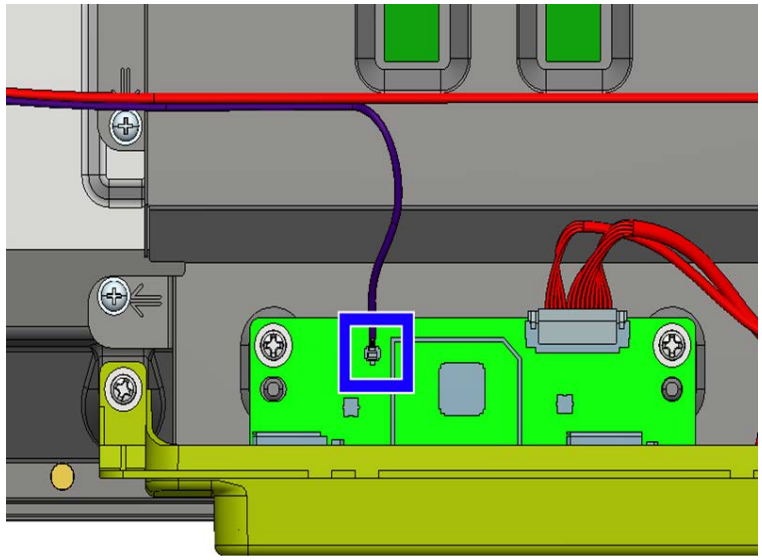


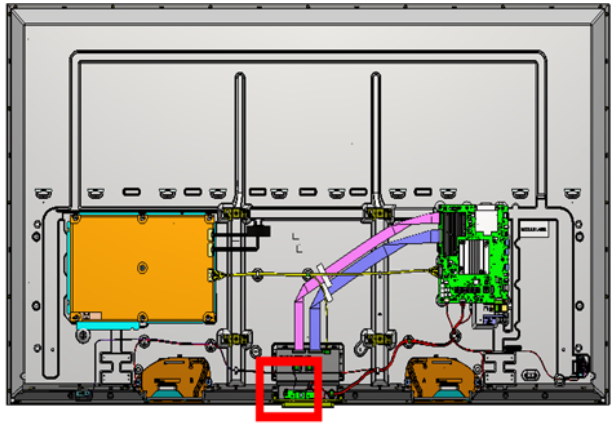
Overall View



CONNECT



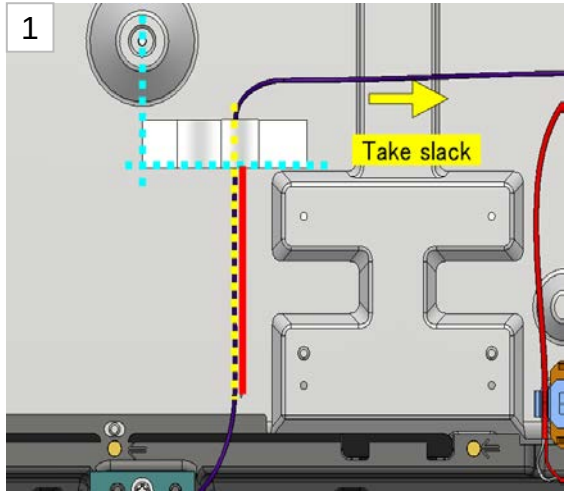
Overall View



2-2 Wire Dressing : 75”

