BLU™

PRODUCTS

BLU STUDIO 5.0 II

SERVICE MANUAL

CAUTIONS

Please refer to the phone's user's guide for instructions relating to operation, care, and maintenance, which include important safety information.
Servicing and alignment must be undertaken by qualified personnel only.
Ensure all work is carried out at an anti-static workstation and that an anti-static wrist strap is worn.
Use only approved components as specified in the parts list.
Ensure all components, modules, screws, and insulators are correctly re-fitted after servicing and alignment
Ensure all cables and wires are repositioned correctly
Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore, every service supplier must observe the precautions which mentioned above.

CONTENTS

Content

CHAPTER 1 INTRODUCTION

Studio5.0II Main Function

Full Touch Smartphone

Android 4.2

CPU MT 6572W (1.3GHZ, dual-core)

5.0 " FWVGA IPS LCD

Camera： 5.0MP camera AF , sub: 0.3MP FF(PIP)

BT 4.0 , WIFI :802.11b, 802.11g, 802.11n
FM ,GPS, SENSOR, PIP

Flash Memory: 4GB+512MB

Dual SIM

SPEC：

Network：

2G: M 850/900/1800/1900

3G: 900/1700/1900MHz(Option)

Size：146*73*9.7mm

Bluetooth：Support BT 4.0

Wi-Fi: 802.11b, 802.11g, 802.11n

Lithium Battery: 2000mAh Lipolymer battery

USB: Micro USB 2.0

CHAPTER 2 SERVICE TOOLS

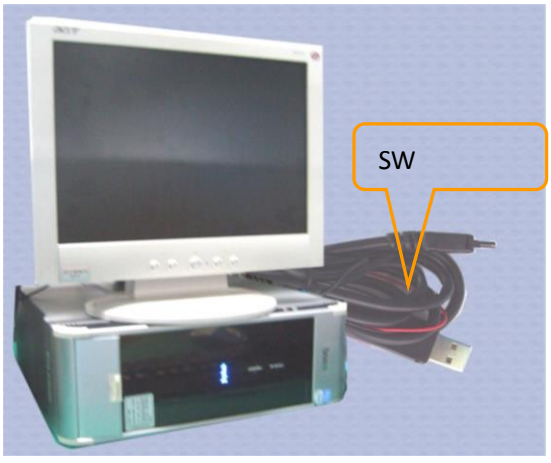
Iron

Hot air gun

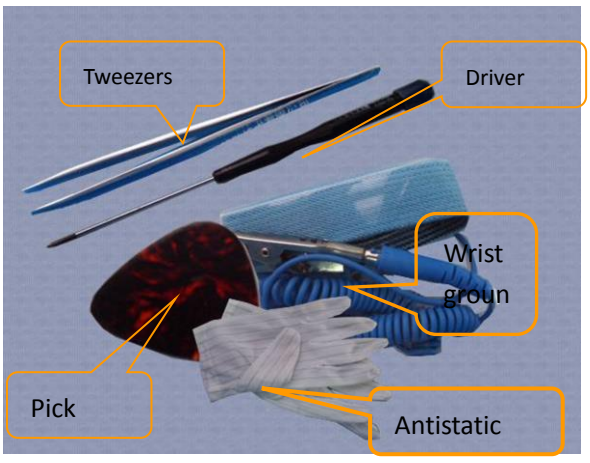
Voltage regulator

Multimeter

Solder wire, soldering paste



Computer and software download cable



Metal tweezers, Screw driver etc

CHAPTER 3 DISASSEMBLY AND ASSEMBLY

3.1 DISASSEMBLY

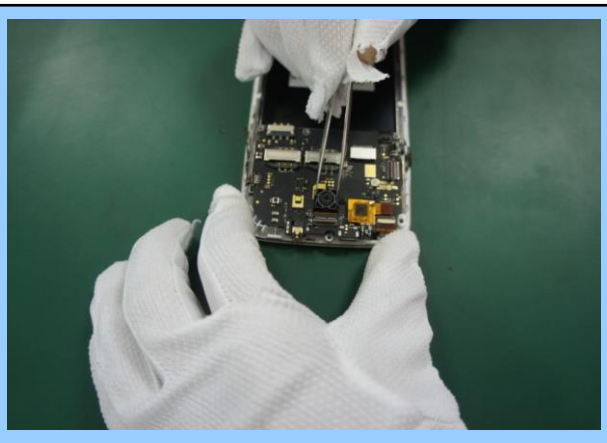
Remove the Battery cover..... 1

Remove the Middle cover.....2

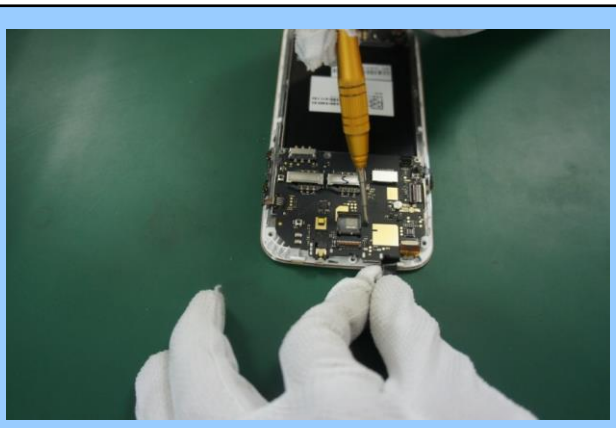
Remove the Power key Plastic.....3

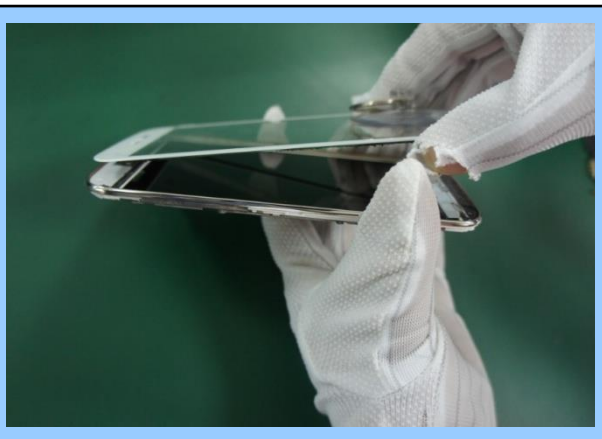
Remove the RF coaxial Line.....4

Remove the LCD FPC.....5



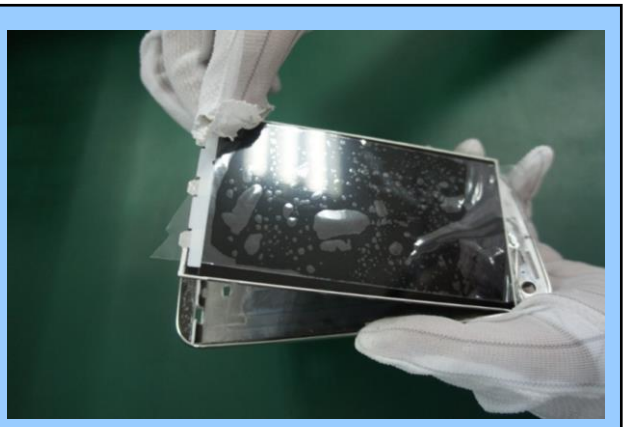
Remove the Main camera..... 6





