

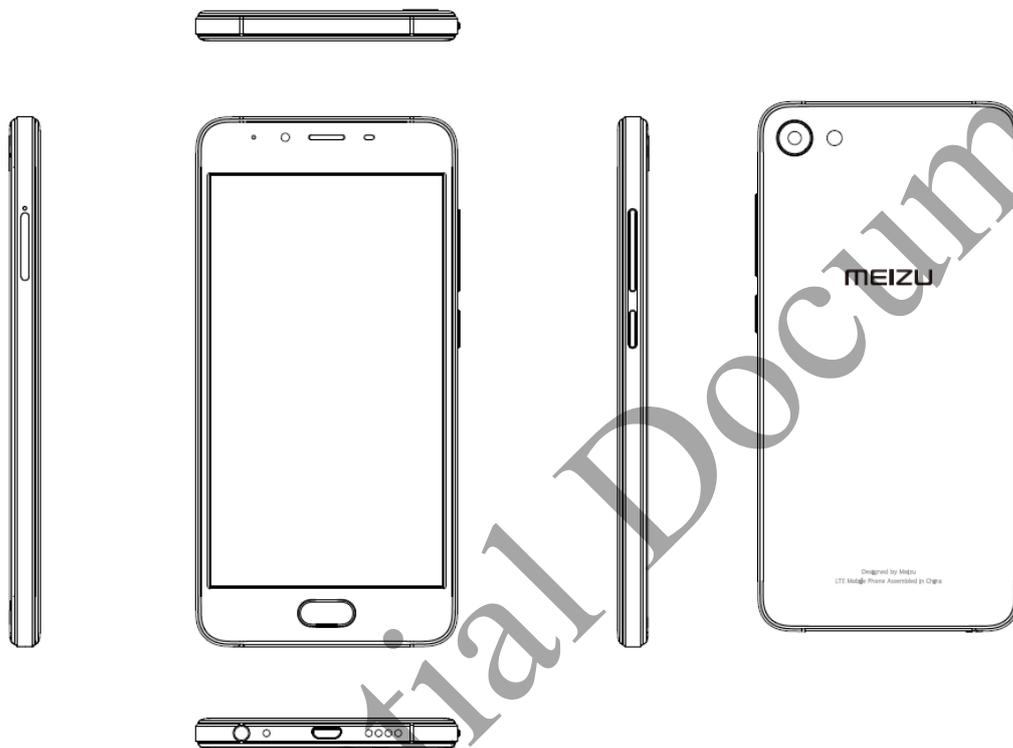
# U10 Maintenance Manual

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## Chapter 1 Phone Introduction

### 1.1 Appearance



### 1.2 Hardware specification

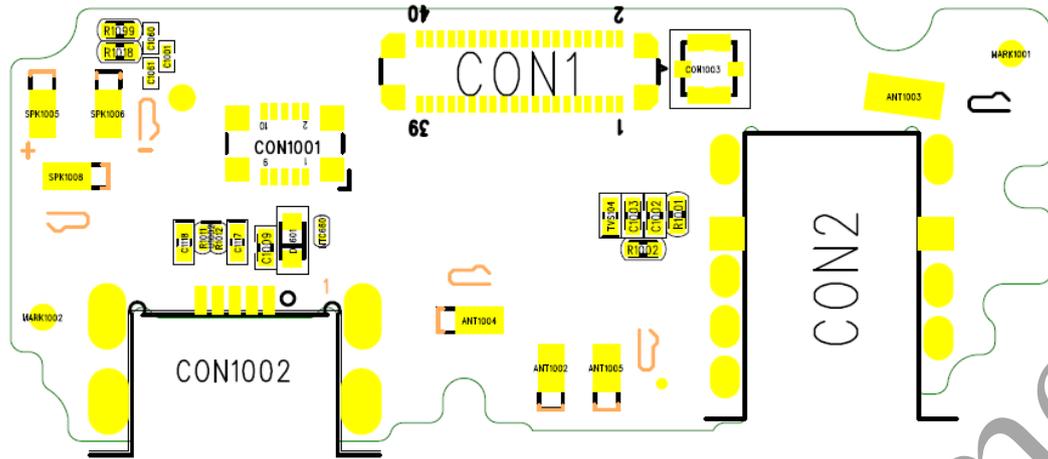
Hardware	Classification of hardware configuration	Description
Platform	Baseband chip platform	MT6750
	GPU	ARM Mali-T860 MP2 520MHZ
	Radio-frequency	MT6176
	Power chip	MT6353
	GPS/WIFI/BT/FM chip	MT6625L
	Technical system	LTE (Full Netcom 6 carriers 18 frequency )
Frequency band	LTE TDD frequency band	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

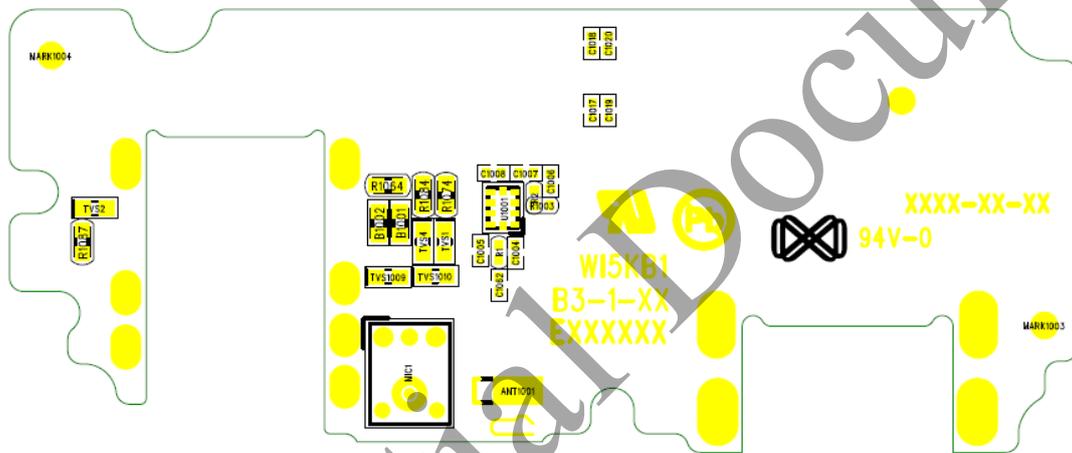
### 1.3 Caution of maintenance

- 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.





Sub board (Side A)

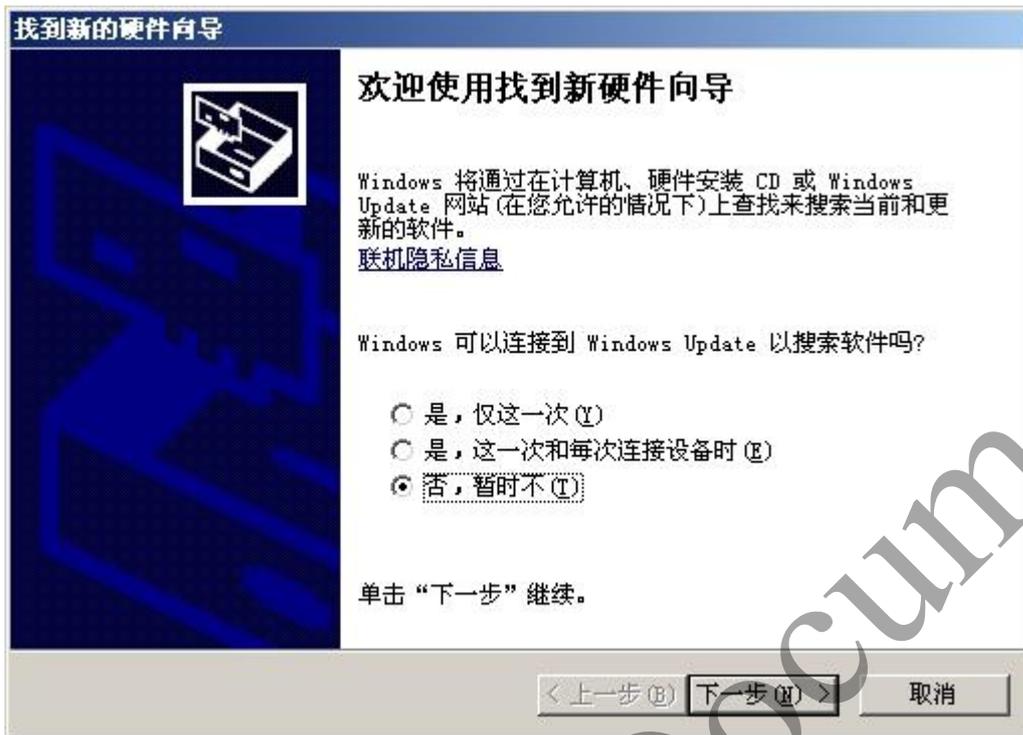


Sub board (Side B)

