

**SAMSUNG**

# GSM TELEPHONE

## SGH-C400

# ***SERVICE*** *Manual*

### GSM TELEPHONE



### CONTENTS

1. Safety Precautions
2. Specification
3. Product Function
4. Array course control
5. Exploded View/Disassembly and Assembly Instructions
6. MAIN Electrical Parts List
7. Block Diagrams
8. PCB Diagrams
9. Flow Chart of Troubleshooting
10. Reference data

**SAMSUNG  
ELECTRONICS**



# CONTENTS

## 1. Safety Precautions

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

## 2. Specification

- 2-1. GSM General Specification .....2-1
- 2-2. GSM Tx Power Class .....2-2

## 3. Product Function

## 4. Array course control

- 4-1. Pre-requisite for Downloading.....4-2
- 4-2. S/W Downloader Program.....4-2

## 5. Exploded View/Disassembly & Assembly Instructions

- 5-1. Cellular phone Exploded View.....5-1
- 5-2. Cellular phone Parts list.....5-2
- 5-3. Disassembly & Assembly Instructions.....5-4

## 6. MAIN Electrical Parts List

## 7. Block Diagrams

## 8. PCB Diagrams

---

# CONTENTS

## 9. Flow Chart of Troubleshooting

9-1. Pown on.....	9-1
9-2. Initial.....	9-5
9-3. SIM Part.....	9-7
9-4. Charging Part.....	9-9
9-5. Microphone Part.....	9-12
9-6. Speaker Part.....	9-14
9-7. Camera Part.....	9-16
9-8. RF	
9-8-1. GSM900 Rx.....	9-20
9-8-2. DCS Rx.....	9-22
9-8-3. PCS Rx.....	9-24
9-8-4. GSM900 Tx.....	9-26
9-8-5. PCS/DCS Tx.....	9-28

## 10. Reference data

---

---

# 1. Safety Precautions

---

## 1-1. Repair Precaution

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

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

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

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

---

## 2. Specification

---

### 2-1. GSM General Specification

	<b>EGSM 900 Phase 2</b>	<b>DCS 1800 Phase 1</b>	<b>PCS 1900 Phase 1</b>
Freq. Band[MHz] Uplink/Downlink	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1960
ARFCN range	975~1023 1~124	512~885	512~810
Tx/Rx spacing	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8
Cell Radius	35Km	2Km	2Km
Operating Temperature	-20°C ~ +50°C		

## 2-2. GSM Tx Power Class

<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	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm	6	18±3 dBm	6	18±3 dBm
12	19±2 dBm	7	16±3 dBm	7	16±3 dBm
13	17±2 dBm	8	14±3 dBm	8	14±3 dBm
14	15±2 dBm	9	12±4 dBm	9	12±4 dBm
15	13±2 dBm	10	10±4 dBm	10	10±4 dBm
16	11±3 dBm	11	8±4dBm	11	8±4dBm
17	9±3dBm	12	6±4 dBm	12	6±4 dBm
18	7±3 dBm	13	4±4 dBm	13	4±4 dBm
19	5±3 dBm	14	2±5 dBm	14	2±5 dBm
		15	0±5 dBm	15	0±5 dBm



---

## 3. Product Function

---

### Main Function

- Tri Band(900/1800/1900)
- FR+EFR+HR
- GPRS Class 10
- 16 Poly
- Intenna
- SMS,MMS,WAP1.2
- Phonebook 500ea



---

## 4. Array course control

---

### Software Downloading

Test Jig (GH80-03304A)



Data cable (GH39-00127A)



Serial Cable(CSA LL64151-A)



Power Supply Cable



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

- Downloader Program (OptiFlash.exe for SGH-C400 )
- SGH-C400 Mobile Phone
- Data Cable
- Binary file

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

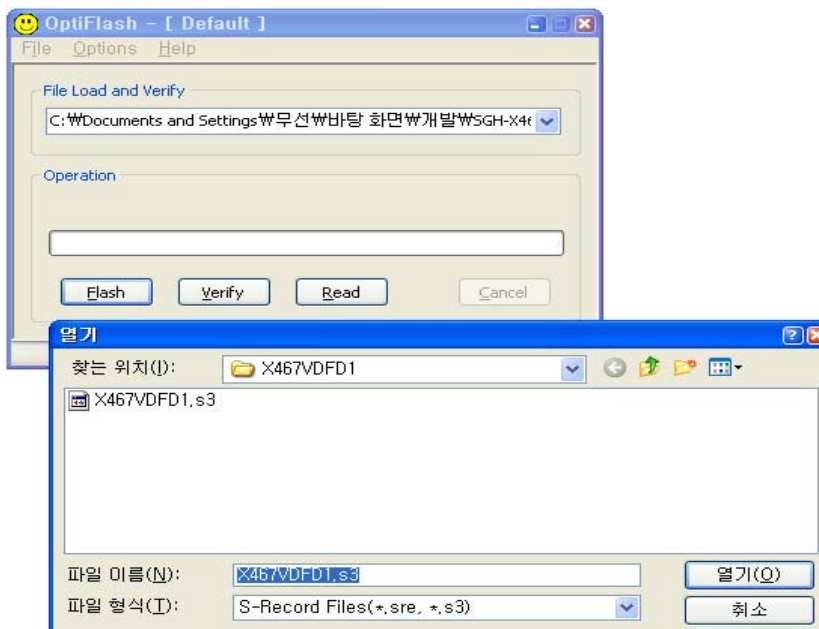
- Load the binary download program by executing the "OptiFlash.exe"
- Connect data cable to Mobile phone

##### 1. Options / Settings

- 1) COM Port
  - select COM Port and Transfer Speed (921600)
- 2) Flash and Verify
  - Check the Reserved Memory Regions ( )
- 3) Generic
  - Select Check box
    - Differences Only (for minor change)
    - Erase All Unused Regions (for fully renewing)

##### 2. File / Open

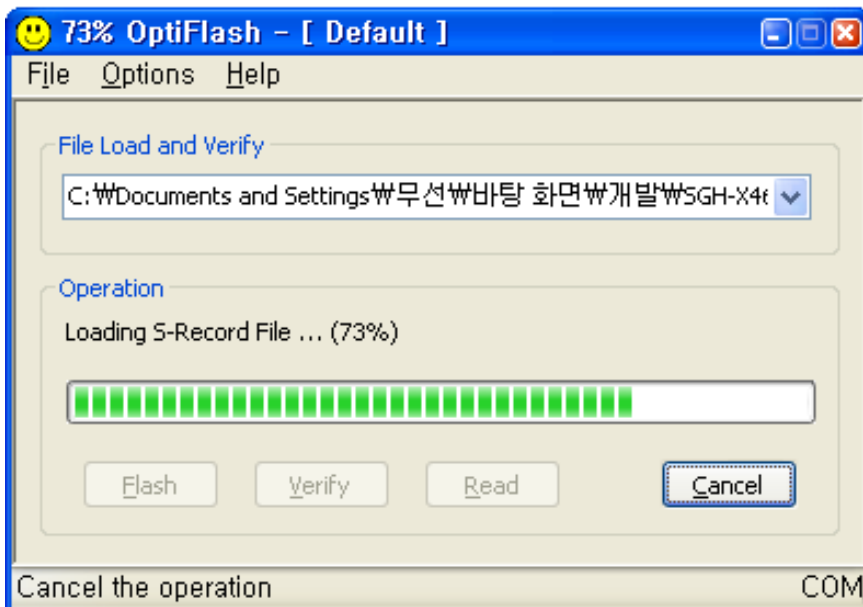
- Select the binary file (\*.s3)



### 3. Click "Flash" and write down "yes"



then "OK"

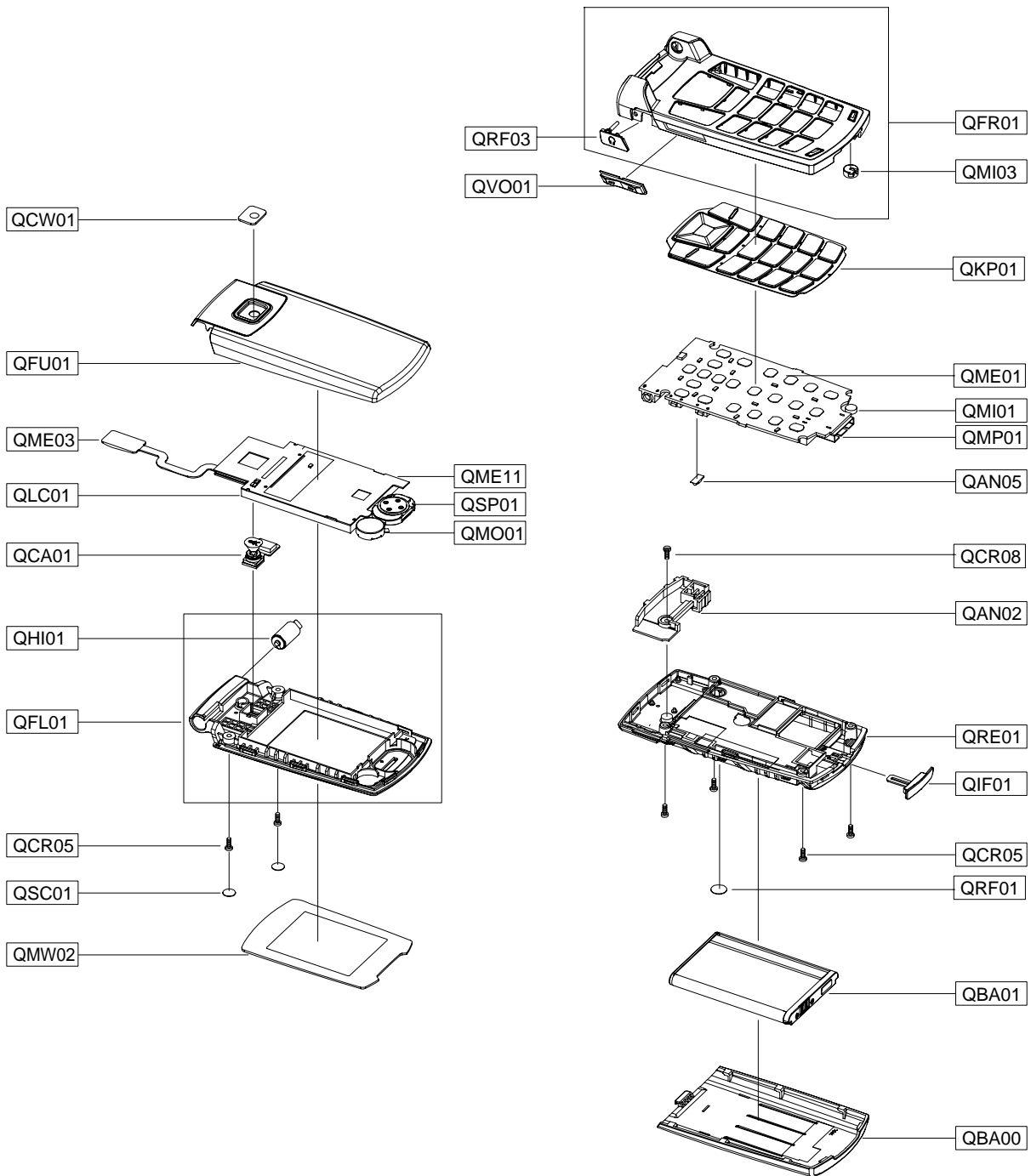


### 4. Power on the mobile phone



# 5. Exploded View/Disassembly&Assembly Instructions

## 5-1. Cellular phone Exploded View



## 5-2. Cellular phone Parts list

QAN02	INTENNA-SGHC400	GH42-00965A
QAN05	ASSY MEC-INTENNA CONN RUBBER	GH75-08200A
QBA00	ASSY CASE-BATTERY	GH98-02268A
QBA01	INNER BATTERY PACK-750MAH BLK	GH43-02489A
QCA01	UNIT-CAMERA	GH59-03371A
QCR05	SCREW-MACHINE	6001-001478
QCR05	SCREW-MACHINE	6001-001478
QCR08	SCREW-MACHINE	6001-001456
QCW01	PCT-WINDOW CAMERA	GH72-33398A
QFL01	ASSY CASE-FOLDER LOWER	GH98-01683A
QFR01	ASSY CASE-FRONT	GH98-01684A
QFU01	ASSY CASE-CASE FOLDER UPPER(TI	GH98-01917A
QHI01	ASSY MEC-HINGE(CAN TYPE)	GH75-04662A
QIF01	PMO-COVER IF	GH72-32906A
QKP01	ASSY KEYPAD-(CHE/BLK)	GH98-01686A
QLC01	ELA UNIT-SGHC406 LCD MODULE KI	GH96-02368A
QME01	UNIT-METAL DOME	GH59-03351A
QME03	PCB-SGHC406CON TO CON	GH41-01306A
QMI01	MICROPHONE-ASSY-6.25MM	GH30-00178F
QMI03	RMO-RUBBER MIC	GH73-04805A
QMO01	MOTOR DC-SGHC406	GH31-00270A
QMP01	A/S MATERIAL ASSY-PBA MAIN	GH82-02013A
QMW02	PCT-WINDOW MAIN	GH72-32980A
QRE01	ASSY CASE-REAR	GH98-01685A
QRF01	MPR-TAPE COVER RF	GH74-25341A
QRF03	PMO-COVER EAR JACK	GH72-32907A
QSC01	MPR-TAPE COVER SCREW	GH74-25342A
QSP01	SPEAKER	3001-002012
QVO01	ASSY KEY-VOLUME	GH98-02013A



ADAPTOR-SGHE715 TA(JAPAN)	GH44-00643A
RMO-RUBBER CAMERA CHIP	GH73-07630A
RMO-RUBBER CODEC CHIP	GH73-07631A
RMO-RUBBER MAIN CHIP	GH73-07632A
RMO-RUBBER MEMORY CHIP	GH73-07633A
MPR-TAPE GASKET DOME SHEET	GH74-25344A
MPR-TAPE GASKET IF FRONT	GH74-25345A
MPR-INSU TAPE	GH74-26147A
LABEL(P)-WATER SOAK	GH68-02026A
MPR-VINYL BOHO DECO REAR	GH74-26518A
MPR-BOHO VINYL LCD CONN	GH74-15350A
MPR-TAPE GASKET LCD	GH74-25372A
MPR-SPONGE MOTOR	GH74-25381A
MPR-TAPE LCD FPCB	GH74-26060A
MPR-INSU TAPE	GH74-19260A
MPR-TAPE WINDOW MAIN	GH74-25438A
MPR-F/LOWER BOHO VINYL	GH74-05004A
MPR-TAPE FRONT FPC	GH74-26057A
MPR-TAPE LCD TOP	GH74-26059A
MPR-VINYL BOHO DECO FOLDER UPP	GH74-26517A
MPR-INSU TAPE, UPPER TOP	GH74-26690A
MPR-VINYL BOHO MAIN WIN	GH74-26719A
MPR-VINYL BOHO DECO REAR	GH74-26518A
MANUAL USERS-LTN ENGLISH	GH68-11685A
MANUAL USERS-LTN SPANISH	GH68-11686A
BAG PE	6902-000634
LABEL(R)-MAIN(LTN)	GH68-11763C
CUSHION-CASE(NEW-1)	GH69-04326A
LABEL(P)-MIAMI	GH68-12219A
BOX-UNIT(LTN)	GH69-04480B
UNIT-EARPHONE ,SIL	GH59-03624A

### 5-3. Disassembly&Assembly Instructions

#### – Disassembly

<p>1</p> <p>1) Unscrew a Rear Cover(There are 4 points)</p> 	<p>2</p> <p>1) Lift up the Rear Cover by unlocking two hooks on the bottom side.</p> 
<p>1) Be careful not to make scratch and molding damage! 2) Should unlock bottom part of the Rear cover first, and next, mid part etc...</p>	
<p>3</p> <p>1) Release the LCD CON TO CON.</p> 	<p>4</p> <p>1) with the folder being opened, Separate the PBA.</p> 
<p>1) Be careful not to make scratch and molding damage!</p>	

5

1) Disassemble KEY PAD, DUST PROTECT TAPE and SIDE KEY.



- 1) Be careful not to make scratch and molding damage!
- 2) Be careful not to damage the LCD CON TO CON!  
(Con to con FBCB is torn very easily)

6

1) With grabbing Folder using one hand, Pull back Front Cover using the other hand.



- 1) Be careful not to make scratch and molding damage!
- 2) Be careful not to damage the LCD CON TO CON!  
(Con to con FBCB is torn very easily)

7

1) Remove the two SCREW CAPS and Unscrew the UPPER COVER



- 1) Be careful not to make scratch and molding damage!

8

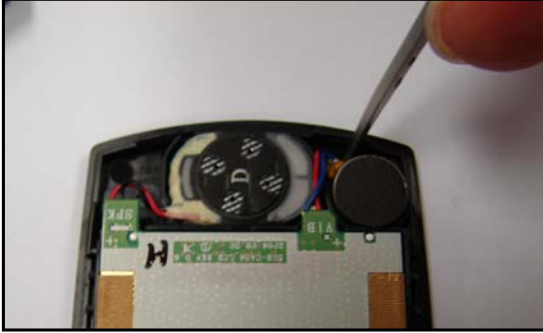
1) Unlock the bottom side of the Folder Ass'y  
(There are hooks both side - Left and Right)



- 1) Be careful not to make scratch and molding damage!

5

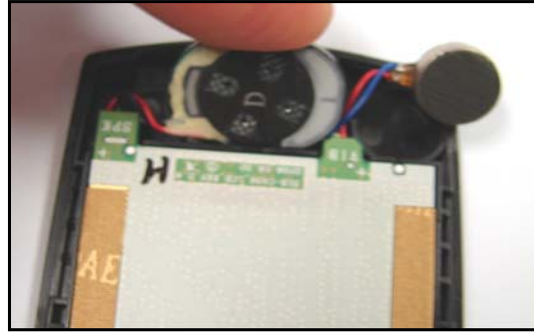
1) Disassemble MOTOR.



- 1) Be careful not to make scratch and molding damage!
- 2) Be careful not to damage the Motor Wire!

6

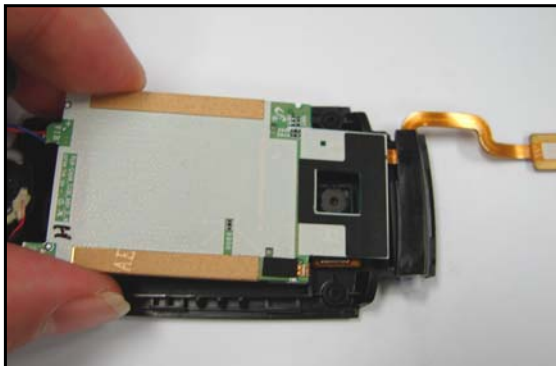
1) Disassemble SPK.



- 1) Be careful not to make scratch and molding damage!
- 2) Be careful not to damage the SPK Wire!

7

1) Disassemble LCD Module.



- 1) Be careful not to make scratch and molding damage!
- 2) Be careful not to damage the CON TO CON!

8

1) Disassemble Camera

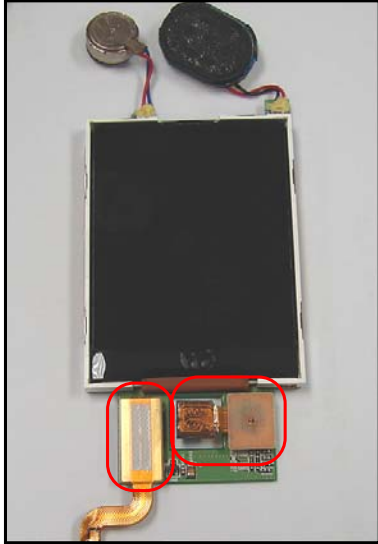


- 1) Be careful not to make scratch and molding damage!
- 2) Be careful not to damage the Camera FBCB

– Assembly

1

- 1) Insert a CON TO CON.
- 2) Insert a Camera into the Connector.



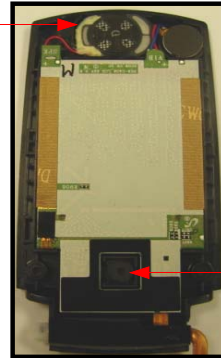
2

- 1) Align and place a LCD on a FOLDER LOWER.
- 2) Insert a SPK and a Motor.
- 3) Insert a Camera.

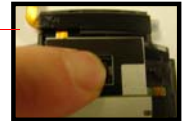
★Emphasis★



※Insert Spk from lower Side



★Emphasis★

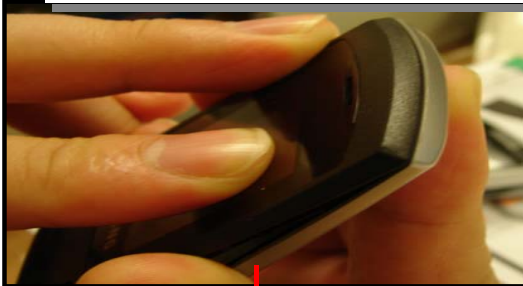


1) Be careful not to make scratch and molding damage!

- 1) Be careful not to make scratch and molding damage!
- 2) Insert Spk from lower side.
- 3) Push the camera until it is inserted completely.
- 4) Protect Camera Lense from dust.

3

- 1) Assemble from the upper side of the FOLDER UPPER.



1) Be careful not to make scratch and molding damage!  
Make a checking on the TORQUE (1.3 ± 0.1 Kgf · Cm)

4

- 1) Screw down and attach the SCREW SHEET  
Torque : 1.2 ± 0.1 Kgf/cm<sup>2</sup>



1) Be careful not to make scratch and molding damage!

