

**SAMSUNG**

# GSM TELEPHONE

## SGH-i710

# ***SERVICE*** *Manual*

### GSM TELEPHONE



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**SAMSUNG  
ELECTRONICS**



GSPN (Global Service Partner Network)

| Country          | Web Site                  |
|------------------|---------------------------|
| North America    | service.samsungportal.com |
| Latin America    | latin.samsungportal.com   |
| CIS              | cis.samsungportal.com     |
| Europe           | europe.samsungportal.com  |
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| Asia             | asia.samsungportal.com    |
| Mideast & Africa | mea.samsungportal.com     |

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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<br/>Phase 1</b> | <b>EGSM 900<br/>Phase 2</b> | <b>DCS1800<br/>Phase 1</b> | <b>PCS1900</b>         |
|---------------------------------------|---------------------------|-----------------------------|----------------------------|------------------------|
| Freq.<br>Band[MHz]<br>Uplink/Downlink | 824~849<br>869~894        | 880~915<br>925~960          | 1710~1785<br>1805~1880     | 1850~1910<br>1930~1990 |
| ARFCN range                           | 128~251                   | 0~124 &<br>975~1023         | 512~885                    | 512~810                |
| Tx/Rx spacing                         | 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<br>Period/Frame<br>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                        | 2Km                    |

## 2-2. GSM Tx Power Class

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

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#### Main Function

- Slim Bar Design 2.5G MITS
- 2 Megapixel Camera with AutoFocus
- 2.8" QVGA 262K Color TFT Screen
- External Memory microSD (T-Flash)
- Video Recording & Messaging
- Music Player(MP3/AAC/AAC+)
- Bluetooth Wireless Technology V 2.0 + EDR
- Multimedia Message Service (MMS)/SMS/E-mail
- Voice recorder
- Speaker Phone
- Java MIDP 2.0/ WAP2.0
- GSM/GPRS Class 10
- Quad-band(850/900/1800/1900MHz)





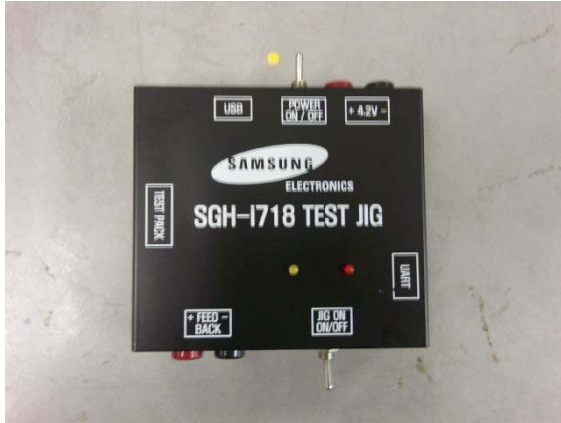
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## 4. Array course control

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### 4-1. Software Adjustments

Test Jig



Jig cable (GH39-00777A)



Serial Cable(CSA LL64151-A)



Power Cable



USB DATA CABLE (CSA LL11105 AWM)



## 4-2. Software Downloading

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

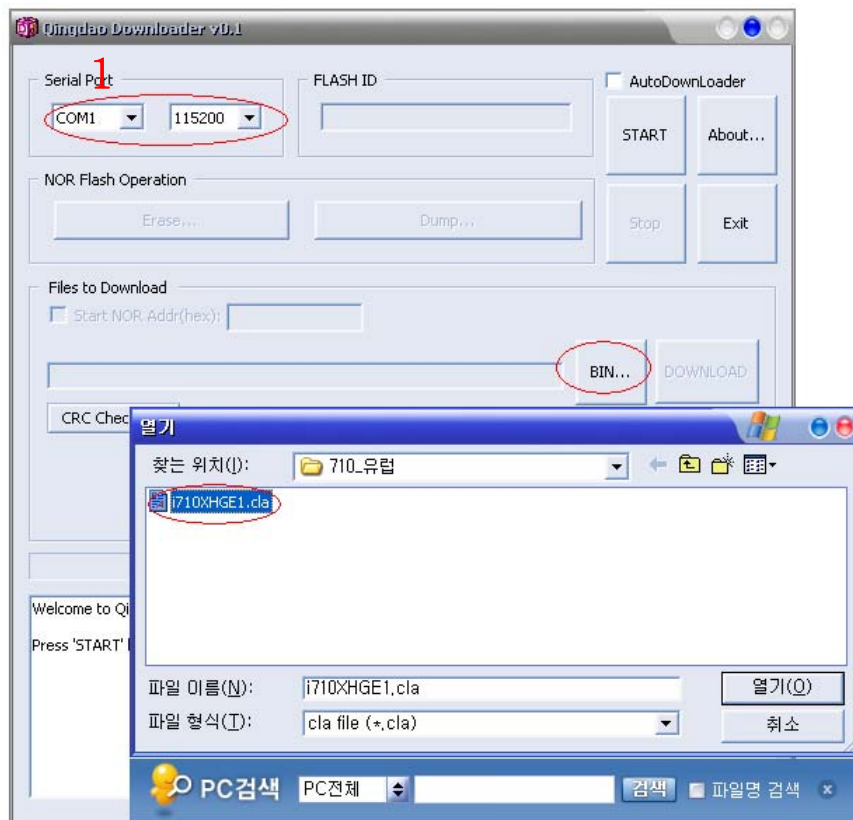
- Downloader Program([Becks\\_Downloader\\_v01.exe](#))
- SGH-i710 Mobile Phone
- USB Data Cable
- UART Data Cable(Serial Cabel)
- Binary files (PDA & Phone binary)

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

#### 4-2-2-1. Phone S/W Downloading

- Load the binary download program by executing the  
“[Becks\\_Downloader\\_v01.exe](#)”

1. Select the connected serial port and the rate of speed
2. Select the file what you want to download

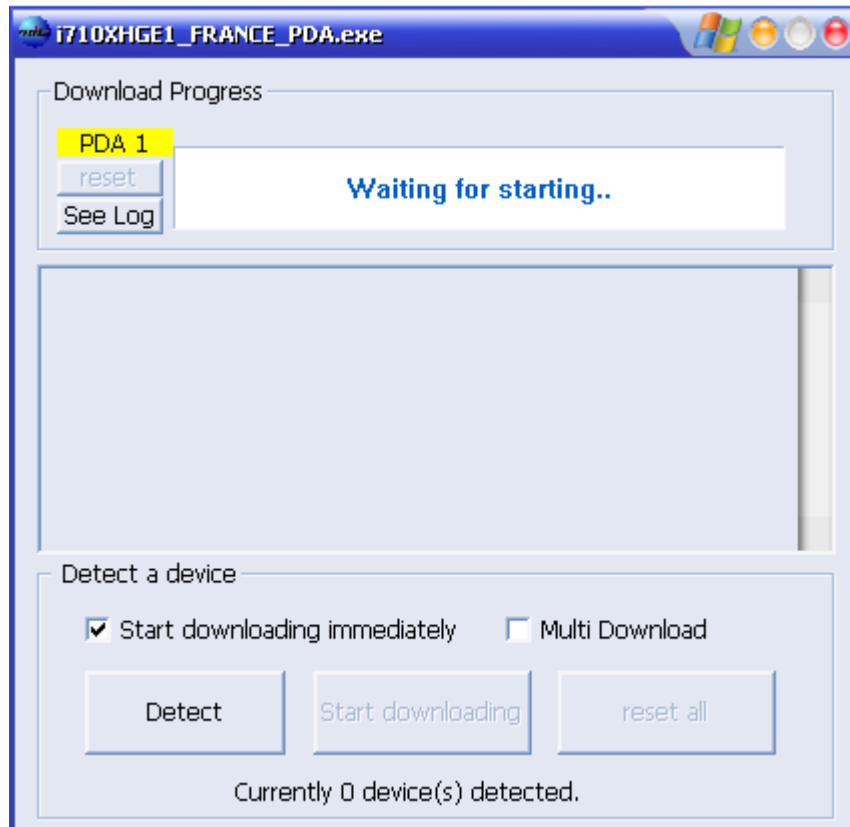


3. Then, click the start button.

## 4-2-2-2. PDA S/W Downloading

- Load the binary download program by executing the "i710XHGE1\_FRANCE\_PDA.exe" (It's up to binary version)

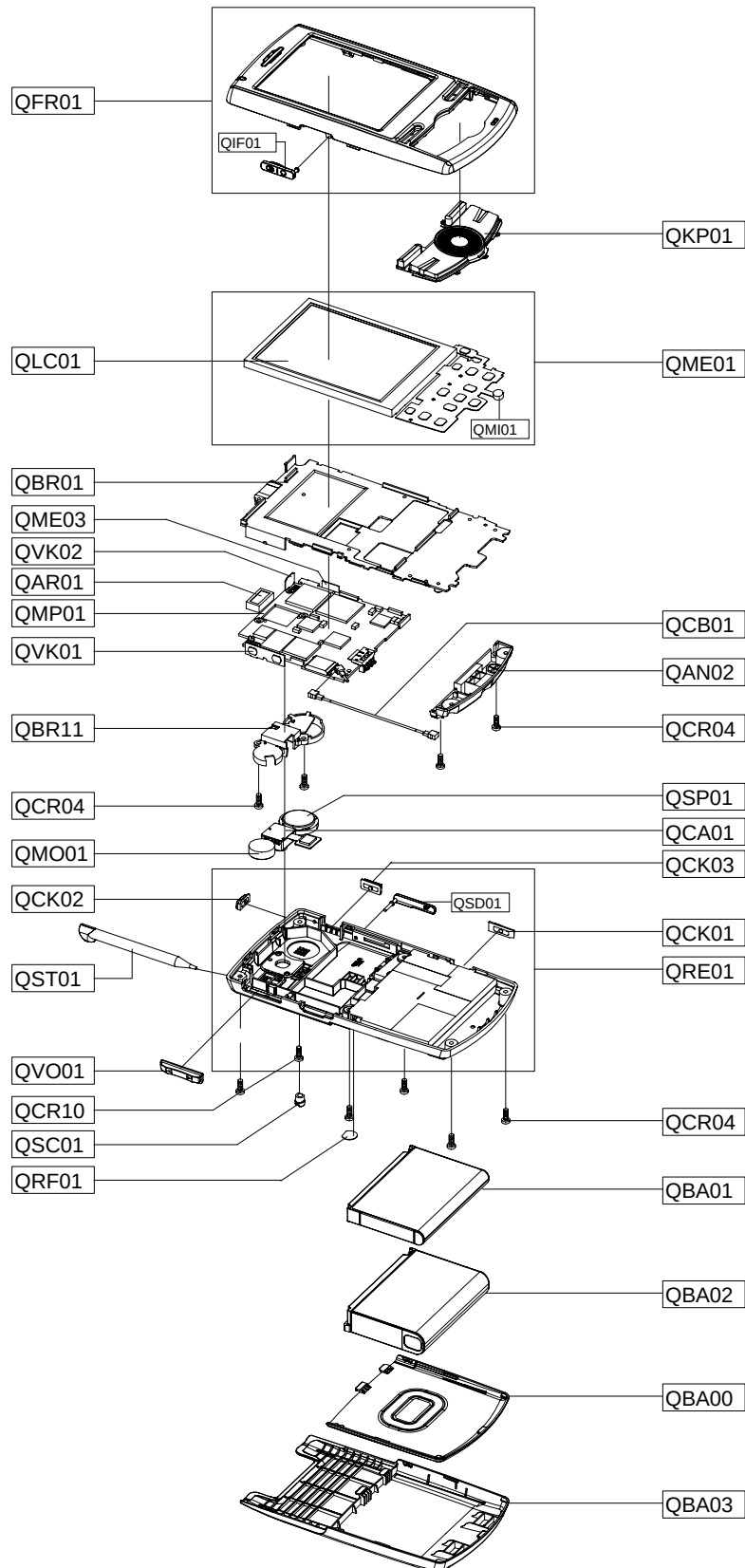
1. Click the Detect button.





## 5. Exploded View/Disassembly&Assembly Instructions

### 5-1. Cellular phone Exploded View



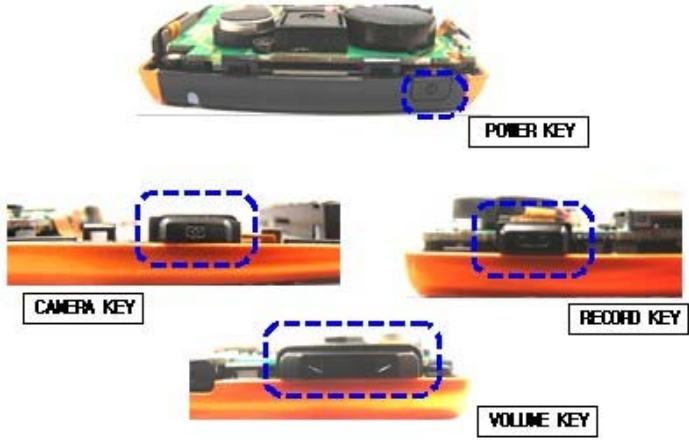
## 5-2. Cellular phone Parts list

| Design LOC | Description                    | SEC CODE    |
|------------|--------------------------------|-------------|
| QAN02      | ANTENNA-SGHI718                | GH42-01078A |
| QAR01      | AUDIO-RECEIVER                 | 3009-001250 |
| QBA00      | PMO-COVER BATTERY              | GH72-35831A |
| QBA01      | INNER BATTERY PACK-1300MAH,BLK | GH43-02827A |
| QBA02      | INNER BATTERY PACK-1800MAH,BLK | GH43-02781A |
| QBA03      | PMO-COVER EXT BATT             | GH72-38333A |
| QBR01      | ASSY BRACKET-BRACKET SHIELD    | GH98-03033A |
| QBR11      | ASSY BRACKET-CAMERA HOUSING    | GH98-03032A |
| QCA01      | UNIT-CAMERA                    | GH59-03771A |
| QCB01      | CBF COAXIAL CABLE-SGHI718 COAX | GH39-00755A |
| QCK01      | PMO-CAMERA KEY                 | GH72-35838A |
| QCK02      | PMO-POWER KEY                  | GH72-35832A |
| QCK03      | PMO-REC KEY                    | GH72-35837A |
| QCR04      | SCREW-MACHINE                  | 6001-001479 |
| QCR10      | SCREW-MACHINE                  | 6001-001633 |
| QFR01      | ASSY CASE-FRONT                | GH98-04392A |
| QIF01      | PMO-COVER IF V2                | GH72-37119A |
| QKP01      | ASSY KEYPAD-(CUH/BLK)          | GH98-03036A |
| QLC01      | LCD-MODULE SGHI718             | GH07-01016A |
| QME01      | KEY FPCB-KEY FPCB ASSY         | GH59-03798A |
| QME03      | KEY FPCB-RECORD KEY ASSY       | GH59-03786A |
| QMO01      | MOTOR DC-SGHI718               | GH31-00289A |
| QMP01      | PBA-SGH-I710                   | GH92-03706A |
| QRE01      | ASSY CASE-REAR                 | GH98-03035A |
| QRF01      | MPR-TAPE RF HOLE               | GH74-29317A |
| QSC01      | PMO-COVER SCREW                | GH72-35840A |
| QSD01      | PMO-COVER M SD                 | GH72-35835A |
| QSP01      | SPEAKER                        | 3001-002091 |
| QST01      | ASSY ACCE-STYLUS PEN(SILVER)   | GH98-03060A |
| QVK01      | KEY FPCB-VOLUME KEY ASSY       | GH59-03801A |
| QVK02      | KEY FPCB-POWER KEY ASSY        | GH59-03803A |
| QVO01      | ASSY KEY-VOLUME KEY            | GH98-03809A |

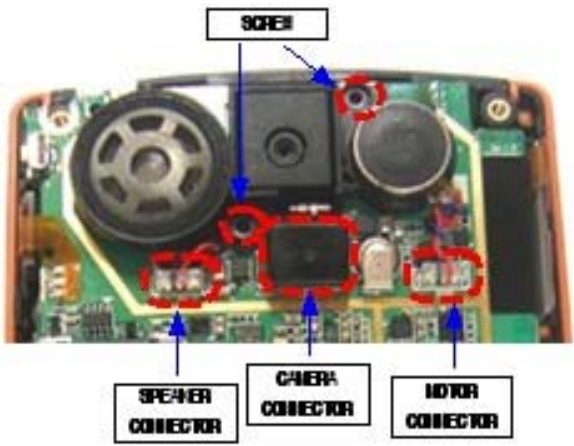
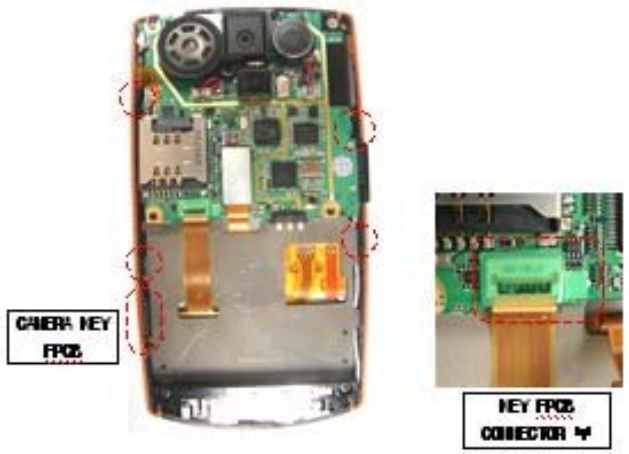
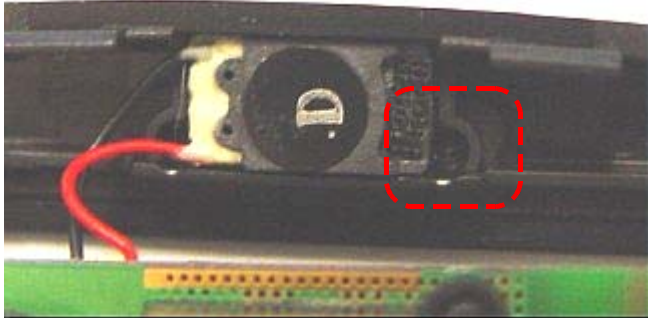
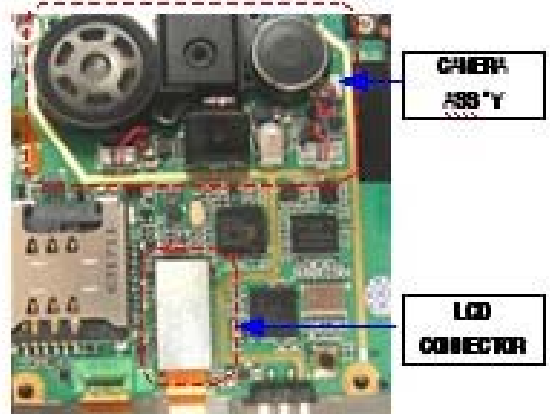
| Description                    | SEC CODE    |
|--------------------------------|-------------|
| CBF INTERFACE-DATA LINK CABLE  | GH39-00444A |
| ADAPTOR-SGHE690,BLK,EU,A_TYPE  | GH44-01361A |
| CHARGER-SGHI601,BTC,BLK        | GH44-01664A |
| EARPHONE-B-TYPE                | GH59-03883A |
| MPR-SPONGE MIC                 | GH74-29899A |
| MPR-INSU TAPE                  | GH74-30639A |
| MPR-INSU TAPE                  | GH74-29721A |
| MPR-INSU TAPE                  | GH74-29722A |
| MPR-INSU TAPE SPK              | GH74-29723A |
| MPR-TAPE RESET SWITCH          | GH74-30295A |
| MPR-TAPE MAIN FPCB A           | GH74-17751A |
| MPR-VINYL BOHO LCD TSTC        | GH74-31131A |
| BAG PE                         | 6902-000634 |
| LABEL(P)-UNIT SEAL             | GH68-00518B |
| LABEL(R)-MAIN(XEF)             | GH68-14706C |
| BOX-UNIT(EU)                   | GH69-05353B |
| CUSHION-CASE(EU)               | GH69-05357A |
| LABEL(P)-OPEN MP3              | GH68-11246A |
| S/W CD-SGHI710(FRAN ) COMPANIO | GH46-00456A |
| MANUAL USERS-XEFFRENCH QRG     | GH68-15012A |

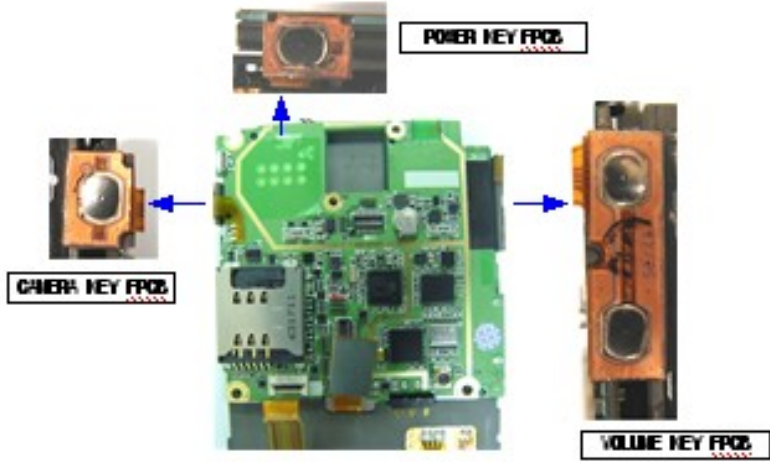
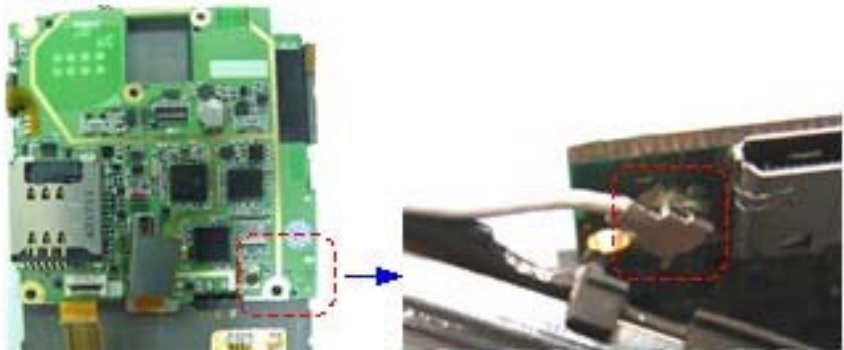
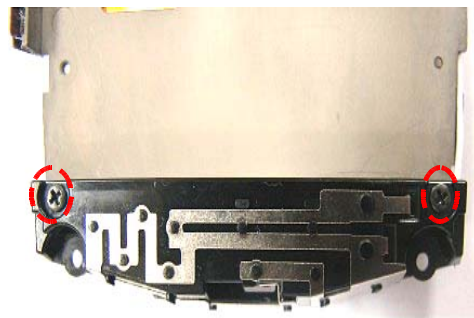
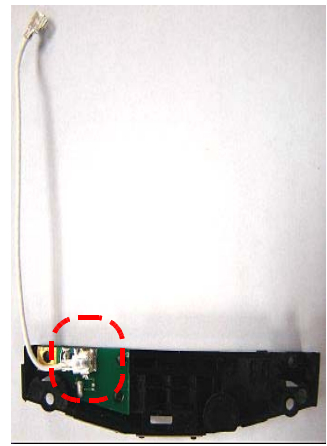
## 5-3. Disassembly and Assembly Instructions

### — Disassembly

|                                                                                                                                                                                                                          |                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <p>1</p>                                                                                                                                | <p>2</p>                                       |
| <p>1) Remove the SCREW COVER on the left side by using tweezers and separate the STYLUS PEN on the right side.</p>                                                                                                       | <p>1) Unscrew the 6 points.</p>                                                                                                   |
| <p>3</p>                                                                                                                               | <p>4</p>                                      |
| <p>1) Separate the REAR COVER from the bottom to the top on the VOLUME KEY side. 2) Separate the REAR COVER from the bottom to the top on the CAMERA KEY side.<br/>- Be careful of the damage of HOOKs on the COVER.</p> | <p>1) Separate the REAR COVER without damage of HOOKs on the top side.<br/>2) Remove the KEYS(CAMERA, RECORD, POWER, VOLUME).</p> |



|                                                                                                                                                                                                                 |                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>5</p>  <p>Screw</p> <p>SPEAKER CONNECTOR</p> <p>CAMERA CONNECTOR</p> <p>MOTOR CONNECTOR</p>                                 | <p>6</p>  <p>CAMERA KEY FPCB</p> <p>KEY FPCB CONNECTOR</p>                                                                                           |
| <p>1) Unscrew the 2 marked points on the picture and disconnect the CAMERA, MOTOR, SPEAKER CONNECTOR from PBA.</p>                                                                                              | <p>1) Separate the CAMERA KEY FPCB from the FRONT COVER by using tweezers.<br/>2) Remove the TAPE on the KEY FPCB CONNECTOR by using tweezers.<br/>3) Push the Hooks to out side on the FRONT COVER and Separate the FRAME from it.</p> |
| <p>7</p>                                                                                                                      | <p>8</p>  <p>CAMERA ASS'Y</p> <p>LCD CONNECTOR</p>                                                                                                  |
| <p>1) Hold up the PBA ASS'Y, and Separate the RECEIVER SPEAKER from the FRONT COVER by putting the tweezers into the marked point on the picture.<br/>- Be careful of damage of the COVER and SPEAKER WIRE.</p> | <p>1) Separate the CAMERA ASS'Y and the LCD CONNECTOR from the PBA.</p>                                                                                                                                                                 |

|                                                                                                                           |                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <p>9</p>                                | <p>10</p>   |
| <p>1) Separate KEY FPCBs(POWER, VOLUME, RECORD) from the FRAME by using tweezers.<br/>- Be careful of damage of FPCBs</p> | <p>1) Hold up the PBA slowly and disconnect the ANTENNA CABLE on the back side of the PBA.</p> |
| <p>11</p>                               | <p>12</p>  |
| <p>1) Unscrew the 2 marked points and separate the ANTENNA.</p>                                                           | <p>1) Detach the ANTENNA CABLE from the ANTENNA.</p>                                           |

13



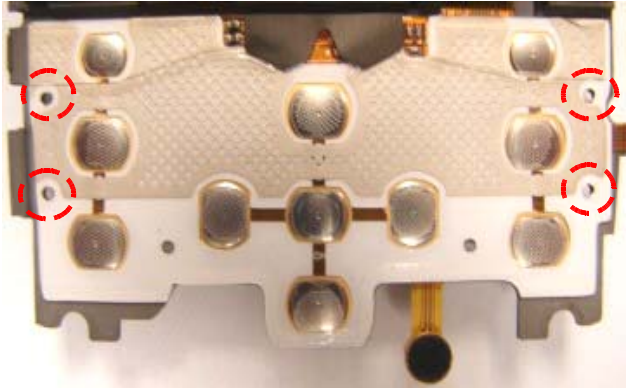
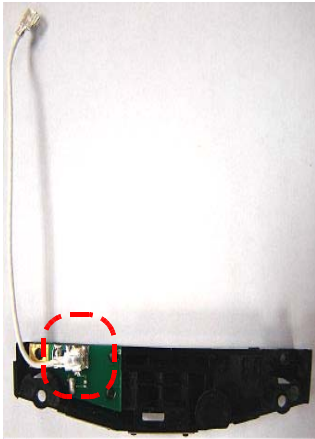
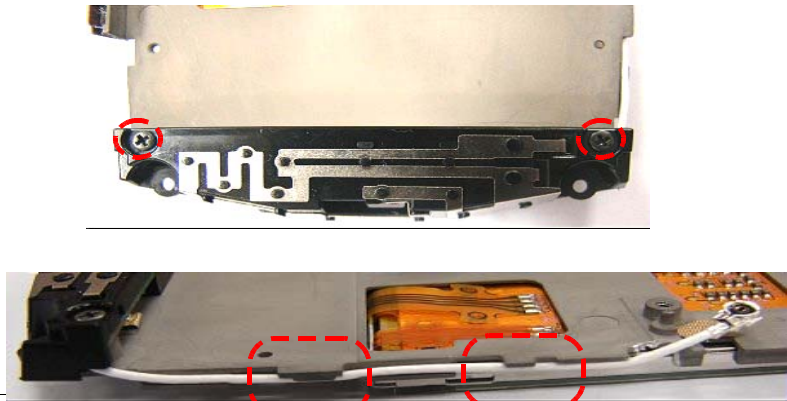
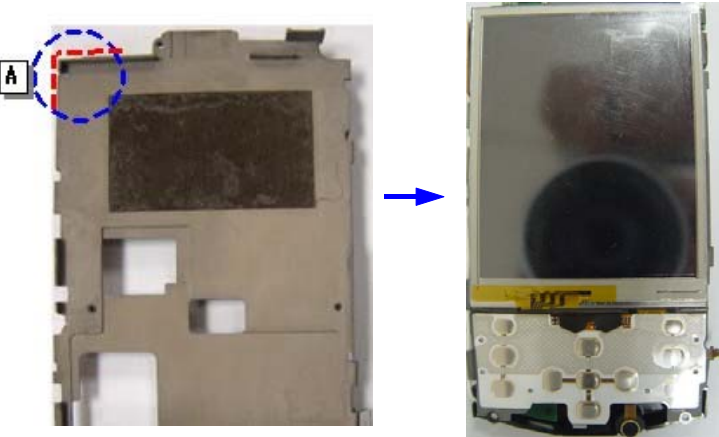
- 1) Detach the FPCB from the FRAME by using tweezers
- Be careful of damage of the FPCB.

