

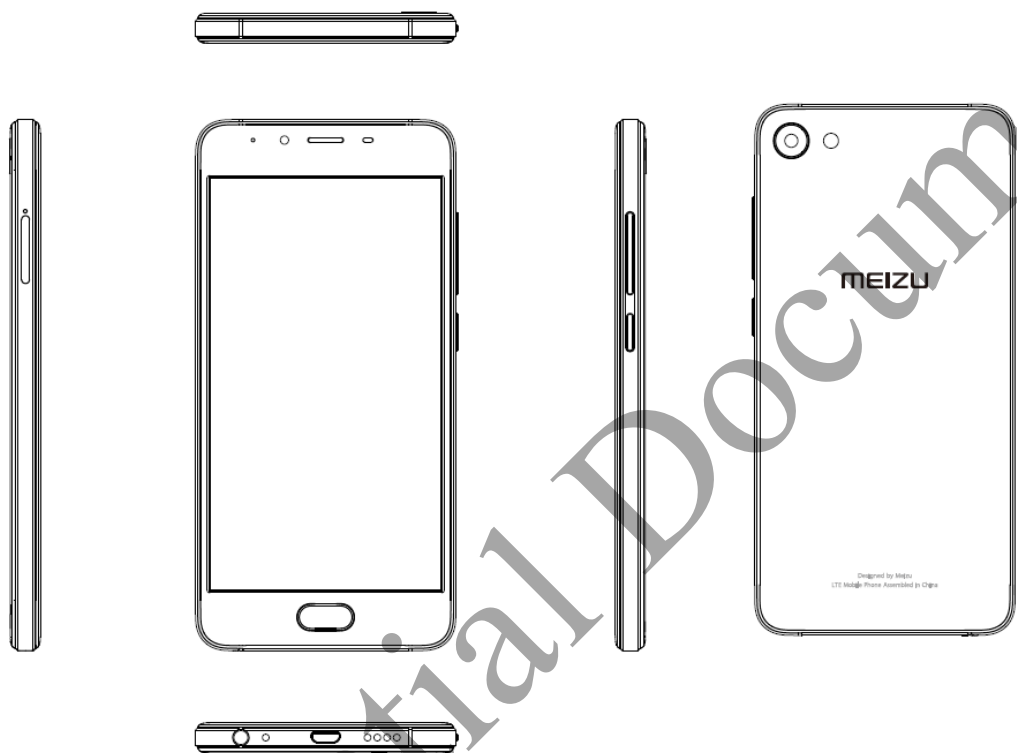
U10 Maintenance Manual

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Chapter 1 Phone Introduction

1.1 Appearance



1.2 Hardware specification

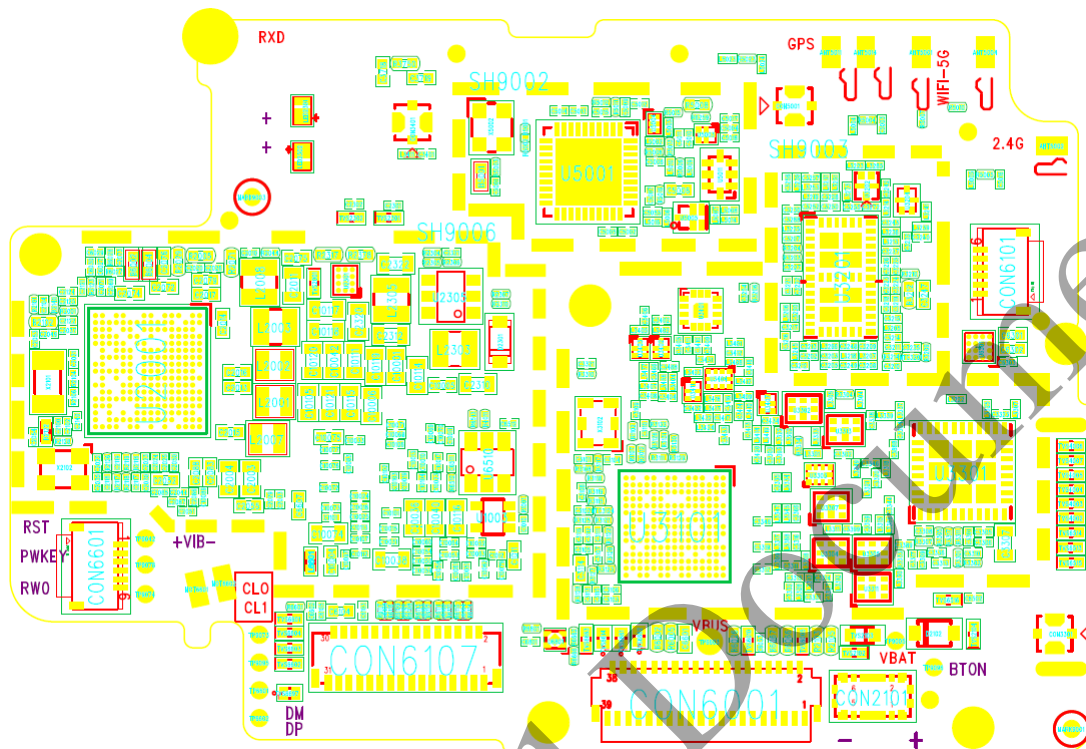
Hardware	Classification of hardware configuration	Description
Platform	Baseband chip platform	MT6750
	GPU	ARM Mali-T860 MP2 520MHZ
	Radio-frequency	MT6176
	Power chip	MT6353
	GPS/WIFI/BT/FM chip	MT6625L
	Technical system	LTE (Full Netcom 6 carriers 18 frequency)
Frequency band	LTE TDD frequency band	TD LTE:38/39/40/41 (2600/1900/2400/2600 (100M))

	LTE FDD frequency band	LTE FDD:1/3/7 (2100/1800/2600)
	WCDMA frequency band	WCDMA:1/2/5/8(2100/1900/850/900)
	TD-SCDMA frequency band	TD SCDMA:34/39 (2100/1900)
	GSM frequency band	GSM:2/3/5/8 (1900/1800/850/900)
Peripheral equipment	GPS	Yes, Glonass
	WIFI	Yes, support 2.4G/5.0G, 802.11a/b/g/n
	NFC	No
	Bluetooth	Yes, Ver 4.0
	FM	No
	ATV	No
	HD Voice	No
	HALL	No

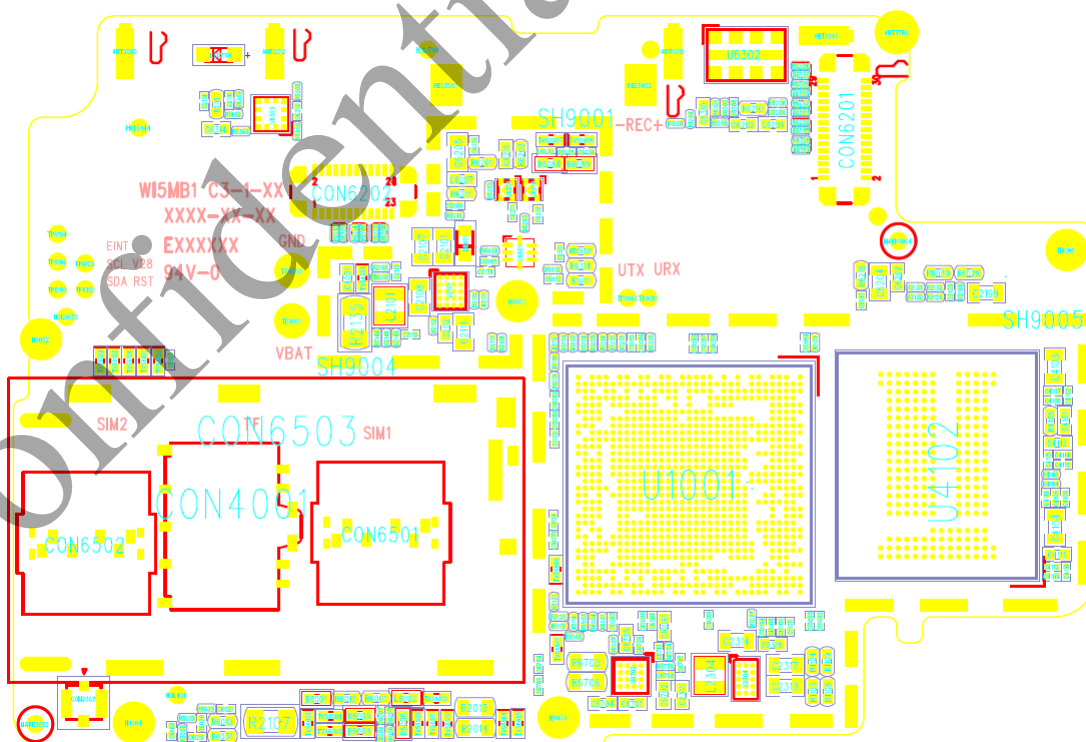
1.3 Caution of maintenance

- 1) After maintenance that needs disassembling the phone, MMI test is required; after maintenance that does not need to disassemble the phone, user's data can be deleted directly.
- 2) If mainboard is replaced, check to ensure the software is upgraded to the latest version.

