

SAMSUNG

GSM TELEPHONE SGH-T439

SERVICE *Manual*

UMTS TELEPHONE



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**SAMSUNG
ELECTRONICS**



GSPN (Global Service Partner Network)

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

1. Safety Precautions

1-1. Repair Precaution

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

1-2. ESD(Electrostatically Sensitive Devices) Precaution

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

You can prevent from ESD damage by static electricity.

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

2. Specification

2-1. GSM General Specification

	GSM850 Phase 1	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800	PCS1900
Freq. Band[MHz] Uplink/Downlink	824~849 869~894	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	128~251	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	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	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~5dBm	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8	8
Cell Radius	35Km	35Km	35Km	2Km	-

2-2. GSM TX power class

TX Power control level	GSM850	GSM900
5	33±2 dBm	33±2 dBm
6	31±2 dBm	31±2 dBm
7	29±2 dBm	29±2 dBm
8	27±2 dBm	27±2 dBm
9	25±2 dBm	25±2 dBm
10	23±2 dBm	23±2 dBm
11	21±2 dBm	21±2 dBm
12	19±2 dBm	19±2 dBm
13	17±2 dBm	17±2 dBm
14	15±2 dBm	15±2 dBm
15	13±2 dBm	13±2 dBm
16	11±3 dBm	11±3 dBm
17	9±3dBm	9±3dBm
18	7±3 dBm	7±3 dBm
19	5±3 dBm	5±3 dBm

TX Power control level	DCS1800	PCS1900
0	30±3 dBm	30±3 dBm
1	28±3 dBm	28±3 dBm
2	26±3 dBm	26±3 dBm
3	24±3 dBm	24±3 dBm
4	22±3 dBm	22±3 dBm
5	20±3 dBm	20±3 dBm
6	18±3 dBm	18±3 dBm
7	16±3 dBm	16±3 dBm
8	14±3 dBm	14±3 dBm
9	12±4 dBm	12±4 dBm
10	10±4 dBm	10±4 dBm
11	8±4dBm	8±4dBm
12	6±4 dBm	6±4 dBm
13	4±4 dBm	4±4 dBm
14	2±5 dBm	2±5 dBm
15	0±5 dBm	0±5 dBm

3. Operation Instruction and Installation

Main Function

- Stylish Mega Folder
- Quad-band / EDGE
- 1.3Mega Camera
- 128x160,65K PMOLED, 2.0"/ 96x96, 65K PMOLED, 1.0"
- Global Inbox
- IM (Yahoo, AOL, ICQ,MSN), MMS
- SAIC, Speaker Phone
- Stereo BT
- SyncML DS / NAB
- "myFaves" phase1.5
- Consumer Email (Native)

4. Array course control

4-1. Software Adjustments

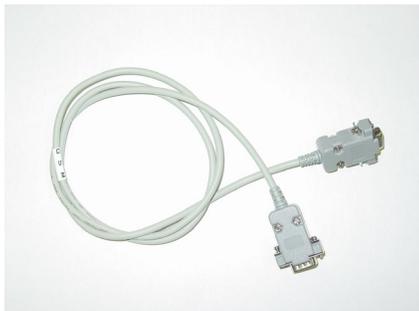
Test Jig (GH80-03306A)



Jig Cable (GH80-00840A)



Serial Cable(CSA LL64151-A)



Power Supply Cable



4-2. Software Downloading

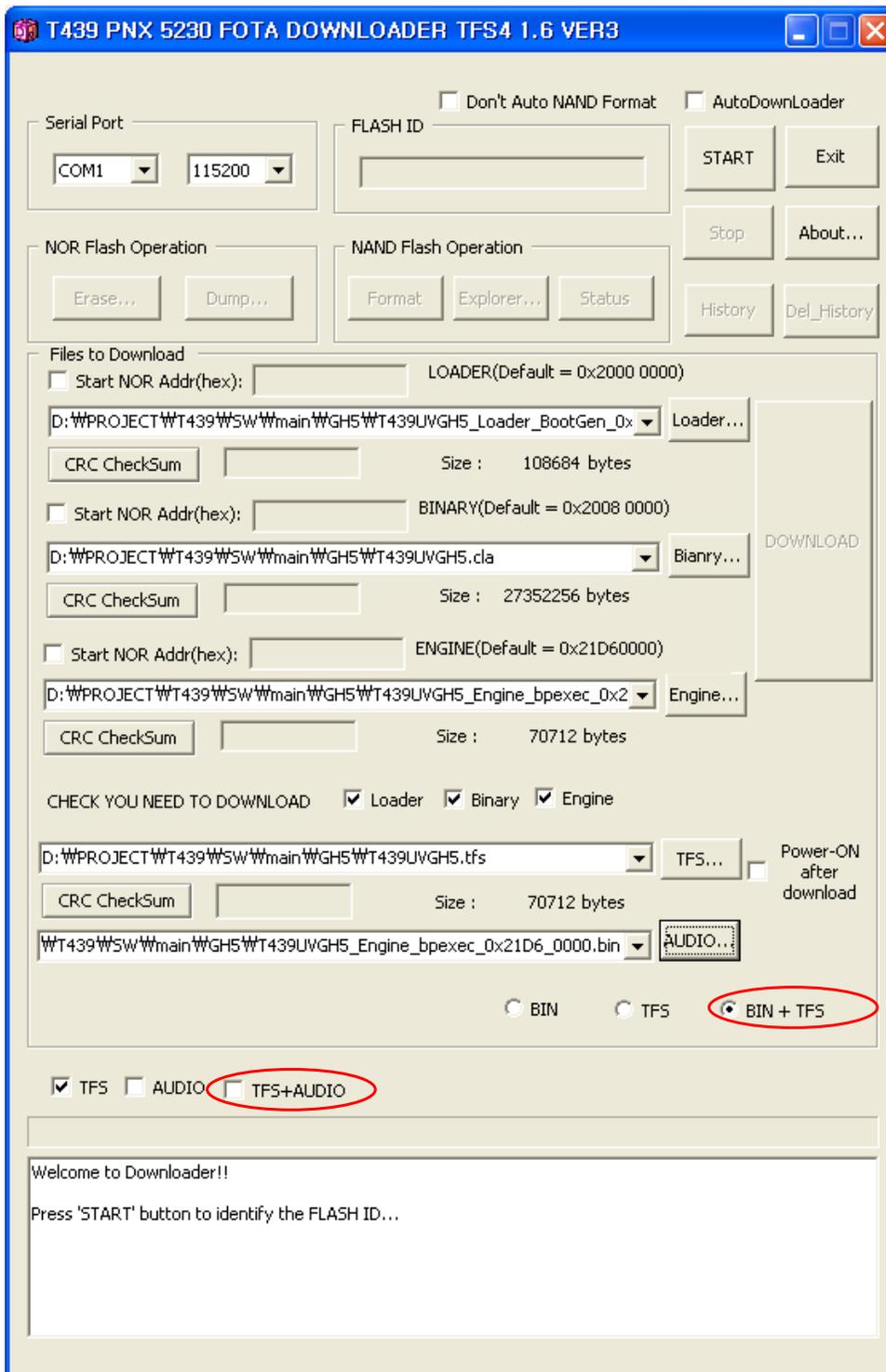
4-2-1. Pre-requisite for Downloading

- Downloader Program([T439 PNX5230 FOTA Downloade VER3.exe](#))
- T439 Mobile Phone
- Data Cable
- Binary file, TFS file

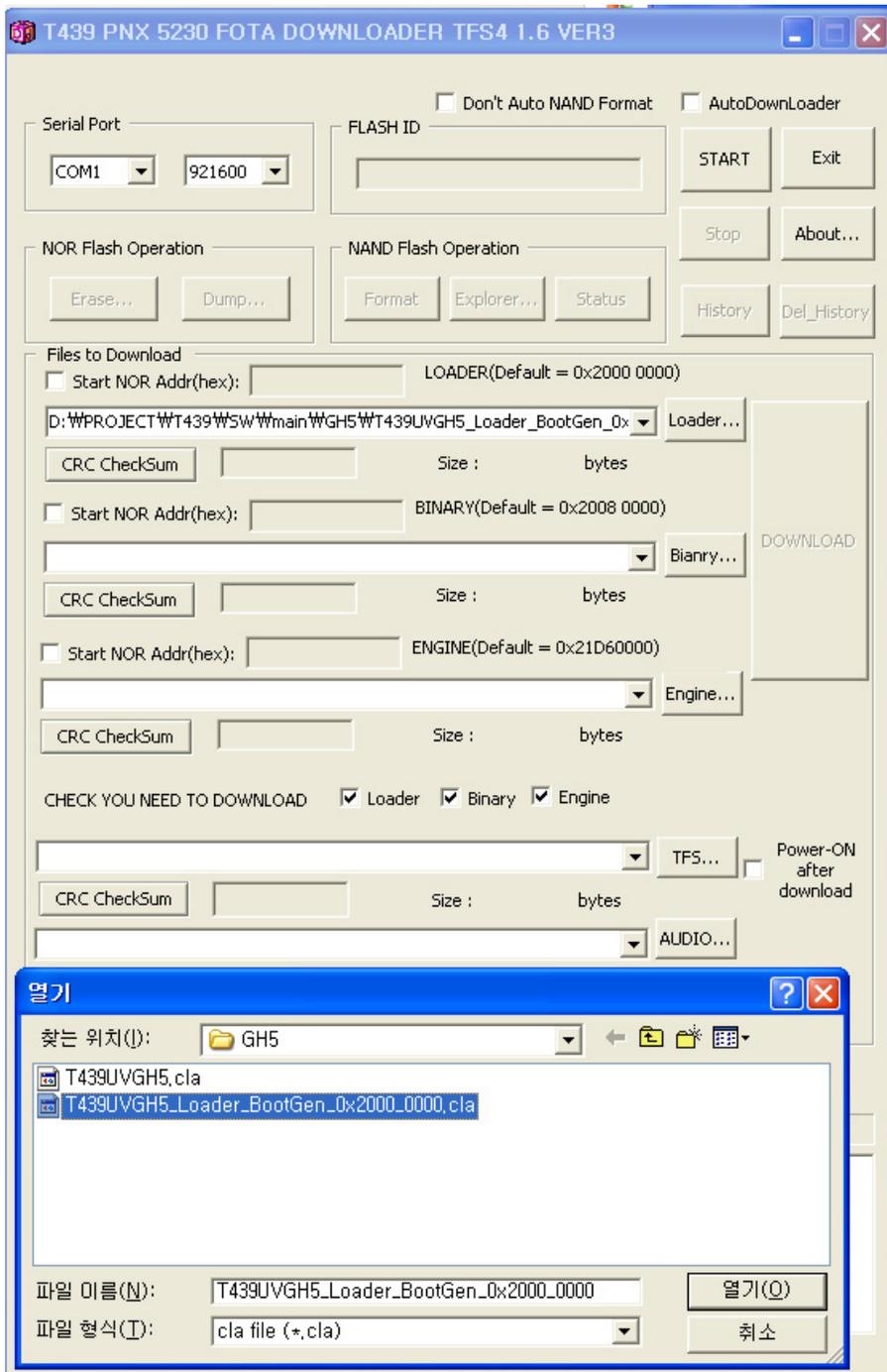
4-2-2. S/W Downloader Program

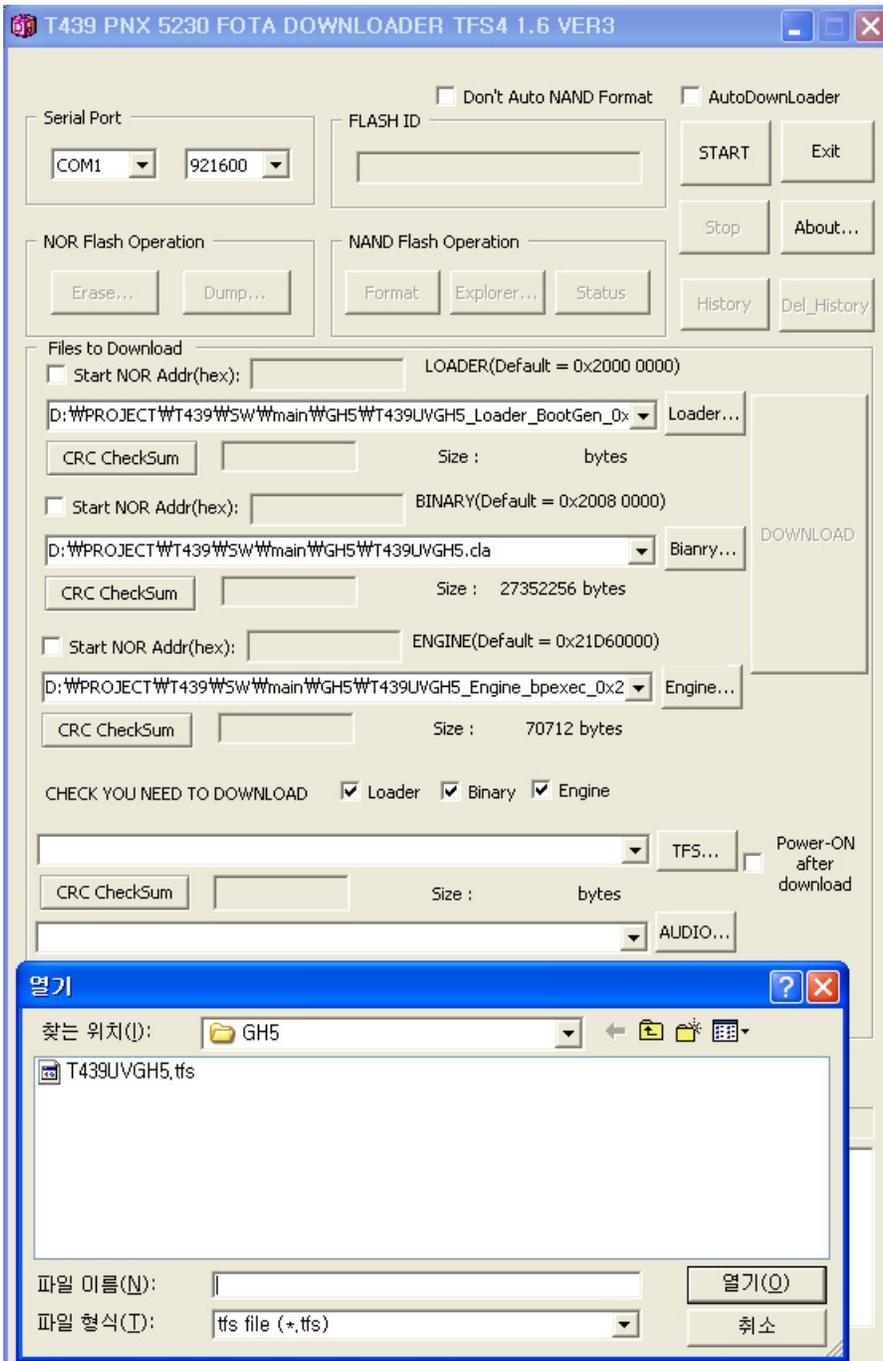
- Load the binary download program by executing the ["T439 PNX5230 FOTA Downloade VER3.exe"](#)

1. Select the connected serial port and the rate of speed
2. Select the check box, the mode you want to download.
 - if the binary file wanted, check only 'BIN'
 - if the tfs file wanted, check only 'TFS'
 - if all the files wanted, check 'BIN+TFS'
 - if audio tuning wanted, check 'TFS+AUDIO'



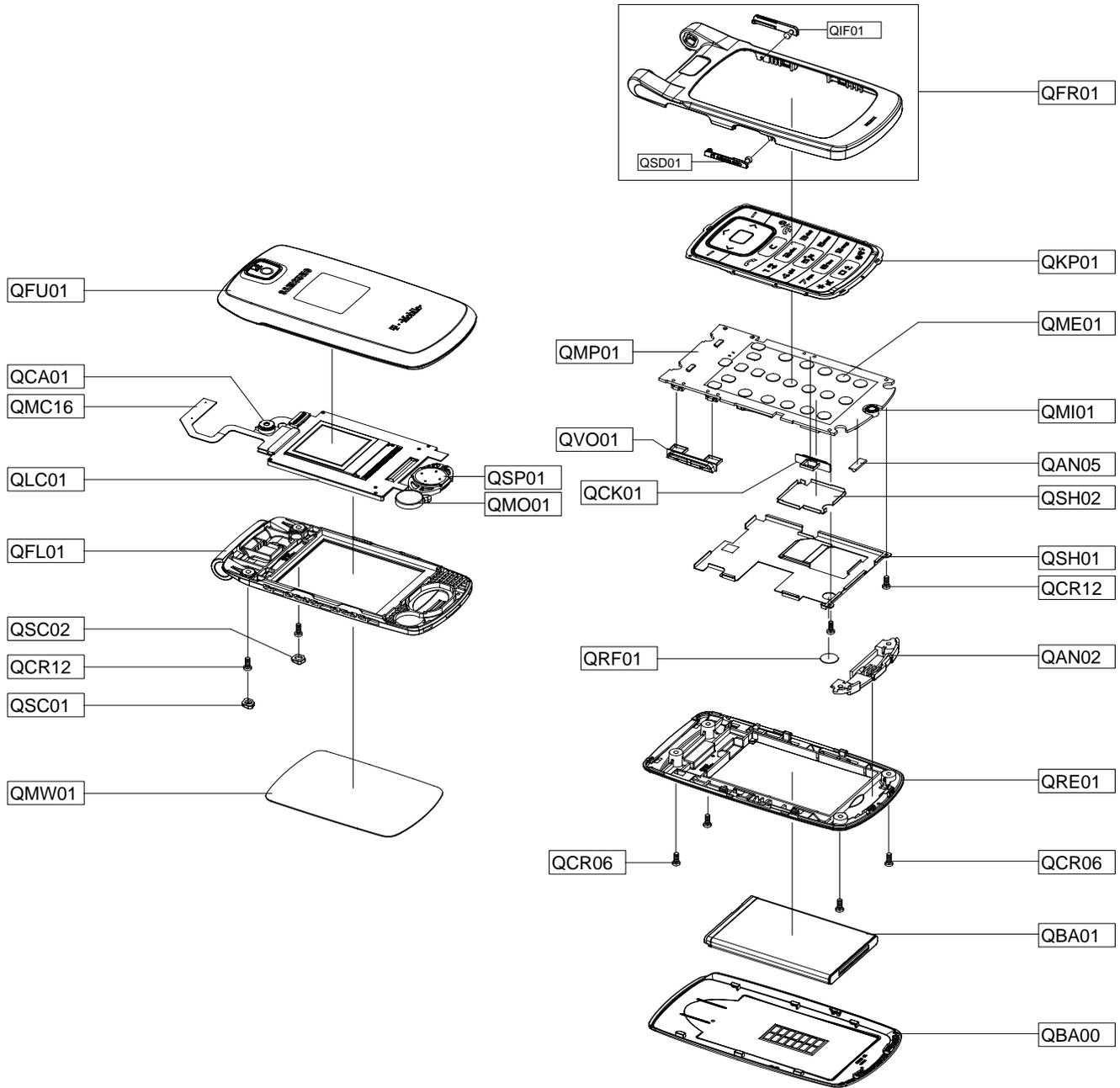
3. Select the file(s) what you want to download





5. Exploded View and Parts List

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts List

Design LOC		Description	SEC CODE
QAN02		INTENNA-SGH T439	GH42-01305A
QAN05		ASSY RUBBER-ANTENNA CONTACT	GH98-06857A
QBA00		PMO COVER-BATT	GH72-42817A
QBA01		INNER BATTERY PACK-800MAH,BLK,	GH43-02842A
QCA01		CAMERA MODULE	GH59-04813A
QCK01		PMO KEY-CAMERA	GH72-43100A
QCR06		SCREW-MACHINE	6001-001155
QCR06		SCREW-MACHINE	6001-001155
QCR12		SCREW-MACHINE	6001-001530
QCR12		SCREW-MACHINE	6001-001530
QFL01		ASSY CASE-FOLDER LOWER	GH98-05506A
QFR01		ASSY CASE-FOLDER FRONT	GH98-05507A
	QSD01	PMO COVER-SD	GH72-42818A
	QIF01	PMO COVER-IF	GH72-42819A
QFU01		ASSY CASE-FOLDER UPPER	GH98-05505A
QKP01		ASSY KEYPAD-MAIN(TMB/BLK)	GH98-05639A
QLC01		LCD-LCD MODULE	GH07-01190A
QMC16		ASSY ETC-CON TO CON	GH59-04815A
QME01		DOME SHEET	GH59-04927A
QMI01		MICROPHONE-ASSY	GH30-00411A
QMO01		MOTOR DC-SGH T439	GH31-00371A
QMP01		PBA MAIN-SGH T439	GH92-04006A
QMW01		ASSY COVER-MAIN WINDOW	GH98-06626A
QRE01		ASSY CASE-FOLDER REAR	GH98-05508A
QRF01		TAPE-RF	GH74-35673A
QSC01		RMO COVER-SCREW LEFT	GH73-10630A
QSC02		RMO COVER-SCREW RIGHT	GH73-10631A
QSH01		ASSY COVER-SHIELD CAN	GH98-06627A
QSH02		ICT SHIELD-CAN RF	GH70-02898A
QSP01		SPEAKER	3001-002217
QVO01		PMO KEY-VOLUME	GH72-43101A

