

SAMSUNG

GSM TELEPHONE

SGH-U600

SERVICE *Manual*

GSM TELEPHONE

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1. Specification

1-1. GSM/DCS1800/PCS1900 General Specification

	EGSM 850 Phase 2	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	128 ~251	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45 MHz	45 MHz	95 MHz	80 MHz
Mod. Bit rate/ Bit Period	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 kbps 3.692 us
Time Slot Period/Frame Period	576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.615 ms
Modulation	0.3 GMSK	0.3 GMSK	0.3 GMSK	0.3 GMSK
MS Power	33 dBm~5 dBm	33 dBm~5 dBm	30 dBm~0 dBm	30 dBm~0 dBm
Power Class	5 pcl ~ 19 pcl	5 pcl ~ 19 pcl	0 pcl ~ 15 pcl	0 pcl ~ 15 pcl
Sensitivity	-102 dBm	-102 dBm	-100 dBm	-100 dBm
TDMA Mux	8	8	8	8
Cell Radius	35 Km	35 Km	2 Km	-

1-2. GSM TX power class

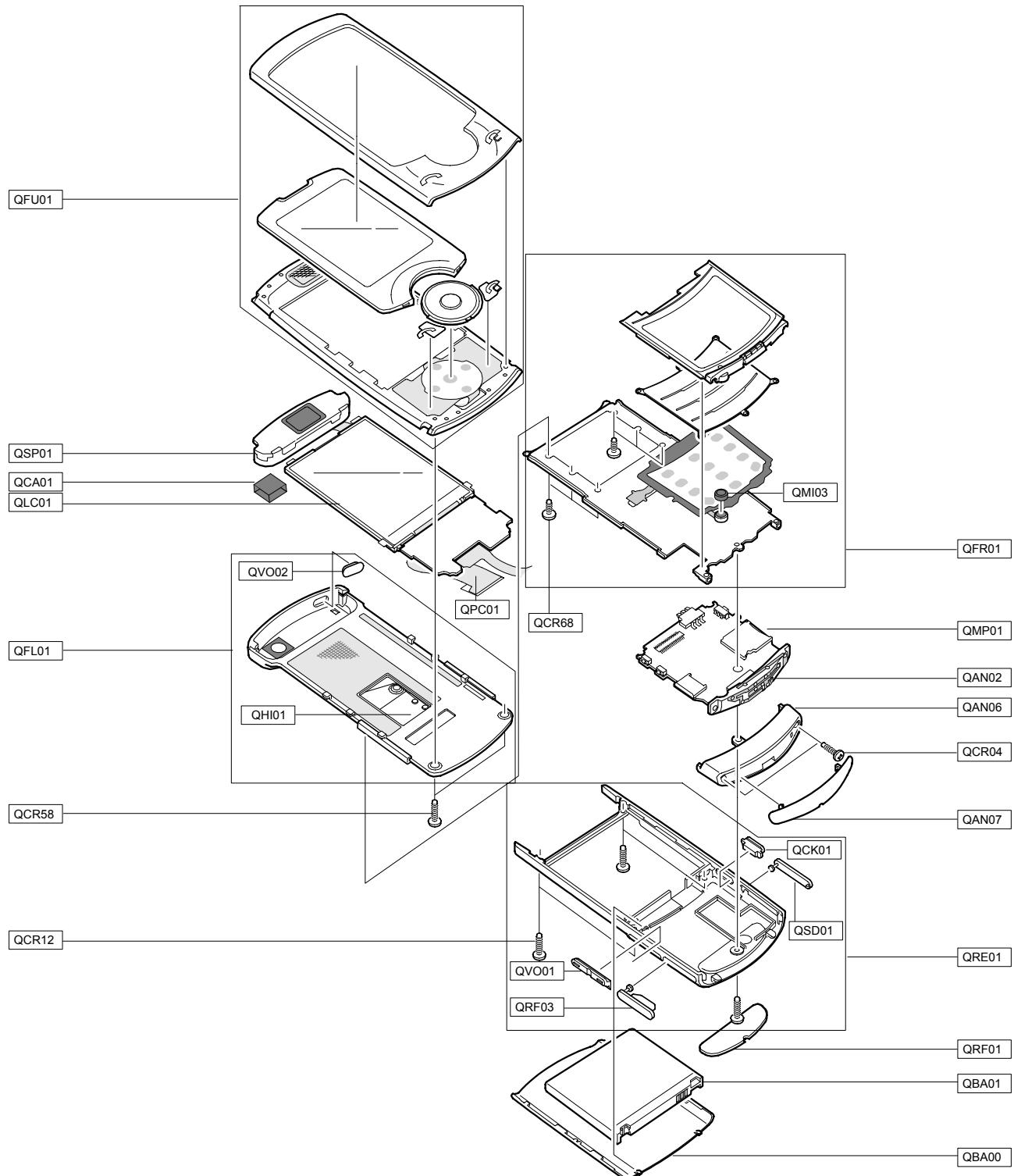
TX Power control level	GSM850/ EGSM900
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9± 3dBm
18	7±3 dBm
19	5±3 dBm

TX Power control level	DCS1800
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

TX Power control level	PCS1900
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 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-SGHU600	GH42-01133A
QAN06	ASSY COVER-INTENNA	GH98-04083A
QAN07	PMO-INTENNA DUMMY	GH72-36571A
QBA00	ASSY COVER-BATTERY	GH98-04770A
QBA01	INNER BATTERY PACK-690MAH,BLK,	GH43-02834A
QCA01	UNIT-SGHU600 CAMERA	GH59-04163A
QCR04	SCREW-MACHINE	6001-001479
QCR12	SCREW-MACHINE	6001-001530
QCR58	SCREW-MACHINE	6001-001870
QCR68	SCREW-MACHINE	6001-002067
QFU01	ASSY COVER-SLIDE UPPER	GH98-03317A
QLC01	LCD-MODULE SGHU600	GH07-01087A
QMP01	PBA MAIN-SGHU600	GH92-03347A
QPC01	MEA-SLIDE FPCB KIT	GH97-07452A
QRF01	PMO-COVER RF	GH72-36573A
QSP01	UNIT-SGHU600 SPEAKER MODULE	GH59-04046A
QFR01	ASSY CASE-FRONT PLATE	GH98-04811A
QMI03	RMO-RUBBER MIC HOLDER	GH73-08776A
QFL01	ASSY COVER-SLIDE LOWER	GH98-04051A
QHI01	ASSY HINGE-SLIDE	GH98-03319A
QVO02	PMO-POWER KEY	GH72-38555A
QRE01	ASSY CASE-REAR	GH98-04052A
QCK01	PMO-KEY CAMERA	GH72-37516A
QRF03	PMO-COVER EAR/IF	GH72-36576A
QSD01	PMO-COVER MICRO SD	GH72-36575A
QVO01	PMO-VOLUME KEY	GH72-37517A

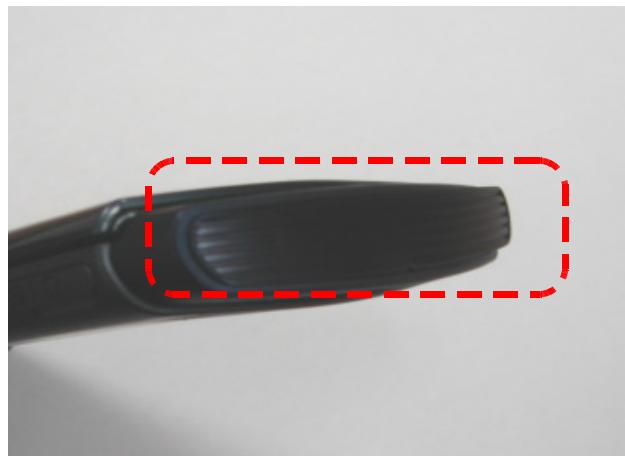
Discription	SEC CODE
BAG PE	6902-000297
CBF INTERFACE-DLC,X830,BLK,PCB	GH39-00720A
ADAPTOR-SGHE690,BLK,EU,A_TYPE	GH44-01361A
S/W CD-SGHU600 PC STUDIO 3.1	GH46-00384A
UNIT-SGHU600,HEADSET,BLK,A TYP	GH59-04446A
LABEL(R)-WATER SOAK	GH68-09361A
LABEL(P)-OPEN MP3	GH68-11246A
LABEL(R)-MAIN(FRANCE)	GH68-14054F
MANUAL USERS-EU FRENCH	GH68-14139A
BOX(P)-UNIT MAIN(EU)	GH69-05115A
CUSHION-CASE TA2 MA2	GH69-05116A
RMO-RUBBER TACT SWITCH	GH73-09461A
MPR-TAPE PBA A	GH74-16066A
MPR-VINYL BOHO MAIN WINDOW	GH74-30725A
MPR-INSU TAPE LCD PCB	GH74-30734A
MPR-TAPE 3X4 KEY IN	GH74-30763A
MPR-TAPE C2C IN	GH74-30764A
MPR-INSU TAPE	GH74-30765A
MPR-GASK TAPE	GH74-30766A
MPR-VINYL BOHO KEY SUB	GH74-30847A
MPR-VINYL BOHO MAIN WINDOW 2	GH74-31274A
MPR-INSU TAPE SPK MODULE	GH74-31527A
MPR-ELEC TAPE	GH74-31528A
MPR-TAPE BATTERY ROOM	GH74-31712A
MPR-ELEC TAPE	GH74-31714A
MPR-INSU TAPE	GH74-31884A
MPR-ELEC TAPE CON TO CON B	GH74-32141A
AS-LCD WINDOW TAPE	GH81-06188A

2-3. Disassembly

1



2



1) Open the RF COVER from the REAR case

3



1) Open the intenna cover dummy

4

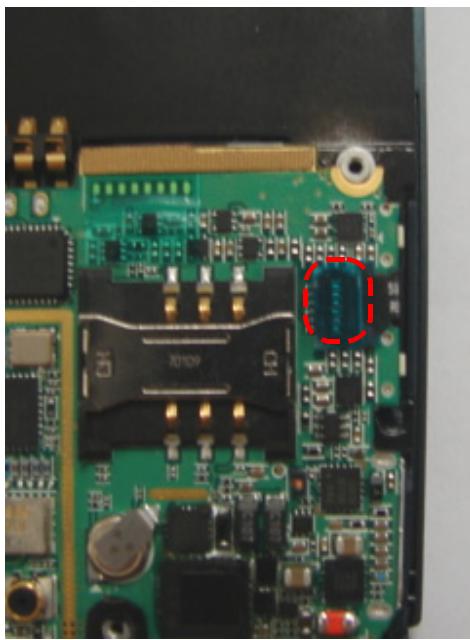


1) Take off IMEI lable

1) UNSCREW the 5 POINTS

5**6**

- 1) Unscrew the 2 POINTS from the intenna cover

7

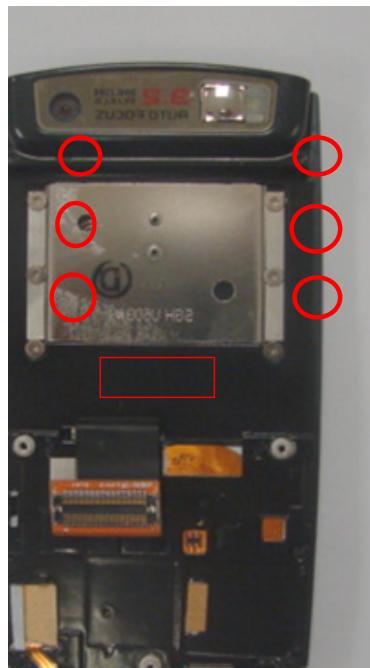
- 1) Take off the REAR case
- 2) Separate the Intenna cover from the PBA

8

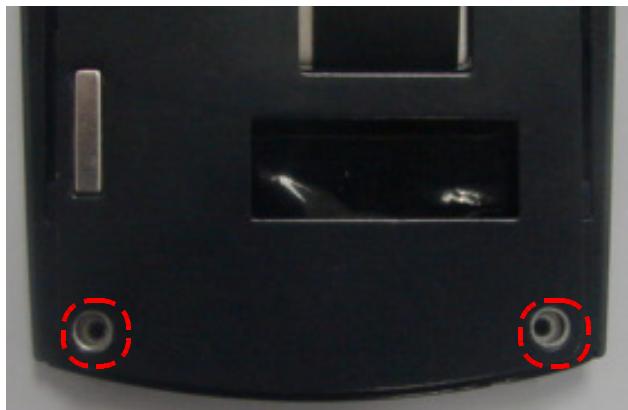
- 1) Remove the number key tape
- 2) Open the actuator and take out the FPCB

- 1) Separate the PBA with taking off the slide FPCB on the other side

9



10



- 1) Unscrew the 6 POINTS
- 2) Separate Front cover from the slide upper ass'y

11



- 1) Open the Slide lower cover with lifting the case

- 1) UNSCREW the 2 POINTS

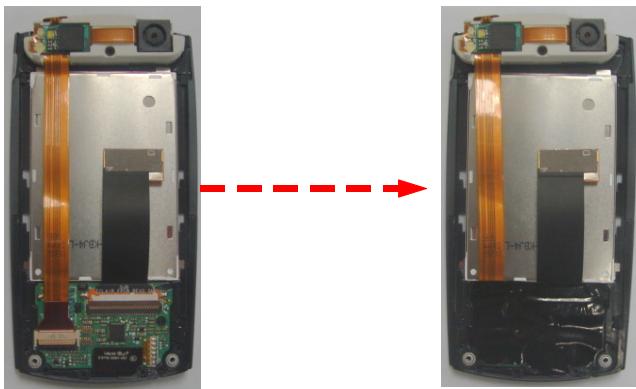
12



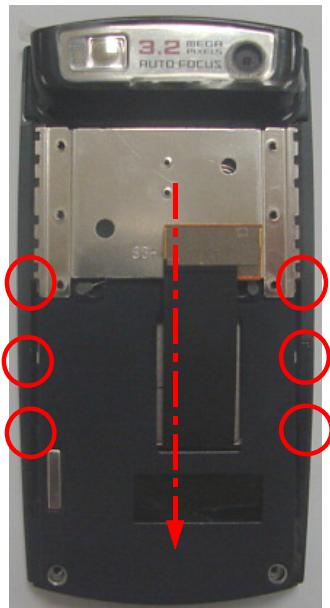
- 1) Remove the Black shield tape on the components

2-4. Assembly

1



2



1) Put the black insulated tape on the components

- 1) Put the slide lower cover with checking the lockers and LCD FPCB
- 2) Push the cover following an arrow

3



4



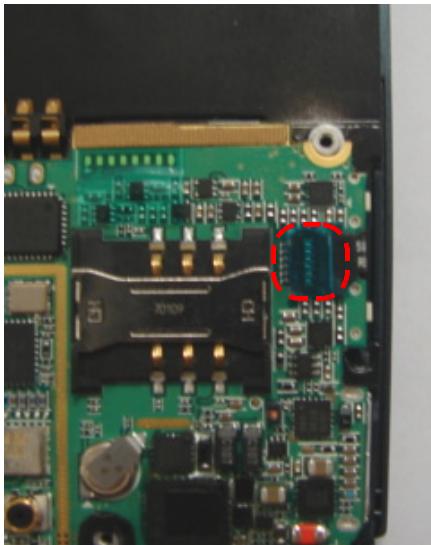
1) SCREW the 2 POINTS

- 1) Put the front cover on the slide ass'y
- 2) Check the slide FPCB is right
- 3) SCREW the 6 POINTS

5**6**

- 1) Let the slide FPCB in the main board socket
- The connector must be firmly pressed

- 1) PUT the PBA on the cover
- check the Front Damper

7**8**

- 1) Insert the numeric key FPCB
2) Put the insulate tape on the connector.

- 1) Put the intenna cover
- Handle with case, the intenna could be damaged

9



10



- 1) Combine the REAR cover with checking the locker
- 2) Press the connector to lock the cover

11



- 1) SCREW the 5 POINTS

12



- 1) SCREW the 2 POINTS

- 1) Set the IMEI label

13



- 1) Combine the REAR cover with checking the locker
- 2) Press the connector to lock the cover

14

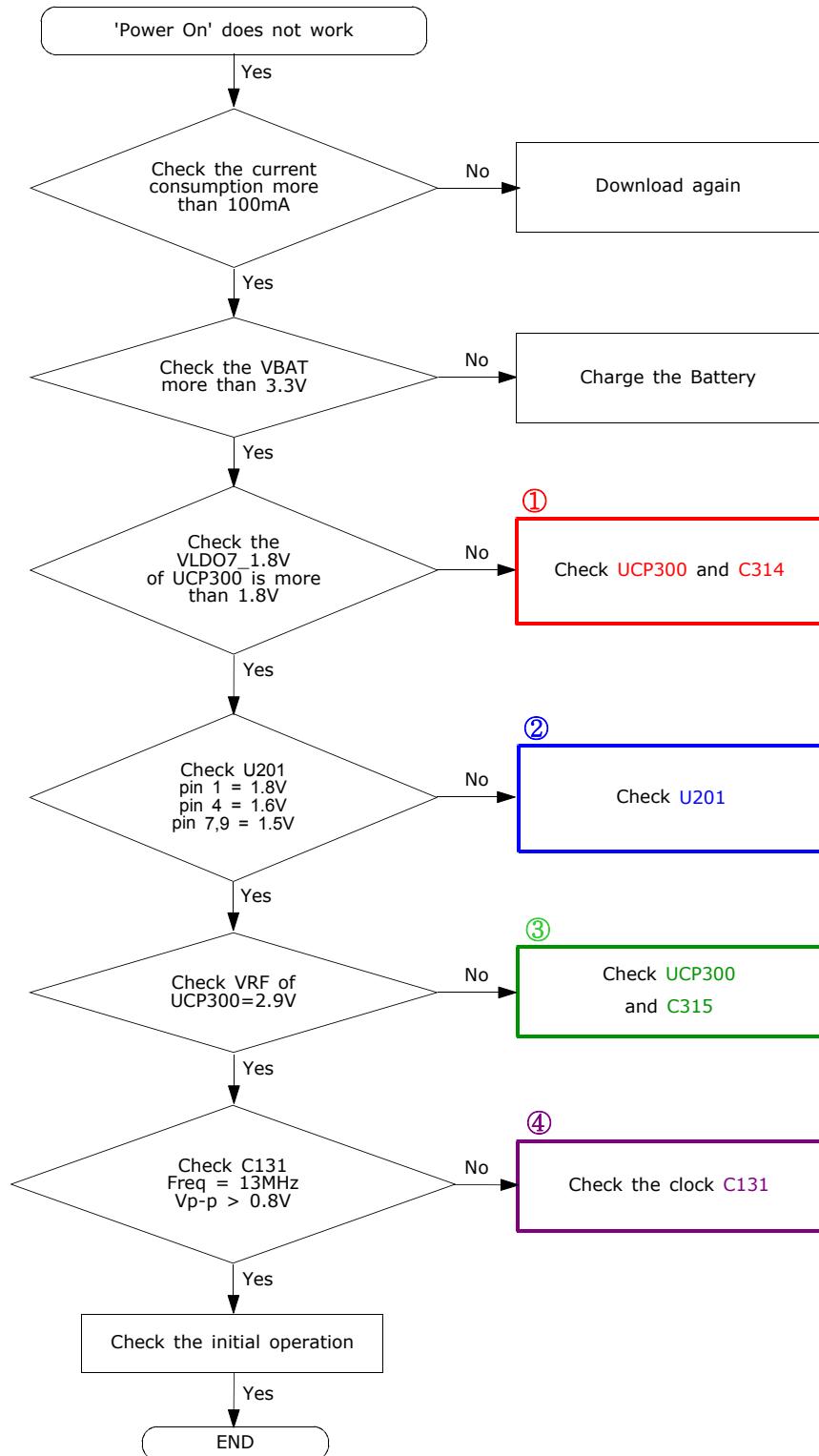


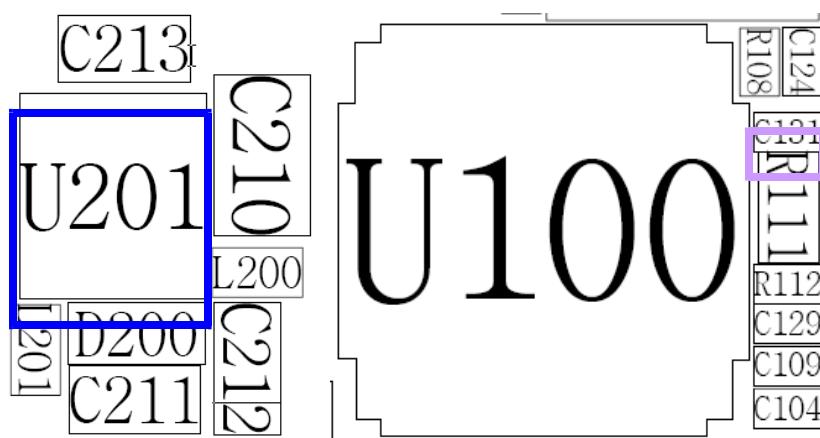
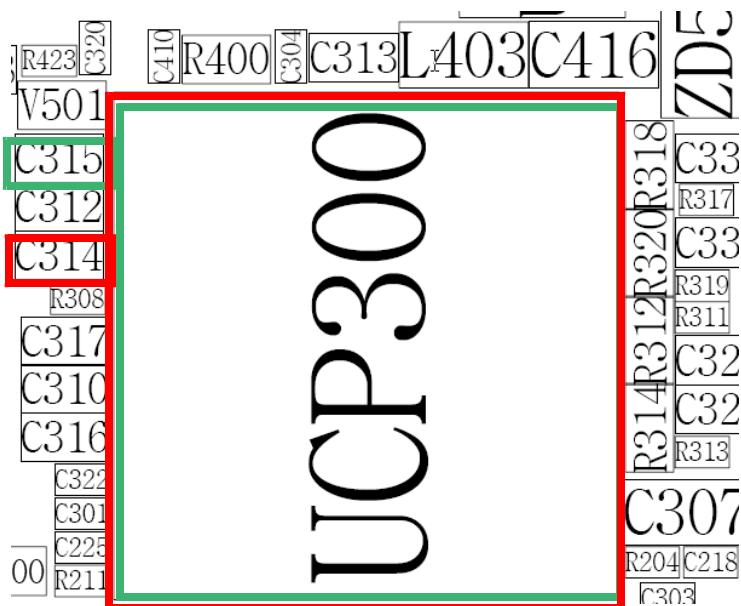
- 1) SCREW the 5 POINTS