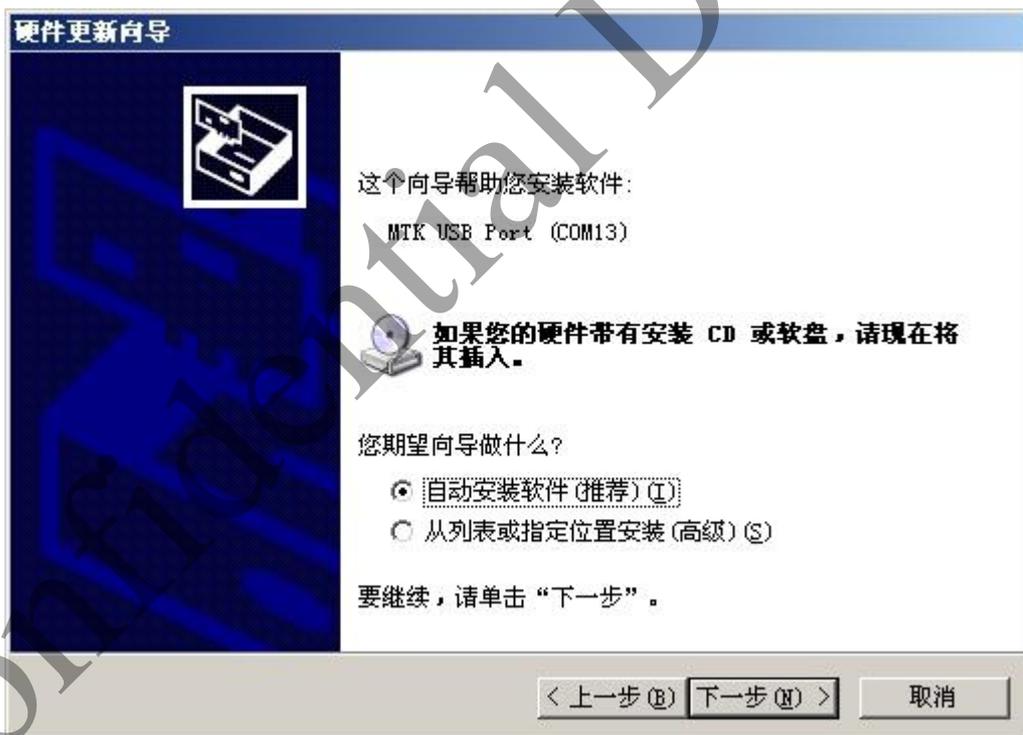
## Chapter 3 Software upgrade

### 3.1 Driver installation

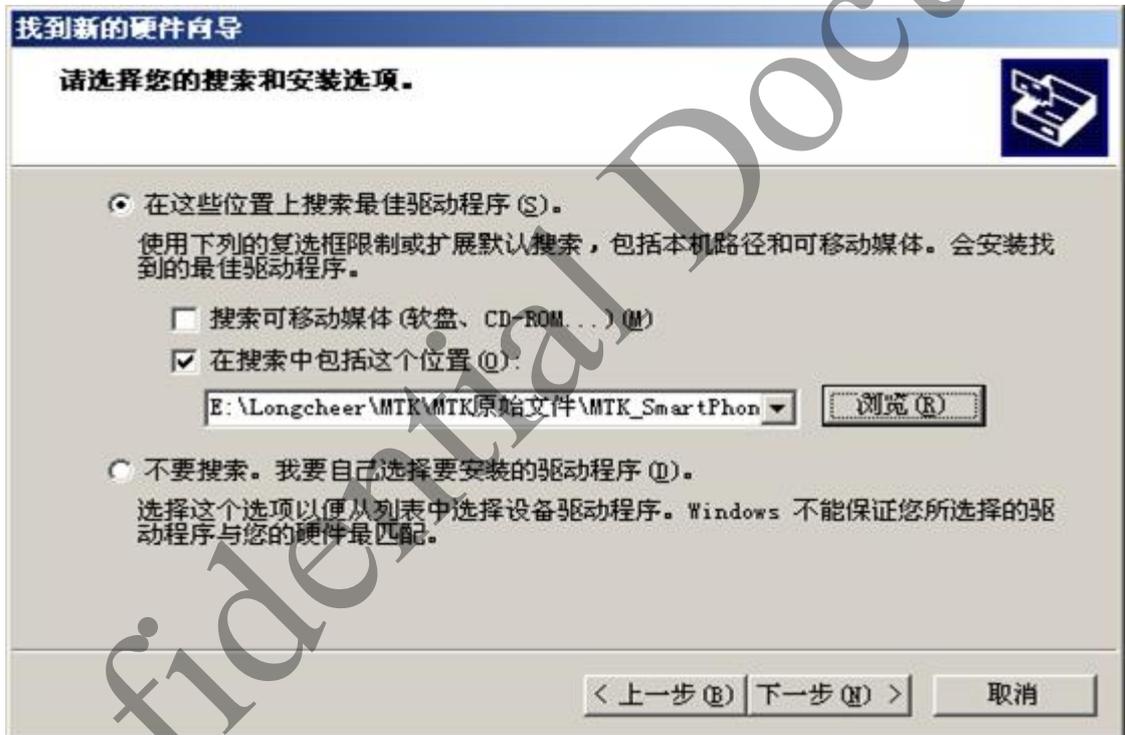
If it's the first time for computer to use the Upgrade tool, you need install USB driver first. Use a USB data cable to connect phone and computer. The computer prompts "New hardware is found". Then according to new hardware upgrade guide, install the USB driver.



