

Service
Service
Service



Service Manual

Chassis name	Platform	Model name
TPM17.9E LA	MTK5802	43PUS6162/05
		43PUS6262/05
		49PUS6262/05
		50PUS6162/05
		50PUS6262/05
		50PUS6272/05
		55PUS6162/05
		55PUS6262/05
		55PUS6272/05
		65PUS6162/05
		65PUS6262/05

1.Product inforamtion.....	3
2.Connections overview.....	5
3.Mechanical Instructions.....	6
Cable dressing (43" 6162/6262 series).....	6
Back cover view (43"/49"/50"/55" 6162/6262 series).....	6
Cable dressing (49" 6262 series).....	7
Cable dressing (50"/55" 6162 series).....	7
Cable dressing (50"/55" 6262/6272 series).....	8
Back cover view (50"/55" 6272 series).....	8
Cable dressing (65" 6162/6262 series).....	9
Back cover view (65" 6262 series).....	9
Assembly/Panel Removal	9
4.Service Modes.....	14
5.Software upgrading, Error Code and Panel Code.....	18
6.Circuit Descriptions.....	23
7.IC Data Sheet.....	30
8.Circuit Diagrams.....	34
8.1 715G8620 PSU.....	34
8.2 715G8672 PSU.....	38
8.3 715G8682 PSU.....	42
8.4 715G8709 SSB.....	46
8.5 715G8623 IR/LED Panel.....	65
8.6 715G7088 Keyboard control panel.....	66
8.5 715G8555 Keyboard control panel.....	67
9.Styling Sheet.....	68
6162 series 43".....	68
6162 series 50"/55".....	69
6262 series 49"/50"/55"	70
6272 series 50"/55".....	71
6162 series 65".....	72
6262 series 65".....	73

1. Product information

16.3

Display Resolution

Diagonal screen size

- 43PUx6162 : 108 cm / 43 inch
- 49PUx6162 : 123 cm / 49 inch
- 50PUx6162 : 126 cm / 50 inch
- 55PUx6162 : 139 cm / 55 inch
- 65PUx6162 : 164 cm / 65 inch

Display resolution

- 3840 x 2160

Component, Composite

Composite

- PAL, NTSC, SECAM

Component

- 480i - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 480p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 576i - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 576p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 720p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 1080i - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 1080p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz

16.4

Supported Input Resolution - Video

HDMI

- 480i - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 480p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 576i - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 576p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 720p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 1080i - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 1080p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz
- 3840 x 2160p - 24Hz, 25Hz, 30Hz, 50Hz, 60Hz

HDMI - UHD

🏠 (Home) > Settings > General settings > HDMI
Ultra HD

This TV can display Ultra HD signals. Some devices - connected with HDMI - do not recognise a TV with Ultra HD and might not work correctly or show distorted picture or sound.

To avoid the malfunctioning of such a device, you can set the signal quality to a level the device can handle. If the device is not using Ultra HD signals, you can switch off Ultra HD for this HDMI connection.

An HDMI connection with the setting **UHD 4:4:4/4:2:2*** allows maximum up to UHD (50Hz or 60Hz) RGB 4:4:4 or YCbCr 4:4:4/4:2:2/4:2:0 signals. The setting **UHD 4:2:0** allows maximum up to UHD (50Hz or 60Hz) YCbCr 4:2:0 signals.

16.5

Supported Input Resolution – Computer

- 640 x 480 – 60Hz
- 800 x 600 – 60Hz
- 1024 x 768 – 60Hz
- 1280 x 800 – 60Hz
- 1280 x 960 – 60Hz
- 1280 x 1024 – 60Hz
- 1366 x 768 – 60Hz
- 1440 x 900 – 60Hz
- 1920 x 1080 – 60Hz
- 3840 x 2160 – 60Hz

16.6

Sound

- Incredible Surround
- Clear sound
- Smart Sound
- Output power (RMS) : 20W
- Dolby® Digital
- DTS 2.0+ Digital out

16.7

Multimedia

Connections

- USB 2.0 / USB 3.0
- Ethernet LAN RJ-45
- Wi-Fi 802.11n (built-in)

Supported USB file systems

- FAT, NTFS

Playback formats

- Video Codec : AVI, MKV, HEVC, H.264/MPEG-4 AVC, MPEG1, MPEG2, MPEG4, WMV9/VC1, VP9
- Audio Codec : MP3, WAV, AAC, WMA (v2 up to v9.2), WMA-PRO (v9 and v10)
- Subtitles :
 - Format: SRT, SMI, SSA, SUB, ASS, TXT
 - Character encodings : UTF-8, Central Europe and Eastern Europe (Windows-1250), Cyrillic (Windows-1251), Greek (Windows-1253), Turkish (Windows-1254), Western Europe (Windows-1252)
- Image Codec : JPEG, GIF, PNG, BMP

Wi-Fi Certified

This TV supports Miracast certified devices.

Performance may vary, depending on the capabilities of the mobile device and the software used.

16.8

Connectivity

TV Side

- Common Interface slot: CI+/CAM
- USB 2 – USB 2.0
- HDMI 3 in – MHL – UHD – HDR
- Headphones – Stereo mini-jack 3.5mm

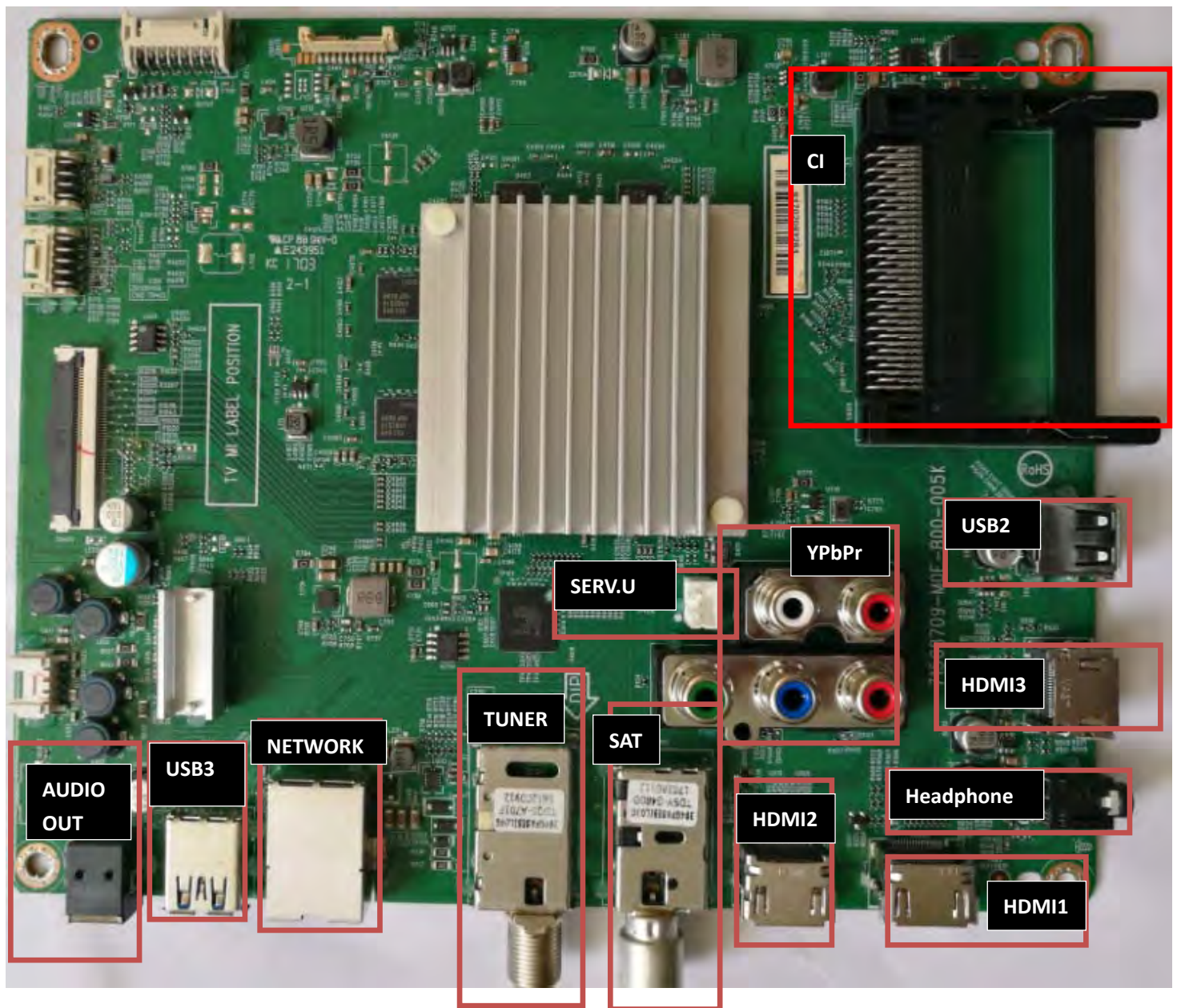
TV Rear

- YPbPr : Y Pb Pr, Audio L/R
- CVBS : CVBS, Audio L/R (Shared with YPbPr)

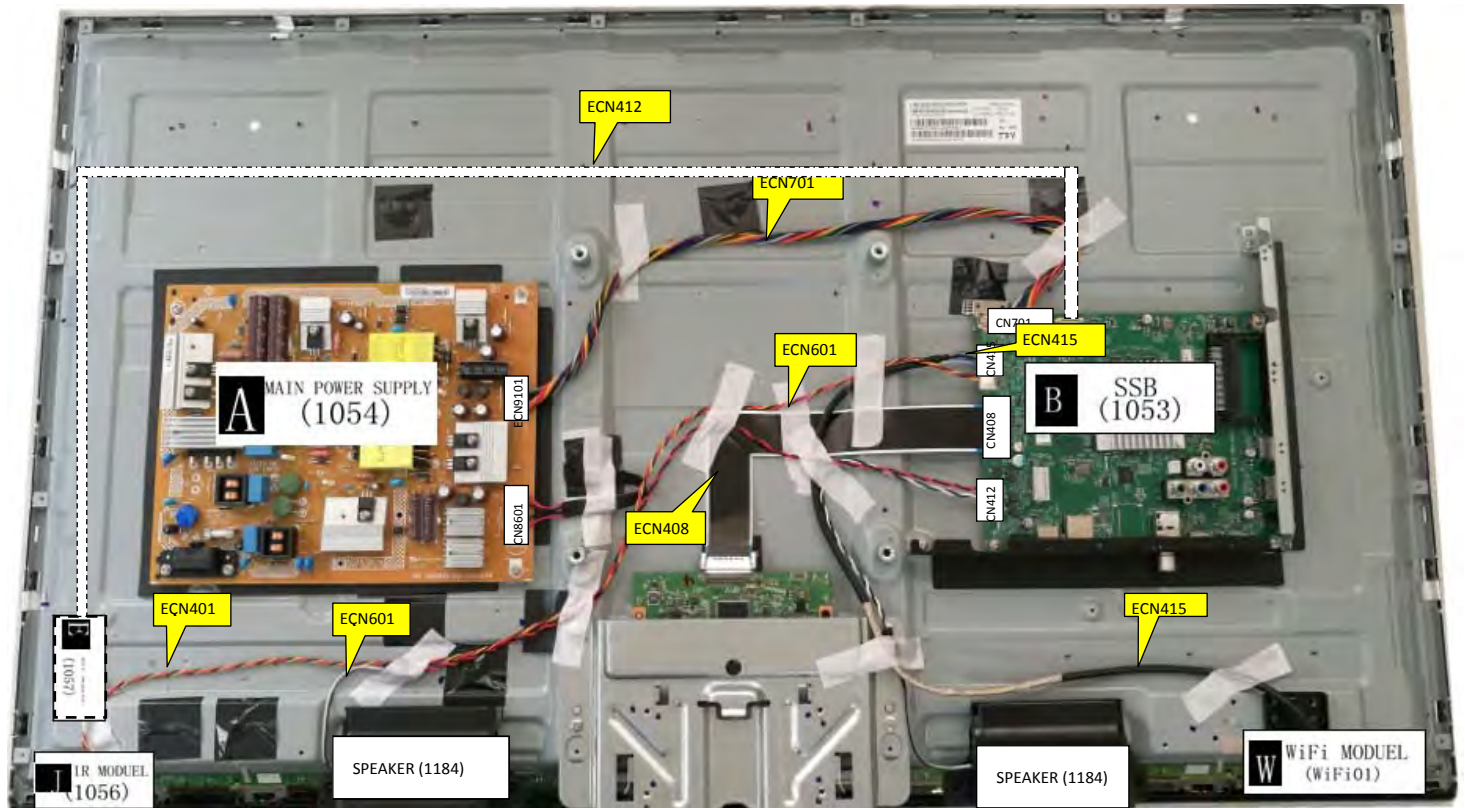
TV Bottom

- Audio out – Optical Toslink
- USB 1 – USB 3.0
- Network LAN – RJ45
- Satellite tuner
- Antenna (75 ohm)
- HDMI 1 in – ARC – UHD
- HDMI 2 in – UHD – HDR

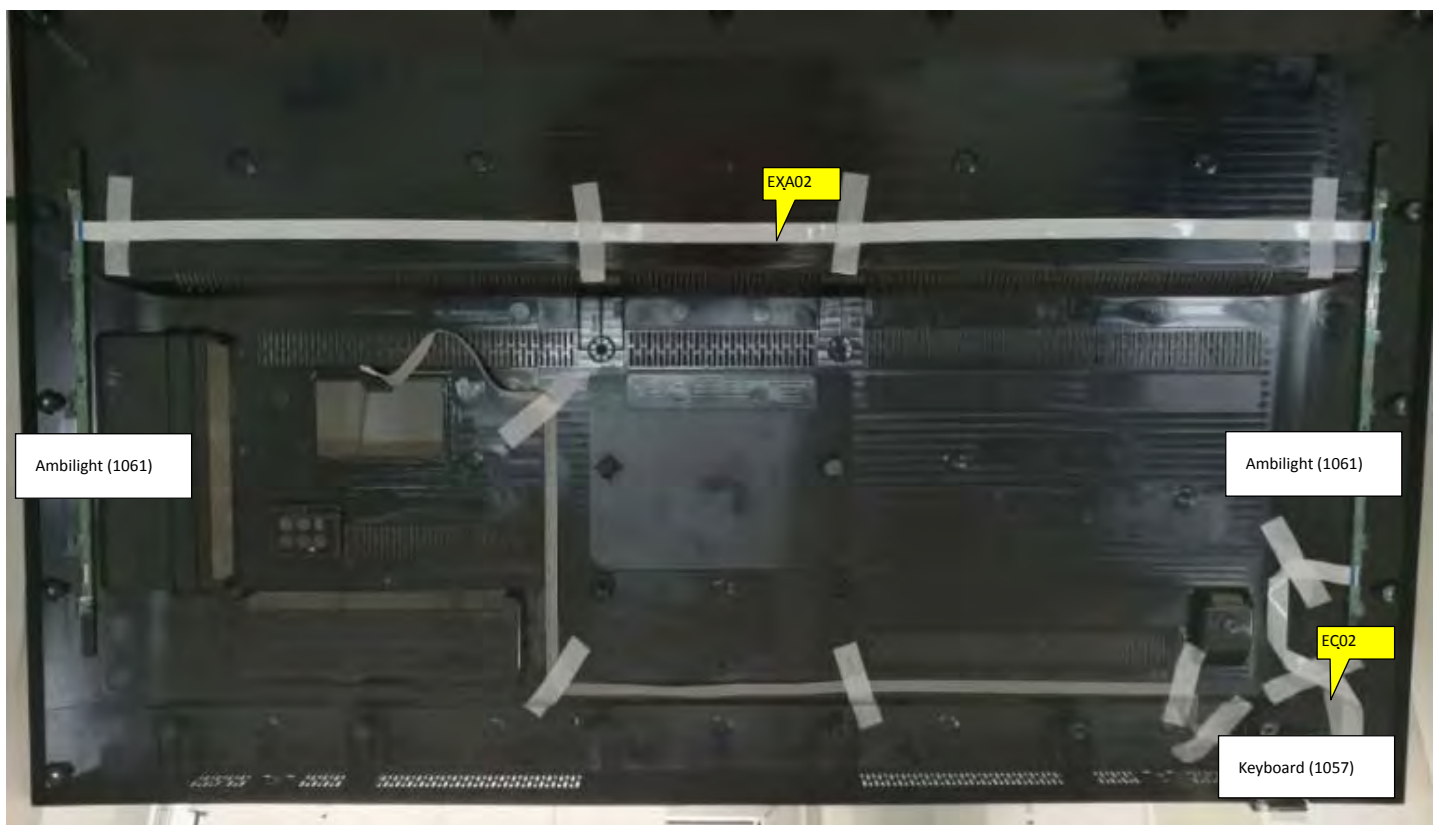
2. Connections Overview



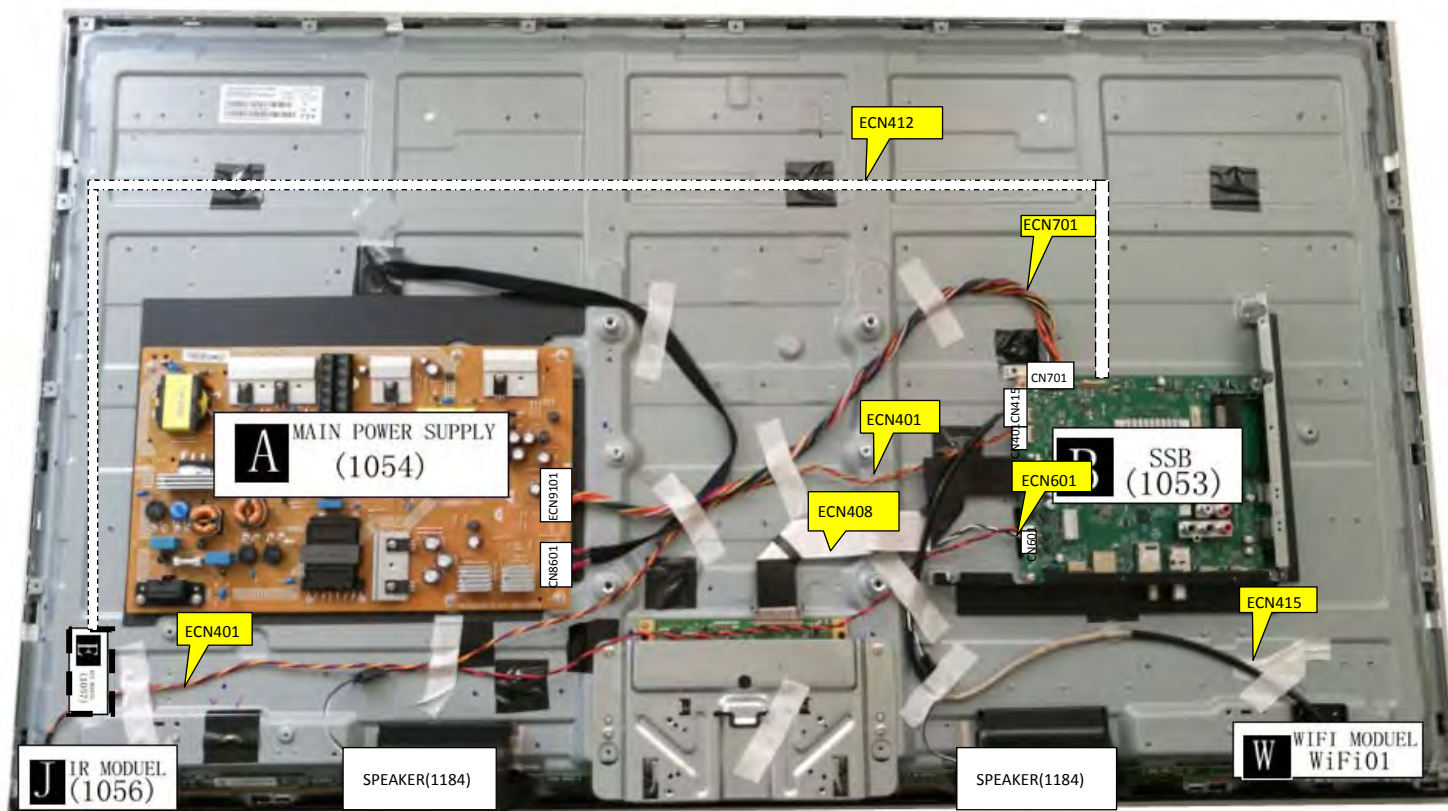
3.1 Cable Dressing



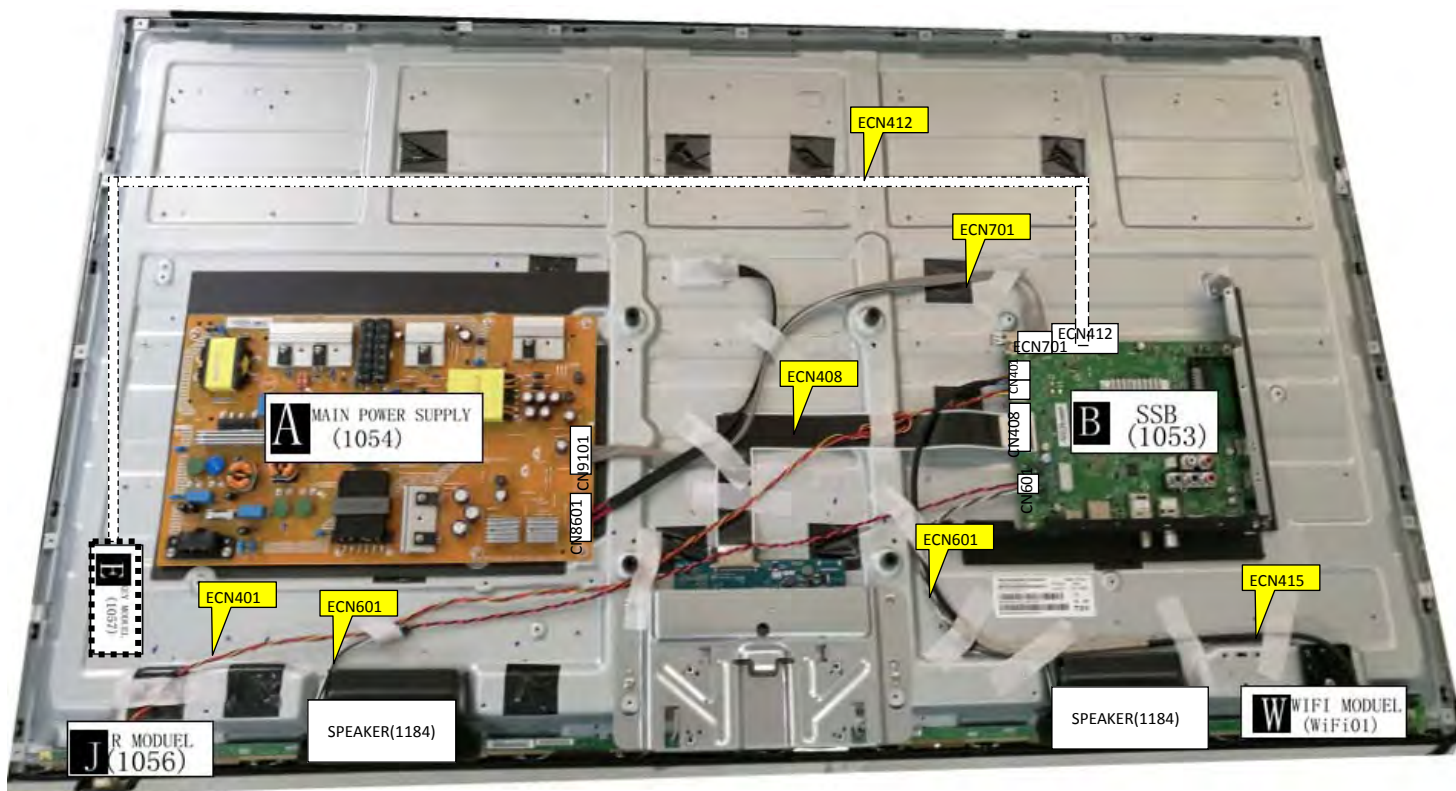
Cable dressing (43" 6162/6262 series)



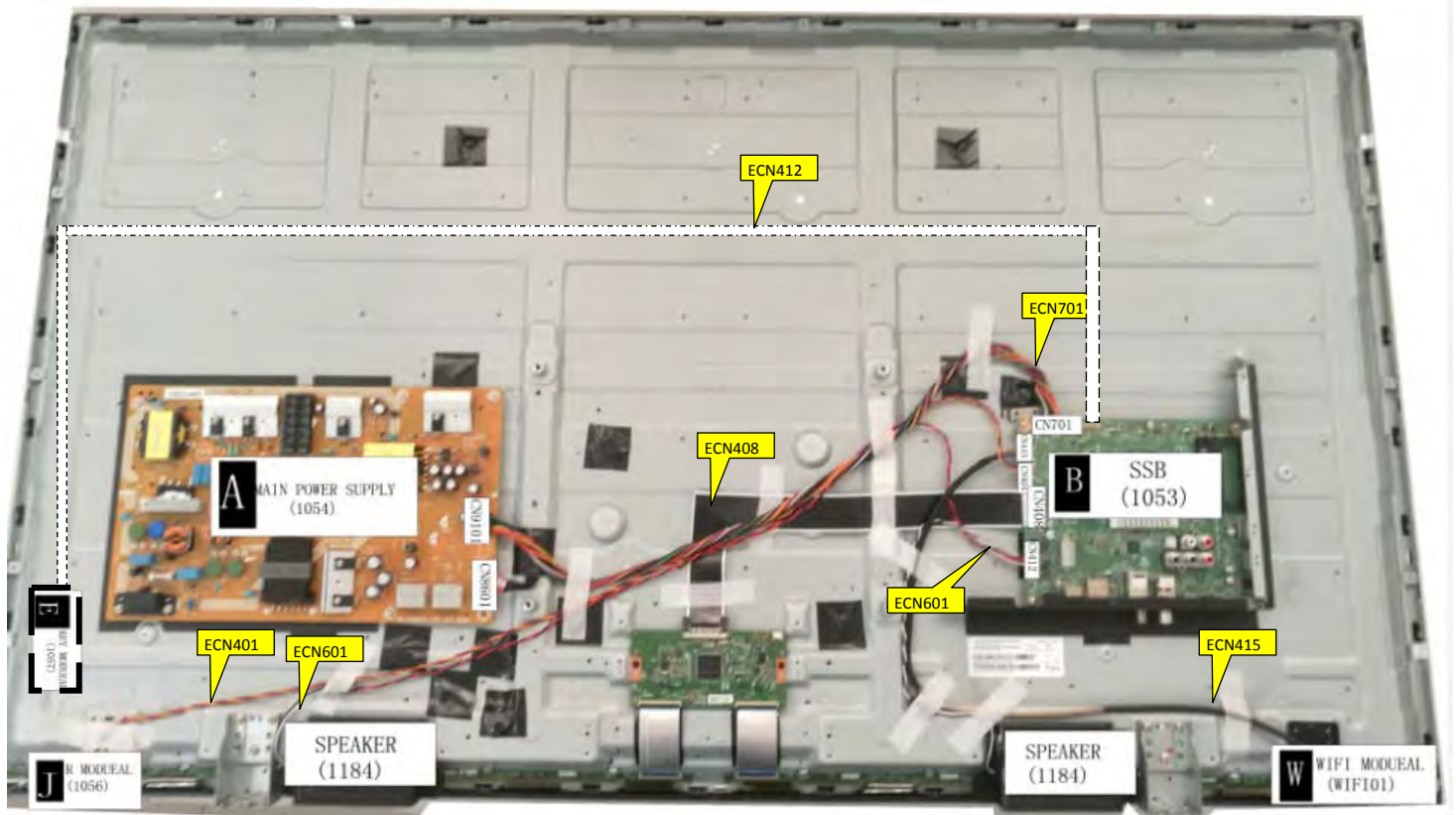
Back cover view (43"/ 49"/ 50"/ 55" 6262 series)



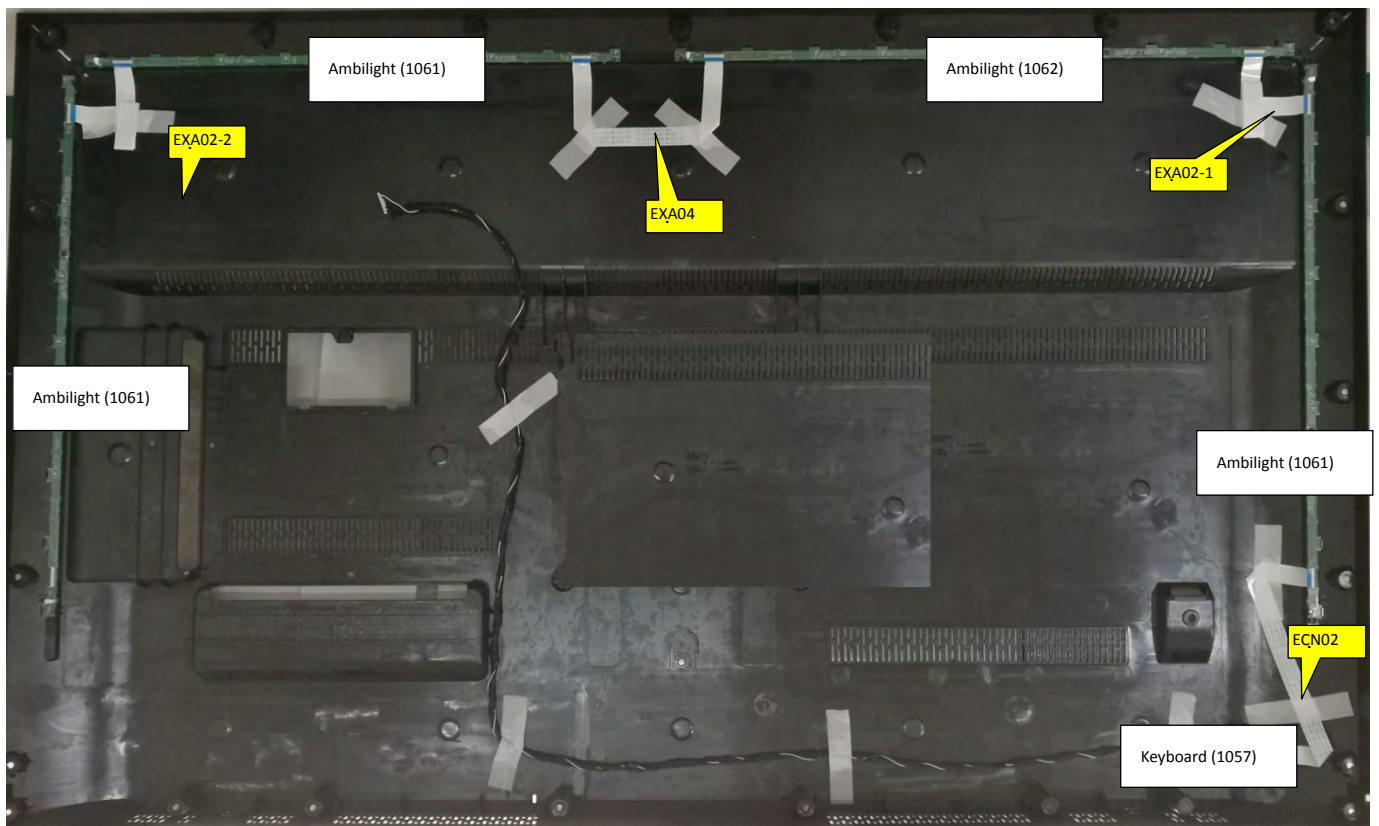
Cable dressing (49" 6262 series)



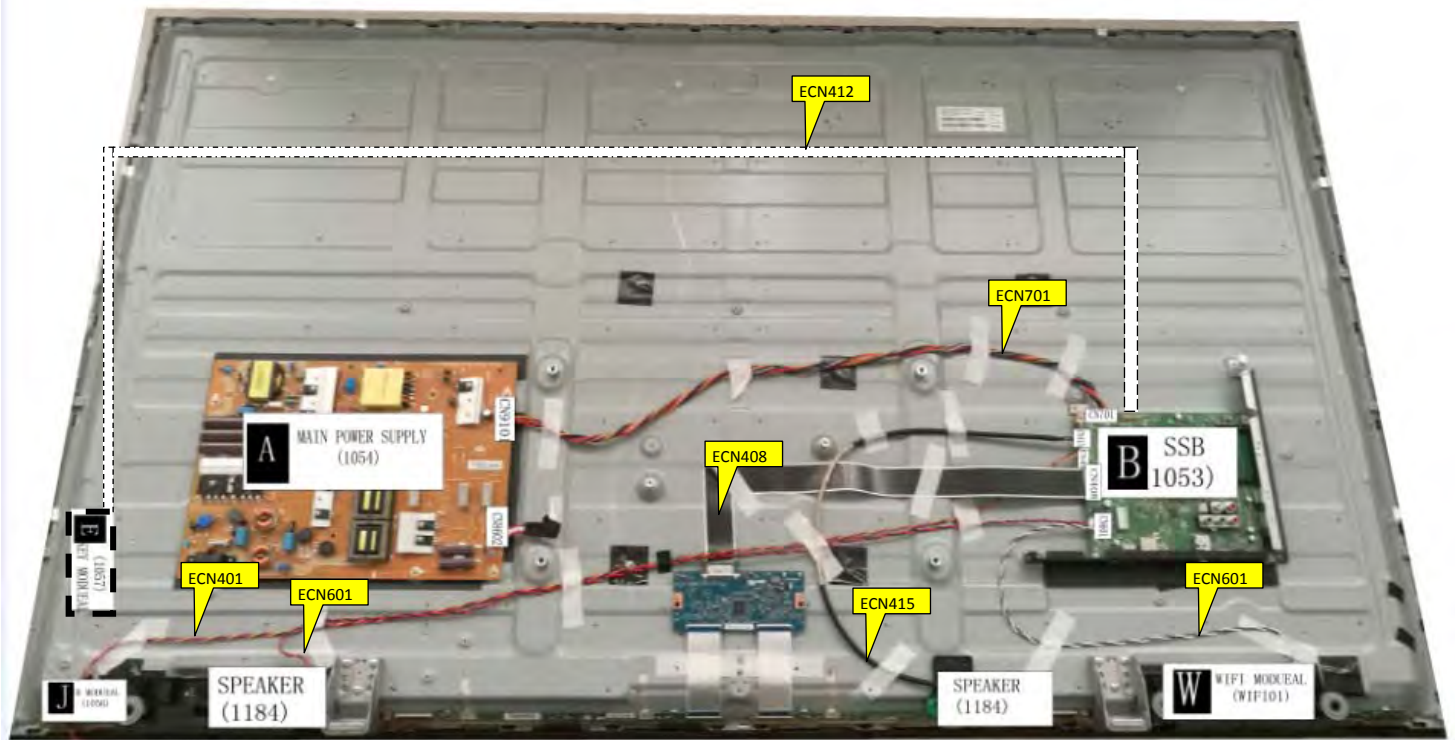
Cable dressing (50"/55" 6162 series)



Cable dressing (50"/55" 6262/6272 series)



Back cover view (50"/ 55" 6272 series)



Cable dressing (65" 6162/6262 series)



Back cover view (65" 6262 series)

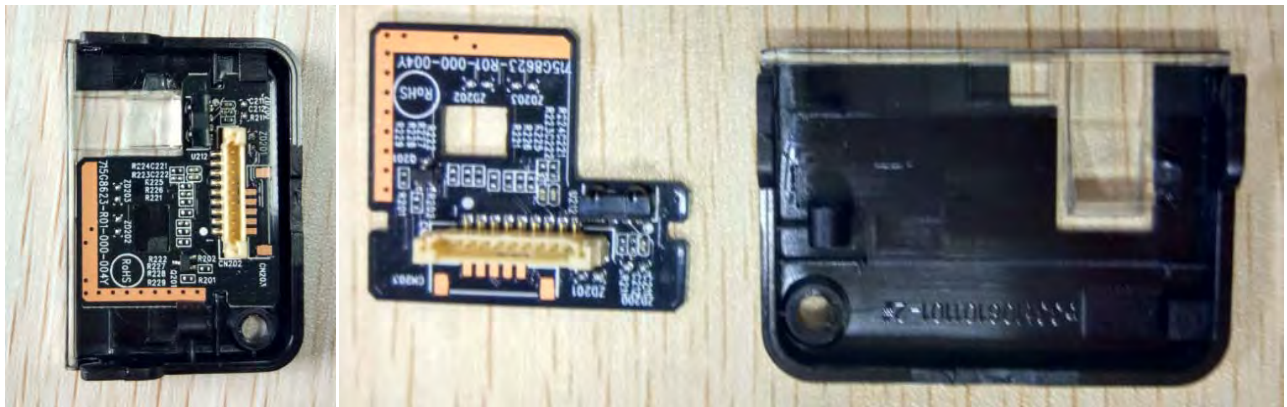
3.2 Assembly/Panel Removal

3.2.1 IR board Control Unit

1. Unplug the connector from the SSB.
Caution: be careful, as these are very fragile connectors!
1. Remove all the fixation screws [1] and connector from the IR board control unit.

