

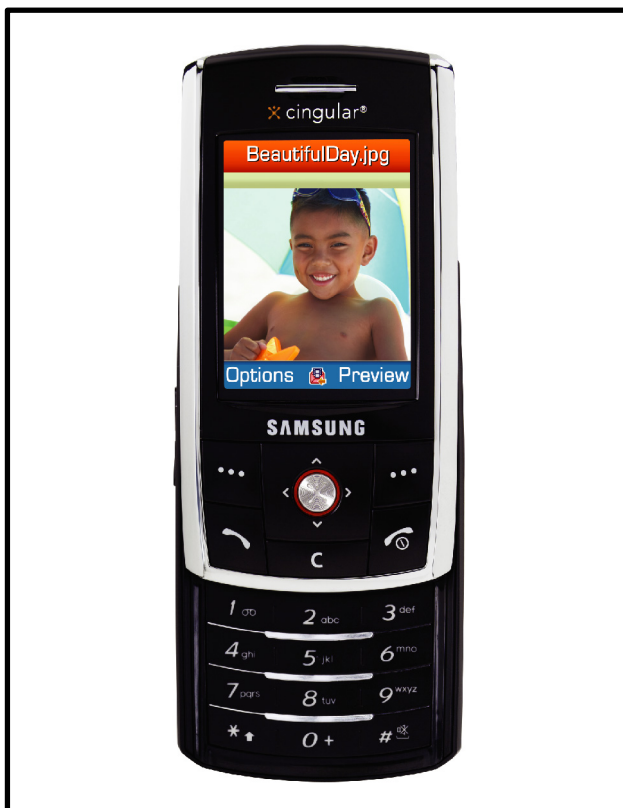
**SAMSUNG**

# GSM TELEPHONE

## SGH-D807

# **SERVICE** *Manual*

### GSM TELEPHONE



### CONTENTS

1. Safety Precautions
2. General Introduction
3. Specification
4. Product Function
5. Circuit Description
6. Test Command & Test Procedure
7. Array course control
8. Exploded View and Parts List
9. Disassembly and Assembly instructions
10. MAIN Electrical Parts List
11. Flow Chart of Troubleshooting
12. PCB Diagrams
13. Block Diagrams
14. Reference data

**SAMSUNG  
ELECTRONICS**



# Contents

## 1. Safety Precautions

- 1-1. Repair Precaution .....1-1
- 1-2. ESD(Electrostatically Sensitive Devices) Precaution .....1-2

## 2. General Introduction

## 3. Specification

- 3-1. GSM General Specification .....3-1
- 3-2. GSM TX power class .....3-2
- 3-3. EDGE TX Power Level .....3-3

## 4. Product Function

## 5. Circuit Description

## 6. Test Command & Test Procedure

- 6-1. Calibration Equipment .....6-1
- 6-2. Calibration Program .....6-1
- 6-3. Tx Power Tune up Procedure .....6-2

## 7. Array course control

- 7-1. Downloading Binary Files .....7-1
- 7-2. Pre-requisition for Downloading .....7-1
- 7-3. S/W Downloader Program .....7-2
- 7-4. How to Download .....7-2

## 8. Exploded View and Parts List

- 8-1. Cellular phone Exploded View .....8-1
- 8-2. Cellular phone Parts list .....8-2

## 9. Disassembly and Assembly instructions

- 9-1. Disassembly .....9-1
  - 9-2. Assembly .....9-7
  - 9-3. KIT Assembly .....9-10
  - 9-4. Window Disassembly .....9-13
-

# Contents

## 10. MAIN Electrical Parts List

## 11. Flow Chart of Troubleshooting

### 11-1. Baseband

|                                                  |       |
|--------------------------------------------------|-------|
| 11-1-1. Power ON .....                           | 11-1  |
| 11-1-2. Initial .....                            | 11-6  |
| 11-1-3. Sim Part .....                           | 11-9  |
| 11-1-4. Microphone Part .....                    | 11-10 |
| 11-1-5. Speaker Part_1(MP3, SPEAKER PHONE) ..... | 11-12 |
| 11-1-6. Speaker Part_2(RECEIVER) .....           | 11-16 |
| 11-1-7. Charging Part .....                      | 11-18 |

### 11-2. RF

|                              |       |
|------------------------------|-------|
| 11-2-1. GSM850/EGSM RX ..... | 11-21 |
| 11-2-2. DCS RX .....         | 11-23 |
| 11-2-3. PCS RX .....         | 11-25 |
| 11-2-4. GSM850/EGSM TX ..... | 11-26 |
| 11-2-5. DCS/PCS TX .....     | 11-28 |

## 12. PCB Diagrams

## 13. Block Diagrams

## 14. Reference data

---

---

# 1. Safety Precautions

---

## 1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.  
Take specially care of tuning or test,  
because specipicty of cellular phone is sensitive for surrounding interference(RF noise).
- Be careful to use a kind of magnetic object or tool,  
because performance of parts is damaged by the influence of manetic force.
- Surely use a standard screwdriver when you disassemble this product,  
otherwise screw will be worn away.
- Use a thicken twisted wire when you measure level.  
A thicken twisted wire has low resistance, therefore error of measurement is few.
- Repair after separate Test Pack and Set because for short danger (for example an  
overcurrent and furious flames of parts etc) when you repair board in condition of  
connecting Test Pack and tuning on.
- Take specially care of soldering, because Land of PCB is small and weak in heat.
- Surely tune on/off while using AC power plug, because a repair of battery charger is  
dangerous when tuning ON/OFF PBA and Connector after disassembling charger.
- Don't use as you pleases after change other material than replacement registered on SEC  
System. Otherwise engineer in charge isn't charged with problem that you don't keep this  
rules.

## **1-2. ESD(Electrostatically Sensitive Devices) Precaution**

Several semiconductor may be damaged easily by static electricity. Such parts are called by ESD(Electrostatically Sensitive Devices), for example IC,BGA chip etc. Read Precaution below. You can prevent from ESD damage by static electricity.

- Remove static electricity remained your body before you touch semiconductor or parts with semiconductor. There are ways that you touch an earthed place or wear static electricity prevention string on wrist.
- Use earthed soldering steel when you connect or disconnect ESD.
- Use soldering removing tool to break static electricity. , otherwise ESD will be damaged by static electricity.
- Don't unpack until you set up ESD on product. Because most of ESD are packed by box and aluminum plate to have conductive power,they are prevented from static electricity.
- You must maintain electric contact between ESD and place due to be set up until ESD is connected completely to the proper place or a circuit board.

---

## 2. General Introduction

---

The SGH-D807 Quad Band phone functions as digital phone working in GSM (Global System for Mobile communications)850,EGSM900, DCS1800 and PCS(PersonalCommunication System)1900 modes.

### <Specification>

- Dimension : 99.9x52.0x15.4 mm (with Standard Battery)
- LCD : QCIF(176×220) TFT, 2.12"
- R/F band : GSM850 / EGSM 900 / DCS1800 / PCS1900
- Vocoder : EFR + FR + HR + AMR
- Antenna : Intenna type
- SIM : 3 Voltage operation
- BLUETOOTH : VER 1.2

### <GPRS/EGPRS Factor>

- MS Class : Class B
- GPRS Phase : GSM Phase II+
- Multi-slot : GPRS/EGPRS Class 10 (2 Up-link, 4 Down-link, 5 Sum)
- SMG : SMG #31
- Coding scheme : CS1 - CS4(GPRS), MCS5 - MCS9(EGPRS) support
- Power class : GSM850 - Class 4 (2W)  
EGSM900 - Class 4 (2W)  
DCS1800 - Class 1 (1W)  
PCS1900 - Class 1 (1W)
- WAP 2.0 Browser
- SIM AT(Application Toolkit)
- 40 Polyphonic Ringtone

### < Basic Package >

- Handset + Standard Battery + TA  
+ User Guide

### < Option Item >

- Battery : Li-Ion, 880mA
- Travel Adapter
- Ear Microphone
- Bluetooth Headset
- Bluetooth Hands Free Kit
- Car Charger/Adapter

## 3. Specification

### 3-1. GSM General Specification

|                                    |      | <b>GSM850</b>            | <b>EGSM900</b>           | <b>DCS1800</b>           | <b>PCS1900</b>           |
|------------------------------------|------|--------------------------|--------------------------|--------------------------|--------------------------|
| Freq. Band[MHz]<br>Uplink/Downlink |      | 824~849<br>869~894       | 880~915<br>925~960       | 1710~1785<br>1805~1880   | 1850~1910<br>1930~1990   |
| ARFCN range                        |      | 128~251                  | 0~124&<br>975~1023       | 512~885                  | 512~810                  |
| Tx/Rx spacing                      |      | 45 MHz                   | 45 MHz                   | 95 MHz                   | 80 MHz                   |
| Mod. Bit<br>rate/<br>Bit Period    | GPRS | 270.833 Kbps<br>3.692 us | 270.833 Kbps<br>3.692 us | 270.833 Kbps<br>3.692 us | 270.833 Kbps<br>3.692 us |
|                                    | EDGE | 812.5 Kbps<br>3.692 us   | 812.5 Kbps<br>3.692 us   | 812.5 Kbps<br>3.692 us   | 812.5 Kbps<br>3.692 us   |
| Time Slot<br>Period/Frame Period   |      | 576.9 us<br>4.615 ms     | 576.9 us<br>4.615 ms     | 576.9 us<br>4.615 ms     | 576.9 us<br>4.615 ms     |
| Modulation                         | GPRS | 0.3 GMSK                 | 0.3 GMSK                 | 0.3 GMSK                 | 0.3 GMSK                 |
|                                    | EDGE | 8 PSK                    | 8 PSK                    | 8 PSK                    | 8 PSK                    |
| MS Power                           | GPRS | 33 dBm~5 dBm             | 33 dBm~5 dBm             | 30 dBm~0 dBm             | 30 dBm~0 dBm             |
|                                    | EDGE | 27~5 dBm                 | 27~5 dBm                 | 26~0 dBm                 | 26~0 dBm                 |
| Power Level                        | GPRS | 5~19(class4)             | 5~19(class4)             | 0~15(class1)             | 0~15(class1)             |
|                                    | EDGE | 8~19(class E2)           | 8~19(class E2)           | 2~15(class E2)           | 2~15(class E2)           |
| Sensitivity                        |      | -102 dBm                 | -102 dBm                 | -100 dBm                 | -102 dBm                 |
| TDMA Mux                           |      | 8                        | 8                        | 8                        | 8                        |
| Cell Radius                        |      | 35 Km                    | 35 Km                    | 2 Km                     | 2 Km                     |

### 3-2. GSM TX power class

| <b>TX<br/>Power<br/>control<br/>level</b> | <b>GSM850</b> | <b>TX<br/>Power<br/>control<br/>level</b> | <b>EGSM900</b> | <b>TX<br/>Power<br/>control<br/>level</b> | <b>DCS1800</b> | <b>TX<br/>Power<br/>control<br/>level</b> | <b>PCS1900</b> |
|-------------------------------------------|---------------|-------------------------------------------|----------------|-------------------------------------------|----------------|-------------------------------------------|----------------|
| 5                                         | 33±2 dBm      | 5                                         | 33±2 dBm       | 0                                         | 30±3 dBm       | 0                                         | 30±3 dBm       |
| 6                                         | 31±2 dBm      | 6                                         | 31±2 dBm       | 1                                         | 28±3 dBm       | 1                                         | 28±3 dBm       |
| 7                                         | 29±2 dBm      | 7                                         | 29±2 dBm       | 2                                         | 26±3 dBm       | 2                                         | 26±3 dBm       |
| 8                                         | 27±2 dBm      | 8                                         | 27±2 dBm       | 3                                         | 24±3 dBm       | 3                                         | 24±3 dBm       |
| 9                                         | 25±2 dBm      | 9                                         | 25±2 dBm       | 4                                         | 22±3 dBm       | 4                                         | 22±3 dBm       |
| 10                                        | 23±2 dBm      | 10                                        | 23±2 dBm       | 5                                         | 20±3 dBm       | 5                                         | 20±3 dBm       |
| 11                                        | 21±2 dBm      | 11                                        | 21±2 dBm       | 6                                         | 18±3 dBm       | 6                                         | 18±3 dBm       |
| 12                                        | 19±2 dBm      | 12                                        | 19±2 dBm       | 7                                         | 16±3 dBm       | 7                                         | 16±3 dBm       |
| 13                                        | 17±2 dBm      | 13                                        | 17±2 dBm       | 8                                         | 14±3 dBm       | 8                                         | 14±3 dBm       |
| 14                                        | 15±2 dBm      | 14                                        | 15±2 dBm       | 9                                         | 12±4 dBm       | 9                                         | 12±4 dBm       |
| 15                                        | 13±2 dBm      | 15                                        | 13±2 dBm       | 10                                        | 10±4 dBm       | 10                                        | 10±4 dBm       |
| 16                                        | 11±2 dBm      | 16                                        | 11±2 dBm       | 11                                        | 8±4 dBm        | 11                                        | 8±4 dBm        |
| 17                                        | 9±2 dBm       | 17                                        | 9±2 dBm        | 12                                        | 6±4 dBm        | 12                                        | 6±4 dBm        |
| 18                                        | 7±2 dBm       | 18                                        | 7±2 dBm        | 13                                        | 4±4 dBm        | 13                                        | 4±4 dBm        |
| 19                                        | 5±2 dBm       | 19                                        | 5±2 dBm        | 14                                        | 2±5 dBm        | 14                                        | 2±5 dBm        |
|                                           |               |                                           |                | 15                                        | 0±5 dBm        | 15                                        | 0±5 dBm        |

### 3-3. EDGE TX Power Level

| <b>TX Power control level</b> | <b>GSM850</b> | <b>TX Power control level</b> | <b>EGSM900</b> | <b>TX Power control level</b> | <b>DCS1800</b> | <b>TX Power control level</b> | <b>PCS1900</b> |
|-------------------------------|---------------|-------------------------------|----------------|-------------------------------|----------------|-------------------------------|----------------|
| 8                             | 27±3 dBm      | 8                             | 27±3 dBm       | 2                             | 26±3 dBm       | 2                             | 26±3 dBm       |
| 9                             | 25±3 dBm      | 9                             | 25±3 dBm       |                               |                | 3                             | 24±3 dBm       |
| 10                            | 23±3 dBm      | 10                            | 23±3 dBm       |                               |                | 4                             | 22±3 dBm       |
| 11                            | 21±3 dBm      | 11                            | 21±3 dBm       |                               |                | 5                             | 20±3 dBm       |
| 12                            | 19±3 dBm      | 12                            | 19±3 dBm       |                               |                | 6                             | 18±3 dBm       |
| 13                            | 17±3 dBm      | 13                            | 17±3 dBm       |                               |                | 7                             | 16±3 dBm       |
| 14                            | 15±3 dBm      | 14                            | 15±3 dBm       |                               |                | 8                             | 14±3 dBm       |
| 15                            | 13±3 dBm      | 15                            | 13±3 dBm       |                               |                | 9                             | 12±4 dBm       |
| 16                            | 11±5 dBm      | 16                            | 11±5 dBm       |                               |                | 10                            | 10±4 dBm       |
| 17                            | 9±5 dBm       | 17                            | 9±5 dBm        |                               |                | 11                            | 8±4 dBm        |
| 18                            | 7±5 dBm       | 18                            | 7±5 dBm        |                               |                | 12                            | 6±4 dBm        |
| 19                            | 5±5 dBm       | 19                            | 5±5 dBm        |                               |                | 13                            | 4±4 dBm        |
|                               |               |                               |                |                               |                | 14                            | 2±5 dBm        |
|                               |               |                               |                |                               |                | 15                            | 0±5 dBm        |

---

## 4. Product Function

---

### Main Function

- **1.3 Mega Pixel Camera**
- **Instant Messaging Capability**
- **Multimedia Capability**
- **Bluetooth Wireless Technology**
- **Voice Command Feature**
- **Speakerphone Capability**
- **Personal Assistant feature provides alarms, calendar, calculator, timer, stopwatch, record audio, world time, and converter.**

---

## 5. Circuit Description

---

### < RF Circuit Description of SGH-D807 >

#### 1. FEM (DUF400)

==> Switching Tx, Rx path for GSM850, EGSM900, DCS1800 and PCS1900 controlled by logic.

Integration of GSM850, EGSM900, DCS1800 and PCS1900 RX SAW Filters.

To convert Electromagnetic Field Wave to Acoustic Wave and the pass the specific frequency band.

- for filtering the frequency band 824 ~ 849 / 869 ~ 894 MHz
- for filtering the frequency band 880 ~ 915 / 925 ~ 960 MHz
- for filtering the frequency band 1710 ~ 1785 / 1805 ~ 1880 MHz
- for filtering the frequency band 1850 ~ 1910 / 1930 ~ 1990 MHz

#### 2. FEM Control Logic

==> Truth Table

|                               | <b>VC1</b> | <b>VC2</b> | <b>VC3</b> |
|-------------------------------|------------|------------|------------|
| <b>GSM850 Rx Mode</b>         | <b>L</b>   | <b>L</b>   | <b>H</b>   |
| <b>EGSM900 Rx Mode</b>        | <b>L</b>   | <b>L</b>   | <b>L</b>   |
| <b>GSM850/EGSM900 Tx Mode</b> | <b>L</b>   | <b>H</b>   | <b>L</b>   |
| <b>DCS/PCS Rx Mode</b>        | <b>L</b>   | <b>L</b>   | <b>L</b>   |
| <b>DCS/PCS Tx Mode</b>        | <b>H</b>   | <b>L</b>   | <b>L</b>   |

#### 3. VC-TCXO(TCX400)

==> To generate the 26 MHz reference clock to drive the logic and RF.

After additional process, the reference clock applies to the U401 VCXOB pin to modulate TXIQ and demodulate RXIQ.

#### 4. HD155154NP (U405)

==> The HD155154NP is a RF tranceiver IC for GS850, EGSM900 DCS1800 and PCS1900 QUAD band cellular systems, and incorporates EDGE tranceiver capabillity, and integrates most of the low power silicon functions of a tranceiver. The HD155154NP incorporates triple RF LNAs, direct conversion mixers which are IQ demodulator, an auto offset calibrated programmable gain amplifier with baseband filter for both IQ chains, RF architecture for the transmitter. Moreover the HD155154NP includes power mode controller to optimize the power consumption. These functions can operate down to 2.7V and are housed in a 48-pin DPE QFN SMD package.

- RX Function
  - Differential Low Noise Amplifiers
  - Direct Conversion mixer and IQ demodulator with 90 degree phase splitter.
  - Auto offset calibrated programmable gain amplifier with baseband filter(PGA)
- TX Function
  - I/Q modulator with 90 degree phase splitter
  - Offset PLL
    - Phase comparator included fast lock system (Digital phase detector)
- Polar loop
  - Lineariser
  - Voltage gain amplifier
  - Inverse voltage gain amplifier
  - Down converter
  - AM detector
- PLL Synthesiser
  - RF Synthesiser for RX/TX RF local included fast lock system
  - 400kHz comparison frequency to achieve faster lock-up time

## 5. POWER AMP (PAM406)

==> The PF09025B is a high-power, high-efficiency power amplifier module with integrated power control

- Quad band Polar Loop Amplifier for GSM850 (824 to 849 MHz), GSM900(880 to 915 MHz), DCS1800(1710 to 1785 MHz) and PCS1900 (1850 to 1910 MHz).
- For 3.5 V normal operation
- Built in LDO
- Superb output linearity
- High gain 3-stage amplifier : +5dBm input typical
- GPRS / EGPRS Operation Compatible
- Small package : 8.0 X 8.0 mm

## < Baseband Circuit description of SGH-D807 >

### 1. CSP2750 (UCD101)

==> The CSP2750 has two major logical components power management and conversion signal processing.

The PSC component is responsible for all power-related functionality, including the following;

- Power management for RF, BB and ancillary devices within the GSM/GPRS
- Battery-charge management
- Reset control
- SIM card voltage-level shifting

The CSP component is responsible for the following ;

- Intraframe event scheduling
- Voice band processing, including voice band ADC and DAC
- Analog baseband processing, including baseband ADC and DAC
- Providing RF interface for Trident digital baseband device
- Transmitter Power control
- Automatic frequency control
- A5 ciphering
- Low-power sleep mode and wake-up control

The CSP2750 has the following major physical components;

- Timing and control unit
- RF serial interface
- Low-power sleep mode controller
- Baseband Transmitter / Receiver
- Voice input and output

## 2. WM8955L(UCD503)

==> The WM8955L is a low power, high quality stereo DAC with integrated headphone and loudspeaker amplifiers, designed to reduce external component requirements in portable digital audio application.

The on-chip headphone amplifiers can deliver 40mW into a 16 $\Omega$  load. Advanced on-chip digital signal processing performs bass and treble tone control.

The WM8955L can operate as a master or a slave, and include an on-chip PLL. It can use most master clock frequencies commonly found in portable systems, including USB, GSM, CDMA or PDC clocks, or standard 256f<sub>s</sub> clock rates. Different audio sample rates such as 48kHz, 44.1kHz, 8kHz and many other are supported.

The WM8955L operates on supply voltages from 1.8V up to 3.6V, although the digital core can operate on a separate supply down to 1.42V, saving power. Different section of the chip can also be powered down under software control.

## 3. HPE(UCP201)

==> The Trident-HPE digital baseband processor is a complete system IC designed for wireless terminals that includes two digital signal processor(DSP) cores optimized for low-power communications applications and a powerful, highperformance, industry-standard microcontroller core along with a rich set of peripherals. The Trident-HPE digital baseband processor achieves best-in-class signal processing performance while maintaining the efficient software code density, low power consumption, and small physical size required for GSM/GPRS terminals ARM946E-S microcontroller core;

- 101 MHz system bus, 16 kbyte instruction and 16kbyte data caches.
- 8 kbyte tightly coupled zero wait-state instruction and 4kbyte tightly coupled zero wait-state data memory
- direct memory access controller for transparent transfer between memory and peripherals.
- External Memory interface with asynchronous burst mode support
- Synchronous serial port supporting
- Programmable 48-bit general-purpose IO unit, keyboard interface, programmable interval timer and real-time clock.

- SD/MMC controller that supports interfacing to secure digital/multimedia memory card.  
Two DSP16000 dual-MAC DSP cores;
  - Up to 404 million MACs per second at 101 MHz.
  - Memory complement;
    - DSP0 : 144K X 16-bit ROM, 40k X 16-bit RAM.
    - DSP1 : 96K X 16-bit ROM, 16k X 16-bit RAM.JTAG boundary scan and integrated H/W developement system Low power;
  - Ultralow leakage process technology for best-in-class standby power
  - Flexible power management modes to allow for maximum active power management  
Interprocessor communication hardware support between ARM, DSP0 and DSP1.
- Supported by Trident-HPE digital baseband processor software and hardware developement tools as well as industry standard ARM software and hardware developement tools Two on-chip, programmable, PLL clock synthesizers;
- one for ARM and DSP, the other one for USB.

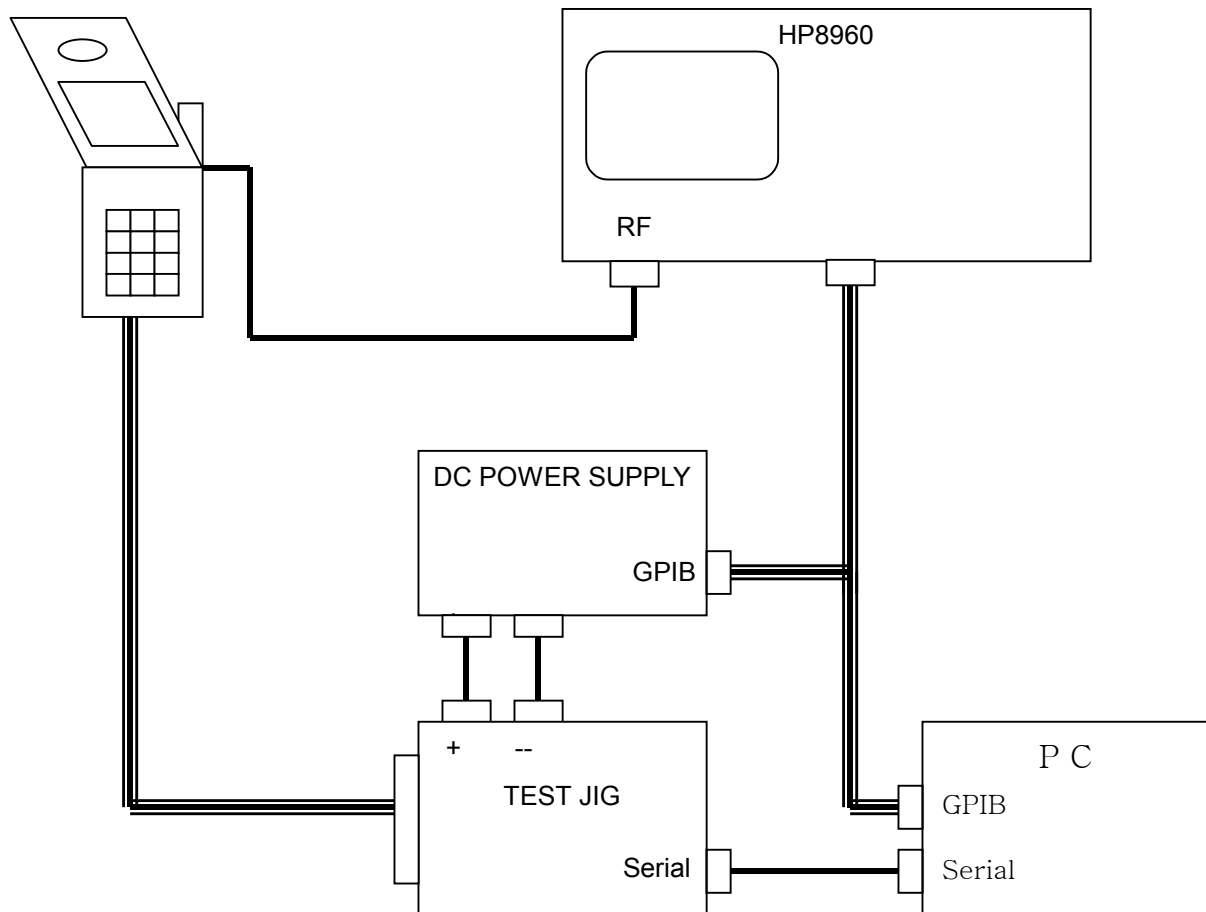
---

## 6. Test Command & Test Procedure

---

### 6-1. Calibration Equipment

- HP 8960
- DC Power Supply
- Test Jig
- Configuration



### 6-2. Calibration Program

- Samsung internal software

## 6-3. Tx Power Tune up Procedure

- GMSK

1) Procedure:

- a. Calibration equipment HP8960 and the cell phone are connected through RF cable.
- b. Target power ( required power level according to the specification which should be set by calibration program) is set to equipment as power level (ex: GSM 5 level is 32.5 dBm).
- c. Activate phone in Tx\_Mode\_Only.
- d. HP8960 equipment measures transmitted power through rf test cable from the phone and reports measured level to calibration program.
- e. The program compares measured power with the target power.
- f. The calibration program decides power code which is defined in advance in the program and writes the codes to the flash memory in the phone.

2) Target value is defined according to the value of GSM specification.  
See the TX power level definition table below.

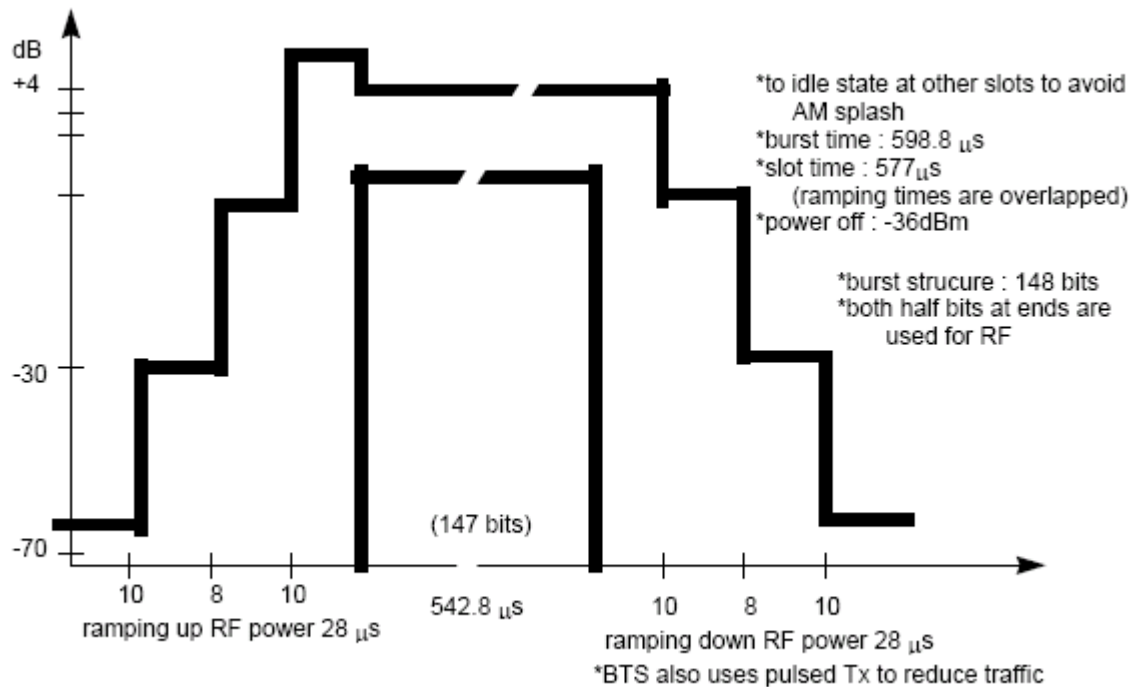
3) Target values of the peak level of the phone are set normally in conducted mode

- GSM850 5 level : 32.5 dBm
- EGSM900 5 level : 32.5 dBm
- DCS 0 level : 29.5 dBm
- PCS 0 level : 30.2 dBm (Tolerance : -2 dB ~ +1 dB )

4) Accuracy

All the TX level from the phone after tuned-up satisfy the GSM specification

5) TX ramp mask specification applied to the calibration program :



## - 8PSK

### 1) Procedure:

- Calibration equipment HP8960 and the cell phone are connected through RF cable.
- Target power ( required power level according to the specification which should be set by calibration program) is set to equipment as power level (ex: GSM 8 level is 27 dBm).
- Activate phone in Cont\_8psk\_Tx\_Mode\_Only.
- HP8960 equipment measures transmitted power through rf test cable from the phone and reports measured level to calibration program.
- The program compares measured power with the target power.
- The calibration program decides power code which is defined in advance in the program and writes the codes to the flash memory in the phone.

