

SAMSUNG

GSM TELEPHONE

SGH-M610

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
Europe	europe.samsungportal.com
China	china.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 specipcty 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
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	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
Time Slot Period/Frame Period	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
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell Radius	35Km	35Km	2Km	-

2-2. GSM Tx Power Class

TX Power control level	GSM900	TX Power control level	DCS1800	TX Power control level	PCS1800
5	33±2 dBm	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm	6	18±3 dBm	6	18±3 dBm
12	19±2 dBm	7	16±3 dBm	7	16±3 dBm
13	17±2 dBm	8	14±3 dBm	8	14±3 dBm
14	15±2 dBm	9	12±4 dBm	9	12±4 dBm
15	13±2 dBm	10	10±4 dBm	10	10±4 dBm
16	11±3 dBm	11	8±4dBm	11	8±4dBm
17	9±3dBm	12	6±4 dBm	12	6±4 dBm
18	7±3 dBm	13	4±4 dBm	13	4±4 dBm
19	5±3 dBm	14	2±5 dBm	14	2±5 dBm
		15	0±5 dBm	15	0±5 dBm

3. Product Function

Main Function

- VGA pixel CMOS camera
- 65K 128x160 CSTN (1.77")
- Multimedia Message (Picture)
- Audio : MP3/AAC/AAC+/eAAC+/WMA
- Bluetooth v2.0, USB Full Speed
- Black GUI, My Menu, Auto Time Setting SOS message, Mobile Tracker ☰
- Stereo FM radio
- GPRS : class 10
- Band: 900/1800/1900
- BB: PNX5231,PCF50611
- RF:Silab社, Si4208
- BT/FM : Braodcom BCM2045 / Philips TEA5760UK
- Battery: Li-Ion 800mAh (48x36x40)
- Size: 99 x 45 x 17.3 mm
- Memory
 - Total : 256Mb + 128Mb
 - User : 3MB + MicroSD
- Camera:VGA Pixel CMOS
- LCD : 128x160 CSTN 1.77"

4. Array course control

4-1. Software Adjustments

Serial Cable(CSA LL64151-A)



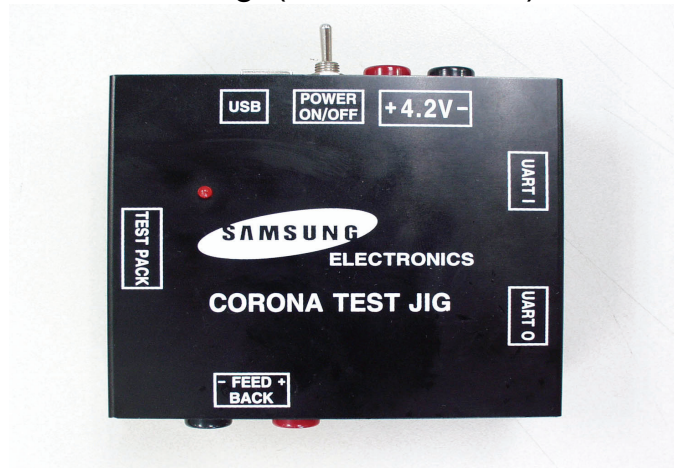
Power Cable



USB DATA CABLE (APCBS10UBE)



Test Jig (GH80-03306A)



JIG CABLE (GH39-00840A)



4-2. Software Downloading

4-2-1. Pre-requisite for Downloading

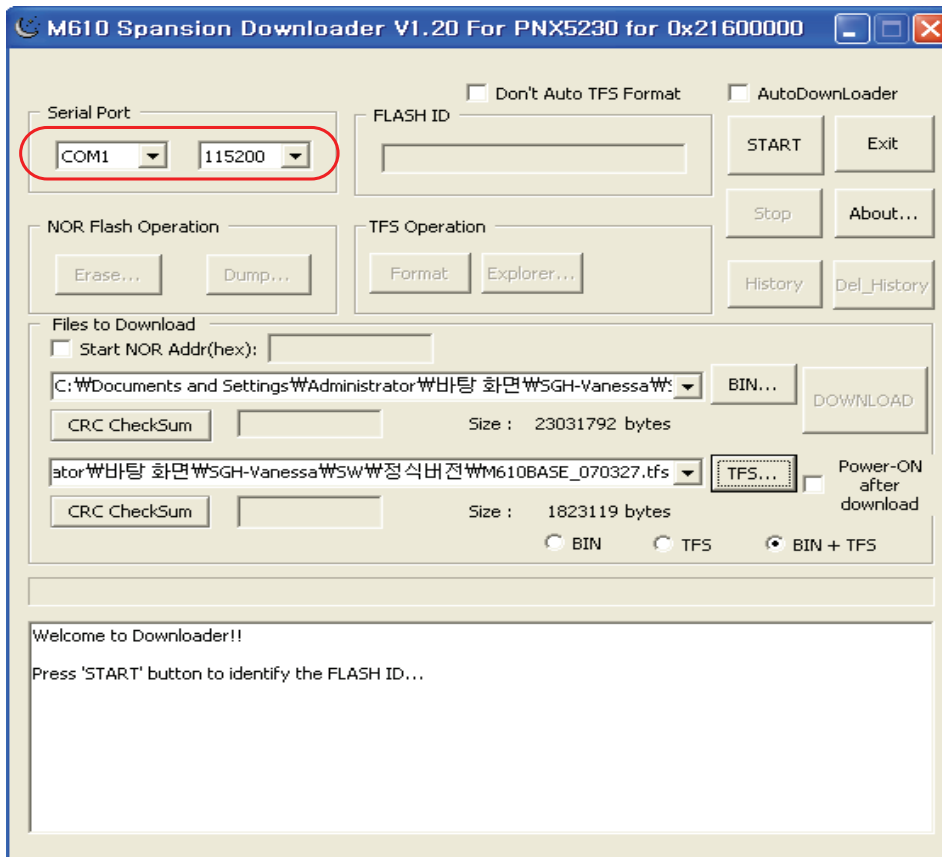
- Downloader Program(M610 Spansion DownloaderV1.20 for PNx5230 for 0x21600000.exe)
- M610 Mobile Phone
- Data Cable
- Binary file, TFS file

4-2-2. S/W Downloader Program

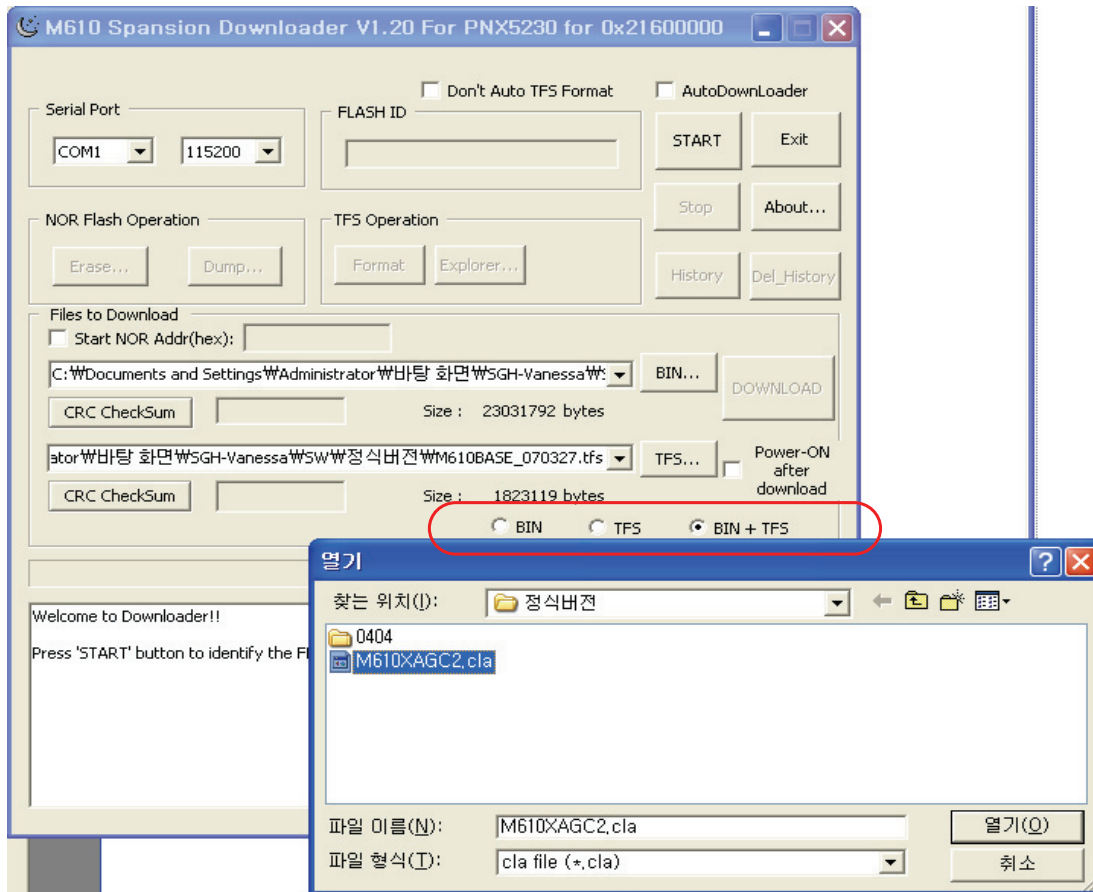
■ Load the binary download program by executing the

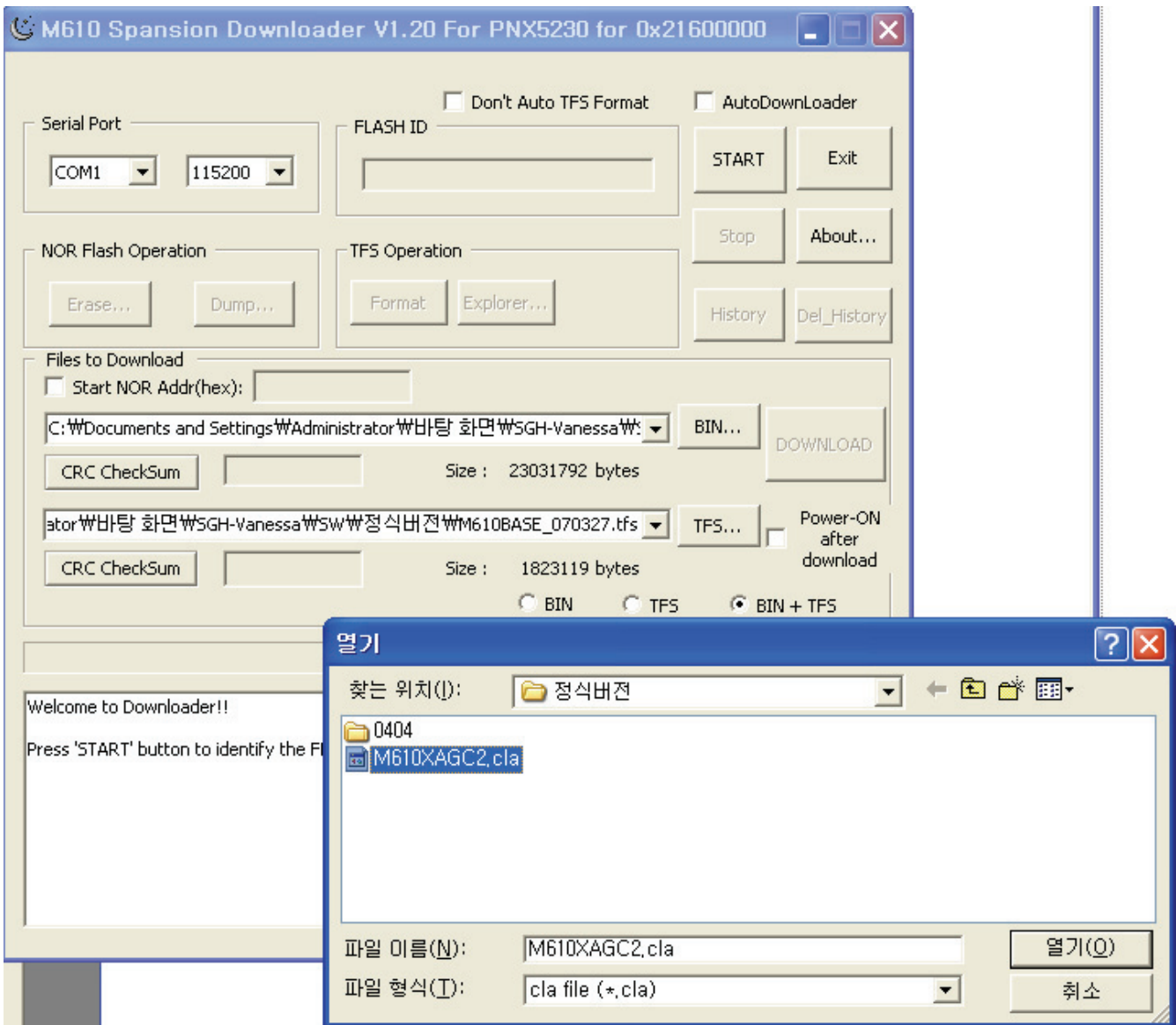
“M610 Spansion DownloaderV1.20 for PNx5230 for 0x21600000.exe”

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'



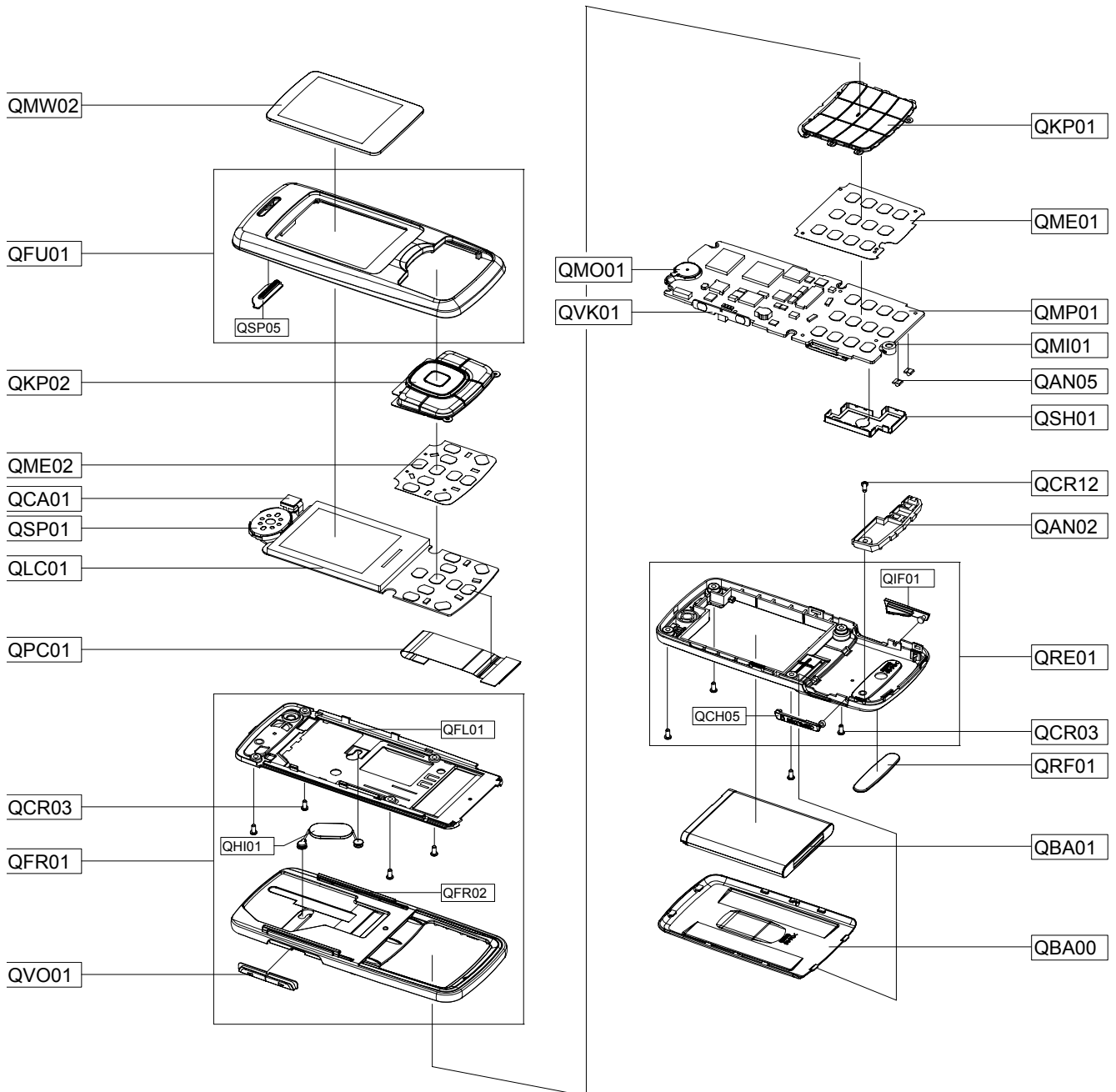
3. Select the file(s) what you want to download





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-SGHM610	GH42-01241A
QAN05		ASSY RUBBER-ANT	GH98-01041A
QBA00		PMO-COVER BATTERY	GH72-39932A
QBA01		INNER BATTERY PACK-800MAH,BLK,	GH43-02719A
QCA01		CAMERA MODULE-SGH-M610	GH59-04588A
QCR03		SCREW-MACHINE	6001-001811
QCR03		SCREW-MACHINE	6001-001811
QCR12		SCREW-MACHINE	6001-001530
QKP01		ASSY KEYPAD-MAIN(OPEN/RED)	GH98-04789A
QKP02		ASSY KEYPAD-SUB(OPEN/D_BLU)	GH98-04788A
QLC01		ELA UNIT-SUB PBA LCD SVC	GH96-02844A
QME01		KEY FPCB-MAIN KEY FPCB 12KEY	GH59-04561A
QME02		KEY FPCB-SUB KEY FPCB 10KEY	GH59-04562A
QMI01		MICROPHONE-ASSY	GH30-00395A
QMO01		MOTOR DC-SPHV8400	GH31-00187A
QMP01		PBA MAIN-SGHM610	GH92-03767A
QMW02		PCT-COVER MAIN WINDOW	GH72-39944A
QPC01		MEA-FPCBKIT	GH97-08111A
QRF01		PMO-COVER RF	GH72-39935A
QSH01		ICT BRACKET-SHIELD COVER	GH70-02580A
QSP01		MICRO SPEAKER	3001-002204
QVK01		KEY FPCB-M610 VOLUME KEY	GH59-04564A
QVO01		PMO-VOLUME KEY	GH72-39929A
QFU01		ASSY CASE-SLIDE UPPER	GH98-04784A
	QSP05	ASSY DECO-SPEAKER GRILL	GH98-06009A
QFR01		ASSY CASE-SLIDE FRONT/LOWER	GH98-05534A
	QFL01	ASSY CASE-SLIDE LOWER	GH98-04785A
	QFR02	ASSY CASE-SLIDE FRONT	GH98-04786A
	QHI01	ASSY ACCE-LINK SPRING	GH98-05535A
QRE01		ASSY CASE-REAR COVER	GH98-04787A
	QCH05	PMO-COVER T FLASH	GH72-39930A
	QIF01	PMO-COVER IF CONN	GH72-39931A

Description	SEC CODE
BAG PE	6902-000634
ADAPTOR-ATADS10EBE,BLK,EU	GH44-01702A
EARPHONE-EU, BLK, B-TYPE, FM	GH59-04928A
LABEL(P)-UNIT SEAL	GH68-00518B
LABEL(P)-IMEI	GH68-01335D
LABEL(R)-WATER SOAK	GH68-09361A
MANUAL USERS-EU FRENCH	GH68-15945A
MANUAL USERS-EU DUTCH	GH68-15946A
LABEL(R)-MAIN(EU)	GH68-15970A
CUSHION-CASE(EU)	GH69-05866A
BOX-UNIT(EU)	GH69-05867A
RMO RUBBER-BT	GH73-11029A
MPR-ELEC TAPE	GH74-27457A
MPR-VINYL BOHO UPPER	GH74-27887A
MPR-VINYL BOHO MAIN WINDOW FIN	GH74-27889A
TAPE-GASKET B TO B CON	GH74-32288A
TAPE GASK-LOWER	GH74-33324A
VINYL-BOHO SLIDE	GH74-34064A
TAPE INSU	GH74-35293A

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
ANT102	ANTENNA-CHIP	4202-001360	SA
BAT300	BATTERY-LI(2ND)	4302-001181	SA
BTC500	HEADER-BATTERY	3711-006025	SA
C101	C-CER,CHIP	2203-000812	SA
C102	C-CER,CHIP	2203-001239	SA
C103	C-CER,CHIP	2203-005234	SA
C104	C-CER,CHIP	2203-005234	SA
C105	C-CER,CHIP	2203-000812	SA
C106	C-CER,CHIP	2203-005482	SA
C107	C-CER,CHIP	2203-005050	SA
C108	C-CER,CHIP	2203-000812	SA
C109	C-CER,CHIP	2203-005050	SA
C110	C-CER,CHIP	2203-002668	SA
C111	C-CER,CHIP	2203-000489	SA
C112	C-CER,CHIP	2203-000233	SA
C113	C-CER,CHIP	2203-000233	SA
C114	C-CER,CHIP	2203-005281	SA
C116	C-CER,CHIP	2203-005288	SA
C117	C-CER,CHIP	2203-000254	SA
C118	C-CER,CHIP	2203-000254	SA
C119	C-CER,CHIP	2203-005281	SA
C121	C-CER,CHIP	2203-005482	SA
C122	C-CER,CHIP	2203-005482	SA
C123	R-CHIP	2007-000171	SA
C124	C-CER,CHIP	2203-000812	SA
C125	C-CER,CHIP	2203-000812	SA
C126	C-CER,CHIP	2203-006838	SA
C127	C-CER,CHIP	2203-005482	SA
C128	C-CER,CHIP	2203-002677	SA
C129	C-CER,CHIP	2203-000278	SA
C130	C-CER,CHIP	2203-000438	SA
C131	C-CER,CHIP	2203-006838	SA
C132	C-CER,CHIP	2203-000278	SA
C133	C-CER,CHIP	2203-002709	SA
C134	C-CER,CHIP	2203-000233	SA
C135	C-CER,CHIP	2203-005482	SA
C136	C-CER,CHIP	2203-006842	SA
C137	C-CER,CHIP	2203-005482	SA
C138	C-CER,CHIP	2203-000278	SA
C200	C-CER,CHIP	2203-005482	SA
C201	C-CER,CHIP	2203-005482	SA
C202	C-CER,CHIP	2203-005482	SA
C203	C-CER,CHIP	2203-000254	SA
C204	C-CER,CHIP	2203-000812	SA
C205	C-CER,CHIP	2203-005482	SA
C206	C-CER,CHIP	2203-006562	SA
C207	C-CER,CHIP	2203-000812	SA
C208	C-CER,CHIP	2203-000254	SA
C209	C-CER,CHIP	2203-005482	SA
C210	C-CER,CHIP	2203-005482	SA
C211	C-CER,CHIP	2203-005482	SA

Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
C212	C-CER,CHIP	2203-000812	SA
C213	C-CER,CHIP	2203-005482	SA
C214	C-CER,CHIP	2203-006681	SA
C215	C-CER,CHIP	2203-006681	SA
C216	C-CER,CHIP	2203-006562	SA
C300	C-CER,CHIP	2203-006257	SA
C301	C-CER,CHIP	2203-006257	SA
C302	C-CER,CHIP	2203-006824	SA
C303	C-CER,CHIP	2203-006562	SA
C304	C-CER,CHIP	2203-006562	SA
C305	C-CER,CHIP	2203-006825	SA
C306	C-CER,CHIP	2203-006257	SA
C307	C-CER,CHIP	2203-006257	SA
C308	C-CER,CHIP	2203-006824	SA
C311	C-CER,CHIP	2203-006257	SA
C312	C-CER,CHIP	2203-006824	SA
C313	C-CER,CHIP	2203-000233	SA
C314	C-CER,CHIP	2203-006257	SA
C315	C-CER,CHIP	2203-000425	SA
C316	C-CER,CHIP	2203-006562	SA
C317	C-CER,CHIP	2203-006348	SA
C318	C-CER,CHIP	2203-000425	SA
C319	C-CER,CHIP	2203-006562	SA
C320	C-CER,CHIP	2203-006562	SA
C321	C-CER,CHIP	2203-006324	SA
C322	C-CER,CHIP	2203-006257	SA
C323	C-CER,CHIP	2203-002709	SA
C324	C-CER,CHIP	2203-006562	SA
C325	C-CER,CHIP	2203-006562	SA
C326	C-CER,CHIP	2203-006361	SA
C327	C-CER,CHIP	2203-007147	SA
C328	C-CER,CHIP	2203-006824	SA
C329	C-CER,CHIP	2203-006048	SA
C330	C-CER,CHIP	2203-006824	SA
C331	C-CER,CHIP	2203-006048	SA
C400	C-CER,CHIP	2203-005444	SA
C401	C-CER,CHIP	2203-000278	SA
C402	C-CER,CHIP	2203-005395	SA
C403	C-CER,CHIP	2203-005482	SA
C404	C-CER,CHIP	2203-005050	SA
C405	C-CER,CHIP	2203-003054	SA
C406	C-CER,CHIP	2203-000330	SA
C407	C-CER,CHIP	2203-005482	SA
C408	C-CER,CHIP	2203-000278	SA
C409	C-CER,CHIP	2203-005444	SA
C410	C-CER,CHIP	2203-005395	SA
C411	C-CER,CHIP	2203-000278	SA
C412	C-CER,CHIP	2203-005395	SA
C413	C-CER,CHIP	2203-005393	SA
C414	C-CER,CHIP	2203-005482	SA
C415	C-CER,CHIP	2203-001259	SA
C416	C-CER,CHIP	2203-005050	SA
C417	C-CER,CHIP	2203-005482	SA

Design LOC	Description	SEC Code	STATUS
C418	C-CER,CHIP	2203-000679	SA
C419	C-CER,CHIP	2203-000330	SA
C420	C-CER,CHIP	2203-005393	SA
C421	C-CER,CHIP	2203-000278	SA
C422	C-CER,CHIP	2203-005395	SA
C424	C-CER,CHIP	2203-006260	SA
C425	C-CER,CHIP	2203-006260	SA
C426	C-CER,CHIP	2203-006562	SA
C429	C-CER,CHIP	2203-006562	SA
C430	C-CER,CHIP	2203-006562	SA
C431	C-CER,CHIP	2203-005482	SA
C432	C-CER,CHIP	2203-000254	SA
C433	C-TA,CHIP	2404-001226	SA
C436	C-CER,CHIP	2203-000679	SA
C437	C-CER,CHIP	2203-006841	SA
C438	C-CER,CHIP	2203-006260	SA
C439	C-CER,CHIP	2203-006048	SA
C440	C-CER,CHIP	2203-006260	SA
C441	C-CER,CHIP	2203-000679	SA
C442	C-CER,CHIP	2203-000812	SA
C443	C-CER,CHIP	2203-000233	SA
C500	C-CER,CHIP	2203-000386	SA
C501	C-CER,CHIP	2203-000386	SA
C502	C-CER,CHIP	2203-000233	SA
C503	C-CER,CHIP	2203-006824	SA
C504	C-CER,CHIP	2203-000233	SA
C505	C-CER,CHIP	2203-000386	SA
C507	C-CER,CHIP	2203-002709	SA
C508	C-CER,CHIP	2203-002709	SA
C509	C-CER,CHIP	2203-000812	SA
C511	C-CER,CHIP	2203-005482	SA
C512	C-CER,CHIP	2203-006562	SA
C513	C-CER,CHIP	2203-005482	SA
C514	C-CER,CHIP	2203-005482	SA
C601	C-CER,CHIP	2203-006562	SA
C603	C-CER,CHIP	2203-006824	SA
C604	C-CER,CHIP	2203-002709	SA
C605	C-CER,CHIP	2203-000995	SA
C606	C-CER,CHIP	2203-006562	SA
C609	C-CER,CHIP	2203-006562	SA
C610	C-CER,CHIP	2203-006260	SA
C611	C-CER,CHIP	2203-006824	SA
CN601	CONNECTOR-CARD EDGE	3709-001465	SA
DUF100	FILTER-LC	2909-001299	SA
F101	DUPLEXER-FEM	2911-000093	SA
F600	FILTER-EMI SMD	2901-001404	SA
F601	FILTER-EMI SMD	2901-001404	SA
F602	FILTER-EMI SMD	2901-001404	SA
F603	FILTER-EMI SMD	2901-001404	SA
F604	FILTER-EMI SMD	2901-001404	SA
F605	FILTER-EMI SMD	2901-001408	SA
HEA600	HEADER-BOARD TO BOARD	3711-005933	SA
IFC500	SOCKET-INTERFACE	3710-002499	SA

Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
L100	R-CHIP	2007-000171	SA
L101	C-CER,CHIP	2203-001017	SA
L102	INDUCTOR-SMD	2703-002314	SA
L103	INDUCTOR-SMD	2703-002170	SA
L104	INDUCTOR-SMD	2703-002170	SA
L105	INDUCTOR-SMD	2703-002710	SA
L106	INDUCTOR-SMD	2703-001990	SA
L107	BEAD-SMD	3301-001659	SA
L111	INDUCTOR-SMD	2703-002204	SA
L300	INDUCTOR-SMD	2703-003290	SA
L400	BEAD-SMD	3301-001729	SA
L401	BEAD-SMD	3301-001729	SA
L402	INDUCTOR-SMD	2703-001752	SA
L403	INDUCTOR-SMD	2703-001673	SA
L500	BEAD-SMD	3301-001729	SA
L501	BEAD-SMD	3301-001729	SA
L502	INDUCTOR-SMD	2703-001231	SNA
L504	BEAD-SMD	3301-001729	SA
L601	BEAD-SMD	3301-001812	SA
LED600	LED	0601-002397	SA
LED601	LED	0601-002397	SA
LED602	LED	0601-002397	SA
LED603	LED	0601-002397	SA
LED604	LED	0601-002397	SA
LED605	LED	0601-002397	SA
LED606	LED	0601-002397	SA
LED607	LED	0601-002397	SA
LED608	LED	0601-002397	SA
LED609	LED	0601-002397	SA
OSC100	CRYSTAL-SMD	2801-004587	SA
OSC101	CRYSTAL-SMD	2801-004587	SA
OSC300	CRYSTAL-SMD	2801-004339	SA
PAM100	IC-POWER AMP	1201-002485	SA
R102	R-CHIP	2007-001313	SA
R103	R-CHIP	2007-000173	SA
R105	R-CHIP	2007-000172	SA
R114	R-CHIP	2007-000143	SA
R118	R-CHIP	2007-000148	SA
R119	R-CHIP	2007-007489	SA
R121	R-CHIP	2007-000171	SA
R122	R-CHIP	2007-000170	SA
R200	R-CHIP	2007-000170	SA
R201	R-CHIP	2007-000170	SA
R202	R-CHIP	2007-000148	SA
R203	R-CHIP	2007-000148	SA
R204	R-CHIP	2007-000148	SA
R207	R-CHIP	2007-000758	SA
R210	R-CHIP	2007-000758	SA
R213	R-CHIP	2007-000140	SA
R214	R-CHIP	2007-000148	SA
R215	R-CHIP	2007-001319	SA
R216	R-CHIP	2007-001319	SA
R218	R-CHIP	2007-000143	SA

Design LOC	Description	SEC Code	STATUS
R220	R-CHIP	2007-000162	SA
R221	R-CHIP	2007-000162	SA
R222	R-CHIP	2007-000162	SA
R225	R-CHIP	2007-000171	SA
R300	R-CHIP	2007-007573	SA
R301	R-CHIP	2007-008354	SA
R302	R-CHIP	2007-001333	SA
R303	R-CHIP	2007-008137	SA
R305	R-CHIP	2007-007318	SA
R307	R-CHIP	2007-007107	SA
R308	R-CHIP	2007-000171	SA
R310	R-CHIP	2007-000162	SA
R311	R-CHIP	2007-000141	SA
R315	R-CHIP	2007-000758	SA
R316	R-CHIP	2007-001333	SA
R317	R-CHIP	2007-002796	SA
R400	R-CHIP	2007-007528	SA
R401	R-CHIP	2007-007528	SA
R402	R-CHIP	2007-002796	SA
R403	R-CHIP	2007-007528	SA
R404	R-CHIP	2007-007528	SA
R405	R-CHIP	2007-002796	SA
R406	R-CHIP	2007-000162	SA
R407	R-CHIP	2007-001292	SA
R408	R-CHIP	2007-001292	SA
R409	R-CHIP	2007-001288	SA
R410	R-CHIP	2007-000148	SA
R412	R-CHIP	2007-000162	SA
R413	R-CHIP	2007-000162	SA
R414	R-CHIP	2007-001333	SA
R415	R-CHIP	2007-001333	SA
R500	R-CHIP	2007-001333	SA
R501	R-CHIP	2007-001339	SA
R503	R-CHIP	2007-001333	SA
R504	R-CHIP	2007-007014	SA
R506	R-CHIP	2007-000165	SA
R507	R-CHIP	2007-000172	SA
R508	R-CHIP	2007-000172	SA
R510	R-CHIP	2007-001303	SA
R511	R-CHIP	2007-007014	SA
R515	R-CHIP	2007-007107	SA
R516	R-CHIP	2007-000148	SA
R517	R-CHIP	2007-000152	SA
R519	R-CHIP	2007-000171	SA
R520	R-CHIP	2007-000171	SA
R602	R-CHIP	2007-000162	SA
R603	R-CHIP	2007-000148	SA
R605	R-CHIP	2007-001301	SA
R606	R-CHIP	2007-001301	SA
R607	R-CHIP	2007-000162	SA
R608	R-CHIP	2007-000162	SA
R609	R-CHIP	2007-000162	SA
R610	R-CHIP	2007-000162	SA

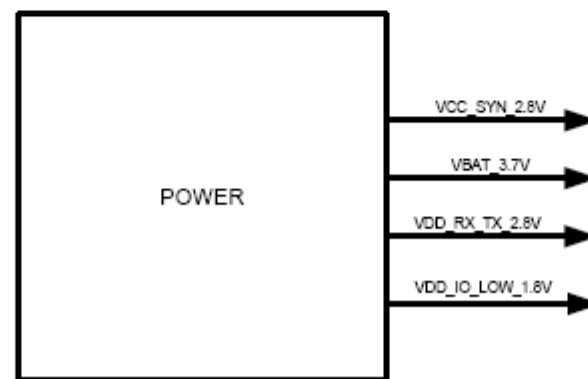
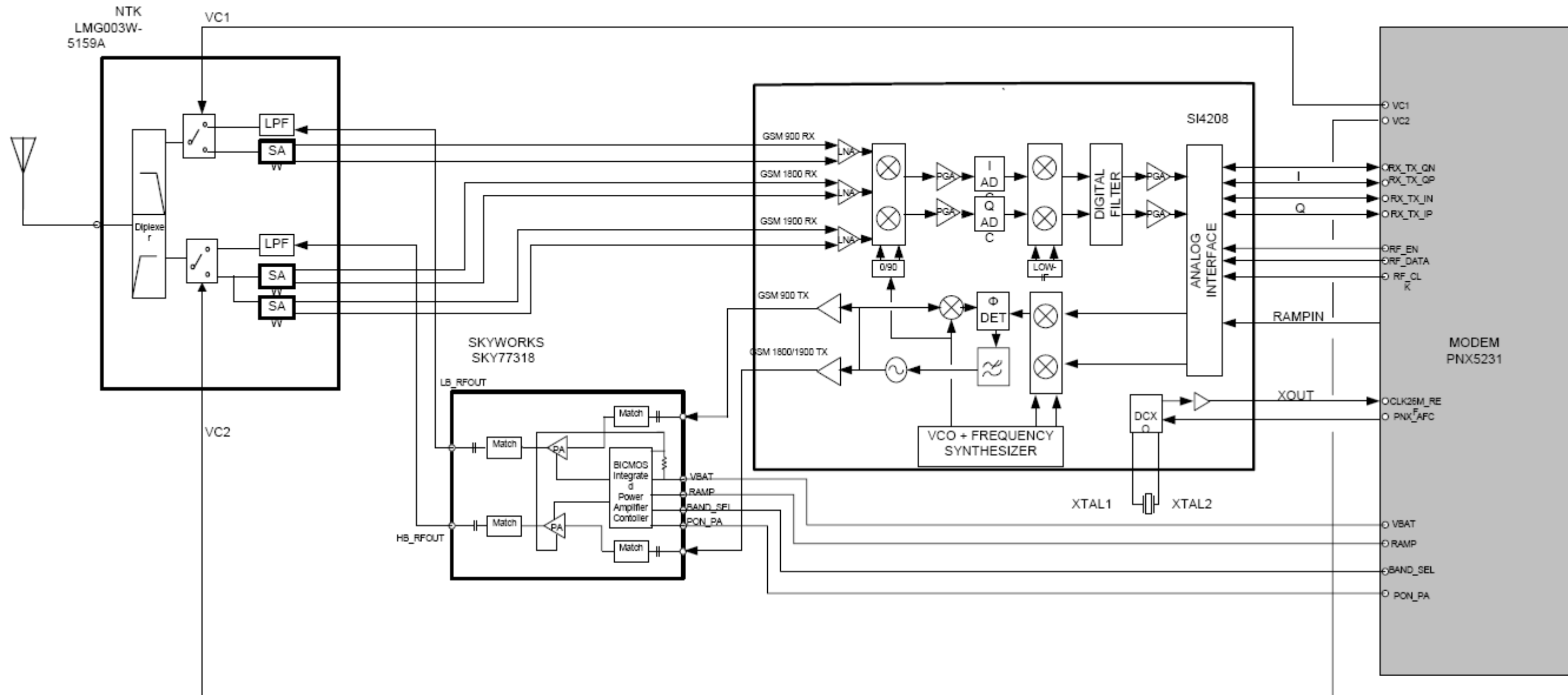
Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
R611	R-CHIP	2007-000140	SA
R612	R-CHIP	2007-000162	SA
R613	R-CHIP	2007-000162	SA
R614	R-CHIP	2007-000162	SA
R615	R-CHIP	2007-000162	SA
R616	R-CHIP	2007-007538	SA
R617	R-CHIP	2007-000162	SA
R619	R-CHIP	2007-001301	SA
R620	R-CHIP	2007-001301	SA
R621	R-CHIP	2007-001301	SA
R623	R-CHIP	2007-001301	SA
R624	R-CHIP	2007-001301	SA
R625	R-CHIP	2007-001301	SA
R626	R-CHIP	2007-001301	SA
R627	R-CHIP	2007-001301	SA
RFS100	CONNECTOR-COAXIAL	3705-001358	SA
TA100	C-TA,CHIP	2404-001496	SA
TA300	C-TA,CHIP	2404-001430	SA
TA400	C-TA,CHIP	2404-001377	SA
TA401	C-TA,CHIP	2404-001377	SA
TA402	C-TA,CHIP	2404-001381	SA
TA500	C-TA,CHIP	2404-001496	SA
U101	IC-TRANSCEIVER	1205-003310	SA
U103	IC-TRANSCEIVER	1205-002942	SA
U104	ICT BRACKET-SHIELD FRAME	GH70-02579A	SA
U200	FILTER-EMI SMD	2901-001316	SA
U300	IC-POSI.FIXED REG.	1203-003737	SA
U302	IC-POSI.FIXED REG.	1203-003737	SA
U303	IC-POWER SUPERVISOR	1203-004382	SA
U304	IC-POSI.FIXED REG.	1203-003737	SA
U401	TR-DIGITAL	0504-001151	SA
U402	TR-DIGITAL	0504-001151	SA
U404	IC-DEMODULATOR	1204-002688	SA
U405	IC-AUDIO AMP	1201-002492	SA
U500	IC-CMOS LOGIC	0801-002237	SA
U501	IC ASIC-SGHC420	GH13-00057A	SA
U600	IC-HALL EFFECT S/W	1009-001020	SA
U601	IC-CMOS LOGIC	0801-003185	SA
U602	DIODE-TVS	0406-001256	SA
U701	DIODE-ZENER	0403-001547	SA
UCP200	IC-COMM. CONTROLLER	1205-003238	SA
UME201	IC-MCP	1108-000114	SA
VR500	THERMISTOR-NTC	1404-001221	SA
ZD201	DIODE-TVS	0406-001235	SA
ZD300	DIODE-SWITCHING	0401-000164	SA
ZD301	DIODE-TVS	0406-001210	SA
ZD400	DIODE-TVS	0406-001235	SA
ZD401	DIODE-TVS	0406-001235	SA
ZD500	DIODE-TVS	0406-001235	SA
ZD501	DIODE-TVS	0406-001235	SA
ZD502	DIODE-TVS	0406-001208	SA
ZD503	DIODE-TVS	0406-001235	SA
ZD601	DIODE-TVS	0406-001208	SA

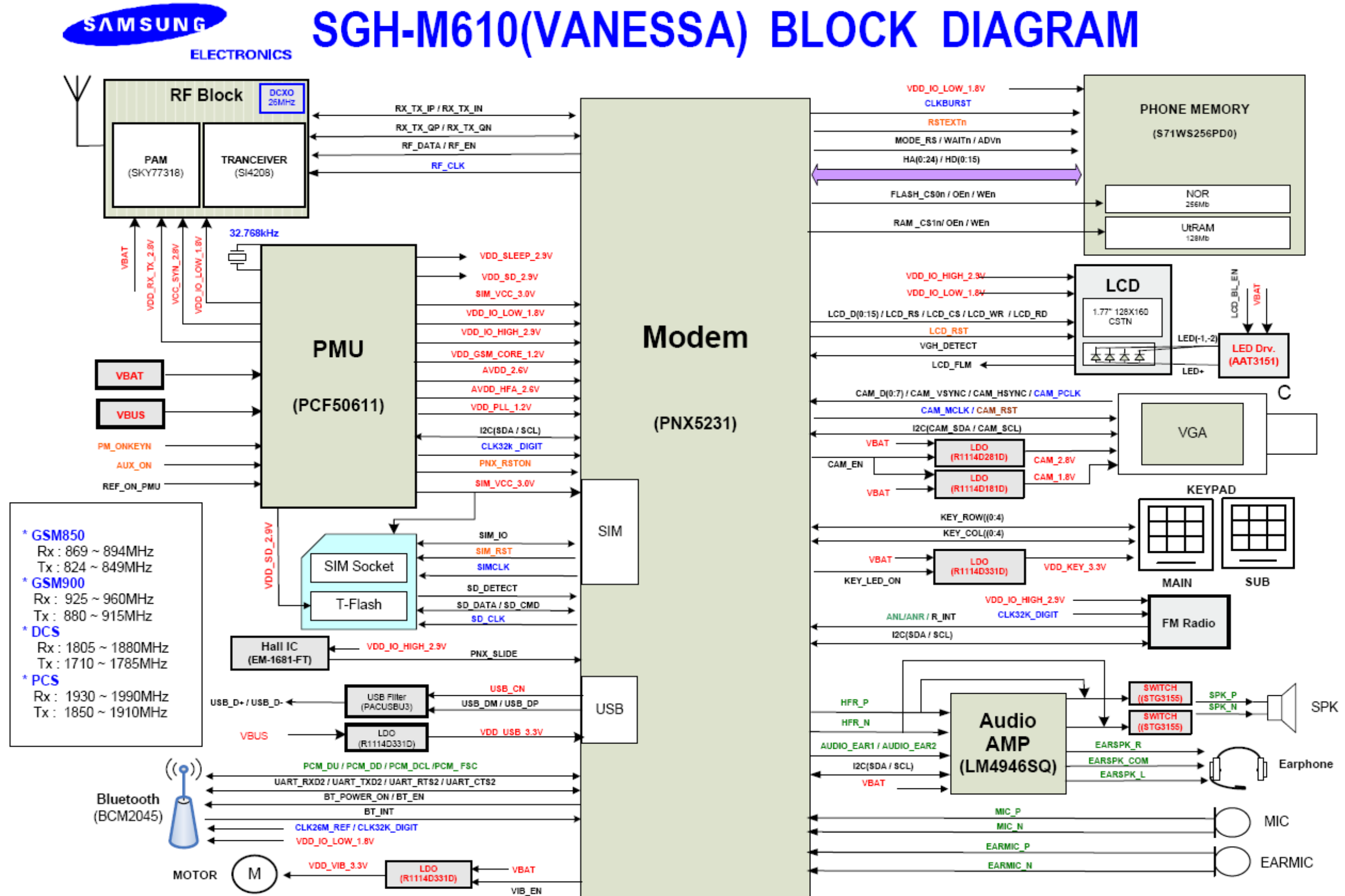
Design LOC	Description	SEC Code	STATUS
ZD602	DIODE-TVS	0406-001235	SA
ZD603	DIODE-TVS	0406-001235	SA
ZD604	DIODE-TVS	0406-001208	SA
ZD605	DIODE-TVS	0406-001235	SA
ZD606	DIODE-TVS	0406-001235	SA
ZD607	DIODE-TVS	0406-001235	SA
ZD608	DIODE-TVS	0406-001235	SA
ZD609	DIODE-TVS	0406-001235	SA