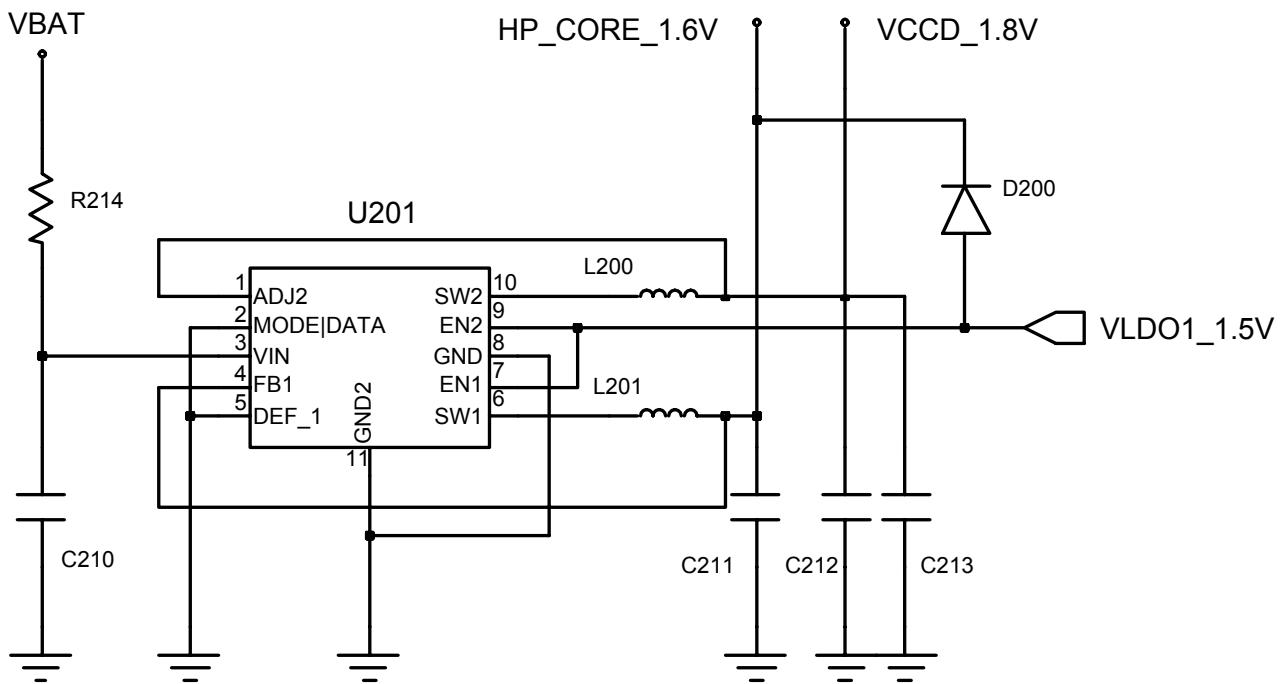
3. Flow Chart of Troubleshooting

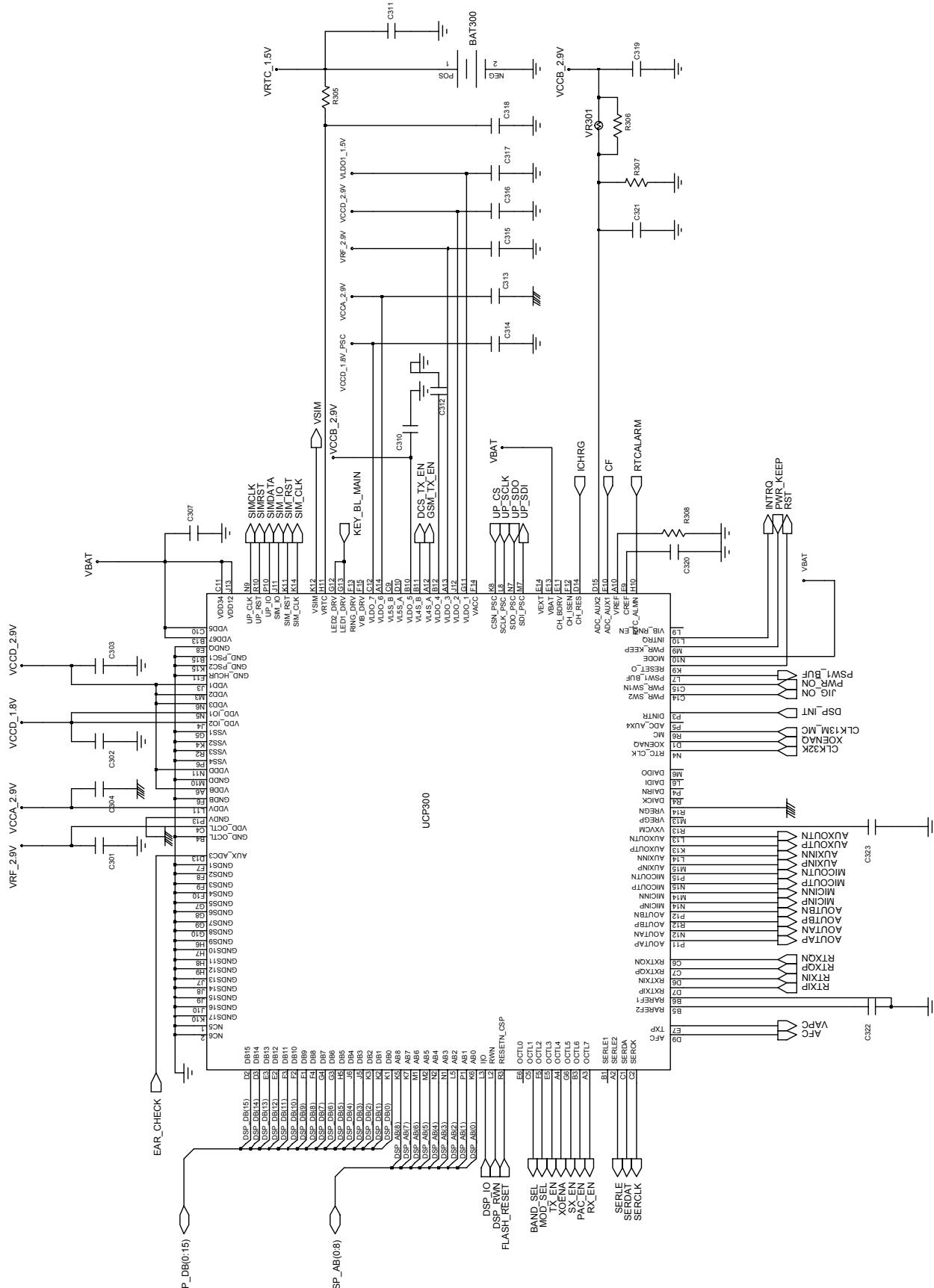
3-1 BASEBAND

3-1-1. Power ON

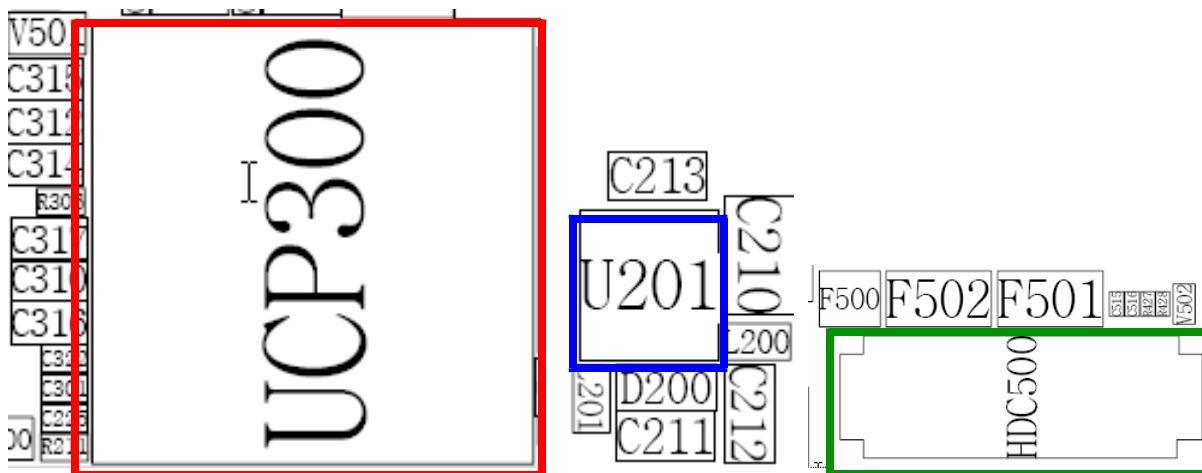
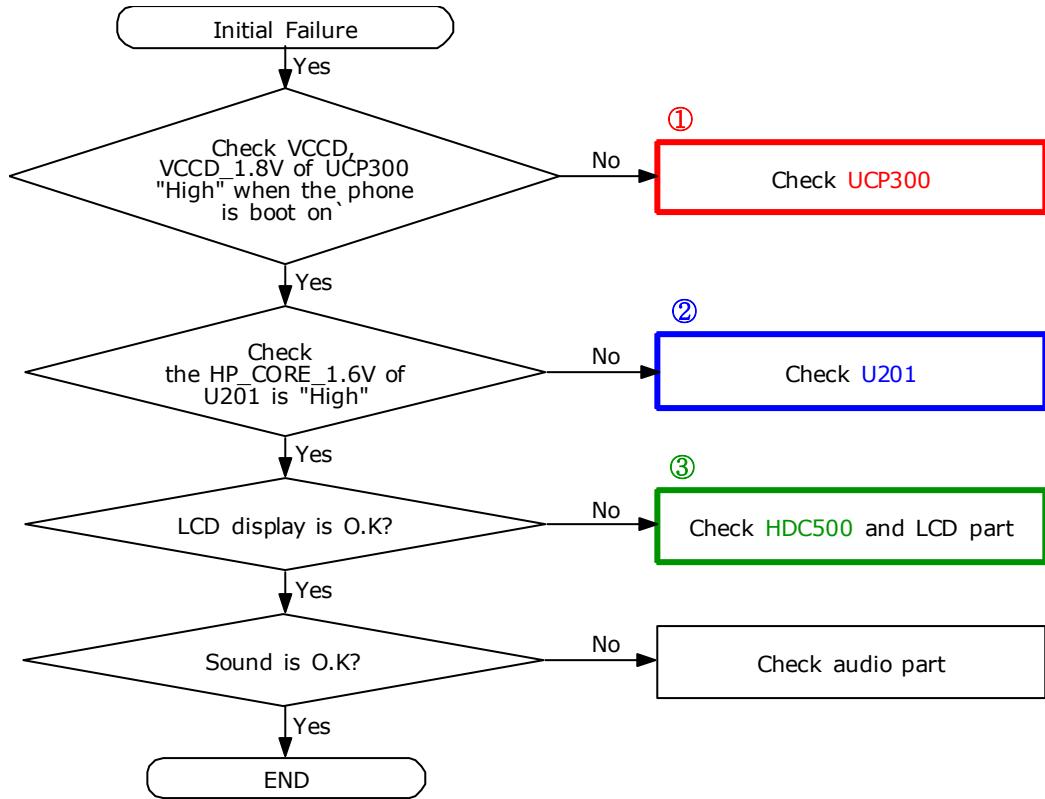


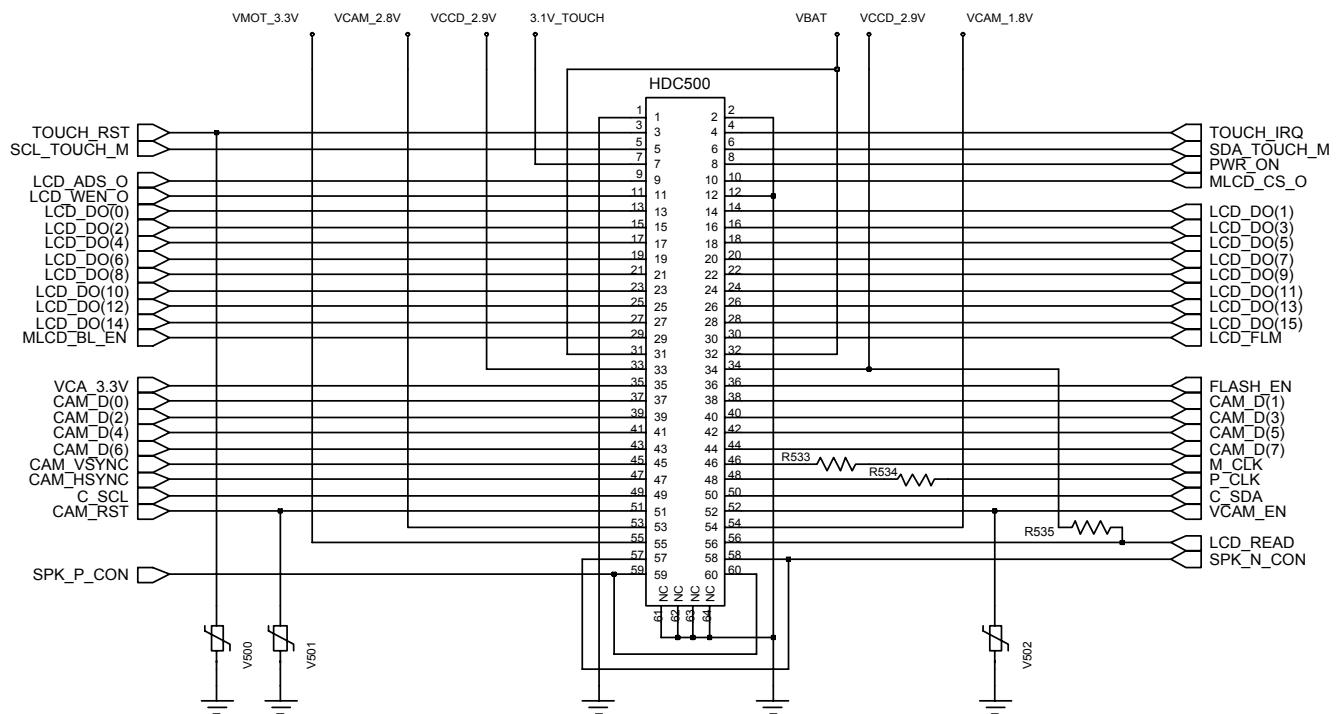




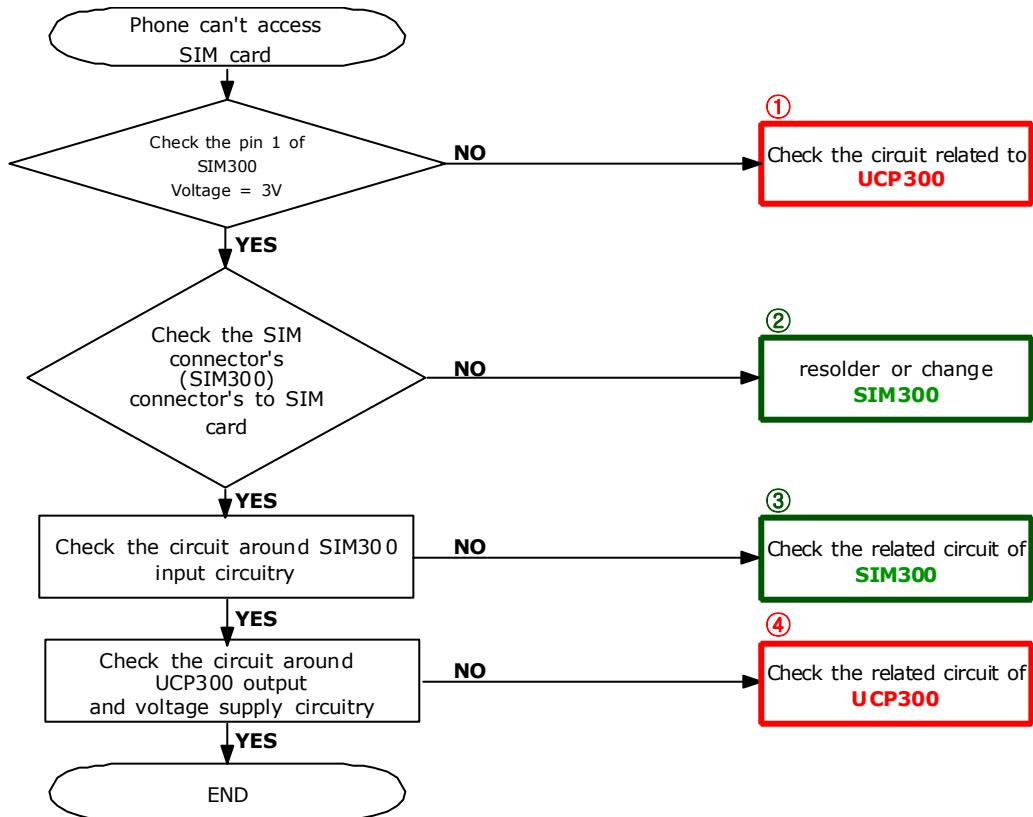


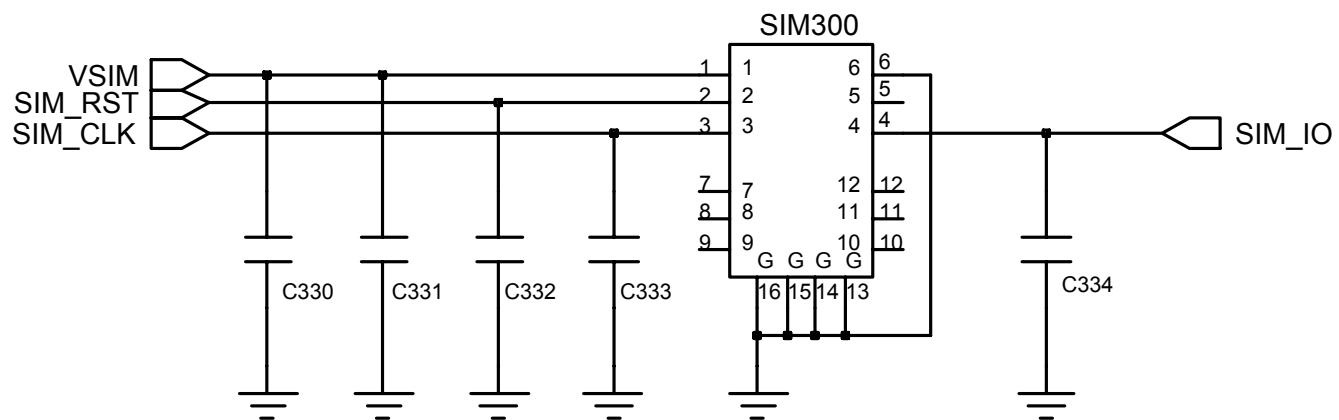
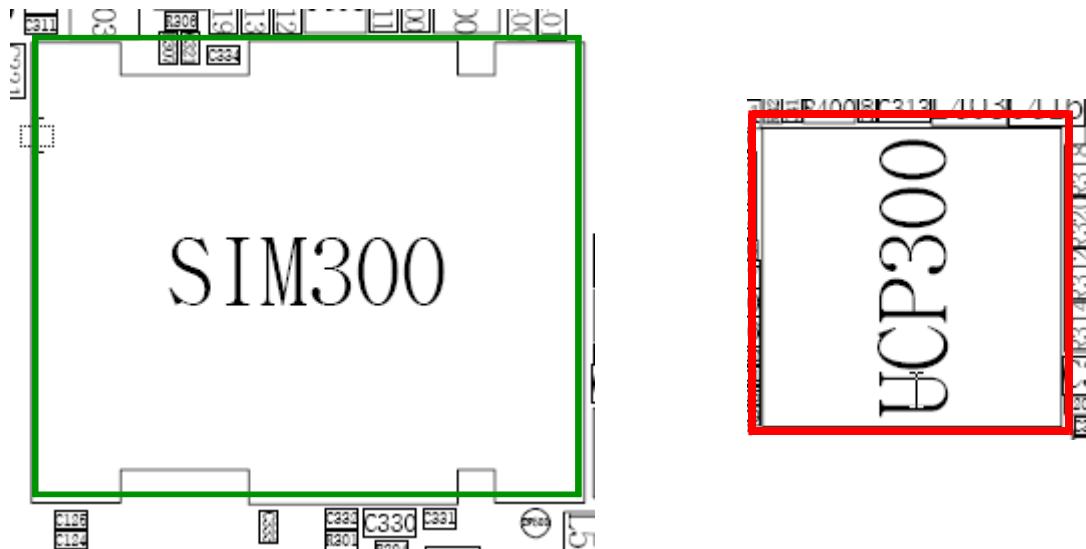
9-2-2. Initial