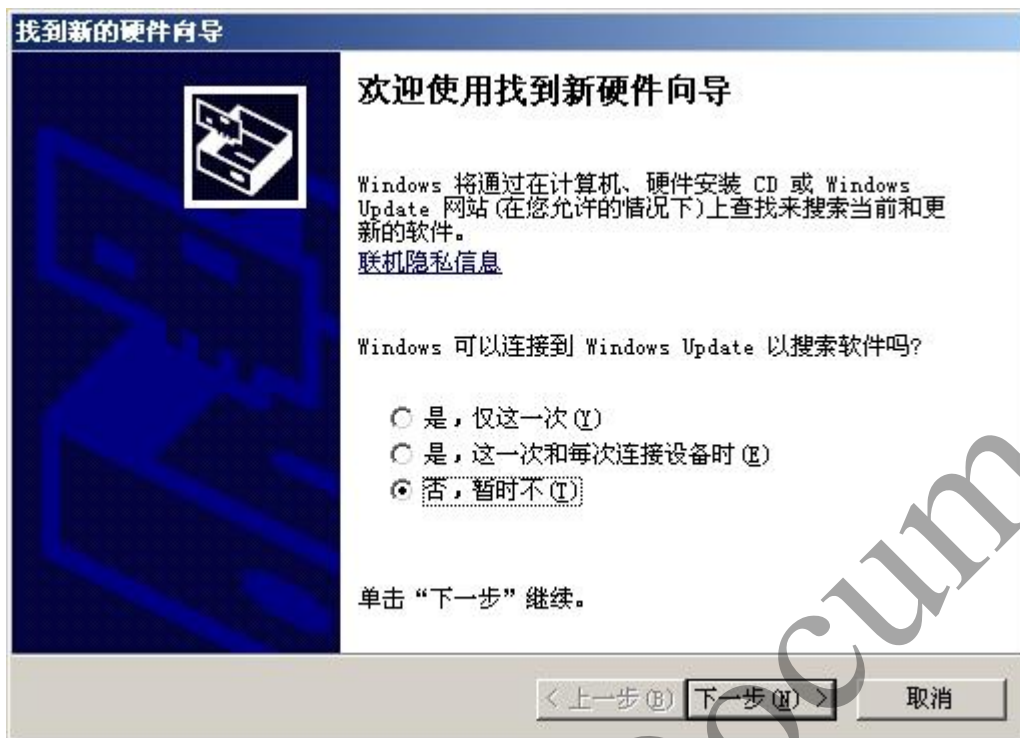
Chapter 2 Component layout



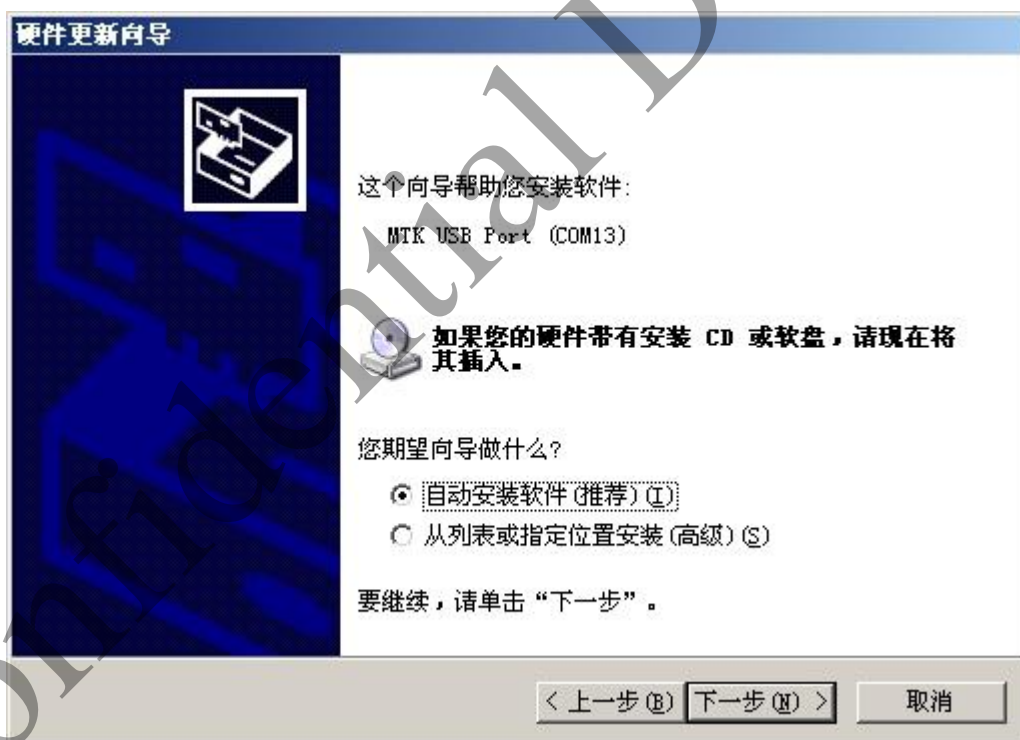
Main board (Side A)



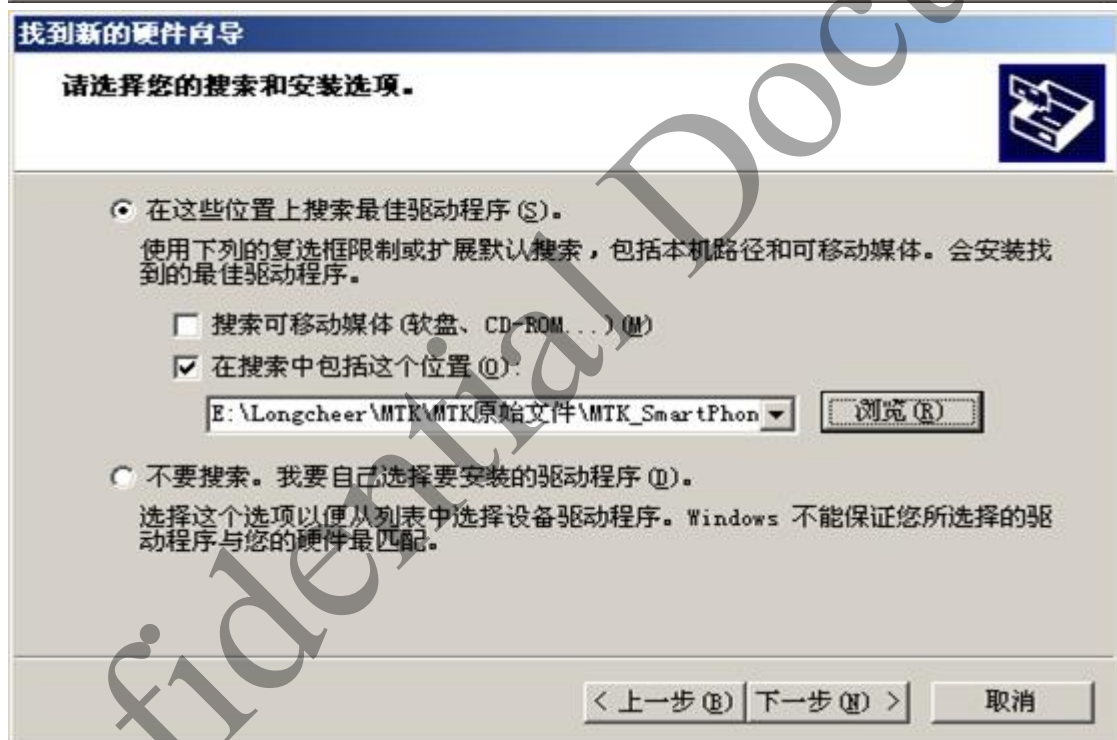
Main board (Side B)



Driver Installation



New hardware installing guide



Select driver process

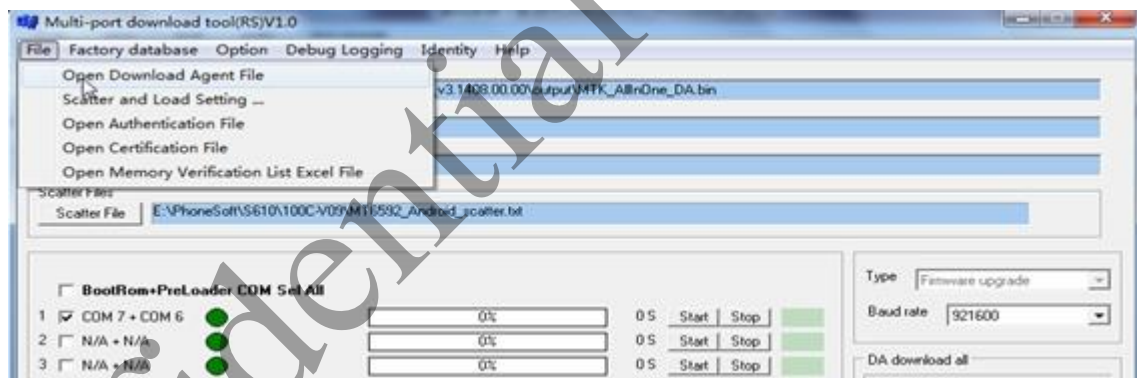
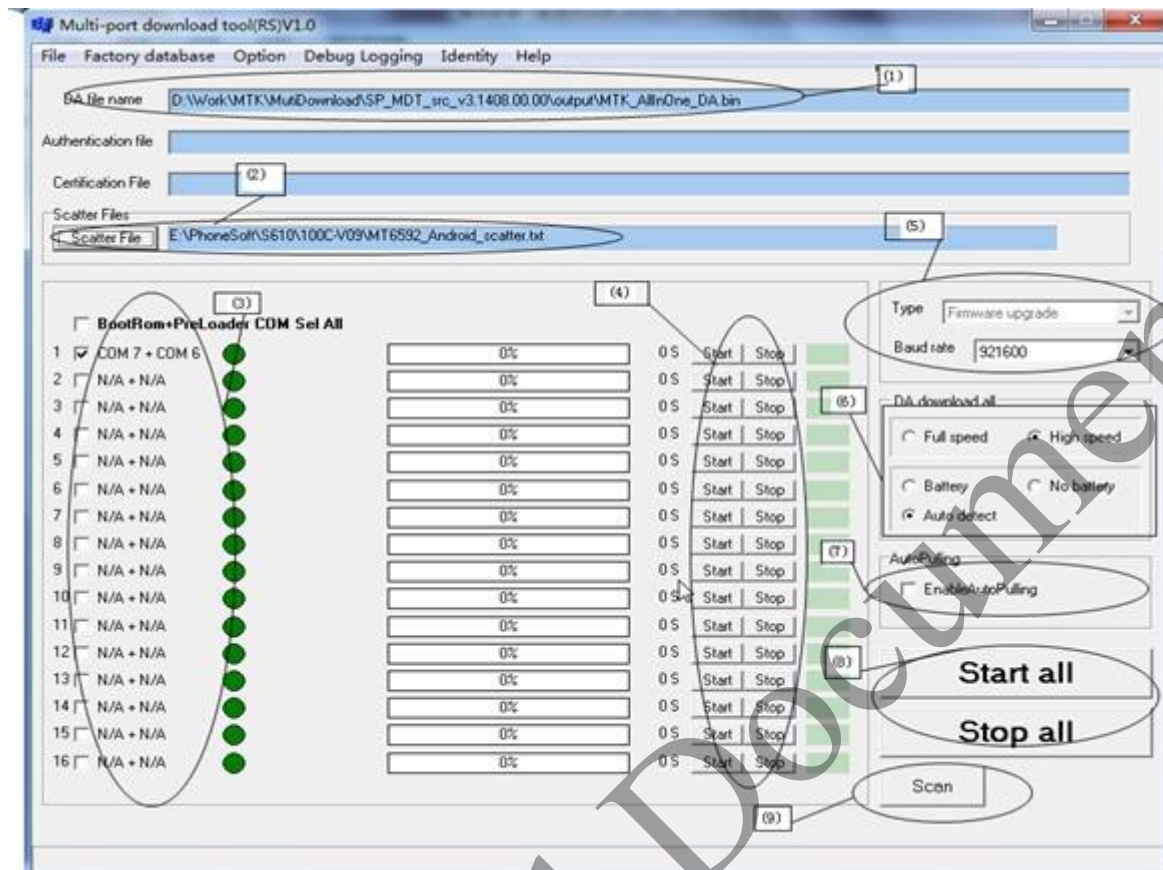