7. Block Diagrams

7-1. RF Solution Block Diagram

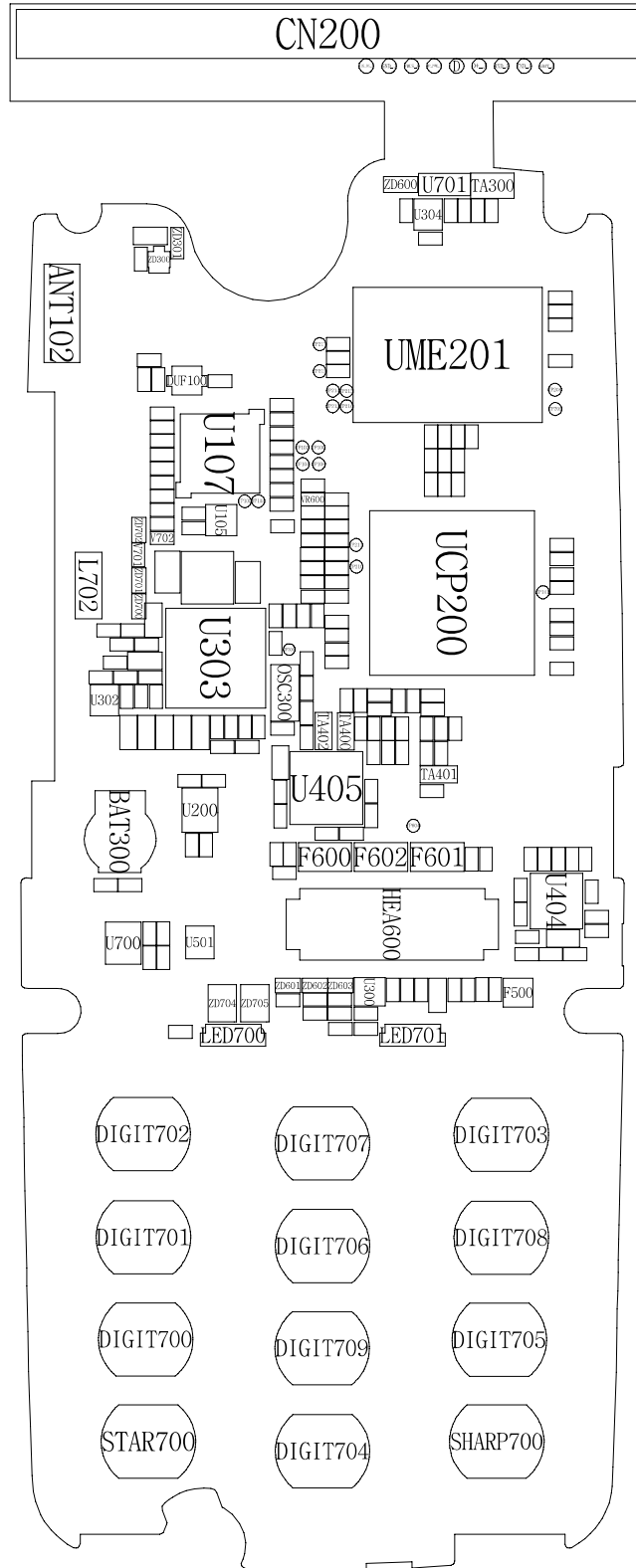


7-2. Base Band Solution Block Diagram

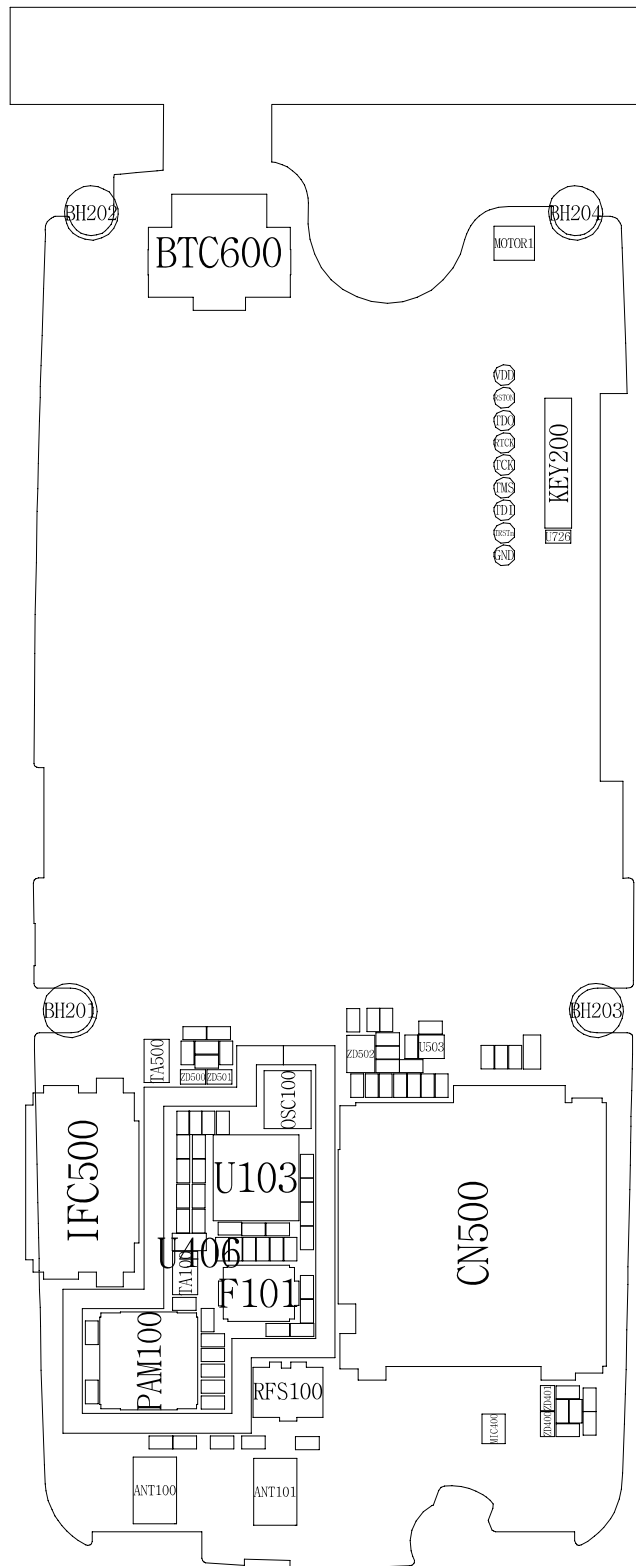


8. PCB Diagrams

Top

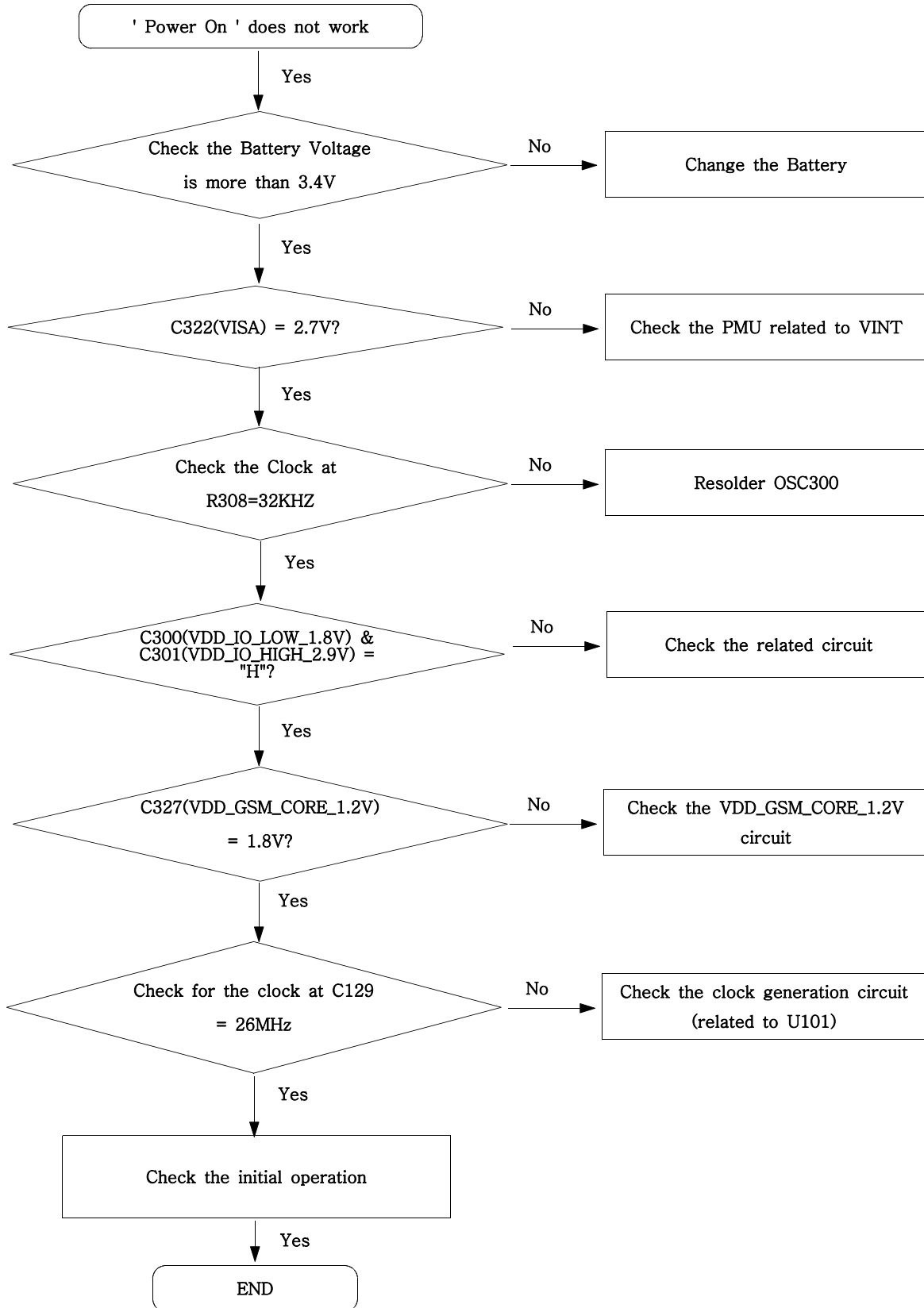


Bottom

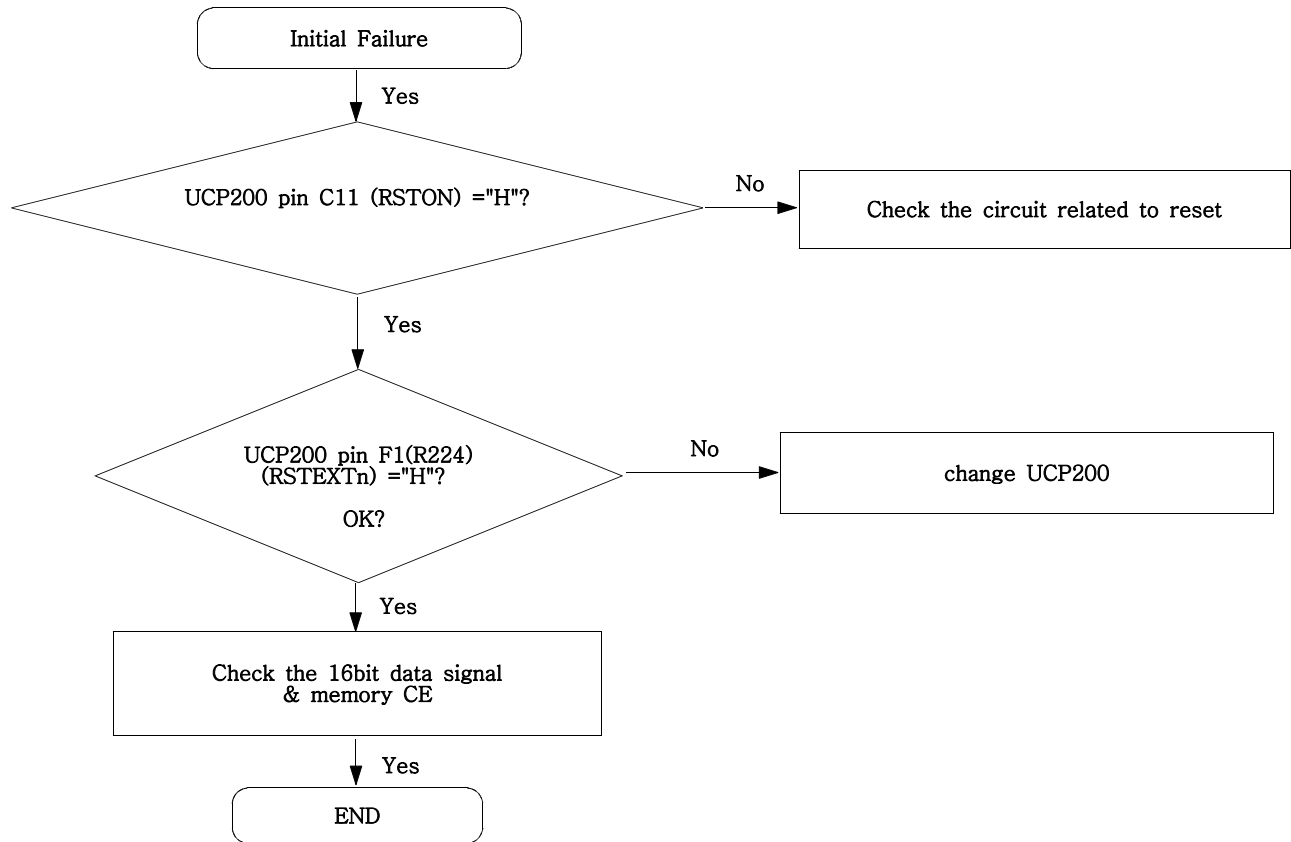


9. Flow Chart of Troubleshooting

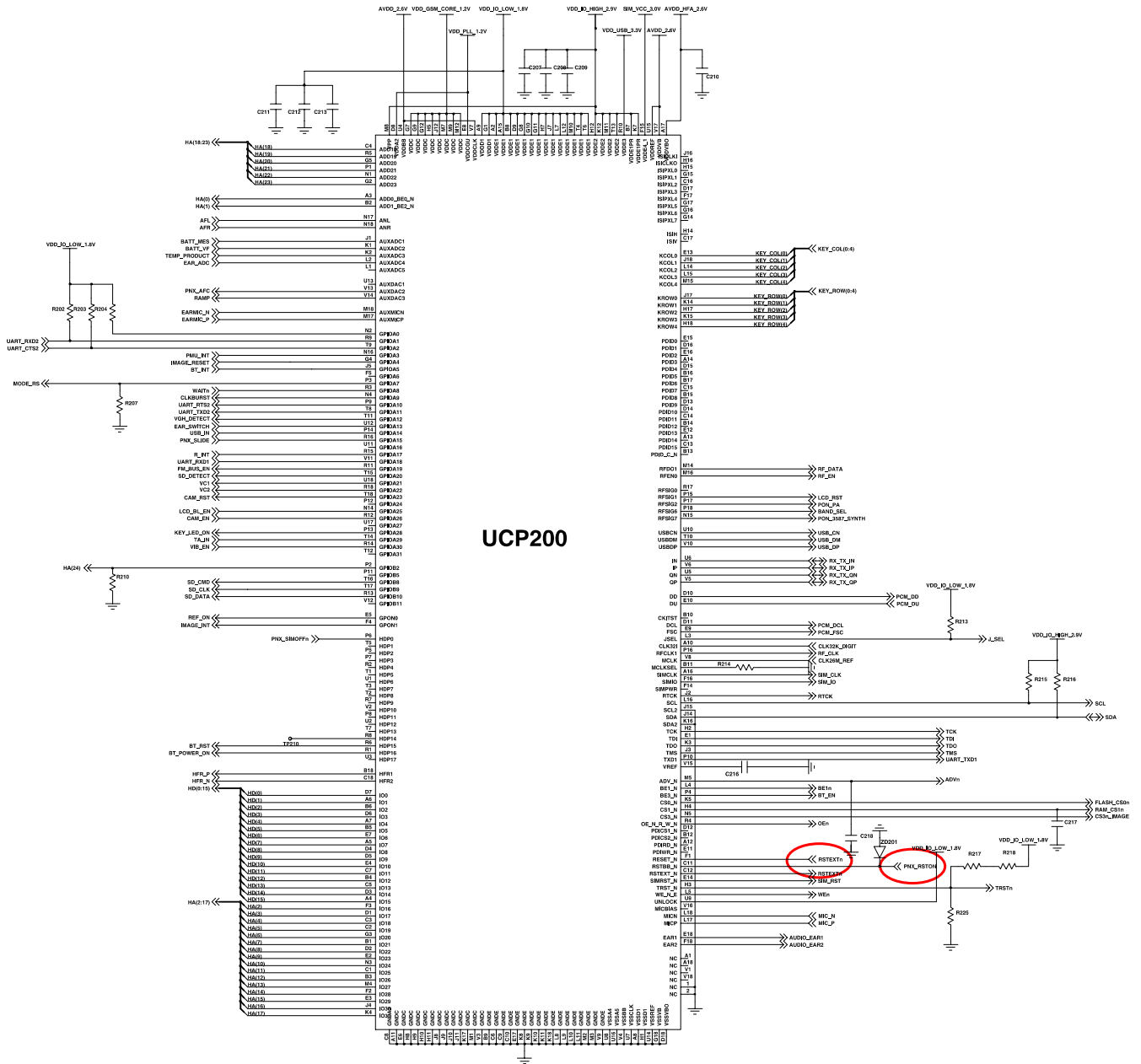
9-1. Power On



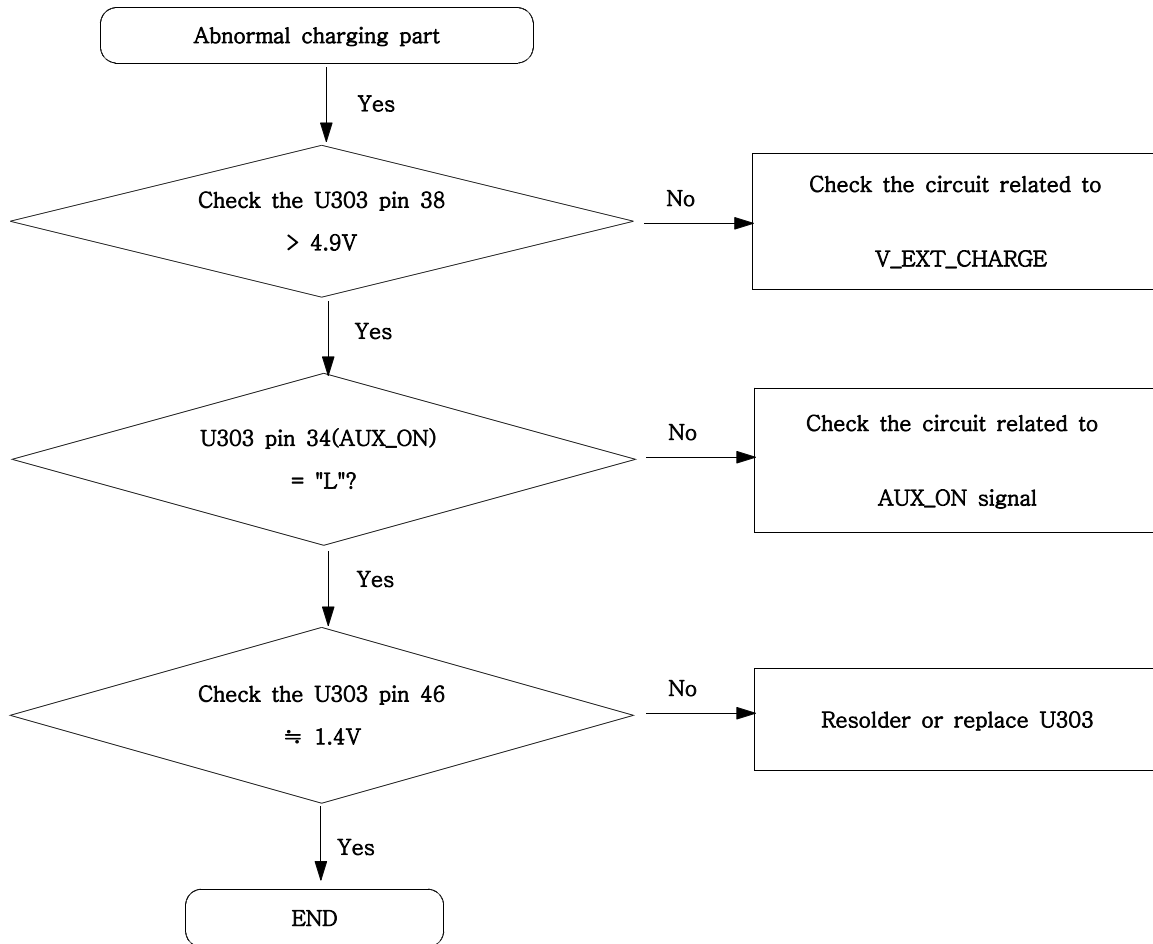