14



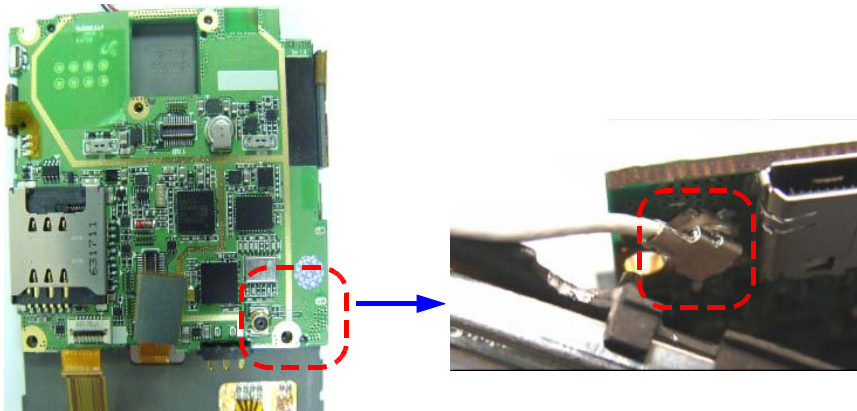
- 1) Hold up the LCD from the bottom and detach the LCD from the LCD FRAME.
- Be careful of damage of the LCD and the FRAME

## — Assembly

|                                                                                                                         |                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1</p>                               | <p>2</p>                                                                   |
| <p>1) Attach the KEY FPCB on the FRAME along by red marked hole on the picture.<br/>- Be careful of damage of FPCB.</p> | <p>1) Attach the INTENNA CABLE to the connection point on the INTENNA</p>                                                                                     |
| <p>3</p>                              | <p>4</p>                                                                  |
| <p>1) Screw the 2 points to the INTENNA to fix the FRAME.<br/>2) Hold the INTENNA CABLE in the FRAME.</p>               | <p>1) Remove the release paper(both-sided TAPE) from the FRAME and attach the LCD to the FRAME along by the guide line on the left-top side of the frame.</p> |

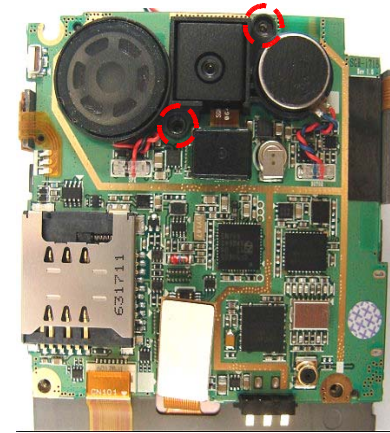


5



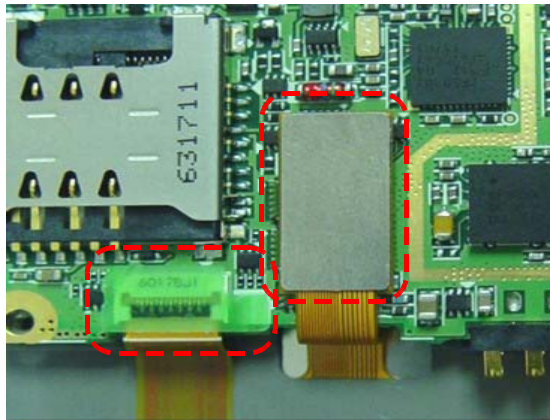
- 1) Attach the PBA to the FRAME after connect the INTENNA CABLE to the cable connector on the back side of the PBA

6



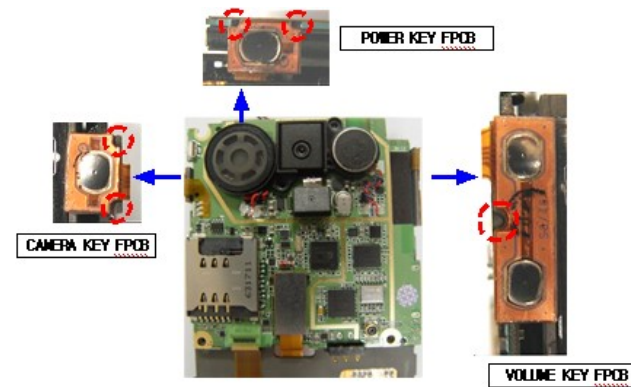
- 1) Attach the CAMERA ASS'Y to the PBA and connect CAMERA, MOTOR, SPKAKER CONNECTOR to the PBA.
- 2) Screw the 2 points on the CAMERA ASS'Y to fix it.

7

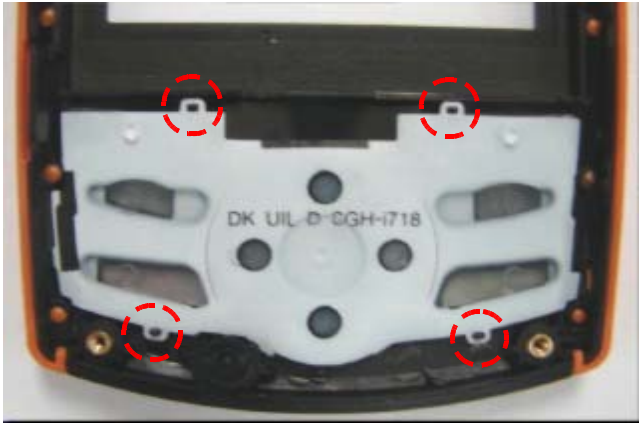
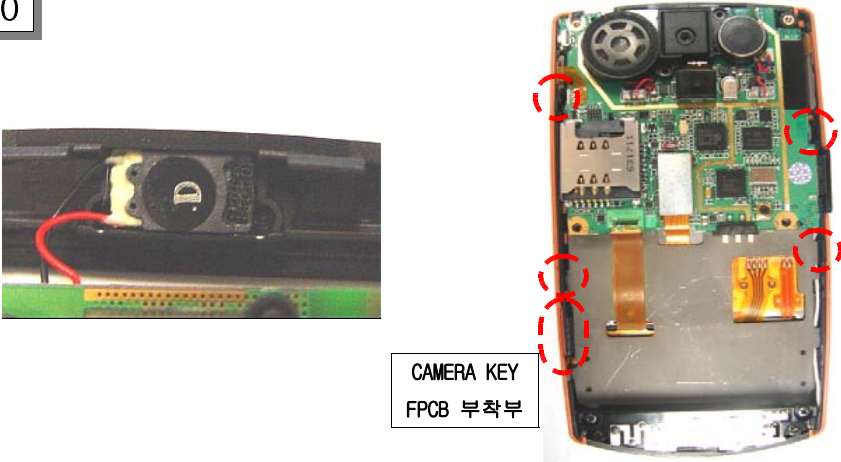
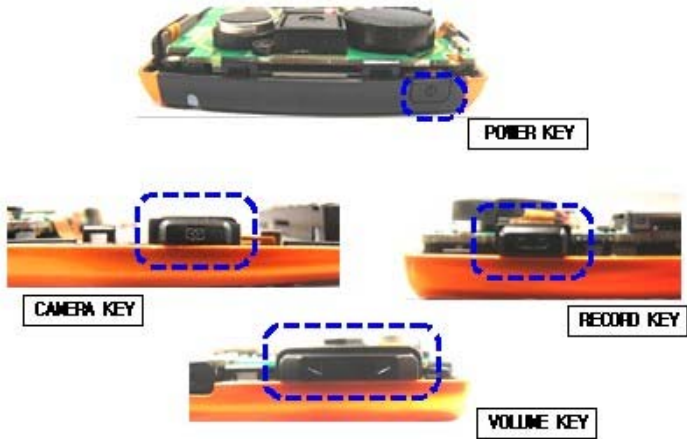


- 1) Connect the KEY FPCB to the connector on the PBA and attach the TAPE on it along the PCB SILK guide line by using the tweezers(pincette).
- 2) Connect the LCD CONNECTOR to the PBA.

8



- 1) Attach the KEY FPCB(POWER, VOLUME, RECORD) to the FRAME according to guide rules on the picture.

|                                                                                              |                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>9</p>    | <p>10</p>  <p>CAMERA KEY<br/>FPCB 부착부</p>                                                                                      |
| <p>1) Attach the KEYPAD to the FRONT COVER along by the fixed poles.</p>                     | <p>1) Remove the release paper on the RECEIVER and attach Receiver to the FRONT COVER.<br/>2) Attach the FRAME ASS'Y to the FRONT COVER by using the HOOKS and attach the CAMERA KEY FPCB to the FRONT COVER.</p> |
| <p>11</p>  | <p>12</p>                                                                                                                     |
| <p>1) Attach the KEYS(CAMERA, RECORD, POWER, VOLUME) to the FRONT COVER.</p>                 | <p>1) Assemble the REAR COVER being careful of the hooks</p>                                                                                                                                                      |

13



1) Screw the 6 points.

14



1) Attach the SCREW COVER on the left side and insert the STYLUS PEN on the right side.





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## 6. MAIN Electrical Parts List

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| Design LOC | Description     | SEC Code    | STATUS |
|------------|-----------------|-------------|--------|
| ANT600     | ANTENNA-CHIP    | 4202-001263 | SA     |
| BAT900     | BATTERY-LI(2ND) | 4302-001181 | SA     |
| BTC300     | HEADER-BATTERY  | 3711-006078 | SA     |
| C105       | C-CER,CHIP      | 2203-006562 | SA     |
| C107       | C-CER,CHIP      | 2203-006423 | SA     |
| C111       | C-CER,CHIP      | 2203-006423 | SA     |
| C113       | C-CER,CHIP      | 2203-006423 | SA     |
| C117       | C-CER,CHIP      | 2203-006423 | SA     |
| C118       | C-CER,CHIP      | 2203-006423 | SA     |
| C119       | C-CER,CHIP      | 2203-006423 | SA     |
| C124       | C-CER,CHIP      | 2203-006423 | SA     |
| C125       | C-CER,CHIP      | 2203-006562 | SA     |
| C126       | C-CER,CHIP      | 2203-006562 | SA     |
| C127       | C-CER,CHIP      | 2203-006423 | SA     |
| C128       | C-CER,CHIP      | 2203-006423 | SA     |
| C130       | C-CER,CHIP      | 2203-006423 | SA     |
| C131       | C-CER,CHIP      | 2203-006423 | SA     |
| C133       | C-CER,CHIP      | 2203-006423 | SA     |
| C134       | C-CER,CHIP      | 2203-006423 | SA     |
| C135       | C-CER,CHIP      | 2203-006423 | SA     |
| C137       | C-CER,CHIP      | 2203-006562 | SA     |
| C138       | C-CER,CHIP      | 2203-006562 | SA     |
| C139       | C-CER,CHIP      | 2203-006423 | SA     |
| C140       | C-CER,CHIP      | 2203-006562 | SA     |
| C141       | C-CER,CHIP      | 2203-006562 | SA     |
| C142       | C-CER,CHIP      | 2203-006562 | SA     |
| C143       | C-CER,CHIP      | 2203-006423 | SA     |
| C144       | C-CER,CHIP      | 2203-006048 | SA     |
| C145       | C-CER,CHIP      | 2203-006048 | SA     |
| C146       | C-CER,CHIP      | 2203-006048 | SA     |
| C151       | C-CER,CHIP      | 2203-006423 | SA     |
| C152       | C-CER,CHIP      | 2203-006562 | SA     |
| C200       | C-CER,CHIP      | 2203-006423 | SA     |
| C201       | C-CER,CHIP      | 2203-006423 | SA     |
| C202       | C-CER,CHIP      | 2203-006562 | SA     |
| C203       | C-CER,CHIP      | 2203-006562 | SA     |
| C204       | C-CER,CHIP      | 2203-006423 | SA     |
| C206       | C-CER,CHIP      | 2203-006423 | SA     |
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| C217       | C-CER,CHIP      | 2203-006423 | SA     |
| C218       | C-CER,CHIP      | 2203-006423 | SA     |
| C219       | C-CER,CHIP      | 2203-006562 | SA     |
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| C223       | C-CER,CHIP      | 2203-006423 | SA     |
| C224       | C-CER,CHIP      | 2203-006562 | SA     |

| Design LOC | Description | SEC Code    | STATUS |
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| C225       | C-CER,CHIP  | 2203-006562 | SA     |
| C301       | C-CER,CHIP  | 2203-000654 | SA     |
| C302       | C-CER,CHIP  | 2203-006562 | SA     |
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| C306       | C-CER,CHIP  | 2203-006562 | SA     |
| C307       | C-CER,CHIP  | 2203-006562 | SA     |
| C308       | C-CER,CHIP  | 2203-006562 | SA     |
| C309       | C-CER,CHIP  | 2203-006824 | SA     |
| C310       | C-CER,CHIP  | 2203-006824 | SA     |
| C311       | C-CER,CHIP  | 2203-006824 | SA     |
| C312       | C-CER,CHIP  | 2203-002443 | SA     |
| C313       | C-CER,CHIP  | 2203-006474 | SA     |
| C314       | C-CER,CHIP  | 2203-002443 | SA     |
| C318       | C-CER,CHIP  | 2203-006824 | SA     |
| C320       | C-CER,CHIP  | 2203-006890 | SA     |
| C321       | C-CER,CHIP  | 2203-006890 | SA     |
| C322       | C-CER,CHIP  | 2203-006824 | SA     |
| C323       | C-CER,CHIP  | 2203-006474 | SA     |
| C324       | C-CER,CHIP  | 2203-006361 | SA     |
| C325       | C-CER,CHIP  | 2203-000138 | SA     |
| C326       | C-CER,CHIP  | 2203-006048 | SA     |
| C327       | C-CER,CHIP  | 2203-000254 | SA     |
| C328       | C-CER,CHIP  | 2203-006562 | SA     |
| C329       | C-CER,CHIP  | 2203-006824 | SA     |
| C330       | C-CER,CHIP  | 2203-006824 | SA     |
| C331       | C-CER,CHIP  | 2203-006423 | SA     |
| C332       | C-CER,CHIP  | 2203-006474 | SA     |
| C333       | C-CER,CHIP  | 2203-006562 | SA     |
| C336       | C-CER,CHIP  | 2203-006423 | SA     |
| C337       | C-CER,CHIP  | 2203-006824 | SA     |
| C338       | C-CER,CHIP  | 2203-006890 | SA     |
| C339       | C-CER,CHIP  | 2203-006824 | SA     |
| C340       | C-CER,CHIP  | 2203-006562 | SA     |
| C342       | C-CER,CHIP  | 2203-006562 | SA     |
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| C362       | C-CER,CHIP  | 2203-006890 | SA     |
| C363       | C-CER,CHIP  | 2203-006361 | SA     |
| C364       | C-CER,CHIP  | 2203-006562 | SA     |
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| C369       | C-CER,CHIP  | 2203-006048 | SA     |
| C370       | C-CER,CHIP  | 2203-006423 | SA     |
| C371       | C-CER,CHIP  | 2203-006423 | SA     |
| C372       | C-CER,CHIP  | 2203-006423 | SA     |
| C374       | C-CER,CHIP  | 2203-006890 | SA     |
| C375       | C-CER,CHIP  | 2203-006361 | SA     |
| C402       | C-CER,CHIP  | 2203-006423 | SA     |
| C405       | C-CER,CHIP  | 2203-006423 | SA     |
| C407       | C-CER,CHIP  | 2203-006824 | SA     |
| C408       | C-CER,CHIP  | 2203-006048 | SA     |

| Design LOC | Description | SEC Code    | STATUS |
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| C415       | C-CER,CHIP  | 2203-000725 | SA     |
| C418       | C-CER,CHIP  | 2203-006562 | SA     |
| C419       | C-CER,CHIP  | 2203-000725 | SA     |
| C422       | C-CER,CHIP  | 2203-005481 | SA     |
| C423       | C-CER,CHIP  | 2203-006562 | SA     |
| C424       | C-CER,CHIP  | 2203-006824 | SA     |
| C425       | C-CER,CHIP  | 2203-006824 | SA     |
| C427       | C-CER,CHIP  | 2203-006626 | SA     |
| C429       | C-CER,CHIP  | 2203-000812 | SA     |
| C430       | C-CER,CHIP  | 2203-000679 | SA     |
| C431       | C-CER,CHIP  | 2203-000812 | SA     |
| C432       | C-CER,CHIP  | 2203-006423 | SA     |
| C436       | C-CER,CHIP  | 2203-006562 | SA     |
| C437       | C-CER,CHIP  | 2203-006048 | SA     |
| C438       | C-CER,CHIP  | 2203-006048 | SA     |
| C451       | C-CER,CHIP  | 2203-000278 | SA     |
| C452       | C-CER,CHIP  | 2203-000278 | SA     |
| C454       | C-CER,CHIP  | 2203-000278 | SA     |
| C460       | C-CER,CHIP  | 2203-000254 | SA     |
| C461       | C-CER,CHIP  | 2203-006305 | SA     |
| C464       | C-CER,CHIP  | 2203-006305 | SA     |
| C466       | C-CER,CHIP  | 2203-006423 | SA     |
| C467       | C-CER,CHIP  | 2203-000254 | SA     |
| C469       | C-CER,CHIP  | 2203-000254 | SA     |
| C500       | C-CER,CHIP  | 2203-006562 | SA     |
| C501       | C-CER,CHIP  | 2203-006562 | SA     |
| C510       | C-CER,CHIP  | 2203-000278 | SA     |
| C511       | C-CER,CHIP  | 2203-000812 | SA     |
| C512       | C-CER,CHIP  | 2203-000679 | SA     |
| C513       | C-CER,CHIP  | 2203-005050 | SA     |
| C514       | C-CER,CHIP  | 2203-000278 | SA     |
| C515       | C-CER,CHIP  | 2203-000812 | SA     |
| C520       | C-CER,CHIP  | 2203-000812 | SA     |
| C523       | C-CER,CHIP  | 2203-000812 | SA     |
| C530       | C-CER,CHIP  | 2203-006562 | SA     |
| C533       | C-CER,CHIP  | 2203-006423 | SA     |
| C534       | C-CER,CHIP  | 2203-000812 | SA     |
| C600       | C-CER,CHIP  | 2203-006324 | SA     |
| C605       | C-CER,CHIP  | 2203-006048 | SA     |
| C606       | C-CER,CHIP  | 2203-006562 | SA     |
| C607       | C-CER,CHIP  | 2203-006978 | SA     |
| C608       | C-CER,CHIP  | 2203-006361 | SA     |
| C609       | C-CER,CHIP  | 2203-006824 | SA     |
| C610       | C-CER,CHIP  | 2203-006324 | SA     |
| C611       | C-CER,CHIP  | 2203-006423 | SA     |
| C621       | C-CER,CHIP  | 2203-006824 | SA     |
| C622       | C-CER,CHIP  | 2203-006260 | SA     |

| Design LOC | Description | SEC Code    | STATUS |
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| C623       | C-CER,CHIP  | 2203-006562 | SA     |
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| C640       | C-CER,CHIP  | 2203-000233 | SA     |
| C641       | C-CER,CHIP  | 2203-000233 | SA     |
| C642       | C-CER,CHIP  | 2203-000233 | SA     |
| C643       | C-CER,CHIP  | 2203-000233 | SA     |
| C646       | C-CER,CHIP  | 2203-006562 | SA     |
| C647       | C-CER,CHIP  | 2203-006562 | SA     |
| C701       | C-CER,CHIP  | 2203-006423 | SA     |
| C702       | C-CER,CHIP  | 2203-006423 | SA     |
| C703       | C-CER,CHIP  | 2203-006824 | SA     |
| C704       | C-CER,CHIP  | 2203-000254 | SA     |
| C705       | C-CER,CHIP  | 2203-006423 | SA     |
| C706       | C-CER,CHIP  | 2203-006423 | SA     |
| C707       | C-CER,CHIP  | 2203-006423 | SA     |
| C708       | C-CER,CHIP  | 2203-006423 | SA     |
| C709       | C-CER,CHIP  | 2203-000812 | SA     |
| C710       | C-CER,CHIP  | 2203-006423 | SA     |
| C711       | C-CER,CHIP  | 2203-006423 | SA     |
| C712       | C-CER,CHIP  | 2203-000233 | SA     |
| C713       | C-CER,CHIP  | 2203-000812 | SA     |
| C714       | C-CER,CHIP  | 2203-005683 | SA     |
| C715       | C-CER,CHIP  | 2203-006048 | SA     |
| C716       | C-CER,CHIP  | 2203-006423 | SA     |
| C717       | C-CER,CHIP  | 2203-000812 | SA     |
| C718       | C-CER,CHIP  | 2203-006562 | SA     |
| C719       | C-CER,CHIP  | 2203-006361 | SA     |
| C721       | C-CER,CHIP  | 2203-006824 | SA     |
| C724       | C-CER,CHIP  | 2203-006048 | SA     |
| C726       | C-CER,CHIP  | 2203-006048 | SA     |
| C729       | C-CER,CHIP  | 2203-006048 | SA     |
| C730       | C-CER,CHIP  | 2203-001259 | SA     |
| C731       | C-CER,CHIP  | 2203-000812 | SA     |
| C762       | C-CER,CHIP  | 2203-001259 | SA     |
| C763       | C-CER,CHIP  | 2203-000812 | SA     |
| C765       | C-CER,CHIP  | 2203-006626 | SA     |
| C800       | C-CER,CHIP  | 2203-006562 | SA     |
| C802       | C-CER,CHIP  | 2203-006824 | SA     |
| C806       | C-CER,CHIP  | 2203-000233 | SA     |
| C807       | C-CER,CHIP  | 2203-000233 | SA     |
| C809       | C-CER,CHIP  | 2203-000812 | SA     |
| C810       | C-CER,CHIP  | 2203-006048 | SA     |
| C820       | C-CER,CHIP  | 2203-005234 | SA     |
| C821       | C-CER,CHIP  | 2203-005234 | SA     |
| C822       | C-CER,CHIP  | 2203-005234 | SA     |
| C823       | C-CER,CHIP  | 2203-005234 | SA     |
| C824       | C-CER,CHIP  | 2203-005281 | SA     |
| C825       | C-CER,CHIP  | 2203-005281 | SA     |
| C826       | C-CER,CHIP  | 2203-005234 | SA     |
| C827       | C-CER,CHIP  | 2203-005234 | SA     |

