



Blu-ray Home Theater System

Model Name

HT-E6730W

Model Code

HT-E6730W/ZA

SERVICE MANUAL

Blu-ray Home Theater System

Contents



HT-E6730W

1. Precaution
2. Product Specification
3. Disassembly and Reassembly
4. Troubleshooting
5. PCB Diagram
6. Schematic Diagram

Contents

1. Precaution.....	1 – 1
1.1. Safety Precautions	1 – 1
1.2. Servicing Precautions	1 – 3
1.3. Precautions for Electrostatically Sensitive Devices (ESDs)	1 – 4
2. Product Specification	2 – 1
2.1. Product Feature	2 – 1
2.2. Specifications.....	2 – 2
2.2.1. HT-E65xx Specifications.....	2 – 2
2.2.2. HT-E67xx Specifications.....	2 – 5
2.3. Specifications Analysis	2 – 8
2.4. Disk and Format Compatibility.....	2 – 10
2.4.1. Disc types and contents your product can play	2 – 10
2.4.2. Disc types your product cannot play	2 – 11
2.4.3. Region Code.....	2 – 12
2.4.4. Logos of Discs the product can play	2 – 13
2.4.5. Supported Formats.....	2 – 14
2.5. Accessories	2 – 16
2.5.1. Supplied Accessories	2 – 16
3. Disassembly and Reassembly	3 – 1
3.1. Overall Disassembly and Reassembly	3 – 1
4. Troubleshooting.....	4 – 1
4.1. Checkpoints by Error Mode	4 – 1
4.1.1. No Power.....	4 – 2
4.1.2. No Sound.....	4 – 5
4.1.3. Disc Loading Error	4 – 6
4.1.4. Remote doesn't work	4 – 7
4.1.5. No Screen	4 – 9
4.1.6. No Picture (HDMI).....	4 – 10
4.1.7. No Logo (HDMI)	4 – 14
4.1.8. No Logo (Composite).....	4 – 17
4.1.9. Disc skips or freezing.....	4 – 20
4.1.10. No Disc Reading Error	4 – 21
4.1.11. Network Error.....	4 – 22
4.2. Initialization & Upgrade Methods	4 – 23
4.2.1. How to check F/W version	4 – 23
4.2.2. How to update firmware.....	4 – 24
4.2.3. Initialization	4 – 27
4.3. Buyer-Region Code Setting Method	4 – 28

4.3.1.	Inserting the Region Code after replacing the Main PCB	4 – 28
5.	PCB Diagram	5 – 1
5.1.	Wiring Diagram.....	5 – 1
5.2.	FRONT PCB Top	5 – 2
5.2.1.	Pin Connection	5 – 3
5.2.2.	Test Point Wave Form	5 – 4
5.3.	FRONT PCB Bottom	5 – 5
5.4.	MAIN PCB Top	5 – 6
5.4.1.	Pin Connection	5 – 7
5.4.2.	Test Point Wave Form	5 – 9
5.5.	MAIN PCB Bottom.....	5 – 10
5.6.	USB PCB Top.....	5 – 11
5.6.1.	Pin Connection	5 – 12
5.7.	USB PCB Bottom	5 – 13
5.8.	VT PCB Top.....	5 – 14
5.8.1.	Pin Connection	5 – 15
5.9.	VT PCB Bottom	5 – 16
5.10.	SMPS PCB Top.....	5 – 17
5.10.1.	Pin Connection	5 – 18
5.10.2.	Test Point Wave Form	5 – 19
5.11.	SMPS PCB Bottom	5 – 20
6.	Schematic Diagram	6 – 1
6.1.	Overall Block Diagram	6 – 1
6.2.	FRONT	6 – 2
6.2.1.	Test Point Wave Form	6 – 3
6.3.	PWM VARIABLE FAN.....	6 – 4
6.4.	POWER_AMP.....	6 – 5
6.5.	EYEABLE_AMP	6 – 6
6.6.	DC-DC POWER.....	6 – 7
6.7.	AUDIO/VIDEO/IPOD OUT CEC.....	6 – 8
6.7.1.	Test Point Wave Form	6 – 9
6.8.	USB/ETHERNET.....	6 – 10
6.9.	USB HUB_IPOD CERTI	6 – 11
6.10.	FRONT MICOM.....	6 – 12
6.11.	DIR/ADC/RX SWITCHING/D.IN	6 – 13
6.12.	HDMI RPT.....	6 – 14
6.12.1.	Test Point Wave Form	6 – 15
6.13.	DDR3 INTERFACE.....	6 – 16
6.14.	INTERFACE/SATA BLOCK	6 – 17
6.15.	FLASH MEMORY	6 – 18

6.16. FIRENCE POWER JTAG DEBUG	6 – 19
6.17. F_END_MORTOR DRIVER	6 – 20
6.18. F_END_SC7300.....	6 – 21
6.19. USB.....	6 – 22
6.20. VT.....	6 – 23
6.21. SMPS.....	6 – 24
6.21.1. Test Point Wave Form	6 – 25

1. Precaution

Follow these safety instructions while servicing the ESD to prevent damage and to protect against potential hazards such as electrical shock and X-rays.

1.1. Safety Precautions

- 1) When reinstalling the chassis and its assemblies, be sure to restore all of the protective devices, including the control knobs and the compartment covers.
- 2) Make sure that there are no cabinet openings through which people (particularly children) can make contact with dangerous internal components.
- 3) Design Alteration Warning:
Never alter or add to the mechanical or electrical design of the unit.
Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard.
Also, any design changes or additions will void the manufacturer's warranty.
- 4) Leakage Current Hot Check [Figure 1.1 AC Leakage Test](#):



WARNING

Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

With the unit completely reassembled, plug the AC cord directly into a 120V AC outlet. With the unit's power switched from the ON to the OFF position, measure the current between a known ground and all exposed metal parts.

Known Grounds - Earth

Known Metal parts - screwheads, metal cabinets, etc.

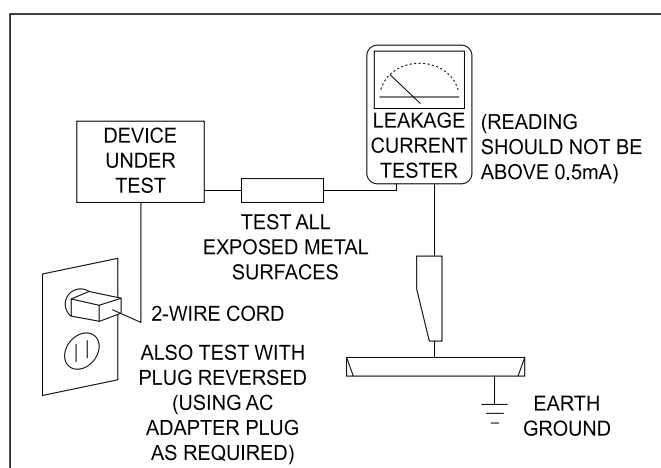


Figure 1.1 AC Leakage Test

5) Insulation Resistance Cold Check:

- (1) With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs.
- (2) Set the power switch to ON. (3) Measure the resistance between the shorted AC plug and any exposed metallic parts.

Example: screwheads, metal cabinets, antenna port, etc. If any of the exposed metallic parts has a return path to the chassis, the measured resistance should be between 1 and 5.2 megohms. If there is no return path, the measured resistance should be "infinite." If the resistance is outside these limits, a shock hazard might exist. See [Figure 1.2](#)

[Insulation Resistance Test](#)

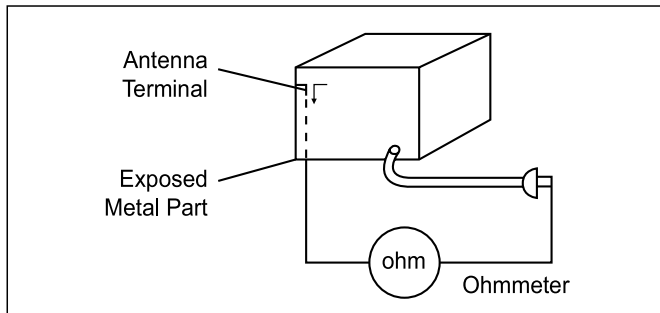


Figure 1.2 Insulation Resistance Test

- 6) Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.
- 7) Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring.
Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that no wires or components touch thermally hot parts.
- 8) Product Safety Notice:
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original—even if the replacement is rated for higher voltage, wattage, etc.
- 9) Components that are critical for safety are indicated in the circuit diagram by shading, \triangle or \triangle . Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

1.2. Servicing Precautions

- 1) Servicing precautions are printed on the cabinet. Follow them.
- 2) Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.
- 3) Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring may be clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
- 4) After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.
- 5) Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
- 6) Insulation Checking Procedure: Disconnect the power cord from the AC source. Connect an insulation resistance meter (500V) to the blades of the AC plug.
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
- 7) Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
- 8) Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.



CAUTION

First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.

1.3. Precautions for Electrostatically Sensitive Devices (ESDs)

Some semiconductor (“solid state”) devices are easily damaged by static electricity.

Such components are called Electrostatically Sensitive Devices (ESDs).

Examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity:

- 1) Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power—this is an electric shock precaution.)
- 2) After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.
- 3) Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.
- 4) Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.
- 5) Use only an anti-static solder removal device. Many solder removal devices are not rated as “anti-static” (these can accumulate sufficient electrical charge to damage ESDs).
- 6) Do not remove a replacement ESD from its protective package until you are ready to install it.
Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
- 7) Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
- 8) Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

2. Product Specification

2.1. Product Feature

■ Features for 2012 model BD HTS

- BD-LIVE from the beginning of the Mass Production
- DTS-HD Master Audio decoding from the beginning of the Mass Production
- Mp3, Divx-HD(exclude ZA,ZC), MKV, MP4, WMA, WMV
- Block-Buster, Netflix, Pandora, Youtube, Widget, VUDU
- 1 USB port (Front – USB / iPod/iPhone)
- Digital USB iPod Docking, supporting iPod/iPhone
- Wireless/Wi-Fi Included
- Various Video Setups
 - Progressive Mode
 - Still Mode
 - BD Wise
 - Picture Control
- All Share
- 3D Sound
- HDMI 1.4 with ARC (support HDMI 2 In)
- DLNA
- Smart Hub
- Disc to Digital
- Vacuum Tube Amplifier.
- Bluetooth (except ZA / ZC)
- CD Ripping

2.2. Specifications

2.2.1. HT-E65xx Specifications

■ Basic Specification

General	Weight	3.49 kg 7.7 lbs
	Dimensions	429.26 (W) x 58.42 (H) x 256.54 (D) mm 16.9 (W) x 2.3 (H) x 10.1 (D) inches
	Operating Temperature Range	+5 °C to +35 °C +41 °F to +95 °F
	Operating Humidity Range	10 % to 75 %
FM Tuner	Signal/noise ratio	55 dB
	Usable sensitivity	12 dB
	Total harmonic distortion	0.5 %
Disc	BD (Blu-ray Disc)	Reading Speed : 9.834 m/sec
	DVD (Digital Versatile Disc)	Reading Speed : 6.98 ~ 7.68 m/sec.
		Approx. Play Time (Single Sided, Single Layer Disc) : 135 min.
	CD : 12 cm / 5 inches (COMPACT DISC)	Reading Speed : 4.8 ~ 5.6 m/sec.
		Maximum Play Time : 74 min.
	CD : 8 cm / 3 1/2 inches (COMPACT DISC)	Reading Speed : 4.8 ~ 5.6 m/sec.
		Maximum Play Time : 20 min.
Video Output	Composite Video	1 channel : 1.0 Vp-p (75 Ω load)
		Blu-ray Disc : 576i/480i (America : 480i) DVD : 576i/480i (America : 480i)
Video/Audio	HDMI	1080p, 1080i, 720p, 576p/480p (America : 480i)
		PCM multichannel audio, Bitstream audio, PCM audio
Amplifier	Front speaker output	165 W x 2 (3 Ω)
	Center speaker output	170 W (3 Ω)
	Surround speaker output	165 W x 2 (3 Ω)
	Subwoofer speaker output	170 W (3 Ω)
	Frequency response	Analog input 20 Hz ~ 20 kHz (± 3 dB)
		Digital input 20 Hz ~ 40 kHz (± 4 dB)
	S/N Ratio	70 dB
	Channel separation	60 dB
	Input sensitivity	(AUX) 500 mV

■ HT-E6500 Speaker Specification

Speaker	Speaker system	5.1ch speaker system			
		Front	Surround	Center	Subwoofer
	Impedance	3 Ω	3 Ω	3 Ω	3 Ω
	Frequency range	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	40 Hz ~ 160 Hz
	Output sound pressure level	87 dB/W/M	87 dB/W/M	87 dB/W/M	88 dB/W/M
	Rated input	165 W	165 W	170 W	170 W
	Maximum input	330 W	330 W	340 W	340 W
	Dimensions (W x H x D)	Front : 94 x 280 x 70 mm Surround : 90 x 141.5 x 68.5 mm Centre : 360 x 74.5 x 68.5 mm Subwoofer : 200 x 390 x 350 mm			
	Weights	Front : 0.95 kg Surround : 0.61 kg Centre : 0.88 kg Subwoofer : 5.70 kg			

■ HT-E6530 Speaker Specification

Speaker	Speaker system	5.1ch speaker system			
		Front	Surround	Center	Subwoofer
	Impedance	3 Ω	3 Ω	3 Ω	3 Ω
	Frequency range	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	40 Hz ~ 160 Hz
	Output sound pressure level	87 dB/W/M	87 dB/W/M	87 dB/W/M	88 dB/W/M
	Rated input	165 W	165 W	170 W	170 W
	Maximum input	330 W	330 W	340 W	340 W
	Dimensions (W x H x D)	Front : 3.54 x 47.24 x 2.75 (Stand base : 9.44 x 9.44) inches Surround : 3.54 x 5.57 x 2.69 inches Center : 14.17 x 2.93 x 2.96 inches Subwoofer : 6.61 x 13.78 x 11.22 inches			
	Weights	Front : 8.59 lbs Surround : 1.34 lbs Center : 1.98 lbs Subwoofer : 8.06 lbs			

■ SWA-5000 Specification

Weight	1.1 kg 2.52 lbs
Dimensions (W x H x D)	76.2 x 228.6 x 152.4 mm 3 x 9 x 6 inches
Operating Temperature Range	+5 °C to +35 °C +41 °F to +95 °F
Operating Humidity Range	10 % to 75 %
Output	165 W x 2 CH
Frequency range	20 Hz ~ 20 KHz
S/N Ratio	65 dB

**NOTE**

- Network speeds equal to or below 10 Mbps are not supported.
- Samsung Electronics Co., Ltd reserves the right to change the specifications without notice.
- Weight and dimensions are approximate.
- Design and specifications are subject to change without prior notice.
- For the power supply and Power Consumption, refer to the label attached to the product.

2.2.2. HT-E67xx Specifications

■ Basic Specification

General	Weight	3.49 kg 7.7 lbs
	Dimensions	429.26 (W) x 58.42 (H) x 256.54 (D) mm 16.9 (W) x 2.3 (H) x 10.1 (D) inches
	Operating Temperature Range	+5 °C to +35 °C +41 °F to +95 °F
	Operating Humidity Range	10 % to 75 %
FM Tuner	Signal/noise ratio	55 dB
	Usable sensitivity	12 dB
	Total harmonic distortion	0.5 %
Disc	BD (Blu-ray Disc)	Reading Speed : 9.834 m/sec
	DVD (Digital Versatile Disc)	Reading Speed : 6.98 ~ 7.68 m/sec.
		Approx. Play Time (Single Sided, Single Layer Disc) : 135 min.
	CD : 12 cm / 5 inches (COMPACT DISC)	Reading Speed : 4.8 ~ 5.6 m/sec.
		Maximum Play Time : 74 min.
	CD : 8 cm / 3 1/2 inches (COMPACT DISC)	Reading Speed : 4.8 ~ 5.6 m/sec.
		Maximum Play Time : 20 min.
Video Output	Composite Video	1 channel : 1.0 Vp-p (75 Ω load)
		Blu-ray Disc : 576i/480i (America : 480i)
		DVD : 576i/480i (America : 480i)
Video/Audio	HDMI	1080p, 1080i, 720p, 576p/480p (America : 480i)
		PCM multichannel audio, Bitstream audio, PCM audio
Amplifier	Front speaker output	165 W x 2 (3 Ω)
	Front Top speaker output	165 W x 2 (3 Ω)
	Center speaker output	170 W (3 Ω)
	Surround speaker output	165 W x 2 (3 Ω)
	Subwoofer speaker output	170 W (3 Ω)
	Frequency response	Analog input 20 Hz ~ 20 kHz (± 3 dB)
		Digital input 20 Hz ~ 40 kHz (± 4 dB)
	S/N Ratio	70 dB
	Channel separation	60 dB
	Input sensitivity	(AUX) 500 mV

■ HT-E6730W Speaker Specification

Speaker	Speaker system	7.1ch speaker system				
		Front	Front Top	Surround	Center	Subwoofer
	Impedance	3 Ω	3 Ω	3 Ω	3 Ω	3 Ω
	Frequency range	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	40 Hz ~ 160 Hz
	Output sound pressure level	87 dB/W/M	87 dB/W/M	87 dB/W/M	87 dB/W/M	88 dB/W/M
	Rated input	165 W	165 W	165 W	170 W	170 W
	Maximum input	330 W	330 W	330 W	340 W	340 W
	Dimensions (W x H x D)	Front/Front Top : 3.54 x 47.24 x 2.75 (Stand base: 9.44 x 9.44) inches Surround : 3.54 x 5.57 x 2.69 inches Center : 14.17 x 2.93 x 2.69 inches Subwoofer : 7.87 x 15.35 x 13.78 inches				
	Weights	Front/Front Top : 10.36 lbs Surround : 1.34 lbs Center : 1.98 lbs Subwoofer : 12.56 lbs				

■ HT-E6750W Speaker Specification

Speaker	Speaker system	7.1ch speaker system				
		Front	Front Top	Surround	Center	Subwoofer
	Impedance	3 Ω	3 Ω	3 Ω	3 Ω	3 Ω
	Frequency range	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	140 Hz ~ 20 kHz	40 Hz ~ 160 Hz
	Output sound pressure level	87 dB/W/M	87 dB/W/M	87 dB/W/M	87 dB/W/M	88 dB/W/M
	Rated input	165 W	165 W	165 W	170 W	170 W
	Maximum input	330 W	330 W	330 W	340 W	340 W
	Dimensions (W x H x D)	Front/Front Top : 90 x 1200 x 70 (Stand base: 240 x 240) mm Surround : 90 x 1200 x 70 (Stand base: 240 x 240) mm Centre : 360 x 74.5 x 68.5 mm Subwoofer : 200 x 390 x 350 mm				
	Weights	Front/Front Top : 4.7 kg Surround : 3.9 kg Centre : 0.9 kg Subwoofer : 5.7 kg				


■ SWA-5000 Specification



Weight	1.1 kg 2.52 lbs
Dimensions (W x H x D)	76.2 x 228.6 x 152.4 mm 3 x 9 x 6 inches
Operating Temperature Range	+5 °C to +35 °C +41 °F to +95 °F
Operating Humidity Range	10 % to 75 %
Output	165 W x 2 CH
Frequency range	20 Hz ~ 20 KHz
S/N Ratio	65 dB

**NOTE**

- Network speeds equal to or below 10 Mbps are not supported.
- Samsung Electronics Co., Ltd reserves the right to change the specifications without notice.
- Weight and dimensions are approximate.
- Design and specifications are subject to change without prior notice.
- For the power supply and Power Consumption, refer to the label attached to the product.

2.3. Specifications Analysis

Model Name	HT-E6***W	HT-D6730W
Photo		
Profile	Blu-ray 5 from the beginning.	Blu-ray 5 from the beginning.
DVD, CD	O	O
MP3, JPG	O (MP4, MKV, WMA, WMV)	O (MP4, MKV, WMA, WMV)
USB HOST	O	O
iPod / iPhone	O (Digital USB Audio, Composite Video With New Cradle)	O (Digital USB Audio, Composite Video With New Cradle)
Wireless LAN	O (Built-In)	O (Built-In)
DivX	O (DivX-HD support) (Exclude ZA, ZC)	O (DivX-HD support)
Wireless Rear Speaker	Included	Included
Memory Slot	Internal Storage Support	Internal Storage Support
DLNA, Widget	O (Smart Hub with Full Web-Browser)	O (Smart Hub)
Energy-Star	0.4 W	0.65 W
2D / 3D	3D (2D → 3D Convergence)	3D (2D → 3D Convergence)
SMPS	2 trans Stand-By Power Consumption 0.4 W Dual Free Voltage	2 trans Stand-By Power Consumption 0.6 W Dual Free Voltage
Deck	Draw type Plastic Cover	Slot-In type
Pick Up	7G Pickup	6G VE Pickup
Front Micom	SANYO	SANYO
MAIN Chip	SAMSUNG SOC	SAMSUNG SOC
Wireless Rear Speaker	Included (SWA-5000)	Included (SWA-5000)
Wi-Fi LAN Dongle	Built-In	Built-In
HDMI IN	2 Inputs	2 Inputs

Model Name	HT-E6***W	HT-D6730W
Photo		
Main ↔ Loader	BACKEND Firenze + Frontend Sunext	BACKEND Firenze + Frontend Raptor
AMP	Vacuum Tube AMP + TI Amplifier (TA5613 Analog AMP + TA5414 Digital AMP)	IR Amplifier

**TIP**

O : Feature Included

X : Not Included

2.4. Disk and Format Compatibility

2.4.1. Disc types and contents your product can play

Media	Disc Type	Details
VIDEO	Blu-ray Disc, 3D Blu-ray Disc	BD-ROM or BD-RE/-R disc recorded in the BD-RE format.
	DVD-VIDEO, DVD-RW, DVD-R, DVD+RW, DVD+R	DVD-VIDEO, recorded DVD+RW/DVD-RW(V)/DVDR/+R discs that have been recorded and finalized, or a USB storage media containing DivX, MKV, MP4 contents.
MUSIC	CD-RW/-R, DVD-RW/-R, BD-RE/-R	Music recorded on CD-RW/-R, DVD-RW/-R, BD-RE/-R discs or a USB storage media containing MP3 or WMA contents.
PHOTO	CD-RW/-R, DVD-RW/-R, BD-RE/-R	Photos recorded on CD-RW/-R, DVD-RW/-R, BD-RE/-R discs or a USB storage media containing JPEG contents.



NOTE

- The product may not play certain CD-RW/-R and DVD-R because of the disc type or recording conditions.
- If a DVD-RW/-R disc has not been recorded properly in DVD video format, it will not be playable.
- Your product will not play content that has been recorded on a DVD-R at a bit rate that exceeds 10 Mbps.
- Your product will not play content that has been recorded on a BD-R or USB device at a bit rate that exceeds 30 Mbps.
- Playback may not work for some types of discs, or when you use specific operations, such as angle change and aspect ratio adjustment. Information about the discs is written in detail on the disc box. Please refer to this if necessary.
- When you play a BD-J title, loading may take longer than a normal title or some functions may perform slowly.

2.4.2. Disc types your product cannot play

- HD DVD
- DVD-ROM/PD/MV-Disc, etc
- DVD-RAM
- Super Audio CD (except CD layer)
- DVD-RW (VR mode)
- CVD/CD-ROM/CDV/CD-G/CD-I/LD (CD-Gs play audio only, not graphics.)
- 3.9 GB DVD-R Disc for Authoring.



NOTE










- This product may not respond to all operating commands because some Blu-ray Disc, DVD, and CD discs allow specific or limited operation and provide only certain features during playback. Please note that this is not a defect in the product.
- Samsung cannot guarantee that this product will play every disc bearing the Blu-ray Disc, DVD or CD logo because disc formats evolve, and problems and errors may occur during the creation of Blu-ray Disc, DVD, and CD software and/or the manufacture of discs.
- Please contact the SAMSUNG Customer Care Centre, if you have questions or encounter difficulty when playing Blu-ray Disc, DVD, or CD discs in this product. Also, refer to rest of this user manual for additional information on playback restrictions.
- Some commercial discs and DVD discs purchased outside your region may not play on this product.

2.4.3. Region Code

Both products and discs are coded by region.

These regional codes must match for a disc to play. If the codes do not match, the disc will not play.

The Region Number for this product is displayed on the rear panel of the product.










Disc Type	Region Code	Area
Blu-ray Disc		North America, Central America, South America, Korea, Japan, Taiwan, Hong Kong and South East Asia
		Europe, Greenland, French territories, Middle East, Africa, Australia and New Zealand
		India, China, Russia, Central and South Asia
DVD-VIDEO		The U.S., U.S. territories and Canada
		Europe, Japan, the Middle East, Egypt, South Africa, Greenland
		Taiwan, Korea, the Philippines, Indonesia, Hong Kong
		Mexico, South America, Central America, Australia, New Zealand, Pacific Islands, Caribbean
		Russia, Eastern Europe, India, most of Africa, North Korea, Mongolia
		China



NOTE

- If the Region number of a Blu-ray Disc/DVDs does not correspond to the Region number of this product, the product cannot play the disc.

2.4.4. Logos of Discs the product can play

 <p>Blu-ray Disc</p>	 <p>3D Blu-ray Disc</p>
 <p>BD-LIVE</p>	 <p>Dolby</p>
 <p>DTS</p>	 <p>DivX</p>
 <p>NTSC broadcast system in U.S.A, Canada, Korea, Japan</p>	 <p>PAL broadcast system in U.K, France, Germany, etc.</p>
 <p>Java</p>	

2.4.5. Supported Formats

■ Music File Support

File Extension	Container	Audio Codec	Support Range
*.mp3	MP3	MP3	-
*.wma	WMA	WMA	Compliant with WMA version 10 * Sampling rates (in kHz) - 8, 11, 16, 22, 32, 44.1, 48 * Bitrates - All bitrates in the range 5 kbps to 384 kbps

■ Video File Support

File Extension	Container	Video Codec	Resolution	Frame rate (fps)	Bitrate (Mbps)	Audio Codec
*.avi	AVI	DivX 3.11/4.x /5.1/6.0	1920 x 1080	6 ~ 30	8	MP3 AC3 LPCM DTS Core
		H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
*.mkv	MKV	DivX 3.11/4.x /5.1/6.0	1920 x 1080	6 ~ 30	8	MP3 AC3 LPCM DTS Core
		H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
*.asf	ASF	DivX 3.11/4.x /5.1/6.0	1920 x 1080	6 ~ 30	8	MP3 AC3 LPCM WMA
		H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
*.wmv	ASF	Window Media Video v9	1920 x 1080	6 ~ 30	25	WMA
*.mp4	MP4	H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	MP3 AAC
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
*.3gp	3GPP	H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	AAC
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
*.vro	VRO VOB	MPEG2	1920 x 1080	24/25/30	25	AC3 MPEG LPCM
		MPEG1	1920 x 1080	24/25/30	25	


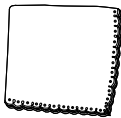

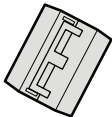
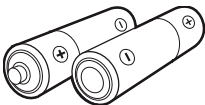

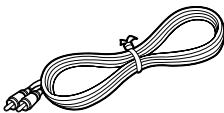



File Extension	Container	Video Codec	Resolution	Frame rate (fps)	Bitrate (Mbps)	Audio Codec
*.mpg *.mpeg	PS	MPEG1	1920 x 1080	24/25/30	25	AC3 MPEG LPCM AAC
		MPEG2	1920 x 1080	24/25/30	25	
		H.264	1920 x 1080	6 ~ 30	25	
*.ts *.tp *.trp	TS	MPEG2	1920 x 1080	24/25/30	25	AC3 AAC MP3 DD+
		H.264	1920 x 1080	6 ~ 30	25	
		VC1	1920 x 1080	6 ~ 30	25	

► Limitations

- Even when a file is encoded by a supported codes listed above, the file might not be played if its content has a problem.
- Normal playback is not guaranteed if the file's container information is wrong or the file itself is corrupted.
- Files having higher bit or frame rates than standard may stutter when played back.