TAPE

1



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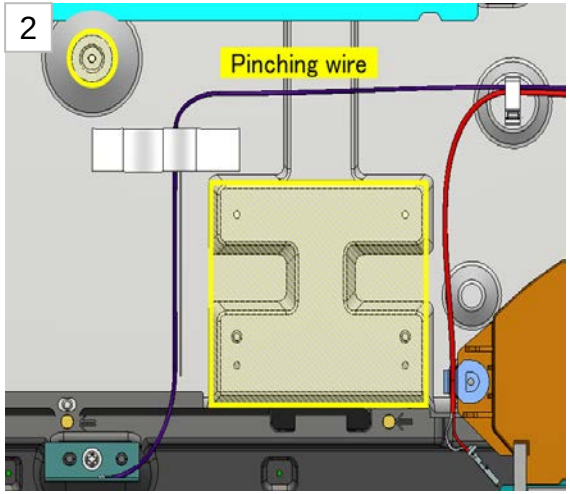
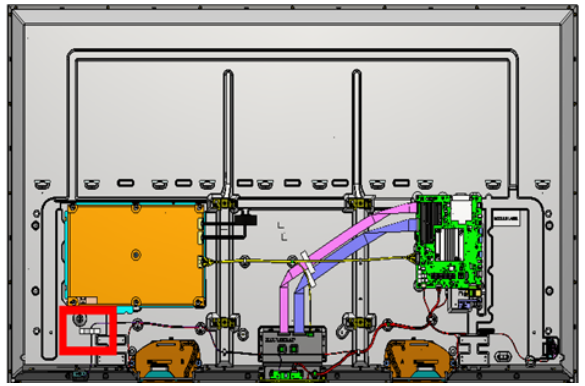
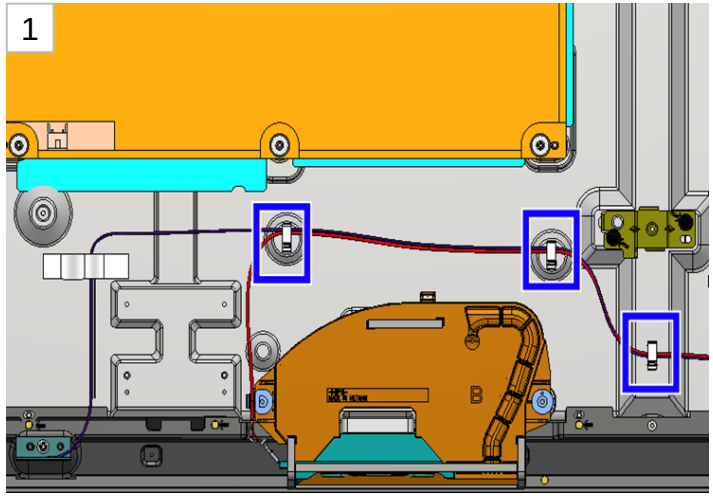


Overall View



WIRE DRESSING

1



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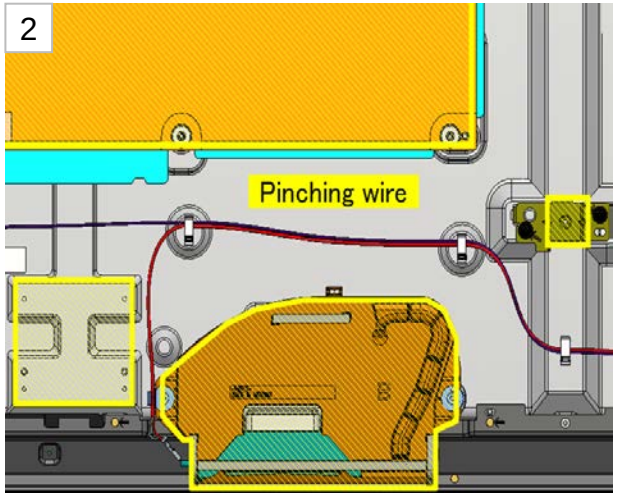
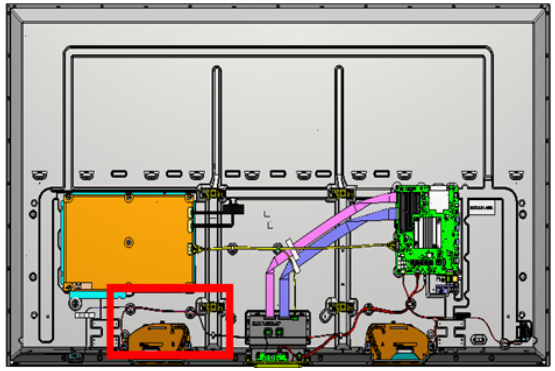
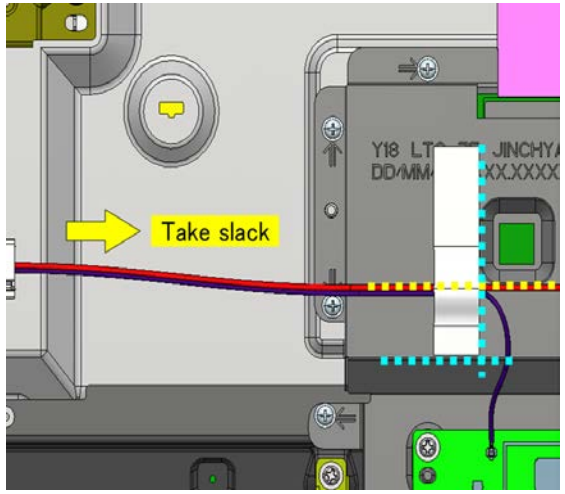


Overall View

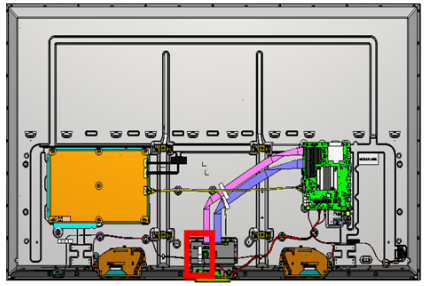


2-2 Wire Dressing : 75”

