EV730 Service Manual

CAUTIONS

1、Please read this service manual carefully and make sure all elements of anti-static are in place before the repair work is carried out.

2、Servicing and alignment MUST be undertaken by qualified personnel only.

3、Please use specified tools and equipments for servicing, in which the parameters need to be calibrated with specified criteria.

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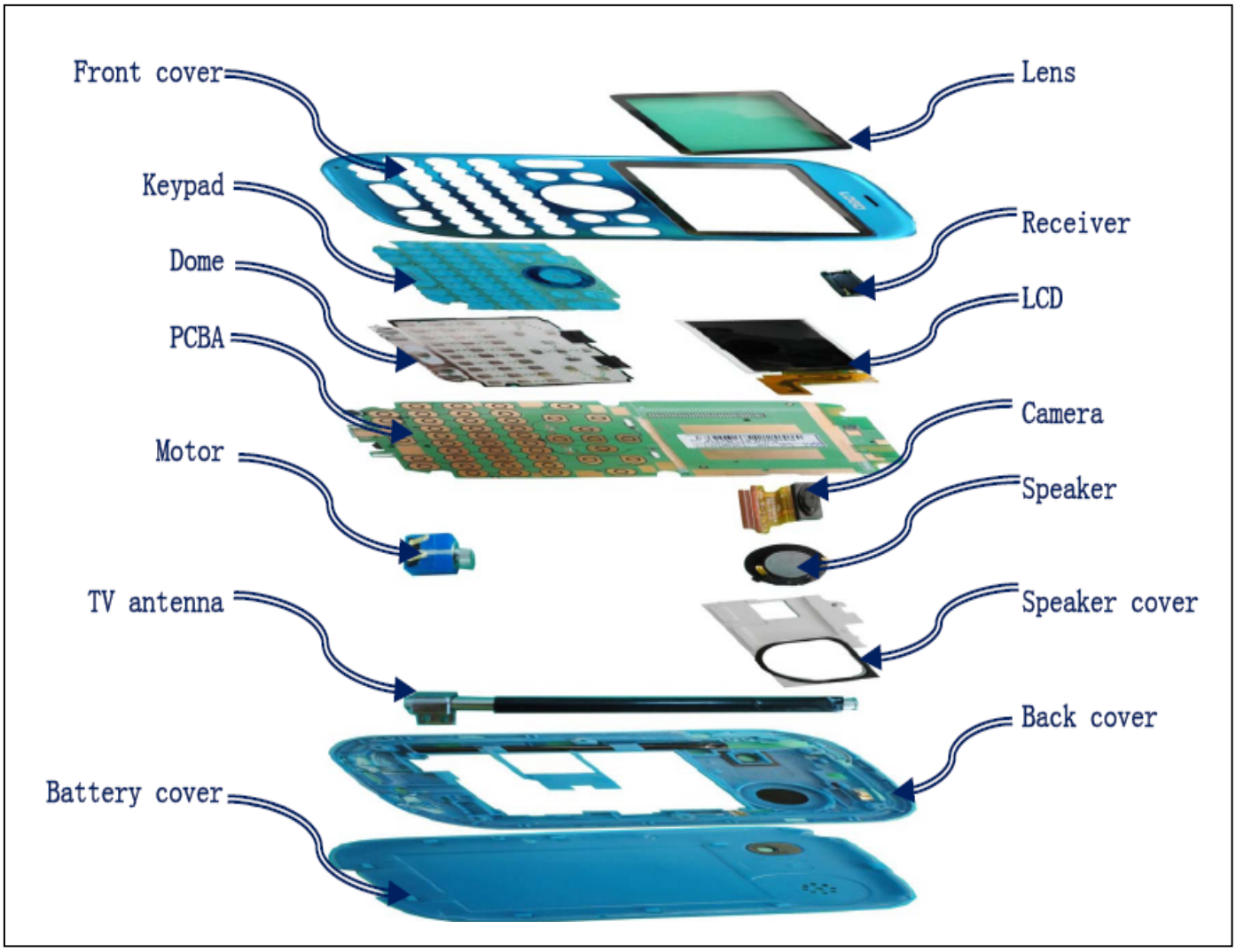
Chapter 1 Specification

Features & Functions

- ✧ Dual SIM Dual Standby Single Connection
- ✧ Fassion Music Phone
- ✧ FM Radio
- ✧ BT (Call & Data transfer)
- ✧ Multi-Media application
- ✧ Camera：0.3M
- ✧ USB data transfer
- ✧ T-Flash（Support 8G T Card）
- ✧ 2.2 TFT QVGF(240*320)
- ✧ MP3、MP4、3GP
- ✧ Breathing Light
- ✧ TV
- ✧ External Speaker

Specification：
Network: GSM/GPRS 850/1900 or 900/1800 MHz
Display:　2.2 TFT QVGF(240*320)
Bluetooth：Support:V1.2
Camera：Type：JPG Size:80*60/160*120/320*240/640*480
/1280*960（Software insertion）
Radio：MP3 can be transmitted to external speakers.
Multi-Media: MP3、MP4、3GP
TV：Flex Antenna
Talking Time: TBD (Based on Network Status)＊
Standby Time: TBD
Lithium Battery: Standard（950mAh）

Chapter 2. Exploded View



Chapter 3 Tools

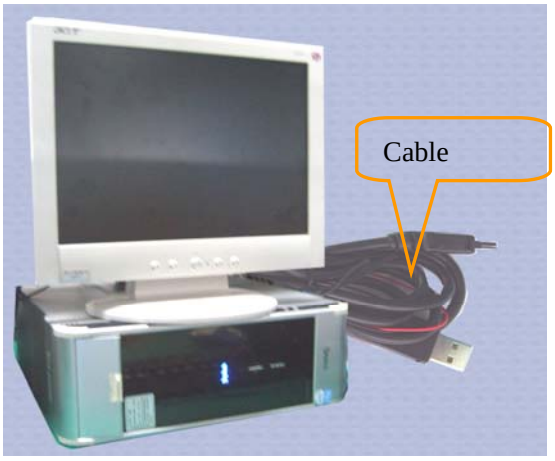
Solder iron

Hot Air Gun

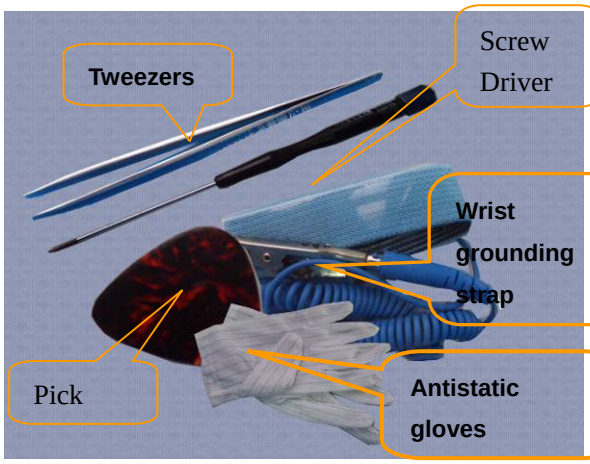
Power Supply

Multi-meter

Solder wire, Flux,



PC, Download cable

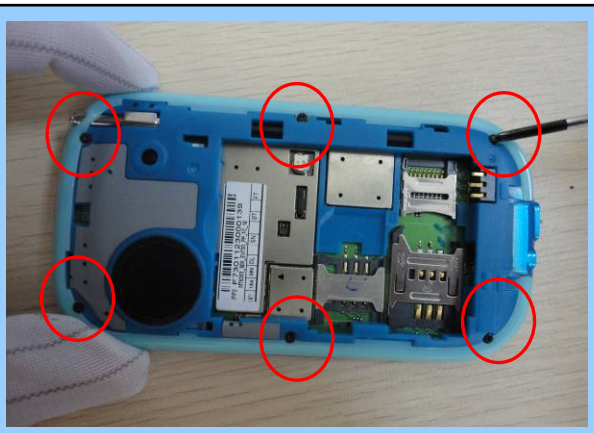


Others（Figure 7）

Chapter 4 Disassembly & Assembly

1. Disassembly Process

Push the battery cover from left to right

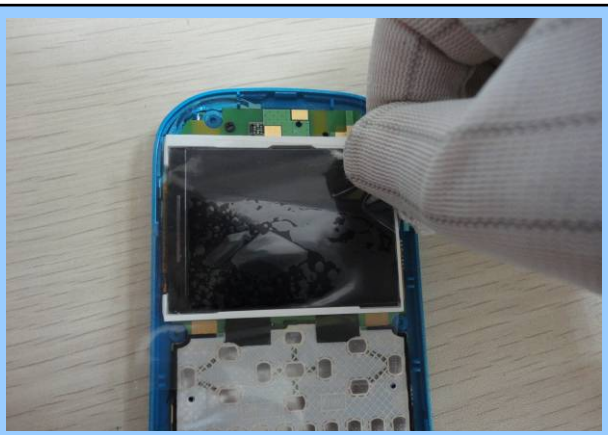


Unfasten the 6 screws by screw

Prize up the back cover by pick

Take out back shell.

Stick the lens shield



Stick the LCD Shield

Remove the screw. 7

Take out PCBA 8

Take out keypad.

Finish ....

2. Assembly Process

Install the keypad

Install PCBA 2

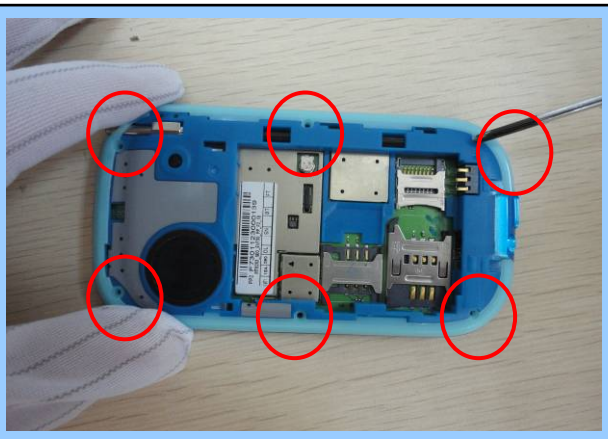
Fasten the screw 3

Remove LCD Shield

Remove the lens Shield.

Install the back shell

Tighten the front & back shell.



Fasten the screws 8

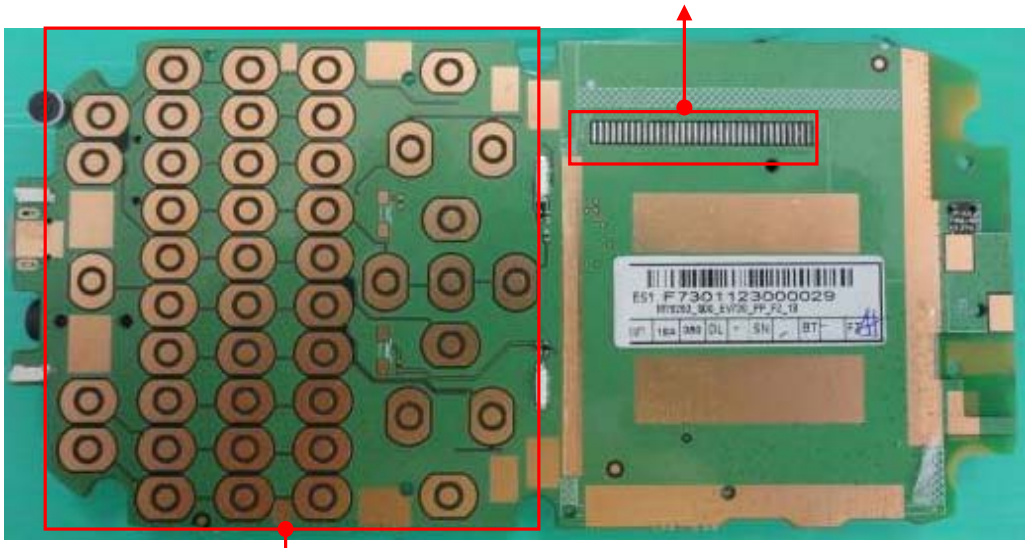
Install the battery cover.

finish…….

