

SAMSUNG

GSM TELEPHONE

SGH-D900

SERVICE *Manual*

GSM TELEPHONE



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1. Safety Precautions

1-1. Repair Precaution

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

1-2. ESD(Electrostatically Sensitive Devices) Precaution

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

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

2. Specification

2-1. GSM General Specification

	GSM850	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	824~849 869~864	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	2Km

2-2. GSM Tx Power Class

TX Power control level	GSM850	TX Power control level	GSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
5	33±3 dBm	5	33±3 dBm	0	30±3 dBm	0	30±3 dBm
6	31±3 dBm	6	31±3 dBm	1	28±3 dBm	1	28±3 dBm
7	29±3 dBm	7	29±3 dBm	2	26±3 dBm	2	26±3 dBm
8	27±3 dBm	8	27±3 dBm	3	24±3 dBm	3	24±3 dBm
9	25±3 dBm	9	25±3 dBm	4	22±3 dBm	4	22±3 dBm
10	23±3 dBm	10	23±3 dBm	5	20±3 dBm	5	20±3 dBm
11	21±3 dBm	11	21±3 dBm	6	18±3 dBm	6	18±3 dBm
12	19±3 dBm	12	19±3 dBm	7	16±3 dBm	7	16±3 dBm
13	17±3 dBm	13	17±3 dBm	8	14±3 dBm	8	14±3 dBm
14	15±3 dBm	14	15±3 dBm	9	12±4 dBm	9	12±4 dBm
15	13±3 dBm	15	13±3 dBm	10	10±4 dBm	10	10±4 dBm
16	11±5 dBm	16	11±5 dBm	11	8±4dBm	11	8±4dBm
17	9±5 dBm	17	9±5 dBm	12	6±4 dBm	12	6±4 dBm
18	7±5 dBm	18	7±5 dBm	13	4±4 dBm	13	4±4 dBm
19	5±5 dBm	19	5±5 dBm	14	2±5 dBm	14	2±5 dBm
				15	0±5 dBm	15	0±5 dBm

3. Product Function

Main Function

- 3M Camera and camcorder
- Auto Focus
- Quad band support
- Image editor
- MP3 player
- Phonebook
- Name card
- Multimedia Message Service (MMS)
- E-mail
- Voice recorder
- Bluetooth 2.0
- Get personal with photo caller ID
- Web browser
- Java
- Calendar
- TV-out
- Video Message
- Music player(Airplane Mode, Background playing)

4. Array course control



Test Jig (GH80-03306A)



Test Cable (GH39-00499A)



RF Test Cable (GH39-00397A)

Software Downloading

4-1. Downloading Binary, Tfs Files

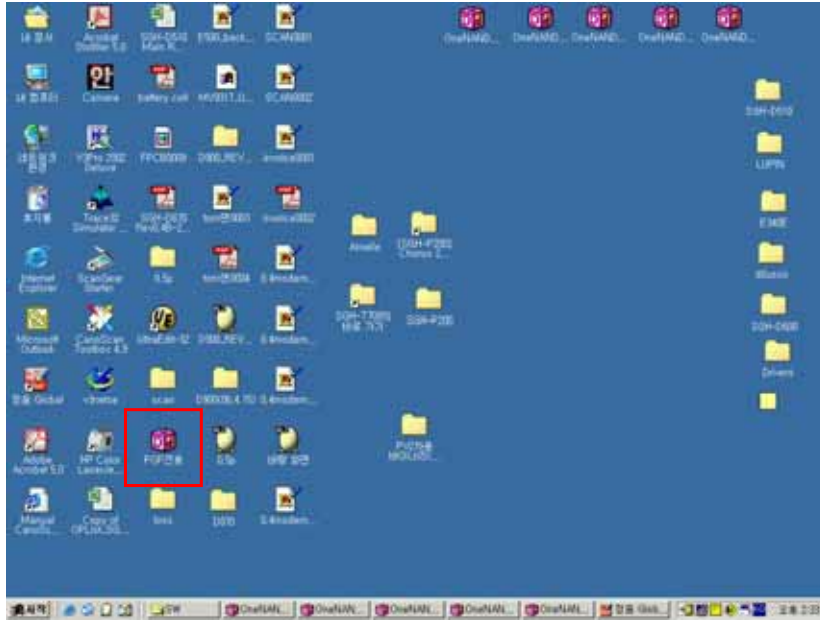
- Three binary files for downloading D900.
 - D900XAFG6.bin : Modem binary for communication function
& binary for user interface and various application
 - D900XAFG6.tfs: Files need for each application

4-2. Pre-requisite for Downloading

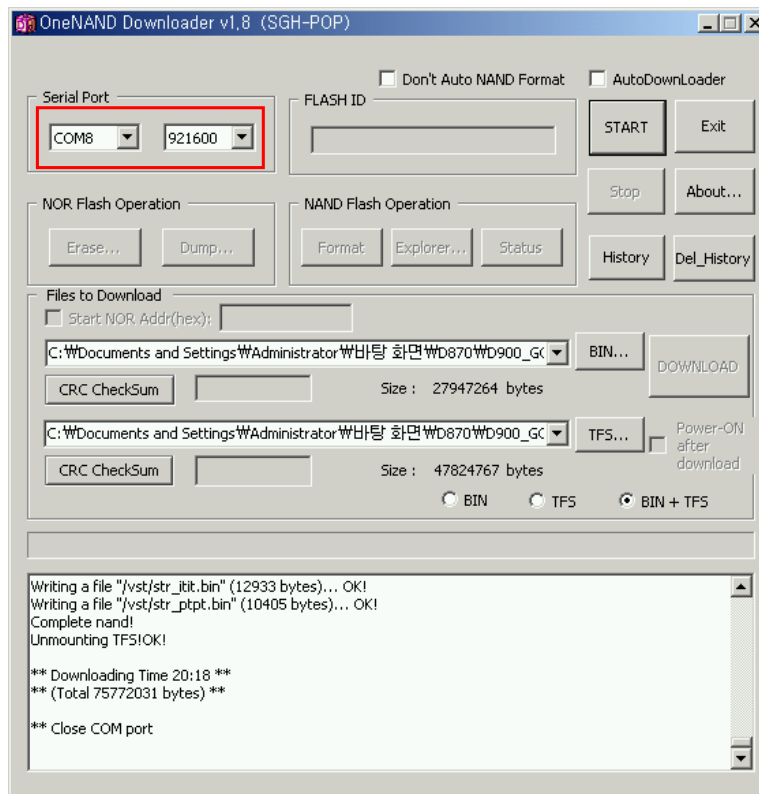
- Downloader Program([OneNAND Downloader_SGH_POP.exe](#))
- D900 Mobile Phone
- Data Cable
- Binary, tfs files

4-3. S/W Downloader Program

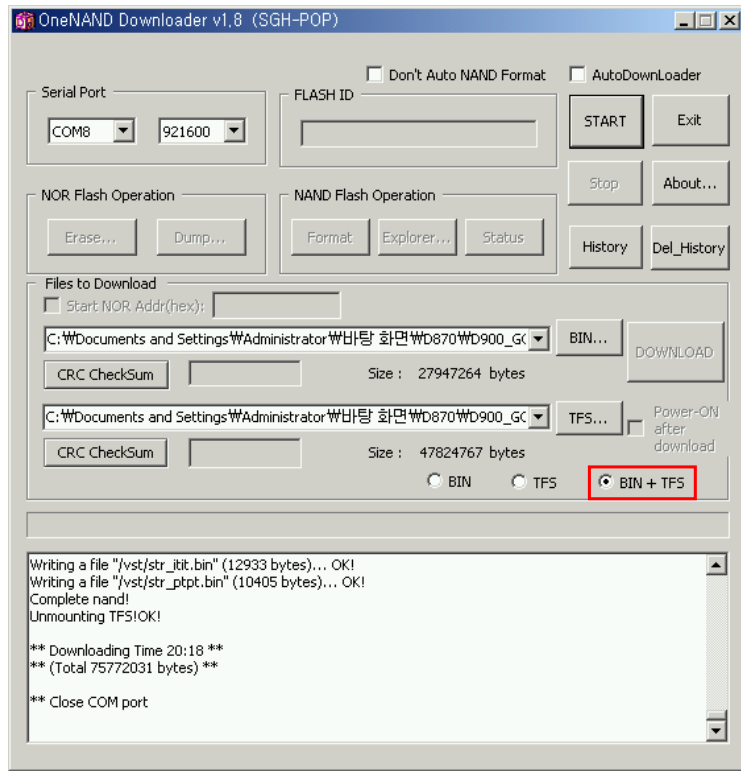
1. Load the binary download program by executing the "OneNAND Downloader_SGH_POP.exe"



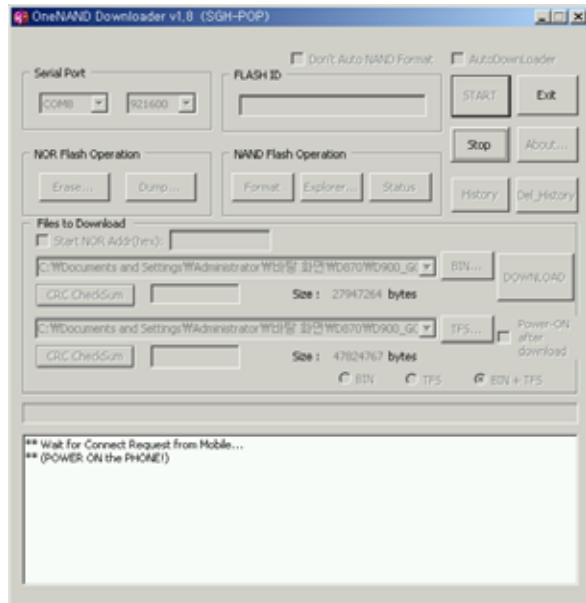
2. Select the check box what you want to download and port No, download late.



3. Select the binary and tfs file what you want to download



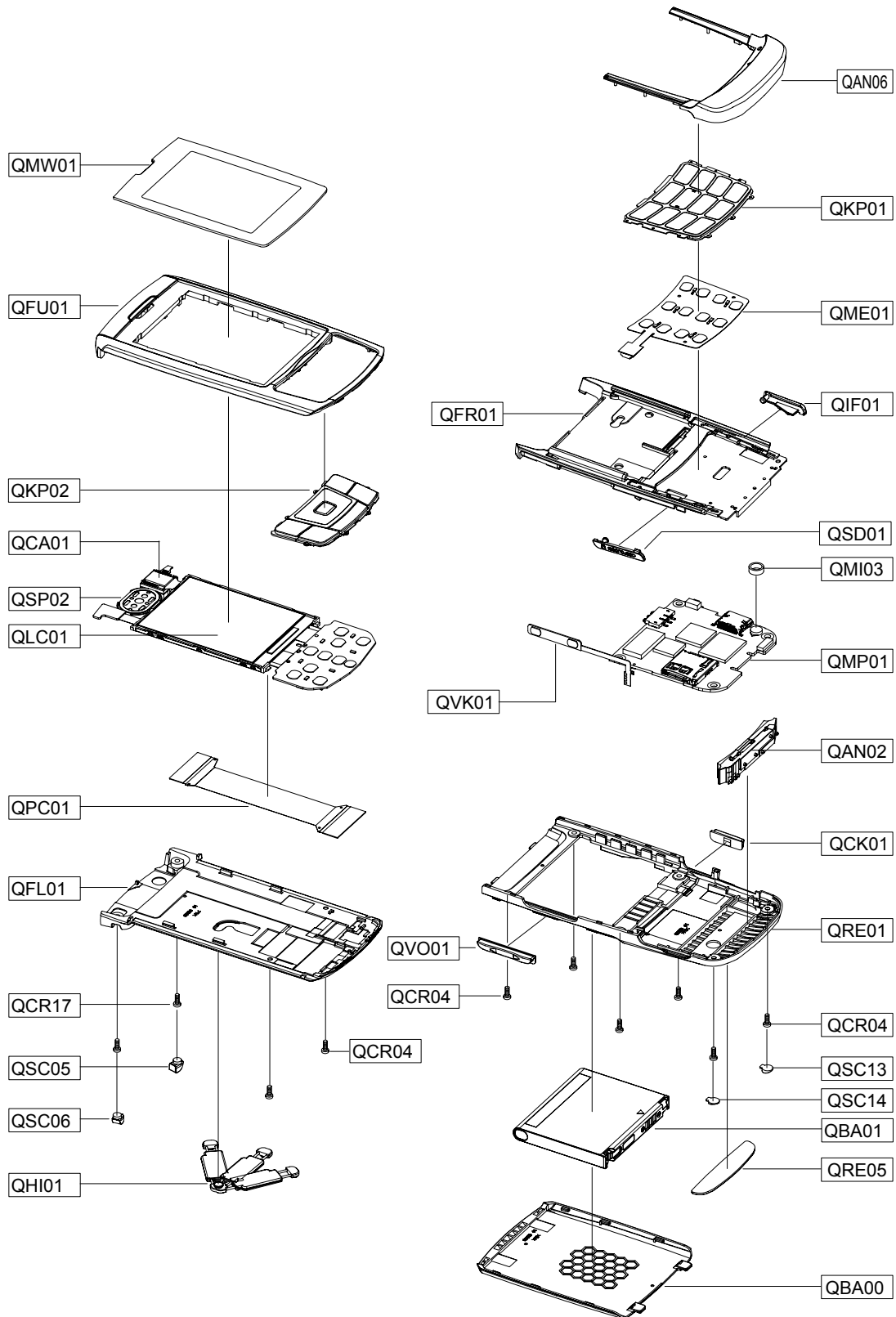
4. Now press the button 'Start'. And Power ON.



5. Now press the button 'OK'. Then 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		ANTENNA-SGH D900	GH42-00902A
QAN06		ASSY CASE-ANTENNA	GH98-02033A
QBA00		PMO-CASE BATT UPPER	GH72-31671A
QBA01		INNER BATTERY PACK-800MAH, BLA	GH43-02539A
QCA01		UNIT-CAMERA	GH59-03298A
QCK01		PMO-CAMERA KEY	GH72-31741A
QCR04		SCREW-MACHINE	6001-001479
QCR04		SCREW-MACHINE	6001-001479
QCR04		SCREW-MACHINE	6001-001479
QCR17		SCREW-MACHINE	6001-001460
QFL01		ASSY ACCE-SLIDE LOWER	GH98-01211A
QFU01		ASSY ACCE-SLIDE UPPER	GH98-01210A
QHI01		ASSY ACCE-PUSH ROD	GH98-01237A
QKP01		ASSY KEYPAD-MAIN(EU/ZKA)	GH98-01217A
QKP02		ASSY KEYPAD-SUB(EU/ZKA)	GH98-01215A
QLC01		MEA-LCD MODULE KIT	GH97-06308A
QME01		UNIT-KEY FPCB	GH59-03253A
QMI03		RMO-RUBBER MIC HOLDER	GH73-07606A
QMP01		PBA MAIN-SGH D900	GH92-02861A
QMW01		ASSY COVER-MAIN WINDOW	GH98-01676A
QPC01		MEA-FPCB MODULE KIT	GH97-06309A
QRE01		ASSY ACCE-REAR	GH98-01239A
QRE05		PMO-REAR DECO	GH72-31740A
QSC05		RMO-COVER SLIDE SCREW L	GH73-07227A
QSC06		RMO-COVER SLIDE SCREW R	GH73-07228A
QSC13		RMO-COVER REAR SCREW L	GH73-07232A
QSC14		RMO-COVER REAR SCREW R	GH73-07743A
QSP02		UNIT-SPEAKER MODULE	GH59-03347A
QV001		PMO-VOLUME KEY	GH72-31742A
QVK01		UNIT-VOLUME KEY	GH59-03265A
QFR01		ASSY ACCE-FRONT	GH98-01212A
	QSD01	PMO-COVER SD	GH72-31738A
	QIF01	PMO-COVER IF	GH72-31739A

Description	SEC CODE
BAG PE	6902-000634
CBF INTERFACE-DATA LINK CABLE	GH39-00444A
ADAPTOR-SGHD800 TA(EU)	GH44-01060A
S/W CD-SGHD900 PC LINK CD	GH46-00272A
UNIT-EARPHONE(BLK)	GH59-02499A
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(P)-OPEN MP3	GH68-11246A
LABEL(R)-MAIN(XEF)	GH68-11256E
MANUAL USERS-EUFRENCH	GH68-11312A
BOX-UNIT(EU)	GH69-03981A
CUSHION-CASE	GH69-03984A
PMO-FRONT DAMPER L	GH72-31668A
PMO-FRONT DAMPER R	GH72-31670A
MPR-BOHO VINYL LCD CONN	GH74-15350A
MPR-TAPE CAMERA SLIDE FPCB	GH74-25670A
MPR-TAPE LCD SLIDE FPCB	GH74-25677A
MPR-TAPE LCD SLIDE FPCB	GH74-25677A
MPR-TAPE SIDE KEY	GH74-25679A
MPR-SPONGE CAMERA FPCB	GH74-25687A
MPR-TAPE SLIDE FPCB	GH74-25688A
MPR-TAPE SLIDE FPCB	GH74-25688A
MPR-SPONGE CAMERA KEY	GH74-25689A
MPR-TAPE LCD ESD	GH74-26151A
MPR-SPONGE EAR JACK	GH74-26153A
MPR-TAPE FRONT SCREW COVER	GH74-26154A
MPR-VINYL BOHO MAIN WINDOW	GH74-26155A
MPR-VINYL BOHO MAIN WINDOW V2	GH74-26156A
MPR-TAPE FPCB TOP	GH74-26157A
MPR-TAPE LCD FPCB ESD	GH74-26186A
MPR-TAPE EAR JACK	GH74-26188A

6. Electrical Parts List

Design LOC	Description	SEC CODE	STATUS
ANT300	ANTENNA-CHIP	4202-001190	SA
BAT400	BATTERY-LI(2ND)	4302-001181	SA
BTC300	HEADER-BATTERY	3711-006108	SA
C100	C-CER,CHIP	2203-000233	SA
C102	C-CER,CHIP	2203-000278	SA
C103	C-CER,CHIP	2203-000628	SA
C104	C-CER,CHIP	2203-000254	SA
C105	C-CER,CHIP	2203-005234	SA
C107	INDUCTOR-SMD	2703-002200	SA
C108	C-CER,CHIP	2203-000696	SA
C109	C-CER,CHIP	2203-000278	SA
C110	C-CER,CHIP	2203-000530	SA
C111	C-CER,CHIP	2203-001432	SA
C112	C-CER,CHIP	2203-005482	SA
C113	C-CER,CHIP	2203-000438	SA
C114	C-CER,CHIP	2203-005482	SA
C115	C-CER,CHIP	2203-001432	SA
C116	C-CER,CHIP	2203-000233	SA
C117	C-CER,CHIP	2203-000254	SA
C118	C-CER,CHIP	2203-006562	SA
C119	C-CER,CHIP	2203-006399	SA
C120	C-CER,CHIP	2203-005061	SA
C121	C-CER,CHIP	2203-001432	SA
C122	C-CER,CHIP	2203-005482	SA
C123	C-CER,CHIP	2203-005482	SA
C124	C-CER,CHIP	2203-005482	SA
C125	C-CER,CHIP	2203-005482	SA
C126	C-CER,CHIP	2203-005968	SA
C127	C-CER,CHIP	2203-005390	SA
C128	C-CER,CHIP	2203-000278	SA
C129	INDUCTOR-SMD	2703-002199	SA
C131	C-CER,CHIP	2203-005390	SA
C201	C-CER,CHIP	2203-006194	SA
C202	C-CER,CHIP	2203-006423	SA
C203	C-CER,CHIP	2203-006423	SA
C204	C-CER,CHIP	2203-006423	SA
C205	C-CER,CHIP	2203-006423	SA
C206	C-CER,CHIP	2203-006423	SA
C207	C-CER,CHIP	2203-006423	SA
C208	C-CER,CHIP	2203-006423	SA
C209	C-CER,CHIP	2203-006423	SA
C210	C-CER,CHIP	2203-006562	SA
C211	C-CER,CHIP	2203-006423	SA
C212	C-CER,CHIP	2203-006423	SA
C213	C-CER,CHIP	2203-006423	SA
C218	C-CER,CHIP	2203-006048	SA
C219	C-CER,CHIP	2203-006423	SA
C221	C-CER,CHIP	2203-005682	SA
C300	C-CER,CHIP	2203-006423	SA
C301	C-CER,CHIP	2203-006048	SA
C302	C-CER,CHIP	2203-006423	SA
C303	C-CER,CHIP	2203-006423	SA
C304	C-CER,CHIP	2203-006562	SA
C305	C-CER,CHIP	2203-006626	SA
C306	C-CER,CHIP	2203-006048	SA

Electrical Parts List

Design LOC	Description	SEC CODE	STATUS
C307	C-CER,CHIP	2203-000330	SA
C308	C-CER,CHIP	2203-000330	SA
C309	C-CER,CHIP	2203-006423	SA
C310	C-CER,CHIP	2203-006423	SA
C311	C-CER,CHIP	2203-006562	SA
C312	C-CER,CHIP	2203-006562	SA
C313	C-CER,CHIP	2203-000311	SA
C314	C-CER,CHIP	2203-006423	SA
C315	C-CER,CHIP	2203-005061	SA
C316	C-CER,CHIP	2203-000254	SA
C317	C-CER,CHIP	2203-006562	SA
C318	C-CER,CHIP	2203-006562	SA
C320	C-CER,CHIP	2203-006562	SA
C321	C-CER,CHIP	2203-006562	SA
C322	C-CER,CHIP	2203-006562	SA
C325	C-CER,CHIP	2203-006048	SA
C326	C-CER,CHIP	2203-006324	SA
C327	C-CER,CHIP	2203-006423	SA
C328	C-CER,CHIP	2203-005234	SA
C400	C-CER,CHIP	2203-006208	SA
C401	C-CER,CHIP	2203-006562	SA
C402	C-CER,CHIP	2203-006562	SA
C403	C-CER,CHIP	2203-006324	SA
C404	C-CER,CHIP	2203-006423	SA
C405	C-CER,CHIP	2203-000425	SA
C406	C-CER,CHIP	2203-006257	SA
C407	C-CER,CHIP	2203-000425	SA
C408	C-CER,CHIP	2203-005736	SA
C409	C-CER,CHIP	2203-000812	SA
C410	C-CER,CHIP	2203-006824	SA
C411	C-CER,CHIP	2203-006257	SA
C412	C-CER,CHIP	2203-006824	SA
C413	C-CER,CHIP	2203-006257	SA
C414	C-CER,CHIP	2203-006257	SA
C415	C-CER,CHIP	2203-006824	SA
C416	C-CER,CHIP	2203-006423	SA
C417	C-CER,CHIP	2203-006562	SA
C418	C-CER,CHIP	2203-006208	SA
C419	C-CER,CHIP	2203-006257	SA
C420	C-CER,CHIP	2203-006257	SA
C421	C-TA,CHIP	2404-001377	SA
C422	C-TA,CHIP	2404-001377	SA
C500	C-CER,CHIP	2203-001437	SA
C501	C-CER,CHIP	2203-001259	SA
C502	C-CER,CHIP	2203-000995	SA
C503	C-CER,CHIP	2203-001437	SA
C504	C-CER,CHIP	2203-006194	SA
C505	C-CER,CHIP	2203-003054	SA
C506	C-CER,CHIP	2203-003054	SA
C507	C-CER,CHIP	2203-003054	SA
C508	C-CER,CHIP	2203-006562	SA
C509	C-CER,CHIP	2203-006562	SA
C510	C-CER,CHIP	2203-000278	SA
C511	C-CER,CHIP	2203-000995	SA
C512	C-CER,CHIP	2203-005050	SA

Design LOC	Description	SEC CODE	STATUS
C524	C-CER,CHIP	2203-005482	SA
C530	C-TA,CHIP	2404-001422	SA
C600	C-CER,CHIP	2203-006562	SA
C601	C-CER,CHIP	2203-006562	SA
C602	C-CER,CHIP	2203-006423	SA
C603	C-CER,CHIP	2203-006562	SA
C605	C-CER,CHIP	2203-006423	SA
C608	C-CER,CHIP	2203-006562	SA
C609	C-CER,CHIP	2203-006562	SA
C615	C-CER,CHIP	2203-006423	SA
C617	C-CER,CHIP	2203-000885	SA
C618	C-CER,CHIP	2203-006324	SA
C619	C-CER,CHIP	2203-006423	SA
C620	C-CER,CHIP	2203-006562	SA
C630	C-CER,CHIP	2203-002759	SA
C631	C-CER,CHIP	2203-002759	SA
C632	C-CER,CHIP	2203-000725	SA
C633	C-CER,CHIP	2203-000725	SA
C634	C-CER,CHIP	2203-000438	SA
C635	C-CER,CHIP	2203-000438	SA
C636	C-CER,CHIP	2203-005482	SA
C640	C-CER,CHIP	2203-006562	SA
C700	C-CER,CHIP	2203-006562	SA
C703	C-CER,CHIP	2203-006208	SA
C704	C-CER,CHIP	2203-005061	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
C715	C-CER,CHIP	2203-000812	SA
C716	C-CER,CHIP	2203-005682	SA
C717	C-CER,CHIP	2203-005682	SA
C718	C-CER,CHIP	2203-000812	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	2203-006562	SA
C723	C-CER,CHIP	2203-005682	SA
C724	C-CER,CHIP	2203-005682	SA
C725	C-CER,CHIP	2203-005682	SA
C726	C-CER,CHIP	2203-005682	SA
C727	C-CER,CHIP	2203-005682	SA
C728	C-CER,CHIP	2203-005682	SA
C729	C-CER,CHIP	2203-005682	SA
C730	C-CER,CHIP	2203-005682	SA
C731	C-CER,CHIP	2203-005682	SA
C732	C-CER,CHIP	2203-005682	SA
C733	C-CER,CHIP	2203-005682	SA
C734	C-CER,CHIP	2203-005682	SA
C735	C-CER,CHIP	2203-006562	SA
C736	C-CER,CHIP	2203-005682	SA
C737	C-CER,CHIP	2203-005682	SA
C738	C-CER,CHIP	2203-005682	SA

Electrical Parts List

Design LOC	Description	SEC CODE	STATUS
C739	C-CER,CHIP	2203-005682	SA
C740	C-CER,CHIP	2203-006423	SA
C741	C-CER,CHIP	2203-005682	SA
C742	C-CER,CHIP	2203-005682	SA
CD300	CONNECTOR-CARD EDGE	3709-001344	SA
CPL300	BLUETOOTH MODULE	4709-001398	SA
D300	DIODE-TVS	0406-001200	SA
D304	DIODE-TVS	0406-001223	SA
D501	DIODE-TVS	0406-001223	SA
D502	DIODE-SCHOTTKY	0404-001172	SA
D503	DIODE-TVS	0406-001223	SA
D504	DIODE-TVS	0406-001223	SA
D505	DIODE-TVS	0406-001254	SA
D506	DIODE-TVS	0406-001254	SA
D507	DIODE-TVS	0406-001254	SA
D705	DIODE-TVS	0406-001223	SA
D706	DIODE-TVS	0406-001223	SA
F500	FILTER-EMI/ESD	2901-001376	SA
F700	FILTER-EMI/ESD	2901-001370	SA
F701	FILTER-EMI/ESD	2901-001376	SA
HDC710	HEADER-BOARD TO BOARD	3711-005456	SA
IFC500	SOCKET-INTERFACE	3710-002306	SA
L102	INDUCTOR-SMD	2703-002314	SA
L104	INDUCTOR-SMD	2703-001750	SA
L105	INDUCTOR-SMD	2703-002700	SA
L106	INDUCTOR-SMD	2703-001750	SA
L107	INDUCTOR-SMD	2703-001724	SA
L108	INDUCTOR-SMD	2703-002700	SA
L109	INDUCTOR-SMD	2703-001724	SA
L110	C-CER,CHIP	2203-005446	SA
L111	INDUCTOR-SMD	2703-002365	SA
L112	INDUCTOR-SMD	2703-002597	SA
L113	INDUCTOR-SMD	2703-002207	SA
L114	INDUCTOR-SMD	2703-002596	SA
L115	INDUCTOR-SMD	2703-002597	SA
L116	INDUCTOR-SMD	2703-002544	SA
L117	INDUCTOR-SMD	2703-002199	SA
L118	INDUCTOR-SMD	2703-002544	SA
L300	BEAD-SMD	3301-001534	SA
L301	INDUCTOR-SMD	2703-001728	SA
L400	BEAD-SMD	3301-001120	SA
L401	INDUCTOR-SMD	2703-002962	SA
L500	BEAD-SMD	3301-001438	SA
L501	BEAD-SMD	3301-001438	SA
L600	BEAD-SMD	3301-001729	SA
L630	BEAD-SMD	3301-001729	SA
MIC500	MIC-CONDENSOR	3003-001107	SA
MOD100	DUPLEXER-FEM	2911-000050	SA
OSC300	CRYSTAL-SMD	2801-004340	SA
OSC400	CRYSTAL-SMD	2801-004466	SA
R101	R-CHIP	2007-000140	SA
R102	R-CHIP	2007-000172	SA
R103	R-CHIP	2007-000140	SA
R104	R-CHIP	2007-001284	SA
R105	R-CHIP	2007-000172	SA