Description	SEC CODE
EARPHONE-20P,EARPHONE,BLK,A-TY	GH59-04830A
LABEL(P)-SEAL UNIT	GH68-04256A
MANUAL USERS-GS_POSTER	GH68-15923A
VINYL-BOHO MAIN WINDOW	GH74-35587A
TAPE-LED	GH74-34316A
LABEL(R)-WATERSOAK(NEW)	GH68-14285A
AS-SUB LCD SVC	GH81-06669A
AS-PCB LCD SVC	GH81-06670A
TAPE-LCD	GH74-35610A
UNIT-AWB SIM CARD	GH59-00943A
PAA ETC-MANUL(TMB)	GH99-25192A
BAG PE	6902-000297
LABEL(R)-MAIN(TMB)	GH68-16467A
CUSHION-COVER(TMB)	GH69-02793A
BOX-UNIT(TMB)	GH69-05850A
CUSHION-CASE(TMB)	GH69-05851A
ADAPTOR-ATADS10JBE,BLK,USA	GH44-01700A

6. MAIN Electrical Parts List

Design LOC	Description	SEC Code	STATUS
ANT100	NPR-ANT CONTACT	GH71-06625A	SA
ANT101	NPR-ANT CONTACT	GH71-06625A	SA
ANT500	ANTENNA-CHIP	4202-001355	SA
BAT400	BATTERY-LI(2ND)	4302-001180	SA
BTC600	HEADER-BATTERY	3711-006249	SA
C100	R-CHIP	2007-000171	SA
C101	C-CER,CHIP	2203-000233	SA
C102	C-CER,CHIP	2203-005288	SA
C103	C-CER,CHIP	2203-005288	SA
C104	C-CER,CHIP	2203-005050	SA
C105	C-CER,CHIP	2203-000870	SA
C106	C-CER,CHIP	2203-005050	SA
C107	C-TA,CHIP	2404-001496	SA
C108	C-CER,CHIP	2203-005446	SA
C109	C-CER,CHIP	2203-000330	SA
C111	C-CER,CHIP	2203-000812	SA
C112	C-CER,CHIP	2203-000812	SA
C113	C-CER,CHIP	2203-005281	SA
C114	C-CER,CHIP	2203-000278	SA
C115	C-CER,CHIP	2203-005281	SA
C116	C-CER,CHIP	2203-006712	SA
C117	C-CER,CHIP	2203-006712	SA
C118	C-CER,CHIP	2203-000138	SA
C119	INDUCTOR-SMD	2703-001990	SA
C120	INDUCTOR-SMD	2703-001180	SA
C121	C-CER,CHIP	2203-000233	SA
C122	C-CER,CHIP	2203-000278	SA
C123	C-CER,CHIP	2203-000812	SA
C124	C-CER,CHIP	2203-006048	SA
C125	C-CER,CHIP	2203-000233	SA
C126	C-CER,CHIP	2203-000233	SA
C127	C-CER,CHIP	2203-006048	SA
C128	C-CER,CHIP	2203-005288	SA
C129	C-CER,CHIP	2203-005288	SA
C132	C-CER,CHIP	2203-006260	SA

Design LOC	Description	SEC Code	STATUS
C200	C-CER,CHIP	2203-005482	SA
C201	C-CER,CHIP	2203-000812	SA
C202	C-CER,CHIP	2203-005482	SA
C203	C-CER,CHIP	2203-000254	SA
C204	C-CER,CHIP	2203-005482	SA
C205	C-CER,CHIP	2203-005482	SA
C206	C-CER,CHIP	2203-005482	SA
C207	C-CER,CHIP	2203-005482	SA
C208	C-CER,CHIP	2203-005482	SA
C209	C-CER,CHIP	2203-005482	SA
C210	C-CER,CHIP	2203-005682	SA
C211	C-CER,CHIP	2203-006423	SA
C212	C-CER,CHIP	2203-006423	SA
C213	C-CER,CHIP	2203-006562	SA
C214	C-CER,CHIP	2203-005482	SA
C215	C-CER,CHIP	2203-006048	SA
C216	C-CER,CHIP	2203-000425	SA
C217	C-CER,CHIP	2203-000425	SA
C301	C-CER,CHIP	2203-005482	SA
C302	C-CER,CHIP	2203-006562	SA
C303	C-CER,CHIP	2203-006562	SA
C304	C-CER,CHIP	2203-005482	SA
C305	C-CER,CHIP	2203-005482	SA
C306	C-CER,CHIP	2203-005482	SA
C307	C-CER,CHIP	2203-005482	SA
C308	R-CHIP	2007-000171	SA
C309	C-CER,CHIP	2203-000233	SA
C310	C-CER,CHIP	2203-005482	SA
C312	C-CER,CHIP	2203-006260	SA
C313	C-CER,CHIP	2203-006562	SA
C314	C-CER,CHIP	2203-006562	SA
C315	C-CER,CHIP	2203-006260	SA
C318	C-CER,CHIP	2203-005482	SA
C319	C-CER,CHIP	2203-002709	SA
C400	C-CER,CHIP	2203-006257	SA

Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
C401	C-CER,CHIP	2203-006257	SA
C402	C-CER,CHIP	2203-006824	SA
C403	C-CER,CHIP	2203-006890	SA
C404	C-CER,CHIP	2203-006257	SA
C405	C-CER,CHIP	2203-006257	SA
C406	C-CER,CHIP	2203-006824	SA
C407	C-CER,CHIP	2203-006562	SA
C409	C-CER,CHIP	2203-006257	SA
C410	C-CER,CHIP	2203-006824	SA
C411	C-CER,CHIP	2203-000233	SA
C412	C-CER,CHIP	2203-006257	SA
C413	C-CER,CHIP	2203-000425	SA
C414	C-CER,CHIP	2203-006562	SA
C415	C-CER,CHIP	2203-006348	SA
C416	C-CER,CHIP	2203-000627	SNA
C417	C-CER,CHIP	2203-006324	SA
C418	C-CER,CHIP	2203-006257	SA
C421	C-CER,CHIP	2203-005482	SA
C423	C-CER,CHIP	2203-006841	SA
C424	C-CER,CHIP	2203-006824	SA
C425	C-CER,CHIP	2203-006361	SA
C426	C-CER,CHIP	2203-006474	SA
C427	C-CER,CHIP	2203-006562	SA
C428	C-CER,CHIP	2203-002443	SA
C500	C-CER,CHIP	2203-006838	SA
C501	C-CER,CHIP	2203-000438	SA
C502	C-CER,CHIP	2203-005482	SA
C503	C-CER,CHIP	2203-005482	SA
C504	C-CER,CHIP	2203-005446	SA
C505	C-CER,CHIP	2203-006838	SA
C506	C-CER,CHIP	2203-005482	SA
C508	C-CER,CHIP	2203-000278	SA
C509	C-CER,CHIP	2203-000233	SA
C510	C-CER,CHIP	2203-006562	SA
C511	C-CER,CHIP	2203-006842	SA

Design LOC	Description	SEC Code	STATUS
C512	C-CER,CHIP	2203-006562	SA
C513	C-CER,CHIP	2203-006562	SA
C514	C-CER,CHIP	2203-006562	SA
C517	C-CER,CHIP	2203-000278	SA
C518	C-CER,CHIP	2203-000278	SA
C600	C-CER,CHIP	2203-001437	SA
C602	C-CER,CHIP	2203-001259	SA
C603	C-CER,CHIP	2203-000995	SA
C604	C-CER,CHIP	2203-001437	SA
C606	C-CER,CHIP	2203-003054	SA
C607	C-CER,CHIP	2203-003054	SA
C608	C-CER,CHIP	2203-003054	SA
C610	C-CER,CHIP	2203-000679	SA
C612	C-CER,CHIP	2203-005393	SA
C613	C-CER,CHIP	2203-005482	SA
C614	C-CER,CHIP	2203-005482	SA
C615	C-CER,CHIP	2203-000812	SA
C616	C-CER,CHIP	2203-000995	SA
C617	C-CER,CHIP	2203-005482	SA
C618	C-CER,CHIP	2203-000679	SA
C620	C-CER,CHIP	2203-005482	SA
C700	C-CER,CHIP	2203-006562	SA
C701	C-CER,CHIP	2203-006562	SA
C702	C-CER,CHIP	2203-000812	SA
C704	C-CER,CHIP	2203-005682	SA
C705	C-CER,CHIP	2203-005682	SA
C706	C-CER,CHIP	2203-005682	SA
C707	C-CER,CHIP	2203-005682	SA
C708	C-CER,CHIP	2203-005682	SA
C709	C-CER,CHIP	2203-005682	SA
C710	C-CER,CHIP	2203-005682	SA
C711	C-CER,CHIP	2203-005682	SA
C712	C-CER,CHIP	2203-005682	SA
C713	C-CER,CHIP	2203-005682	SA
C714	C-CER,CHIP	2203-005682	SA

Design LOC	Description	SEC Code	STATUS
C715	C-CER,CHIP	2203-005682	SA
C716	C-CER,CHIP	2203-005682	SA
C717	C-CER,CHIP	2203-005682	SA
C718	C-CER,CHIP	2203-005682	SA
C719	C-CER,CHIP	2203-005682	SA
C720	C-CER,CHIP	2203-005682	SA
C721	C-CER,CHIP	2203-005682	SA
C722	C-CER,CHIP	2203-005682	SA
C723	C-CER,CHIP	2203-005682	SA
C724	C-CER,CHIP	2203-000812	SA
C725	C-CER,CHIP	2203-000812	SA
C726	C-CER,CHIP	2203-005682	SA
C727	C-CER,CHIP	2203-005683	SA
C728	C-CER,CHIP	2203-005683	SA
C729	C-CER,CHIP	2203-005683	SA
C730	C-CER,CHIP	2203-005683	SA
C731	C-CER,CHIP	2203-005683	SA
C732	C-CER,CHIP	2203-005683	SA
C733	C-CER,CHIP	2203-005683	SA
C734	C-CER,CHIP	2203-005683	SA
C735	C-CER,CHIP	2203-005683	SA
C736	C-CER,CHIP	2203-005683	SA
C737	C-CER,CHIP	2203-005683	SA
C738	C-CER,CHIP	2203-005683	SA
C739	C-CER,CHIP	2203-006839	SA
C740	C-CER,CHIP	2203-006839	SA
CD400	CONNECTOR-CARD EDGE	3709-001344	SA
DUF500	FILTER-LC	2909-001279	SA
F100	DUPLEXER-FEM	2911-000076	SA
F500	FILTER-EMI SMD	2901-001315	SA
F600	FILTER-EMI SMD	2901-001408	SA
IFC600	SOCKET-INTERFACE	3710-002499	SA
L100	R-CHIP	2007-000171	SA
L101	INDUCTOR-SMD	2703-002155	SA
L104	INDUCTOR-SMD	2703-002608	SA

Design LOC	Description	SEC Code	STATUS
L105	INDUCTOR-SMD	2703-002608	SA
L106	INDUCTOR-SMD	2703-002558	SA
L107	INDUCTOR-SMD	2703-002558	SA
L108	C-CER,CHIP	2203-005053	SA
L109	C-CER,CHIP	2203-001383	SA
L110	INDUCTOR-SMD	2703-001747	SA
L300	BEAD-SMD	3301-001812	SA
L400	INDUCTOR-SMD	2703-003290	SA
L401	BEAD-SMD	3301-001534	SA
L402	BEAD-SMD	3301-001120	SA
L500	BEAD-SMD	3301-001534	SA
L501	BEAD-SMD	3301-001659	SA
L600	BEAD-SMD	3301-001438	SA
L601	BEAD-SMD	3301-001438	SA
L602	BEAD-SMD	3301-001438	SA
L603	BEAD-SMD	3301-001438	SA
L604	BEAD-SMD	3301-001438	SA
L605	BEAD-SMD	3301-001438	SA
LED700	LED	0601-002048	SA
LED701	LED	0601-002048	SA
OSC100	CRYSTAL-SMD	2801-004587	SA
OSC400	CRYSTAL-SMD	2801-004339	SA
OSC500	CRYSTAL-SMD	2801-004587	SA
PAM300	IC-AUDIO AMP	1201-002492	SA
R103	R-CHIP	2007-000140	SA
R104	R-CHIP	2007-007142	SA
R105	R-CHIP	2007-000143	SA
R201	R-CHIP	2007-000171	SA
R205	R-CHIP	2007-000758	SA
R208	R-CHIP	2007-000758	SA
R209	R-CHIP	2007-000148	SA
R210	R-CHIP	2007-000758	SA
R212	R-CHIP	2007-000758	SA
R214	R-CHIP	2007-000171	SA
R215	R-CHIP	2007-000148	SA

Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
R218	R-CHIP	2007-000171	SA
R219	R-CHIP	2007-001319	SA
R220	R-CHIP	2007-000758	SA
R221	R-CHIP	2007-001319	SA
R222	R-CHIP	2007-008419	SA
R223	R-CHIP	2007-000148	SA
R302	R-CHIP	2007-000171	SA
R303	R-CHIP	2007-000171	SA
R305	R-CHIP	2007-000170	SA
R306	R-CHIP	2007-000138	SA
R307	R-CHIP	2007-001285	SA
R308	R-CHIP	2007-001285	SA
R309	R-CHIP	2007-000171	SA
R311	R-CHIP	2007-000162	SA
R313	R-CHIP	2007-000148	SA
R314	R-CHIP	2007-000162	SA
R315	R-CHIP	2007-000165	SA
R316	R-CHIP	2007-000165	SA
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R324	R-CHIP	2007-000171	SA
R326	R-CHIP	2007-003006	SA
R327	R-CHIP	2007-003006	SA
R400	R-CHIP	2007-001333	SA
R401	R-CHIP	2007-000171	SA
R402	R-CHIP	2007-000171	SA
R403	R-CHIP	2007-000171	SA
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R407	R-CHIP	2007-000140	SA
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Design LOC	Description	SEC Code	STATUS
R409	R-CHIP	2007-000159	SA
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R412	R-CHIP	2007-000171	SA
R413	R-CHIP	2007-000166	SA
R414	R-CHIP	2007-000171	SA
R415	R-CHIP	2007-000171	SA
R416	R-CHIP	2007-000171	SA
R417	R-CHIP	2007-000171	SA
R418	R-CHIP	2007-007100	SA
R419	R-CHIP	2007-001333	SA
R420	R-CHIP	2007-000153	SA
R421	R-CHIP	2007-008588	SA
R422	R-CHIP	2007-002796	SA
R423	R-CHIP	2007-000758	SA
R424	R-CHIP	2007-007107	SA
R425	R-CHIP	2007-000162	SA
R426	R-CHIP	2007-000171	SA
R513	R-CHIP	2007-000170	SA
R519	R-CHIP	2007-007489	SA
R520	R-CHIP	2007-000162	SA
R521	R-CHIP	2007-000162	SA
R522	R-CHIP	2007-000170	SA
R523	R-CHIP	2007-000170	SA
R601	R-CHIP	2007-000162	SA
R603	R-CHIP	2007-001333	SA
R604	R-CHIP	2007-001333	SA
R605	R-CHIP	2007-007142	SA
R606	R-CHIP	2007-007334	SA
R607	R-CHIP	2007-000171	SA
R608	R-CHIP	2007-000242	SA
R609	R-CHIP	2007-000148	SA
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R611	R-CHIP	2007-000152	SA
R613	R-CHIP	2007-000148	SA

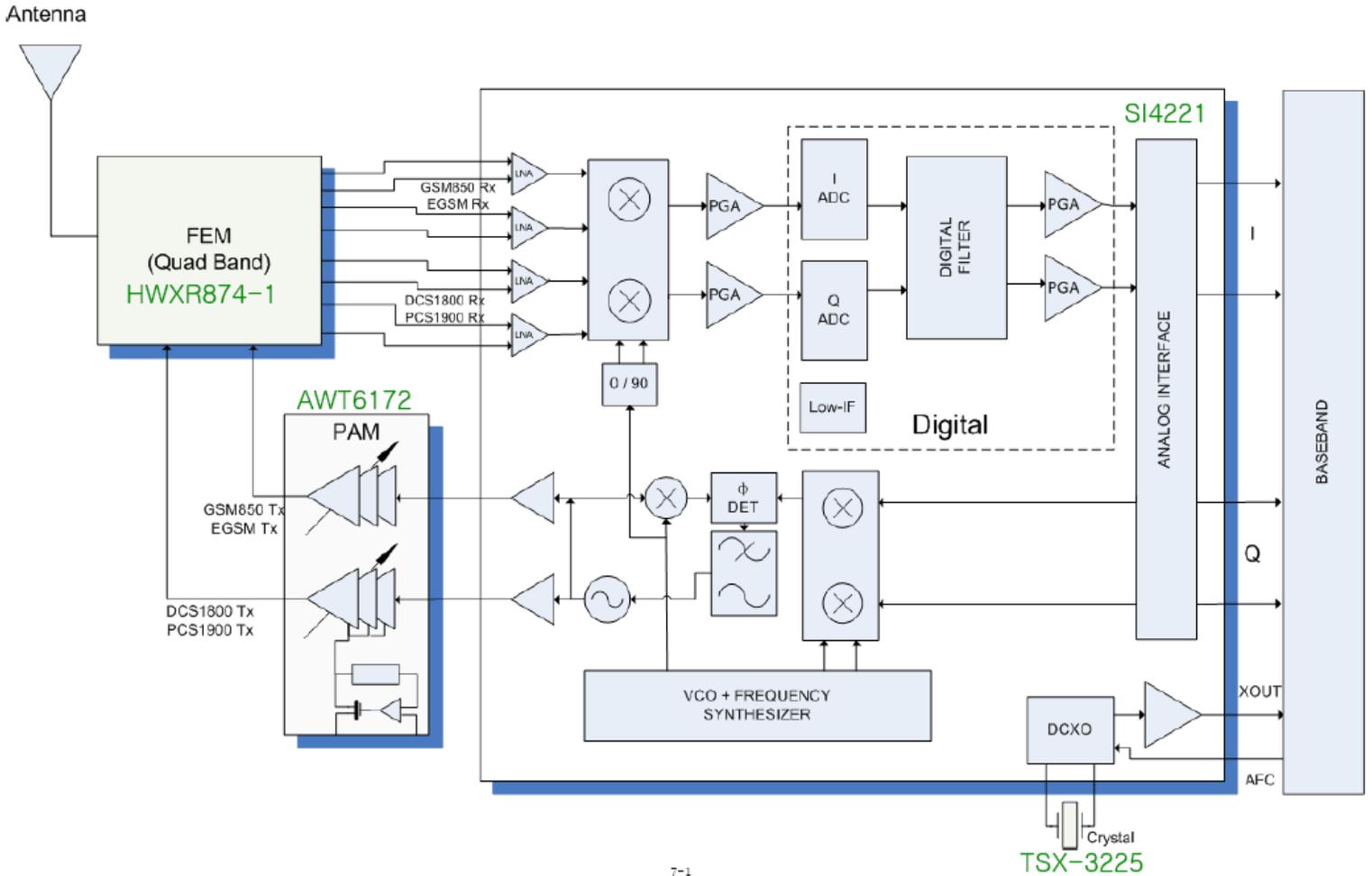
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R701	R-CHIP	2007-009112	SNA
R702	R-CHIP	2007-008055	SA
R703	R-CHIP	2007-007135	SA
R704	R-CHIP	2007-001288	SA
R705	R-CHIP	2007-001288	SA
R707	R-CHIP	2007-008588	SA
R708	R-CHIP	2007-008588	SA
R710	R-CHIP	2007-008055	SA
R711	R-CHIP	2007-008055	SA
RFS100	CONNECTOR-COAXIAL	3705-001421	SA
SC1	ICT-ON-BOARD CLIP	GH70-02367A	SA
SC2	ICT SHIELD-CAN CLIP	GH70-02640A	SA
SC3	ICT SHIELD-CAN CLIP	GH70-02640A	SA
SC4	ICT SHIELD-CAN CLIP	GH70-02640A	SA
SC5	ICT SHIELD-CAN CLIP	GH70-02640A	SA
SC6	ICT SHIELD-CAN CLIP	GH70-02640A	SA
SIM400	CONNECTOR-CARD EDGE	3709-001400	SA
SOC700	HEADER-BOARD TO BOARD	3711-005918	SA
TA300	C-TA,CHIP	2404-001381	SA
TA301	C-TA,CHIP	2404-001226	SA
TA400	C-TA,CHIP	2404-001381	SA
TA600	C-TA,CHIP	2404-001381	SA
TA601	C-TA,CHIP	2404-001377	SA
TA602	C-TA,CHIP	2404-001381	SA
TAC701	SWITCH-TACT	3404-001152	SA
TAC702	SWITCH-TACT	3404-001152	SA
TAC703	SWITCH-TACT	3404-001152	SA
TH600	THERMISTOR-NTC	1404-001221	SA
TR500	TR-DIGITAL	0504-001151	SA
U100	IC-POWER AMP	1201-002576	SA
U101	IC-TRANSCIEVER	1205-003283	SA