Chapter 5 Picture of PCBA

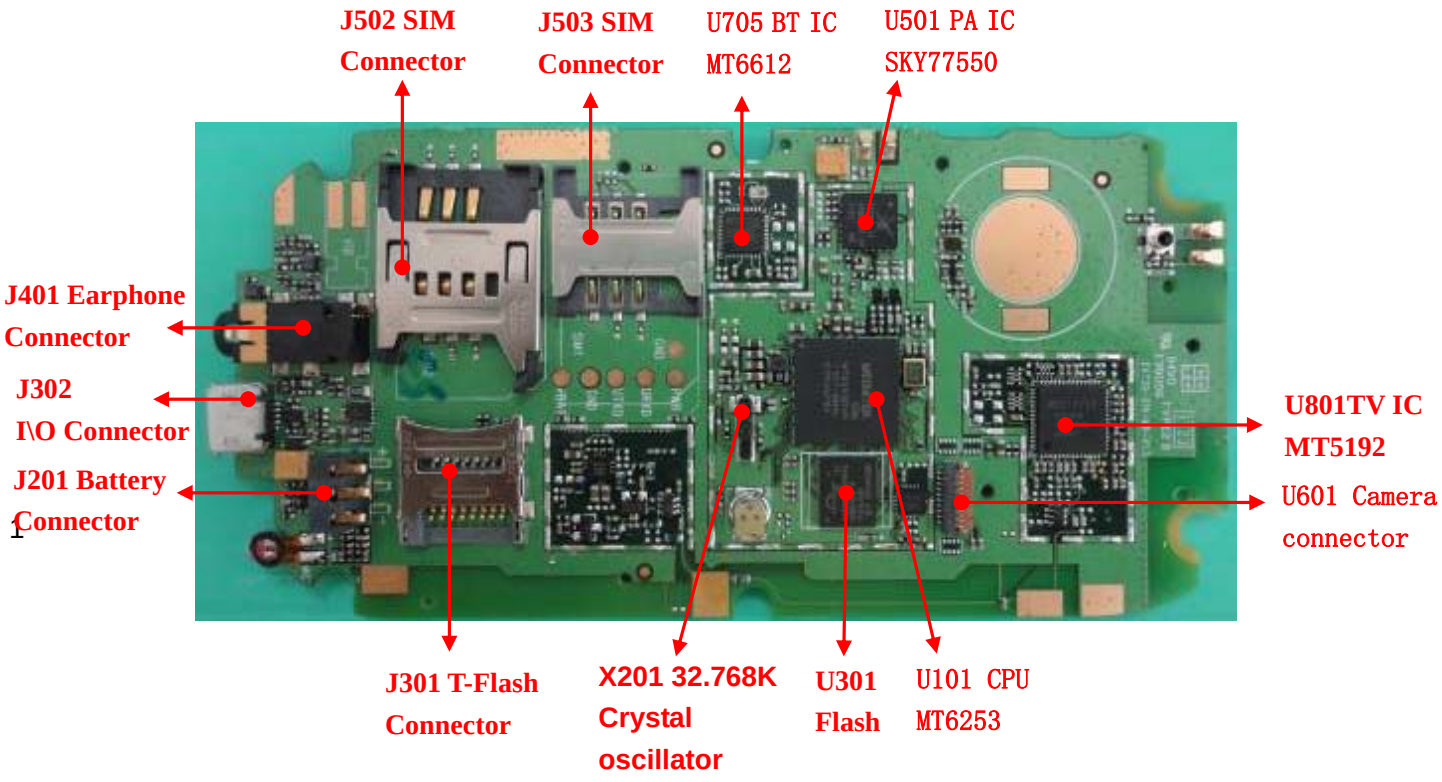
5.1 Side A

PCBA（Side A）Location of components



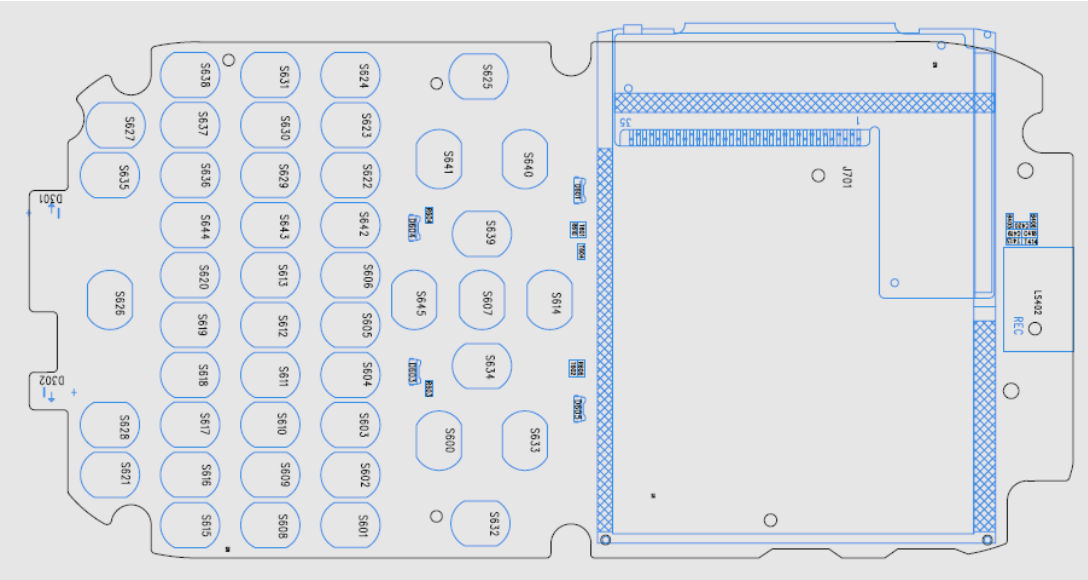
Side A

PCBA (Side B) Location of Components

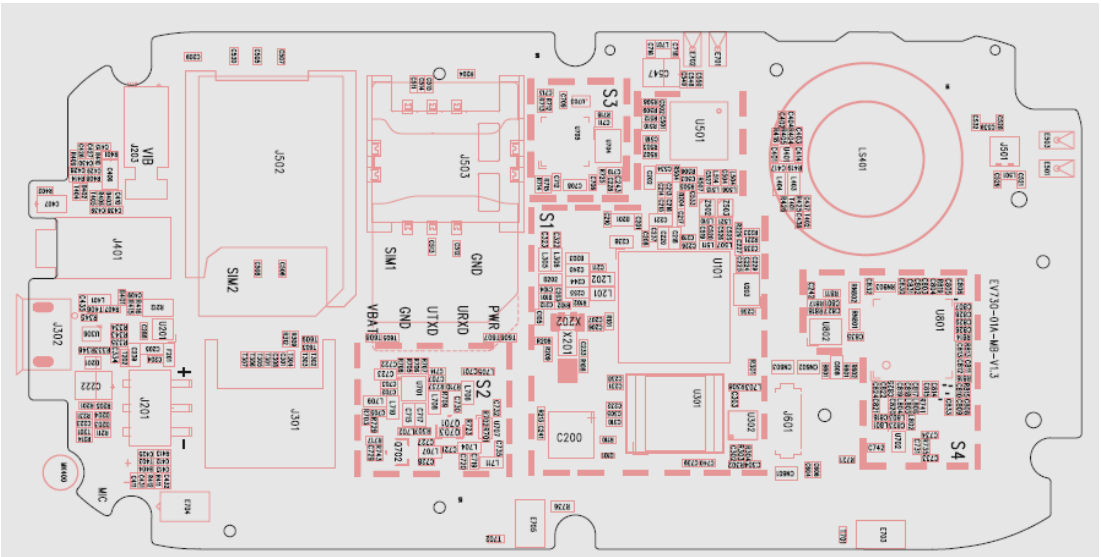


5.2 PCBA Layout

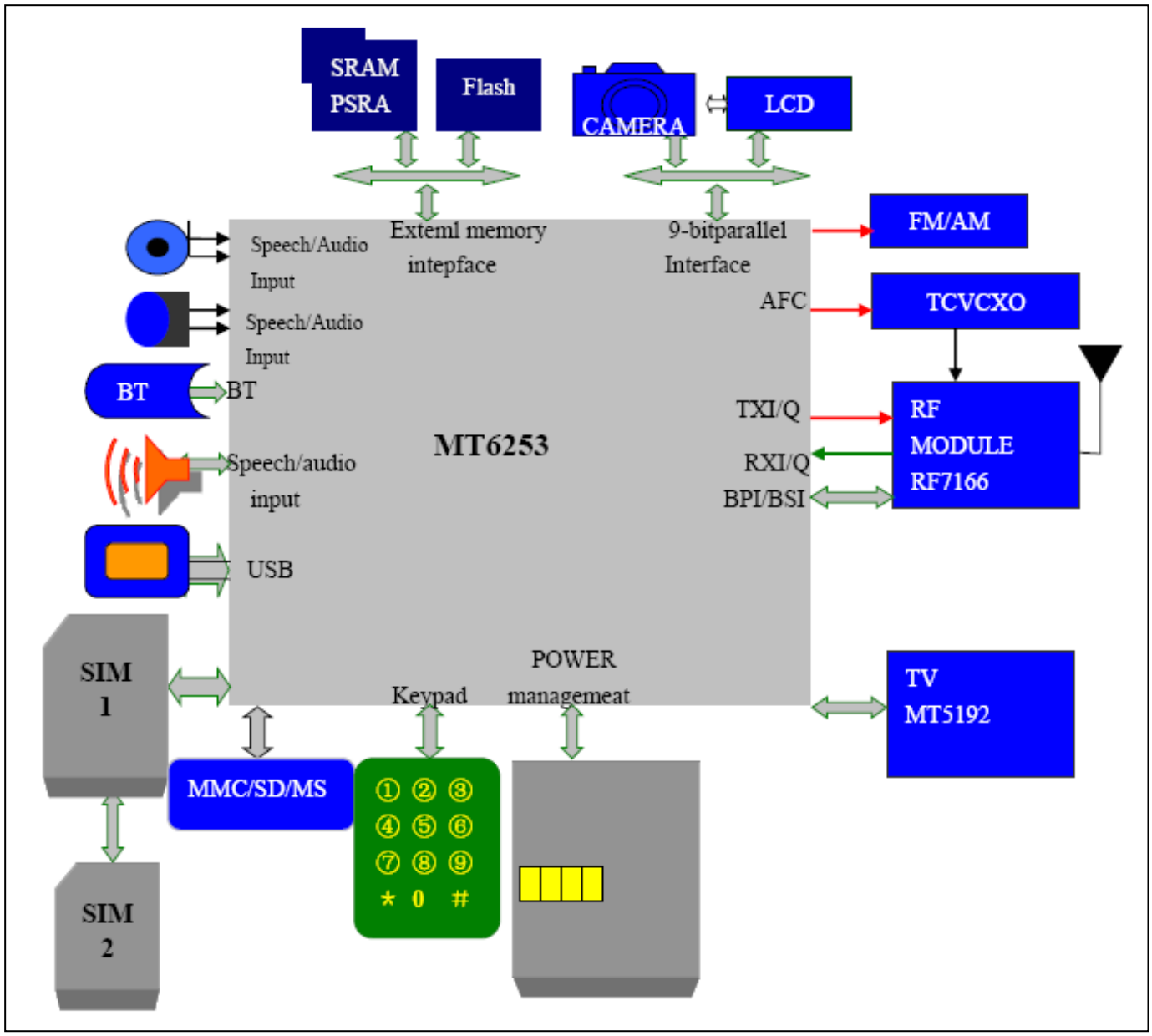
Side A



Side B

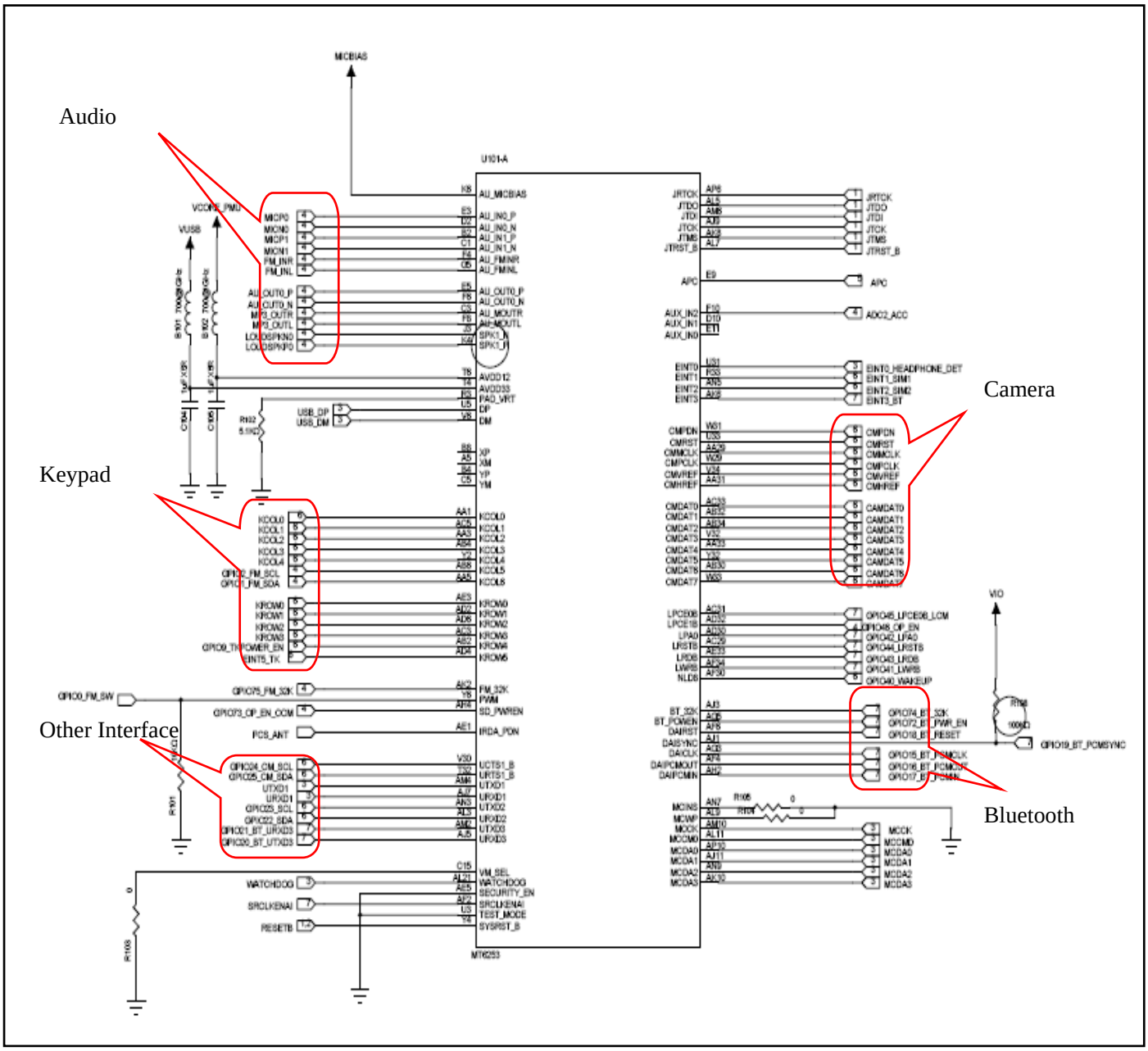


Chapter6 System Block Chart

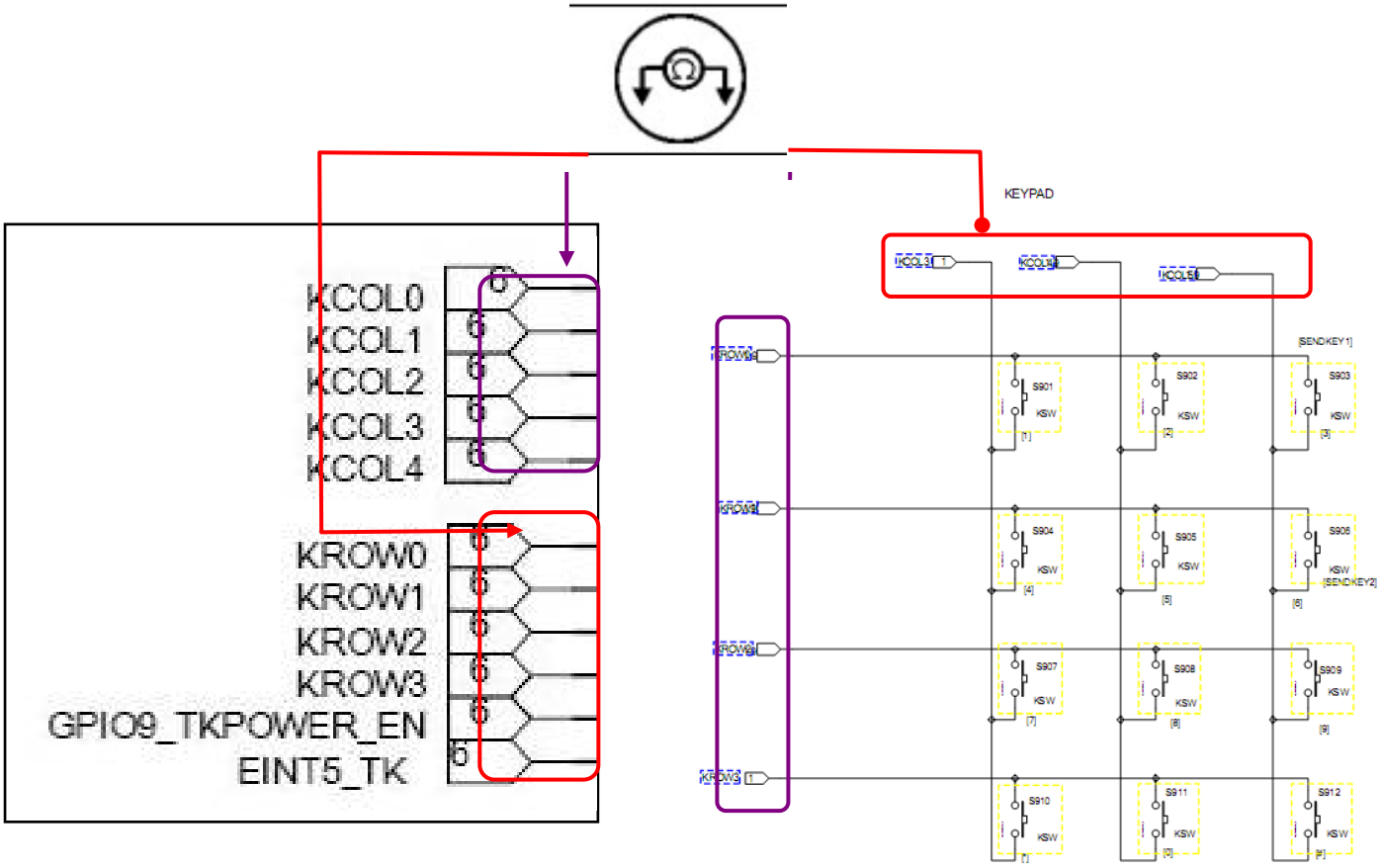


Chapter 7 Circuit Map

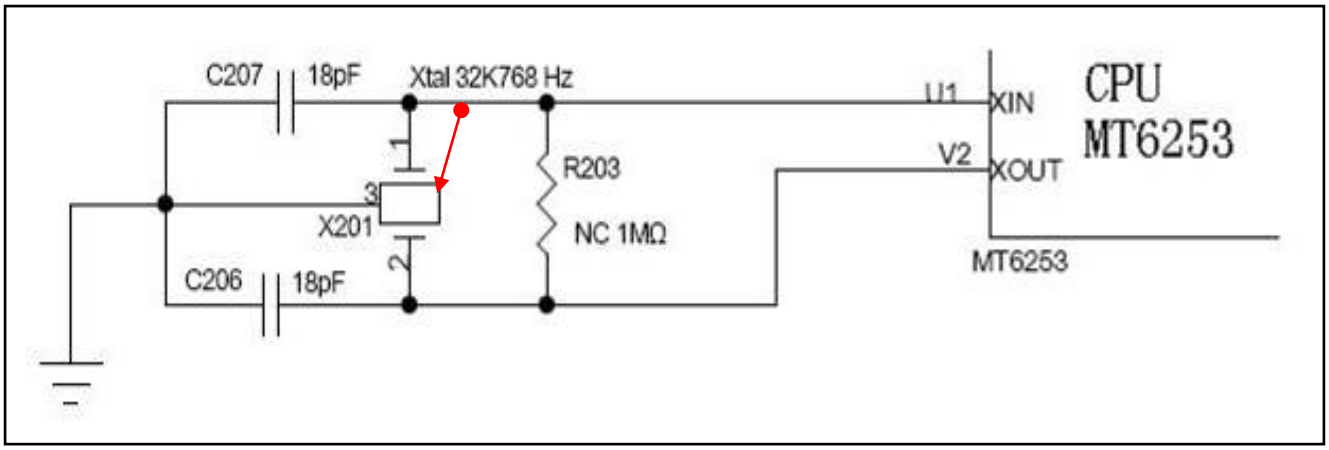
7.1.1 Baseband & CPU



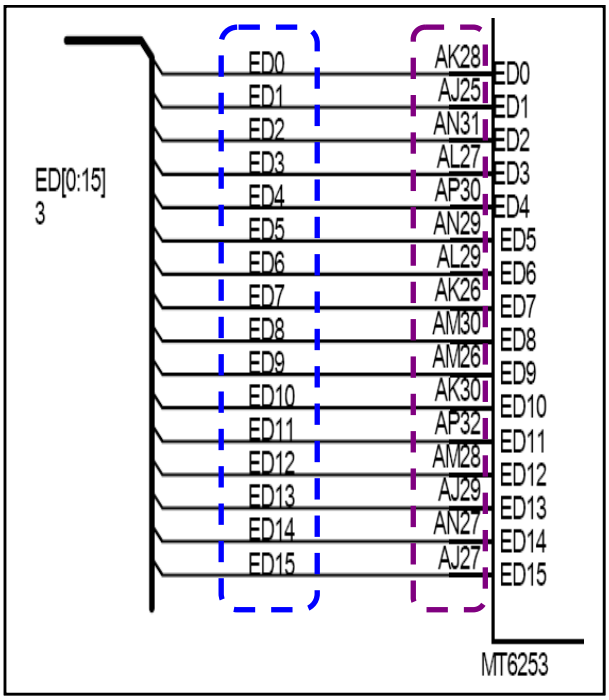
7.1.2 Baseband – Keypad

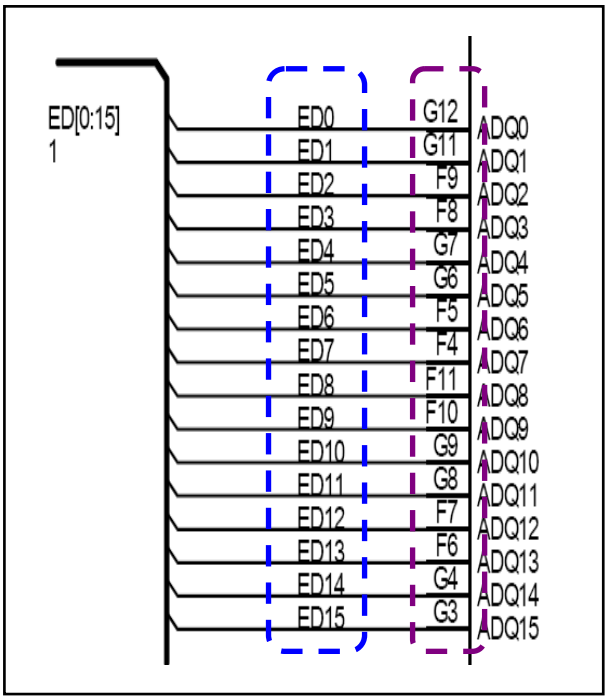


7.1.3 Clock 32.768KHZ Circuit



7.1.4 CPU to Flash



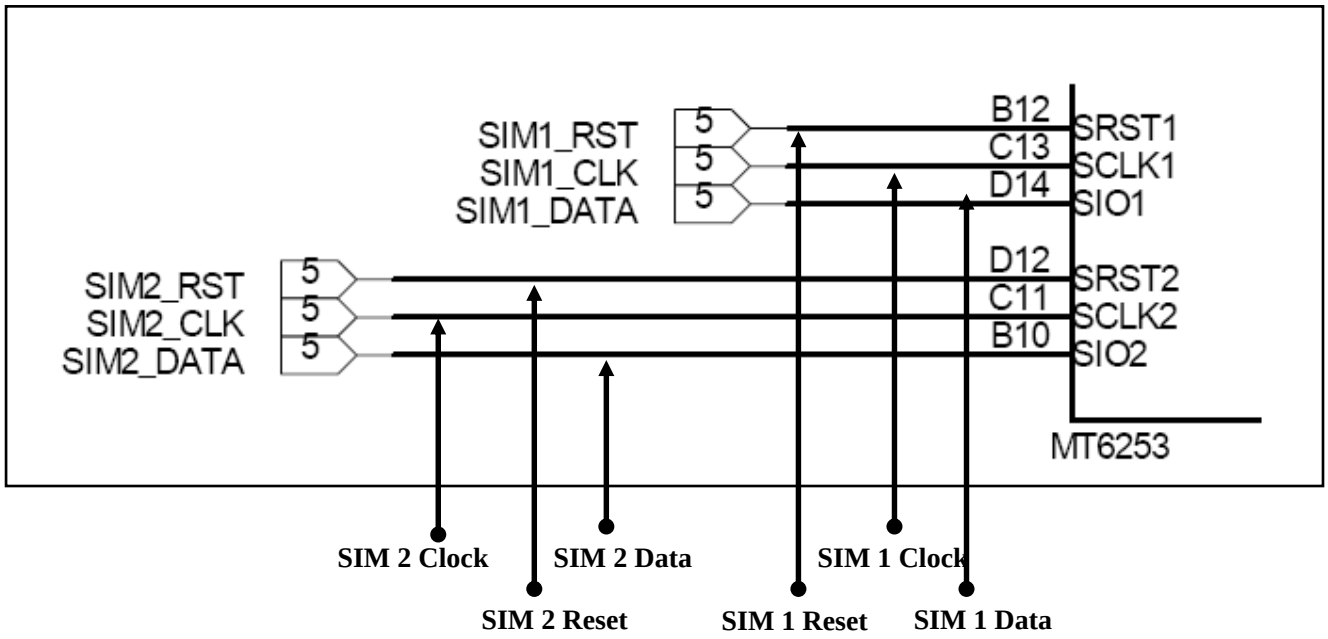


Pin inside BGA

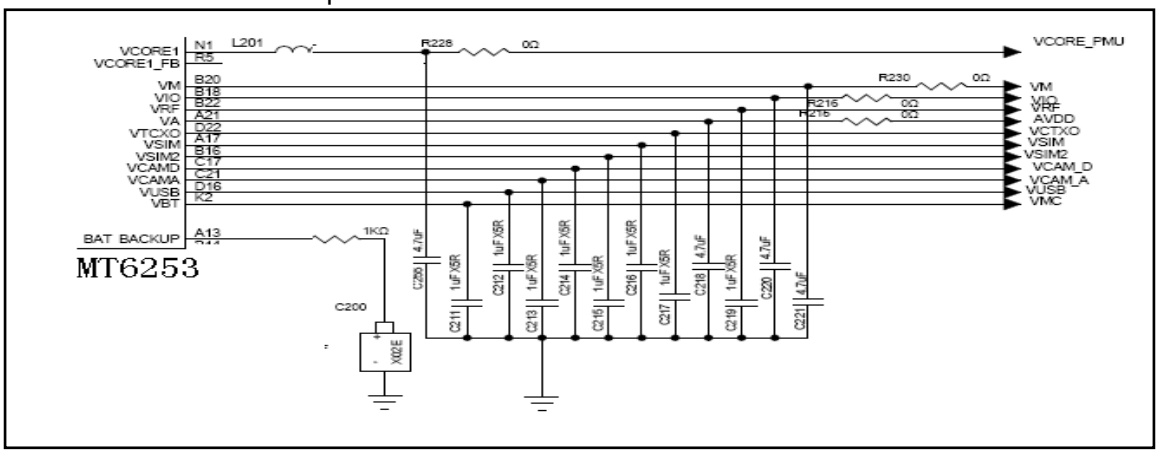
16 digit data line match list

CPU Data line	CPU BGA Pin	Flash Data line	Flash BGA Pin
Ed0	AK28	Ed0	G12
Ed1	AJ25	Ed1	G11
Ed2	AN31	Ed2	F9
Ed3	AL27	Ed3	F8
Ed4	AP30	Ed4	G7
Ed5	AN29	Ed5	G6
Ed6	AL29	Ed6	F5
Ed7	AK26	Ed7	F4
Ed8	AM30	Ed8	F11
Ed9	AM26	Ed9	F10
Ed10	AK30	Ed10	G9
Ed11	AP32	Ed11	G8
Ed12	AM28	Ed12	F7
Ed13	AL29	Ed13	F6
Ed14	AN27	Ed14	G4
Ed15	AJ27	Ed15	G3