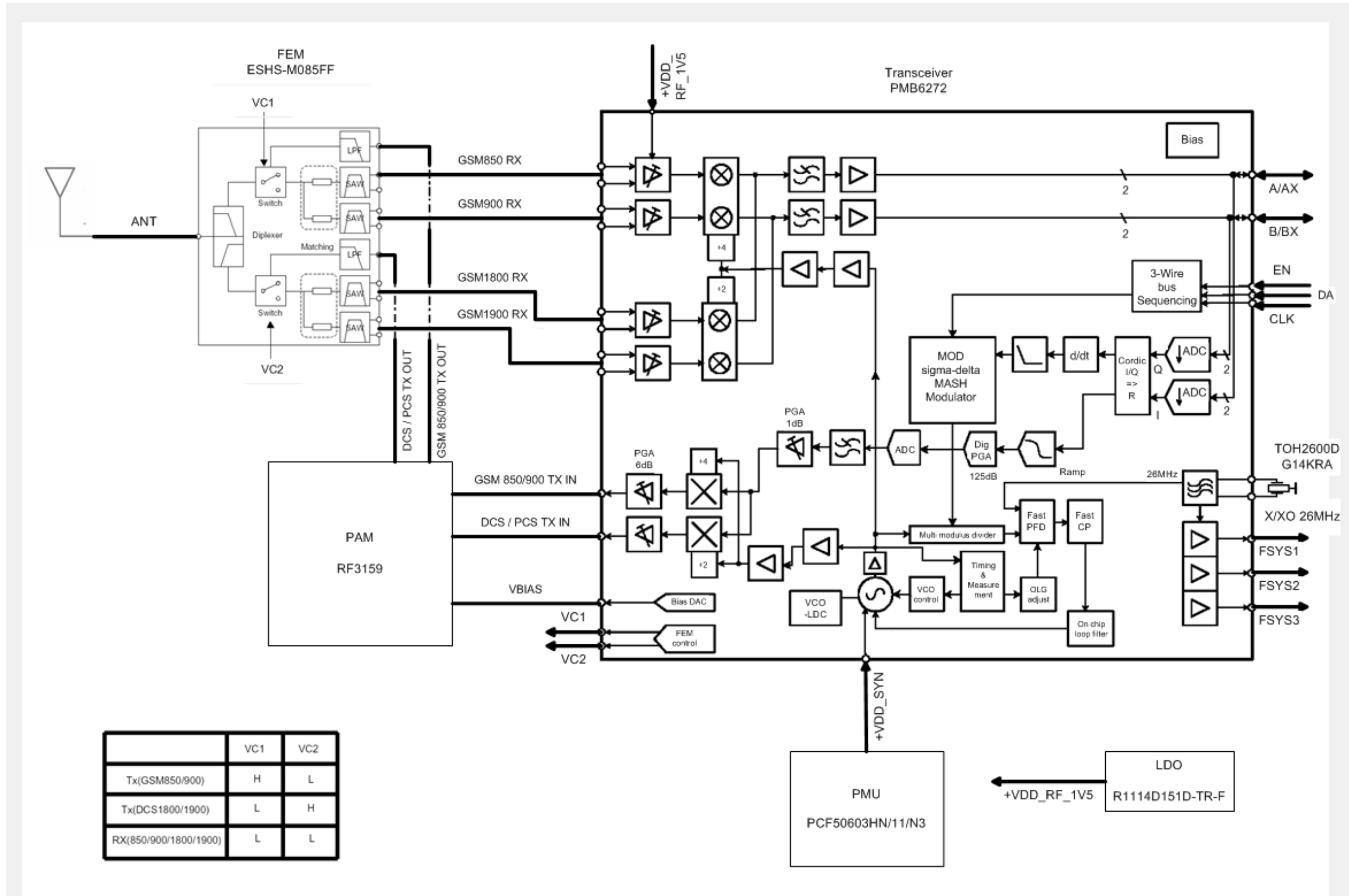
Design LOC	Description	SEC CODE	STATUS
R106	R-CHIP	2007-001316	SA
R107	R-CHIP	2007-000140	SA
R201	R-CHIP	2007-008516	SA
R202	R-CHIP	2007-008542	SA
R203	R-CHIP	2007-008055	SA
R204	R-CHIP	2007-008542	SA
R208	R-CHIP	2007-008055	SA
R215	R-CHIP	2007-008478	SA
R216	R-CHIP	2007-008478	SA
R219	R-CHIP	2007-008052	SA
R220	R-CHIP	2007-000148	SA
R223	R-CHIP	2007-008055	SA
R250	R-CHIP	2007-000147	SA
R292	R-CHIP	2007-008055	SA
R300	R-CHIP	2007-000162	SA
R303	R-CHIP	2007-007009	SA
R304	R-CHIP	2007-001306	SA
R305	R-CHIP	2007-000162	SA
R306	R-CHIP	2007-008483	SA
R307	R-CHIP	2007-008055	SA
R308	R-CHIP	2007-008055	SA
R309	R-CHIP	2007-007573	SA
R310	R-CHIP	2007-000142	SNA
R311	R-CHIP	2007-007318	SA
R312	R-CHIP	2007-007588	SA
R313	R-CHIP	2007-007334	SA
R314	R-CHIP	2007-000170	SA
R315	R-CHIP	2007-008052	SA
R316	R-CHIP	2007-000157	SA
R317	R-CHIP	2007-000141	SA
R318	R-CHIP	2007-008516	SA
R319	R-CHIP	2007-000141	SA
R320	R-CHIP	2007-007107	SA
R321	R-CHIP	2007-008800	SA
R322	R-CHIP	2007-008055	SA
R324	R-CHIP	2007-000162	SA
R325	R-CHIP	2007-000162	SA
R326	R-CHIP	2007-000140	SA
R327	R-CHIP	2007-000162	SA
R328	R-CHIP	2007-000159	SA
R329	R-CHIP	2007-000162	SA
R330	R-CHIP	2007-000146	SA
R331	R-CHIP	2007-007142	SA
R332	R-CHIP	2007-000166	SA
R334	R-CHIP	2007-000148	SA
R400	R-CHIP	2007-007100	SA
R401	R-CHIP	2007-008055	SA
R402	R-CHIP	2007-002796	SA
R403	R-CHIP	2007-000171	SA
R500	R-CHIP	2007-008055	SA
R501	R-CHIP	2007-008055	SA
R502	R-CHIP	2007-009170	SA
R503	R-CHIP	2007-009170	SA
R504	R-CHIP	2007-007741	SA
R505	R-CHIP	2007-007334	SA

Design LOC	Description	SEC CODE	STATUS
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R511	R-CHIP	2007-000242	SA
R513	R-CHIP	2007-000242	SA
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R515	R-CHIP	2007-000157	SA
R606	R-CHIP	2007-000148	SA
R609	R-CHIP	2007-000162	SA
R630	R-CHIP	2007-007132	SA
R631	R-CHIP	2007-007132	SA
R632	R-CHIP	2007-000148	SA
R633	R-CHIP	2007-000148	SA
R634	R-CHIP	2007-000171	SA
R635	R-CHIP	2007-000171	SA
R701	R-CHIP	2007-000171	SA
R705	R-CHIP	2007-000162	SA
R709	R-CHIP	2007-000162	SA
R710	R-CHIP	2007-008055	SA
R720	R-CHIP	2007-000170	SA
R721	R-CHIP	2007-000170	SA
R722	R-CHIP	2007-000171	SA
RFS100	CONNECTOR-COAXIAL	3705-001358	SA
SIM400	CONNECTOR-CARD EDGE	3709-001400	SA
SLC700	CONNECTOR-FPC/FFC/PIC	3708-002194	SA
TA100	C-TA,CHIP	2404-001411	SA
TA300	C-TA,CHIP	2404-001381	SA
TA301	C-TA,CHIP	2404-001268	SA
TA302	C-TA,CHIP	2404-001339	SA
TA400	C-TA,CHIP	2404-001381	SA
TA502	C-TA,CHIP	2404-001414	SA
TA600	C-TA,CHIP	2404-001381	SA
TA601	C-CER,CHIP	2203-006562	SA
TA630	C-TA,CHIP	2404-001381	SA
TA631	C-TA,CHIP	2404-001381	SA
TA640	C-TA,CHIP	2404-001422	SA
TA641	C-TA,CHIP	2404-001422	SA
TAC700	SWITCH-TACT	3404-001152	SA
TCX100	OSCILLATOR-VCTCXO	2809-001303	SA
TR201	FET-SILICON	0505-001518	SA
U102	IC-TRANSCEIVER	1205-003057	SA
U103	IC-POWER AMP	1201-002423	SA
U104	IC-POSI.FIXED REG.	1203-003767	SA
U305	IC-CMOS LOGIC	0801-002237	SA
U310	IC-POSI.FIXED REG.	1203-003815	SA
U311	IC-CMOS LOGIC	0801-002237	SA
U315	IC-CODEC	1205-003054	SA
U316	IC-POSI.FIXED REG.	1203-003767	SA
U317	IC-BATTERY	1203-003823	SA
U320	IC-POSI.FIXED REG.	1203-003688	SA
U321	IC-POSI.FIXED REG.	1203-003787	SA
U400	IC-POWER SUPERVISOR	1203-003882	SA
U401	IC-POSI.FIXED REG.	1203-003737	SA
U402	IC-DC/DC CONVERTER	1203-004261	SA
U500	IC-ANALOG SWITCH	1001-001394	SA
U501	IC-ANALOG SWITCH	1001-001394	SA
U502	IC-ANALOG SWITCH	1001-001359	SA

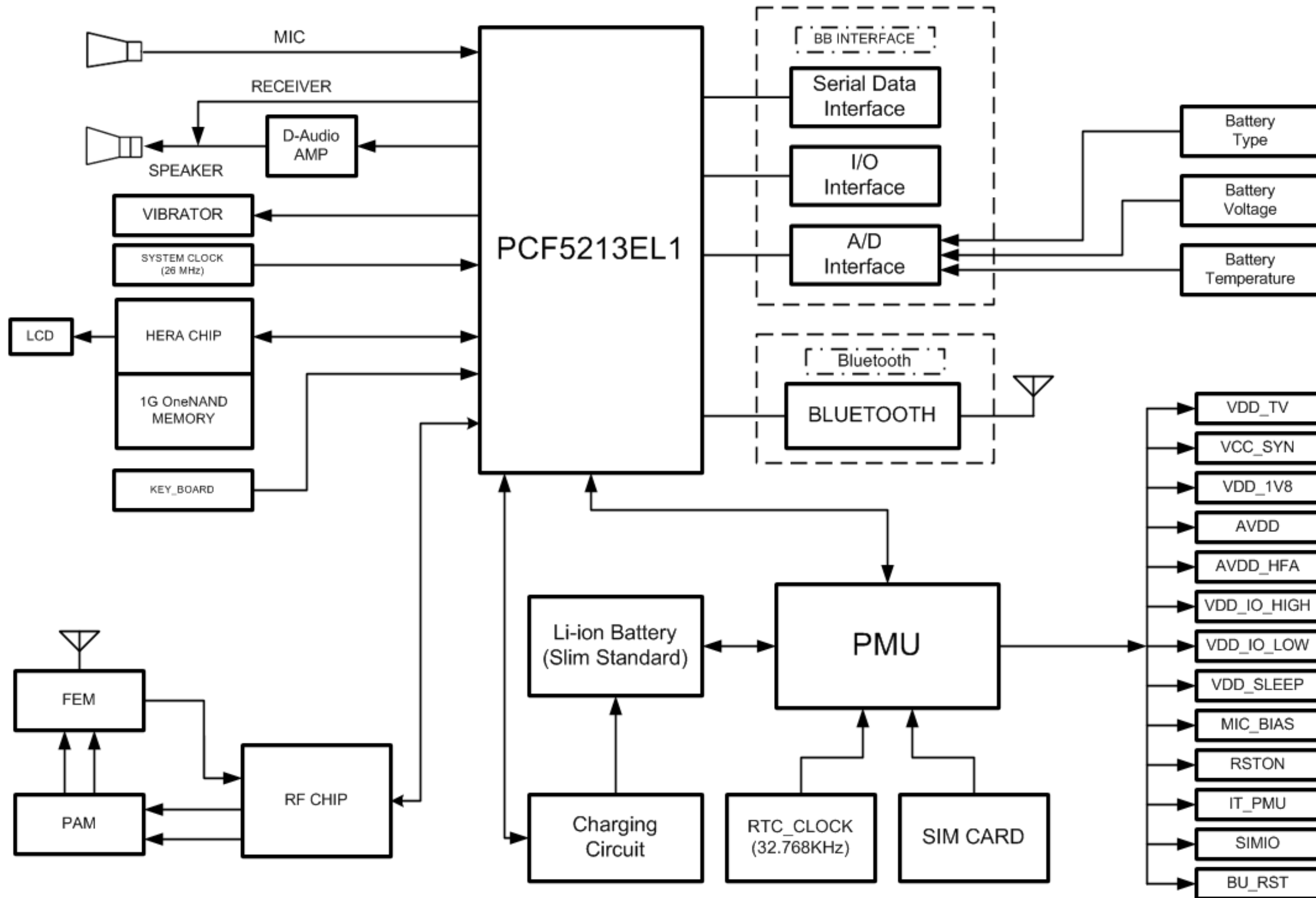
Design LOC	Description	SEC CODE	STATUS
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U520	IC-ANALOG SWITCH	1001-001394	SA
U601	IC-AUDIO AMP	1201-002233	SA
U602	IC-POSI.FIXED REG.	1203-003737	SA
U603	IC-CODEC	1205-003046	SA
U604	IC-ANALOG MULTIPLEX	1001-001349	SA
U707	IC-POSI.FIXED REG.	1203-003737	SA
U720	FILTER-EMI SMD	2901-001315	SA
UCP200	IC-COMM. CONTROLLER	1205-002757	SA
UEP300	IC-VIDEO AMP	1201-002147	SA
UME307	IC-MCP	1108-000076	SA
VR300	THERMISTOR-NTC	1404-001221	SA
VR400	VARISTOR	1405-001082	SA
ZD300	DIODE-ZENER	0403-001427	SA
ZD301	DIODE-ZENER	0403-001547	SA
ZD501	DIODE-TVS	0406-001208	SA
ZD502	DIODE-ZENER	0403-001547	SA

7. Block Diagrams

7-1. RF Solution Block Diagram



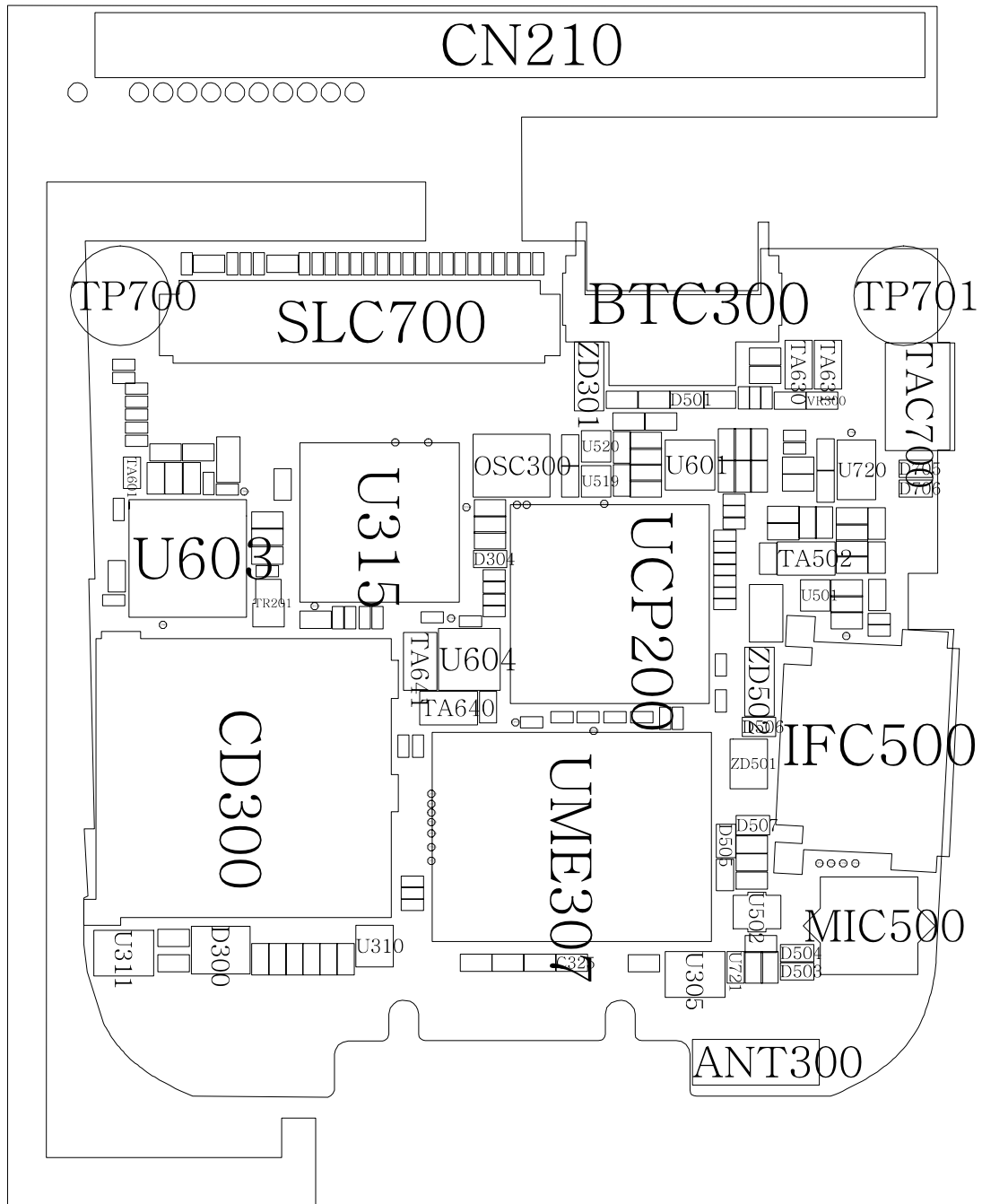
7-2. Base Band Solution Block Diagram



8. PCB Diagrams

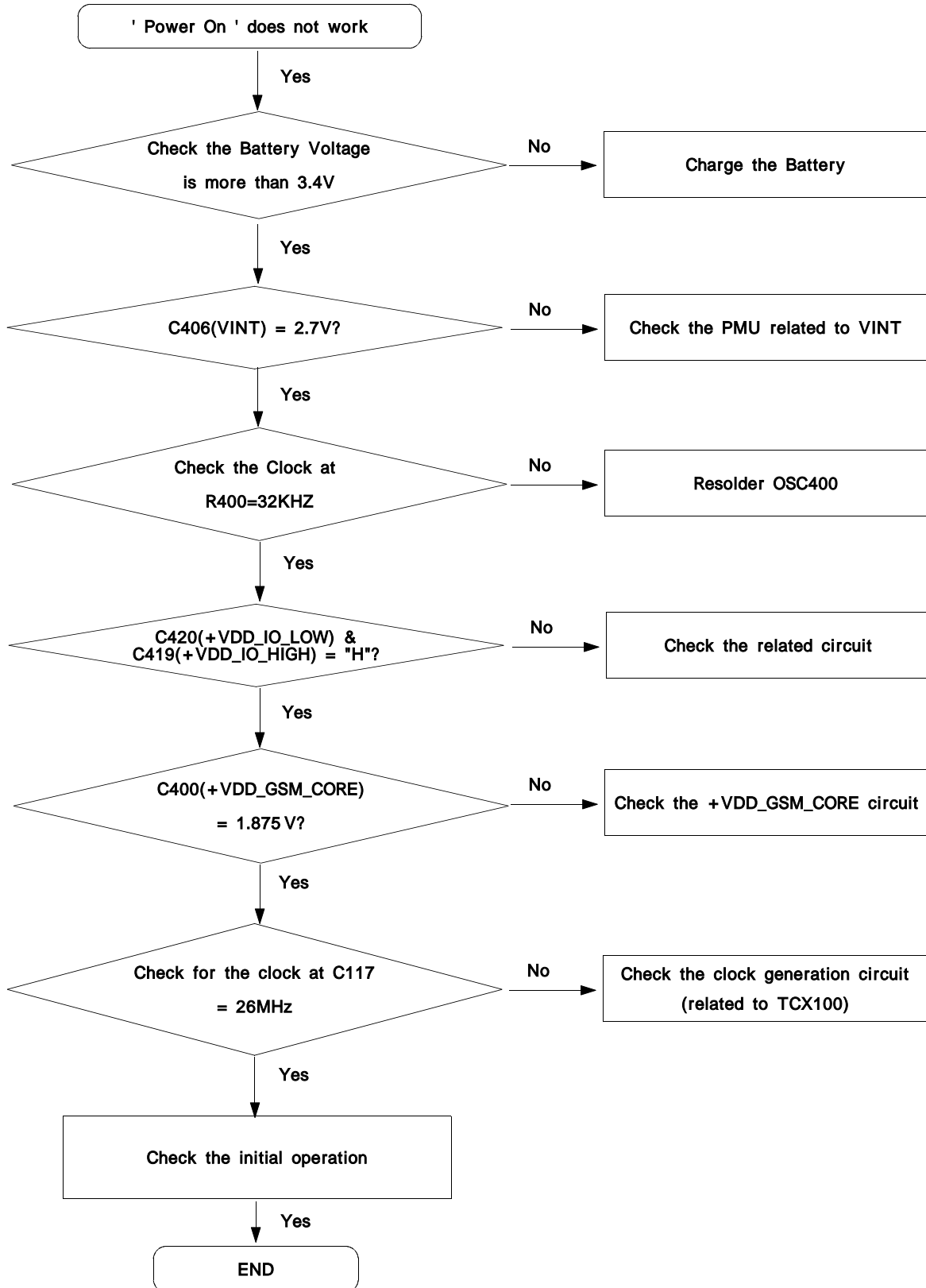
8-1. Main PCB Diagram

Top

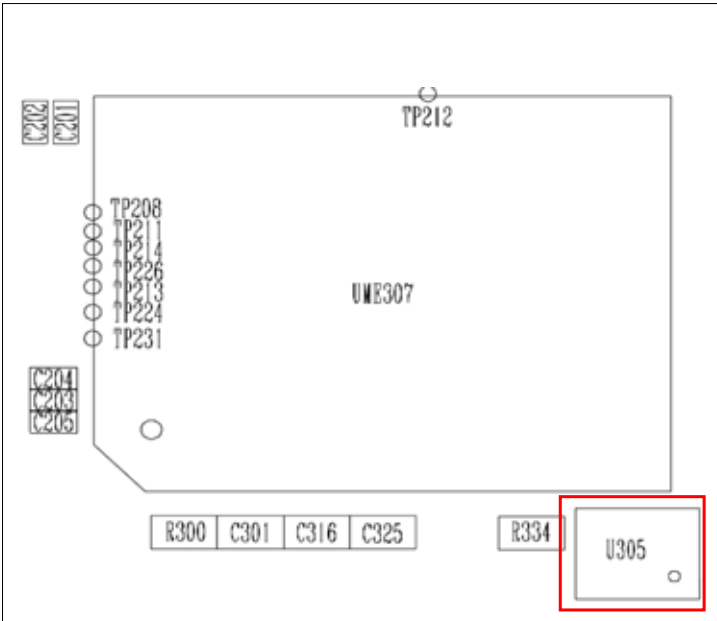
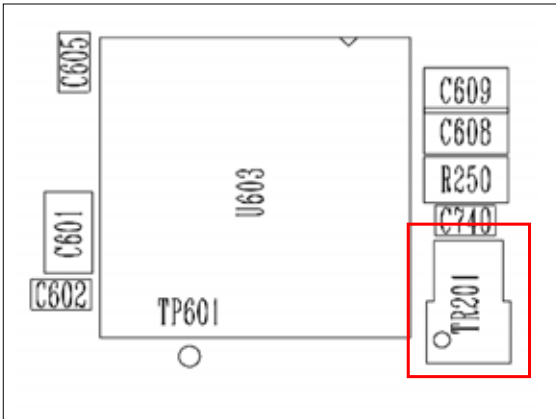
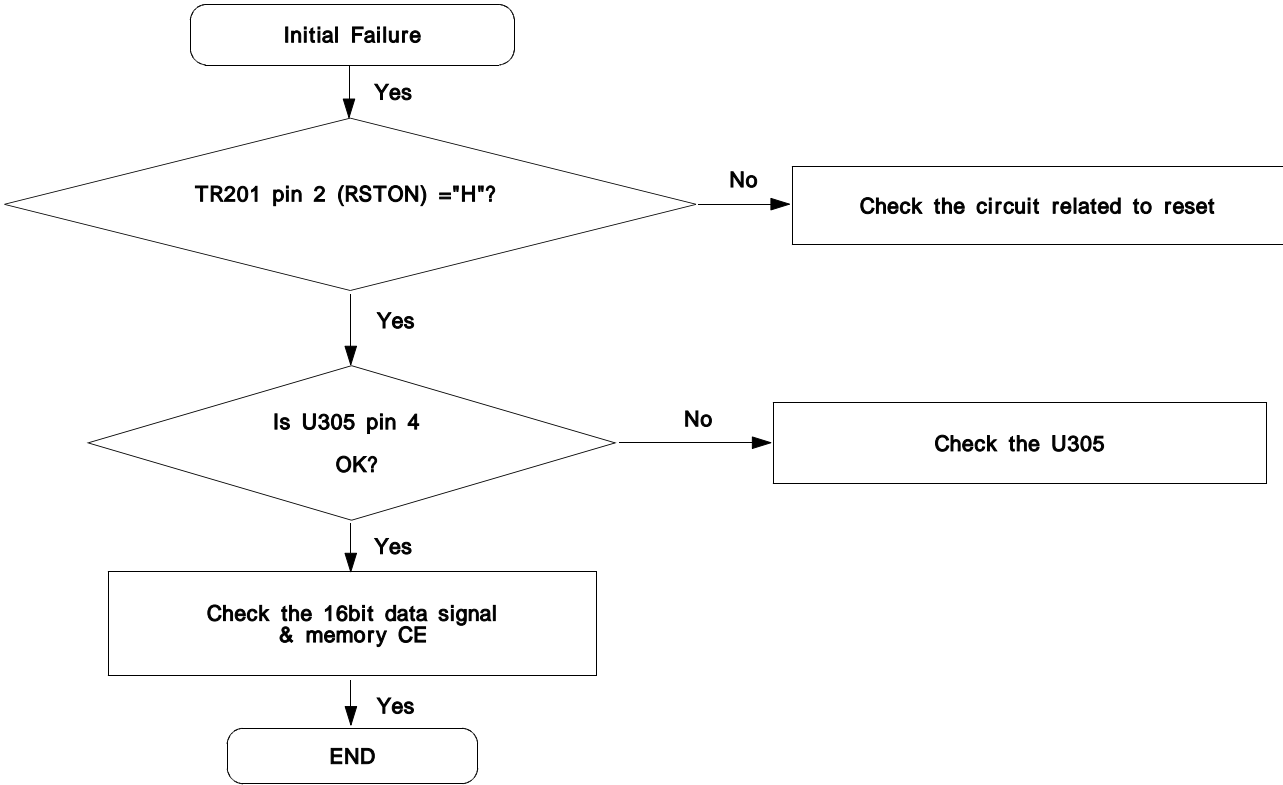