5

1) Push the HINGE to insert the FRONT COVER.



1) Be careful not to make scratch and molding damage!  
2) Be careful not to damage the CON TO CON!

6

1) Insert KEY PAD and Dust PROTECTION TAPE.

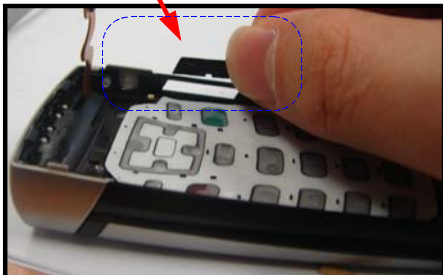


1) Be careful not to make scratch and molding damage!  
2) Be careful not to damage the CON TO CON!

7

1) Insert a SIDE KEY.

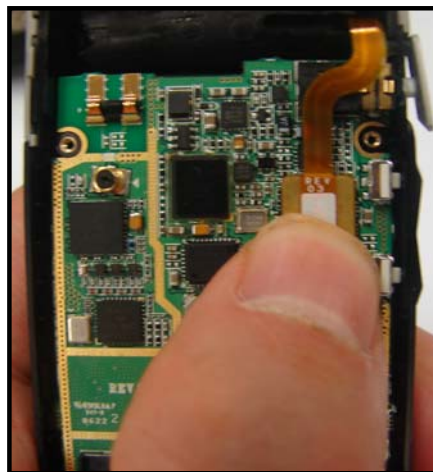
Check the direction



1) Be careful not to make scratch and molding damage!  
2) Make a checking on a direction, indicated on the photograph above.

8

1) Insert a PBA.  
2) Insert a CON TO CON.



1) Be careful not to make scratch and molding damage!  
2) Be careful not to damage the CON TO CON!

9

1) Insert the hear of the REAR COVER.



1) Be careful not to make scratch and molding damage!

10

1) Screw down REAR COVER (4POINT).

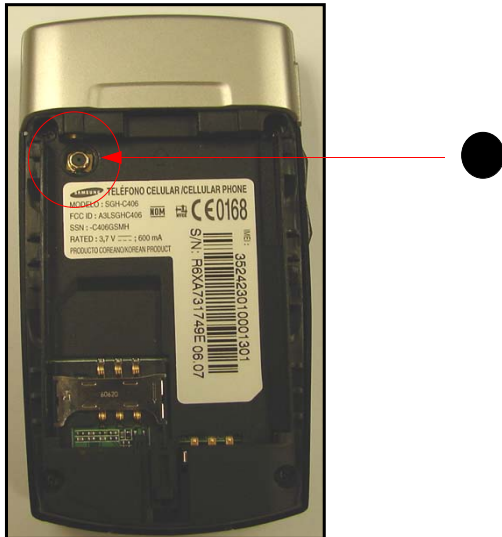
Check Torque :  $1.2 \pm 0.1$  Kgf/cm<sup>2</sup>



1) Be careful not to make scratch and molding damage!

11

1) Attach a RF SHEET.



1) Be careful not to make scratch and molding damage!





## 6. MAIN Electrical Parts List

Design LOC	Description	SEC Code	STATUS
ANT101	NPR-ANTENNA CONTACT	GH71-04813A	SA
ANT102	NPR-ANTENNA CONTACT	GH71-04813A	SA
BAT210	BATTERY-LI(2ND)	4302-001130	SA
BTC801	HEADER-BATTERY	3711-006228	SA
C100	C-CER,CHIP	2203-006423	SA
C101	C-CER,CHIP	2203-006194	SA
C105	C-CER,CHIP	2203-005792	SA
C106	C-CER,CHIP	2203-005736	SA
C107	C-CER,CHIP	2203-005736	SA
C108	C-CER,CHIP	2203-005736	SA
C109	C-CER,CHIP	2203-005792	SA
C110	C-CER,CHIP	2203-005736	SA
C111	C-TA,CHIP	2404-001374	SA
C112	C-CER,CHIP	2203-006423	SA
C113	C-CER,CHIP	2203-005682	SA
C114	C-CER,CHIP	2203-005682	SA
C115	C-CER,CHIP	2203-005682	SA
C116	C-CER,CHIP	2203-005682	SA
C117	C-CER,CHIP	2203-006318	SA
C118	C-CER,CHIP	2203-006318	SA
C119	C-CER,CHIP	2203-006556	SA
C120	C-CER,CHIP	2203-005682	SA
C122	C-CER,CHIP	2203-005792	SA
C125	C-CER,CHIP	2203-005792	SA
C126	C-CER,CHIP	2203-000995	SA
C127	C-CER,CHIP	2203-005729	SA
C129	C-CER,CHIP	2203-005682	SA
C146	C-CER,CHIP	2203-006194	SA
C147	C-CER,CHIP	2203-006648	SA
C150	C-CER,CHIP	2203-006423	SA
C151	C-CER,CHIP	2203-006423	SA
C199	C-CER,CHIP	2203-006556	SA
C200	C-CER,CHIP	2203-000254	SA
C201	C-CER,CHIP	2203-001072	SA
C202	C-CER,CHIP	2203-006260	SA
C203	C-CER,CHIP	2203-006324	SA
C204	C-CER,CHIP	2203-000995	SA
C205	C-CER,CHIP	2203-000812	SA
C206	C-CER,CHIP	2203-000812	SA
C207	C-CER,CHIP	2203-006260	SA
C208	C-CER,CHIP	2203-006838	SA
C209	C-CER,CHIP	2203-000233	SA
C211	C-TA,CHIP	2404-001383	SA
C212	C-CER,CHIP	2203-006324	SA
C213	C-CER,CHIP	2203-006260	SA
C214	C-CER,CHIP	2203-006399	SA
C215	C-TA,CHIP	2404-001281	SA
C216	C-CER,CHIP	2203-006399	SA
C217	C-TA,CHIP	2404-001377	SA
C218	C-CER,CHIP	2203-000254	SA
C219	C-CER,CHIP	2203-006260	SA
C220	C-CER,CHIP	2203-000254	SA
C221	C-CER,CHIP	2203-006141	SA

Main Electrical Parts List

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
C223	C-CER,CHIP	2203-006681	SA
C224	C-TA,CHIP	2404-001385	SA
C300	C-CER,CHIP	2203-006260	SA
C301	C-CER,CHIP	2203-000679	SA
C302	C-CER,CHIP	2203-000254	SA
C303	C-CER,CHIP	2203-001405	SA
C305	C-CER,CHIP	2203-000254	SA
C306	C-CER,CHIP	2203-000254	SA
C307	C-CER,CHIP	2203-000254	SA
C309	C-CER,CHIP	2203-006617	SA
C310	C-CER,CHIP	2203-000254	SA
C311	C-CER,CHIP	2203-000254	SA
C312	C-CER,CHIP	2203-006260	SA
C313	C-CER,CHIP	2203-006260	SA
C314	C-CER,CHIP	2203-000330	SA
C315	C-CER,CHIP	2203-000330	SA
C316	C-CER,CHIP	2203-006438	SA
C400	C-CER,CHIP	2203-000254	SA
C404	C-CER,CHIP	2203-000233	SA
C405	C-CER,CHIP	2203-006260	SA
C406	C-CER,CHIP	2203-006257	SA
C500	C-CER,CHIP	2203-000278	SA
C501	C-CER,CHIP	2203-006260	SA
C502	C-CER,CHIP	2203-002443	SA
C504	C-CER,CHIP	2203-006208	SA
C505	C-CER,CHIP	2203-006399	SA
C508	C-CER,CHIP	2203-000254	SA
C509	C-CER,CHIP	2203-005482	SA
C511	C-CER,CHIP	2203-006457	SA
C512	C-CER,CHIP	2203-006838	SA
C513	C-CER,CHIP	2203-006324	SA
C514	C-CER,CHIP	2203-000995	SA
C515	C-CER,CHIP	2203-006399	SA
C516	C-CER,CHIP	2203-006305	SA
C517	C-CER,CHIP	2203-006305	SA
C518	C-CER,CHIP	2203-006305	SA
C600	C-CER,CHIP	2203-002443	SA
C602	C-CER,CHIP	2203-006260	SA
C603	C-CER,CHIP	2203-006260	SA
C604	C-CER,CHIP	2203-001405	SA
C606	C-CER,CHIP	2203-006120	SA
C607	C-CER,CHIP	2203-006260	SA
C609	C-CER,CHIP	2203-000812	SA
C610	C-CER,CHIP	2203-006260	SA
C611	C-CER,CHIP	2203-000812	SA
C614	C-CER,CHIP	2203-000425	SA
C615	C-CER,CHIP	2203-006260	SA
C616	C-CER,CHIP	2203-005806	SNA
C617	C-CER,CHIP	2203-006208	SA
C618	C-CER,CHIP	2203-006260	SA
C619	C-CER,CHIP	2203-006260	SA
C621	C-CER,CHIP	2203-000812	SA
C623	C-CER,CHIP	2203-000233	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
C625	C-CER,CHIP	2203-006681	SA
C628	C-CER,CHIP	2203-000812	SA
C629	C-CER,CHIP	2203-001072	SA
C630	C-CER,CHIP	2203-001072	SA
C632	C-CER,CHIP	2203-006137	SA
C633	C-CER,CHIP	2203-001405	SA
C638	C-CER,CHIP	2203-002443	SA
C640	C-CER,CHIP	2203-000812	SA
C641	C-CER,CHIP	2203-000812	SA
C642	C-CER,CHIP	2203-006562	SA
C701	VARISTOR	1405-001110	SA
C702	C-CER,CHIP	2203-006048	SA
C703	C-CER,CHIP	2203-006208	SA
C706	C-CER,CHIP	2203-000254	SA
C709	C-CER,CHIP	2203-001259	SA
C717	C-CER,CHIP	2203-006048	SA
C718	C-CER,CHIP	2203-006048	SA
C800	C-CER,CHIP	2203-005682	SA
C802	C-CER,CHIP	2203-000438	SA
C803	C-CER,CHIP	2203-000233	SA
C804	C-NETWORK	2503-001041	SA
C805	C-NETWORK	2503-001041	SA
CN100	CONNECTOR-COAXIAL	3705-001358	SA
D500	DIODE-TVS	0406-001194	SA
D501	DIODE-SCHOTTKY	0404-001250	SA
D502	DIODE-SCHOTTKY	0404-001250	SA
D600	DIODE-TVS	0406-001190	SA
D802	DIODE-TVS	0406-001190	SA
D803	DIODE-TVS	0406-001190	SA
D804	DIODE-TVS	0406-001190	SA
EAR600	JACK-EAR PHONE	3722-002249	SA
F101	FILTER-SAW	2904-001592	SA
F102	FILTER-SAW	2904-001599	SA
F103	FILTER-SAW	2904-001600	SA
F500	FILTER-EMI SMD	2901-001286	SA
F501	FILTER-EMI SMD	2901-001286	SA
F502	FILTER-EMI SMD	2901-001286	SA
F503	FILTER-EMI SMD	2901-001286	SA
F504	FILTER-EMI SMD	2901-001286	SA
F505	FILTER-EMI SMD	2901-001286	SA
HDC500	HEADER-BOARD TO BOARD	3711-005618	SA
IFC800	CONNECTOR-INTERFACE	3710-001611	SA
L100	R-CHIP	2007-008542	SA
L101	INDUCTOR-SMD	2703-002313	SA
L104	INDUCTOR-SMD	2703-002485	SA
L105	INDUCTOR-SMD	2703-002603	SA
L106	INDUCTOR-SMD	2703-002484	SA
L110	INDUCTOR-SMD	2703-002558	SA
L111	R-CHIP	2007-008542	SA
L500	BEAD-SMD	3301-001729	SA
L501	BEAD-SMD	3301-001729	SA
L502	INDUCTOR-SMD	2703-002339	SA
L600	INDUCTOR-SMD	2703-002202	SA

Main Electrical Parts List

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
L601	INDUCTOR-SMD	2703-002202	SA
L602	INDUCTOR-SMD	2703-002313	SA
LED400	LED	0601-002094	SA
LED401	LED	0601-002094	SA
LED402	LED	0601-002094	SA
LED403	LED	0601-002094	SA
LED404	LED	0601-002094	SA
LED405	LED	0601-002094	SA
LED406	LED	0601-002094	SA
LED409	LED	0601-002094	SA
LED410	LED	0601-002094	SA
LED411	LED	0601-002094	SA
LED412	LED	0601-002094	SA
LED413	LED	0601-002094	SA
OSC100	CRYSTAL-SMD	2801-004426	SA
OSC300	CRYSTAL-SMD	2801-003856	SA
OSC700	CRYSTAL-SMD	2801-004285	SA
R118	R-CHIP	2007-008516	SA
R131	R-CHIP	2007-002797	SA
R133	R-CHIP	2007-001308	SA
R143	R-CHIP	2007-008516	SA
R177	R-CHIP	2007-000171	SA
R178	R-CHIP	2007-000171	SA
R202	R-CHIP	2007-000148	SA
R206	R-CHIP	2007-000167	SA
R207	R-CHIP	2007-000172	SA
R211	R-CHIP	2007-000172	SA
R214	R-CHIP	2007-000162	SA
R216	R-CHIP	2007-000153	SA
R217	R-CHIP	2007-007142	SA
R218	R-CHIP	2007-000154	SA
R219	R-CHIP	2007-000162	SA
R220	R-CHIP	2007-008419	SA
R223	R-CHIP	2007-000171	SA
R300	R-CHIP	2007-000148	SA
R301	R-CHIP	2007-000157	SA
R302	R-CHIP	2007-000162	SA
R304	R-CHIP	2007-000157	SA
R305	R-CHIP	2007-009084	SA
R306	R-CHIP	2007-008647	SA
R307	R-CHIP	2007-000162	SA
R308	R-CHIP	2007-007308	SA
R309	R-CHIP	2007-000162	SA
R310	R-CHIP	2007-007308	SA
R311	R-CHIP	2007-001284	SA
R400	R-CHIP	2007-000172	SA
R402	R-CHIP	2007-008040	SA
R403	R-CHIP	2007-008040	SA
R404	R-CHIP	2007-000173	SA
R405	R-CHIP	2007-000172	SA
R406	R-CHIP	2007-000173	SA
R407	R-CHIP	2007-000174	SA
R408	R-CHIP	2007-000174	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
R409	R-CHIP	2007-000174	SA
R410	R-CHIP	2007-000172	SA
R411	R-CHIP	2007-000173	SA
R418	R-CHIP	2007-000171	SA
R420	R-CHIP	2007-009111	SA
R421	R-CHIP	2007-009111	SA
R422	R-CHIP	2007-009111	SA
R423	R-CHIP	2007-009111	SA
R424	R-CHIP	2007-009111	SA
R425	R-CHIP	2007-009111	SA
R426	R-CHIP	2007-009111	SA
R427	R-CHIP	2007-009111	SA
R428	R-CHIP	2007-009111	SA
R429	R-CHIP	2007-009111	SA
R430	R-CHIP	2007-000148	SA
R431	R-CHIP	2007-000171	SA
R433	R-CHIP	2007-000148	SA
R434	R-CHIP	2007-001301	SA
R435	R-CHIP	2007-008045	SA
R506	R-CHIP	2007-000162	SA
R508	R-CHIP	2007-000172	SA
R509	R-CHIP	2007-001301	SA
R510	R-CHIP	2007-000171	SA
R511	R-CHIP	2007-008045	SA
R512	R-CHIP	2007-008045	SA
R513	R-CHIP	2007-008045	SA
R514	R-CHIP	2007-008045	SA
R600	R-CHIP	2007-000162	SA
R601	R-CHIP	2007-001292	SA
R602	R-CHIP	2007-001292	SA
R603	R-CHIP	2007-000171	SA
R604	R-CHIP	2007-000160	SA
R606	R-CHIP	2007-000148	SA
R607	R-CHIP	2007-001325	SA
R608	R-CHIP	2007-007107	SA
R609	R-CHIP	2007-007142	SA
R610	R-CHIP	2007-000148	SA
R611	R-CHIP	2007-007142	SA
R612	R-CHIP	2007-007107	SA
R613	R-CHIP	2007-001320	SA
R614	R-CHIP	2007-001320	SA
R615	R-CHIP	2007-001317	SA
R617	R-CHIP	2007-000157	SA
R618	R-CHIP	2007-001320	SA
R619	R-CHIP	2007-001291	SA
R620	R-CHIP	2007-007142	SA
R621	R-CHIP	2007-000171	SA
R622	R-CHIP	2007-001291	SA
R623	R-CHIP	2007-000157	SA
R624	R-CHIP	2007-000140	SA
R625	R-CHIP	2007-000171	SA
R627	R-CHIP	2007-000140	SA
R628	R-CHIP	2007-001333	SA

Main Electrical Parts List

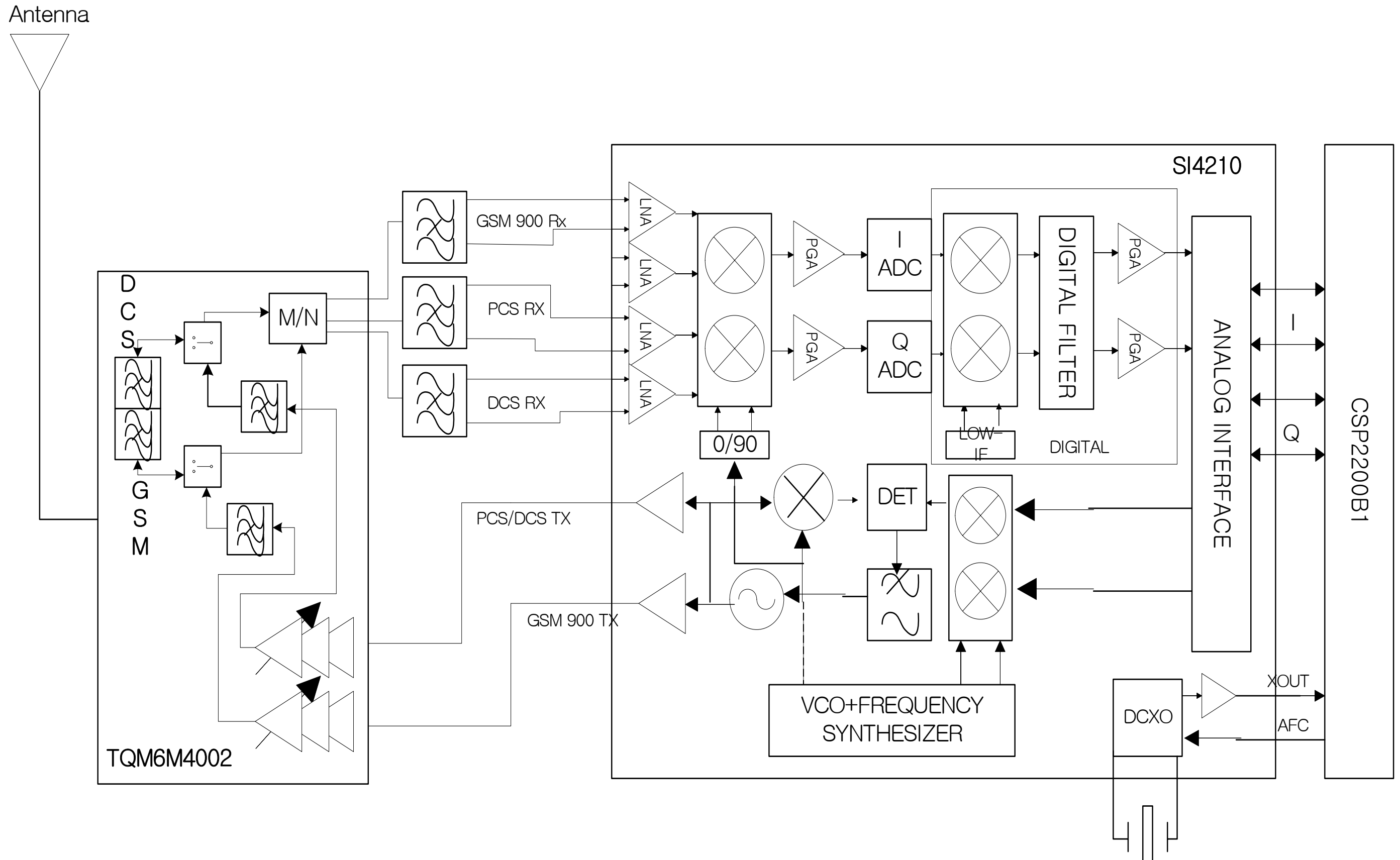
<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
R629	R-CHIP	2007-000145	SA
R630	R-CHIP	2007-000171	SA
R631	R-CHIP	2007-000152	SA
R632	R-CHIP	2007-000171	SA
R633	R-CHIP	2007-000171	SA
R635	R-CHIP	2007-000138	SA
R636	R-CHIP	2007-000171	SA
R637	R-CHIP	2007-000171	SA
R640	R-CHIP	2007-000171	SA
R641	R-CHIP	2007-000162	SA
R642	R-CHIP	2007-008542	SA
R643	R-CHIP	2007-008542	SA
R644	R-CHIP	2007-008542	SA
R645	R-CHIP	2007-008542	SA
R647	R-CHIP	2007-008542	SA
R648	R-CHIP	2007-008542	SA
R649	R-CHIP	2007-008542	SA
R650	R-CHIP	2007-008542	SA
R651	R-CHIP	2007-008542	SA
R652	R-CHIP	2007-008542	SA
R700	R-CHIP	2007-000141	SA
R701	R-CHIP	2007-000141	SA
R707	R-CHIP	2007-000171	SA
R708	R-CHIP	2007-007100	SA
R710	R-CHIP	2007-000157	SA
R800	R-CHIP	2007-008486	SA
R801	R-CHIP	2007-008486	SA
R802	R-CHIP	2007-008486	SA
R803	R-CHIP	2007-008486	SA
R804	R-CHIP	2007-008486	SA
R805	R-CHIP	2007-008419	SA
R806	R-CHIP	2007-008419	SA
R807	R-CHIP	2007-008419	SA
R808	R-CHIP	2007-008419	SA
R809	R-CHIP	2007-008419	SA
R810	R-CHIP	2007-008419	SA
R811	R-CHIP	2007-008419	SA
R812	R-CHIP	2007-008419	SA
R813	R-CHIP	2007-008419	SA
R814	R-CHIP	2007-008419	SA
R816	R-CHIP	2007-008419	SA
R817	R-CHIP	2007-008419	SA
SIM200	CONNECTOR-CARD EDGE	3709-001384	SA
TA601	C-TA,CHIP	2404-001374	SA
TA622	C-TA,CHIP	2404-001151	SA
TA624	C-TA,CHIP	2404-001393	SA
TA626	C-TA,CHIP	2404-001393	SA
TA707	C-CER,CHIP	2203-006208	SA
TA715	C-CER,CHIP	2203-006208	SA
TA719	C-TA,CHIP	2404-001381	SA
TA801	C-TA,CHIP	2404-001374	SA
TAC401	SWITCH-TACT	3404-001152	SA
TAC402	SWITCH-TACT	3404-001152	SA

