SAMSUNG

# GSM TELEPHONE

## SGH-C300

# SERVICE Manual

**GSM TELEPHONE**


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# 1. Specification

## 1-1. GSM General Specification

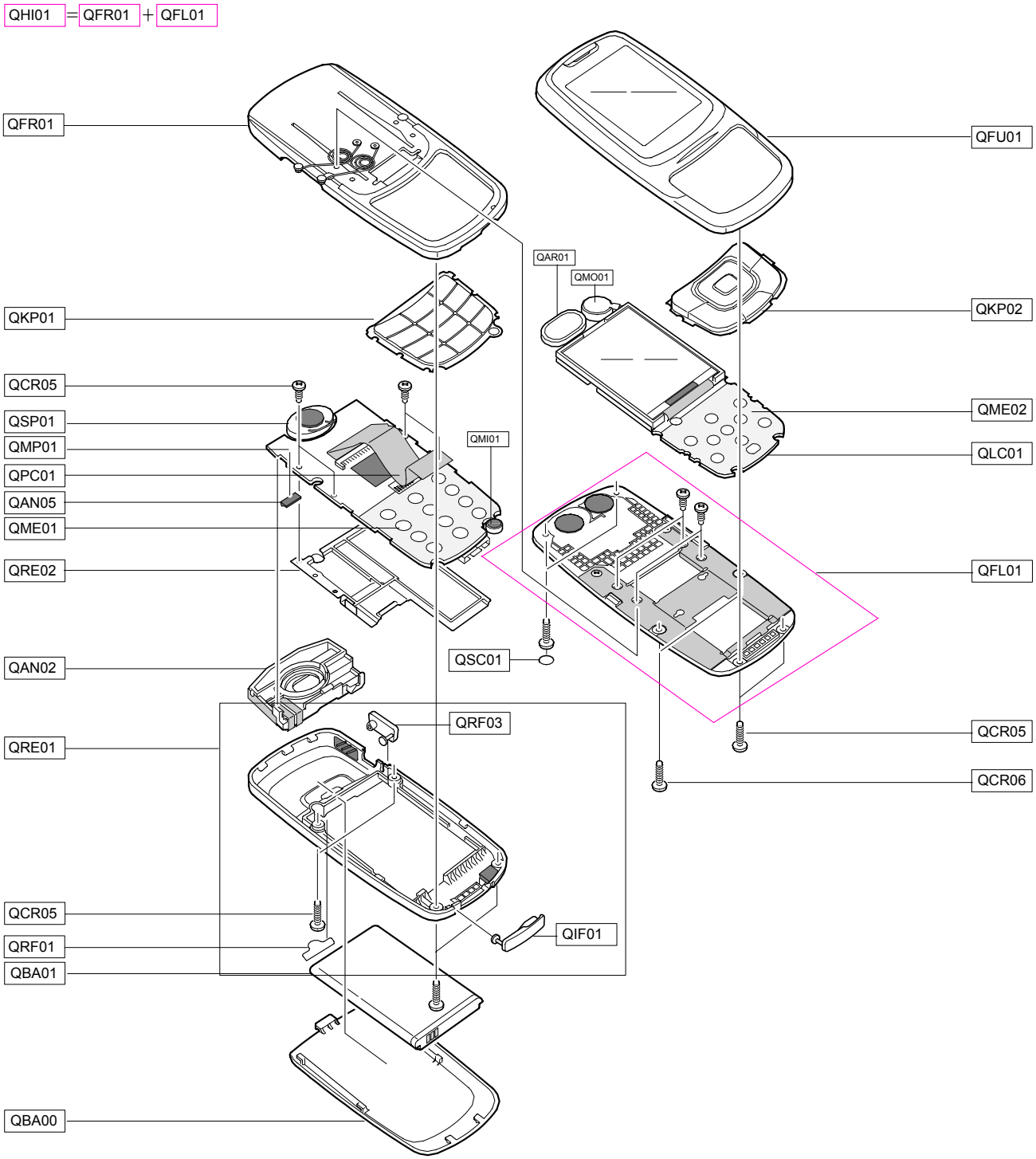
| | GSM 900<br>Phase 1 | EGSM 900<br>Phase 2 | DCS1800<br>Phase 1 |
|---|---|---|---|
| Freq. Band[MHz]<br>Uplink/Downlink | 890~915<br>935~960 | 880~915<br>925~960 | 1710~1785<br>1805~1880 |
| ARFCN range | 1~124 | 0~124 &<br>975~1023 | 512~885 |
| Tx/Rx spacing | 45 MHz | 45 MHz | 95 MHz |
| Mod. Bit rate/<br>Bit Period | 270.833 Kbps<br>3.692 us | 270.833 Kbps<br>3.692 us | 270.833 Kbps<br>3.692 us |
| Time Slot Period/Frame<br>Period | 576.9 us<br>4.615 ms | 576.9 us<br>4.615 ms | 576.9 us<br>4.615 ms |
| Modulation | 0.3 GMSK | 0.3 GMSK | 0.3 GMSK |
| MS Power | 33 dBm~13 dBm | 33 dBm~5 dBm | 30 dBm~0 dBm |
| Power Class | 5 pcl ~ 15 pcl | 5 pcl ~ 19 pcl | 0 pcl ~ 15 pcl |
| Sensitivity | -102 dBm | -102 dBm | -100 dBm |
| TDMA Mux | 8 | 8 | 8 |
| Cell Radius | 35 Km | 35 Km | 2 Km |

## 1-2. GSM TX power class

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

# 2. Exploded View and Parts List

## 2-1. Cellular phone Exploded View



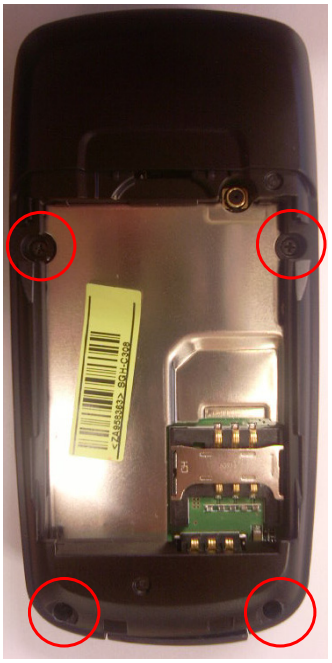
## 2-2. Cellular phone Parts list

| Design LOC | | Discription | SEC CODE |
|---|---|---|---|
| QAN02 | | INTENNA-SGHC300 | GH42-01026A |
| QAN05 | | ASSY MEC-INTENNA CONTACT | GH75-08168A |
| QAR01 | | AUDIO-RECEIVER | 3009-001248 |
| QBA00 | | PMO-COVER BATT | GH72-35005A |
| QBA01 | | INNER BATTERY PACK-800MAH,MAIN | GH43-02589A |
| QCR05 | | SCREW-MACHINE | 6001-001478 |
| QCR05 | | SCREW-MACHINE | 6001-001478 |
| QCR05 | | SCREW-MACHINE | 6001-001478 |
| QCR06 | | SCREW-MACHINE | 6001-001155 |
| QFU01 | | ASSY COVER-SLIDE UPPER | GH98-02593A |
| QKP01 | | ASSY KEYPAD-MAIN(RUSS/BLK) | GH98-03231A |
| QKP02 | | ASSY KEYPAD-SUB(OPEN/SIL) | GH98-02701A |
| QLC01 | | ELA UNIT-SGHC300 LCD MODULE KI | GH96-02439A |
| QME01 | | UNIT-DOME SHEET (F/K) | GH59-03770A |
| QME02 | | UNIT-DOME SHEET (N/K) | GH59-03769A |
| QMI01 | | MICROPHONE-ASSY-SGHC300 | GH30-00323A |
| QMO01 | | MOTOR-DC | 3101-001324 |
| QMP01 | | PBA MAIN-SGHC300 (PBA MAIN) | GH92-03086A |
| QPC01 | | MEA-SLIDE FPCB KIT | GH97-06882A |
| QRE02 | | ASSY BRACKET-REAR | GH98-02598A |
| QRF01 | | MPR-TAPE SHEET RF | GH74-28478A |
| QSC01 | | MPR-TAPE COVER SHEET SCREW | GH74-28472A |
| QSP01 | | SPEAKER | 3001-002083 |
| QHI01 | | ASSY HINGE-SLIDE | GH98-02594A |
| | QFL01 | ASSY COVER-SLIDE LOWER | GH98-02595A |
| | QFR01 | ASSY CASE-FRONT | GH98-02596A |
| QRE01 | | ASSY CASE-REAR | GH98-02597A |
| | QRF03 | PMO-COVER EAR | GH72-35003A |
| | QIF01 | PMO-COVER IF | GH72-35004A |

| Discription | SEC CODE |
|---|---|
| BAG PE | 6902-000297 |
| ADAPTOR-EU 220V TYPE(BLK) | GH44-01334A |
| LABEL(P)-WATER SOAK | GH68-02026A |
| LABEL(P)-WATER SOAK | GH68-02026A |
| MANUAL-SFC | GH68-04336A |
| LABEL(P)-BARCODE RUSSIA | GH68-08494A |
| MANUAL USERS-EU RUSSIAN | GH68-12796A |
| LABEL(R)-MAIN(SER) | GH68-13315B |
| BOX(P)-UNIT MAIN(SER) | GH69-04832B |
| PMO-COVER SLIDE WINDOW | GH72-35006A |
| RMO-RUBBER CSP | GH73-08597A |
| RMO-RUBBER LCD PBA | GH73-08818A |
| MPR-GASK TAPE | GH74-24020A |
| MPR-TAPE IF COVER | GH74-24740A |
| MPR-GASK TAPE | GH74-24796A |
| MPR-SPONGE INTENNA | GH74-28468A |
| MPR-TAPE SLIDE WINDOW | GH74-28470A |
| MPR-VINYL BOHO WINDOW | GH74-28851A |
| MPR-SPONGE MAIN PCB | GH74-29058A |
| MPR-SPONGE LCD FPCB | GH74-29059A |
| MPR-TAPE ESD | GH74-29066A |
| MPR-TAPE FPCB BACK B | GH74-29067A |
| MPR-SPONGE KEYPAD | GH74-29255A |
| MPR-SPONGE KEYPAD | GH74-29255A |
| MPR-INSU TAPE | GH74-29334A |
| MPR-ELEC TAPE | GH74-29335A |
| MPR-INSU TAPE | GH74-29352A |
| MPR-INSU TAPE | GH74-29352A |
| MPR-SPONGE SPK | GH74-29444A |
| MPR-SPONGE | GH74-29579A |

## 2-3. Disassembly

1



1)Disjoint the REAR screw of 4 points.

※ caution

1) Be careful of scratch.

2

1) After get out the cover of earjack and IF connector cover, disjoint REAR's lower locker and upper locker as a picture below.

※ caution

1) Be careful of scratch.

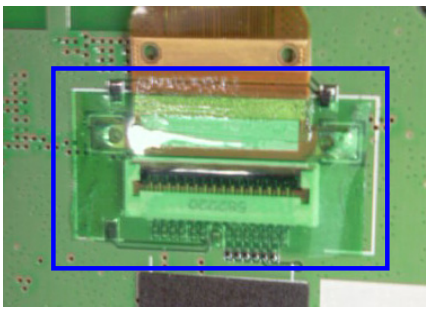
3

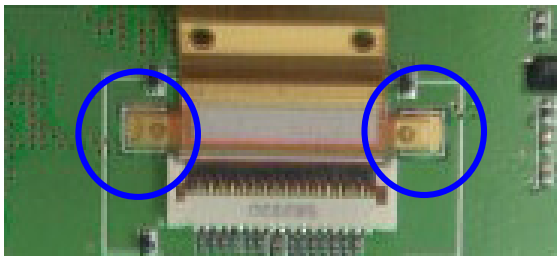
1) Disjoint two lockers assembled with PBA.

※ caution

1) Be careful of the damage of devices.

4



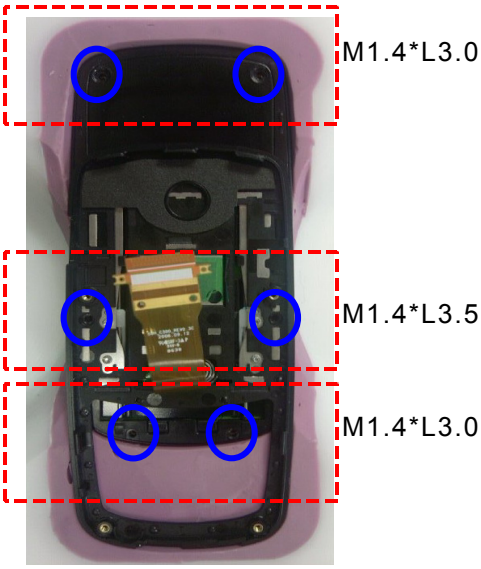


1) Remove the green tape on the FPCB with tweezers.
2) Disjoint the FPCB by desoldering.

※ caution

1) Be careful of the FPCB's crack

5

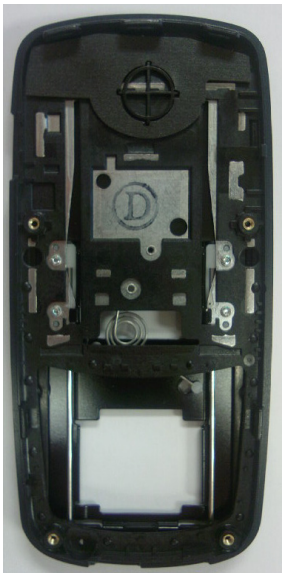



1) Disjoint 6 screws.

※ caution

1) Be careful of scratch.
2) Use the '+' screwdriver.

6

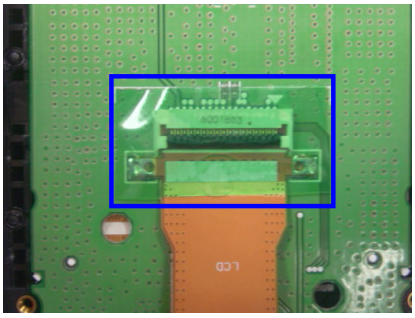


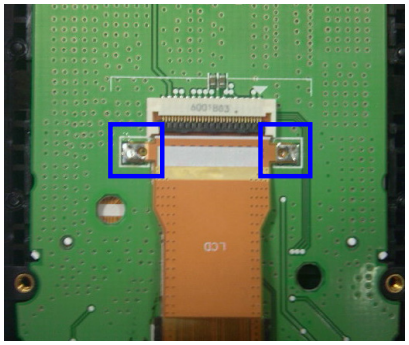
1) Disjoint HINGE ASS'Y as a picture below

※ caution

1) Be careful of the damage of FPCB

7



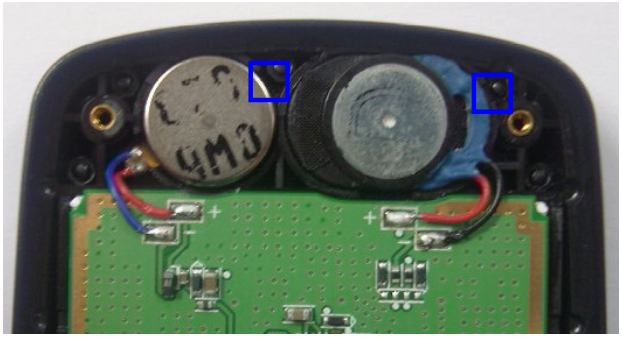


1) Remove the green tape from the FPCB
2) Disjoint the FPCB with desoldering.

※ caution

1) Be careful of the FPCB's crack.

8



1) Remove the motor with tweezers.
2) Remove the receiver with tweezers.

※ caution

1)Be careful of the damages of motor and receiver wires.

## 2-4. Assembly

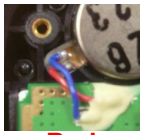
1


1) Assemble the SUB KEYPAD on UPPER as picture below.

※ caution

1) Put the holes around 3*4 KEY on the UPPER.

2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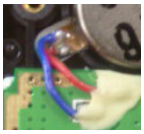
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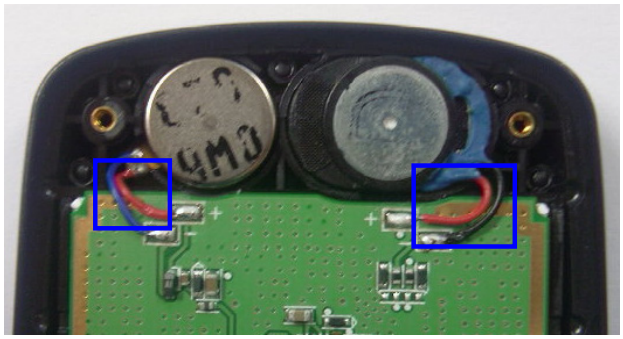


1) Put the SUB PBA on the UPPER with LCD's guide holes.

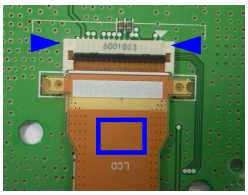
2) Insert the motor and receiver on each places.

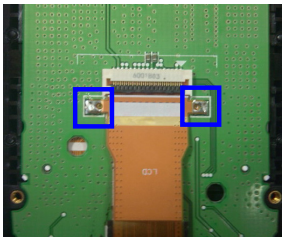
※ caution

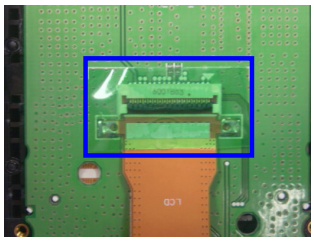
1) Be careful of overlap the wires.

2) Be careful of the damage of wires.

3







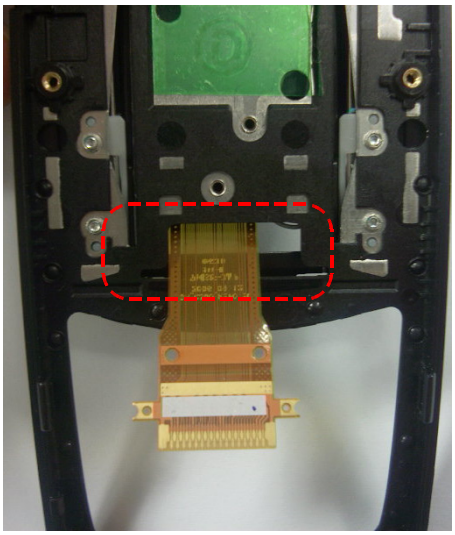
1) After inserting the LCD FPCB in the connector, soldering it and attach the green tape.

※ caution

1) Be careful of the scratch on the plastic.

2) Be careful of the crack on LCD FPCB.

4

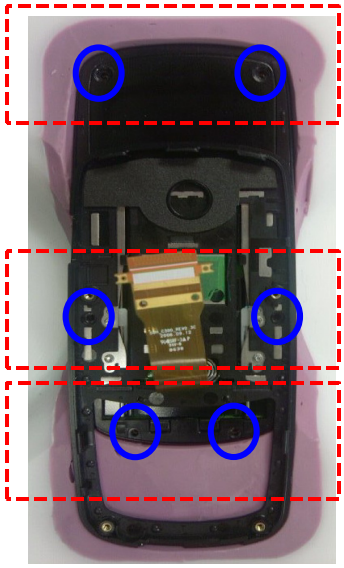


1) Insert the MAIN FPCB as picture below.

※ caution

1) Be careful of the crack on LCD FPCB.