2) Target value is defined according to the value of EGPRS specification.  
See the TX power level definition table below.

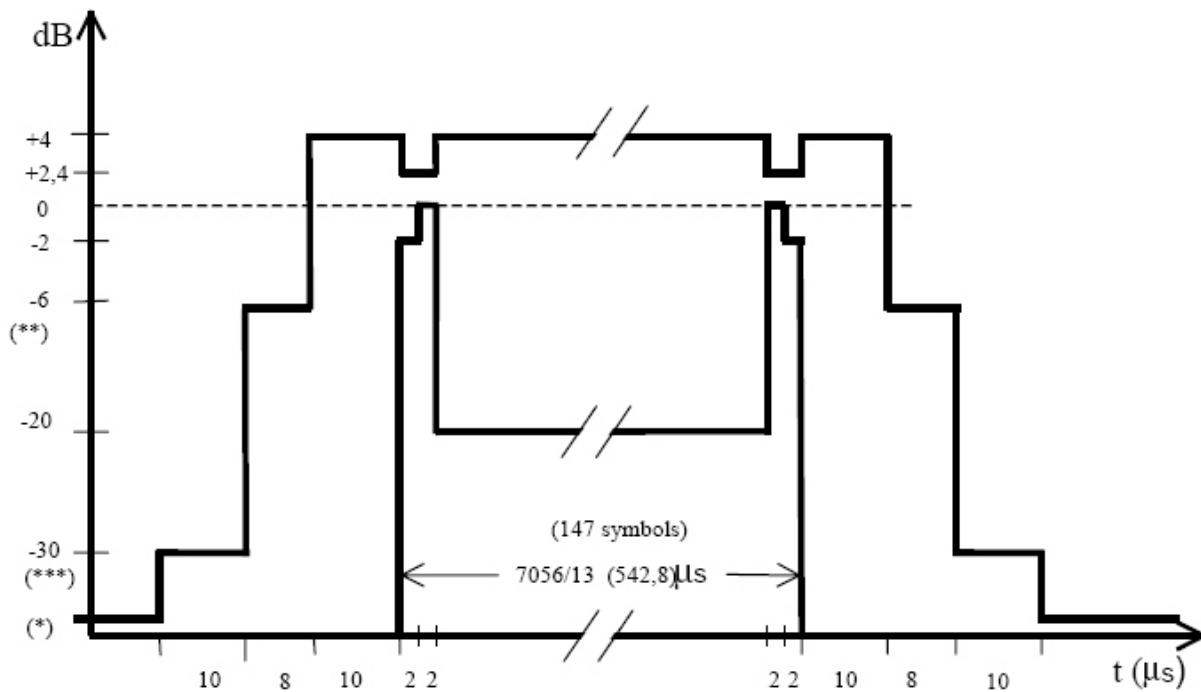
3) Target values of the peak level of the phone are set normally in conducted mode

- GSM850 8 level : 27 dBm
- EGSM900 8 level : 27 dBm
- DCS 2 level : 26 dBm
- PCS 2 level : 26 dBm (Tolerance : -2 dB ~ +1 dB )

4) Accuracy

All the TX level from the phone after tuned-up satisfy the EGPRS specification

5) TX ramp mask specification applied to the calibration program :



---

## 7. Array course control

---

- D807 DATA Cable and JTAG



### Software Downloading

#### 7-1. Downloading Binary Files

- A binary file for downloading D807.
  - gsmstack.s3

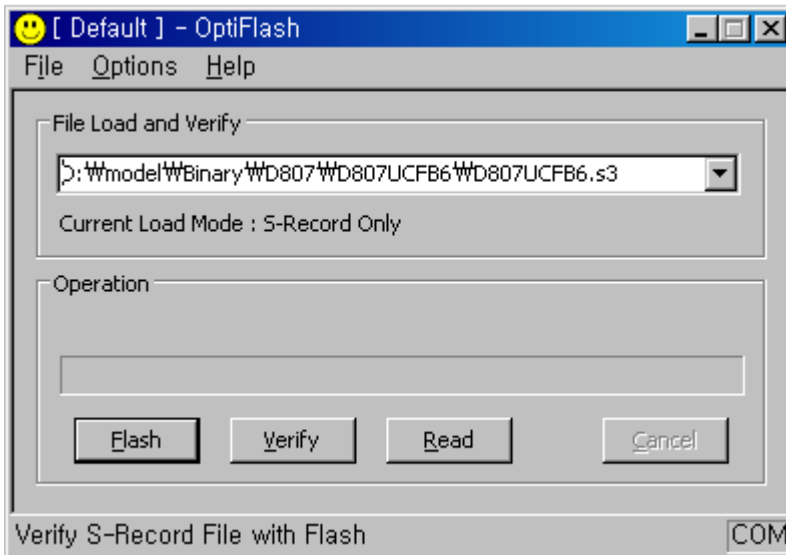
#### 7-2. Pre-requisition for Downloading

- Downloader Program(Optiflash.exe) - Optiflash version 4.16 T1 S01
- D807 Mobile Phone
- Data Cable
- Binary file

### 7-3. S/W Downloader Program

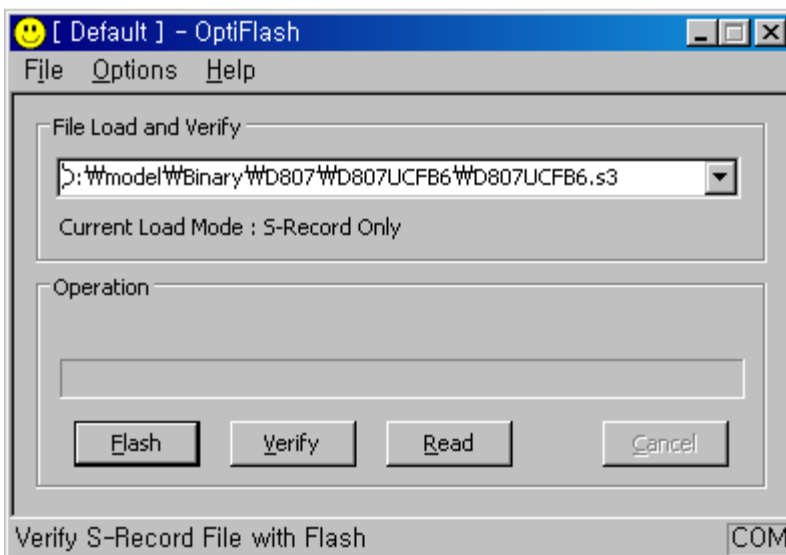
- **Optiflash application**

- Path: version(D807ucfb6)\utils\SIBLEY\_OPTIFLASH\optiflash.exe

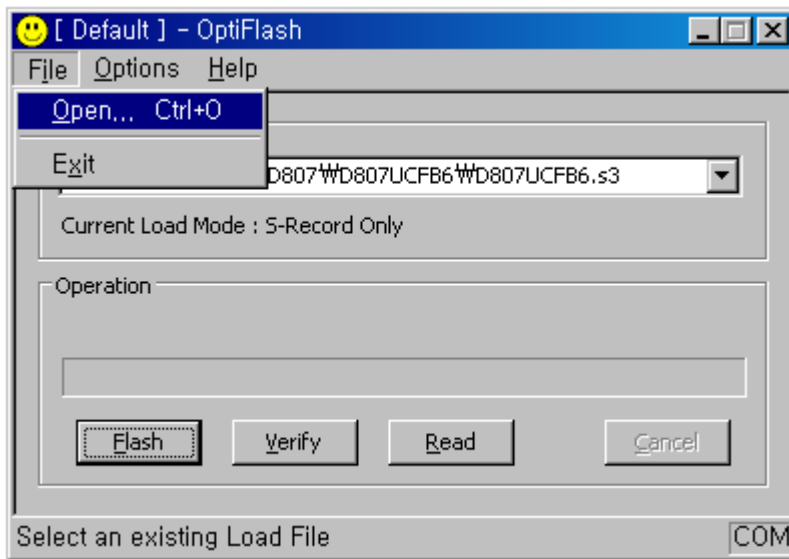


### 7-4. How to Download

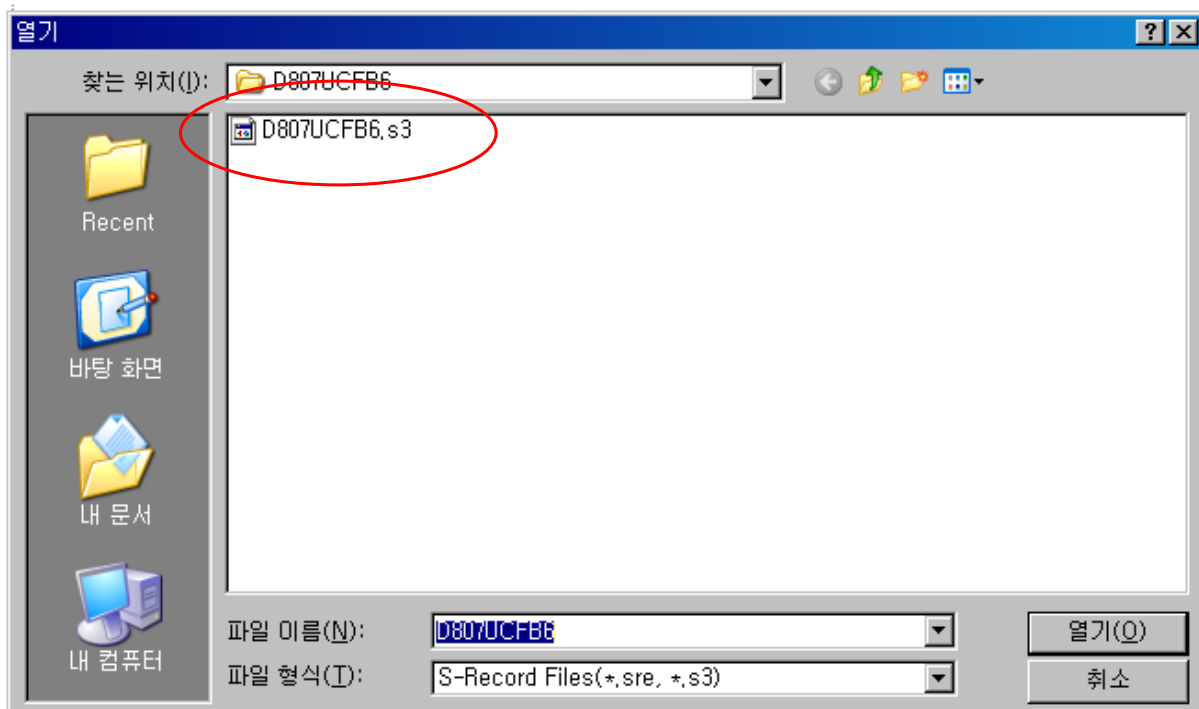
- ① **Connect the data cable and press '\*'(star)' key on the keypad simultaneously.**
- ② Run **Optiflash application** (Optiflash.exe)



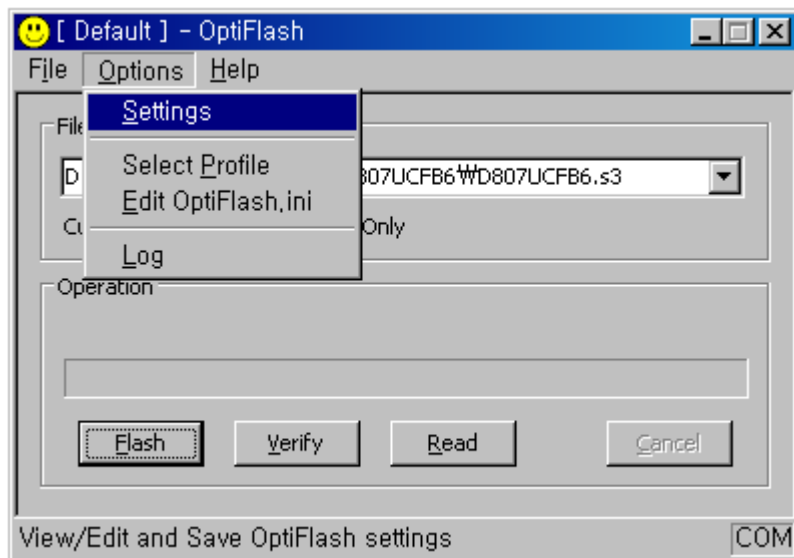
## ③ File open



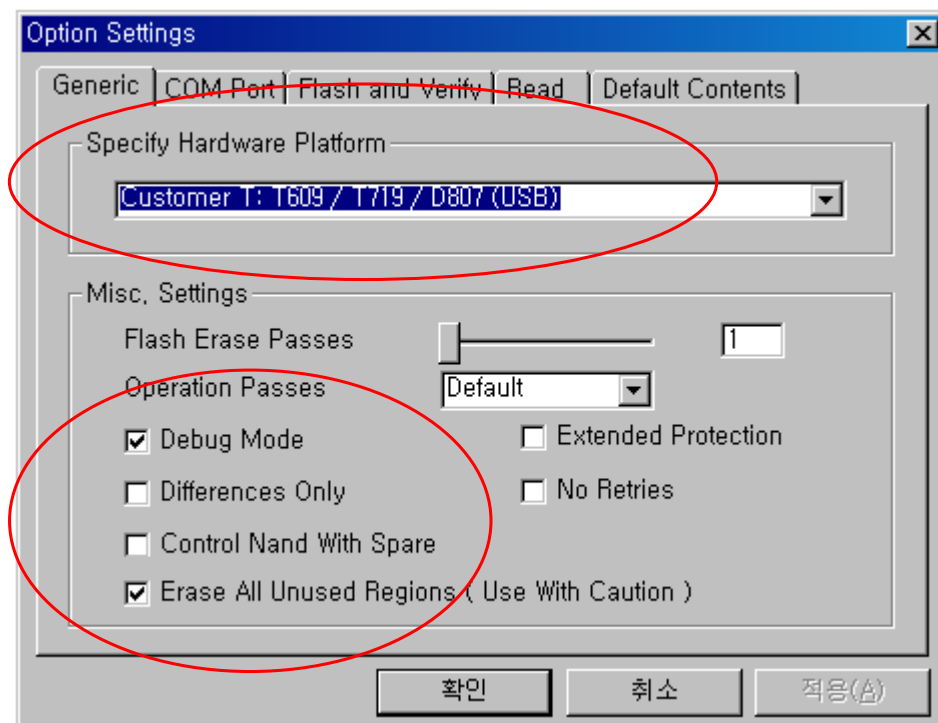
## • Select an existing load file ( usually, gsmstack.s3 )



### ③ Option

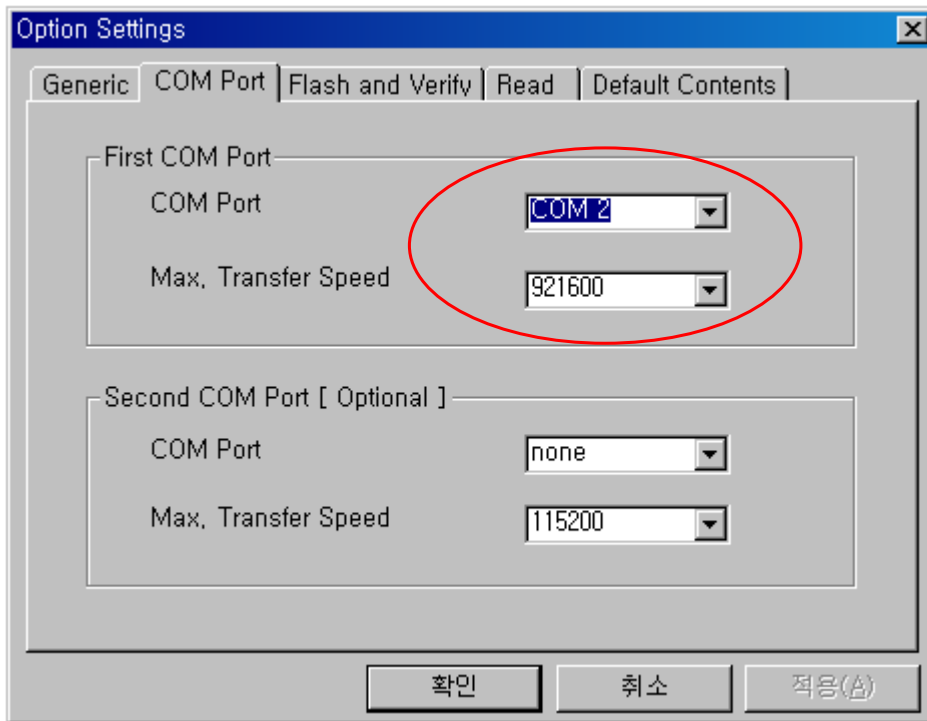


- Click '**Settings**' , Display as below.



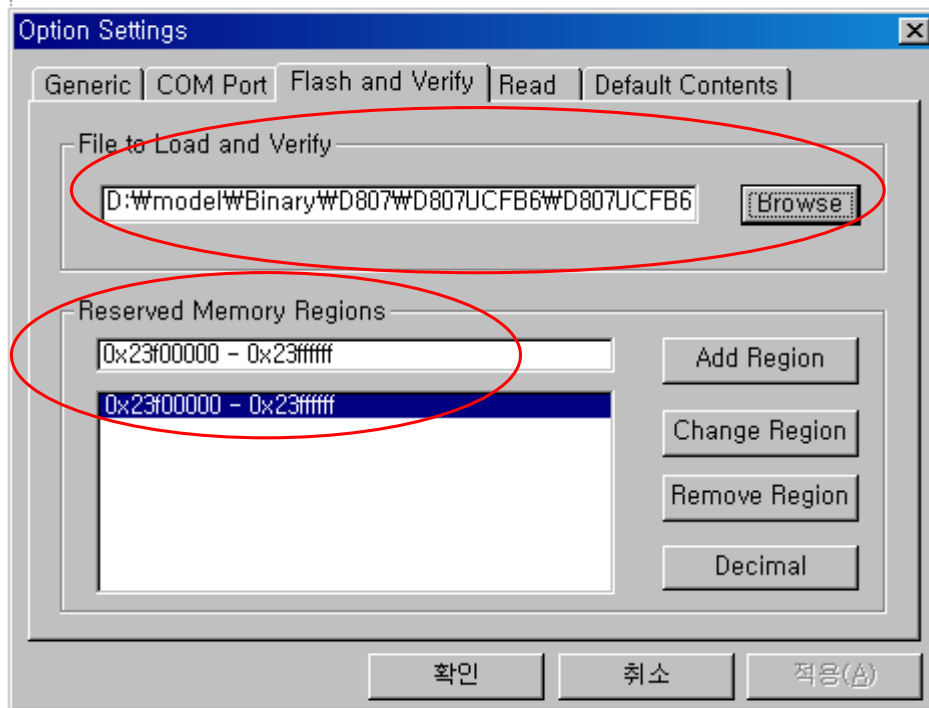
#### \* Generic

- Specify Hardware Platform: Select a **model and platform (USB)**
- Misc.Settings : Check the 'Debug Mode' and '**Erase All Unused Regions**'

**\* COM Port**

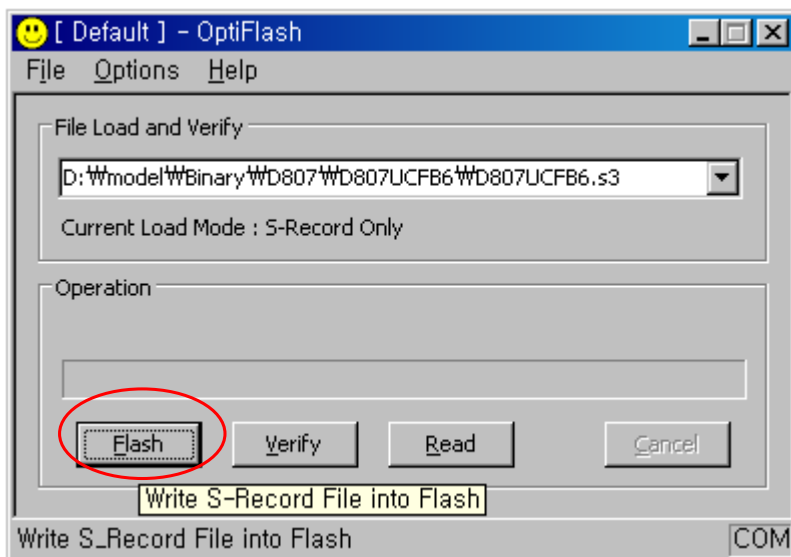
- **Select com port**
- **if you don't know the usb port, please see the control pannel.  
(Device Manager – Hardware – Port)**

## \* Flash and Verify

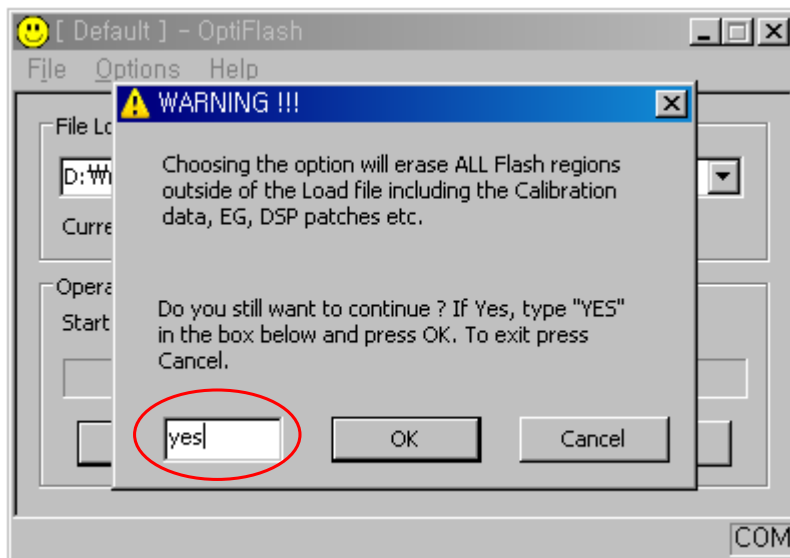


- Click 'Browse' button - **file to load and verify**
- **Check the reserved memory regions**

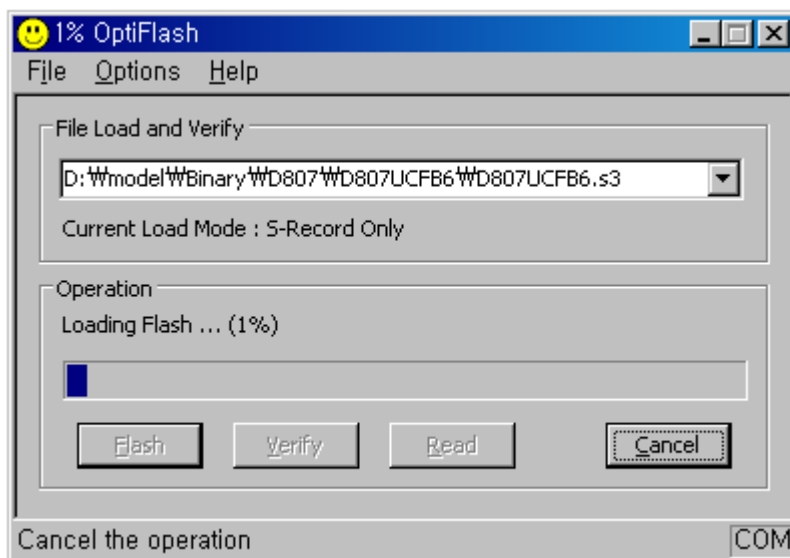
④ All procedures are done, Click '**Flash**' Button.



- ⑤ Pop up the window as below. Type the "yes" and Click 'OK'

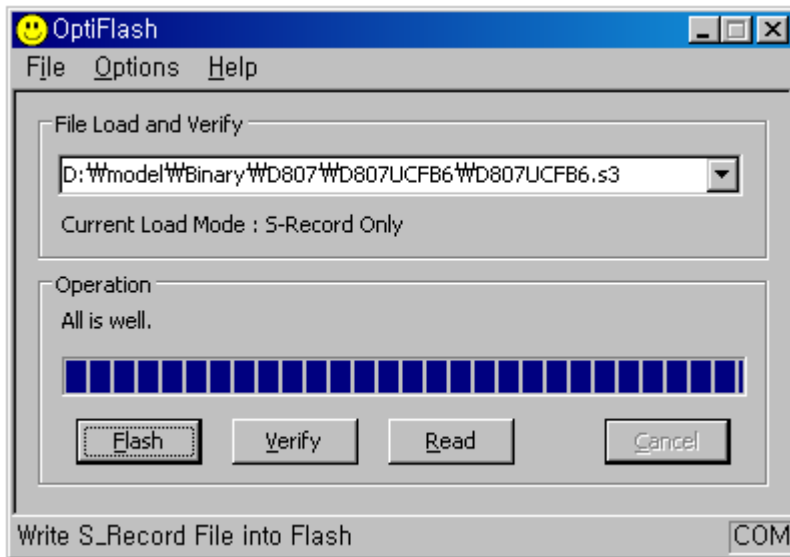


- ⑥ Start Download.



- Display status of downloading progress.

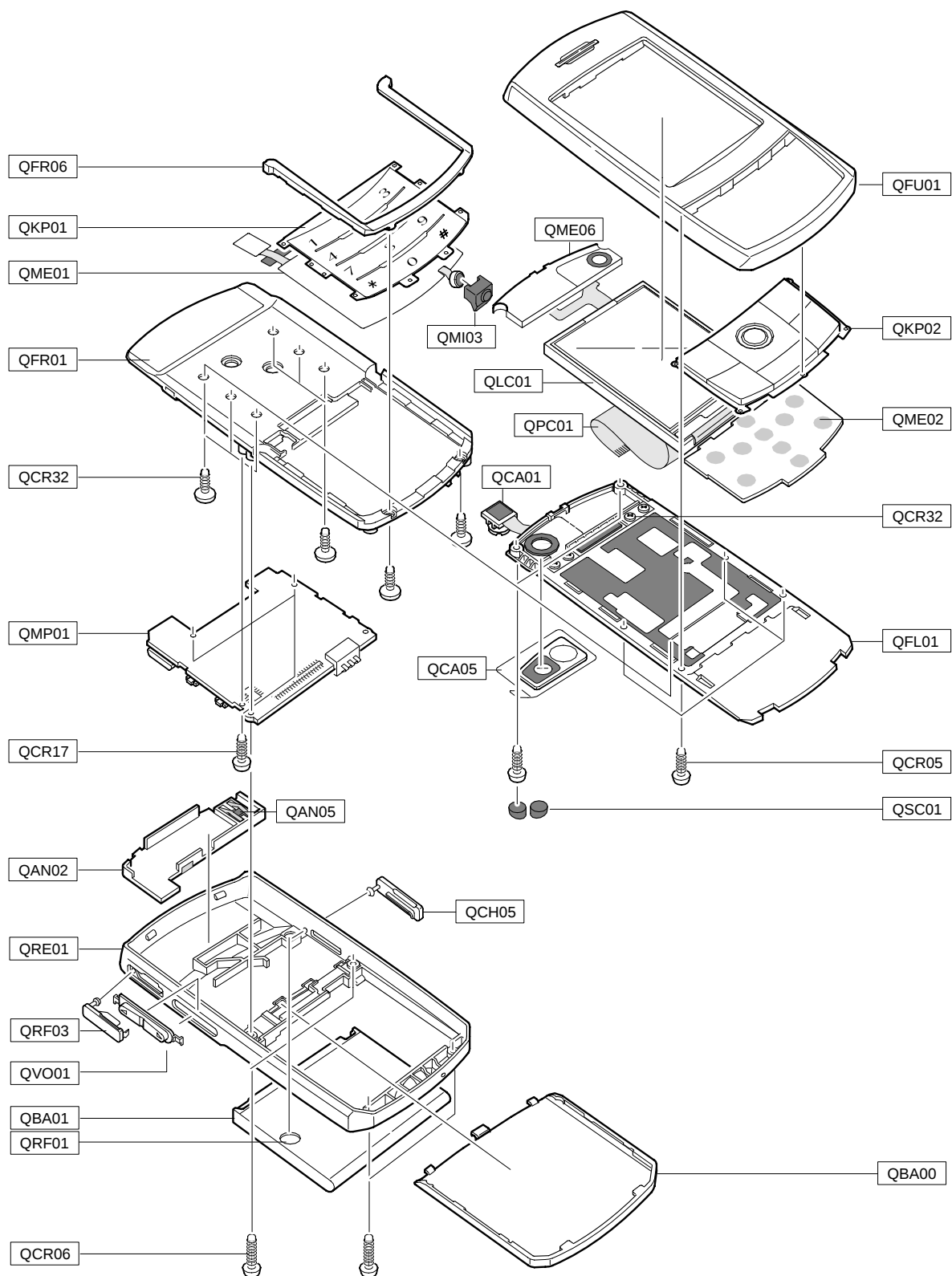
- ⑦ Display "All is well" and the D807 will reboot automatically.



- ⑧ After download..
- You do "Full service reset" by pressing key button "\*2767\*3855#".
  - You can see S/W version by pressing key button "\*#9998\*1234#".