Design LOC	Description	SEC Code	STATUS
U301	IC-CMOS LOGIC	0801-003025	SA
U302	IC-CMOS LOGIC	0801-002237	SA
U303	IC-ANALOG SWITCH	1001-001455	SA
U304	IC-ANALOG SWITCH	1001-001455	SA
U400	FET-SILICON	0505-002111	SA
U401	DIODE-TVS	0406-001200	SA
U402	IC-POWER SUPERVISOR	1203-004382	SA
U403	IC-HALL EFFECT S/W	1009-001020	SA
U404	TR-DIGITAL	0504-001151	SA
U502	IC-TRANSCEIVER	1205-002942	SA
U504	IC-POSI.FIXED REG.	1203-004818	SA
U505	IC-POSI.FIXED REG.	1203-004776	SA
U601	IC-ANALOG SWITCH	1001-001410	SA
U700	IC-POSI.FIXED REG.	1203-004776	SA
UCD300	IC ASIC-SGHE490	GH13-00044A	SA
UCP200	IC-COMM. CONTROLLER	1205-003082	SA
UME300	IC-MCP	1108-000104	SA
V700	VARISTOR	1405-001138	SA
V701	VARISTOR	1405-001138	SA
V702	VARISTOR	1405-001082	SA
V703	VARISTOR	1405-001138	SA
V704	VARISTOR	1405-001138	SA
V705	VARISTOR	1405-001138	SA
ZD600	DIODE-TVS	0406-001241	SA
ZD601	DIODE-TVS	0406-001237	SNA
ZD603	DIODE-TVS	0406-001150	SA
ZD604	DIODE-TVS	0406-001231	SA
ZD605	DIODE-TVS	0406-001231	SA
ZD606	DIODE-ZENER	0403-001547	SA
ZD704	DIODE-TVS	0406-001254	SA

Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.

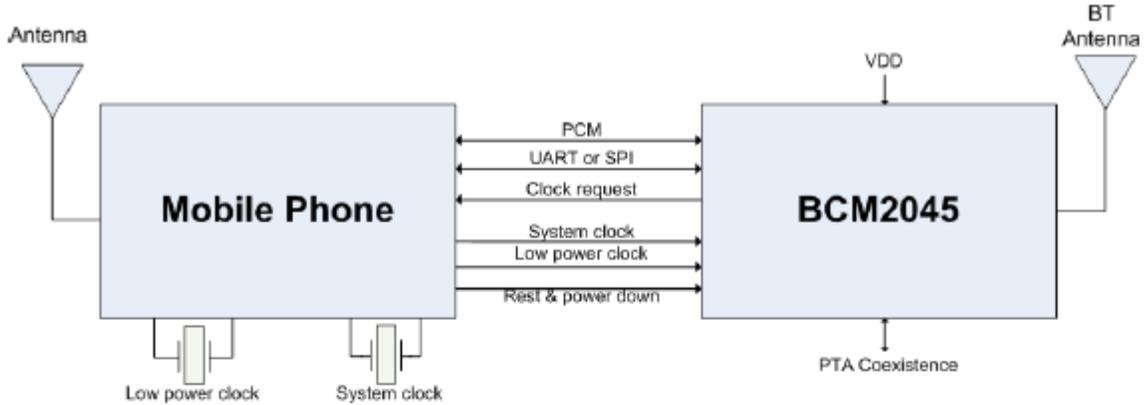
7. Block Diagrams

7-1 RF Solution Block Diagram

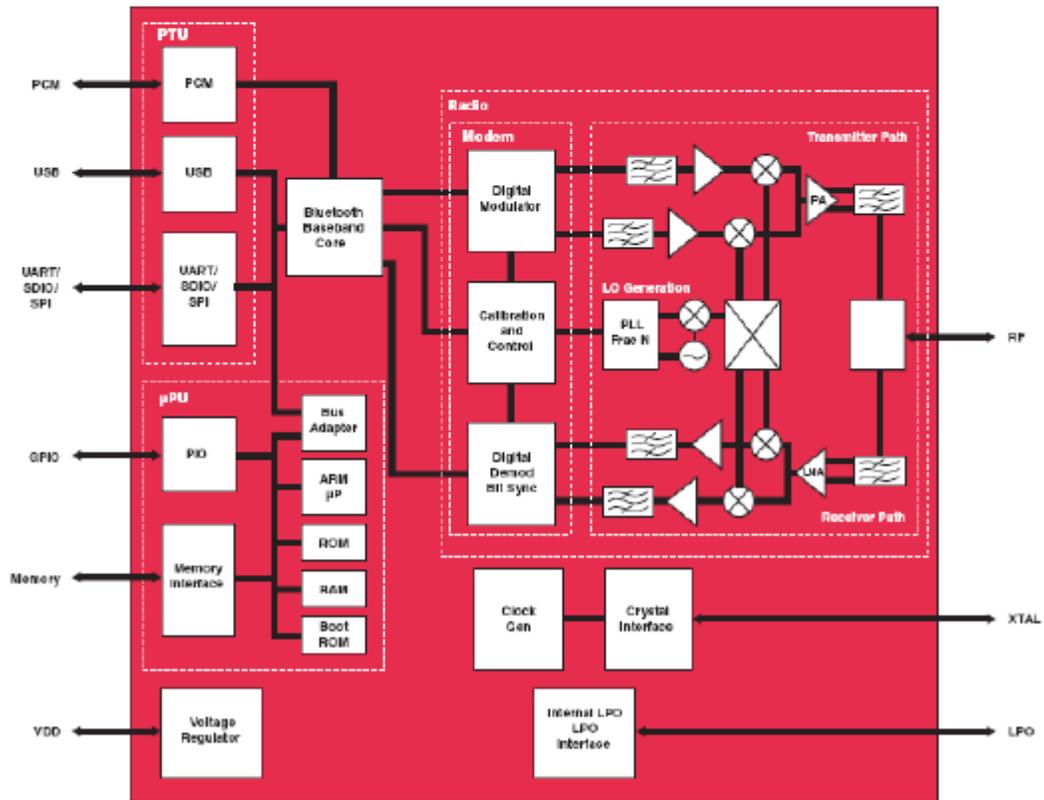


7-1

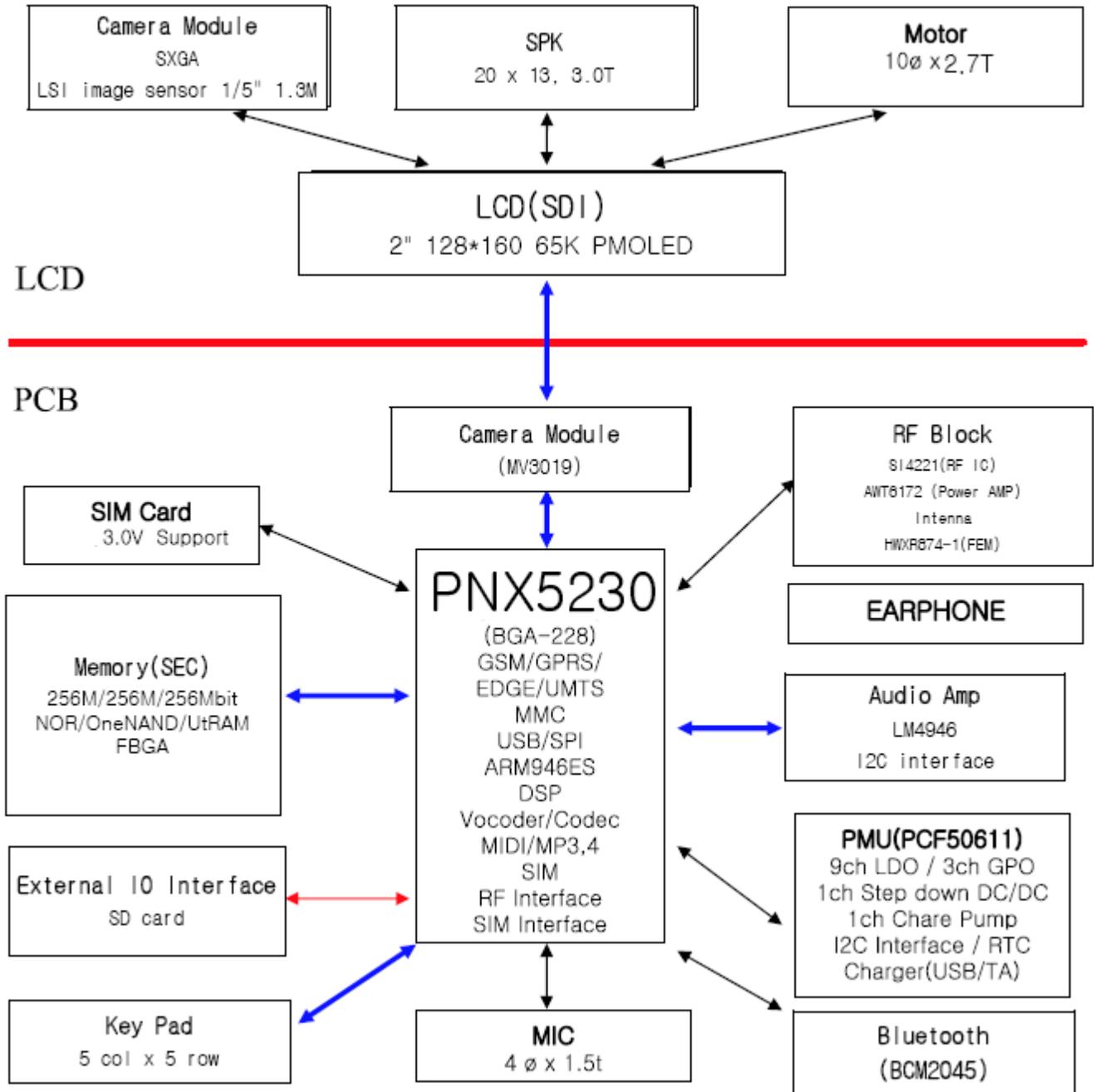
7-2 Bluetooth Solution Block Diagram



[BCM2045 BLOCK DIAGRAM]