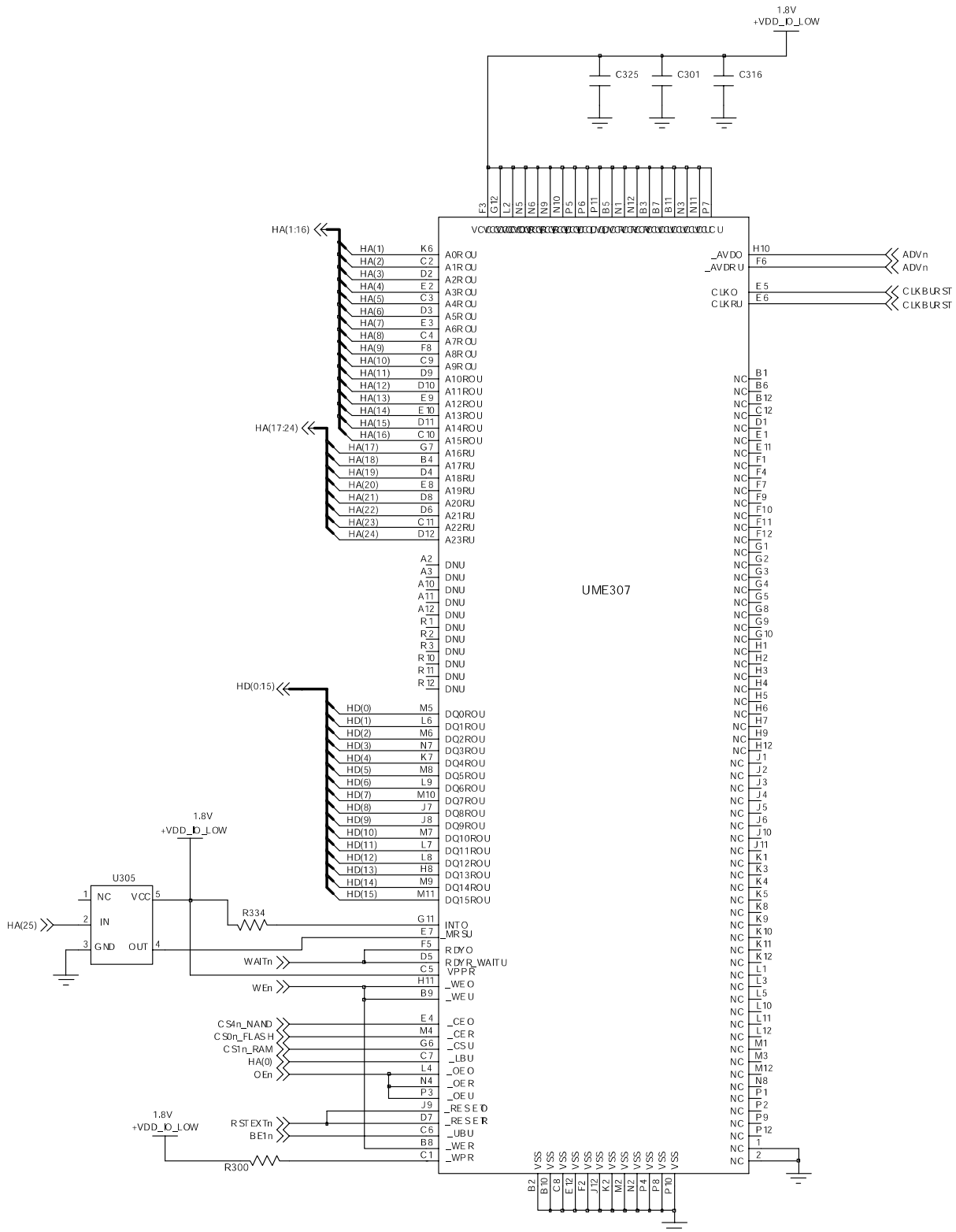
9. Flow Chart of Troubleshooting

9-1. Power On



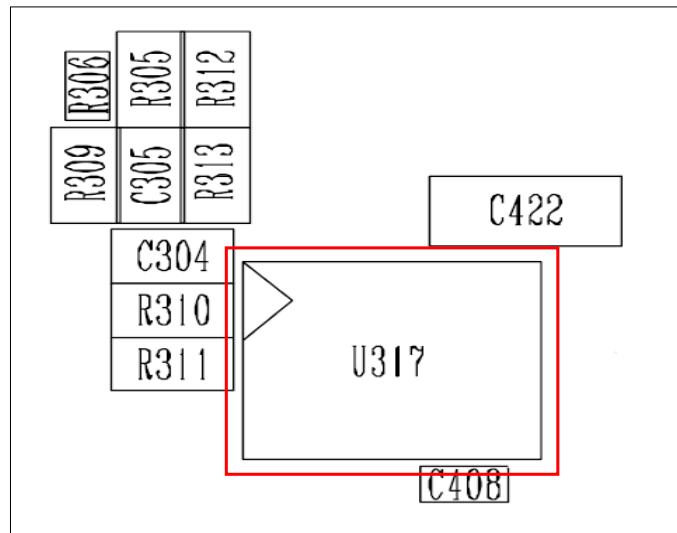
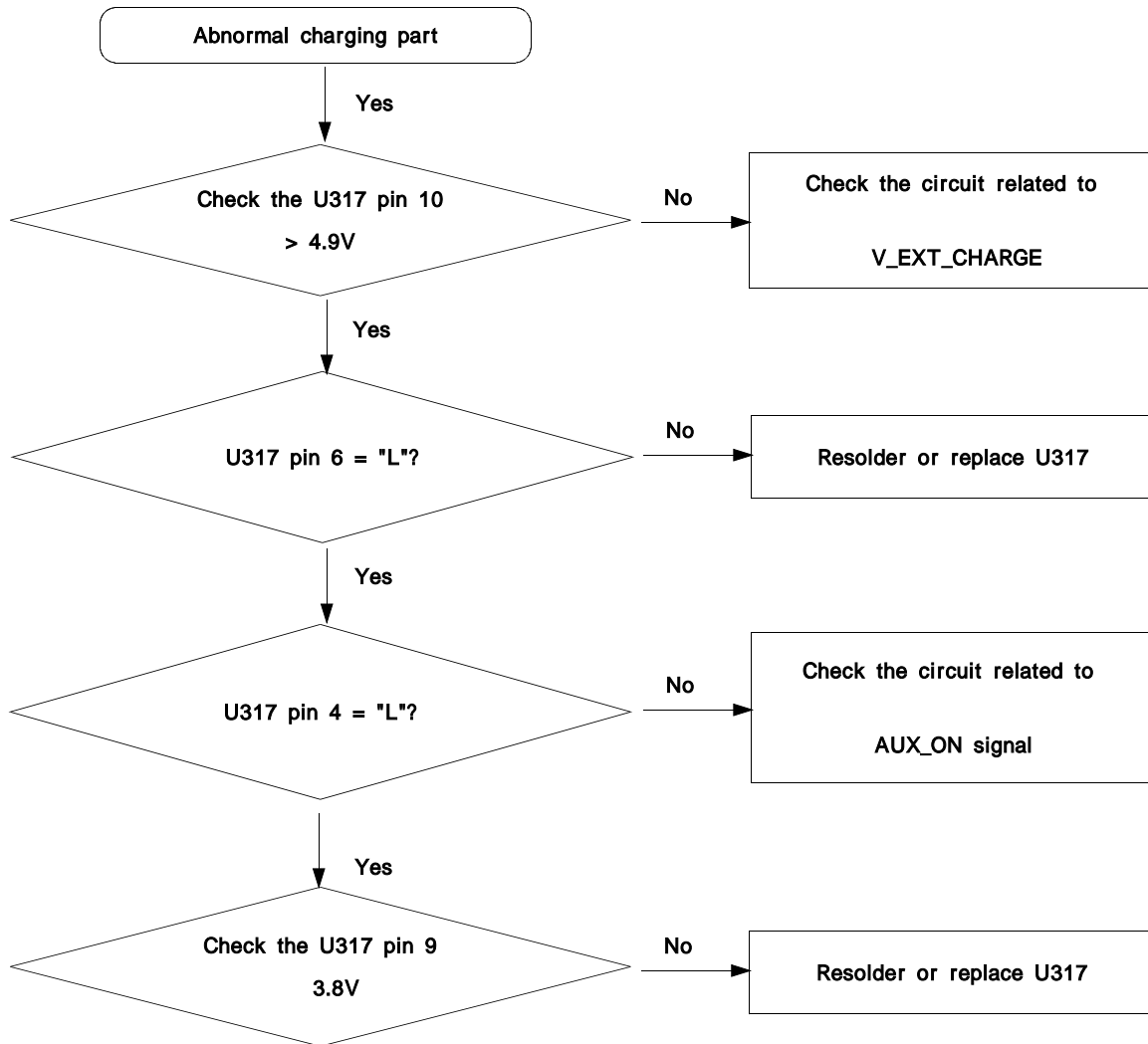
9-2. Initial



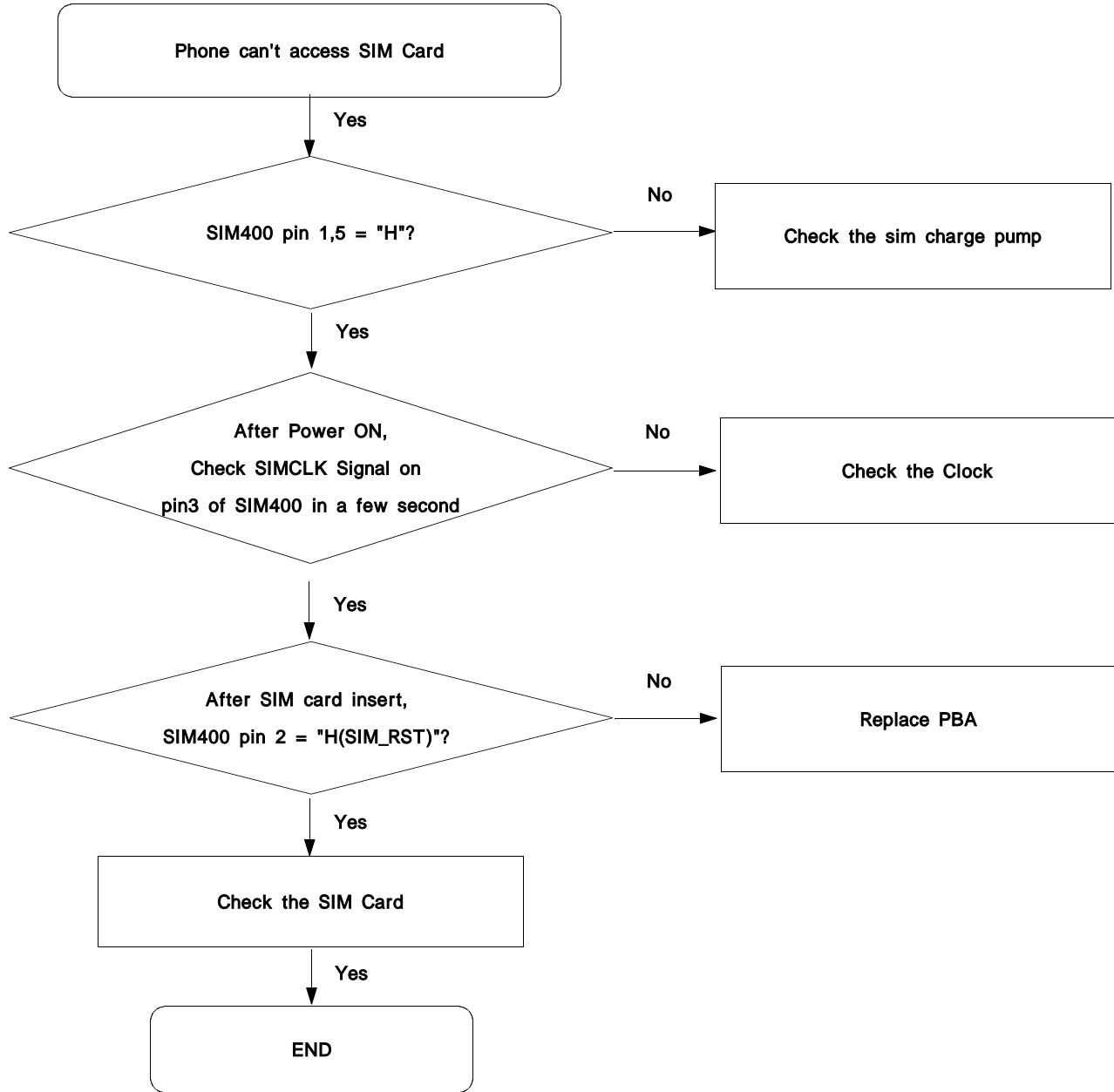


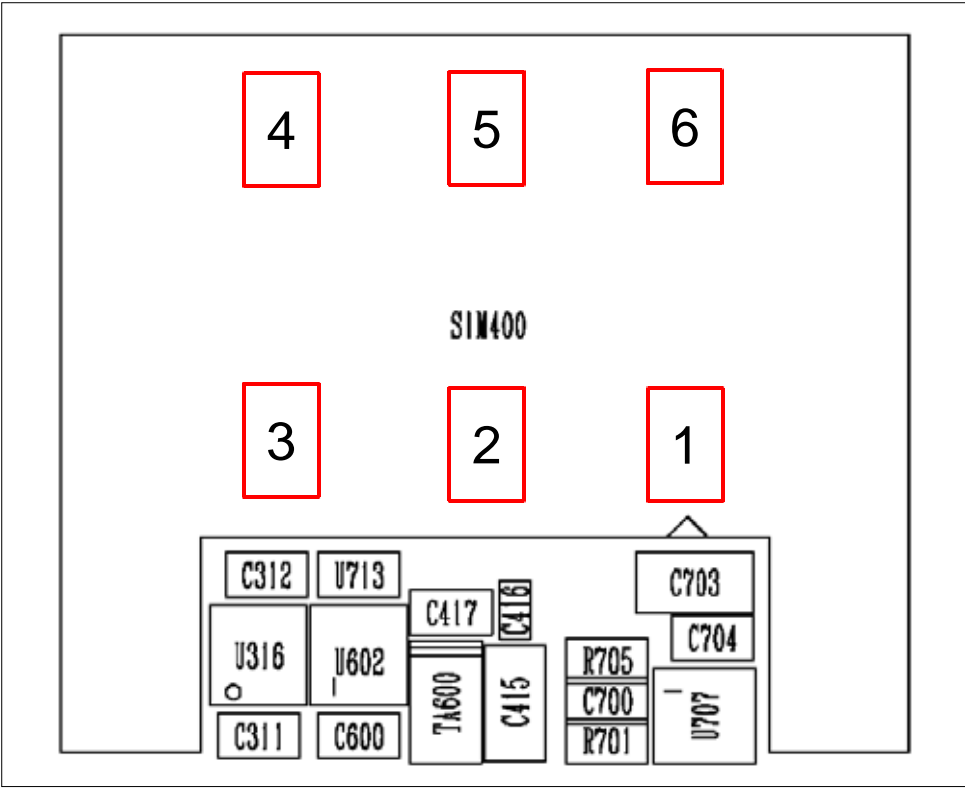
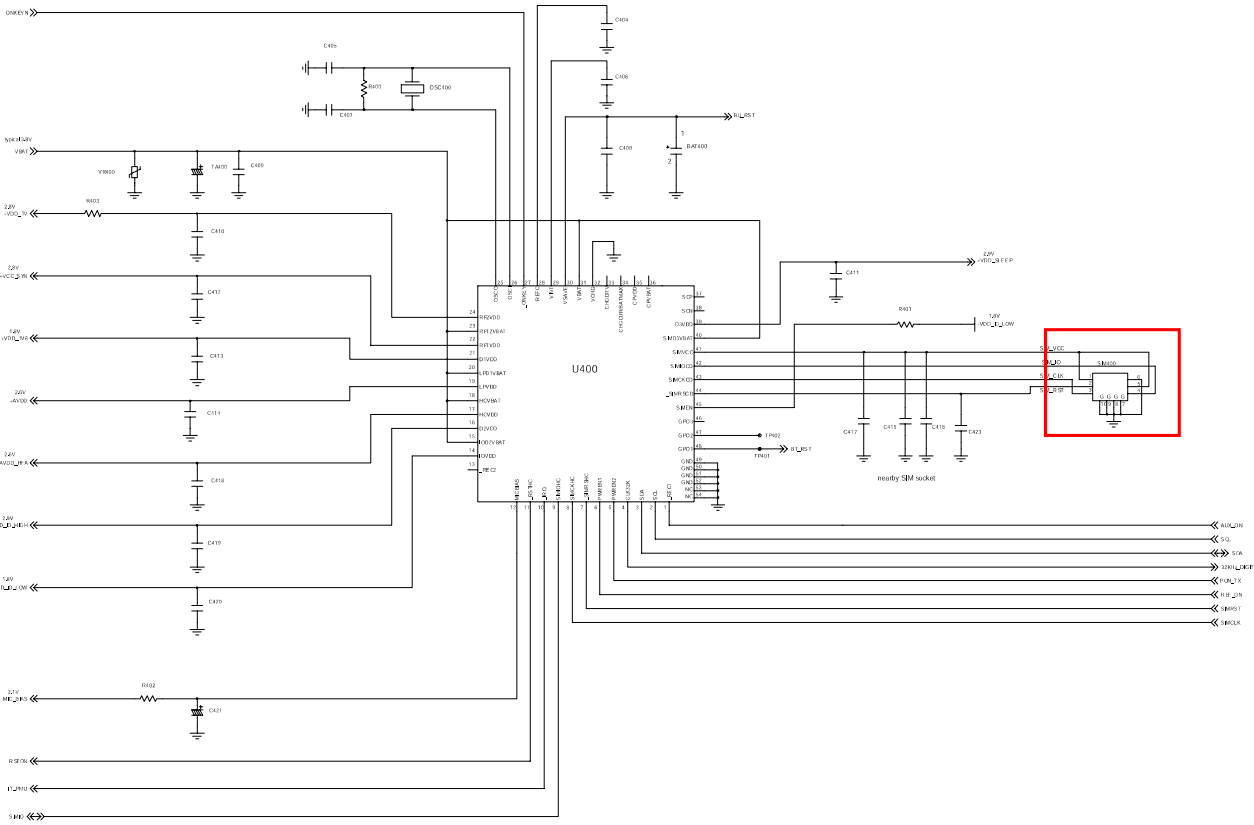
MEMORY

9-3. Charging Part

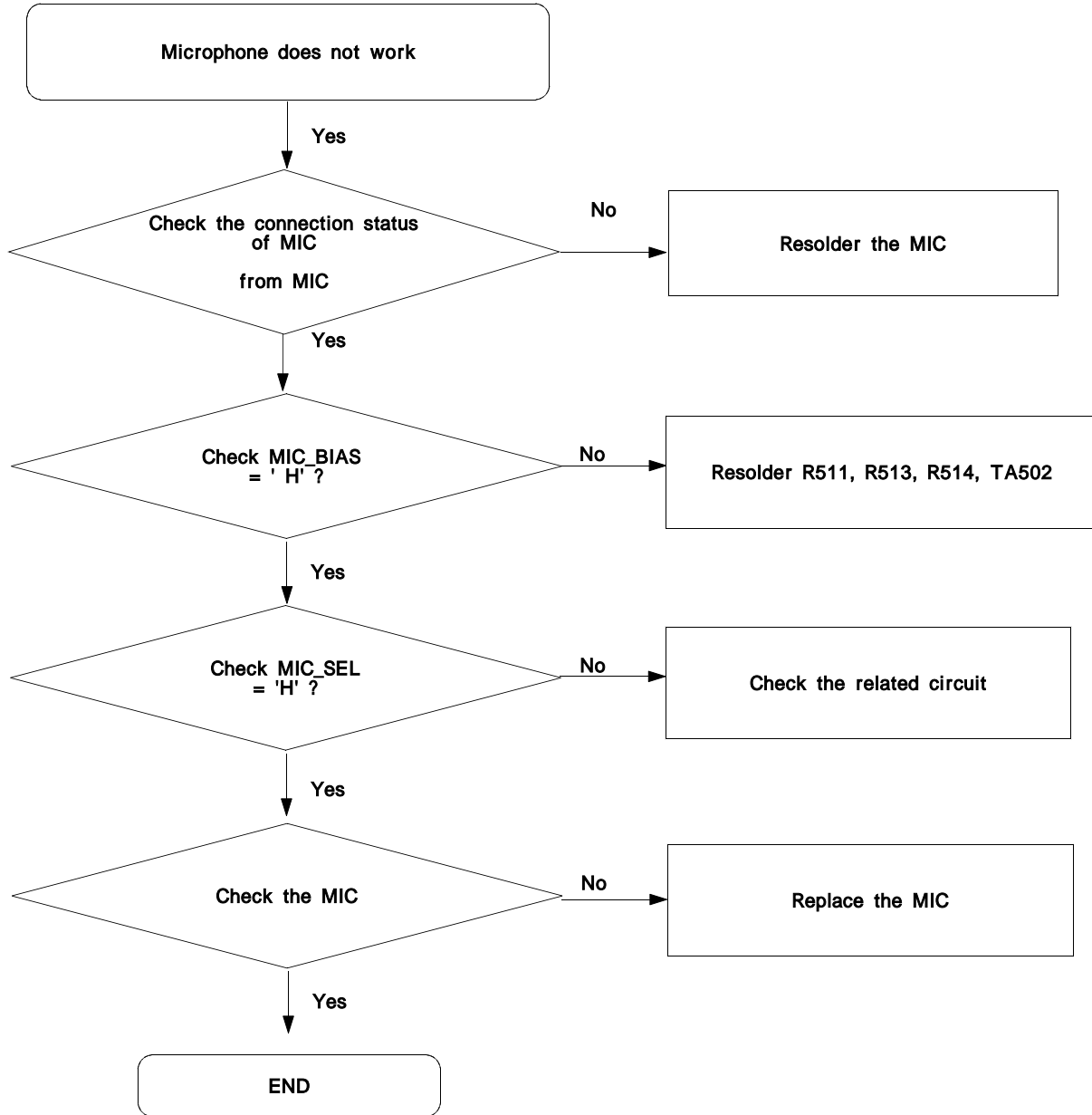


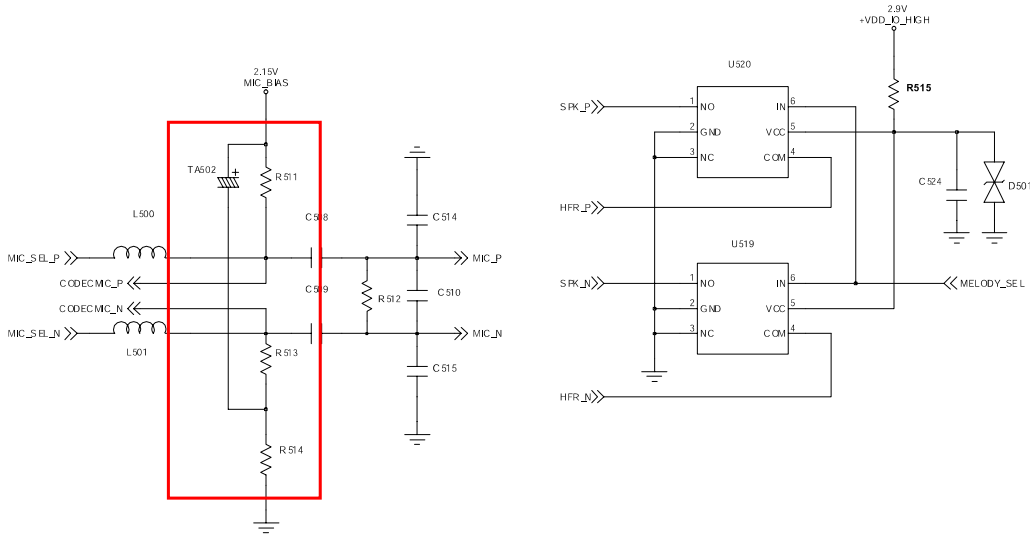
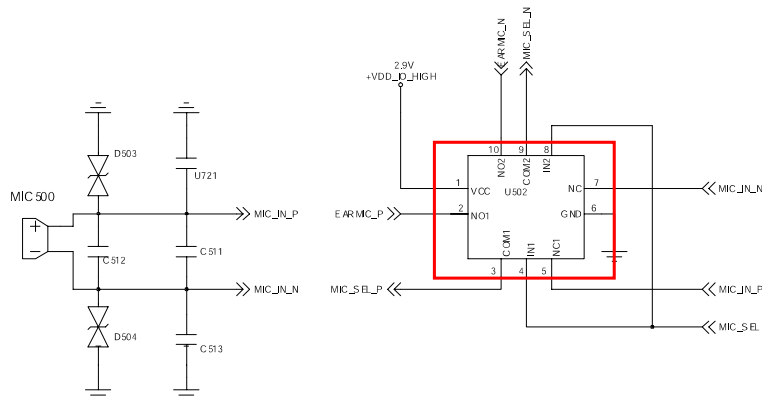
9-4. Sim Part



