

**SAMSUNG**

# GSM TELEPHONE

## SGH-D900i

# **SERVICE** *Manual*

GSM TELEPHONE



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**SAMSUNG  
ELECTRONICS**



GSPN (Global Service Partner Network)

| <b>Country</b>              | <b>Web Site</b>  |
|-----------------------------|--|
| North America               | <a href="http://service.samsungportal.com">service.samsungportal.com</a> |
| Latin America               | <a href="http://latin.samsungportal.com">latin.samsungportal.com</a>     |
| CIS                         | <a href="http://cis.samsungportal.com">cis.samsungportal.com</a>         |
| Europe                      | <a href="http://europe.samsungportal.com">europe.samsungportal.com</a>   |
| China                       | <a href="http://china.samsungportal.com">china.samsungportal.com</a>     |
| Asia                        | <a href="http://asia.samsungportal.com">asia.samsungportal.com</a>       |
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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 specificity 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.

## 2. Specification

### 2-1. GSM General Specification

|                                    | <b>GSM900<br/>Phase 1</b> | <b>EGSM 900<br/>Phase 2</b> | <b>DCS1800<br/>Phase 1</b> | <b>PCS1900</b>         |
|------------------------------------|---------------------------|-----------------------------|----------------------------|------------------------|
| Freq. Band[MHz]<br>Uplink/Downlink | 890~915<br>935~960        | 880~915<br>925~960          | 1710~1785<br>1805~1880     | 1850~1910<br>1930~1990 |
| ARFCN range                        | 1~124                     | 0~124 &<br>975~1023         | 512~885                    | 512~810                |
| Tx/Rx spacing                      | 45MHz                     | 45MHz                       | 95MHz                      | 80MHz                  |
| Mod. Bit rate<br>/ Bit Period      | 270.833kbps<br>3.692us    | 270.833kbps<br>3.692us      | 270.833kbps<br>3.692us     | 270.833kbps<br>3.692us |
| Time Slot Period<br>/ Frame Period | 576.9us<br>4.615ms        | 576.9us<br>4.615ms          | 576.9us<br>4.615ms         | 576.9us<br>4.615ms     |
| Modulation                         | 0.3GMSK                   | 0.3GMSK                     | 0.3GMSK                    | 0.3GMSK                |
| MS Power                           | 33dBm~5dBm                | 33dBm~5dBm                  | 30dBm~0dBm                 | 30dBm~0dBm             |
| Power Class                        | 5pcl ~ 19pcl              | 5pcl ~ 19pcl                | 0pcl ~ 15pcl               | 0pcl ~ 15pcl           |
| Sensitivity                        | -102dBm                   | -102dBm                     | -100dBm                    | -100dBm                |
| TDMA Mux                           | 8                         | 8                           | 8                          | 8                      |
| Cell Radius                        | 35Km                      | 35Km                        | 2Km                        | -                      |

## 2-2. GSM TX power class

| TX Power control level | GSM900<br>GSM850 | TX Power control level | DCS1800  | TX Power control level | PCS1900  |
|------------------------|------------------|------------------------|----------|------------------------|----------|
| 5                      | 33±2 dBm         | 0                      | 30±2 dBm | 0                      | 30±2 dBm |
| 6                      | 31±3 dBm         | 1                      | 28±3 dBm | 1                      | 28±3 dBm |
| 7                      | 29±3 dBm         | 2                      | 26±3 dBm | 2                      | 26±3 dBm |
| 8                      | 27±3 dBm         | 3                      | 24±3 dBm | 3                      | 24±3 dBm |
| 9                      | 25±3 dBm         | 4                      | 22±3 dBm | 4                      | 22±3 dBm |
| 10                     | 23±3 dBm         | 5                      | 20±3 dBm | 5                      | 20±3 dBm |
| 11                     | 21±3 dBm         | 6                      | 18±3 dBm | 6                      | 18±3 dBm |
| 12                     | 19±3 dBm         | 7                      | 16±3 dBm | 7                      | 16±3 dBm |
| 13                     | 17±3 dBm         | 8                      | 14±3 dBm | 8                      | 14±3 dBm |
| 14                     | 15±3 dBm         | 9                      | 12±4 dBm | 9                      | 12±4 dBm |
| 15                     | 13±3 dBm         | 10                     | 10±4 dBm | 10                     | 10±4 dBm |
| 16                     | 11±5 dBm         | 11                     | 8±4dBm   | 11                     | 8±4dBm   |
| 17                     | 9±5 dBm          | 12                     | 6±4 dBm  | 12                     | 6±4 dBm  |
| 18                     | 7±5 dBm          | 13                     | 4±4 dBm  | 13                     | 4±4 dBm  |
| 19                     | 5±5 dBm          | 14                     | 2±5 dBm  | 14                     | 2±5 dBm  |
|                        |                  | 15                     | 0±5 dBm  | 15                     | 0±5 dBm  |

## 2-3. GSM EDGE TX power class

| TX Power control level | GSM900<br>GSM850 | TX Power control level | DCS1800      | TX Power control level | PCS1900      |
|------------------------|------------------|------------------------|--------------|------------------------|--------------|
| 8                      | 27±3 dBm         | 2                      | 26 -4/+3 dBm | 2                      | 26 -4/+3 dBm |
| 9                      | 25±3 dBm         | 3                      | 24±3 dBm     | 3                      | 24±3 dBm     |
| 10                     | 23±3 dBm         | 4                      | 22±3 dBm     | 4                      | 22±3 dBm     |
| 11                     | 21±3 dBm         | 5                      | 20±3 dBm     | 5                      | 20±3 dBm     |
| 12                     | 19±3 dBm         | 6                      | 18±3 dBm     | 6                      | 18±3 dBm     |
| 13                     | 17±3 dBm         | 7                      | 16±3 dBm     | 7                      | 16±3 dBm     |
| 14                     | 15±3 dBm         | 8                      | 12±3 dBm     | 8                      | 12±3 dBm     |
| 15                     | 13±3 dBm         | 9                      | 10±3 dBm     | 9                      | 10±3 dBm     |
| 16                     | 11±5 dBm         | 10                     | 14±3 dBm     | 10                     | 14±3 dBm     |
| 17                     | 9±5 dBm          | 11                     | 12±4 dBm     | 11                     | 12±4 dBm     |
| 18                     | 7±5 dBm          | 12                     | 10±4 dBm     | 12                     | 10±4 dBm     |
| 19                     | 5±5 dBm          | 13                     | 8±4dBm       | 13                     | 8±4dBm       |
|                        |                  | 14                     | 6±4 dBm      | 14                     | 6±4 dBm      |
|                        |                  | 15                     | 4±4 dBm      | 15                     | 4±4 dBm      |





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## 3. Operation Instruction and Installation

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### Main Function

- SlimSlide Design Intenna
- 3M AF CMOS Camera
- Bluetooth V.2.0
- Stereo Bluetooth Headset
- Mobile Tracker & SOS Messaging
- Large 2.1" 256K Color TFT Display
- SMS/MMS/E-Mail
- WAP 2.0 / Java MIDP 2.0
- MP3, AAC, MP4, 3GPP Decoding
- Video Recording and Messaging
- GSM/GPRS/EDGE Class 10
- Quard Band(GSM850,900/DCS,PCS)
- TV-oput, FM radio
- Speaker Phone
- Voice Clarity



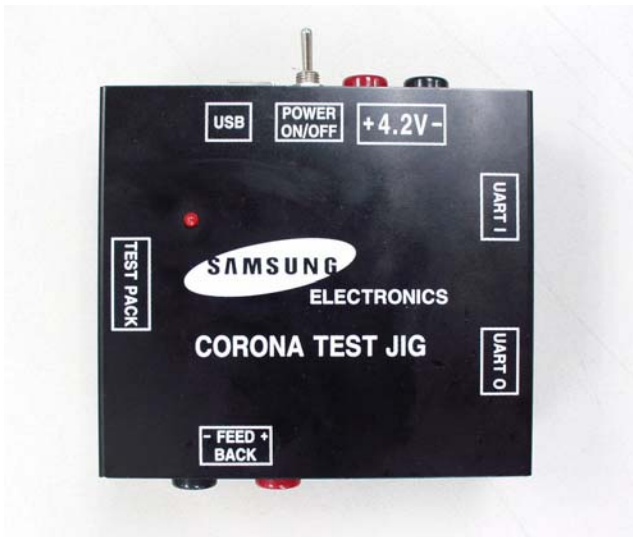
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## 4. Array course control

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### 4-1. Software Adjustments

Test Jig (GH80-03306A)



Test Cable (GH39-00499A)



Serial Cable(CSA LL64151-A)



Power Supply Cable



## 4-2. Software Downloading

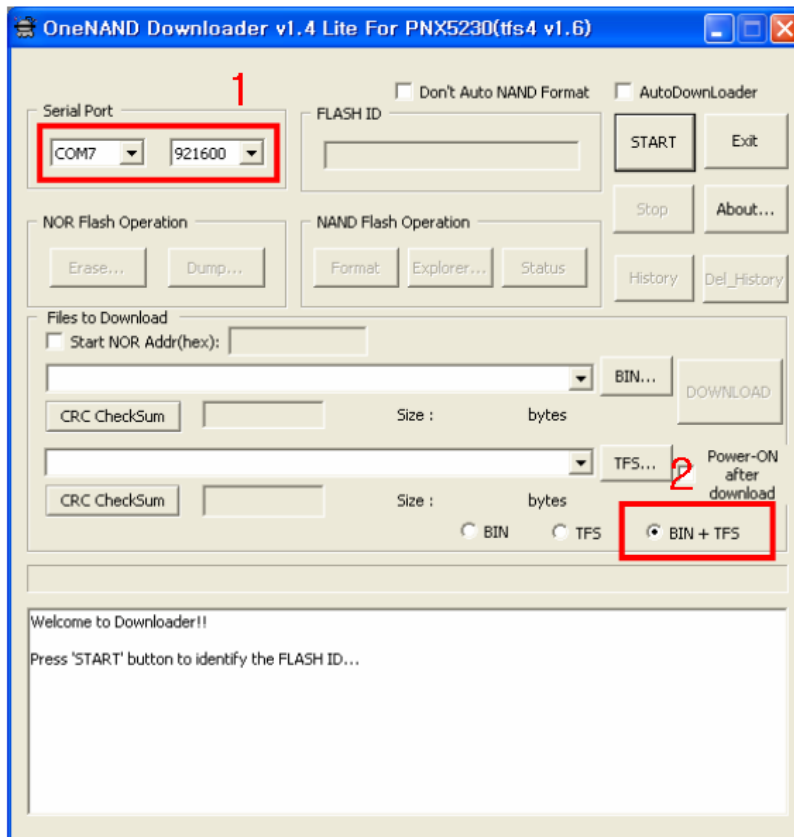
### 4-2-1. Pre-requisite for Downloading

- Downloader Program([OneNAND Downloader V1.4 Lite For PN5230.exe](#))
- E250 Mobile Phone
- Data Cable
- Binary file, TFS file

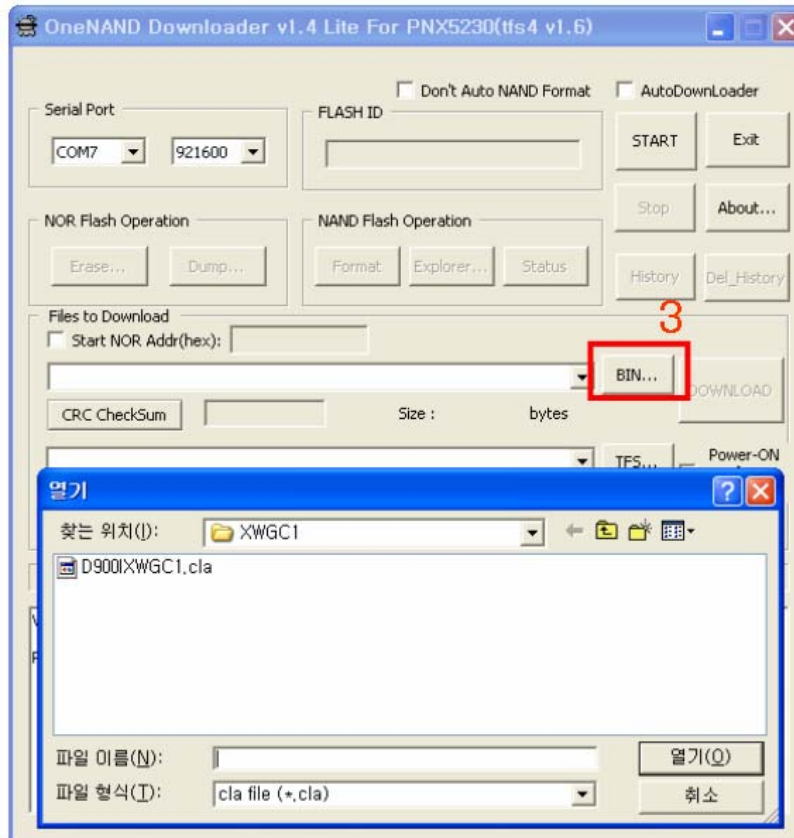
### 4-2-2. S/W Downloader Program

■ Load the binary download program by executing the [“OneNAND Downloader V1.4 Lite For PN5230.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'



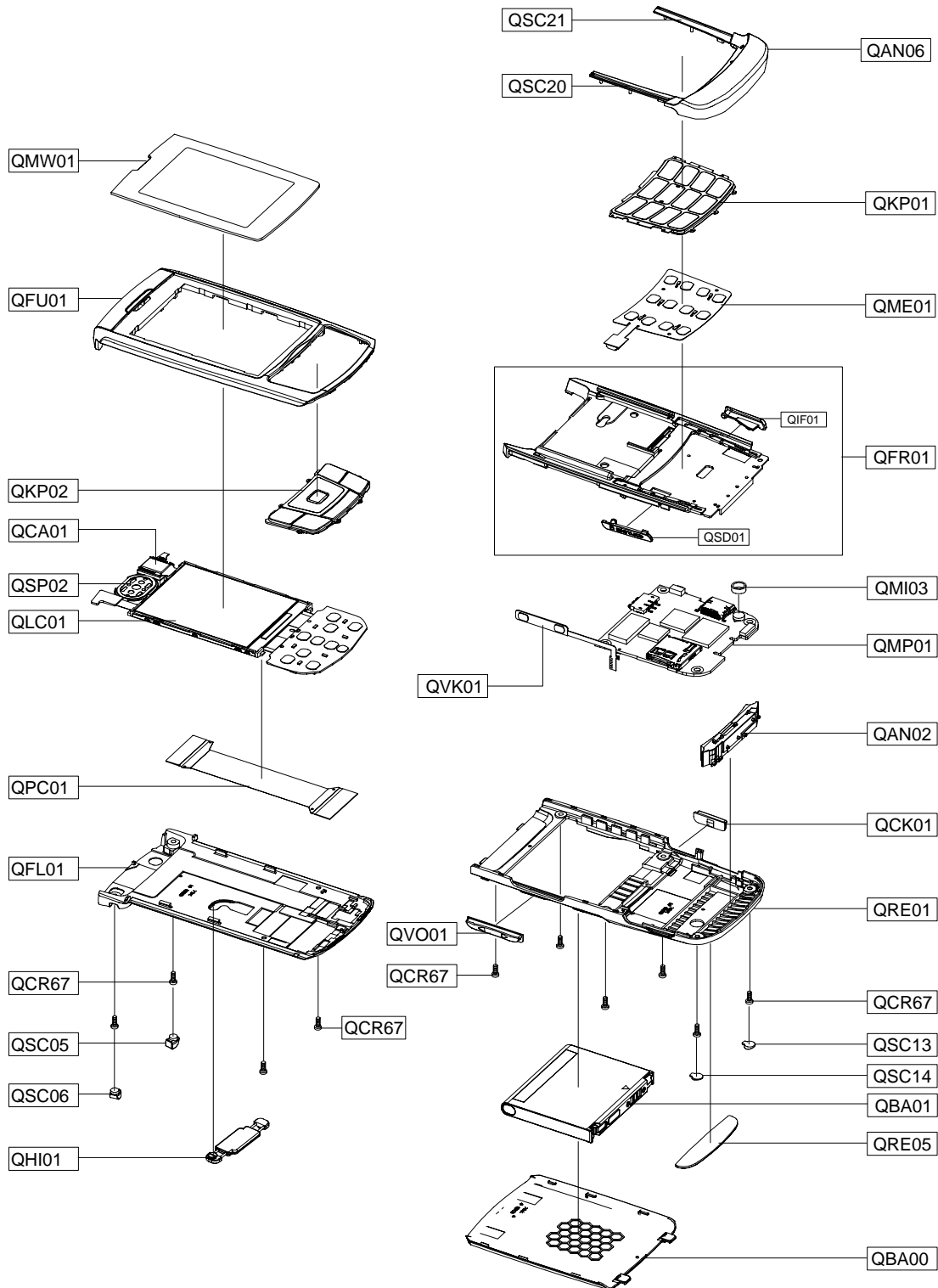
### 3. Select the file(s) what you want to download





# 5. Exploded View/Disassembly&Assembly Instructions

## 5-1. Cellular phone Exploded View



## 5-2. Cellular phone Parts list

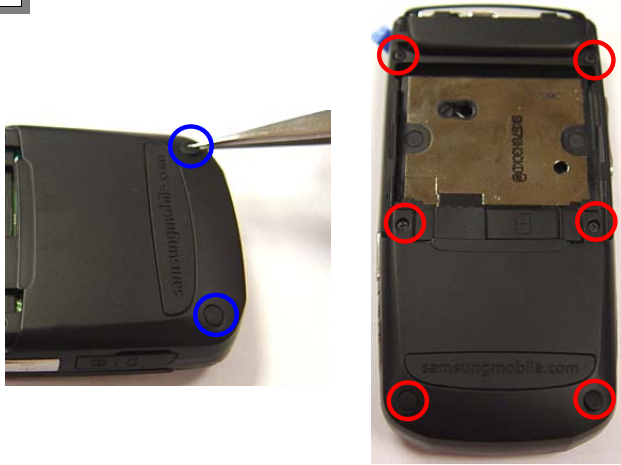

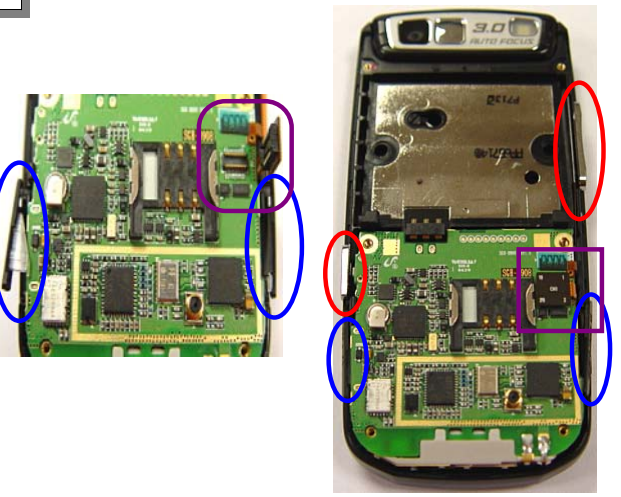
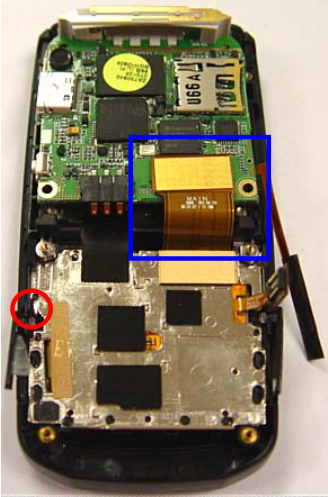
| Design LOC | Description                    | SEC CODE    |
|------------|--------------------------------|-------------|
| QAN02      | ANTENNA-SGHD900I               | GH42-01163A |
| QAN06      | ASSY CASE-ANTENNA              | GH98-02033A |
| QBA00      | ASSY CASE-BATT UPPER           | GH98-02312C |
| QBA01      | INNER BATTERY PACK-800MAH, BLA | GH43-02539A |
| QCA01      | UNIT-CAMERA MODULE             | GH59-04230A |
| QCK01      | PMO-CAMERA KEY                 | GH72-31741A |
| QCR67      | SCREW-MACHINE                  | 6001-002051 |
| QCR67      | SCREW-MACHINE                  | 6001-002083 |
| QCR67      | SCREW-MACHINE                  | 6001-002083 |
| QCR67      | SCREW-MACHINE                  | 6001-002083 |
| QFL01      | ASSY CASE-SLIDE LOWER          | GH98-01211C |
| QFR01      | ASSY CASE-FRONT                | GH98-01212C |
| QFU01      | ASSY CASE-SLIDE UPPER          | GH98-01210C |
| QHI01      | ASSY HINGE-PUSH ROD            | GH98-03808A |
| QIF01      | PMO-COVER IF                   | GH72-31739C |
| QKP01      | ASSY KEYPAD-(SER/XBA)          | GH98-01859C |
| QKP02      | ASSY KEYPAD-SUB(EU/XBA)        | GH98-01215C |
| QLC01      | MEA-LCD MODULE KIT(D900I)      | GH97-07522A |
| QME01      | UNIT-KEY FPCB                  | GH59-04124A |
| QMI03      | RMO-RUBBER MIC HOLDER          | GH73-08321A |
| QMP01      | PBA MAIN-SGHD900I              | GH92-03533A |
| QMW01      | ASSY COVER-MAIN WINDOW         | GH98-01676A |
| QPC01      | MEA-SLIDER FPCB KIT(D900I)     | GH97-07523A |
| QRE01      | ASSY CASE-REAR                 | GH98-01239C |
| QRE05      | PMO-REAR DECO                  | GH72-31740C |
| QSC05      | RMO-COVER SLIDE SCREW L        | GH73-07227C |
| QSC06      | RMO-COVER SLIDE SCREW R        | GH73-07228C |
| QSC13      | RMO-COVER REAR SCREW           | GH73-07232C |
| QSC14      | RMO-COVER REAR SCREW R         | GH73-07743C |
| QSC20      | PMO-FRONT DAMPER L             | GH72-31668C |
| QSC21      | PMO-FRONT DAMPER R             | GH72-31670C |
| QSD01      | PMO-COVER SD                   | GH72-31738C |
| QSP02      | UNIT-SPEAKER MODULE            | GH59-03347A |
| QVK01      | UNIT-VOLUME KEY                | GH59-03265A |
| QVO01      | PMO-VOLUME KEY                 | GH72-31742A |

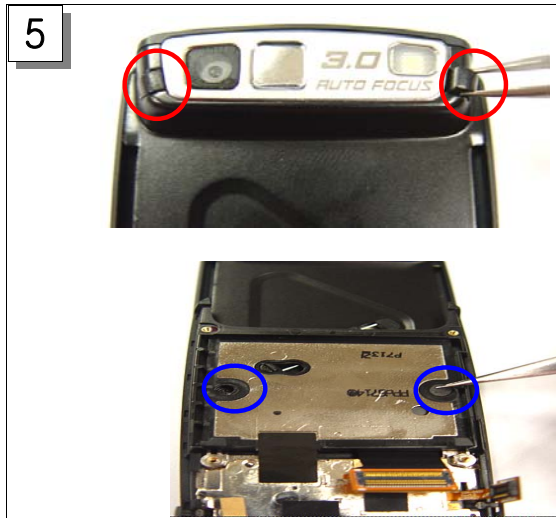


| Description                   | SEC CODE    |
|-------------------------------|-------------|
| CBF INTERFACE-DATA LINK CABLE | GH39-00444A |
| ADAPTOR-SGHE690,BLK,EU,A_TYPE | GH44-01361A |
| MPR-TAPE SIDE KEY             | GH74-25679A |
| LABEL(R)-WATER SOAK           | GH68-09361A |
| AS-DOME SHEET SVC             | GH81-05846A |
| MPR-BOHO VINYL LCD CONN       | GH74-15350A |
| MPR-INSU TAPE                 | GH74-16483A |
| MPR-BOHO VINYL LCD            | GH74-19127A |
| MPR-INSU TAPE                 | GH74-25670A |
| MPR-INSU TAPE                 | GH74-25677A |
| MPR-SPONGE CAMERA FPCB        | GH74-25687A |
| MPR-TAPE SLIDE FPCB           | GH74-25688A |
| MPR-TAPE LCD ESD              | GH74-26151A |
| MPR-TAPE LCD FPCB ESD         | GH74-26186A |
| MPR-SPONGE FRONT              | GH74-26581A |
| MPR-VINYL BOHO WINDOW         | GH74-26582A |
| MPR-TAPE WINDOW MAIN          | GH74-25307A |
| MPR-SPONGE CAMERA KEY         | GH74-25689A |
| MPR-SPONGE CAMERA KEY         | GH74-25689A |
| MPR-TAPE MASKING J TAG        | GH74-14051A |
| S/W CD-SGHD900I PC LINK CD    | GH46-00406A |
| MANUAL-SFC                    | GH68-04336A |
| MANUAL USERS-EU RUSSIAN       | GH68-14238A |
| BAG PE                        | 6902-000634 |
| CUSHION-CASE(EU-TA2)          | GH69-04708A |
| LABEL(R)-MAIN(SER)            | GH68-14312B |
| BOX(P)-UNIT(SER)              | GH69-05179B |
| UNIT-20P,EARPHONE,BLK,B-TYPE  | GH59-04029A |
| MPR-VINYL BOHO MAIN WINDOW V2 | GH74-26156A |