7.1.5 SIM data output

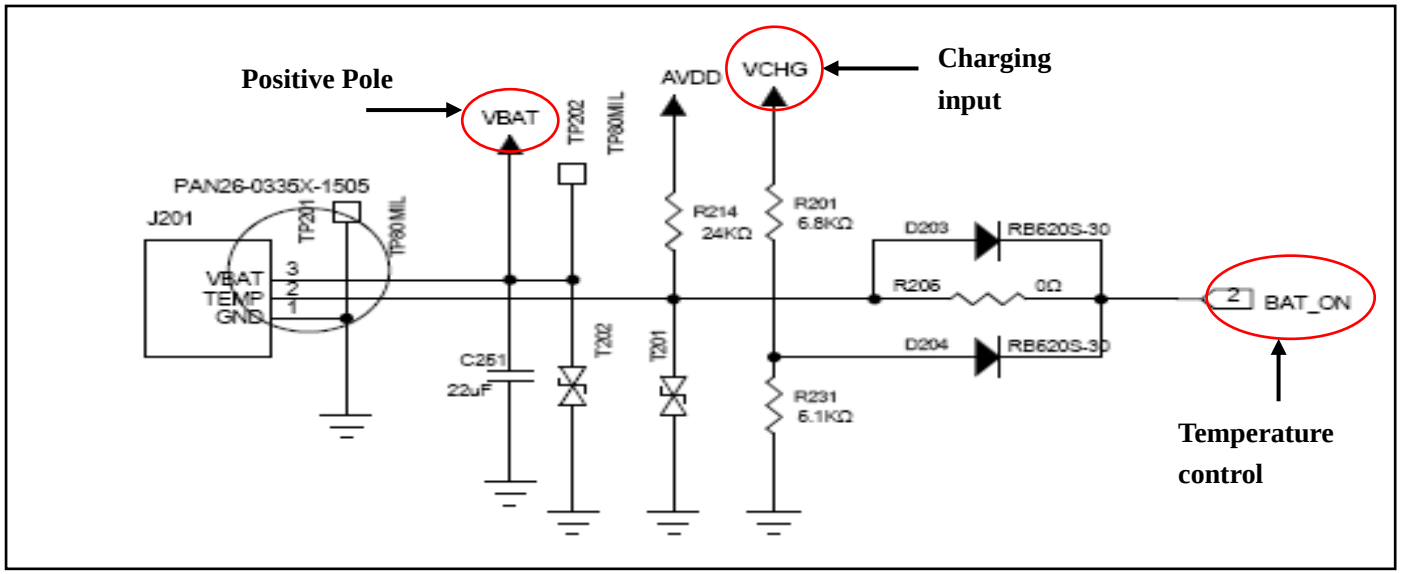


7.2 MT6253 CPU Power output



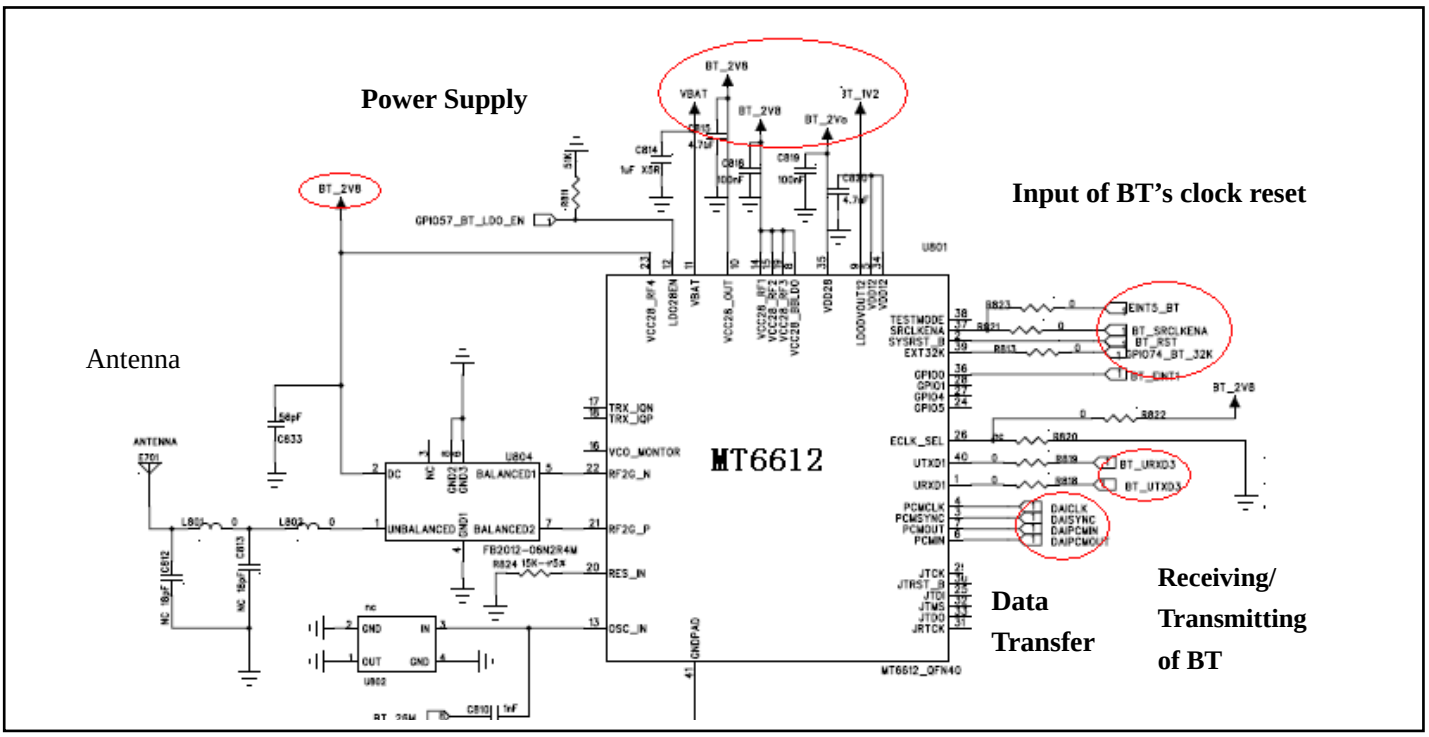
item	voitage	current
Vcore	1.2v	200ma
Vio	2.8v	100ma
Vadd	2.8v	150ma
Vtcxo	2.8v	20ma
Vrtc	1.2v	200ma
Vmem	2.8v	150ma
Vsim	2.8v	20ma
Vcs	2.8v	200ma
vcs	1.8v	150ma

7.3 Battery connector

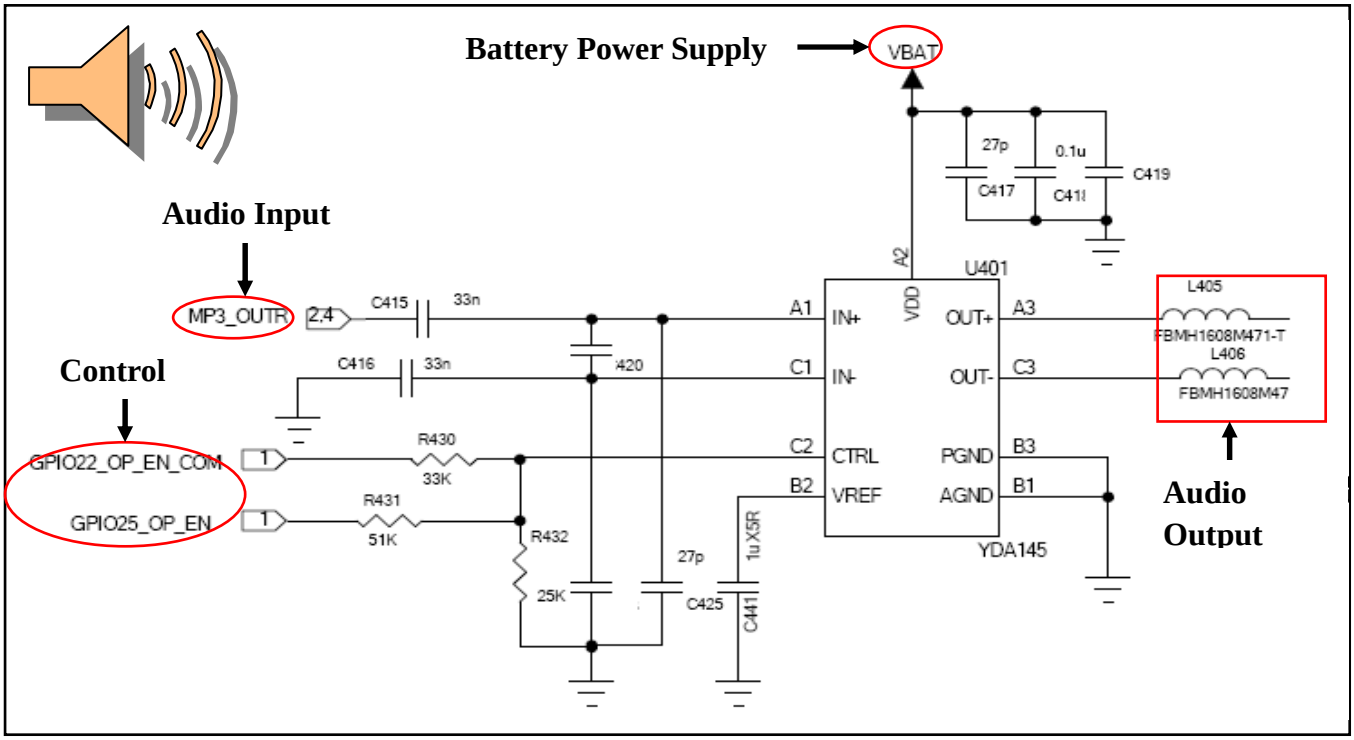


7.4 Bluetooth Module

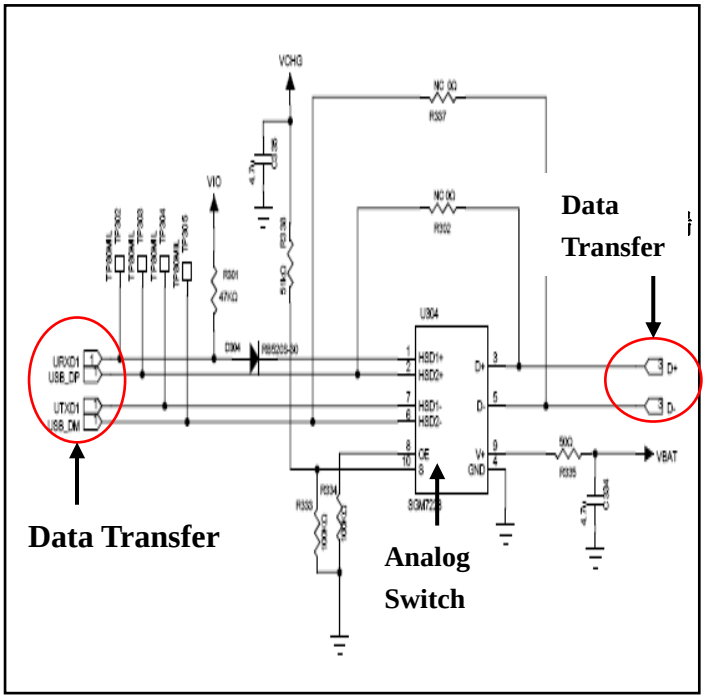
Brief Introduction of Bluetooth: Bluetooth technology, a short distance wireless communication technology, can simplify the communication between palmtop computers, notebook computers and mobile phones, can also simplify the communication between these equipments and the Internet. The data transfer between modern communication equipments and the Internet can be faster and more efficient and the application of the wireless communication is accelerated. The Bluetooth technology realize the wireless data and sound transfer from one point to several points, the transfer bound is a 10 meters radius sphere to the one point, the transfer bandwidth is 1Mbps, and the communication medium