5

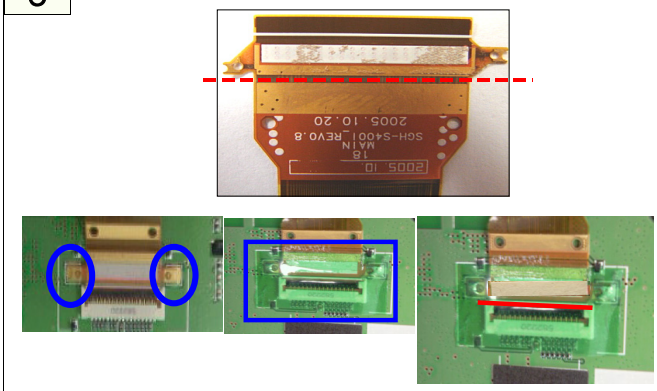



1) Screw up the 6 points with SLIDE JIG.

※ caution

1) Fix the handset on the JIG not to move it down the Slide.
2) Screw up right size.

6

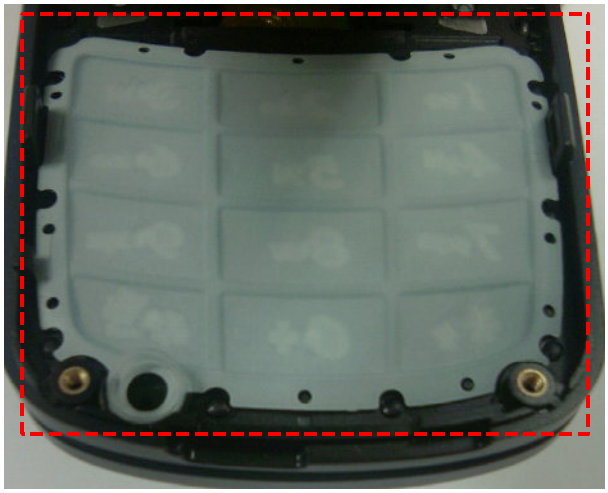


1) Fold the FPCB as the picture below.
2) Insert the LCD FPCB to the connector along the SILK LINE, soldering and attach the green tape, double sticky tape.
3) Move out the cover of the tape. Fold the FPCB and push that place.

※ caution

1) Be careful of the damage of FPCB.
2) Attach double sticky tape with white silk line.

7



1) Assemble the 3*4 Keypad as picture below.

※ caution

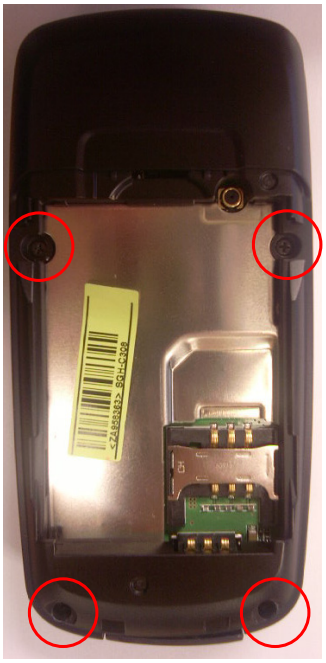
1) Be careful of the 3*4 KEY PAD escaping from the holes.

8

1) After locking the PAB to the two hooks, insert the microphone into the holder.

※ caution

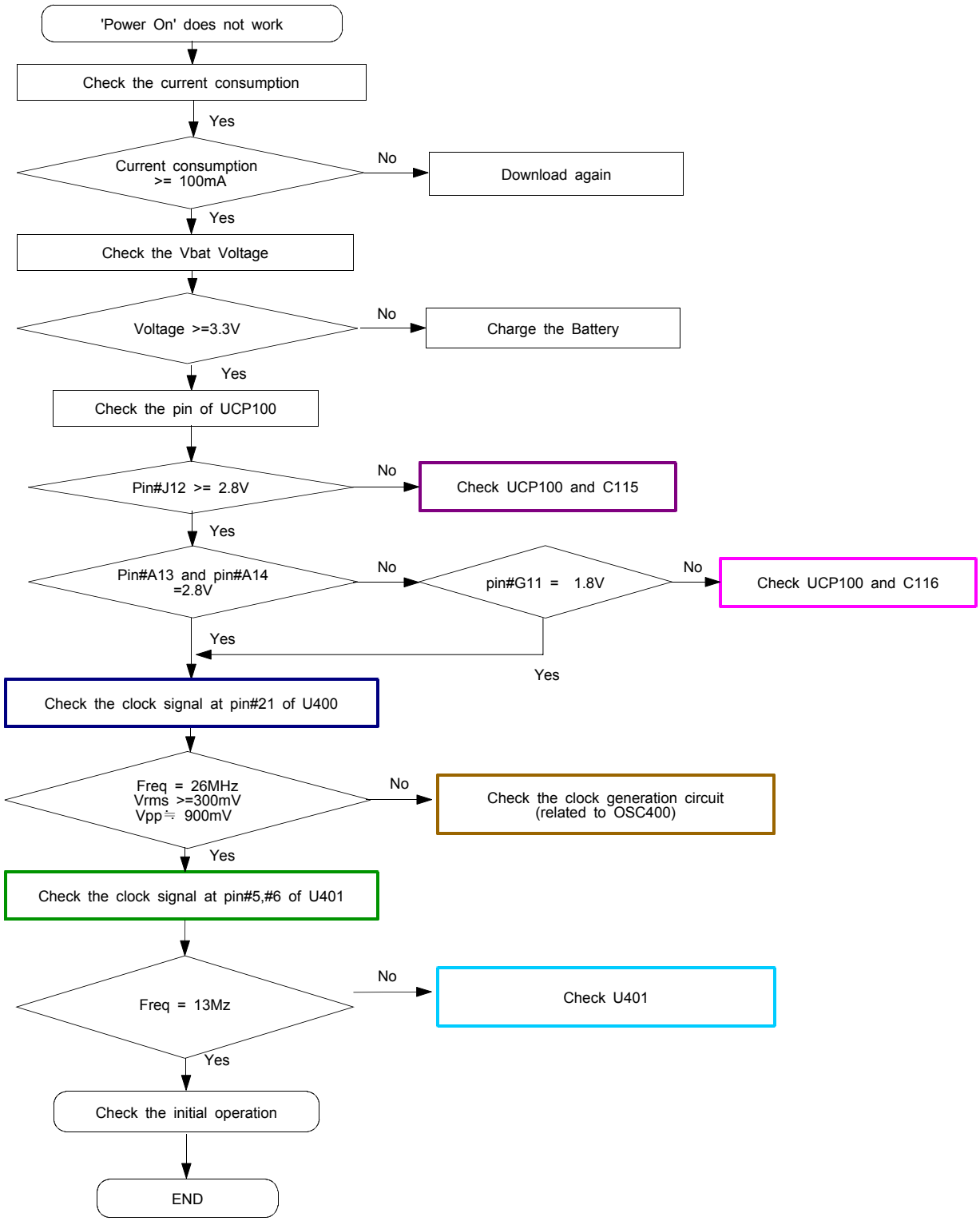
1) Be careful of the damage of the devices.
2) Be careful of MIC escaping from the KEY PAD.

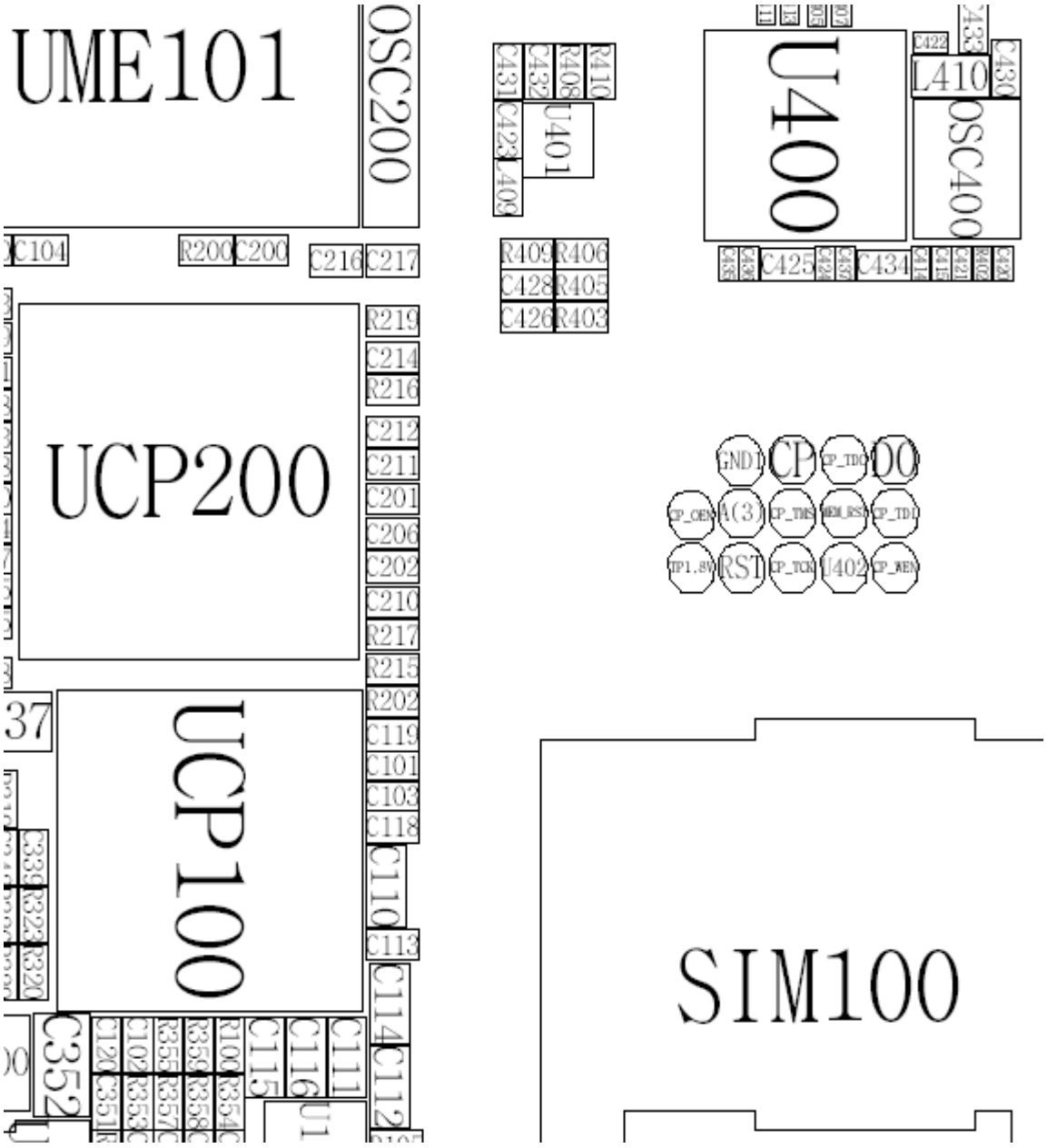
| 9 | 10 |
| --- | --- |
|  |  |
| 1) At first,assemble the REAR's upper and joint the lower with pushing two lockers.<br>※ **caution**<br>1)Be careful of the scratch on the plastic. | 1) Screw up the 4 points with SCREW JIG.<br>※ **caution**<br>1)Be careful of the scratch on the plastic. |