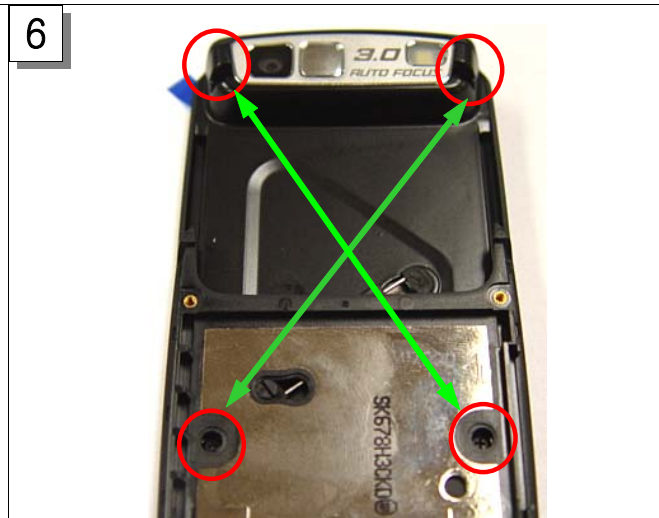
### 5-3. Disassembly and Assembly Instructions

#### 5-3-1. Disassembly

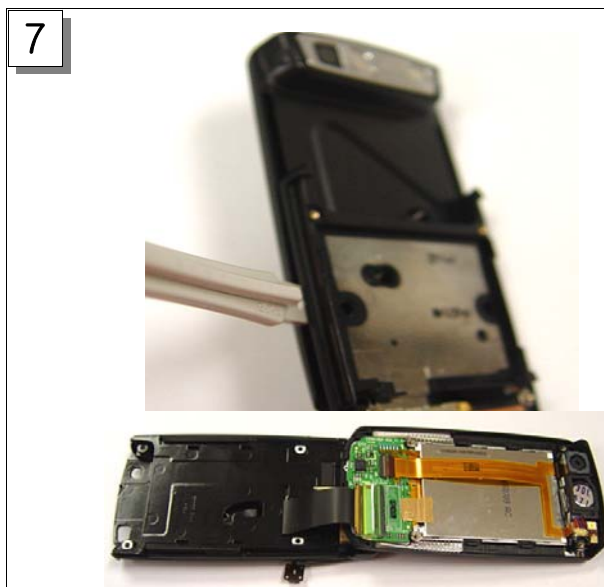
|   |   |
|---|---|
| <p>1</p>           | <p>2</p>    |
| <p>1. Remove 2 screw caps.<br/>2. Loosen a screw this six point form Rear.</p>                      | <p>1. Make the space between rear cover and front cover using assembly stick.<br/>2. And then widen space with hand and separate 2 parts.</p> |
| <p>3</p>         | <p>4</p>    |
| <p>1. Remove 2 keys. (Red)<br/>2. Open 2 covers. (Blue)<br/>3. Open the Key connector. (Violet)</p> | <p>1. Upside down the main PBA with moving slide. Be careful the hook. (Red)<br/>2. Open the LCD connector. (Blue)</p>                        |



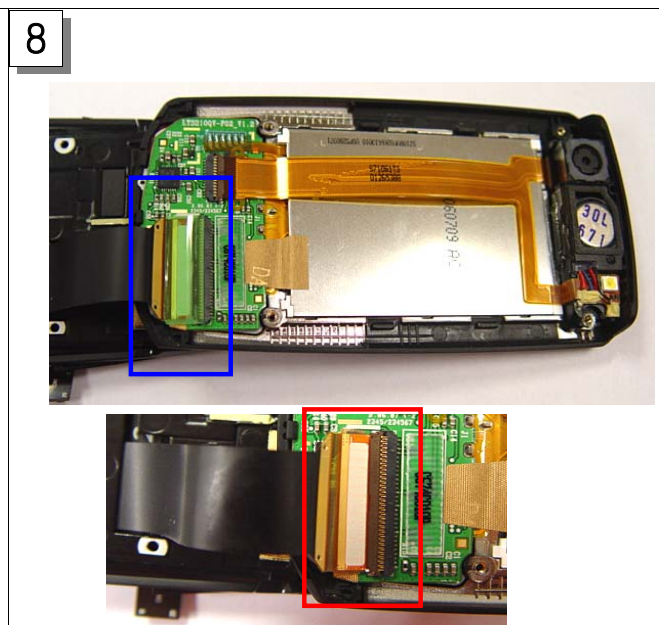
1. Open the slide. (Slide up)
2. Remove the 4 screw caps with pinset.



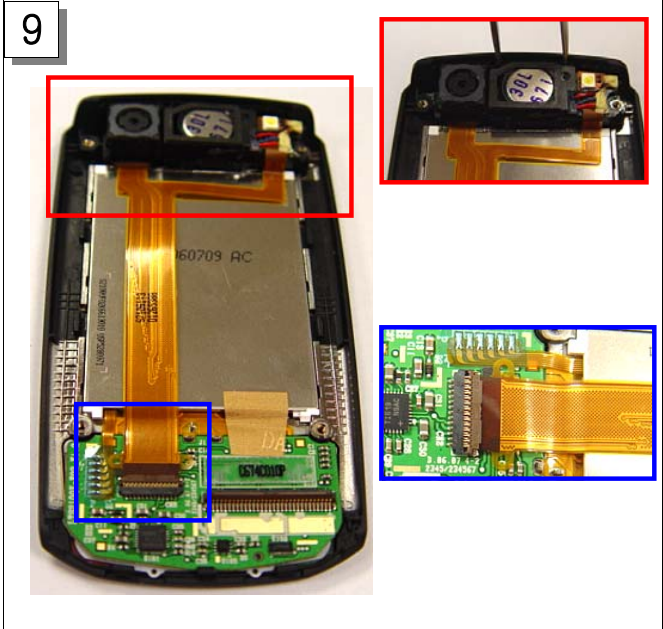
1. Loosen a screw 4 point form Lower.



1. Make the space between slide upper and slide lower using assembly stick.
2. And then widen space with hand and separate 2 parts.



1. Remove the insulation tape.
2. And separate LCD connector from sub-PBA.



9



1. Separate Camera connector from sub-PBA and speaker module and camera from slide upper.

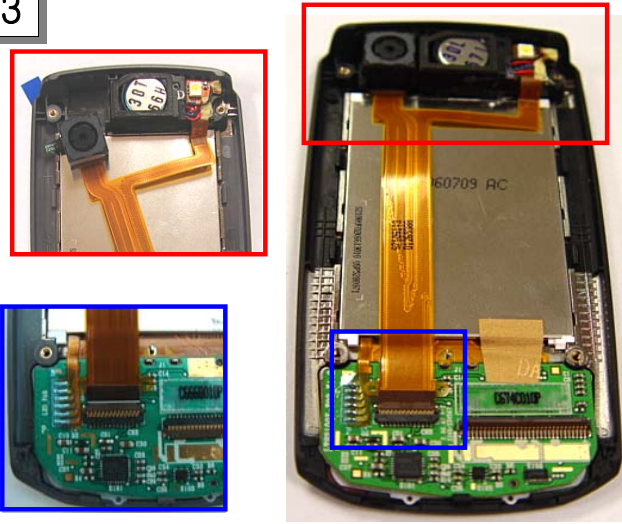
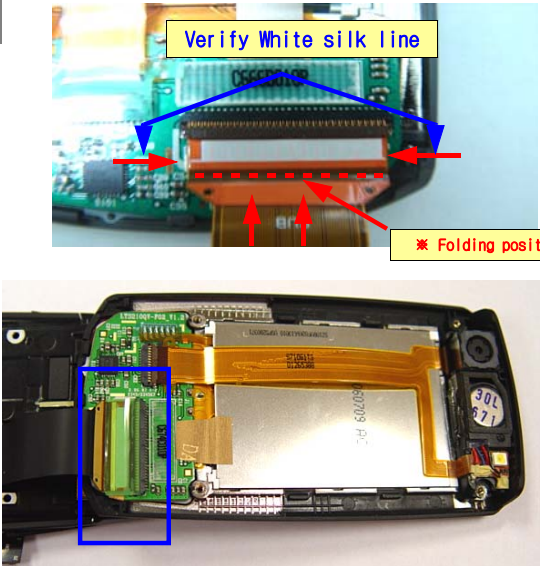


10

1. Separate sub-PBA from slide upper. And then caution the hook.  
2. Separate LCD module from slide upper using 4 white points.

### 5-3-2. Assembly

|  |   |
|--|---|
| <p>1</p>  | <p>2</p>          |
| <p>1. Prepare the slide upper and LCD module.</p>  | <p>1. At first attach LCD to main window and put the sub PBA considering sub hook(blue circle).</p> |

|   |   |
|---|---|
| <p>3</p>   | <p>4</p>                            |
| <p>1. At first put the speaker and motor module.<br/>2. And put the camera at slide upper. (Red)<br/>3. And combined camera connector to sub-PBA. (Blue)<br/>4. And put insulation tape on connector.</p> | <p>1. At first combined LCD connector to sub-PBA according to picture.<br/>2. And put insulation tape on connector.</p> |

**5**

1. Combined slide upper and lower from top side after slide up.  
2. And push the edge side for locking.

**6**

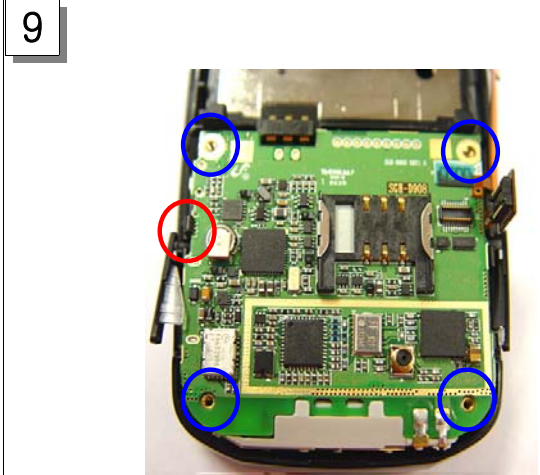
1. Fasten a screw at 4 points with driver after slide up.  
2. Caution screw size.

**7**

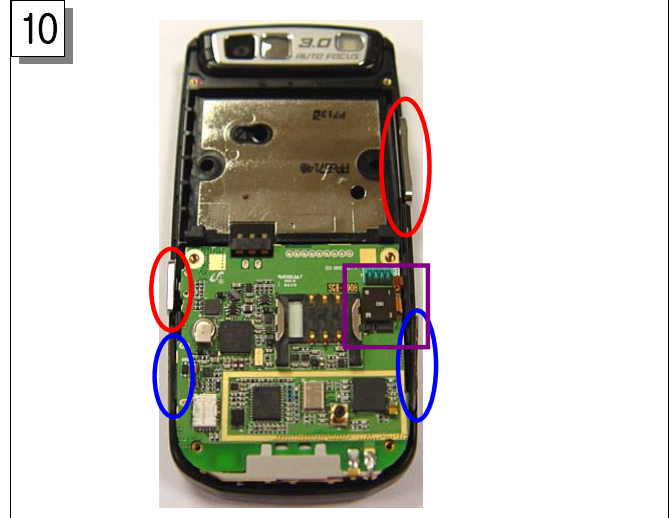
1. Put the 2 kind of screw caps on screw hole.

**8**

1. Put the main-PBA on front cover.  
2. Combined LCD connector to main-PBA.



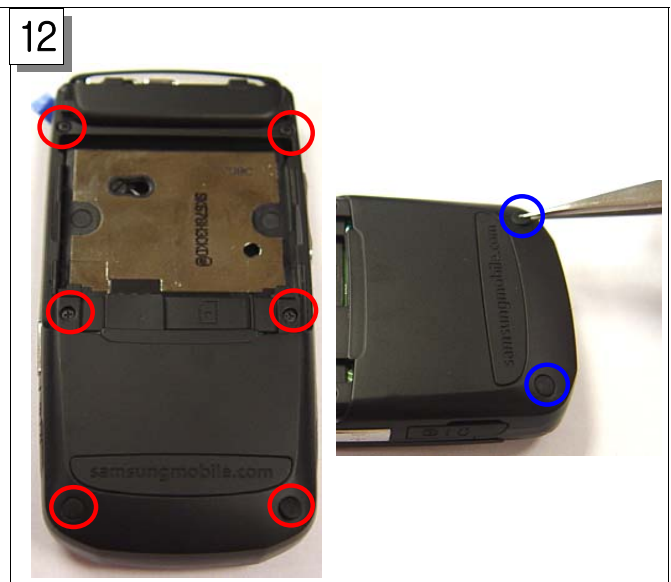
1. Put the main-PBA on 4 screw hole. (Blue)
2. Locking the one hook. (Rec)



1. Combined Key connector and put side key and camera key.(Violet, Red)
2. Close the cover. (Blue)



1. Put rear cover on Assay and lock.
2. Be careful losing key.



1. Fasten a screw at 6 points with driver.
2. Put the screw cap on below hole with pinset





## 6. Electrical Parts List

| Design LOC | Description     | SEC CODE    | STATUS |
|------------|-----------------|-------------|--------|
| ANT700     | ANTENNA-CHIP    | 4202-001301 | SA     |
| BAT400     | BATTERY-LI(2ND) | 4302-001181 | SA     |
| C100       | C-CER,CHIP      | 2203-005054 | SA     |
| C101       | C-CER,CHIP      | 2203-005054 | SA     |
| C102       | C-CER,CHIP      | 2203-000233 | SA     |
| C103       | C-CER,CHIP      | 2203-000233 | SA     |
| C104       | C-CER,CHIP      | 2203-005288 | SA     |
| C105       | C-CER,CHIP      | 2203-005288 | SA     |
| C106       | C-CER,CHIP      | 2203-000628 | SA     |
| C107       | C-CER,CHIP      | 2203-006562 | SA     |
| C108       | C-CER,CHIP      | 2203-000233 | SA     |
| C109       | C-CER,CHIP      | 2203-005050 | SA     |
| C110       | C-CER,CHIP      | 2203-005050 | SA     |
| C111       | C-CER,CHIP      | 2203-000278 | SA     |
| C112       | C-CER,CHIP      | 2203-005288 | SA     |
| C113       | C-CER,CHIP      | 2203-005052 | SA     |
| C114       | C-CER,CHIP      | 2203-005382 | SA     |
| C116       | C-CER,CHIP      | 2203-000278 | SA     |
| C117       | C-CER,CHIP      | 2203-000233 | SA     |
| C118       | C-CER,CHIP      | 2203-000812 | SA     |
| C119       | C-CER,CHIP      | 2203-006048 | SA     |
| C120       | C-CER,CHIP      | 2203-000714 | SA     |
| C121       | C-CER,CHIP      | 2203-005061 | SA     |
| C122       | C-CER,CHIP      | 2203-005061 | SA     |
| C124       | C-CER,CHIP      | 2203-000438 | SA     |
| C125       | C-CER,CHIP      | 2203-000233 | SA     |
| C126       | C-CER,CHIP      | 2203-005288 | SA     |
| C200       | C-CER,CHIP      | 2203-005482 | SA     |
| C201       | C-CER,CHIP      | 2203-000812 | SA     |
| C202       | C-CER,CHIP      | 2203-005482 | SA     |
| C203       | C-CER,CHIP      | 2203-005482 | SA     |
| C204       | C-CER,CHIP      | 2203-005482 | SA     |
| C205       | C-CER,CHIP      | 2203-005482 | SA     |
| C206       | C-CER,CHIP      | 2203-005482 | SA     |
| C207       | C-CER,CHIP      | 2203-005482 | SA     |
| C208       | C-CER,CHIP      | 2203-005482 | SA     |
| C209       | C-CER,CHIP      | 2203-005482 | SA     |
| C210       | C-CER,CHIP      | 2203-000254 | SA     |
| C211       | C-CER,CHIP      | 2203-005482 | SA     |
| C212       | C-CER,CHIP      | 2203-000812 | SA     |
| C213       | C-CER,CHIP      | 2203-005482 | SA     |
| C214       | C-CER,CHIP      | 2203-006562 | SA     |
| C216       | C-CER,CHIP      | 2203-006562 | SA     |
| C217       | C-CER,CHIP      | 2203-000425 | SA     |
| C218       | C-CER,CHIP      | 2203-000425 | SA     |
| C300       | C-CER,CHIP      | 2203-006399 | SA     |
| C301       | C-CER,CHIP      | 2203-006423 | SA     |
| C302       | C-CER,CHIP      | 2203-006423 | SA     |
| C303       | C-CER,CHIP      | 2203-006399 | SA     |
| C304       | C-CER,CHIP      | 2203-006562 | SA     |
| C305       | C-CER,CHIP      | 2203-005482 | SA     |
| C306       | C-CER,CHIP      | 2203-006562 | SA     |
| C307       | C-CER,CHIP      | 2203-005482 | SA     |
| C308       | C-CER,CHIP      | 2203-005482 | SA     |
| C309       | C-CER,CHIP      | 2203-006562 | SA     |
| C310       | C-CER,CHIP      | 2203-006562 | SA     |

## Electrical Parts List

| Design LOC | Description | SEC CODE    | STATUS |
|------------|-------------|-------------|--------|
| C311       | C-CER,CHIP  | 2203-005482 | SA     |
| C312       | C-CER,CHIP  | 2203-005482 | SA     |
| C313       | C-CER,CHIP  | 2203-005482 | SA     |
| C314       | C-CER,CHIP  | 2203-000425 | SA     |
| C315       | C-CER,CHIP  | 2203-000425 | SA     |
| C316       | C-CER,CHIP  | 2203-006562 | SA     |
| C317       | C-CER,CHIP  | 2203-006562 | SA     |
| C322       | C-CER,CHIP  | 2203-006562 | SA     |
| C400       | C-CER,CHIP  | 2203-006257 | SA     |
| C401       | C-CER,CHIP  | 2203-006201 | SA     |
| C402       | C-CER,CHIP  | 2203-006562 | SA     |
| C403       | C-CER,CHIP  | 2203-006257 | SA     |
| C404       | C-CER,CHIP  | 2203-006208 | SA     |
| C405       | C-CER,CHIP  | 2203-006257 | SA     |
| C406       | C-CER,CHIP  | 2203-006257 | SA     |
| C407       | C-CER,CHIP  | 2203-006208 | SA     |
| C408       | C-CER,CHIP  | 2203-006562 | SA     |
| C409       | C-CER,CHIP  | 2203-006562 | SA     |
| C410       | C-CER,CHIP  | 2203-006257 | SA     |
| C411       | C-CER,CHIP  | 2203-006208 | SA     |
| C412       | C-CER,CHIP  | 2203-006257 | SA     |
| C413       | C-CER,CHIP  | 2203-000233 | SA     |
| C414       | C-CER,CHIP  | 2203-000386 | SA     |
| C415       | C-CER,CHIP  | 2203-000425 | SA     |
| C416       | C-CER,CHIP  | 2203-006348 | SA     |
| C417       | C-CER,CHIP  | 2203-006562 | SA     |
| C418       | C-CER,CHIP  | 2203-006324 | SA     |
| C419       | C-CER,CHIP  | 2203-006257 | SA     |
| C420       | C-CER,CHIP  | 2203-000254 | SA     |
| C421       | C-CER,CHIP  | 2203-005482 | SA     |
| C422       | C-CER,CHIP  | 2203-006423 | SA     |
| C423       | C-CER,CHIP  | 2203-006423 | SA     |
| C424       | C-CER,CHIP  | 2203-006208 | SA     |
| C427       | C-CER,CHIP  | 2203-006423 | SA     |
| C428       | C-CER,CHIP  | 2203-000679 | SA     |
| C429       | C-CER,CHIP  | 2203-000995 | SA     |
| C430       | C-CER,CHIP  | 2203-006361 | SA     |
| C431       | C-CER,CHIP  | 2203-000233 | SA     |
| C432       | C-CER,CHIP  | 2203-006474 | SA     |
| C501       | C-CER,CHIP  | 2203-000425 | SA     |
| C502       | C-CER,CHIP  | 2203-001437 | SA     |
| C503       | C-CER,CHIP  | 2203-001259 | SA     |
| C504       | C-CER,CHIP  | 2203-000995 | SA     |
| C505       | C-CER,CHIP  | 2203-001437 | SA     |
| C506       | C-CER,CHIP  | 2203-000425 | SA     |
| C507       | C-CER,CHIP  | 2203-000812 | SA     |
| C509       | C-CER,CHIP  | 2203-000254 | SA     |
| C510       | C-CER,CHIP  | 2203-006562 | SA     |
| C511       | C-CER,CHIP  | 2203-006399 | SA     |
| C512       | C-CER,CHIP  | 2203-005482 | SA     |
| C513       | C-CER,CHIP  | 2203-006399 | SA     |
| C514       | C-CER,CHIP  | 2203-000425 | SA     |
| C600       | C-CER,CHIP  | 2203-005482 | SA     |
| C601       | C-CER,CHIP  | 2203-000995 | SA     |
| C602       | C-CER,CHIP  | 2203-005050 | SA     |
| C603       | C-CER,CHIP  | 2203-005482 | SA     |

| Design LOC | Description  | SEC CODE    | STATUS |
|------------|--------------|-------------|--------|
| C604       | C-CER,CHIP   | 2203-000995 | SA     |
| C605       | C-CER,CHIP   | 2203-006423 | SA     |
| C606       | C-CER,CHIP   | 2203-000311 | SA     |
| C607       | C-CER,CHIP   | 2203-005061 | SA     |
| C700       | C-CER,CHIP   | 2203-006838 | SA     |
| C701       | C-CER,CHIP   | 2203-006838 | SA     |
| C702       | C-CER,CHIP   | 2203-006423 | SA     |
| C703       | C-CER,CHIP   | 2203-006423 | SA     |
| C704       | C-CER,CHIP   | 2203-005055 | SA     |
| C705       | INDUCTOR-SMD | 2703-002367 | SA     |
| C706       | C-CER,CHIP   | 2203-006838 | SA     |
| C707       | C-CER,CHIP   | 2203-006423 | SA     |
| C708       | C-CER,CHIP   | 2203-000278 | SA     |
| C709       | C-CER,CHIP   | 2203-006562 | SA     |
| C710       | C-CER,CHIP   | 2203-006842 | SA     |
| C711       | C-CER,CHIP   | 2203-005682 | SA     |
| C712       | C-CER,CHIP   | 2203-000812 | SA     |
| C713       | C-CER,CHIP   | 2203-005682 | SA     |
| C714       | C-CER,CHIP   | 2203-005682 | SA     |
| C715       | C-CER,CHIP   | 2203-005682 | SA     |
| C716       | C-CER,CHIP   | 2203-005682 | SA     |
| C717       | C-CER,CHIP   | 2203-005682 | SA     |
| C718       | C-CER,CHIP   | 2203-005682 | SA     |
| C719       | C-CER,CHIP   | 2203-005682 | SA     |
| C720       | C-CER,CHIP   | 2203-005682 | SA     |
| C721       | C-CER,CHIP   | 2203-005682 | SA     |
| C722       | C-CER,CHIP   | 2203-006562 | SA     |
| C725       | C-CER,CHIP   | 2203-005682 | SA     |
| C726       | C-CER,CHIP   | 2203-005682 | SA     |
| C727       | C-CER,CHIP   | 2203-005682 | SA     |
| C728       | C-CER,CHIP   | 2203-006562 | SA     |
| C729       | C-CER,CHIP   | 2203-005682 | SA     |
| C730       | C-CER,CHIP   | 2203-000812 | SA     |
| C731       | C-CER,CHIP   | 2203-005682 | SA     |
| C732       | C-CER,CHIP   | 2203-005682 | SA     |
| C733       | C-CER,CHIP   | 2203-005682 | SA     |
| C734       | C-CER,CHIP   | 2203-000812 | SA     |
| C735       | C-CER,CHIP   | 2203-000812 | SA     |
| C736       | C-CER,CHIP   | 2203-005682 | SA     |
| C737       | C-CER,CHIP   | 2203-005682 | SA     |
| C738       | C-CER,CHIP   | 2203-005682 | SA     |
| C739       | C-CER,CHIP   | 2203-005682 | SA     |
| C740       | C-CER,CHIP   | 2203-005682 | SA     |
| C741       | C-CER,CHIP   | 2203-005682 | SA     |
| C742       | C-CER,CHIP   | 2203-005682 | SA     |
| C743       | C-CER,CHIP   | 2203-005682 | SA     |
| C744       | C-CER,CHIP   | 2203-005682 | SA     |
| C745       | C-CER,CHIP   | 2203-006423 | SA     |
| C746       | C-CER,CHIP   | 2203-005682 | SA     |
| C749       | C-CER,CHIP   | 2203-000438 | SA     |
| C803       | C-CER,CHIP   | 2203-006562 | SA     |
| C804       | C-CER,CHIP   | 2203-006562 | SA     |
| C805       | C-CER,CHIP   | 2203-005482 | SA     |
| C806       | C-CER,CHIP   | 2203-006260 | SA     |
| C807       | C-CER,CHIP   | 2203-000812 | SA     |
| C808       | C-CER,CHIP   | 2203-006260 | SA     |