Equipment controller

Remember the COM port as indicated in above figure COM13

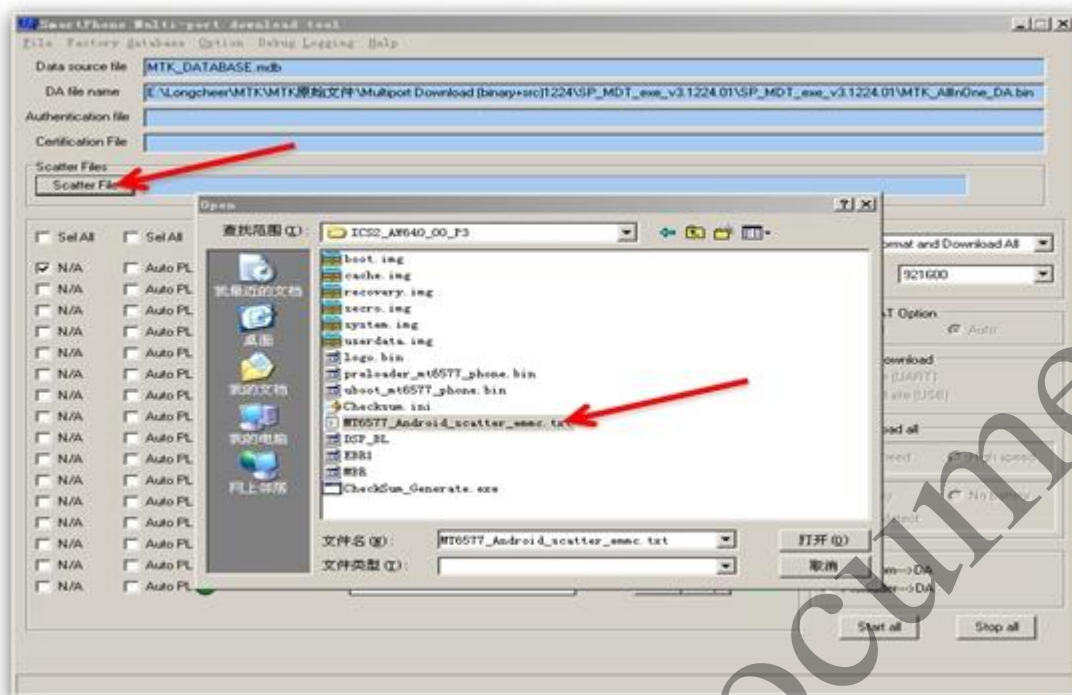
3.2 Tool application

3.2.1 Load software and introduce interface

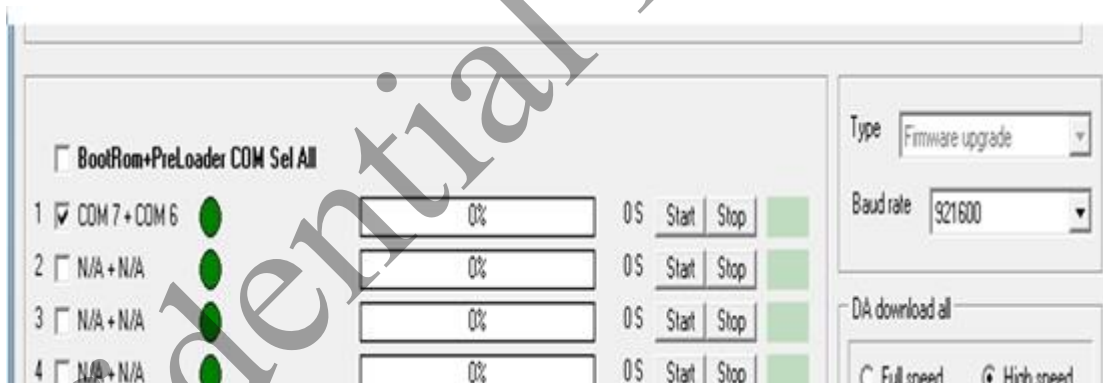


(1) DA file name: Download tool agent file and put the file in tools directory. Click button "File" and select "Open Download Agent File". Then it automatically locates "MTK_AllInOne_DA.bin" under the tool directory.

(2) Scatter File: Read software version information and select the right firmware.



(3) Set up the right port for current use. The tool supports 16 paths to download at the same time. You can tick one single path or can tick the top option to choose all the 16 paths. One path displays two different port numbers.

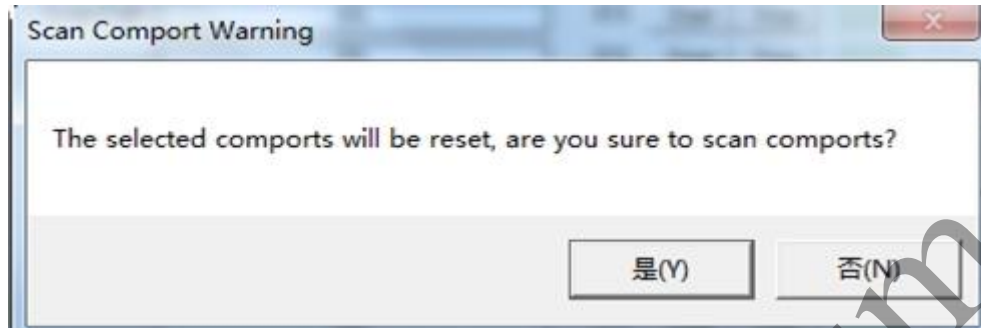


Don't tick options that you don't need. Tick options that you need.

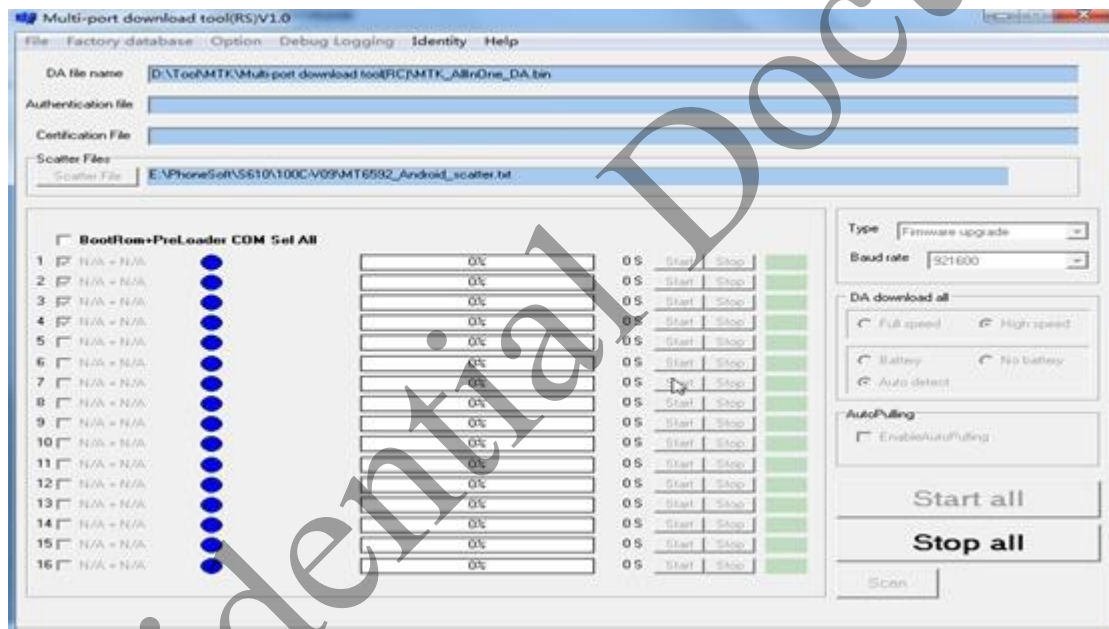
- (4) It starts or stops downloading in one path.
- (5) It is default settings that cannot revise including Baud Rate.
- (6) Default settings are adopted.
- (7) If option "Enable" is ticked here, it means that when downloading in one path is completed, it starts downloading at the moment you plug the USB cable in another phone. If option "Enable" is not ticked here, you need click the button "Start" to start downloading.
- (8) These two buttons are designed to start or stop all the downloading paths.
- (9) Scan the device port.