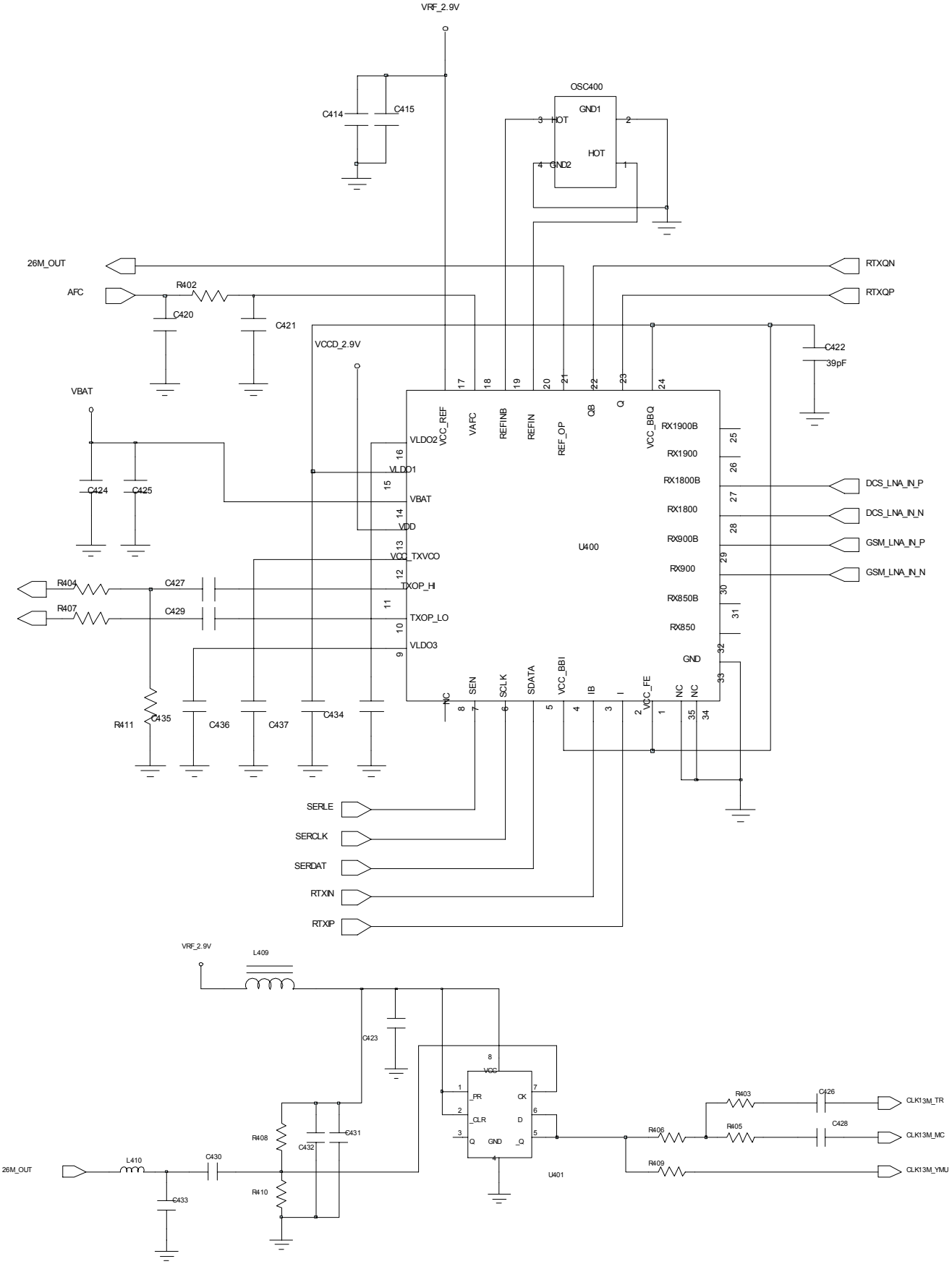
# 3. Flow Chart of Troubleshooting

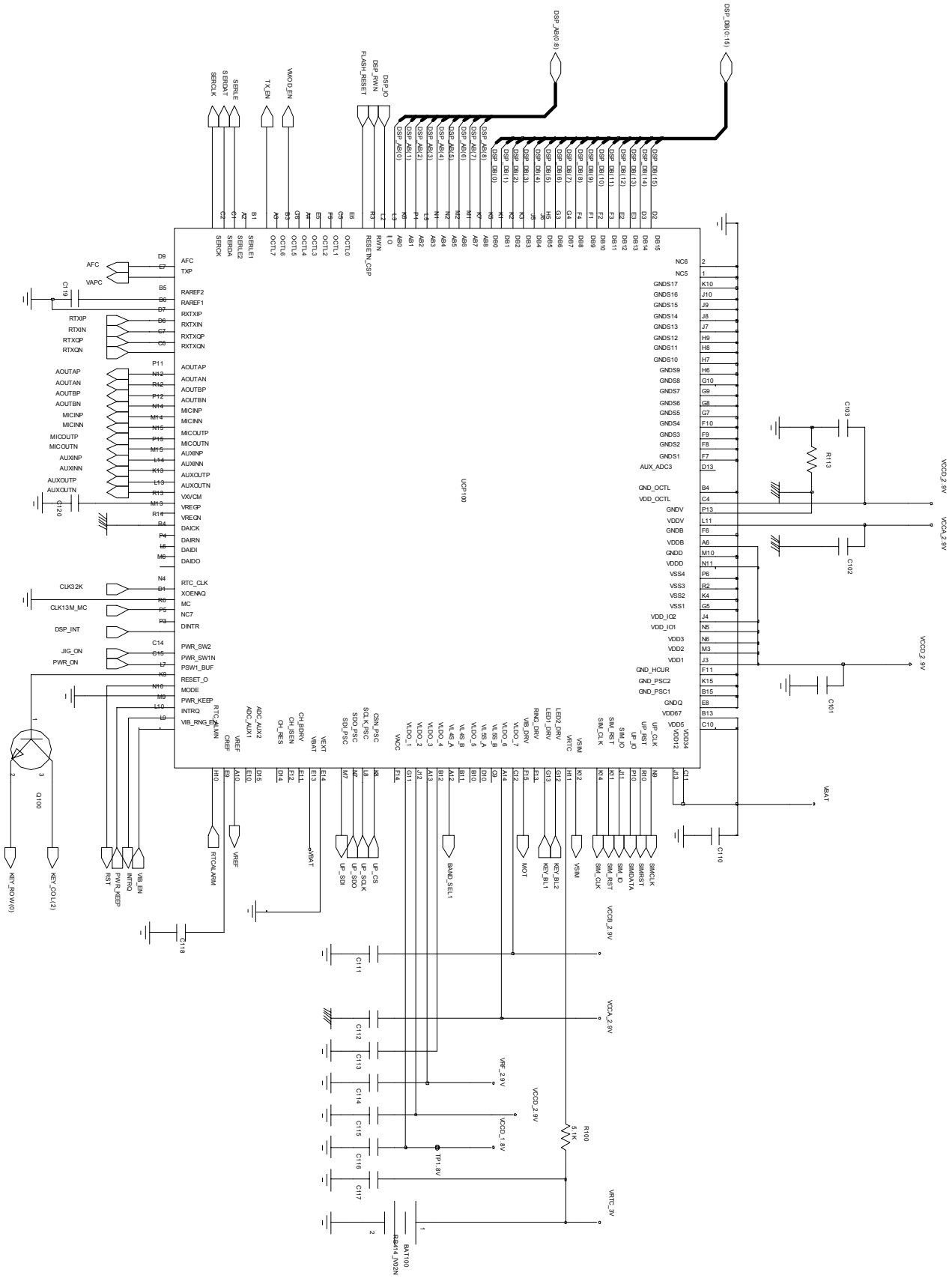
## 3-1.Baseband

### 3-1-1. Power ON

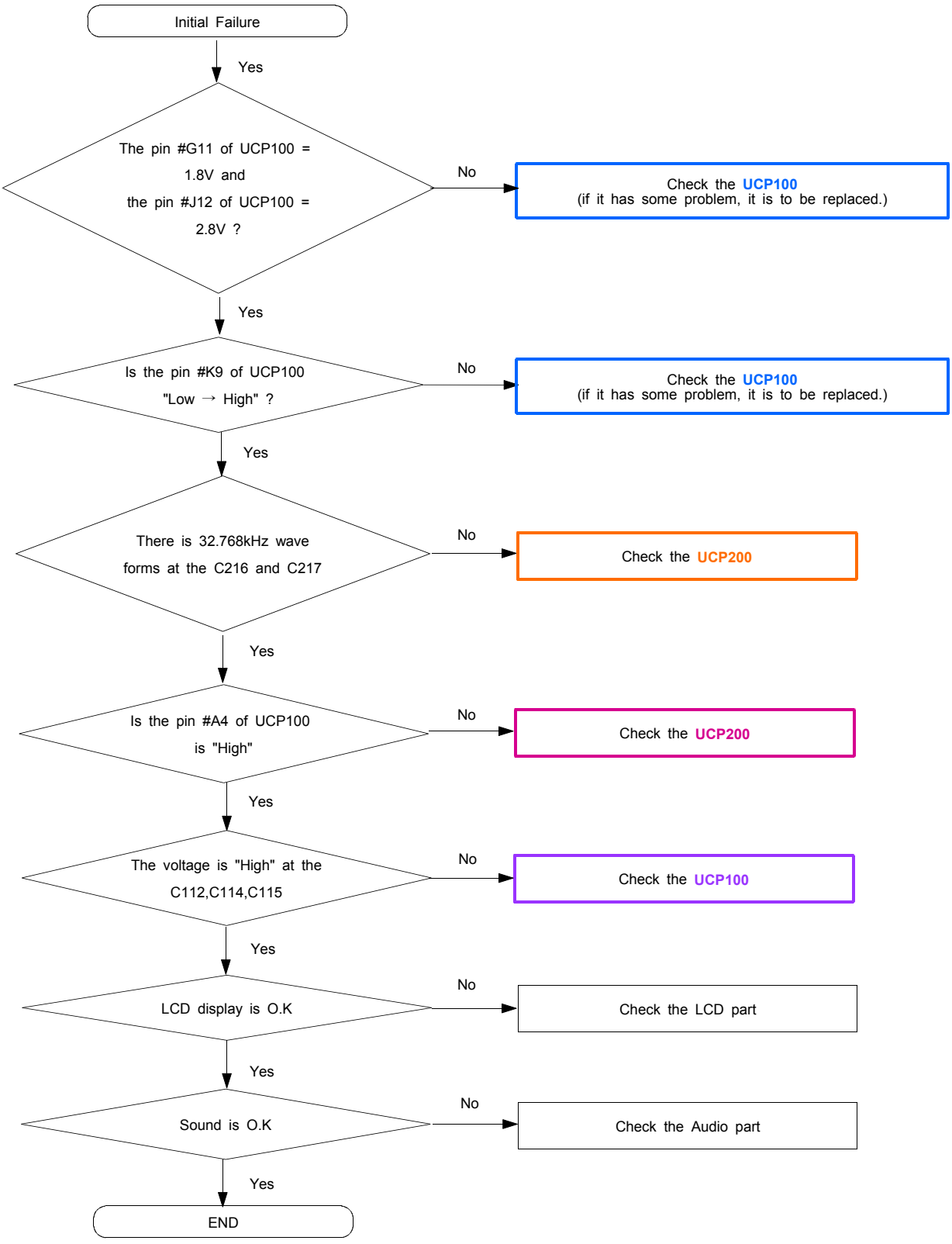


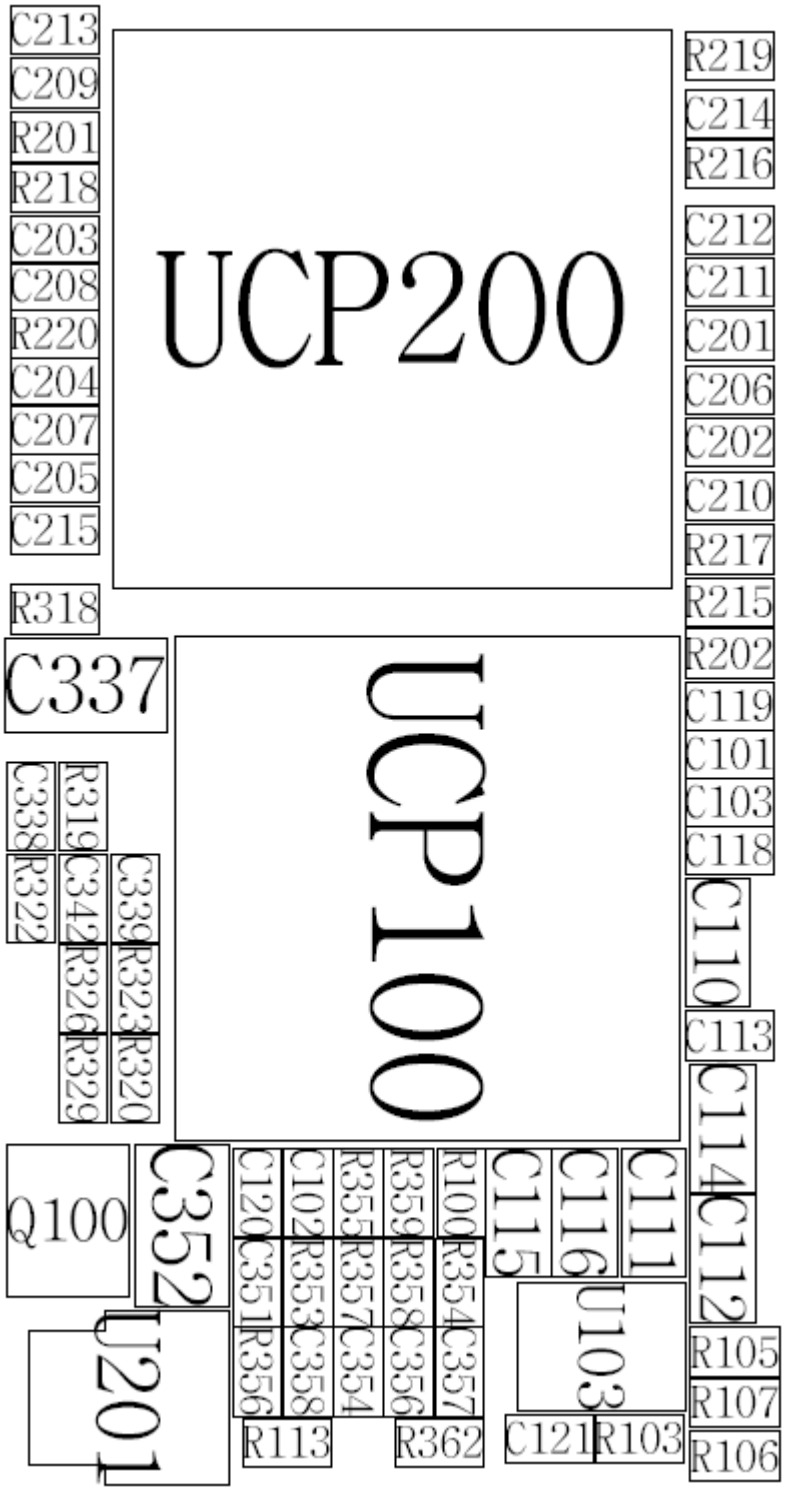


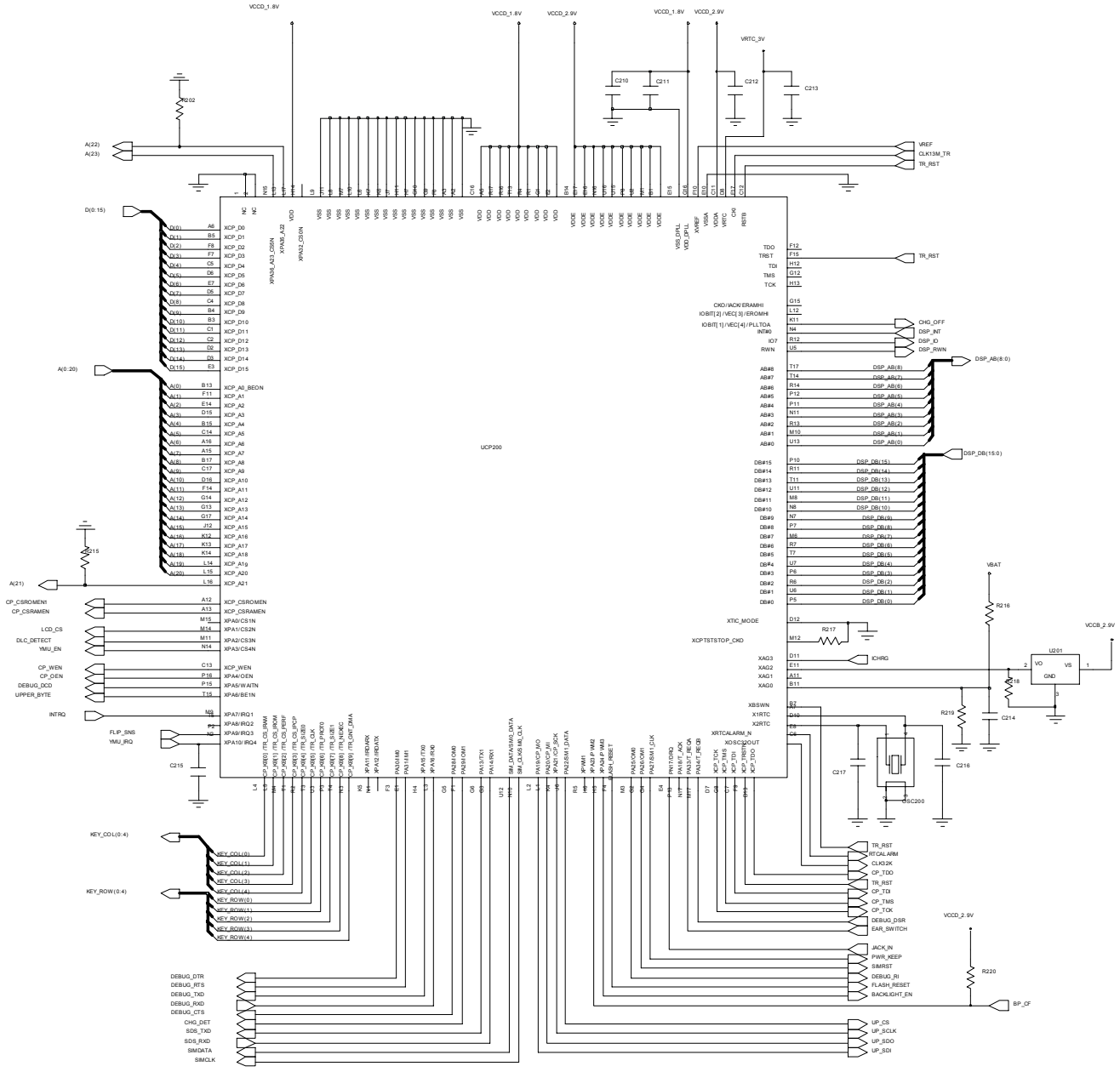




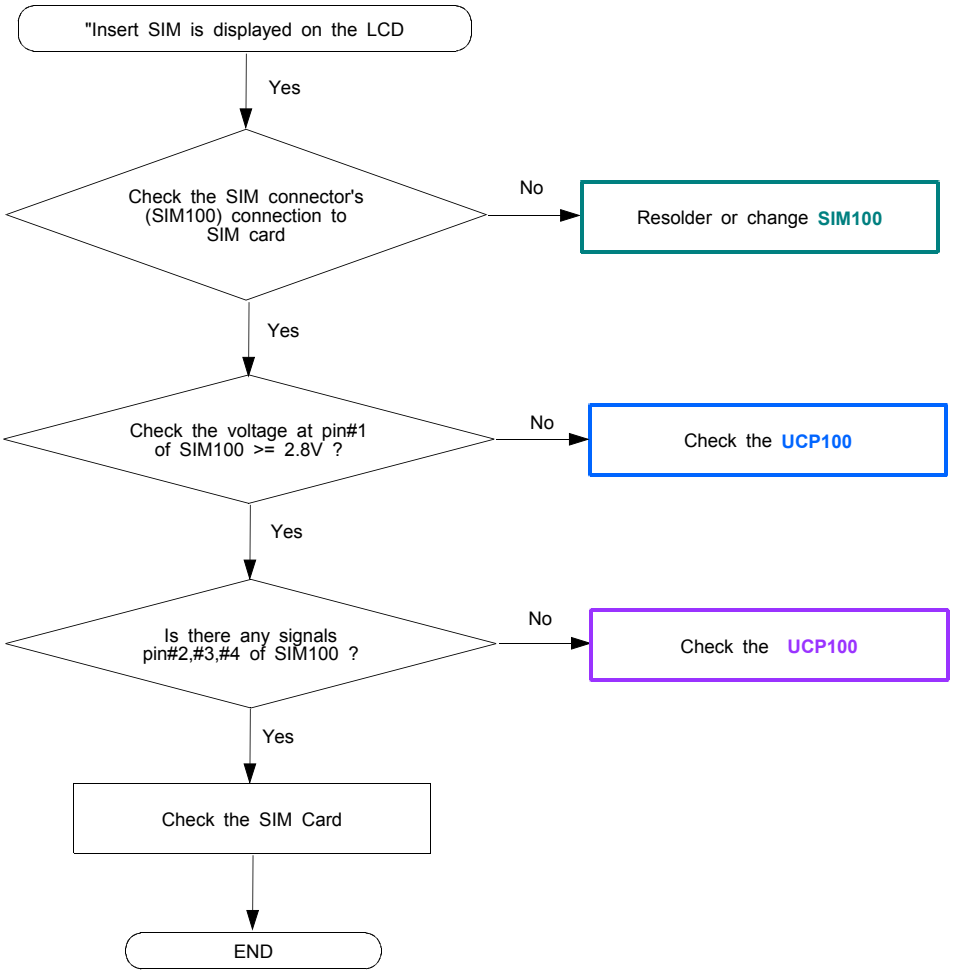
## 3-1-2. Initial

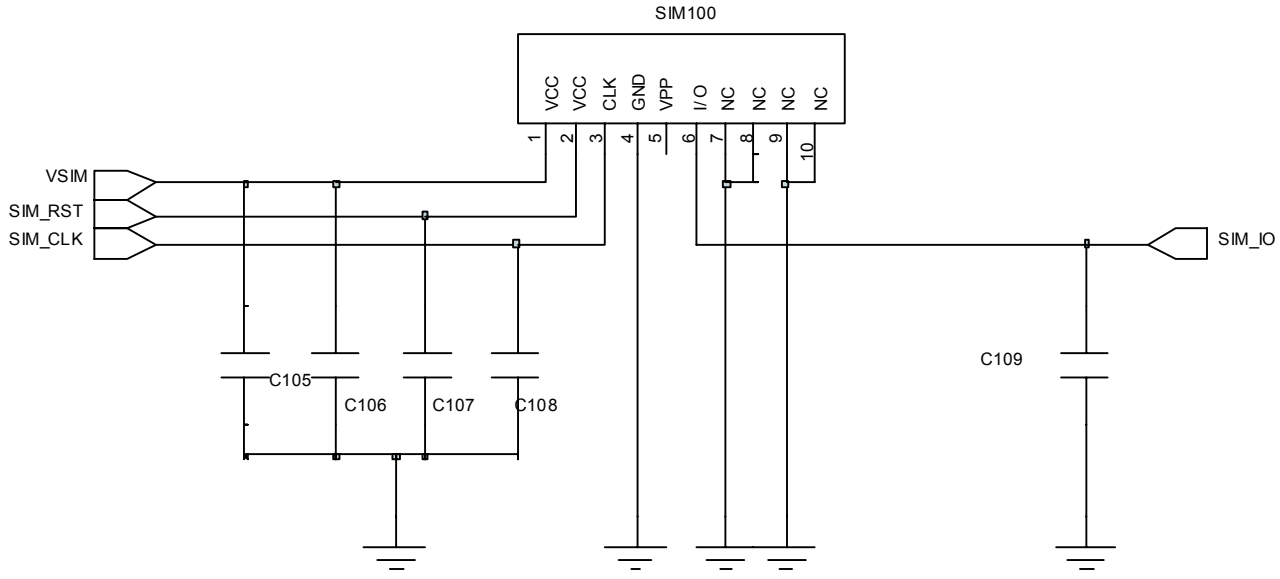