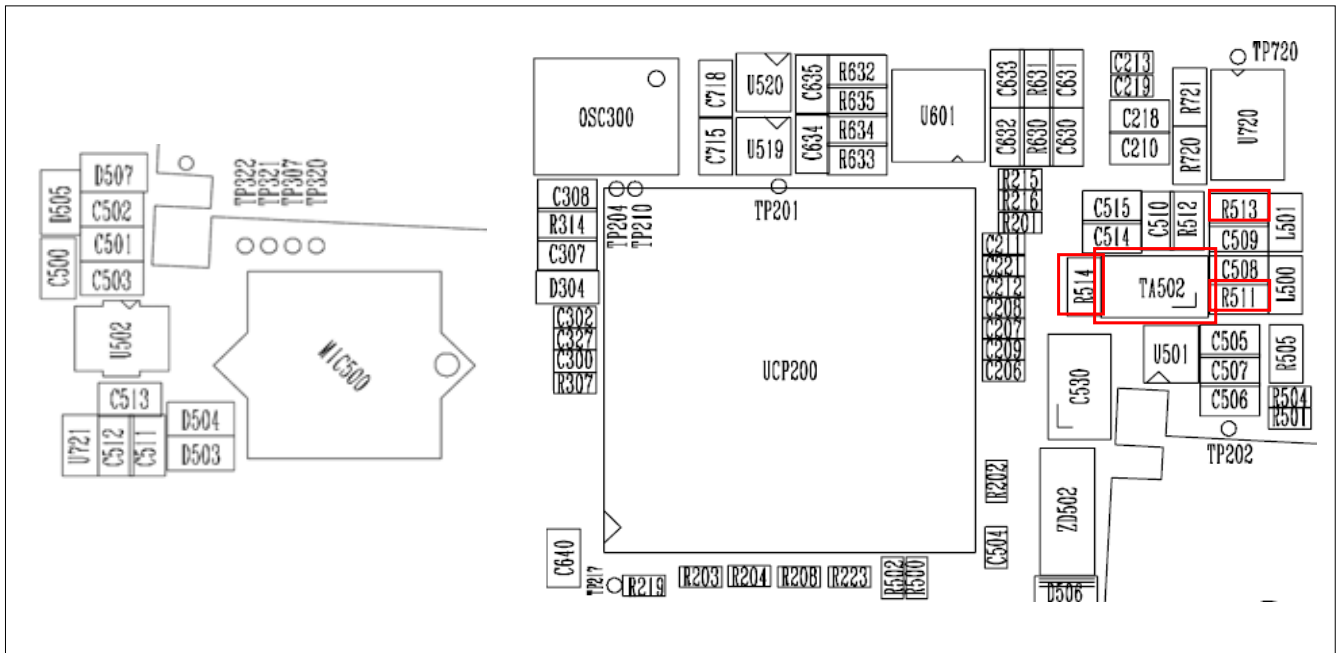


9-5. Microphone Part

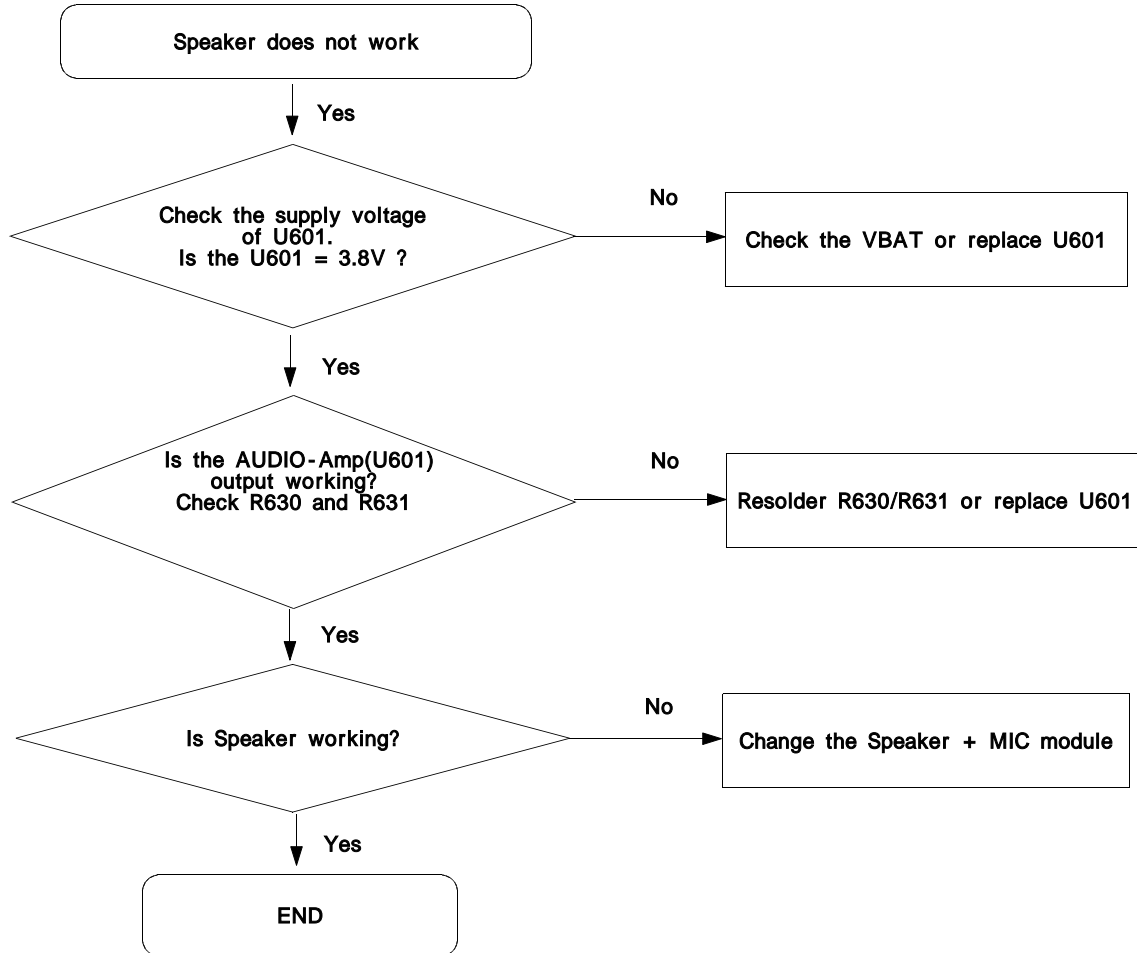


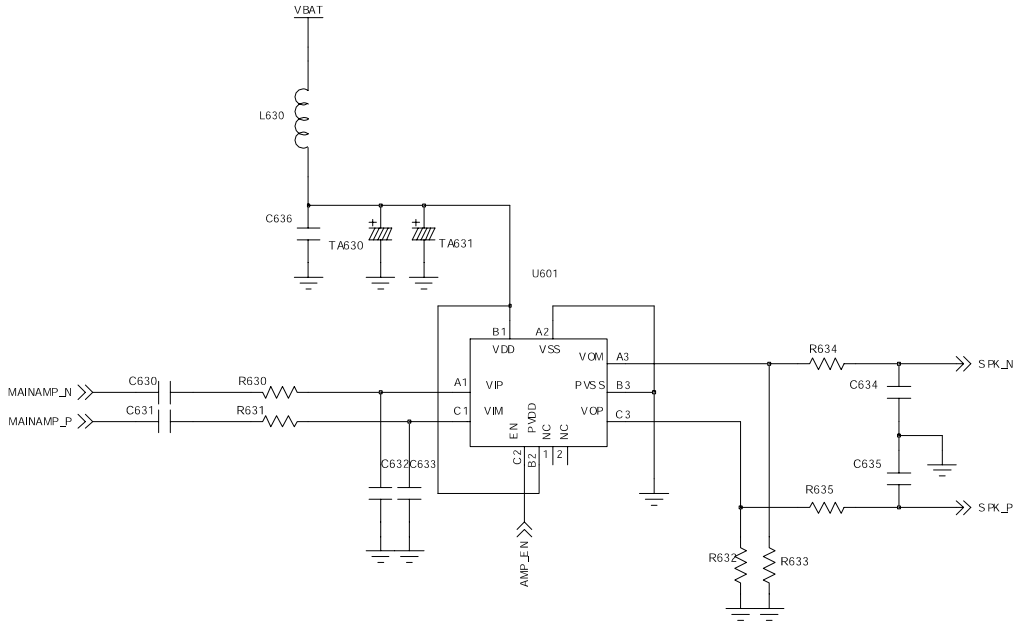


MICROPHONE

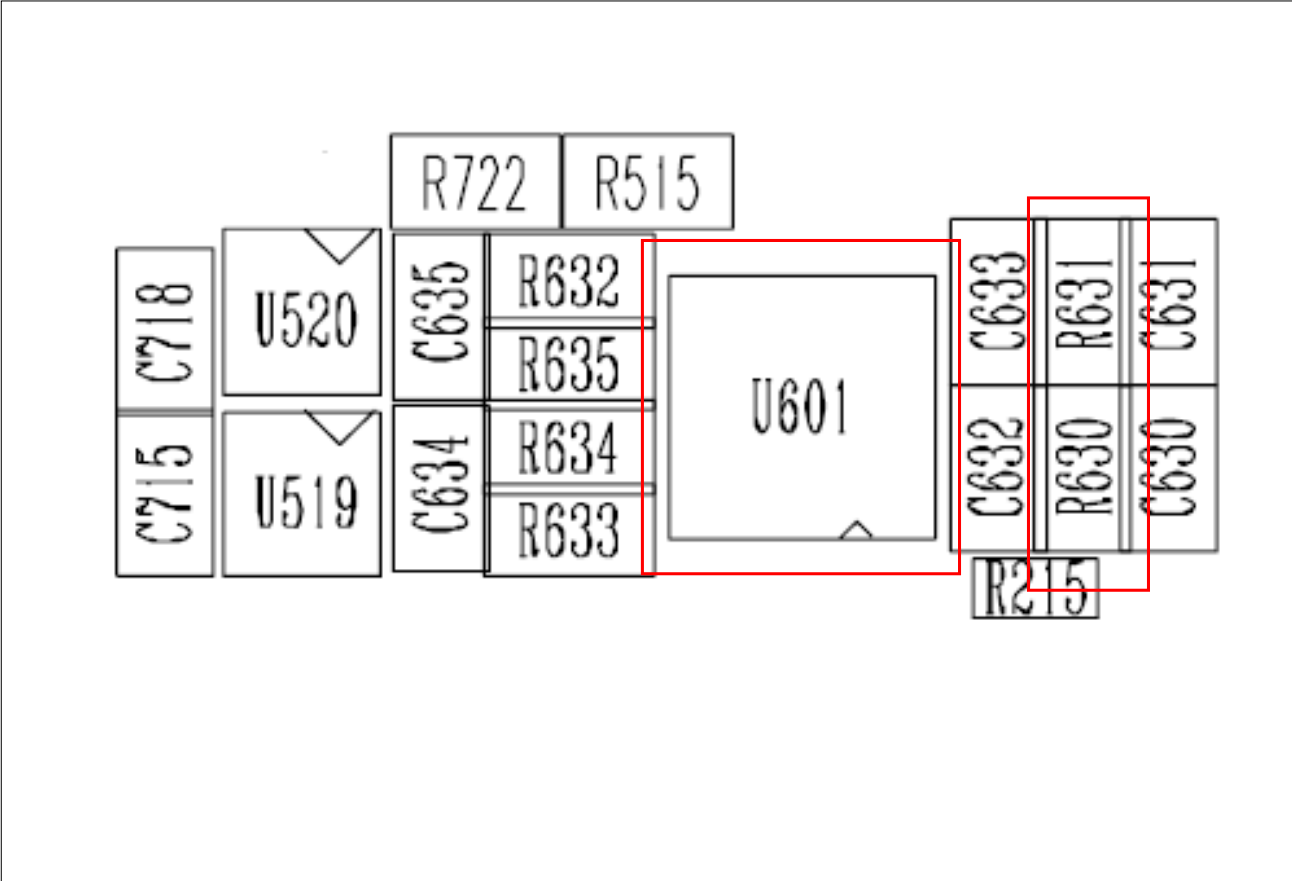


9-6. Speaker Part

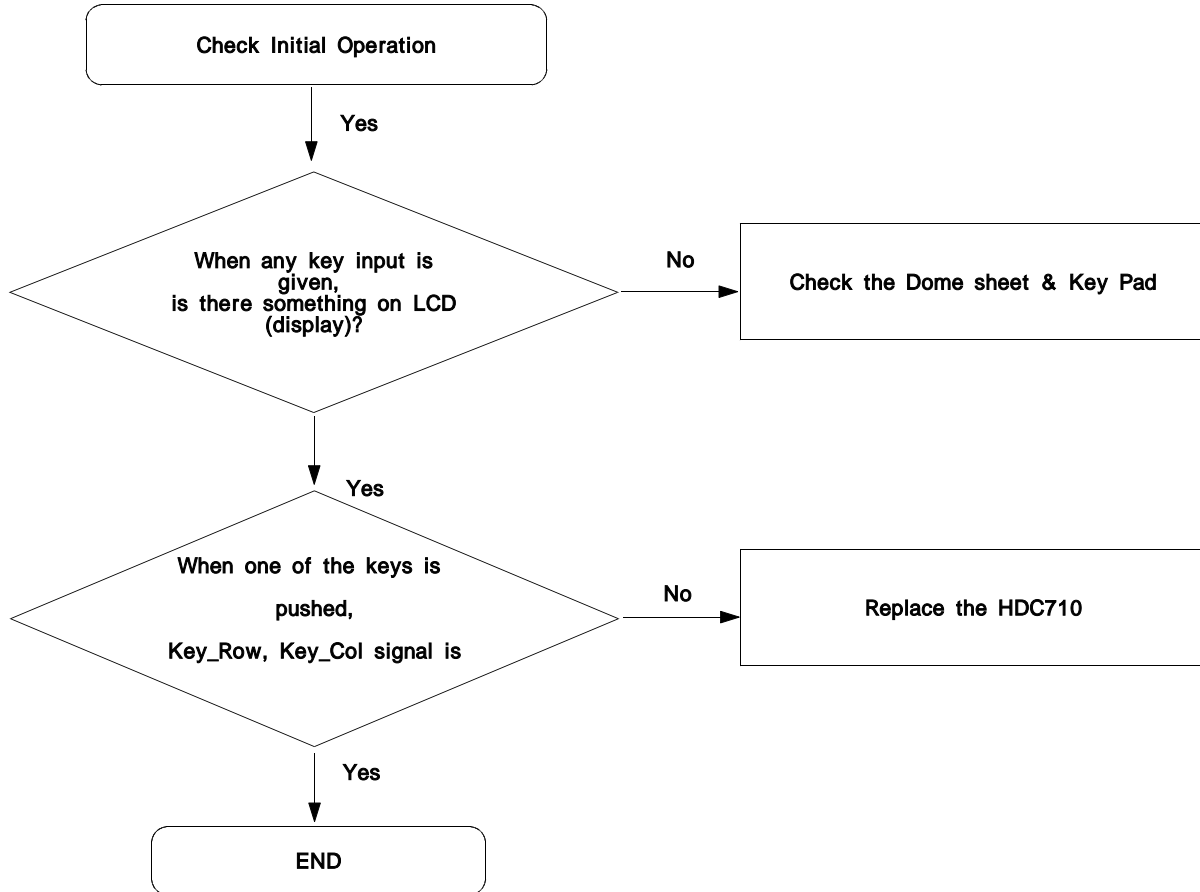


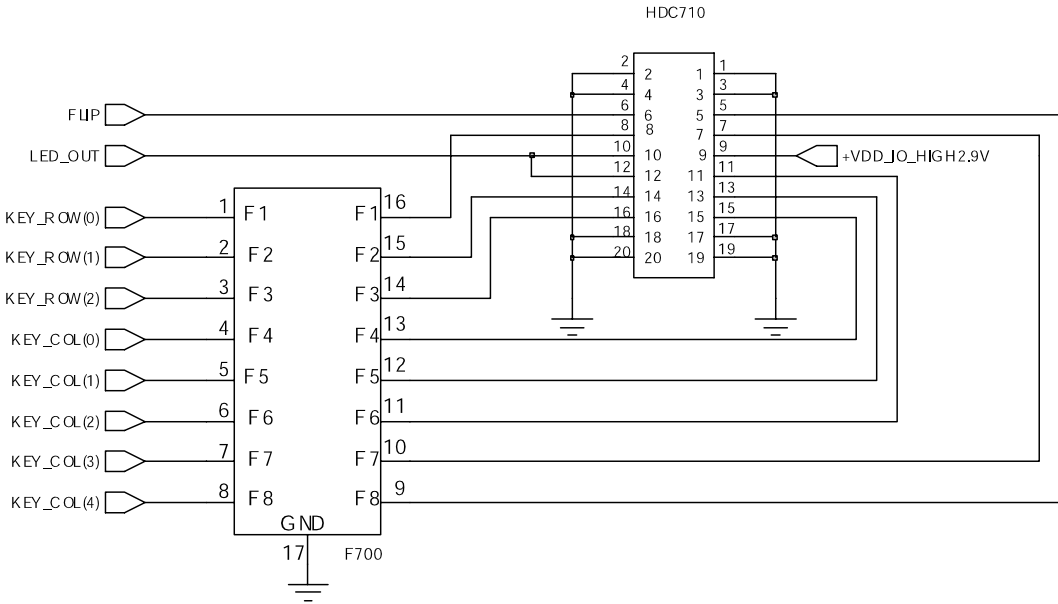


AUDIO AMP

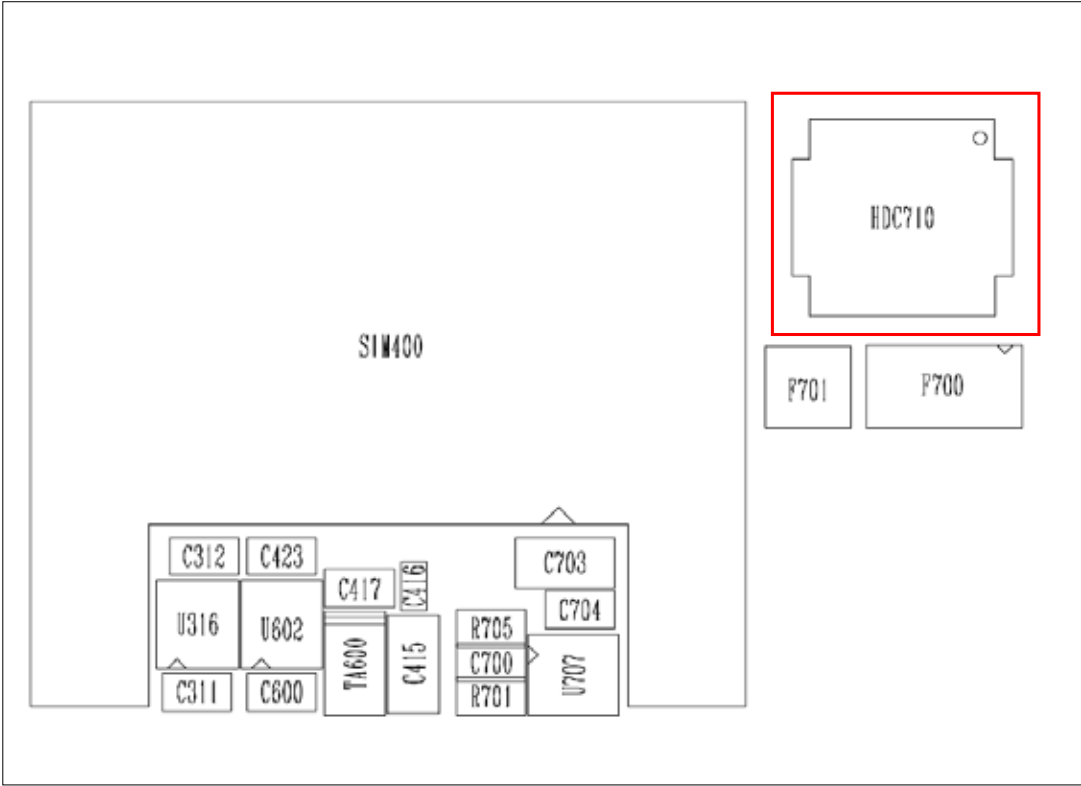


9-7. Key Data Input

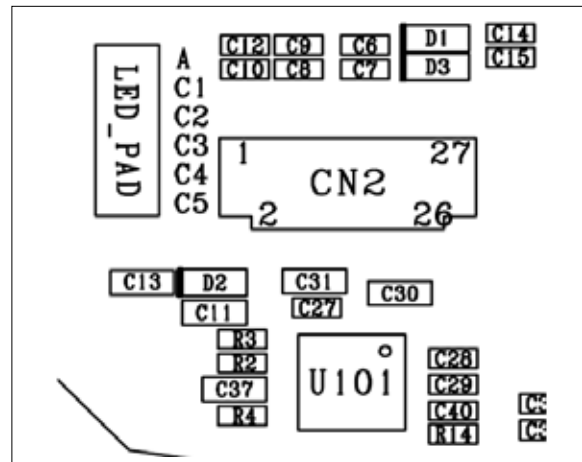
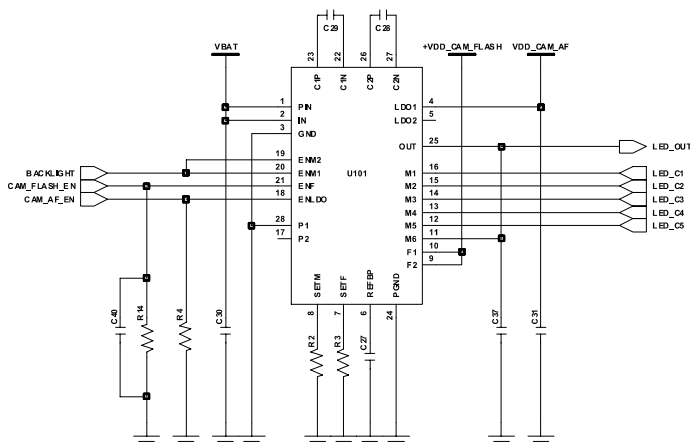
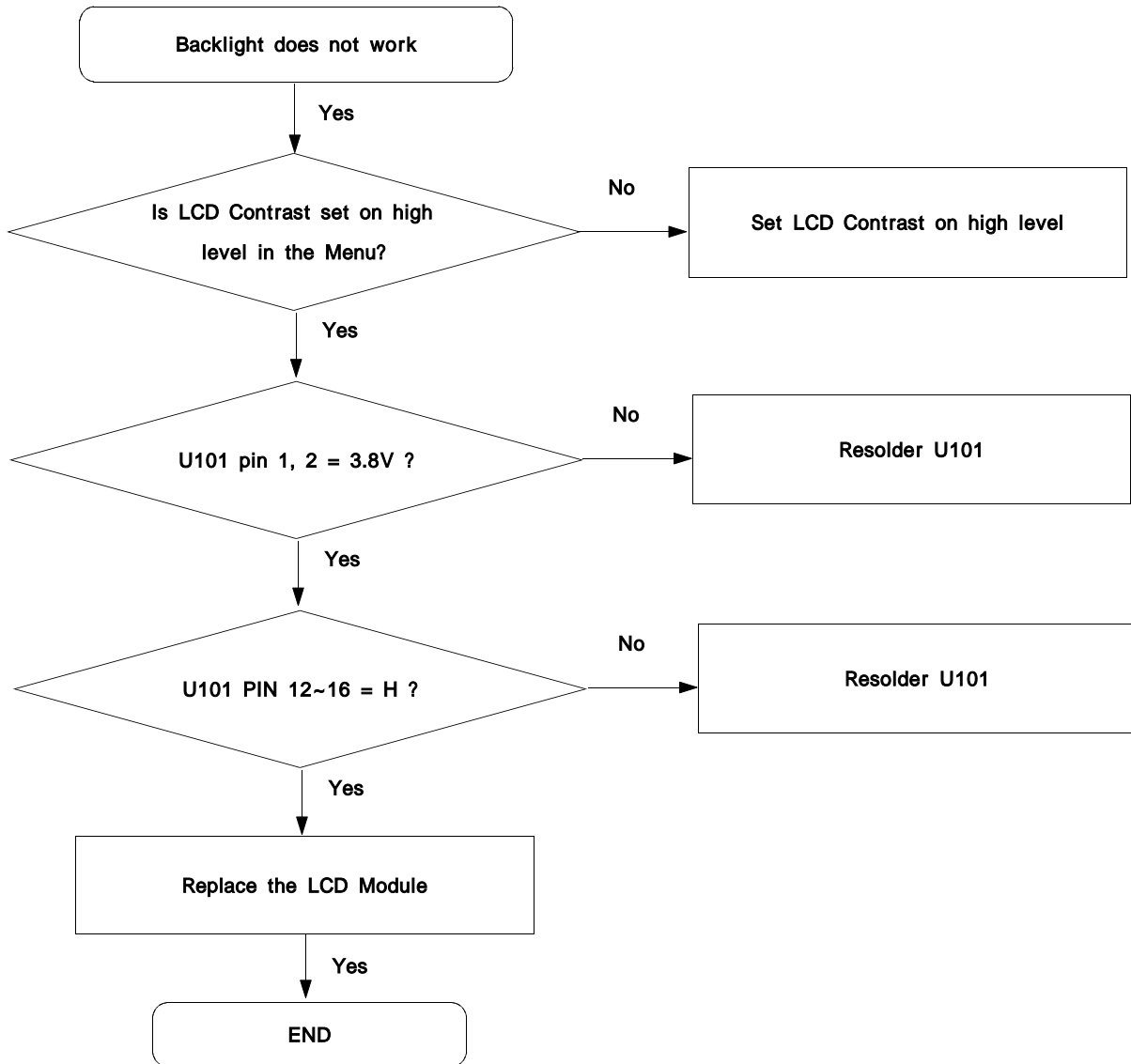




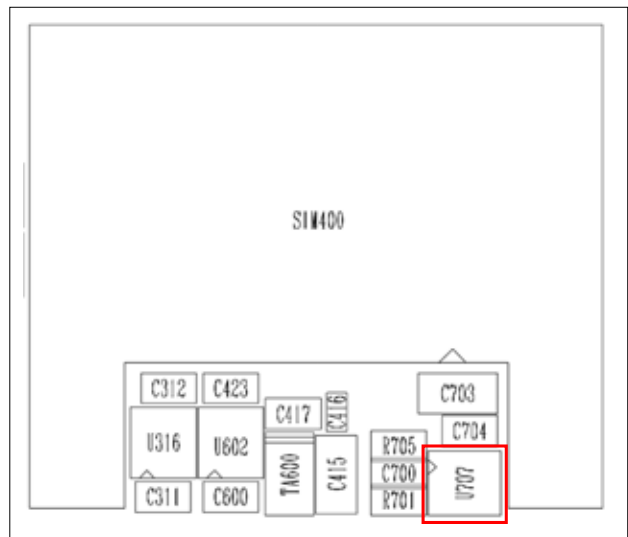
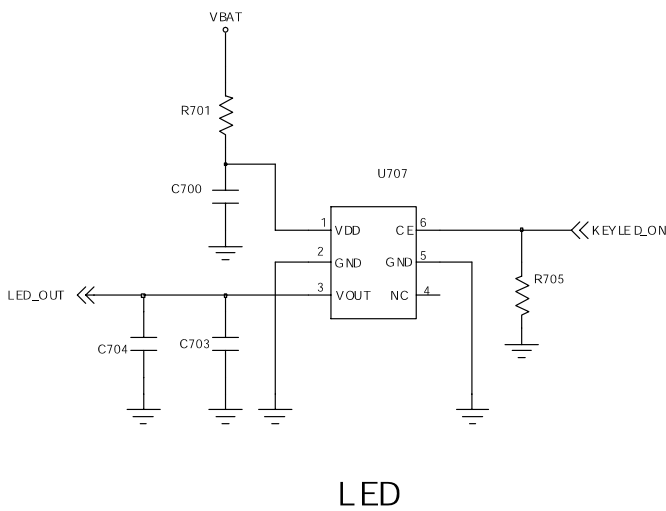
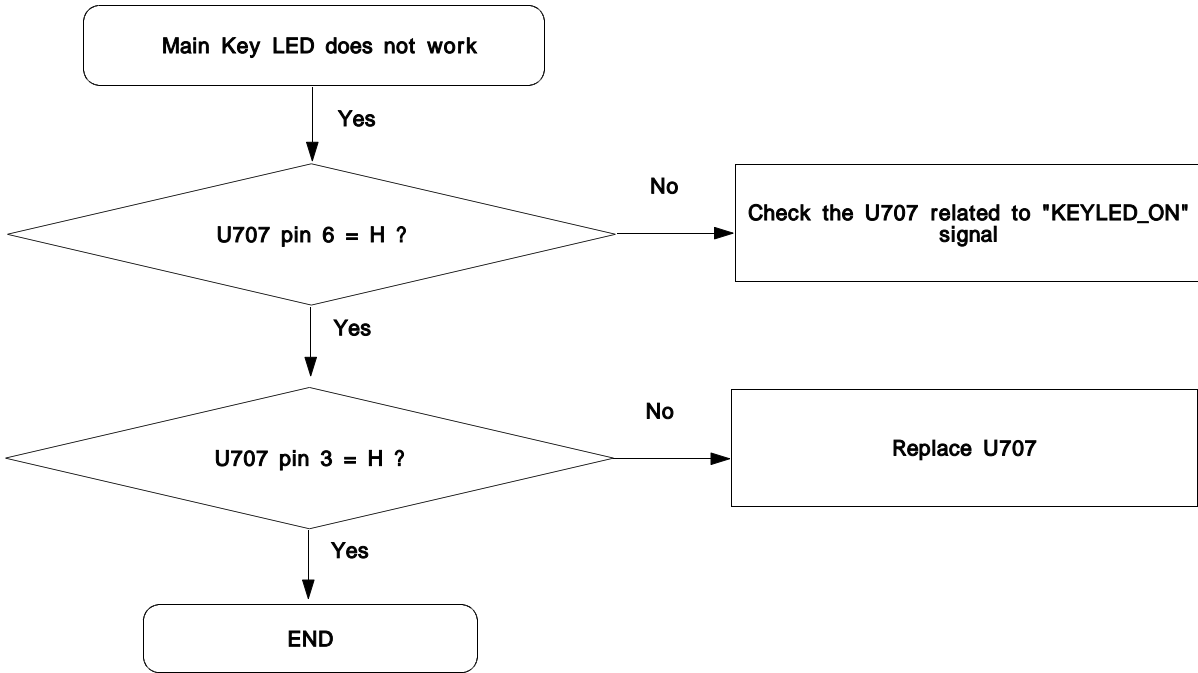
KEY_C ONNECTOR