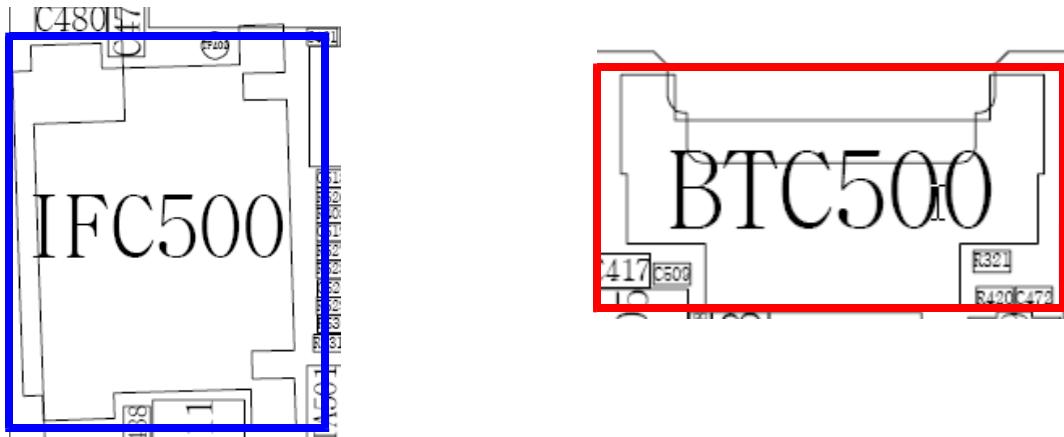
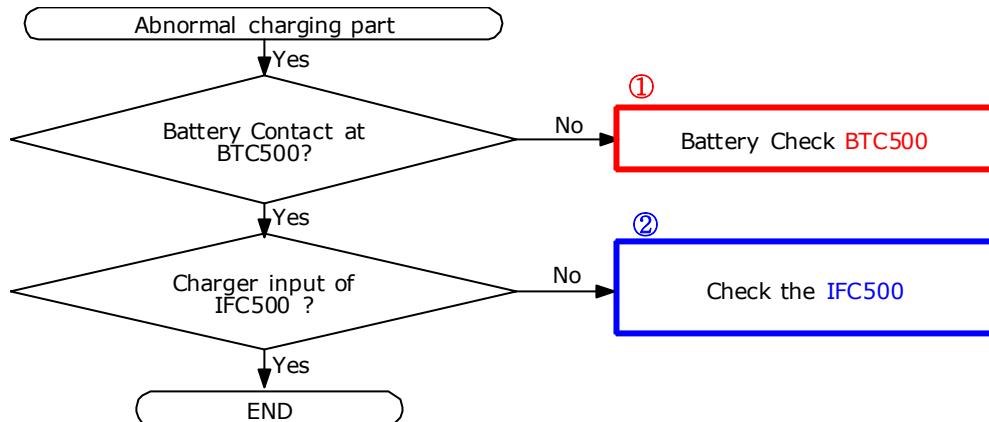


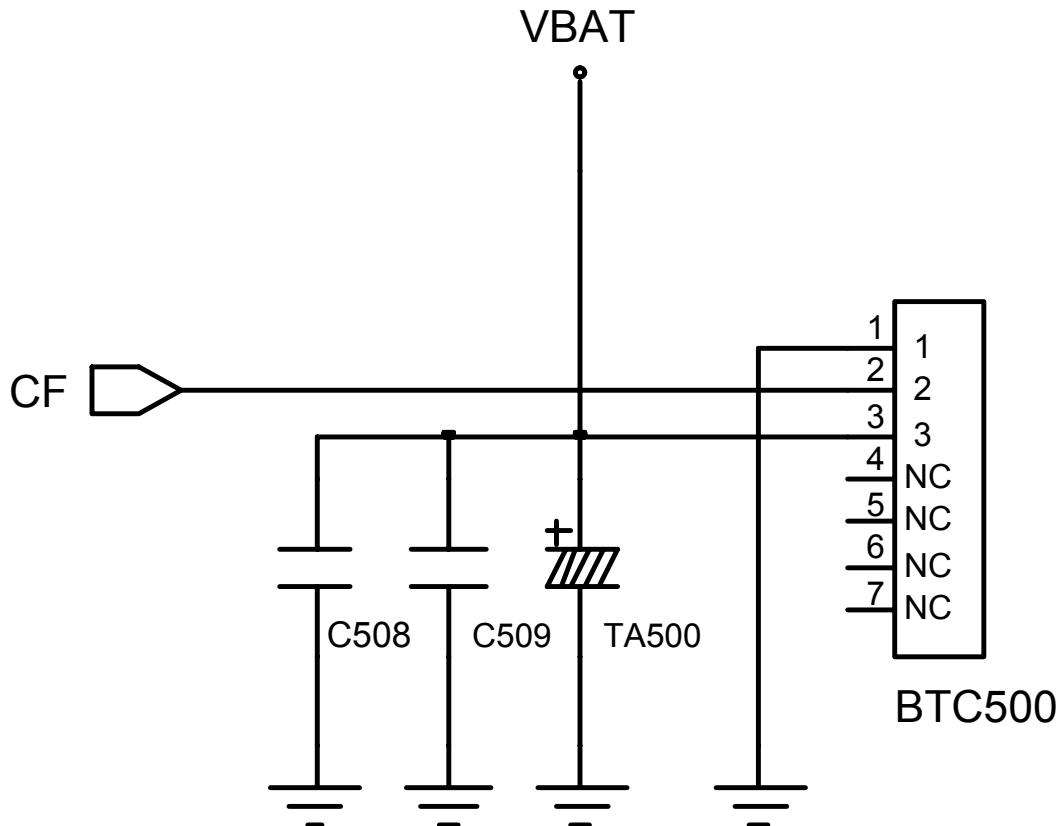
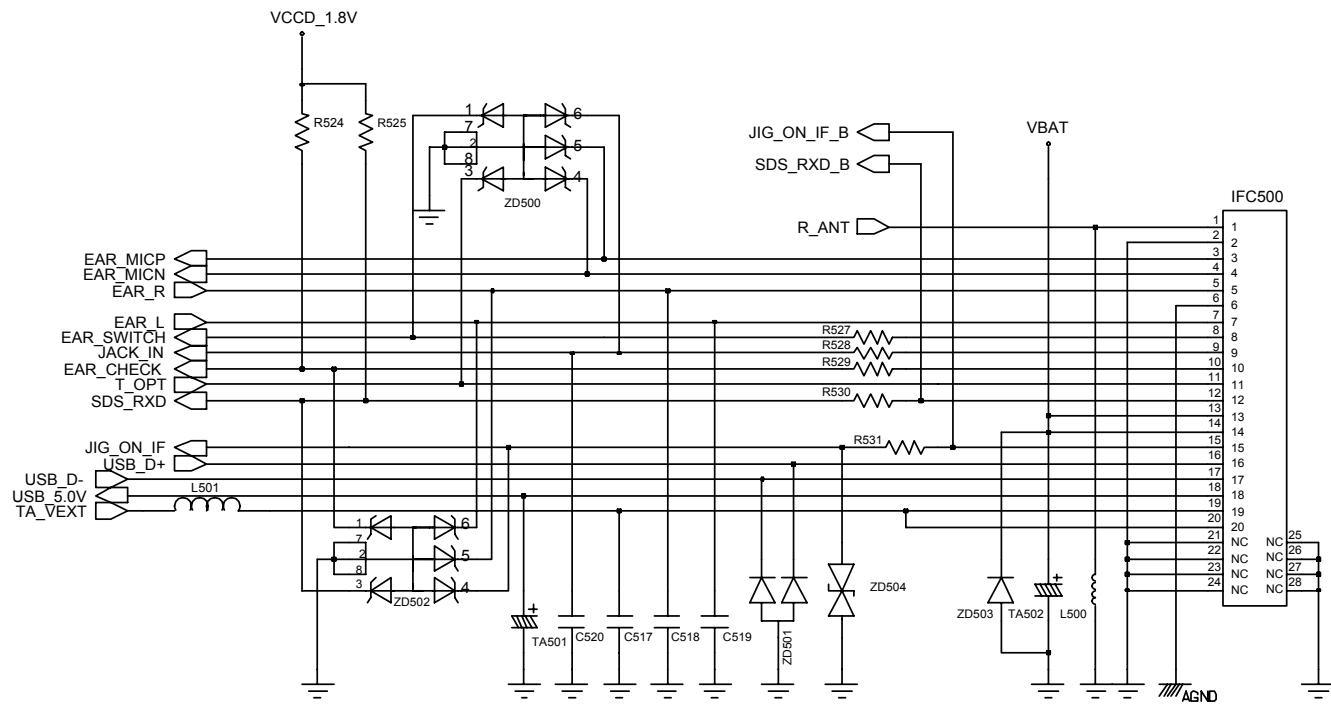
3-1-3. Sim Part



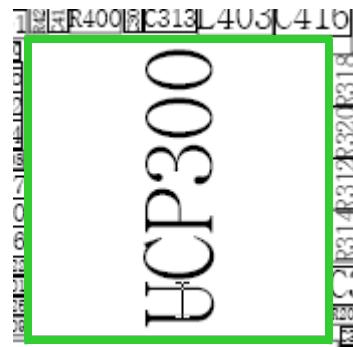
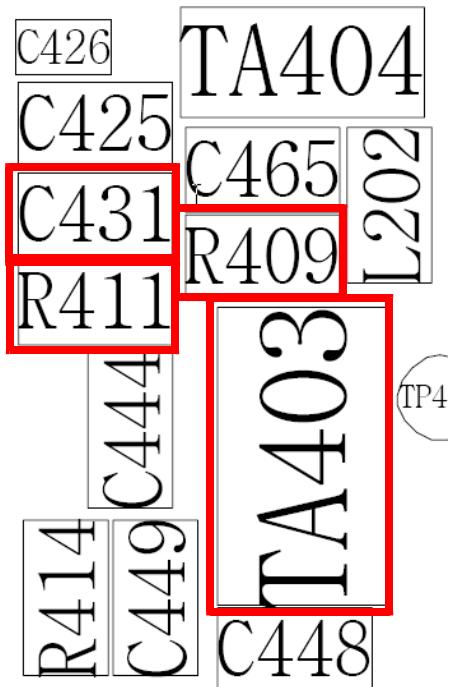
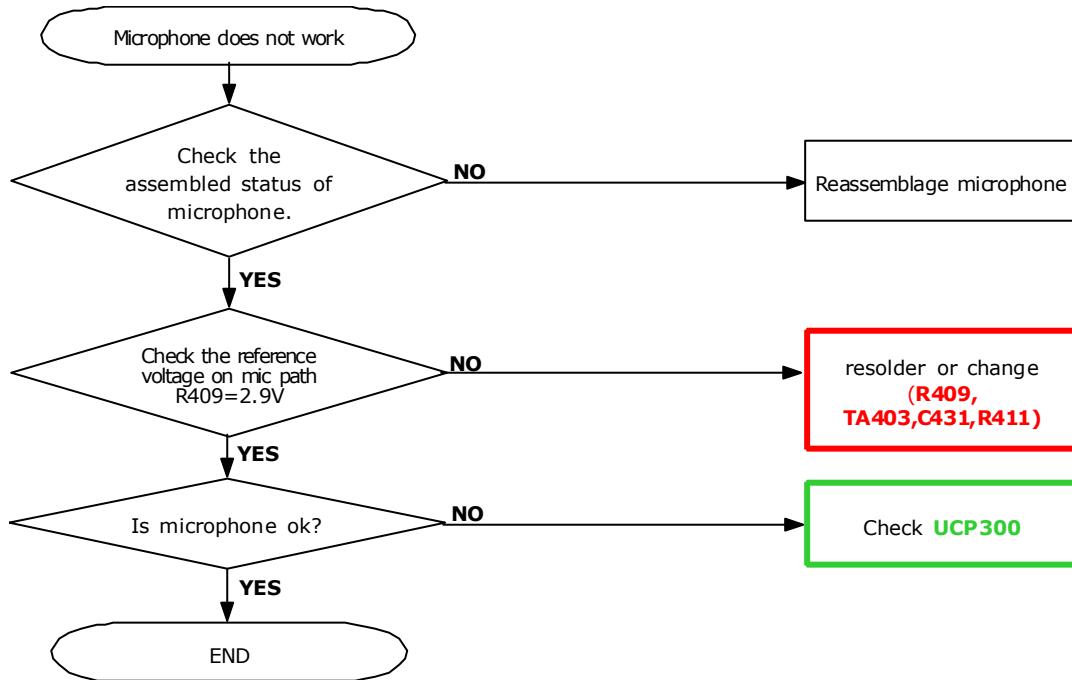


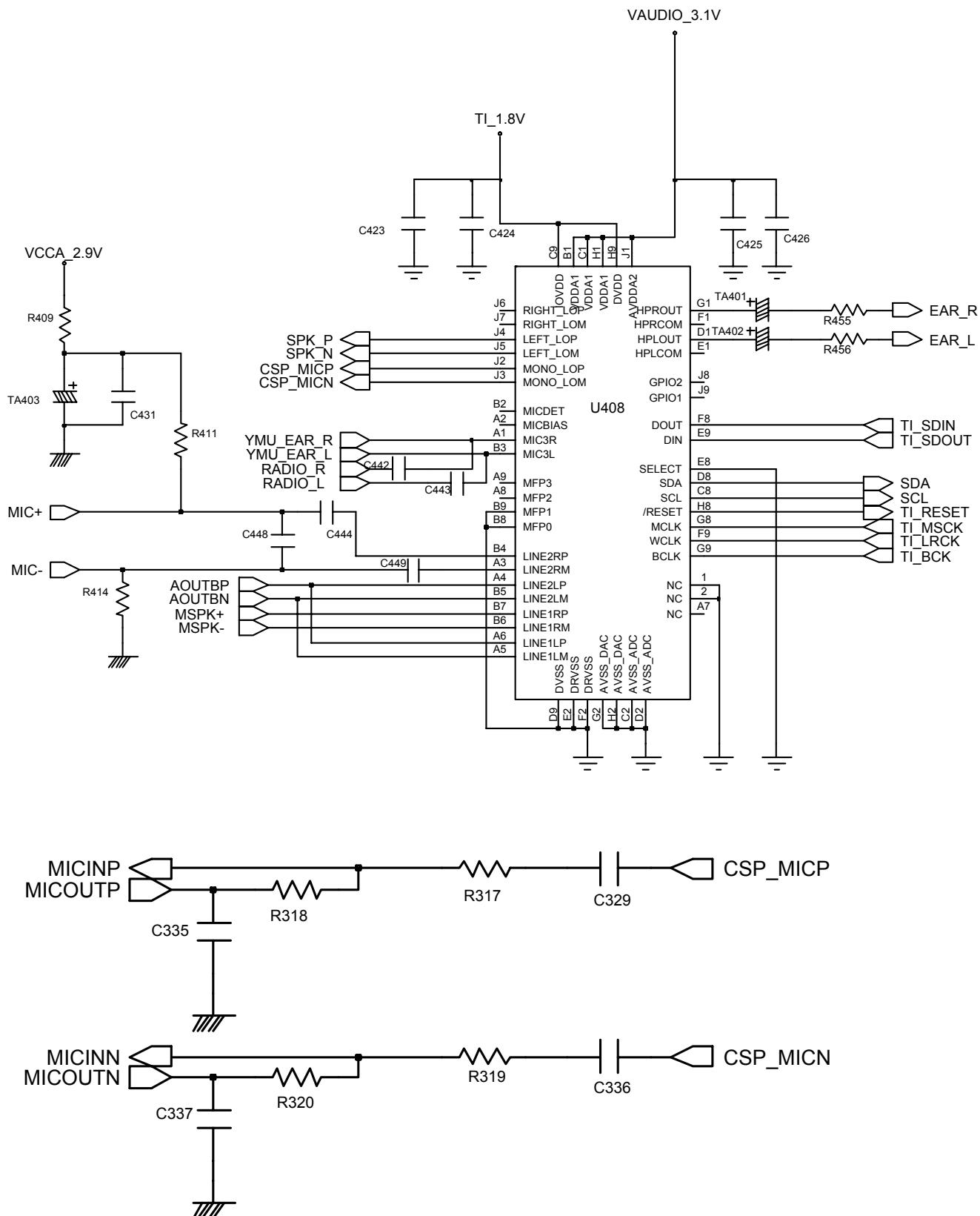
3-1-4. Charging Part



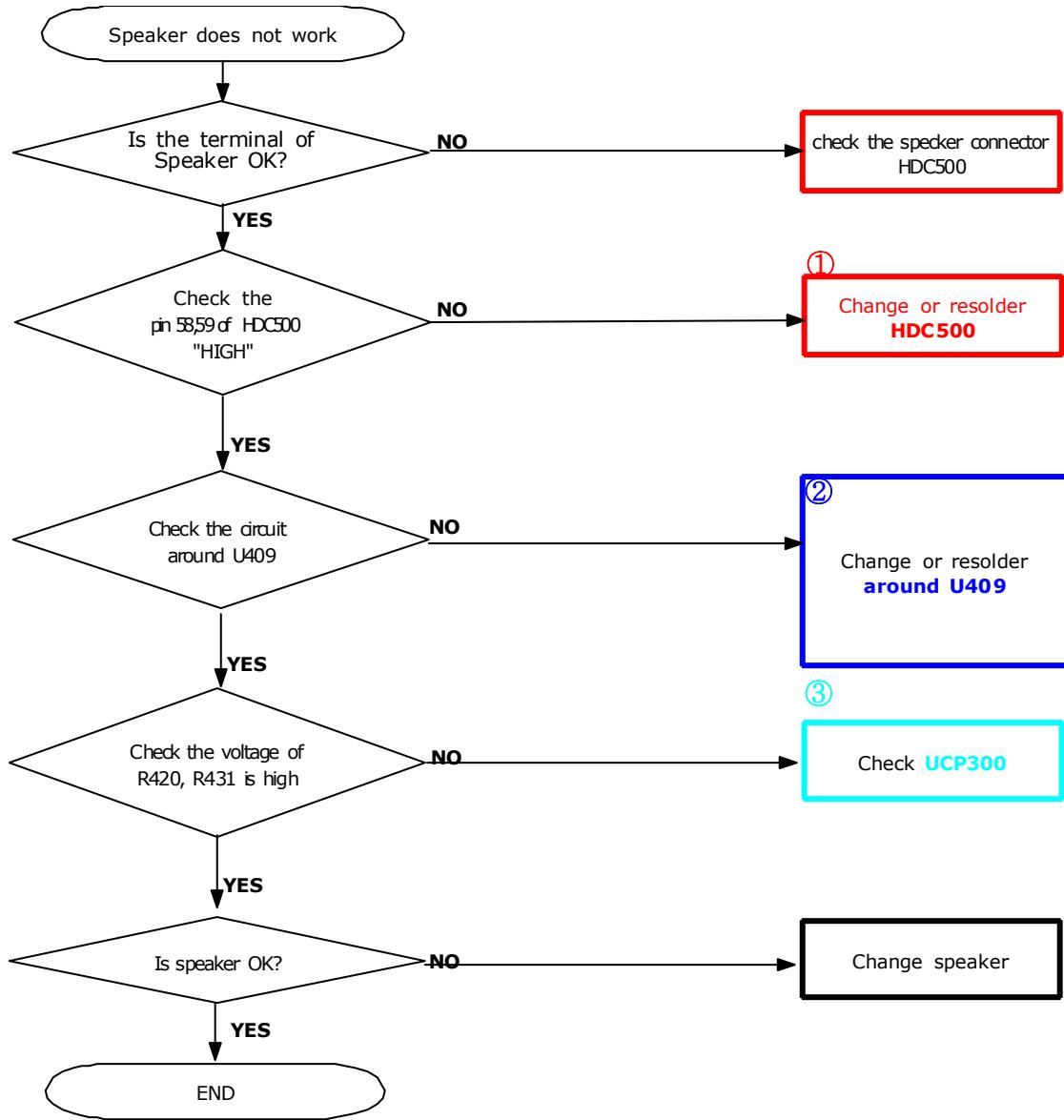


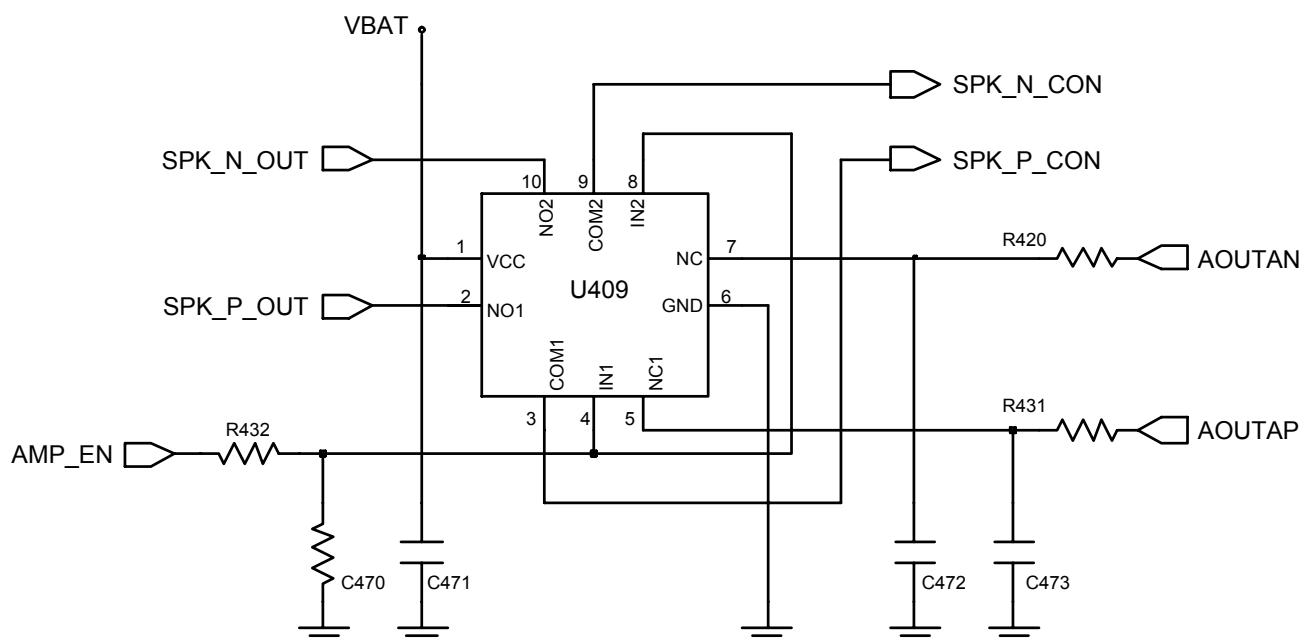
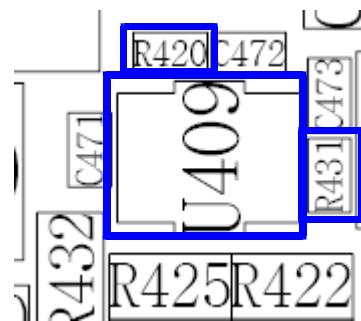
3-1-5. Microphone Part



