

珠海市魅族科技有限公司

MEIZU TECHNOLOGY CO., LTD.

广东省珠海市科技创新海岸魅族科技楼

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# M1712 after-sale maintenance manual

(Version: V1.0)

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# Catalog

|  |    |
|--|----|
| <a href="#">M1712 maintenance manual</a>                         | 1  |
| <a href="#">Chapter 1 Caution of Maintenance</a>                 | 3  |
| <a href="#">Chapter 2 M1712 product introduction</a>             | 4  |
| <a href="#">2.1 Product appearance</a>                           | 4  |
| <a href="#">2.2 Hardware specification</a>                       | 7  |
| <a href="#">2.3 Maintenance of matters needing attention</a>     | 9  |
| <a href="#">Chapter 3 Position diagram of components</a>         | 9  |
| <a href="#">Chapter 4 Function and test mode</a>                 | 11 |
| <a href="#">Chapter 5 Maintenance tools</a>                      | 11 |
| <a href="#">Chapter 6 Common fault detection and maintenance</a> | 13 |
| <a href="#">6.1 No boot issue</a>                                | 13 |
| <a href="#">6.2 Chagre Malfunction</a>                           | 13 |
| <a href="#">6.3 LCD Malfunction</a>                              | 15 |
| <a href="#">6.4 Button Malfunction</a>                           | 16 |
| <a href="#">6.5 Ringtones Malfunction</a>                        | 17 |
| <a href="#">6.6 Receiver Malfunction</a>                         | 17 |
| <a href="#">6.7 SIM card Malfunction</a>                         | 18 |
| <a href="#">6.8 Camera Malfunction</a>                           | 19 |
| <a href="#">6.9 Headset Malfunction</a>                          | 19 |
| <a href="#">6.10 WIFI/BT/FM/GPS Malfunction</a>                  | 20 |
| <a href="#">6.11 Network Malfunction</a>                         | 22 |
| <a href="#">6.12 Touch screen Malfunction</a>                    | 24 |
| <a href="#">6.13 Sensor Malfunction</a>                          | 25 |
| <a href="#">6.14 Mic Malfunction</a>                             | 27 |
| <a href="#">6.15 Flash light Malfunction</a>                     | 28 |

## Chapter 1 Caution of Maintenance

### Caution:

1. Only authorized technicians can do maintenance and calibration.
2. Make sure that engineers wear antistatic wrist strap repair phones in antistatic station.
3. Make sure that maintenance room is covered with antistatic mat, and the maintenance table is covered with antistatic material.
4. Make sure that all necessary screws and parts are installed in correct location of phone after maintenance and adjustment.
5. After maintenance, clean the PCBA.
6. As static electricity is the main reason for electronics damages, engineers shall repair phones in an anti-static environment and shall take effective antistatic protection measures.
7. For an occurrence of NG test, engineers should check if the test point is dirty or test point contact is poor.
8. Check if water penetrates to mainboard. If yes, check all the components to see if there is oxidation.
9. Make sure that maintenance room is bright and has natural ventilation.
10. Ventilation: When do maintenance or soldering, some equipment can emit hazardous gas. So the maintenance room should have good natural ventilation. If there are no windows in maintenance room, the room should be equipped with electric air regenerating equipment.
11. There should be obvious antistatic labels in Electrostatic Sensitive area, such as in maintenance area and spare part warehouse.

## Chapter 2 M1721 product introduction

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## 2.1 M1712 Brief Introduction

M1712 View :

TRAY

C: Black

M: Lead

F: Sand blasting oxidation CNC

VOL KEY

C: Black

M: Lead ( same color highlight)

F: Sand blasting, oxidation ,Diamond Cutting  
bright side C corner

前壳

C: Black

M: PA+55%GF

F: Highlight



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Receiver

C: half matt gloss

M: Stainless steel

F: PVD

Backlight silk print R printing ink

背光丝印R油墨

听筒网

C: 半光黑色

M: 不锈钢

F: PVD

Front camera

前置摄像头

TP

C:Black

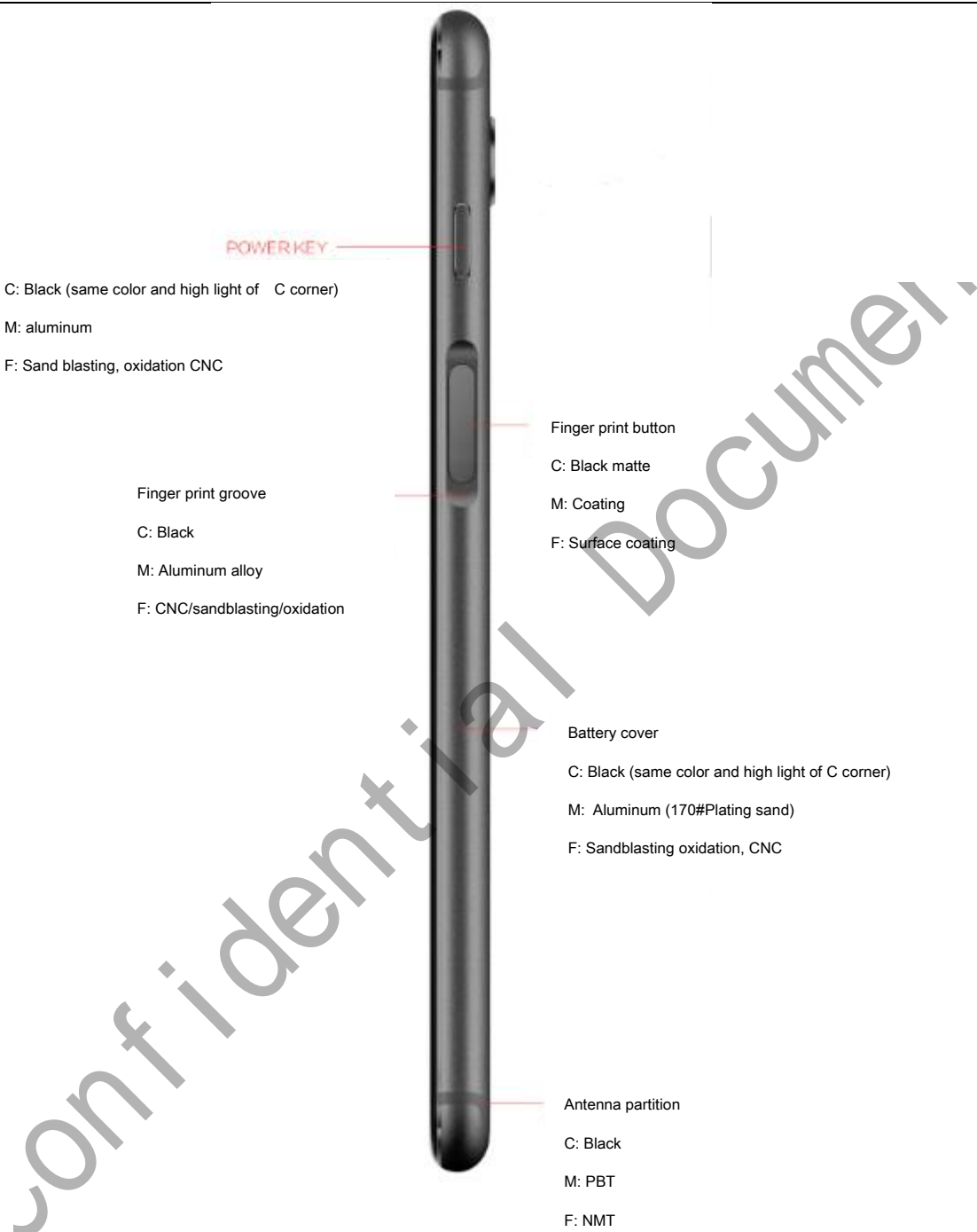
M:2.5 glass

F: silk print of back



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## 2.2 Hardware specification

