

SAMSUNG

GSM TELEPHONE SGH-J400

SERVICE *Manual*

GSM TELEPHONE



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**SAMSUNG
ELECTRONICS**



GSPN (Global Service Partner Network)

Country	Web Site
North America	service.samsungportal.com
Latin America	latin.samsungportal.com
CIS	cis.samsungportal.com
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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 the specification 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

	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900	WCDMA 2100
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1922 ~ 1977 2112 ~ 2167
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810	UL : 9612 ~ 9888 DL : 10562 ~ 10838
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	3.84Mcps
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	Frame Length :10ms Slot length :0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	QPSK HQPSK
MS Power	33dBm~13dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm	24dBm ~ -50 dBm
Power Class	5pcl ~ 15pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl	³ (max + 24dBm)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm	-106.7 dBm
TDMA Mux	8	8	8	8	
Cell Radius	35Km	35Km	2Km	-	2Km

2-2. GSM TX power class

TX Power control level	GSM900
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±2 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±4dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

TX Power control level	PCS1900
0	30±2 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±4dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

3. Product Function

Main Function

- Mobile Instant Messaging
- Built-In Digital Camera with flash and Video Capture
- MP3 Player, and Java Games
- Hands-free speaker phone
- Bluetooth Wireless Technology
- Organizer feature provides Calendar, Alarms, Calculator, and Converter
- Multimedia Messaging Service-send and receive text messages with animation and sound
- Text Messaging Service-send and receive alphanumeric messages and Email
- Media Net Internet browsing
- Support 64 note polyphonic ringtones, MP3 ringtones, and AAC ringtones
- Tripple band(900/1800/1900MHz), WCDMA2100
- VGA Camera
- GPRS Class 10
- EGPRS Class E2

4. Array course control

4-1. Software Adjustments



1. JIG: Download, Trace, Calibration, etc [GH80-03308A]
2. RF test cable: RF test [GH39-00397A]
3. Test cable: JIG to phone [GH39-00971A]
4. TA (Travel Adaptor - S20pin) [GH44-01702A]
5. Data Link Cable : USB cable (S20) [GH39-00922A]
6. Serial cable: PC to JIG

4-2. Software Downloading

4-2-1. Downloading Binary Files

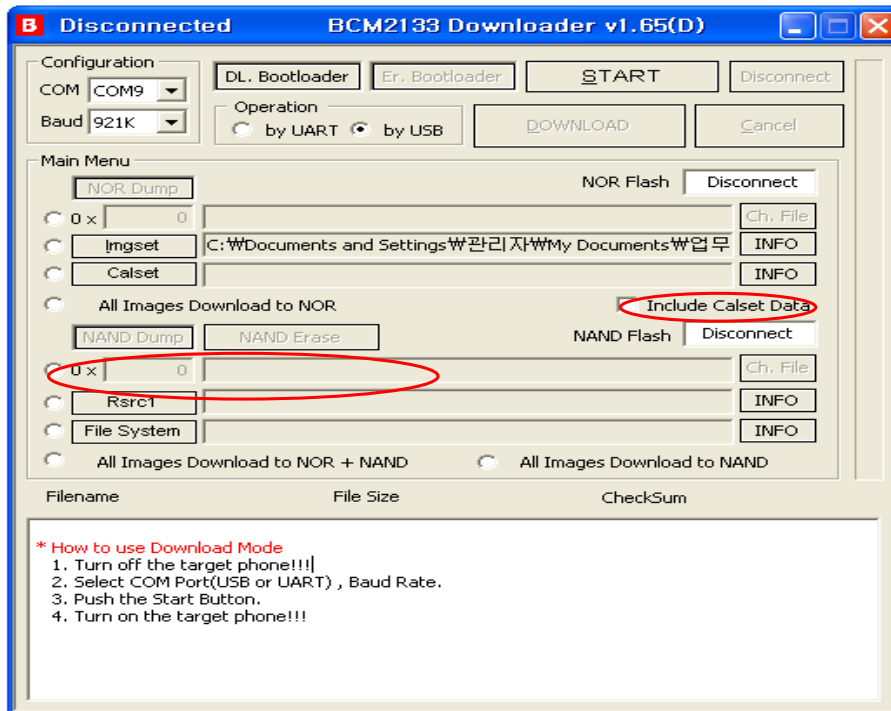
- Five binary files for downloading J400
 - J400BGGJ2.img : Modem binary for communication function
& Mocha binary for user interface and various application
 - J400BGGJ2._calset.img : Dependent Parameter Set
 - J400BGGJ2.rc1: Files need for each application, Power on/off & Back charging animation
 - J400BGGJ2.tfs : Default file system to be put into in initial production

4-2-2. Pre-requisite for Downloading

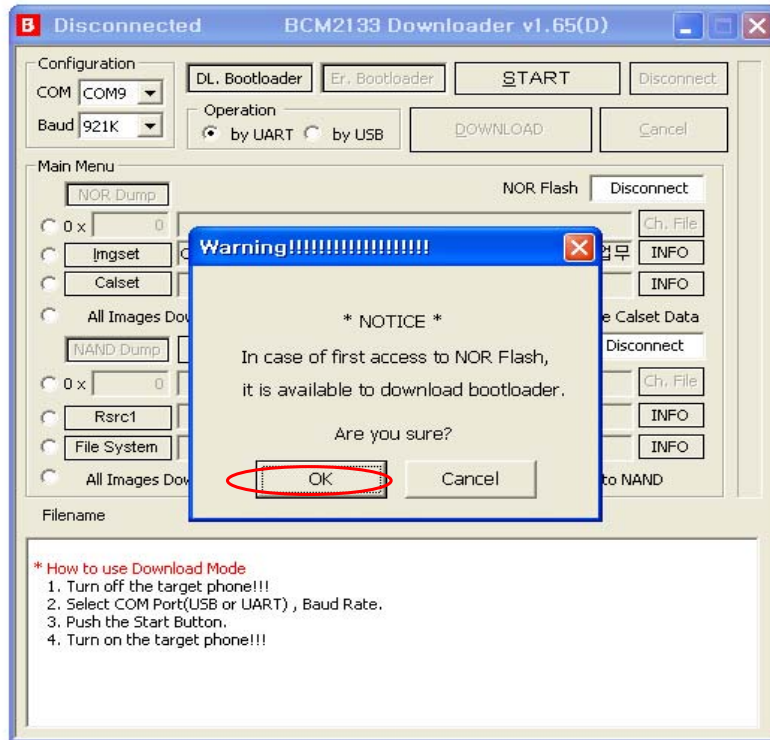
- Downloader Program([BCM2133 Downloader v1.65\(D\).exe](#))
- SGH-J400 Mobile Phone
- USB Data Link Cable
- Binary files

4-2-3. S/W Downloader Program

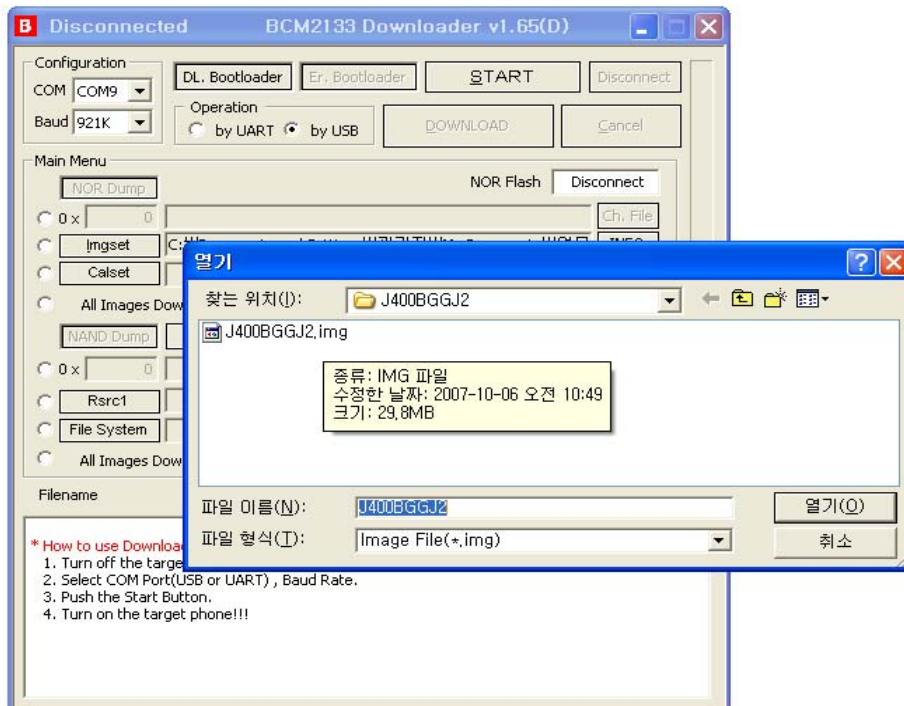
1. Load the binary download program by executing the "[BCM2133 Downloader v1.65\(D\).exe](#)" and initially check Include "Calset Data" and "All Images Download to NOR + NAND"



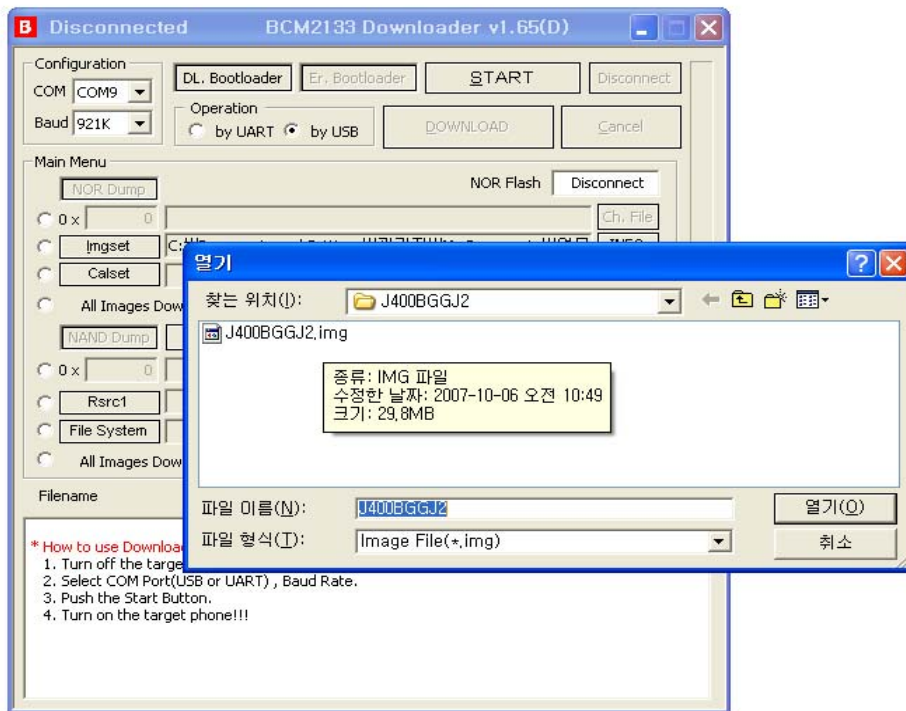
2. Press the button "D/L Bootloader" and then check "OK" for downloading Bootloader.



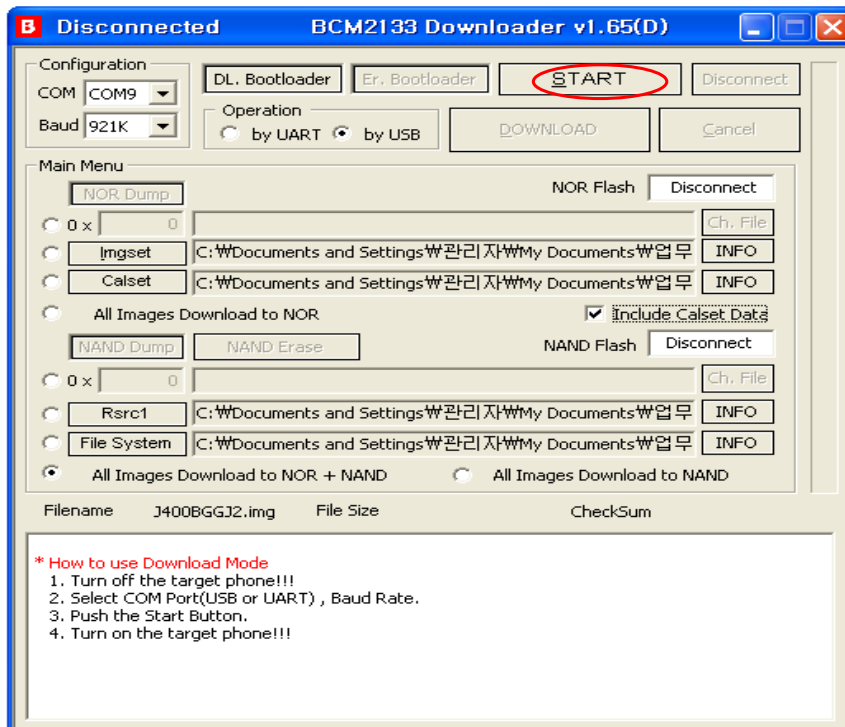
3. Select the binary file what you want to download



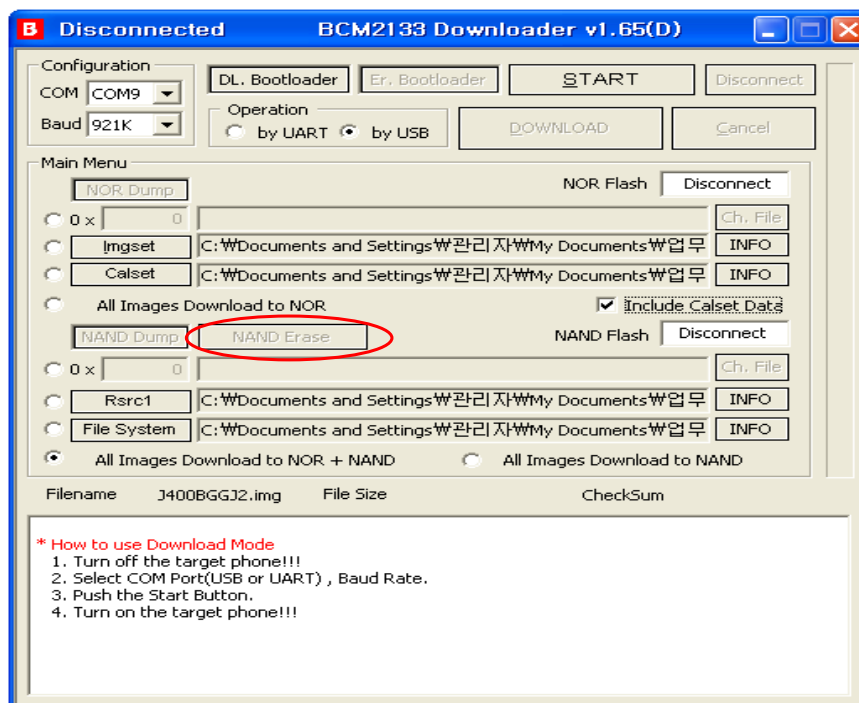
3. Select the binary file what you want to download



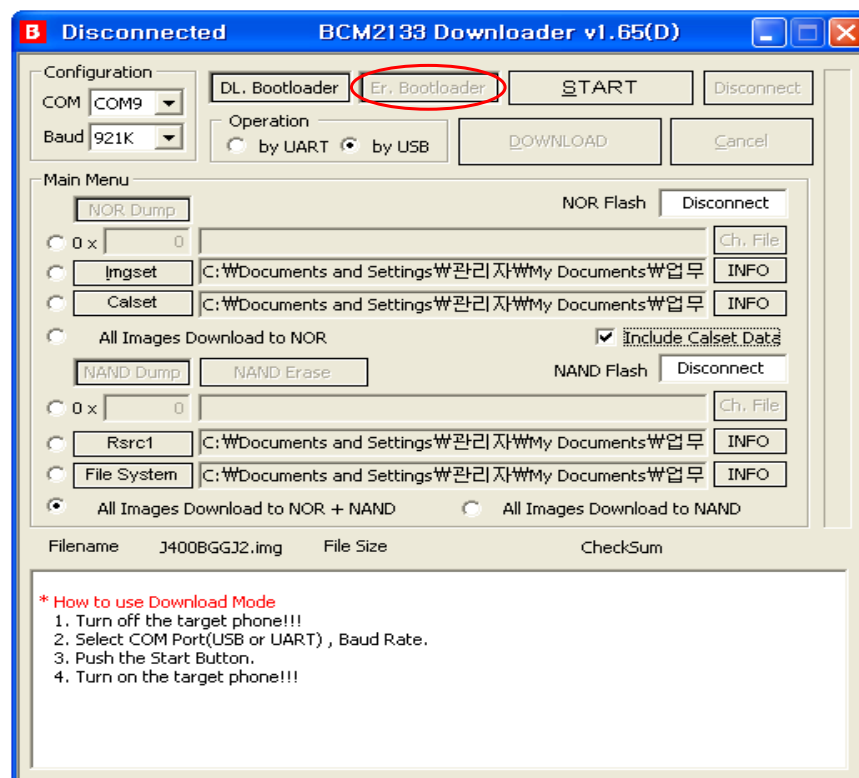
4. Now press the button 'START' and SGH-J400 connects with cable