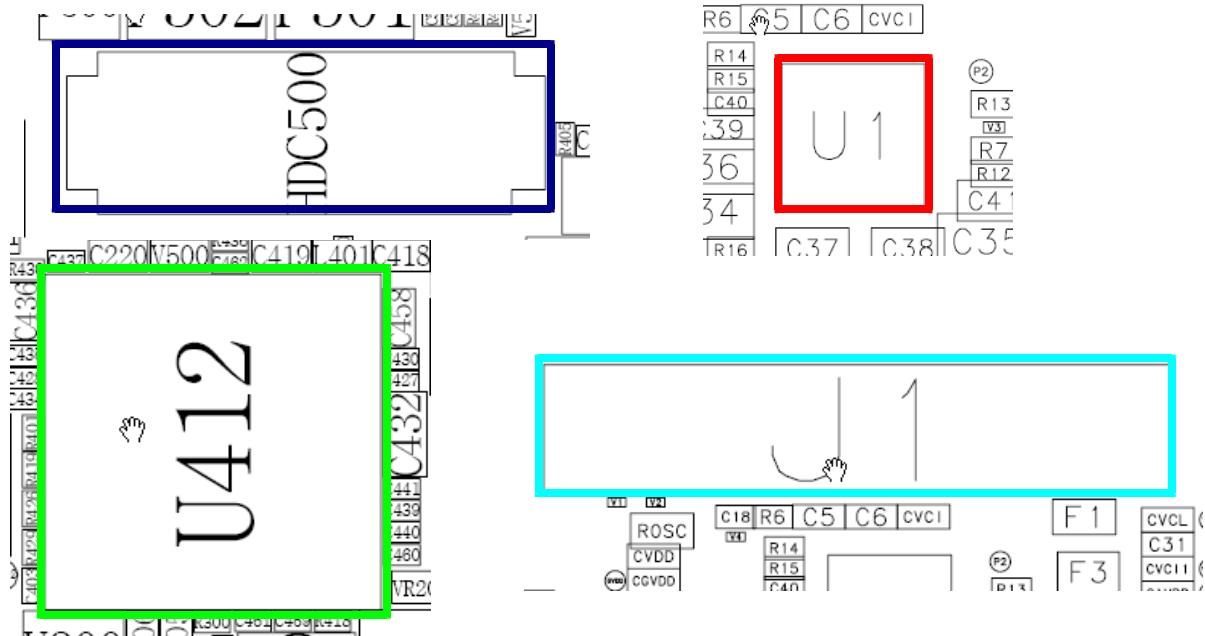
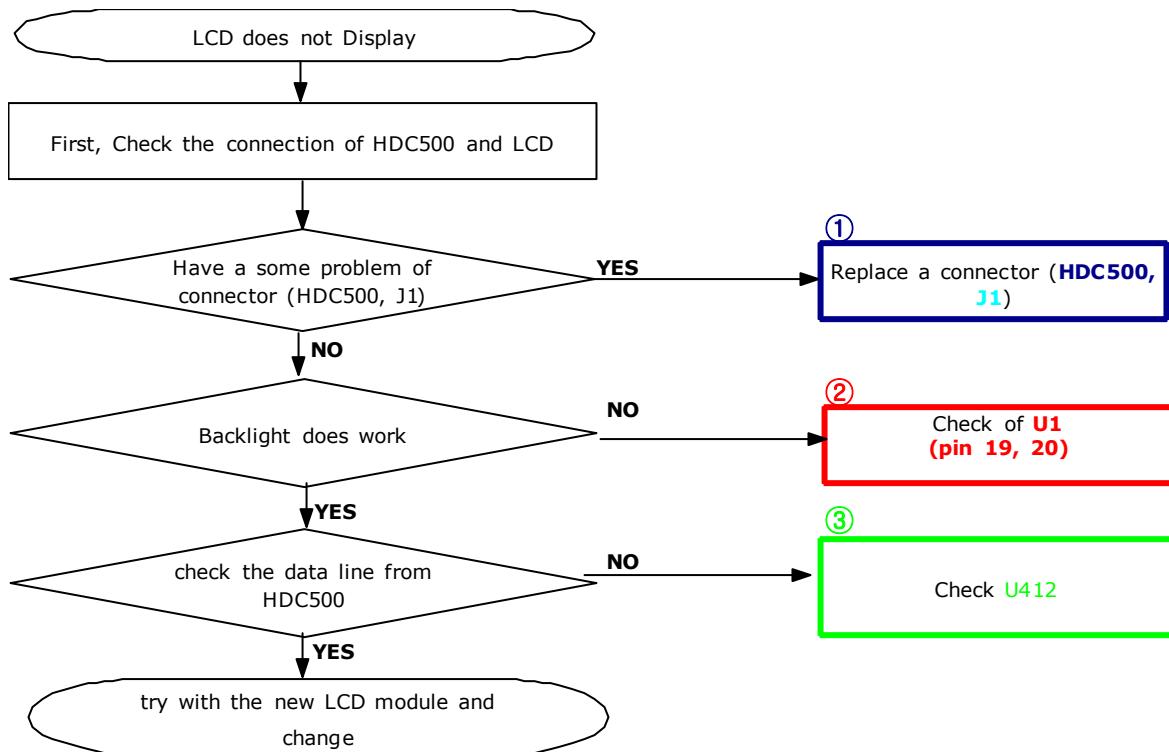


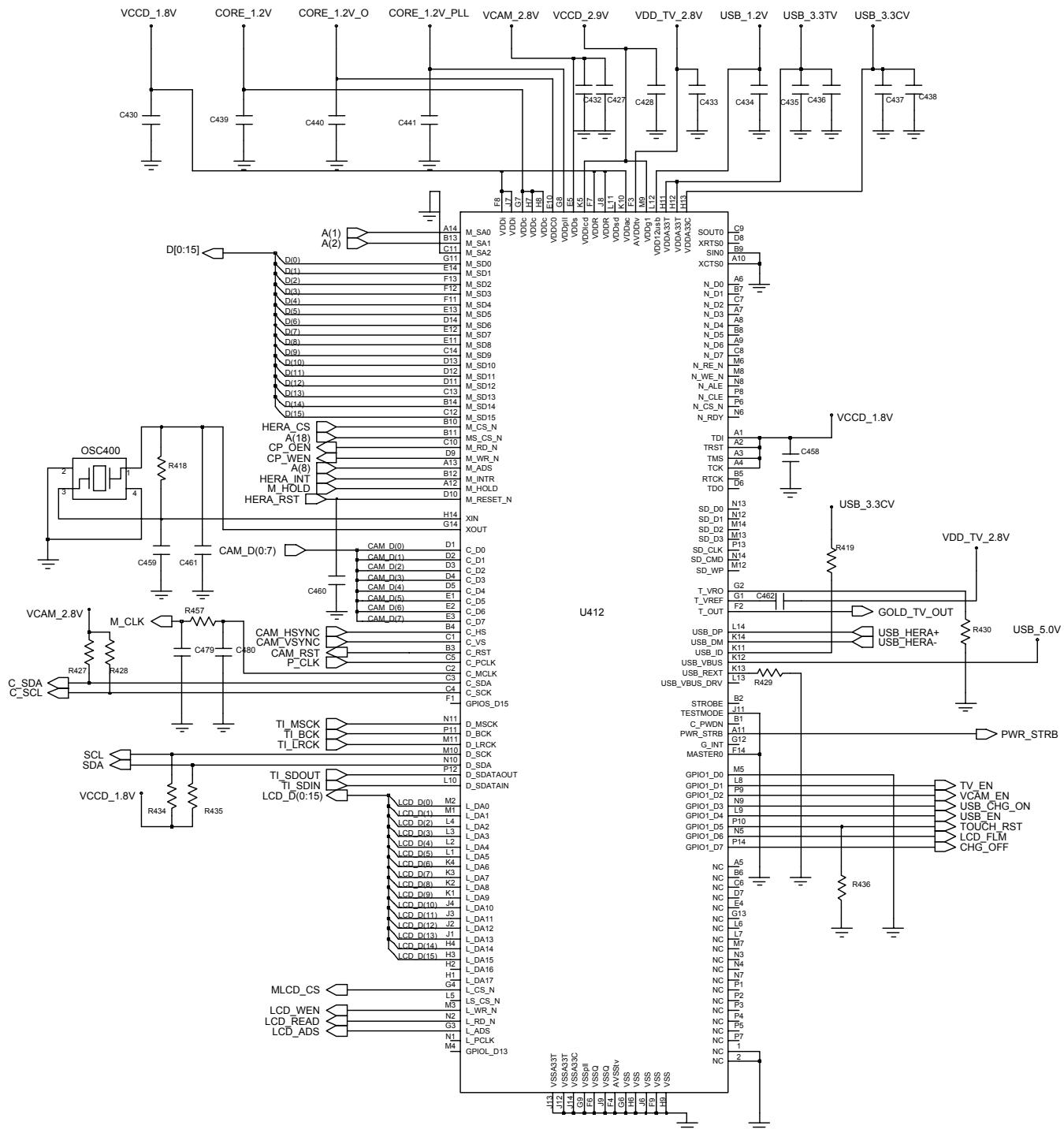
3-1-6. Speaker Part



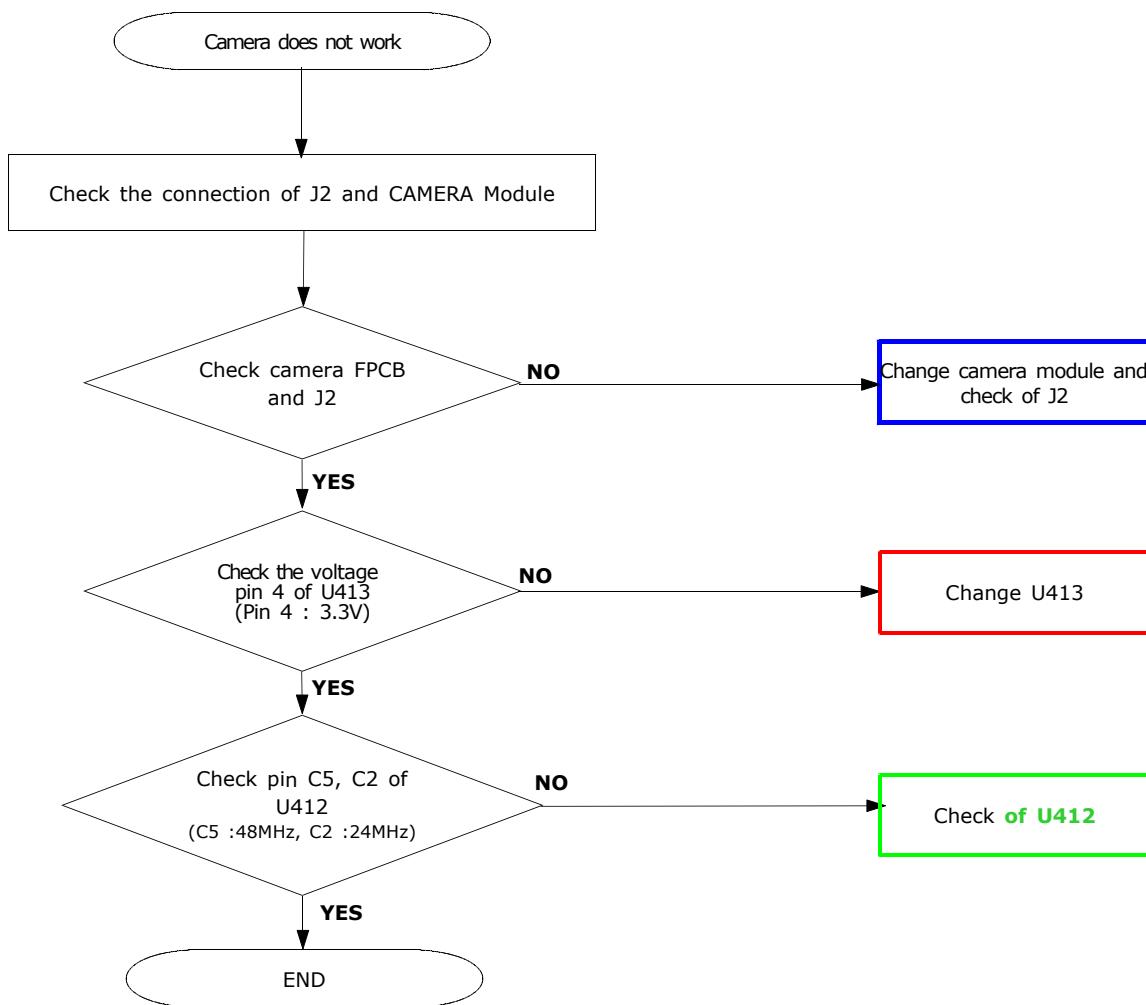


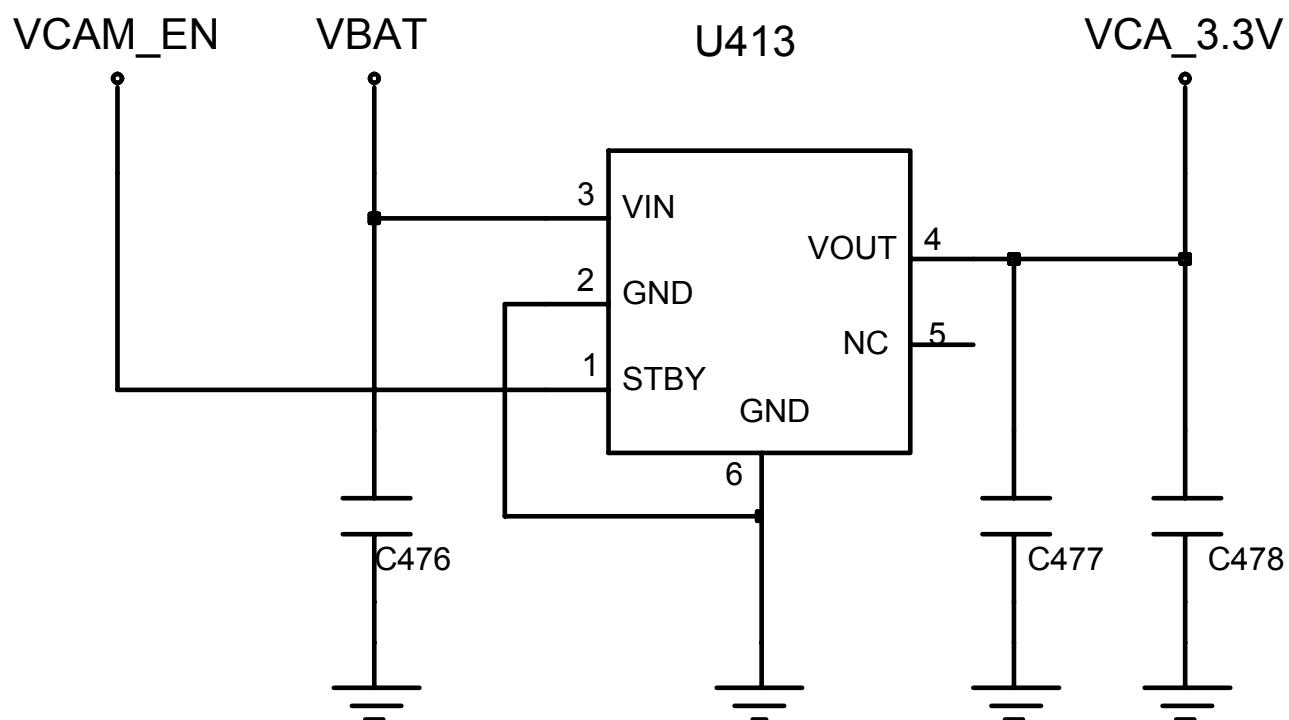
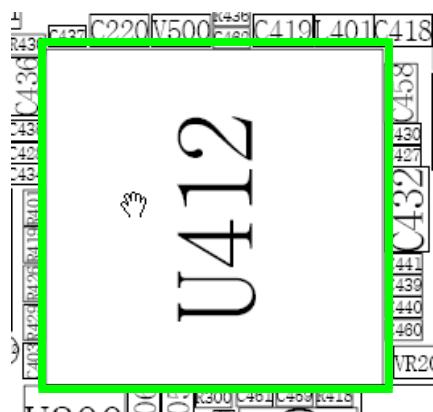
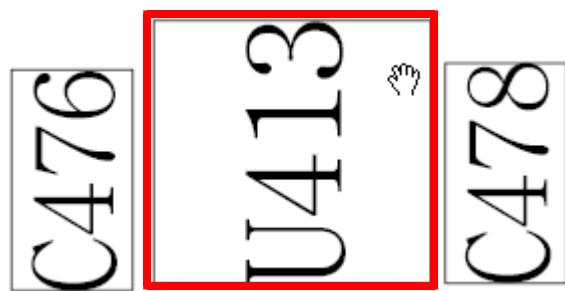
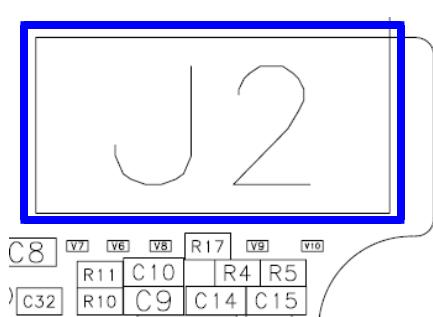
3-1-7. LCD





