

LCD Television

Service Manual

Chassis: SX6

Product: LTDN55K681XWSEU3D

Ver 1.0

Hisense Electric Co., Ltd.

December, 2014

Contents

Contents.....	- 2 -
Service Manual	- 3 -
1. Precautions and notices.....	- 3 -
1.1 Warning.....	- 4 -
1.2 Notes.....	- 7 -
2. Product Function Specifications	- 9 -
2.1 TV Layout.....	- 9 -
2.2 Main board layout.....	- 10 -
2.3 Connection wiring	- 10 -
2.4 Specification	- 13 -
2.5 Remote control.....	- 13 -
3. Factory/Service OSD Menu and Adjustment.....	- 16 -
3.1 How to enter the Factory OSD Menu	- 16 -
3.2 Factory OSD Menu.....	- 18 -
3.3 Designer Menu.....	- 21 -
4. Software Upgrading.....	- 23 -
4.1 USB update (priority option)	- 23 -
4.2 Internet Update	- 25 -
4.3 Upgrade Mboot and main software with Tool	- 27 -
5. Trouble shooting	- 33 -
5.1 Troubleshooting for Remote Control	- 34 -
5.2 Troubleshooting for Function Key.....	- 35 -
5.3 TV won't Power On.....	- 36 -
5.4 Troubleshooting for Audio.....	- 37 -
5.5 Troubleshooting for TV/VGA/HDMI input.....	- 38 -
5.6 Troubleshooting for YPbPr input.....	- 39 -
5.7 Troubleshooting for Video input.....	- 40 -
6. Signals Block Diagram and power assign:	- 40 -
7. Schematic circuit diagram	- 40 -
8. Explode View.....	- 40 -

Service Manual

1. Precautions and notices

BEFORE SERVICING THE LCD TV, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

USE ONLY MANUFACTURER SPECIFIED REPLACEMENT PARTS WHEN SERVICING.

USE OF NON-AUTHORIZED PARTS WILL VOID THE MANUFACTURE'S WARRANTY

Proper service and repair is important to the safe, reliable operation of all Hisense Equipment. The service procedures recommended by Hisense and described in this Service Guide are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment and pose risk of personal injury

. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Service should only be performed by an experienced electronics technician trained in the proper Television safety and service methods

and procedures

Hereafter throughout this manual, HISENSE will be referred to.

1.1 Warning

1.1.1

Critical components having special safety characteristics are identified with a ▲ by the Ref. No. in the parts list. Use of non-manufacturer's recommended parts may create shock, fire, or other hazards. Under no circumstances should the original design be modified or altered without written permission from RCA.

Hisense Eassumes no liability, express or implied, arising out of any unauthorized modification of design. Servicetech assumes all liability.

DANGER CAUTION

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE GUIDE.

1.1.2.

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, be sure to use anti-static table mats and properly use a grounding wrist stra. Keep components and tools also at this same potential.

IMPORTANT:

Always disconnect the power cord from AC outlet before replacing parts or modules.

1.1.3

To prevent electrical shock, use only a properly grounded 3 prong outlet or extension cord.

1.1.4

When replacement parts are required, be sure to use replacement parts specified by the manufacturer or have the same characteristics as the original part.

Unauthorized substitutions may result in fire, electric shock, or other hazards and will void the manufacturer's warranty.

1.1.5

Safety regulations require that after a repair the set must be returned in its original condition. In addition, prior to closing set, check that:

-Note:

>All wire harnesses and flex cables are properly routed and secured with factory tape and/or mounted cable clamps.

> All cables and connectors are properly insulated and do not have any bare wires/lead exposed

1.1.6

(1) Do not supply a voltage higher than that specified to this product. This may damage the product and may cause a fire.

(2) Do not use this product:

- > High humidity areas
- > In an area where any water could enter or splash into the unit.

High humidity and water could damage the product and cause fire.

(3) If a foreign substance (such as water, metal, or liquid) gets inside the panel module, immediately turn off the power. Continuing to use the product may cause fire or electric shock.

(4) If the product emits smoke, and abnormal smell, or makes an abnormal sound, immediately turn off the power. Continuing to use the product, it may cause fire or electric shock.

(5) Do not pull out or insert the power cable from/to an outlet with wet hands. It may cause electric shock.

(6) Do not damage or modify the power cable. It may cause fire or electric shock.

(7) If the power cable is damaged, or if the connector is loose, do not use the product: otherwise, this can lead to fire or electric shock.

(8) If the power connector or the connector of the power cable becomes dirty or dusty, wipe it with a dry cloth. Otherwise, this can lead to fire.

(9) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over

1.2 Notes

Notes on Safe Handling of the LCD panel and during service

The work procedures shown with the Note indication are important for ensuring the safety of the product and the servicing work. Be sure to follow these instructions.

- Before starting the work, secure a sufficient working space.
- At all times other than when adjusting and checking the product, be sure to turn OFF the POWER Button and disconnect the power cable from the power source of the TV during servicing.
- To prevent electric shock and breakage of PC board, start the servicing work at least 30 seconds after the main power has been turned off. Especially when installing and removing the power board, start servicing at least 2 minutes after the main power has been turned off.
- While the main power is on, do not touch any parts or circuits other than the ones specified. If any connection other than the one specified is made between the measuring equipment and the high voltage power supply block, it can result in electric shock or may trip the main circuit breaker. When installing the LCD module in, and removing it from the packing carton, be sure to have at least two persons perform the work.
- When the surface of the panel comes into contact with the cushioning materials, be sure to confirm that there is no foreign matter on top of the cushioning materials

before the surface of the panel comes into contact with the cushioning materials.

Failure to observe this precaution may result in, the surface of the panel being scratched by foreign matter.

- Be sure to handle the circuit board by holding the large parts as the heat sink or transformer. Failure to observe this precaution may result in the occurrence of an abnormality in the soldered areas.
- Do not stack the circuit boards. Failure to observe this precaution may result in problems resulting from scratches on the parts, the deformation of parts, and short-circuits due to residual electric charge.
- Perform a safety check when servicing is completed. Verify that the peripherals of the serviced points have not undergone any deterioration during servicing. Also verify that the screws, parts and cables removed for servicing purposes have all been returned to their proper locations in accordance with the original setup.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



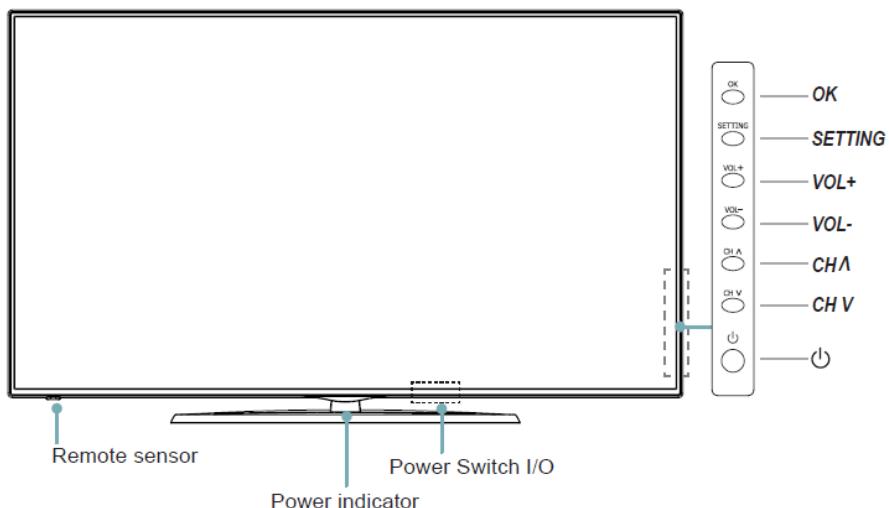
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the set.

2. Product Function Specifications

2.1 TV Layout

LTDN55K681XWSEU3D

TV Front



Item	Description
Power Switch I/O	Switch the I/O power ON or OFF.
Power Indicator	Lights up in standby mode.
Remote Sensor	Receives remote signals from the remote control. Caution: Do not put anything near the sensor, as its function may be affected.
OK	Confirm the operation.
SETTING	Display the source menu,more settings and so on.
VOL + / VOL -	Adjust the volume.
CH A / V	Switch between channels.
Power Button ⏻	Turn on the TV from the standby mode or switch the TV back to standby mode. Caution: The TV consumes the power even in standby mode. Please turn the power off or unplug the power cord to save the power.

NOTES

- The Picture is Only for Reference.
- Powering on the TV requires several seconds to load program. Do not rapidly turn the TV off as it may cause the TV to work abnormally.

2.2 Main board layout

Main board : 5857

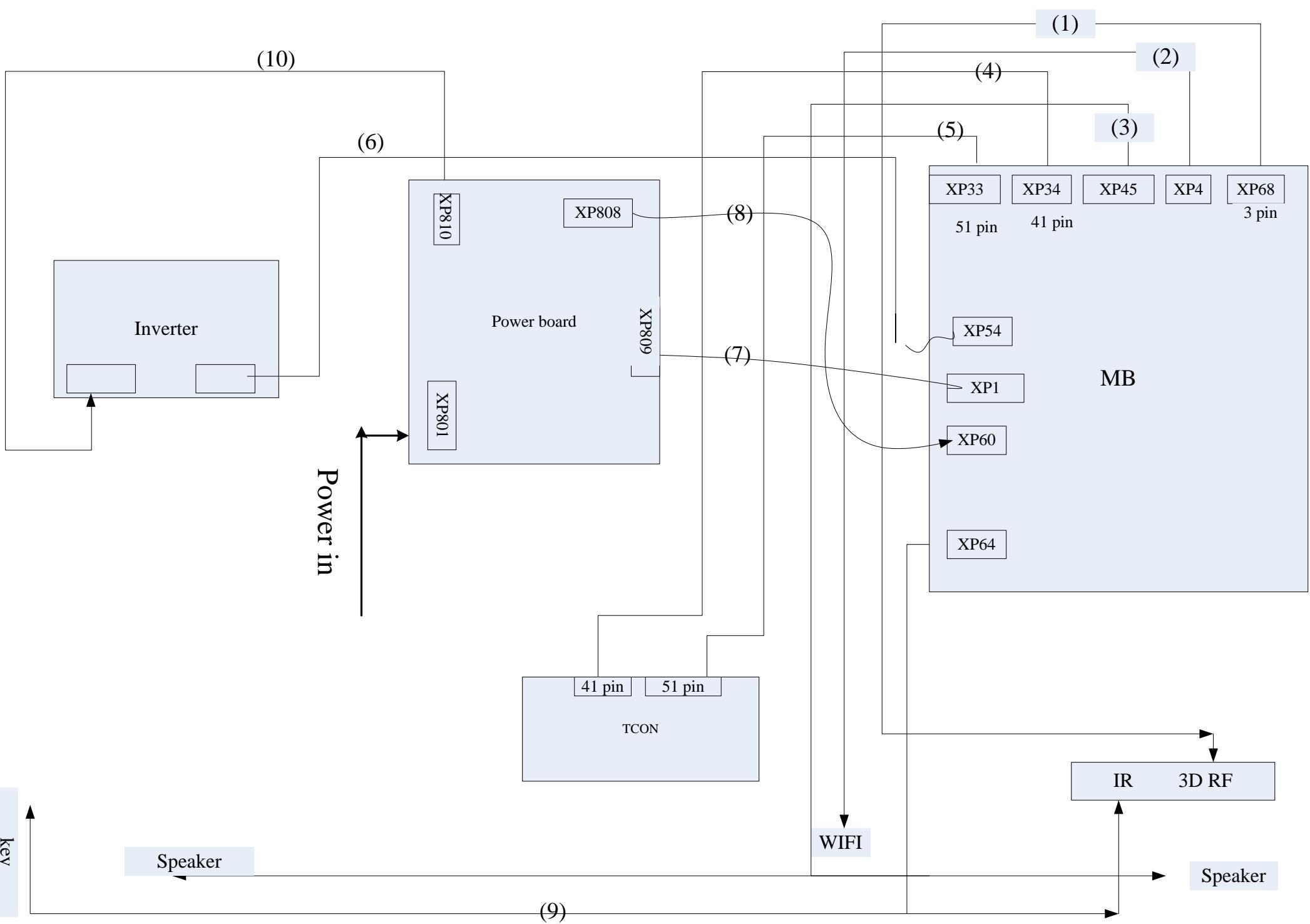
The TOP



Notes:

Detail terminal connections of main board look up the TV Rear (Page 11), please.

2.3 Connection wiring



No.	Connector
1	MB: XP68---3D RF
2	MB: XP4---WIFI
3	MB: XP45---Speaker
4	MB: XP34---TCON (41 PIN)
5	MB: XP33---TCON (51 PIN)
6	MB: XP54---inverter
7	MB: XP1---Power XP809
8	MB: XP60---Power XP808
9	MB: XP64--- IR & KEY complex wiring
10	Power XP810---Inverter
	MB: main board

2.4 Specification

<i>Model Name</i>		<i>LTDN55K681XWSEU3D</i>
<i>Dimension</i>	Without Stand	Width:48.6 inches (1235mm) Height: 28.2 inches (717mm) Depth: 2.3 inches (59 mm)
	With Stand	Width: 48.6 inches (1235 mm) Height: 29.8 inches (758 mm) Depth: 11.2 inches (284 mm)
<i>Weight</i>	Without Stand	54.2 lbs (24.6 kg)
	With Stand	58.6 lbs (26.6 kg)
LED Panel Minimum size (diagonal)		55 inches
Screen resolution		3840 × 2160
Audio power		12W +12W
Power consumption		Please refer to the rating label.
Power supply		Please refer to the rating label.
<i>Receiving systems</i>	Analog	PAL-D/K, B/G, I,SECAM-D/K, B/G, L/L'
	Digital	DVB-T/T2,DVB-C,DVB-S/S2
Environmental conditions		Temperature: 41°F - 95°F (5°C - 35°C) Humidity: 20% - 80% RH Atmospheric pressure: 86 kPa - 106 kPa
Component Input		480 I / 60 Hz, 480 P / 60 Hz, 576 I /50 Hz, 576 P /50 Hz, 720 P / 50 Hz, 720 P / 60 Hz, 1080 I / 50 Hz, 1080 I / 60 Hz, 1080 P / 50 Hz, 1080 P / 60 Hz
VGA Input		VGA (640×480 / 60 Hz), SVGA (800×600 / 60 Hz), XGA (1024×768 / 60 Hz)
HDMI Input		HDMI1, HDMI2, HDMI3: RGB / 60 Hz (640×480, 800×600, 1024×768) YUV / 60 Hz (480 I, 480 P, 720 P, 1080 I, 1080 P) YUV /50Hz (576 I, 720 P, 1080 I, 1080 P) 3840×2160/24Hz, 3840×2160/25Hz, 3840×2160/30Hz HDMI4: YUV /60Hz(720 P, 1080 P) YUV /50Hz(720 P, 1080 P) 3840×2160/24Hz,3840×2160/25Hz,3840×2160/30Hz, 3840×2160/50Hz, 3840×2160/60Hz

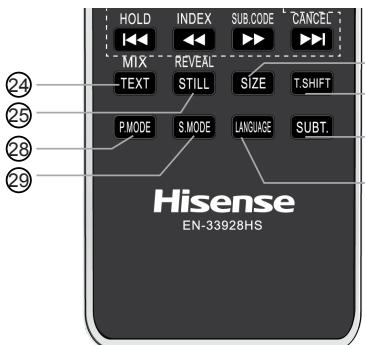
2.5 Remote control

Remote Control



- ① POWER: Switch the TV on or into standby mode
- ② MUTE: Mute or restore the TV sound
- ③ Channel Number: Direct channel selection or numbers input
- ④ PRE-CH: Return to previous channel
- ⑤ INFO: Display the present program information such as the current channel and the input source
- ⑥ Media: A short-cut to switch to the Digital Media Player mode directly
- ⑦ VOL + / -: Adjust the volume
- ⑧ CH ▲ / ▼ : Switch channel
- ⑨ PIP: Start picture-in-picture
- ⑩ Dispaly 3D menu settings
- ⑪ EPG: Display the Electronic Program Guide (DTV mode)
- ⑫ CH.LIST: Display the Channel List on the screen
- ⑬ LIVE TV: Enter the Live TV screen
- ⑭ TOOL: Auxiliary operation menu in special scenarios
- ⑮ SETTING: Display the Settings menu
- ⑯ ▲/▼/◀/▶: Allows you to navigate the OSD menus and adjust the system settings to your preference
- ⑰ OK: Confirm the selection in the OSD menus
- ⑱ RETURN: Return to previous menu
- ⑲ EXIT: Return to the current channel
- ⑳ HOME: Enter the Smart
- ㉑ Color keys for direct selection of options
- ㉒ Playback and record keys
- ㉓ PVR: Record the current program (DTV mode)
- ㉔ TEXT: Turn on/off the teletext function
- ㉕ MIX: Mix teletext with a TV program
- ㉖ STILL: Freeze the picture
- ㉗ REVEAL: Hide or unhide hidden information on a page, such as solutions to riddles or puzzles in the teletext

Remote Control



- ⑯ SIZE: To enlarge the picture on the TV screen
- ⑰ T.SHIFT: Start the Time Shift function
- ⑱ P.MODE: Picture MODE button
- ⑲ S.MODE: Sound MODE button
- ⑳ LANGUAGE: Select the audio languages (only applicable when the TV program has this feature)
- ㉑ SUBT.: Activate or deactivate the subtitle mode

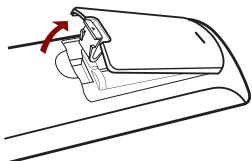
▣ NOTE

- The function of PIP and 3D is only applicable to the products which support it.