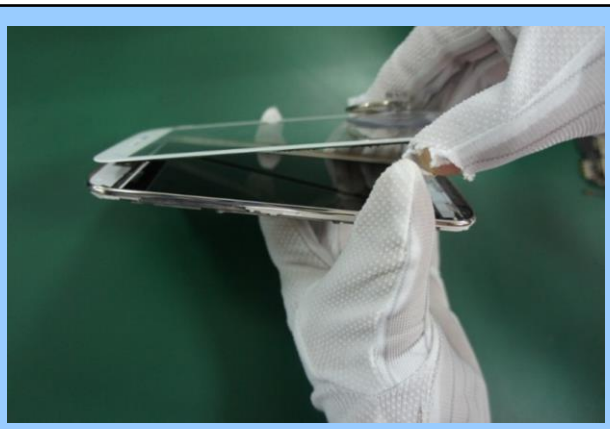
Finished。。。。。。。

3.2 ASSEMBLY



Install the LCD.....1

Tear off protection film.....2

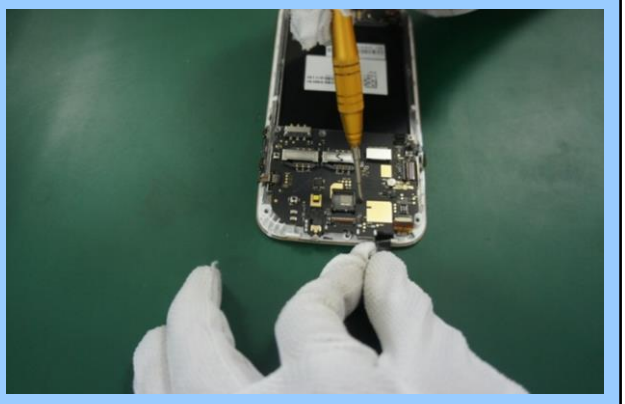


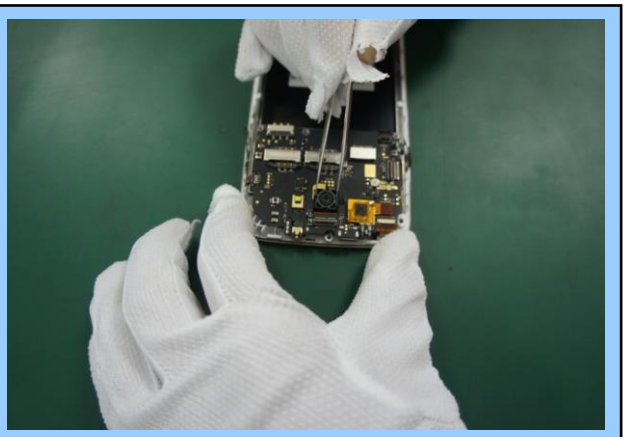
Install the TP.....3

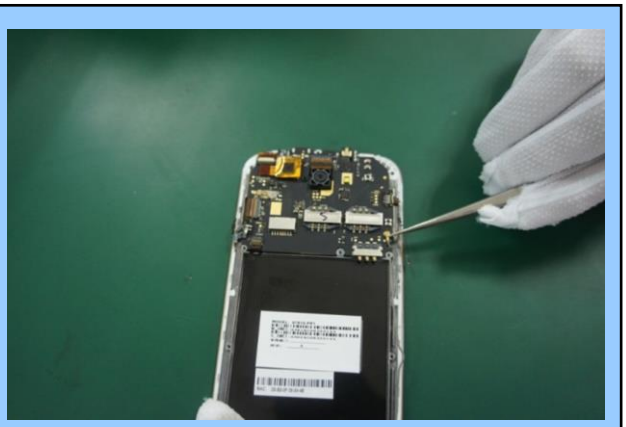
Install the PCBA.....4

Install the speaker PCBA.....5

Install the RF coaxial Line..... 6





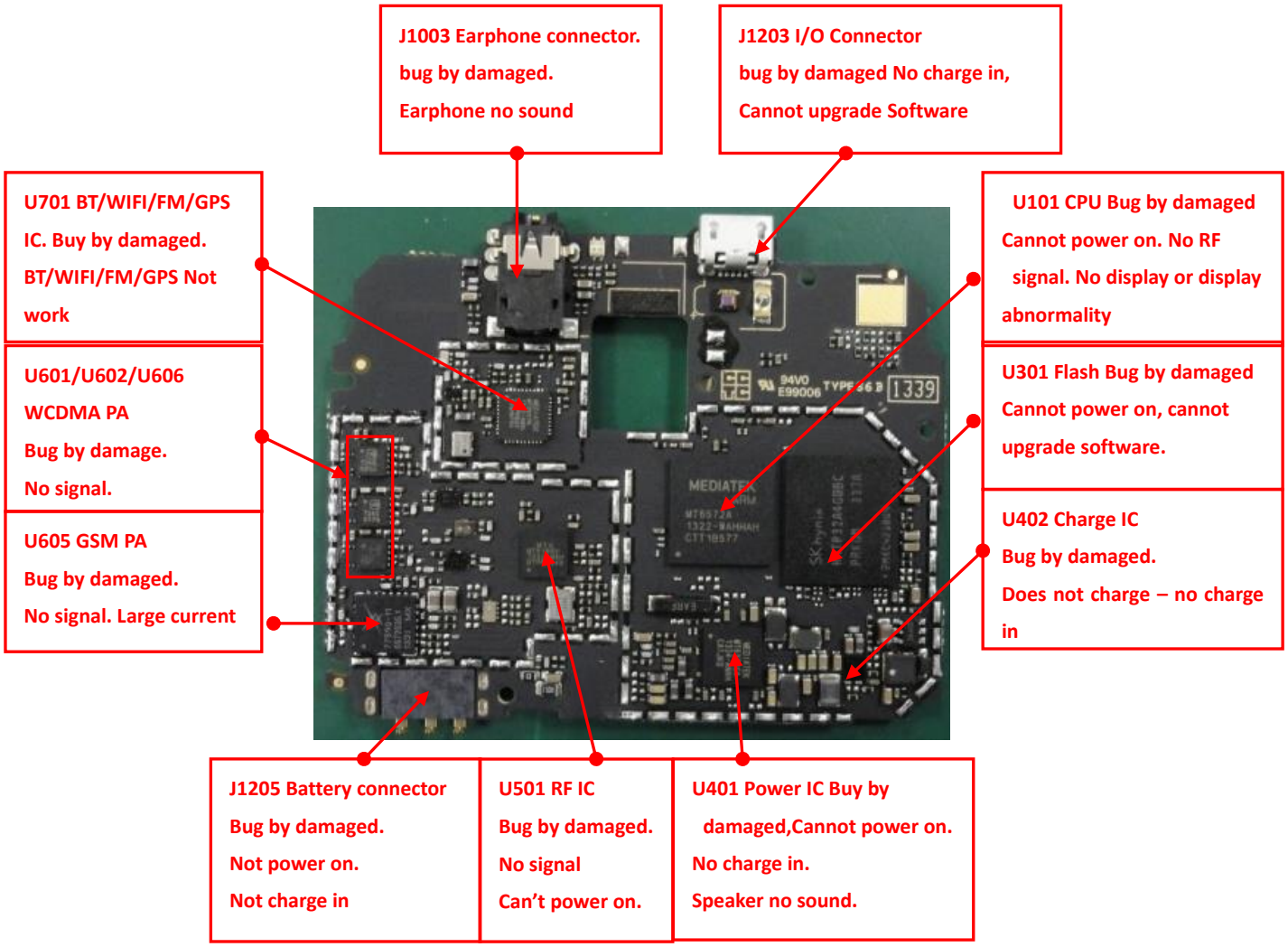


Install the Battery cover.....14

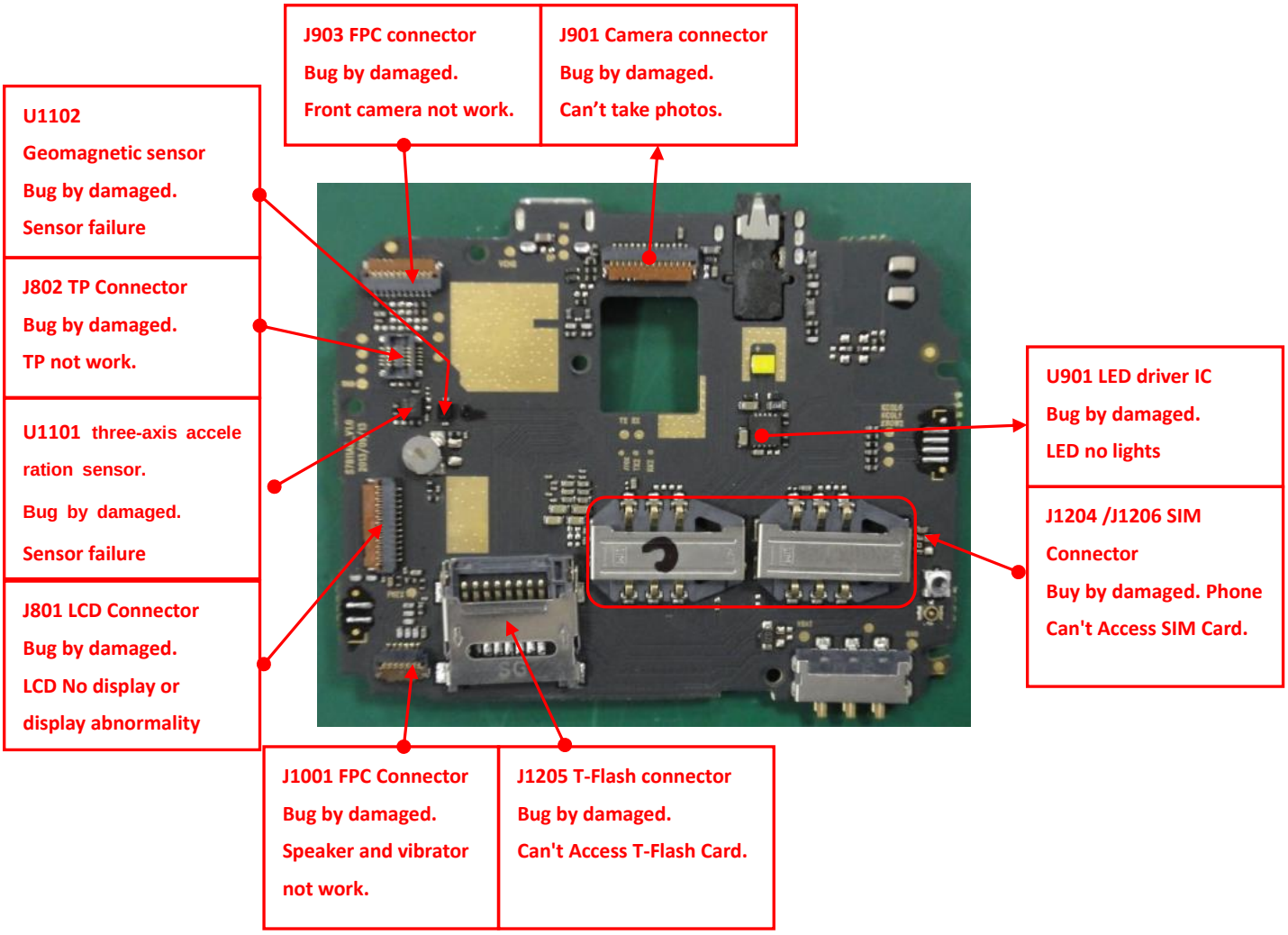
Finished……

CHAPTER 4 SYSTEM BLOCK DIAGRAM

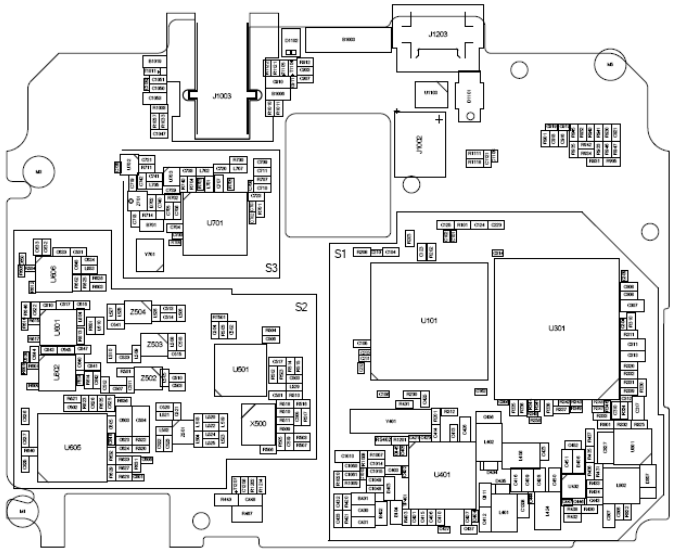
5.1 PCBA A-Side



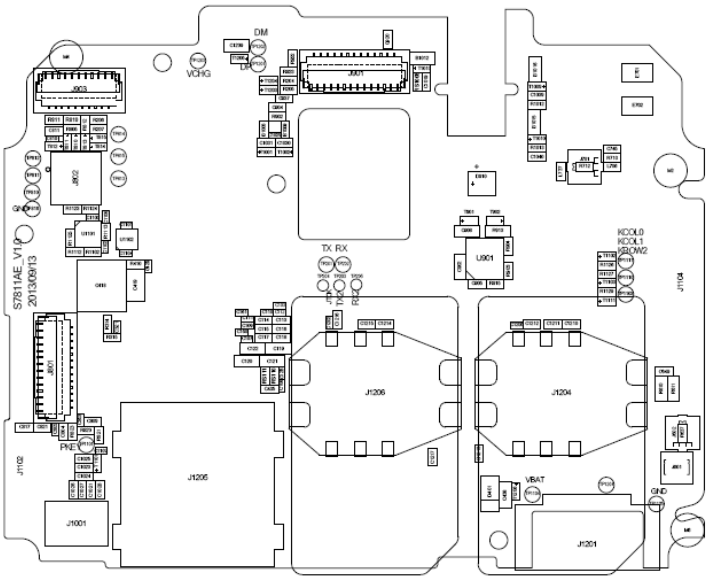
PCBA B-Side


J903 FPC connector
Bug by damaged.
Front camera not work.
J901 Camera connector
Bug by damaged.
Can't take photos.
U1102
Geomagnetic sensor
Bug by damaged.
Sensor failure
J802 TP Connector
Bug by damaged.
TP not work.
U1101 three-axis accele ration sensor.
Bug by damaged.
Sensor failure
J801 LCD Connector
Bug by damaged.
LCD No display or display abnormality
U901 LED driver IC
Bug by damaged.
LED no lights
J1204 /J1206 SIM Connector
Buy by damaged. Phone Can't Access SIM Card.
J1001 FPC Connector
Bug by damaged.
Speaker and vibrator not work.
J1205 T-Flash connector
Bug by damaged.
Can't Access T-Flash Card.

Side A layout



Side B layout

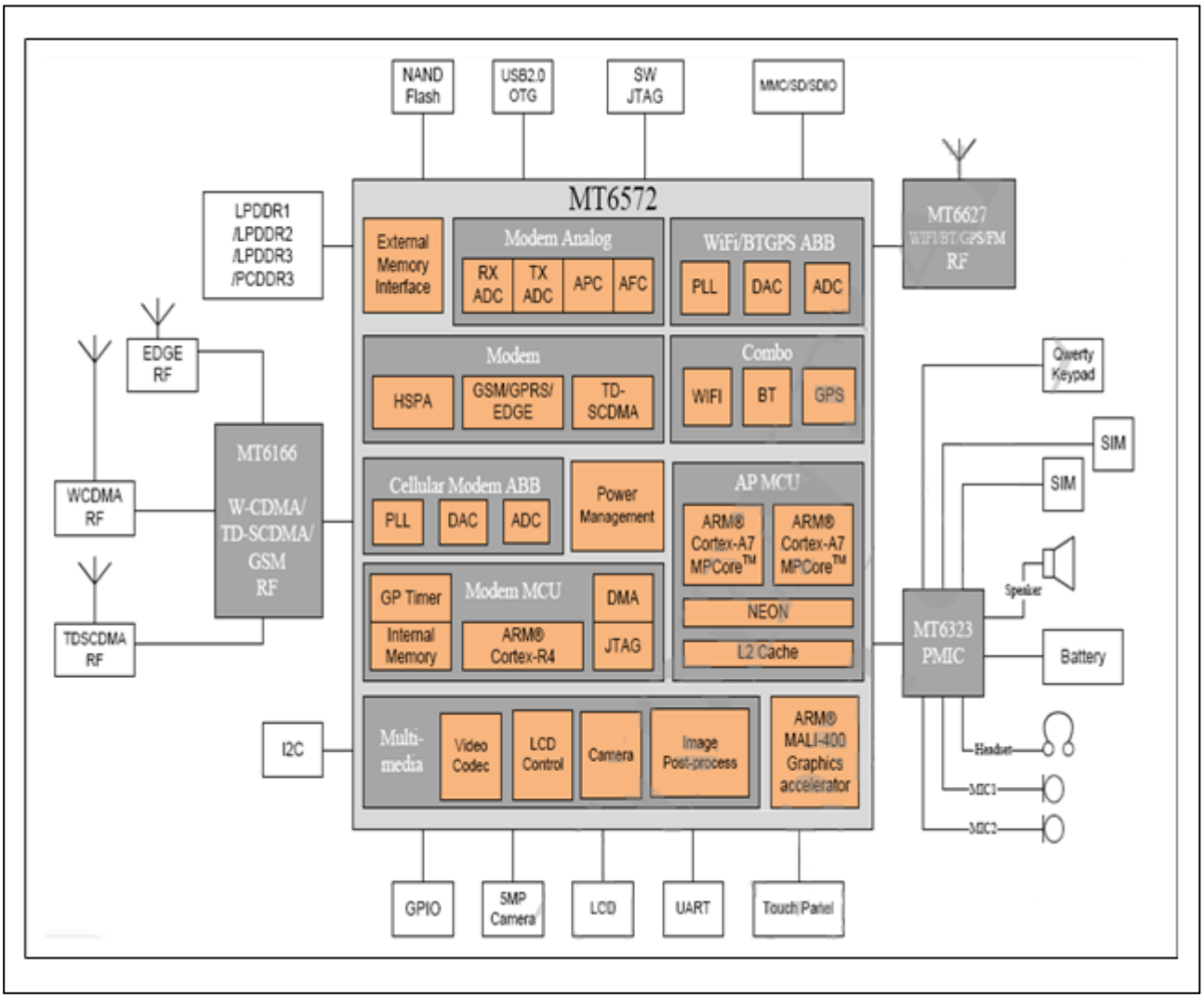


CHAPTER 5 UNIT CIRCUIT PRINCIPLE INTRODUCTION

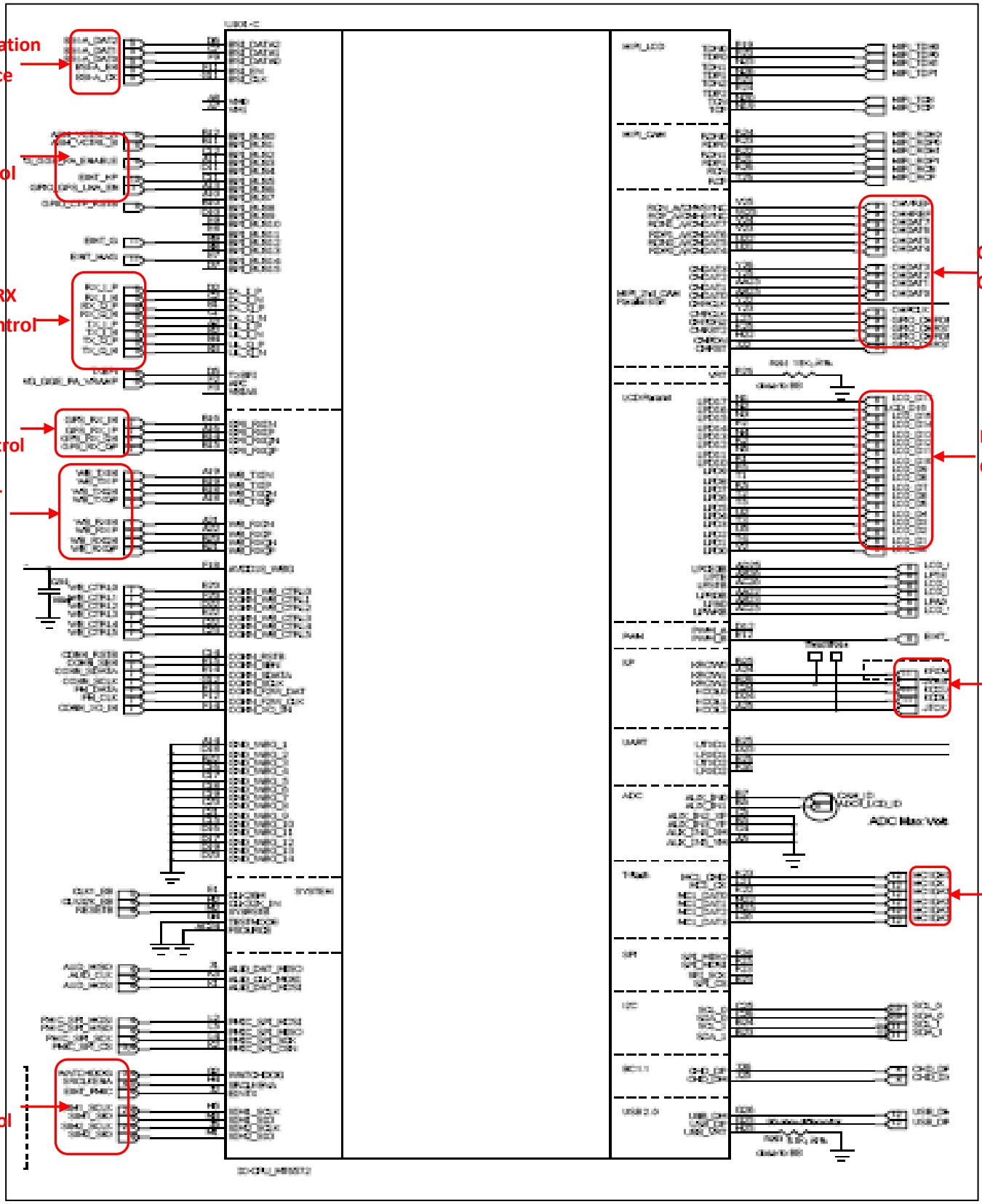
MT6572 INTRODUCTION

7.1 System Overview

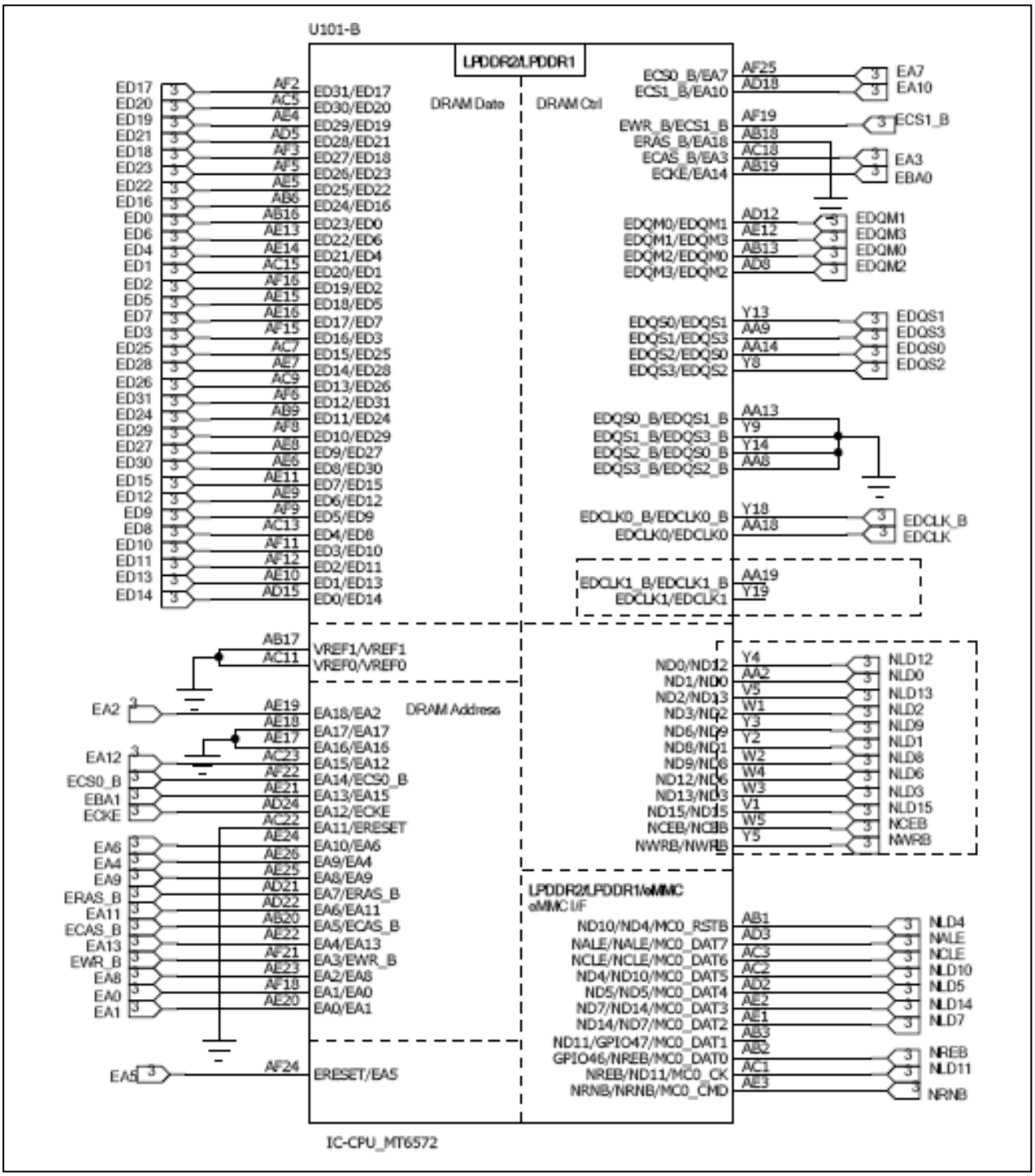
MT6572 is a highly integrated baseband platform incorporating both modem and application processing subsystems to enable 3G smart phone applications, with integrated Bluetooth, WILAN and GPS modules. The chip integrates a Dual-core ARM® cortex-A7 MPcore™ operating up to 1.2Ghz,an ARM Cortx-R4 MCU and a powerful multi-Standard Video accelerator. MT6572 supports various interfaces, including parallel/serial NAND flash memory and 32-bit LPDDR2 for optimal