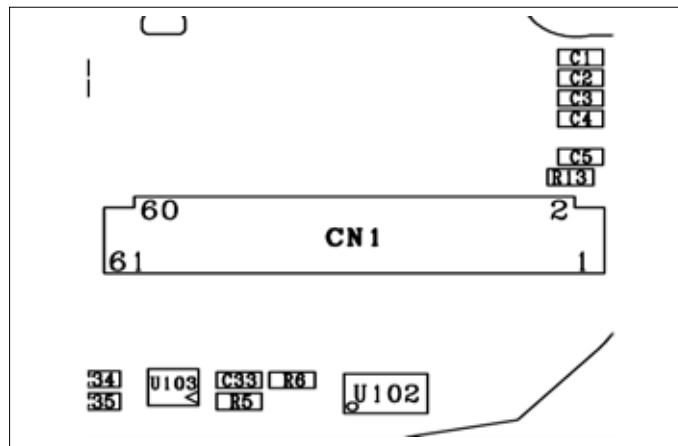
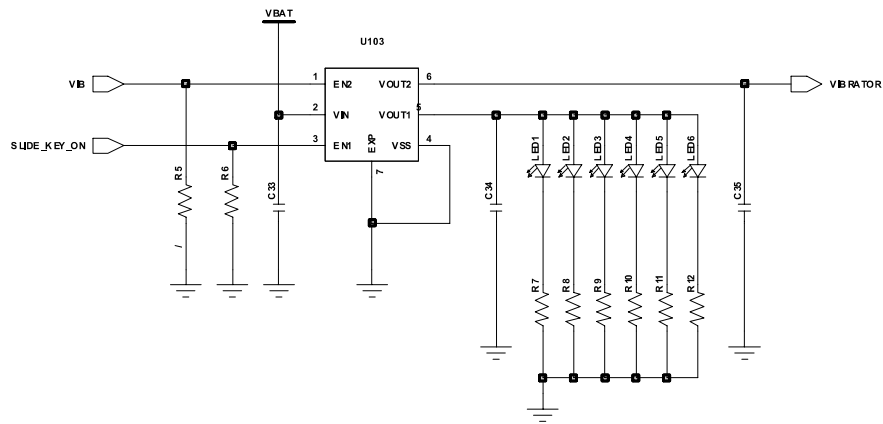
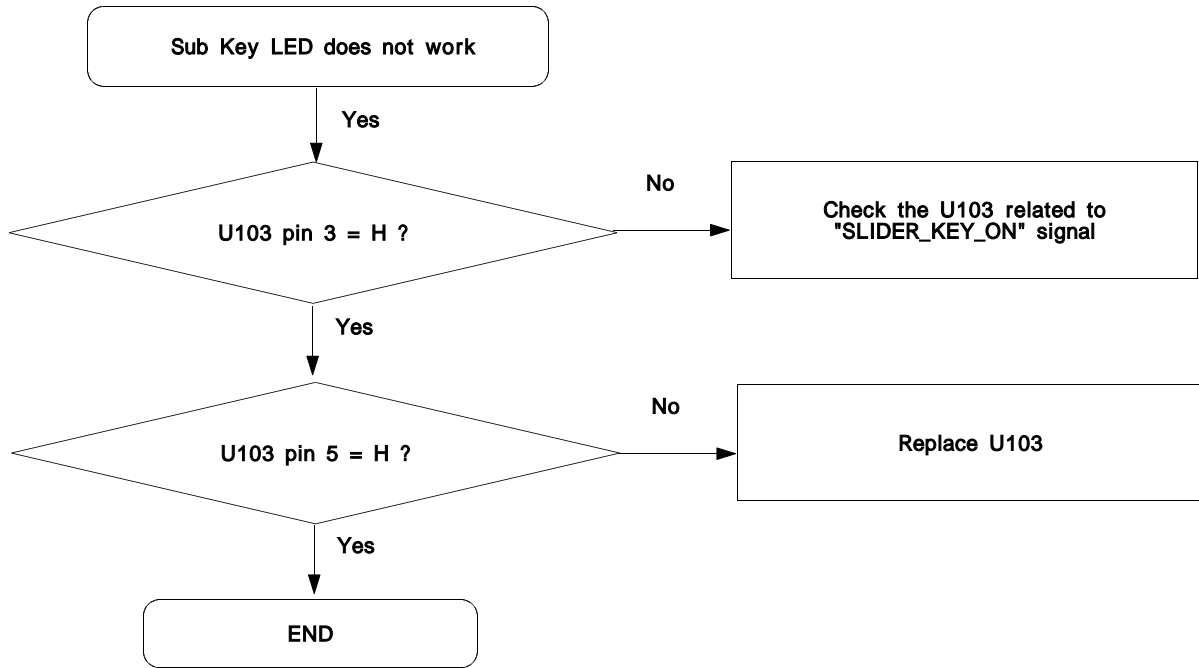
9-8. Back Light (for LCD)



