

SAMSUNG

GSM TELEPHONE

SGH-T619

SERVICE *Manual*

GSM TELEPHONE



CONTENTS

1. Safety Precautions
2. Specification
3. Product Function
4. Array course control
5. Exploded View/Disassembly and Assembly Instructions
6. MAIN Electrical Parts List
7. Block Diagrams
8. PCB Diagrams
9. Flow Chart of Troubleshooting
10. Reference data

**SAMSUNG
ELECTRONICS**



CONTENTS

1. Safety Precautions

- 1-1. Repair Precaution.....1-1
- 1-2. ESD(Electrostatically Sensitive Devices) Precaution.....1-2

2. Specification

- 2-1. GSM General Specification.....2-1
- 2-2. GSM Tx Power Class.....2-2

3. Product Function

4. Array course control

- 4-1. Downloading Binary Files.....4-2
- 4-2. Pre-requisite for Downloading.....4-2
- 4-3. S/W Downloader Program.....4-3

5. Exploded View/Disassembly & Assembly Instructions

- 5-1. Cellular phone Exploded View.....5-1
- 5-2. Cellular phone Parts list.....5-2
- 5-3. Disassembly & Assembly Instructions.....5-4

6. MAIN Electrical Parts List

7. Block Diagrams

- 7-1. RF Solution Block Diagram.....7-1
- 7-2. Base Band Solution Block Diagram.....7-2
- 7-3. Audio Block.....7-3
- 7-4. Camera Block.....7-4

8. PCB Diagrams

CONTENTS

9. Flow Chart of Troubleshooting

9-1. Pown on.....	9-1
9-2. Initial.....	9-3
9-3. Charging Part.....	9-5
9-4. SIM Part.....	9-6
9-5. Microphone Part.....	9-8
9-6. Speaker Part.....	9-10
9-7. Key Data Input.....	9-12
9-8. Receiver Part.....	9-14
9-9. Back Light.....	9-16
9-10. Key Back Light.....	9-18
9-11. Camera Part.....	9-20
9-12. GSM850 Reciever.....	9-23
9-13. GSM850 Transmitter.....	9-24
9-14. GSM900 Reciever.....	9-25
9-15. GSM900 Transmitter.....	9-26
9-16. DCS Receiver.....	9-27
9-17. DCS Transmitter.....	9-28
9-18. PCS Receiver.....	9-29
9-19. PCS Transmitter.....	9-30

10. Reference data

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 Phase 1	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	824~849 869~894	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	128~251	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate / Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period / Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~13dBm	33dBm~13dBm	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
5	33±3 dBm
6	31±3 dBm
7	29±3 dBm
8	27±3 dBm
9	25±3 dBm
10	23±3 dBm
11	21±3 dBm
12	19±3 dBm
13	17±3 dBm
14	15±3 dBm
15	13±3 dBm
16	11±5 dBm
17	9±5 dBm
18	7±5 dBm
19	5±5 dBm

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

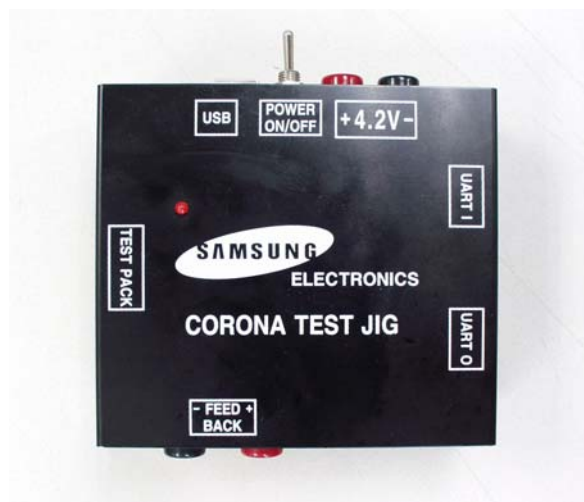
TX Power control level	PCS1900
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

3. Product Function

Main Function

- 1.3M Camera and camcorder
- MP3 player(MP3/AAC/AAC+)
- Phonebook
- Name card
- Multimedia Message Service (MMS)
- E-mail
- Voice recorder
- Bluetooth
- USB
- SyncML
- Web browser
- Java
- Calendar