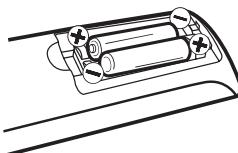
► Installing Batteries in the Remote Control

1. Press and lift the back cover to open the battery compartment of the remote control.
2. Insert two AAA size batteries. Make sure to match the (+) and (-) ends of the batteries with the (+) and (-) ends indicated in the battery compartment.
3. Close the battery compartment with the cover.

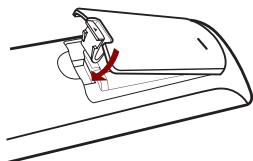
① Remove the battery compartment cover



② Insert the batteries



③ Close the battery compartment cover



▣ NOTES

Handling the Batteries

- Incorrect use of batteries may cause corrosion or battery leakage, which could cause fire, personal injury or damage to property.
- Only use the battery type indicated in this manual
- Do not mix old and new batteries or different types of batteries .
- Do not dispose of used batteries as domestic waste. Dispose of them in accordance with local regulations.

3. Factory/Service OSD Menu and Adjustment

3.1 How to enter the Factory OSD Menu

. With user's RC

1. Power on the TV.

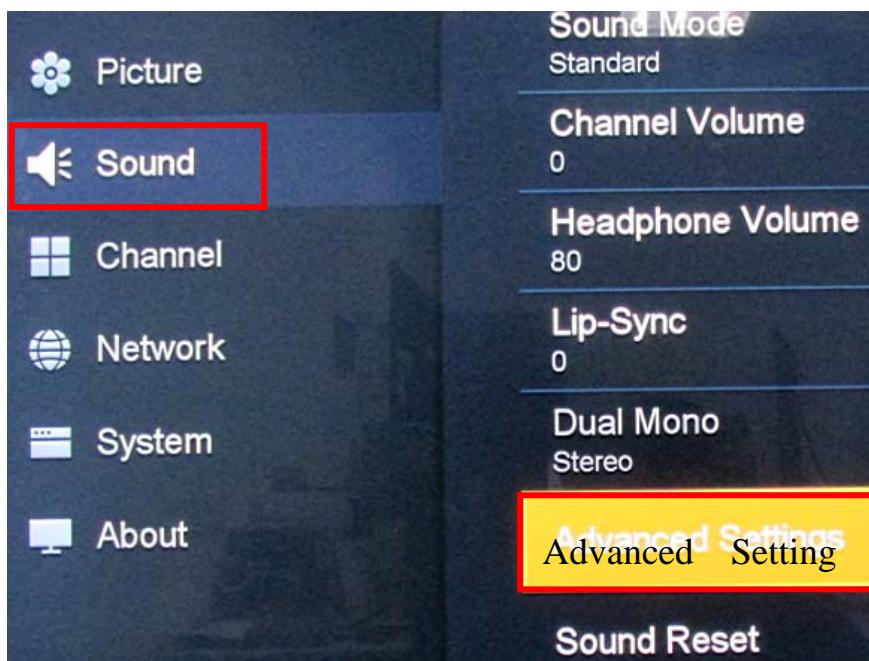


2. Press **SETTING** button and call up Setup Menu with user remote control.
3. Select Setup > Sound > Advanced setting > Balance.
4. When Balance is “0”, enter 1->9->6->9 in sequence.

Note: If necessary, re-enter number keys.

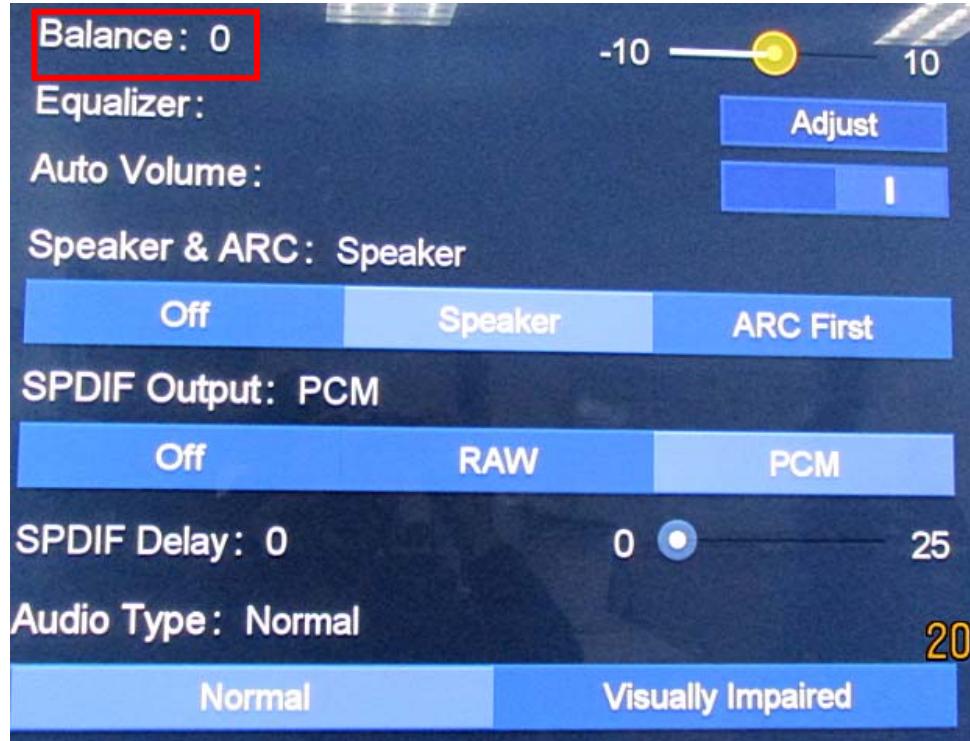
5. Factory OSD appears.
6. DC power off and power on the TV, which can exit the factory OSD.

Figures as following:

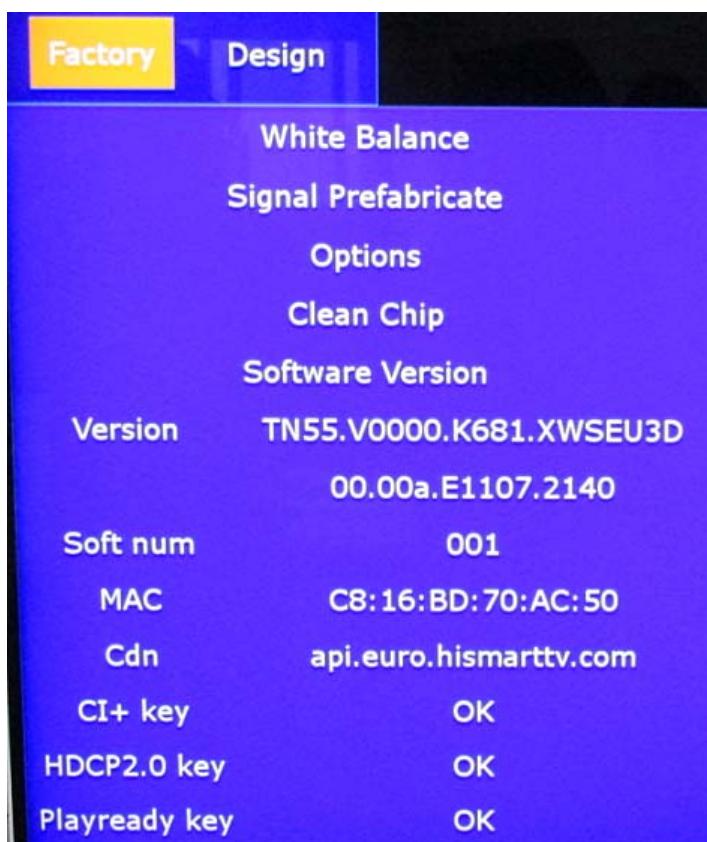


Next

When Balance is “0”, enter 1->9->6->9 in sequence.



3.2 Factory OSD Menu



3.2.1 White Balance

Note: Different source has different WB values. Before adjusting, please change to corresponding source.

White Balance		R Gain	512
Signal Prefabricate		G Gain	512
Options		B Gain	512
Clean Chip		R Offset	512
Software Version		G Offset	512
Version	TN55.V0000.K681.XWSEU3D	B Offset	512
	00.00a.E1107.2140	Color Temp	Standard
Soft num	001	Panel	B1
MAC	C8:16:BD:70:AC:50		
Cdn	api.euro.hismarttv.com		
CI+ key	OK		
HDCP2.0 key	OK		
Playready key	OK		
			2014/11/19

3.2.2 Signal prefabricate

White Balance	
Signal Prefabricate	
Options	Huang Dao
Clean Chip	Huang Dao New
Software Version	Qing Dao
Version	Gui Yang
	Jiang Men
	Egypt
Soft num	South Africa
MAC	Syria
Cdn	Malaysia
CI+ key	Iran
HDCP2.0 key	Indonesia
Playready key	Russia
	201
	Algeria
	Poland

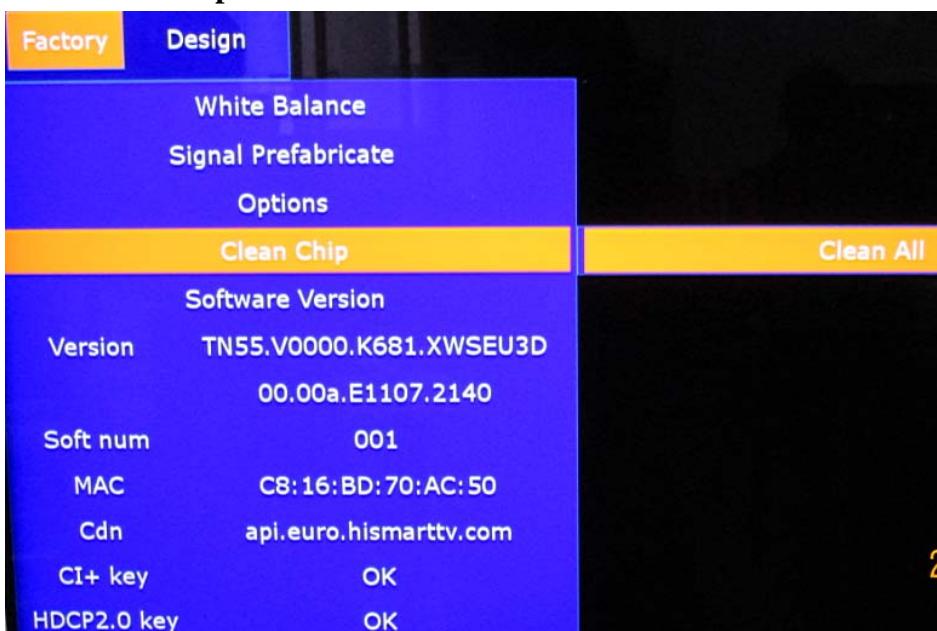
3.2.3 Factory Option

TOFAC M/U
Language English(can option)

	Item	Default	Options	Notes
1	MODE	M	M, U	M-Can enter factory mode with factory RC or user RC. U-Can enter factory mode only with user's RC.

Note: MODE "M" is only used for factory production.

3.2.4 Clean Chip



3.2.5 Software Version

Package:	1.0.3.5
Main System:	1.0.3.5d
Main Bootloader:	0.10.4.0
Imagecache:	0.0.0.0
Standby Controller:	2.0.0.115
FRCX:	0.9.36.0
FRCX Bootloader:	0.9.36.0
FRCX SI9679:	1.1.8.0
FRCX database:	1.105.7.181

Note: The factory menu date varies according to different sources. In case changing the factory data by error, you can choose to "Clean all", by which you can resume the default value.

To clear the EEPROM:

- Select the item "Clean all".
- Press VOL+ button to clear the EEPROM data.
- Close the OSD menu after 5 seconds.
- Restart the TV.

3.3 Designer Menu

Design>



Picture mode



Prescale



SX6 SSC

SX6 SSC	LVDS On/Off	On
FRC SSC	LVDS Depth	0.56
Setup	LVDS Freq	15.6-31.3
	DDR On/Off	Off
	DDR Depth	2014/10/31
	DDR Freq	15.6-31.3

FRC SSC

FRC SSC	VBYONE On/Off	Off
Setup	VBYONE Depth	
	VBYONE Freq	
	DDR On/Off	Off
	DDR Depth	
	DDR Freq	

Note:

Above “Factory/Service OSD Menu” is reference for chassis MTK5653 , please refer to the actual units to determine the appearances.

4. Software Upgrading

Before upgrading, read the following.

In Factory mode

First: Upgrade the software.

Second: To clean the EEPROM .

A Select the item “**Clean all**”.

B TV will automatically Restart .

Last: After the operation above all, necessarily, Re-search the channels for the users

Software Upgrading directly

Software update comprises three methods.

Internet upgrade: Auto Internet Upgrade

Online Manual Upgrade

USB upgrade: USB upgrade:

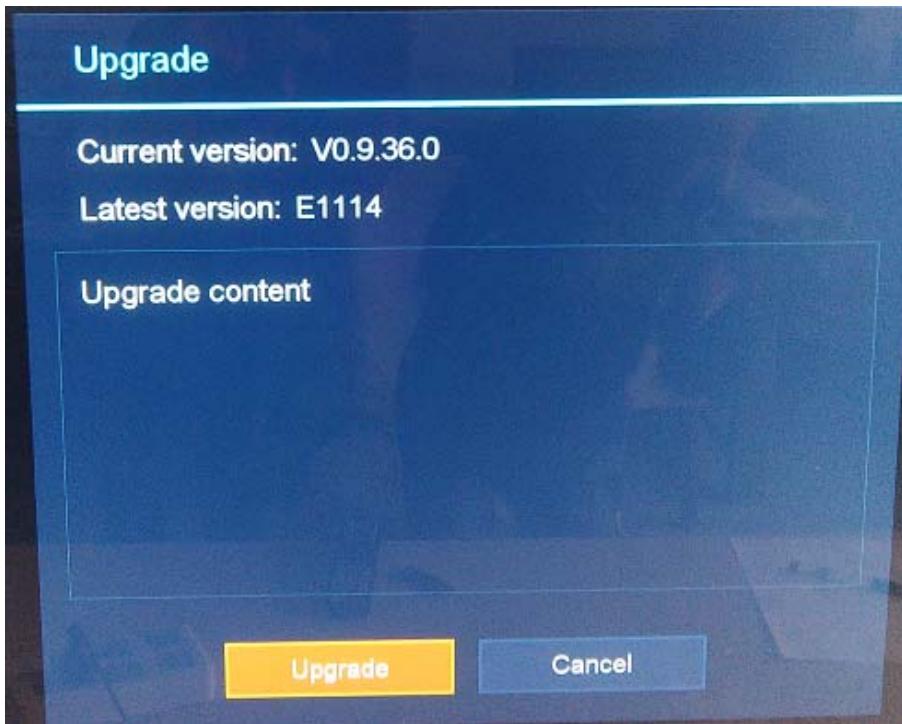
4.1 USB update (priority option)

- First, copy the “*.tli” file to USB Disk;.
- Second, ensure there is no other tli file in the root directory of USB Disk .
- Insert USB Disk to USB port, Setting ->**Setup** ->**About** ->**USB Upgrade** -> **Detect**.
- The TV will identify the software and upgrade automatically.

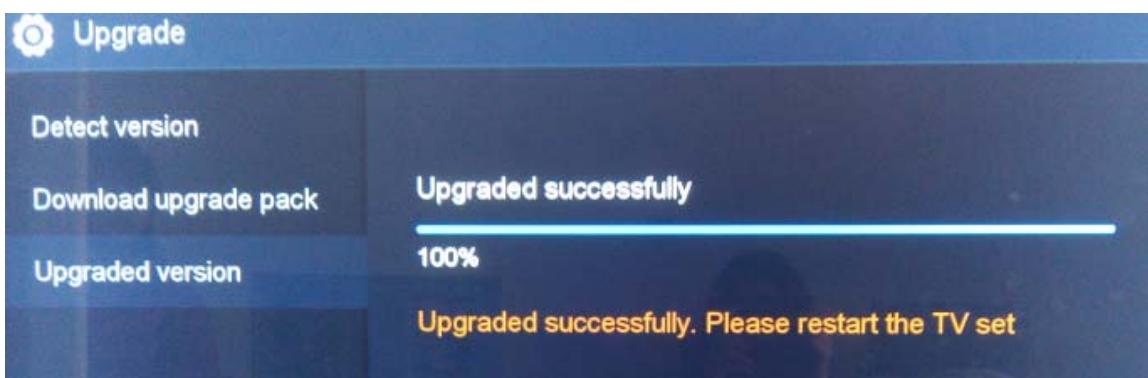
As following:



Next



Next



4.2 Internet Update

Select Internet Update, TV must have connected with internet.