5.1.1 Introduction for baseband chip CPU part circuit

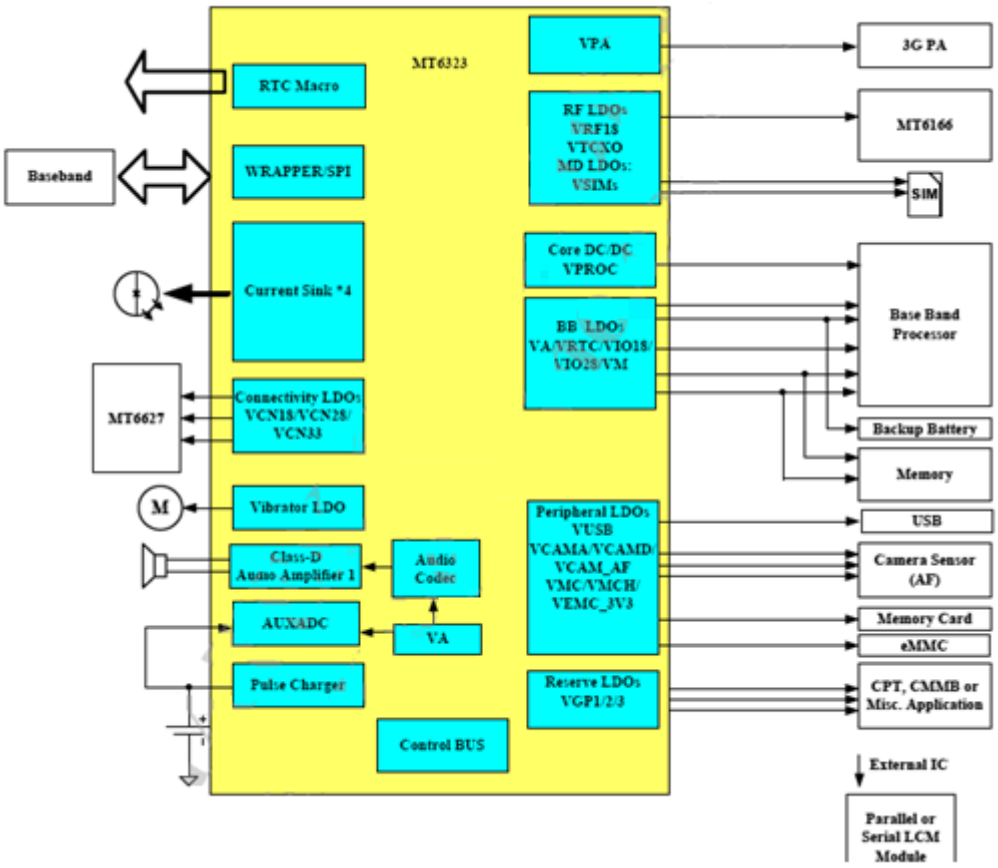


5.1.2 Baseband CPU circuit introduction for Modem

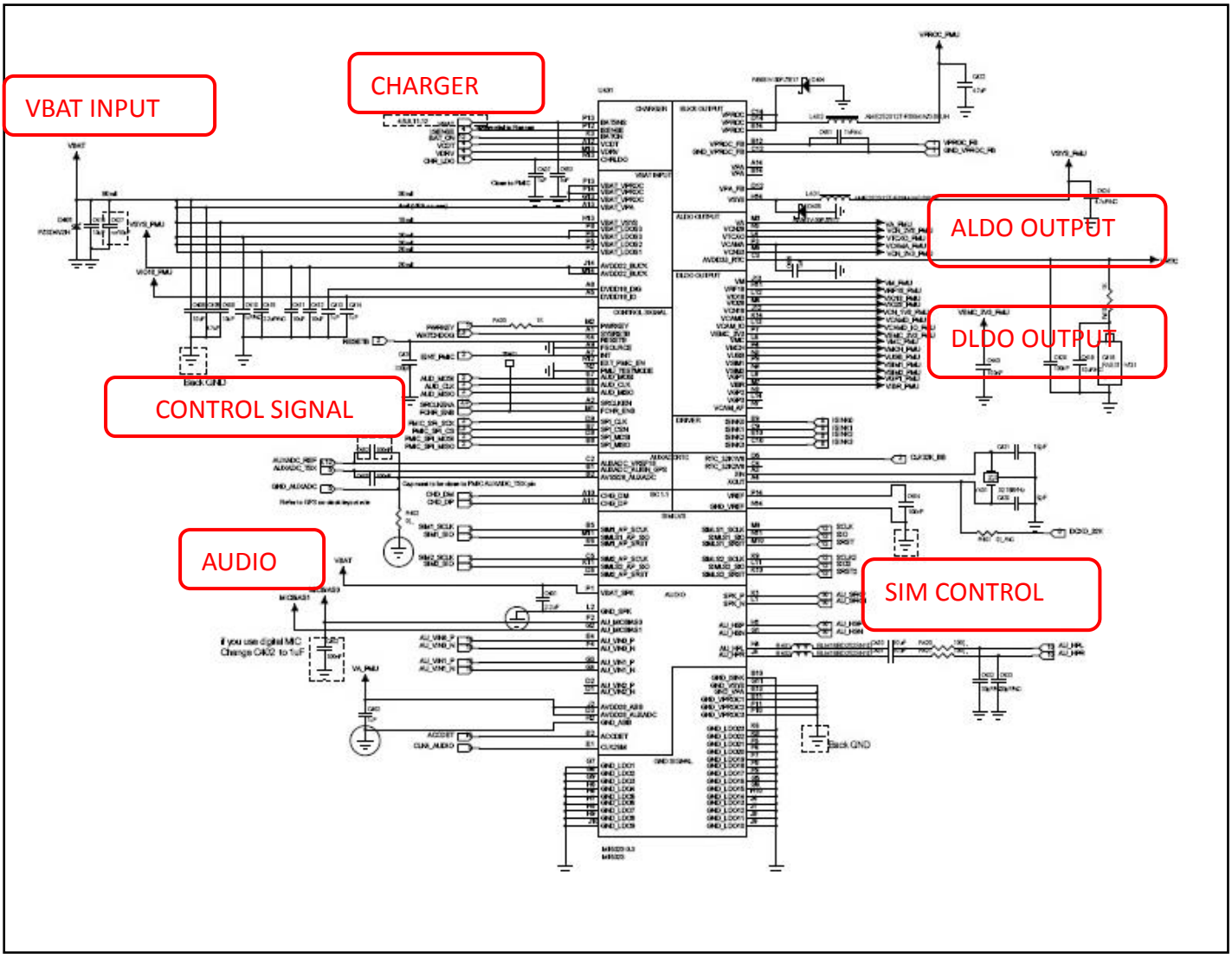


5.2.3 System Overview

MT6323 is a power management system chip optimized for 2G/3G handsets and smart phones, especially based on the MdeiaTek Mt6572 system solution. MT6323 contains 3 buck converters and 24 LDOs, which are optimized for specific 2G/3G/smart phone subsystems. MT6323 provides mono 0.7W into 8 Ω, high efficiency Class AB/D audio amplifiers and flexibility for various applications of indicator LED drivers. It supports up to 4 channel LEDs with independent controlled. Flexible control includes: register mode, PEM mode and breath mode.

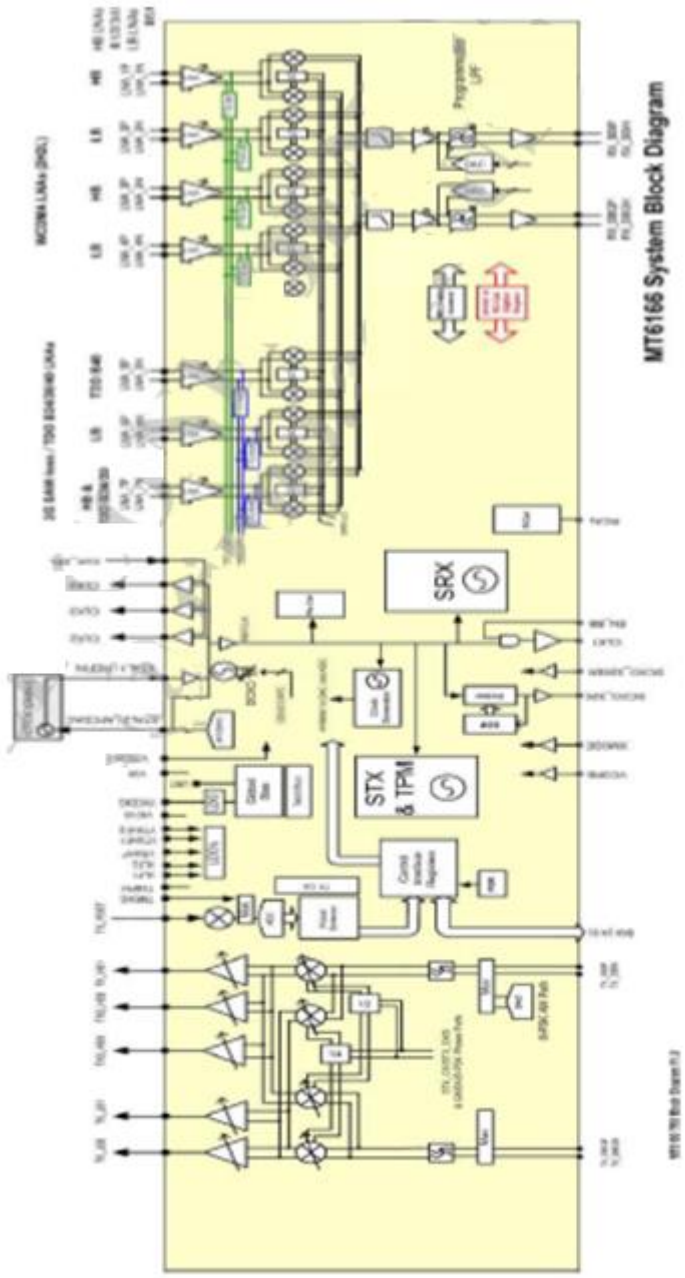


5.2.4. PM IC MT6323

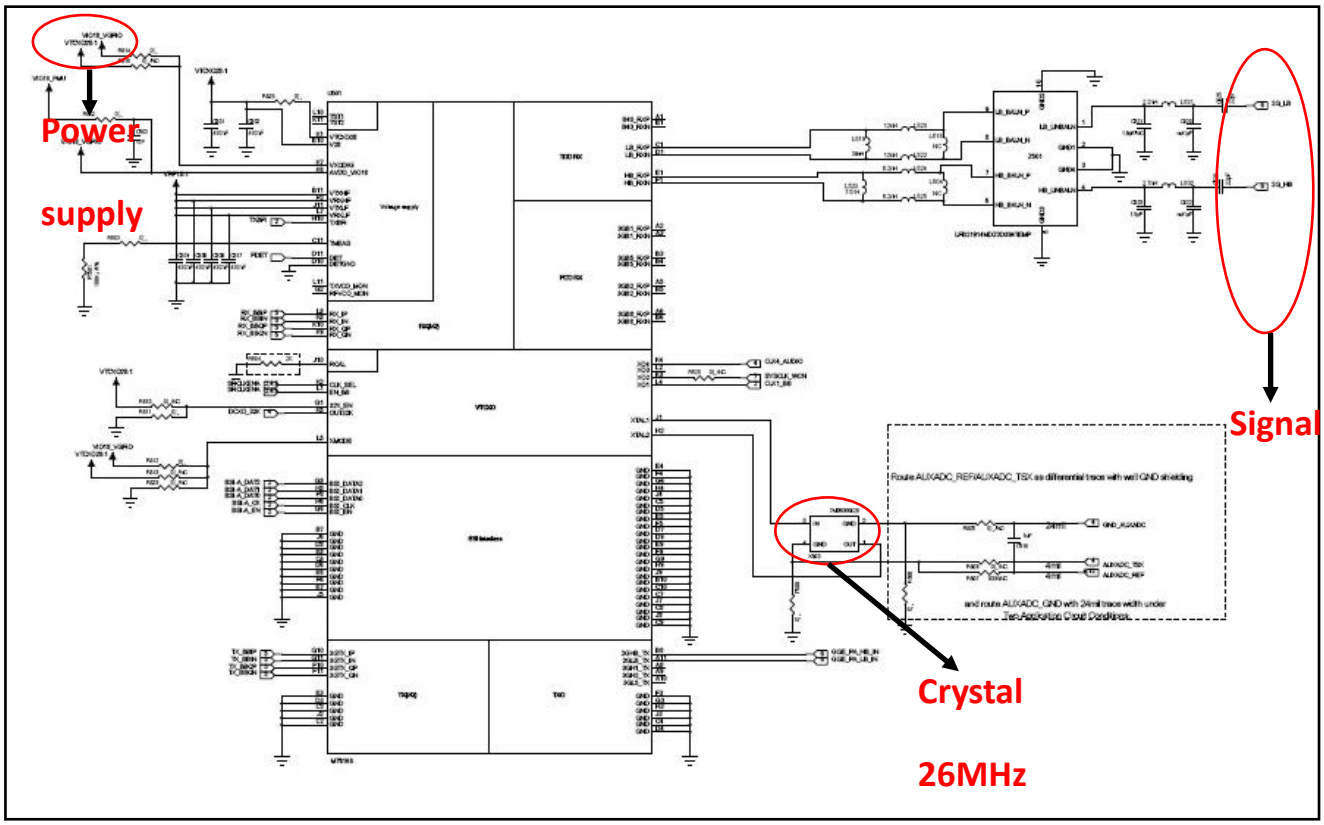


5.1.5 System Overview

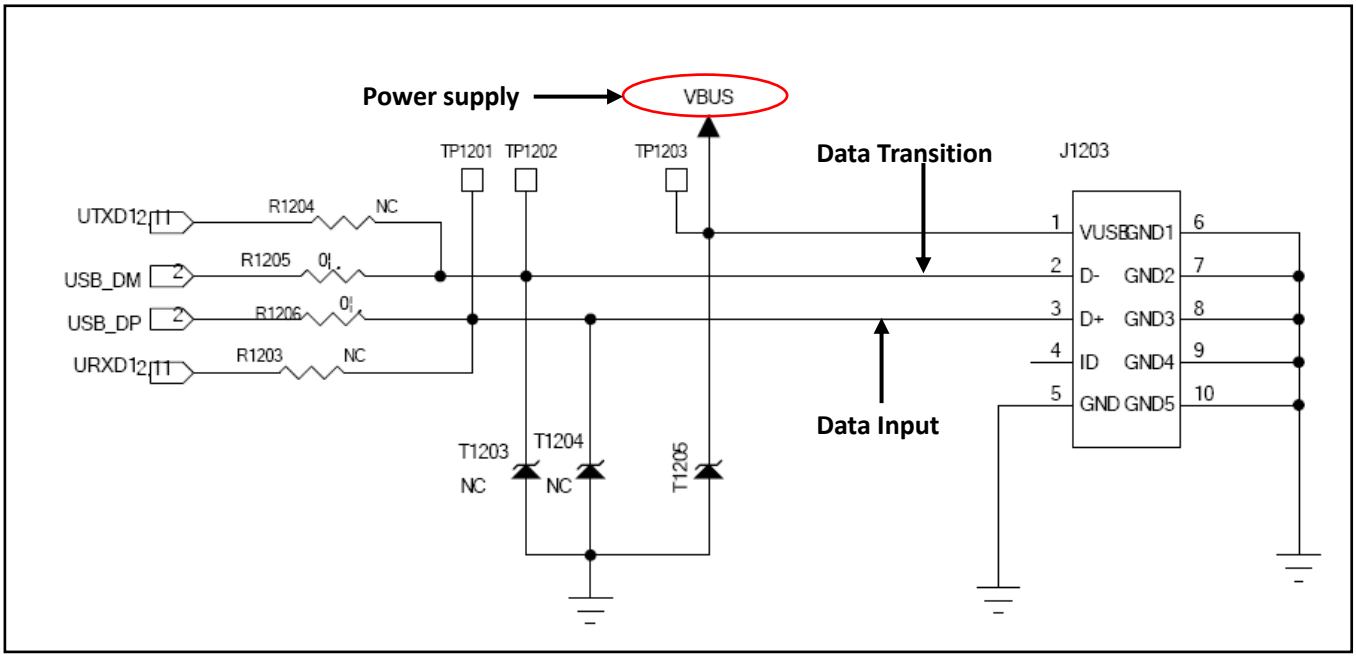
The MT6166 is a RF transceiver targeted at high speed 2G/3G-FDD/TDD multi-mode smart phone and tablet computers implanted in 40nm CMOS. The RF transceiver function is fully integrated. This document briefly introduces the RF macros in MT6166.



5.1.6 RF -MT6166



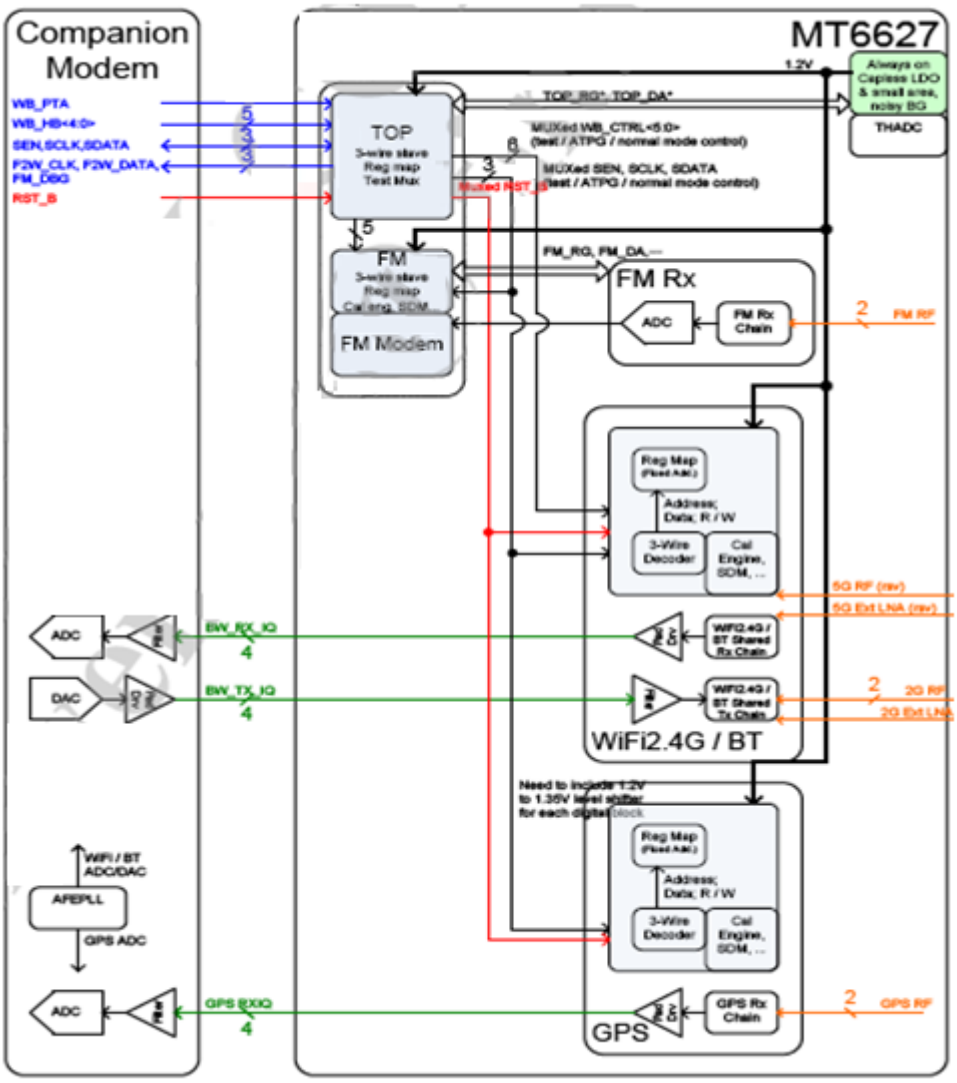
5.1.7 I/O connector (5PIN)



