SAMSUNG

GSM TELEPHONE

SGH-E250D

SERVICE Manual

GSM TELEPHONE

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SAMSUNG ELECTRONICS

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2007. 9. Rev.1.0

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	-

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

TX Power control level	PCS1800
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

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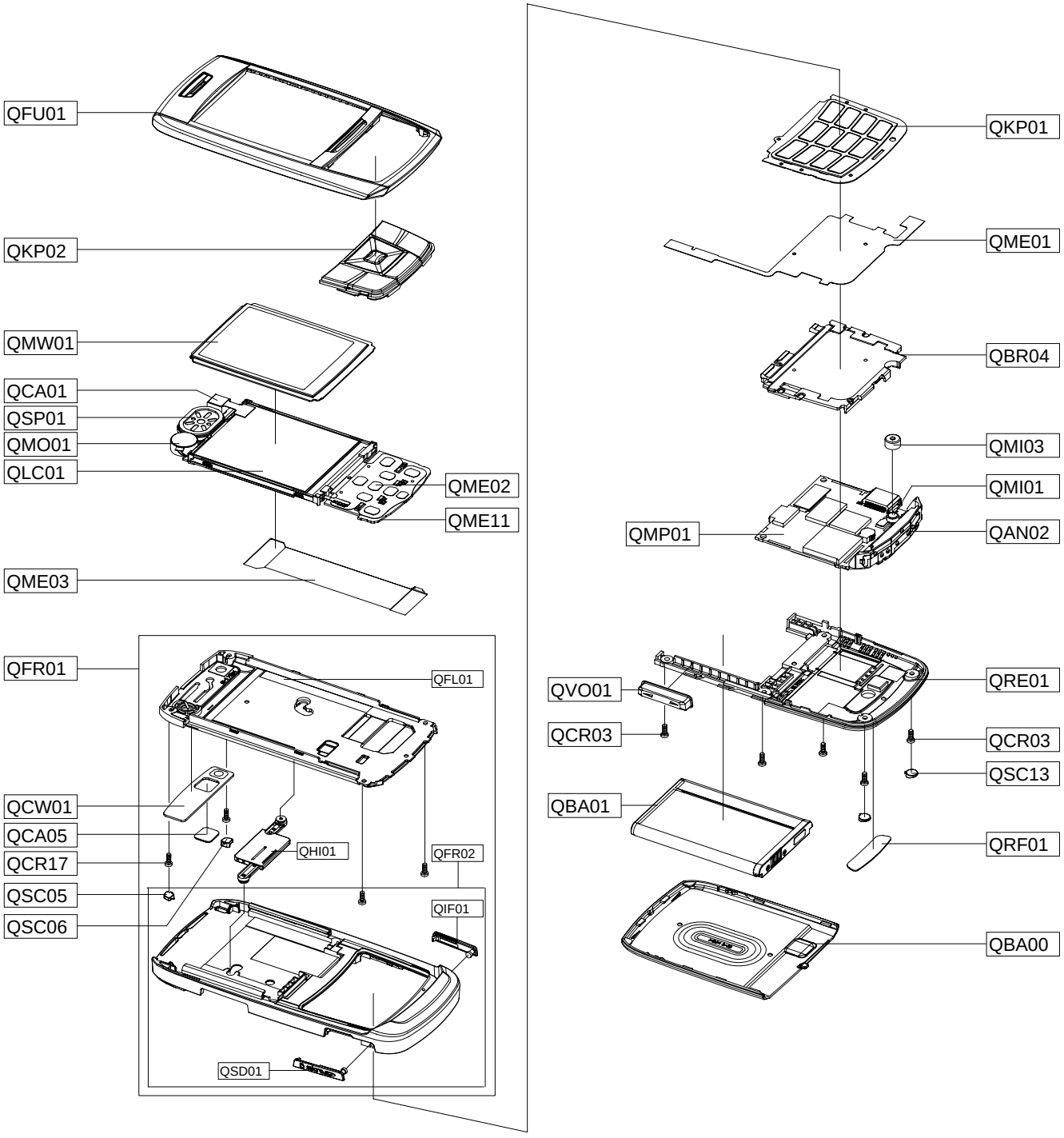
5. Exploded View and Parts List

5-1. Cellular phone Exploded View



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5-2. Cellular phone Parts List

Design LOC	Description	SEC CODE
QAN02	INTENNA-SGH E250	GH42-00985A
QBA00	ASSY CASE-BATTERY	GH98-03586E
QBA01	INNER BATTERY PACK-750MAH,BLK,	GH43-02483A
QBR04	ASSY BRACKET-KEYPAD	GH98-05531A
QCA01	CAMERA MODULE	GH59-03619A
QCA05	PMO-DECO MIRROR	GH72-34243A
QCR03	SCREW-MACHINE	6001-001811
QCR03	SCREW-MACHINE	6001-001811
QCR17	SCREW-MACHINE	6001-001460
QCW01	PCT-COVER WINDOW CAMERA	GH72-34247E
QFL01	ASSY CASE-SLIDE LOWER	GH98-02260E
QFR01	ASSY CASE-F/C+S/L	GH98-02261E
QFR02	ASSY CASE-FRONT	GH98-03548E
QFU01	ASSY CASE-SLIDE UPPER	GH98-02259E
QHI01	ASSY HINGE-PUSH ROD	GH98-03165A
QIF01	PMO-COVER IF	GH72-34244E
QKP01	ASSY KEYPAD-MAIN(EU/PNK)	GH98-02264E
QKP02	ASSY KEYPAD-SUB(EU/PNK)	GH98-02263E
QLC01	ELA ETC-E250LCD MODULE	GH96-02628B
QME01	KEY FPCB-MAIN KEY PBA	GH59-04760A
QME02	DOME SHEET-10KEY(SUB)	GH59-05007A
QME03	MEA-SLIDER FPCB KIT(E250D)	GH97-08172A
QME11	ASSY ETC-LCD SUB PBA	GH59-04854A
QMI01	MICROPHONE-ASSY	GH30-00309A
QMI03	RMO-RUBBER MIC	GH73-08308A
QMO01	MOTOR DC-SGHZV30	GH31-00177A
QMP01	PBA MAIN-SGHE250D	GH92-03956A
QMW01	ASSY COVER-WINDOW MAIN	GH98-02619E
QRE01	ASSY CASE-REAR	GH98-05532E
QRF01	MPR-TAPE RF SHEET	GH74-27453E
QSC05	RMO-RUBBER SCREW SLIDE L	GH73-08309E
QSC06	RMO-RUBBER SCREW SLIDE R	GH73-08310E
QSC13	RMO-RUBBER SCREW REAR	GH73-08311E
QSD01	PMO-COVER M SD	GH72-34245E
QSP01	SPEAKER	3001-002213
QVO01	ASSY KEY-VOLUME	GH98-03940E

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Description	SEC CODE
ADAPTOR-SGHE690,SIL,EU,A_TYPE	GH44-01361B
EARPHONE-20P,EARPHONE,SIL,B-TY	GH59-03848B
LABEL(R)-WATER SOAK	GH68-09361A
RMO-RUBBER SIM	GH73-08686A
ICT SHIELD-COVER RF	GH70-02506A
MPR-INSU TAPE	GH74-27455A
MPR-INSU TAPE	GH74-27456A
MPR-TAPE LABEL	GH74-28874E
MPR-SPONGE	GH74-29496A
MPR-VINYL BOHO MAIN	GH74-30340A
MPR-VINYL BOHO SUB KEYPAD	GH74-31218A
TAPE-S-UPPER	GH74-34678A
MPR-ELEC TAPE	GH74-27495A
MPR-GASK TAPE	GH74-28782A
MPR-REMOVE TAPE LCD	GH74-13804A
MPR-TAPE	GH74-27509A
MPR-ELEC TAPE	GH74-27457A
TAPE GASK	GH74-18462A
PMO CASE-REAR	GH72-43214E
LABEL(R)-WATER SOAK	GH68-09361A
BAG PE	6902-000634
LABEL(P)-UNIT SEAL	GH68-00518B
LABEL(P)-OPEN MP3	GH68-11246A
LABEL(R)-MAIN(FRAN)	GH68-12733D
BOX-UNIT(EU)	GH69-04558A
CUSHION-CASE(EU)	GH69-04565A
MANUAL USERS-XEF FRENCH	GH68-12418A

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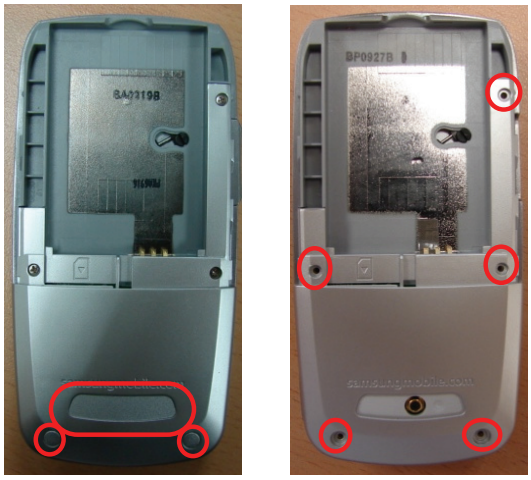
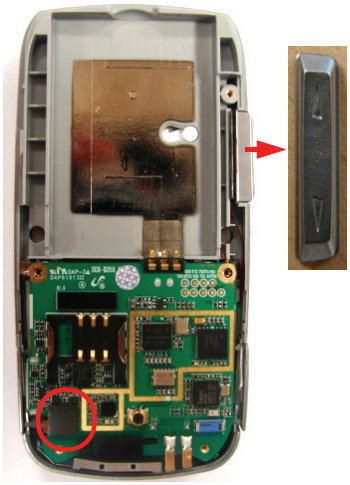
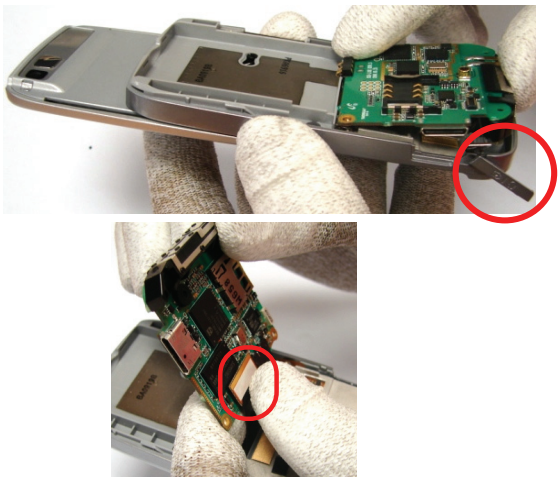
11. Disassembly and Assembly Instructions

11-1. Disassembly Instructions

1 1) Remove the RF Sheet,SCREW Cover of rear 2) Unscrew 5 screws 	2 1) Remove the volumn Key 2) Disassemble the connector 
1) Be careful of body damage and scretch 2) Be careful of transforming the rear cover	1) Be careful of body damage and scretch
3 1) Open the T-Flash, power cover 2) Lift main board 3) Detach the LCD Connector after slide down 	4 1) Separate board from the set
1) Be careful of damaging F-PCB	1) Be careful of damaging components

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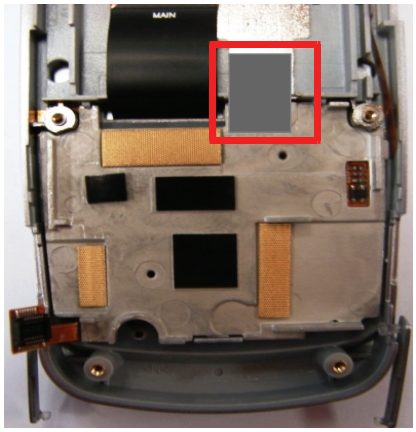
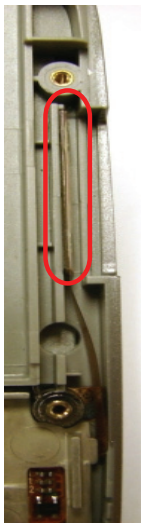
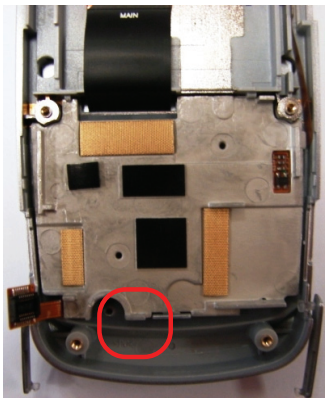
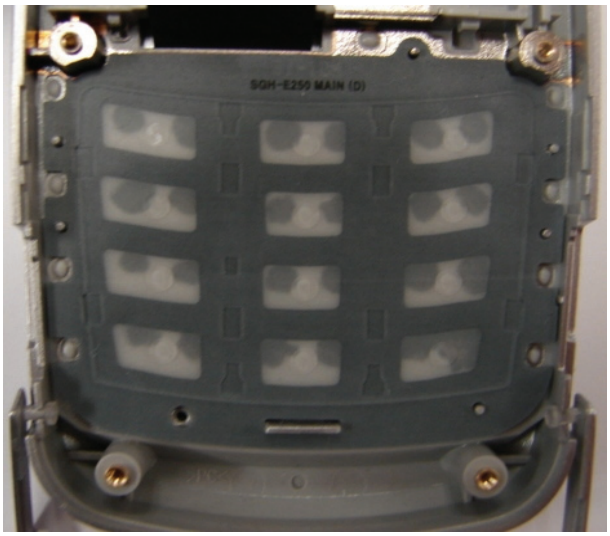
5 1) Remove the EMI tape 	6 1) Detach the Volumn Key Fpcb 2) Disassemble key-can from the point of the picture  
	1) Be careful of damaging FPCB detaching Volumn Key Fpcb 2) Be careful of body damage and scretch
7 1) Disassemble the key-pad 	8 1) Unscrew 2 screws
	1) Be careful of body damage and scretch

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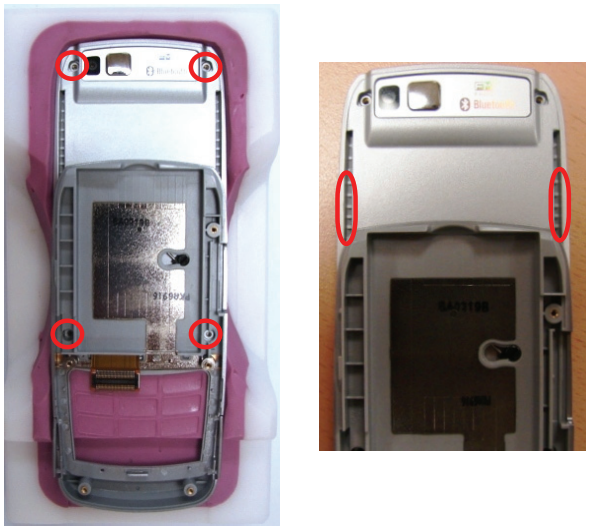
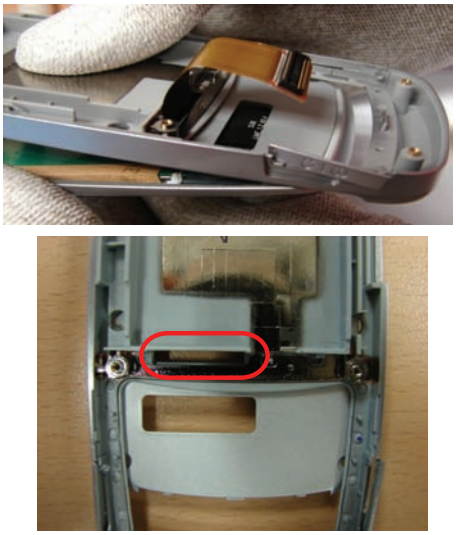
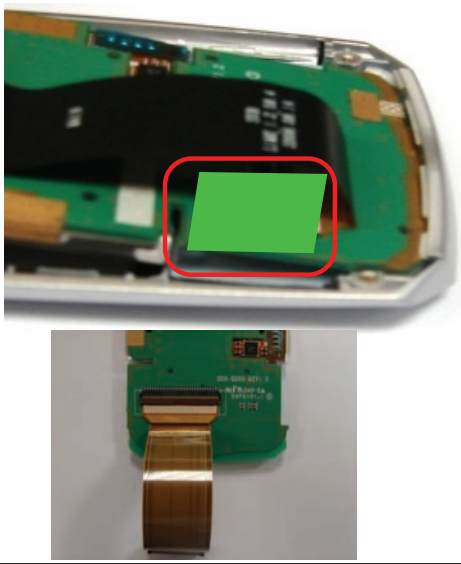
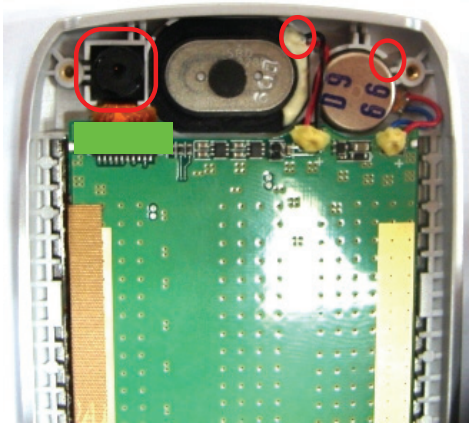
9 1) Unscrew 4 screws 2) Disassemble the upper with a couple of thumbs pressing the point of picture 	10 1) Match the hole of LOWER and FRONT holding up the slide 2) Draw out the FPCB from the hole 
1) Be careful of body damage and scretch	1) Be careful of cutting wire 2) Be careful of body damage and scretch
11 1) Remove the tape covering FPCB Connector 2) Disassemble FPCB after lifting Connector 	12 1) Disassemble Speaker, Motor 2) Remove the tape on the Camera Connector 3) Disassemble the Camera taking down the top of the camera 
1) Be careful of body damage and scretch 2) Be careful of damaging F-PCB	1) Be careful of body damage and scretch 2) Be careful of damaging camera F-PCB

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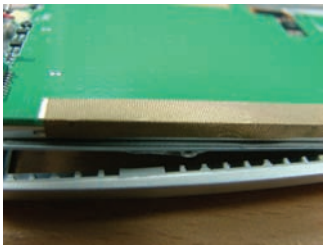
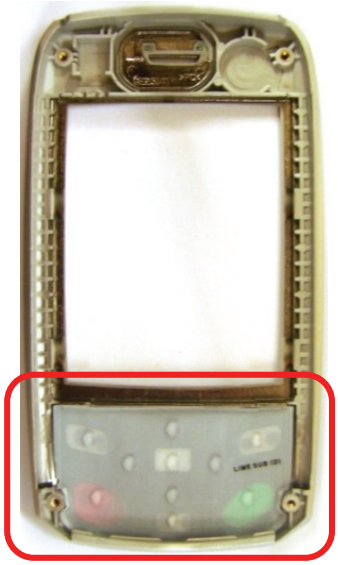
13 1) Disassemble from upper after lifting lightly the upside of the Sub PBA 2) Disassemble SPK, MOT, CAMERA 	15 1) Disassemble Sub Key Pad 
1) Be careful of body damage and scretch 2) Be careful of sticking between two sides tape and LCD	

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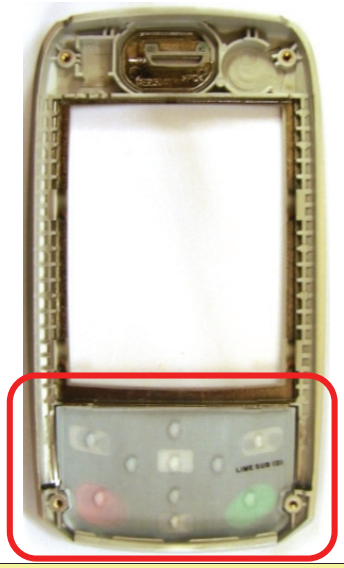
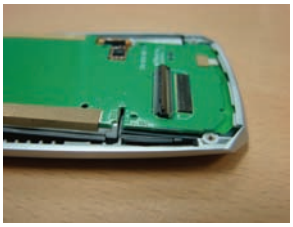
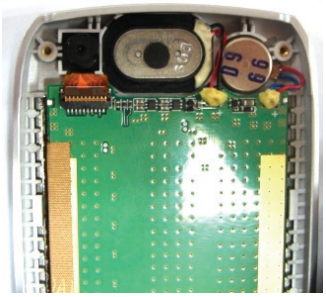
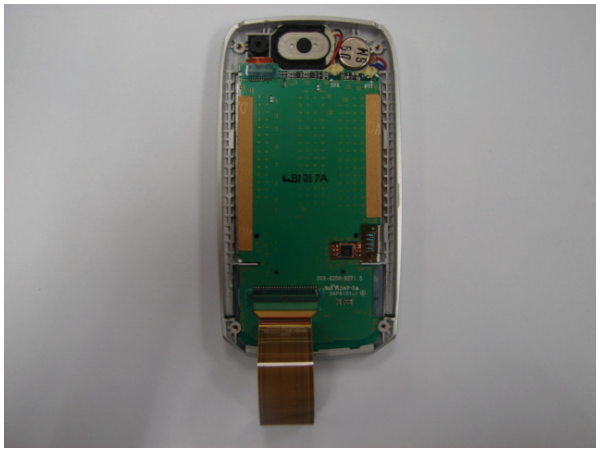
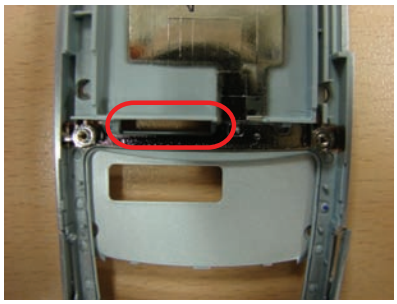
11-2. Assembly Instructions