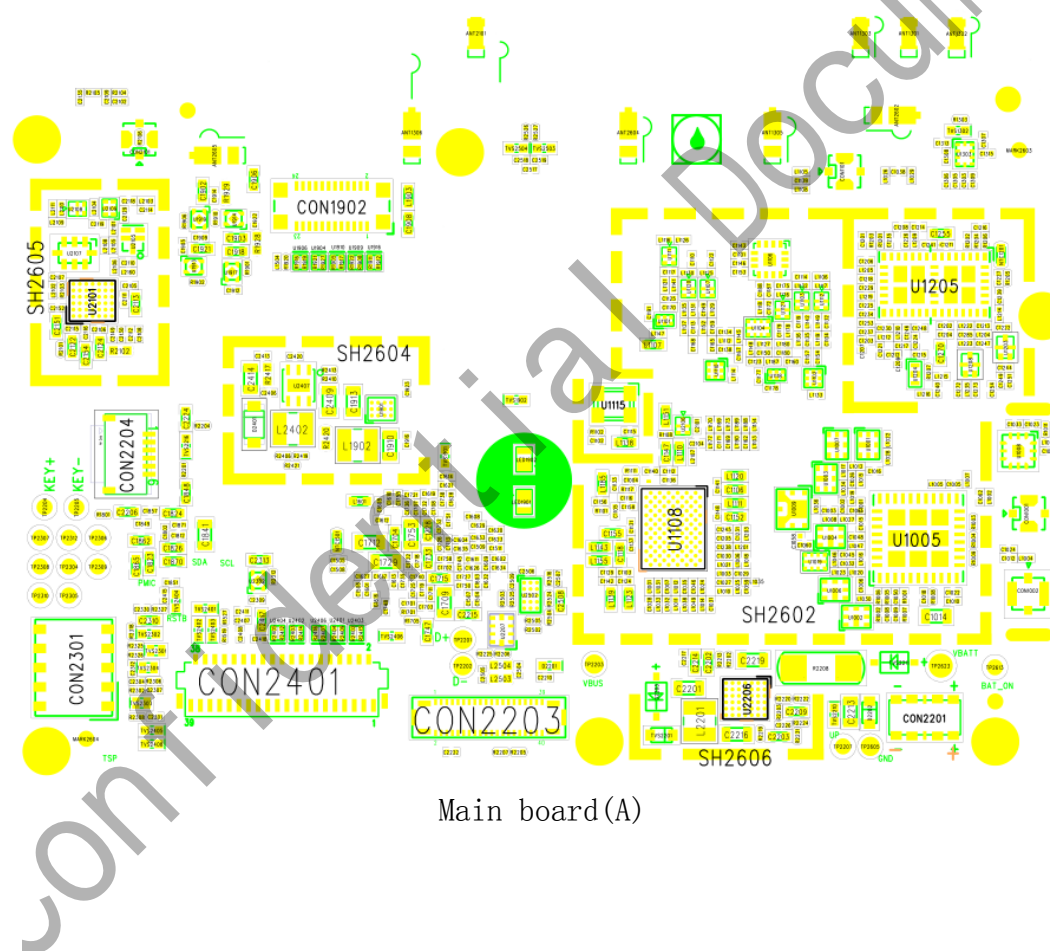
| Hardware                          | Hardware configuration classification | Describe  |
|-----------------------------------|---------------------------------------|---|
| Platform                          | Platform of base band's chipset       | Exynos 7872                                     |
|                                   | GPU                                   | Mali-G71 MP1                                    |
|                                   | RF receive and send                   | RF S925   |
|                                   | Power supply chipset                  | S2MPU07   |
|                                   | GPS/WIFI/BT/FM chipset                | S611  |
|                                   | Technical standard                    | LTE ( Full Netcom 6 mode<br>19 frequency band ) |
| ( Full Netcom )<br>frequency band | LTE TDD frequency band                | TDD-LTE :<br>B34/B38/B39/B40/B41                |
|                                   | LTE FDD frequency band                | FDD-LTE : B1/B3/B8                              |
|                                   | WCDMA frequency band                  | WCDMA : B1/B2/B5/B8                             |
|                                   | TD-SCDMA frequency band               | TD-SCDMA : B34/B39                              |
|                                   | GSM frequency band                    | GSM : B2/B3/B5/B8                               |
| Peripheral<br>equipment           | GPS                                   | GPS/Glonass                                     |
|                                   | WIFI                                  | Support 2.4G/5G WIFI ;<br>802.11a/b/g/n         |
|                                   | NFC                                   | No  |
|                                   | Bluetooth                             | Support BT4.2                                   |
|                                   | FM                                    | No  |
|                                   | ATV                                   | No  |
|                                   | HD Voice                              | No  |
|                                   | HALL                                  | No  |



## 2.3 Maintenance of matters needing attention

- 1) It need to repeat the MMI test in maintain after we disassemble to fix the issue. If you needn't disassemble. And you still can fix the issue. You can delete the customer data.
- 2) If you need to replace the mainboard .You should confirm that the Flyme firmware is the latest version.

## Chapter 3 Position diagram of components



Main board(A)

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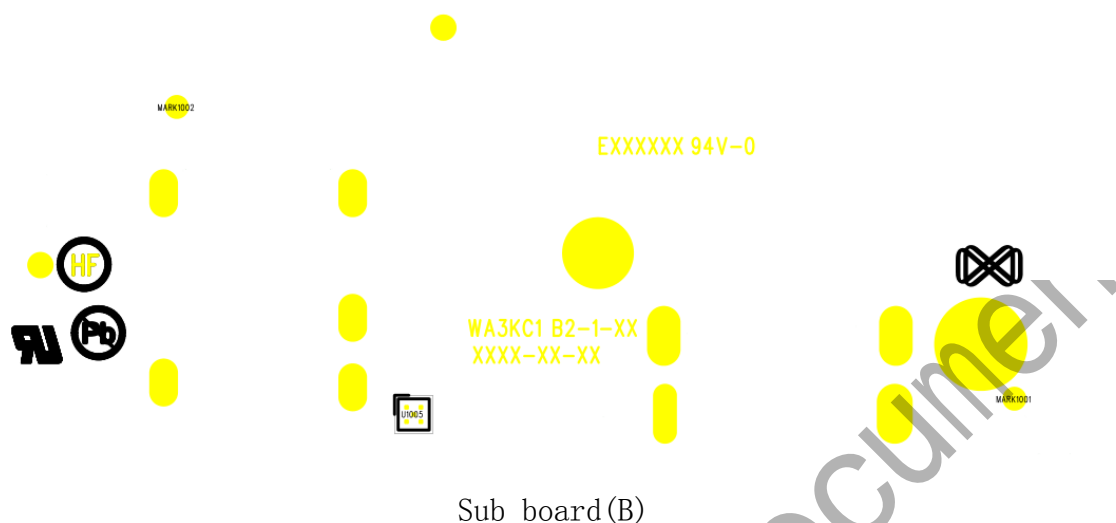
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## Chapter 4 Function and test mode

MMI test command \*983\*1#

Check version command \*983\*7#

(Note: Just for engineer firmware version)

## Chapter 5 maintenance tools

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CMU200 Or 8960



DC Power supply



Oscilloscope



Hot air gun



Electric iron



Spectrum analyzer



Antistatic gloves



Lead-free solder wire



Antistatic cloth



Alcohol bottle



Brush



Antistatic brush



Antistatic-fixt

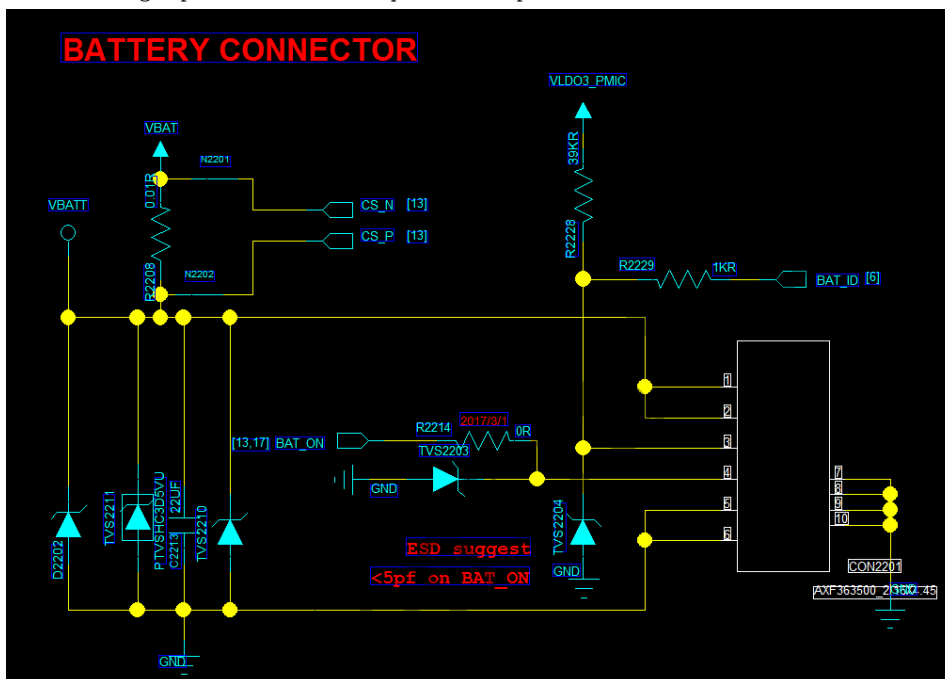
## Chapter 6 Common fault detection and maintenance

### 6.1 No boot issue

Peripherals problem:

1 Make sure that battery functions properly, and that the voltage of battery is more than 3.45V enough to power on the phone.

2 Make sure that the Power button functions properly, and that the signal voltage of PWRKEY changes from low to high potential when phone is powered on.



PCB problem

After peripherals problems is troubleshot, connect the phone with DC power supply and switch on phone to check electric current.

1. If the starting current is super after the phone is connected with DC power supply, the phone has shortcut problem. Super-current shortcut generally emits heat so that you can use hands or thermal imager to view heat point.

2. When the starting current is around 100MA, you probably did not download the right software. Therefore you can try to re-download the software.