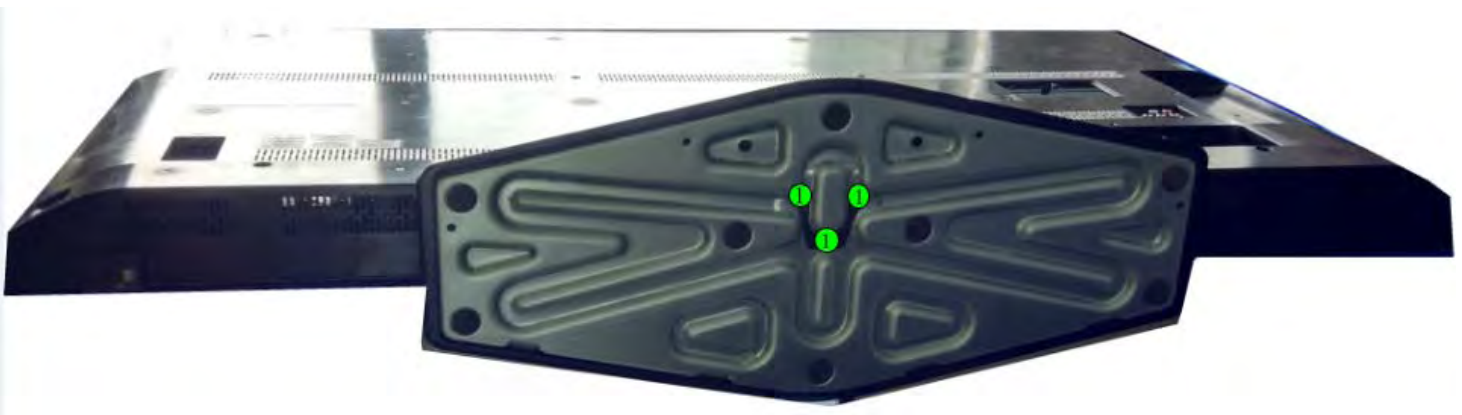
3. Remove the IR lens, IR board from the DECO_REAR_COVER.

When defective, replace the whole unit.



3.2.2 Stand removal

1. For 6262/6272 Serial, remove the fixation screws [2] that secure the stand for 6262/6272 Serial
For 6162 Serial, remove the fixation screws [1] that secure the stand
2. Take the stand bracket out from the set.



(6162 series)

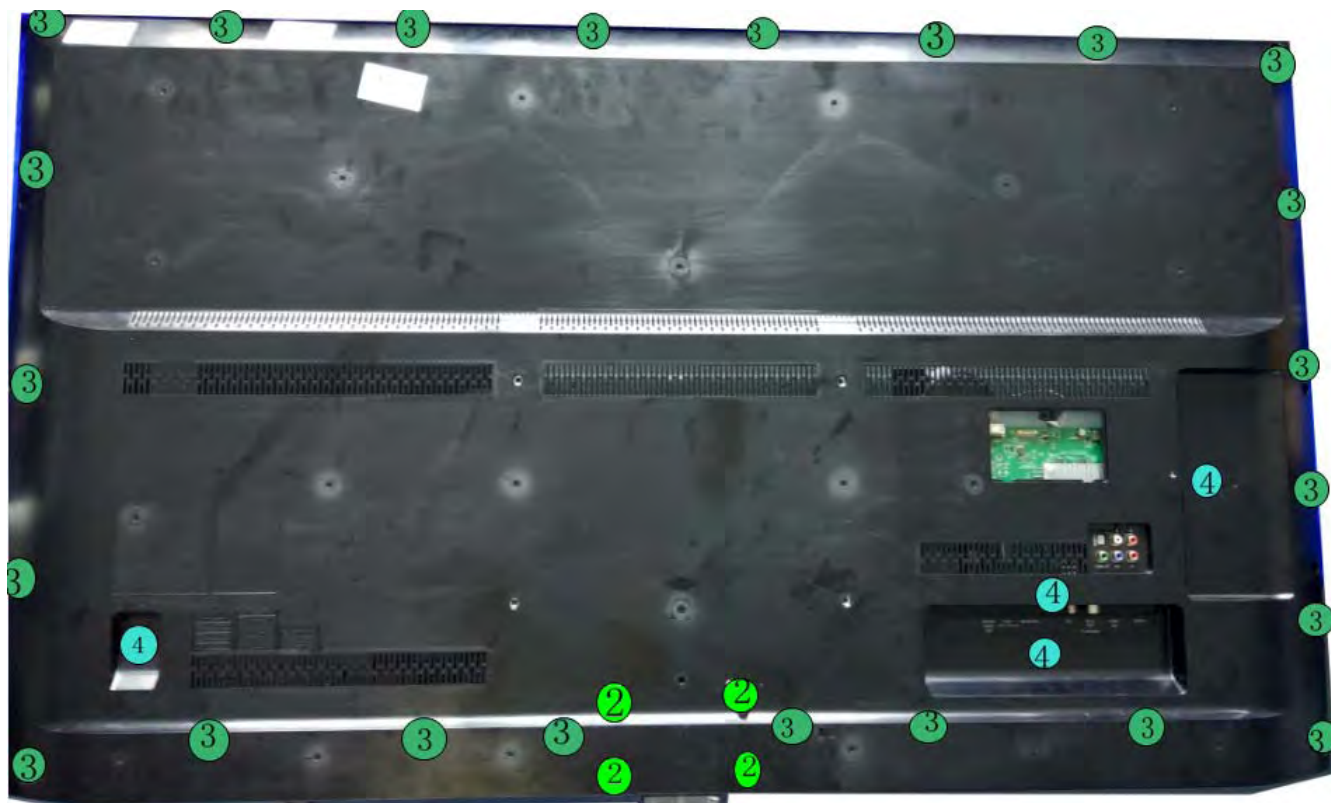


(6262/6272 series)

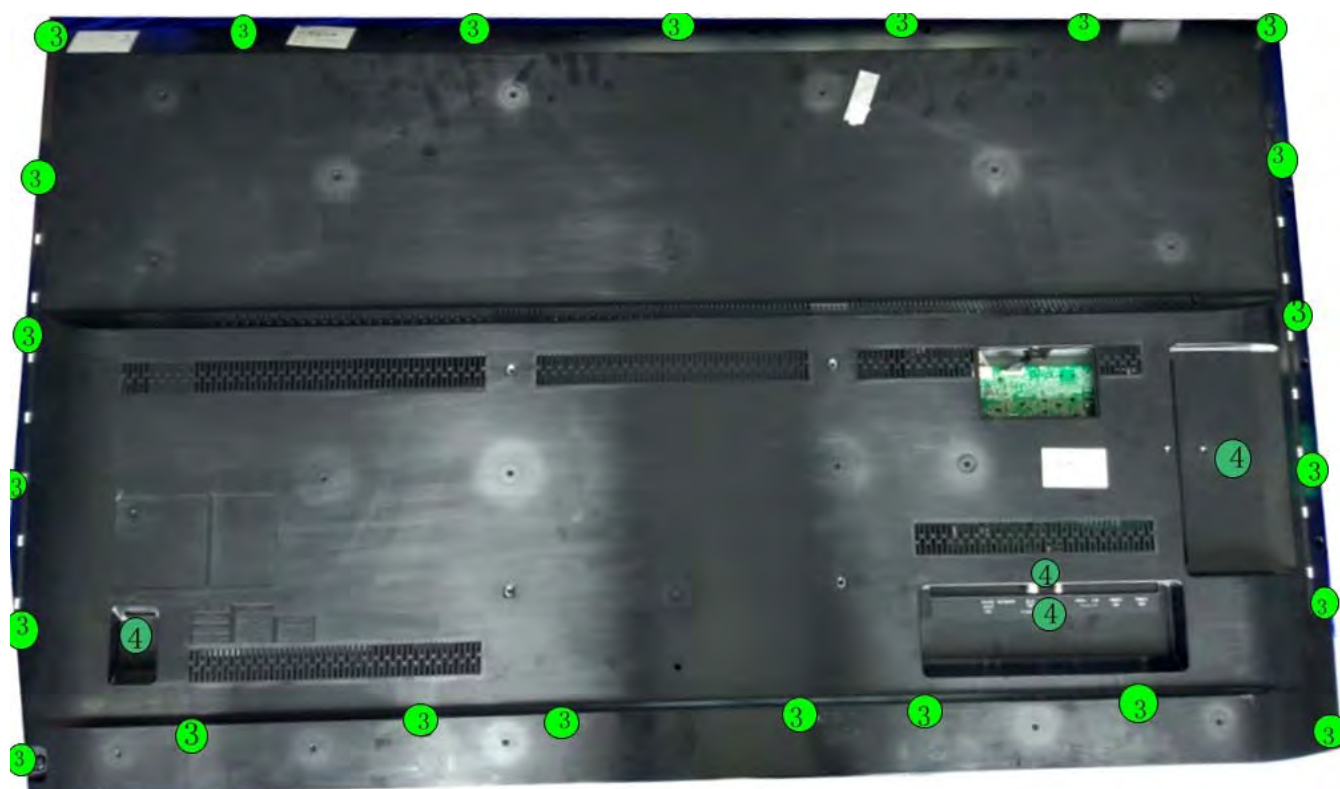
3.2.3 Rear Cover

Warning: Disconnect the mains power cord before removing the rear cover.

Remove fixation screws [3] and [4] gently lift the rear cover from the TV. Make sure that wires and cables are not damaged while lifting the rear cover from the set.



(6162 series)



(6262/6272 series)

3.2.4 Keyboard Control Unit

1. Release the connector from the SSB Board.

Caution: be careful, the Keyboard is catch on the Back cover, please be careful to avoid damage the fragile connectors!

2. Remove all the fixation screws from the keyboard control panel [2] and take it out from the Back cover

When defective, replace the whole unit.



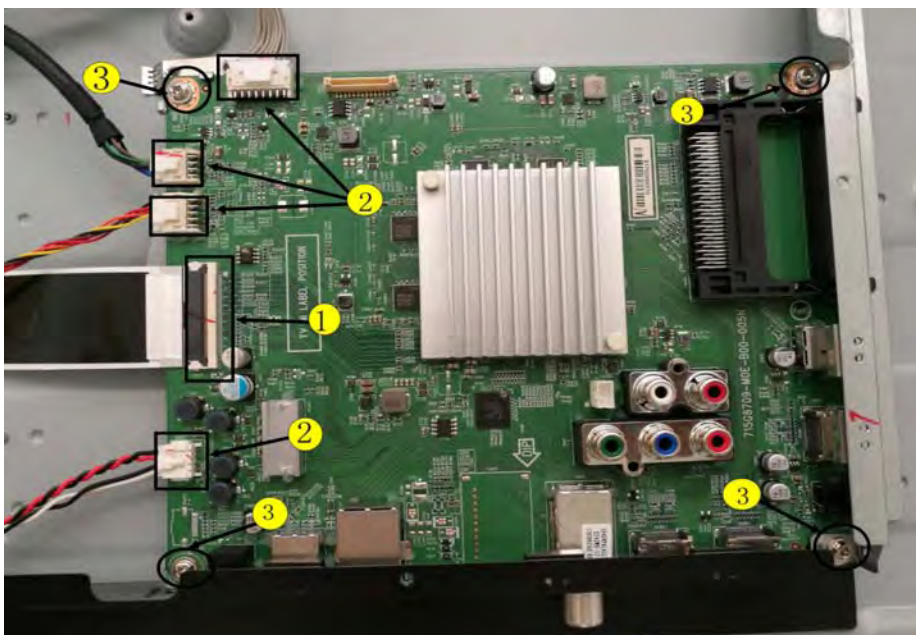
3.2.5 Small Signal Board (SSB)

Caution: it is mandatory to remount all different screws at their original position during re-assembly. Failure to do so may result in damaging the SSB.

1. Release the clips from the LVDS connector that connect with the SSB[1].

Caution: be careful, as these are very fragile connectors!

2. Unplug all other connectors [2] .
3. Remove all the fixation screws from the SSB [3].
4. The SSB can now be shifted from side connector cover, then lifted and taken out of the I/O bracket.



3.2.6 Power Supply Unit (PSU)

Caution: it is mandatory to remount all different screws at their original position during re-assembly. Failure to do so may result in damaging the PSU.

1. Gently unplug all connectors from the PSU.
3. Remove all fixation screws from the PSU.
3. The PSU can be taken out of the set now.

3.2.7 Speakers

1. Gently release the tapes that secure the speaker cables.
2. Unplug the speaker connector from the SSB.
3. Take the speakers out.

When defective, replace the both units.

3.2.8 WIFI module

1. Unplug the connector from the SSB..
2. Remove fixation screw that secure the WIFI module,

When defective, replace the whole unit.

3.2.9 LCD Panel

1. Remove the SSB as described earlier.
2. Remove the PSU as described earlier.
3. Remove the keyboard control panel as described earlier.
4. Remove the stand bracket as described earlier.
5. Remove the IR/LED as described earlier.
6. Remove the fixations screws that fix the metal clamps to the front bezel. Take out those clamps.
7. Remove all other metal parts not belonging to the panel.
8. Lift the LCD Panel from the bezel.

When defective, replace the whole unit.

4. Service Modes

4.1 Service Modes

The Service Mode feature is split into following parts:

- Service Alignment Mode (SAM).
- Factory Mode.
- Customer Service Mode (CSM). SAM and the Factory mode offer features, which can be used by the Service engineer to repair/align a TV set.

SAM and the Factory mode offer features, which can be used by the Service engineer to repair/align a TV set. Some features are:

- Make alignments (e.g. White Tone), reset the error buffer(SAM and Factory Mode).
- Display information ("SAM" indication in upper right corner of screen, error buffer, software version, operating hours,options and option codes, sub menus).

The CSM is a Service Mode that can be enabled by the consumer. The CSM displays diagnosis information, which the customer can forward to the dealer or call centre. In CSM mode, "CSM", is displayed in the top right corner of the screen. The information provided in CSM and the purpose of CSM is to:

- Increase the home repair hit rate.
- Decrease the number of nuisance calls.
- Solved customers' problem without home visit.

Note: For the new model range, a new remote control (RC) is used with some renamed buttons. This has an impact on the activation of the Service modes. For instance the old "MENU" button is now called "HOME" (or is indicated by a "house" icon).

4.2 Service Alignment Mode (SAM)

Purpose

- To modify the NVM.
- To display/clear the error code buffer.
- To perform alignments.

Specifications

- Operation hours counter (maximum five digits displayed).
- Software version, error codes, and option settings display.
- Error buffer clearing.
- Option settings.
- Software alignments (White Tone).
- NVM Editor.
- Set screen mode to full screen (all content is visible).

How to Activate SAM

To activate SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: **"062596"**, directly followed by the **"INFO/OK"** button. Do not allow the display to time out between entries while keying the sequence.
- Or via ComPair.

After entering SAM, the following items are displayed,

with "SAM" in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.

How to Navigate

- In the SAM menu, select menu items with the UP/DOWN keys on the remote control transmitter. The selected item will be indicated. When not all menu items fit on the screen, use the **UP/DOWN keys** to display the next/previous menu items.

- With the “LEFT/RIGHT” keys, it is possible to:
 - (De) activate the selected menu item.
 - (De) activate the selected sub menu.
 - Change the value of the selected menu item.
- When you press the MENU button once while in top level SAM, the set will switch to the normal user menu (with the SAM mode still active in the background).

How to Store SAM Settings

To store the settings changed in SAM mode (except the RGB Align settings), leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set. The mentioned exceptions must be stored separately via the STORE button.

How to Exit SAM

Use one of the following methods:

- Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
- Via a standard RC-transmitter, key in “00” sequence.

Note: When the TV is switched “off” by a power interrupt while in SAM, the TV will show up in “normal operation mode” as soon as the power is supplied again. The error buffer will not be cleared.

SAM mode overview



4.3 Factory mode:

Purpose

- To perform extended alignments.

Specifications

- Displaying and or changing Panel ID information.
- Displaying and or changing Tuner ID information.
- Error buffer clearing.
- Various software alignment settings.
- Testpattern displaying.
- Public Broadcasting Service password Reset.
- etc.

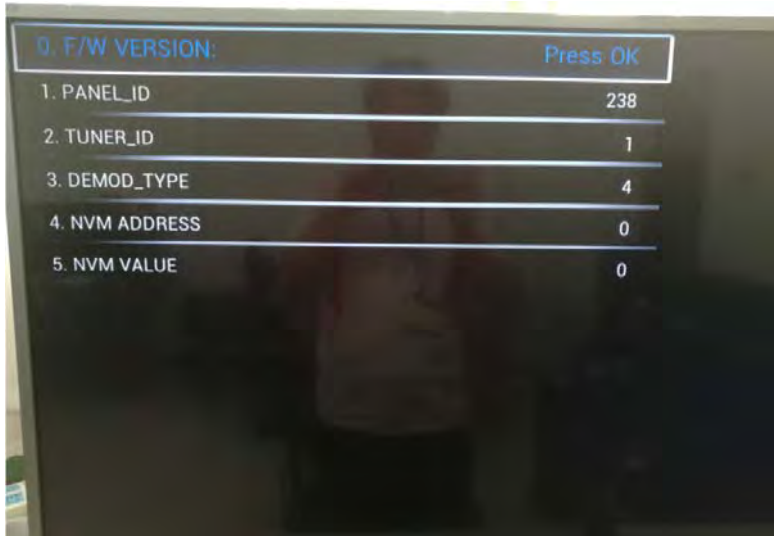
How to Activate the Factory mode

To activate the Factory mode, use the following method:

- Press the following key sequence on the remote control transmitter: from the “**menu/home**” press “**1999**”, directly followed by the “**Back/Return**” button. Do not allow the display to time out between entries while keying the sequence.

After entering the Factory mode, we can see many items displayed, use the **UP/DOWN** keys to display the next/previous menu items

Factory mode overview



How to Exit the Factory mode

Use one of the following methods:

- Select EXIT_FACTORY from the menu and press the “OK” button.

Note: When the TV is switched “off” by a power interrupt, or normal switch to “stand-by” while in the factory mode, the TV will show up in “normal operation mode” as soon as the power is supplied again. The error buffer will not be cleared.

4.4 Customer Service Mode (CSM)

Purpose

The Customer Service Mode shows error codes and information on the TVs operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.

The CSM is a read-only mode; therefore, modifications are not possible in this mode.

Specifications

- Ignore “Service unfriendly modes”.
- Line number for every line (to make CSM language independent).
- Set the screen mode to full screen (all contents on screen is visible).
- After leaving the Customer Service Mode, the original settings are restored.
- Possibility to use “CH+” or “CH-” for channel surfing, or enter the specific channel number on the RC.

How to Activate CSM

To activate CSM, press the following key sequence on a standard remote control transmitter: “**123654**” (do not allow the display to time out between entries while keying the sequence). After entering the Customer Service Mode, the following items are displayed. use the **Right/Left** keys to display the next/previous menu items

Note: Activation of the CSM is only possible if there is no (user) menu on the screen!

CSM Overview



How to Navigate

By means of the "CURSOR-DOWN/UP" knob (or the scroll wheel) on the RC-transmitter, can be navigated through the menus.

How to Exit CSM

To exit CSM, use one of the following methods.

- Press the MENU/HOME button on the remote control transmitter.
- Press the POWER button on the remote control transmitter.
- Press the POWER button on the television set.

5. Software Upgrading, Error code and Panel Code

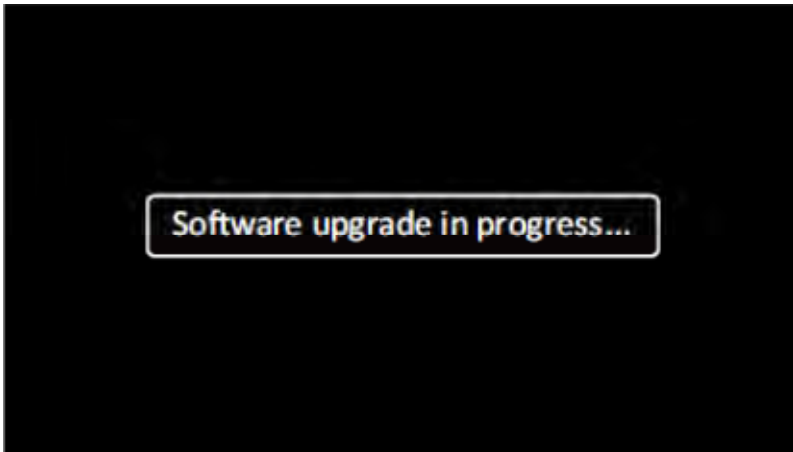
5.1 Software Upgrading

5.1.1. The following update is for .pkg file.

1. Rename the file to "upgrade_loader.pkg"
2. Prepare a USB memory.
3. Copy the software to USB flash disk(root directory).
4. Switch off the TV and Insert the USB memory stick that contains the software update files in one of the TV's USB 2.0 ports.

Note: It contains USB3.0 port, if connect on it, the software may can't be detected.

5. Switch on the TV. The TV will detect the USB memory s tick automatically. Then a window jumps out as below



6. When the TV software is updated, the TV will turn on again automatically. Remove your USB flash drive.

7. We can enter in CSM or Factory mode to check the current software version.

5.1.2. The following update is for .upg file.

Step 1: Ready for F/W Upgrade

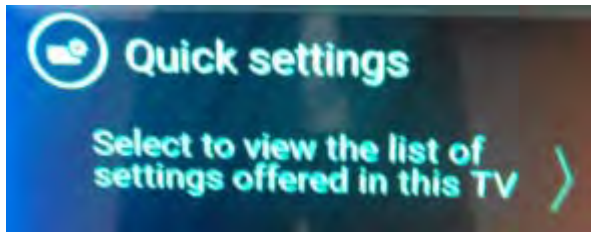
1. Rename the file to "autorun.upg"
2. Prepare a USB memory.
3. Copy the software to USB flash disk(root directory).
4. Switch on the TV and Insert the USB memory stick that contains the software update files in one of the TV's USB 2.0 ports

Note the version of this F/W before you change the software file name.

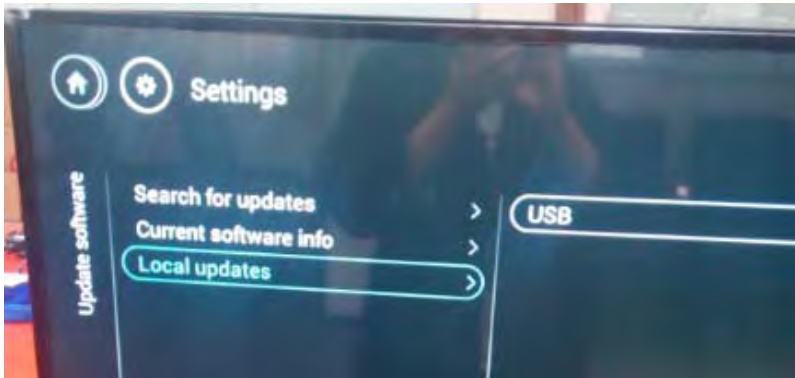


Step 2: F/W Upgrade

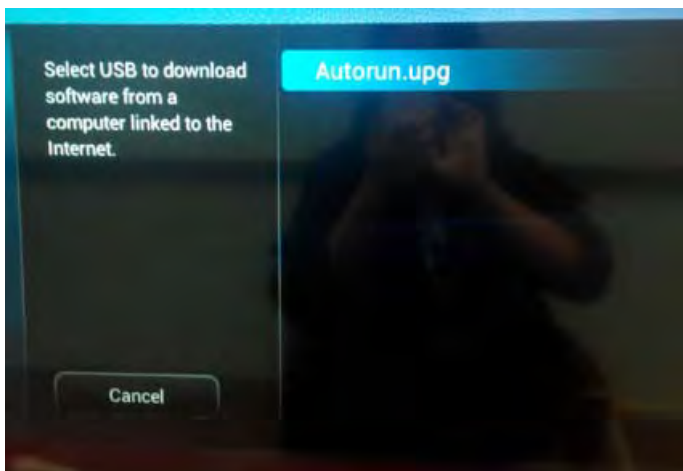
1. Press [Quick settings], then Choose [Update Software] in the Settings menu



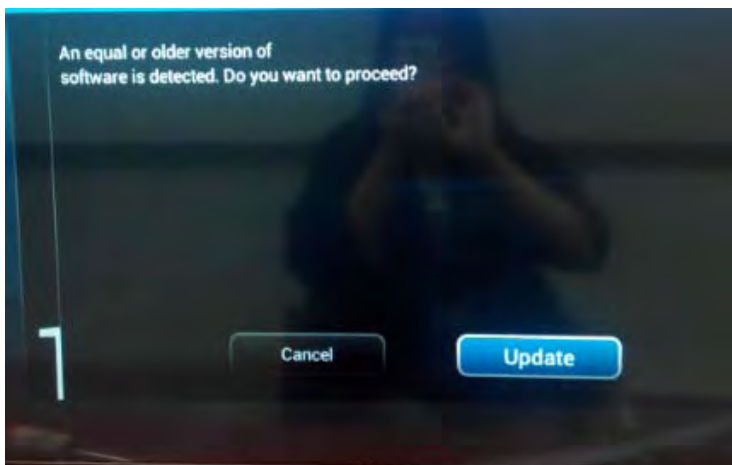
2. Choose [Local Updates], then press OK.

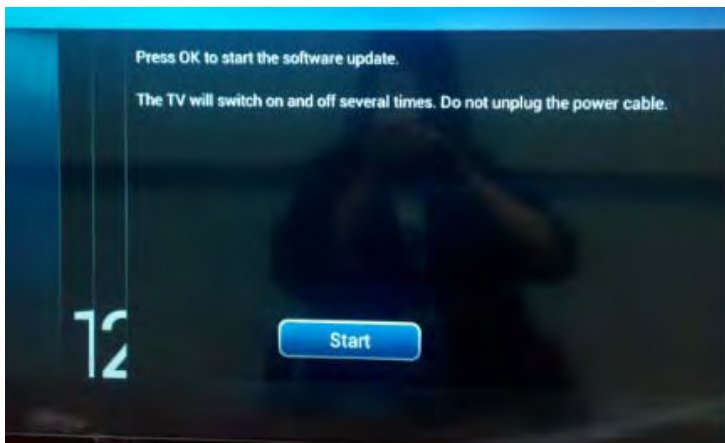


3. Select the file that you downloaded and press OK



4. Choose [Update], then choose [Start] on following step





5. Upgrade in progress



Step 3: Check the SW version

1. After burning software, TV will restart
2. Press "Menu+1999+back", enter Factory mode to check if the software version is correct

Caution: Please make sure that software upgrade is finished before unplug the USB and AC power!

5.2 Error Code

5.2.1 Introduction

Error codes are required to indicate failures in the TV set. In principle a unique error code is available for every:

- Activated (SW) protection.
- Failing I2C device.
- General I2C error.

The last five errors, stored in the NVM, are shown in the Service menu's. This is called the error buffer.

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

An error will be added to the buffer if this error differs from any error in the buffer. The last found error is displayed on the left.

An error with a designated error code never leads to a deadlock situation. It must always be diagnosable (e.g. error buffer via OSD or blinking LED).

In case a failure identified by an error code automatically results in other error codes (cause and effect), only the error code of the MAIN failure is displayed.

5.2.2 How to Read the Error Buffer

You can read the error buffer in three ways:

- On screen via the SAM/CSM (if you have a picture).

Example:

- **ERROR: 000 000 000 000 000:** No errors detected
- **ERROR: 013 000 000 000 000:** Error code 13 is the last and only detected error
- **ERROR: 034 013 000 000 000:** Error code 13 was detected first and error code 34 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture).

5.2.3 Error codes overview

In this chassis only “layer 2” error codes are available and point to problems on the SSB. They are triggered by LED blinking when CSM is activated. Only the following layer 2 errors are defined:

Description	LAYER 1 error	LAYER 2 error	Monitored	Error	I ² C address	EB: in error buffer	Device	Defective board
				Prot.		BL: Blinking LED		
I ² C BUSES								
DSP bus (00)	2	11	SOC	E	00	BL/EB	SSB	Audio DSP
AMP bus (01)	2	12	SOC	E	01	BL/EB	SSB	Audio DSP
SSB bus (0F)	2	13	SOC	E	0F	BL/EB	SSB	SSB
BE bus (3F)	2	14	SOC	E	3F	BL/EB	SSB	SSB
FE bus (2F)	2	17	SOC	E	2F	BL/EB	SSB	SSB
DISP bus (30)	2	18	SOC	E	30	BL/EB	SSB	Display
AMBI bus (31)	2	19	SOC	E	31	BL/EB	SSB	Proj AL
SOC doesn't boot (HW cause)	2	15	St-by μP	P	D4	BL	MT5593	SSB
Supply related								
12V	3	16	St-by μP	P		BL		Supply
SSB								
I2C switch (SSB bus)	9	24	SOC	E	E0	EB	PCA9540	Audio DSP
I2C switch (BE bus)	2	25	SOC	E	E0	EB	PCA9540	SSB
Channel dec	2	27	SOC	E	C8-CE	EB	Silab Si216x	SSB
Boston (HDMI2.2)	2	29	SOC	E	40	EB	SIL 9777	SSB
Lnb controler	2	31	SOC	E	10	EB	LNBH 25	SSB
Tuner	2	34	SOC	E	C0	EB	Si2151/AV 2019	SSB
Tuner S2	2	36	SOC	E		EB		
Class - D 3 (DSP bus)	9	35	SOC	E	D8	EB	TAS 5760 LD	Audio DSP
Audio DSP	9	36	SOC	E	70	EB		Audio DSP
Class-D 1	2/9	37	SOC	E	D8	EB	TAS5760LD	SSB/Audio DSP
DSP EEPROM	9	38	SOC	E	A0	EB	Durango	Audio DSP
Class - D 2	2/9	39	SOC	E	DA	EB	TAS 5760 LD	SSB/Audio DSP
T° sensor SSB	2	42	SOC	E	98	EB	LM 75	T° sensor
Light sensor	6	43	SOC	E	52	EB	TSL2571	SET
B&O signal board	4	44	SOC	E		EB		
HDD XFS repair	8	45	SOC	E		EB		
DSP doesn't boot (SW cause)	9	52	SOC	E	70	EB	MT5593	Audio DSP
SOC doesn't boot (SW cause)	2	53	St-by μP	P	D4	BL	MT5593	SSB
FRC	2	61	SOC	E	34	EB	NT72324/72333	SSB
ASIC	2	62	SOC	E	84	EB	ASIC	SSB
Display	5	63	SOC	E	34	EB	Innolux	Display

5.2.4 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:

- By using the CLEAR command in the SAM menu
- By using the CLEAR command in the Factory mode:
- By using the following key sequence on the remote control transmitter: **“062599”** directly followed by the **OK** button.

- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

Note: If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

5.3 Panel Code

Press the following key sequence on a standard RC transmitter: "062598" directly followed by MENU and "xxx", where "xxx" is a 3 digit decimal value of the panel type: see column "Display Code" in below tab. After resetting the Display Code, restart the set immediately.