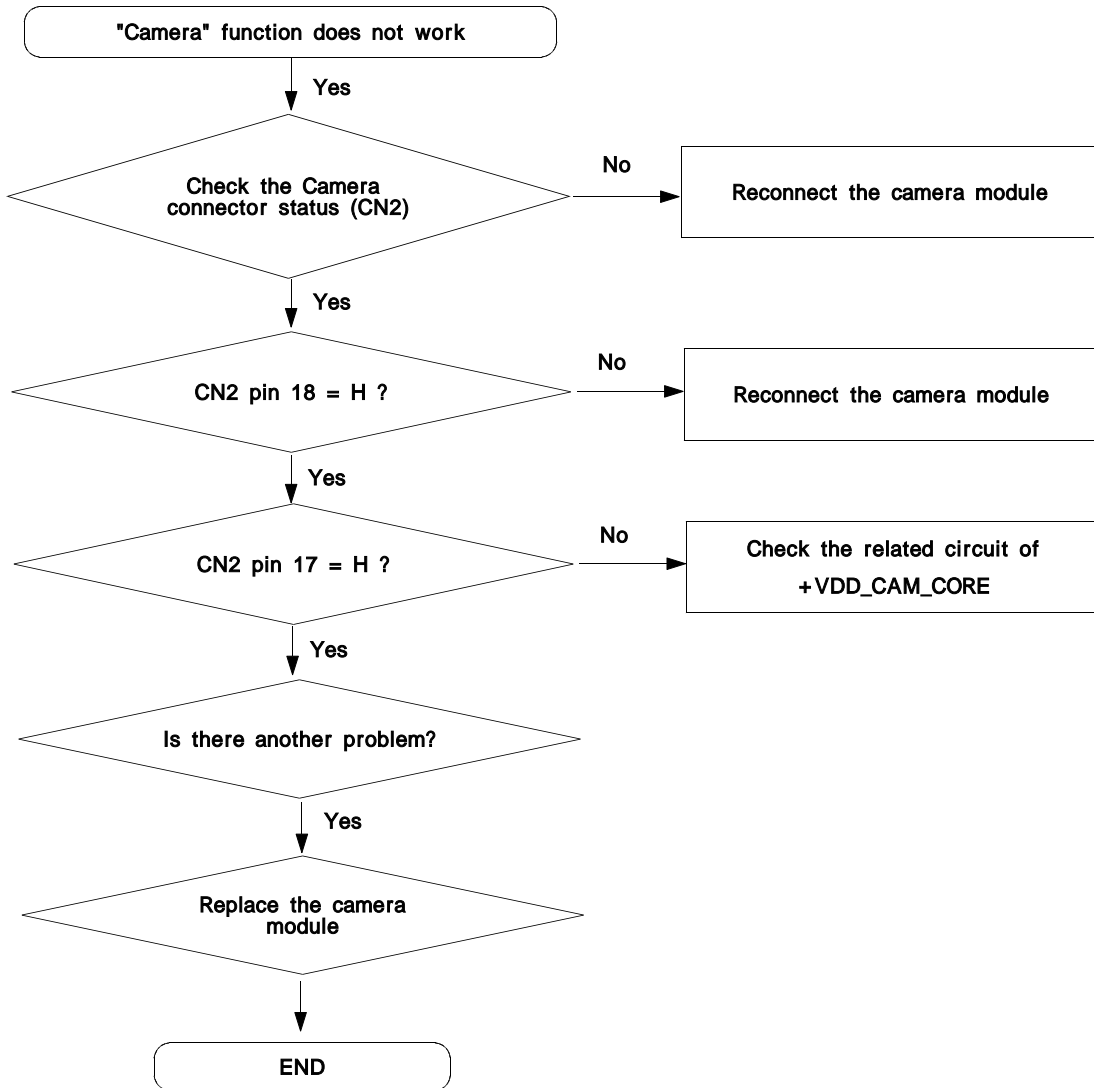
9-9. Key Back Light

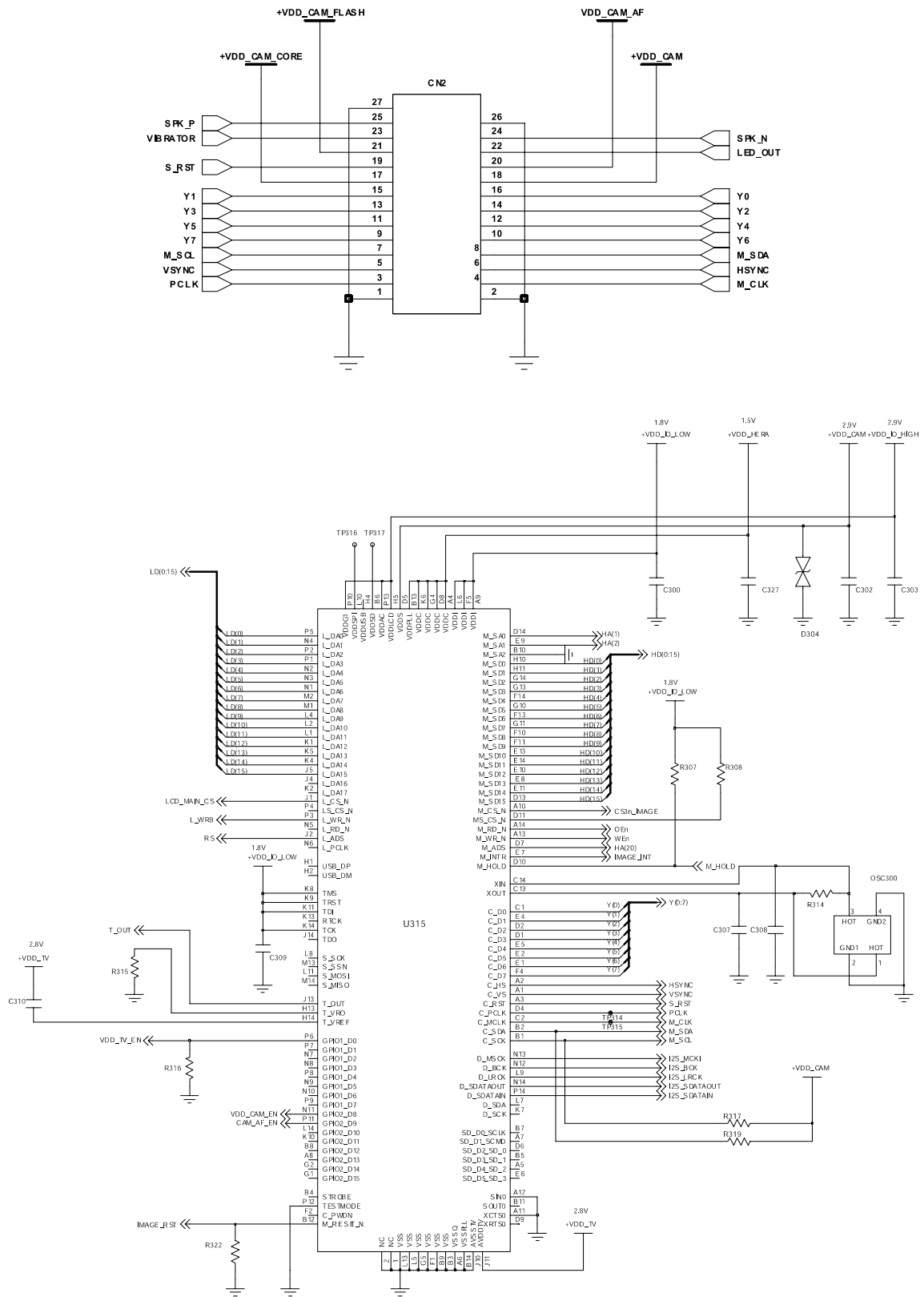


9-10. Sub Key Back Light



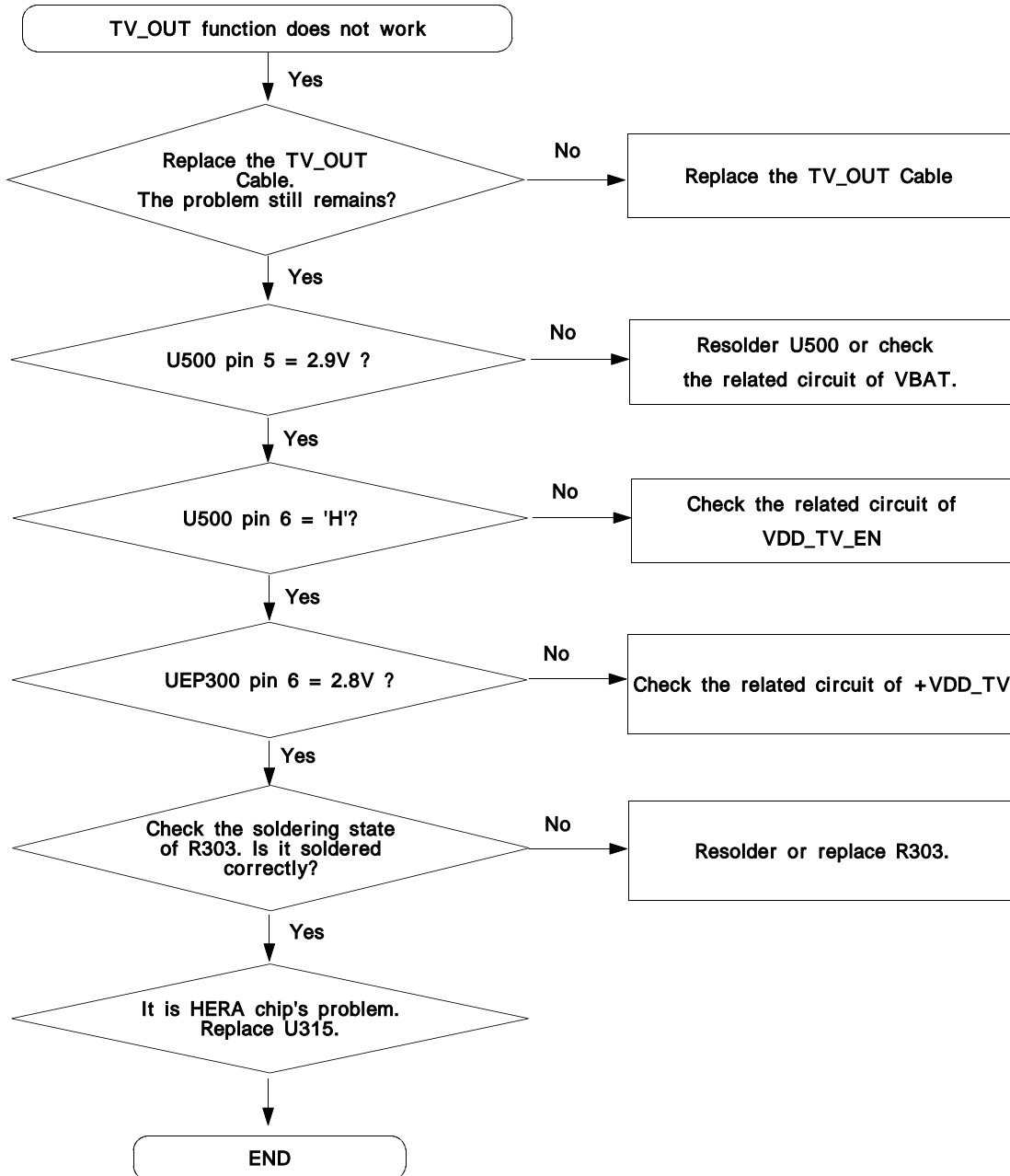
9-11. Camera part



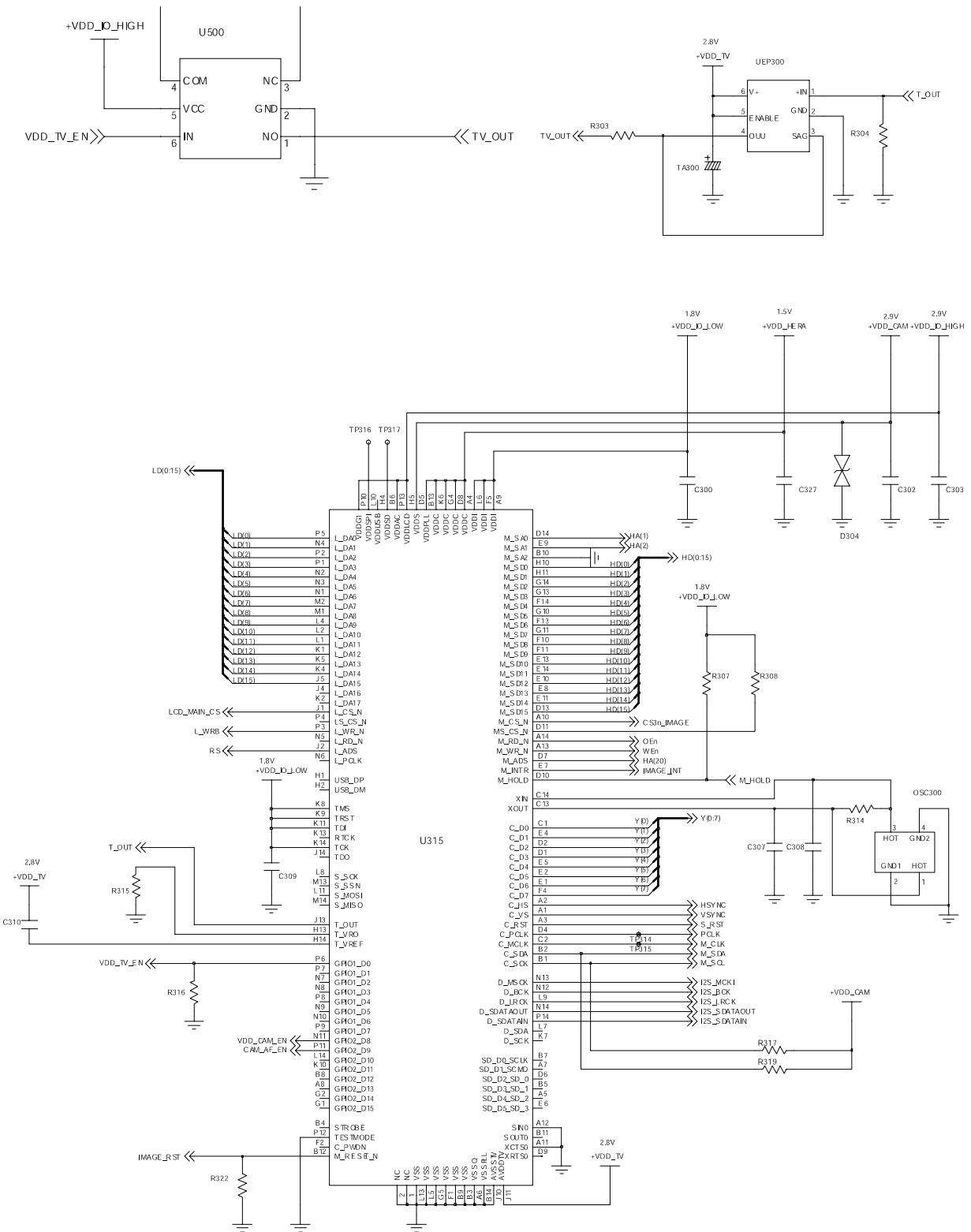


HERACHIP

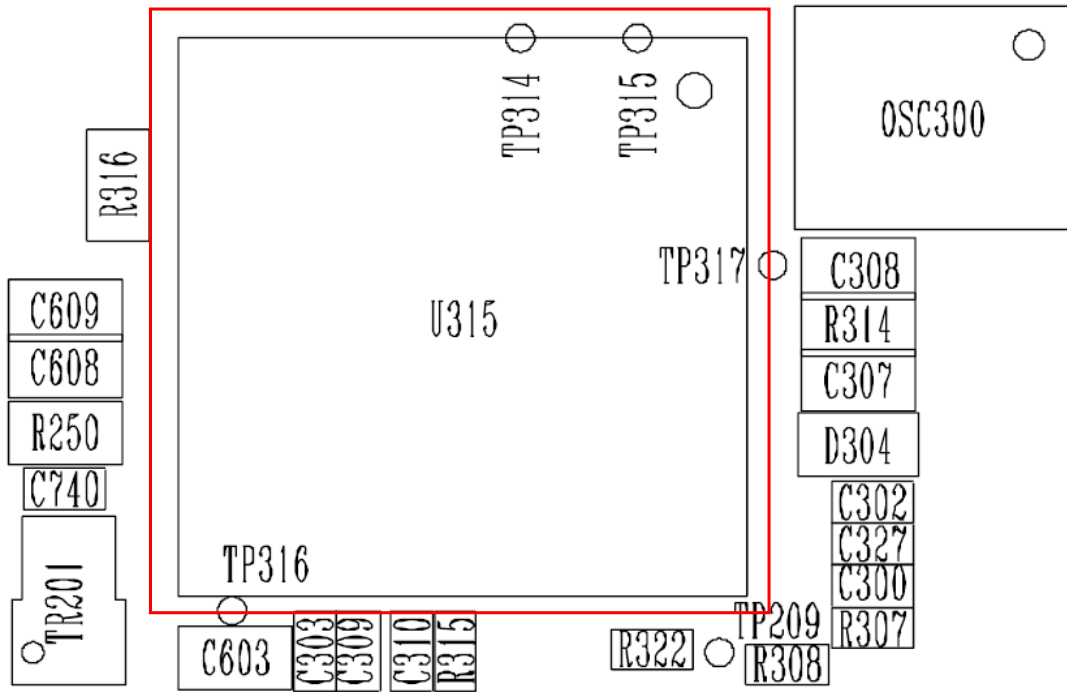
9-12. TV_OUT Part



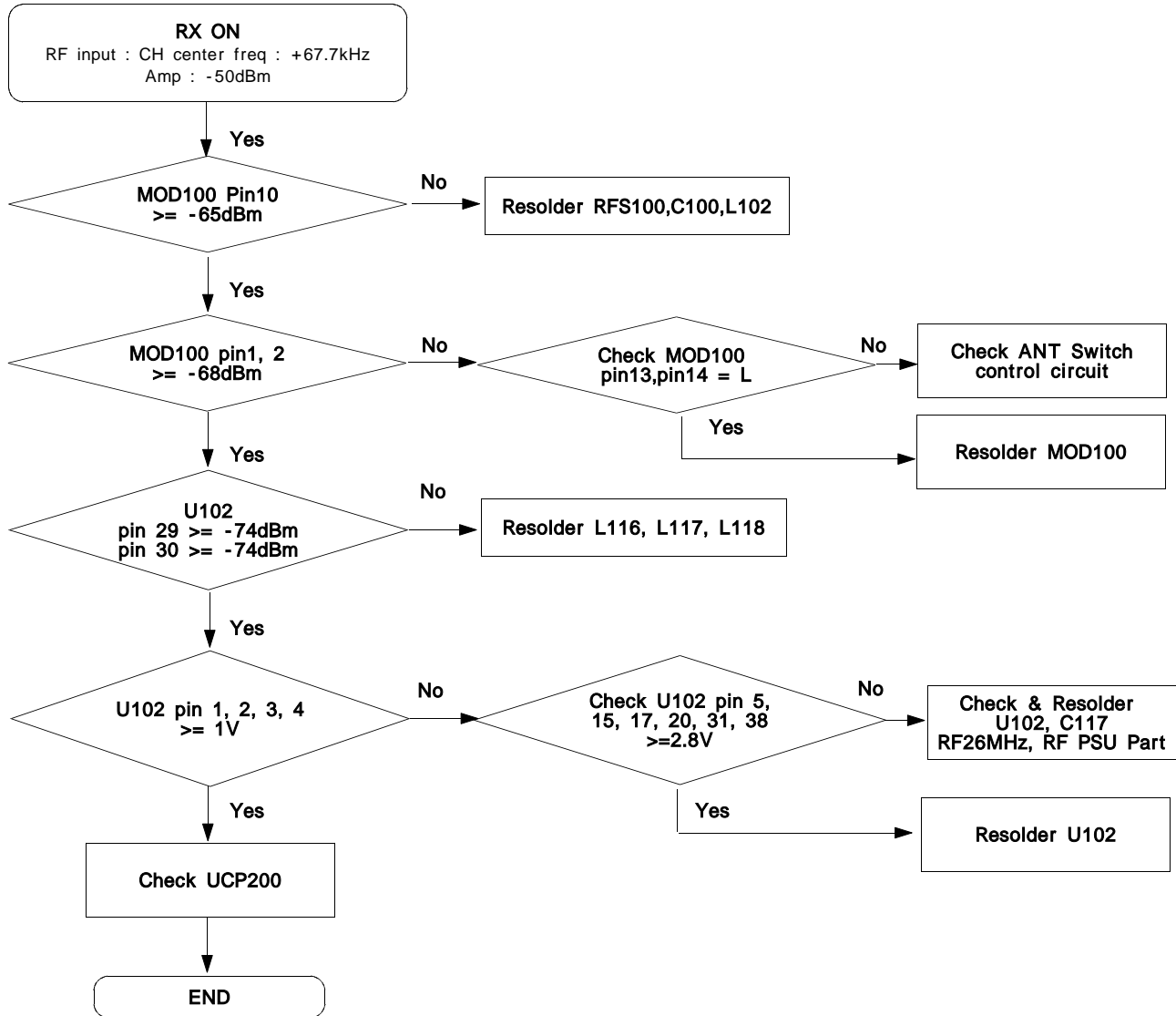
Flow Chart of Troubleshooting



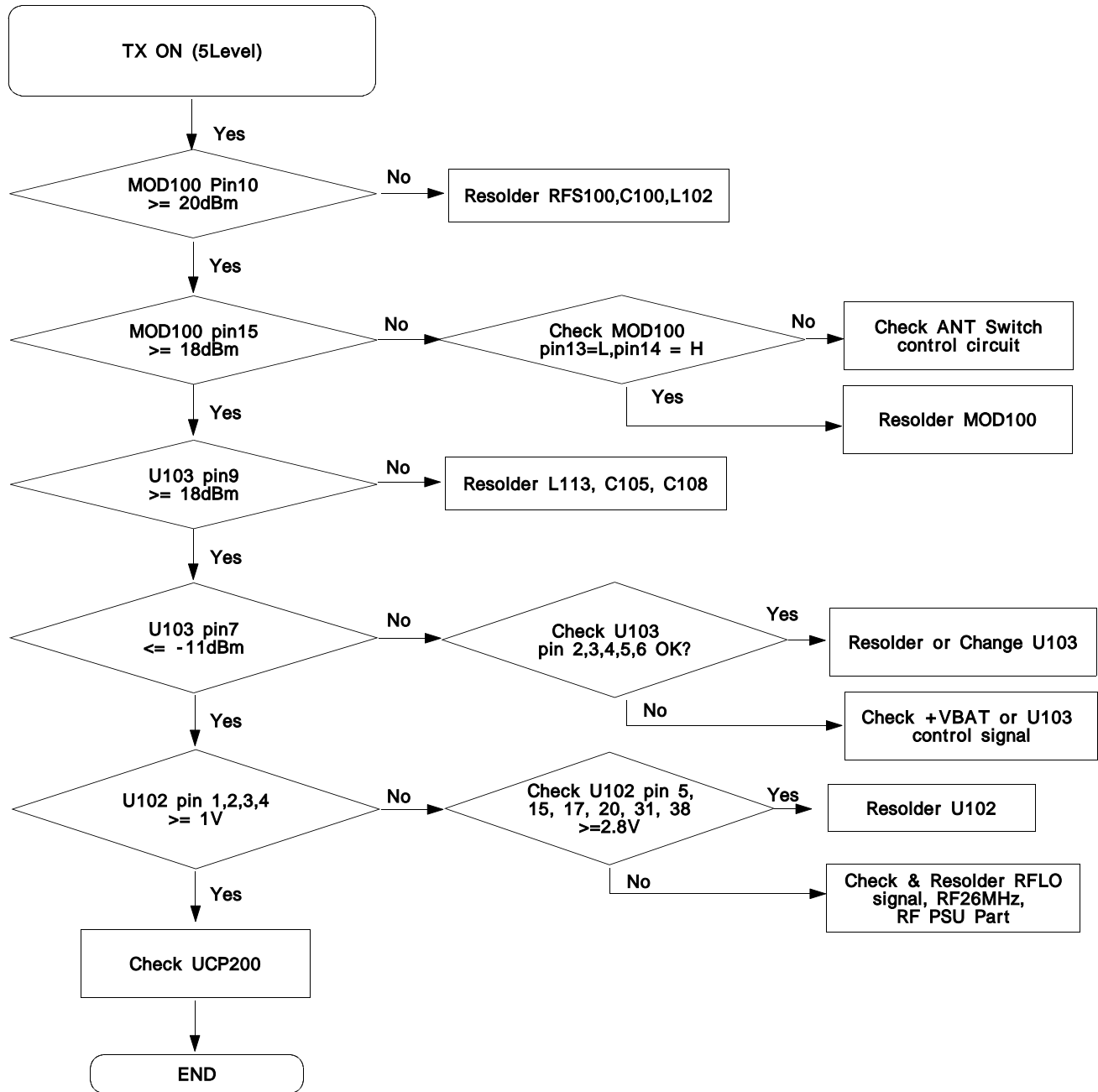
HERACHIP



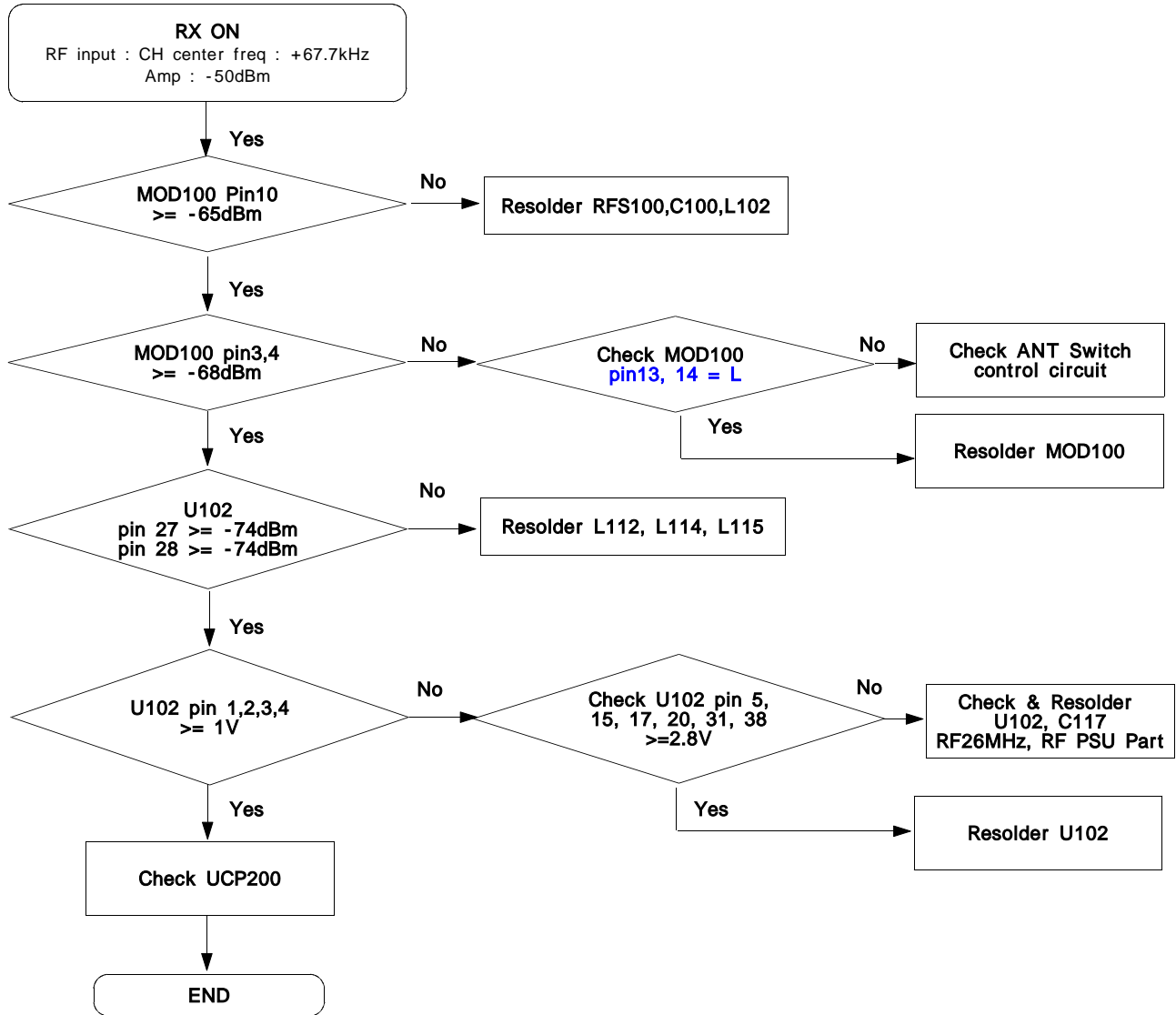
9-13. GSM850 Receiver



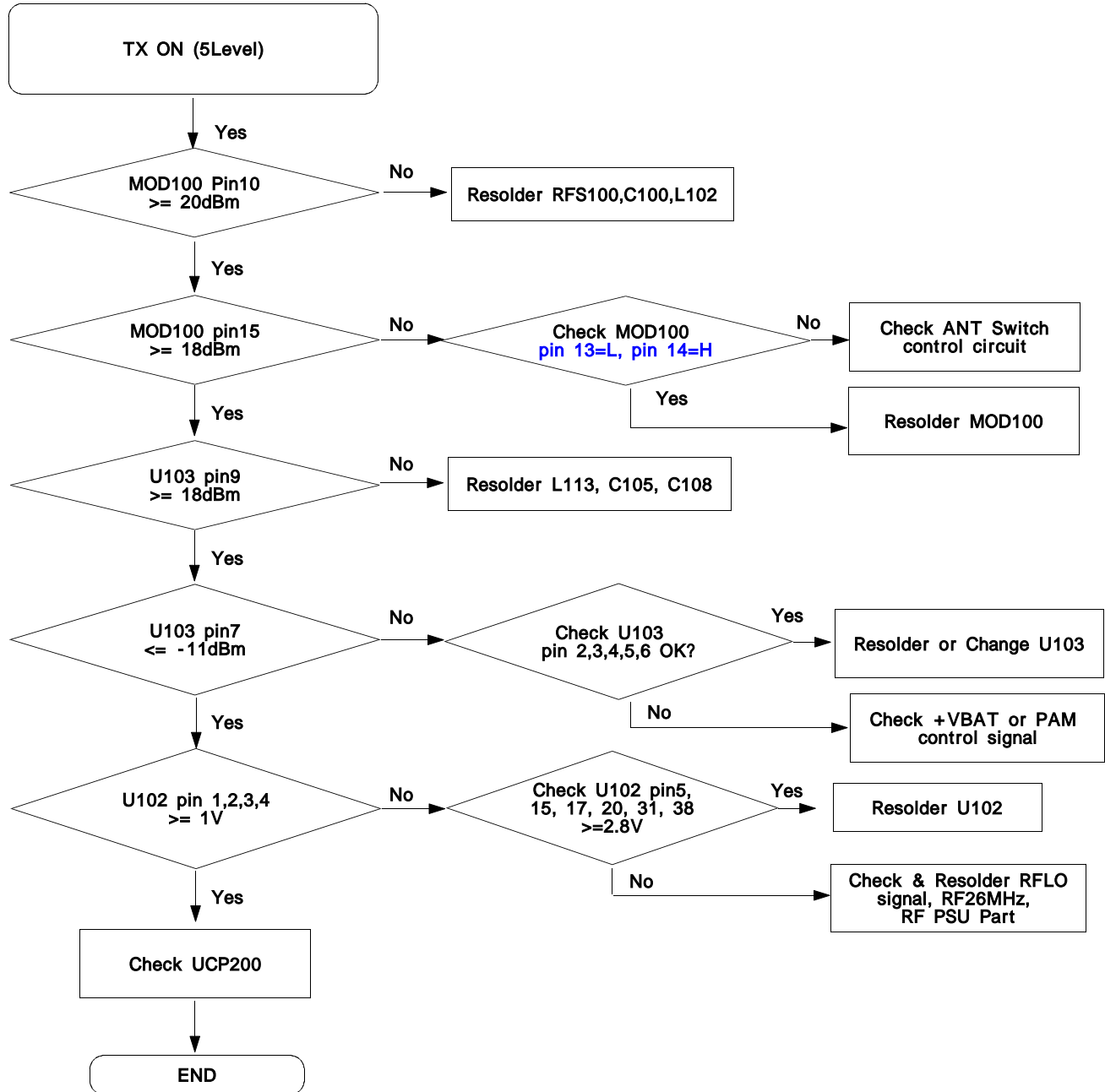
9-14. GSM850 Transmitter



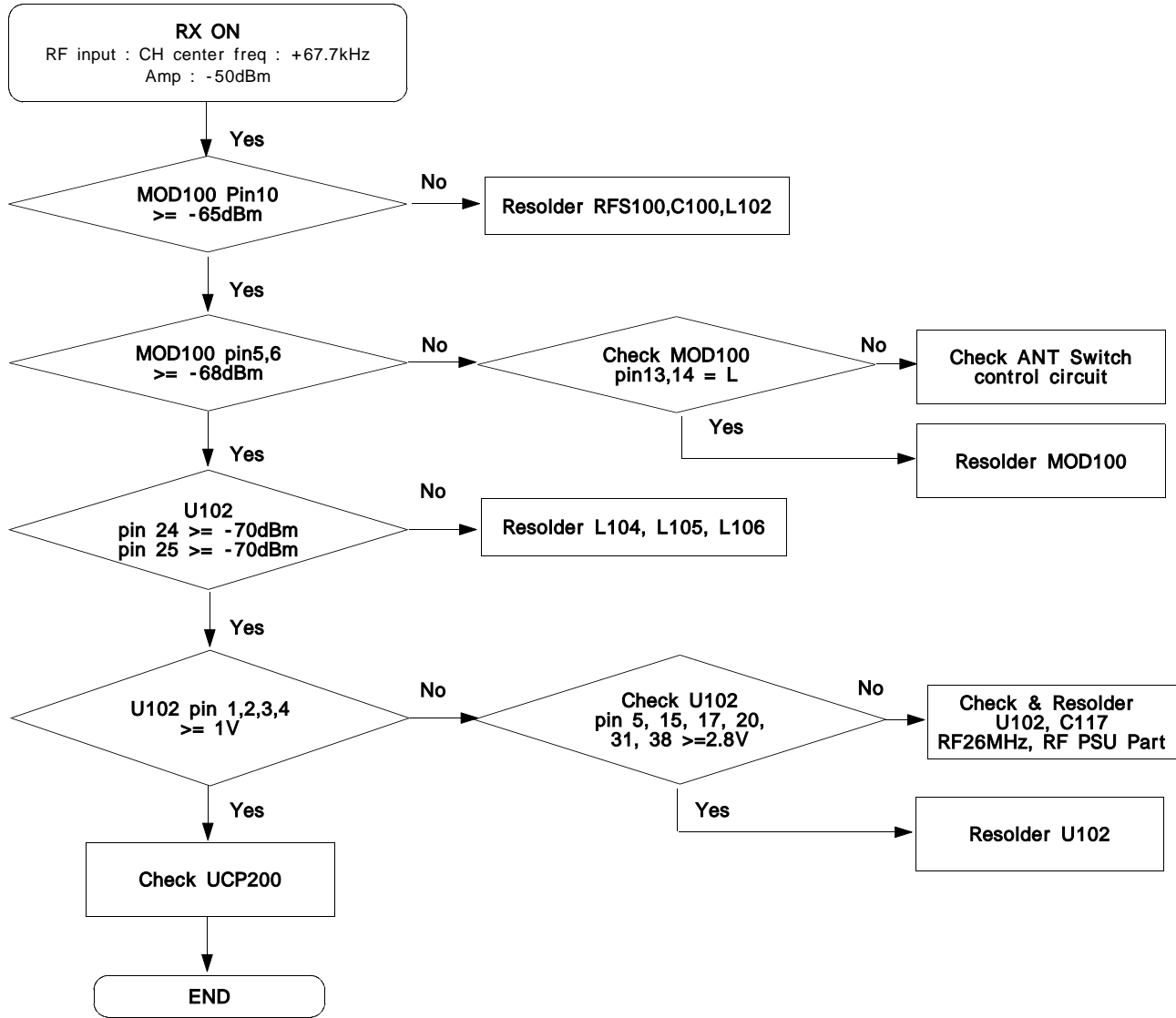
9-15. GSM900 Receiver



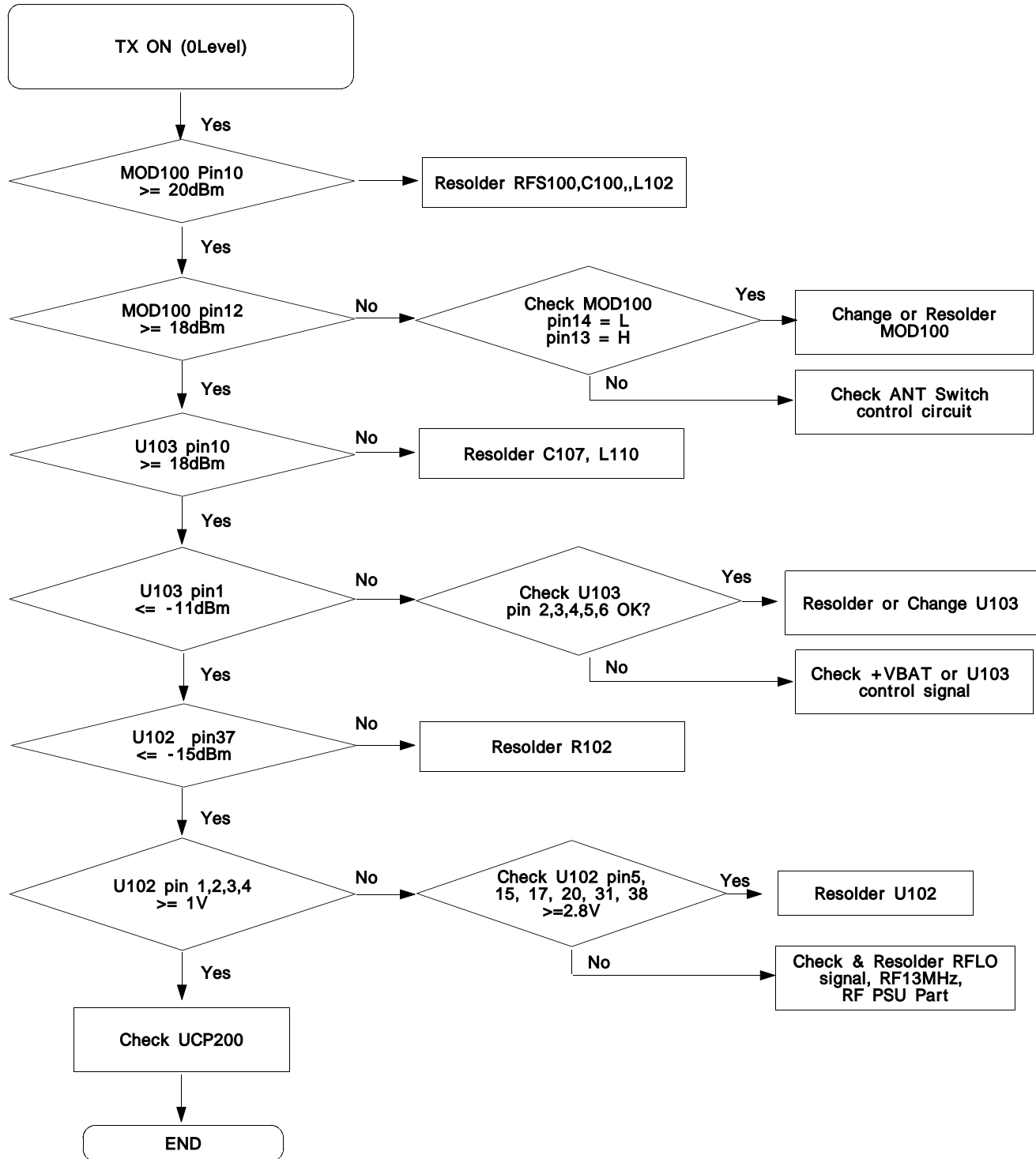
9-16. GSM900 Transmitter



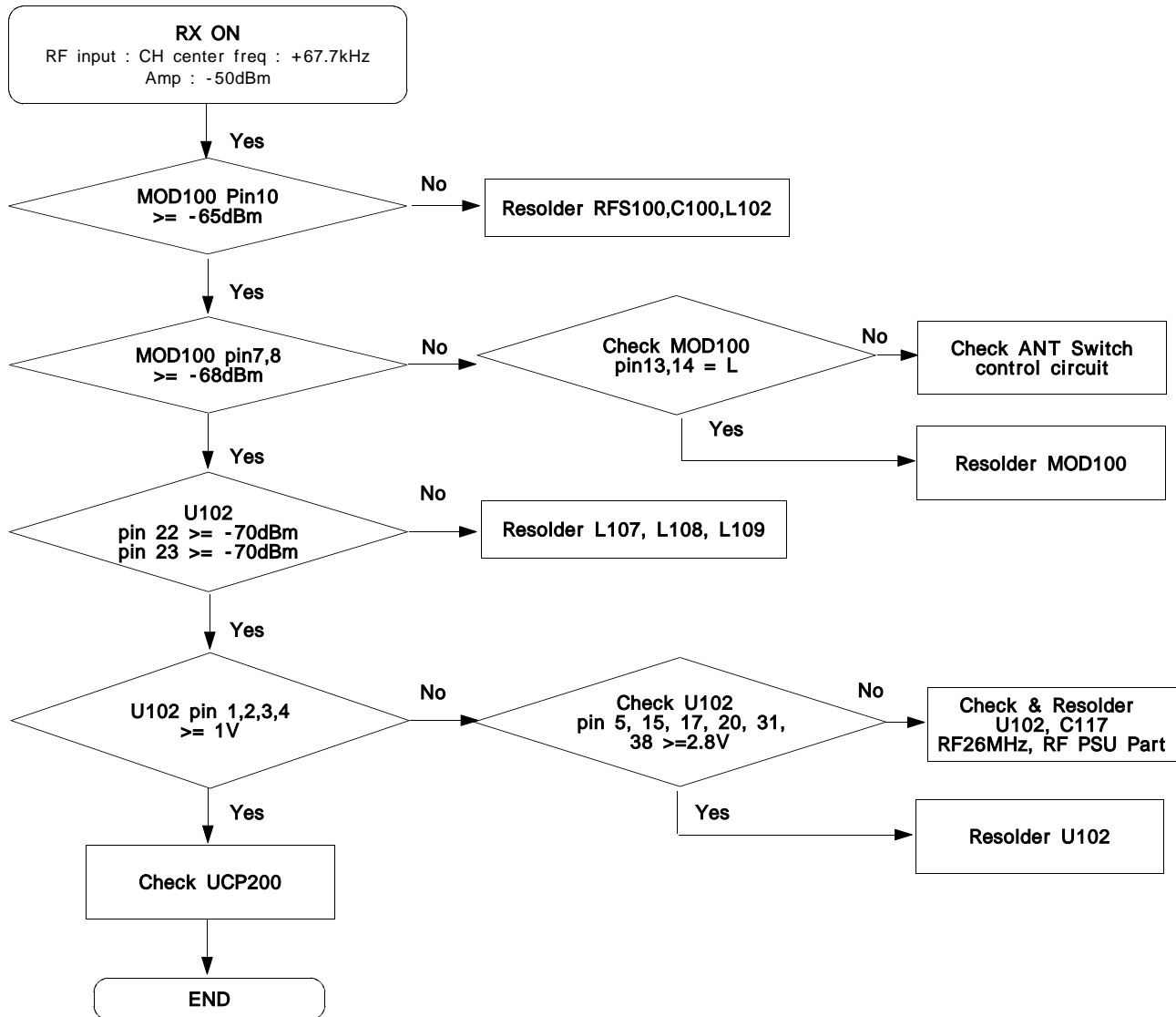
9-17. DCS Receiver



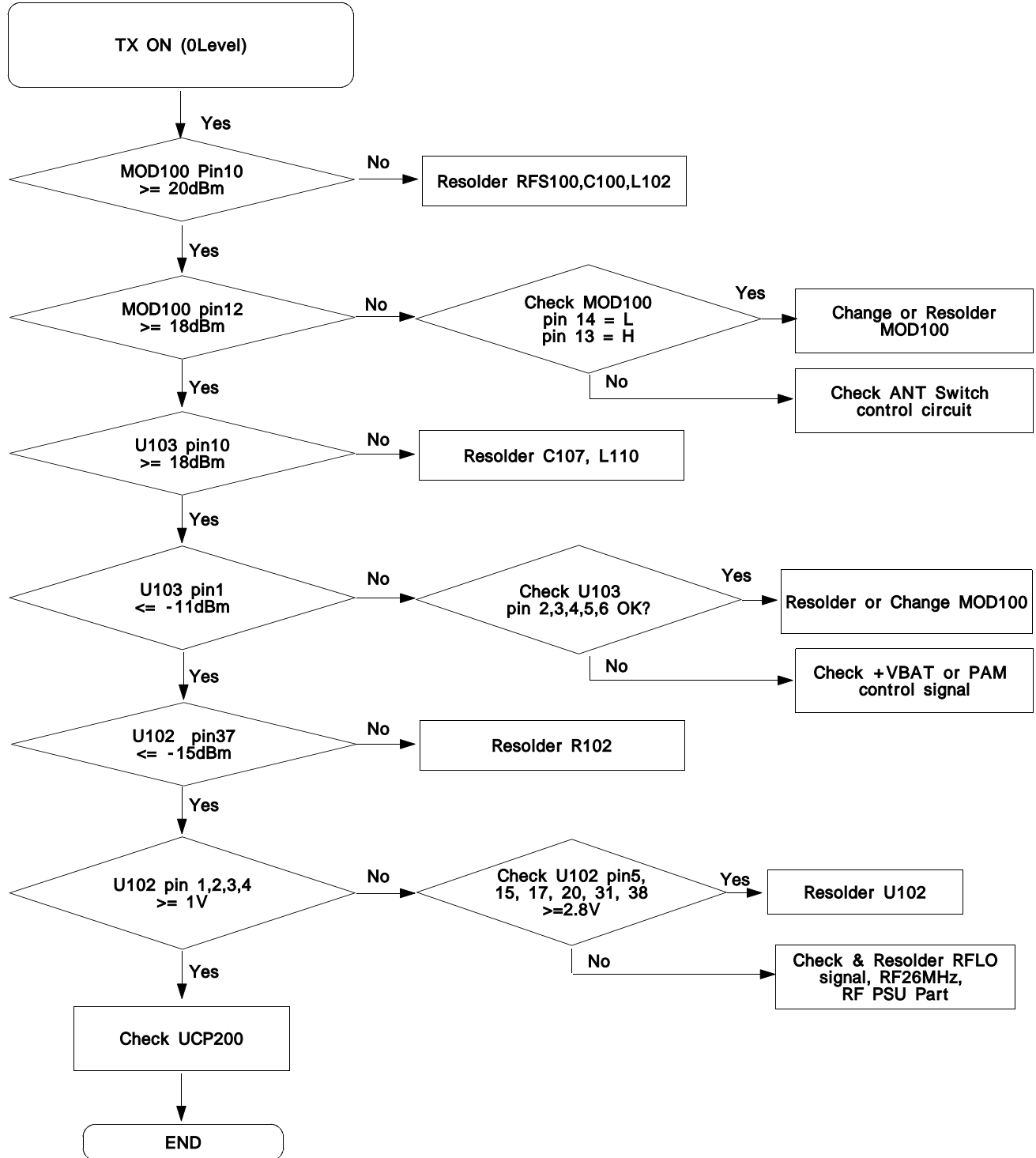
9-18. DCS Transmitter

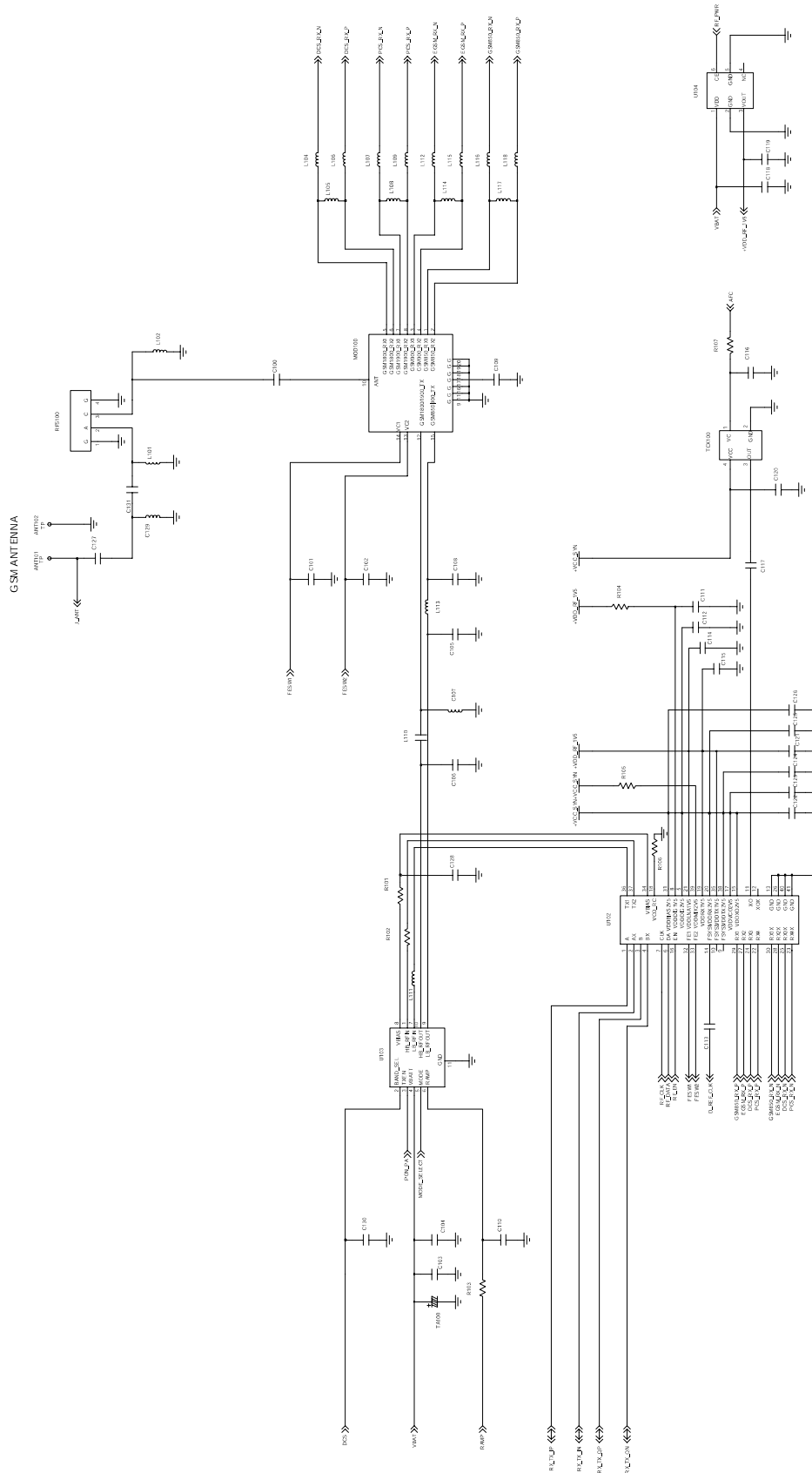


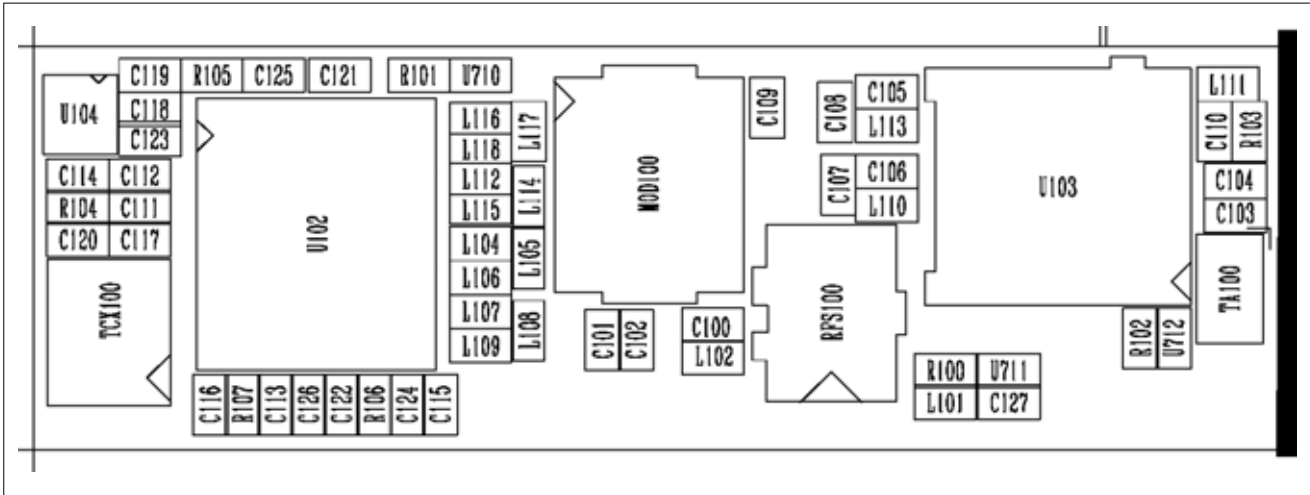
9-19. PCS Receiver



9-20. PCS Transmitter







10. Reference data

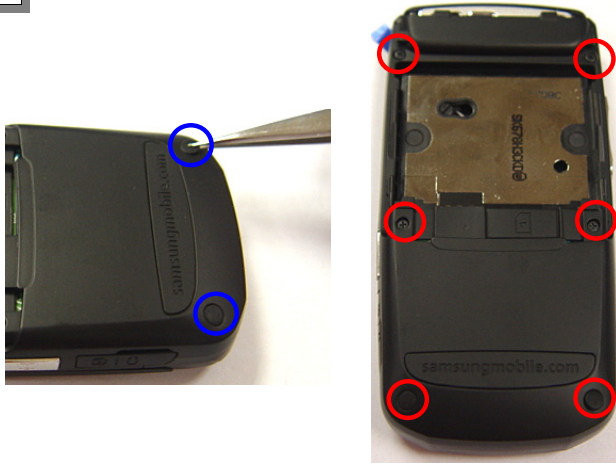

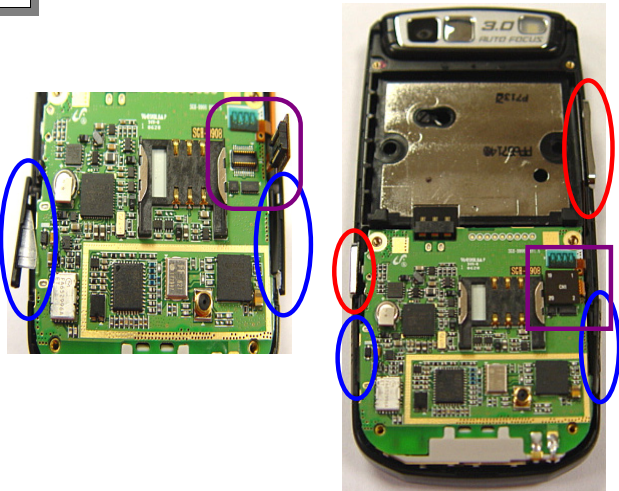
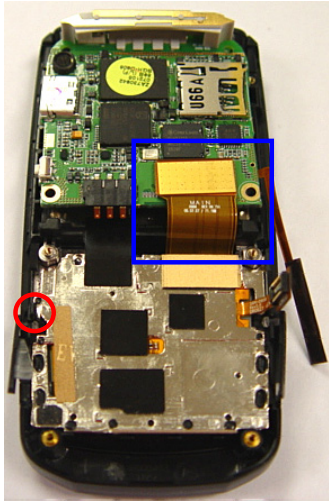
Reference Abbreviate

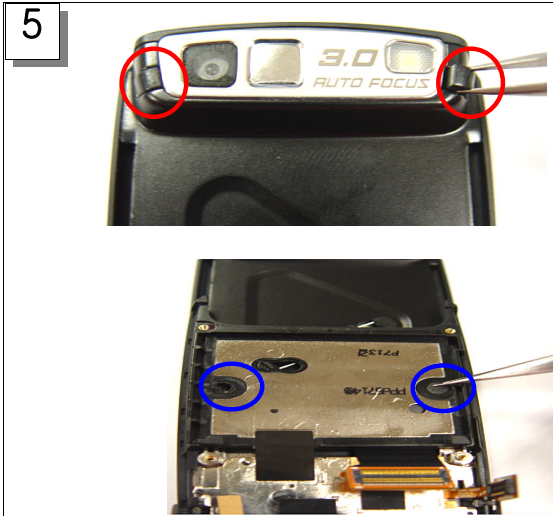
AAC: Advanced Audio Coding.
AVC : Advanced Video Coding.
BER : Bit Error Rate
BPSK: Binary Phase Shift Keying
CA : Conditional Access
CDM : Code Division Multiplexing
C/I : Carrier to Interference
DMB : Digital Multimedia Broadcasting
EN : European Standard
ES : Elementary Stream
ETSI: European Telecommunications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

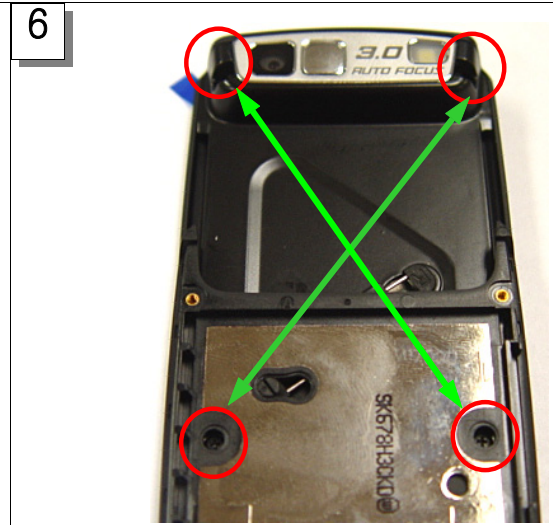
11-1. Disassembly

— Con Type

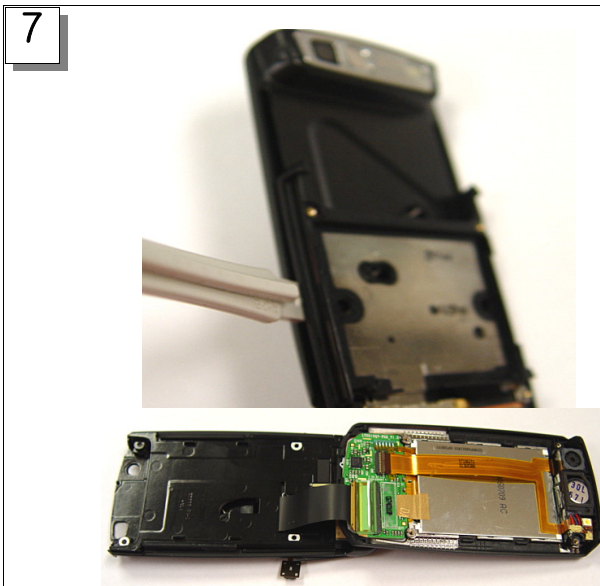
<p>1</p> 	<p>2</p> 
<p>1. Remove 2 screw caps. 2. Loosen a screw this six point form Rear.</p>	<p>1. Make the space between rear cover and front cover using assembly stick. 2. And then widen space with hand and separate 2 parts.</p>
<p>3</p> 	<p>4</p> 