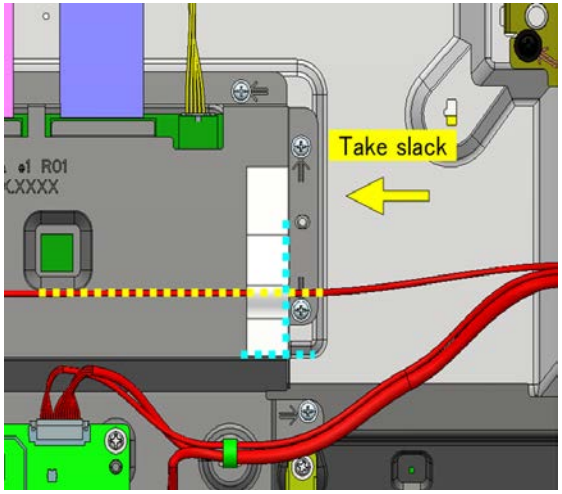
TAPE



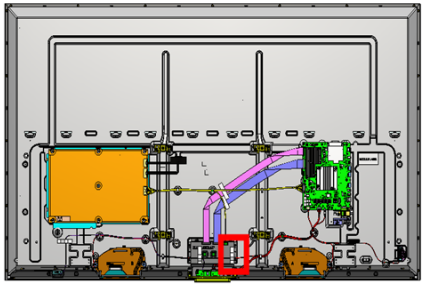
Overall View



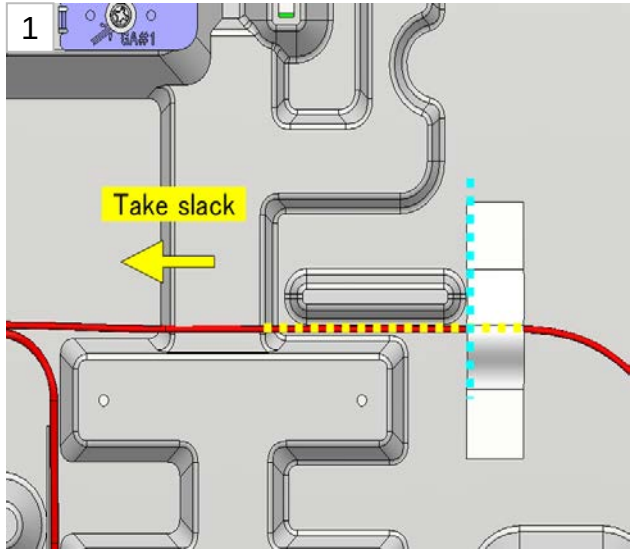
TAPE

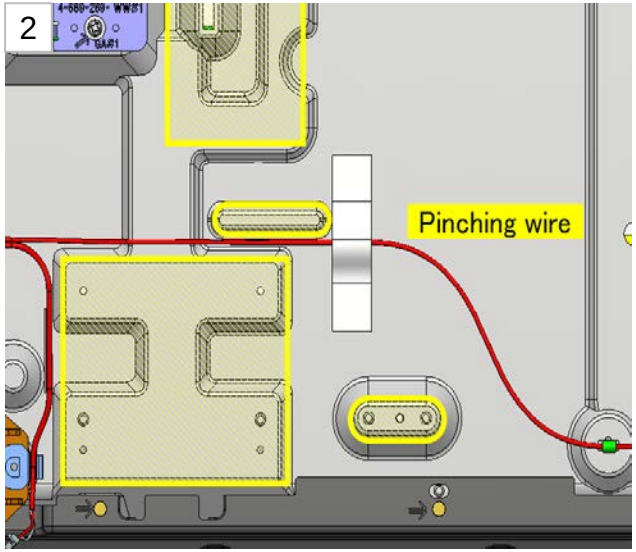


Overall View

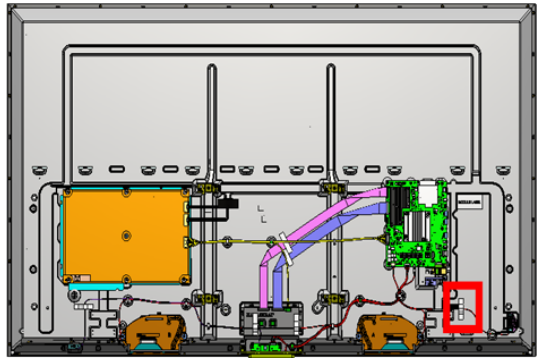


TAPE



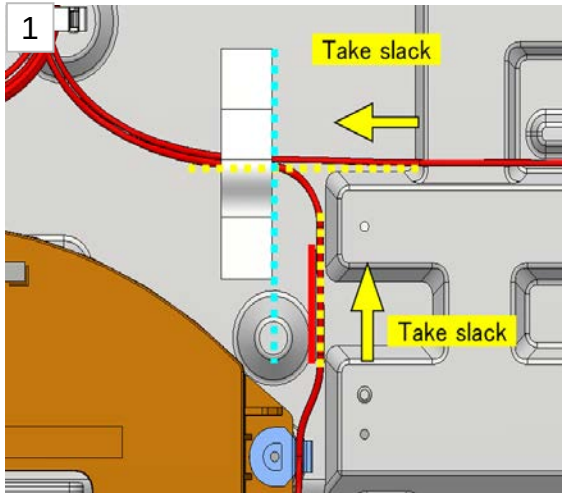


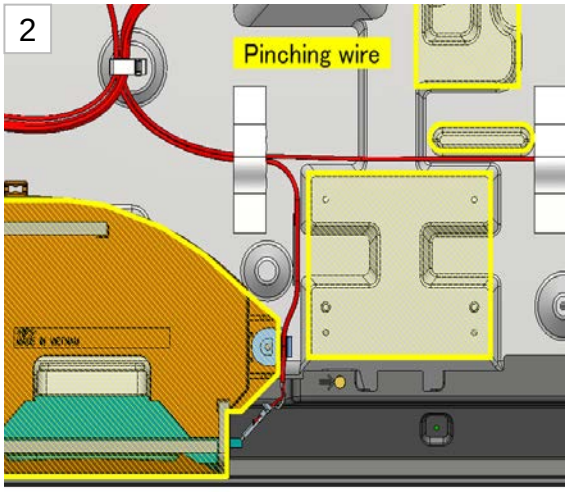
Overall View



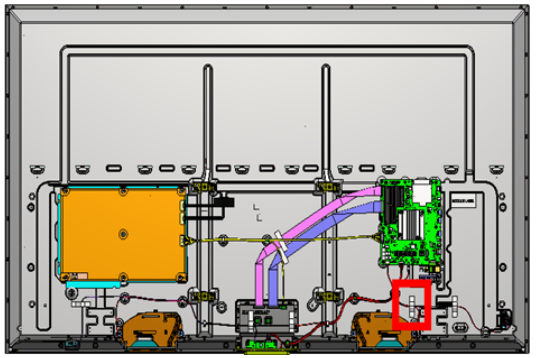
2-2 Wire Dressing : 75”