5. When checking is completed, Press Nand Erase.

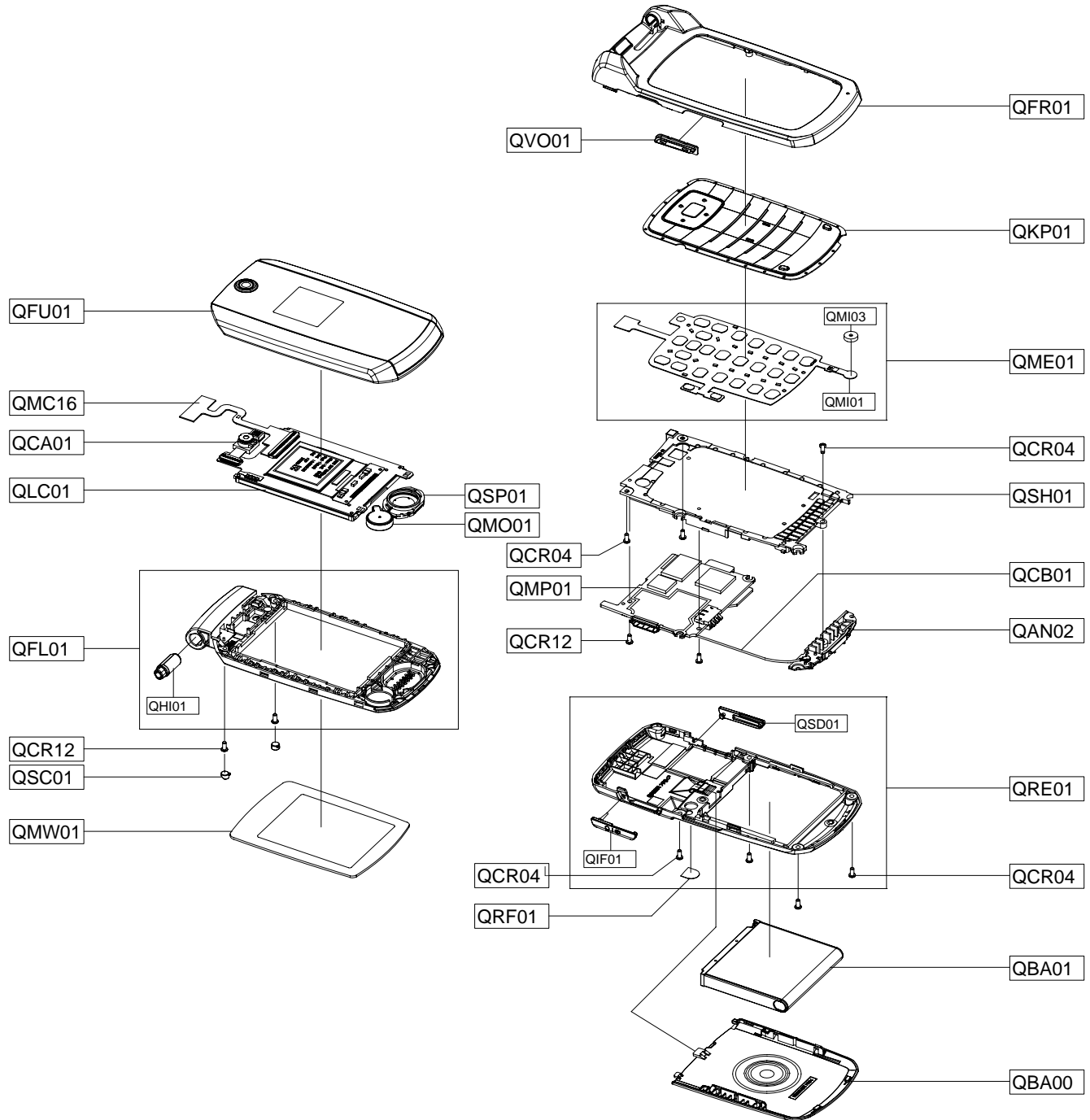


6. Now press the button 'Download'.



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-SGHJ400	GH42-01385A
QBA00		PMO COVER-BATT	GH72-43670B
QBA01		INNER BATTERY PACK-880MAH,BLK,	GH43-02934A
QCA01		CAMERA MODULE-SGHJ400	GH59-04949A
QCB01		CBF COAXIAL CABLE-SGHJ400	GH39-00964A
QCR04		SCREW-MACHINE	6001-001479
QCR04		SCREW-MACHINE	6001-001479
QCR04		SCREW-MACHINE	6001-001479
QCR12		SCREW-MACHINE	6001-001530
QFR01		ASSY CASE-FRONT	GH98-05887B
QFU01		ASSY CASE-FOLDER UPPER(XEC/ME_	GH98-06786B
QKP01		ASSY KEYPAD-(D_GRY/XEC)	GH98-05890A
QLC01		ELA ETC-SGHJ400 LCD MODULE	GH96-02779A
QMC16		PCB-CON TO CON(J400)	GH41-01869A
QMO01		MOTOR DC-SGHJ400	GH31-00381A
QMP01		PBA MAIN-SGHJ400	GH92-04103A
QMW01		ASSY COVER-MAIN WINDOW(XEC)	GH98-06961A
QRF01		TAPE-RF HOLE CAP	GH74-34588B
QSC01		RMO RUBBER-SCREW CAP	GH73-11130A
QSH01		ASSY BRACKET-SHIELD	GH98-05950A
QSP01		SPEAKER	3001-002249
QVO01		PMO KEY-VOLUME	GH72-43637B
QRE01		ASSY CASE-REAR	GH98-05888B
	QIF01	PMO COVER-IF	GH72-44229B
	QSD01	PMO COVER-MICRO SD	GH72-43636B
QME01		KEY FPCB-MAIN KEY PBA	GH59-04931A
	QMI01	AS-MIC (KEY PBA)	GH81-06102A
	QMI03	AS-SPHW2900_MAIN MIC RUBBER HO	GH81-06629A
QFL01		ASSY CASE-FOLDER LOWER	GH98-05886A
	QHI01	ASSY HINGE-FOLDER	GH98-03681A

	Description	SEC CODE
	BAG PE	6902-000634
	FPCB ANTENNA CHIP-SGHJ400	GH42-01434A
	ADAPTOR-ATADS10EBE,BLK,EU	GH44-01702A
	EARPHONE	GH59-04556A
	LABEL(P)-UNIT SEAL	GH68-00518B
	LABEL(R)-WATER SOAK	GH68-09361A
	MANUAL USERS-SMS LEAFLET	GH68-16463A
	MANUAL USERS-XEC LEAFLET	GH68-16464A
	MANUAL USERS-XEC SPANISH	GH68-16632A
	LABEL(R)-MAIN(EU)	GH68-16669A
	CUSHION-CASE(EU)	GH69-05985A
	BOX-UNIT(XEC)	GH69-06130D
	RMO RUBBER-LCD SIDE	GH73-10936A
	MPR-TAPE	GH74-27509A
	TAPE-HINGE DECO 2	GH74-34028A
	TAPE-LCD CON	GH74-34037A
	TAPE INSU-CAM CON	GH74-34038A
	TAPE INSU-LCD CON	GH74-34039A
	TAPE-LCD SIDE	GH74-34043A
	TAPE-FPCB DUST	GH74-34137A
	TAPE-INTENNA EMI	GH74-34394A
	TAPE INSU	GH74-34655A
	TAPE-REMOVE	GH74-35112A
	CBF SIGNAL-SPHA560 RF CABLE	GH39-00397A
0.4M	CBF INTERFACE-SGHJ750 TEST CAB	GH39-00968A
1.5M	CBF INTERFACE-SGHJ750 TEST CAB	GH39-00971A
	INSTALL-TEST JIG BOX	GH80-03308A

6. Main Electrical Parts List

SEC Code	Design LOC	Description	STATUS
0403-001547	D800	DIODE-ZENER	SA
0403-001547	ZD803	DIODE-ZENER	SA
0404-001172	D500	DIODE-SCHOTTKY	SA
0404-001245	D600	DIODE-SCHOTTKY	SA
0406-001254	D700	DIODE-TVS	SA
0406-001254	D701	DIODE-TVS	SA
0406-001254	D802	DIODE-TVS	SA
0406-001254	D803	DIODE-TVS	SA
0406-001254	U816	DIODE-TVS	SA
0406-001254	U817	DIODE-TVS	SA
0406-001254	ZD600	DIODE-TVS	SA
0406-001254	ZD601	DIODE-TVS	SA
0406-001254	ZD602	DIODE-TVS	SA
0406-001256	D601	DIODE-TVS	SA
0406-001286	ZD801	DIODE-TVS	SA
0406-001286	ZD802	DIODE-TVS	SA
0502-001201	Q600	TR-POWER	SA
0504-001151	Q601	TR-DIGITAL	SA
0505-001332	Q500	FET-SILICON	SA
0505-001464	Q602	FET-SILICON	SA
0801-003016	U502	IC-CMOS LOGIC	SA
0801-003016	U600	IC-CMOS LOGIC	SA
0801-003016	U602	IC-CMOS LOGIC	SA
0801-003016	U800	IC-CMOS LOGIC	SA
0801-003022	U302	IC-CMOS LOGIC	SA
0801-003058	U102	IC-CMOS LOGIC	SA
0801-003130	U605	IC-CMOS LOGIC	SA
0801-003140	U101	IC-CMOS LOGIC	SA
0801-003140	U304	IC-CMOS LOGIC	SA
1001-001394	U802	IC-ANALOG SWITCH	SA
1001-001394	U803	IC-ANALOG SWITCH	SA
1108-000104	UME500	IC-MCP	SA
1201-002305	PAM300	IC-POWER AMP	SA
1201-002323	U300	IC-RF AMP	SA
1201-002576	PAM100	IC-POWER AMP	SA
1201-002606	U700	IC-AUDIO AMP	SA
1203-004792	U601	IC-POSI.FIXED REG.	SA
1203-004792	U604	IC-POSI.FIXED REG.	SA
1203-004793	U606	IC-POSI.FIXED REG.	SA
1203-004799	U603	IC-POWER SUPERVISOR	SA
1205-002942	U303	IC-TRANSCEIVER	SA
1205-003099	U200	IC-TRANSCEIVER	SA
1205-003103	UCP500	IC-MODEM	SA
1205-003104	UCP400	IC-COMM. CONTROLLER	SA
1404-001221	V400	THERMISTOR-NTC	SA
1405-001108	V800	VARISTOR	SA
1405-001108	V801	VARISTOR	SA
2007-000070	R103	R-CHIP	SA
2007-000070	R300	R-CHIP	SA
2007-000145	R301	R-CHIP	SA
2007-000148	R109	R-CHIP	SA
2007-000148	R410	R-CHIP	SA
2007-000148	R412	R-CHIP	SA

Main Electrical Parts List

SEC Code	Design LOC	Description	STATUS
2007-000148	R506	R-CHIP	SA
2007-000148	R508	R-CHIP	SA
2007-000148	R600	R-CHIP	SA
2007-000148	R602	R-CHIP	SA
2007-000148	R702	R-CHIP	SA
2007-000148	R712	R-CHIP	SA
2007-000156	R809	R-CHIP	SA
2007-000159	R615	R-CHIP	SA
2007-000159	R616	R-CHIP	SA
2007-000159	R617	R-CHIP	SA
2007-000159	R618	R-CHIP	SA
2007-000159	R619	R-CHIP	SA
2007-000159	R620	R-CHIP	SA
2007-000162	R416	R-CHIP	SA
2007-000162	R418	R-CHIP	SA
2007-000162	R420	R-CHIP	SA
2007-000162	R503	R-CHIP	SA
2007-000162	R504	R-CHIP	SA
2007-000162	R509	R-CHIP	SA
2007-000162	R608	R-CHIP	SA
2007-000162	R609	R-CHIP	SA
2007-000171	L303	R-CHIP	SA
2007-000171	R201	R-CHIP	SA
2007-000171	R204	R-CHIP	SA
2007-000171	R206	R-CHIP	SA
2007-000171	R303	R-CHIP	SA
2007-000171	R402	R-CHIP	SA
2007-000171	R409	R-CHIP	SA
2007-000171	R426	R-CHIP	SA
2007-000171	R500	R-CHIP	SA
2007-000171	R501	R-CHIP	SA
2007-000171	R502	R-CHIP	SA
2007-000171	R604	R-CHIP	SA
2007-000171	R607	R-CHIP	SA
2007-000171	R623	R-CHIP	SA
2007-000172	R200	R-CHIP	SA
2007-000172	R707	R-CHIP	SA
2007-000172	R708	R-CHIP	SA
2007-000242	R612	R-CHIP	SA
2007-000242	R613	R-CHIP	SA
2007-001288	R100	R-CHIP	SA
2007-001288	R104	R-CHIP	SA
2007-001316	R210	R-CHIP	SA
2007-001339	R813	R-CHIP	SA
2007-003006	R807	R-CHIP	SA
2007-003006	R808	R-CHIP	SA
2007-003019	R710	R-CHIP	SA
2007-007008	R101	R-CHIP	SA
2007-007008	R102	R-CHIP	SA
2007-007008	R105	R-CHIP	SA
2007-007008	R106	R-CHIP	SA
2007-007100	R603	R-CHIP	SA
2007-007137	R700	R-CHIP	SA

SEC Code	Design LOC	Description	STATUS
2007-007137	R705	R-CHIP	SA
2007-007137	R711	R-CHIP	SA
2007-007137	R713	R-CHIP	SA
2007-007148	R621	R-CHIP	SA
2007-007318	R408	R-CHIP	SA
2007-007318	R709	R-CHIP	SA
2007-007318	R714	R-CHIP	SA
2007-007489	R304	R-CHIP	SA
2007-007489	R403	R-CHIP	SA
2007-007489	R816	R-CHIP	SA
2007-007573	R815	R-CHIP	SA
2007-007741	R817	R-CHIP	SA
2007-007869	R606	R-CHIP	SA
2007-007981	R401	R-CHIP	SA
2007-008055	R411	R-CHIP	SA
2007-008055	R414	R-CHIP	SA
2007-008055	R415	R-CHIP	SA
2007-008055	R417	R-CHIP	SA
2007-008055	R419	R-CHIP	SA
2007-008055	R421	R-CHIP	SA
2007-008055	R422	R-CHIP	SA
2007-008055	R423	R-CHIP	SA
2007-008055	R505	R-CHIP	SA
2007-008055	R801	R-CHIP	SA
2007-008055	R814	R-CHIP	SA
2007-008354	R407	R-CHIP	SA
2007-008401	R406	R-CHIP	SA
2007-008419	R611	R-CHIP	SA
2007-008478	R400	R-CHIP	SA
2007-008516	R413	R-CHIP	SA
2007-008516	R424	R-CHIP	SA
2007-008516	R425	R-CHIP	SA
2007-008516	R614	R-CHIP	SA
2007-008542	R205	R-CHIP	SA
2007-008542	R207	R-CHIP	SA
2007-008542	R208	R-CHIP	SA
2007-008542	R209	R-CHIP	SA
2007-008581	R431	R-CHIP	SNA
2007-008581	R432	R-CHIP	SNA
2007-008581	R433	R-CHIP	SNA
2007-008581	R434	R-CHIP	SNA
2007-008581	R435	R-CHIP	SNA
2007-008581	R436	R-CHIP	SNA
2007-008581	R437	R-CHIP	SNA
2007-008581	R438	R-CHIP	SNA
2007-008581	R439	R-CHIP	SNA
2007-008581	R440	R-CHIP	SNA
2007-008581	R441	R-CHIP	SNA
2007-009084	R404	R-CHIP	SA
2007-009084	R405	R-CHIP	SA
2007-009084	R507	R-CHIP	SA
2007-009084	R803	R-CHIP	SA
2007-009108	R812	R-CHIP	SA

SEC Code	Design LOC	Description	STATUS
2007-009157	R810	R-CHIP	SA
2007-009157	R811	R-CHIP	SA
2007-009170	R800	R-CHIP	SA
2007-009361	R622	R-CHIP	SA
2203-000233	C317	C-CER,CHIP	SA
2203-000233	C328	C-CER,CHIP	SA
2203-000233	C620	C-CER,CHIP	SA
2203-000254	C205	C-CER,CHIP	SA
2203-000254	C227	C-CER,CHIP	SA
2203-000254	C228	C-CER,CHIP	SA
2203-000254	C229	C-CER,CHIP	SA
2203-000254	C523	C-CER,CHIP	SA
2203-000278	C119	C-CER,CHIP	SA
2203-000278	C327	C-CER,CHIP	SA
2203-000278	C830	C-CER,CHIP	SA
2203-000330	C118	C-CER,CHIP	SA
2203-000330	C234	C-CER,CHIP	SA
2203-000425	C713	C-CER,CHIP	SA
2203-000438	C116	C-CER,CHIP	SA
2203-000438	C117	C-CER,CHIP	SA
2203-000438	C121	C-CER,CHIP	SA
2203-000438	C122	C-CER,CHIP	SA
2203-000438	C238	C-CER,CHIP	SA
2203-000438	C322	C-CER,CHIP	SA
2203-000438	C829	C-CER,CHIP	SA
2203-000679	C506	C-CER,CHIP	SA
2203-000679	C634	C-CER,CHIP	SA
2203-000812	C100	C-CER,CHIP	SA
2203-000812	C112	C-CER,CHIP	SA
2203-000812	C115	C-CER,CHIP	SA
2203-000812	C233	C-CER,CHIP	SA
2203-000812	C702	C-CER,CHIP	SA
2203-000812	C718	C-CER,CHIP	SA
2203-000812	C819	C-CER,CHIP	SA
2203-000812	C826	C-CER,CHIP	SA
2203-000854	C223	C-CER,CHIP	SA
2203-000940	C329	C-CER,CHIP	SA
2203-000995	C310	C-CER,CHIP	SA
2203-000995	C311	C-CER,CHIP	SA
2203-000995	C709	C-CER,CHIP	SA
2203-000995	C714	C-CER,CHIP	SA
2203-000995	C726	C-CER,CHIP	SA
2203-000995	C801	C-CER,CHIP	SA
2203-000995	R302	C-CER,CHIP	SA
2203-001072	C805	C-CER,CHIP	SA
2203-001072	C806	C-CER,CHIP	SA
2203-001153	C111	C-CER,CHIP	SA
2203-001383	C303	C-CER,CHIP	SA
2203-001405	C808	C-CER,CHIP	SA
2203-002443	C318	C-CER,CHIP	SA
2203-002677	C109	C-CER,CHIP	SA
2203-003054	C724	C-CER,CHIP	SA
2203-003054	C728	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-005158	C214	C-CER,CHIP	SA
2203-005158	C216	C-CER,CHIP	SA
2203-005288	C106	C-CER,CHIP	SA
2203-005288	C230	C-CER,CHIP	SA
2203-005288	C231	C-CER,CHIP	SA
2203-005288	R305	C-CER,CHIP	SA
2203-005382	C615	C-CER,CHIP	SA
2203-005382	C638	C-CER,CHIP	SA
2203-005393	C614	C-CER,CHIP	SA
2203-005395	L304	C-CER,CHIP	SA
2203-005395	L310	C-CER,CHIP	SA
2203-005444	C224	C-CER,CHIP	SA
2203-005444	C226	C-CER,CHIP	SA
2203-005444	C308	C-CER,CHIP	SA
2203-005482	C319	C-CER,CHIP	SA
2203-005482	C406	C-CER,CHIP	SA
2203-005482	C410	C-CER,CHIP	SA
2203-005552	C220	C-CER,CHIP	SA
2203-005552	C222	C-CER,CHIP	SA
2203-005682	C101	C-CER,CHIP	SA
2203-005682	C102	C-CER,CHIP	SA
2203-005682	C104	C-CER,CHIP	SA
2203-005682	C108	C-CER,CHIP	SA
2203-005682	C202	C-CER,CHIP	SA
2203-005682	C207	C-CER,CHIP	SA
2203-005682	C235	C-CER,CHIP	SA
2203-005682	C236	C-CER,CHIP	SA
2203-005682	C237	C-CER,CHIP	SA
2203-005682	C419	C-CER,CHIP	SA
2203-005682	C420	C-CER,CHIP	SA
2203-005682	C421	C-CER,CHIP	SA
2203-005682	C422	C-CER,CHIP	SA
2203-005717	C305	C-CER,CHIP	SA
2203-005736	C113	C-CER,CHIP	SA
2203-005736	C120	C-CER,CHIP	SA
2203-005736	C316	C-CER,CHIP	SA
2203-006048	C306	C-CER,CHIP	SA
2203-006048	C502	C-CER,CHIP	SA
2203-006048	C504	C-CER,CHIP	SA
2203-006048	C641	C-CER,CHIP	SA
2203-006048	C708	C-CER,CHIP	SA
2203-006048	C711	C-CER,CHIP	SA
2203-006048	C715	C-CER,CHIP	SA
2203-006048	C717	C-CER,CHIP	SA
2203-006048	C725	C-CER,CHIP	SA
2203-006048	C727	C-CER,CHIP	SA
2203-006048	C803	C-CER,CHIP	SA
2203-006048	C825	C-CER,CHIP	SA
2203-006121	C301	C-CER,CHIP	SA
2203-006121	C302	C-CER,CHIP	SA
2203-006194	C217	C-CER,CHIP	SA
2203-006194	C225	C-CER,CHIP	SA
2203-006194	C400	C-CER,CHIP	SA