1 1) Joint the Sub Key Pad 	2 1) Assemble Sub PBA inserting the bottom of the board 2) Assemble CAMERA, SPK, MOT after inserting camera FPCB  
	1) Be careful of damaging CAMERA FPCB
3 1) Insert FPCB(CON TO CON) 2) Attach conserving TAPE 	4 1) Match the hole pulling down lightly the SLIDE ASSY like picture 2) Insert FPCB 
1) Be careful of body damage and scretch 2) Be careful of damaging F-PCB	1) Be careful of damaging F-PCB

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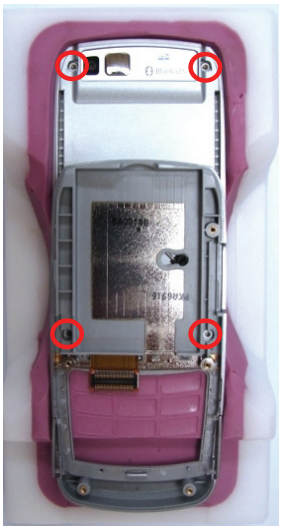
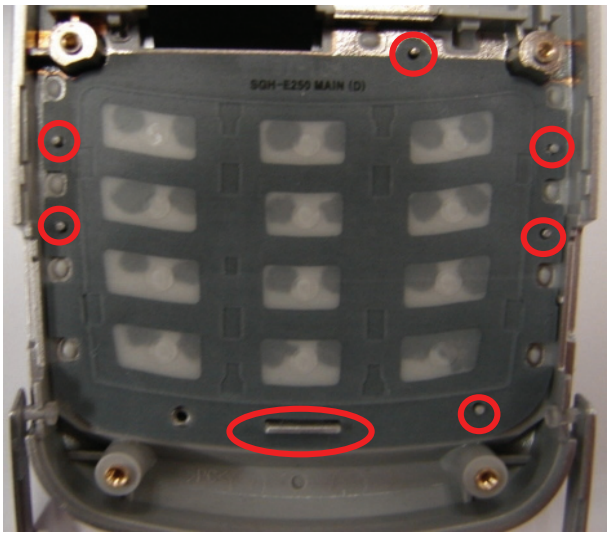
7 1) Assemble SLIDE ASSY part 2) Assemble from the bottom side 	8 1) Screw down 4 screws 
1) Be careful of body damage and scretch	1) Be careful of body damage and scretch
7 1) Insert both screw caps in each direction 	8 1) Assemble the key pad in FRONT 
1) Be careful of body damage and scretch	1) Check up the fitting between key pad and REAR

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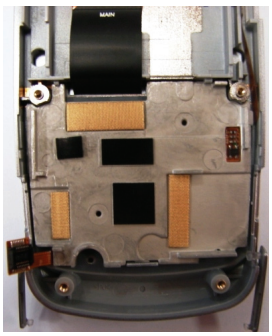
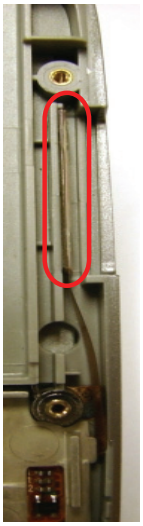
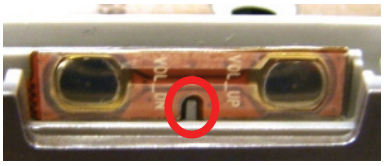
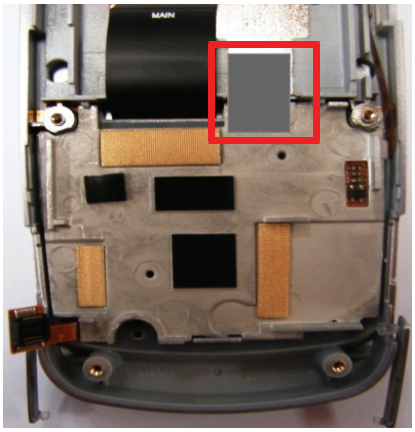
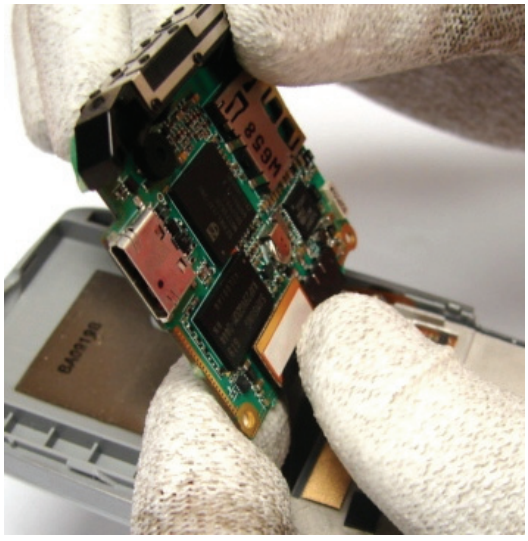
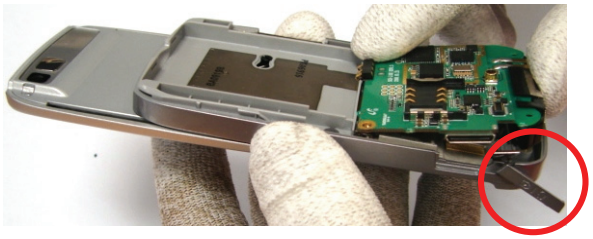
9 1) Assemble the key can 2) Check up the attaching FPCB in Volumn Key side   	10 1) Attach the EMI tape 
1) Be careful of damaging F-PCB	1) Check up whether tape color is same with SET color or not
11 1) Assemble the FPCB with main board 	12 1) Open the T-Flash, Power Cover 2) Assemble the main board 
1) Be careful of damaging BGA components	1) Be careful of body damage and scretch

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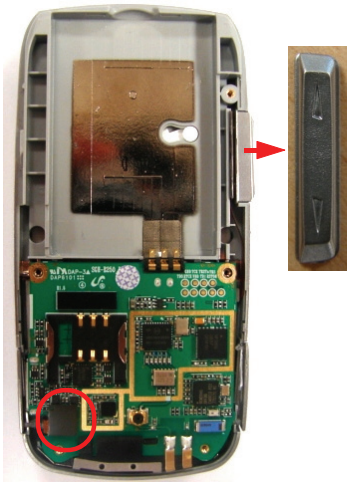
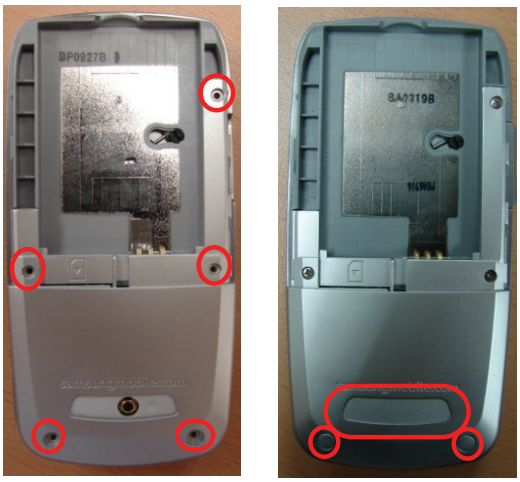
13 1) Insert the Volumn Key 2) Assemble the Key Connector 	14 1) Screw down 5screws 2) Attach RF Sheet,SCREW Cover of rear 
1) Be careful of damaging BGA components	1) Be careful of body damage and scretch

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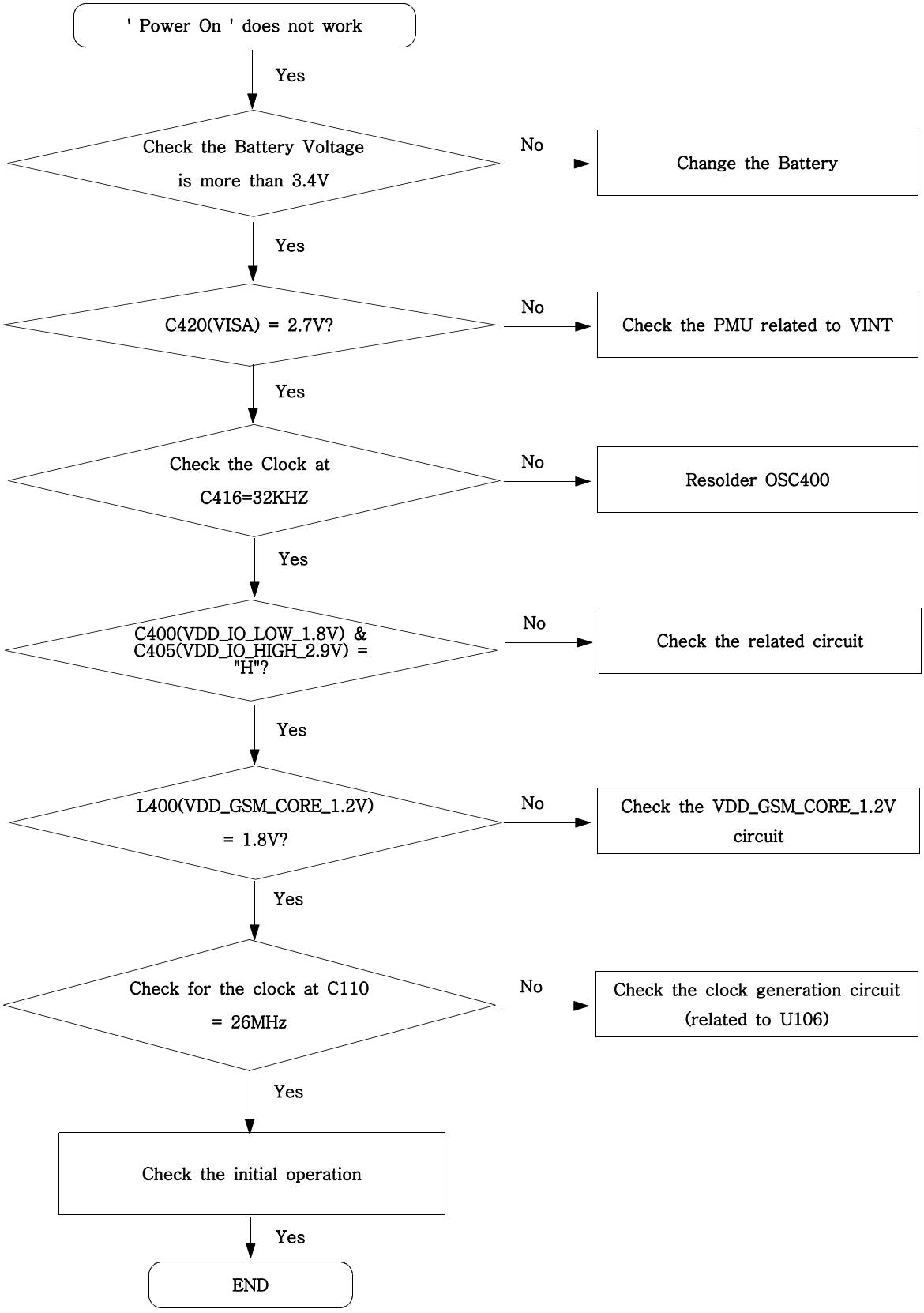
9. Flow Chart of Troubleshooting

9-1. Power On



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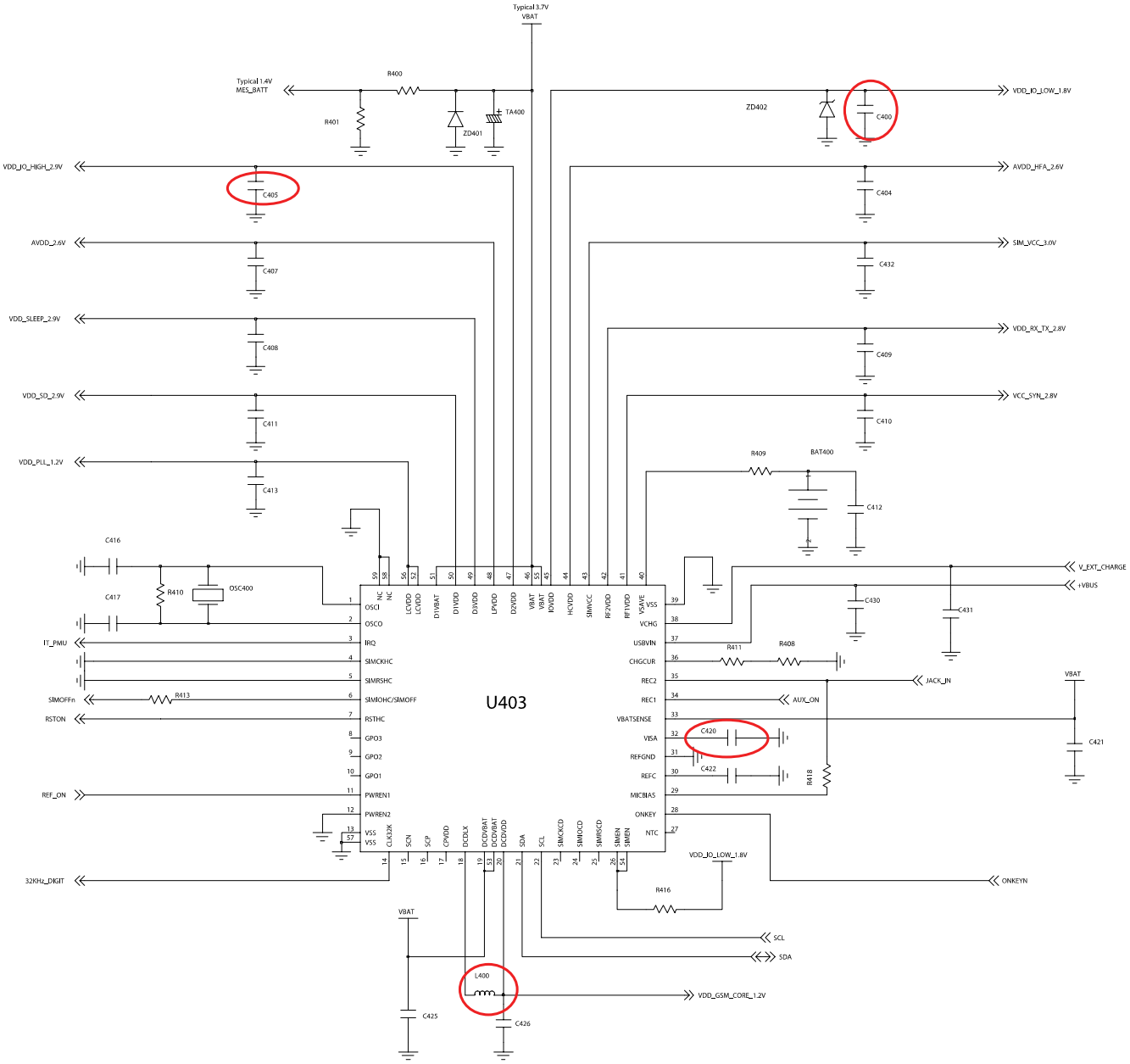

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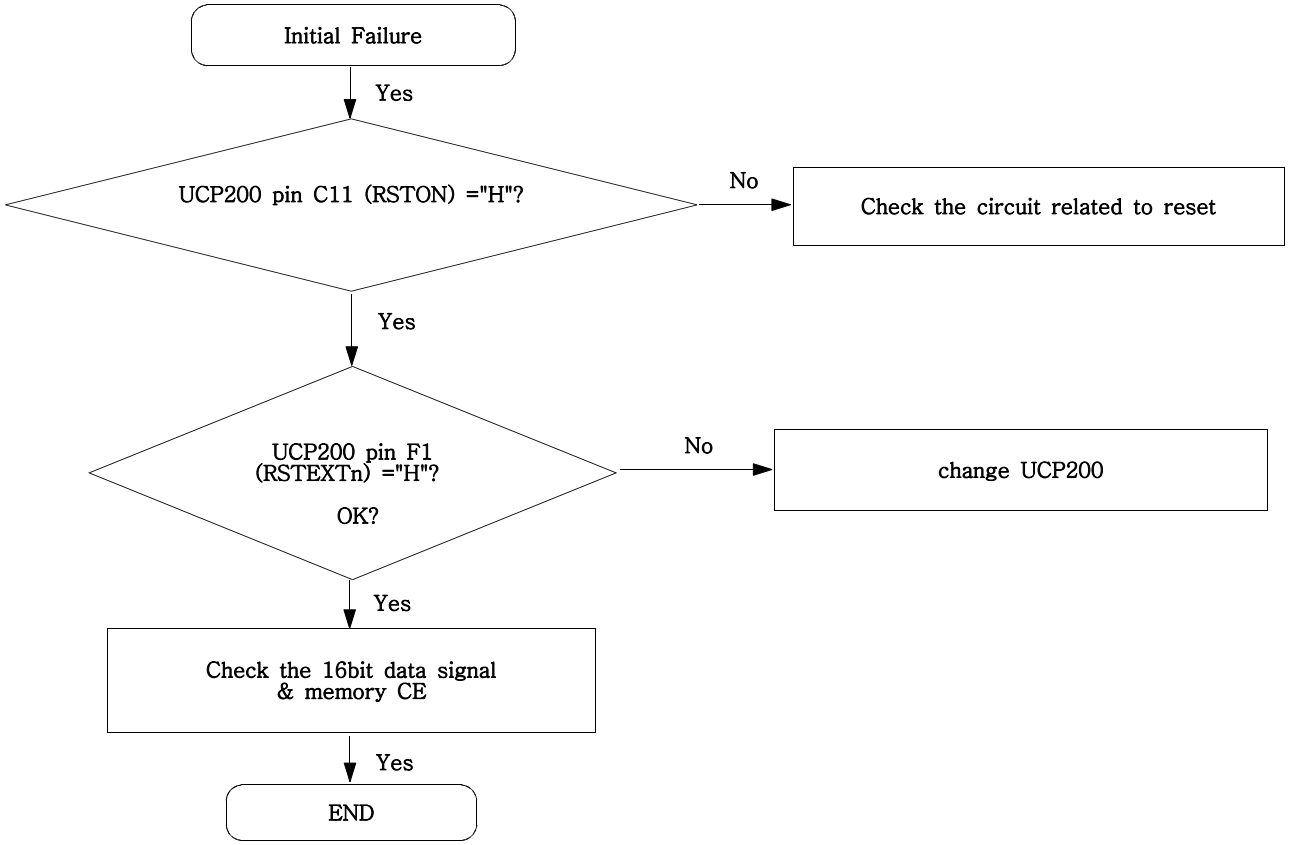
9-2. Initial