### 6.2 Chagre Malfunction

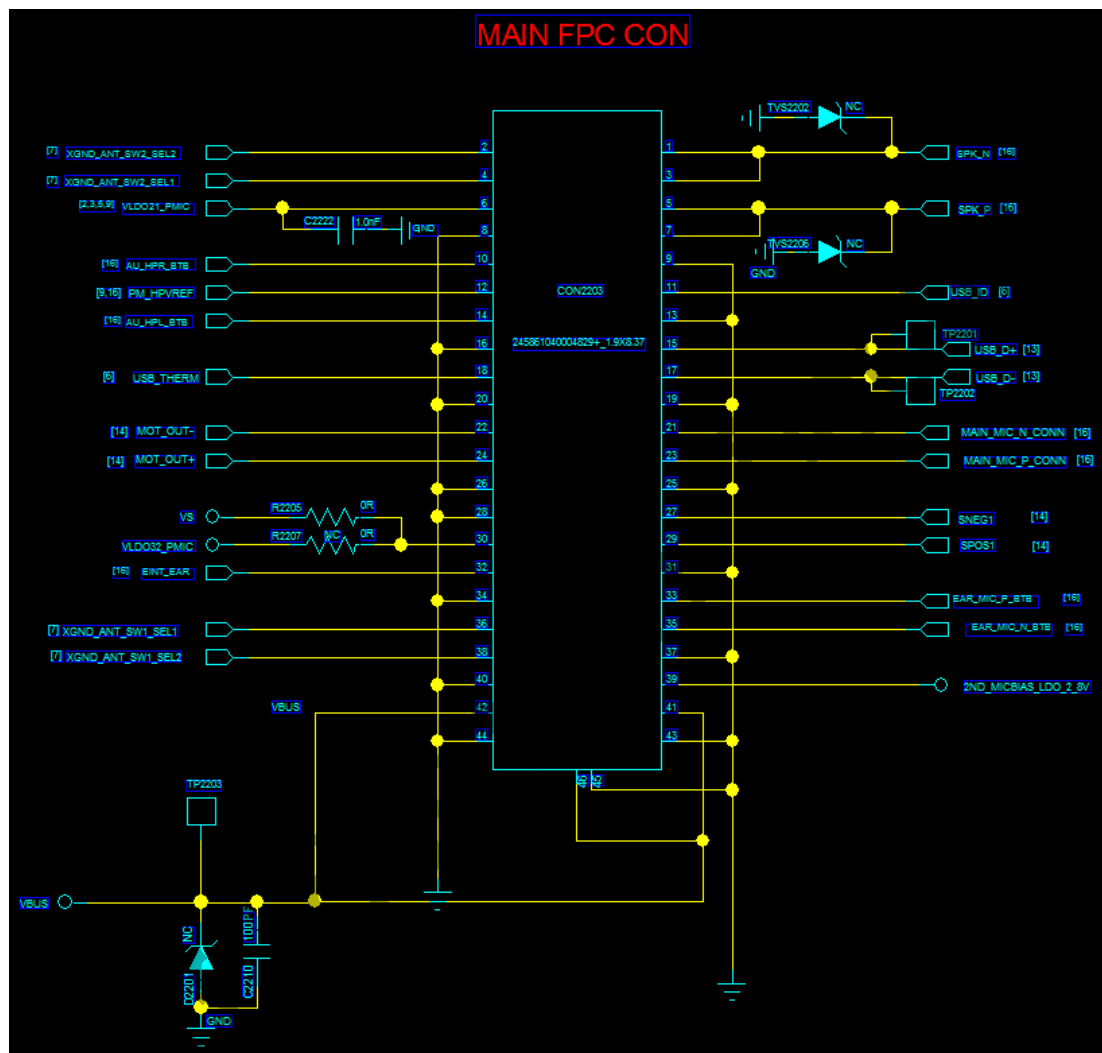
Peripherals problem::

1. Make sure that battery functions properly, and that voltage of battery is not less than 2.8V.

2. Make sure that the USB data cable and adapter function properly.

3. Make sure that the USB-FPC functions properly and is well connected with mainboard.  
PCB problem:

Check to ensure charge components (Mainly are CON2203, U2206) have no defects.



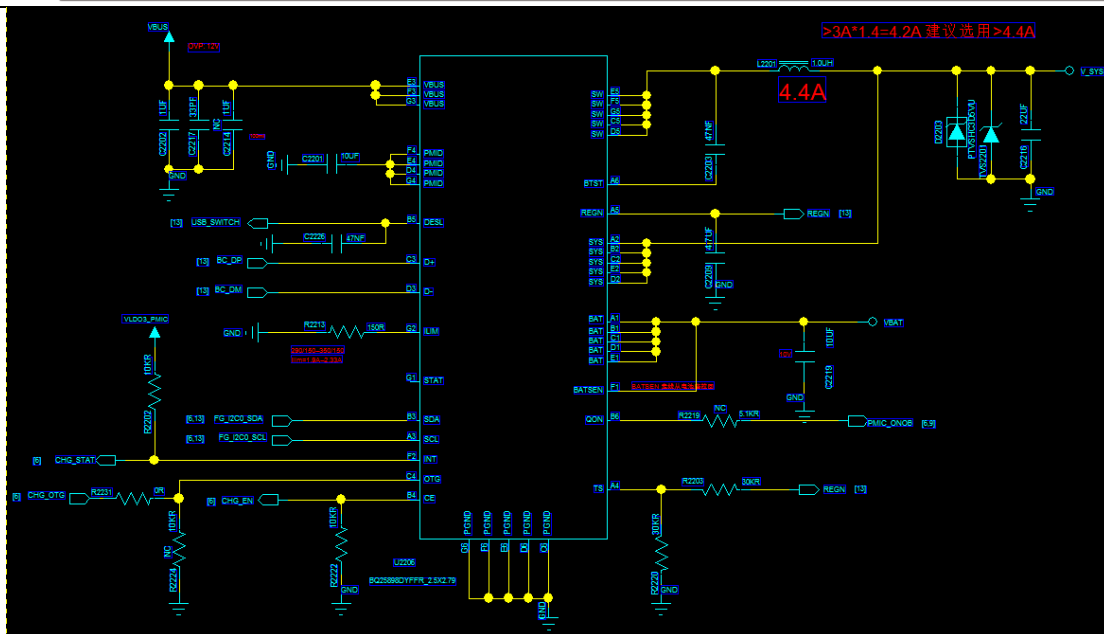
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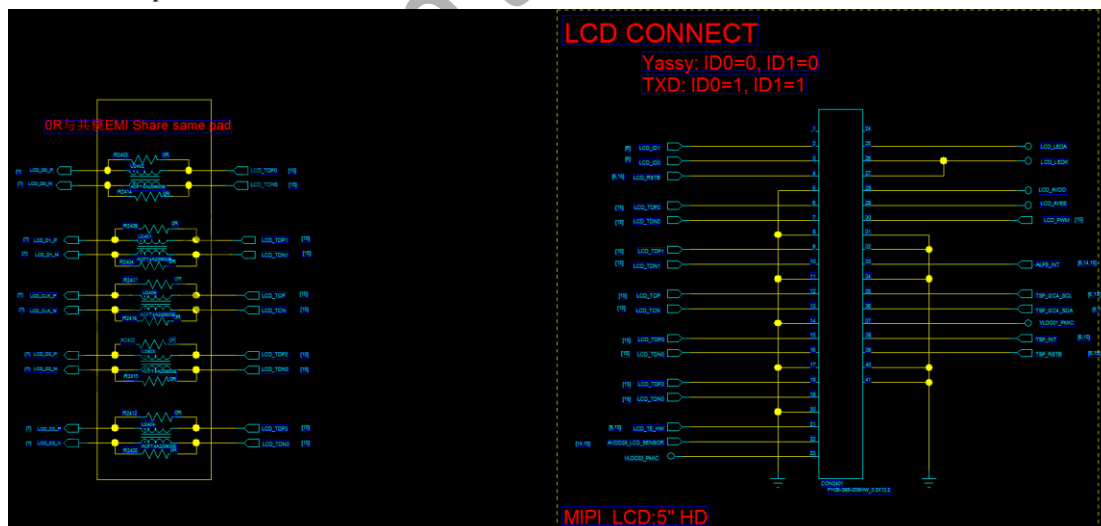
### 6.3 LCD Malfunction

Peripherals problem:

1. Check to ensure LCD has no visual defects.
2. Disassemble the phone to check to ensure that LCD FPC and CON2401 have no visual defects and that LCD FPC is well connected with mainboard.

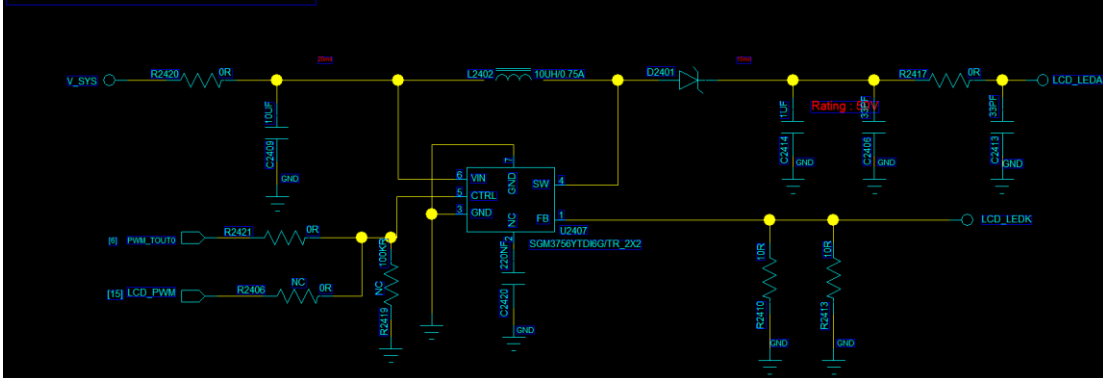
## PCB Problem

1. Check the components related to the screen if it was broken.



2. Check below components for LCD backlight problem.

## LCD Backlight LED Driver



## 6.4 Button Malfunction

**6.4.1** Check to ensure that gold finger of FPC button is connected with VSYS signal, and that PWRKEY are respectively connected with TP2205. If disconnection occurs, the reason is that CON2204 is disconnected or the FPC is damaged.