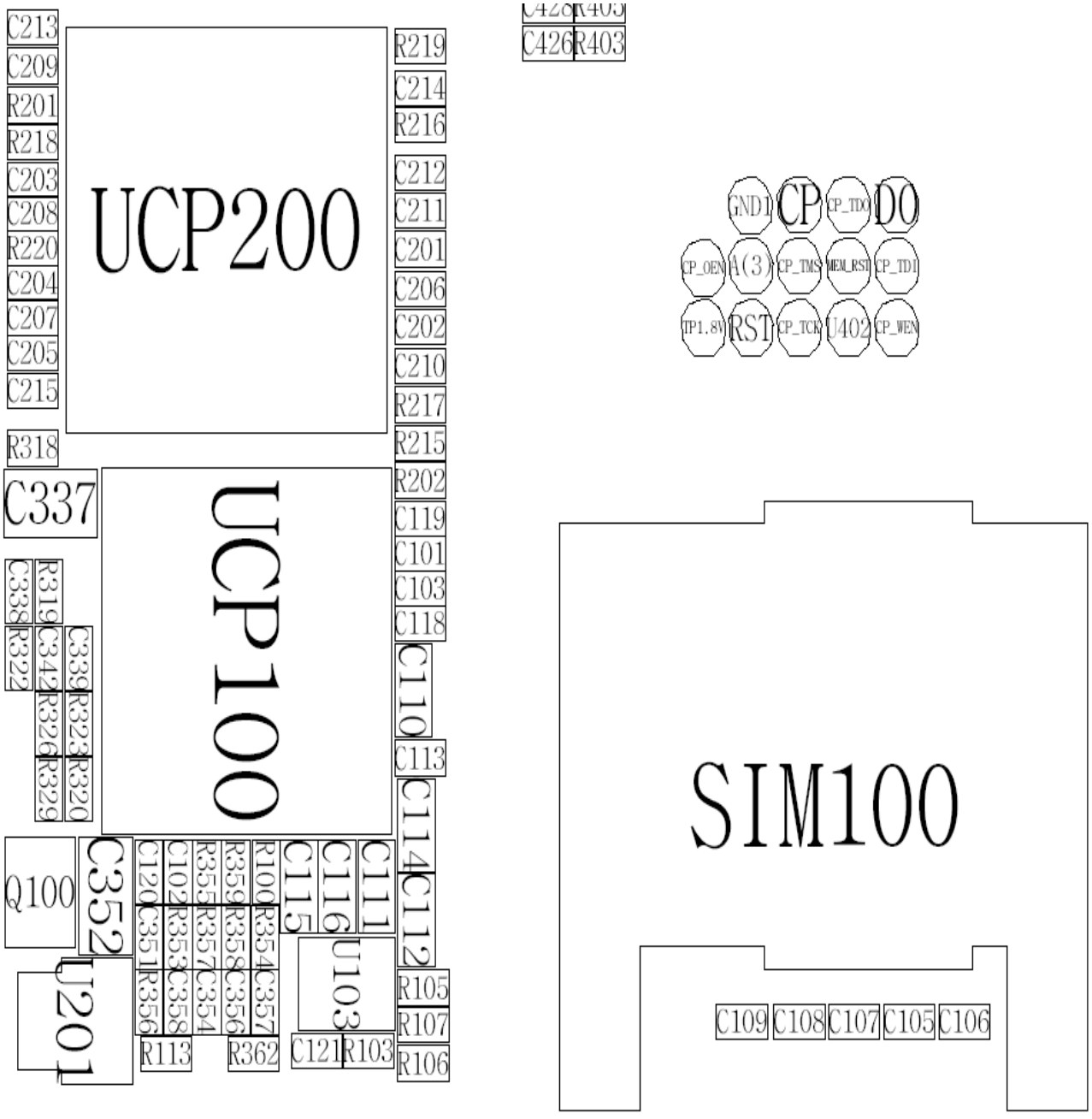




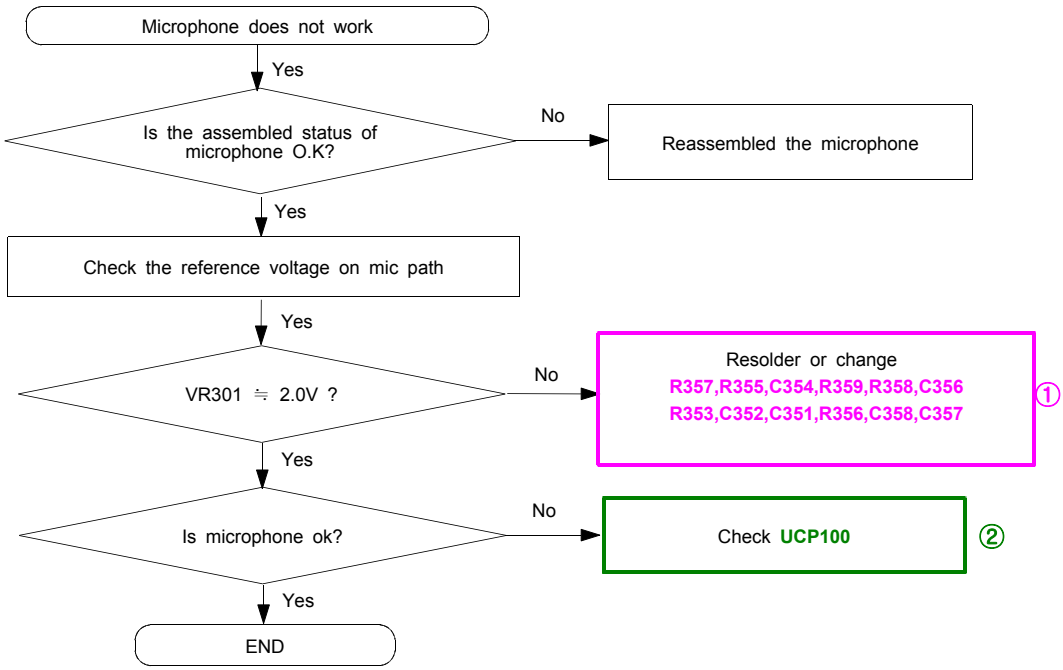
## 3-1-3. Sim Part

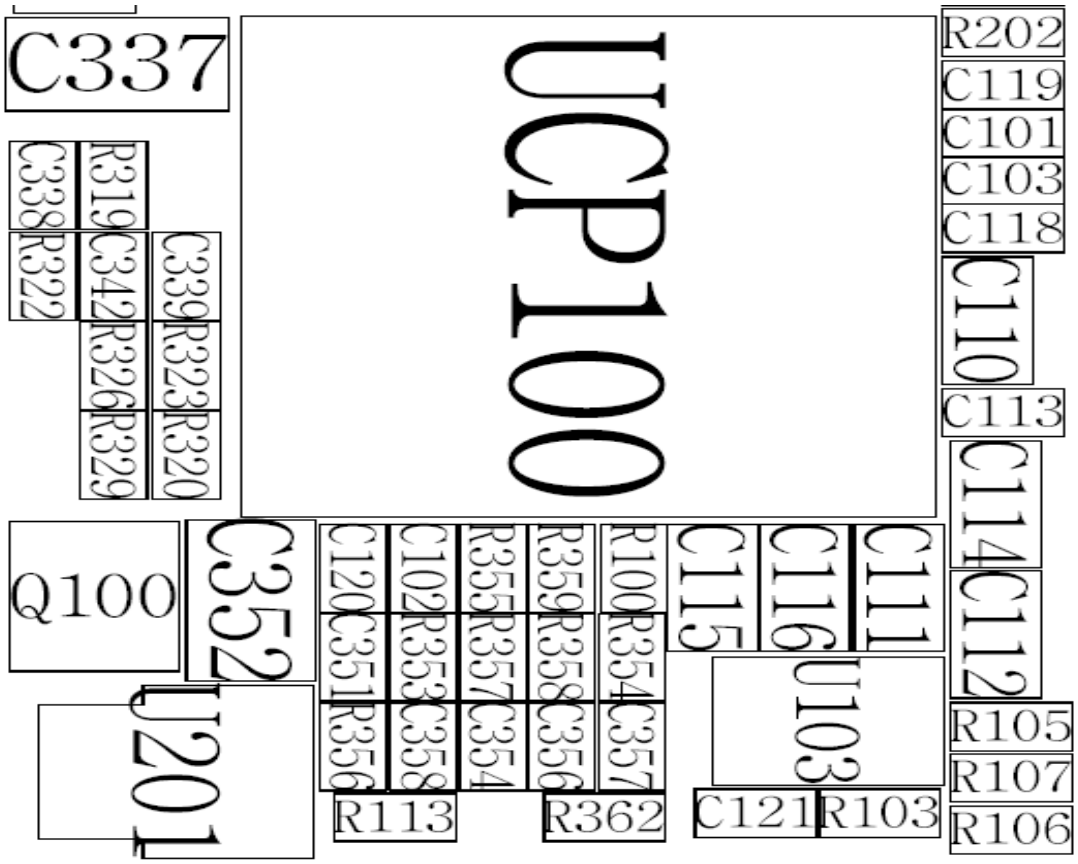


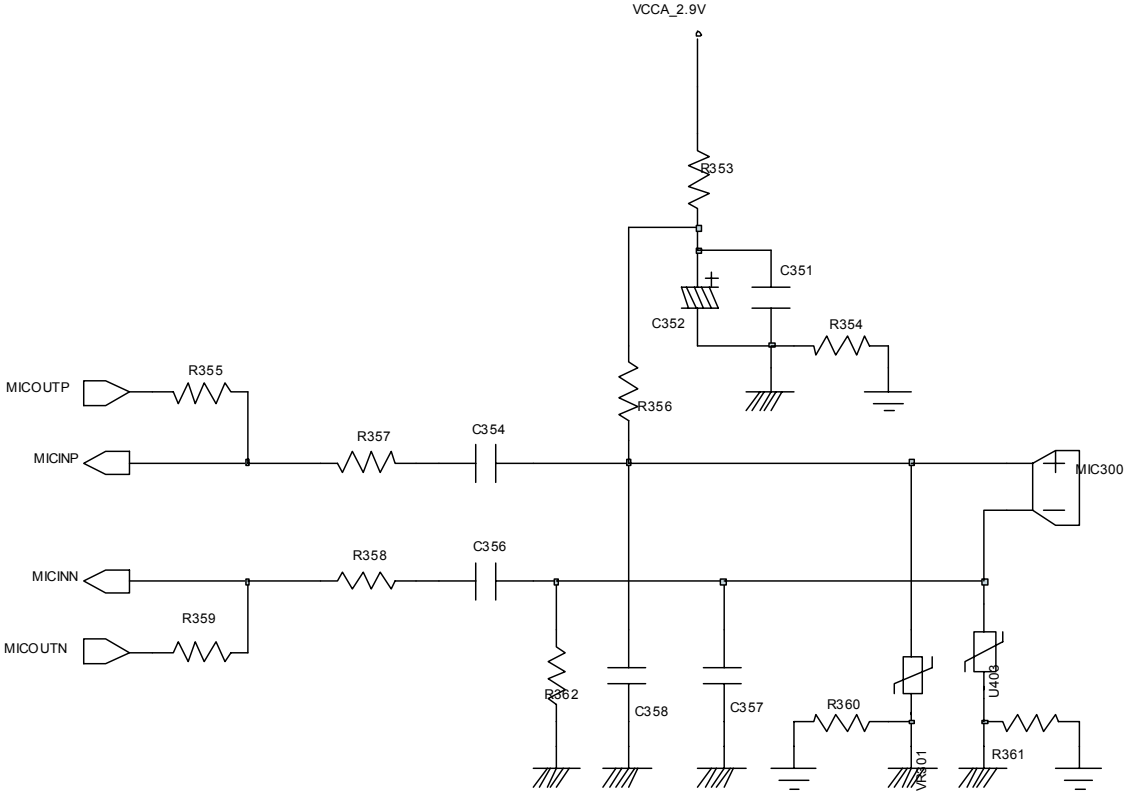





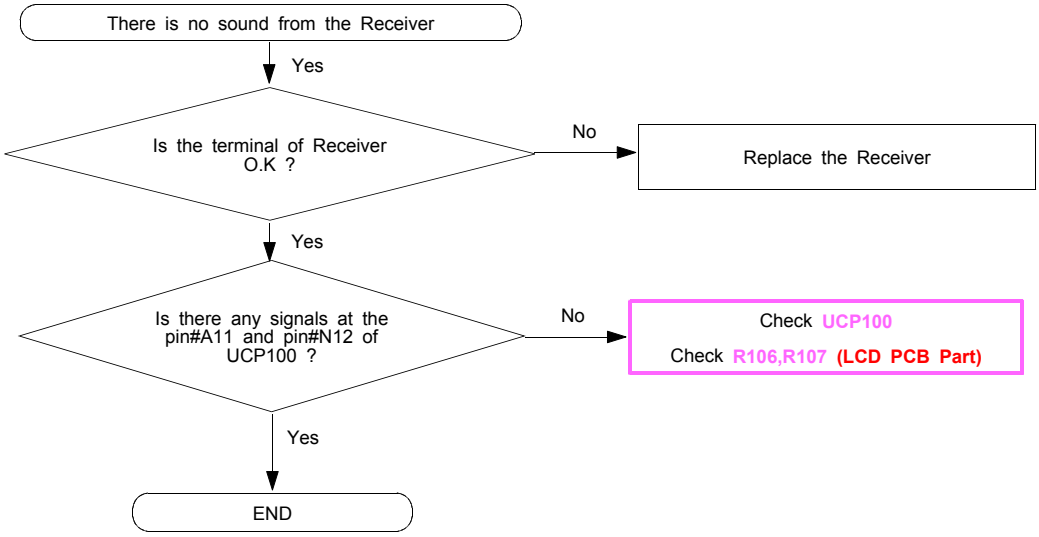
## 3-1-4. Microphone Part



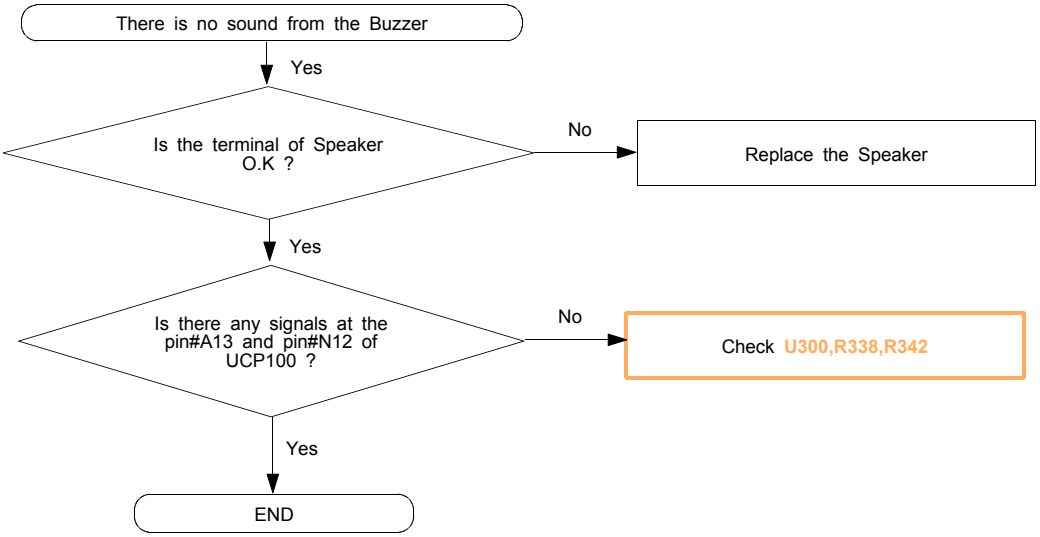


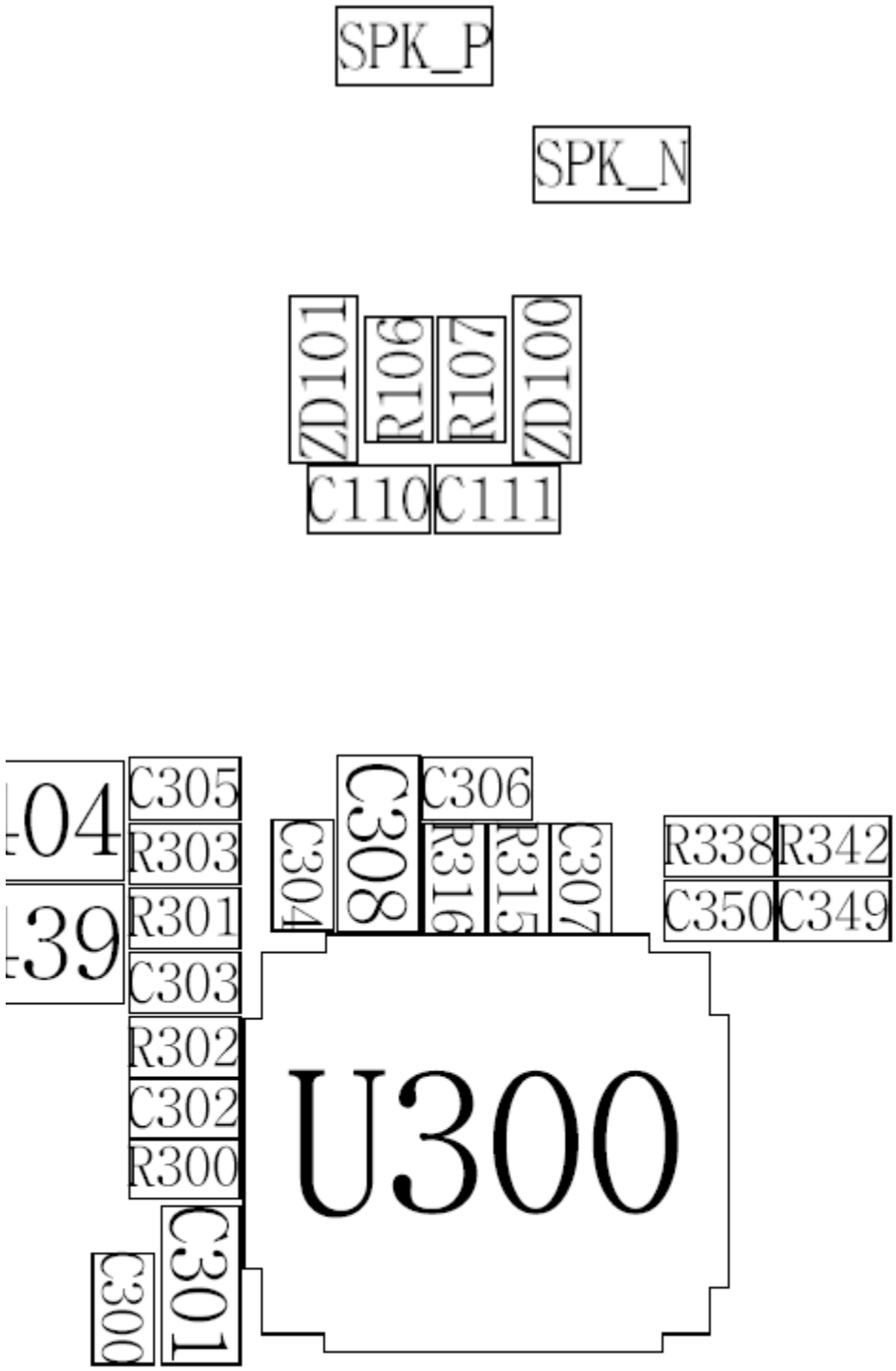