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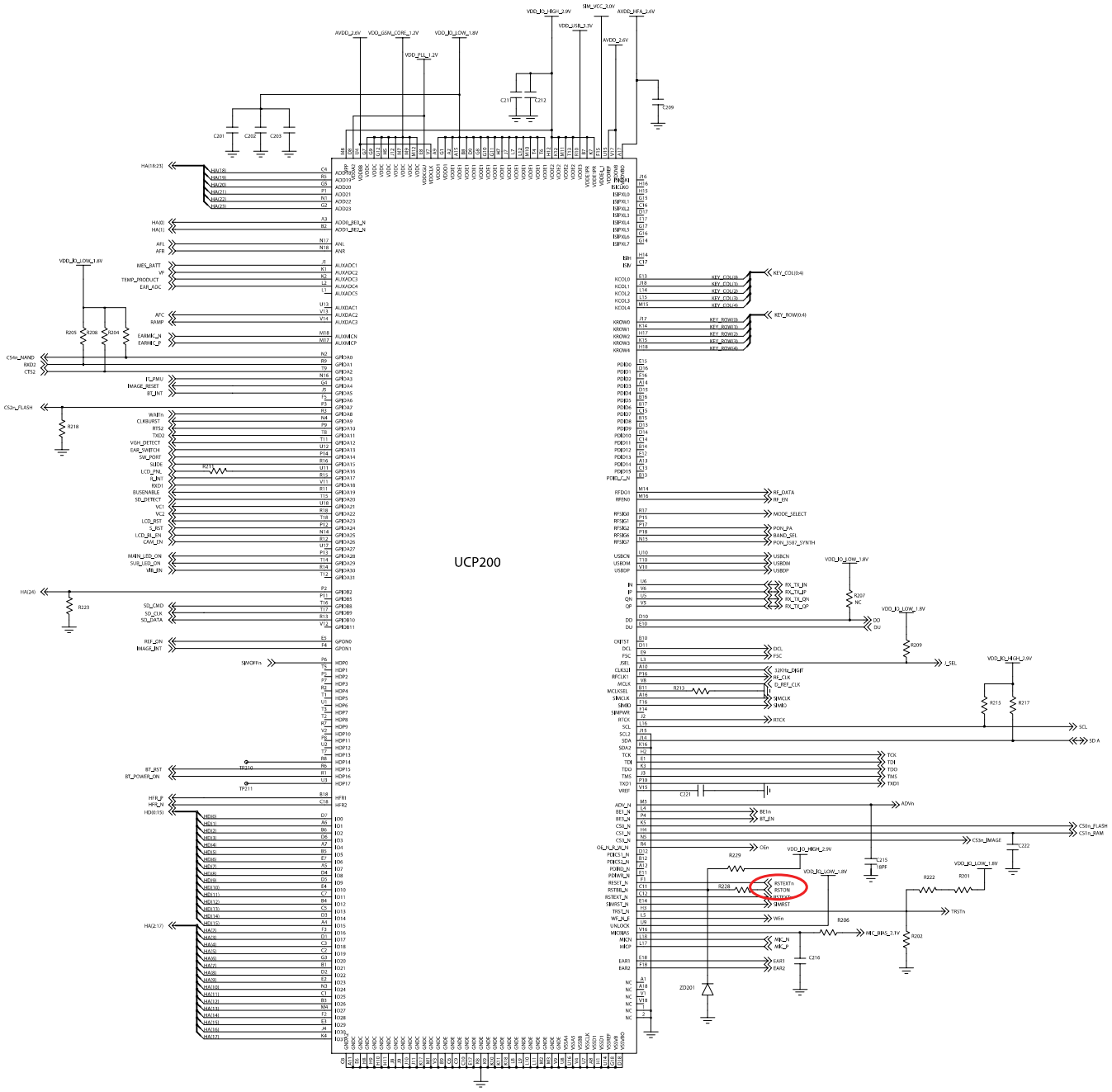

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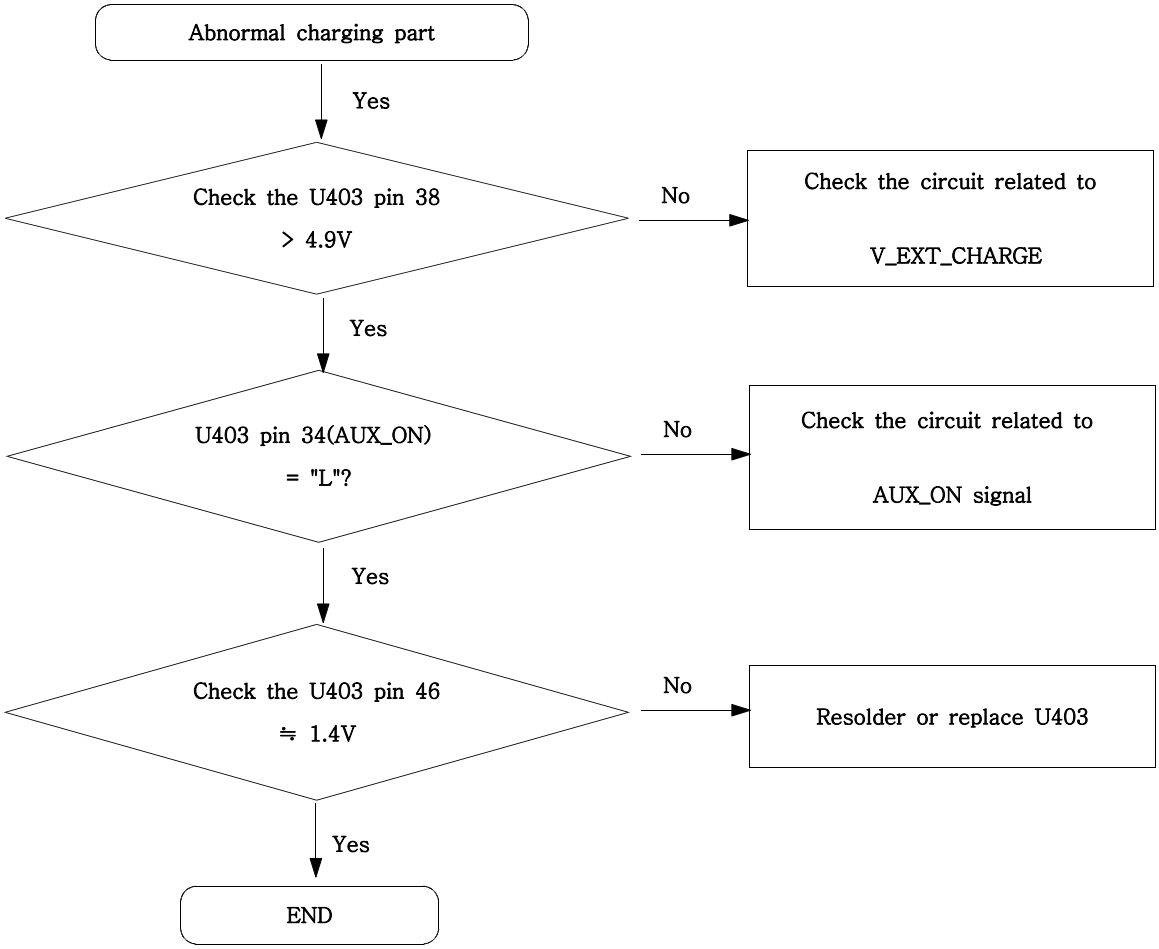
9-3. Charging Part



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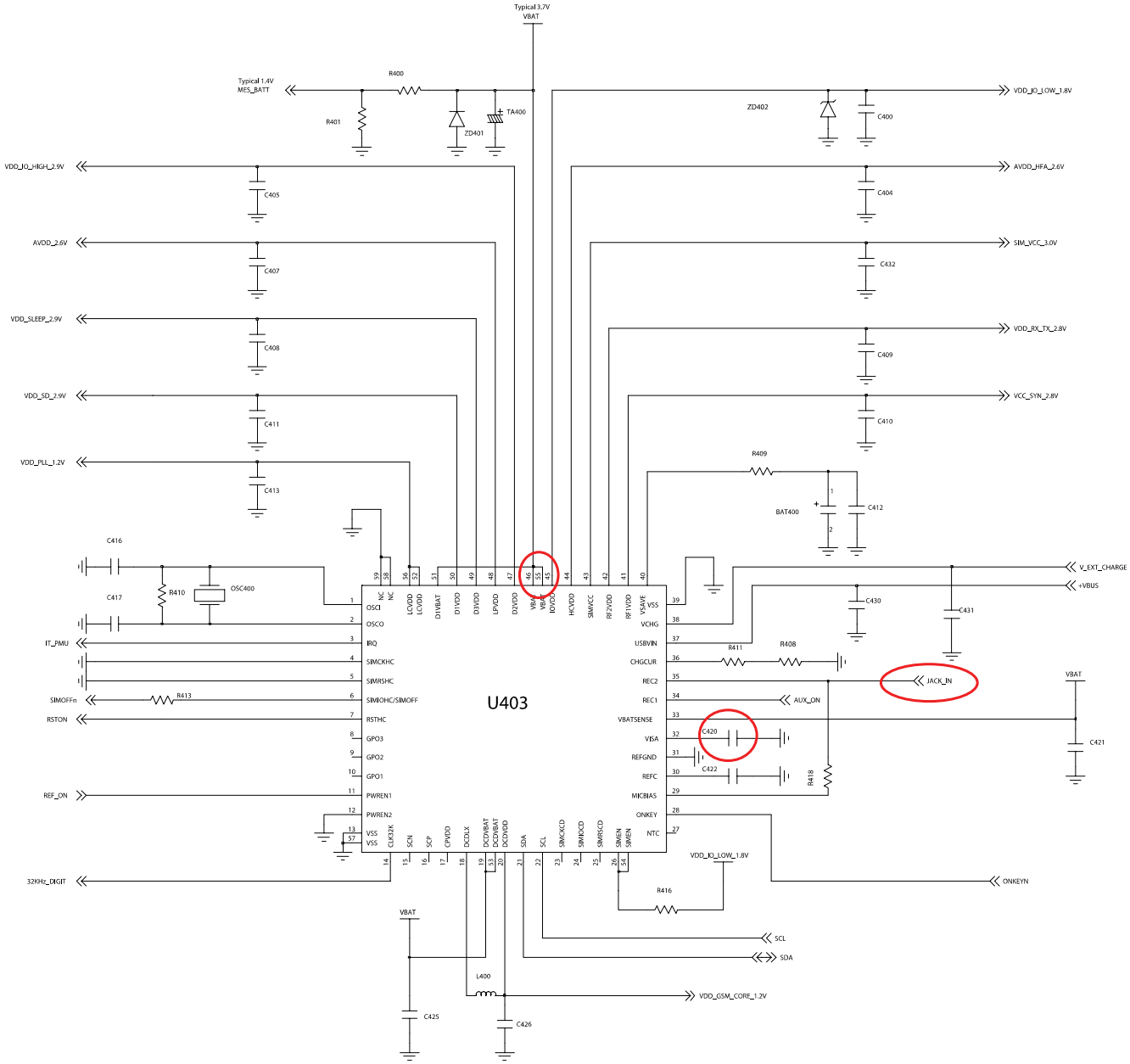

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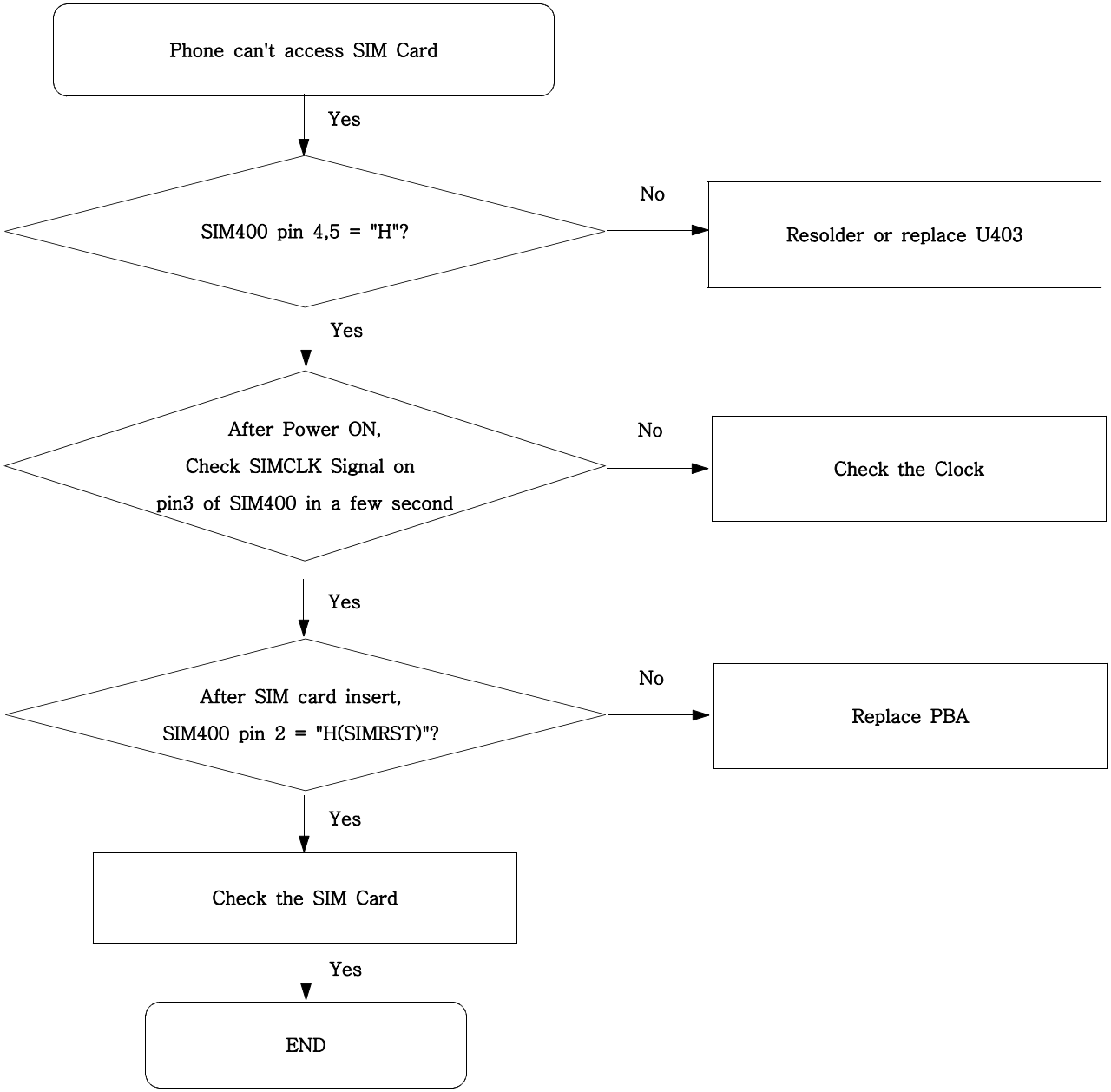
9-4. Sim Part



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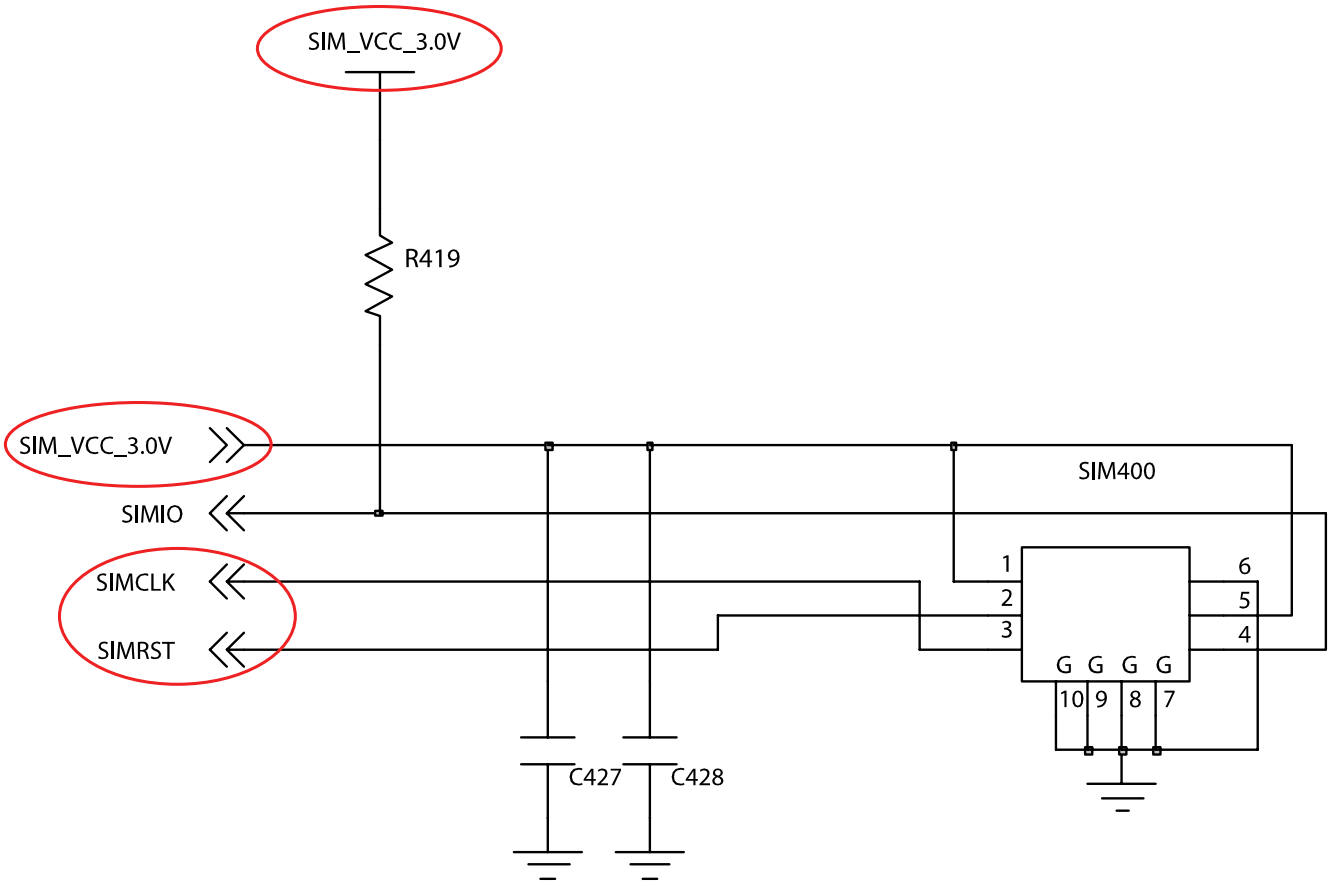

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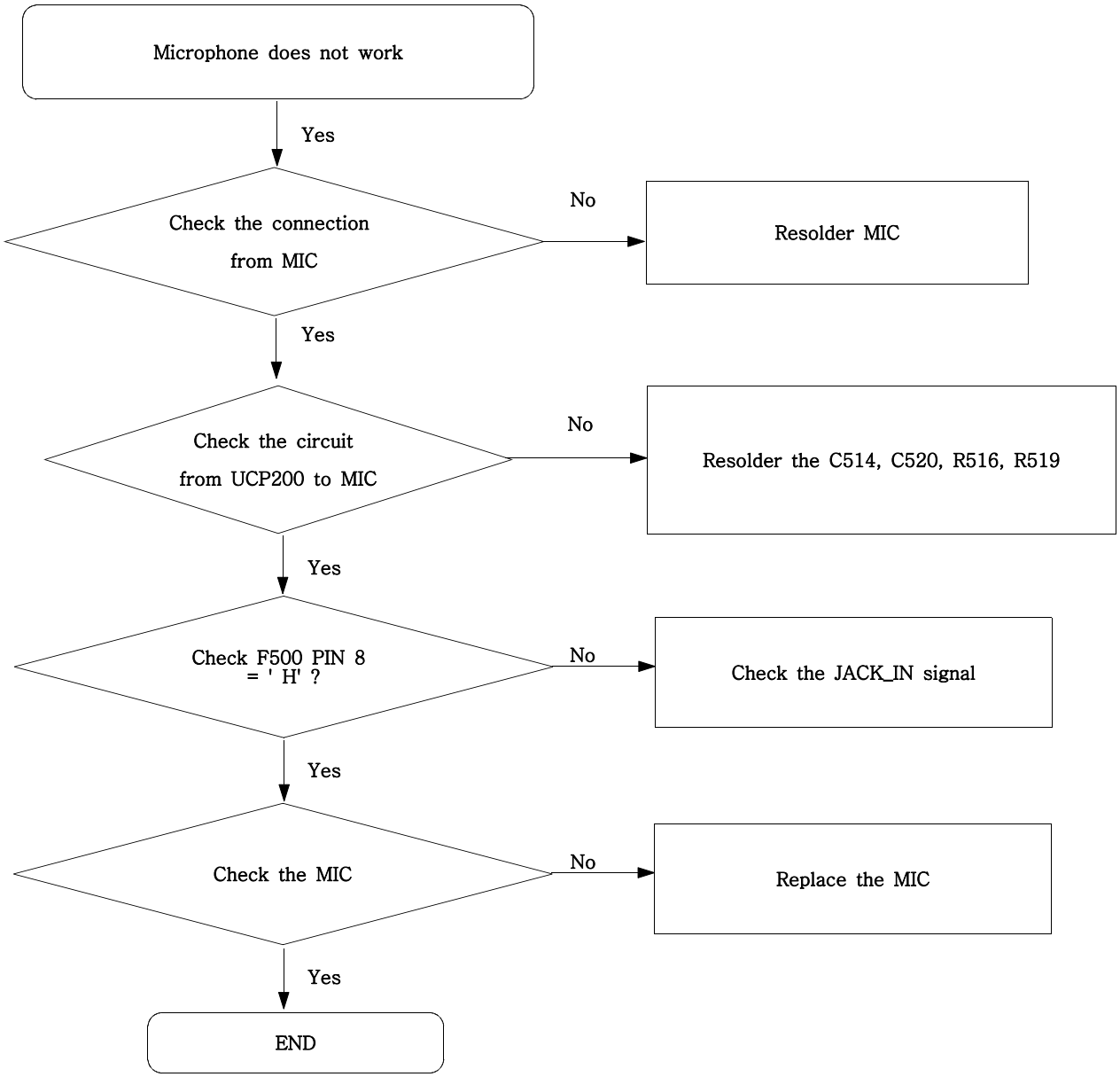
9-5. Microphone Part