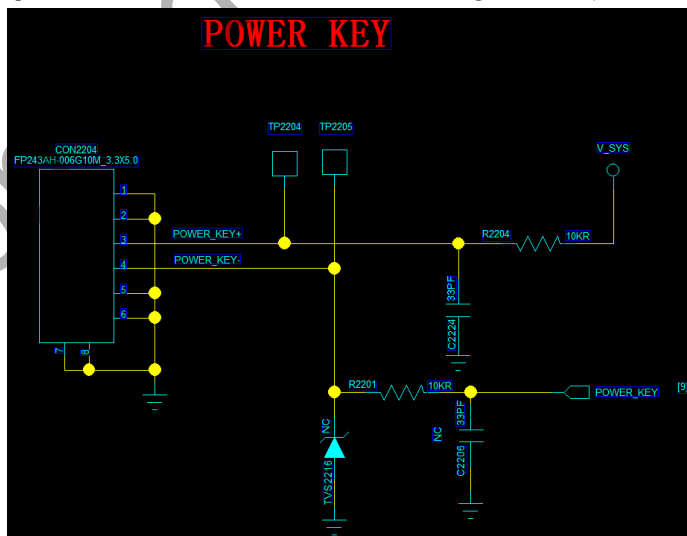
**6.4.2** Check to ensure VOLUMEKEY of FPC button is connected with mainboard GND. VOL\_UP\_CON、VOL\_DOWN\_CON are respectively connected with TP2207, TP2206. If disconnection occurs. The reason is that the FPC is damaged.

**6.4.3** Make sure that FPC is well connected with mainboard. The Voltage of gold finger changes from low to high potential at normal use. If no changes occur, it means that the CPU (U1801) is damaged.

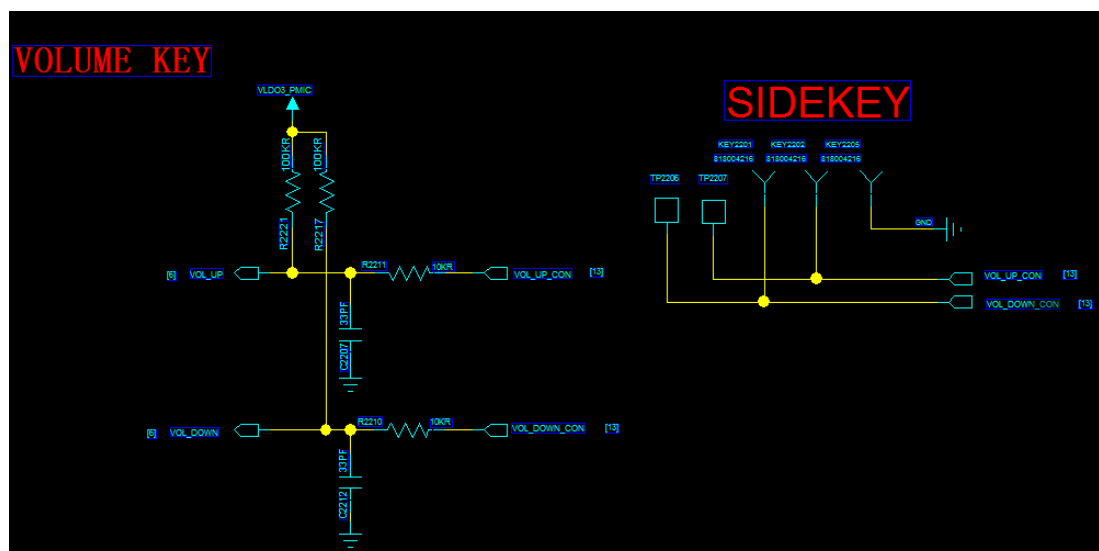
**6.4.4** Make sure that FPC is well connected with mainboard. The Voltage of POWERKEY FPC change from low to high potential at normal use. Is no changes occur, it means that the (U1801) is damaged.

**6.4.5** Make sure that FPC is well connected with mainboard. The Voltage of VOLUMEKEY FPC change from high to low potential at normal use. Is no changes occur, it means that the (U1501) is damaged.

## POWER KEY



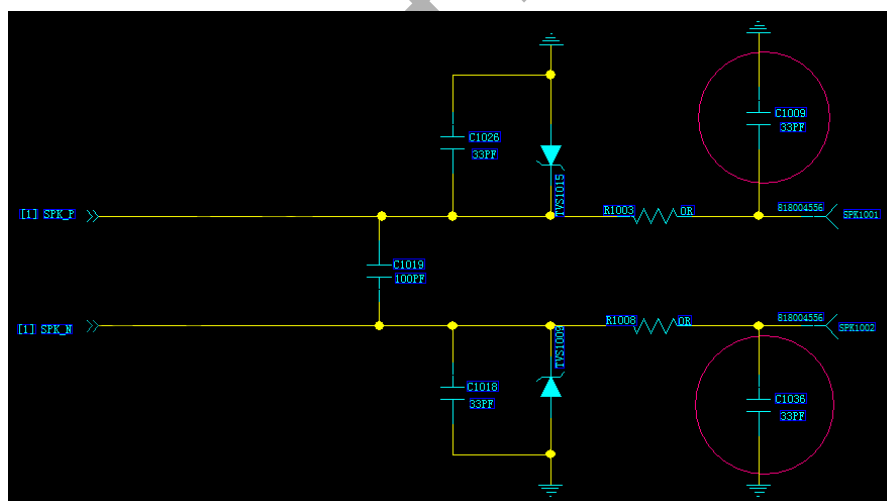




## 6.5 Ringtone Malfunction

6.5.1 Measure to ensure R1003 and R1008 are well connected with positive and negative electrodes of speaker. If disconnection happens, check if FPC has defects or connectors CON1001, CON2203 are disconnected.

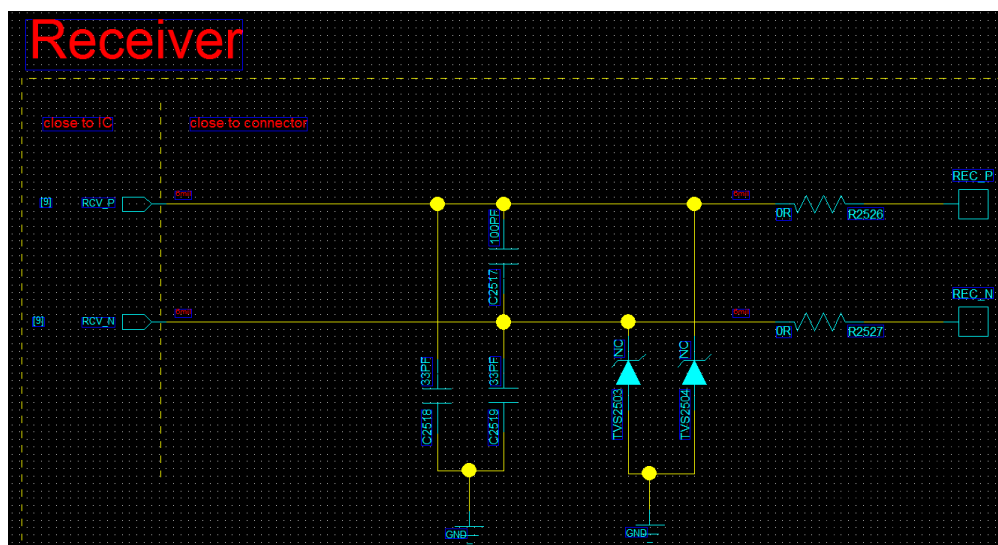
6.5.2 Play music to ensure SPK\_P and SPK\_N have signal. If there is no signal, check if any components or U2501, U1801 were damaged.



## 6.6 Receiver Malfunction

6.6.1 Confirm receiver was well connected with pad.

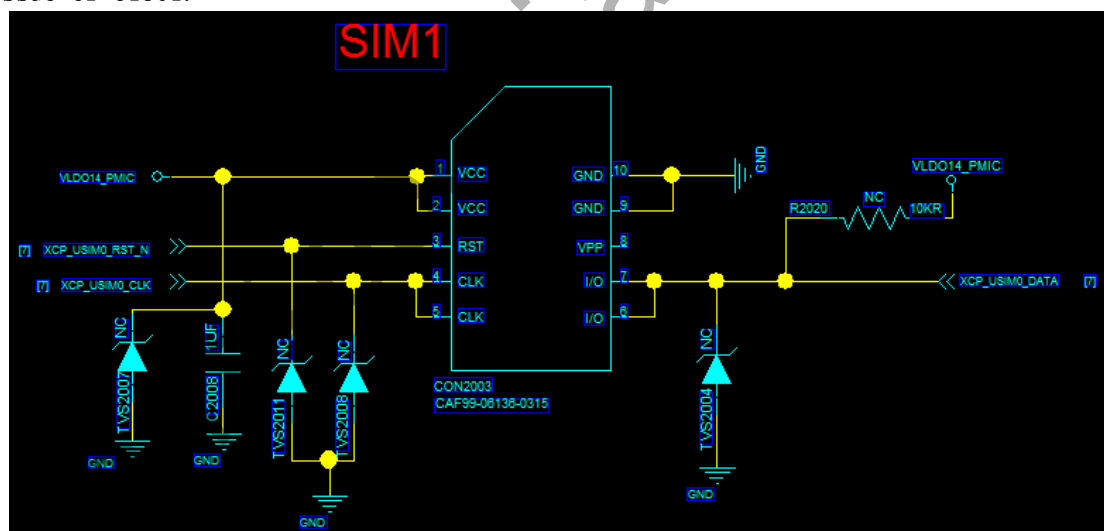
6.6.2 Measure to check if REC+, REC- have signals in mode of earphone. If there is no signal, check if any components or U1801 was damaged.