3.3 Device ports scan

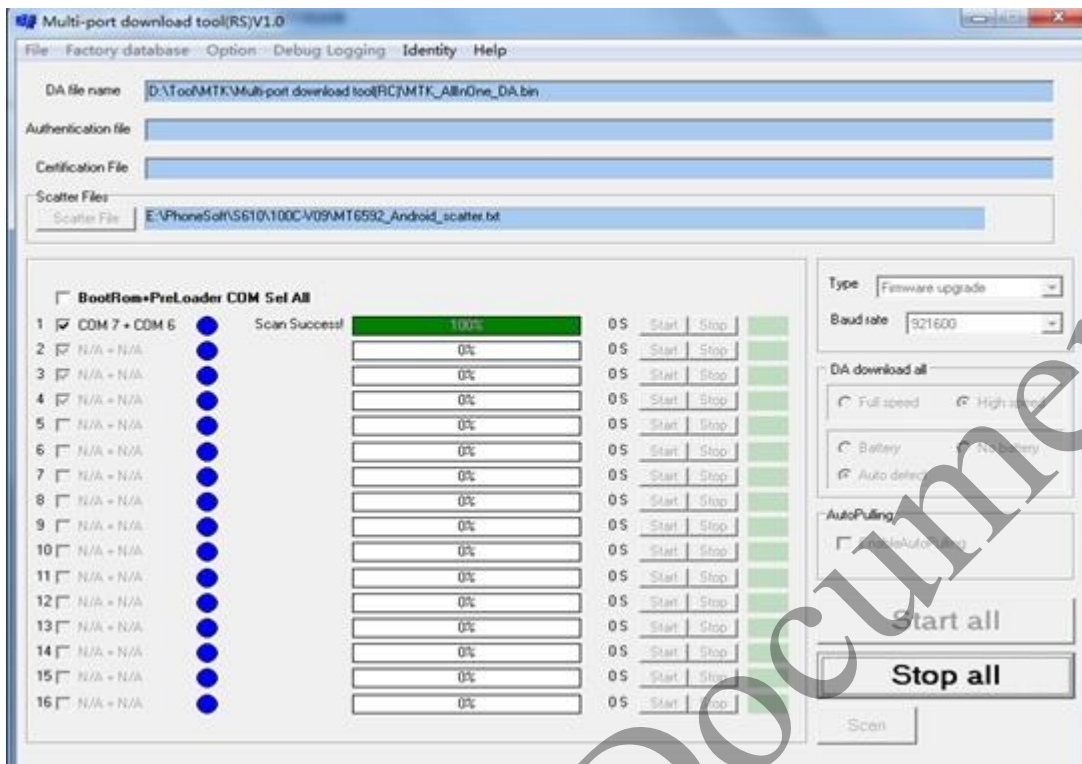
3.3.1 Tick paths that you need. If you need four downloading paths, tick four options. All the other settings remain the same. After finished ticking, click “Scan” to scan device ports.



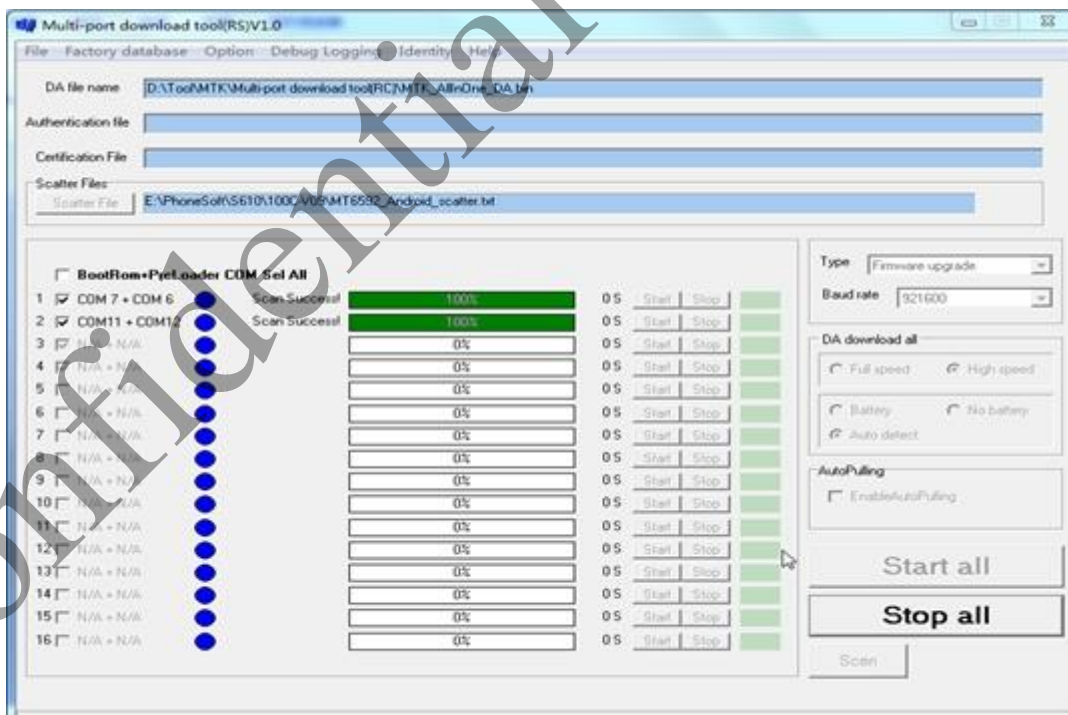
When the dialogue window prompts, click “(Y)”.



Press Volume “Plus” button and insert the USB cable in phone to connect phone with computer.



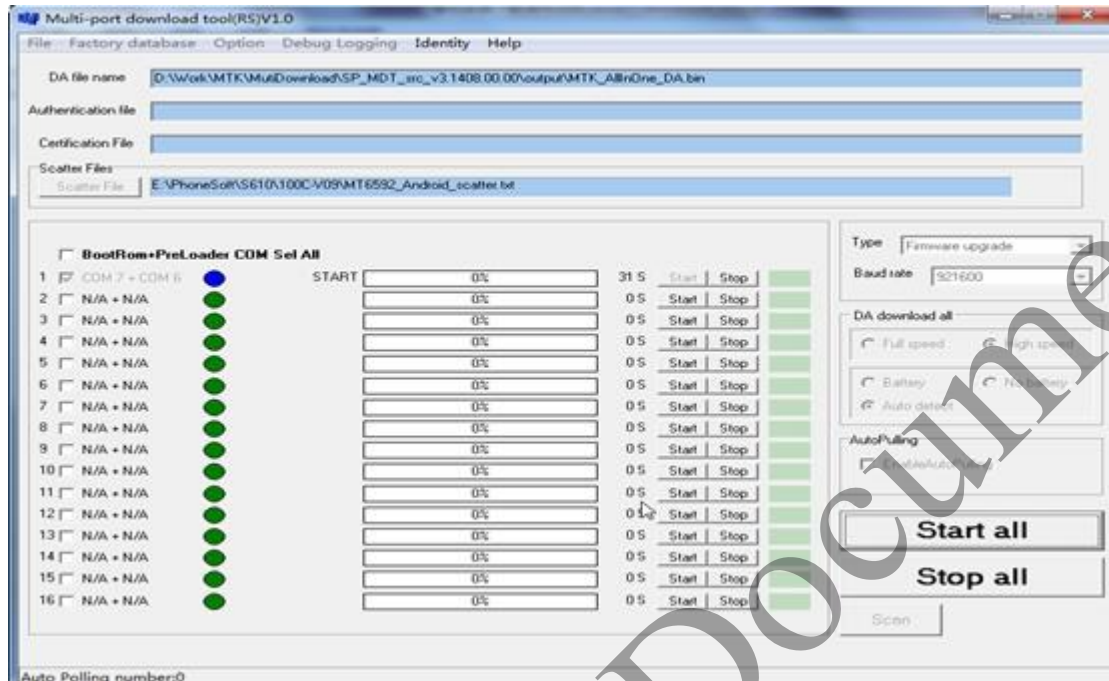
When the first path succeeded in scanning ports, the next path starts scanning.



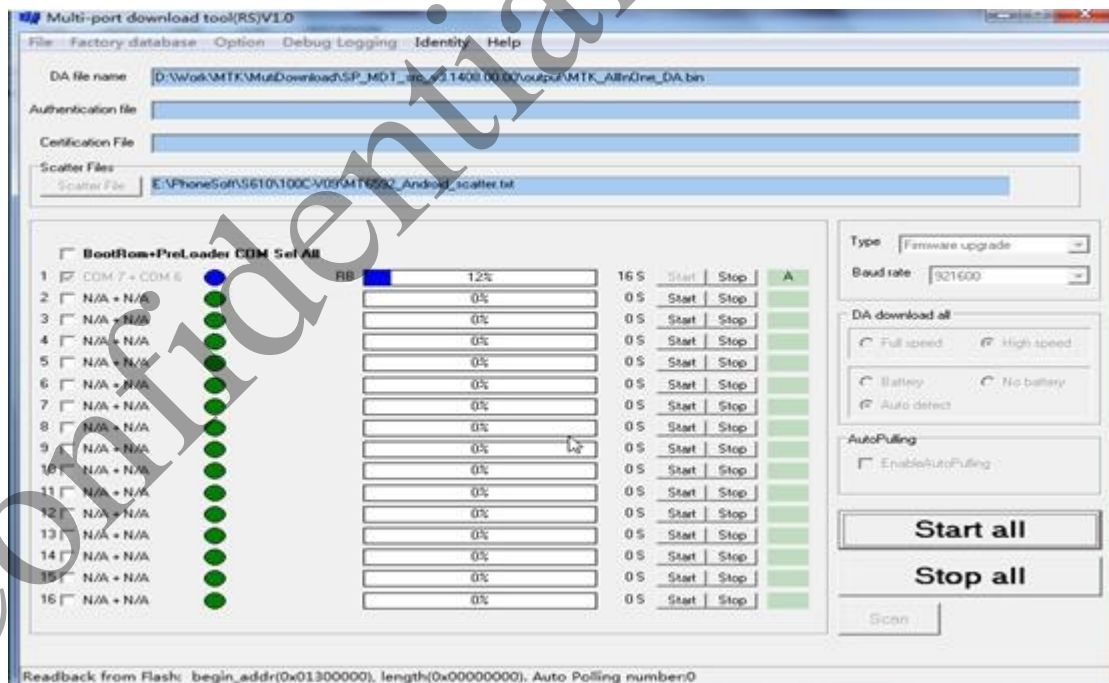
According to the way above, scan USB ports of devices one by one.

3.3.2. After device ports completed scanning, it automatically saves ports information in configuration files. Now the phone is ready to download upgrade firmware.