CTN_ALT BOM#	Panel Type	Set option code
43PUS6162/05	TPT430U3-EQYSHM.G S1V	059
43PUS6162/05	TPT430U3-QVN03.U S0B0F	085
43PUS6262/05	TPT430U3-EQYSHM.G S1U	63
43PUS6262/05	TPT430U3-QVN03.U S0B0G	97
49PUS6262/05	TPT490U2-EQYSHM.G SC1U	64
49PUS6262/05	TPT490F2-FN02.S S703A	75
50PUS6162/05	TPT500U1-QVN03.U S5B0T	60
50PUS6262/05	TPT500U1-QVN03.U S5B0R	65
50PUS6262/05	TPT500U1-DJ6QE1.N ST4D	91
50PUS6272/05	TPT500U1-QVN03.U S5B0R	48
55PUS6162/05	TPT550U2-EQYSHM.G S1AD	61
55PUS6162/05	TPT550U2-D072.L S01L	74
55PUS6162/05	TPT550U2-EQYSKM.G S5N	94
55PUS6162/05	TPT550U2-EQYSKM.G S5G	98
55PUS6262/05	TPT550U2-EQYSHM.G S1AC	66
55PUS6262/05	TPT550U2-D072.L S01M	76
55PUS6262/05	TPT550U2-EQYSKM.G S5M	93
55PUS6262/05	TPT550U2-EQYSKM.G S5F	99
55PUS6272/05	TPT500U1-QVN03.U S5B0R	53
65PUS6162/05	TPT650UA-QVN06.U S300B	62
65PUS6162/05	TPT650U2-FN04.S SG01B	71
65PUS6262/05	TPT650UA-QVN06.U S300G	67

6. Circuit Descriptions

6.1 Introduction

The TPM17.9E LA is a new chassis launched in EU in 2017. The whole range is covered by MT5802VGEJ platform. The major deltas versus its predecessor support DVB-C; DVB-T/T2, with also USB3.0,WIFI/multi-media, Video out

The TPM17.9E LA chassis comes with the following stylings:

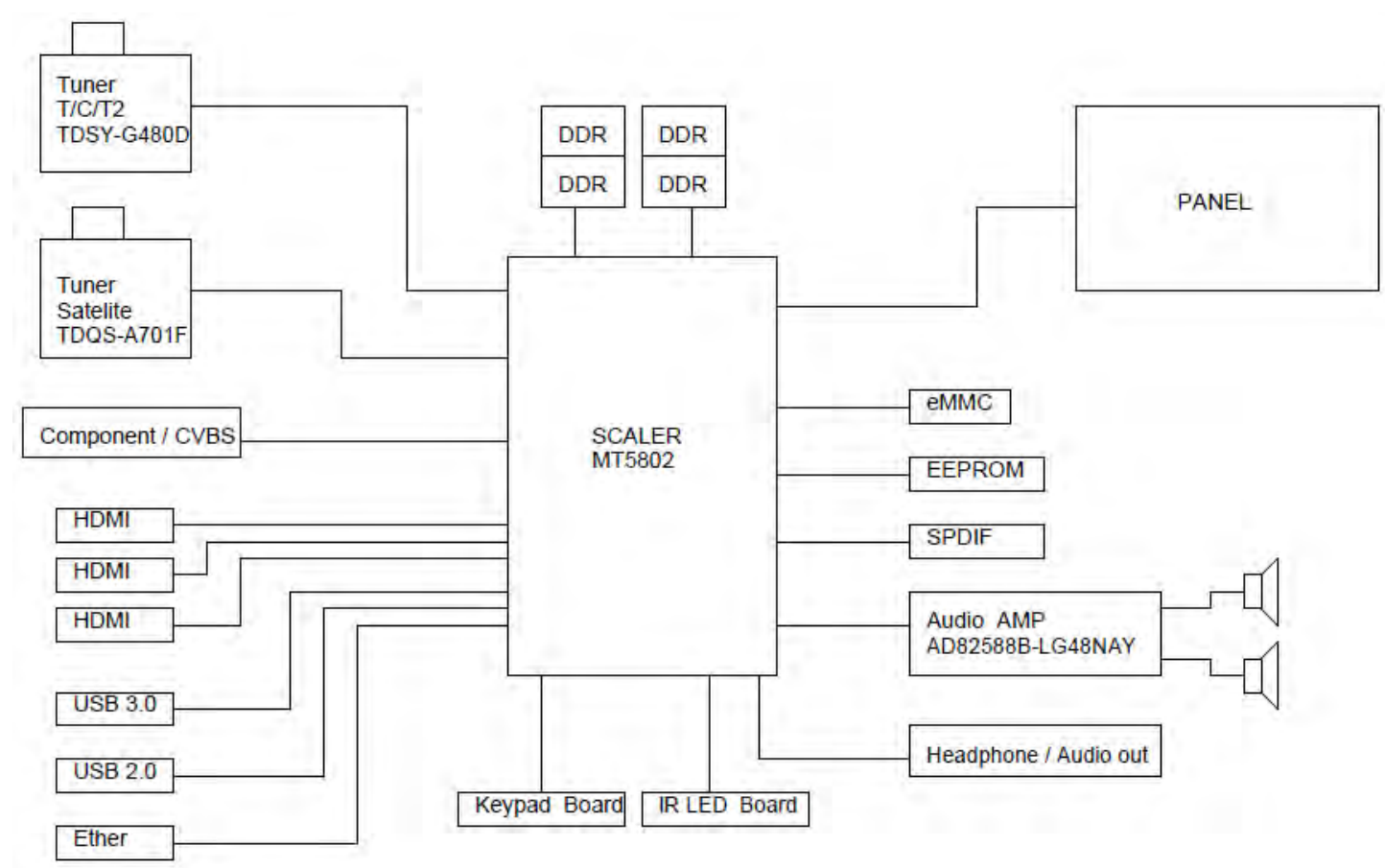
- series xxPUx6162/xx
- series xxPUx6262/xx
- series xxPUx6272/xx

6.1.1 Implementation

Key components of this chassis are:

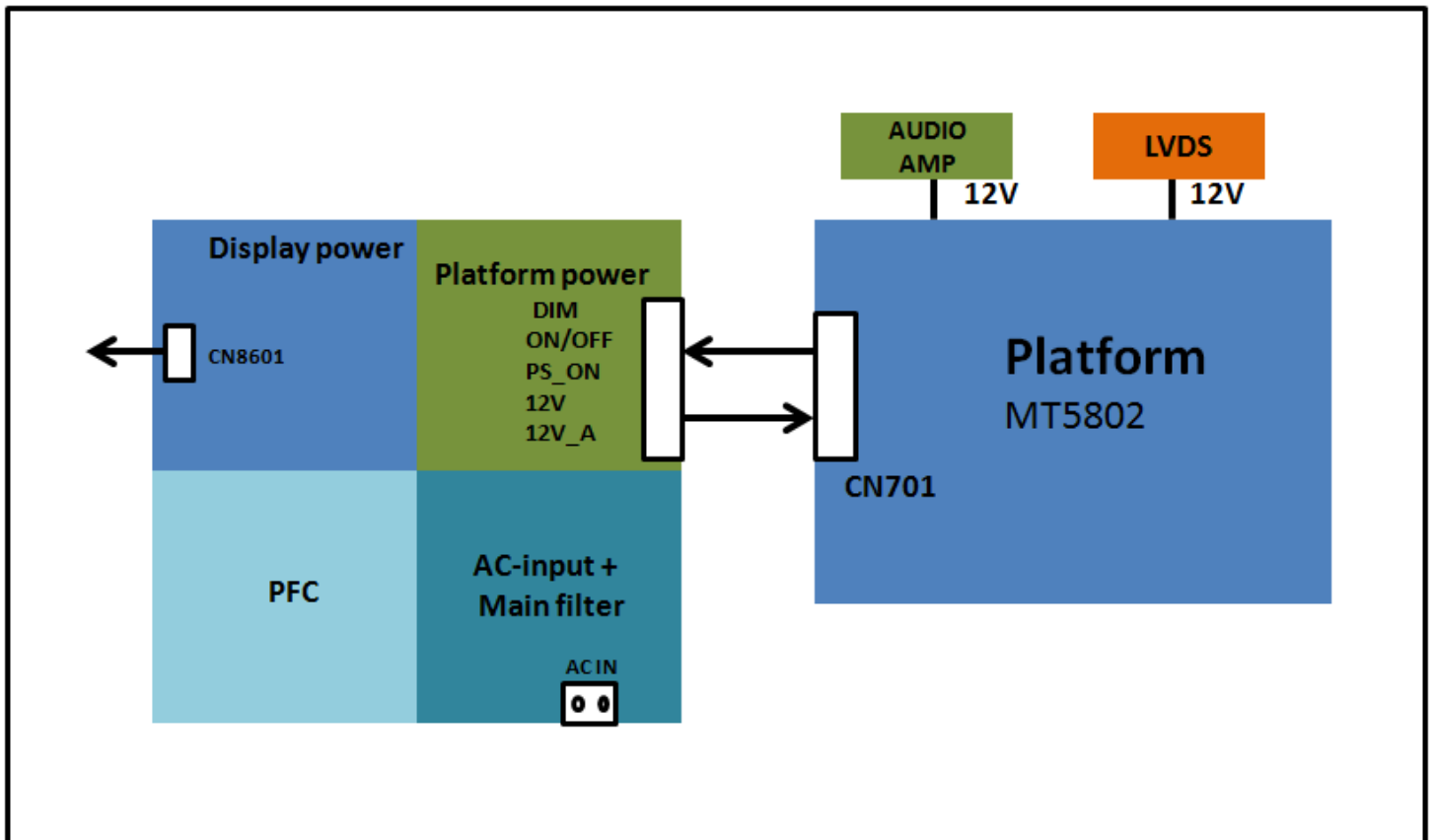
- SCALER MT5802VGEJ HSFBGA-802
- EMMC THGBMDG5D1LBAIT 4GB FBGA153
- EEPROM M24128-BRMN6TP 128k SOP-8
- AUDIO AD82588B-LG48NAY 2x15W stereo E-LQ
- TUNER EUROPE TDSY-G480D

6.1.2 Block diagram



6.2 Power Supply

Power architecture of this platform.



6.2.1 Power Supply Unit

All power supplies are a black box for Service. When defective, a new board must be ordered and the defective one must be returned, unless the main fuse of the board is broken. Always replace a defective fuse with one with the correct specifications! This part is available in the regular market.

Consult the Philips Service web portal for the order codes of the boards.

Important delta's with the platform are:

- New power architecture for LED backlight
- "Boost"-signal is now a PWM-signal + continuous variable

The control signals are:

- PS-ON
- Lamp "on/off"
- DIM (PWM) (not for PSDL)

In this manual, no detailed information is available because of design protection issues.

- +12 output (on-mode)
- +12V_audio (audio AMP power)
- Output to the display; in case of
 - IPB: High voltage to the LCD panel
 - PSL and PSLs (LED-driver outputs)
 - PSDL (high frequent) AC-current.

6.2.2 Diversity

The diversity in power supply units is mainly determined by the diversity in displays.

The following displays can be distinguished:

- CCFL/EEFL backlight: power panel is conventional IPB
- LED backlight:
 - side-view LED without scanning: PSL power panel

- side-view LED with scanning: PSLs power panel
- direct-view LED without 2D-dimming: PSL power panel
- direct-view LED with 2D-dimming: PSDL power panel.

PSL stands for **P**ower **S**upply with integrated LED-drivers.

PSLS stands for a **P**ower **S**upply with integrated LED-drivers with added **S**canning functionality (added microcontroller).

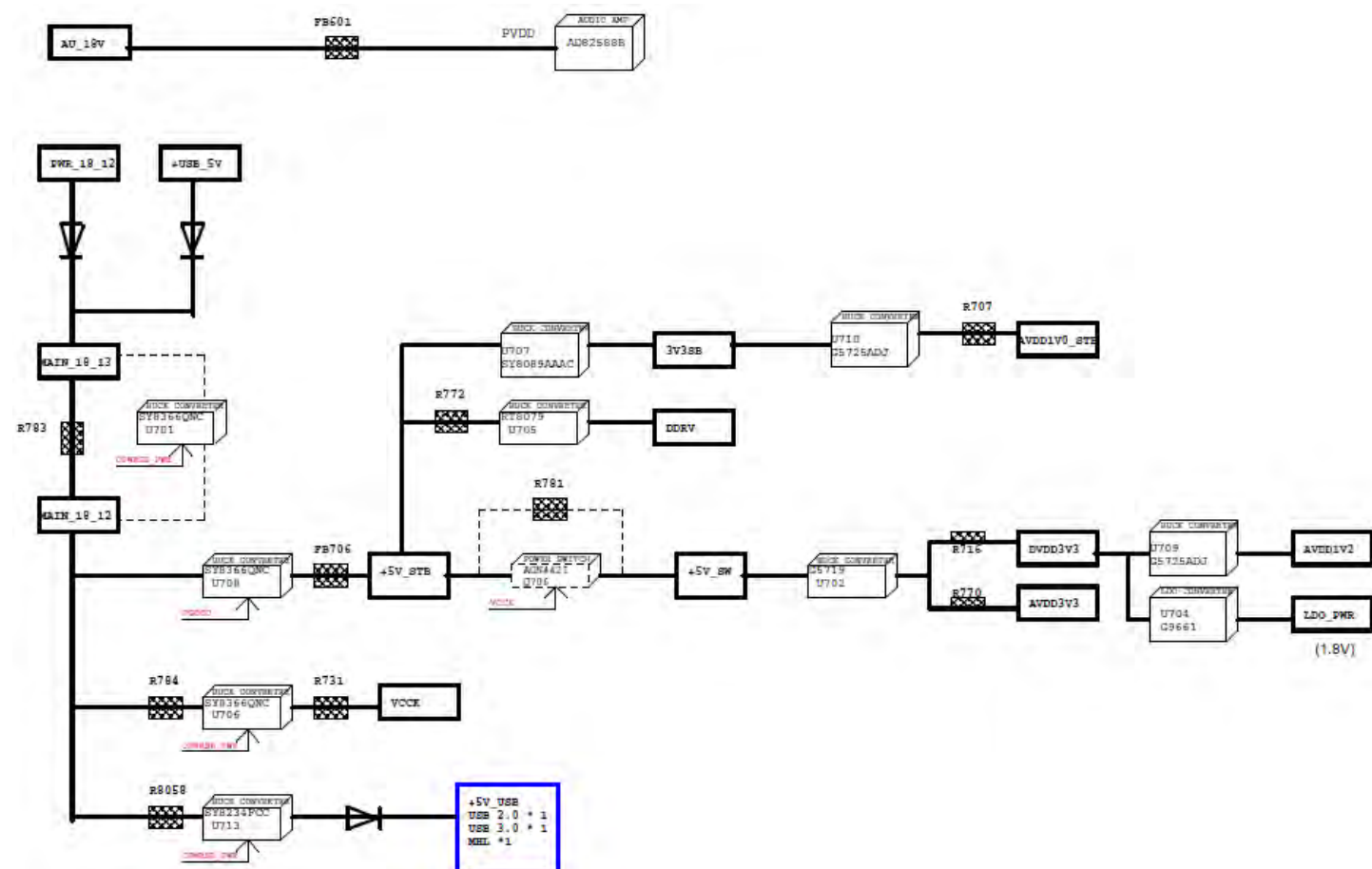
PSDL stands for a **P**ower **S**upply for **D**irect-view LED backlight with 2D-dimming.

6.3 DC/DC Converters

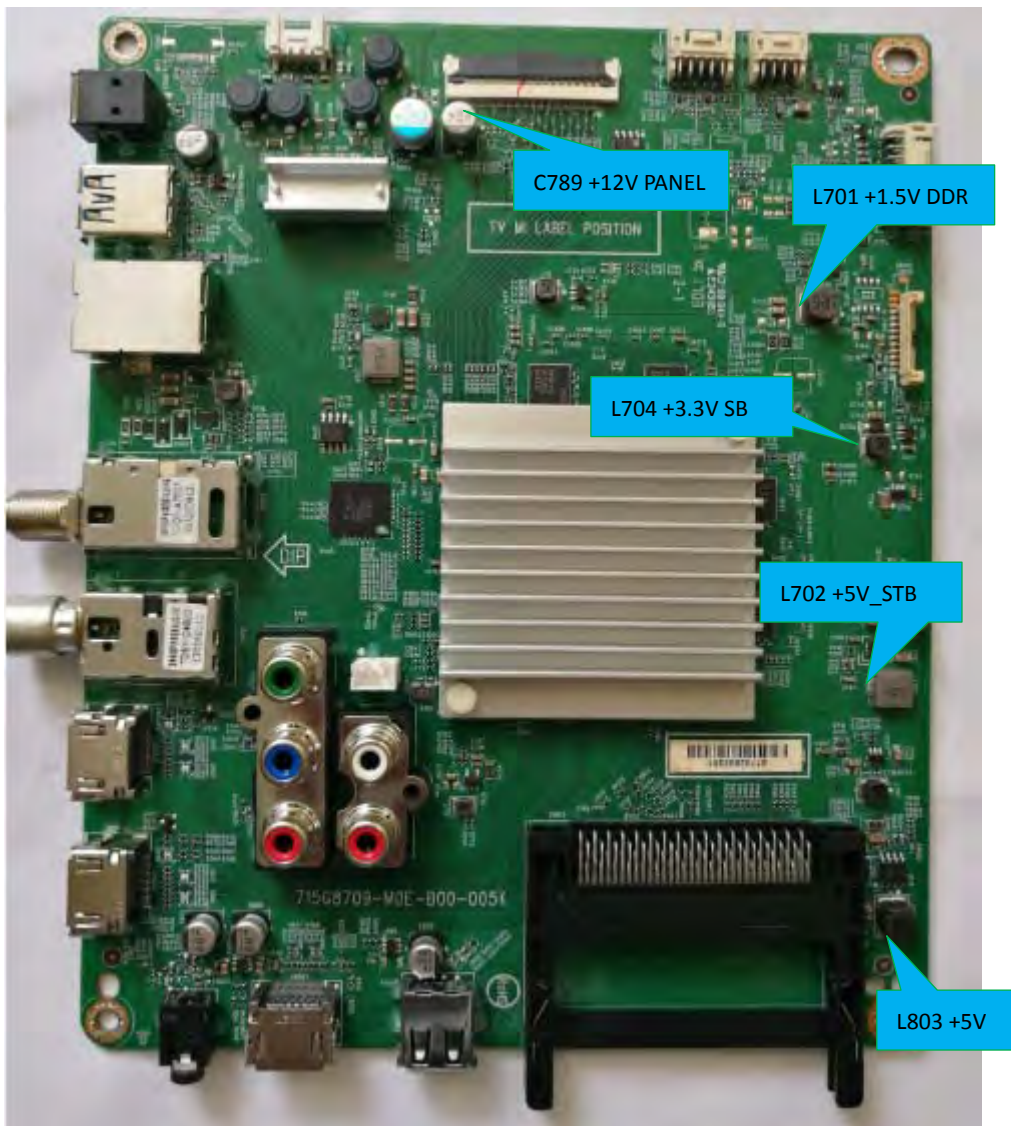
The on-board DC/DC converters deliver the following voltages(depending on set execution):

- +5V-STB, permanent voltage for the Stand-by Power system and WIFI
- +3V3-SB, voltage for IR/Key board
- +12V, input from the power supply for the panel common(active mode)
- +12V, input from the power supply for LNB supply
- +1V8-EMMC, +V-EMMC-IO, voltage for EMMC when TV on
- +1V5-DDR, +VREF-A2-DQ,, +VREF-A2-CA, voltage for DDR
- TUNER_3V3, supply voltage for tuner
- +5V-SW, input intermediate supply voltage for USB Power
- +12V-AUDIO1 for the AUDIO AMP
- +5V-WIFI, voltage for WIFI

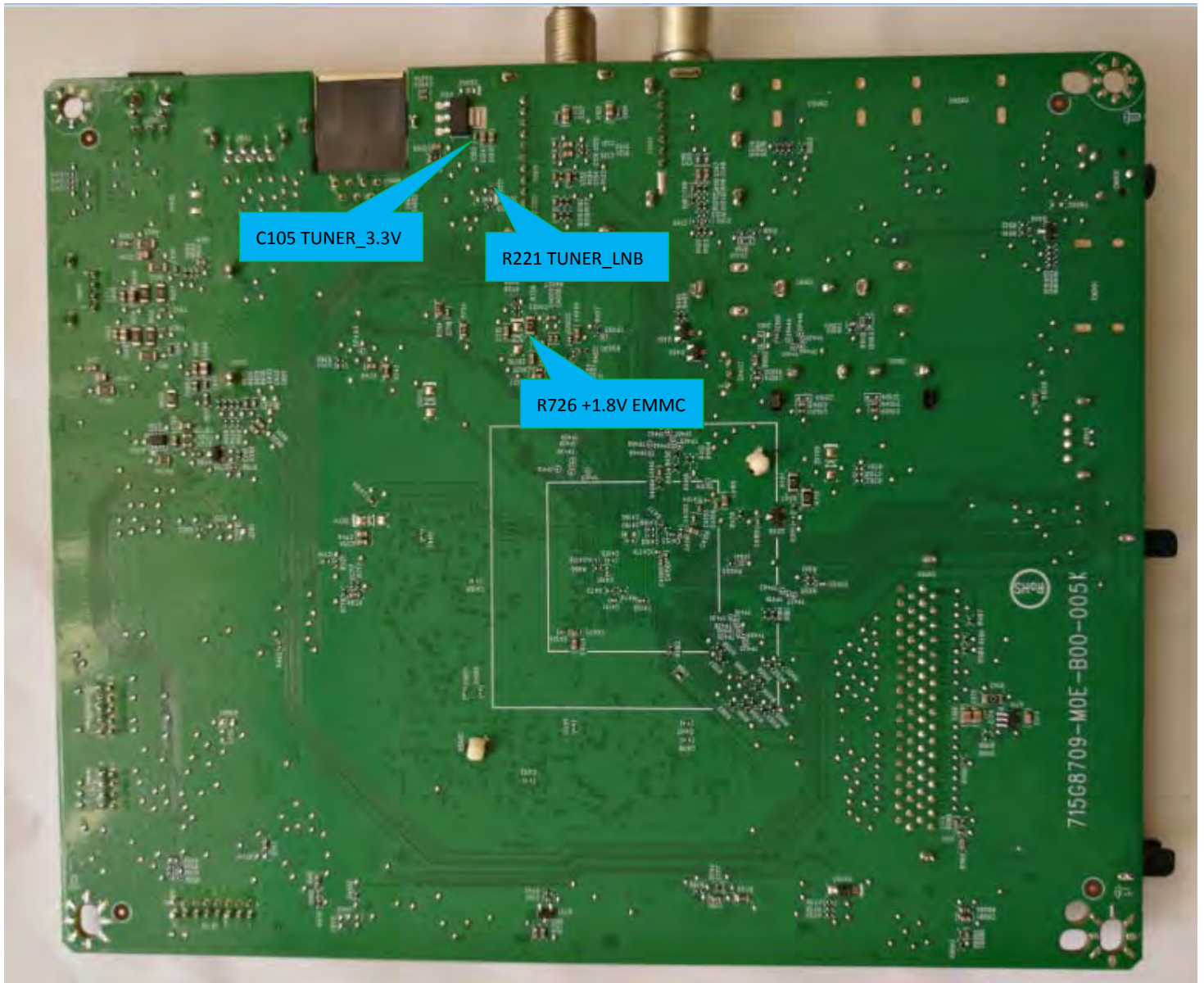
6.3.1 Power tree



6.3.2 Power layout SSB



Power SSB Top View



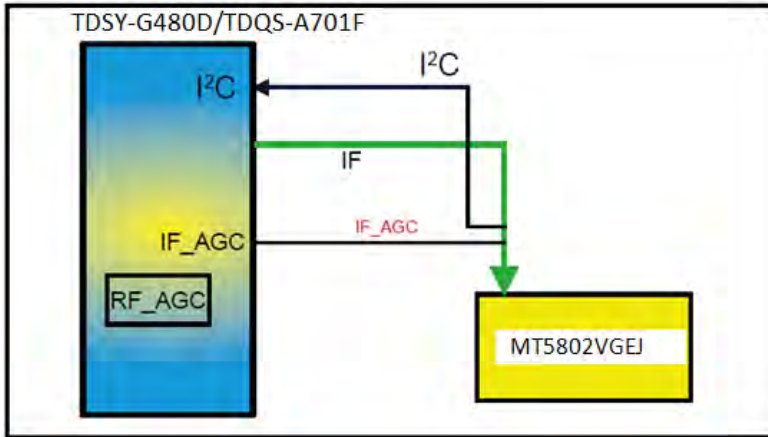
Power SSB Bottom View

6.4 Front-End Analogue and DVB-T/T2, DVB-C reception

The Front-End for analogue tuner consist of the following key components:

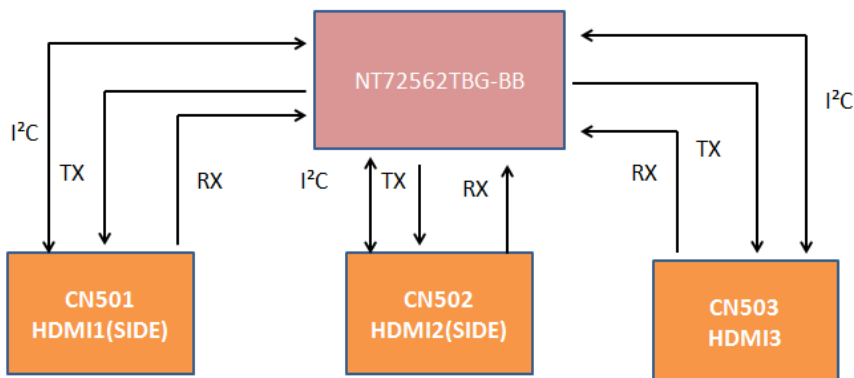
- TUNER EUROPE TDSY-G480D
- TUNER EUROPE TDQS-A701F
- SCALER MT5802VGEJ HSFPGA-802

Below find a block diagram of the front-end application.



6.5 HDMI

Refer to below for the application.



The following HDMI connector can be used:

- HDMI 1: HDMI input (TV digital interface support HDMI2.0) with digital audio/PC DVI input /MHL
- HDMI 2: HDMI input (TV digital interface support HDMI2.0/HDCP2.2) with digital audio/PC DVI input
- HDMI 3: HDMI input (TV digital interface support HDMI1.4) with digital audio/PC DVI input/ARC
- +5V detection mechanism
- Stable clock detection mechanism
- MHL function only for HDMI1
- Audio return channel(ARC)
- TMDS output control
- HPD control
- CEC control

6.6 Video and Audio Processing - MT5802VGEJ

The MT5802VGEJ is the main audio and video processor (or System-on-Chip) for this platform. It has the following features:

- Worldwide multi-standard analog TV demodulator
- DVB-T/DVB-T2/DVB-S/DVB-S2/DVB-S2X/DVB-C/DVB-C2 demodulators
- UHD@60Hz direct drive
- Powerful CPU core
- 3D graphic support OpenGL ES 1.1/2.0
- A transport de-multiplexer
- A multi-standard video decoder (including VP9)
- Rich format audio codec
- H.264 encoder
- HDMI 2.0 receiver with 3D support
- MHL 2.0 & Standby Charging
- 2D/3D converter
- Ethernet MAC+PHY
- ME/MC Engine
- Local dimming (LED backlight)
- Two-link LVDS, V-by-one

The MediaTek MT5802VGEJ family consists of a DTV front-end demodulator, a backend decoder and a TV controller and offers high integration for advanced applications. It integrates a transport de-multiplexer, a high definition video decoder, an audio decoder, a two-link LVDS transmitter, a V-by-One transmitter, and a NTSC/PAL/SECAM TV decoder with a 3D comb filter (NTSC/PAL). The MT5802VGEJ enables consumer electronics manufacturers to build high quality, low cost and feature-rich DTV.

World-Leading Audio/Video Technology: The MT5802VGEJ supports Full-HD MPEG1/2/4/H.264/DivX/VC1/RM/AVS/VP6/VP8 and UHD H.264/AVC, H.265/HEVC, VP9 video decoder standards, and JPEG. The MT5802VGEJ also supports MediaTek MDDiTM de-interlace solution which can reach very smooth picture quality for motions. A 3D comb filter added to the TV decoder recovers great details for still pictures. The special color processing technology provides a natural, deep colors and true studio quality video. Moreover, the MT5802VGEJ family has built-in high resolution and high-quality audio codec.

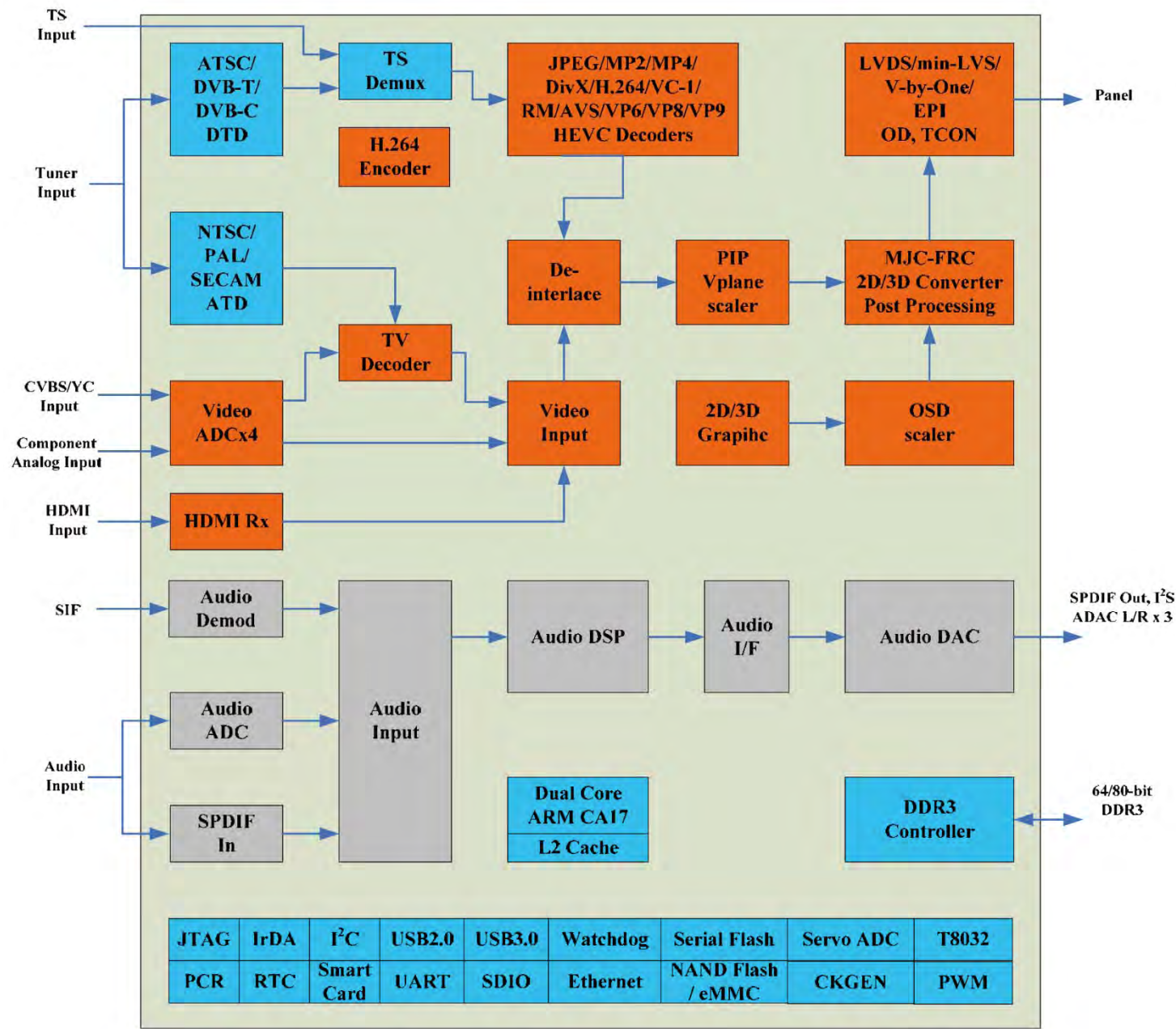
Rich Features for High Value Products: The MT5802VGEJ family enables true single-chip experience. It integrates high-quality HDMI2.0, two-link LVDS, V-by-One, USB2.0/3.0 receiver, Ethernet MAC+PHY, Quad core CPU and 512K bytes L2 cache, OpenGL ES 1.1/2.0, OpenVG 1.1, DirectX DX11 compliant 3D graphic engine, and DVB-T/DVB-T2/DVB-S/DVB-S2/DVB-S2X/DVB-C/DVB-C2 demodulators.

All New UHD@60Hz Experience: The MT5802VGEJ family provides consumers with UHD 60Hz direct drive. And Supports ME/MC Frame rate conversion with data rate 3840x2160p@30Hz up to 3840x2160p@60Hz or 3840x2160p@24Hz up to 3840x2160p@48Hz.

WW Common Platform Capability: The MT5802VGEJ family supports DVB-T, DVB-T2, DVB-S, DVB-S2, DVB-S2X, DVB-C, DVB-C2 demodulation functions. It reserves transport stream inputs for external demodulators for other countries or areas. TV maker can easily port the same UI to worldwide TV models. First-class adjacent and co-channel rejection capability grants excellent reception. Professional error-concealment provides stable, smooth and mosaic-free video quality.