Main Electrical Parts List

SEC Code	Design LOC	Description	STATUS
2203-006194	C401	C-CER,CHIP	SA
2203-006194	C513	C-CER,CHIP	SA
2203-006194	C518	C-CER,CHIP	SA
2203-006194	C520	C-CER,CHIP	SA
2203-006194	C608	C-CER,CHIP	SA
2203-006194	C722	C-CER,CHIP	SA
2203-006260	C221	C-CER,CHIP	SA
2203-006305	C212	C-CER,CHIP	SA
2203-006305	C219	C-CER,CHIP	SA
2203-006348	C627	C-CER,CHIP	SA
2203-006361	C612	C-CER,CHIP	SA
2203-006361	C616	C-CER,CHIP	SA
2203-006399	C213	C-CER,CHIP	SA
2203-006399	C218	C-CER,CHIP	SA
2203-006399	C405	C-CER,CHIP	SA
2203-006399	C413	C-CER,CHIP	SA
2203-006399	C415	C-CER,CHIP	SA
2203-006399	C424	C-CER,CHIP	SA
2203-006399	C500	C-CER,CHIP	SA
2203-006399	C501	C-CER,CHIP	SA
2203-006399	C503	C-CER,CHIP	SA
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2203-006399	C510	C-CER,CHIP	SA
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2203-006399	C521	C-CER,CHIP	SA
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2203-006399	C603	C-CER,CHIP	SA
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2203-006399	C605	C-CER,CHIP	SA
2203-006399	C607	C-CER,CHIP	SA
2203-006399	C613	C-CER,CHIP	SA
2203-006399	C618	C-CER,CHIP	SA
2203-006399	C619	C-CER,CHIP	SA
2203-006399	C624	C-CER,CHIP	SA
2203-006399	C628	C-CER,CHIP	SA
2203-006399	C632	C-CER,CHIP	SA
2203-006399	C633	C-CER,CHIP	SA
2203-006399	C639	C-CER,CHIP	SA
2203-006399	C712	C-CER,CHIP	SA
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2203-006423	C203	C-CER,CHIP	SA
2203-006423	C206	C-CER,CHIP	SA
2203-006423	C208	C-CER,CHIP	SA
2203-006423	C209	C-CER,CHIP	SA
2203-006423	C211	C-CER,CHIP	SA
2203-006423	C215	C-CER,CHIP	SA
2203-006423	C402	C-CER,CHIP	SA
2203-006423	C404	C-CER,CHIP	SA
2203-006423	C407	C-CER,CHIP	SA
2203-006423	C409	C-CER,CHIP	SA
2203-006423	C411	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-006423	C414	C-CER,CHIP	SA
2203-006423	C417	C-CER,CHIP	SA
2203-006423	C418	C-CER,CHIP	SA
2203-006423	C423	C-CER,CHIP	SA
2203-006423	C425	C-CER,CHIP	SA
2203-006423	C507	C-CER,CHIP	SA
2203-006423	C508	C-CER,CHIP	SA
2203-006423	C509	C-CER,CHIP	SA
2203-006423	C511	C-CER,CHIP	SA
2203-006423	C512	C-CER,CHIP	SA
2203-006423	C515	C-CER,CHIP	SA
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2203-006423	C706	C-CER,CHIP	SA
2203-006423	C710	C-CER,CHIP	SA
2203-006423	C721	C-CER,CHIP	SA
2203-006423	C804	C-CER,CHIP	SA
2203-006556	C307	C-CER,CHIP	SA
2203-006562	C103	C-CER,CHIP	SA
2203-006562	C323	C-CER,CHIP	SA
2203-006562	C403	C-CER,CHIP	SA
2203-006562	C602	C-CER,CHIP	SA
2203-006562	C617	C-CER,CHIP	SA
2203-006562	C630	C-CER,CHIP	SA
2203-006562	C636	C-CER,CHIP	SA
2203-006562	C809	C-CER,CHIP	SA
2203-006562	C818	C-CER,CHIP	SA
2203-006626	C416	C-CER,CHIP	SA
2203-006681	C701	C-CER,CHIP	SA
2203-006824	C600	C-CER,CHIP	SA
2203-006824	C606	C-CER,CHIP	SA
2203-006824	C609	C-CER,CHIP	SA
2203-006824	C611	C-CER,CHIP	SA
2203-006824	C622	C-CER,CHIP	SA
2203-006824	C625	C-CER,CHIP	SA
2203-006824	C626	C-CER,CHIP	SA
2203-006824	C629	C-CER,CHIP	SA
2203-006824	C631	C-CER,CHIP	SA
2203-006825	C700	C-CER,CHIP	SA
2203-006825	C705	C-CER,CHIP	SA
2203-006838	C300	C-CER,CHIP	SA
2203-006838	C321	C-CER,CHIP	SA
2203-006838	C326	C-CER,CHIP	SA
2203-006838	C408	C-CER,CHIP	SA
2203-006838	C412	C-CER,CHIP	SA
2203-006838	C610	C-CER,CHIP	SA
2203-006838	C621	C-CER,CHIP	SA
2203-006838	C623	C-CER,CHIP	SA
2203-006838	C707	C-CER,CHIP	SA
2203-006979	C210	C-CER,CHIP	SA
2404-001381	TA800	C-TA,CHIP	SA
2404-001430	TA801	C-TA,CHIP	SA

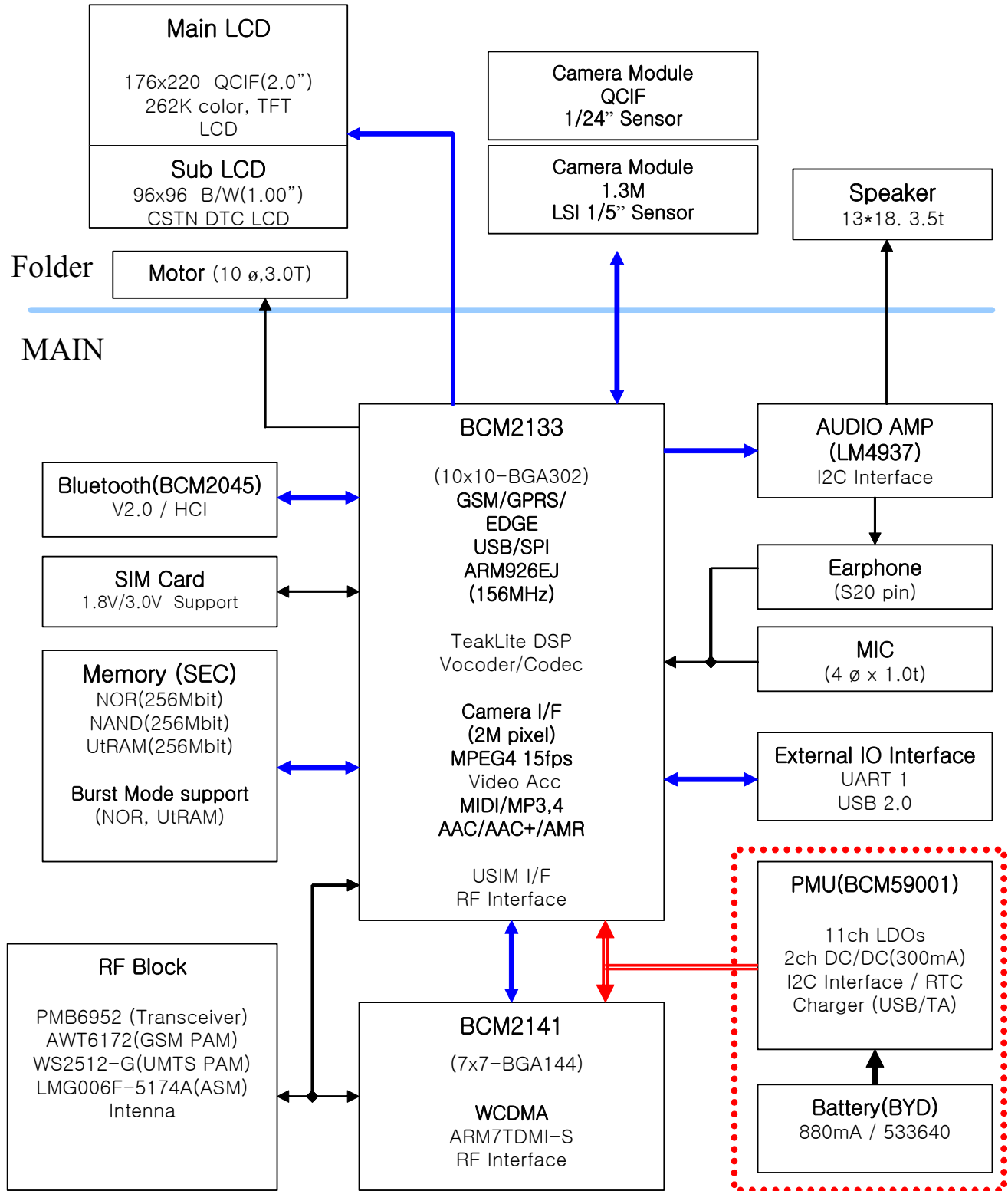
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2404-001465	TA700	C-TA,CHIP	SA
2404-001465	TA701	C-TA,CHIP	SA
2404-001496	TA100	C-TA,CHIP	SA
2703-001178	L207	INDUCTOR-SMD	SA
2703-001178	L208	INDUCTOR-SMD	SA
2703-001722	L204	INDUCTOR-SMD	SA
2703-001747	L205	INDUCTOR-SMD	SA
2703-001747	L206	INDUCTOR-SMD	SA
2703-002199	L309	INDUCTOR-SMD	SA
2703-002203	L308	INDUCTOR-SMD	SA
2703-002204	L305	INDUCTOR-SMD	SA
2703-002208	L312	INDUCTOR-SMD	SA
2703-002208	R110	INDUCTOR-SMD	SA
2703-002268	L307	INDUCTOR-SMD	SA
2703-002309	C313	INDUCTOR-SMD	SA
2703-002314	L102	INDUCTOR-SMD	SA
2703-002314	L103	INDUCTOR-SMD	SA
2703-002314	L301	INDUCTOR-SMD	SA
2703-002314	L302	INDUCTOR-SMD	SA
2703-002365	R107	INDUCTOR-SMD	SA
2703-002368	L300	INDUCTOR-SMD	SA
2703-002369	C309	INDUCTOR-SMD	SA
2703-002608	R108	INDUCTOR-SMD	SA
2703-003182	L600	INDUCTOR-SMD	SA
2703-003182	L601	INDUCTOR-SMD	SA
2801-003856	OSC600	CRYSTAL-SMD	SA
2809-001327	TCX200	OSCILLATOR-VCTCXO	SA
2901-001286	F801	FILTER-EMI SMD	SA
2901-001286	F802	FILTER-EMI SMD	SA
2901-001286	F803	FILTER-EMI SMD	SA
2901-001286	F804	FILTER-EMI SMD	SA
2901-001286	F805	FILTER-EMI SMD	SA
2901-001408	F800	FILTER-EMI SMD	SA
2904-001769	F200	FILTER-SAW	SA
2904-001788	F300	FILTER-SAW	SA
2909-001279	F302	FILTER-LC	SA
2910-000044	DUF300	DUPLEXER-SAW	SA
2911-000089	U103	DUPLEXER-FEM	SA
3301-001438	L700	BEAD-SMD	SA
3301-001438	L701	BEAD-SMD	SA
3301-001438	L702	BEAD-SMD	SA
3301-001438	L703	BEAD-SMD	SA
3301-001438	L704	BEAD-SMD	SA
3301-001438	L705	BEAD-SMD	SA
3301-001438	L800	BEAD-SMD	SA
3301-001438	L801	BEAD-SMD	SA
3301-001438	L802	BEAD-SMD	SA
3301-001438	L805	BEAD-SMD	SA
3301-001438	L806	BEAD-SMD	SA
3301-001534	L803	BEAD-SMD	SA
3301-001534	L804	BEAD-SMD	SA
3301-001659	L311	BEAD-SMD	SA
3301-001756	L200	BEAD-SMD	SA

SEC Code	Design LOC	Description	STATUS
3301-001756	L201	BEAD-SMD	SA
3301-001756	L202	BEAD-SMD	SA
3301-001756	L203	BEAD-SMD	SA
3705-001358	RFS101	CONNECTOR-COAXIAL	SA
3705-001448	RFS100	CONNECTOR-COAXIAL	SA
3709-001453	CD600	CONNECTOR-CARD EDGE	SA
3710-002499	IFC800	SOCKET-INTERFACE	SA
3711-005296	HEA801	HEADER-BOARD TO BOARD	SA
3711-006256	BTC801	HEADER-BATTERY	SA
3711-006278	HEA800	HEADER-BOARD TO BOARD	SA
4302-001181	BAT600	BATTERY-LI(2ND)	SA

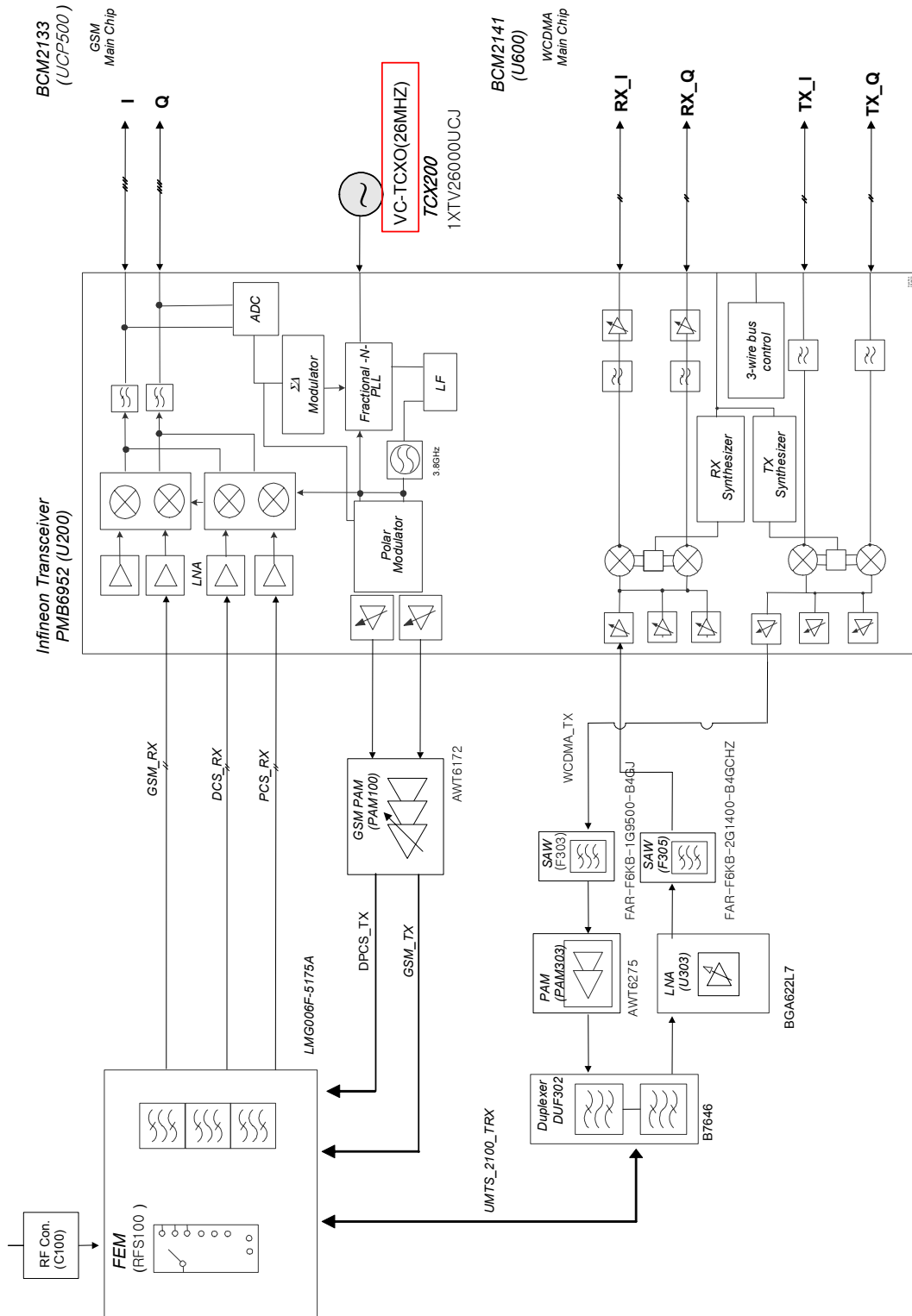
Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.