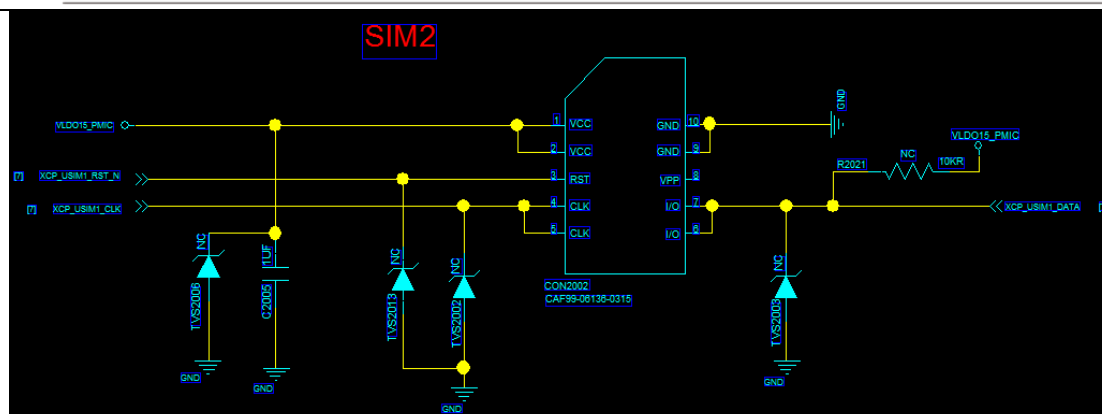


## 6.7 SIM card Malfunction

6.7.1 Check to sure CON2003 and CON2002 were no damaged. Make sure the SIM card is normal.

6.7.2 Measure to ensure that the voltage of VSIM\_PMU is normal; Measure to ensure there are signal in SIM\_CARD\_SRST, SIM\_CARD\_SCLK and SIM\_CARD\_SIO. For an occurrence of inconformity, it's an issue of U1501.



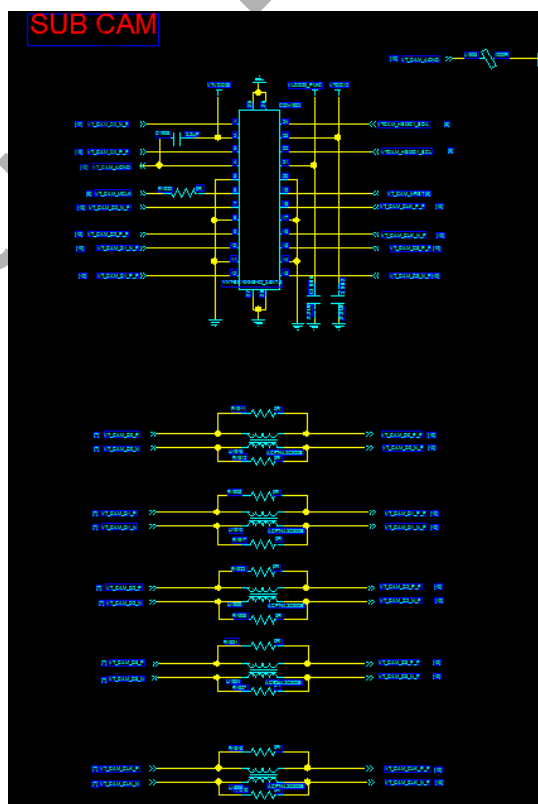
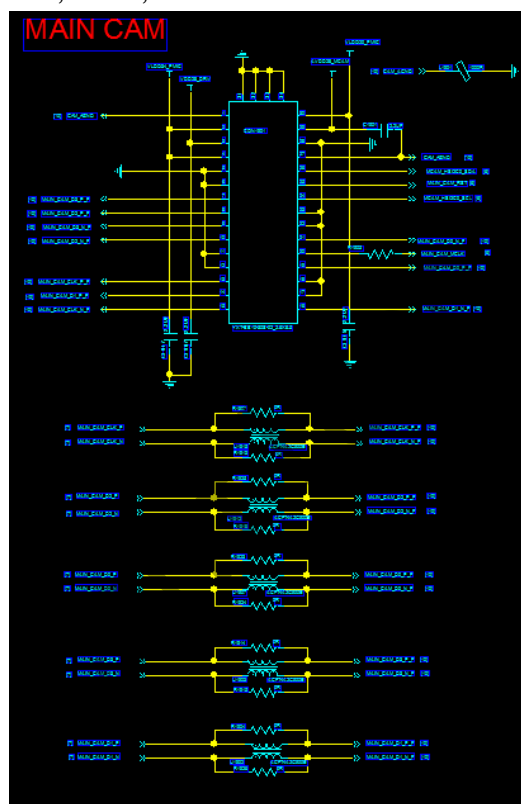


## 6.8 Camera Malfunction

6.8.1 Check to ensure that cameras is normal, and that camera is well connected with CON1901 and CON1902.

6.8.2 Check to ensure circuit components has no defects.

6.8.3 Measure to ensure the voltage of VCAMD\_PMU、VCAMA\_PMU、VCAMD\_IO\_PMU is normal, If it's unnormal, U1801, U1913 or U1917 have defect.

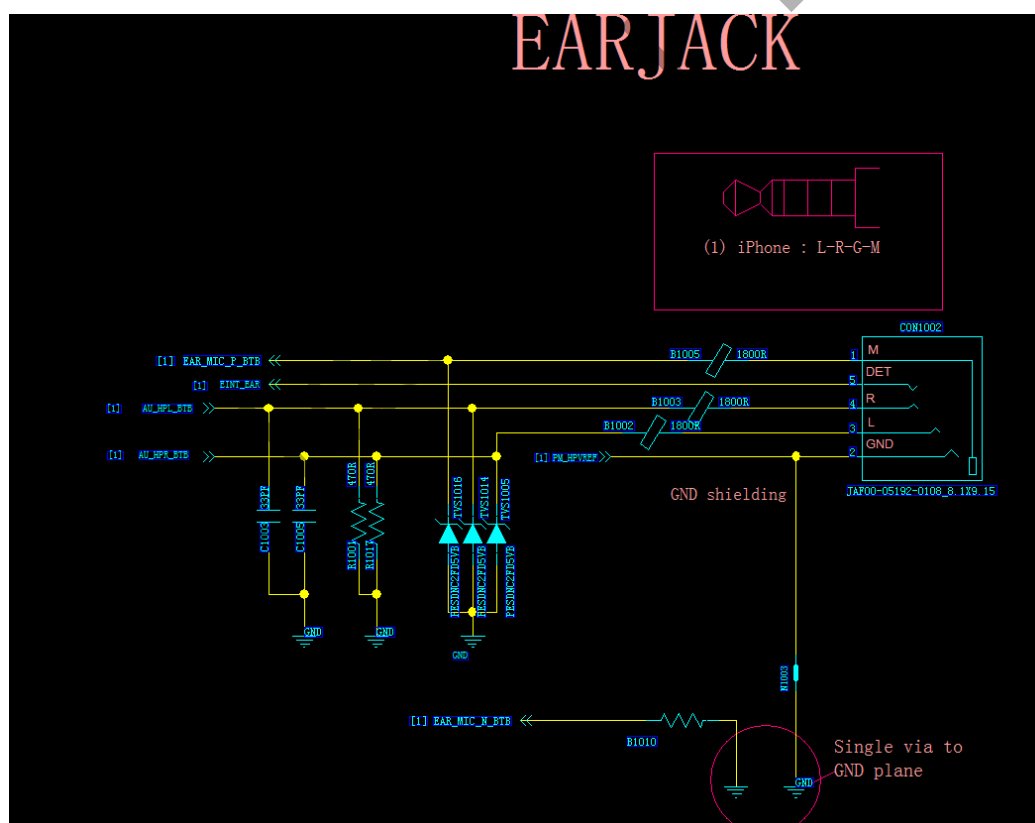
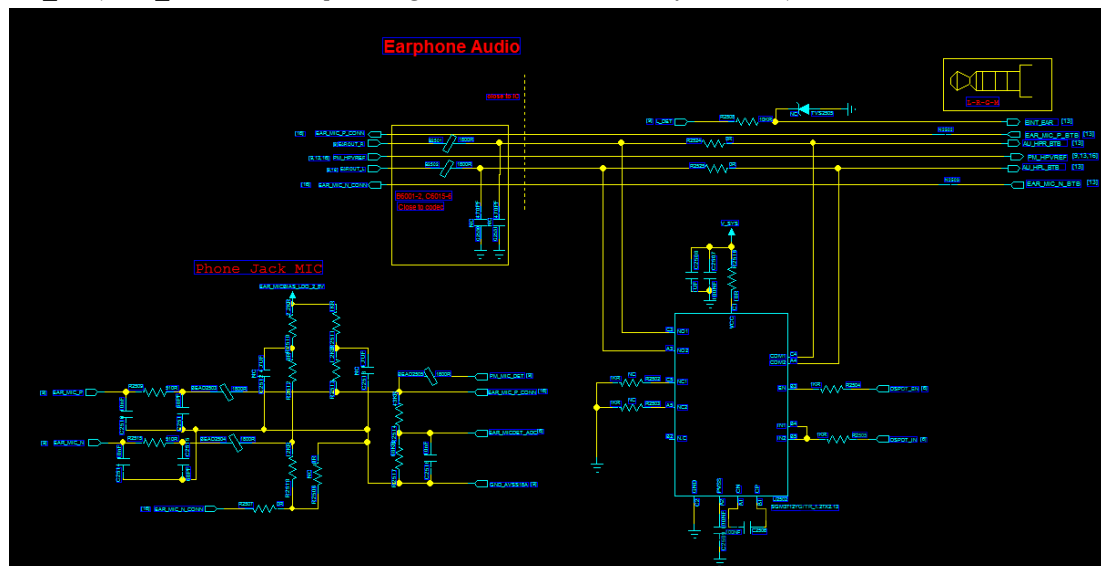


## 6.9 Headset Malfunction

6.9.1 Check to ensure that earphone has no defects, and that earphone is well connect with CON1002

6.9.2 Check to ensure PCBA circuit and components have no defects.

**6.9.3** Measure to ensure that the signal level of ACCDET is not lowered in mode of earphone, and that AU HPR, AU HPL can output signal. If abnormality occurs, it's an issue of PMU (U1801).