## 8. Exploded View and Parts List

### 8-1. Cellular phone Exploded View



## 8-2. Cellular phone Parts list

|       |                                |             |
|-------|--------------------------------|-------------|
| QAN02 | INTENNA-SGHD807                | GH42-00749A |
| QAN05 | ASSY MEC-RUBBER INTENNA CONTAC | GH75-09496A |
| QBA00 | PMO-BATT COVER V1              | GH72-28679A |
| QBA01 | INNER BATTERY PACK-800MAH,BLK, | GH43-02389A |
| QCA01 | UNIT-CAMERA                    | GH59-02729A |
| QCA05 | ASSY MEC-CAMERA DECO           | GH75-07777A |
| QCH05 | PMO-MICRO SD COVER             | GH72-27731A |
| QCR04 | SCREW-MACHINE                  | 6001-001479 |
| QCR05 | SCREW-MACHINE                  | 6001-001478 |
| QCR17 | SCREW-MACHINE                  | 6001-001460 |
| QCR32 | SCREW-MACHINE                  | 6001-001700 |
| QCR32 | SCREW-MACHINE                  | 6001-001700 |
| QFL01 | ASSY MEC-SLIDE LOWER HINGE     | GH75-08808A |
| QFR01 | ASSY MEC-CASE FRONT            | GH75-08730A |
| QFR06 | PMO-CASE FRONT U BUSH          | GH72-27384A |
| QFU01 | ASSY CASE-SLIDE UPPER          | GH98-01668A |
| QKP01 | ASSY MEC-KEYPAD(CIN/ZK)        | GH75-08727A |
| QKP02 | ASSY MEC-KEYPAD SUB            | GH75-07758A |
| QLC01 | MEA-LCD MODULE KIT             | GH97-05871A |
| QME01 | UNIT-3X4 KEY FPCB ASSY         | GH59-02878A |
| QME02 | UNIT-NAVY KEY FPCB             | GH59-02866A |
| QME06 | UNIT-MODULE SPEAKER            | GH59-03051A |
| QMI03 | ASSY MEC-MIC HOLDER            | GH75-09497A |
| QMP01 | PBA MAIN-SGHD807               | GH92-02519A |
| QPC01 | MEA-SLIDE FPCB KIT             | GH97-05904A |
| QRE01 | ASSY MEC-CASE REAR             | GH75-08731A |
| QRF01 | PMO-RF COVER 2                 | GH72-25716A |
| QRF03 | PMO-EARJACK COVER              | GH72-24043A |
| QSC01 | RMO-LOWER SCREW CAP            | GH73-05237A |
| QVO01 | PMO-VOLUM KEY                  | GH72-24041A |

|                                |             |
|--------------------------------|-------------|
| CBF INTERFACE-SGHE900,DLC,B_TY | GH39-00654A |
| ADAPTOR-SGHE900,BLK,PHIL,B_TYP | GH44-01343A |
| S/W CD-SGH-D807 PC STUDIO 3.0  | GH46-00274A |
| UNIT-EARPHONE,SGHE900,BLK,D-TY | GH59-03537A |
| LABEL(P)-ANTENNA WARNING LABEL | GH68-09868A |
| MPR-BOHO VINYL MAIN WIN        | GH74-15426A |
| MPR-TAPE MAIN CONN COVER       | GH74-19552A |
| MPR-TAPE MAIN FPCB SHIELD      | GH74-22333A |
| MPR-TAPE LCD CONN BASE         | GH74-19553A |
| MPR-TAPE INS COVER MAIN        | GH74-20753A |
| MPR-TAPE TEST POINT            | GH74-20754A |
| LABEL(R)-WATER SOAK            | GH68-09361A |
| AS-WINDOWS SVC                 | GH81-03625A |
| AS-SPK GASKET(T.0.5)           | GH81-03355A |
| LABEL(R)-WATER SOAK T_MOBILE   | GH68-05914A |
| MPR-BOHO VINYL FUNCTION        | GH74-18027A |
| MPR-TAPE LCD CONN COVER        | GH74-19561A |
| MPR-TAPE KEY FPCB CONN         | GH74-19564A |
| MPR-TAPE FRONT SCREW           | GH74-20758A |
| MPR-VINYL BOHO UPPER B         | GH74-20768A |
| MPR-VINYL BOHO FRONT BUS       | GH74-21091A |
| MPR-TAPE CONN COVER            | GH74-21709A |
| MPR-TAPE SPRING ANCHOR         | GH74-21711A |
| MPR-TAPE MAIN FPCB SHIELD      | GH74-22333A |
| MPR-GASK TAPE                  | GH74-22658A |
| ASSY MEC-RUBBER KEY FPCB       | GH75-09498A |
| MPR-TAPE UPPER LCD             | GH74-27527A |
| MANUAL USERS-ROGERS ENGLISH    | GH68-11340A |
| MANUAL USERS-ROGERS FRENCH     | GH68-11341A |
| MANUAL USERS-ROGERS QRC        | GH68-11342A |
| BAG PE                         | 6902-000634 |
| LABEL(R)-MAIN(RWC)             | GH68-09538B |
| CUSHION-CASE(CIN)              | GH69-03758A |
| BOX(P)-UNIT MAIN(CKD-CHINA)    | GH69-03760A |

---

## 9. Disassembly and Assembly instructions

---

### 9-1. Disassembly

1



Unscrew 4 places of the Rear

2



Open the Ear Cover.

3



Open the lower part of Rear's right side using stick for disassembly.

4



Pull stick for disassembly and opens Rear's right side Hook

5



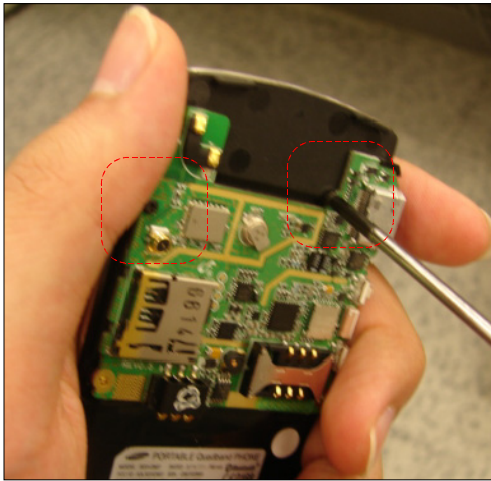
Open the Rear's left side Hook.

6



Push the Rear and unlock top portion Hook 2 places, disassemble the Rear.

7



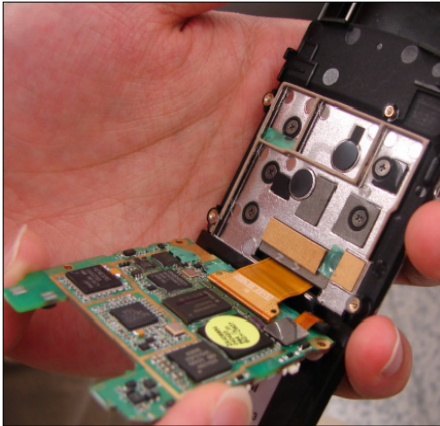
Unscrew 2 places of PBA.

8



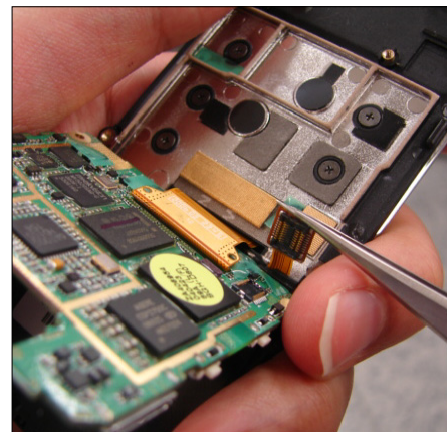
Down Slide.

9



Remove the PBA carefully.

10



Remove the Key Connector.

11



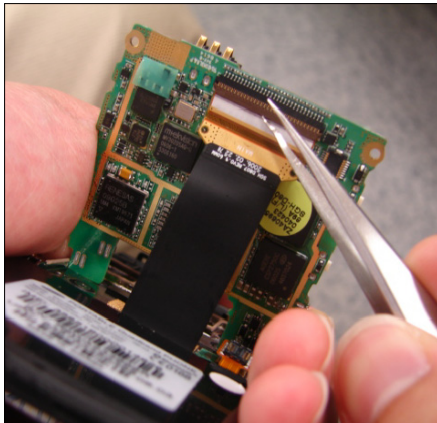
Control the Slide and makes the FPCB longest.

12



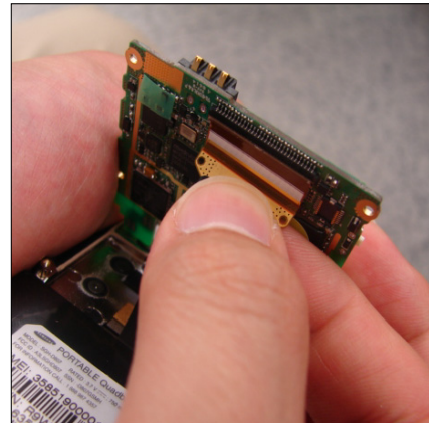
Remove a electric conduction Tape and a insulation Tape on the FPCB Connector using tweezers.

13



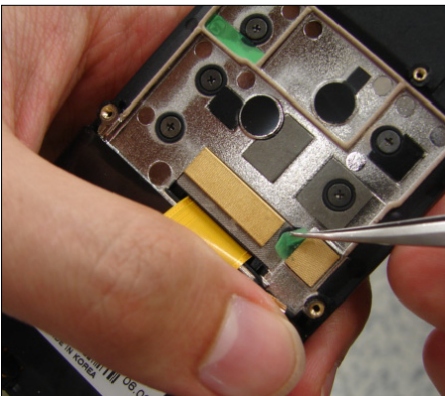
Open the cover of the Connector using wide surface of a tweezers.

14



Pull out the Slide FPCB carefully in the Connector.

15



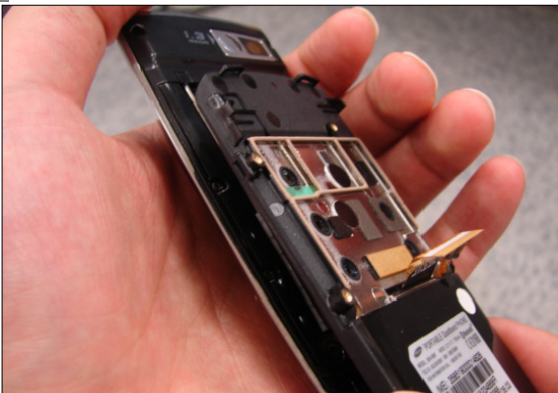
Remove a insulation Tape and a electric conduction Tape that is covering Screw.

16



Unscrew 6 places of Front.

17

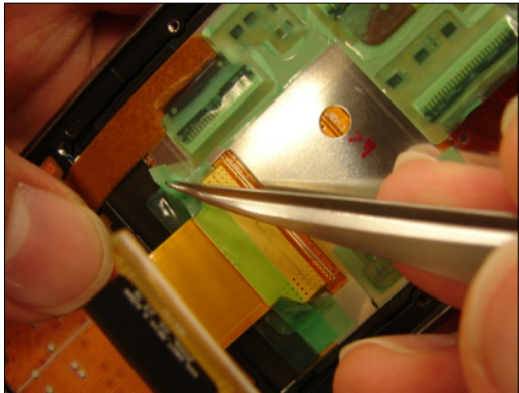
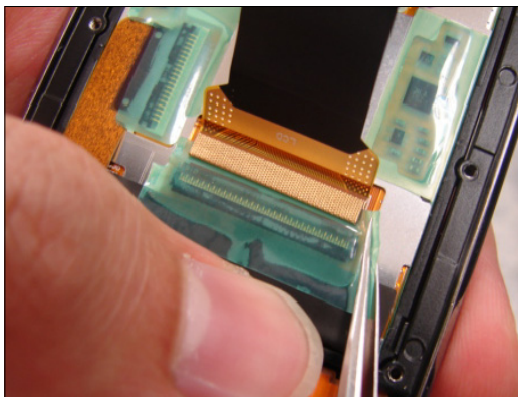
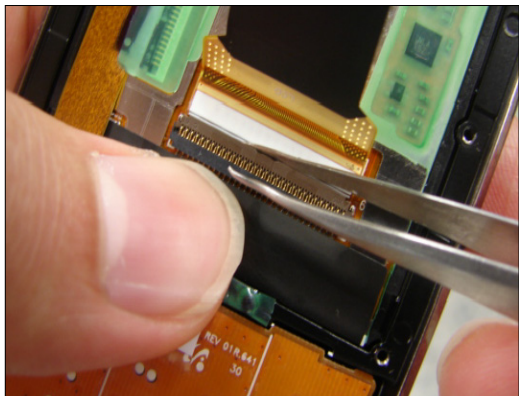


disassemble the Front.

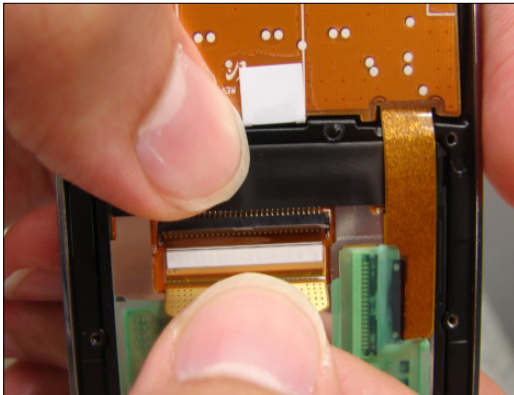
18



Remove the Screw Cap that is covering the Slide Lower.

|                                                                                               |                                                                                                |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <p>19</p>    | <p>20</p>    |
| <p>Unscrew on the Slide Lower</p>                                                             | <p>Push stick for disassembly with the picture in the Slide's corner.</p>                      |
| <p>21</p>   | <p>22</p>   |
| <p>Pull out the Hook of the Lower's top portion and disassemble Slide Lower.</p>              | <p>Remove the FPCB's fixing Tape.</p>                                                          |
| <p>23</p>  | <p>24</p>  |
| <p>Remove the Connector's fixing Tape.</p>                                                    | <p>Open the Connector cover.</p>                                                               |

25



Pull out the Slide FPCB.

26



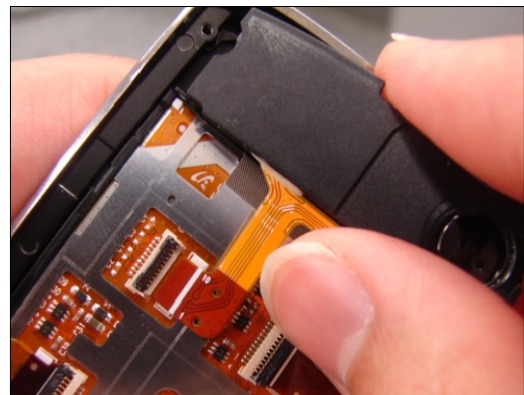
Remove the Connector insulation Tape.

27



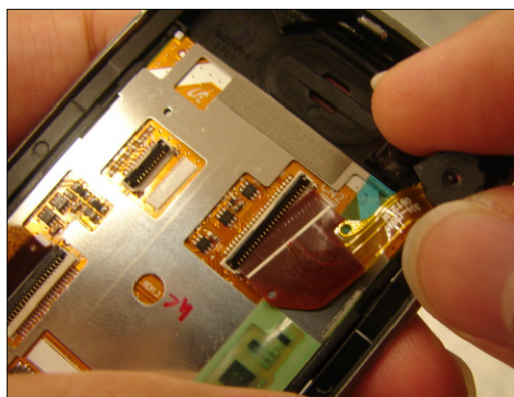
Remove the ESD electric conduction Tape.

28



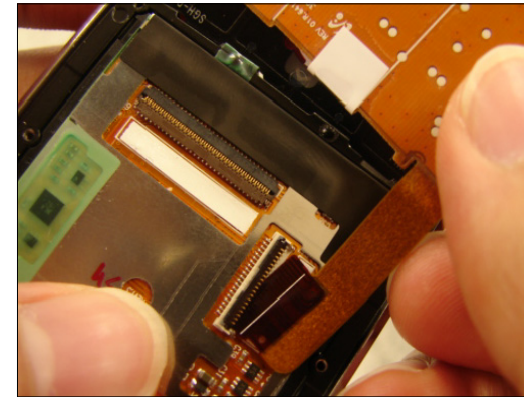
disassemble the SPK Module.

29



disassemble the Camera Module.

30



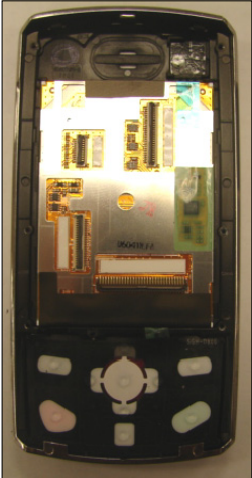
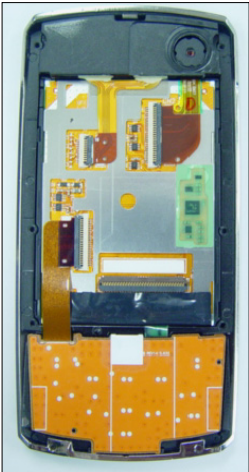
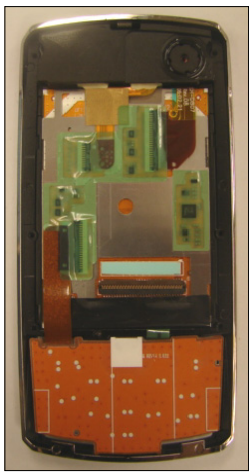
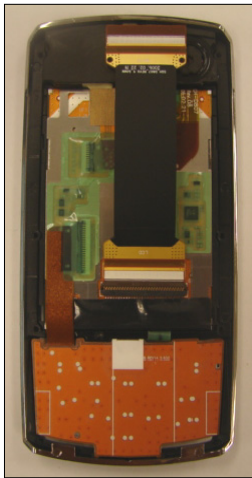
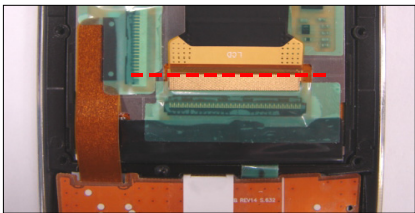
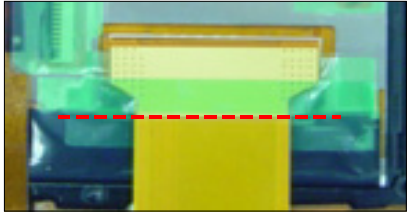
disassemble the Sub Key PBA.

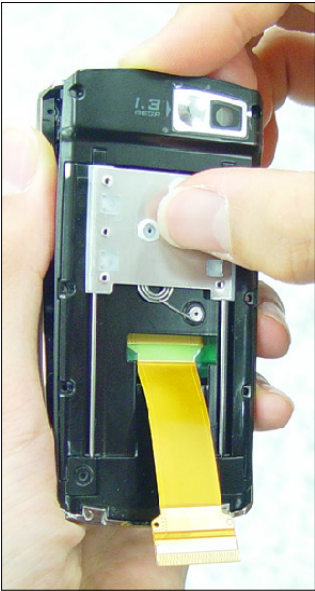
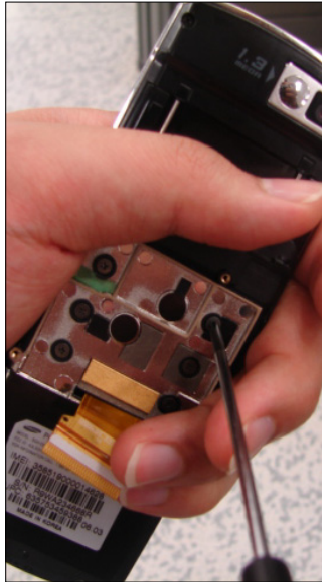
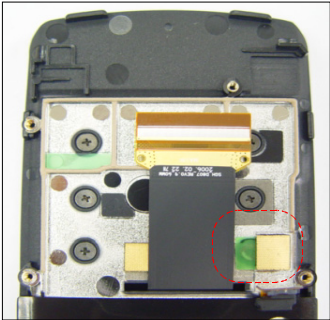
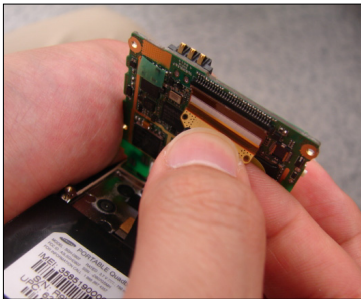
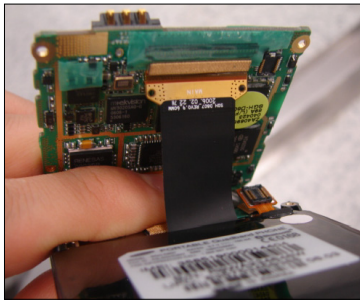
31



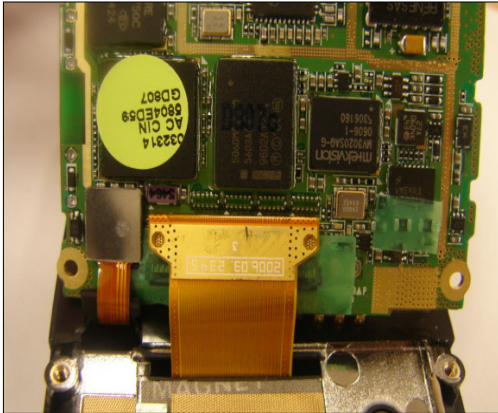
disassemble the LCD Module.

## 9-2. Assembly

|                                                                                             |                                                                                                                                          |                                                                                                |
|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <p>1</p>   | <p>2</p>                                                | <p>3</p>    |
| <p>Assemble the LCD and Sub Keypad to Front.</p>                                            | <p>Assemble the Sub Key PBA, Camera, SPK gradually.</p>                                                                                  | <p>After the ESD electric conduction Tape sticking, attach a insulation tape on Connector.</p> |
| <p>4</p>  | <p>5</p>                                             | <p>6</p>  |
| <p>Assemble the LCD's FPCB.</p>                                                             | <p>Attach a insulation Tape according to Main FPCB's white surface. Attach a electric conduction Tape according to gilding end line.</p> | <p>Attach as do not pass over the FPCB's gilding part.</p>                                     |

|                                                                                               |                                                                                                   |                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>7</p>     | <p>8</p>         | <p>9</p>                                                                  |
| <p>Inserts two places of Hook's lower part and assembles Slide Lower.</p>                     | <p>Attach Screw Cap in 2 places of the top portion after screw on the Slide Lower's 6 places.</p> | <p>screw on the Front's 6 places .</p>                                                                                                                       |
| <p>10</p>  | <p>11</p>      | <p>12</p>                                                               |
| <p>Attach a insulation Tape and a electric conduction Tape on a screw.</p>                    | <p>Combine the FPCB with the PBA.</p>                                                             | <p>Sets in white surface of FPCB on Connector, and set a insulation Tape in gilding surface. Then, a insulation Tape attaches electric conduction Tape .</p> |

13



Connect the 3\*4 Key Connector.

14



Combine fix Screw 2 places of the PBA.

15



Assemble the Rear Hook's top portion.

16



Assemble the Set's right side Hook.

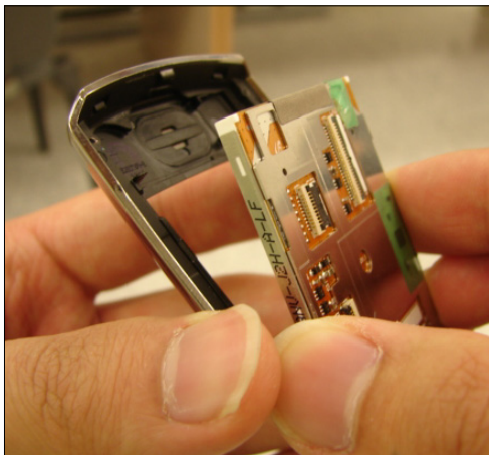
17



Assemble the Set's left side Hook.

18

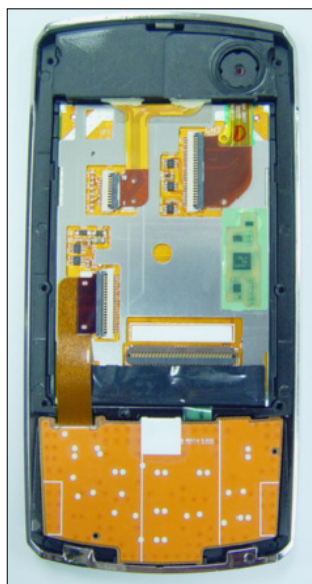
### 9-3. KIT Assembly



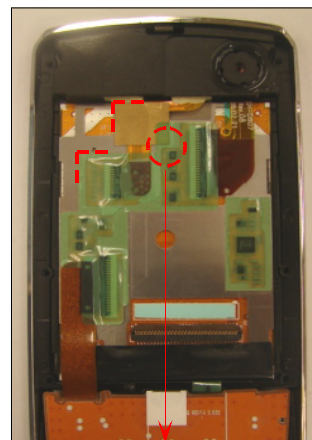
Attach LCD on Upper's inside.



State that LCD sticks on inside



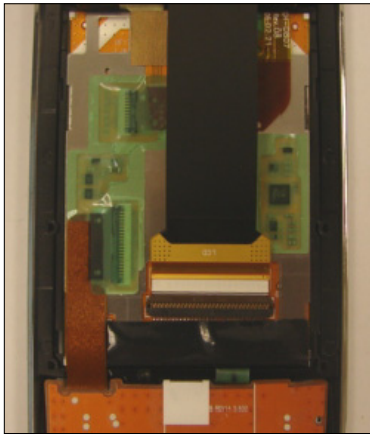
Connect Sub Key PBA, Camera, Spk to sequential connector.



Take care so that ESD electric conduction Tape may not reach with surrounding Chip.

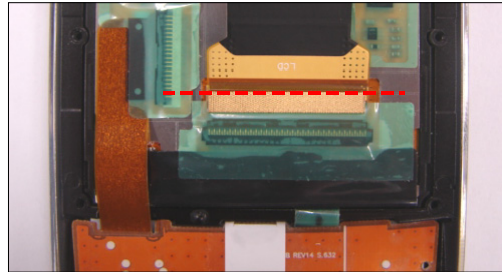
After attach ESD electric conduction Tapes, attach insulation tapes according to base line that is written to LCD. (All connectors should be covered.)

13



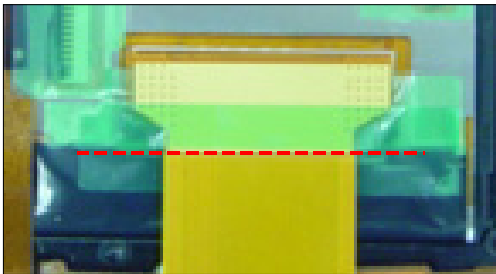
Assemble the SLIDE FPCB with the Connector.

14



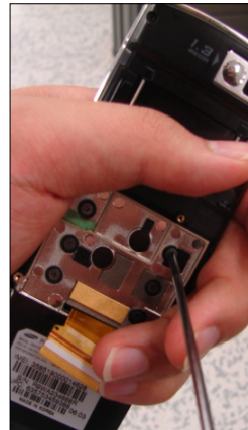
Attach a insulation Tape according to the Main FPCB's white surface. Then, attach a electric conduction Tape depending on end line which do gilding.

15



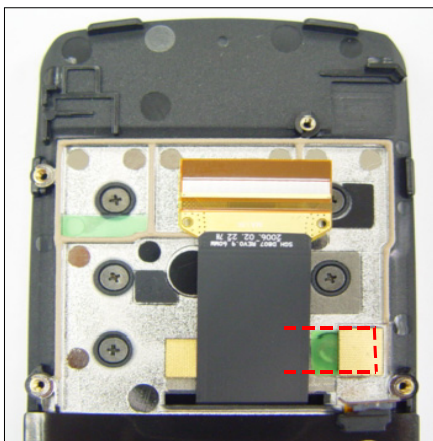
Must not pass over the FPCB's gilding part.

16



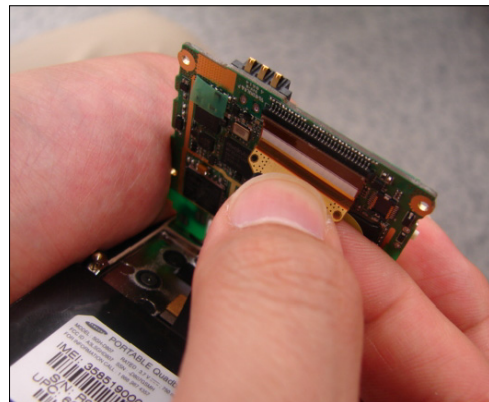
The Lower assembly and the Screw combine. Combine a Screw after assemble the Front.

17



Attach a insulation Tape and a electric conduction Tape on the base line .

18



Combine the FPCB with the PBA.

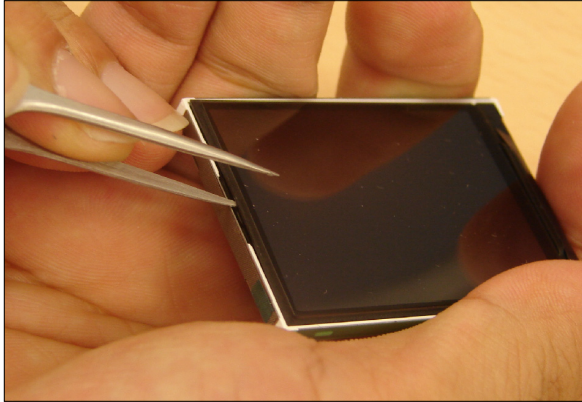
19



Place a insulation Tape according to the FPCB's white surface on the Connector correctly.  
Attach electric conduction Tape on gilding surface.

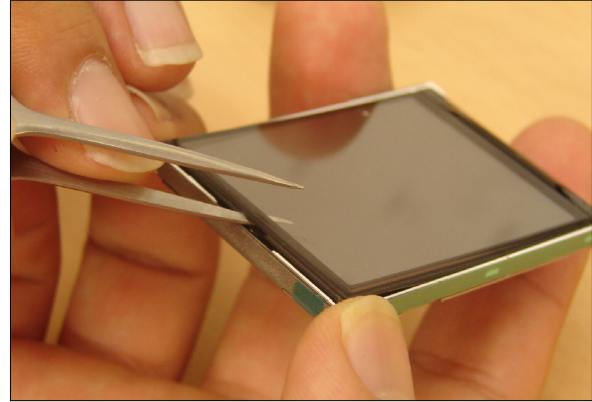
## 9-4. Window Disassembly

1



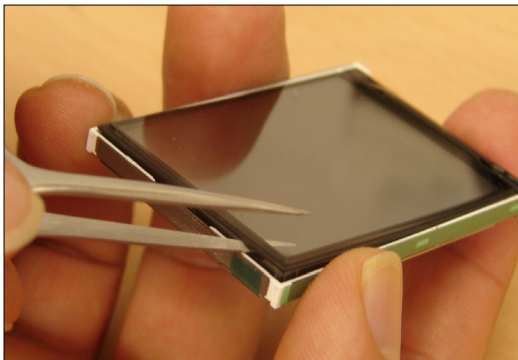
Infix tweezers in middle groove of the LCD top portion.