<p>1. Remove 2 keys. (Red) 2. Open 2 covers. (Blue) 3. Open the Key connector. (Violet)</p>	<p>1. Upside down the main PBA with moving slide. Be careful the hook. (Red) 2. Open the LCD connector. (Blue)</p>



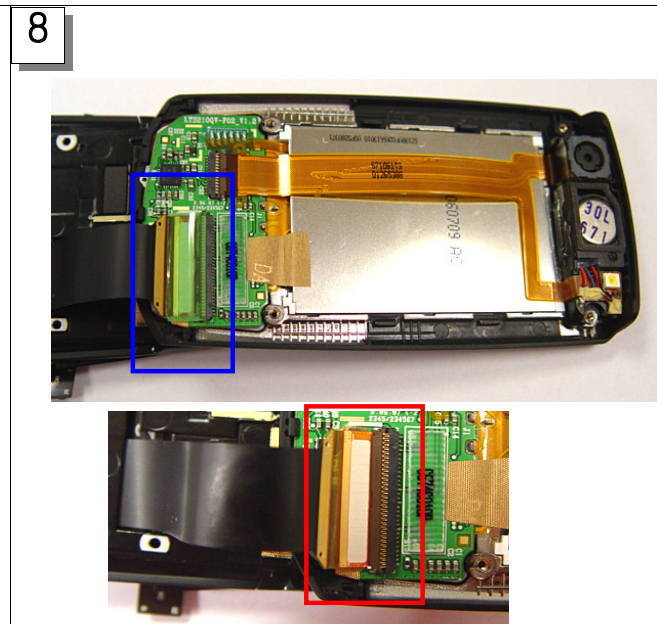
1. Open the slide. (Slide up)
2. Remove the 4 screw caps with pinset.



1. Loosen a screw 4 point form Lower.

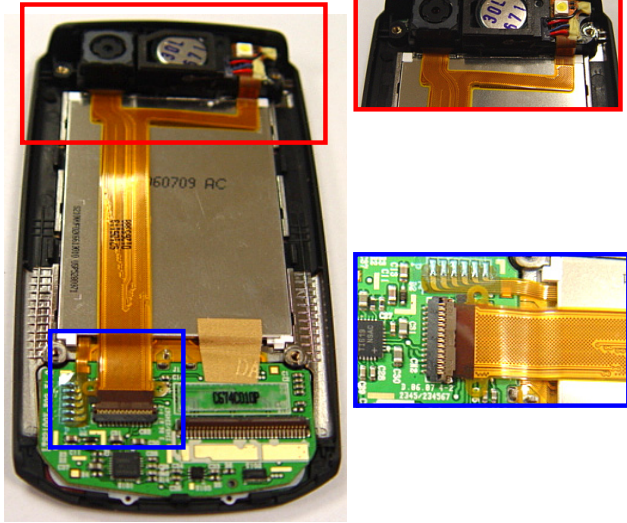


1. Make the space between slide upper and slide lower using assembly stick.
2. And then widen space with hand and separate 2 parts.



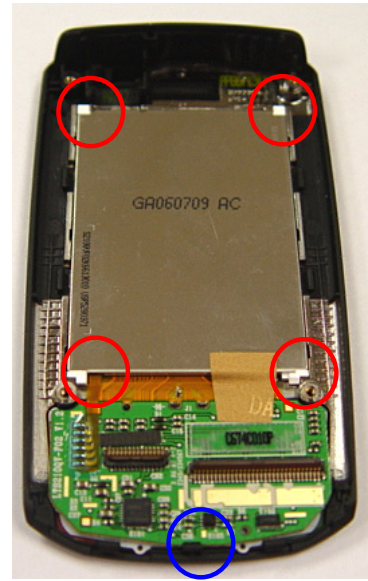
1. Remove the insulation tape.
2. And separate LCD connector from sub-PBA.

9



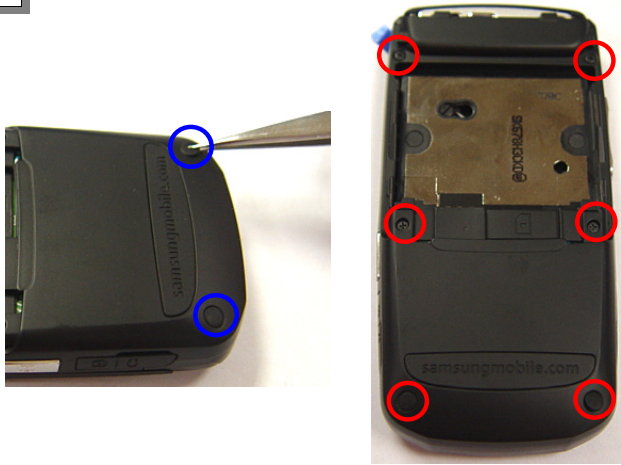

1. Separate Camera connector from sub-PBA and speaker module and camera from slide upper.

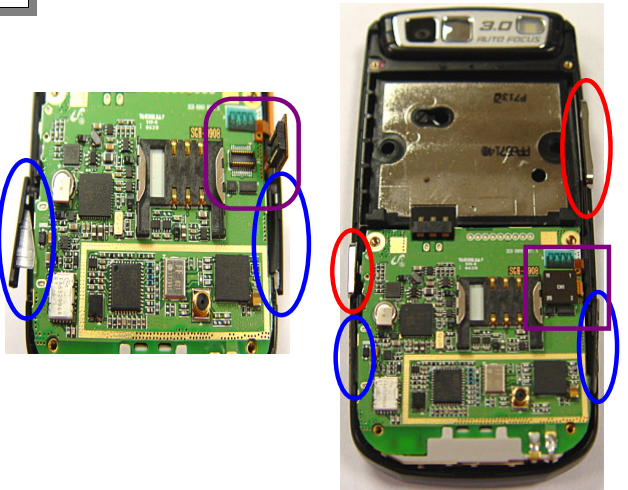
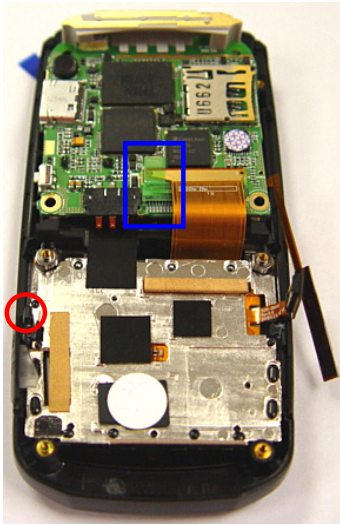
10

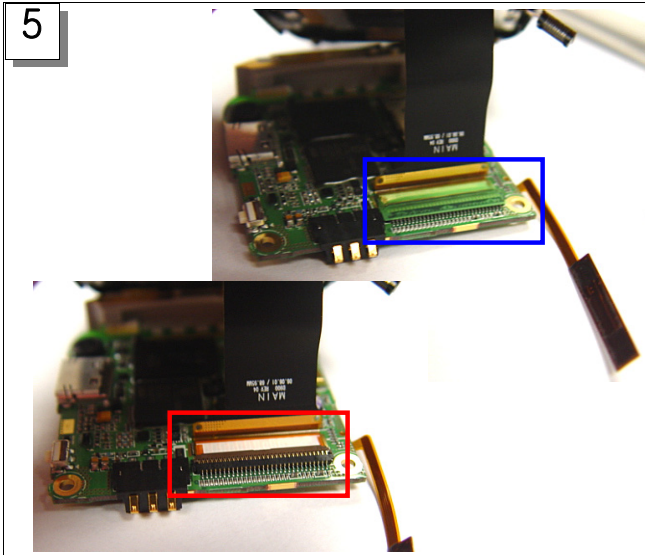


1. Separate sub-PBA from slide upper. And then caution the hook.
2. Separate LCD module from slide upper using 4 white points.

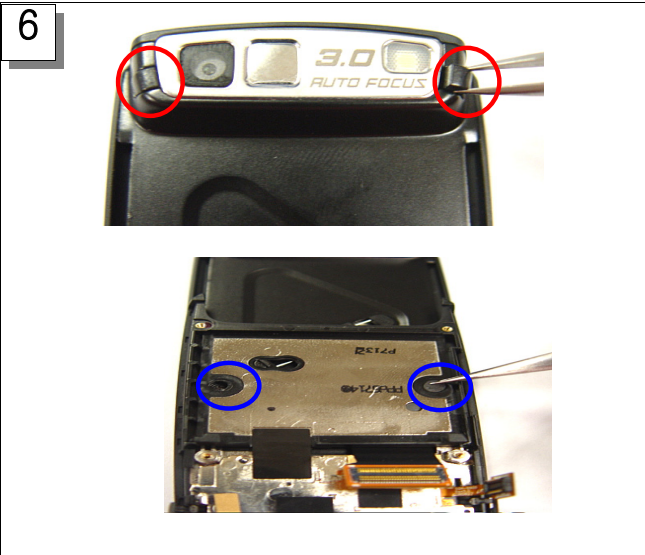
– Ho Type

<p>1</p> 	<p>2</p> 
<p>1. Remove 2 screw caps. 2. Loosen a screw this six point form Rear.</p>	<p>1. Make the space between rear cover and front cover using assembly stick. 2. And then widen space with hand and separate 2 parts.</p>

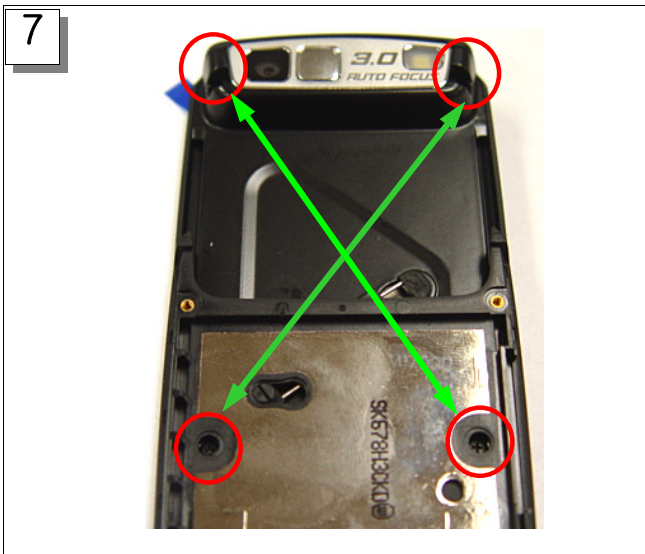
<p>3</p> 	<p>4</p> 
<p>1. Remove 2 keys. (Red) 2. Open 2 covers. (Blue) 3. Open the Key connector. (Violet)</p>	<p>1. Upside down the main PBA with moving slide. Be careful the hook. (Red) 2. Remove the insulation tape. (Blue)</p>



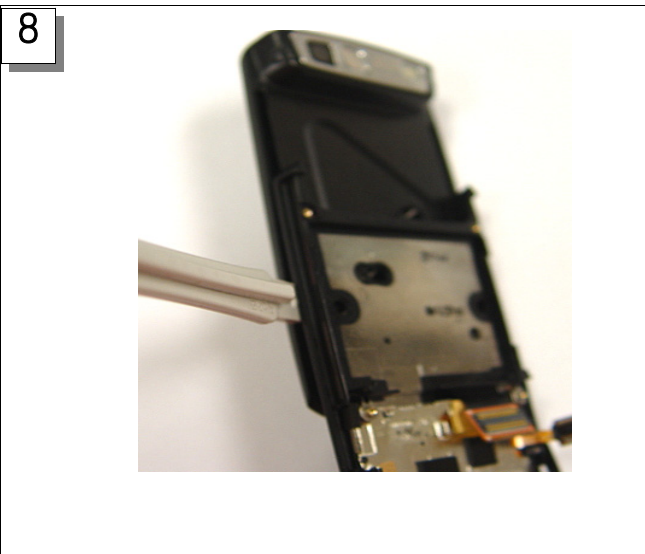
1. Remove the insulation tape. (Blue)
2. And separate LCD connector from Main-PBA. (Red)



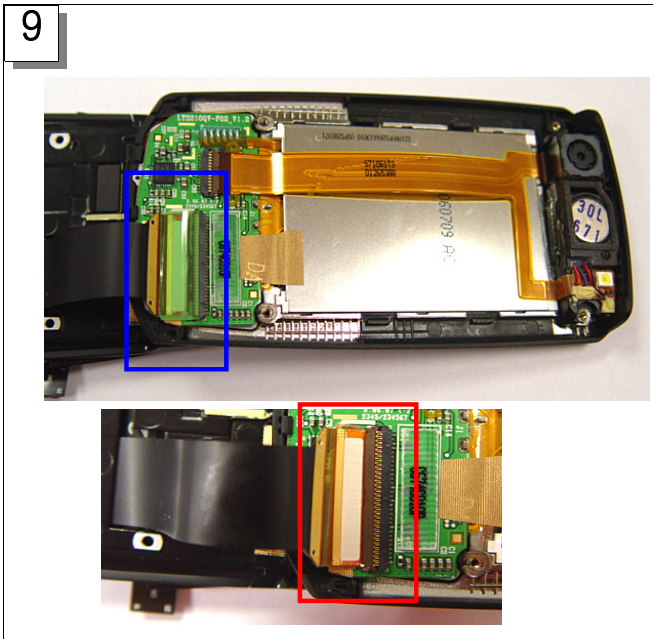
1. Open the slide. (Slide up)
2. Remove the 4 screw caps with pinset.



1. Loosen a screw 4 point form Lower.

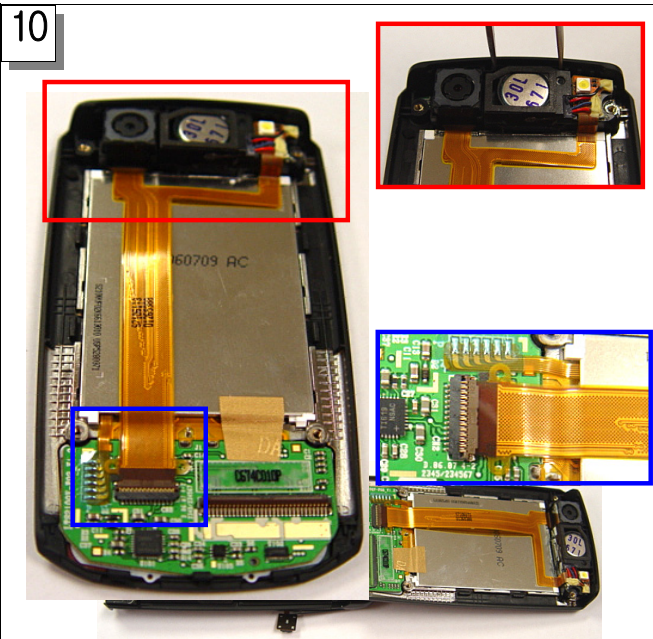


1. Make the space between slide upper and slide lower using assembly stick.
2. And then widen space with hand and separate 2 parts.