2.5. Accessories

2.5.1. Supplied Accessories

Accessories	Item	Item code	Remark
	Remote Control	AH59-02402A	Local Samsung Dealer
	Soft Cloth	AH81-02286C	
	iPod Dock	AH96-00051C	
	Ferrite Core	3301-000144	
	Batteries (AAA size)	4301-000116	
	ASC microphone	AH30-00099A	
	Video Cable	AH39-40001V	
	FM Antenna	AH42-00021A	
	Quick Guide	AH68-02462J	
	User Manual	AH68-02464A	

3. Disassembly and Reassembly

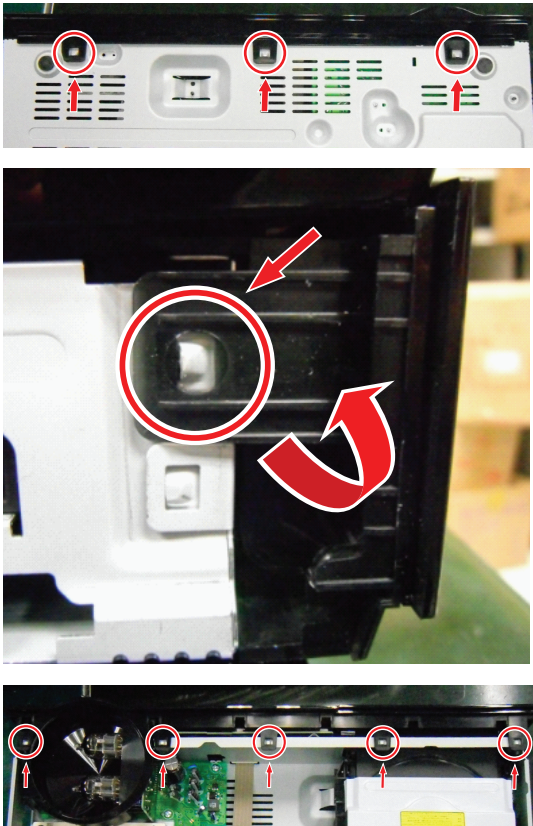
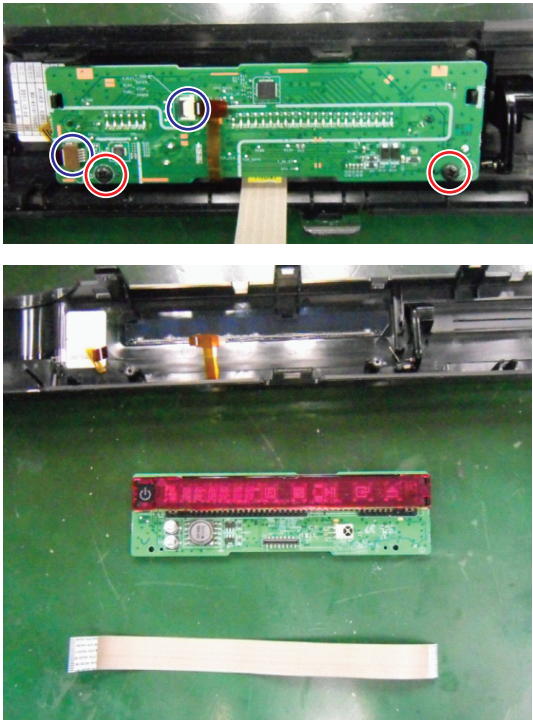
3.1. Overall Disassembly and Reassembly

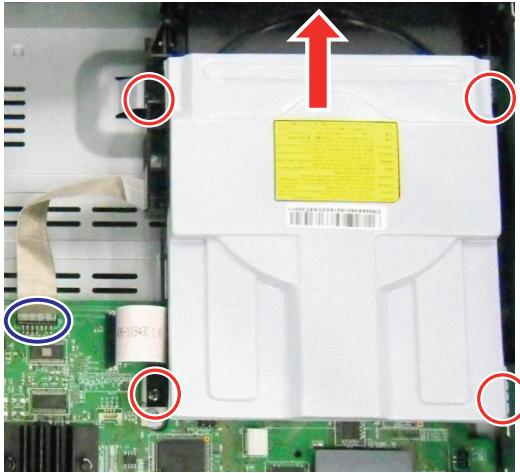
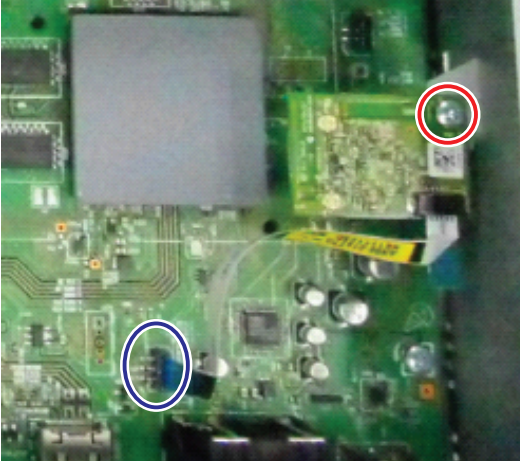
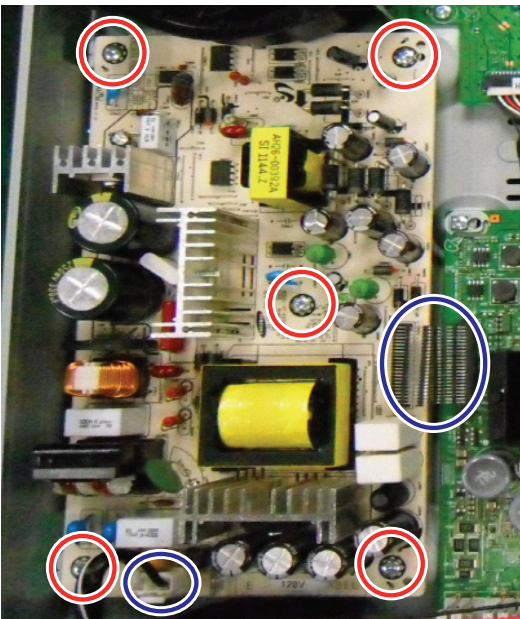


CAUTION

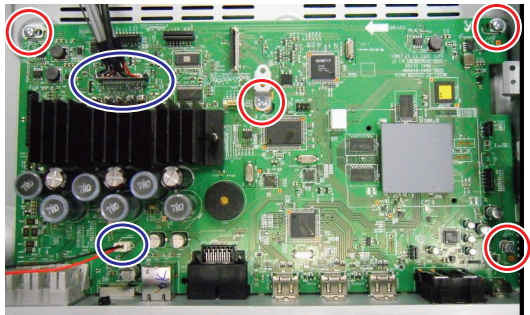

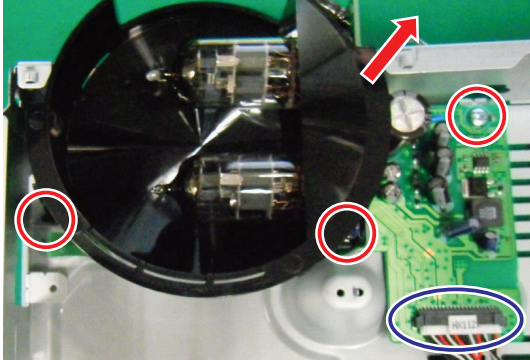
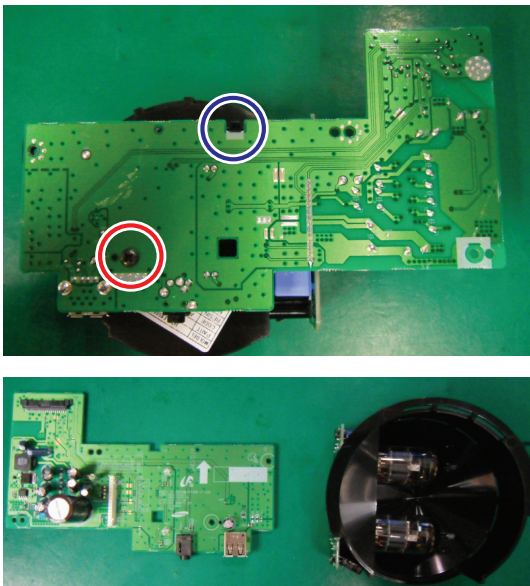
- Be careful to follow the disassembly sequence described in the manual. Otherwise, the product may be damaged.
- Be sure to carefully read and understand the safety instructions before performing any work as the IC chips on the PCB are vulnerable to static electricity.
- In order to assemble reverse the order of disassembly.

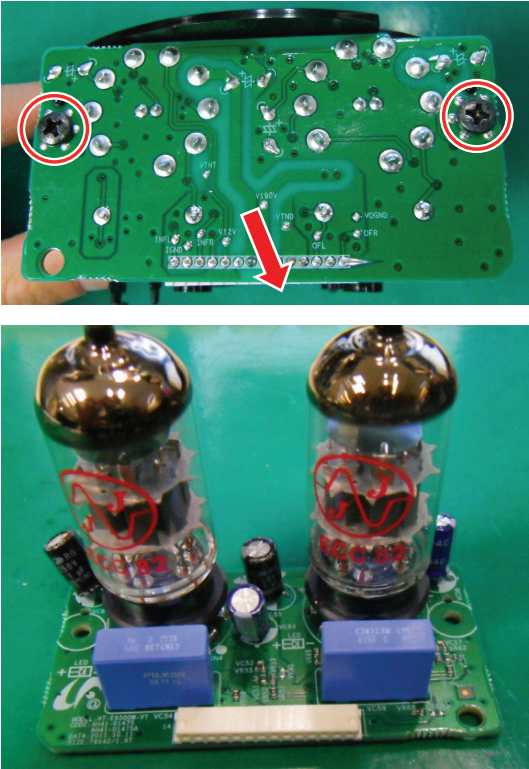
Description	Description Photo
<p>1. Unfasten 4 screws on the rear side. : BH,+,B,M3,L10,ZPC(BLK),SWRCH18A</p>	
<p>2. Slide the Cover-Top back to remove. Pull side cover and lift up Cover-Top.</p> <div><p>CAUTION</p><p>Be careful not to make any scratches as you remove them.</p></div>	

Description	Description Photo
<p>3. Disconnect the FFC between the Cover Front Assy and the MAIN PCB.</p> <ul style="list-style-type: none"> Loosen the bottom and side clips and tilt up. Lift the Cover Front Assy at a 45 degree angle upward. Then the hooks on the top side can be automatically removed. 	
<p>4. Disconnect the Touch ITO Film FPCs on Front PCB.</p> <ul style="list-style-type: none"> Unfasten 2 screws and pull out the Front PCB. : BH,+,B,M3,L10,ZPC(BLK),SWRCH18A Disconnect the FFC from Front PCB. 	

Description	Description Photo
<p>5. Disconnect the DECK cable from the MAIN PCB.</p> <ul style="list-style-type: none"> Unfasten the screws of 4 points around DECK Assy. : BH,+, -,B,M3,L8,ZPC(WHT),SWRCH18A Remove the DECK Assy from the Cover Bottom. 	
<p>6. For Wi-Fi, unfasten 1 screw and disconnect FFC.</p> <p>: BH,+, -,B,M3,L8,ZPC(WHT),SWRCH18A,ROUND TYPE</p>	
<p>7. Unfasten 5 screws on SMPS PCB.</p> <p>: BH,+, -,B,M3,L6,ZPC(WHT),SWRCH18A,RF</p> <p>Disconnect the connector and the power cord.</p>	

3. Disassembly and Reassembly

Description	Description Photo
<p>8. Disconnect the 20 pin wire and the 2 pin wire. Unfasten 4 screws on Main PCB : BH,+, -,B,M3,L8,ZPC(WHT),SWRCH18A,ROUND TYPE</p>	
<p>9. Unfasten 2 screws on Rear Side. : BH,+,B,M3,L10,ZPC(BLK),SWRCH18A Unfasten 2 screws on Rear Side for FAN. : BH,+,B,M3,L10,ZPC(BLK),SWRCH18A</p>	
<p>10. Unfasten 3 screws on USB PCB. : BH,+, -,B,M3,L8,ZPC(WHT),SWRCH18A,ROUND TYPE Pull out the ASSY. Disconnect the 20 pin wire.</p>	
<p>11. Unfasten 1 screw on USB PCB. :BH,+,B,M3,L10,ZPC(BLK),SWRCH18A Push the hook and pull USB PCB.</p>	

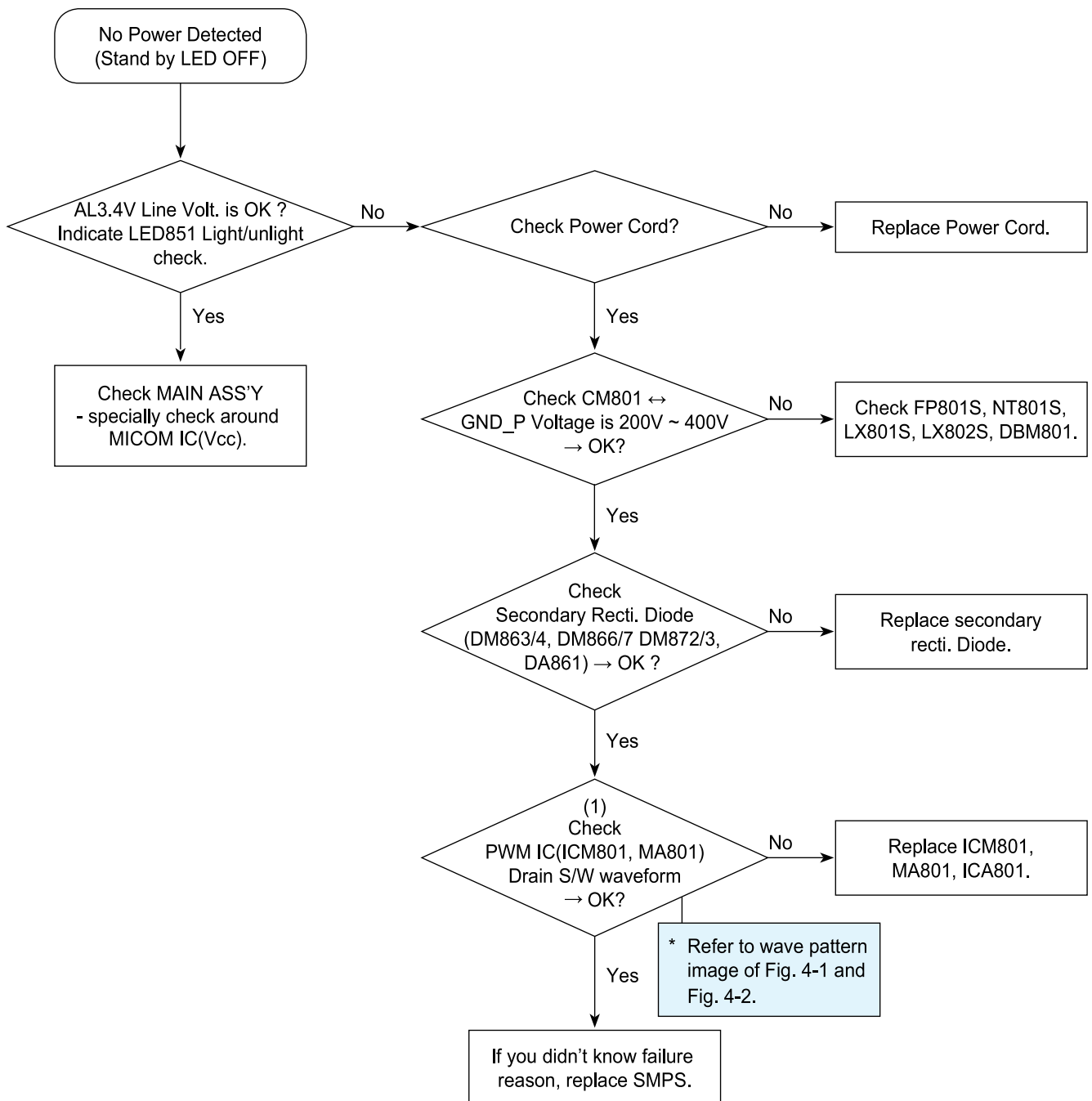
Description	Description Photo
<p>12. Unfasten 2 screws on VT PCB. : BH,+,B,M3,L10,ZPC(BLK),SWRCH18A Pull out the USB PCB.</p>	

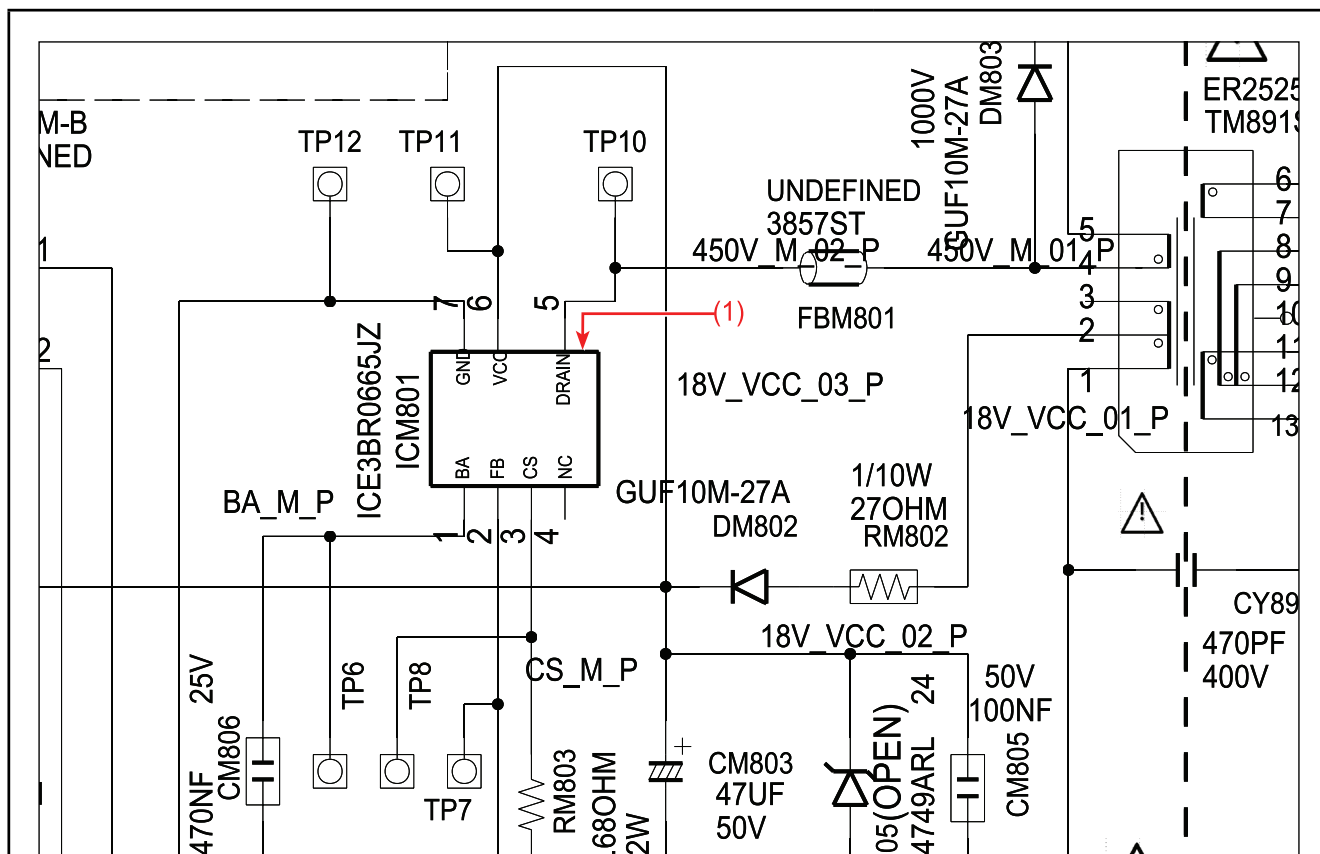
4. Troubleshooting

4.1. Checkpoints by Error Mode

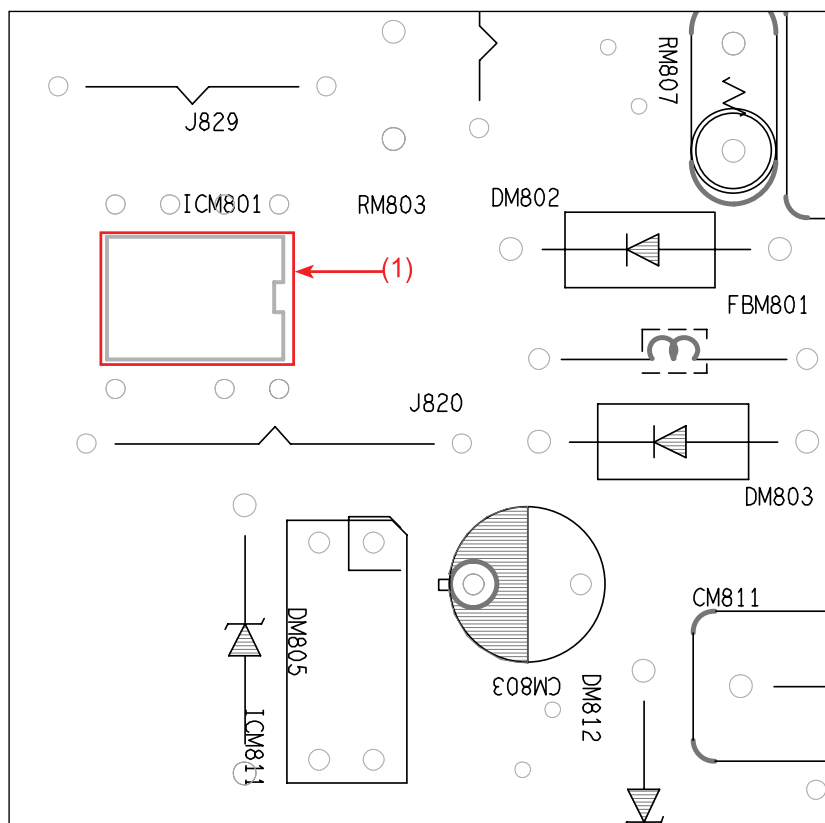
Oscilloscope Setting Values	Normal Voltage	24 MHz	32.768 KHz
Voltage/DIV	1 V/div	200 mV/div	500 mV/div
TIME/DIV	100 ms/div	100 ns/div	100 us/div

4.1.1. No Power

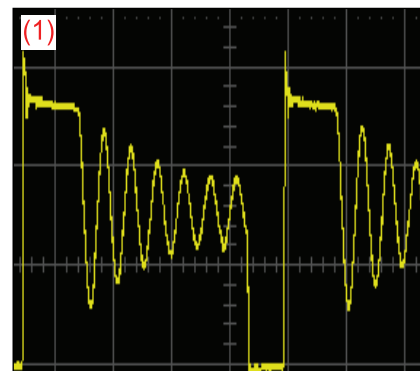




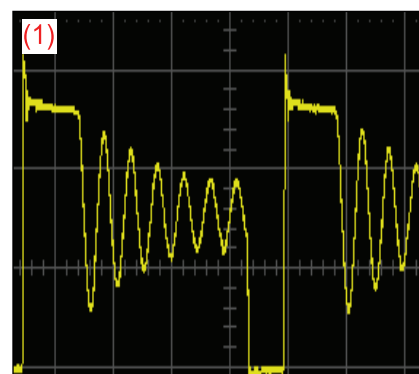
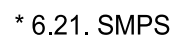
* 6.21. SMPS