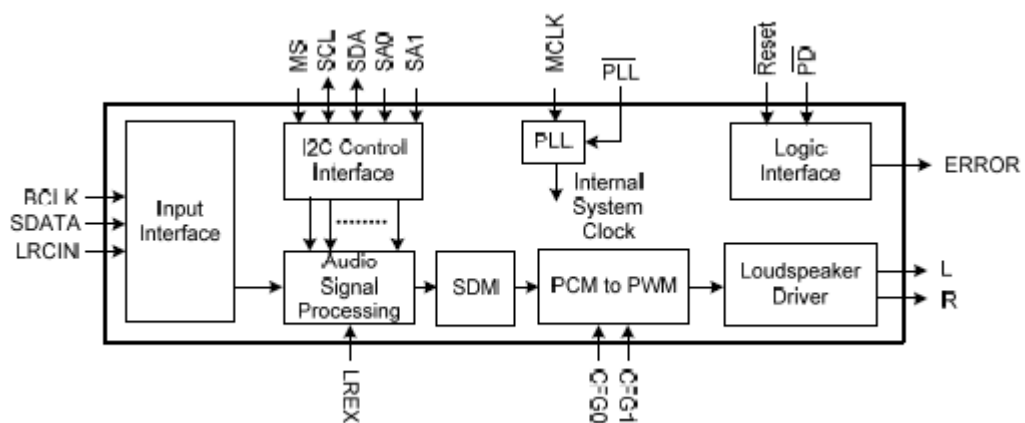
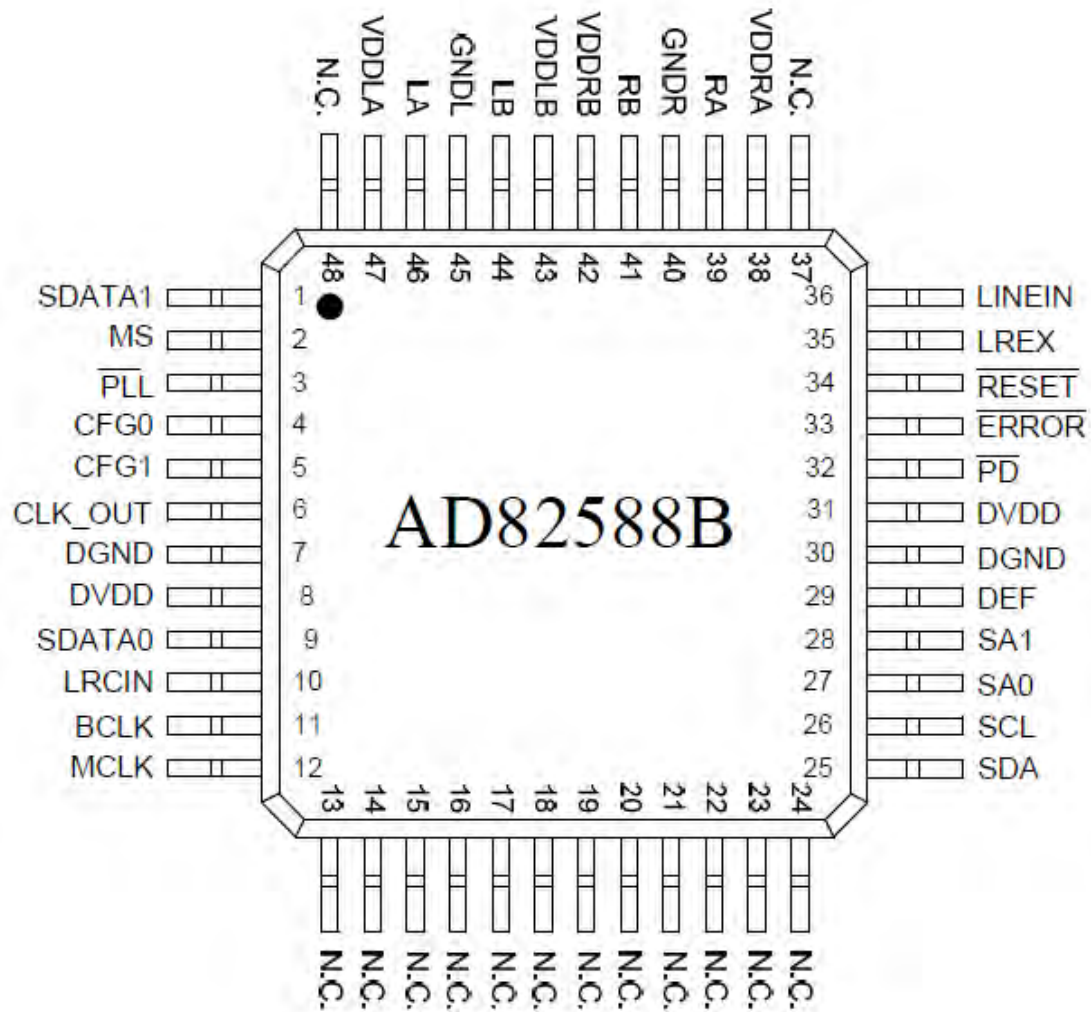
7. IC Data Sheets

7.1 MT5802VGEJ (IC U401)

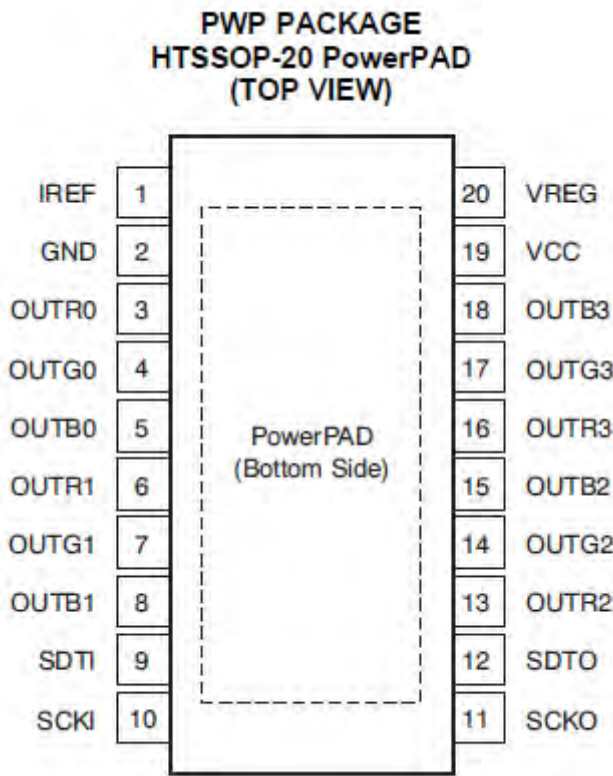
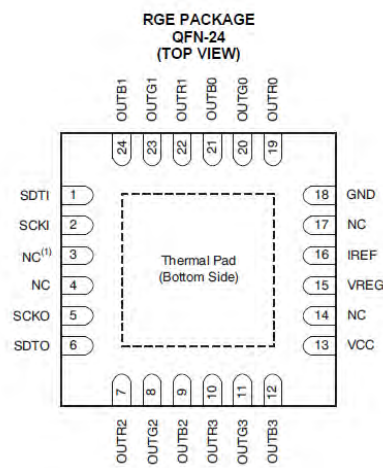


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
A	NC_A1	CI_A5	CI_A8	CI_A7	CI_A2					CLMD1	CLMD0																												
B	CI_A2	CI_A4	GPIO4	CLMD7	CLMD8	CLMD9	CLMD10	CLMD11	CLMD12	CLMD13	CLMD14	CLMD15	CLMD16	CLMD17	CLMD18	CLMD19	CLMD20	CLMD21	CLMD22	CLMD23	CLMD24	CLMD25	CLMD26	CLMD27	CLMD28	CLMD29	CLMD30	CLMD31	CLMD32	CLMD33	CLMD34	CLMD35	CLMD36	CLMD37	CLMD38	CLMD39	CLMD40	CLMD41	CLMD42
C	SD_A0	CI_A1	CI_A3	CI_A6	CI_A9	CI_A10	CI_A11	CI_A12	CI_A13	CI_A14	CI_A15	CI_A16	CI_A17	CI_A18	CI_A19	CI_A20	CI_A21	CI_A22	CI_A23	CI_A24	CI_A25	CI_A26	CI_A27	CI_A28	CI_A29	CI_A30	CI_A31	CI_A32	CI_A33	CI_A34	CI_A35	CI_A36	CI_A37	CI_A38	CI_A39	CI_A40	CI_A41	CI_A42	CI_A43
D	SD_D0	SD_CM	D	GPIO4	CLMD2	CLMD1	GPIO6			GPIO6	VCC3V3_SD	CLMD4	CLMD5	CLMD6	CLMD7	CLMD8	CLMD9	CLMD10	CLMD11	CLMD12	CLMD13	CLMD14	CLMD15	CLMD16	CLMD17	CLMD18	CLMD19	CLMD20	CLMD21	CLMD22	CLMD23	CLMD24	CLMD25	CLMD26	CLMD27	CLMD28	CLMD29	CLMD30	CLMD31
E	SD_D2	SD_D1		GPIO4	CLMD1	CLMD0				GPIO6	GPIO2	GPIO1	CL_A8	CL_A9	CL_D5	CL_D7	CL_D4																						
F	VCC3V3_A	SD_D3	SD_CLK	GPIO4	GPIO4					CLD0	DVSS							CLD3	PVR_T3_SYNC	08DA2																			
G	AVSS1_DR			CRTP	CRTN	DVSS																																	
H	DDRVR_EF_C1	CRDQ4	CRDQ5		CRA13	CRRESE_T#	CRA7	CRA9																															
J			CRDQ2	DVSS	CRA3	CRA2	DVSS																																
K	CRDQ1	CRDQ0	CRDQ9		CRA2	DVSS	CRA2	CRA6	DVSS	DDRVR																													
L	CRDQ1	CRDQ5			CRDQ5	CRDQ5	CRDQ5	CRDQ5	DVSS	DDRVR																													
M																																							
N	CRDQ1	CRDQ9																																					
P	CRDQ1	CRDQ9	CRDQ2	CRDQ3	CRDQ4	CRDQ5	CRDQ6	CRDQ7	CRDQ8	CRDQ9	CRDQ10	CRDQ11	CRDQ12	CRDQ13	CRDQ14	CRDQ15	CRDQ16	CRDQ17	CRDQ18	CRDQ19	CRDQ20	CRDQ21	CRDQ22	CRDQ23	CRDQ24	CRDQ25	CRDQ26	CRDQ27	CRDQ28	CRDQ29	CRDQ30	CRDQ31	CRDQ32	CRDQ33	CRDQ34	CRDQ35	CRDQ36		
R	CRDQ1	CRDQ10	CRDQ12	CRDQ13	CRDQ14	CRDQ15	CRDQ16	CRDQ17	CRDQ18	CRDQ19	CRDQ20	CRDQ21	CRDQ22	CRDQ23	CRDQ24	CRDQ25	CRDQ26	CRDQ27	CRDQ28	CRDQ29	CRDQ30	CRDQ31	CRDQ32	CRDQ33	CRDQ34	CRDQ35													
T	CRDQ1	DVSS	CRA1																																				
U	CRDQ7	CRDQ3	DVSS	CRA4	CRA1	CRA11	CRA14	CRA8	CRA5	DDRVR																													
V	DDRVR_EF_A1		CRDQ5																																				
W	ARDQ4	ARDQ4	DVSS																																				
Y	ARDQ2	ARDQ10	ARDQ11	ARCLK#	CLMD1	DVSS																																	
AA																																							
AB	ARDQ15	ARDQ13	ARDQ9	ARCLK#	ARDQ5	ARDQ7	ARDQ5	DDRVR																															
AC	ARDQ3	ARDQ3	DVSS																																				
AD	ARDQ5		DVSS																																				
AE		ARDQ9		ARBA1	ARA0																																		
AF	ARDQ8	ARDQ12	ARDQ14	ARA9	DVSS	ARA12	ARA2	DVSS	DVSS	MEMT#																													
AG	ARDQ15	ARDQ3	DVSS	ARA4	ARA1	ARA5	DVSS																																
AH		ARDQ7	ARDQ5	ARA5	DVSS																																		
AI	ARDQ2	DDRVR_EF_A2																																					
AK	ARDQ15	ARDQ16	ARDQ2	CRRESE_T#	ARA13	ARA11	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR			
AL		ARDQ3	ARDQ2		DVSS	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR		
AM	ARDQ3	ARDQ3	ARDQ4	ARDQ4	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR		
AN	ARDQ3	ARDQ3	ARDQ4	ARDQ4	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR		
AP	ARDQ3	ARDQ3	ARDQ2	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR	DDRVR		
AR	ARDQ2	ARDQ3	ARDQ3	BRDQ1																																			
AT	ARDQ2	ARDQ7	BRDQ4	BRDQ4	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5	BRDQ5			
AU	ARDQ1	ARDQ1	BRDQ2	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0	BRDQ0		
AV	NC_A1	DDRVR_EF_B1	BRDQ6																																				

7.2 AD82588B-LG48NAY (IC U601)



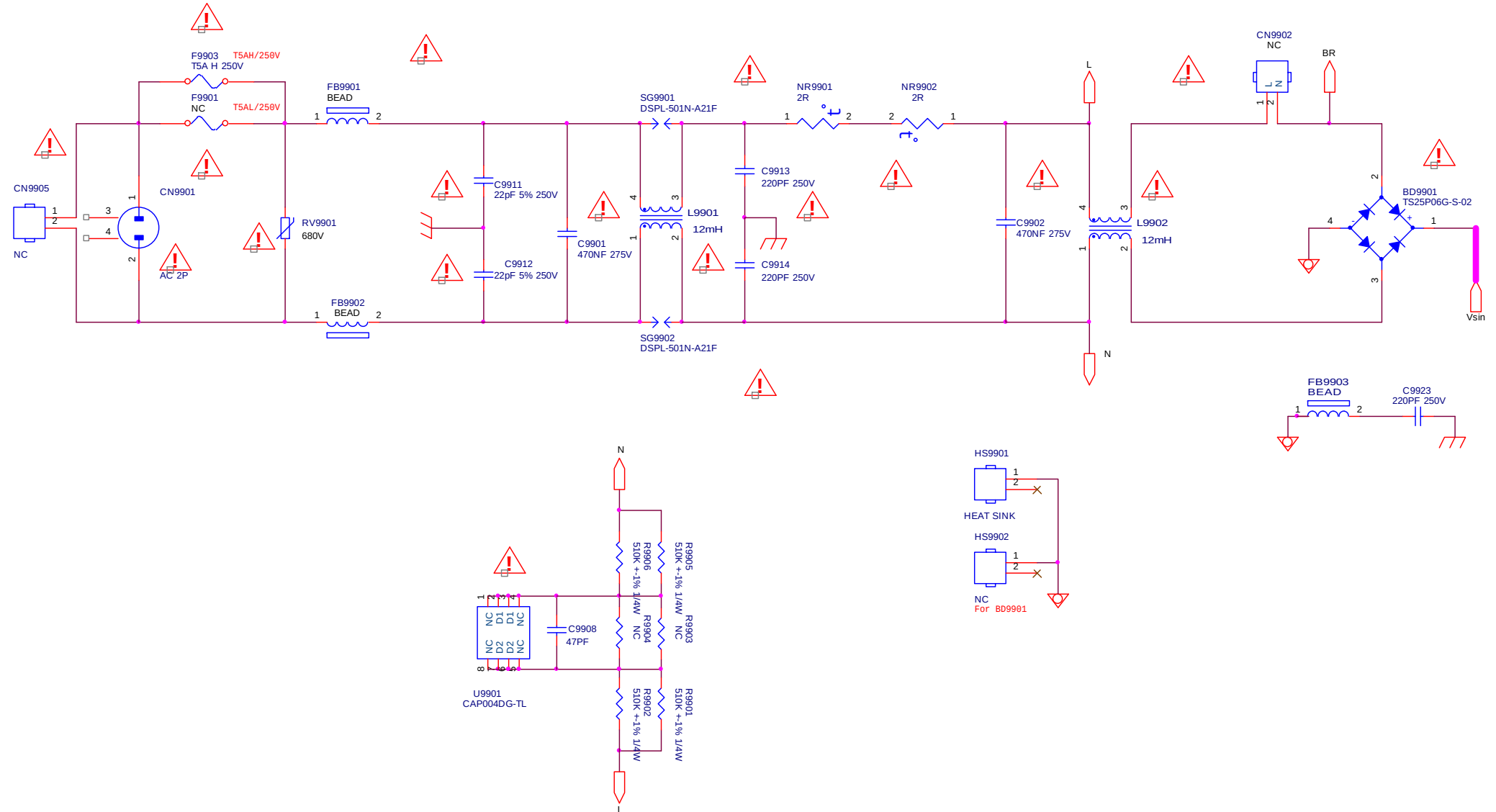
7.3 TLC5971RGER (IC U002)



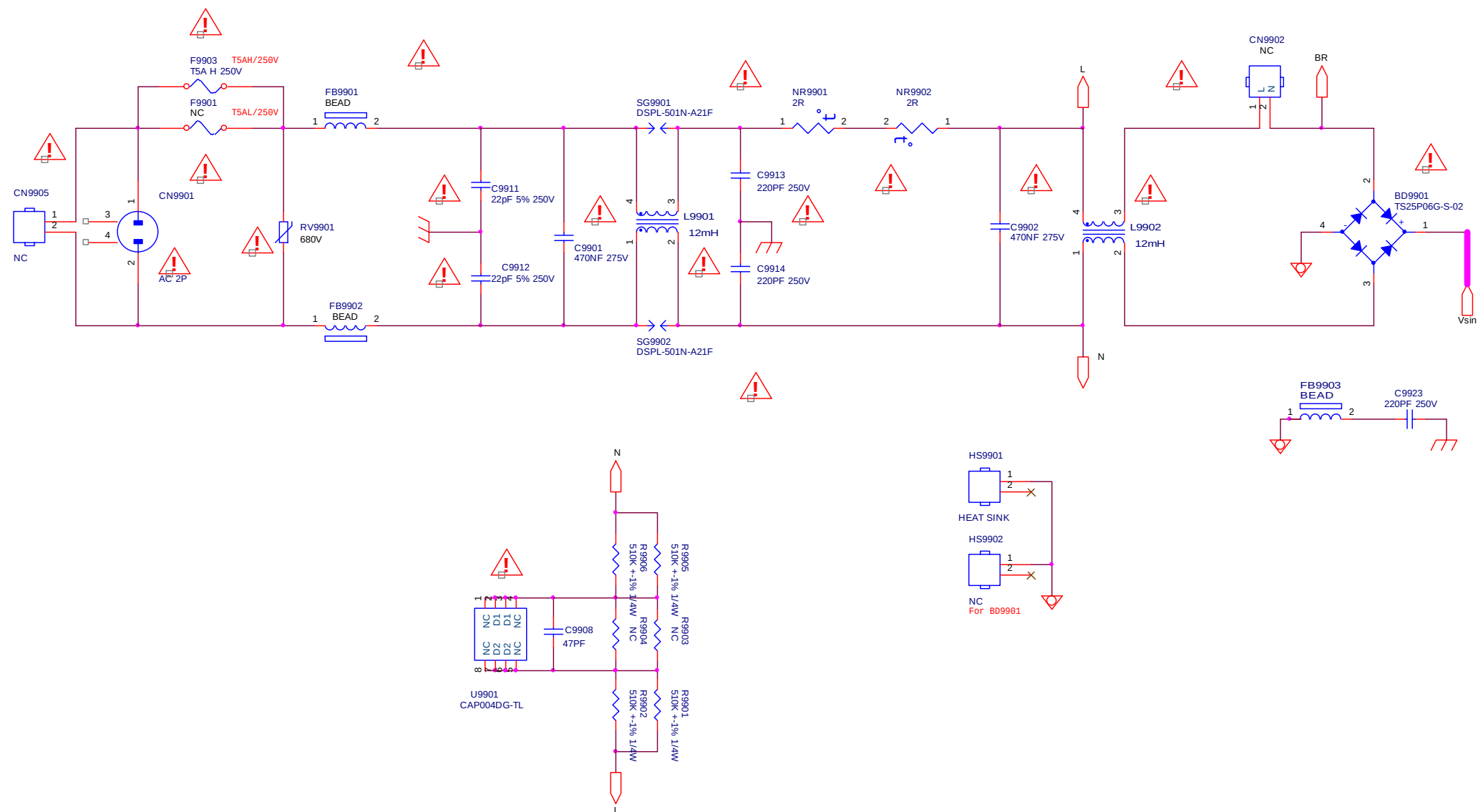
8.Circuit Diagrams

8.1 A 715G8620 PSU(For 43" 6162/6262 Series)

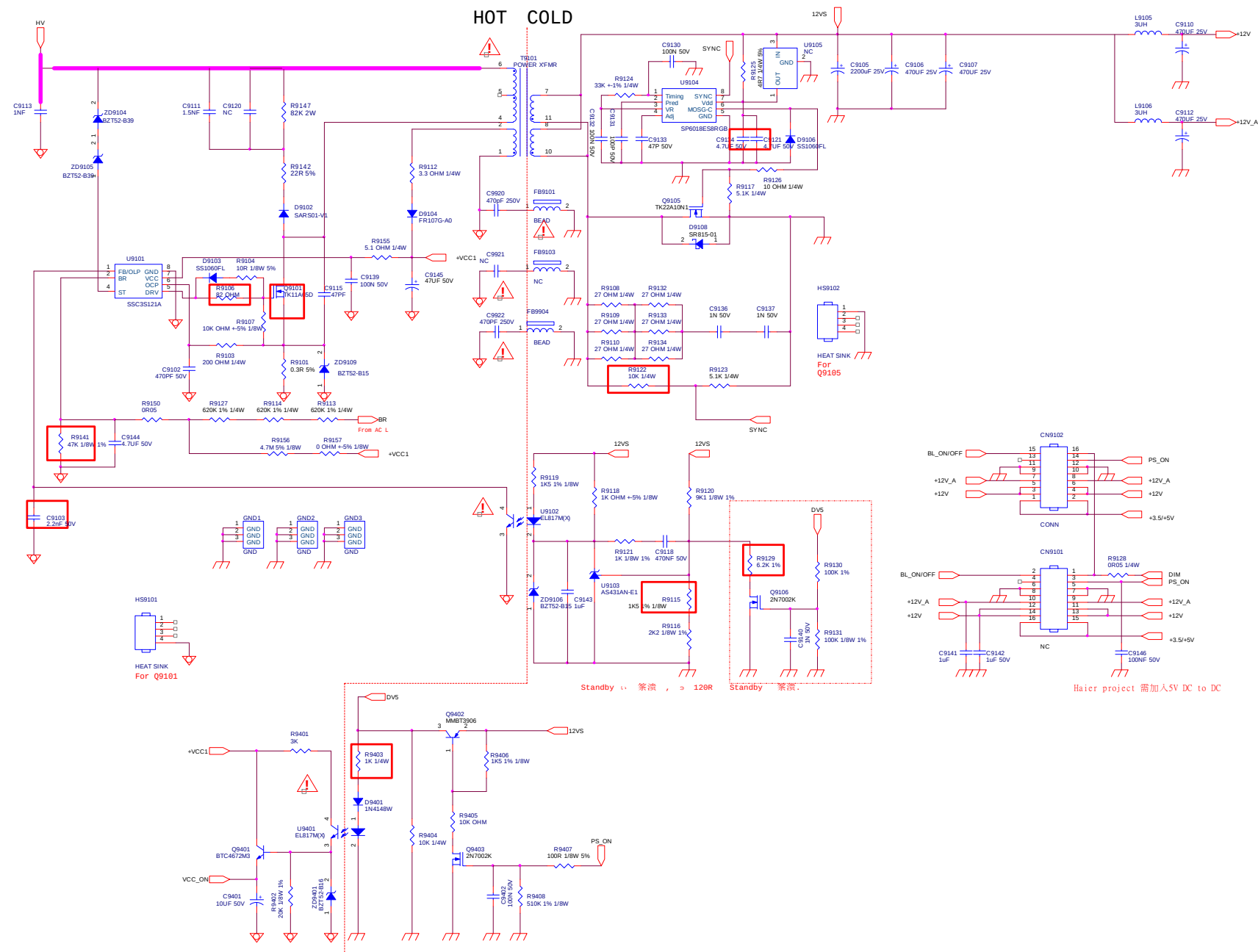
8-1-1 AC Input



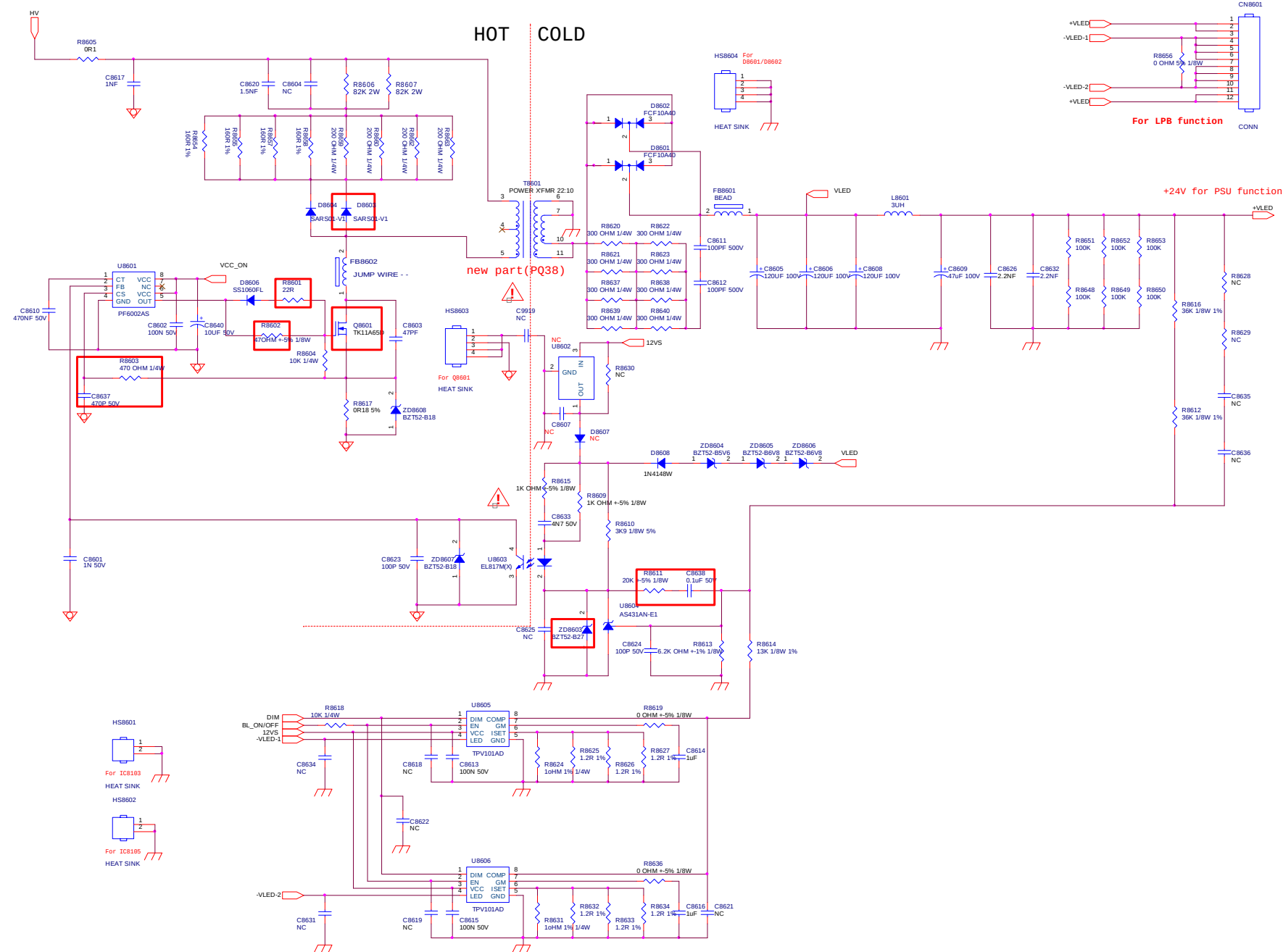
8-1-2 PFC



8-1-3 Main power

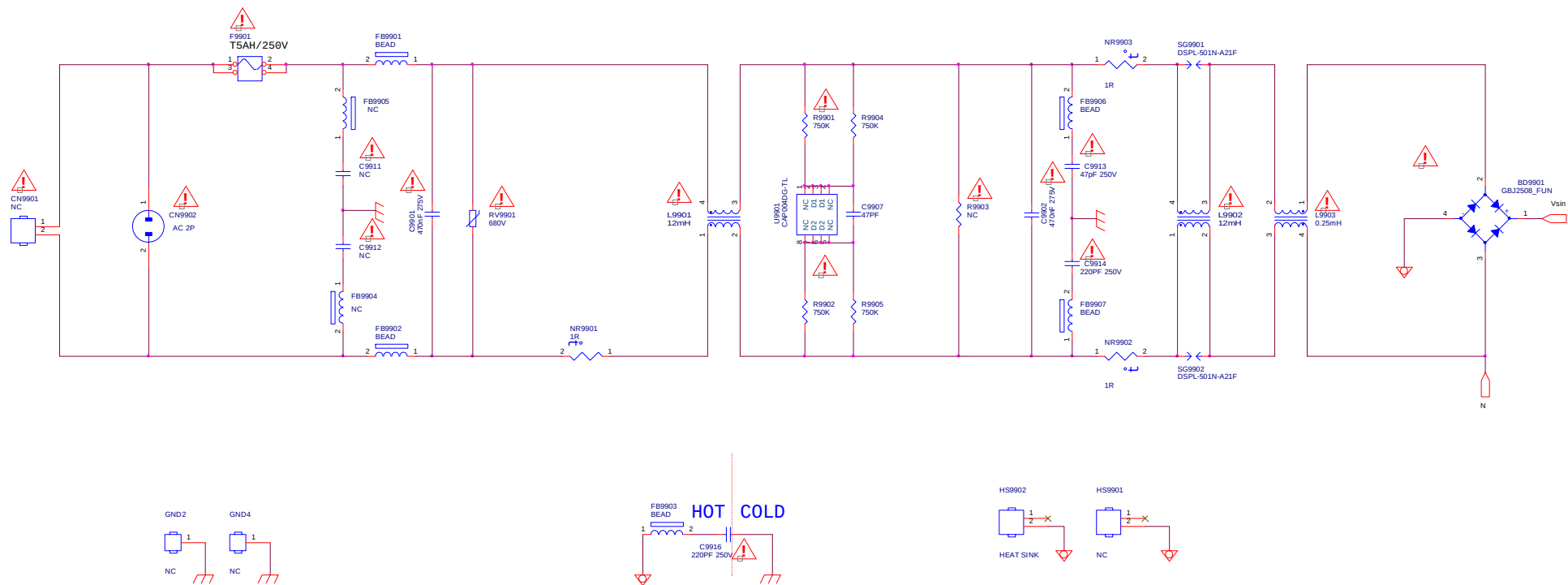


8-1-4 LED Driver

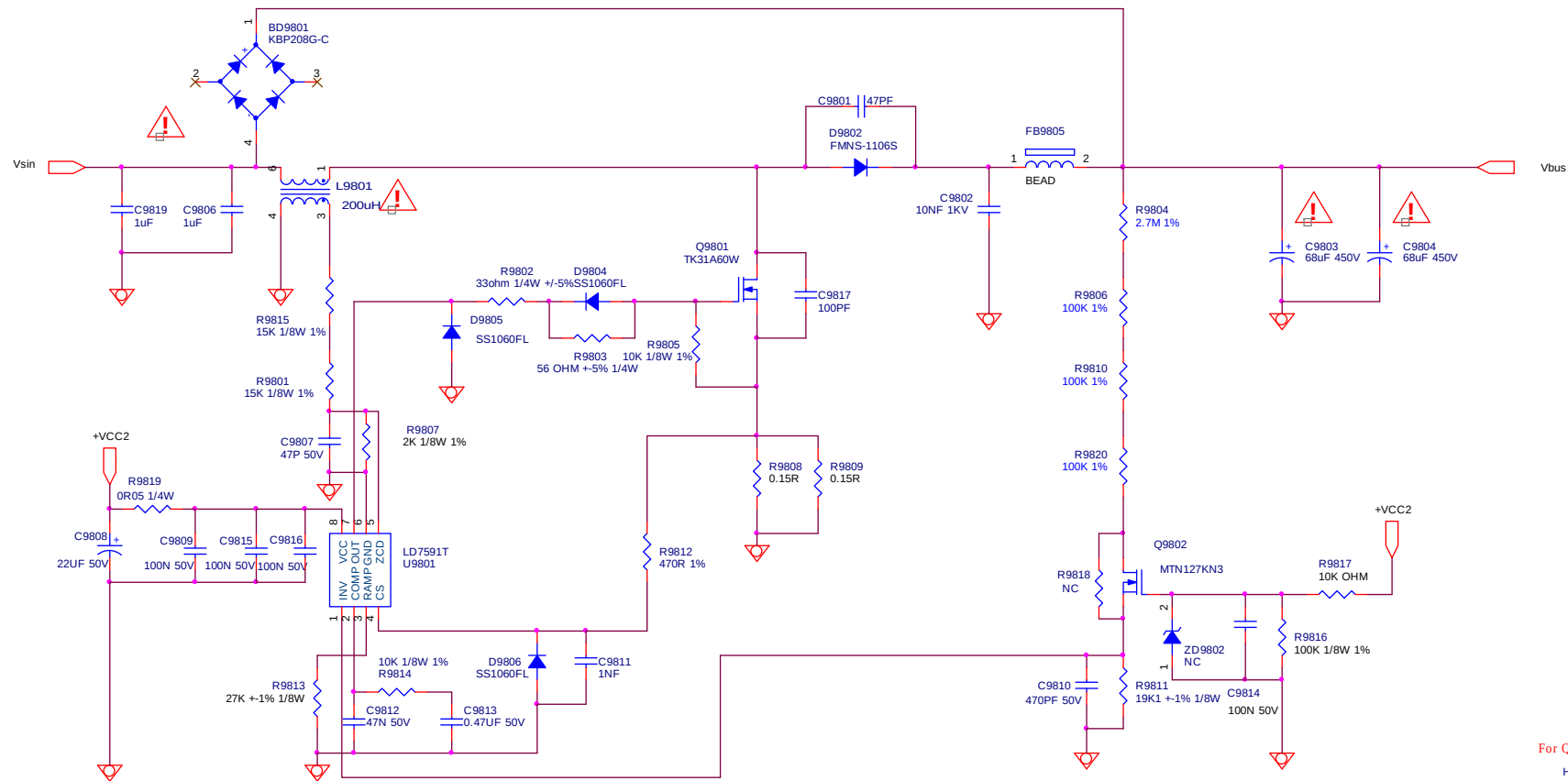


8.2 A 715G8672 PSU(For 49"/ 55 " 6162 / 6262/6272 Series)

8-2-1 AC Input

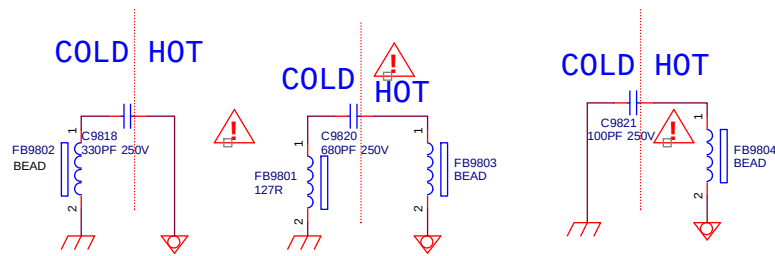
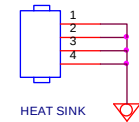


