

**SAMSUNG**

# GSM TELEPHONE

## SGH-T329

# ***SERVICE*** *Manual*

### GSM TELEPHONE



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**SAMSUNG  
ELECTRONICS**



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## 10. Reference data

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# 1. Safety Precautions

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## 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 magnetic 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.

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## 2. Specification

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### 2-1. GSM General Specification

|                                       | <b>GSM850</b>          | <b>DCS1800</b>         | <b>PCS1900</b>         |
|---------------------------------------|------------------------|------------------------|------------------------|
| Freq.<br>Band[MHz]<br>Uplink/Downlink | 824~849<br>869~894     | 1710~1785<br>1805~1880 | 1850~1910<br>1930~1990 |
| ARFCN range                           | 128~251                | 512~885                | 512~810                |
| Tx/Rx spacing                         | 45MHz                  | 95MHz                  | 80MHz                  |
| Mod. Bit rate/<br>Bit Period          | 270.833kbps<br>3.692us | 270.833kbps<br>3.692us | 270.833kbps<br>3.692us |
| Time Slot Period/Frame<br>Period      | 576.9us<br>4.615ms     | 576.9us<br>4.615ms     | 576.9us<br>4.615ms     |
| Modulation                            | 0.3GMSK                | 0.3GMSK                | 0.3GMSK                |
| MS Power                              | 33dBm~5dBm             | 30dBm~0dBm             | 30dBm~0dBm             |
| Power Class                           | 5pcl ~ 19pcl           | 0pcl ~ 15pcl           | 0pcl ~ 15pcl           |
| Sensitivity                           | -102dBm                | -100dBm                | -100dBm                |
| TDMA Mux                              | 8                      | 8                      | 8                      |
| Cell Radius                           | 35Km                   | 2Km                    | -                      |

## 2-2. GSM Tx Power Class

| TX Power control level | GSM850   | TX Power control level | DCS1800  | TX Power control level | PCS1800  |
|------------------------|----------|------------------------|----------|------------------------|----------|
| 5                      | 33±2 dBm | 0                      | 30±3 dBm | 0                      | 30±3 dBm |
| 6                      | 31±2 dBm | 1                      | 28±3 dBm | 1                      | 28±3 dBm |
| 7                      | 29±2 dBm | 2                      | 26±3 dBm | 2                      | 26±3 dBm |
| 8                      | 27±2 dBm | 3                      | 24±3 dBm | 3                      | 24±3 dBm |
| 9                      | 25±2 dBm | 4                      | 22±3 dBm | 4                      | 22±3 dBm |
| 10                     | 23±2 dBm | 5                      | 20±3 dBm | 5                      | 20±3 dBm |
| 11                     | 21±2 dBm | 6                      | 18±3 dBm | 6                      | 18±3 dBm |
| 12                     | 19±2 dBm | 7                      | 16±3 dBm | 7                      | 16±3 dBm |
| 13                     | 17±2 dBm | 8                      | 14±3 dBm | 8                      | 14±3 dBm |
| 14                     | 15±2 dBm | 9                      | 12±4 dBm | 9                      | 12±4 dBm |
| 15                     | 13±2 dBm | 10                     | 10±4 dBm | 10                     | 10±4 dBm |
| 16                     | 11±3 dBm | 11                     | 8±4dBm   | 11                     | 8±4dBm   |
| 17                     | 9±3dBm   | 12                     | 6±4 dBm  | 12                     | 6±4 dBm  |
| 18                     | 7±3 dBm  | 13                     | 4±4 dBm  | 13                     | 4±4 dBm  |
| 19                     | 5±3 dBm  | 14                     | 2±5 dBm  | 14                     | 2±5 dBm  |
|                        |          | 15                     | 0±5 dBm  | 15                     | 0±5 dBm  |

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### 3. Product Function

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#### **Main Function**

- VGA Camera
- DTC 1.26" B/W Sub LCD / 65536 Color QQVGA TFT Screen (128×160)
- Video Recording & Messaging
- Music Player(MP3/AAC/AAC+)
- Multimedia Message Service (MMS)
- Bluetooth Wireless Technology
- E-mail
- Voice recorder
- Java / WAP2.0
- Tri-band(850/1800/1900MHz)



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## 4. Array course control

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### 4-1. Software Adjustments

Test Jig (GH80-03306A)



Test Cable(GH39-00499B)



Serial Cable(CSA LL64151-A)



Power Supply Cable



## 4-2. Software Downloading

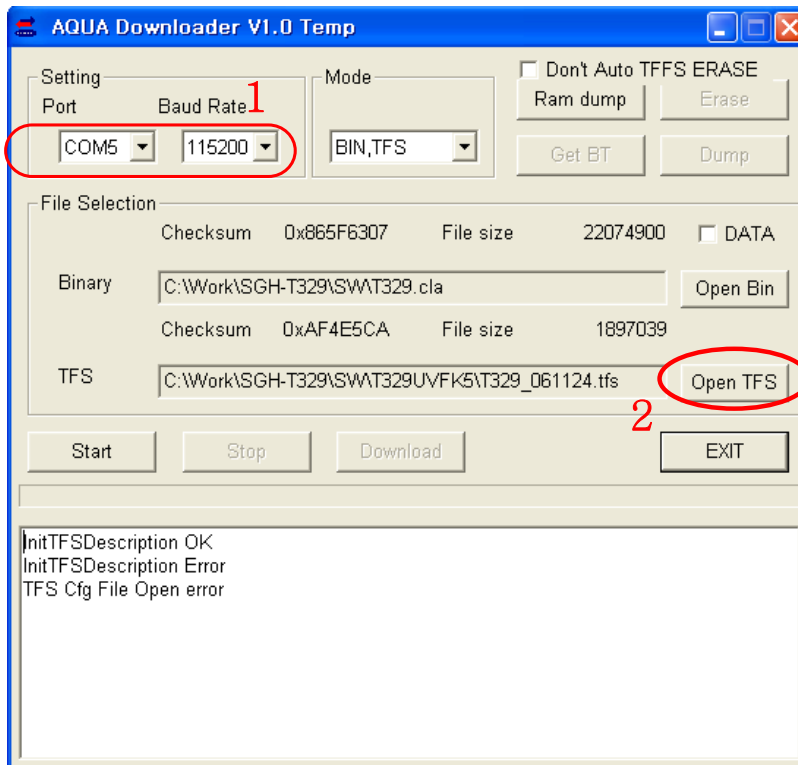
### 4-2-1. Pre-requisite for Downloading

- Downloader Program([AQUA Downloader V1.0.EXE](#))
- T329 Mobile Phone
- Data Cable
- Binary file, TFS file

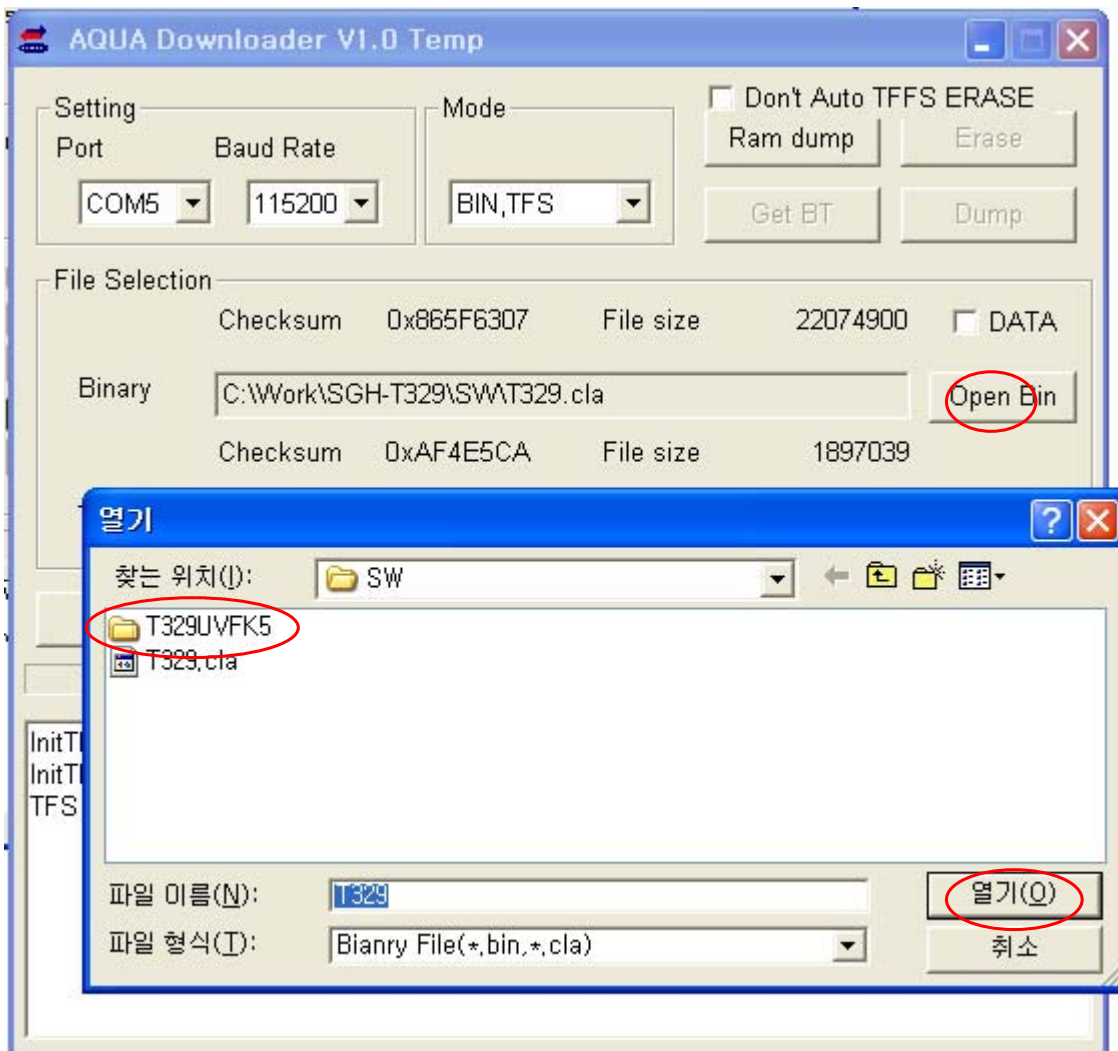
### 4-2-2. S/W Downloader Program

■ Load the binary download program by executing the  
“[AQUA Downloader V1.0.EXE](#)”

1. Select the connected serial port and the rate of speed
2. Select the check box, the mode you want to download.
  - if the binary file wanted, check only 'BIN'
  - if the tfs file wanted, check only 'TFS'
  - if all the files wanted, check 'BIN+TFS'



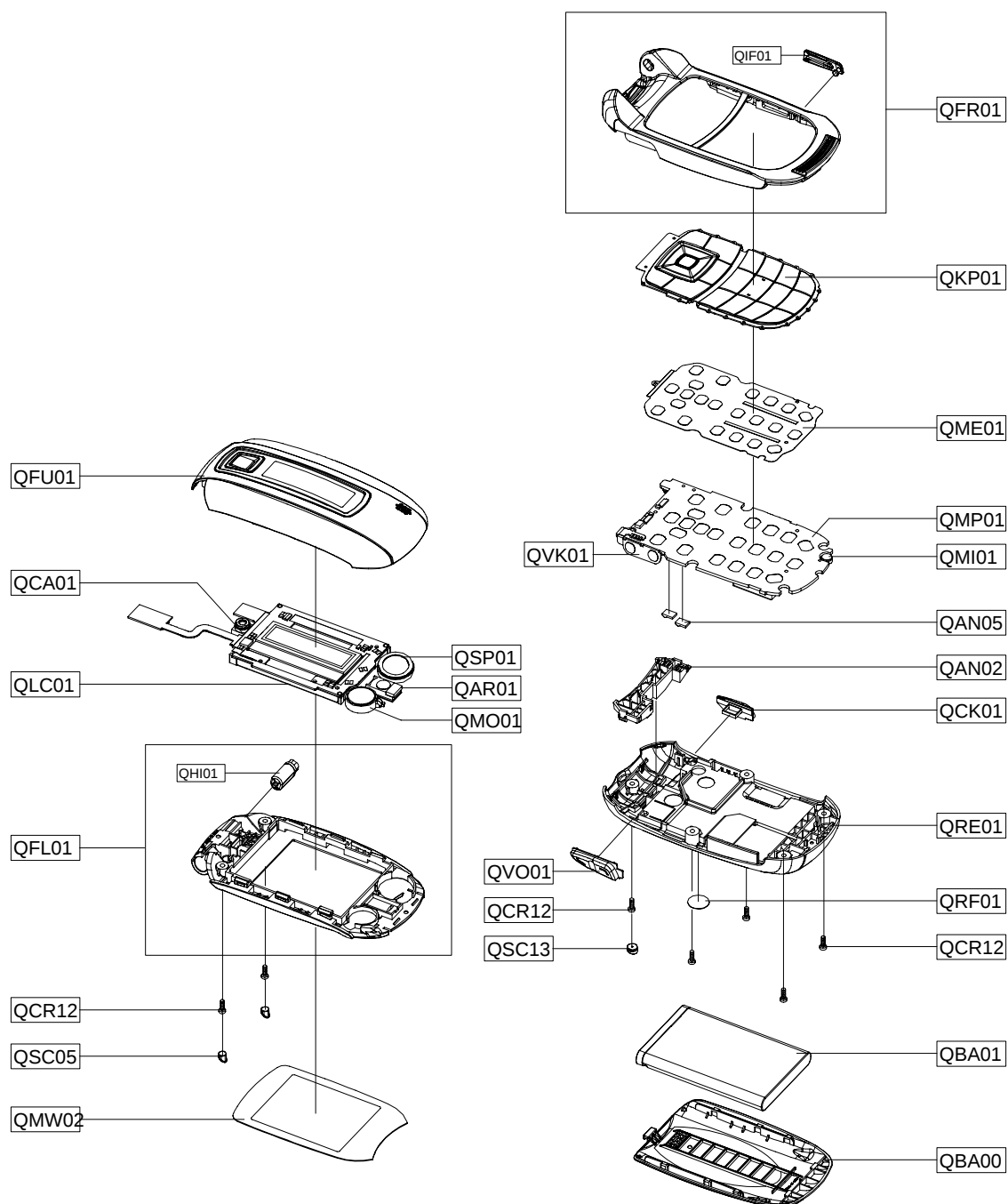
### 3. Select the file(s) what you want to download





## 5. Exploded View / Disassembly&Assembly Instructions

### 5-1. Cellular phone Exploded View



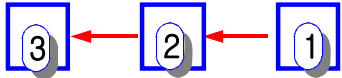
## 5-2. Cellular phone Parts list

|       |       |                                |             |
|-------|-------|--------------------------------|-------------|
| QAN02 |       | INTENNA-SGH T329               | GH42-01076A |
| QAN05 |       | ASSY RUBBER-INTENNA            | GH98-03392A |
| QAR01 |       | AUDIO-RECEIVER                 | 3009-001247 |
| QBA01 |       | INNER BATTERY PACK-800MAH,ENG, | GH43-02648A |
| QBA00 |       | ASSY CASE-BATTERY              | GH98-03631C |
| QCA01 |       | UNIT-SGHT329 CAMERA MODULE     | GH59-03867A |
| QCK01 |       | ASSY KEY-CAMERA                | GH98-03820A |
| QCR12 |       | SCREW-MACHINE                  | 6001-001530 |
| QCR12 |       | SCREW-MACHINE                  | 6001-001530 |
| QFU01 |       | ASSY CASE-FOLDER UPPER         | GH98-03216C |
| QKP01 |       | ASSY KEYPAD-(TMB/S_SIL)        | GH98-03275A |
| QLC01 |       | ELA ETC-SGH T329 LCD MODULE (C | GH96-02458A |
| QME01 |       | UNIT-METAL DOME                | GH59-03750A |
| QMI01 |       | MICROPHONE-ASSY-SGHT329        | GH30-00177G |
| QMO01 |       | MOTOR DC-SGH T329              | GH31-00291A |
| QMP01 |       | PBA MAIN-T329                  | GH92-03304C |
| QMW02 |       | PCT-COVER WINDOW MAIN          | GH72-35367A |
| QRE01 |       | ASSY CASE-REAR                 | GH98-03219C |
| QRF01 |       | MPR-TAPE SHEET RF JACK         | GH74-27840C |
| QSC05 |       | RMO-RUBBER COVER SCREW LOWER   | GH73-08455C |
| QSC13 |       | RMO-RUBBER COVER SCREW REAR    | GH73-08456C |
| QSP01 |       | SPEAKER                        | 3001-002086 |
| QVK01 |       | UNIT-VOLUME KEY                | GH59-03743A |
| QVO01 |       | PMO-VOLUME KEY                 | GH72-36340A |
| QFL01 |       | ASSY CASE-FOLDER LOWER         | GH98-03217C |
|       | QHI01 | ASSY HINGE-FOLDER              | GH98-02958A |
| QFR01 |       | ASSY CASE-FRONT                | GH98-03218C |
|       | QIF01 | PMO-COVER IF                   | GH72-36341C |

| Description                    | SEC CODE    |
|--------------------------------|-------------|
| BAG PP                         | 6902-000300 |
| ADAPTOR-SGHE690,BLK,USA        | GH44-01363A |
| UNIT-20P,EARPHONE,BLK,B-TYPE   | GH59-03907B |
| LABEL(P)-SEAL UNIT             | GH68-04256A |
| LABEL(R)-WATER SOAK T_MOBILE   | GH68-05914A |
| LABEL(R)-WATER SOAK            | GH68-09361A |
| MANUAL USERS-T329 QS POSTER(TM | GH68-13373A |
| LABEL(R)-MAIN(TMB)             | GH68-13498A |
| LABEL(R)-T_MOBILE GUIDE CHNA   | GH68-14268B |
| CUSHION-COVER(TMB)             | GH69-02793A |
| CUSHION-CASE(TMB)              | GH69-04810A |
| BOX(P)-UNIT(TMB_BLK)           | GH69-05046B |
| RMO-RUBBER BRACKET LCD 1       | GH73-08739A |
| RMO-RUBBER BRACKET LCD 2       | GH73-08740A |
| RMO-RUBBER BRACKET LCD 3       | GH73-08741A |
| MPR-INSU TAPE                  | GH74-17540A |
| MPR-INSU TAPE                  | GH74-17540A |
| MPR-TAPE VBAT TANTAL           | GH74-17667A |
| MPR-VINYL BOHO WINDOW SUB T    | GH74-28451A |
| MPR-VINYL BOHO WINDOW MAIN T   | GH74-28452A |
| MPR-TAPE FRONT HOLE            | GH74-28454A |
| MPR-GASK TAPE LCD              | GH74-29246A |
| MPR-SPONGE                     | GH74-29358A |
| MPR-GASK TAPE ESD              | GH74-30069A |
| MPR-TAPE MAIN WINDOW           | GH74-30319A |
| MPR-TAPE LED                   | GH74-30321A |
| PAA ETC-SGH T329 NSA           | GH99-21612C |