TAPE

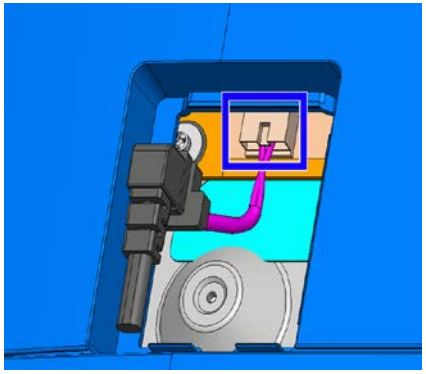




Overall View



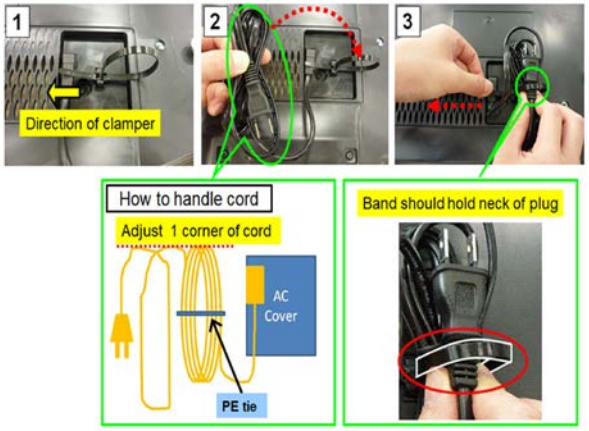
CONNECT



Overall View

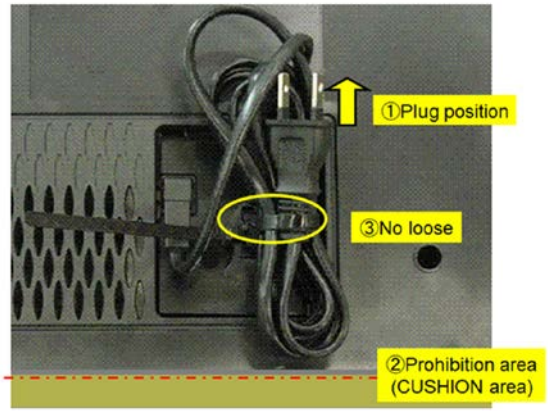
WIRE DRESSING

1. Make sure of the direction of clamper.
2. Let bundled cord into clamper.
3. Pull band to the left tightly.



WIRE DRESSING

[Confirmation items]
①Plug position: toward top
②AC Cord is not in prohibition area.
③No loose in fixing.