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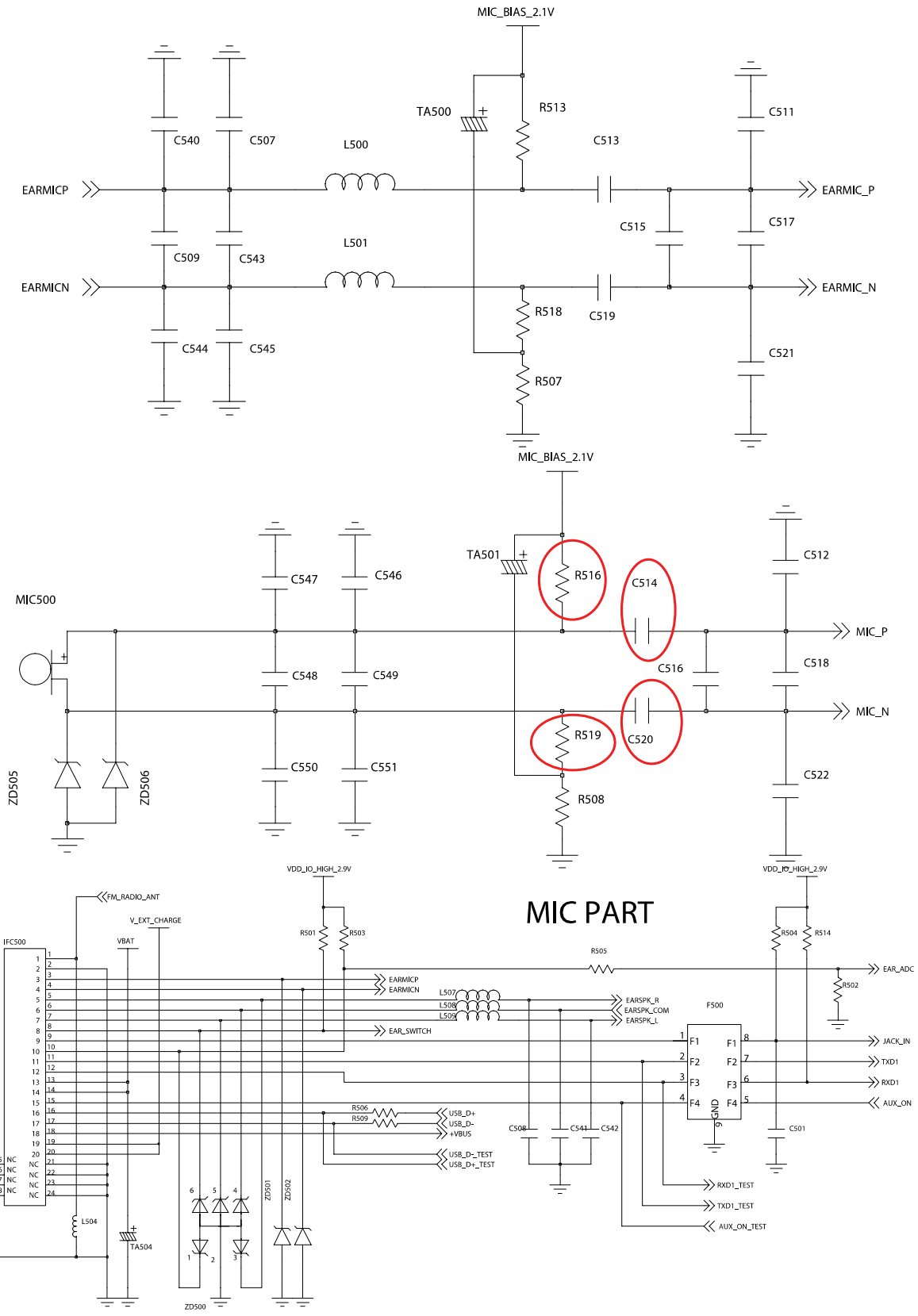

IF CON & EARJACK

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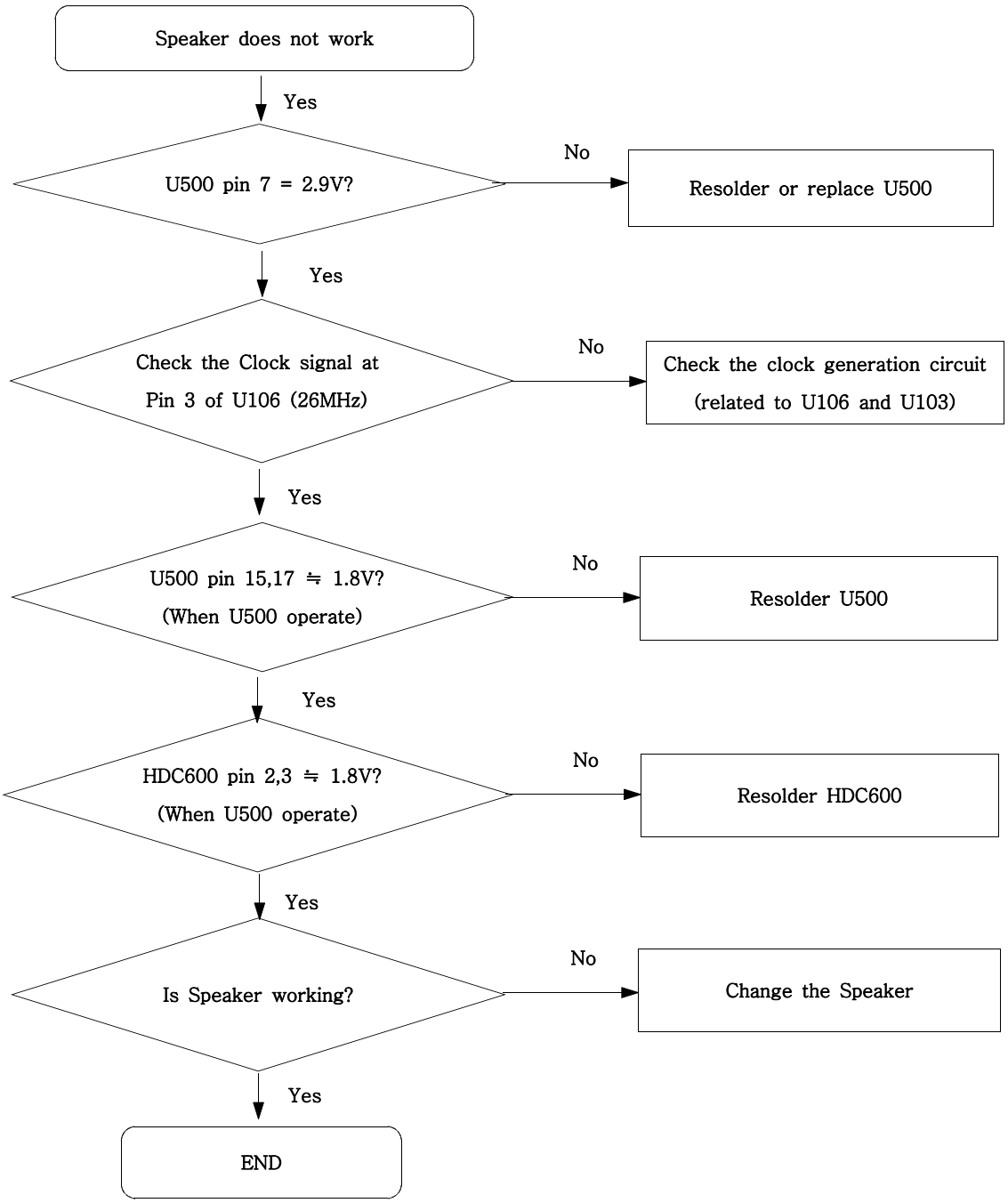
9-6. Speaker Part(Melody)



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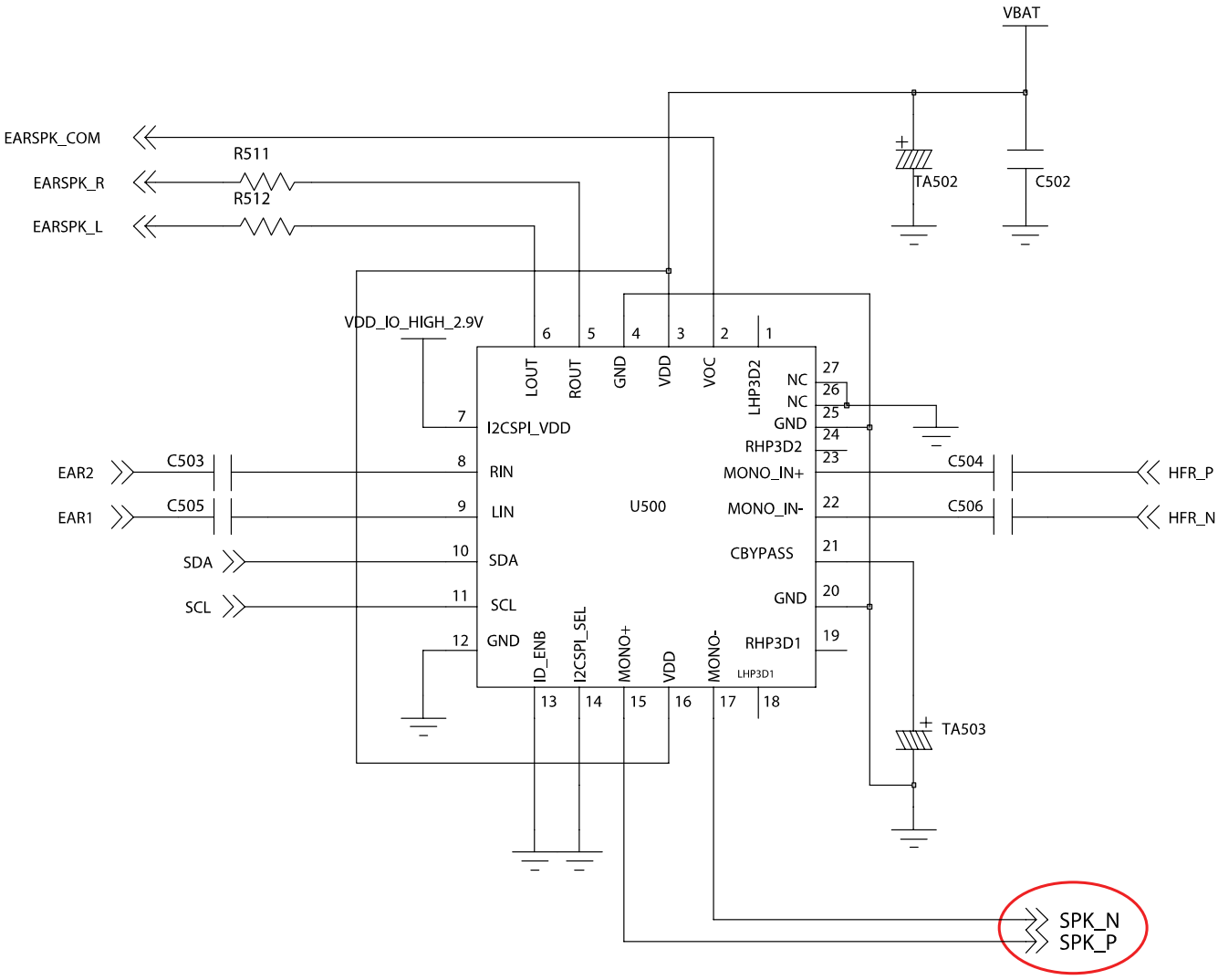

AUDIO AMP

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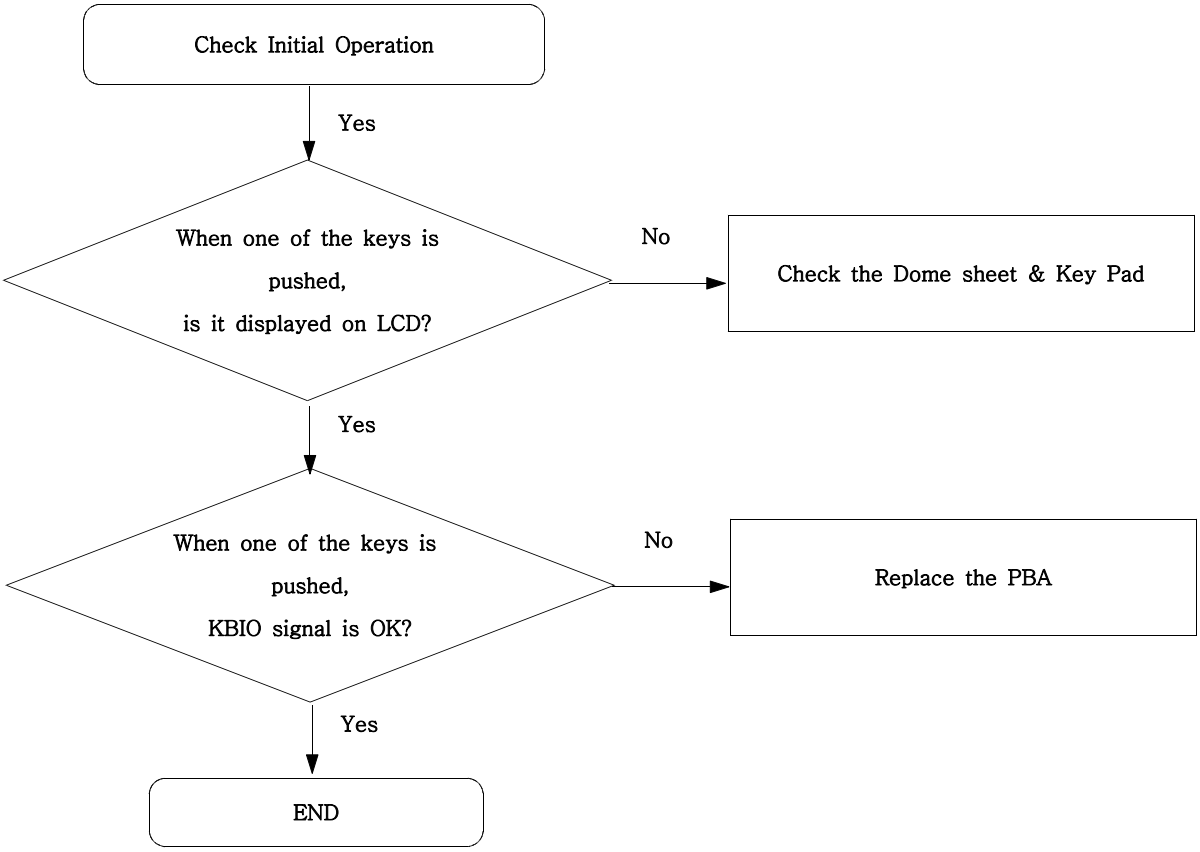
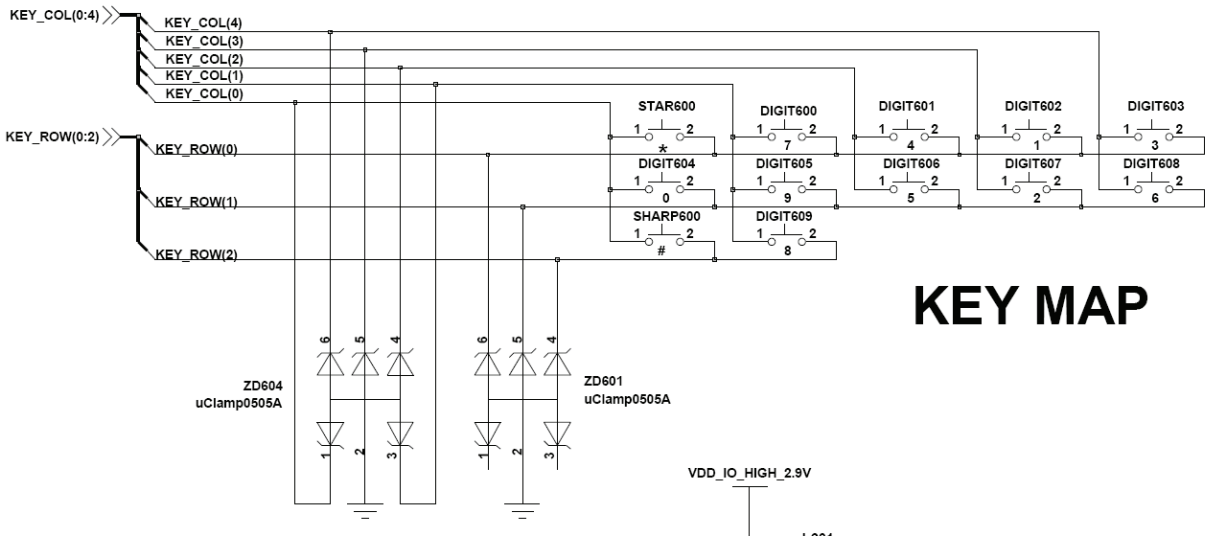
9-7. Key Data Input





KEY MAP

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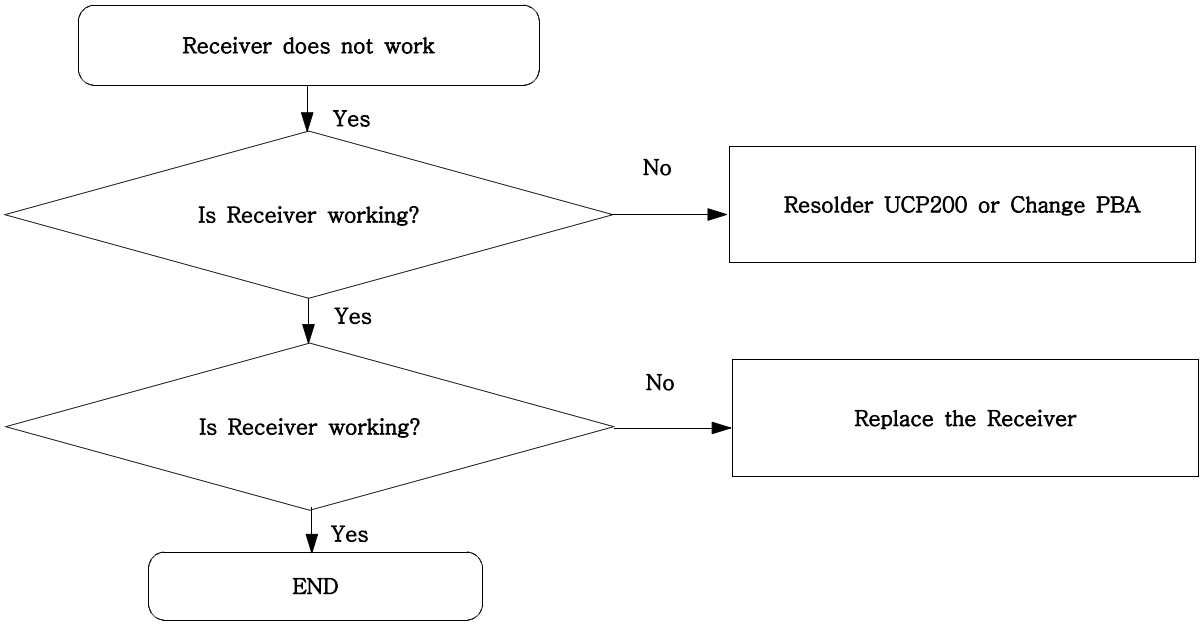
9-8. Receiver Part