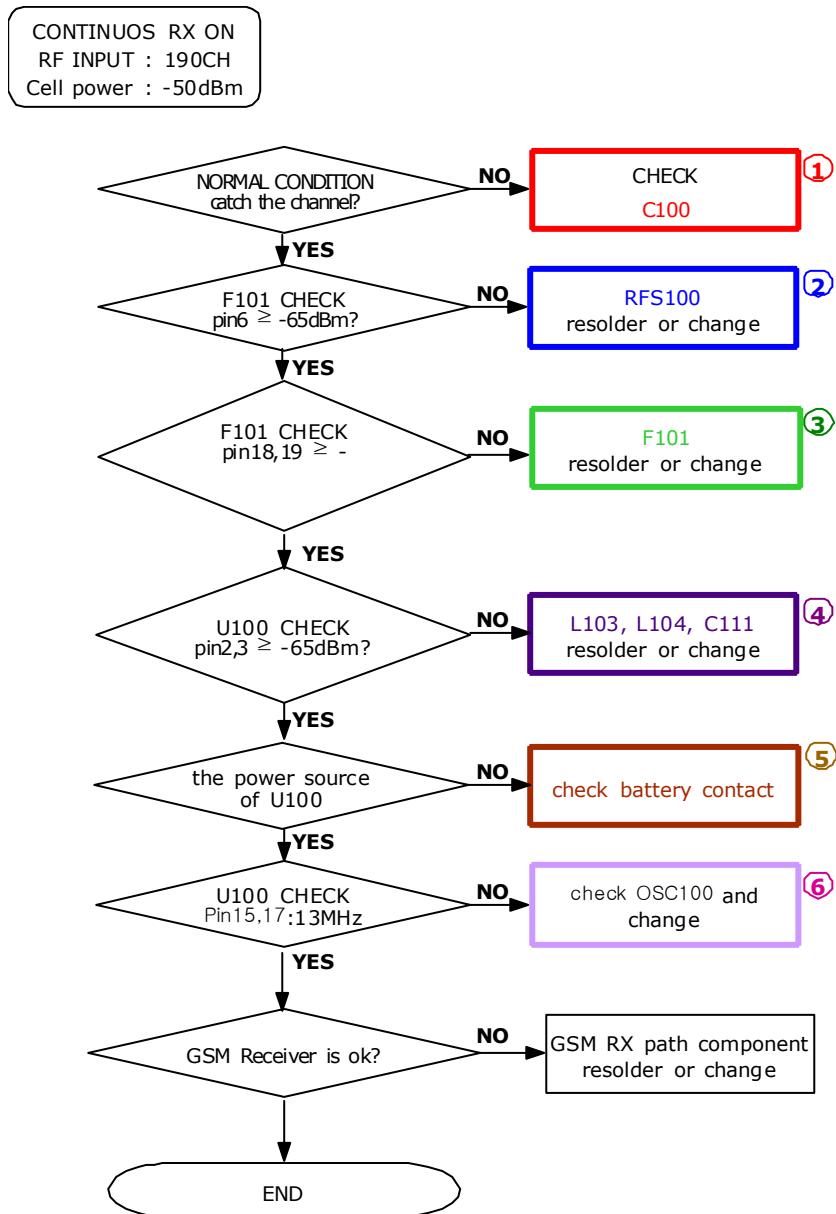
3-1-8. Camera



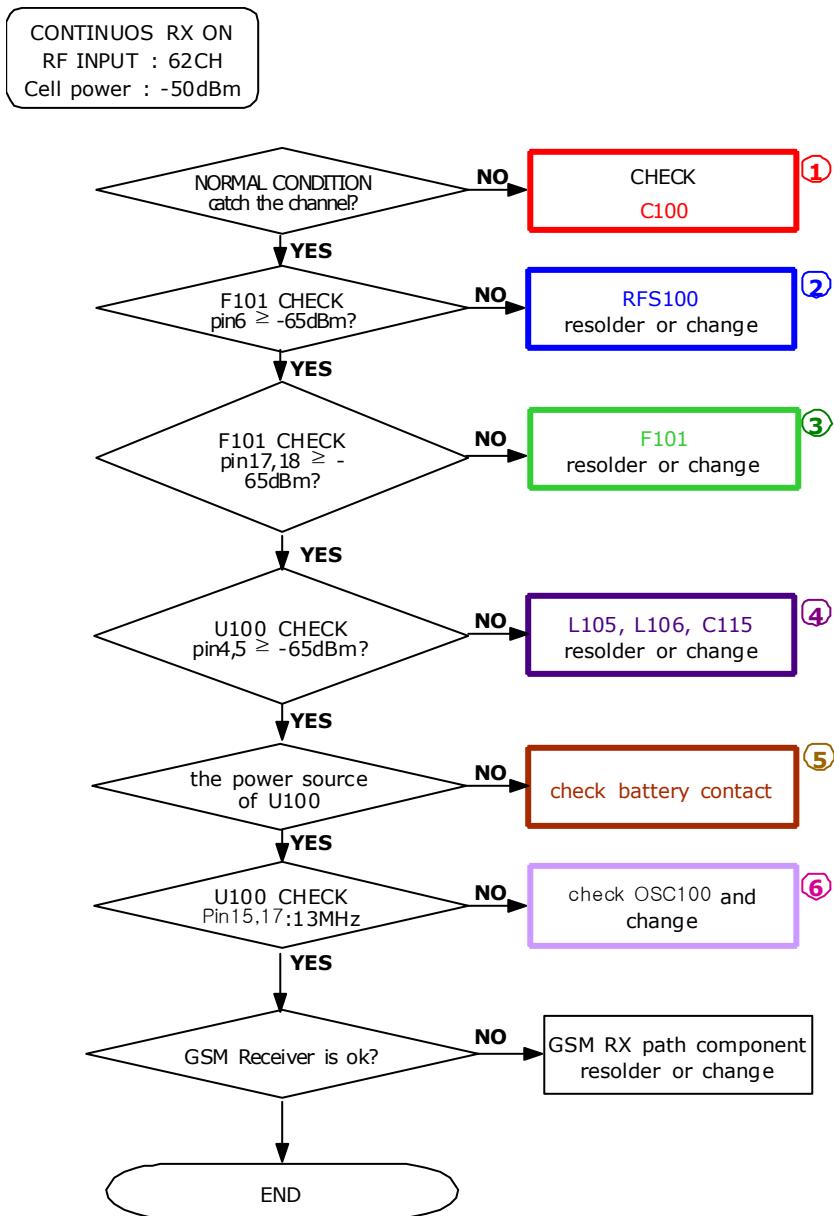


3-2. RF

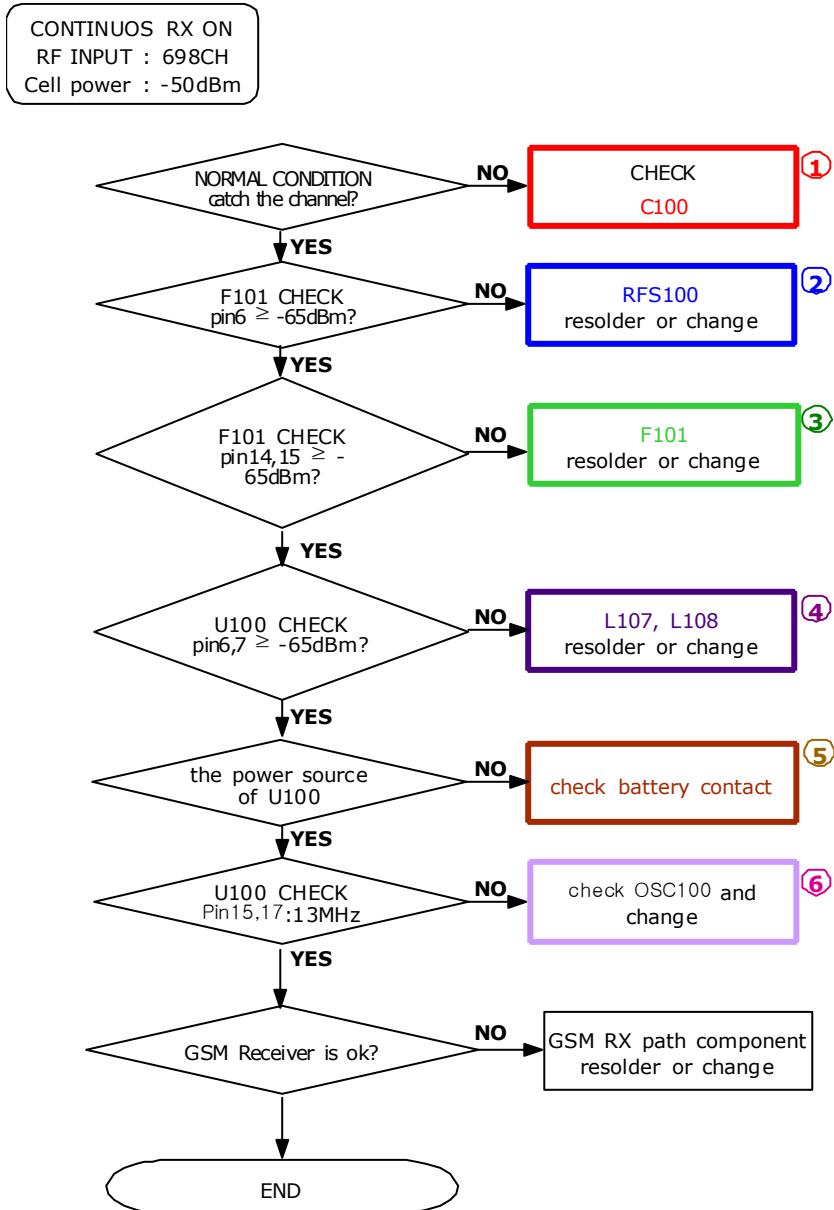
3-2-1. GSM850 Receiver



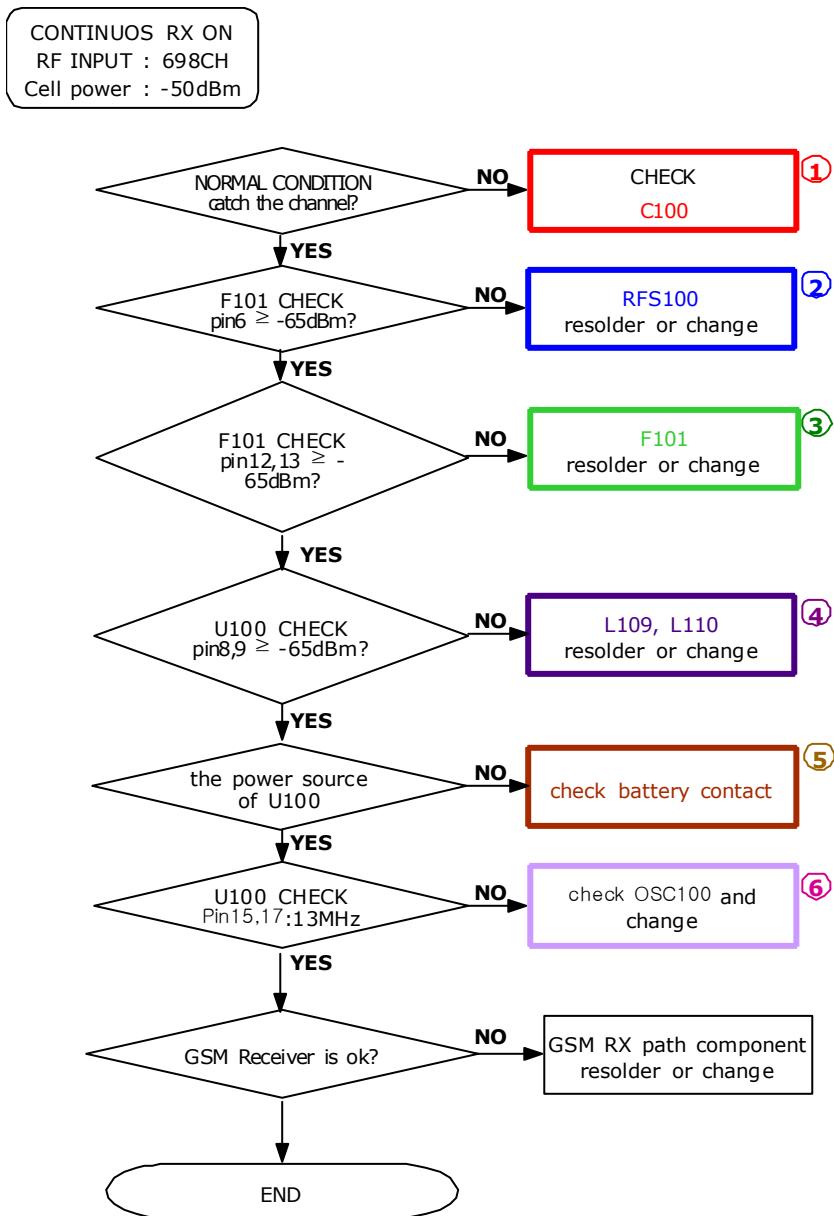
3-2-2. GSM900 Receiver

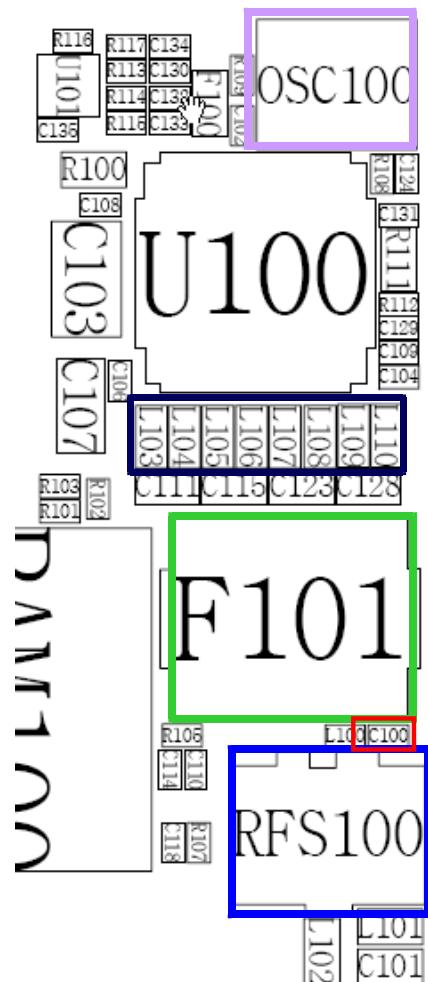


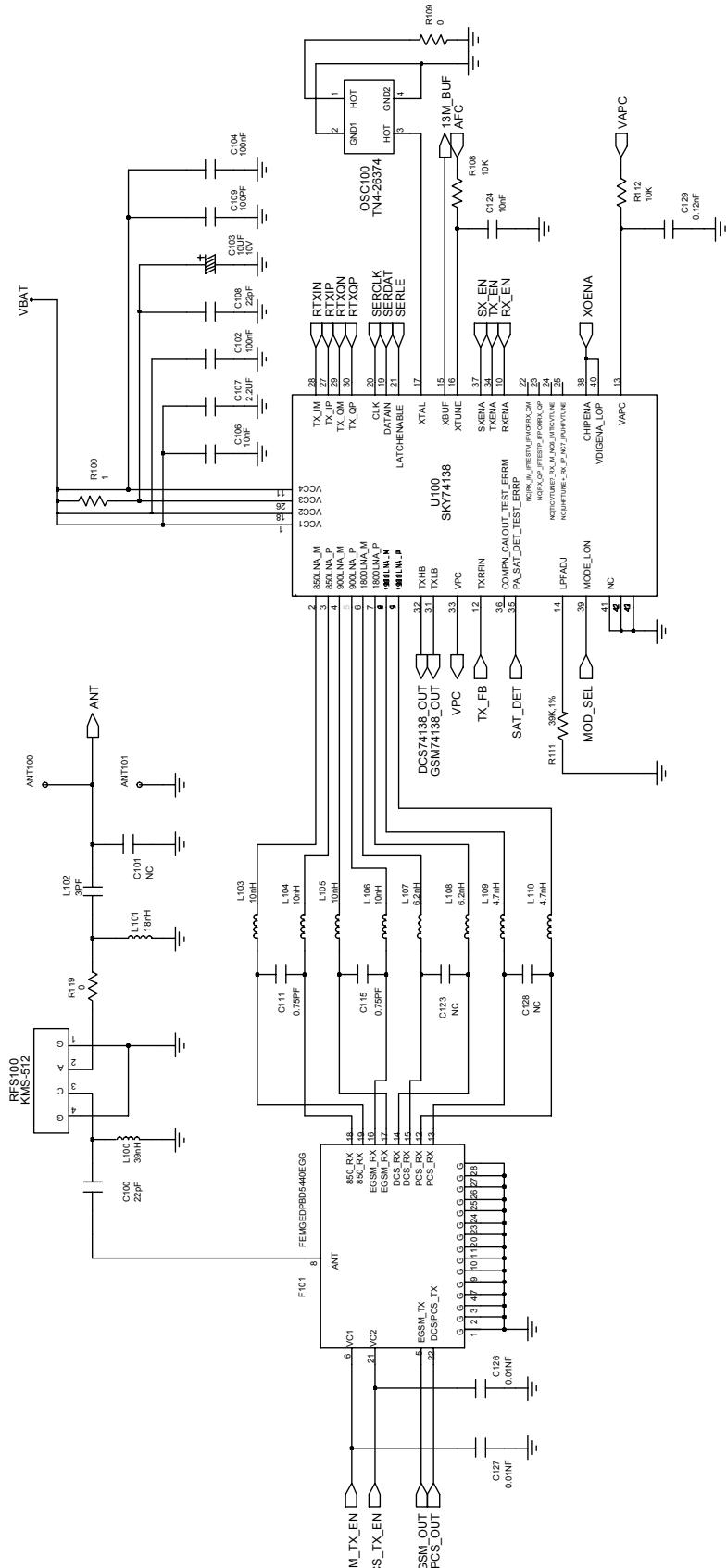
3-2-3. DCS Receiver



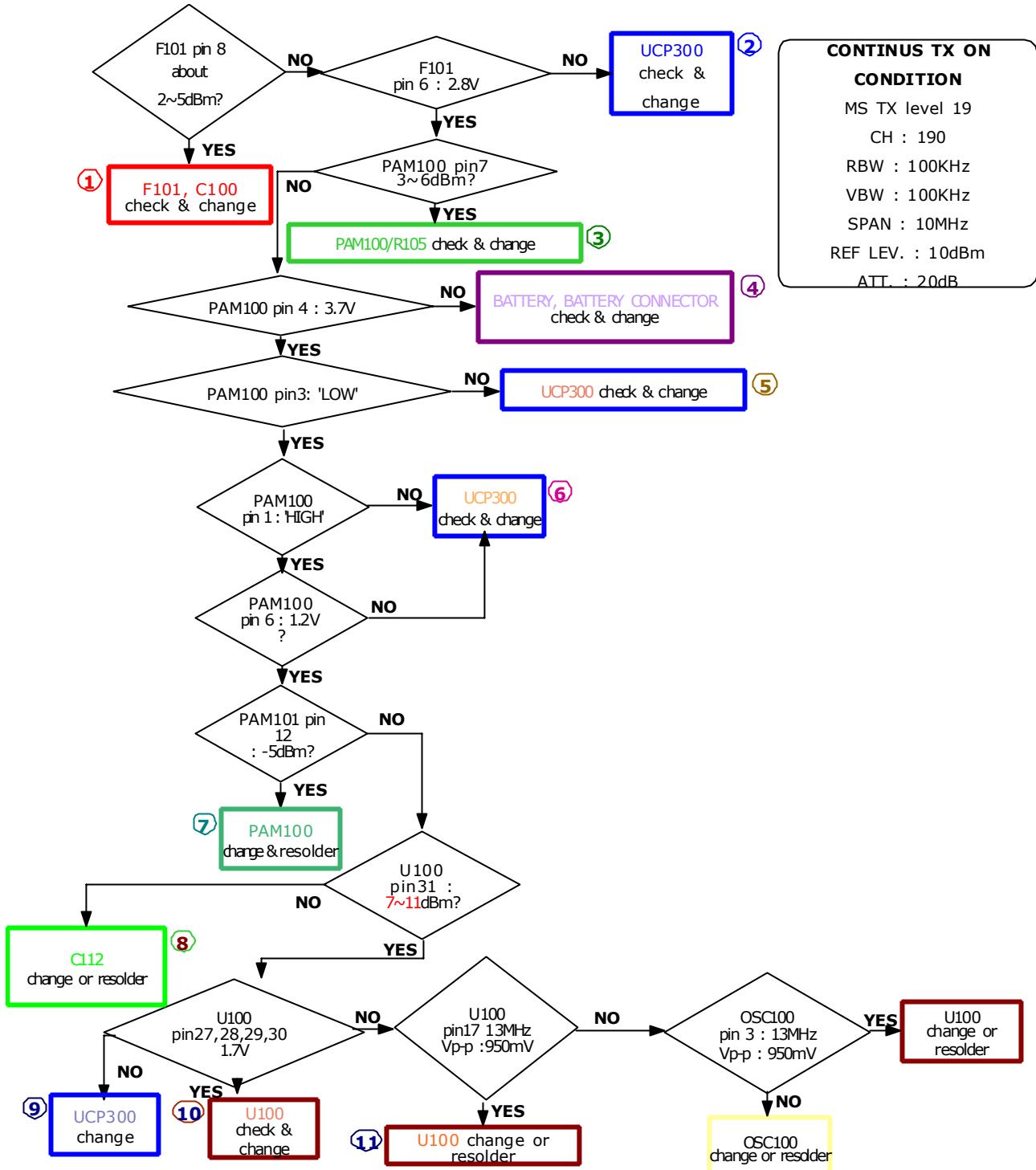
3-2-4. PCS Receiver



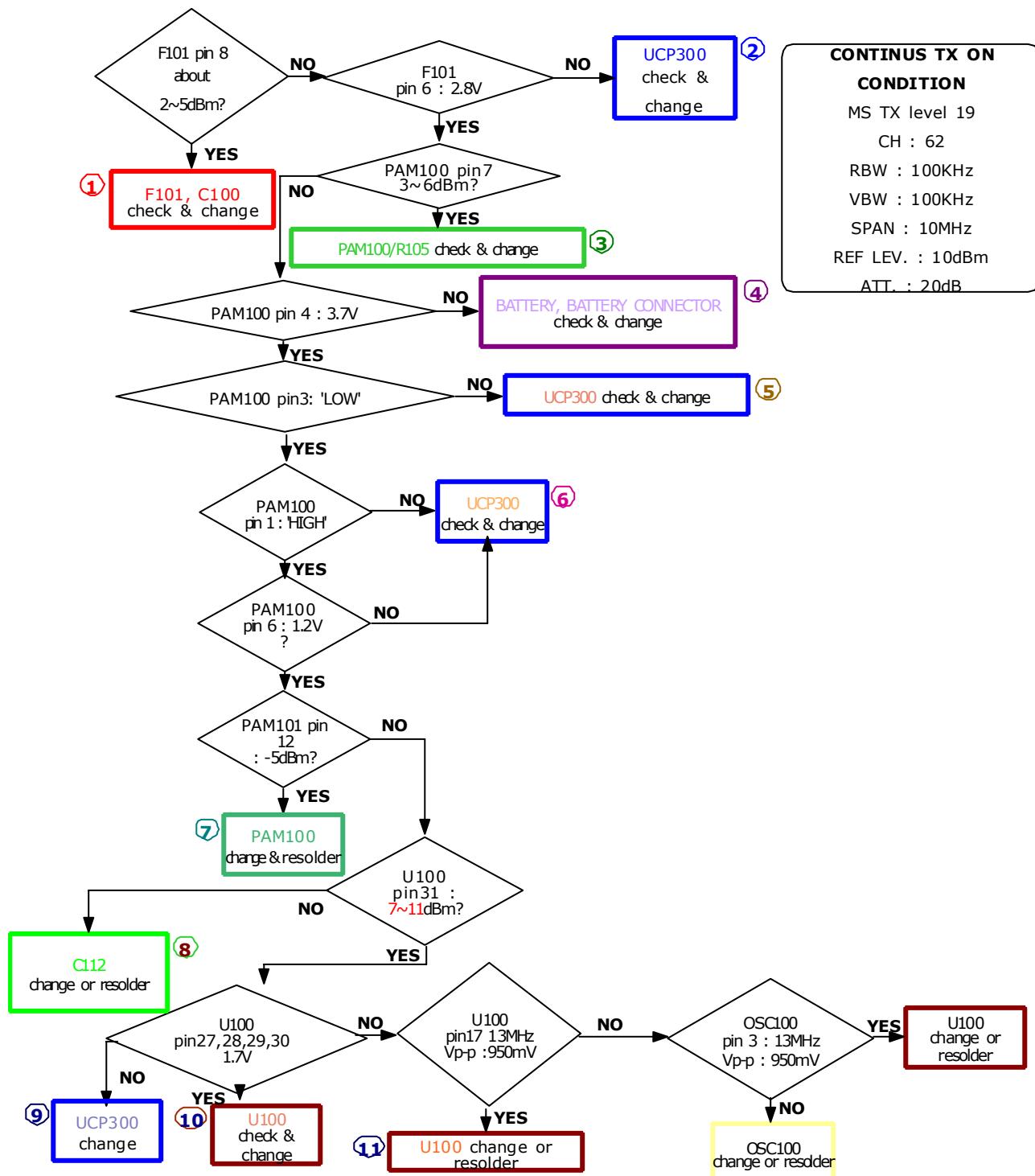




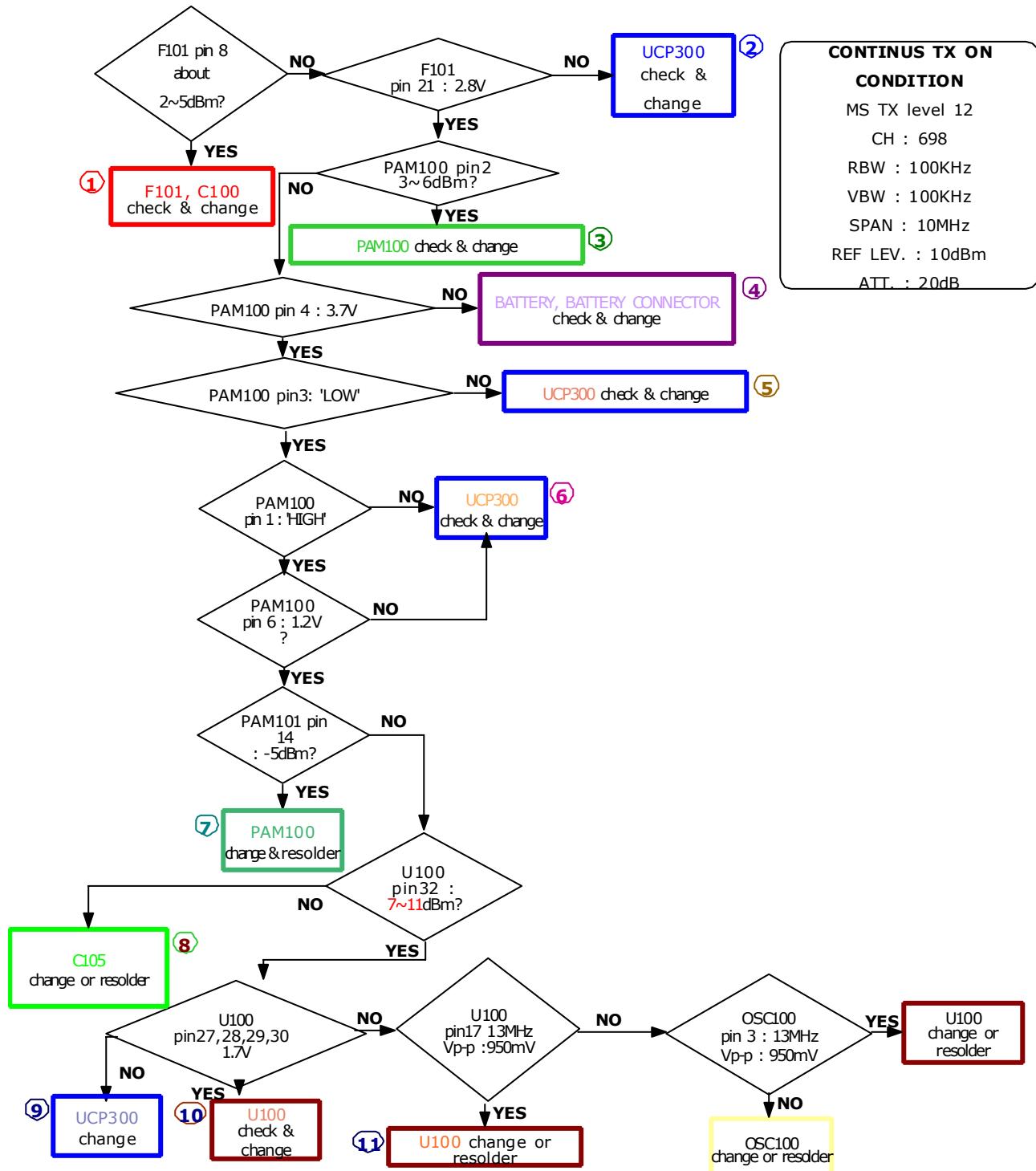
3-2-5. GSM850 Transmitter



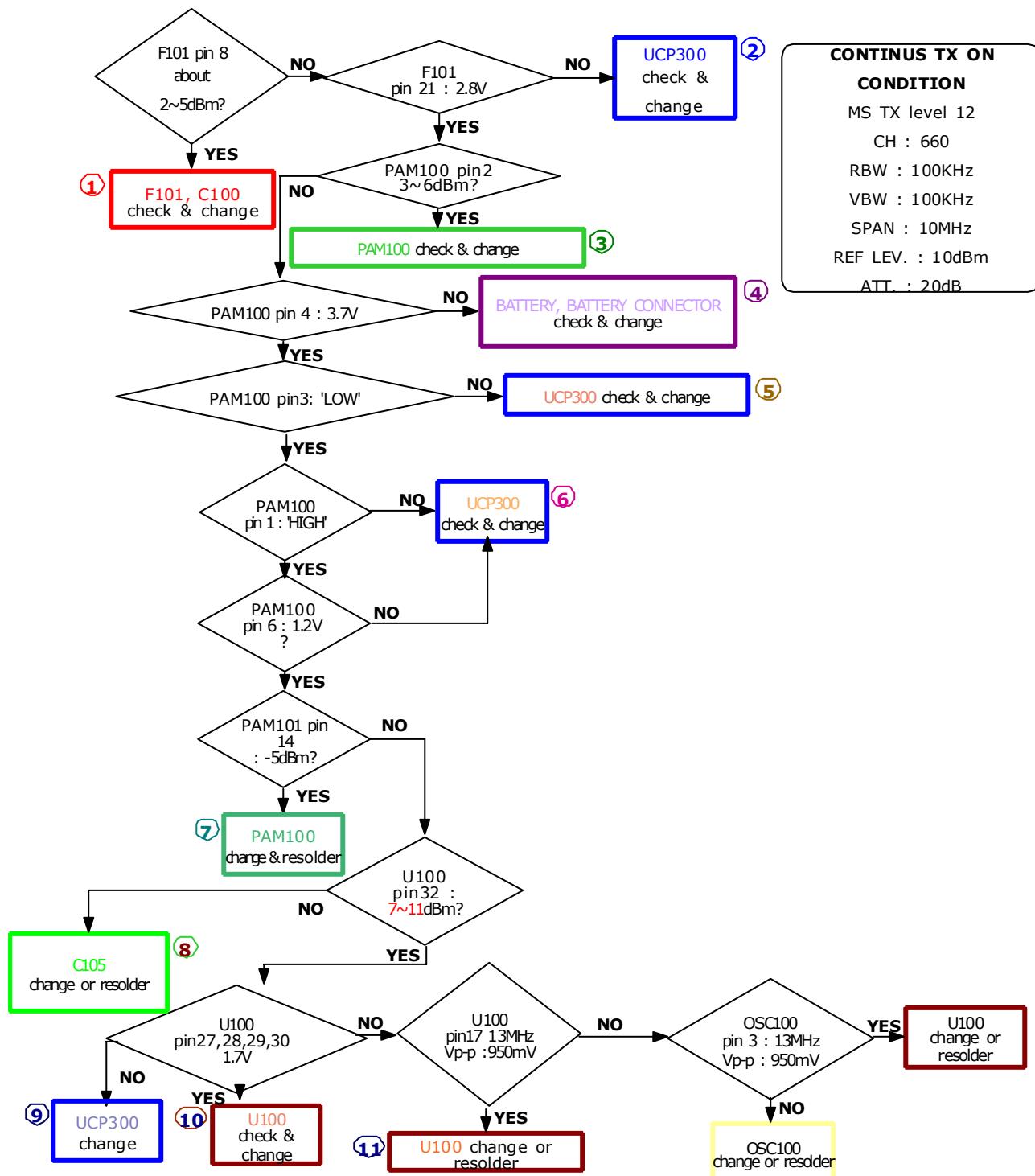
3-2-6. GSM900 Transmitter