## 3-1-5. Receiver Part

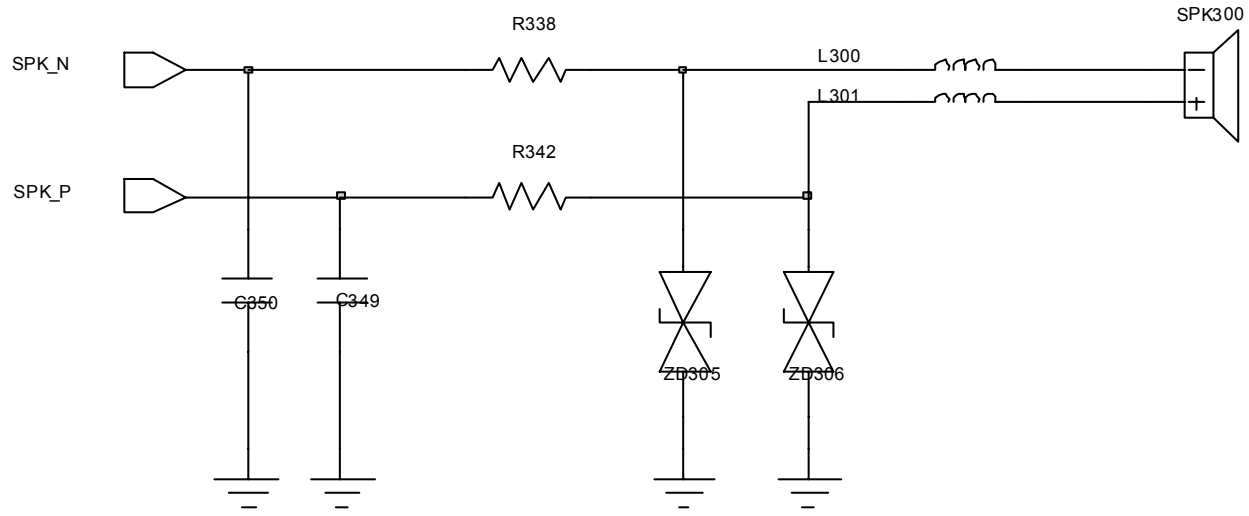



## 3-1-6. Speaker Part



## < LCD PCB Part >

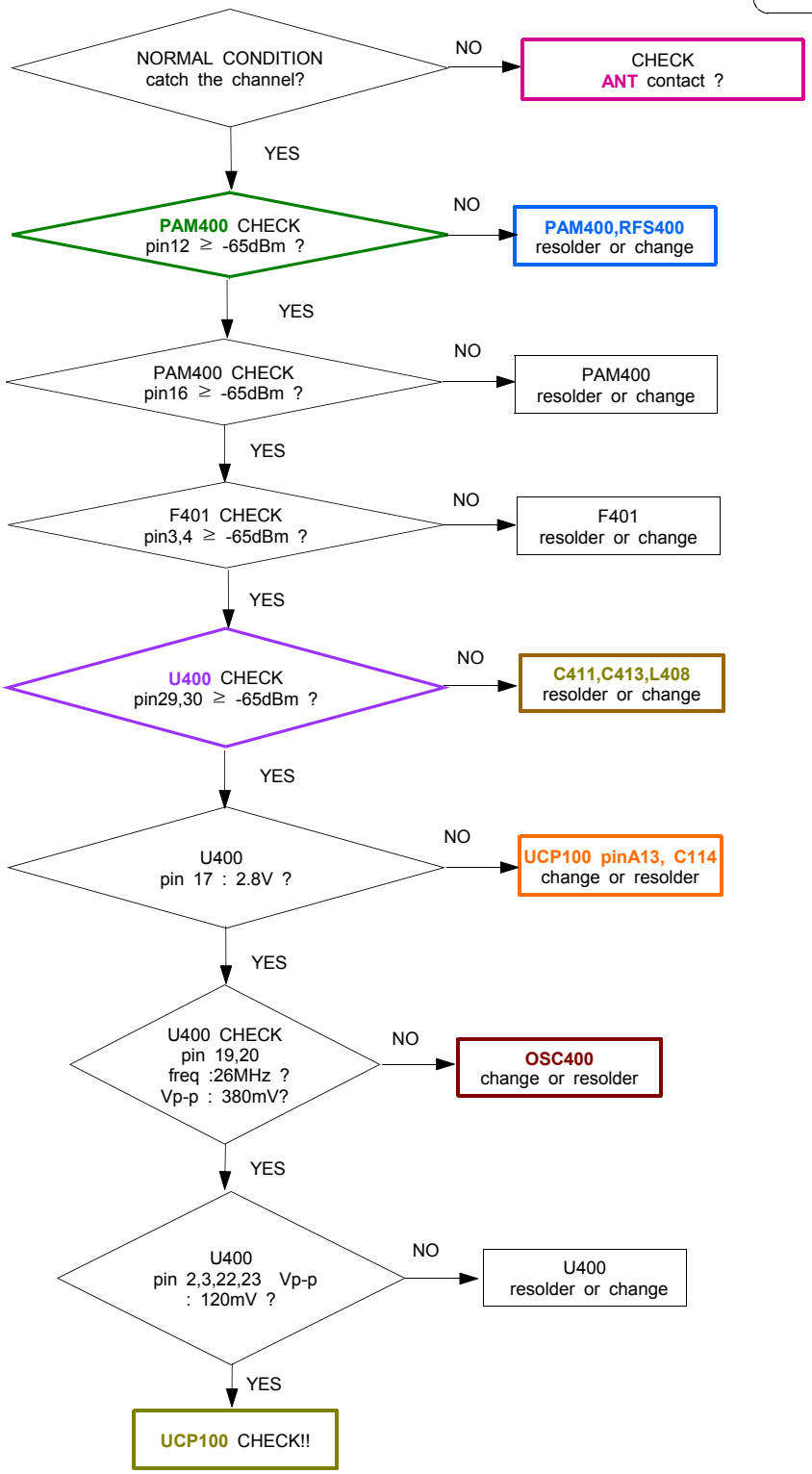


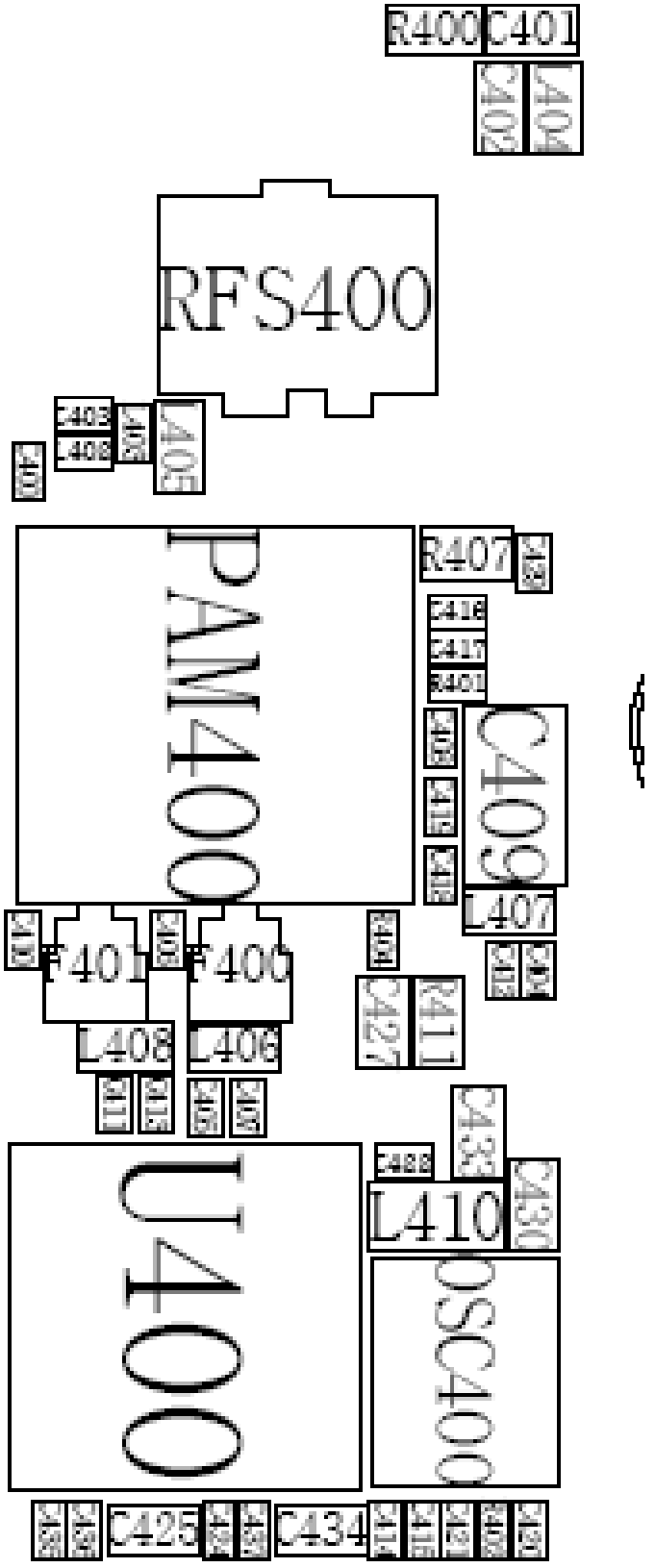


# 3-2.RF

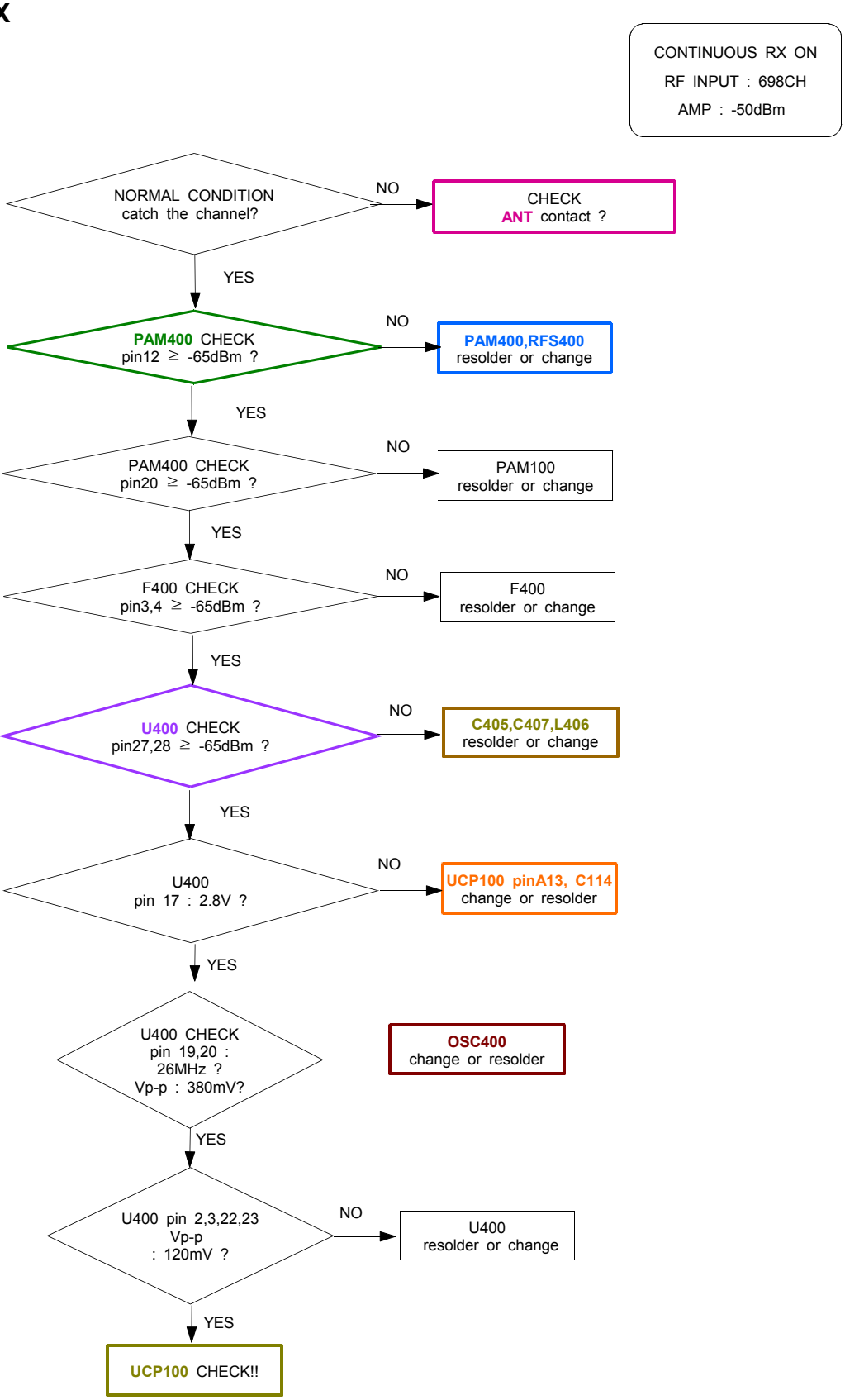
## 3-2-1. EGSM RX

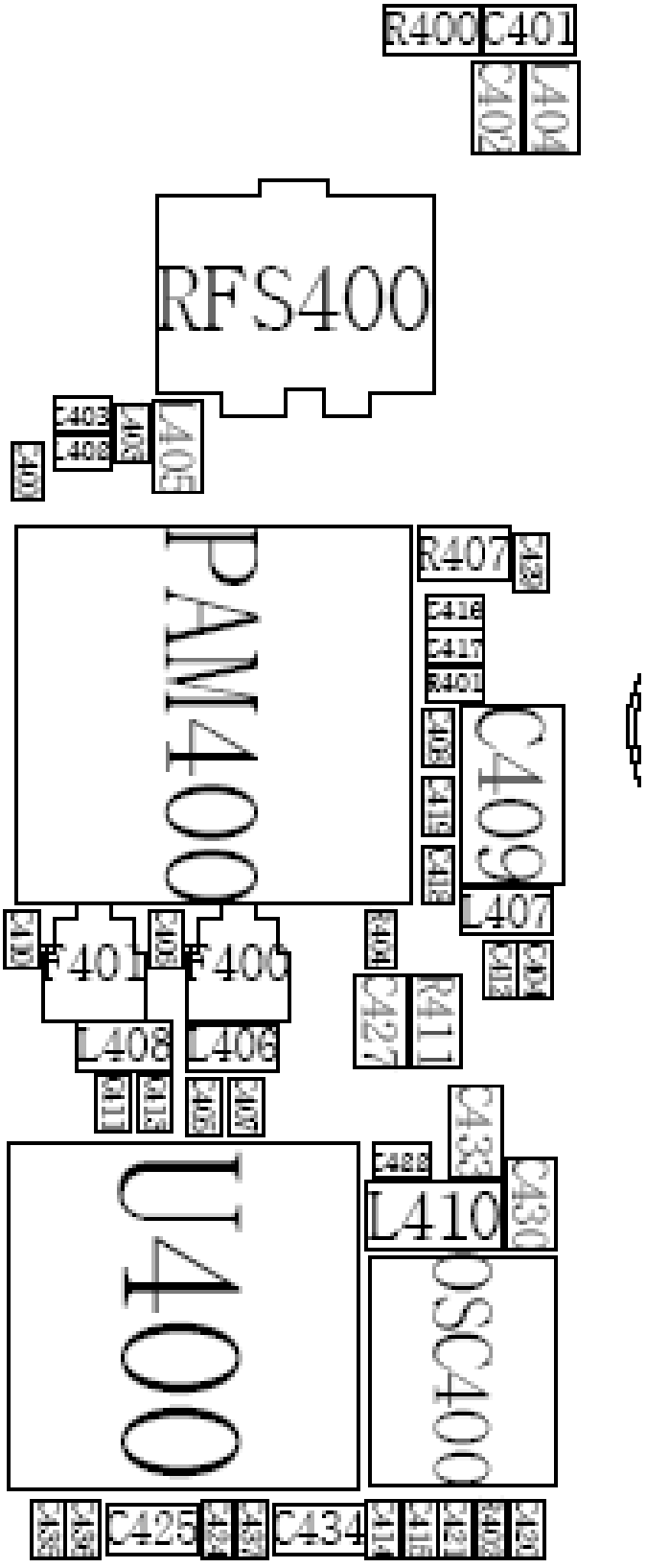
CONTINUOUS RX ON
RF INPUT : 62CH
AMP : -50dBm