## Electrical Parts List

| Design LOC | Description           | SEC CODE    | STATUS |
|------------|-----------------------|-------------|--------|
| C809       | C-CER,CHIP            | 2203-005482 | SA     |
| C810       | C-CER,CHIP            | 2203-000812 | SA     |
| C811       | C-CER,CHIP            | 2203-001432 | SA     |
| C813       | C-CER,CHIP            | 2203-005482 | SA     |
| C814       | C-CER,CHIP            | 2203-001432 | SA     |
| C815       | C-CER,CHIP            | 2203-006562 | SA     |
| C816       | C-CER,CHIP            | 2203-006562 | SA     |
| C817       | C-CER,CHIP            | 2203-006399 | SA     |
| C818       | C-CER,CHIP            | 2203-006399 | SA     |
| C819       | C-CER,CHIP            | 2203-006562 | SA     |
| C820       | C-CER,CHIP            | 2203-005482 | SA     |
| C821       | C-CER,CHIP            | 2203-006562 | SA     |
| C822       | C-CER,CHIP            | 2203-006562 | SA     |
| C823       | C-CER,CHIP            | 2203-005482 | SA     |
| C824       | C-CER,CHIP            | 2203-005482 | SA     |
| C825       | C-CER,CHIP            | 2203-006562 | SA     |
| C828       | C-CER,CHIP            | 2203-006562 | SA     |
| C829       | C-CER,CHIP            | 2203-006562 | SA     |
| CD502      | CONNECTOR-CARD EDGE   | 3709-001344 | SA     |
| CN500      | SOCKET-INTERFACE      | 3710-002465 | SA     |
| CN501      | CONNECTOR-CARD EDGE   | 3709-001400 | SA     |
| CN600      | HEADER-BATTERY        | 3711-006108 | SA     |
| CN700      | HEADER-BOARD TO BOARD | 3711-005456 | SA     |
| CN701      | HEADER-BOARD TO BOARD | 3711-005933 | SA     |
| D500       | DIODE-TVS             | 0406-001231 | SA     |
| D501       | DIODE-TVS             | 0406-001231 | SA     |
| D502       | DIODE-TVS             | 0406-001231 | SA     |
| D504       | DIODE-TVS             | 0406-001200 | SA     |
| D505       | DIODE-TVS             | 0406-001203 | SA     |
| D600       | DIODE-TVS             | 0406-001223 | SA     |
| D601       | DIODE-TVS             | 0406-001223 | SA     |
| D700       | DIODE-TVS             | 0406-001231 | SA     |
| D701       | DIODE-TVS             | 0406-001231 | SA     |
| D702       | DIODE-TVS             | 0406-001231 | SA     |
| D703       | DIODE-TVS             | 0406-001231 | SA     |
| D704       | DIODE-TVS             | 0406-001231 | SA     |
| D705       | DIODE-TVS             | 0406-001208 | SA     |
| D706       | DIODE-TVS             | 0406-001208 | SA     |
| DUF700     | FILTER-LC             | 2909-001279 | SA     |
| F100       | DUPLEXER-FEM          | 2911-000076 | SA     |
| F500       | FILTER-EMI/ESD        | 2901-001376 | SA     |
| F501       | FILTER-EMI SMD        | 2901-001315 | SA     |
| L100       | INDUCTOR-SMD          | 2703-002314 | SA     |
| L101       | INDUCTOR-SMD          | 2703-002203 | SA     |
| L102       | C-CER,CHIP            | 2203-001385 | SA     |
| L103       | INDUCTOR-SMD          | 2703-002558 | SA     |
| L104       | C-CER,CHIP            | 2203-001385 | SA     |
| L105       | INDUCTOR-SMD          | 2703-002558 | SA     |
| L106       | INDUCTOR-SMD          | 2703-002608 | SA     |
| L107       | INDUCTOR-SMD          | 2703-001751 | SA     |
| L108       | INDUCTOR-SMD          | 2703-002608 | SA     |
| L201       | BEAD-SMD              | 3301-001789 | SA     |
| L400       | INDUCTOR-SMD          | 2703-002910 | SA     |
| L401       | INDUCTOR-SMD          | 2703-001673 | SA     |
| L402       | INDUCTOR-SMD          | 2703-002829 | SA     |
| L403       | BEAD-SMD              | 3301-001120 | SA     |

| Design LOC | Description   | SEC CODE    | STATUS |
|------------|---------------|-------------|--------|
| L500       | INDUCTOR-SMD  | 2703-001231 | SNA    |
| L600       | BEAD-SMD      | 3301-001438 | SA     |
| L601       | BEAD-SMD      | 3301-001438 | SA     |
| L602       | BEAD-SMD      | 3301-001438 | SA     |
| L603       | BEAD-SMD      | 3301-001438 | SA     |
| L701       | BEAD-SMD      | 3301-001534 | SA     |
| L702       | BEAD-SMD      | 3301-001659 | SA     |
| L800       | BEAD-SMD      | 3301-001729 | SA     |
| L801       | BEAD-SMD      | 3301-001812 | SA     |
| L802       | BEAD-SMD      | 3301-001812 | SA     |
| L803       | BEAD-SMD      | 3301-001729 | SA     |
| MIC600     | MIC-CONDENSOR | 3003-001107 | SA     |
| OSC100     | CRYSTAL-SMD   | 2801-004426 | SA     |
| OSC300     | CRYSTAL-SMD   | 2801-004285 | SA     |
| OSC400     | CRYSTAL-SMD   | 2801-003856 | SA     |
| PAM100     | IC-POWER AMP  | 1201-002460 | SA     |
| R100       | R-CHIP        | 2007-000140 | SA     |
| R101       | R-CHIP        | 2007-001313 | SA     |
| R102       | R-CHIP        | 2007-000143 | SA     |
| R200       | R-CHIP        | 2007-000148 | SA     |
| R201       | R-CHIP        | 2007-000758 | SA     |
| R204       | R-CHIP        | 2007-000171 | SA     |
| R206       | R-CHIP        | 2007-000758 | SA     |
| R207       | R-CHIP        | 2007-000140 | SA     |
| R208       | R-CHIP        | 2007-000148 | SA     |
| R209       | R-CHIP        | 2007-001319 | SA     |
| R210       | R-CHIP        | 2007-001319 | SA     |
| R211       | R-CHIP        | 2007-001319 | SA     |
| R212       | R-CHIP        | 2007-001319 | SA     |
| R213       | R-CHIP        | 2007-000148 | SA     |
| R307       | R-CHIP        | 2007-000162 | SA     |
| R308       | R-CHIP        | 2007-000162 | SA     |
| R309       | R-CHIP        | 2007-000162 | SA     |
| R311       | R-CHIP        | 2007-000170 | SA     |
| R312       | R-CHIP        | 2007-000143 | SA     |
| R314       | R-CHIP        | 2007-008055 | SA     |
| R315       | R-CHIP        | 2007-000162 | SA     |
| R317       | R-CHIP        | 2007-008588 | SA     |
| R318       | R-CHIP        | 2007-008588 | SA     |
| R319       | R-CHIP        | 2007-008055 | SA     |
| R323       | R-CHIP        | 2007-007009 | SA     |
| R324       | R-CHIP        | 2007-001306 | SA     |
| R400       | R-CHIP        | 2007-007573 | SA     |
| R401       | R-CHIP        | 2007-000162 | SA     |
| R402       | R-CHIP        | 2007-008354 | SA     |
| R403       | R-CHIP        | 2007-000171 | SA     |
| R404       | R-CHIP        | 2007-007100 | SA     |
| R405       | R-CHIP        | 2007-000162 | SA     |
| R406       | R-CHIP        | 2007-009154 | SNA    |
| R407       | R-CHIP        | 2007-007311 | SA     |
| R409       | R-CHIP        | 2007-000148 | SA     |
| R410       | R-CHIP        | 2007-000141 | SA     |
| R411       | R-CHIP        | 2007-000162 | SA     |
| R412       | R-CHIP        | 2007-002796 | SA     |
| R413       | R-CHIP        | 2007-009112 | SNA    |
| R414       | R-CHIP        | 2007-000758 | SA     |

## Electrical Parts List

| Design LOC | Description       | SEC CODE    | STATUS |
|------------|-------------------|-------------|--------|
| R500       | R-CHIP            | 2007-001333 | SA     |
| R501       | R-CHIP            | 2007-001339 | SA     |
| R503       | R-CHIP            | 2007-001333 | SA     |
| R505       | R-CHIP            | 2007-007142 | SA     |
| R506       | R-CHIP            | 2007-007334 | SA     |
| R507       | R-CHIP            | 2007-000162 | SA     |
| R508       | R-CHIP            | 2007-001333 | SA     |
| R509       | R-CHIP            | 2007-001333 | SA     |
| R511       | R-CHIP            | 2007-000140 | SA     |
| R512       | R-CHIP            | 2007-000162 | SA     |
| R513       | R-CHIP            | 2007-000162 | SA     |
| R514       | R-CHIP            | 2007-000159 | SA     |
| R515       | R-CHIP            | 2007-000162 | SA     |
| R516       | R-CHIP            | 2007-000170 | SA     |
| R517       | R-CHIP            | 2007-000170 | SA     |
| R518       | R-CHIP            | 2007-000166 | SA     |
| R600       | R-CHIP            | 2007-007318 | SA     |
| R601       | R-CHIP            | 2007-007528 | SA     |
| R602       | R-CHIP            | 2007-000148 | SA     |
| R603       | R-CHIP            | 2007-007528 | SA     |
| R604       | R-CHIP            | 2007-007318 | SA     |
| R605       | R-CHIP            | 2007-002796 | SA     |
| R606       | R-CHIP            | 2007-007107 | SA     |
| R609       | R-CHIP            | 2007-008516 | SA     |
| R610       | R-CHIP            | 2007-008800 | SA     |
| R700       | R-CHIP            | 2007-008055 | SA     |
| R702       | R-CHIP            | 2007-008055 | SA     |
| R703       | R-CHIP            | 2007-007489 | SA     |
| R704       | R-CHIP            | 2007-008516 | SA     |
| R705       | R-CHIP            | 2007-008516 | SA     |
| R706       | R-CHIP            | 2007-000157 | SA     |
| R707       | R-CHIP            | 2007-000162 | SA     |
| R708       | R-CHIP            | 2007-000162 | SA     |
| R711       | R-CHIP            | 2007-000171 | SA     |
| R801       | R-CHIP            | 2007-000162 | SA     |
| R803       | R-CHIP            | 2007-000171 | SA     |
| R804       | R-CHIP            | 2007-000171 | SA     |
| R806       | R-CHIP            | 2007-000157 | SA     |
| R807       | R-CHIP            | 2007-008516 | SA     |
| R809       | R-CHIP            | 2007-008045 | SA     |
| R810       | R-CHIP            | 2007-008045 | SA     |
| R811       | R-CHIP            | 2007-001301 | SA     |
| R812       | R-CHIP            | 2007-001301 | SA     |
| RFS100     | CONNECTOR-COAXIAL | 3705-001358 | SA     |
| TA100      | C-TA,CHIP         | 2404-001496 | SA     |
| TA300      | C-TA,CHIP         | 2404-001225 | SA     |
| TA400      | C-TA,CHIP         | 2404-001381 | SA     |
| TA401      | C-TA,CHIP         | 2404-001225 | SA     |
| TA500      | C-TA,CHIP         | 2404-001381 | SA     |
| TA600      | C-TA,CHIP         | 2404-001414 | SA     |
| TA601      | C-TA,CHIP         | 2404-001225 | SA     |
| TA602      | C-TA,CHIP         | 2404-001381 | SA     |
| TA800      | C-TA,CHIP         | 2404-001396 | SA     |
| TA801      | C-TA,CHIP         | 2404-001381 | SA     |
| TAC700     | SWITCH-TACT       | 3404-001152 | SA     |
| TC801      | C-TA,CHIP         | 2404-001396 | SA     |

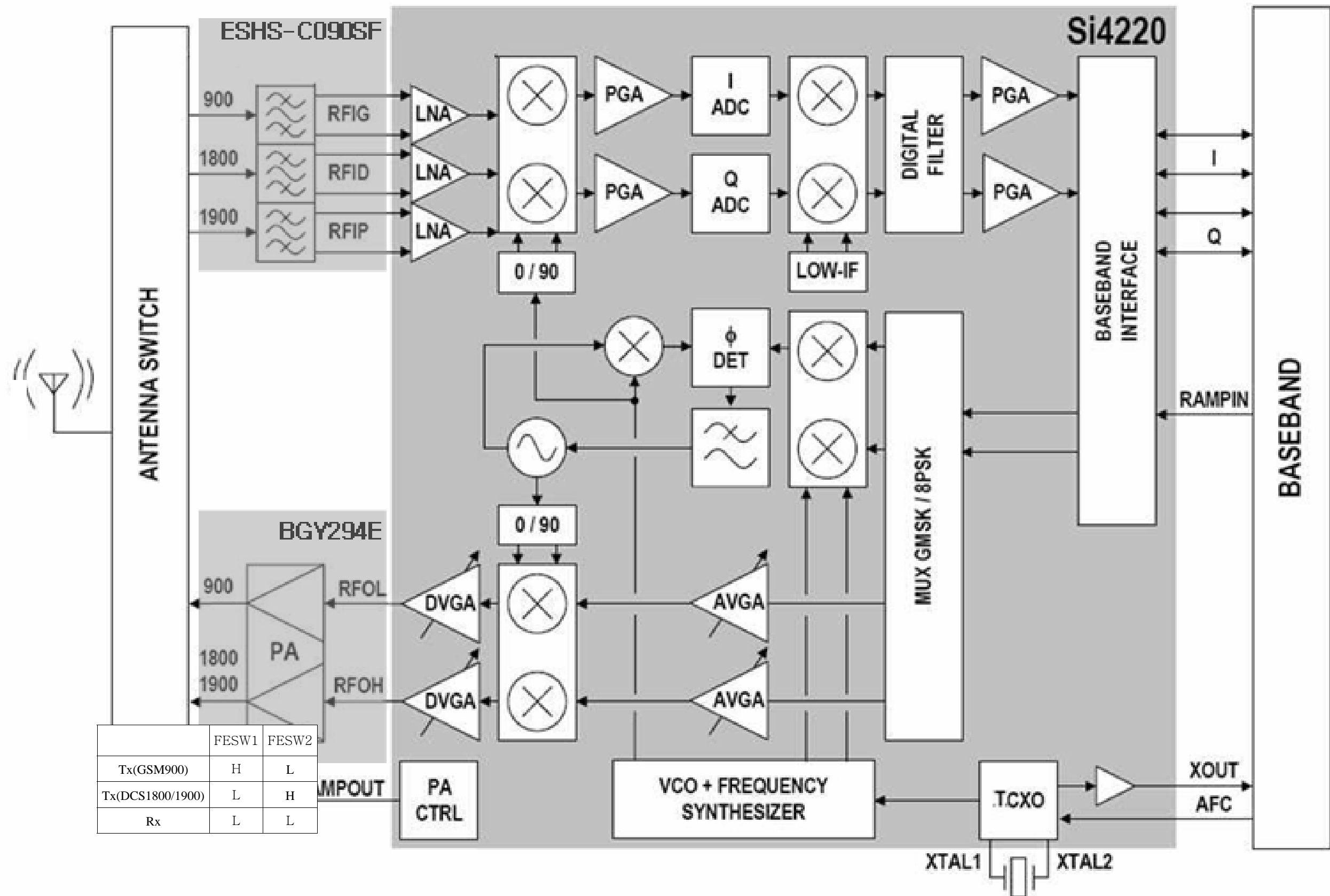
| Design LOC | Description         | SEC CODE    | STATUS |
|------------|---------------------|-------------|--------|
| TR400      | TR-DIGITAL          | 0504-001151 | SA     |
| TR500      | FET-SILICON         | 0505-002111 | SA     |
| U101       | C-CER,CHIP          | 2203-005736 | SA     |
| U104       | C-CER,CHIP          | 2203-005736 | SA     |
| U106       | IC-TRANSCEIVER      | 1205-003093 | SA     |
| U1220      | C-CER,CHIP          | 2203-000812 | SA     |
| U200       | IC-COMM. CONTROLLER | 1205-003082 | SA     |
| U300       | IC-POSI.FIXED REG.  | 1203-004135 | SA     |
| U301       | IC-CMOS LOGIC       | 0801-003022 | SA     |
| U303       | IC-CODEC            | 1205-003210 | SA     |
| U305       | IC-POSI.FIXED REG.  | 1203-003787 | SA     |
| U400       | IC-POSI.FIXED REG.  | 1203-003737 | SA     |
| U401       | IC-POSI.FIXED REG.  | 1203-003787 | SA     |
| U402       | IC-POWER SUPERVISOR | 1203-004382 | SA     |
| U403       | IC-DEMODULATOR      | 1204-002688 | SA     |
| U500       | IC-ANALOG SWITCH    | 1001-001394 | SA     |
| U501       | IC-POSI.FIXED REG.  | 1203-003815 | SA     |
| U600       | IC-ANALOG MULTIPLEX | 1001-001349 | SA     |
| U704       | IC-POSI.FIXED REG.  | 1203-003688 | SA     |
| U7047      | IC-CMOS LOGIC       | 0801-003012 | SA     |
| U705       | C-CER,CHIP          | 2203-006562 | SA     |
| U706       | IC-TRANSCEIVER      | 1205-002942 | SA     |
| U800       | IC-AUDIO AMP        | 1201-002511 | SA     |
| U801       | IC-CODEC            | 1205-003214 | SA     |
| U802       | IC-ANALOG SWITCH    | 1001-001394 | SA     |
| U803       | IC-POSI.FIXED REG.  | 1203-003737 | SA     |
| U804       | IC-ANALOG SWITCH    | 1001-001394 | SA     |
| UEP300     | IC-VIDEO AMP        | 1201-002147 | SA     |
| UME300     | IC-MCP              | 1108-000112 | SA     |
| V501       | VARISTOR            | 1405-001177 | SA     |
| V502       | VARISTOR            | 1405-001177 | SA     |
| V503       | VARISTOR            | 1405-001177 | SA     |
| V504       | VARISTOR            | 1405-001177 | SA     |
| V505       | VARISTOR            | 1405-001177 | SA     |
| VR600      | THERMISTOR-NTC      | 1404-001221 | SA     |
| ZD600      | DIODE-ZENER         | 0403-001547 | SA     |