| Design LOC | Description           | SEC Code    | STATUS |
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| C830       | C-CER,CHIP            | 2203-000278 | SA     |
| C840       | C-CER,CHIP            | 2203-000278 | SA     |
| C841       | C-CER,CHIP            | 2203-001221 | SA     |
| C842       | C-CER,CHIP            | 2203-006048 | SA     |
| C844       | C-CER,CHIP            | 2203-006048 | SA     |
| C845       | C-CER,CHIP            | 2203-001124 | DNA    |
| C850       | C-CER,CHIP            | 2203-006048 | SA     |
| C851       | C-CER,CHIP            | 2203-001221 | SA     |
| C853       | C-CER,CHIP            | 2203-000233 | SA     |
| C854       | INDUCTOR-SMD          | 2703-001748 | SA     |
| C855       | C-CER,CHIP            | 2203-005288 | SA     |
| C856       | C-CER,CHIP            | 2203-005288 | SA     |
| C857       | C-CER,CHIP            | 2203-005288 | SA     |
| C860       | C-CER,CHIP            | 2203-006562 | SA     |
| C861       | C-CER,CHIP            | 2203-001124 | DNA    |
| C862       | C-CER,CHIP            | 2203-001124 | DNA    |
| C865       | C-CER,CHIP            | 2203-006048 | SA     |
| C900       | C-CER,CHIP            | 2203-000714 | SA     |
| C901       | C-CER,CHIP            | 2203-006562 | SA     |
| C902       | C-CER,CHIP            | 2203-006824 | SA     |
| C903       | C-CER,CHIP            | 2203-006048 | SA     |
| C904       | C-CER,CHIP            | 2203-006562 | SA     |
| C905       | C-CER,CHIP            | 2203-000714 | SA     |
| C910       | C-CER,CHIP            | 2203-000425 | SA     |
| C911       | C-CER,CHIP            | 2203-006048 | SA     |
| C912       | C-CER,CHIP            | 2203-000425 | SA     |
| C913       | C-CER,CHIP            | 2203-006257 | SA     |
| C915       | C-CER,CHIP            | 2203-000812 | SA     |
| C916       | C-CER,CHIP            | 2203-006257 | SA     |
| C917       | C-CER,CHIP            | 2203-000233 | SA     |
| C918       | C-CER,CHIP            | 2203-006562 | SA     |
| C919       | C-CER,CHIP            | 2203-006824 | SA     |
| C922       | C-CER,CHIP            | 2203-006257 | SA     |
| C923       | C-CER,CHIP            | 2203-006824 | SA     |
| C924       | C-CER,CHIP            | 2203-006257 | SA     |
| C925       | C-CER,CHIP            | 2203-006257 | SA     |
| C926       | C-CER,CHIP            | 2203-006562 | SA     |
| CN400      | SOCKET-BOARD TO BOARD | 3710-002081 | SA     |
| CN801      | CONNECTOR-COAXIAL     | 3705-001225 | SA     |
| CN900      | SOCKET-BOARD TO BOARD | 3710-002081 | SA     |
| D301       | DIODE-ARRAY           | 0407-001007 | SA     |
| D500       | DIODE-SCHOTTKY        | 0404-001089 | SA     |
| D604       | DIODE-ZENER           | 0403-001467 | SA     |
| F600       | FILTER-EMI/ESD        | 2901-001361 | SNA    |
| F601       | FILTER-EMI/ESD        | 2901-001361 | SNA    |
| F602       | FILTER-EMI/ESD        | 2901-001361 | SNA    |
| F603       | FILTER-EMI/ESD        | 2901-001361 | SNA    |
| F604       | FILTER-EMI/ESD        | 2901-001361 | SNA    |
| F605       | FILTER-EMI/ESD        | 2901-001337 | SA     |
| F800       | DUPLEXER-FEM          | 2911-000050 | SA     |

| Design LOC | Description           | SEC Code    | STATUS |
|------------|-----------------------|-------------|--------|
| HDC600     | HEADER-BOARD TO BOARD | 3711-006101 | SA     |
| HDC603     | HEADER-BOARD TO BOARD | 3711-005296 | SA     |
| IFC500     | SOCKET-INTERFACE      | 3710-002465 | SA     |
| L300       | INDUCTOR-SMD          | 2703-000345 | SA     |
| L301       | INDUCTOR-SMD          | 2703-002774 | SA     |
| L302       | INDUCTOR-SMD          | 2703-002861 | SA     |
| L400       | BEAD-SMD              | 3301-001438 | SA     |
| L401       | BEAD-SMD              | 3301-001438 | SA     |
| L402       | BEAD-SMD              | 3301-001729 | SA     |
| L403       | BEAD-SMD              | 3301-001729 | SA     |
| L404       | R-CHIP                | 2007-000171 | SA     |
| L500       | BEAD-SMD              | 3301-001438 | SA     |
| L501       | BEAD-SMD              | 3301-001438 | SA     |
| L502       | BEAD-SMD              | 3301-001438 | SA     |
| L600       | INDUCTOR-SMD          | 2703-002824 | SA     |
| L603       | BEAD-SMD              | 3301-001438 | SA     |
| L700       | INDUCTOR-SMD          | 2703-002653 | SA     |
| L801       | C-CER,CHIP            | 2203-005444 | SA     |
| L802       | INDUCTOR-SMD          | 2703-002368 | SA     |
| L805       | INDUCTOR-SMD          | 2703-002170 | SA     |
| L806       | INDUCTOR-SMD          | 2703-002586 | SA     |
| L807       | INDUCTOR-SMD          | 2703-002204 | SA     |
| L808       | INDUCTOR-SMD          | 2703-002485 | SA     |
| L811       | INDUCTOR-SMD          | 2703-002314 | SA     |
| L900       | INDUCTOR-SMD          | 2703-001723 | SA     |
| LED600     | LED                   | 0601-001905 | SA     |
| OSC100     | CRYSTAL-SMD           | 2801-004466 | SA     |
| OSC101     | CRYSTAL-SMD           | 2801-004189 | SA     |
| OSC400     | OSCILLATOR-CLOCK      | 2804-001725 | SA     |
| OSC900     | CRYSTAL-SMD           | 2801-004466 | SA     |
| PAM801     | IC-POWER AMP          | 1201-002423 | SA     |
| Q600       | FET-SILICON           | 0505-001518 | SA     |
| Q601       | FET-SILICON           | 0505-001518 | SA     |
| Q602       | FET-SILICON           | 0505-001518 | SA     |
| Q700       | FET-SILICON           | 0505-001518 | SA     |
| R100       | R-CHIP                | 2007-000171 | SA     |
| R103       | R-CHIP                | 2007-000162 | SA     |
| R110       | R-CHIP                | 2007-000171 | SA     |
| R111       | R-CHIP                | 2007-000171 | SA     |
| R112       | R-CHIP                | 2007-000141 | SA     |
| R113       | R-CHIP                | 2007-000141 | SA     |
| R115       | R-CHIP                | 2007-000170 | SA     |
| R116       | R-CHIP                | 2007-000170 | SA     |
| R117       | R-CHIP                | 2007-000170 | SA     |
| R120       | R-CHIP                | 2007-000162 | SA     |
| R121       | R-CHIP                | 2007-000171 | SA     |
| R207       | R-CHIP                | 2007-008055 | SA     |
| R208       | R-CHIP                | 2007-000152 | SA     |
| R209       | R-CHIP                | 2007-000162 | SA     |
| R210       | R-CHIP                | 2007-008055 | SA     |

| Design LOC | Description | SEC Code    | STATUS |
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| R211       | R-CHIP      | 2007-008055 | SA     |
| R212       | R-CHIP      | 2007-008055 | SA     |
| R214       | R-CHIP      | 2007-008055 | SA     |
| R215       | R-CHIP      | 2007-001291 | SA     |
| R216       | R-CHIP      | 2007-008055 | SA     |
| R218       | R-CHIP      | 2007-000173 | SA     |
| R219       | R-CHIP      | 2007-009108 | SA     |
| R220       | R-CHIP      | 2007-008486 | SA     |
| R301       | R-CHIP      | 2007-000170 | SA     |
| R302       | R-CHIP      | 2007-007107 | SA     |
| R304       | R-CHIP      | 2007-000144 | SA     |
| R306       | R-CHIP      | 2007-003014 | SA     |
| R307       | R-CHIP      | 2007-000144 | SA     |
| R309       | R-CHIP      | 2007-003014 | SA     |
| R311       | R-CHIP      | 2007-008542 | SA     |
| R312       | R-CHIP      | 2007-003014 | SA     |
| R313       | R-CHIP      | 2007-000170 | SA     |
| R314       | R-CHIP      | 2007-000162 | SA     |
| R315       | R-CHIP      | 2007-000170 | SA     |
| R316       | R-CHIP      | 2007-000148 | SA     |
| R317       | R-CHIP      | 2007-000148 | SA     |
| R320       | R-CHIP      | 2007-008055 | SA     |
| R321       | R-CHIP      | 2007-008055 | SA     |
| R322       | R-CHIP      | 2007-000170 | SA     |
| R327       | R-CHIP      | 2007-001325 | SA     |
| R328       | R-CHIP      | 2007-007318 | SA     |
| R329       | R-CHIP      | 2007-007588 | SA     |
| R340       | R-CHIP      | 2007-000164 | SA     |
| R341       | R-CHIP      | 2007-000162 | SA     |
| R342       | R-CHIP      | 2007-009155 | SNA    |
| R343       | R-CHIP      | 2007-009155 | SNA    |
| R404       | R-CHIP      | 2007-007538 | SA     |
| R405       | R-CHIP      | 2007-007538 | SA     |
| R410       | R-CHIP      | 2007-000174 | SA     |
| R414       | R-CHIP      | 2007-007107 | SA     |
| R416       | R-CHIP      | 2007-007318 | SA     |
| R417       | R-CHIP      | 2007-007107 | SA     |
| R418       | R-CHIP      | 2007-007137 | SA     |
| R420       | R-CHIP      | 2007-007137 | SA     |
| R421       | R-CHIP      | 2007-007318 | SA     |
| R428       | R-CHIP      | 2007-000162 | SA     |
| R500       | R-CHIP      | 2007-007528 | SA     |
| R501       | R-CHIP      | 2007-007528 | SA     |
| R502       | R-CHIP      | 2007-008055 | SA     |
| R503       | R-CHIP      | 2007-009108 | SA     |
| R506       | R-CHIP      | 2007-008542 | SA     |
| R507       | R-CHIP      | 2007-008542 | SA     |
| R508       | R-CHIP      | 2007-008419 | SA     |
| R509       | R-CHIP      | 2007-008419 | SA     |
| R510       | R-CHIP      | 2007-008419 | SA     |

| Design LOC | Description | SEC Code    | STATUS |
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| R511       | R-CHIP      | 2007-008542 | SA     |
| R515       | R-CHIP      | 2007-009170 | SA     |
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| R526       | R-CHIP      | 2007-008531 | SA     |
| R530       | R-CHIP      | 2007-007107 | SA     |
| R531       | R-CHIP      | 2007-007107 | SA     |
| R532       | R-CHIP      | 2007-007489 | SA     |
| R533       | R-CHIP      | 2007-007107 | SA     |
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| R535       | R-CHIP      | 2007-008055 | SA     |
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| R613       | R-CHIP      | 2007-008542 | SA     |
| R614       | R-CHIP      | 2007-008055 | SA     |
| R617       | R-CHIP      | 2007-009154 | SNA    |
| R618       | R-CHIP      | 2007-000162 | SA     |
| R620       | R-CHIP      | 2007-000157 | SA     |
| R625       | R-CHIP      | 2007-007014 | SA     |
| R626       | R-CHIP      | 2007-007014 | SA     |
| R627       | R-CHIP      | 2007-007014 | SA     |
| R628       | R-CHIP      | 2007-007014 | SA     |
| R629       | R-CHIP      | 2007-007014 | SA     |
| R630       | R-CHIP      | 2007-001307 | SA     |
| R631       | R-CHIP      | 2007-001298 | SA     |
| R632       | R-CHIP      | 2007-001298 | SA     |
| R633       | R-CHIP      | 2007-000140 | SA     |
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| R635       | R-CHIP      | 2007-000140 | SA     |
| R636       | R-CHIP      | 2007-000162 | SA     |
| R637       | R-CHIP      | 2007-008516 | SA     |
| R701       | R-CHIP      | 2007-000148 | SA     |
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| R704       | R-CHIP      | 2007-000171 | SA     |
| R705       | R-CHIP      | 2007-000162 | SA     |
| R714       | R-CHIP      | 2007-000242 | SA     |
| R715       | R-CHIP      | 2007-000242 | SA     |
| R727       | R-CHIP      | 2007-000143 | SA     |
| R730       | R-CHIP      | 2007-007573 | SA     |
| R731       | R-CHIP      | 2007-008354 | SA     |
| R732       | R-CHIP      | 2007-007107 | SA     |
| R733       | R-CHIP      | 2007-007107 | SA     |
| R735       | R-CHIP      | 2007-000148 | SA     |
| R800       | R-CHIP      | 2007-001313 | SA     |
| R802       | R-CHIP      | 2007-000140 | SA     |



| Design LOC | Description           | SEC Code    | STATUS |
|------------|-----------------------|-------------|--------|
| R803       | R-CHIP                | 2007-000171 | SA     |
| R804       | R-CHIP                | 2007-000171 | SA     |
| R807       | R-CHIP                | 2007-000171 | SA     |
| R808       | R-CHIP                | 2007-000171 | SA     |
| R871       | R-CHIP                | 2007-000171 | SA     |
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| R900       | R-CHIP                | 2007-000162 | SA     |
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| R904       | R-CHIP                | 2007-000162 | SA     |
| R905       | R-CHIP                | 2007-007100 | SA     |
| R906       | R-CHIP                | 2007-000171 | SA     |
| R907       | R-CHIP                | 2007-000162 | SA     |
| RFS00      | CONNECTOR-COAXIAL     | 3705-001358 | SA     |
| SD600      | CONNECTOR-CARD EDGE   | 3709-001453 | SA     |
| SLC602     | CONNECTOR-FPC/FFC/PIC | 3708-002338 | SA     |
| TA344      | C-TA,CHIP             | 2404-001474 | SA     |
| TA345      | C-TA,CHIP             | 2404-001381 | SA     |
| TA401      | C-TA,CHIP             | 2404-001381 | SA     |
| TA403      | C-TA,CHIP             | 2404-001381 | SA     |
| TA404      | C-TA,CHIP             | 2404-001474 | SA     |
| TA406      | C-TA,CHIP             | 2404-001381 | SA     |
| TA409      | C-TA,CHIP             | 2404-001381 | SA     |
| TA426      | C-TA,CHIP             | 2404-001381 | SA     |
| TA441      | C-TA,CHIP             | 2404-001465 | SA     |
| TA446      | C-CER,CHIP            | 2203-006824 | SA     |
| TA503      | C-TA,CHIP             | 2404-001381 | SA     |
| TA504      | C-TA,CHIP             | 2404-001381 | SA     |
| TA720      | C-TA,CHIP             | 2404-001377 | SA     |
| TA808      | C-TA,CHIP             | 2404-001474 | SA     |
| TA914      | C-TA,CHIP             | 2404-001381 | SA     |
| TAC100     | SWITCH-TACT           | 3404-001303 | SA     |
| TCX800     | OSCILLATOR-VCTCXO     | 2809-001303 | SA     |
| TH700      | THERMISTOR-NTC        | 1404-001221 | SA     |
| TR201      | TR-DIGITAL            | 0504-000168 | SA     |
| TR301      | TR-DIGITAL            | 0504-000167 | SA     |
| TR302      | FET-SILICON           | 0505-001165 | SA     |
| TR303      | TR-DIGITAL            | 0504-000167 | SA     |
| U200       | IC-CMOS LOGIC         | 0801-002237 | SA     |
| U202       | IC-CMOS LOGIC         | 0801-003052 | SA     |
| U203       | IC-CMOS LOGIC         | 0801-003031 | SA     |
| U204       | IC-CMOS LOGIC         | 0801-002529 | SA     |
| U205       | IC-CMOS LOGIC         | 0801-003016 | SA     |
| U208       | IC-CMOS LOGIC         | 0801-003031 | SA     |
| U300       | IC-MULTI REG.         | 1203-003643 | SA     |
| U301       | IC-MULTI REG.         | 1203-004435 | SA     |
| U302       | IC-DC/DC CONVERTER    | 1203-003500 | SA     |
| U304       | IC-MULTI REG.         | 1203-003664 | SA     |
| U305       | IC-MULTI REG.         | 1203-003664 | SA     |
| U306       | IC-MULTI REG.         | 1203-004523 | SA     |

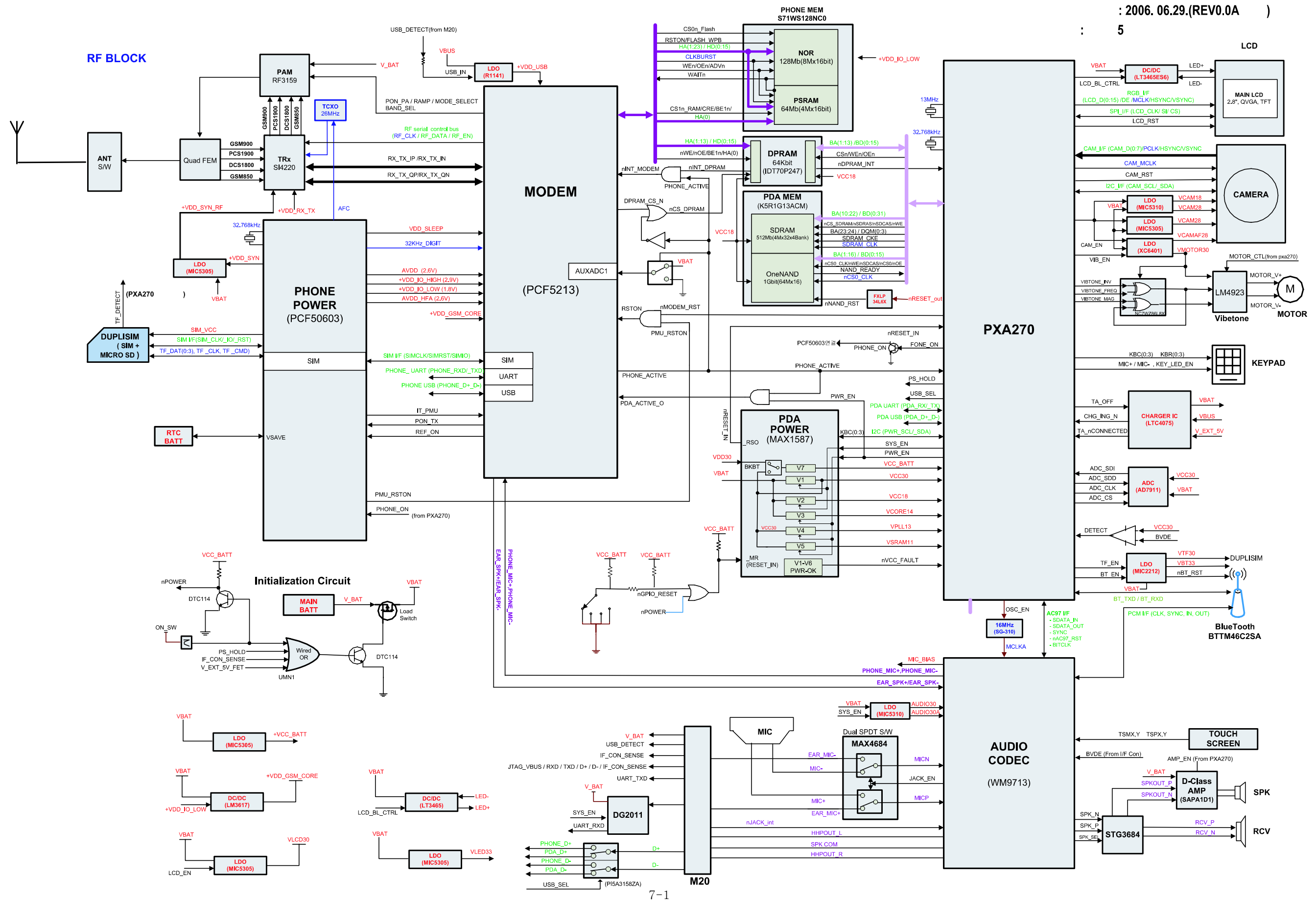
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|------------|---------------------|-------------|--------|
| U307       | IC-CMOS LOGIC       | 0801-002529 | SA     |
| U308       | IC-VOL. DETECTOR    | 1203-002789 | SA     |
| U309       | IC-BATTERY          | 1203-003823 | SA     |
| U310       | IC-VOL. DETECTOR    | 1203-002832 | SA     |
| U311       | IC-MULTI REG.       | 1203-004428 | SA     |
| U312       | IC-SWITCH           | 1205-002874 | SA     |
| U400       | IC-AUDIO AMP        | 1201-002240 | SA     |
| U402       | IC-VOLTAGE COMP.    | 1202-001079 | SA     |
| U403       | IC-ANALOG SWITCH    | 1001-001371 | SA     |
| U404       | IC-ANALOG MULTIPLEX | 1001-001428 | SA     |
| U500       | IC-ANALOG SWITCH    | 1001-001410 | SA     |
| U501       | IC-ANALOG SWITCH    | 1001-001410 | SA     |
| U502       | IC-D/A CONVERTER    | 1002-001488 | SA     |
| U600       | IC-DC/DC CONVERTER  | 1203-004172 | SA     |
| U601       | IC-POSI.FIXED REG.  | 1203-003815 | SA     |
| U604       | IC-POSI.FIXED REG.  | 1203-003737 | SA     |
| U605       | BLUETOOTH MODULE    | 4709-001494 | SA     |
| U704       | IC-POSI.FIXED REG.  | 1203-003737 | SA     |
| U705       | IC-DC/DC CONVERTER  | 1203-003545 | SA     |
| U706       | IC-ANALOG SWITCH    | 1001-001231 | SA     |
| U800       | IC-POSI.FIXED REG.  | 1203-004507 | SA     |
| U801       | IC-CMOS LOGIC       | 0801-003016 | SA     |
| U900       | IC-AUDIO AMP        | 1201-002284 | SA     |
| U901       | IC-CMOS LOGIC       | 0801-003026 | SA     |
| U902       | IC-POWER SUPERVISOR | 1203-003882 | SA     |
| U910       | C-CER,CHIP          | 2203-000812 | SA     |
| U911       | C-CER,CHIP          | 2203-000233 | SA     |
| UCD401     | IC-CODEC            | 1205-002720 | SA     |
| UCP100     | IC-MICROPROCESSOR   | 0902-001927 | SA     |
| UCP700     | IC-COMM. CONTROLLER | 1205-002757 | SA     |
| UME206     | IC-SRAM             | 1106-001519 | SA     |
| UME207     | IC-MCP              | 1108-000054 | SA     |
| UME702     | IC-MCP              | 1108-000059 | SA     |
| UPL802     | IC-TRANSCEIVER      | 1205-003093 | SA     |
| V500       | THERMISTOR-NTC      | 1404-001221 | SA     |
| ZD100      | DIODE-TVS           | 0406-001210 | SA     |
| ZD300      | DIODE-ZENER         | 0403-001547 | SA     |
| ZD303      | DIODE-TVS           | 0406-001210 | SA     |
| ZD368      | DIODE-ZENER         | 0403-001427 | SA     |
| ZD400      | DIODE-TVS           | 0406-001254 | SA     |
| ZD401      | DIODE-TVS           | 0406-001254 | SA     |
| ZD405      | DIODE-TVS           | 0406-001201 | SA     |
| ZD406      | DIODE-TVS           | 0406-001201 | SA     |
| ZD407      | DIODE-TVS           | 0406-001215 | SA     |
| ZD501      | DIODE-TVS           | 0406-001210 | SA     |
| ZD502      | DIODE-TVS           | 0406-001210 | SA     |
| ZD504      | DIODE-TVS           | 0406-001241 | SA     |
| ZD505      | DIODE-TVS           | 0406-001231 | SA     |
| ZD506      | DIODE-TVS           | 0406-001231 | SA     |
| ZD507      | DIODE-TVS           | 0406-001231 | SA     |

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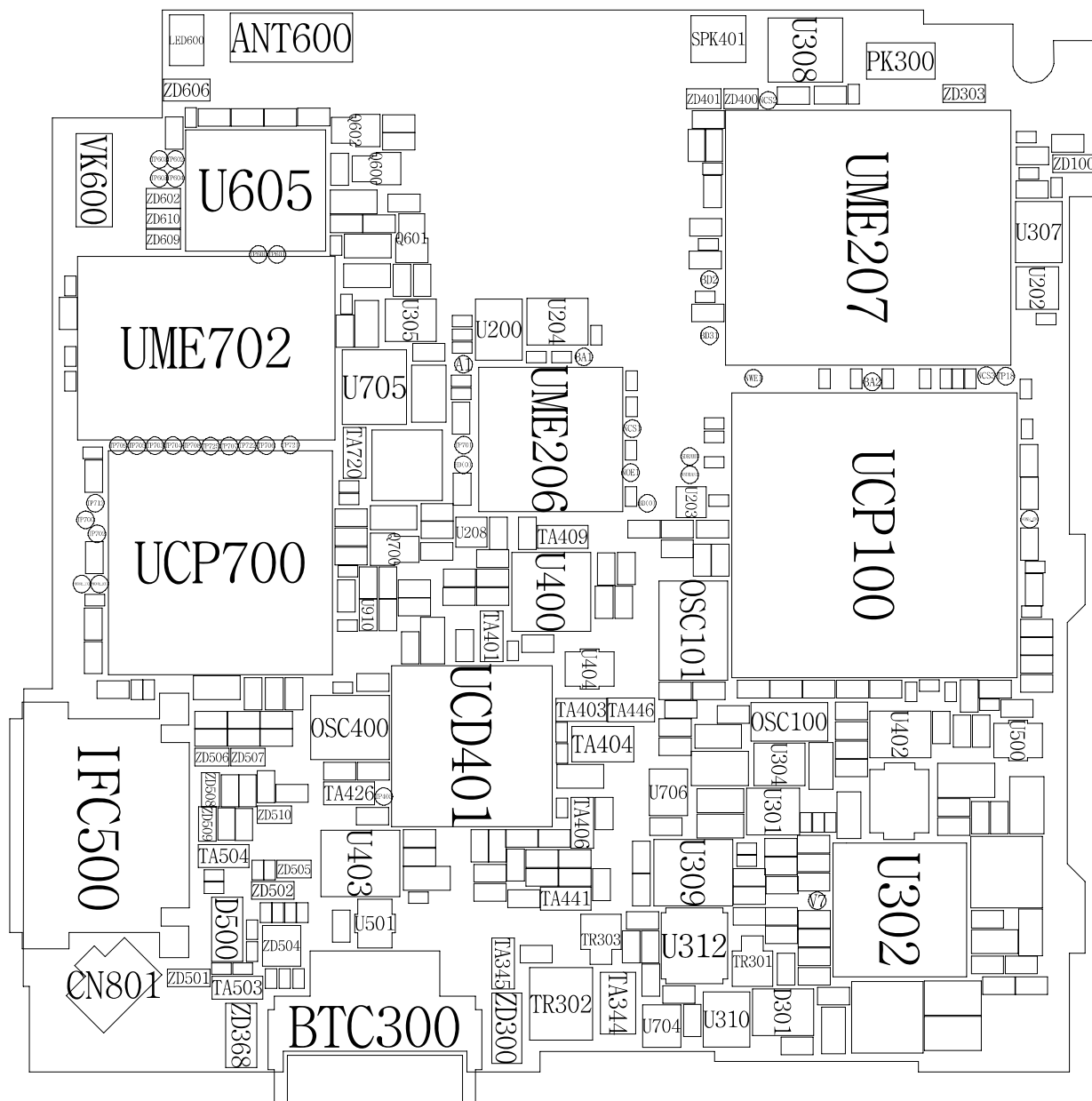
| Design LOC | Description | SEC Code    | STATUS |
|------------|-------------|-------------|--------|
| ZD508      | DIODE-TVS   | 0406-001231 | SA     |
| ZD509      | DIODE-TVS   | 0406-001231 | SA     |
| ZD510      | DIODE-TVS   | 0406-001231 | SA     |
| ZD600      | DIODE-TVS   | 0406-001241 | SA     |
| ZD601      | DIODE-TVS   | 0406-001241 | SA     |
| ZD602      | DIODE-TVS   | 0406-001254 | SA     |
| ZD603      | DIODE-TVS   | 0406-001254 | SA     |
| ZD604      | DIODE-TVS   | 0406-001254 | SA     |
| ZD605      | DIODE-TVS   | 0406-001210 | SA     |
| ZD606      | DIODE-TVS   | 0406-001201 | SA     |
| ZD607      | DIODE-TVS   | 0406-001215 | SA     |
| ZD608      | DIODE-TVS   | 0406-001215 | SA     |
| ZD609      | DIODE-TVS   | 0406-001254 | SA     |
| ZD610      | DIODE-TVS   | 0406-001254 | SA     |