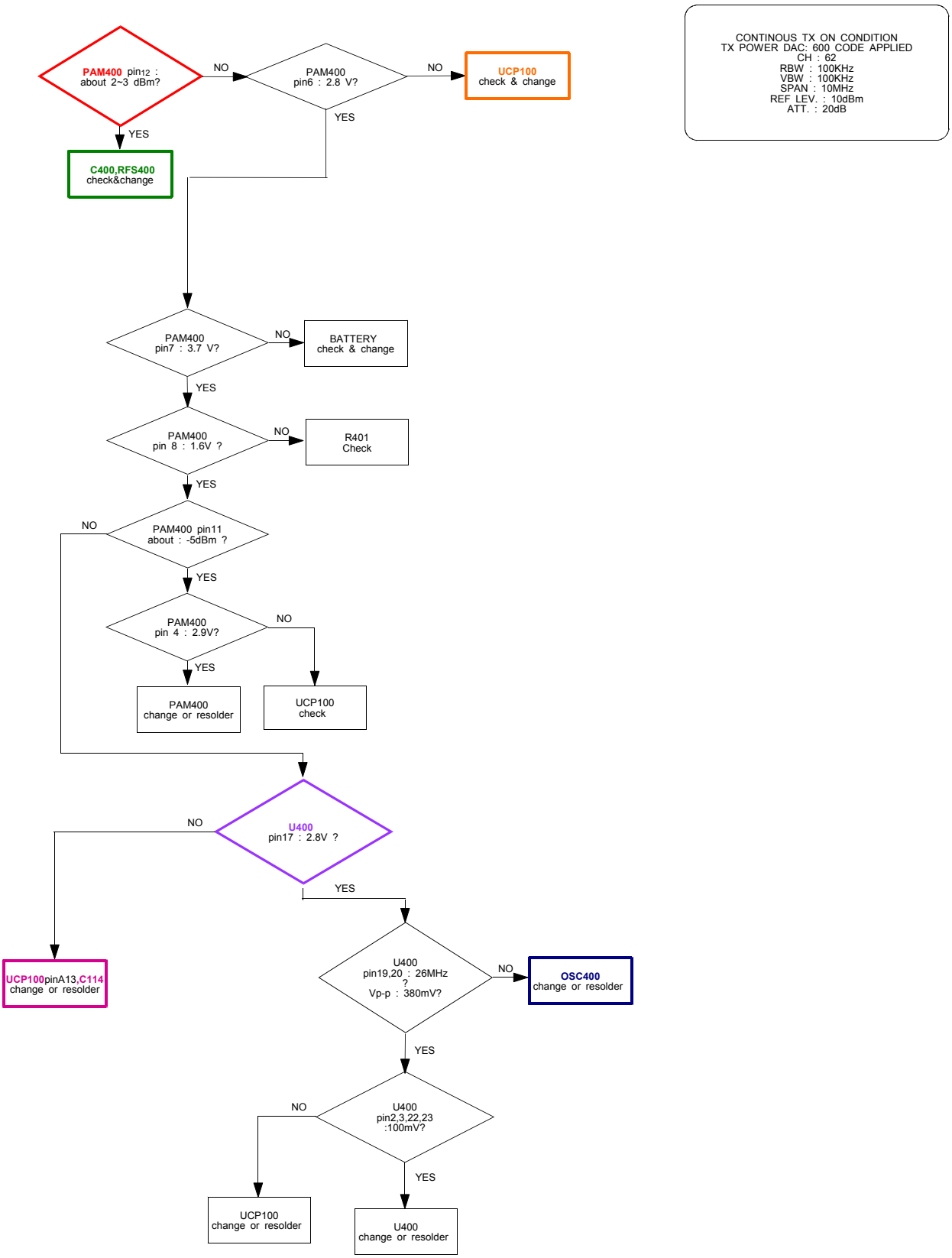


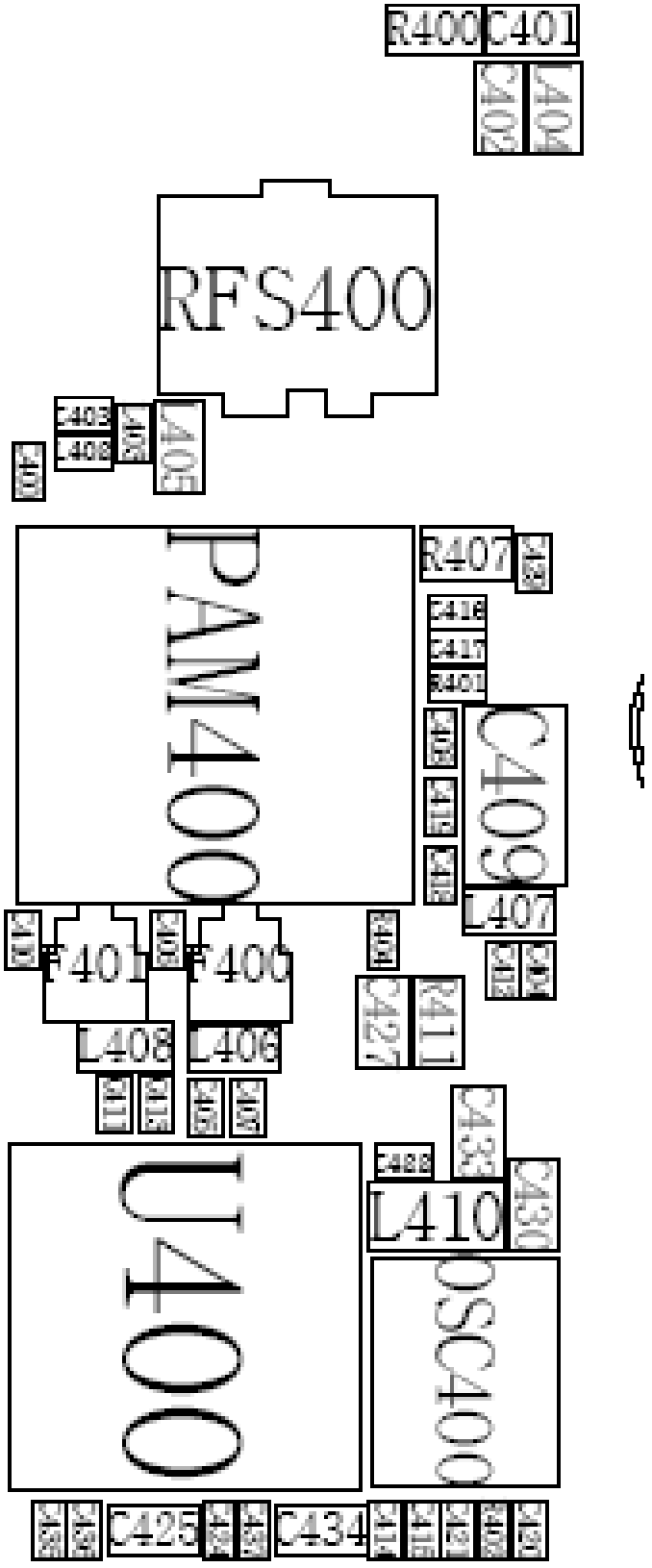
## 3-2-2. DCS RX



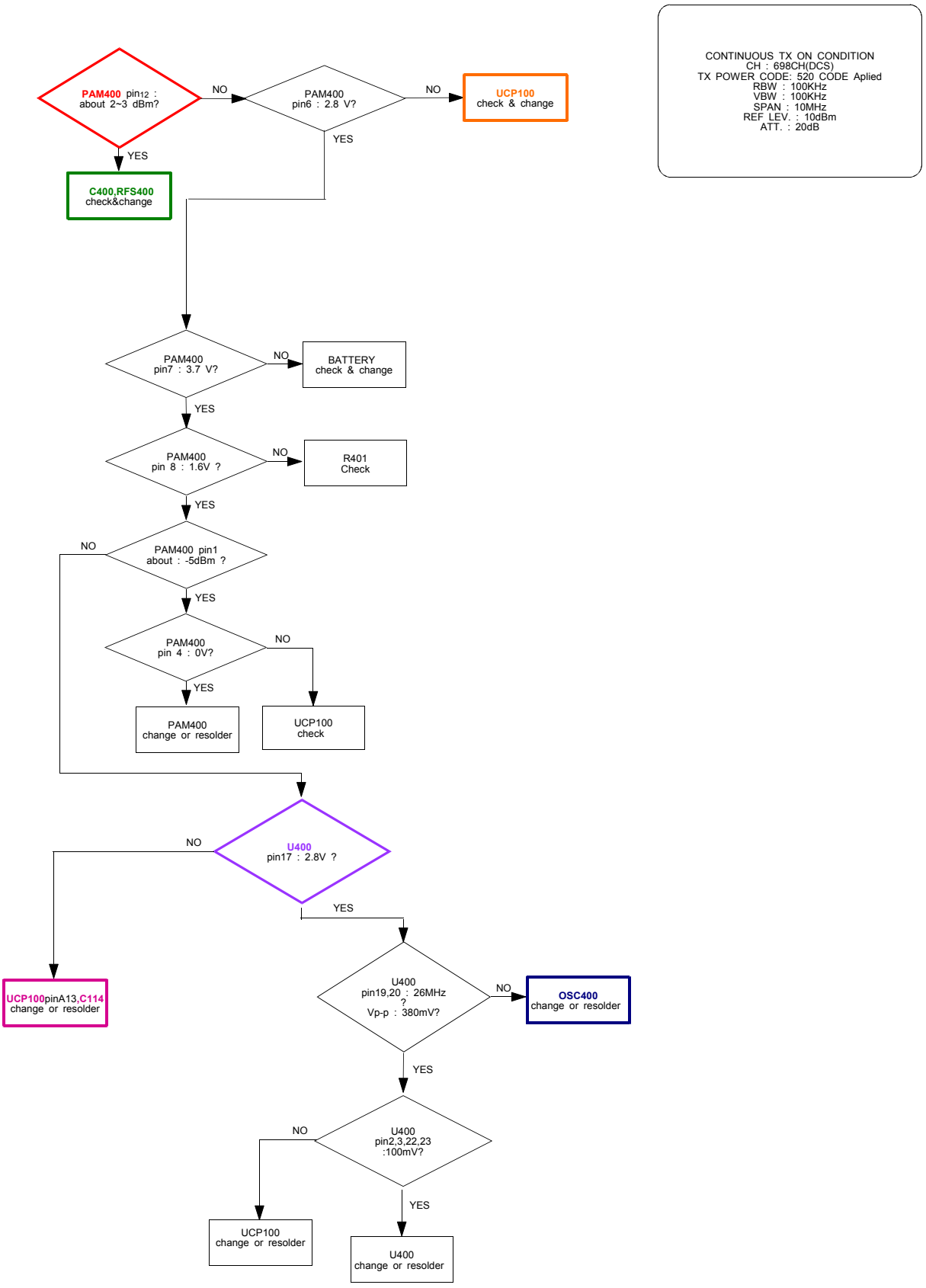


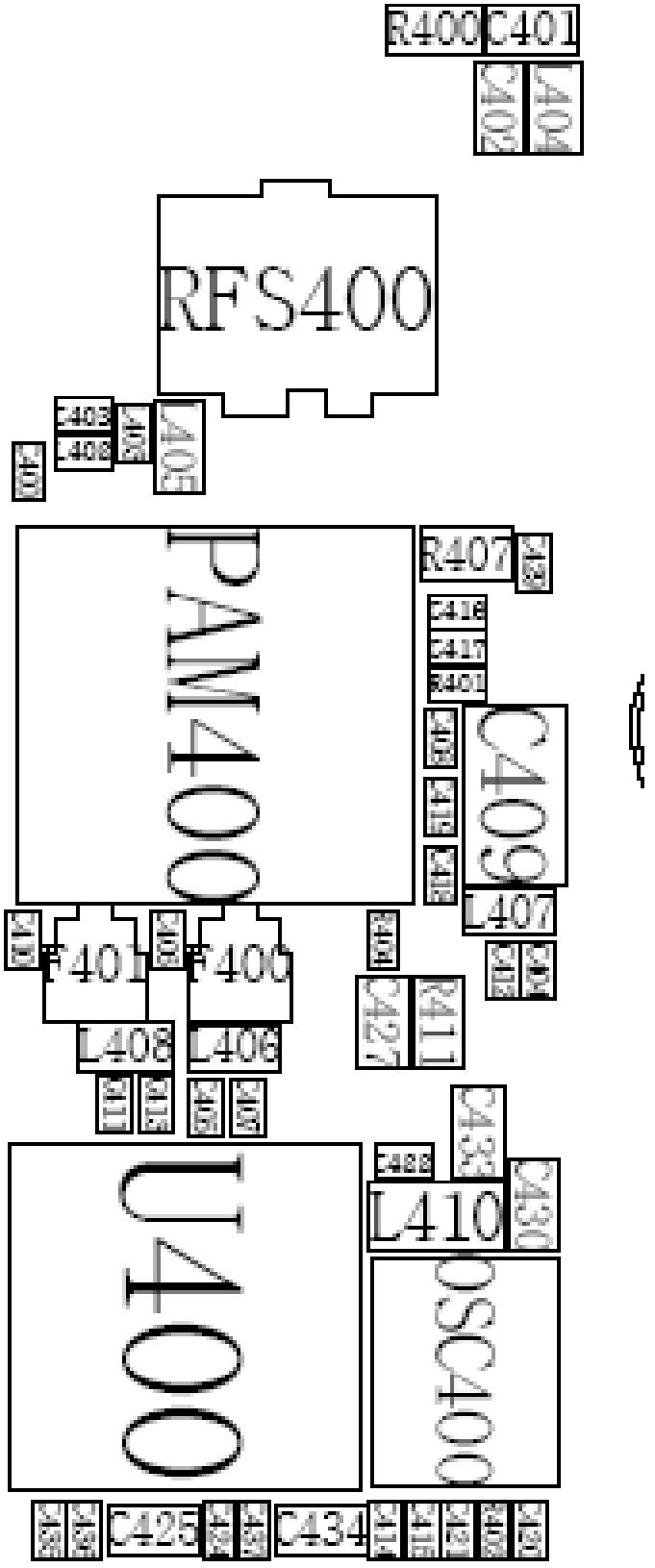
## 3-2-3. EGSM TX

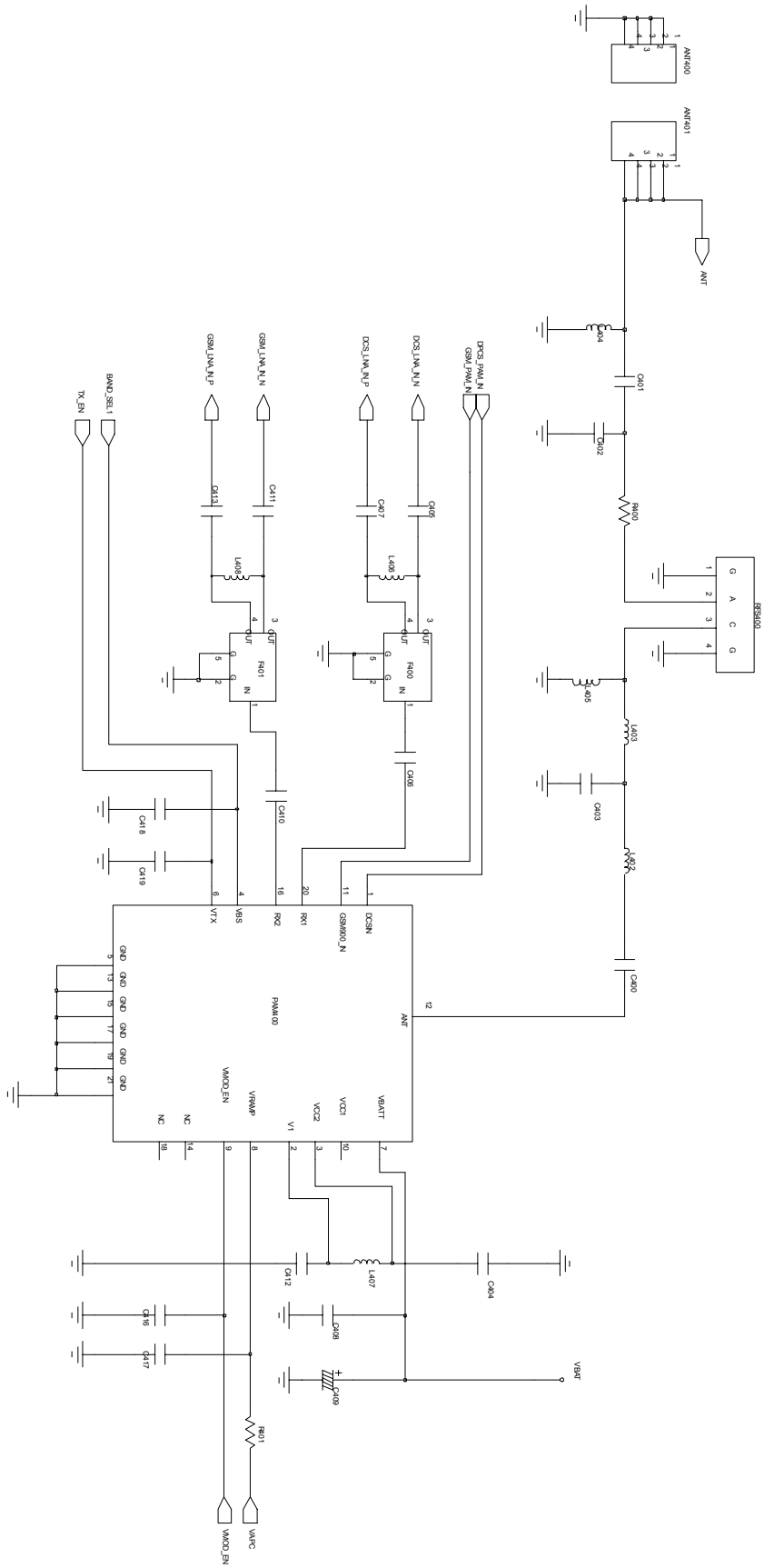




## 3-2-4. DCS TX







# 4. Array course control


Test Jig (GH80-03307A)

Test Cable (GH39-00127A)

RF Test Cable (GH39-00283A)

# Software Downloading

## 4-1. Downloading Binary Files

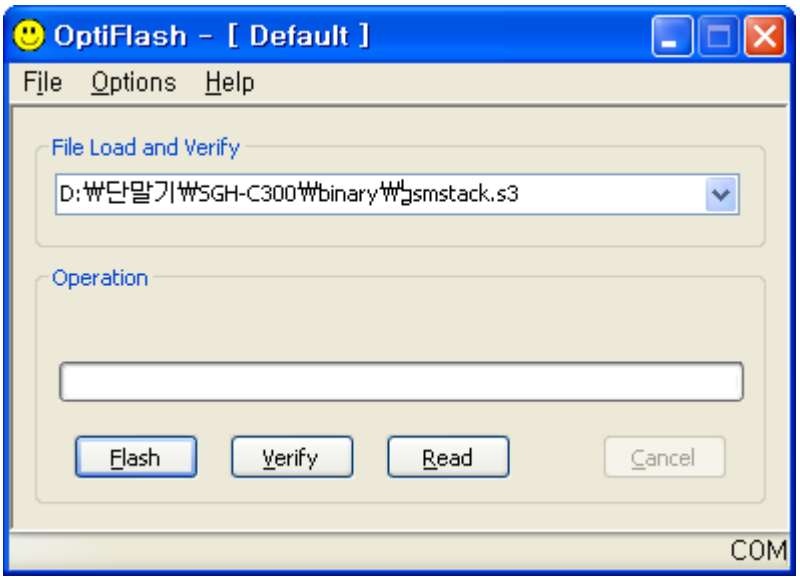
・Three binary files for downloading C300
  - C300XXYY.s3 : Main source code binary

## 4-2. Pre-requsite for Downloading

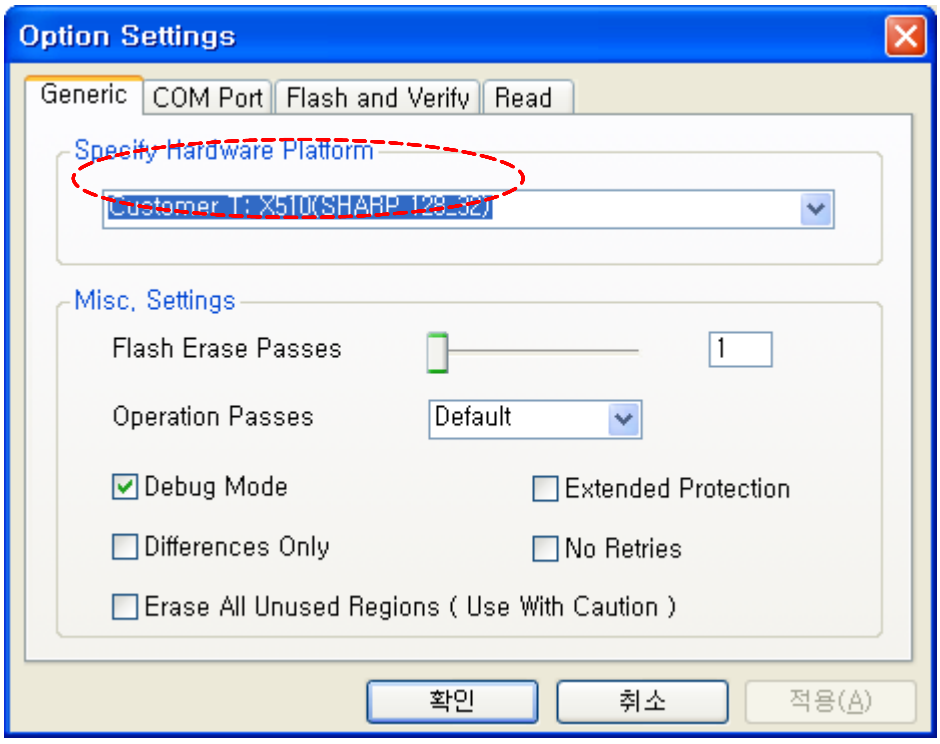
・Downloader Program(**OptiFlash.exe**)
・C300 Mobile Phone
・Data Cable
・Binary files

## 4-3. S/W Downloader Program

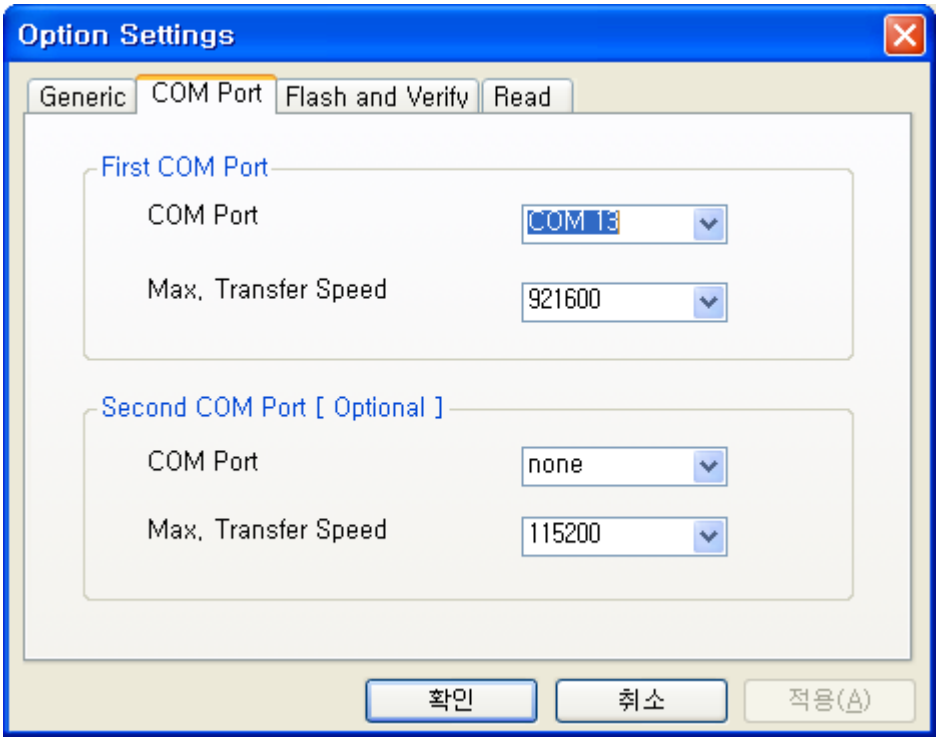
1. Load the binary download program by executing the "**Optiflash.exe**"




2. Select the **"Options" → "Settings" → "Generic" → "Specify hardware platform"**.
   Choose hardware platform for the downloader file setting.
   Set the everything else as the default values which are shown below

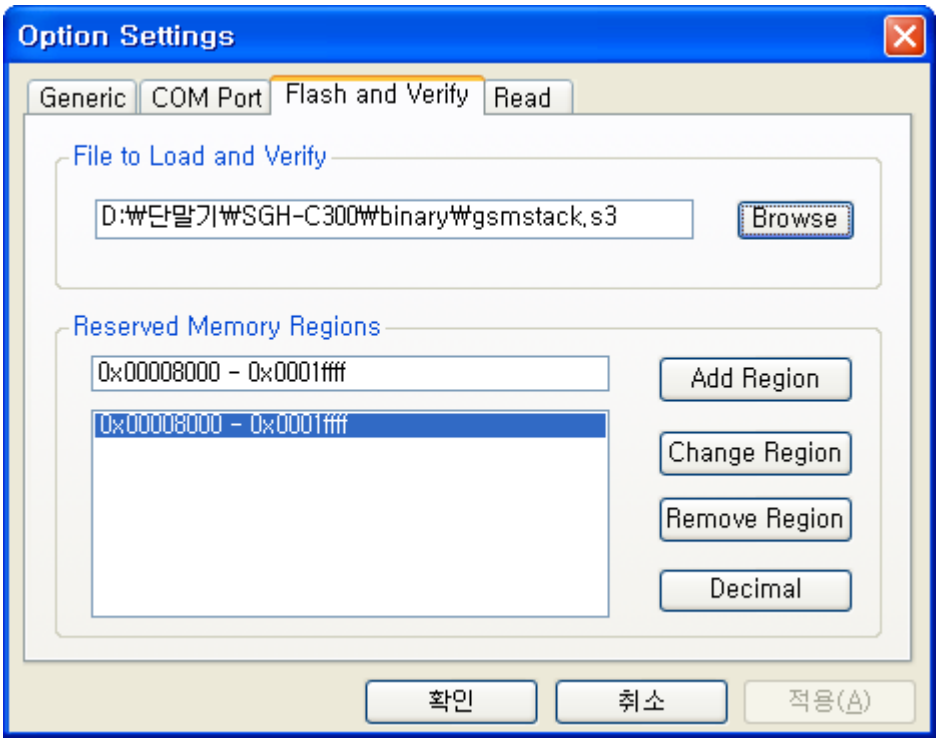


3.Select the **COM port** when the download cable is connected




Up to twelve ports are supported. Additionally you can select the maximum transfer speed OptiFlash will use to communicate with the phone. However, OptiFlash will use a slower speed if either the PC's or the phone's serial hardware is incapable of handling the selected speed

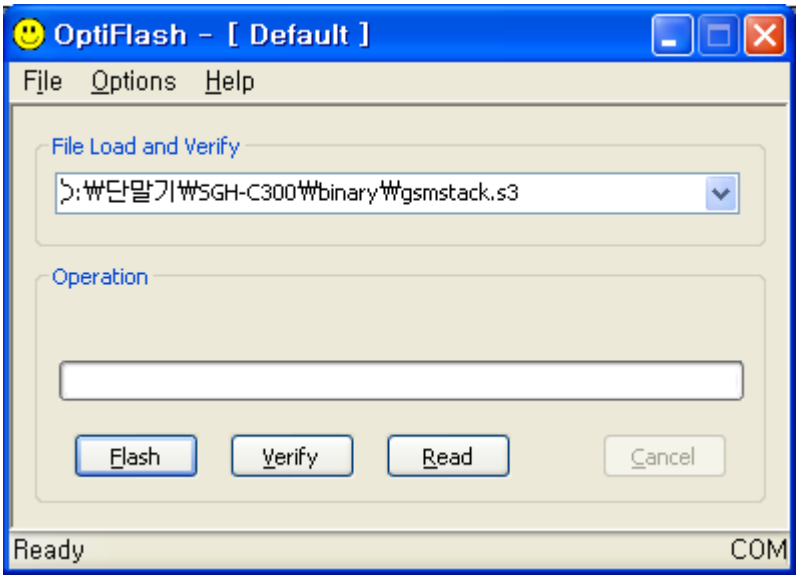
4. Select the **"Flash&Verify" → "Browse"**
Set the directory path and choose the lastet s/w binary, for example "XC300XXYY.s3", for the downloader binary setting.