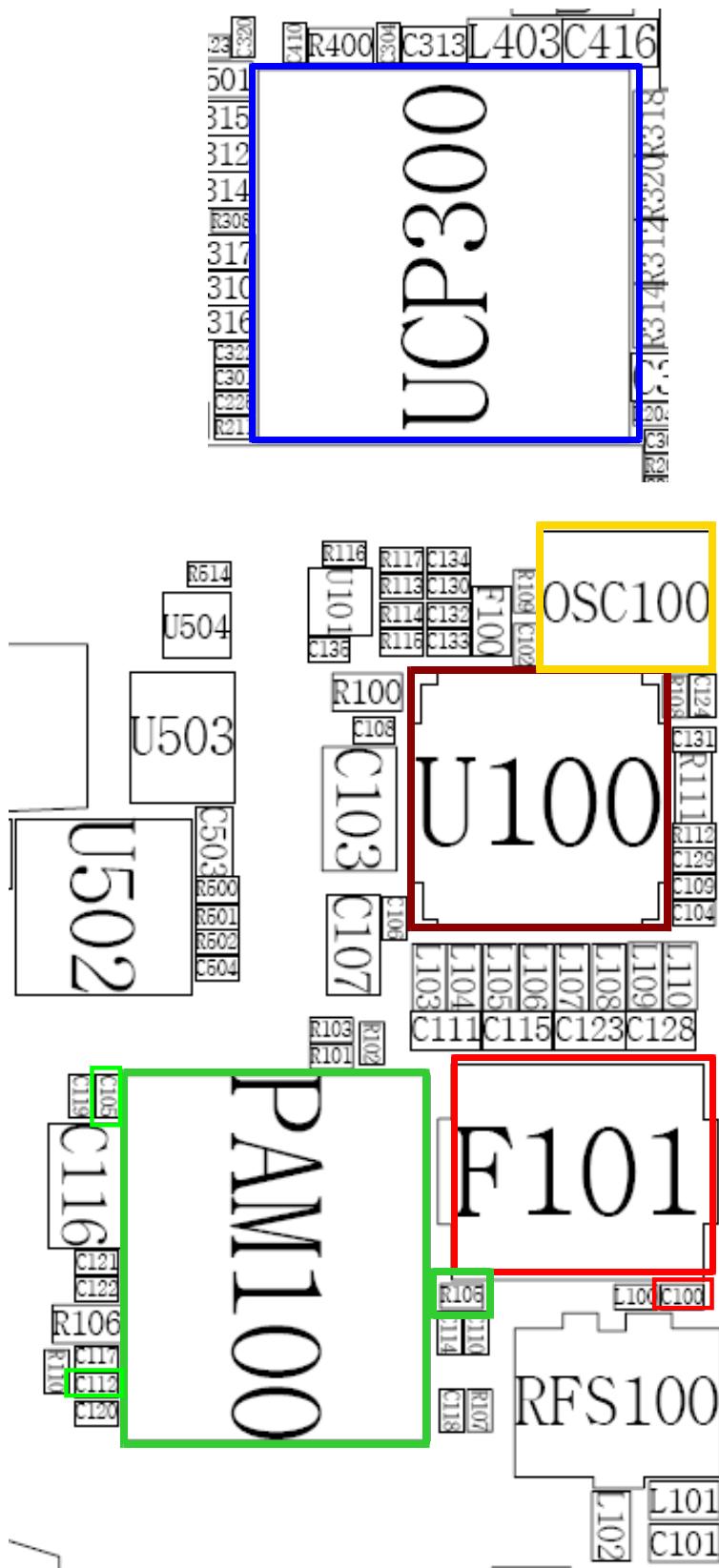


3-2-7. DCS Transmitter

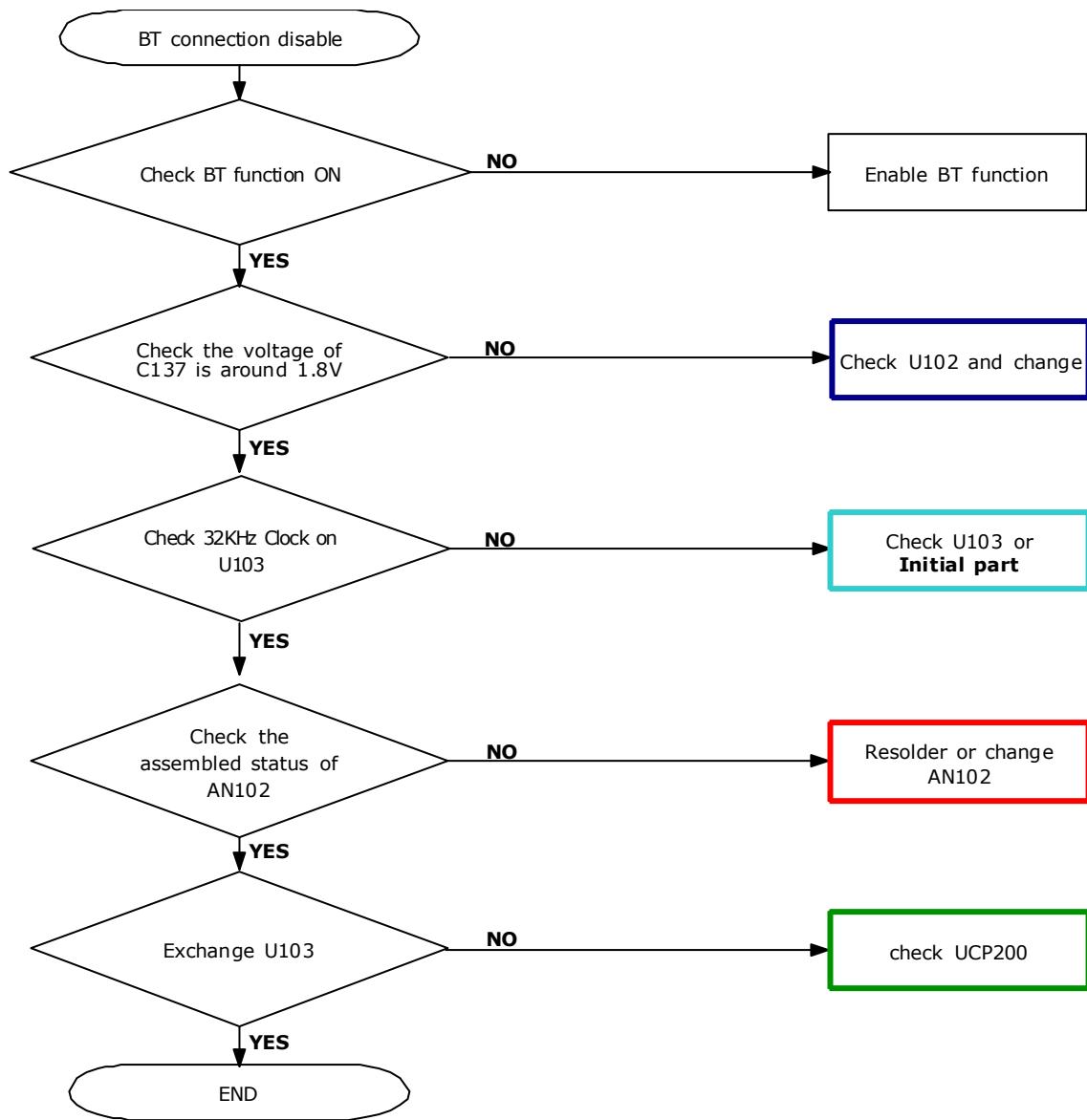


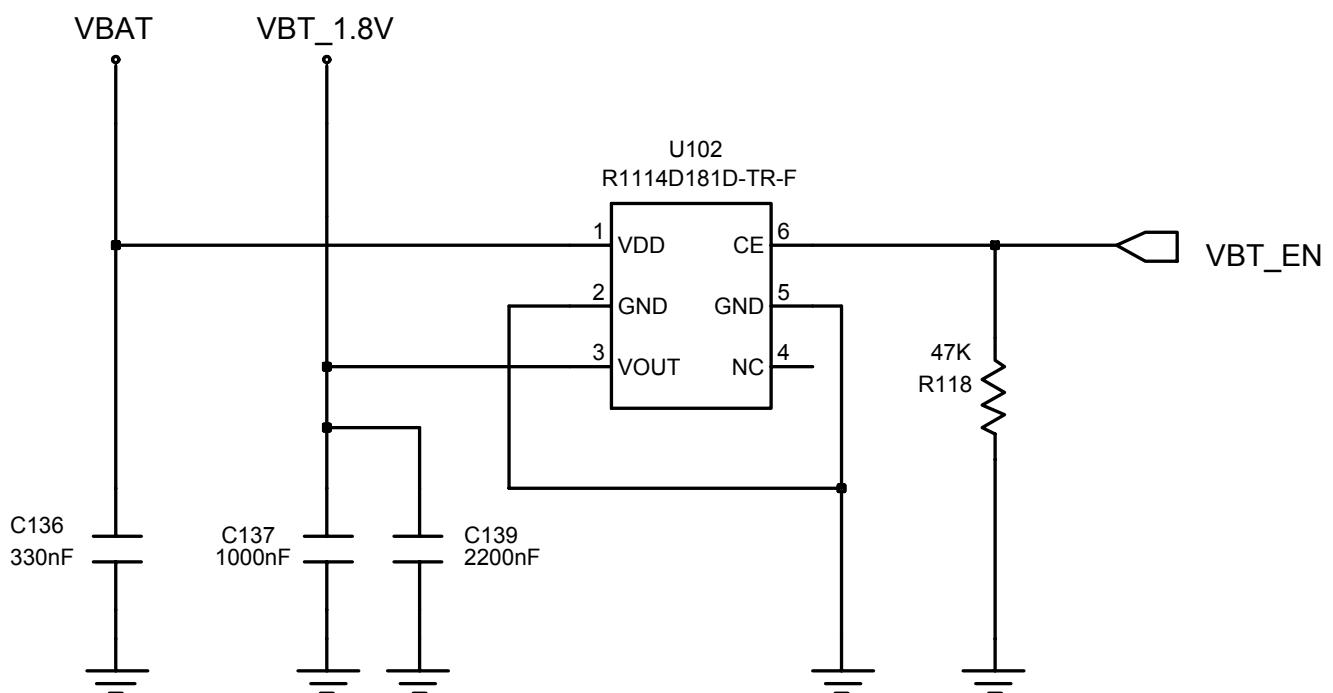
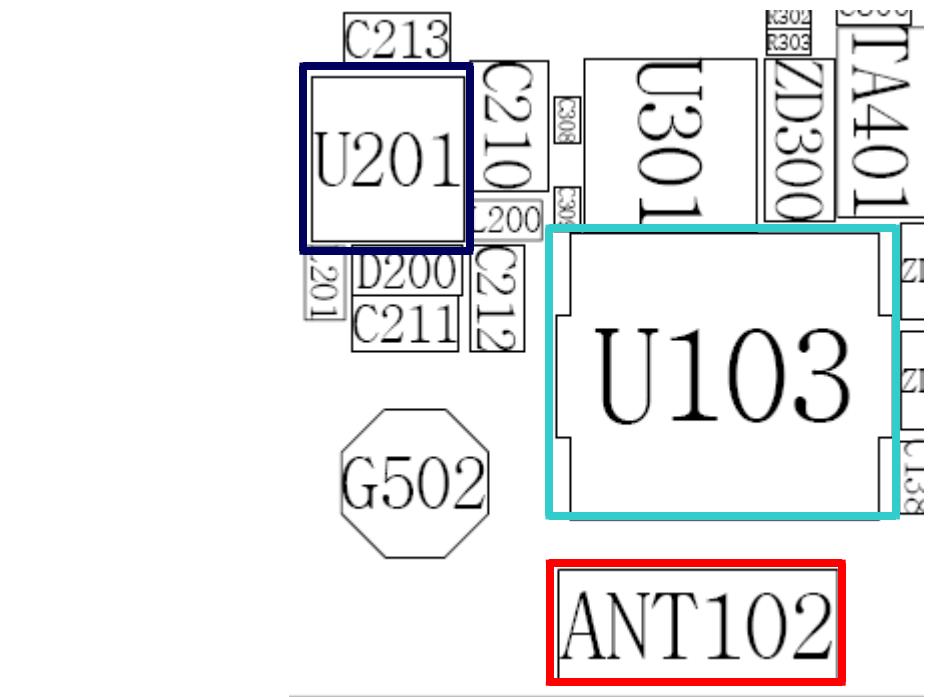
3-2-8. PCS Transmitter

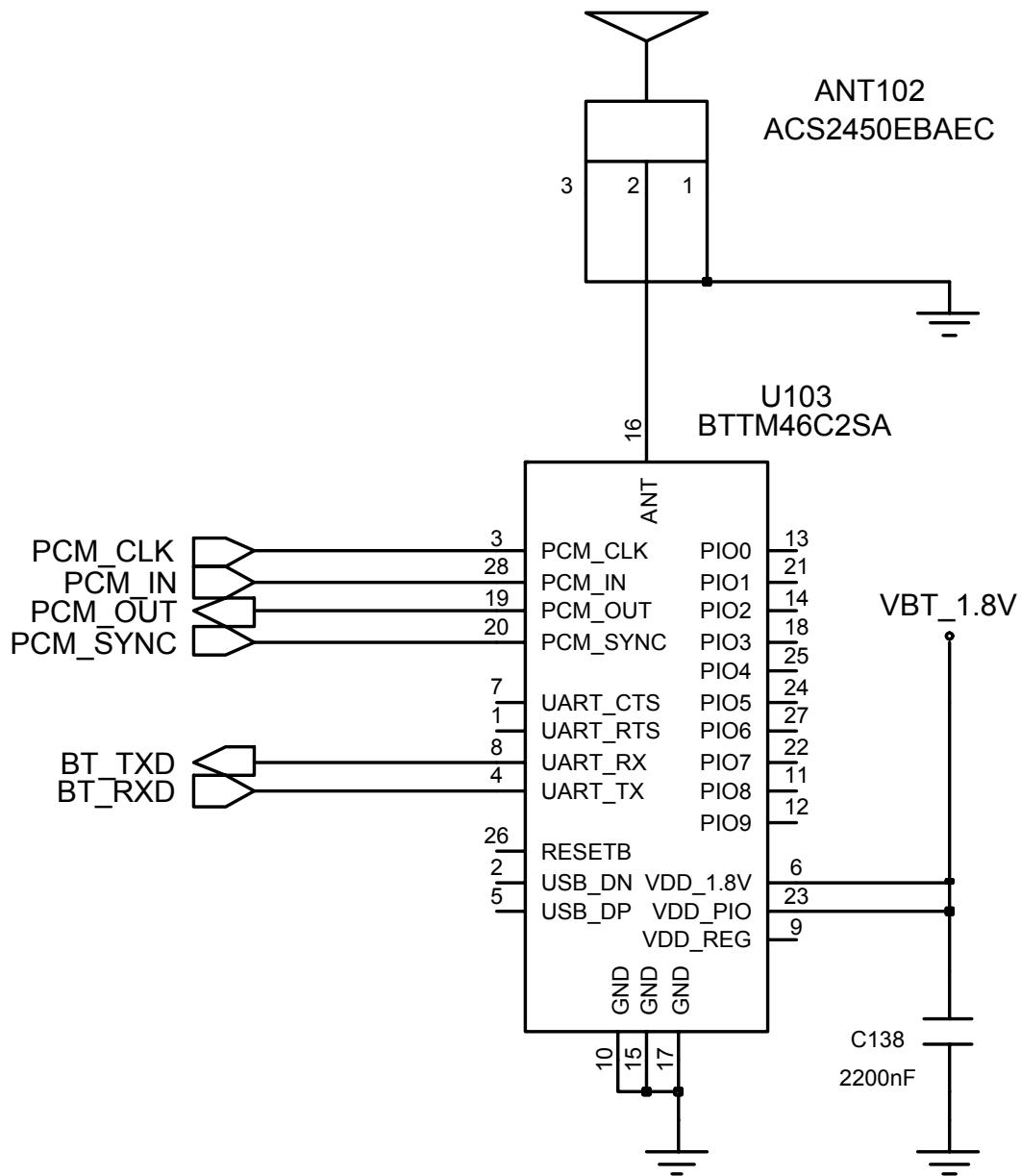




3-2-9. Bluetooth Part







4. Array course control



Test Jig (GH80-03307A)



Test Cable (GH39-00478A)



RF Test Cable (GH39-00182A)

Software Downloading

4-1. Downloading Binary Files

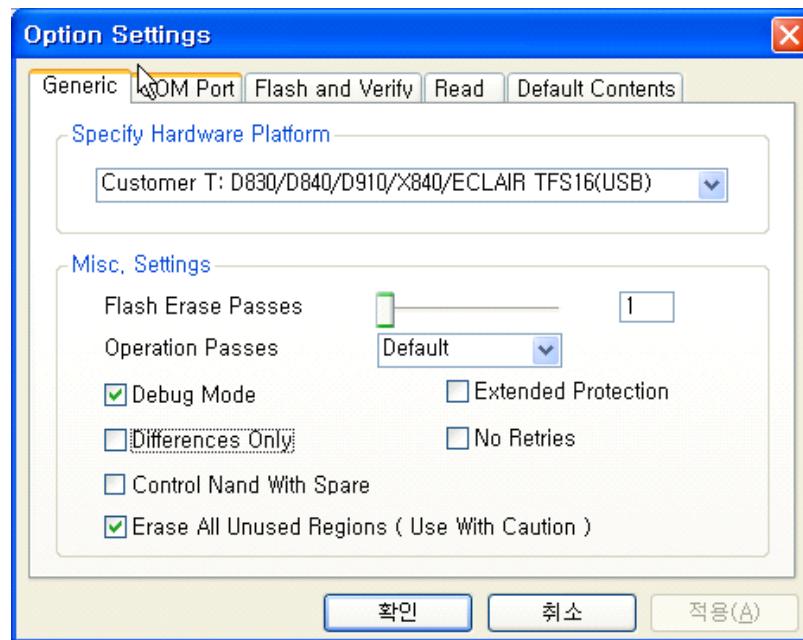
- Three binary files for downloading U600.
 - U600XXYY.s3 : Main source code binary.