## 7. Block Diagrams

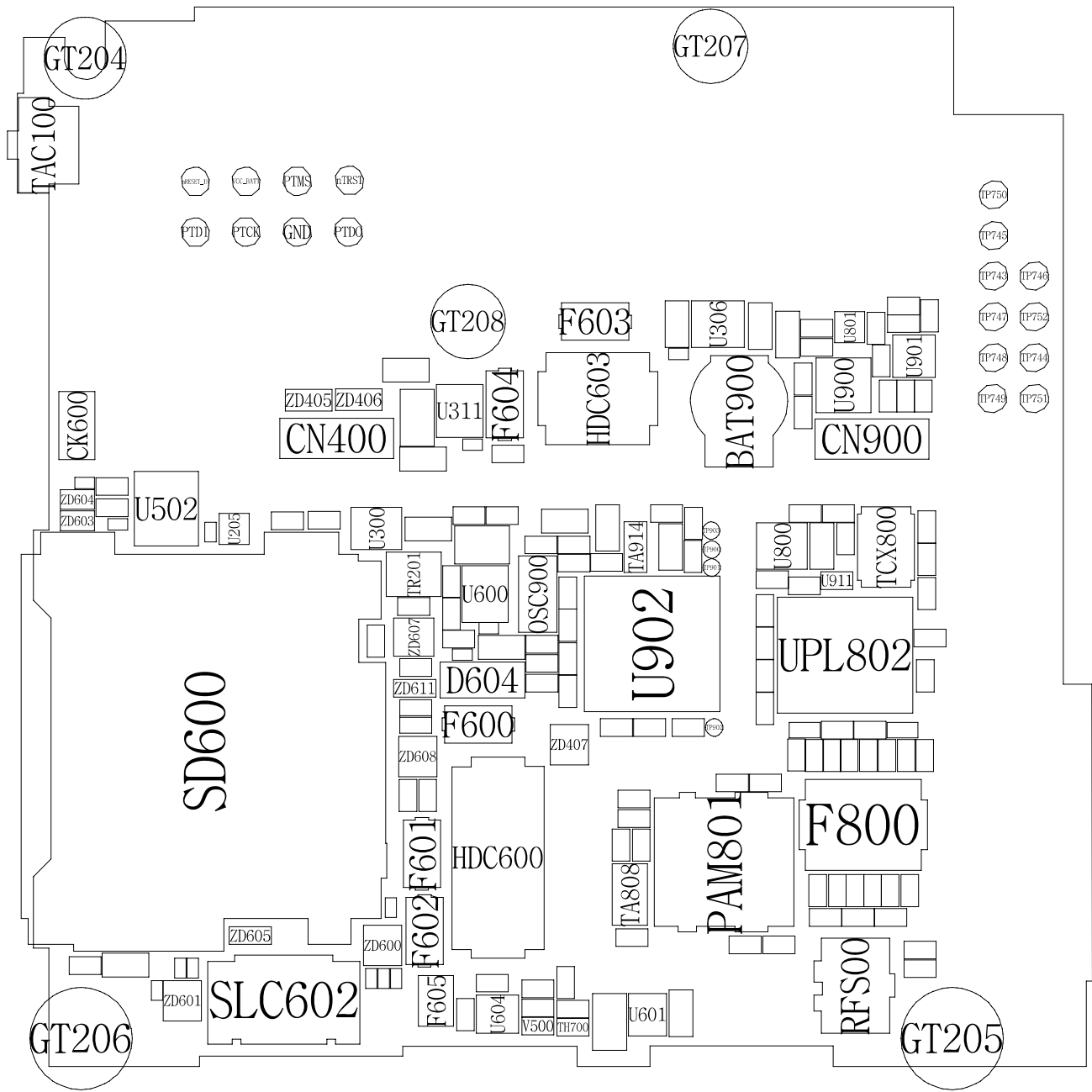


**Top**



CN503

Bottom



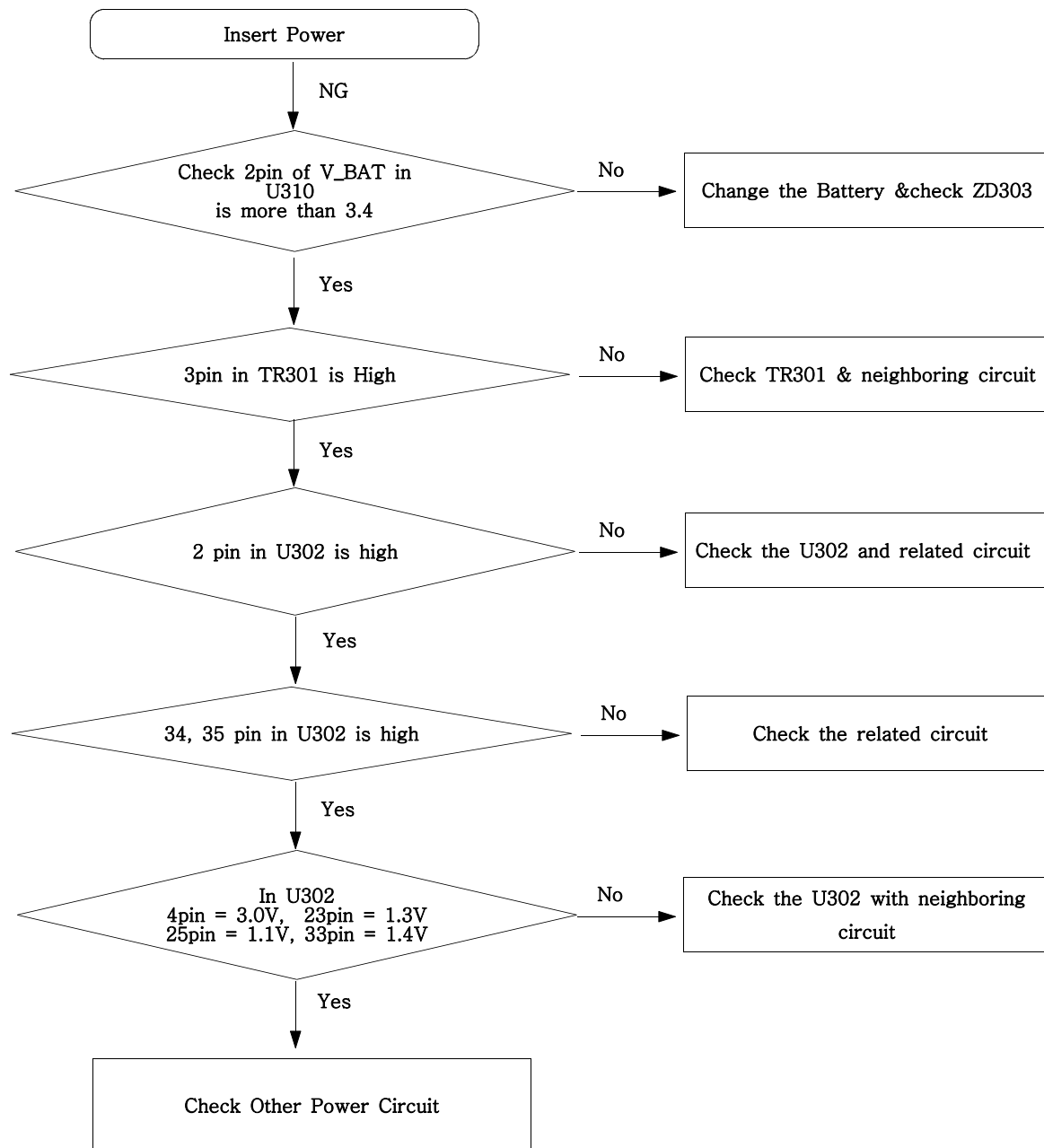
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## 9. Flow Chart of Troubleshooting

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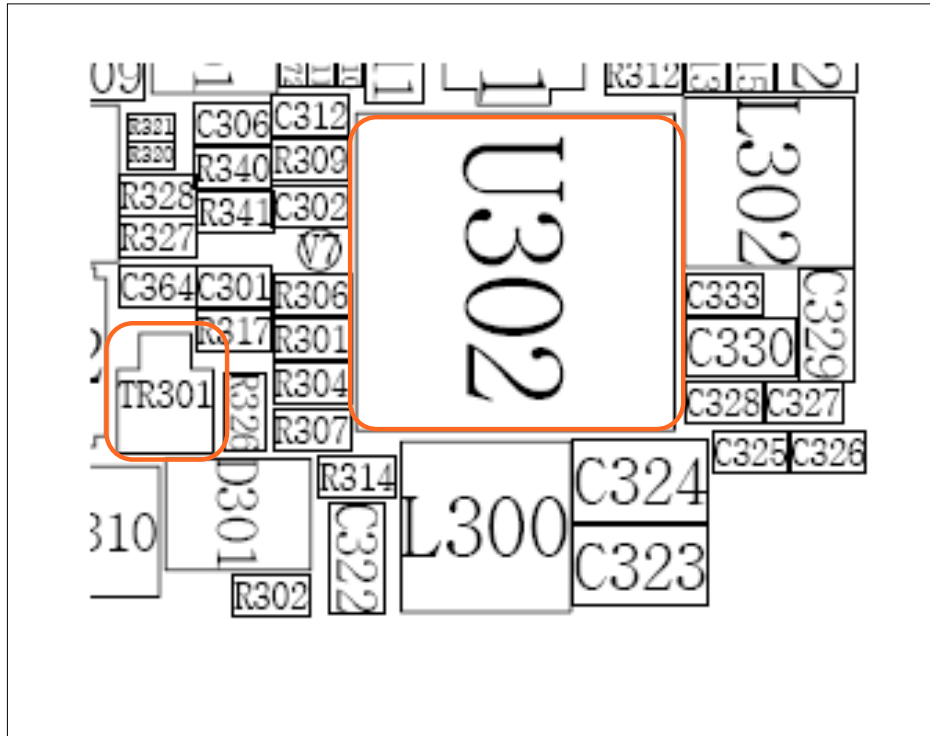
### 9-1. Power On

#### 9-1-1. PDA Part

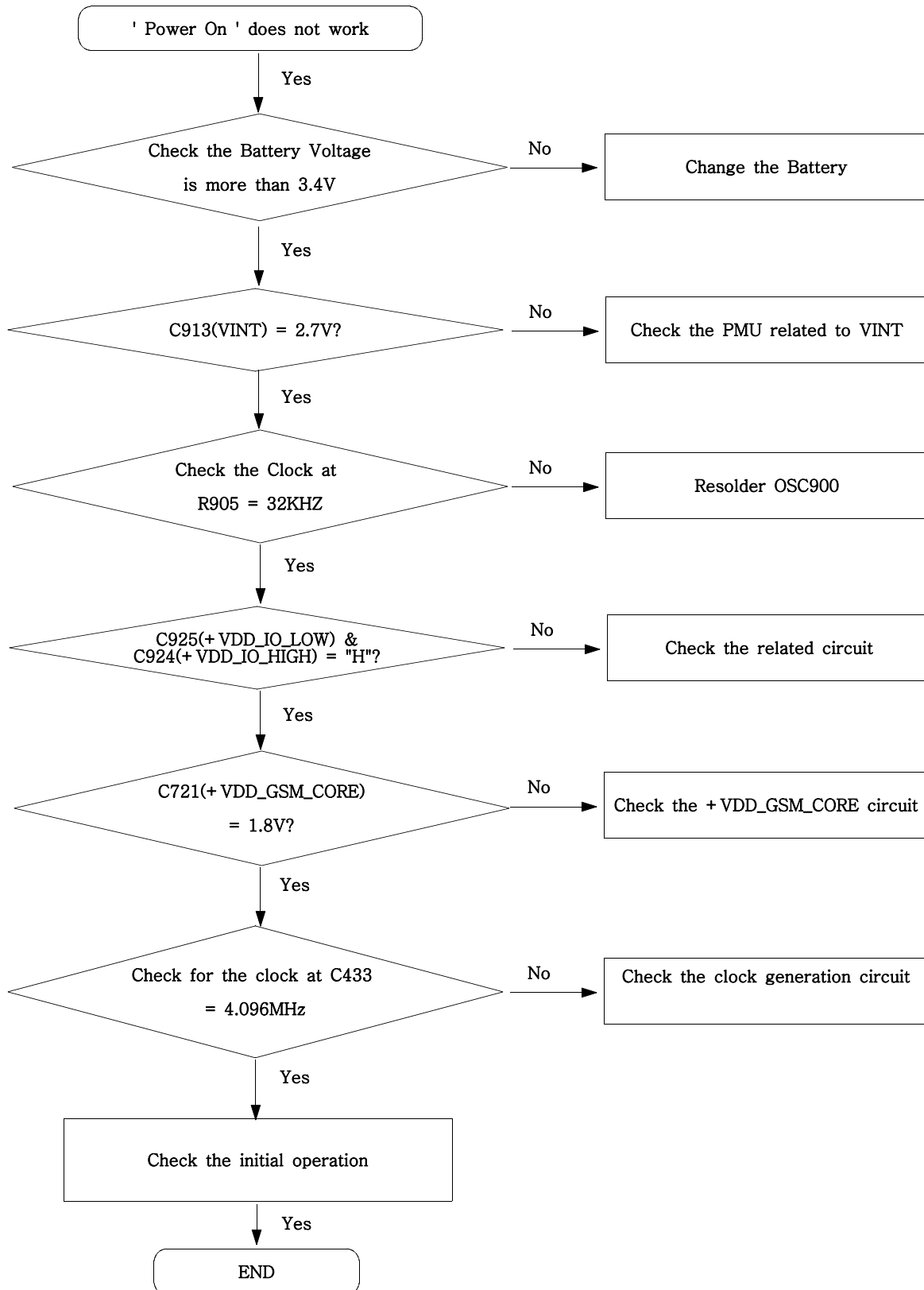


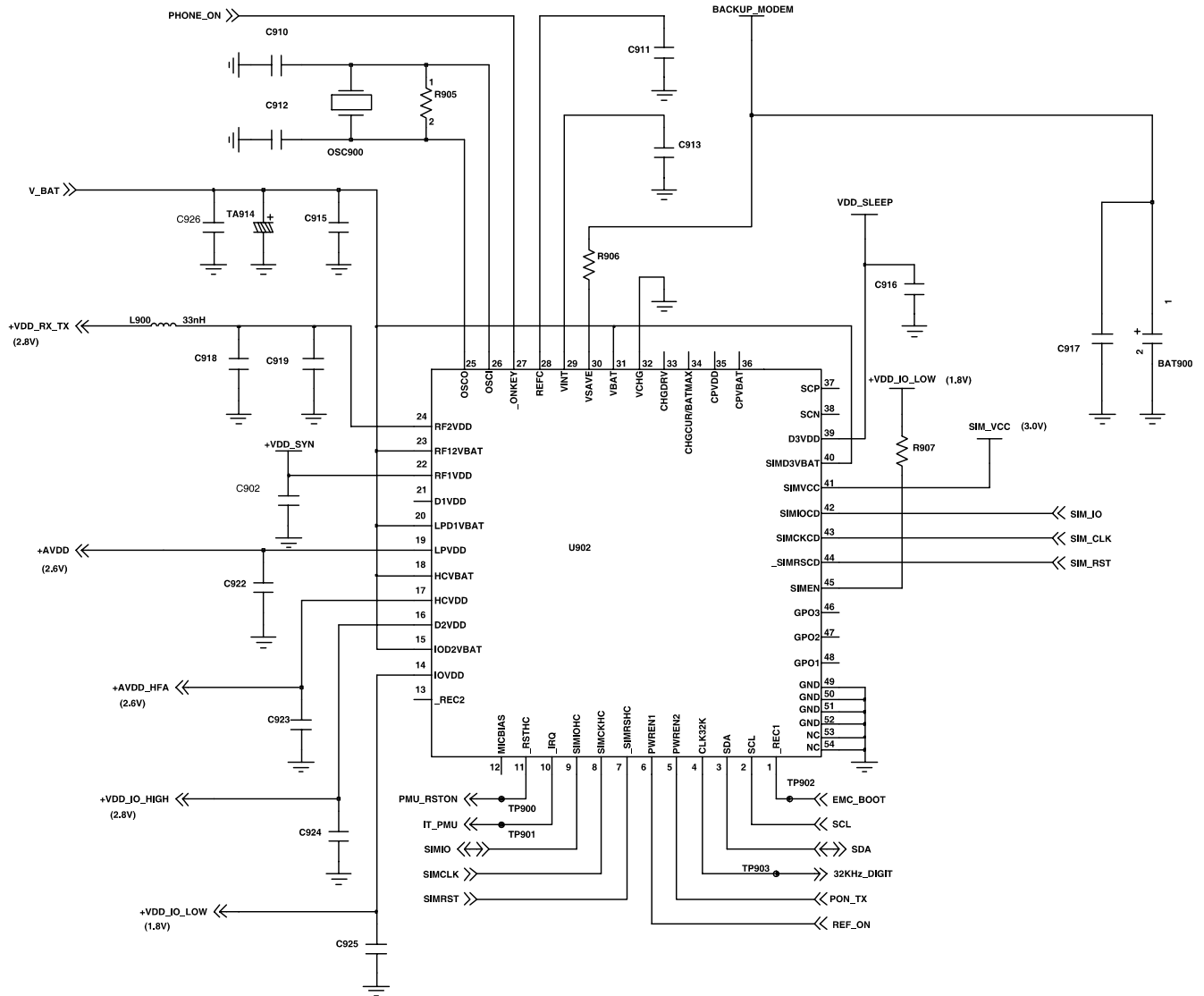




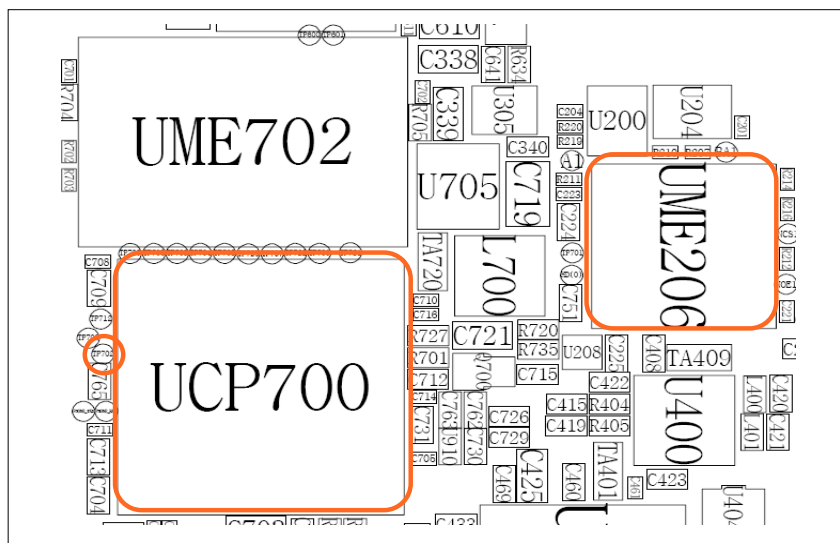
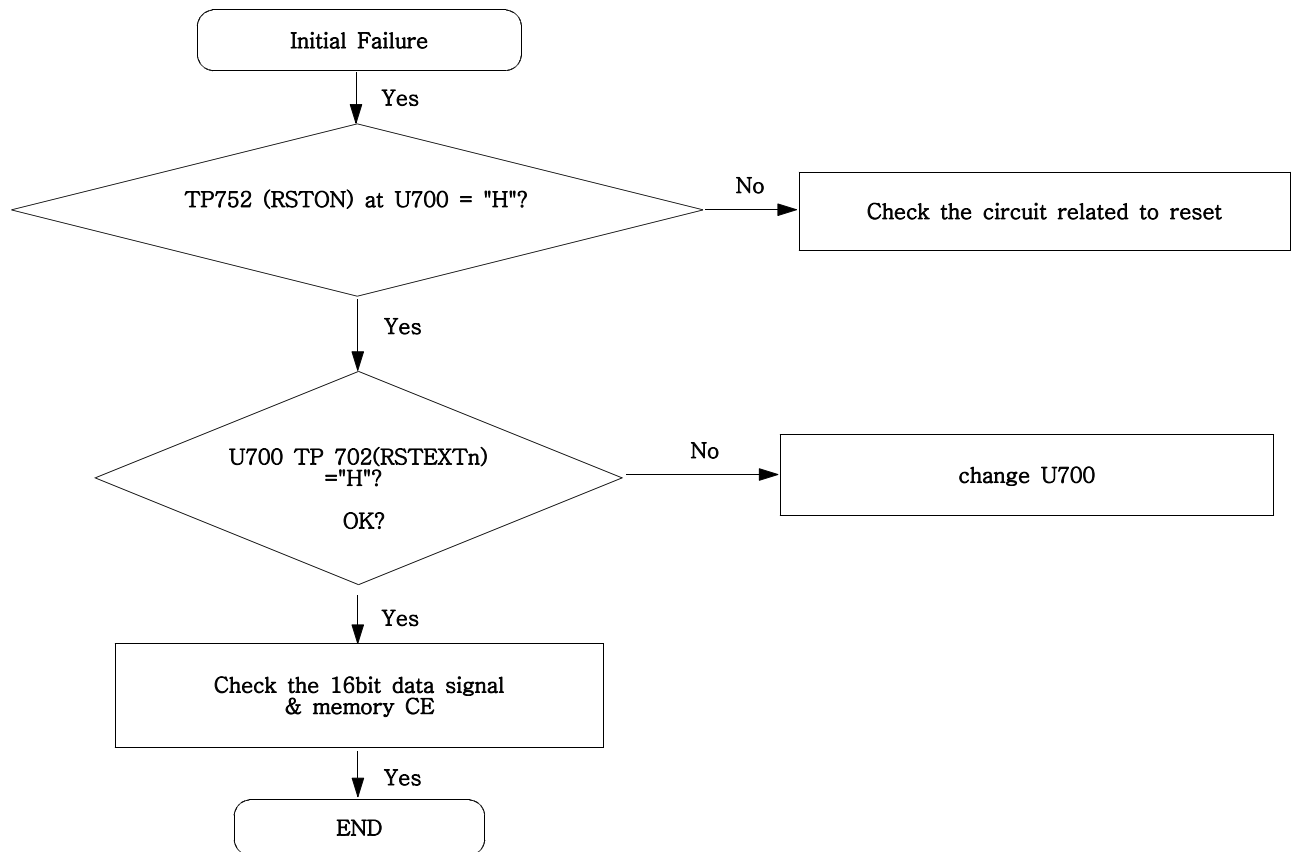