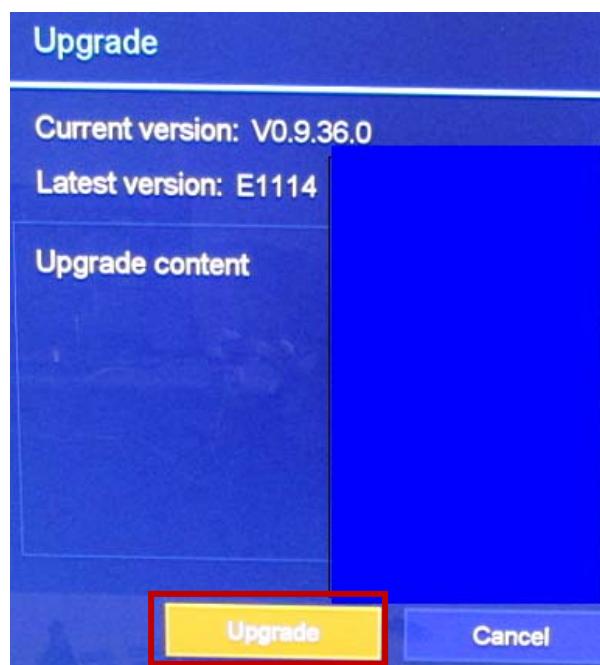
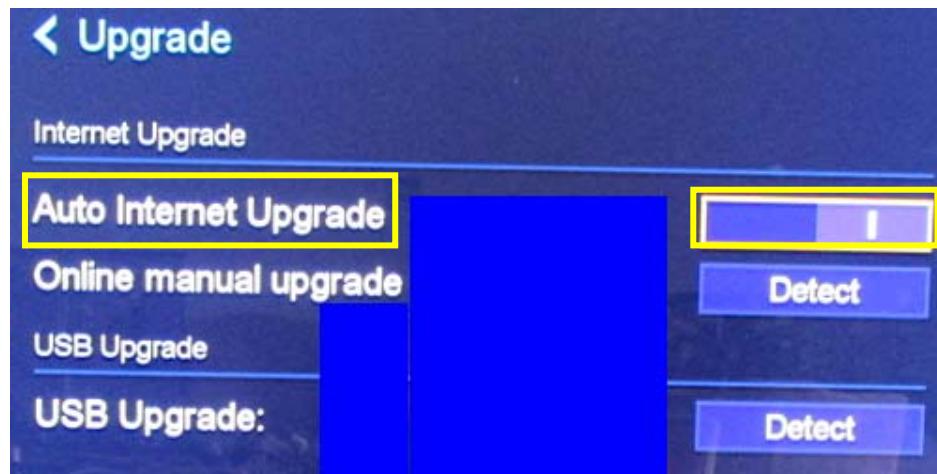
Diagram figures as following:

4.2.1 Auto Internet Upgrade:

More Setting ->Setup ->About ->USB Upgrade-> Auto Internet Upgrade>

According to the indication, TV can automatically upgrade.

As figure:

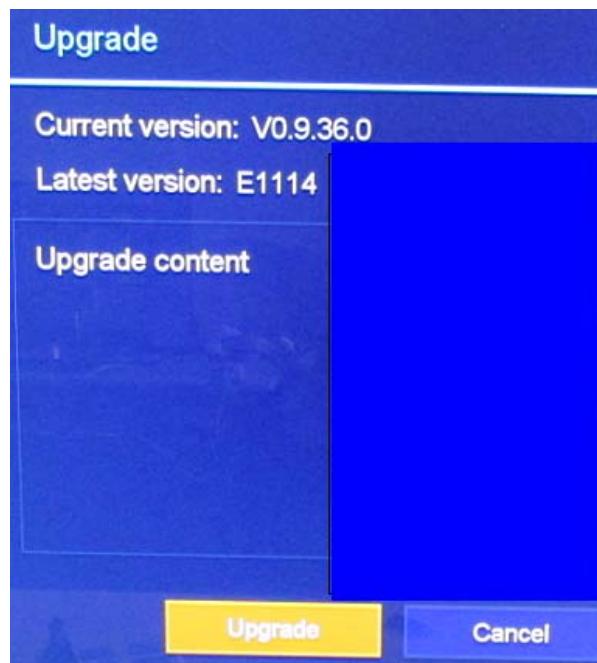
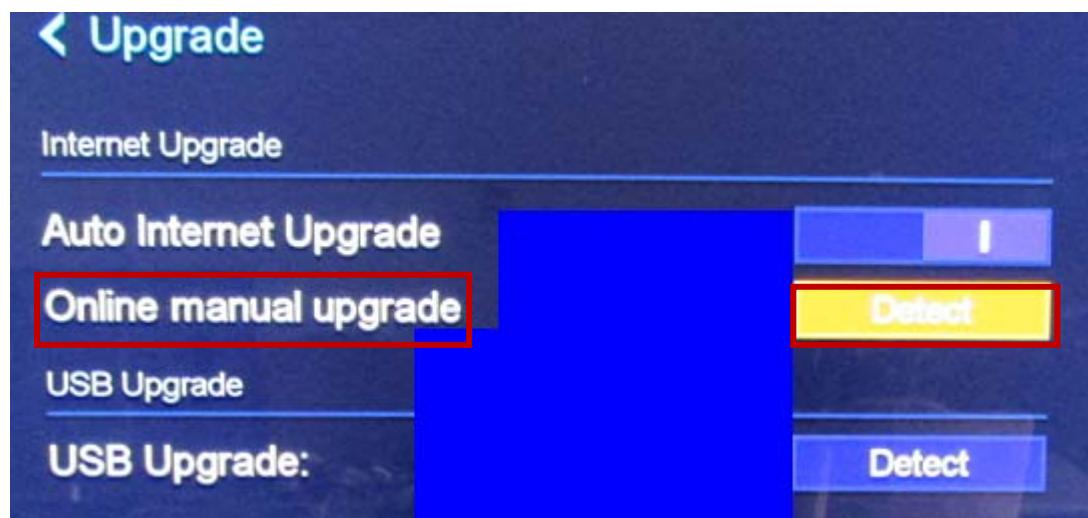


4.2.2 Online Manual Upgrade

More Setting ->Setup ->About ->USB Upgrade-> Online Manual Upgrade >

According to the indication, TV can automatically upgrade.

As figure:



4.3 Upgrade Mboot and main software with Tool

If TV crashed, must use Tool to upgrade the main software with USB-to-serial port cable、Tftpd32 and securecrt

4.3.1 Hardware connecting

USB-to-serial port cable. picture as following.



Figure 1

Connect the unit to your pc with a USB-to-serial port cable. USB port connects to your PC and earphone terminal to the TV's earphone hole..

As the following picture, the earphone hole is the top one not the bottom one of the right side.

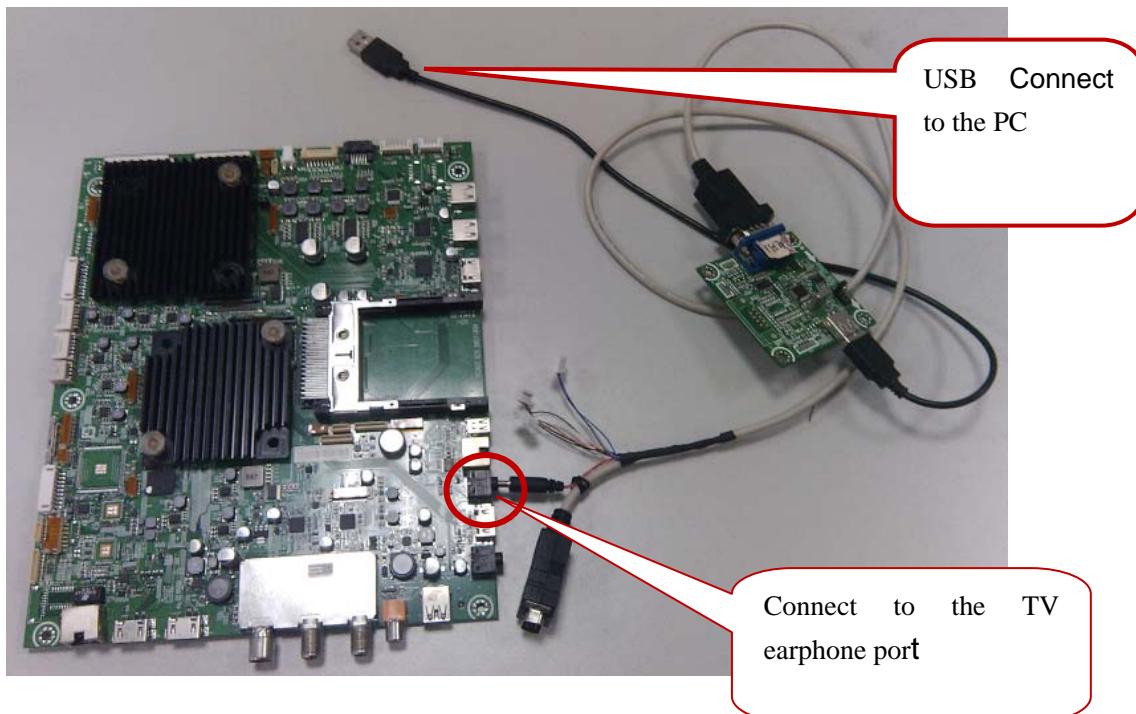


Figure 2

4.3.2 Install the driver

Double click the icon  , install the driver.

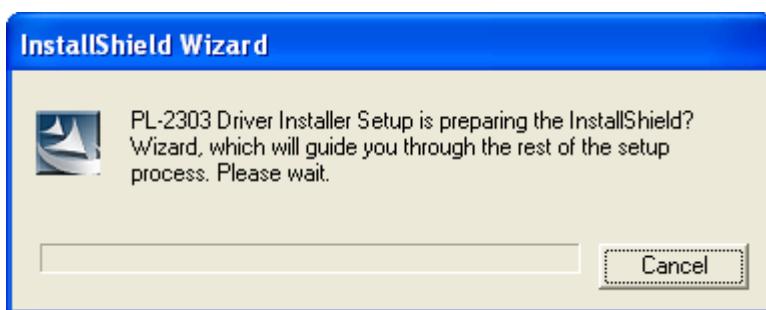


Figure 3

Select the default value, the driver will be installed step by step.

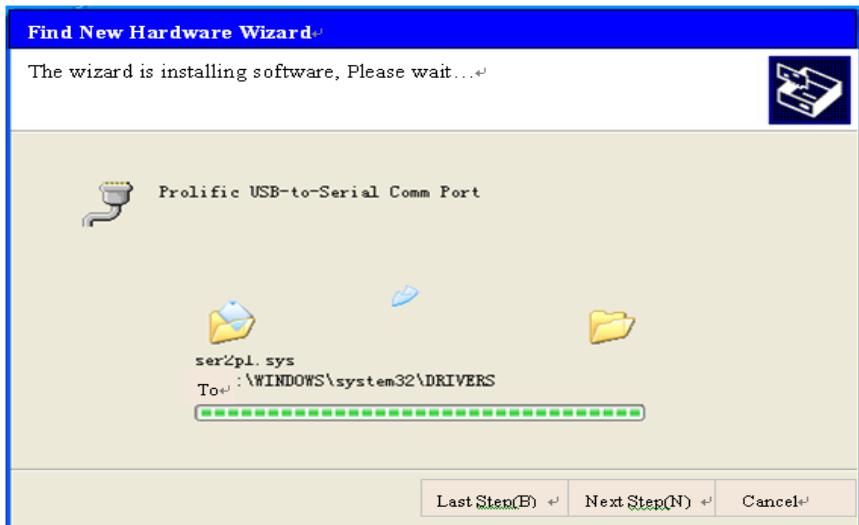


Figure 4

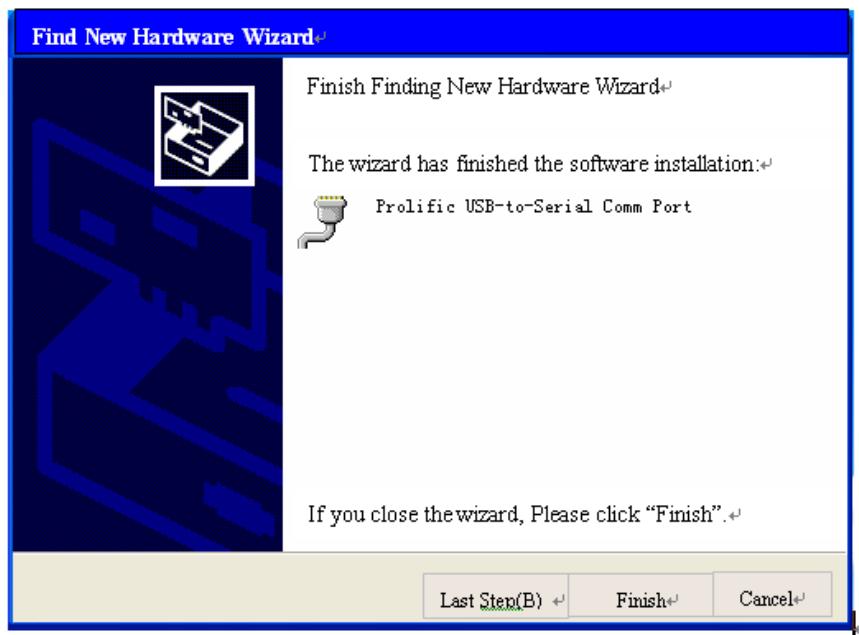


Figure 5

4.3.3 Run securecrt

b) Run **Securecrt.exe** to set up a serial section.

Select File→Connect→New section



Figure 6



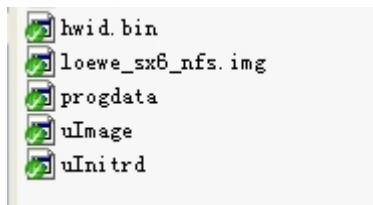
Figure 7

4.3.4 How to Upgrade Mboot and main software?

First: Run SecureCRT Tool

Second: USB-to-serial port cable connecting , as figure 2.

Third: Copy the following 5 files to the USB Disk of root directory.



AC power off the TV, this time the mouse must lies on the Securecrt interface.

AC power on the TV, at the same time press “shift” +”>” key.

Then enter boot mode.