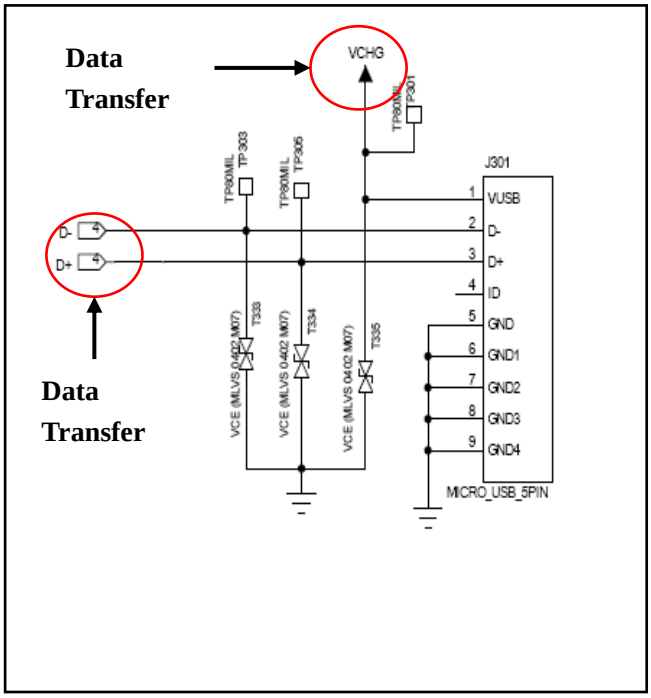


7.5 Audio PA U401

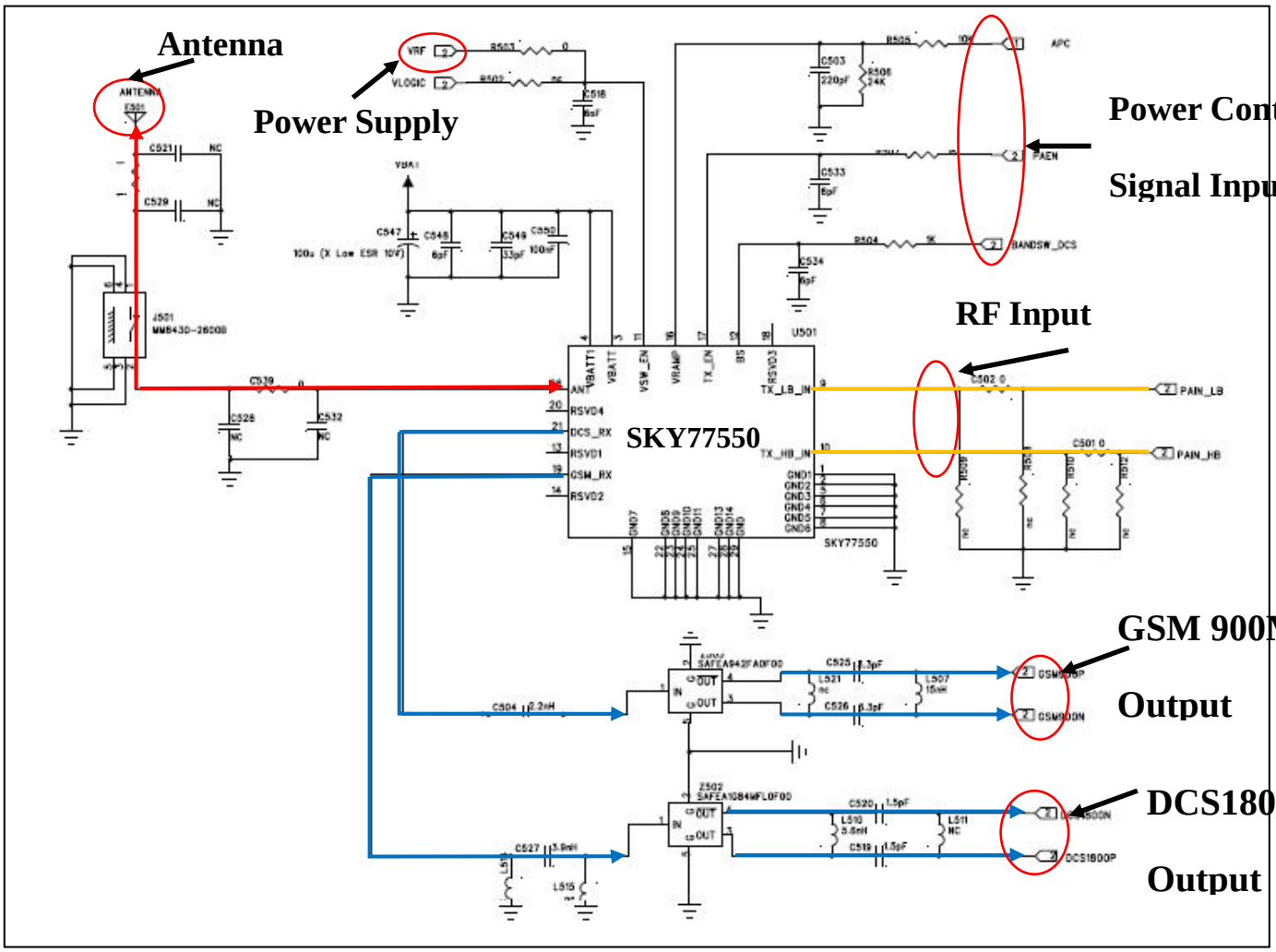


7.6 I/O Interface (5 PIN)



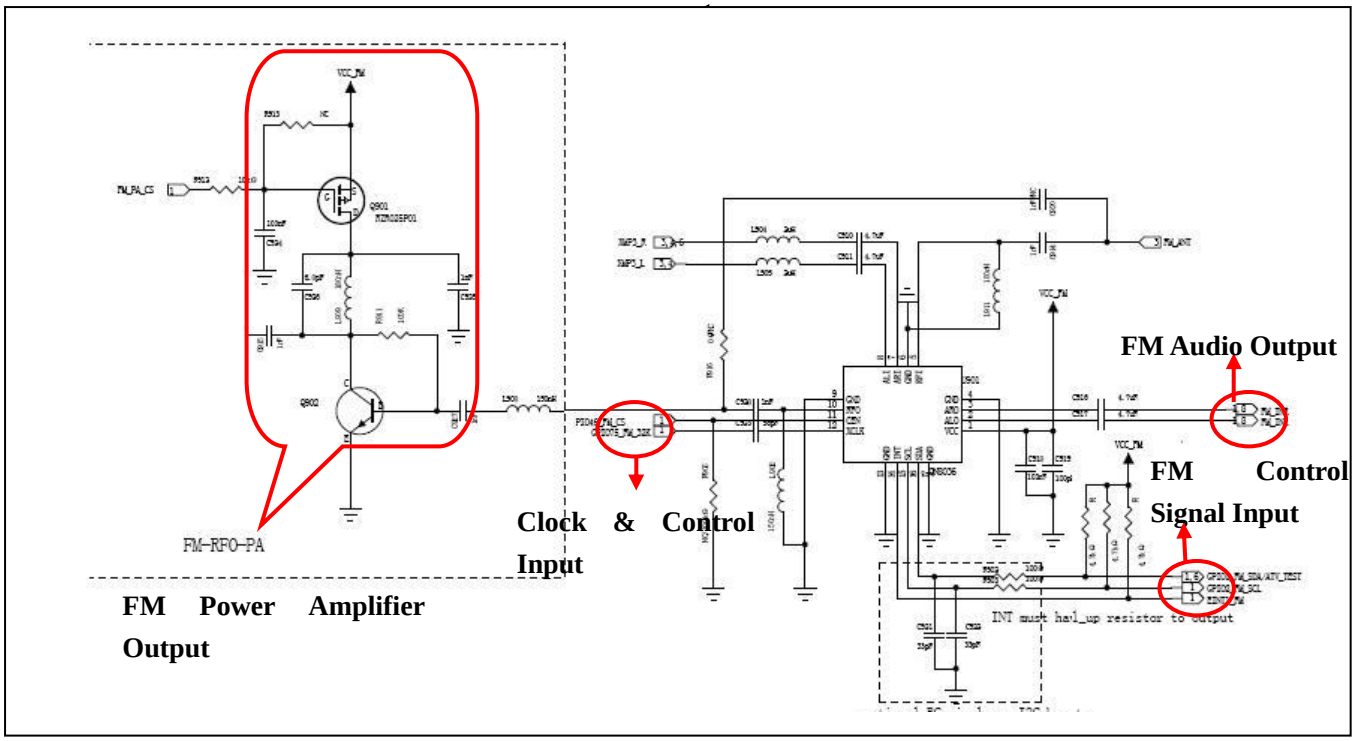


7.7 Power Amplifier

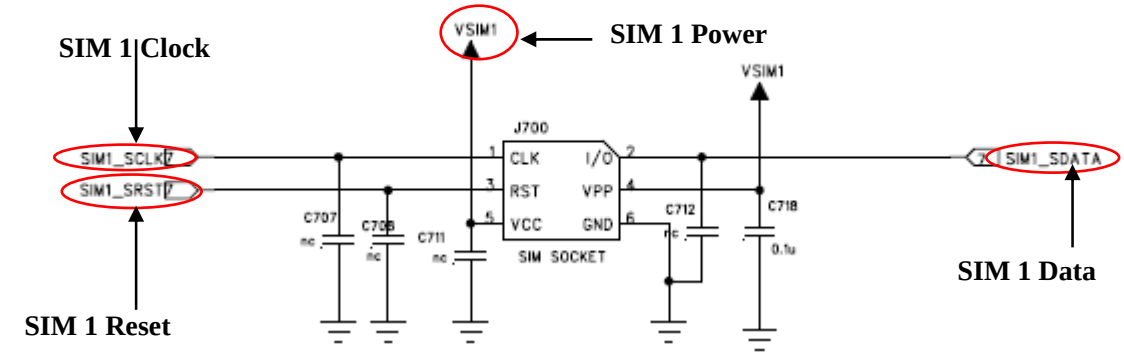


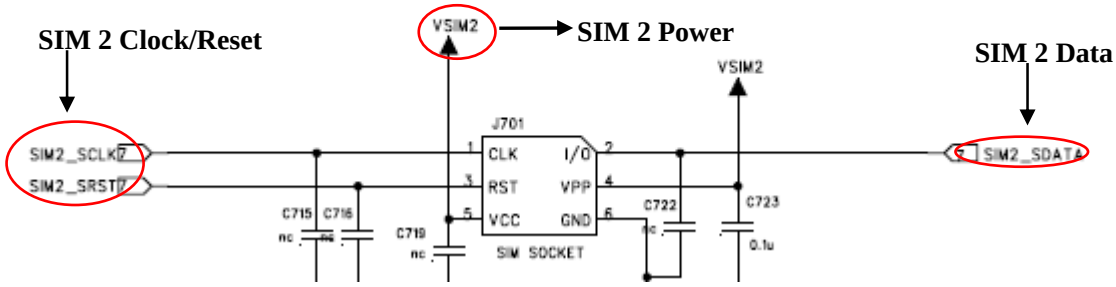
7.8 FM Radio Modules

The QN8036 processes the FM broadcasting signal that received from antenna (FM/ANT) ,produces and sends audio signals (FM-INL, FM-INMR) to the audio process module of CPU for decoding, where the electrical signals of audio are made.



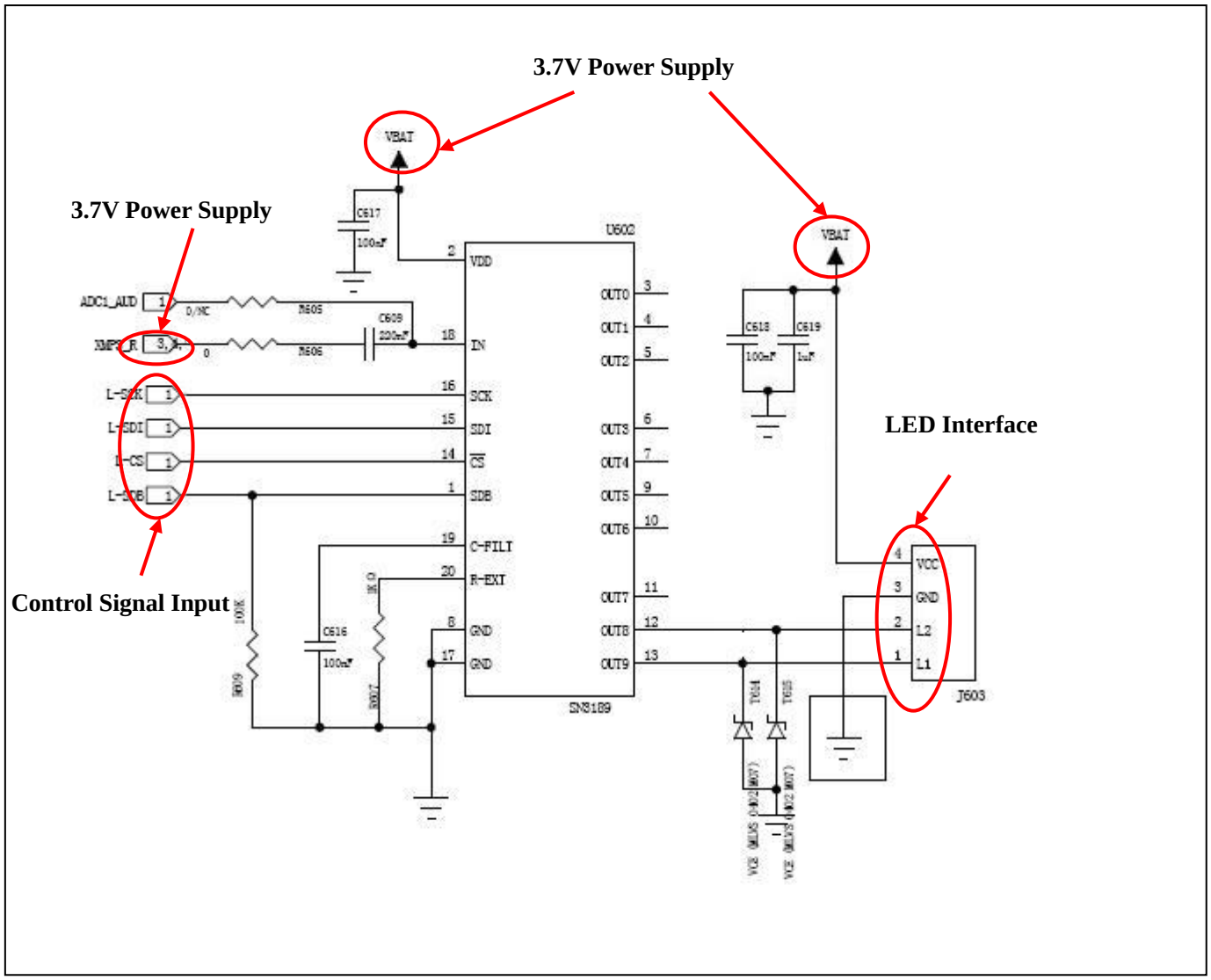
7.9 SIM Circuit





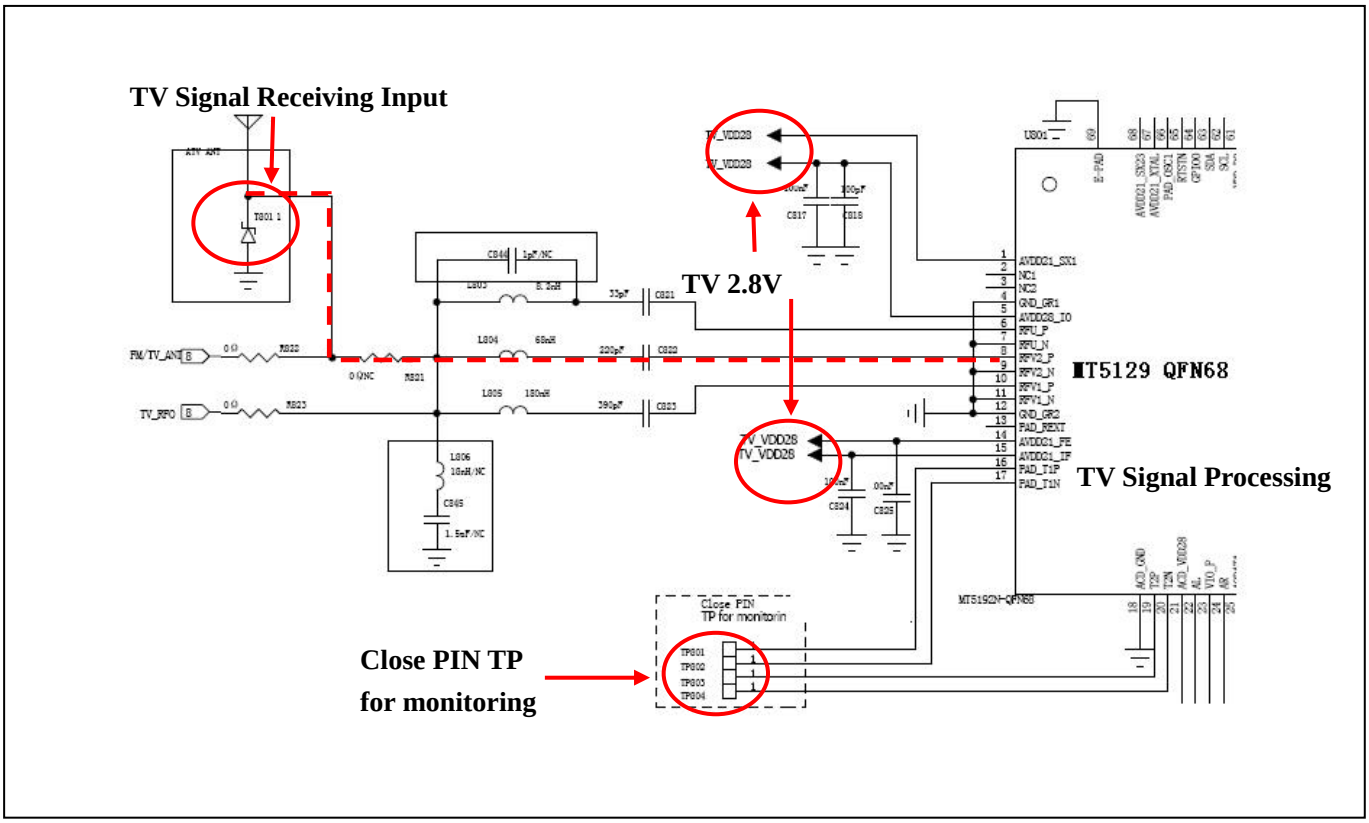
7.10 Driving Circuit for breathing light

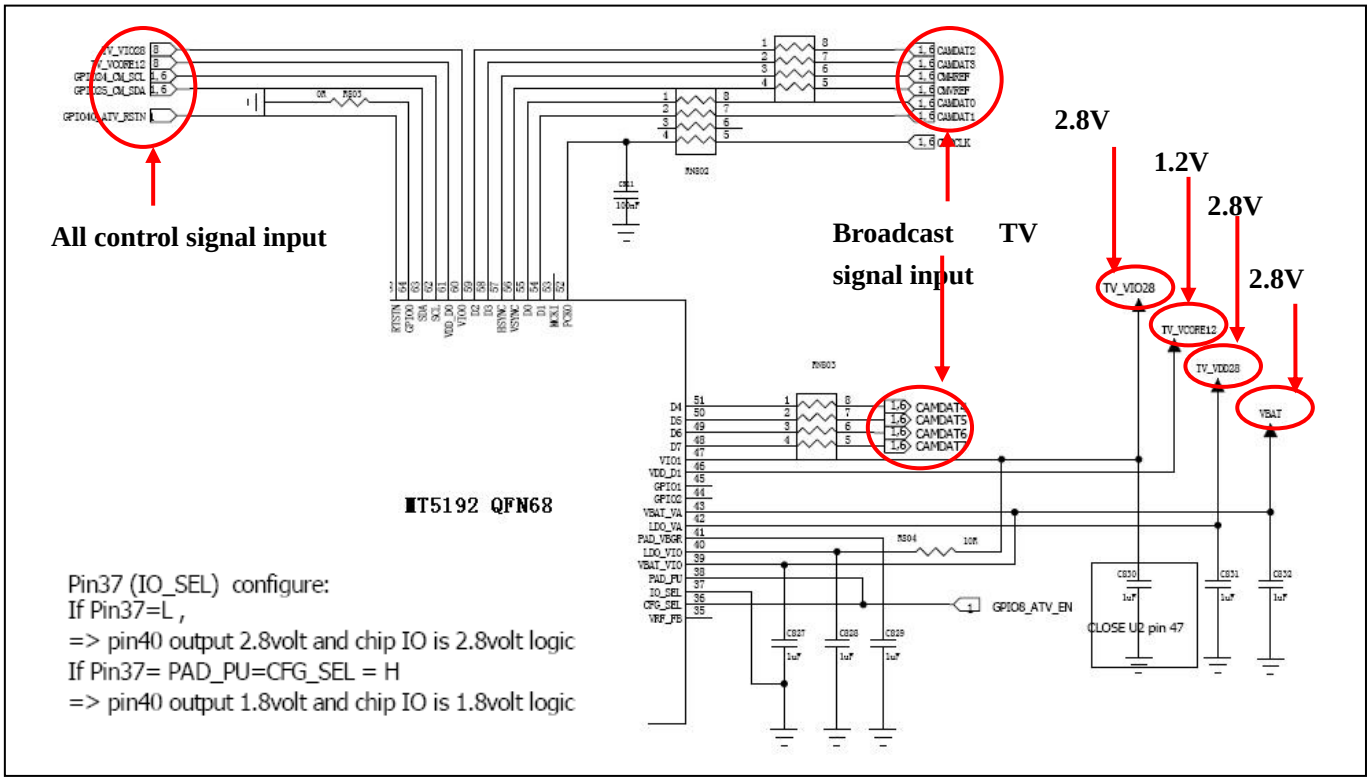
NS3189 is the breathing light driving IC that developed by SI-EN Technology. All modes of SN3189 can be breathing with music's rhythm. The 6-way of RGB output can support upto 256 levels of individual lightness control, with 40 mA output for each output，and support multi-LEDs in parallel connection.



7.11 TV Module

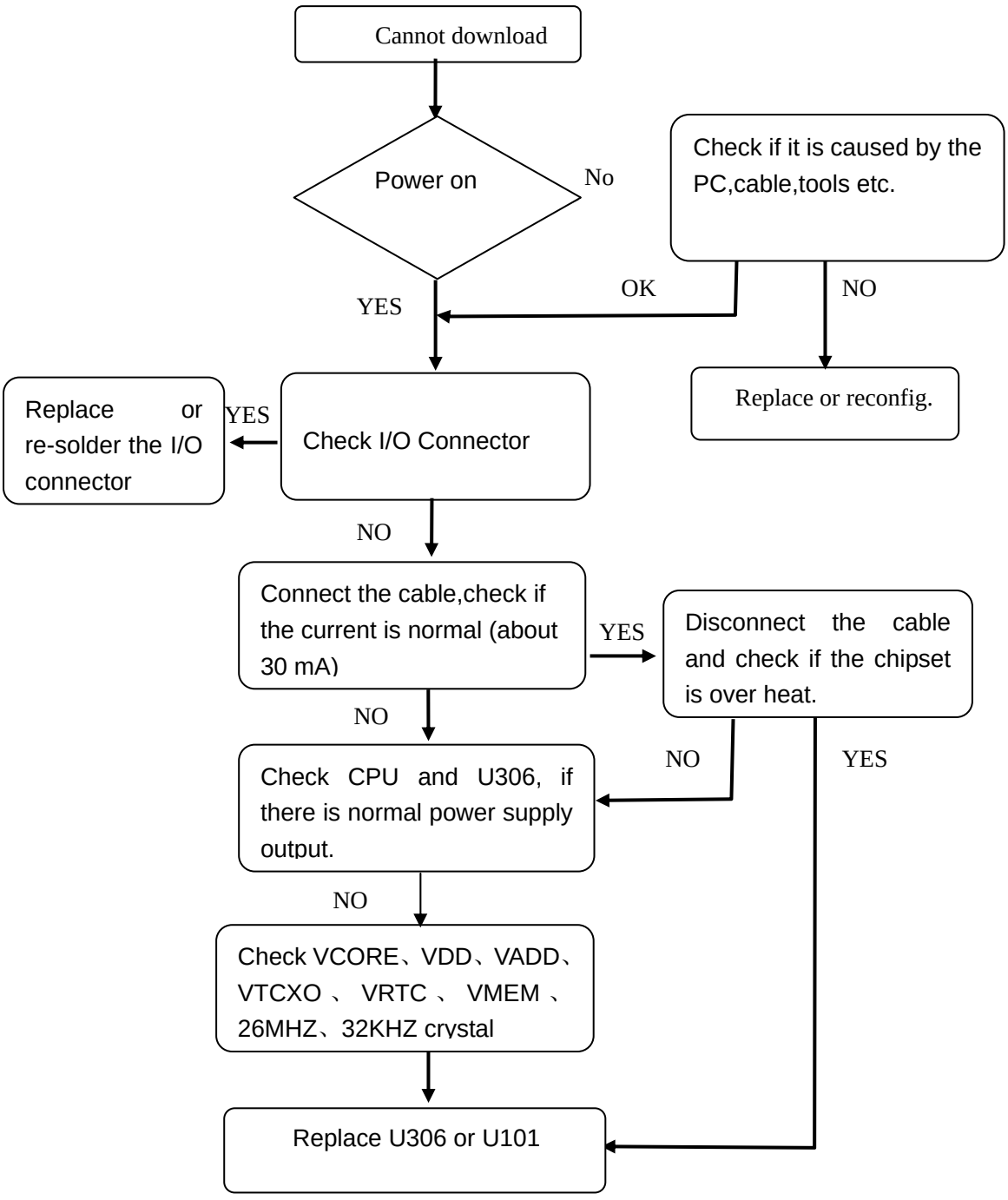
The signal is received by antenna (E901) and sent via different channels (VHF, UHF) to the TLG1100-GC-CA(Telegent) Chipset to be processed and transferred to CPU