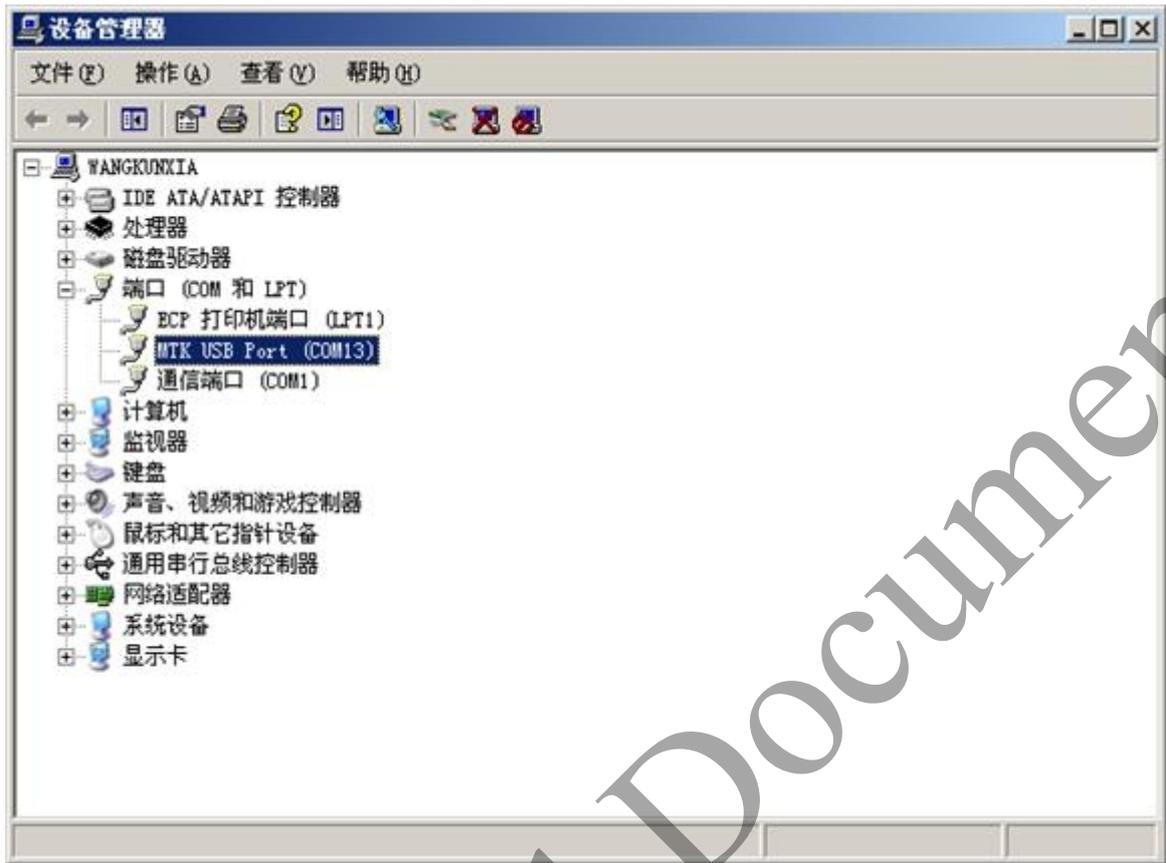
#### Driver Installation



New hardware installing guide



Select driver process

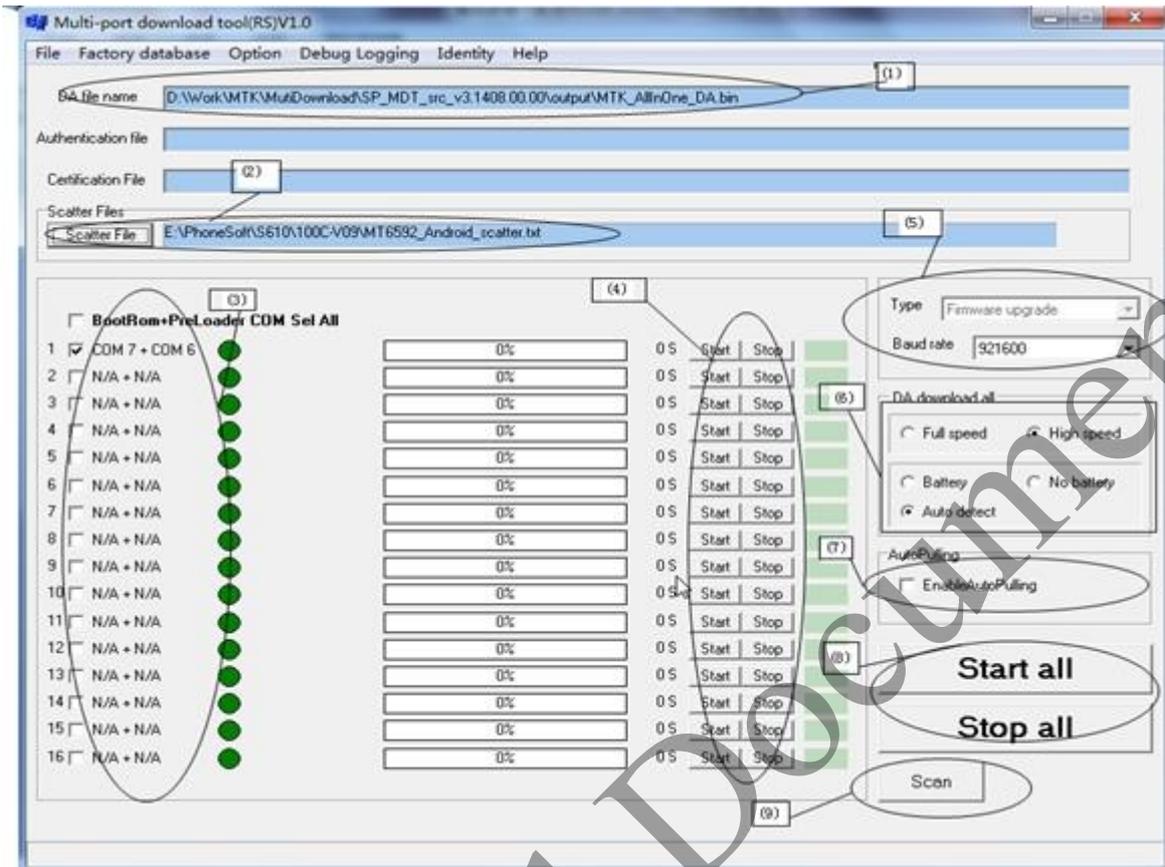


Equipment controller

**Remember the COM port as indicated in above figure COM13**

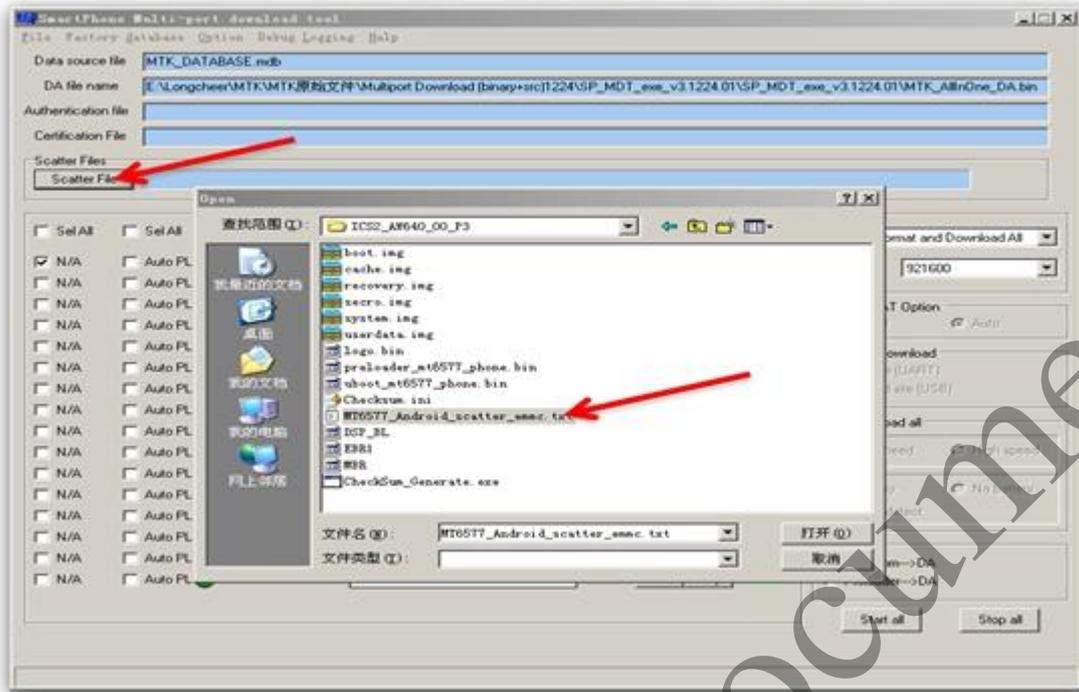
### 3.2 Tool application

#### 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.

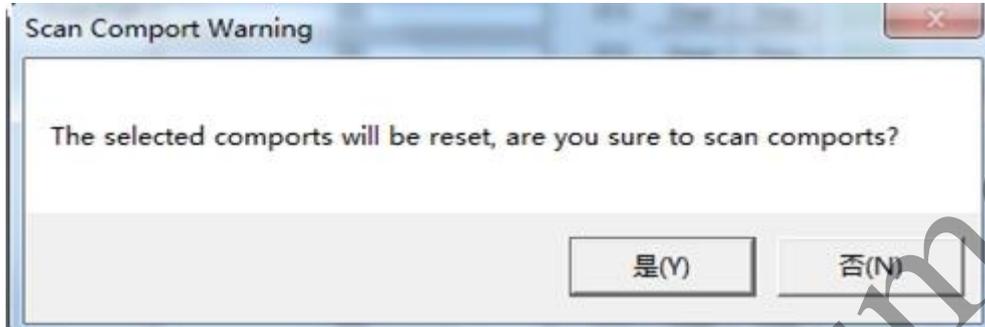


**Don't tick options that you don't need. Tick options that you need.**

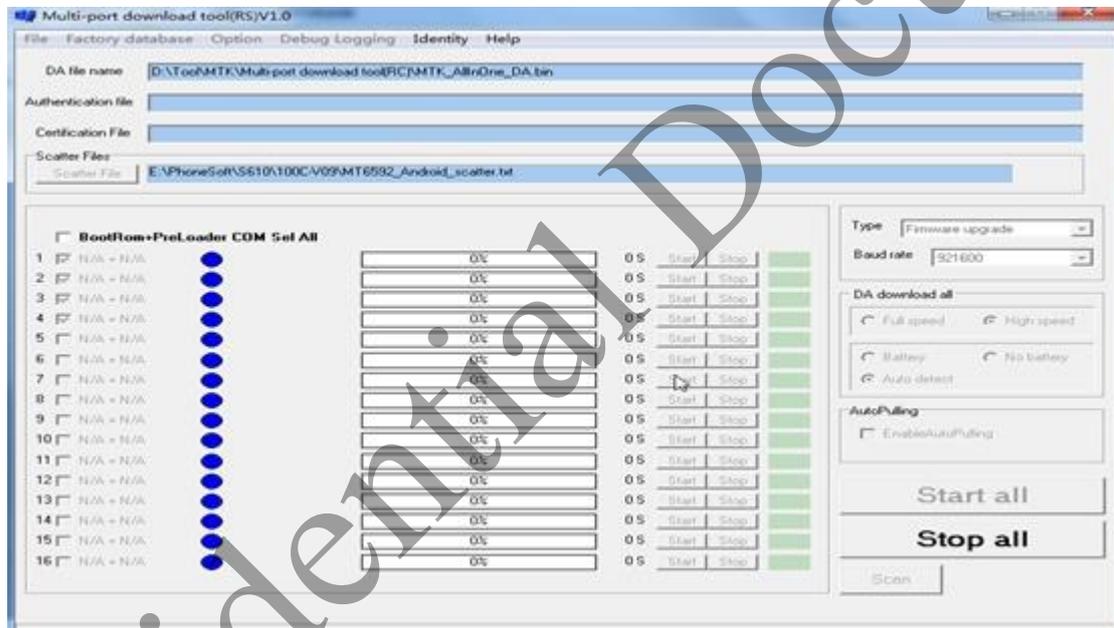
- (4) It starts or stops downloading in one path.
- (5) It is default settings that cannot revise including Baud Rate.
- (6) Default settings are adopted.
- (7) If option "Enable" is ticked here, it means that when downloading in one path is completed, it starts downloading at the moment you plug the 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