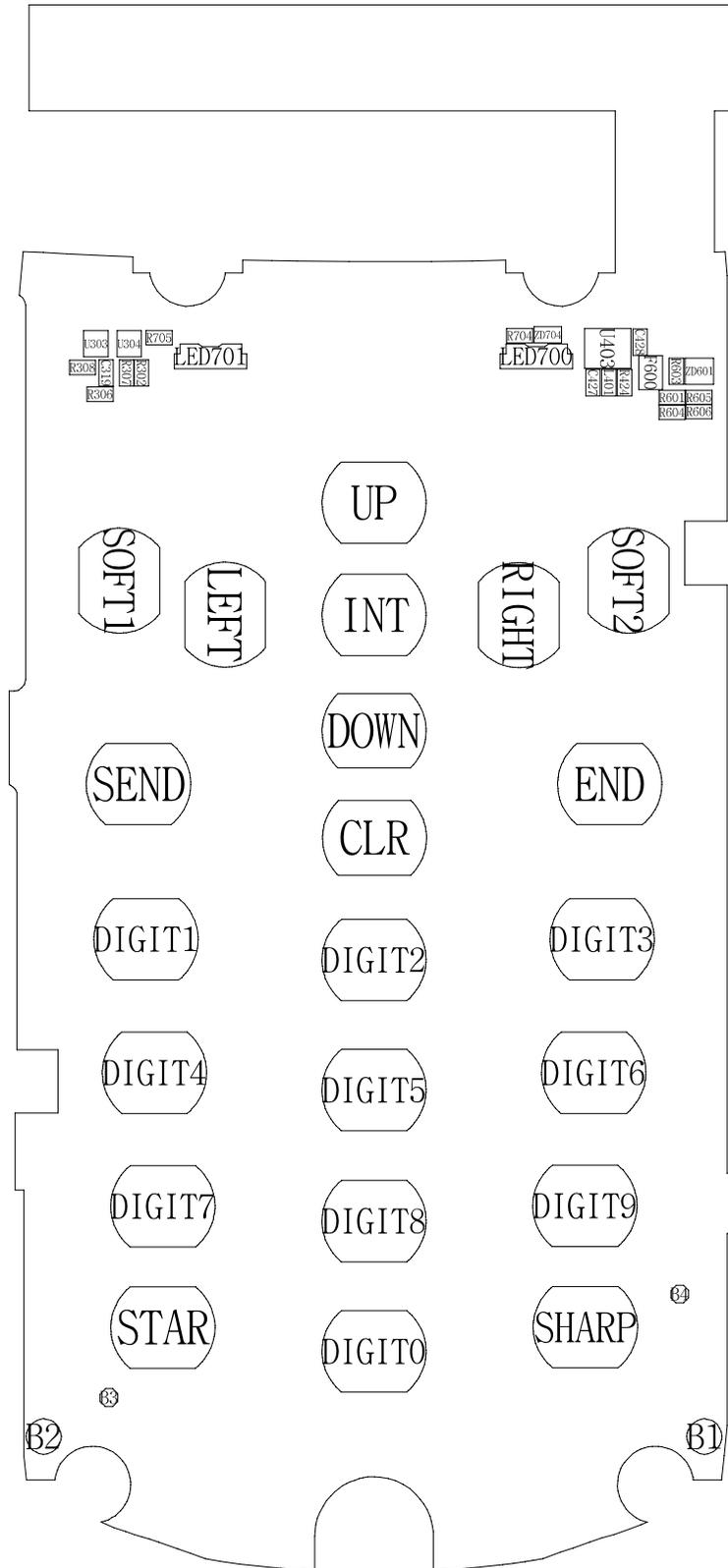


7-3 Base Band Solution Block Diagram

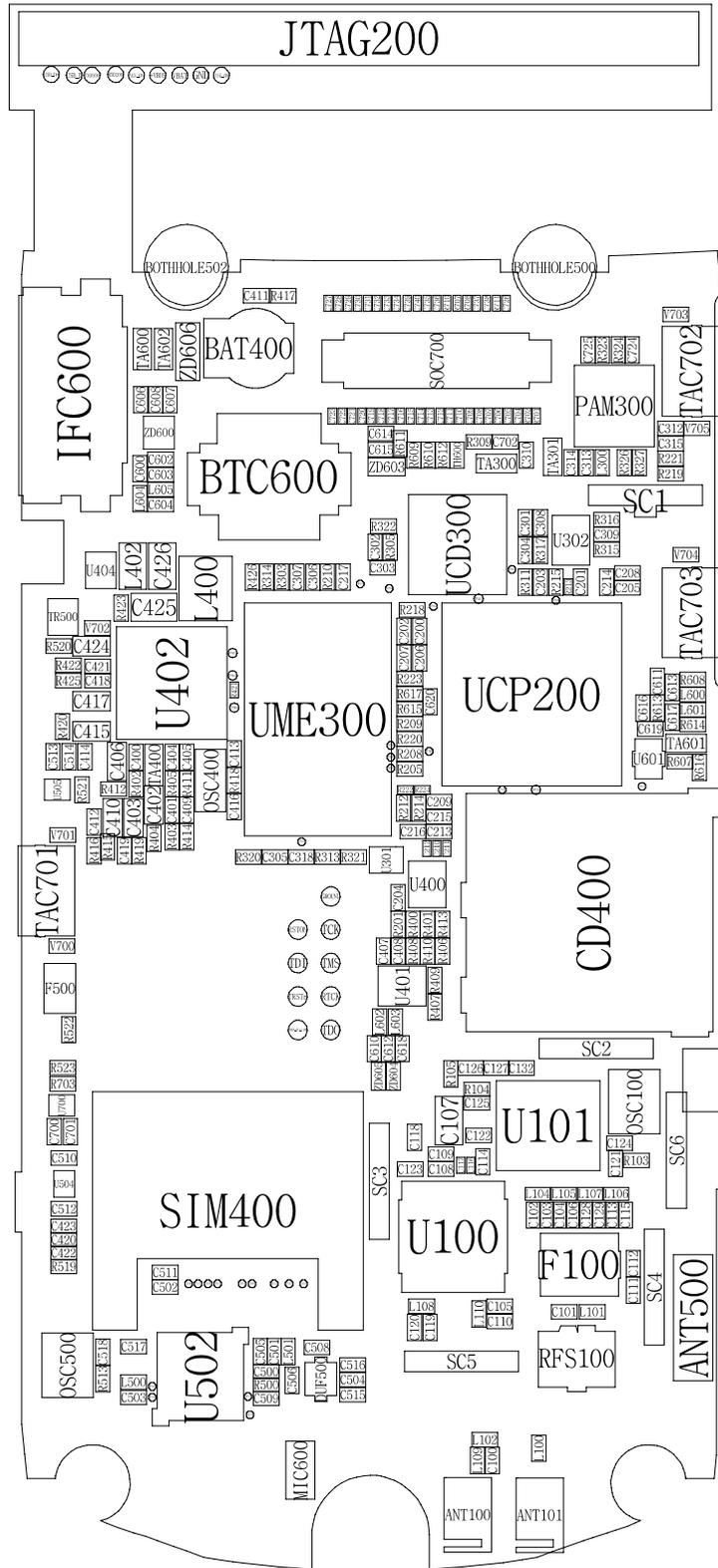


8. PCB Diagrams

Top

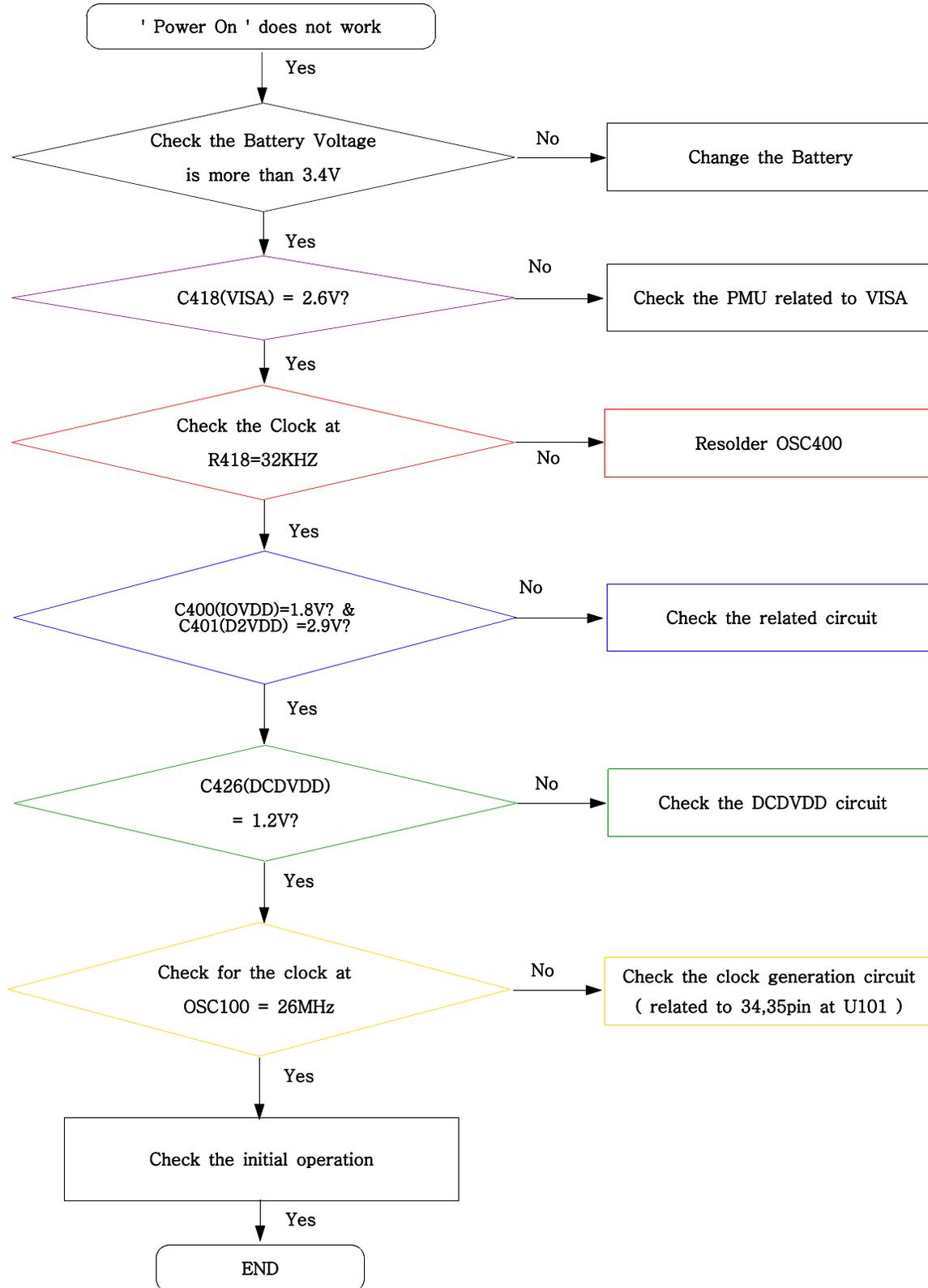


Bottom

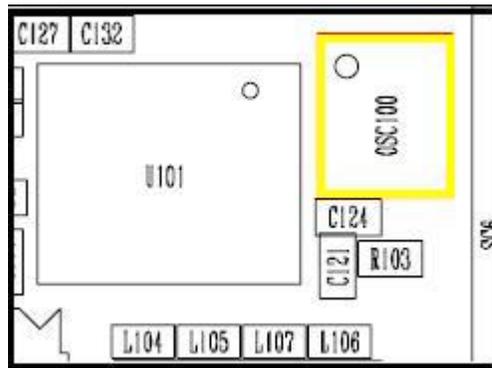
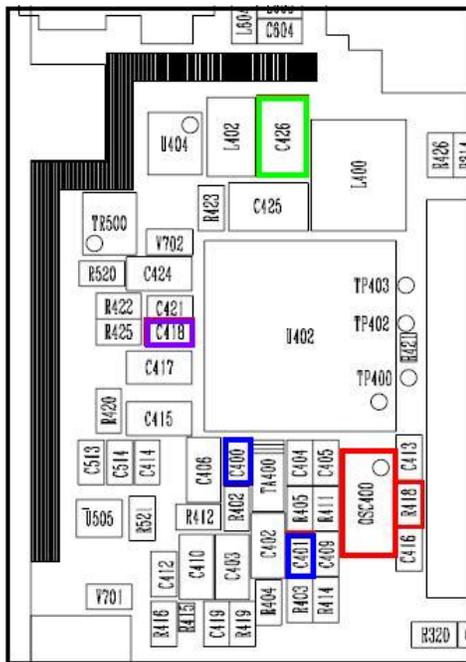
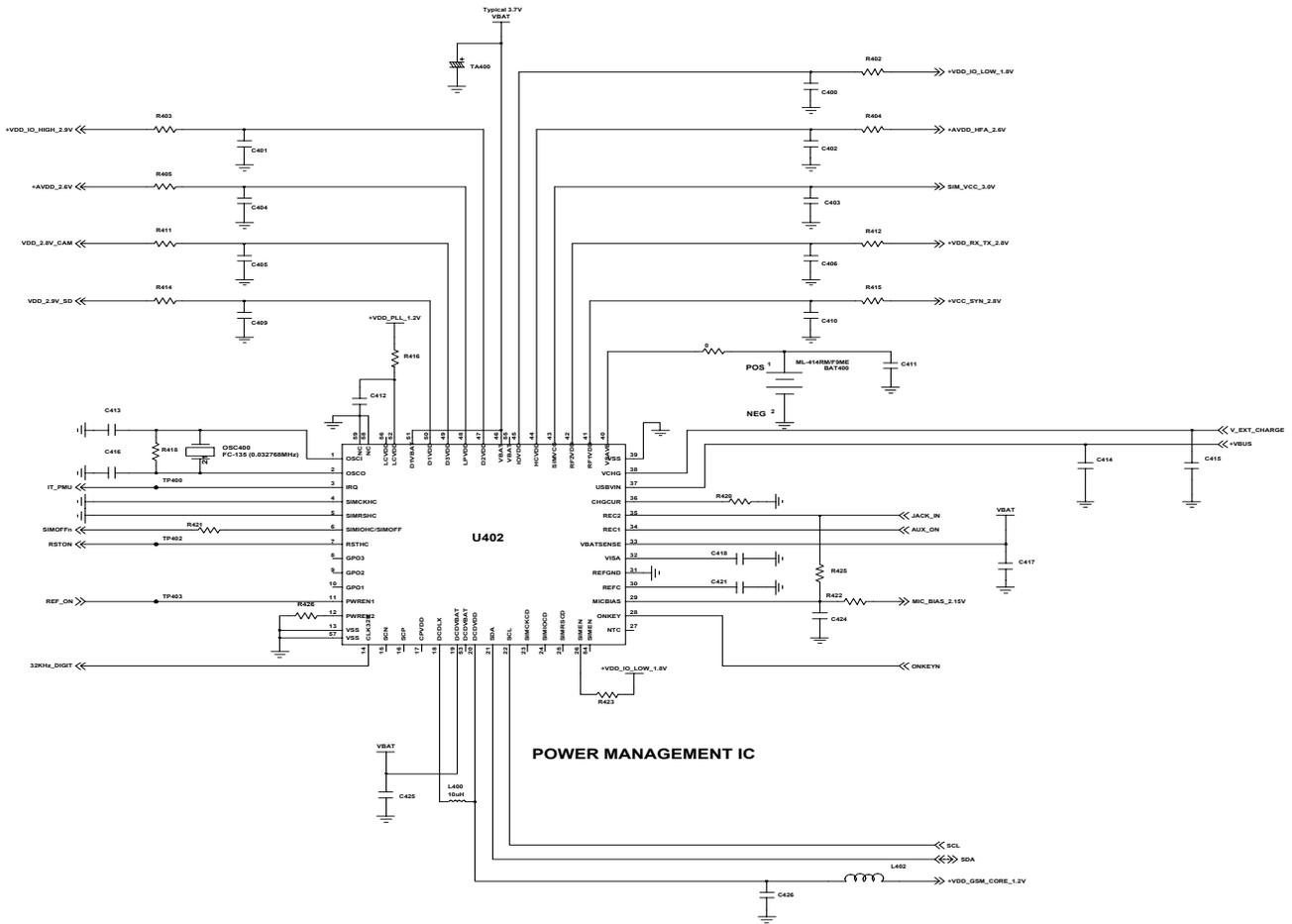


9. Flow Chart of Troubleshooting

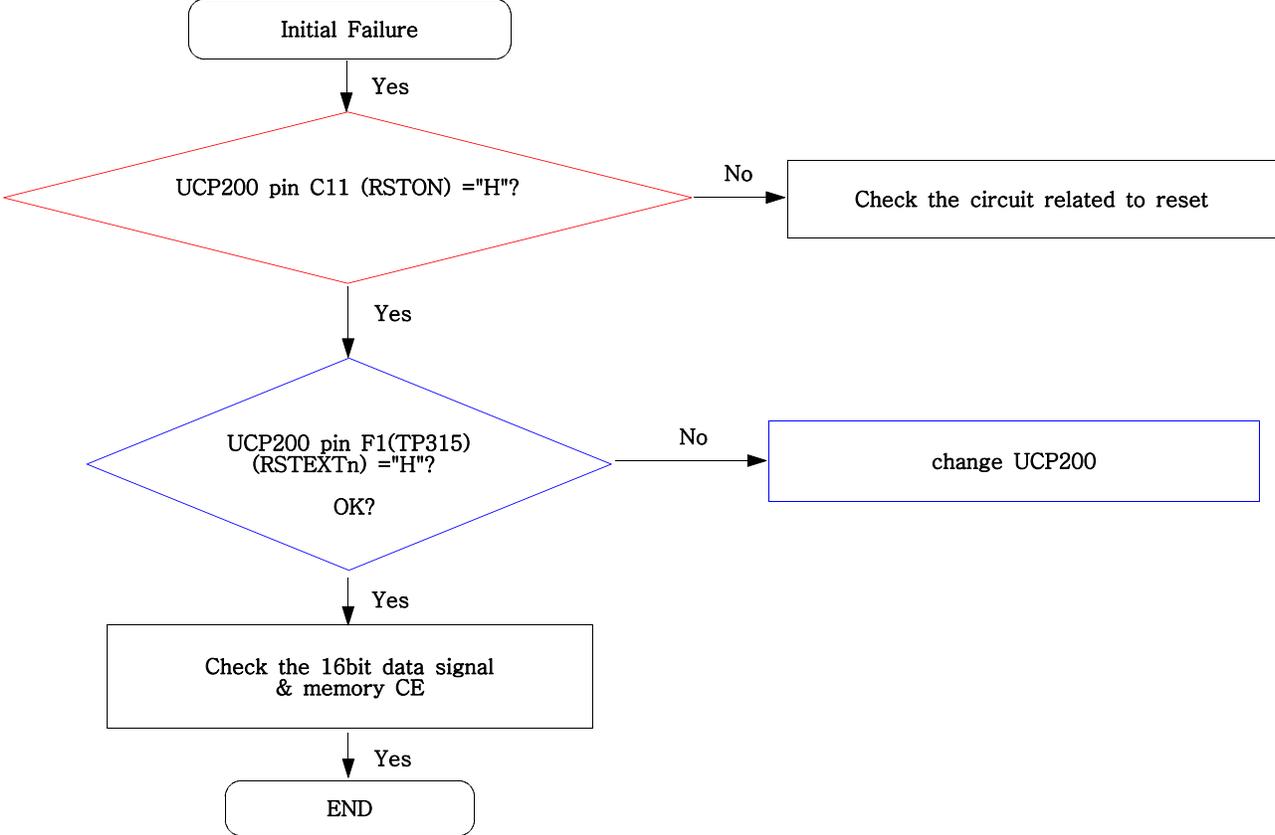
9-1. Power On



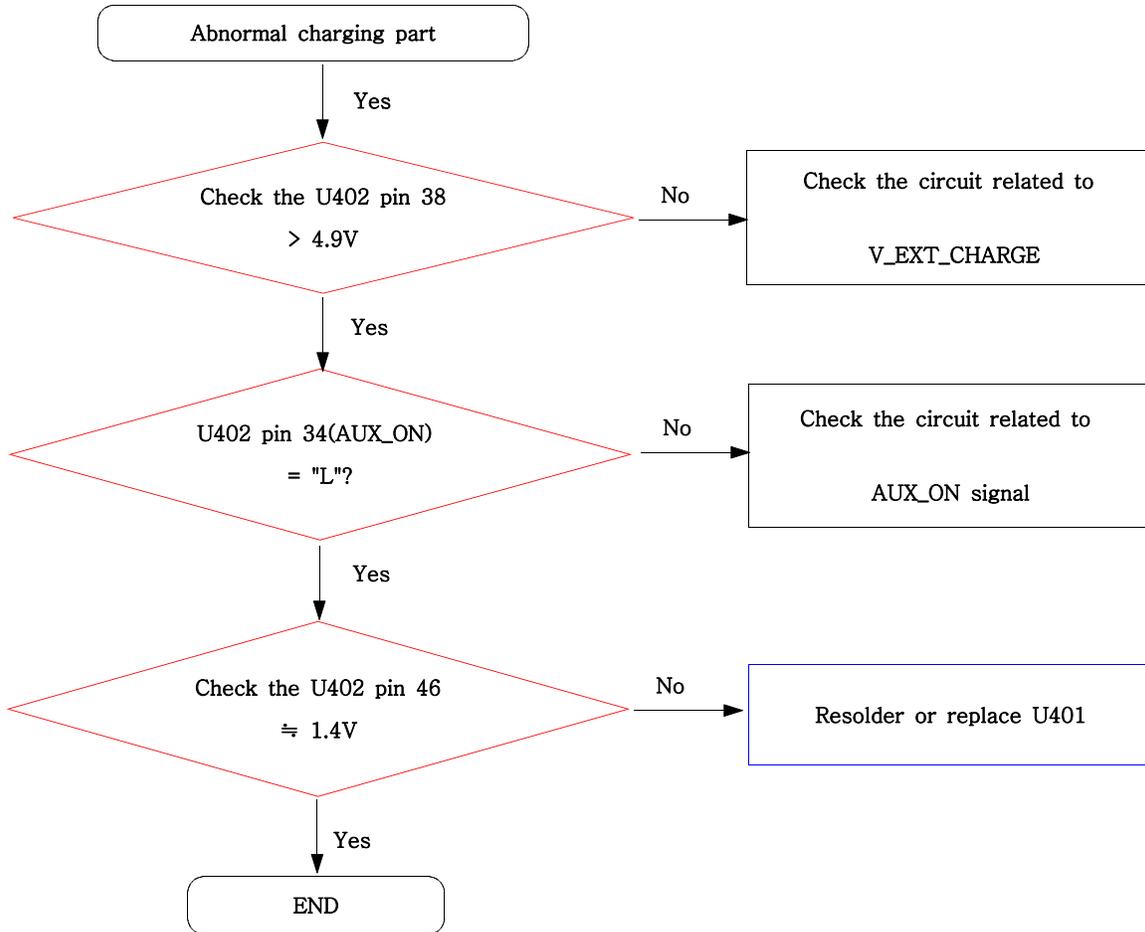
Flow Chart of Troubleshooting

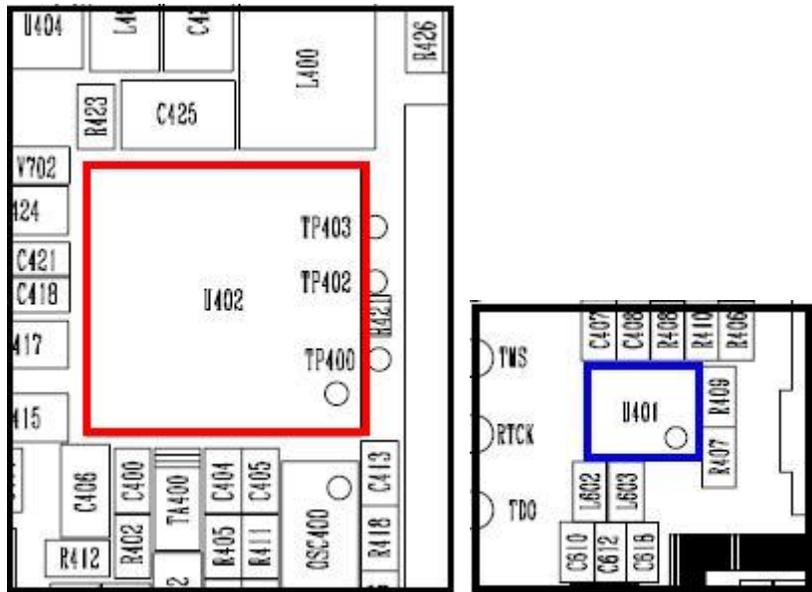
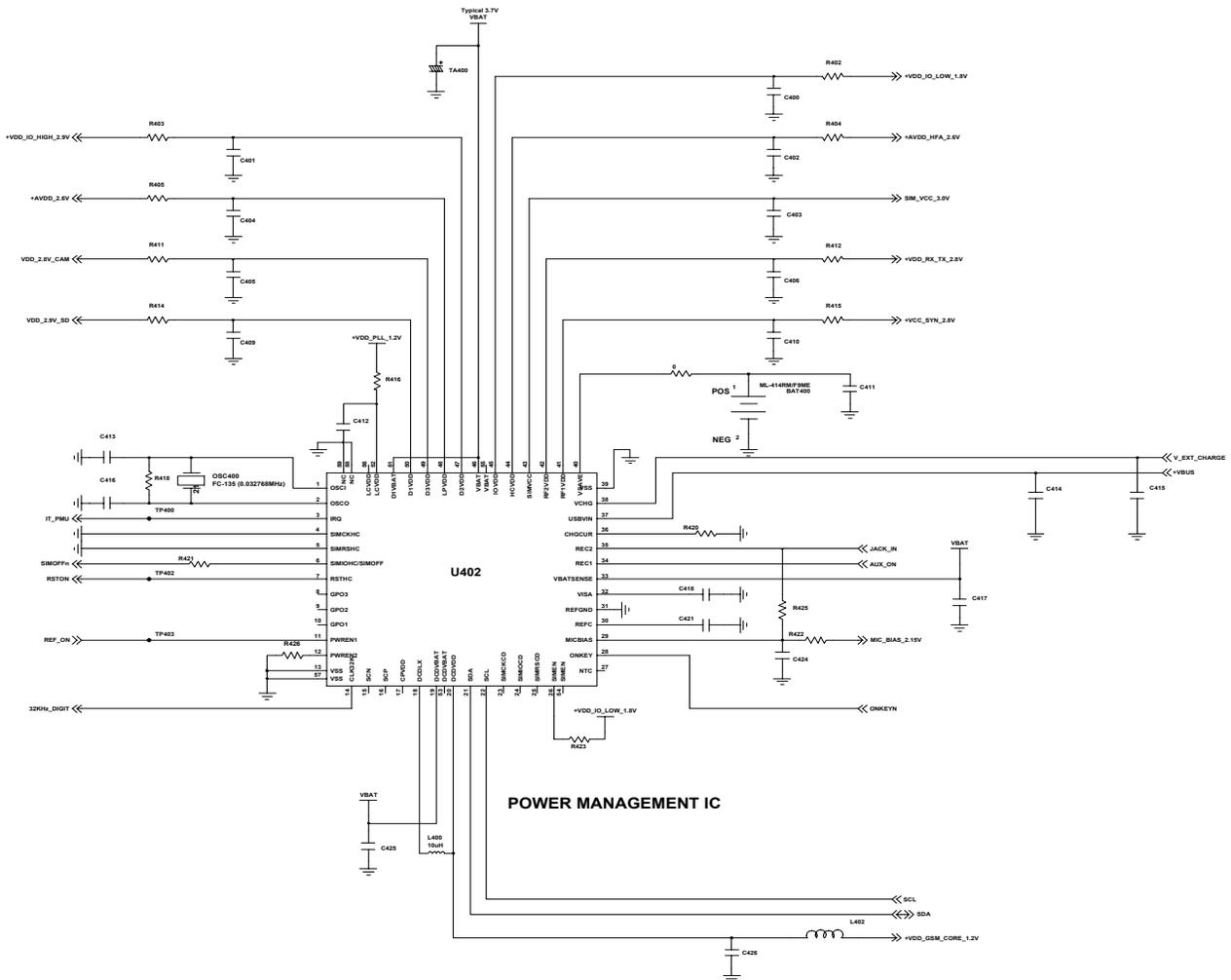