2



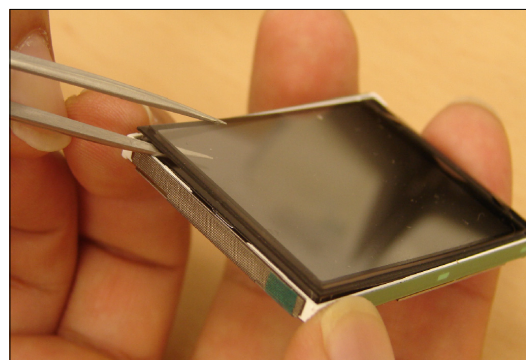
Put end of tweezers at groove until the WINDOW goes up little bit.

3



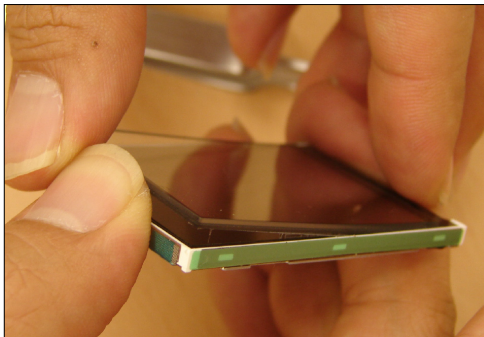
Lift the window, at the same time put tweezers into the window's right side

4



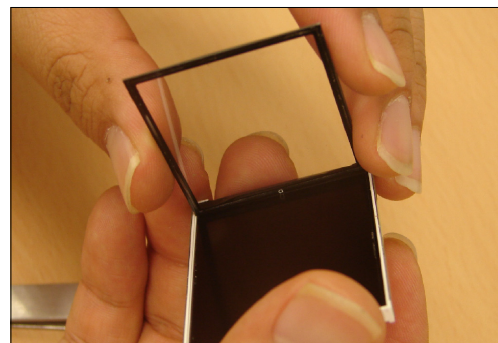
Lift the window, at the same time puts tweezers into the window's left side.

5



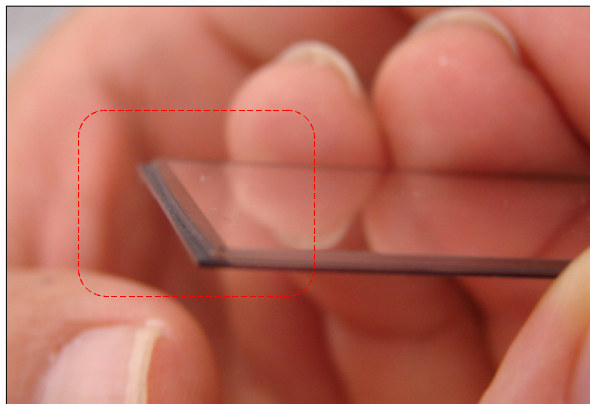
Lift the WINDOW between the gab using a finger.

6



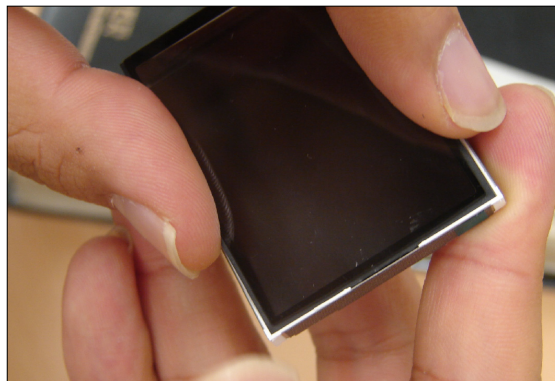
Lift WINDOW with two hands slightly.

7



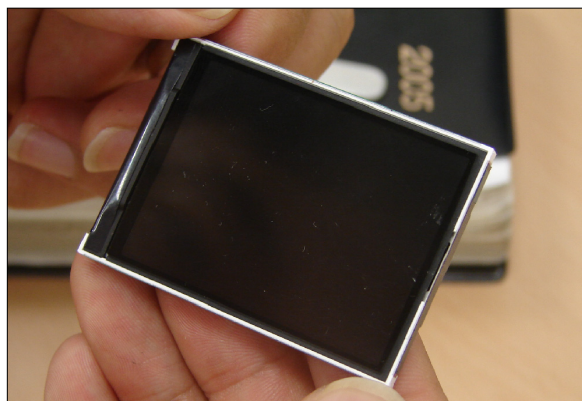
Check that the WINDOW's end segment has the step.  
There is no step at the opposite, and assembles the Window with the step locating in the LCD top portion.

8



The Wide surface among steps sticks directly with the LCD, and assembles the WINDOW to under portion direction after set end of the LCD top portion with the WINDOW.

9



After assemble finally the LCD's under portion, confirm whether the GAB does not happen between the WINDOW and the LCD

## 10. MAIN Electrical Parts List

| SEC CODE    | Design LOC | Discription         | STATUS |
|-------------|------------|---------------------|--------|
| 0403-001411 | AN400      | DIODE-ZENER         | SA     |
| 0403-001427 | ANT401     | DIODE-ZENER         | SA     |
| 0403-001511 | ANT402     | DIODE-ZENER         | SA     |
| 0403-001547 | BAT100     | DIODE-ZENER         | SA     |
| 0406-001150 | BTC502     | DIODE-TVS           | SA     |
| 0406-001150 | C100       | DIODE-TVS           | SA     |
| 0406-001150 | C101       | DIODE-TVS           | SA     |
| 0406-001150 | C102       | DIODE-TVS           | SA     |
| 0406-001190 | C103       | DIODE-TVS           | SA     |
| 0406-001190 | C104       | DIODE-TVS           | SA     |
| 0406-001190 | C105       | DIODE-TVS           | SA     |
| 0406-001210 | C106       | DIODE-TVS           | SA     |
| 0406-001210 | C107       | DIODE-TVS           | SA     |
| 0406-001210 | C108       | DIODE-TVS           | SA     |
| 0406-001210 | C109       | DIODE-TVS           | SA     |
| 0504-000168 | C110       | TR-DIGITAL          | SA     |
| 0801-002958 | C111       | IC-CMOS LOGIC       | SA     |
| 0801-002975 | C112       | IC-CMOS LOGIC       | SA     |
| 0801-002993 | C113       | IC-CMOS LOGIC       | SA     |
| 0801-002995 | C114       | IC-CMOS LOGIC       | SA     |
| 0801-003022 | C115       | IC-CMOS LOGIC       | SA     |
| 1001-001306 | C116       | IC-ANALOG MULTIPLEX | SA     |
| 1001-001400 | C117       | IC-ANALOG SWITCH    | SA     |
| 1002-001441 | C118       | IC-D/A CONVERTER    | SA     |
| 1003-001716 | C119       | IC-EL DRIVER        | SA     |
| 1009-001018 | C120       | IC-HALL EFFECT S/W  | SA     |
| 1108-000046 | C121       | IC-MCP              | SA     |
| 1201-002240 | C122       | IC-AUDIO AMP        | SA     |
| 1201-002267 | C123       | IC-POWER AMP        | SA     |
| 1203-003340 | C124       | IC-POSI.FIXED REG.  | SA     |
| 1203-003432 | C125       | IC-POSI.FIXED REG.  | SA     |
| 1203-003432 | C126       | IC-POSI.FIXED REG.  | SA     |
| 1203-003523 | C127       | IC-POSI.FIXED REG.  | SA     |
| 1203-003523 | C128       | IC-POSI.FIXED REG.  | SA     |
| 1203-003754 | C129       | IC-POSI.FIXED REG.  | SA     |
| 1203-003789 | C130       | IC-POWER SUPERVISOR | SA     |
| 1203-004119 | C133       | IC-POWER SUPERVISOR | SA     |
| 1203-004151 | C135       | IC-BATTERY          | SA     |
| 1203-004253 | C136       | IC-DC/DC CONVERTER  | SA     |
| 1205-002272 | C137       | IC-TRANSCIEVER      | SA     |
| 1205-002568 | C138       | IC-SWITCH           | SA     |
| 1205-002652 | C139       | IC-TRANSCIEVER      | SA     |

| SEC CODE    | Design LOC | Discription    | STATUS |
|-------------|------------|----------------|--------|
| 1404-001165 | C200       | THERMISTOR-NTC | SA     |
| 1405-001082 | C201       | VARISTOR       | SA     |
| 1405-001082 | C202       | VARISTOR       | SA     |
| 1405-001082 | C203       | VARISTOR       | SA     |
| 1405-001082 | C204       | VARISTOR       | SA     |
| 1405-001082 | C205       | VARISTOR       | SA     |
| 1405-001082 | C206       | VARISTOR       | SA     |
| 2007-000137 | C207       | R-CHIP         | SA     |
| 2007-000138 | C208       | R-CHIP         | SA     |
| 2007-000138 | C209       | R-CHIP         | SA     |
| 2007-000138 | C210       | R-CHIP         | SA     |
| 2007-000138 | C211       | R-CHIP         | SA     |
| 2007-000139 | C212       | R-CHIP         | SA     |
| 2007-000139 | C213       | R-CHIP         | SA     |
| 2007-000143 | C214       | R-CHIP         | SA     |
| 2007-000148 | C215       | R-CHIP         | SA     |
| 2007-000148 | C216       | R-CHIP         | SA     |
| 2007-000161 | C217       | R-CHIP         | SA     |
| 2007-000170 | C218       | R-CHIP         | SA     |
| 2007-000170 | C219       | R-CHIP         | SA     |
| 2007-000170 | C220       | R-CHIP         | SA     |
| 2007-000171 | C221       | R-CHIP         | SA     |
| 2007-000171 | C222       | R-CHIP         | SA     |
| 2007-000171 | C223       | R-CHIP         | SA     |
| 2007-000171 | C224       | R-CHIP         | SA     |
| 2007-000171 | C225       | R-CHIP         | SA     |
| 2007-000171 | C226       | R-CHIP         | SA     |
| 2007-000171 | C227       | R-CHIP         | SA     |
| 2007-000173 | C228       | R-CHIP         | SA     |
| 2007-000173 | C229       | R-CHIP         | SA     |
| 2007-000242 | C230       | R-CHIP         | SA     |
| 2007-000690 | C300       | R-CHIP         | SA     |
| 2007-000775 | C301       | R-CHIP         | SA     |
| 2007-000982 | C302       | R-CHIP         | SA     |
| 2007-001217 | C303       | R-CHIP         | SA     |
| 2007-001292 | C304       | R-CHIP         | SA     |
| 2007-001292 | C305       | R-CHIP         | SA     |
| 2007-002797 | C306       | R-CHIP         | SA     |
| 2007-002965 | C307       | R-CHIP         | SA     |
| 2007-002965 | C308       | R-CHIP         | SA     |
| 2007-007107 | C309       | R-CHIP         | SA     |
| 2007-007107 | C310       | R-CHIP         | SA     |

| SEC CODE    | Design LOC | Discription | STATUS |
|-------------|------------|-------------|--------|
| 2007-007107 | C311       | R-CHIP      | SA     |
| 2007-007107 | C312       | R-CHIP      | SA     |
| 2007-007134 | C313       | R-CHIP      | SA     |
| 2007-007134 | C315       | R-CHIP      | SA     |
| 2007-007142 | C318       | R-CHIP      | SA     |
| 2007-007142 | C319       | R-CHIP      | SA     |
| 2007-007142 | C320       | R-CHIP      | SA     |
| 2007-007142 | C321       | R-CHIP      | SA     |
| 2007-007316 | C322       | R-CHIP      | SA     |
| 2007-007318 | C323       | R-CHIP      | SA     |
| 2007-007528 | C324       | R-CHIP      | SA     |
| 2007-007528 | C325       | R-CHIP      | SA     |
| 2007-007528 | C329       | R-CHIP      | SA     |
| 2007-007528 | C330       | R-CHIP      | SA     |
| 2007-007586 | C331       | R-CHIP      | SA     |
| 2007-007588 | C333       | R-CHIP      | SA     |
| 2007-008051 | C334       | R-CHIP      | SA     |
| 2007-008055 | C335       | R-CHIP      | SA     |
| 2007-008055 | C336       | R-CHIP      | SA     |
| 2007-008055 | C337       | R-CHIP      | SA     |
| 2007-008055 | C338       | R-CHIP      | SA     |
| 2007-008055 | C339       | R-CHIP      | SA     |
| 2007-008055 | C340       | R-CHIP      | SA     |
| 2007-008055 | C341       | R-CHIP      | SA     |
| 2007-008055 | C342       | R-CHIP      | SA     |
| 2007-008055 | C344       | R-CHIP      | SA     |
| 2007-008055 | C345       | R-CHIP      | SA     |
| 2007-008057 | C346       | R-CHIP      | SA     |
| 2007-008117 | C347       | R-CHIP      | SA     |
| 2007-008210 | C348       | R-CHIP      | SA     |
| 2007-008210 | C400       | R-CHIP      | SA     |
| 2007-008419 | C401       | R-CHIP      | SA     |
| 2007-008419 | C404       | R-CHIP      | SA     |
| 2007-008419 | C405       | R-CHIP      | SA     |
| 2007-008419 | C406       | R-CHIP      | SA     |
| 2007-008419 | C407       | R-CHIP      | SA     |
| 2007-008420 | C408       | R-CHIP      | SA     |
| 2007-008478 | C409       | R-CHIP      | SA     |
| 2007-008478 | C410       | R-CHIP      | SA     |
| 2007-008483 | C411       | R-CHIP      | SA     |
| 2007-008483 | C412       | R-CHIP      | SA     |
| 2007-008483 | C414       | R-CHIP      | SA     |

| SEC CODE    | Design LOC | Discription | STATUS |
|-------------|------------|-------------|--------|
| 2007-008483 | C415       | R-CHIP      | SA     |
| 2007-008483 | C416       | R-CHIP      | SA     |
| 2007-008483 | C417       | R-CHIP      | SA     |
| 2007-008483 | C418       | R-CHIP      | SA     |
| 2007-008483 | C419       | R-CHIP      | SA     |
| 2007-008483 | C420       | R-CHIP      | SA     |
| 2007-008483 | C421       | R-CHIP      | SA     |
| 2007-008483 | C422       | R-CHIP      | SA     |
| 2007-008483 | C423       | R-CHIP      | SA     |
| 2007-008486 | C424       | R-CHIP      | SA     |
| 2007-008516 | C425       | R-CHIP      | SA     |
| 2007-008516 | C426       | R-CHIP      | SA     |
| 2007-008516 | C427       | R-CHIP      | SA     |
| 2007-008516 | C428       | R-CHIP      | SA     |
| 2007-008516 | C429       | R-CHIP      | SA     |
| 2007-008516 | C430       | R-CHIP      | SA     |
| 2007-008516 | C431       | R-CHIP      | SA     |
| 2007-008531 | C432       | R-CHIP      | SA     |
| 2007-008531 | C433       | R-CHIP      | SA     |
| 2007-008531 | C434       | R-CHIP      | SA     |
| 2007-008531 | C435       | R-CHIP      | SA     |
| 2007-008531 | C436       | R-CHIP      | SA     |
| 2007-008531 | C438       | R-CHIP      | SA     |
| 2007-008542 | C439       | R-CHIP      | SA     |
| 2007-008542 | C440       | R-CHIP      | SA     |
| 2007-008542 | C441       | R-CHIP      | SA     |
| 2007-008542 | C442       | R-CHIP      | SA     |
| 2007-008542 | C443       | R-CHIP      | SA     |
| 2007-008582 | C444       | R-CHIP      | SA     |
| 2007-008582 | C445       | R-CHIP      | SA     |
| 2007-008582 | C446       | R-CHIP      | SA     |
| 2007-008582 | C447       | R-CHIP      | SA     |
| 2007-008587 | C448       | R-CHIP      | SA     |
| 2007-008587 | C449       | R-CHIP      | SA     |
| 2007-008588 | C450       | R-CHIP      | SA     |
| 2007-008806 | C451       | R-CHIP      | SA     |
| 2007-008806 | C452       | R-CHIP      | SA     |
| 2007-008816 | C453       | R-CHIP      | SA     |
| 2007-008816 | C454       | R-CHIP      | SA     |
| 2007-009158 | C455       | R-CHIP      | SA     |
| 2007-009208 | C456       | R-CHIP      | SA     |
| 2007-009208 | C457       | R-CHIP      | SA     |

| SEC CODE    | Design LOC | Discription | STATUS |
|-------------|------------|-------------|--------|
| 2007-009208 | C458       | R-CHIP      | SA     |
| 2007-009223 | C459       | R-CHIP      | SA     |
| 2203-000233 | C500       | C-CER,CHIP  | SA     |
| 2203-000254 | C501       | C-CER,CHIP  | SA     |
| 2203-000254 | C502       | C-CER,CHIP  | SA     |
| 2203-000254 | C504       | C-CER,CHIP  | SA     |
| 2203-000254 | C505       | C-CER,CHIP  | SA     |
| 2203-000254 | C506       | C-CER,CHIP  | SA     |
| 2203-000254 | C508       | C-CER,CHIP  | SA     |
| 2203-000254 | C509       | C-CER,CHIP  | SA     |
| 2203-000254 | C510       | C-CER,CHIP  | SA     |
| 2203-000254 | C512       | C-CER,CHIP  | SA     |
| 2203-000278 | C513       | C-CER,CHIP  | SA     |
| 2203-000359 | C514       | C-CER,CHIP  | SA     |
| 2203-000438 | C515       | C-CER,CHIP  | SA     |
| 2203-000438 | C517       | C-CER,CHIP  | SA     |
| 2203-000438 | C518       | C-CER,CHIP  | SA     |
| 2203-000438 | C519       | C-CER,CHIP  | SA     |
| 2203-000489 | C520       | C-CER,CHIP  | SA     |
| 2203-000550 | C522       | C-CER,CHIP  | SA     |
| 2203-000550 | C523       | C-CER,CHIP  | SA     |
| 2203-000627 | C524       | C-CER,CHIP  | SNA    |
| 2203-000627 | C525       | C-CER,CHIP  | SNA    |
| 2203-000627 | C527       | C-CER,CHIP  | SNA    |
| 2203-000654 | C529       | C-CER,CHIP  | SA     |
| 2203-000654 | C530       | C-CER,CHIP  | SA     |
| 2203-000812 | C531       | C-CER,CHIP  | SA     |
| 2203-000812 | C532       | C-CER,CHIP  | SA     |
| 2203-000812 | C533       | C-CER,CHIP  | SA     |
| 2203-000812 | C534       | C-CER,CHIP  | SA     |
| 2203-000812 | C535       | C-CER,CHIP  | SA     |
| 2203-000836 | C536       | C-CER,CHIP  | SA     |
| 2203-000995 | C537       | C-CER,CHIP  | SA     |
| 2203-000995 | C538       | C-CER,CHIP  | SA     |
| 2203-001153 | C539       | C-CER,CHIP  | SA     |
| 2203-001412 | C540       | C-CER,CHIP  | SA     |
| 2203-001412 | C541       | C-CER,CHIP  | SA     |
| 2203-001412 | C542       | C-CER,CHIP  | SA     |
| 2203-002982 | C545       | C-CER,CHIP  | SNA    |
| 2203-005056 | C547       | C-CER,CHIP  | SA     |
| 2203-005056 | C548       | C-CER,CHIP  | SA     |
| 2203-005138 | C549       | C-CER,CHIP  | SA     |

| SEC CODE    | Design LOC | Discription | STATUS |
|-------------|------------|-------------|--------|
| 2203-005138 | C550       | C-CER,CHIP  | SA     |
| 2203-005344 | C551       | C-CER,CHIP  | SA     |
| 2203-005344 | CD200      | C-CER,CHIP  | SA     |
| 2203-005344 | CN300      | C-CER,CHIP  | SA     |
| 2203-005395 | D504       | C-CER,CHIP  | SA     |
| 2203-005395 | DUF400     | C-CER,CHIP  | SA     |
| 2203-005446 | F301       | C-CER,CHIP  | SA     |
| 2203-005446 | F302       | C-CER,CHIP  | SA     |
| 2203-005514 | F303       | C-CER,CHIP  | SA     |
| 2203-005514 | F304       | C-CER,CHIP  | SA     |
| 2203-005514 | HDC301     | C-CER,CHIP  | SA     |
| 2203-005514 | IFC501     | C-CER,CHIP  | SA     |
| 2203-005682 | L100       | C-CER,CHIP  | SA     |
| 2203-005682 | L101       | C-CER,CHIP  | SA     |
| 2203-005682 | L102       | C-CER,CHIP  | SA     |
| 2203-005682 | L200       | C-CER,CHIP  | SA     |
| 2203-005682 | L401       | C-CER,CHIP  | SA     |
| 2203-005682 | L403       | C-CER,CHIP  | SA     |
| 2203-005682 | L404       | C-CER,CHIP  | SA     |
| 2203-005682 | L405       | C-CER,CHIP  | SA     |
| 2203-005682 | L406       | C-CER,CHIP  | SA     |
| 2203-005682 | L407       | C-CER,CHIP  | SA     |
| 2203-005682 | L408       | C-CER,CHIP  | SA     |
| 2203-005682 | L409       | C-CER,CHIP  | SA     |
| 2203-005682 | L410       | C-CER,CHIP  | SA     |
| 2203-005682 | L412       | C-CER,CHIP  | SA     |
| 2203-005682 | L500       | C-CER,CHIP  | SA     |
| 2203-005682 | L501       | C-CER,CHIP  | SA     |
| 2203-005682 | L502       | C-CER,CHIP  | SA     |
| 2203-005682 | L503       | C-CER,CHIP  | SA     |
| 2203-005682 | L504       | C-CER,CHIP  | SA     |
| 2203-005682 | OSC200     | C-CER,CHIP  | SA     |
| 2203-005682 | OSC301     | C-CER,CHIP  | SA     |
| 2203-005682 | PAM406     | C-CER,CHIP  | SA     |
| 2203-005682 | Q100       | C-CER,CHIP  | SA     |
| 2203-005682 | Q101       | C-CER,CHIP  | SA     |
| 2203-005682 | R100       | C-CER,CHIP  | SA     |
| 2203-005682 | R101       | C-CER,CHIP  | SA     |
| 2203-005682 | R102       | C-CER,CHIP  | SA     |
| 2203-005682 | R103       | C-CER,CHIP  | SA     |
| 2203-005682 | R104       | C-CER,CHIP  | SA     |
| 2203-005682 | R105       | C-CER,CHIP  | SA     |

| SEC CODE    | Design LOC | Discription | STATUS |
|-------------|------------|-------------|--------|
| 2203-005682 | R106       | C-CER,CHIP  | SA     |
| 2203-005683 | R107       | C-CER,CHIP  | SA     |
| 2203-005725 | R108       | C-CER,CHIP  | SA     |
| 2203-005725 | R109       | C-CER,CHIP  | SA     |
| 2203-005736 | R110       | C-CER,CHIP  | SA     |
| 2203-006048 | R111       | C-CER,CHIP  | SA     |
| 2203-006048 | R112       | C-CER,CHIP  | SA     |
| 2203-006048 | R113       | C-CER,CHIP  | SA     |
| 2203-006048 | R116       | C-CER,CHIP  | SA     |
| 2203-006048 | R117       | C-CER,CHIP  | SA     |
| 2203-006048 | R118       | C-CER,CHIP  | SA     |
| 2203-006048 | R120       | C-CER,CHIP  | SA     |
| 2203-006048 | R122       | C-CER,CHIP  | SA     |
| 2203-006048 | R123       | C-CER,CHIP  | SA     |
| 2203-006048 | R200       | C-CER,CHIP  | SA     |
| 2203-006048 | R201       | C-CER,CHIP  | SA     |
| 2203-006048 | R202       | C-CER,CHIP  | SA     |
| 2203-006048 | R203       | C-CER,CHIP  | SA     |
| 2203-006048 | R204       | C-CER,CHIP  | SA     |
| 2203-006121 | R205       | C-CER,CHIP  | SA     |
| 2203-006194 | R206       | C-CER,CHIP  | SA     |
| 2203-006194 | R207       | C-CER,CHIP  | SA     |
| 2203-006194 | R209       | C-CER,CHIP  | SA     |
| 2203-006194 | R210       | C-CER,CHIP  | SA     |
| 2203-006194 | R211       | C-CER,CHIP  | SA     |
| 2203-006194 | R212       | C-CER,CHIP  | SA     |
| 2203-006194 | R213       | C-CER,CHIP  | SA     |
| 2203-006194 | R214       | C-CER,CHIP  | SA     |
| 2203-006194 | R215       | C-CER,CHIP  | SA     |
| 2203-006194 | R216       | C-CER,CHIP  | SA     |
| 2203-006194 | R218       | C-CER,CHIP  | SA     |
| 2203-006194 | R219       | C-CER,CHIP  | SA     |
| 2203-006194 | R220       | C-CER,CHIP  | SA     |
| 2203-006194 | R301       | C-CER,CHIP  | SA     |
| 2203-006194 | R302       | C-CER,CHIP  | SA     |
| 2203-006194 | R303       | C-CER,CHIP  | SA     |
| 2203-006257 | R304       | C-CER,CHIP  | SA     |
| 2203-006257 | R305       | C-CER,CHIP  | SA     |
| 2203-006257 | R306       | C-CER,CHIP  | SA     |
| 2203-006257 | R307       | C-CER,CHIP  | SA     |
| 2203-006260 | R308       | C-CER,CHIP  | SA     |
| 2203-006260 | R309       | C-CER,CHIP  | SA     |

| SEC CODE    | Design LOC | Discription | STATUS |
|-------------|------------|-------------|--------|
| 2203-006324 | R310       | C-CER,CHIP  | SA     |
| 2203-006348 | R400       | C-CER,CHIP  | SA     |
| 2203-006348 | R401       | C-CER,CHIP  | SA     |
| 2203-006423 | R402       | C-CER,CHIP  | SA     |
| 2203-006423 | R403       | C-CER,CHIP  | SA     |
| 2203-006423 | R404       | C-CER,CHIP  | SA     |
| 2203-006423 | R405       | C-CER,CHIP  | SA     |
| 2203-006423 | R406       | C-CER,CHIP  | SA     |
| 2203-006423 | R407       | C-CER,CHIP  | SA     |
| 2203-006423 | R408       | C-CER,CHIP  | SA     |
| 2203-006423 | R409       | C-CER,CHIP  | SA     |
| 2203-006423 | R410       | C-CER,CHIP  | SA     |
| 2203-006423 | R411       | C-CER,CHIP  | SA     |
| 2203-006423 | R412       | C-CER,CHIP  | SA     |
| 2203-006423 | R413       | C-CER,CHIP  | SA     |
| 2203-006423 | R417       | C-CER,CHIP  | SA     |
| 2203-006423 | R418       | C-CER,CHIP  | SA     |
| 2203-006423 | R419       | C-CER,CHIP  | SA     |
| 2203-006423 | R420       | C-CER,CHIP  | SA     |
| 2203-006423 | R421       | C-CER,CHIP  | SA     |
| 2203-006556 | R422       | C-CER,CHIP  | SA     |
| 2203-006556 | R423       | C-CER,CHIP  | SA     |
| 2203-006556 | R424       | C-CER,CHIP  | SA     |
| 2203-006562 | R425       | C-CER,CHIP  | SA     |
| 2203-006562 | R426       | C-CER,CHIP  | SA     |
| 2203-006562 | R427       | C-CER,CHIP  | SA     |
| 2203-006562 | R428       | C-CER,CHIP  | SA     |
| 2203-006562 | R429       | C-CER,CHIP  | SA     |
| 2203-006562 | R430       | C-CER,CHIP  | SA     |
| 2203-006562 | R431       | C-CER,CHIP  | SA     |
| 2203-006562 | R432       | C-CER,CHIP  | SA     |
| 2203-006562 | R433       | C-CER,CHIP  | SA     |
| 2203-006562 | R434       | C-CER,CHIP  | SA     |
| 2203-006562 | R437       | C-CER,CHIP  | SA     |
| 2203-006562 | R500       | C-CER,CHIP  | SA     |
| 2203-006562 | R501       | C-CER,CHIP  | SA     |
| 2203-006562 | R502       | C-CER,CHIP  | SA     |
| 2203-006562 | R503       | C-CER,CHIP  | SA     |
| 2203-006562 | R504       | C-CER,CHIP  | SA     |
| 2203-006562 | R505       | C-CER,CHIP  | SA     |
| 2203-006562 | R508       | C-CER,CHIP  | SA     |
| 2203-006562 | R511       | C-CER,CHIP  | SA     |