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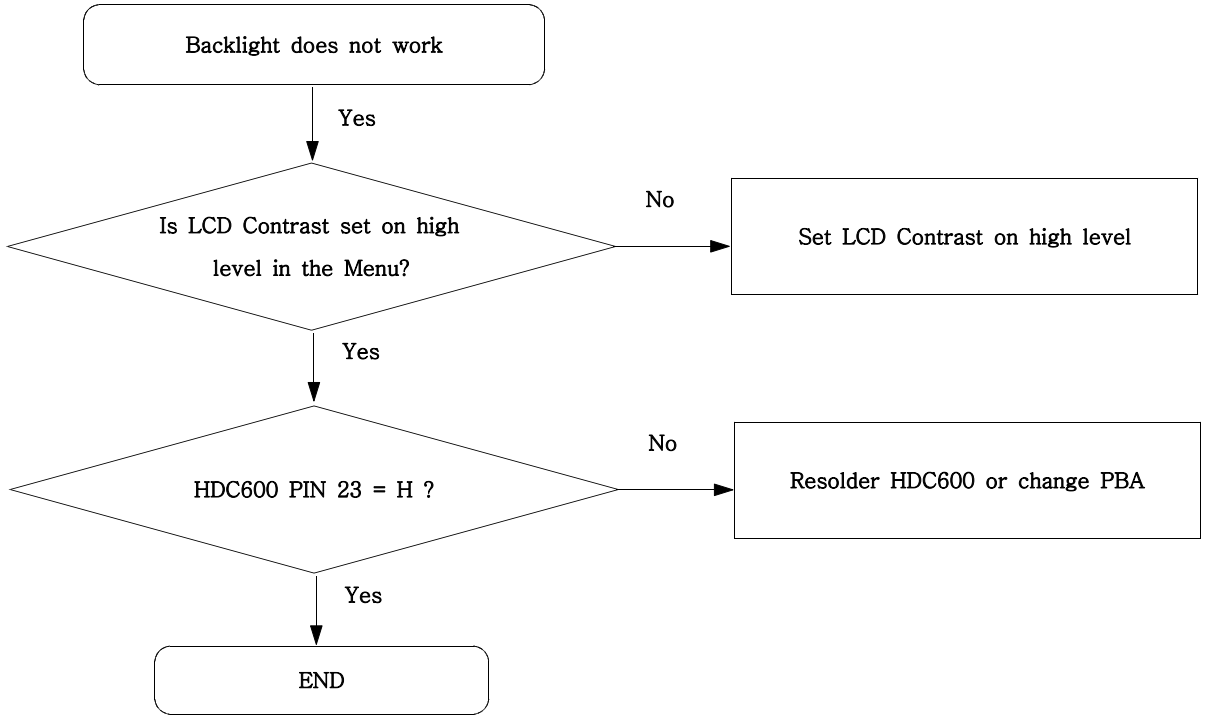
9-9. Back Light (for Color Main LCD)



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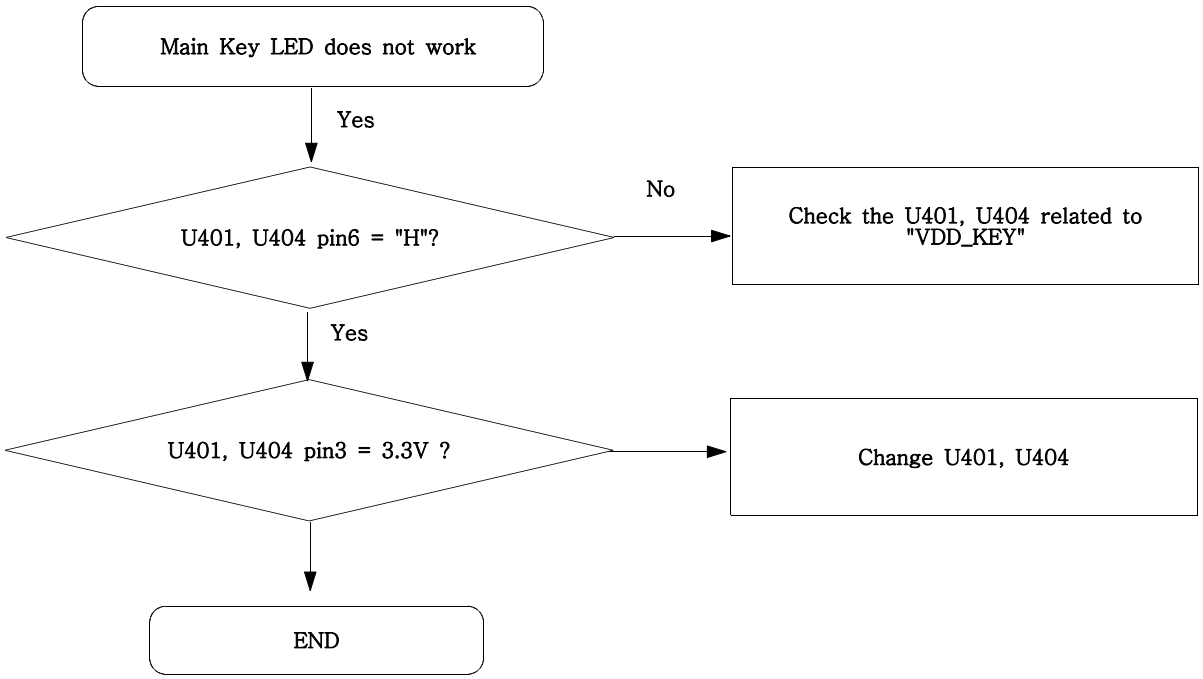
9-10. Key Back Light



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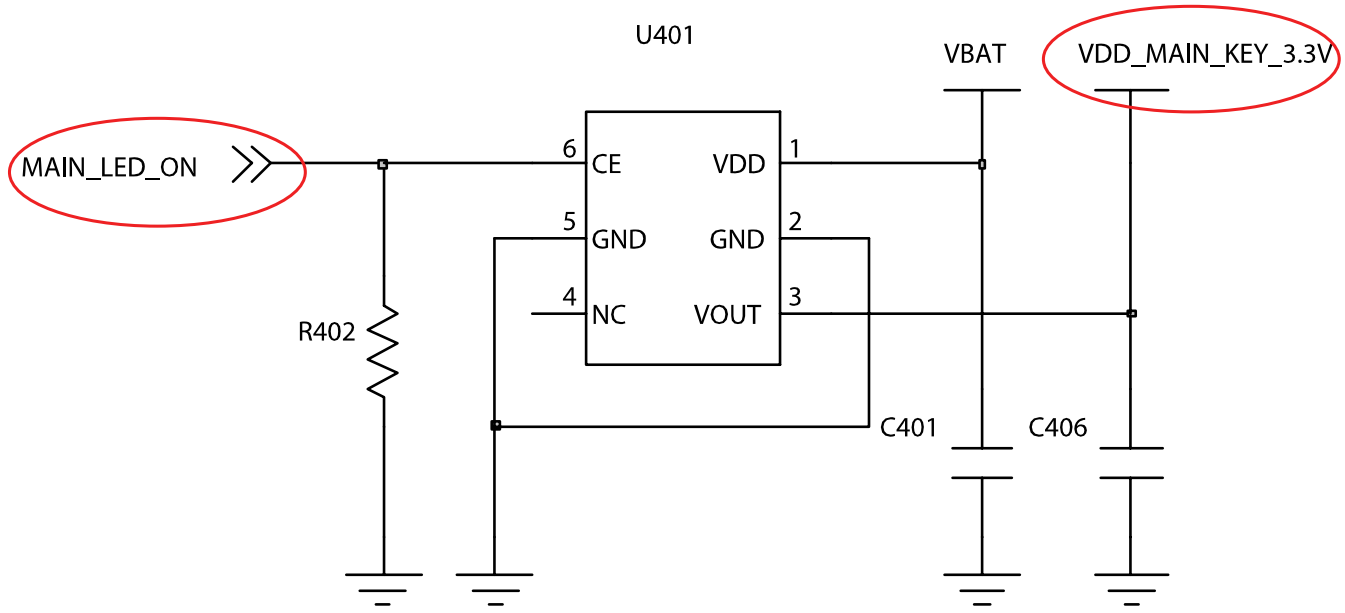

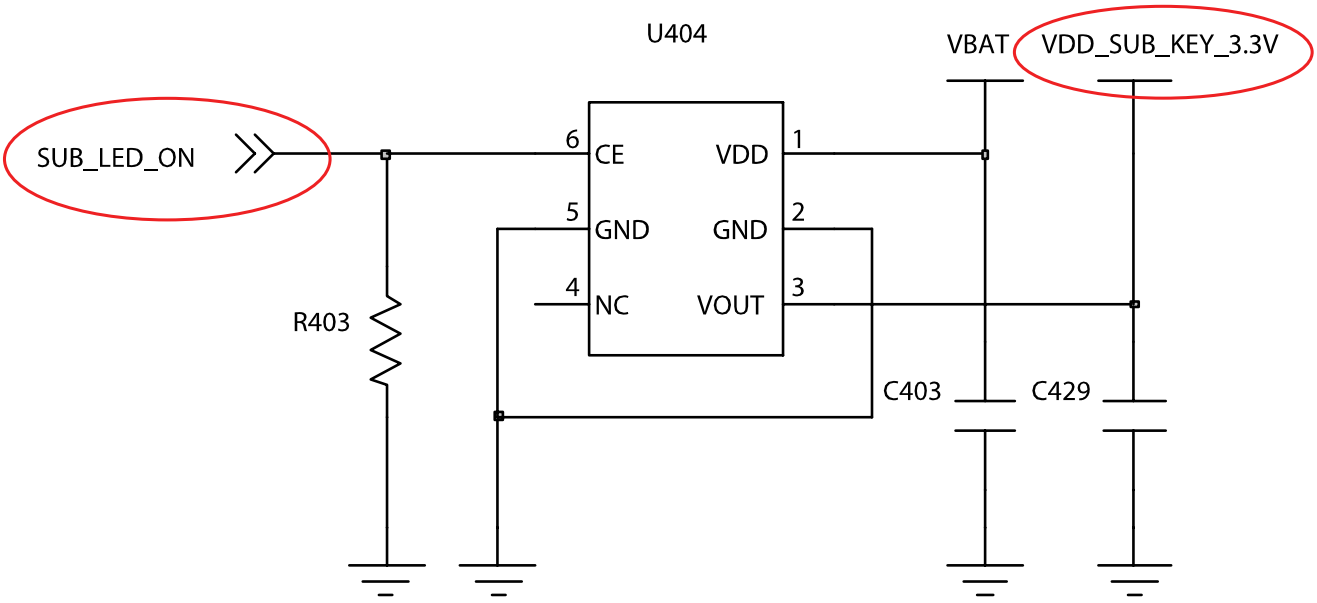

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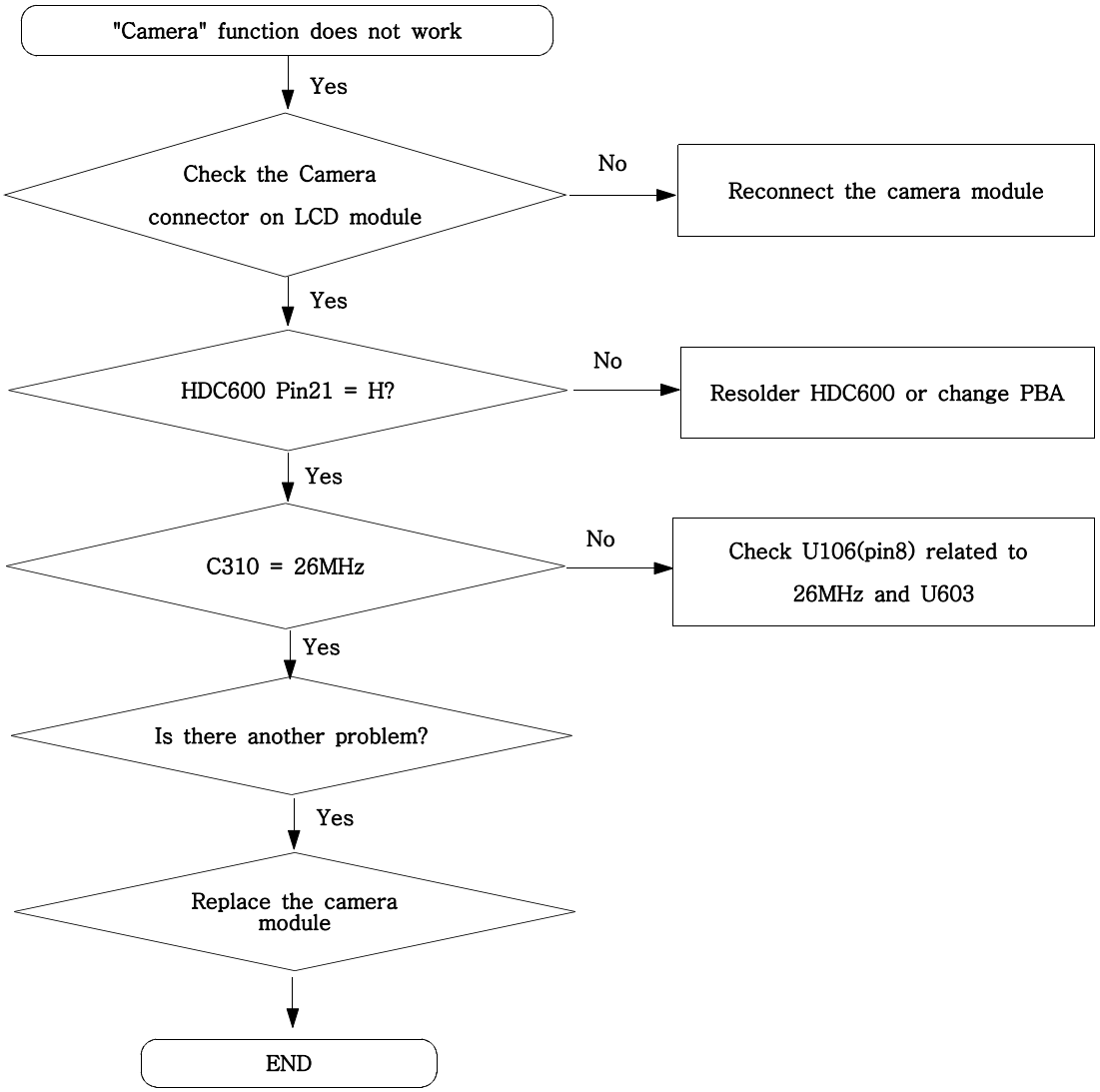
9-11. Camera part



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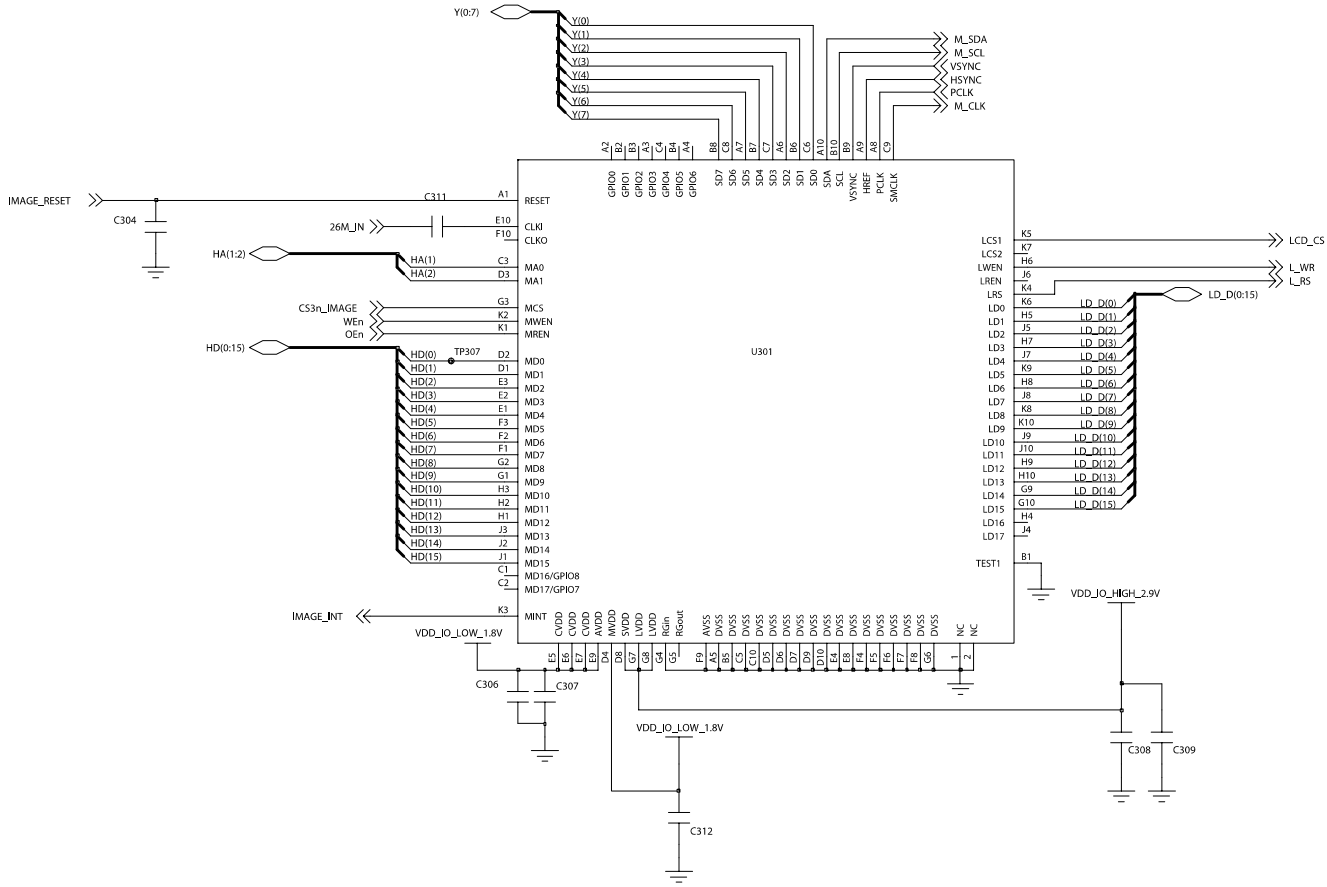

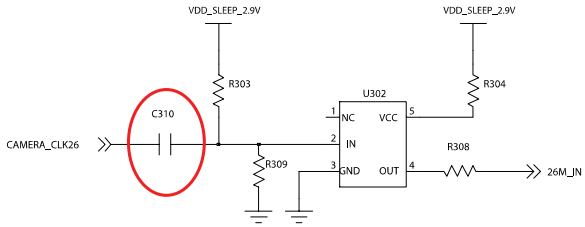

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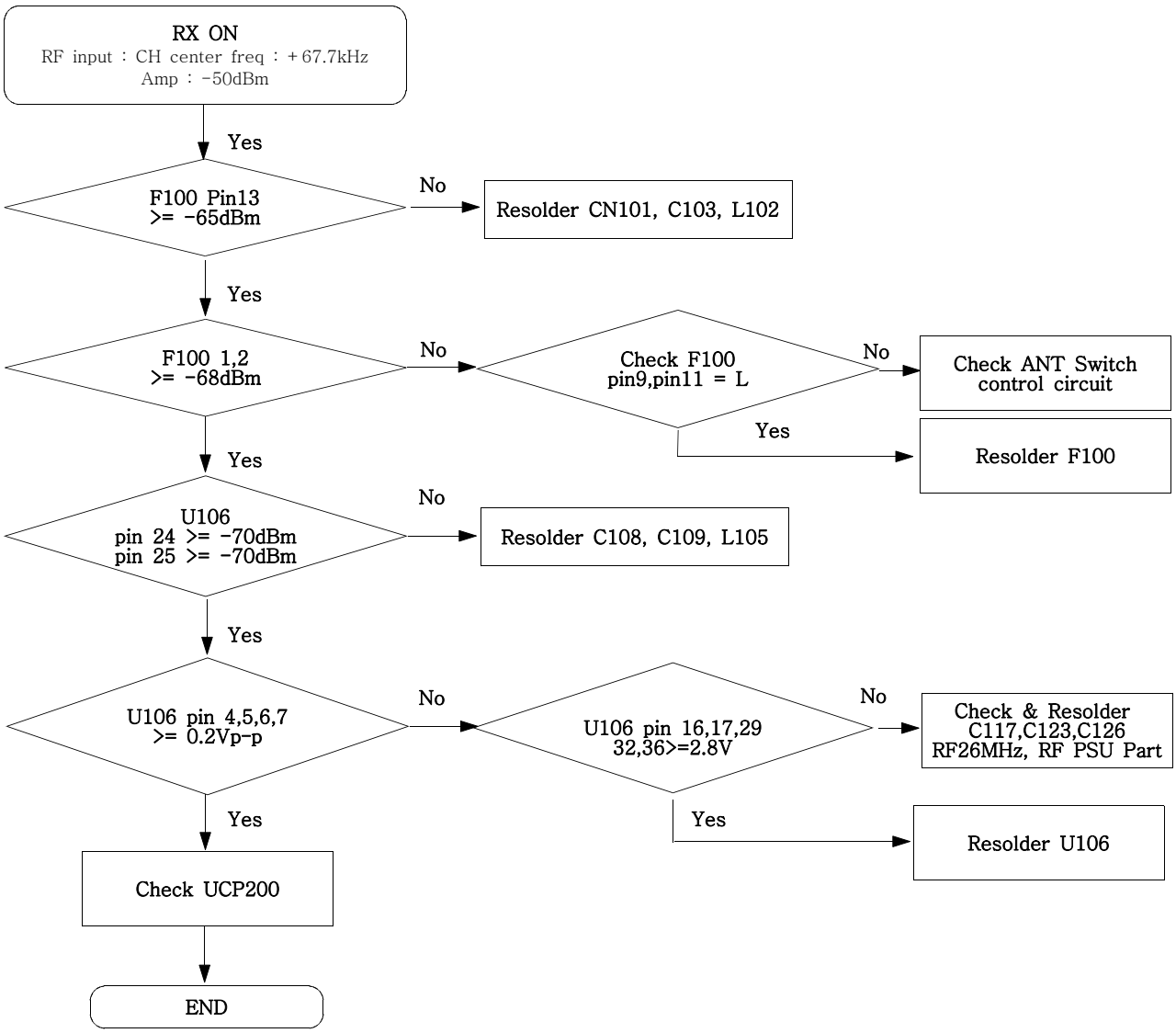
9-12. GSM Receiver