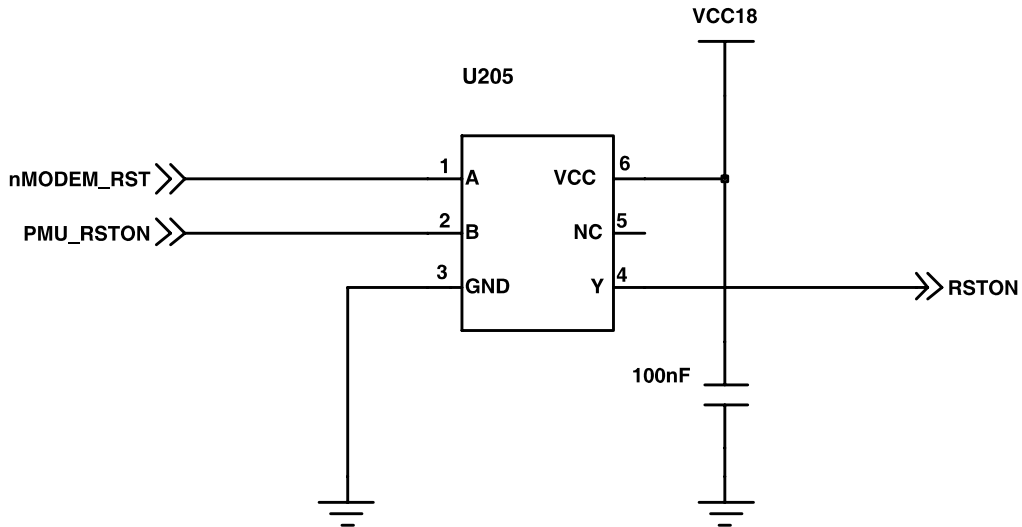
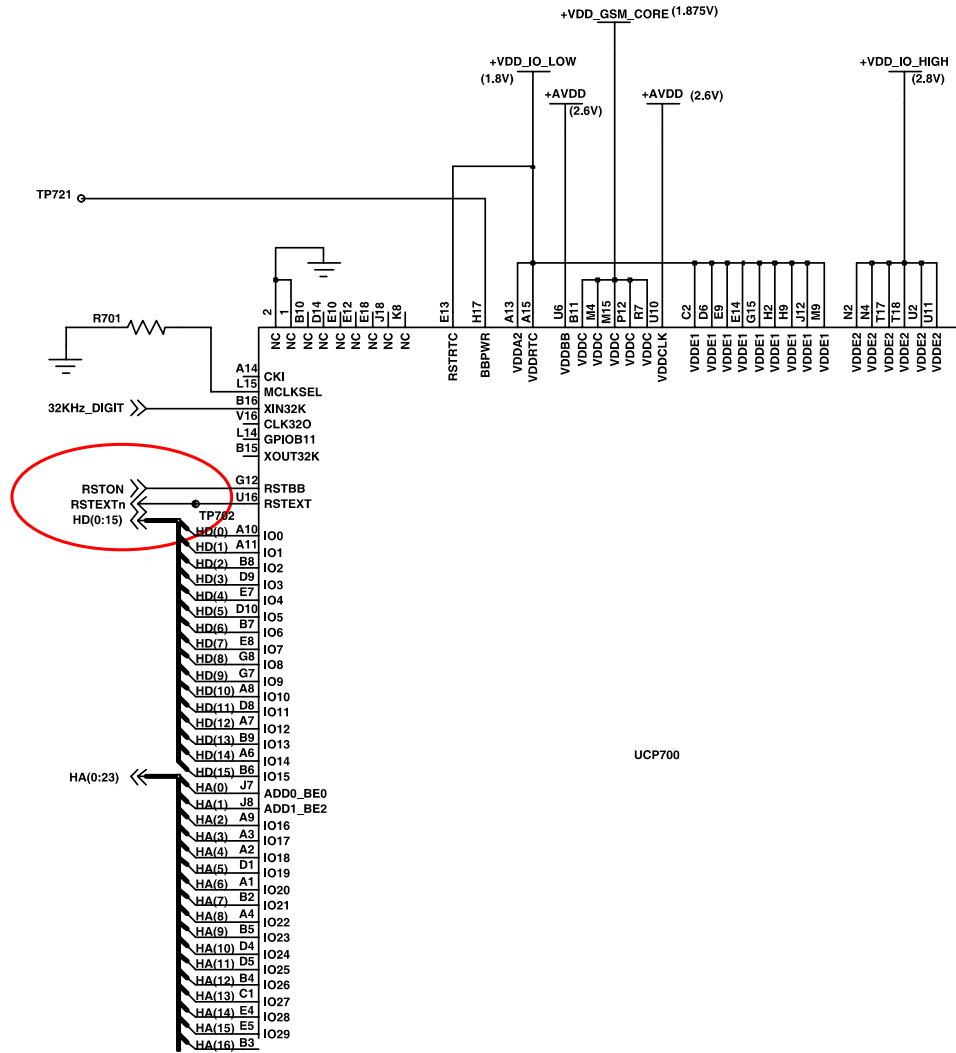
## 9-1-2. Phone Part



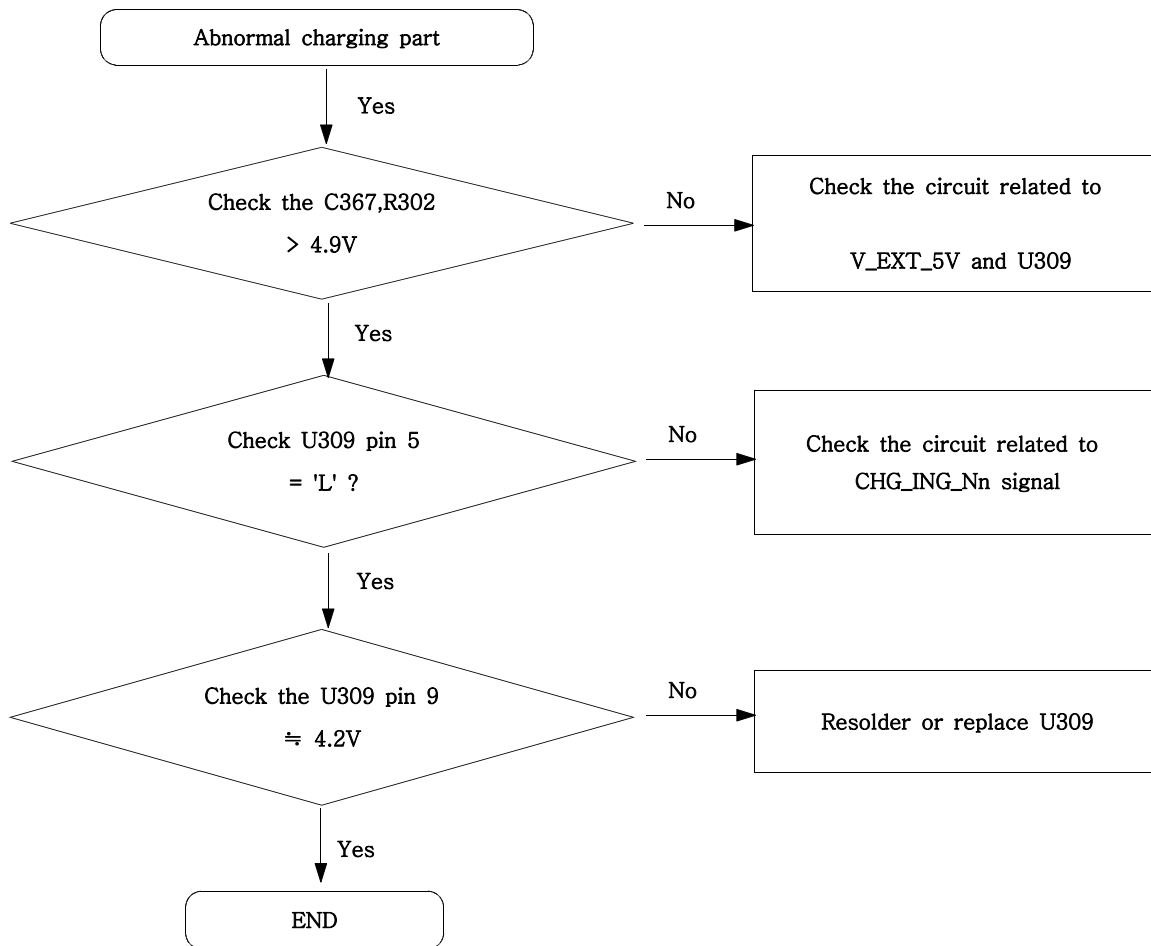


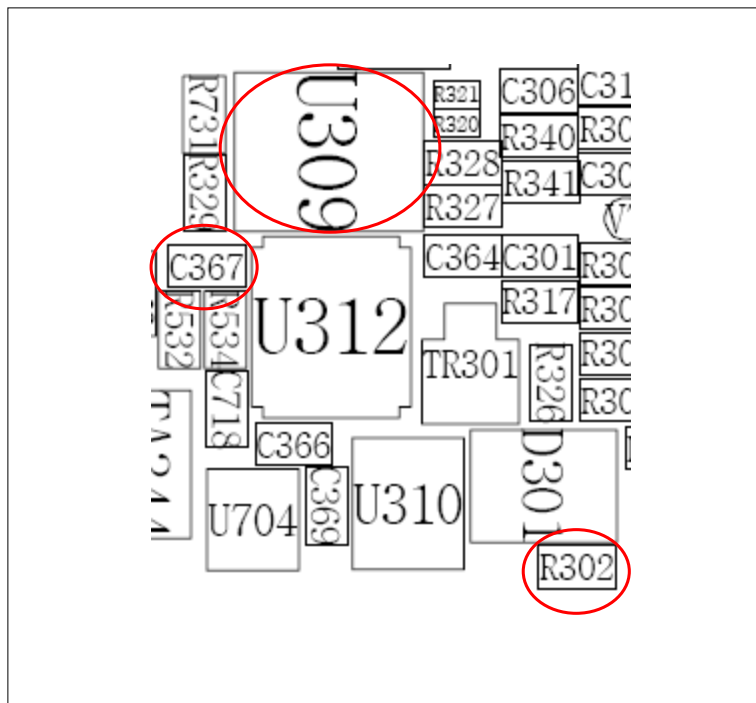
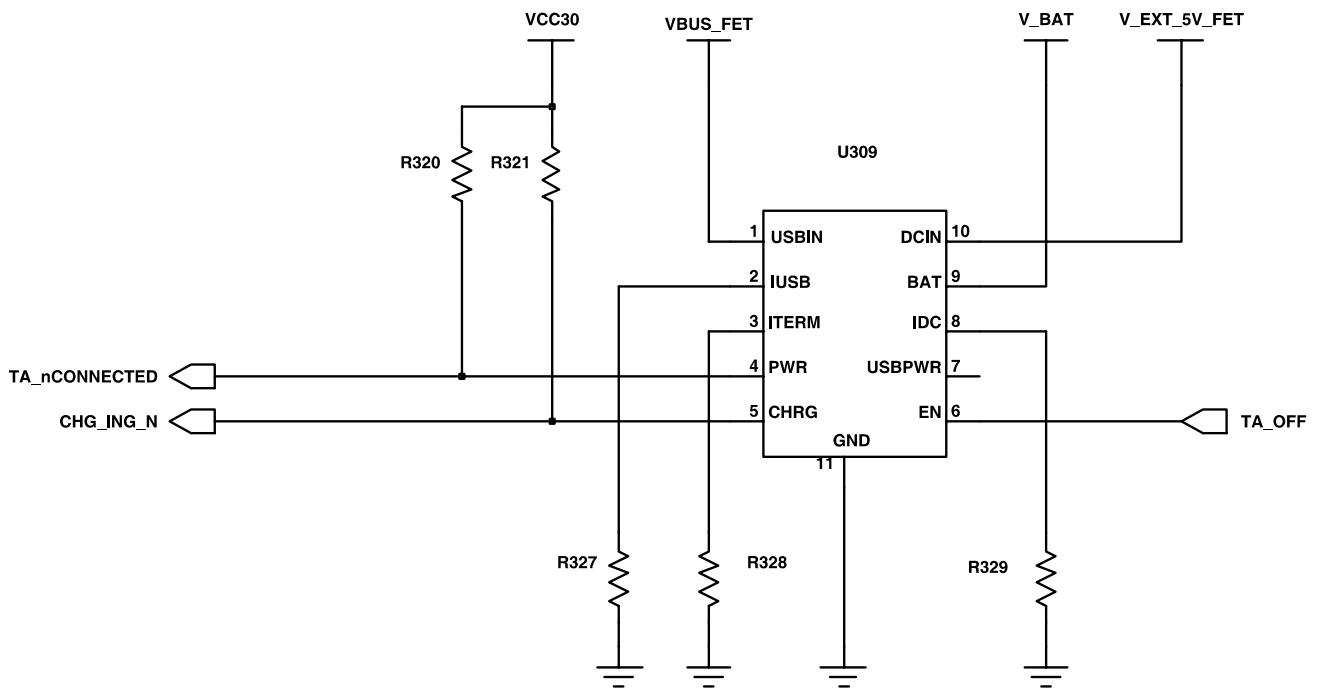
## 9-2. Initial





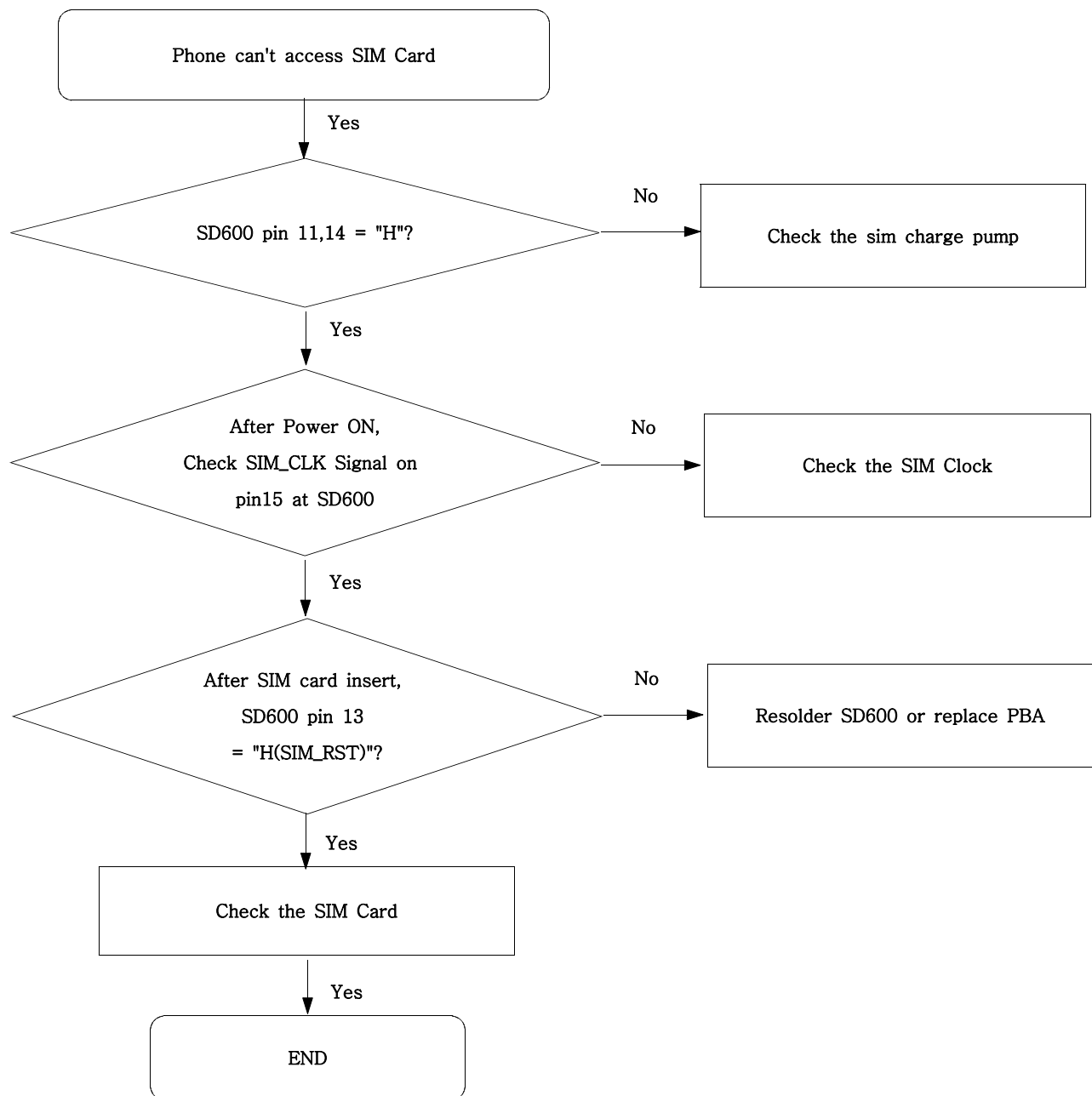
### 9-3. Charging Part

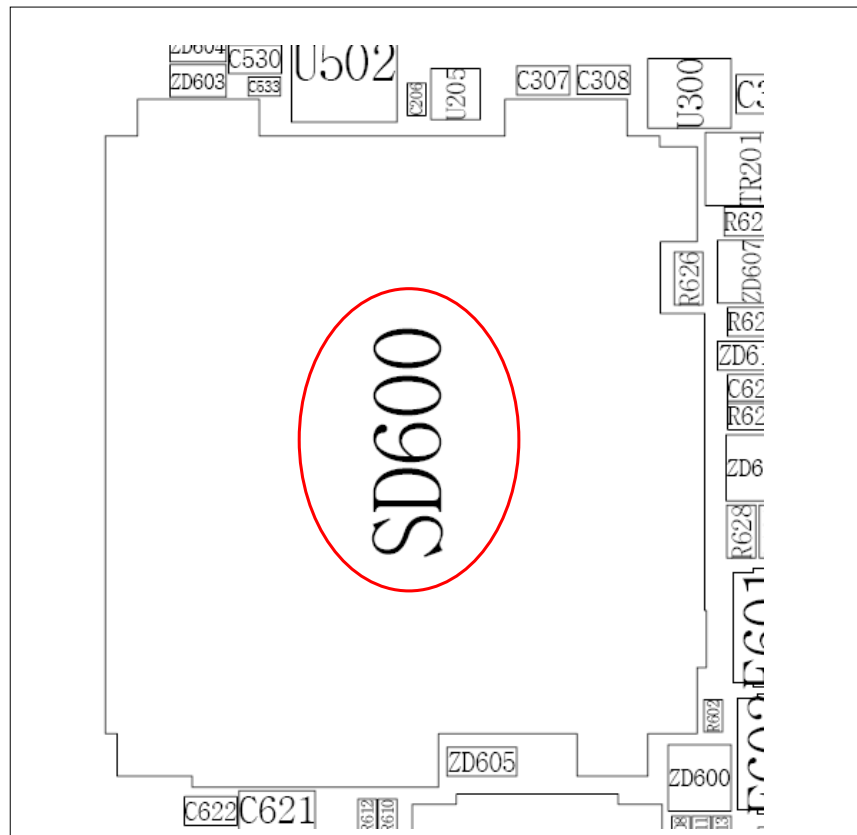
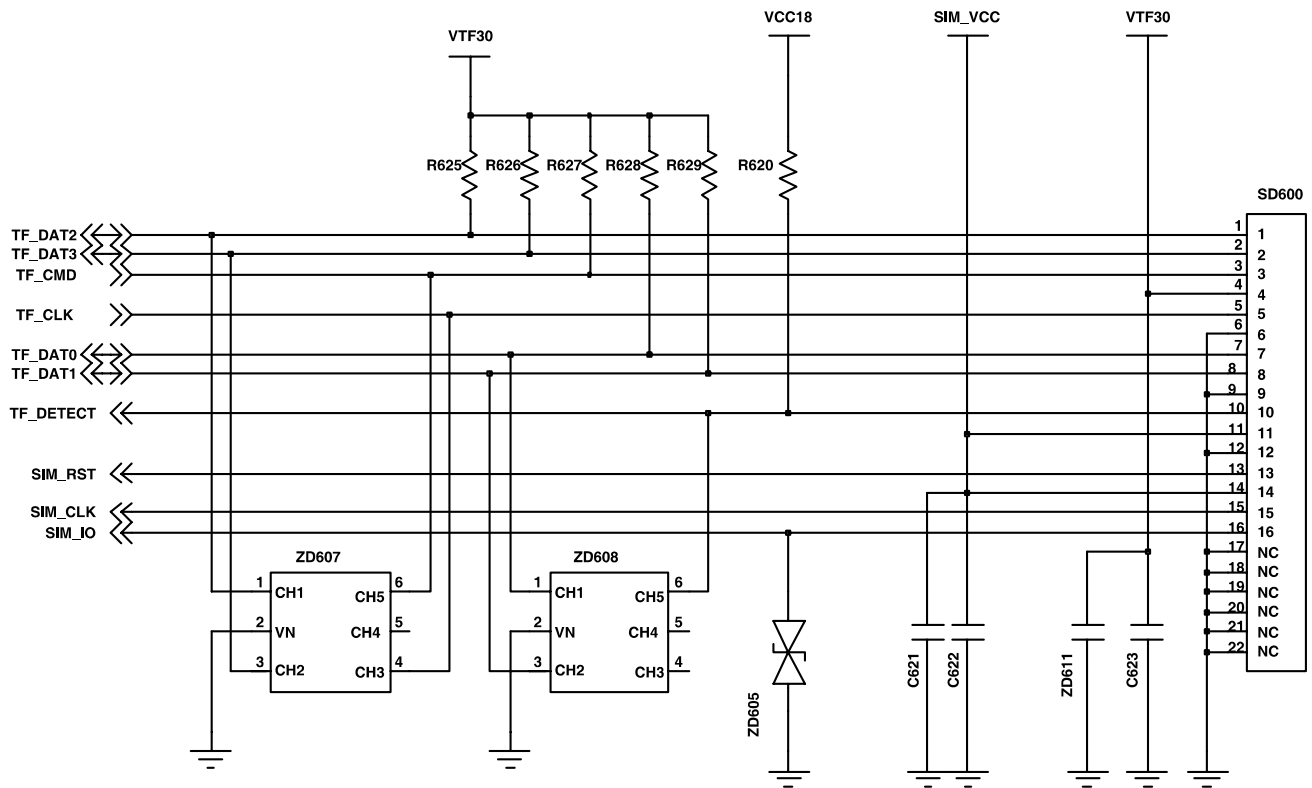