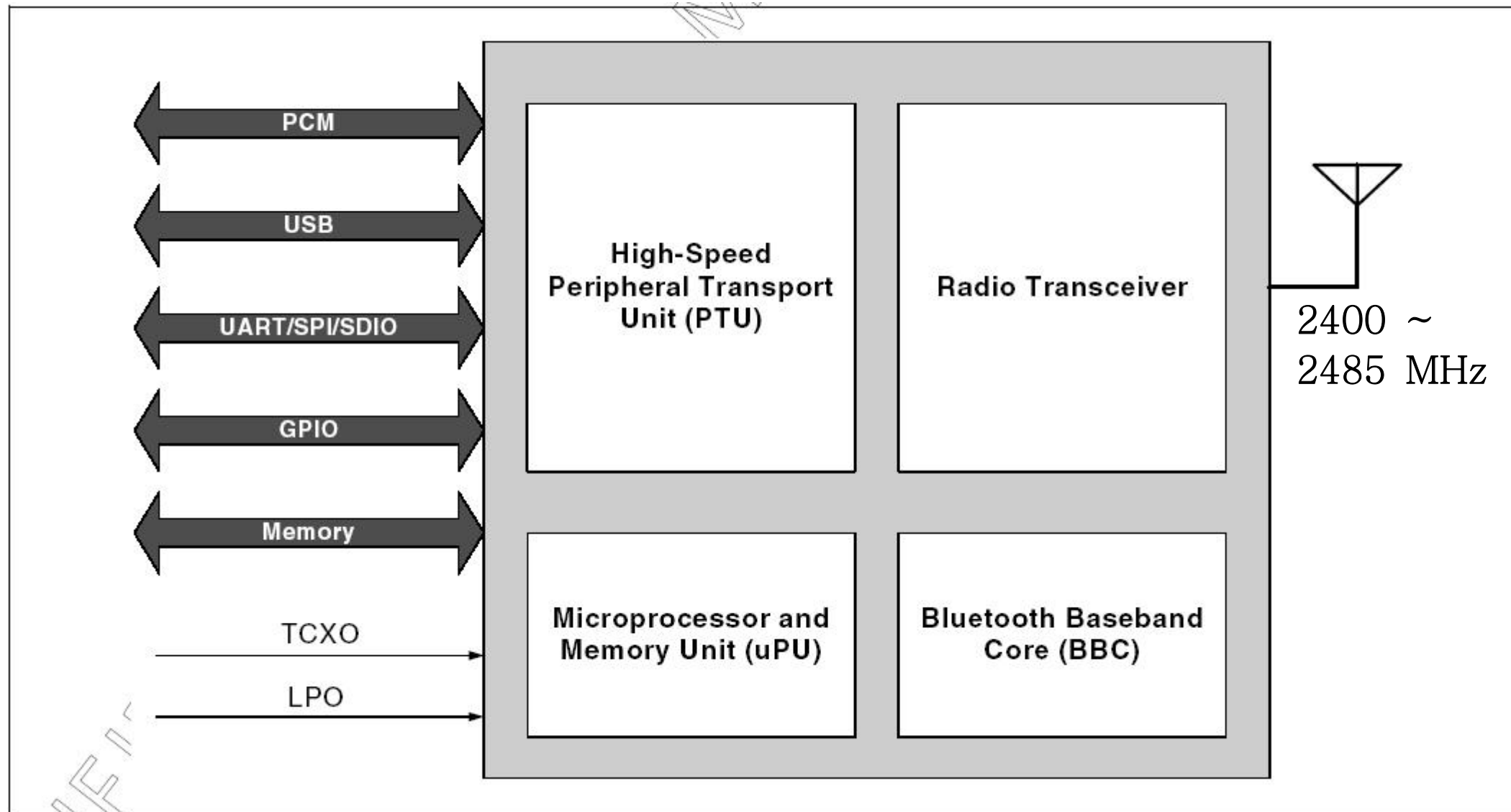


## 7. Block Diagrams

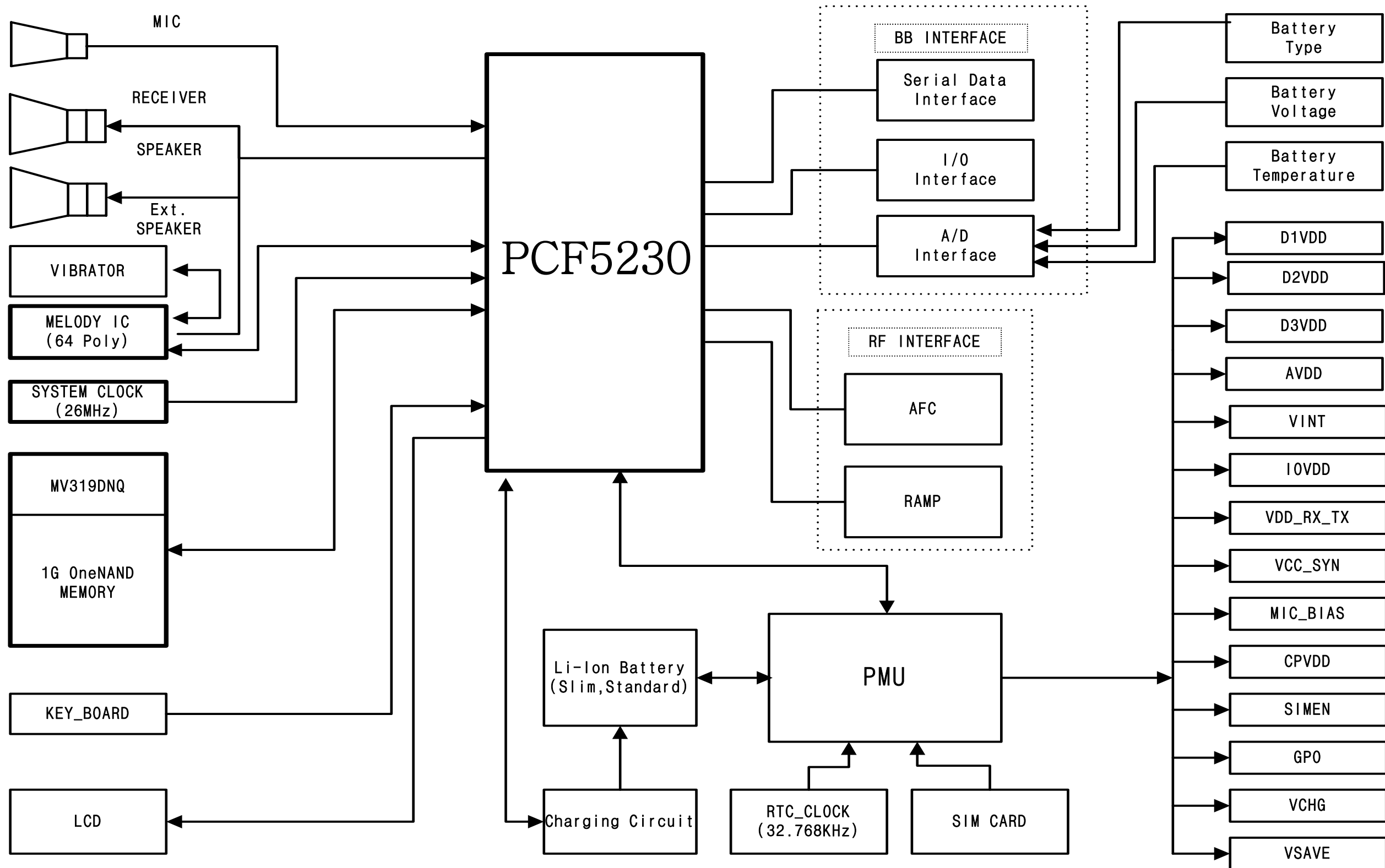
### 7-1. RF Solution Block Diagram



7-2. BT Solution Block Diagram

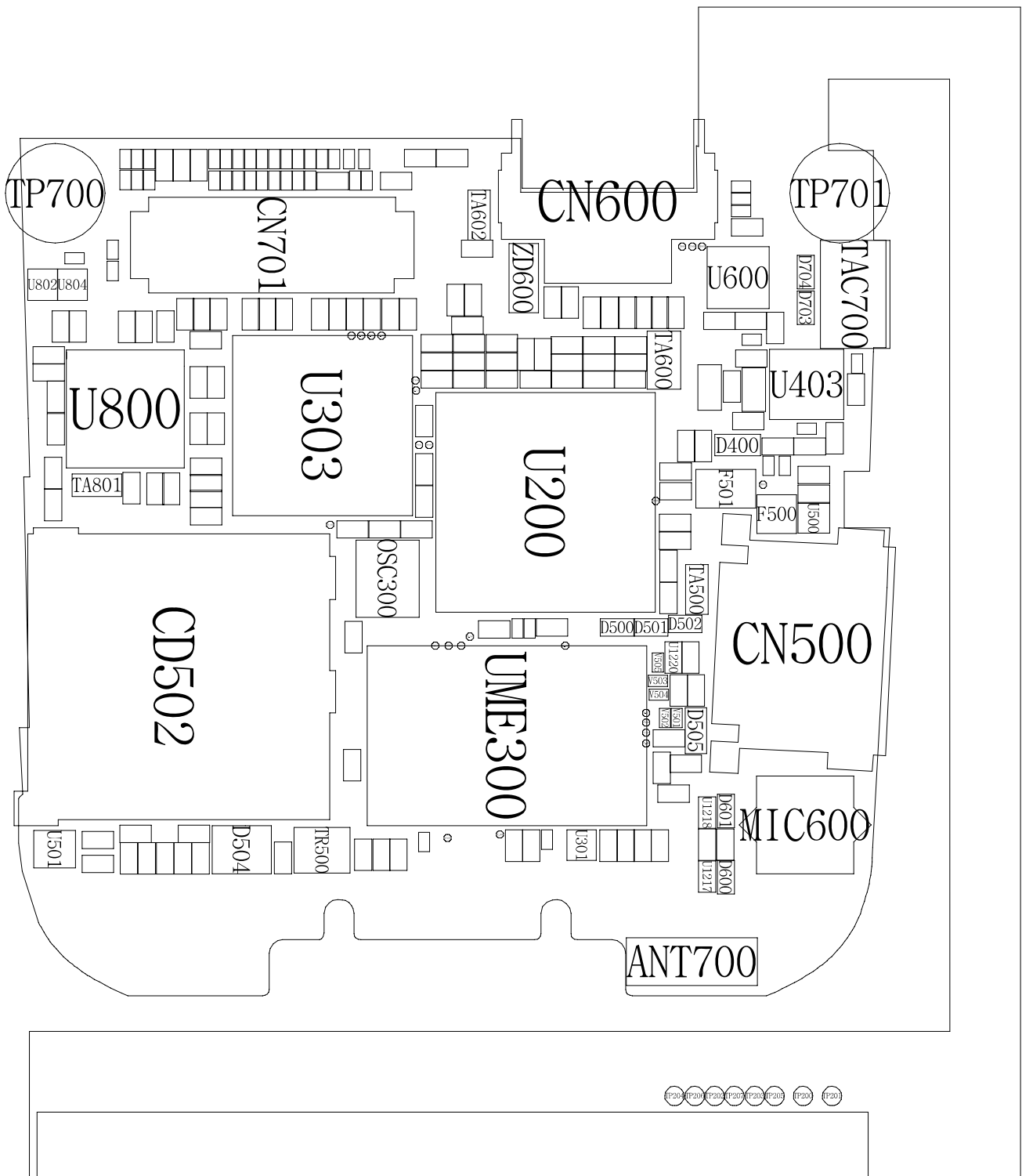


7-3. Base Band Solution Block Diagram

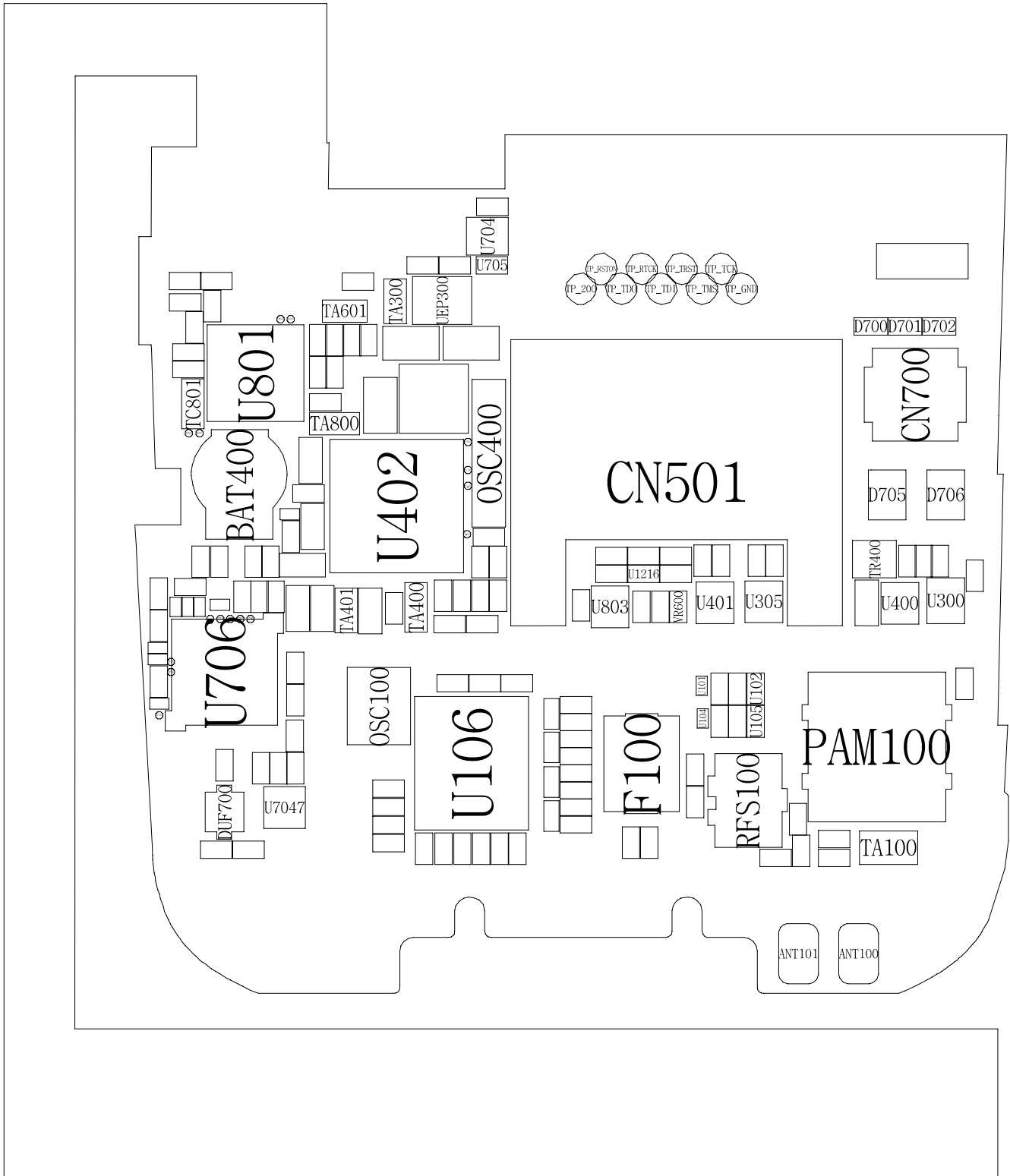


## 8. PCB Diagrams

Top

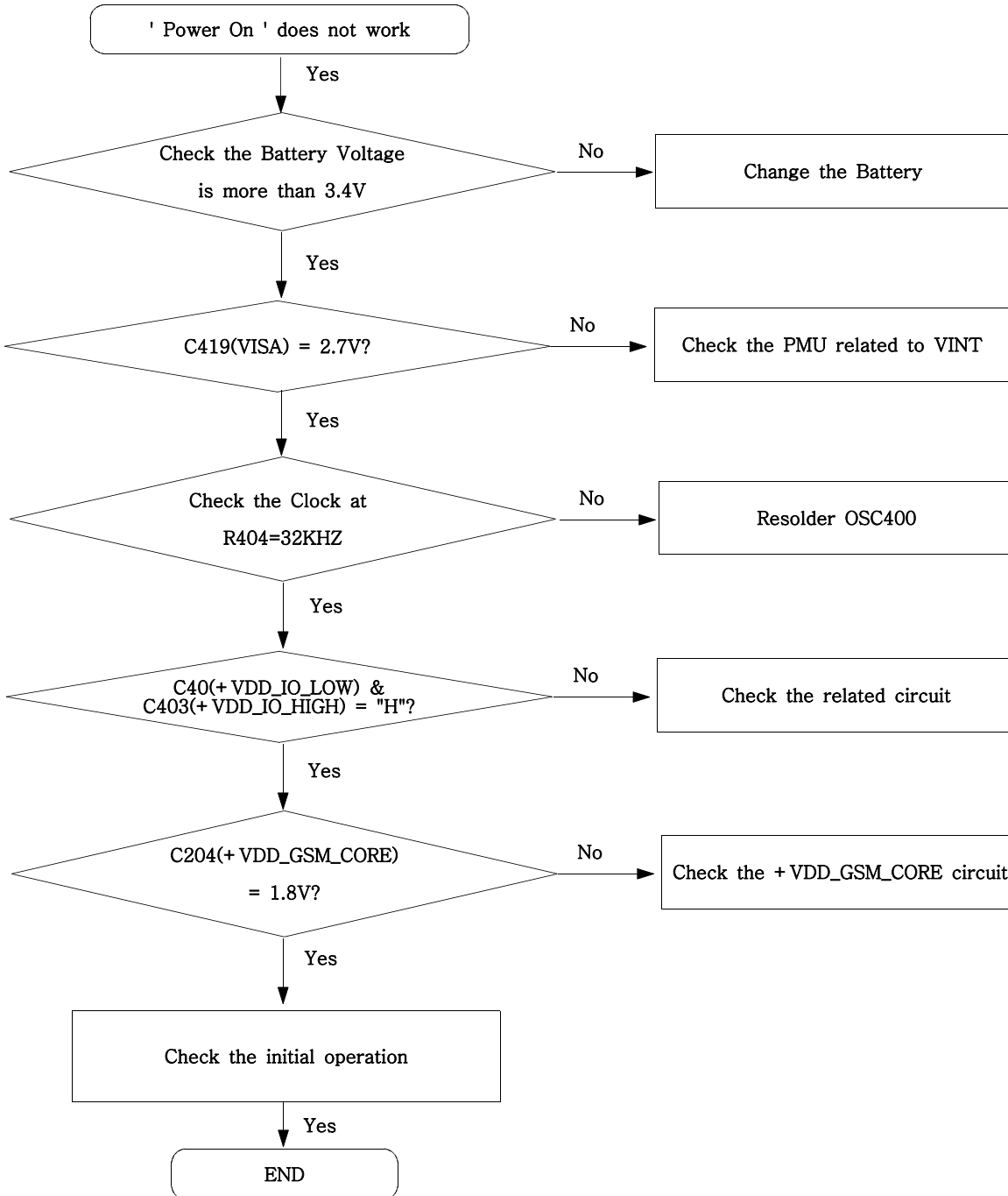


Bottom

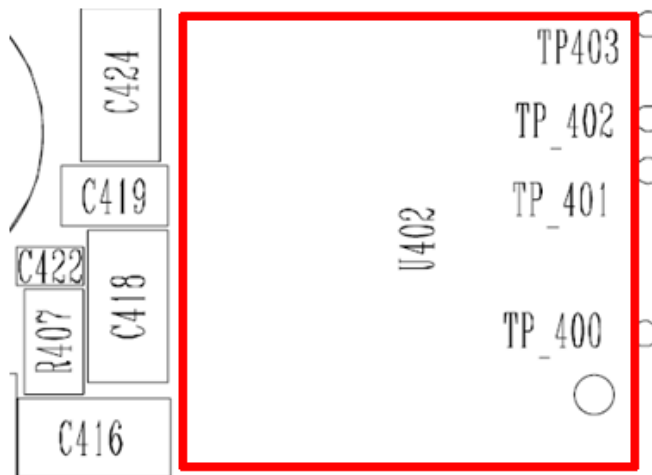
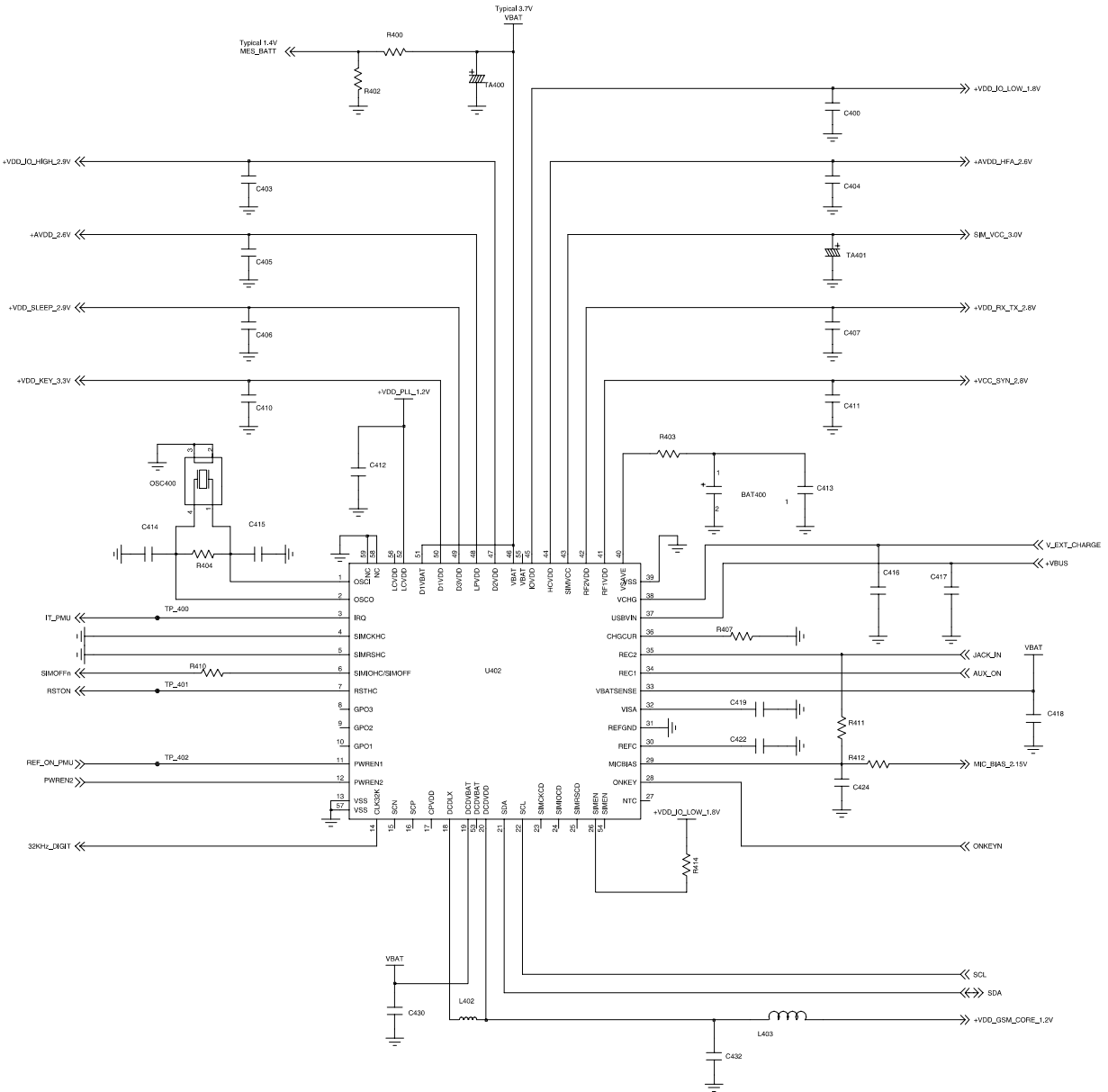


# 9. Flow Chart of Troubleshooting

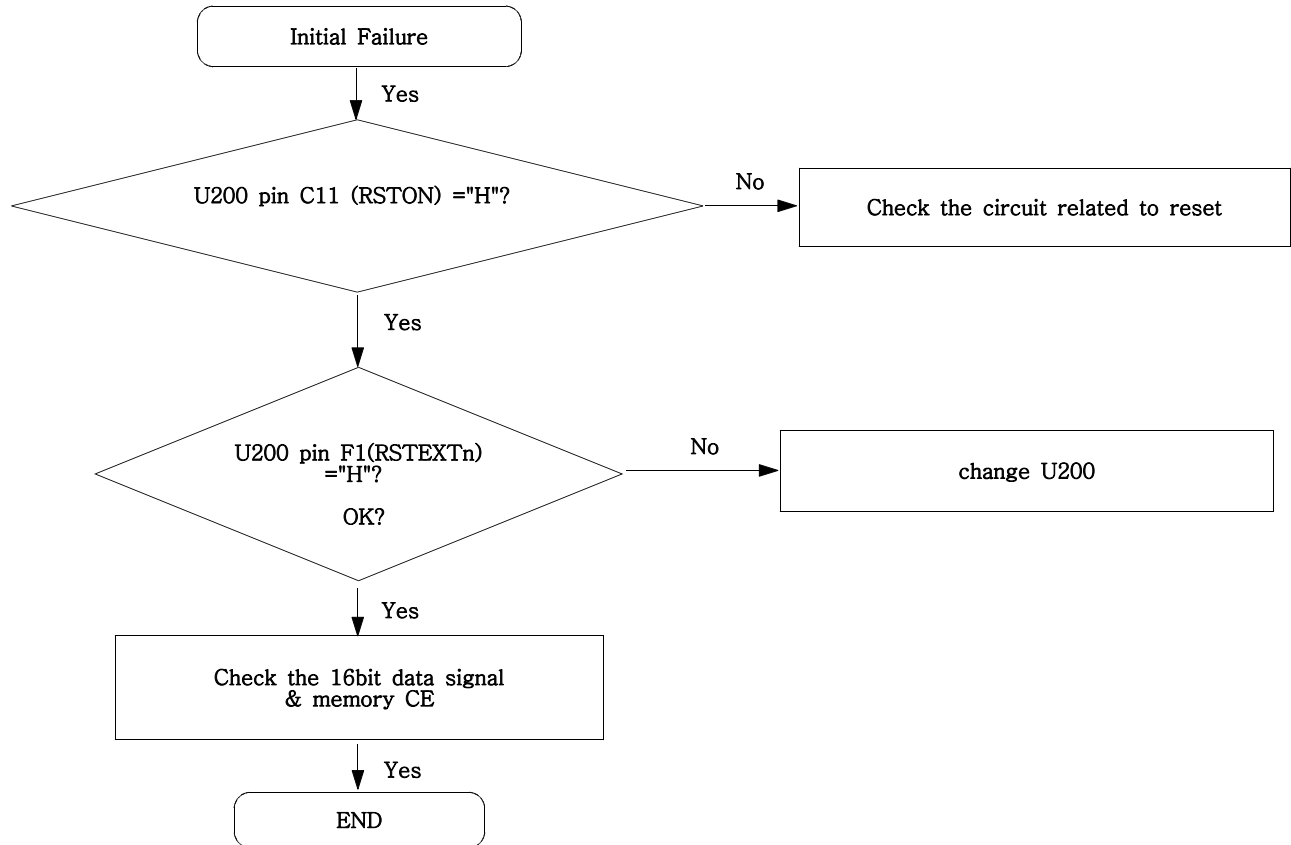
## 9-1. Power On



# Flow Chart of Troubleshooting

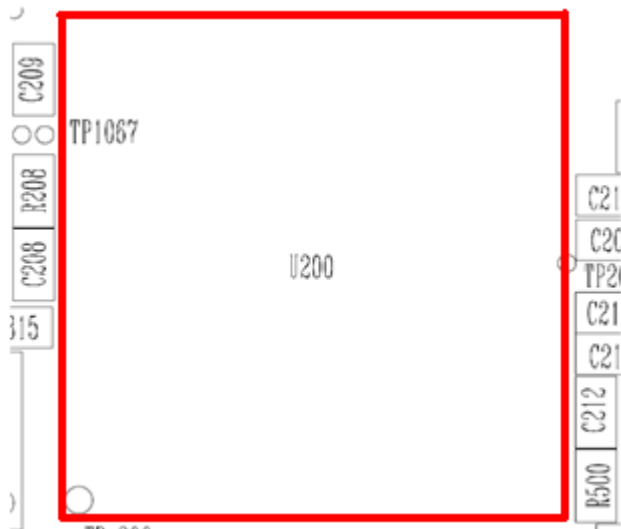
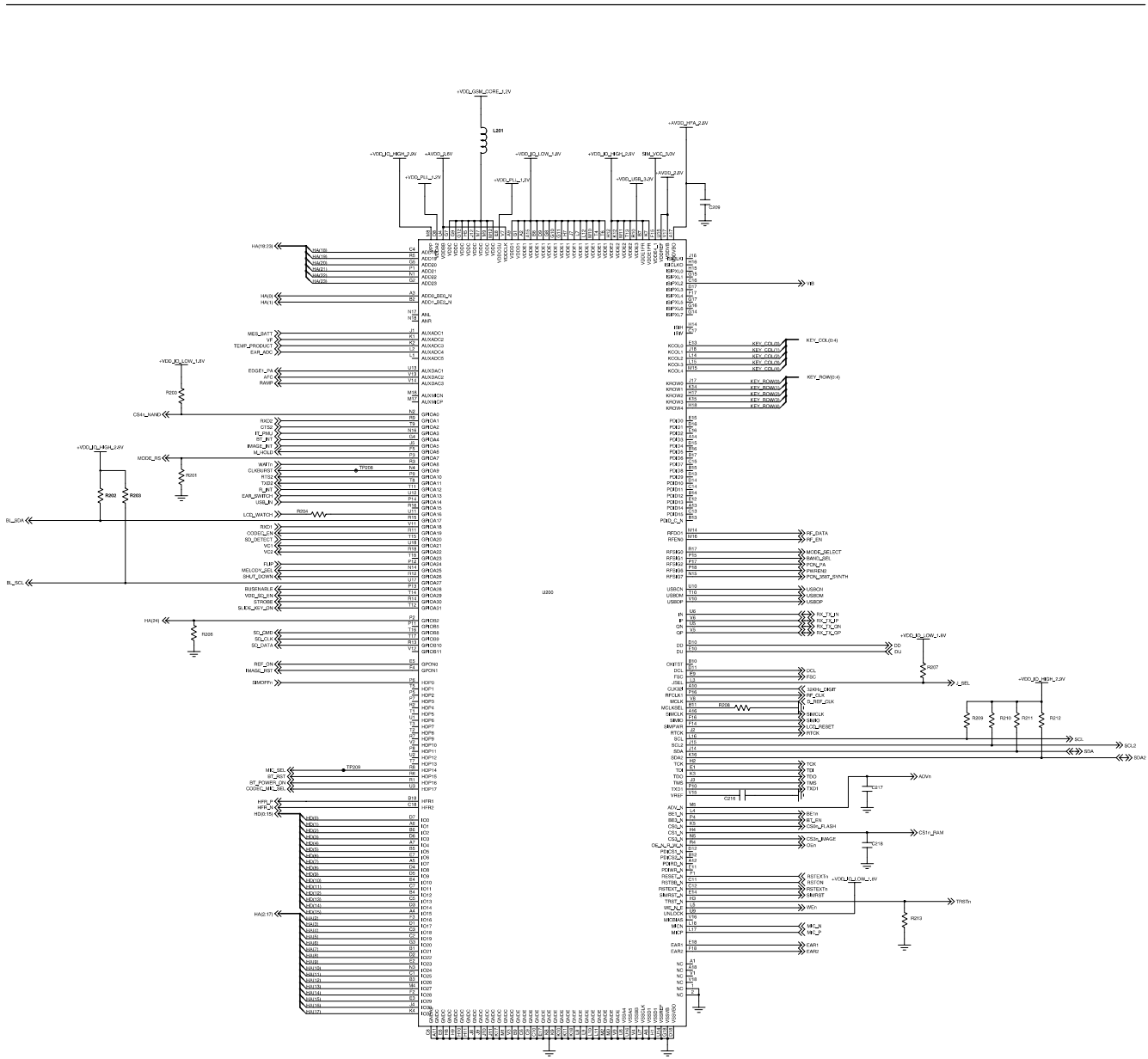