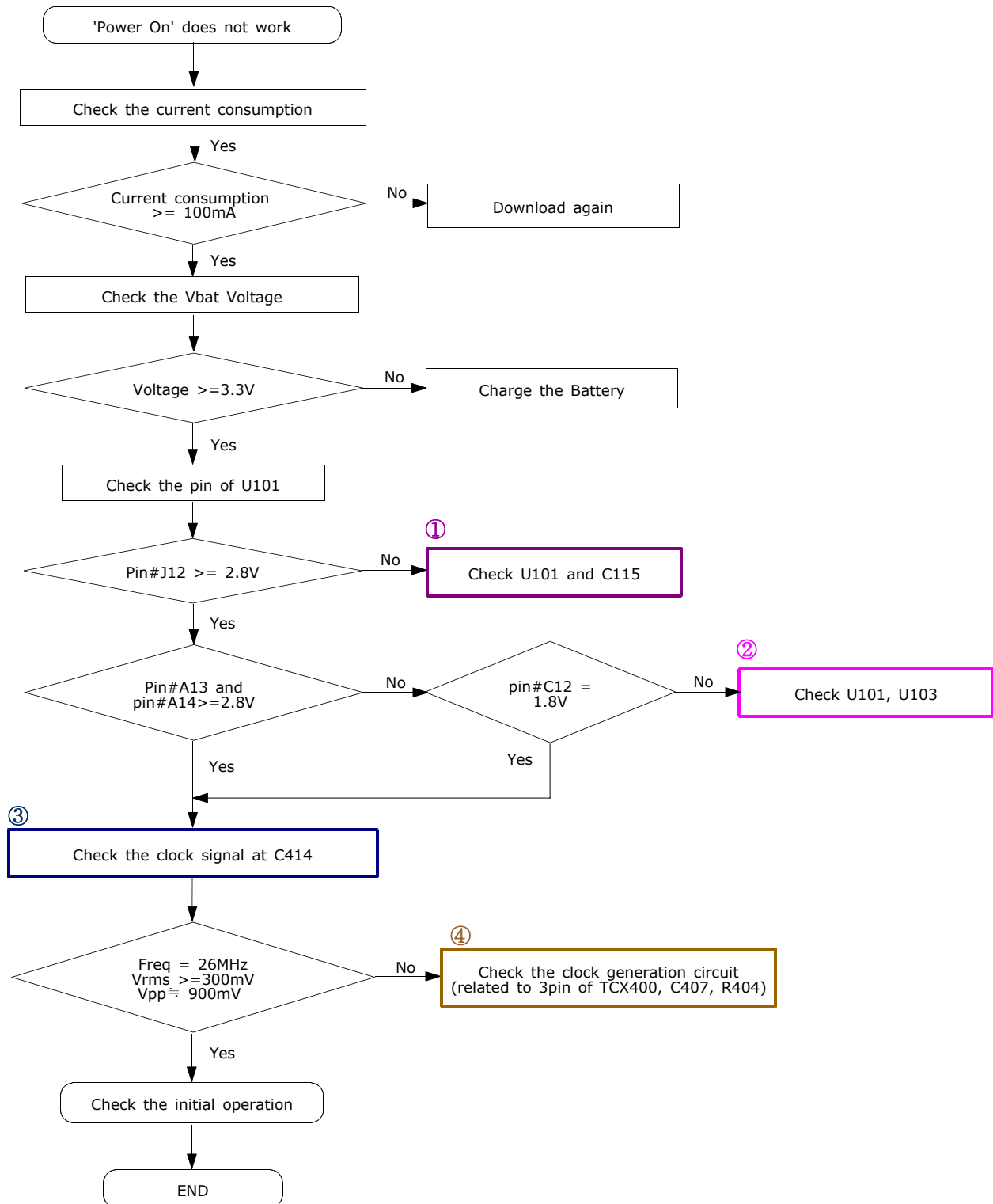
| SEC CODE    | Design LOC | Discription  | STATUS |
|-------------|------------|--------------|--------|
| 2203-006562 | R512       | C-CER,CHIP   | SA     |
| 2203-006562 | R513       | C-CER,CHIP   | SA     |
| 2203-006562 | R514       | C-CER,CHIP   | SA     |
| 2203-006562 | R515       | C-CER,CHIP   | SA     |
| 2203-006562 | R516       | C-CER,CHIP   | SA     |
| 2203-006562 | R517       | C-CER,CHIP   | SA     |
| 2203-006562 | R518       | C-CER,CHIP   | SA     |
| 2203-006562 | R519       | C-CER,CHIP   | SA     |
| 2203-006562 | R520       | C-CER,CHIP   | SA     |
| 2203-006562 | R521       | C-CER,CHIP   | SA     |
| 2203-006562 | R522       | C-CER,CHIP   | SA     |
| 2203-006585 | R523       | C-CER,CHIP   | SA     |
| 2203-006638 | R524       | C-CER,CHIP   | SA     |
| 2203-006648 | R525       | C-CER,CHIP   | SA     |
| 2203-006712 | R527       | C-CER,CHIP   | SA     |
| 2203-006824 | R529       | C-CER,CHIP   | SA     |
| 2203-006824 | R530       | C-CER,CHIP   | SA     |
| 2203-006824 | R531       | C-CER,CHIP   | SA     |
| 2203-006824 | R532       | C-CER,CHIP   | SA     |
| 2203-006824 | R533       | C-CER,CHIP   | SA     |
| 2203-006824 | R536       | C-CER,CHIP   | SA     |
| 2203-006824 | R537       | C-CER,CHIP   | SA     |
| 2203-006824 | R538       | C-CER,CHIP   | SA     |
| 2203-006825 | R539       | C-CER,CHIP   | SA     |
| 2203-006825 | R540       | C-CER,CHIP   | SA     |
| 2404-001225 | R541       | C-TA,CHIP    | SA     |
| 2404-001225 | R542       | C-TA,CHIP    | SA     |
| 2404-001336 | R543       | C-TA,CHIP    | SA     |
| 2404-001336 | R544       | C-TA,CHIP    | SA     |
| 2404-001339 | R546       | C-TA,CHIP    | SA     |
| 2404-001352 | R547       | C-TA,CHIP    | SA     |
| 2404-001352 | RFS400     | C-TA,CHIP    | SA     |
| 2404-001381 | SIM100     | C-TA,CHIP    | SA     |
| 2404-001381 | SW301      | C-TA,CHIP    | SA     |
| 2404-001381 | SW302      | C-TA,CHIP    | SA     |
| 2404-001381 | TCX400     | C-TA,CHIP    | SA     |
| 2404-001381 | U100       | C-TA,CHIP    | SA     |
| 2404-001381 | U102       | C-TA,CHIP    | SA     |
| 2404-001396 | U103       | C-TA,CHIP    | SA     |
| 2404-001406 | U107       | C-TA,CHIP    | SA     |
| 2404-001406 | U108       | C-TA,CHIP    | SA     |
| 2703-001178 | U202       | INDUCTOR-SMD | SA     |

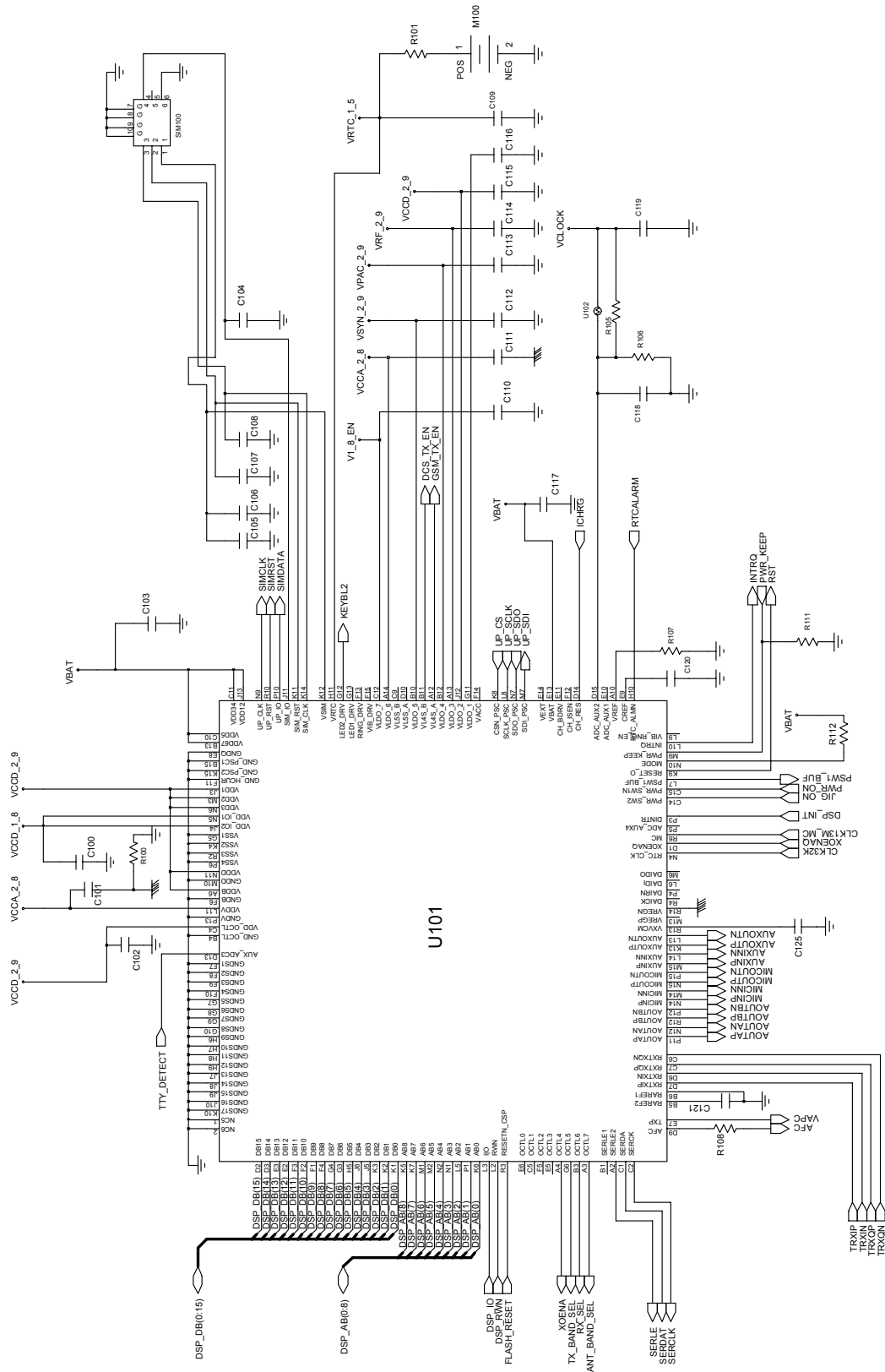
| SEC CODE    | Design LOC | Discription           | STATUS |
|-------------|------------|-----------------------|--------|
| 2703-001178 | U203       | INDUCTOR-SMD          | SA     |
| 2703-001180 | U204       | INDUCTOR-SMD          | SA     |
| 2703-001737 | U205       | INDUCTOR-SMD          | SA     |
| 2703-002203 | U206       | INDUCTOR-SMD          | SA     |
| 2703-002205 | U300       | INDUCTOR-SMD          | SA     |
| 2703-002206 | U301       | INDUCTOR-SMD          | SA     |
| 2703-002268 | U303       | INDUCTOR-SMD          | SA     |
| 2703-002368 | U304       | INDUCTOR-SMD          | SA     |
| 2703-002734 | U400       | INDUCTOR-SMD          | SA     |
| 2703-002734 | U401       | INDUCTOR-SMD          | SA     |
| 2703-002966 | U402       | INDUCTOR-SMD          | SA     |
| 2801-004285 | U403       | CRYSTAL-SMD           | SA     |
| 2801-004373 | U404       | CRYSTAL-SMD           | SA     |
| 2809-001293 | U405       | OSCILLATOR-VCTCXO     | SA     |
| 2901-001389 | U500       | FILTER-EMI/ESD        | SA     |
| 2901-001389 | U501       | FILTER-EMI/ESD        | SA     |
| 2901-001389 | U502       | FILTER-EMI/ESD        | SA     |
| 2901-001389 | U504       | FILTER-EMI/ESD        | SA     |
| 2911-000017 | UCD101     | DUPLEXER-FEM          | SA     |
| 3301-001158 | UCD503     | BEAD-SMD              | SA     |
| 3301-001158 | UCP201     | BEAD-SMD              | SA     |
| 3301-001729 | UME200     | BEAD-SMD              | SA     |
| 3301-001729 | V500       | BEAD-SMD              | SA     |
| 3301-001729 | V501       | BEAD-SMD              | SA     |
| 3301-001729 | V502       | BEAD-SMD              | SA     |
| 3301-001729 | V503       | BEAD-SMD              | SA     |
| 3404-001152 | V504       | SWITCH-TACT           | SA     |
| 3404-001152 | V505       | SWITCH-TACT           | SA     |
| 3705-001358 | ZD101      | CONNECTOR-COAXIAL     | SA     |
| 3708-002194 | ZD201      | CONNECTOR-FPC/FFC/PIC | SA     |
| 3709-001344 | ZD202      | CONNECTOR-CARD EDGE   | SA     |
| 3709-001421 | ZD203      | CONNECTOR-CARD EDGE   | SA     |
| 3710-002306 | ZD204      | SOCKET-INTERFACE      | SA     |
| 3711-005976 | ZD301      | HEADER-BOARD TO BOARD | SA     |
| 3711-006220 | ZD302      | HEADER-BATTERY        | SA     |
| 4202-001116 | ZD303      | ANTENNA-CHIP          | SA     |
| 4302-001158 | ZD304      | BATTERY-LI(2ND)       | SA     |
| 4709-001372 | ZD305      | BLUETOOTH MODULE      | SA     |
| GH09-00044A | ZD500      | IC MICOM              | SA     |
| GH13-00032A | ZD501      | IC ASIC               | SA     |
| GH71-05646A | ZD502      | NPR-ANTENNA CONTACT   | SA     |
| GH71-05646A | ZD504      | NPR-ANTENNA CONTACT   | SA     |

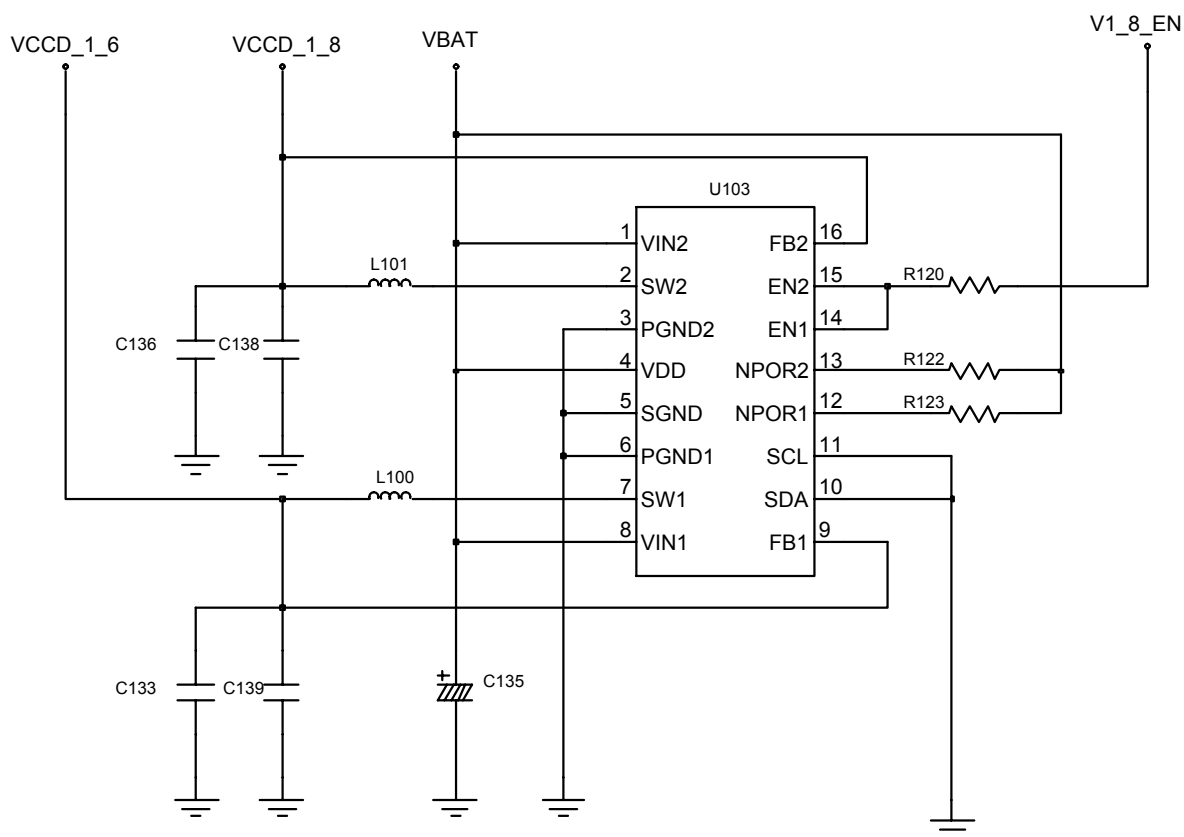
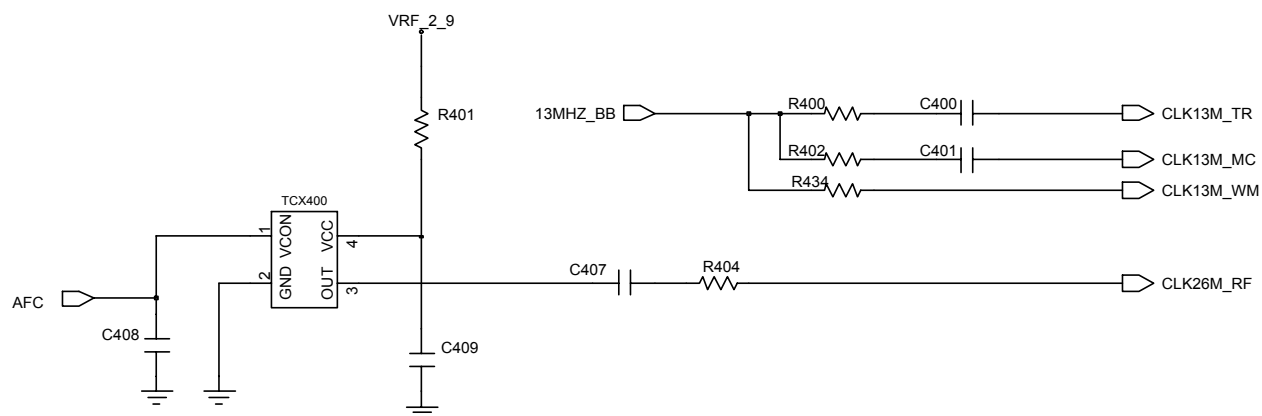
# 11. Flow Chart of Troubleshooting

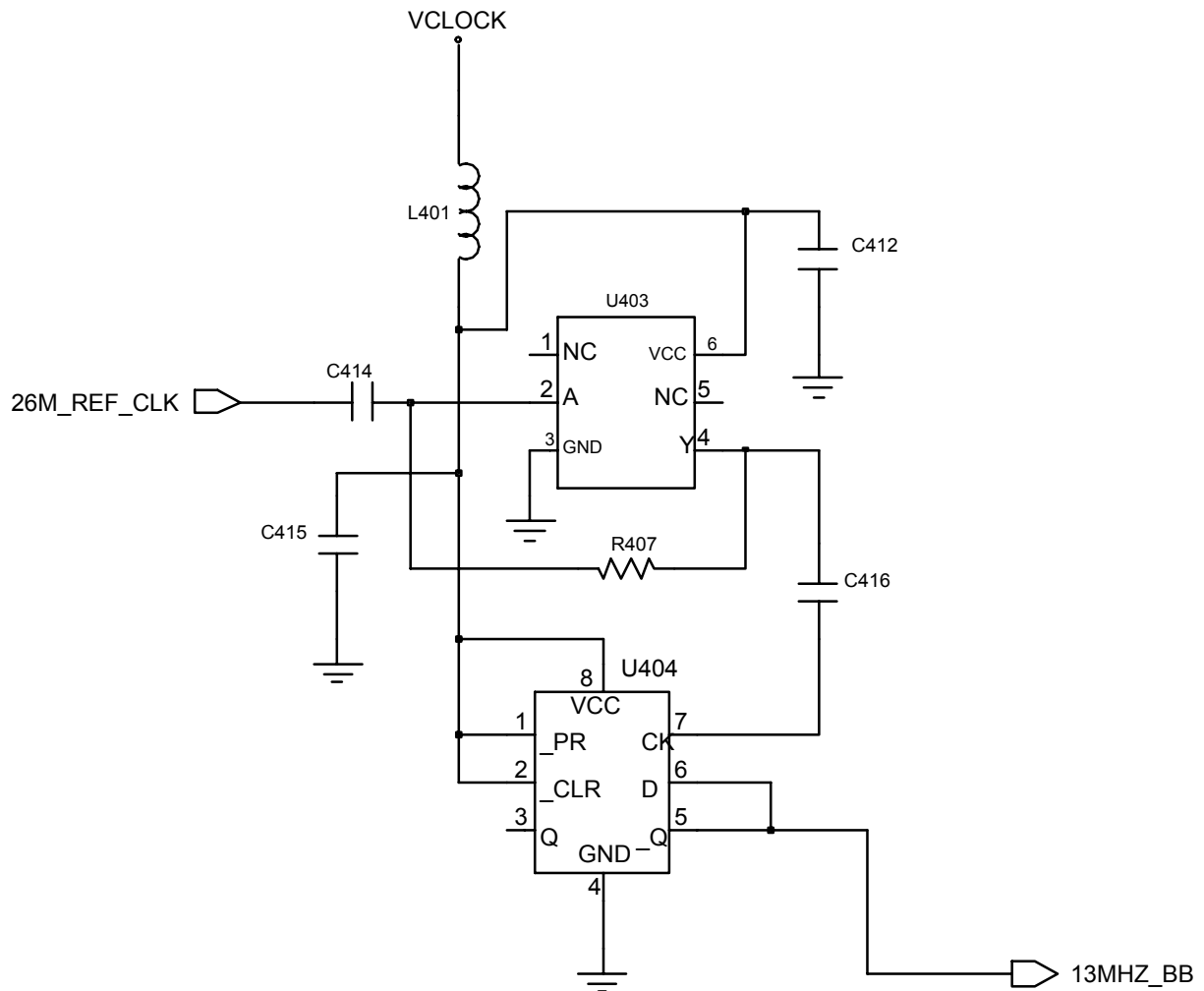
## 11-1.Baseband

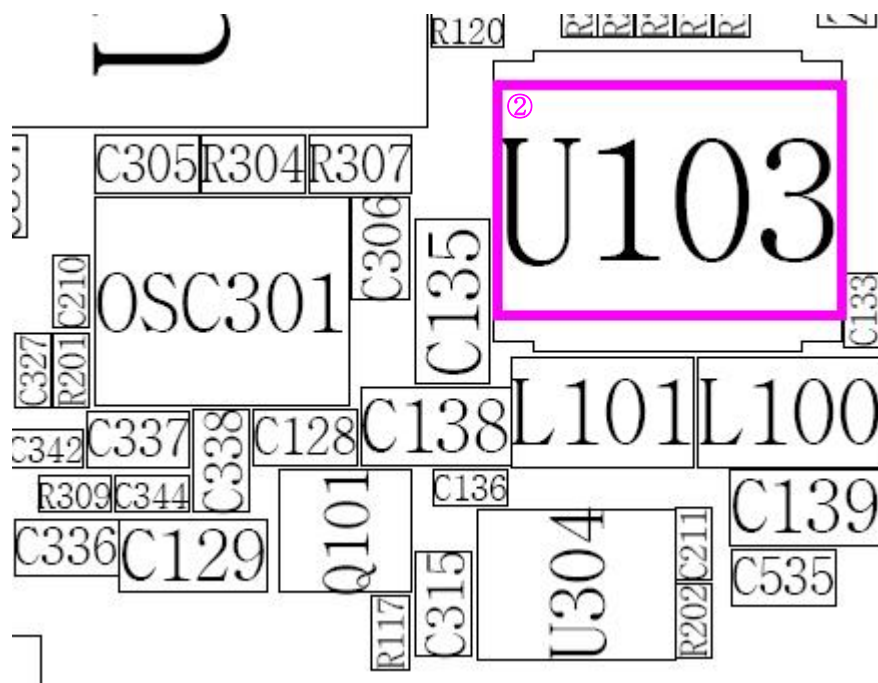
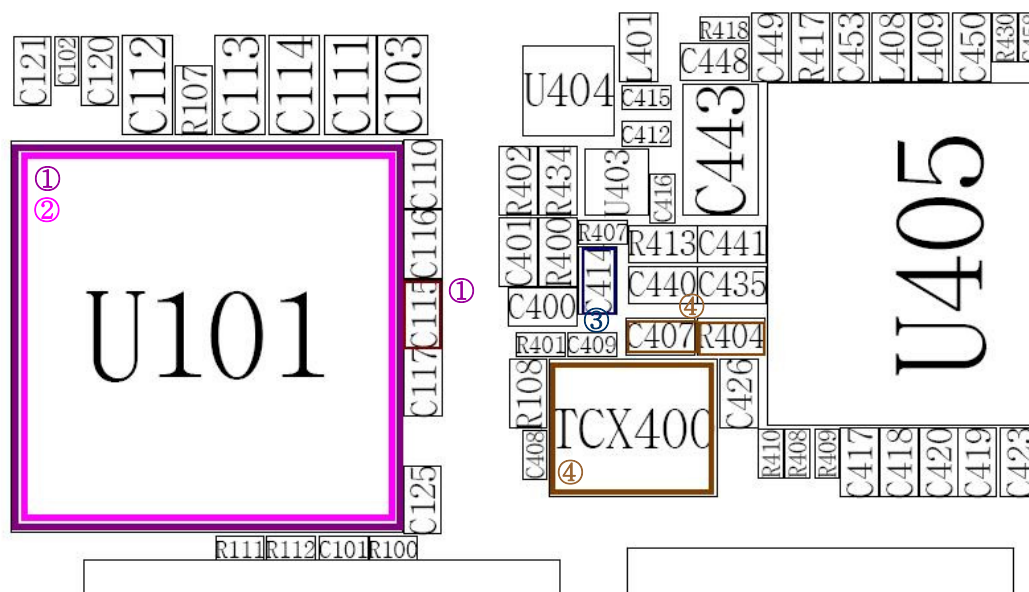
### 11-1-1. Power ON



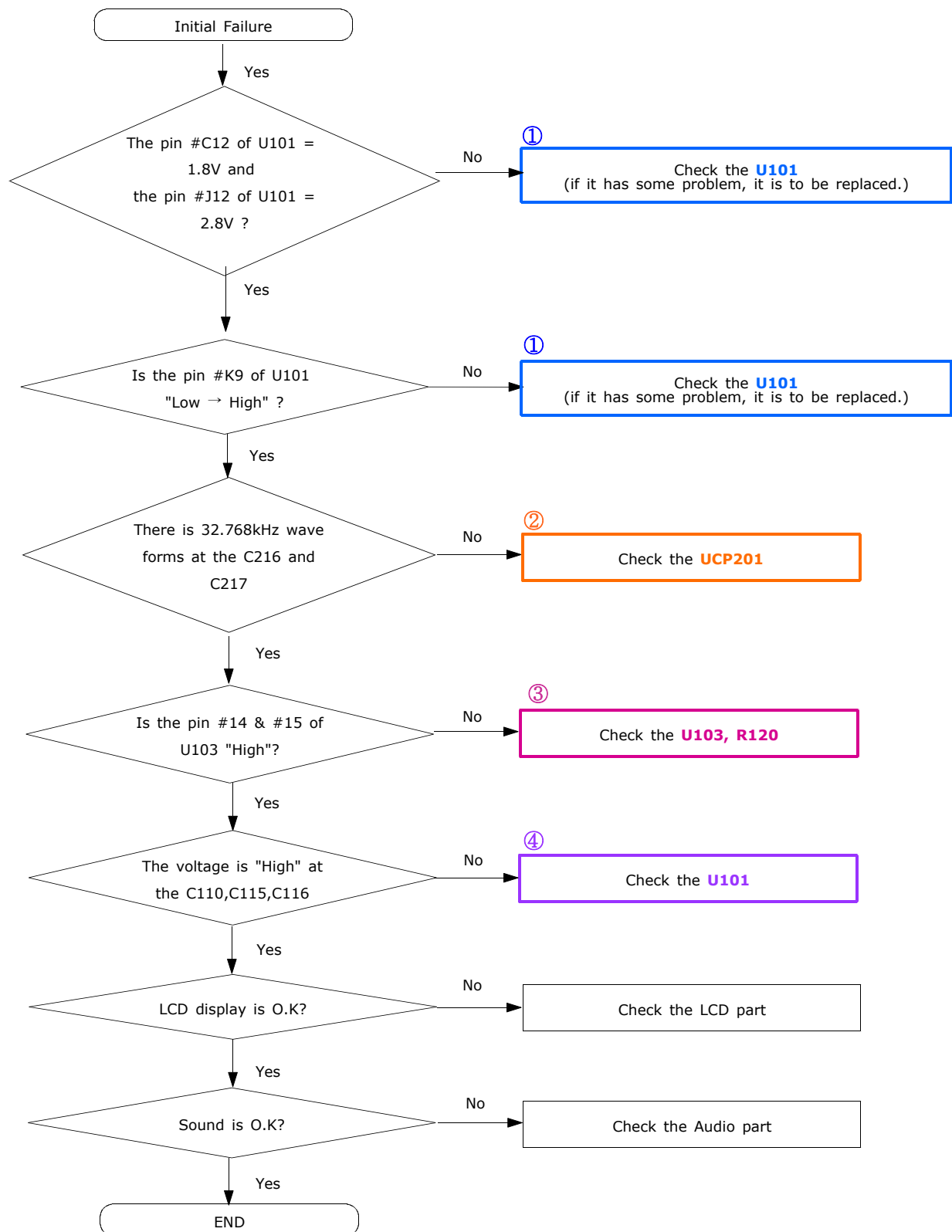




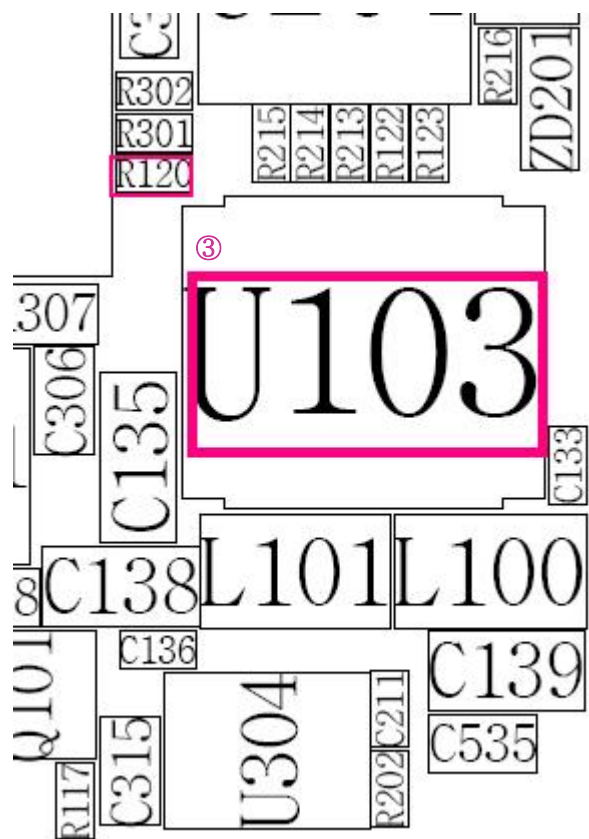
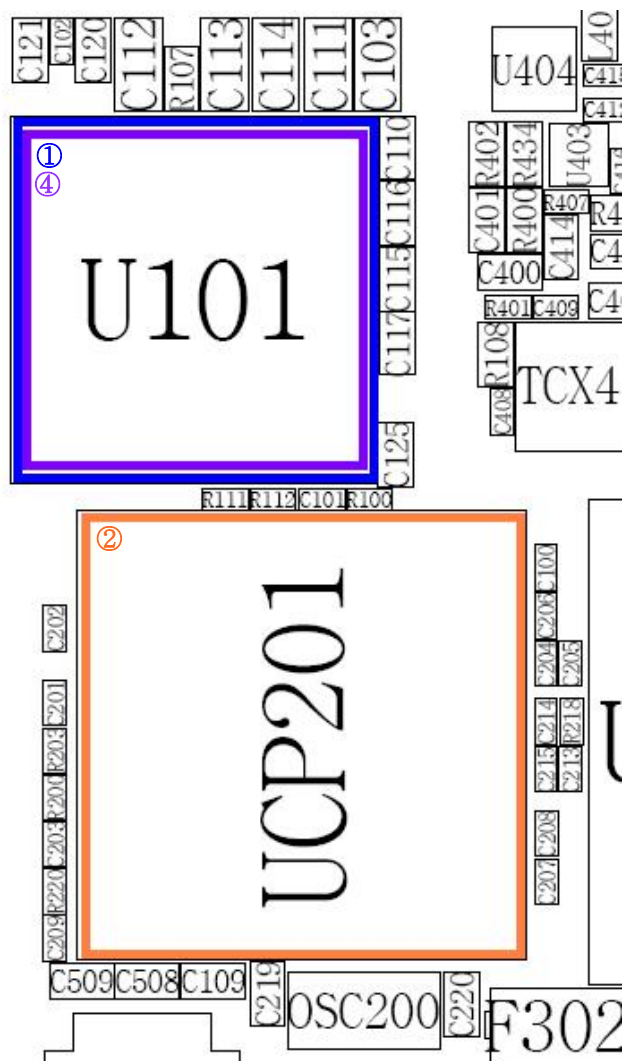