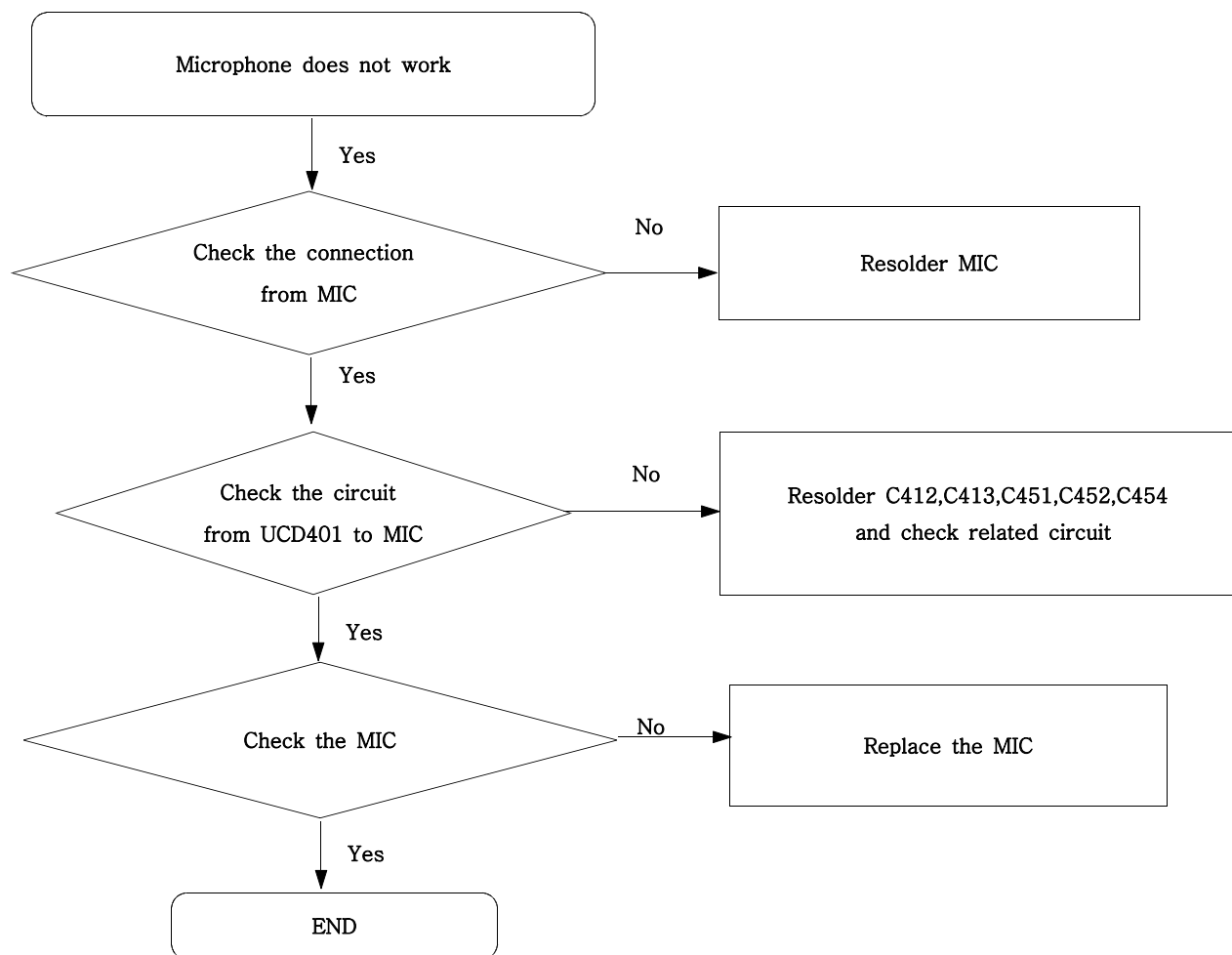


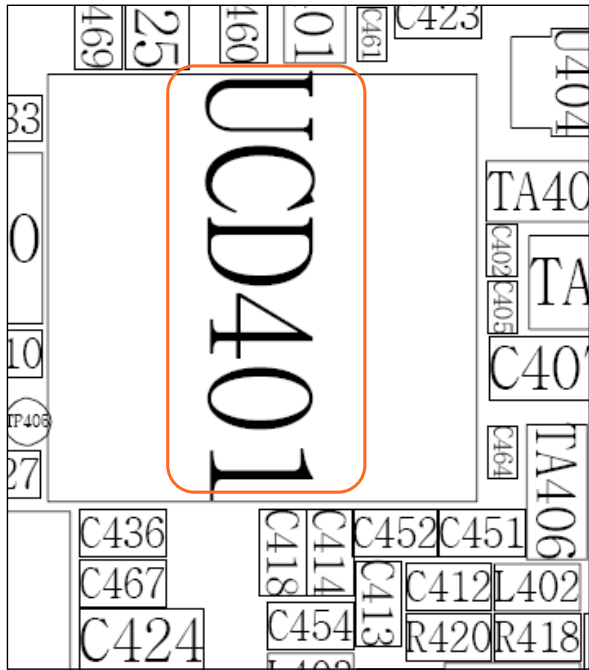
## 9-4. Sim Part



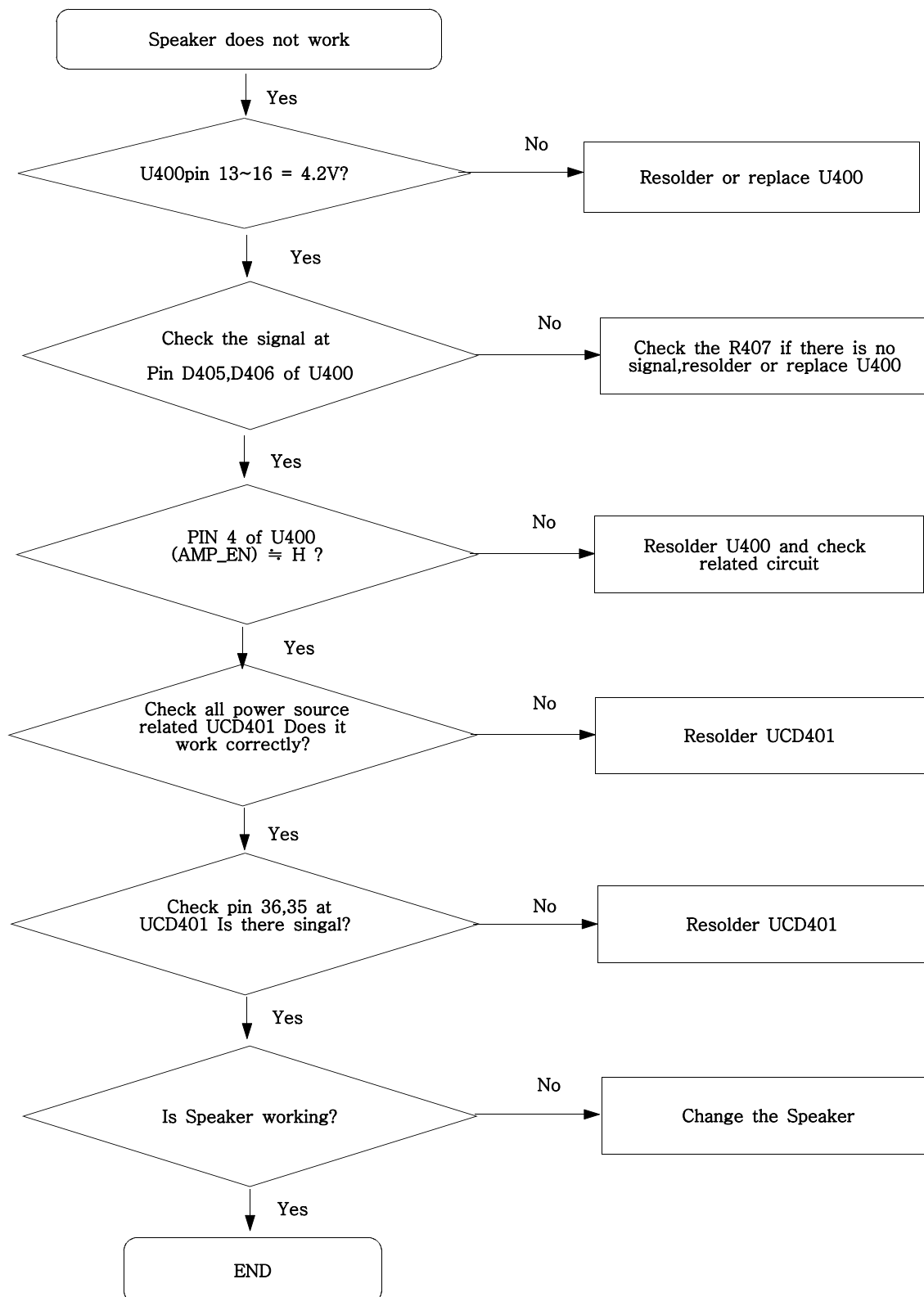


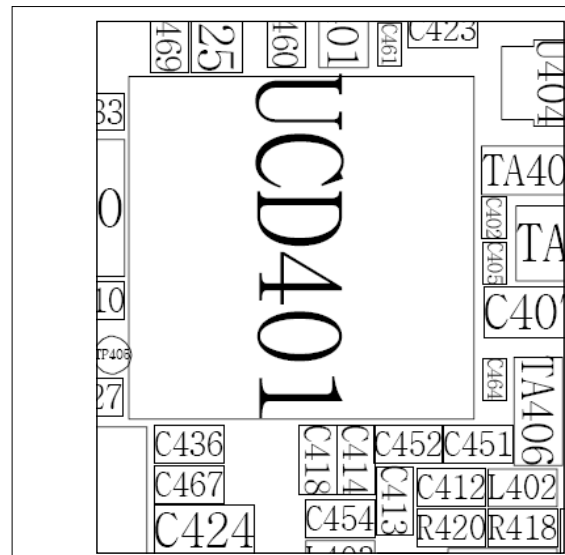
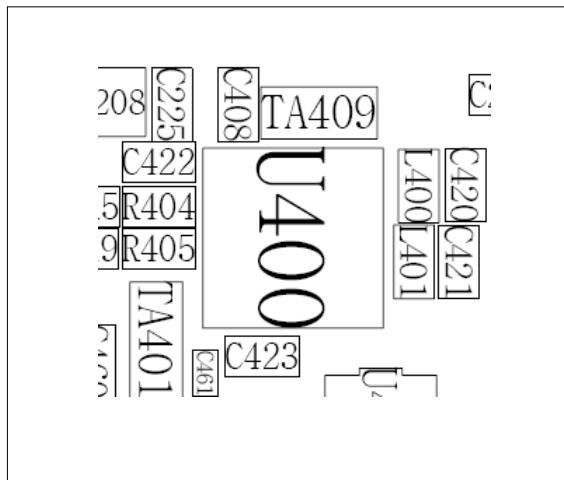
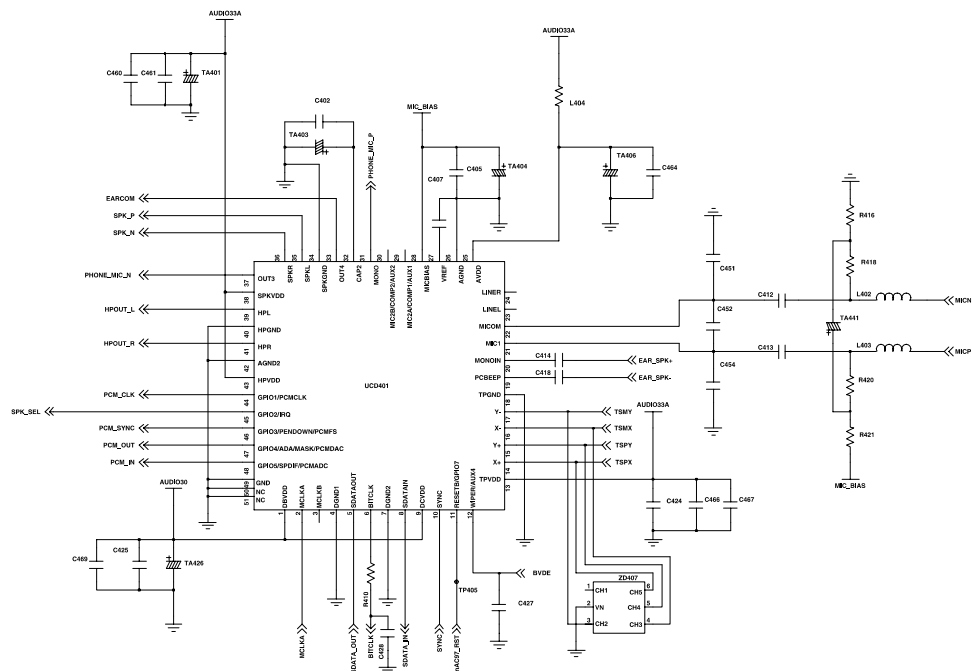
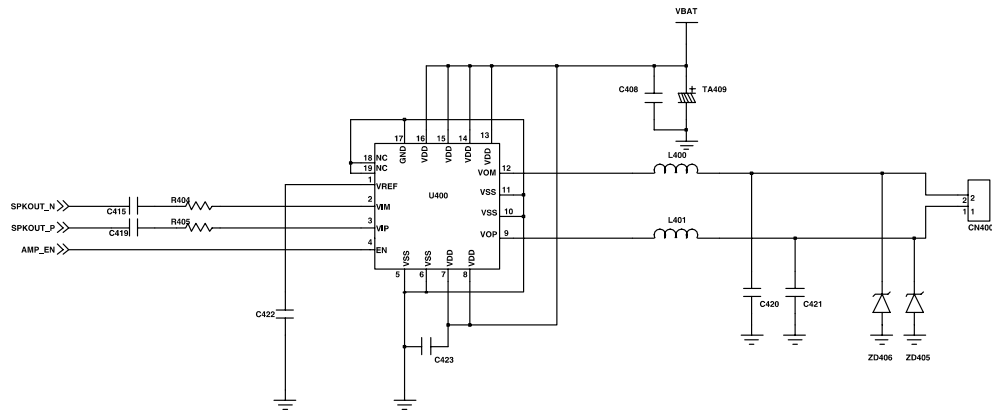
## 9-5. Microphone Part



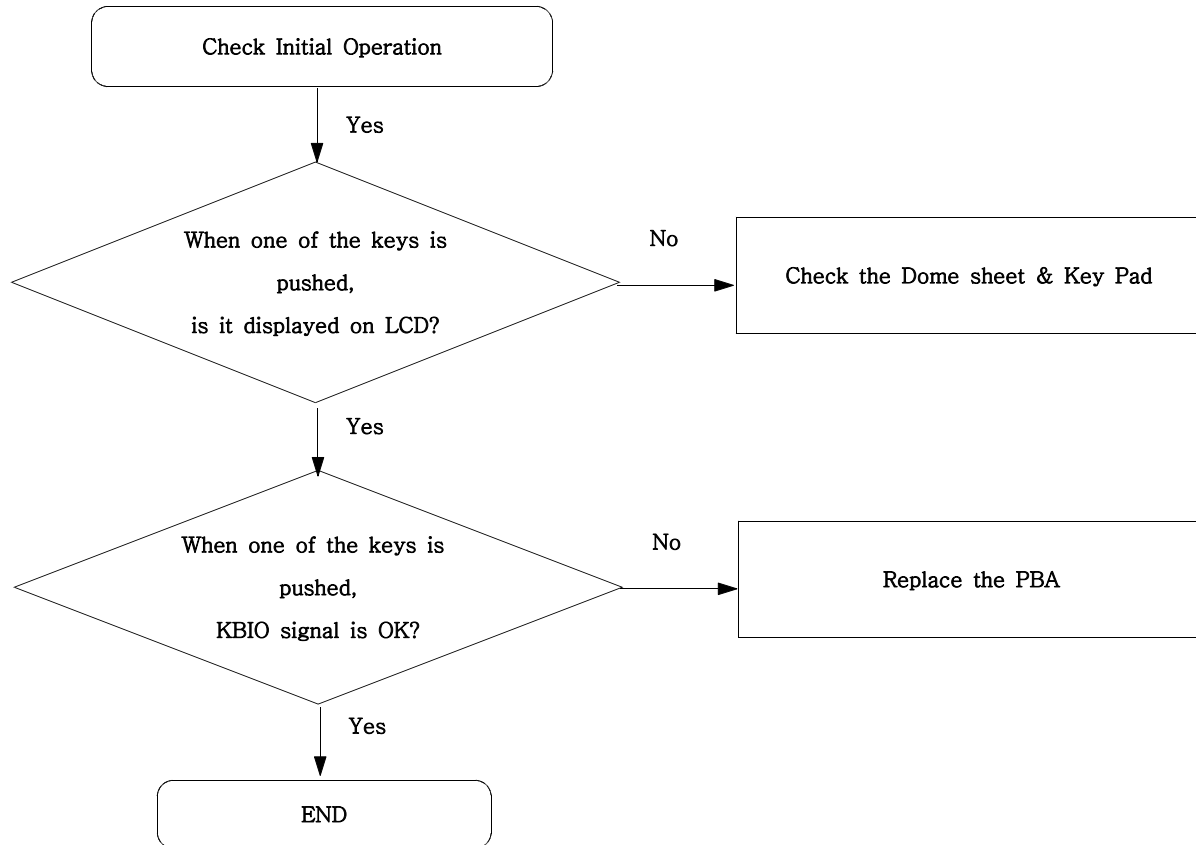


## 9-6. Speaker Part(Melody)

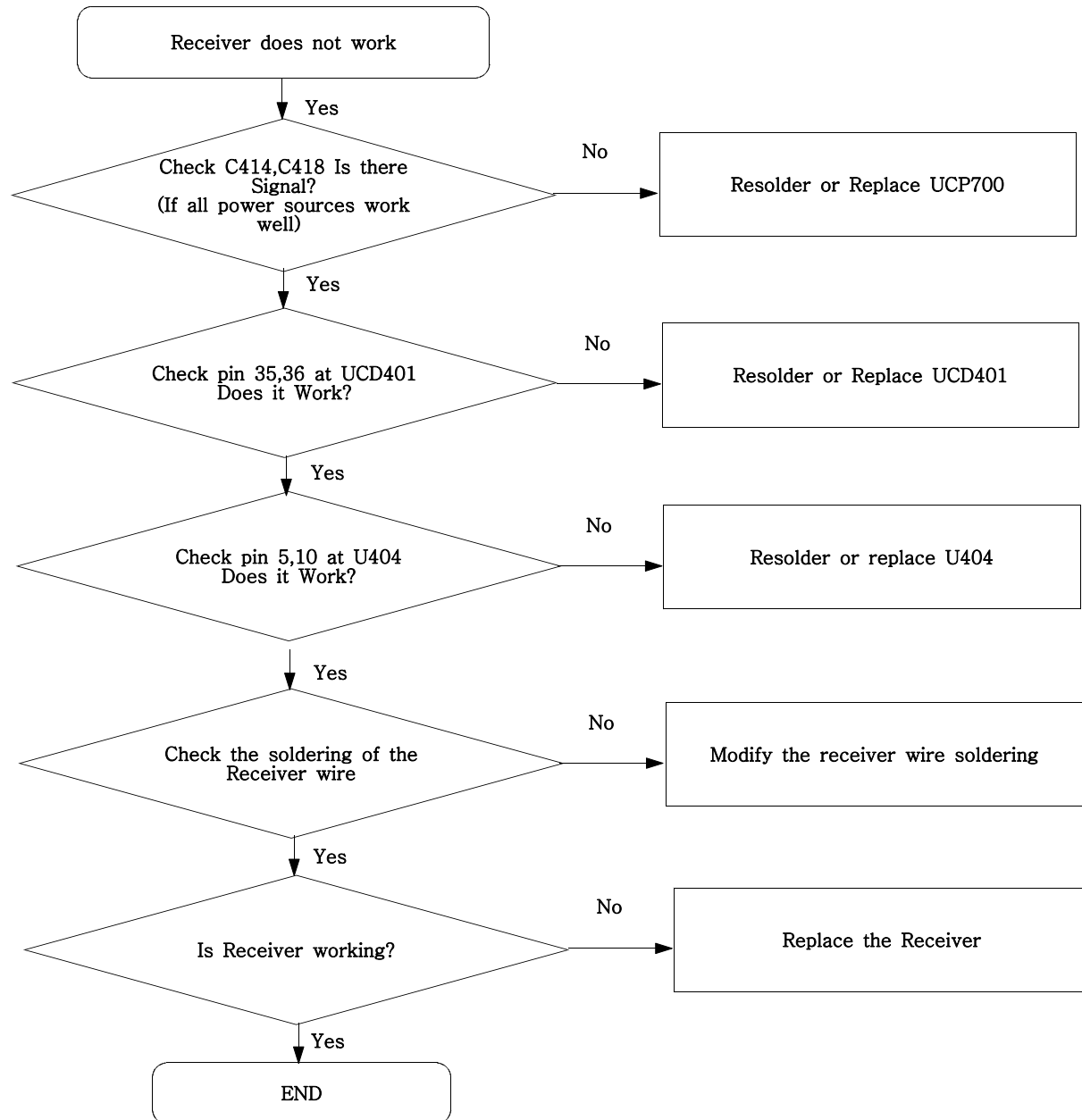




## 9-7. Key Data Input

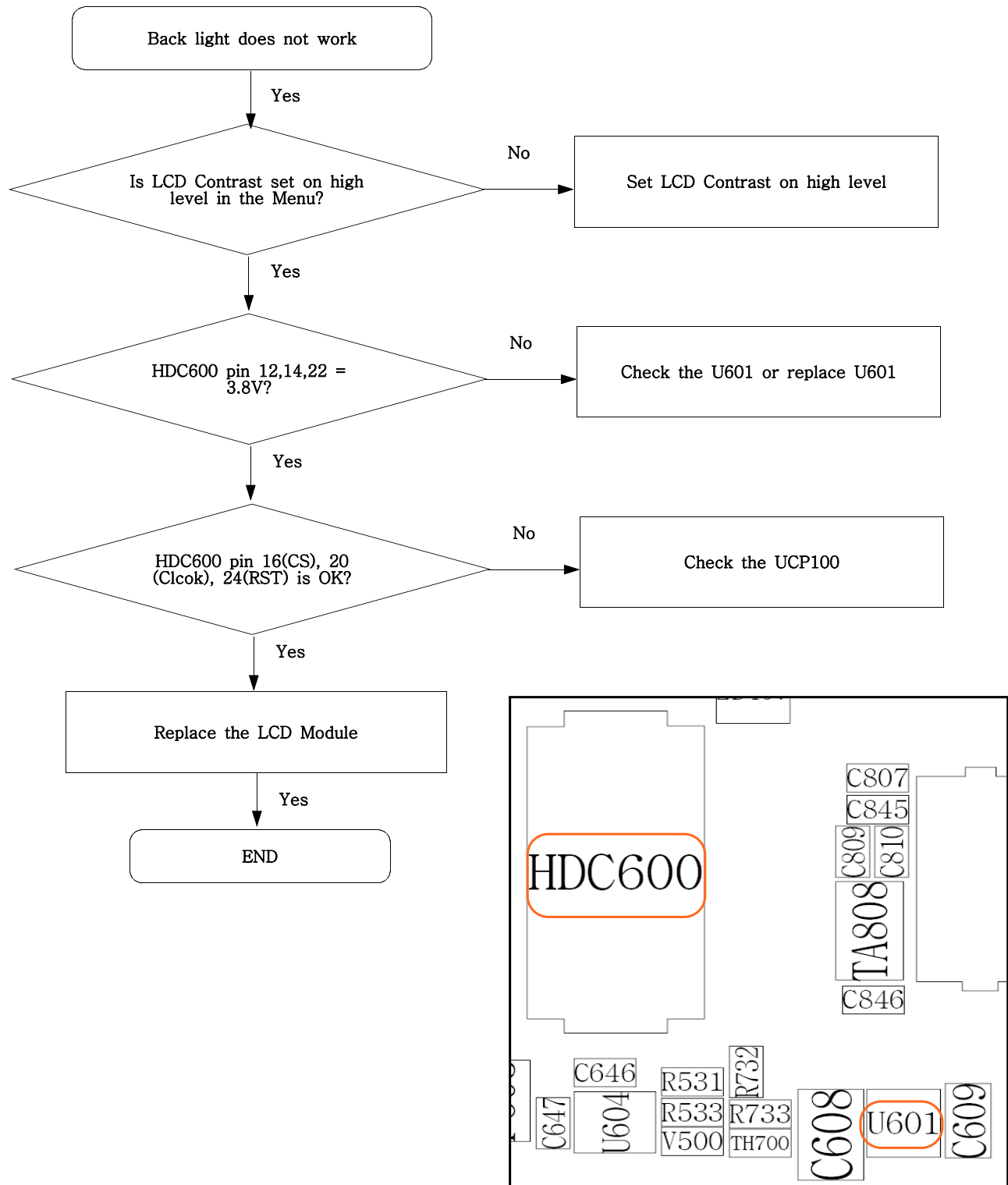


## 9-8. Receiver Part

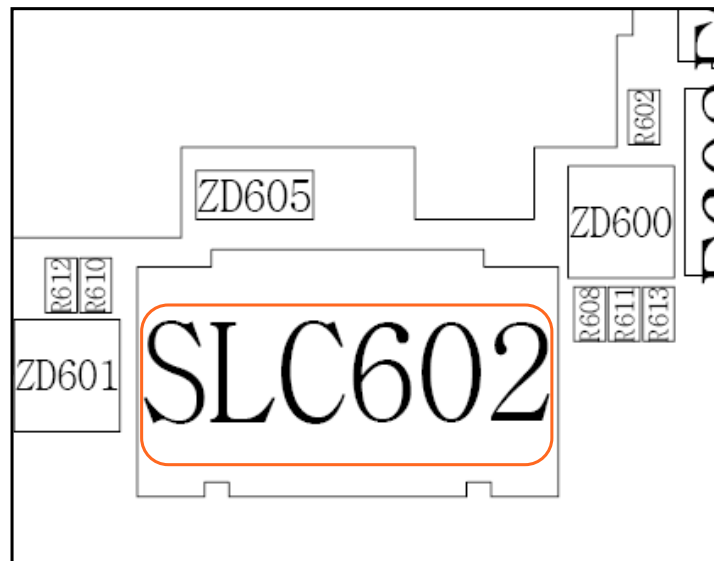
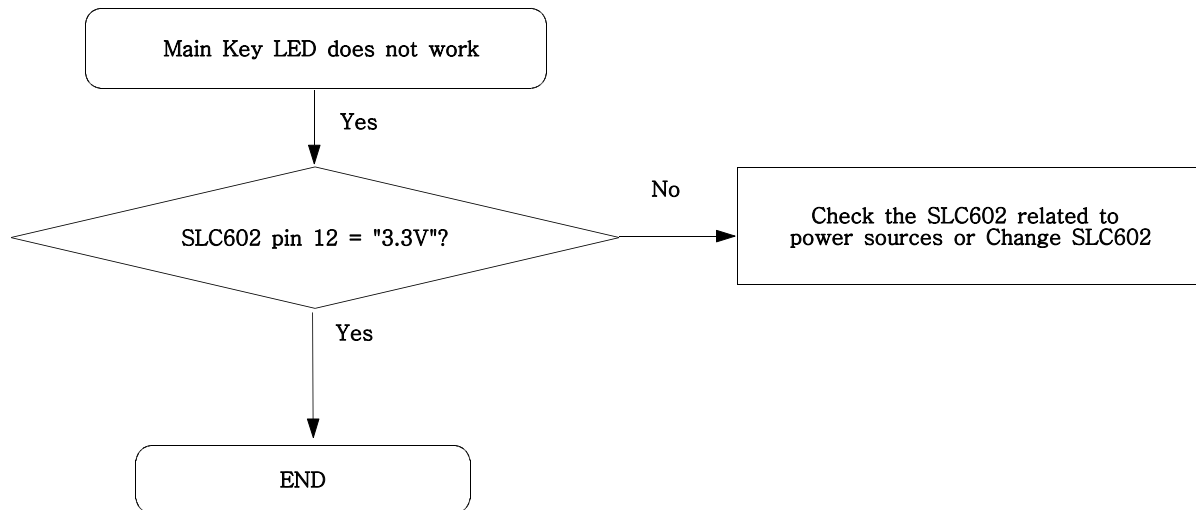




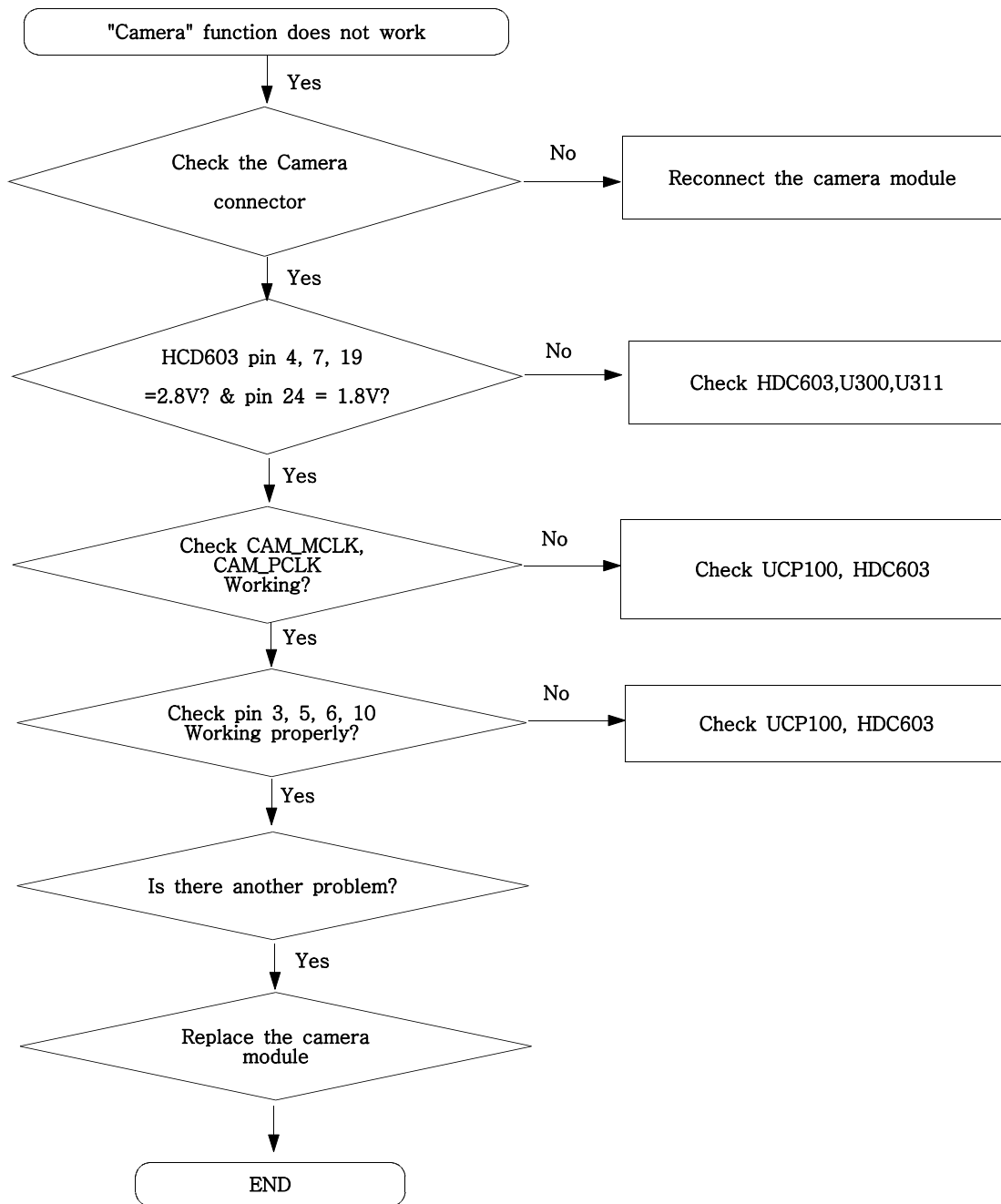
## 9-9. Back Light (for Color Main LCD)