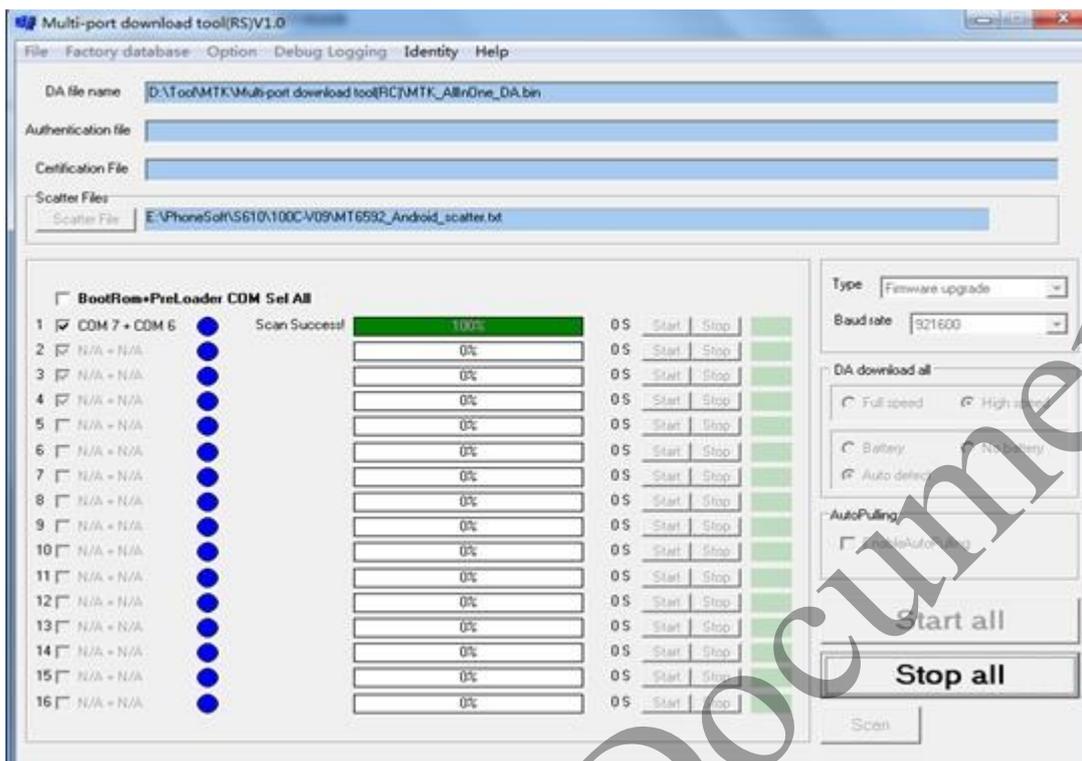
3.3.1 Tick paths that you need. If you need four downloading paths, tick four options. All the other settings remain the same. After finished ticking, click “Scan” to scan device ports.



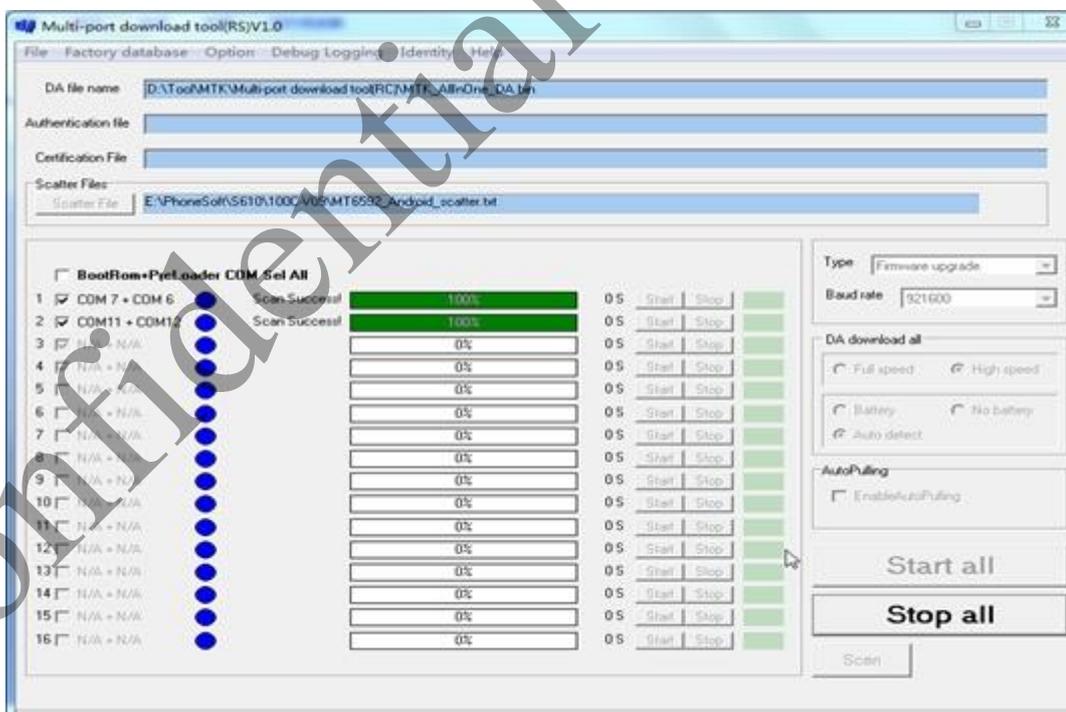
When the dialogue window prompts, click “(Y)”.



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



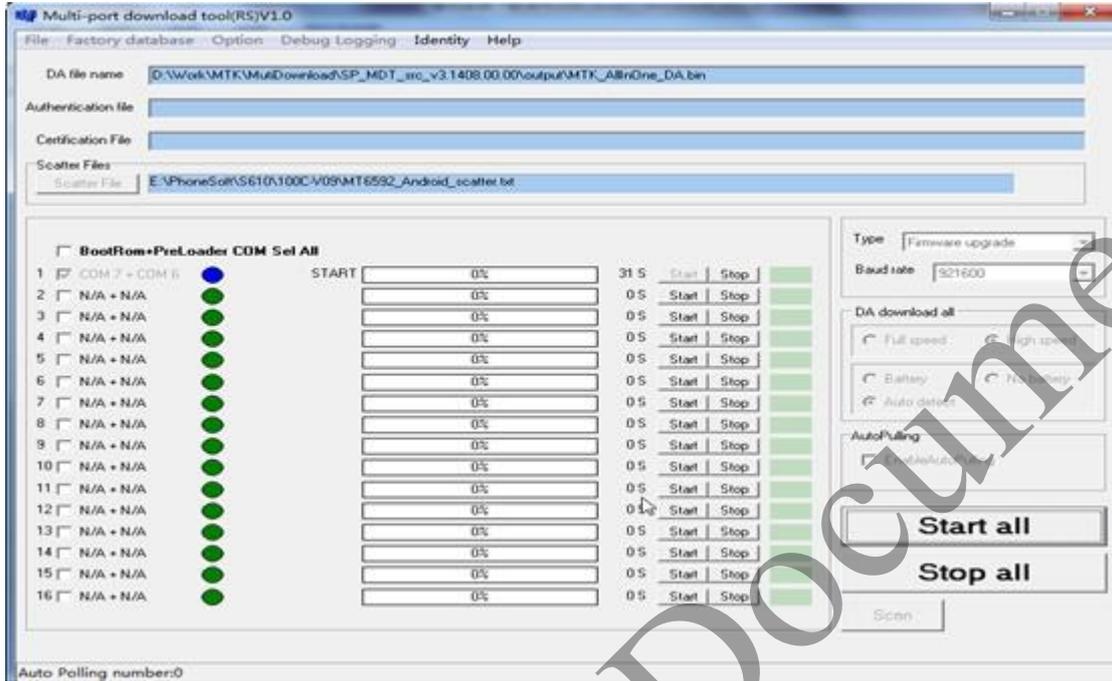
When the first path succeeded in scanning ports, the next path starts scanning.



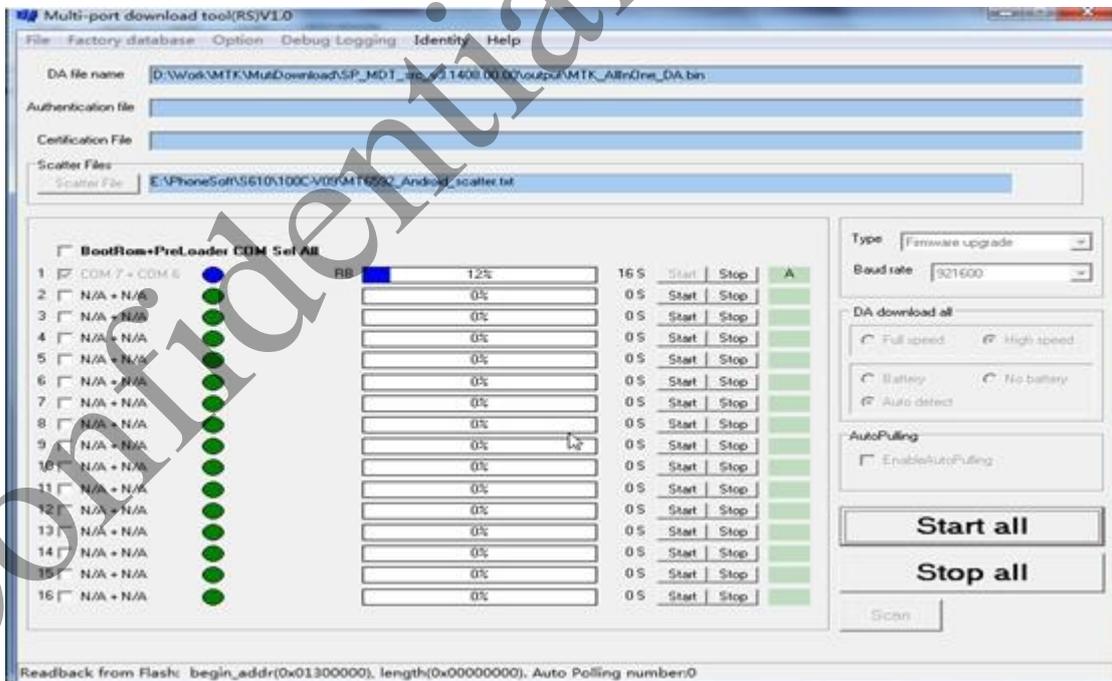
According to the way above, scan USB ports of devices one by one.

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.