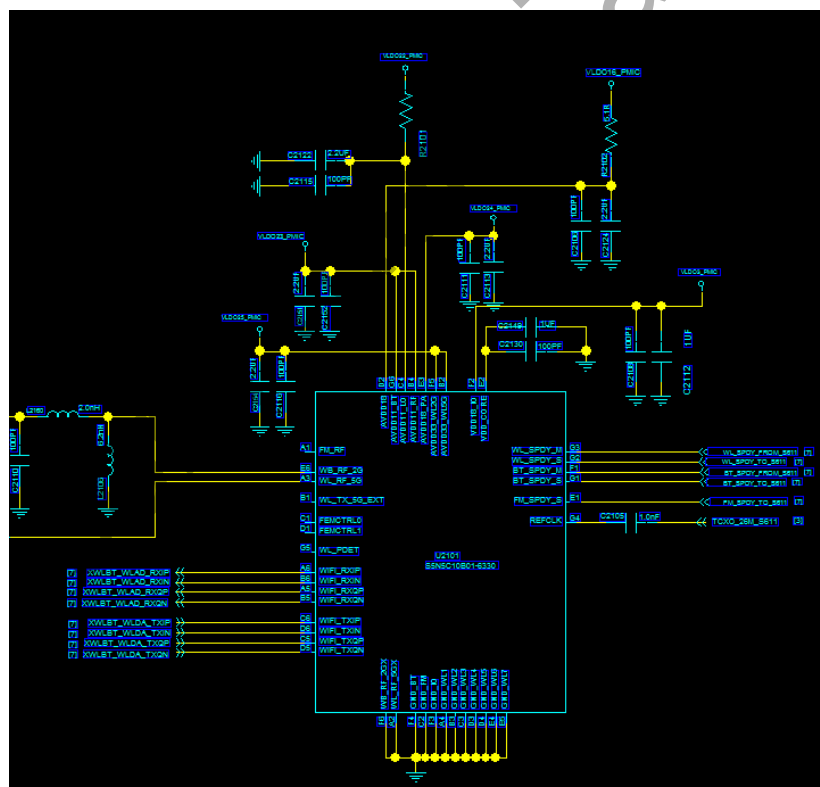
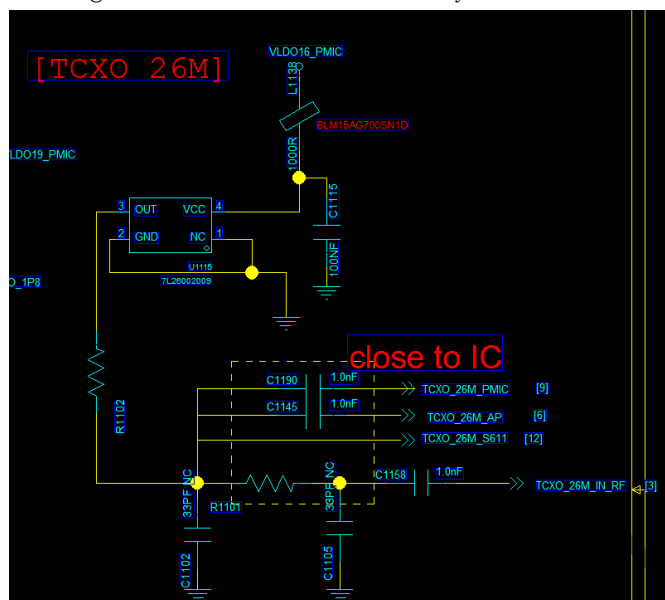


## 6.10 WIFI/BT/GPS Malfunction

6.10.1 Check to ensure that antenna is well connected.

**6.10.2** Check to ensure that PCBA circuit and components have no visual defects.

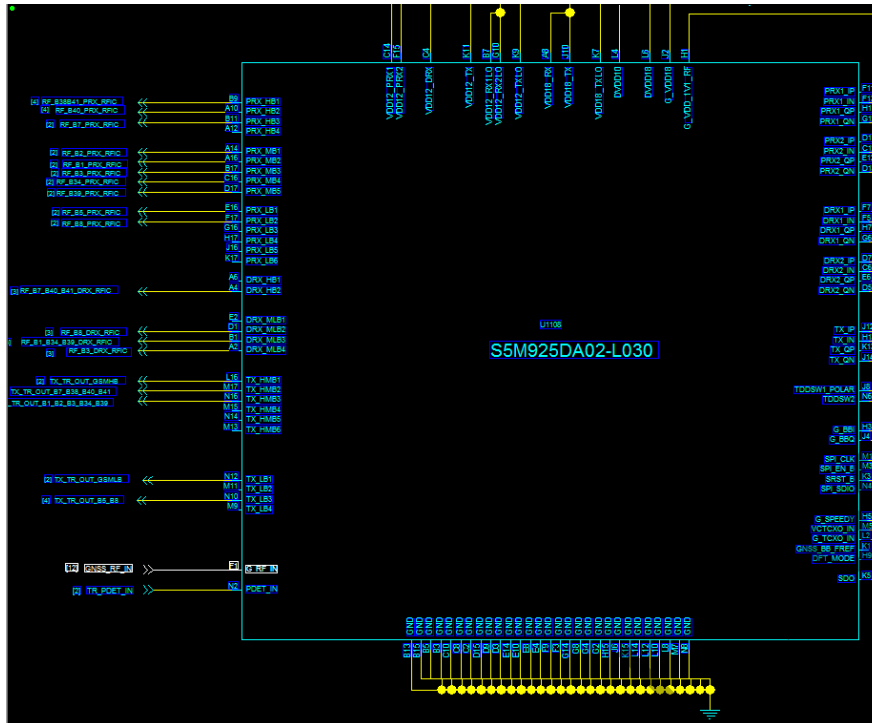
**6.10.3** Measure to ensure that the voltage of TCX0\_26M\_S611、GNSS\_RF\_IN、VLD025\_PMU、VLD023\_PMU、VLD022\_PMU、VLD016\_PMU、VLD03\_PMU、VLD024\_PMU are normal or not. U1115 can output clock signal or not. If abnormality. It's an issue of U2101、U1115、U1108 or U1801.



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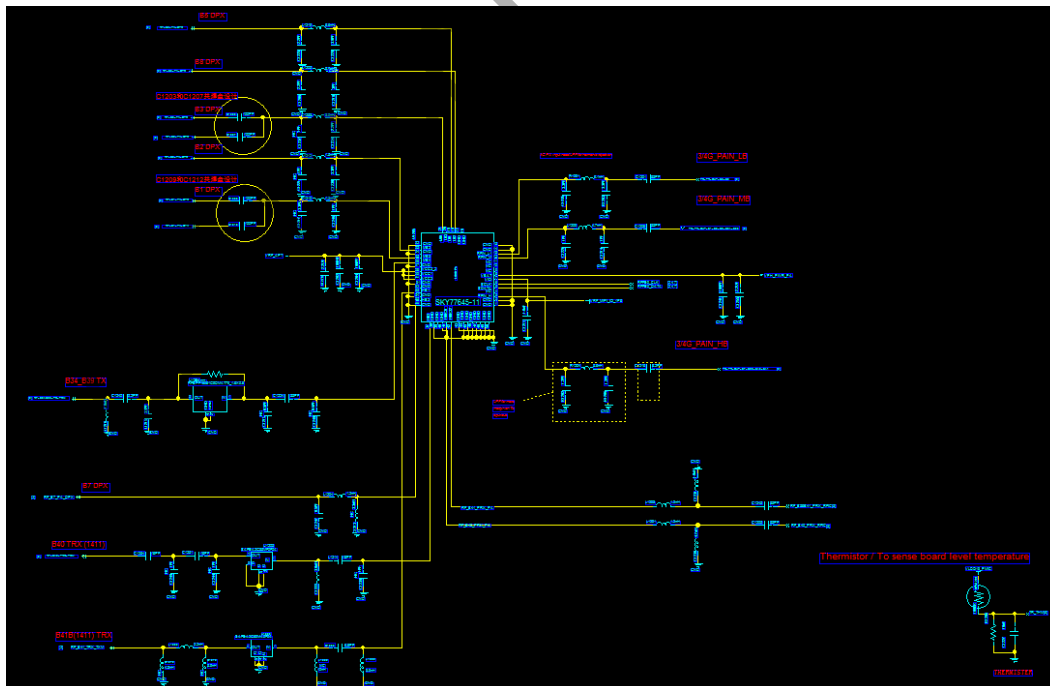
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## 6.11 Network Malfunction

- 6.11.1 Check to ensure that antenna is well connected, and that antenna has no visual defects.
- 6.11.2 Check to ensure the PCBA circuit and components have no defects.