**Make sure that not to change the reserved memory regions.**
**In case of C300 the reserved regions are :**
**- 0x00008000 - 0x0001ffff**

5. Click "**OK**" button then press "**Flash**".
(Before pressing 'Flash' button, push the button **'*'and 'END' at the same time.** Then press 'Flash'.)

Downloader will upload the binary file as below for the downloading.

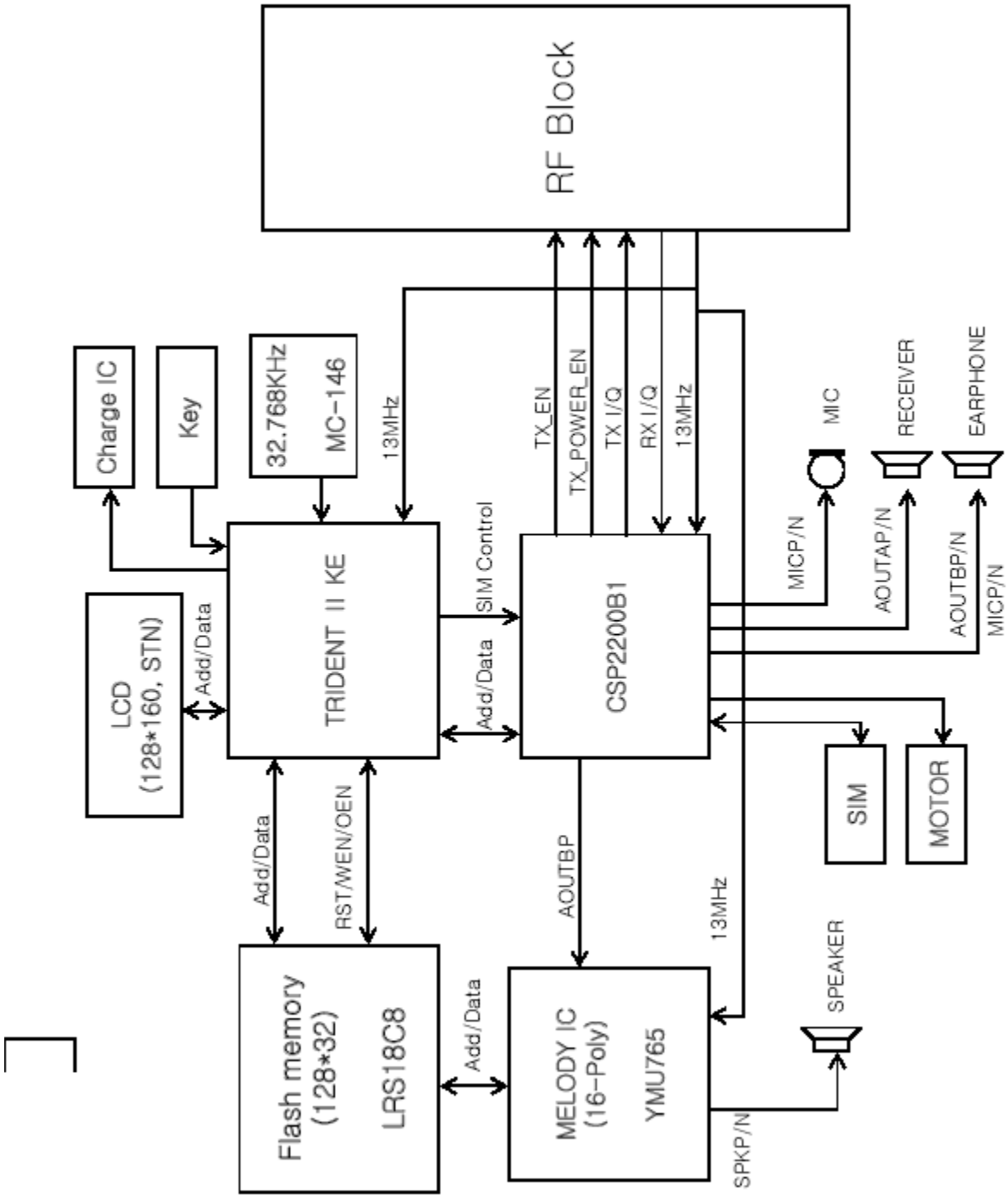


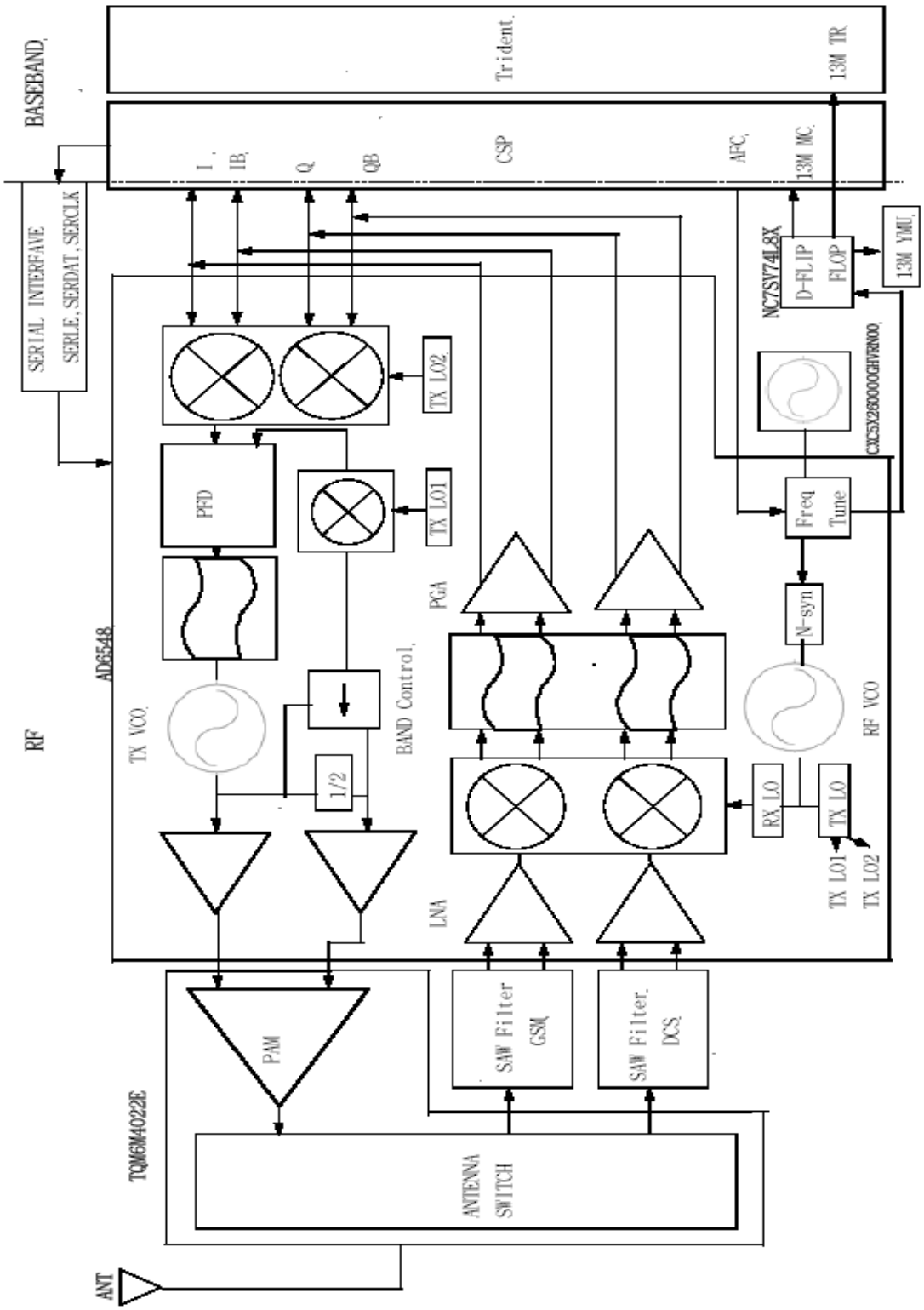

6. When downloading is finished successfully, there is a "All is well" message.

7. After finishing downloading, Certain memory resets should be done to guarantee the normal performance.

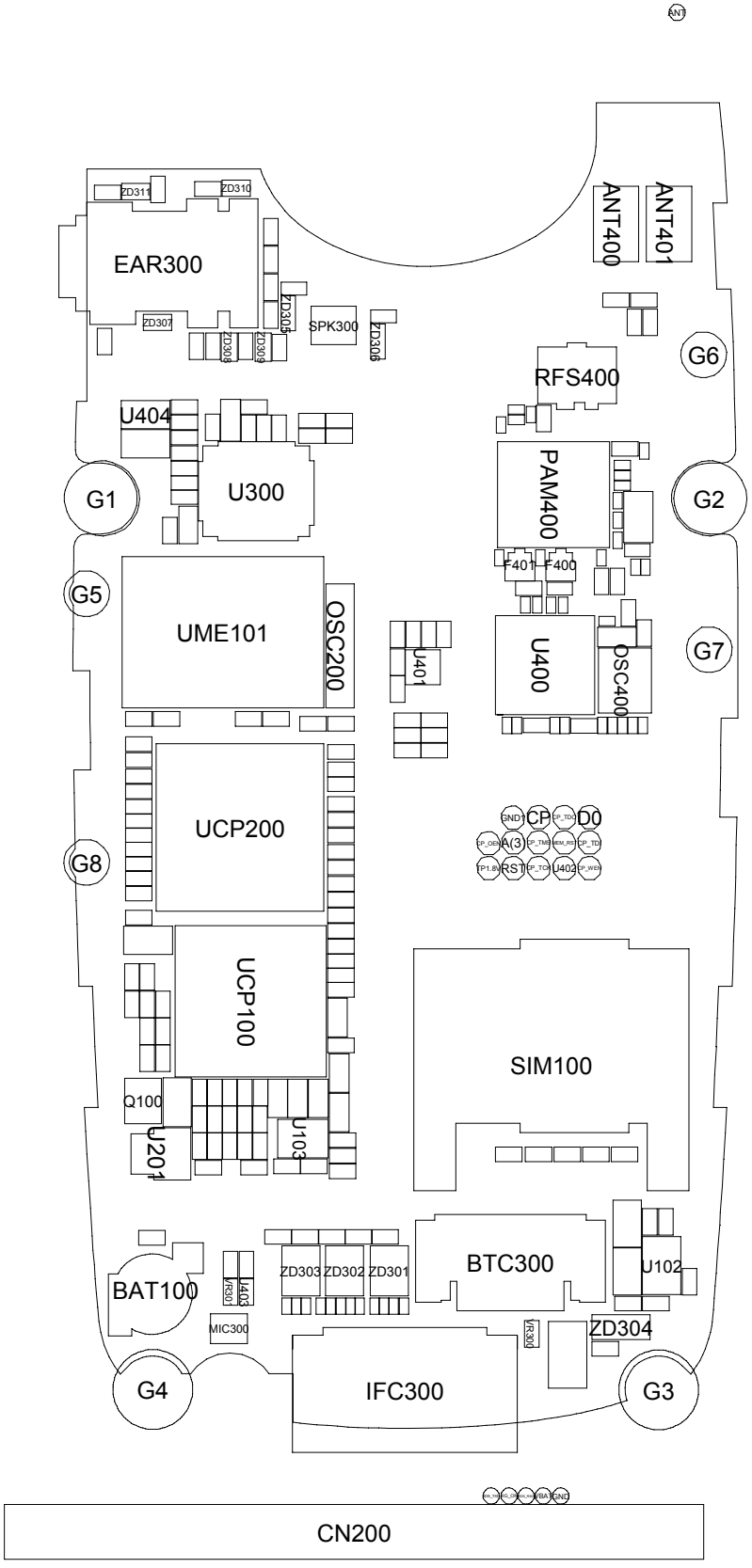
8. Confirm the downloaded version name and etc. :
***#1234#**
Full Reset :
***2767*3855#**

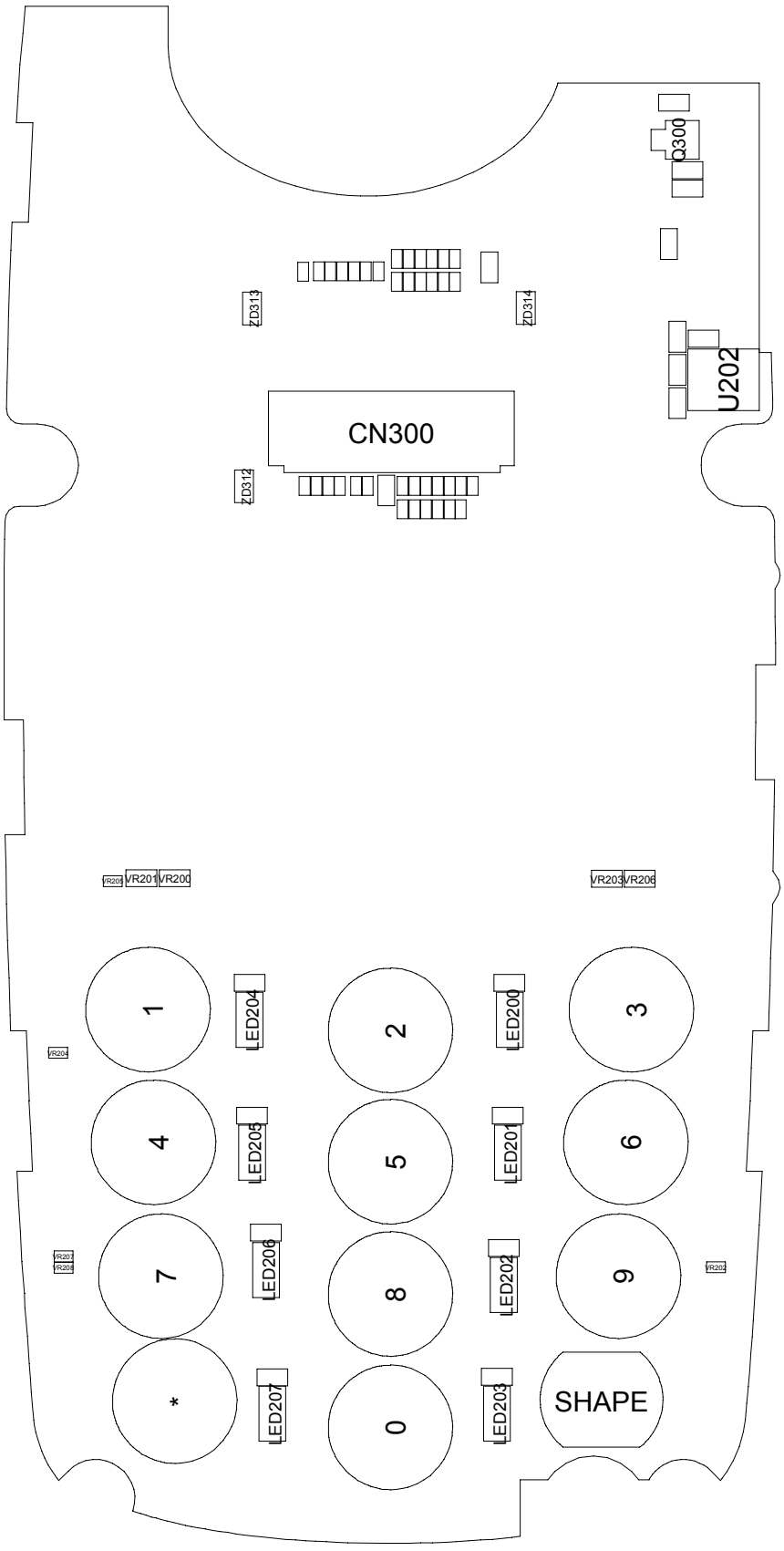
# 5. Block Diagrams





# 6. PCB Diagrams





# 7. MAIN Electrical Parts List

| SEC CODE | Design LOC | Discription | STATUS |
|---|---|---|---|
| 0403-001547 | ZD304 | DIODE-ZENER | SA |
| 0406-001083 | ZD301 | DIODE-TVS | SA |
| 0406-001083 | ZD302 | DIODE-TVS | SA |
| 0406-001083 | ZD303 | DIODE-TVS | SA |
| 0406-001210 | ZD305 | DIODE-TVS | SA |
| 0406-001210 | ZD306 | DIODE-TVS | SA |
| 0406-001254 | ZD307 | DIODE-TVS | SA |
| 0406-001254 | ZD308 | DIODE-TVS | SA |
| 0406-001254 | ZD309 | DIODE-TVS | SA |
| 0406-001254 | ZD310 | DIODE-TVS | SA |
| 0406-001254 | ZD311 | DIODE-TVS | SA |
| 0406-001254 | ZD312 | DIODE-TVS | SA |
| 0406-001254 | ZD313 | DIODE-TVS | SA |
| 0406-001254 | ZD314 | DIODE-TVS | SA |
| 0501-000225 | Q300 | TR-SMALL SIGNAL | SA |
| 0504-000168 | Q100 | TR-DIGITAL | SA |
| 0601-002053 | LED200 | LED | SA |
| 0601-002053 | LED201 | LED | SA |
| 0601-002053 | LED202 | LED | SA |
| 0601-002053 | LED203 | LED | SA |
| 0601-002053 | LED204 | LED | SA |
| 0601-002053 | LED205 | LED | SA |
| 0601-002053 | LED206 | LED | SA |
| 0601-002053 | LED207 | LED | SA |
| 0801-002529 | U103 | IC-CMOS LOGIC | SA |
| 0801-003013 | U401 | IC-CMOS LOGIC | SA |
| 1009-001024 | U202 | IC-HALL EFFECT S/W | SA |
| 1108-000010 | UME101 | IC-MCP | SA |
| 1201-002364 | PAM400 | IC-POWER AMP | SA |
| 1203-003304 | UCP100 | IC-POWER SUPERVISOR | SA |
| 1203-003663 | U102 | IC-BATTERY | SA |
| 1204-001811 | U300 | IC-MELODY | SA |
| 1205-003098 | U400 | IC-TRANSCEIVER | SA |
| 1209-001219 | U201 | IC-SENSOR | SA |
| 1405-001082 | U403 | VARISTOR | SA |
| 1405-001082 | VR200 | VARISTOR | SA |
| 1405-001082 | VR201 | VARISTOR | SA |