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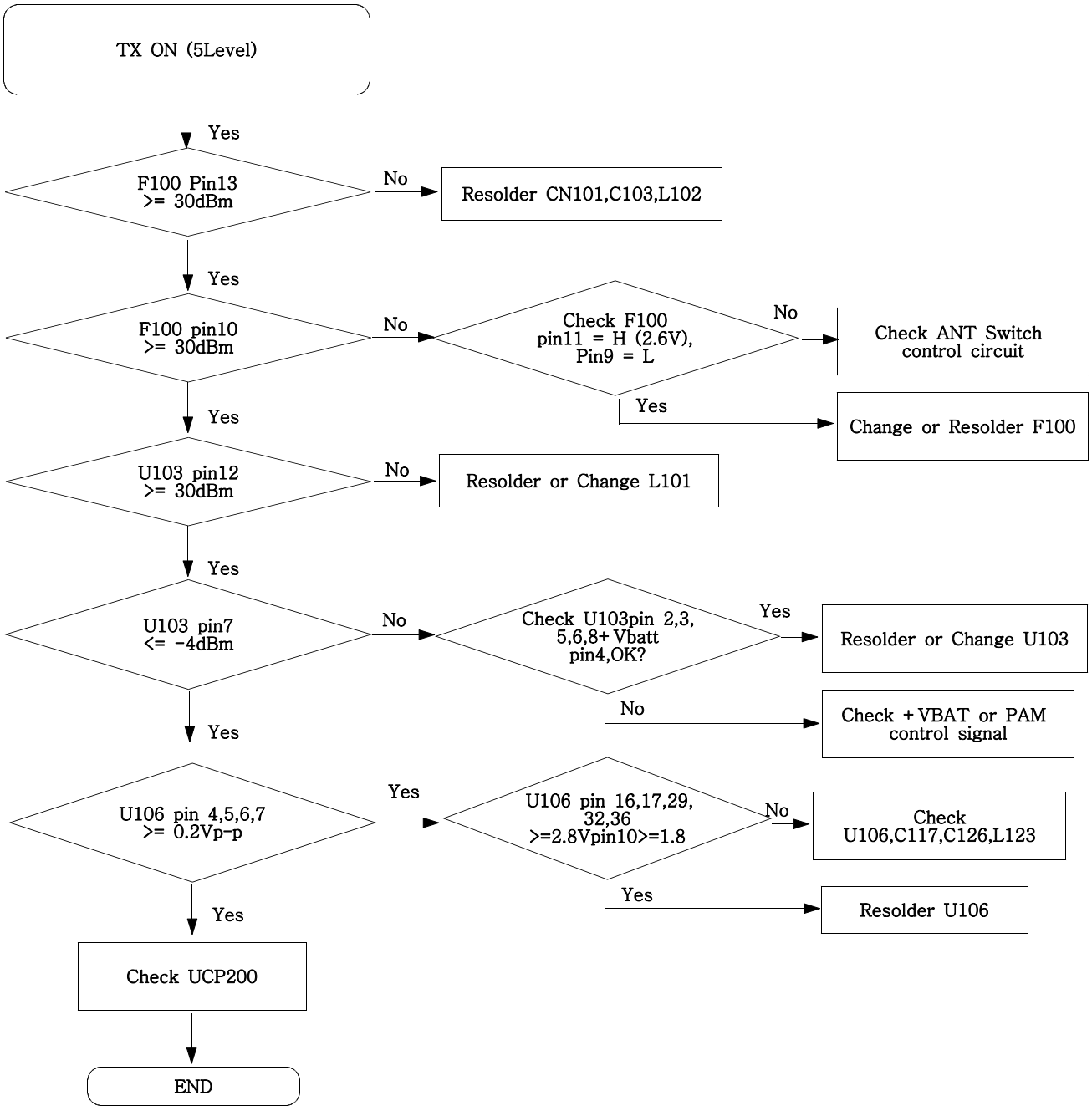
9-13. GSM Transmitter



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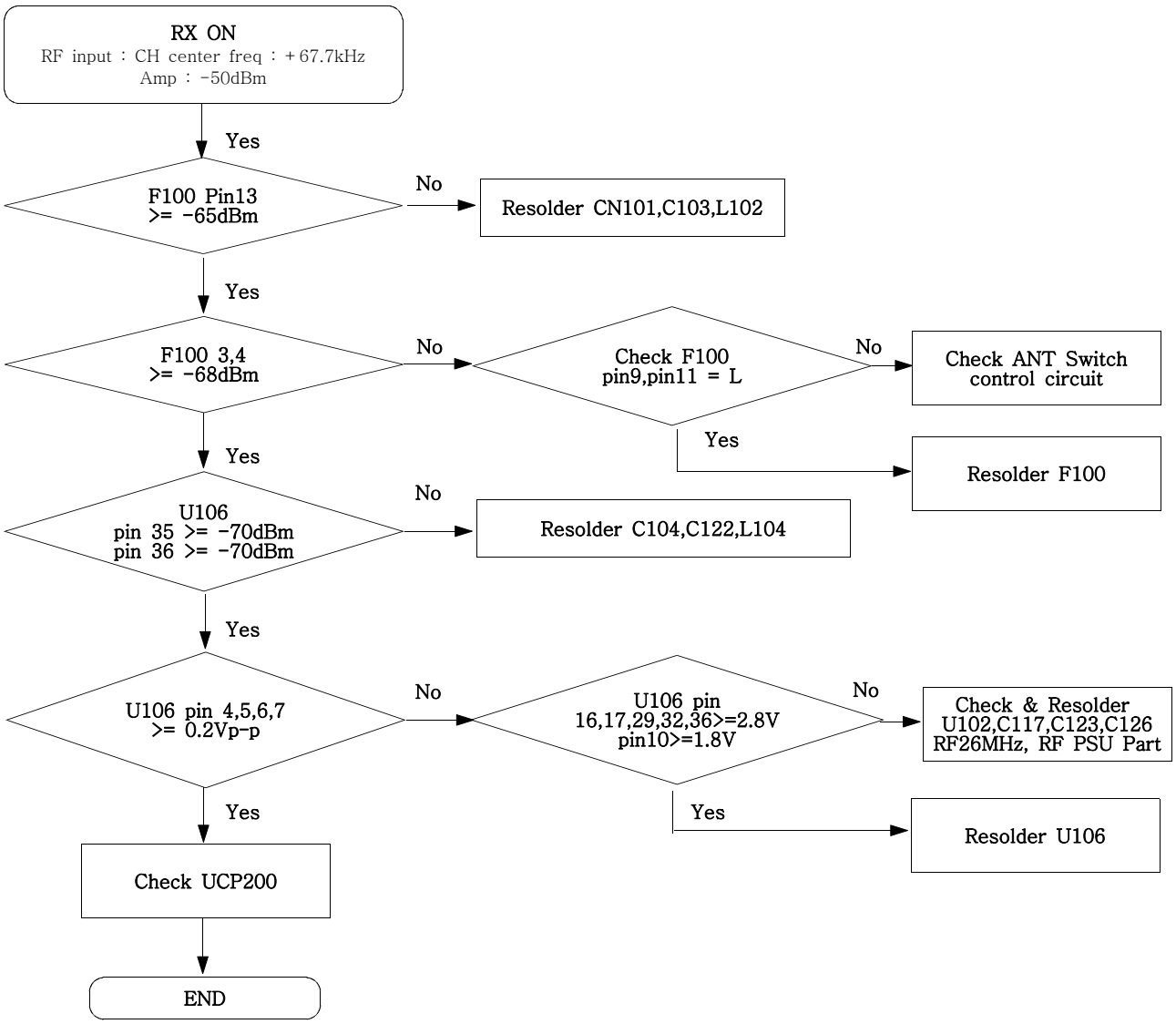
9-14. DCS Receiver



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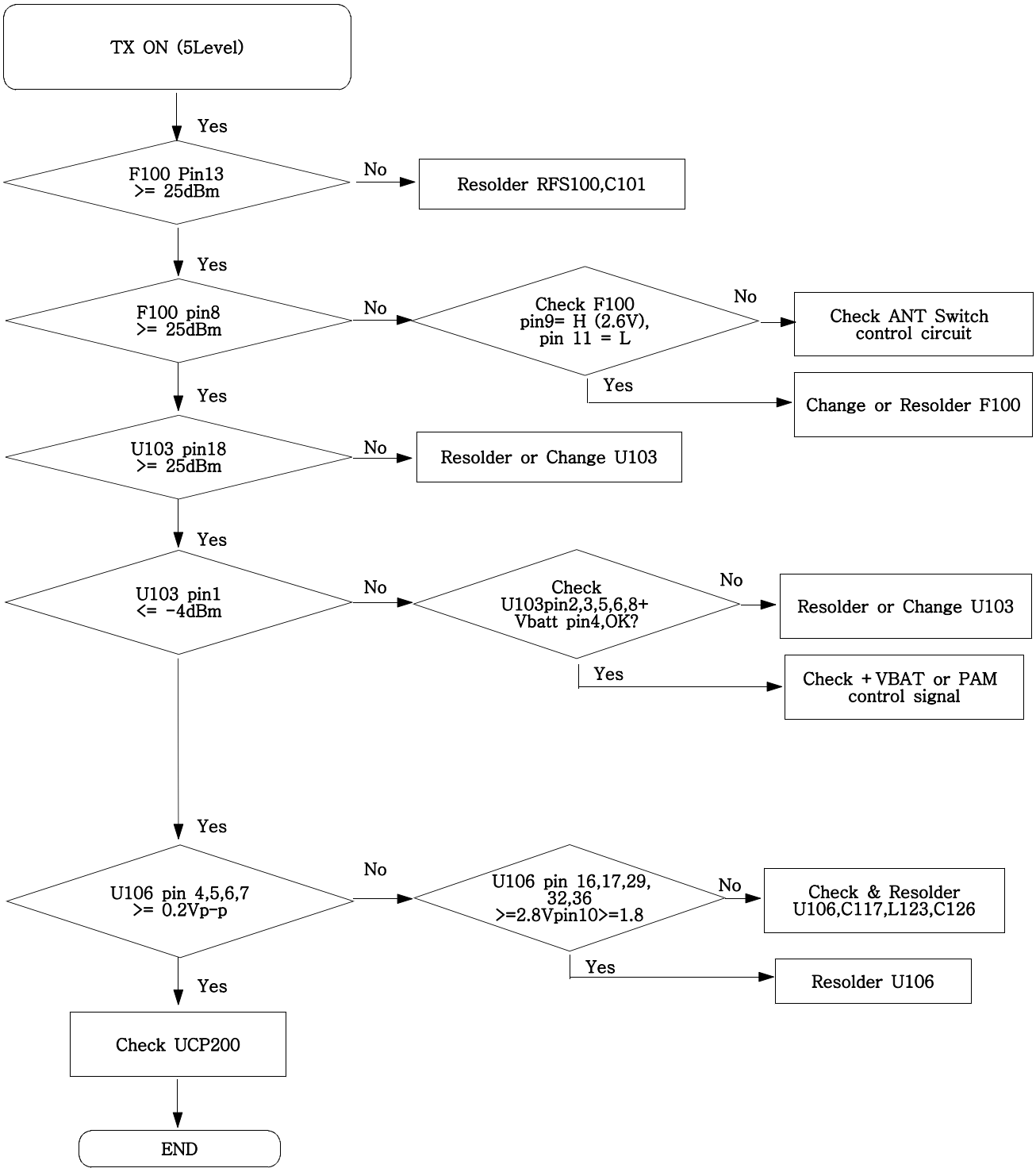
9-15. DCS Transmitter



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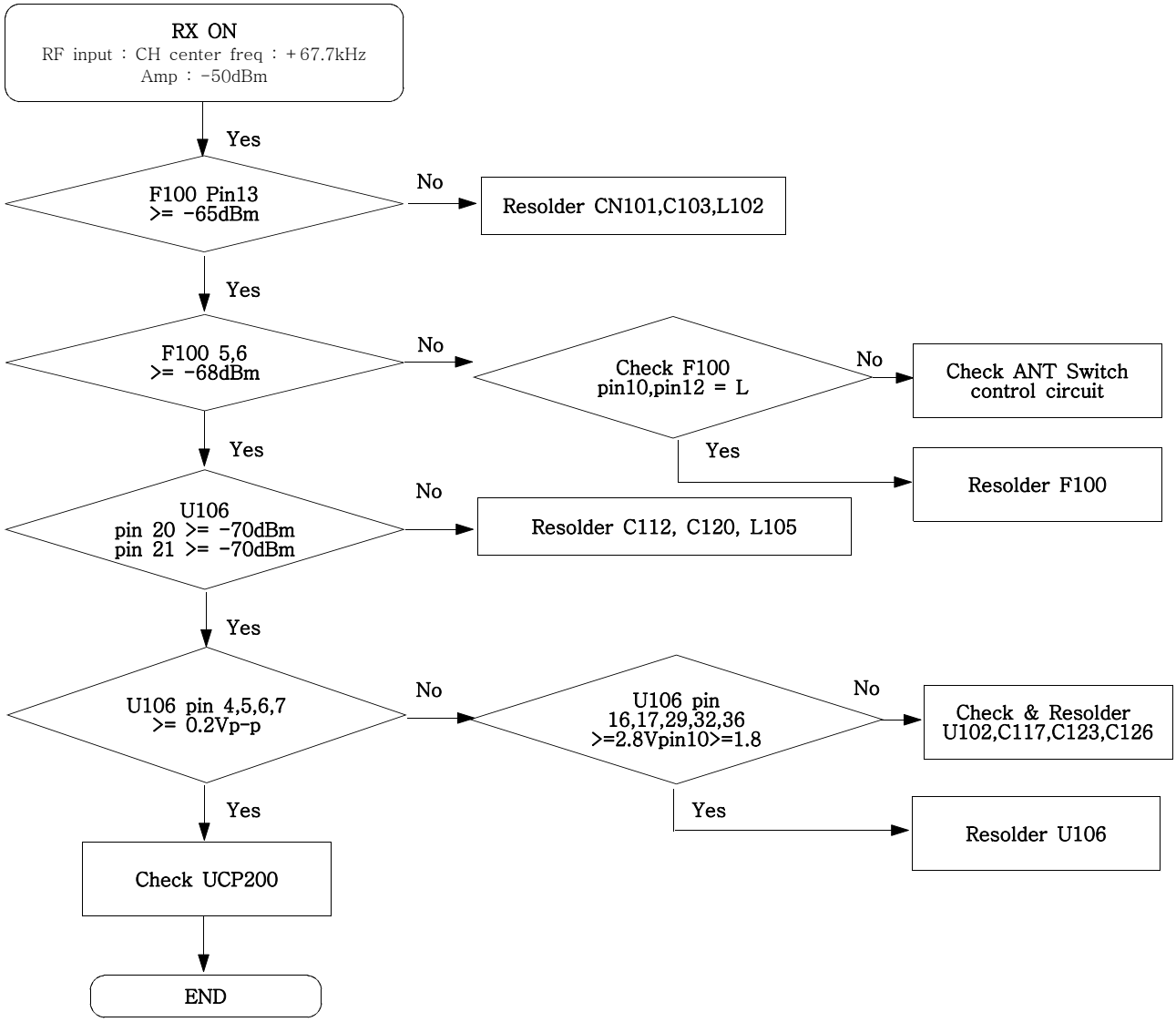
9-16. PCS Receiver



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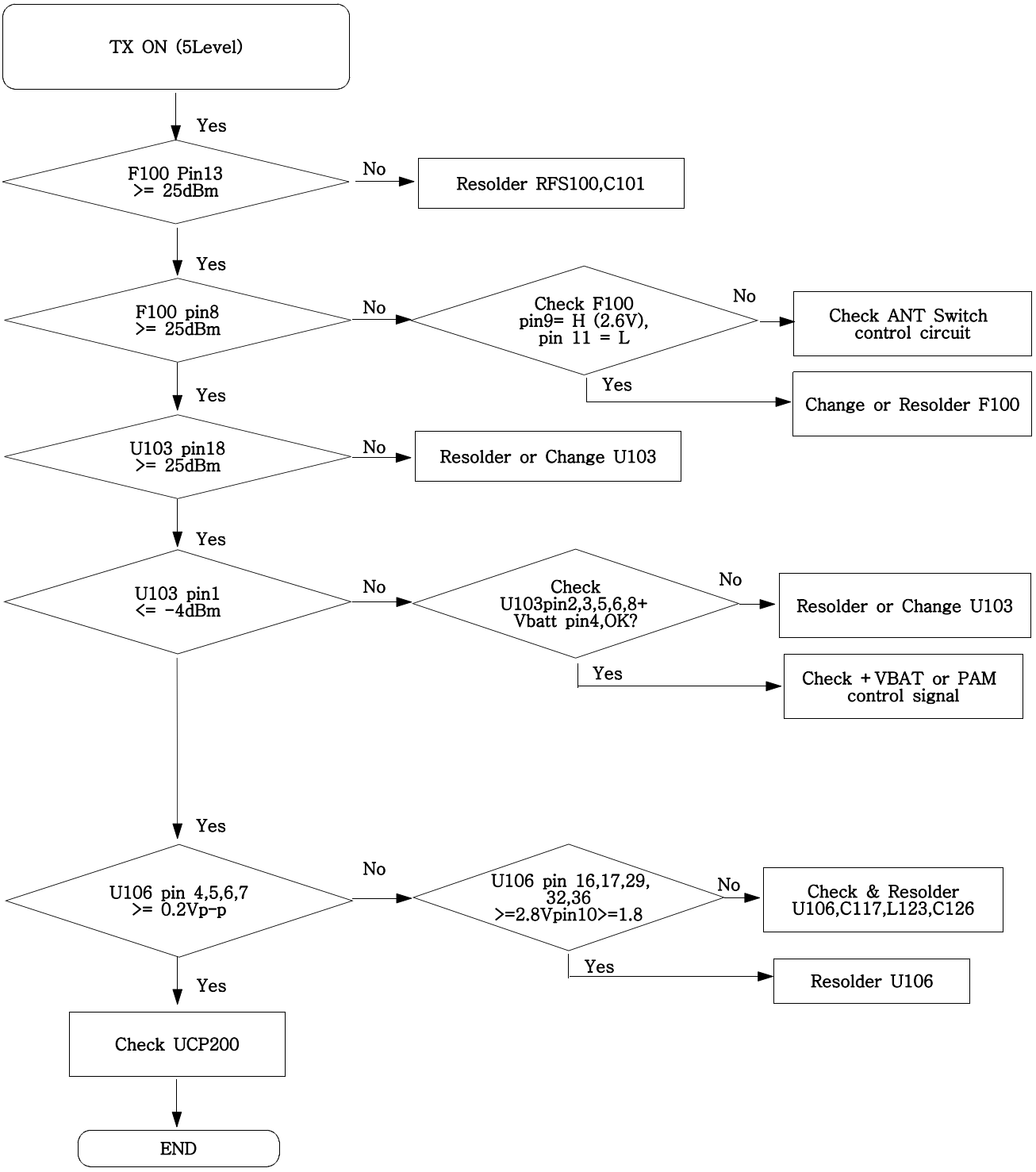
9-17. PCS Transmitter