9-2. Initial

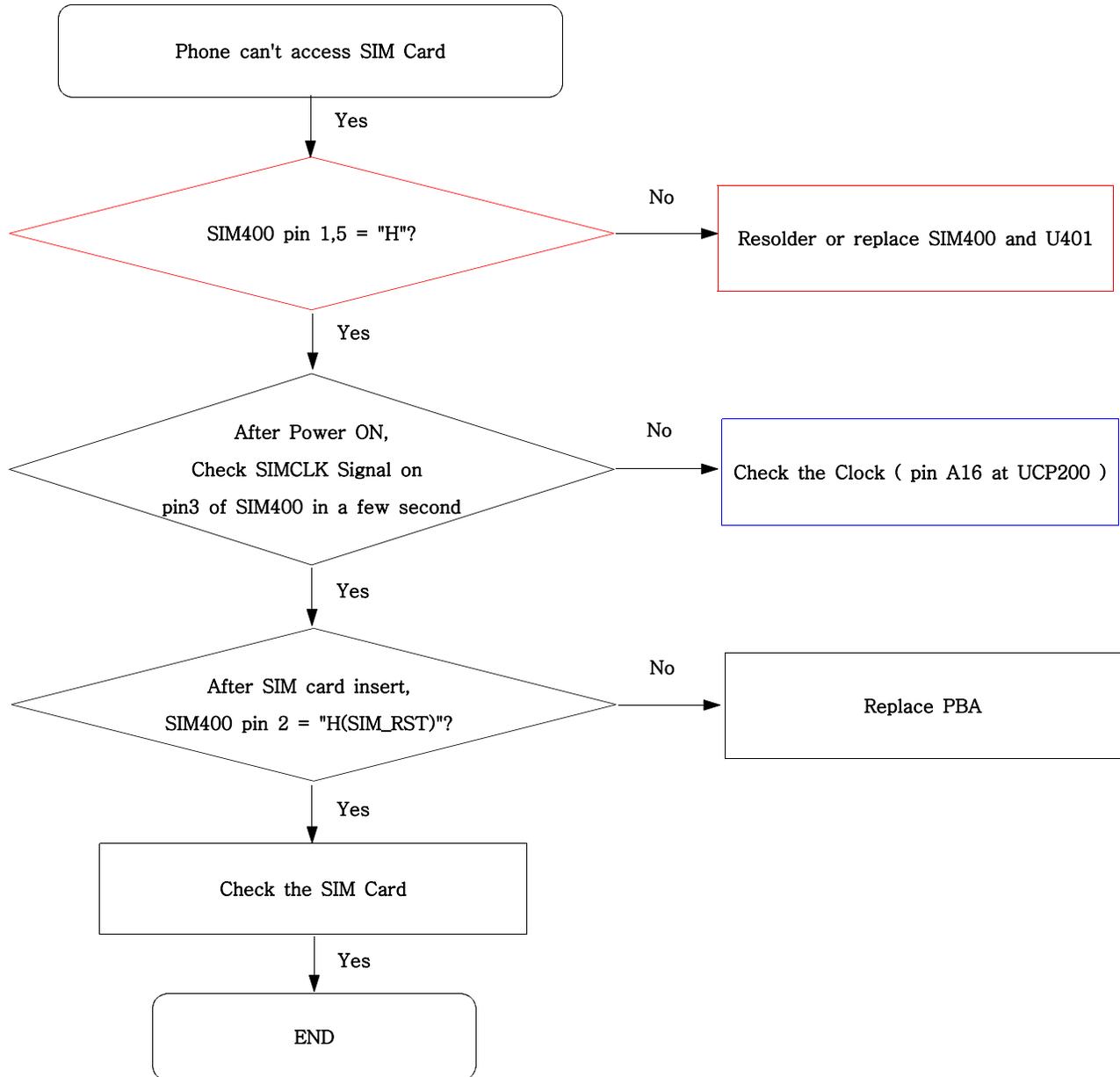


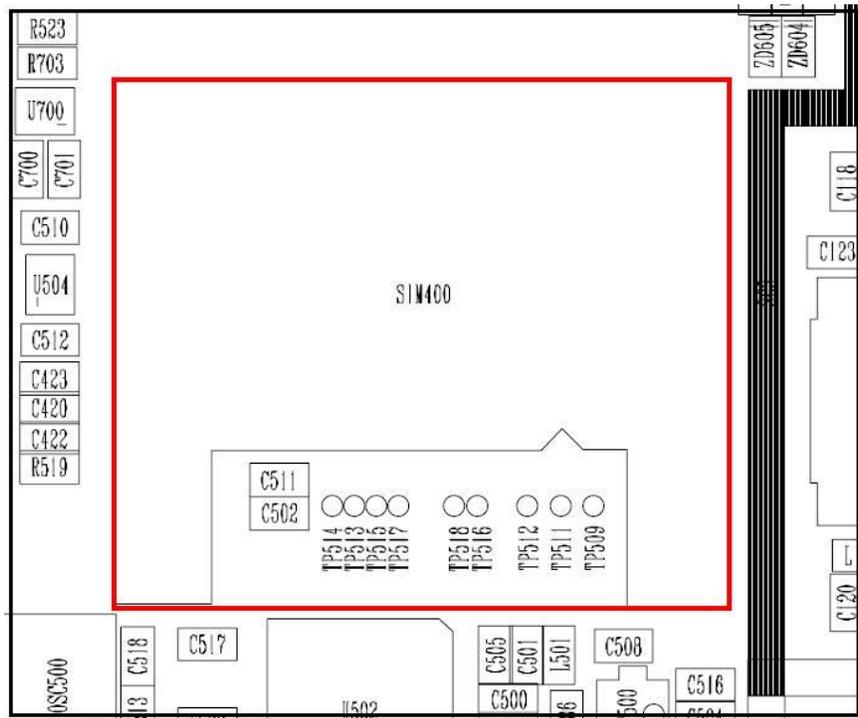
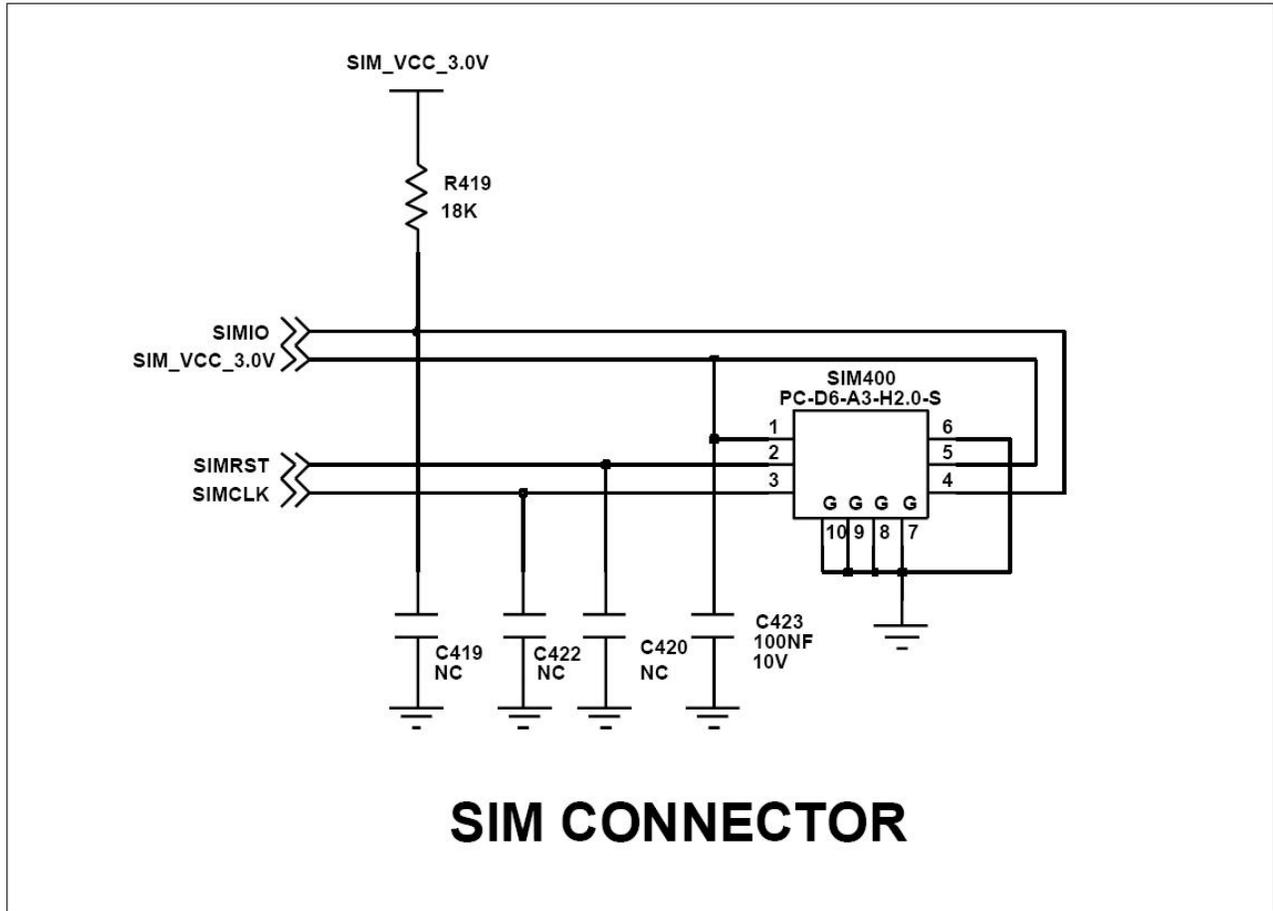
9-3. Charging Part



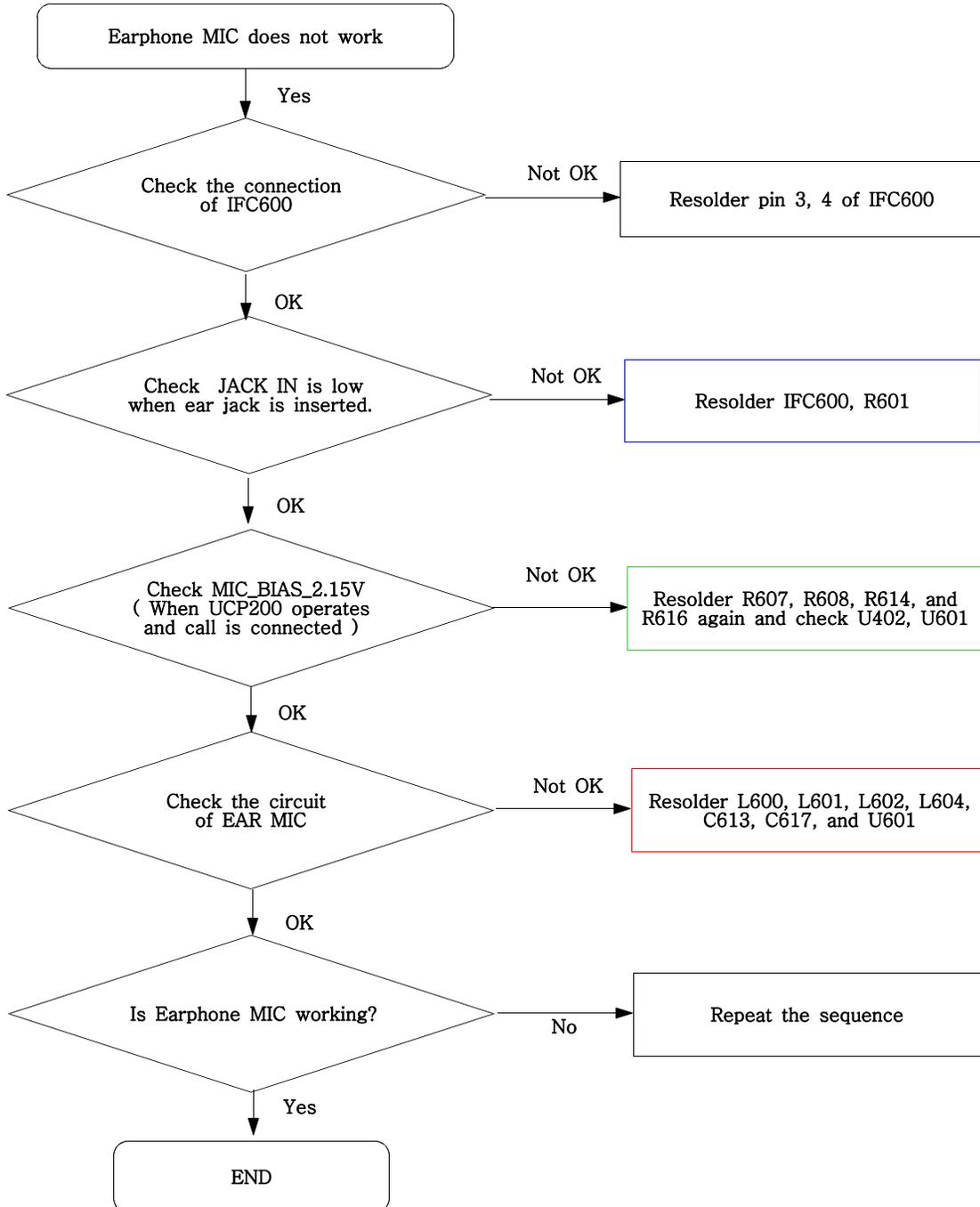


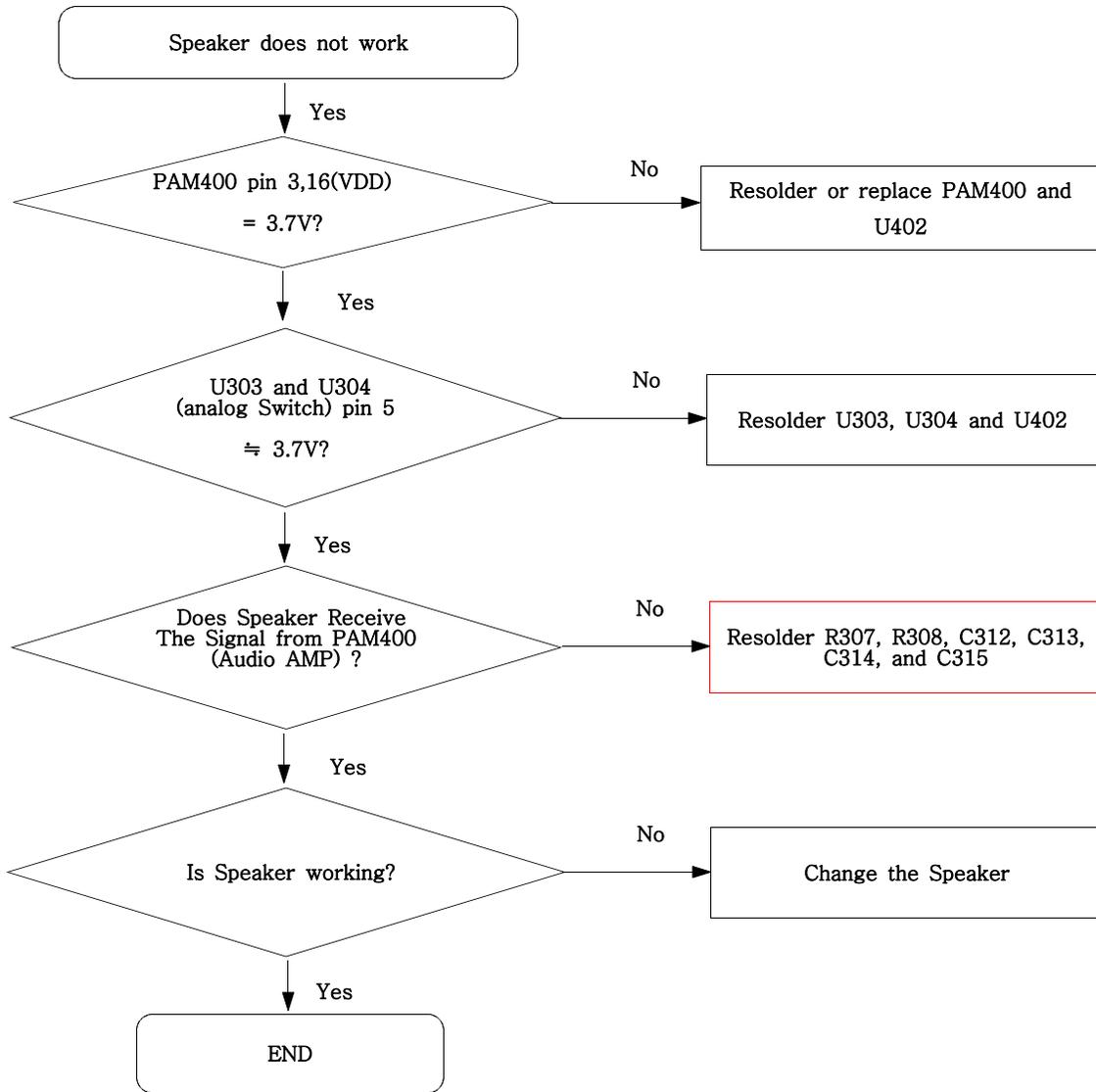
9-4. Sim Part

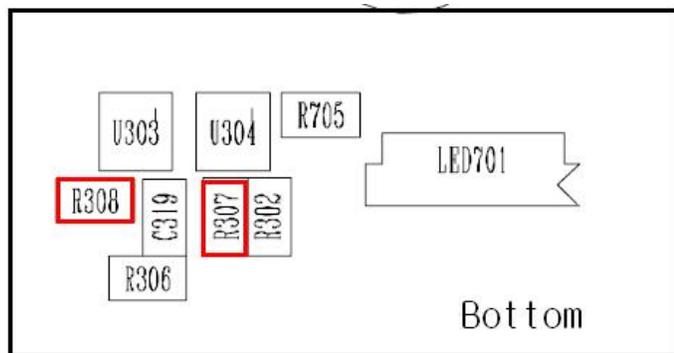
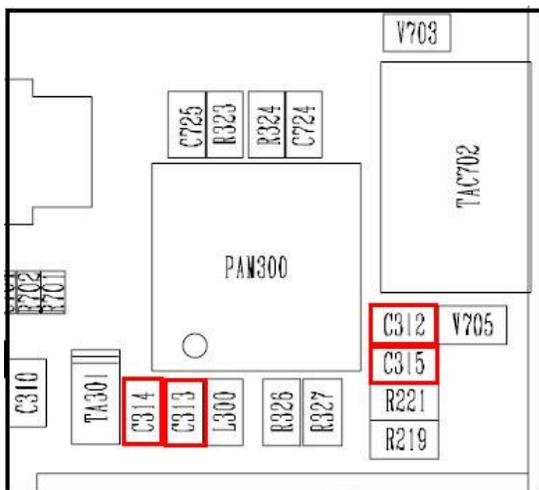
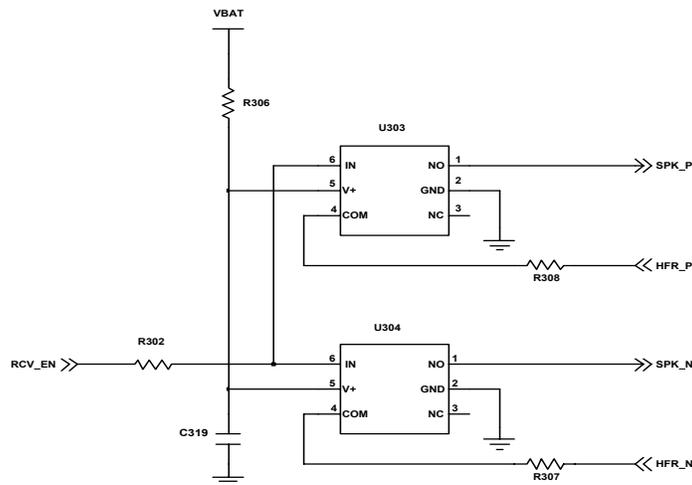
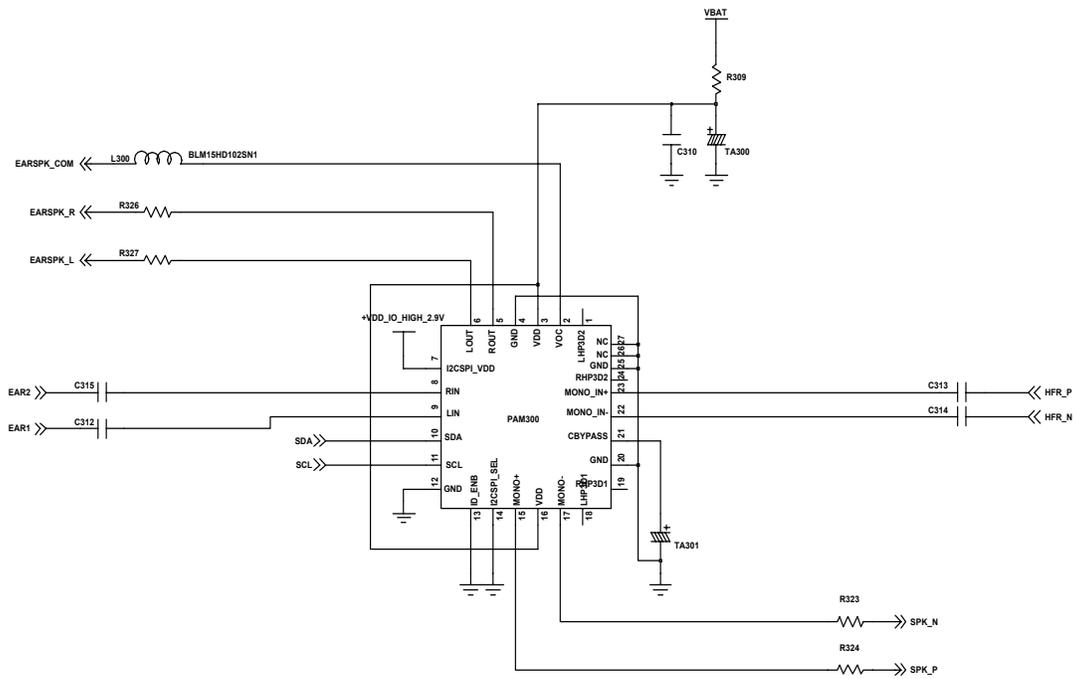