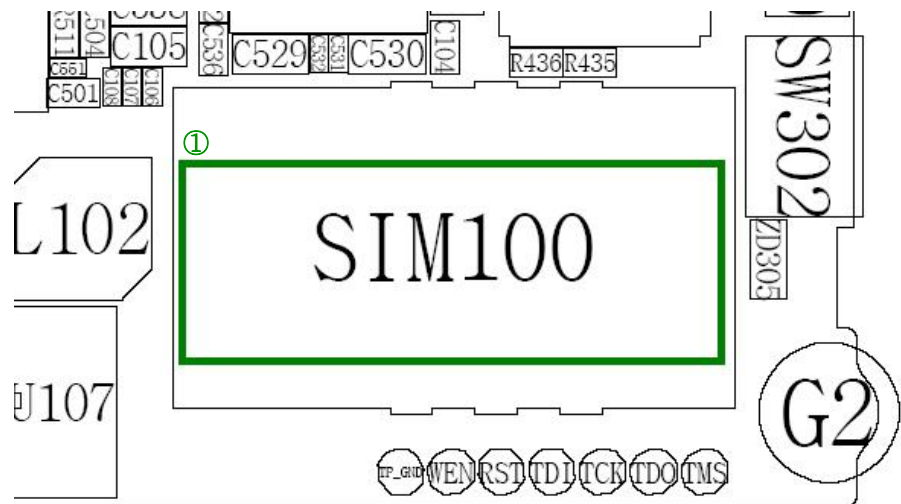
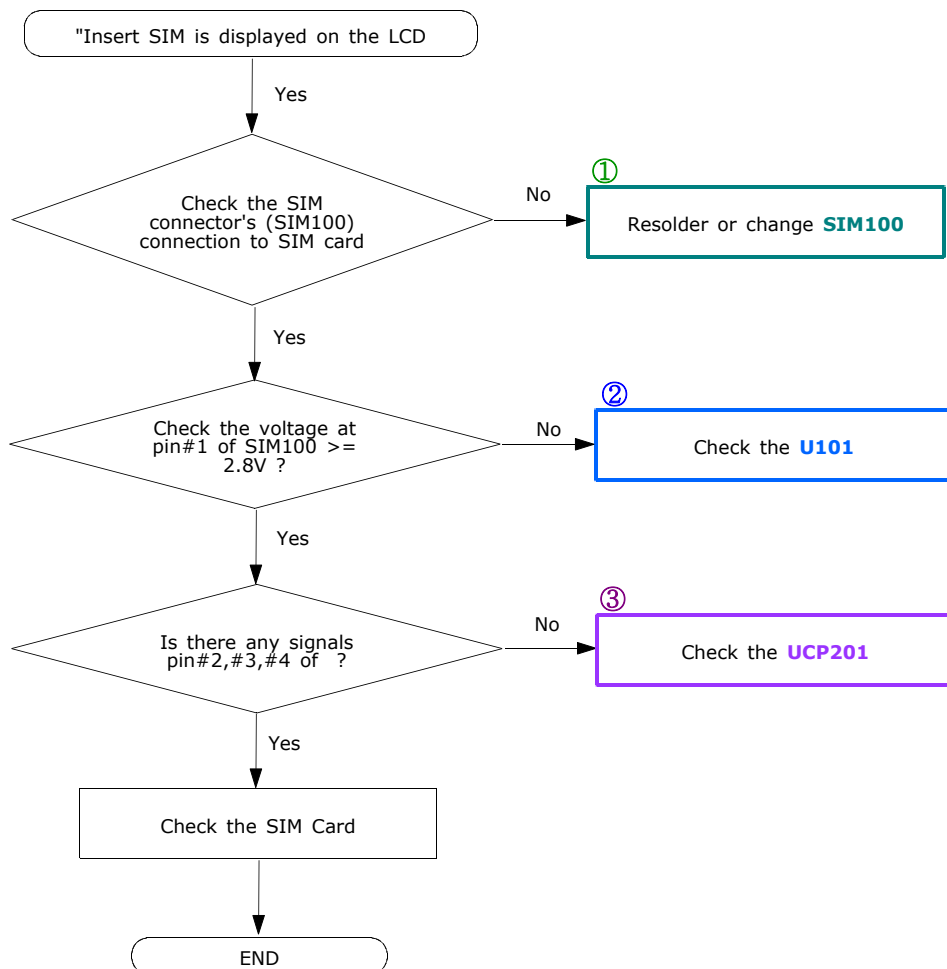
## 11-1-2. Initial

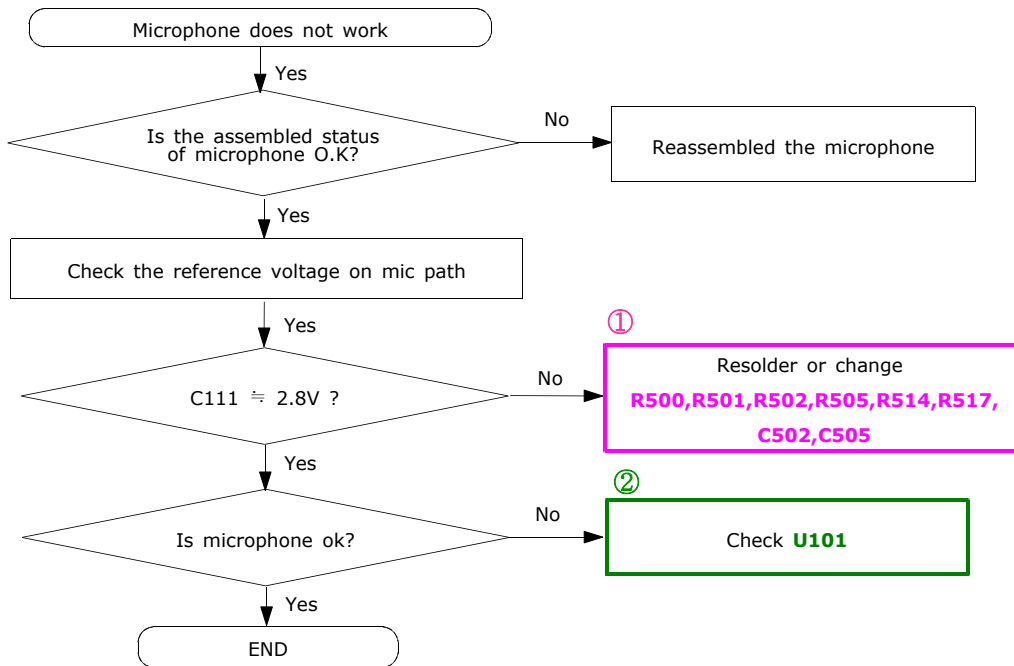


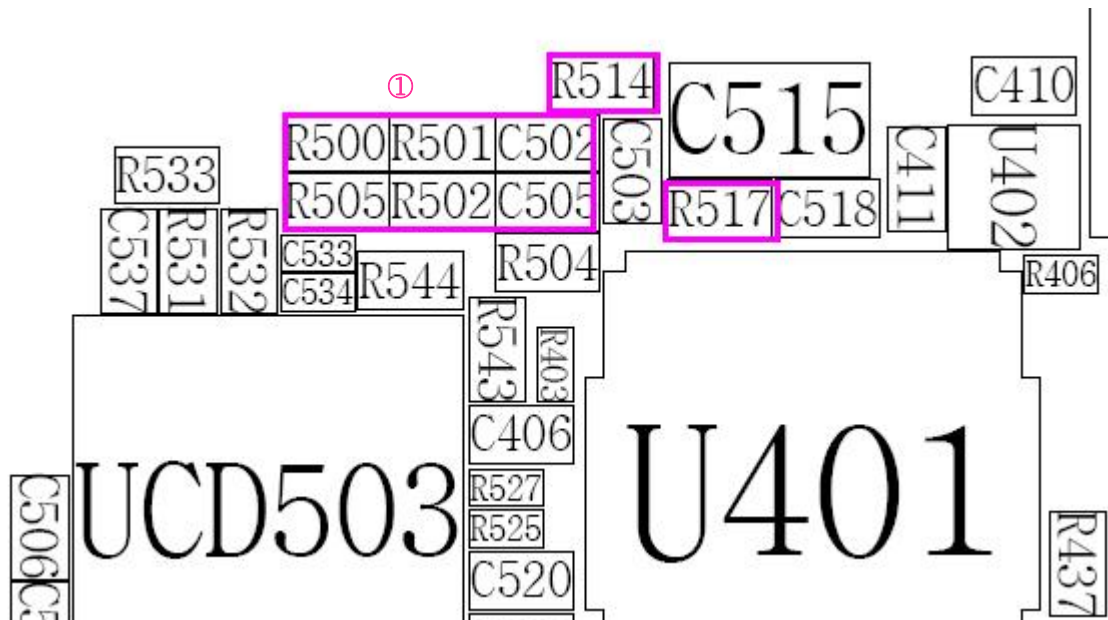
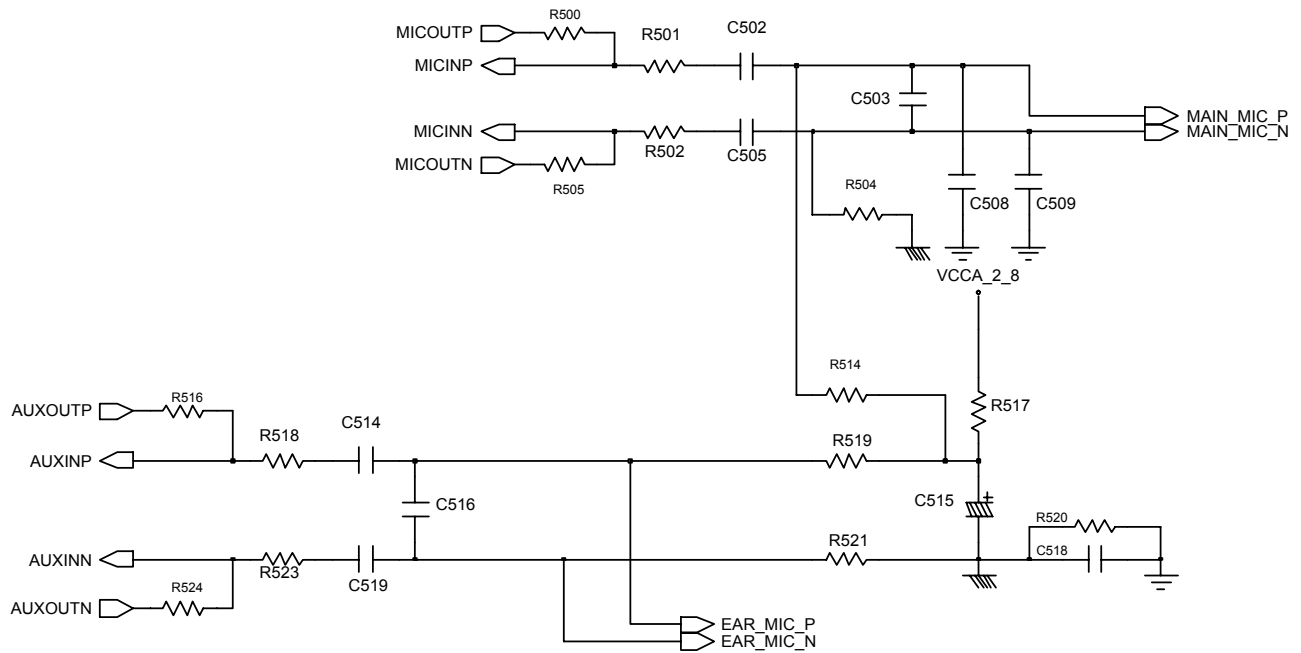




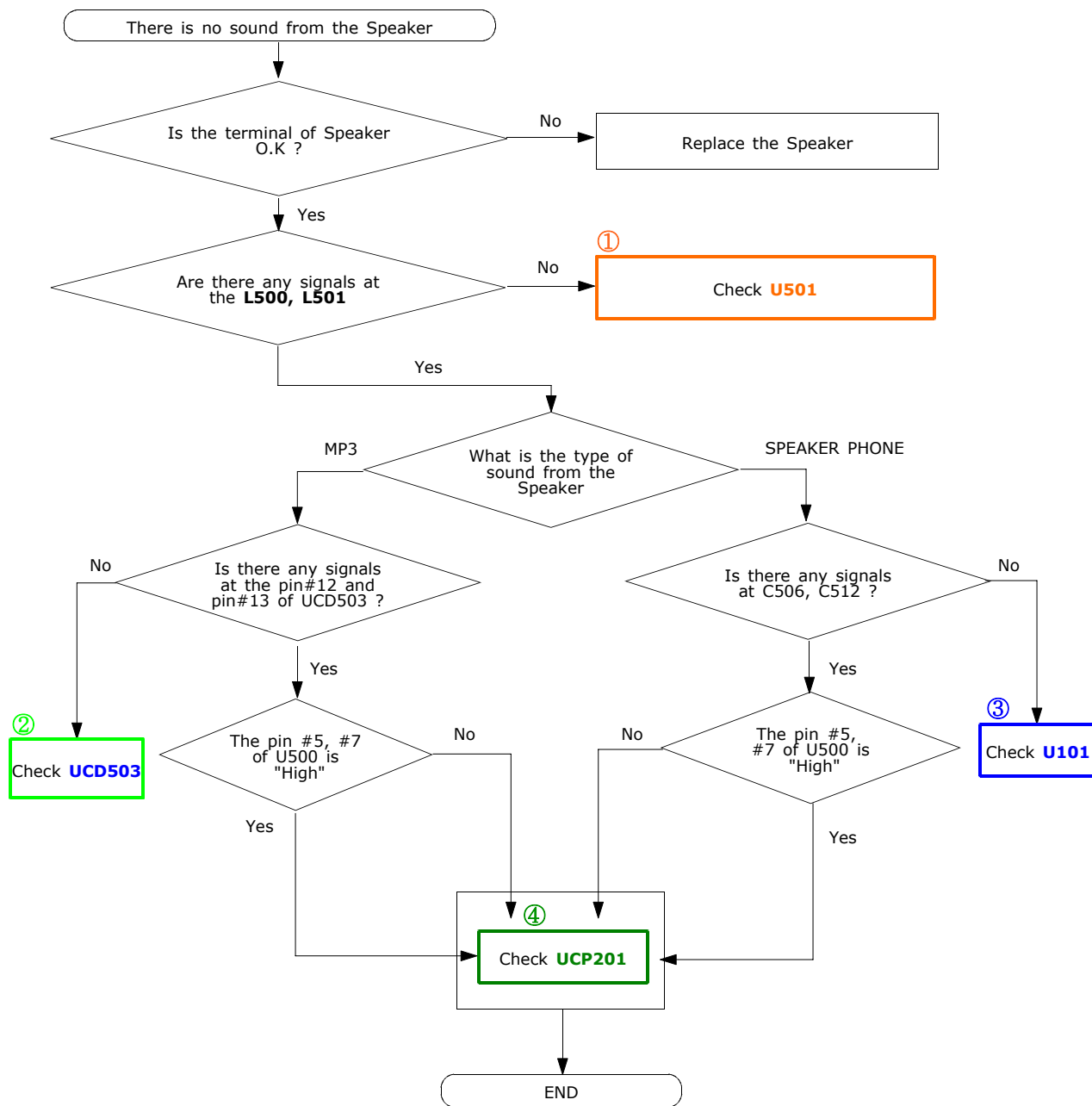
### 11-1-3. Sim Part

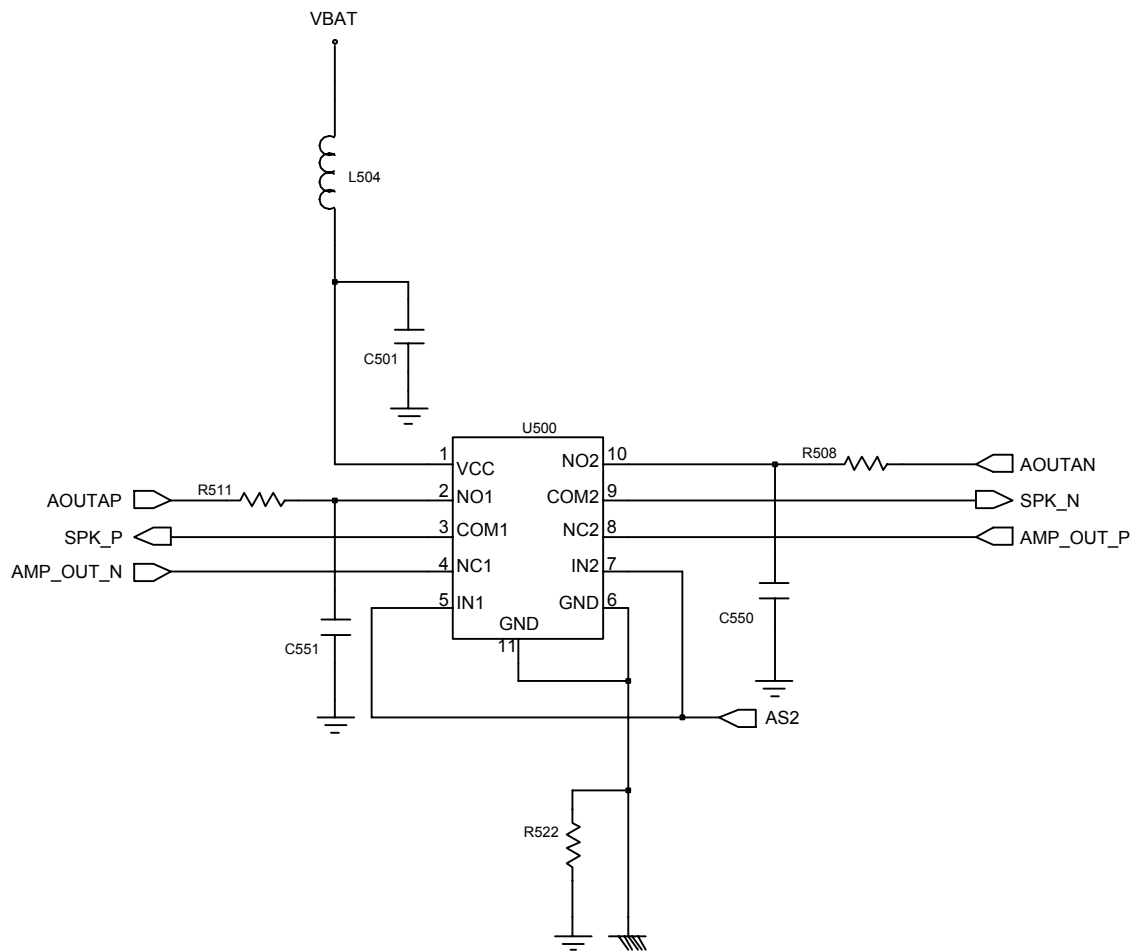
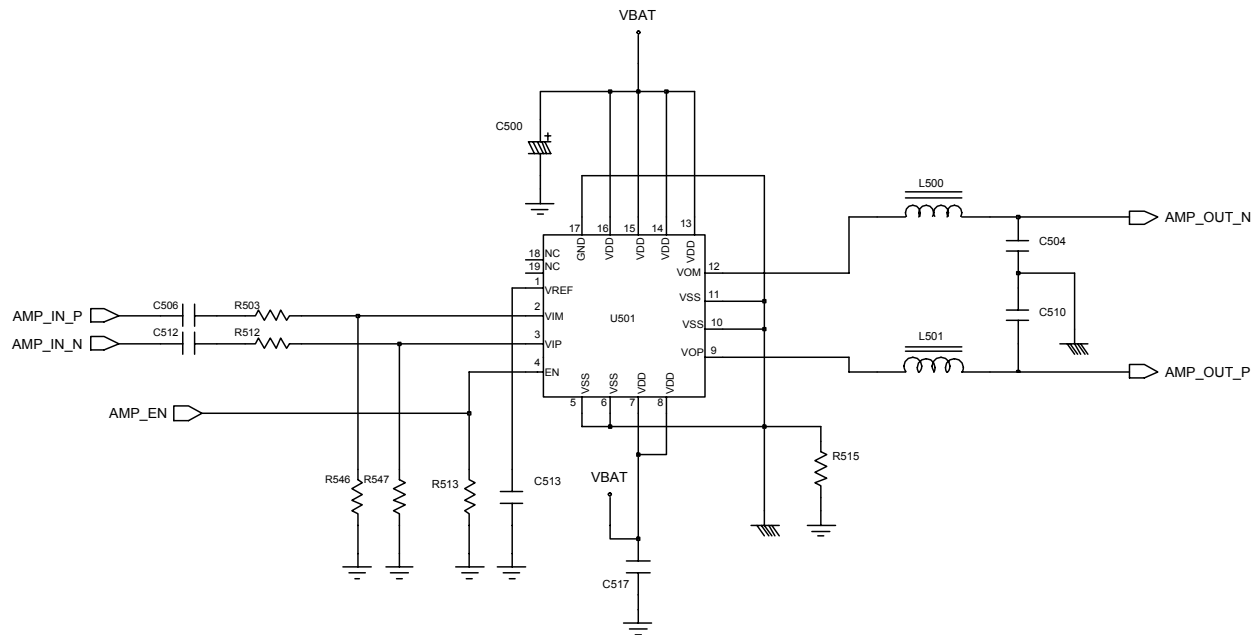