## 5-3. Disassembly&Assembly Instructions

### — Disassembly

|                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div data-bbox="161 405 256 465">1</div> <div data-bbox="256 405 794 465">Unscrew 5 screws in rear cover</div> <div data-bbox="309 510 571 1012">  </div> <div data-bbox="582 835 794 913"> <p>Unscrew marked<br/>5 points</p> </div> | <div data-bbox="810 405 906 465">2</div> <div data-bbox="906 405 1477 465">Separate the rear cover</div> <div data-bbox="853 524 1436 775">  </div> <div data-bbox="1093 792 1436 869">  </div> <div data-bbox="885 947 1388 985"> <p>From the bottom part separate the rear cover</p> </div>                                                |
| <p>1) Be careful of the damage of cover and scratch.</p>                                                                                                                                                                                                                                                                | <p>1) Be careful of the damage of cover and scratch.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <div data-bbox="161 1245 256 1305">3</div> <div data-bbox="256 1245 794 1305">Separate tape, connector, camera key and volume key</div> <div data-bbox="309 1350 555 1917">  </div>                                                  | <div data-bbox="810 1245 906 1305">4</div> <div data-bbox="906 1245 1477 1305">Separate the Main PBA from Front Case with FPCB</div> <div data-bbox="928 1337 1160 1912">  </div> <div data-bbox="1165 1379 1431 1496"> <p>Put this point for<br/>separate the folder<br/>ass'y</p> </div> <div data-bbox="1232 1637 1390 1895">  </div> |

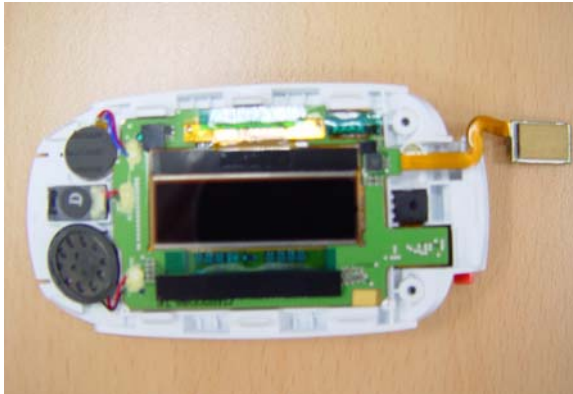
|                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div data-bbox="199 286 231 331">5</div> <div data-bbox="284 286 758 320">Unscrew 2 screws in Sub Lower Case</div> <div data-bbox="284 331 560 909"></div> | <div data-bbox="852 286 884 331">6</div> <div data-bbox="991 286 1246 320">Separate the folder</div> <div data-bbox="981 331 1256 909"></div> |
|                                                                                                                                                                                                                                             | <div data-bbox="826 1003 1380 1037">1) Separate the Lower cover from SUB upper</div>                                                                                                                                            |

|                                                                                                                                                                                                                                      |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <div data-bbox="199 1133 231 1178">7</div> <div data-bbox="338 1133 593 1167">Separate the folder</div> <div data-bbox="193 1200 794 1756"></div> |  |
|                                                                                                                                                                                                                                      |  |

## — Assembly

1

Place Sub PBA with Receiver and Camera  
Inserting the LCDmodule to the folder case



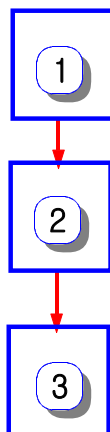
2

Insert folder Lower to folder Upper



3

Insert Sub Lower to Sub Upper



4

Screw to the Sub Lower



screwing 2 points

5

Assemble the Main PBA with FPCB



6

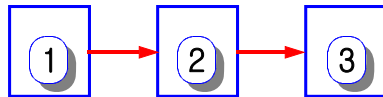
Assemble the connector and place on the volume key, camera key



- 1) Insert the FPCB
- 2) Assemble the Main PBA

7

Assemble the Rear Case



8

Screw the rear cover



Screw marked  
5 points



## 6. MAIN Electrical Parts List

| Design LOC | Description         | SEC Code    | STATUS |
|------------|---------------------|-------------|--------|
| ANT100     | NPR-ANTENNA CONTACT | GH71-05666A | SA     |
| ANT101     | NPR-ANTENNA CONTACT | GH71-05666A | SA     |
| ANT600     | ANTENNA-CHIP        | 4202-001259 | SA     |
| BAT400     | BATTERY-LI(2ND)     | 4302-001180 | SA     |
| BTC500     | HEADER-BATTERY      | 3711-006084 | SA     |
| C100       | C-CER,CHIP          | 2203-005288 | SA     |
| C101       | C-CER,CHIP          | 2203-000812 | SA     |
| C102       | C-CER,CHIP          | 2203-005288 | SA     |
| C103       | C-CER,CHIP          | 2203-000812 | SA     |
| C104       | C-CER,CHIP          | 2203-005050 | SA     |
| C105       | C-CER,CHIP          | 2203-000812 | SA     |
| C106       | C-CER,CHIP          | 2203-005050 | SA     |
| C108       | C-CER,CHIP          | 2203-005482 | SA     |
| C109       | C-CER,CHIP          | 2203-005736 | SA     |
| C110       | C-CER,CHIP          | 2203-005736 | SA     |
| C111       | C-CER,CHIP          | 2203-005288 | SA     |
| C112       | C-CER,CHIP          | 2203-002668 | SA     |
| C113       | C-CER,CHIP          | 2203-005288 | SA     |
| C114       | C-CER,CHIP          | 2203-000489 | SA     |
| C115       | C-CER,CHIP          | 2203-002668 | SA     |
| C117       | C-CER,CHIP          | 2203-000254 | SA     |
| C118       | C-CER,CHIP          | 2203-000254 | SA     |
| C119       | C-CER,CHIP          | 2203-005482 | SA     |
| C120       | C-CER,CHIP          | 2203-005682 | SA     |
| C121       | C-CER,CHIP          | 2203-005682 | SA     |
| C122       | C-CER,CHIP          | 2203-000233 | SA     |
| C123       | C-CER,CHIP          | 2203-005482 | SA     |
| C124       | C-CER,CHIP          | 2203-005482 | SA     |
| C125       | C-CER,CHIP          | 2203-000438 | SA     |
| C129       | C-CER,CHIP          | 2203-002668 | SA     |
| C130       | C-CER,CHIP          | 2203-000812 | SA     |
| C200       | C-CER,CHIP          | 2203-006194 | SA     |
| C201       | C-CER,CHIP          | 2203-006423 | SA     |
| C202       | C-CER,CHIP          | 2203-006423 | SA     |
| C203       | C-CER,CHIP          | 2203-005682 | SA     |
| C204       | C-CER,CHIP          | 2203-006562 | SA     |
| C205       | C-CER,CHIP          | 2203-006423 | SA     |
| C206       | C-CER,CHIP          | 2203-006423 | SA     |
| C207       | C-CER,CHIP          | 2203-006423 | SA     |
| C208       | C-CER,CHIP          | 2203-006423 | SA     |
| C209       | C-CER,CHIP          | 2203-006399 | SA     |
| C210       | C-CER,CHIP          | 2203-006423 | SA     |
| C211       | C-CER,CHIP          | 2203-006423 | SA     |
| C212       | C-CER,CHIP          | 2203-006423 | SA     |
| C213       | C-CER,CHIP          | 2203-005482 | SA     |
| C214       | C-CER,CHIP          | 2203-005682 | SA     |
| C215       | C-CER,CHIP          | 2203-006423 | SA     |
| C216       | C-CER,CHIP          | 2203-005482 | SA     |
| C301       | C-CER,CHIP          | 2203-006423 | SA     |
| C302       | C-CER,CHIP          | 2203-006423 | SA     |
| C303       | C-CER,CHIP          | 2203-006423 | SA     |
| C304       | C-CER,CHIP          | 2203-000438 | SA     |

| Design LOC | Description | SEC Code    | STATUS |
|------------|-------------|-------------|--------|
| C305       | C-CER,CHIP  | 2203-006257 | SA     |
| C306       | C-CER,CHIP  | 2203-006048 | SA     |
| C307       | C-CER,CHIP  | 2203-006048 | SA     |
| C308       | C-CER,CHIP  | 2203-005736 | SA     |
| C400       | C-CER,CHIP  | 2203-006047 | SA     |
| C401       | C-CER,CHIP  | 2203-006562 | SA     |
| C402       | C-CER,CHIP  | 2203-006562 | SA     |
| C403       | C-CER,CHIP  | 2203-006257 | SA     |
| C404       | C-CER,CHIP  | 2203-000627 | SNA    |
| C405       | C-CER,CHIP  | 2203-000627 | SNA    |
| C406       | C-CER,CHIP  | 2203-000233 | SA     |
| C407       | C-CER,CHIP  | 2203-000812 | SA     |
| C409       | C-CER,CHIP  | 2203-006824 | SA     |
| C410       | C-CER,CHIP  | 2203-006824 | SA     |
| C411       | C-CER,CHIP  | 2203-006257 | SA     |
| C412       | C-CER,CHIP  | 2203-006257 | SA     |
| C413       | C-CER,CHIP  | 2203-006208 | SA     |
| C414       | C-CER,CHIP  | 2203-005482 | SA     |
| C417       | C-CER,CHIP  | 2203-006208 | SA     |
| C418       | C-CER,CHIP  | 2203-006257 | SA     |
| C419       | C-CER,CHIP  | 2203-006257 | SA     |
| C420       | C-CER,CHIP  | 2203-006208 | SA     |
| C421       | C-CER,CHIP  | 2203-005482 | SA     |
| C422       | C-CER,CHIP  | 2203-006824 | SA     |
| C423       | C-CER,CHIP  | 2203-006824 | SA     |
| C500       | C-CER,CHIP  | 2203-001437 | SA     |
| C501       | C-CER,CHIP  | 2203-001259 | SA     |
| C502       | C-CER,CHIP  | 2203-001437 | SA     |
| C503       | C-CER,CHIP  | 2203-000254 | SA     |
| C504       | C-CER,CHIP  | 2203-000386 | SA     |
| C505       | C-CER,CHIP  | 2203-003054 | SA     |
| C506       | C-CER,CHIP  | 2203-000438 | SA     |
| C507       | C-CER,CHIP  | 2203-000627 | SNA    |
| C510       | C-CER,CHIP  | 2203-006681 | SA     |
| C511       | C-CER,CHIP  | 2203-000812 | SA     |
| C512       | C-CER,CHIP  | 2203-006348 | SA     |
| C513       | C-CER,CHIP  | 2203-006307 | SA     |
| C514       | C-CER,CHIP  | 2203-000386 | SA     |
| C600       | C-CER,CHIP  | 2203-006048 | SA     |
| C601       | C-CER,CHIP  | 2203-000466 | SA     |
| C602       | C-CER,CHIP  | 2203-000254 | SA     |
| C604       | C-CER,CHIP  | 2203-000278 | SA     |
| C605       | C-CER,CHIP  | 2203-005482 | SA     |
| C606       | C-CER,CHIP  | 2203-000254 | SA     |
| C607       | C-CER,CHIP  | 2203-000386 | SA     |
| C609       | C-CER,CHIP  | 2203-001239 | SA     |
| C610       | C-CER,CHIP  | 2203-000278 | SA     |
| C611       | C-CER,CHIP  | 2203-006194 | SA     |
| C612       | C-CER,CHIP  | 2203-000995 | SA     |
| C613       | C-CER,CHIP  | 2203-005050 | SA     |
| C614       | C-CER,CHIP  | 2203-005482 | SA     |
| C615       | C-CER,CHIP  | 2203-005052 | SA     |

| Design LOC | Description           | SEC Code    | STATUS |
|------------|-----------------------|-------------|--------|
| C617       | C-CER,CHIP            | 2203-000278 | SA     |
| C618       | C-CER,CHIP            | 2203-005052 | SA     |
| C619       | C-CER,CHIP            | 2203-006305 | SA     |
| C621       | C-CER,CHIP            | 2203-001437 | SA     |
| C624       | C-CER,CHIP            | 2203-005482 | SA     |
| C625       | C-CER,CHIP            | 2203-001259 | SA     |
| C626       | C-CER,CHIP            | 2203-001239 | SA     |
| C627       | C-CER,CHIP            | 2203-000278 | SA     |
| C628       | C-CER,CHIP            | 2203-005482 | SA     |
| C630       | C-CER,CHIP            | 2203-001437 | SA     |
| C632       | C-CER,CHIP            | 2203-006324 | SA     |
| C633       | C-CER,CHIP            | 2203-005482 | SA     |
| C634       | C-CER,CHIP            | 2203-006260 | SA     |
| C635       | C-CER,CHIP            | 2203-006260 | SA     |
| C636       | C-CER,CHIP            | 2203-005993 | SA     |
| C637       | C-CER,CHIP            | 2203-006048 | SA     |
| C638       | C-CER,CHIP            | 2203-005993 | SA     |
| C640       | C-CER,CHIP            | 2203-006562 | SA     |
| C641       | C-CER,CHIP            | 2203-001405 | SA     |
| C642       | C-CER,CHIP            | 2203-001405 | SA     |
| C700       | C-CER,CHIP            | 2203-006562 | SA     |
| C701       | C-CER,CHIP            | 2203-006562 | SA     |
| C702       | C-CER,CHIP            | 2203-006562 | SA     |
| C704       | C-CER,CHIP            | 2203-006562 | SA     |
| C705       | C-CER,CHIP            | 2203-006048 | SA     |
| C706       | C-CER,CHIP            | 2203-006048 | SA     |
| C707       | C-CER,CHIP            | 2203-006562 | SA     |
| C708       | C-CER,CHIP            | 2203-002443 | SA     |
| C709       | C-CER,CHIP            | 2203-006562 | SA     |
| C710       | C-CER,CHIP            | 2203-000627 | SNA    |
| D100       | DIODE-SCHOTTKY        | 0404-001172 | SA     |
| D502       | DIODE-SCHOTTKY        | 0404-001172 | SA     |
| F100       | DUPLEXER-FEM          | 2911-000071 | SA     |
| F101       | FILTER-EMI SMD        | 2901-001254 | SA     |
| F501       | FILTER-EMI/ESD        | 2901-001322 | SA     |
| F600       | FILTER-LC             | 2909-001283 | SA     |
| F700       | FILTER-EMI/ESD        | 2901-001319 | SA     |
| F701       | FILTER-EMI/ESD        | 2901-001319 | SA     |
| F702       | FILTER-EMI/ESD        | 2901-001319 | SA     |
| F703       | FILTER-EMI/ESD        | 2901-001319 | SA     |
| F704       | FILTER-EMI/ESD        | 2901-001319 | SA     |
| HDC700     | HEADER-BOARD TO BOARD | 3711-005873 | SA     |
| IFC500     | SOCKET-INTERFACE      | 3710-002442 | SA     |
| L102       | INDUCTOR-SMD          | 2703-002314 | SA     |
| L104       | INDUCTOR-SMD          | 2703-002204 | SA     |
| L105       | INDUCTOR-SMD          | 2703-002543 | SA     |
| L106       | INDUCTOR-SMD          | 2703-002170 | SA     |
| L107       | INDUCTOR-SMD          | 2703-002367 | SA     |
| L108       | INDUCTOR-SMD          | 2703-002202 | SA     |
| L111       | INDUCTOR-SMD          | 2703-001178 | SA     |
| L200       | BEAD-SMD              | 3301-001876 | SA     |
| L400       | BEAD-SMD              | 3301-001120 | SA     |