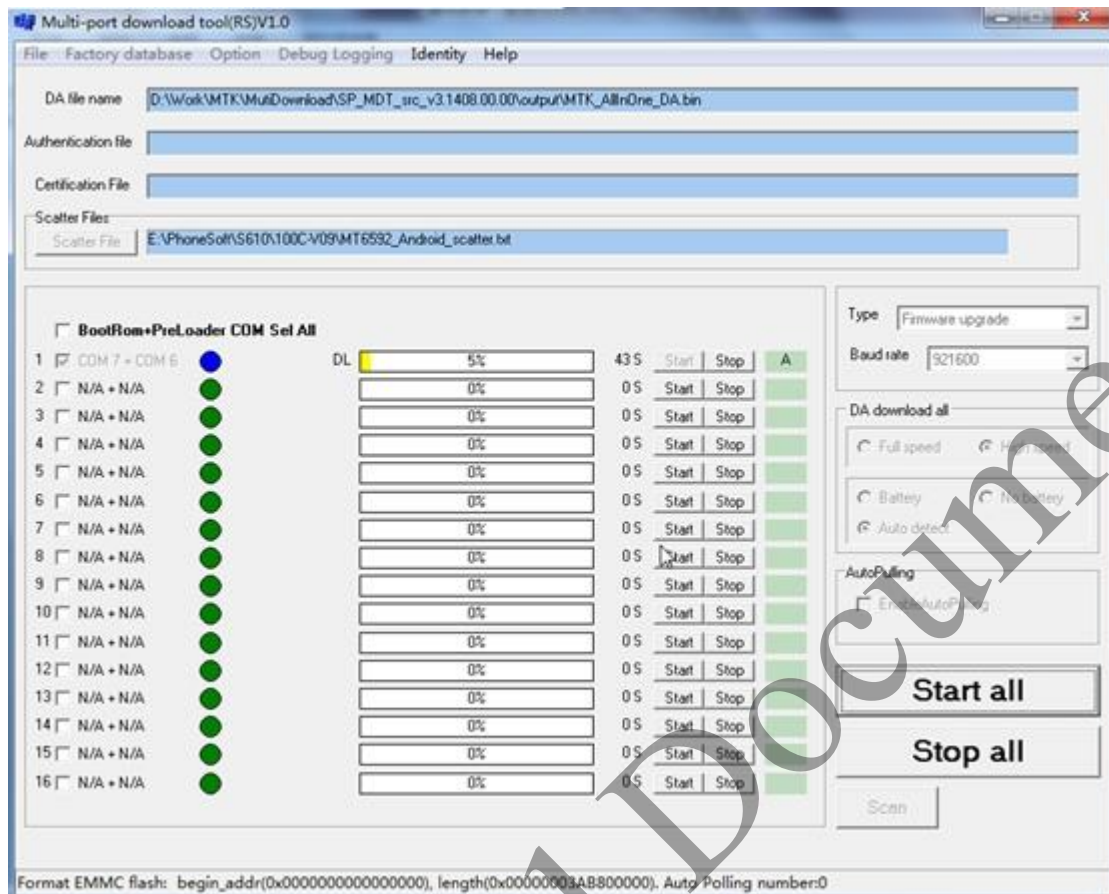
3.4 Firmware upgrade



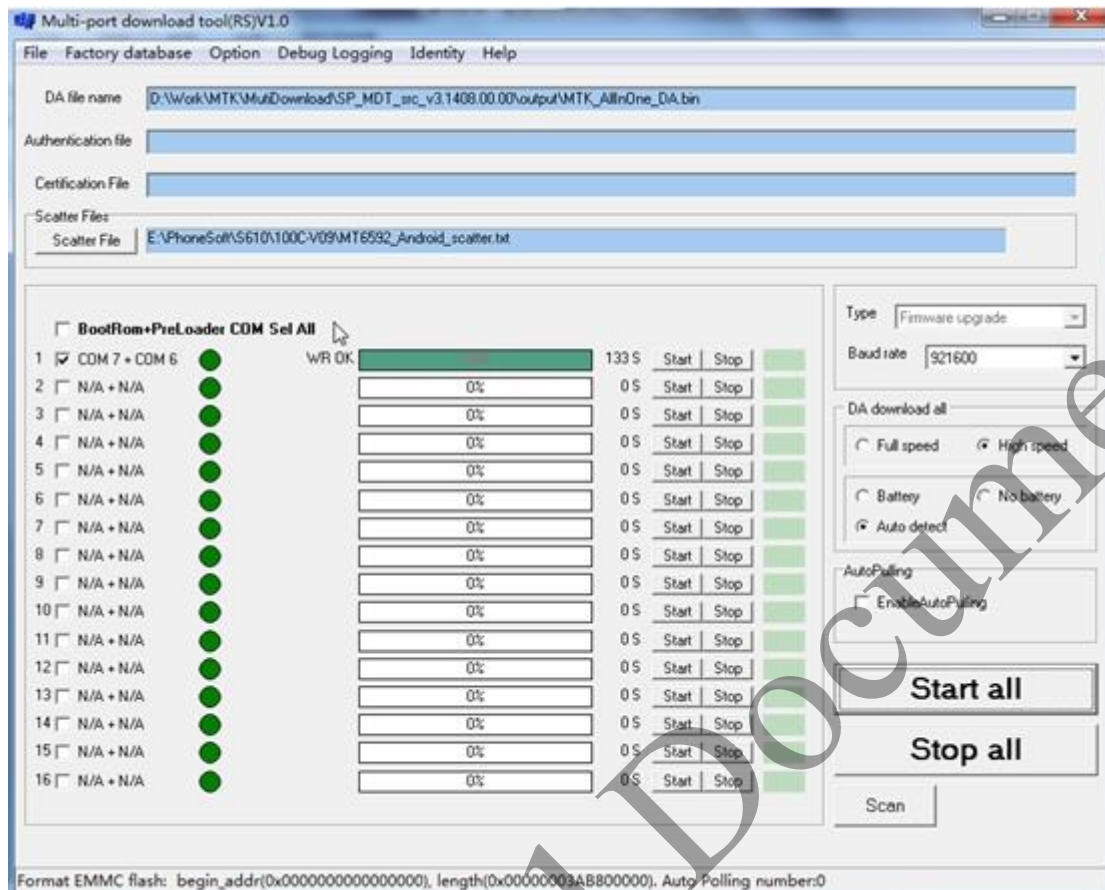
Wait for phone to insert in.



It starts backing data up to computer.



After phone data is backed up, it starts upgrading.



Upgrade is completed successfully.

3.5 Caution of upgrade

After a phone is upgraded, only calibration data is maintained in phone including test calibration data, SN, IMEI, etc. These data will be removed like **Contacts, Messages, installed applications, background, etc.** Please inform customer of this information. Let them back up the above data by themselves when necessary!

Chapter 4 Function and detection mode

MMI test password *983*1#

Reset all settings *983*57#

Read version number *983*7#

(Remark: Only applicable to factory package version)

Chapter 5 Maintenance tool



CMU 200 or 8960



DC power supply



Oscilloscope



Hot wind gun



Electrical soldering iron



Spectrometer



Antistatic gloves



Lead-free Solder Stick



Antistatic fabric



Ethyl alcohol



Pen-style brush

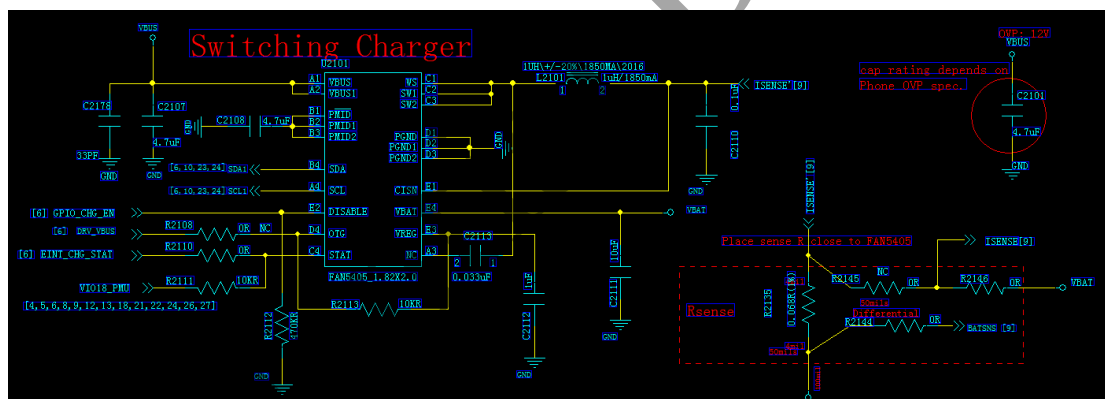
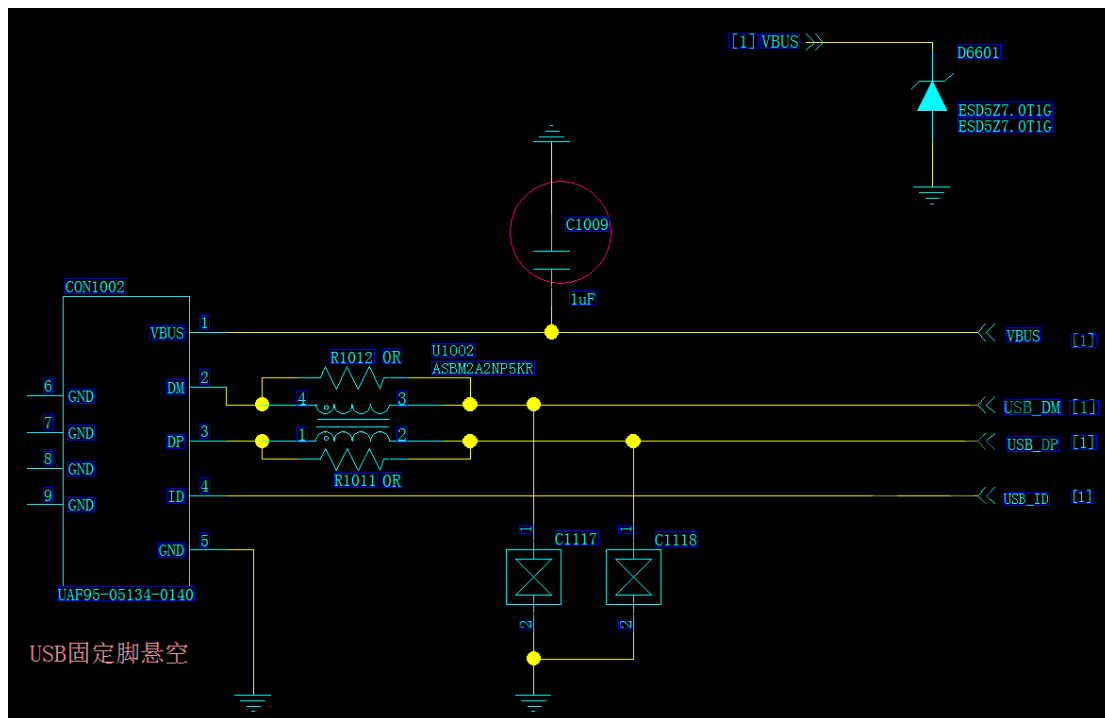