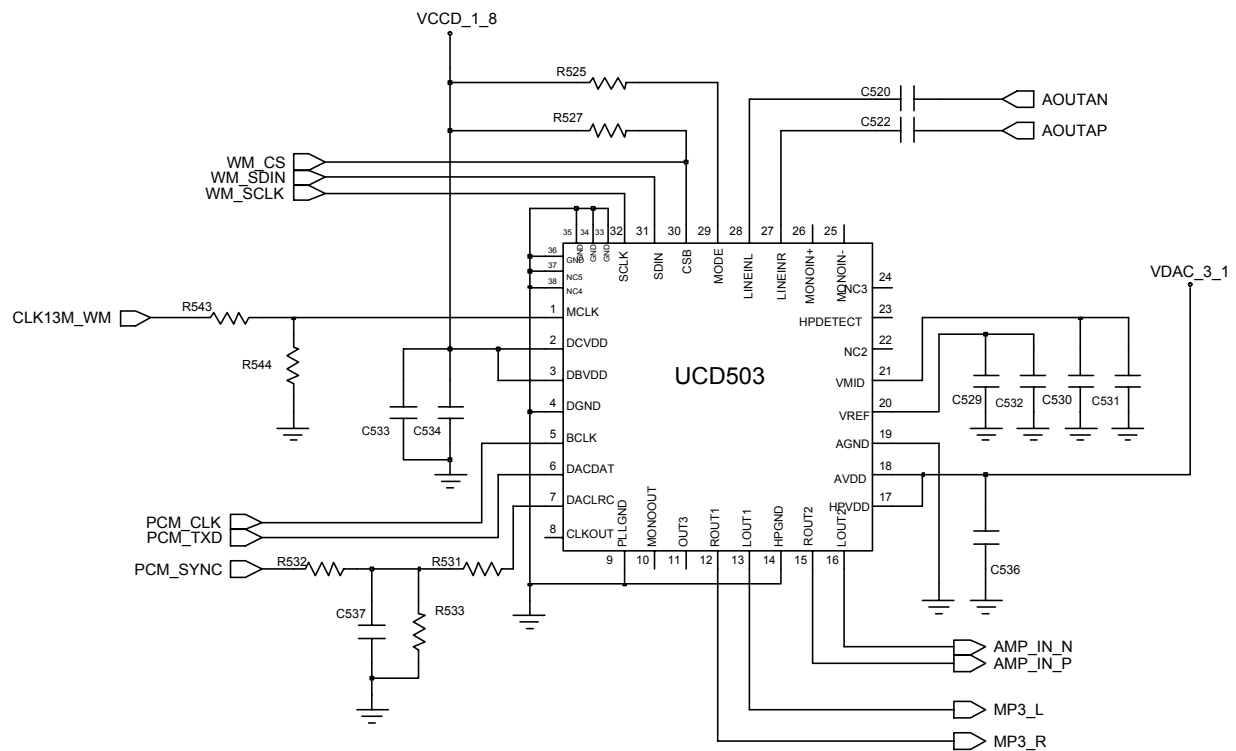
**11-1-4. Microphone Part**

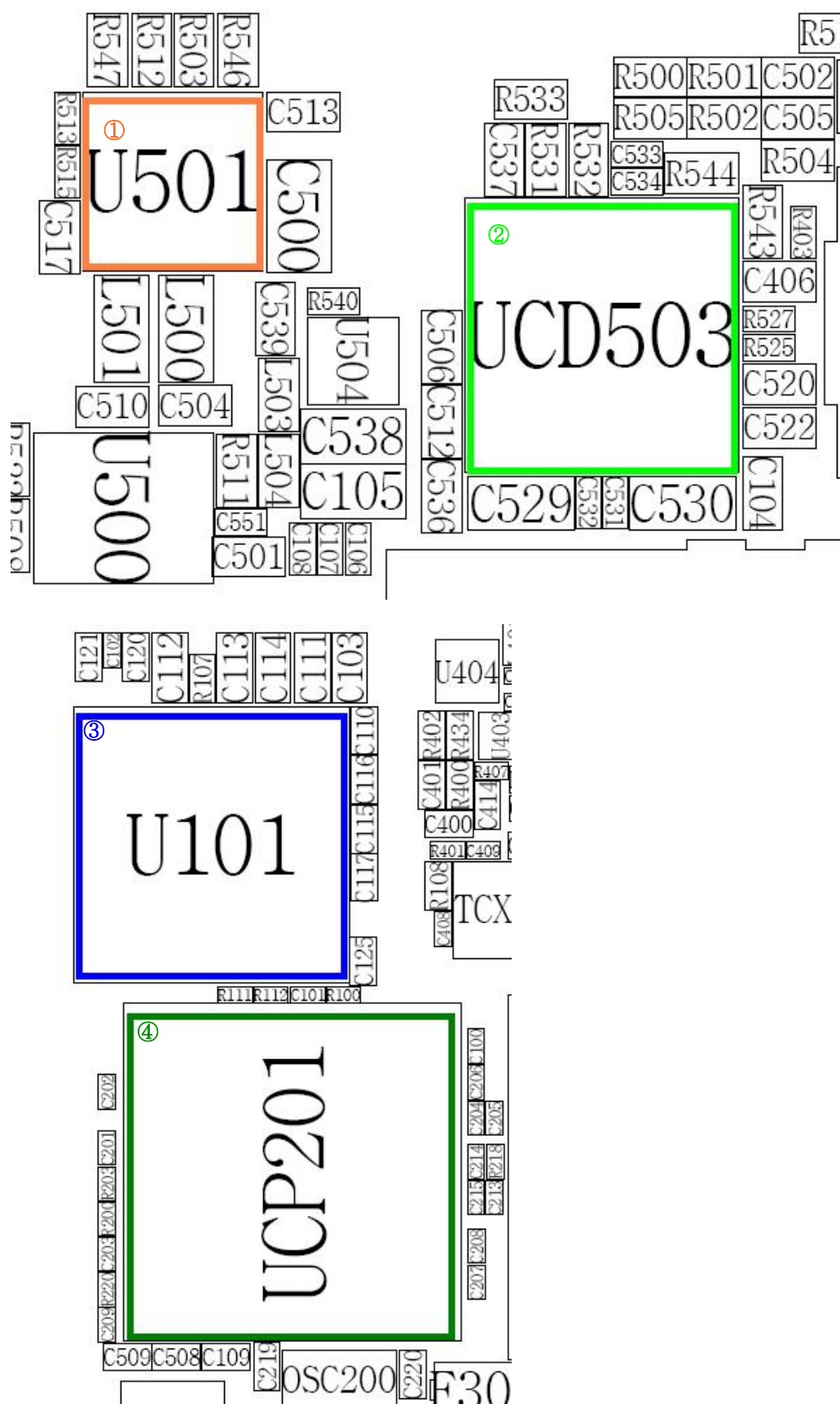


## 11-1-5. Speaker Part\_1(MP3, SPEAKER PHONE)

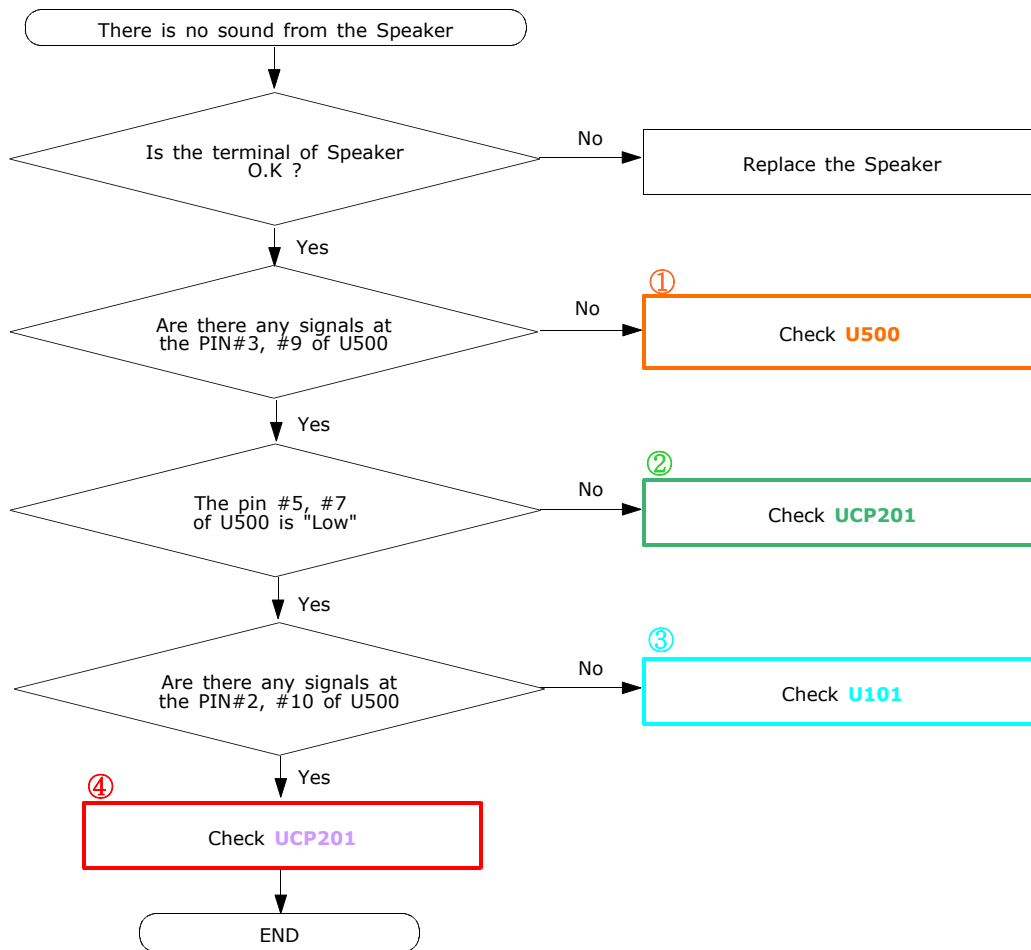


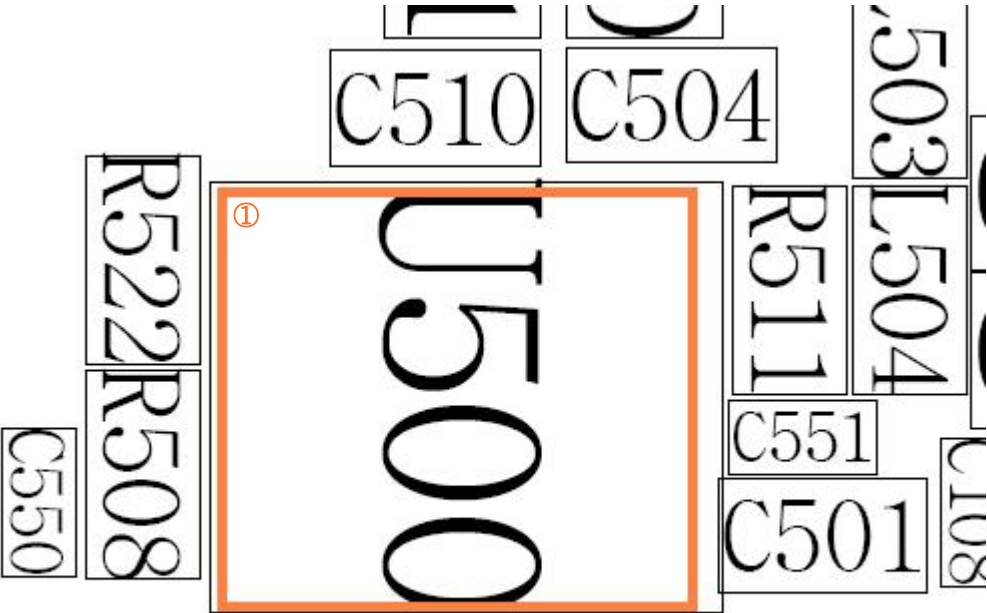




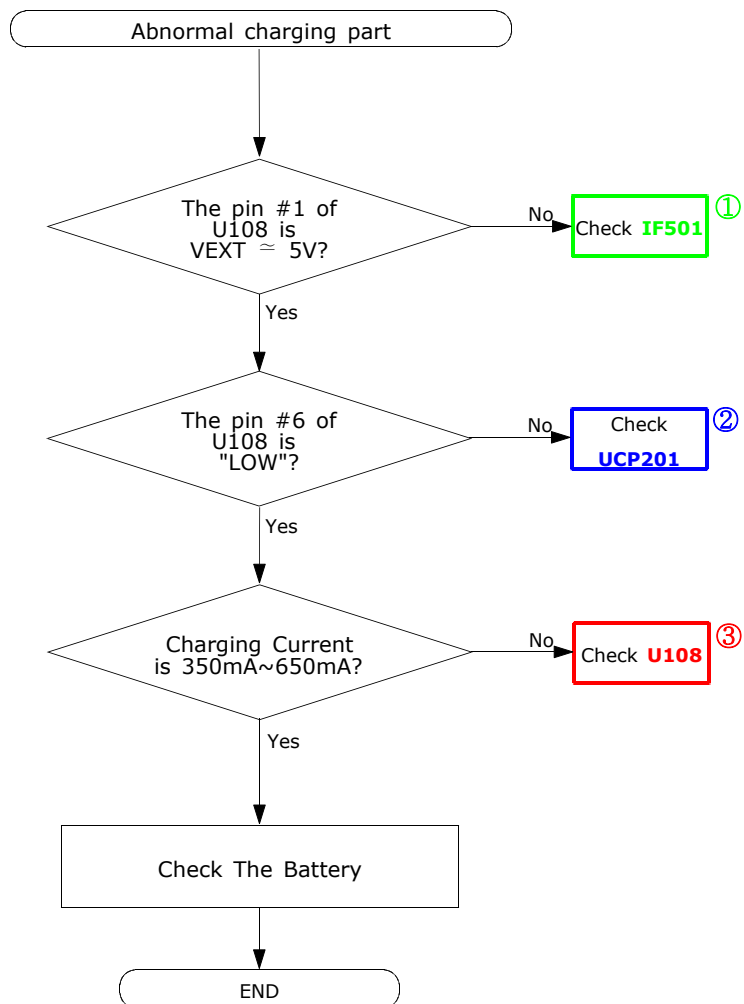


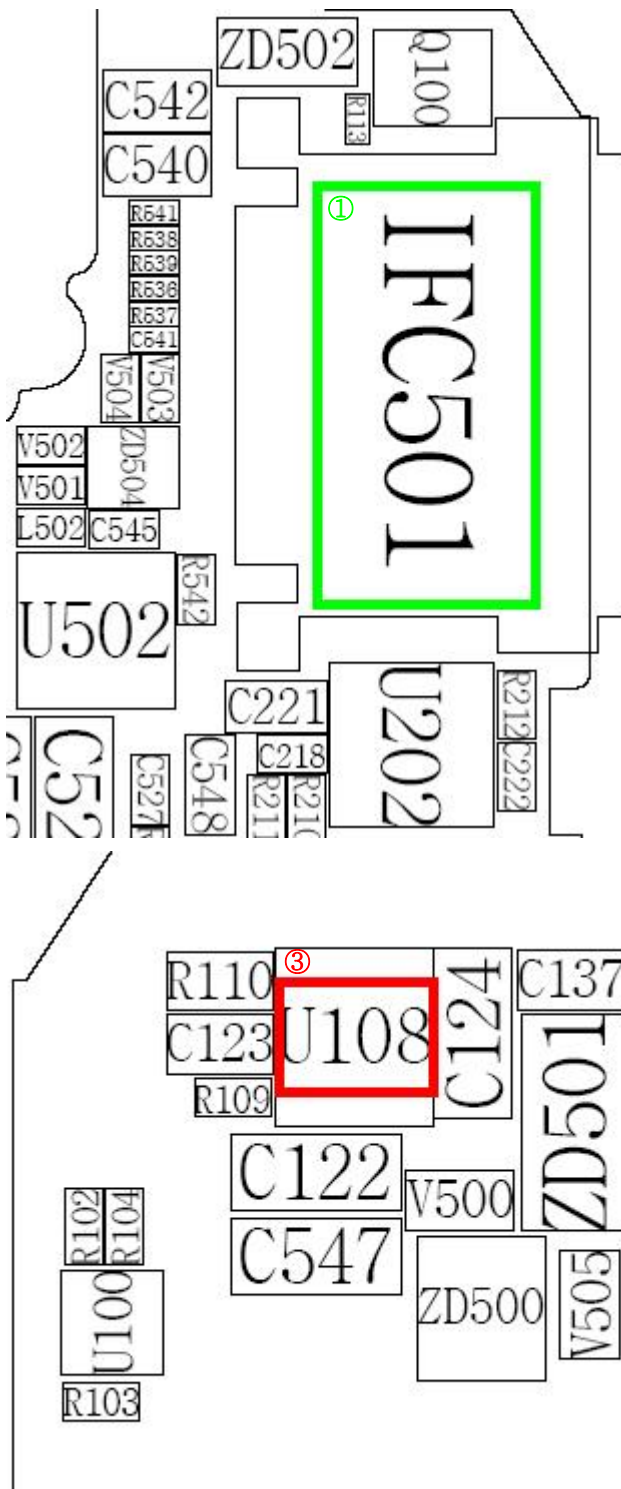
## 11-1-6. Speaker Part\_2(RECEIVER)

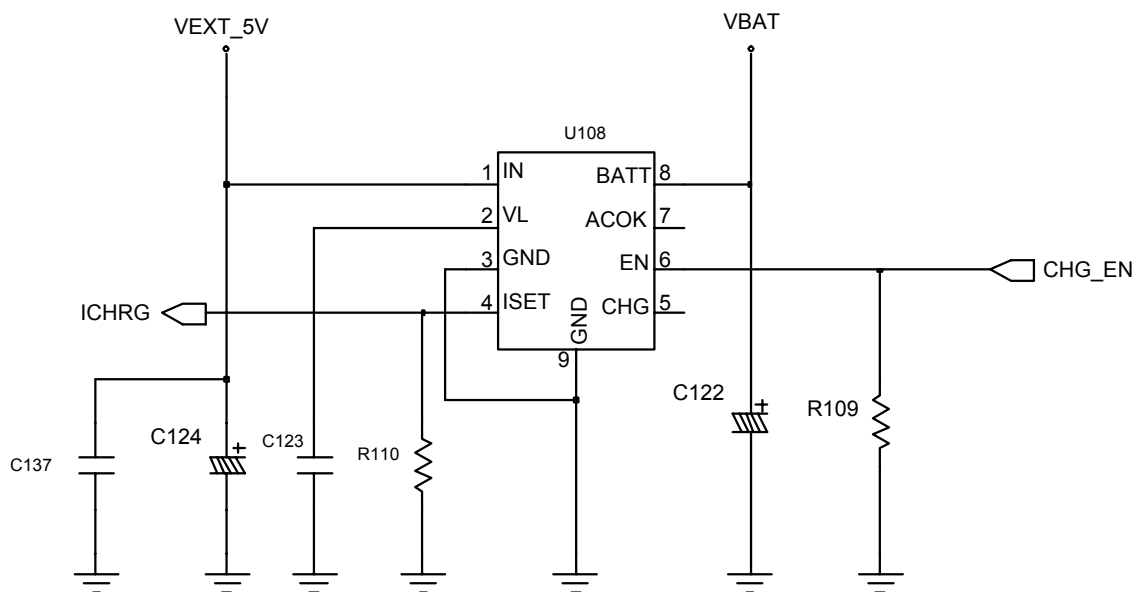
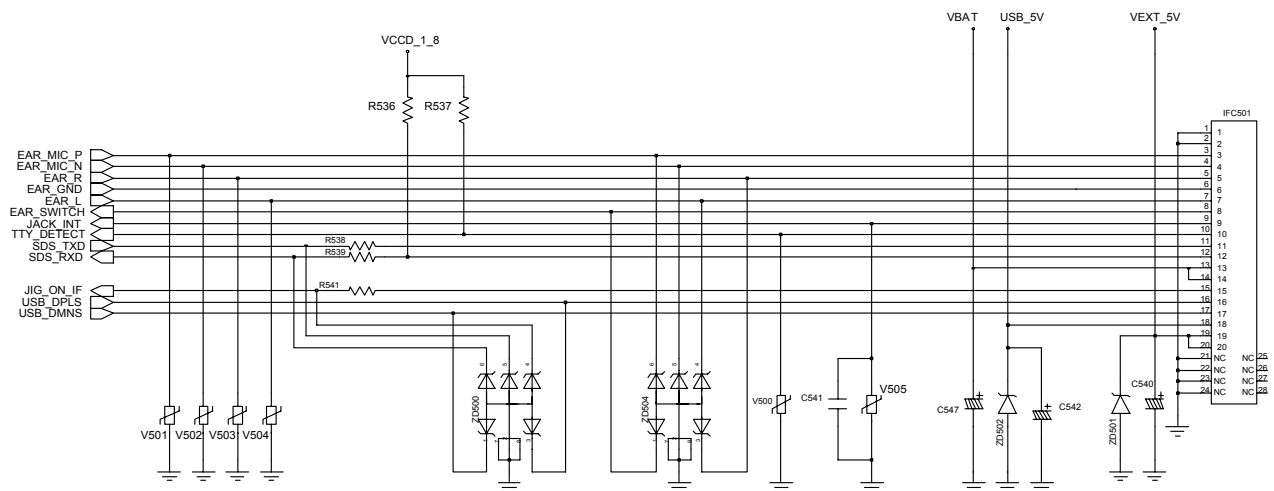