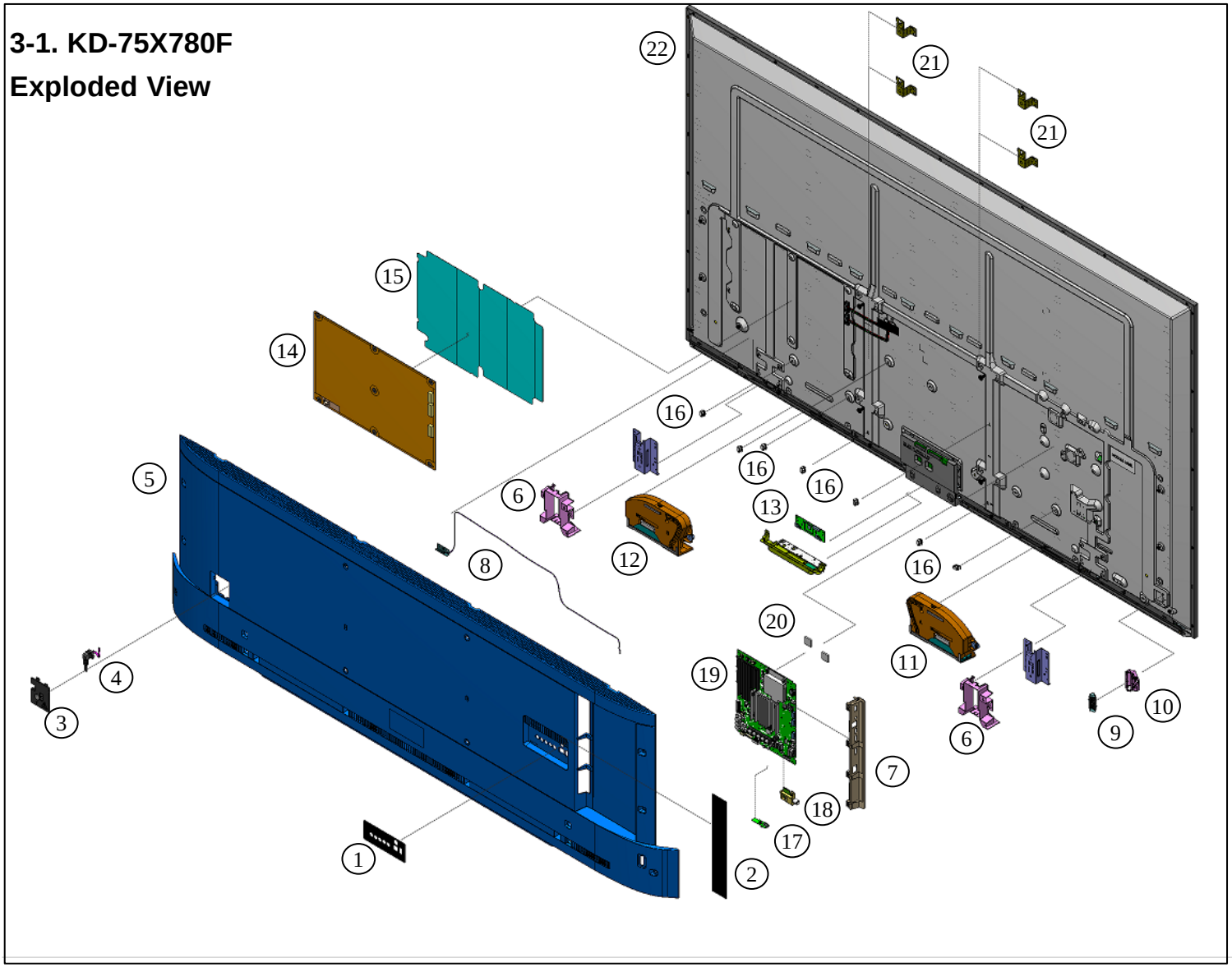
SECTION 3
EXPLODED VIEWS AND PARTS LIST

•Place the TV set facing downwards on a stable, level surface before disassembly and assembly of parts.
• ⚠ and shaded parts are critical for safety. Replace only with part number specified.
• 🔒 Parts contain confidential information. Strictly follow the instruction whenever the components are repaired and/or replaced.