8-2-2 PFC LD7591T

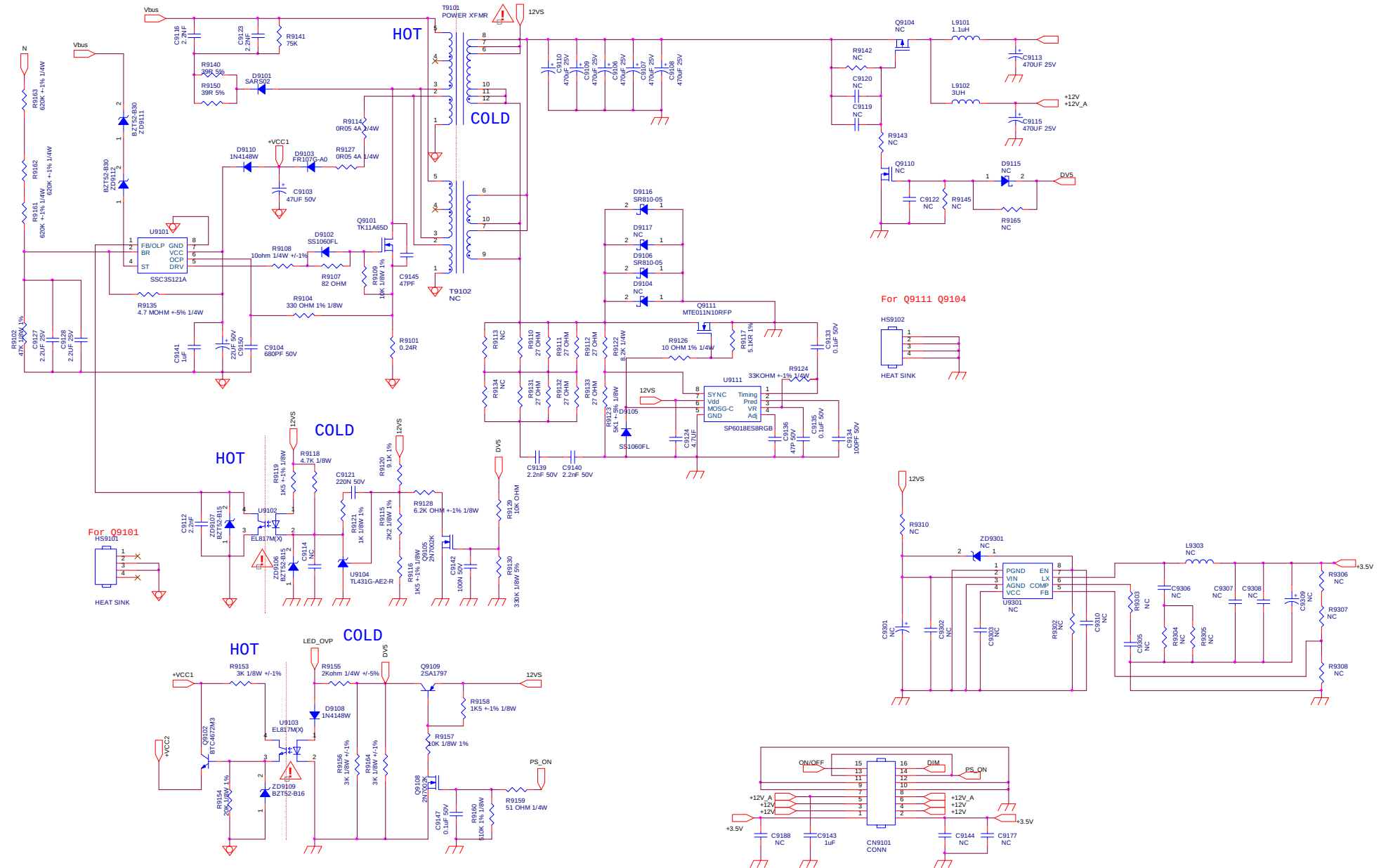


For Q9801/D9802

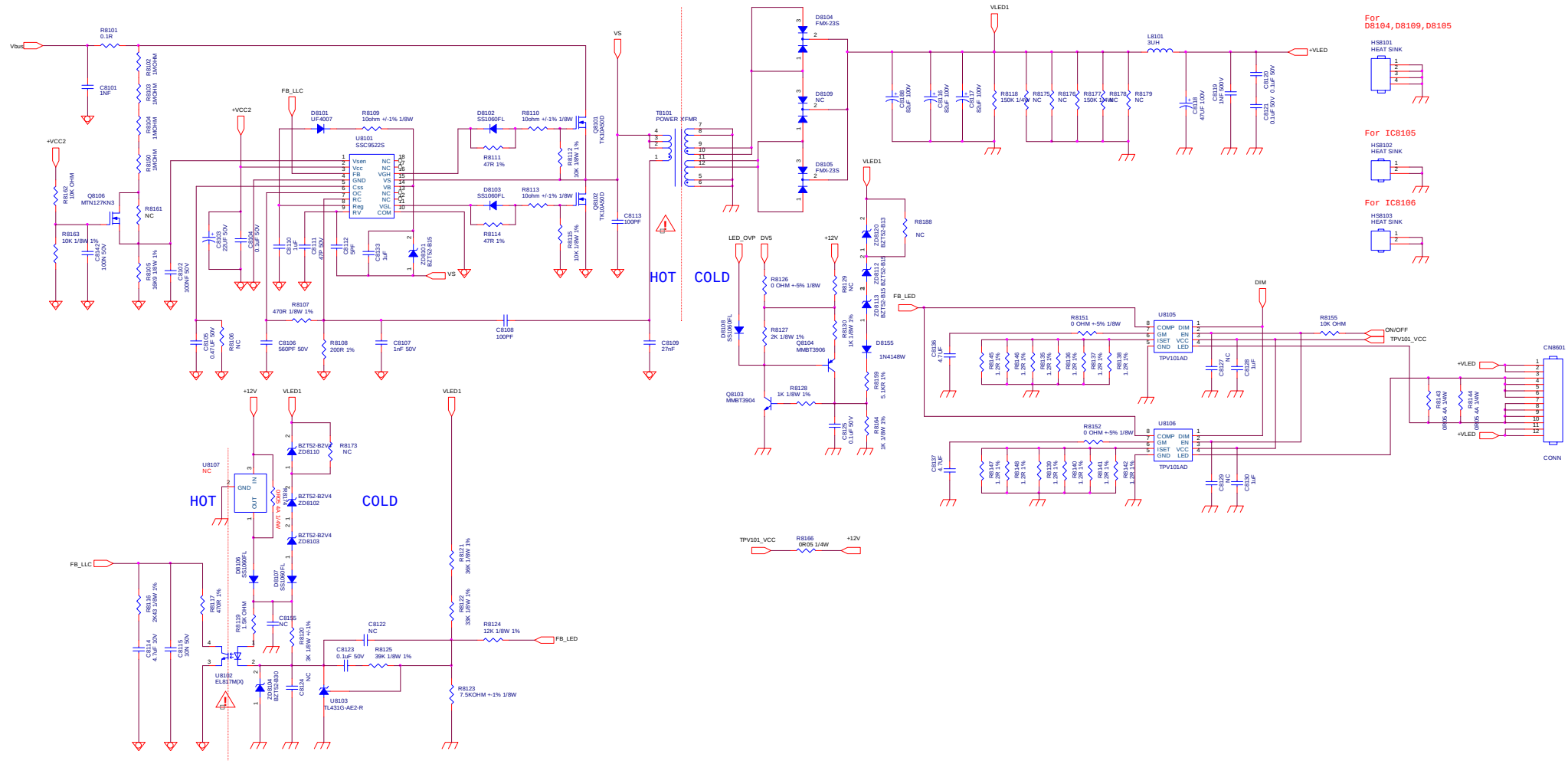
HS9801



8-2-3 Main power SSC3S121A



8-2-4 LED Driver SSC9522S



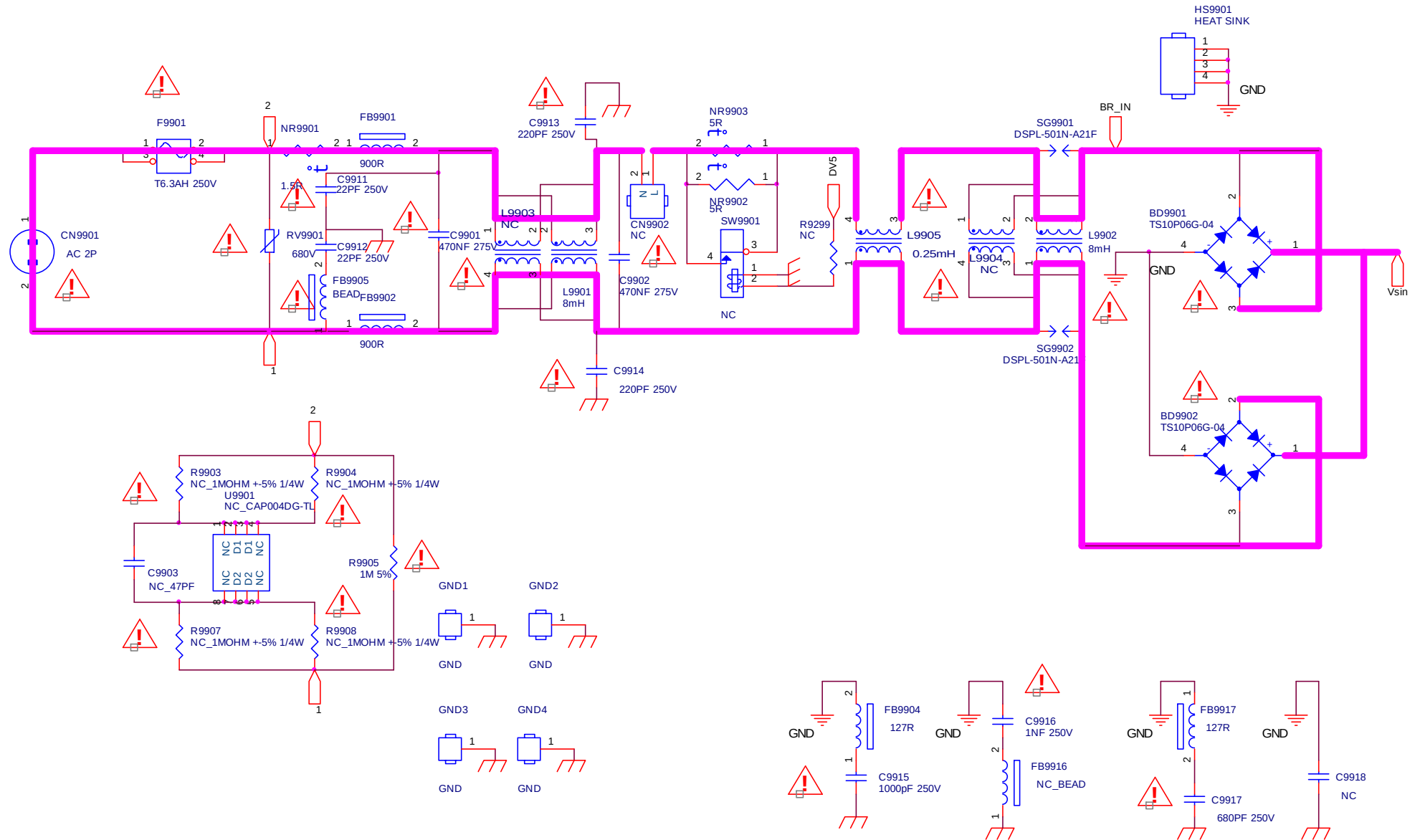
For D8104, D8109, D8105

For IC8105

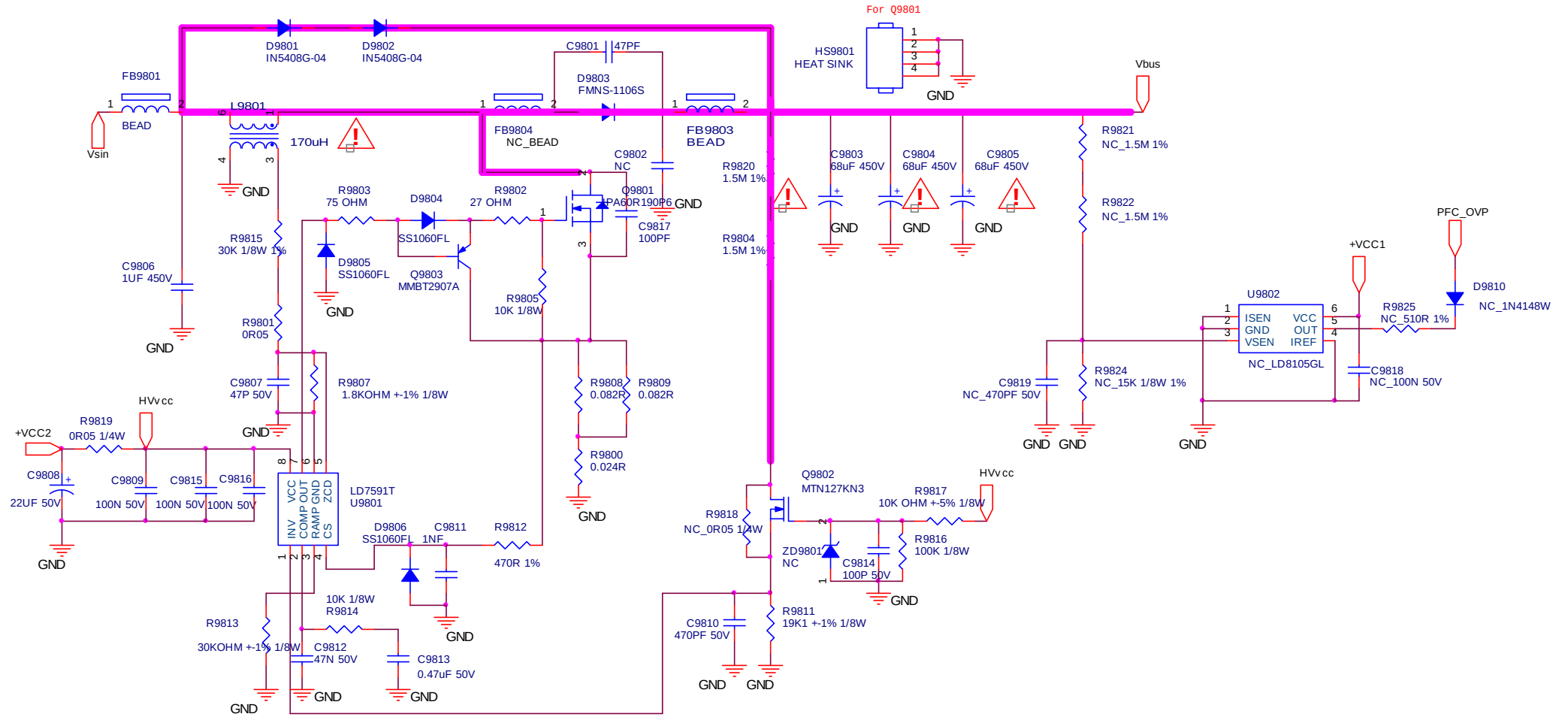
For IC8106

8.3 A 715G8682 PSU(For 65" 6162/6262 Series)

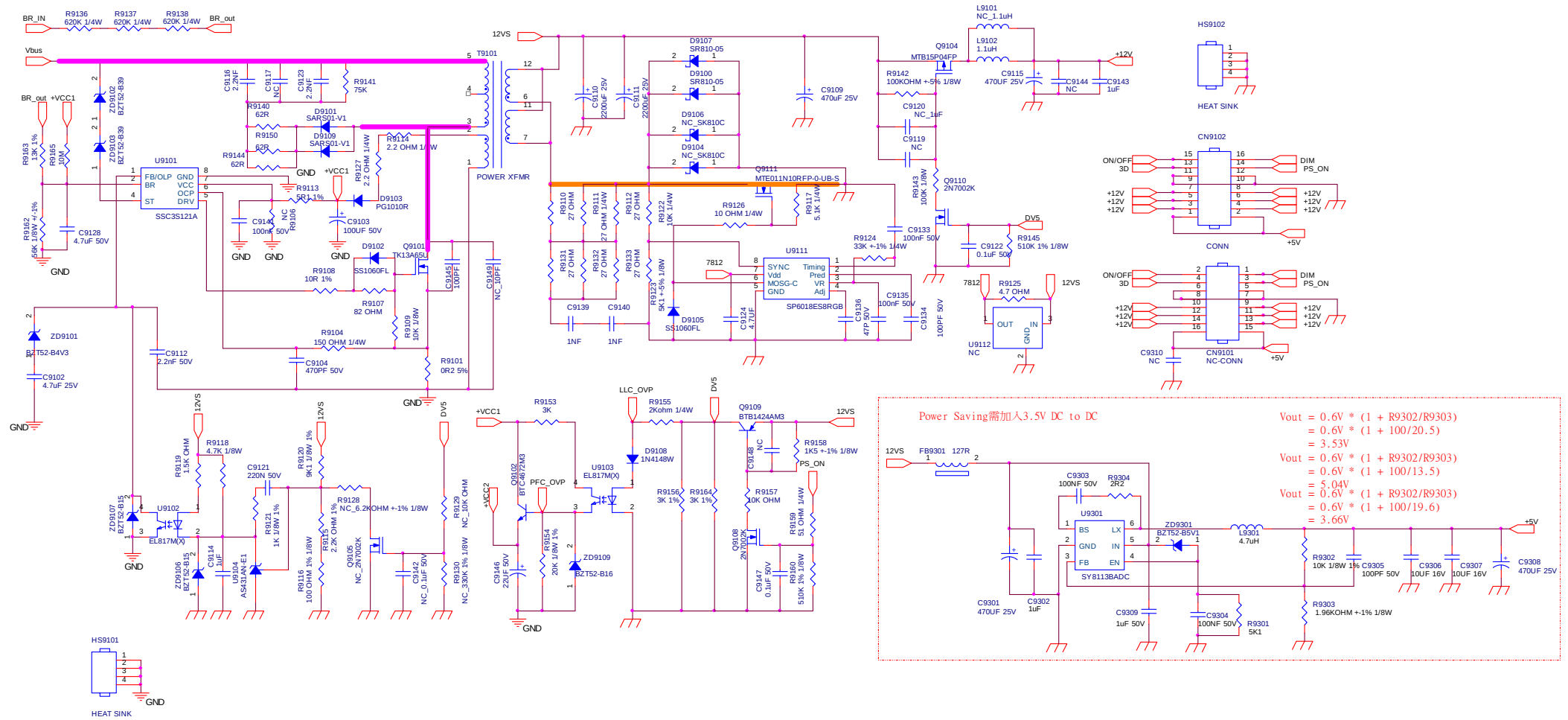
8-3-1 AC Input



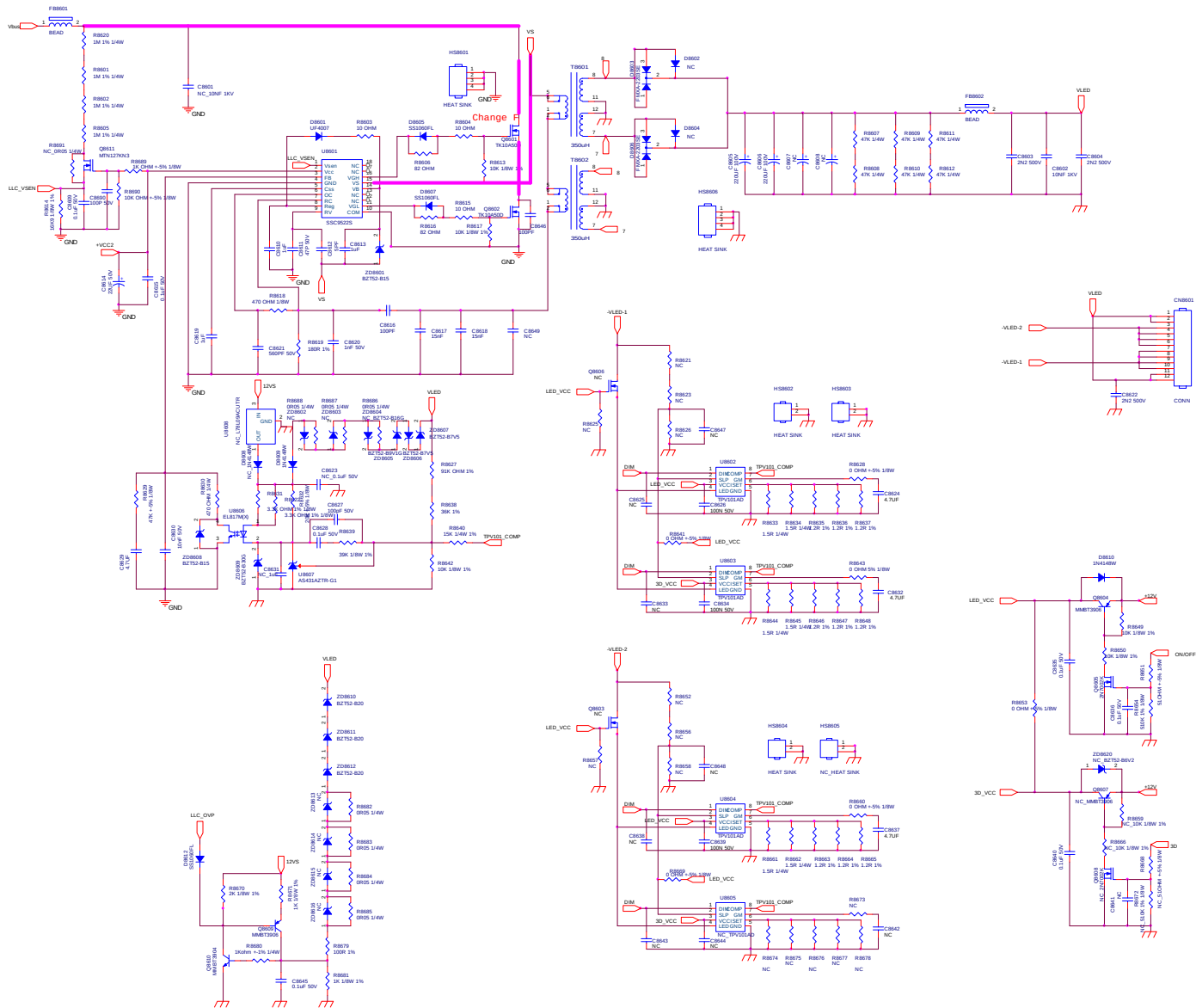
8-3-2 PFC



8-3-3 Main Power



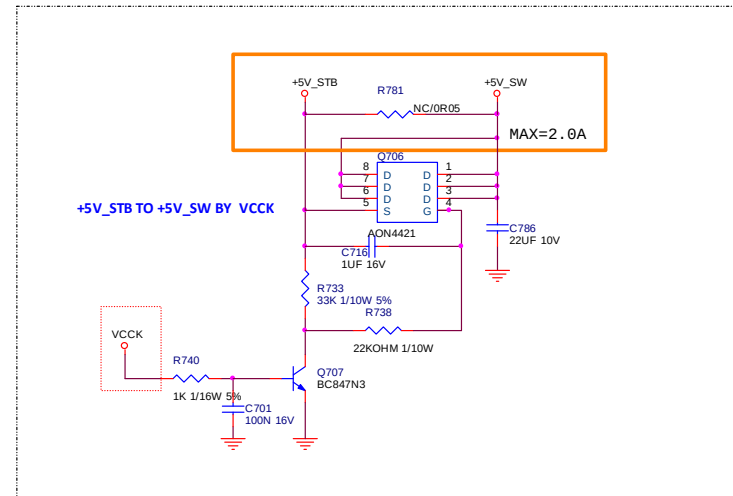
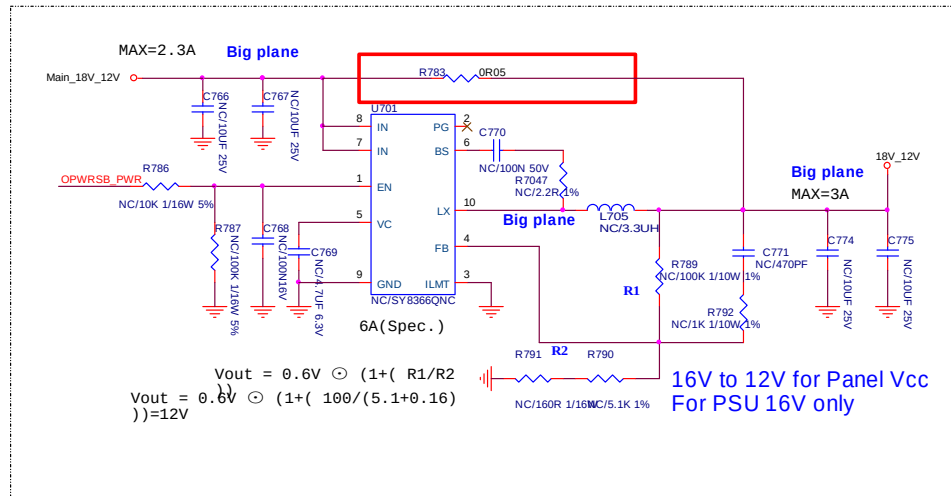
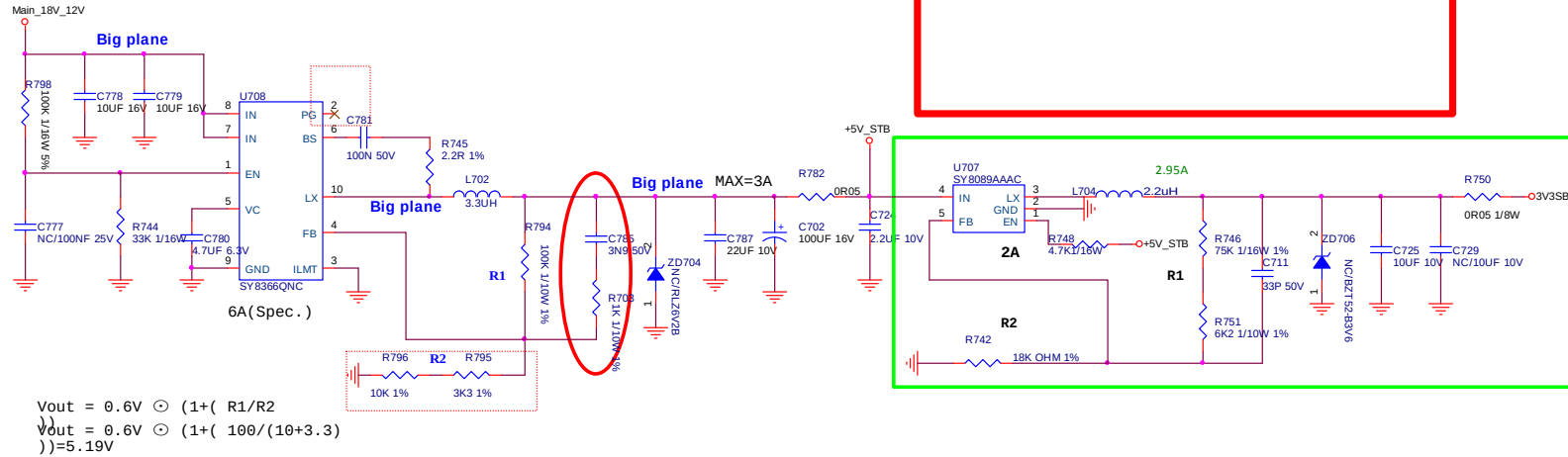
8-3-4 LLC



8.4 B 715G8709SSB

8-4-1POWER

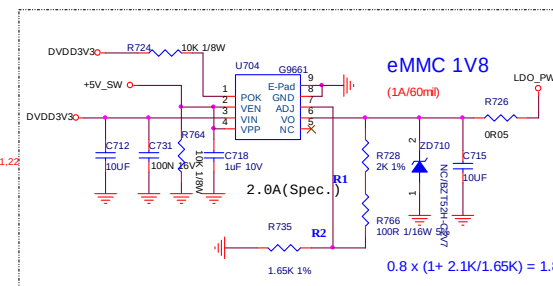
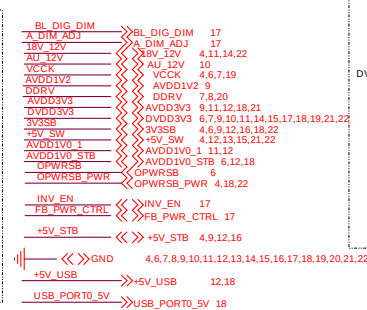
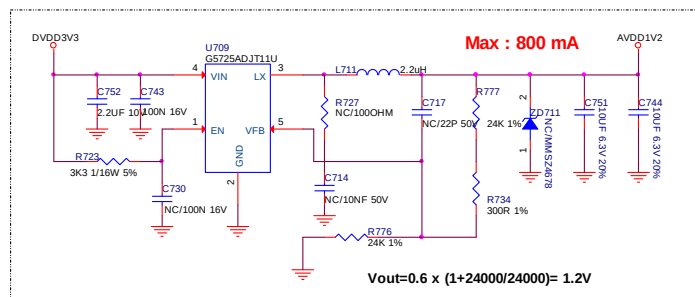
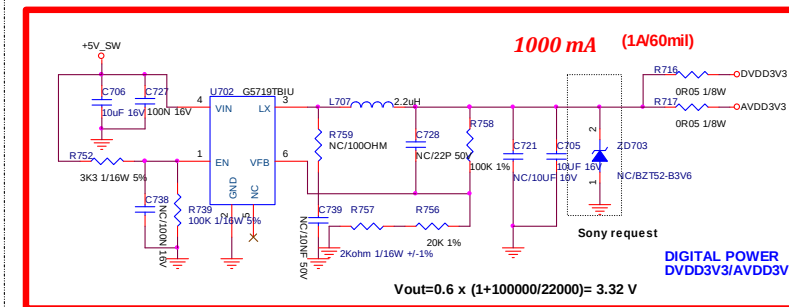
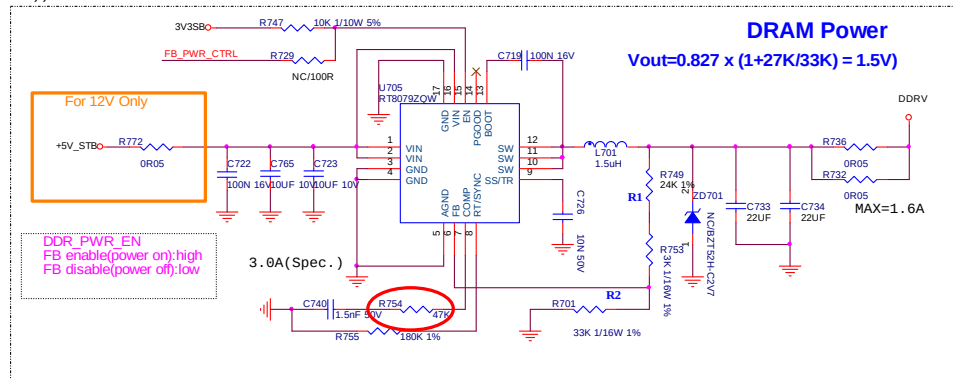
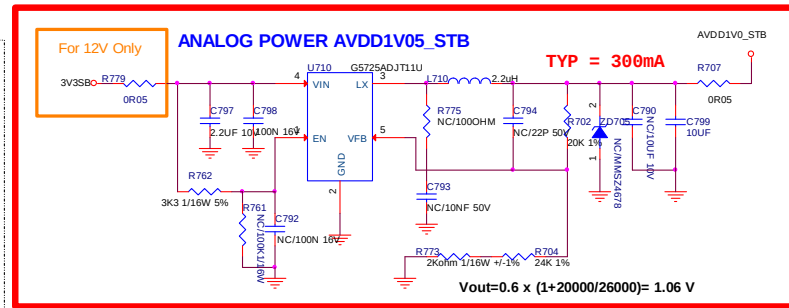
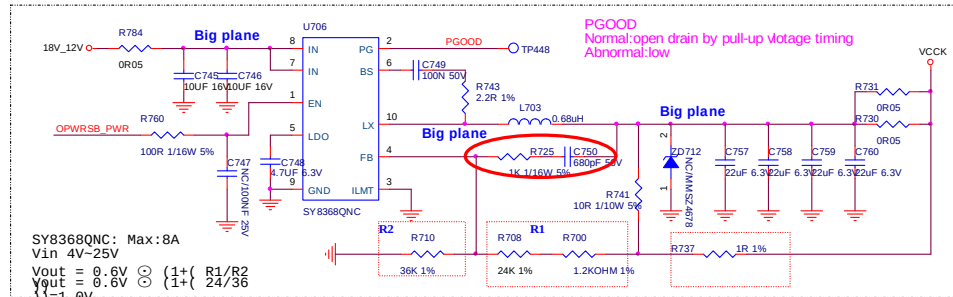
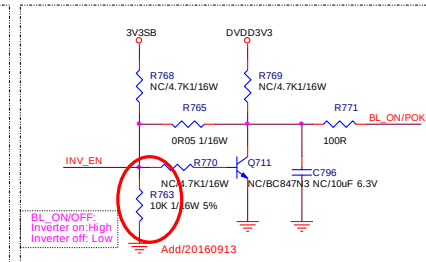
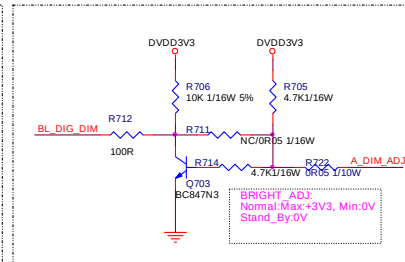
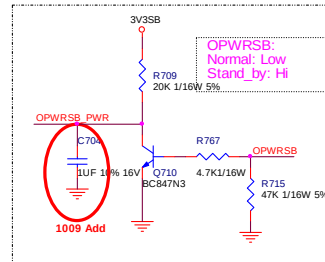
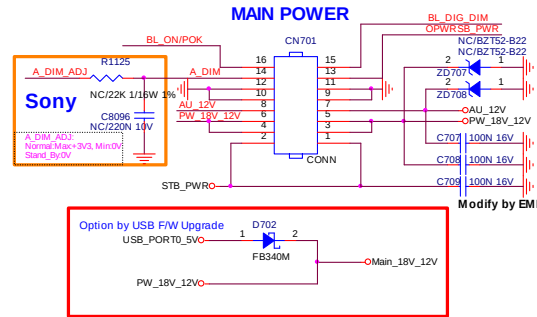
2K17 MT5802 platform



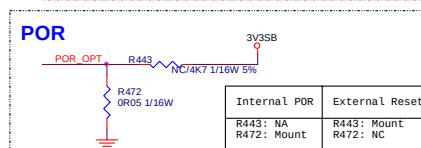
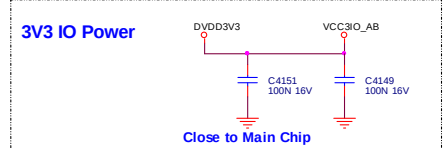
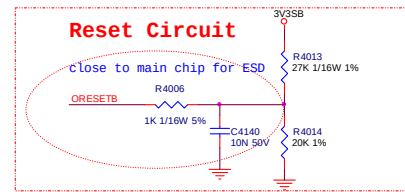
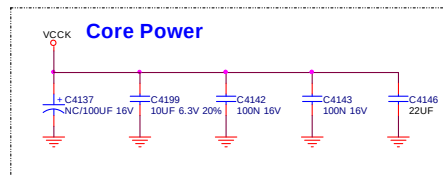
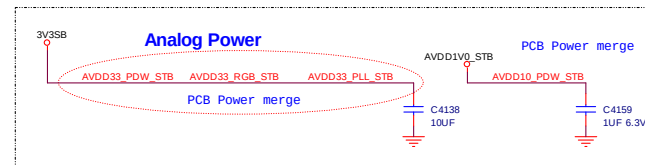
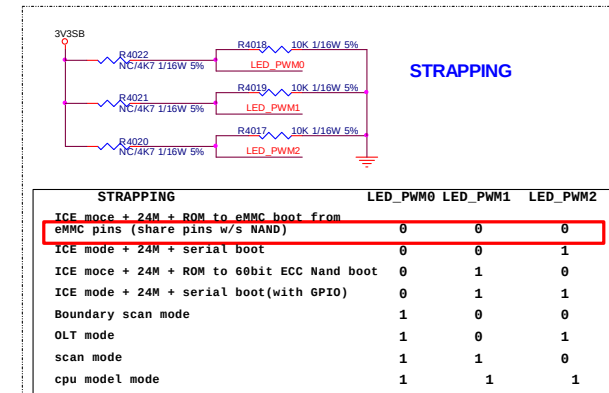
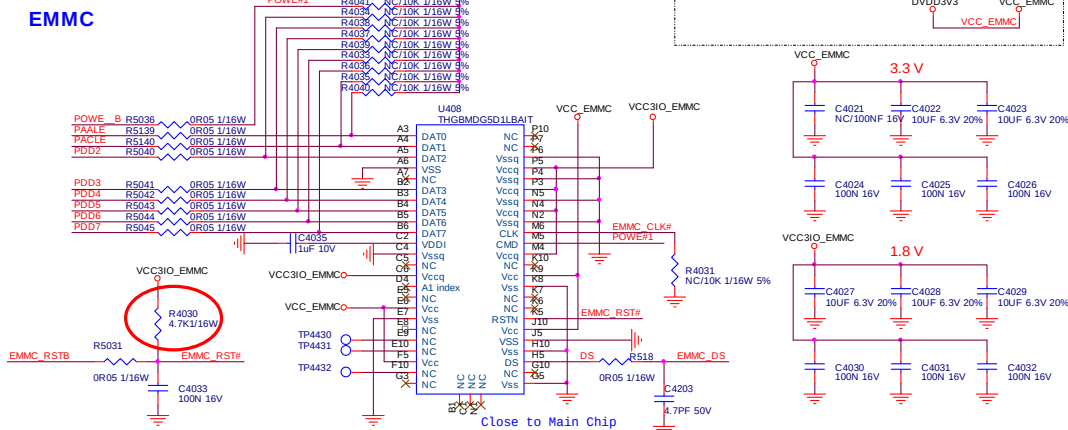
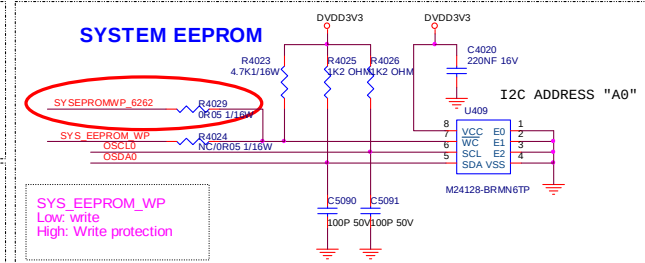
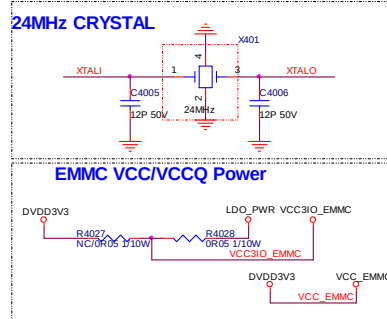
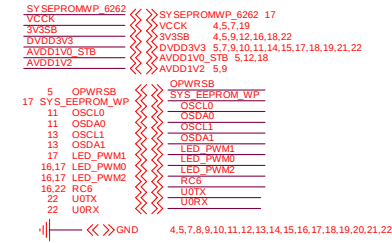
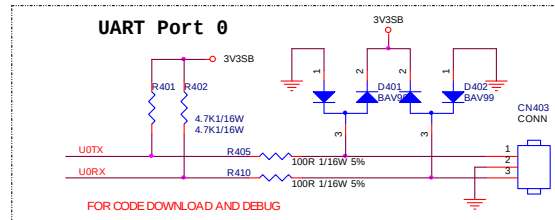
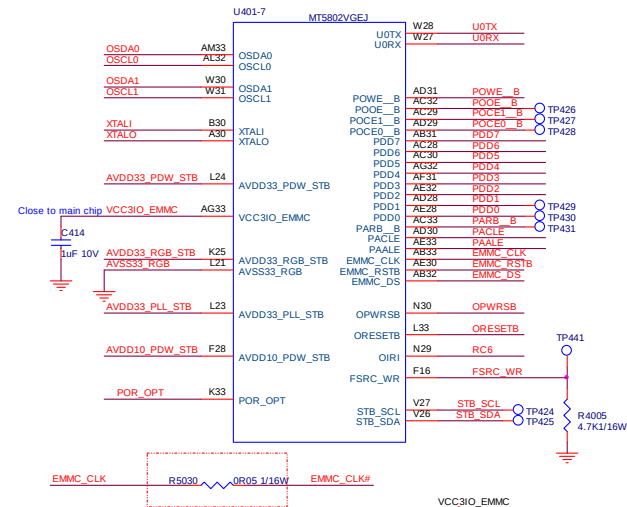
18V_12V	<>	18V_12V	5,11,14,22
+5V_STB	<>	+5V_STB	5,9,12,16
VCCK	<>	VCCK	5,6,7,19
DDRV	<>	DDRV	5,7,8,20
DVDD3V3	<>	DVDD3V3	5,6,7,9,10,11,14,15,17,18,19,21,22
3V3SB	<>	3V3SB	5,6,9,12,16,18,22
+5V_SW	<>	+5V_SW	5,12,13,15,21,22
AVDD1V0_1	<>	AVDD1V0_1	5,11,12
AVDD1V0_STB	<>	AVDD1V0_STB	5,6,12,18
OPWRSB	<>	OPWRSB	5,6
OPWRSB_PWR	<>	OPWRSB_PWR	5,18,22