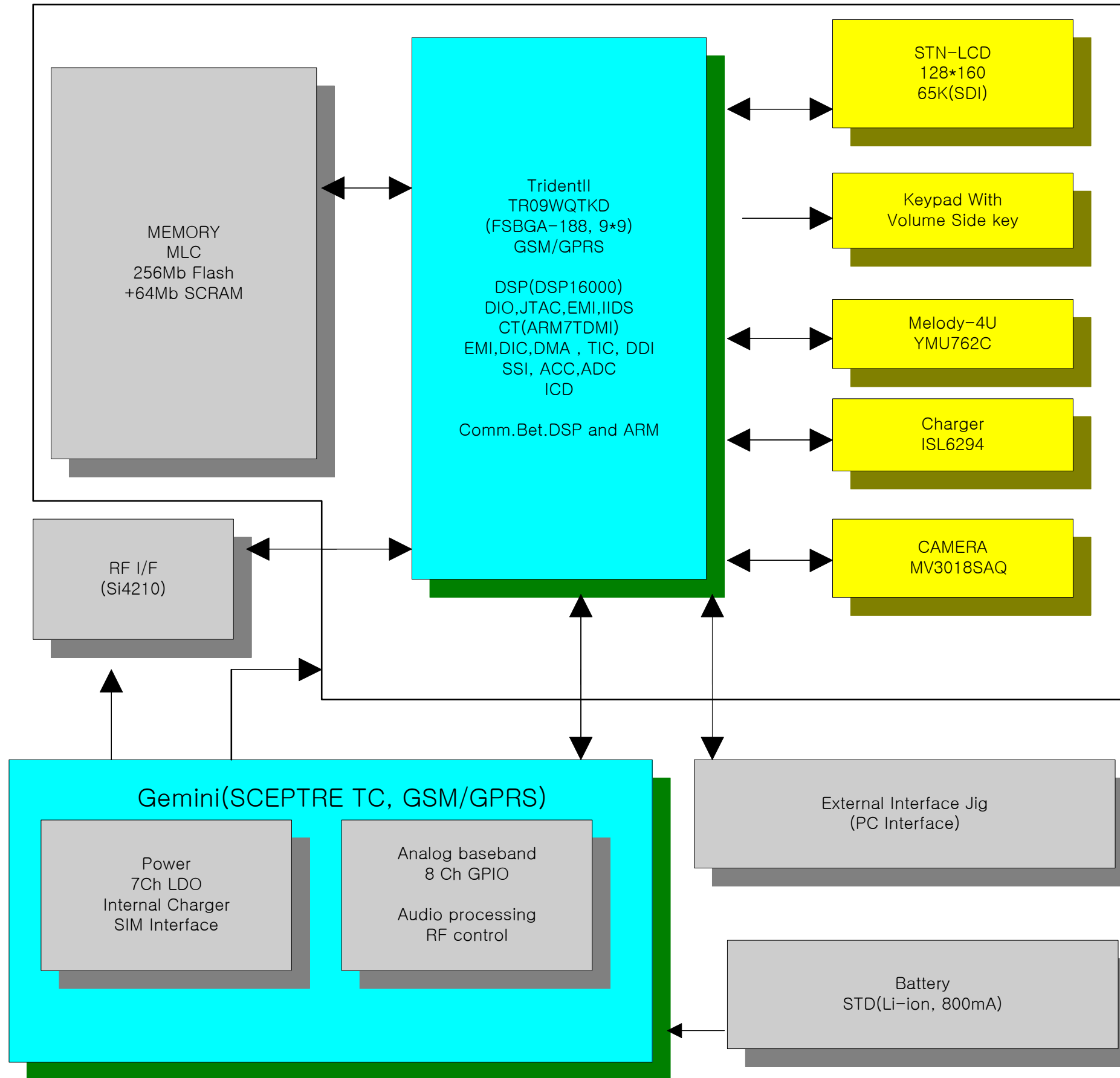
<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
TR200	TR-DIGITAL	0504-000168	SA
TR600	TR-SMALL SIGNAL	0501-000225	SA
U100	IC-POWER AMP	1201-002278	SA
U102	IC-TRANSCEIVER	1205-002683	SA
U201	IC-BATTERY	1203-003663	SA
U202	IC-CMOS LOGIC	0801-000796	SA
U301	IC-SENSOR	1209-001219	SA
U400	IC-MCP	1108-000079	SA
U500	IC-HALL EFFECT S/W	1009-001018	SA
U501	IC-POSI.FIXED REG.	1203-003105	SA
U502	IC-DC/DC CONVERTER	1203-004117	SA
U503	IC-POSI.FIXED REG.	1203-003611	SA
U600	IC-ANALOG SWITCH	1001-001371	SA
U601	IC-MELODY	1204-001811	SA
U602	IC-ANALOG SWITCH	1001-001231	SA
U700	IC ASIC-SGHX670	GH13-00036A	SA
U701	IC-MULTI REG.	1203-003459	SA
U702	C-CER.CHIP	2203-001259	SA
UCP200	IC-POWER SUPERVISOR	1203-003304	SA
UCP300	IC MICOM-SGHX480	GH09-00036A	SA
V201	VARISTOR	1405-001110	SA
V202	VARISTOR	1405-001110	SA
V502	VARISTOR	1405-001110	SA
V503	VARISTOR	1405-001110	SA
V800	VARISTOR	1405-001082	SA
V801	VARISTOR	1405-001082	SA
V802	VARISTOR	1405-001082	SA
V803	VARISTOR	1405-001082	SA
V804	VARISTOR	1405-001082	SA
V805	VARISTOR	1405-001082	SA
V806	VARISTOR	1405-001082	SA
V807	VARISTOR	1405-001082	SA
VR400	VARISTOR	1405-001082	SA
VR401	VARISTOR	1405-001082	SA
VR402	VARISTOR	1405-001082	SA
VR403	VARISTOR	1405-001082	SA
VR404	VARISTOR	1405-001082	SA
VR405	VARISTOR	1405-001082	SA
VR406	VARISTOR	1405-001082	SA
VR407	VARISTOR	1405-001082	SA
VR408	VARISTOR	1405-001110	SA
VR409	VARISTOR	1405-001082	SA
VR410	VARISTOR	1405-001110	SA
VR411	VARISTOR	1405-001082	SA
VR412	VARISTOR	1405-001110	SA
VR600	VARISTOR	1405-001108	SA
VR601	VARISTOR	1405-001108	SA
VR602	VARISTOR	1405-001108	SA
VR603	VARISTOR	1405-001108	SA
VR604	VARISTOR	1405-001082	SA
VR605	VARISTOR	1405-001082	SA
VR606	VARISTOR	1405-001082	SA
ZD800	DIODE-ZENER	0403-001547	SA