7. Block Diagrams

7-1. Base Band Solution Block Diagram

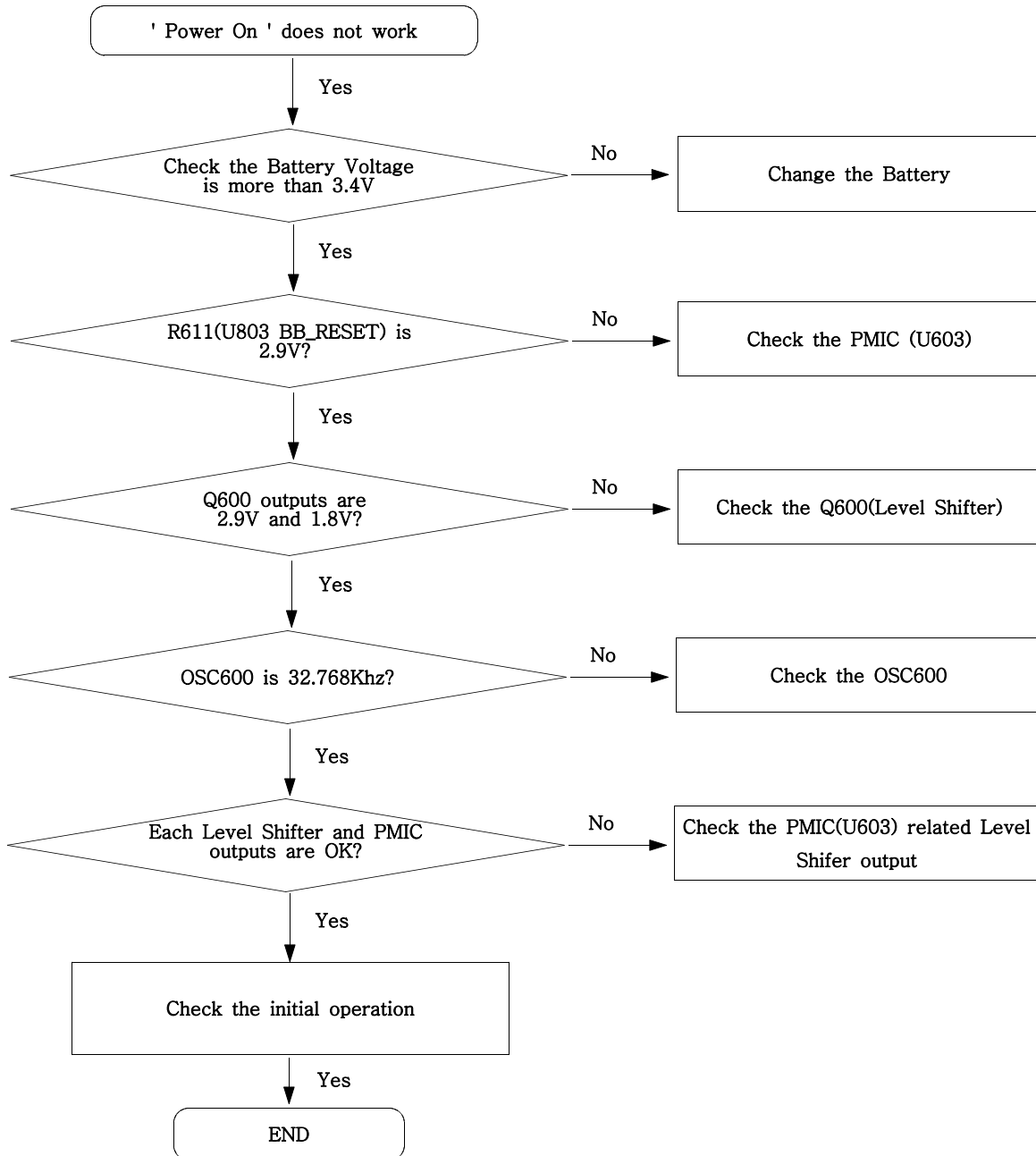


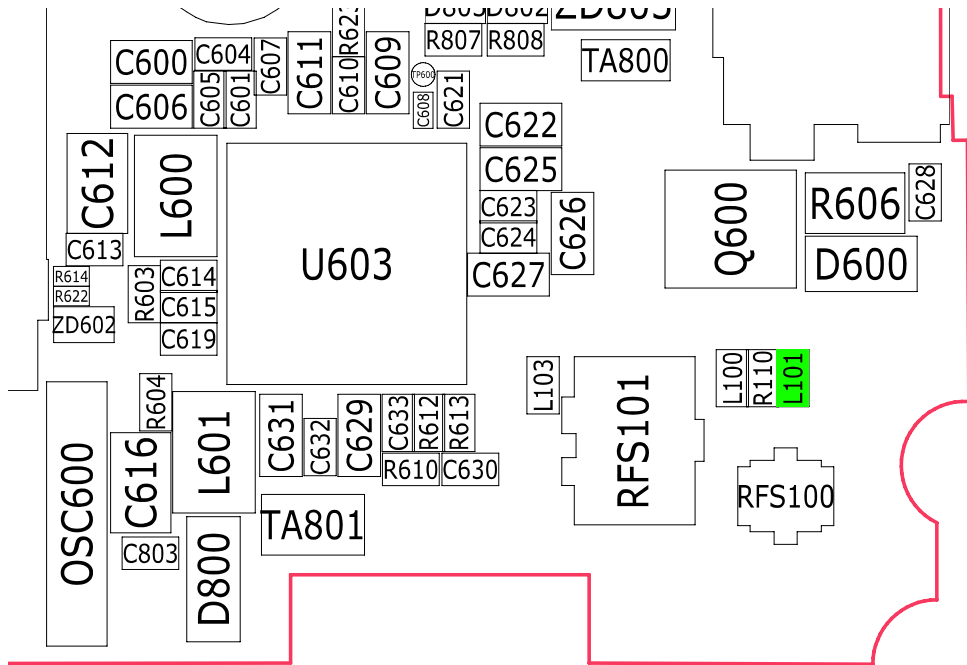
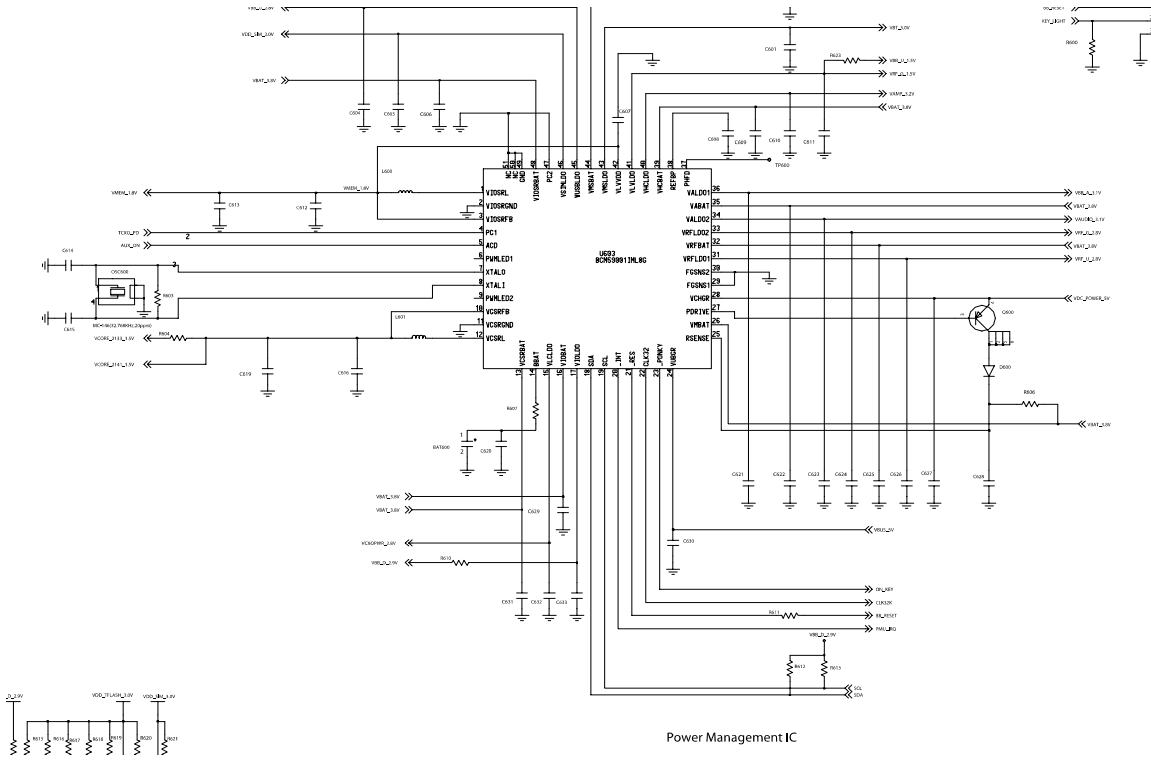
7-2. RF Solution Block Diagram