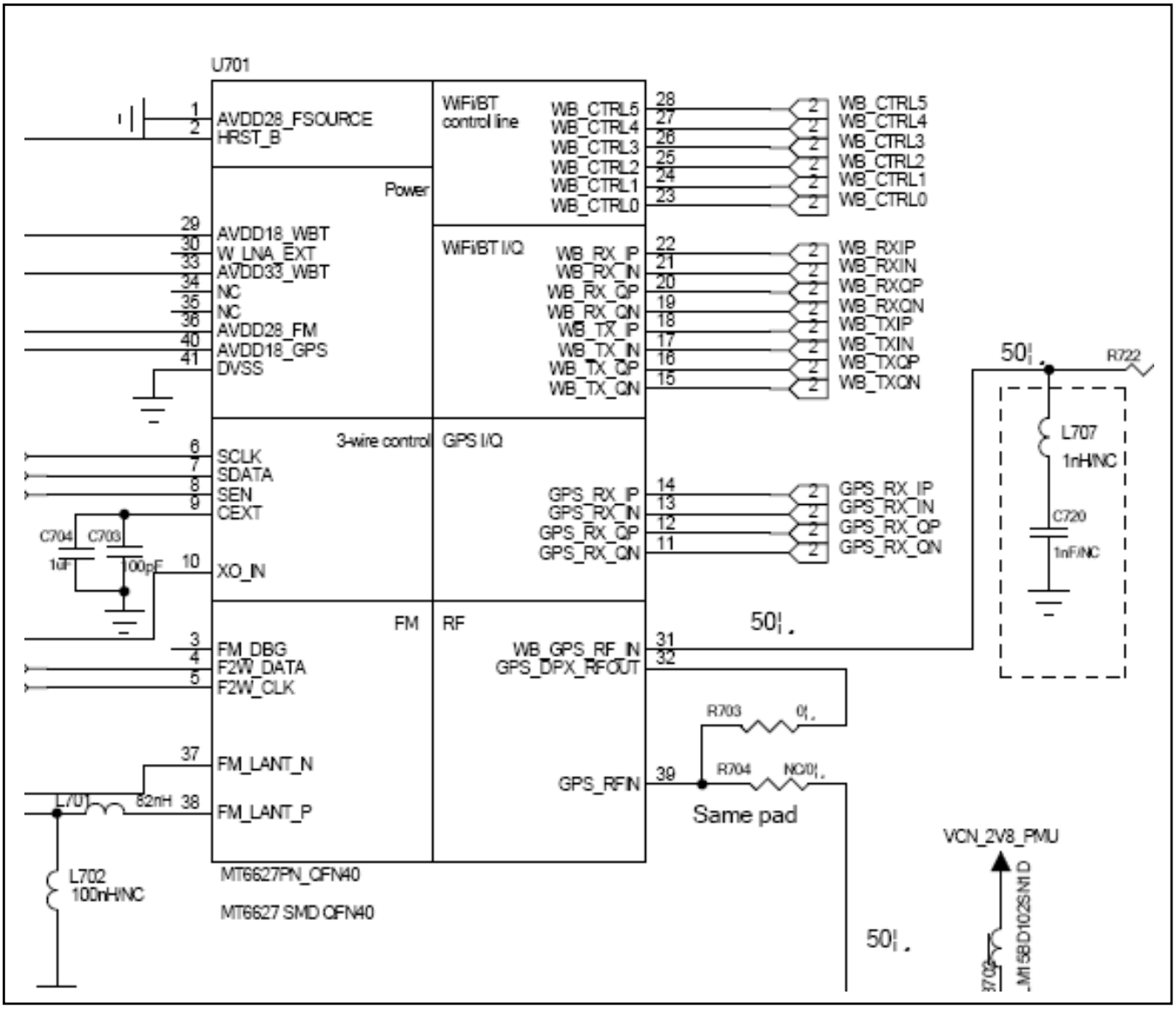
5.1.8 Four in one chip MT6627

MT6627 is a 4-in-1 connectivity chip which contains a WIFI/Bluetooth Transceiver, a GPS receiver, and a FM receiver front-ends, along with integrated passive device(IPD) in a QFN40 package. Simplified block diagram and how MT6627 connects to a companion modem is shown in Figure 1. In Figure 1, RF input/output are, respectively. An always on low-dropout regulator (ALDO) provides supply voltage to top control logics in MT6627.The top control logics can control each subsystem independently.Each subsystem also has dedicated LDOs, too. A thermal sensor and its ADC (analog=to-digital converter) is provided to monitor MT6627 temperature variation. MT6627 does not have its dedicated crystal oscillator. It either uses an extremely (maybe temperature compensated) oscillator, or uses the clock source from companion chips in the platform such as MT6166.

For WIFI and Bluethooth, MT6627 provides an advanced switching mechanism which allows fast switching between WIFI and BT modes. Hardware sharing and reuse is maximized. The transceiver front-ends are on MT6627 while the ADC/DAC (analog-to-digital converter/digital-to-analog converter) are in the companion modem chip. The interface driver/receiver buffer are designed to drive PCB trace loading. The GPS/Glonass IP in MT6627 supports both standards, depending on if the companion modem supports Glonass or not. Its partition is similar to WIFI/Bluetooth such that the ADC/DAC is in the companion modem chip. In contrast, the FM system intearates the modem and ADC in MT6627. And no interface drivers/buffers are required.

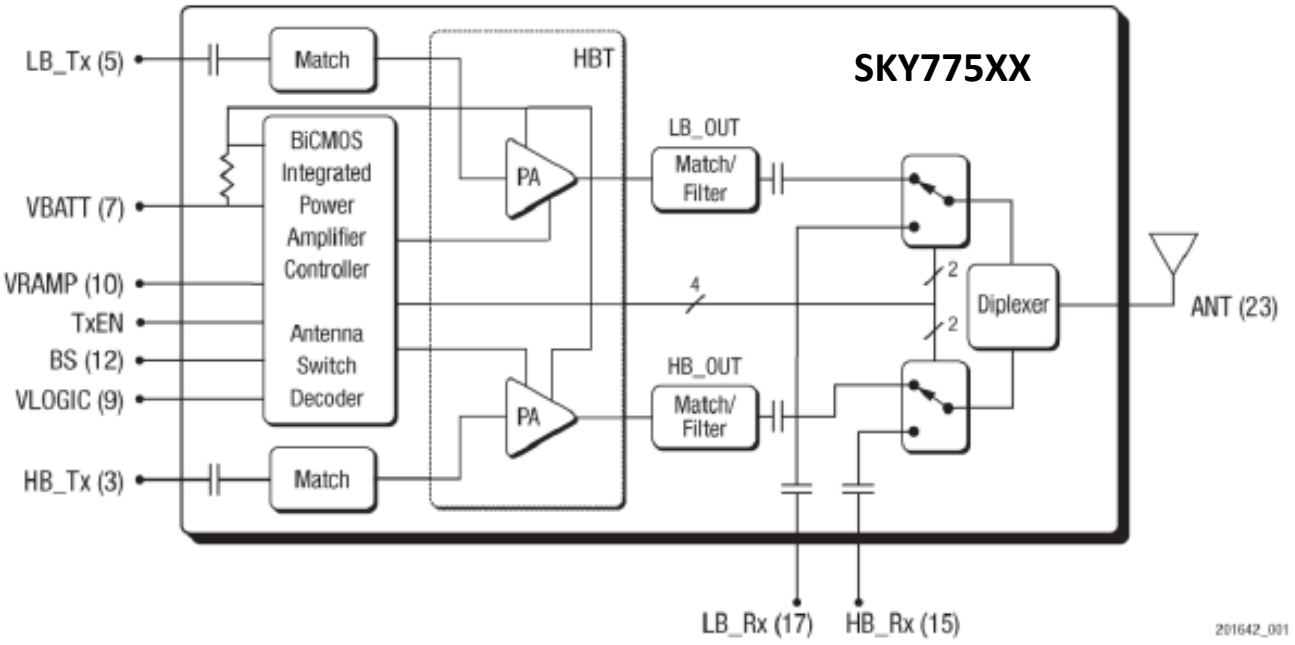


5.1.9 Four in one MT6627

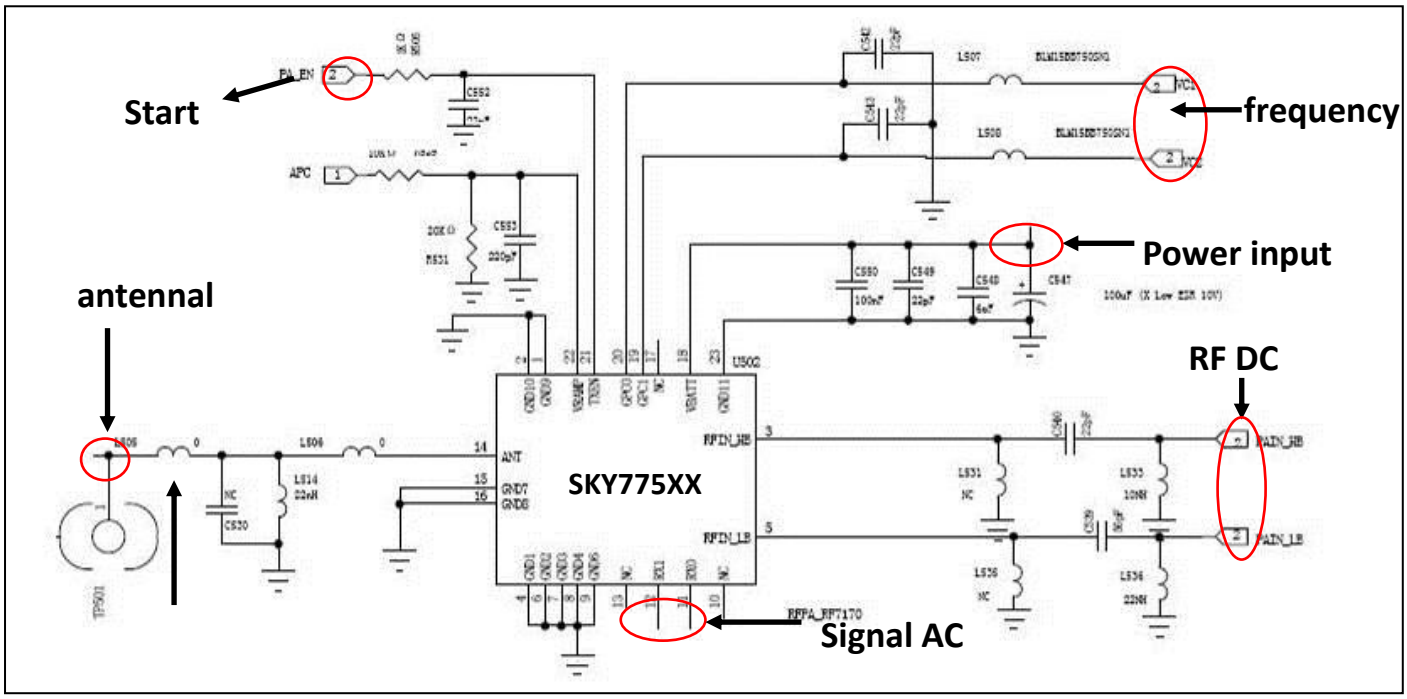


5.1.10 System

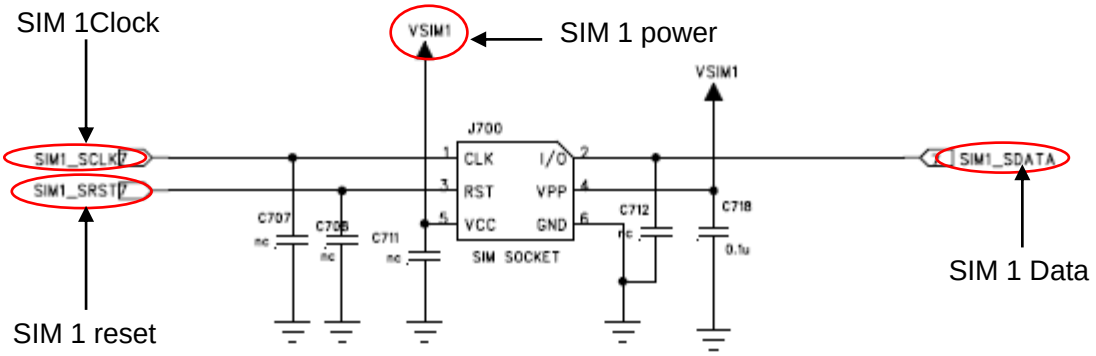
The SKY775XX is a dual-band transmit and receive front-end module(FEM) with Integrated power Amplifier control(iPAC) for cellular handsets comprising GSM900 and DCS1800 operation. The FEM has capability in applications of U S and euro dual-band platforms.Designed in a low profile, compact form factor, the SKY775XX offers a complete Transmit VCO-to-Antenna and Antenna-to-receive SAW filter solution. The FEM also supports Class 12 General Packet Radio Service(GPRS)multi-slot operation.