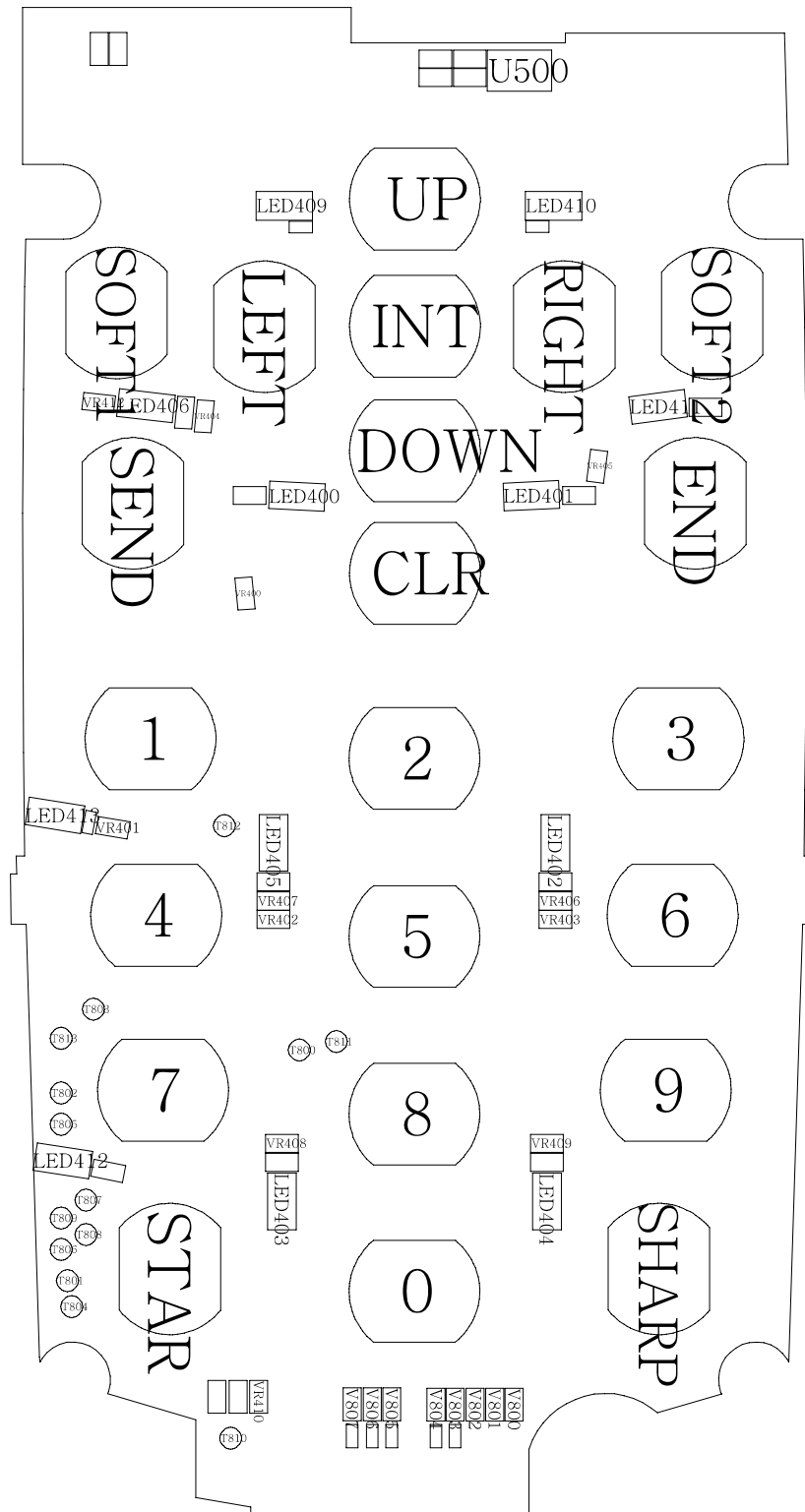
## 7. Block Diagrams



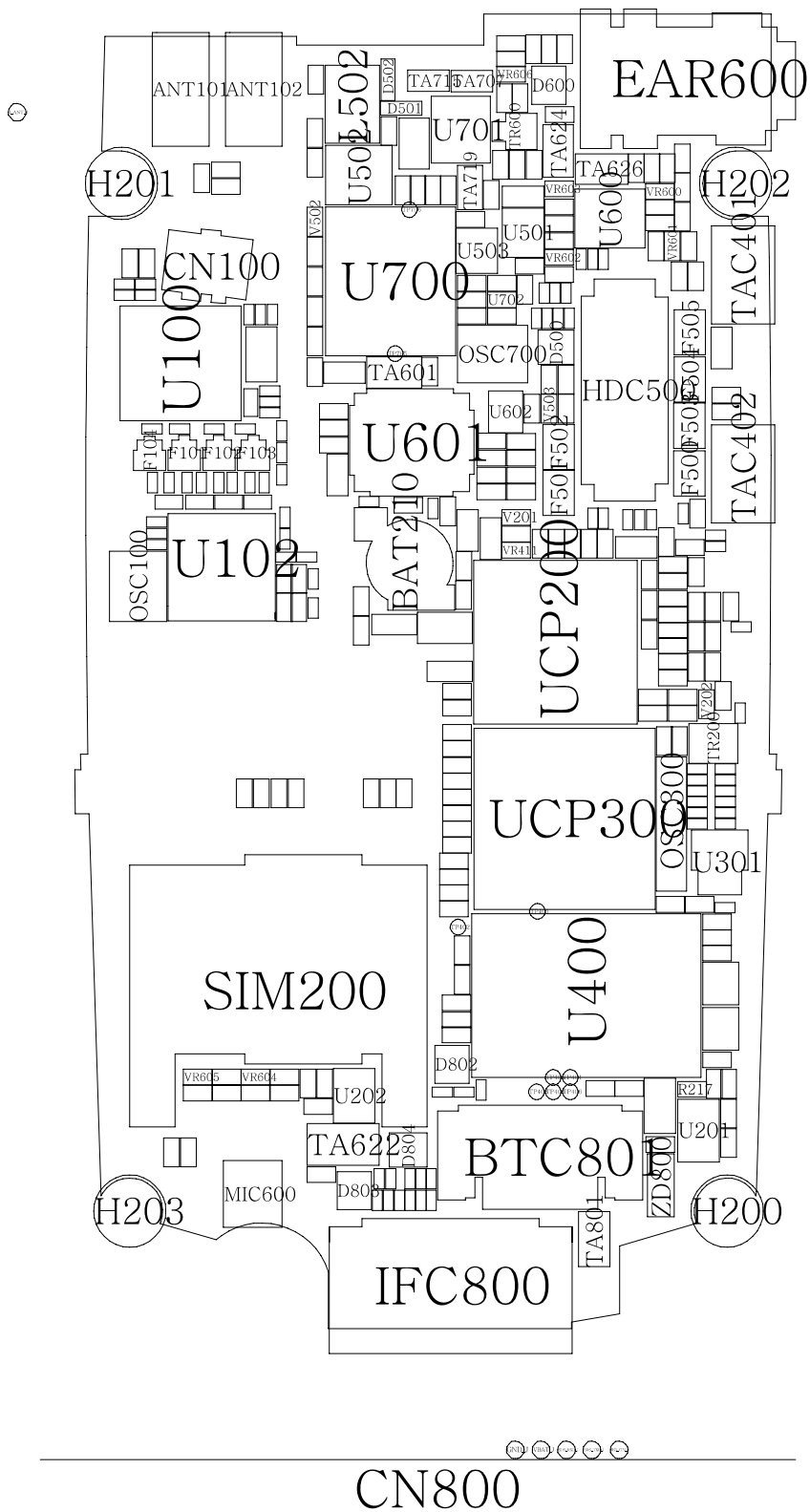


# 8. PCB Diagrams

Top

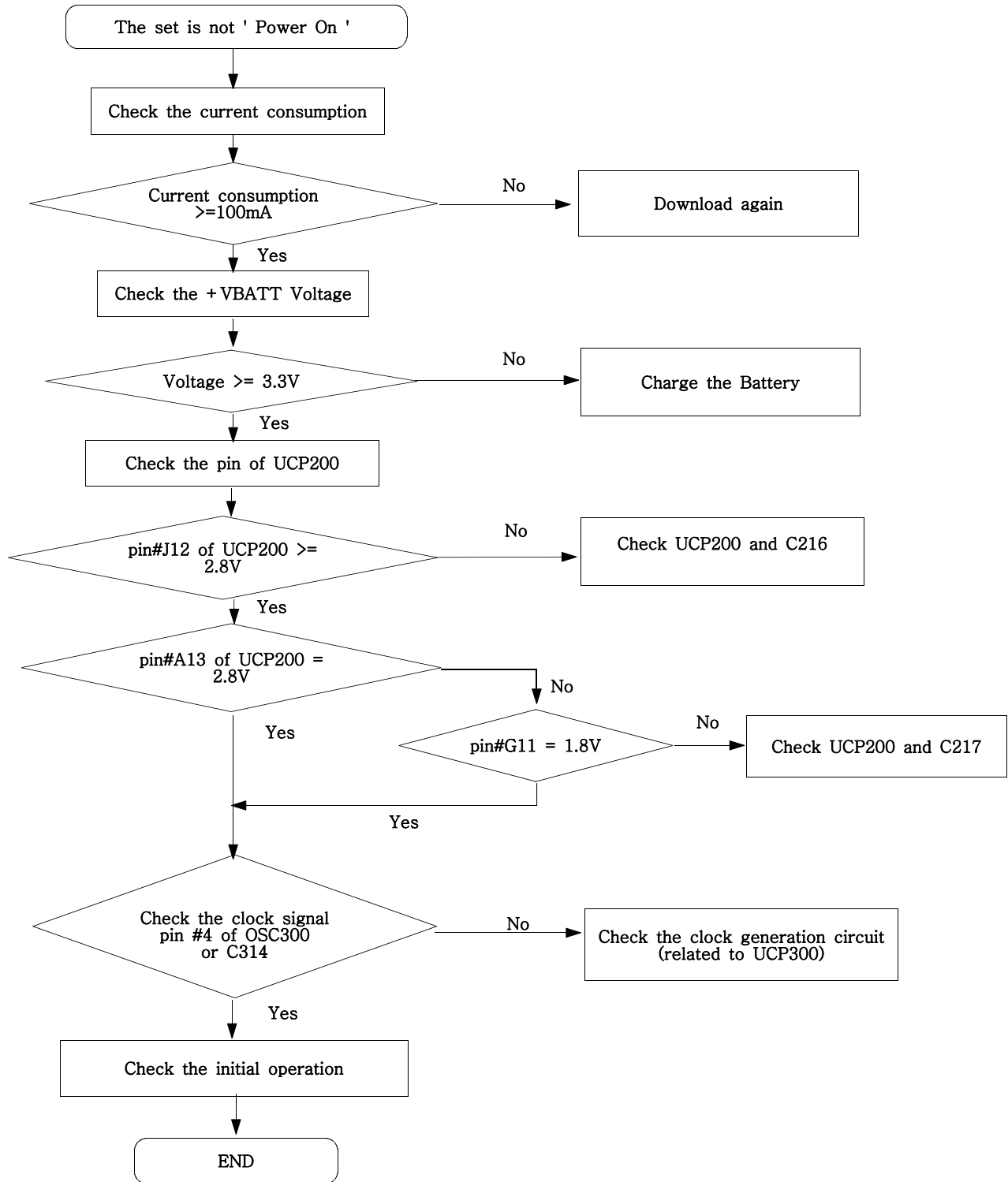


Bottom

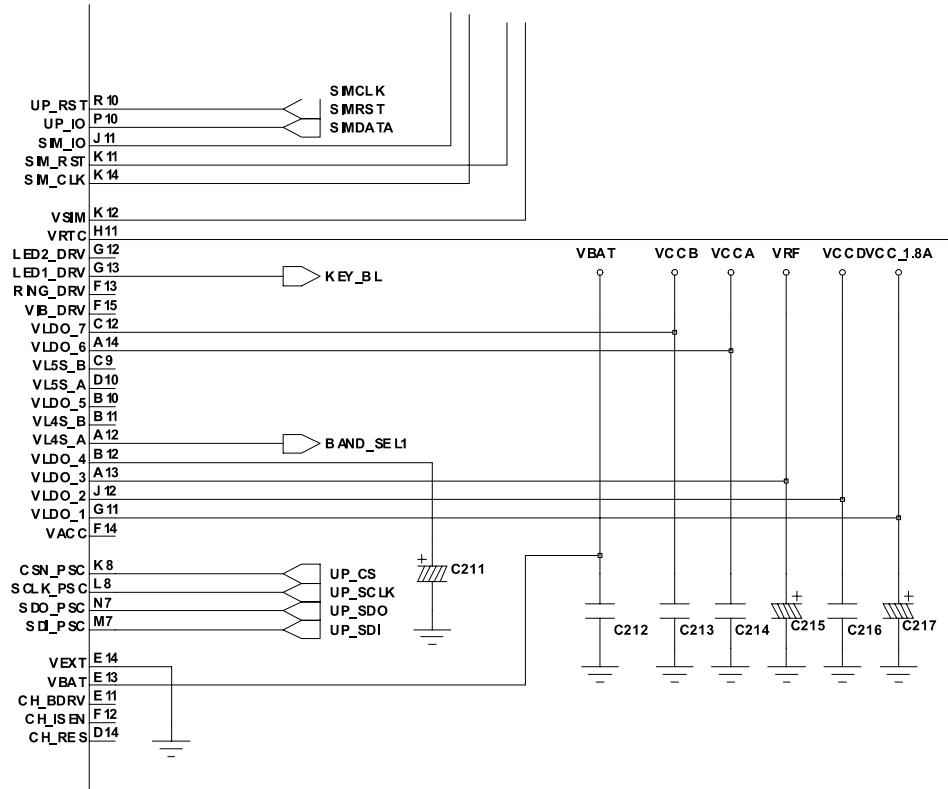


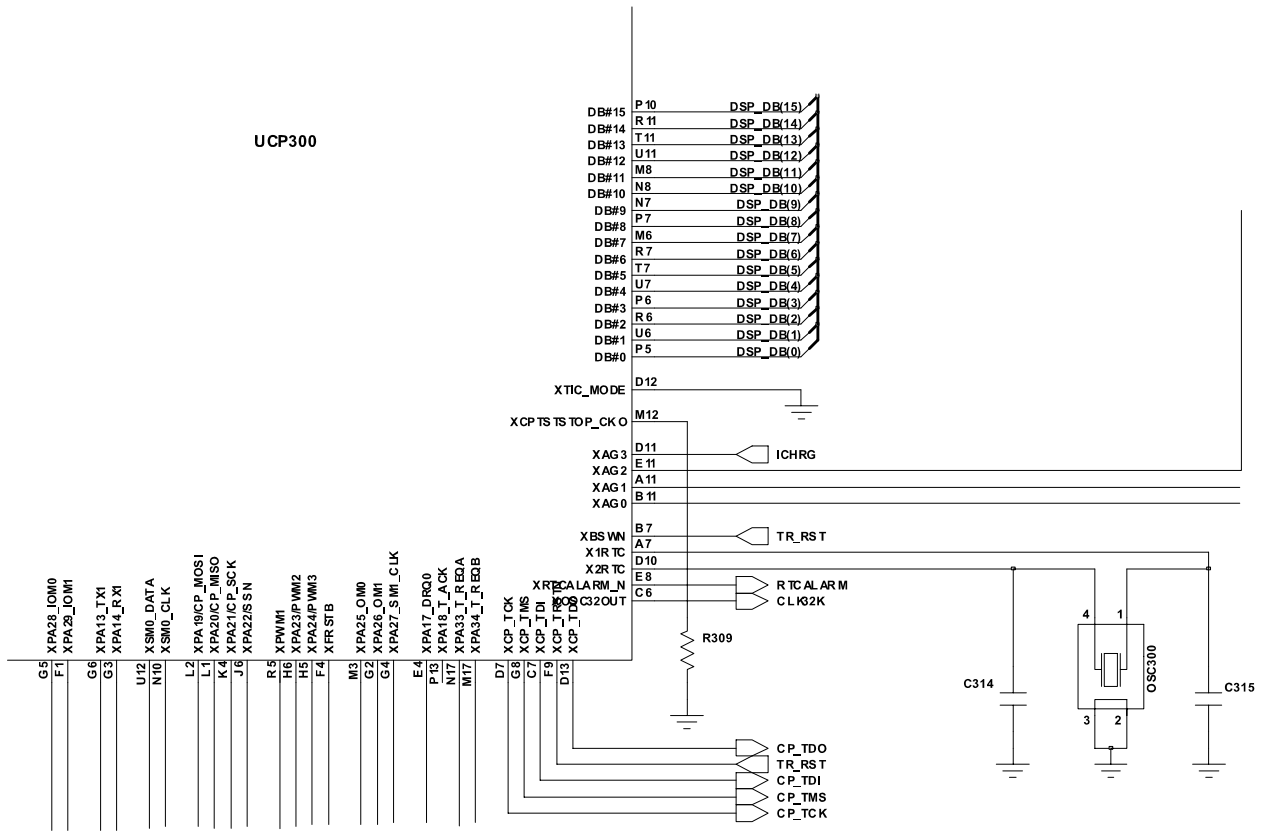
# 9. Flow Chart of Troubleshooting

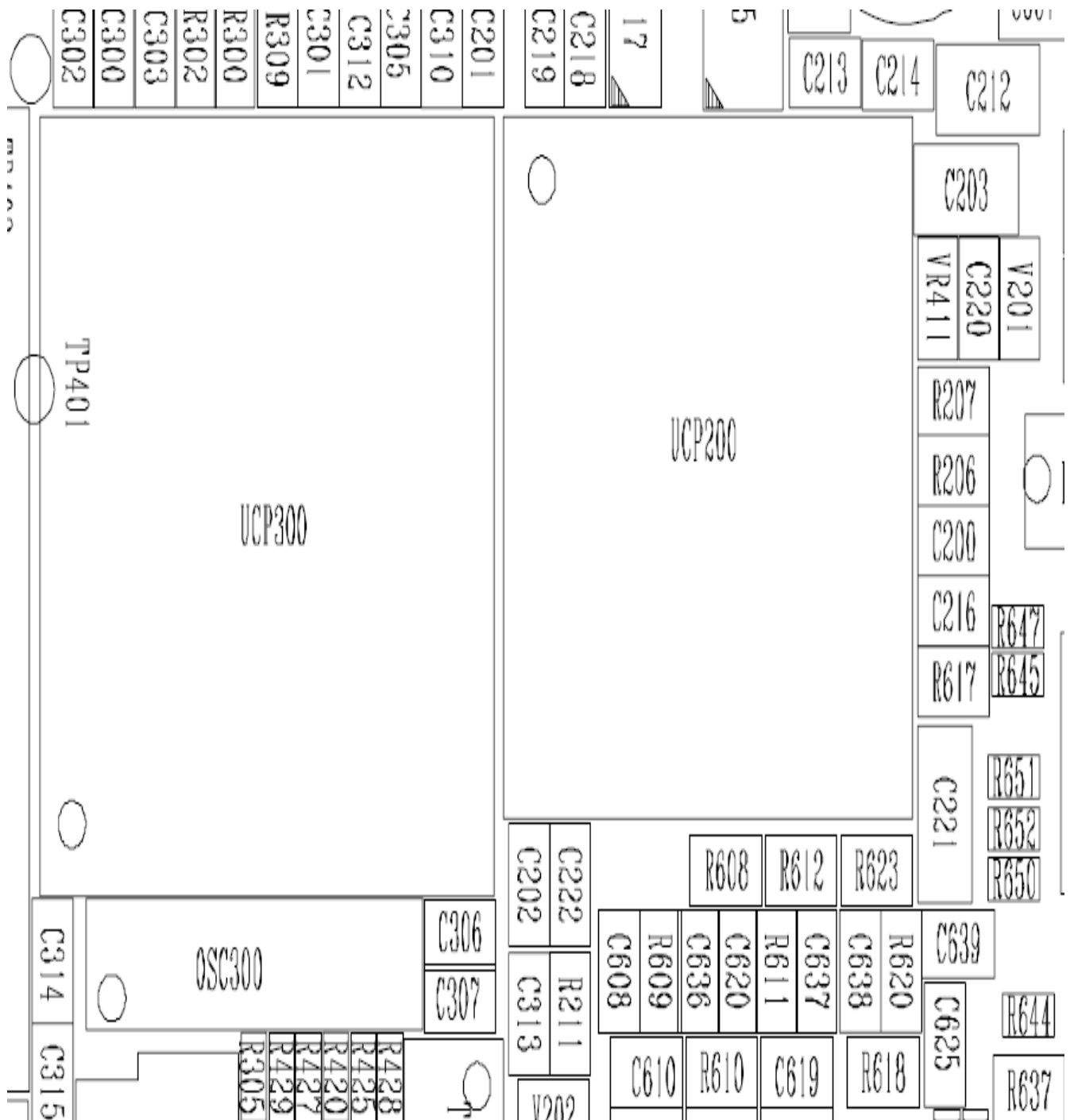
## 9-1. Power On



UCP200

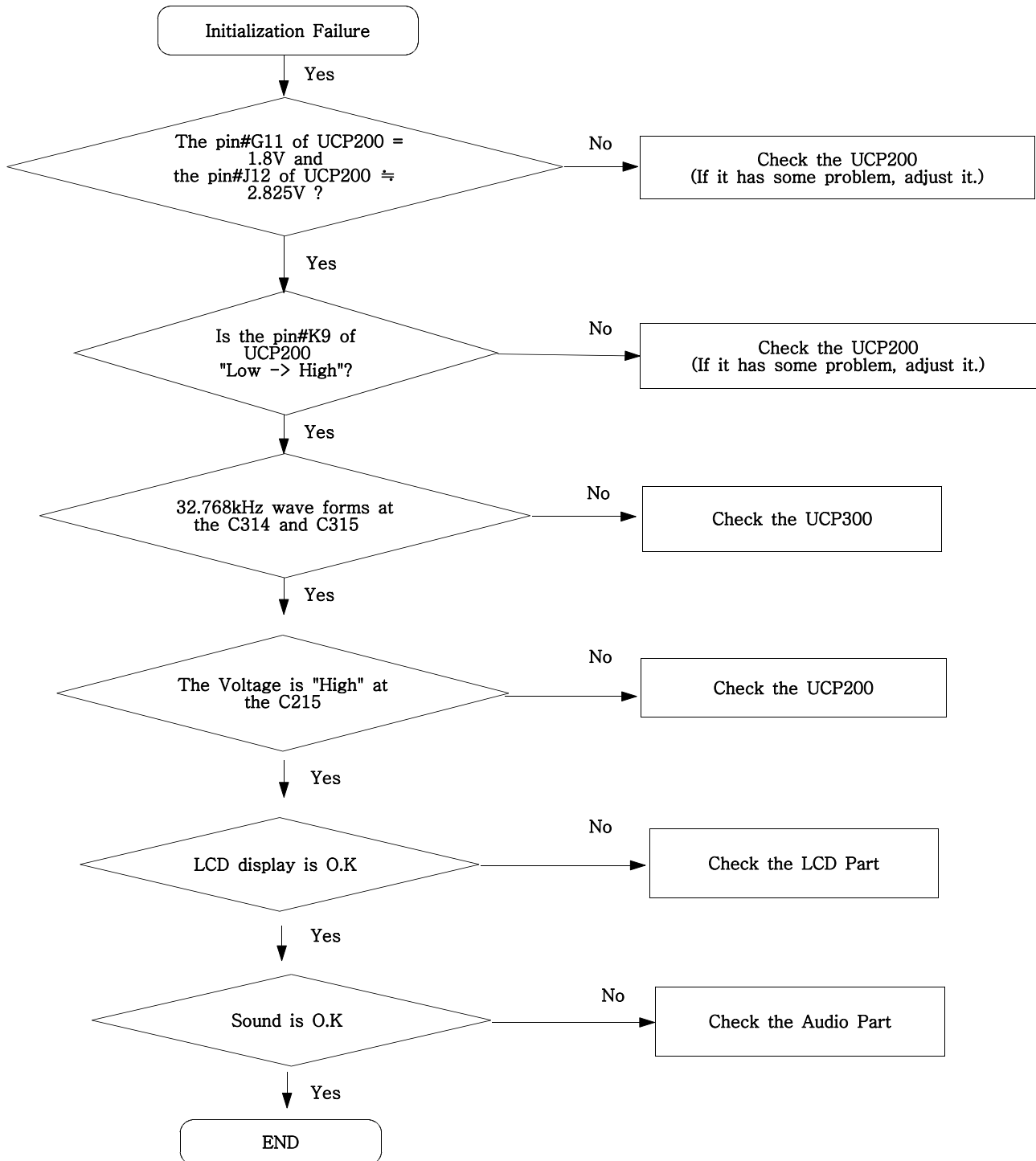




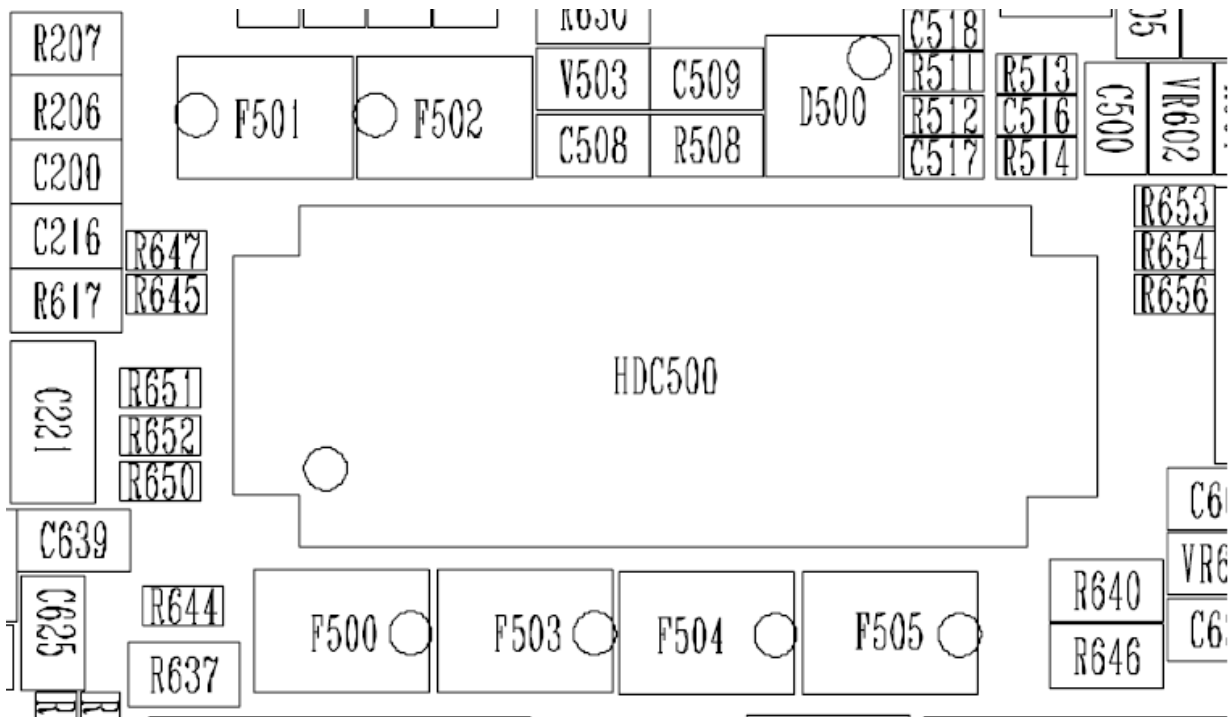
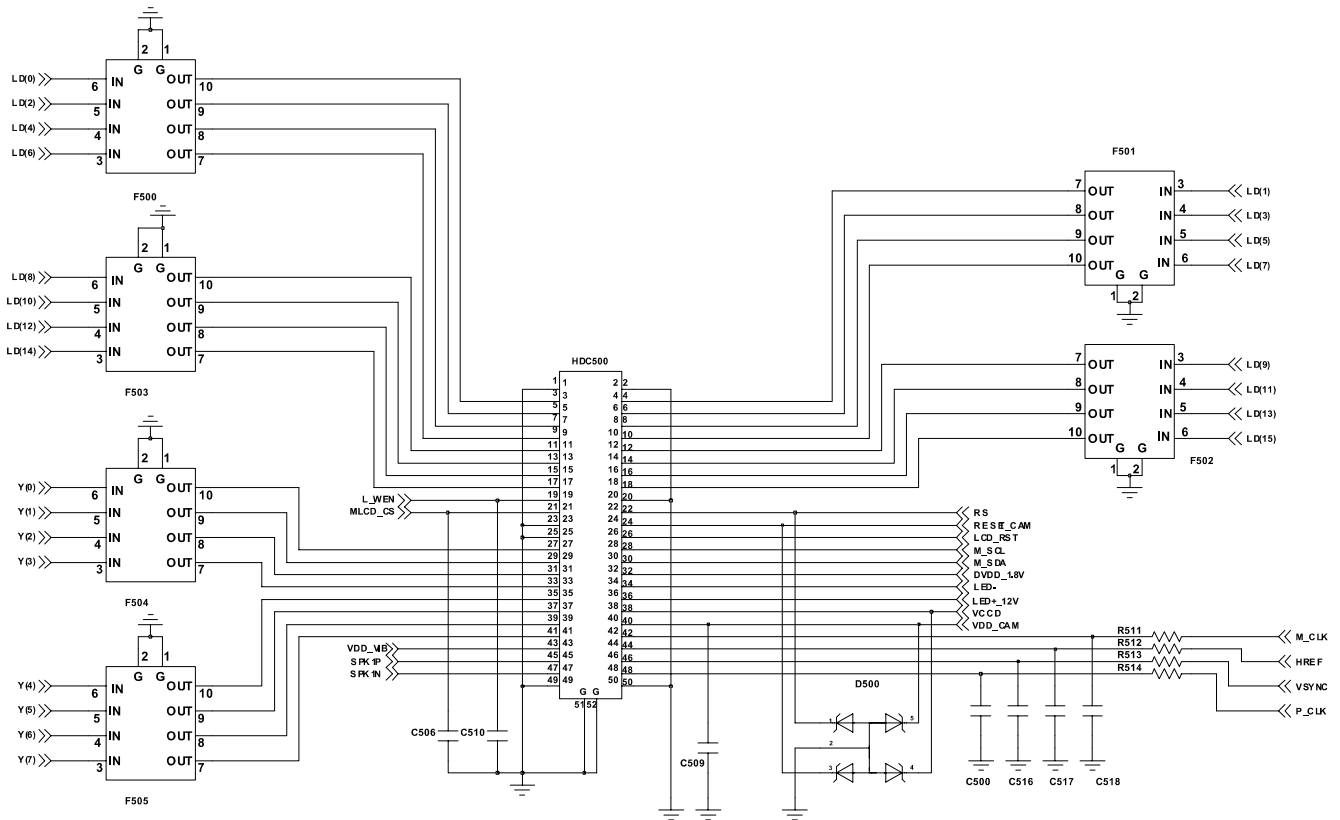