## 11-1-7. Charging Part

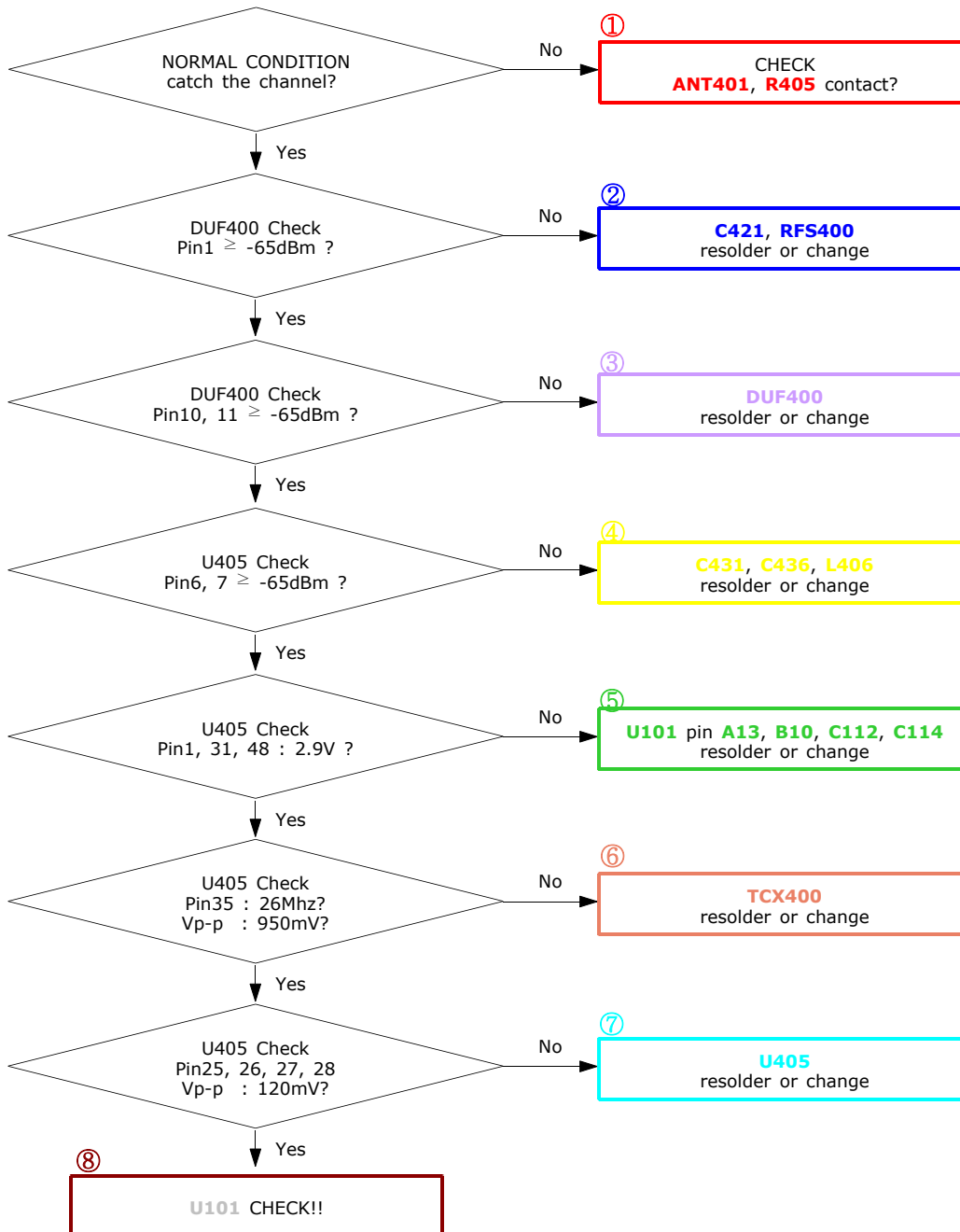


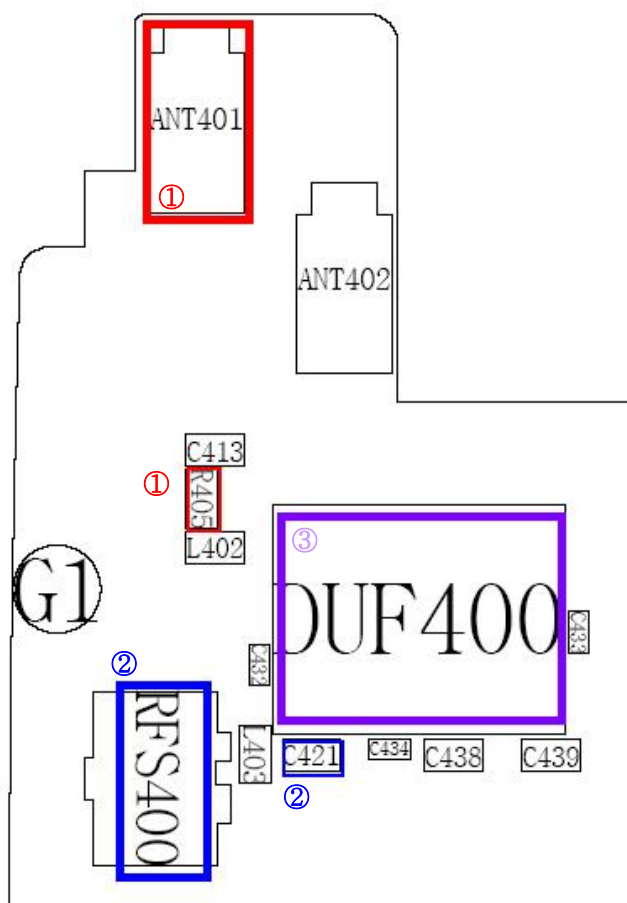




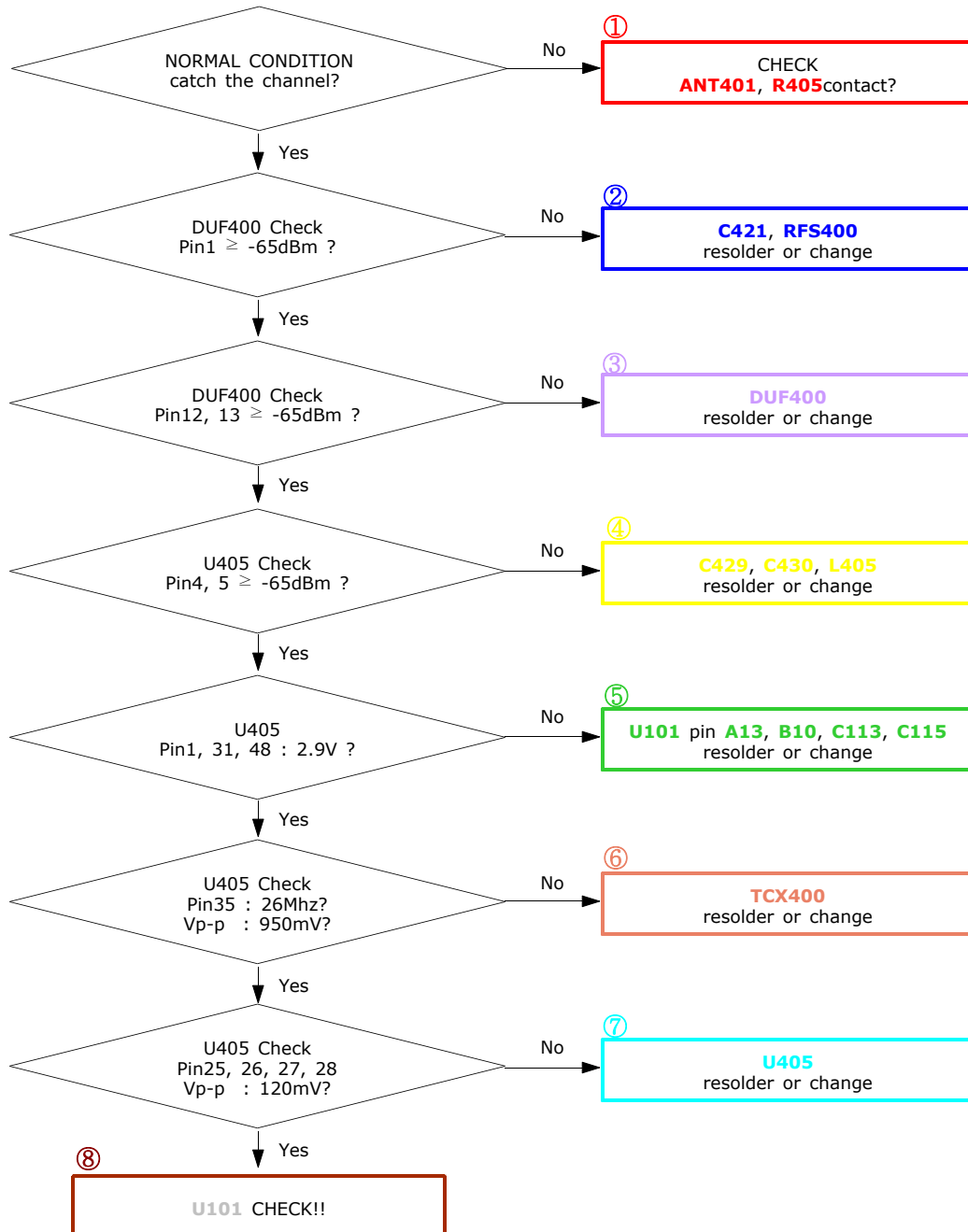
## 11-2. RF

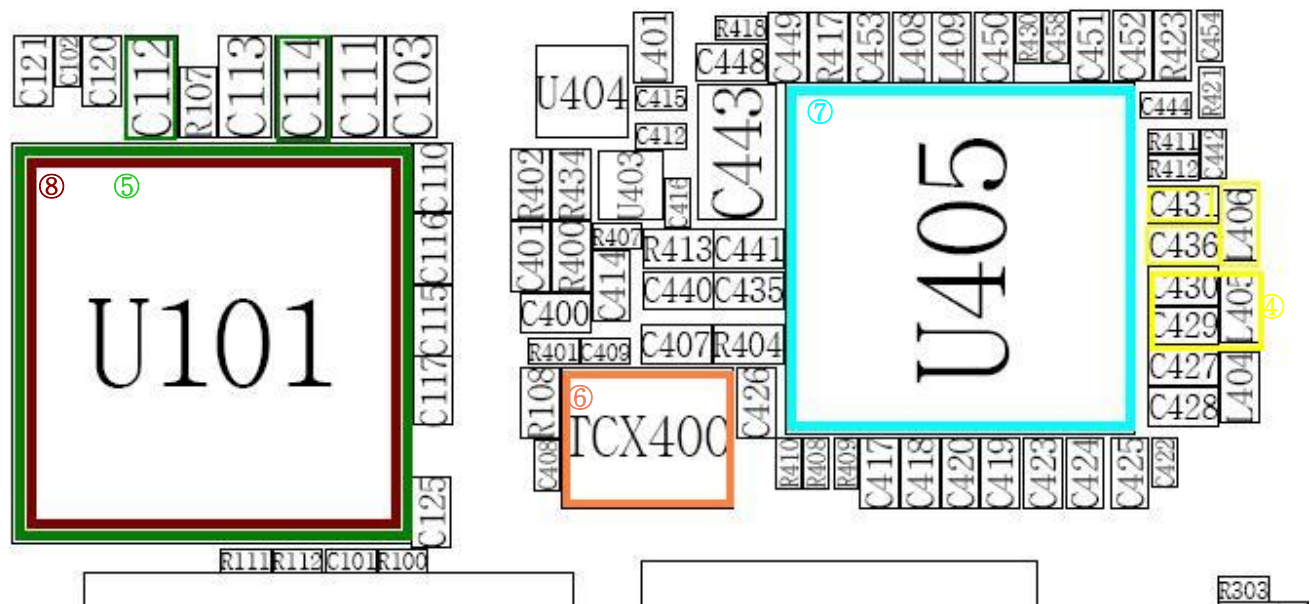
### 11-2-1. GSM850/EGSM RX



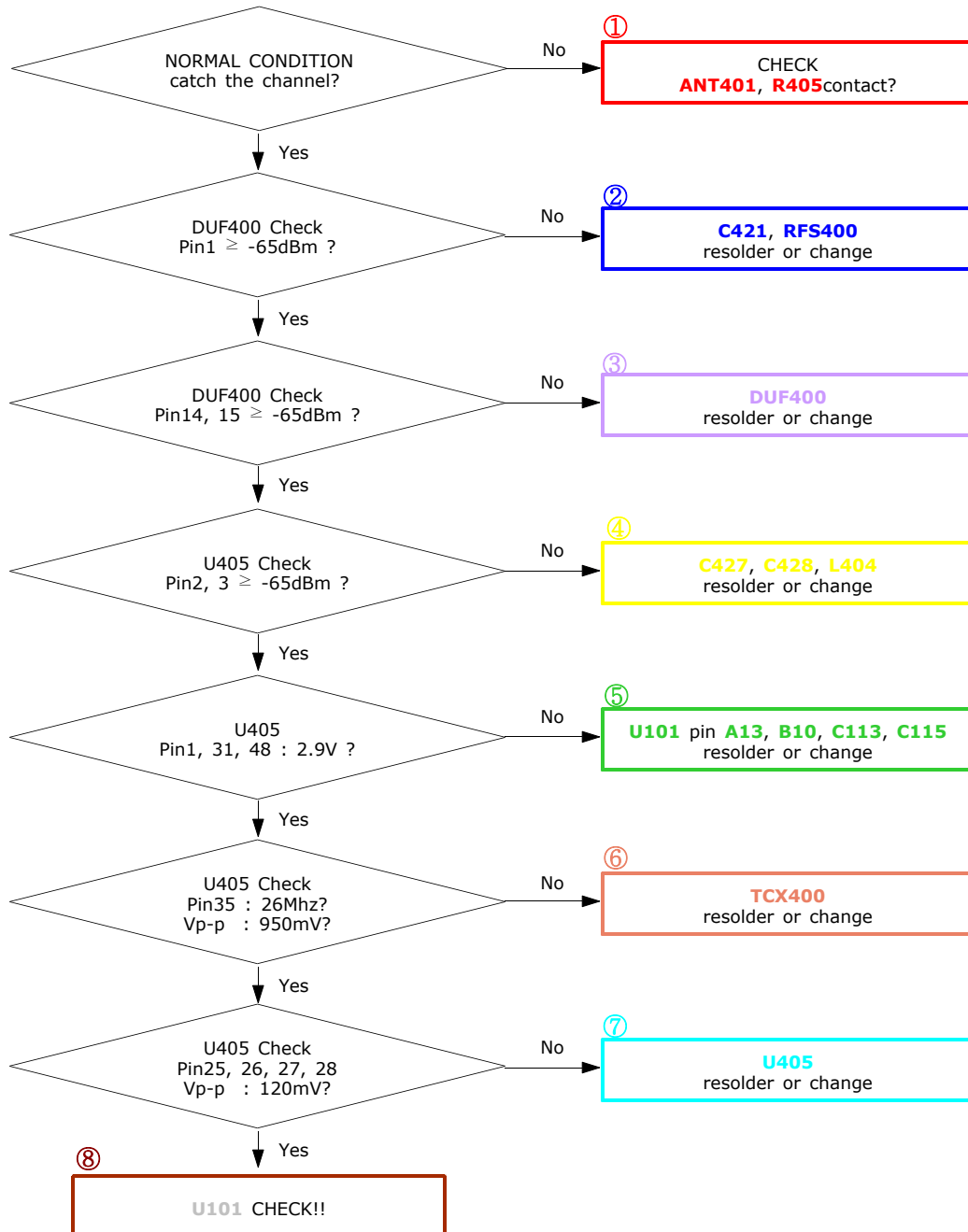


## 11-2-2. DCS RX

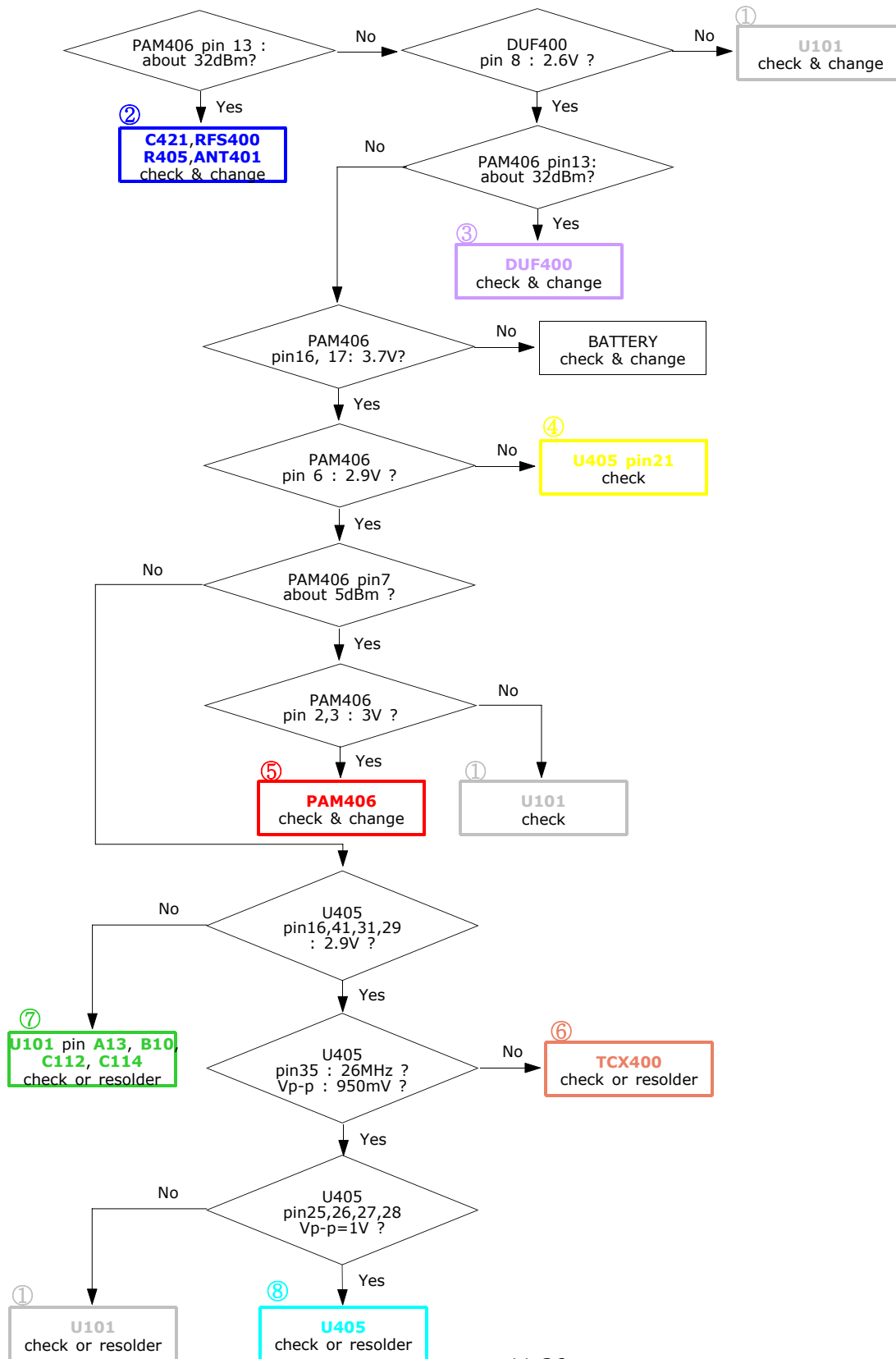


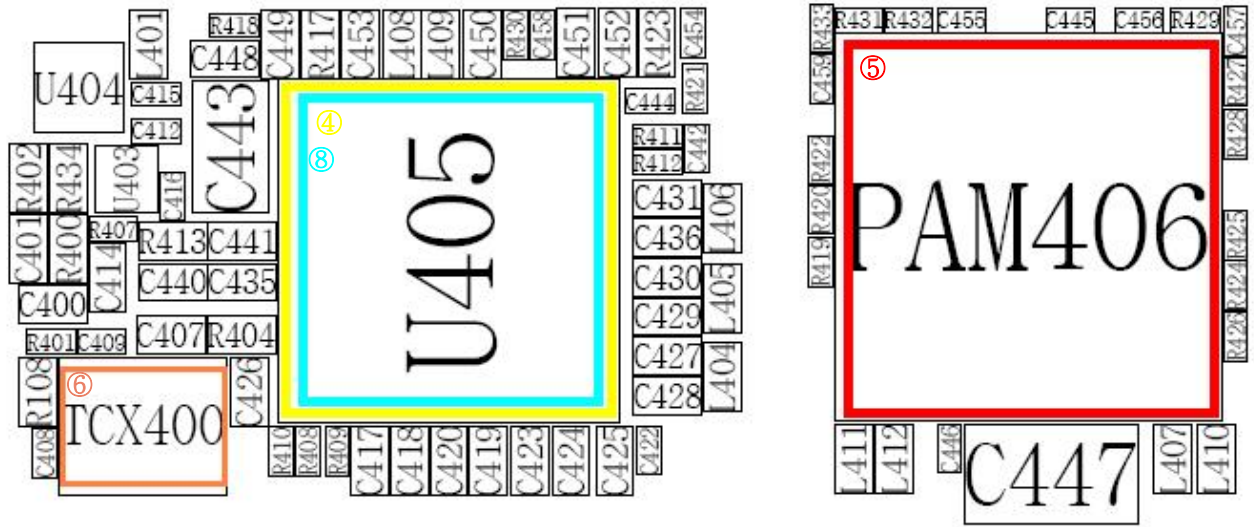


### 11-2-3. PCS RX

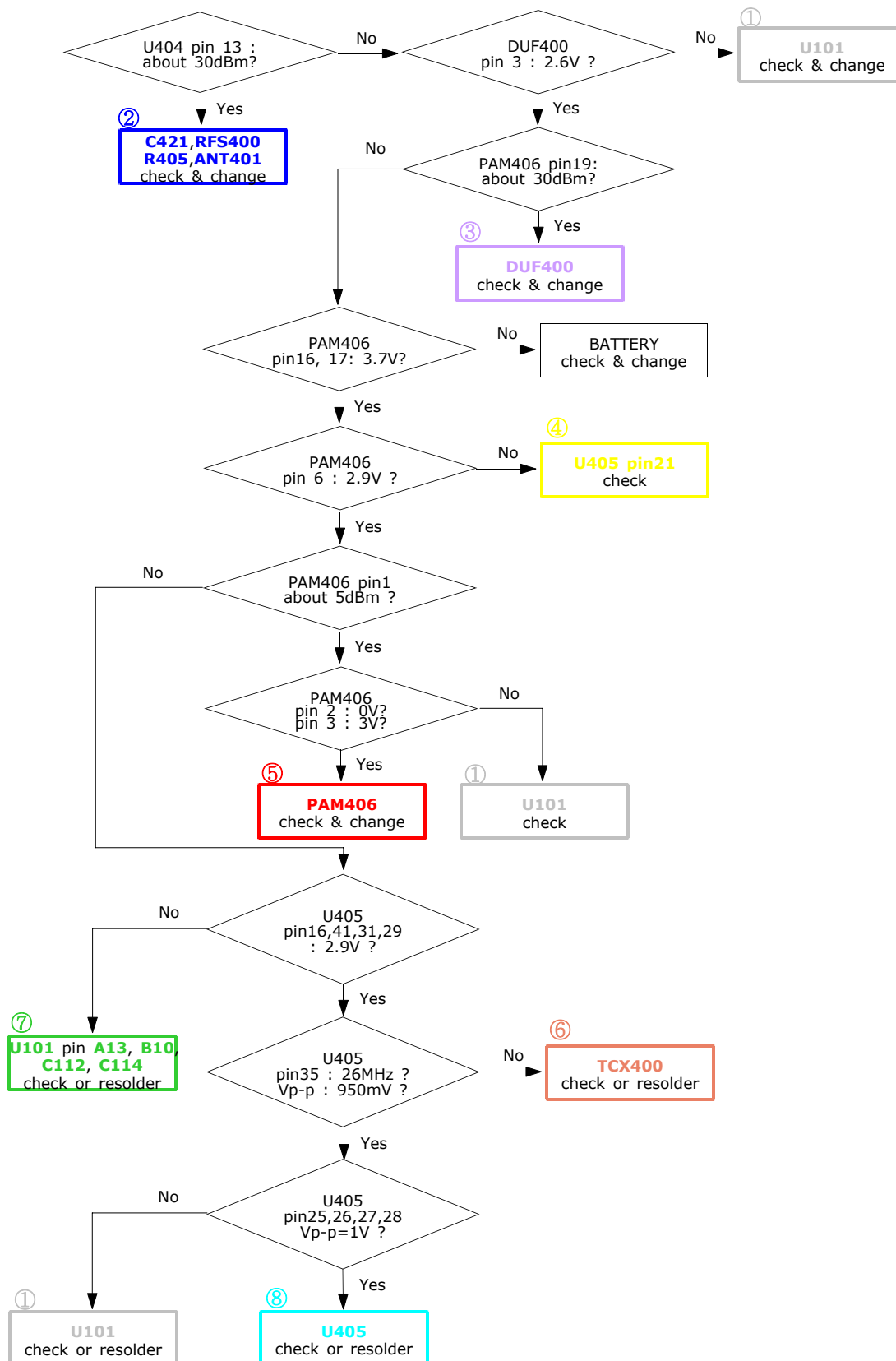


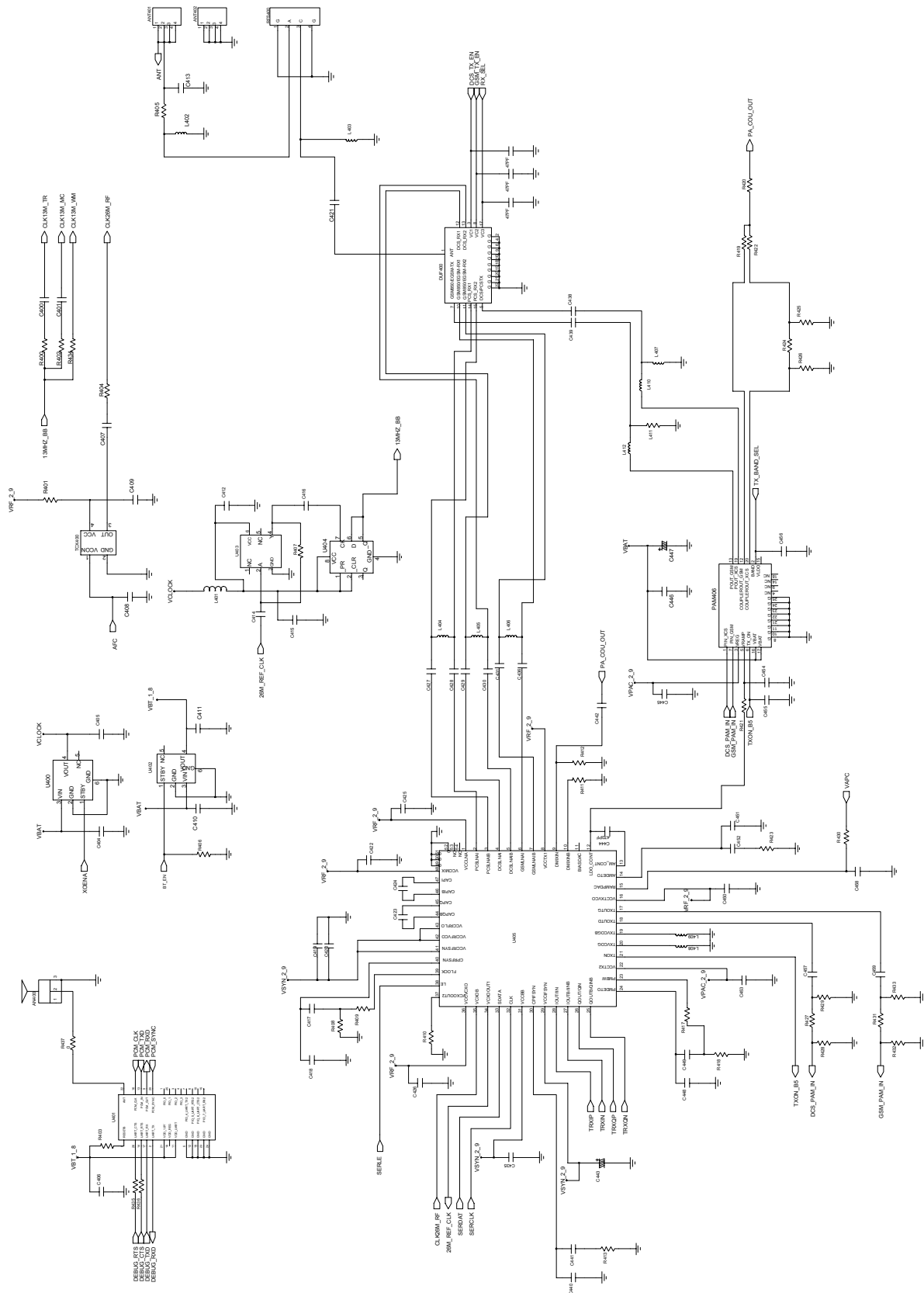
## 11-2-4. GSM850/EGSM TX



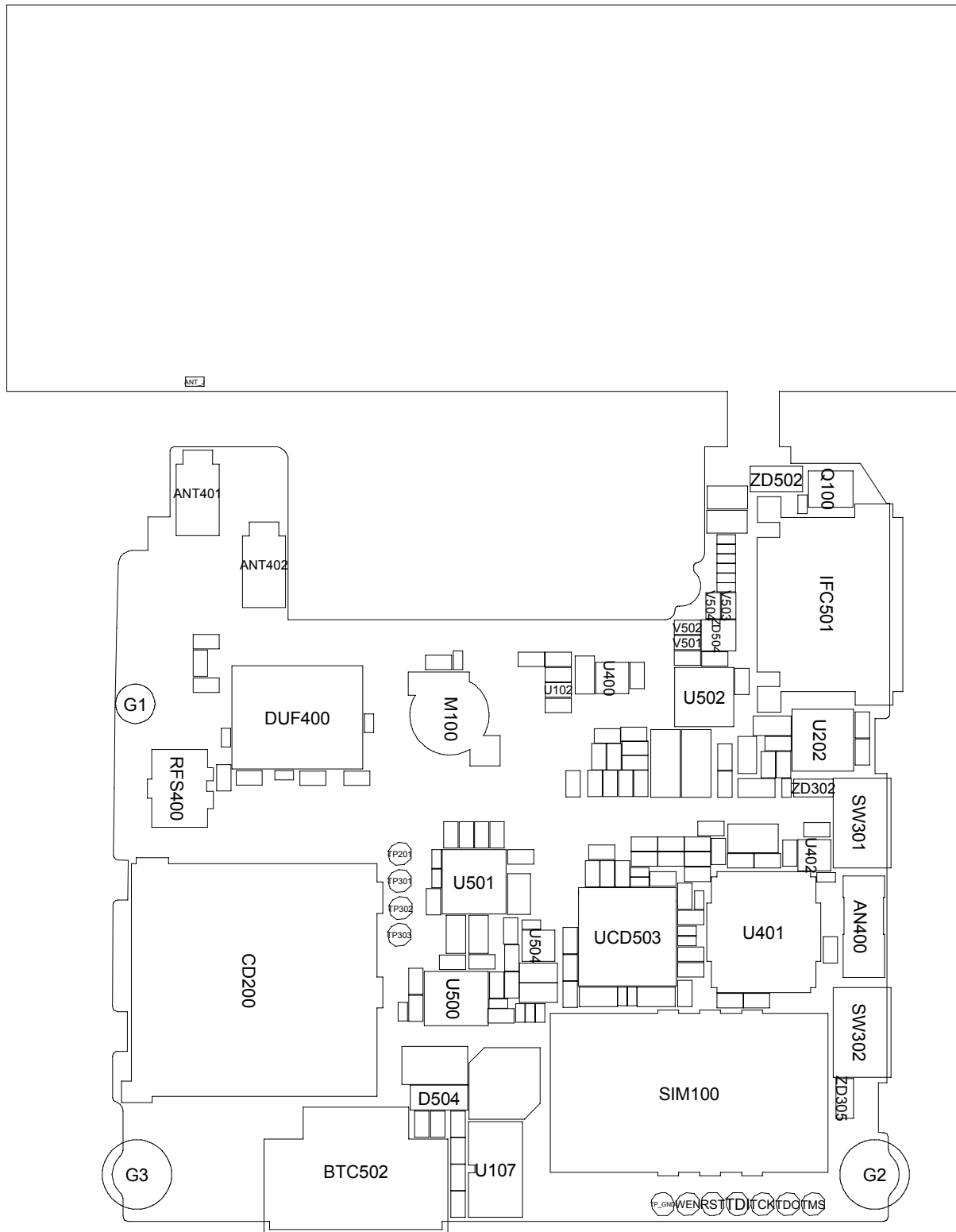


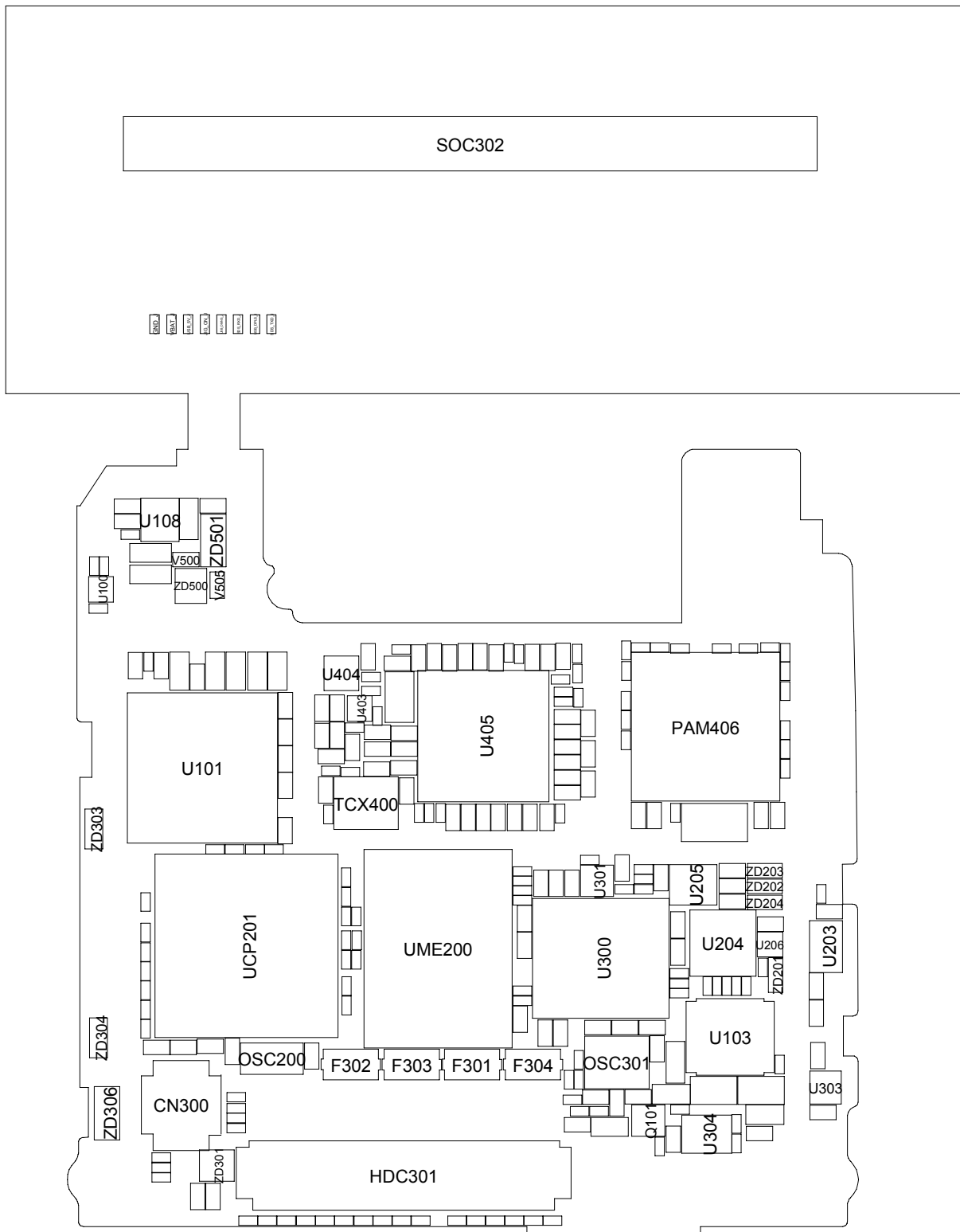
## 11-2-5. DCS/PCS TX





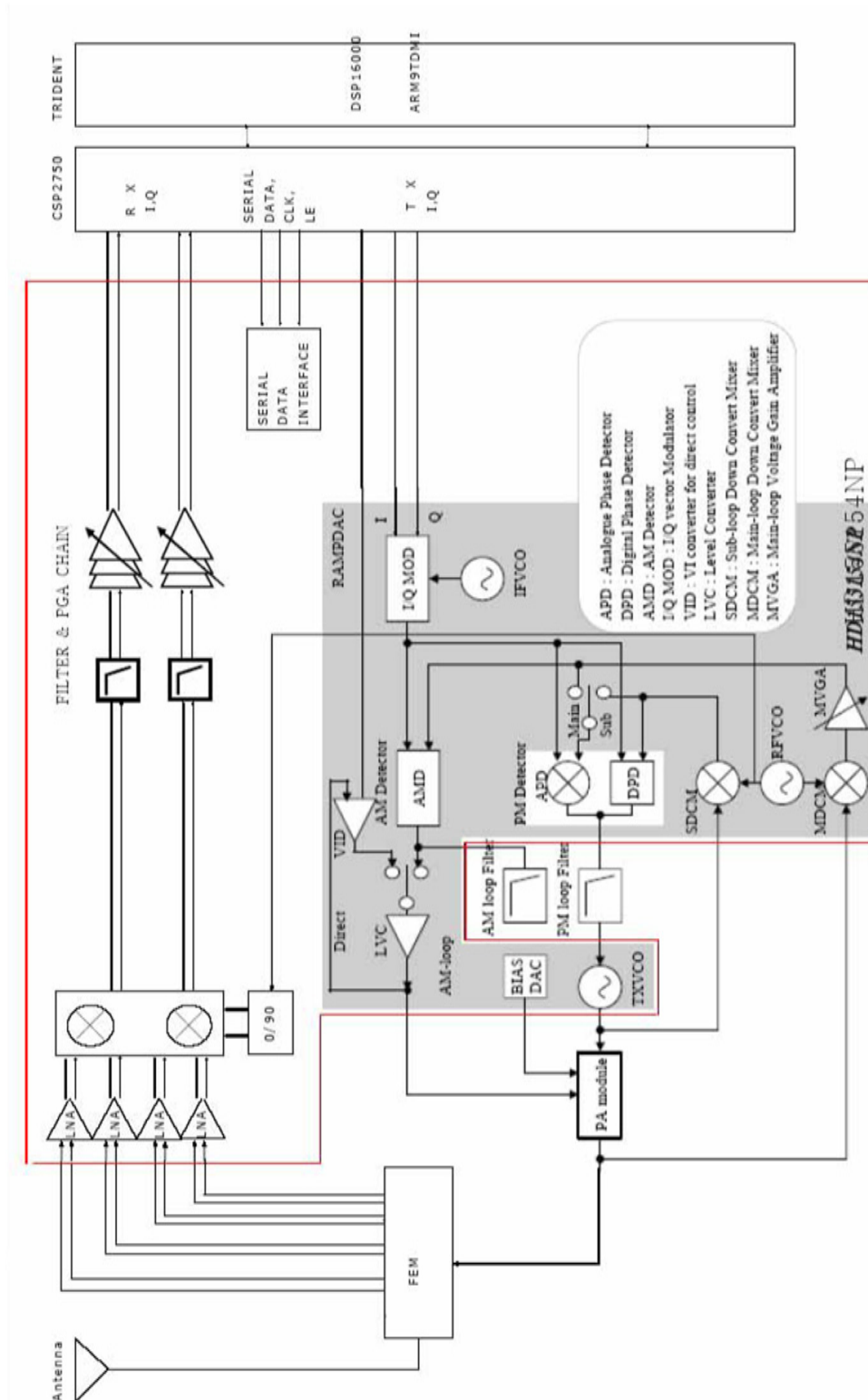
## 12. PCB Diagrams



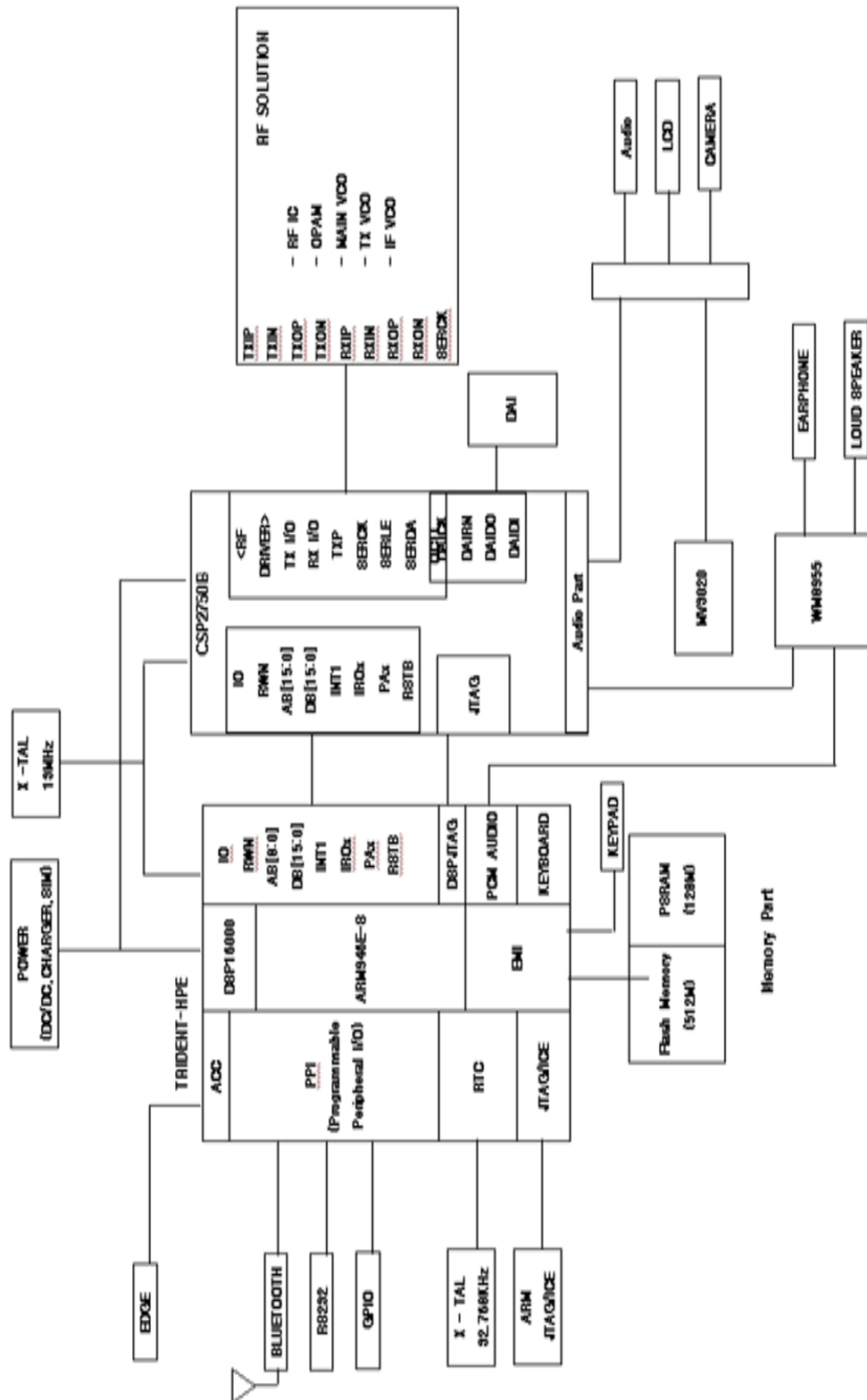


## 13. Block Diagrams

### 13-1. RF Solution Block Diagram



## 13-2. Base Band Solution Block Diagram



---

## 14. Reference data

---

### 14-1. Reference Abbreviate

**AAC:** Advanced Audio Coding.

**AVC :** Advanced Video Coding.

**BER :** Bit Error Rate

**BPSK:** Binary Phase Shift Keying

**CA :** Conditional Access

**CDM :** Code Division Multiplexing

**C/I :** Carrier to Interference

**DMB :** Digital Multimedia Broadcasting

**EN :** European Standard

**ES :** Elementary Stream

**ETSI:** European Telecommunications Standards Institute

**MPEG:** Moving Picture Experts Group

**PN :** Pseudo-random Noise

**PS :** Pilot Symbol

**QPSK:** Quadrature Phase Shift Keying

**RS :** Reed-Solomon

**SI :** Service Information

**TDM :** Time Division Multiplexing

**TS :** Transport Stream