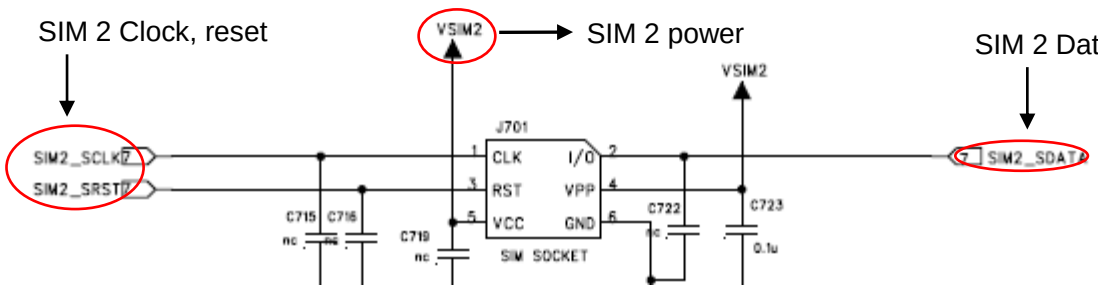


5.1.11 power amplifier



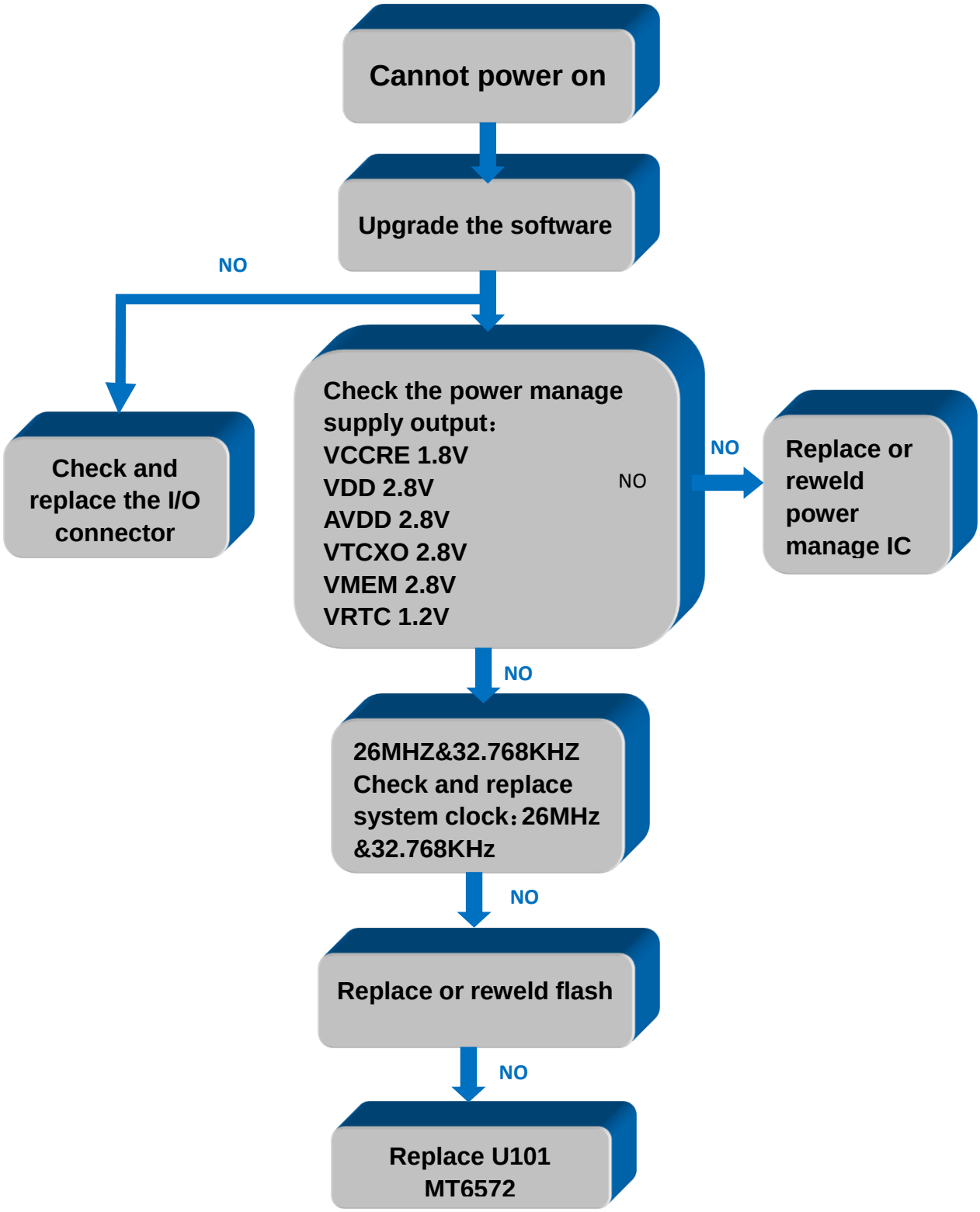
5.1.12SIM circuit



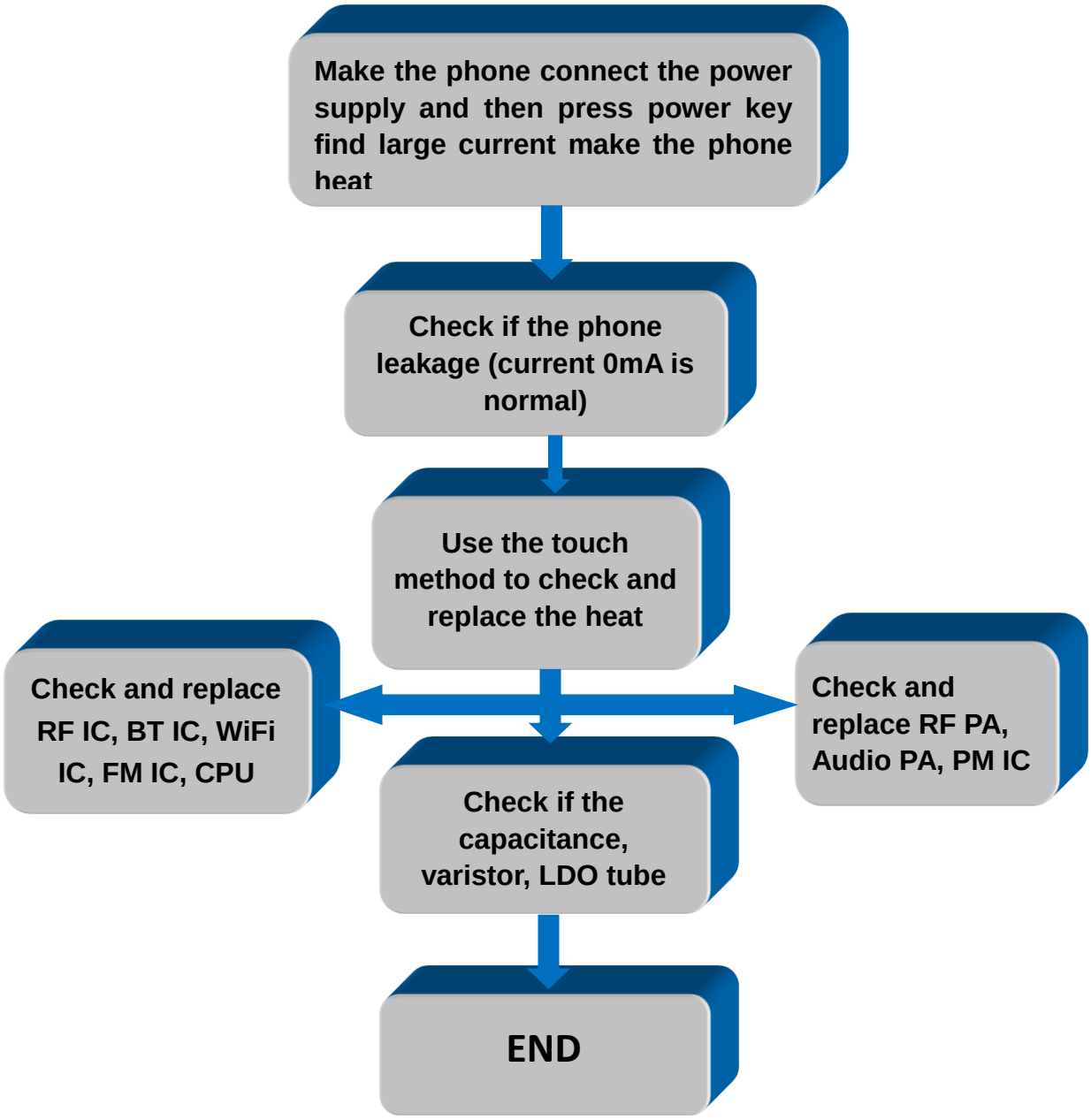


CHAPTER 6 TROUBLESHOOTING

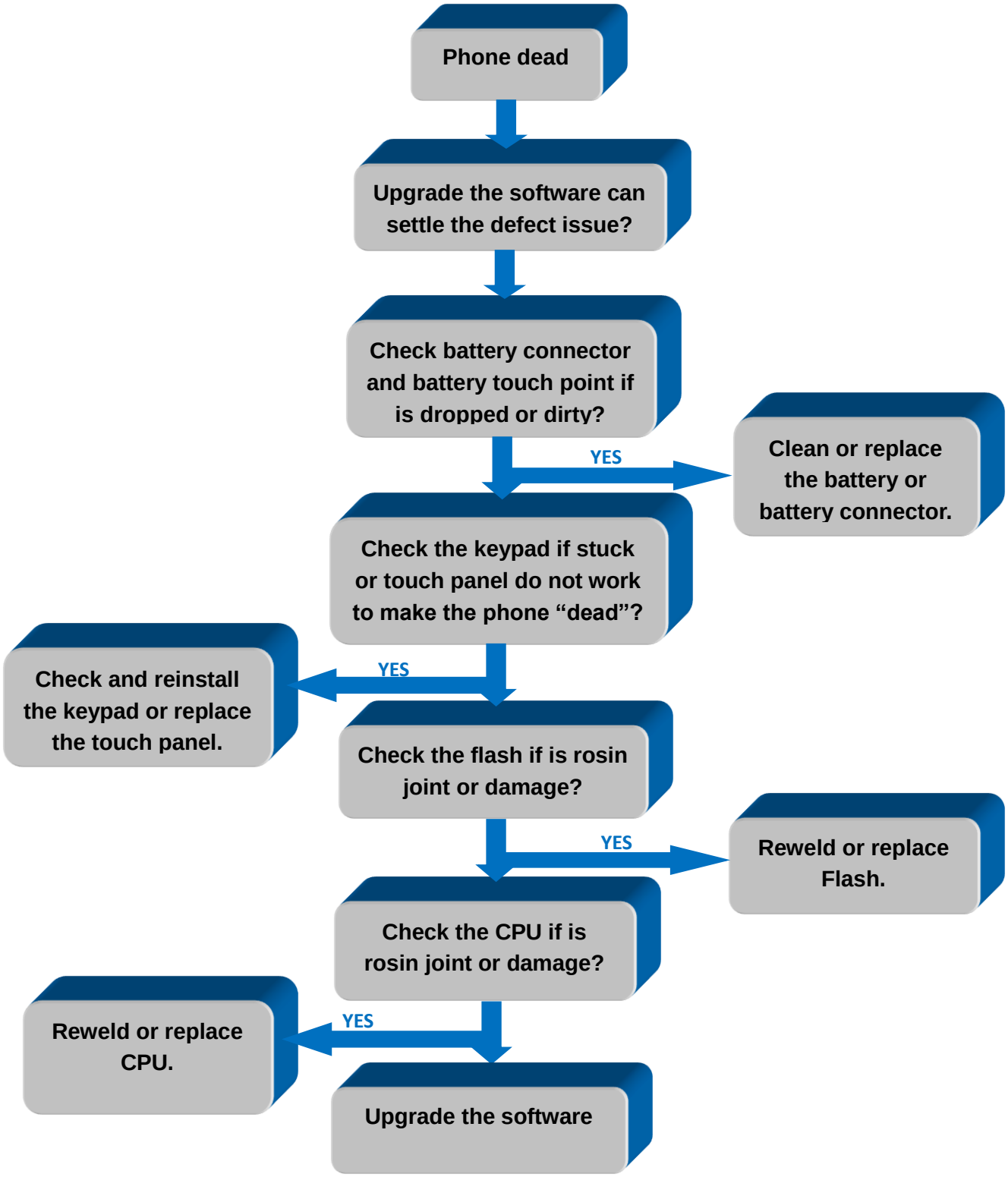
CANNOT POWER ON-CURRENT SWING INSTABILITY