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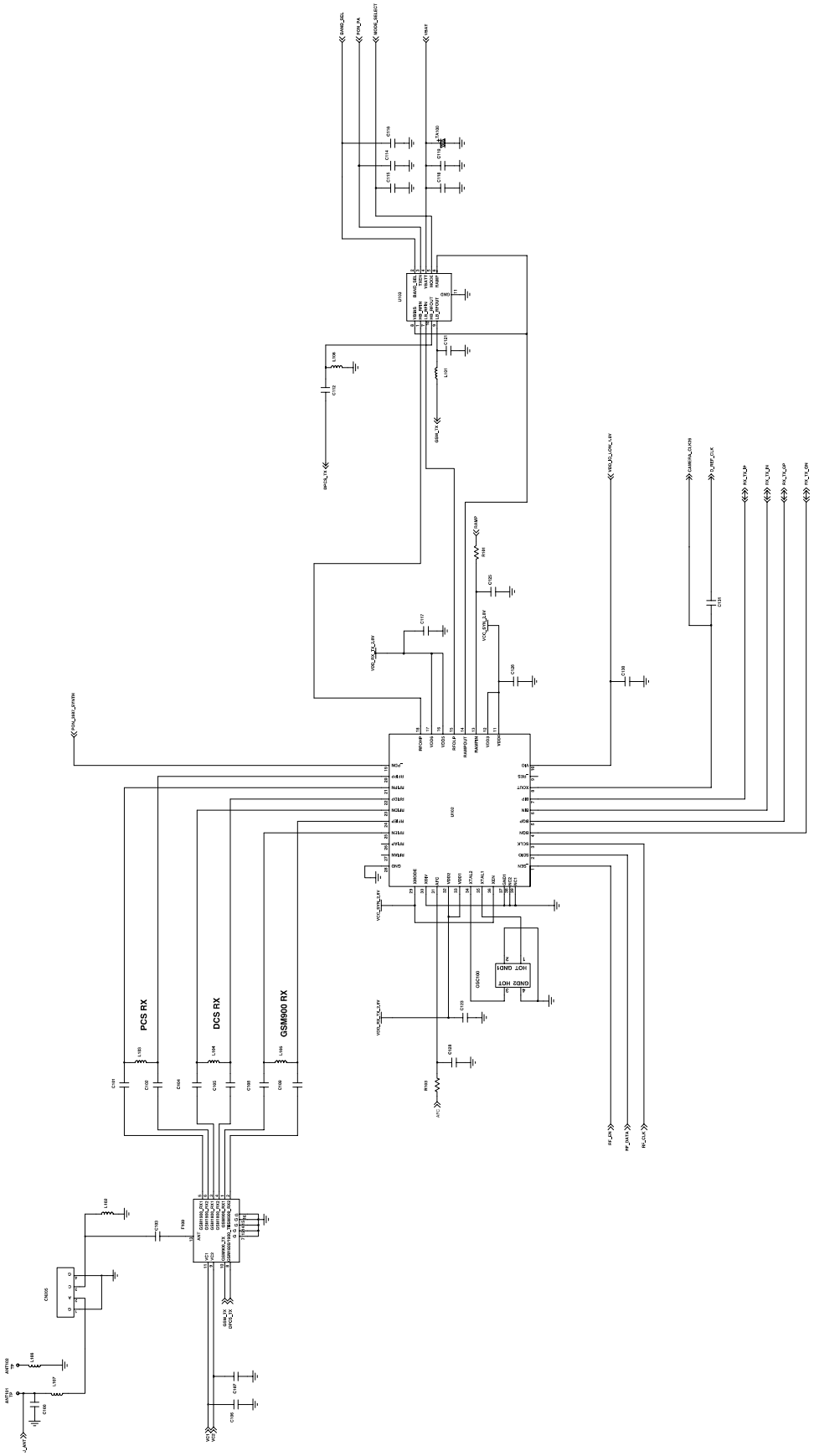

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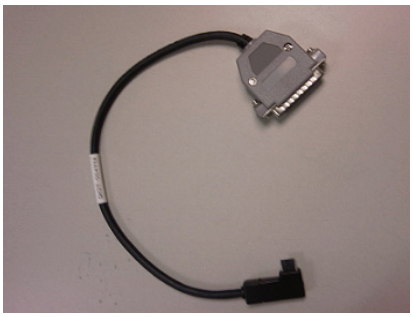
4. Array course control

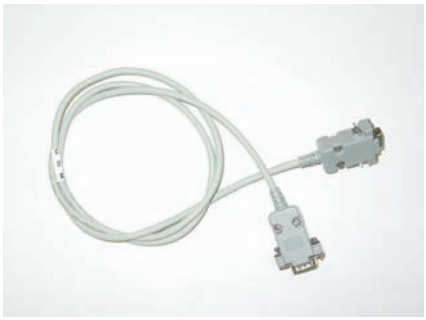
Software Adjustments

Test Jig (GH80-03306A)

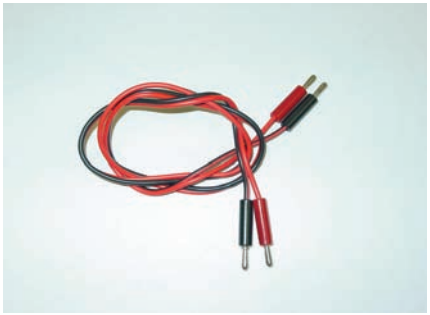
Test Cable (GH39-00499A)



Serial Cable(CSA LL64151-A)



Power Supply Cable



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Software Downloading

4-1. Pre-requsite for Downloading

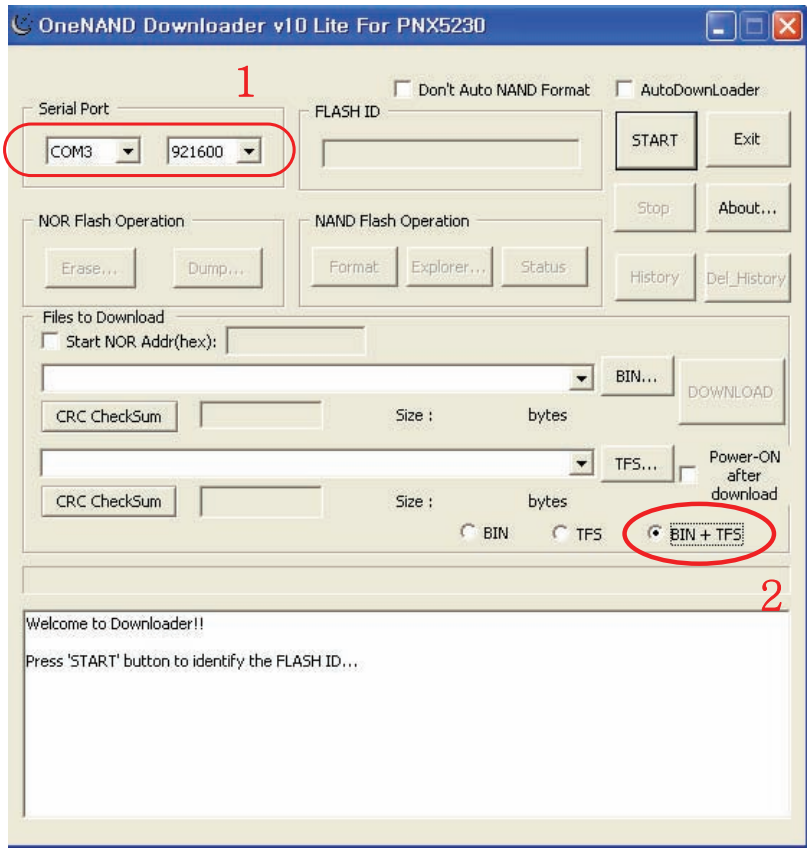
- Downloader Program(**OneNAND Downloder V1.0 Lite For PNX5230.exe**)
- E250 Mobile Phone
- Data Cable
- Binary file, TFS file

4-2. S/W Downloader Program

■ Load the binary download program by executing the "**OneNAND Downloder V1.0 Lite For PNX5230.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'



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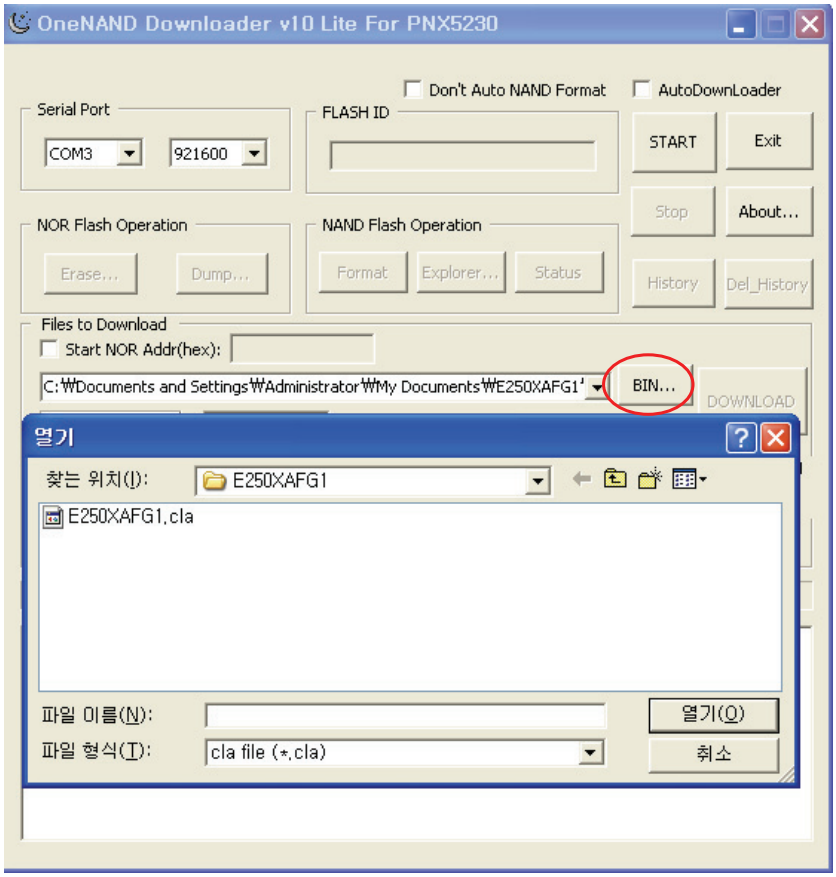
3. Select the file(s) what you want to download



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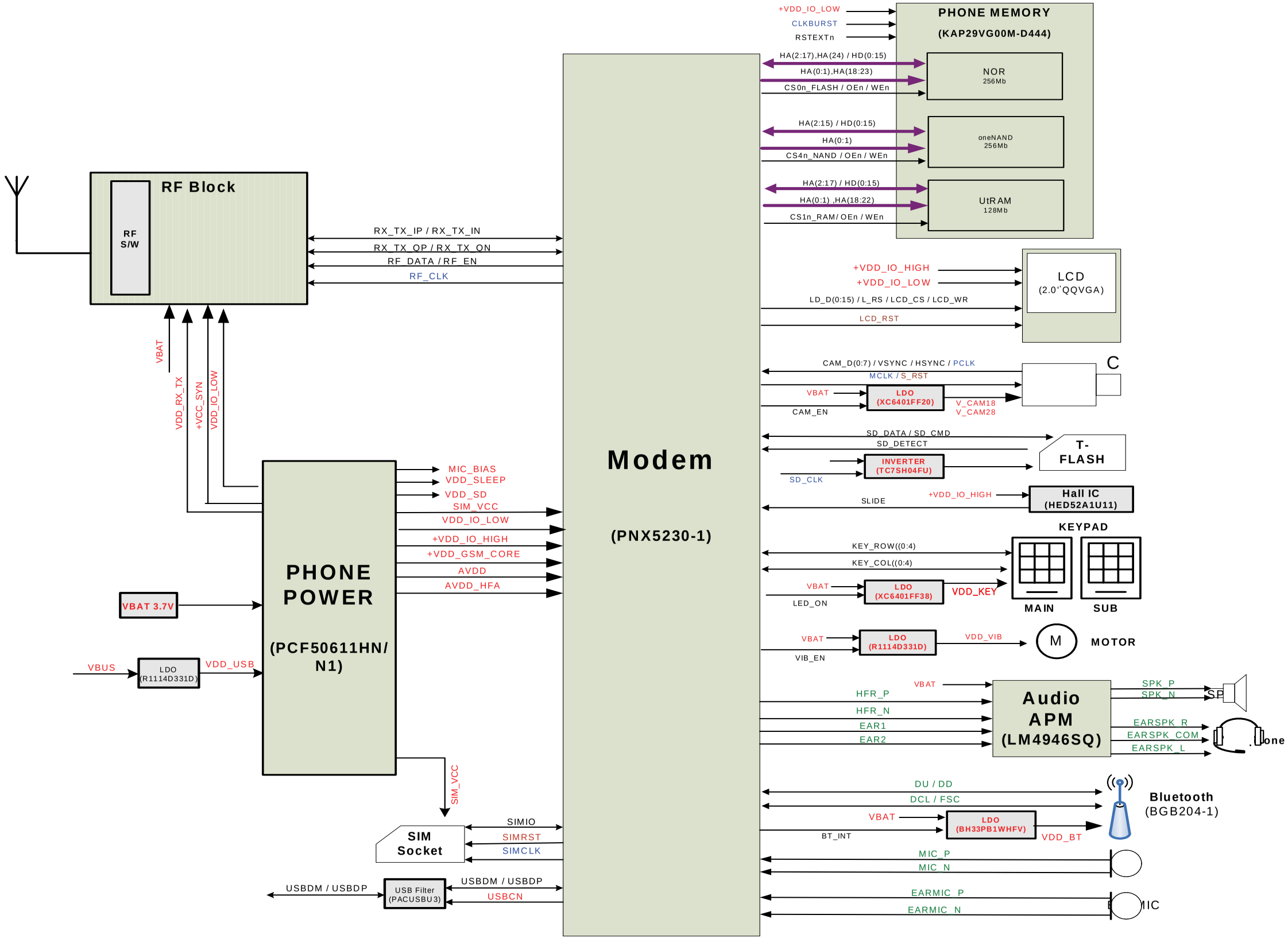
7. Block Diagrams

7-1. Base Band Block Diagram



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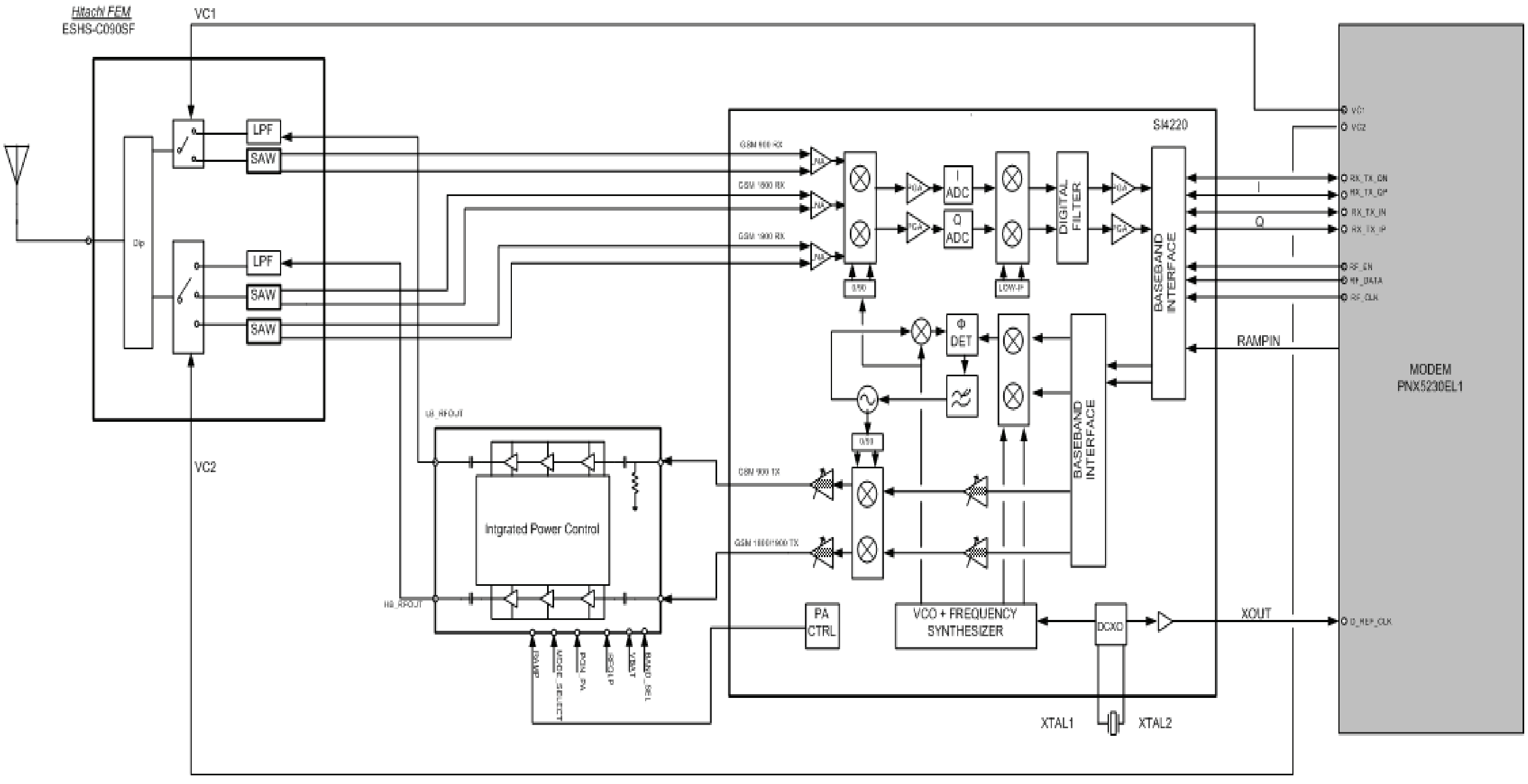
7-2. RF Block Diagram