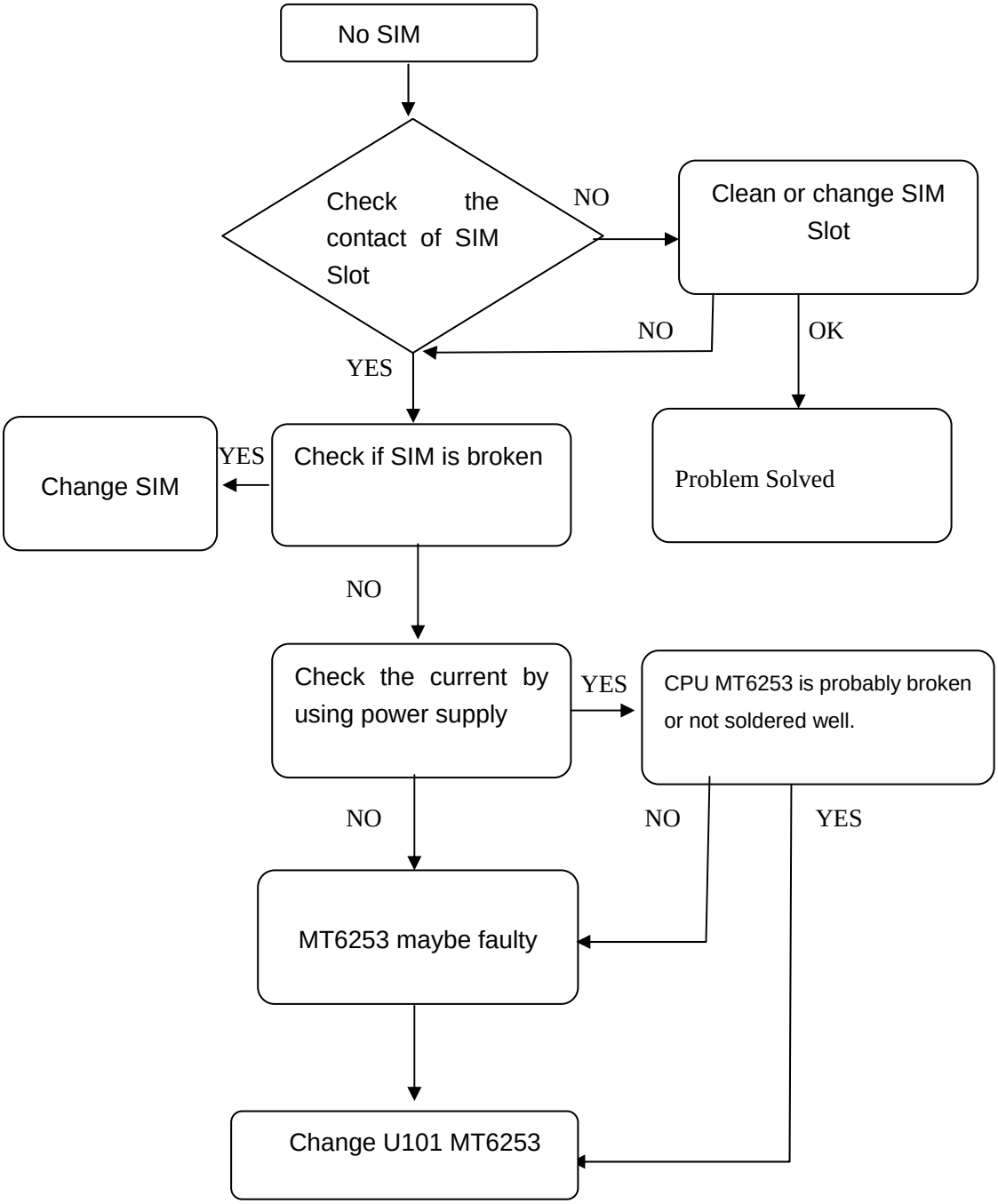


Chapter8 Trouble Shooting Guide

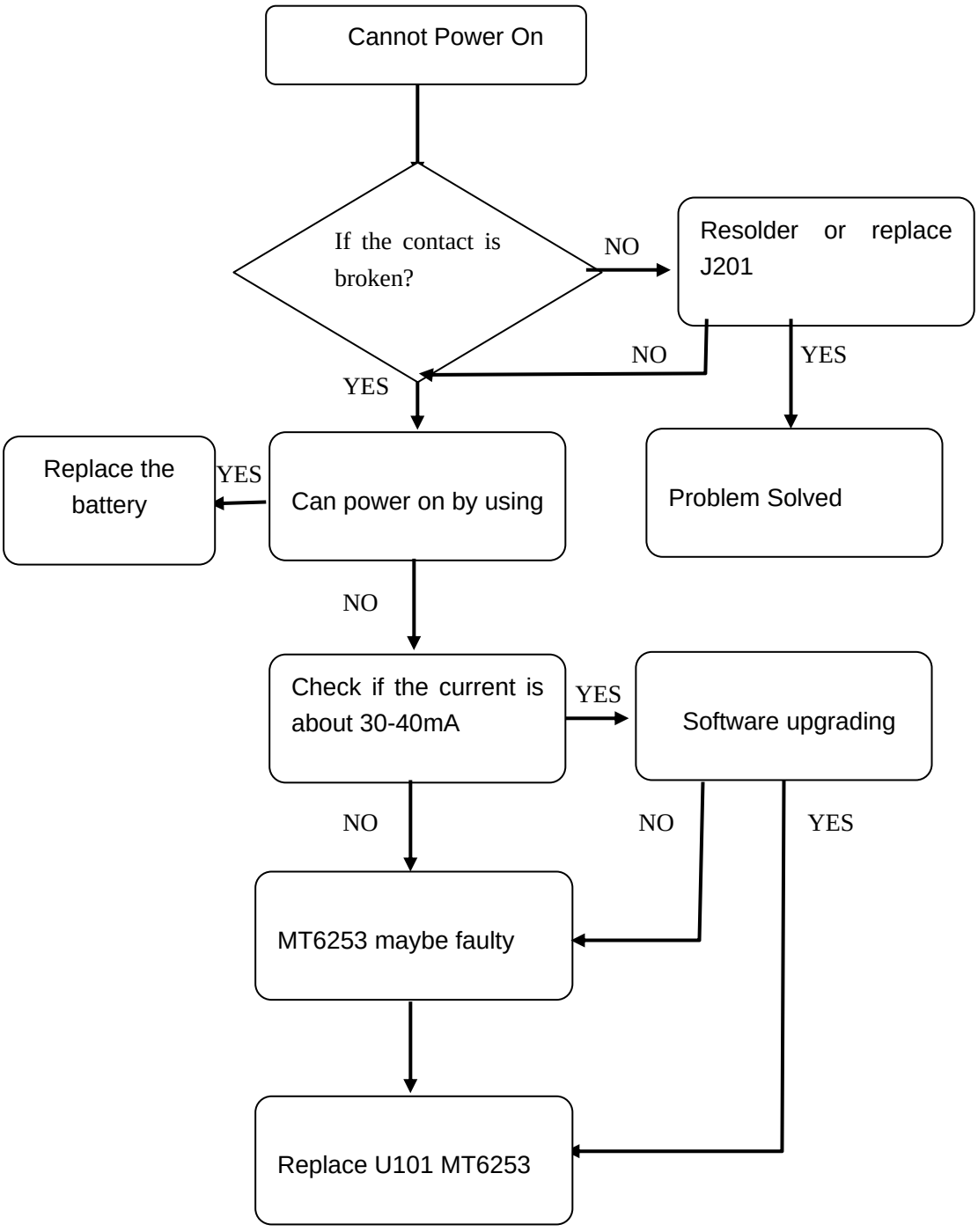
Download Problem



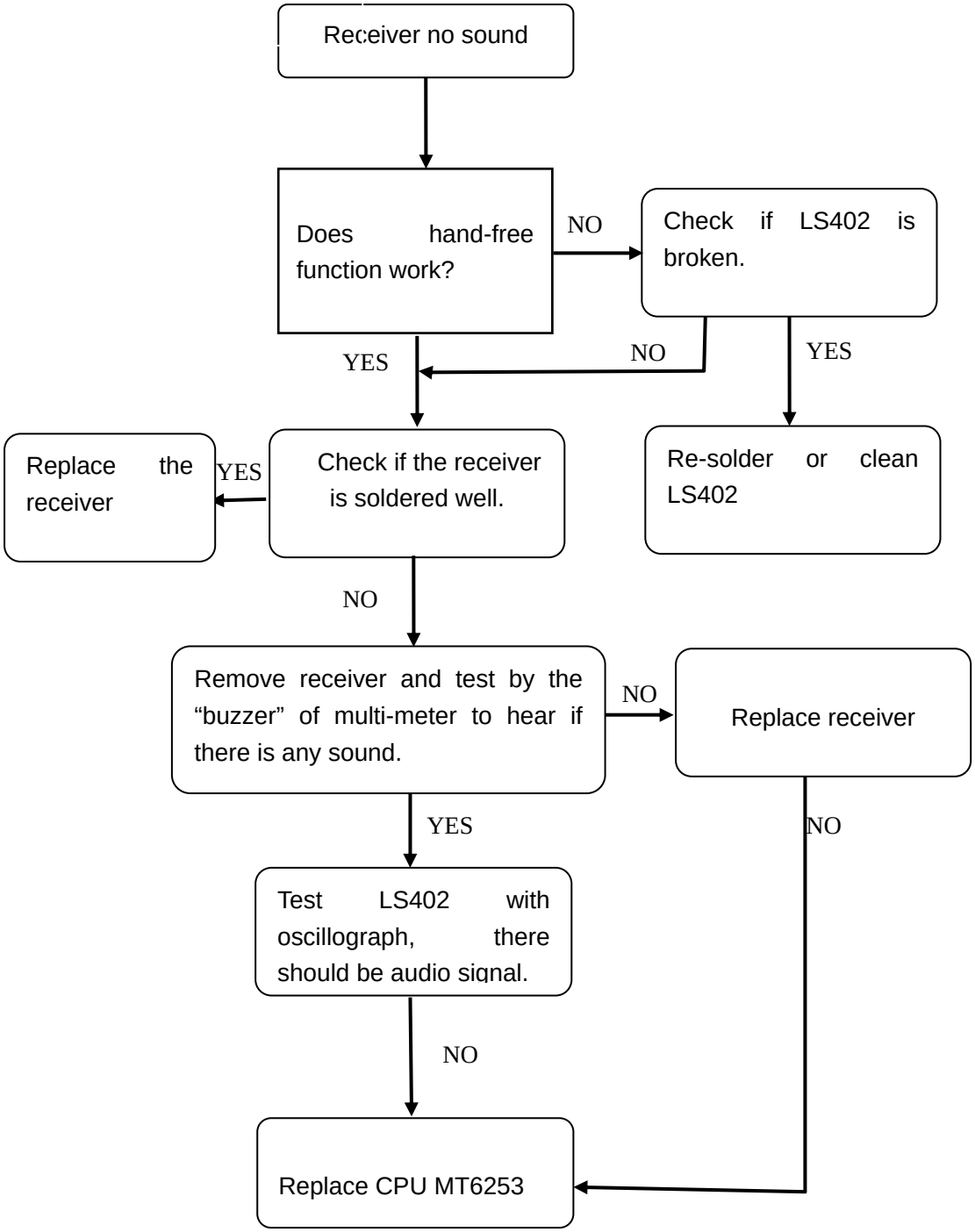
SIM cannot be recognized



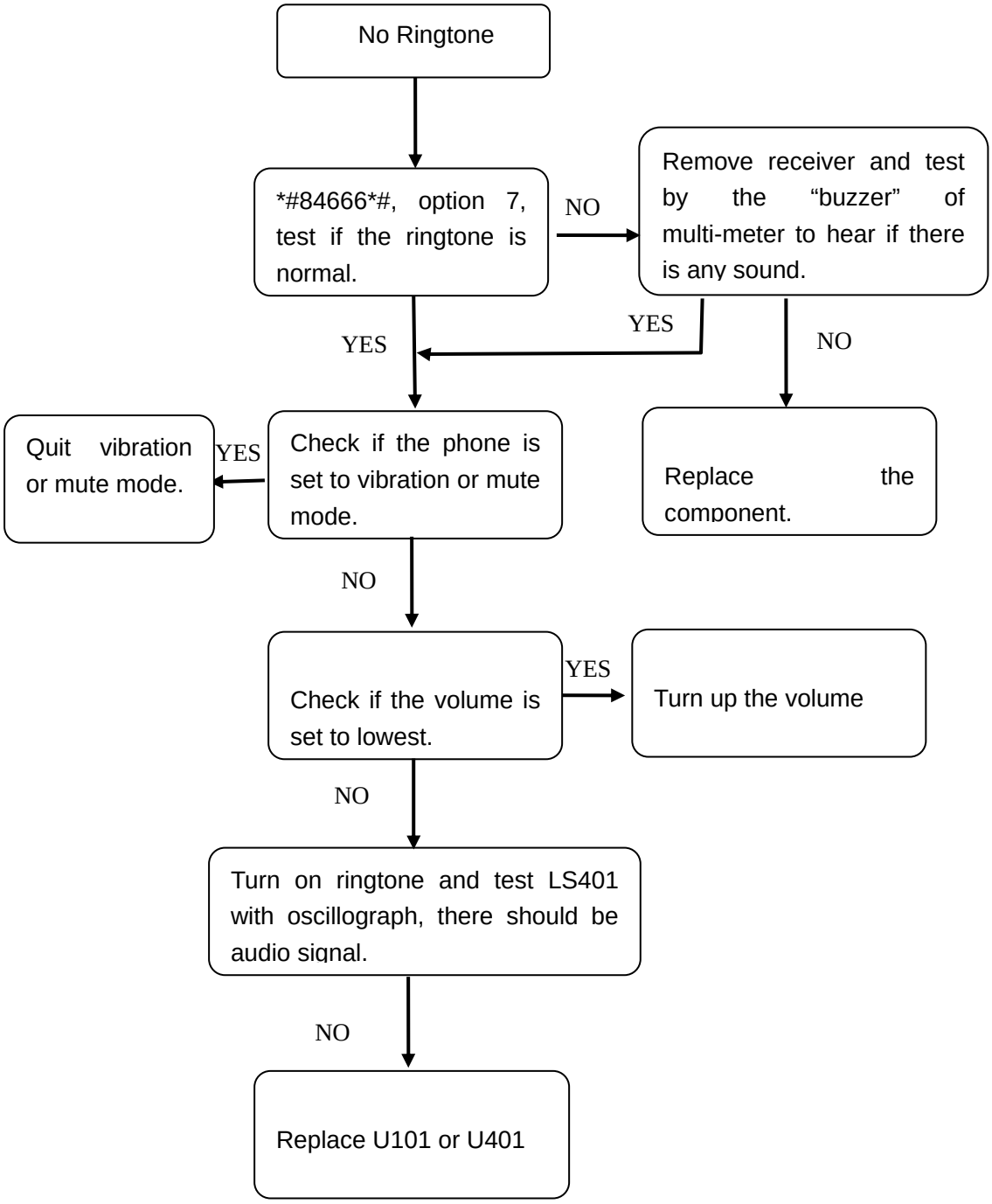
Cannot Power On



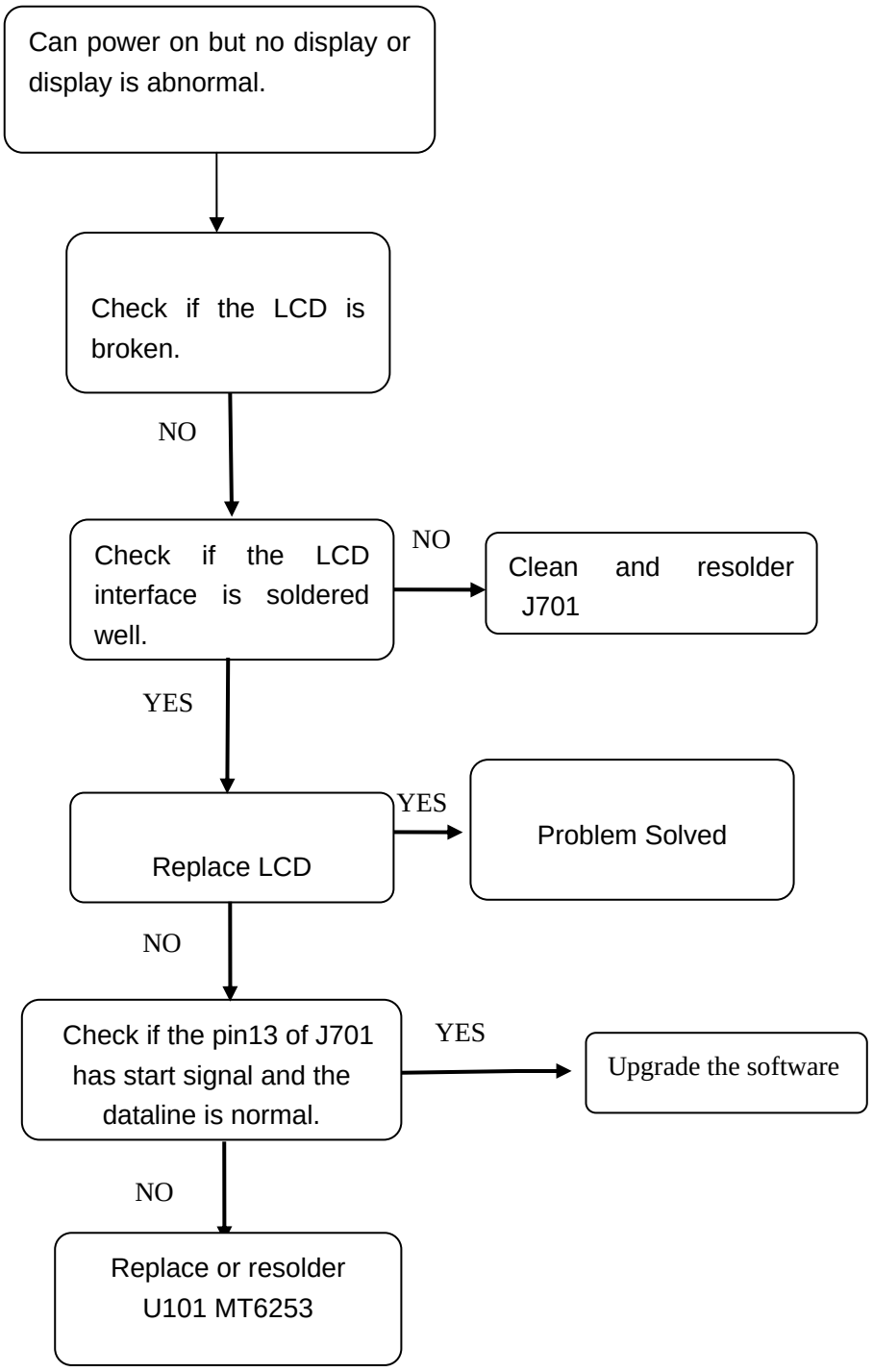
Receiver no sound



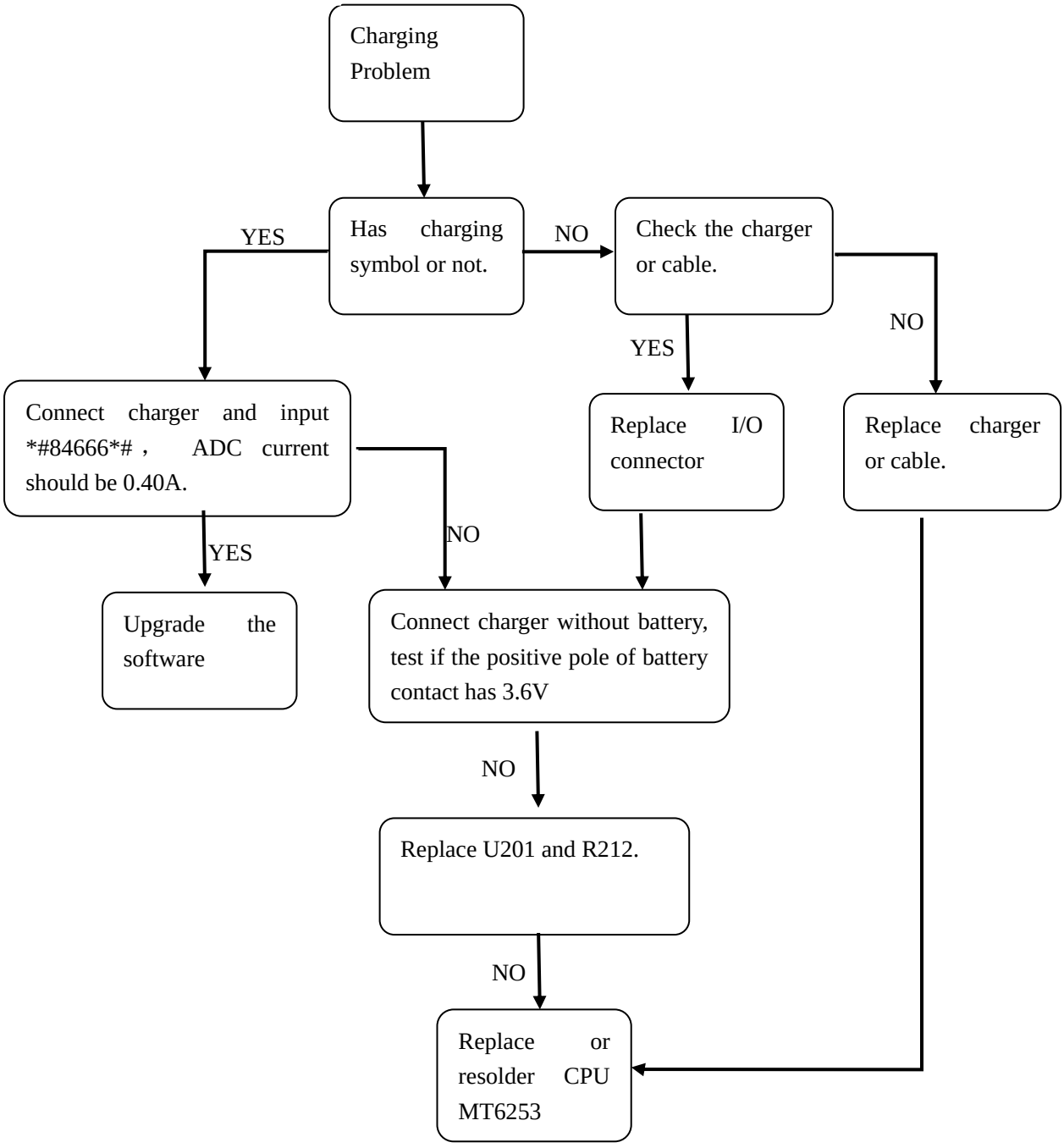
No Ringtone


No Ringtone
#84666#, option 7, test if the ringtone is normal.
NO
Remove receiver and test by the "buzzer" of multi-meter to hear if there is any sound.
YES
YES
NO
Quit vibration or mute mode.
YES
Check if the phone is set to vibration or mute mode.
Replace the component.
NO
Check if the volume is set to lowest.
YES
Turn up the volume
NO
Turn on ringtone and test LS401 with oscillograph, there should be audio signal.
NO
Replace U101 or U401