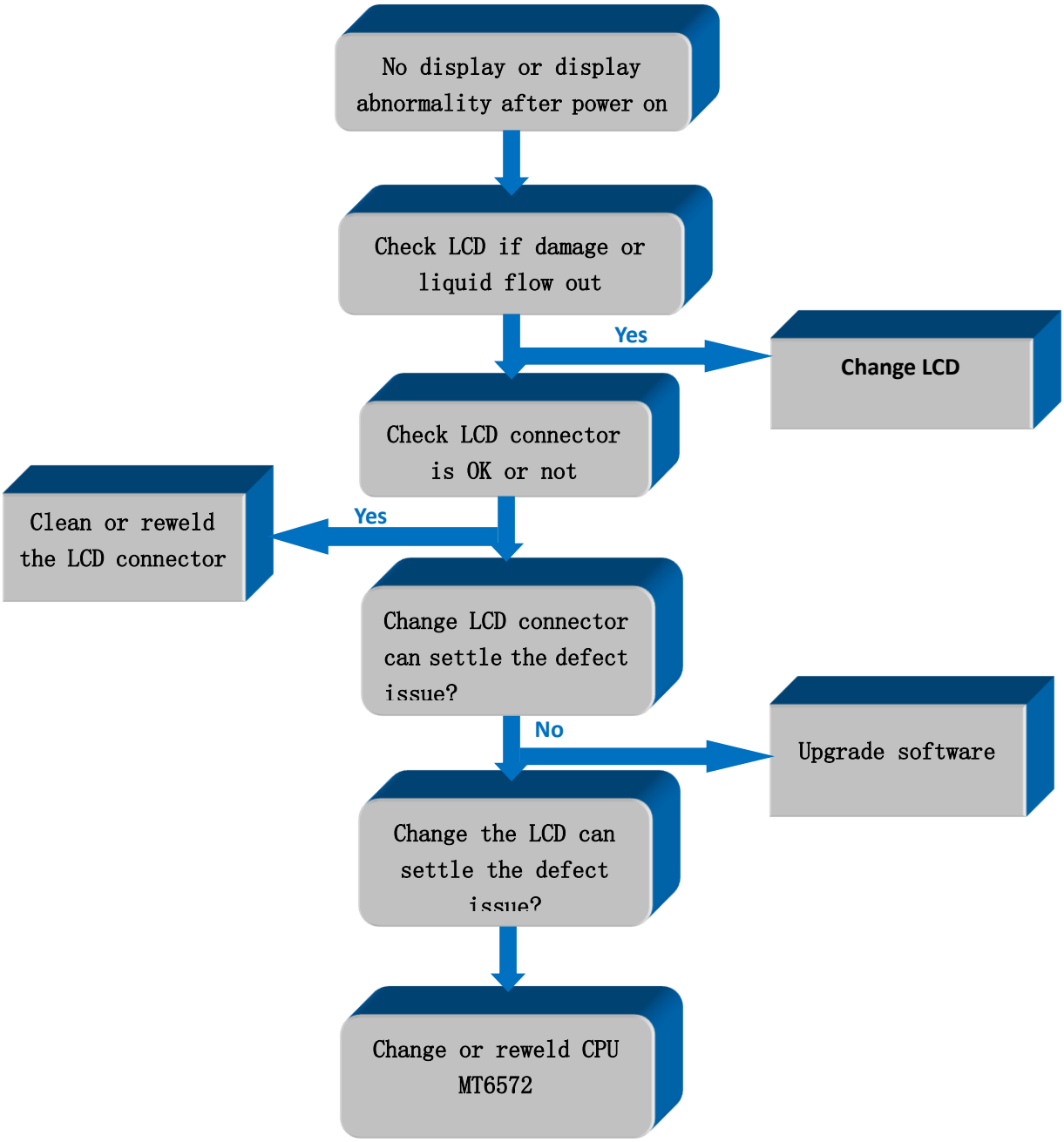
CANNOT POWER ON-LARGE CURRENT



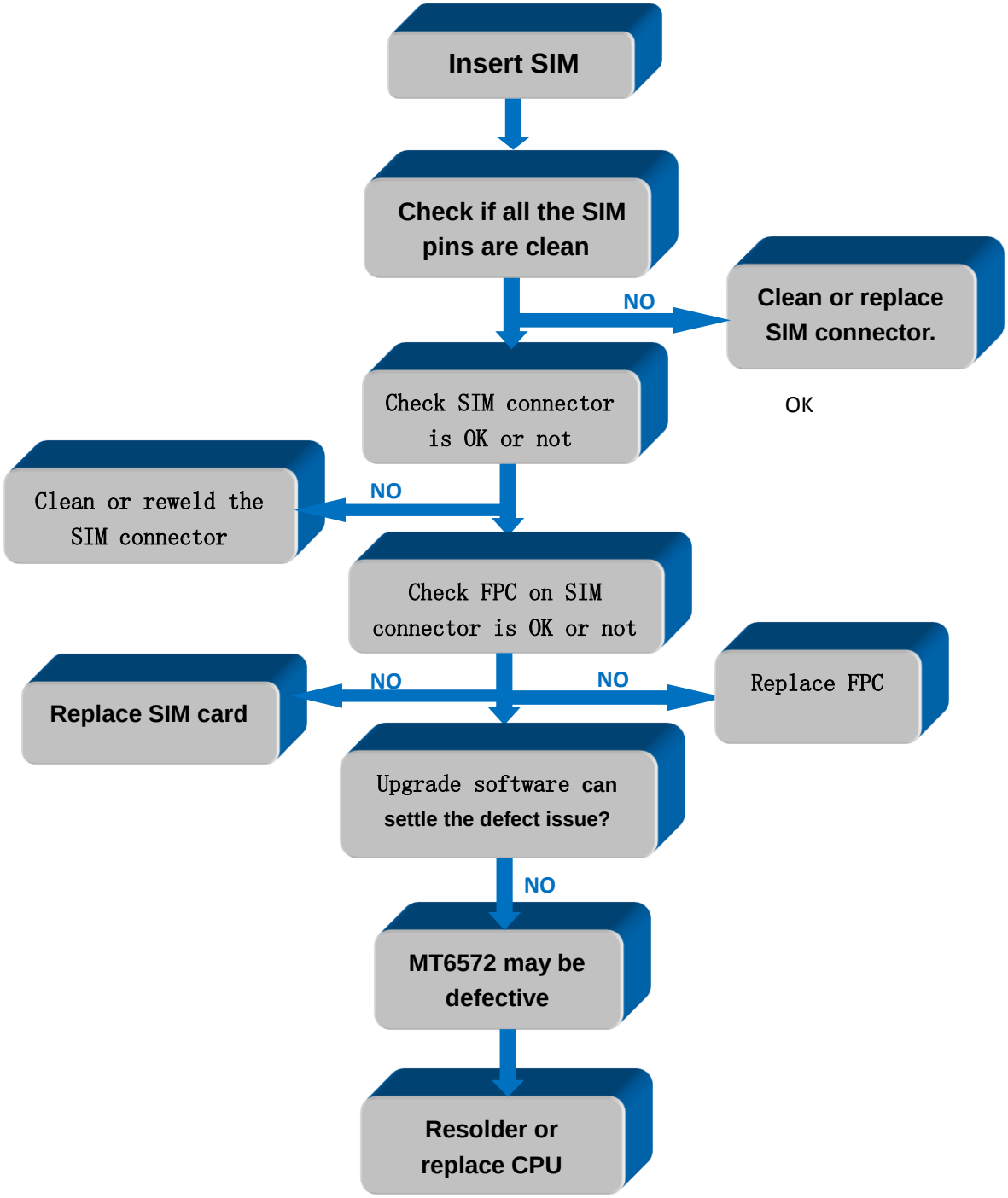
REPAIR FLOW FOR PHONE DEAD



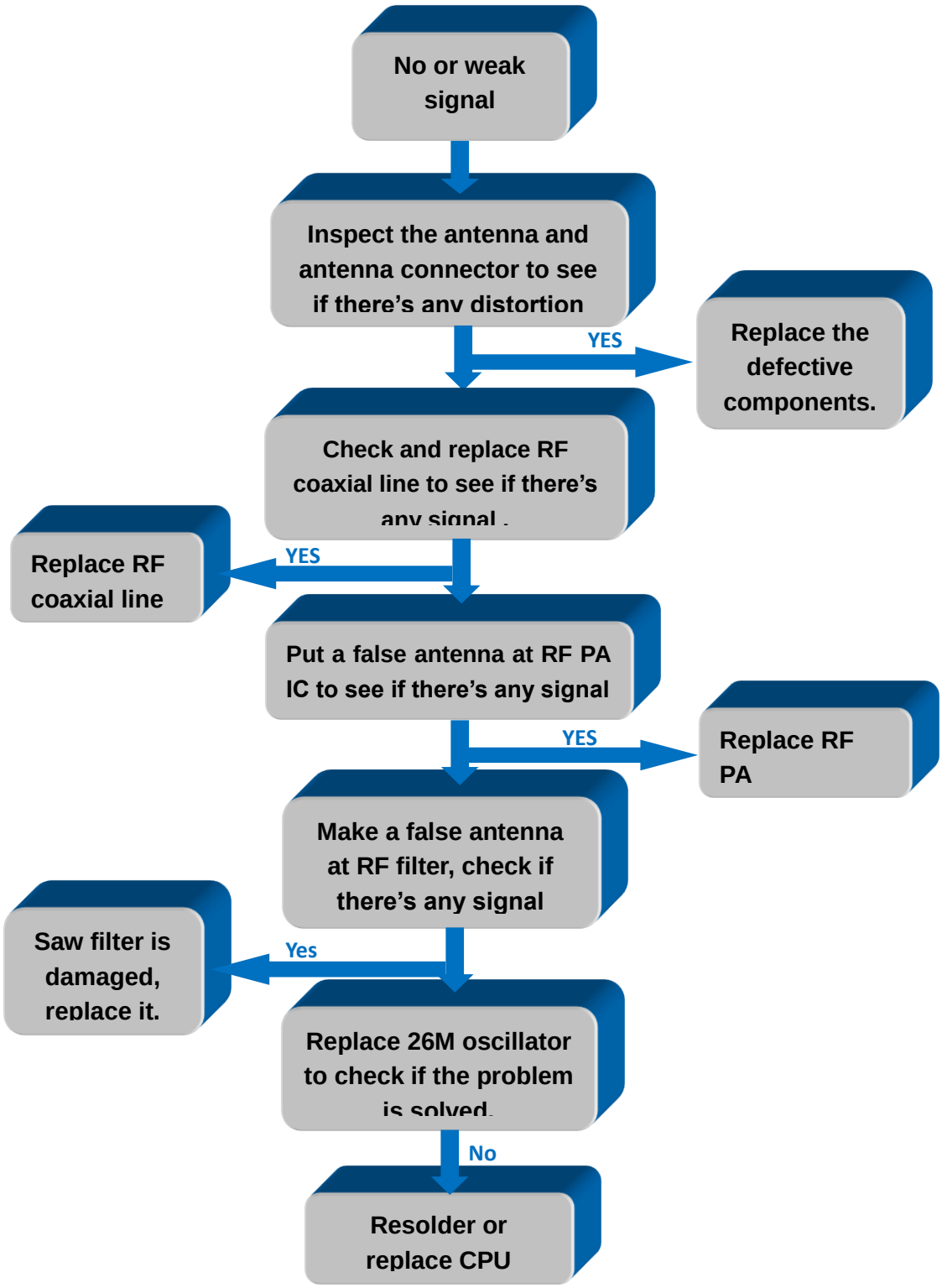
NO DISPLAY OR DISPLAY ABNORMALITY



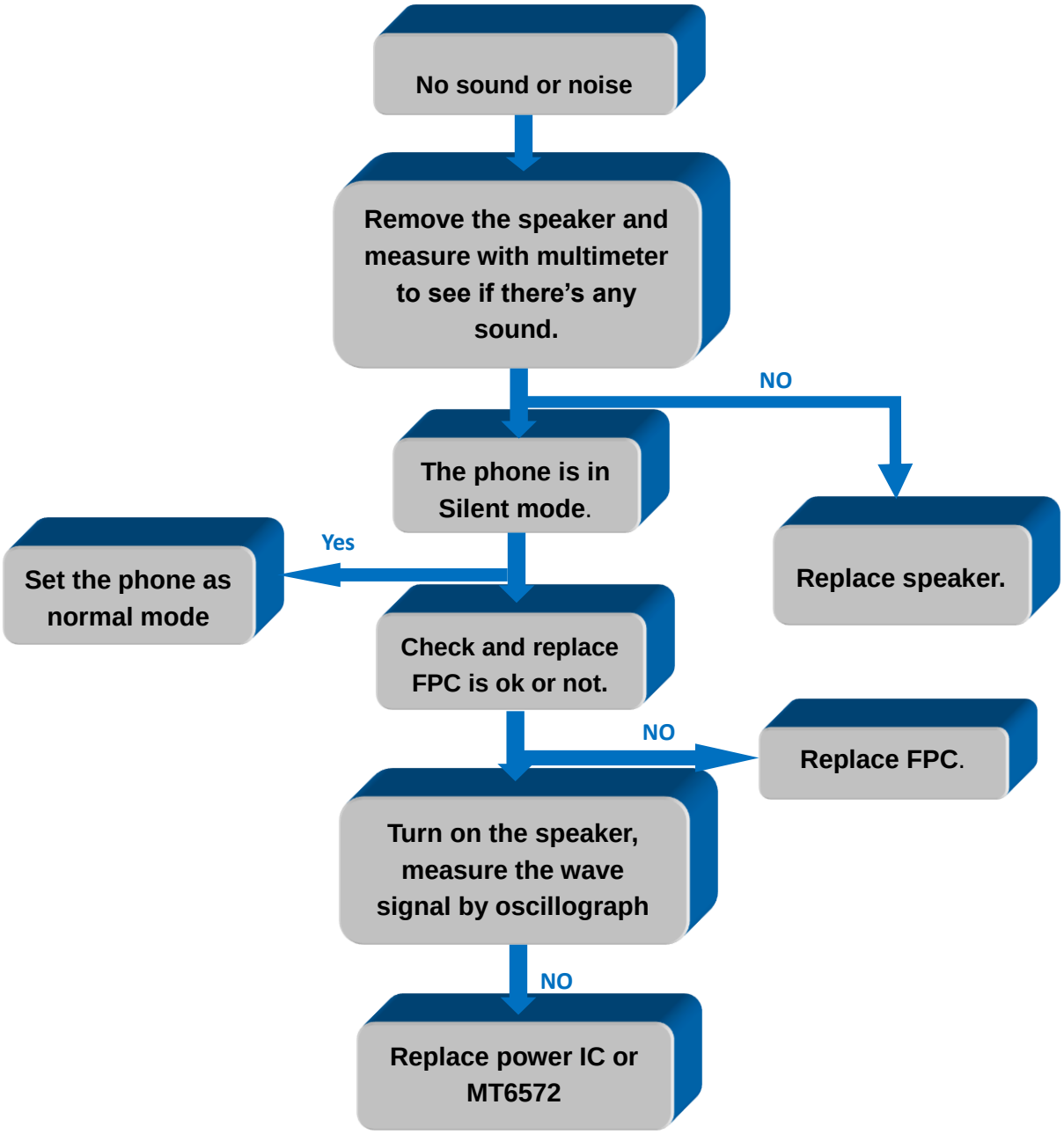
INSERT SIM REPAIR PROCESS



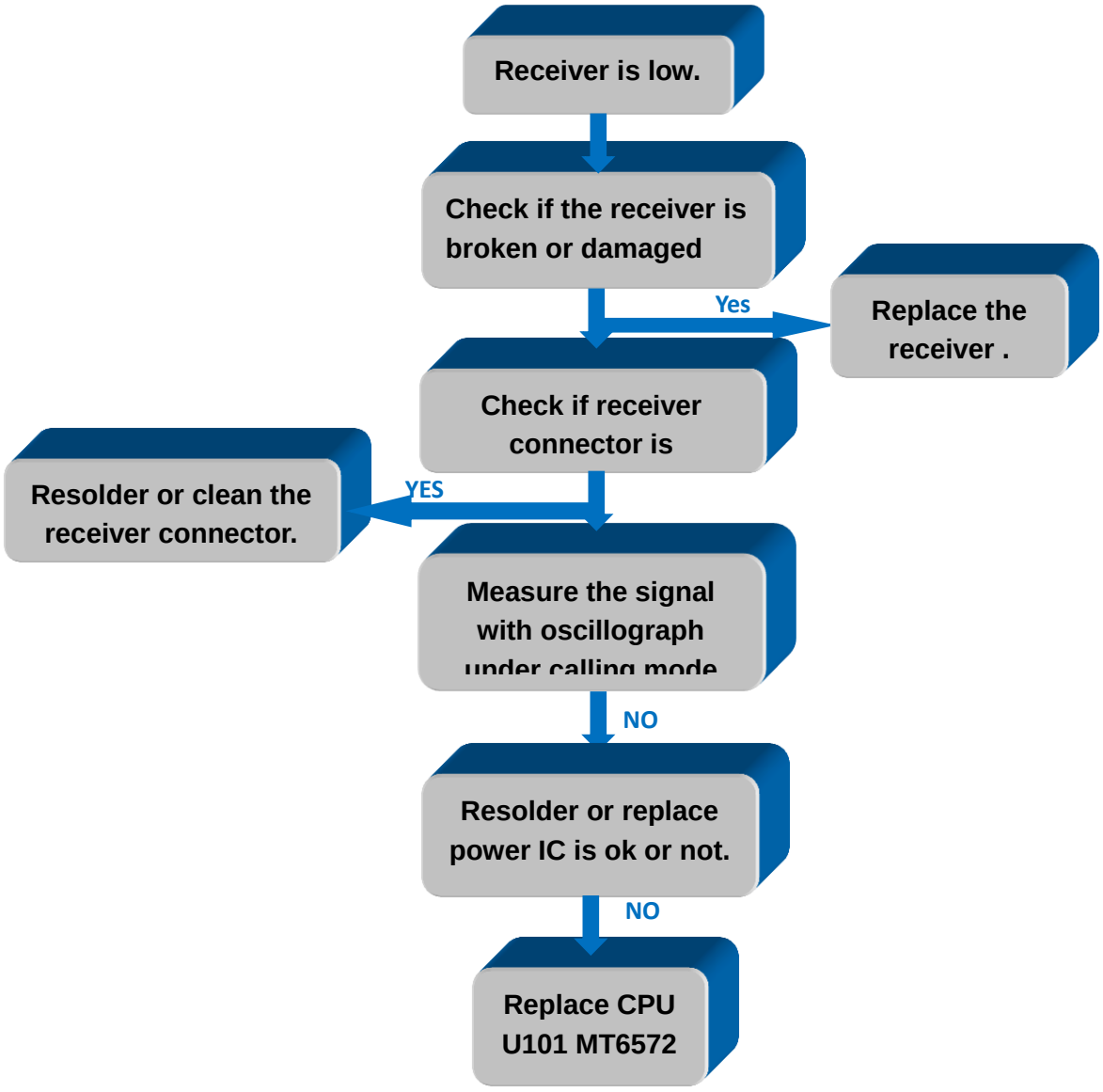
N0/WEAK SIGNAL TROUBLE SHOOING



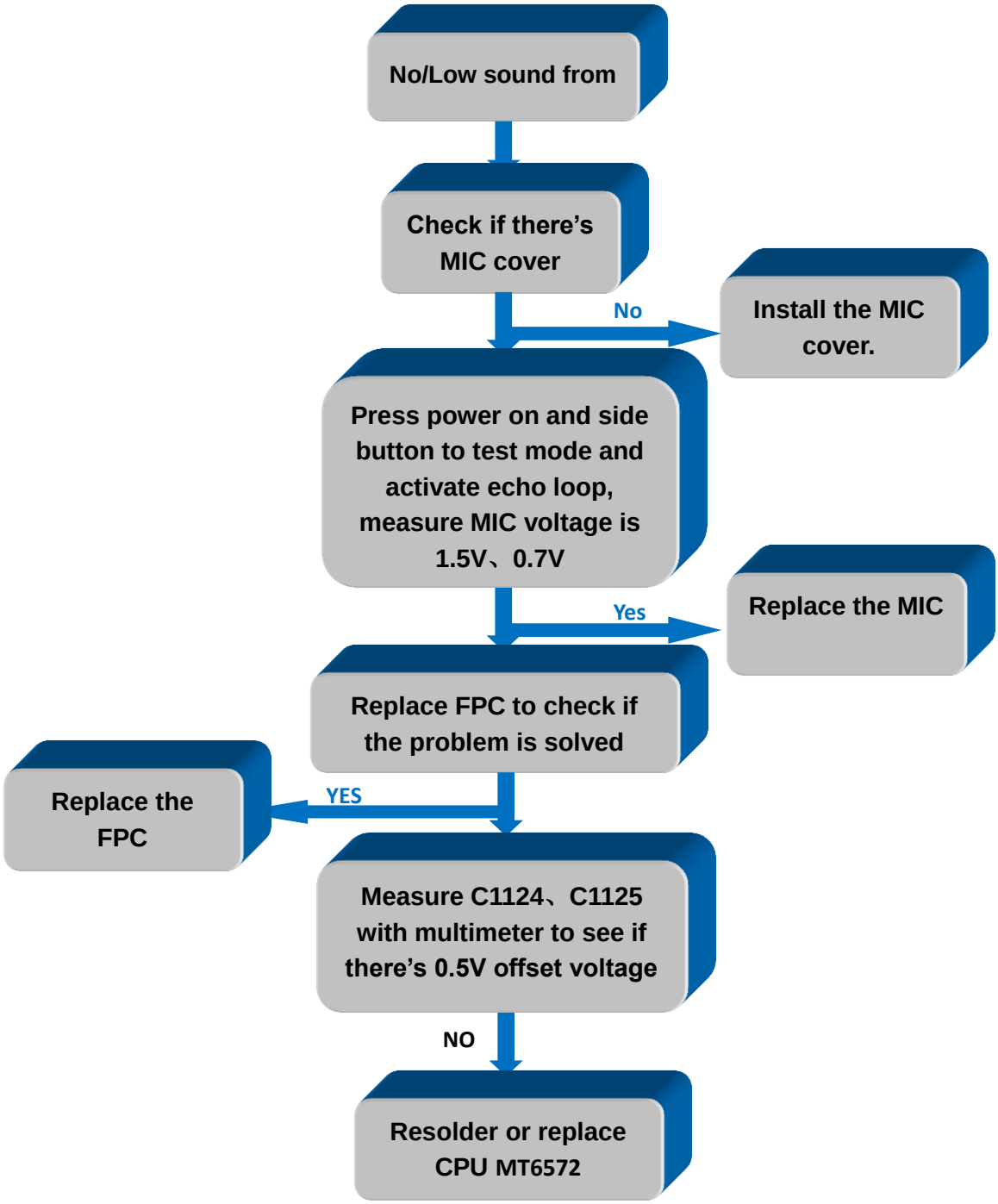
NO/LOW SOUND FROM SPEAKER



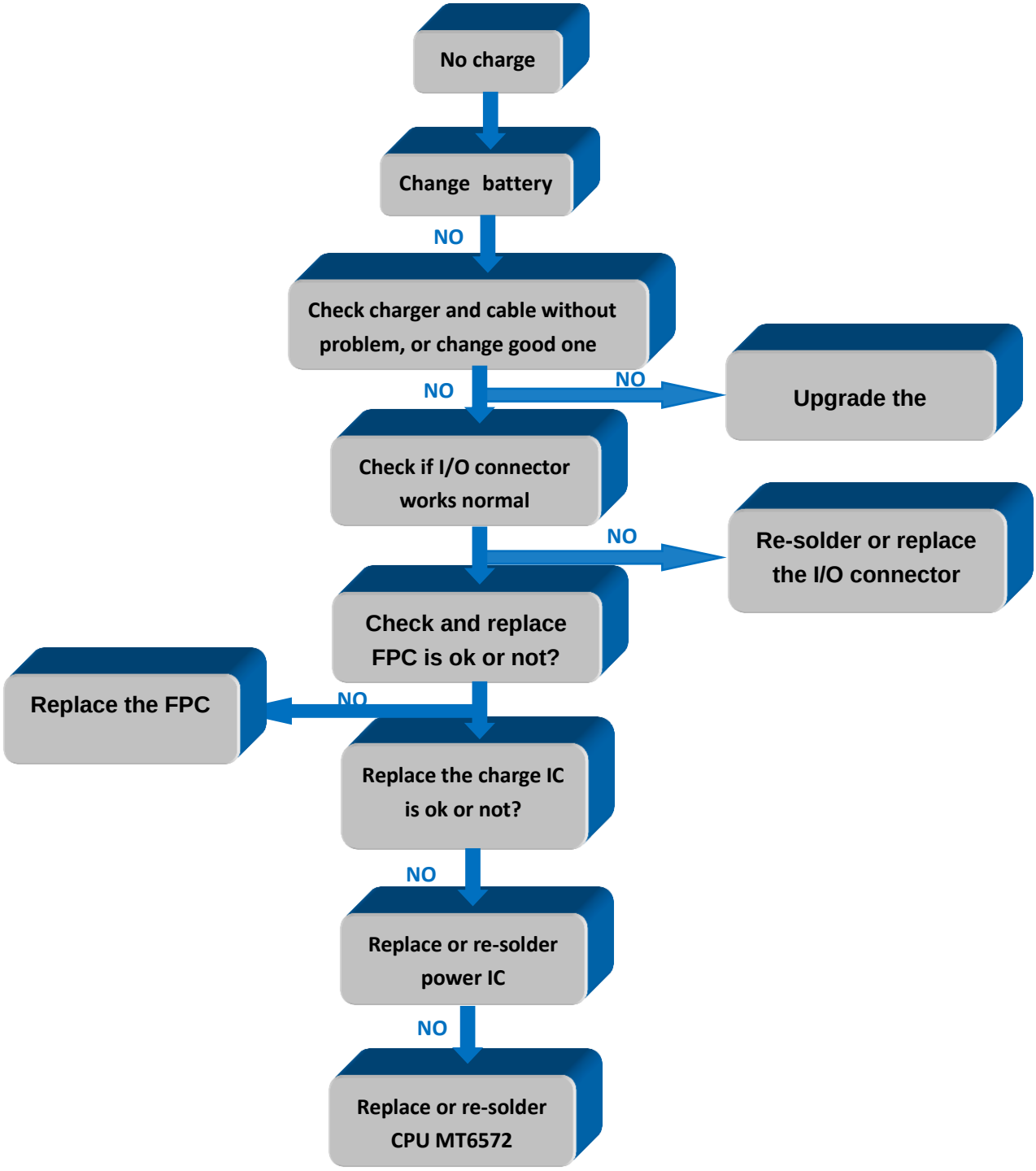
RECEIVER LOW VOICE OR NO VOICE



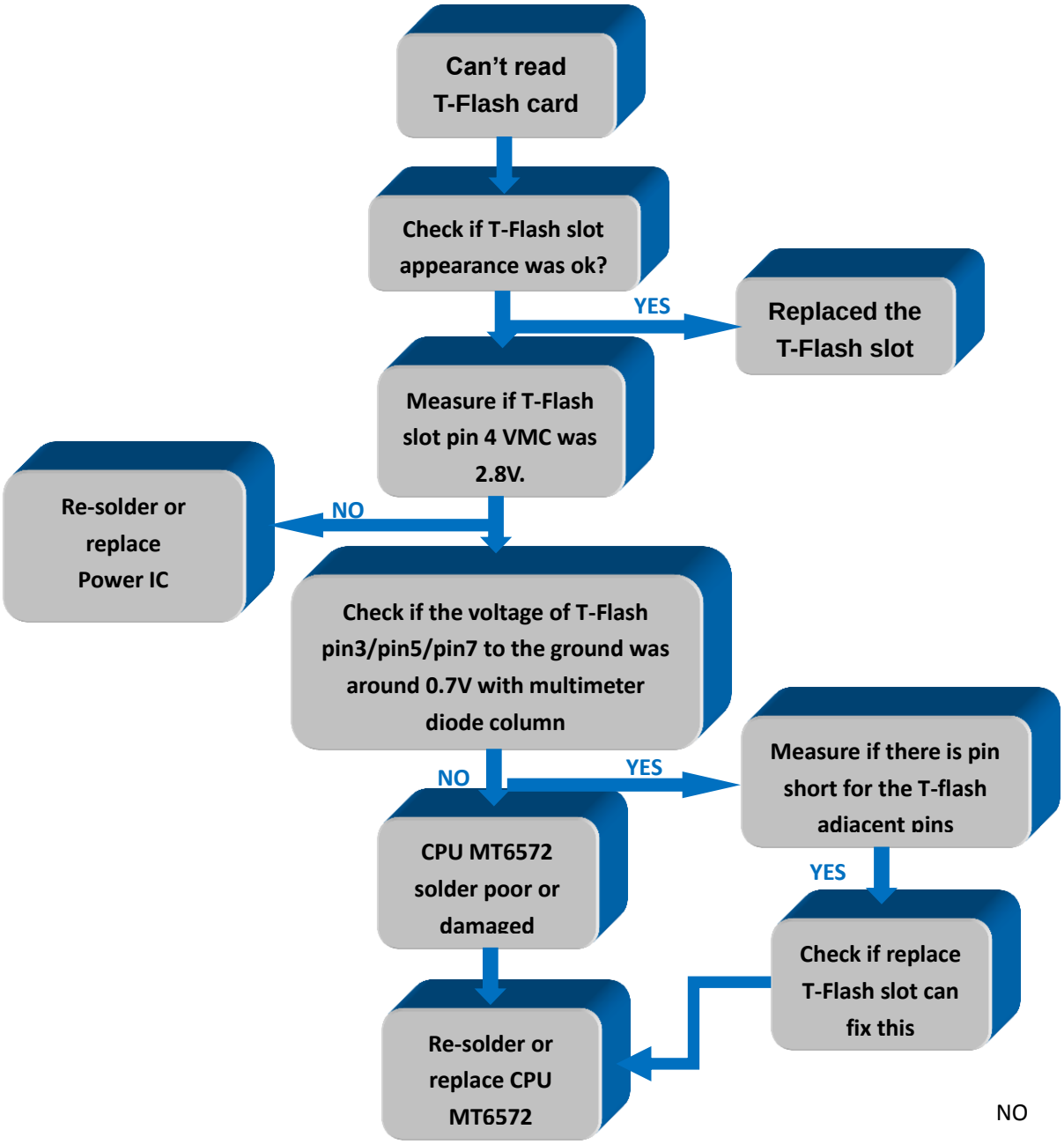
NO/LOW SOUND FROM MIC



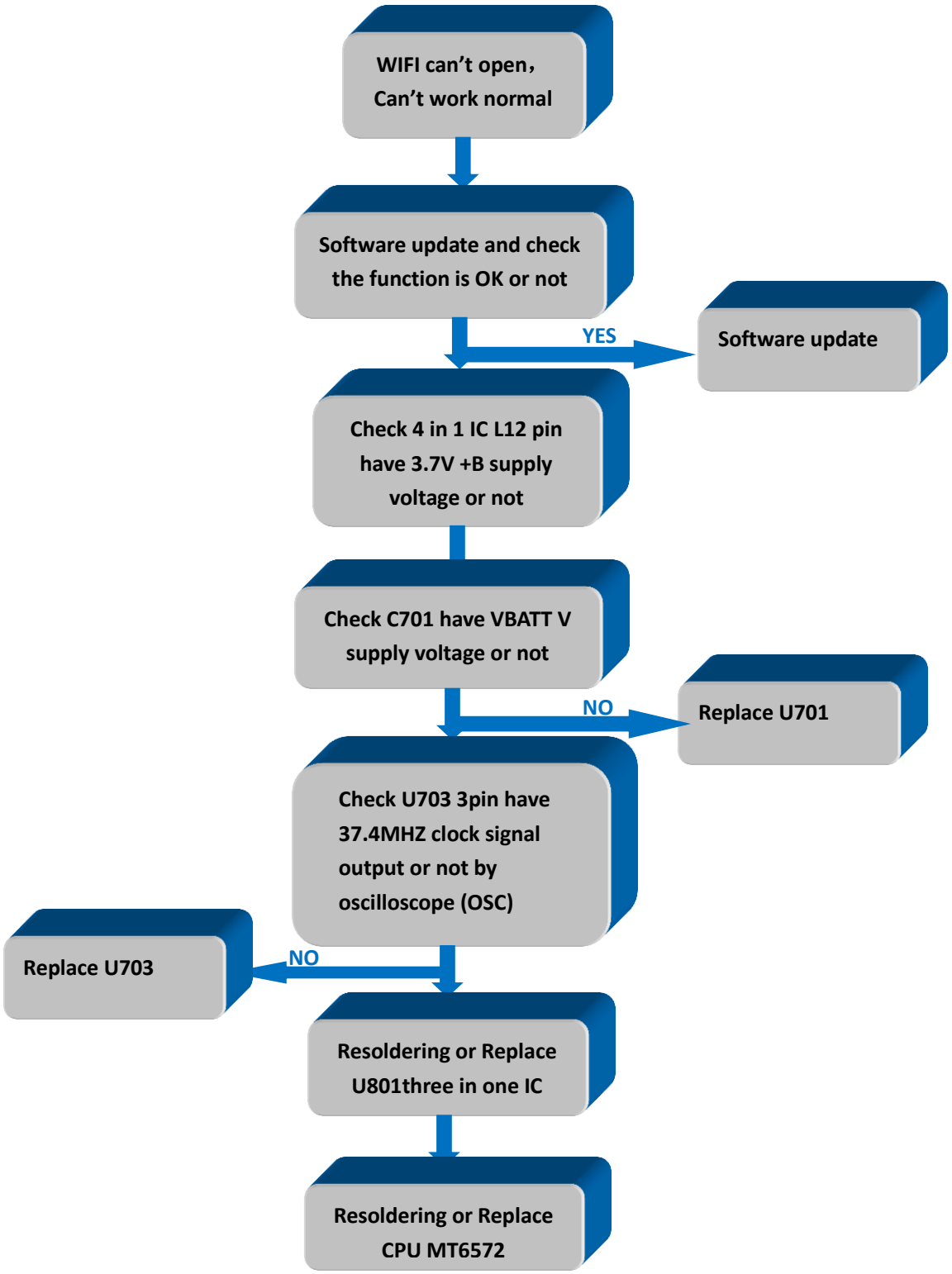
DOES NOT CHARGE – NO CHARGE IN



CAN'T READ T-FLASH CARD



WIFI、BT、FM 、GPS DEFECT REPAIR FLOW CHART