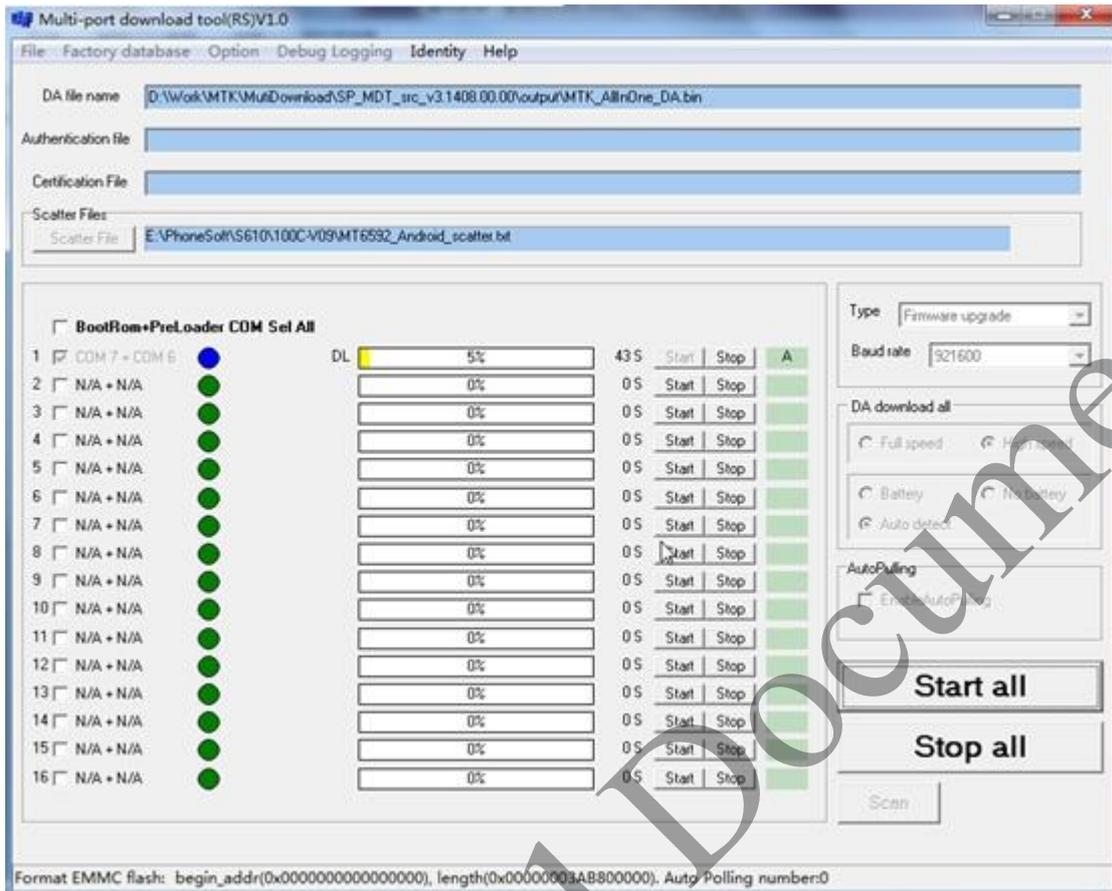
### 3.4 Firmware upgrade



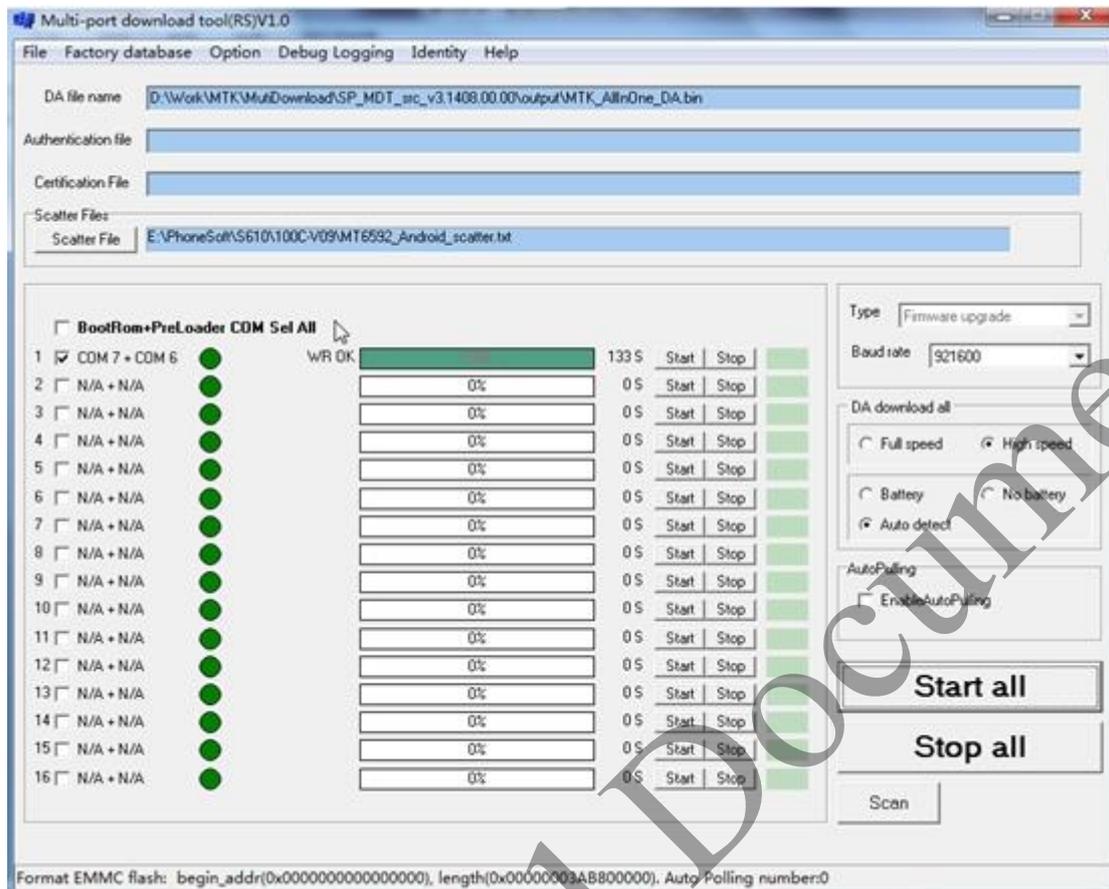
Wait for phone to insert in.



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



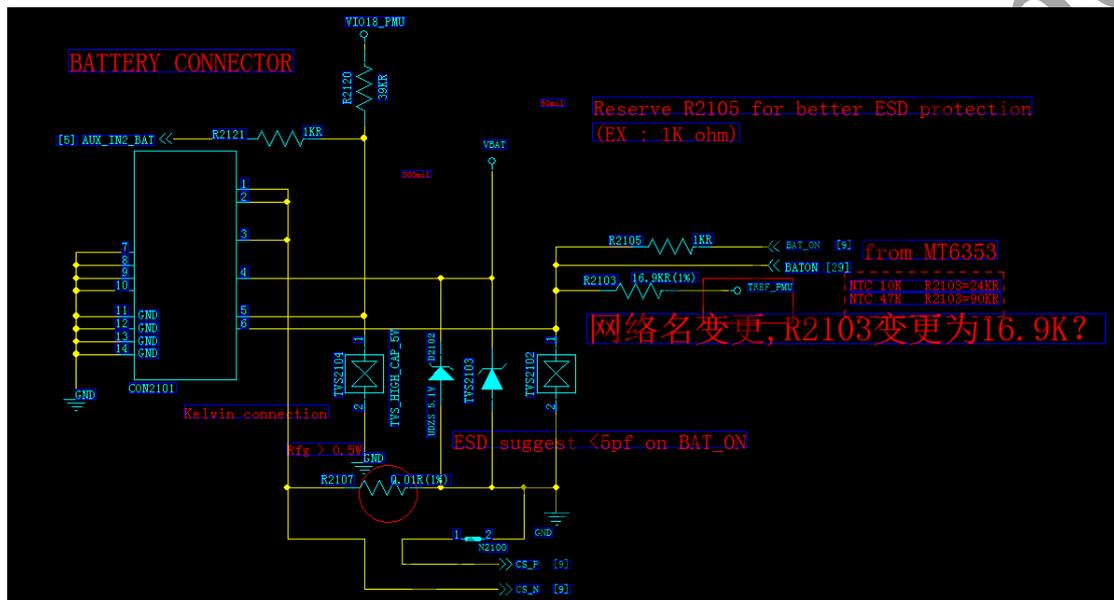
Antistatic jig

## Chapter 6 Guide of excluding common fault

### 6.1 Cannot power on

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 to 0V the moment the 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.