9-2. Initial



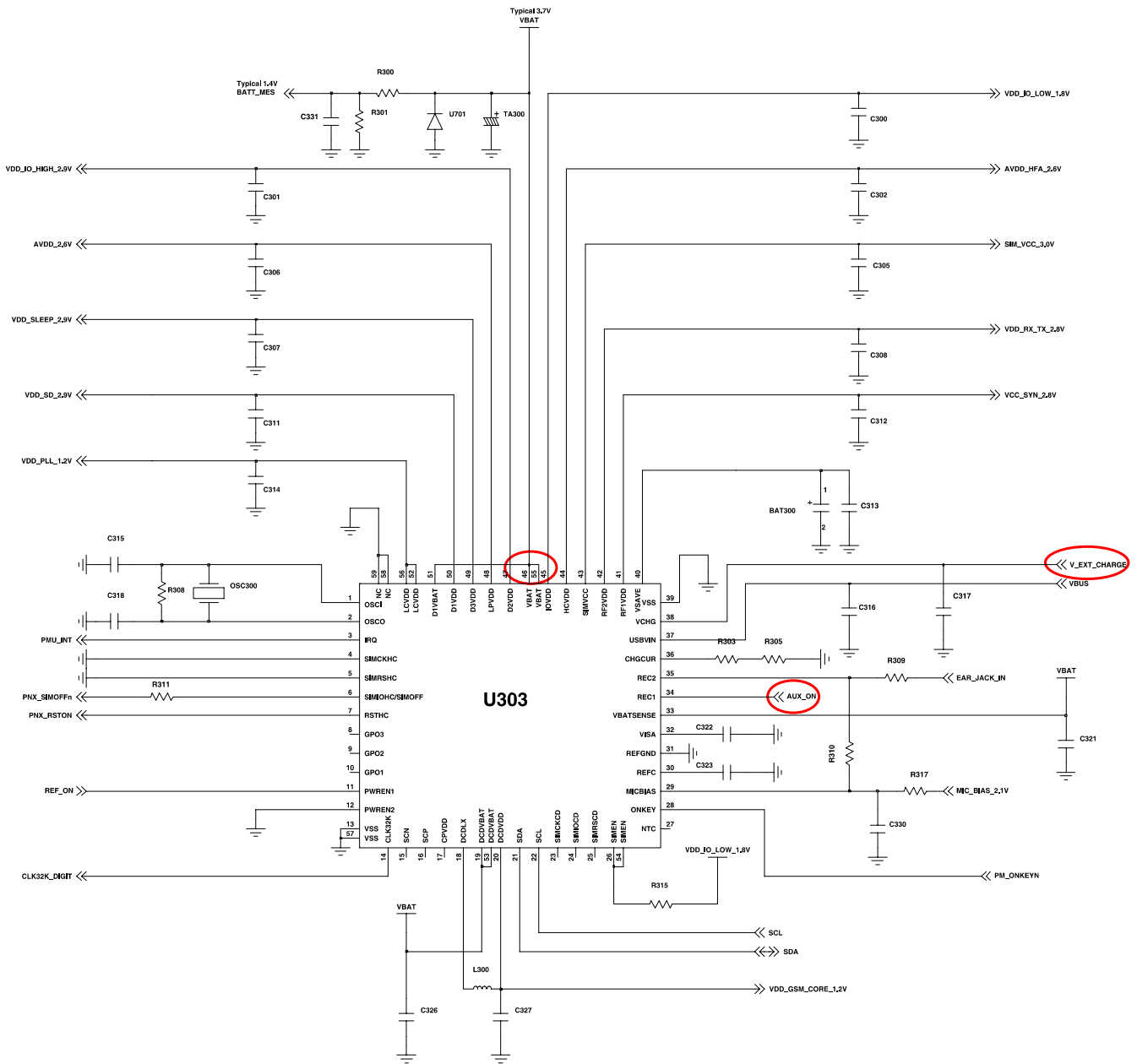
Flow Chart of Troubleshooting



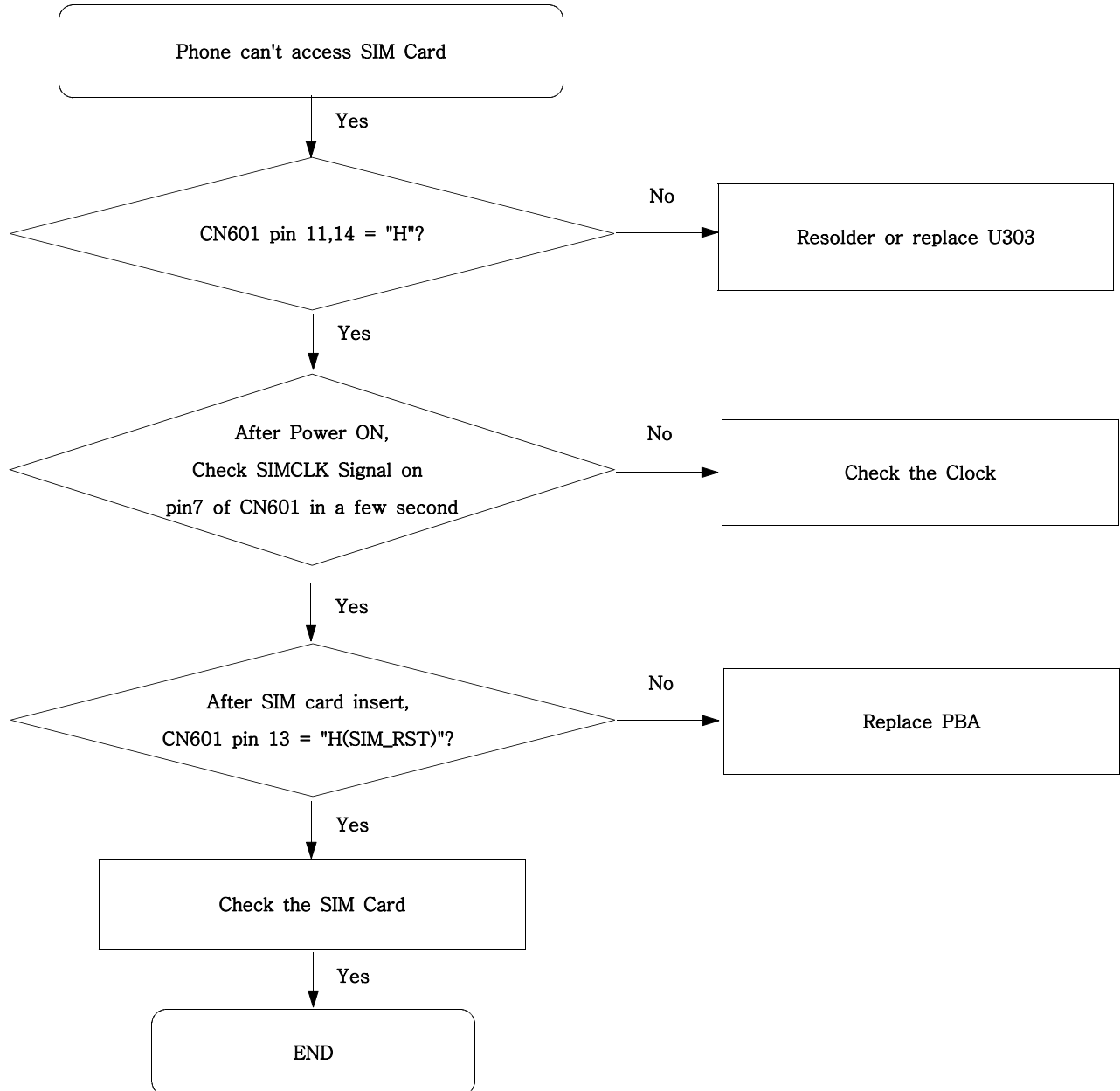
9-3. Charging Part

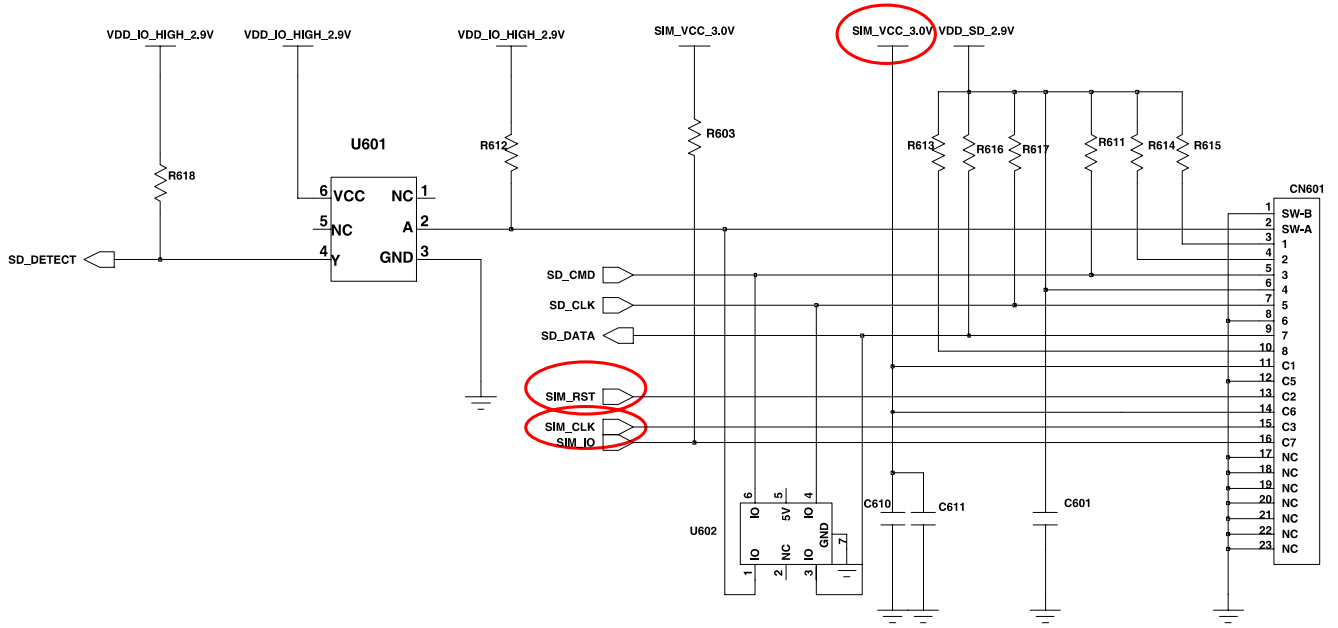


Flow Chart of Troubleshooting



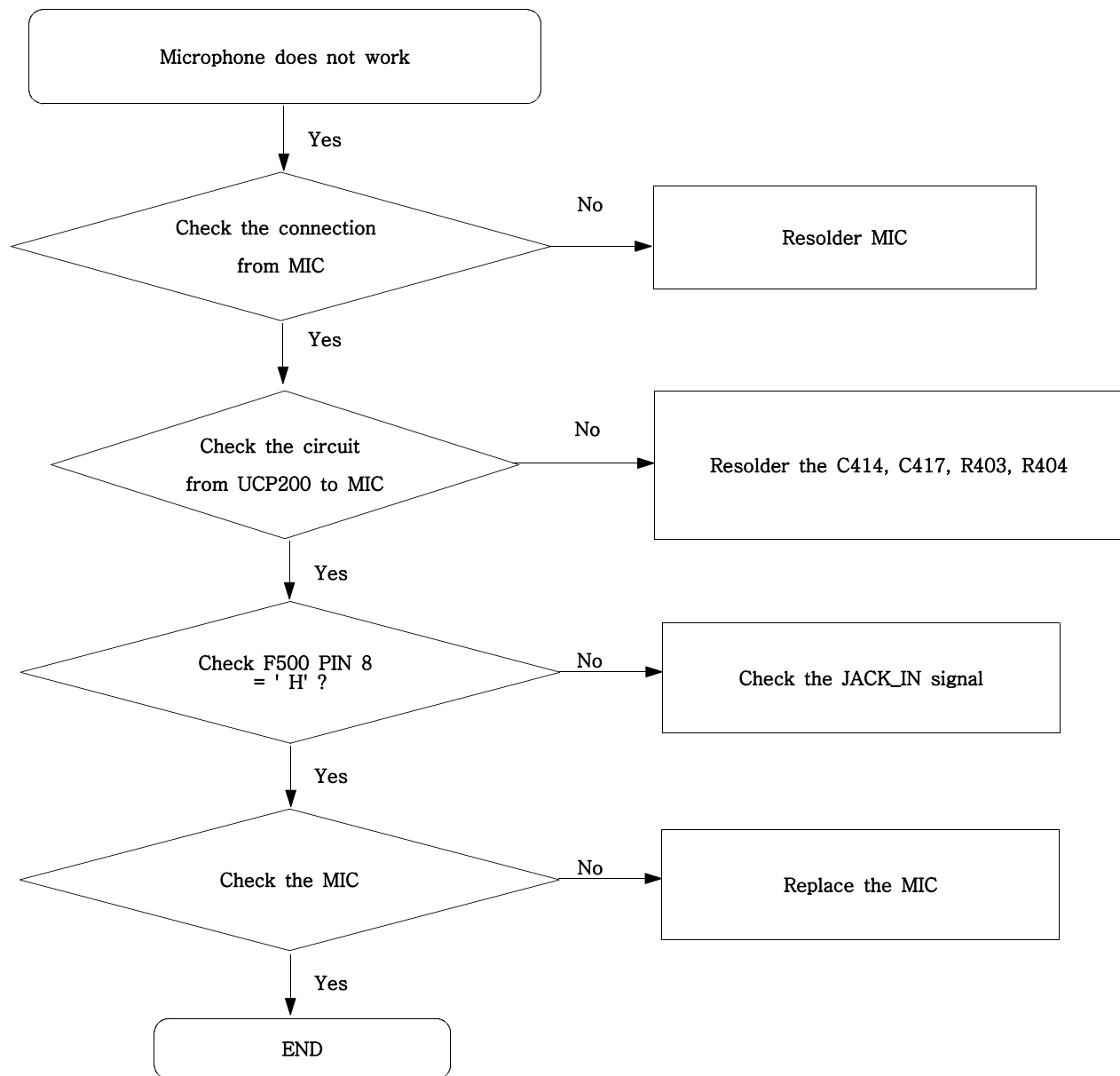
9-4. Sim Part

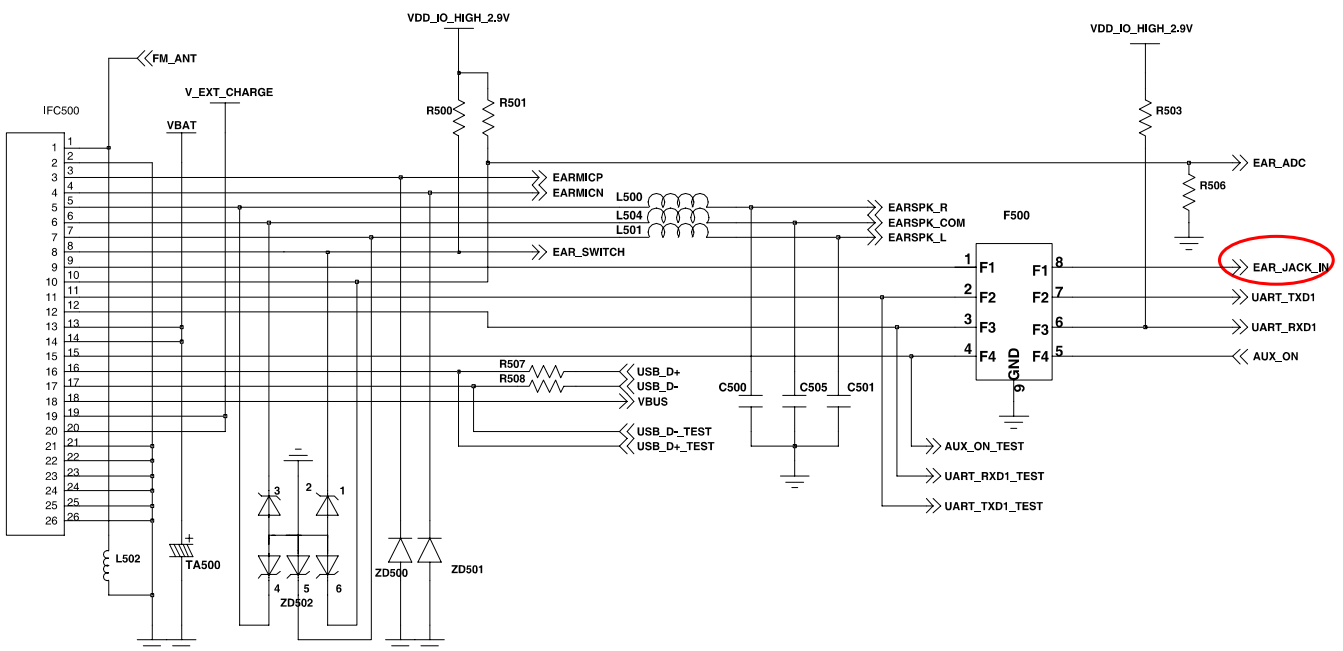
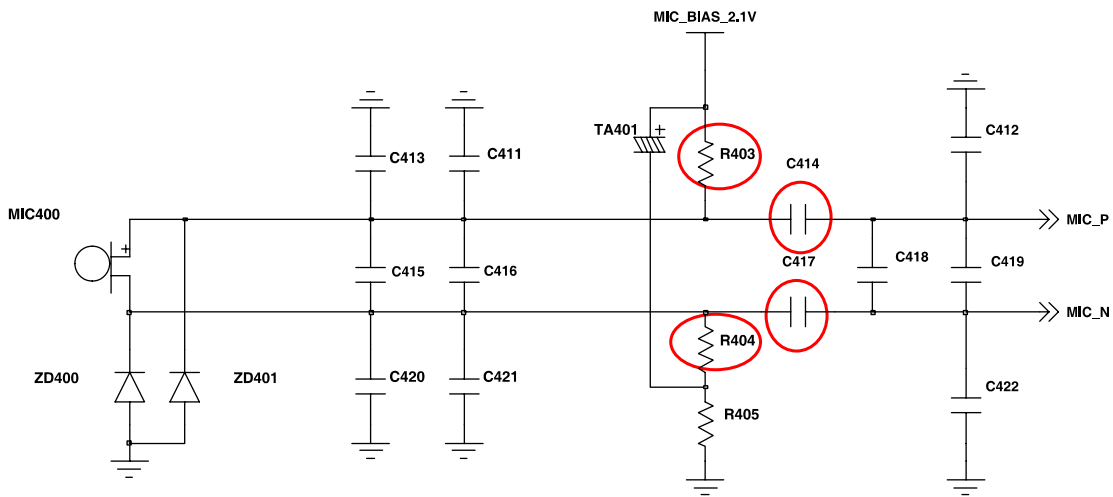
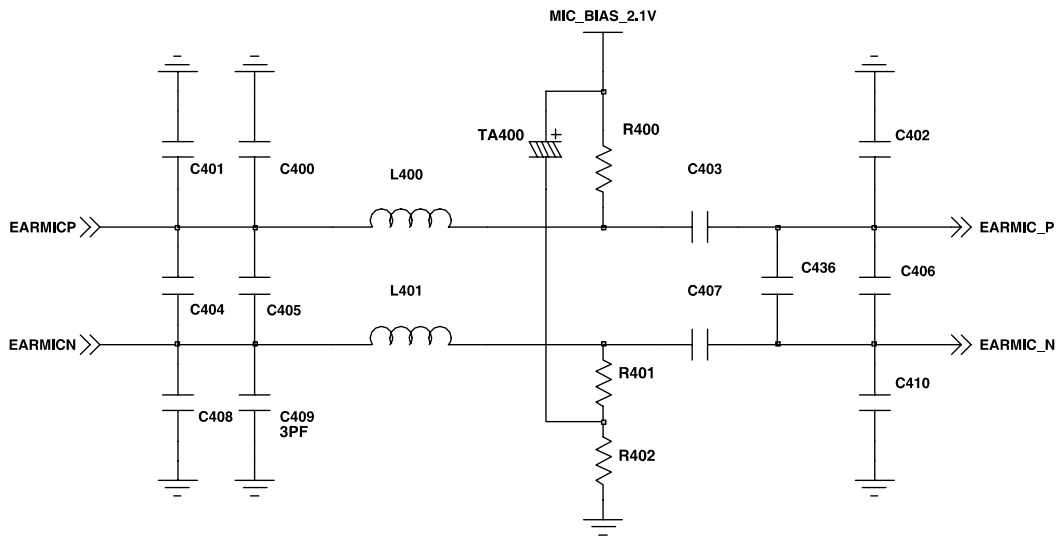