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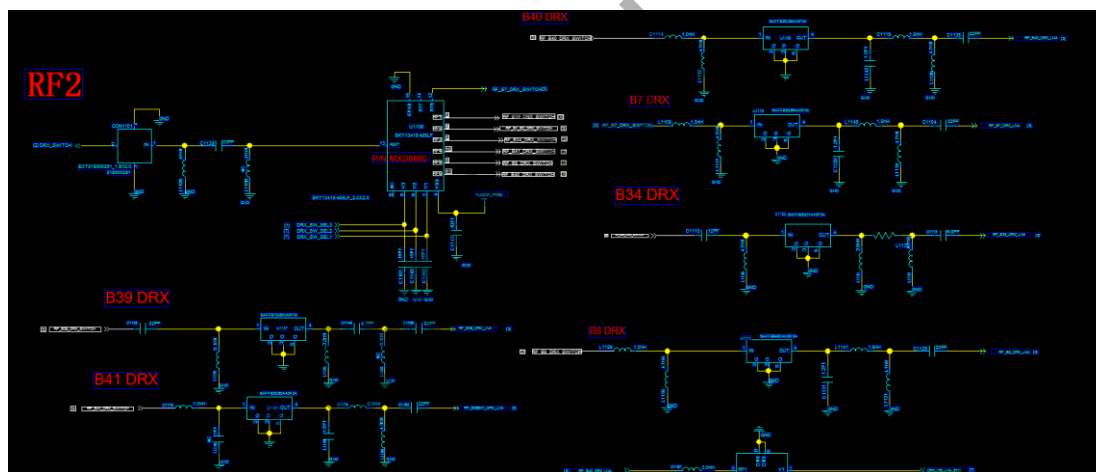
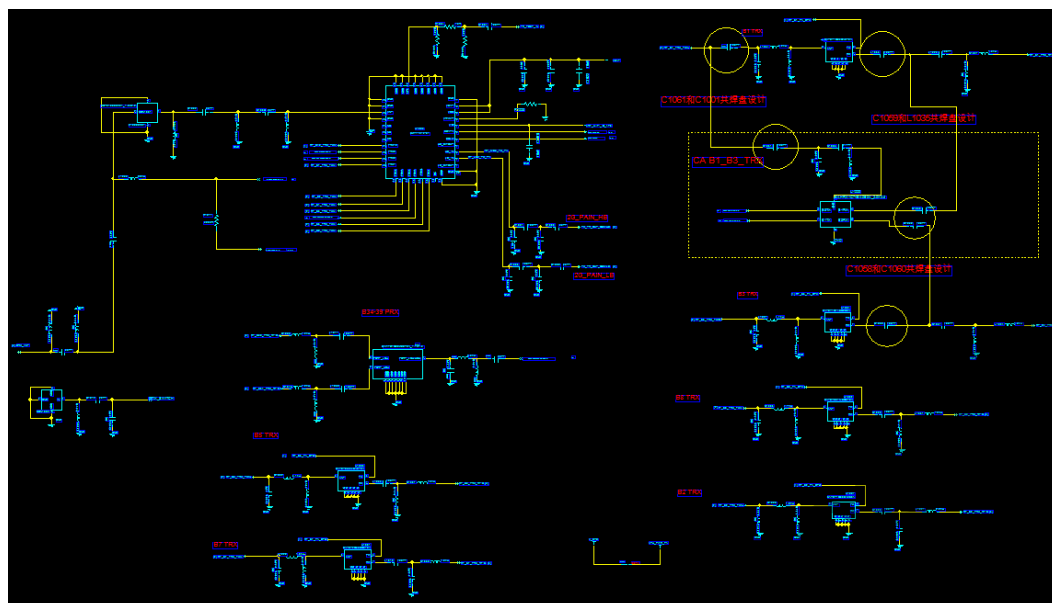
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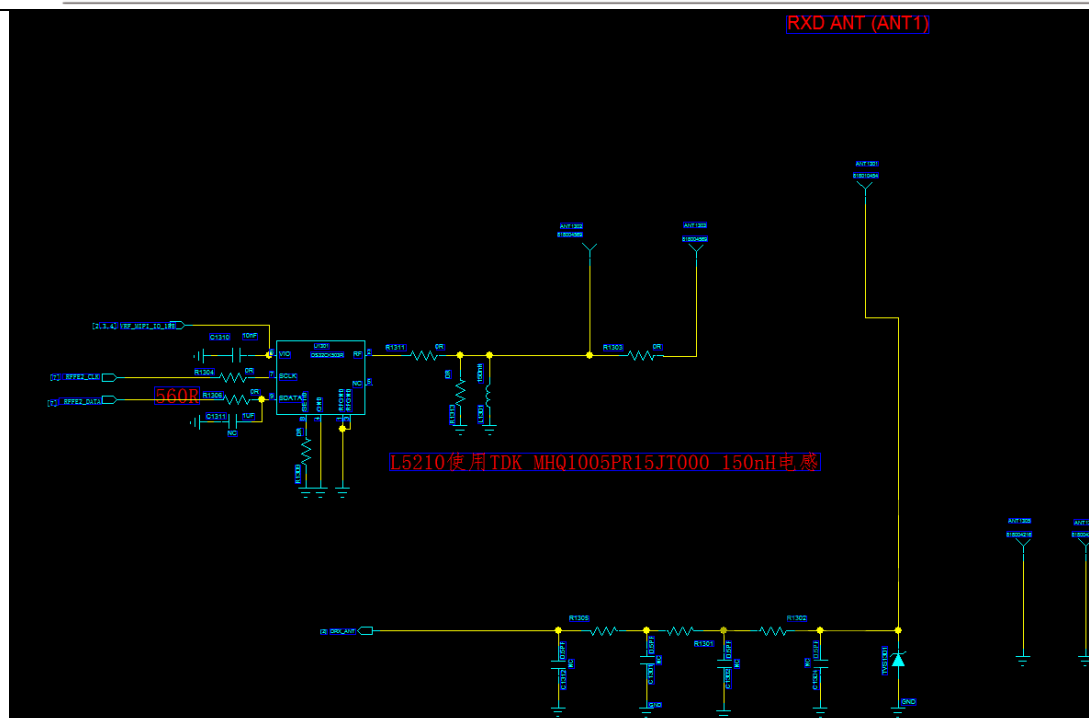
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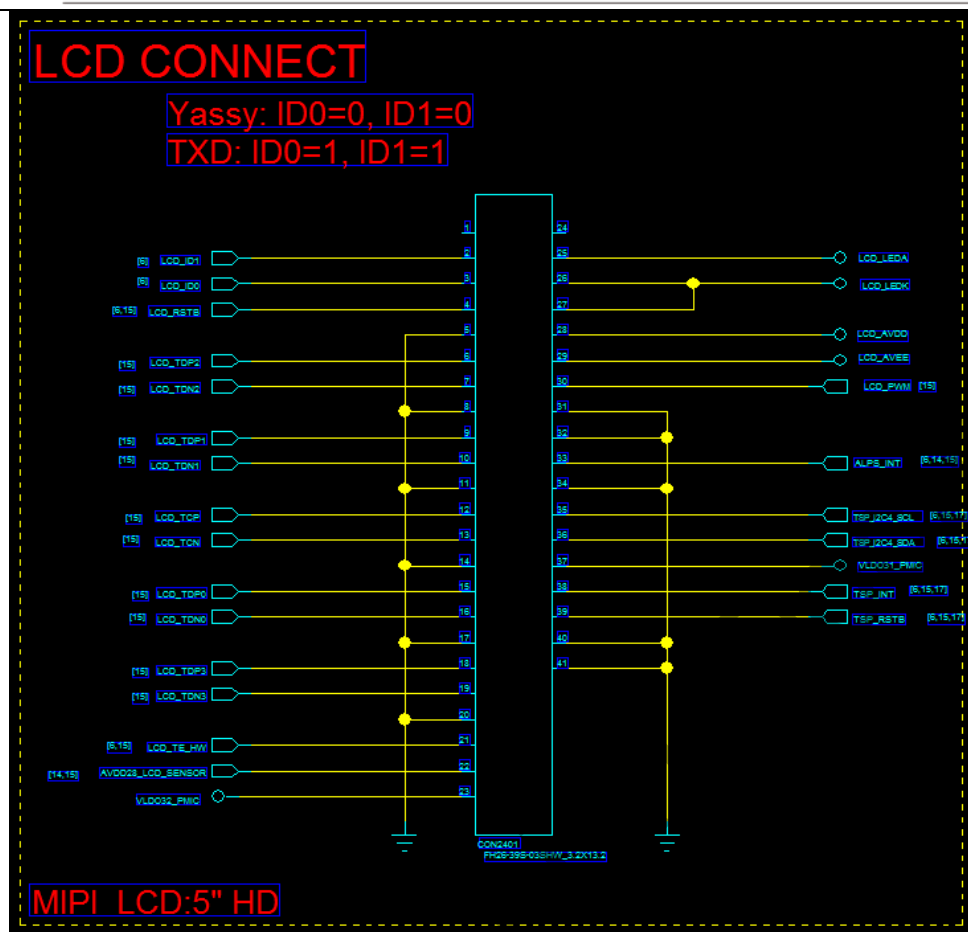


## 6.12 LCD touch screen Malfunction

**6.12.1** Check to ensure that FPC has no visual defects, and that FPC is well connected with CON2401.

**6.12.2** Measure to ensure that VLD028\_PMU, SCL0, SDA0 have signal. ALPS\_INT、TSP\_INT is normal or not, if it's no signal or abnormality. Check if U1801 or U1501 has defects





## 6.13 Sensor Malfunction

**6.13.1** Check to ensure that PCBA circuit and components have no damages (U2301、U2303、U2304) , and that light-sensitive sensors (U2301) are not covered by obstacles.