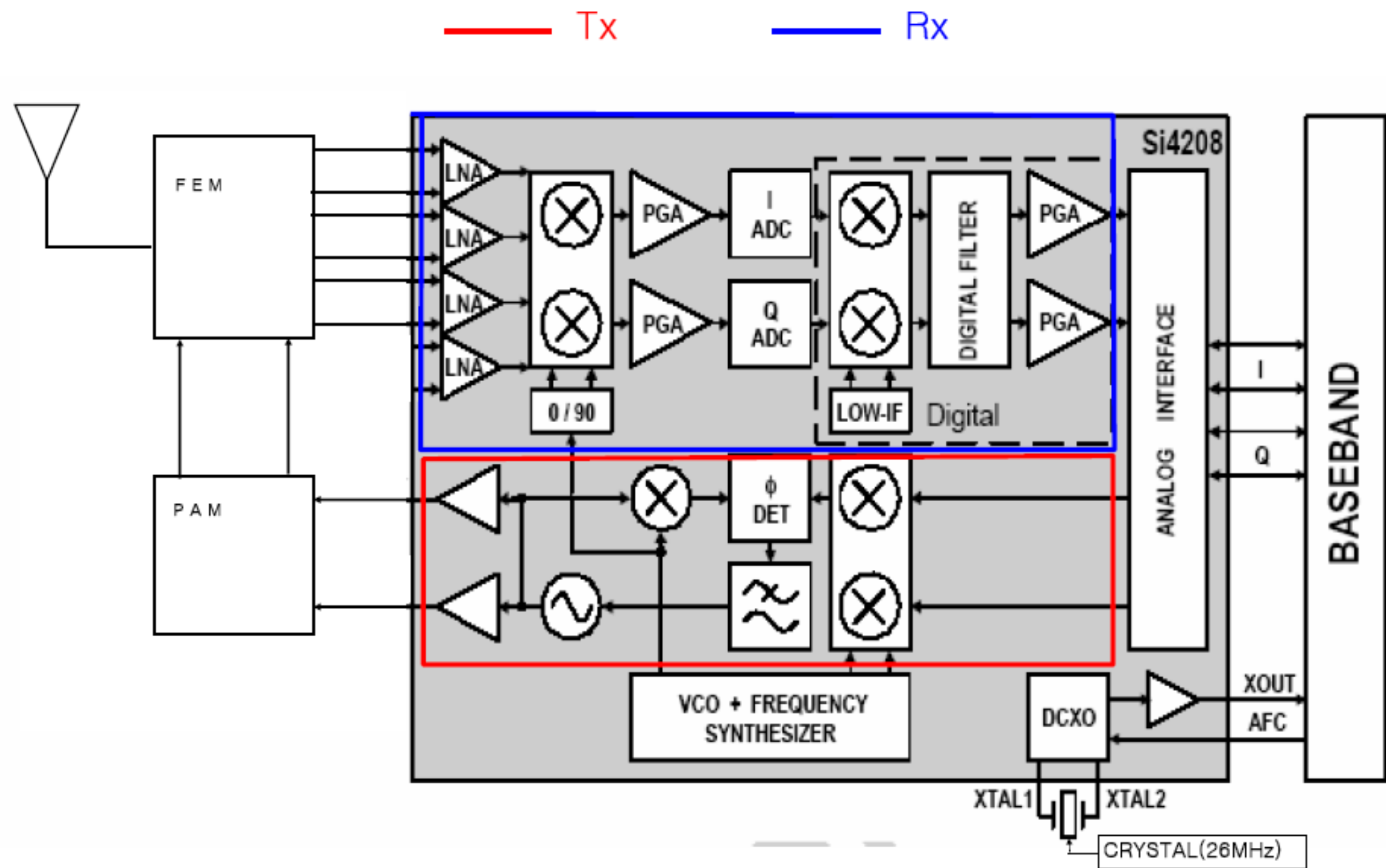
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| L401       | INDUCTOR-SMD | 2703-002653 | SA     |
| L501       | BEAD-SMD     | 3301-001876 | SA     |
| L502       | BEAD-SMD     | 3301-001876 | SA     |
| L600       | BEAD-SMD     | 3301-001729 | SA     |
| L601       | BEAD-SMD     | 3301-001729 | SA     |
| L602       | INDUCTOR-SMD | 2703-002204 | SA     |
| L603       | BEAD-SMD     | 3301-001729 | SA     |
| L604       | BEAD-SMD     | 3301-001729 | SA     |
| L605       | INDUCTOR-SMD | 2703-002367 | SA     |
| L701       | BEAD-SMD     | 3301-001534 | SA     |
| LED701     | LED          | 0601-002233 | SA     |
| LED702     | LED          | 0601-002233 | SA     |
| OSC100     | CRYSTAL-SMD  | 2801-004587 | SA     |
| OSC400     | CRYSTAL-SMD  | 2801-004339 | SA     |
| OSC600     | CRYSTAL-SMD  | 2801-004560 | SA     |
| PAM100     | IC-POWER AMP | 1201-002485 | SA     |
| R101       | R-CHIP       | 2007-000171 | SA     |
| R102       | R-CHIP       | 2007-000171 | SA     |
| R103       | R-CHIP       | 2007-001313 | SA     |
| R104       | R-CHIP       | 2007-008542 | SA     |
| R105       | R-CHIP       | 2007-008542 | SA     |
| R106       | R-CHIP       | 2007-008542 | SA     |
| R107       | R-CHIP       | 2007-008648 | SA     |
| R108       | R-CHIP       | 2007-008542 | SA     |
| R109       | R-CHIP       | 2007-000148 | SA     |
| R112       | R-CHIP       | 2007-000173 | SA     |
| R113       | R-CHIP       | 2007-000172 | SA     |
| R200       | R-CHIP       | 2007-000171 | SA     |
| R201       | R-CHIP       | 2007-008516 | SA     |
| R202       | R-CHIP       | 2007-008478 | SA     |
| R203       | R-CHIP       | 2007-008478 | SA     |
| R204       | R-CHIP       | 2007-000171 | SA     |
| R205       | R-CHIP       | 2007-000168 | SA     |
| R206       | R-CHIP       | 2007-008055 | SA     |
| R207       | R-CHIP       | 2007-000166 | SA     |
| R208       | R-CHIP       | 2007-000166 | SA     |
| R209       | R-CHIP       | 2007-008052 | SA     |
| R211       | R-CHIP       | 2007-009157 | SA     |
| R300       | R-CHIP       | 2007-000141 | SA     |
| R301       | R-CHIP       | 2007-000141 | SA     |
| R302       | R-CHIP       | 2007-000166 | SA     |
| R303       | R-CHIP       | 2007-000162 | SA     |
| R304       | R-CHIP       | 2007-000171 | SA     |
| R305       | R-CHIP       | 2007-000148 | SA     |
| R307       | R-CHIP       | 2007-007139 | SA     |
| R308       | R-CHIP       | 2007-001303 | SA     |
| R309       | R-CHIP       | 2007-007589 | SA     |
| R400       | R-CHIP       | 2007-007100 | SA     |
| R401       | R-CHIP       | 2007-000171 | SA     |
| R402       | R-CHIP       | 2007-000171 | SA     |
| R403       | R-CHIP       | 2007-000171 | SA     |
| R405       | R-CHIP       | 2007-000168 | SA     |

| Design LOC | Description         | SEC Code    | STATUS |
|------------|---------------------|-------------|--------|
| R500       | R-CHIP              | 2007-001339 | SA     |
| R501       | R-CHIP              | 2007-001339 | SA     |
| R502       | R-CHIP              | 2007-007573 | SA     |
| R503       | R-CHIP              | 2007-000162 | SA     |
| R504       | R-CHIP              | 2007-000168 | SA     |
| R505       | R-CHIP              | 2007-007142 | SA     |
| R506       | R-CHIP              | 2007-007334 | SA     |
| R507       | R-CHIP              | 2007-007798 | SA     |
| R508       | R-CHIP              | 2007-007798 | SA     |
| R509       | R-CHIP              | 2007-000171 | SA     |
| R510       | R-CHIP              | 2007-007489 | SA     |
| R511       | R-CHIP              | 2007-007573 | SA     |
| R512       | R-CHIP              | 2007-007875 | SA     |
| R513       | R-CHIP              | 2007-000165 | SA     |
| R514       | R-CHIP              | 2007-000157 | SA     |
| R515       | R-CHIP              | 2007-000162 | SA     |
| R516       | R-CHIP              | 2007-007334 | SA     |
| R519       | R-CHIP              | 2007-000156 | SA     |
| R520       | R-CHIP              | 2007-007334 | SA     |
| R521       | R-CHIP              | 2007-009084 | SA     |
| R522       | R-CHIP              | 2007-009084 | SA     |
| R523       | R-CHIP              | 2007-008785 | SNA    |
| R524       | R-CHIP              | 2007-008785 | SNA    |
| R600       | R-CHIP              | 2007-002796 | SA     |
| R601       | R-CHIP              | 2007-000171 | SA     |
| R602       | R-CHIP              | 2007-000141 | SA     |
| R603       | R-CHIP              | 2007-003015 | SA     |
| R604       | R-CHIP              | 2007-007139 | SA     |
| R605       | R-CHIP              | 2007-000141 | SA     |
| R606       | R-CHIP              | 2007-002796 | SA     |
| R607       | R-CHIP              | 2007-002796 | SA     |
| R608       | R-CHIP              | 2007-000140 | SA     |
| R609       | R-CHIP              | 2007-000140 | SA     |
| R610       | R-CHIP              | 2007-002796 | SA     |
| R611       | R-CHIP              | 2007-008542 | SA     |
| R612       | R-CHIP              | 2007-000162 | SA     |
| R700       | R-CHIP              | 2007-003025 | SA     |
| R701       | R-CHIP              | 2007-003025 | SA     |
| R702       | R-CHIP              | 2007-000166 | SA     |
| RFS100     | CONNECTOR-COAXIAL   | 3705-001358 | SA     |
| SIM400     | CONNECTOR-CARD EDGE | 3709-001229 | SA     |
| TA100      | C-TA,CHIP           | 2404-001474 | SA     |
| TA401      | C-TA,CHIP           | 2404-001381 | SA     |
| TA402      | C-TA,CHIP           | 2404-001339 | SA     |
| TA403      | C-TA,CHIP           | 2404-001339 | SA     |
| TA600      | C-TA,CHIP           | 2404-001281 | SA     |
| TA601      | C-TA,CHIP           | 2404-001281 | SA     |
| TA602      | C-TA,CHIP           | 2404-001268 | SA     |
| TA604      | C-TA,CHIP           | 2404-001381 | SA     |
| TAC701     | SWITCH-TACT         | 3404-001152 | SA     |
| TR500      | TR-DIGITAL          | 0504-001151 | SA     |
| U101       | IC-TRANSCIVER       | 1205-003116 | SA     |

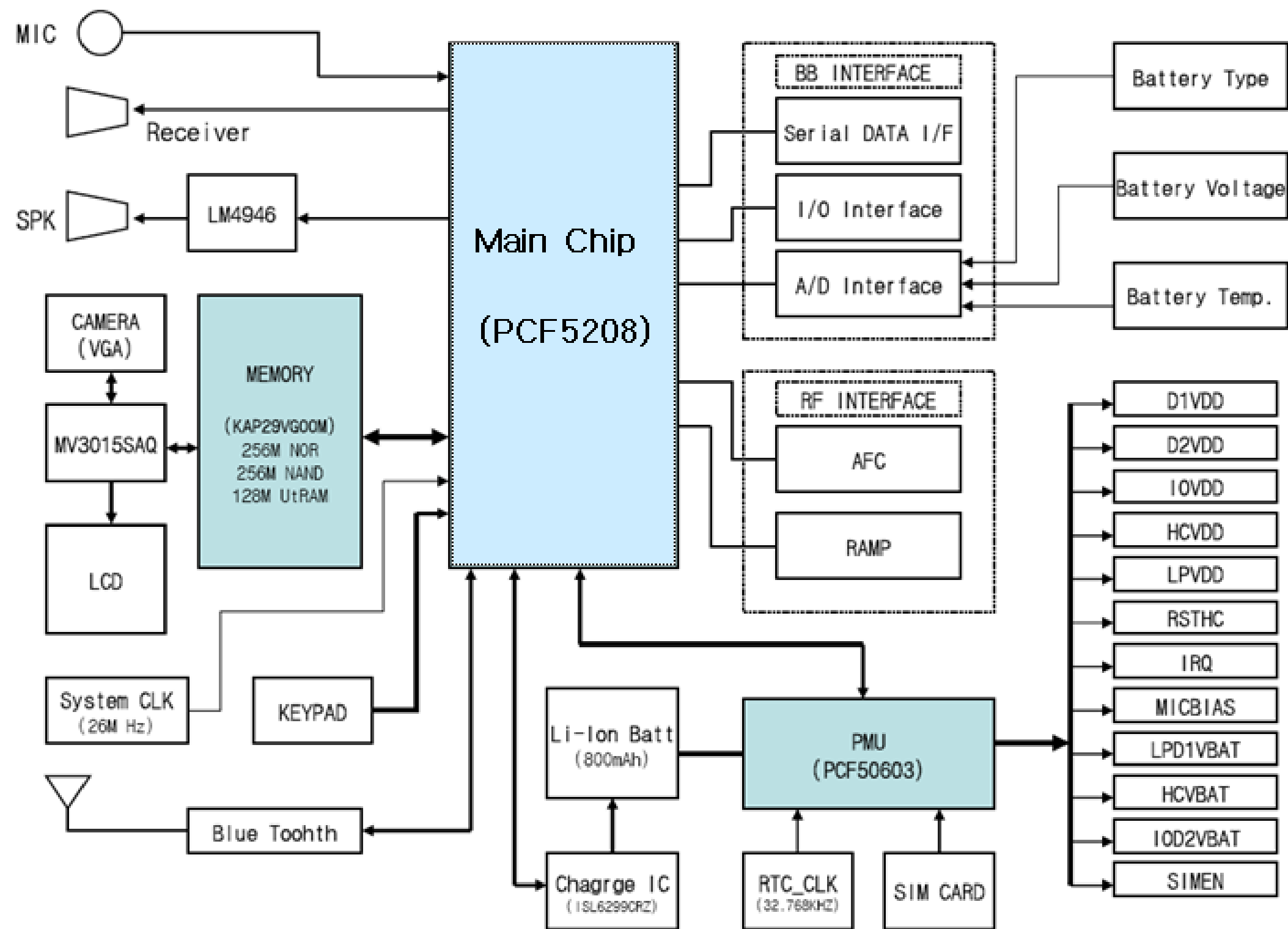
| Design LOC | Description         | SEC Code    | STATUS |
|------------|---------------------|-------------|--------|
| U300       | IC ASIC-SGHE420     | GH13-00042A | SA     |
| U301       | IC-CMOS LOGIC       | 0801-002237 | SA     |
| U302       | TR-DIGITAL          | 0504-001151 | SA     |
| U303       | IC-CMOS LOGIC       | 0801-002958 | SA     |
| U400       | IC-POWER SUPERVISOR | 1203-003882 | SA     |
| U401       | IC-POSI.FIXED REG.  | 1203-003737 | SA     |
| U402       | IC-DC/DC CONVERTER  | 1203-003545 | SA     |
| U501       | IC-BATTERY          | 1203-003742 | SA     |
| U502       | FILTER-EMI SMD      | 2901-001315 | SA     |
| U600       | IC-DATA COMM./GEN.  | 1205-003064 | SA     |
| U601       | IC-AUDIO AMP        | 1201-002356 | SA     |
| U602       | IC-POSI.FIXED REG.  | 1203-003737 | SA     |
| U700       | IC-POSI.FIXED REG.  | 1203-003737 | SA     |
| U701       | IC-HALL EFFECT S/W  | 1009-001020 | SA     |
| UCP200     | IC-COMM. CONTROLLER | 1205-003187 | SA     |
| UME300     | IC-MCP              | 1108-000080 | SA     |
| VR400      | VARISTOR            | 1405-001082 | SA     |
| VR500      | THERMISTOR-NTC      | 1404-001221 | SA     |
| VR700      | VARISTOR            | 1405-001082 | SA     |
| ZD501      | DIODE-TVS           | 0406-001215 | SA     |
| ZD502      | DIODE-ZENER         | 0403-001547 | SA     |
| ZD503      | DIODE-TVS           | 0406-001215 | SA     |
| ZD600      | DIODE-TVS           | 0406-001254 | SA     |
| ZD601      | DIODE-TVS           | 0406-001254 | SA     |
| ZD700      | DIODE-TVS           | 0406-001215 | SA     |
| ZD701      | DIODE-TVS           | 0406-001254 | SA     |
| ZD702      | DIODE-TVS           | 0406-001254 | SA     |
| ZD703      | DIODE-TVS           | 0406-001254 | SA     |
| ZD704      | DIODE-TVS           | 0406-001215 | SA     |
| ZD705      | DIODE-TVS           | 0406-001254 | SA     |
| ZD706      | DIODE-TVS           | 0406-001215 | SA     |