| SEC CODE | Design LOC | Discription | STATUS |
|---|---|---|---|
| 1405-001082 | VR203 | VARISTOR | SA |
| 1405-001082 | VR206 | VARISTOR | SA |
| 1405-001082 | VR300 | VARISTOR | SA |
| 1405-001082 | VR301 | VARISTOR | SA |
| 1405-001183 | VR202 | VARISTOR | SA |
| 1405-001183 | VR204 | VARISTOR | SA |
| 1405-001183 | VR205 | VARISTOR | SA |
| 1405-001183 | VR207 | VARISTOR | SA |
| 1405-001183 | VR208 | VARISTOR | SA |
| 2007-000140 | R107 | R-CHIP | SA |
| 2007-000140 | R327 | R-CHIP | SA |
| 2007-000142 | R362 | R-CHIP | SA |
| 2007-000144 | R100 | R-CHIP | SA |
| 2007-000157 | R202 | R-CHIP | SA |
| 2007-000157 | R215 | R-CHIP | SA |
| 2007-000157 | R321 | R-CHIP | SA |
| 2007-000157 | R332 | R-CHIP | SA |
| 2007-000160 | R303 | R-CHIP | SA |
| 2007-000161 | R320 | R-CHIP | SA |
| 2007-000161 | R329 | R-CHIP | SA |
| 2007-000161 | R355 | R-CHIP | SA |
| 2007-000161 | R359 | R-CHIP | SA |
| 2007-000162 | R104 | R-CHIP | SA |
| 2007-000162 | R106 | R-CHIP | SA |
| 2007-000162 | R110 | R-CHIP | SA |
| 2007-000162 | R217 | R-CHIP | SA |
| 2007-000164 | R221 | R-CHIP | SA |
| 2007-000164 | R300 | R-CHIP | SA |
| 2007-000165 | R334 | R-CHIP | SA |
| 2007-000170 | R218 | R-CHIP | SA |
| 2007-000170 | R408 | R-CHIP | SA |
| 2007-000170 | R410 | R-CHIP | SA |
| 2007-000171 | R113 | R-CHIP | SA |
| 2007-000171 | R322 | R-CHIP | SA |
| 2007-000171 | R338 | R-CHIP | SA |
| 2007-000171 | R342 | R-CHIP | SA |
| 2007-000171 | R354 | R-CHIP | SA |

| SEC CODE | Design LOC | Discription | STATUS |
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| 2007-000171 | R406 | R-CHIP | SA |
| 2007-000172 | R103 | R-CHIP | SA |
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| 2007-000172 | R203 | R-CHIP | SA |
| 2007-000172 | R204 | R-CHIP | SA |
| 2007-000172 | R205 | R-CHIP | SA |
| 2007-000172 | R206 | R-CHIP | SA |
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| 2007-000172 | R208 | R-CHIP | SA |
| 2007-000172 | R209 | R-CHIP | SA |
| 2007-000172 | R210 | R-CHIP | SA |
| 2007-000566 | R333 | R-CHIP | SA |
| 2007-000566 | R335 | R-CHIP | SA |
| 2007-000566 | R336 | R-CHIP | SA |
| 2007-000566 | R337 | R-CHIP | SA |
| 2007-000775 | R301 | R-CHIP | SA |
| 2007-000775 | R302 | R-CHIP | SA |
| 2007-000775 | R315 | R-CHIP | SA |
| 2007-000831 | R105 | R-CHIP | SA |
| 2007-000831 | R331 | R-CHIP | SA |
| 2007-001119 | R318 | R-CHIP | SA |
| 2007-001119 | R353 | R-CHIP | SA |
| 2007-001307 | R409 | R-CHIP | SA |
| 2007-001308 | R405 | R-CHIP | SA |
| 2007-001320 | R319 | R-CHIP | SA |
| 2007-001320 | R356 | R-CHIP | SA |
| 2007-001323 | R328 | R-CHIP | SA |
| 2007-001325 | R316 | R-CHIP | SA |
| 2007-002797 | R403 | R-CHIP | SA |
| 2007-002965 | R324 | R-CHIP | SA |
| 2007-002965 | R325 | R-CHIP | SA |
| 2007-002965 | R407 | R-CHIP | SA |
| 2007-007014 | R344 | R-CHIP | SA |

| SEC CODE | Design LOC | Discription | STATUS |
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| 2007-007142 | R323 | R-CHIP | SA |
| 2007-007142 | R326 | R-CHIP | SA |
| 2007-007142 | R357 | R-CHIP | SA |
| 2007-007142 | R358 | R-CHIP | SA |
| 2007-007573 | R216 | R-CHIP | SA |
| 2007-007573 | R219 | R-CHIP | SA |
| 2007-007741 | R402 | R-CHIP | SA |
| 2007-008045 | R304 | R-CHIP | SA |
| 2007-008045 | R305 | R-CHIP | SA |
| 2007-008045 | R306 | R-CHIP | SA |
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| 2007-008045 | R317 | R-CHIP | SA |
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| 2007-008419 | R339 | R-CHIP | SA |
| 2007-008419 | R340 | R-CHIP | SA |
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| 2007-008419 | R348 | R-CHIP | SA |
| 2007-008419 | R349 | R-CHIP | SA |
| 2007-008419 | R350 | R-CHIP | SA |
| 2007-008419 | R351 | R-CHIP | SA |
| 2007-008419 | R352 | R-CHIP | SA |
| 2007-008516 | R401 | R-CHIP | SA |
| 2007-008806 | R404 | R-CHIP | SA |
| 2007-009160 | R109 | R-CHIP | SA |
| 2203-000233 | C117 | C-CER,CHIP | SA |
| 2203-000233 | C215 | C-CER,CHIP | SA |

| SEC CODE | Design LOC | Discription | STATUS |
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| 2203-000254 | C103 | C-CER,CHIP | SA |
| 2203-000254 | C200 | C-CER,CHIP | SA |
| 2203-000254 | C201 | C-CER,CHIP | SA |
| 2203-000254 | C202 | C-CER,CHIP | SA |
| 2203-000254 | C203 | C-CER,CHIP | SA |
| 2203-000254 | C205 | C-CER,CHIP | SA |
| 2203-000254 | C209 | C-CER,CHIP | SA |
| 2203-000254 | C211 | C-CER,CHIP | SA |
| 2203-000254 | C305 | C-CER,CHIP | SA |
| 2203-000330 | C216 | C-CER,CHIP | SA |
| 2203-000330 | C217 | C-CER,CHIP | SA |
| 2203-000359 | C349 | C-CER,CHIP | SA |
| 2203-000359 | C350 | C-CER,CHIP | SA |
| 2203-000359 | C357 | C-CER,CHIP | SA |
| 2203-000359 | C358 | C-CER,CHIP | SA |
| 2203-000386 | C426 | C-CER,CHIP | SA |
| 2203-000438 | C306 | C-CER,CHIP | SA |
| 2203-000438 | C343 | C-CER,CHIP | SA |
| 2203-000438 | C344 | C-CER,CHIP | SA |
| 2203-000438 | C346 | C-CER,CHIP | SA |
| 2203-000438 | C430 | C-CER,CHIP | SA |
| 2203-000627 | C433 | C-CER,CHIP | SNA |
| 2203-000654 | C303 | C-CER,CHIP | SA |
| 2203-000679 | C210 | C-CER,CHIP | SA |
| 2203-000812 | C107 | C-CER,CHIP | SA |
| 2203-000812 | C108 | C-CER,CHIP | SA |
| 2203-000812 | C427 | C-CER,CHIP | SA |
| 2203-000812 | C431 | C-CER,CHIP | SA |
| 2203-000940 | C105 | C-CER,CHIP | SA |
| 2203-000995 | C109 | C-CER,CHIP | SA |
| 2203-000995 | C345 | C-CER,CHIP | SA |
| 2203-001072 | C348 | C-CER,CHIP | SA |
| 2203-001405 | C302 | C-CER,CHIP | SA |
| 2203-001412 | C428 | C-CER,CHIP | SA |
| 2203-005344 | C118 | C-CER,CHIP | SA |
| 2203-005344 | C213 | C-CER,CHIP | SA |

| SEC CODE | Design LOC | Discription | STATUS |
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| 2203-005446 | C401 | C-CER,CHIP | SA |
| 2203-005514 | C354 | C-CER,CHIP | SA |
| 2203-005514 | C356 | C-CER,CHIP | SA |
| 2203-005682 | C312 | C-CER,CHIP | SA |
| 2203-005682 | C313 | C-CER,CHIP | SA |
| 2203-005682 | C314 | C-CER,CHIP | SA |
| 2203-005682 | C315 | C-CER,CHIP | SA |
| 2203-005682 | C316 | C-CER,CHIP | SA |
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| 2203-005682 | C318 | C-CER,CHIP | SA |
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| 2203-005682 | C320 | C-CER,CHIP | SA |
| 2203-005682 | C321 | C-CER,CHIP | SA |
| 2203-005682 | C322 | C-CER,CHIP | SA |
| 2203-005682 | C323 | C-CER,CHIP | SA |
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| 2203-005682 | C326 | C-CER,CHIP | SA |
| 2203-005682 | C327 | C-CER,CHIP | SA |
| 2203-005682 | C328 | C-CER,CHIP | SA |
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| 2203-005682 | C330 | C-CER,CHIP | SA |
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| 2203-005682 | C332 | C-CER,CHIP | SA |
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| 2203-005682 | C334 | C-CER,CHIP | SA |
| 2203-005682 | C335 | C-CER,CHIP | SA |
| 2203-005682 | C336 | C-CER,CHIP | SA |
| 2203-005682 | C416 | C-CER,CHIP | SA |
| 2203-005682 | C418 | C-CER,CHIP | SA |
| 2203-005682 | C419 | C-CER,CHIP | SA |
| 2203-005683 | C405 | C-CER,CHIP | SA |
| 2203-005683 | C407 | C-CER,CHIP | SA |
| 2203-005719 | C411 | C-CER,CHIP | SA |
| 2203-005719 | C413 | C-CER,CHIP | SA |
| 2203-005719 | C414 | C-CER,CHIP | SA |

| SEC CODE | Design LOC | Discription | STATUS |
|---|---|---|---|
| 2203-005719 | C420 | C-CER,CHIP | SA |
| 2203-005719 | C422 | C-CER,CHIP | SA |
| 2203-005736 | C406 | C-CER,CHIP | SA |
| 2203-005736 | C410 | C-CER,CHIP | SA |
| 2203-005736 | C417 | C-CER,CHIP | SA |
| 2203-005819 | C111 | C-CER,CHIP | SA |
| 2203-005819 | C112 | C-CER,CHIP | SA |
| 2203-005819 | C114 | C-CER,CHIP | SA |
| 2203-005819 | C115 | C-CER,CHIP | SA |
| 2203-005819 | C116 | C-CER,CHIP | SA |
| 2203-006048 | C101 | C-CER,CHIP | SA |
| 2203-006048 | C106 | C-CER,CHIP | SA |
| 2203-006048 | C119 | C-CER,CHIP | SA |
| 2203-006048 | C204 | C-CER,CHIP | SA |
| 2203-006048 | C207 | C-CER,CHIP | SA |
| 2203-006048 | C212 | C-CER,CHIP | SA |
| 2203-006048 | C214 | C-CER,CHIP | SA |
| 2203-006048 | C218 | C-CER,CHIP | SA |
| 2203-006048 | C219 | C-CER,CHIP | SA |
| 2203-006048 | C300 | C-CER,CHIP | SA |
| 2203-006048 | C304 | C-CER,CHIP | SA |
| 2203-006048 | C307 | C-CER,CHIP | SA |
| 2203-006048 | C309 | C-CER,CHIP | SA |
| 2203-006048 | C311 | C-CER,CHIP | SA |
| 2203-006048 | C353 | C-CER,CHIP | SA |
| 2203-006048 | C423 | C-CER,CHIP | SA |
| 2203-006048 | C432 | C-CER,CHIP | SA |
| 2203-006194 | C404 | C-CER,CHIP | SA |
| 2203-006194 | C421 | C-CER,CHIP | SA |
| 2203-006194 | C424 | C-CER,CHIP | SA |
| 2203-006257 | C338 | C-CER,CHIP | SA |
| 2203-006257 | C351 | C-CER,CHIP | SA |
| 2203-006260 | C100 | C-CER,CHIP | SA |
| 2203-006260 | C104 | C-CER,CHIP | SA |
| 2203-006260 | C206 | C-CER,CHIP | SA |
| 2203-006260 | C208 | C-CER,CHIP | SA |
| 2203-006260 | C434 | C-CER,CHIP | SA |

| SEC CODE | Design LOC | Discription | STATUS |
|---|---|---|---|
| 2203-006318 | C403 | C-CER,CHIP | SA |
| 2203-006324 | C110 | C-CER,CHIP | SA |
| 2203-006361 | C124 | C-CER,CHIP | SA |
| 2203-006377 | C126 | C-CER,CHIP | SA |
| 2203-006423 | C310 | C-CER,CHIP | SA |
| 2203-006423 | C408 | C-CER,CHIP | SA |
| 2203-006423 | C412 | C-CER,CHIP | SA |
| 2203-006423 | C415 | C-CER,CHIP | SA |
| 2203-006423 | C435 | C-CER,CHIP | SA |
| 2203-006423 | C436 | C-CER,CHIP | SA |
| 2203-006423 | C437 | C-CER,CHIP | SA |
| 2203-006556 | C400 | C-CER,CHIP | SA |
| 2203-006556 | C429 | C-CER,CHIP | SA |
| 2203-006562 | C113 | C-CER,CHIP | SA |
| 2203-006562 | C120 | C-CER,CHIP | SA |
| 2203-006562 | C121 | C-CER,CHIP | SA |
| 2203-006626 | C339 | C-CER,CHIP | SA |
| 2203-006626 | C342 | C-CER,CHIP | SA |
| 2203-006626 | C425 | C-CER,CHIP | SA |
| 2203-006681 | C125 | C-CER,CHIP | SA |
| 2404-001339 | C301 | C-TA,CHIP | SA |
| 2404-001343 | C308 | C-TA,CHIP | SA |
| 2404-001374 | C409 | C-TA,CHIP | SA |
| 2404-001406 | C355 | C-TA,CHIP | SA |
| 2404-001414 | C337 | C-TA,CHIP | SA |
| 2404-001414 | C352 | C-TA,CHIP | SA |
| 2404-001463 | C439 | C-TA,CHIP | SA |
| 2404-001463 | U404 | C-TA,CHIP | SA |
| 2703-001236 | L410 | INDUCTOR-SMD | SA |
| 2703-002200 | L408 | INDUCTOR-SMD | SA |
| 2703-002313 | L405 | INDUCTOR-SMD | SA |
| 2703-002484 | L406 | INDUCTOR-SMD | SA |
| 2703-002544 | L300 | INDUCTOR-SMD | SA |
| 2703-002544 | L301 | INDUCTOR-SMD | SA |
| 2703-002558 | L407 | INDUCTOR-SMD | SA |
| 2703-002917 | L402 | INDUCTOR-SMD | SA |
| 2703-002917 | L403 | INDUCTOR-SMD | SA |

| SEC CODE | Design LOC | Discription | STATUS |
|---|---|---|---|
| 2801-003856 | OSC200 | CRYSTAL-SMD | SA |
| 2801-004587 | OSC400 | CRYSTAL-SMD | SA |
| 2904-001592 | F401 | FILTER-SAW | SA |
| 2904-001599 | F400 | FILTER-SAW | SA |
| 3301-001534 | L409 | BEAD-SMD | SA |
| 3301-001729 | L200 | BEAD-SMD | SA |
| 3705-001358 | RFS400 | CONNECTOR-COAXIAL | SA |
| 3708-002112 | CN300 | CONNECTOR-FPC/FFC/PIC | SA |
| 3709-001384 | SIM100 | CONNECTOR-CARD EDGE | SA |
| 3710-001611 | IFC300 | CONNECTOR-INTERFACE | SA |
| 3711-006228 | BTC300 | HEADER-BATTERY | SA |
| 3722-002249 | EAR300 | JACK-EAR PHONE | SA |
| 4302-001130 | BAT100 | BATTERY-LI(2ND) | SA |
| GH09-00036A | UCP200 | IC MICOM-SGHX480 | SA |
| GH71-06338A | ANT400 | NPR-BRACKET ANT CONTACT | SA |
| GH71-06338A | ANT401 | NPR-BRACKET ANT CONTACT | SA |

# 8. Reference data

## 8-1. Reference Abbreviate

**AAC**: Advanced Audio Coding.
**AVC** : Advanced Video Coding.
**BER** : Bit Error Rate
**BPSK**: Binary Phase Shift Keying
**CA** : Conditional Access
**CDM** : Code Division Multiplexing
**C/I** : Carrier to Interference
**DMB** : Digital Multimedia Broadcasting
**EN** **:** European Standard
**ES** **:** Elementary Stream
**ETSI**: European Telecommunications Standards Institute
**MPEG**: Moving Picture Experts Group
**PN** : Pseudo-random Noise
**PS** : Pilot Symbol
**QPSK**: Quadrature Phase Shift Keying
**RS** : Reed-Solomon
**SI** : Service Information
**TDM** : Time Division Multiplexing
**TS** **:** Transport Stream

# 9. Safety Precautions

## 9-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
  Take specially care of tuning or test,
  because specipicty of cellular phone is sensitive for surrounding interference(RF noise).

- Be careful to use a kind of magnetic object or tool,
  because performance of parts is damaged by the influence of manetic force.

- Surely use a standard screwdriver when you disassemble this product,
  otherwise screw will be worn away.

- Use a thicken twisted wire when you measure level.
  A thicken twisted wire has low resistance, therefore error of measurement is few.

- Repair after separate Test Pack and Set because for short danger (for example an overcurrent and furious flames of parts etc) when you repair board in condition of connecting Test Pack and tuning on.

- Take specially care of soldering, because Land of PCB is small and weak in heat.

- Surely tune on/off while using AC power plug, because a repair of battery charger is dangerous when tuning ON/OFF PBA and Connector after disassembing 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.

## 9-2. ESD(Electrostatically Sensitive Devices) Precaution

Several semiconductor may be damaged easilly 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.

# 10. Product Function

## Main Function

- SMS or MMS messages
- Voicemail
- Broadcast message
- SOS messages
- Calendar, Alarm, Calculator, Voice memo, Speed dial, etc...

# SAMSUNG ELECTRONICS




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