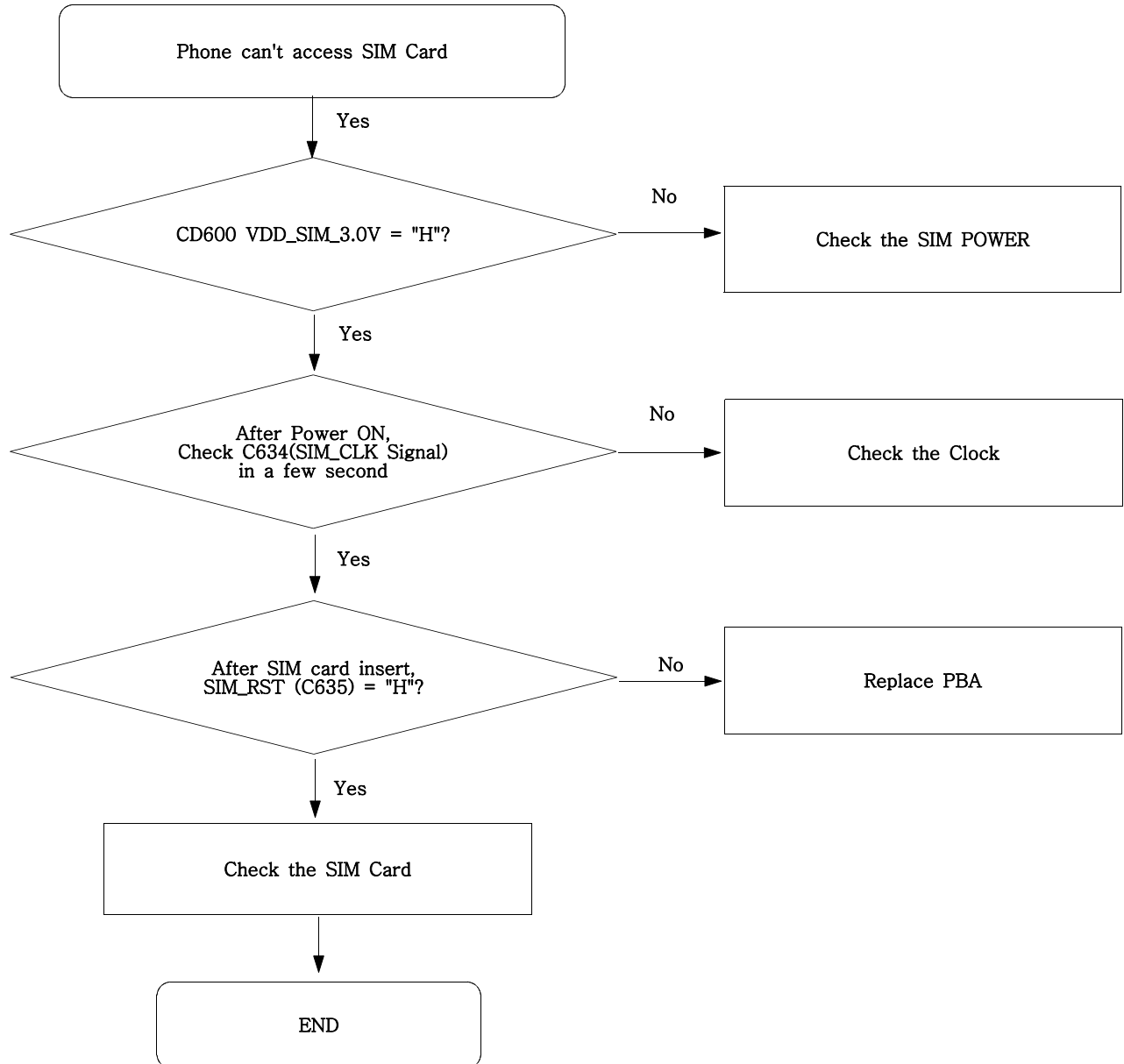
9. Flow Chart of Troubleshooting

9-1. Power On

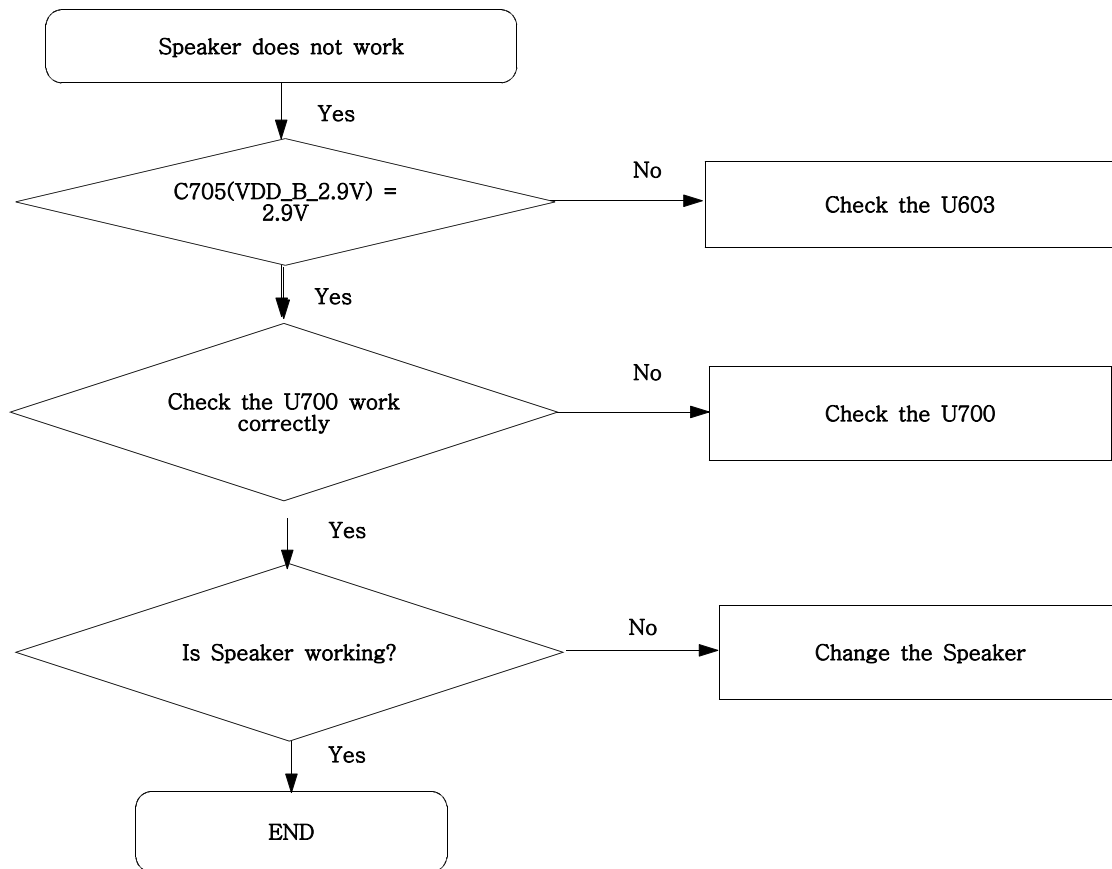


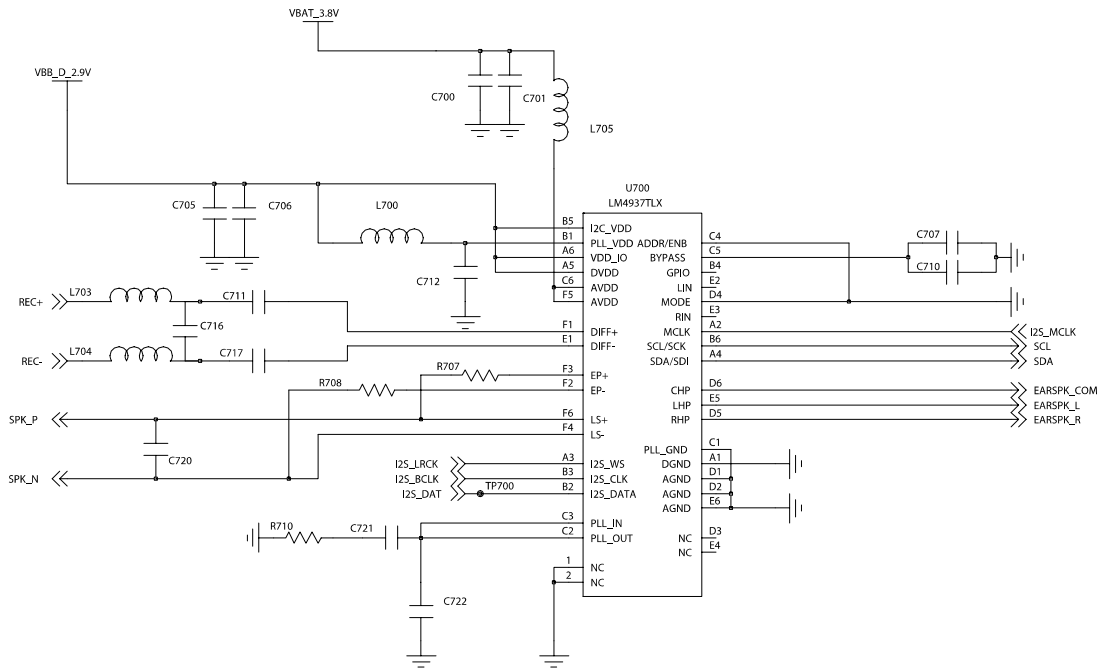


9-2. Sim Part

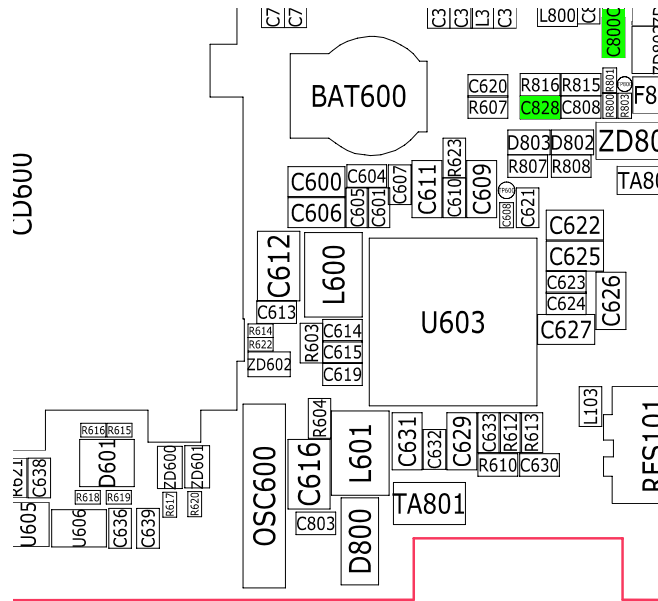


9-3. Speaker Part

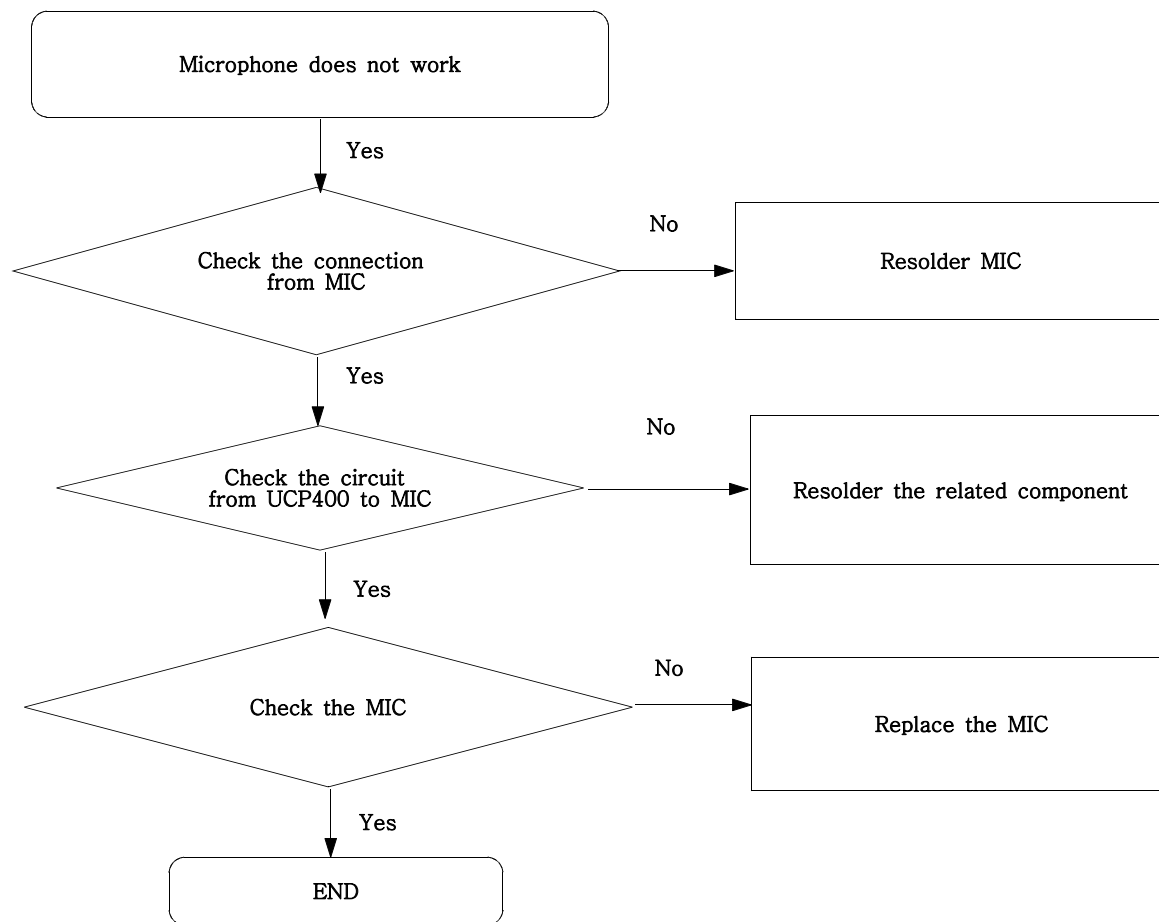


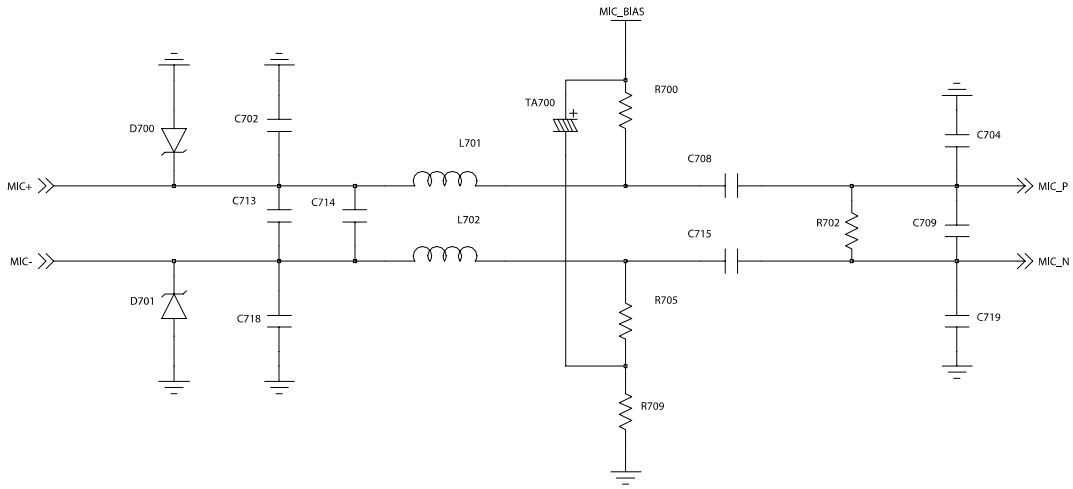


AUDIO DAC/AMP

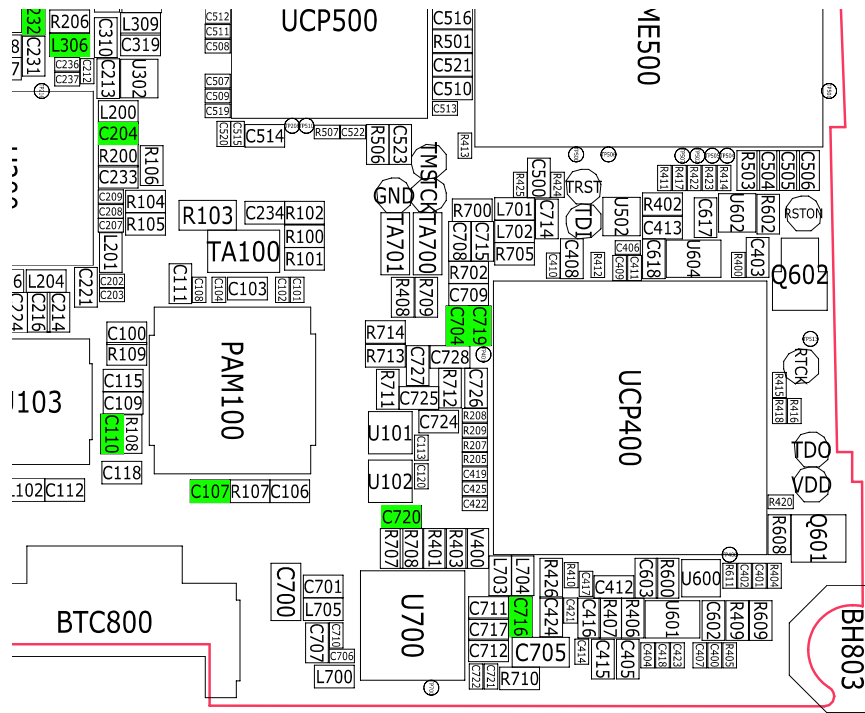


9-4. Microphone Part

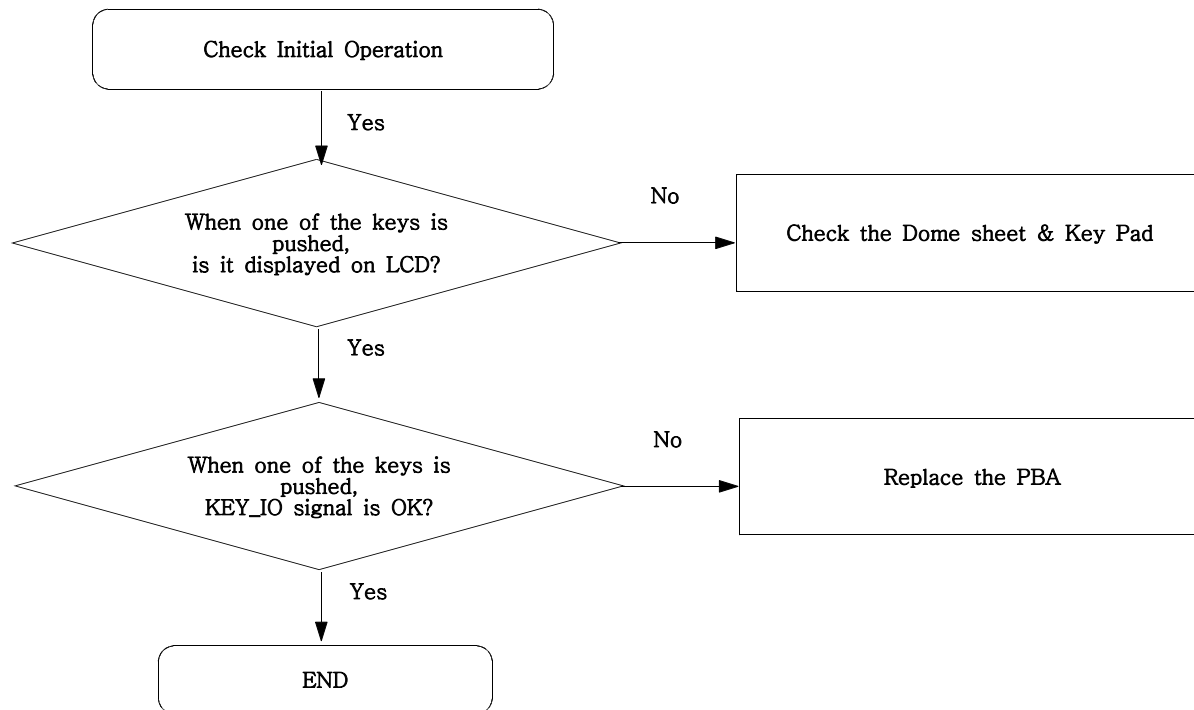




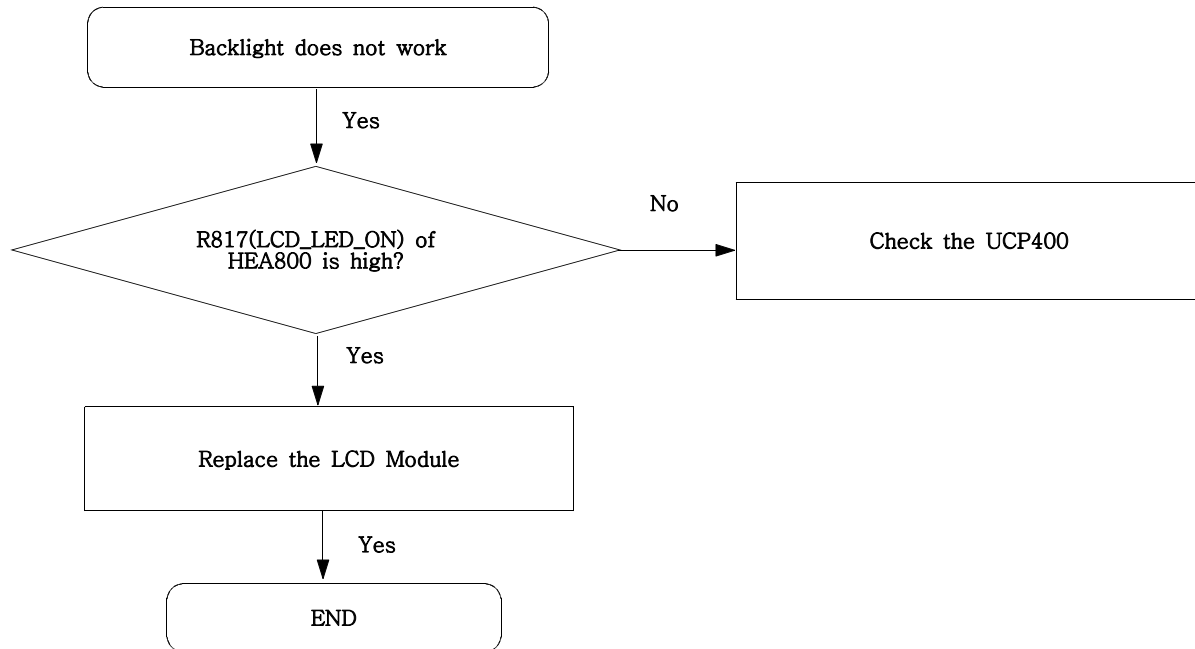
MAIN MIC PATH

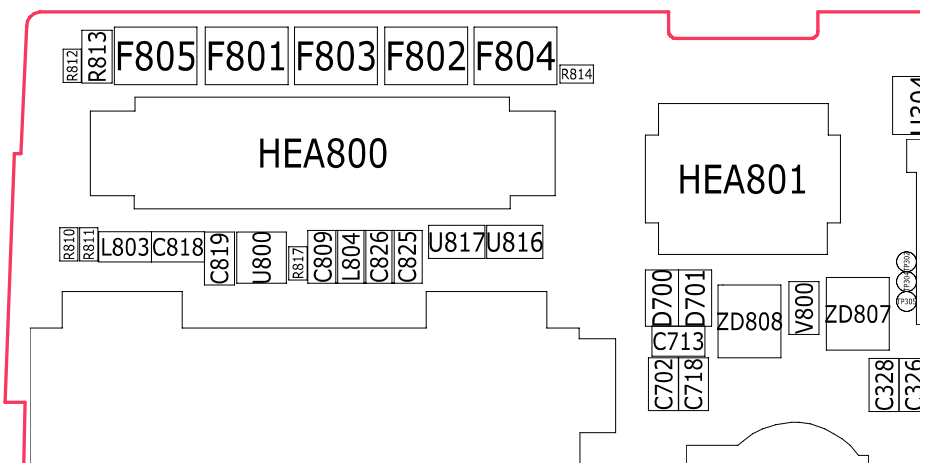
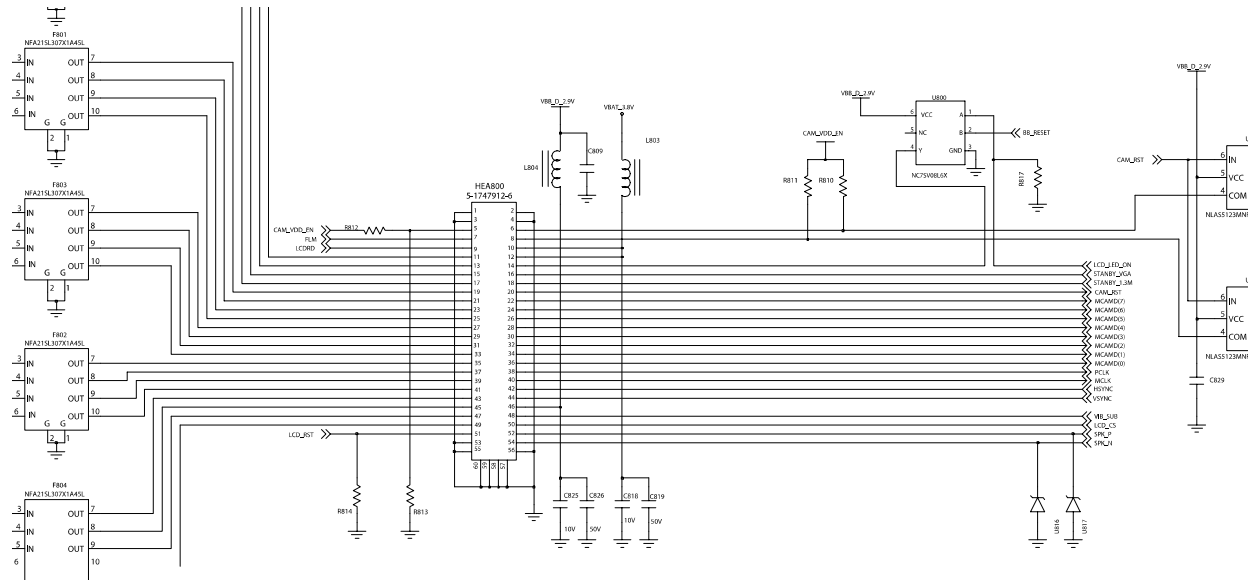


9-5. Key Data Input

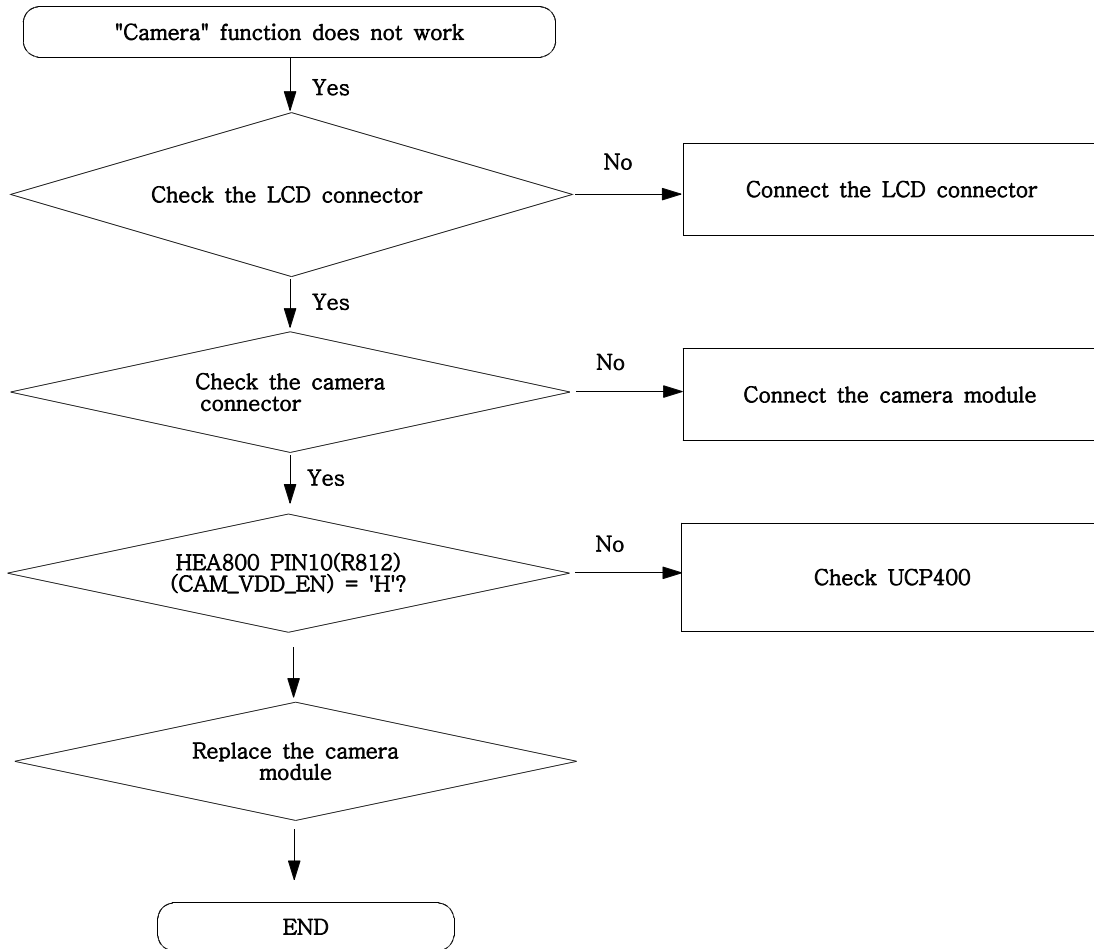


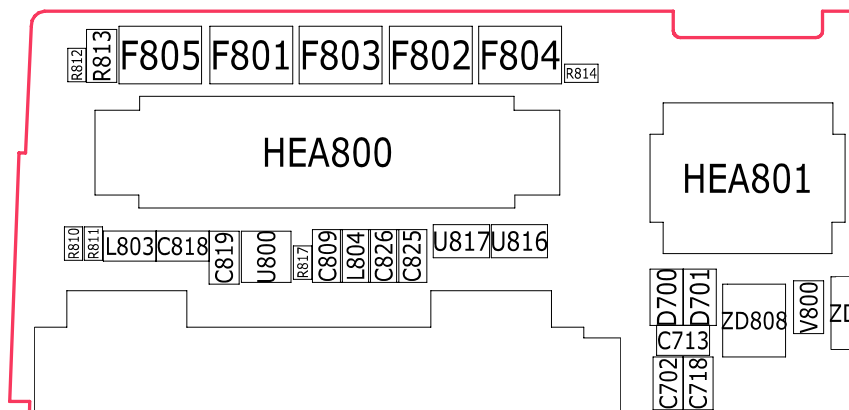
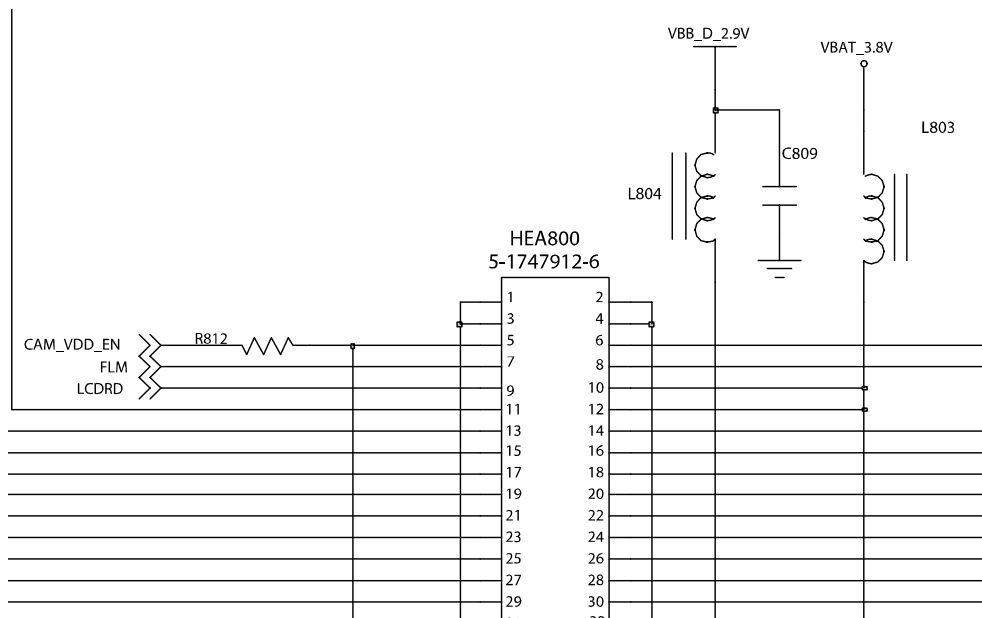
9-6. LCD Back Light