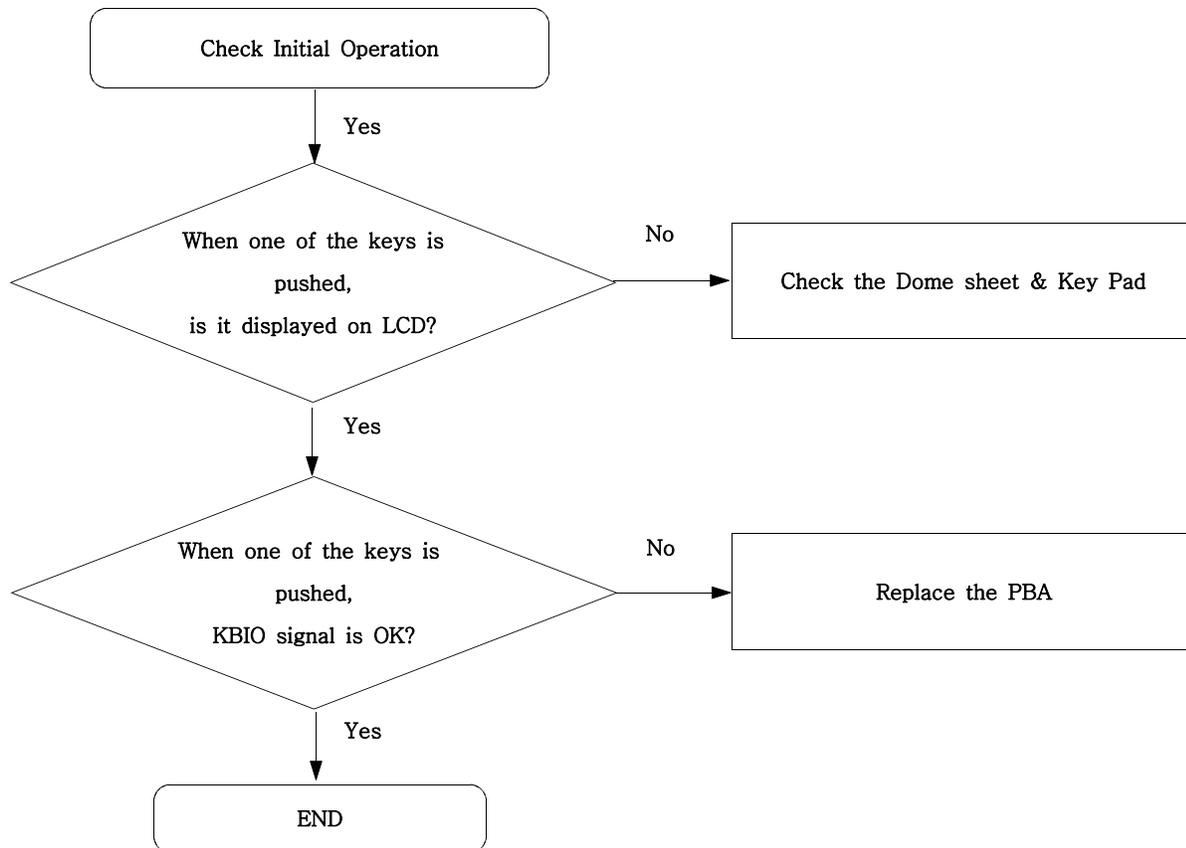
9-5. Microphone Part - Earphone MIC



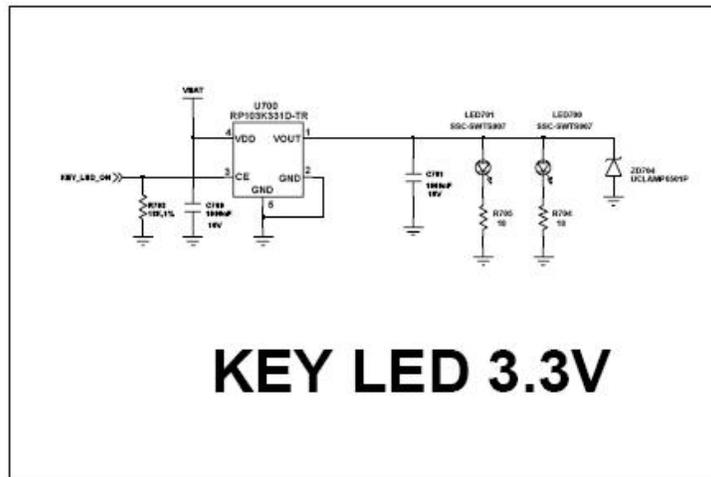
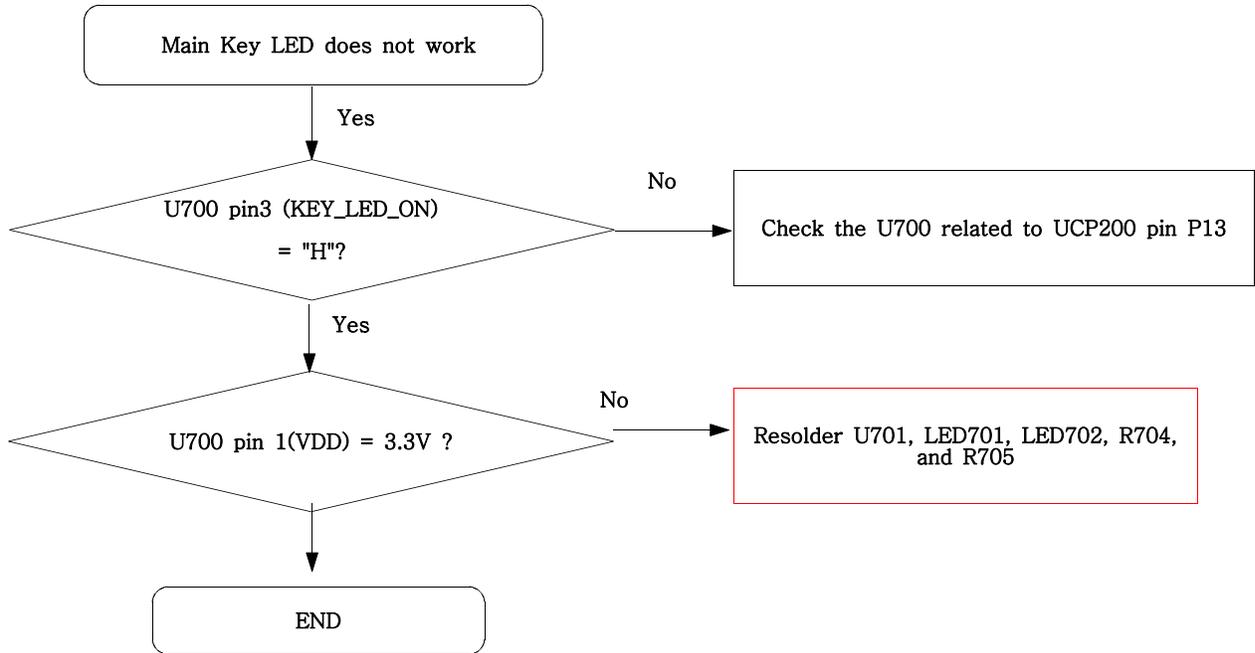




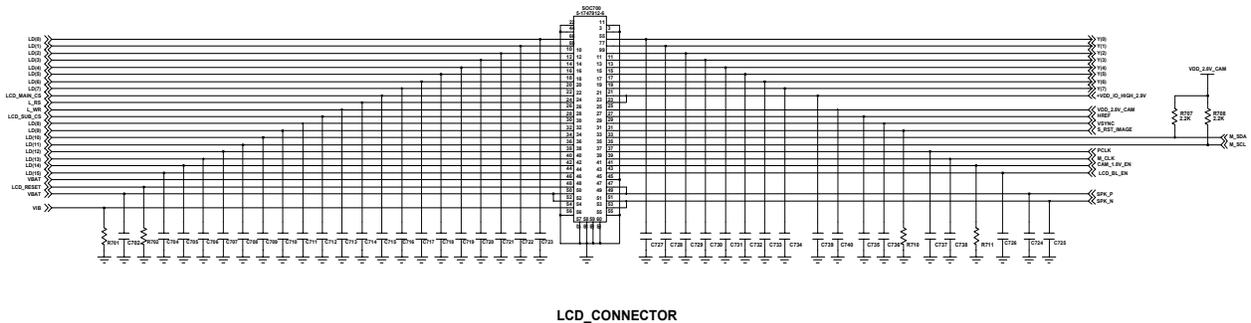
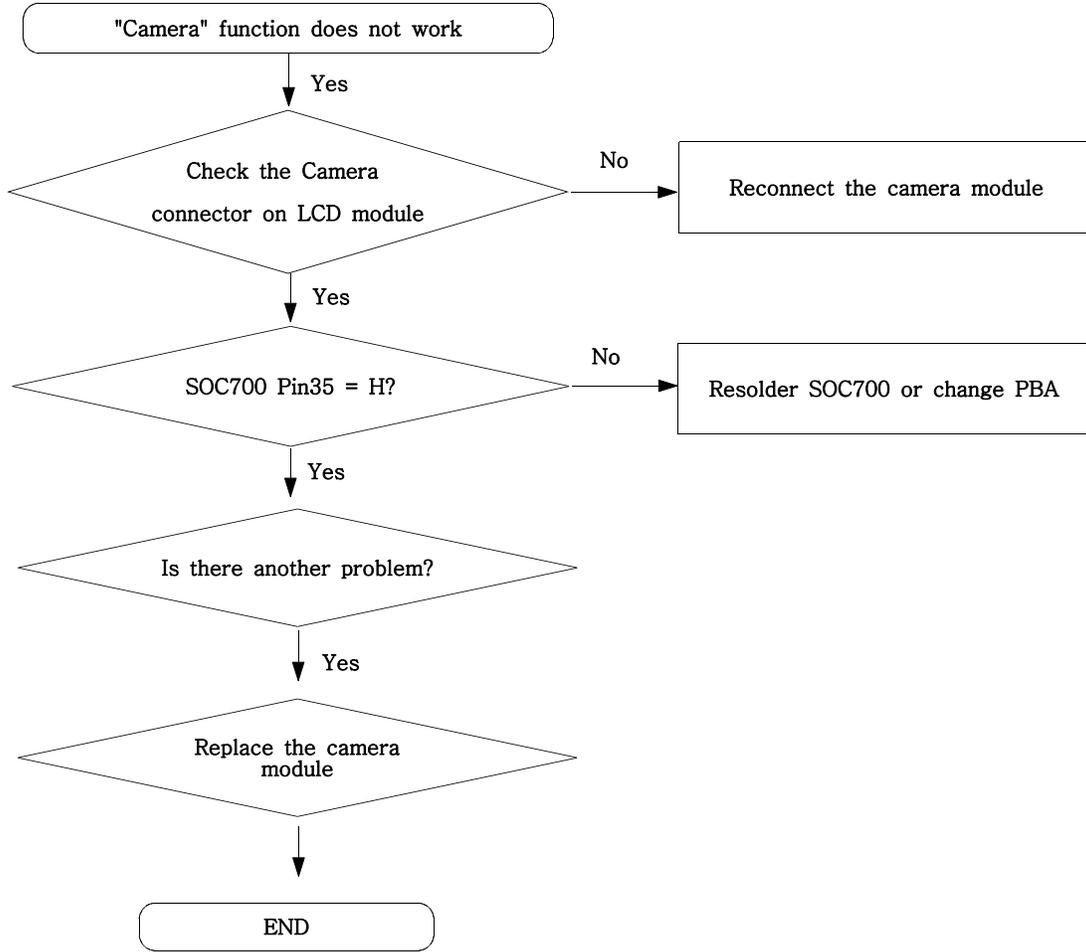
9-7. Key Data Input