Input “**run usbprog**” on the Securecrt interface. Enter

Figure 9

the continuous printing data rolling, about 3-5 minutes . after “DONE” appears. it indicates the main software upgrading is successful. then AC power off and power on the TV.

```
populating /var/local done
Signal prog success
Successfully sent mode 5 and received acknowledgment
Sending status over network...
inet_pton error occurred
DONE
/ #
```

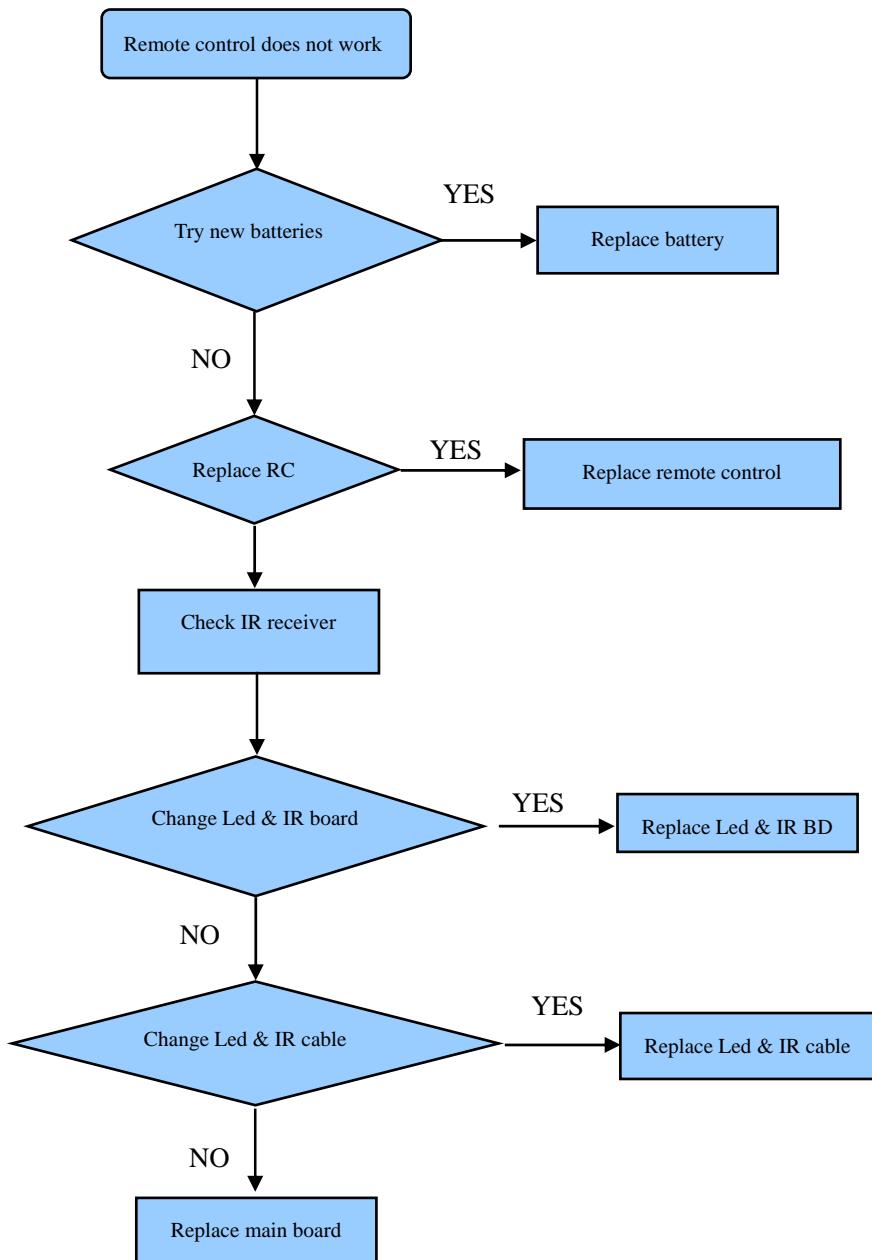
Figure 10

5. Trouble shooting

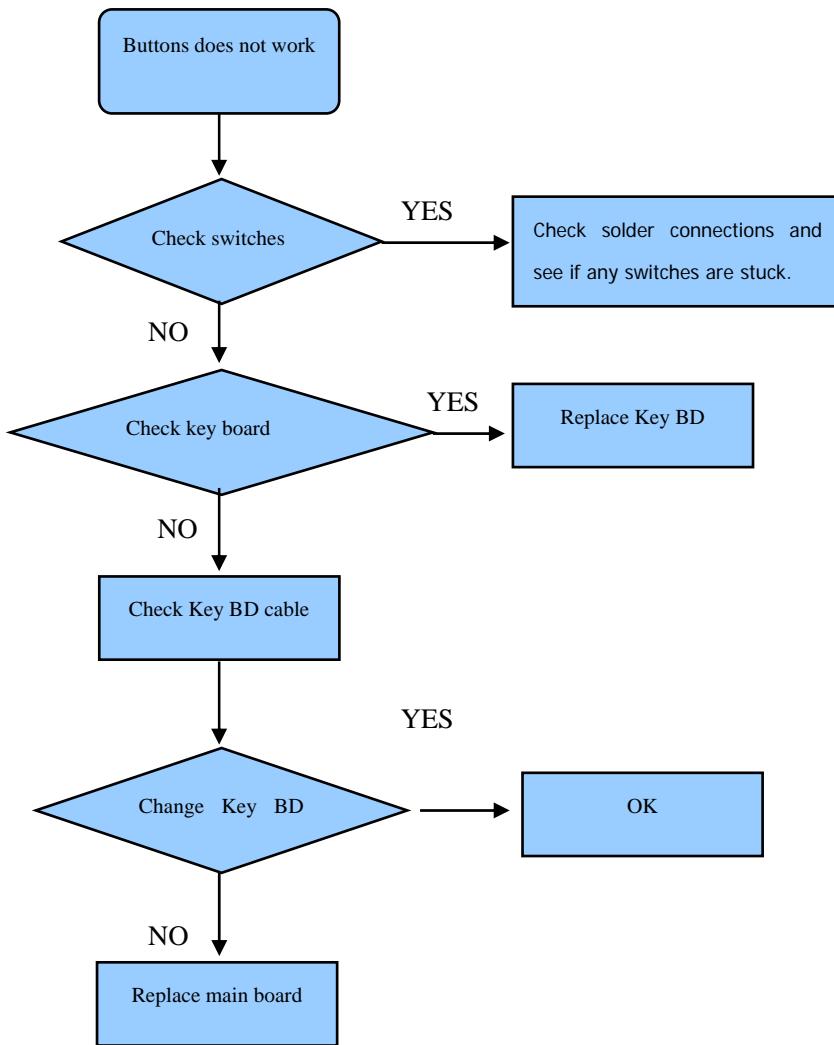
When there is something wrong with your TV, you can try turning off the TV and then restart it. You can also operate according to the follow chart. If the problems still cann't be solved, please contact the profession technician.

No sound or picture	<ol style="list-style-type: none">1. Check if the power line is in the outlet and if it has electricity.2. Check if you have pressed Power button on the TV or Power button on the remote control3. Check the setting of picture brightness and contrast.4. Check the volume.
The picture is normal but there is no sound	<ol style="list-style-type: none">1. Check the volume.2. Check if Mute mode is set.
No picture and white or black picture	<ol style="list-style-type: none">1. Adjust Picture Setting.2. Check Color System.
The sound and picture are interfered	<ol style="list-style-type: none">1. Try to find the appliance affecting TV set, and move it far away from the TV set.2. Try to insert the power plug of the TV set into another outlet.
Unclear picture or picture with snow	<ol style="list-style-type: none">1. Check the direction, position and connection of your antenna.2. Adjust the direction of your antenna or reset or fine tune the channel
The remote control does not work	<ol style="list-style-type: none">1. Change the batteries in the remote control.2. Clean the upper side of the remote control (radiating window)3. Check the contacting points of the batteries.4. Check if there is obstruction between the remote control and the monitor.5. Check if the batteries are correctly installed.
H/V strip or the picture shaking	Check if there is an interfering source nearby, such as appliance or electric tools.
The cabinet of the TV makes "Click" sound	makes "Click" sound"Sometimes the room temperature change can cause the television cabinet to inflate or contra, which makes this sound. This does not mean the TV breaks down.