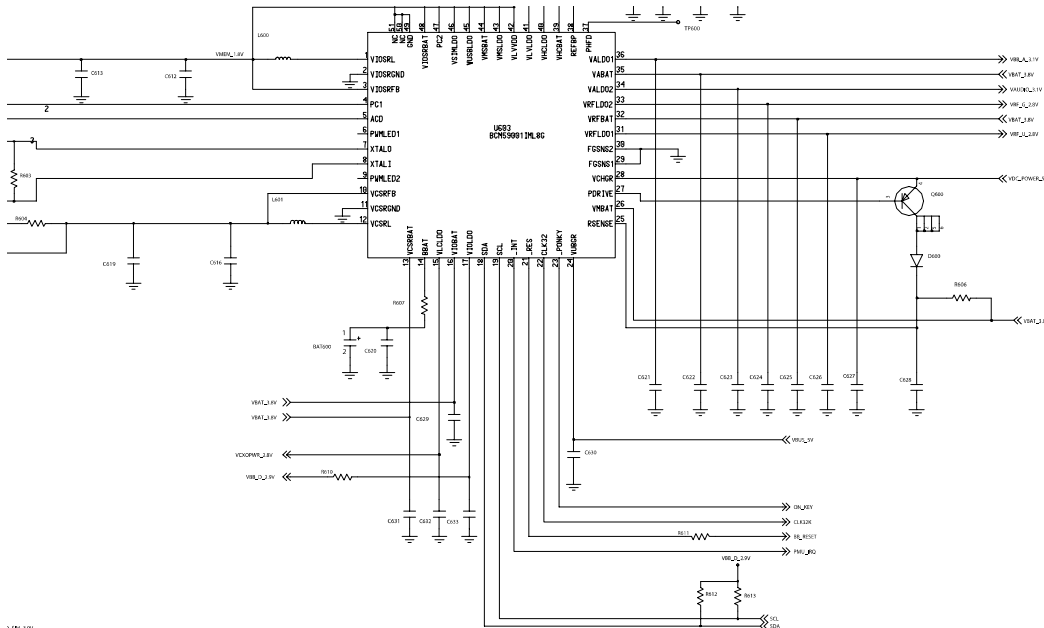
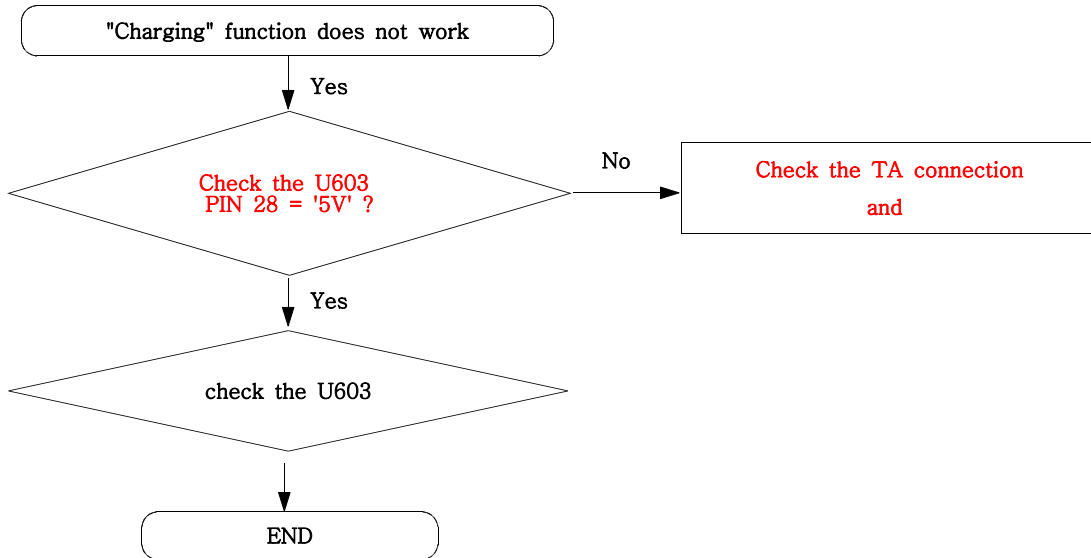