<<GND 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22

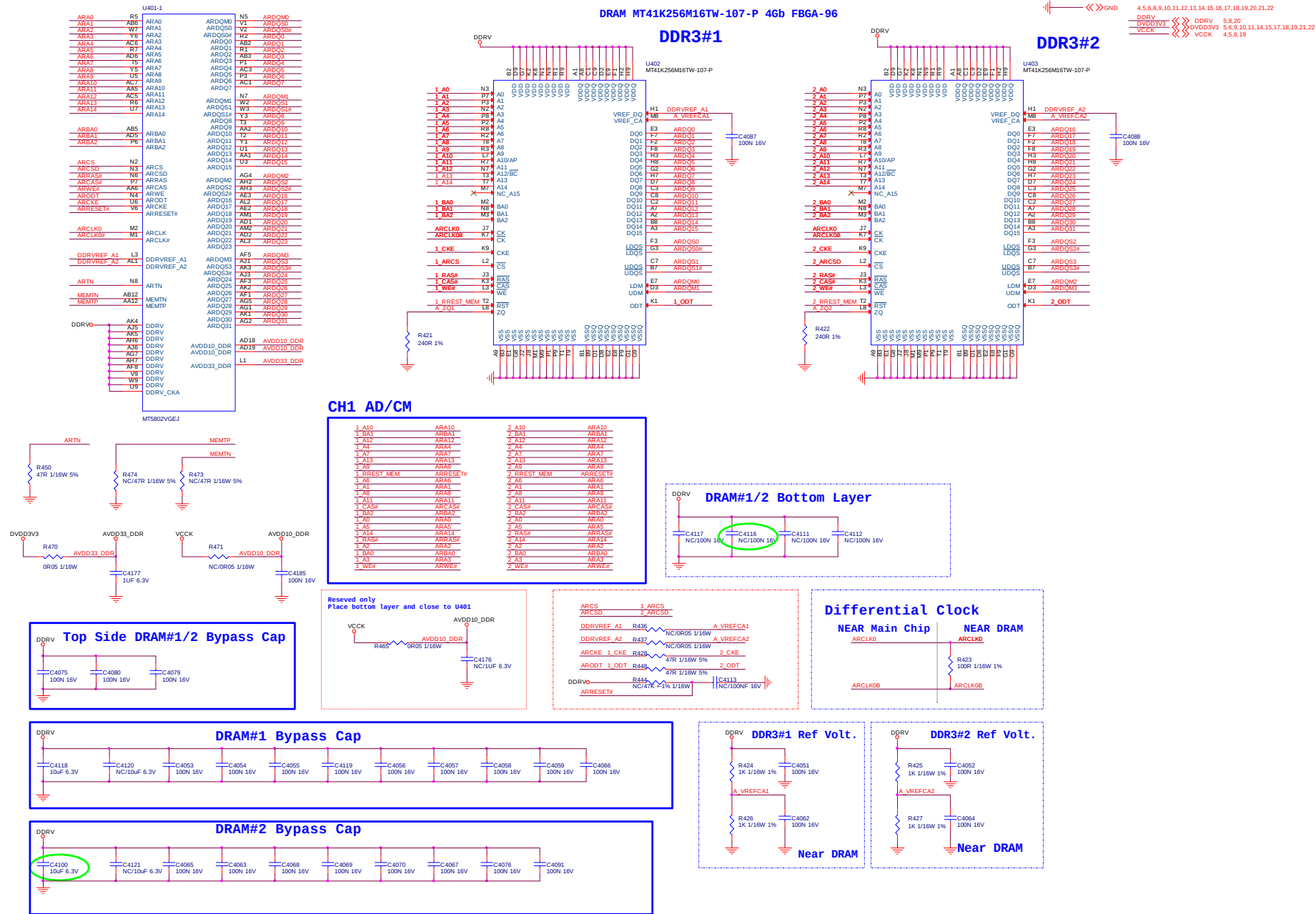
8-4-2 System Power



8-4-3 Peripheral



8-4-4 DRR3*2



8-4-5 DRR3*2-2

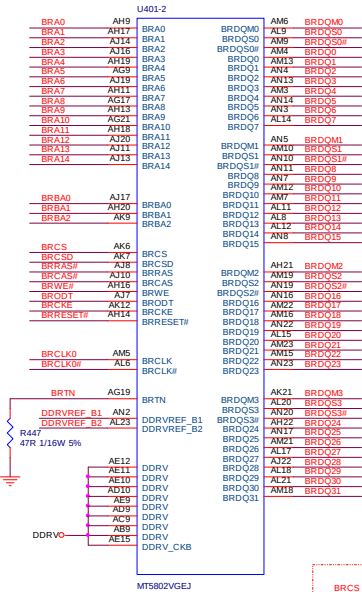
DDR3#3

DDR3#4

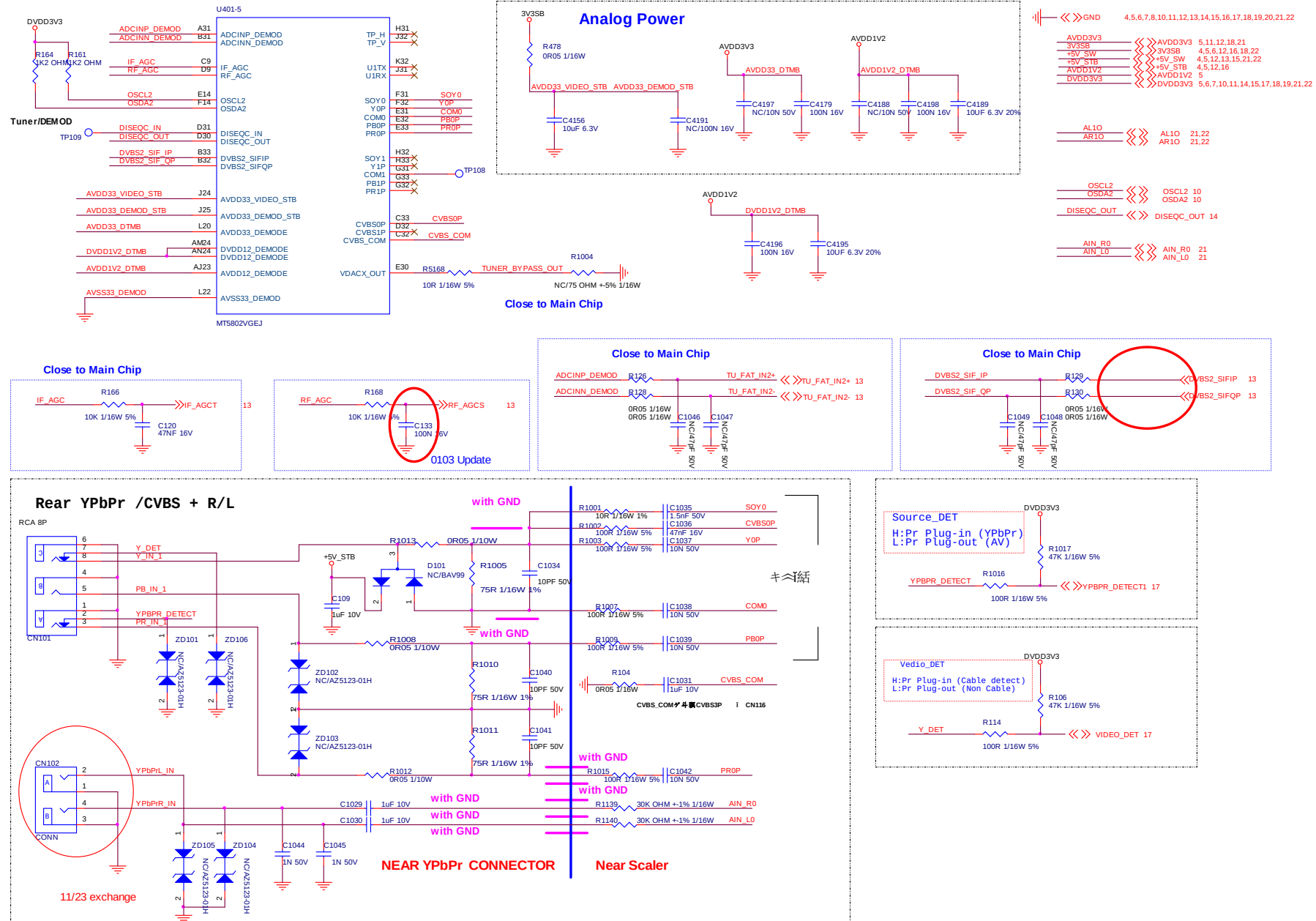
CH2 AD/CM Damping

4.5,6,7,8,10,11,12,13,14,15,16,17,18,19,20,21,22 GND

<<>> GND



8-4-6 YPbPr/CVBS/SPIDIF



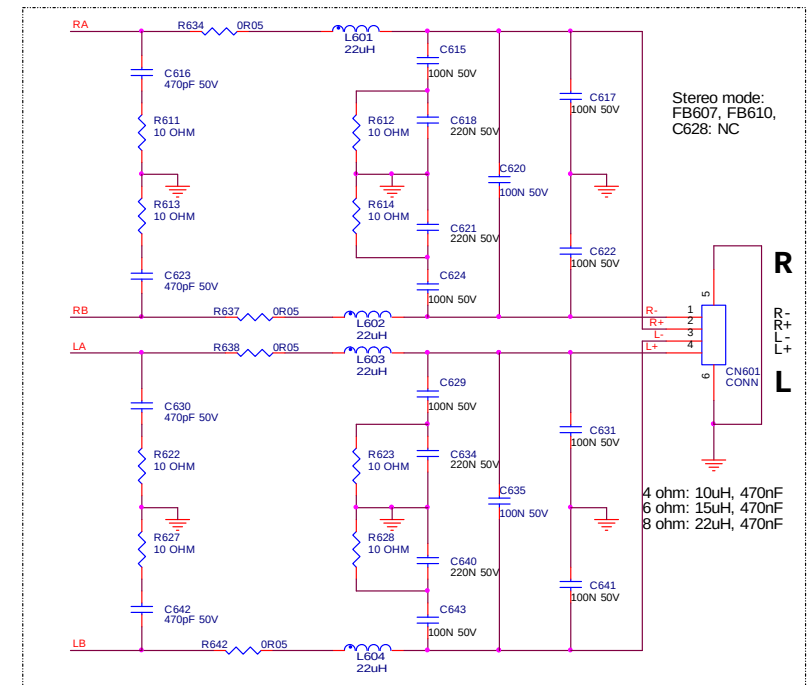
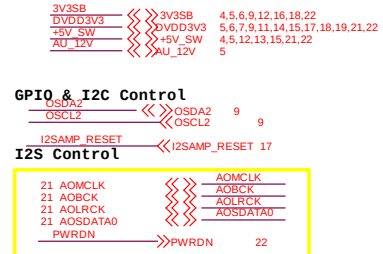
8x10.2mm (覆I0版)

AD82588B-LG48NAY: 35606616048163
AD82588B-LG48NAY: 35606616048602

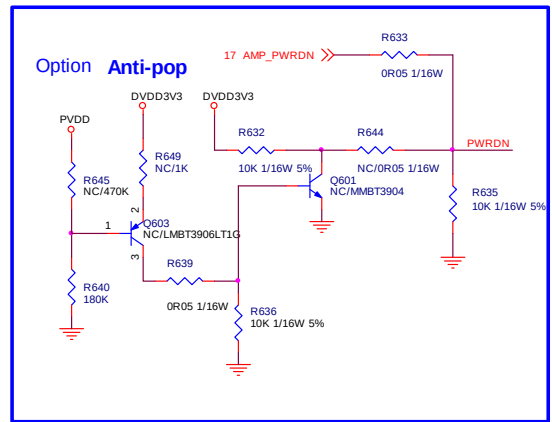
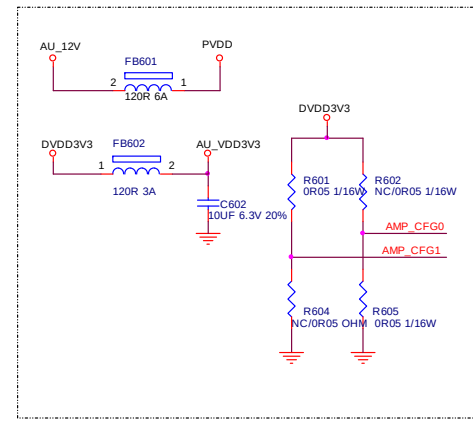
2.0 CH INDUCTOR 18uH
24V AD82588 0736253 81 Y
12V 15uH
AD83586 37362535247Y90
2.1 CH 22uH
AD83586 37362535147Y90

AMP_CFG0
AMP_CFG1
R615 NC/OR05 OHM
R616 OR05 1/10W
C627 100N 16V 8
AU_VDD3V3
HS601
HEAT SINK

U601
NC
VDDLA
LA
LA
46
47
48
49
THERMALPAD
SDATA1
MS
PLL
CFG0
CFG1
CLK_OUT
DGND
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731

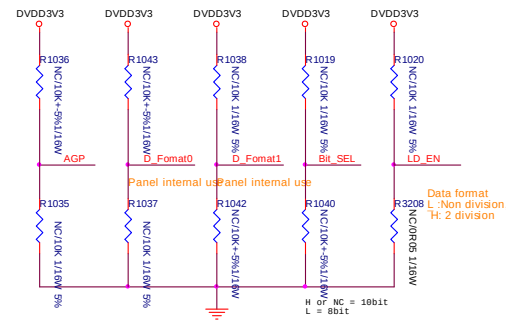
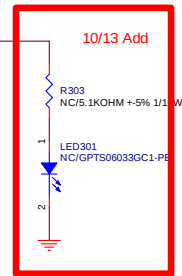
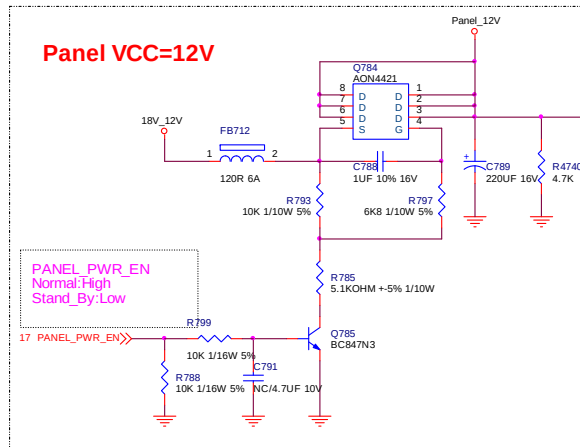
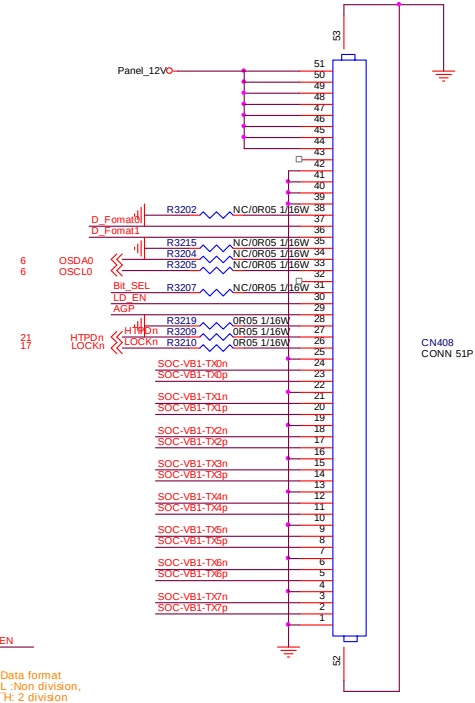
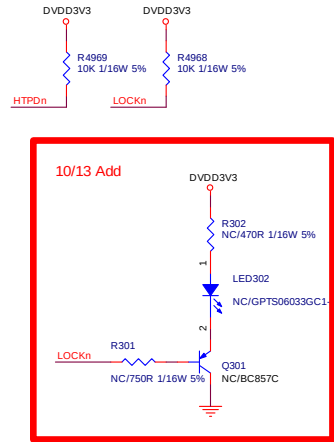
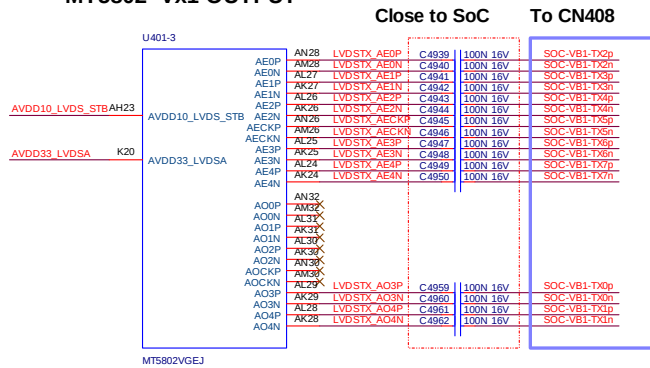


CFG1	CFG0	Mode
0	0	Reserved
0	1	2.1CH
1	0	Stereo
1	1	Mono

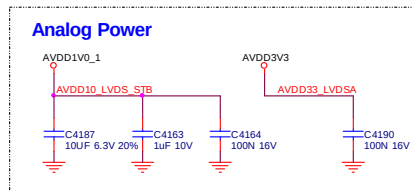
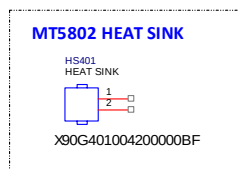
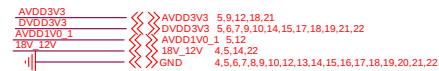


8-4-8VB1 output

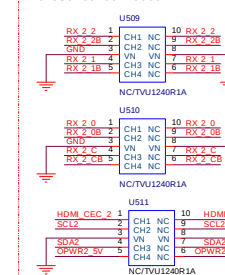
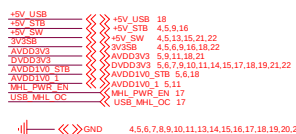
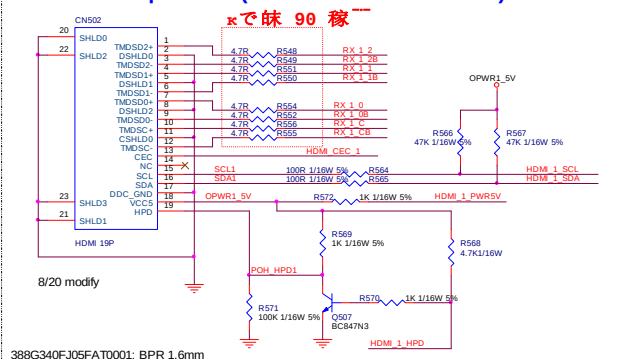
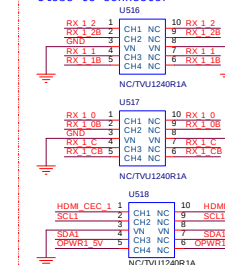
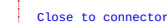
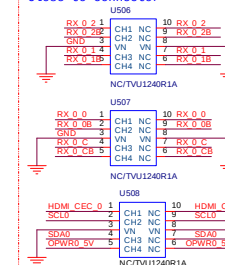
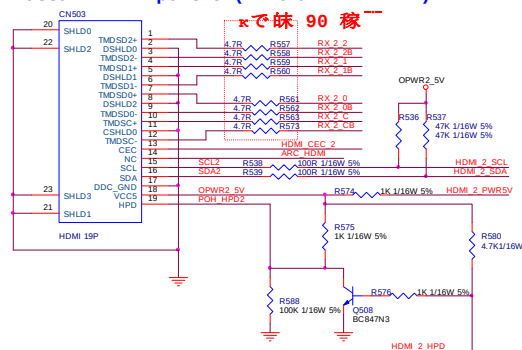
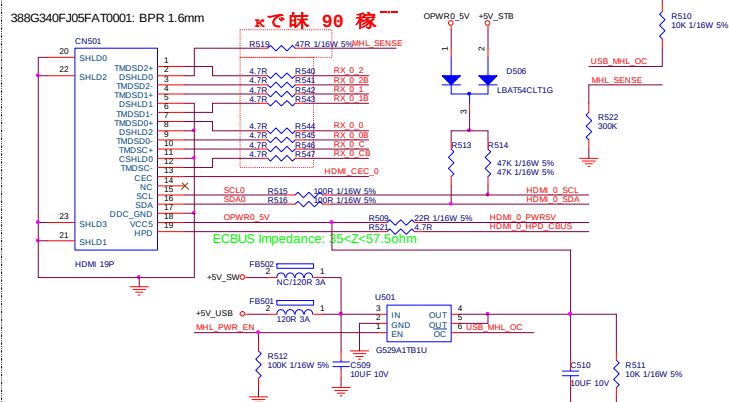
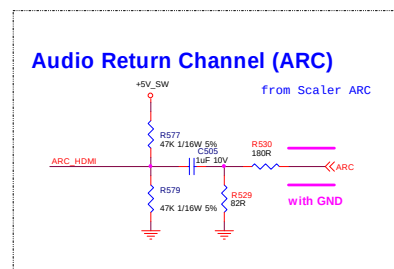
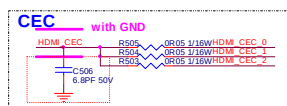
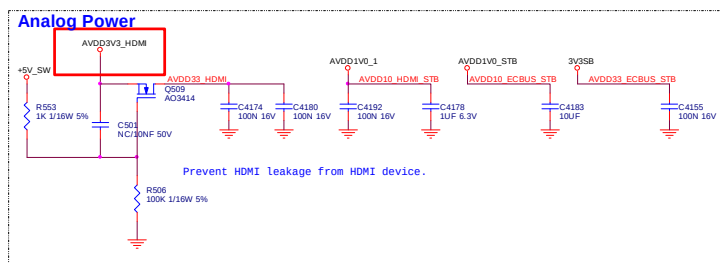
MT5802 Vx1 OUTPUT



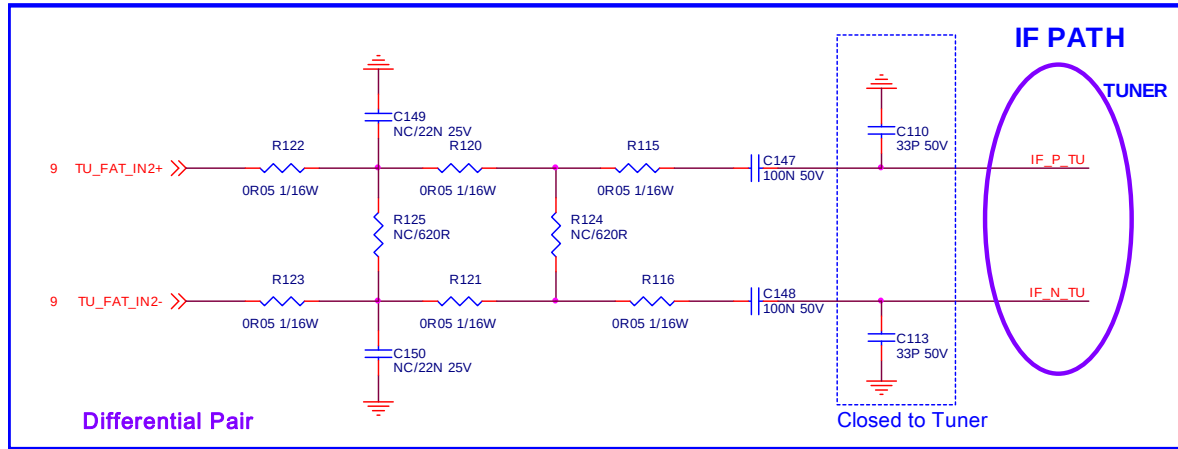
	Port AO						Part AE					
LVDS(Ball name)	AO0	AO1	AO2	AOCK	AO3	AO4	AE0	AE1	AE2	AECK	AE3	AE4
VB1 (MTK)	CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11
VB1 (TPV)					CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7



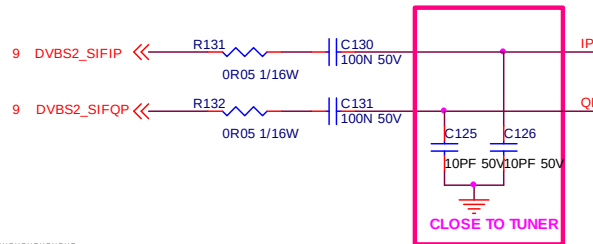
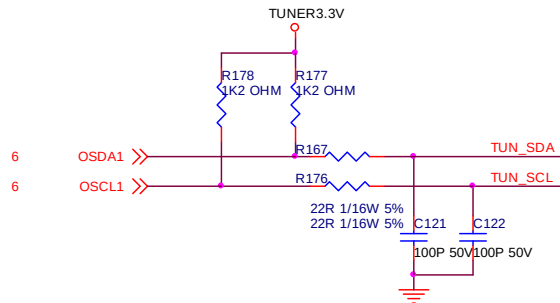
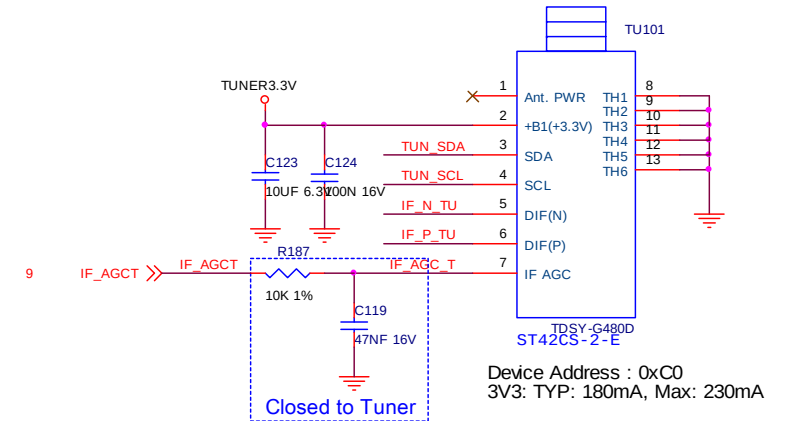
8-4-9HDMI/MHL



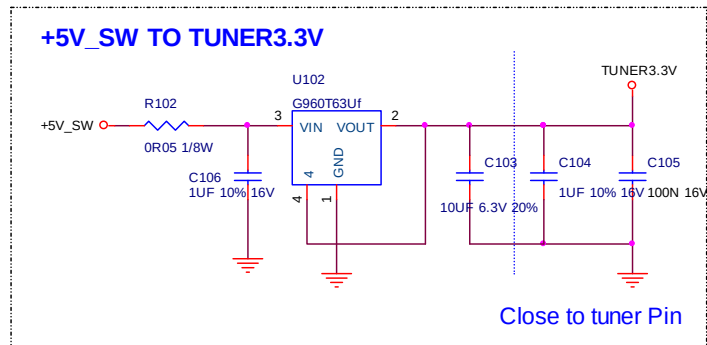
8-4-10Tuner



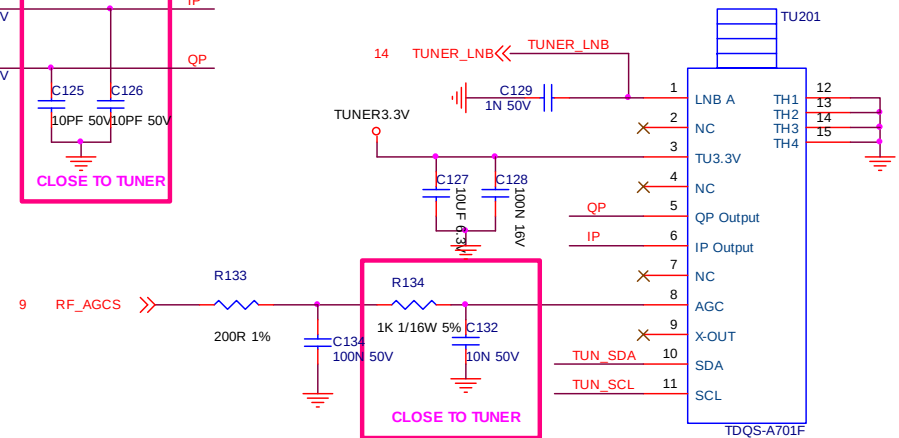
T2 TUNER



+5V_SW TO TUNER3.3V



S2 TUNER

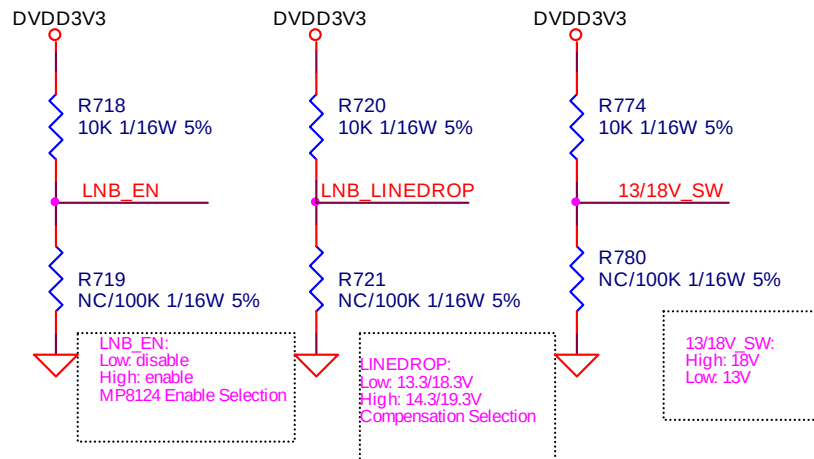
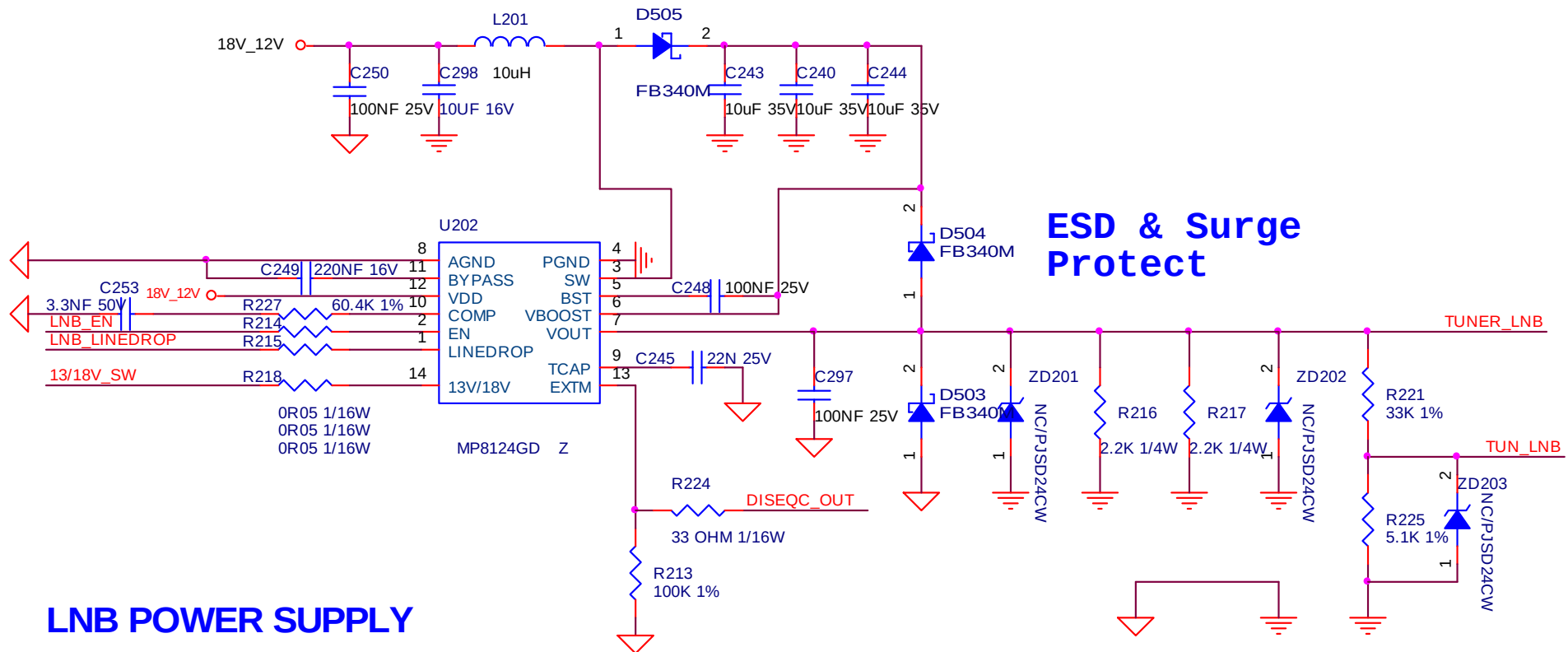


GND 4,5,6,7,8,9,10,11,12,14,15,16,17,18,19,20,21,22
 DVDD3V3 DVDD3V3 5,6,7,9,10,11,14,15,17,18,19,21,22
 +5V_SW +5V_SW 4,5,12,15,21,22

Device Address : 0xC6

LGTuner with DVB-S/S2
K mode l : Samsung DNB02112IH2

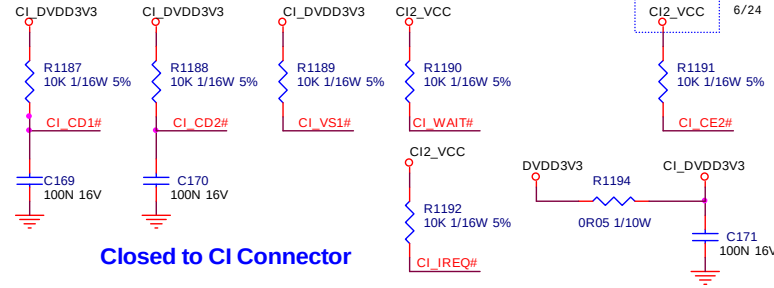
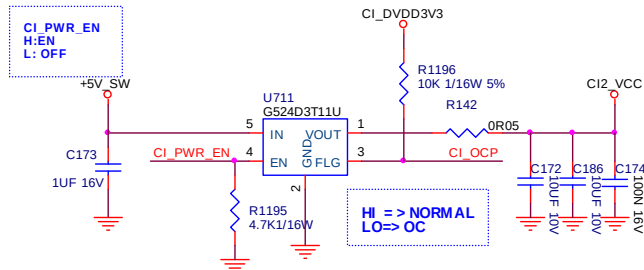
8-4-11LNB