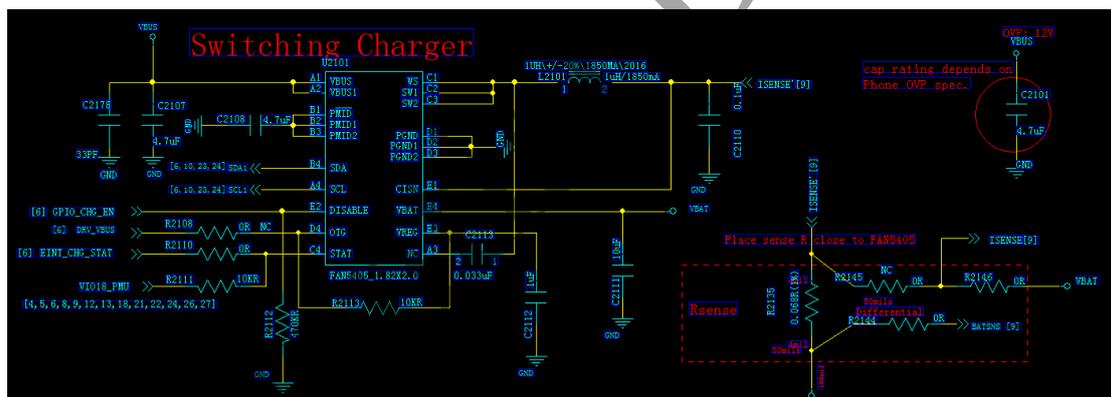
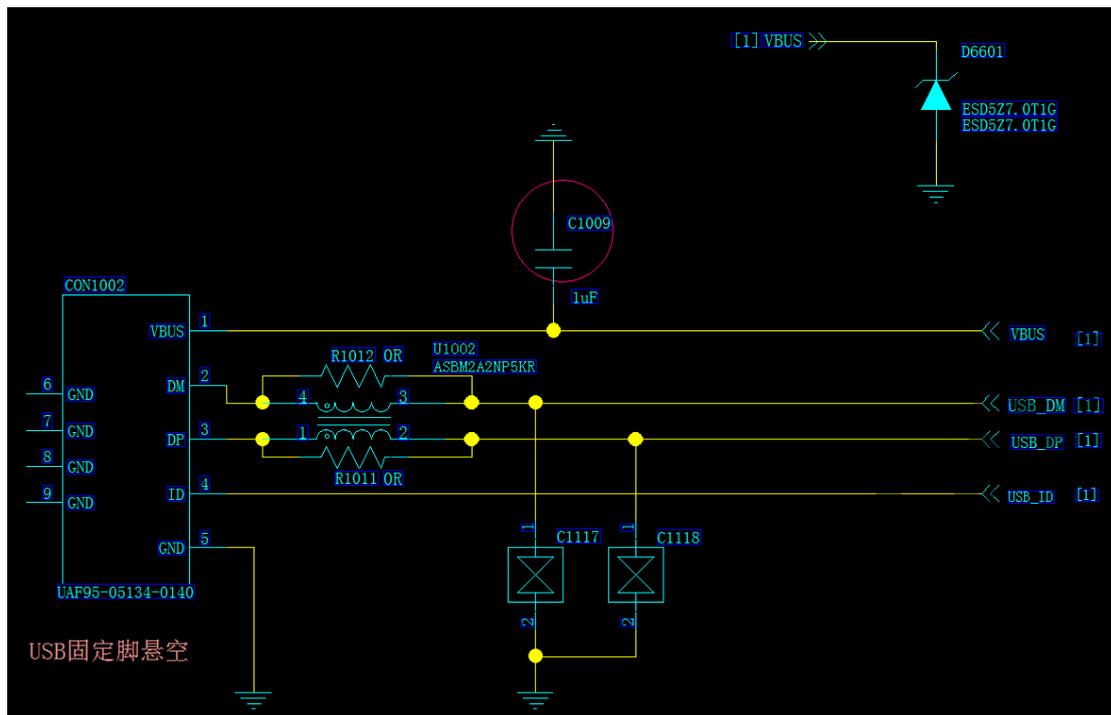
### 6.2 Charge fault

Peripherals problem:

- 6.2.1 Make sure that battery functions properly, and that voltage of battery is not less than 2.8V.
- 6.2.2 Make sure that the USB data cable and adapter function properly.
- 6.2.3 Make sure that the USB-FPC functions properly and is well connected with mainboard.

PCB problem:

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



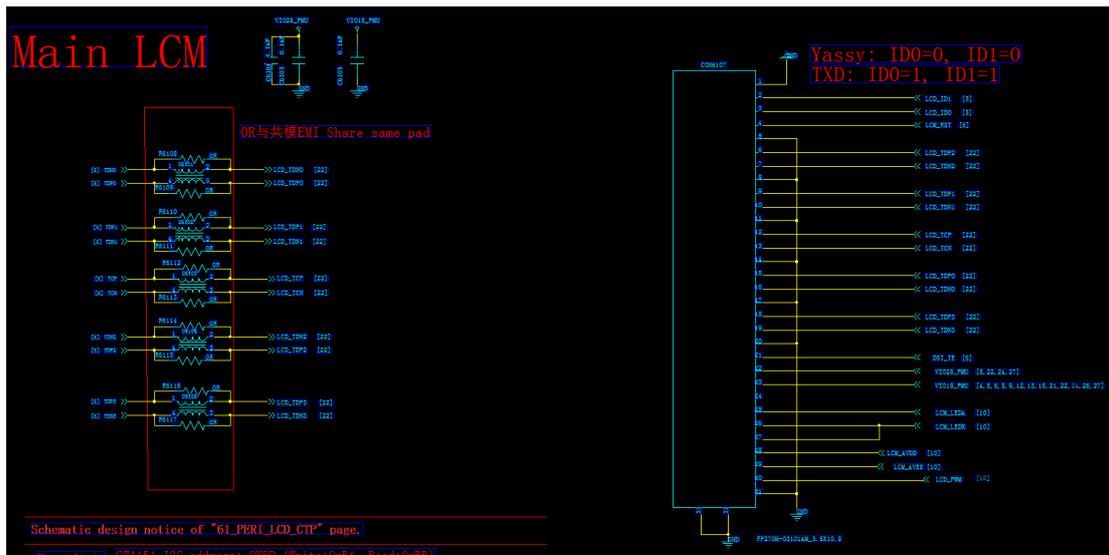
## 6.3 LCD Fault

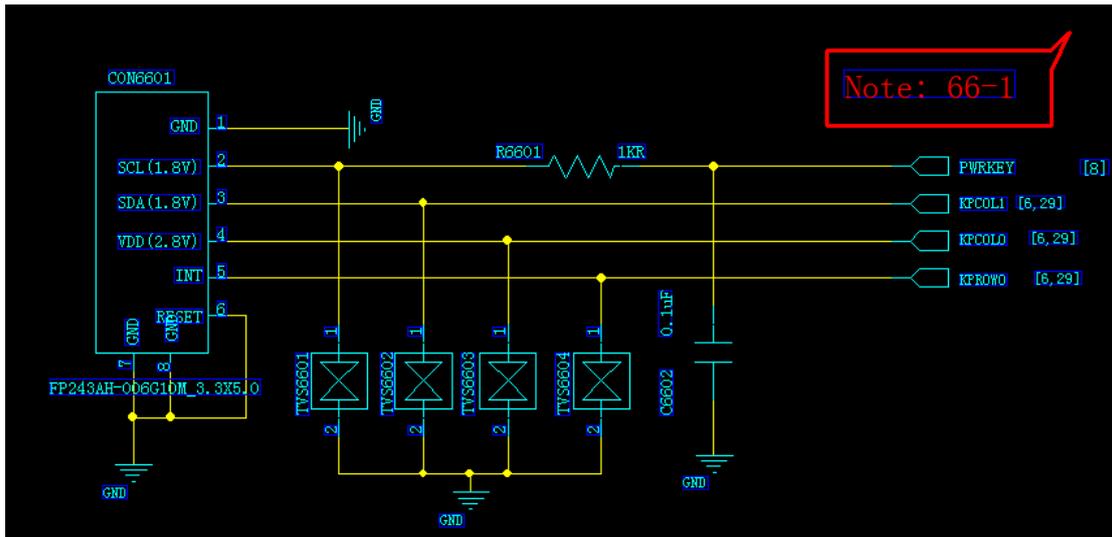
Peripherals problem:

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.

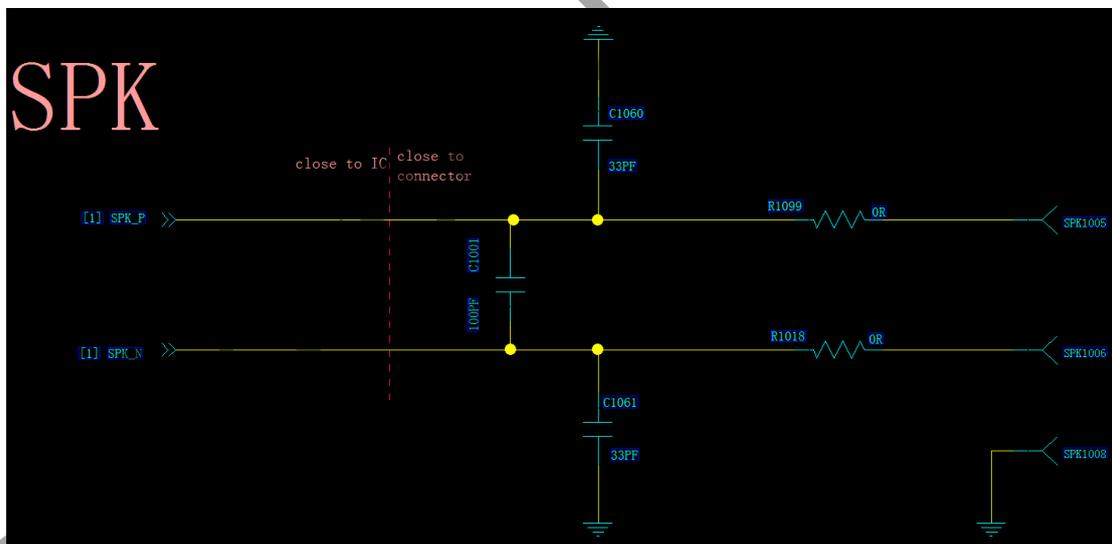




## 6.5 Volume fault

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.