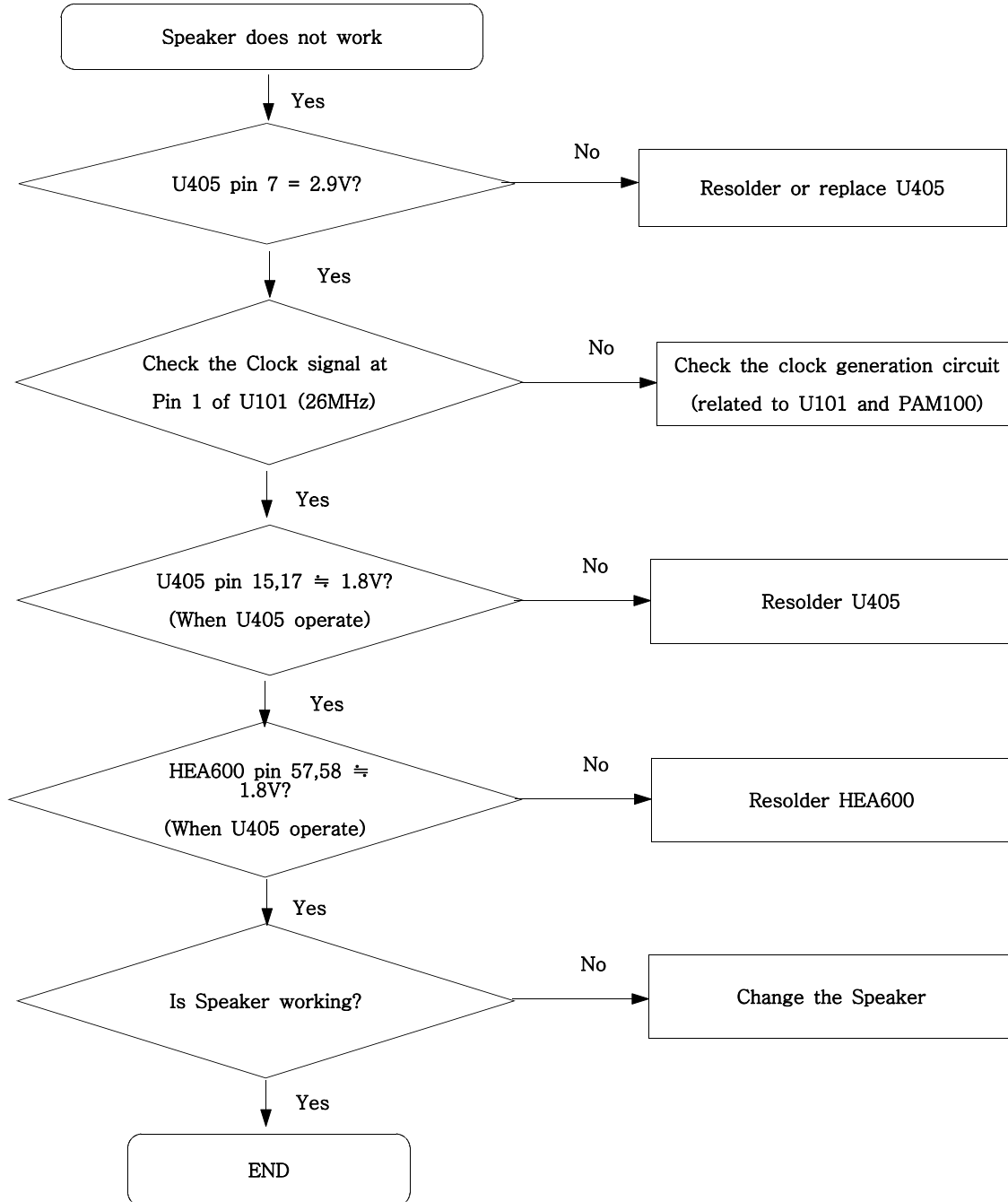
SIM + T-FLASH CON

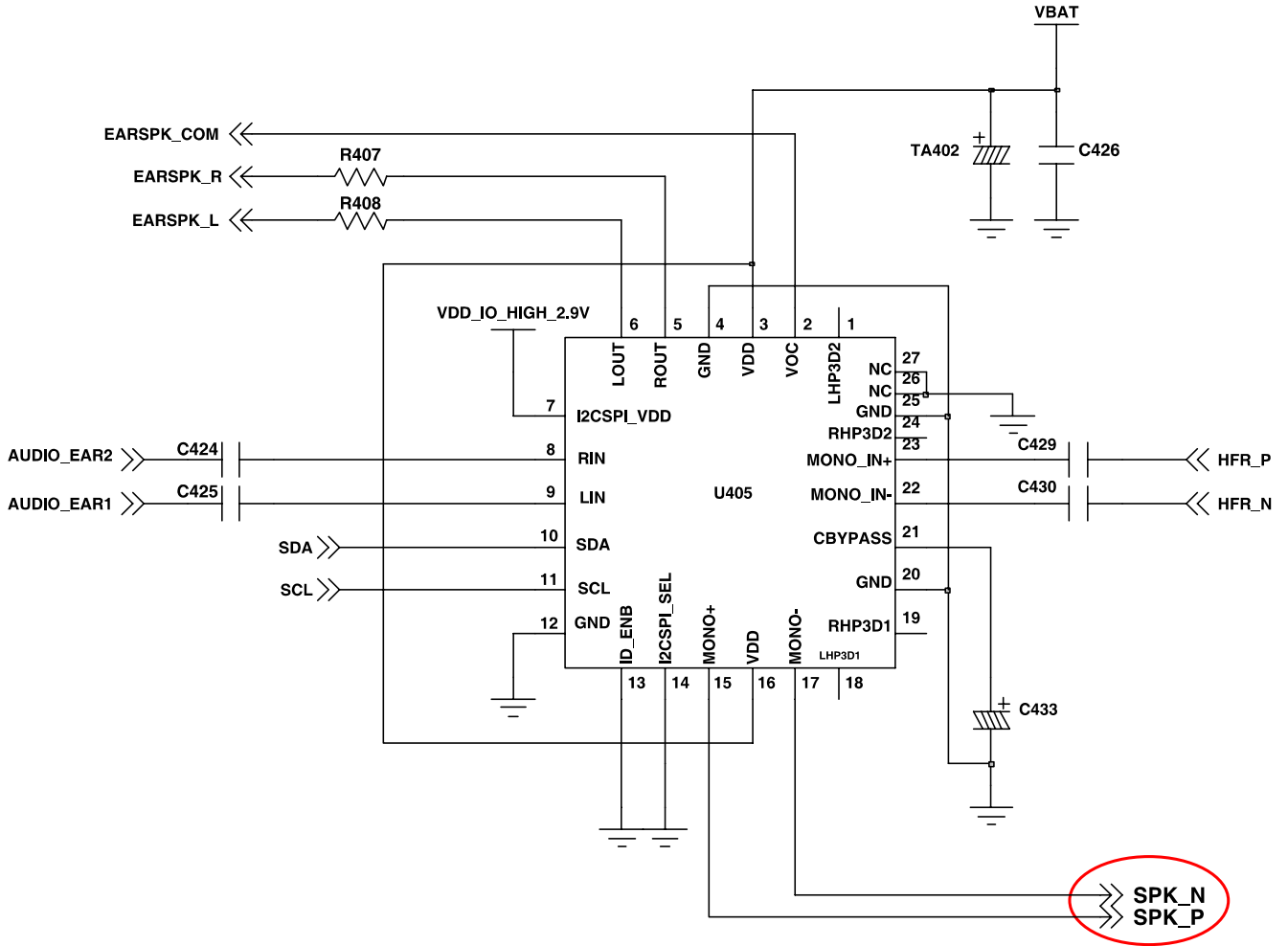
9-5. Microphone Part





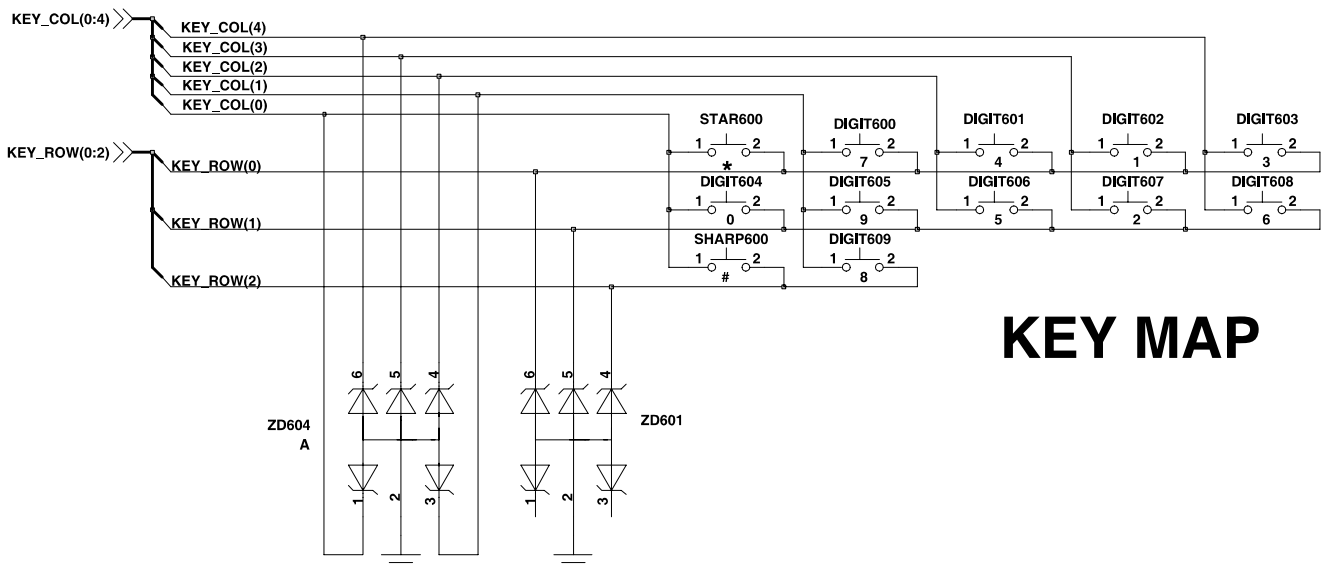
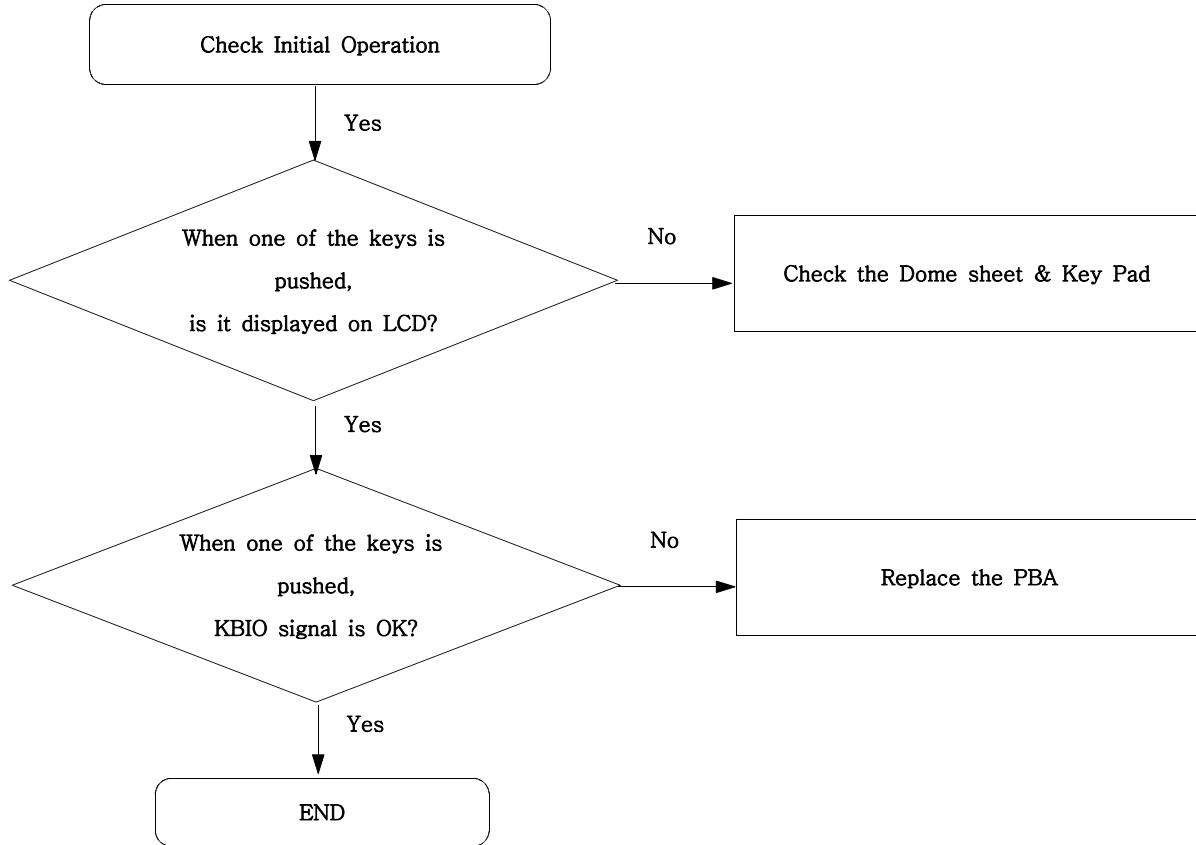
9-6. Speaker Part(Melody)





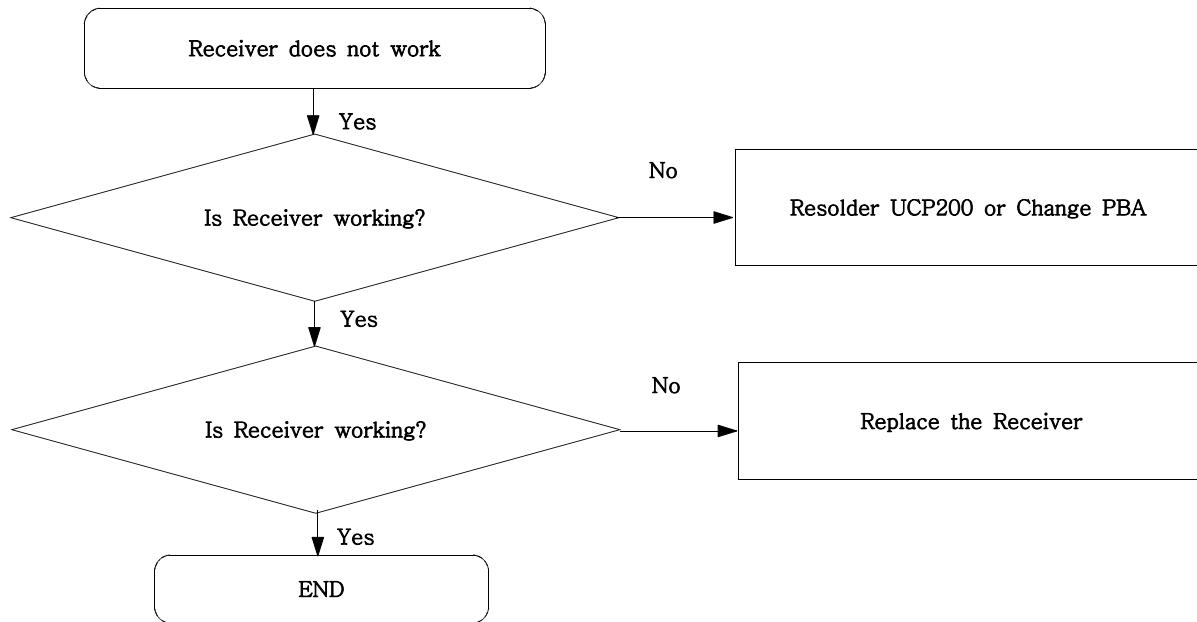
AUDIO AMP

9-7. Key Data Input

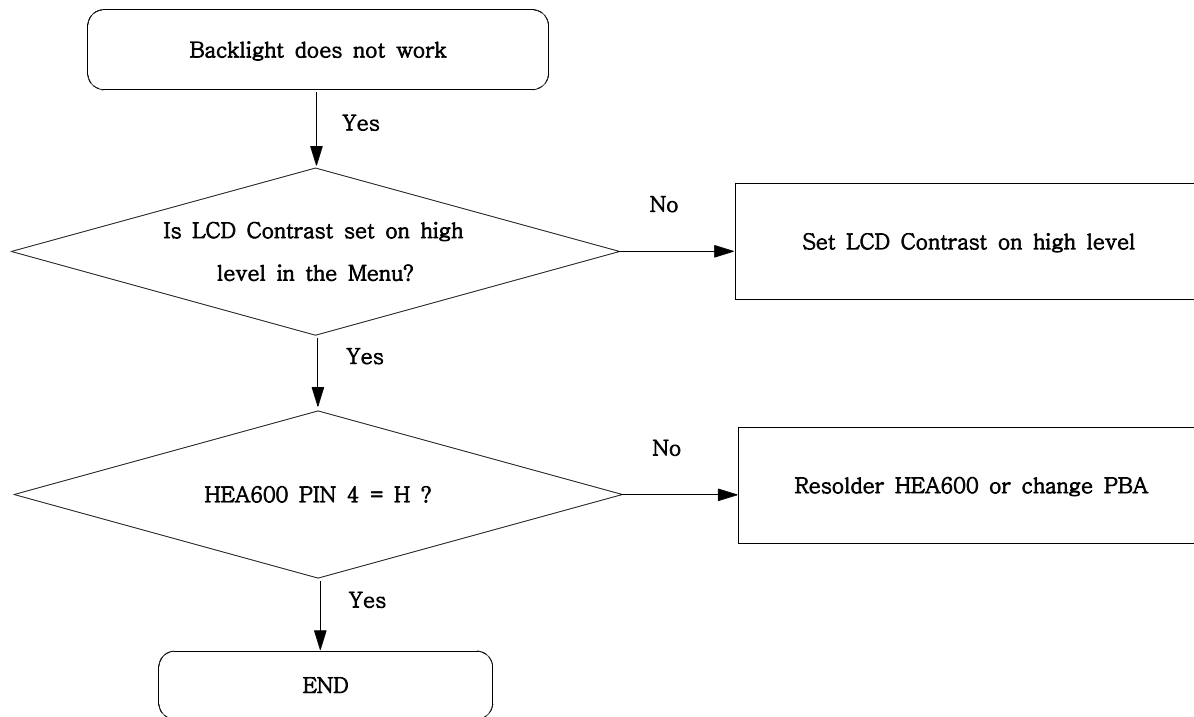


KEY MAP

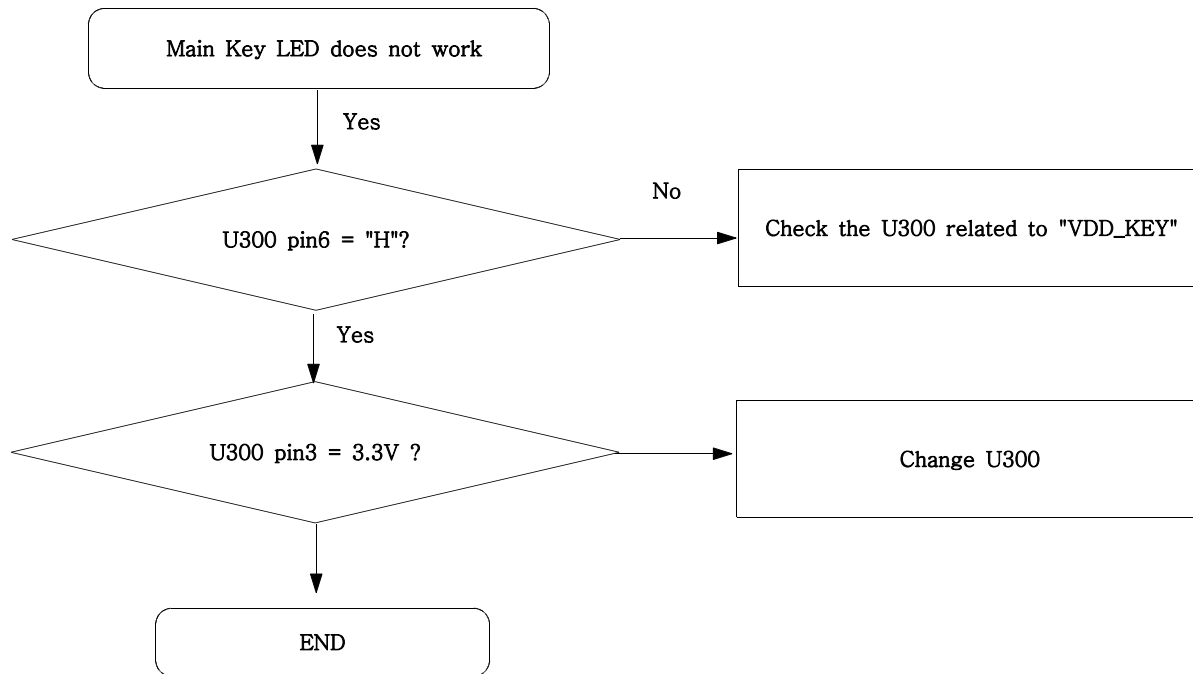
9-8. Receiver Part

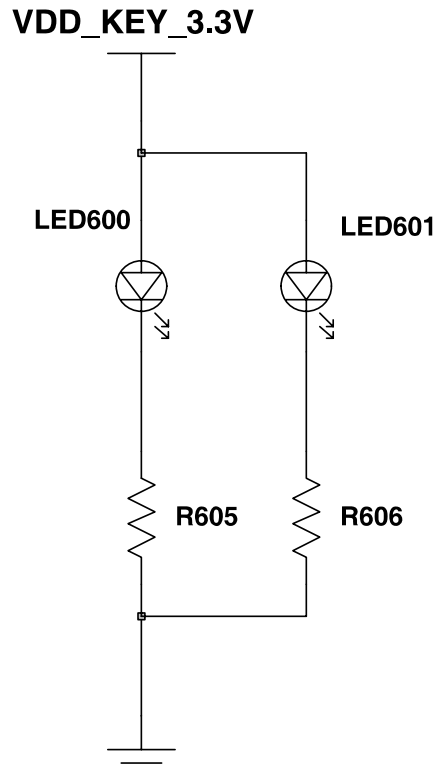
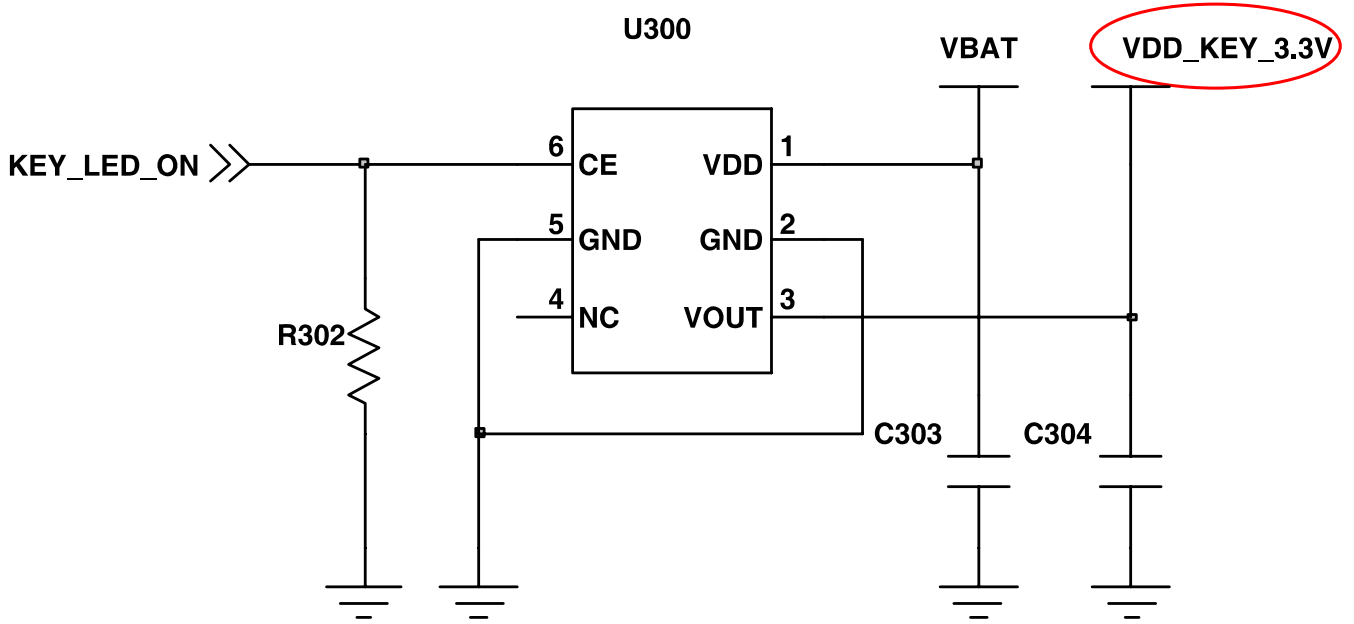


9-9. Back Light (for Color Main LCD)