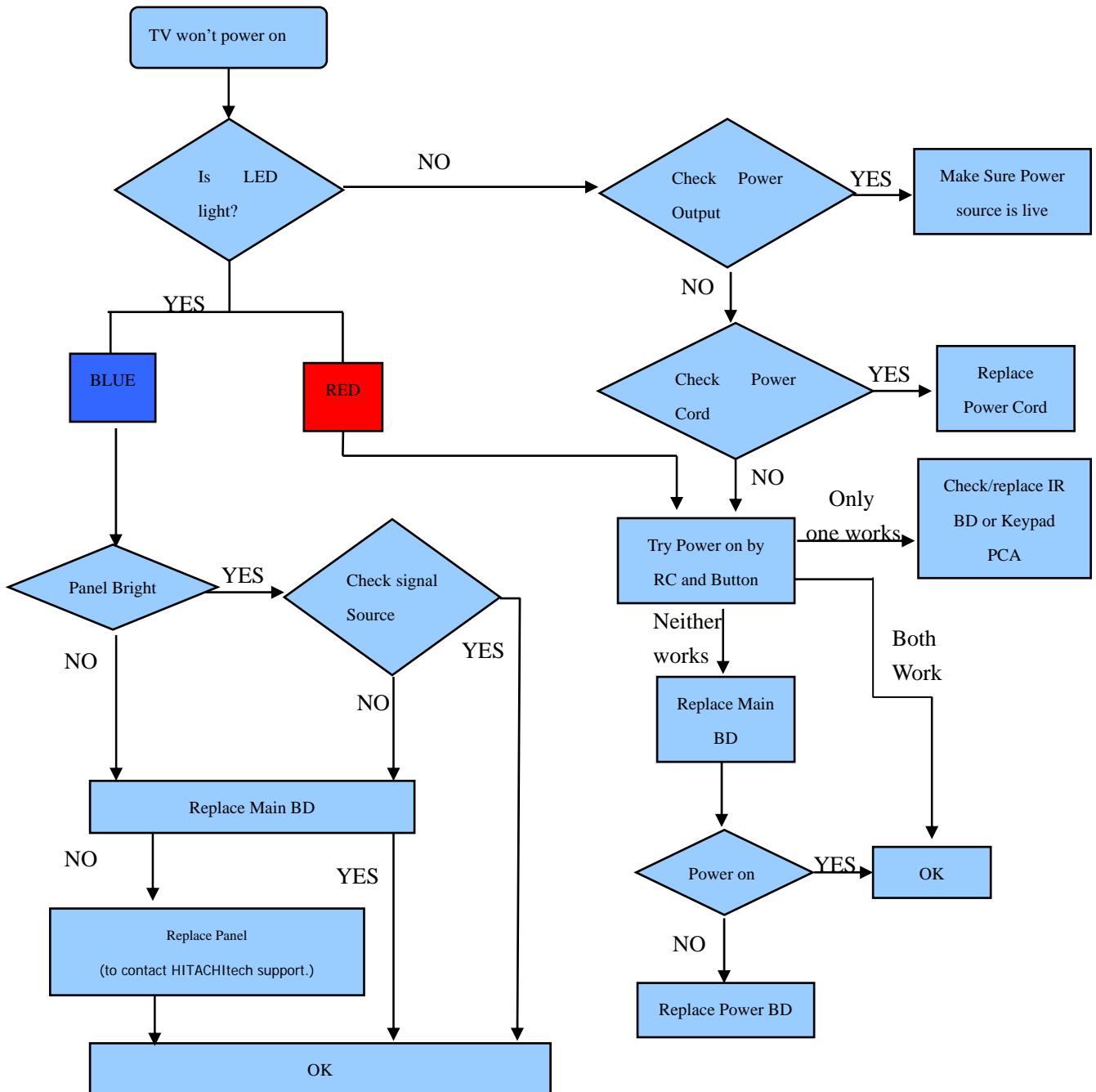
5.1 Troubleshooting for Remote Control



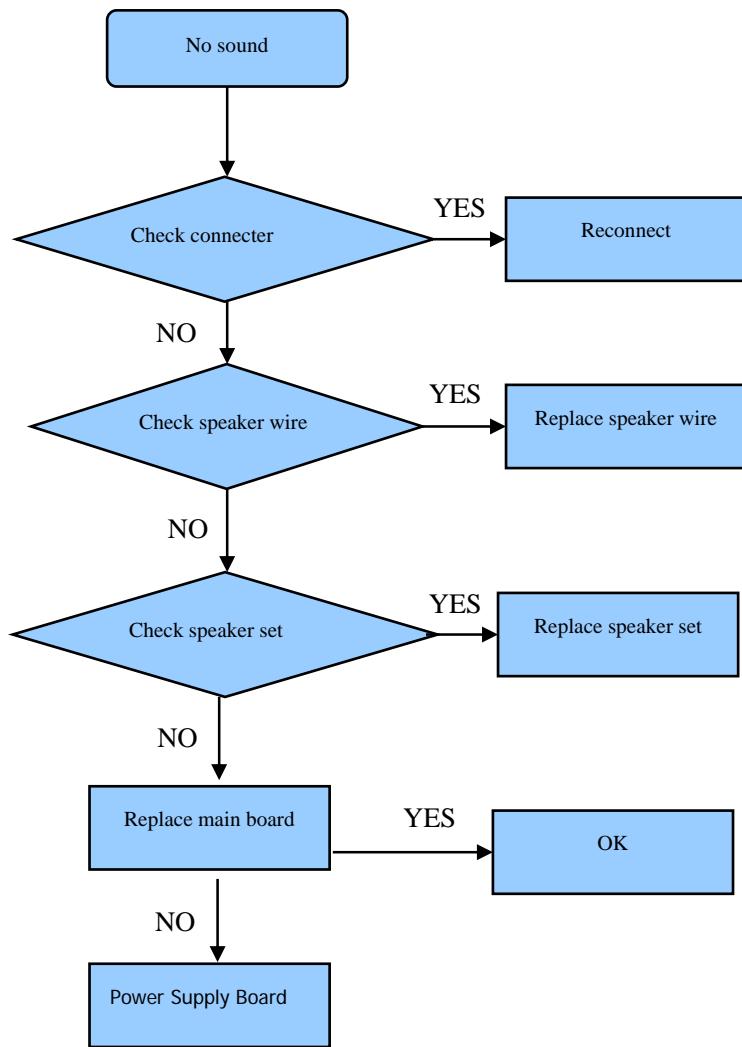
5.2 Troubleshooting for Function Key



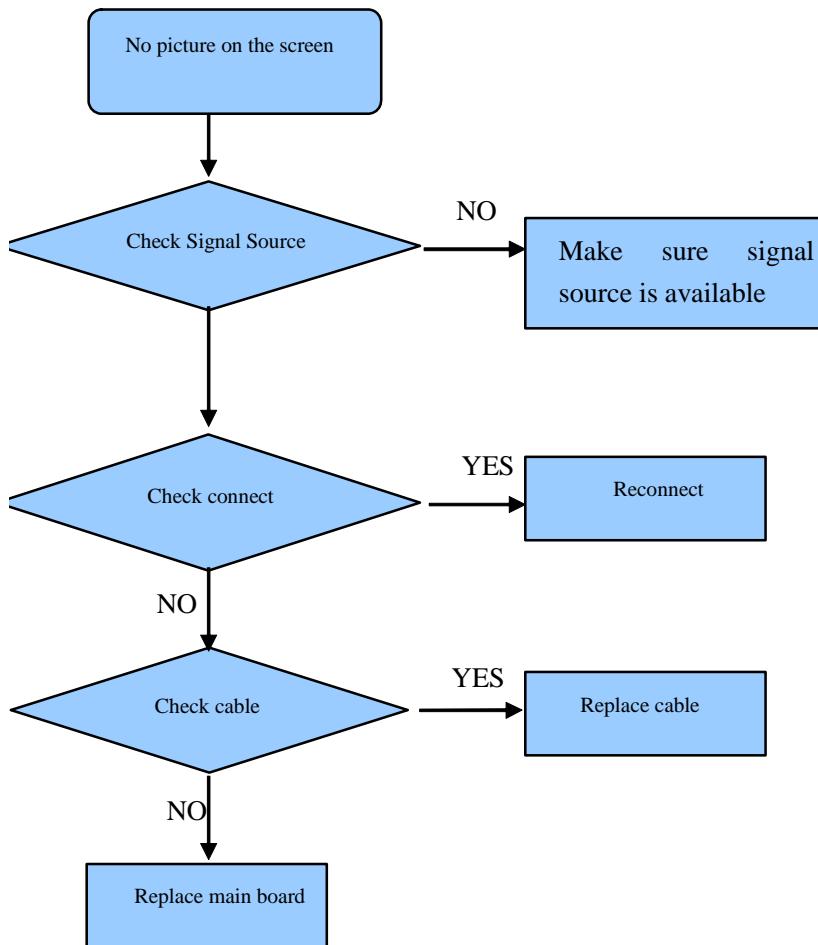
5.3 TV won't Power On



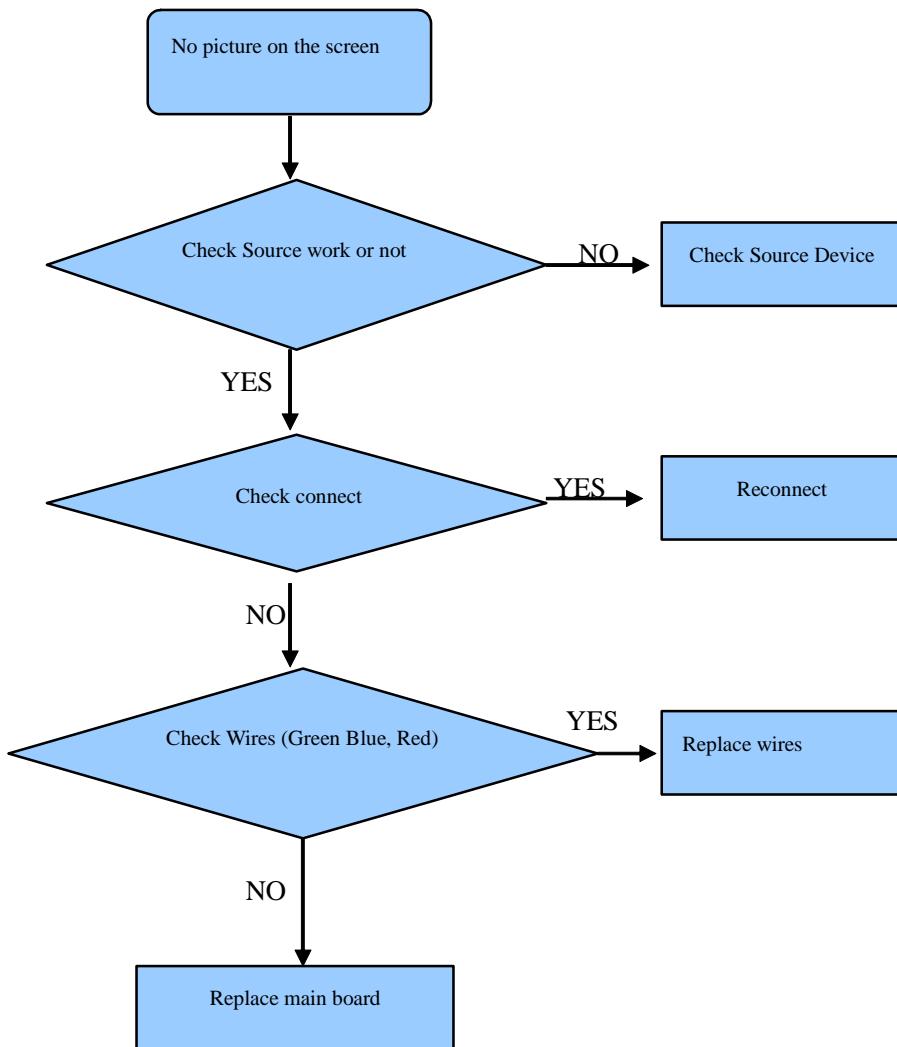
5.4 Troubleshooting for Audio



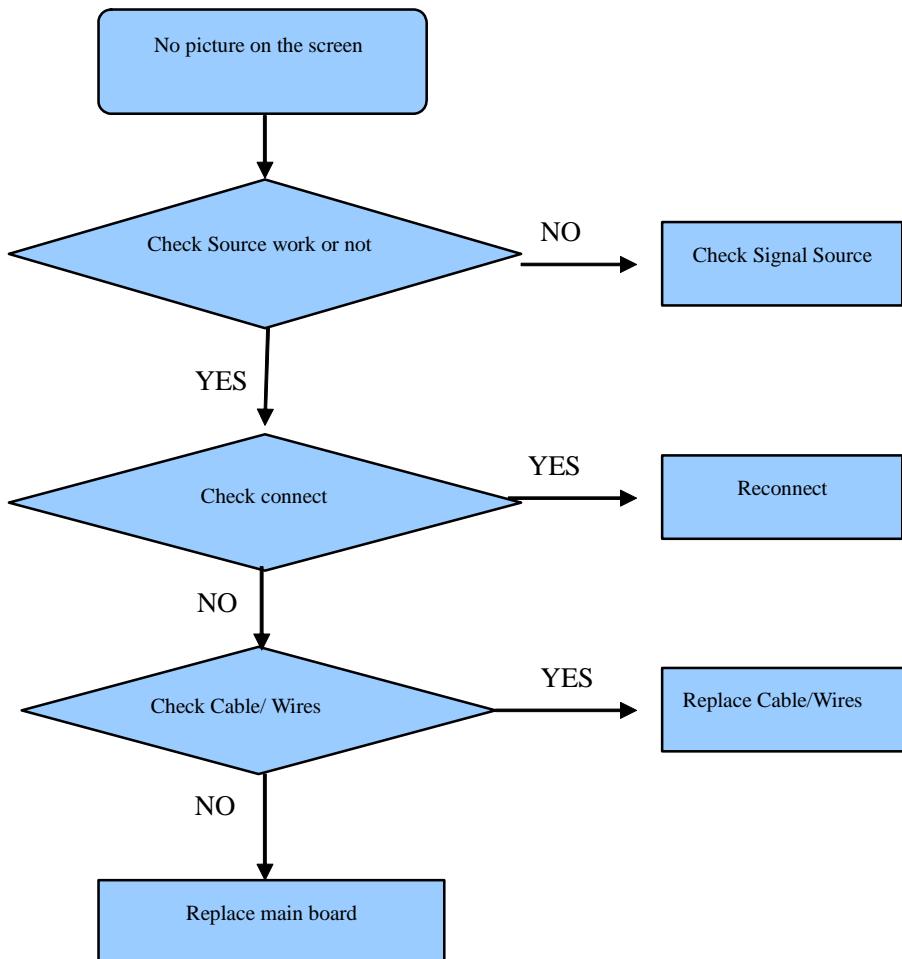
5.5 Troubleshooting for TV/VGA/HDMI input



5.6 Troubleshooting for YPbPr input



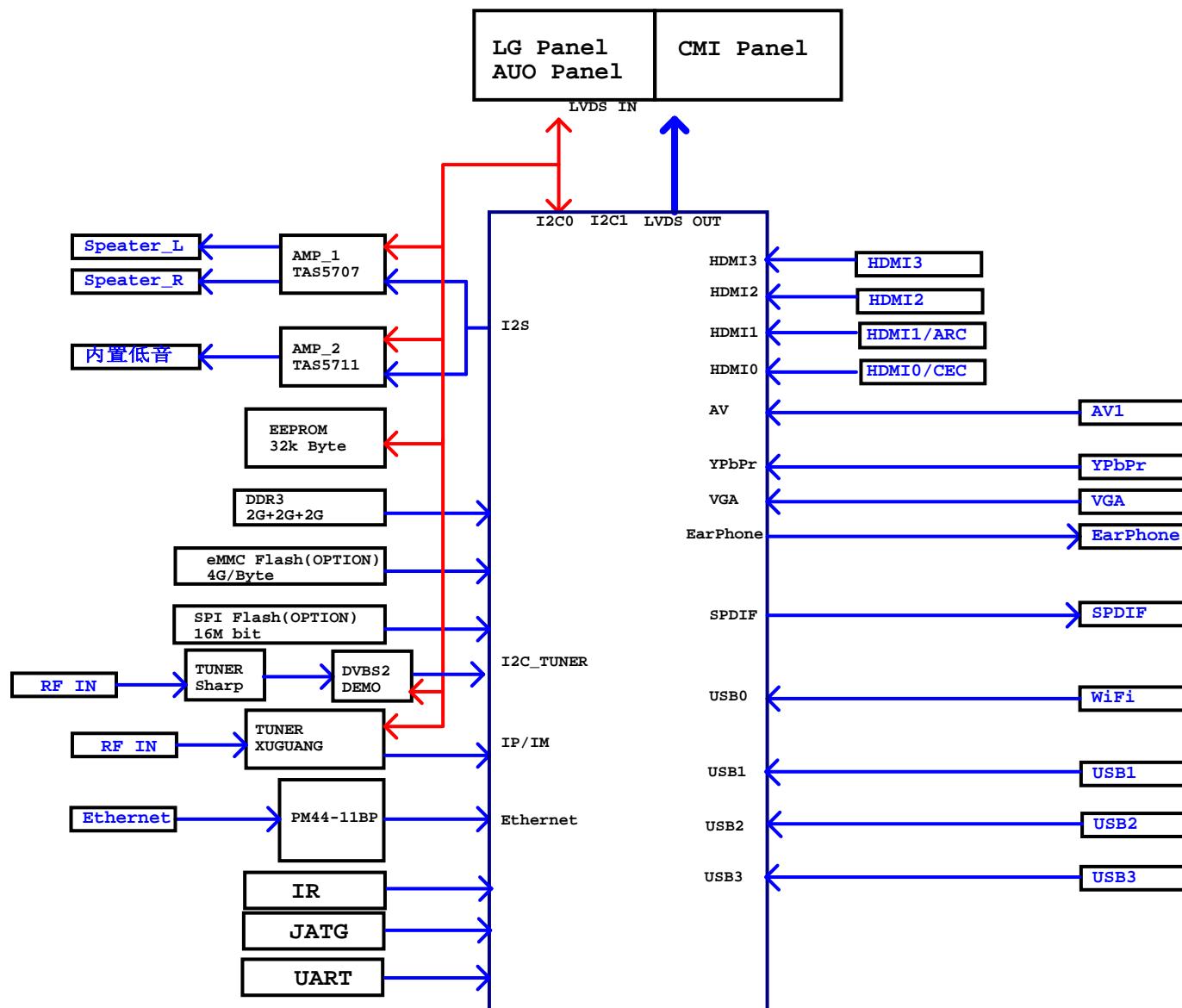
5.7 Troubleshooting for Video input

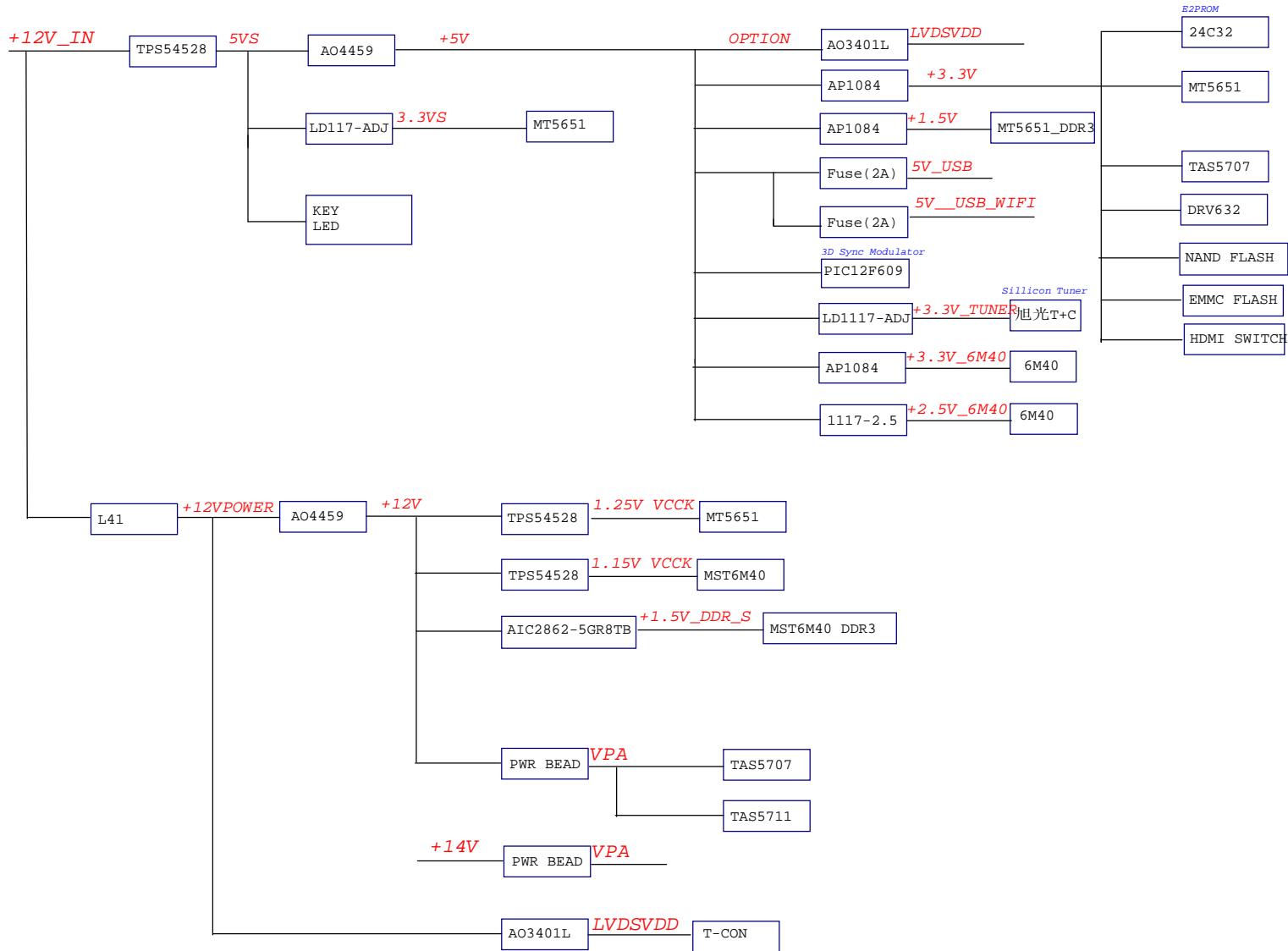


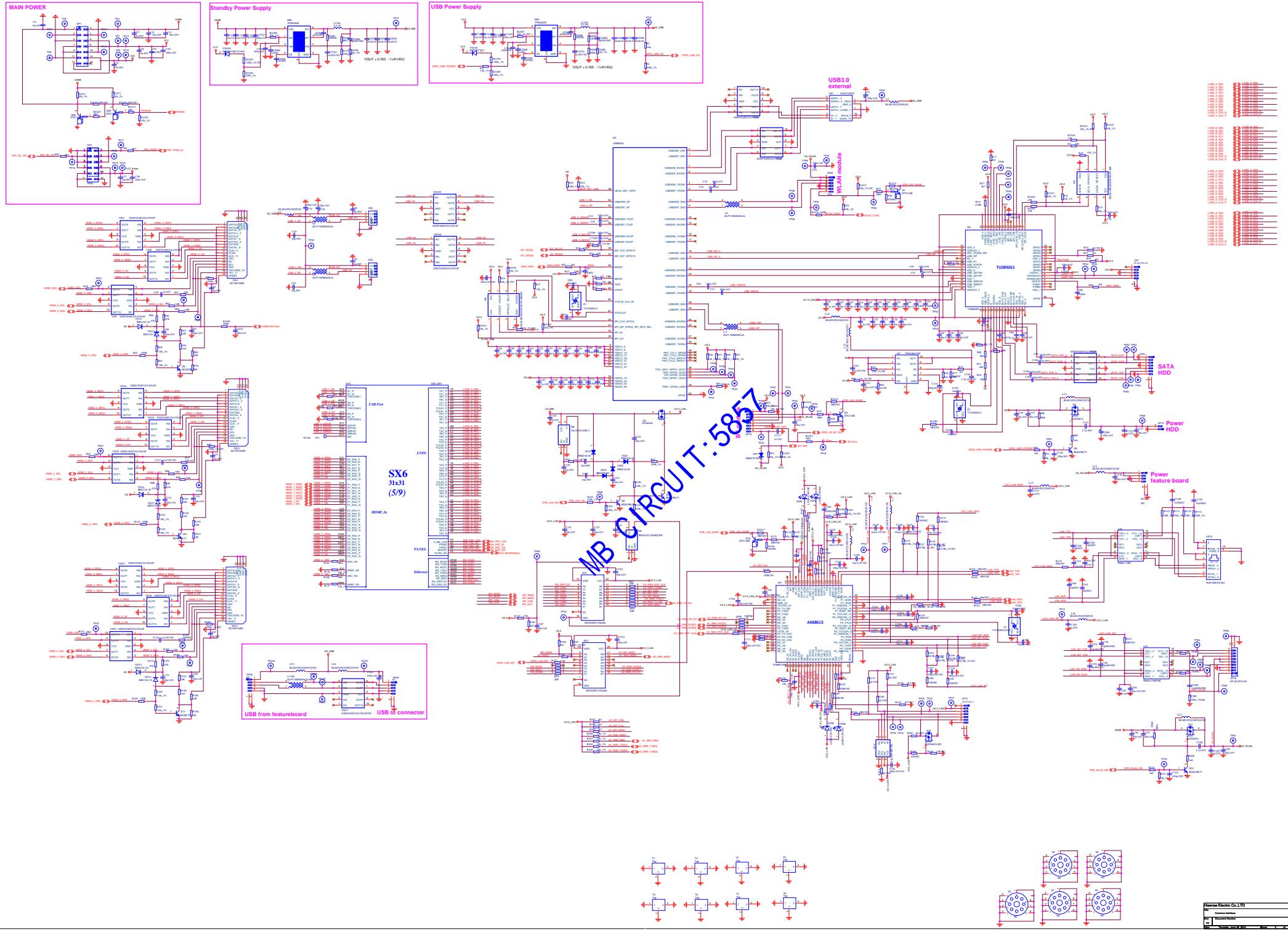
6. Signals Block Diagram and power assign:

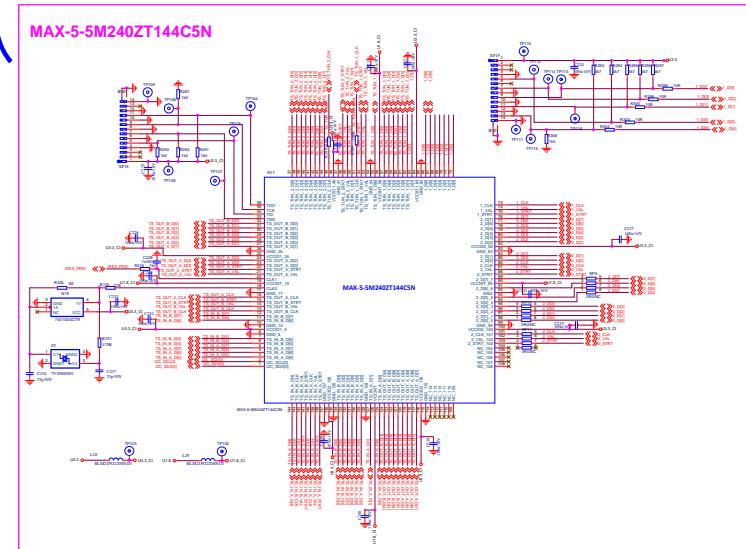
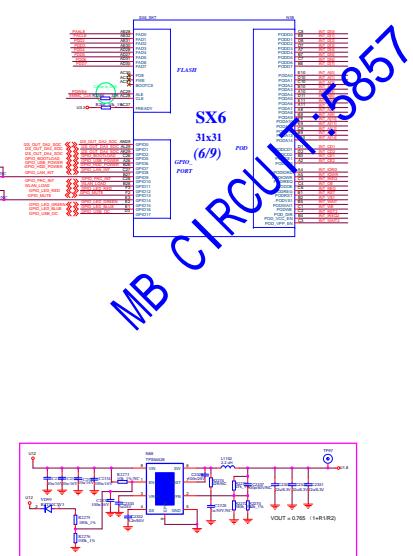
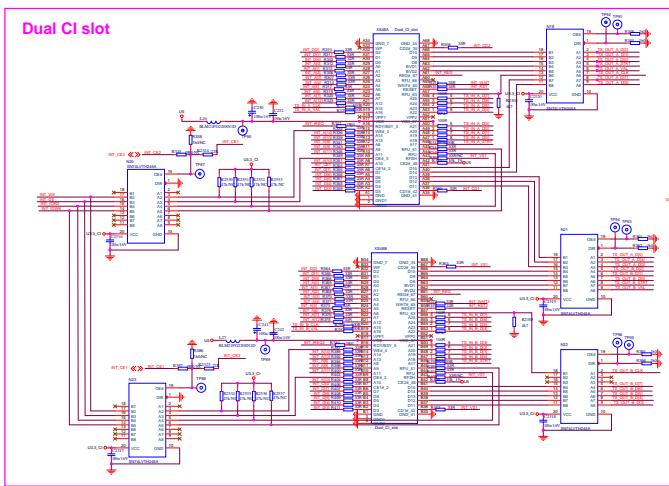
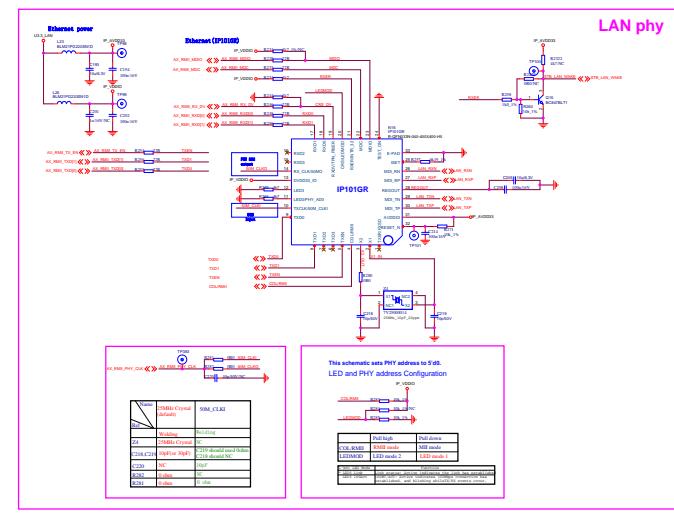
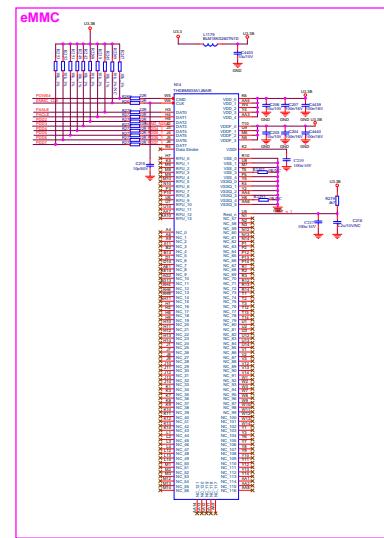
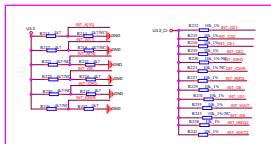
7. Schematic circuit diagram

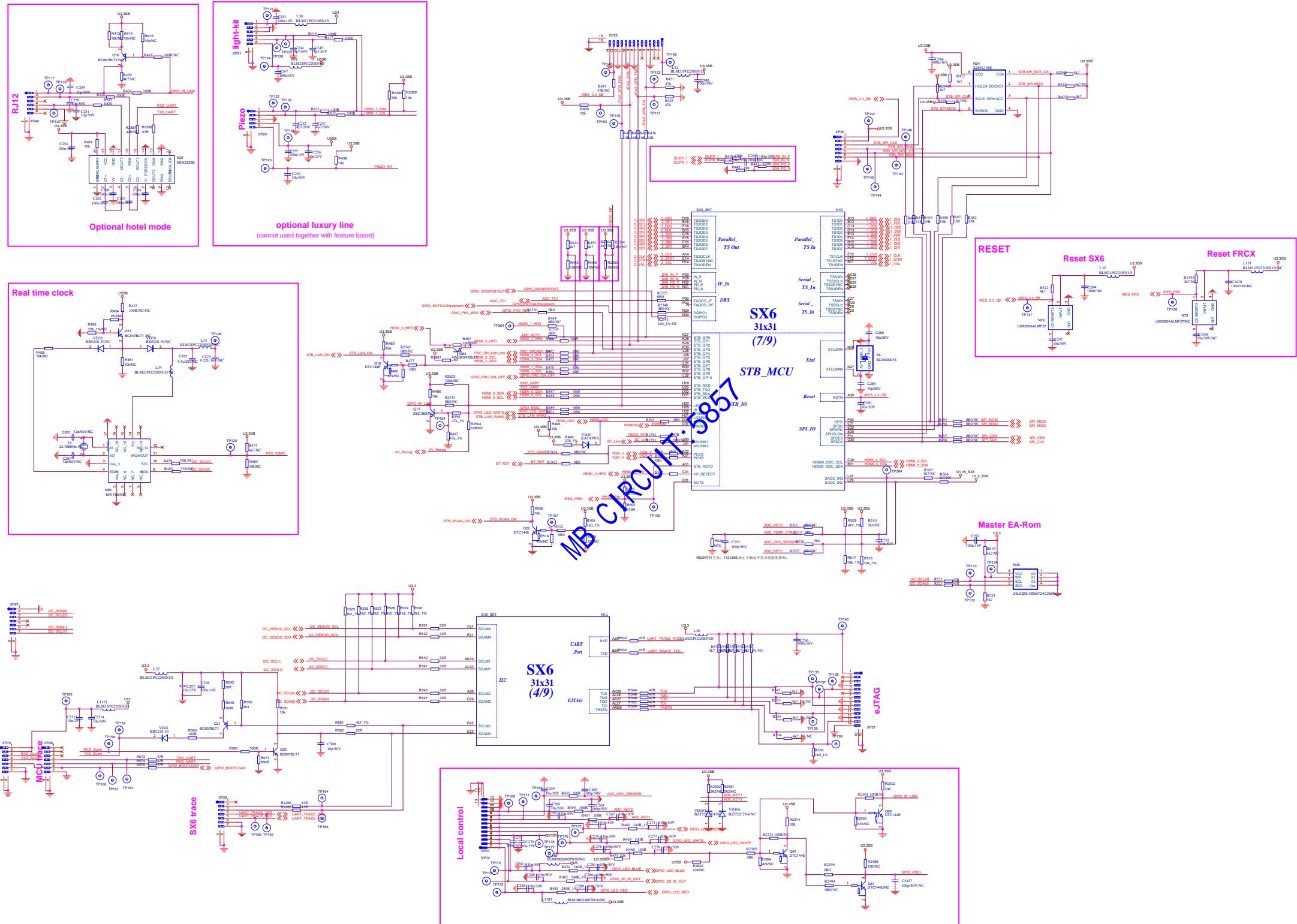
8. Explode View

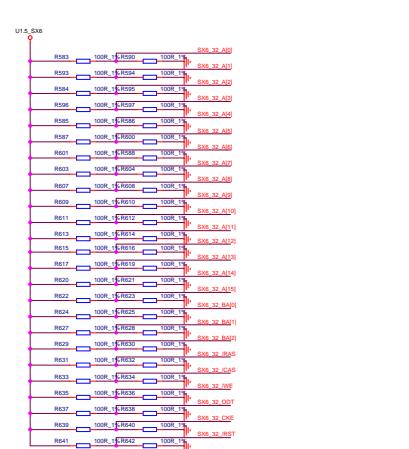
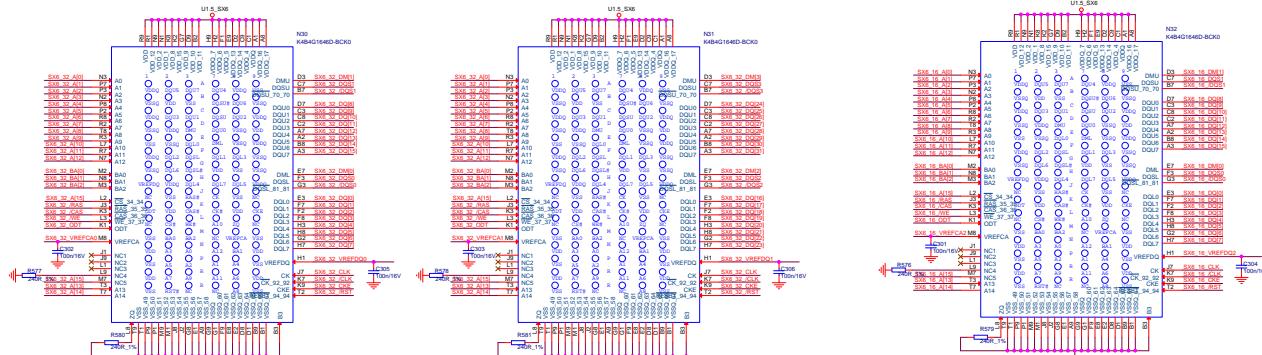








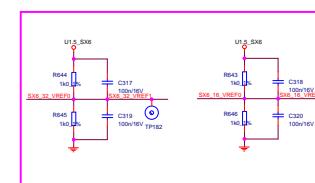
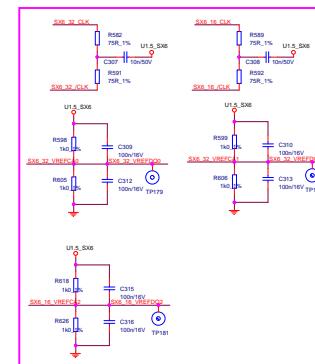
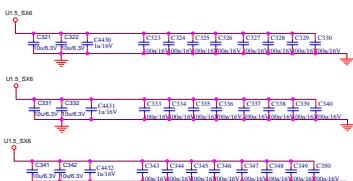
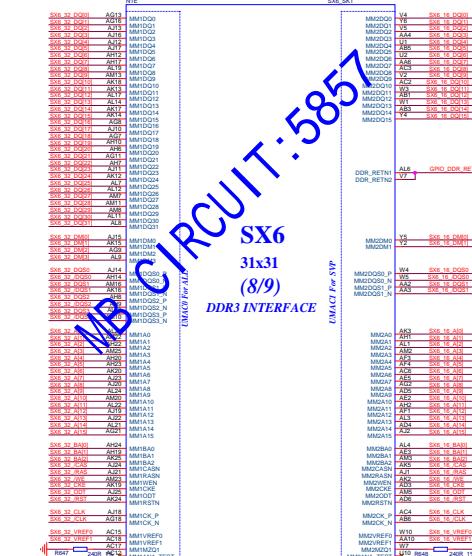


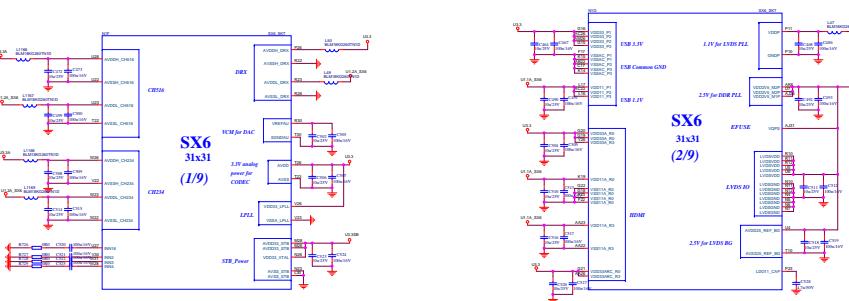
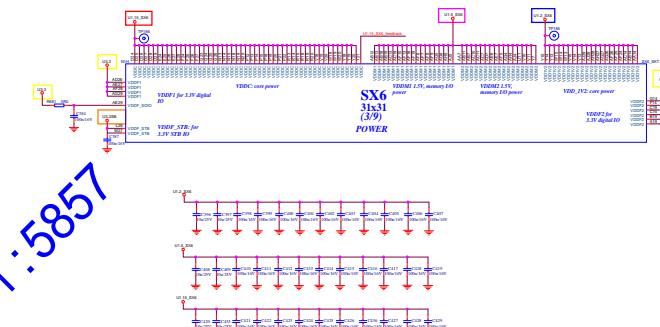
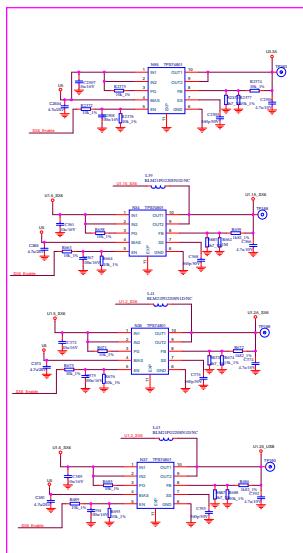
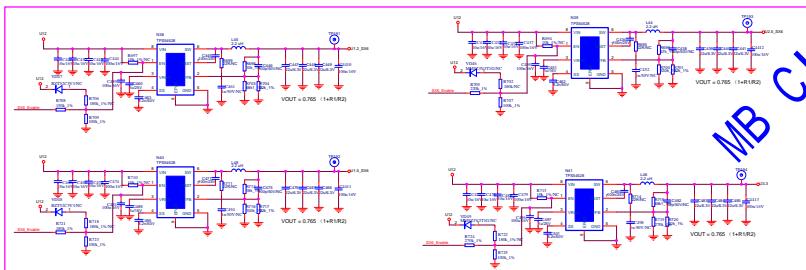
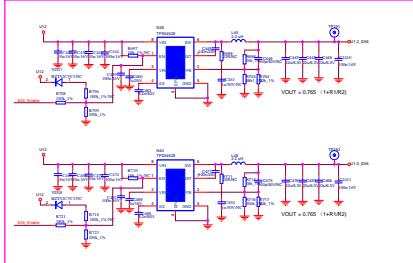
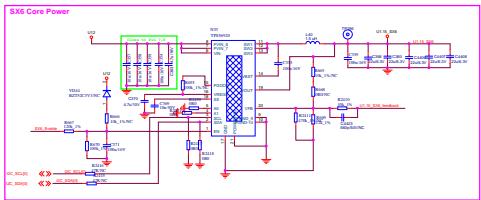
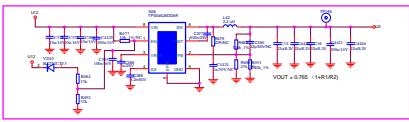
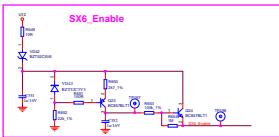