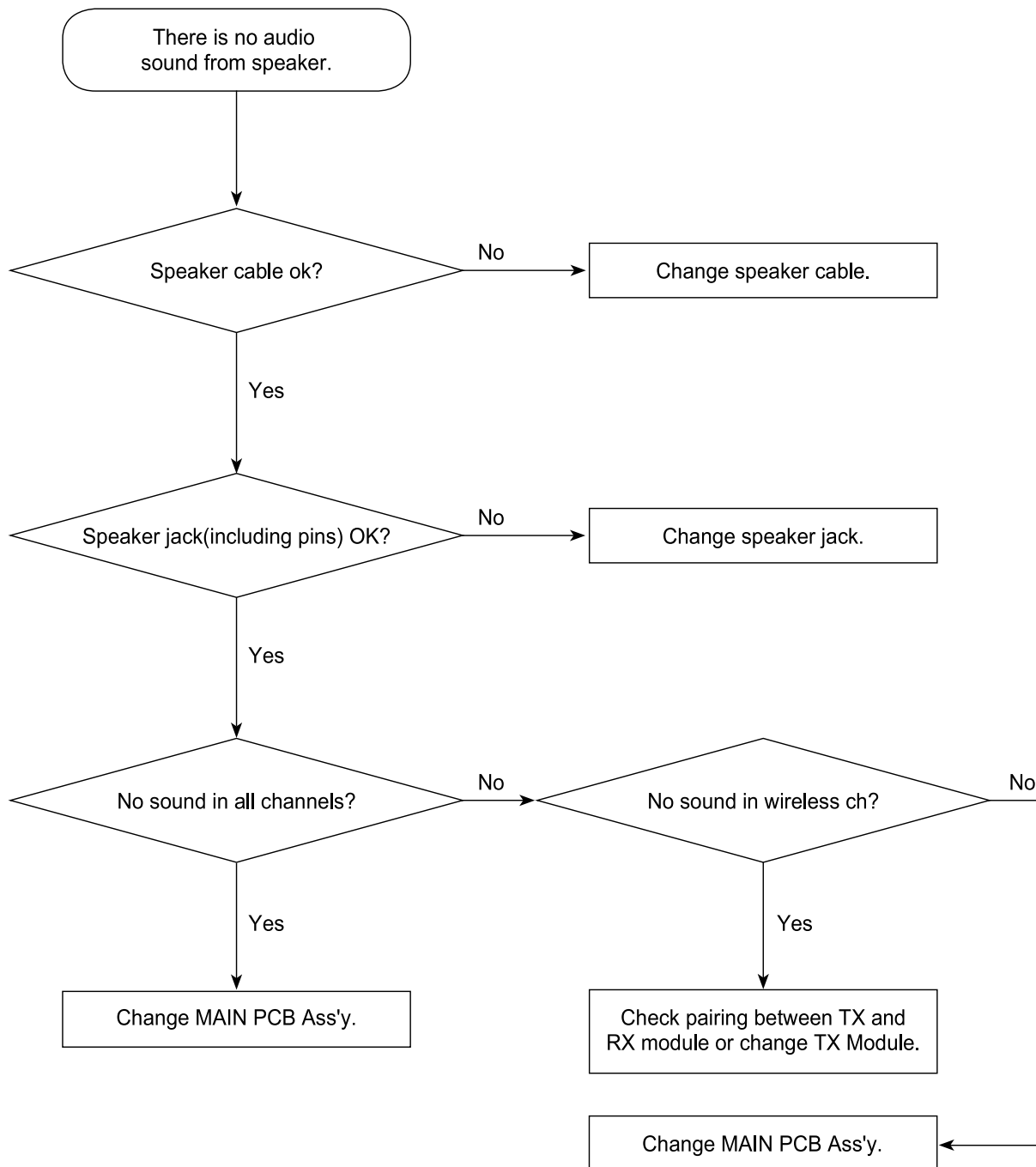
* 5.10. SMPS PCB Top



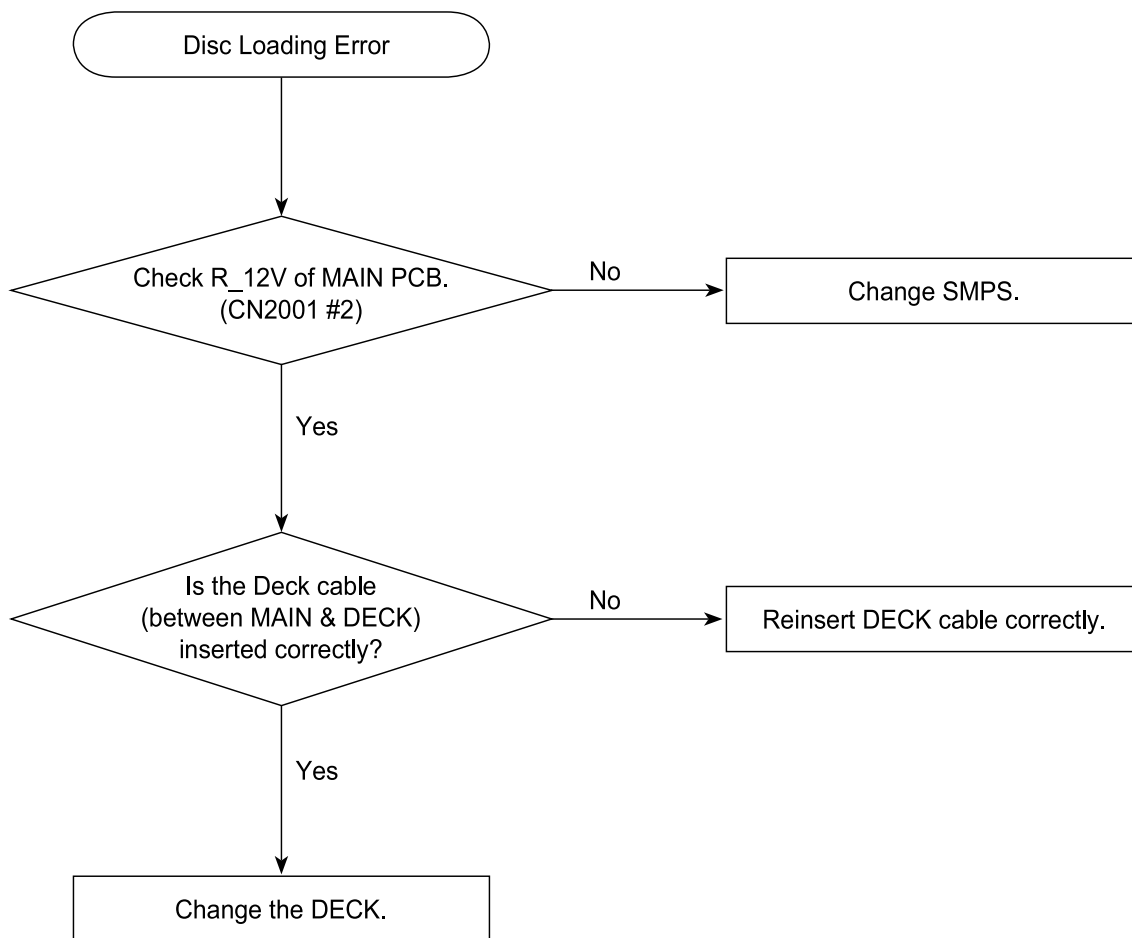
<Fig. 4-1>



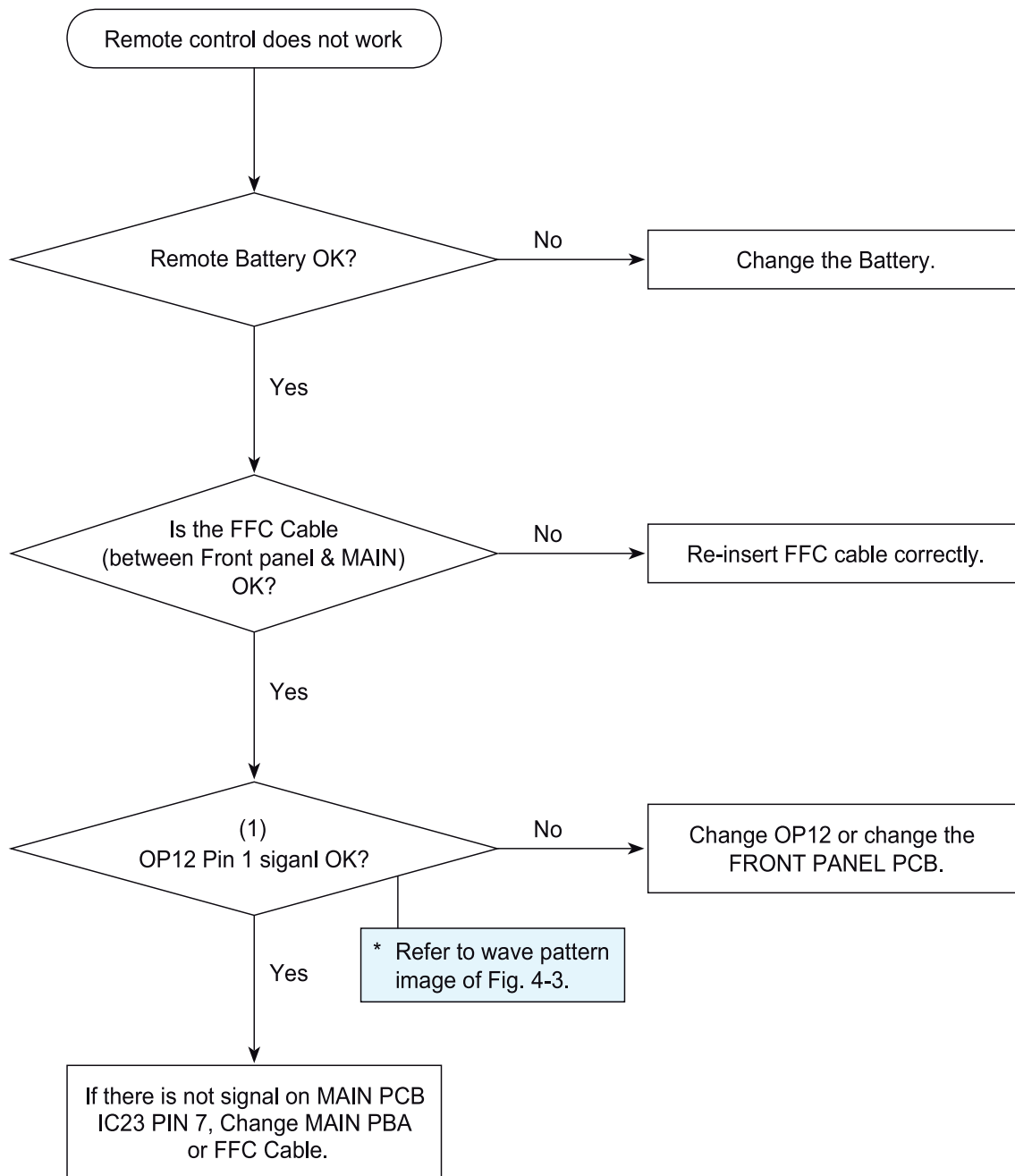
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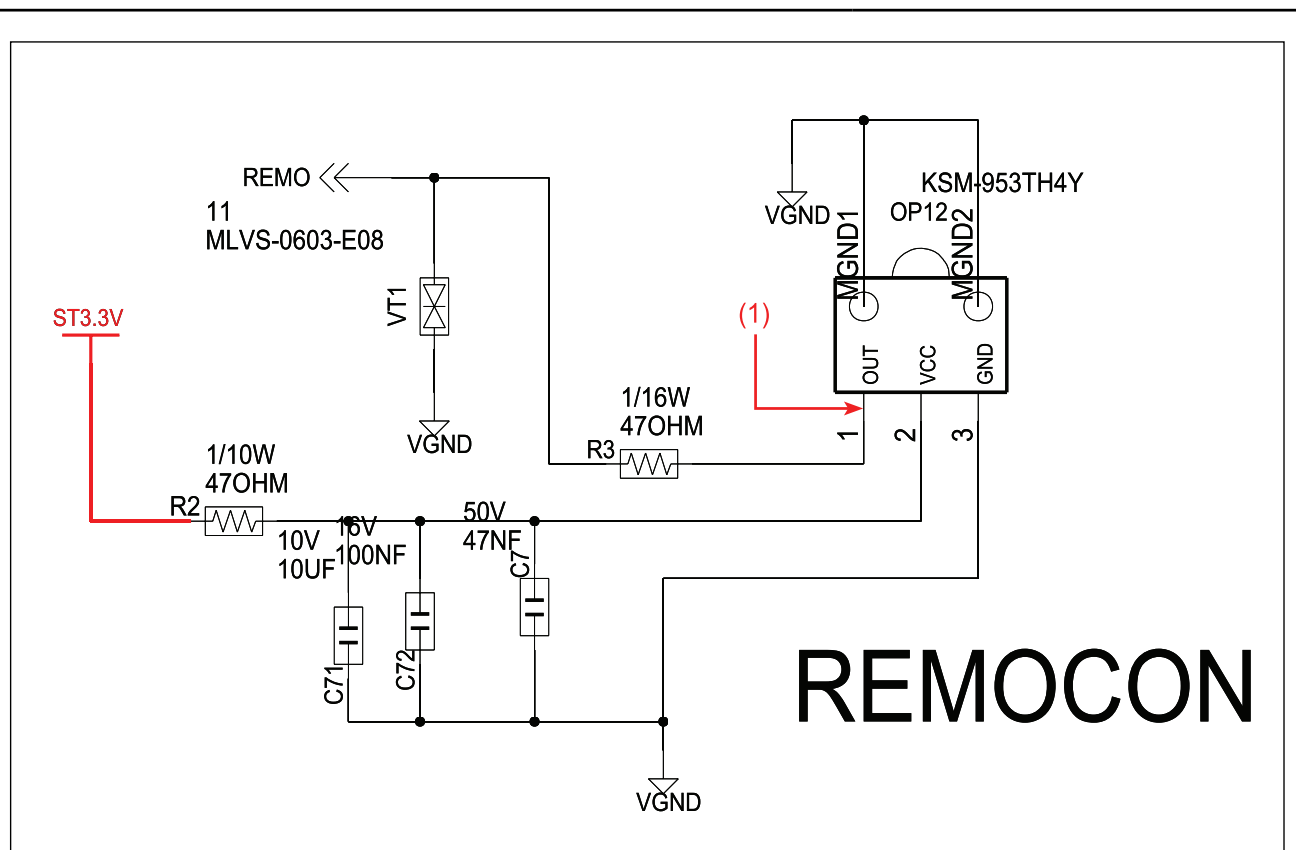
4.1.2. No Sound

4.1.3. Disc Loading Error

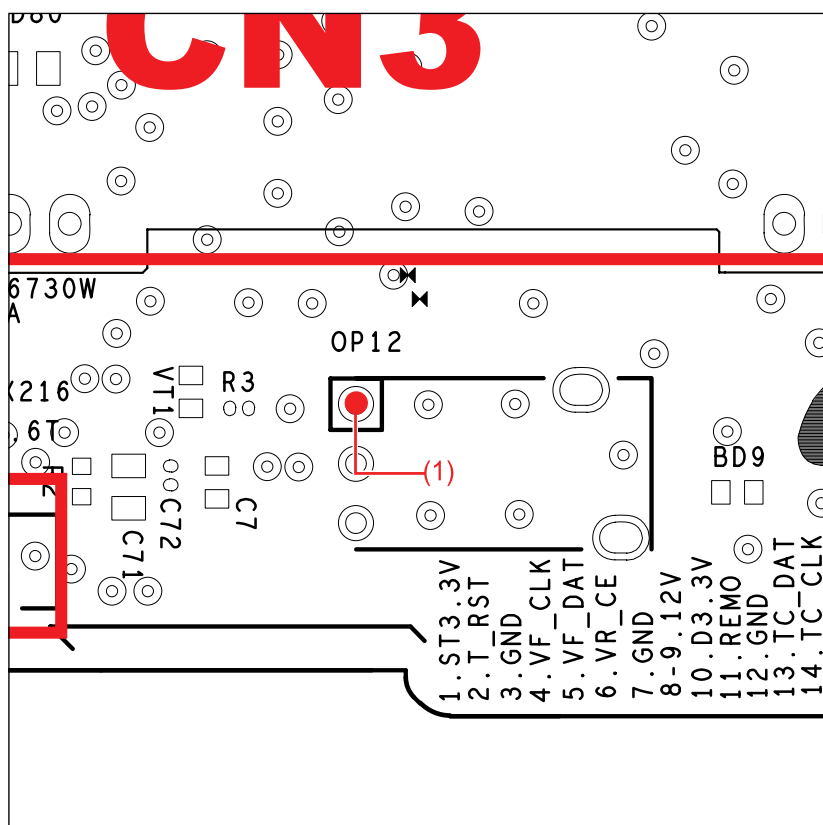


4.1.4. Remote doesn't work

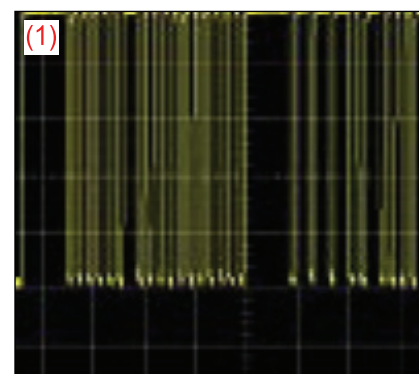




* 6.2. FRONT



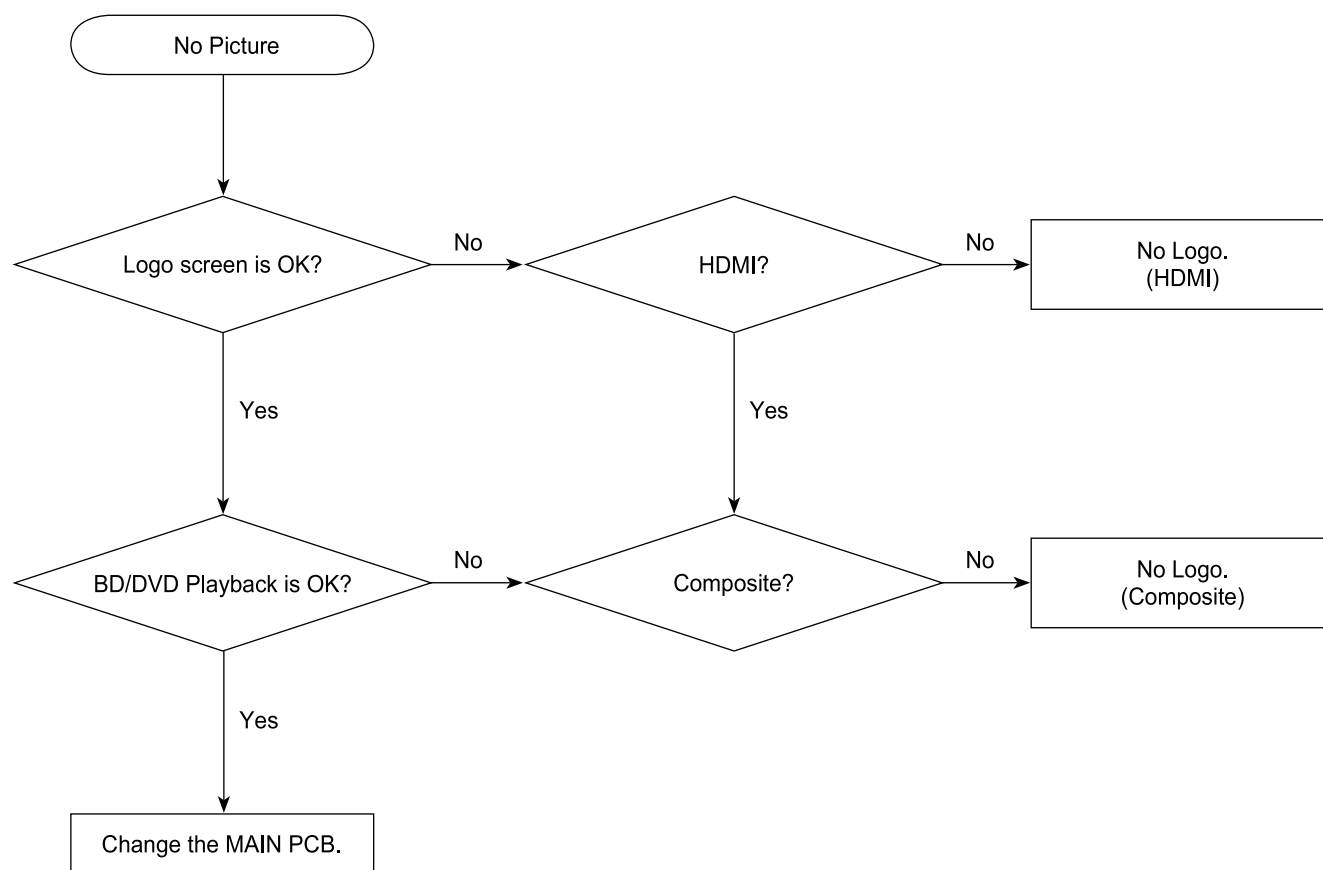
* 5.2. FRONT Top



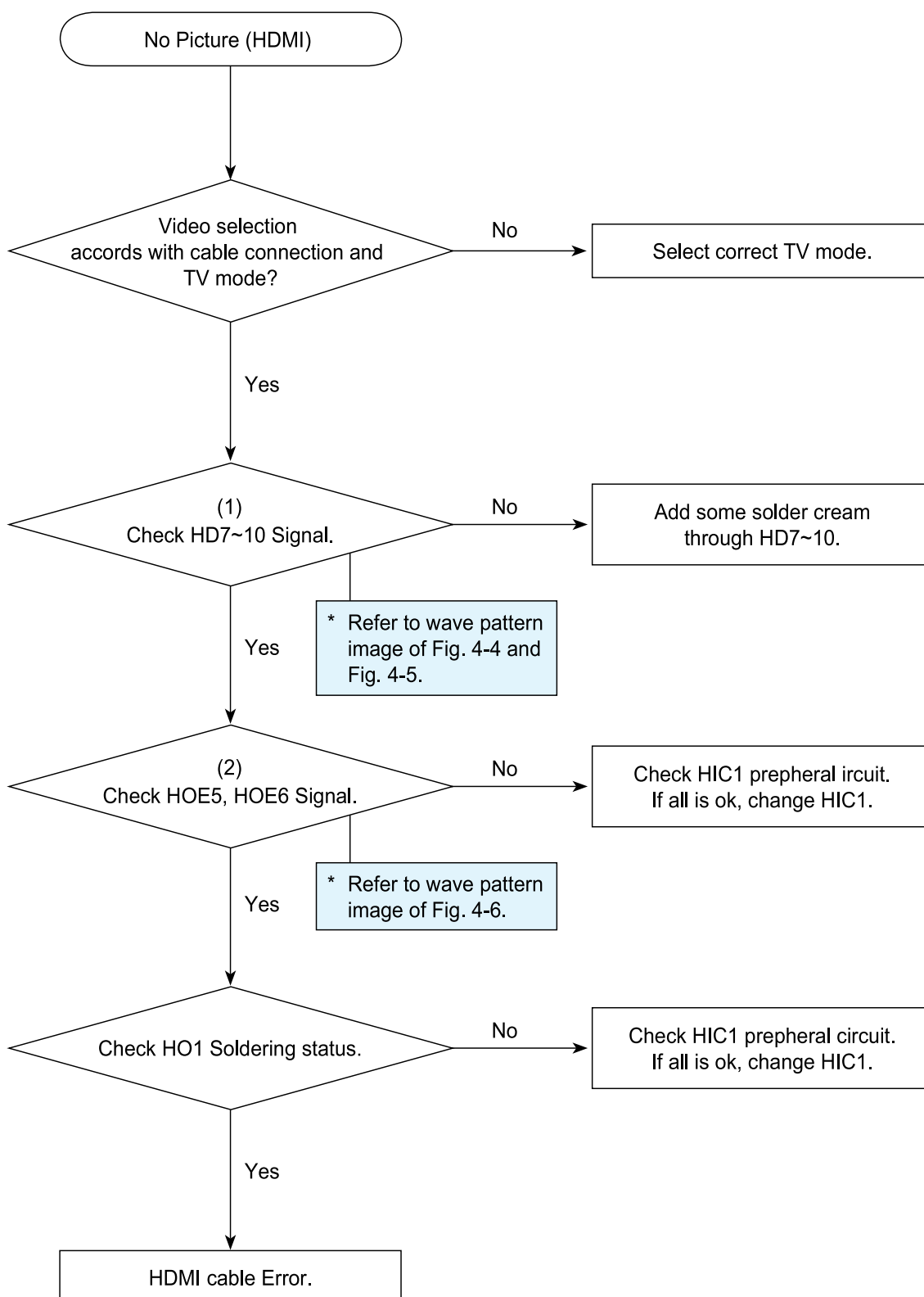
<REMOCON EYE DATA>

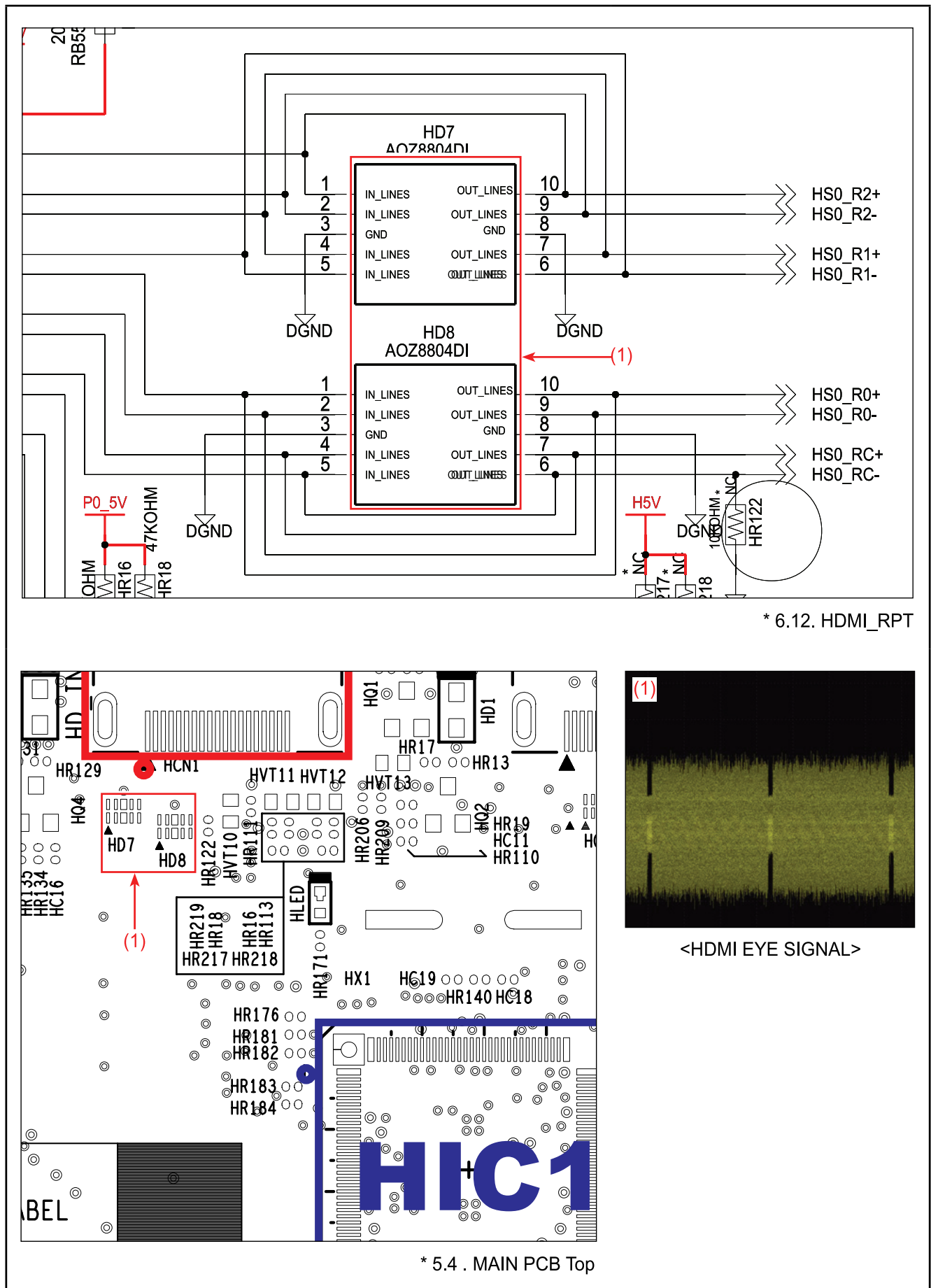
<Fig. 4-3>

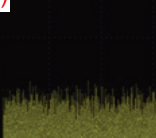
4.1.5. No Screen



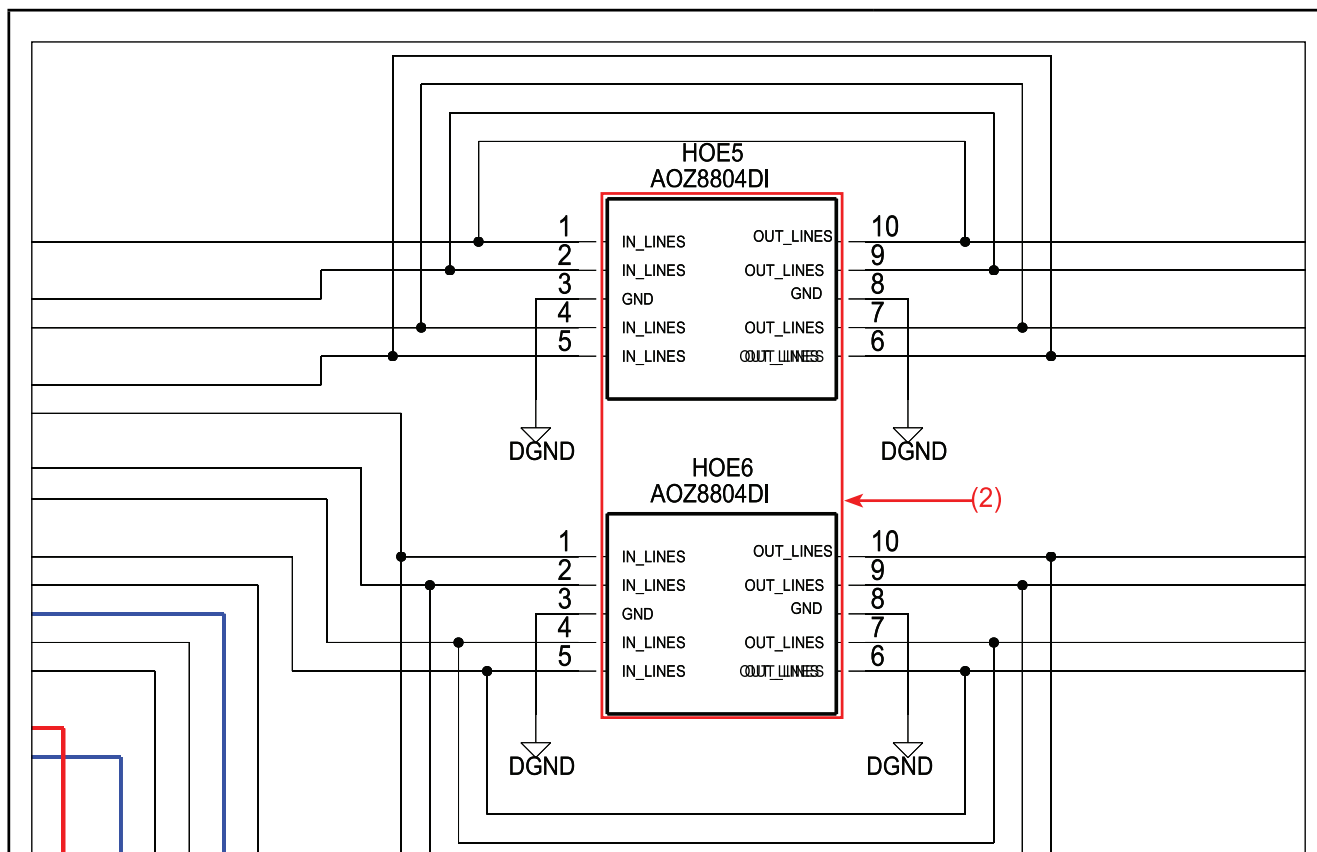
4.1.6. No Picture (HDMI)