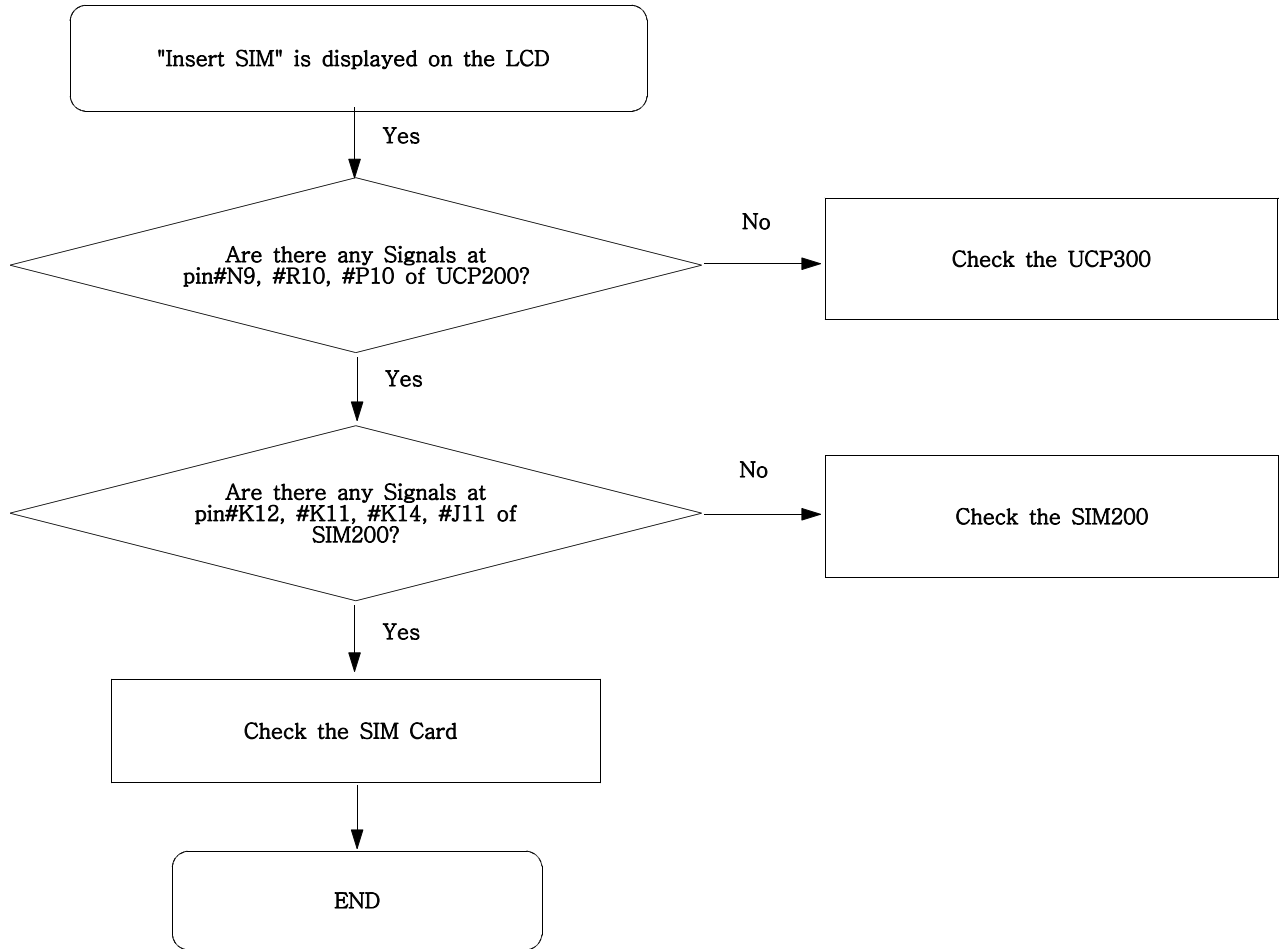
9-2. Initial



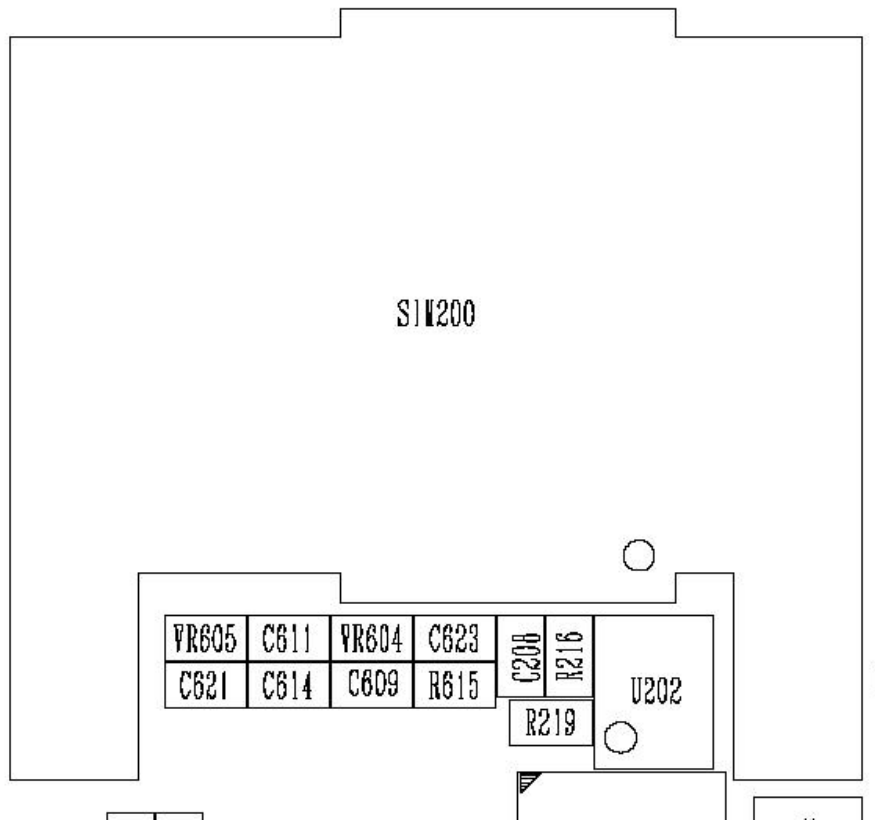
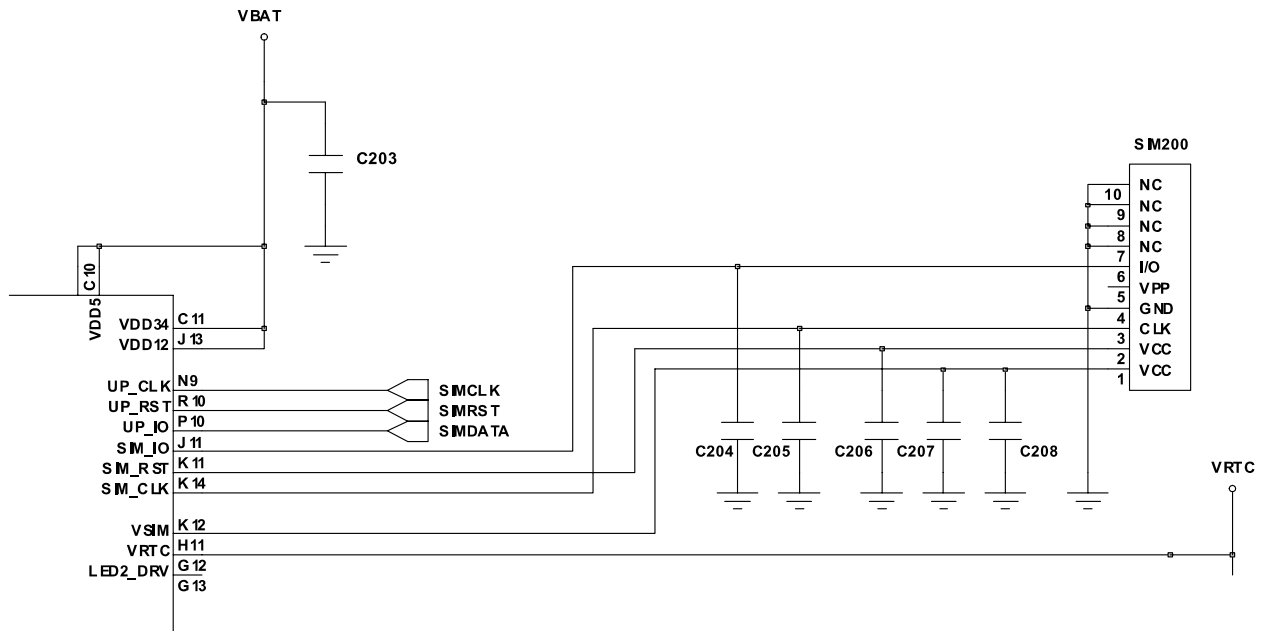
# Flow Chart of Troubleshooting



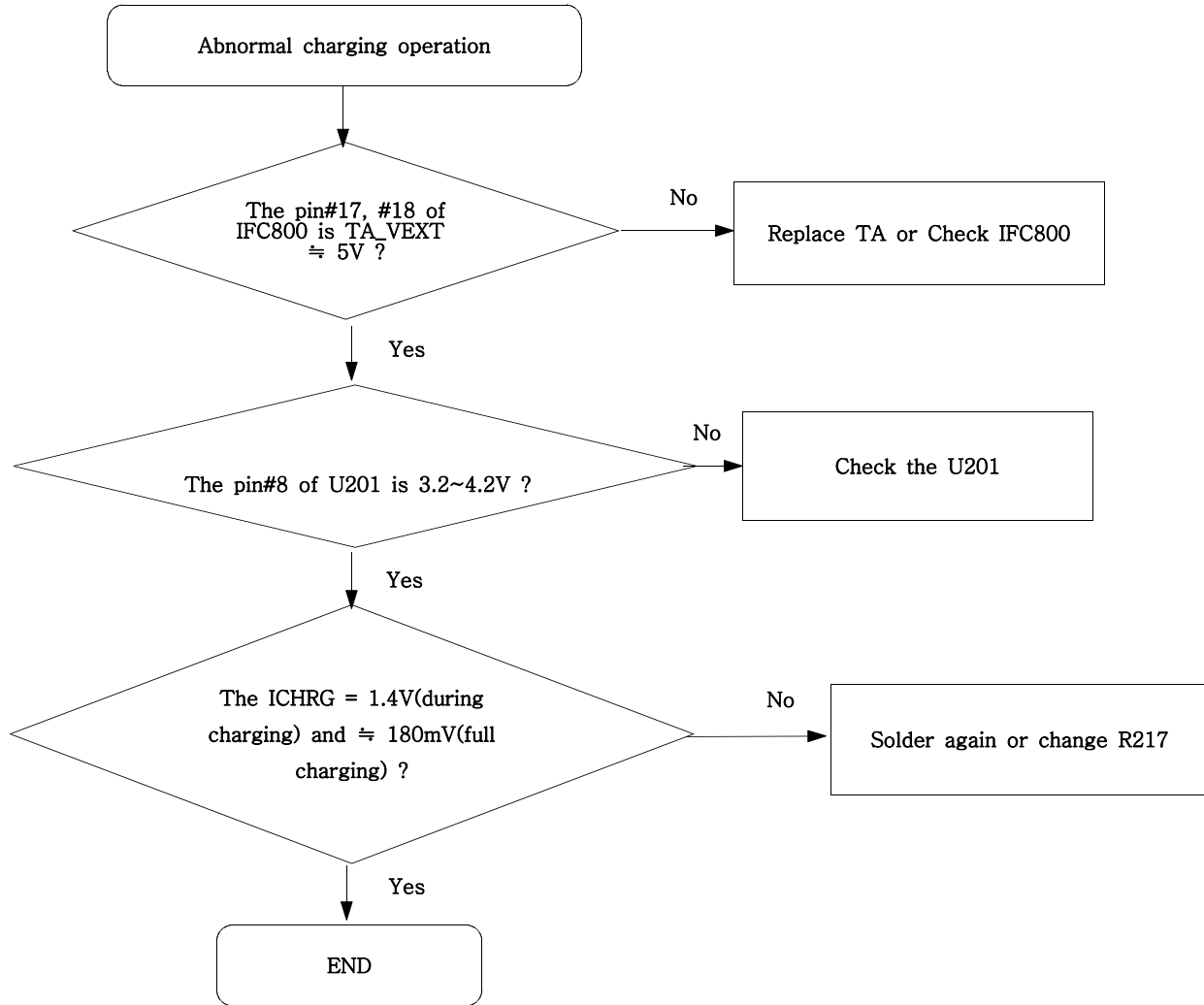
9-3. SIM Part



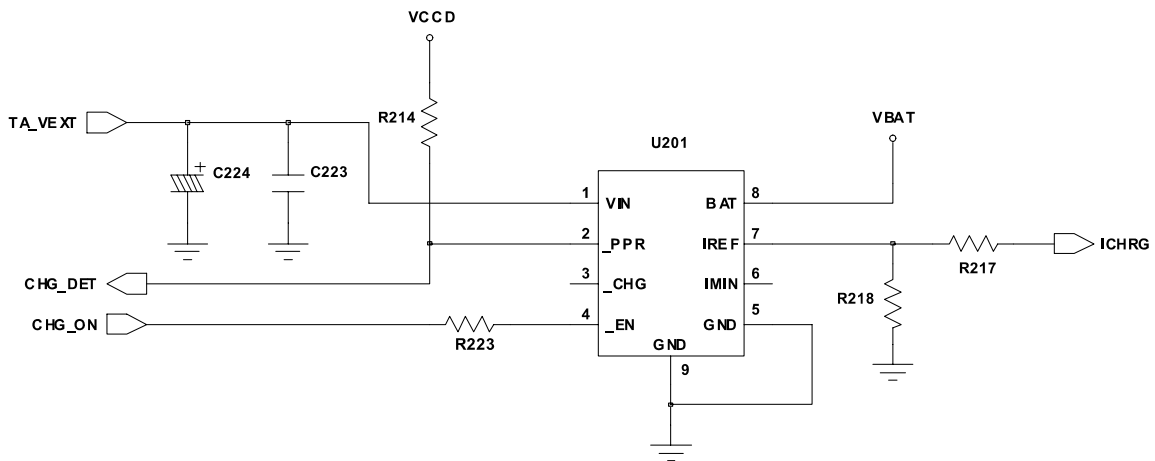
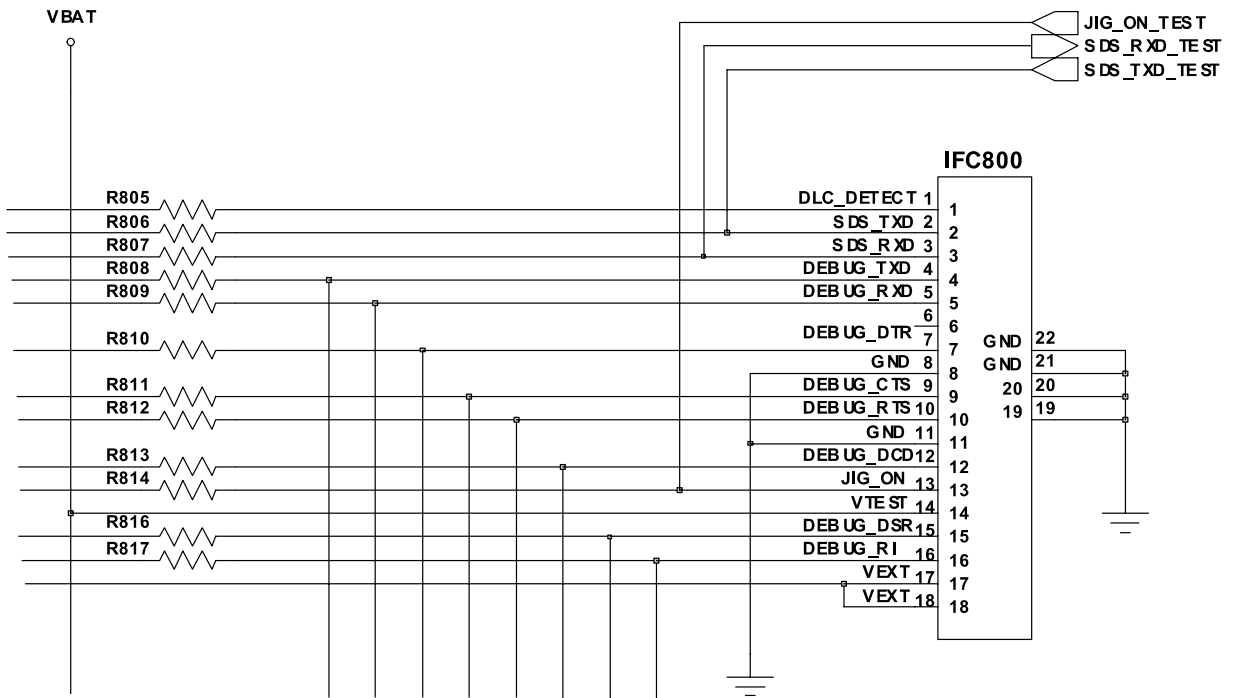
# Flow Chart of Troubleshooting