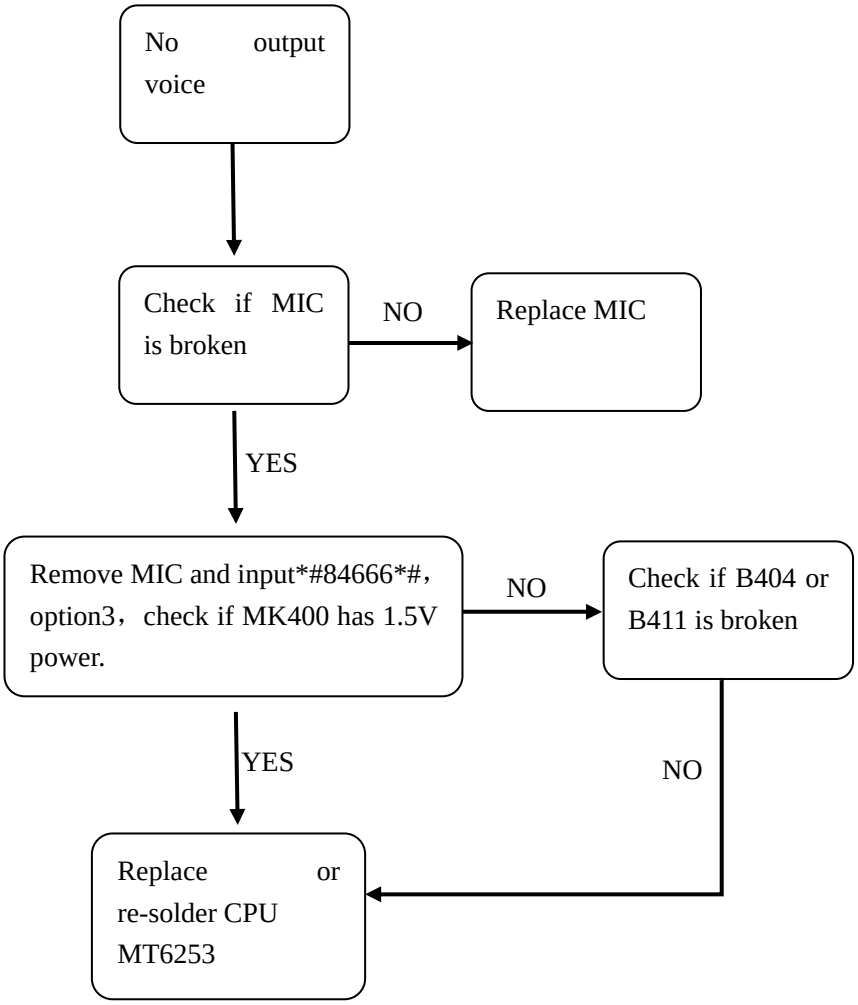
Display Problem



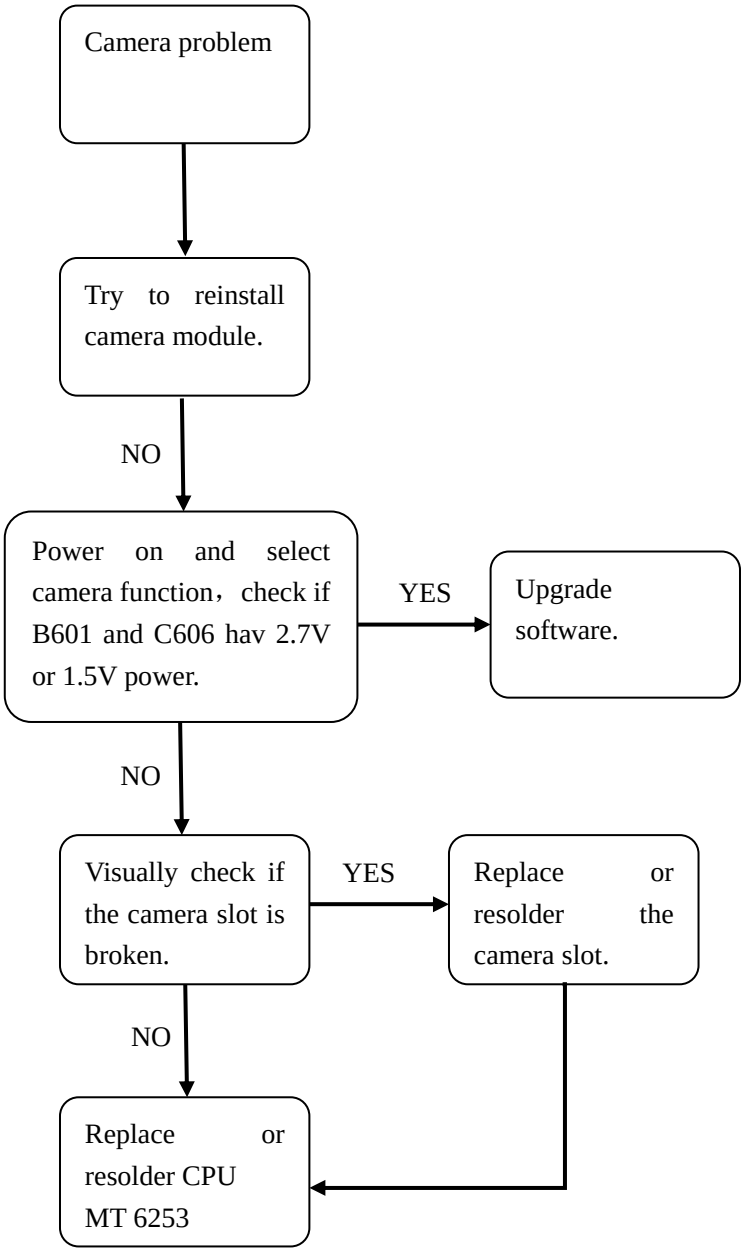
Charging Problem



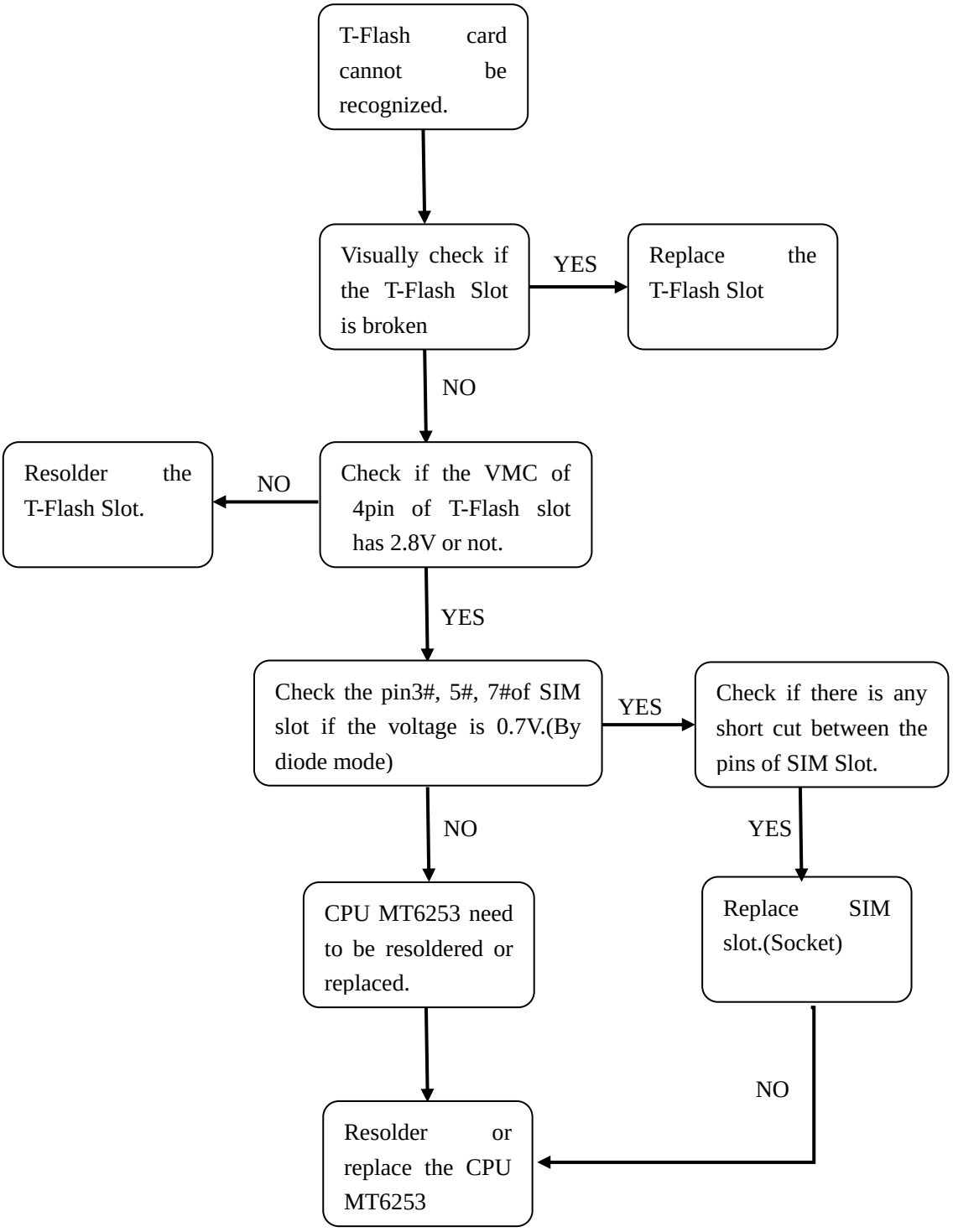
No output voice



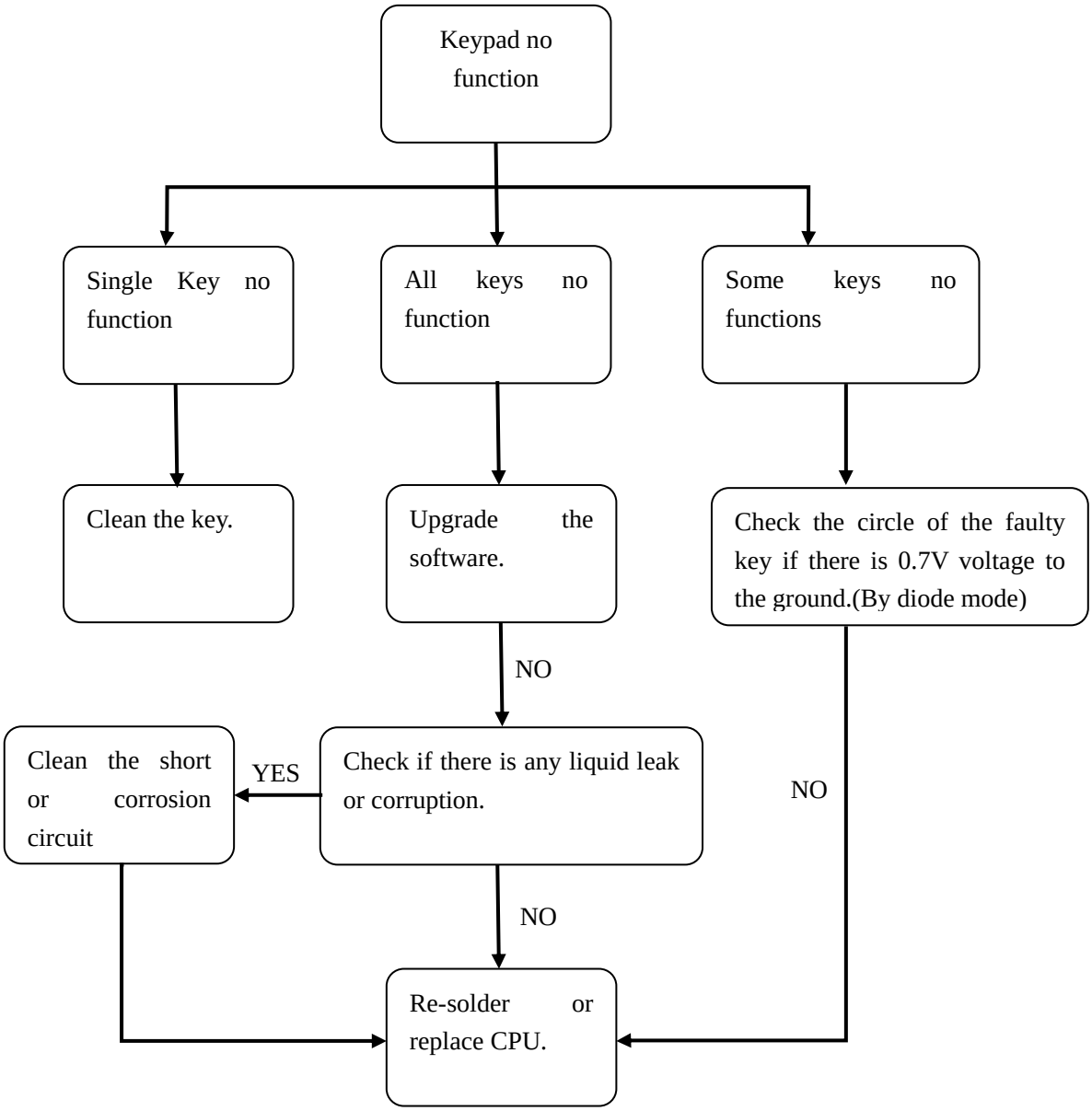
Camera Problem



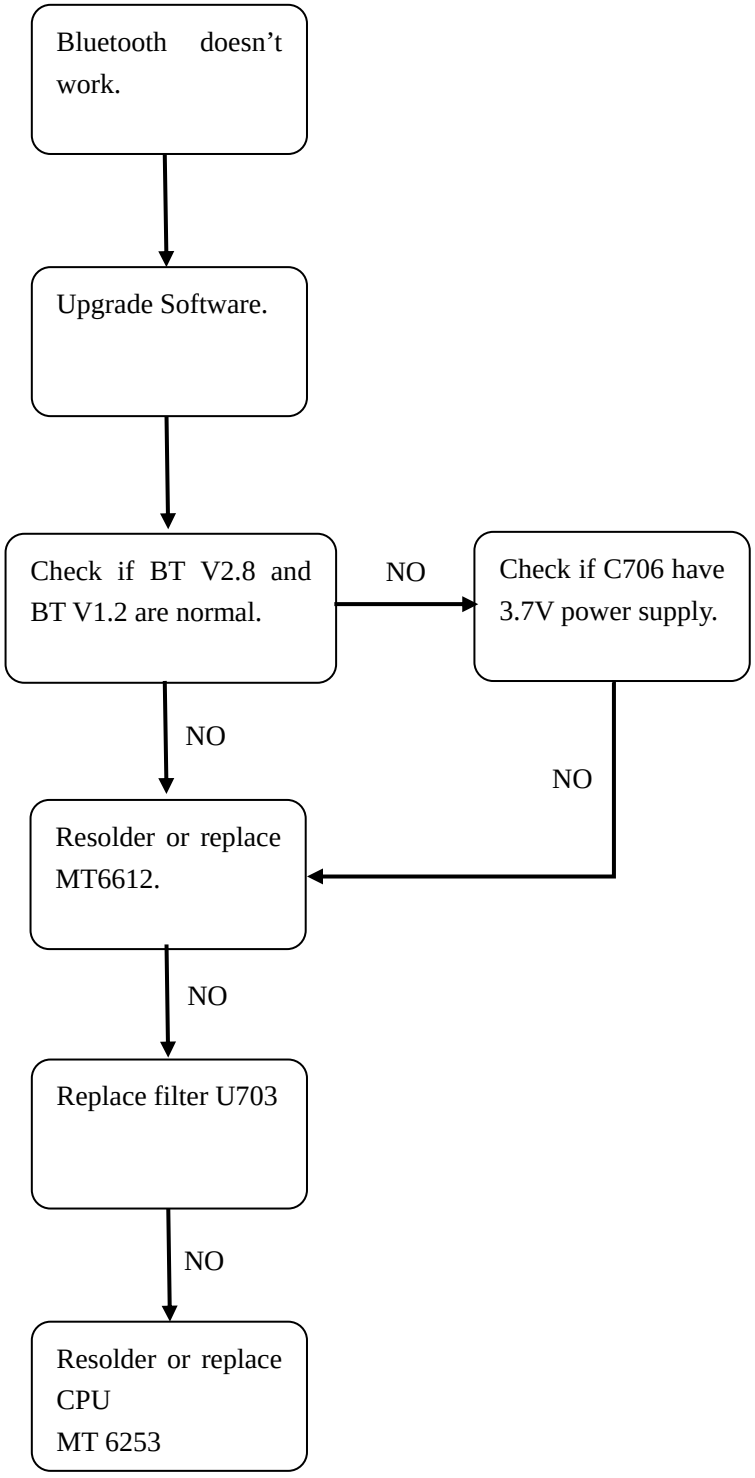
T-flash cannot be recognized



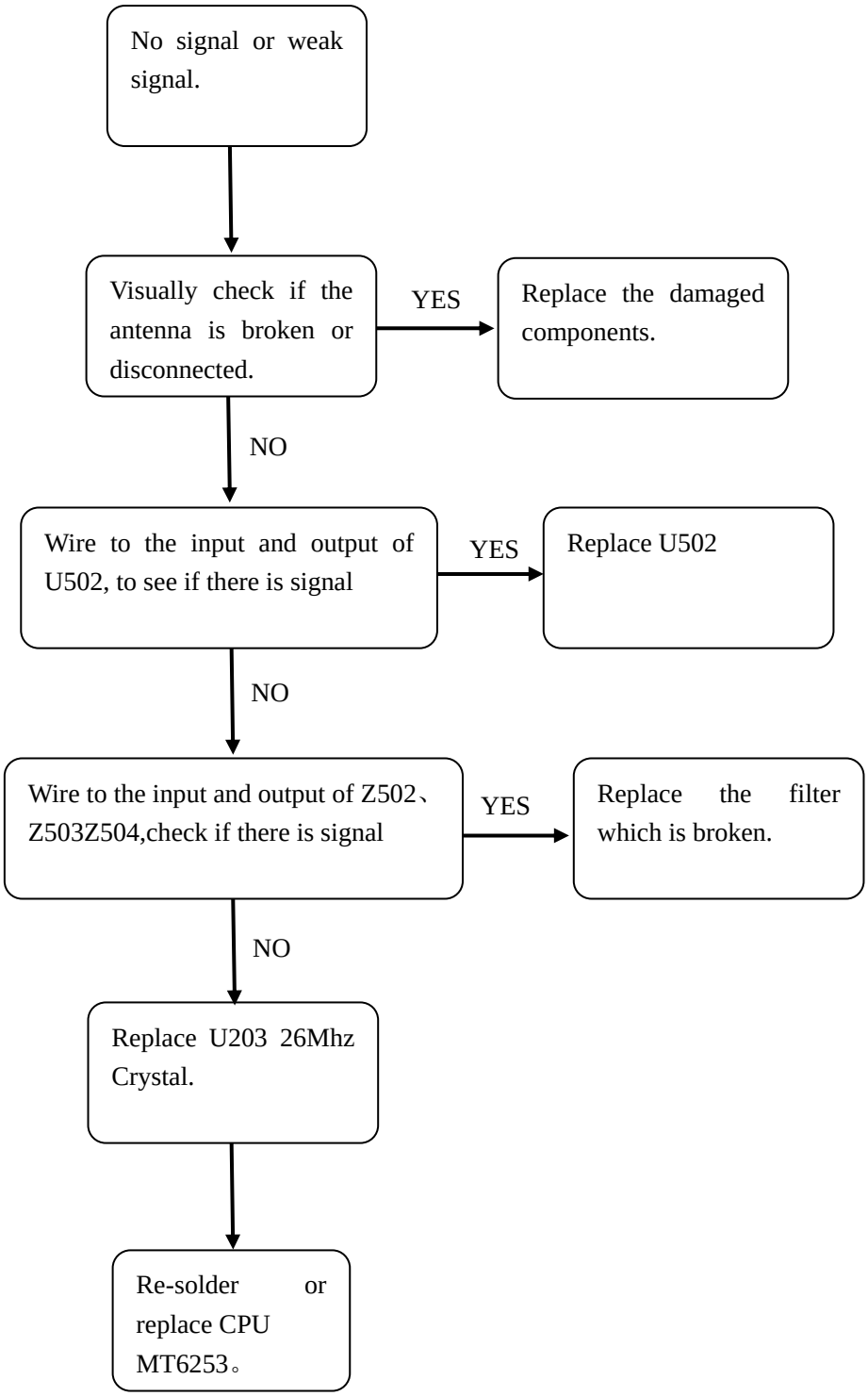
Keypad no function



Bluetooth Issue



Signal Issue



Chapter 9 Firmware Upgrading Guide

9.1 Firmware Upgrading

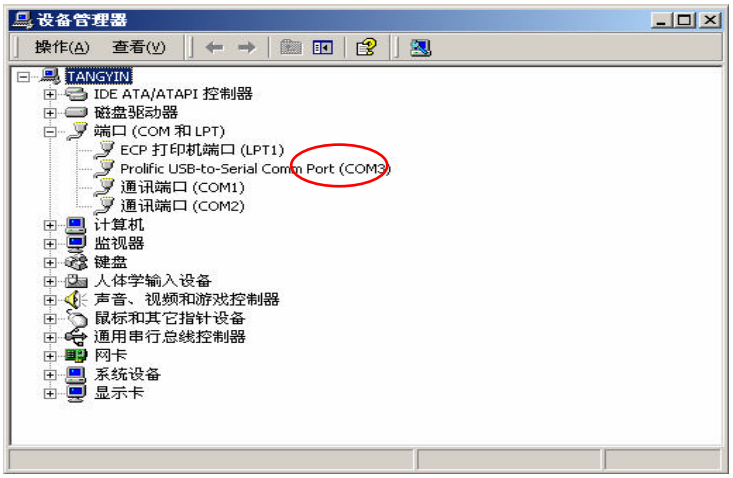
1. Install USB driver

The maximum downloading speed can be up to 921600bit/s when using USB-Serial cable.