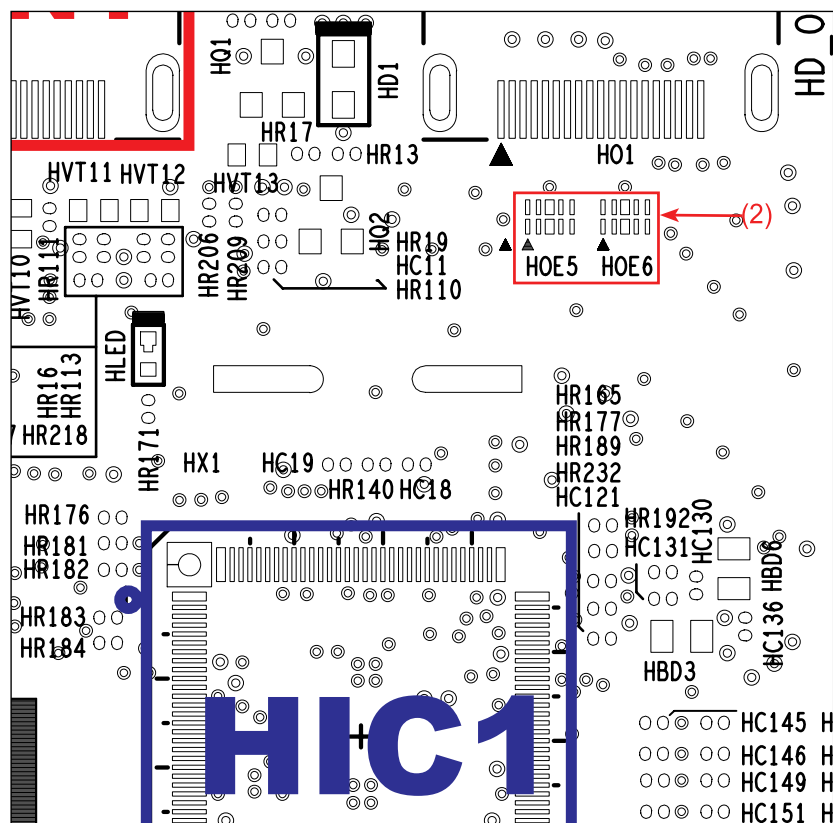




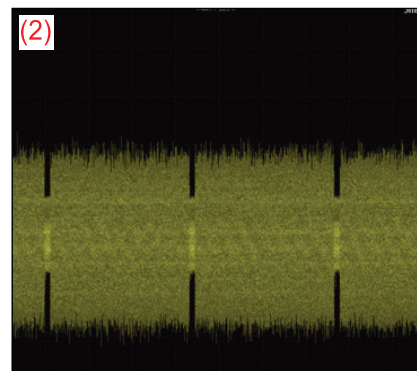
4-12



* 6.12. HDMI_RPT



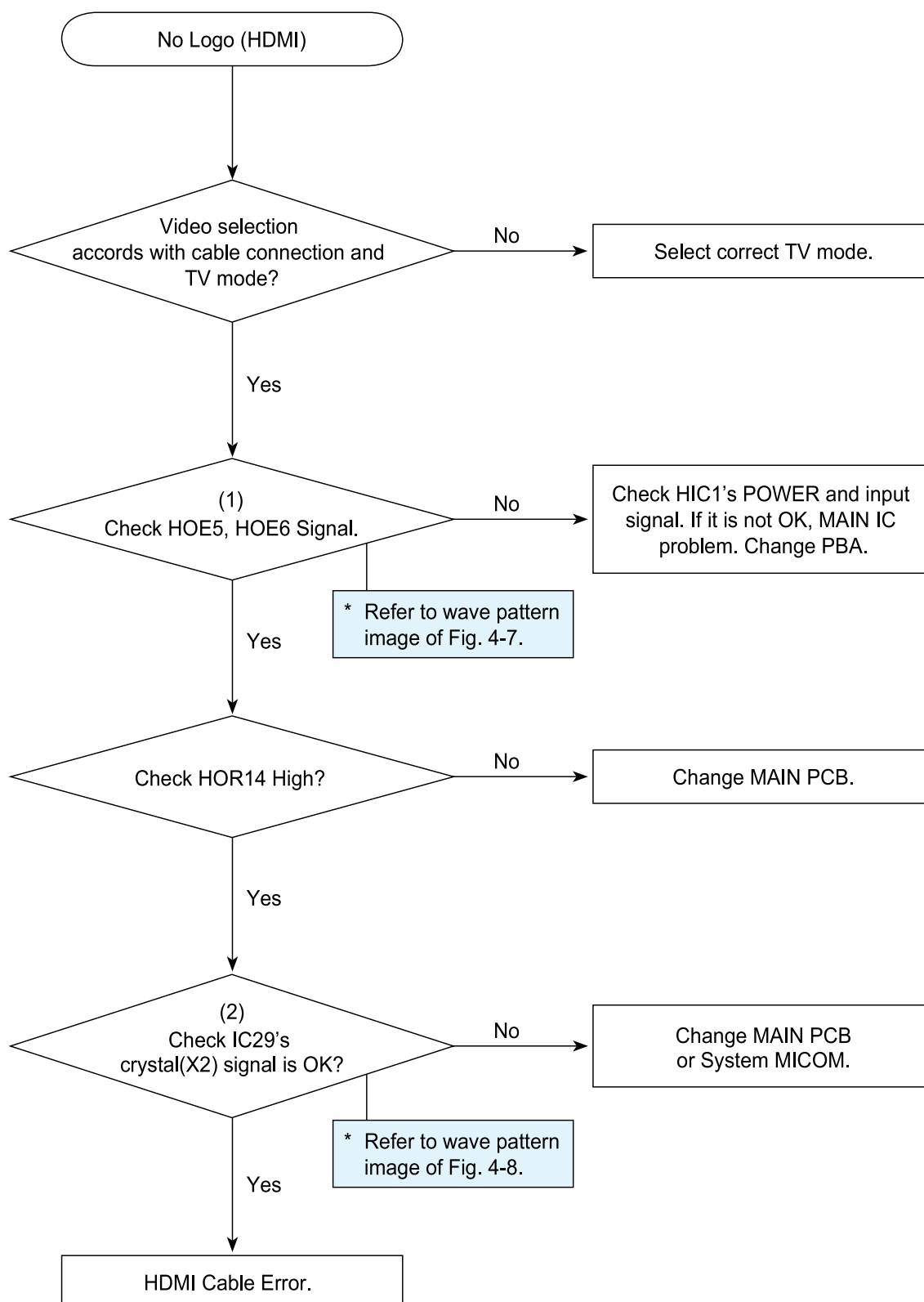
* 5.4 . MAIN PCB Top

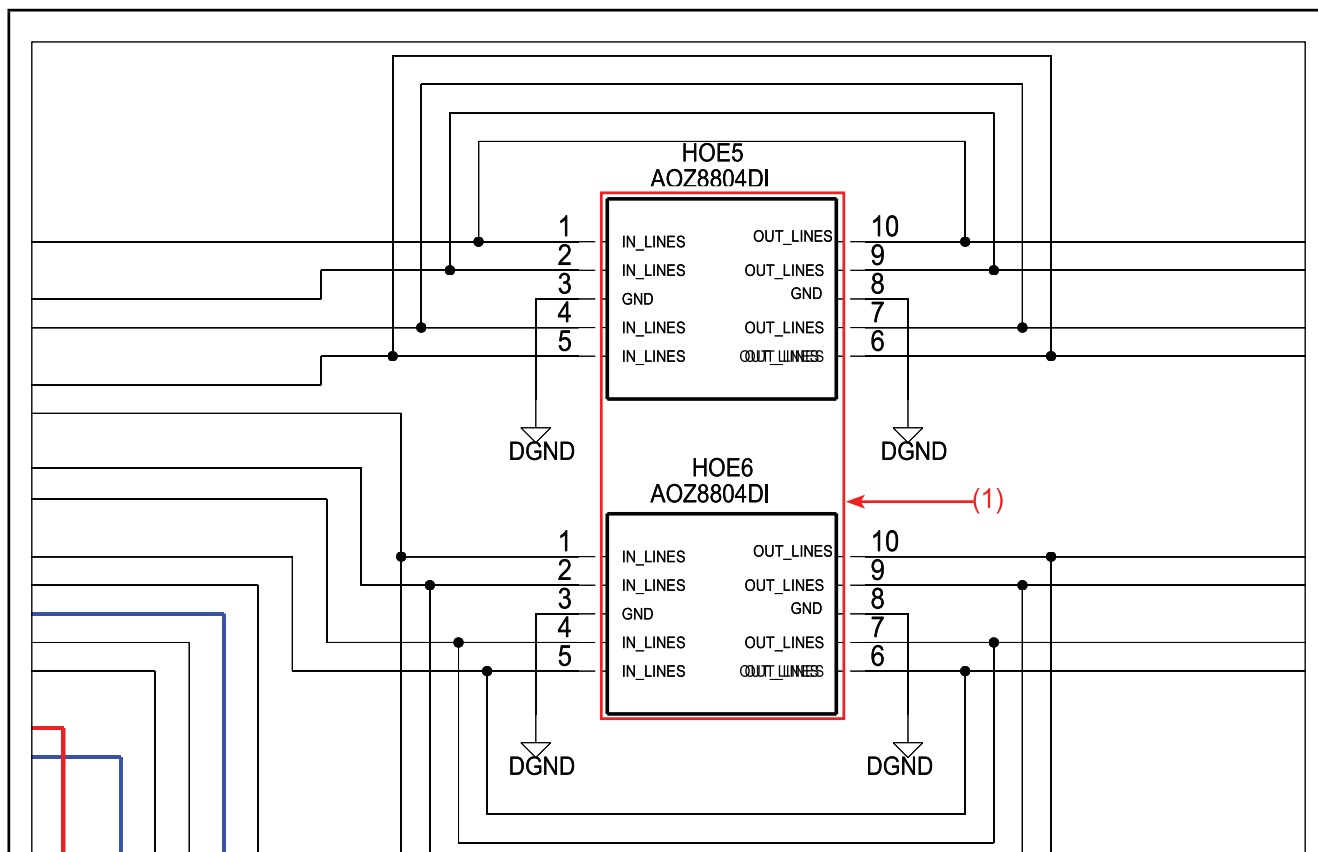


<AC Level 200~400mV>

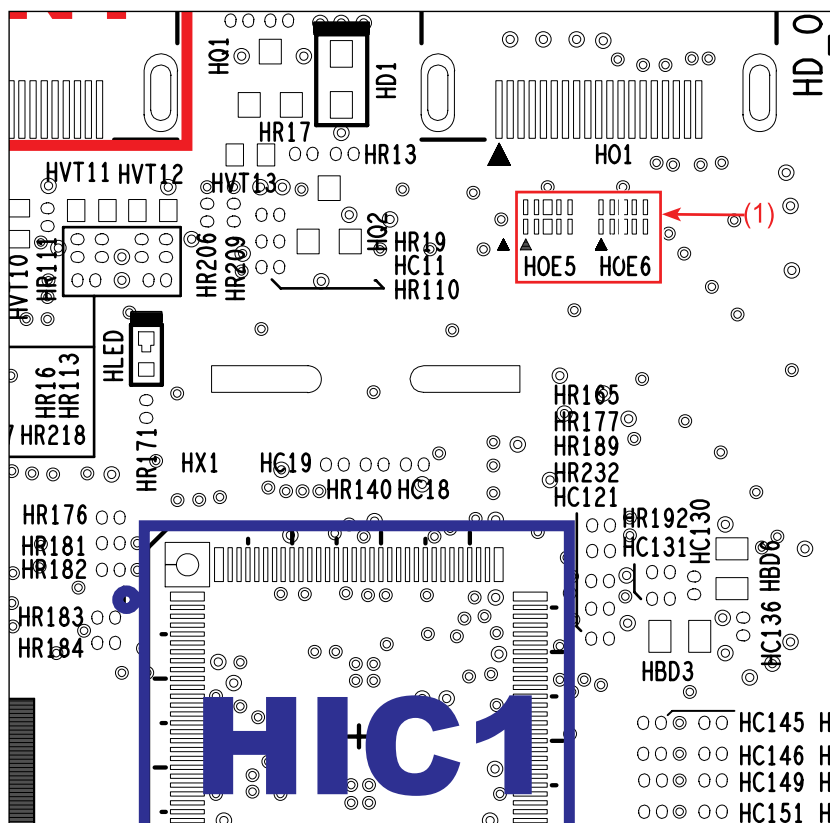
<Fig. 4-6>

4.1.7. No Logo (HDMI)

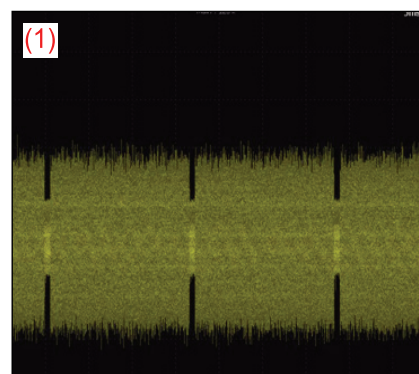




* 6.12. HDMI_RPT

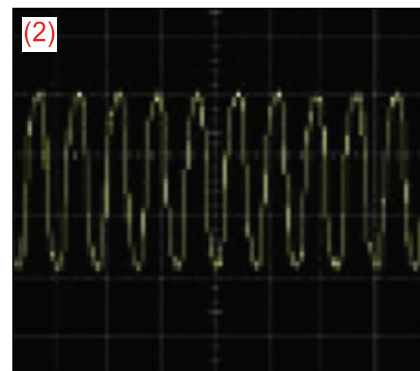


* 5.4 . MAIN PCB Top



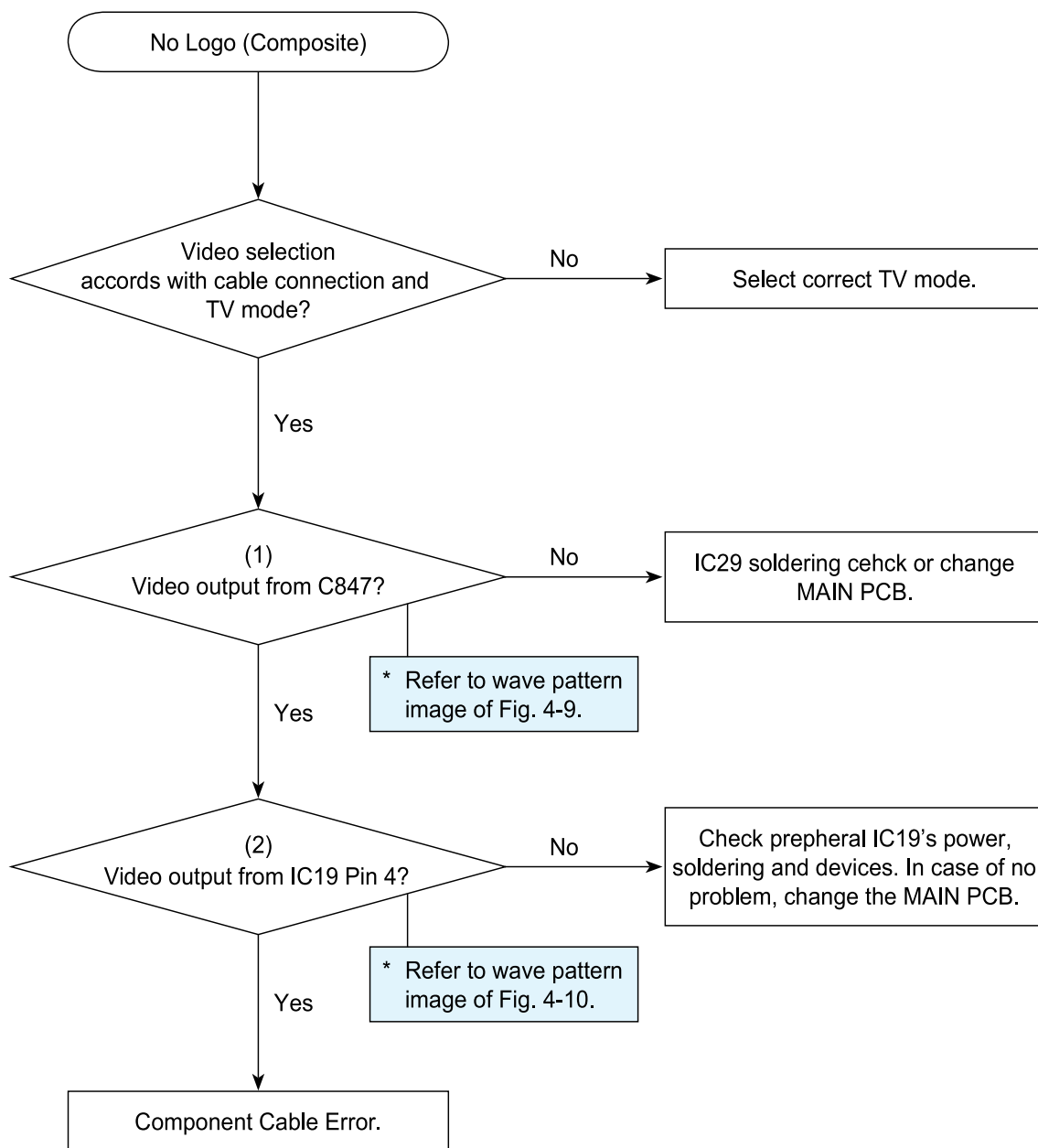
<AC Level 200~400mV>

<Fig. 4-7>

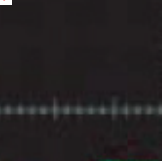


* 5.4 . MAIN PCB Top

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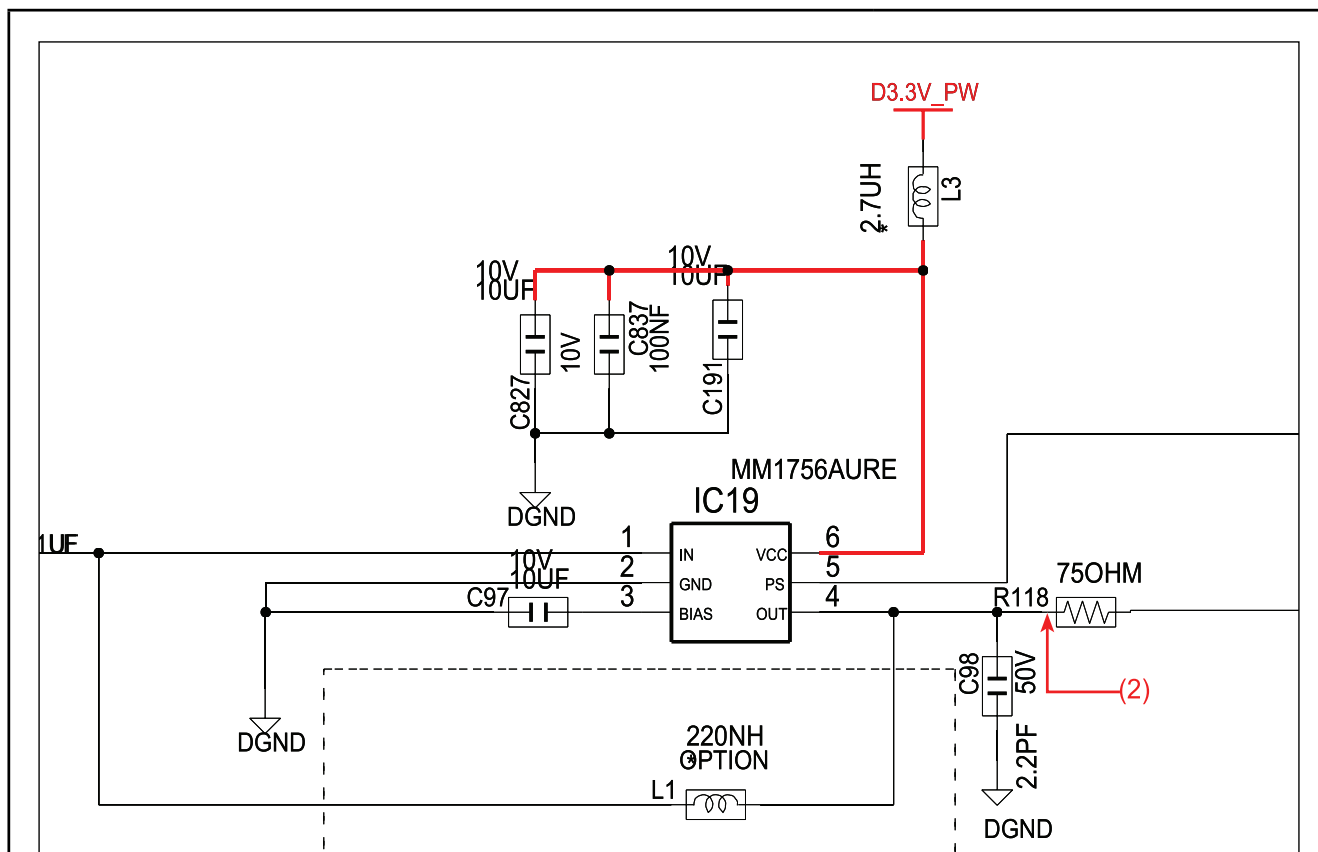
4.1.8. No Logo (Composite)

(1)