7. Block Diagrams

7-1. RF Solution Block Diagram

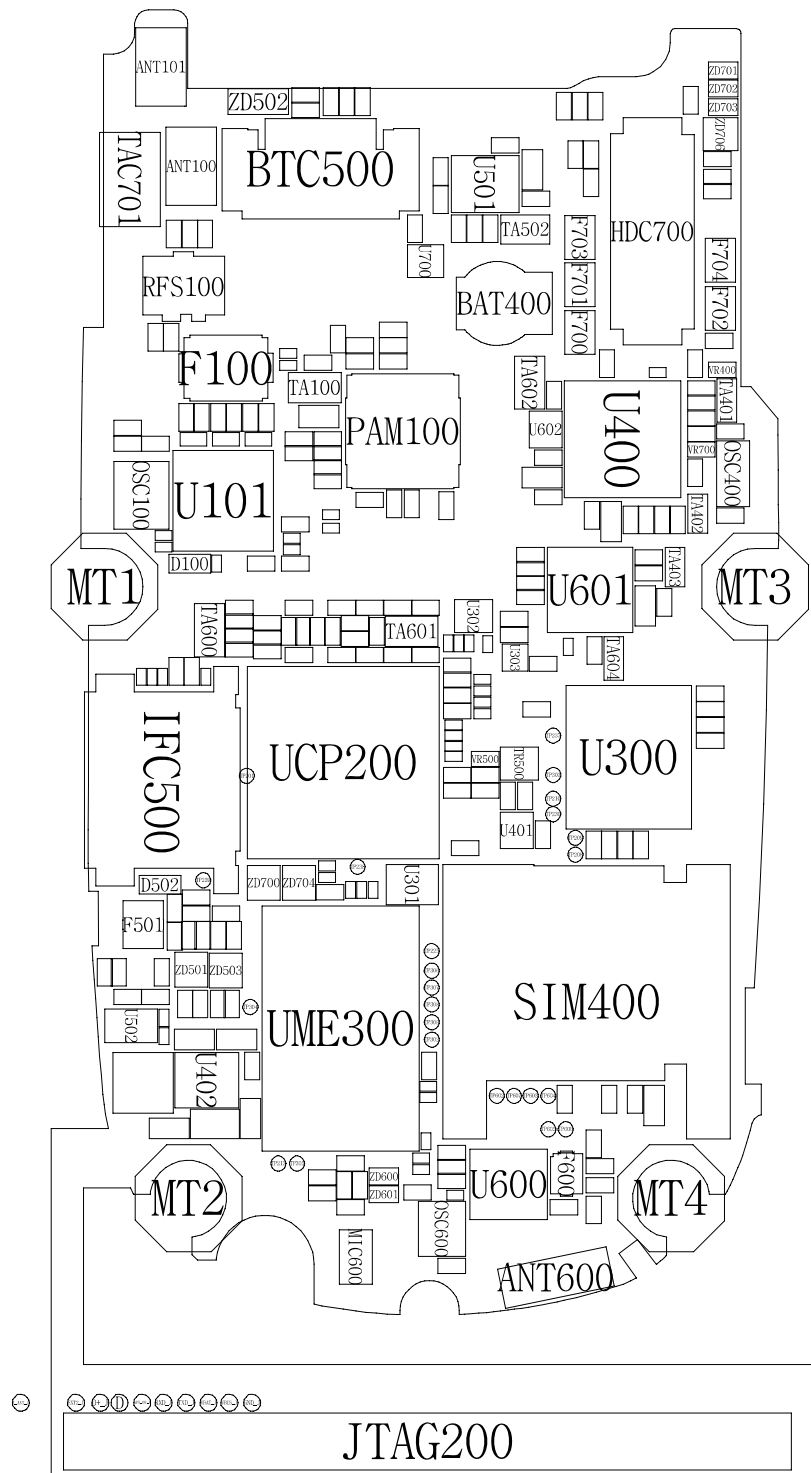


7-2. Base Band Solution Block Diagram

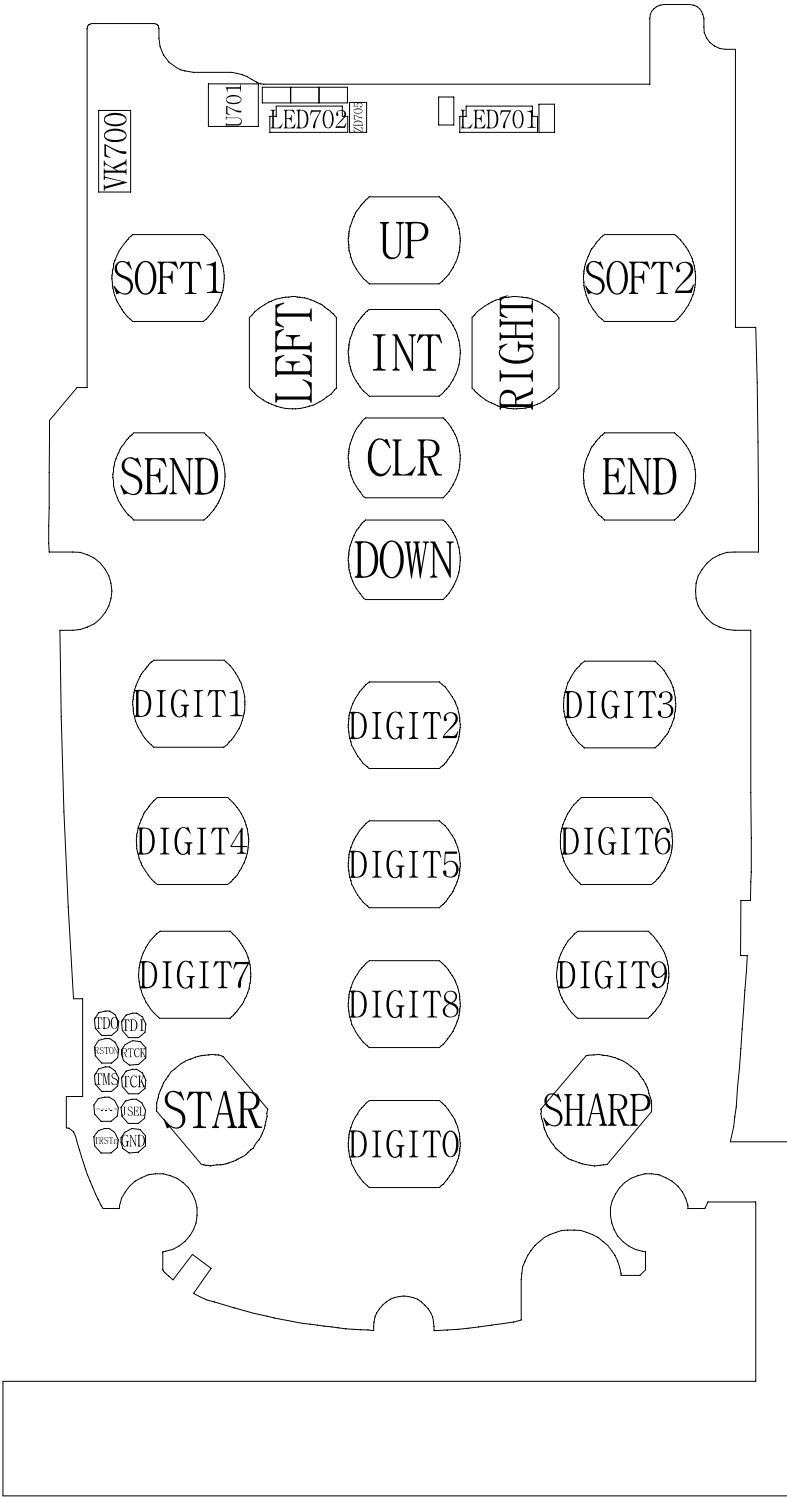


## 8. PCB Diagrams

Top

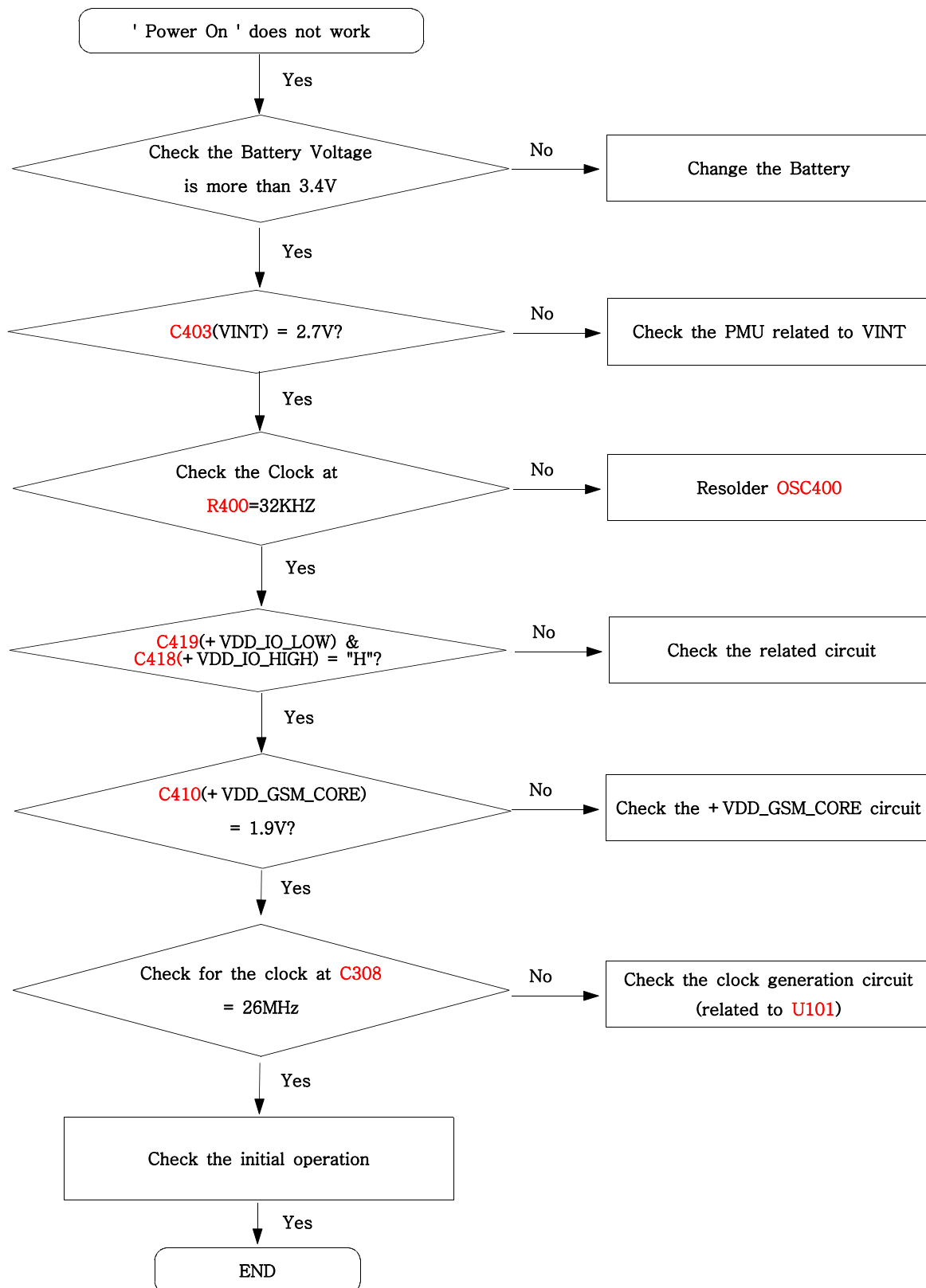


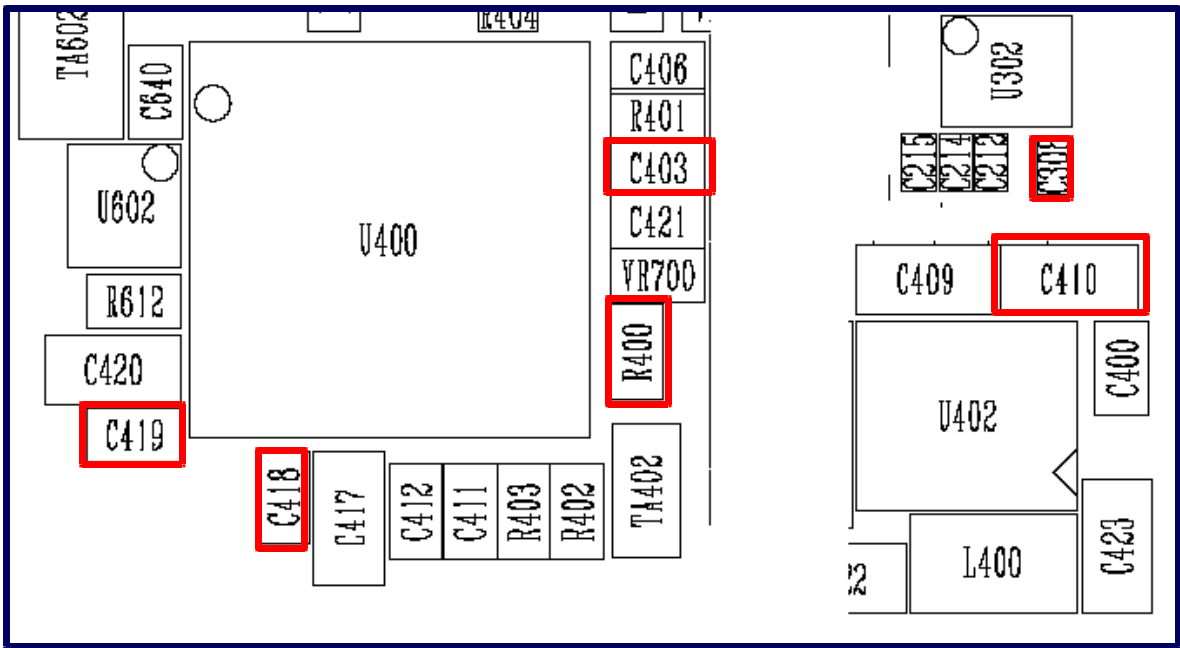
Bottom



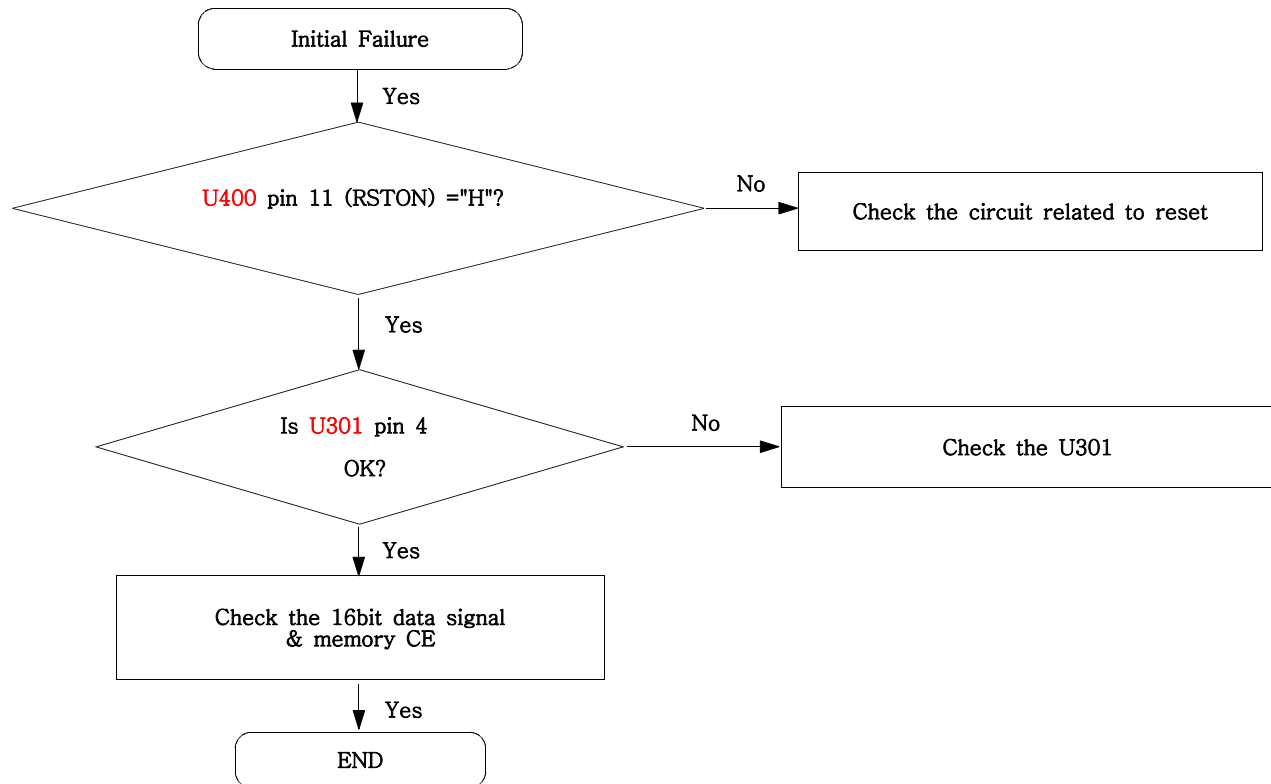
## 9. Flow Chart of Troubleshooting

### 9-1. Power On

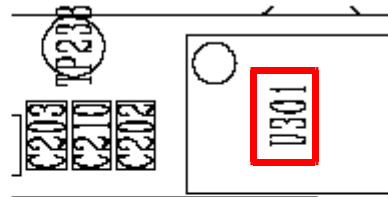
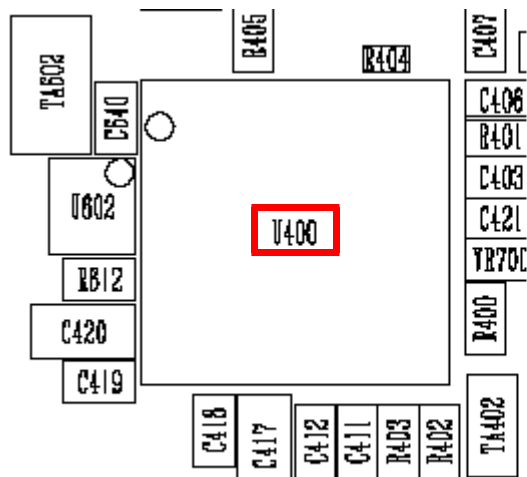
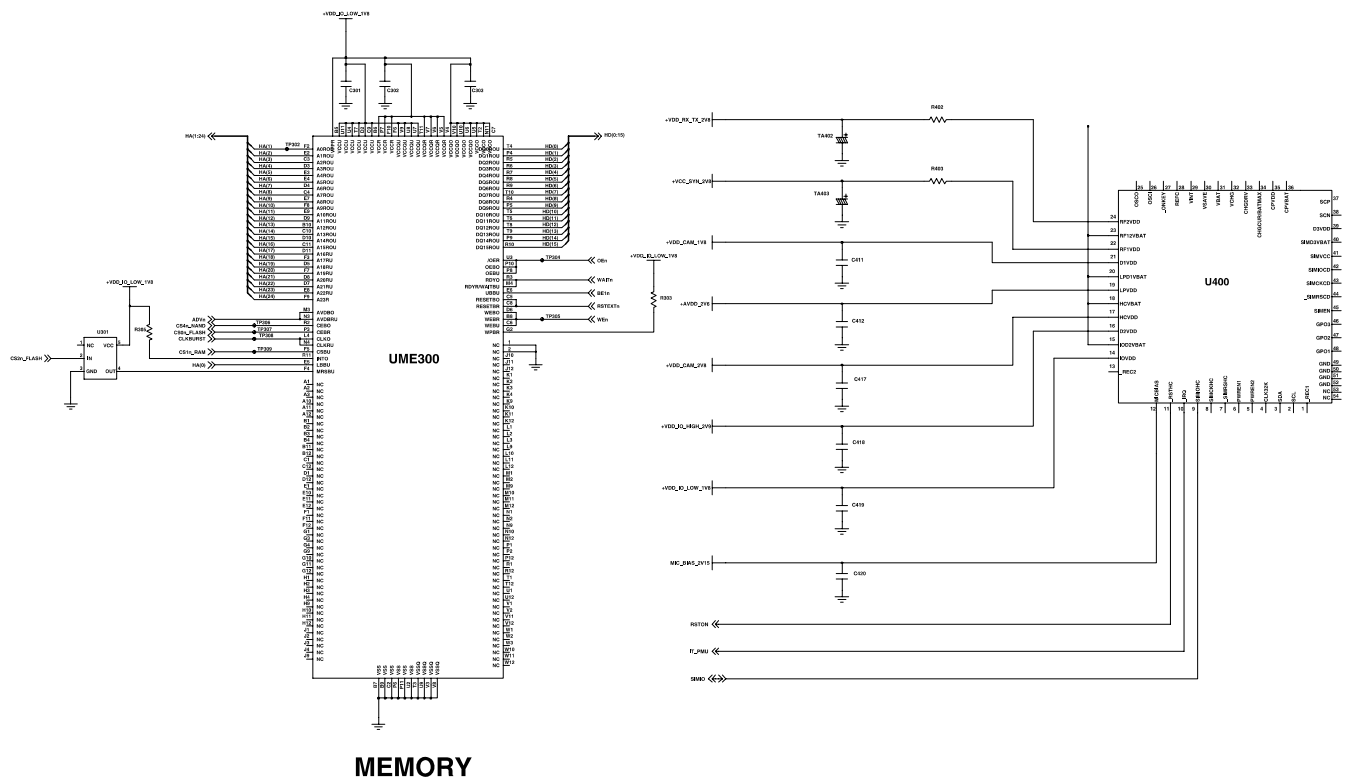