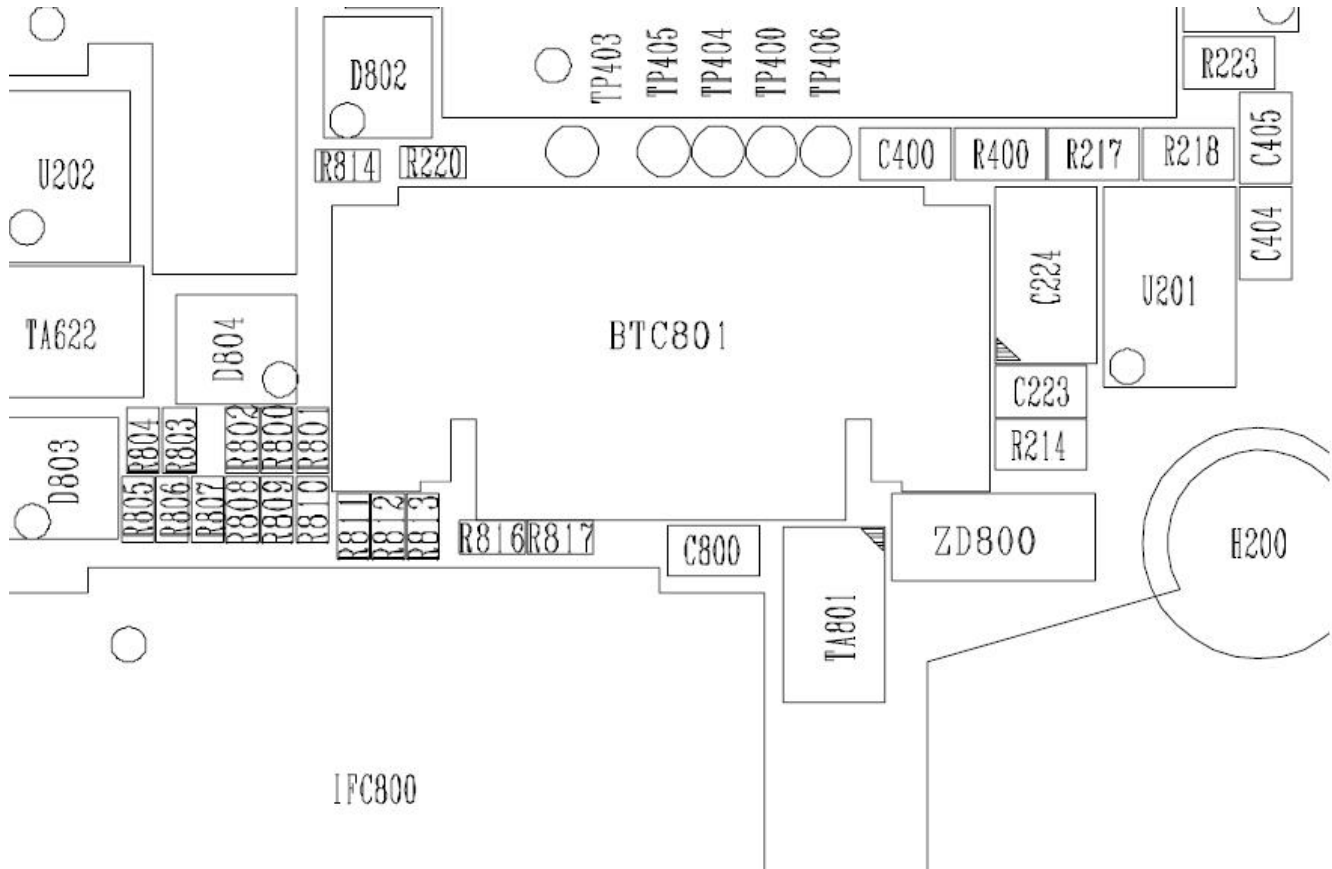


9-4. Charging Part

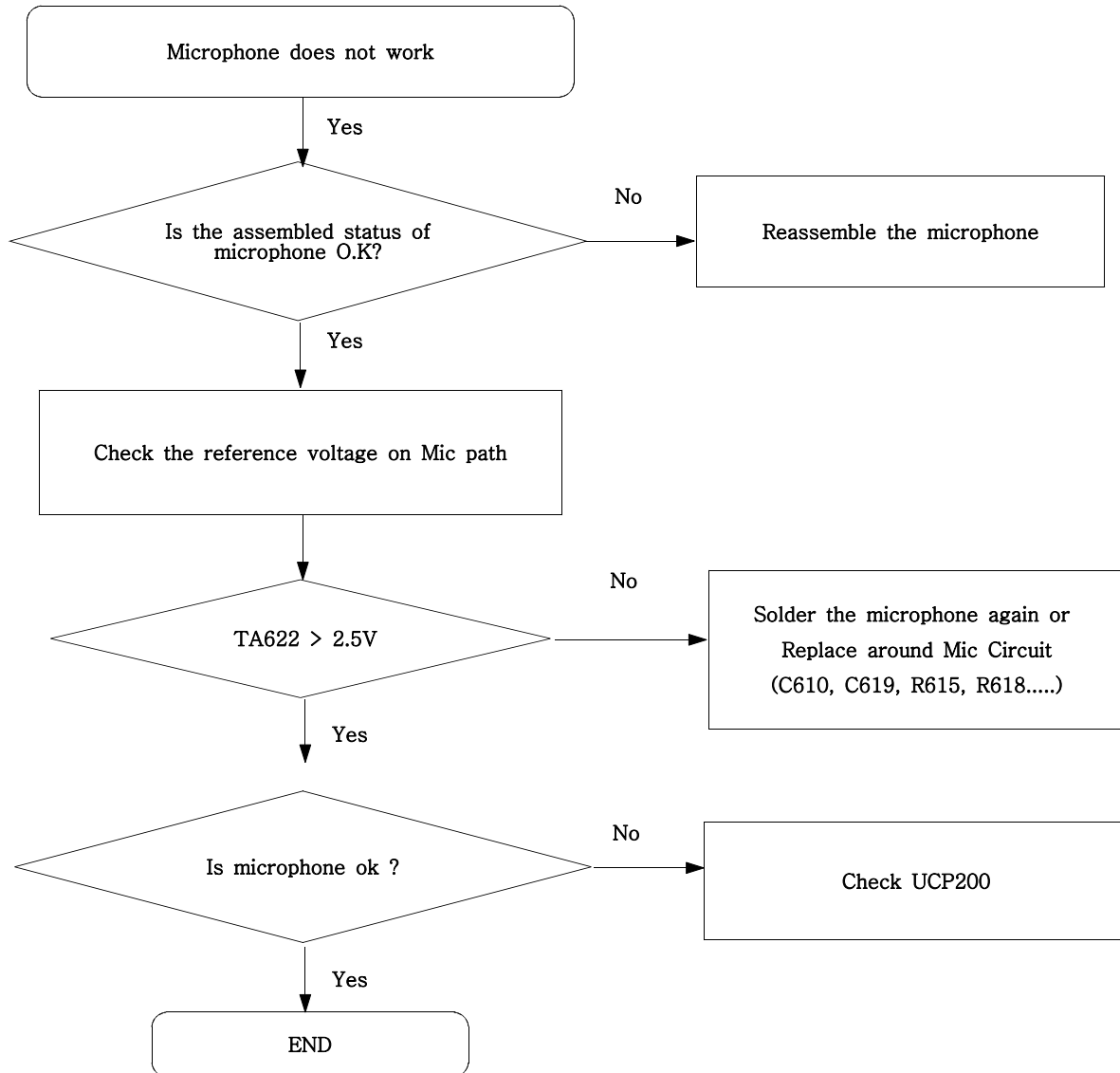


# Flow Chart of Troubleshooting

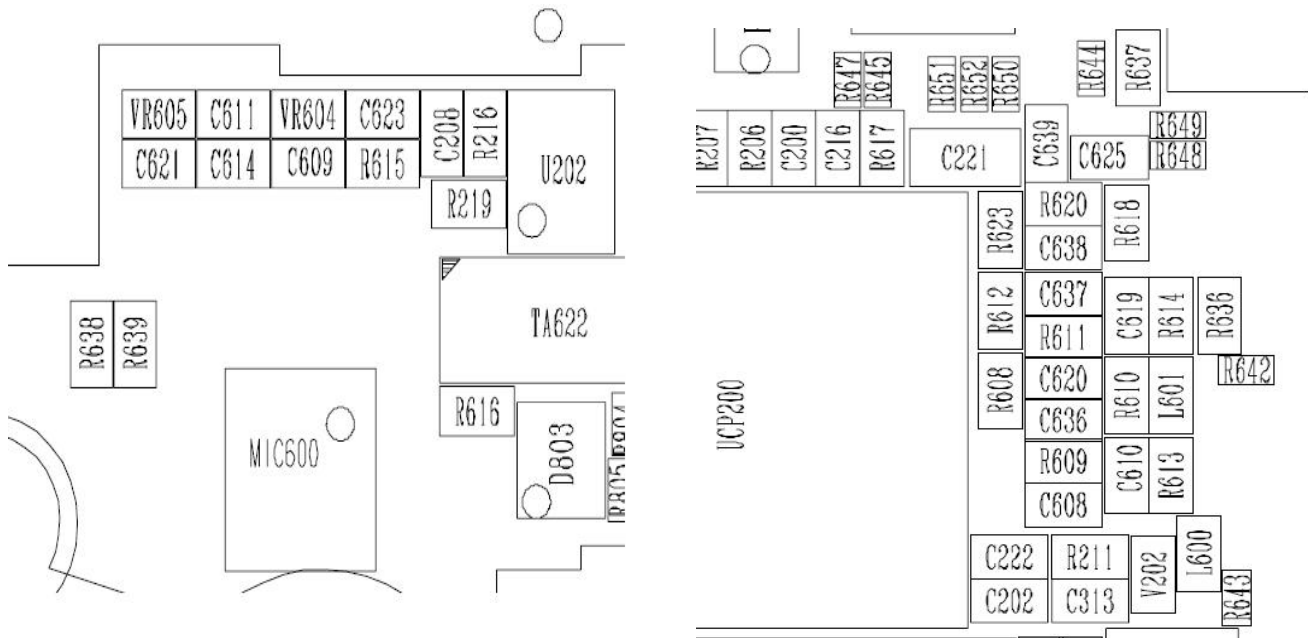
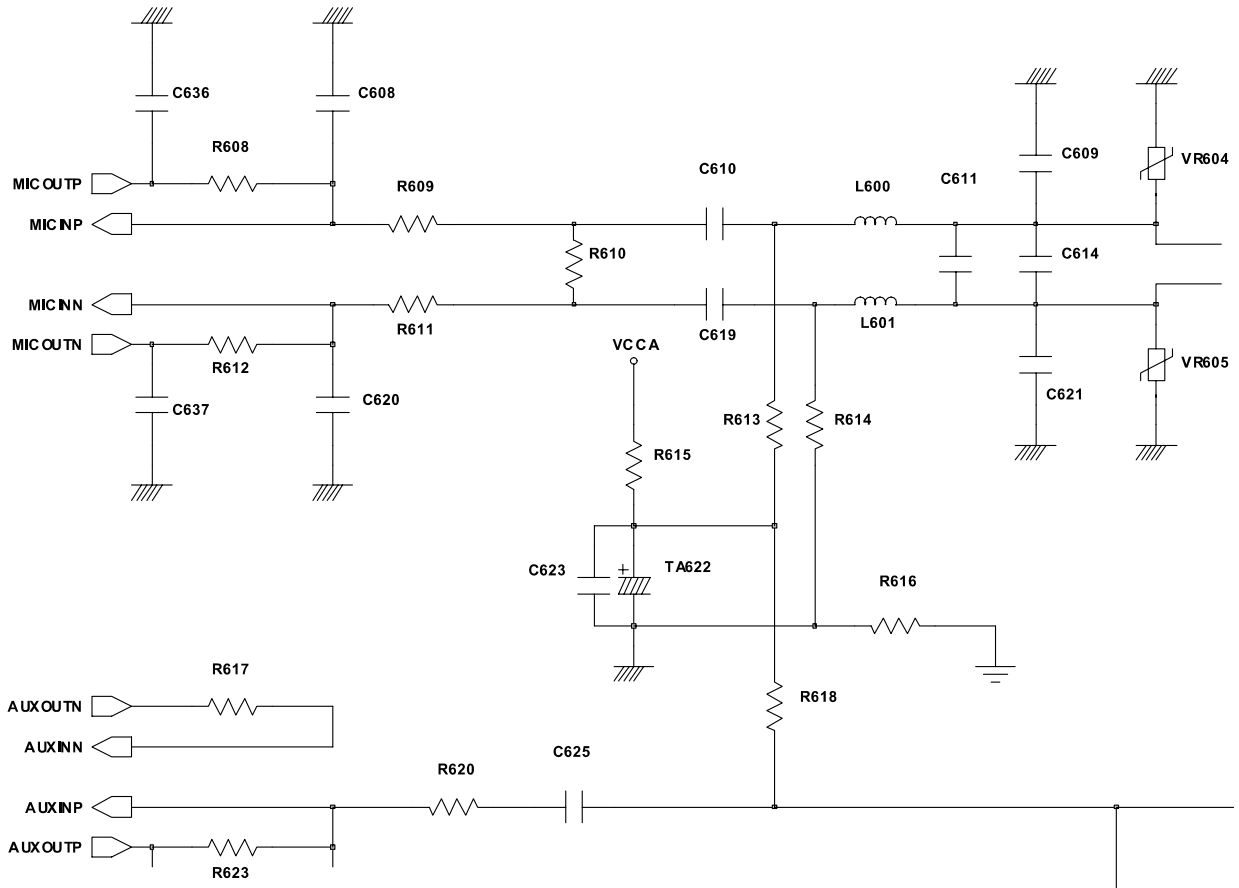




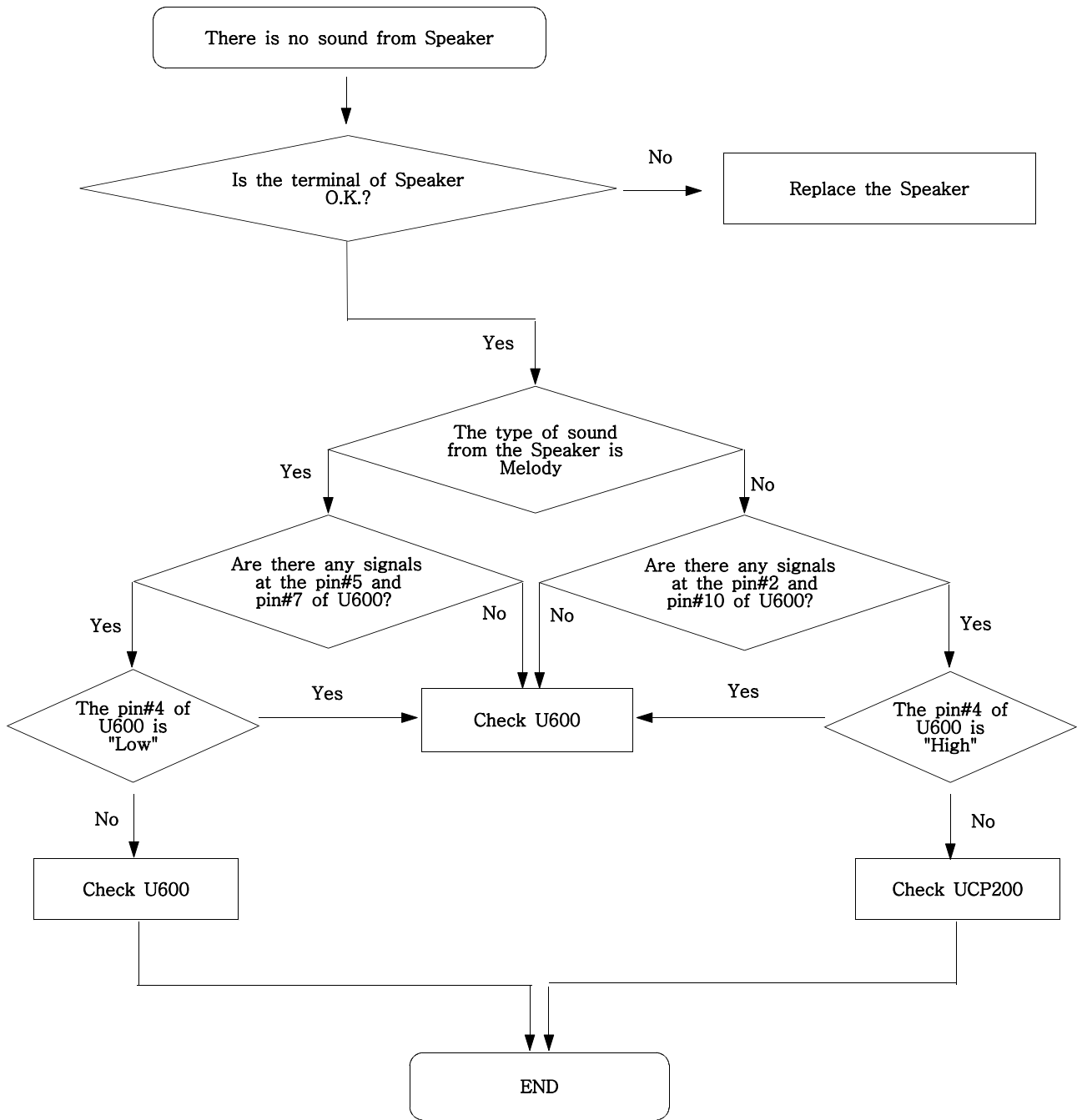
### 9-5. Microphone Part

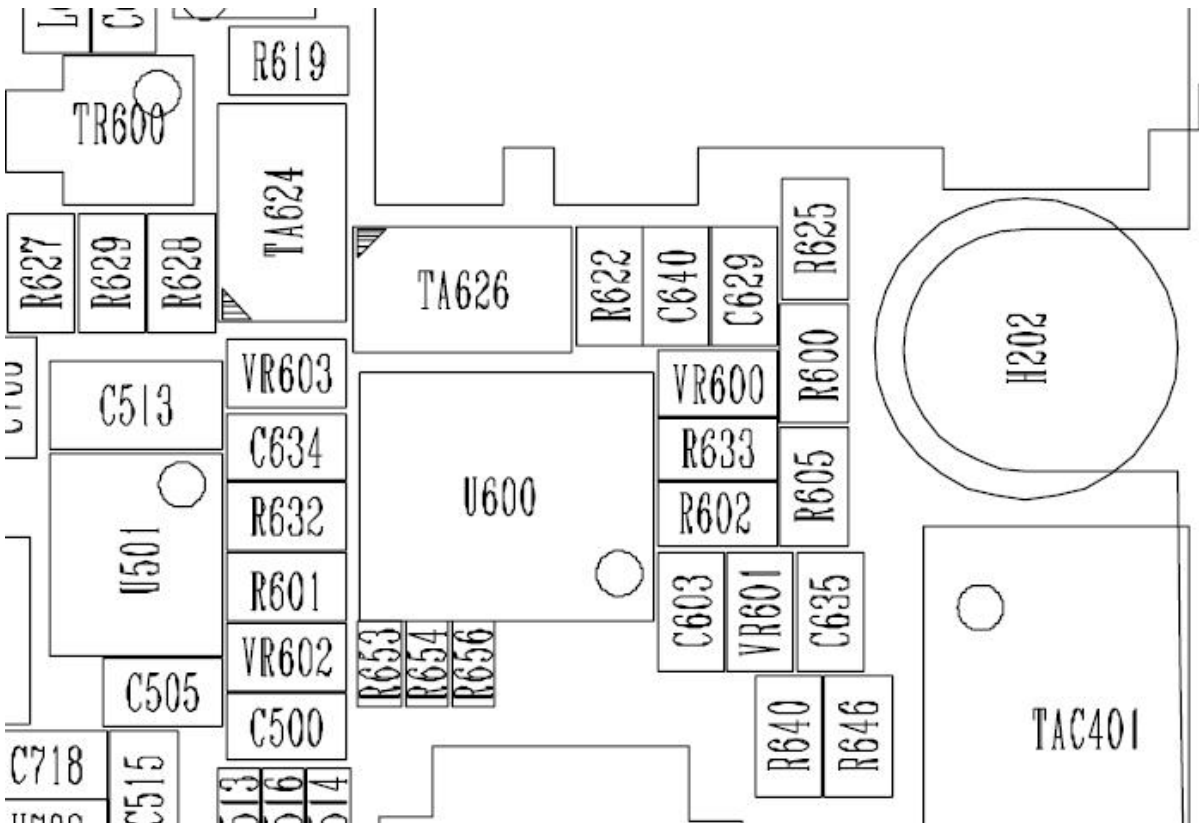
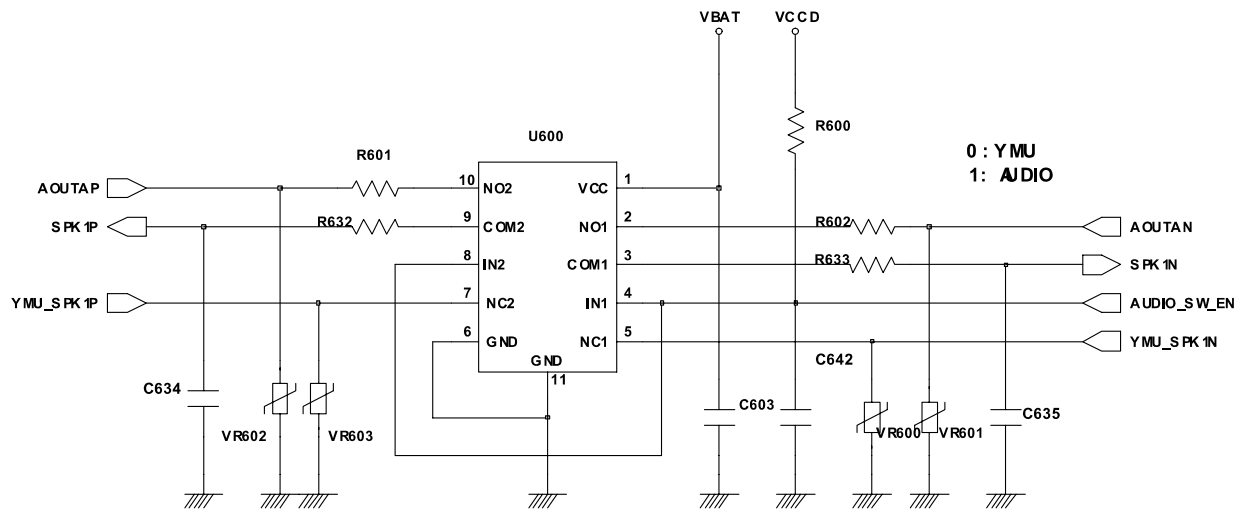