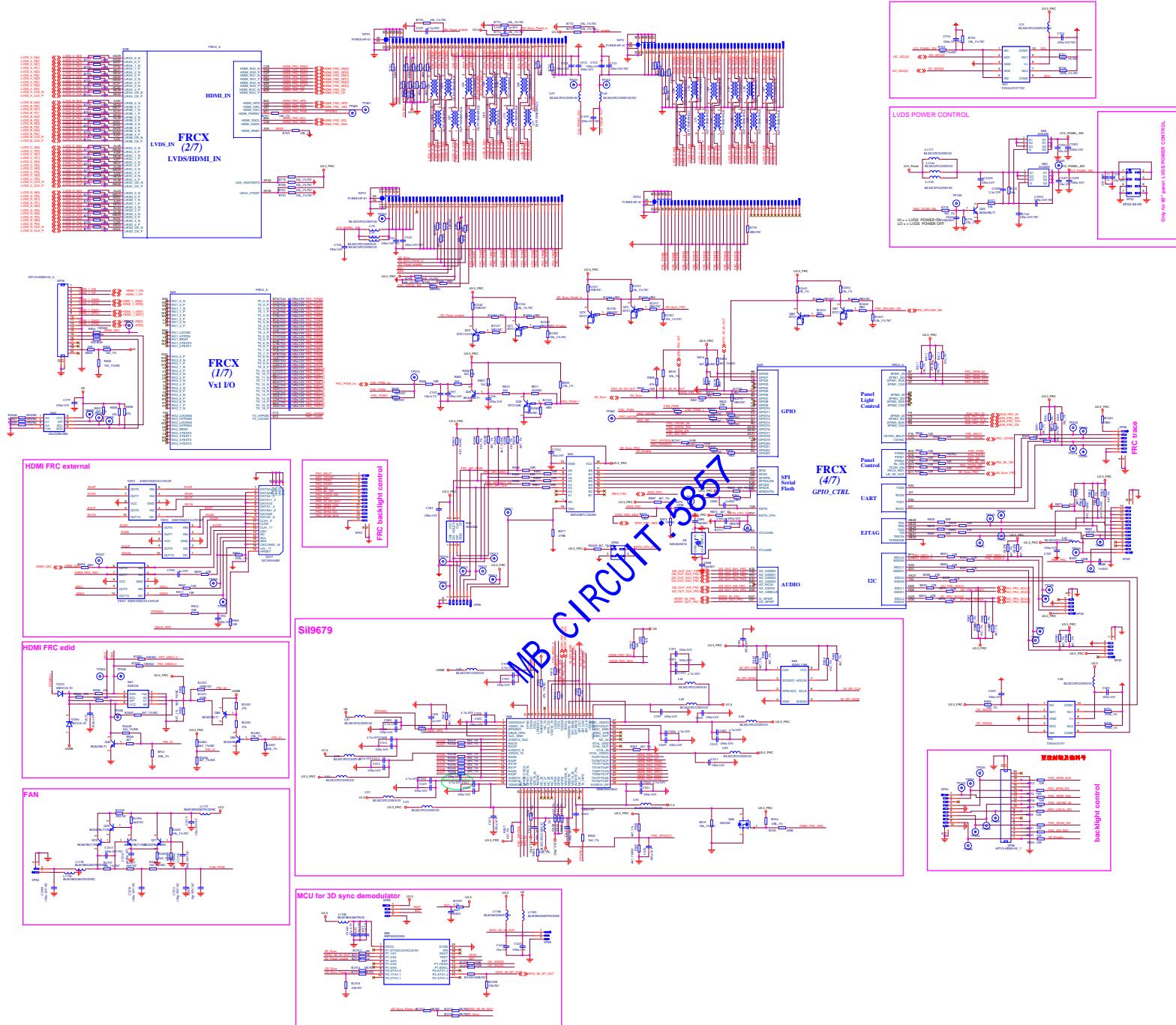
**SX6
31x31
(8/9)**

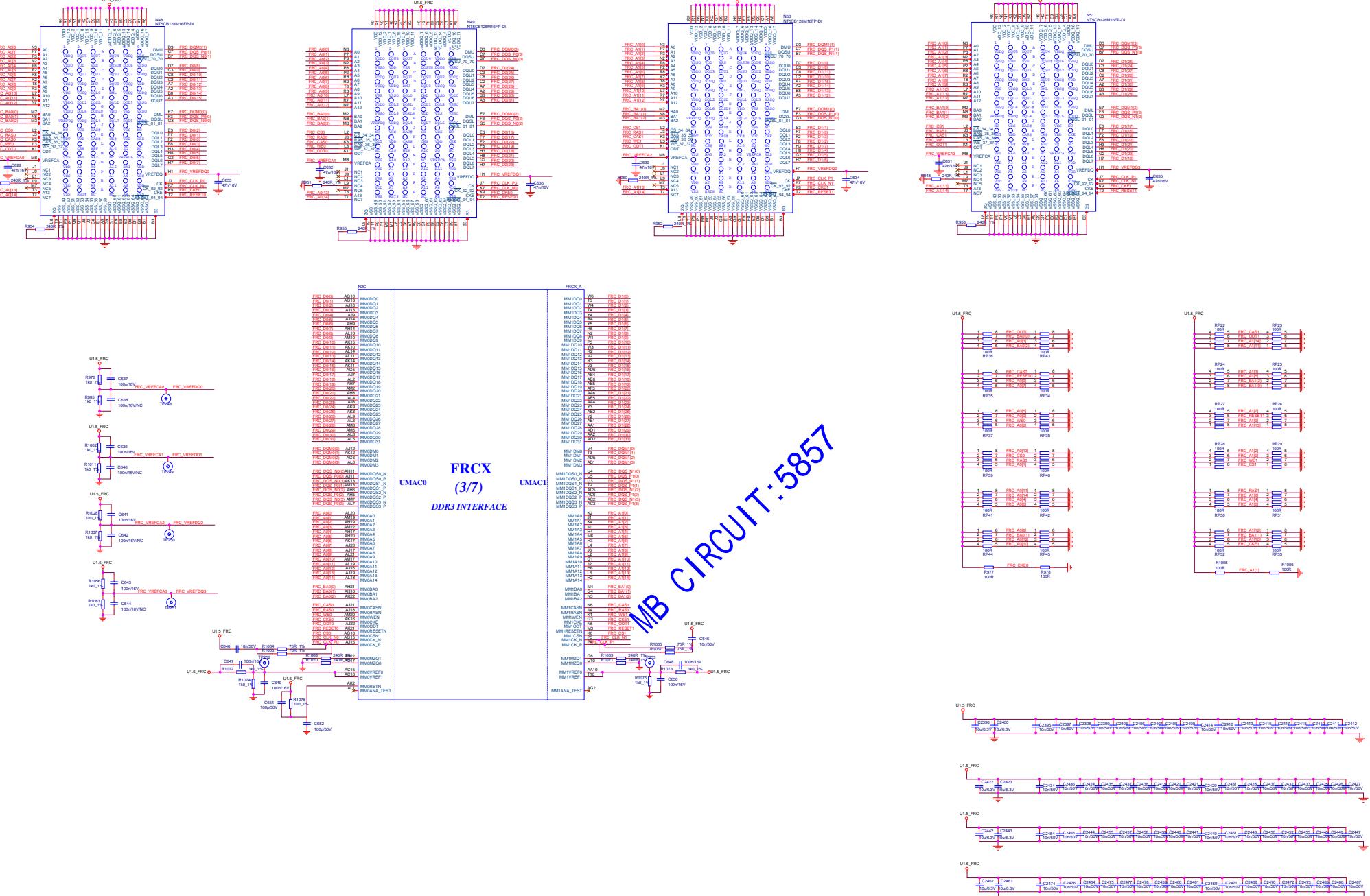
DDR3 INTERFACE

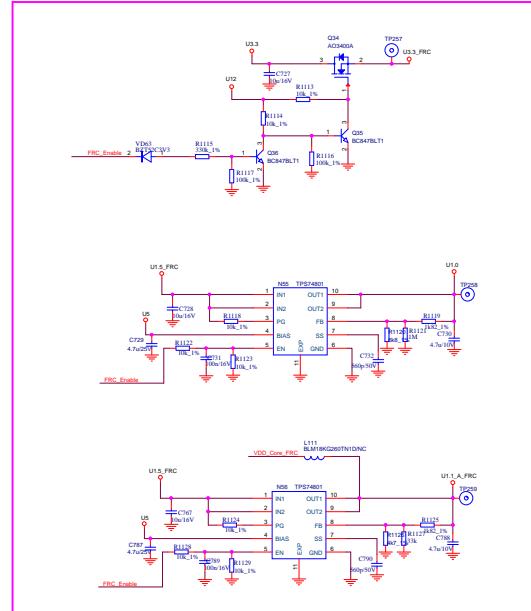
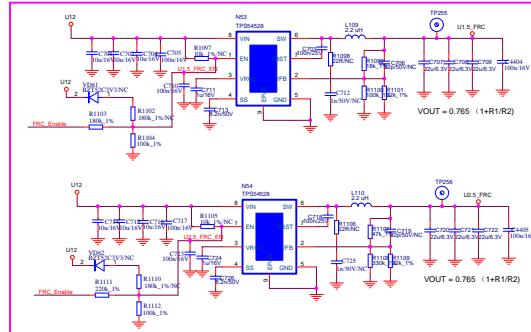
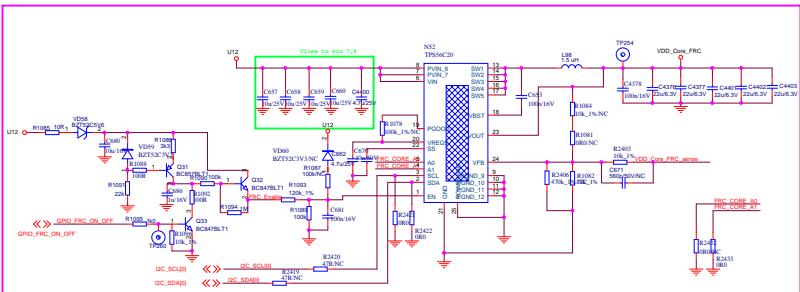
EMIF for SVP



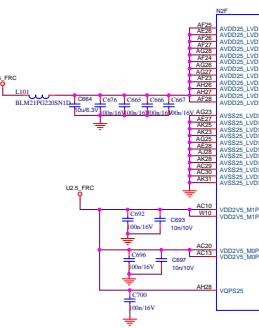




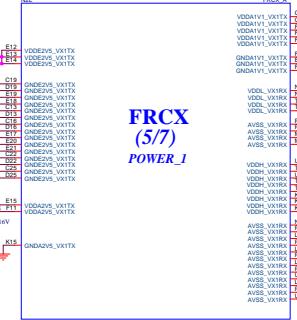




FRCX
(6/7)
POWER_

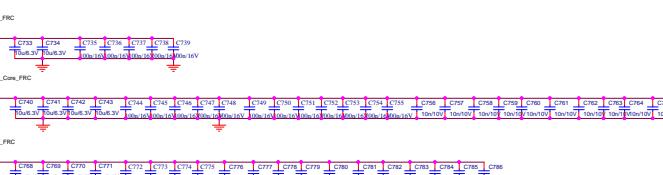
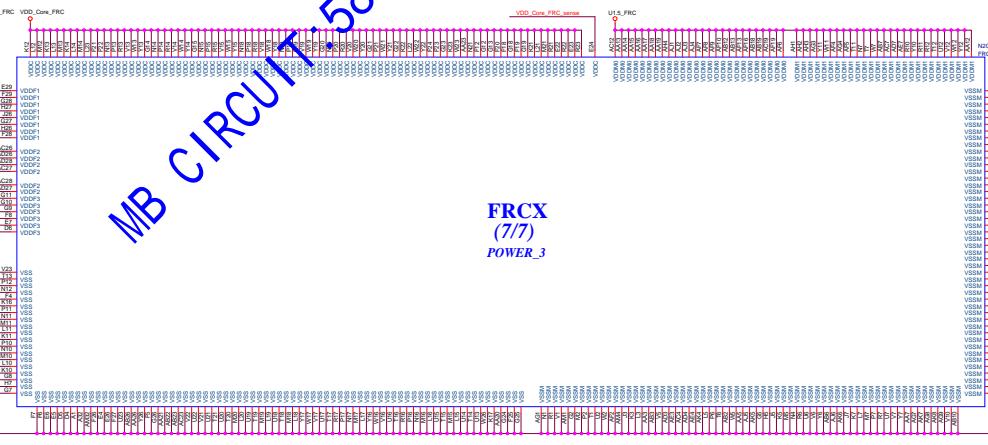


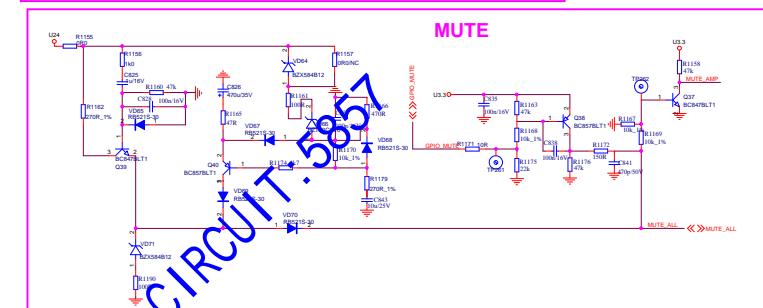
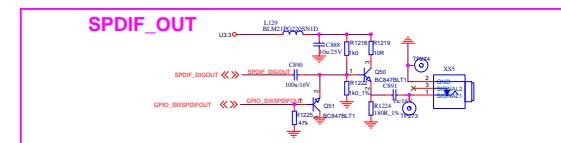
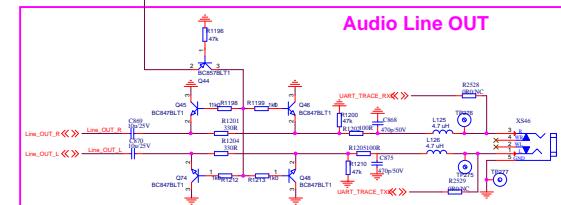
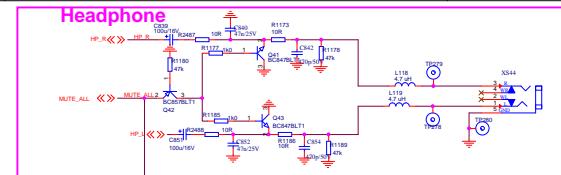
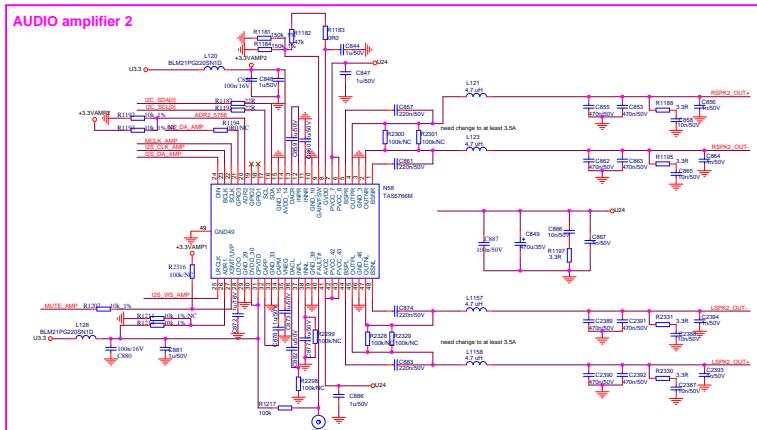
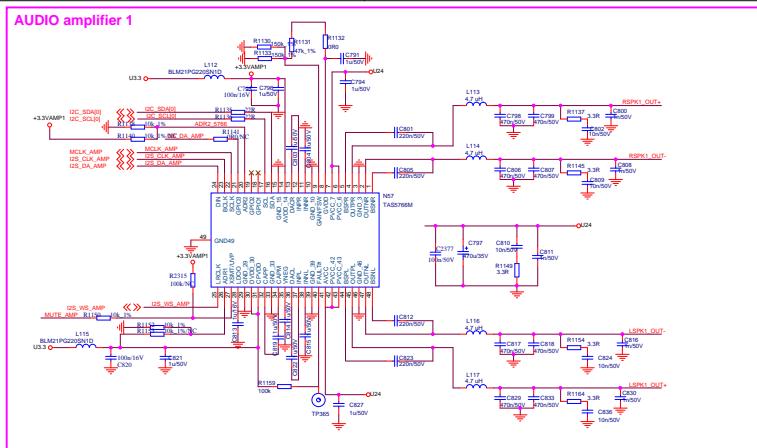
FRC
(5/7)
POWER



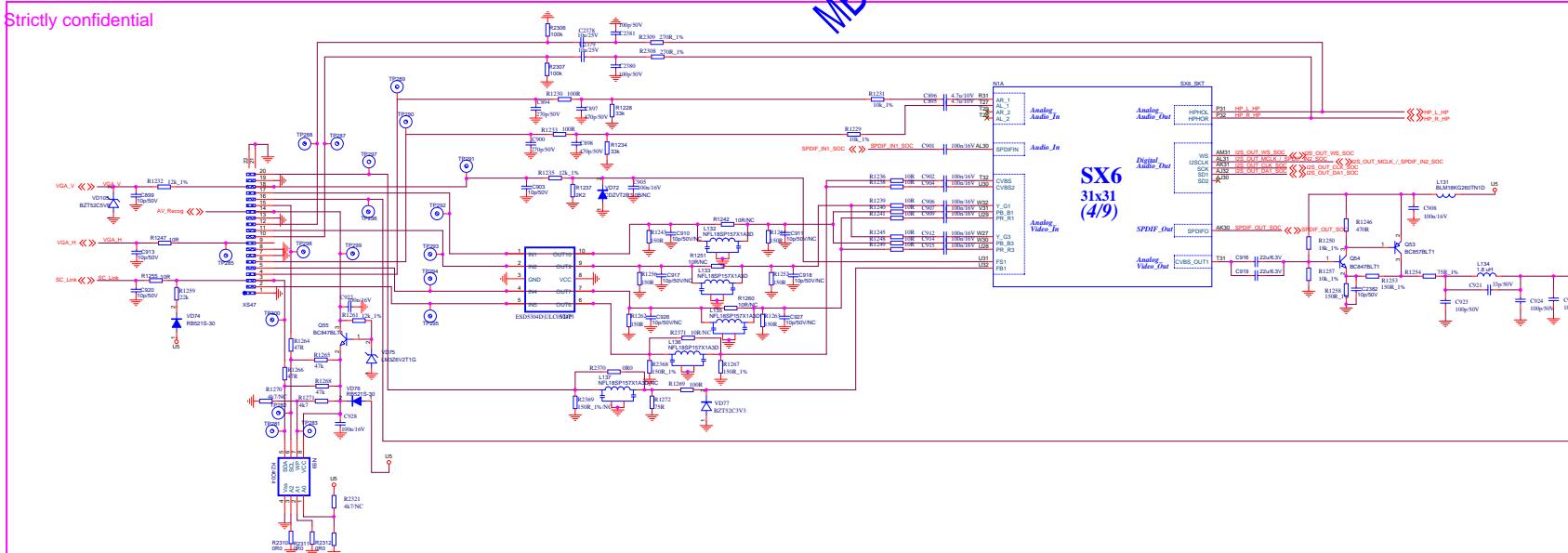
A photograph of a printed circuit board (PCB) showing a dense array of surface-mount components. A large, semi-transparent blue watermark is diagonally overlaid across the image, containing the text "MB CIRCUIT 5857".