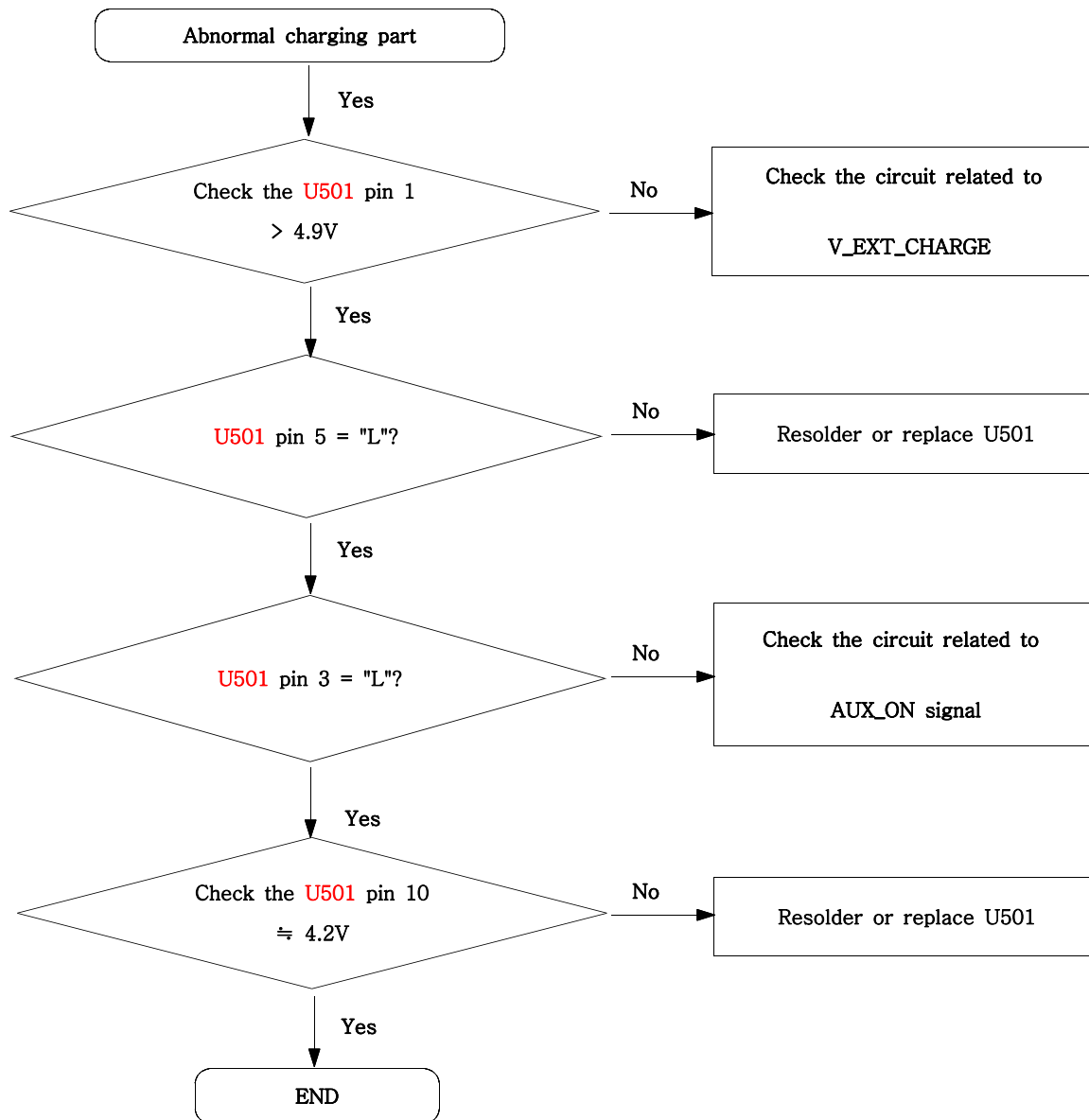
## 9-2. Initial

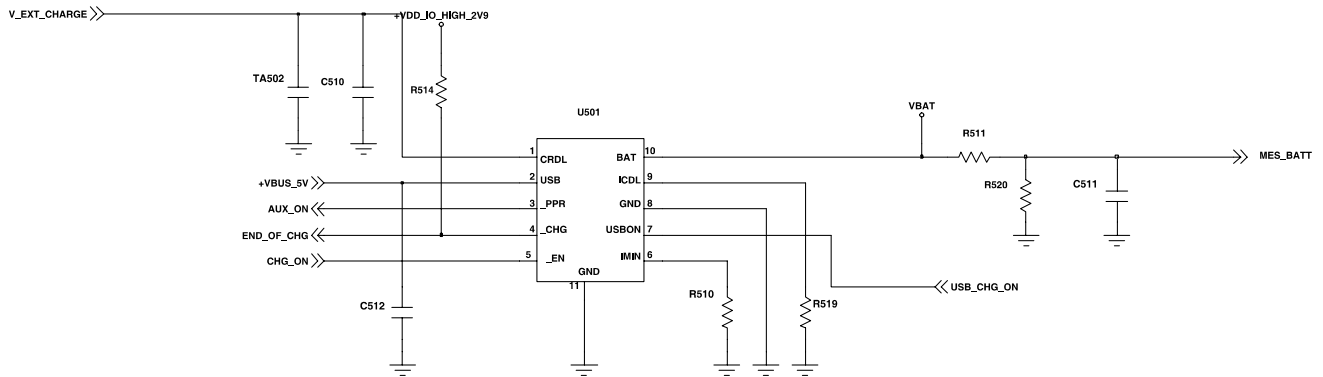


## Flow Chart of Troubleshooting

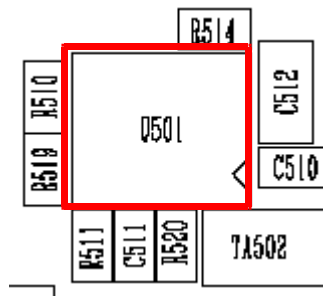


## 9-3. Charging Part

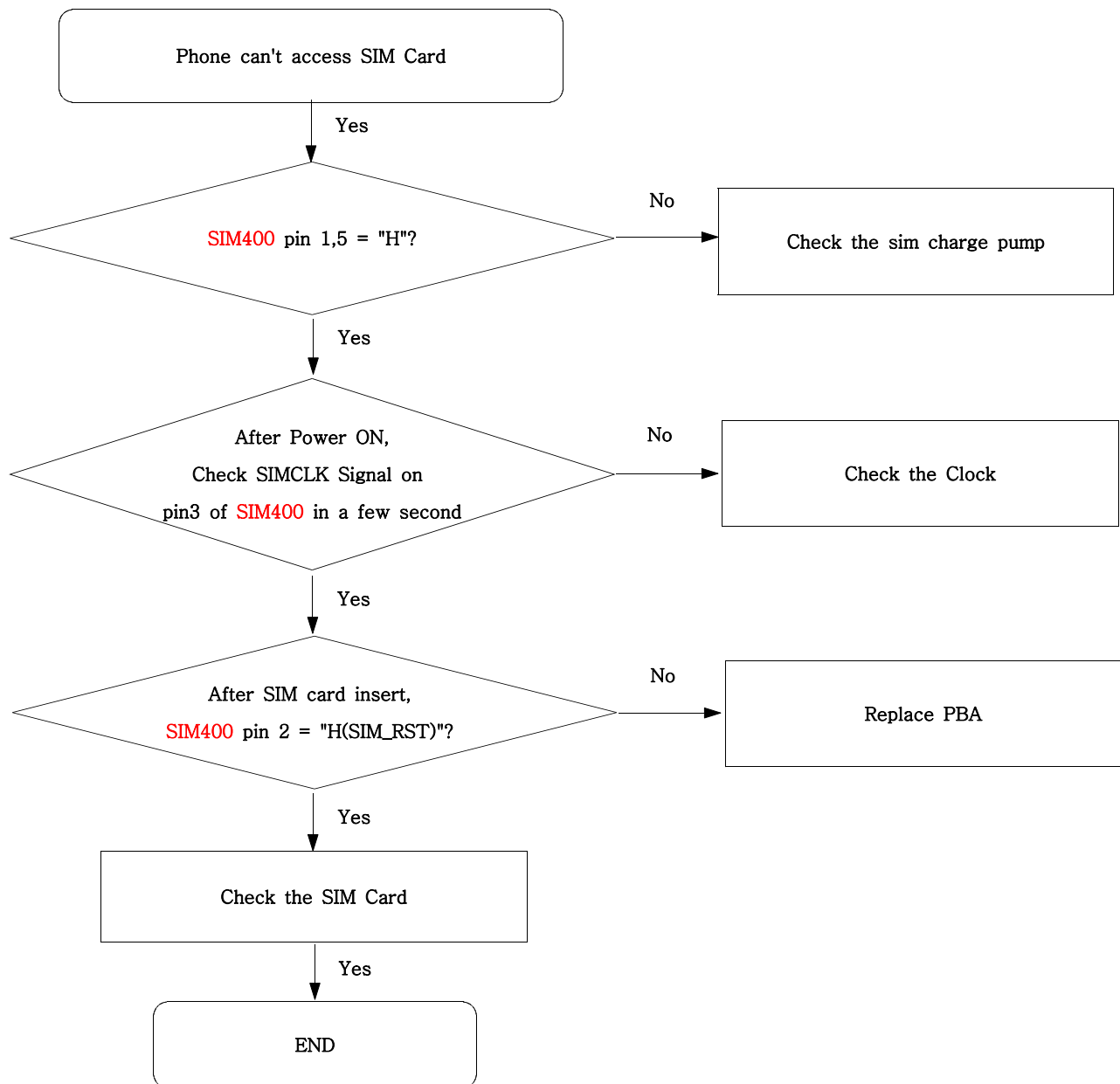




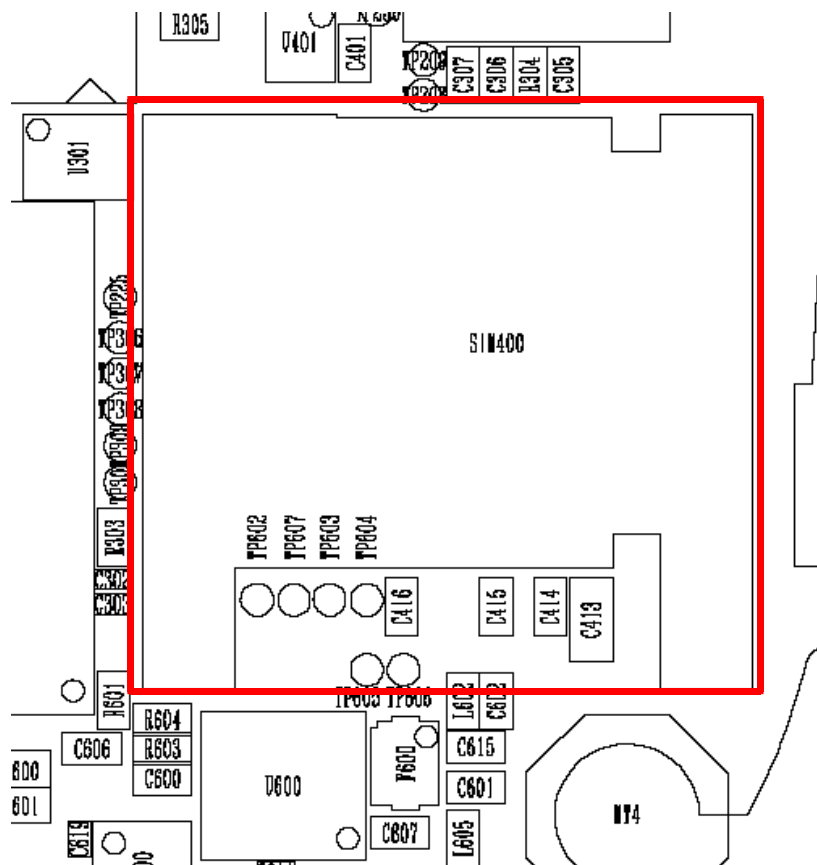
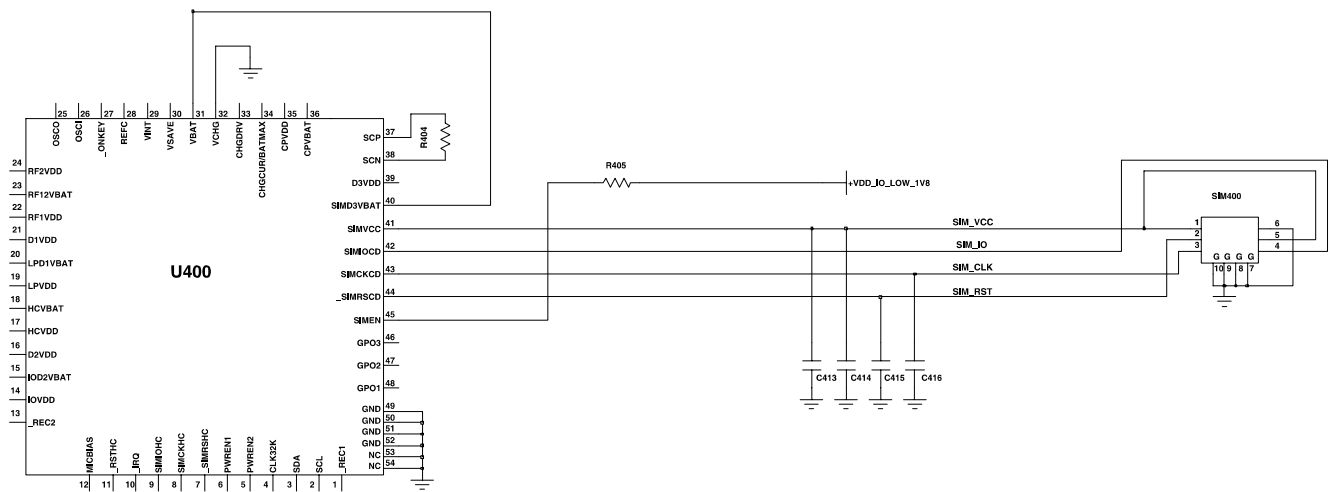
## BATTERY CHARGING