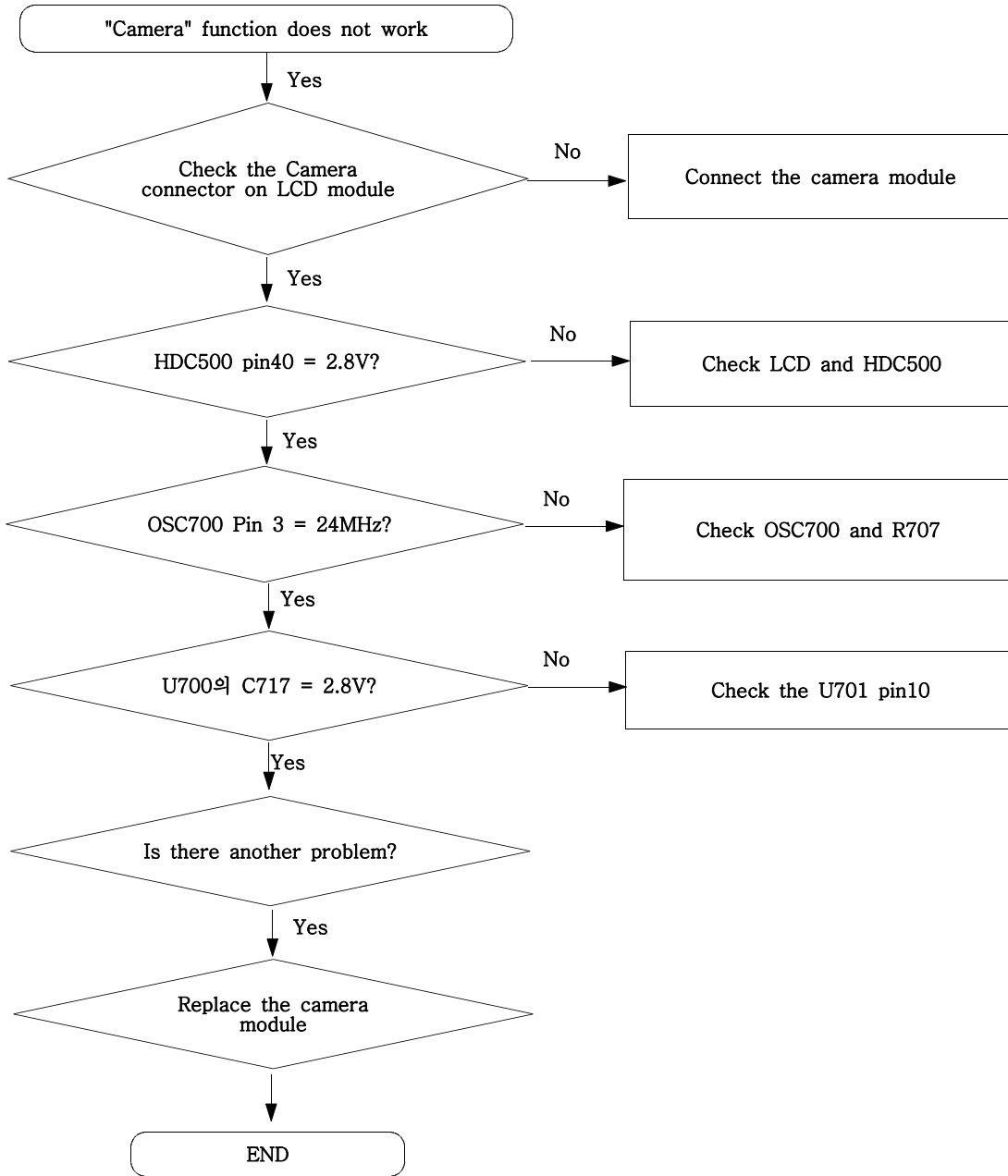


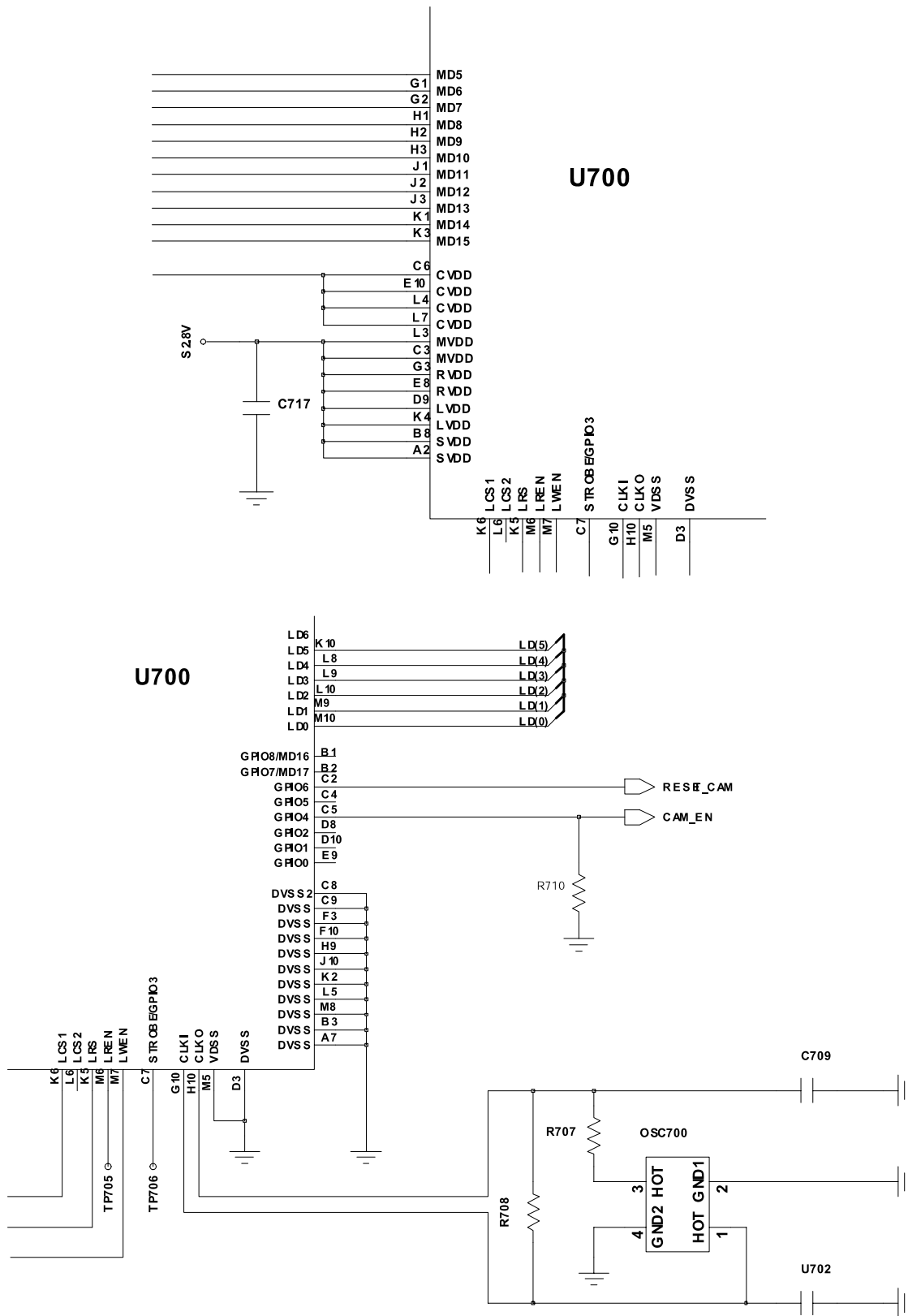
### 9-6. Speaker Part



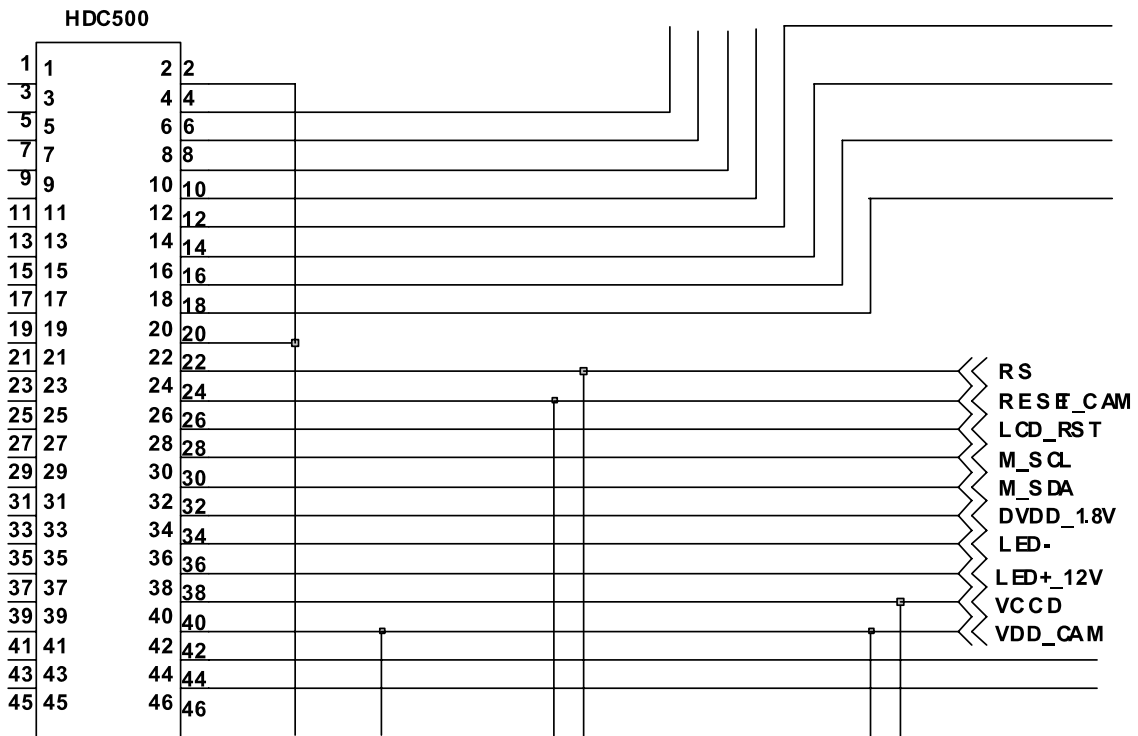
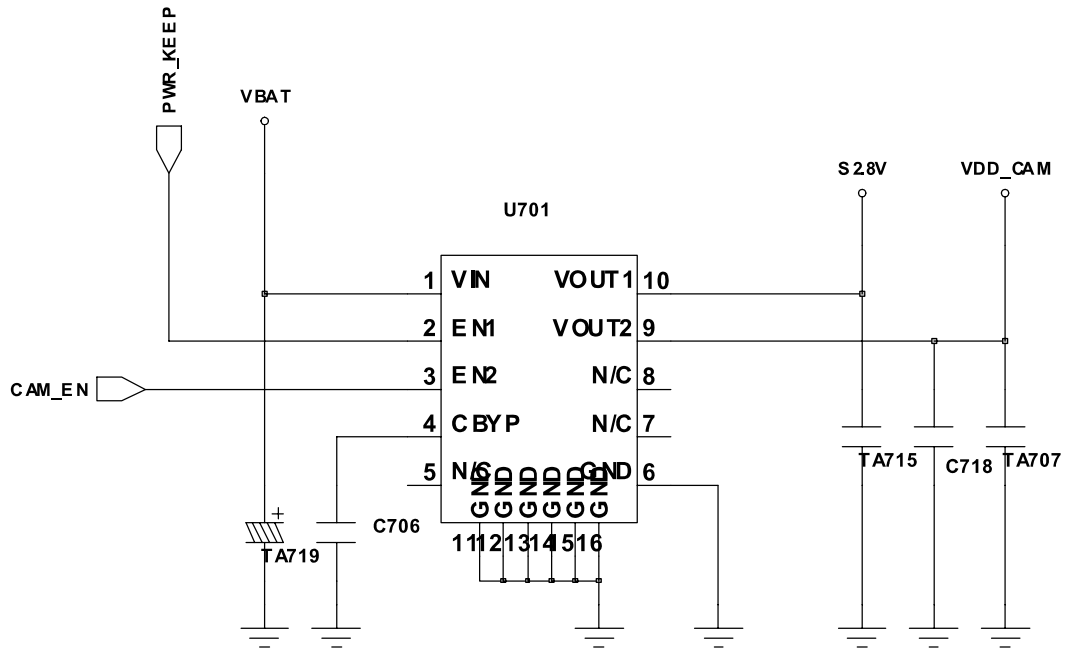