Chapter 7 Firmware Upgrading Guide

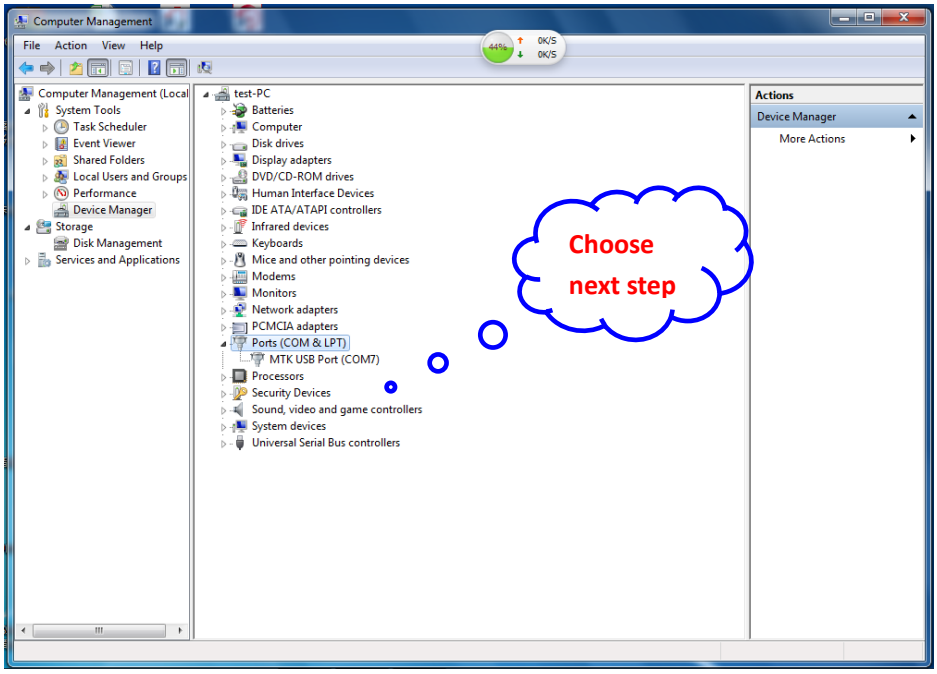
Firmware Upgrading

1. Install USB driver

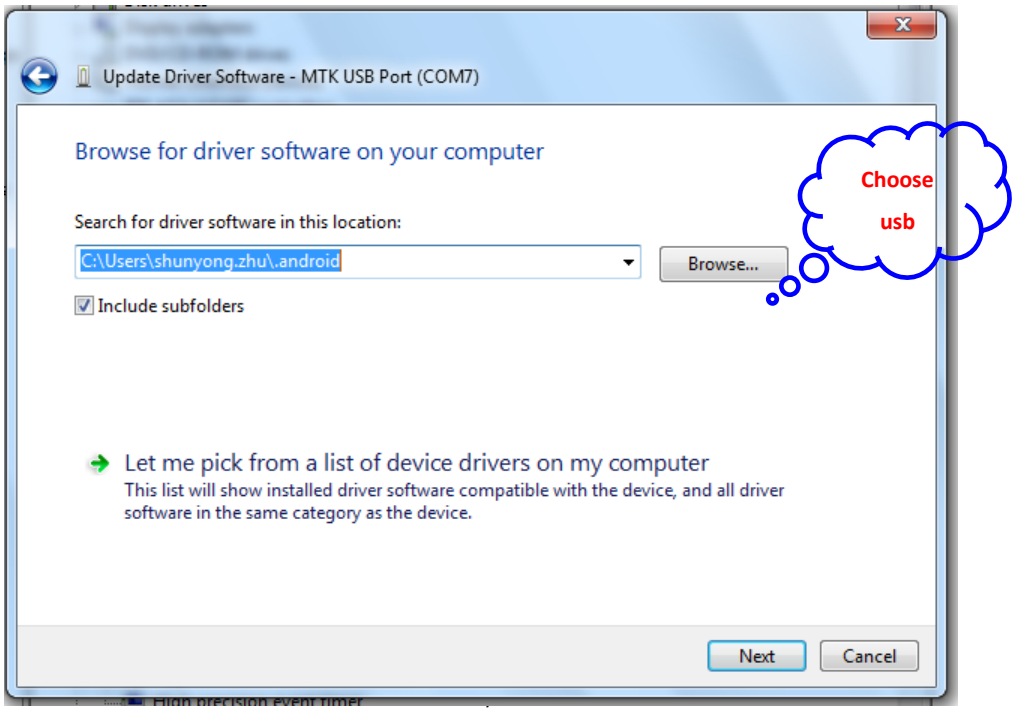
The maximum downloading speed can be up to 921600bit/s when using USB-Serial cable.

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

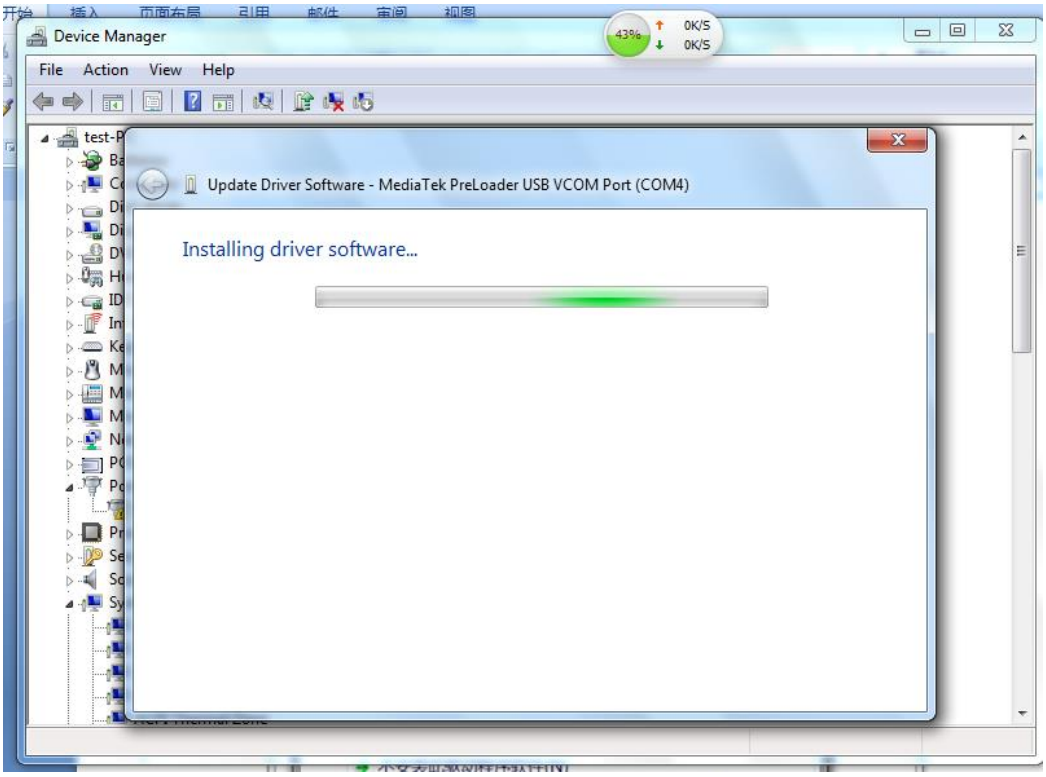
1> computer eject hardware installation instruction and choose following item and then click''next step''



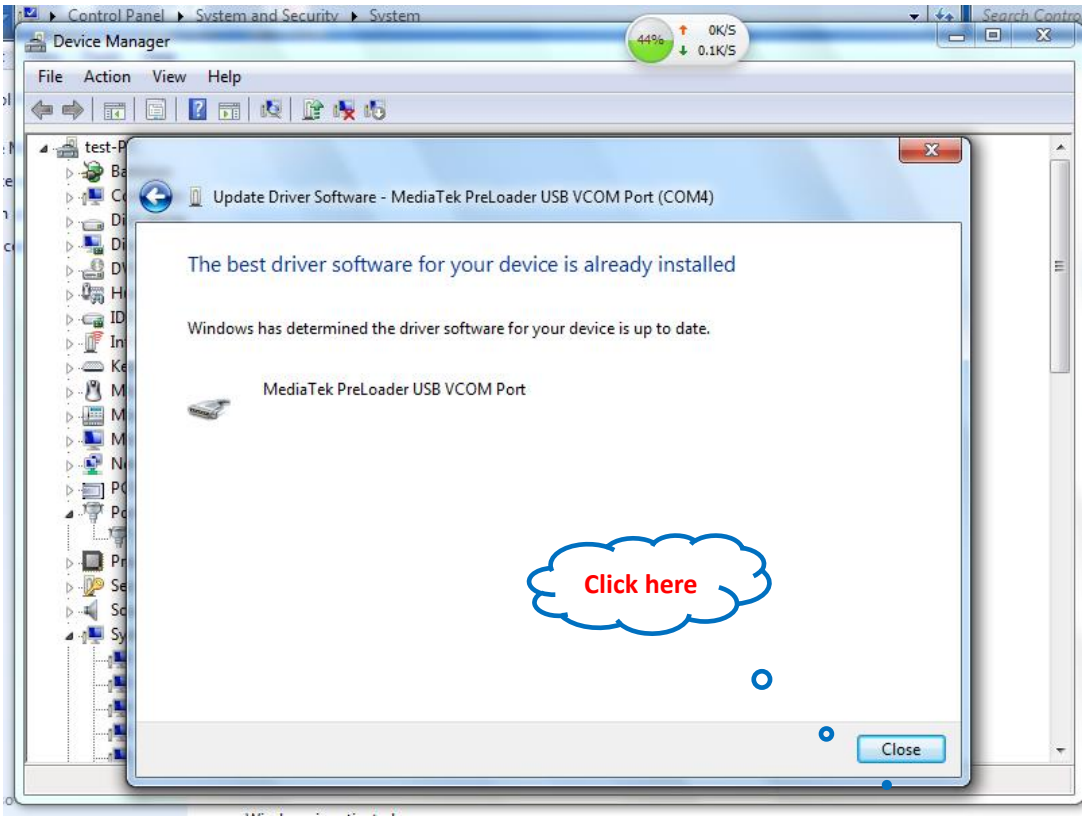
2> click ''browser'' and choose the driver saved path'' USB VCOM-Driver'' and then click confirm and next step.



3> USB driver is installing.



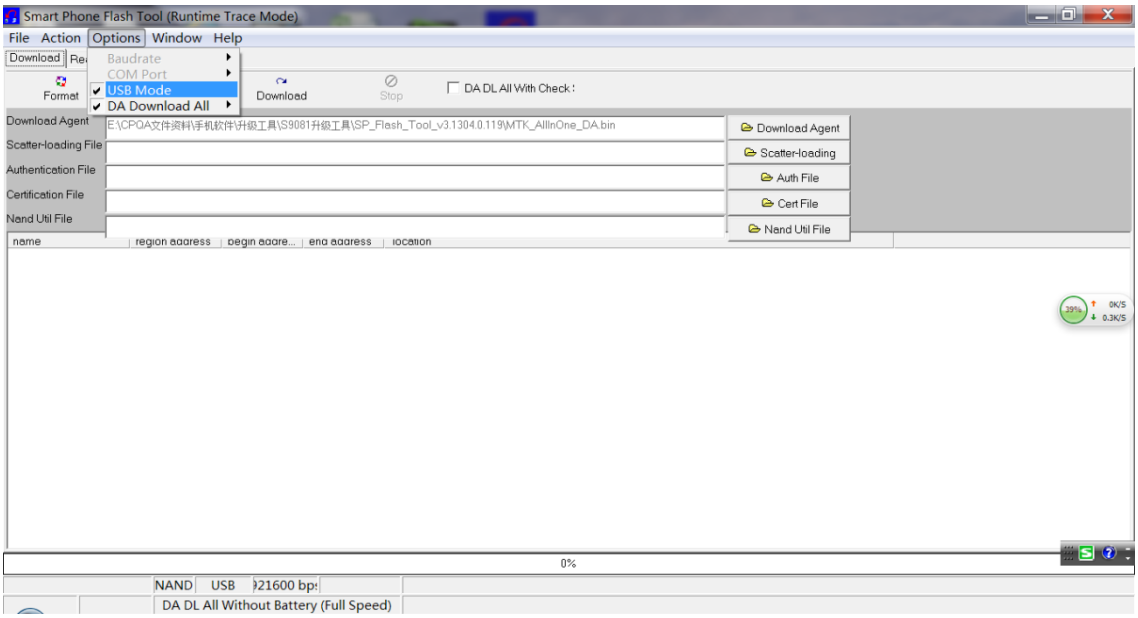
4> click'' finished'' as below.