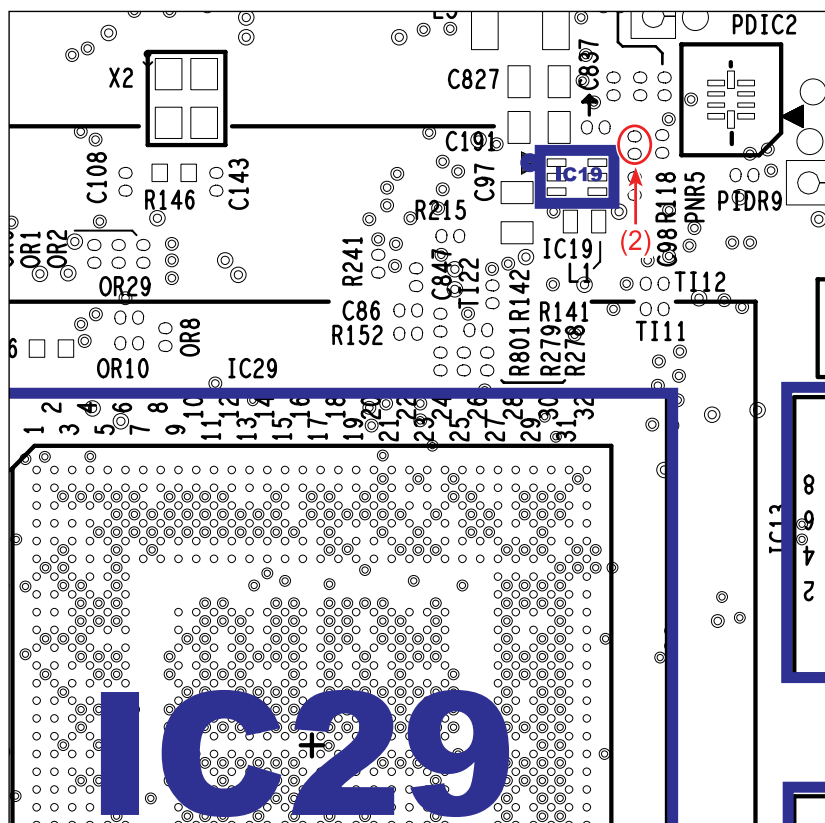


<C847 COMPOSITE COLORBAR>

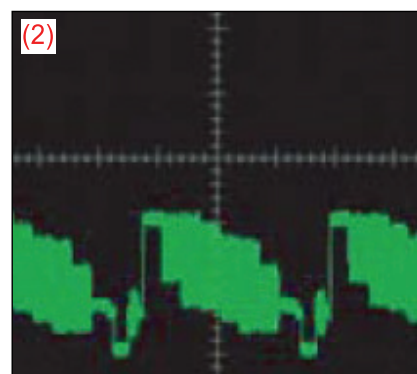
4-18



* 6.7. AUDIO/VIDEO/IPOD OUT CEC



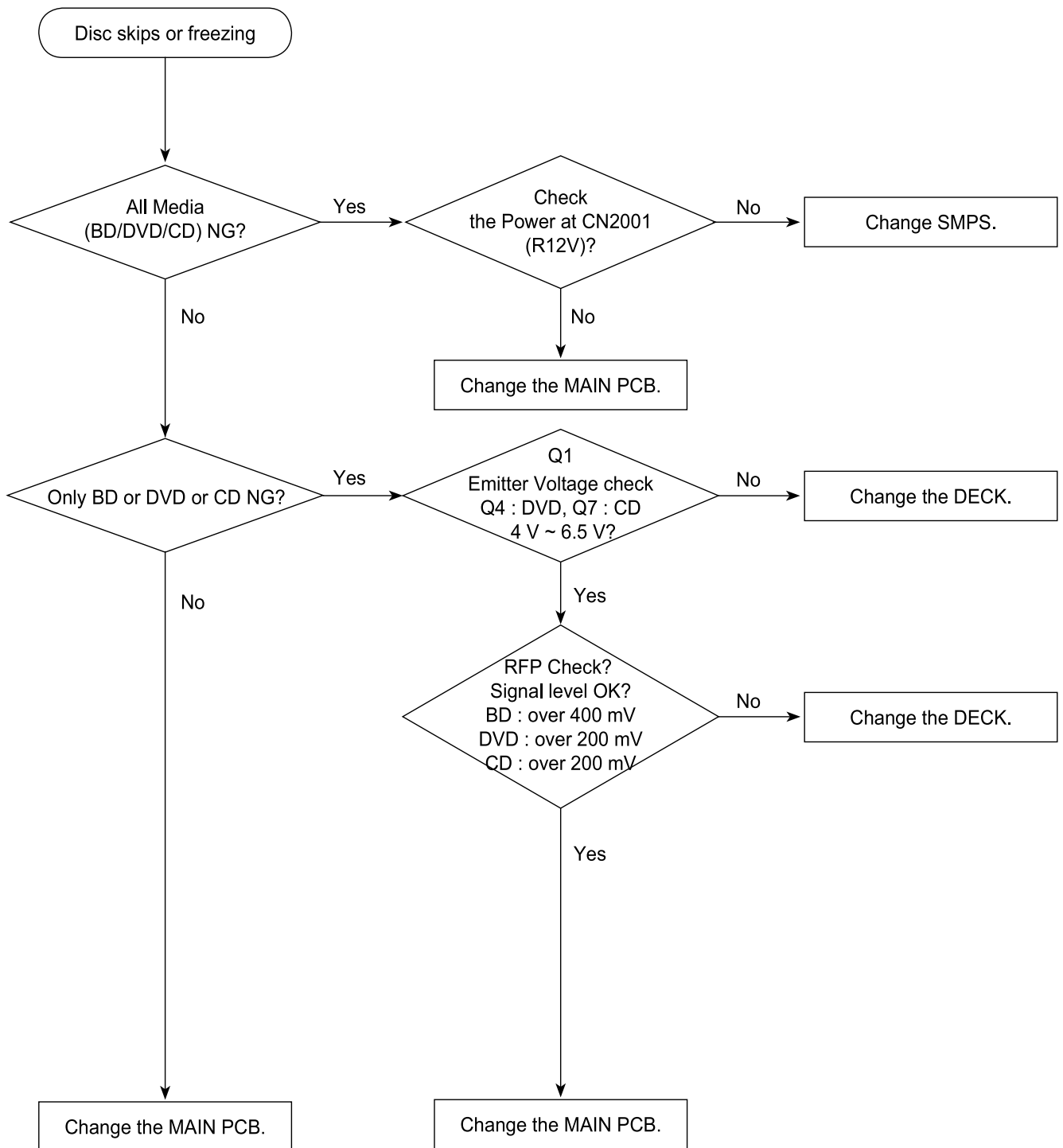
* 5.4. MAIN PCB Top



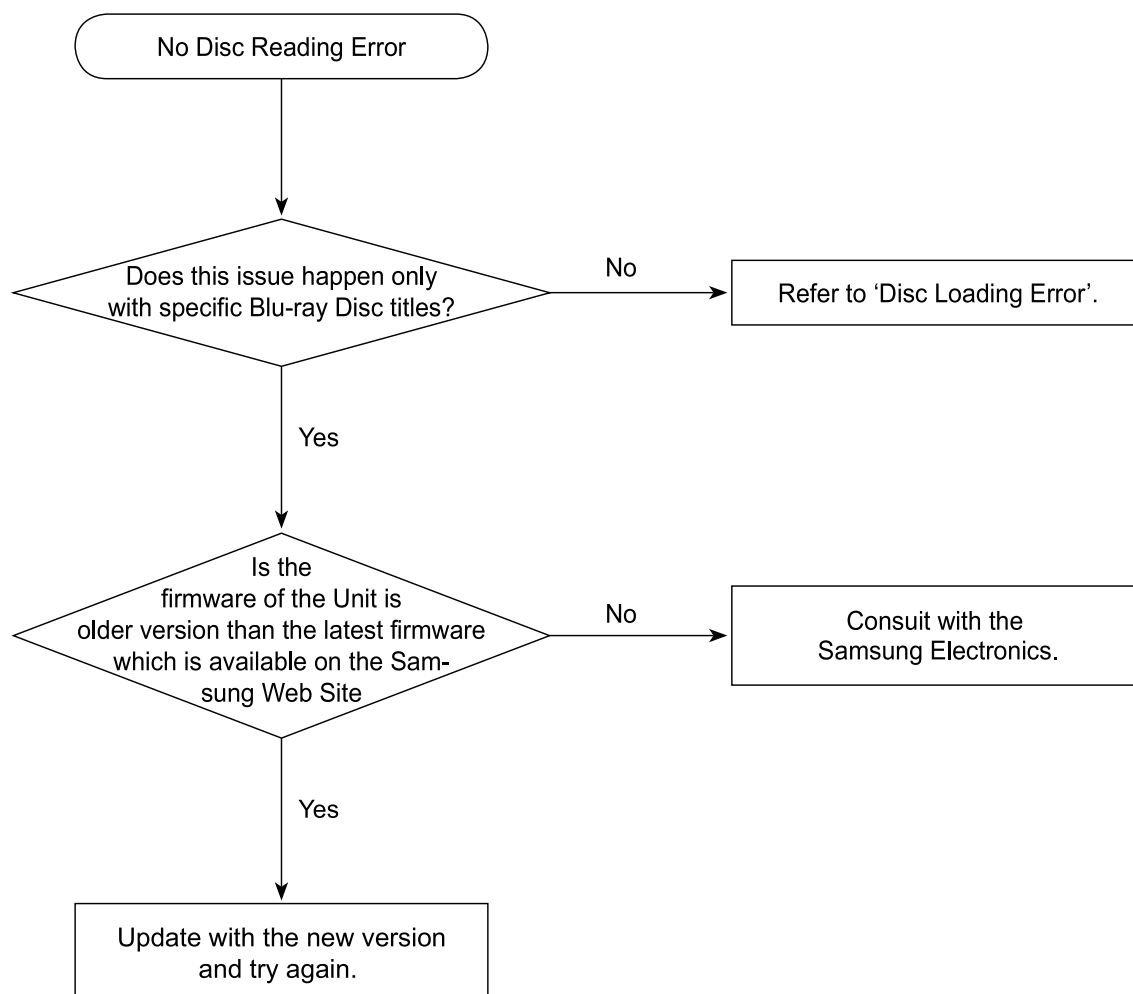
<R118 COMPOSITE OUTPUT COLORBAR>

<Fig. 4-10>

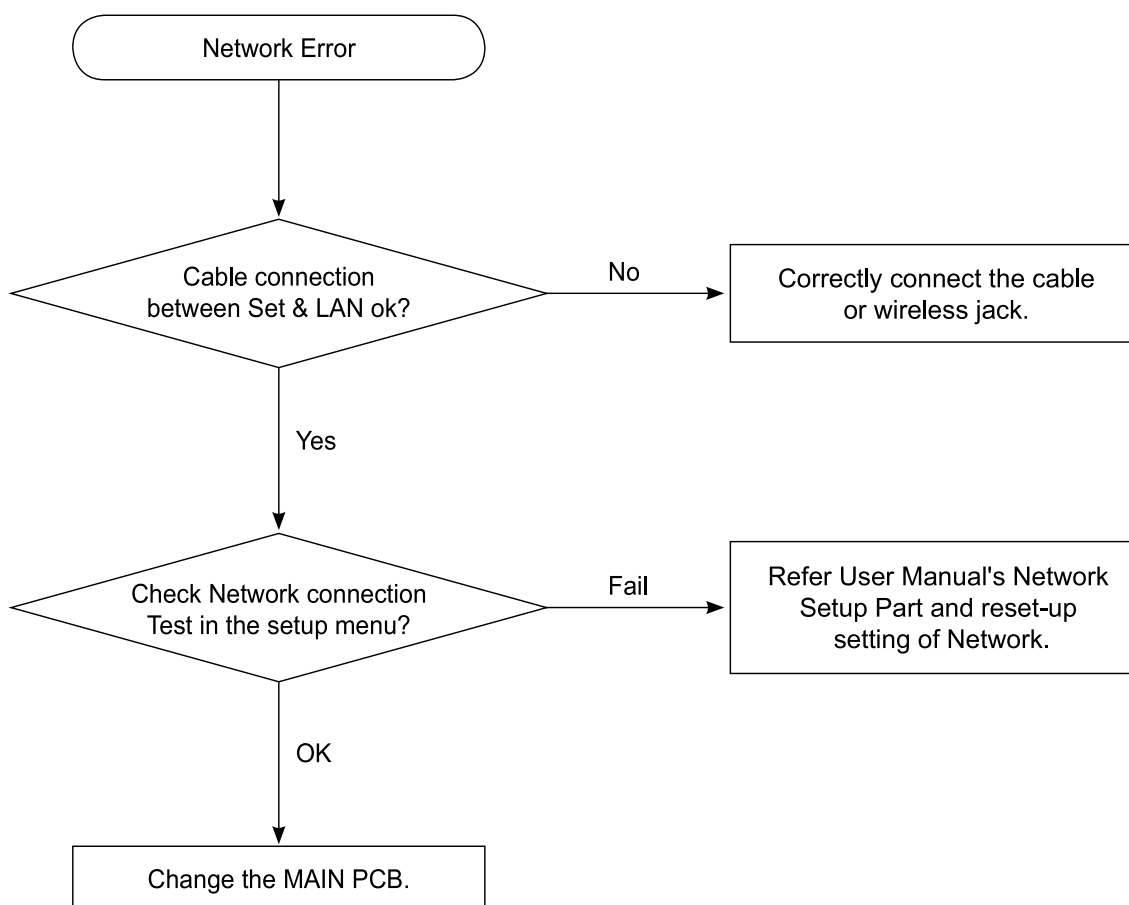
4.1.9. Disc skips or freezing



4.1.10. No Disc Reading Error



4.1.11. Network Error

**NOTE**

The connection between LAN and SET is direct. So there is no need to check H/W if there is network problem. If it is, the problem is MAIN CHIP (IC1)'s BGA soldering problem. It must be changed to a new board.

4.2. Initialization & Upgrade Methods

4.2.1. How to check F/W version

- **Method 1**

- Step 1: Open the tray.
- Step 2: Press and hold “INFO” button on the remote for 5 seconds.
- Then, you will see below screen.



- **Method 2 (For only Back End version)**

- Select the Settings on the menu.
- **Settings→ Support→ Contact Samsung**

- **Description for the meaning**

- Front : System micom
- S/W : BACKEND Firmware
- Loader : Loader Firmware
- Region : BD region code / DVD region code
- Macrovision : Macrovision version
- Model : Model name
- Main Touch IC : touch key firmware
- HDMI RX : HDMI Firmware

4.2.2. How to update firmware

The Software Upgrade menu allows you to upgrade the product's software for performance improvements or additional services. You can upgrade in four ways:

- By Internet
- By USB
- By Disc
- By Downloaded (File)

The four methods are explained below.

■ By Internet

To upgrade by Internet, follow these steps:

- 1) Select By Internet, and then press the ENTER button. The Connecting to Server message appears.
- 2) If there is a download available, the Download pop-up appears with a progress bar and the download starts.
- 3) When the download is complete, the Upgrade Query window appears with three choices: Upgrade Now, Upgrade Later, or Don't Upgrade.
- 4) If you select Upgrade Now, the product upgrades the software, turns off, and then turns on automatically.
- 5) If you do not make a selection in one minute or select Upgrade Later, the product stores the new upgrade software. You can upgrade the software later using the By Downloaded function.
- 6) If you select Don't Upgrade, the product cancels the upgrade.



NOTE

Your product must be connected to the Internet to use the By Internet function.

The upgrade is complete when the product turns off, and then turns on again by itself.

Never turn the product off or back on manually during the update process.

Samsung Electronics shall take no legal responsibility for product malfunction caused by an unstable Internet connection or consumer negligence during a software upgrade.

If you want to cancel the upgrade while the upgrade software is downloading, press the ENTER button.

■ By USB

To upgrade by USB, follow these steps:

- 1) Visit www.samsung.com/bluraysupport
- 2) Download the latest USB software upgrade zip archive to your computer.
- 3) Unzip the zip archive to your computer. You should have a single folder with the same name as the zip file.
- 4) Copy the folder to a USB flash drive.
- 5) Make sure the disc tray is empty, and then insert the USB flash drive into the USB port of the product.
- 6) In the product's menu, go to Settings > Support > Software Upgrade.
- 7) Select By USB.



NOTE

The disc tray must be empty when you upgrade the software using the USB Host jack.

When the software upgrade is done, check the software details in the software Upgrade menu.

Do not turn off the product during the software upgrade. It may cause the product to malfunction.

Software upgrades using the USB Host jack must be performed with a USB memory flash stick only.

■ By Disc

To upgrade by Disc, follow these steps:

- 1) Visit www.samsung.com/bluraysupport.
- 2) Download the latest disc software upgrade zip archive to your computer.
- 3) Unzip the zip archive to your computer. You should have a single folder with the same name as the zip file.
- 4) Write the folder onto a disc. We recommend a CD-R or DVD-R.
- 5) Finalize the disc before you remove it from your computer.
- 6) Insert the disc into product.
- 7) In the product's menu, go to Settings > Support > Software upgrade.
- 8) Select By Disc.



NOTE

When the system upgrade is done, check the software details in the software Upgrade menu.

Do not turn off the product during the Software Upgrade. It may cause the product malfunction.

■ By Downloaded

The By Downloaded option lets you upgrade using a file the product downloaded earlier but you decided not to install immediately or a file downloaded by the product in Standby Mode (See Download in Standby Mode below).

To upgrade By Downloaded, follow these steps:

- 1) If upgrade software has been downloaded, you will see the software version number to the right of By Downloaded.
- 2) Select By Downloaded, and then press the ENTER button.
- 3) The product displays a message asking if you want to upgrade. Select Yes. The product begins the upgrade.
- 4) When the update is complete, the product turns off automatically, and then turns on.



NOTE

When the system upgrade is done, check the software details in the software Upgrade menu.

Do not turn off the product during the software Upgrade. It may cause the product to malfunction.

To use the By Downloaded function, your product must be connected to the Internet.

■ Download in Standby Mode

You can set the Download in Standby Mode function so that the product downloads new upgrade software when it is in Standby mode. In Standby mode, the product is off, but its Internet connection is active. This allows the product to download upgrade software automatically, when you are not using it.

To set Download in Standby Mode, follow these steps:

- 1) Press the ▲ ▼ buttons to select Download in Standby Mode, and then press the ENTER button.
- 2) Select On or Off.
 - **Off** : If you select Off, the product will notify you with a pop up message when new upgrade software is available.
 - **On** : If you select On, the product will automatically download new upgrade software when it is in Standby mode with the power off. If it downloads new upgrade software, the product will ask you if you want to install it when you turn the product on.



NOTE

To use the Download in Standby Mode function, your product must be connected to the Internet.

4.2.3. Initialization

■ Case1 (Main program initialization)

- This is useful for forgotten Parental Lock password to make unlock.
- Press stop button on the front panel for over 5 seconds in 'no disc' status.
- Then, VFD sign : 'INIT' → Power will be turned off automatically.
- Initial setting screen will turn out when you start.
- It makes security lock be unlocked.

■ Case2 (System Micom initialization)

- During Stand-By, just press Remote Controller Stop-Button for over 5 seconds.
Then, VFD Sign : 'Reset.' → Power will be turned off automatically.
- System Micom setting will be initialized.
- Tuner setting, EQ setting will be initialized.

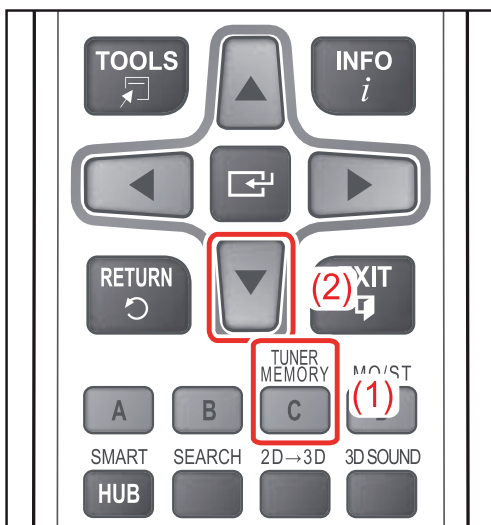
4.3. Buyer-Region Code Setting Method

4.3.1. Inserting the Region Code after replacing the Main PCB

NOTE

- After replacing the Main PCB and System Micom (IC23), the region code should be inserted.
- The unit will not work properly if you do not insert the correct region code.
- You must use the remote control.

- 1) Select the "AUX" mode and then press the "Tuner Memory" button on the remote control for 4-5 seconds.



- 2) You should see the "T-MODE" message display on the VFD. Press the "▼" direction button during this message.

NOTE

The "T-MODE" indicator on the VFD only appears for a very short time.



- 3) You can see "TEST --" on the VFD. Insert the number "46" to select the Region Code.



- 4) After step (3), you can see “— — —” on the VFD.

Insert the Region Code (see Table on next page) corresponding to the model and area in which you reside in using the “0-9” buttons on the remote control.

When you insert the number, the first number is “0”. For example, HT-D5100 5.1 CH USA → 000.

After that, power off. To check the number you inserted, do 1, 2, 3 and then insert “47” during “TEST — —”.

Table 4.1 HT-E65**W 5.1CH DECK Option Table

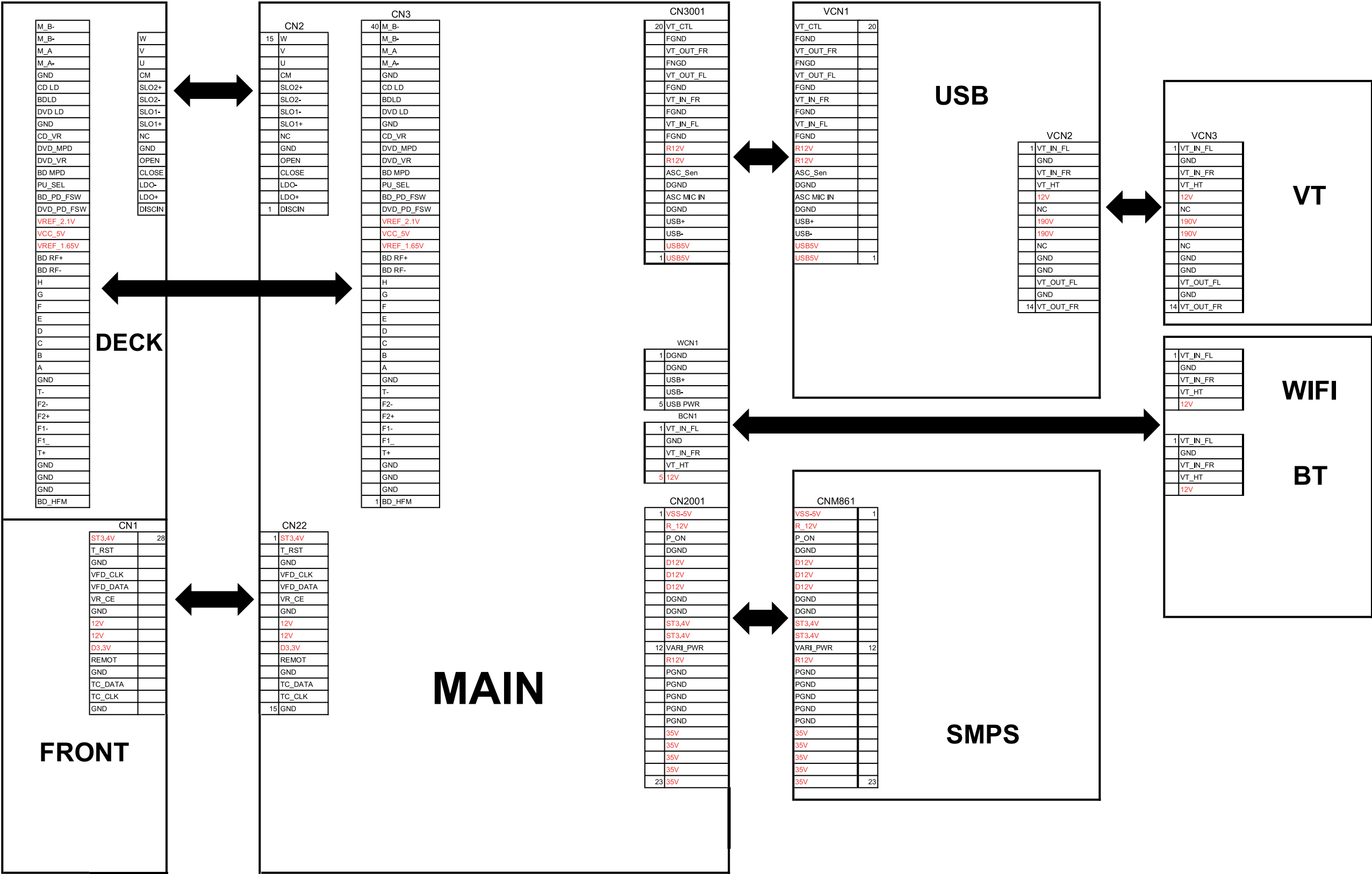
Region Code	Area
060	USA (ZA)
061	JAPAN
062	KOREA (KR)
063	TAIWAN (ZW)
064	PHILIPPINES (XP)
065	MAXICO, PANAMA, COLOMBIA (ZL)
066	PERU (PE), CHILE (ZS), ARGENTINA (ZB) (PR)
067	EU (ZF) (XN), (XE), (EN), (ZV), (EN), (XU), TURKY (TK)
068	SINGAPORE, VIETNAM (XS), INDONESIA (XD), MALAYSIA (XM), THAILAND (XT), INDIA (XL)
069	
070	RUSSIA, UKRAINE, KAZAKSTAN (RU)
071	AUSTRALIA, NEWZILAND (XY)
072	ARAB, PAKISTAN, EGYPT, IRAQ, LEBANON, SYLBIA, MOROCCO, TUNIS (ZN) SAUDI (UM), ALGERIA (SH), S.AFRICA (XA), ISRAEL (SQ), NIGERIA (SW), SUDAN (SJ), ETIOPIA (GA), KENYA (KE)
073	CHINA (XZ), HONGKONG (ZK)
074	BRAZIL (ZD)
075	CANADA (ZC)
076	IRAN (HC)
077	ETC1
078	ETC2
079	ETC3

Table 4.2 HT-E67**W 7.1CH DECK Option Table

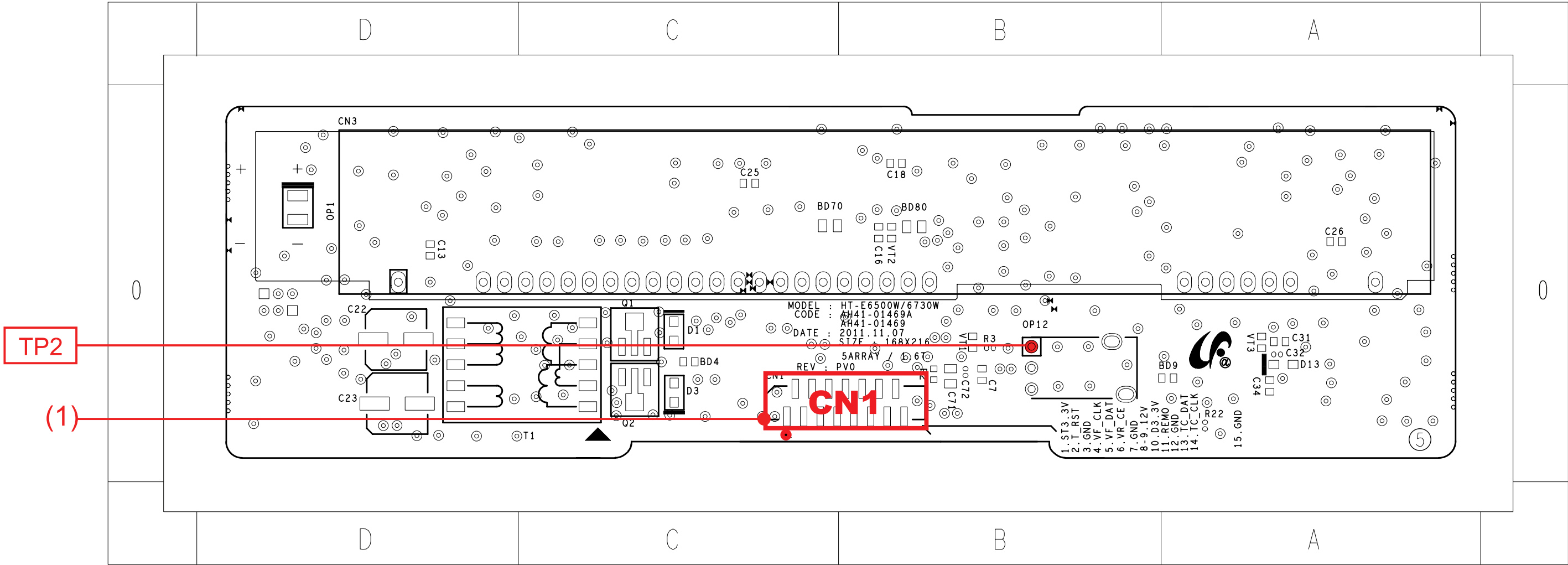
Region Code	Area
080	USA (ZA)
081	JAPAN
082	KOREA (KR)
083	TAIWAN (ZW)
084	PHILIPPINES (XP)
085	MAXICO, PANAMA, COLOMBIA (ZL)
086	PERU (PE), CHILE (ZS), ARGENTINA (ZB) (PR)
087	EU (ZF) (XN), (XE), (EN), (ZV), (EN), (XU), TURKY (TK)
088	SINGAPORE, VIETNAM (XS), INDONESIA (XD), MALAYSIA (XM), THAILAND (XT), INDIA (XL)
089	
090	RUSSIA, UKRAINE, KAZAKSTAN (RU)
091	AUSTRALIA, NEWZILAND (XY)
092	ARAB, PAKISTAN, EGYPT, IRAQ, LEBANON, SYLBIA, MOROCCO, TUNIS (ZN) SAUDI (UM), ALGERIA (SH), S.AFRICA (XA), ISRAEL (SQ), NIGERIA (SW), SUDAN (SJ), ETIOPIA (GA), KENYA (KE)
093	CHINA (XZ), HONGKONG (ZK)
094	BRAZIL (ZD)
095	CANADA (ZC)
096	IRAN (HC)
097	ETC1
098	ETC2
099	ETC3