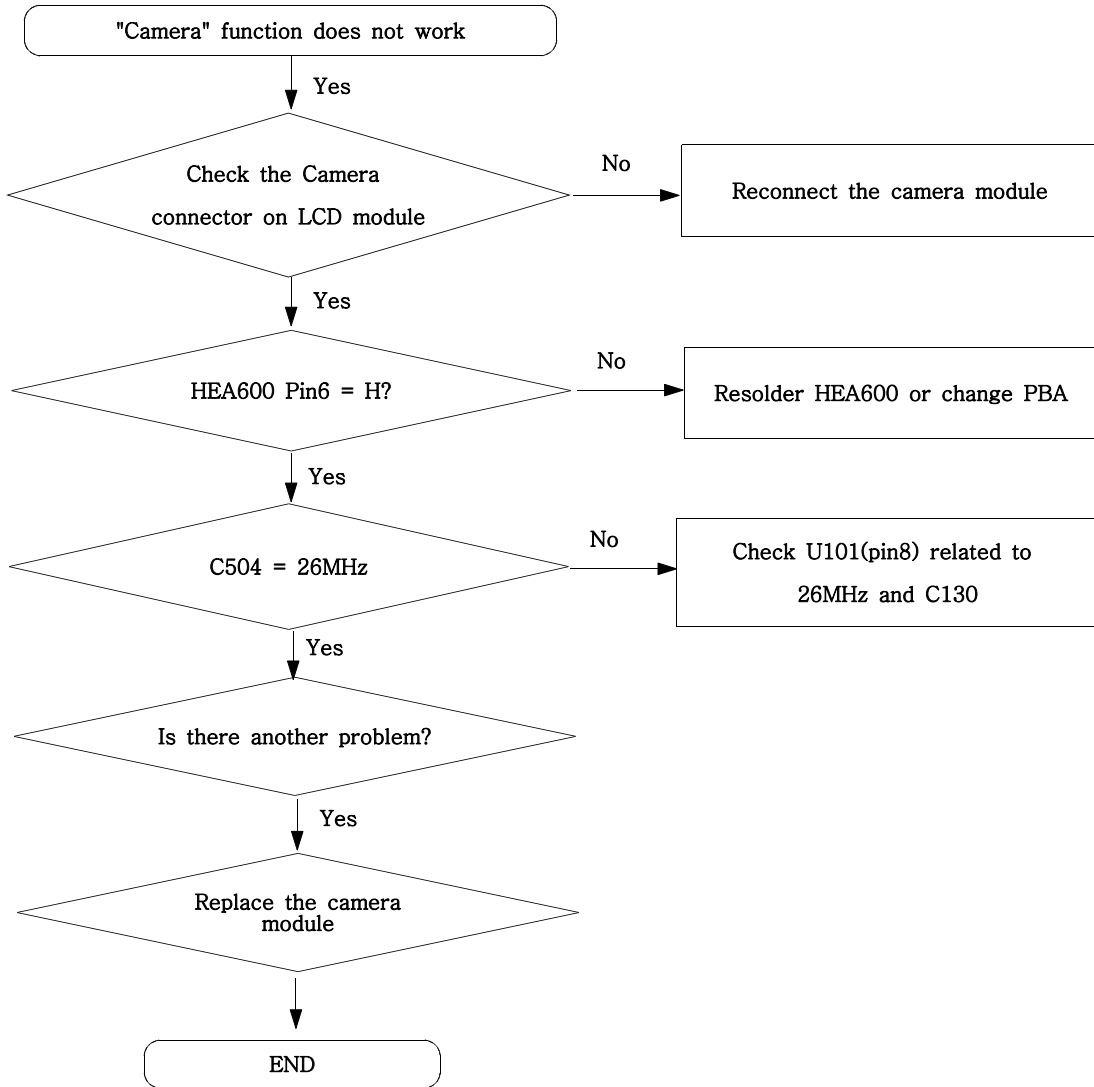
9-10. Key Back Light

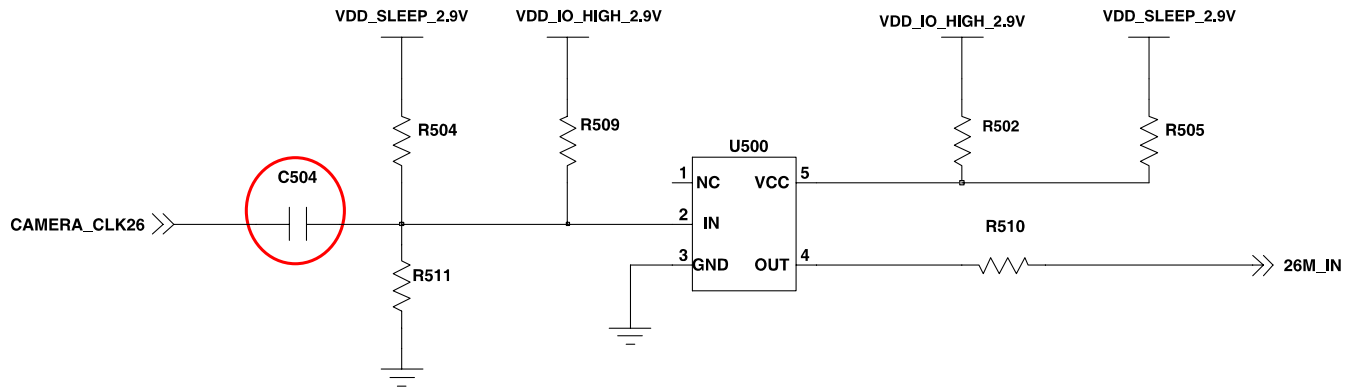
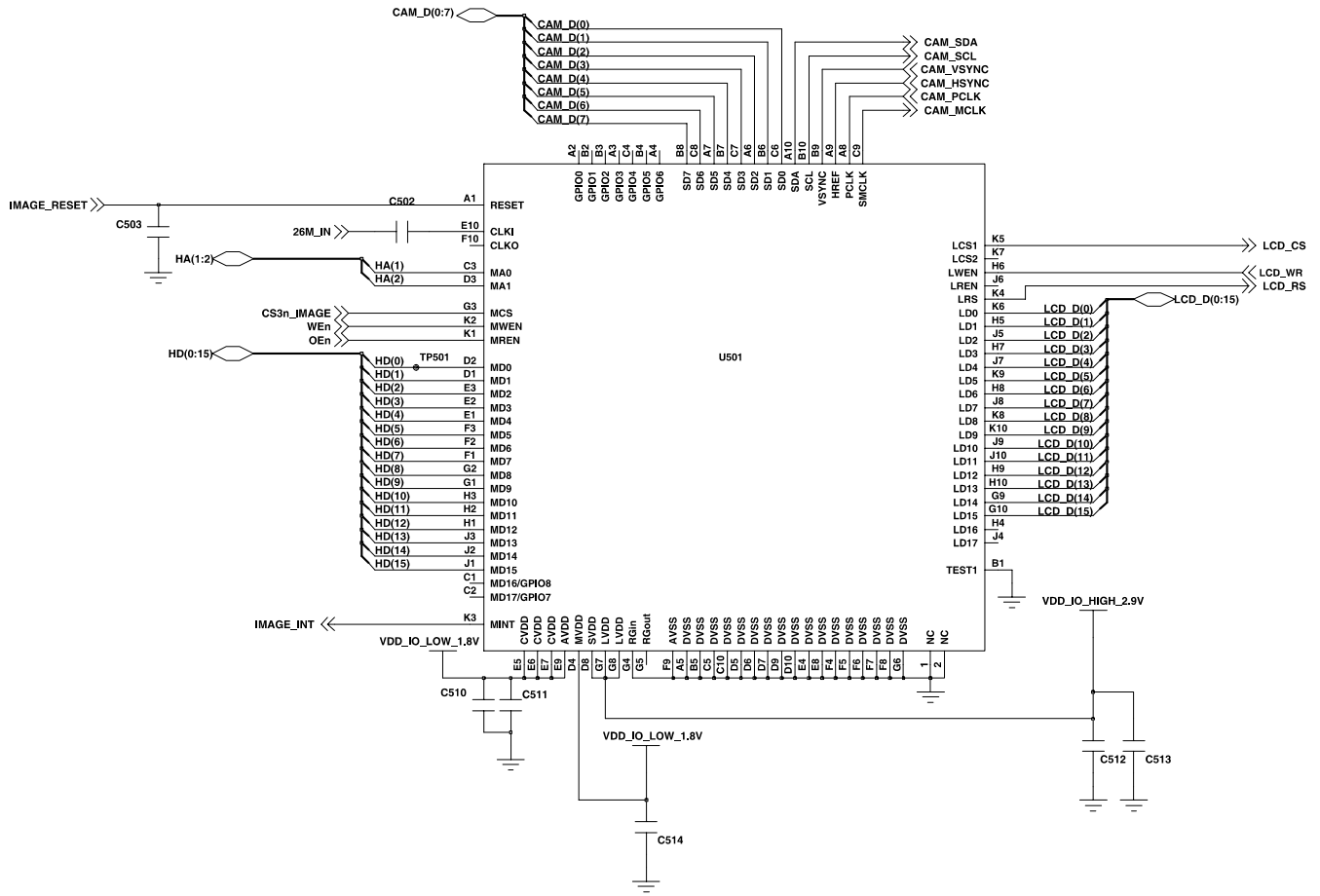