## 9-2. Initial

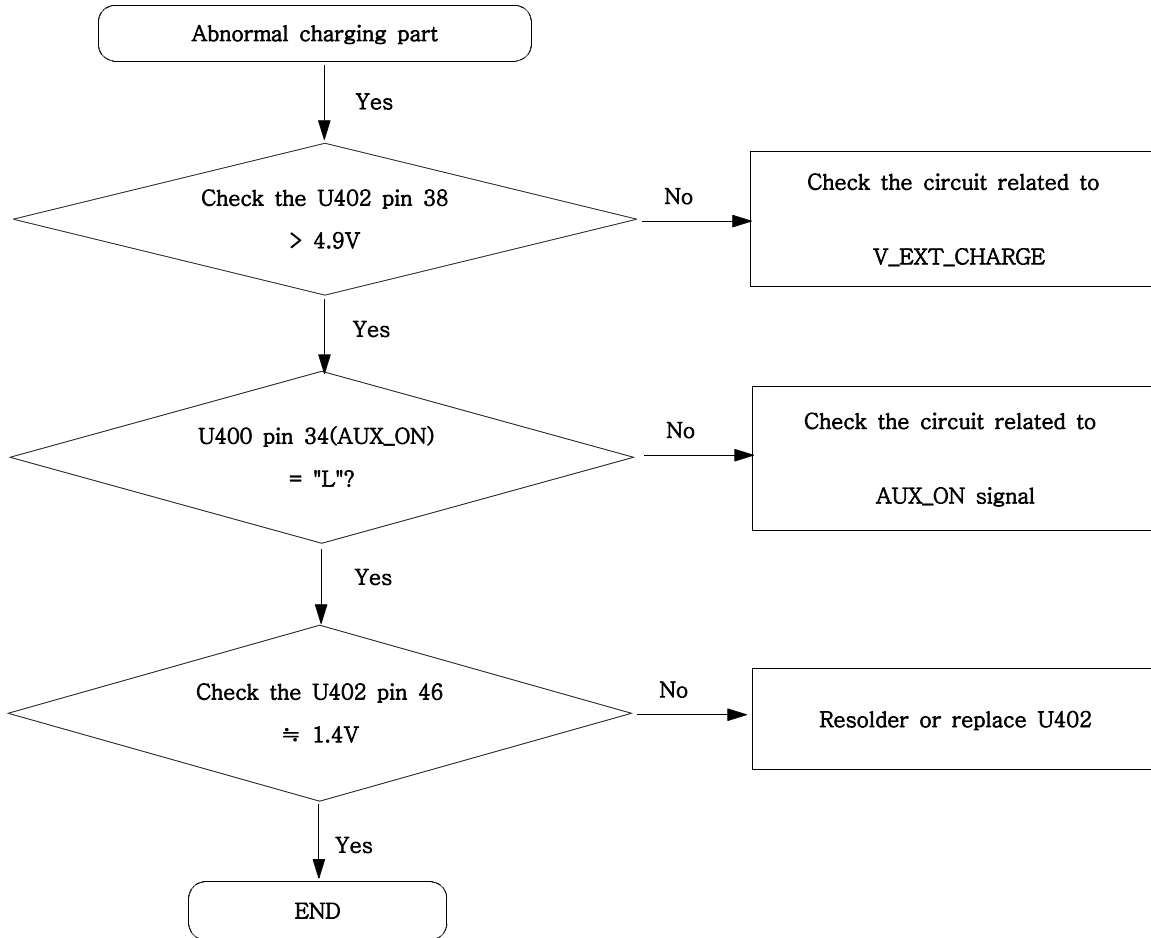




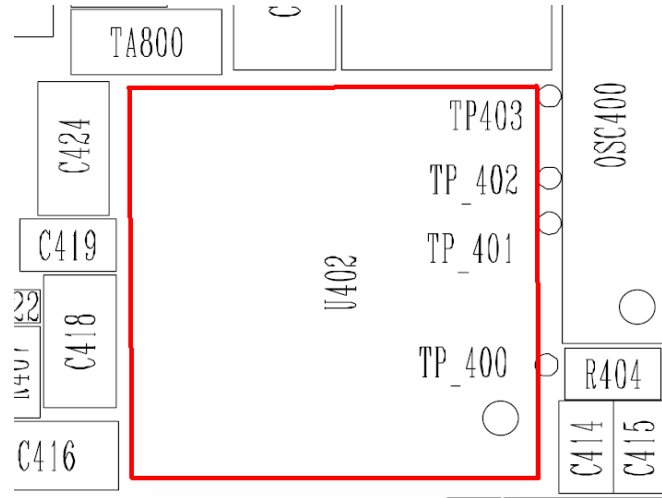
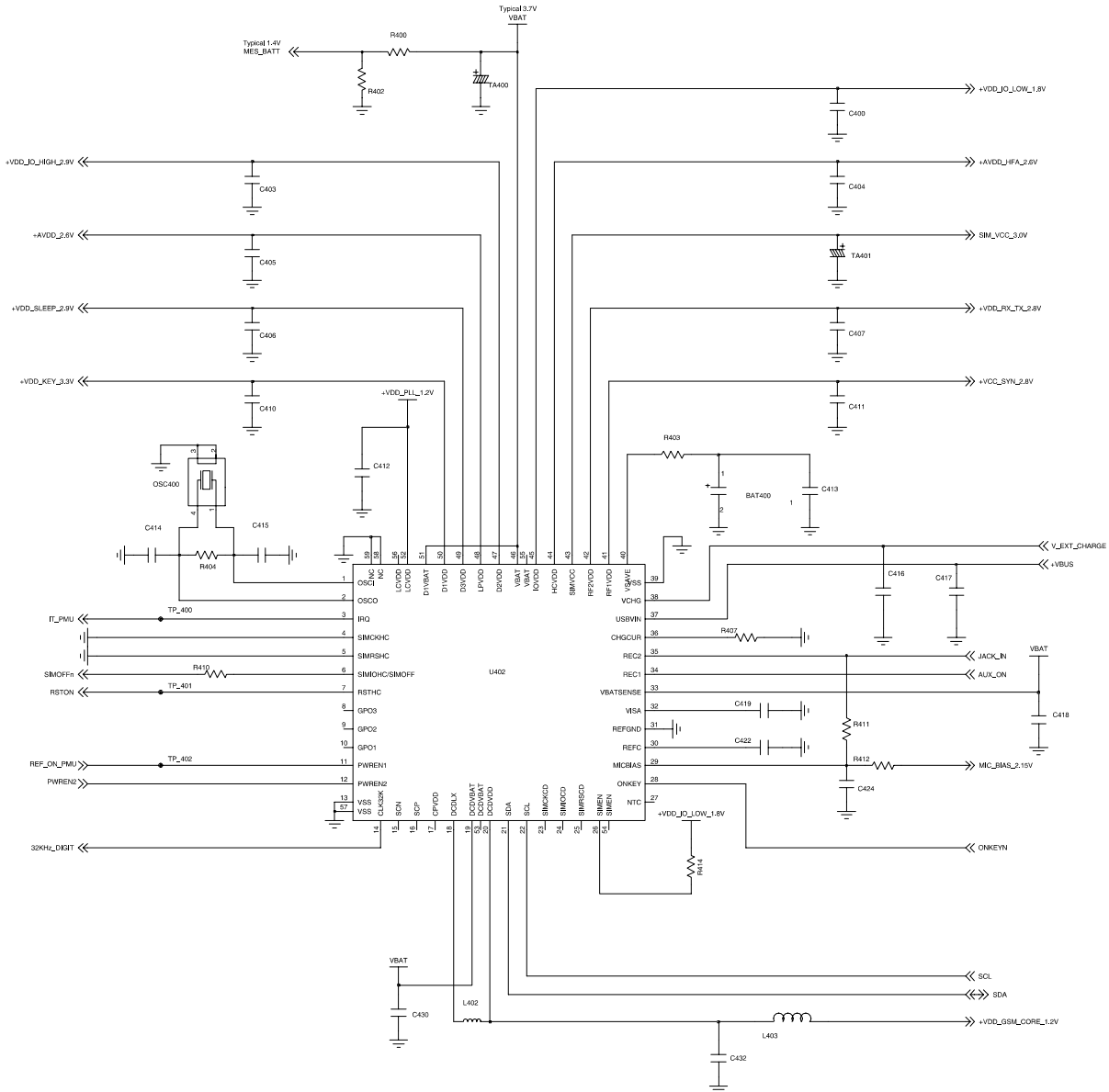
# Flow Chart of Troubleshooting



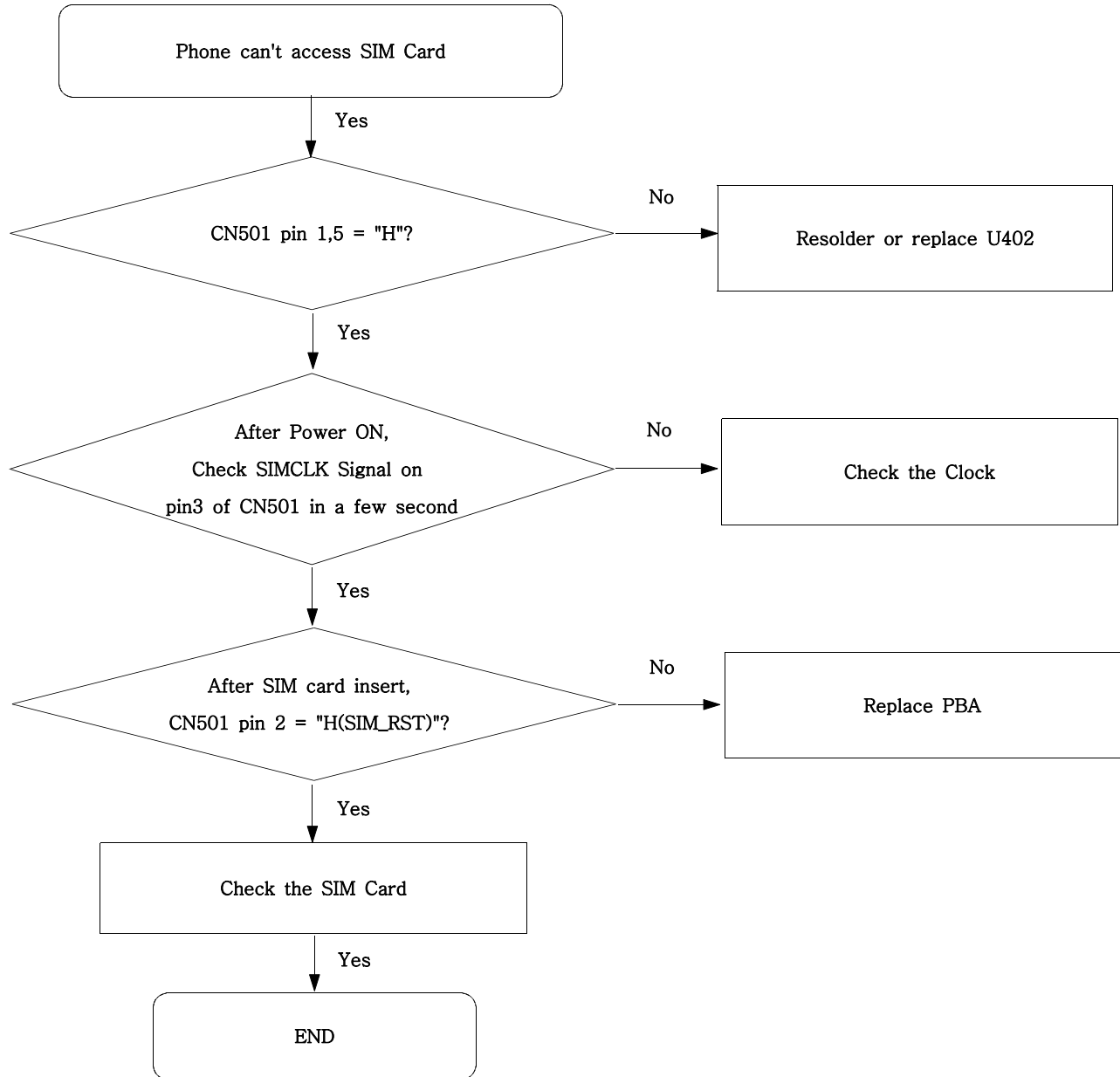
9-3. Charging Part

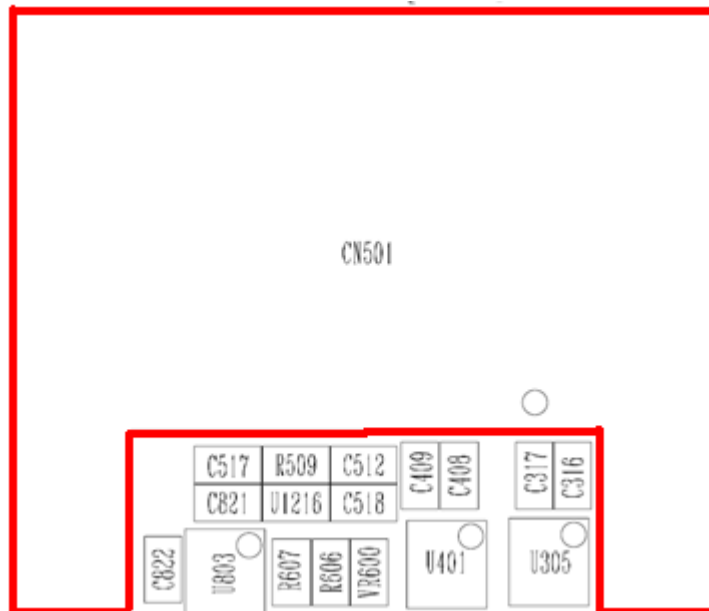
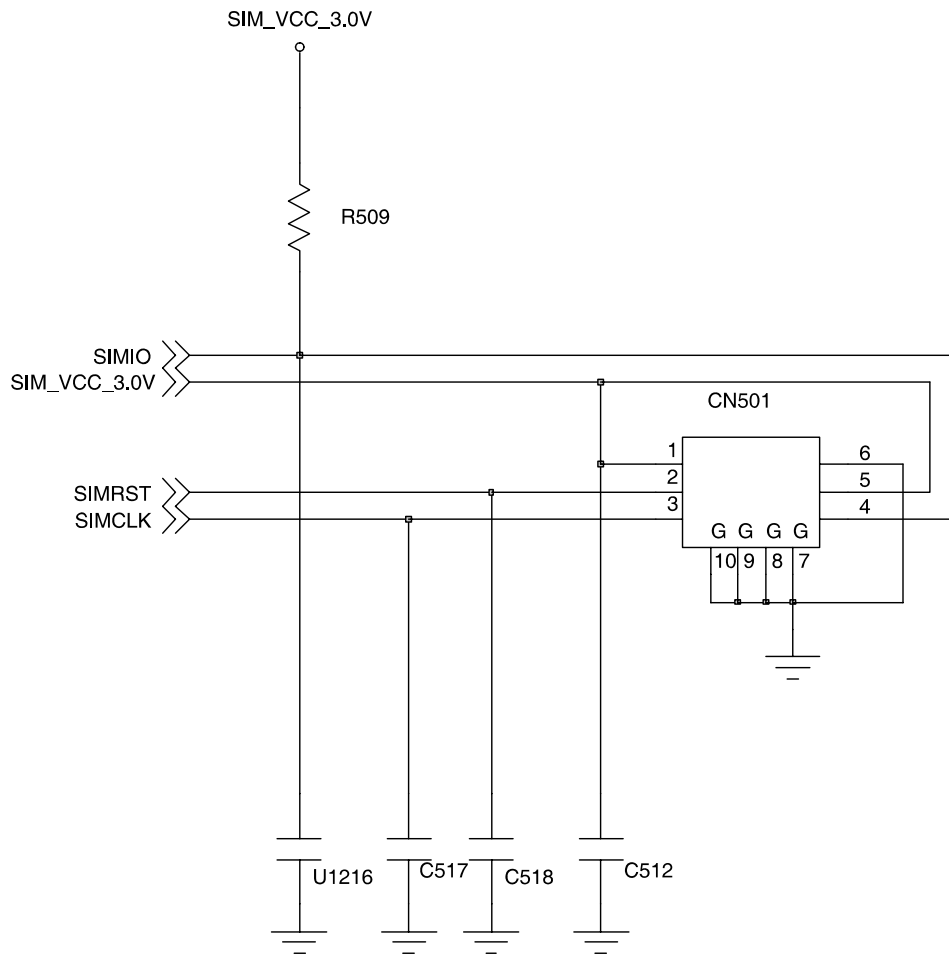


# Flow Chart of Troubleshooting

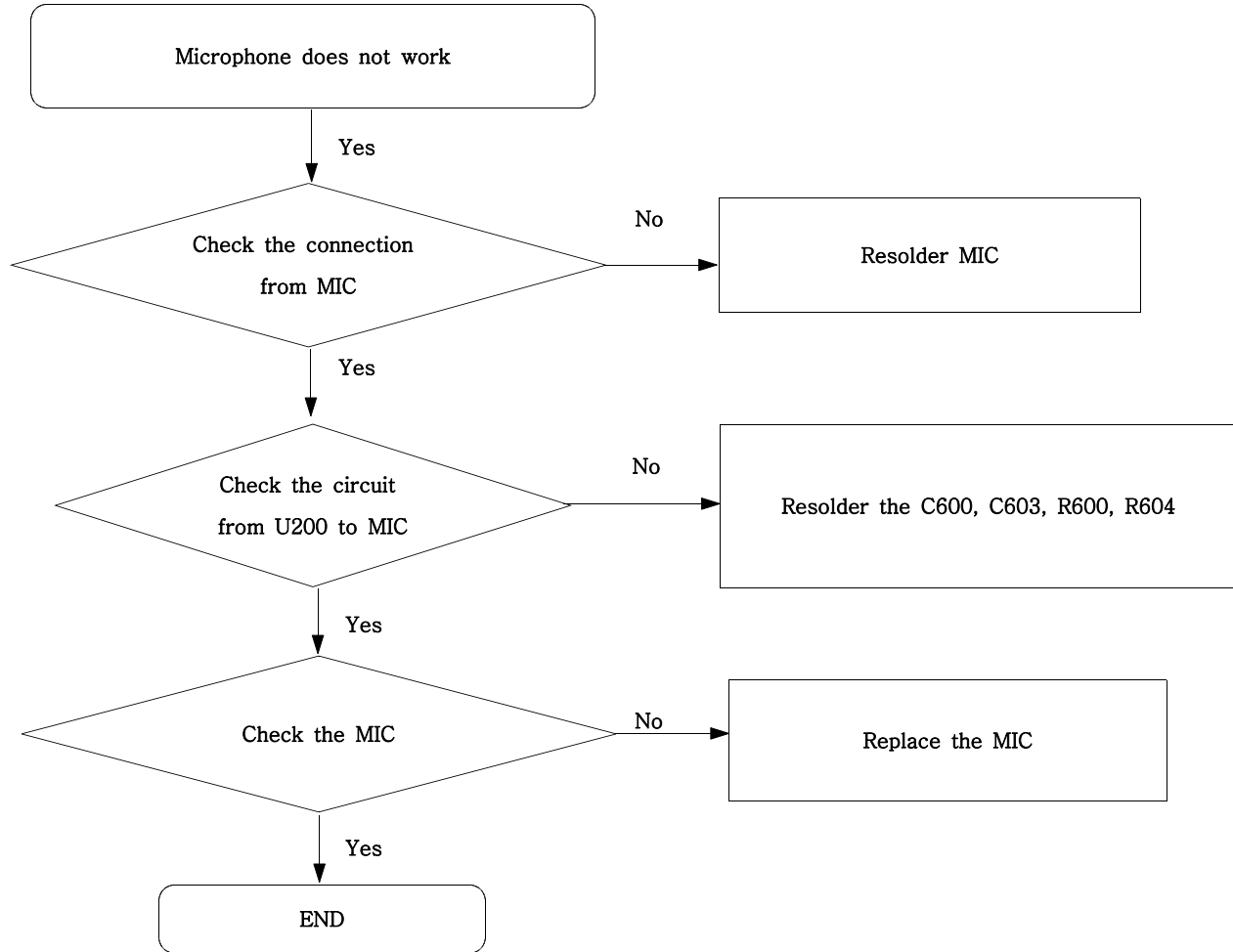


9-4. Sim Part

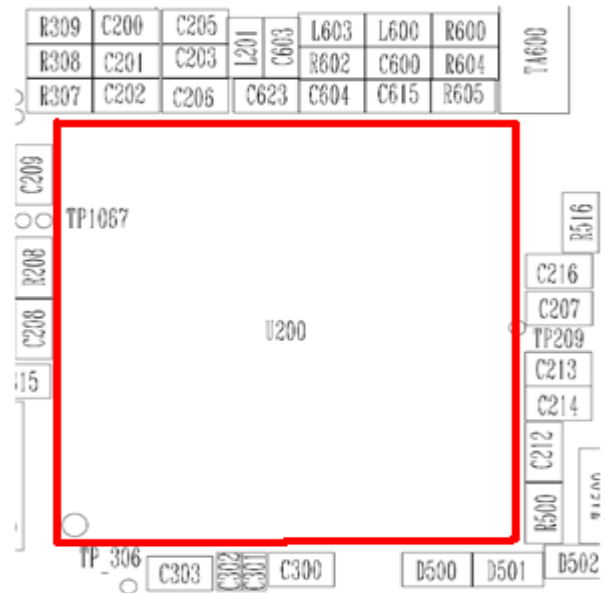
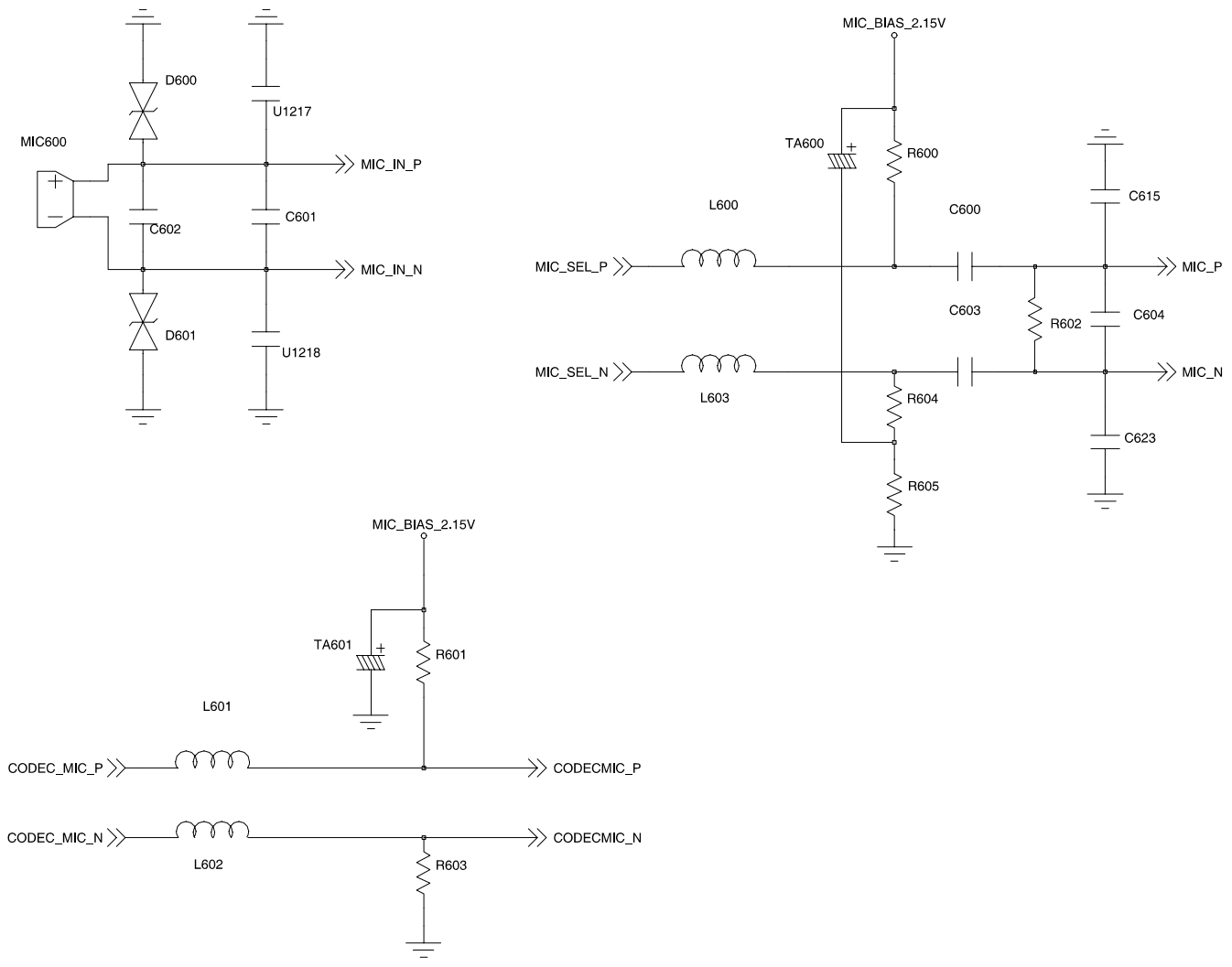