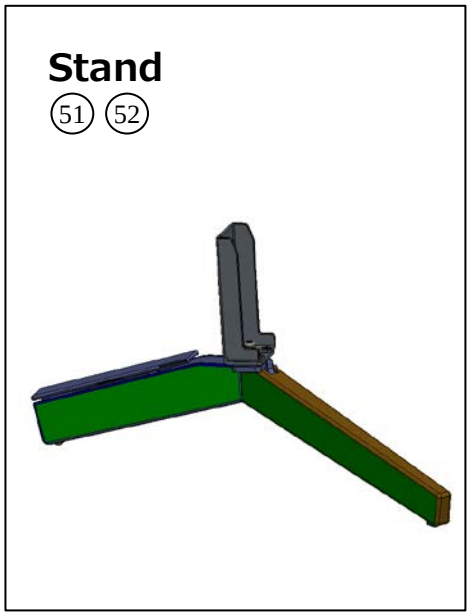
- (*) Parts are not stocked since they are seldom required for routine service. Some delays should be anticipated when ordering these components.
- Picture provided in this section might have slight difference from the actual sets.
- The reference number beside the part indicates the disassembly sequence.
- Remove screws before disassembly. Unplug connectors before disassembly

3-1. KD-75X780F

Exploded View



Stand



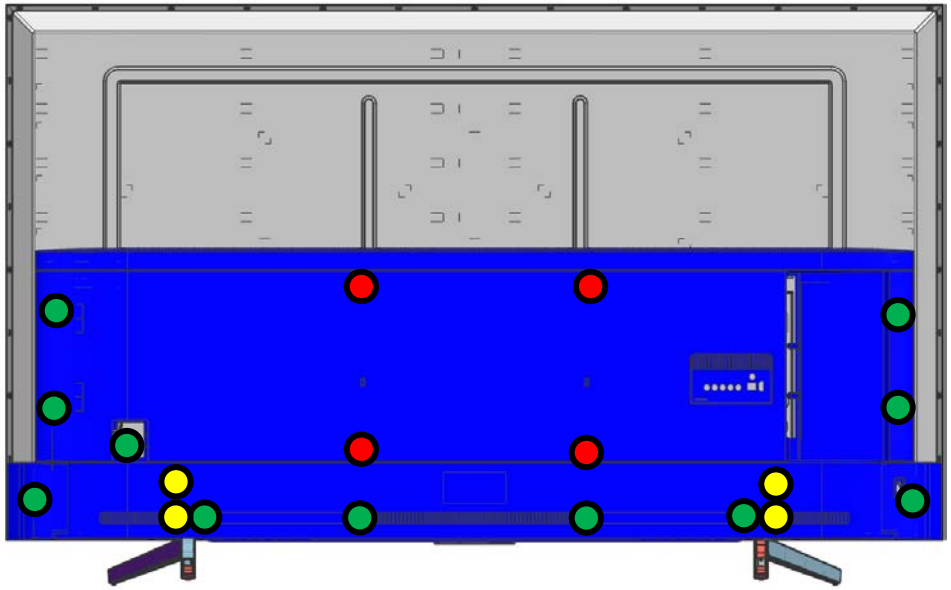
3-1. KD-75X780F

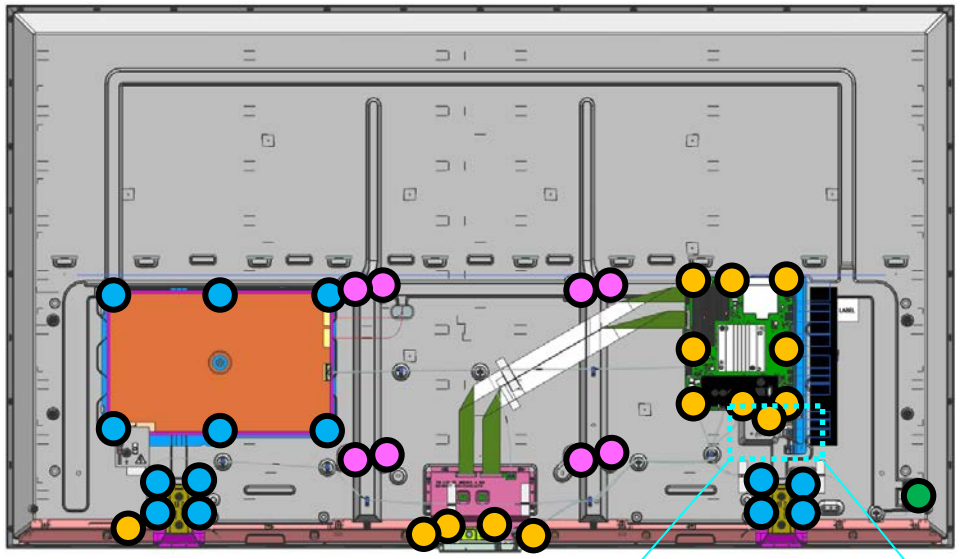
Disassembly, Exploded View

REF. NO.	PART NO.	DESCRIPTION	KD-75X780F	
			UC2	LA1
1	4-731-366-01	LABEL, REAR TERMINAL (HRH)	•	•
2	4-731-521-01	LABEL, SIDE TERMINAL (HRH)	•	n/a
2	4-731-521-11	LABEL, SIDE TERMINAL (HRH)	n/a	•
3	4-297-989-41	AC COVER	•	•
4 ⚠	1-849-274-11	POWER-SUPPLY CORD (WITH CONN.)	•	•
5	4-735-976-01	REAR COVER A (3L LTC)	•	•
6	4-735-977-01	BRACKET STAND COVER (LTC)	•	•
7	4-726-393-02	BRACKET SIDE (HRH)	•	•
8	1-754-956-12	BT ANTENNA	•	•
9	1-474-647-12	SWITCH UNIT (3M-P)	•	•
10	4-684-660-02	HOLDER, SIDE SW(SBT M)	•	•