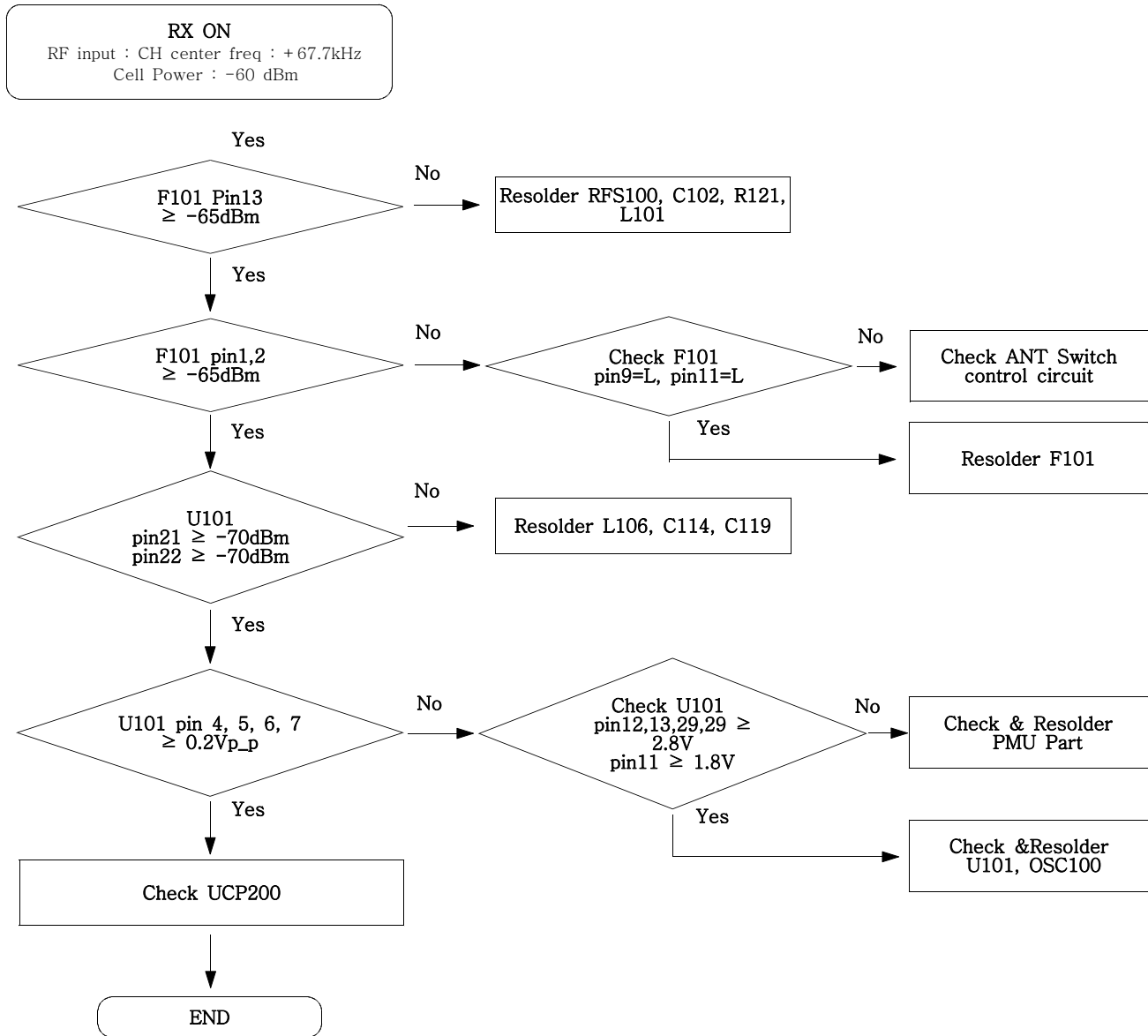
KEY BACKLIGHT

9-11. Camera part

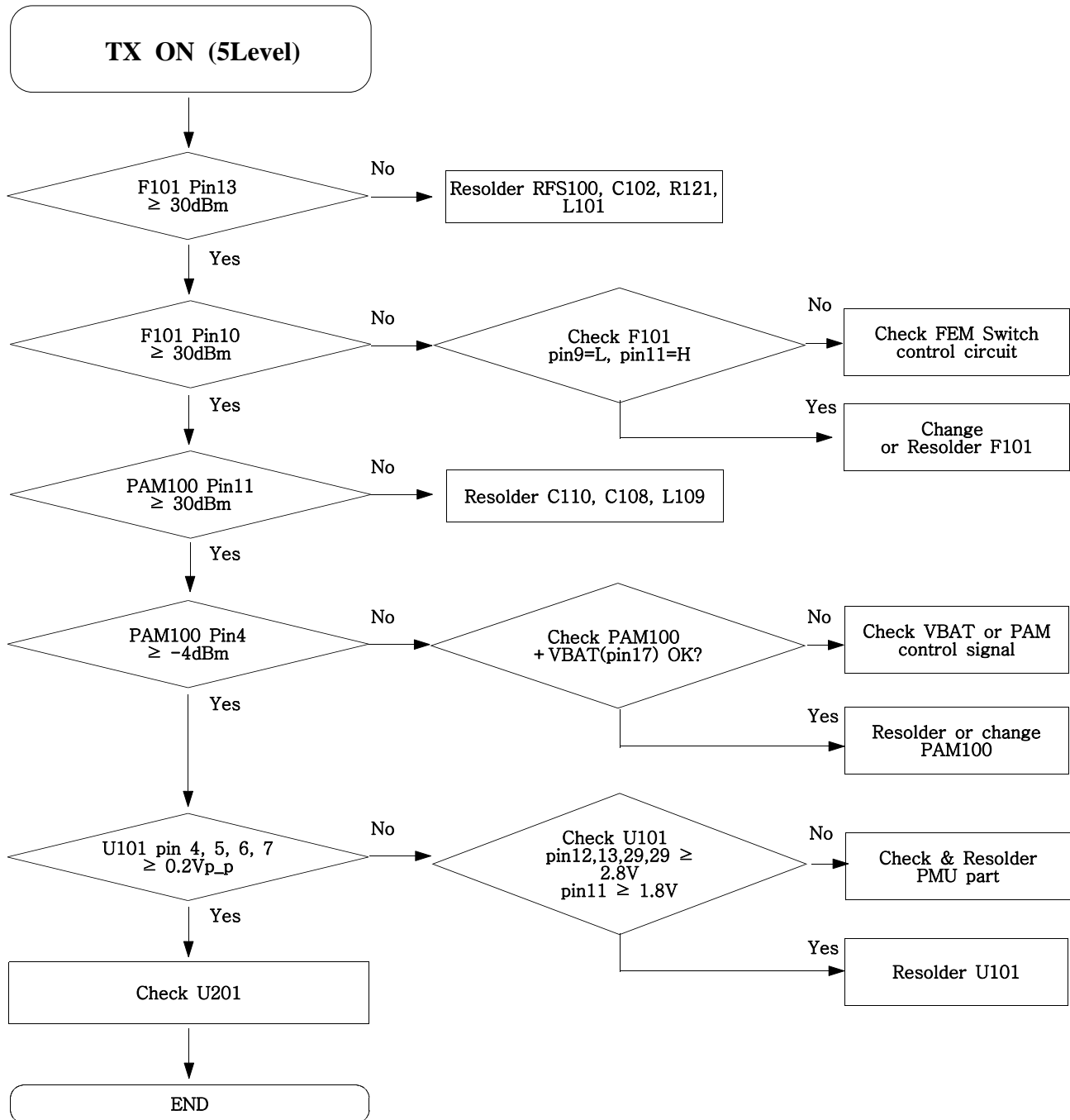




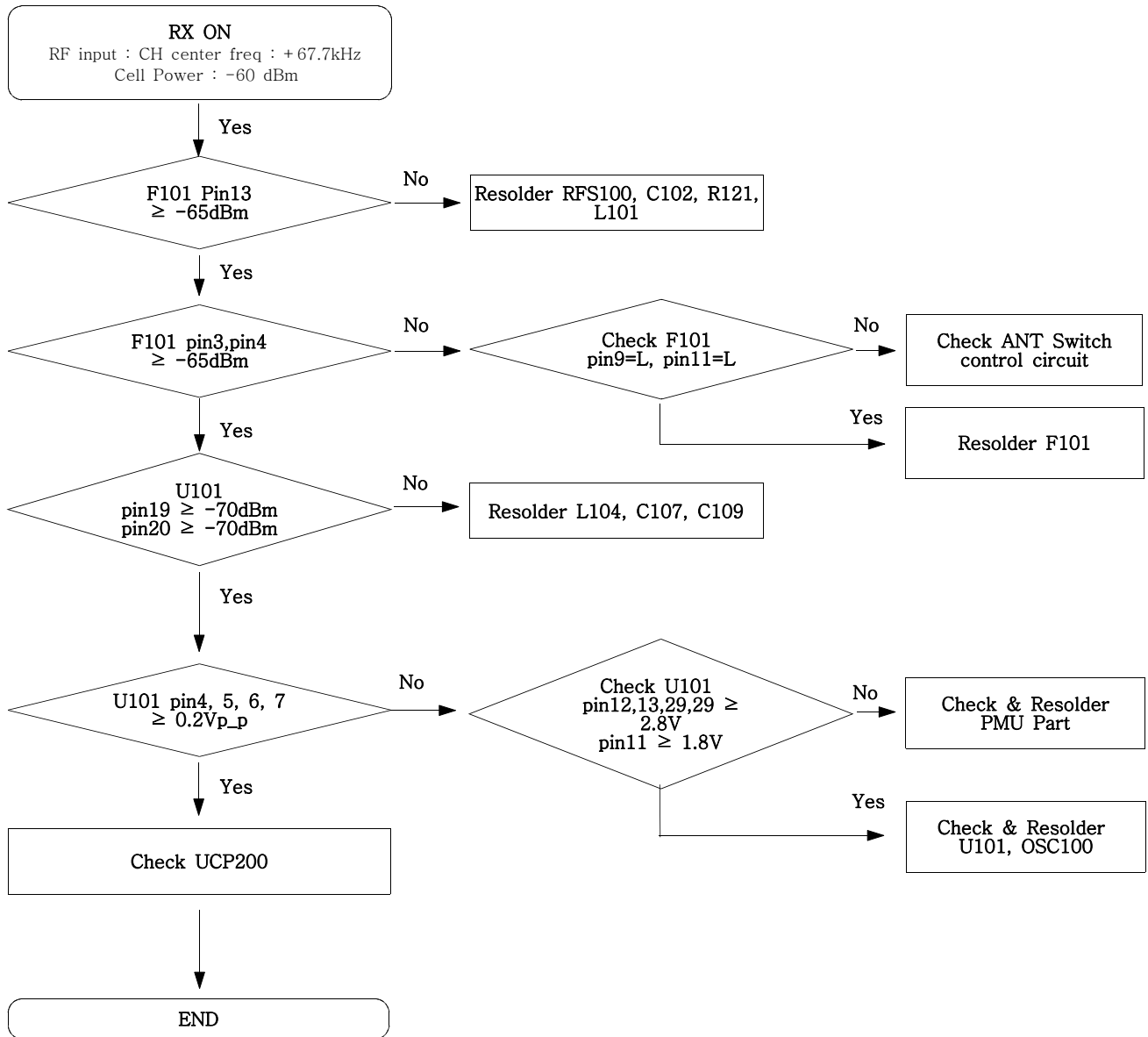
9-12. GSM Receiver



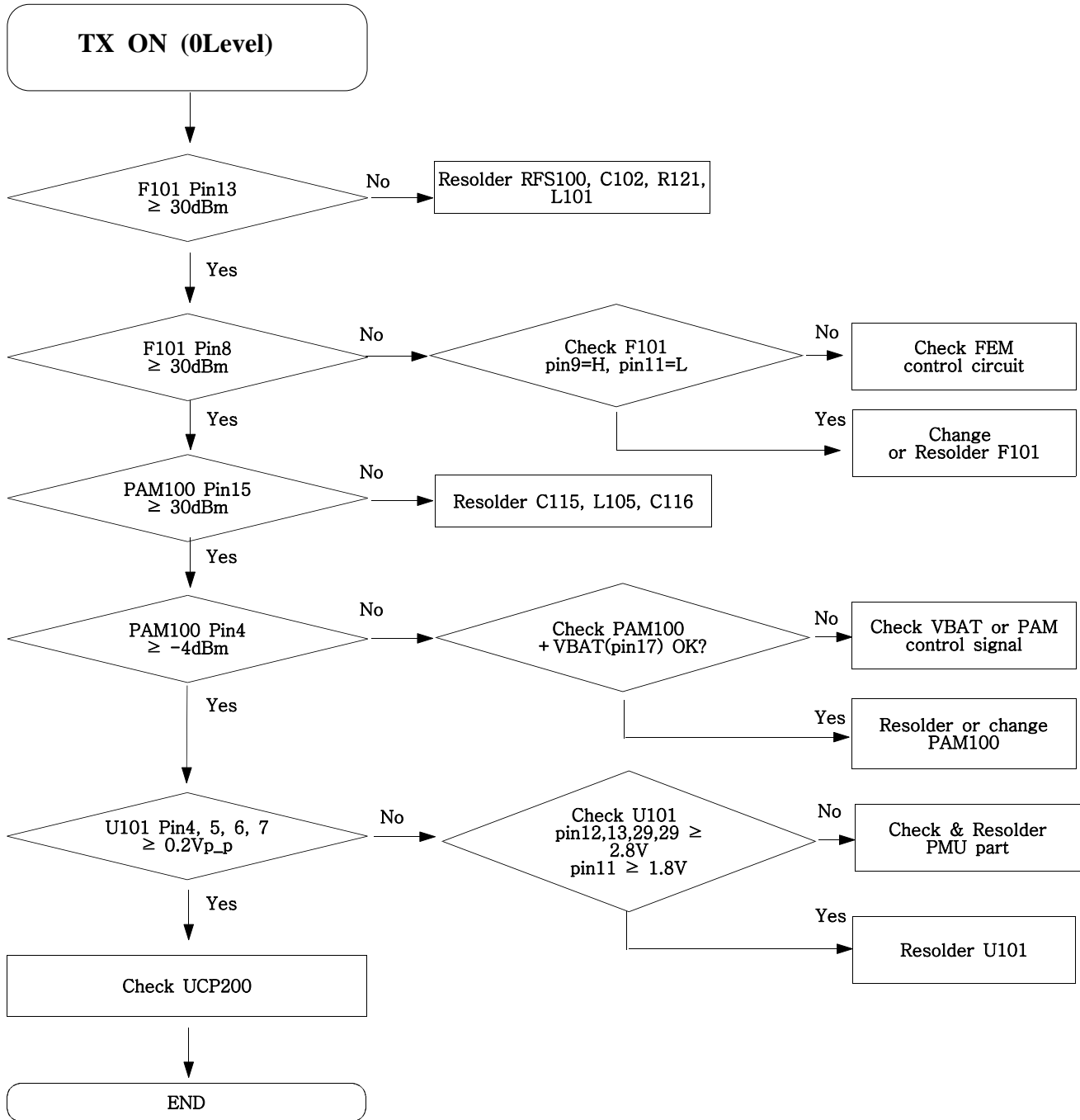
9-13. GSM Transmitter



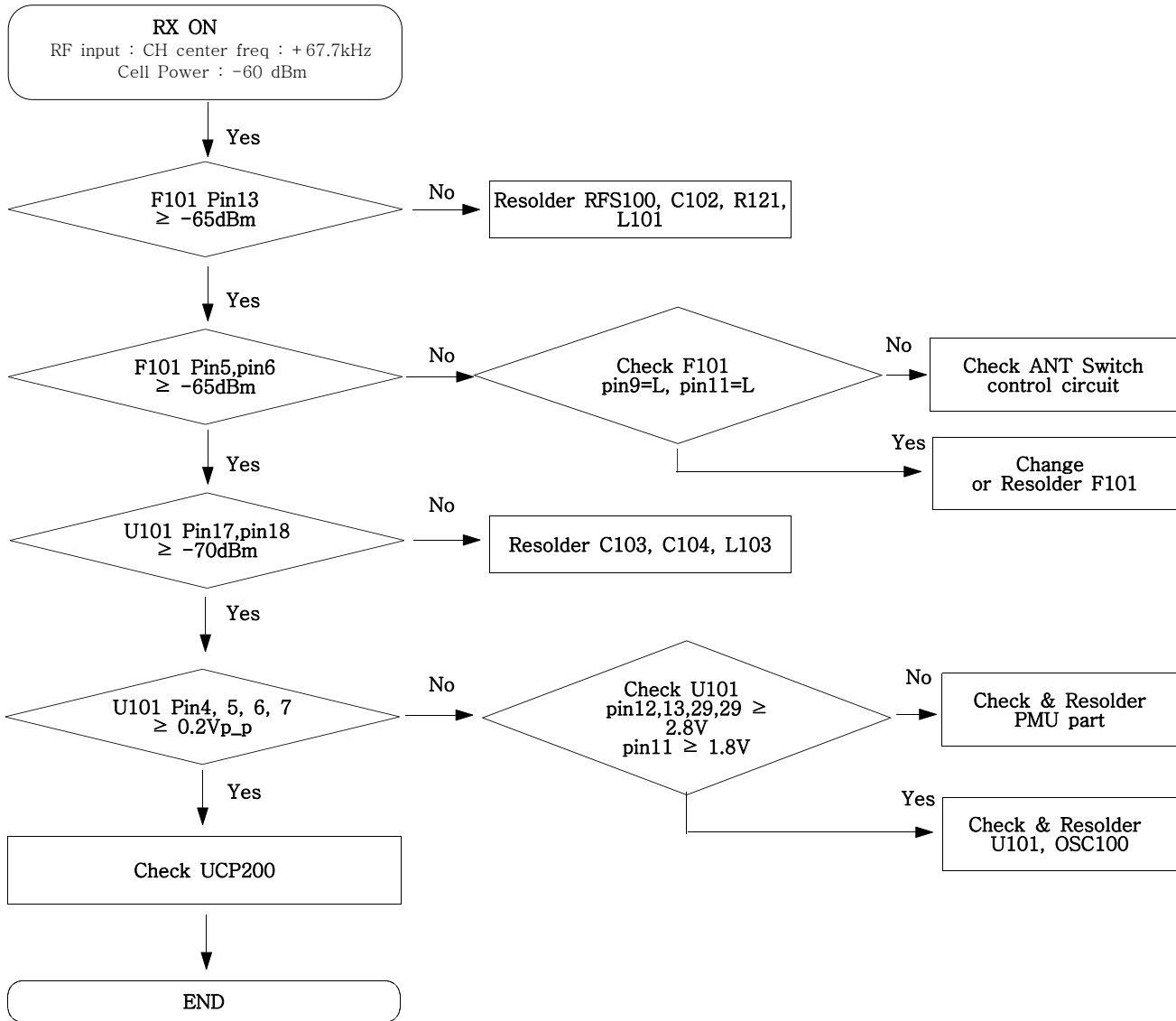
9-14. DCS Receiver



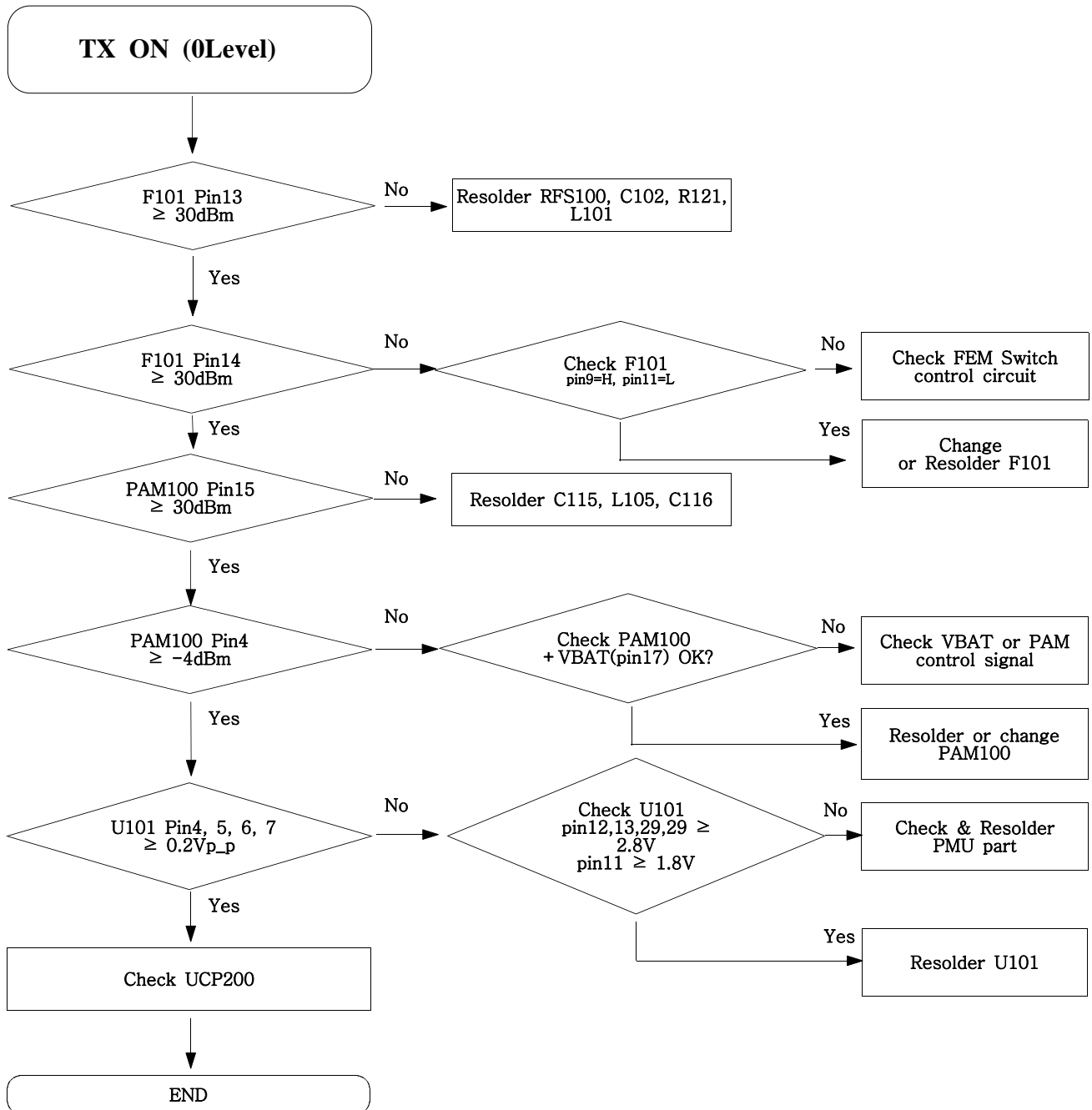
9-15. DCS Transmitter

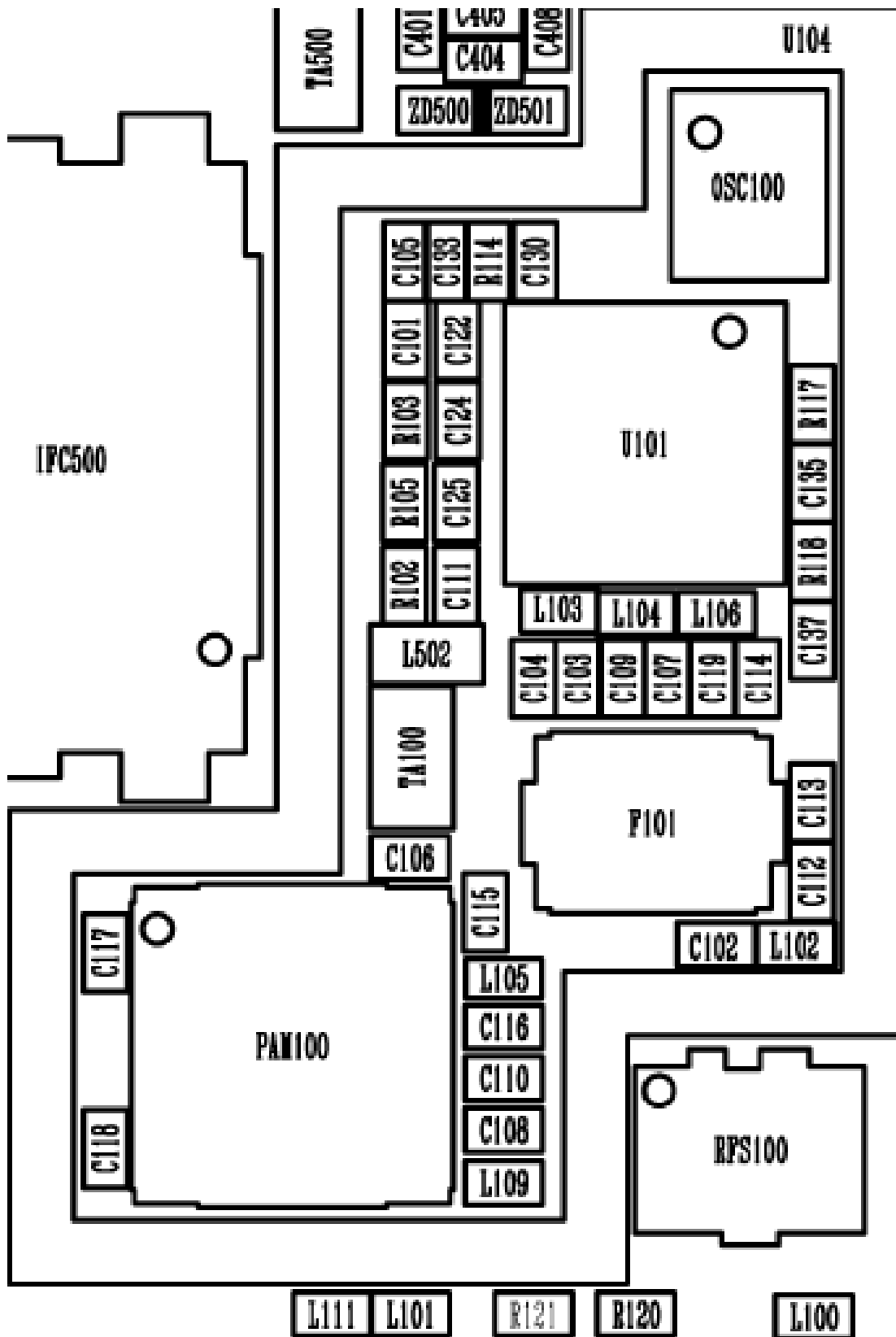


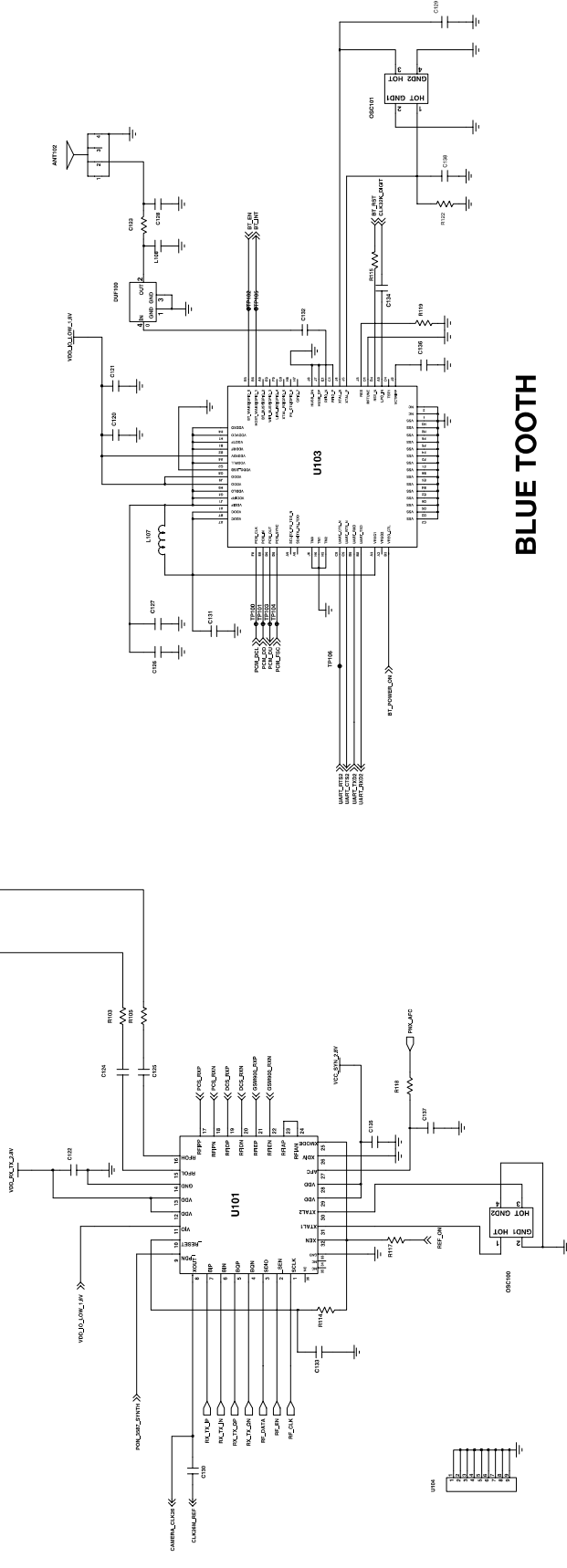
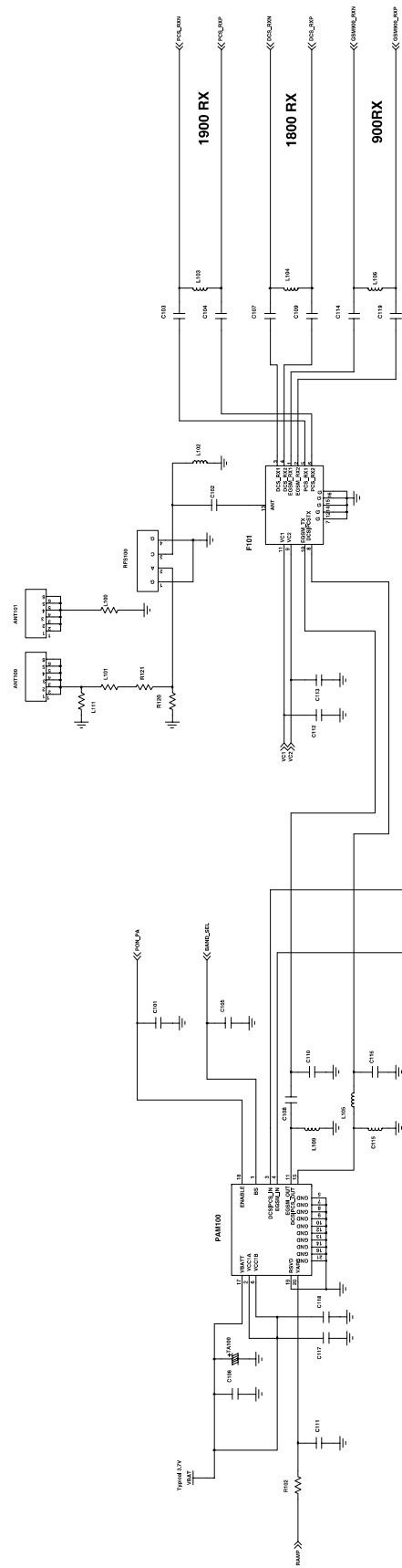
9-16. PCS Receiver