Antistatic brush



Antistatic jig

Check to ensure charge components (Mainly are CON1002, CON1001, CON6601, U2101) have no defects



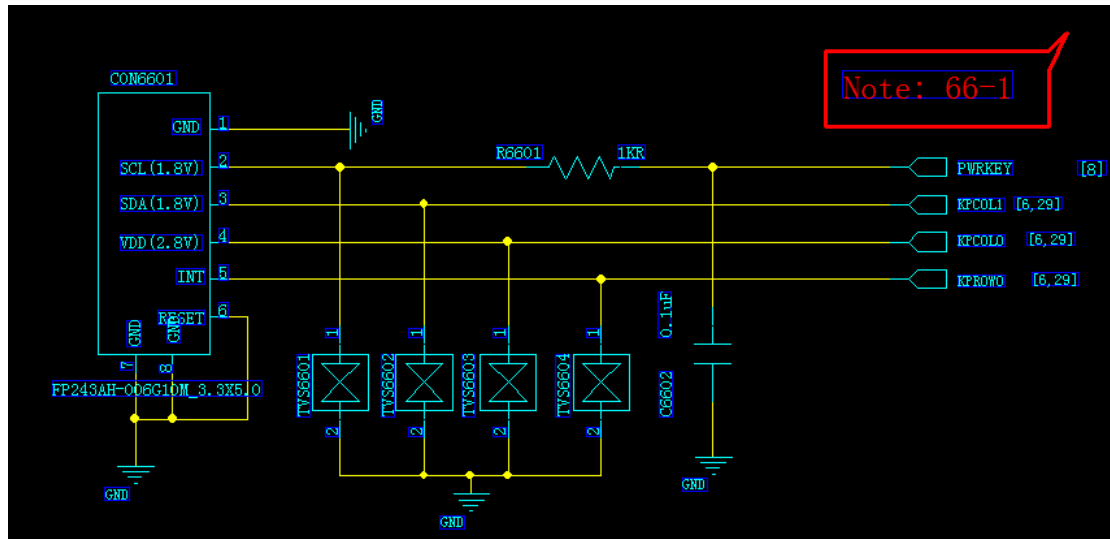
6.3 LCD Fault

Peripherals problem:

1. Check to ensure LCD has no visual defects.
2. Disassemble the phone to check to ensure that LCD FPC and CON6107 have no visual defects and that LCD FPC is well connected with mainboard.

PCB problem:

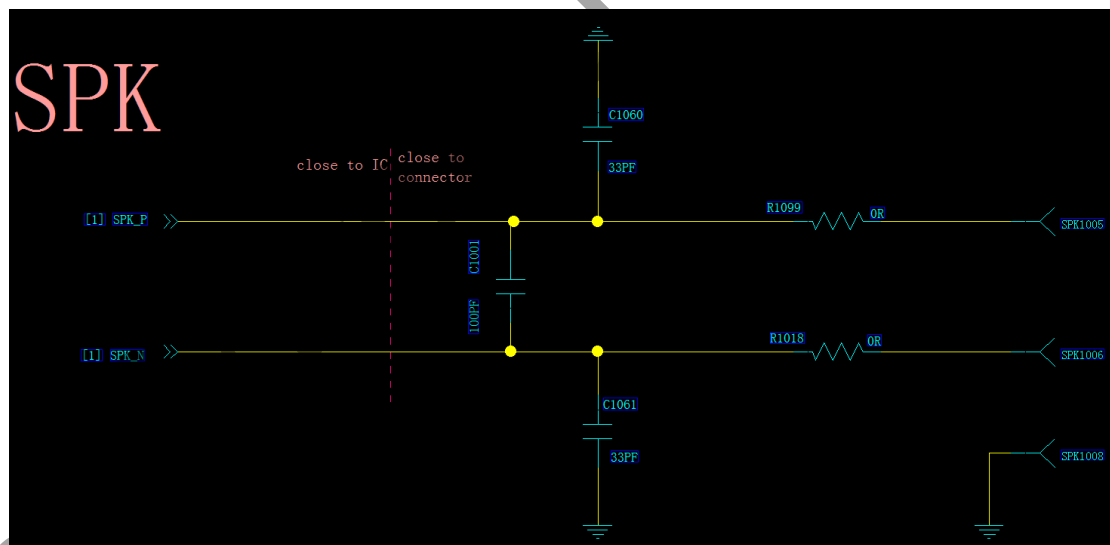
1. Check below components for LCD backlight problem.



6.5 Volume fault

6.5.1 Measure to ensure R1099, R1018, R2013 and R2014 are well connected with positive and negative electrodes of speaker. If disconnection happens, check if FPC has defects or connectors SPK1005, SPK1006 are disconnected.

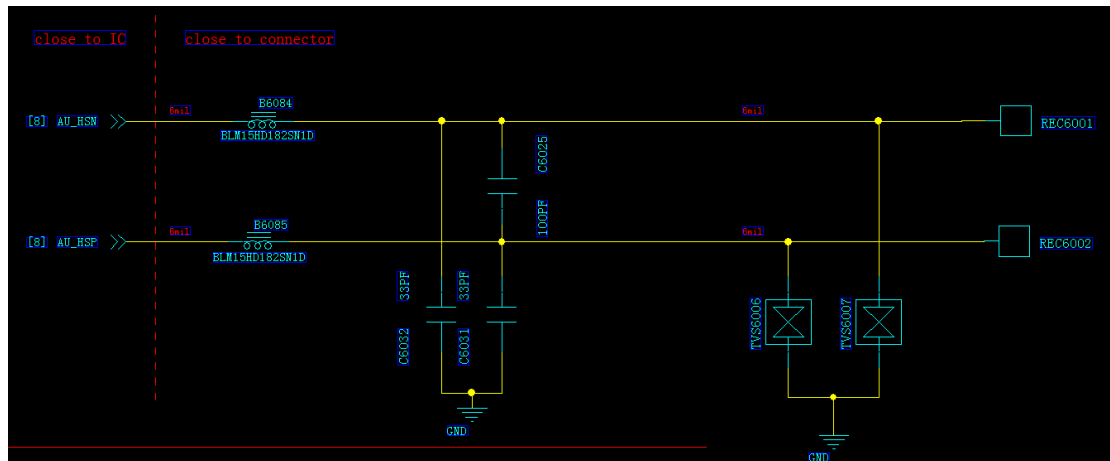
6.5.2 Play music to ensure SPK_P and SPK_N have signal. If there is no signal, check if PCBA circuit or U2001 has defects.



6.6 Receiver fault

7.6.1 Check to ensure that receiver is well connected with pad.

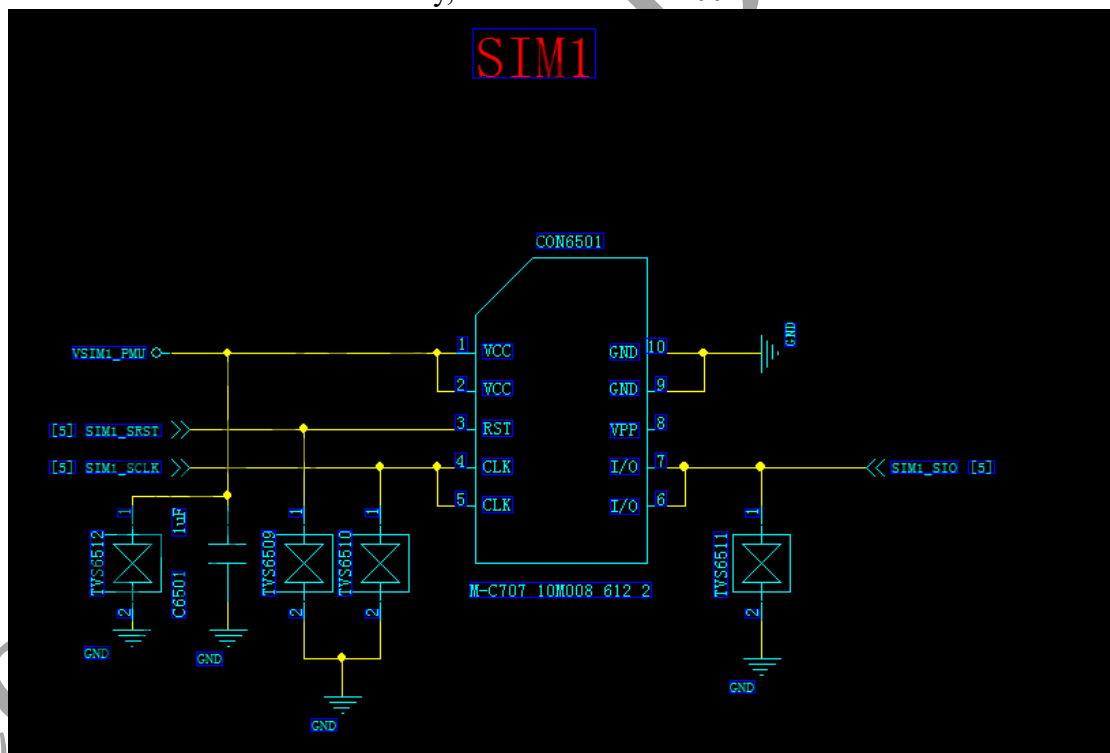
7.6.2 Measure to check if AU_HSN, AU_HSP have signals in mode of earphone. If there is no signal in REC+ and REC-, check if PCBA circuit and components or U2001 have defects.