5. PCB Diagram

5.1. Wiring Diagram



5.2. FRONT PCB Top



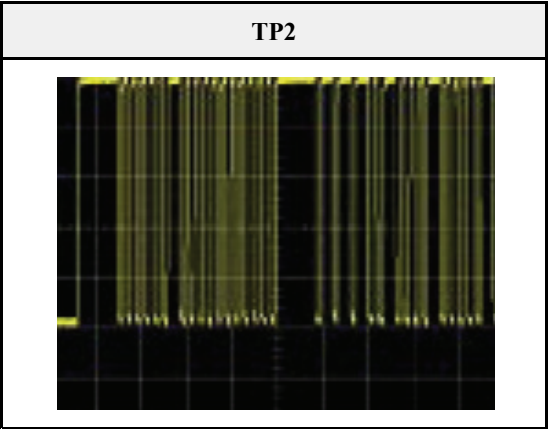
5.2.1. Pin Connection

1) CN1

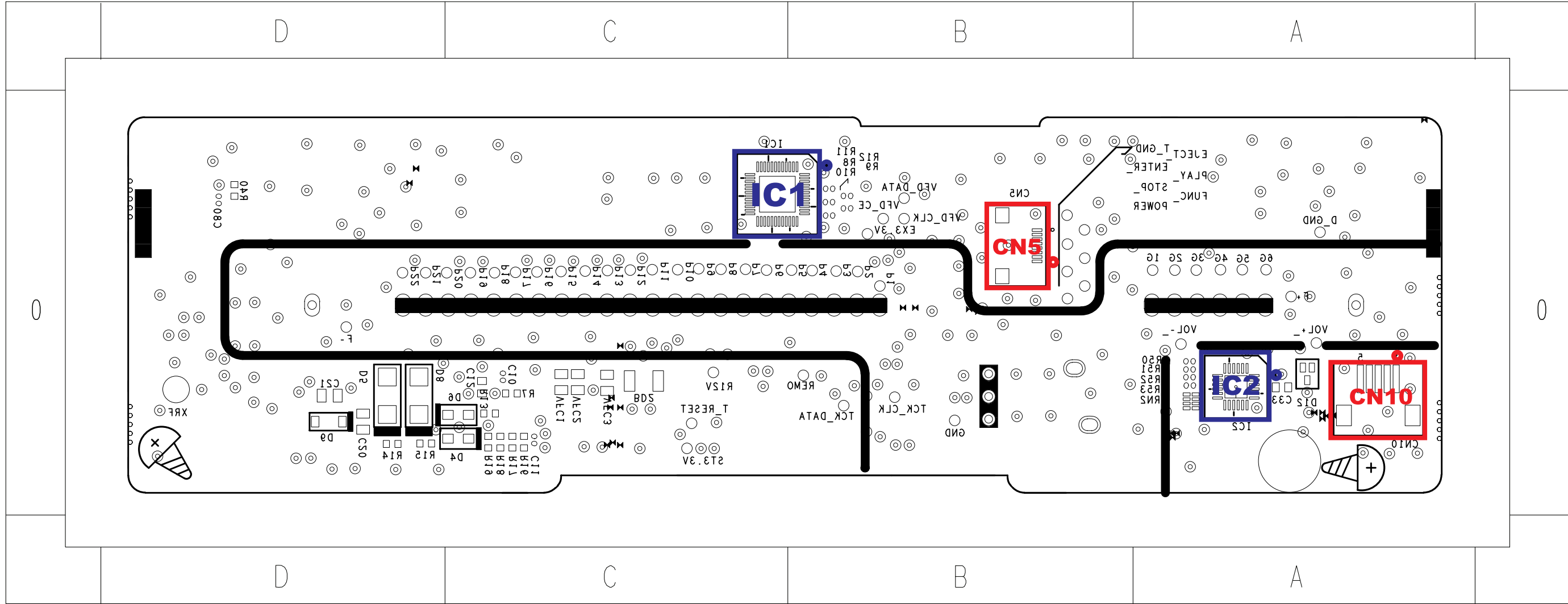
Touch Key / VFD Interface

Pin No.	Signal
1	GND
2	TC_CLK
3	TC_DATA
4	GND
5	REMOT
6	D3.3V
7	12V
8	12V
9	GND
10	VR_CE
11	VFD_DATA
12	VFD_CLK
13	GND
14	T_RST
15	ST3.4V

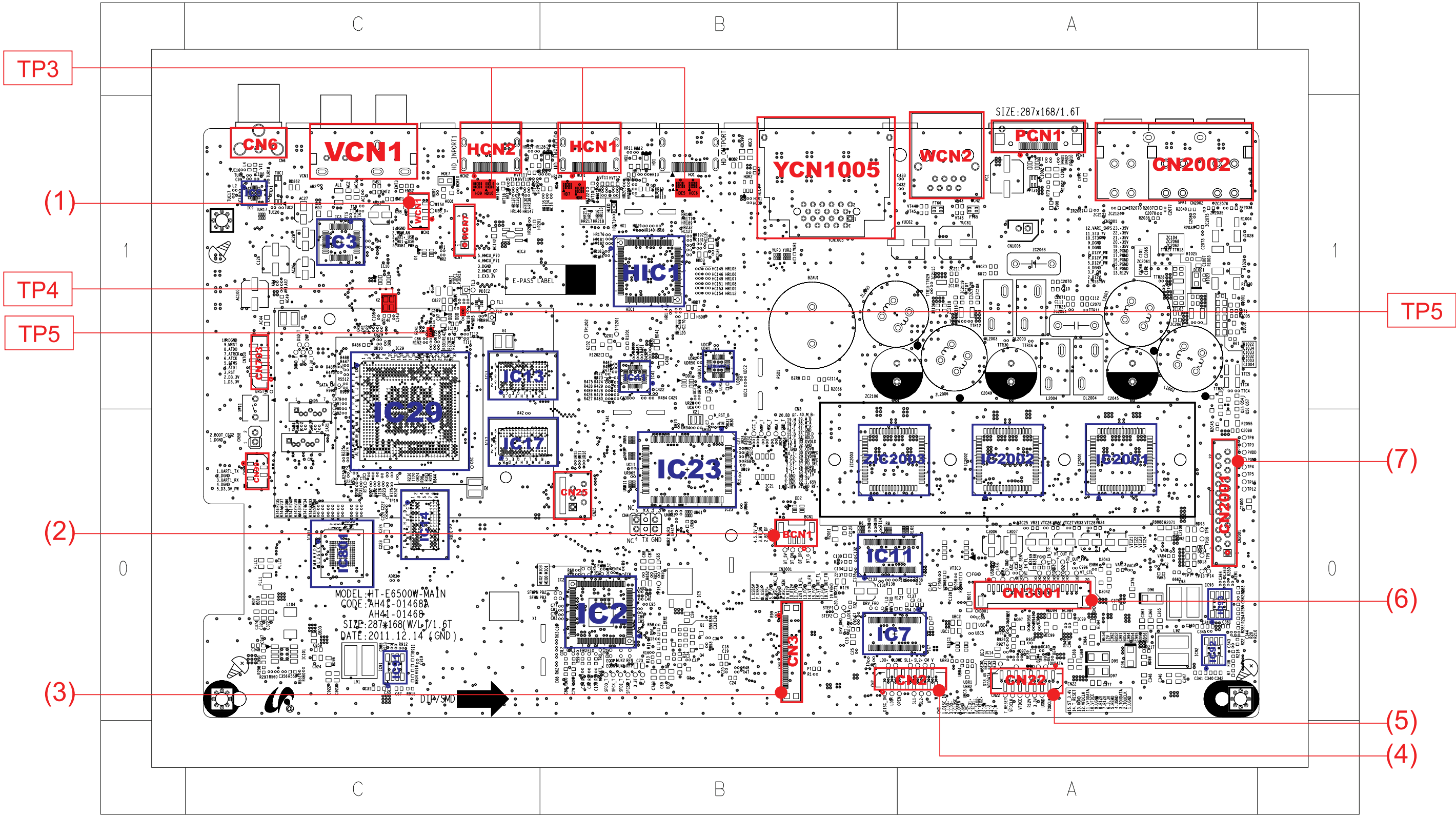
5.2.2. Test Point Wave Form



5.3. FRONT PCB Bottom



5.4. MAIN PCB Top



5.4.1. Pin Connection

1) WCN1

Wifi Module

Pin No.	Signal
1	DGND
2	DGND
3	USB+
4	USB-
5	USB PWR

2) BCN1

Bluetooth Module

Pin No.	Signal
1	VT_IN_FL
2	GND
3	VT_IN_FR
4	VT_HT
5	12V

3) CN3

Deck Pickup connector

Pin No.	Signal
1	BD_HFM
2	GND
3	GND
4	GND
5	T+
6	F1_
7	F1-
8	F2+
9	F2-
10	T-
11	GND
12	A
13	B
14	C
15	D
16	E
17	F
18	G
19	H
20	BD RF-

4) CN2

Deck Motor connector

Pin No.	Signal
21	BD RF+
22	VREF_1.65V
23	VCC_5V
24	VREF_2.1V
25	DVD_PD_FSW
26	BD_PD_FSW
27	PU_SEL
28	BD MPD
29	DVD_VR
30	DVD_MPD
31	CD_VR
32	GND
33	DVD LD
34	BDLD
35	CD LD
36	GND
37	M_A-
38	M_A
39	M_B-
40	M_B-

5) CN22

Touch Key / VFD Interface

Pin No.	Signal
1	ST3.4V
2	T_RST
3	GND
4	VFD_CLK
5	VFD_DATA
6	VR_CE
7	GND
8	12V
9	12V
10	D3.3V
11	REMOT
12	GND
13	TC_DATA
14	TC_CLK
15	GND

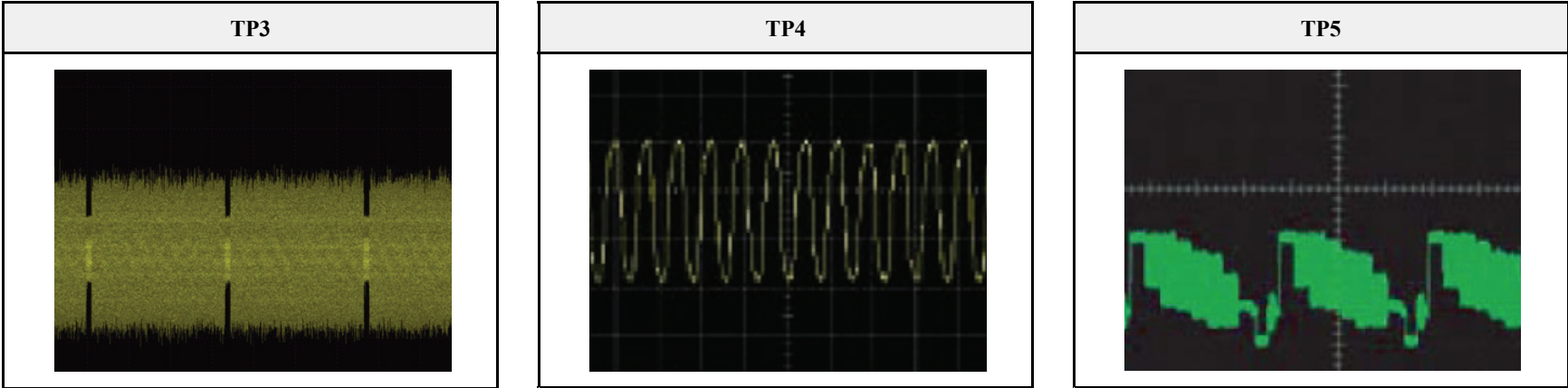
6) CN3001
USB / ASC Interface, VT Audio

Pin No.	Signal
1	USB5V
2	USB5V
3	USB-
4	USB+
5	DGND
6	ASC MIC IN
7	DGND
8	ASC_Sen
9	R12V
10	R12V
11	FGND
12	VT_IN_FL
13	FGND
14	VT_IN_FR
15	FGND
16	VT_OUT_FL
17	FNGD
18	VT_OUT_FR
19	FGND
20	VT_CTL

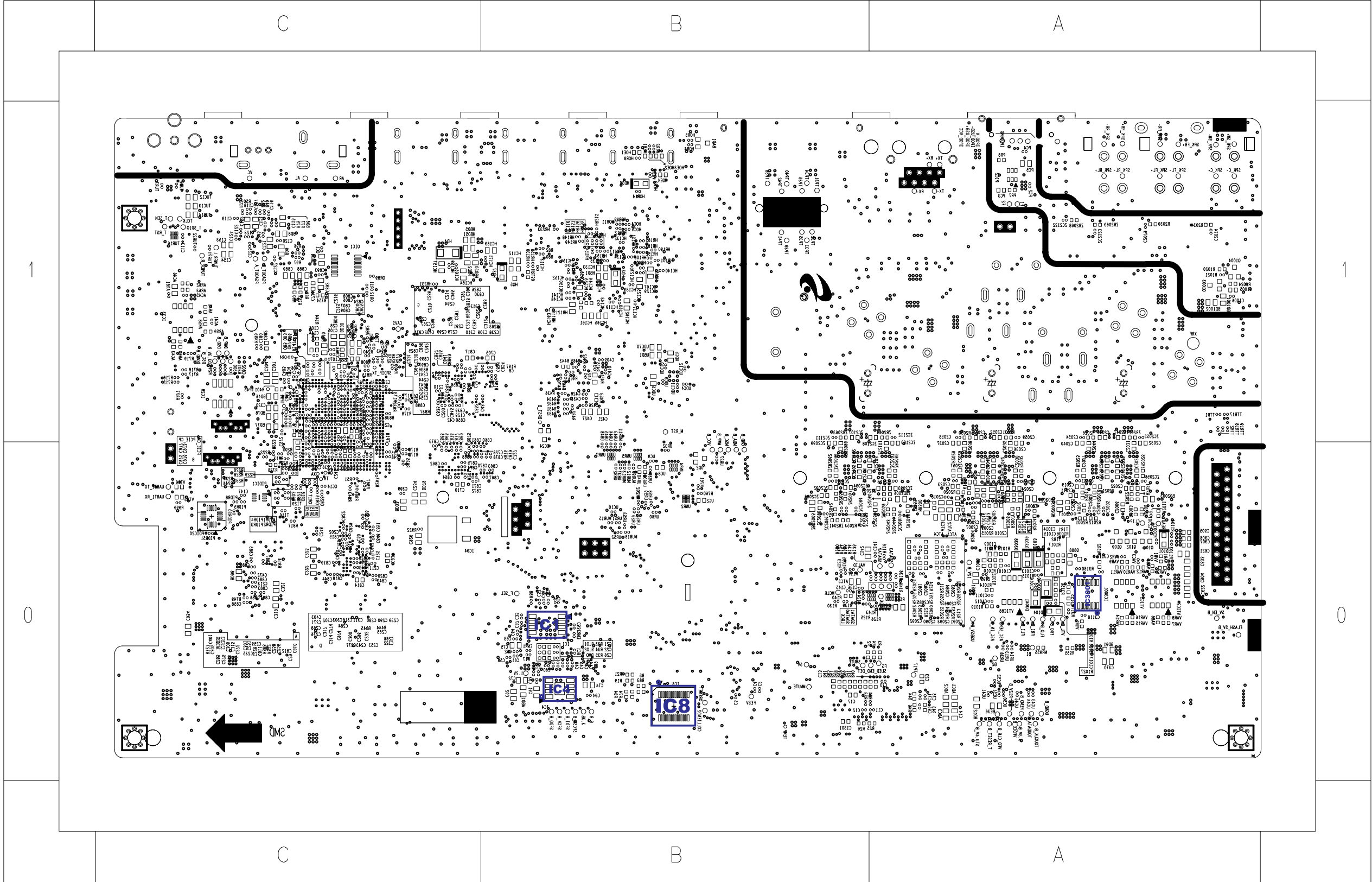
7) CN2001
MAIN Power Connector

Pin No.	Signal
1	VSS-5V
2	R_12V
3	P_ON
4	DGND
5	D12V
6	D12V
7	D12V
8	DGND
9	DGND
10	ST3.4V
11	ST3.4V
12	VARI_PWR
13	R12V
14	PGND
15	PGND
16	PGND
17	PGND
18	PGND
19	35V
20	35V
21	35V
22	35V
23	35V

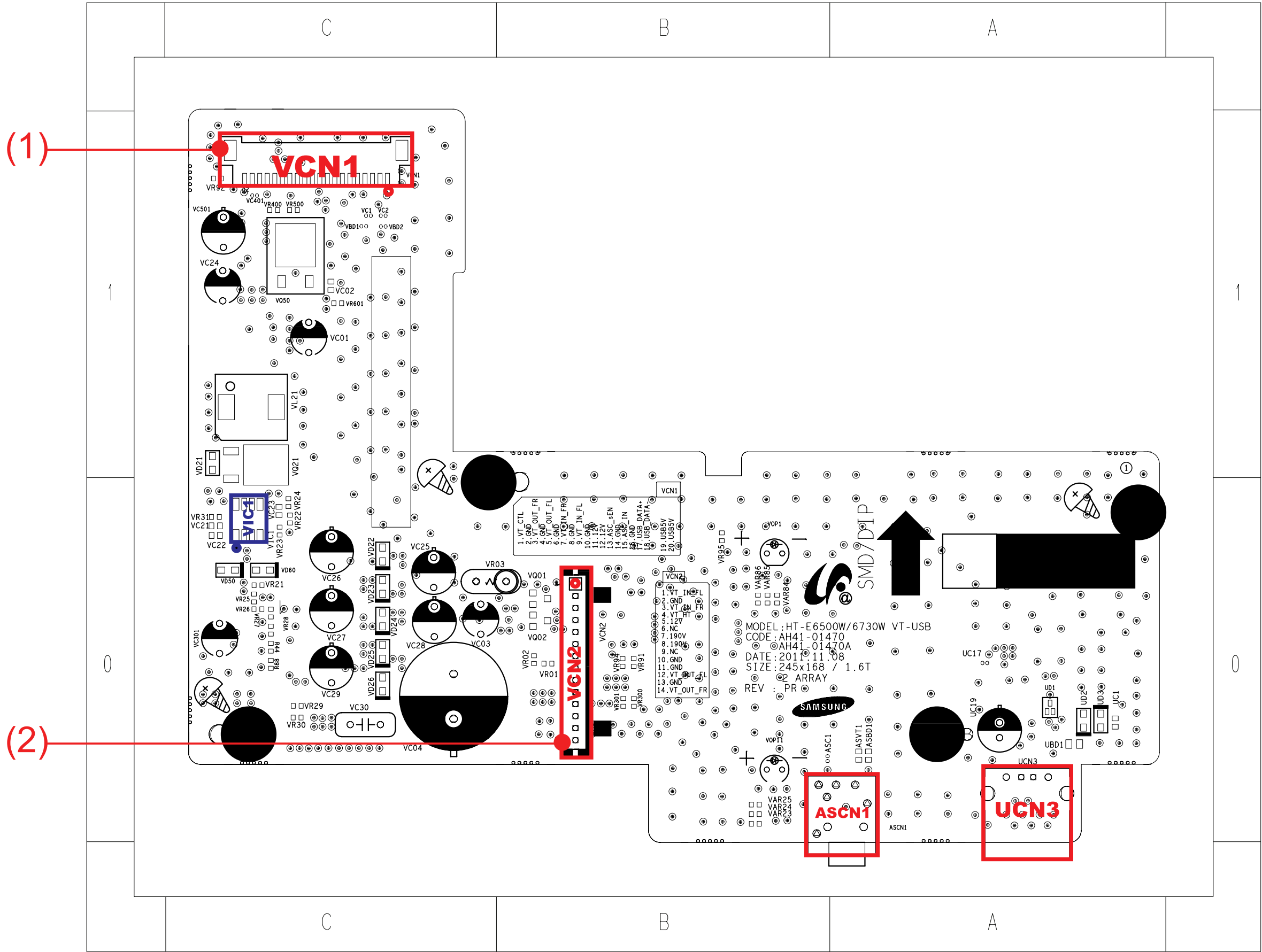
5.4.2. Test Point Wave Form



5.5. MAIN PCB Bottom



5.6. USB PCB Top



5.6.1. Pin Connection

1) VCN1

USB / ASC Interface, VT Audio

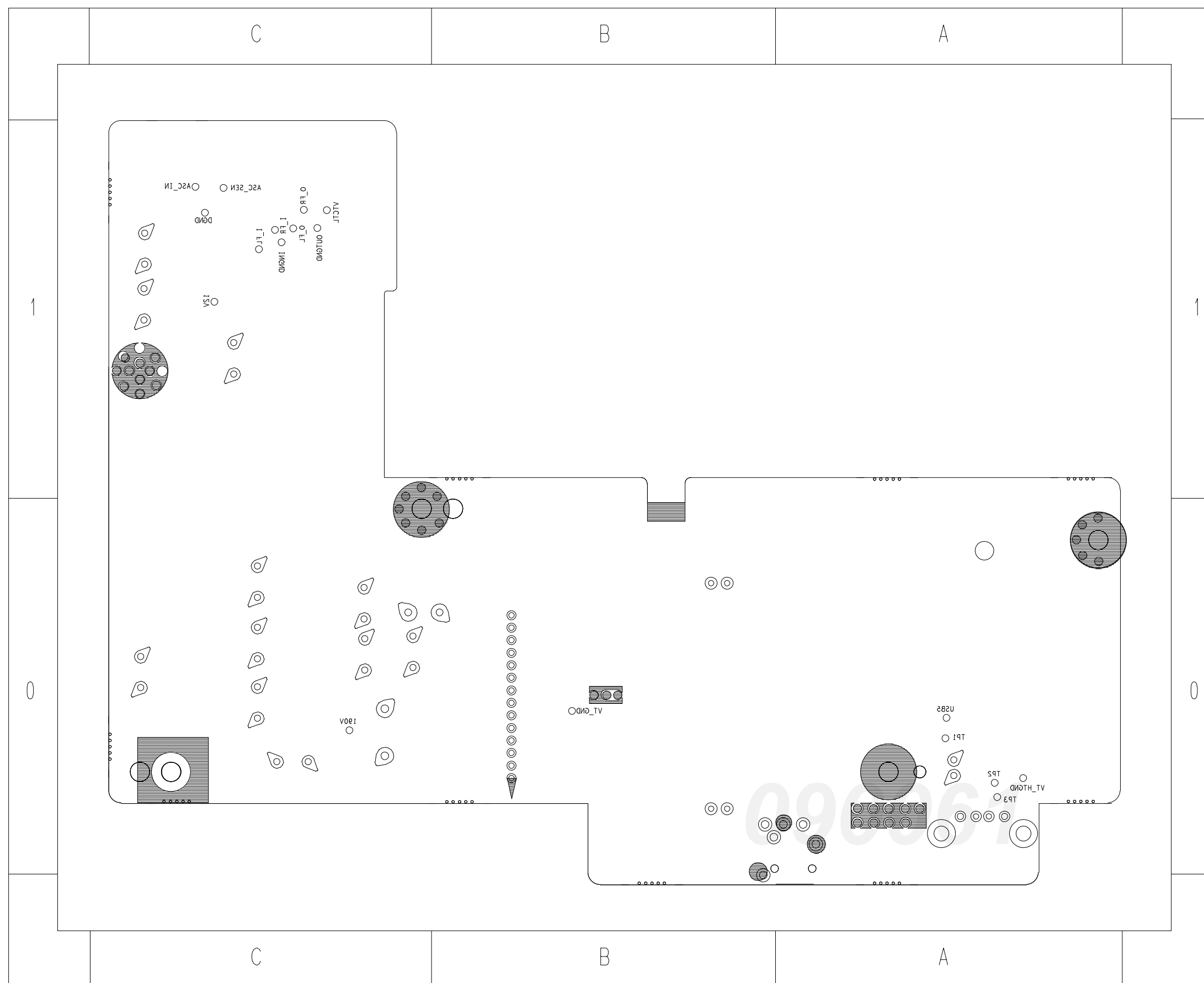
Pin No.	Signal
1	USB5V
2	USB5V
3	USB-
4	USB+
5	DGND
6	ASC MIC IN
7	DGND
8	ASC_Sen
9	R12V
10	R12V
11	FGND
12	VT_IN_FL
13	FGND
14	VT_IN_FR
15	FGND
16	VT_OUT_FL
17	FNGD
18	VT_OUT_FR
19	FGND
20	VT_CTL