11	1-859-254-11	SP-BOX ASSY,FY18 W30LARGE-A	•	•
12	1-859-254-21	SP-BOX ASSY,FY18 W30LARGE-B	•	•
13 🔒	1-458-998-11	WLAN/BT MODULE(11AC)	•	•
14 ⚠	1-474-734-11	GL86-STATIC CONVERTER(TV)	•	•
15	4-732-849-01	SHT, INSULATION (LTC 3L)	•	•
16	2-650-770-21	SLIDE, CLAMP	•	•
17	A-2167-845-A	IR MOUNT	•	n/a
18	8-594-302-80	UNIVERSAL SIL-TU SUT-RA243ZP	•	•
19 🔒	A-2201-064-A	COMPL_SVC_BCH_UC	•	n/a
19 🔒	A-2201-065-A	COMPL_SVC_BCH_MX	n/a	•
20	4-699-975-01	SHEET,THERMAL(5567H)	•	•
21	*4-724-287-01	BRACKET, VESA(HRH)	•	•
22 ⚠	1-812-452-21	LCD PANEL(W75QWMD)	•	•
51	4-732-770-01	STAND, L (3L MSH) A	•	•
52	4-732-771-01	STAND, R (3L MSH) A	•	•

3-1. KD-75X780F

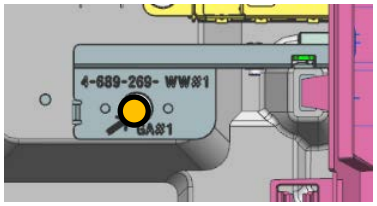
Screws





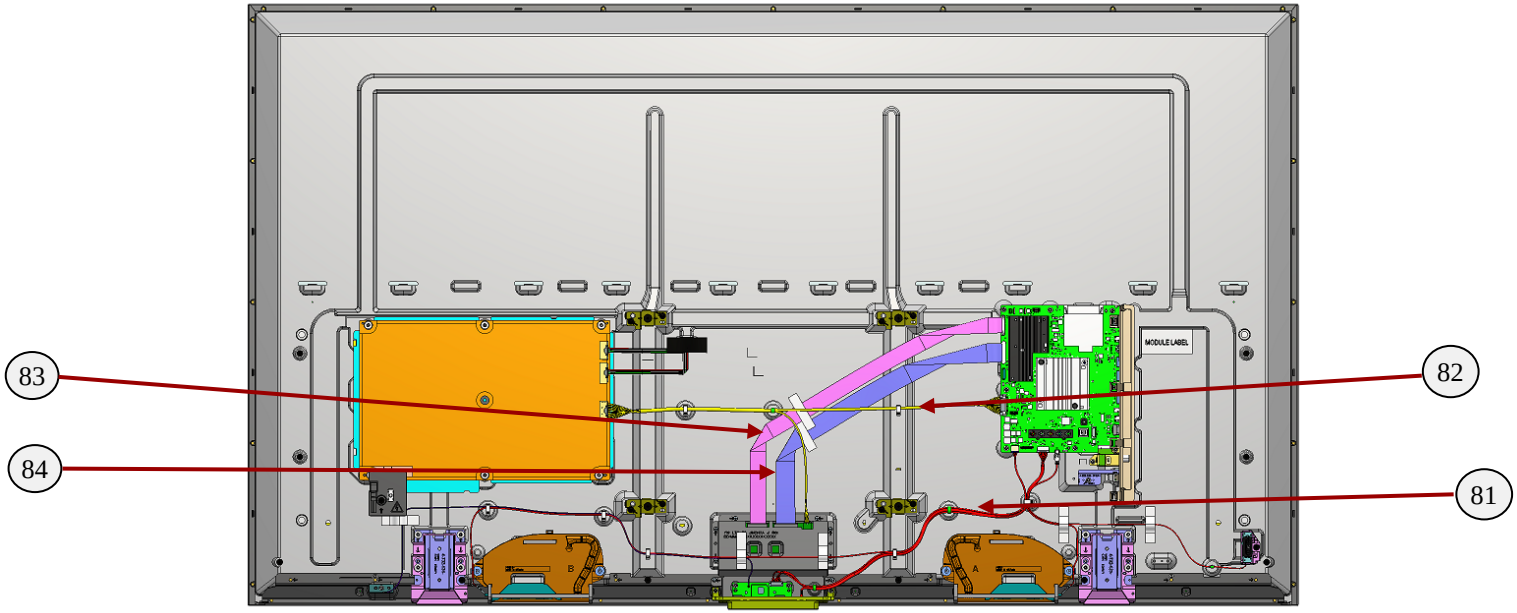
		P/N	Q'ty	Torque
●	SCREW M3X3.0 STEP	4-579-926-01	12	0.4 ± 0.05 [N・m]
●	SCREW, +PSW M5X12	2-580-607-01	4	-
●	SCREW, ORNAMENTAL M6X12	4-268-126-02	4	1.2 ± 0.1 [N・m]
●	SCREW, +PSW M3X6	4-472-518-11	14 (UC only 16)	0.4 ± 0.05 [N・m]
●	SCREW, +PSW M3X6 W12	4-256-393-12	14	0.4 ± 0.05 [N・m]
●	SCREW, +PSW M4X8	2-580-600-01	8	0.65 ± 0.1 [N・m]