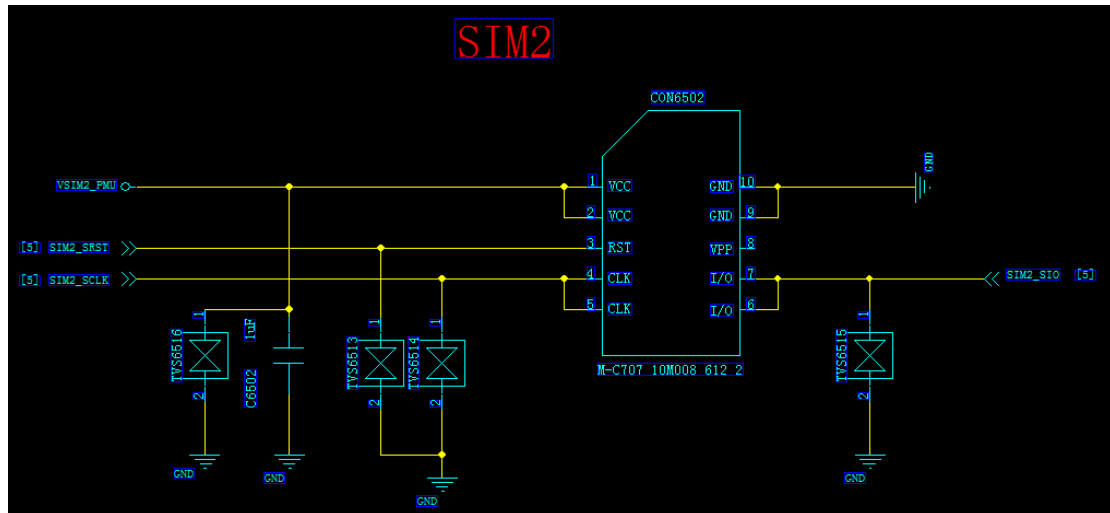


6.7 SIM Card Fault

6.7.1 Check to make sure CON6501 and CON6502 of SIM card tray have no defects.

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 U1001.



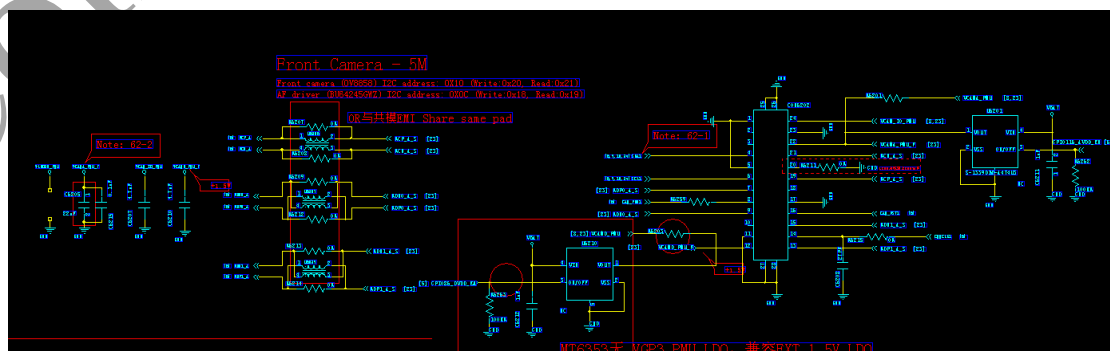
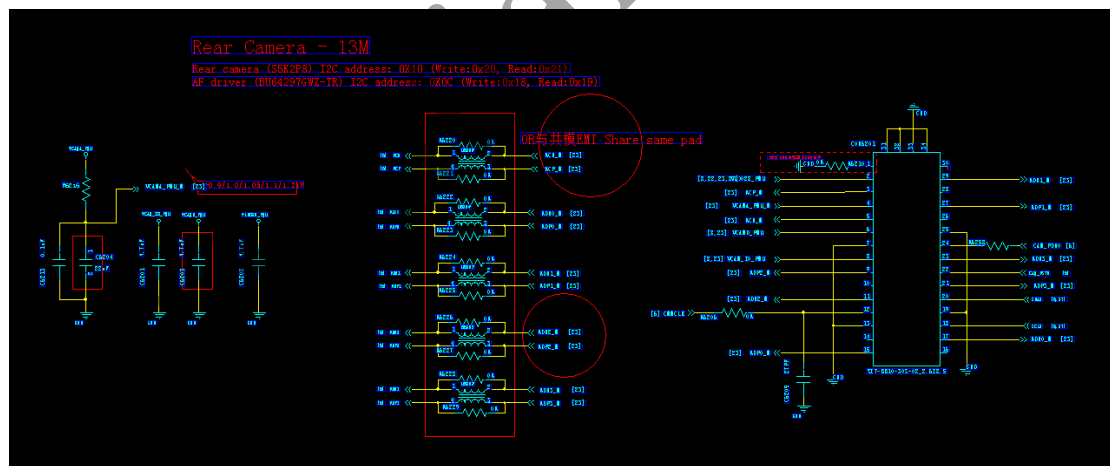


6.8 Camera fault

6.8.1 Check to ensure that cameras have no visual defects, and that camera is well connected with CON6201 and CON6202.

6.8.2 Check to ensure that PCBA circuit and components have no defects.

6.8.3 Measure to ensure the voltage of VCAMD_PMU, VCAMA_PMU and VCAMD_IO_PMU are within specification. If inconformity occurs, it's an issue of U2001.

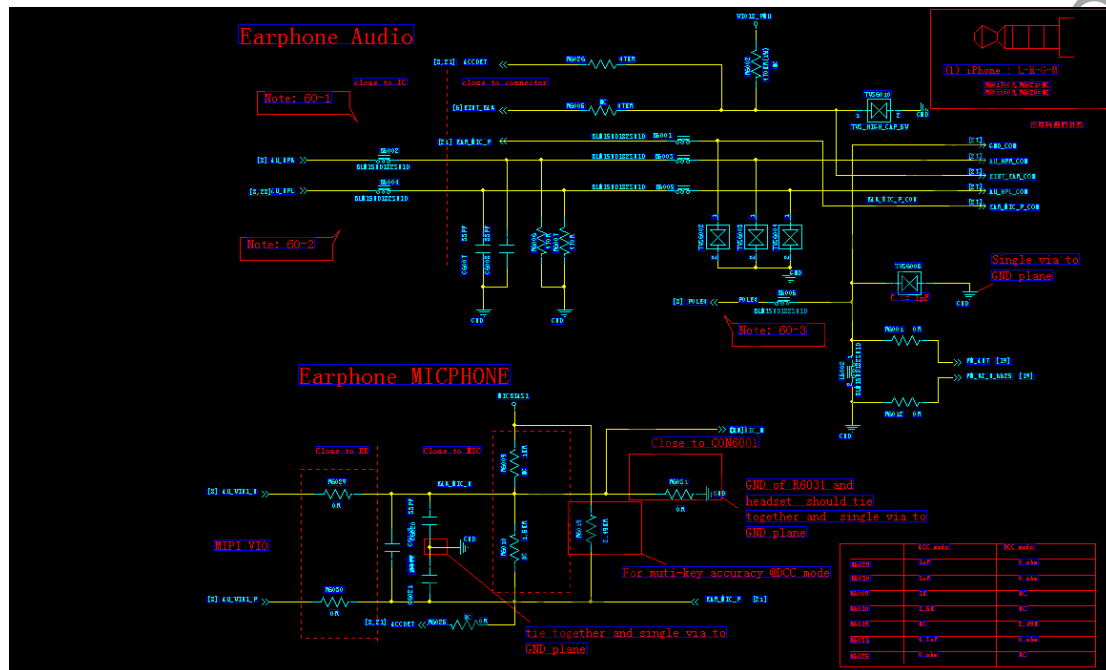


6.9 Earphone fault

6.9.1 Check to ensure that earphone has no defects, and that earphone is well connected with CON6001.

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 (U2001).

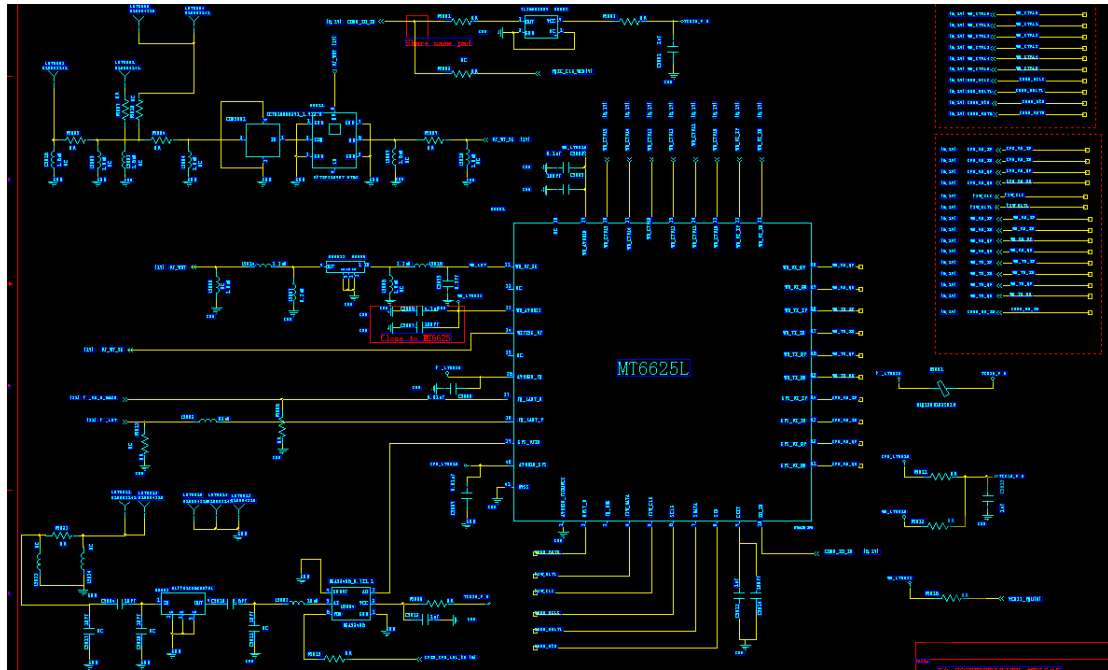


6.10 WIFI/BT/FM/GPS fault

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.