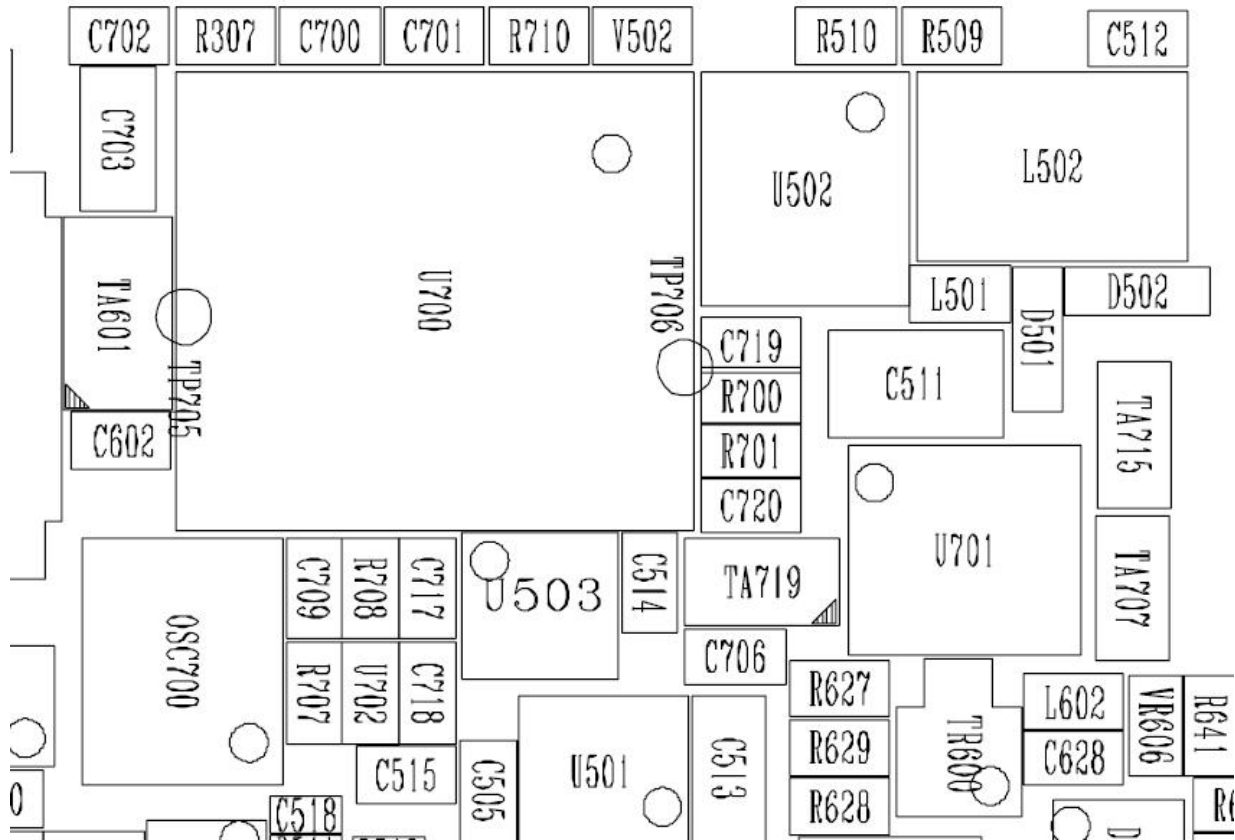
9-7. Camera part





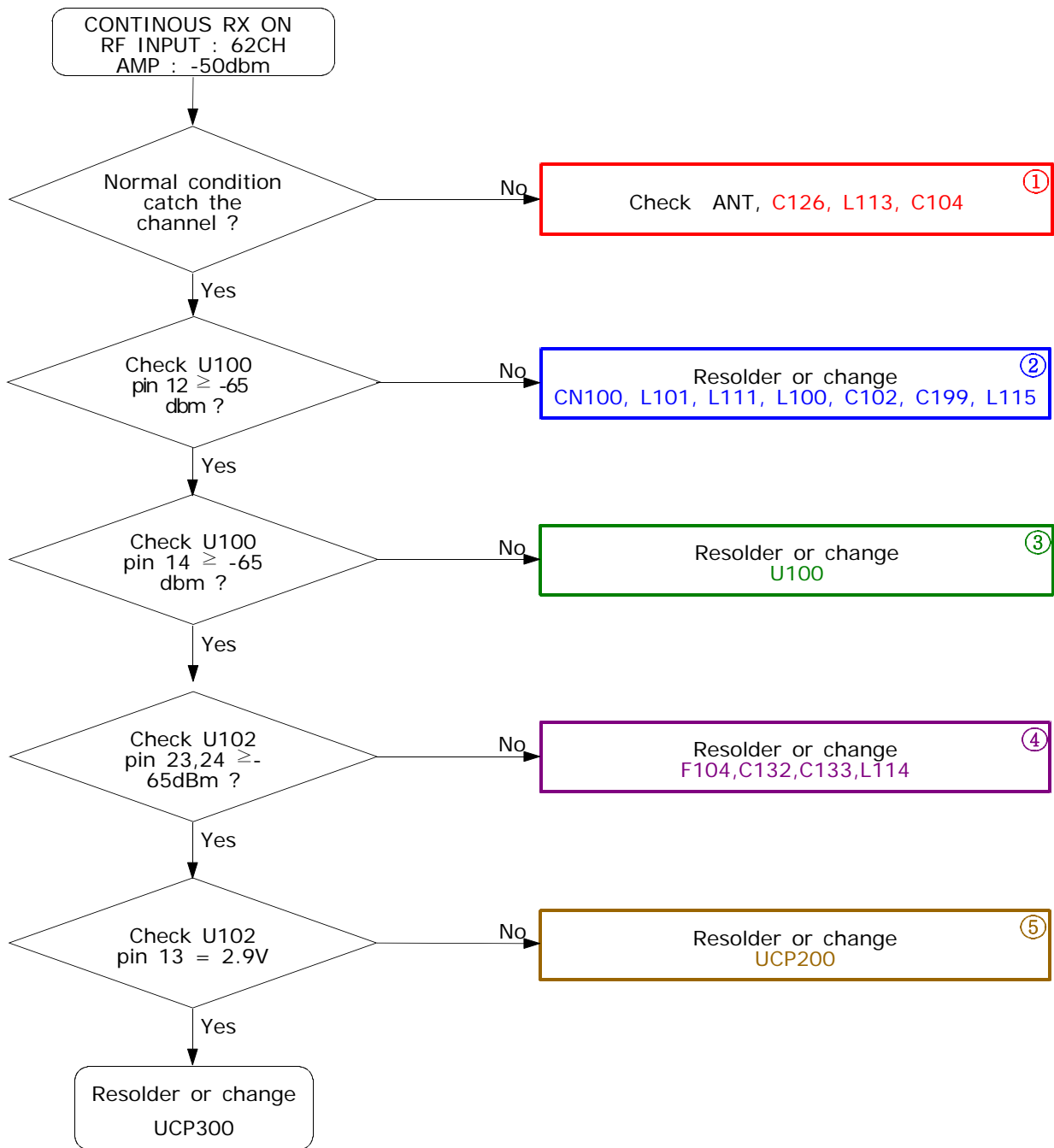
# Flow Chart of Troubleshooting



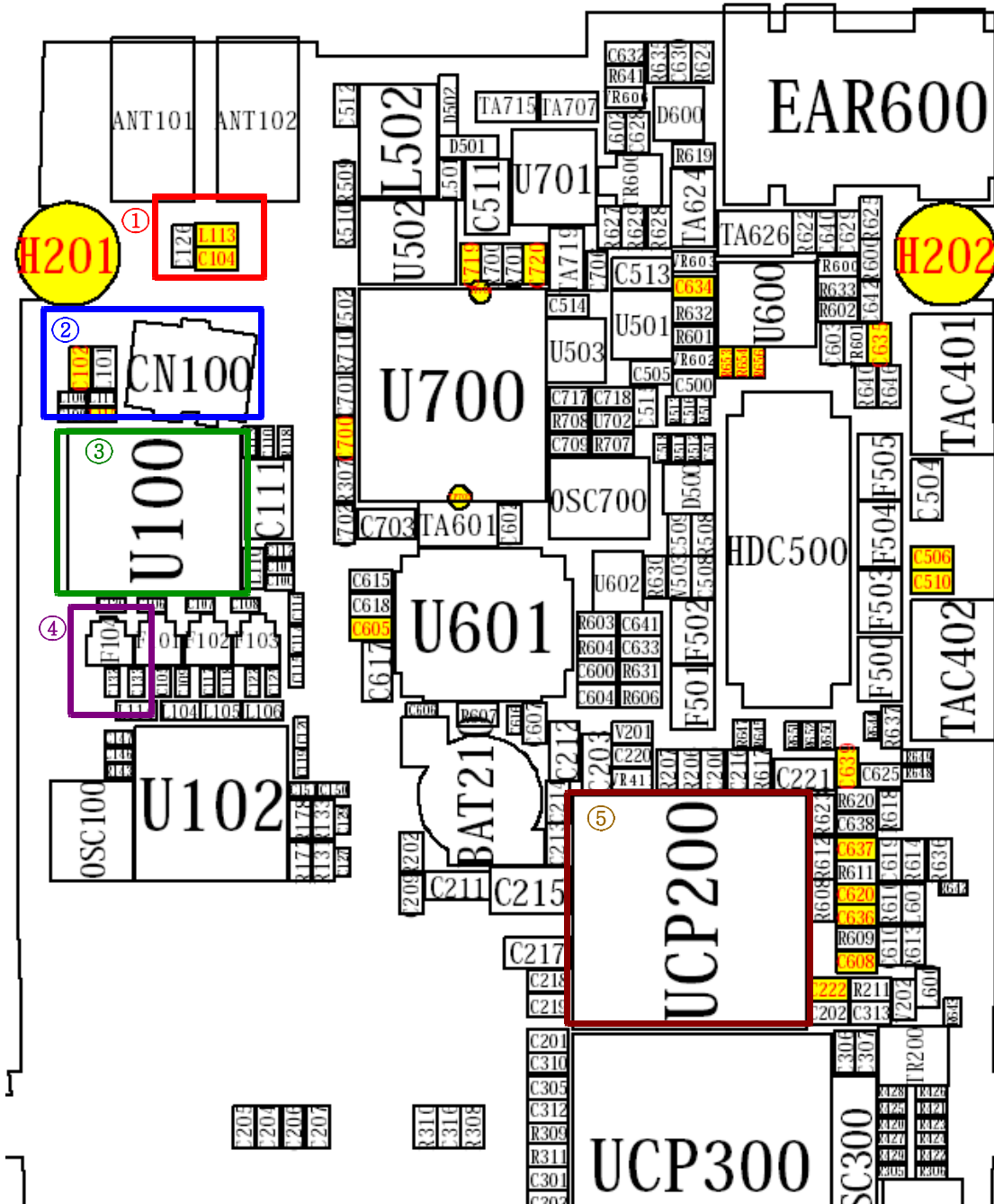


9-8. RF

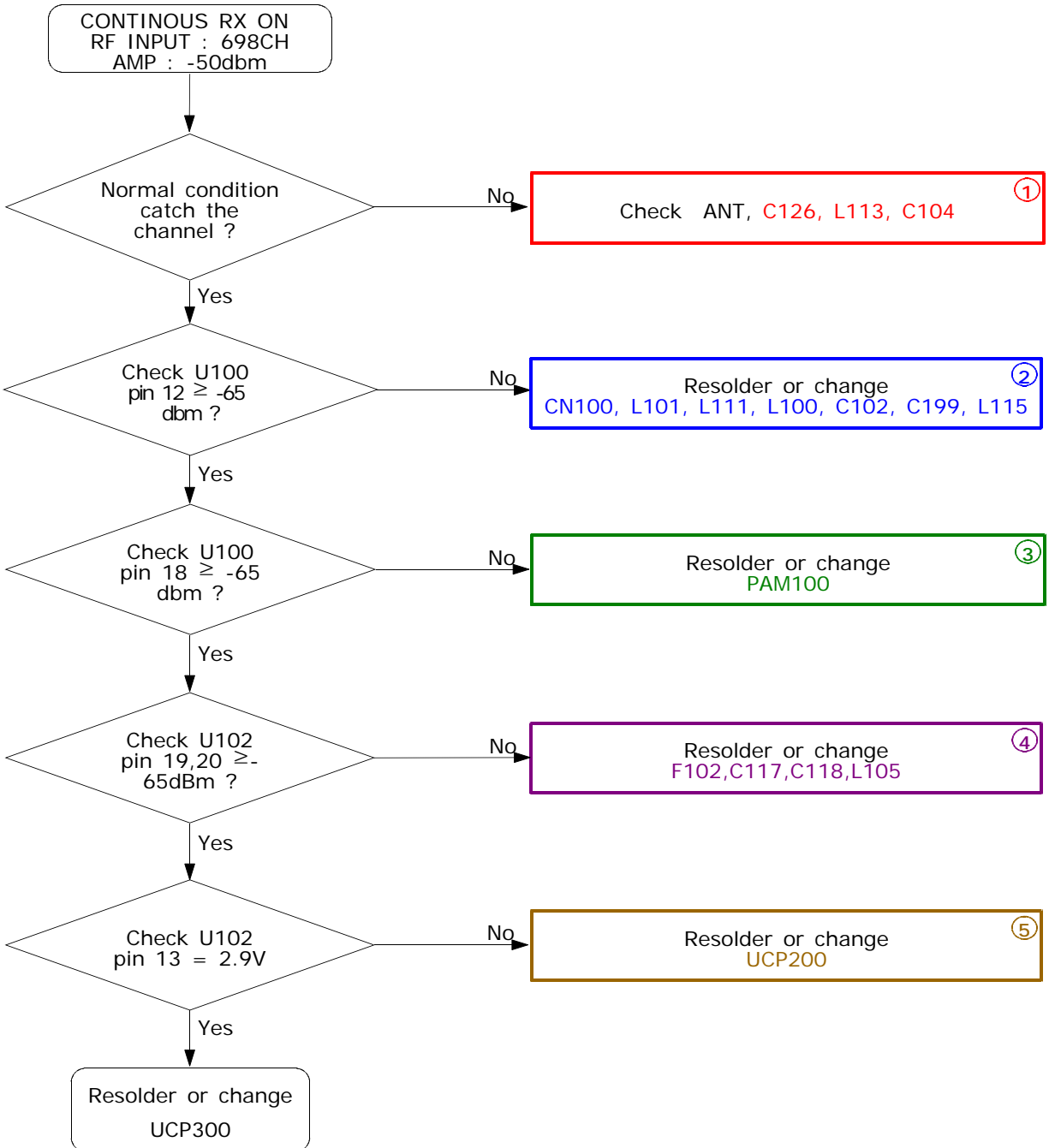
9-8-1. GSM900 Rx

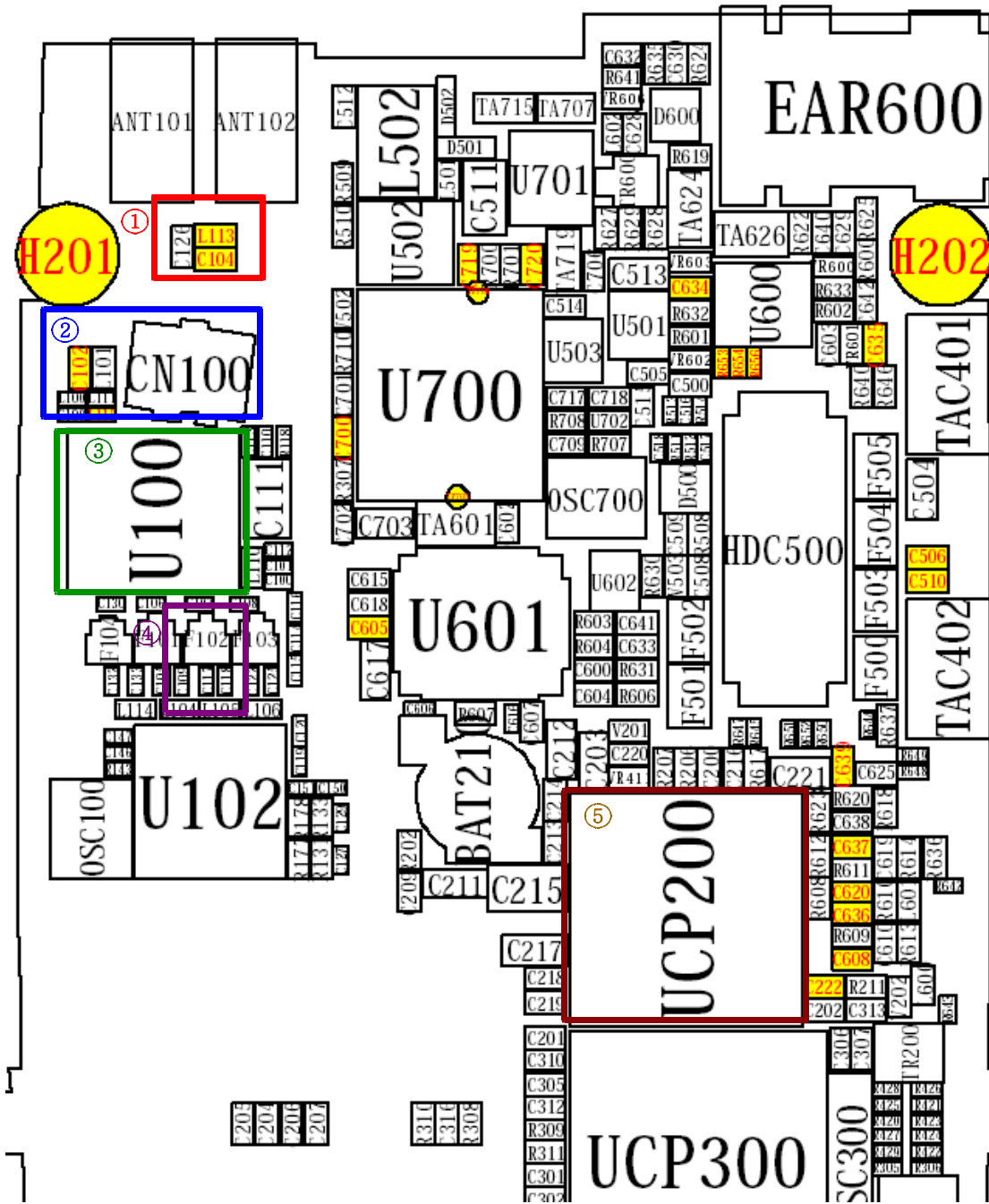




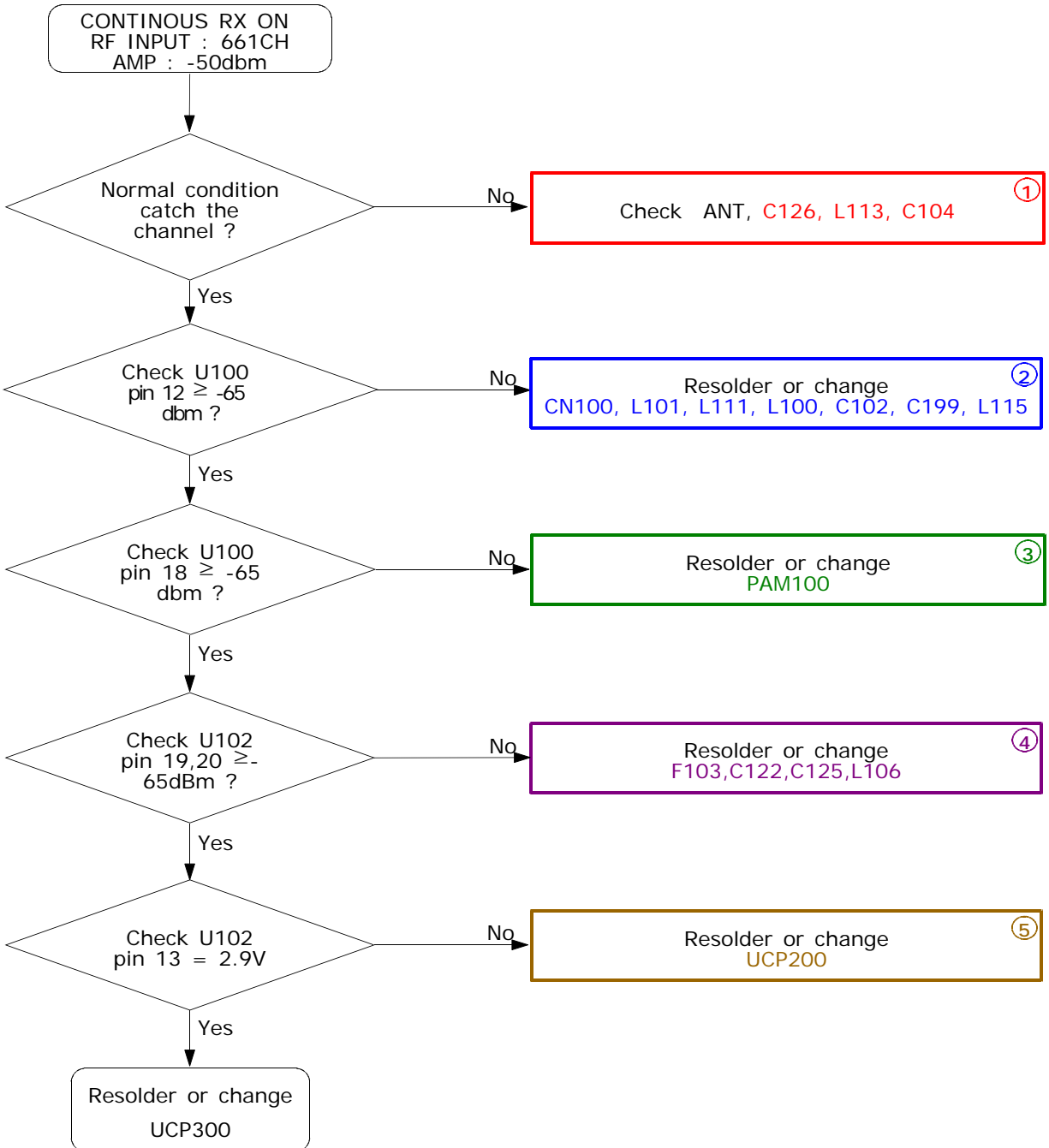


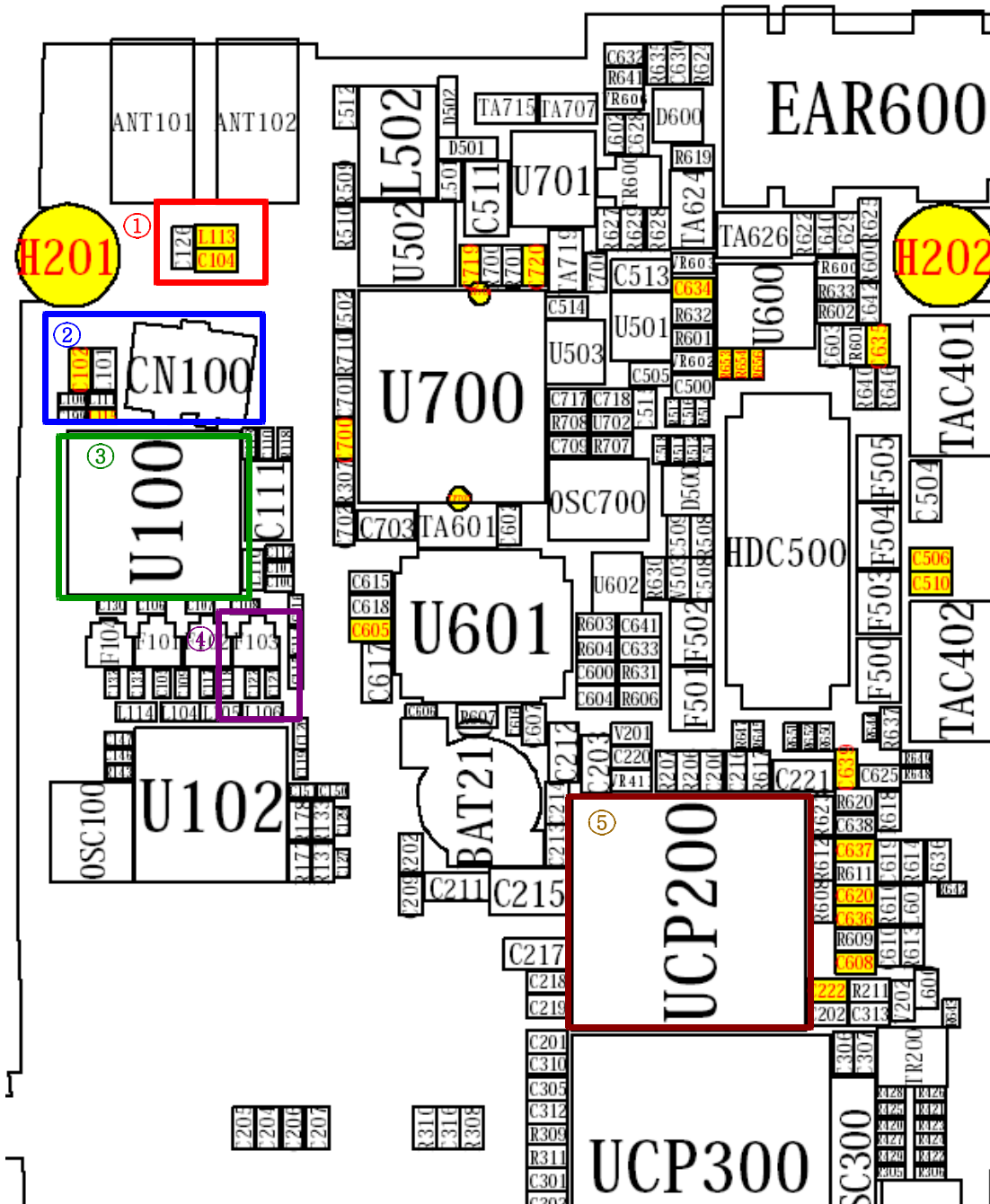
9-8-2. DCS Rx



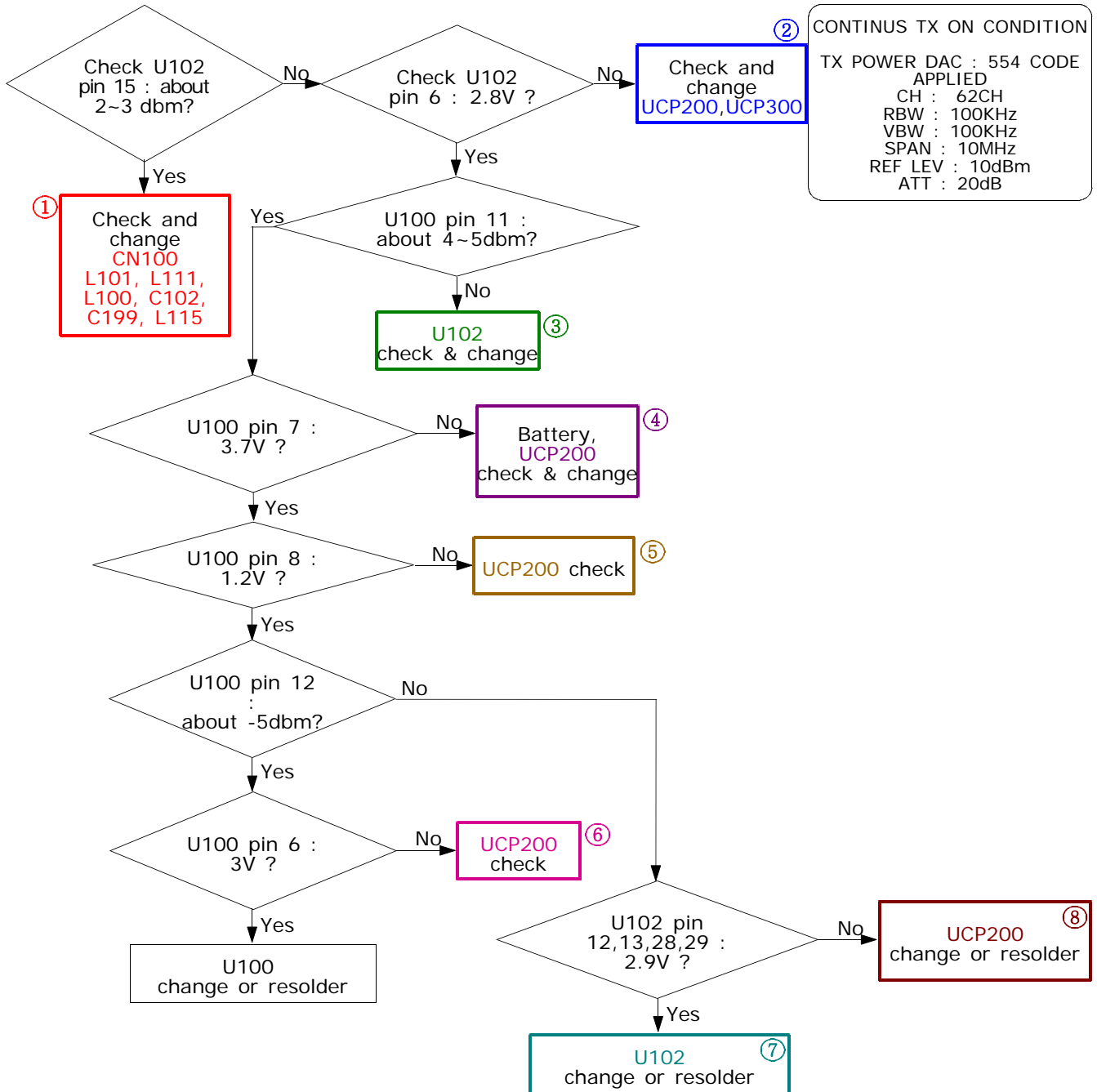


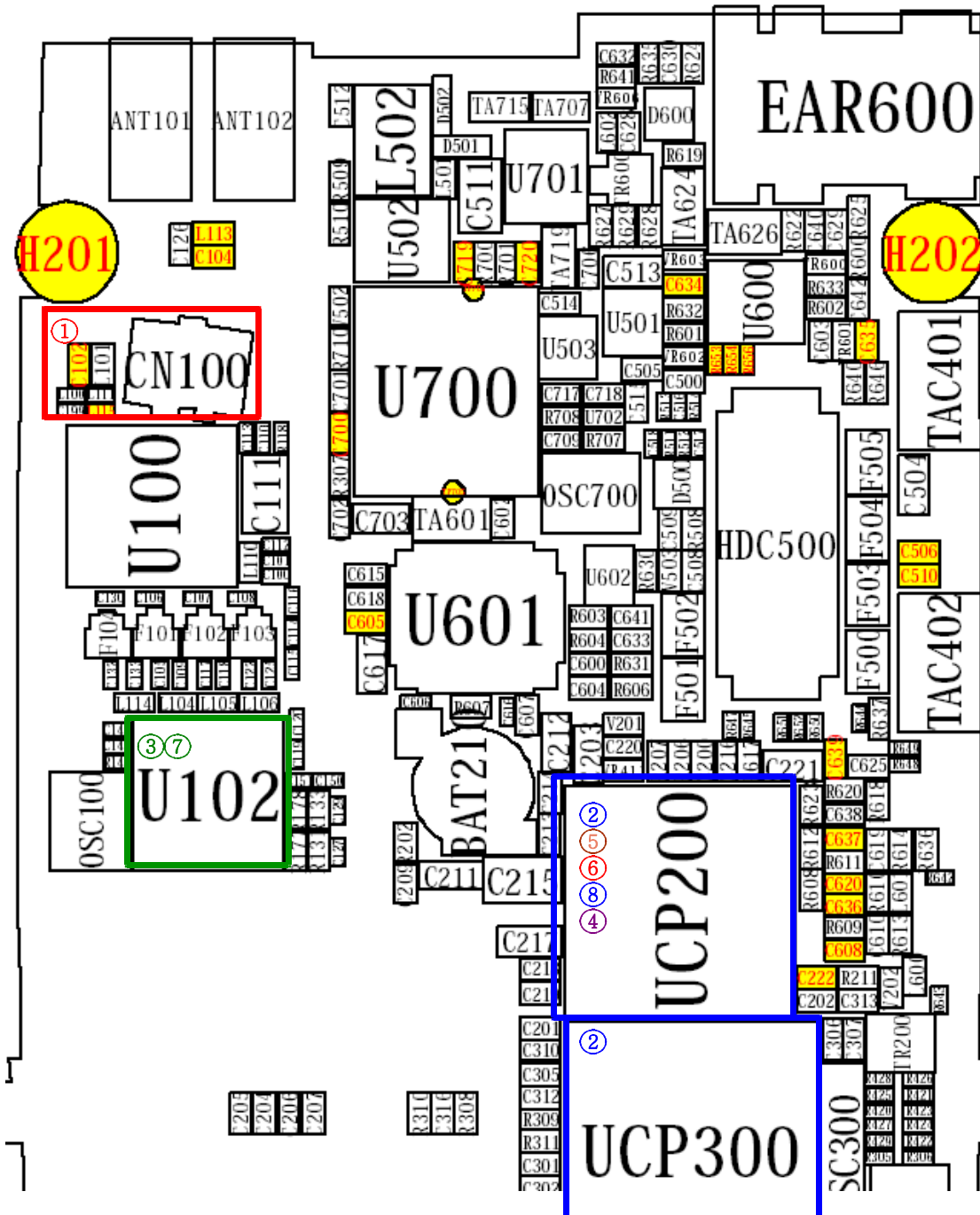
9-8-3. PCS Rx



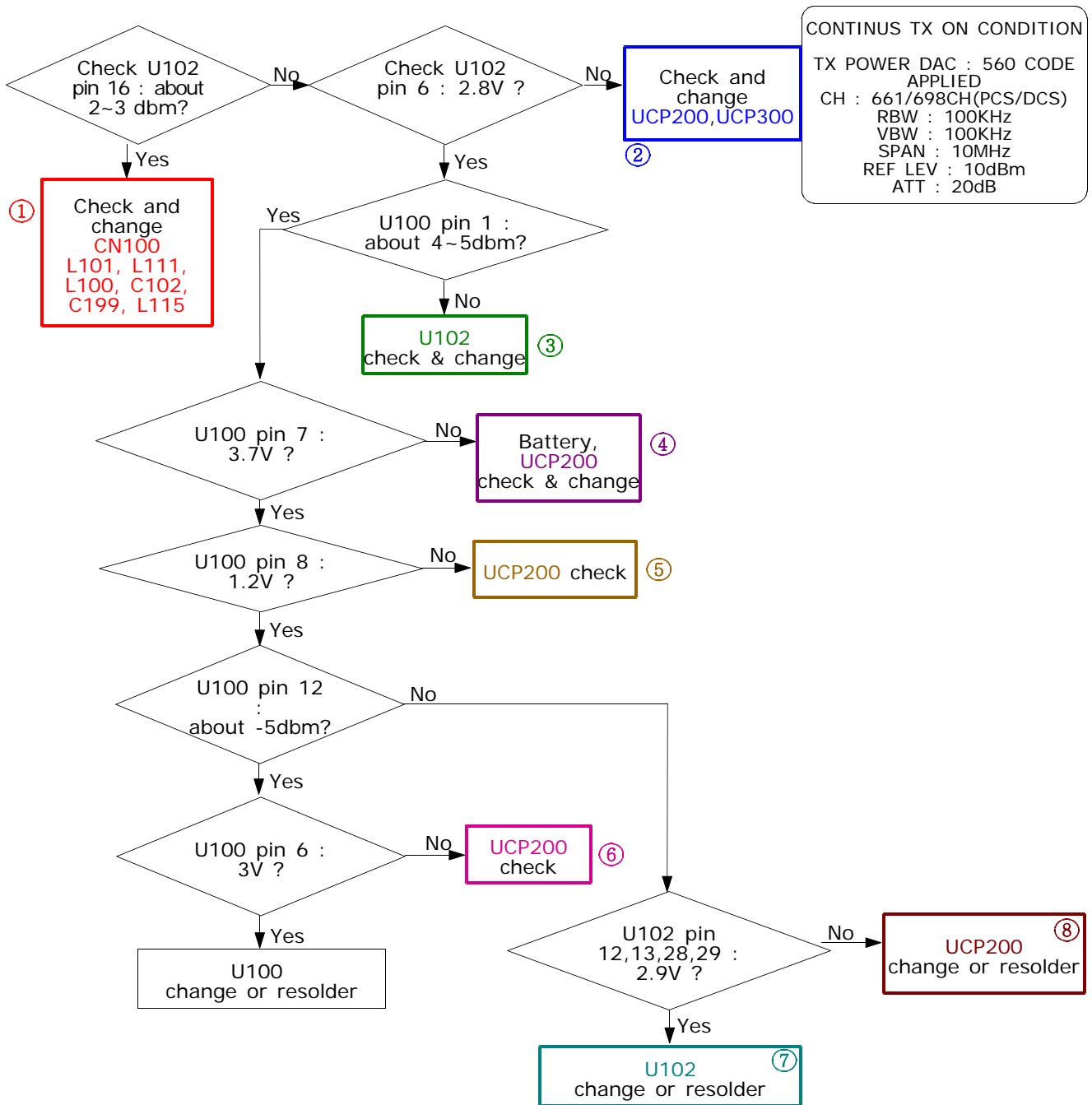


9-8-4. GSM900 Tx





9-8-5. PCS / DCS Tx









---

## 10. Reference data

---

### 10-1. 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