9-7. CAMERA PART

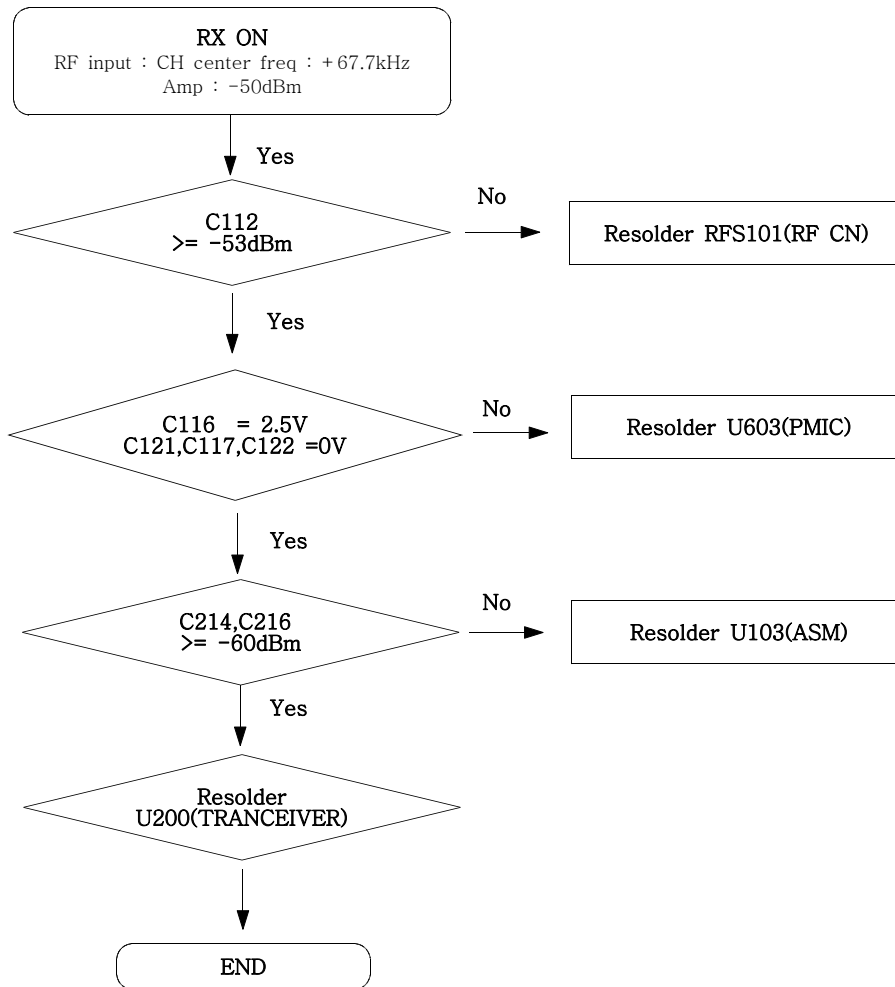




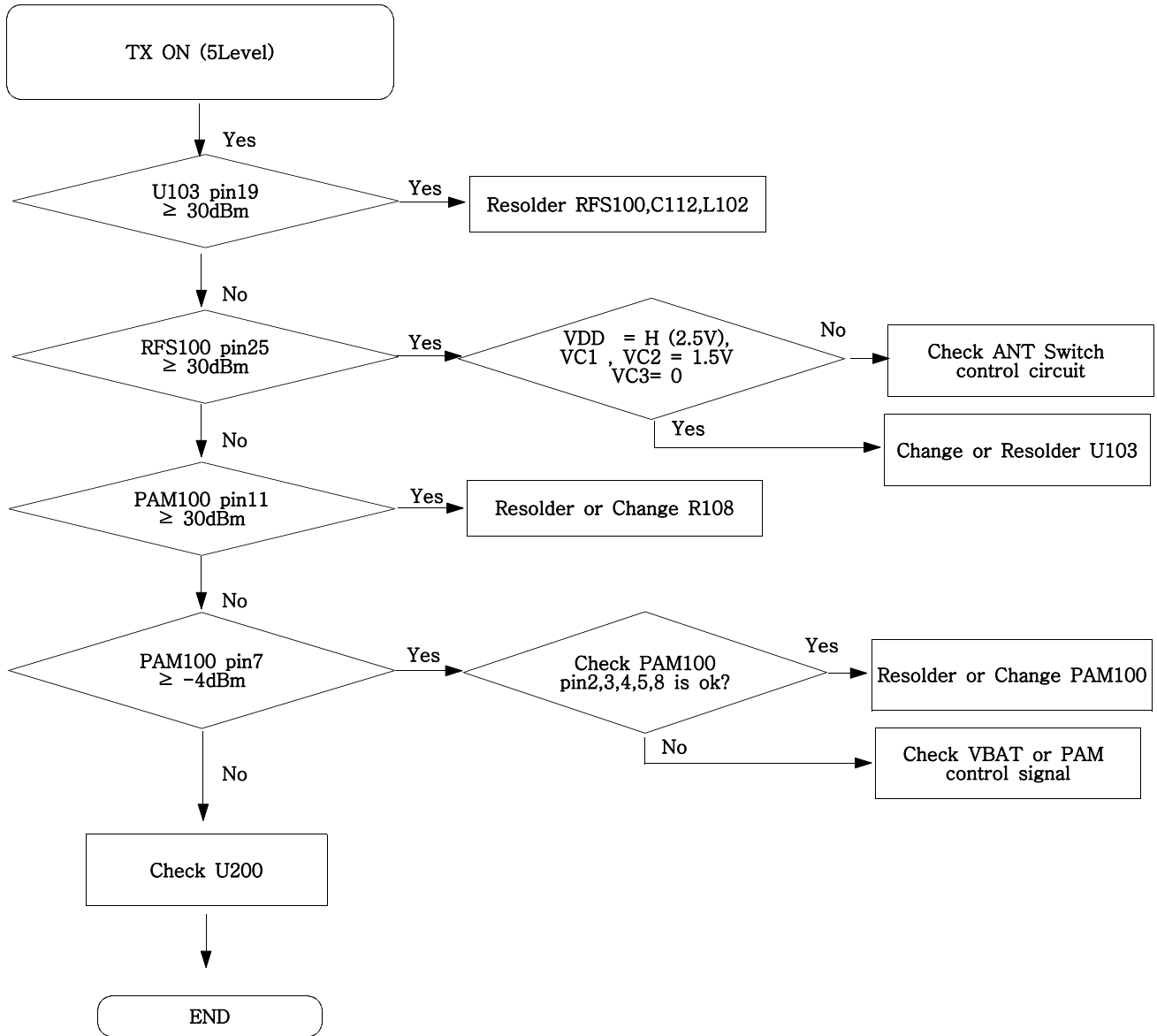
9-8. Charging Part



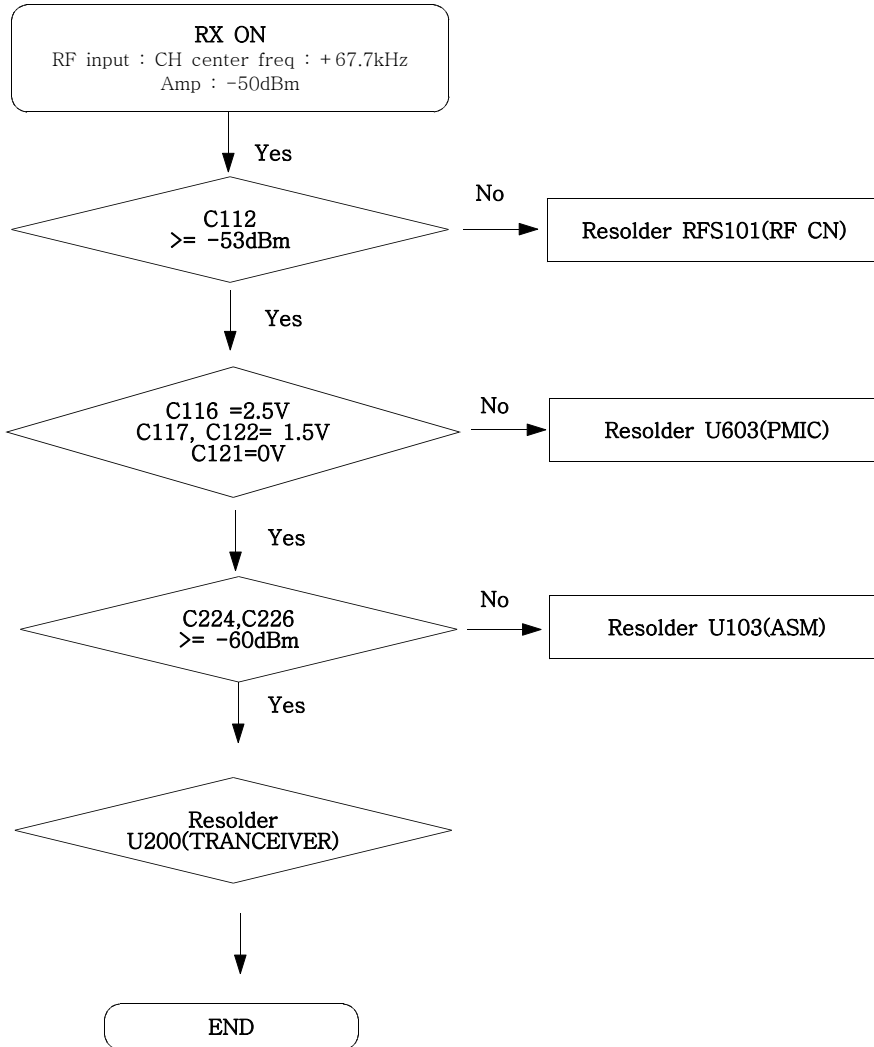
9-9. GSM Receiver



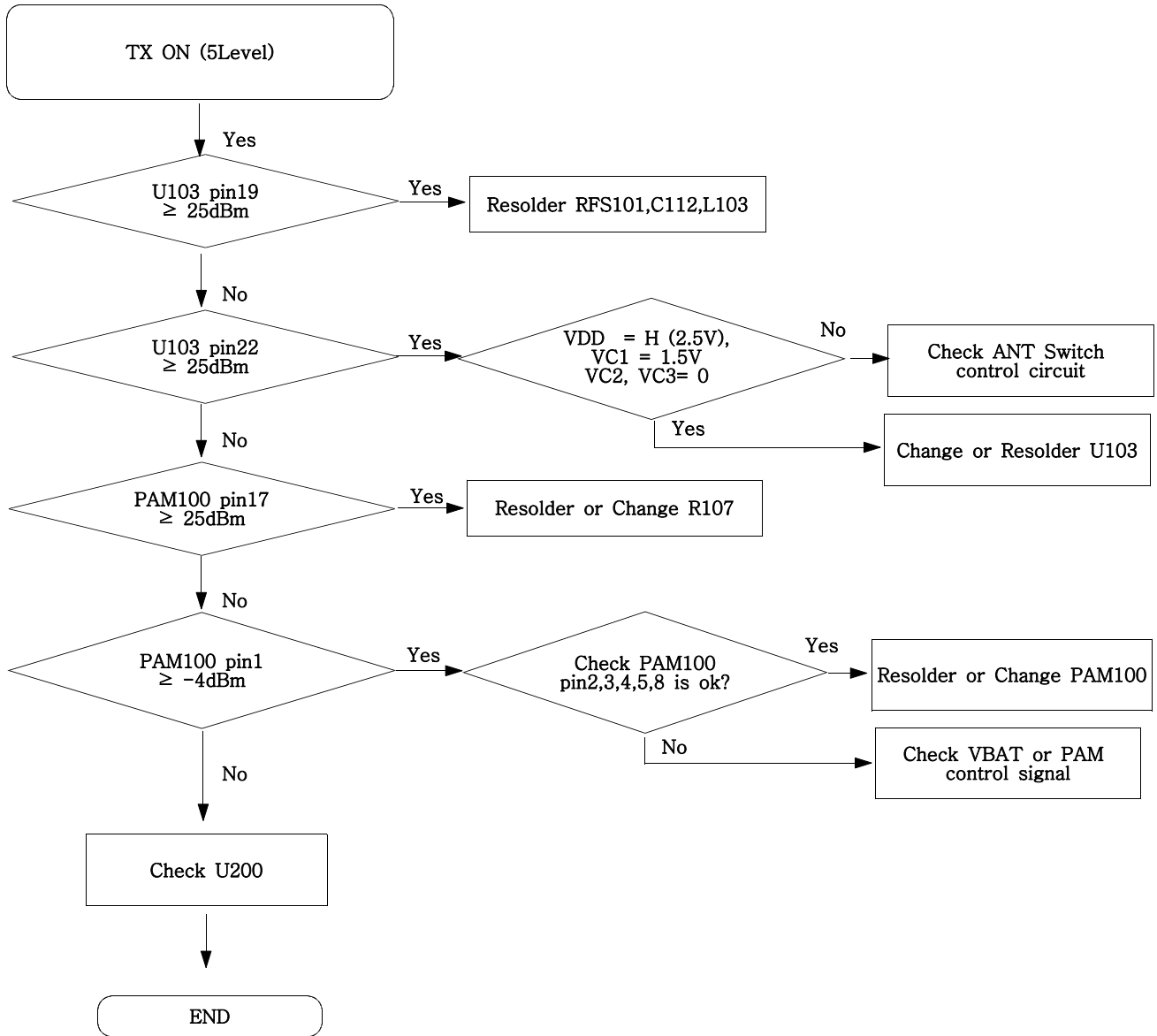
9-10. GSM Transmitter



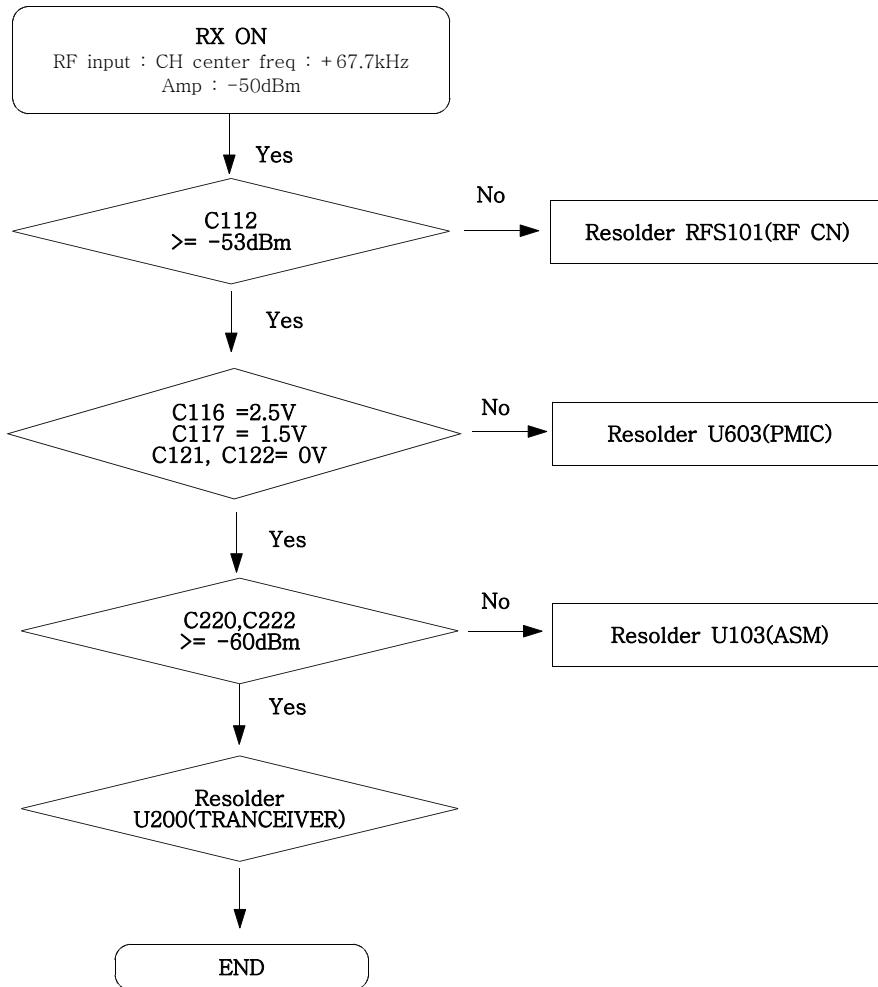
9-11. DCS Receiver



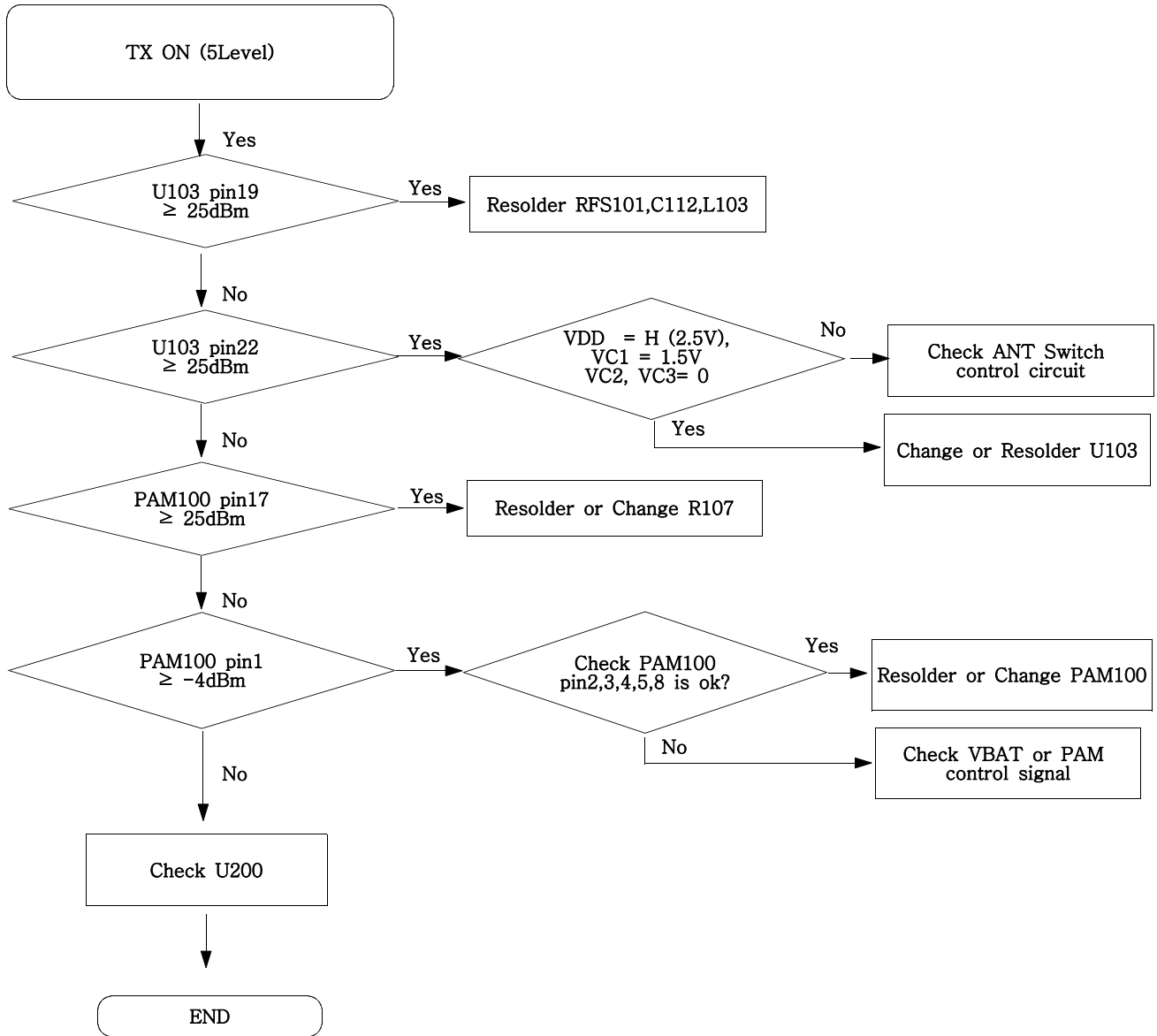
9-12. DCS Transmitter



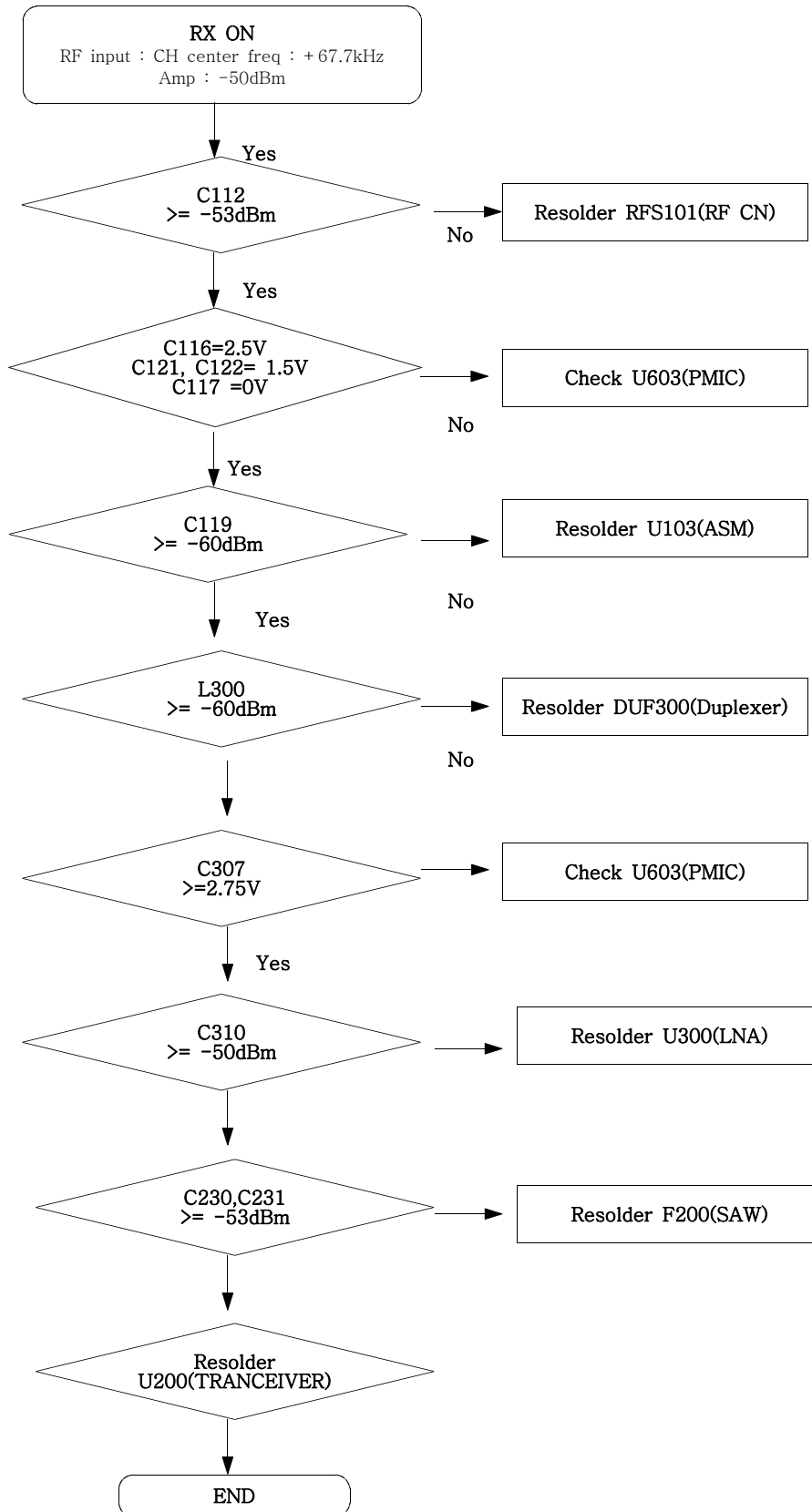
9-13. PCS Receiver



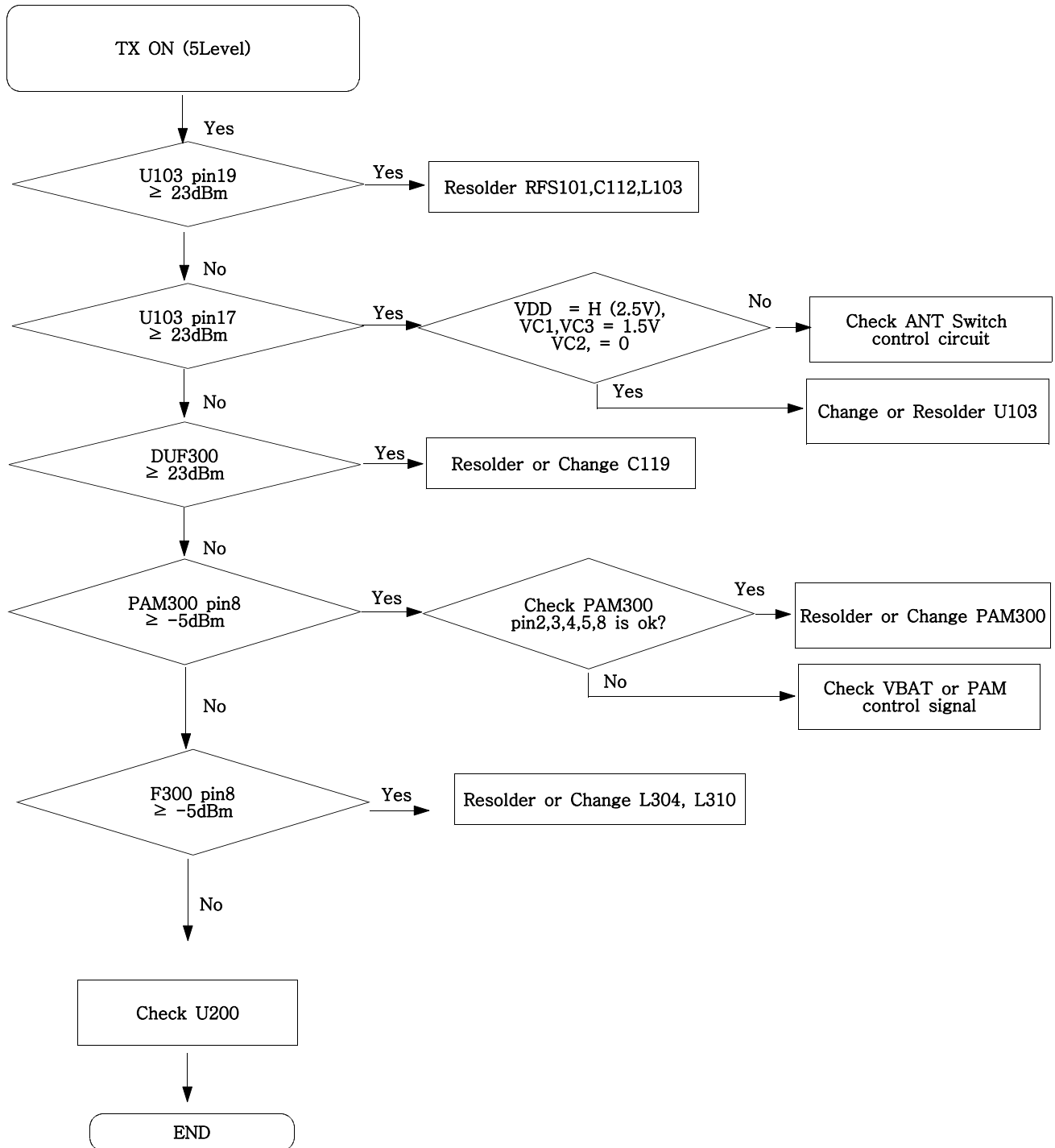
9-14. PCS Transmitter

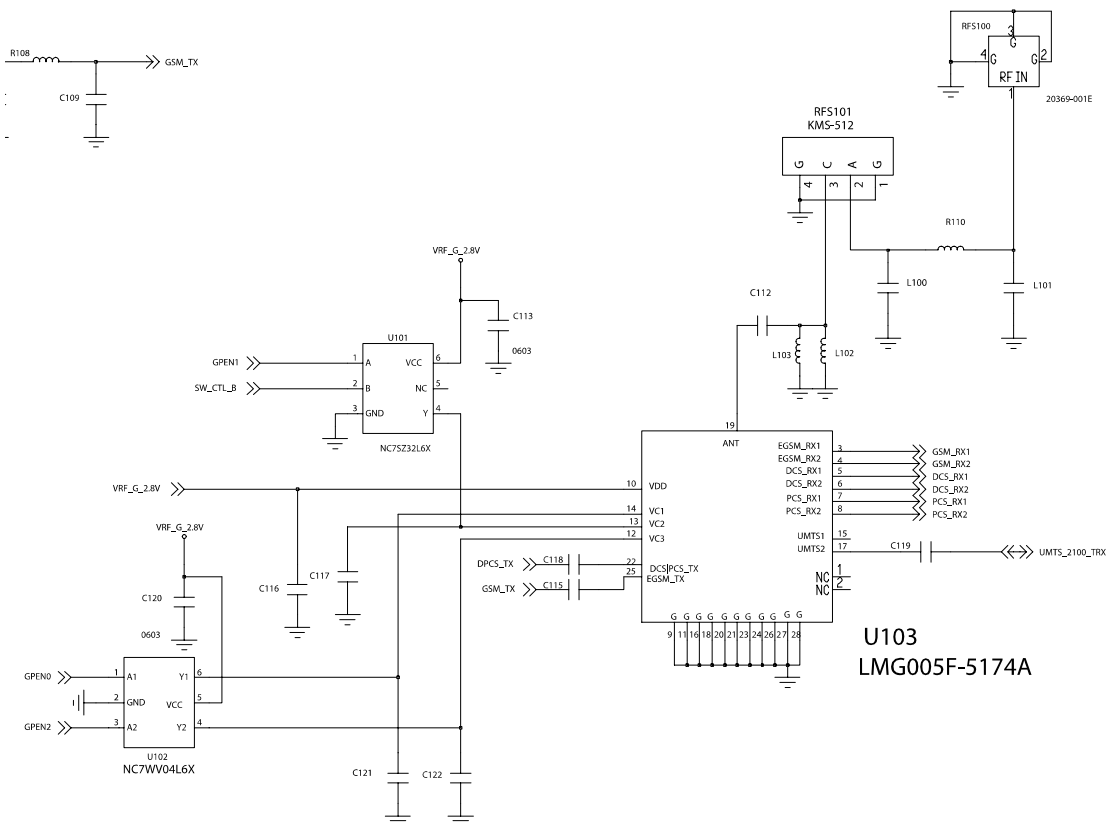


9-15. WCDMA Receiver

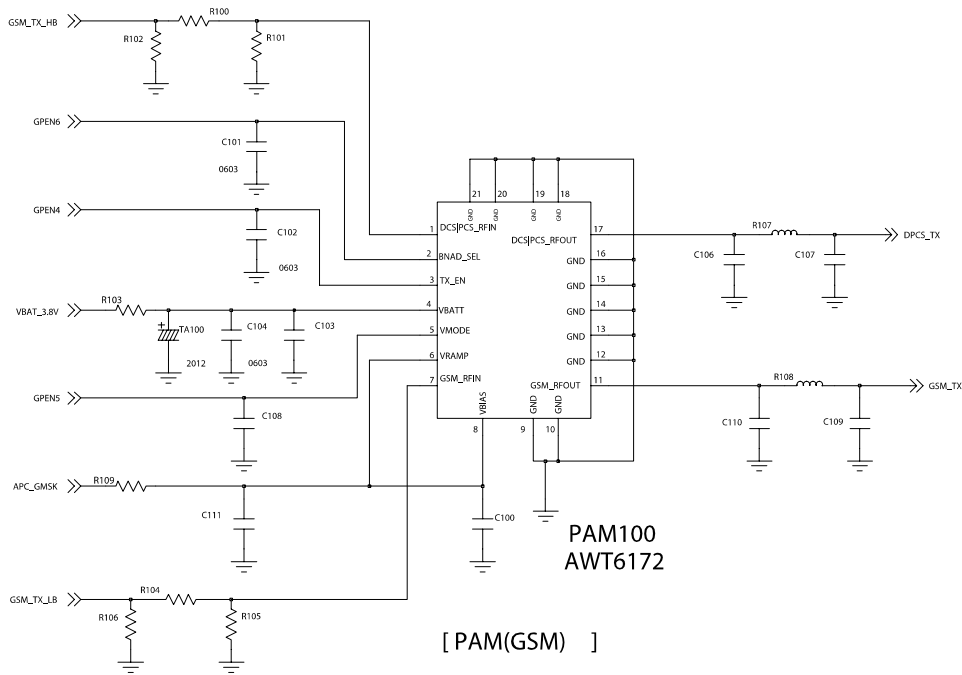
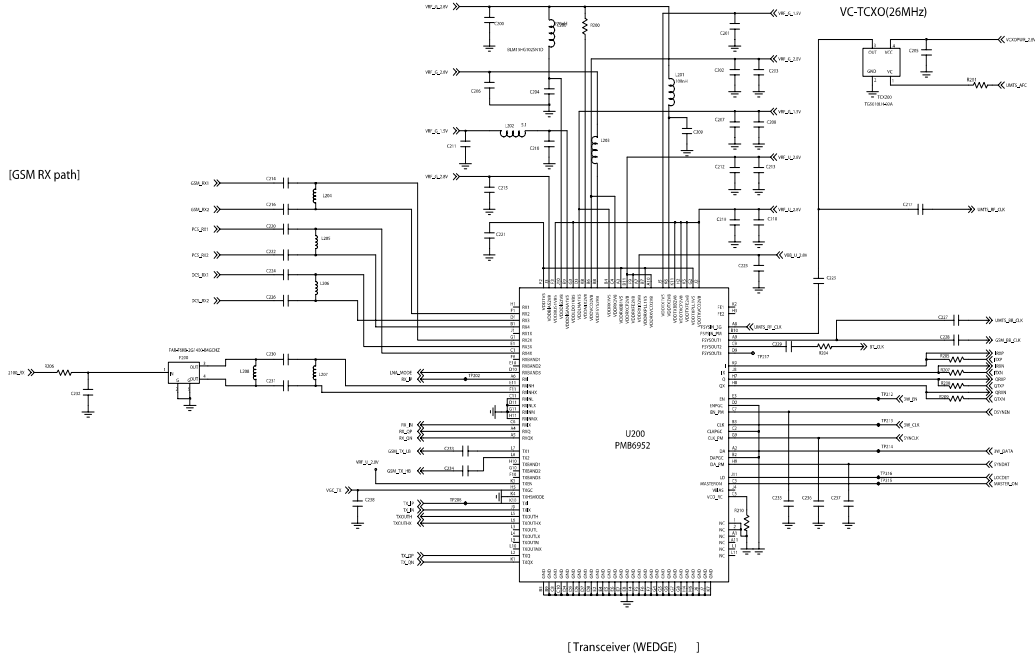


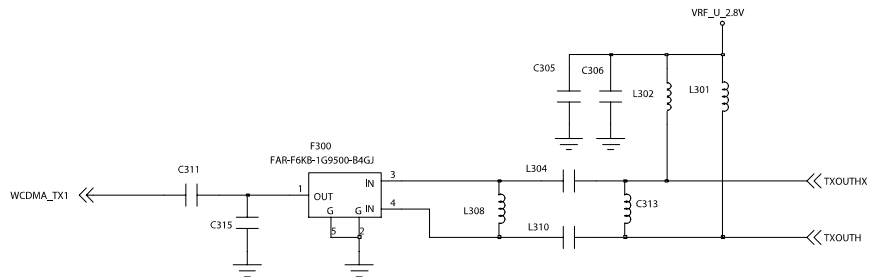
9-16. WCDMA Transmitter



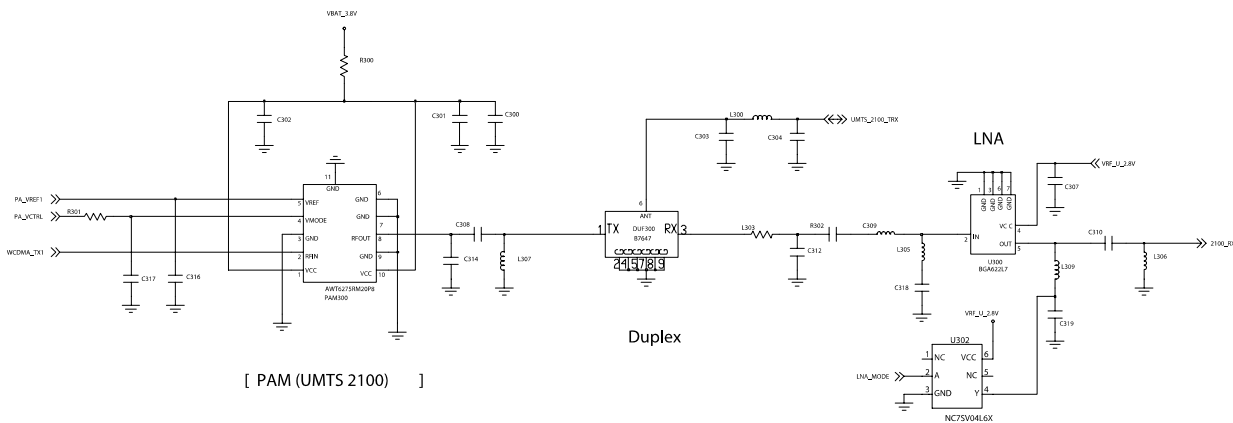


[ASM(GSM/UMTS)]

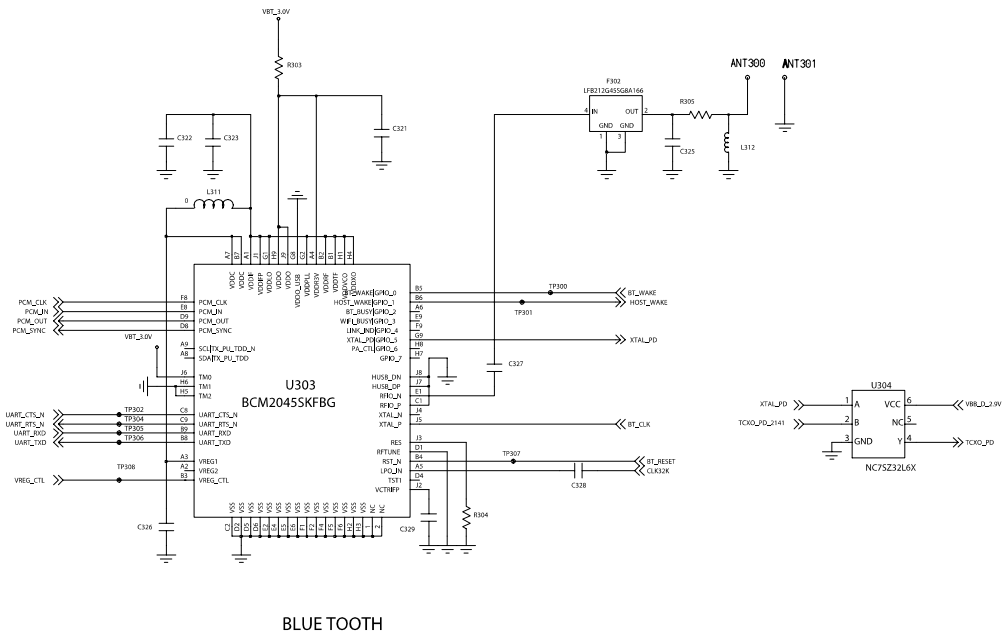
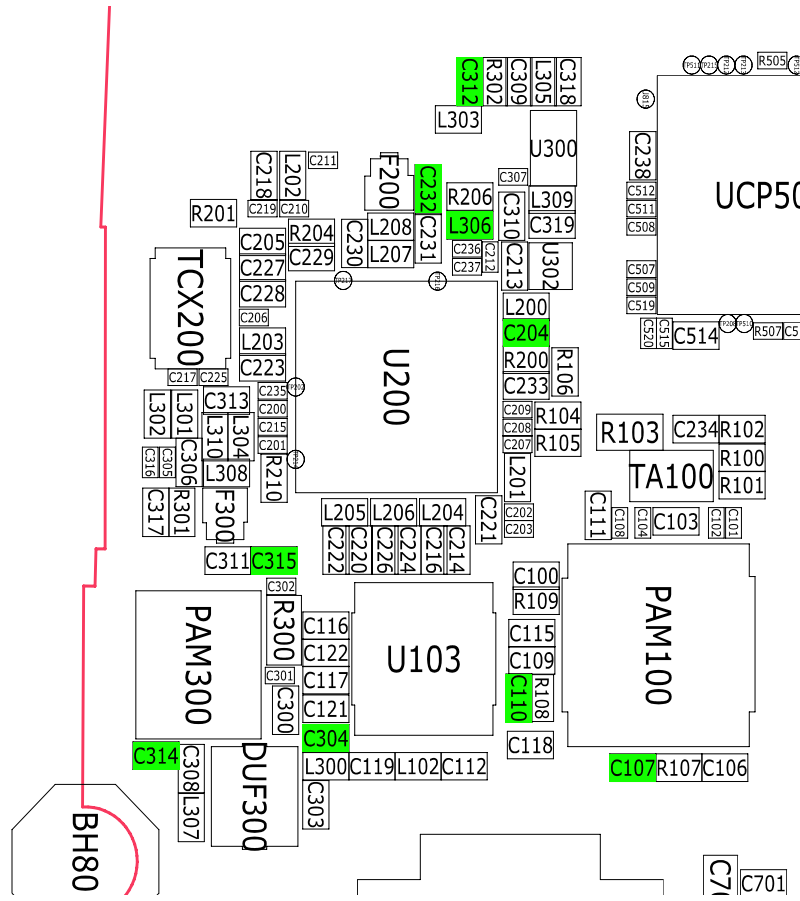




[UMTS TX path]



[PAM (UMTS 2100)]



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 Instructions

1

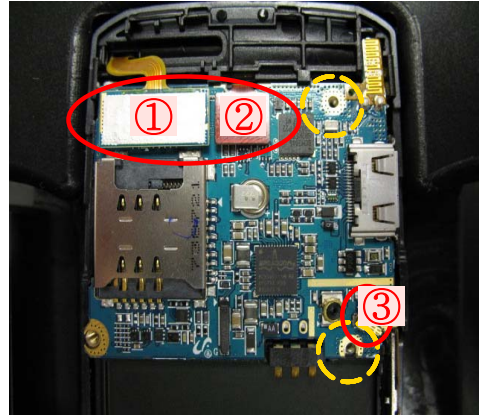


- 1) Unscrew the 4 points.
- 2) Separate the REAR from the FRONT ass'y using assembly stick.

*** Caution**

- 1) Be care of scratch and molding damage.

2

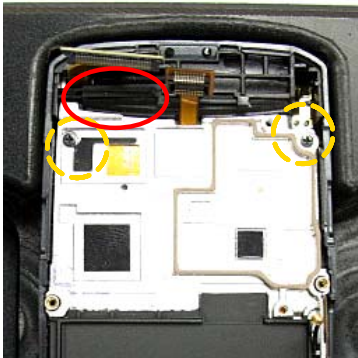


- 1) Disjoin the connectors (①②③) from the PBA.
- 2) Unscrew the 2 points.

*** Caution**

- 1) Be care of scratch and molding damage.
- 1) Be care of damage to the FPCBs.

3



- 1) Take out the PBA.
- 2) Unscrew the 2 points..
- 2) Detach the DUST PROTECTION TAPE.

*** Caution**

- 1) Be care of scratch and molding damage.

4



Push the hinge with a thin stick to separate the UPPER from the LOWER.

*** Caution**

- 1) Be care of damage to the FPCBs.
- 2) Be care of scratch and molding damage.

5



- 1) Put the two SCREW CAPs out.
- 2) Detach the HINGE DUMMY out.
- 2) Unscrew 2 points.

*** Caution**

- 1) Be care of scratch and molding damage.

6



- 1) Disassemble the UPPER by using a assembly stick.

*** Caution**

- 1) Be care of scratch and molding damage.

7

Separate a motor/speaker/camera from the LOWER using a tweezers.



Separate the LCD module from the LOWER.

*** Caution**

- 1) Be care of scratch and molding damage.
- 2) Be care of damage to motor/speaker wires.

8