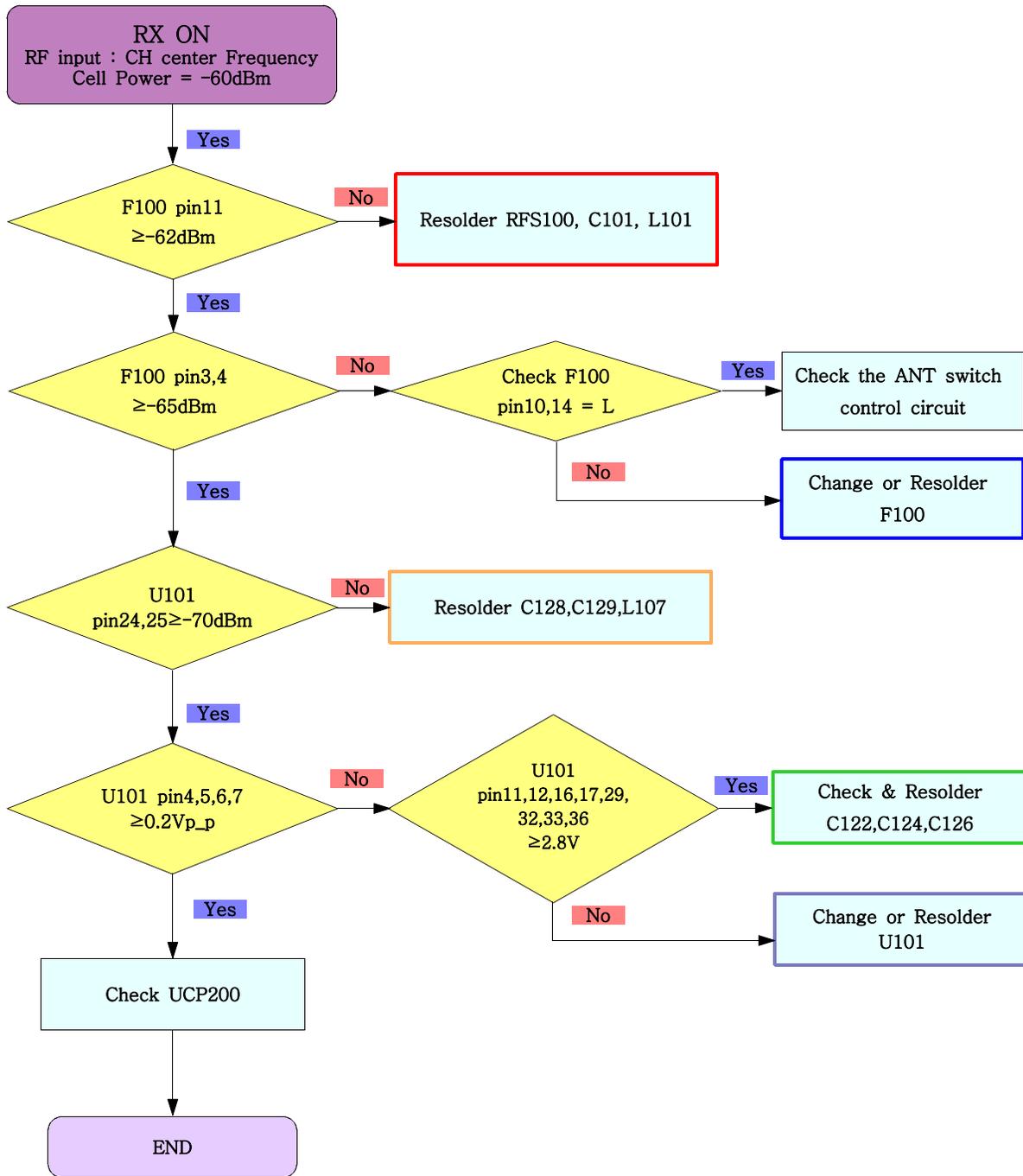


9-9. Key Back Light

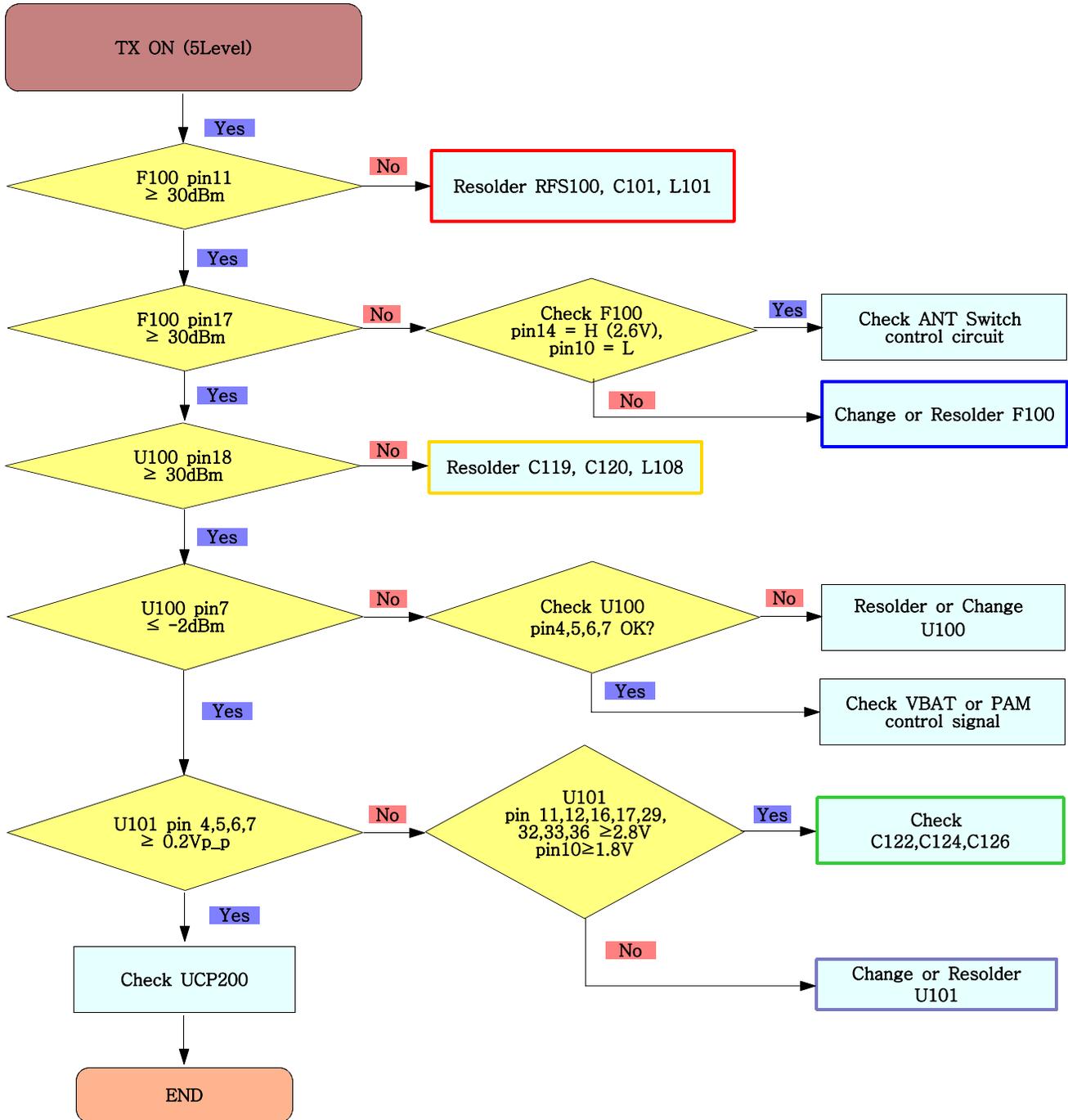


9-10. Camera part

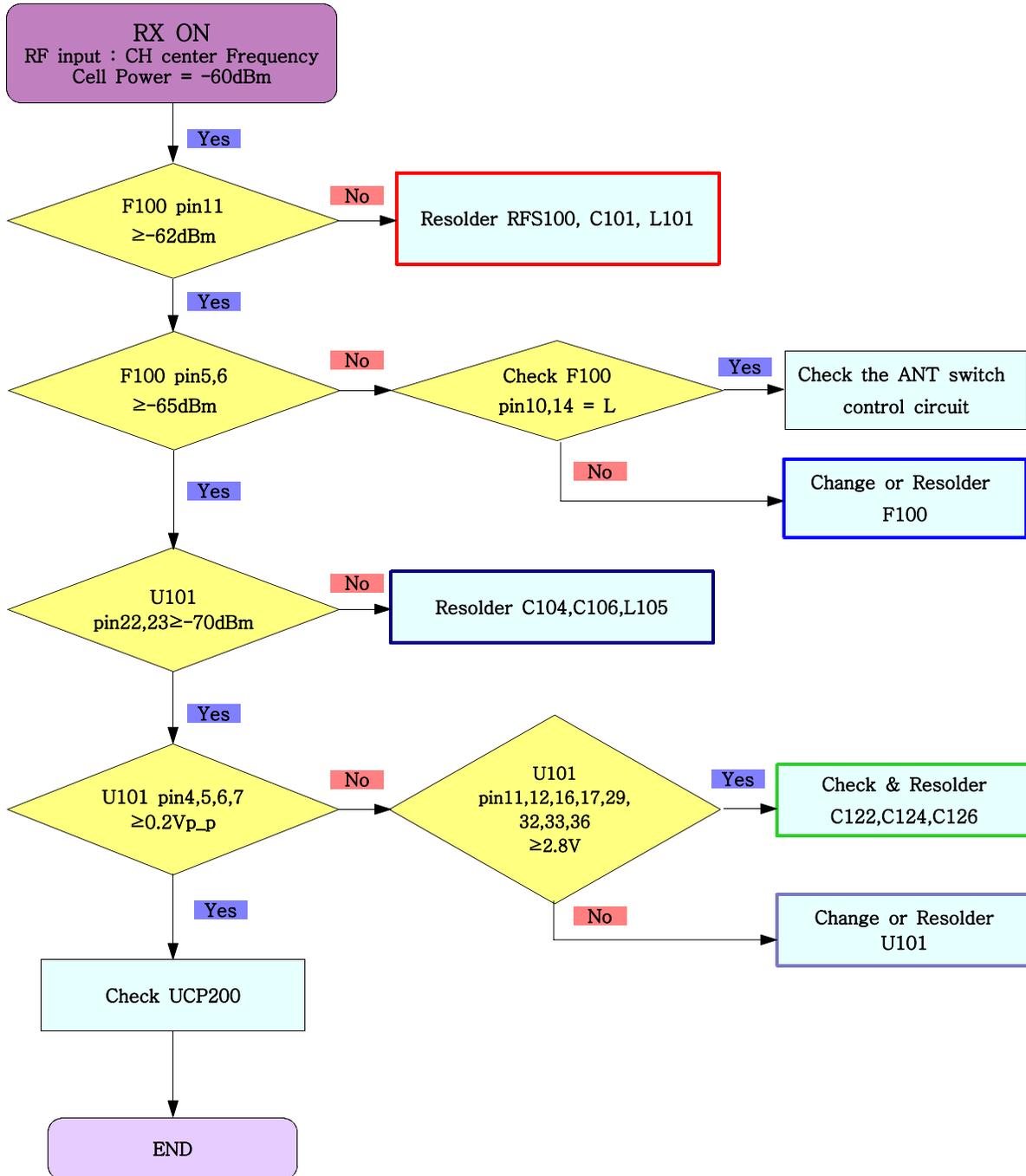




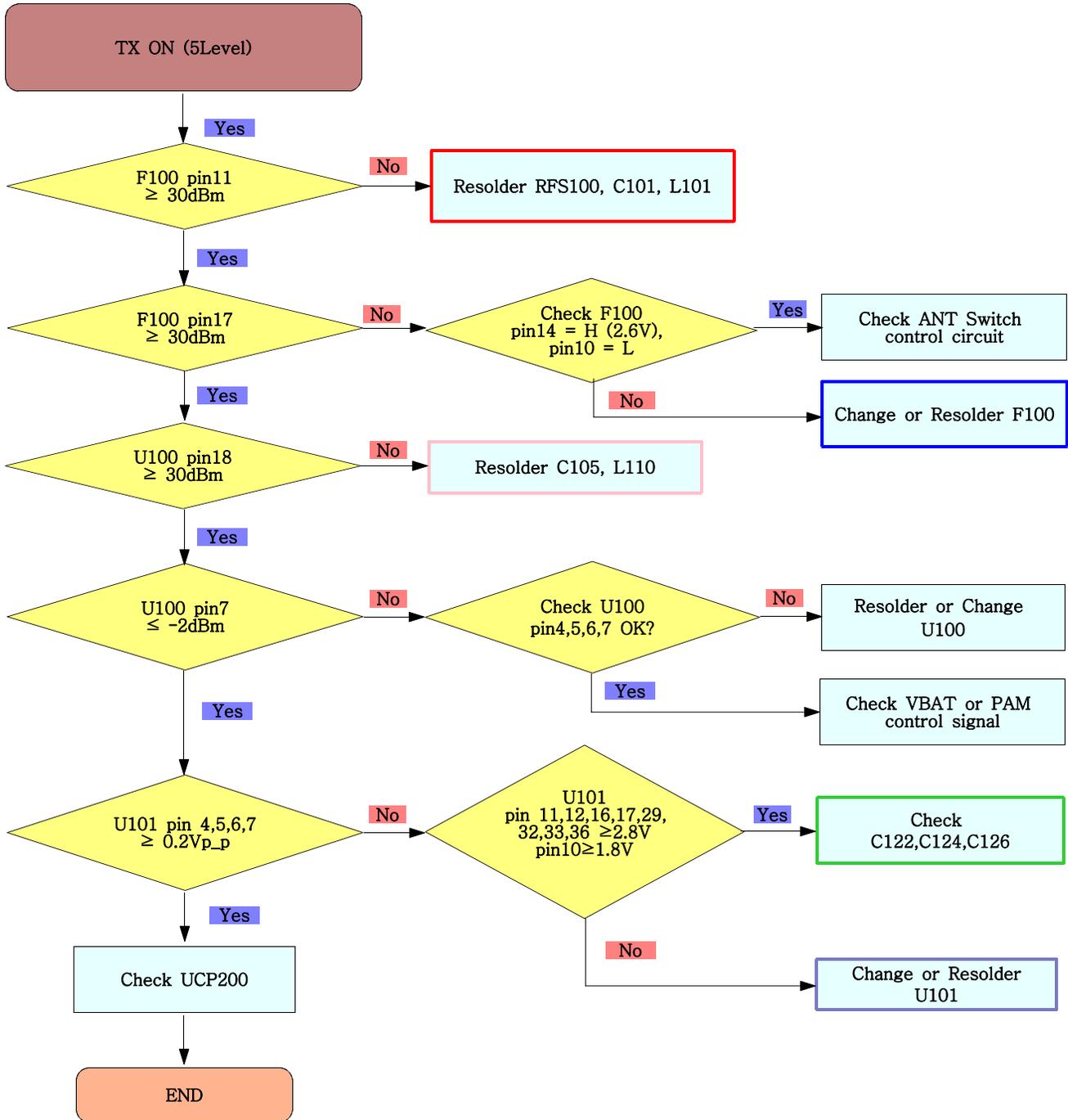
9-12. GSM Transmitter



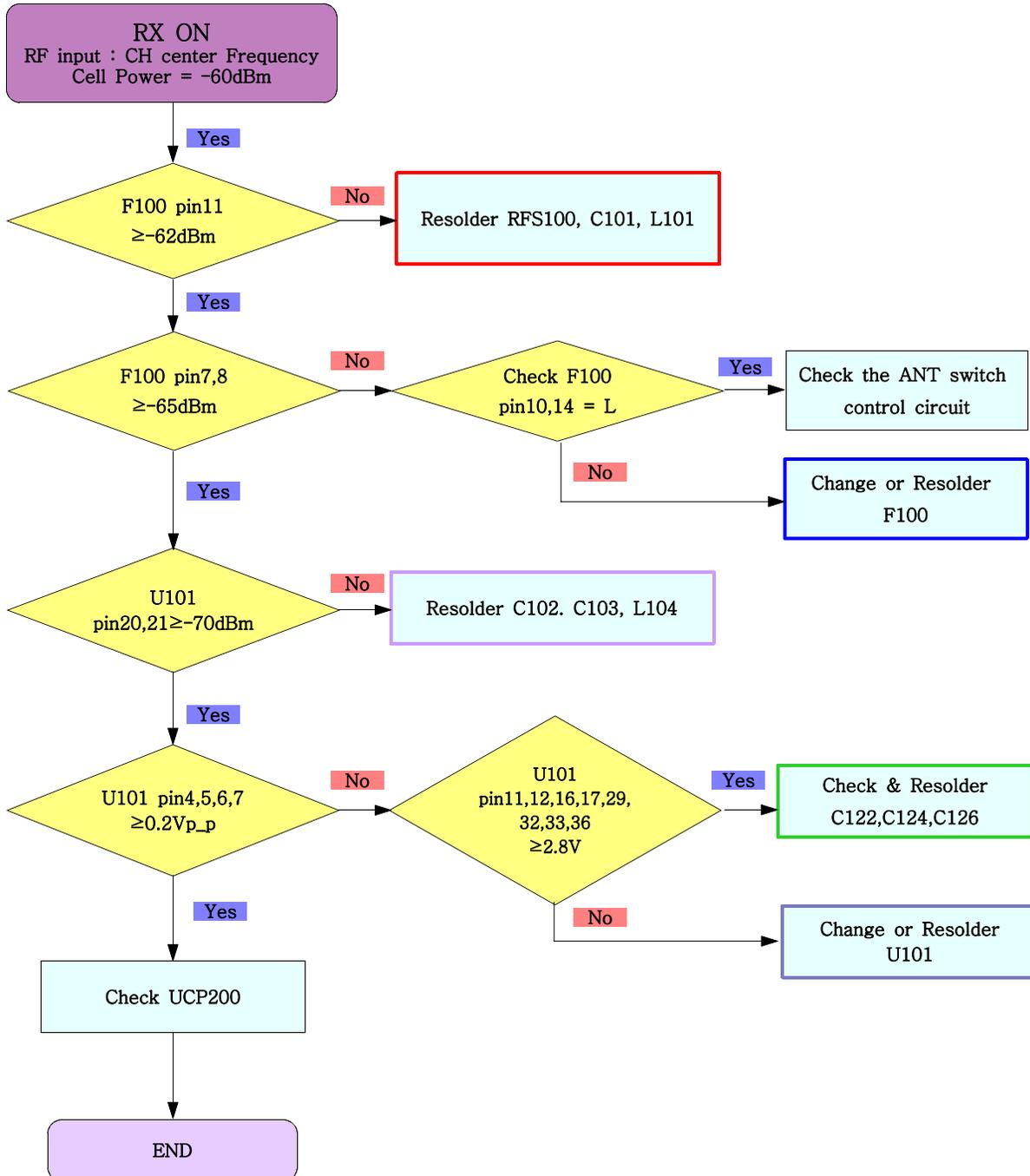
9-13. DCS Receiver



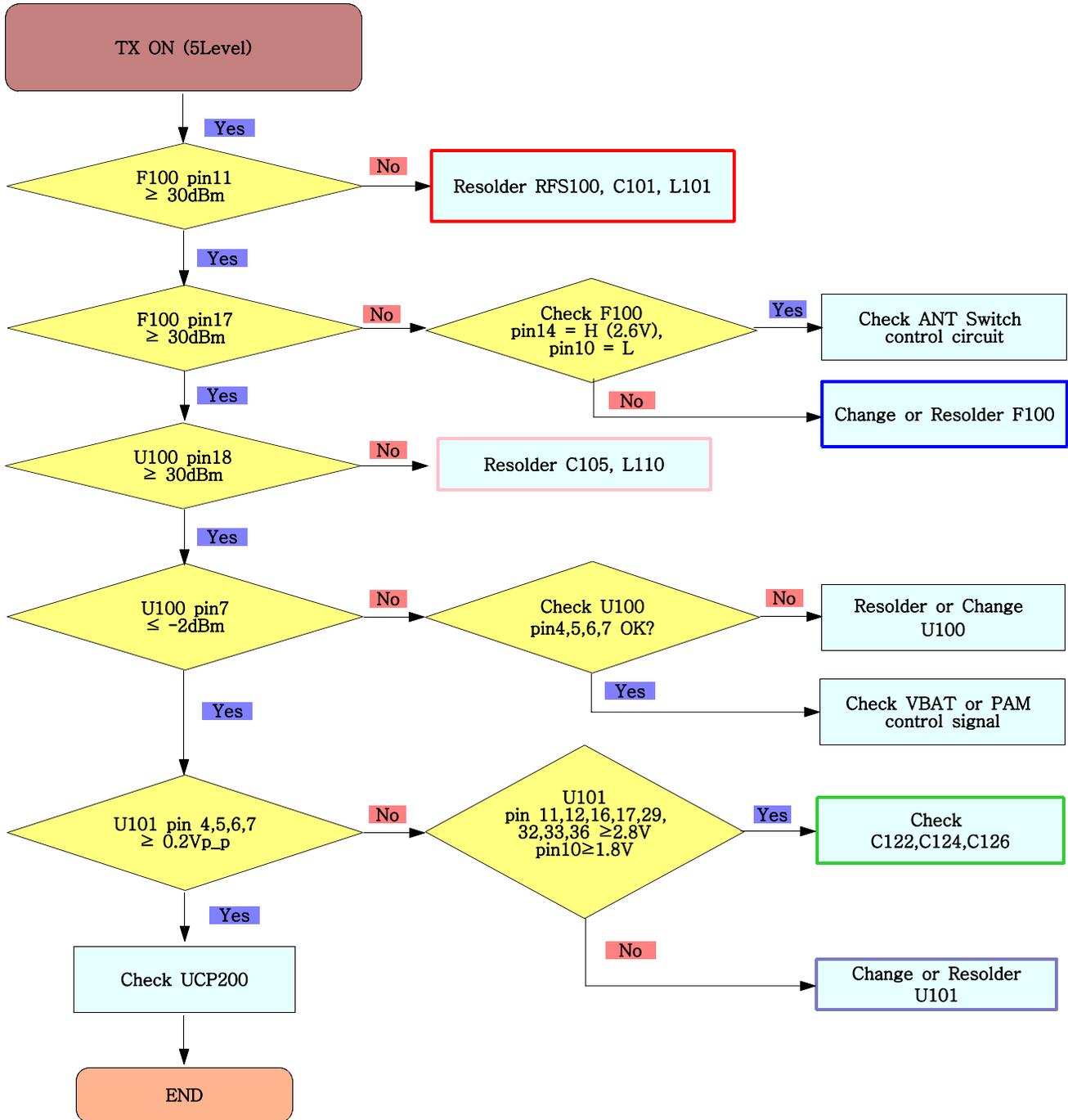
9-14. DCS Transmitter



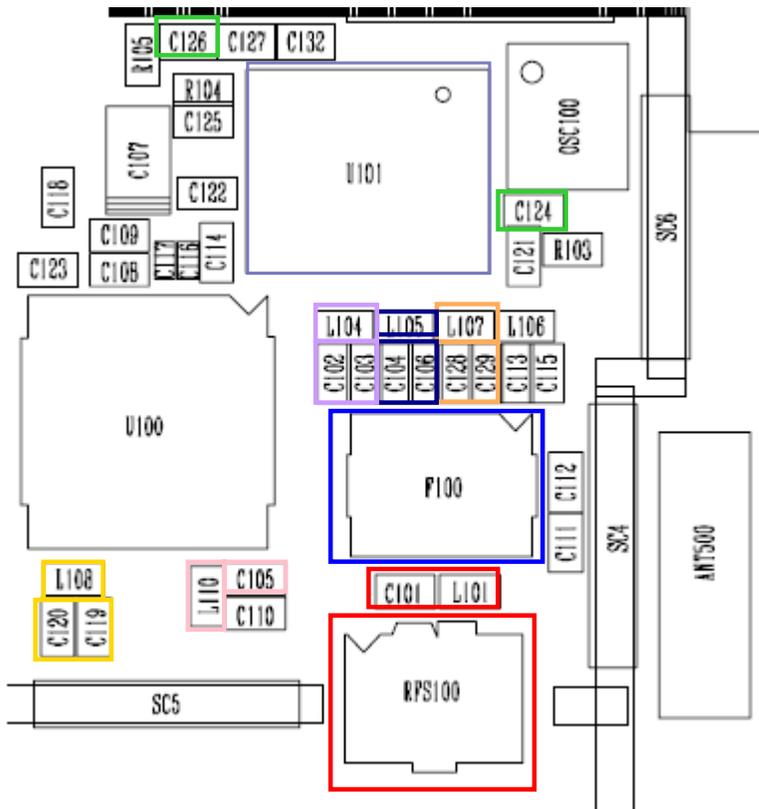
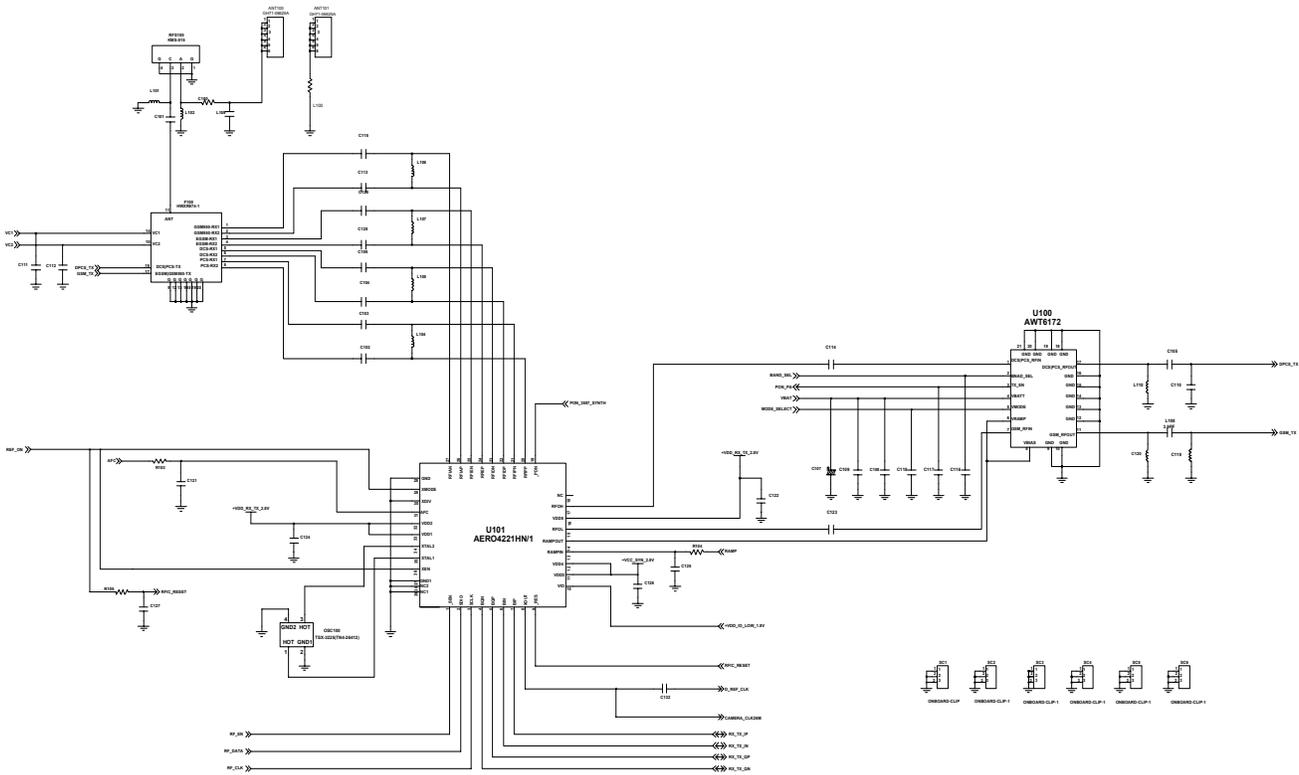
9-15. PCS Receiver