**6.13.2** Measure to ensure the voltage of AVDD28\_PMU and all the sensors are with specification. If the voltage is beyond the standard, check if CPU (U1501) has defects.

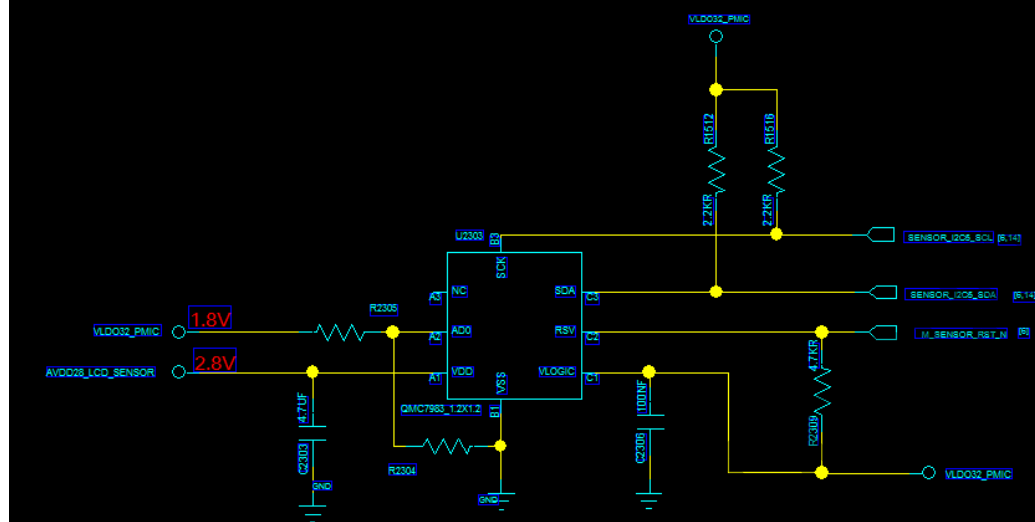
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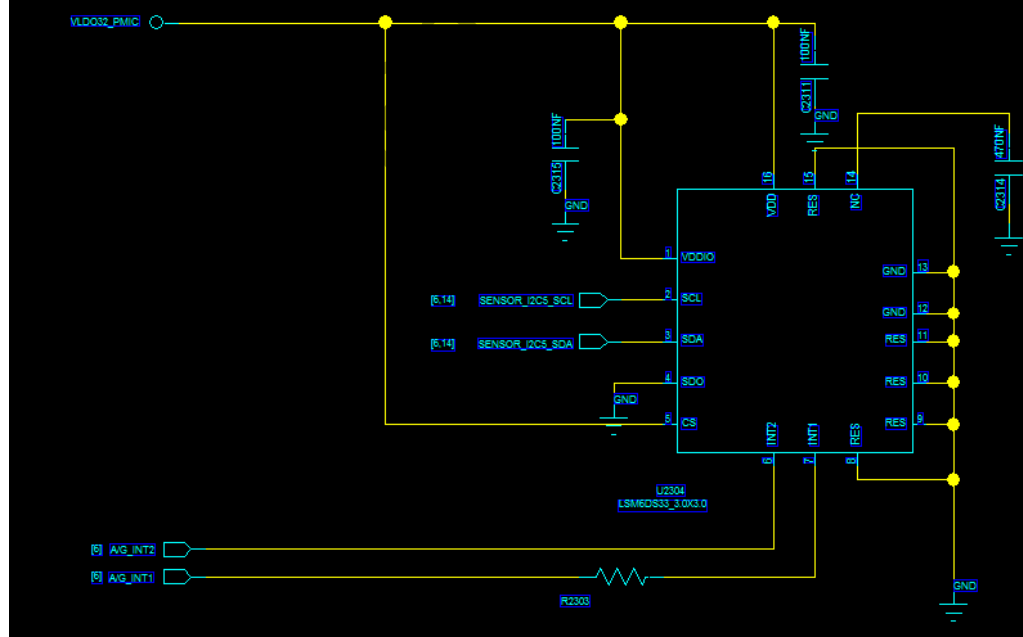
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## M-Sensor

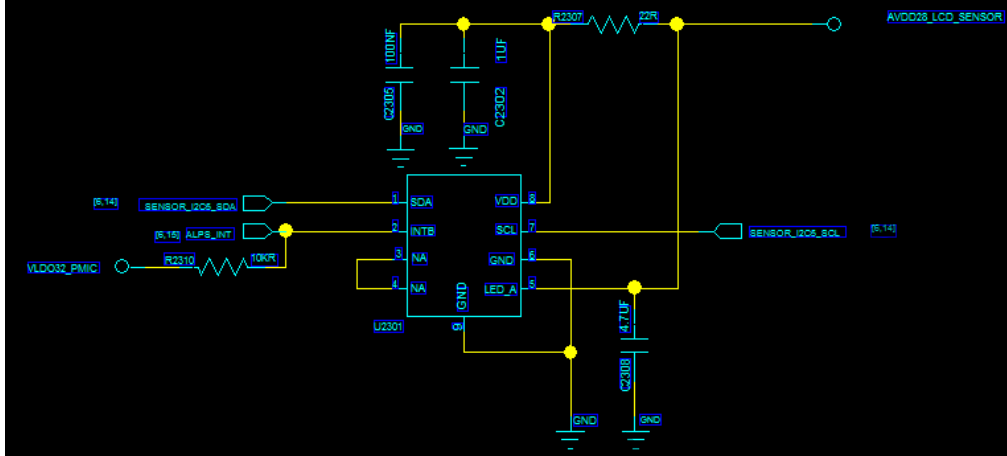


## Accerometer + Gyro Sensor

LSM6DS33 (A+Gyro) I2C Address: 0x6AH (Write: 0xD4H, Read: 0xD5H) - 已查



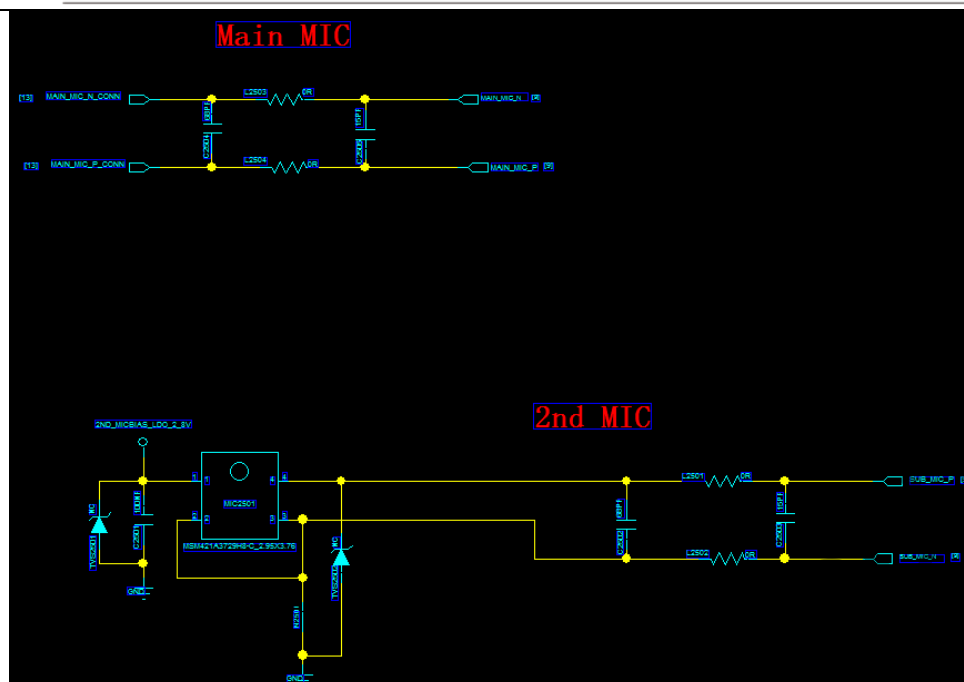
# Ambient Light Sensor with Proximity Sensor



## 6.14 Mic Malfunction

**6.14.1** Respectively measure contact point MIC\_P\_BT B and MIC\_N\_BT B to ensure the two contact points are well connected with MIC electrodes. If disconnection occurs, check if the FPC is damaged or connectors (CON2203) are disconnected.

**6.14.2** Check to ensure PCBA circuit and components have no damages. If there are no defects, check PMU (U1801).



## 6.15 Flash light Malfunction

**6.15.1** Make sure that the flashlight functions properly, and that positive and negative electrodes are in correct locations.

**6.15.2** Check to ensure that components related to flashlight have no visual defects.

**6.15.3** Measure to ensure that the “Positive” electrode of flashlight shows voltage. Then measure to ensure that VBAT shows voltage. If no voltage shows, check if the chipU2301 has defects.

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