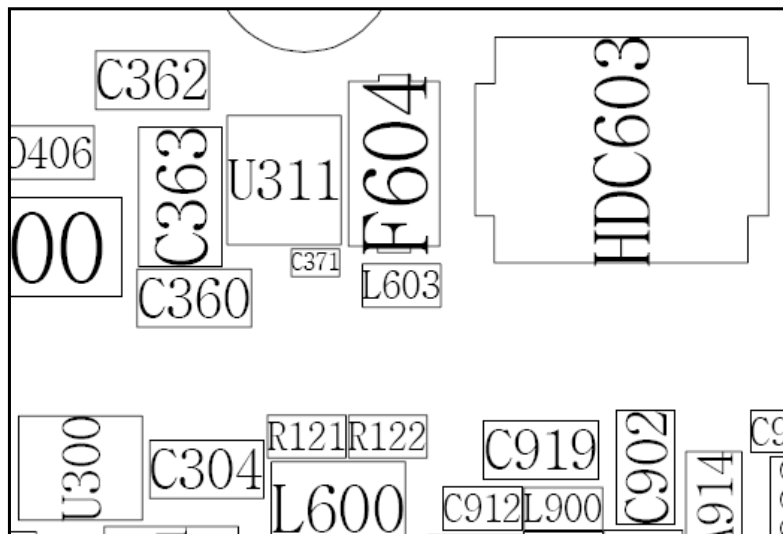
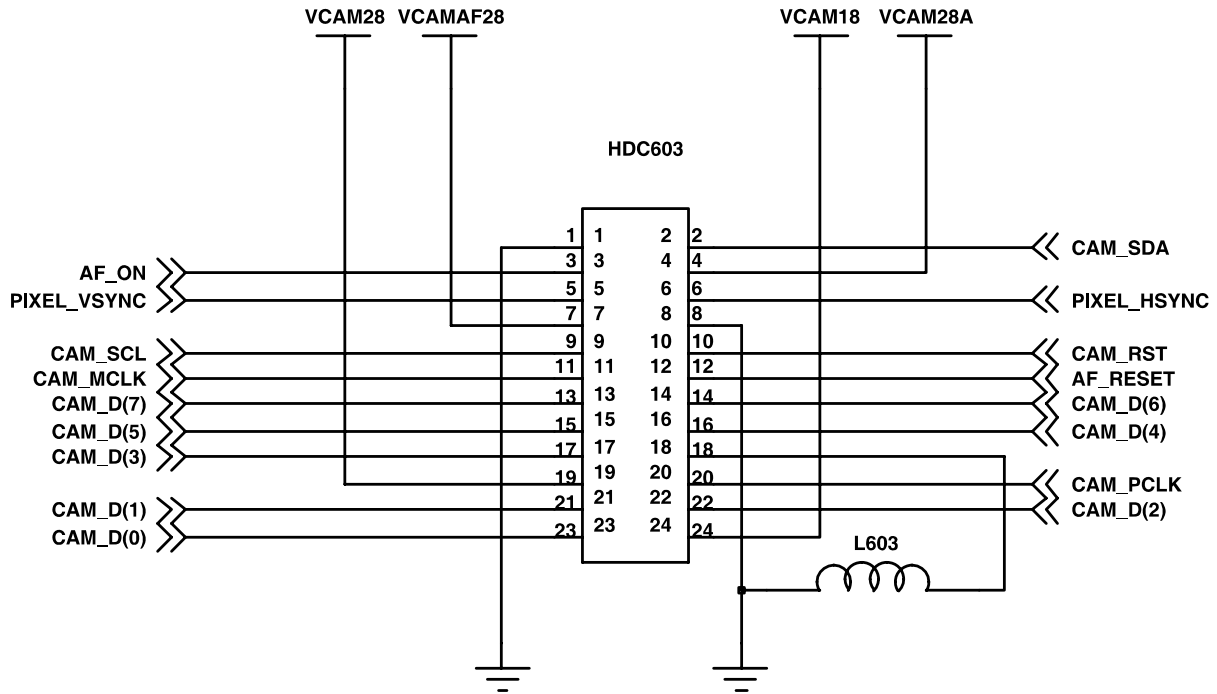