4-2. Pre-requisite for Downloading

- Downloader Program([OptiFlash.exe](#))
- U600 Mobile Phone
- Data Cable
- Binary files

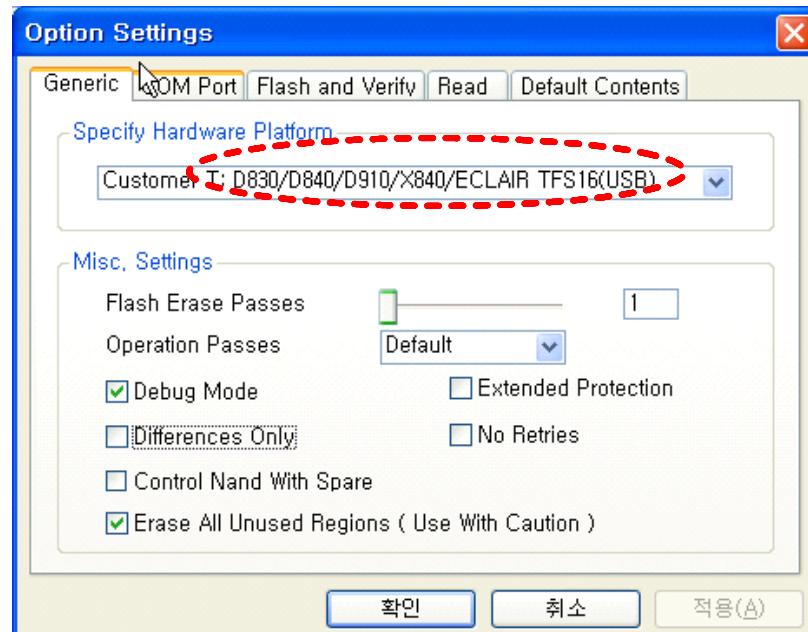
4-3. S/W Downloader Program

- Load the binary download program by executing the “OptiFlash.exe”

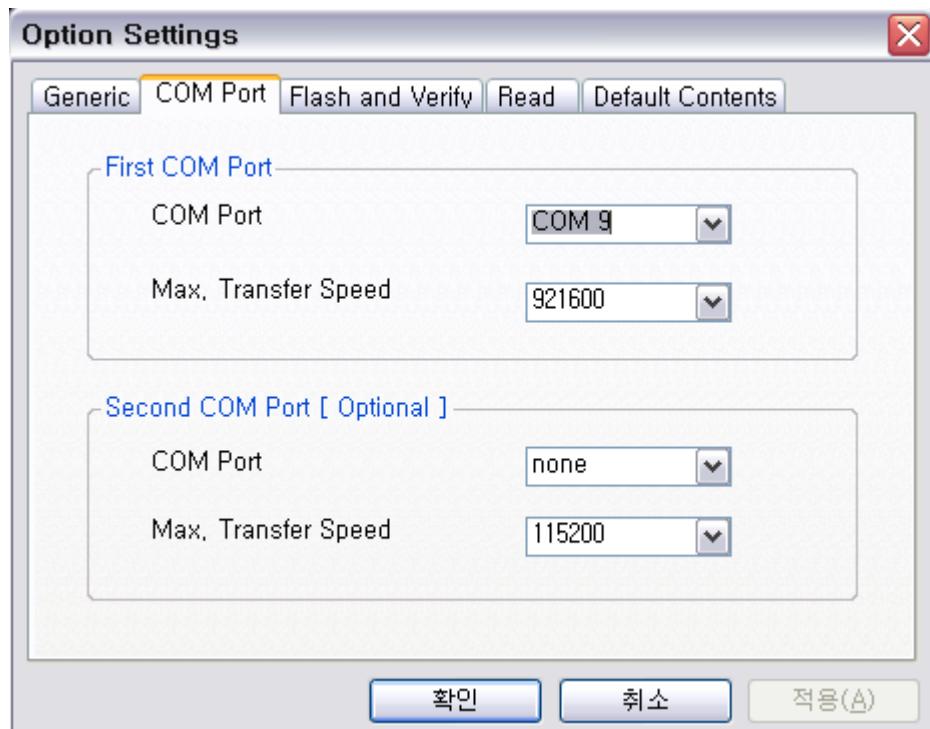


- Select the “Options” -> “Settings” -> “Generic” -> “Specify hardware platform”. Choose hardware platform for the downloader file setting.

Set the everything else as the default values which are shown below



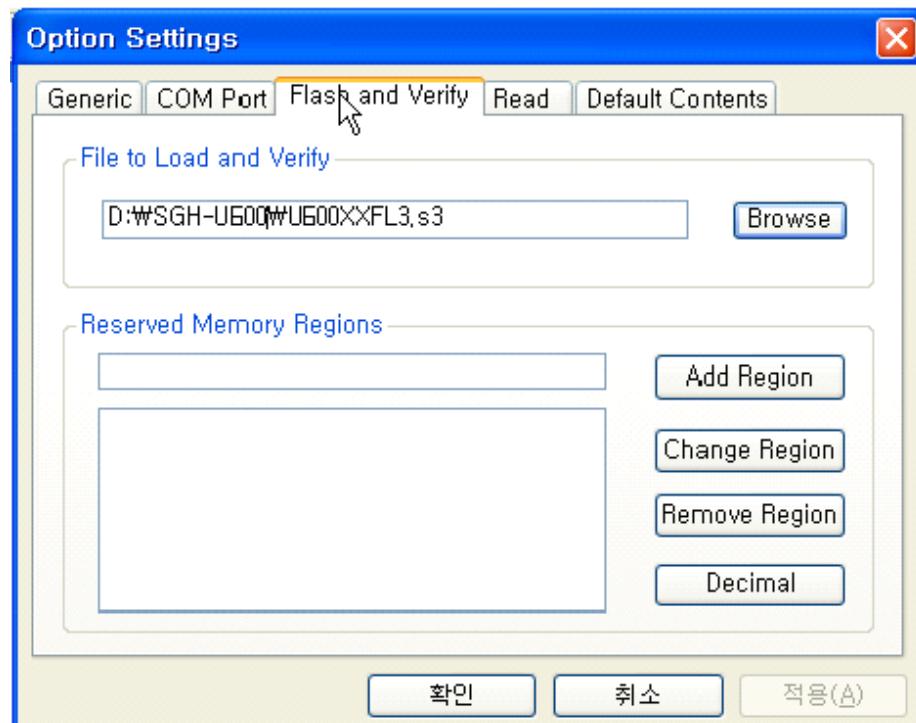
3. Select the **COM port** when the download cable is connected



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 latest s/w binary, for example “U600XXYY.s3”, for the downloader binary setting.

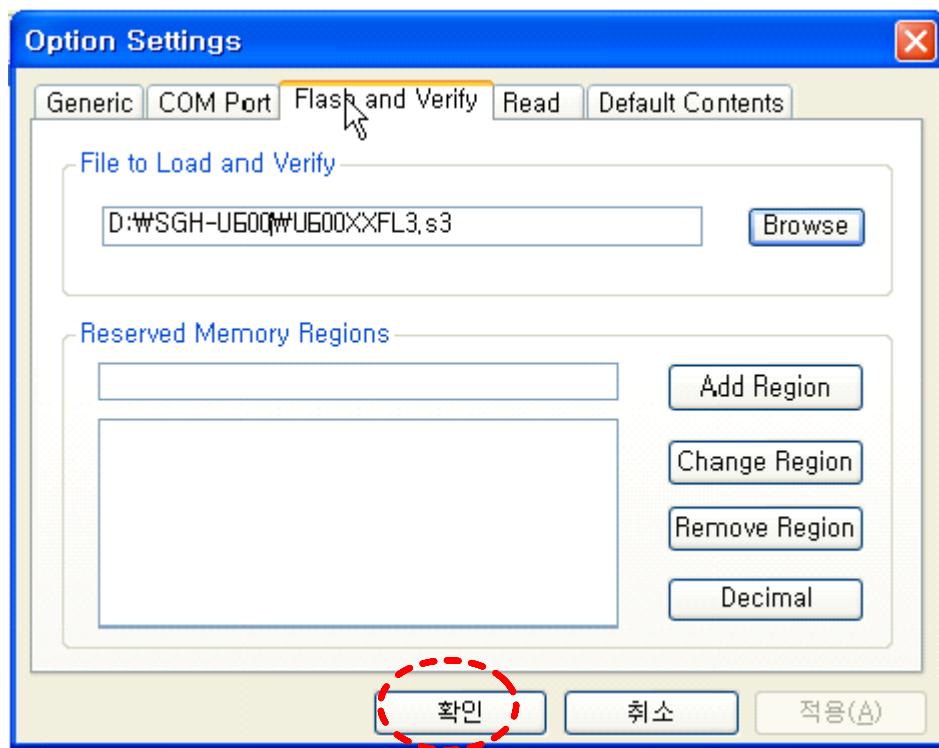


The reserved memory regions are included in optiflash program, platform.def.

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.

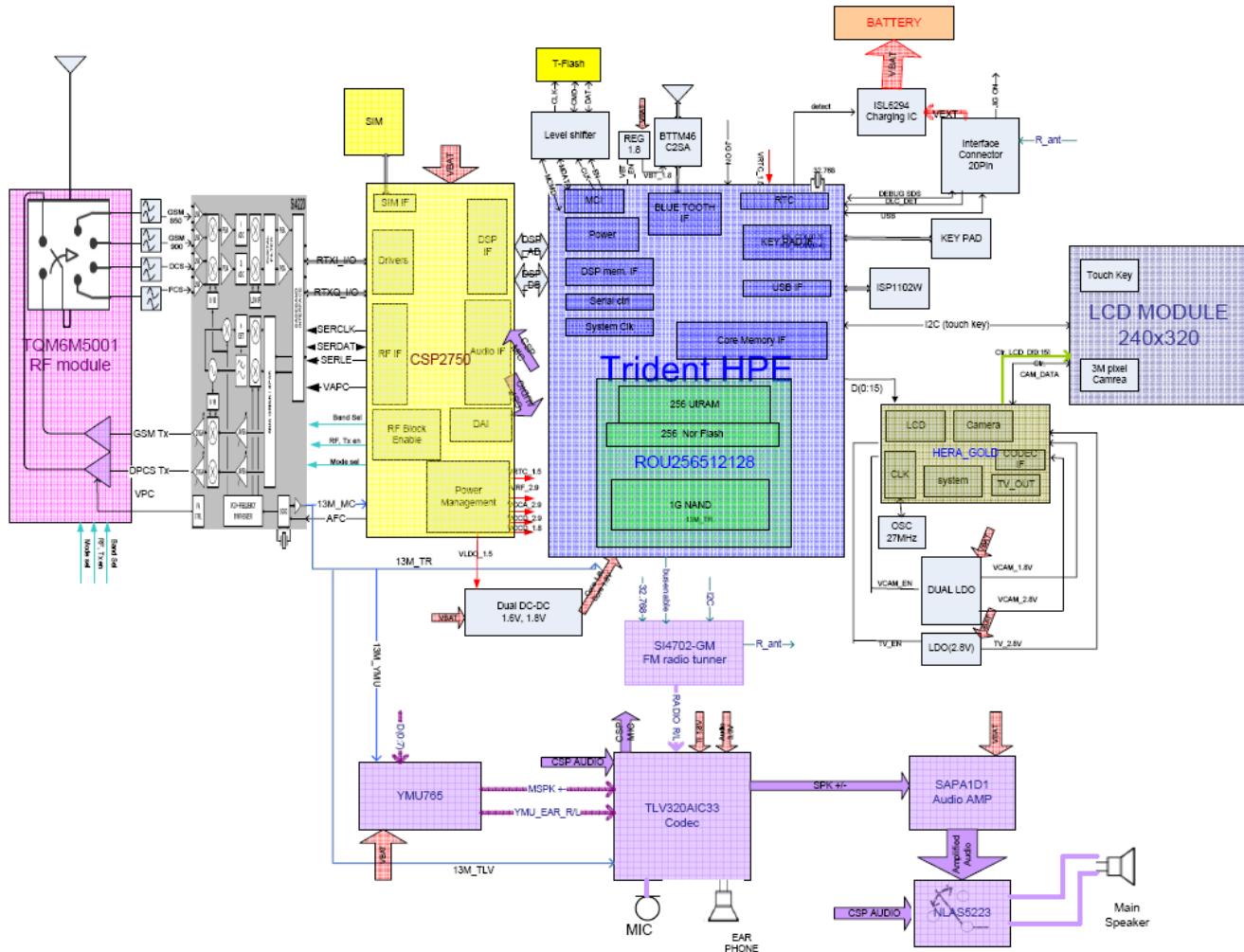
8. Confirm the downloaded version name and etc. :

***#1234#**

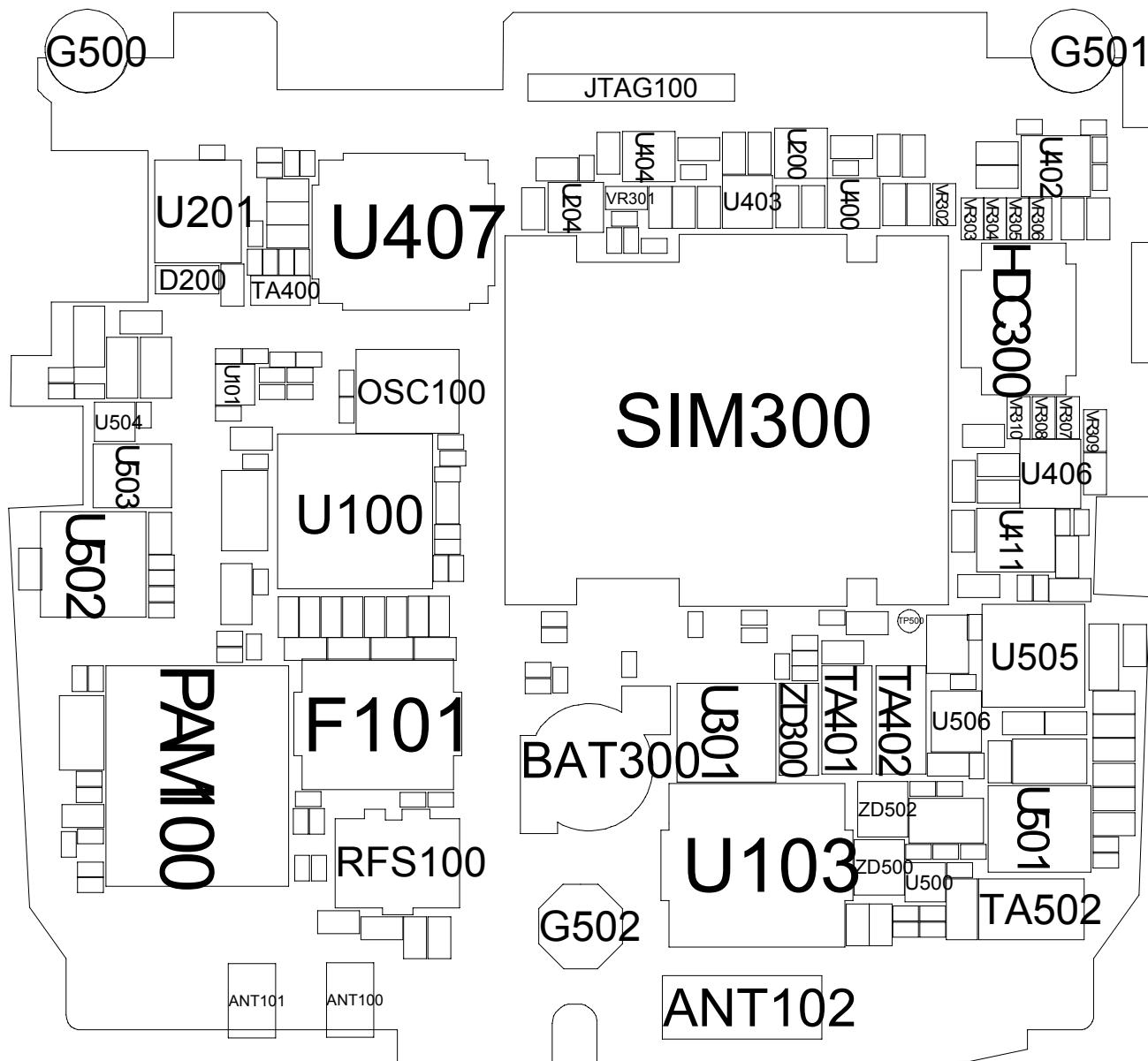
Full Reset :

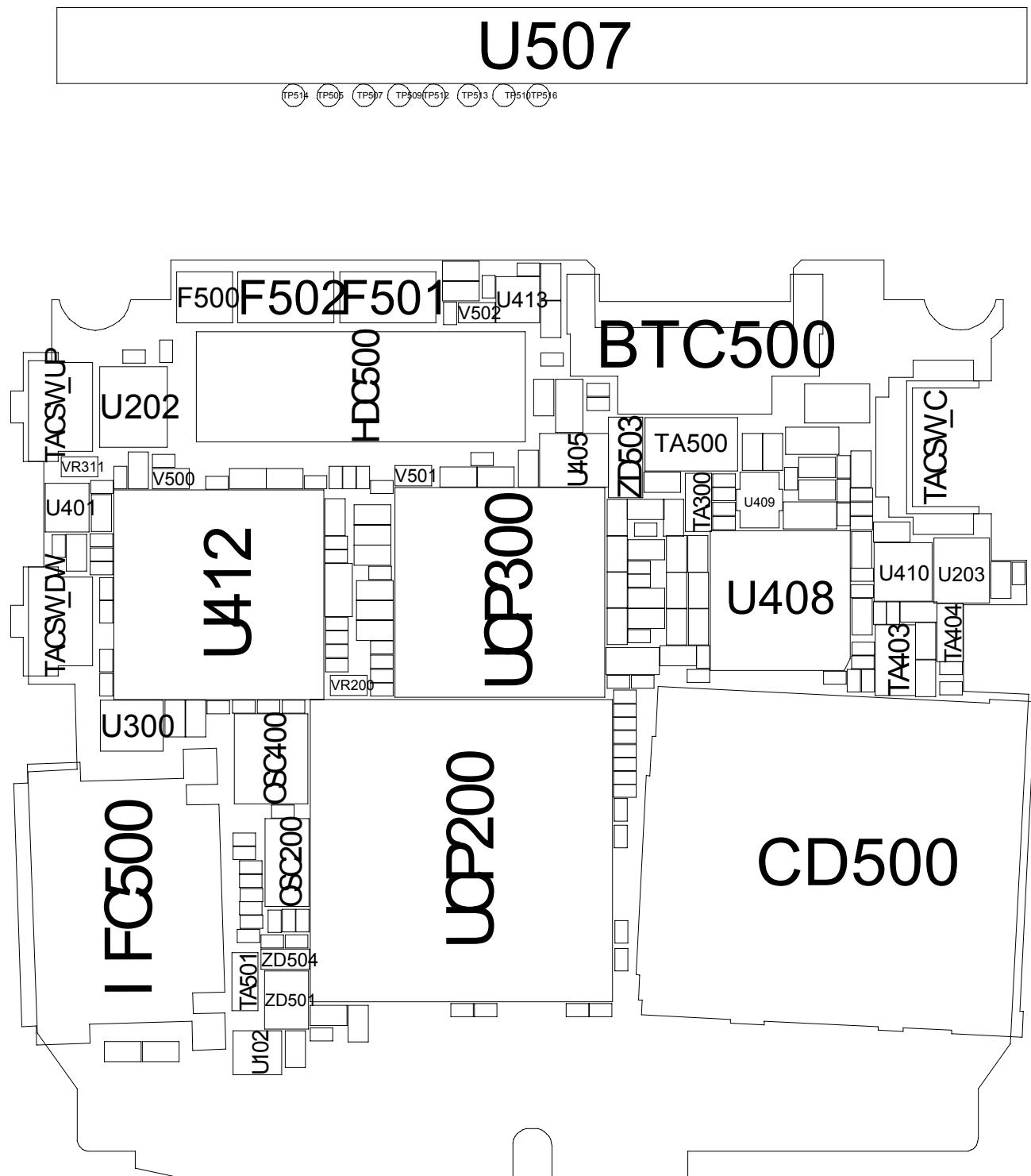
***2767*3855#**

5. Block Diagrams



6. PCB Diagrams





7. MAIN Electrical Parts List

SEC CODE	Design LOC	Description	STATUS
0403-001547	ZD300	DIODE-ZENER	SA
0403-001547	ZD503	DIODE-ZENER	SA
0404-001172	D200	DIODE-SCHOTTKY	SA
0406-001190	ZD500	DIODE-TVS	SA
0406-001190	ZD502	DIODE-TVS	SA
0406-001200	U503	DIODE-TVS	SA
0406-001210	ZD504	DIODE-TVS	SA
0406-001239	ZD501	DIODE-TVS	SA
0505-002207	U406	FET-SILICON	SA
0801-002958	U101	IC-CMOS LOGIC	SA
0801-002958	U504	IC-CMOS LOGIC	SA
0801-002995	U500	IC-CMOS LOGIC	SA
1001-001231	U506	IC-ANALOG SWITCH	SA
1001-001401	U300	IC-ANALOG SWITCH	SA
1001-001410	U409	IC-ANALOG SWITCH	SA
1006-001322	U202	IC-LINE TRANSCEIVER	SA
1009-001020	U203	IC-HALL EFFECT S/W	SA
1108-000063	UCP200	IC-MCP	SA
1201-002147	U411	IC-VIDEO AMP	SA
1201-002233	U410	IC-AUDIO AMP	SA
1201-002368	PAM100	IC-POWER AMP	SA
1203-003340	U200	IC-POSI.FIXED REG.	SA
1203-003340	U403	IC-POSI.FIXED REG.	SA
1203-003432	U404	IC-POSI.FIXED REG.	SA
1203-003688	U102	IC-POSI.FIXED REG.	SA
1203-003737	U204	IC-POSI.FIXED REG.	SA
1203-003754	U400	IC-POSI.FIXED REG.	SA
1203-003754	U413	IC-POSI.FIXED REG.	SA
1203-003787	U401	IC-POSI.FIXED REG.	SA
1203-003789	U502	IC-POWER SUPERVISOR	SA
1203-004119	UCP300	IC-POWER SUPERVISOR	SA
1203-004394	U402	IC-MULTI REG.	SA
1203-004482	U201	IC-DC/DC CONVERTER	SA
1203-004518	U501	IC-BATTERY	SA
1203-004554	U405	IC-DC/DC CONVERTER	SA
1204-002138	U407	IC-MELODY	SA