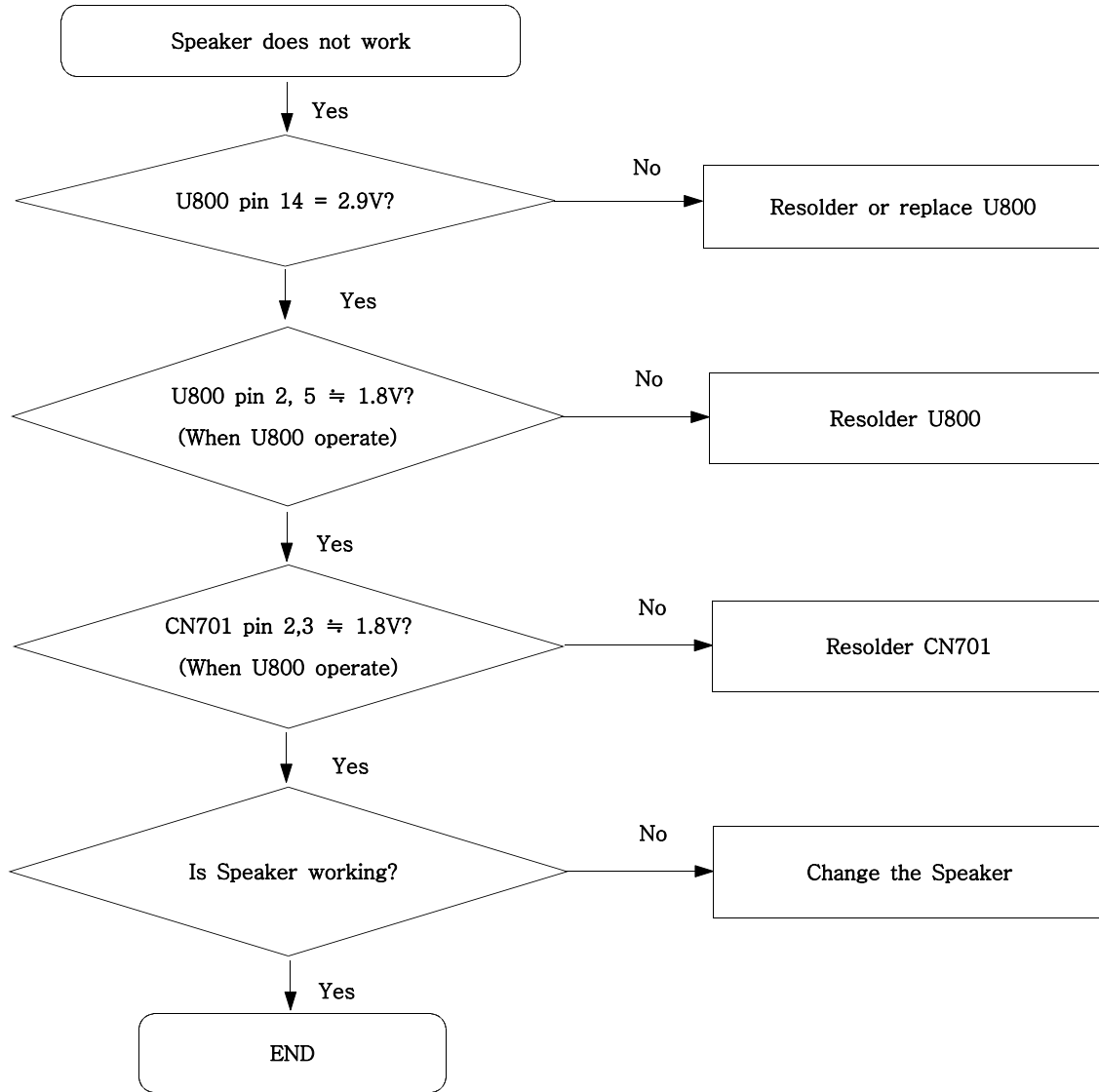
9-5. Microphone Part



# Flow Chart of Troubleshooting

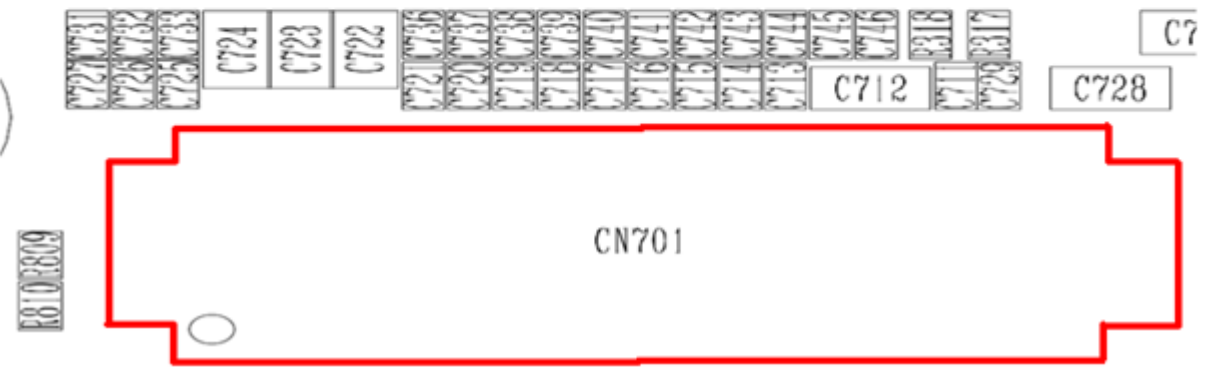
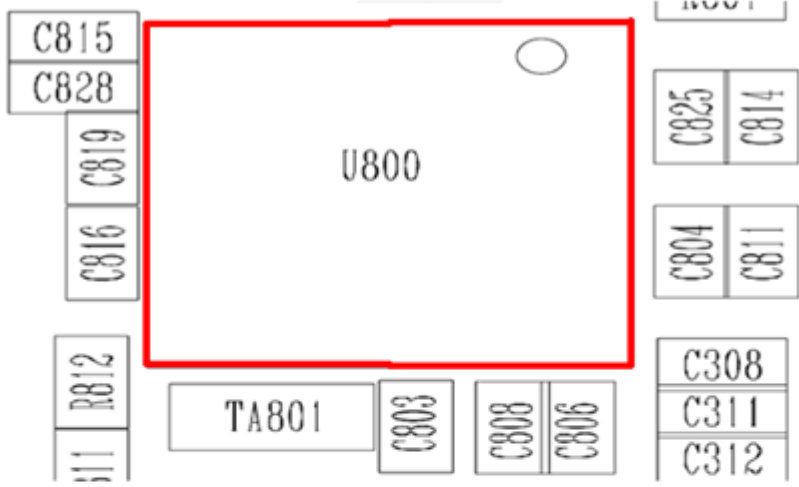
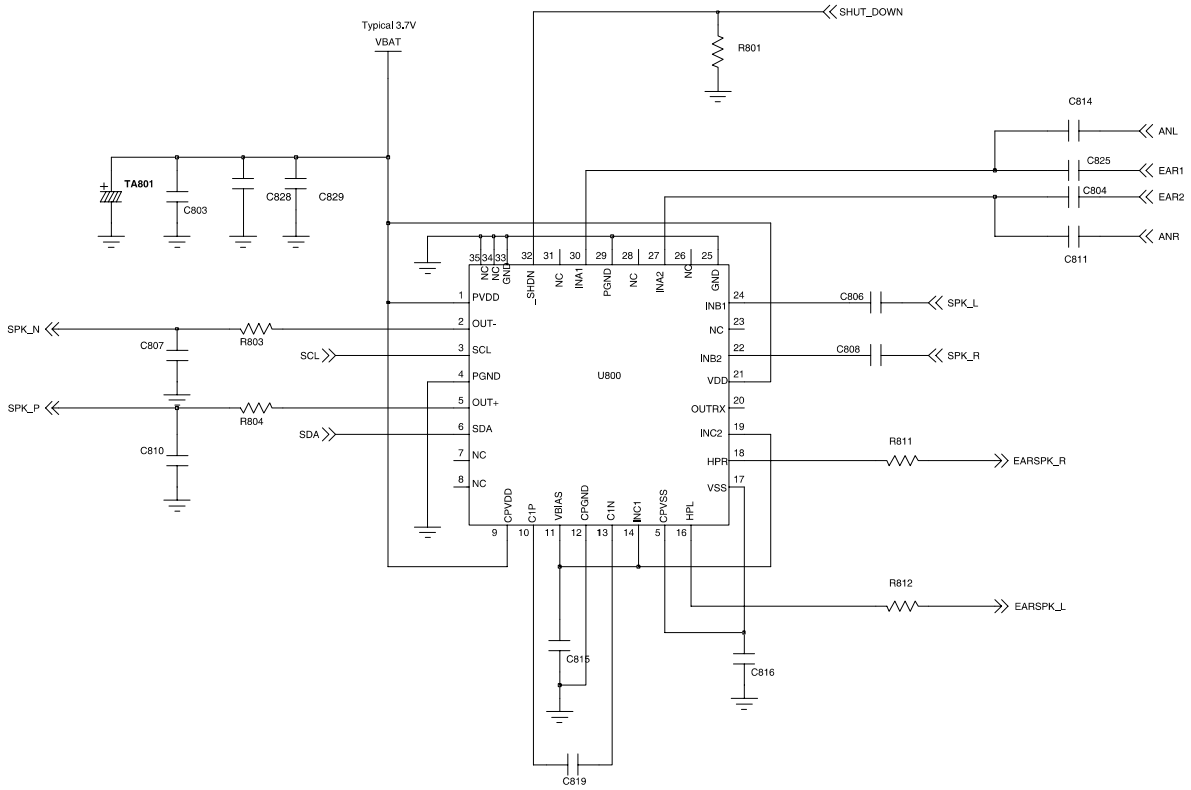


9-6. Speaker Part(Melody)

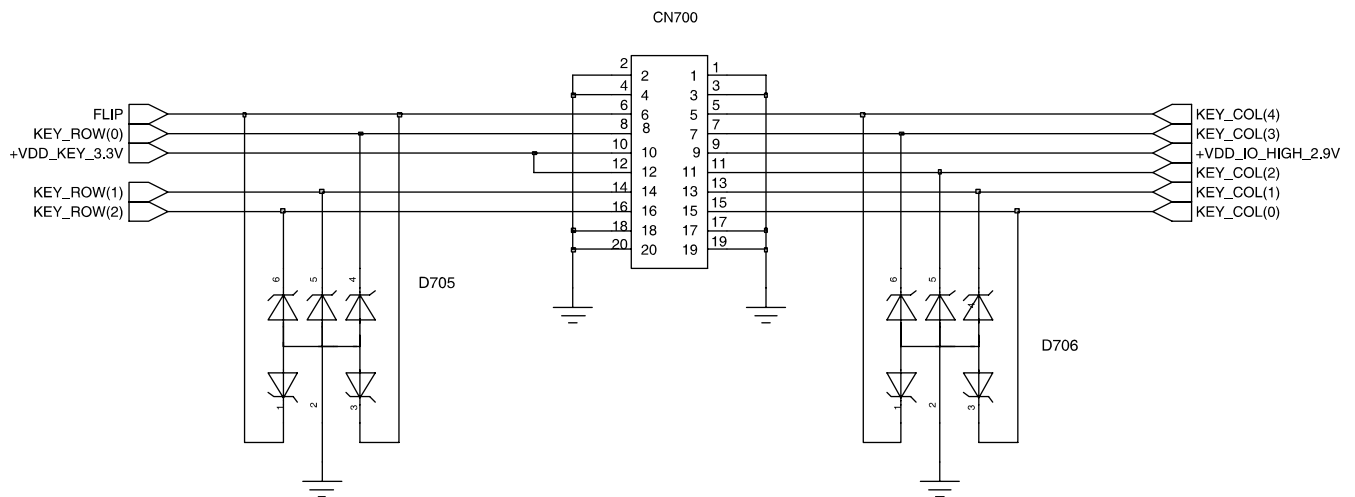
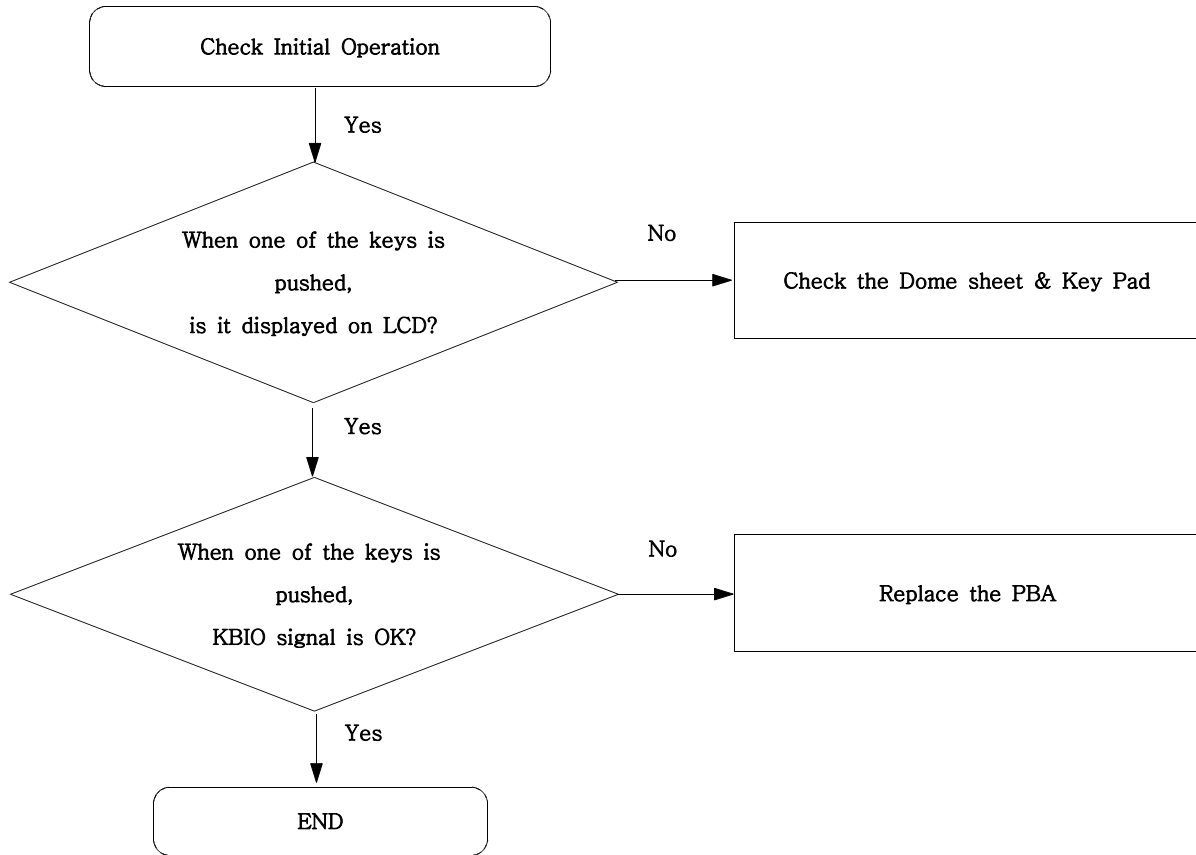




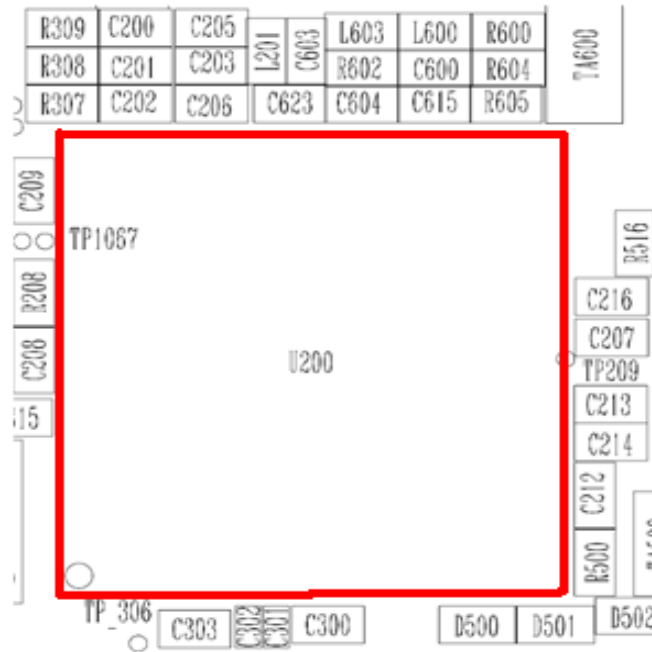
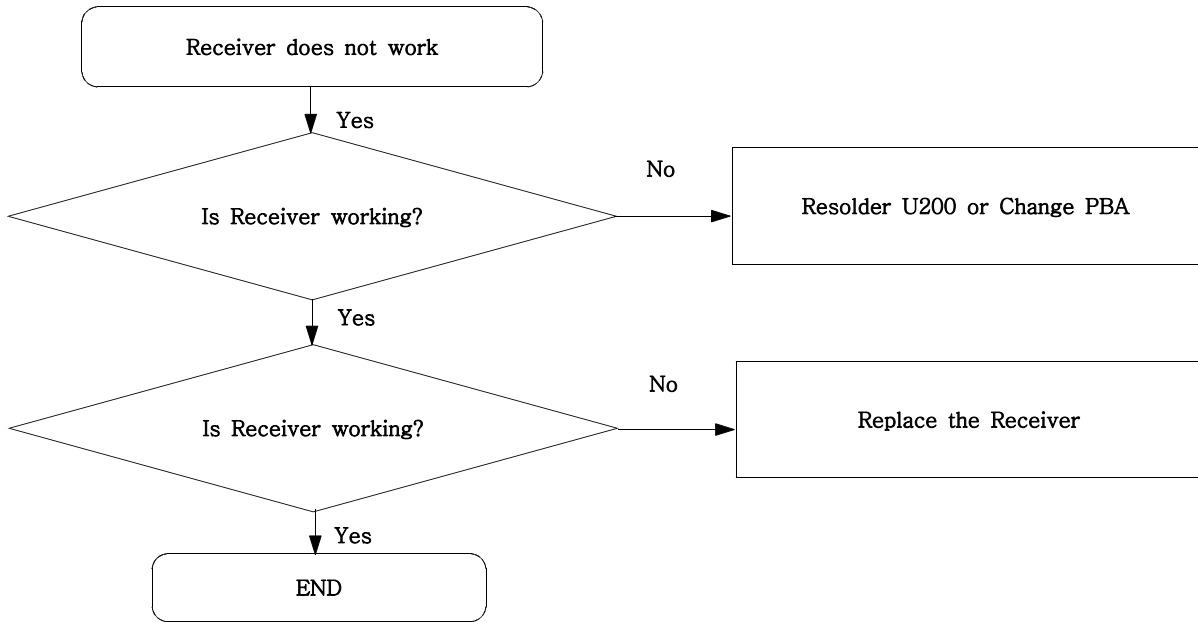
# Flow Chart of Troubleshooting



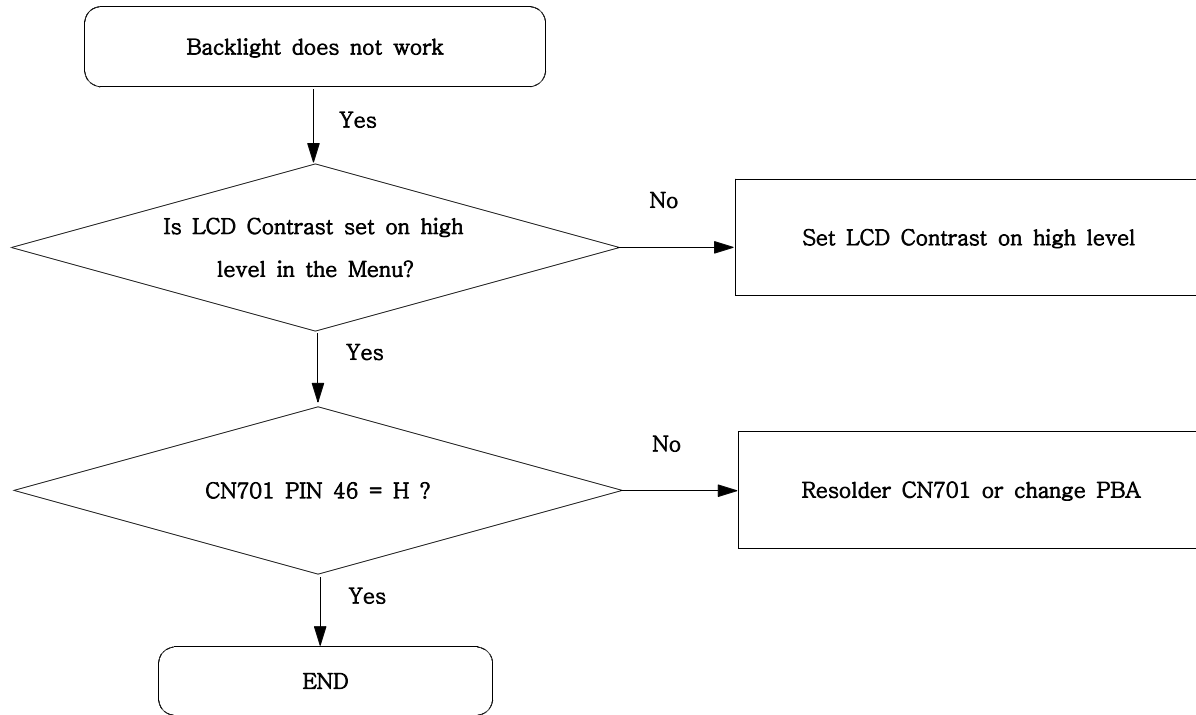
### 9-7. Key Data Input

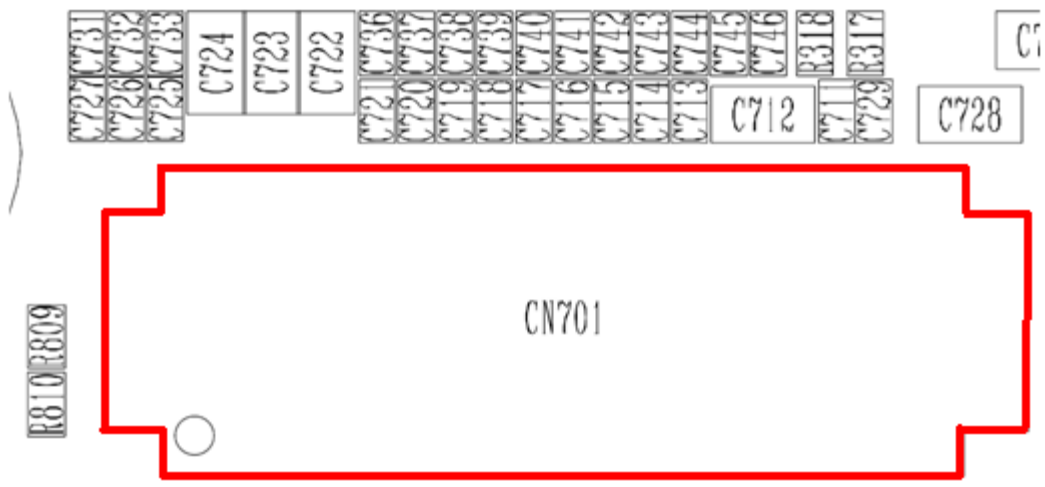
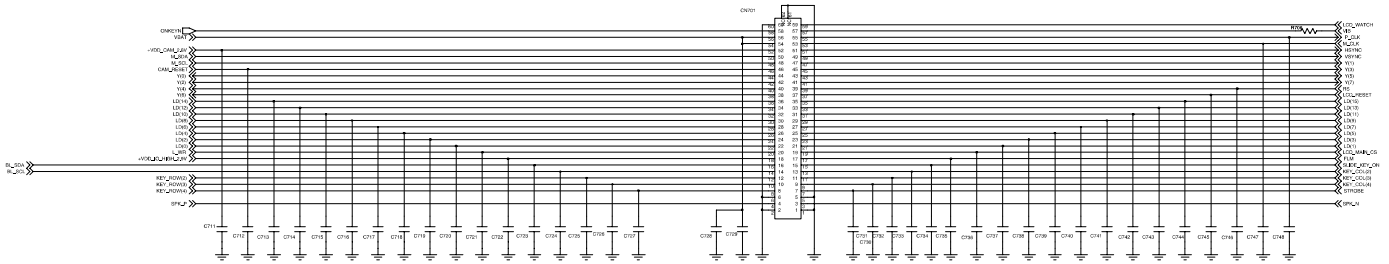