2) VCN2

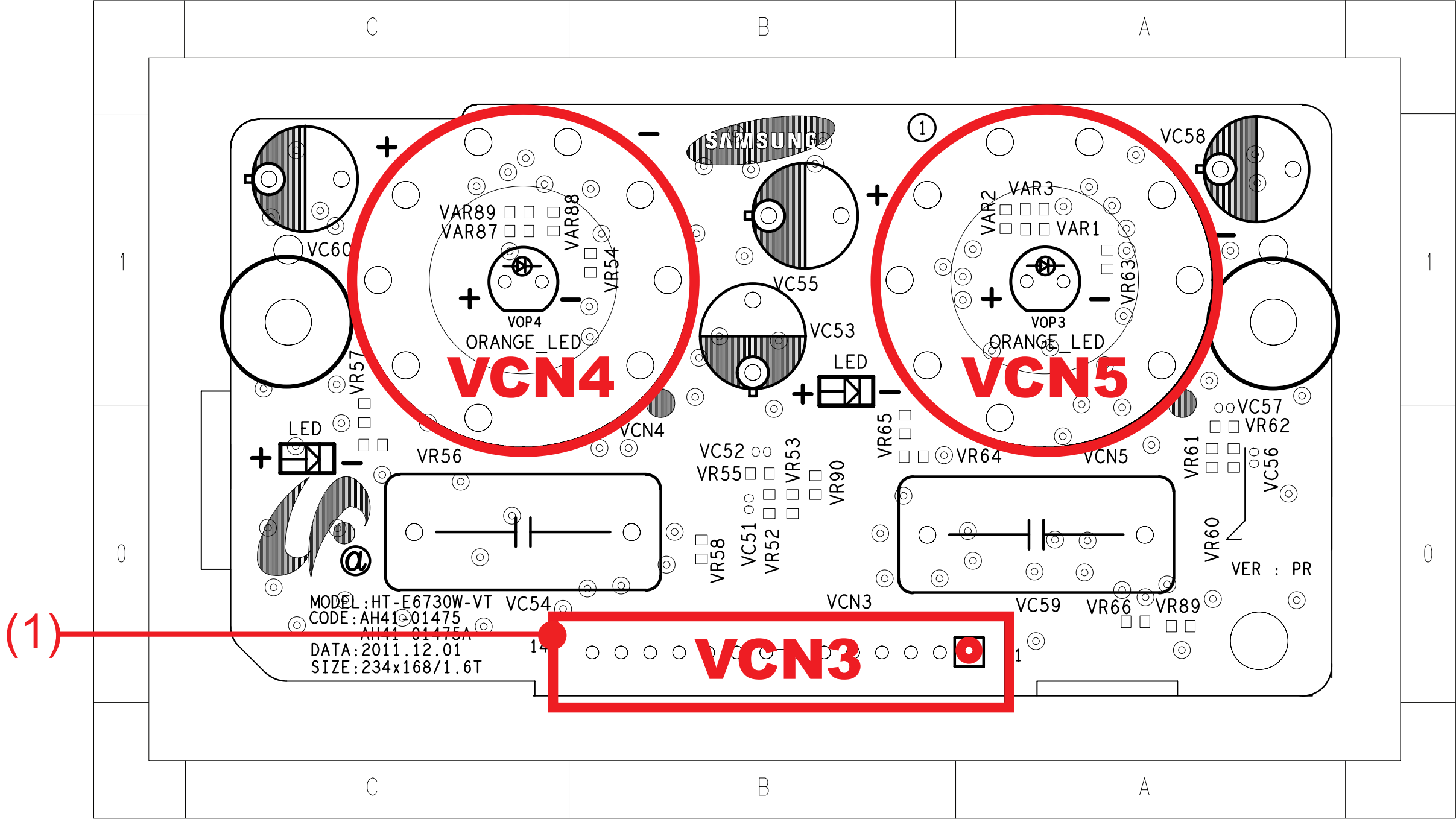
VT Audio

Pin No.	Signal
1	VT_IN_FL
2	GND
3	VT_IN_FR
4	VT_HT
5	12V
6	NC
7	190V
8	190V
9	NC
10	GND
11	GND
12	VT_OUT_FL
13	GND
14	VT_OUT_FR

5.7. USB PCB Bottom



5.8. VT PCB Top



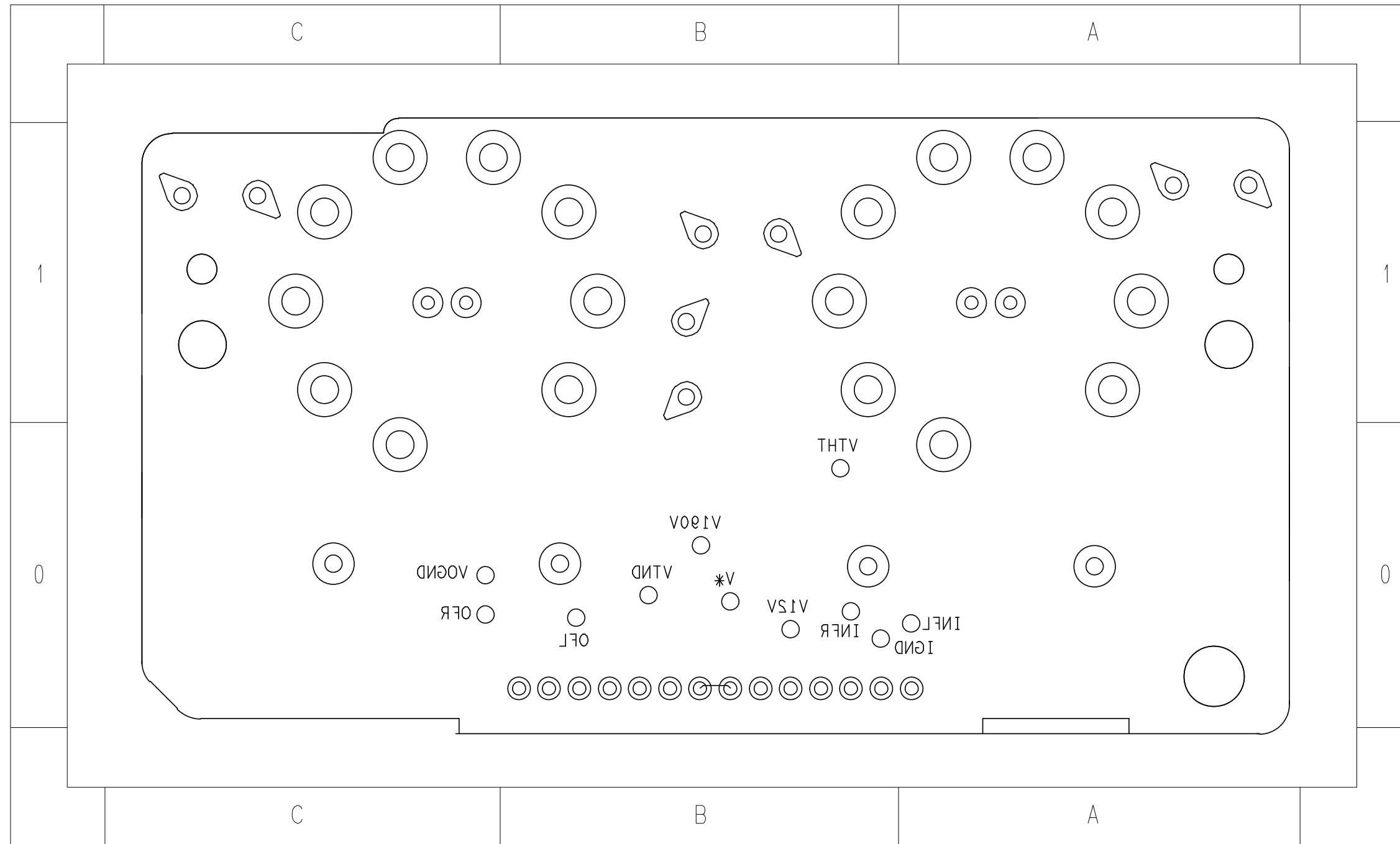
5.8.1. Pin Connection

1) VCN3

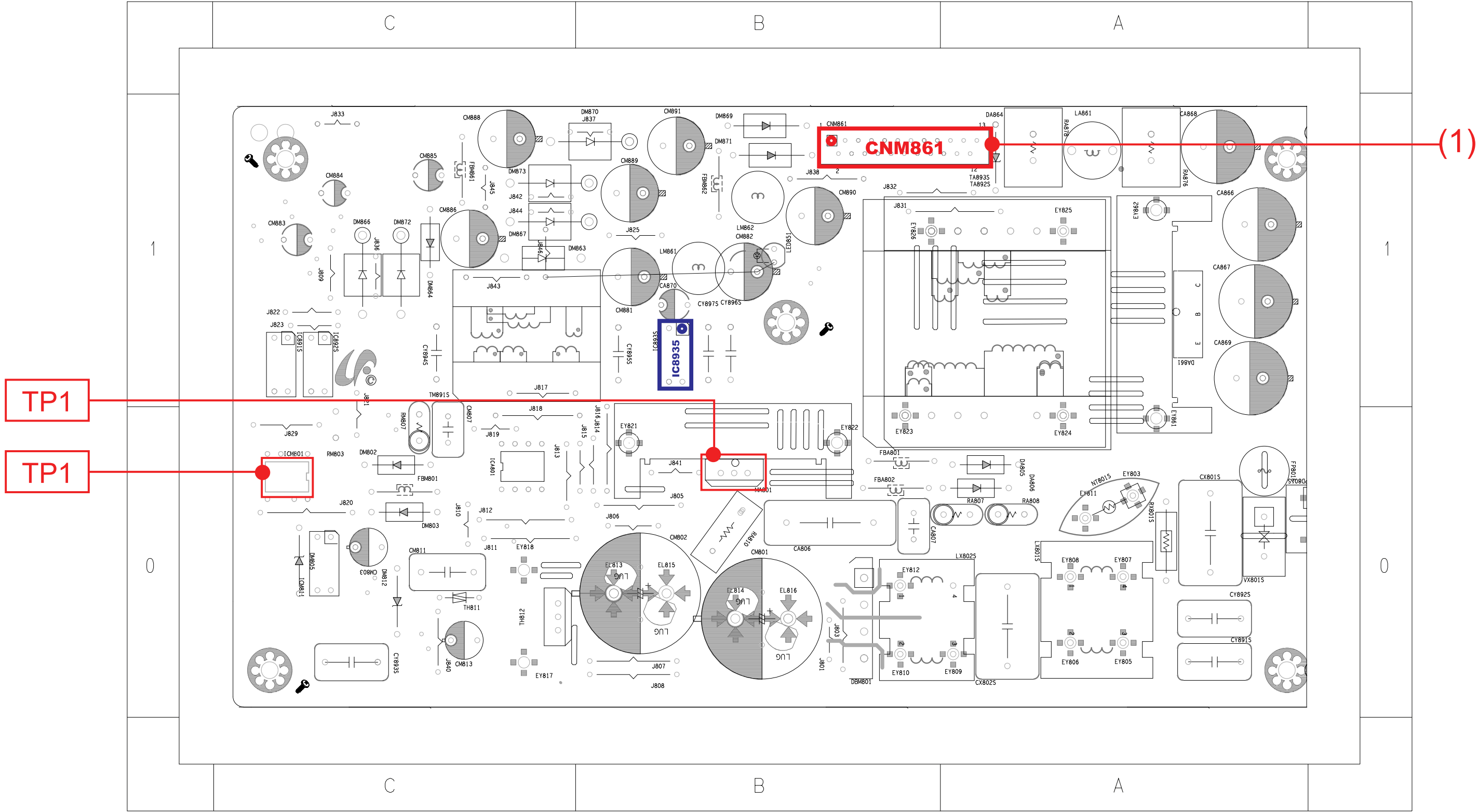
VT Audio

Pin No.	Signal
1	VT_IN_FL
2	GND
3	VT_IN_FR
4	VT_HT
5	12V
6	NC
7	190V
8	190V
9	NC
10	GND
11	GND
12	VT_OUT_FL
13	GND
14	VT_OUT_FR

5.9. VT PCB Bottom



5.10. SMPS PCB Top

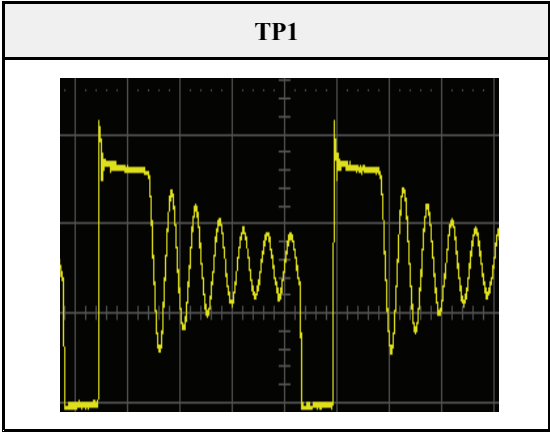


5.10.1. Pin Connection

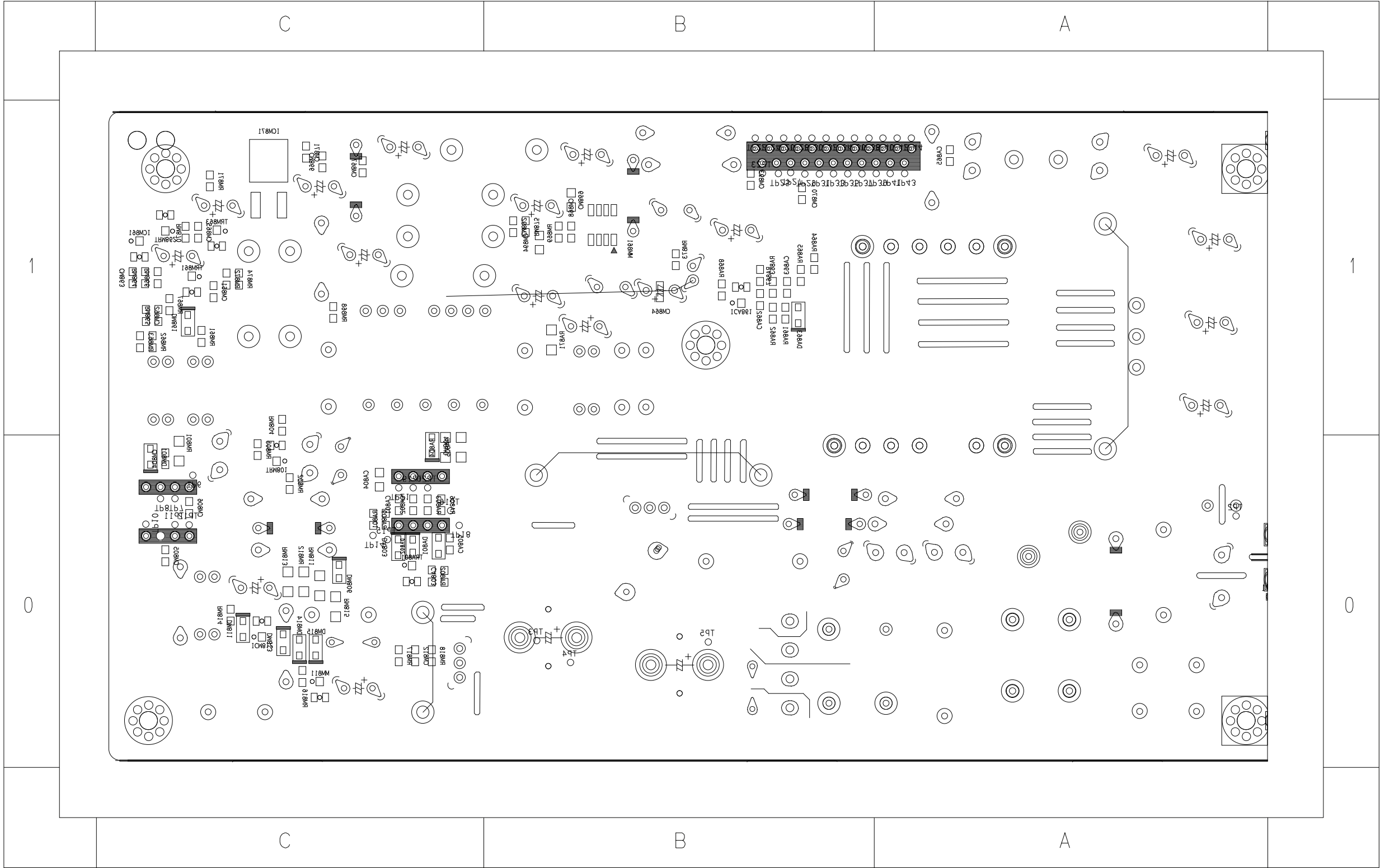
1) CNM861
MAIN Power Connector

Pin No.	Signal
1	VSS-5V
2	R_12V
3	P_ON
4	DGND
5	D12V
6	D12V
7	D12V
8	DGND
9	DGND
10	ST3.4V
11	ST3.4V
12	VARI_PWR
13	R12V
14	PGND
15	PGND
16	PGND
17	PGND
18	PGND
19	35V
20	35V
21	35V
22	35V
23	35V

5.10.2. Test Point Wave Form

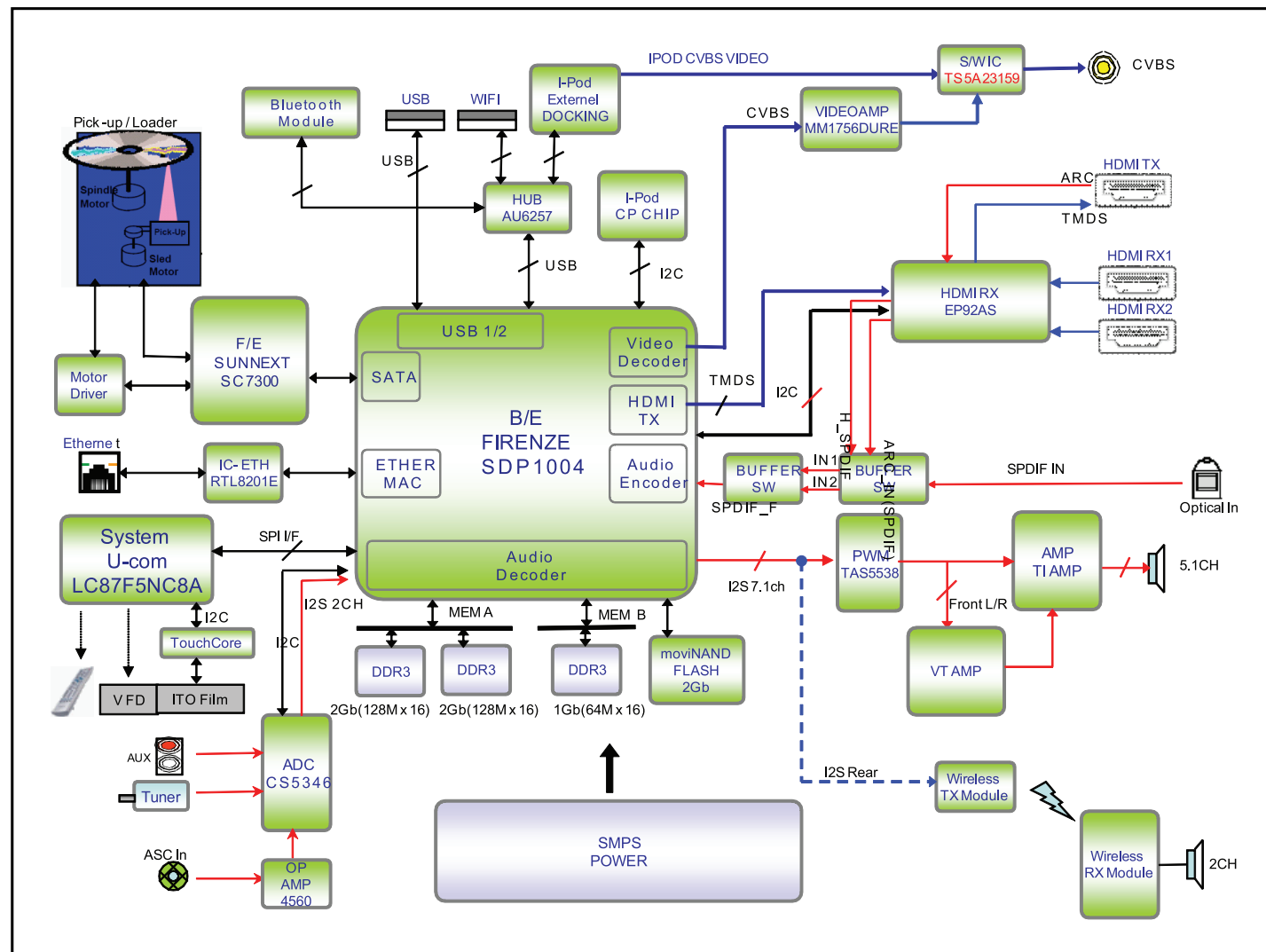


5.11. SMPS PCB Bottom

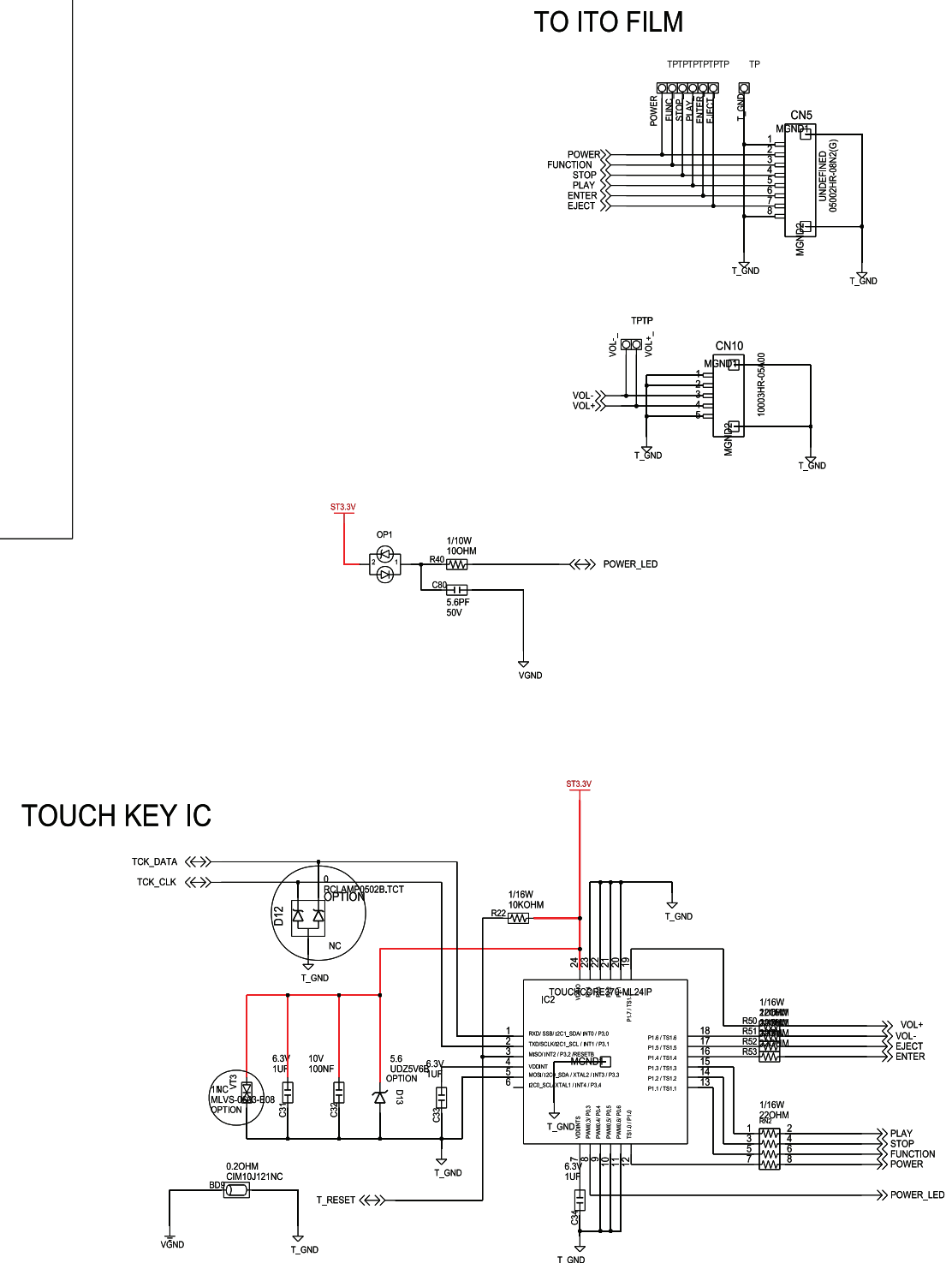
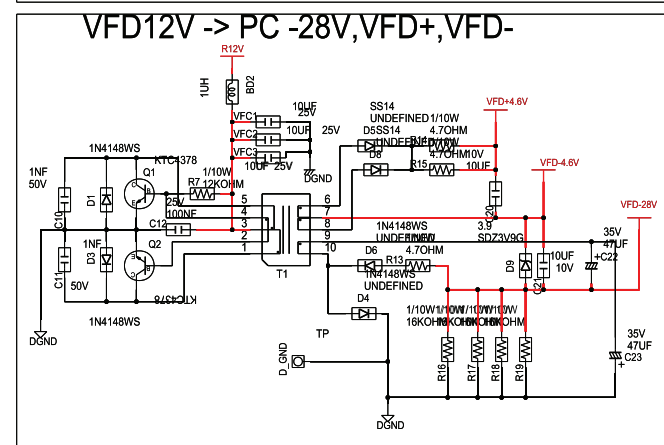
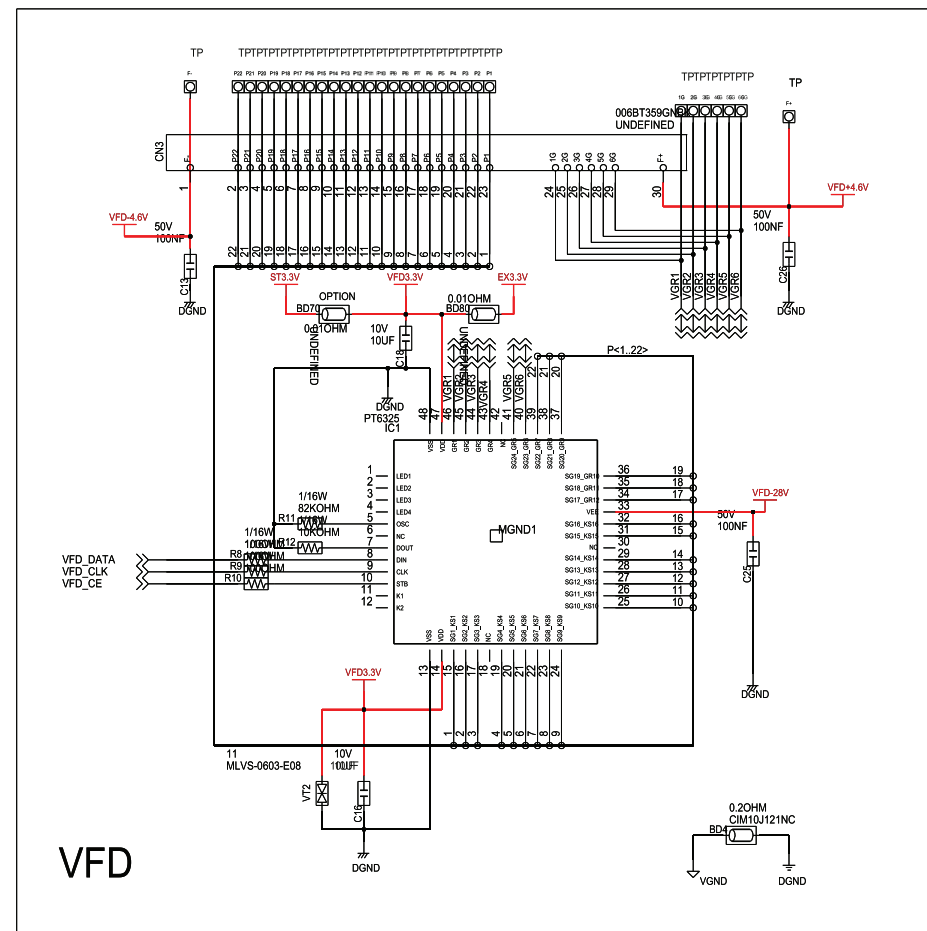


6. Schematic Diagram

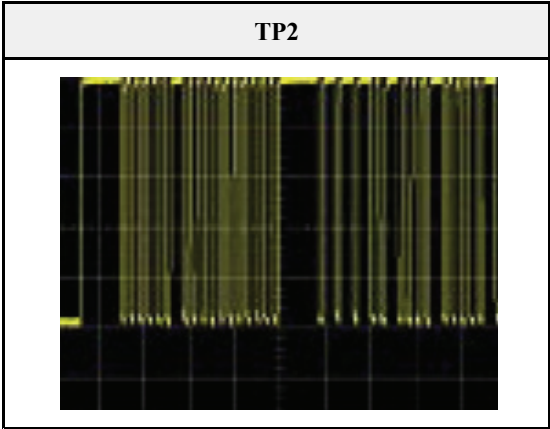
6.1. Overall Block Diagram

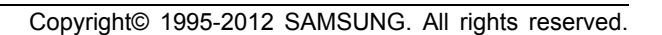


- From DISC, RF signal is transmitted to BACKEND SDP93. The decoder SDP93 decodes the RF signal to VIDEO and AUDIO DATA.
About Digital Video signal, HDMI goes to HDMI Repeater IC, EP92AS. it gets TMDS DATA from SDP93. HDMI IN signals go to HDMI OUT through HDMI Repeater IC and Decoder IC.
- HT-E6xxx series support 1 USB port. It is for USB File play like MP3, JPG, DivX and etc. iPod, iPhone are also supported.
- About SDP93 Audio output, I2S datas go PWM IC (TAS5538) to convert PWM signals and then go to AMP IC (TAS5614) except Front Ch. Front Ch signals go to Vacuum tube passing through LPF to convert analog signal from PWM signals and then analog audio datas passed by vacuum tube go to AMP IC (TAS5613).
All of channel audio datas passed by AMP IC are amplitude and out to Speaker Jack by passing through LPF.