FR
(7)
POW

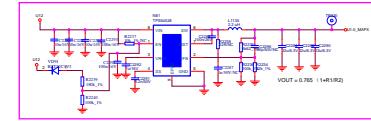
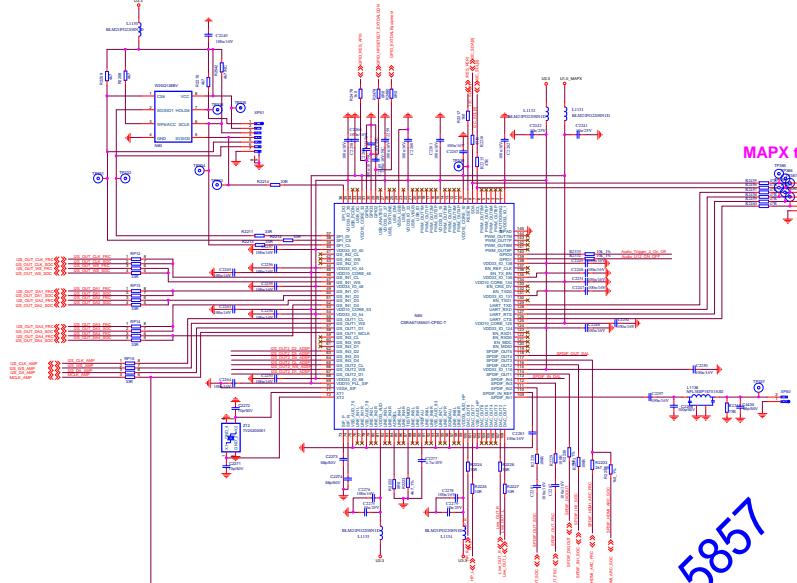




3



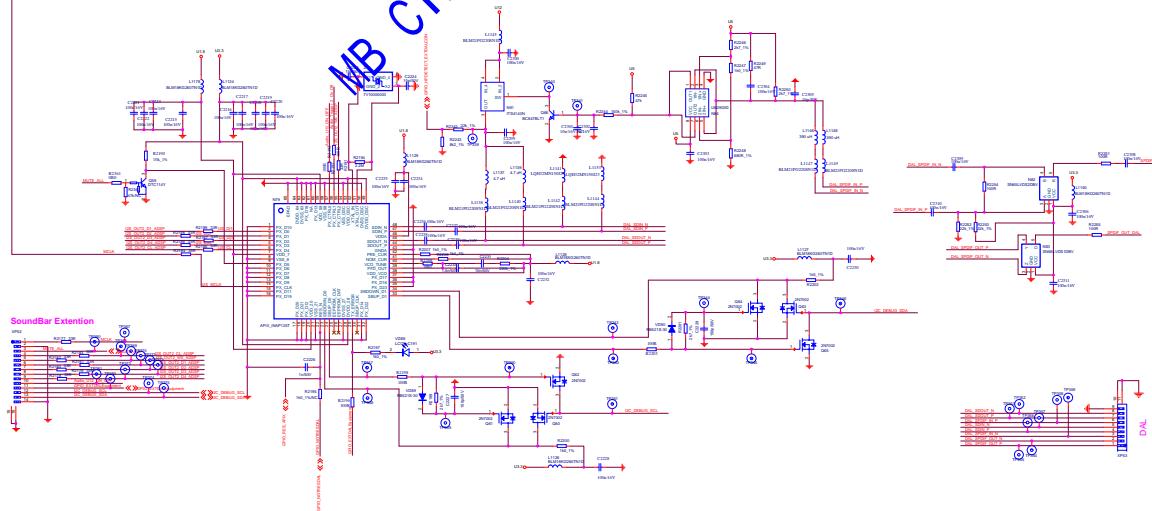
Audio Highend Assembly



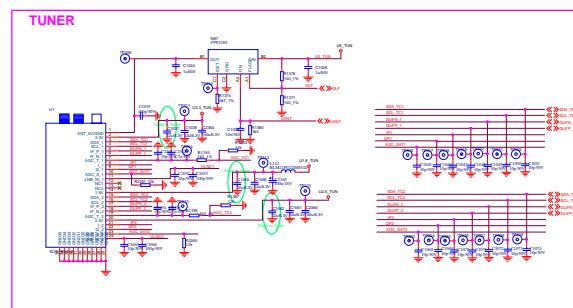
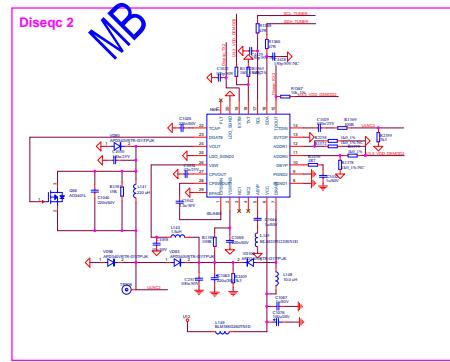
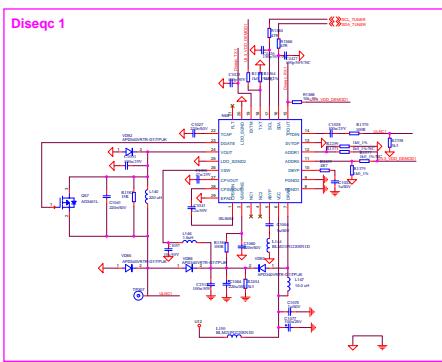
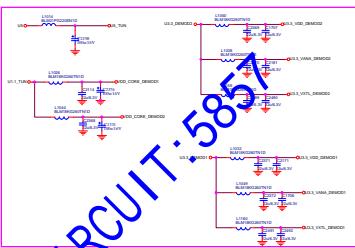
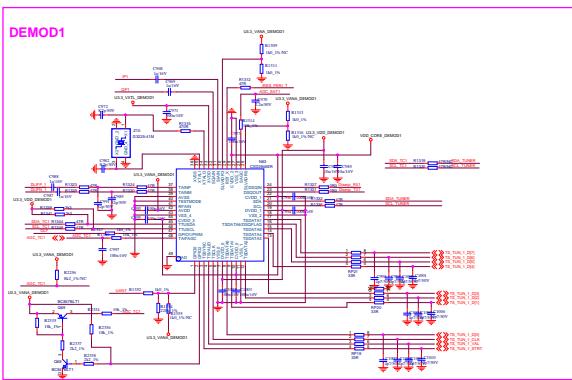
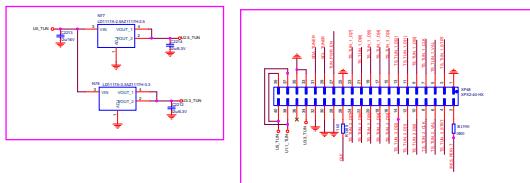
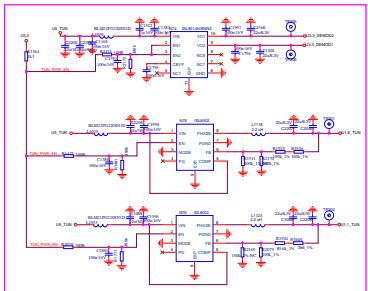
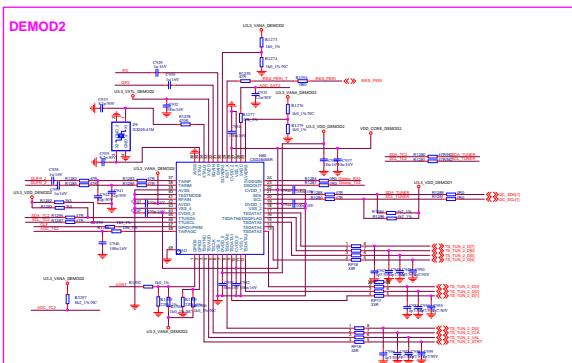
MAPX trace

MB CIRCUIT:5851

Digital Audio Link



SoundBar Extension



Change log

index 'C' - 16.06.2014

--Connect L12 to other side of L10 (see below) to have alternative option (U3.3 or N7) i.e. either L10 or L12 can finally be assembled
---Add text "MAPX trace" near XP66 socket
---Change -R2466 = NC, R2467 = NC, R2463 = NC, Q81 = DTC144, Q80 = DTC144,R2468 = 0R, R2462 = 0R, R2464 = 10K, R2465 = 10K
---Resistor should be assembled, change value of R2341 to 1K
---Add double inverter between PWRON and XP1 (pin 1) supply to U5SB for correct voltage range and de-coupling;R2474 = NC, R2473 = NC,R2470 = 10k, R2472 = 10k,R2469 = 0R, R2475 = 0R,Q82 = DTC144, Q83 = DT144
---Change R2481 to 47K
---Change position of R2487 (10R) and R2488 (10R) for low-pass filtering according to picture below
---Enlarge wire width from 1.0 mm to 1.5 mm between U1.15_SX6-Plane @ SX6 to N5 Core-Supply-Plane and use 3 vias for each layer-jump
---Change value of C102 and C104 to 12pF(1072971)
---Open GND connection of C102 and 104,a direct connection of GND-side of C102 and C104 to VSSOSC (N5, pin 53) is required => refer to TI appnote
---Add additional resistor R2489(0R0/NC) between crossing point of C102,C104 to main GND
---Change value of R18 to 470R
---Add additional capacitor C2236,C2237,C2238 as 100nF/16V
---Change value of R1237 to 2K2 (higher level of ADC 4:3 recognition)
---Change value of R2368 to 150R
---Change value of R1267 to 150R
---Change value of L137 to NFL18SP157X1A3D/NC
---Assemble R2370 with value of 0R (no use of filter because of only static blank-signal)
---Change value of R2369 to NC
---Change N77 from LM326V2T1G to CDZVT2R30B (for safety of ADC-input.)

index 'C' - 16.06.2014-Hisense

---Change footprint of XP53 to R-PH-9AWB-HX
---Add additional resistor R2490 and R2491.They are only for Hisense
---Change value of C295 to 220nF/10V;
---Change value of C1078 to 220nF/10V/NC;
---Update the footprint of eMMC(N14) to be compatible with 5.0 Version;
---Add additional capacitor C4439 and C4440
---Add additional resistor R2492 and R2493 as 0R0/NC
---Add Q87,R2496,R2497,R2498,R2499 only for Hisense

index 'C' - 18.06.2014

---Add VD105 as BZT52C5V6
---Add Q88,R2500,R2501,R2502
---Add R2503,R2504
---Add connection "AV_Recog" from XS47, pin14
---Change VD40 to BAT43WS
---Change position of NTC resistor R520 from bottom to top side of PCB
---Add N98 Mcu circuit for 3D sync demodulator.

index 'C' - 19.06.2014

---Mirror XS49 vertically
---Change value of R1232 from 10R to 12K
---Add connector XP70
---Change C295 back to 10nF and C1078 back to 10nF/NC
---Change L1156 to NC

index 'C' - 20.06.2014

---Add TP384 at pin L27 of SX6
---Add label "MCU trace" at XP28 socket
---Add CONNECTOR XP70 and change XP28 pin1,pin2,pin3 connection.

index 'C' - 23.06.2014

---Change the circuit of Q87 to inverter;Add C4447
---Change L1181 connect to XP64 pin 1
---Add XP5,R2523(0R0),R2524(0R0),R2525(270R);XP5 is for LED control for Hisense only
---Add TP385,TP386,TP387,TP388,TP389,TP390
---Change C799, C807, C818, C833, C853, C863, C2391, C2392 to 470nF
---Change L113,L114,L116,L117,L121,L123,L1157,L1158 to 4.7 uH
---Change C2350,C2363,C2250,C390,C2337,C446,C475,C438,C482,C706,C719, C2296 to NC
---Change value of R444 to 4K7
---Change R2322,R2413,R2426 to NC
---Change circuit of MCU N98 to NC

index 'C' - 24.06.2014

---Add R2526,R2527 as Hisense need to 2K2 pull up to U3.3SB and ADC_KEY1 need change to SADC_IN2 input
---Change VD44,VD47,VD48 to BZT52C3V3/NC
---Change VD60,VD61,VD62 to BZT52C3V3/NC
---Change VD77 to BZT52C3V3
---Add R2528,R2529,only for Hisense debug
---Delete XP5,R2523(0R0),R2524(0R0),R2525(270R)
---Change R2341 to NC

index 'C' - 25.06.2014

---Change the value of R2477 to 1K0_1%
---Add R2530,R2531,R2532,R2533,R2534,R2535,R2536,R2537 as 4K7/NC pull up U3.3_CI
---Add VD106 and VD107 as BZT52C2V4
---Change eMMC N14 to THGBM5G5A1JBAIR
---Change the value of R509 to 2K7_1%
---Add R2538 as 0R0,and add R2539 as 0R0/NC

index 'C' - 26.06.2014

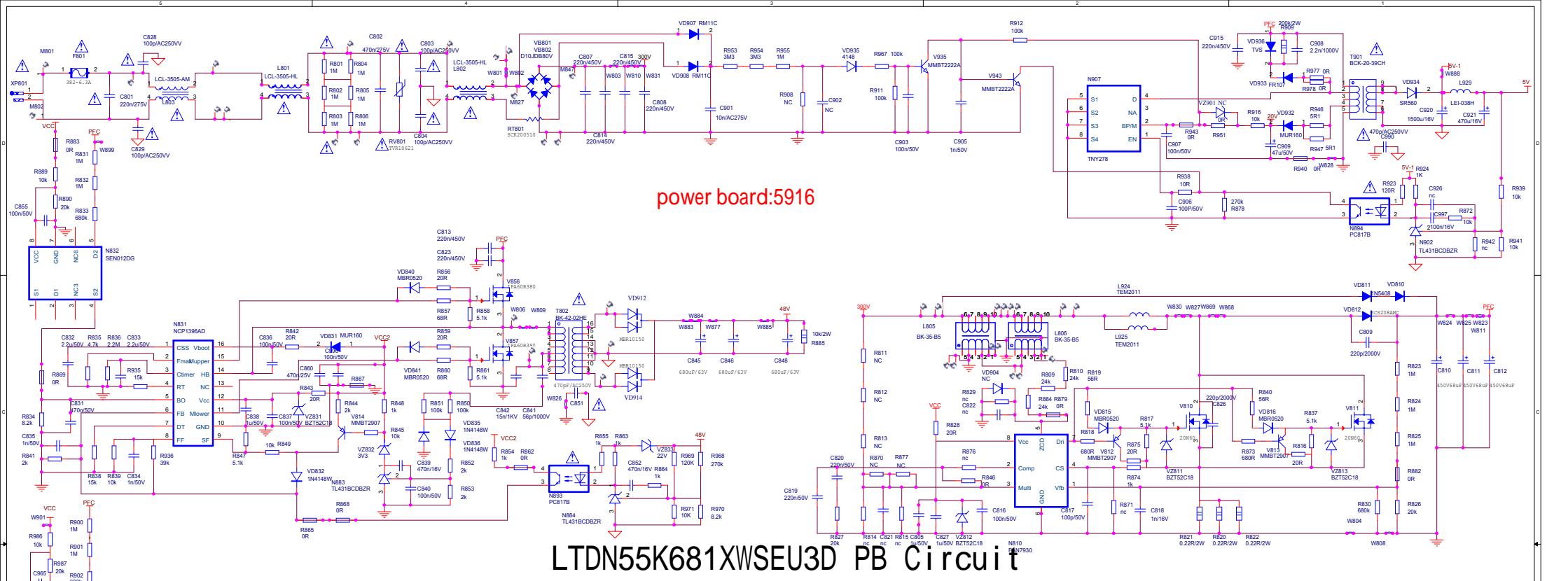
---Add R2540 and R2541as 4k7
---Add R2542,R2543,R2544 as 4k7/NC
---Add R2545,R2547 as 10k,and add R2546 as 10k/NC
---Add R2548,R2549,R2550 as 47R
---Change the value of R428 and R423 to 4k7/NC
---Add R2551 as 0R0,and change pin 12 of mcu(N98) connect to GPIO_3D_BT_OUT
---Add R2552,R2553 as 10k

Hisense Electric Co.,LTD		
Title	Update Note II	
Size	Document Number	Rev
C		1.0

Date: Thursday, June 26, 2014

Sheet 15 of 15

NMB CIRCUIT:5851



LTDN55K681XWSEU3D PB Circuit