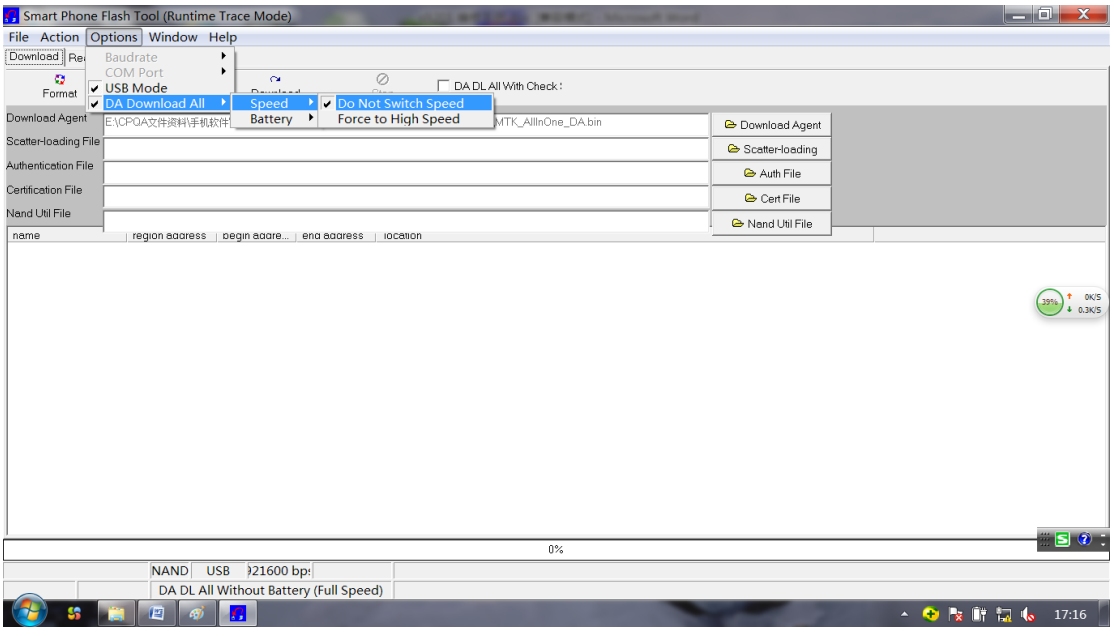
2>. Software upgrade

1> Open software upgrading platform'' SP_Flash_Tool_v3.1304.0.119

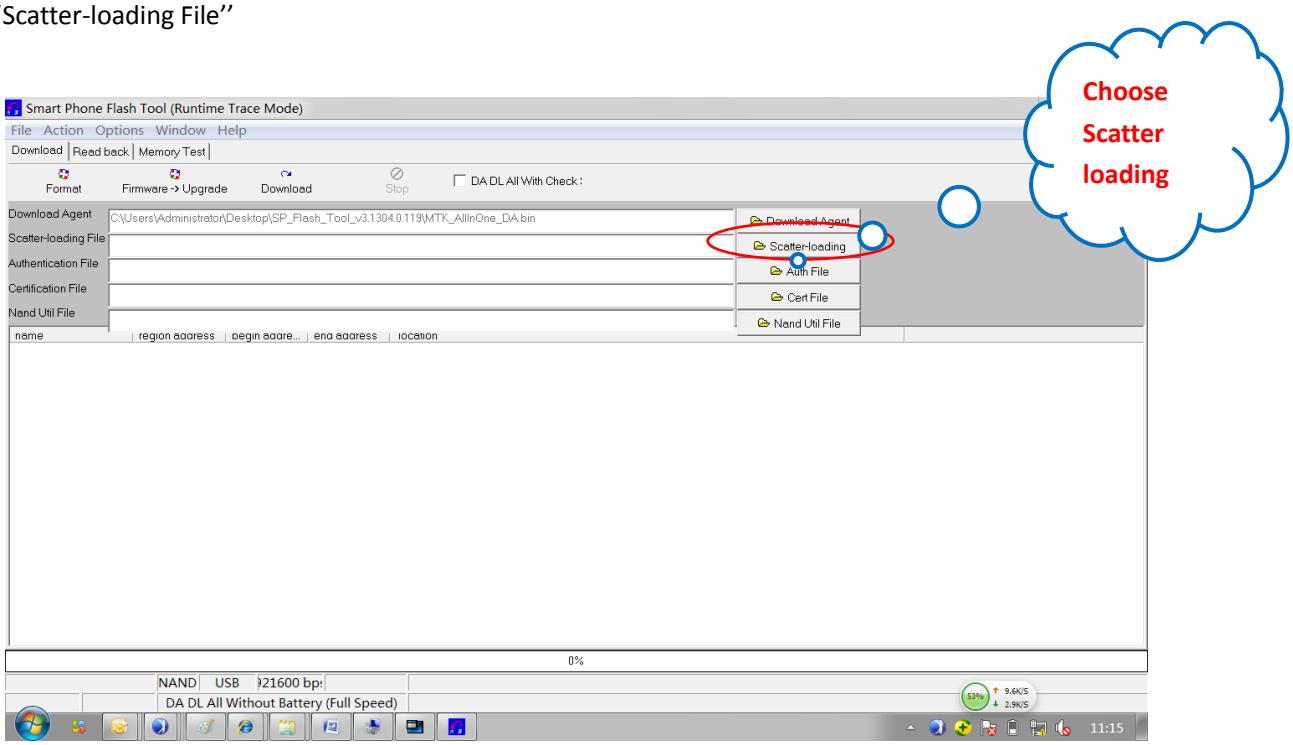
2> Choose ''USB mode''



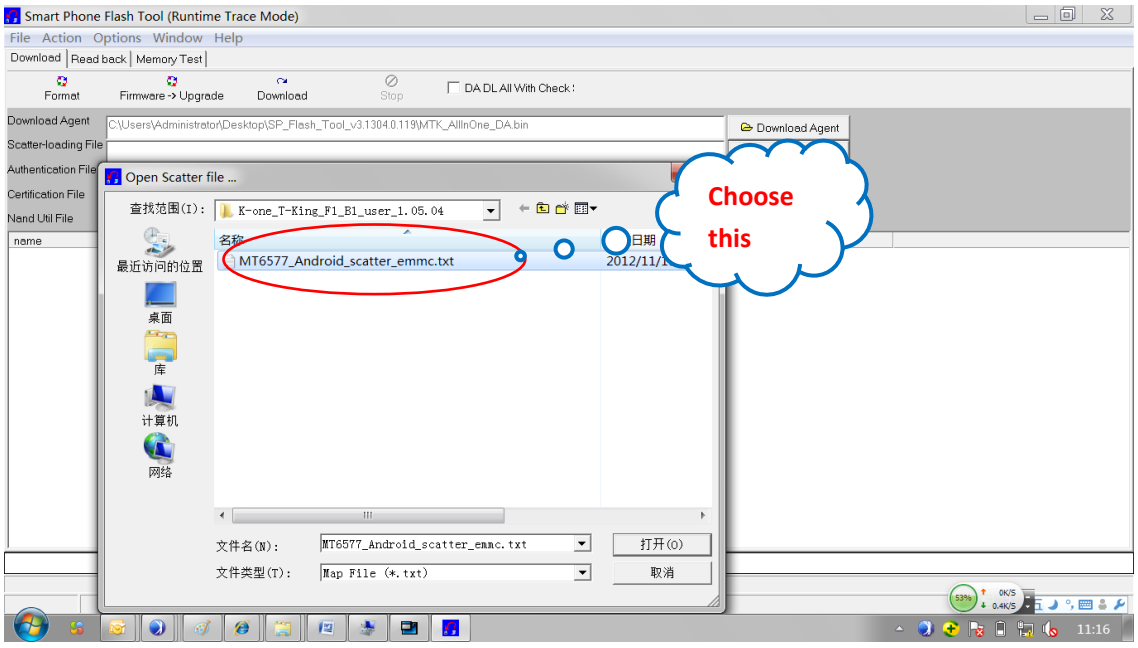
3>choose'' speed''===>''Do Not Switch speed''



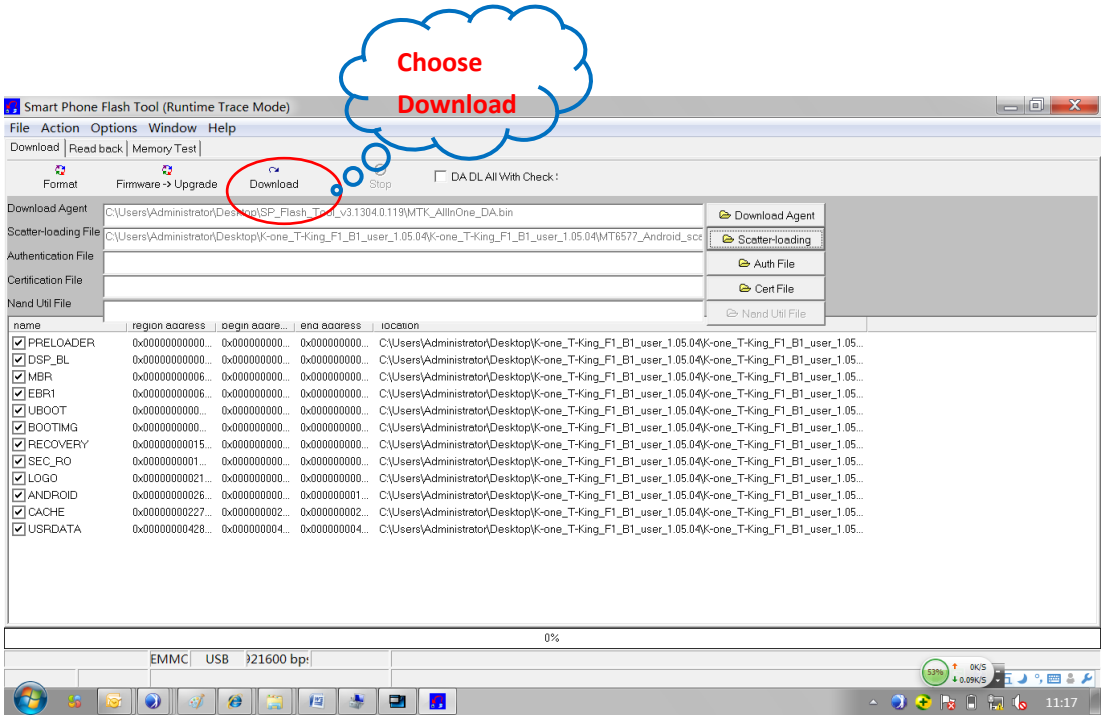
4>choose''Scatter-loading File''



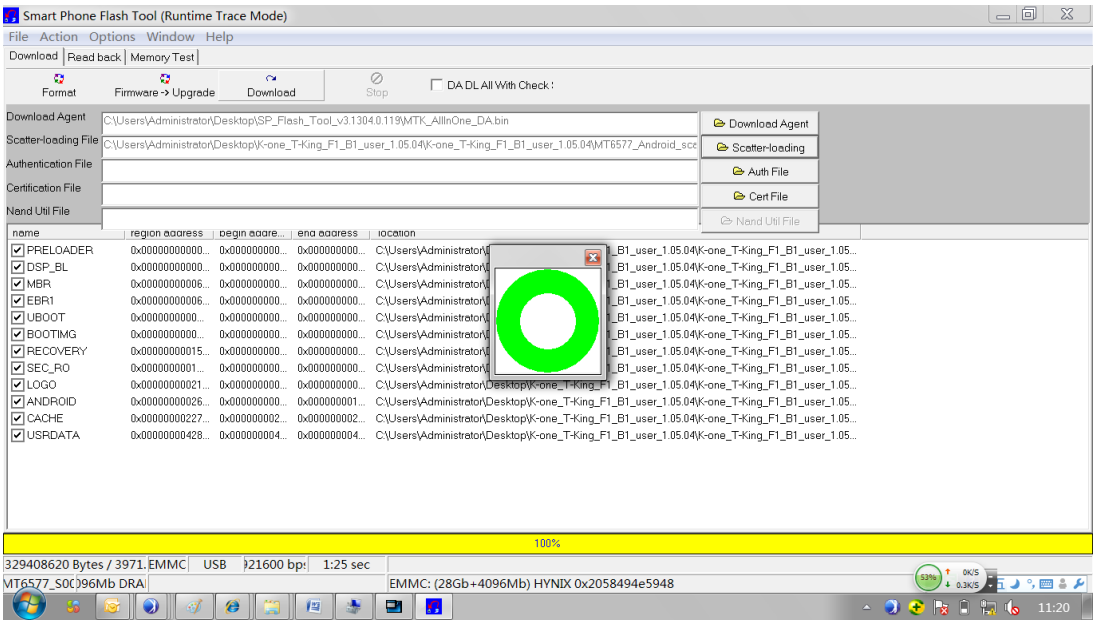
5>Click 'Scatter-loading'' to choose file''MT6577_Android_scatter.emmc.txt''



6> the software is upgrading.



7> Finished.



8>:

Description: can’ t power on (also upgrade software fail)

Root cause: red scroll 100% run completely when upgrade software, the detail as figure 1, also it prove power supply, clock is normal and defective typical issue is focus on CPU or FLASH poor soldering or damage, and maybe software do not fit for hardware.

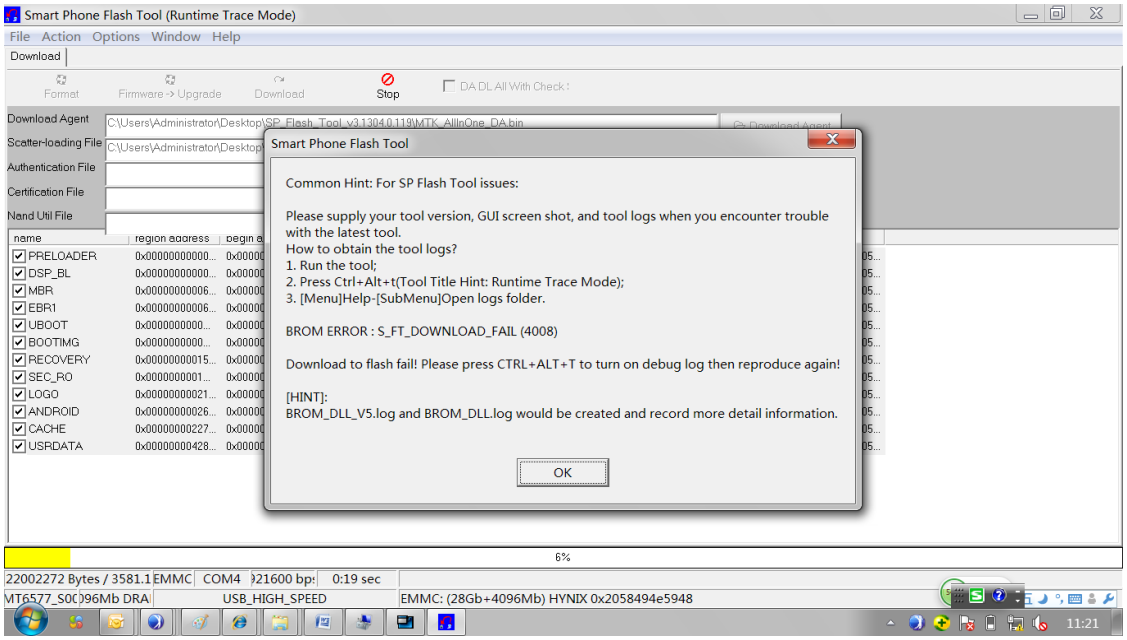
Corrective action:

1:My mobile phone, electric

2:Run the tool

3:press Ctrl+Alt+t(Tool Title Hint: Runtime Trace Mode)

4:(Mene) help-(submenu)Open logs folder



CHAPTER 8 TEST

NO	Factory Mode operation steps
1	At the phone power off condition, press the kes of Vol-up,down and power together,then choose the Vol-down key to choose the factory mode.
2	After enter the Factory mode, then choose the Essential item test,
3	Enter Version testing to check if the SN number is ok
4	Enter keys testing to check if all the keys work normally
5	Enter the TP testing to check if the TP work normally.
6	Enter the LCD testing to check the picture with the up and down keys, after finish the last picture, return ba
7	Enter the auto backlight change, it shows brightest-darkest-brightest for 3 times, then return to the PASS/FAIL to choose the menu
8	Enter "Memory Card" testing:Phone will test automatically and then display "pass".(Need to execute the "Format Emmc FAT")
9	Enter "Vibrator" testing: Check if the phone's vibrator works normally.
10	Enter "LED" light testing: Check if the light works normally and check if the TP key light is OK
11	Enter "Speaker OC Test" for speaking testing: If the speaker have voice means the speaker is ok.
12	Enter "Loopback" to test Mic1 and Mic2 to check if the Mic work normally.
13	Enter" Receiver" Testing: Check if there is voice from receiver.
14	Enter " G-sensor_Calibration": Keep the phone as horizonta, choose the " Do Calibration" then press the menu key for calibration. Do not touch the TP during the calibration process, after the phone shows Calibration: okay, then check the item "R". Item"R" include the data of X,Y,Z, when X,Y are less than 0.5, and Z is between 9.5 to 10, it means calibration OK.
15	Choose " G-Sensor" testing: Keep the phone located horizonta to check the data of X,Y,Z(X,Y should less than 0.5, Z should between 9.5 to 10), and (Z+)ok, it means the test pass, if NG, it means the phone not located horizonta.
16	Enter"M-Sensor" to check if the X,Y,Z have change.
17	Enter "ALS/PS" testing: Use the hand to cover the above half of the TP to check if ALS、PS have change, if it shows "0" means the test pass.
18	Enter" Battery & Charging" testing: connect the phone to charger, the CHGR Volt should exceed 4500mV, CHGR Curr should exceed 200mA. Meanwhile, the charger can work normally means the test PASS.
19	Output testing report(Testing ok display green, testing NG display red), after finish all the test items, use the vol key to choose back, then return to the factory mode to choose the reboot.(restart the phone)

NO	Function testing on normal condition
1	Phone Camera photo testing: Menu->Camera->Take photo->Photo auto stored->Check if the photo is ok->delete the photo.
2	Phone Camera Video testing: Menu->Camera->Take video->Video auto stored->Check if the video is ok->delete the video
3	Music play testing: Menu->Music->find the music file and check if the music playing normally.
4	USB testing and charging testing: Use the USB cable to connect the phone to the power, check if the battery charging normally. Then use the USB cable connect the phone to the computer to confirm if the data trasfer is normal.
5	WIFI testing: Menu->Setting->Open wifi->click the wifi setting to confirm if the wifi connection is ok
6	BT testing: Menu-> Setting->Open BT->click the BT setting to confirm if the BT connection is ok
7	FM testing: Menu->Choose FM-> Insert the earphone to check if the FM channel work normally.
8	GPS testing: Menu->Setting->Location information access permission-Click access permission->Turn back to main menu, then open the map to check if the positioning is ok