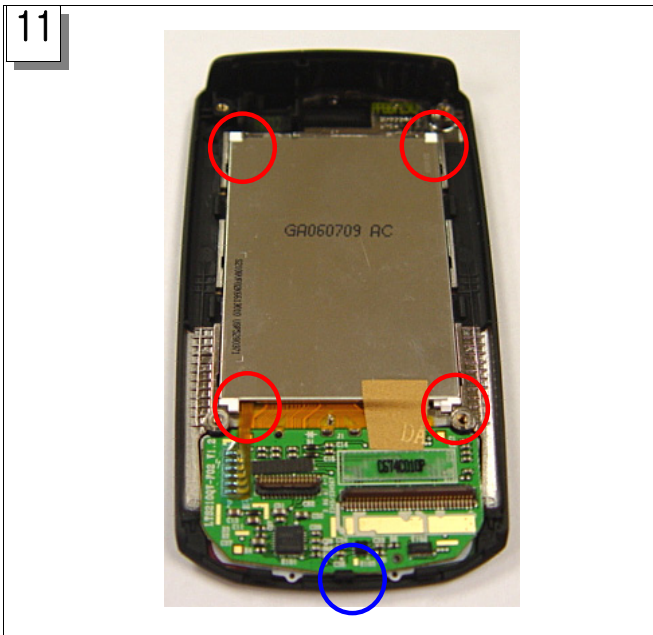
9

1. Remove the insulation tape.
2. And separate LCD connector from sub-PBA.



10

1. Separate Camera connector from sub-PBA and speaker module and camera from slide upper.


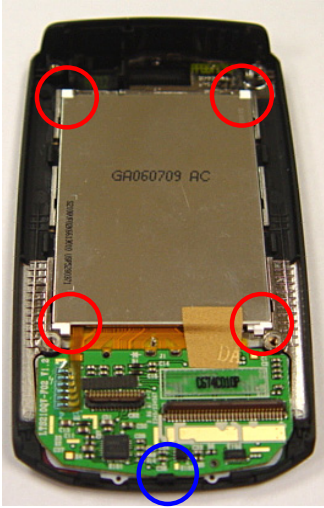


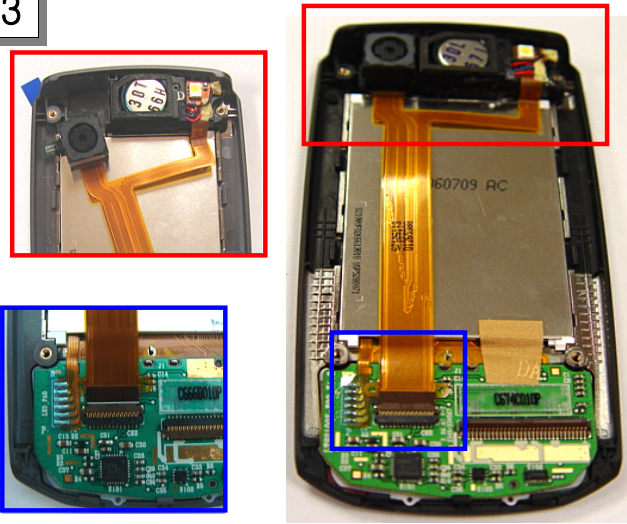
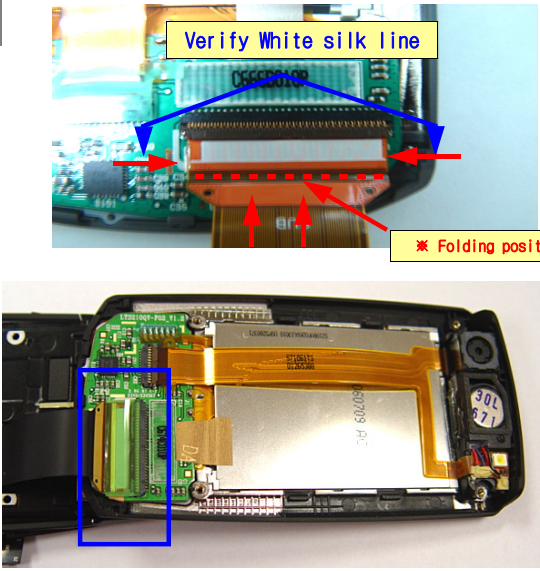
11

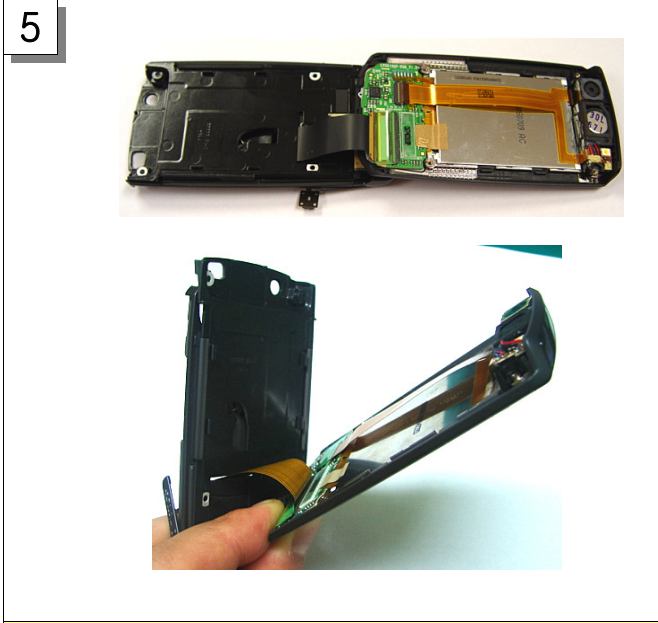
1. Separate sub-PBA from slide upper. And then caution the hook.
2. Separate LCD module from slide upper using 4 white points.

11-2 Assembly

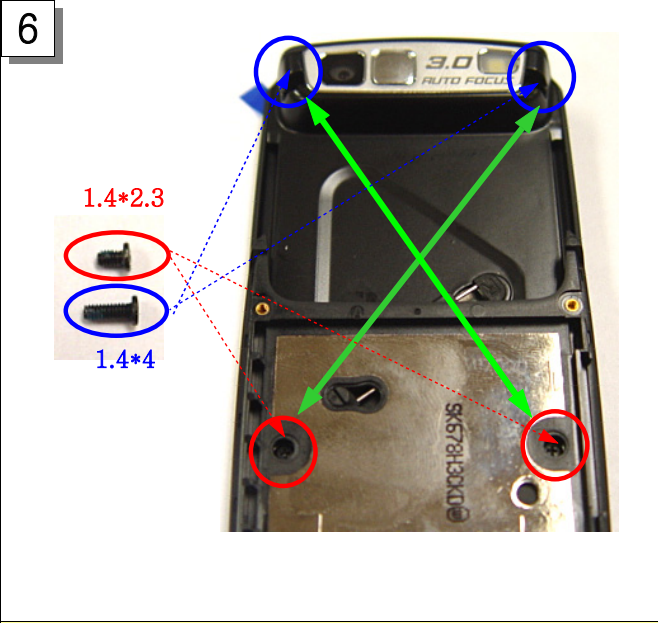
- Con Type

<p>1</p> 	<p>2</p> 
<p>1. Prepare the slide upper and LCD module.</p>	<p>1. At first attach LCD to main window and put the sub PBA considering sub hook(blue circle).</p>

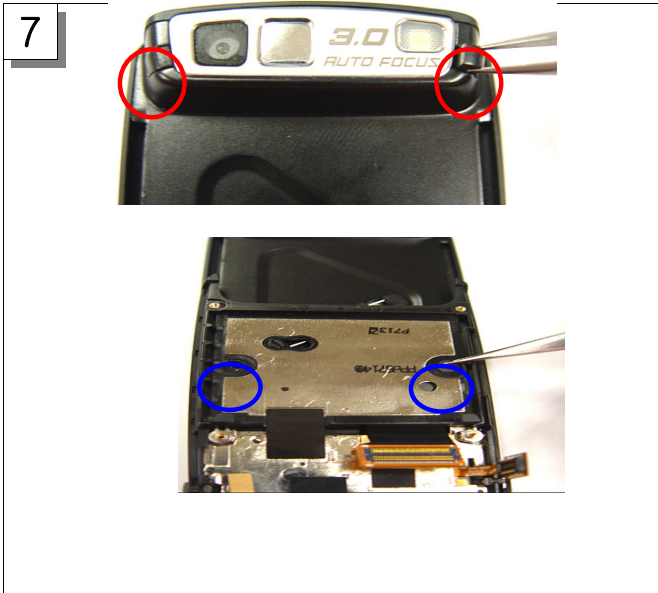
<p>3</p> 	<p>4</p> 
<p>1. At first put the speaker and motor module. 2. And put the camera at slide upper. (Red) 3. And combined camera connector to sub-PBA. (Blue) 4. And put insulation tape on connector.</p>	<p>1. At first combined LCD connector to sub-PBA according to picture. 2. And put insulation tape on connector.</p>



1. Combined slide upper and lower from top side after slide up.
2. And push the edge side for locking.



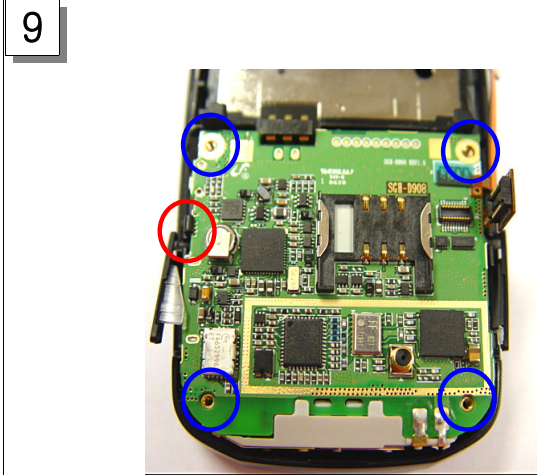
1. Fasten a screw at 4 points with driver after slide up.
2. Caution screw size.



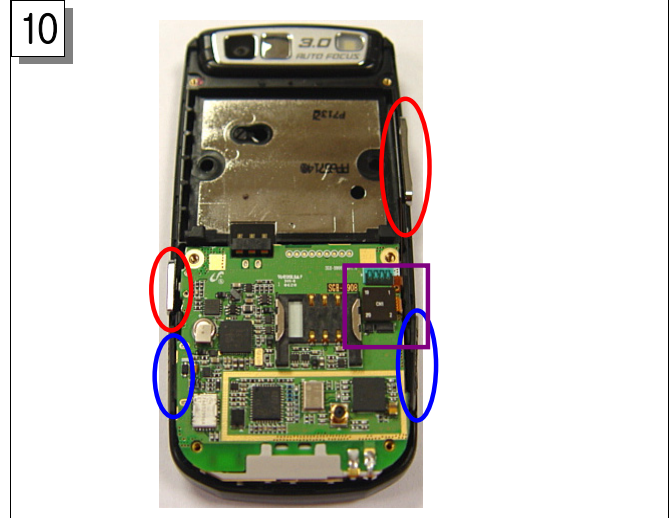
1. Put the 2 kind of screw caps on screw hole.



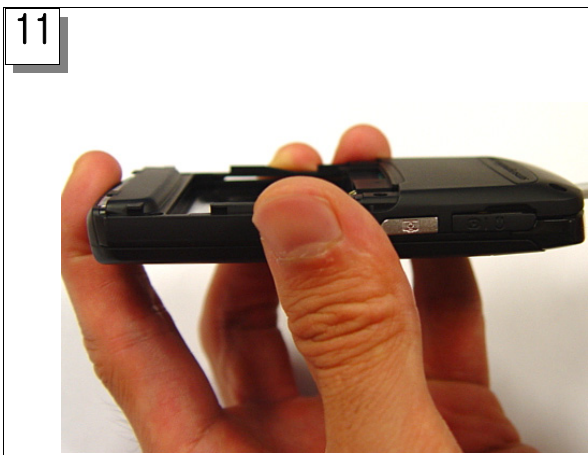
1. Put the main-PBA on front cover.
2. Combined LCD connector to main-PBA.



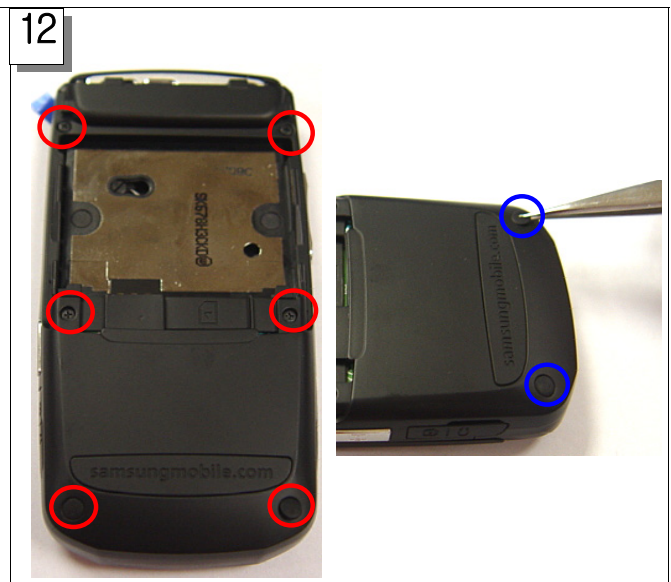
1. Put the main-PBA on 4 screw hole. (Blue)
2. Locking the one hook. (Rec)



1. Combined Key connector and put side key and camera key.(Violet, Red)
2. Close the cover. (Blue)


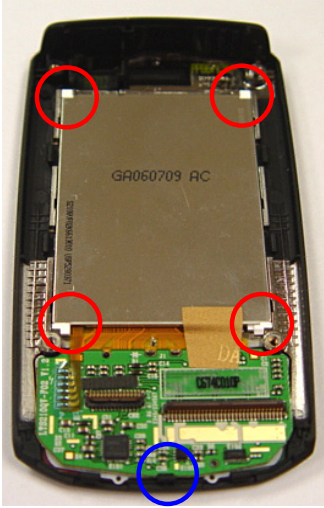


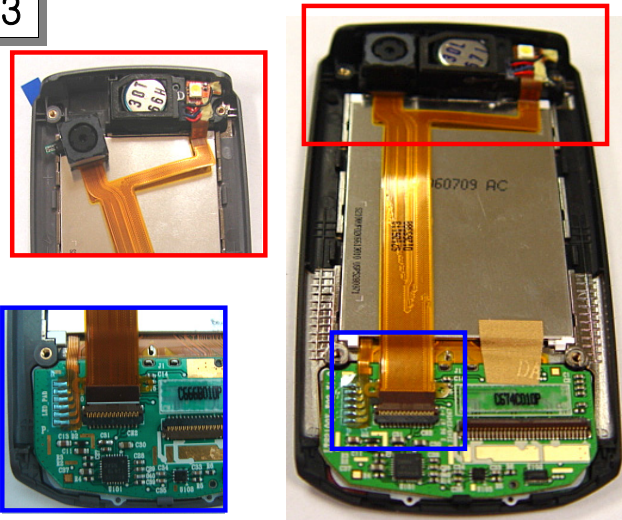
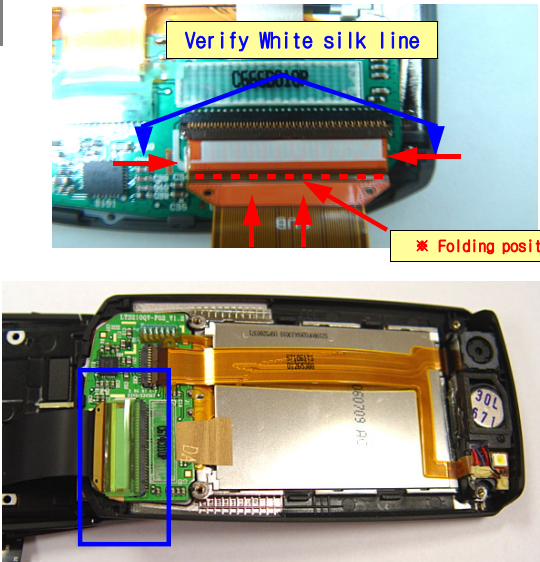
1. Put rear cover on Assay and lock.
2. Be careful losing key.

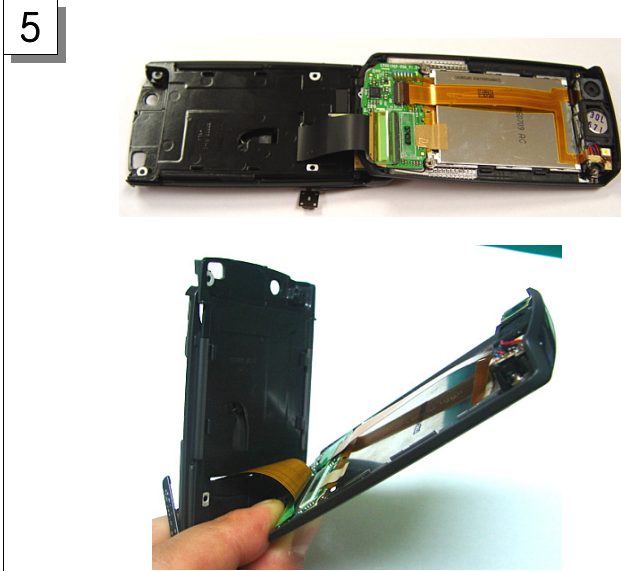


1. Fasten a screw at 6 points with driver.
2. Put the screw cap on below hole with pinset

– Ho Type

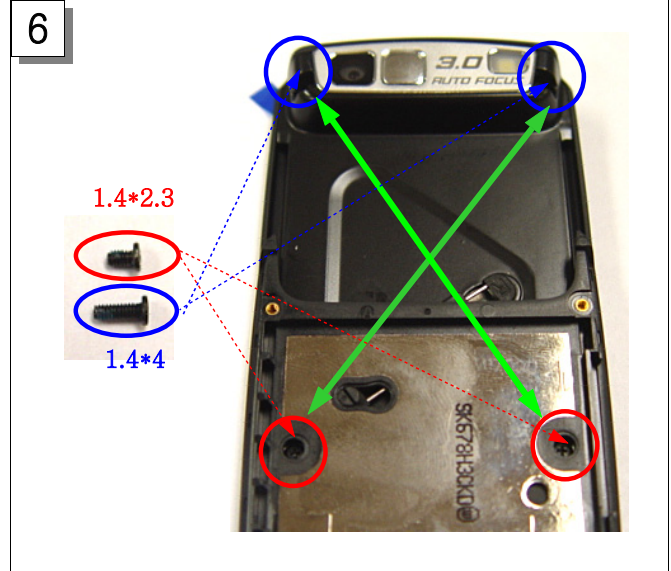
<p>1</p> 	<p>2</p> 
<p>1. Prepare the slide upper and LCD module.</p>	<p>1. At first attach LCD to main window and put the sub PBA considering sub hook(blue circle).</p>

<p>3</p> 	<p>4</p> 
<p>1. At first put the speaker and motor module. 2. And put the camera at slide upper. (Red) 3. And combined camera connector to sub-PBA. (Blue) 4. And put insulation tape on connector.</p>	<p>1. At first combined LCD connector to sub-PBA according to picture. 2. And put insulation tape on connector.</p>



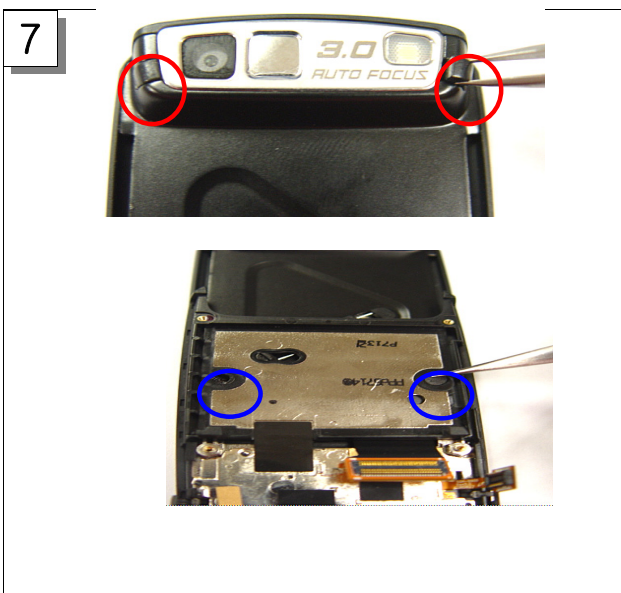
5

1. Combined slide upper and lower from top side after slide up.
2. And push the edge side for locking.



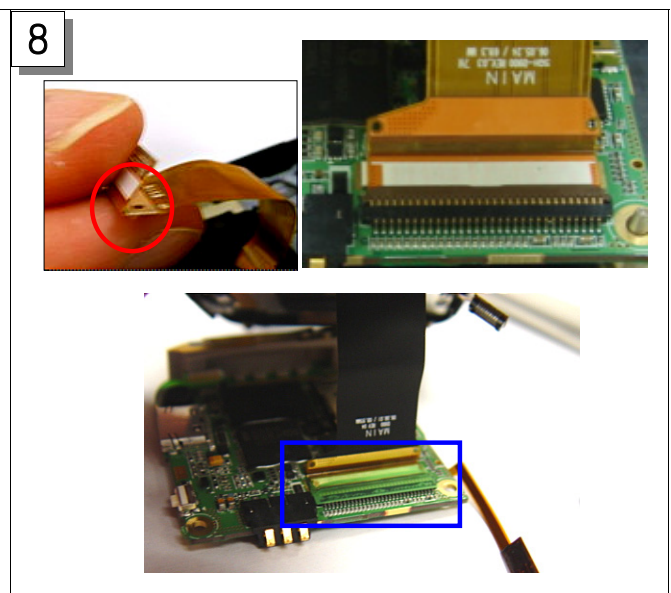
6

1. Fasten a screw at 4 points with driver after slide up.
2. Caution screw size.



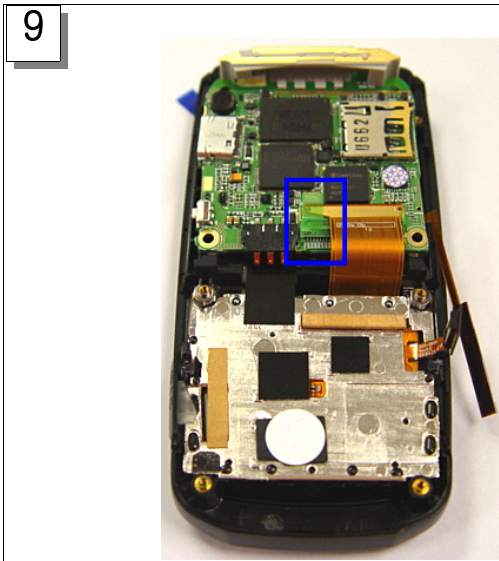
7

1. Put the 2 kind of screw caps on screw hole.

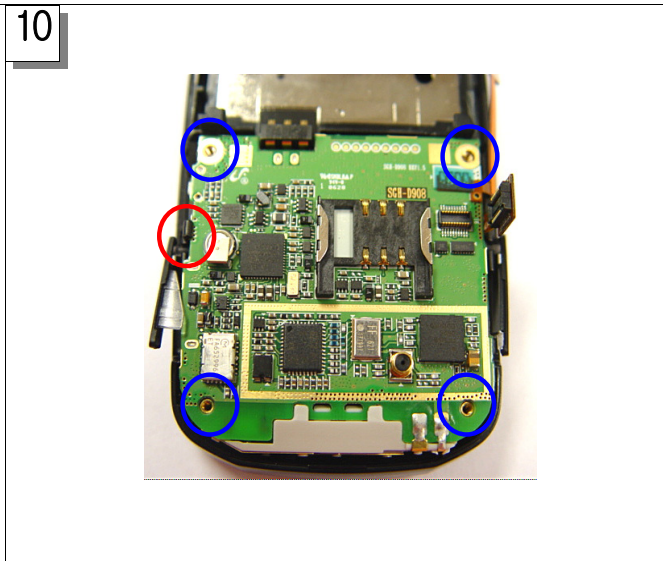


8

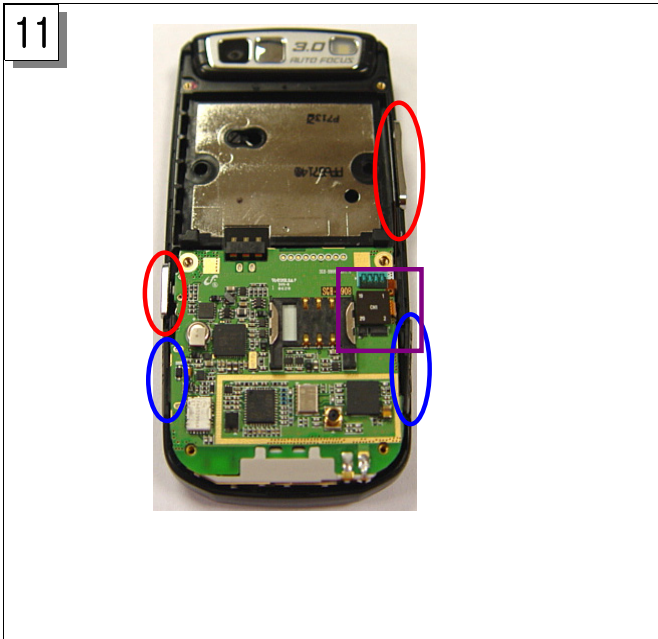
1. At first folding the FPCB like a picture.
2. Combined LCD connector to main-PBA.
3. And put insulation tape on connector.



1. Put the insulation tape on folding point like a picture. (Blue)



1. Put the main-PBA on 4 screw hole. (Blue)
2. Locking the one hook. (Rec)

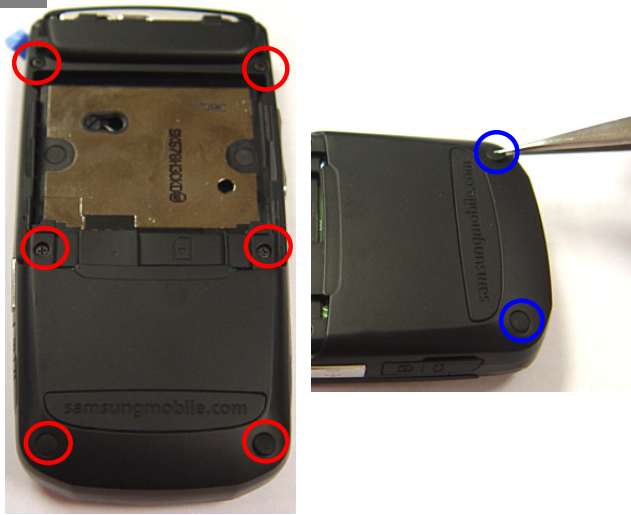


1. Combined Key connector and put side key and camera key.(Violet, Red)
2. Close the cover. (Blue)



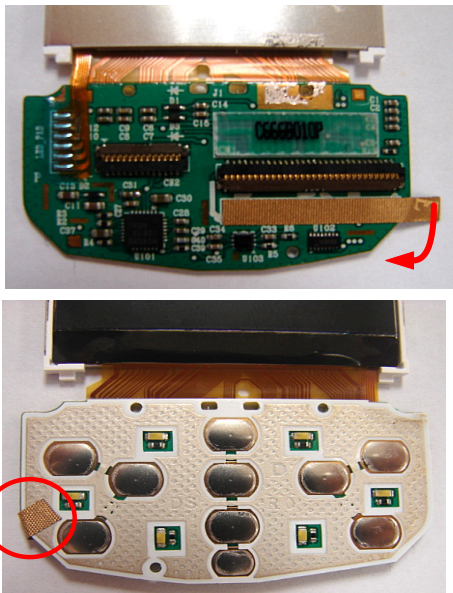
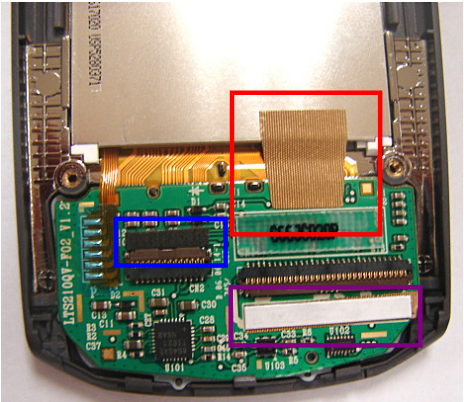
1. Put rear cover on Assay and lock.
2. Be careful losing key.

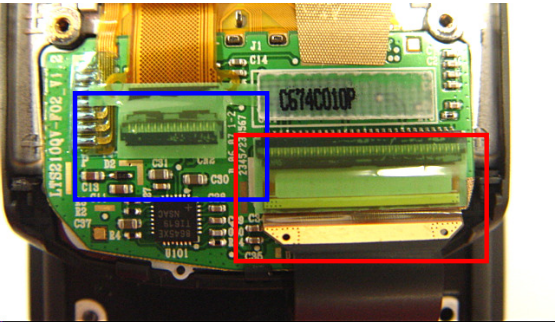
13



1. Fasten a screw at 6 points with driver.
2. Put the screw cap on below hole with pinset

– LCD kit Assembly

<p>1</p> 	<p>2</p> 
<ol style="list-style-type: none"> 1. Put the EMI tape according to left white silk line. 2. Attach the tape turning to front side. 	<ol style="list-style-type: none"> 1. Put the EMI tape along to white line on GND panel. (Red) 2. Put the poron sponge beyond camera connector. (Blue) 3. Put the double sided tape on EMI tape. (Violet)

<p>3</p> 	
<ol style="list-style-type: none"> 1. Put insulation tape to connector after connecting camera FPCB. (Blue) 2. Put insulation tape to connector after connecting LCD FPCB. (Red) 	

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