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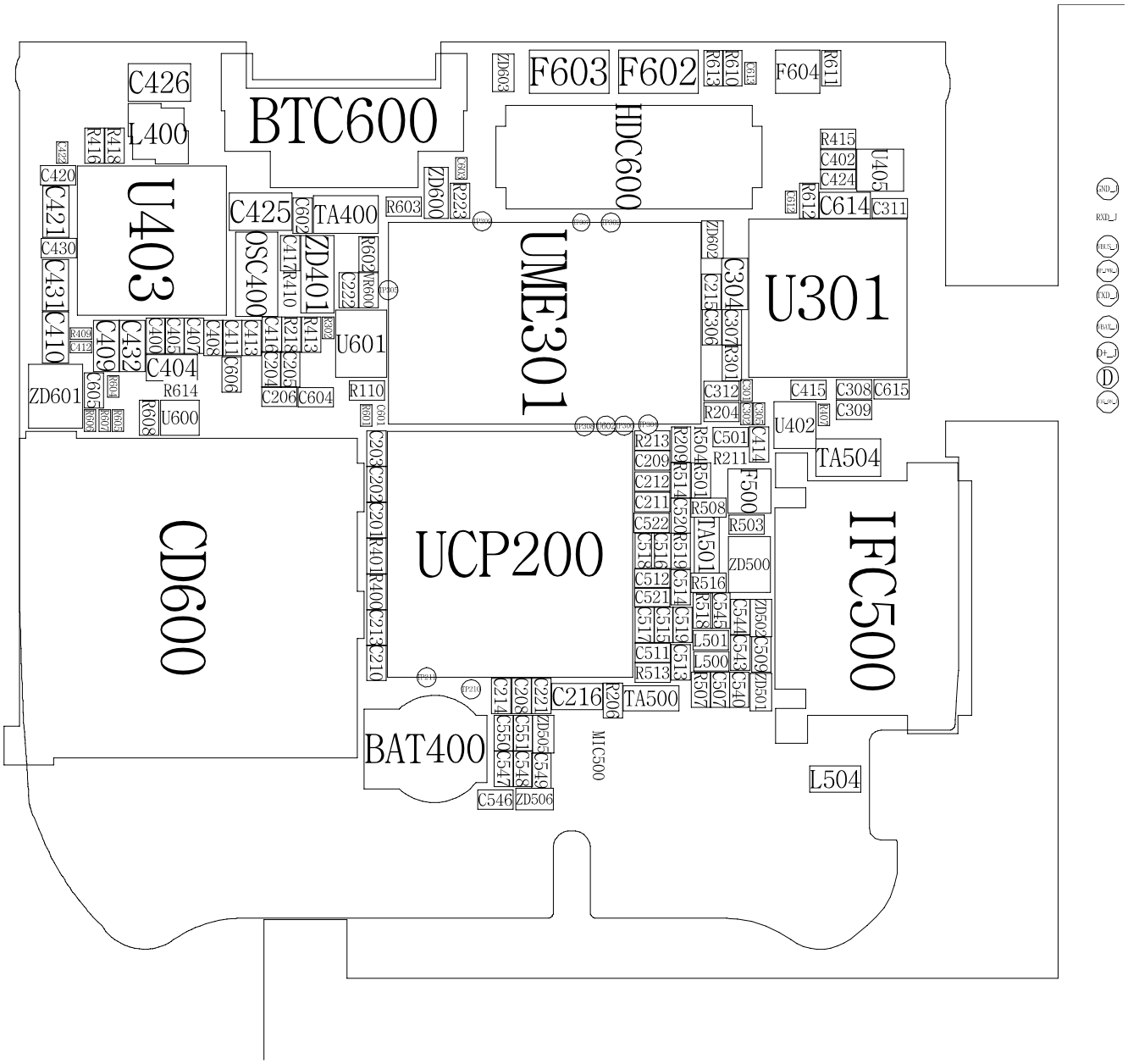
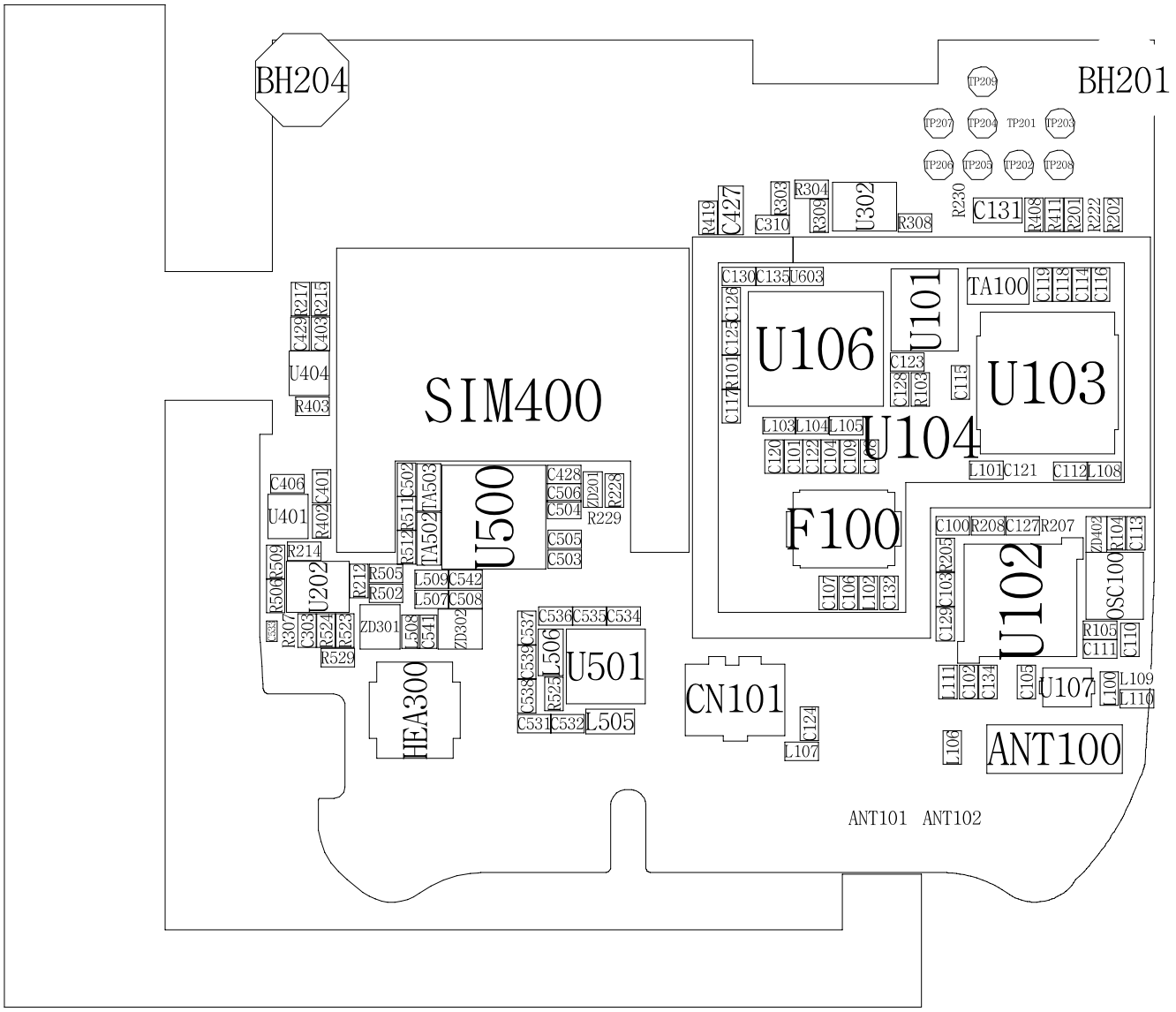
8. PCB Diagrams

- Top



- Bottom



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6. MAIN Electrical Parts List

Design LOC	Description	SEC Code	STATUS
ANT100	ANTENNA-CHIP	4202-001373	SA
BAT400	BATTERY-LI(2ND)	4302-001180	SA
BTC600	HEADER-BATTERY	3711-006217	SA
C100	C-CER,CHIP	2203-006838	SA
C101	C-CER,CHIP	2203-005288	SA
C102	C-CER,CHIP	2203-006838	SA
C103	C-CER,CHIP	2203-006838	SA
C104	C-CER,CHIP	2203-005050	SA
C105	C-CER,CHIP	2203-000278	SA
C106	C-CER,CHIP	2203-000233	SA
C107	C-CER,CHIP	2203-000233	SA
C108	C-CER,CHIP	2203-005288	SA
C109	C-CER,CHIP	2203-005288	SA
C110	C-CER,CHIP	2203-000278	SA
C111	C-CER,CHIP	2203-006842	SA
C112	INDUCTOR-SMD	2703-001749	SA
C113	C-CER,CHIP	2203-000278	SA
C114	C-CER,CHIP	2203-000233	SA
C115	C-CER,CHIP	2203-000233	SA
C116	C-CER,CHIP	2203-000233	SA
C117	C-CER,CHIP	2203-000278	SA
C118	C-CER,CHIP	2203-005482	SA
C119	C-CER,CHIP	2203-000812	SA
C120	C-CER,CHIP	2203-005288	SA
C122	C-CER,CHIP	2203-005050	SA
C123	C-CER,CHIP	2203-002709	SA
C125	C-CER,CHIP	2203-000233	SA
C126	C-CER,CHIP	2203-002709	SA
C127	C-CER,CHIP	2203-005482	SA
C128	C-CER,CHIP	2203-000233	SA
C129	C-CER,CHIP	2203-000233	SA
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C135	C-CER,CHIP	2203-002709	SA
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C206	C-CER,CHIP	2203-005482	SA
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C209	C-CER,CHIP	2203-005482	SA
C210	C-CER,CHIP	2203-006562	SA
C211	C-CER,CHIP	2203-000254	SA
C212	C-CER,CHIP	2203-005482	SA
C213	C-CER,CHIP	2203-000812	SA
C214	C-CER,CHIP	2203-005482	SA
C215	C-CER,CHIP	2203-000425	SA
C216	C-CER,CHIP	2203-006208	SA
C221	C-CER,CHIP	2203-005482	SA
C222	C-CER,CHIP	2203-000425	SA

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Design LOC	Description	SEC Code	STATUS
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C304	C-CER,CHIP	2203-006208	SA
C305	C-CER,CHIP	2203-006423	SA
C306	C-CER,CHIP	2203-006562	SA
C307	C-CER,CHIP	2203-005482	SA
C308	C-CER,CHIP	2203-006562	SA
C309	C-CER,CHIP	2203-005482	SA
C310	C-CER,CHIP	2203-000233	SA
C311	C-CER,CHIP	2203-000233	SA
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C400	C-CER,CHIP	2203-006257	SA
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C402	C-CER,CHIP	2203-006562	SA
C403	C-CER,CHIP	2203-006562	SA
C404	C-CER,CHIP	2203-006208	SA
C405	C-CER,CHIP	2203-006257	SA
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C408	C-CER,CHIP	2203-006257	SA
C409	C-CER,CHIP	2203-006208	SA
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C414	C-CER,CHIP	2203-006562	SA
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C421	C-CER,CHIP	2203-006324	SA
C422	C-CER,CHIP	2203-006423	SA
C424	C-CER,CHIP	2203-006562	SA
C425	C-CER,CHIP	2203-006361	SA
C426	C-CER,CHIP	2203-006361	SA
C427	C-CER,CHIP	2203-006208	SA
C428	C-CER,CHIP	2203-005482	SA
C429	C-CER,CHIP	2203-006562	SA
C430	C-CER,CHIP	2203-006562	SA
C431	C-CER,CHIP	2203-006901	SA
C432	C-CER,CHIP	2203-006825	SA
C501	C-CER,CHIP	2203-000254	SA
C502	C-CER,CHIP	2203-005483	SA
C503	C-CER,CHIP	2203-006260	SA
C504	C-CER,CHIP	2203-006562	SA
C505	C-CER,CHIP	2203-006260	SA
C506	C-CER,CHIP	2203-006562	SA
C507	C-CER,CHIP	2203-005444	SA
C508	C-CER,CHIP	2203-000386	SA
C509	C-CER,CHIP	2203-005050	SA
C511	C-CER,CHIP	2203-005395	SA
C512	C-CER,CHIP	2203-005395	SA

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Design LOC	Description	SEC Code	STATUS
C513	C-CER,CHIP	2203-005482	SA
C514	C-CER,CHIP	2203-005482	SA
C515	C-CER,CHIP	2203-000679	SA
C516	C-CER,CHIP	2203-000679	SA
C517	C-CER,CHIP	2203-000330	SA
C518	C-CER,CHIP	2203-000330	SA
C519	C-CER,CHIP	2203-005482	SA
C520	C-CER,CHIP	2203-005482	SA
C521	C-CER,CHIP	2203-005395	SA
C522	C-CER,CHIP	2203-005395	SA
C531	C-CER,CHIP	2203-005482	SA
C532	C-CER,CHIP	2203-000254	SA
C533	C-CER,CHIP	2203-006423	SA
C534	C-CER,CHIP	2203-006260	SA
C535	C-CER,CHIP	2203-006260	SA
C536	C-CER,CHIP	2203-006048	SA
C537	C-CER,CHIP	2203-000628	SA
C538	C-CER,CHIP	2203-000679	SA
C539	C-CER,CHIP	2203-002443	SA
C540	C-CER,CHIP	2203-000278	SA
C541	C-CER,CHIP	2203-000386	SA
C542	C-CER,CHIP	2203-000386	SA
C543	C-CER,CHIP	2203-003054	SA
C544	C-CER,CHIP	2203-000278	SA
C545	C-CER,CHIP	2203-005444	SA
C546	C-CER,CHIP	2203-000278	SA
C547	C-CER,CHIP	2203-005393	SA
C548	C-CER,CHIP	2203-001259	SA
C549	C-CER,CHIP	2203-005050	SA
C550	C-CER,CHIP	2203-005393	SA
C551	C-CER,CHIP	2203-000278	SA
C602	C-CER,CHIP	2203-002709	SA
C603	C-CER,CHIP	2203-006423	SA
C604	C-CER,CHIP	2203-000812	SA
C605	C-CER,CHIP	2203-000425	SA
C606	C-CER,CHIP	2203-006562	SA
C612	C-CER,CHIP	2203-005717	SA
C613	C-CER,CHIP	2203-005717	SA
C614	C-CER,CHIP	2203-006208	SA
C615	R-CHIP	2007-000162	SA
CD600	CONNECTOR-CARD EDGE	3709-001344	SA
CN101	CONNECTOR-COAXIAL	3705-001358	SA
F100	DUPLEXER-FEM	2911-000093	SA
F500	FILTER-EMI/ESD	2901-001376	SA
F602	FILTER-EMI/ESD	2901-001370	SA
F603	FILTER-EMI/ESD	2901-001370	SA
F604	FILTER-EMI/ESD	2901-001376	SA
HDC600	HEADER-BOARD TO BOARD	3711-005747	SA
HEA300	HEADER-BOARD TO BOARD	3711-005578	SA
IFC500	SOCKET-INTERFACE	3710-002465	SA
L100	R-CHIP	2007-000171	SA
L101	INDUCTOR-SMD	2703-002208	SA
L102	INDUCTOR-SMD	2703-002314	SA

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Design LOC	Description	SEC Code	STATUS
L103	INDUCTOR-SMD	2703-002608	SA
L104	INDUCTOR-SMD	2703-002608	SA
L105	INDUCTOR-SMD	2703-001726	SA
L106	INDUCTOR-SMD	2703-002208	SA
L107	C-CER,CHIP	2203-005395	SA
L108	C-CER,CHIP	2203-002668	SA
L110	INDUCTOR-SMD	2703-001749	SA
L111	BEAD-SMD	3301-001659	SA
L400	INDUCTOR-SMD	2703-003113	SA
L500	BEAD-SMD	3301-001729	SA
L501	BEAD-SMD	3301-001729	SA
L504	INDUCTOR-SMD	2703-001231	SNA
L505	INDUCTOR-SMD	2703-001285	SA
L506	INDUCTOR-SMD	2703-001673	SA
L507	BEAD-SMD	3301-001729	SA
L508	BEAD-SMD	3301-001729	SA
L509	BEAD-SMD	3301-001729	SA
OSC100	CRYSTAL-SMD	2801-004589	SA
OSC400	CRYSTAL-SMD	2801-004339	SA
R101	R-CHIP	2007-000148	SA
R103	R-CHIP	2007-000140	SA
R104	R-CHIP	2007-000170	SA
R105	R-CHIP	2007-007489	SA
R110	R-CHIP	2007-000143	SA
R201	R-CHIP	2007-000143	SA
R202	R-CHIP	2007-000171	SA
R204	R-CHIP	2007-000148	SA
R205	R-CHIP	2007-000148	SA
R206	R-CHIP	2007-002796	SA
R208	R-CHIP	2007-000148	SA
R209	R-CHIP	2007-000140	SA
R212	R-CHIP	2007-000170	SA
R213	R-CHIP	2007-000148	SA
R214	R-CHIP	2007-000170	SA
R215	R-CHIP	2007-001319	SA
R217	R-CHIP	2007-001319	SA
R218	R-CHIP	2007-000758	SA
R223	R-CHIP	2007-000758	SA
R228	R-CHIP	2007-000171	SA
R301	R-CHIP	2007-000162	SA
R302	R-CHIP	2007-008055	SA
R303	R-CHIP	2007-007014	SA
R304	R-CHIP	2007-000171	SA
R308	R-CHIP	2007-001303	SA
R309	R-CHIP	2007-007014	SA
R400	R-CHIP	2007-007573	SA
R401	R-CHIP	2007-008354	SA
R402	R-CHIP	2007-001333	SA
R403	R-CHIP	2007-001333	SA
R407	R-CHIP	2007-009157	SA
R408	R-CHIP	2007-007318	SA
R409	R-CHIP	2007-008542	SA
R411	R-CHIP	2007-008137	SA

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Design LOC	Description	SEC Code	STATUS
R413	R-CHIP	2007-007317	SA
R415	R-CHIP	2007-007142	SA
R416	R-CHIP	2007-000758	SA
R418	R-CHIP	2007-007107	SA
R419	R-CHIP	2007-007142	SA
R501	R-CHIP	2007-001333	SA
R502	R-CHIP	2007-007334	SA
R503	R-CHIP	2007-001339	SA
R505	R-CHIP	2007-007142	SA
R506	R-CHIP	2007-000172	SA
R507	R-CHIP	2007-002796	SA
R508	R-CHIP	2007-002796	SA
R509	R-CHIP	2007-000172	SA
R511	R-CHIP	2007-001292	SA
R512	R-CHIP	2007-001292	SA
R513	R-CHIP	2007-007528	SA
R514	R-CHIP	2007-001333	SA
R516	R-CHIP	2007-007528	SA
R518	R-CHIP	2007-007528	SA
R519	R-CHIP	2007-007528	SA
R523	R-CHIP	2007-000162	SA
R524	R-CHIP	2007-003001	SA
R525	R-CHIP	2007-000148	SA
R529	R-CHIP	2007-001333	SA
R601	R-CHIP	2007-008516	SA
R602	R-CHIP	2007-007107	SA
R603	R-CHIP	2007-000152	SA
R604	R-CHIP	2007-008055	SA
R605	R-CHIP	2007-009168	SA
R606	R-CHIP	2007-008055	SA
R607	R-CHIP	2007-009212	SA
R608	R-CHIP	2007-000758	SA
R610	R-CHIP	2007-000162	SA
R611	R-CHIP	2007-000162	SA
R612	R-CHIP	2007-000162	SA
R613	R-CHIP	2007-007142	SA
SIM400	CONNECTOR-CARD EDGE	3709-001400	SA
TA100	C-TA,CHIP	2404-001496	SA
TA400	C-TA,CHIP	2404-001430	SA
TA500	C-TA,CHIP	2404-001377	SA
TA501	C-TA,CHIP	2404-001377	SA
TA502	C-TA,CHIP	2404-001381	SA
TA503	C-TA,CHIP	2404-001226	SA
TA504	C-TA,CHIP	2404-001496	SA
U101	CRYSTAL-SMD	2801-004587	SA
U102	IC-TRANSCEIVER	1205-002942	SA
U103	IC-POWER AMP	1201-002576	SA
U104	ICT SHIELD-FRAME RF	GH70-02505A	SA
U106	IC-TRANSCEIVER	1205-003283	SA
U107	FILTER-LC	2909-001299	SA
U202	FILTER-EMI SMD	2901-001316	SA
U301	IC ASIC-SGHC420	GH13-00057A	SA
U302	IC-CMOS LOGIC	0801-002237	SA

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Design LOC	Description	SEC Code	STATUS
U401	IC-POSI.FIXED REG.	1203-003737	SA
U402	IC-POSI.FIXED REG.	1203-003737	SA
U403	IC-POWER SUPERVISOR	1203-004382	SA
U404	IC-POSI.FIXED REG.	1203-003737	SA
U405	IC-POSI.FIXED REG.	1203-003737	SA
U500	IC-AUDIO AMP	1201-002492	SA
U501	IC-DEMODULATOR	1204-002688	SA
U600	IC-CMOS LOGIC	0801-003185	SA
U601	IC-CMOS LOGIC	0801-002237	SA
U603	C-CER,CHIP	2203-000233	SA
UCP200	IC-COMM. CONTROLLER	1205-003082	SA
UME301	IC-MCP	1108-000080	SA
VR600	THERMISTOR-NTC	1404-001221	SA
ZD201	DIODE-TVS	0406-001235	SA
ZD301	DIODE-TVS	0406-001190	SA
ZD302	DIODE-TVS	0406-001190	SA
ZD401	DIODE-ZENER	0403-001547	SA
ZD402	DIODE-TVS	0406-001254	SA
ZD500	DIODE-TVS	0406-001208	SA
ZD501	DIODE-TVS	0406-001254	SA
ZD502	DIODE-TVS	0406-001254	SA
ZD505	DIODE-TVS	0406-001254	SA
ZD506	DIODE-TVS	0406-001254	SA
ZD600	DIODE-TVS	0406-001201	SA
ZD601	DIODE-TVS	0406-001240	SA
ZD602	DIODE-TVS	0406-001254	SA
ZD603	DIODE-TVS	0406-001254	SA

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

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3. Product Function

Main Function

-SlimSlide Design Intenna
-VGA Camera
-Bluetooth V.2.0
-Stereo Bluetooth Headset
-Mobile Tracker & SOS Messaging
-Large 2.0" 65K Color TFT Display
-SMS/MMS/E-Mail
-WAP 2.0 / Java MIDP 2.0
-MP3, AAC, MP4, 3GPP Decoding
-Video Recording and Messaging
-GSM/GPRS Class 10
-Triple Band(GSM900/DCS,PCS)
-64 Poly
-Speaker Phone
-Voice Clarity

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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

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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 specificity of cellular phone is sensitive for surrounding interference(RF noise).

- Be careful to use a kind of magnetic object or tool, because performance of parts is damaged by the influence of magnetic force.

- Surely use a standard screwdriver when you disassemble this product, otherwise screw will be worn away.

- Use a thicken twisted wire when you measure level.
  A thicken twisted wire has low resistance, therefore error of measurement is few.

- Repair after separate Test Pack and Set because for short danger (for example an overcurrent and furious flames of parts etc) when you repair board in condition of connecting Test Pack and tuning on.

- Take specially care of soldering, because Land of PCB is small and weak in heat.

- Surely tune on/off while using AC power plug, because a repair of battery charger is dangerous when tuning ON/OFF PBA and Connector after disassembling charger.

- Don't use as you pleases after change other material than replacement registered on SEC System. Otherwise engineer in charge isn't charged with problem that you don't keep this rules.

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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.

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