SEC CODE	Design LOC	Description	STATUS
1204-002746	U505	IC-TUNER	SA
1205-002272	U301	IC-TRANSCEIVER	SA
1205-002946	U408	IC-CODEC	SA
1205-003203	U100	IC-TRANSCEIVER	SA
1205-003210	U412	IC-CODEC	SA
1404-001165	VR301	THERMISTOR-NTC	SA
1405-001082	V500	VARISTOR	SA
1405-001082	V501	VARISTOR	SA
1405-001082	V502	VARISTOR	SA
1405-001082	VR200	VARISTOR	SA
1405-001133	VR300	VARISTOR	SA
1405-001133	VR302	VARISTOR	SA
1405-001133	VR303	VARISTOR	SA
1405-001133	VR304	VARISTOR	SA
1405-001133	VR305	VARISTOR	SA
1405-001133	VR306	VARISTOR	SA
1405-001133	VR307	VARISTOR	SA
1405-001133	VR308	VARISTOR	SA
1405-001133	VR309	VARISTOR	SA
1405-001133	VR310	VARISTOR	SA
1405-001133	VR311	VARISTOR	SA
2007-000141	R310	R-CHIP	SA
2007-000141	R316	R-CHIP	SA
2007-000171	R119	R-CHIP	SA
2007-000171	R322	R-CHIP	SA
2007-000171	R323	R-CHIP	SA
2007-000171	R432	R-CHIP	SA
2007-000171	R533	R-CHIP	SA
2007-000171	R534	R-CHIP	SA
2007-000172	R536	R-CHIP	SA
2007-000172	R537	R-CHIP	SA
2007-001119	R309	R-CHIP	SA
2007-001244	R312	R-CHIP	SA
2007-001244	R314	R-CHIP	SA
2007-001306	R439	R-CHIP	SA
2007-007009	R438	R-CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2007-007132	R513	R-CHIP	SA
2007-007134	R111	R-CHIP	SA
2007-007134	R422	R-CHIP	SA
2007-007134	R425	R-CHIP	SA
2007-007156	R100	R-CHIP	SA
2007-007317	R106	R-CHIP	SA
2007-007590	R318	R-CHIP	SA
2007-007590	R320	R-CHIP	SA
2007-007741	R112	R-CHIP	SA
2007-007741	R311	R-CHIP	SA
2007-007741	R313	R-CHIP	SA
2007-007741	R317	R-CHIP	SA
2007-007741	R319	R-CHIP	SA
2007-007741	R440	R-CHIP	SA
2007-007741	R441	R-CHIP	SA
2007-007741	R504	R-CHIP	SA
2007-007741	R506	R-CHIP	SA
2007-008040	R455	R-CHIP	SA
2007-008040	R456	R-CHIP	SA
2007-008044	R110	R-CHIP	SA
2007-008045	R114	R-CHIP	SA
2007-008045	R117	R-CHIP	SA
2007-008045	R300	R-CHIP	SA
2007-008045	R532	R-CHIP	SA
2007-008051	R417	R-CHIP	SA
2007-008051	R429	R-CHIP	SA
2007-008052	R208	R-CHIP	SA
2007-008052	R308	R-CHIP	SA
2007-008052	R430	R-CHIP	SA
2007-008053	R512	R-CHIP	SA
2007-008055	R207	R-CHIP	SA
2007-008055	R212	R-CHIP	SA
2007-008055	R213	R-CHIP	SA
2007-008055	R216	R-CHIP	SA
2007-008055	R508	R-CHIP	SA
2007-008055	R509	R-CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2007-008055	R510	R-CHIP	SA
2007-008055	R515	R-CHIP	SA
2007-008055	R517	R-CHIP	SA
2007-008055	R525	R-CHIP	SA
2007-008419	R523	R-CHIP	SA
2007-008419	R527	R-CHIP	SA
2007-008419	R528	R-CHIP	SA
2007-008419	R529	R-CHIP	SA
2007-008419	R530	R-CHIP	SA
2007-008419	R531	R-CHIP	SA
2007-008420	R303	R-CHIP	SA
2007-008420	R304	R-CHIP	SA
2007-008478	R302	R-CHIP	SA
2007-008478	R414	R-CHIP	SA
2007-008483	R118	R-CHIP	SA
2007-008483	R206	R-CHIP	SA
2007-008483	R210	R-CHIP	SA
2007-008483	R301	R-CHIP	SA
2007-008483	R401	R-CHIP	SA
2007-008483	R403	R-CHIP	SA
2007-008483	R404	R-CHIP	SA
2007-008483	R433	R-CHIP	SA
2007-008483	R436	R-CHIP	SA
2007-008483	R437	R-CHIP	SA
2007-008483	R500	R-CHIP	SA
2007-008483	R501	R-CHIP	SA
2007-008483	R502	R-CHIP	SA
2007-008483	R507	R-CHIP	SA
2007-008483	R535	R-CHIP	SA
2007-008486	R514	R-CHIP	SA
2007-008516	R108	R-CHIP	SA
2007-008516	R211	R-CHIP	SA
2007-008516	R450	R-CHIP	SA
2007-008531	R204	R-CHIP	SA
2007-008542	R107	R-CHIP	SA
2007-008542	R109	R-CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2007-008542	R324	R-CHIP	SA
2007-008542	R457	R-CHIP	SA
2007-008542	R458	R-CHIP	SA
2007-008544	R409	R-CHIP	SA
2007-008579	R101	R-CHIP	SA
2007-008579	R103	R-CHIP	SA
2007-008587	R113	R-CHIP	SA
2007-008588	R305	R-CHIP	SA
2007-008588	R427	R-CHIP	SA
2007-008588	R428	R-CHIP	SA
2007-008588	R434	R-CHIP	SA
2007-008588	R435	R-CHIP	SA
2007-008774	R214	R-CHIP	SA
2007-008808	R410	R-CHIP	SA
2007-009084	R418	R-CHIP	SA
2007-009108	R413	R-CHIP	SA
2007-009111	R420	R-CHIP	SA
2007-009111	R421	R-CHIP	SA
2007-009111	R424	R-CHIP	SA
2007-009111	R431	R-CHIP	SA
2007-009115	R102	R-CHIP	SA
2007-009157	R419	R-CHIP	SA
2007-009166	R306	R-CHIP	SA
2007-009167	R307	R-CHIP	SA
2007-009168	R215	R-CHIP	SA
2007-009168	R503	R-CHIP	SA
2007-009169	R511	R-CHIP	SA
2007-009170	R524	R-CHIP	SA
2007-009171	R412	R-CHIP	SA
2007-009233	R505	R-CHIP	SA
2007-009314	R116	R-CHIP	SA
2007-009402	R411	R-CHIP	SA
2203-000233	C217	C-CER,CHIP	SA
2203-000438	C466	C-CER,CHIP	SA
2203-000438	C467	C-CER,CHIP	SA
2203-000438	C500	C-CER,CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2203-000812	C325	C-CER,CHIP	SA
2203-000812	C326	C-CER,CHIP	SA
2203-000812	C328	C-CER,CHIP	SA
2203-000812	C335	C-CER,CHIP	SA
2203-000812	C337	C-CER,CHIP	SA
2203-000870	L102	C-CER,CHIP	SA
2203-001405	C319	C-CER,CHIP	SA
2203-002677	C111	C-CER,CHIP	SA
2203-002677	C115	C-CER,CHIP	SA
2203-002709	C512	C-CER,CHIP	SA
2203-002709	C513	C-CER,CHIP	SA
2203-002982	C445	C-CER,CHIP	SA
2203-005481	C329	C-CER,CHIP	SA
2203-005481	C336	C-CER,CHIP	SA
2203-005482	C412	C-CER,CHIP	SA
2203-005682	C122	C-CER,CHIP	SA
2203-005682	C132	C-CER,CHIP	SA
2203-005682	C134	C-CER,CHIP	SA
2203-005682	C332	C-CER,CHIP	SA
2203-005682	C333	C-CER,CHIP	SA
2203-005682	C334	C-CER,CHIP	SA
2203-005682	C509	C-CER,CHIP	SA
2203-005682	C518	C-CER,CHIP	SA
2203-005682	C519	C-CER,CHIP	SA
2203-005683	C508	C-CER,CHIP	SA
2203-005719	C472	C-CER,CHIP	SA
2203-005719	C473	C-CER,CHIP	SA
2203-005725	C100	C-CER,CHIP	SA
2203-005725	C108	C-CER,CHIP	SA
2203-005727	C226	C-CER,CHIP	SA
2203-005727	C227	C-CER,CHIP	SA
2203-005729	C112	C-CER,CHIP	SA
2203-005729	C448	C-CER,CHIP	SA
2203-005736	C109	C-CER,CHIP	SA
2203-005736	C118	C-CER,CHIP	SA
2203-005736	C311	C-CER,CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2203-005736	C318	C-CER,CHIP	SA
2203-005736	C423	C-CER,CHIP	SA
2203-005736	C426	C-CER,CHIP	SA
2203-005736	C510	C-CER,CHIP	SA
2203-005789	C114	C-CER,CHIP	SA
2203-005806	C219	C-CER,CHIP	SNA
2203-005806	C455	C-CER,CHIP	SNA
2203-006048	C300	C-CER,CHIP	SA
2203-006048	C306	C-CER,CHIP	SA
2203-006048	C502	C-CER,CHIP	SA
2203-006120	C140	C-CER,CHIP	SA
2203-006121	C117	C-CER,CHIP	SA
2203-006194	C106	C-CER,CHIP	SA
2203-006194	C121	C-CER,CHIP	SA
2203-006194	C124	C-CER,CHIP	SA
2203-006194	C200	C-CER,CHIP	SA
2203-006194	C202	C-CER,CHIP	SA
2203-006194	C205	C-CER,CHIP	SA
2203-006194	C207	C-CER,CHIP	SA
2203-006194	C208	C-CER,CHIP	SA
2203-006194	C218	C-CER,CHIP	SA
2203-006194	C301	C-CER,CHIP	SA
2203-006194	C304	C-CER,CHIP	SA
2203-006194	C321	C-CER,CHIP	SA
2203-006194	C463	C-CER,CHIP	SA
2203-006194	C464	C-CER,CHIP	SA
2203-006257	C312	C-CER,CHIP	SA
2203-006257	C431	C-CER,CHIP	SA
2203-006260	C324	C-CER,CHIP	SA
2203-006260	C327	C-CER,CHIP	SA
2203-006305	C126	C-CER,CHIP	SA
2203-006305	C127	C-CER,CHIP	SA
2203-006305	C130	C-CER,CHIP	SA
2203-006305	C131	C-CER,CHIP	SA
2203-006305	C459	C-CER,CHIP	SA
2203-006305	C461	C-CER,CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2203-006324	C107	C-CER,CHIP	SA
2203-006361	C116	C-CER,CHIP	SA
2203-006361	C210	C-CER,CHIP	SA
2203-006377	C501	C-CER,CHIP	SA
2203-006377	C505	C-CER,CHIP	SA
2203-006423	C102	C-CER,CHIP	SA
2203-006423	C104	C-CER,CHIP	SA
2203-006423	C135	C-CER,CHIP	SA
2203-006423	C201	C-CER,CHIP	SA
2203-006423	C203	C-CER,CHIP	SA
2203-006423	C204	C-CER,CHIP	SA
2203-006423	C206	C-CER,CHIP	SA
2203-006423	C209	C-CER,CHIP	SA
2203-006423	C215	C-CER,CHIP	SA
2203-006423	C222	C-CER,CHIP	SA
2203-006423	C225	C-CER,CHIP	SA
2203-006423	C302	C-CER,CHIP	SA
2203-006423	C303	C-CER,CHIP	SA
2203-006423	C308	C-CER,CHIP	SA
2203-006423	C309	C-CER,CHIP	SA
2203-006423	C322	C-CER,CHIP	SA
2203-006423	C331	C-CER,CHIP	SA
2203-006423	C403	C-CER,CHIP	SA
2203-006423	C404	C-CER,CHIP	SA
2203-006423	C416	C-CER,CHIP	SA
2203-006423	C424	C-CER,CHIP	SA
2203-006423	C427	C-CER,CHIP	SA
2203-006423	C428	C-CER,CHIP	SA
2203-006423	C429	C-CER,CHIP	SA
2203-006423	C430	C-CER,CHIP	SA
2203-006423	C434	C-CER,CHIP	SA
2203-006423	C435	C-CER,CHIP	SA
2203-006423	C437	C-CER,CHIP	SA
2203-006423	C439	C-CER,CHIP	SA
2203-006423	C440	C-CER,CHIP	SA
2203-006423	C441	C-CER,CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2203-006423	C444	C-CER,CHIP	SA
2203-006423	C449	C-CER,CHIP	SA
2203-006423	C451	C-CER,CHIP	SA
2203-006423	C454	C-CER,CHIP	SA
2203-006423	C460	C-CER,CHIP	SA
2203-006423	C462	C-CER,CHIP	SA
2203-006423	C465	C-CER,CHIP	SA
2203-006423	C471	C-CER,CHIP	SA
2203-006423	C475	C-CER,CHIP	SA
2203-006423	C477	C-CER,CHIP	SA
2203-006423	C504	C-CER,CHIP	SA
2203-006466	C517	C-CER,CHIP	SA
2203-006556	C223	C-CER,CHIP	SA
2203-006562	C137	C-CER,CHIP	SA
2203-006562	C216	C-CER,CHIP	SA
2203-006562	C220	C-CER,CHIP	SA
2203-006562	C224	C-CER,CHIP	SA
2203-006562	C305	C-CER,CHIP	SA
2203-006562	C310	C-CER,CHIP	SA
2203-006562	C313	C-CER,CHIP	SA
2203-006562	C314	C-CER,CHIP	SA
2203-006562	C315	C-CER,CHIP	SA
2203-006562	C316	C-CER,CHIP	SA
2203-006562	C317	C-CER,CHIP	SA
2203-006562	C323	C-CER,CHIP	SA
2203-006562	C330	C-CER,CHIP	SA
2203-006562	C400	C-CER,CHIP	SA
2203-006562	C405	C-CER,CHIP	SA
2203-006562	C417	C-CER,CHIP	SA
2203-006562	C418	C-CER,CHIP	SA
2203-006562	C419	C-CER,CHIP	SA
2203-006562	C420	C-CER,CHIP	SA
2203-006562	C421	C-CER,CHIP	SA
2203-006562	C422	C-CER,CHIP	SA
2203-006562	C433	C-CER,CHIP	SA
2203-006562	C436	C-CER,CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2203-006562	C438	C-CER,CHIP	SA
2203-006562	C442	C-CER,CHIP	SA
2203-006562	C443	C-CER,CHIP	SA
2203-006562	C447	C-CER,CHIP	SA
2203-006562	C450	C-CER,CHIP	SA
2203-006562	C458	C-CER,CHIP	SA
2203-006562	C474	C-CER,CHIP	SA
2203-006562	C503	C-CER,CHIP	SA
2203-006562	C506	C-CER,CHIP	SA
2203-006562	C507	C-CER,CHIP	SA
2203-006562	C514	C-CER,CHIP	SA
2203-006562	C521	C-CER,CHIP	SA
2203-006620	C446	C-CER,CHIP	SNA
2203-006626	C136	C-CER,CHIP	SA
2203-006626	C411	C-CER,CHIP	SA
2203-006626	C414	C-CER,CHIP	SA
2203-006626	C468	C-CER,CHIP	SA
2203-006626	C469	C-CER,CHIP	SA
2203-006626	C476	C-CER,CHIP	SA
2203-006648	C320	C-CER,CHIP	SA
2203-006648	C520	C-CER,CHIP	SA
2203-006824	C307	C-CER,CHIP	SA
2203-006824	C432	C-CER,CHIP	SA
2203-006825	C211	C-CER,CHIP	SA
2203-006825	C212	C-CER,CHIP	SA
2203-006825	C213	C-CER,CHIP	SA
2203-006838	C214	C-CER,CHIP	SA
2203-006838	C221	C-CER,CHIP	SA
2203-006838	C401	C-CER,CHIP	SA
2203-006838	C402	C-CER,CHIP	SA
2203-006872	C138	C-CER,CHIP	SA
2203-006872	C139	C-CER,CHIP	SA
2203-006872	C406	C-CER,CHIP	SA
2203-006872	C407	C-CER,CHIP	SA
2203-006872	C408	C-CER,CHIP	SA
2203-006872	C413	C-CER,CHIP	SA

SEC CODE	Design LOC	Description	STATUS
2203-006872	C415	C-CER,CHIP	SA
2203-006872	C425	C-CER,CHIP	SA
2203-006872	C478	C-CER,CHIP	SA
2203-006896	C129	C-CER,CHIP	SA
2203-006979	C409	C-CER,CHIP	SA
2404-001268	C103	C-TA,CHIP	SA
2404-001339	TA400	C-TA,CHIP	SA
2404-001352	TA403	C-TA,CHIP	SA
2404-001353	TA401	C-TA,CHIP	SA
2404-001353	TA402	C-TA,CHIP	SA
2404-001381	C511	C-TA,CHIP	SA
2404-001381	TA300	C-TA,CHIP	SA
2404-001381	TA404	C-TA,CHIP	SA
2404-001396	TA501	C-TA,CHIP	SA
2404-001406	TA500	C-TA,CHIP	SA
2404-001406	TA502	C-TA,CHIP	SA
2703-002200	L101	INDUCTOR-SMD	SA
2703-002586	L107	INDUCTOR-SMD	SA
2703-002586	L108	INDUCTOR-SMD	SA
2703-002597	L103	INDUCTOR-SMD	SA
2703-002597	L104	INDUCTOR-SMD	SA
2703-002597	L105	INDUCTOR-SMD	SA
2703-002597	L106	INDUCTOR-SMD	SA
2703-002700	L109	INDUCTOR-SMD	SA
2703-002700	L110	INDUCTOR-SMD	SA
2703-002819	L200	INDUCTOR-SMD	SA
2703-002819	L201	INDUCTOR-SMD	SA
2703-002858	C105	INDUCTOR-SMD	SA
2703-002906	R105	INDUCTOR-SMD	SA
2703-002910	L100	INDUCTOR-SMD	SA
2703-003002	L403	INDUCTOR-SMD	SA
2703-003196	L500	INDUCTOR-SMD	SA
2801-004458	OSC400	CRYSTAL-SMD	SA
2801-004466	OSC200	CRYSTAL-SMD	SA
2801-004552	OSC100	CRYSTAL-SMD	SA
2901-001348	F501	FILTER-EMI/ESD	SA

SEC CODE	Design LOC	Description	STATUS
2901-001348	F502	FILTER-EMI/ESD	SA
2901-001349	F500	FILTER-EMI/ESD	SA
2911-000049	F101	DUPLEXER-FEM	SA
3301-001158	L405	BEAD-SMD	SA
3301-001158	L406	BEAD-SMD	SA
3301-001341	L202	BEAD-SMD	SA
3301-001341	L400	BEAD-SMD	SA
3301-001341	L401	BEAD-SMD	SA
3301-001341	L402	BEAD-SMD	SA
3301-001341	L404	BEAD-SMD	SA
3301-001879	L501	BEAD-SMD	SA
3404-001303	TACSW_DW	SWITCH-TACT	SA
3404-001303	TACSW_UP	SWITCH-TACT	SA
3404-001320	TACSW_C	SWITCH-TACT	SA
3705-001358	RFS100	CONNECTOR-COAXIAL	SA
3708-002283	HDC300	CONNECTOR-FPC/FFC/PIC	SA
3709-001447	SIM300	CONNECTOR-CARD EDGE	SA
3709-001464	CD500	CONNECTOR-CARD EDGE	SA
3710-002306	IFC500	SOCKET-INTERFACE	SA
3711-006323	HDC500	HEADER-BOARD TO BOARD	SA
3711-006329	BTC500	HEADER-BATTERY	SA
4202-001283	ANT102	ANTENNA-CHIP	SA
4302-001158	BAT300	BATTERY-LI(2ND)	SA
4709-001413	U103	BLUETOOTH MODULE	SA
GH09-00045A	UCP200	IC MICOM	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 specificity of cellular phone is sensitive for surrounding interference(RF noise).
- Be careful to use a kind of magnetic object or tool,
because performance of parts is damaged by the influence of magnetic force.
- Surely use a standard screwdriver when you disassemble this product,
otherwise screw will be worn away.
- Use a thick twisted wire when you measure level.
A thick 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 please 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 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.

10. Product Function

Main Function

- Camera and camcorder
- Synchronisation with Windows Media Player
- Music player
- Image editor
- Photo printing
- Phone to TV
- Offline mode
- FM radio
- Bluetooth
- File viewer
- SOS message

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