9-17. PCS Transmitter

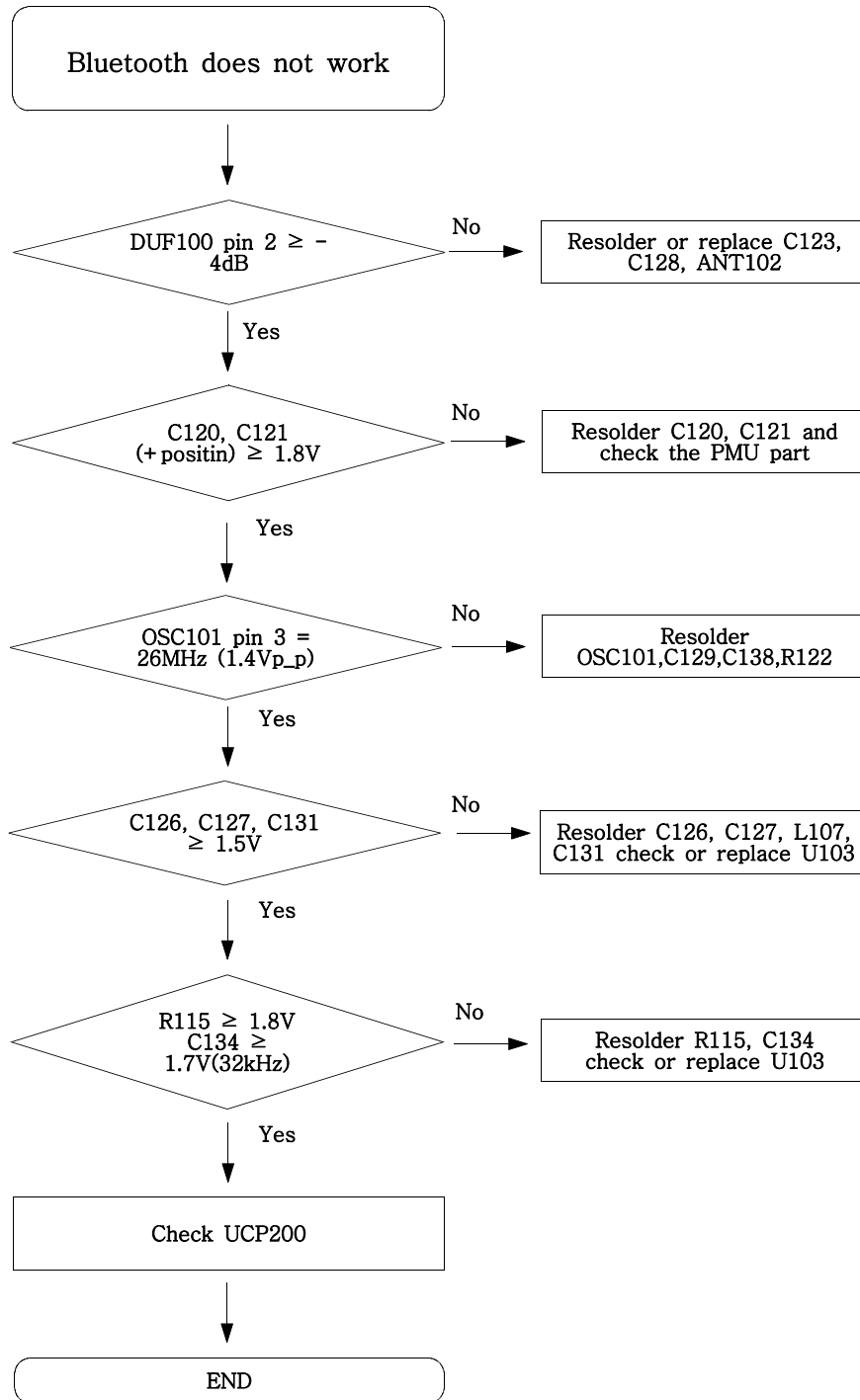


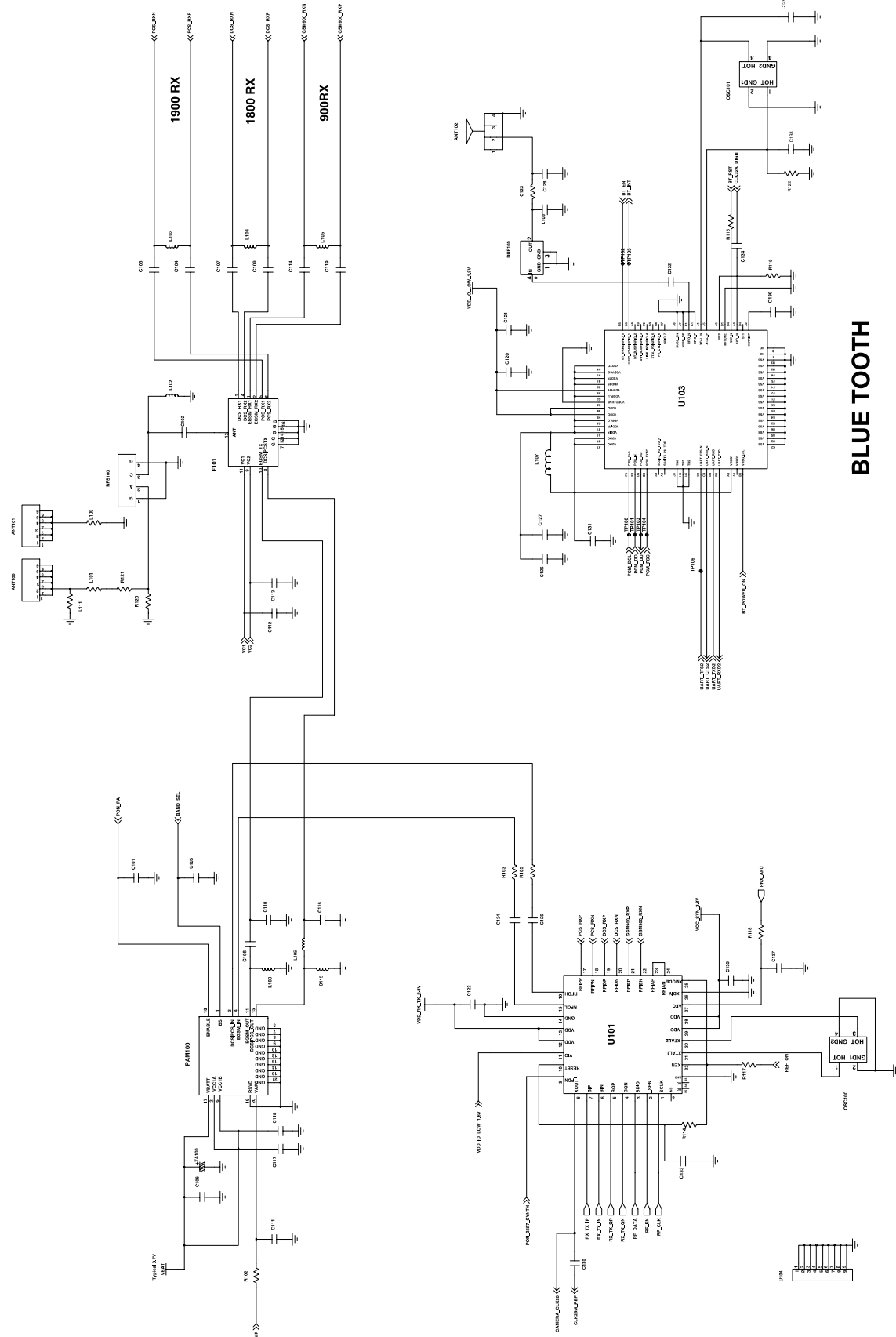




BLUE TOOTH

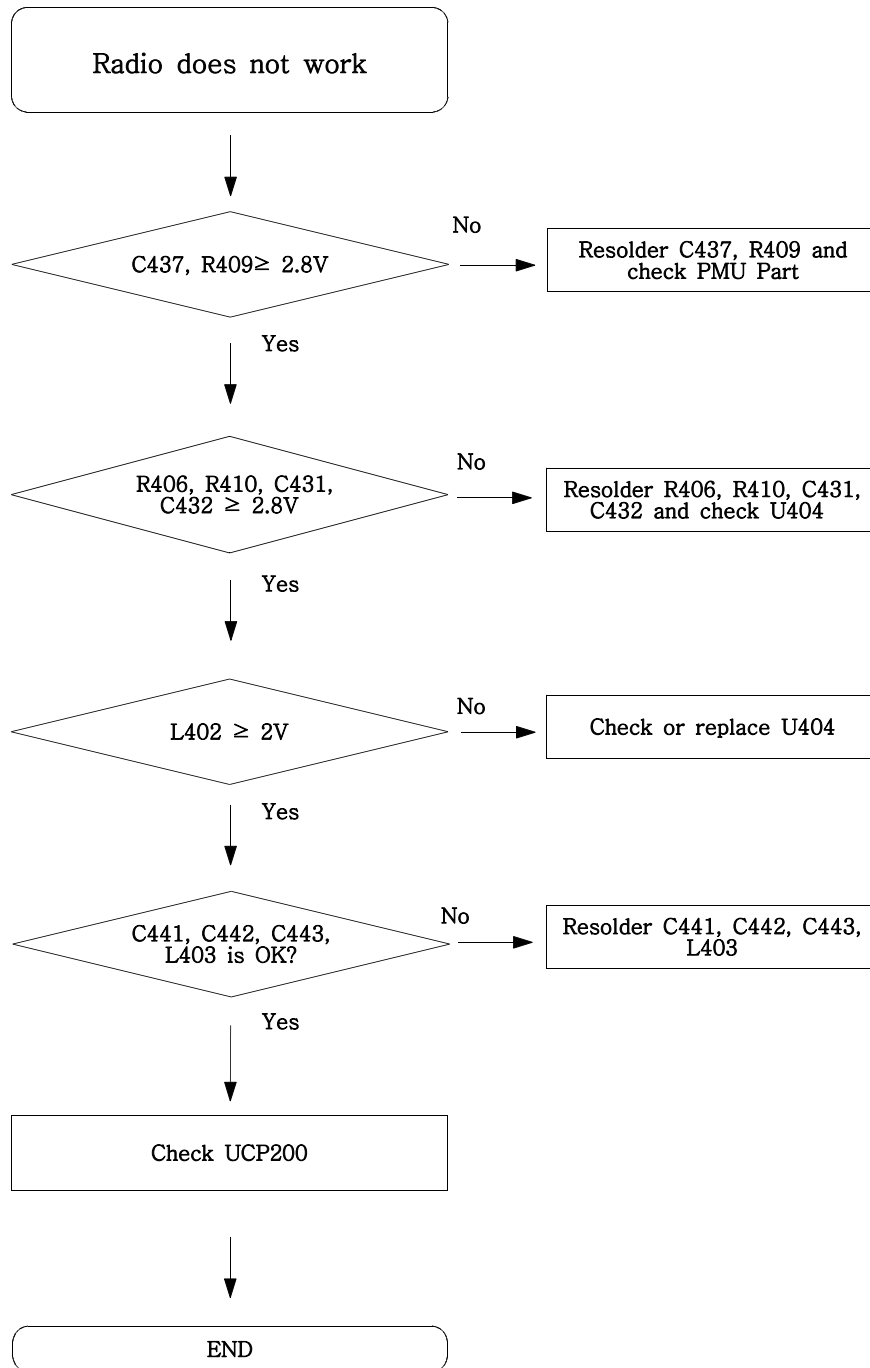
9-18. Bluetooth part

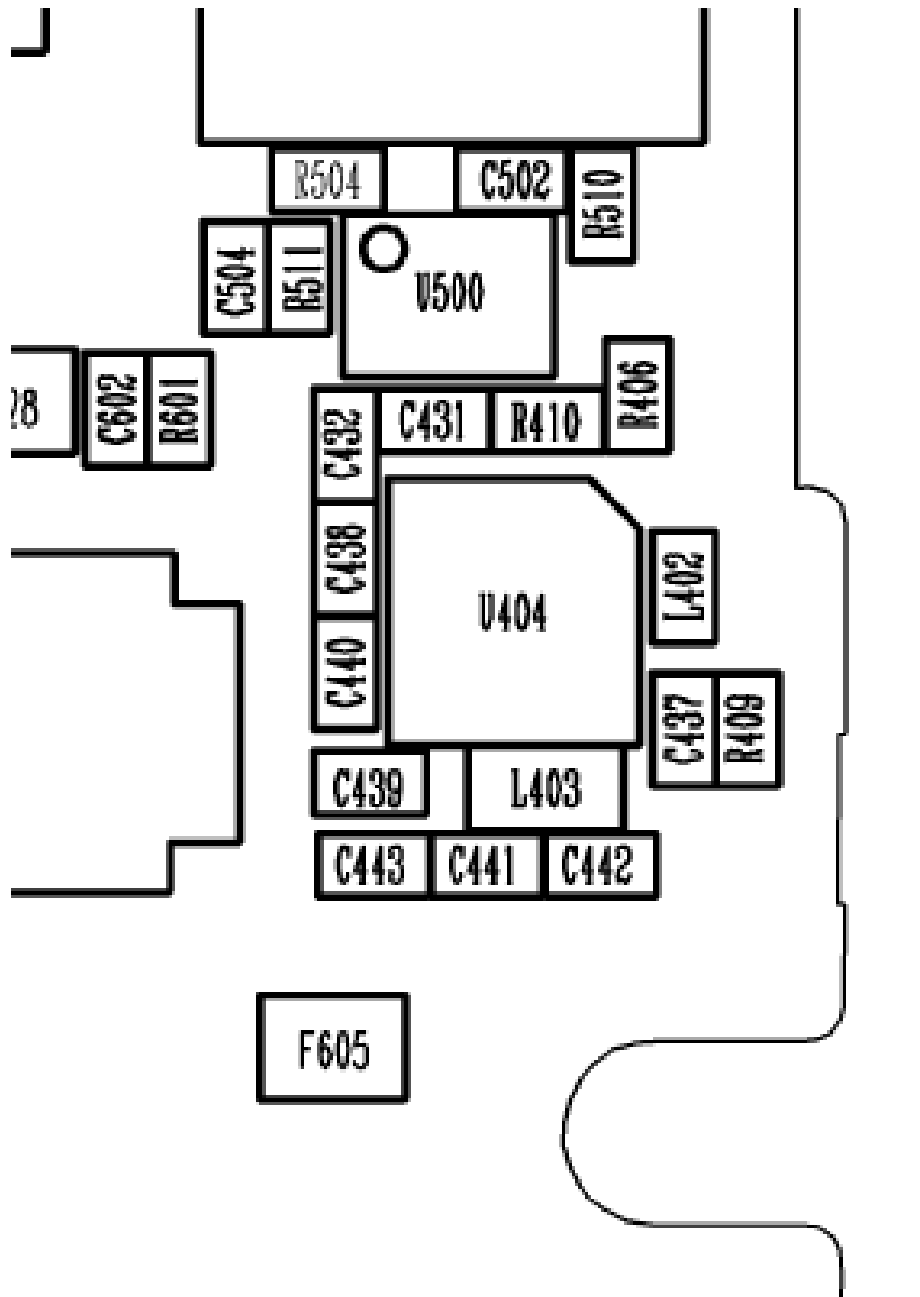


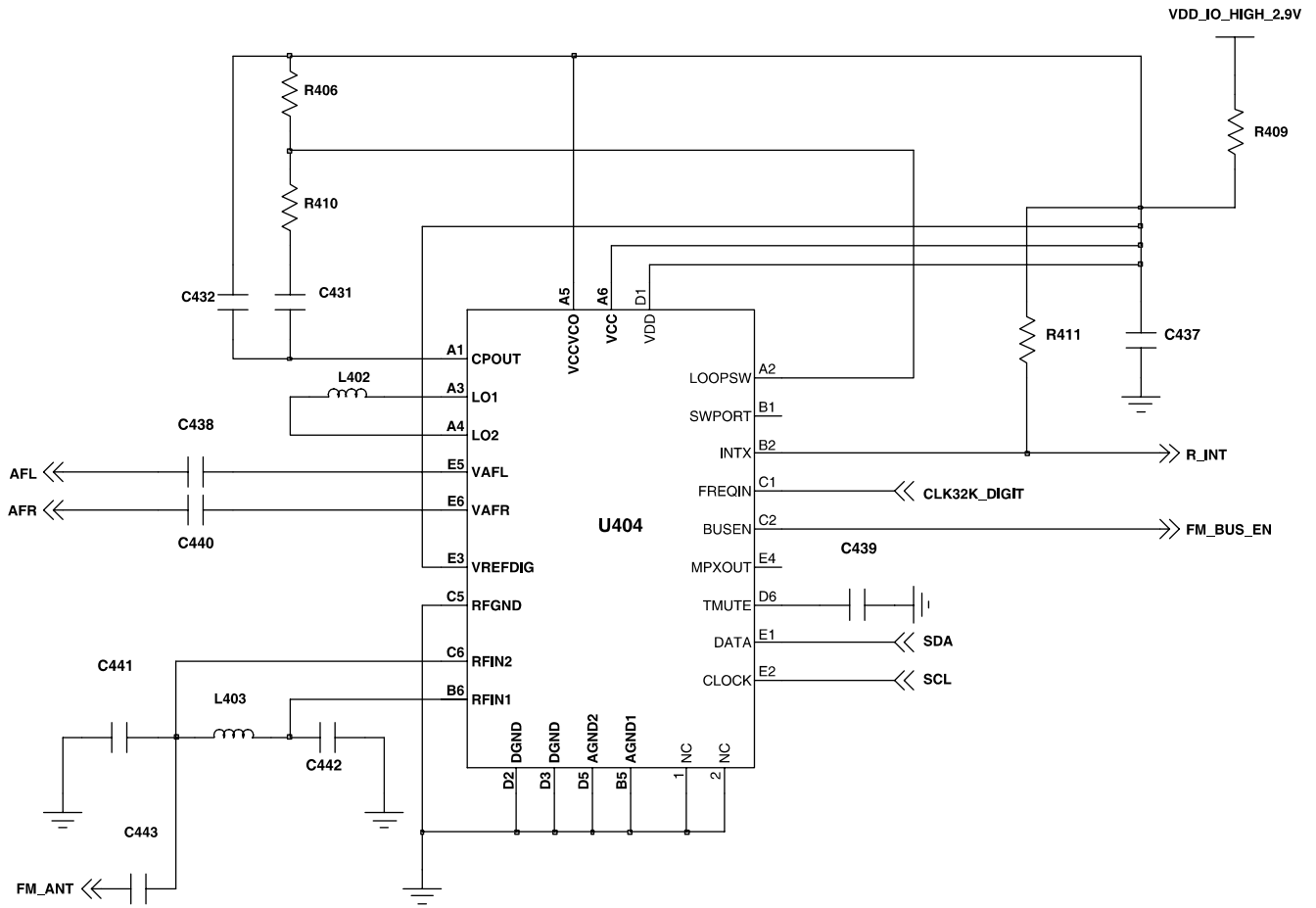


BLUE TOOTH

9-19. Radio part







FM RADIO

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

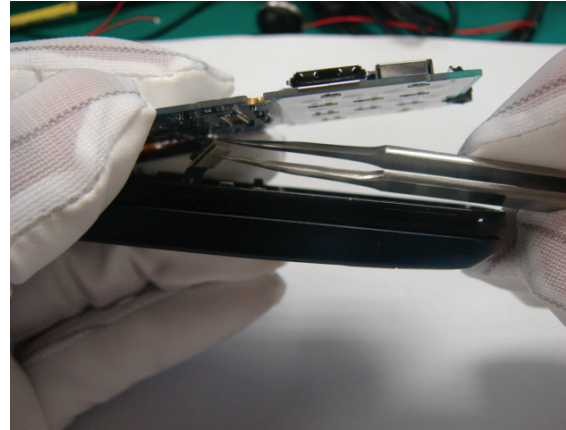
<p>1</p> 	<p>2</p>  <p>1) It takes 4 screws.</p>
<p>1) It removes the SIM card and the battery.</p>	<p>1) it is not born on the rear and not to be it takes care.</p>
<p>3</p>  <p>1) It lifted the rear case and it took off and it put out.</p>	<p>4</p>  <p>1) It removes a volume KEY.</p>
<p>1) In connection part it inflicted a force with right and left and it took off charily and it put out.</p>	

5



1) From A`ssy it separates Main PBA.

6



1) tweezers about under using from Maine PBA it took off FPCB and it put out All.

1) In order for FPCB and connector not to be damaged.

1) In order for FPCB and connector not to be damaged.

2) It does not inflict the force which is unreasonable.

7



1) From Front case it removes Main KEY Pad.

8



1) It ladles the down 2 screw.

1) About under using it took off tweezers and it put out.

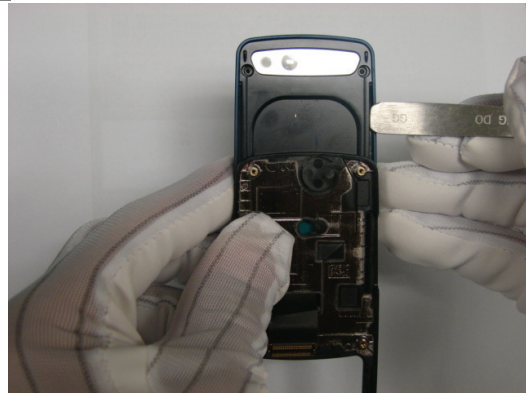
1) In order for the wound not to be born in Lower Case, it takes care.

9



1) It ladders 2 screws which are on upper direction.

10

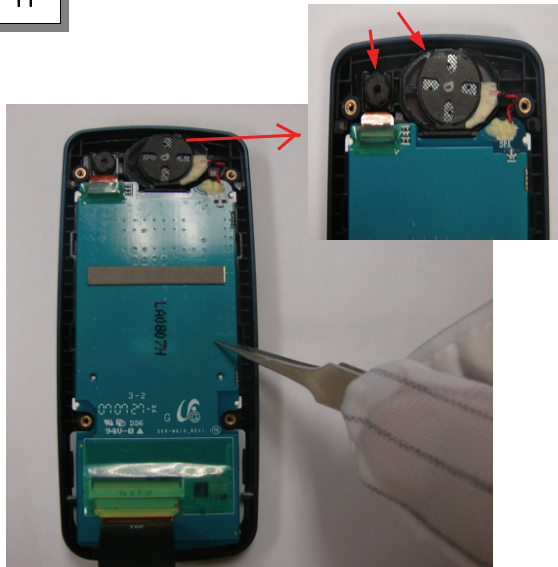


1) From A `ssy it separates UPPER Case.

1) In order for the wound not to be born in LOWER Case, it takes care.

1) About under using it separates tweezers rear case section.

11



1) From UPPER Case it separates SUB PBA.

12



1) From UPPER Case it separates SUB KEY Rubber.


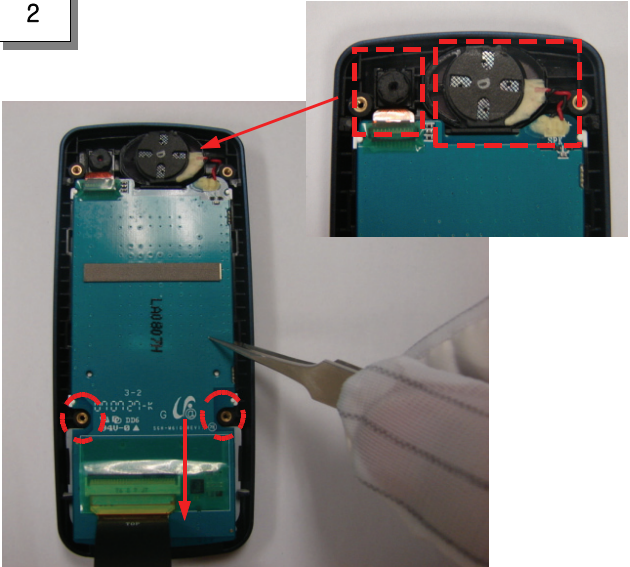
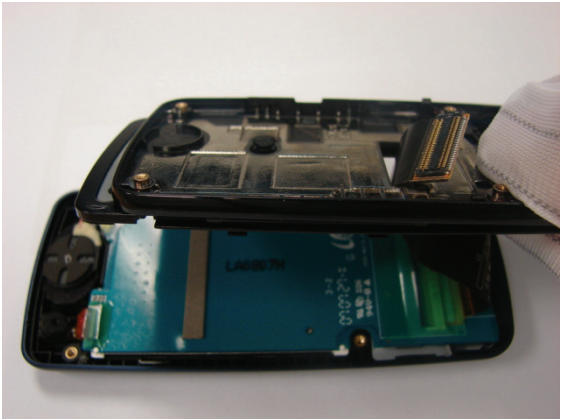
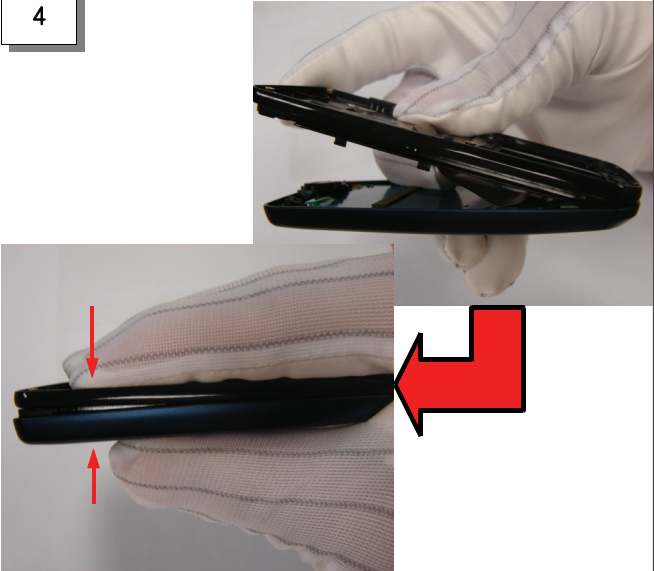
1) Before separating PBA, Using tweezers it puts in part and it separates speaker and camera module in arrow marked direction.

2) In order for the speaker connection line and camera module not to be damaged, carefulness It does.

1) About under using it removes tweezers.

2) Completion.

11-2. Assembly Instructions

<p>1</p>  <p>1) It affixes the serve height pad in UPPER Case.</p>	<p>2</p>  <p>1) It affixes serve PBA in UPPER Case.</p>
<p>1) Sub UPPER slates it fixes KEYPAD 4 HOLE and it assembles.</p>	<p>1) It inserts a speaker and camera module first. 2) From above it inserts serve PBA in down and. 3) Screw Hole where there is to a both sides and PBA cause of defeat parts are right,It affixes.</p>
<p>3</p>  <p>1) It fixes FPCB well in Hole and it inserts</p>	<p>4</p>  <p>1) It combines A `ssy in UPPER.</p>
<p>1) In order for Front Case and LOWER case directions not to be exchanged, it pays attention.</p>	<p>1) First it inserts hook lower part and. 2) After that hook of both side part, it inflicts the force which is suitable and it fixes and it inserts.</p>

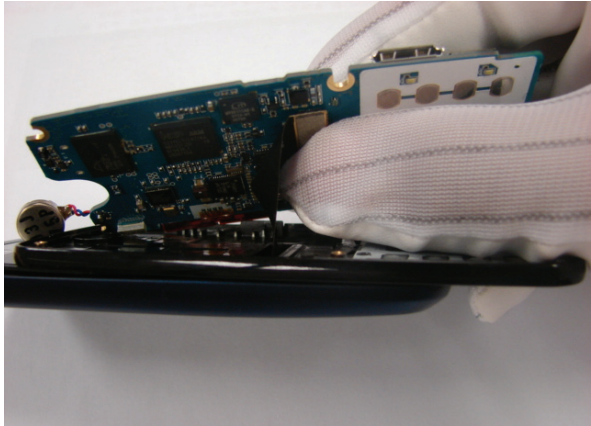
5



1) It fixes Main KEY Rubber in Front case and.

1) KEY Hole and it fixes Front projections and it assembles.

6



1) It combines FPCB in Main PBA Connector.

1) 'Tightly ' the sound until at the time of day, press and are combined accurately, It confirms.

7



1) It inserts Main PBA in front.

1) It fixes Screw hole and PBA hole and it inserts.

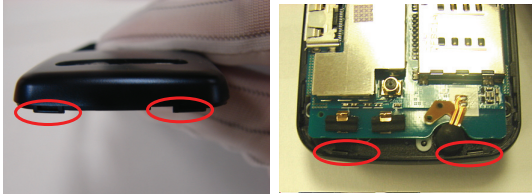
8



1) It inserts volume KEY in side part and.

1) Fix the shape and put in and are inserted well, it is confirmed.

9



1) It combines REAR Case in A `ssy.

1) It fixes Hook and from lower part it combines.

10



1) It inflicts a lower part comfort force and 'tightly ' the sound until at the time of day, it presses.

11



1) It contracts the screw in 4 halls.

1) It inflicts the force which is suitable and it contracts.

12



1) It picks up SIM Card and Battery and it puts in and Battery Cover it closes.