TUNER_LNB	⟨⟨⟩⟩	TUNER_LNB 13
TUN_LNB	⟨⟨⟩⟩	TUN_LNB 17
DISEQC_OUT	⟨⟨⟩⟩	DISEQC_OUT 9
18V_12V	⟨⟨⟩⟩	18V_12V 4,5,11,22
LNB_EN	⟨⟨⟩⟩	LNB_EN 17
LNB_LINEDROP	⟨⟨⟩⟩	LNB_LINEDROP 17
13/18V_SW	⟨⟨⟩⟩	13/18V_SW 17
DVDD3V3	⟨⟨⟩⟩	DVDD3V3 5,6,7,9,10,11,15,17,18,19,21,22
	⟨⟨⟩⟩	GND 4,5,6,7,8,9,10,11,12,13,15,16,17,18,19,20,21,22

8-4-12Internal CI

CLOSE TO CI CONNECTOR



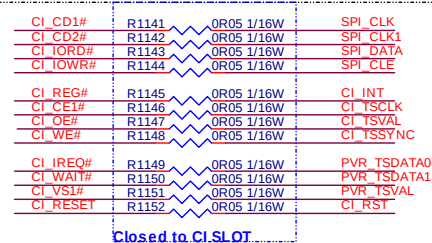
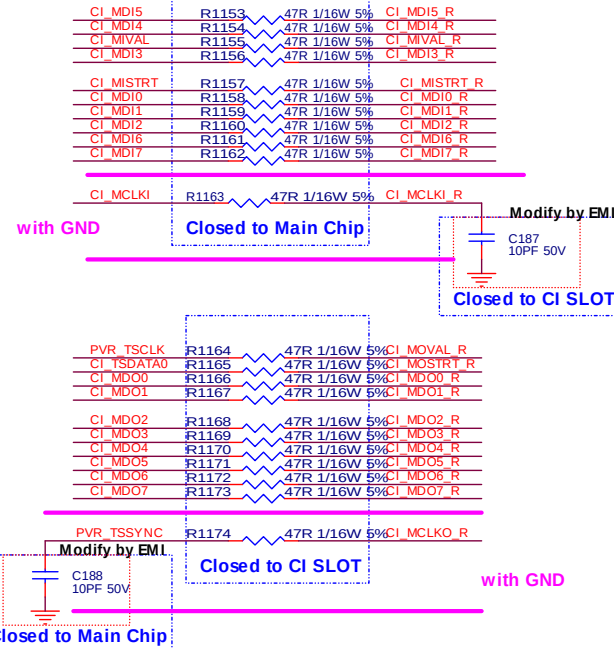
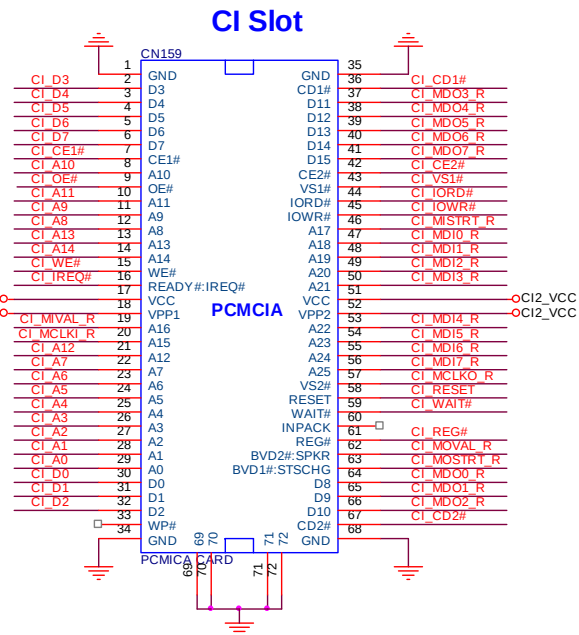
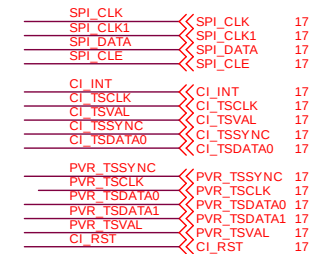
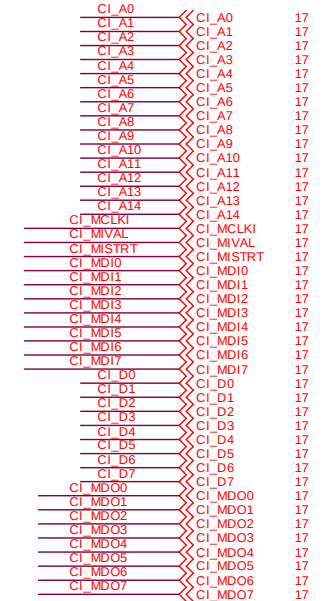
4,5,6,7,8,9,10,11,12,13,14,16,17,18,19,20,21,22 GND

5,6,7,9,10,11,14,17,18,19,21,22 DVDD3V3

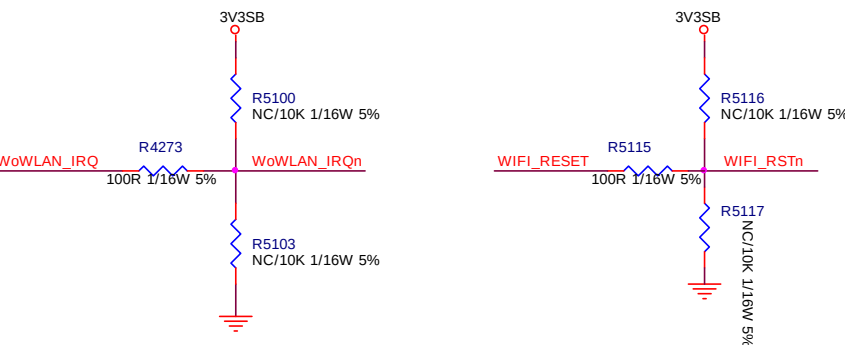
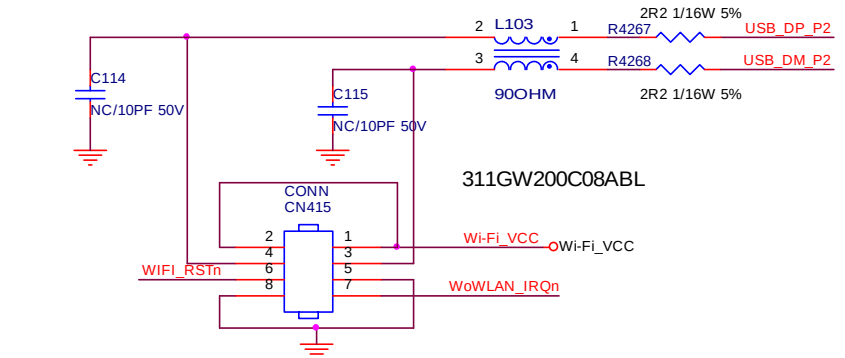
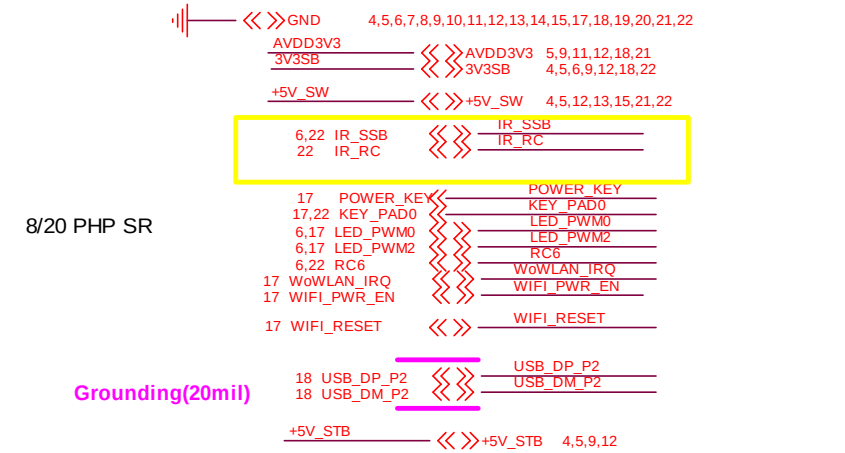
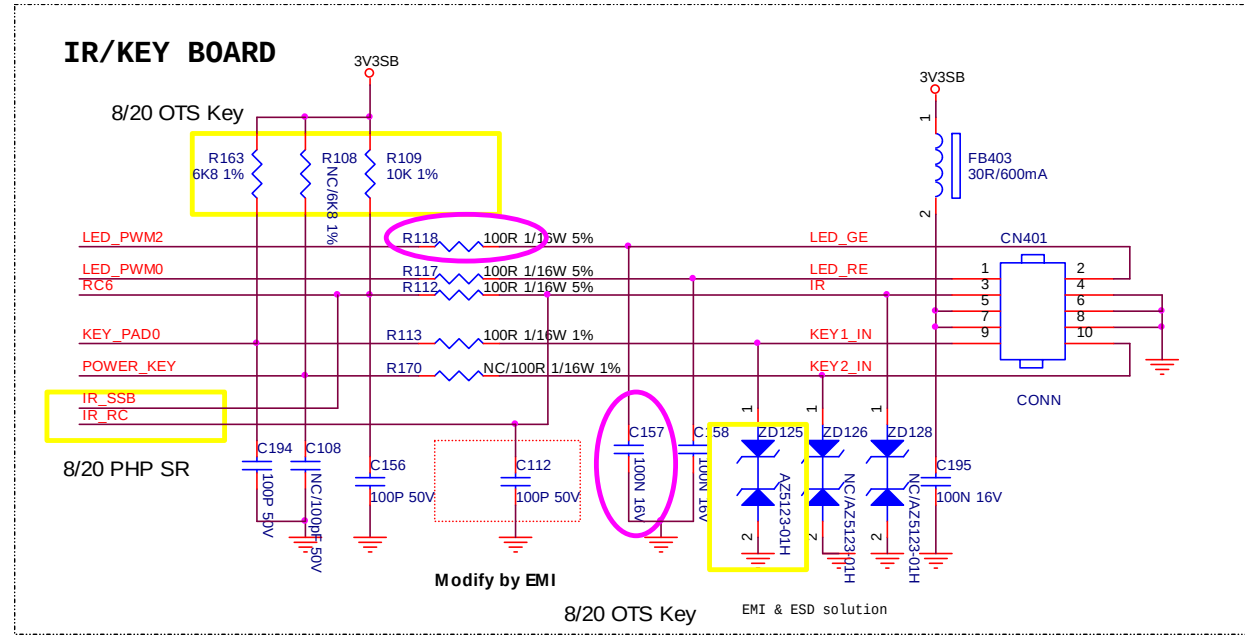
4,5,12,13,21,22 +5V_SW

DVDD3V3
+5V_SW

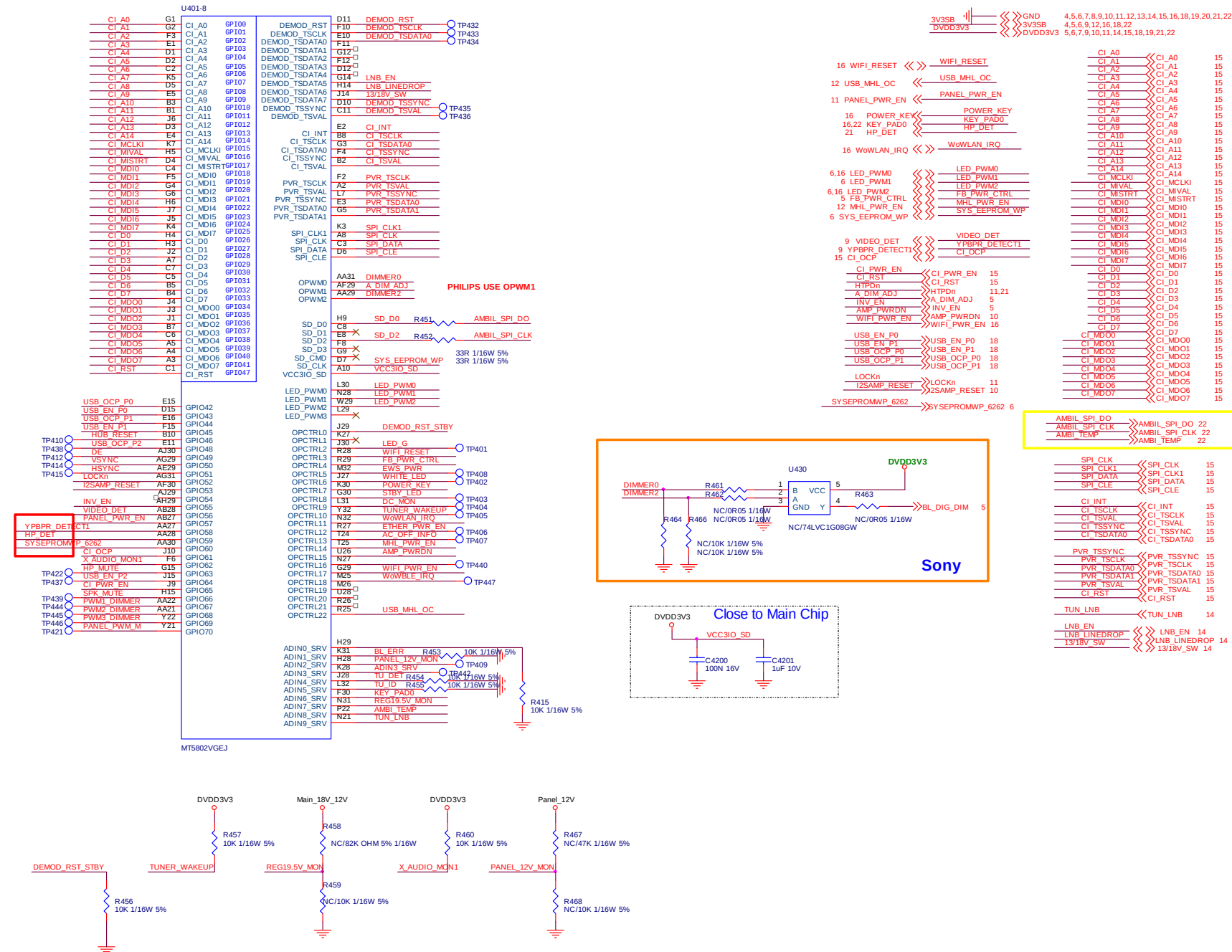
Control Interface



8-4-13WIFI/KEYPAD

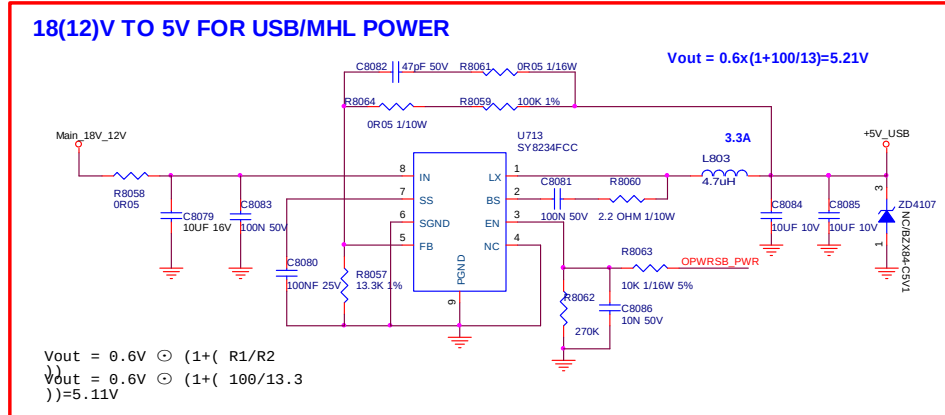
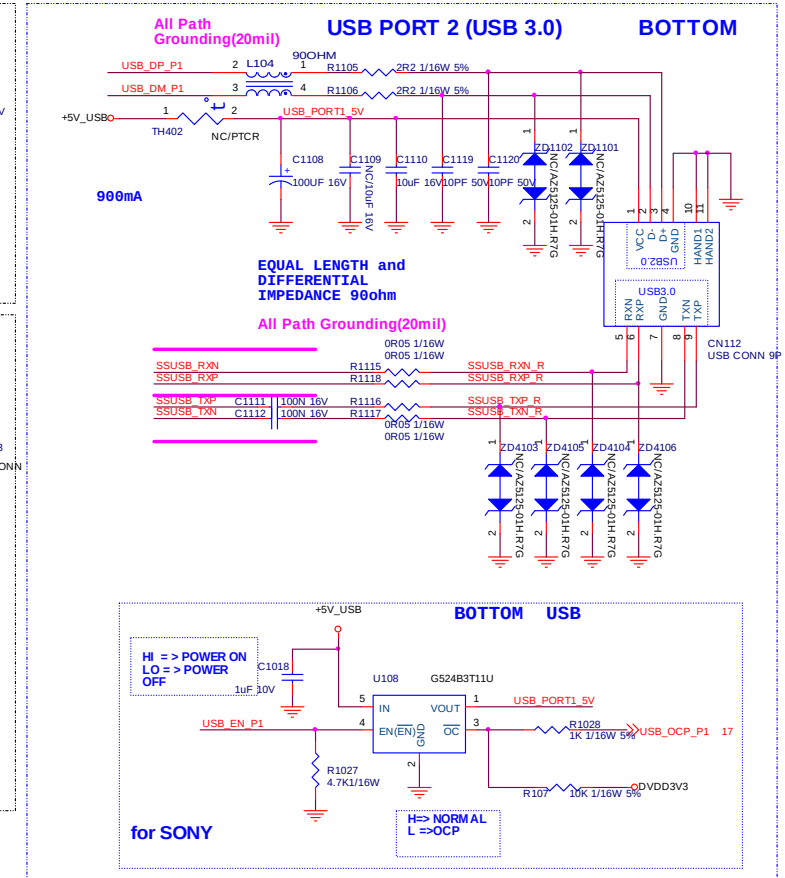
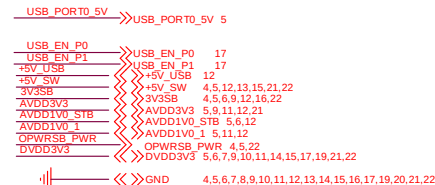
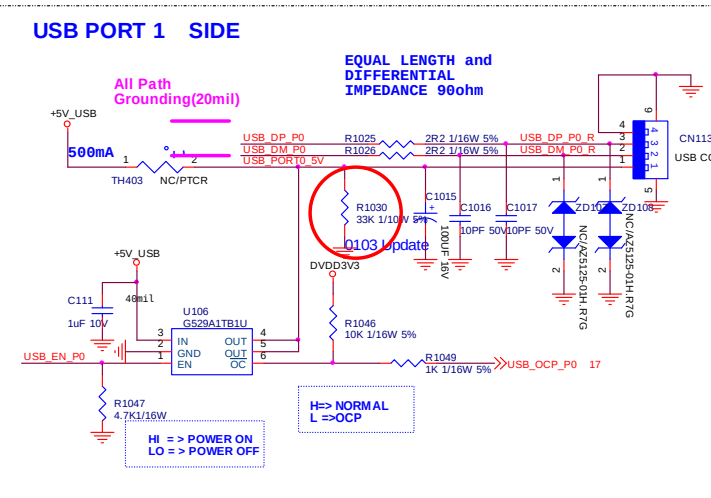
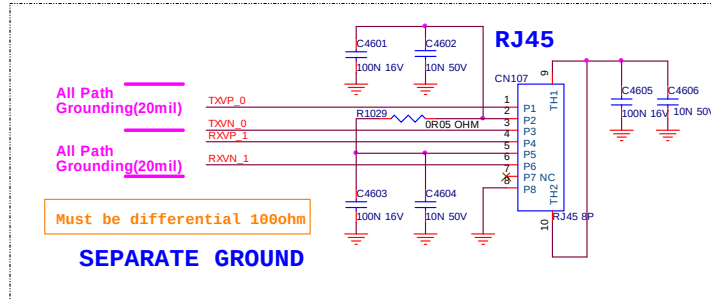
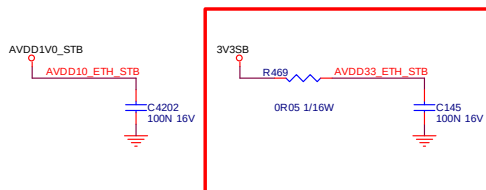
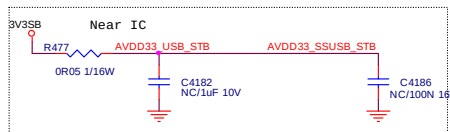
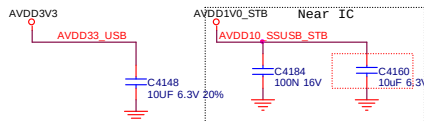
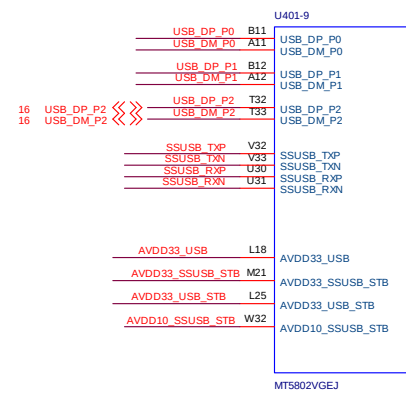
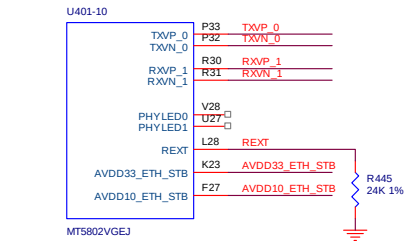


8-4-14GPIO/servAD

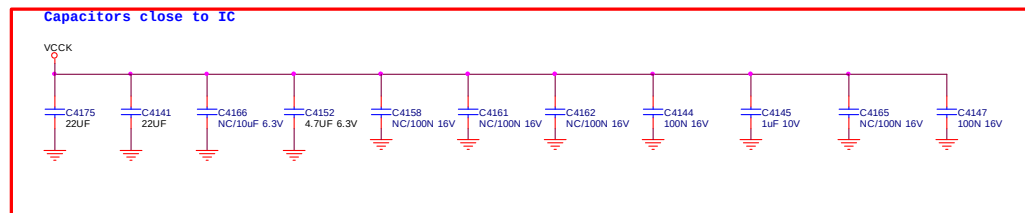
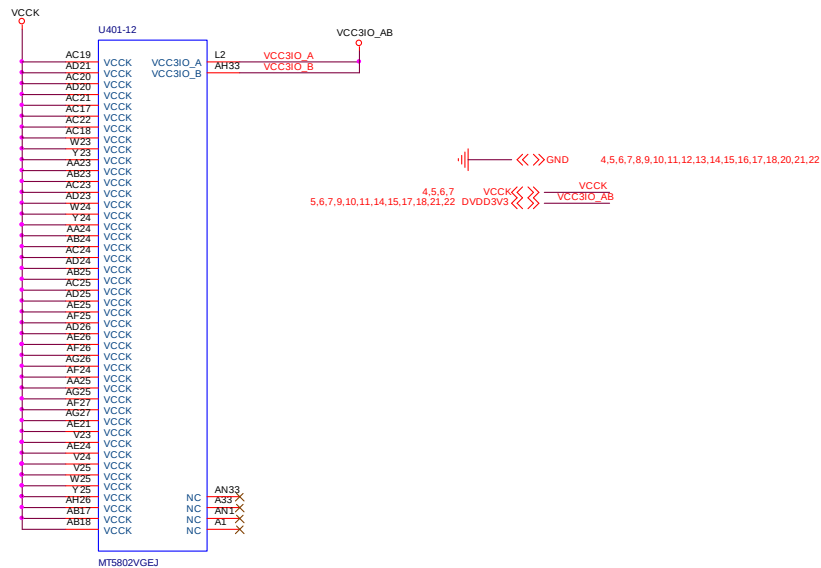
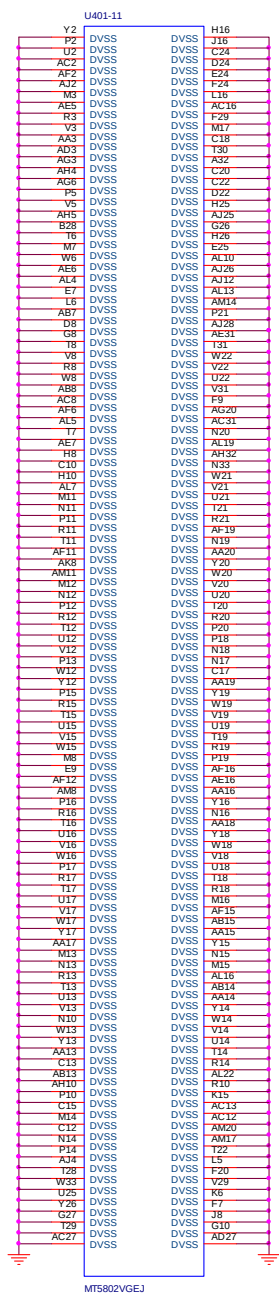


8-4-15USB/ETHERNET PHY

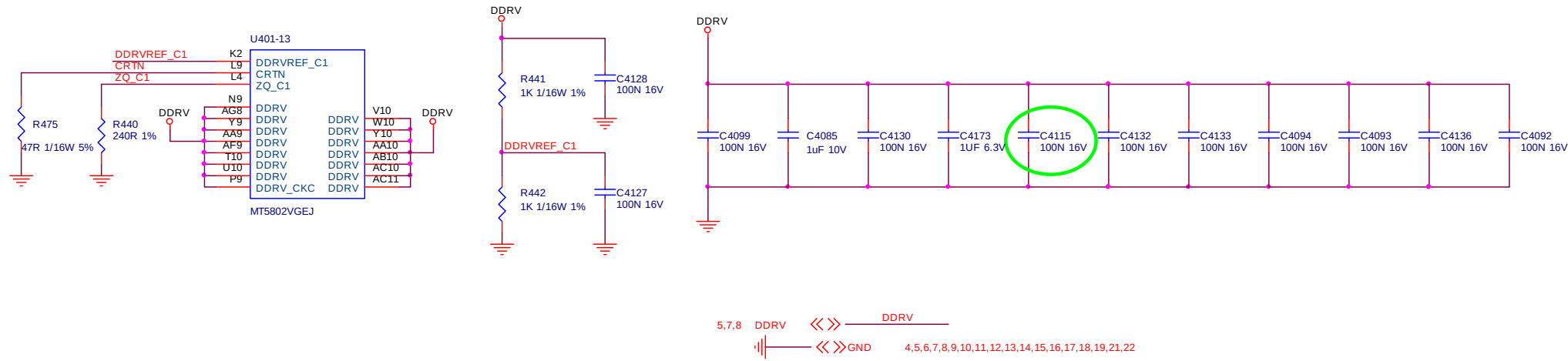
ETHERNET PHY



8-4-16VCCCK & DVSS

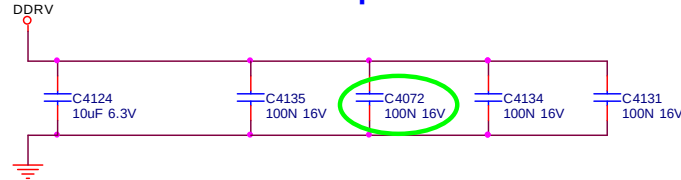


8-4-17DDP POWER

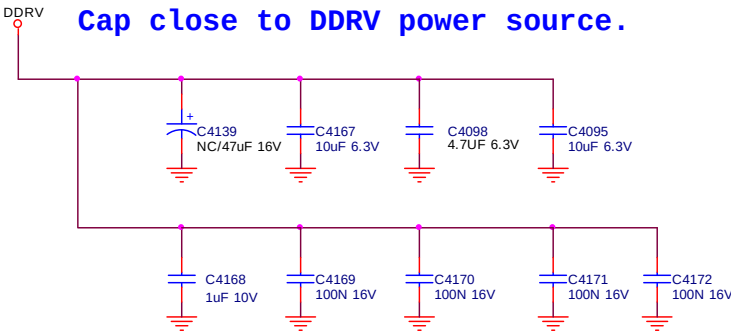


DRAM Power

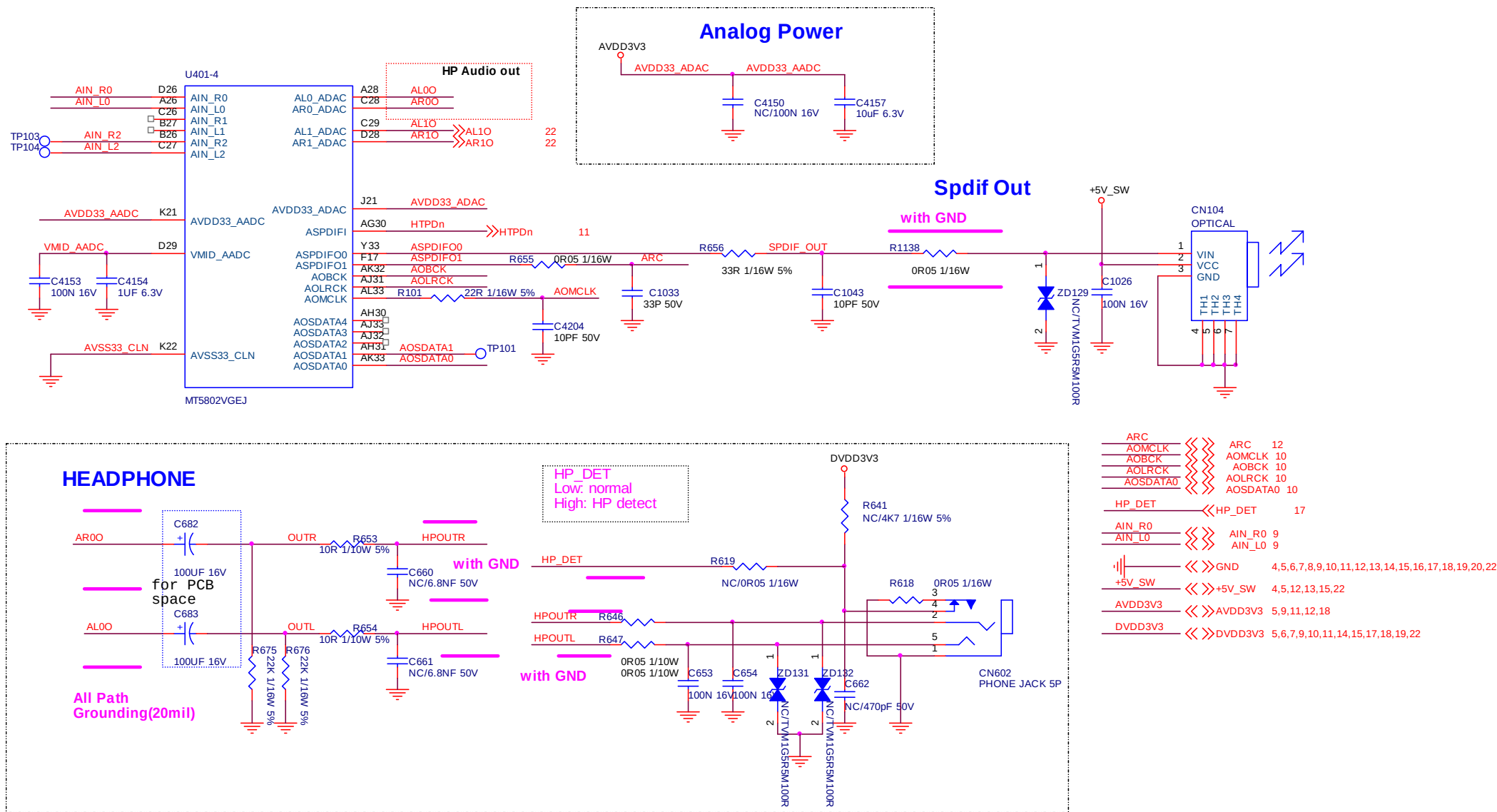
Bottom Side Capacitors close to IC



Cap close to DDRV power source.