## 9-10. Key Back Light

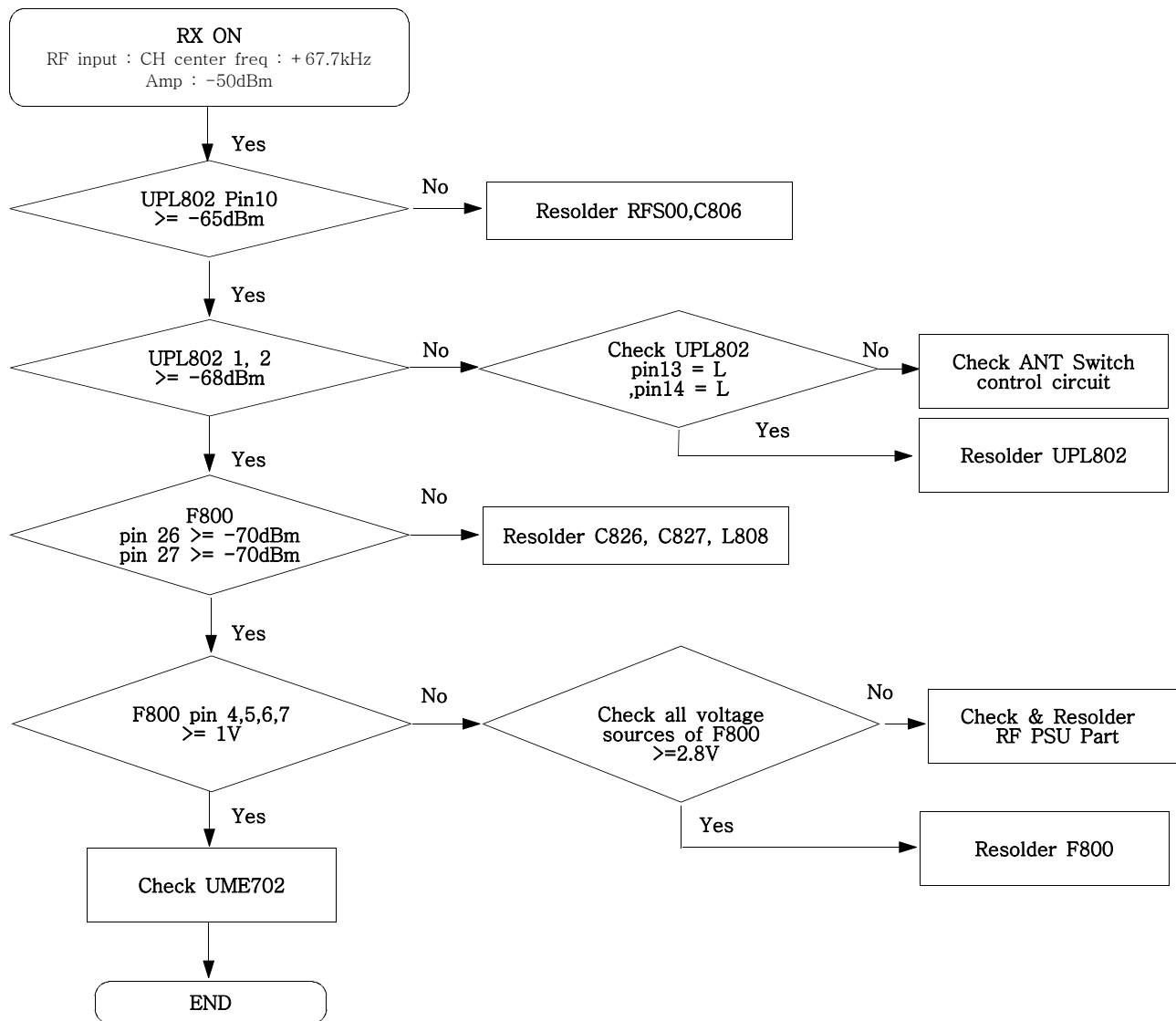


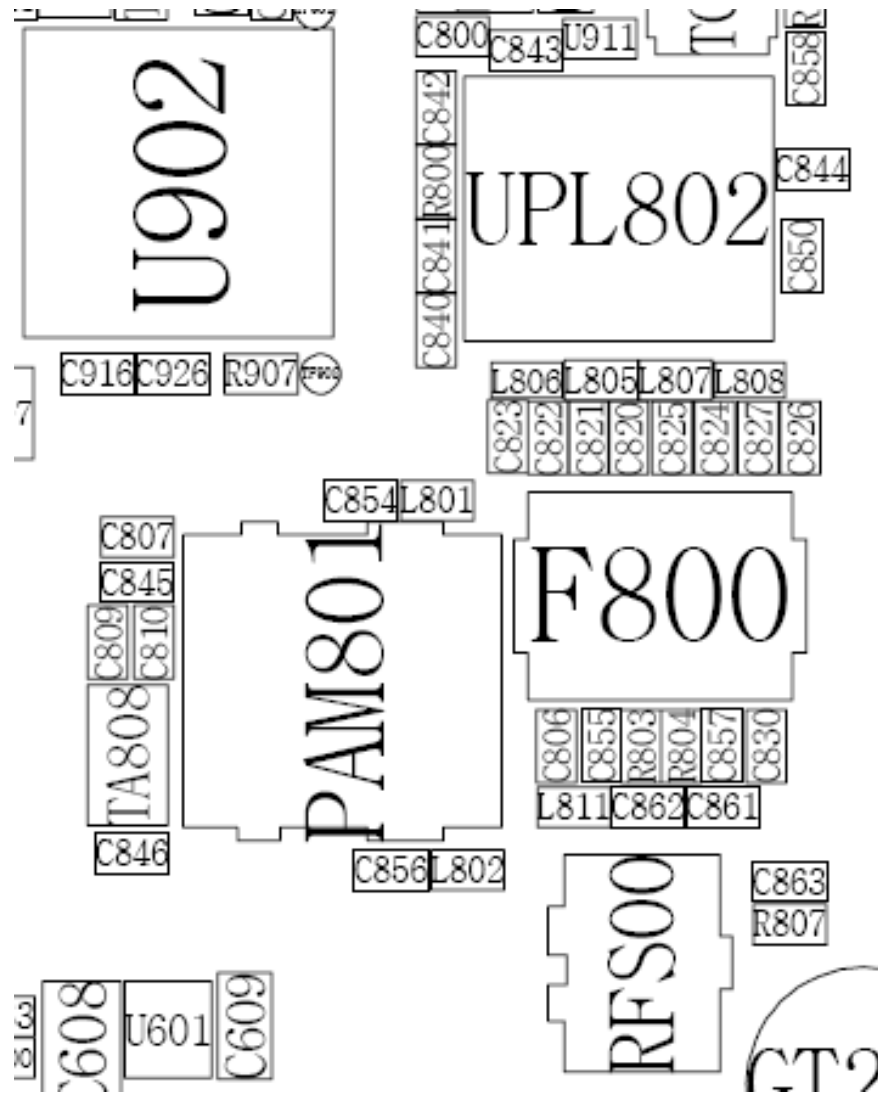
## 9-11. Camera part



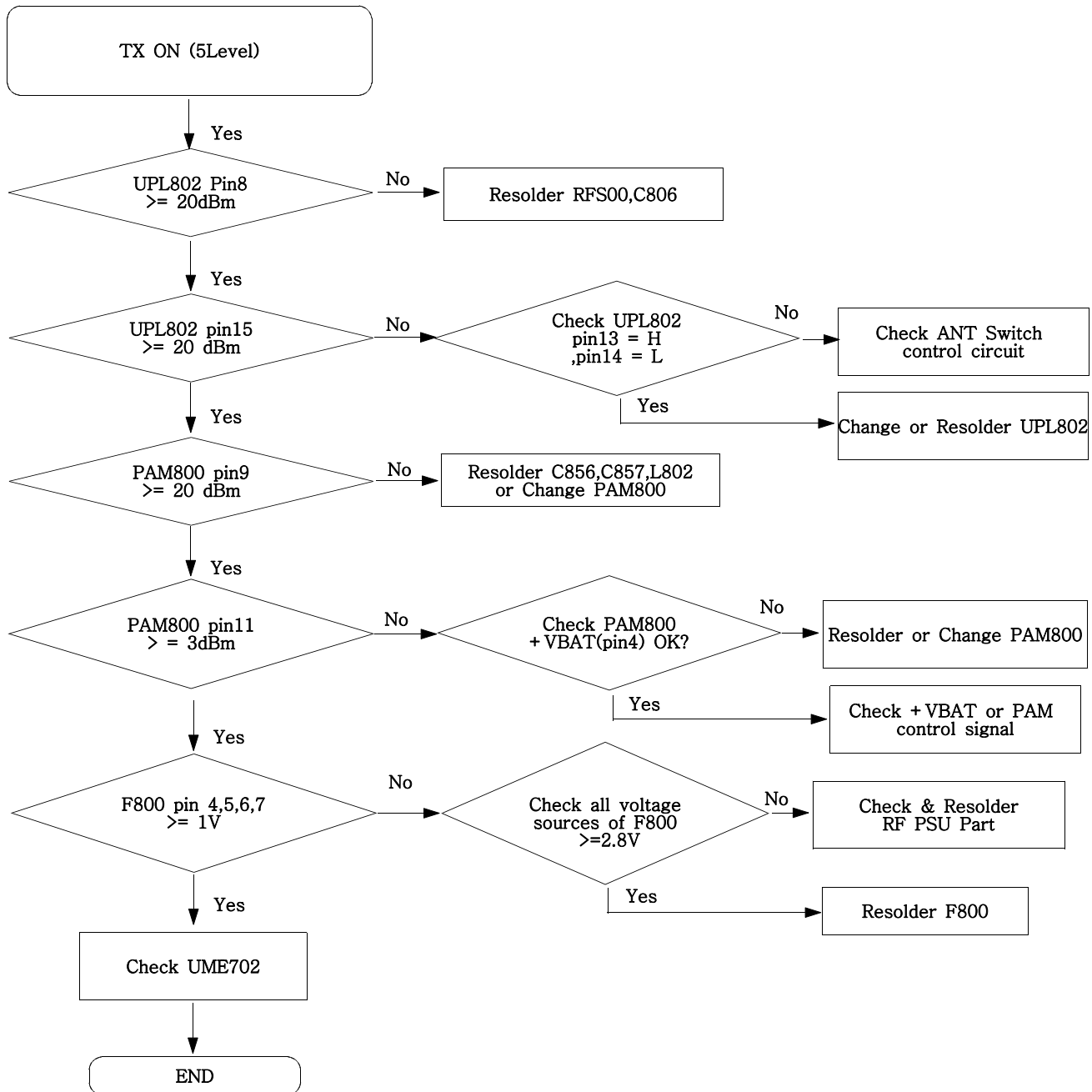


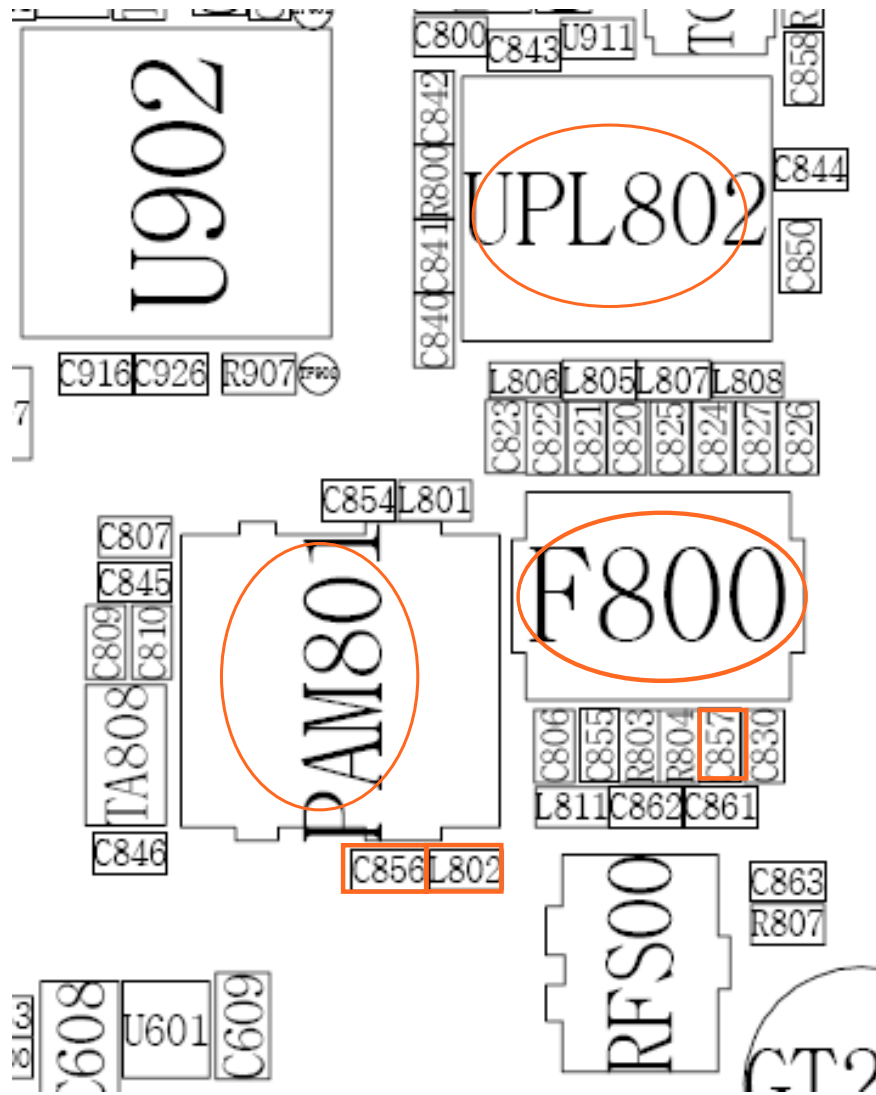
## 9-12. GSM850 Receiver





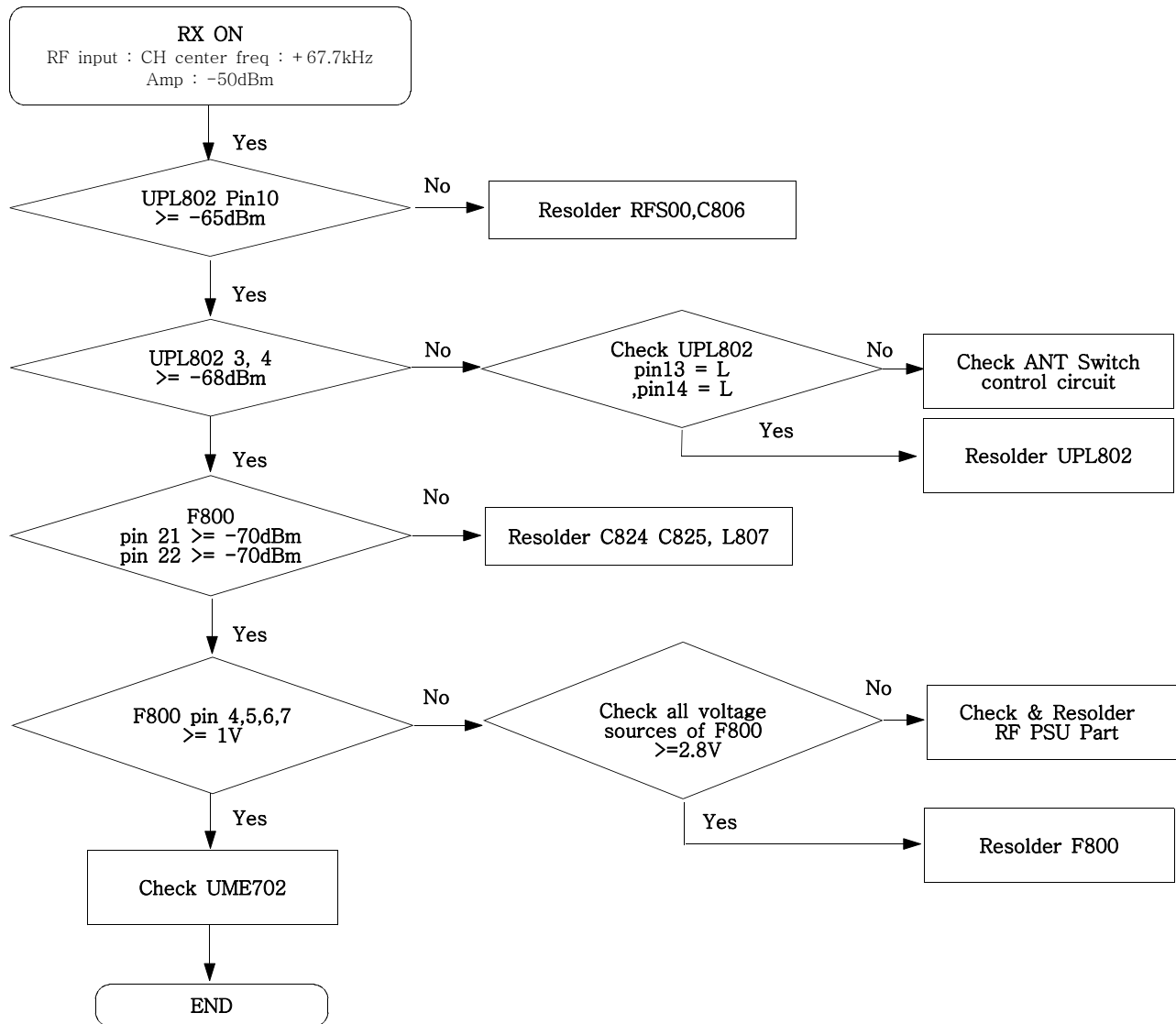
### 9-13. GSM850 Transmitter





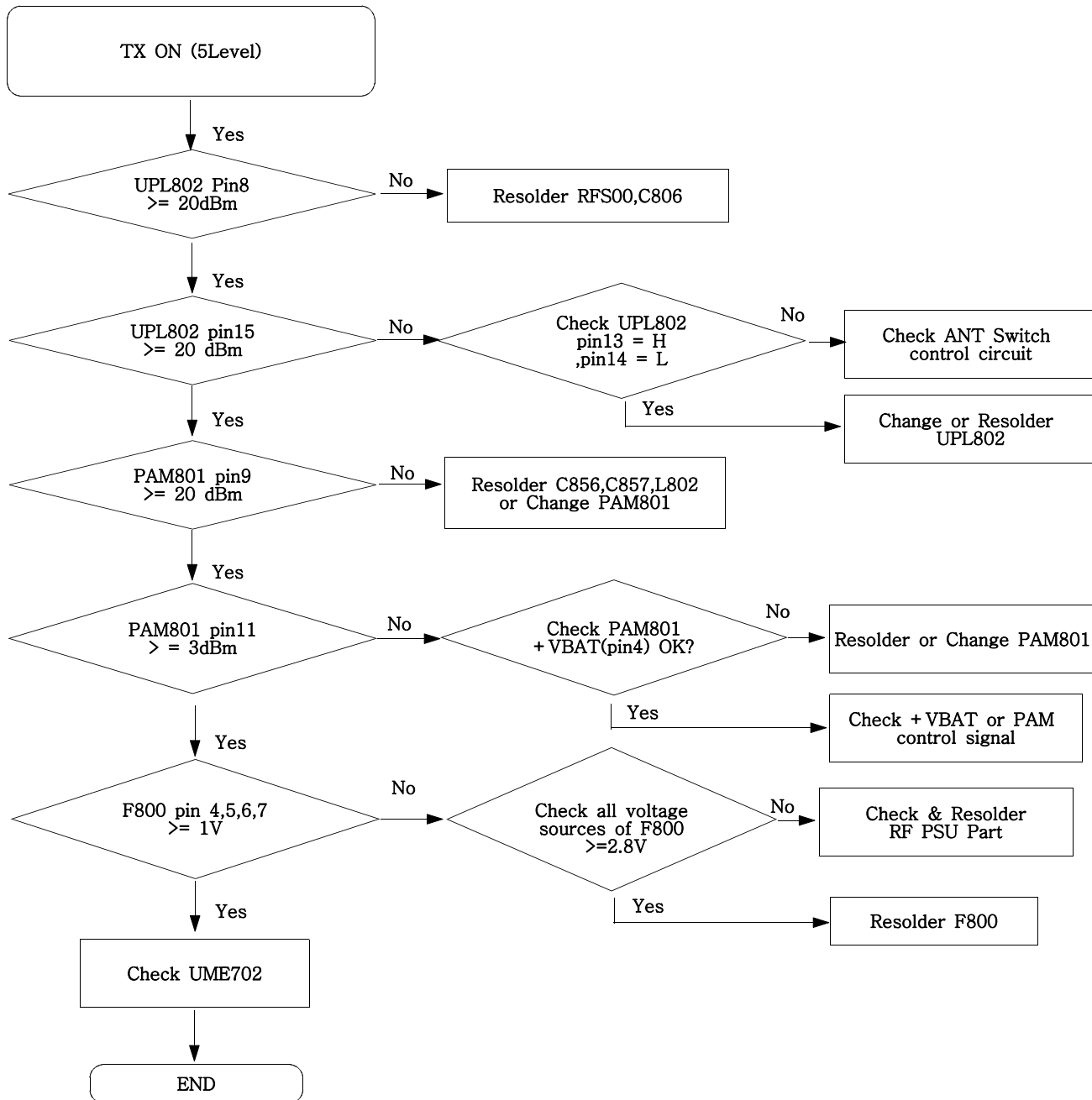


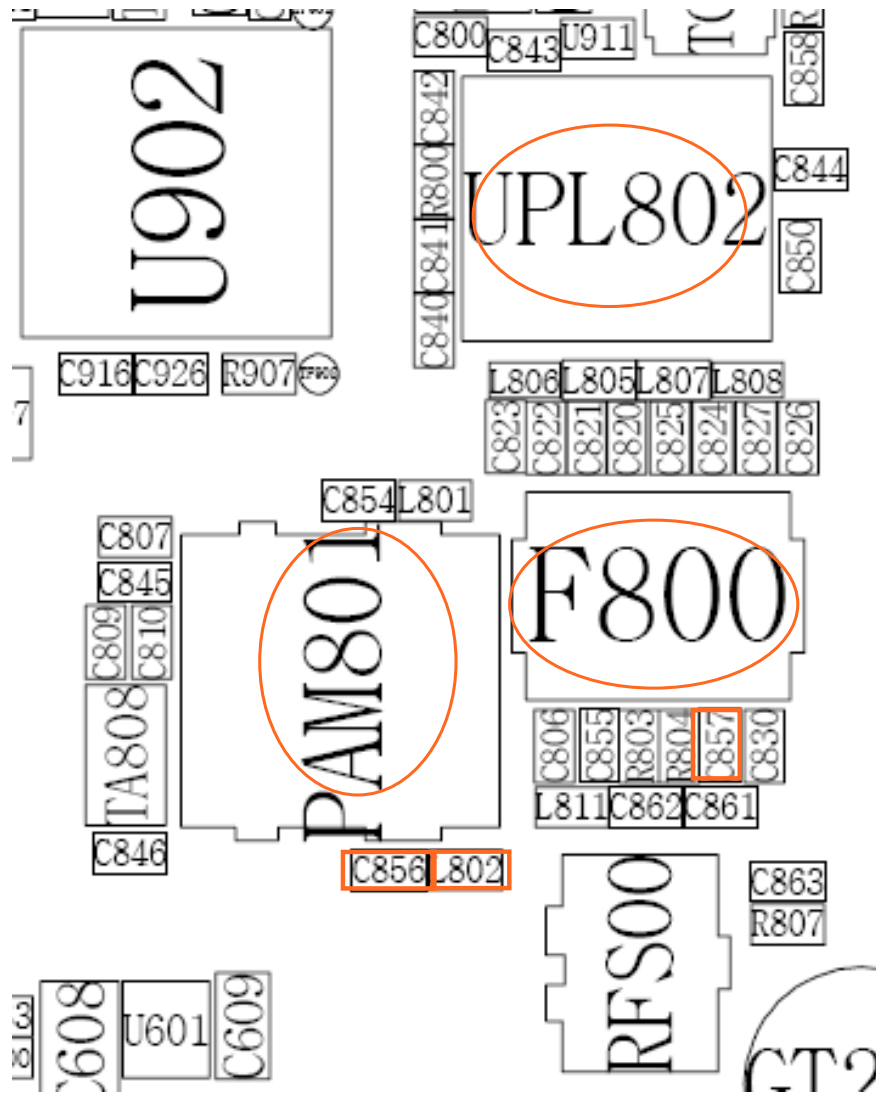
## 9-14. EGSM900 Receiver



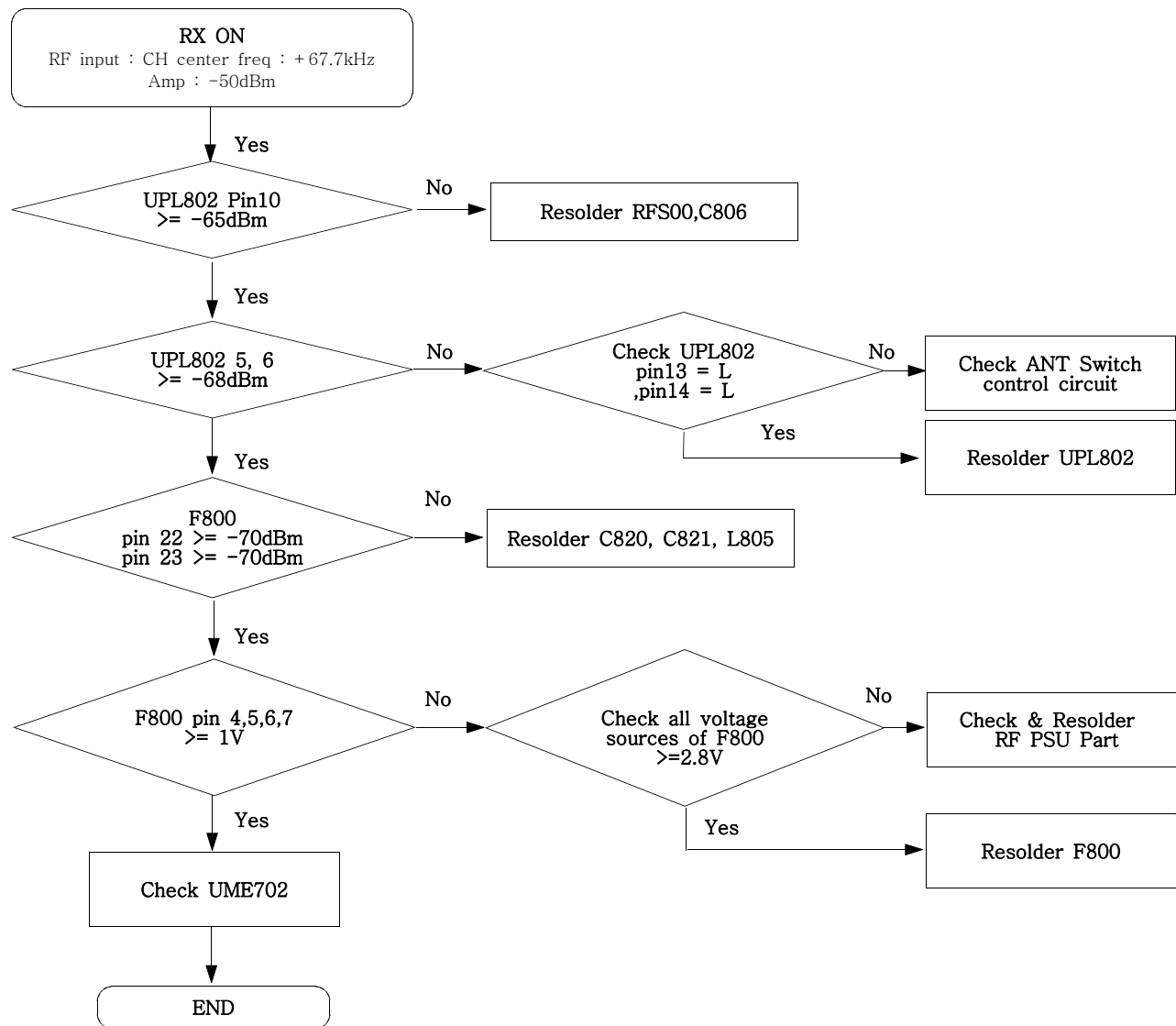


## 9-15. EGSM900 Transmitter



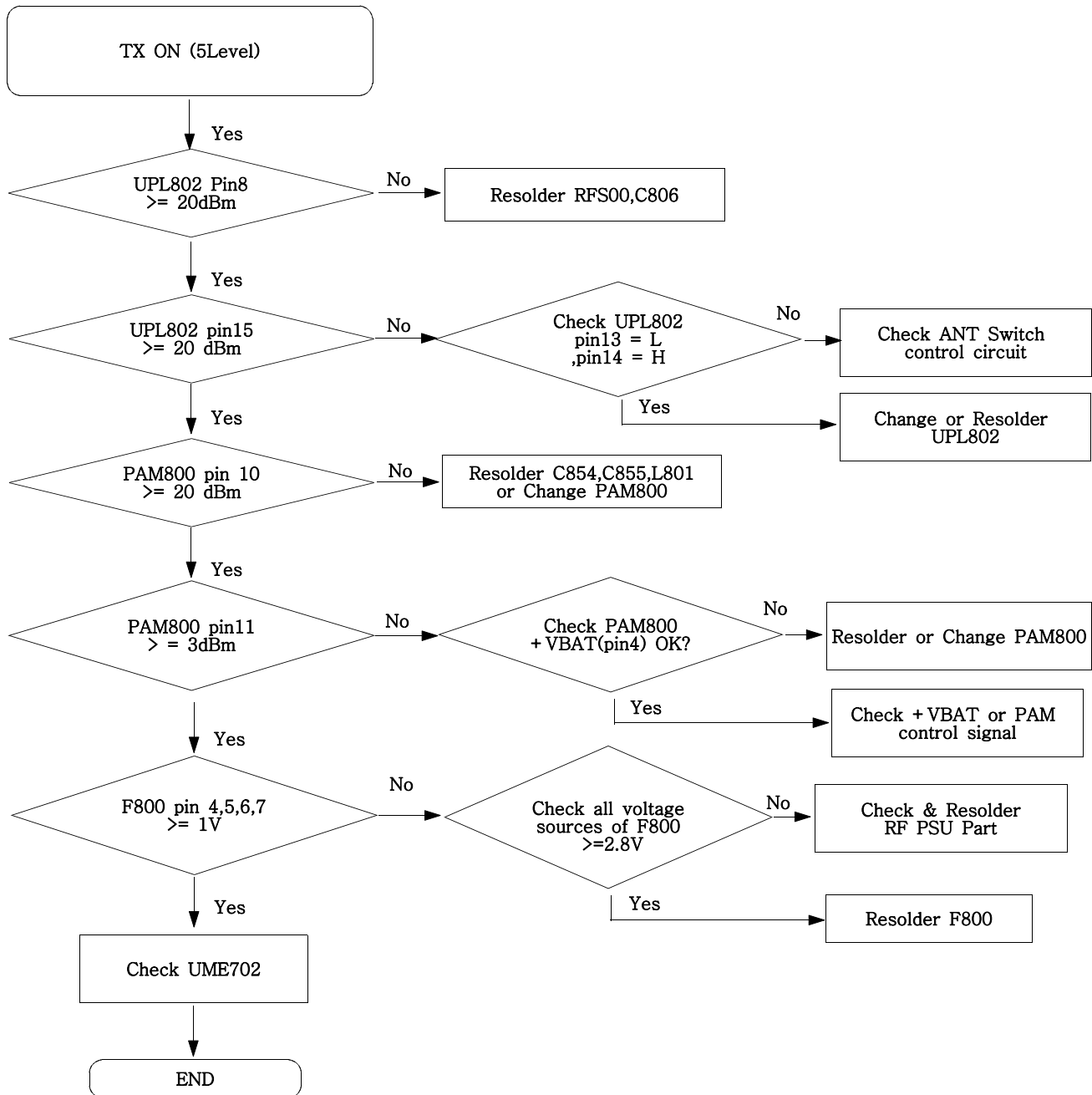


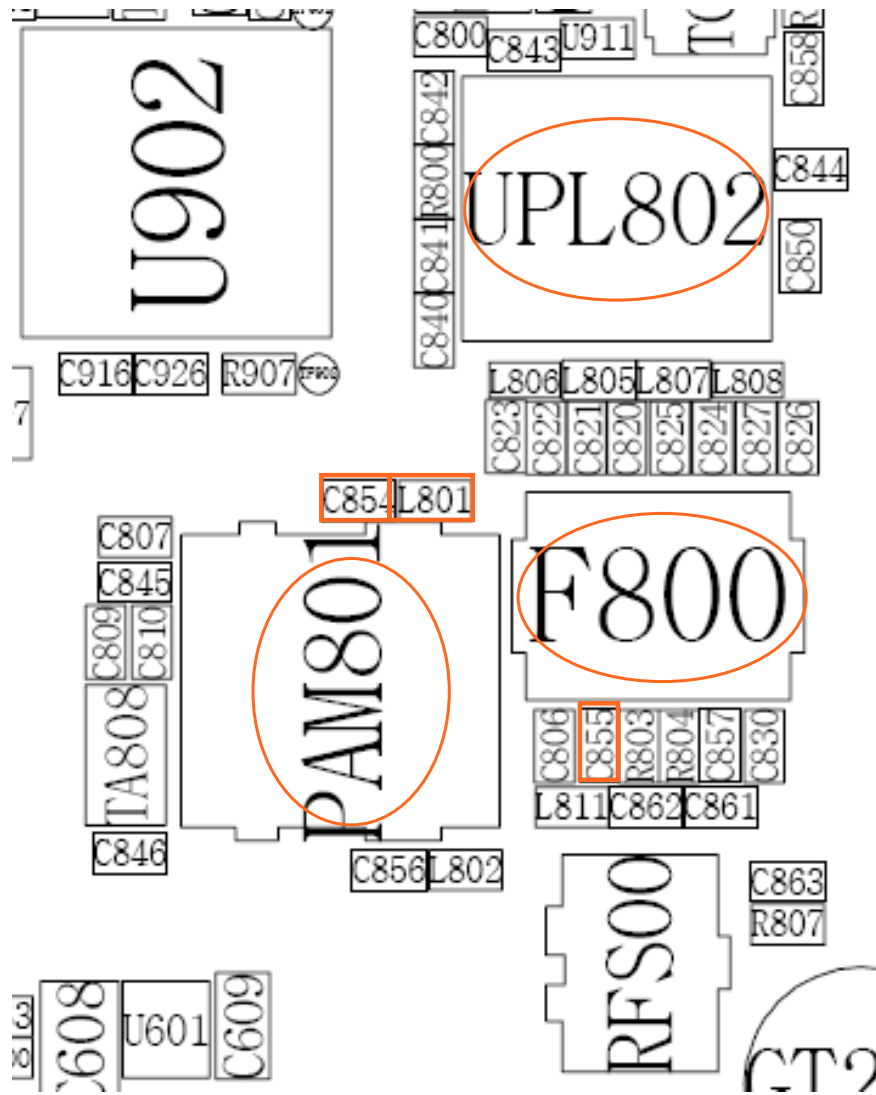
## 9-16. DCS Receiver





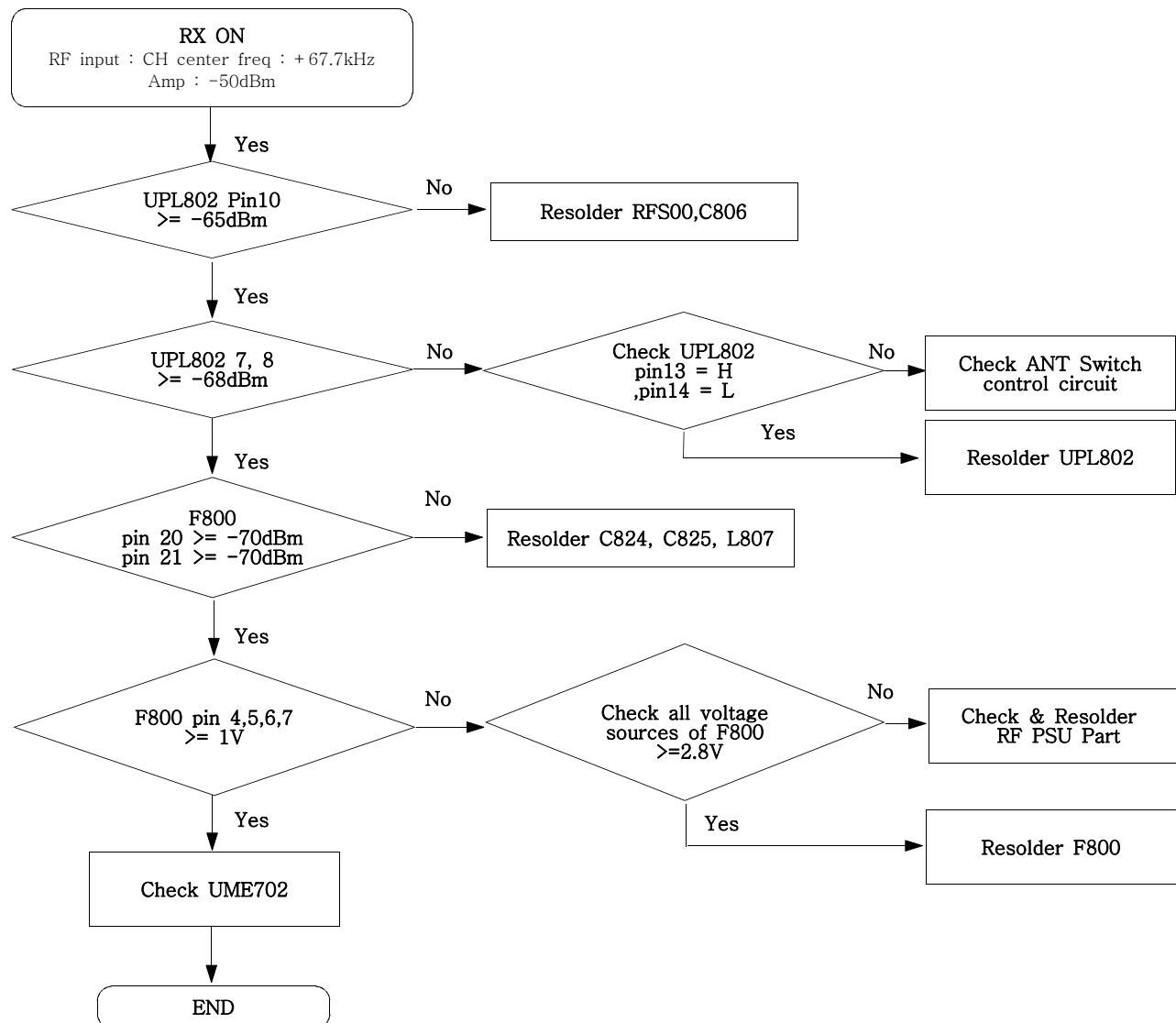
## 9-17. DCS Transmitter

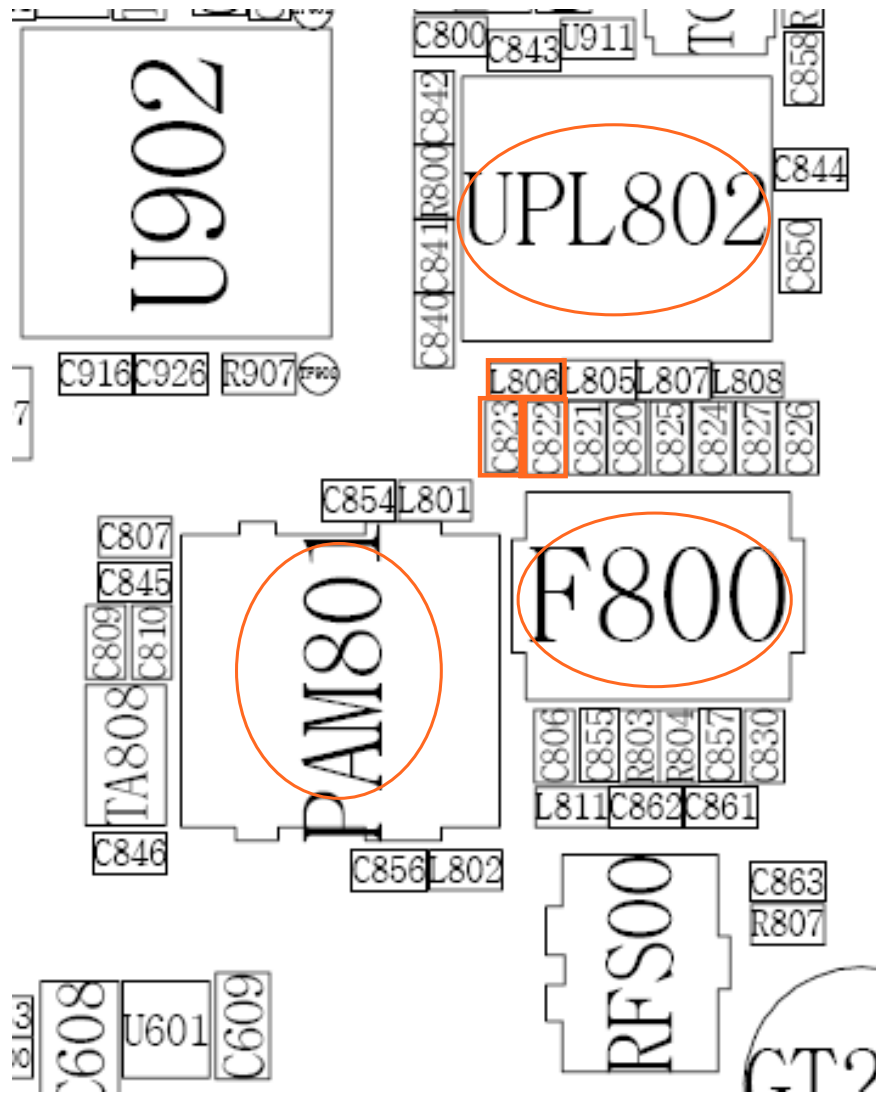




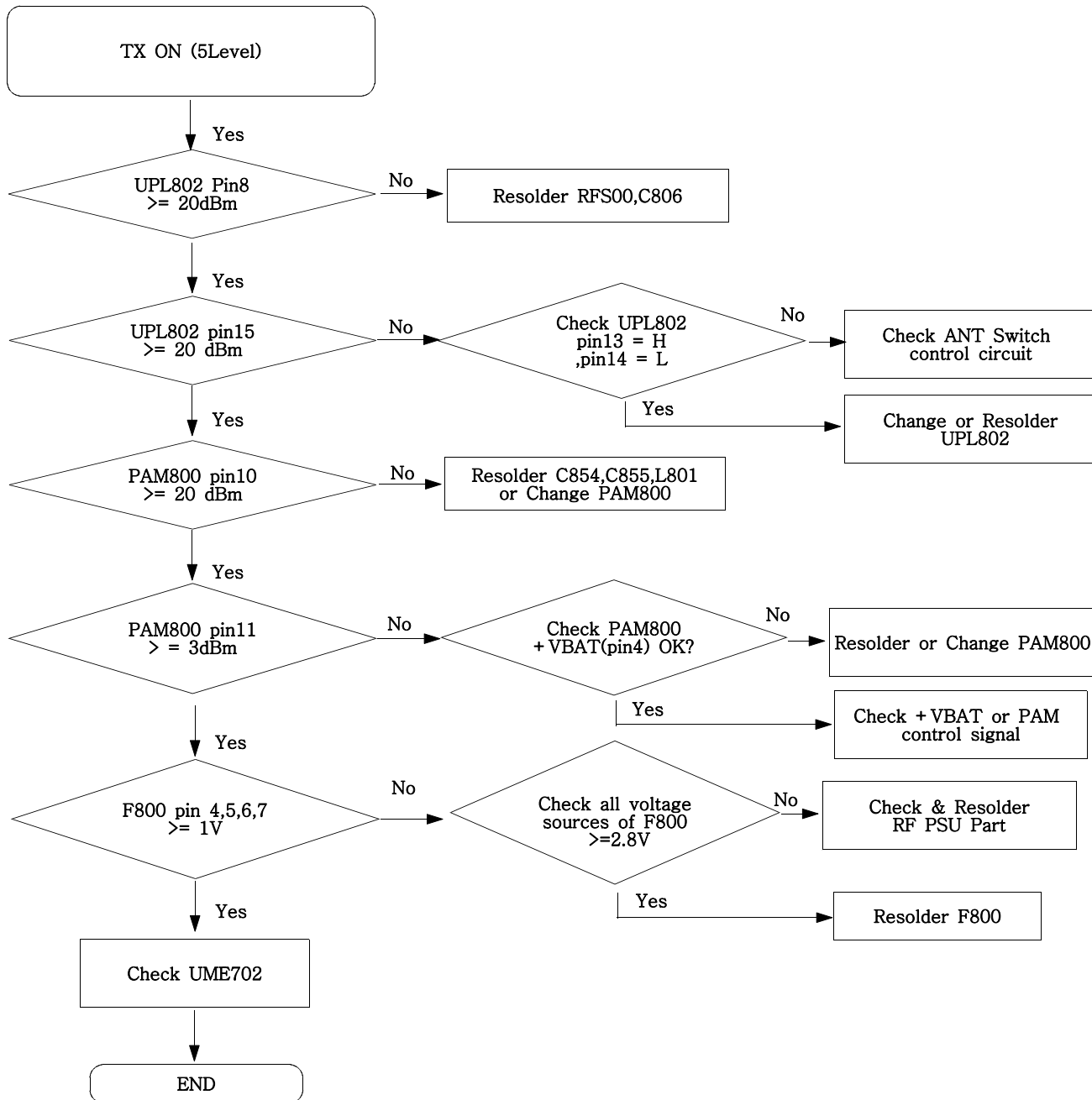


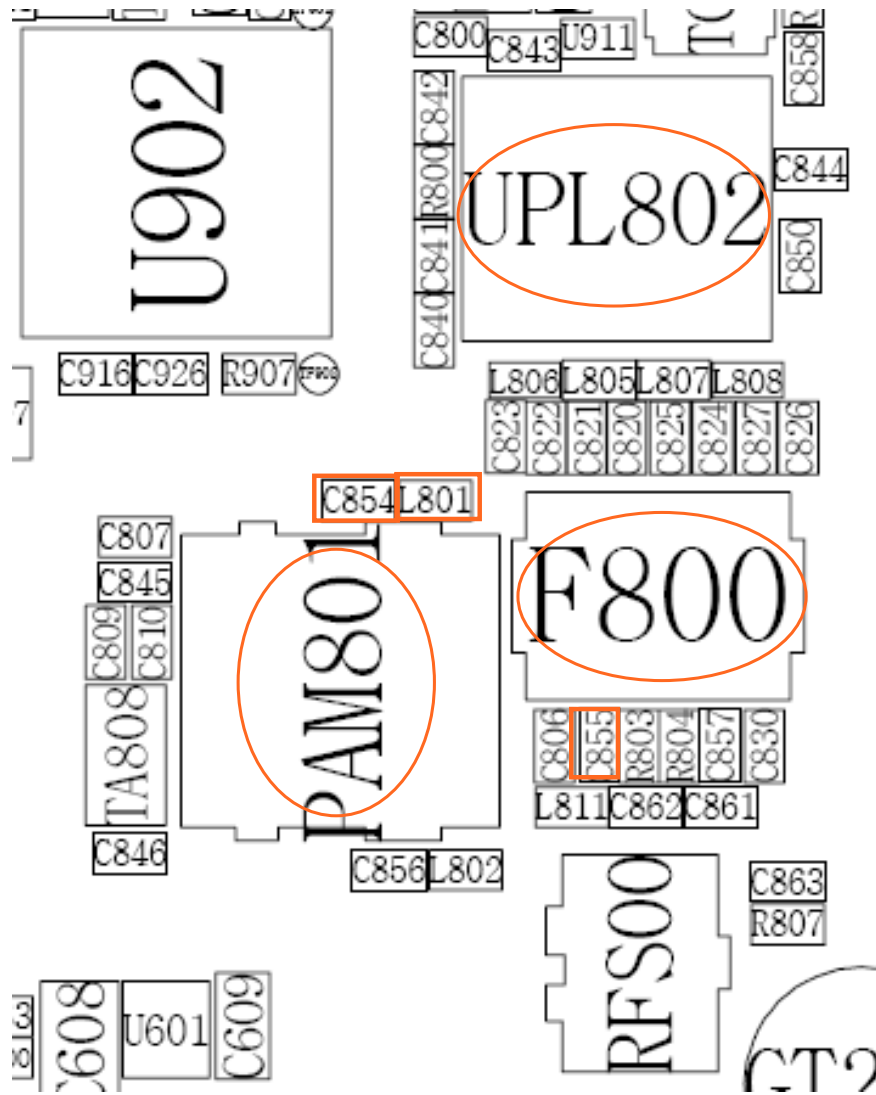
## 9-18. PCS Receiver





## 9-19. 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