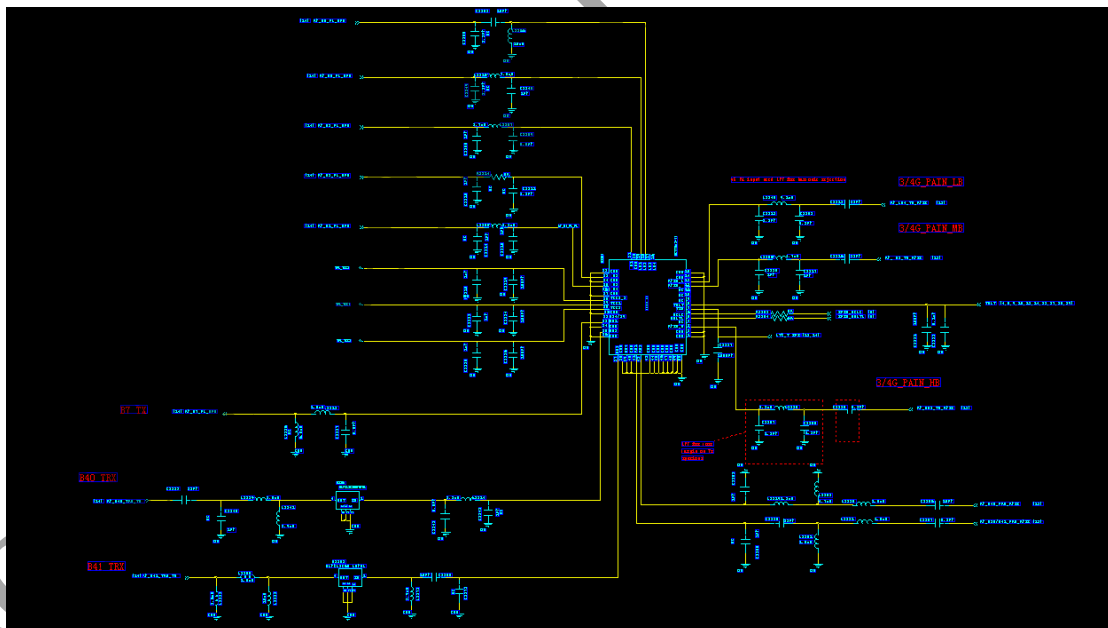
6.10.3 Measure to ensure that the voltage of XO_IN, VCN28_PMU, VCN18_PMU, VCN33_PMU are within specification, and that U5002 can output clock signal. If abnormality occurs, it is an issue of U5001, U5002 and U2001.



6.11 Network fault

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.

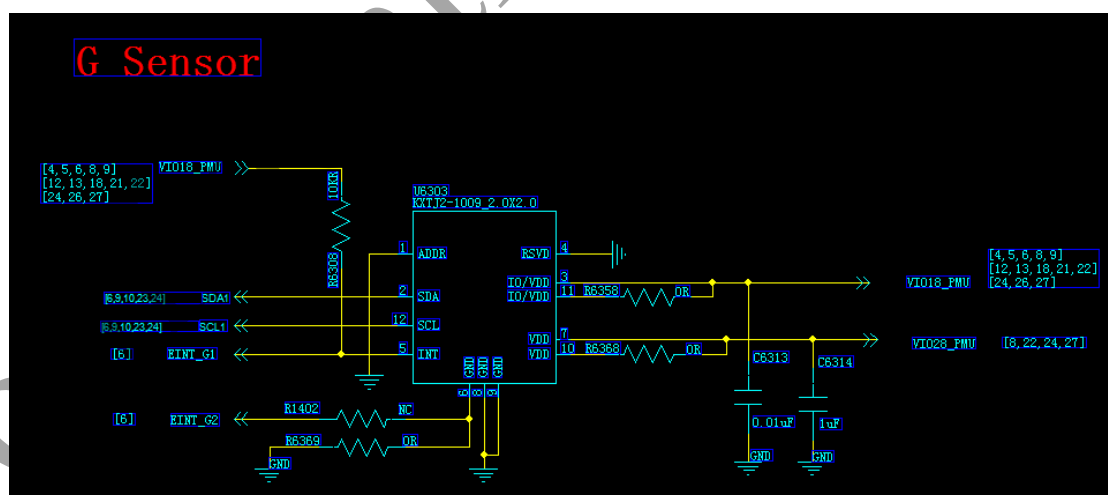
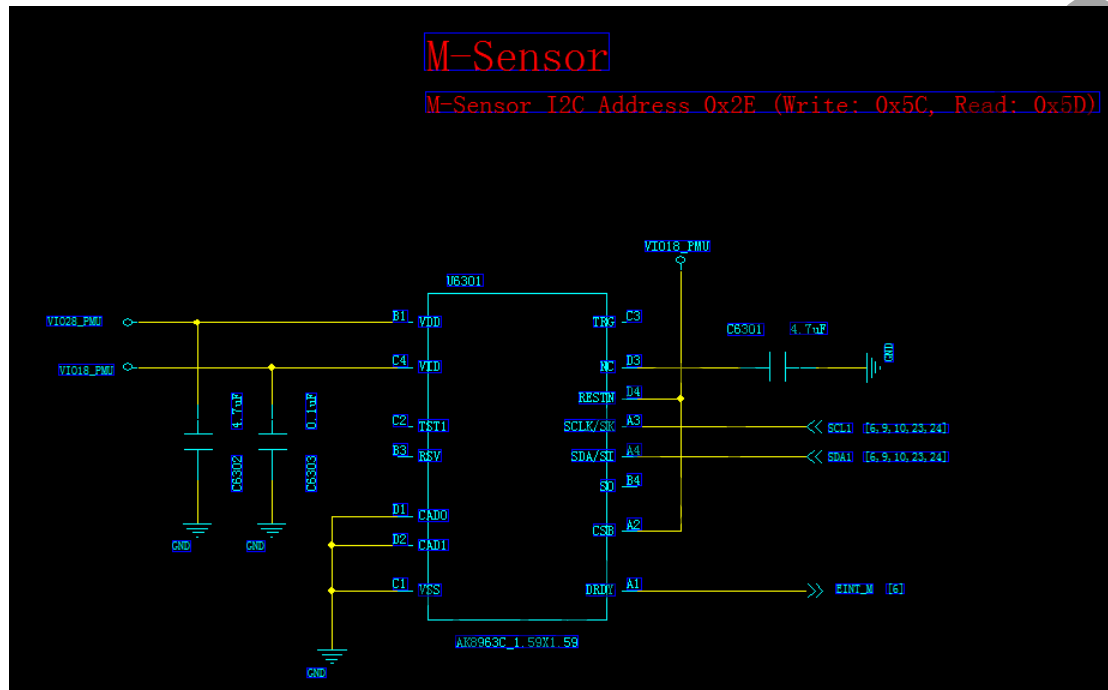


6.13 Sensor fault

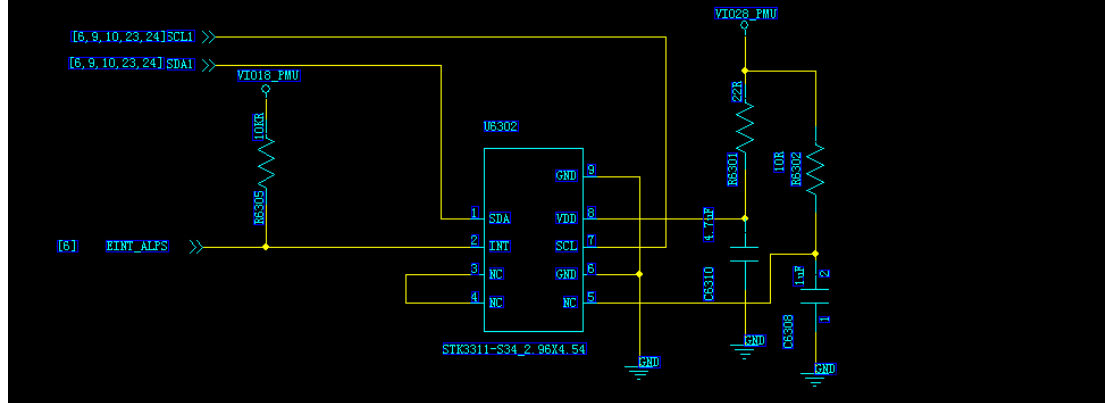
6.13.1 Check to ensure that PCBA circuit and components have no damages, and that light-sensitive sensors (U6302, U6303, U6301) are not covered by obstacles.

6.13.2 Measure to ensure the voltage of VIO28_PMU and VIO18_PMU are with specification. If the voltage is beyond the standard, check if CPU (U2001) has defects.

6.13.3 Check to ensure that SCL1、SDA1 whether have signal, or CPU(U1001) has damaged。



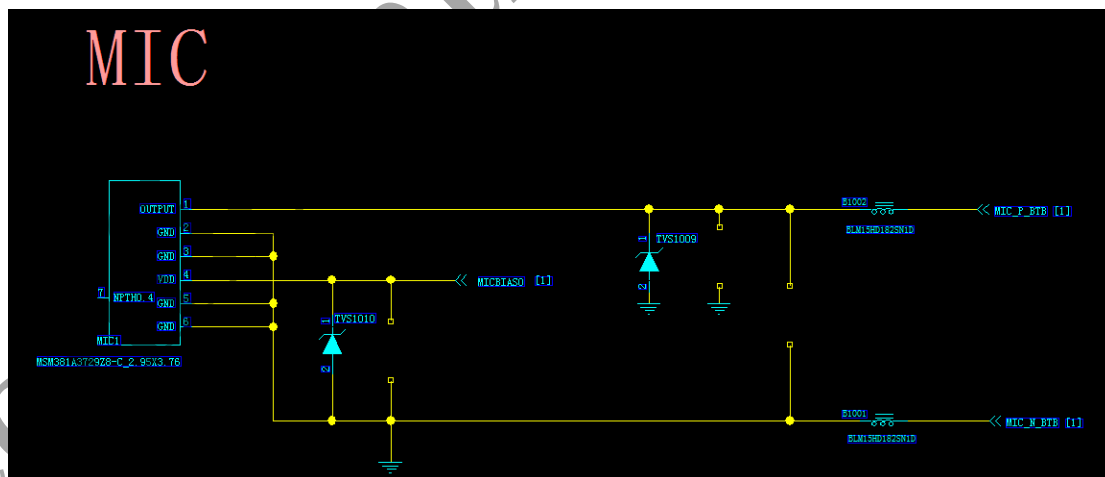
Ambient Light Sensor with Proximity Sensor



6.14 MIC fault

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 (CON6001、CON1) are disconnected.

6.14.2 Check to ensure PCBA circuit and components have no damages. If there are no defects, check PMU (U2001).



6.15 Flashlight fault

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

Then measure to ensure that VBAT shows voltage. If no voltage shows, check if the chip U2301 has defects.