### 9-8. Receiver Part

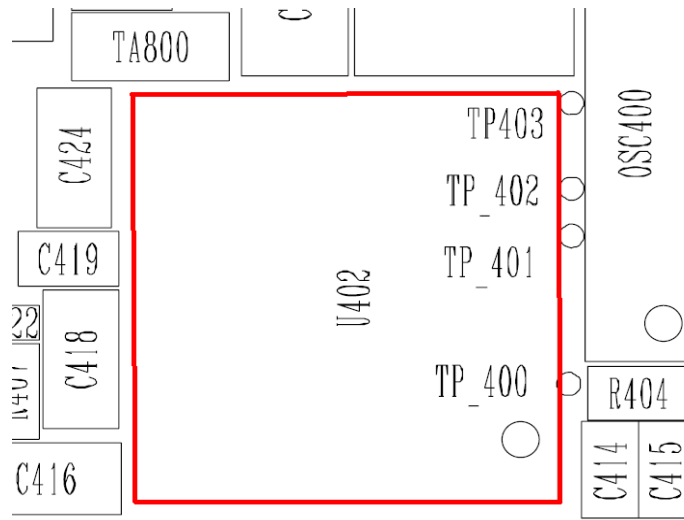
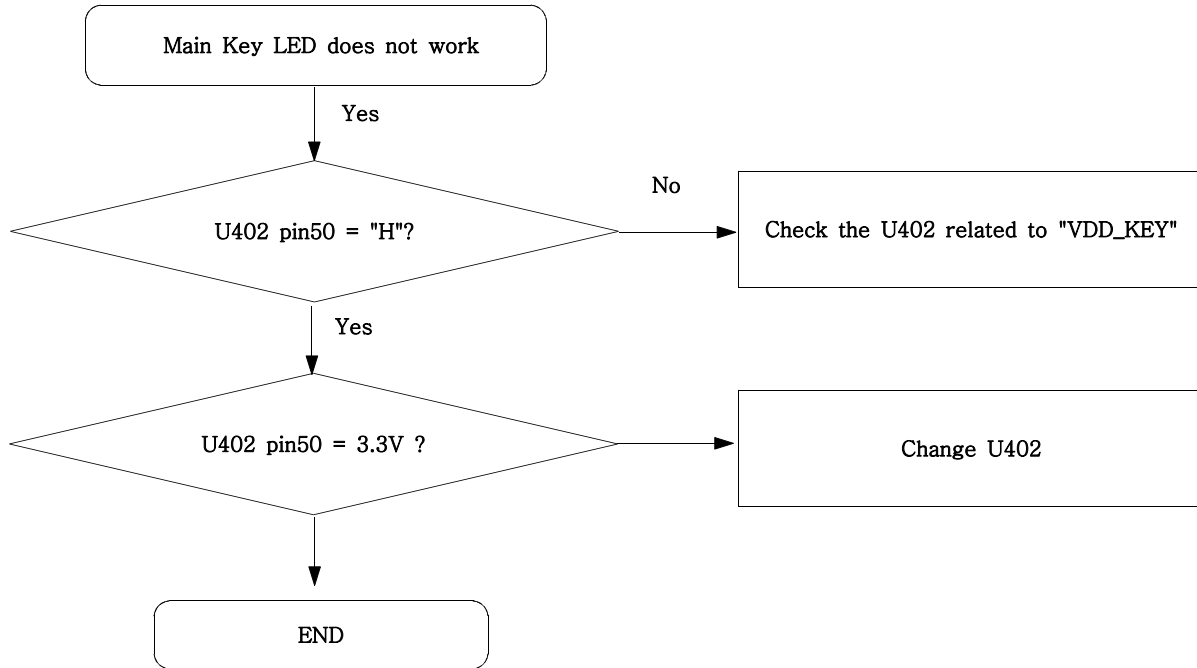


9-9. Back Light (for Color Main LCD)