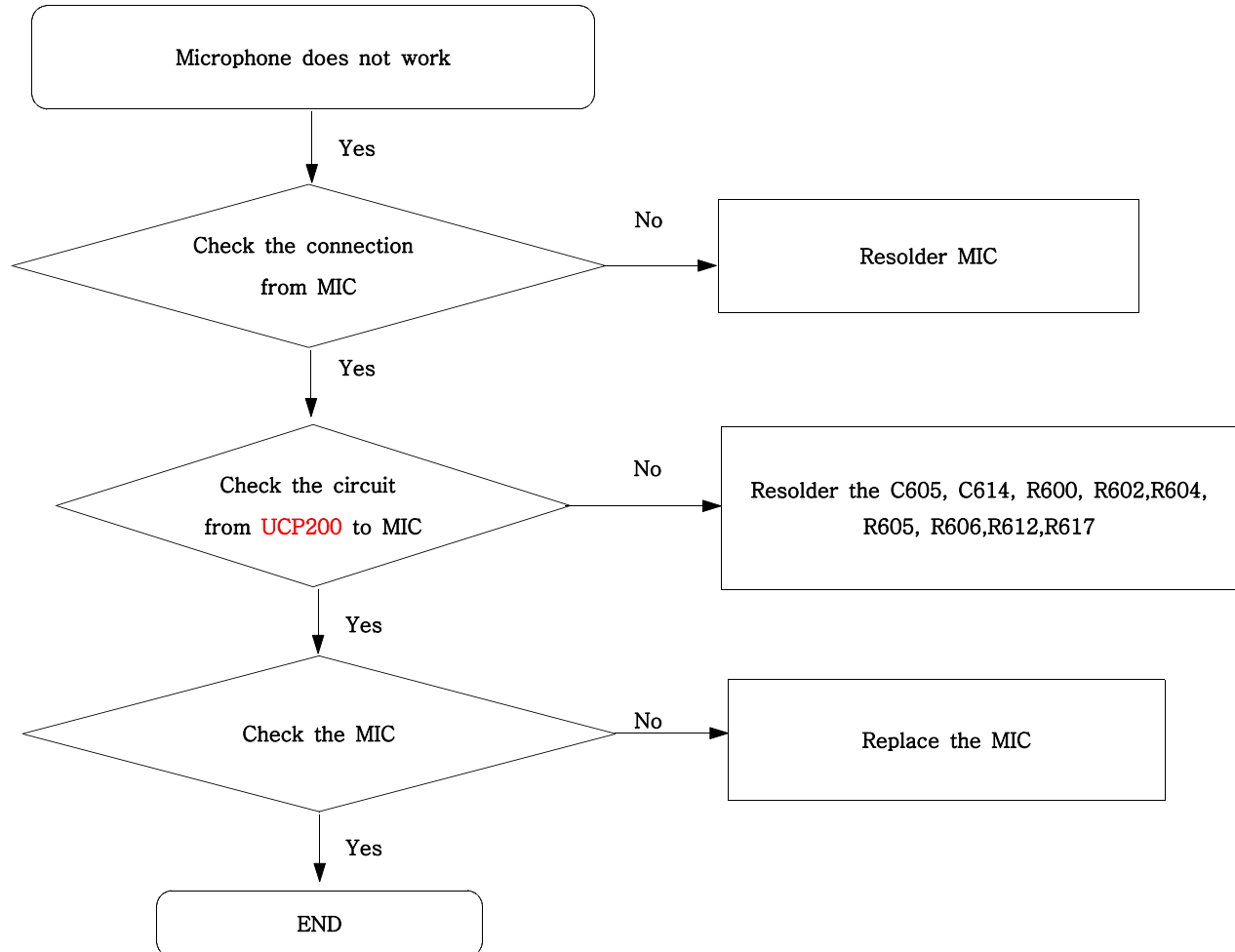
## 9-4. Sim Part

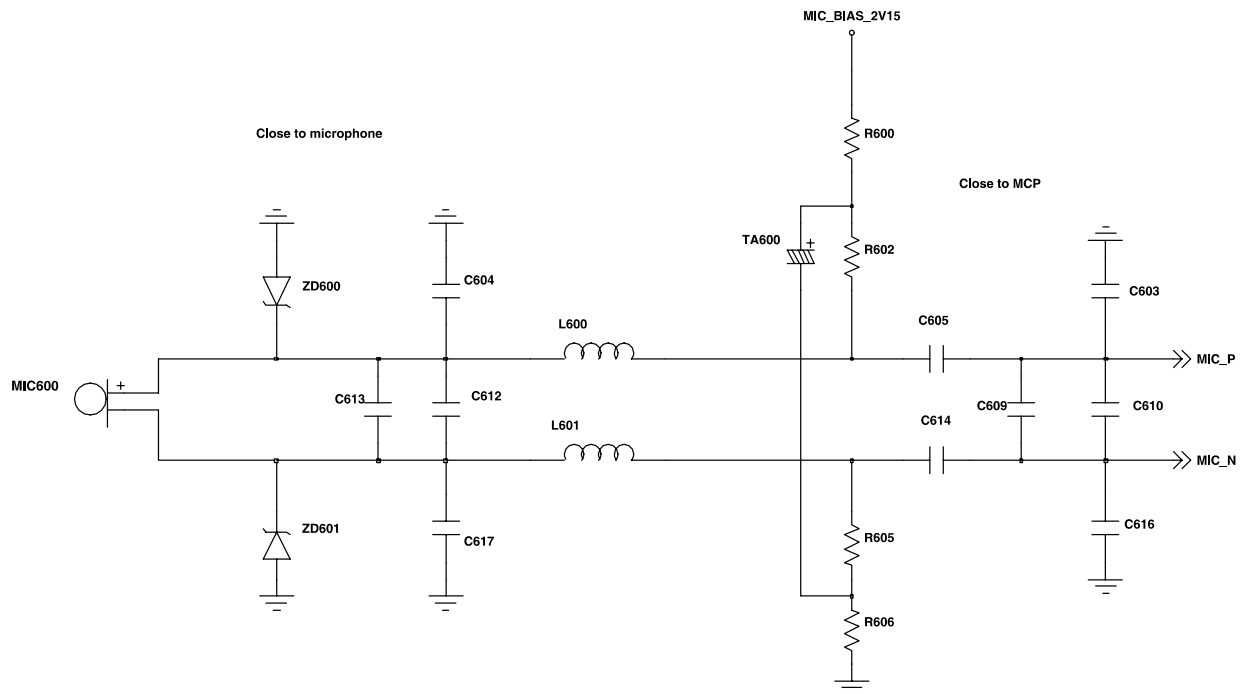


## Flow Chart of Troubleshooting

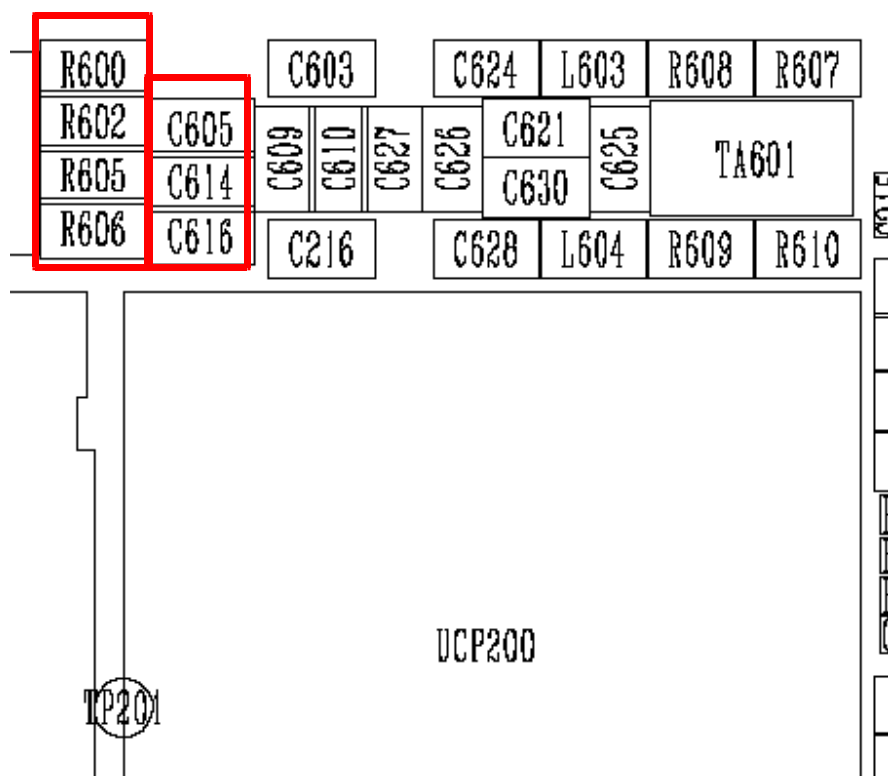


## 9-5. Microphone Part

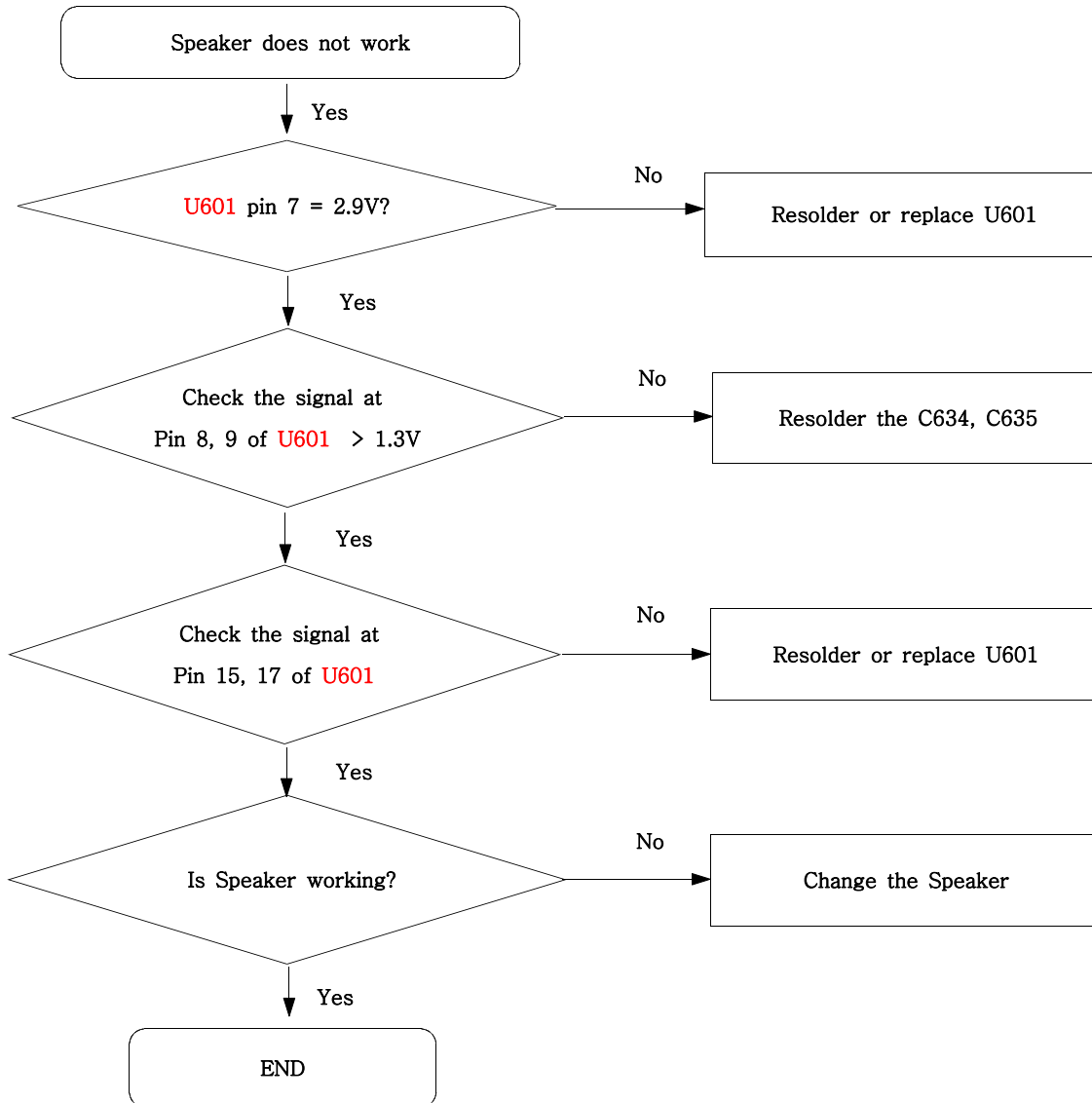


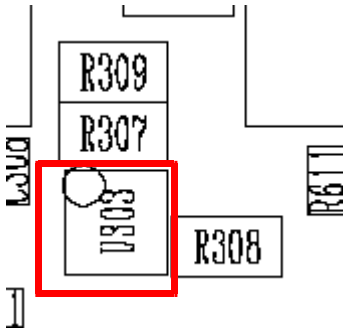
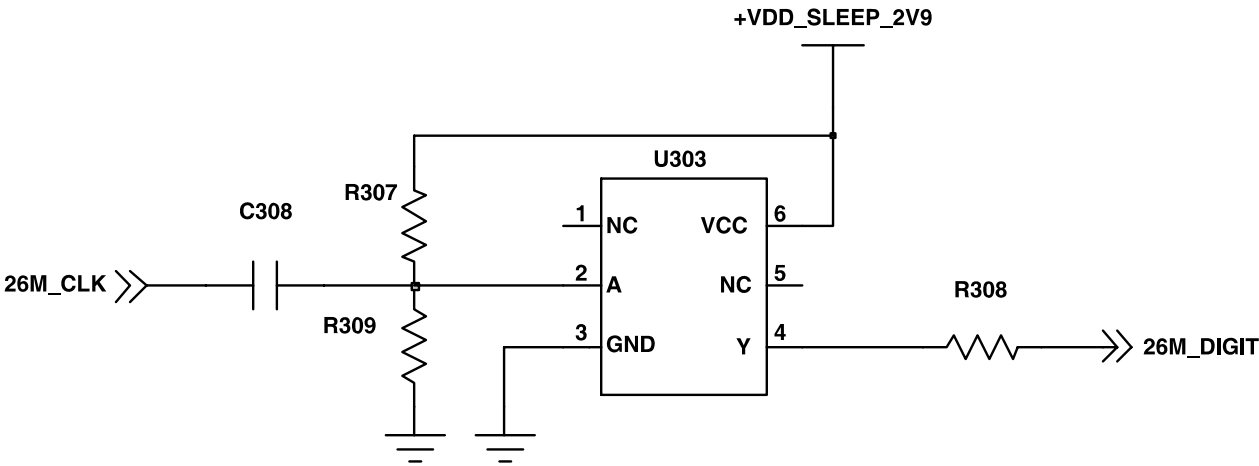


MAIN\_MIC



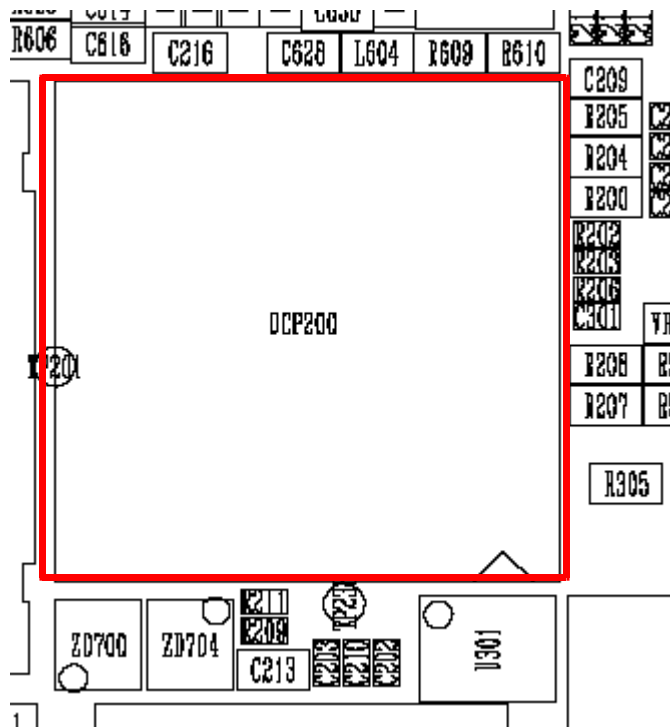
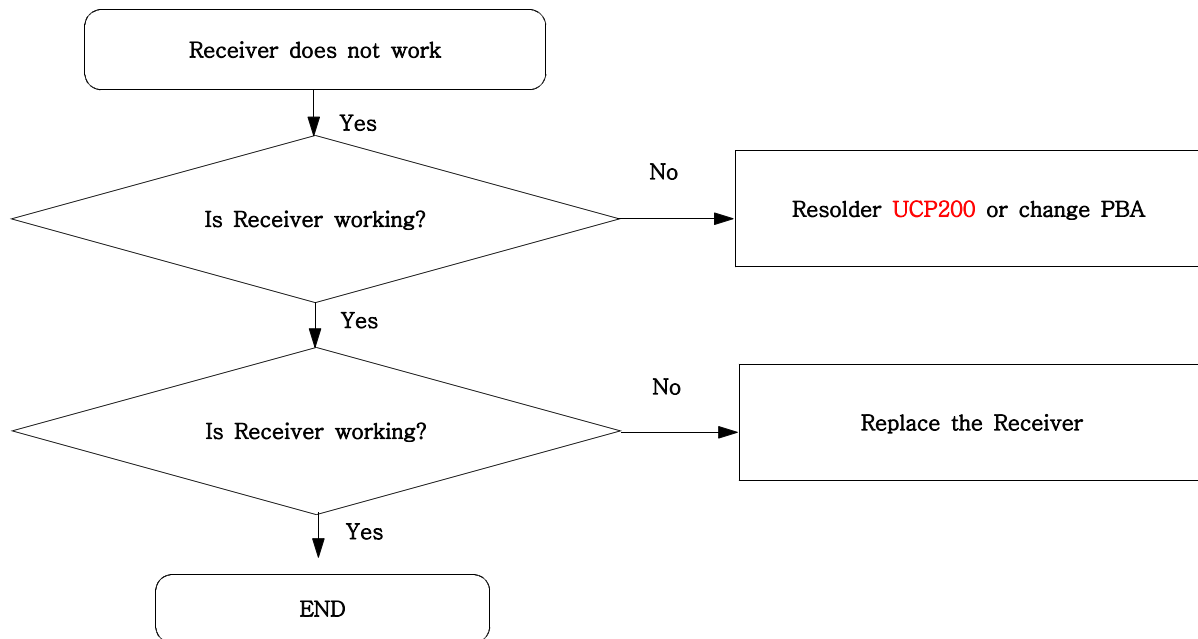
## 9-6. Speaker Part(Melody)



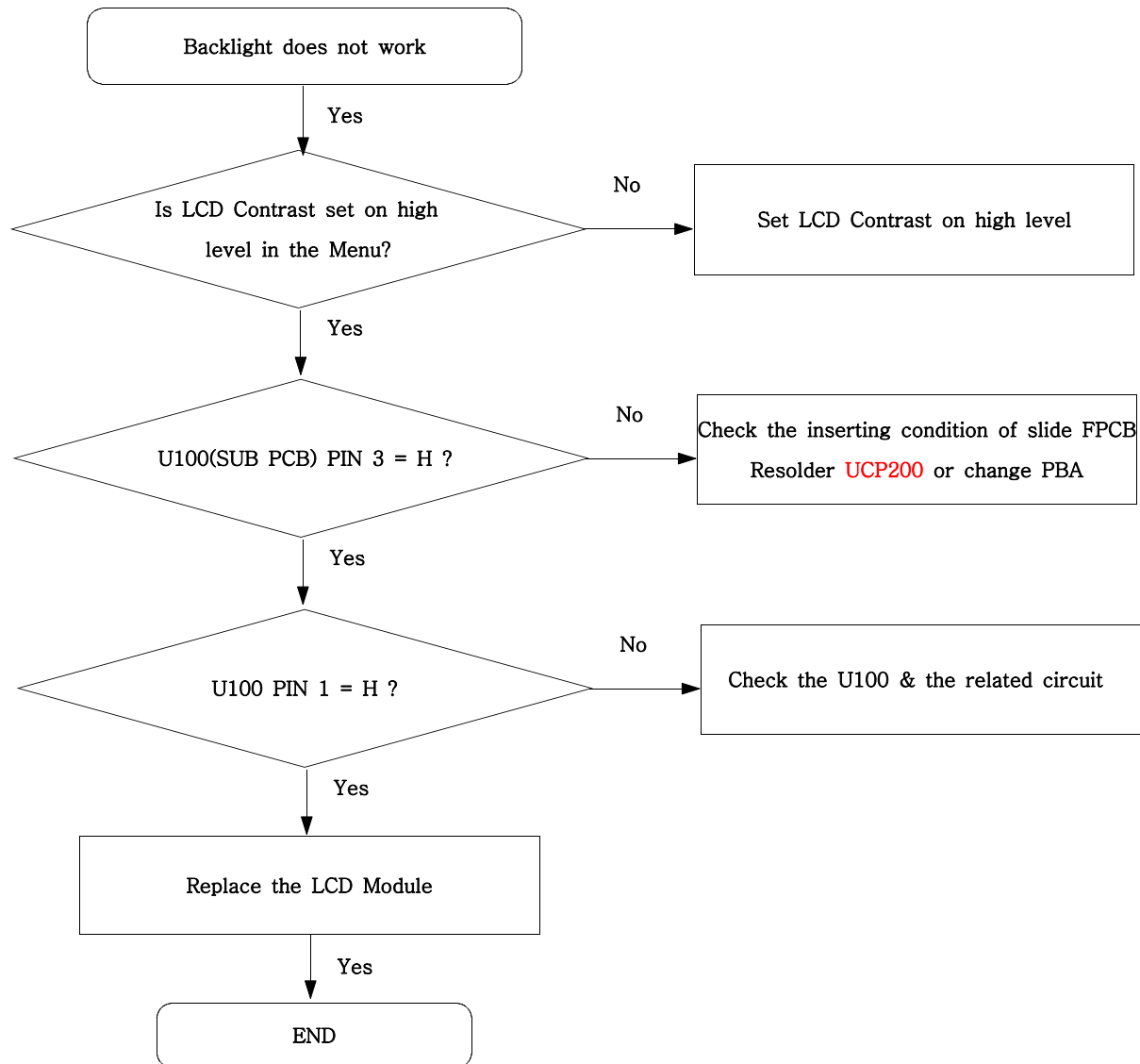


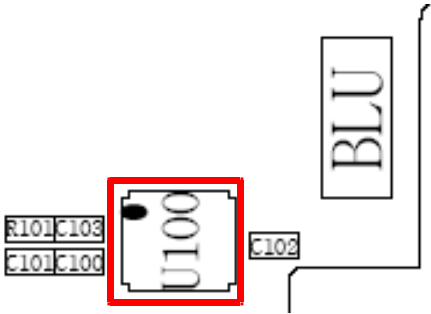
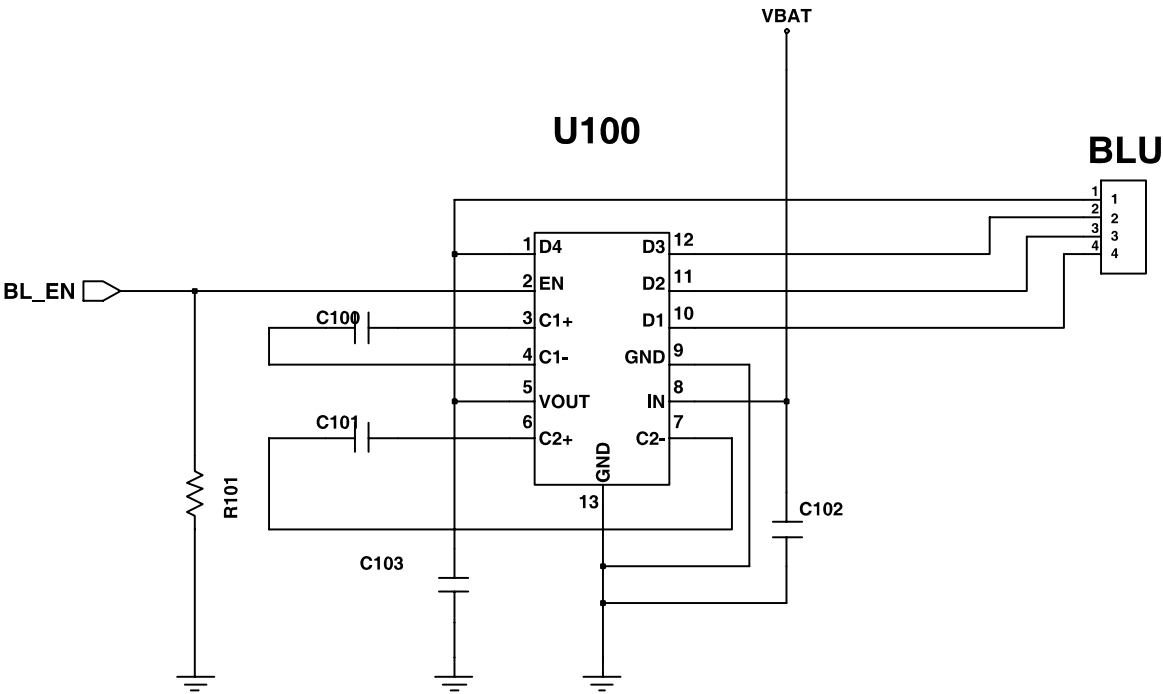