The driver need to be installed before using the USB cable.

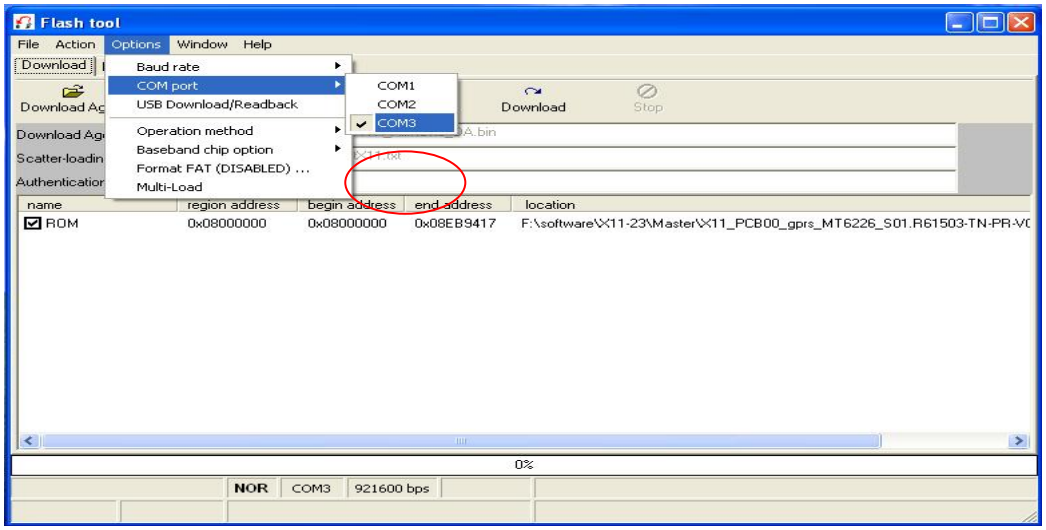
Please keep the USB cable unplugged when installing the driver.

Plug the USB cable when installing is completed. And check device manager of the PC.

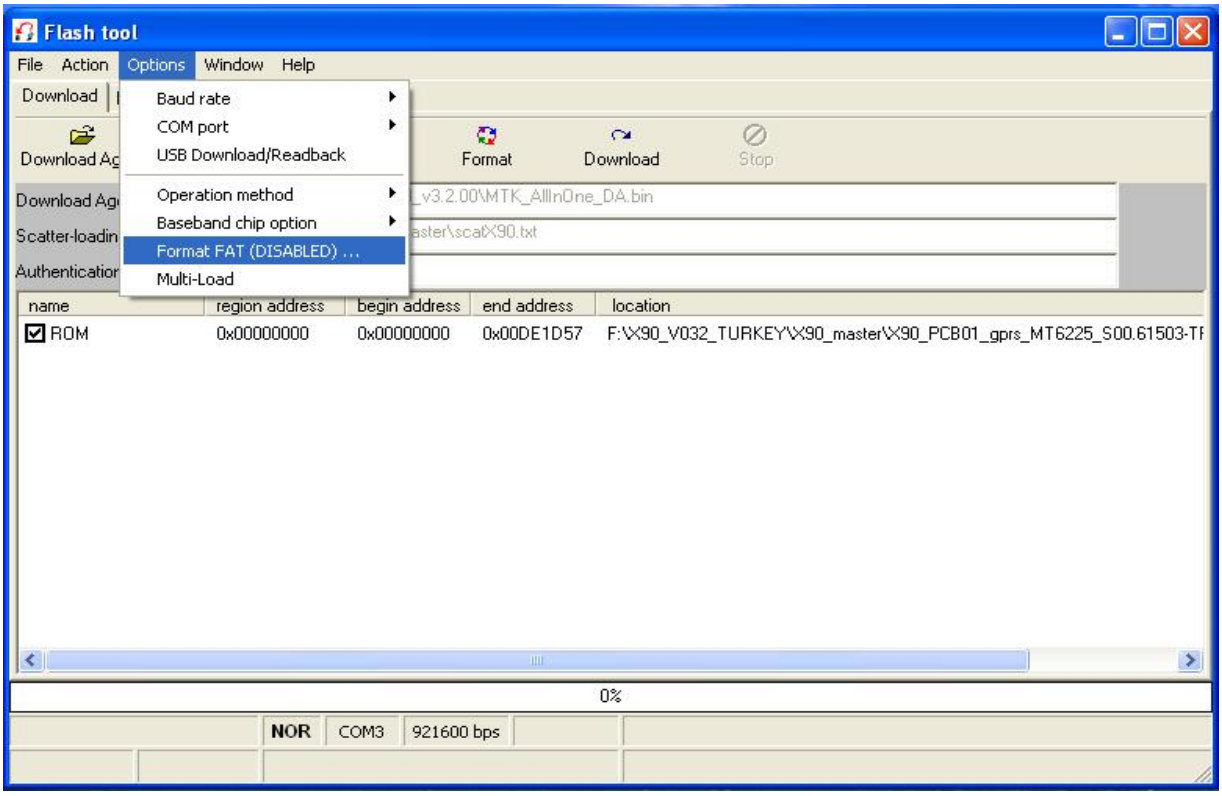


2. Run “FlashTool_v3.2”

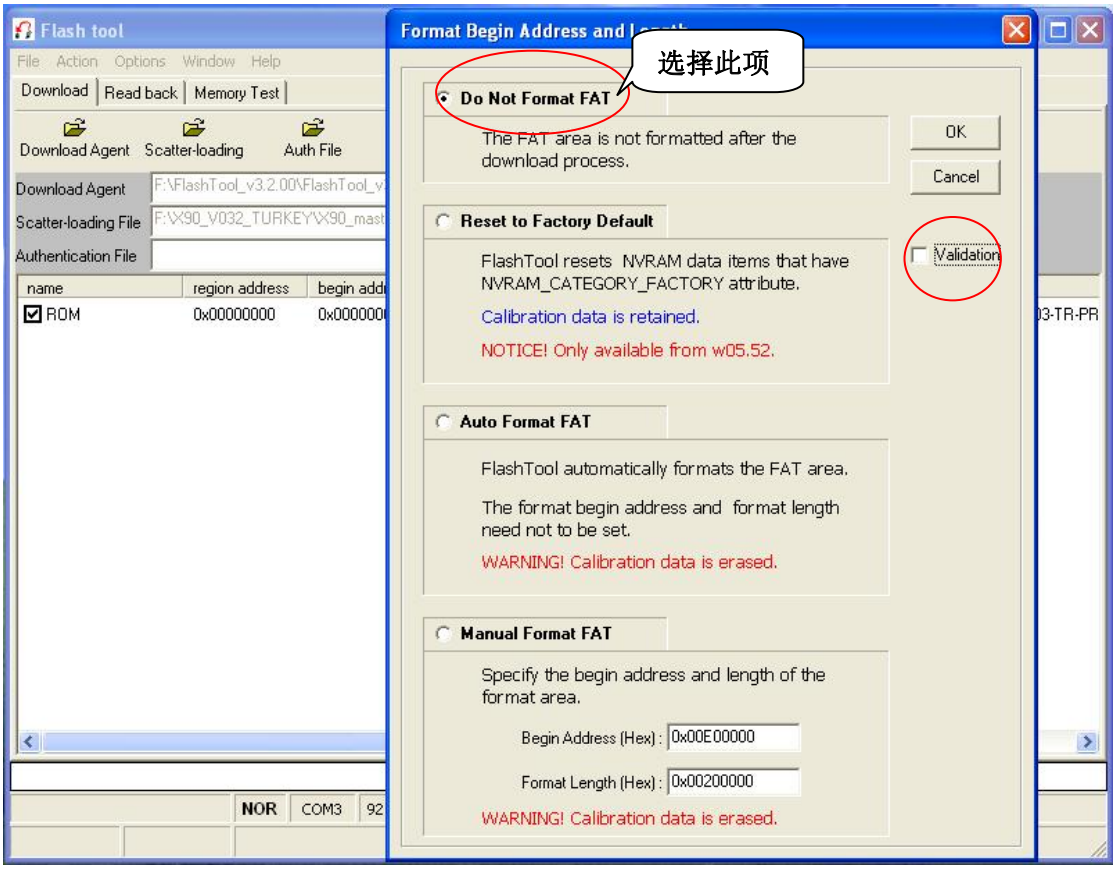
3. Please select “Options”-“COM port”-Choose the port which is same as the one in “Device Manager”



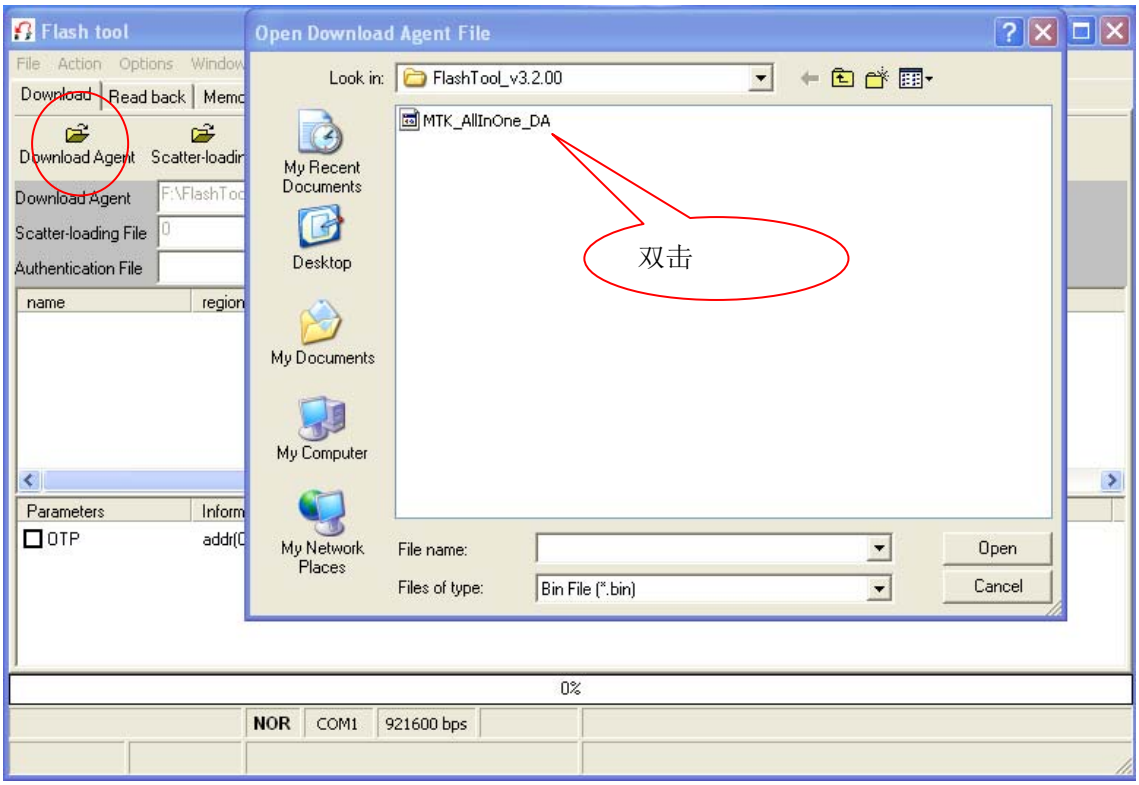
4. Select “Options”-“Format FAT (DISABLED)…” and please do NOT select “validation”.



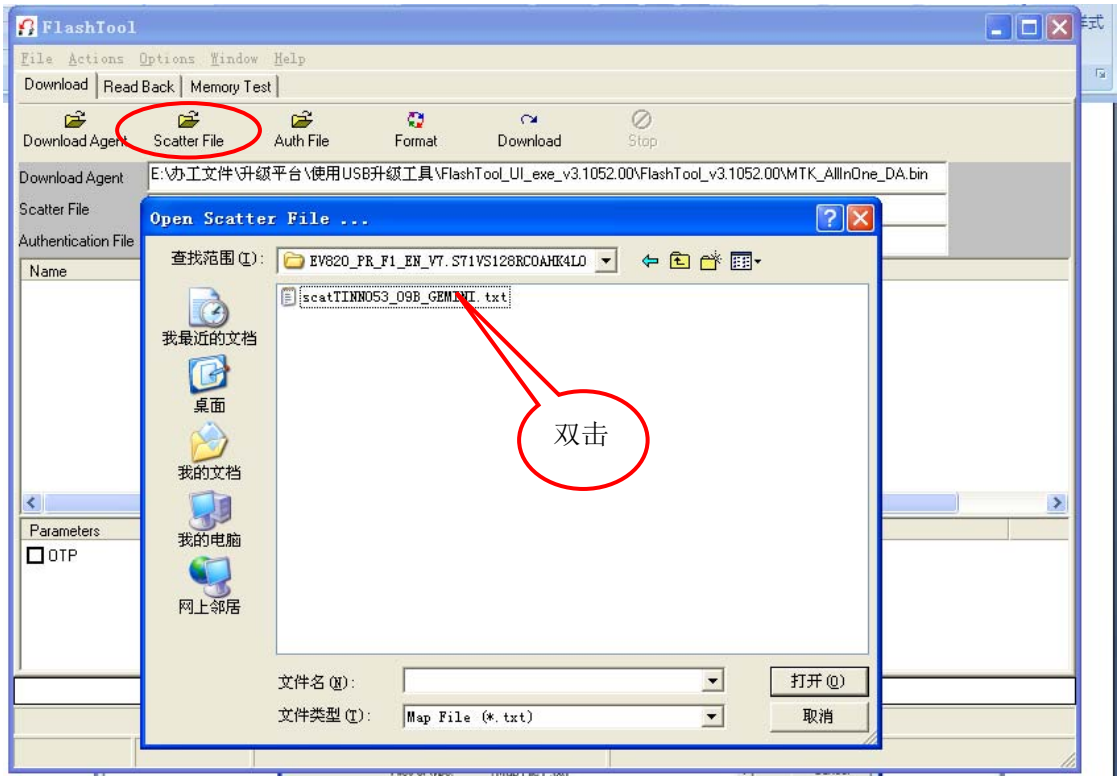
5. Pls Choose “Do Not Format FAT”.