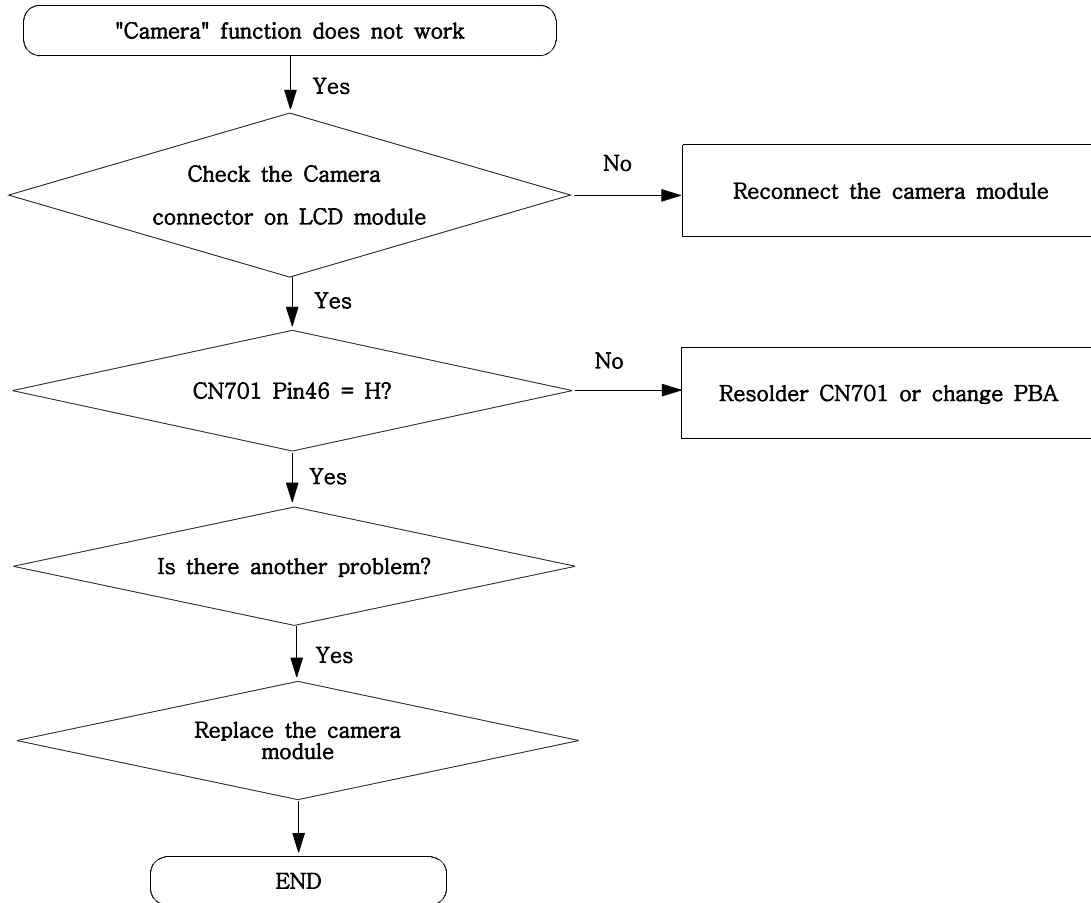




### 9-10. Key Back Light



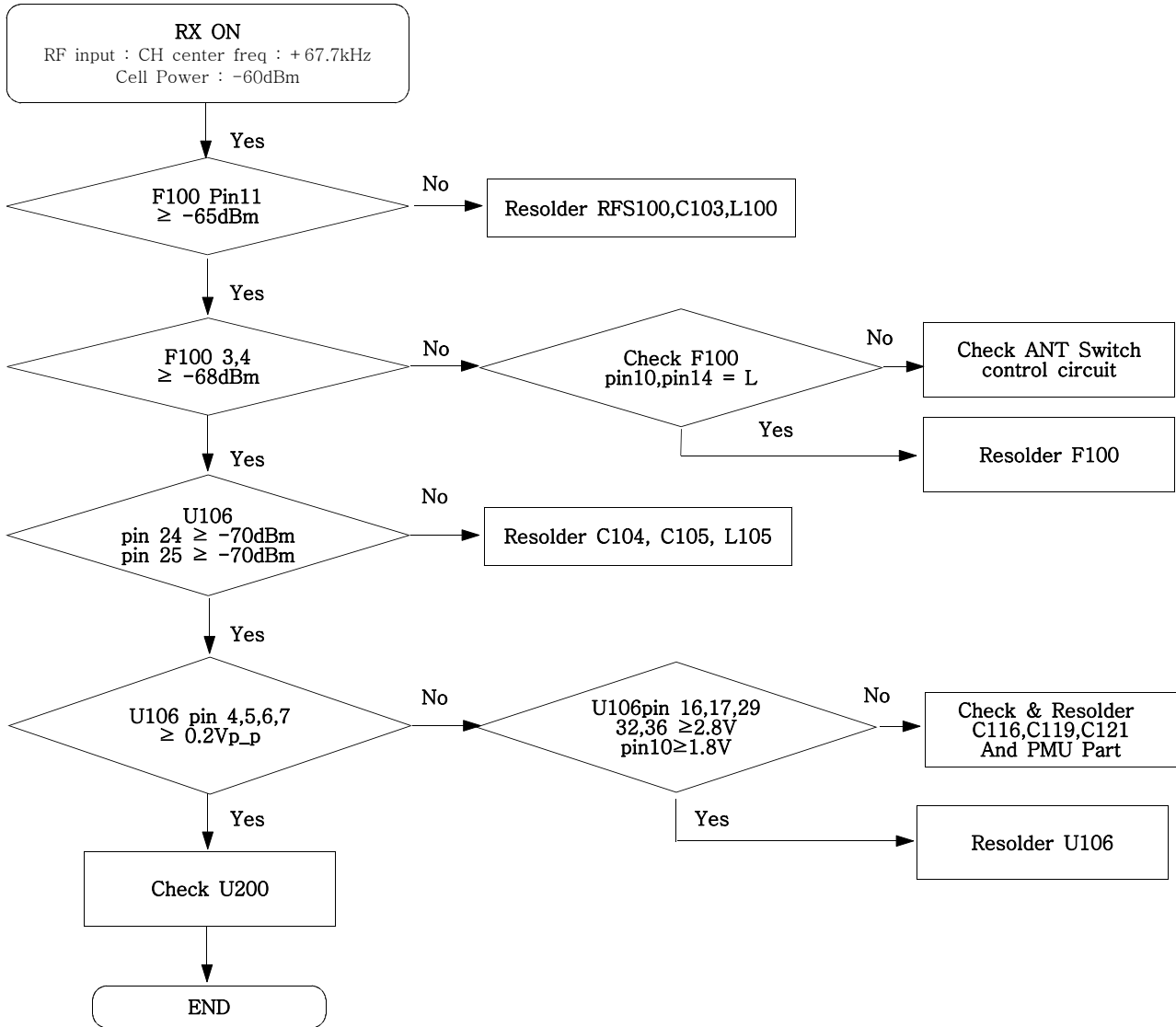
### 9-11. Camera part



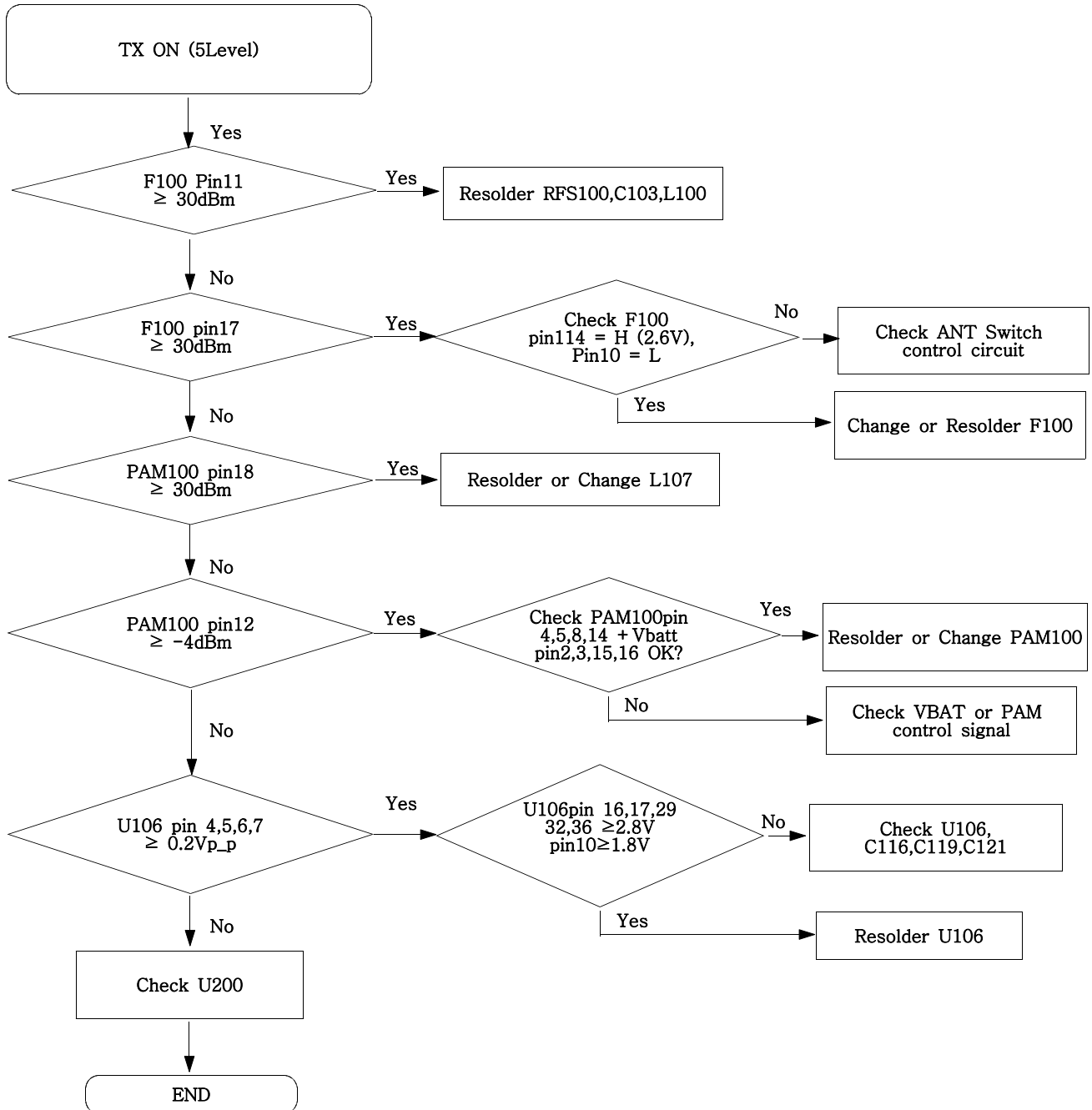




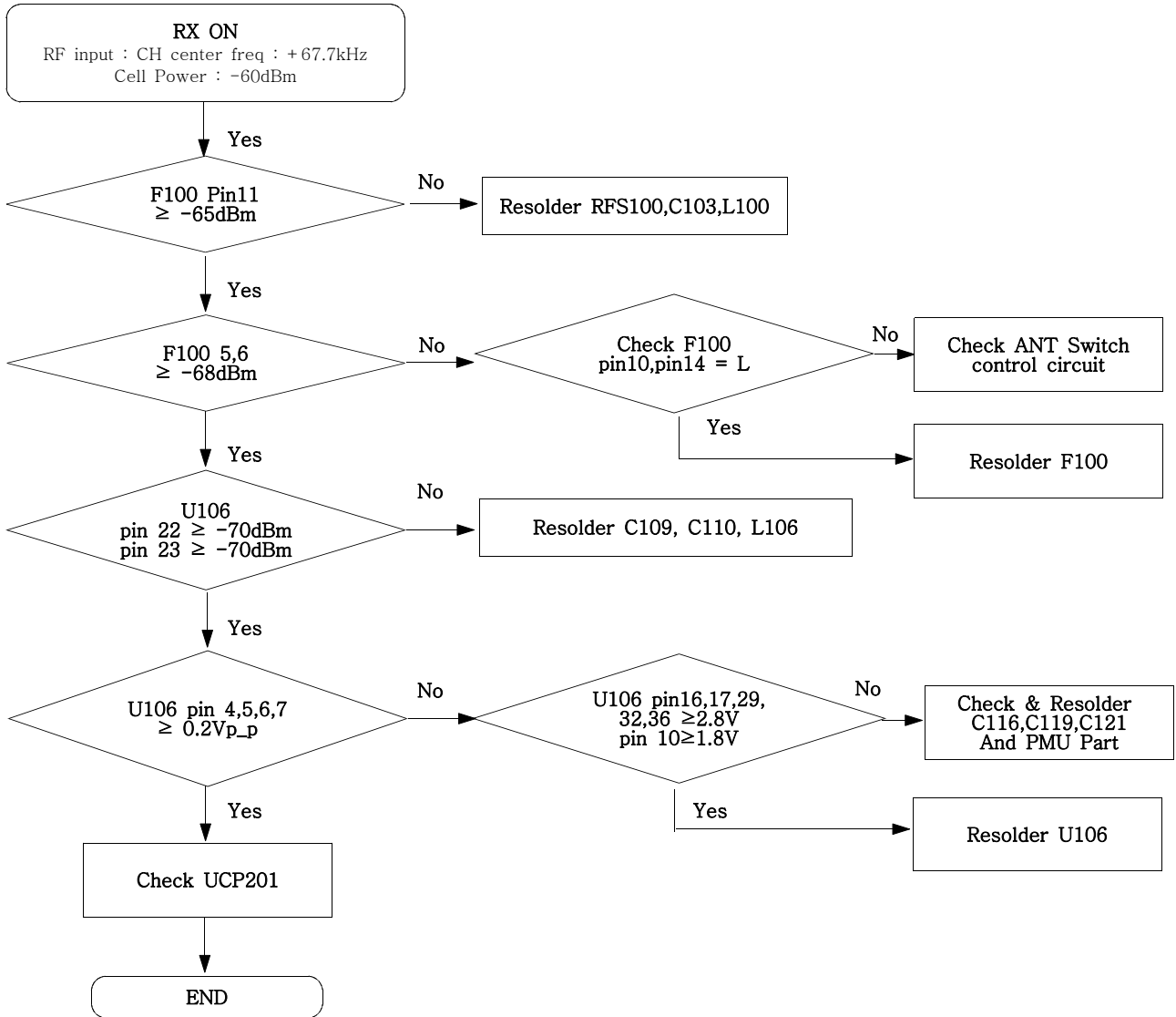
9-12. GSM Receiver



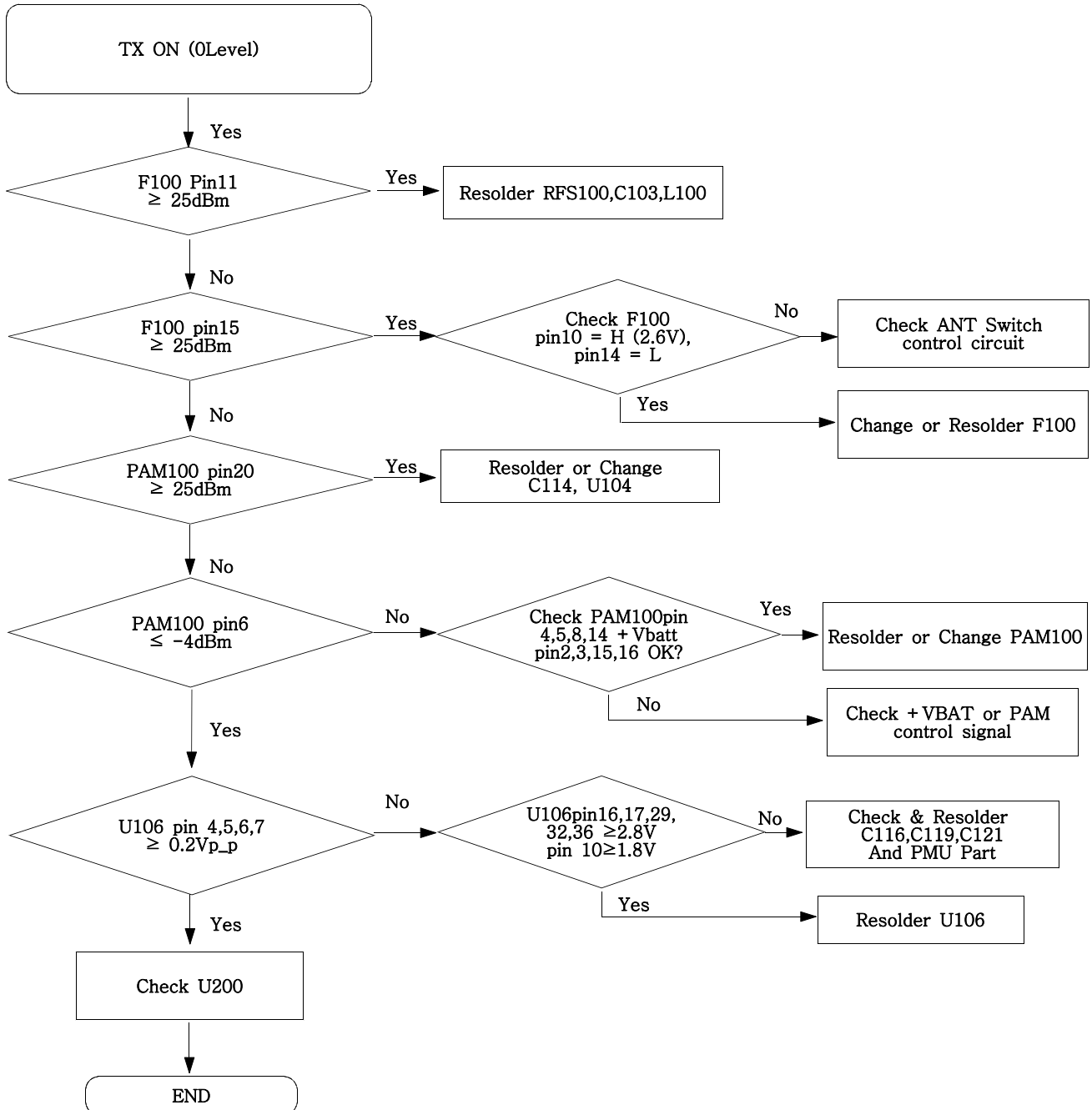
9-13. GSM Transmitter



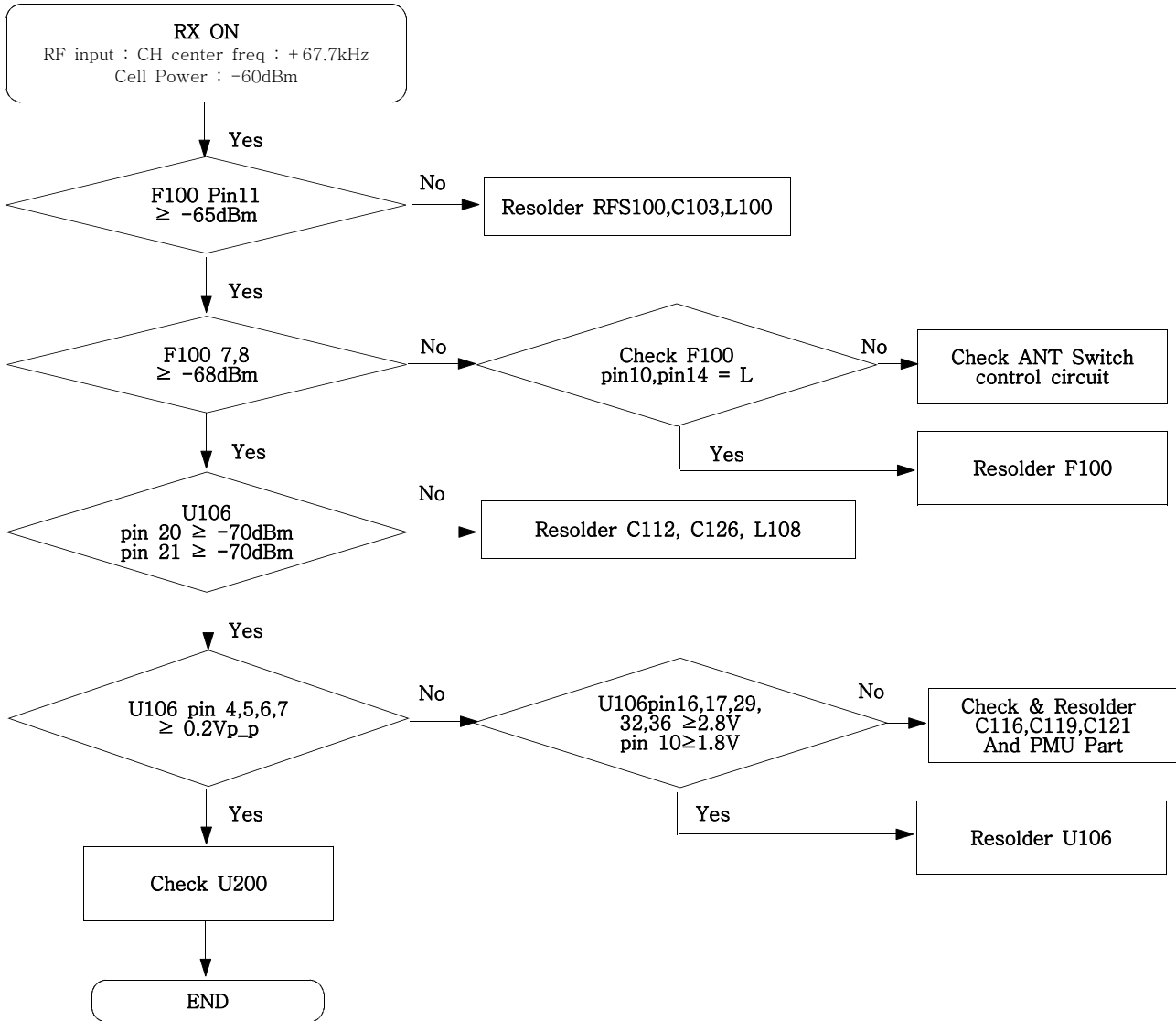
9-14. DCS Receiver



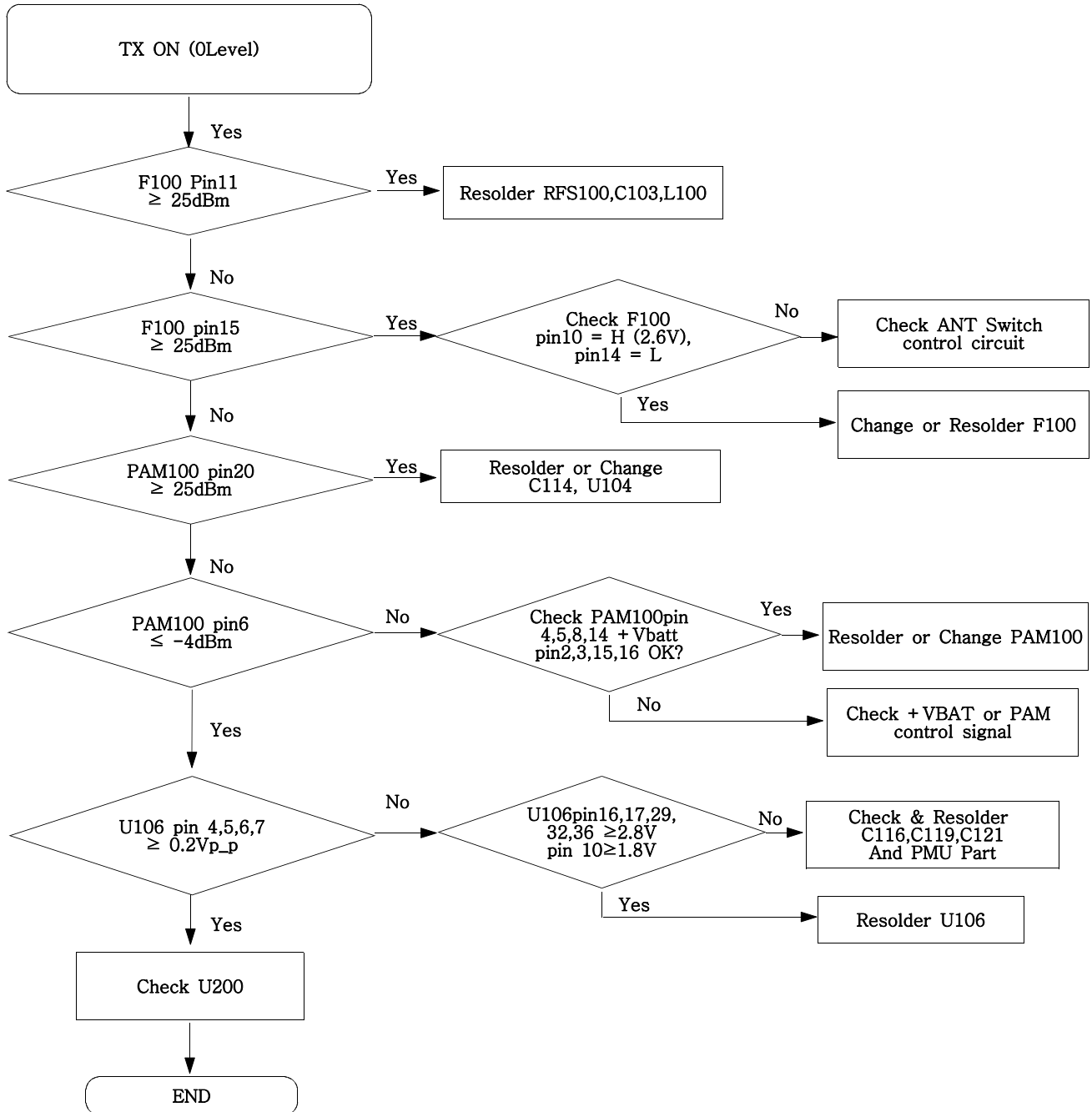
9-15. DCS Transmitter



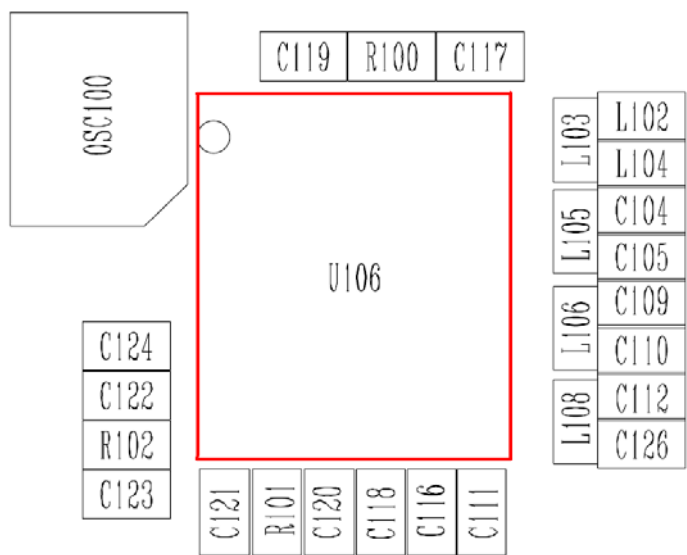
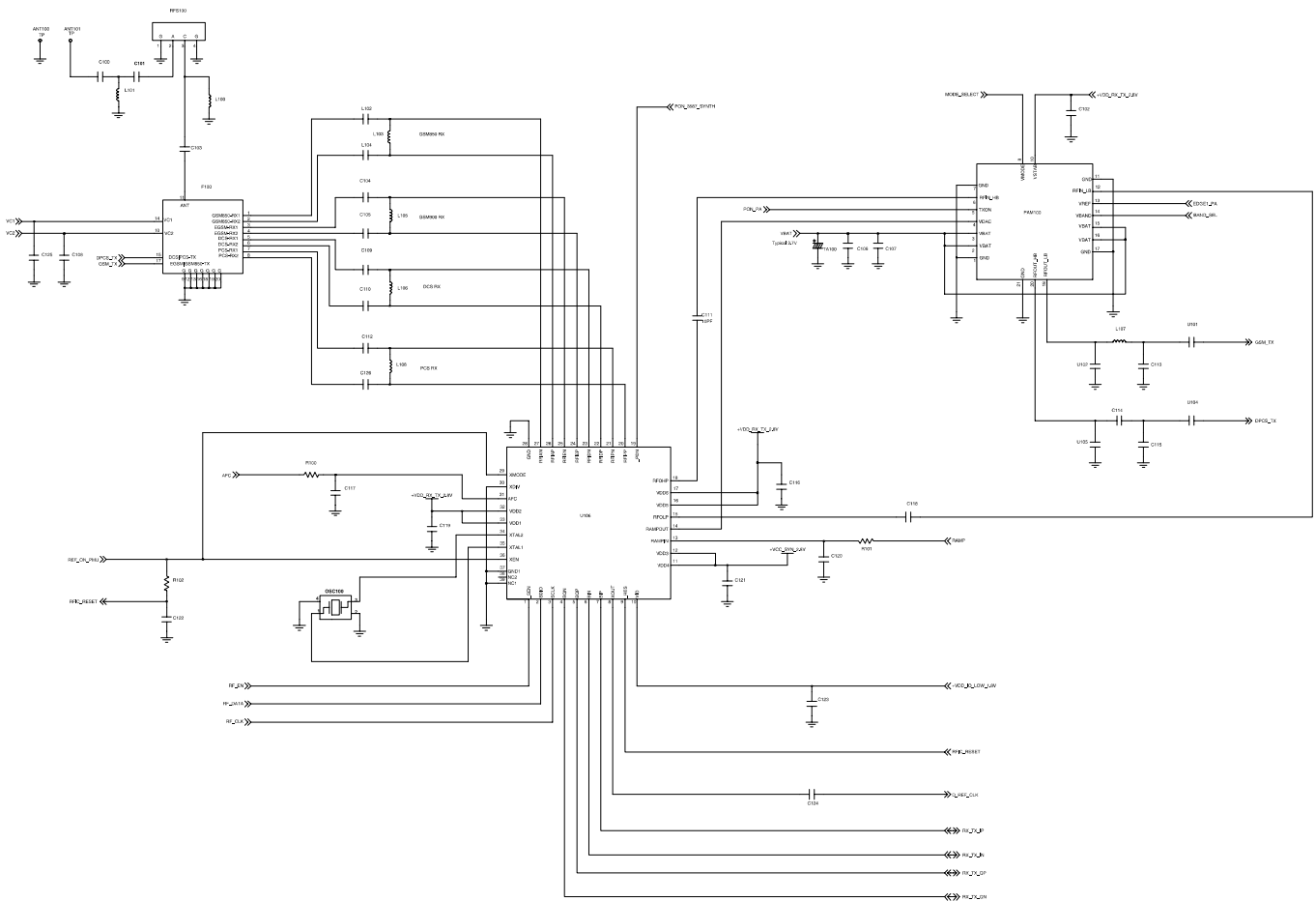
9-16. PCS Receiver



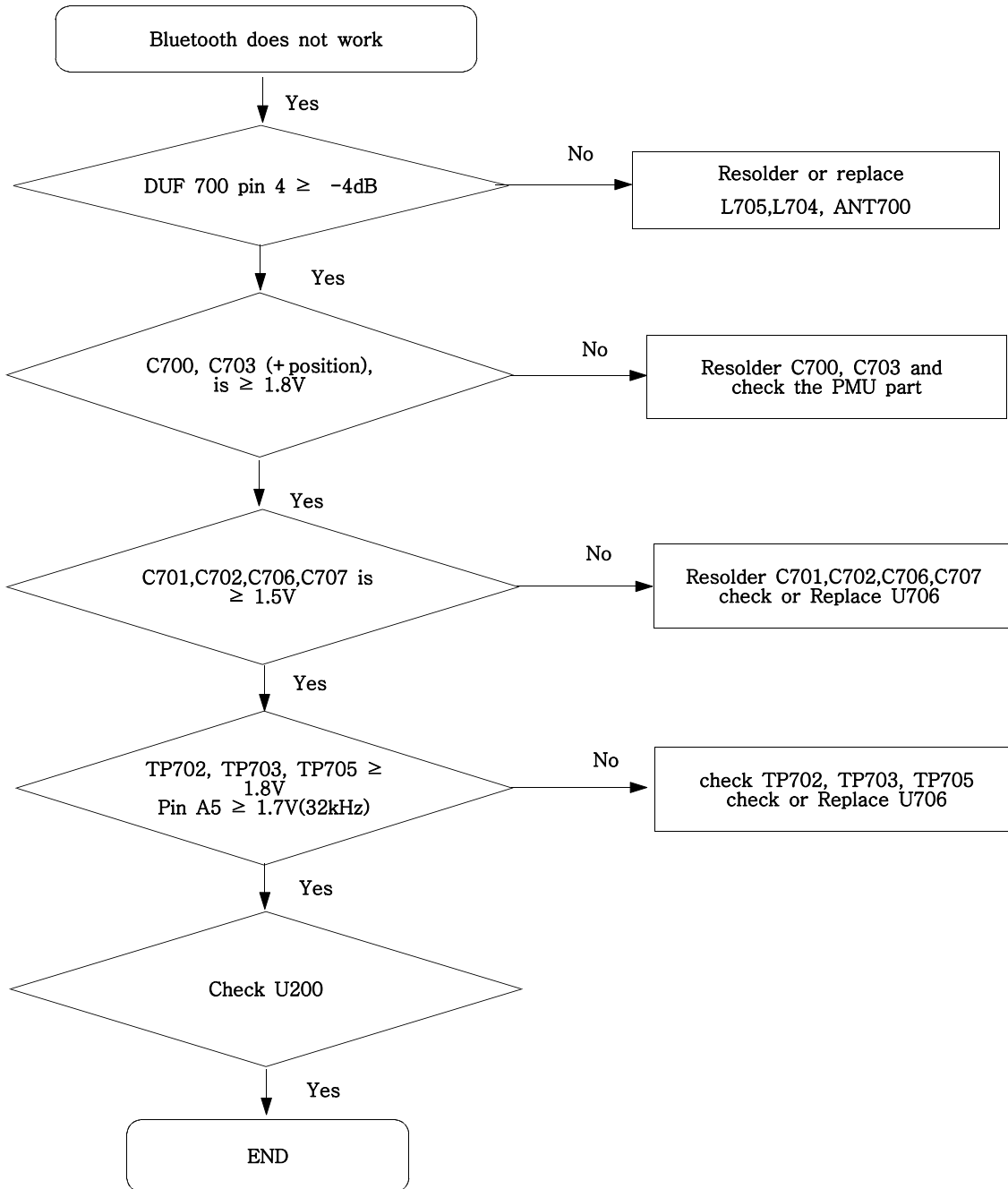
9-17. PCS Transmitter



# Flow Chart of Troubleshooting

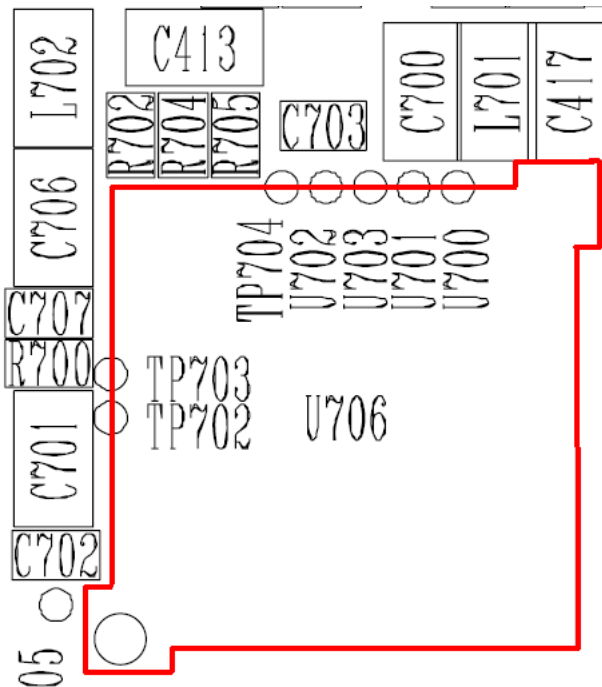
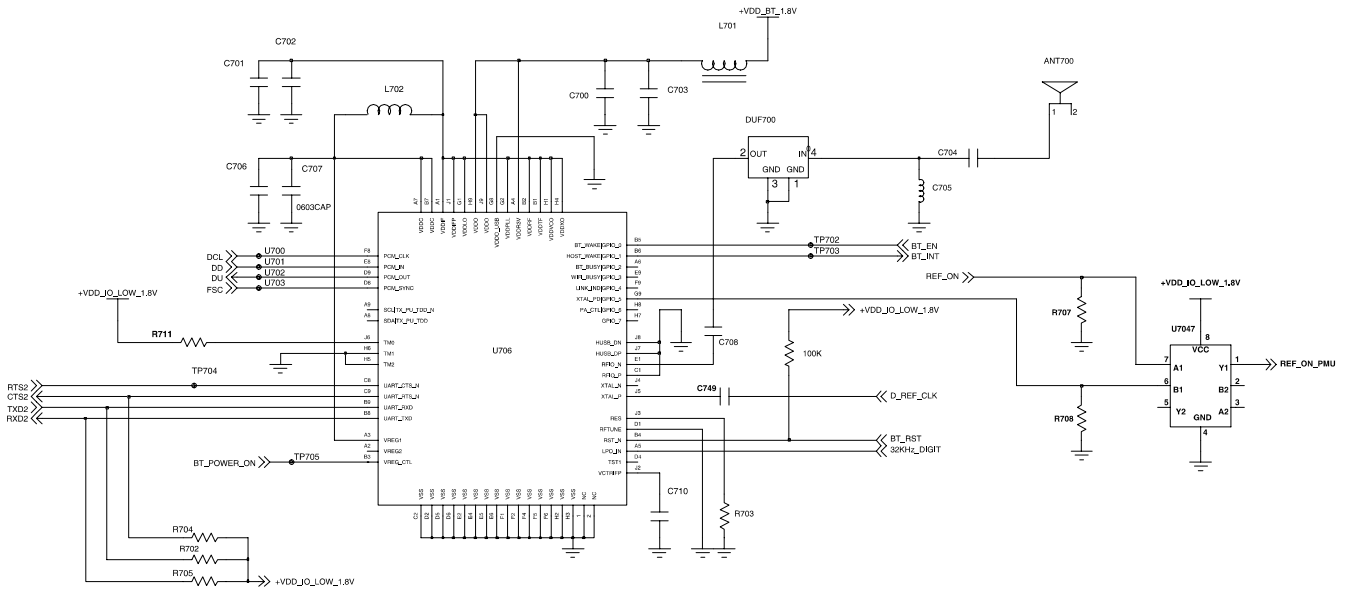


9-18. Bluetooth part

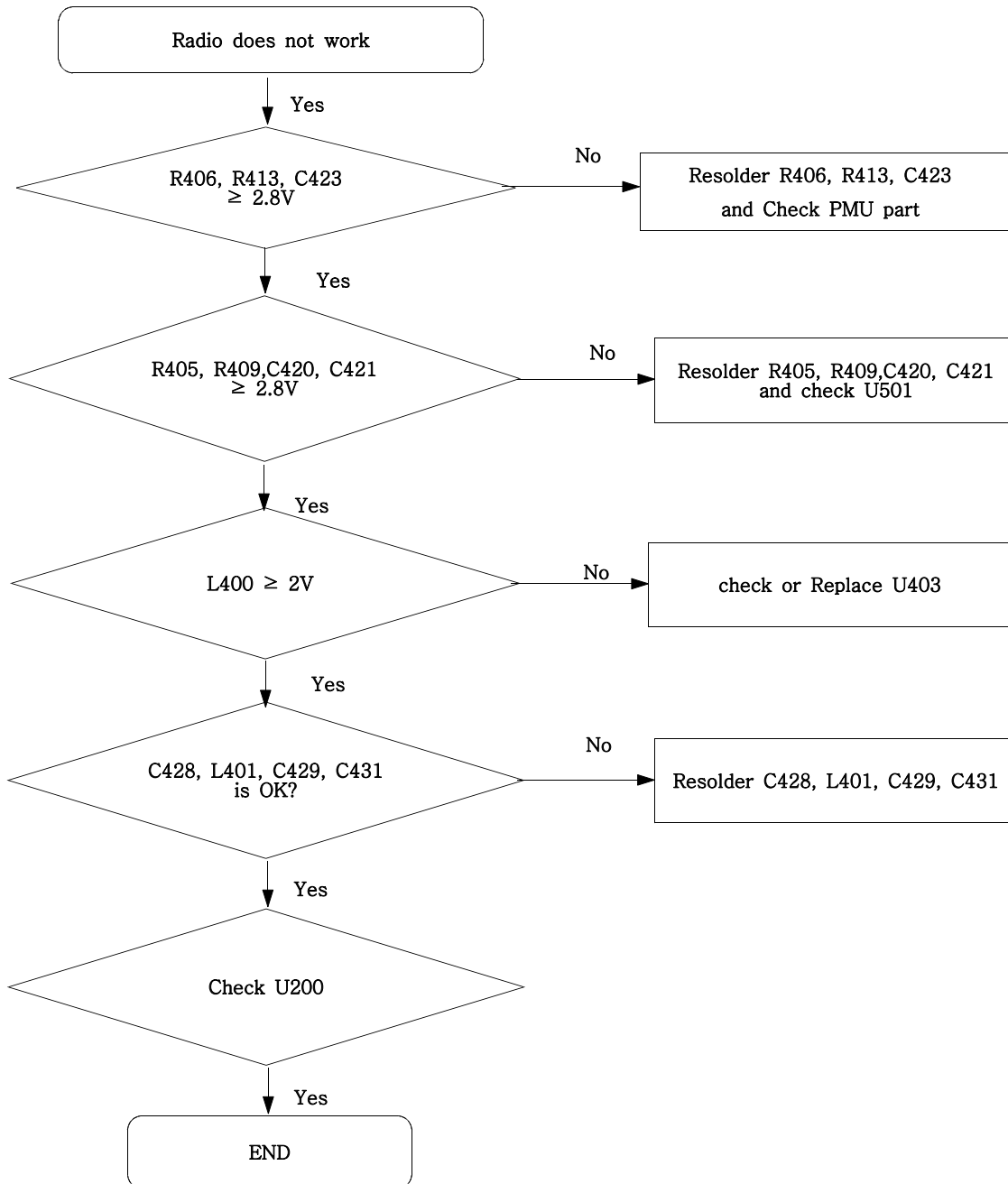




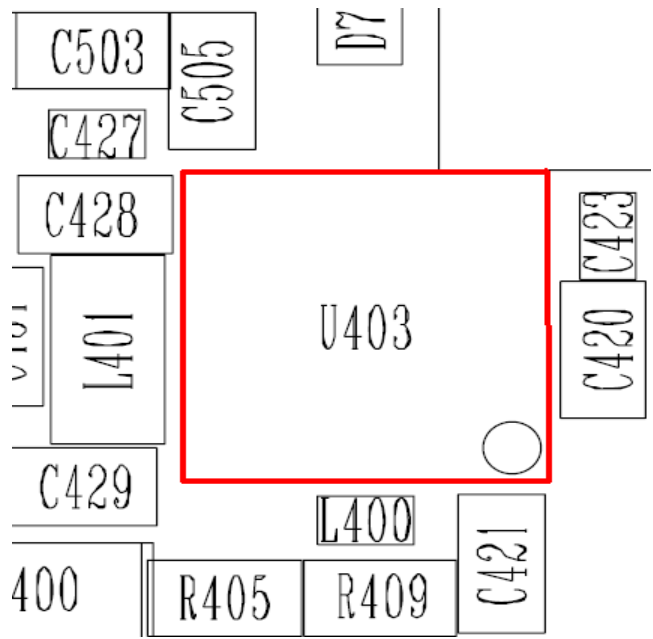
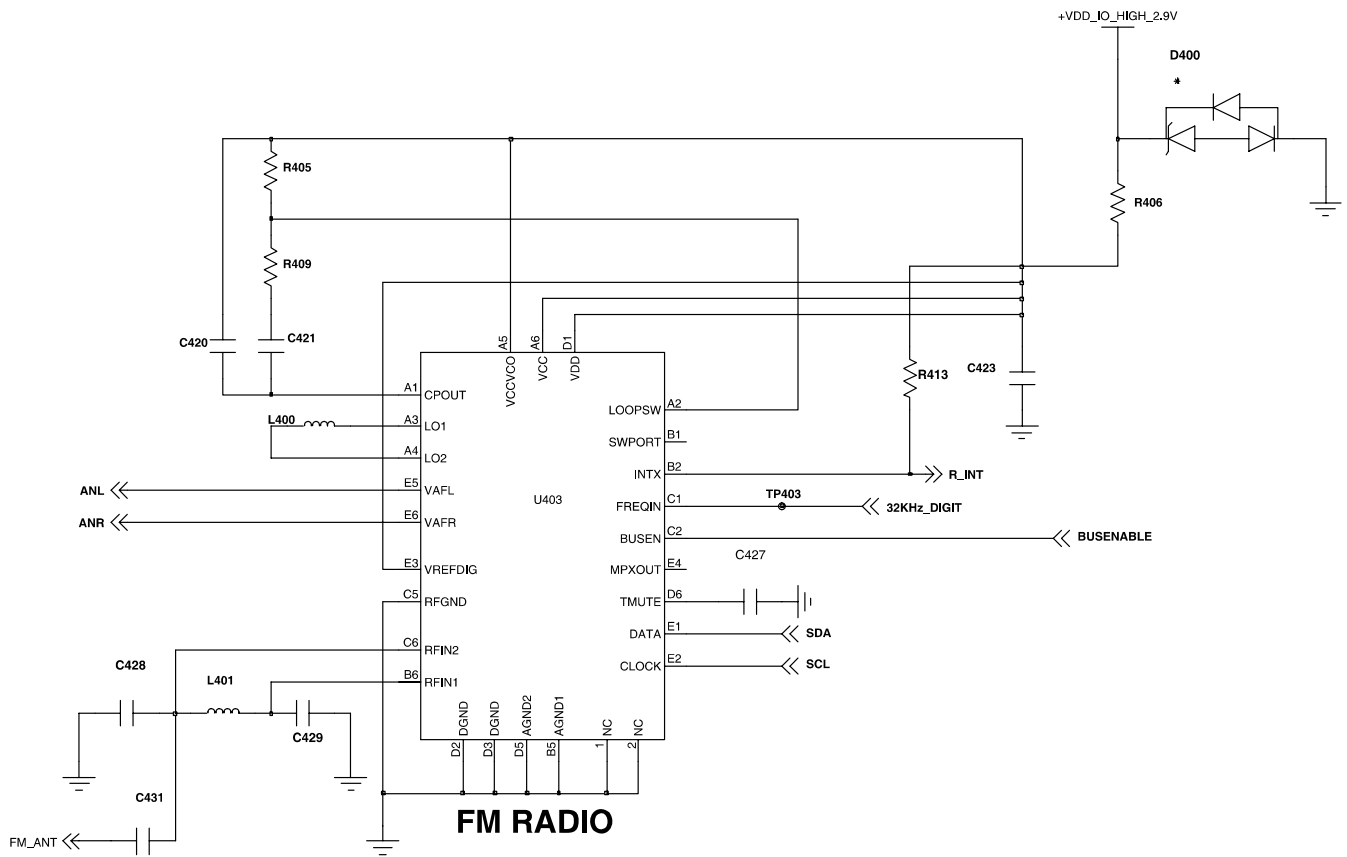
# Flow Chart of Troubleshooting



## 9-19. Radio part



# Flow Chart of Troubleshooting



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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