## 9-8. Receiver Part

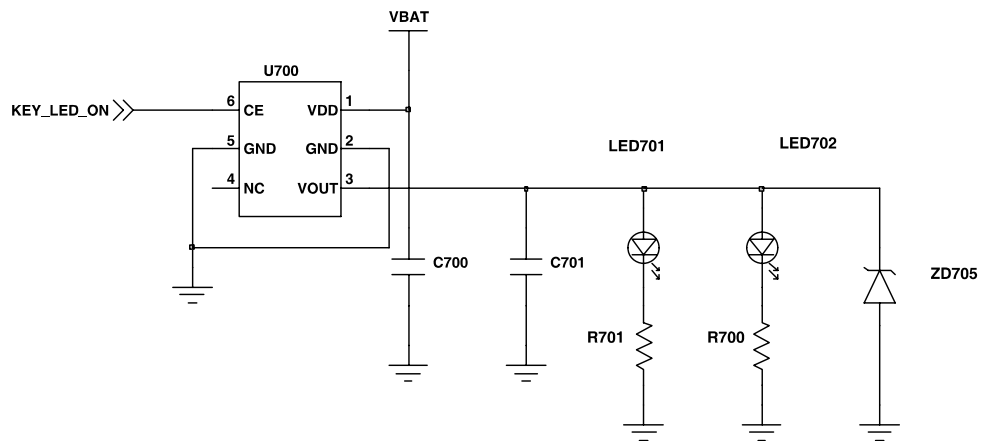
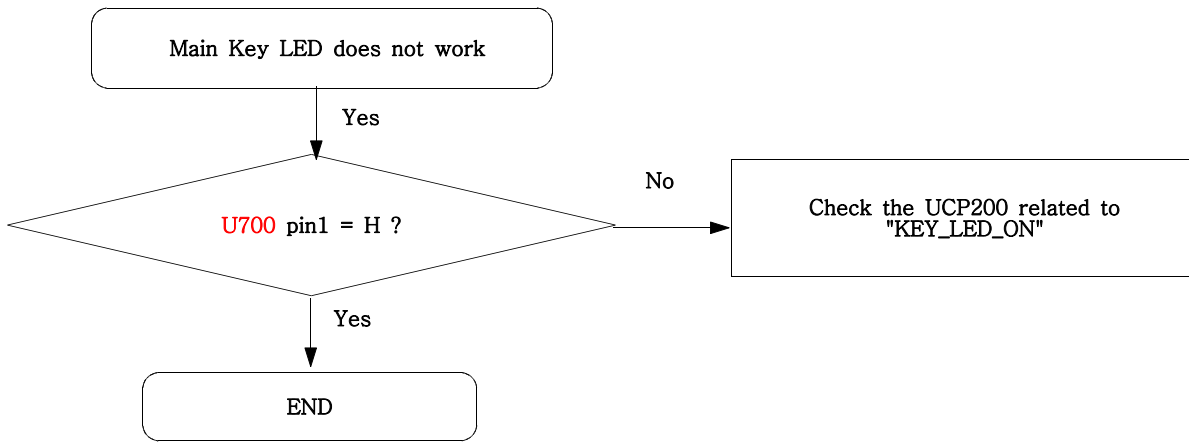