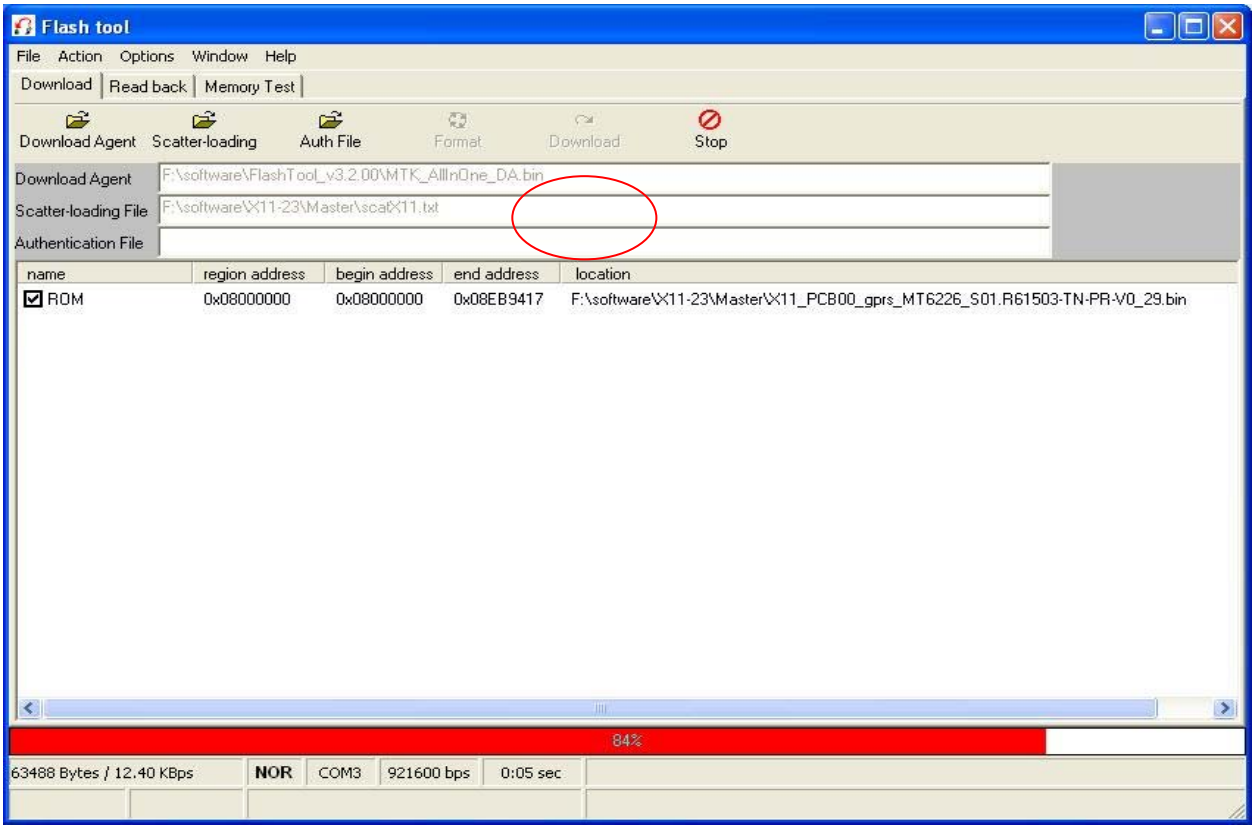
6. Click ‘’Download Agent’’ and then choose file ’’MTK-ALLInOne.bin’’



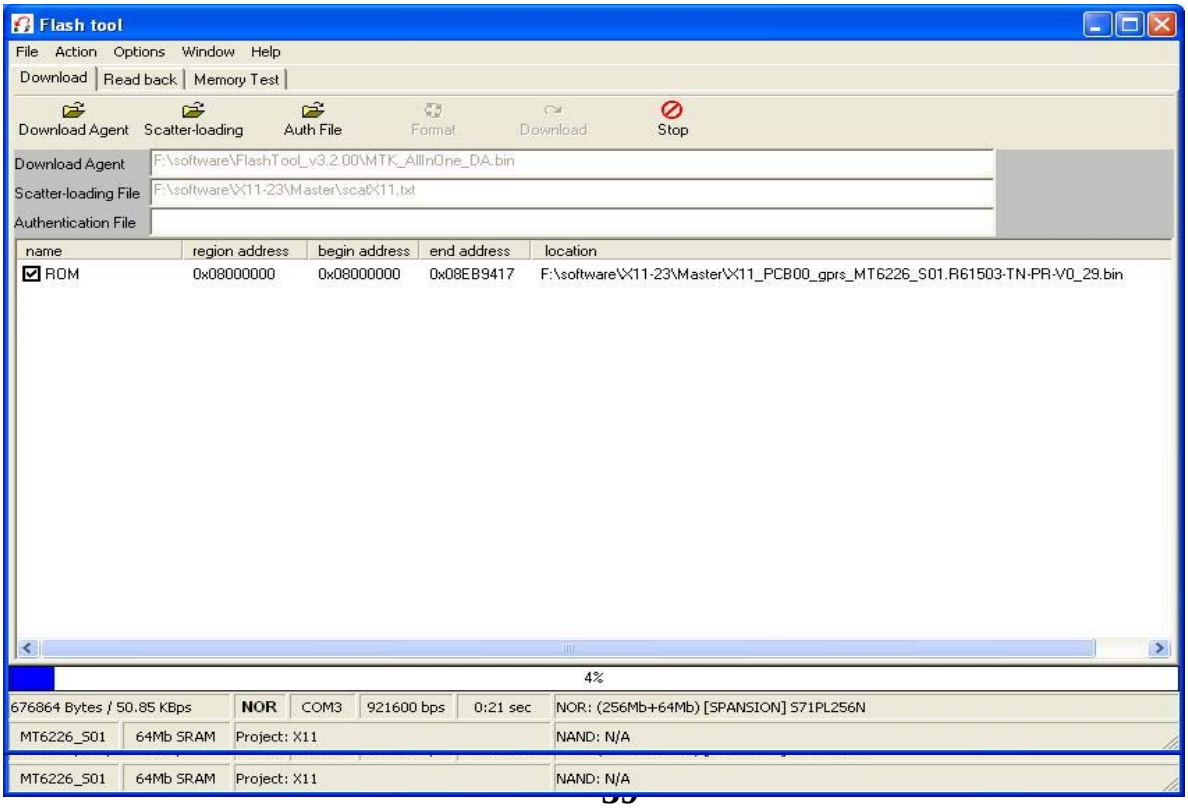
7. Click ‘’scatter file’’ and then choose file ’’scatinn-09B_GEMINI.txt’’



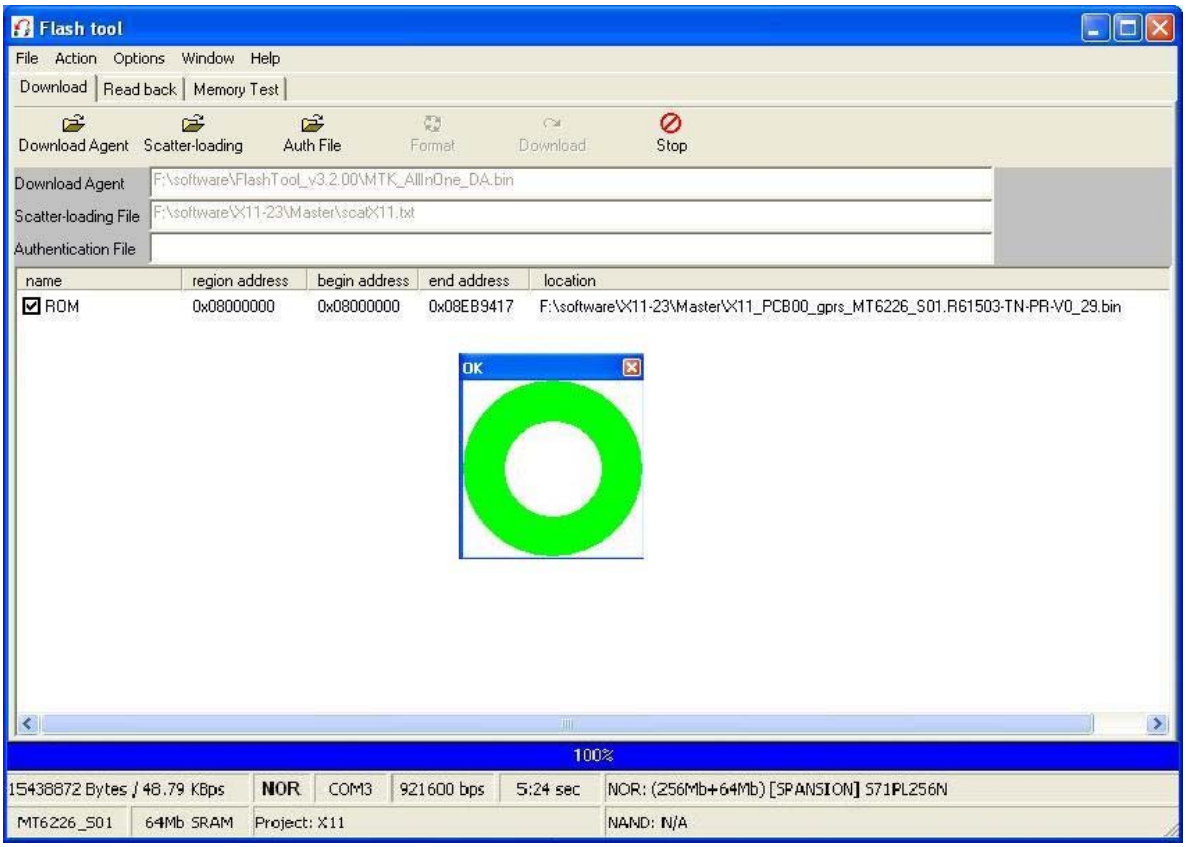
8. Power off the handset, remove the battery, click “Download”, and connect the cable with handset, then insert the battery, press the power on button, the red and blue progress bar shall appear.



9. Downloading is in process.



10. Downloading is completed.



9.2 IMEI Writing Guide

How to use IMEI_Writer to write IMEI

General

The IMEI_Writer software should be used in a Windows XP operation system. The pictures in this document help to understanding, and thy may not be exactly the same as showed in your computer.

1. write IMEI to the slave phone of MGSM 41B phone to give an example.

Firstly, plug the correct upgrade cable to the computer. This is necessary, or the software will not be run normally. Double-click the logo in figure 1-1 to run the IMEI Writer in a Windows XP operation system.

figure 1-1

For the first time you run IMEI_Writer in the computer, figure 1-2 occurs. Choose the right database file for the slave phone of MGSM 41B phone referring to figure 1-3.

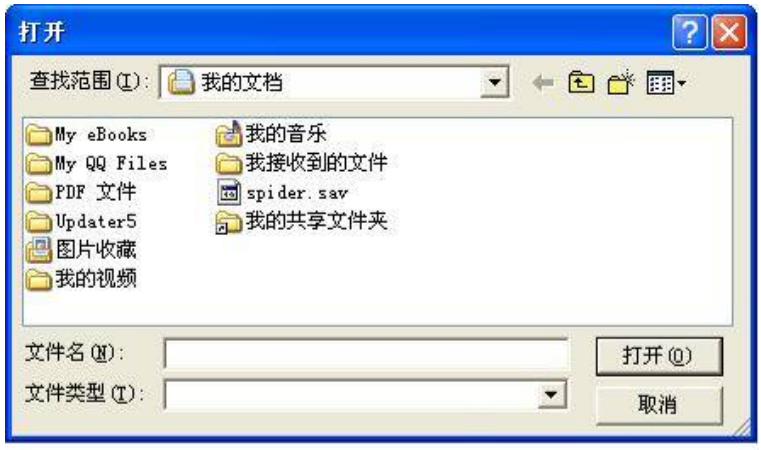


Figure 1-2

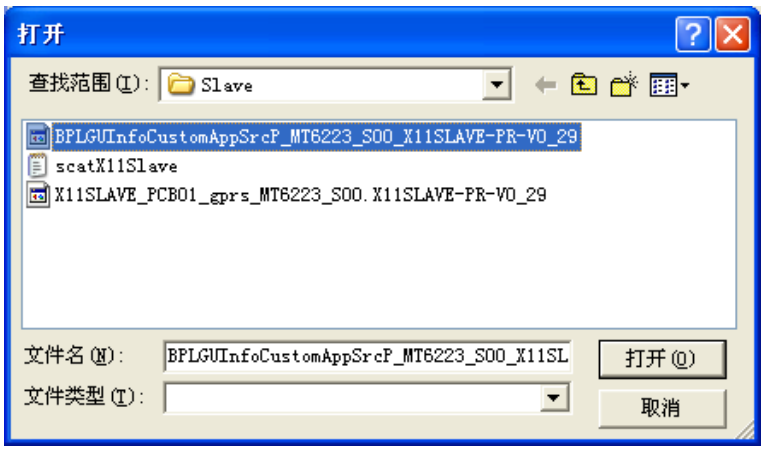


Figure 1-3

1.1 input the IMEI of the slave phone referring to figure 1-4, click “Restart”, after 3 seconds plug the slave phone cable connector to the phone and power on the phone.

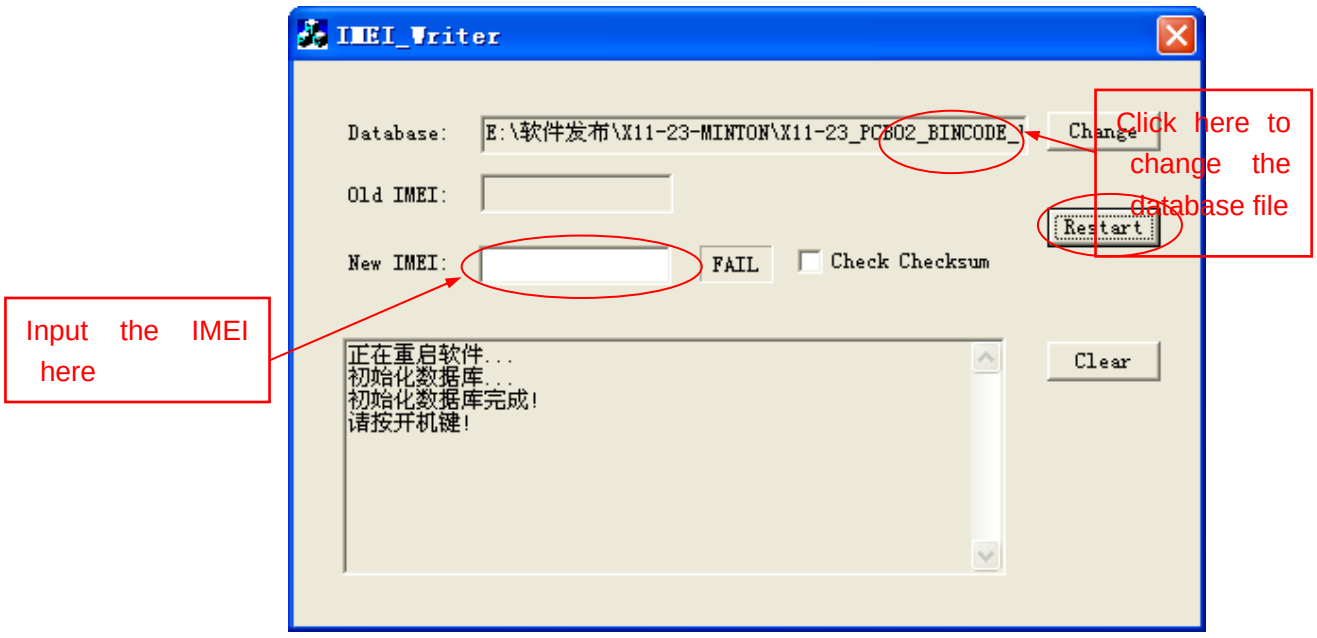


Figure 1-4

1.2 after several seconds, figure 1-5 occurs to show the slave phone is written to the phone successfully..

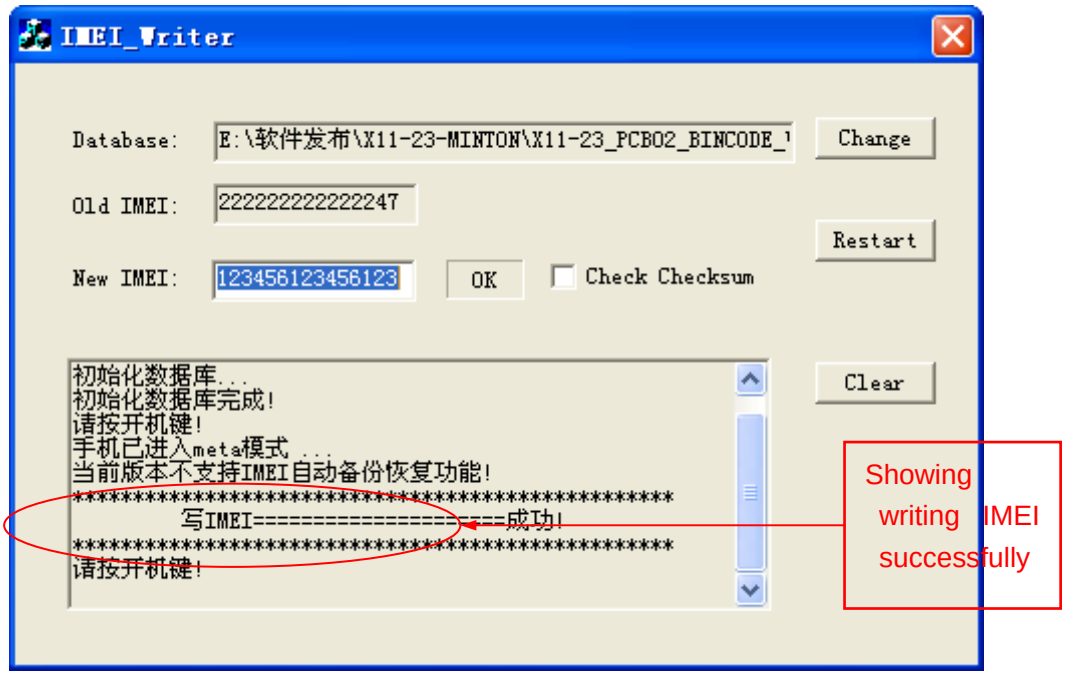


Figure 1-5

2 write the IMEI of the master phone.

If necessary, you can also use IMEI_Writer to write IMEI to the master phone conveniently.

2.1 Change the database file to be for the master phone , referring figure 1-4.

2.2 input the IMEI of the master phone, click “Restart”, after 3 seconds plug the master phone cable connector to the phone and power on the phone.

2.3 after several seconds, figure 1-5 occurs to show the slave phone is written to the phone successfully.

3 write the IMEI of another phone

If the right database file has already been choosed, click the “restart”, input the IMEI of the phone, click “Restart”, after 3 seconds plug the phone cable connector to the phone and power on the phone. after several seconds, figure 1-5 occurs to show the slave phone is written to the phone successfully.

Chapter 10 CIT Testing

Input “*#84666*#” when in the standby mode:

1、Version: Confirm the firmware version.

3、Echo Loop: Receiver shall produce sound when blowing over the mic.

4、Keypad: Press every button on the handset until the screen is clear.

5、Vibrator：Press “start” then the vibration shall start.

6、Lond SPK: Press “start” the speaker shall work.

7、Ringtone: Press “start” the ringtone shall be played.

8、LED：Press “OK” to test the LED.

9、LCD: Select “Auto Display” LCD shall perform the self-testing.

11、Receiver：Press ”start” the receiver shall produce sound.

Camera: Menu- Camera, test the capture and shooting, no need to save.

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