UC only



3-1. KD-75X780F

Connectors



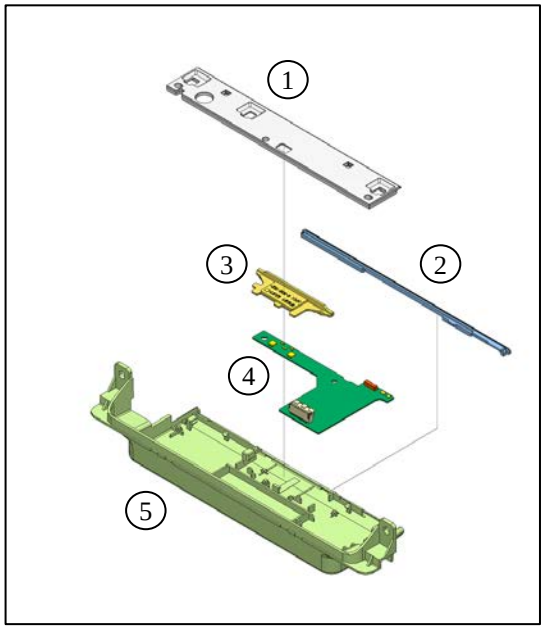
REF. NO.	PART NO.	DESCRIPTION	REMARKS
81	1-910-113-68	HARNESS ASSY (MAIN)	CN1000(BCH)-KEY-WIFI-CN001(HCA)-CN3201(BCH)-CN1002(BCH)-SP(1)
82	1-910-113-69	HARNESS ASSY (PWR)	CN400(BCH)-CN6401(GL86)-CON3(TCON)(1)
83	1-912-402-11	FLEXIBLE FLAT CABLE 41P	CCN4400(BCH)-U2(TCON)(1)
84	1-912-397-11	FLEXIBLE FLAT CABLE 51P	CN4401(BCH)-U1(TCON)(1)

3-1. KD-75X780F

Other parts

PART NO.	DESCRIPTION	KD-75X780F	
		UC2	LA1
4-535-064-14	ASSY,FALL LOCK,BELT LL	•	•
*7-600-040-44	ADHESIVE (SV380C) 333CC GRY	•	•
4-462-871-03	BAG, SCREW A (CCT) (*Includes SCREW, +PSW M5X12 2-580-607-01 (4pcs))	•	•
1-493-452-11	REMOTE COMMANDER (RMF-TX310U)	•	•
7-600-031-97	TAPE (3M 1350FB-1)15MMX66M BLK	•	•
*4-548-743-01	HOLDER, HS WS (MUF)	•	•
*4-549-188-01	HOLDER(HS MUF)	•	•
*4-584-547-01	HEAT SINK(MUFF2 C)	•	•
*4-599-777-01	HEAT, SINK(MS)	•	•
4-262-708-04	CLAMPER, CABLE	•	•
*4-732-875-12	SETUP GUIDE	•	•
*4-732-874-12	REFERENCE GUIDE	•	n/a
*4-733-918-31	REFERENCE GUIDE	n/a	•
1-849-161-12	IR BLASTER CABLE	•	•

3-2. Smart Core



REF.NO.	PART NO.	DESCRIPTION
1	4-596-104-04	COVER, TOP (FRE)
2	4-596-101-21	PANEL, ORNAMENT (FRE)
3	4-596-102-01	GUIDE, LIGHT (FRE)
4	A-2199-646-A	HCAL_M2_PONR MOUNT
5	4-686-122-03	CASE, BOTTOM (SBT)