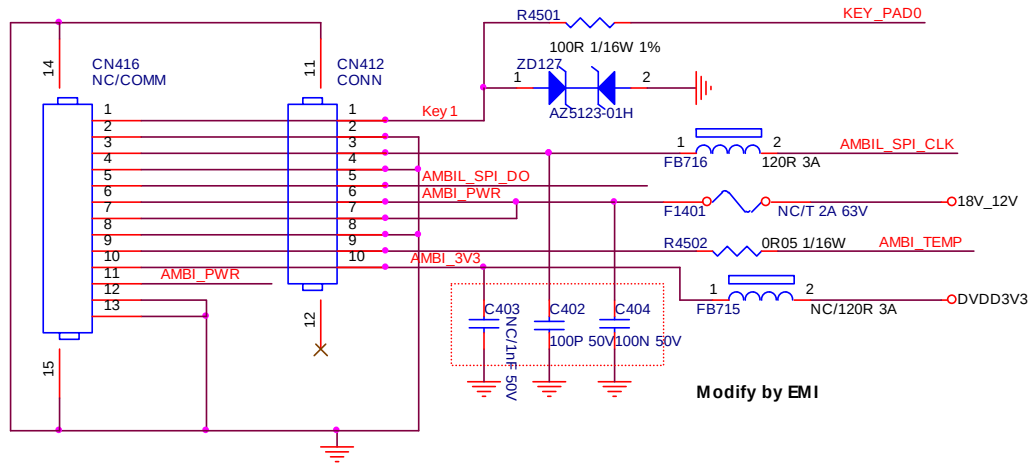


8-4-17LINE OUT

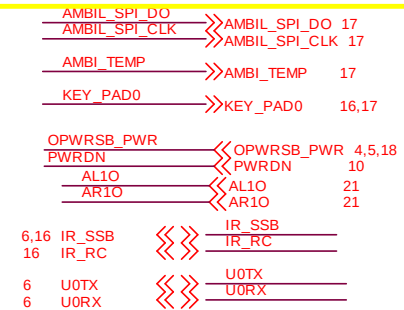


8-4-17AMBILIGHT & Hotel TV

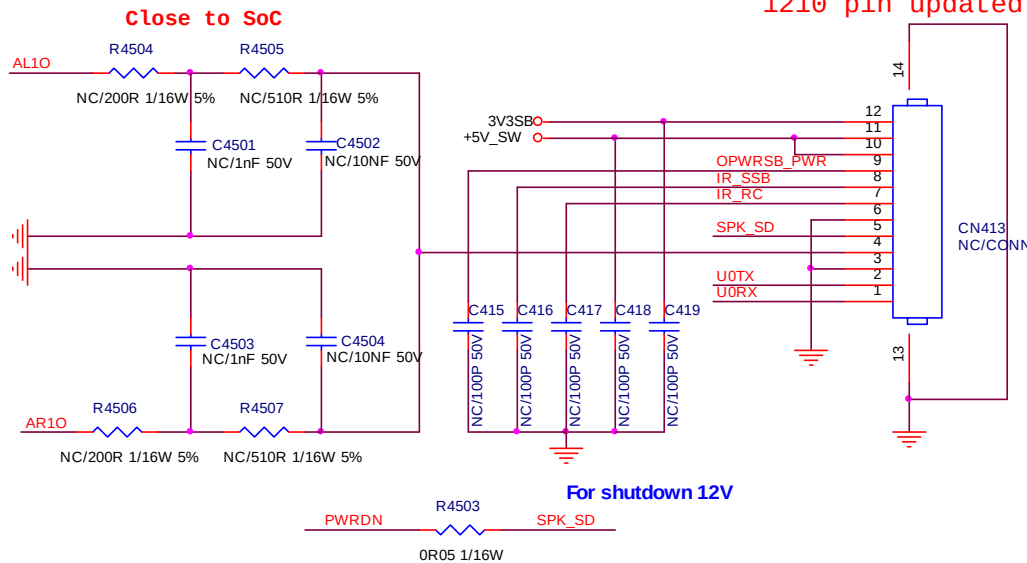
AL+KEY



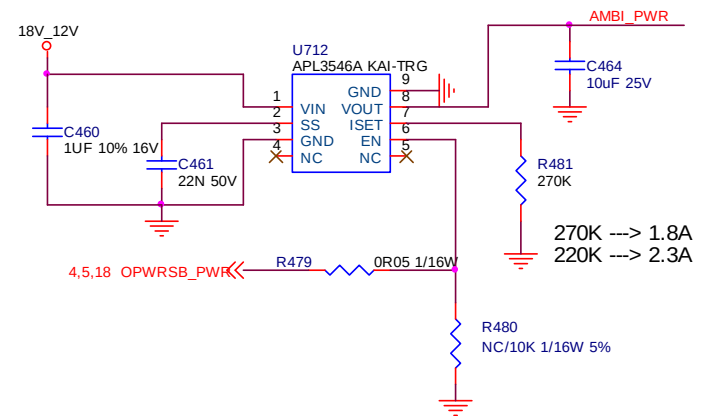
8/20 Add for PHP



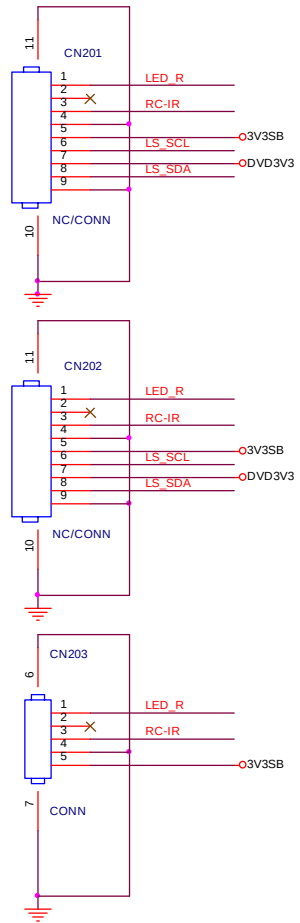
2W Mono Speaker output for BUH Hotel TV



AL POWER CONTROL



8-5-1 IR



JSA-1130	NC	0R	0R	NC	NC	0R	0R	0x44
JSA-1130	0R	NC	0R	NC	NC	0R	0R	0x45
TSL25715	0R	NC	NC	0R	0R	NC	NC	0x29

3V3SB

R211
100R 1/16W 5%

C211
1uF 6.3V

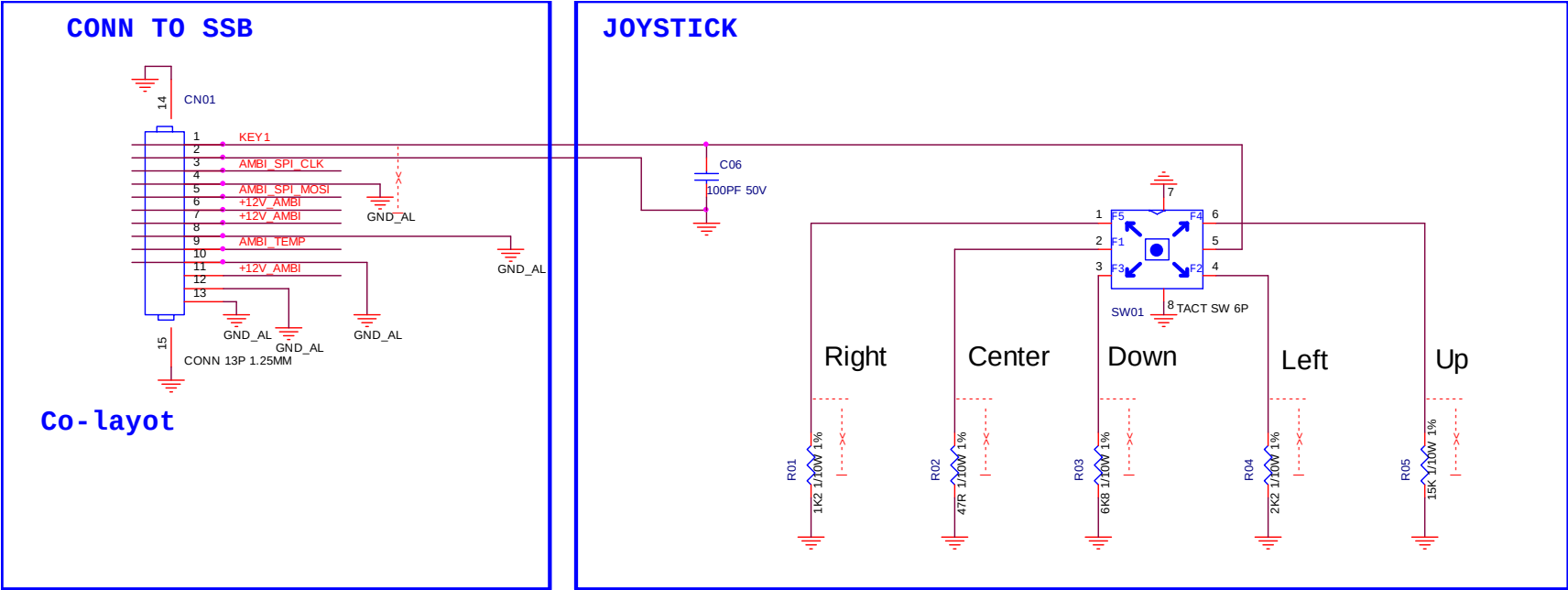
C212
NC/1uF 6.3V

IR_power

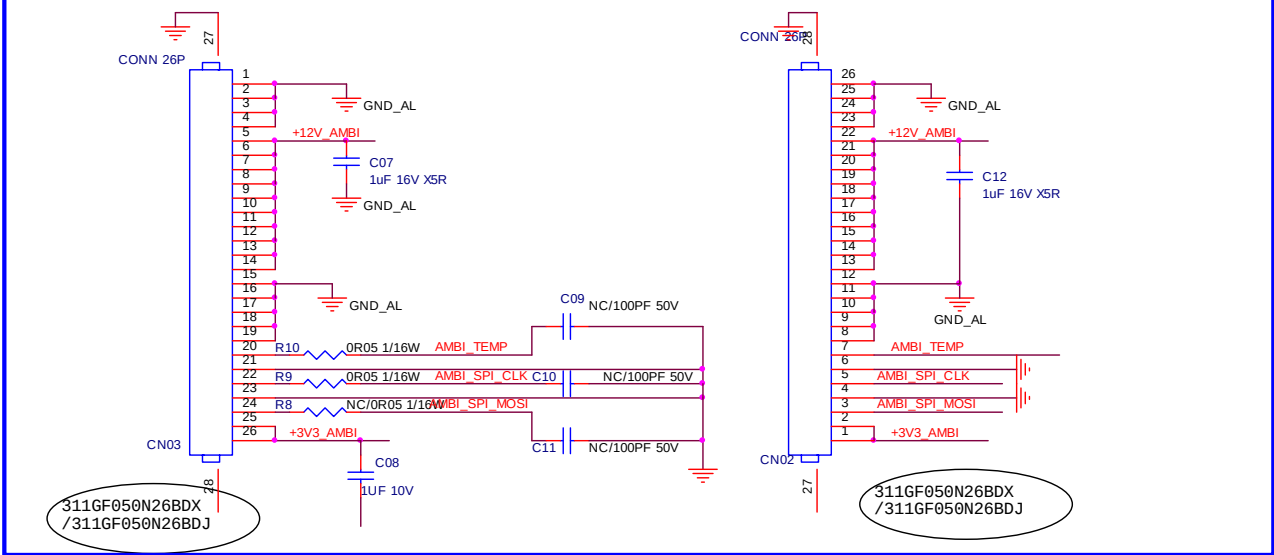
[illegible]

8.6 E 715G7088 Keyboard control panel

8-6-1 Key

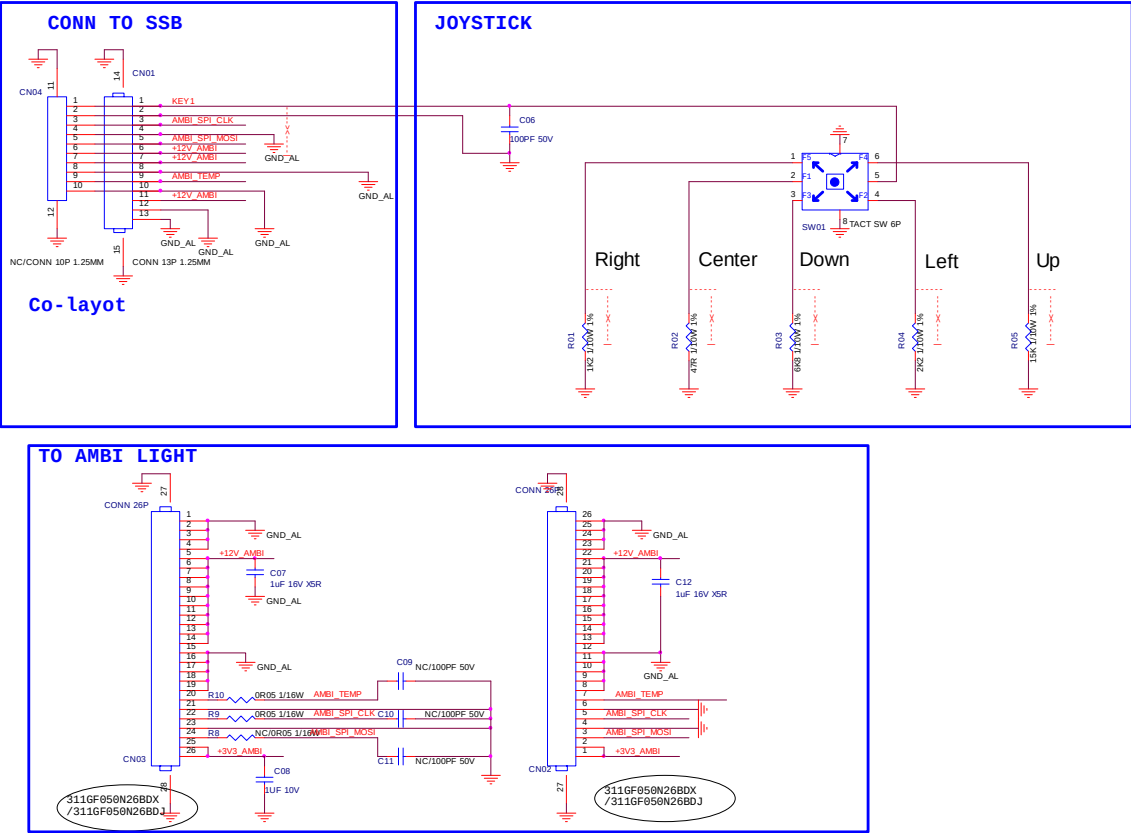


TO AMBI LIGHT



8.7 J 715G8555 Keyboard control panel

8-7-1 Key



Joystick key define

Direction	switch	Key function	Resistance	Voltage	Range
Center	2-5 short	Menu	0R	0V	0.0 to 0.22 V
Right	1-5 short	CH+	1K2	0.5V	0.39 to 0.60 V
Left	4-5 short	CH-	2K2	0.81V	0.67 to 0.95 V
Down	3-5 short	VOL-	6K8	1.65V	1.41 to 1.87 V
Up	6-5 short	VOL+	15K	2.27V	1.93 to 2.58 V
NA	NA	No function	NA	3.3V	3.135 to 3.465V

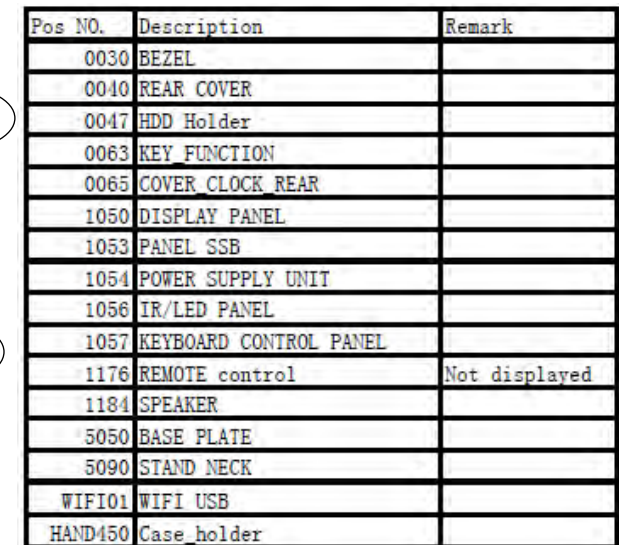
Joystick circuit diagram

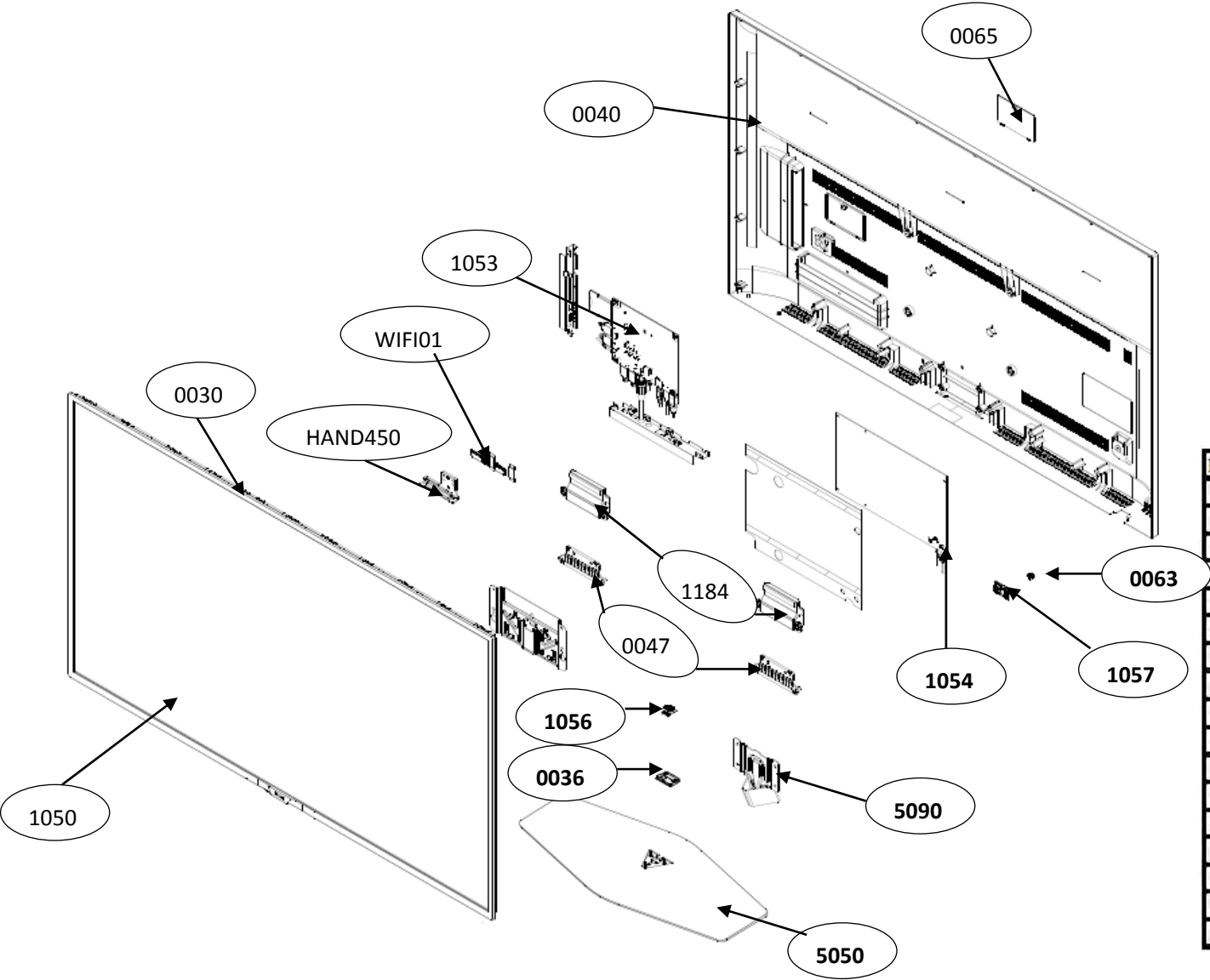
	pin1	pin2	pin3	pin4	pin5	pin6
F1						
F2						
F3						
F4						
F5						

Joystick diversity for AL

	CN03	C07	R9	R10
AL2	N	N	N	N
AL3/AL4	Y	Y	Y	Y

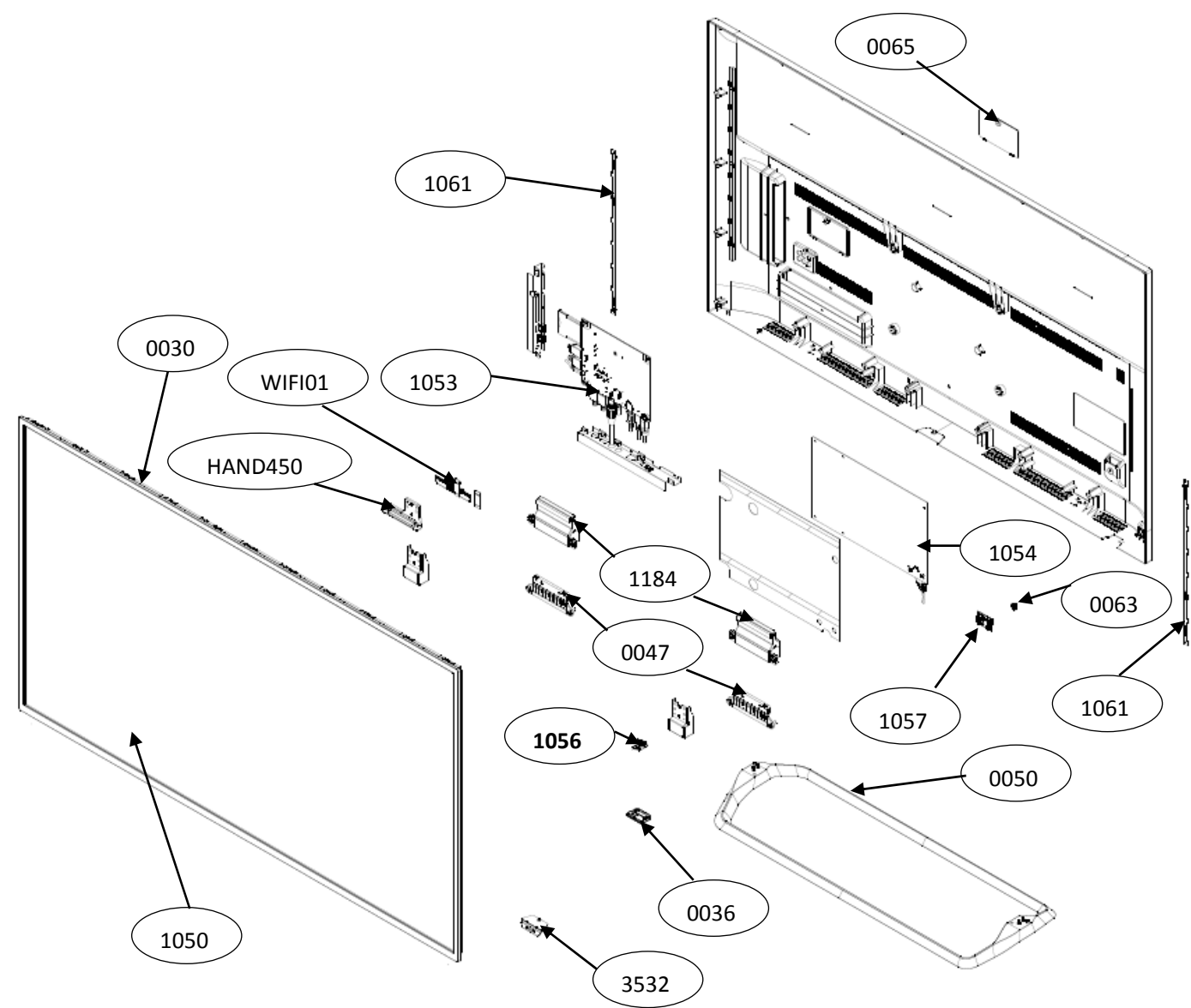
9.1 6162 series 43"





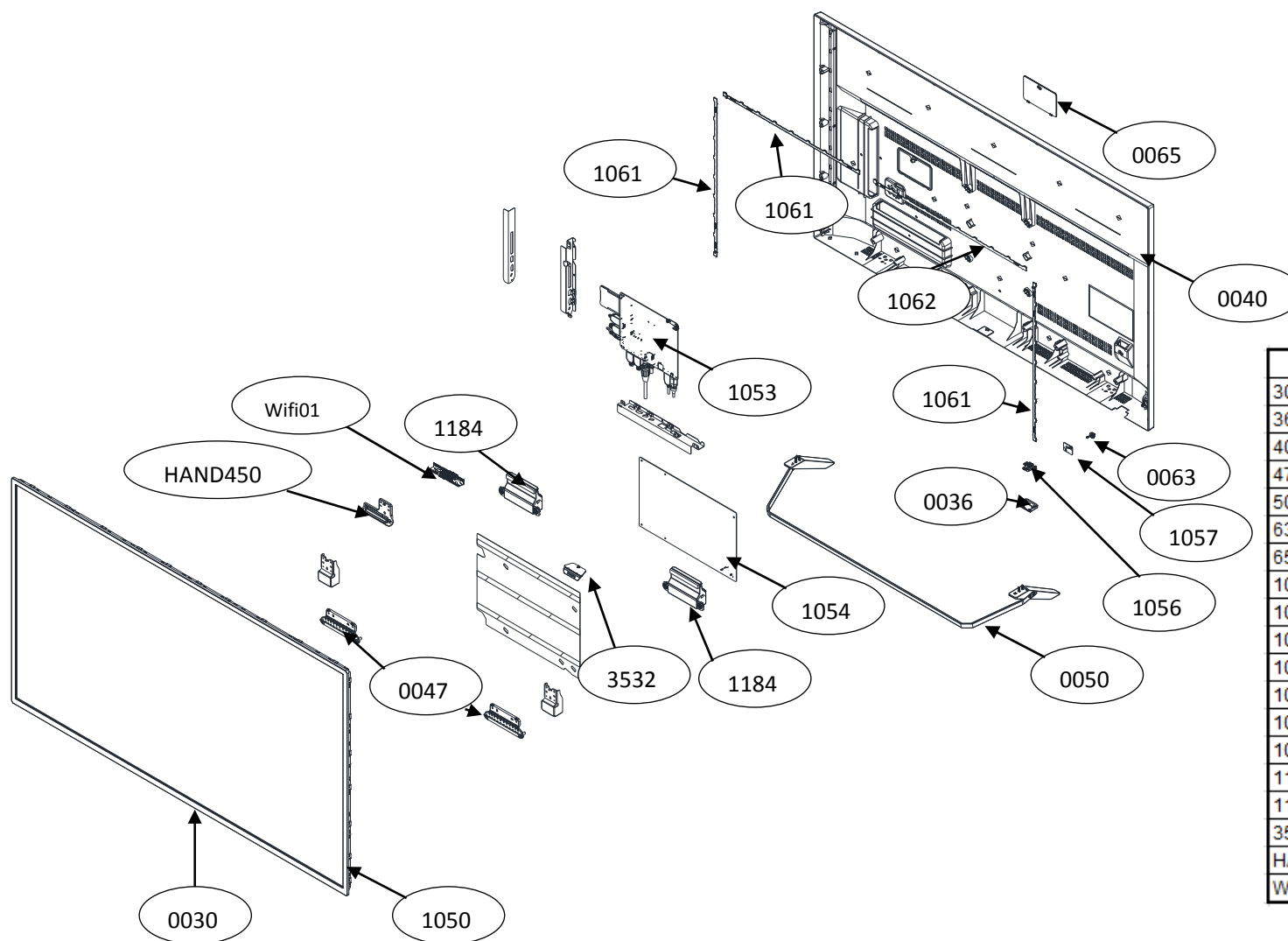
Pos NO.	Description	Remark
0030	BEZEL	
0036	LENS_IR	
0040	REAR COVER	
0047	HDD Holder	
0063	KEY_FUNCTION	
0065	COVER CLOCK REAR	
1050	DISPLAY PANEL	
1053	PANEL SSB	
1054	POWER SUPPLY UNIT	
1056	IR/LED PANEL	
1057	KEYBOARD CONTROL PANEL	
1176	REMOTE control	Not displayed
1184	SPEAKER	
5050	BASE PLATE	
5090	STAND NECK	
WIFI01	WIFI USB	
HAND450	Case holder	

9.3 6262 series 49"/50"/55"



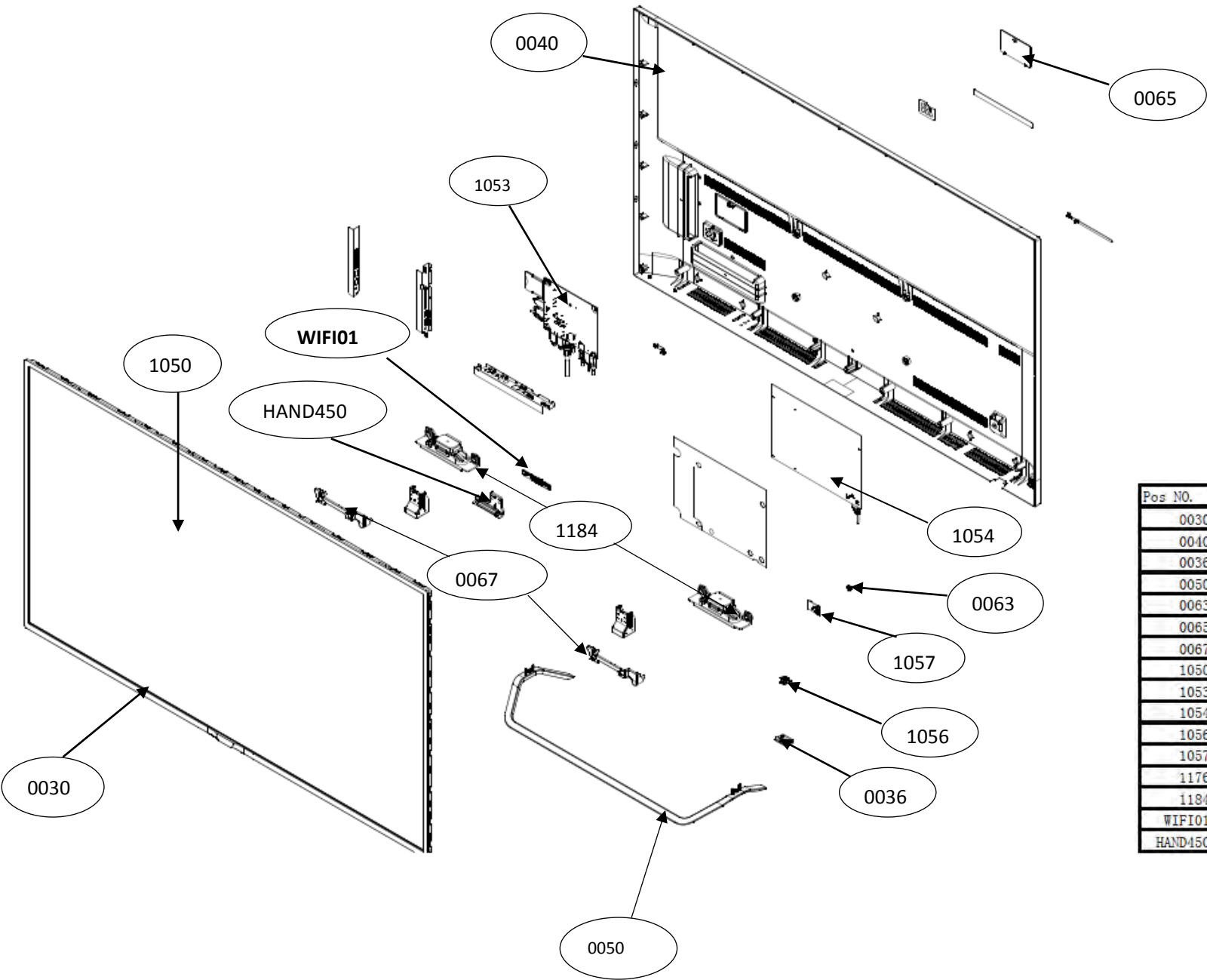
Pos NO.	Description	Remark
0030	BEZEL	
0036	LENS_IR	
0040	REAR COVER	
0047	HDD Holder	
0050	BASE	
0063	KEY FUNCTION	
0065	COVER CLOCK REAR	
1050	DISPLAY PANEL	
1053	PANEL SSB	
1054	POWER SUPPLY UNIT	
1056	IR/LED PANEL	
1057	KEYBOARD CONTROL PANEL	
1061	AMBILIGHT ASSY(LED 6)	
1176	REMOTE control	Not displayed
1184	SPEAKER	
3532	DECO LOGO	
WIFI01	WIFI USB	
HAND450	Case holder	

9.4 6272 series /50"/55"



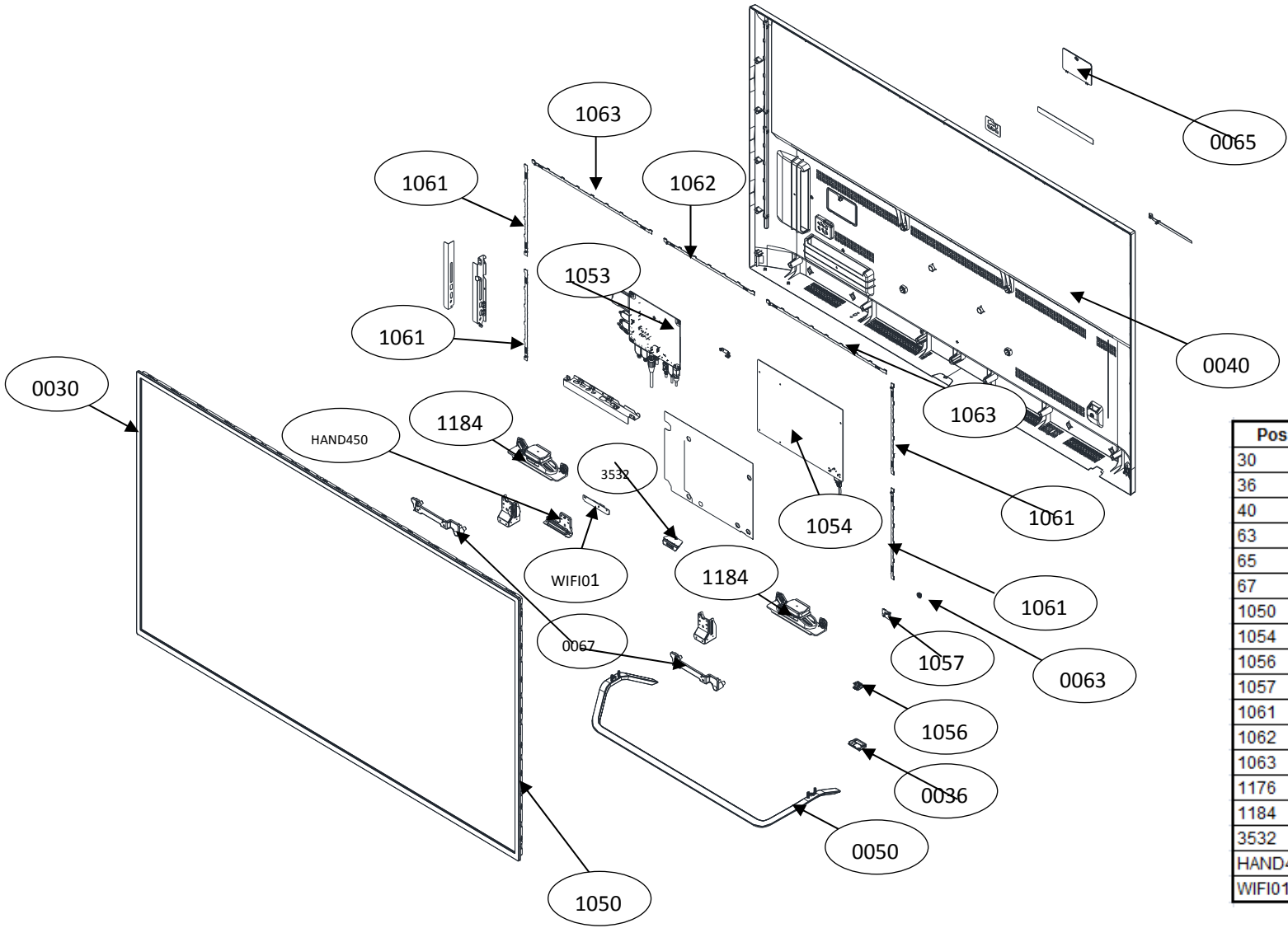
Pos NO.	Description	Remark
30	BEZEL ASSY	
36	LENS_IR	
40	REAR_COVER	
47	HDD Holder	
50	Base	
63	KEY_FUNCTION	
65	COVER_CLOCK_REAR	
1050	LCD panel	
1053	MainBoard ASSY	
1054	POWER BOARD ASSY	
1056	IR BOARD ASSY	
1057	KEY BOARD ASSY	
1061	AMBILIGHT ASSY	
1062	AMBILIGHT ASSY	
1176	REMOTE CONTROL	No displayed
1184	SPEAKERS	
3532	DECO_LOGO	
HAND450	Case_holder	
WIFI01	WIFI MODULE	

9.5 6162 series 65"



Pos NO.	Description	Remark
0030	BEZEL	
0040	REAR COVER	
0036	LENS_IR	
0050	BASE	
0063	KEY_FUNCTION	
0065	COVER CLOCK REAR	
0067	COVER SPK	
1050	DISPLAY PANEL	
1053	PANEL SSB	
1054	POWER SUPPLY UNIT	Not displayed
1056	IR/LED PANEL	
1057	KEYBOARD CONTROL PANEL	
1176	REMOTE control	
1184	SPEAKER	
WIFI01	WIFI USB	
HAND450	Case holder	

9.6 6262 series 65"



Pos No	Description	Remark
30	BEZEL ASSY	
36	LENS_IR	
40	REAR COVER	
63	KEY_FUNCTION	
65	COVER_CLOCK_REAR	
67	COVER_SPK	
1050	LCD Panel	
1054	POWER BOARD ASSY	
1056	IR BOARD ASSY	
1057	KEY BOARD ASSY	
1061	AMBILIGHT ASSY(4)	
1062	AMBILIGHT ASSY	
1063	AMBILIGHT ASSY(2)	
1176	REMOTE CONTROL	Not displayed
1184	SPEAKERS	
3532	DECO_LOGO	
HAND450	Case_holder	
WIFI01	WIFI USB	