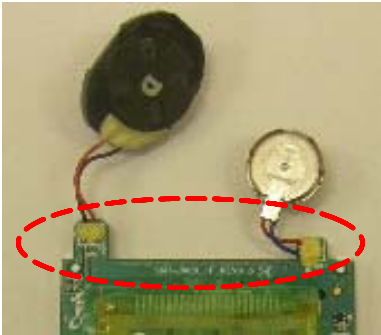
Take the LCD out.

*** Caution**

- 1) Be care of scratch and molding damage.
- 2) Be care of damage to LCD FPCB..

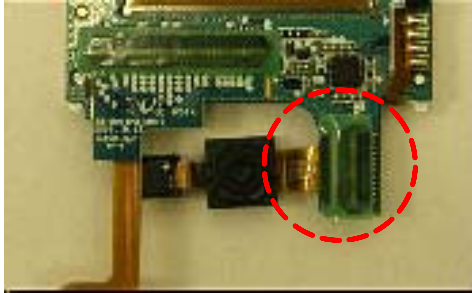
11-2. Assembly Instructions

1



Solder motor/speaker to the pad of LCD module and Bonding.

2

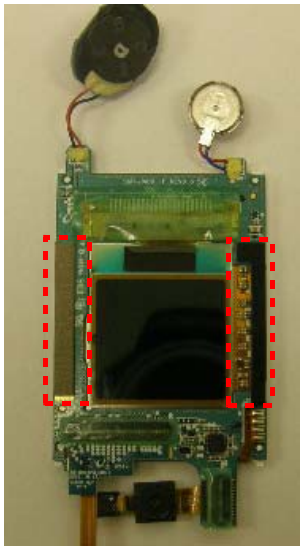


Attach CAMERA module to the LCD.

*** Caution**
1) Be care of damage to the LCD module

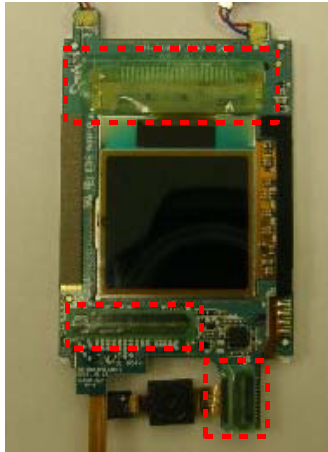
*** Caution**
1) Be care of damage to the LCD module

3



Attach GASKET & RUBBER to LCD module.

4

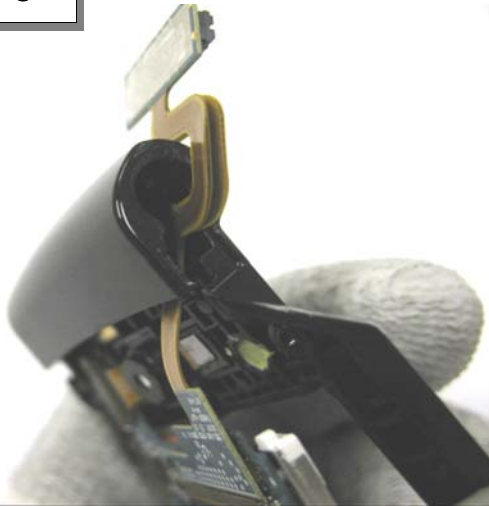


Attach three insulation tapes to LCD module.

*** Caution**
1) Be care of scratch and molding damage.

*** Caution**
1) Be care of scratch and molding damage.

5



Assemble the LCD into the lower.

※ Caution

- 1) Be care of damage to F-PCB of LCD module.

6



Assemble the MOTOR/SPEAKER/CAMERA.

※ Caution

- 1) Be care of scratch and the direction of hinge dummy.

7



Assemble the UPPER.

※ Caution

- 1) Be care of scratch and molding damage.

8



Attach the MAIN WINDOW.

※ Caution

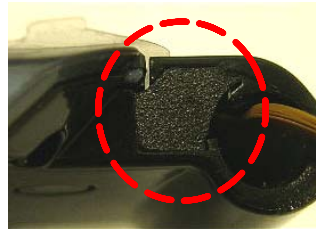
- 1) Be care of damage to the camera F-PCB.

9



Screw two points.

10



Assemble the HINGE DUMMY and assemble two SCREW CAPS.

*** Caution**

1) Be care of scratch and molding damage.

*** Caution**

1) Be care of scratch and molding damage.

11



1) Assemble the folder and the front by fitting hinge dummy in the front.
2) Push the hinge.

*** Caution**

1) Be care of scratch.

12

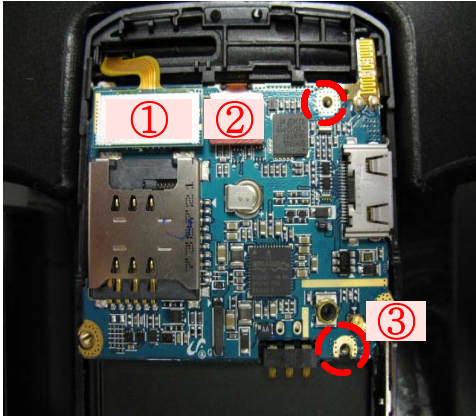


1) Attach the DUST PROTECTION TAPE.
2) Put the KEYPAD/SHIELD CAN on the front ass'y.
3) Screw 2 points.

*** Caution**

1) Be care of scratch and molding damage.

13



- 1) Put the PBA on the front ass'y.
- 2) Join the LCD/KEY/COAXIAL CABLE connector to the PBA.
- 3) Screw 2 points.

*** Caution**

- 1) Be care of damage to the LCD/KEY F-PCBs.

14



- 1) Assemble the rear case to the assembly.

*** Caution**

- 1) Be care of scratch and molding damage.

15



- 1) Assemble the VOLUME KEY to the assembly.

*** Caution**

- 1) Be care of scratch and molding damage.

16



- 1) Screw down 4 points in the red circles.

*** Caution**

- 1) Be care of scratch and molding damage.