## 9-9. Back Light (for Color Main LCD)

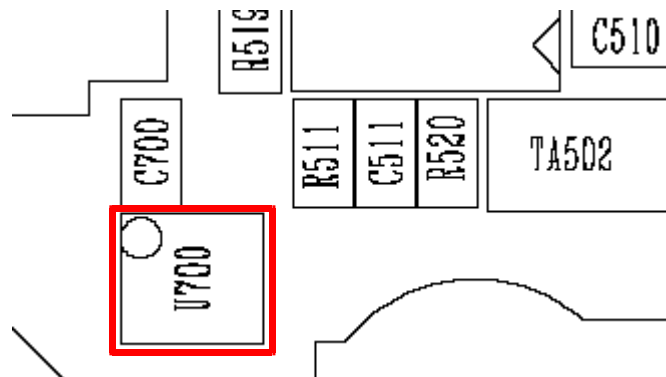




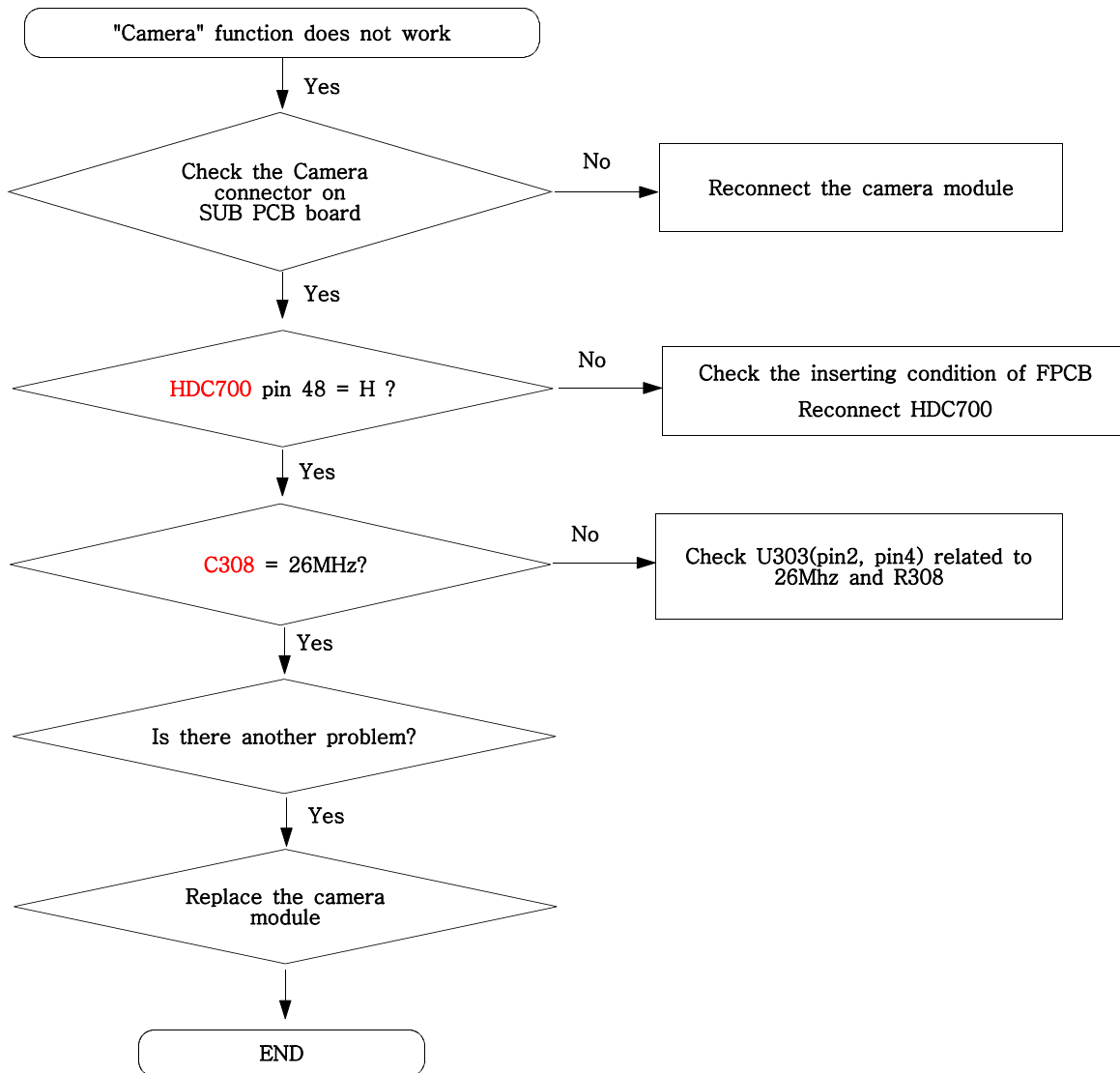
## 9-10. Key Back Light



# KEY LED

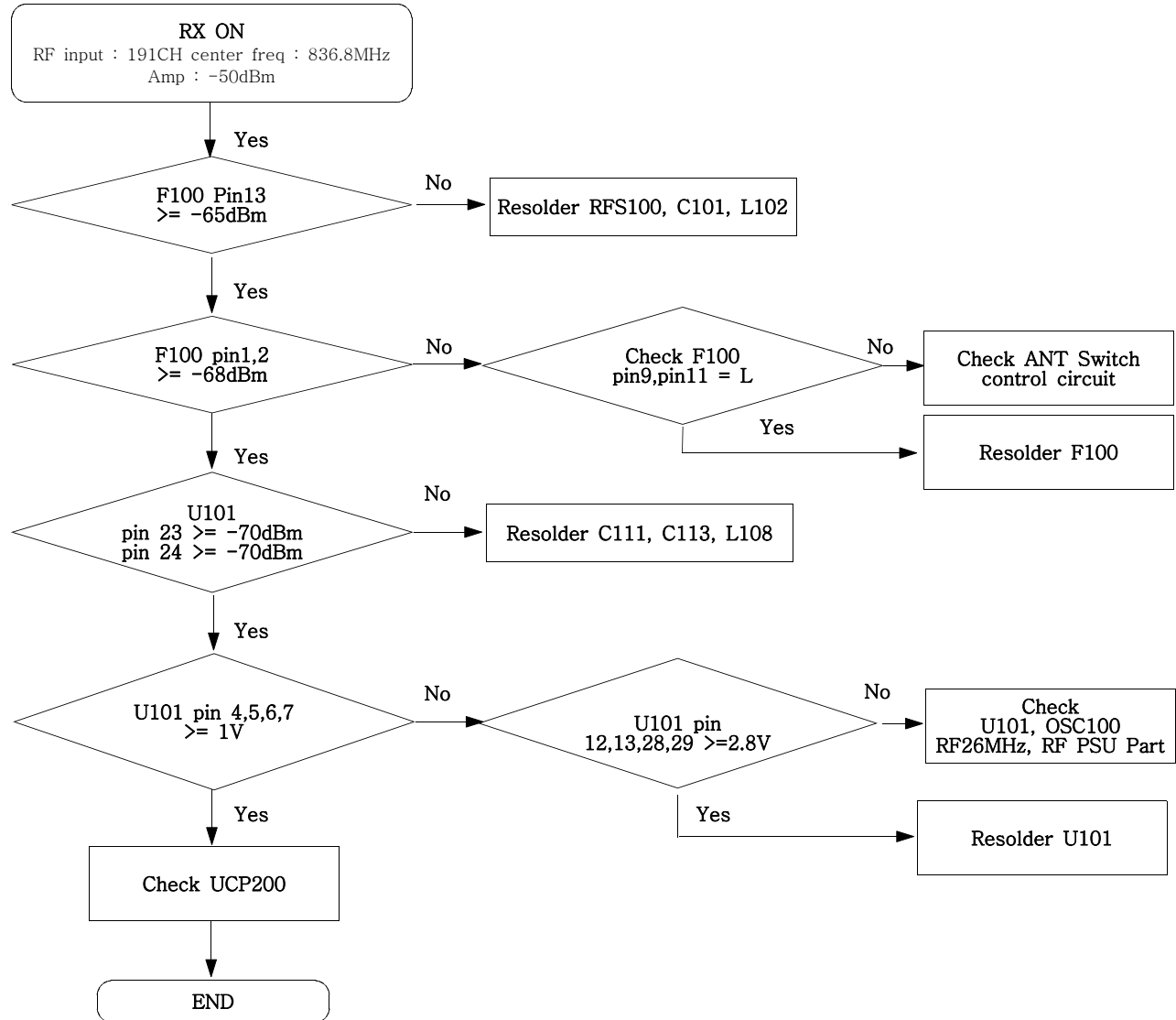


## 9-11. Camera part

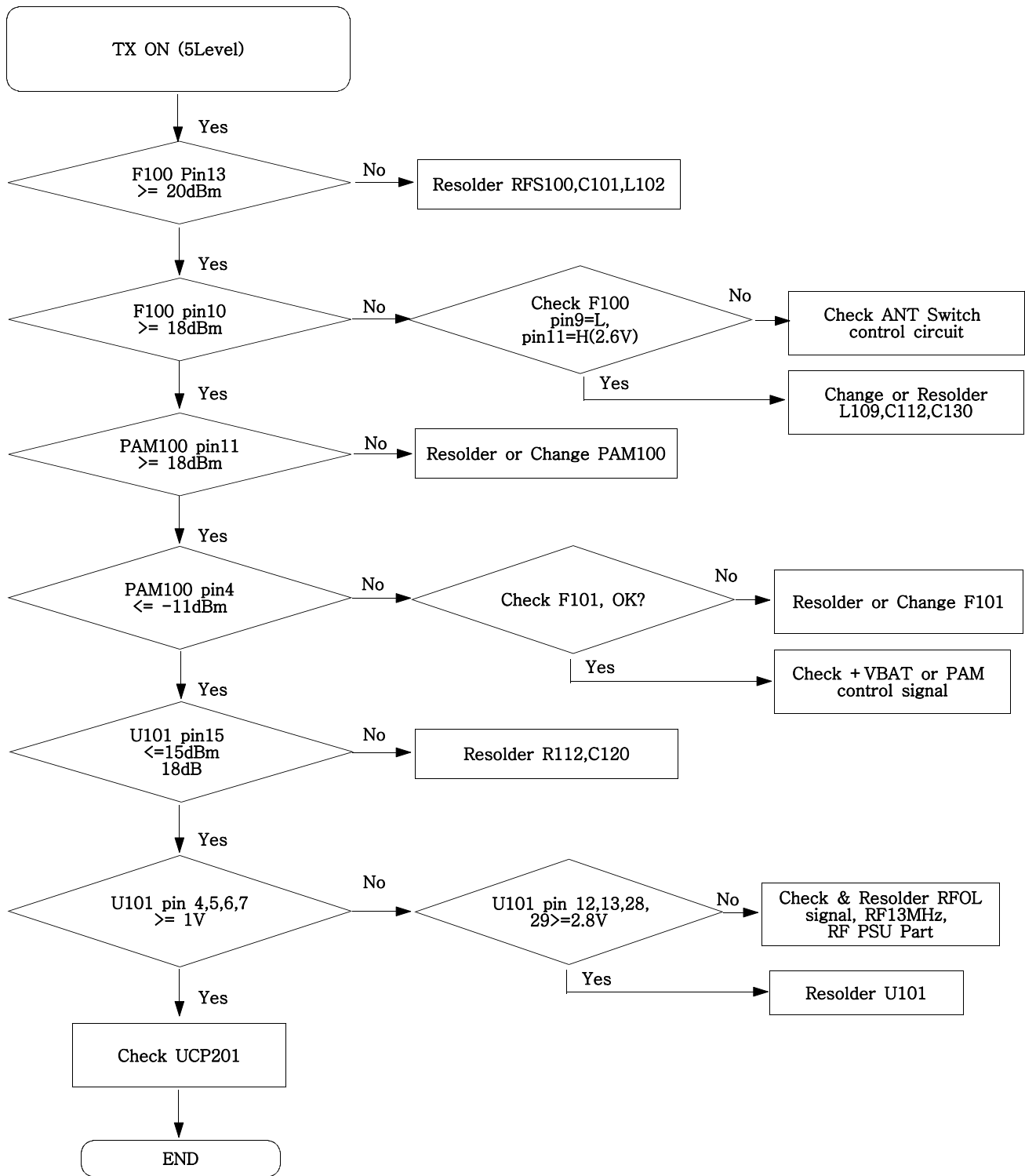




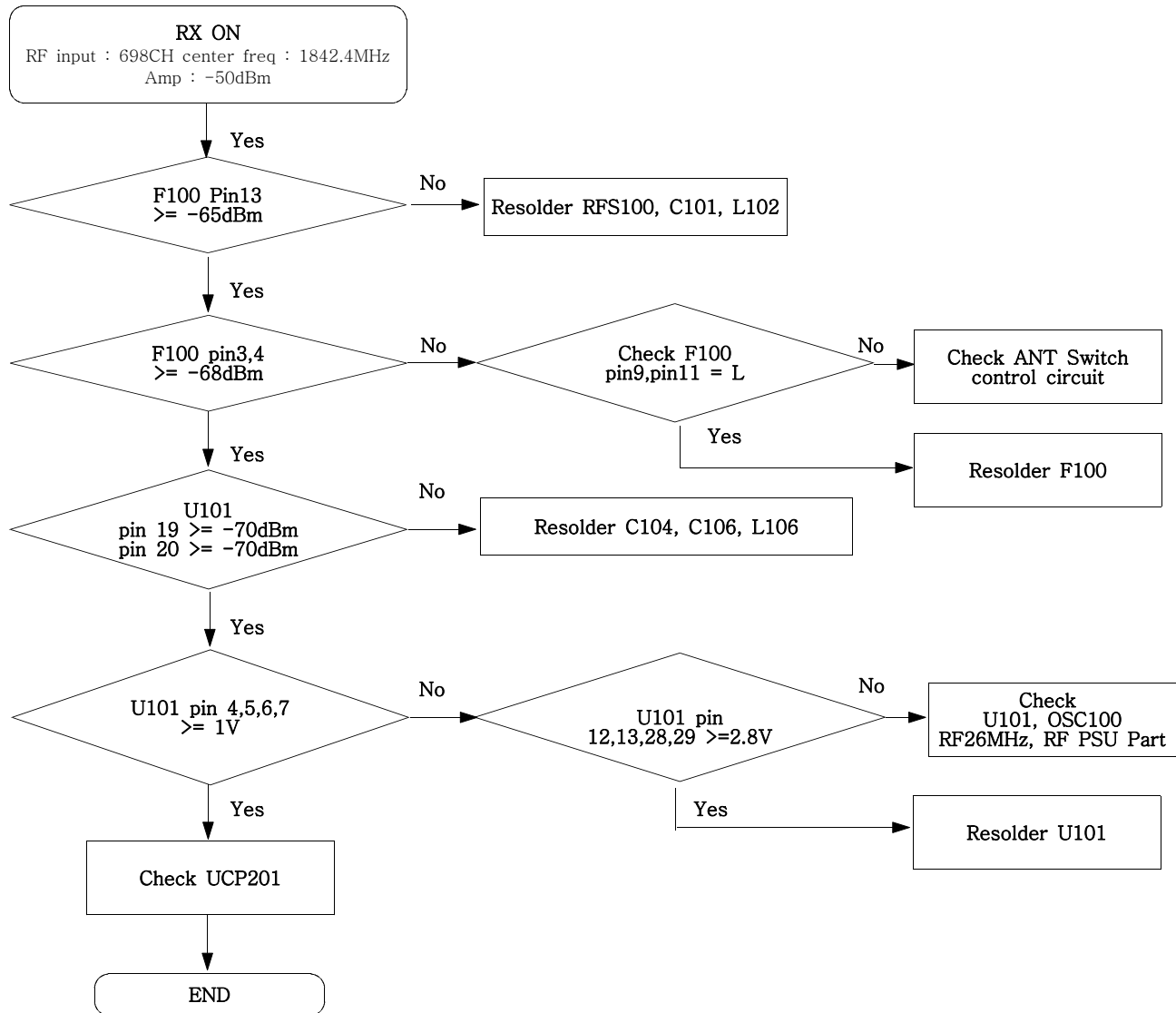
## 9-12. GSM Receiver



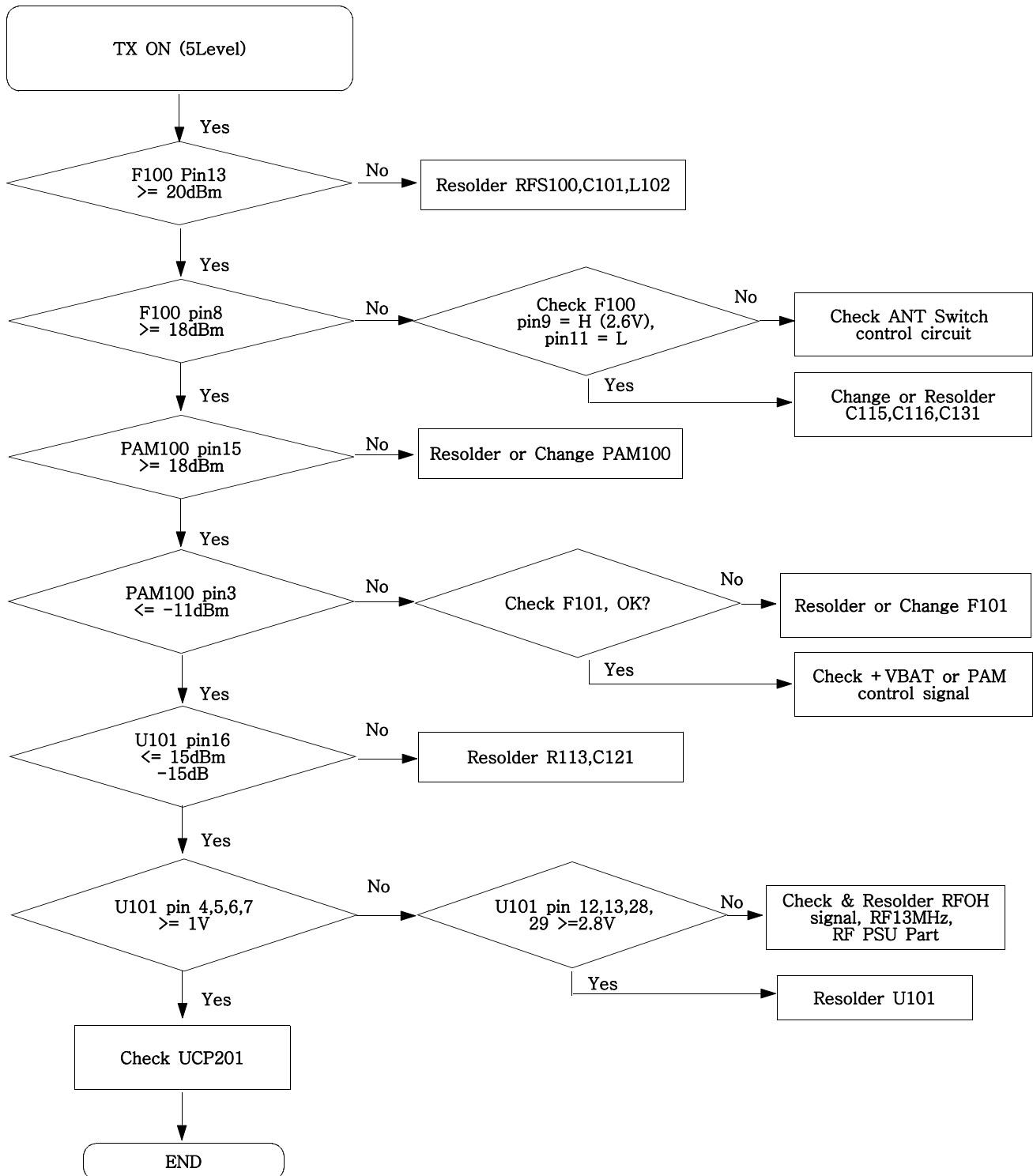
## 9-13. GSM Transmitter



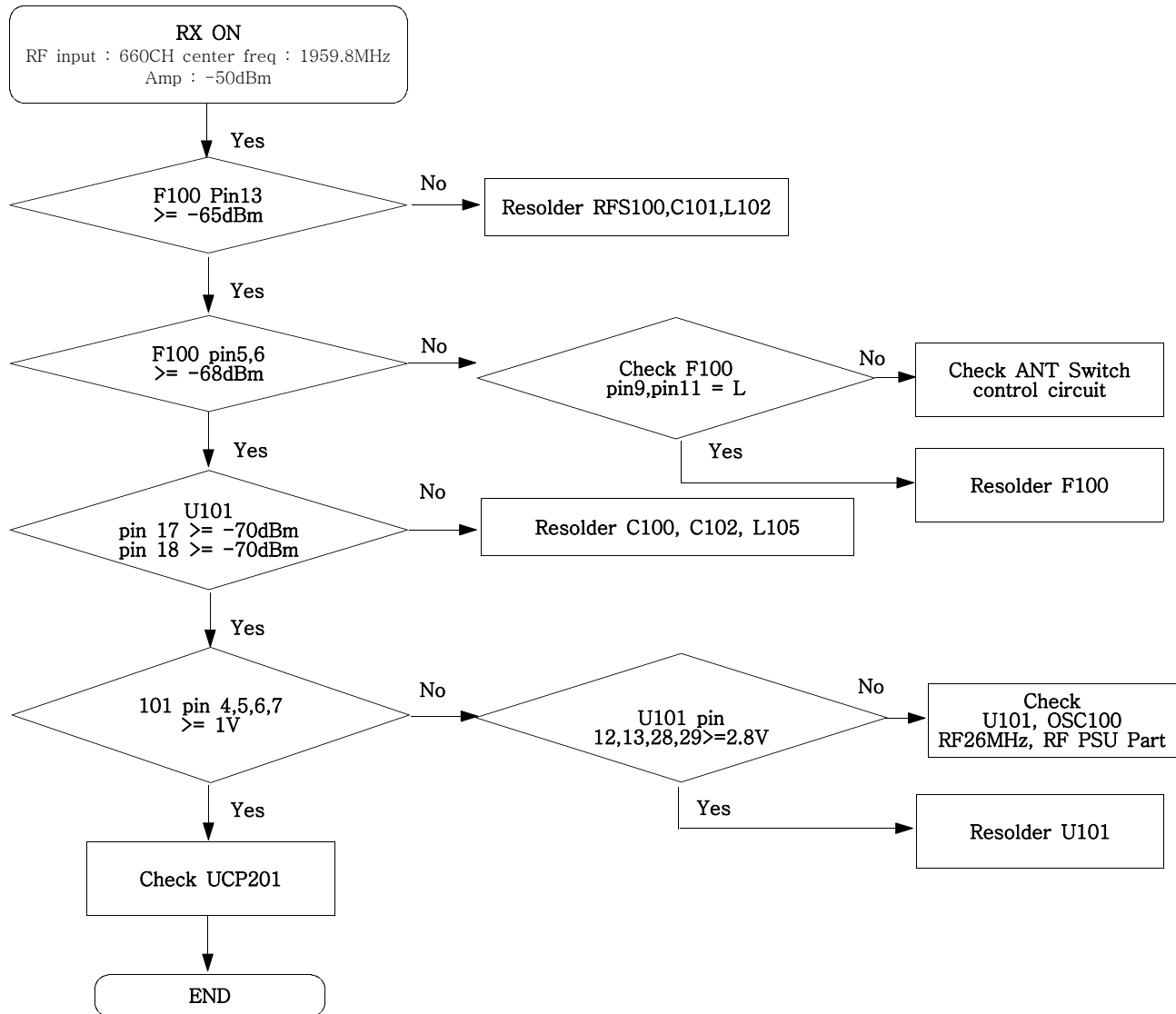
## 9-14. DCS Receiver



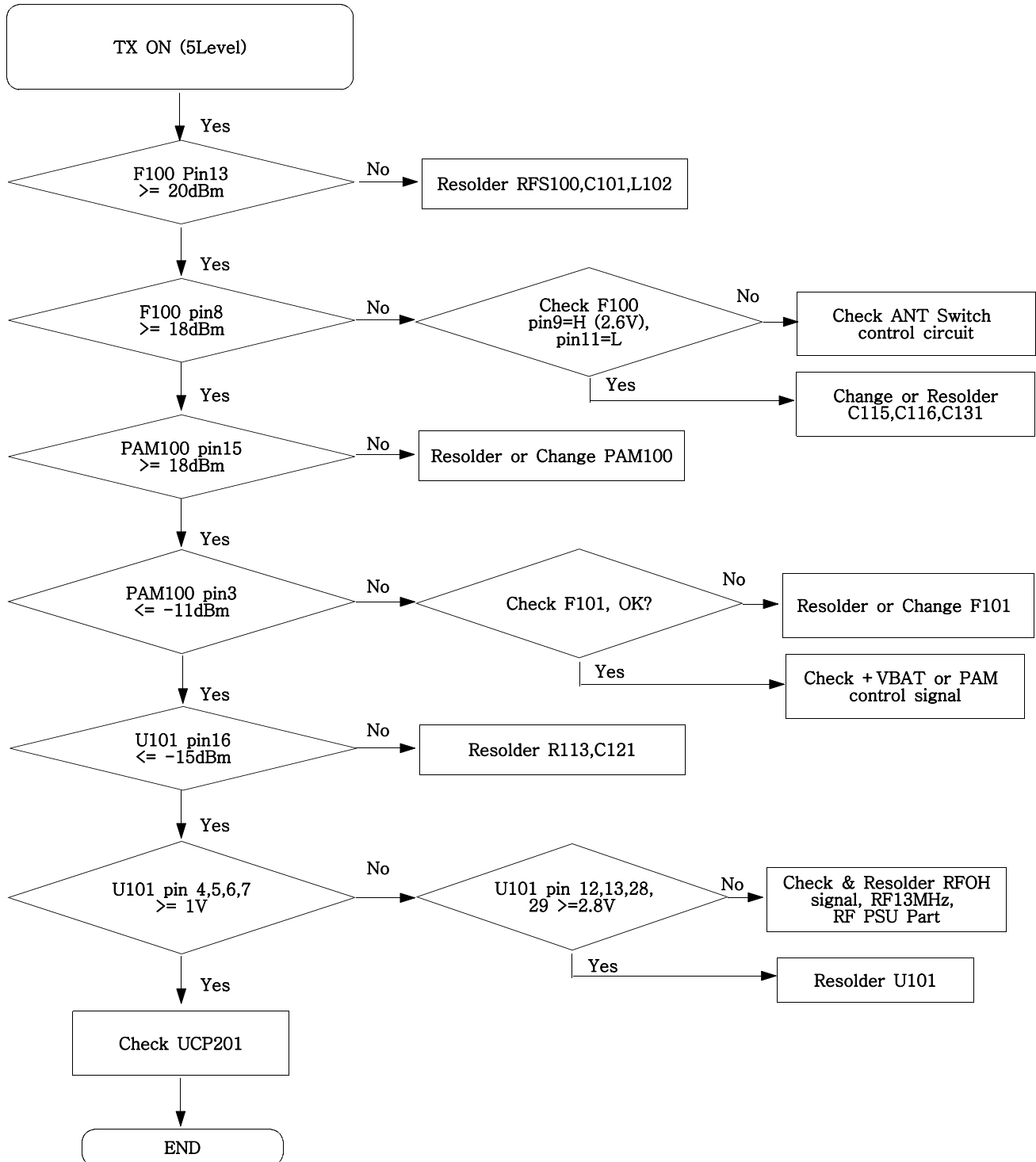
## 9-15. DCS Transmitter

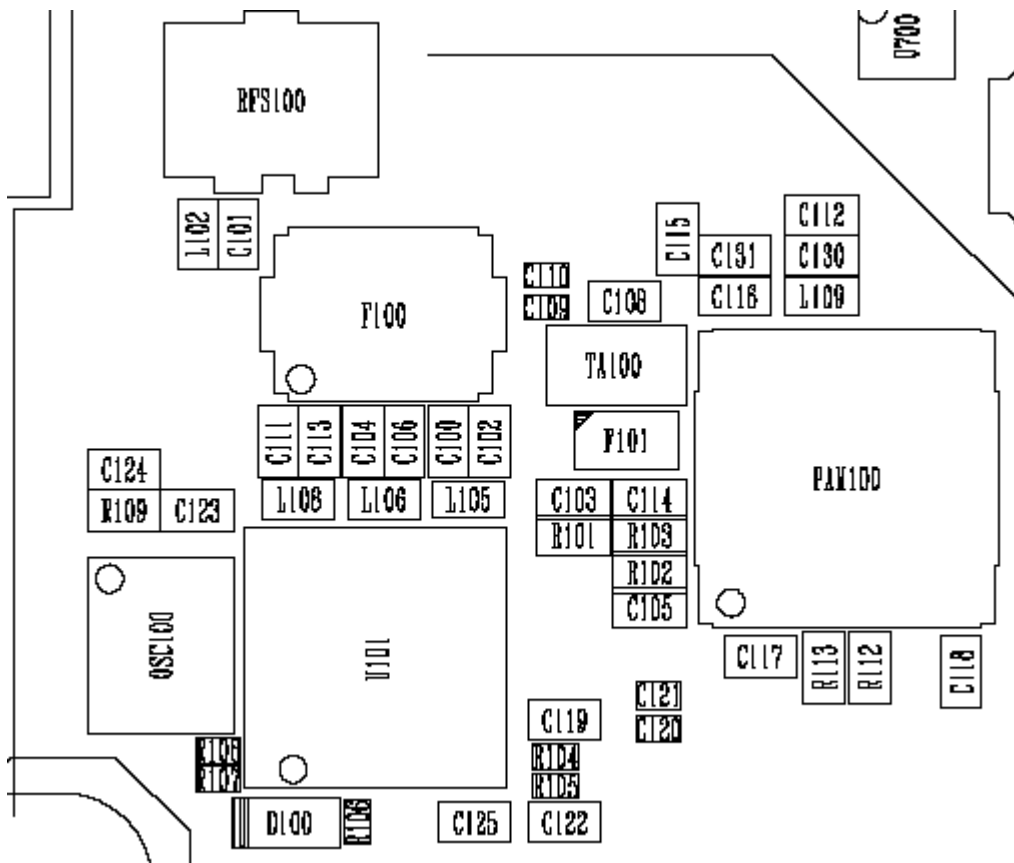


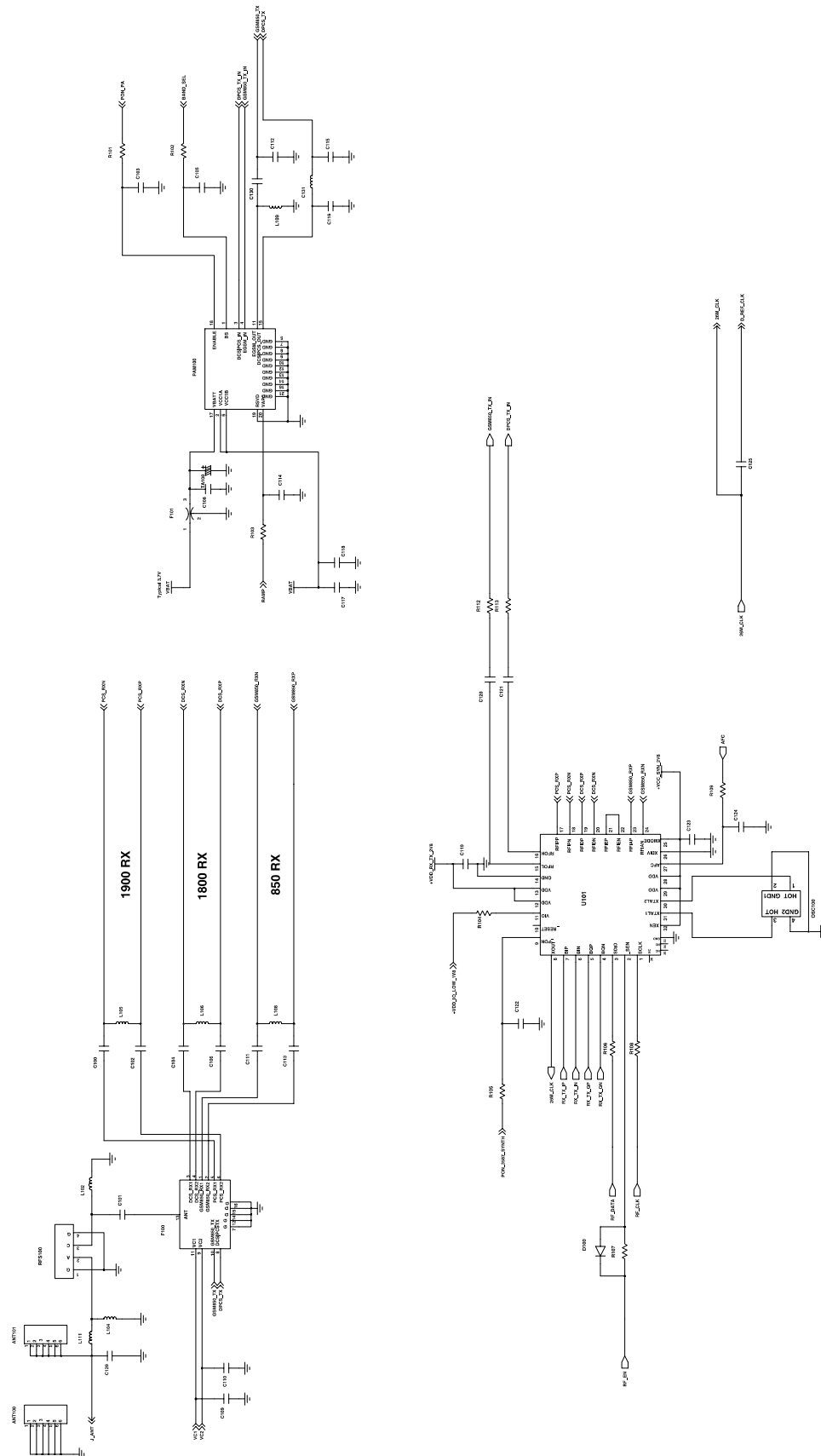
## 9-16. PCS Receiver



## 9-17. PCS Transmitter









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## 10. Reference data

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### 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