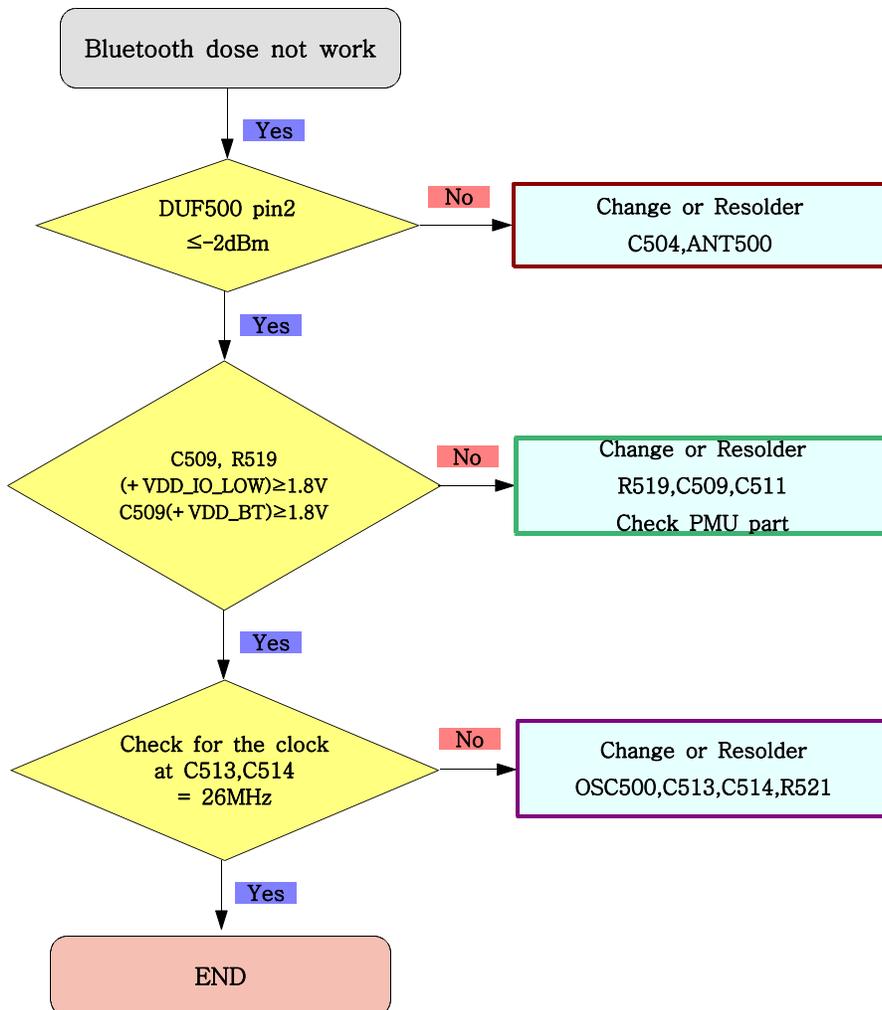
9-16. PCS Transmitter

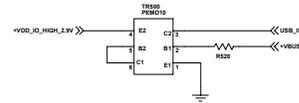
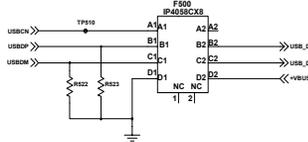
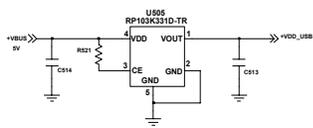
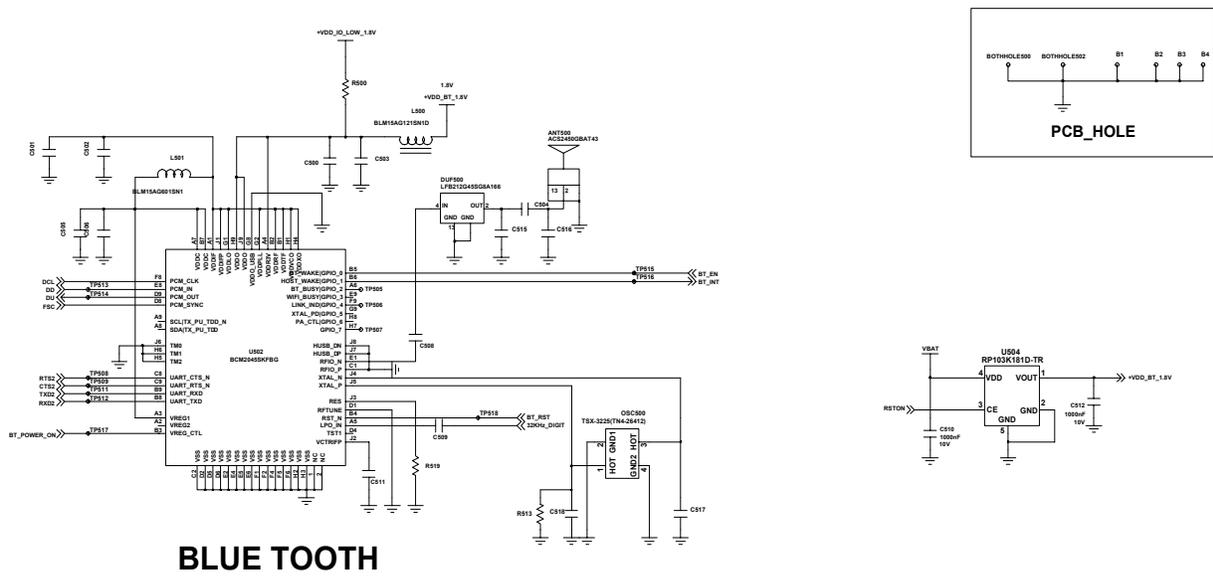


Flow Chart of Troubleshooting



9-17. Bluetooth part





- C512
- C423
- C420
- C422
- R519**

- C511**
- C502

- TP514
- TP513
- TP515
- TP517
- TP518
- TP516
- TP512
- TP511
- TP509



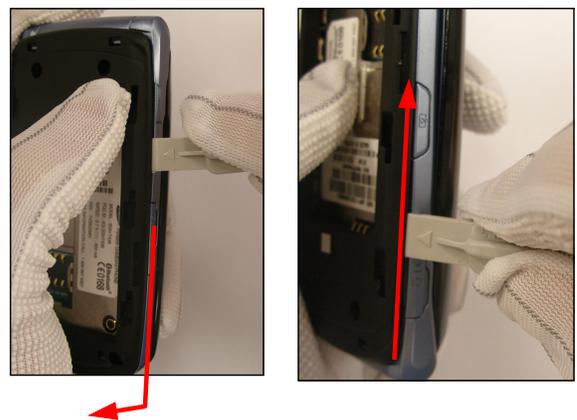
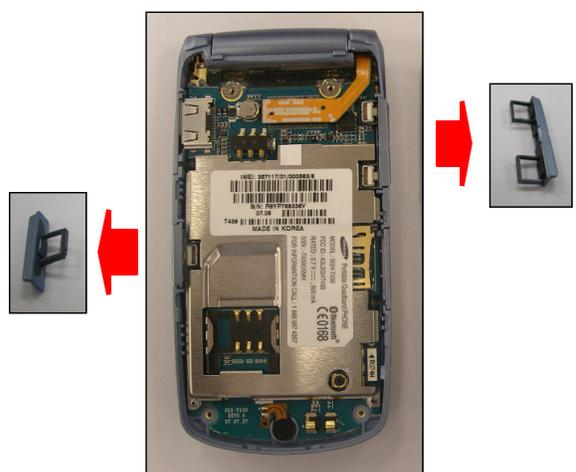
10. Reference data

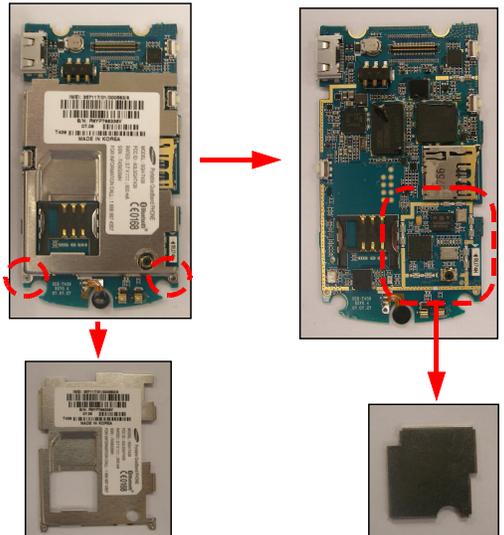
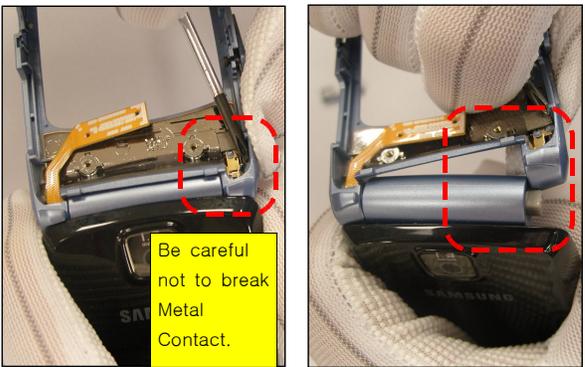
Reference Abbreviate

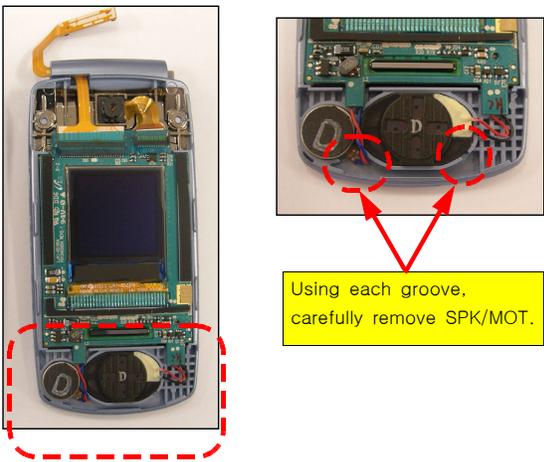
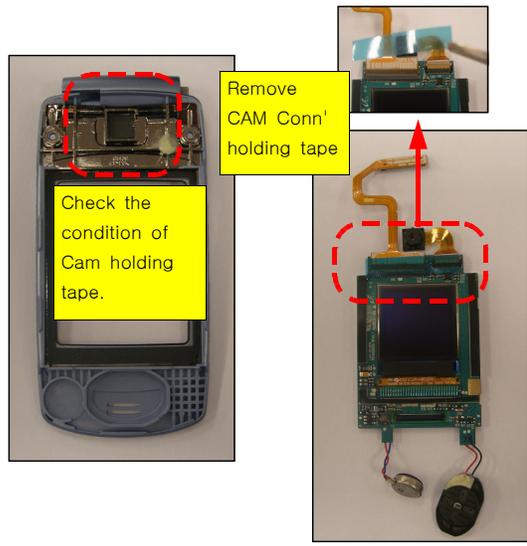
- **AAC**: Advanced Audio Coding.
- **AVC** : Advanced Video Coding.
- **BER** : Bit Error Rate
- **BPSK**: Binary Phase Shift Keying
- **CA** : Conditional Access
- **CDM** : Code Division Multiplexing
- **C/I** : Carrier to Interference
- **DMB** : Digital Multimedia Broadcasting
- **EN** : European 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

11. Disassembly and Assembly Instructions

11-1. Disassembly

<div data-bbox="162 294 795 357" style="border: 1px solid black; padding: 5px;"> <p>1) Disassembling Screws</p> </div> 	<div data-bbox="820 294 1453 357" style="border: 1px solid black; padding: 5px;"> <p>1) Remove REAR</p> </div> 
<p>1) Disassemble the screws at four point from the bottom of handset. (Be careful about scratch and damage)</p>	<p>1) Remove the rear case by using a remover. (Be careful about scratch and damage)</p>
<div data-bbox="162 1123 795 1186" style="border: 1px solid black; padding: 5px;"> <p>1) Remove LCD connector and Side Key</p> </div> 	<div data-bbox="820 1123 1453 1186" style="border: 1px solid black; padding: 5px;"> <p>1) Remove PCB and Key pad</p> </div> 
<p>1) Remove LCD connector. 2) Remove Side Key. (Be careful about scratch and damage)</p>	<p>1) Remove PCB from Front Case. 2) Remove Key Pad from Front Case. (Be careful about scratch and damage)</p>

<p>5 1) Remove Shield Can</p> 	<p>6 1) Remove Front Case</p> 
<p>1) Disassemble screws at the two point. 2) When removing Main Shield can, do not destroy Main label. 3) Remove RF Shield Can in Main Shield Can. (Be careful about scratch and damage)</p>	<p>1) Push the holder by using driver and disassemble Upper and Front Case. (Be careful not to break Metal Contact.)</p>
<p>7 1) Remove Front</p> 	<p>8 1) Disassemble UPPER and LOWER</p> 
<p>1) Disassemble SCREW CAP at two point. (Be careful about scratch and damage)</p>	<p>1) Disassemble Right Hook as you can see on the Picture. 2) Disassemble left Hook as you can see on the Picture. (Be careful about scratch and damage)</p>

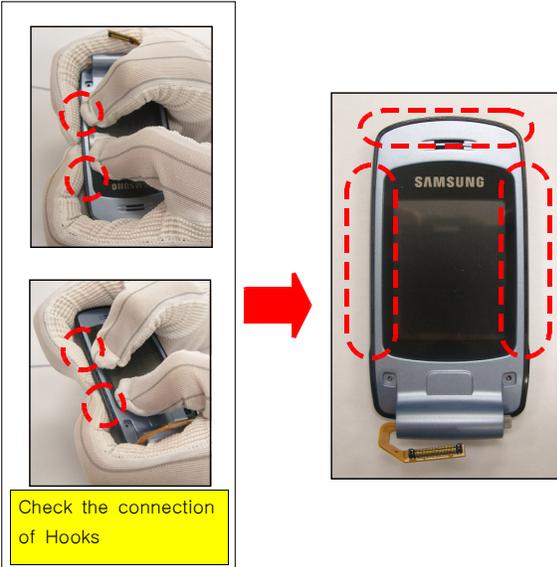
<p>9 1) Remove MOT/SPK</p>  <p>Using each groove, carefully remove SPK/MOT.</p>	<p>10 1) Remove LCD</p>  <p>Check the condition of Cam holding tape.</p> <p>Remove CAM Conn! holding tape</p>
<p>1) Remove MOTOR/SPEAKER (Be careful not to destroy MOT/SPK)</p>	<p>1) After removing CAM, check the condition of CAM holding tape. 2) Remove CAM Connector Holding Tape. (Be careful not to destroy LCD)</p>

11-2 Assembly

<div data-bbox="162 268 808 331" style="border: 1px solid black; padding: 5px;"> <p>1 Solder SPK/MOT</p> </div> <div data-bbox="269 426 691 810"> </div>	<div data-bbox="820 268 1466 331" style="border: 1px solid black; padding: 5px;"> <p>2 Install CON TO CON and Camera</p> </div> <div data-bbox="943 449 1325 873"> </div>
<p>1) Solder SPK/MOT and check the polarity (Be careful about Short Circuit)</p> <p>1) Connect CON TO CON. 2) Connect Camera FPCB. 3) Put on Cam Holding Tape (Be careful about scratch and damage)</p>	
<div data-bbox="162 1108 808 1171" style="border: 1px solid black; padding: 5px;"> <p>3 Install LCD</p> </div> <div data-bbox="224 1241 773 1730"> </div>	<div data-bbox="820 1108 1466 1171" style="border: 1px solid black; padding: 5px;"> <p>4 Construct Upper Case I</p> </div> <div data-bbox="841 1268 1430 1608"> </div>
<p>1) Install LCD 2) Put on SPK/MOT on Lower Case after twist them 2 times. (Be careful about scratch and damage)</p> <p>1) Construct Lower Hook at the Upper Case first. (Be careful about scratch and damage)</p>	

5

Construct Upper Case II

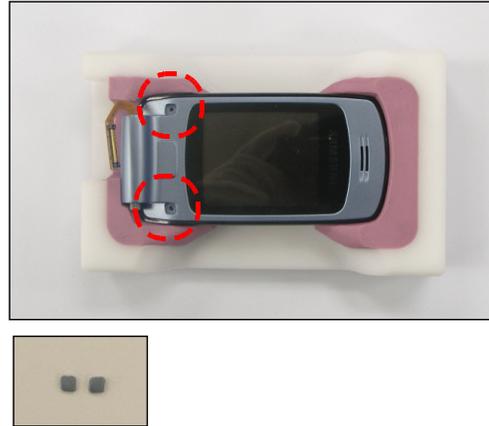


Check the connection of Hooks

- 1) Construct Left and Right Hook.
- 2) Check all connection of Hooks.
(Be careful about scratch and damage)

6

Construct Upper Case III



- 1) Tighten two SCREWS.
- 2) Put on two SCREW COVER.
(Be careful about scratch and damage)

7

Construct Front Case



Put the FPCB into the groove of Front Case.

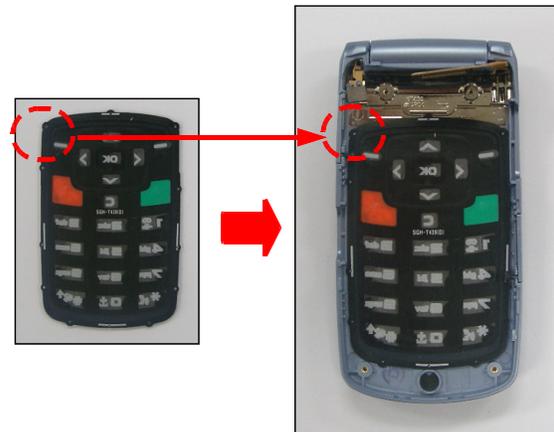
Push Hinge of Upper ASSY with a tool which is not sharp and put together Front Case and Upper ASSY.



- 1) Don't tear the FPCB.
(Be careful about scratch and damage)

8

Put on the Key Pad



- 1) Install Key Pad. Check PAD Holder located at the correct position.
(Be careful about scratch and damage)

<div data-bbox="170 193 803 262" style="border: 1px solid black; padding: 5px;"> <p>9 Install PBA ASSY</p> </div> <div data-bbox="219 388 763 756" style="text-align: center;"> </div>	<div data-bbox="836 193 1461 262" style="border: 1px solid black; padding: 5px;"> <p>10 Put up SIDE KEY</p> </div> <div data-bbox="852 325 1421 798" style="text-align: center;"> </div>
<p>1) Install PBA ASSY and Connect LCD Connector. (Be careful about scratch and damage)</p>	<p>1) Put up two Side Key. (Be careful about scratch and damage)</p>
<div data-bbox="170 1050 803 1123" style="border: 1px solid black; padding: 5px;"> <p>11 Install ANTENNA</p> </div> <div data-bbox="186 1197 771 1680" style="text-align: center;"> </div>	<div data-bbox="836 1050 1461 1123" style="border: 1px solid black; padding: 5px;"> <p>12 Construct REAR CASE</p> </div> <div data-bbox="868 1207 1421 1669" style="text-align: center;"> </div>
<p>1) Install antenna into REAR CASE. (Be careful about scratch and damage)</p>	<p>1) Construct two upper Hook. 2) Construct left and right Hook. 3) Construct two lower Hook. Check the gap between REAR and Front Case. (Be careful about scratch and damage)</p>

13

SCREW UP the REAR CASE



1) Screw up the REAR CASE at four point.
(Be careful about scratch and damage)