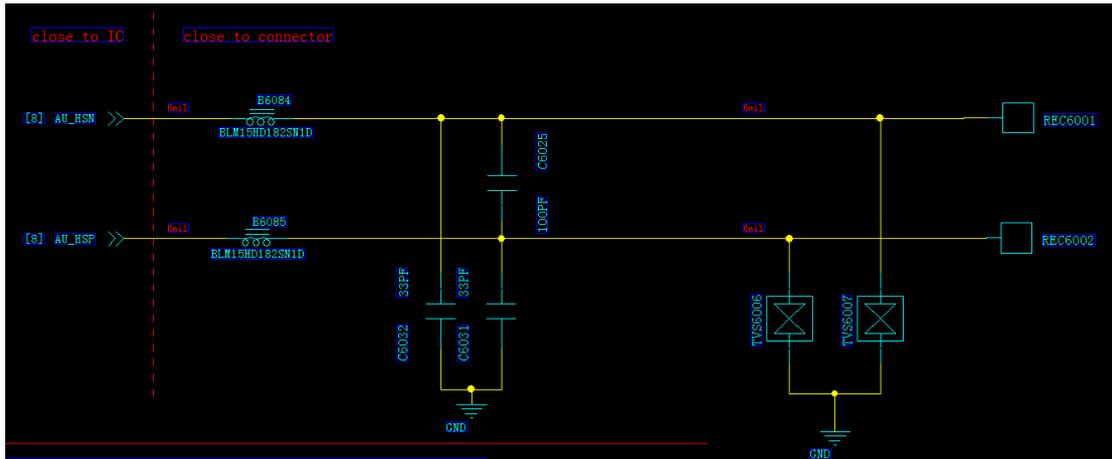
6.5.2 Play music to ensure SPK\_P and SPK\_N have signal. If there is no signal, check if PCBA circuit or U2001 has defects.



## 6.6 Receiver fault

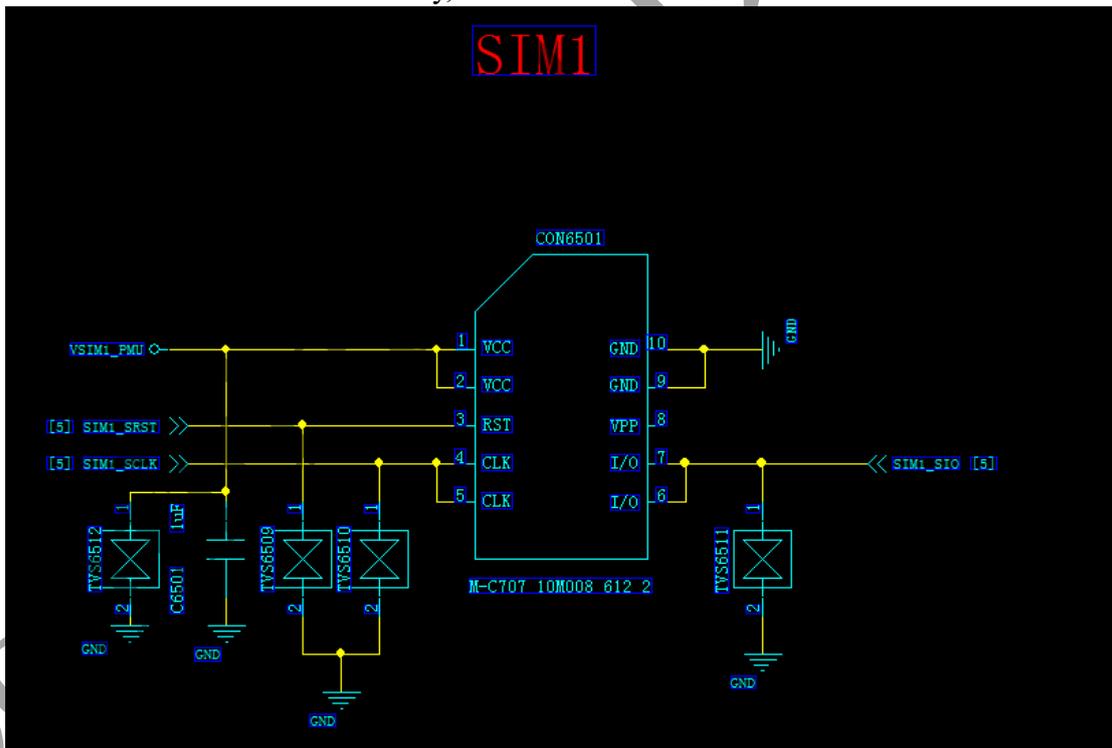
7.6.1 Check to ensure that receiver is well connected with pad.

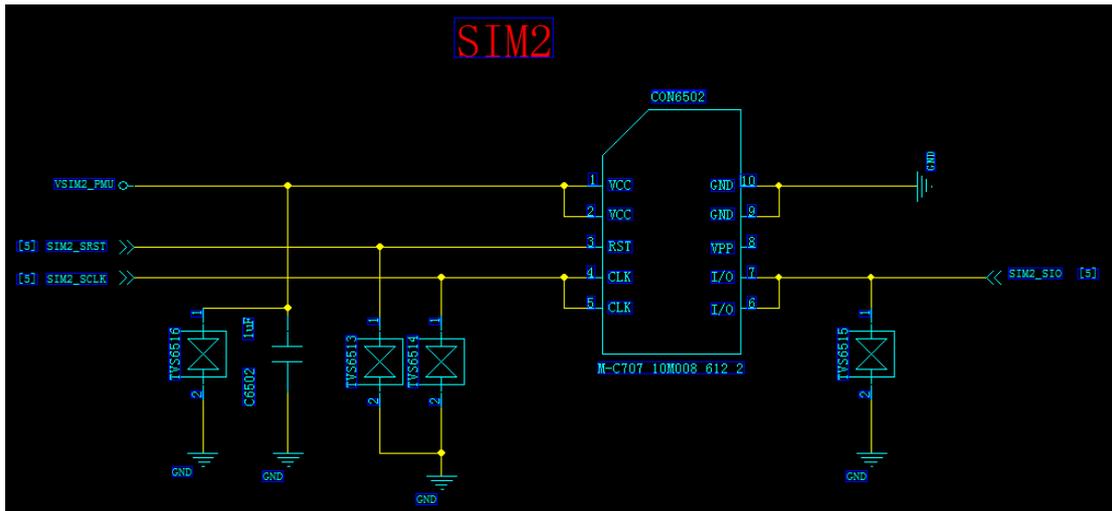
7.6.2 Measure to check if AU\_HSN, AU\_HSP have signals in mode of earphone. If there is no signal in REC+ and REC-, check if PCBA circuit and components or U2001 have defects.



## 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.



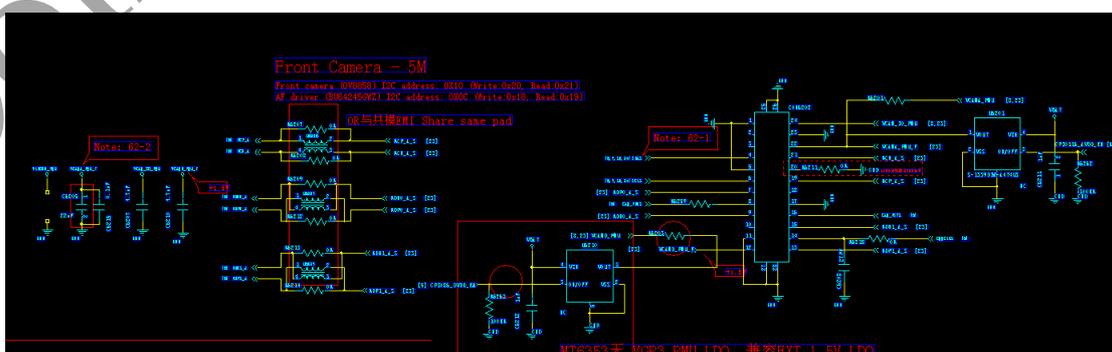
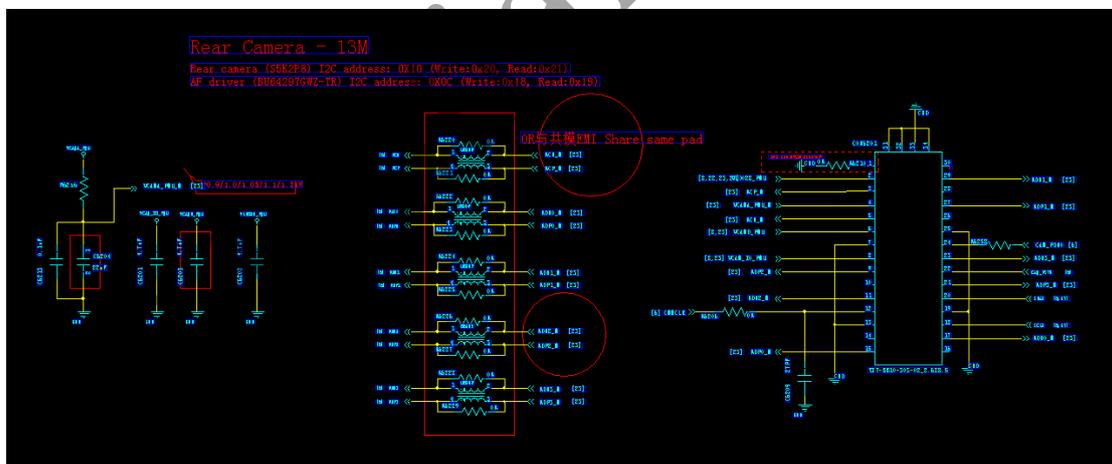