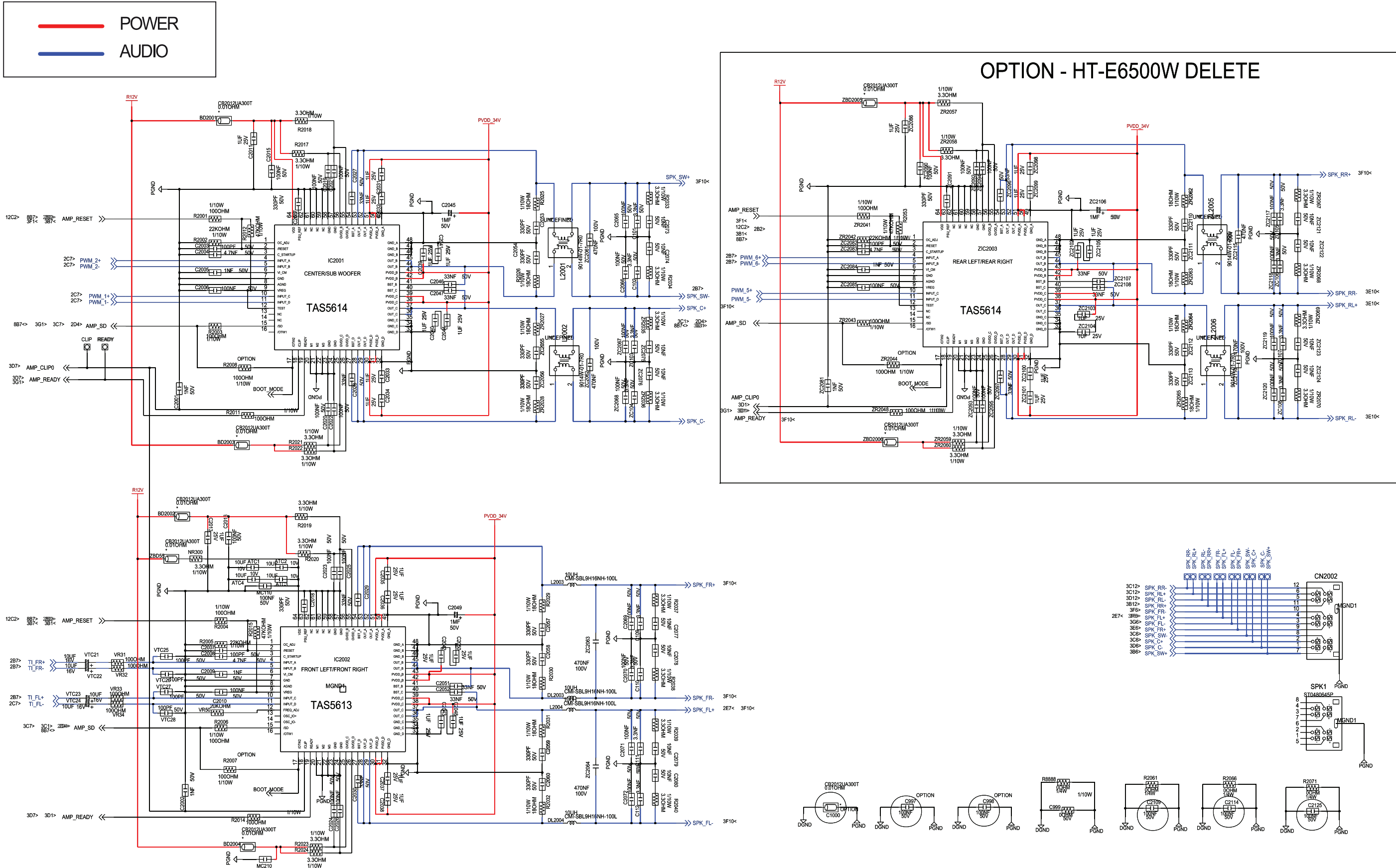


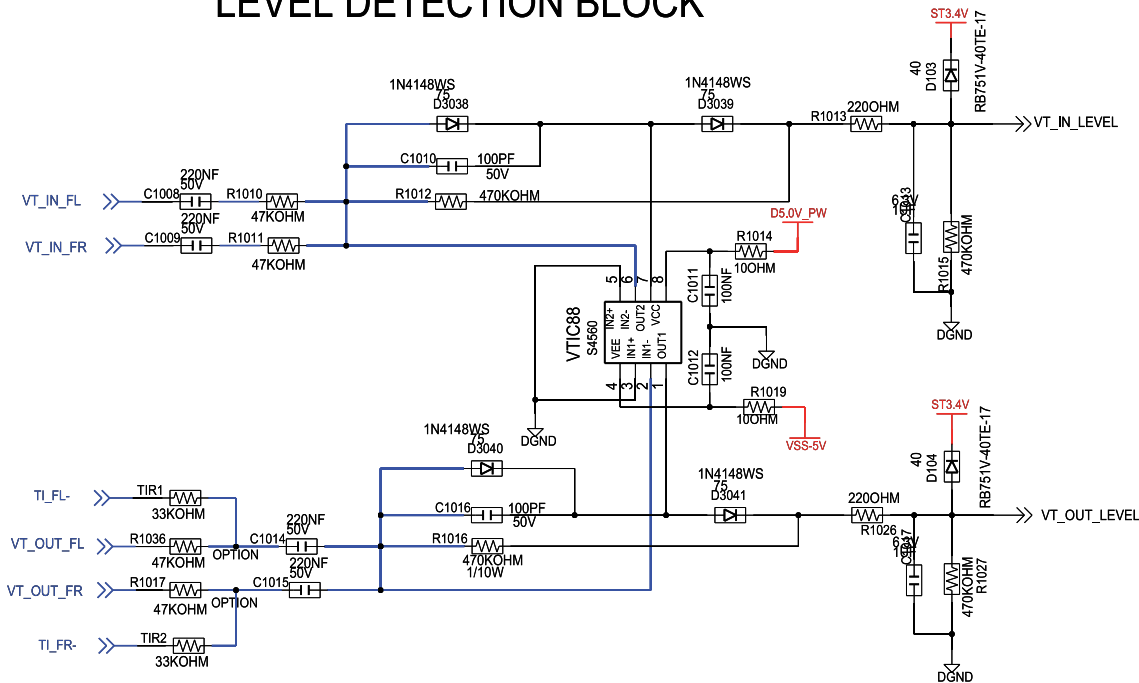
6.2.1. Test Point Wave Form

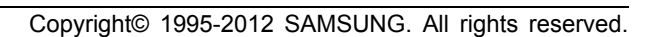




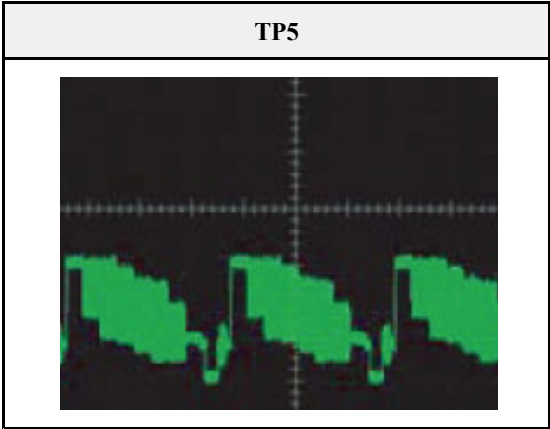
6.4. POWER_AMP

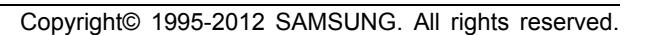




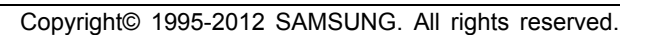


6.7.1. Test Point Wave Form

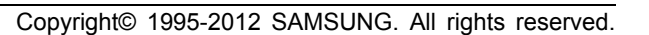




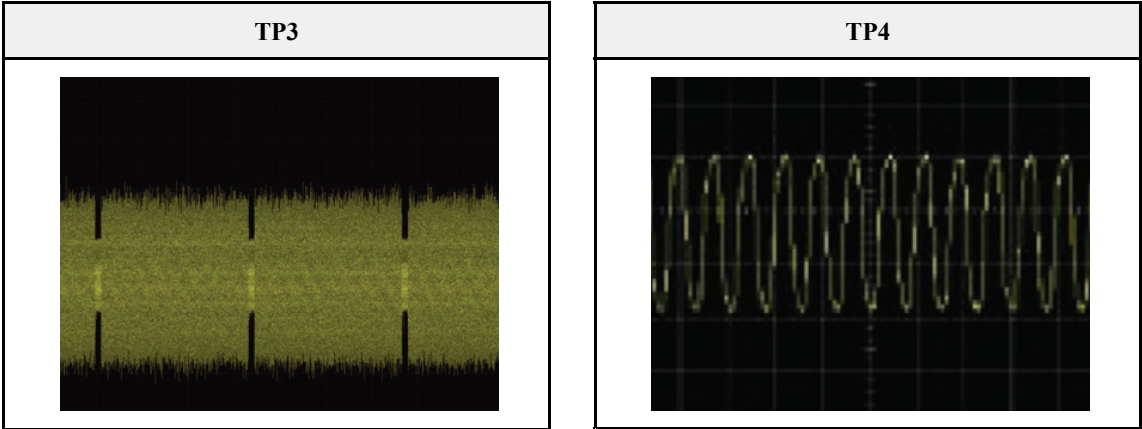




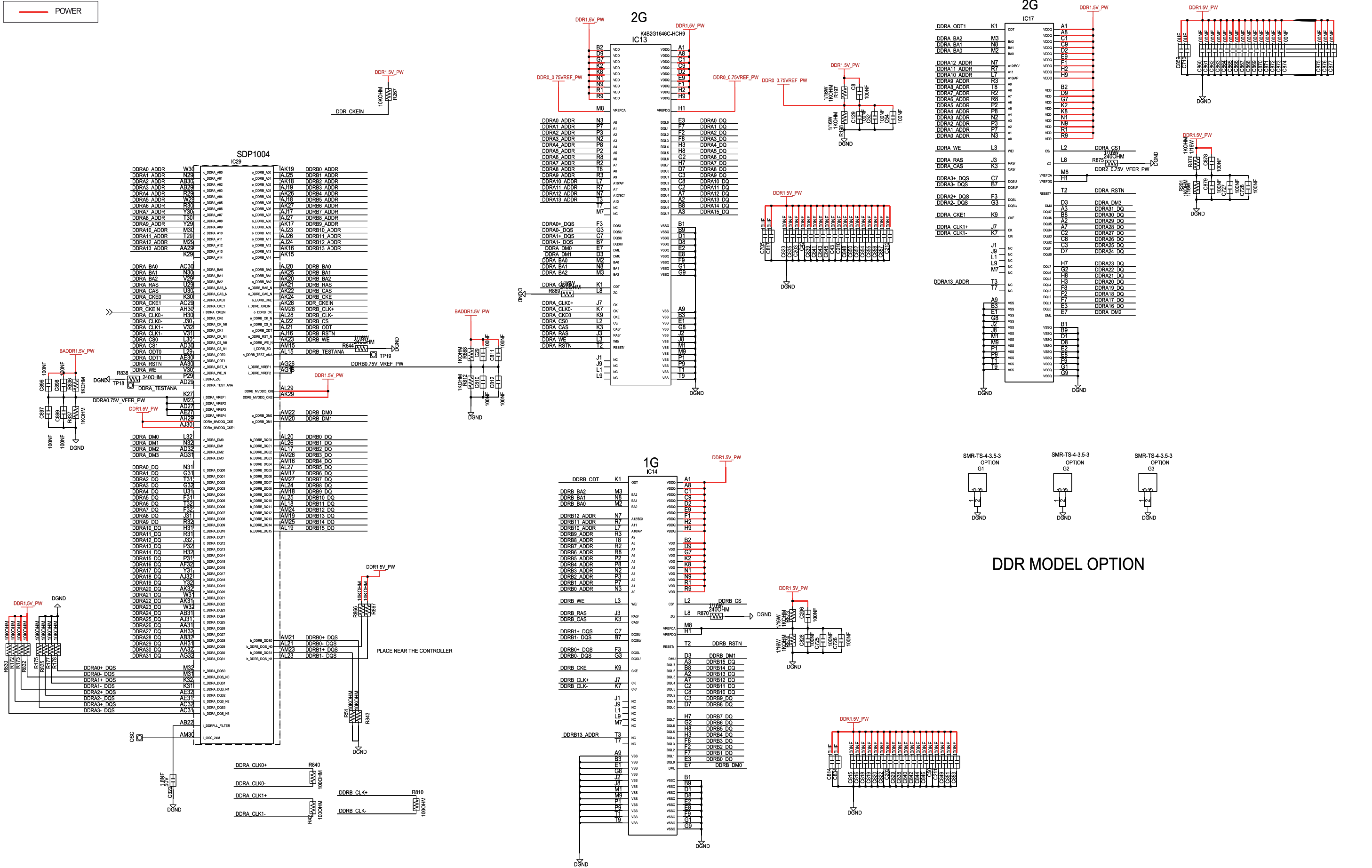




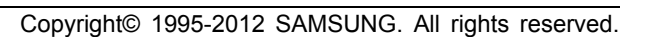
6.12.1. Test Point Wave Form



6.13. DDR3 INTERFACE

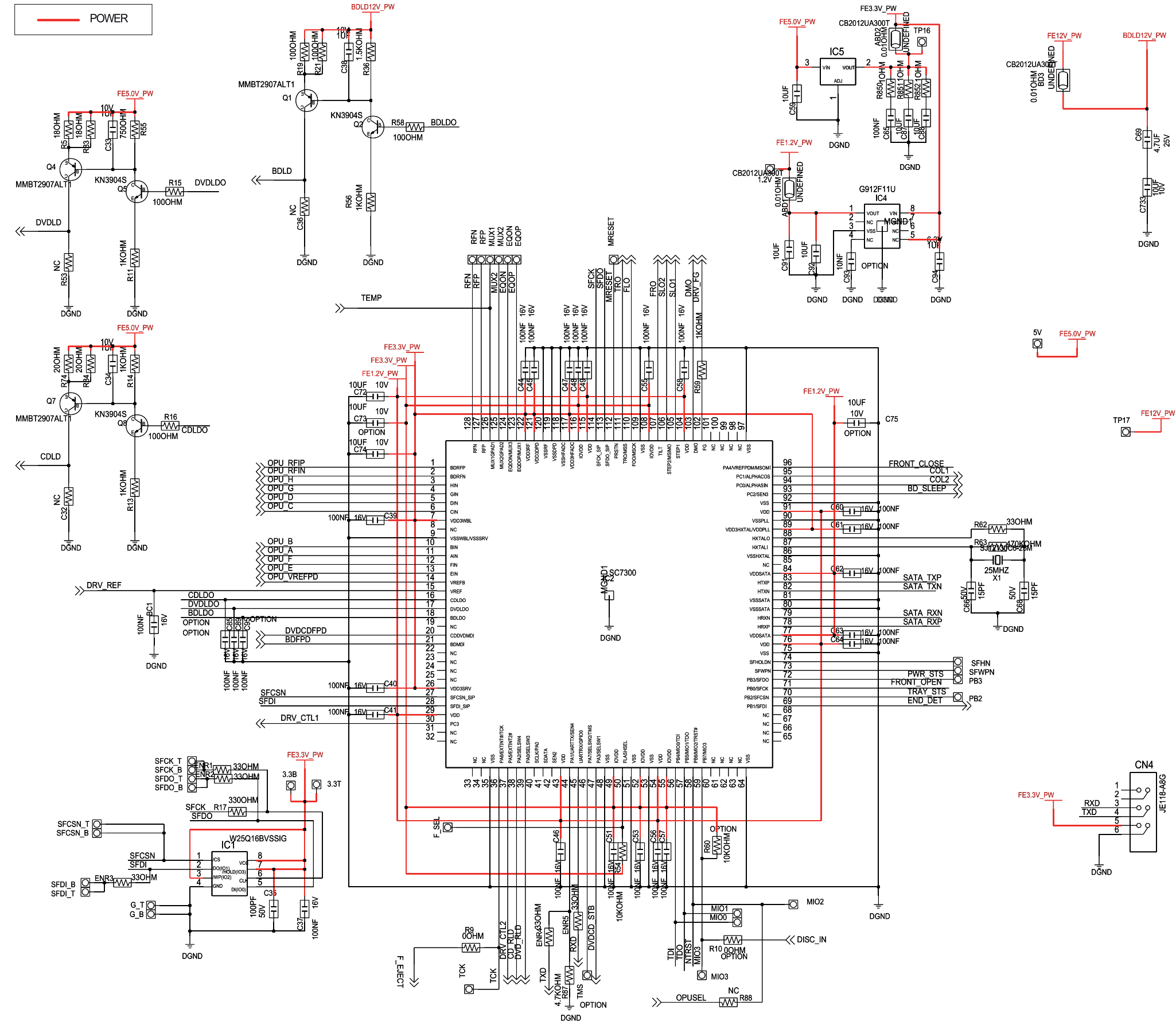


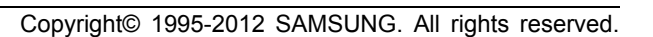




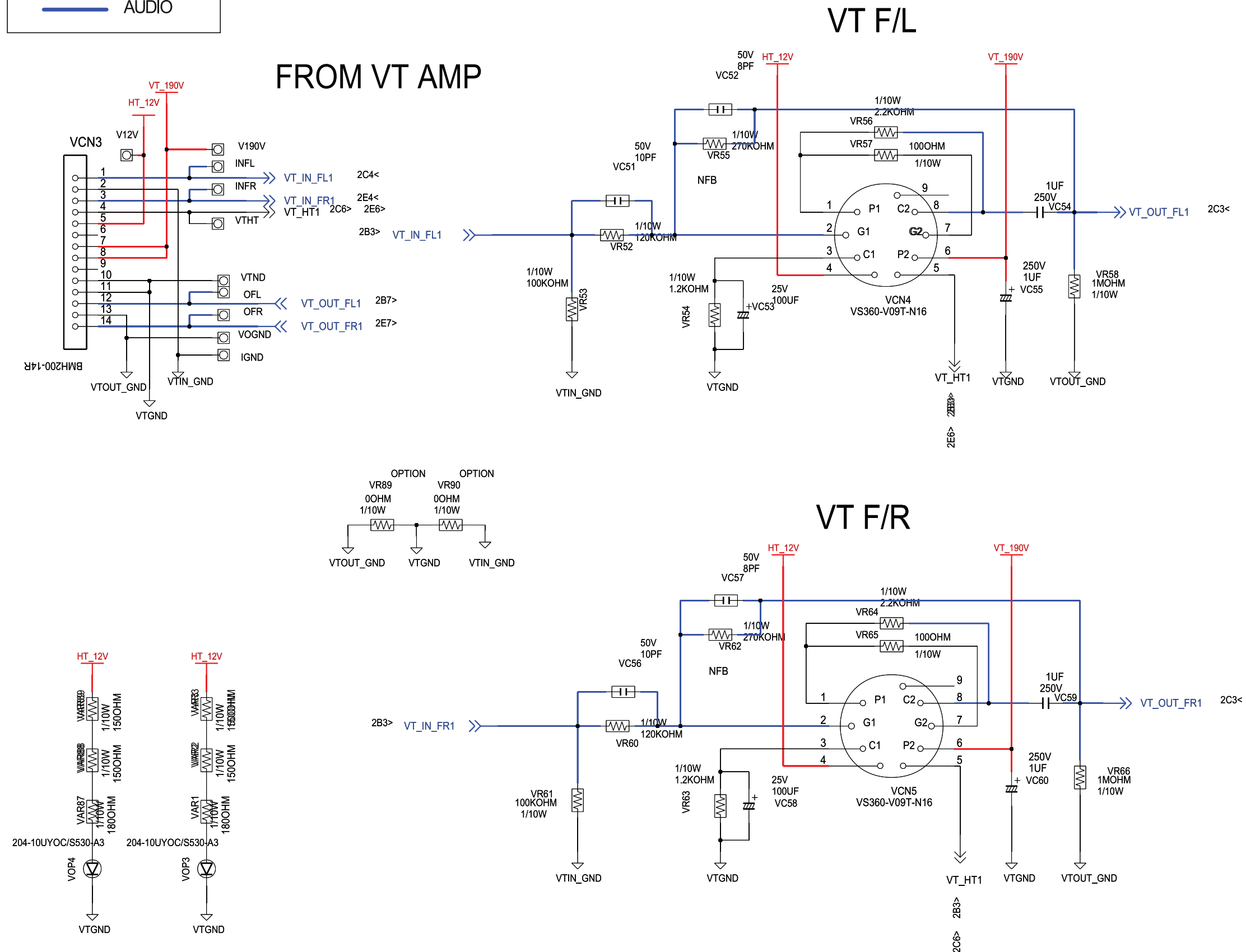


6.18. F_END_SC7300

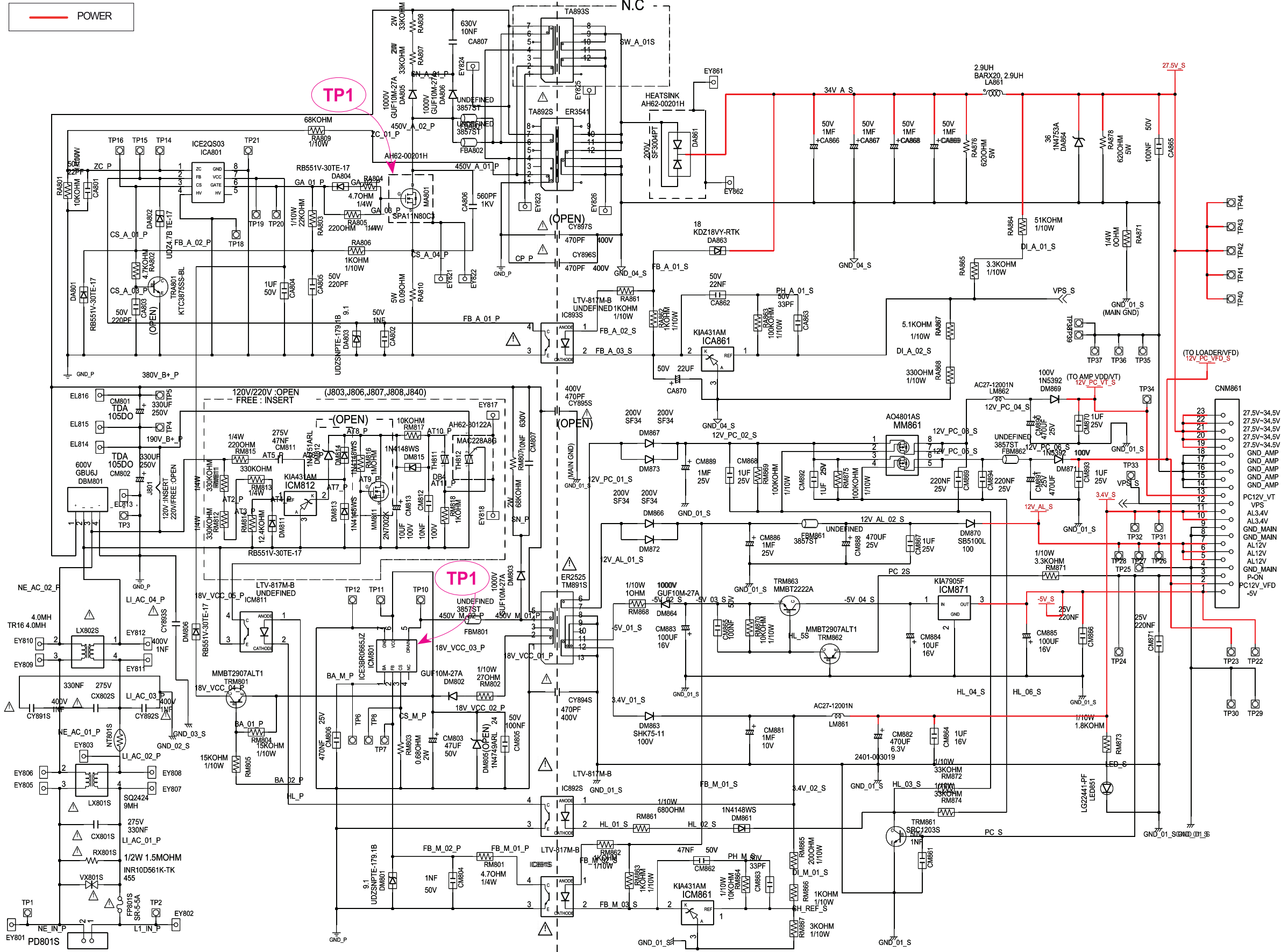




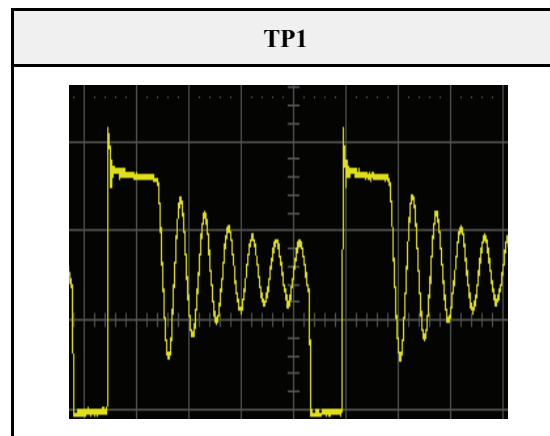
6.20. VT



6.21. SMPS



6.21.1. Test Point Wave Form





GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
Europe, MENA, CIS, Africa	https://gspn1.samsungcsportal.com
E.Asia, W.Asia, China, Japan	https://gspn2.samsungcsportal.com
N.America, S.America	https://gspn3.samsungcsportal.com

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