## 6.8 Camera fault

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

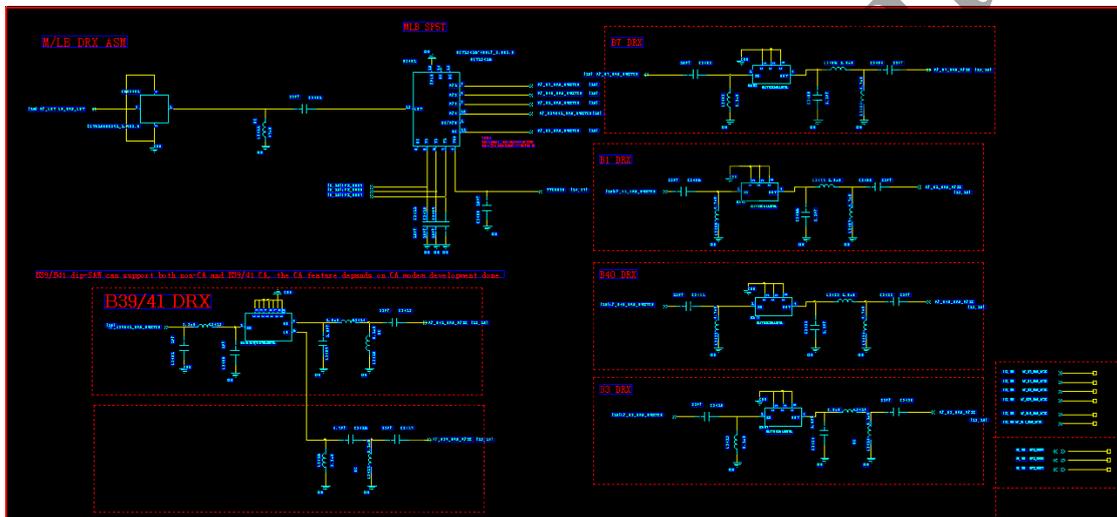
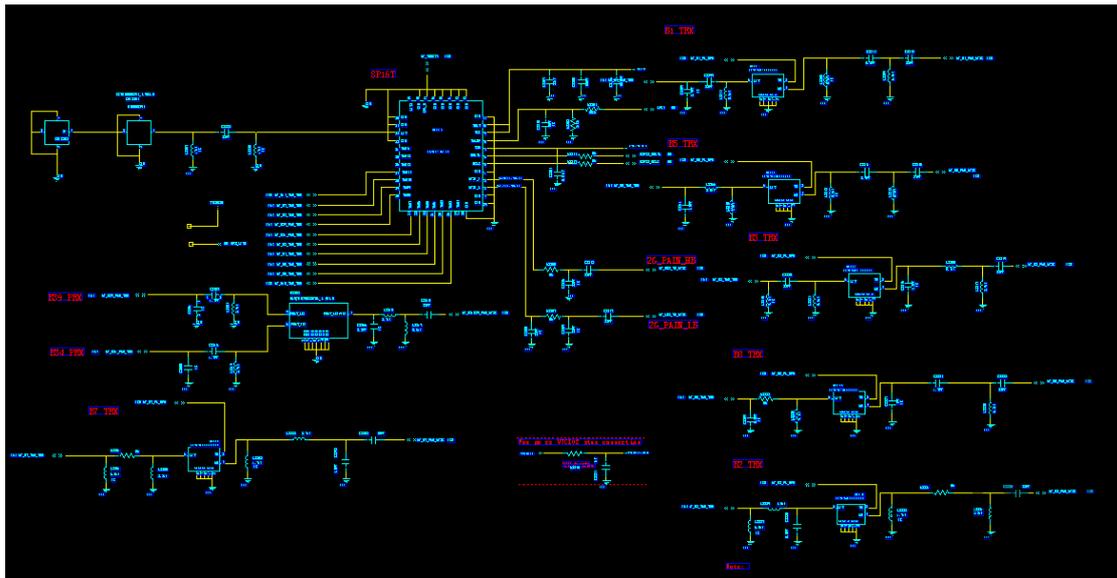
6.8.2 Check to ensure that PCBA circuit and components have no defects.

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.

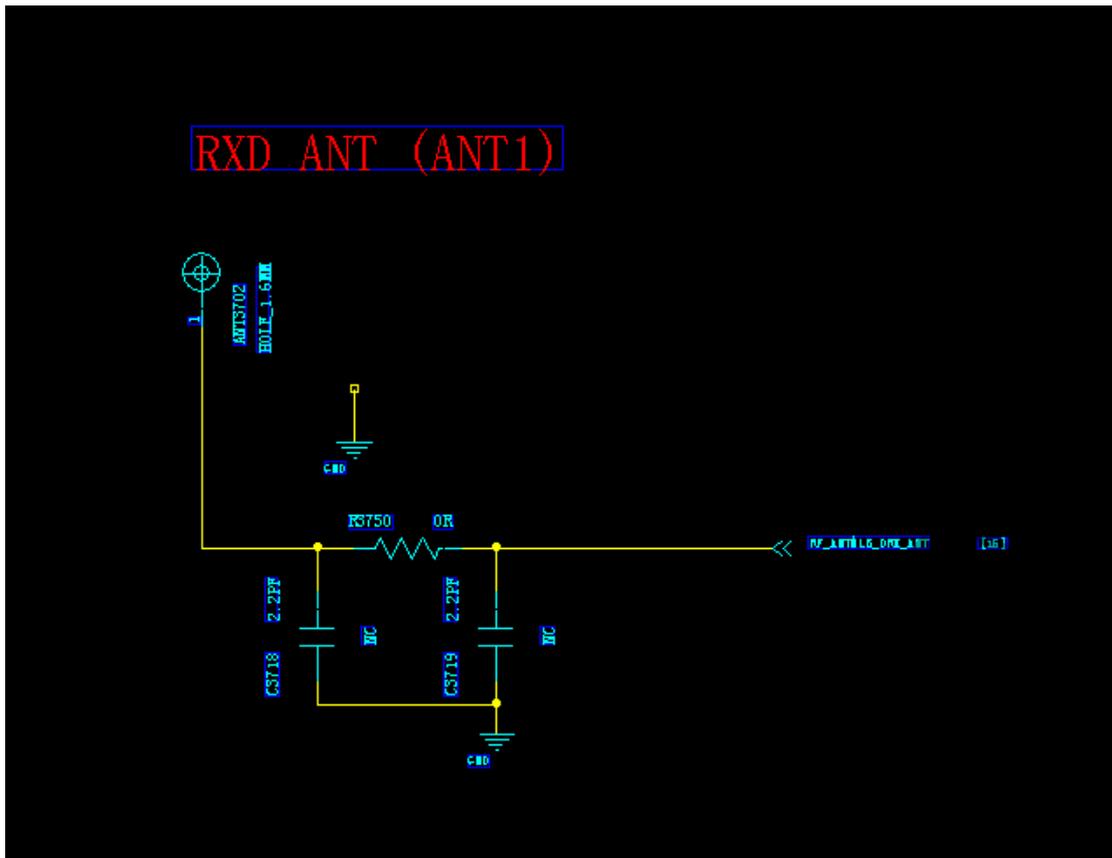








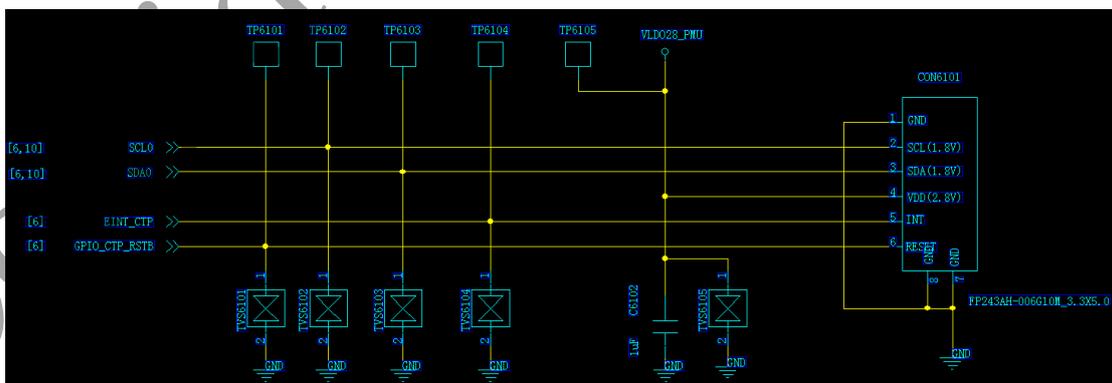
Confidential



## 6.12 Touch screen fault

6.12.1 Check to ensure that FPC has no visual defects, and that FPC is well connected with CON6107.

6.12.2 Measure to ensure that VLDO28\_PMU, SCL0, SDA0 have signal. If the signal level of EINT\_CTP is lower than normal, check if U2001 or U1001 has 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.