4. Array course control



Test Jig (GH80-03307A)



Test Cable (GH39-00337A)



RF Test Cable (GH39-00283A)

Software Downloading

4-1. Downloading Binary Files

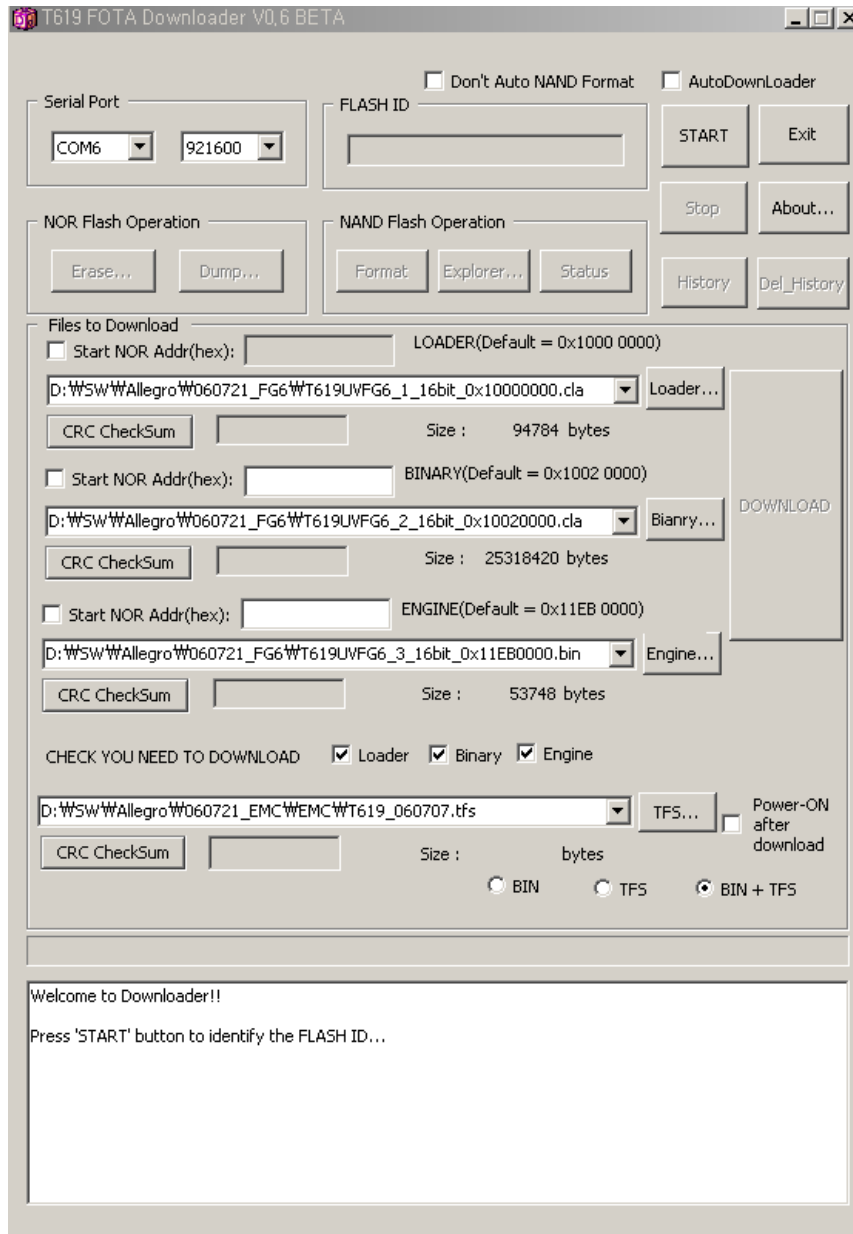
- **Swift Model firmware is composed of 3 files**
 - *.cla : Main source binary.
 - *.tfs : File which includes image,mp3..etc..which are needed for each application
 - *.cfg : File which has information about .tfs File

4-2. Pre-requisite for Downloading

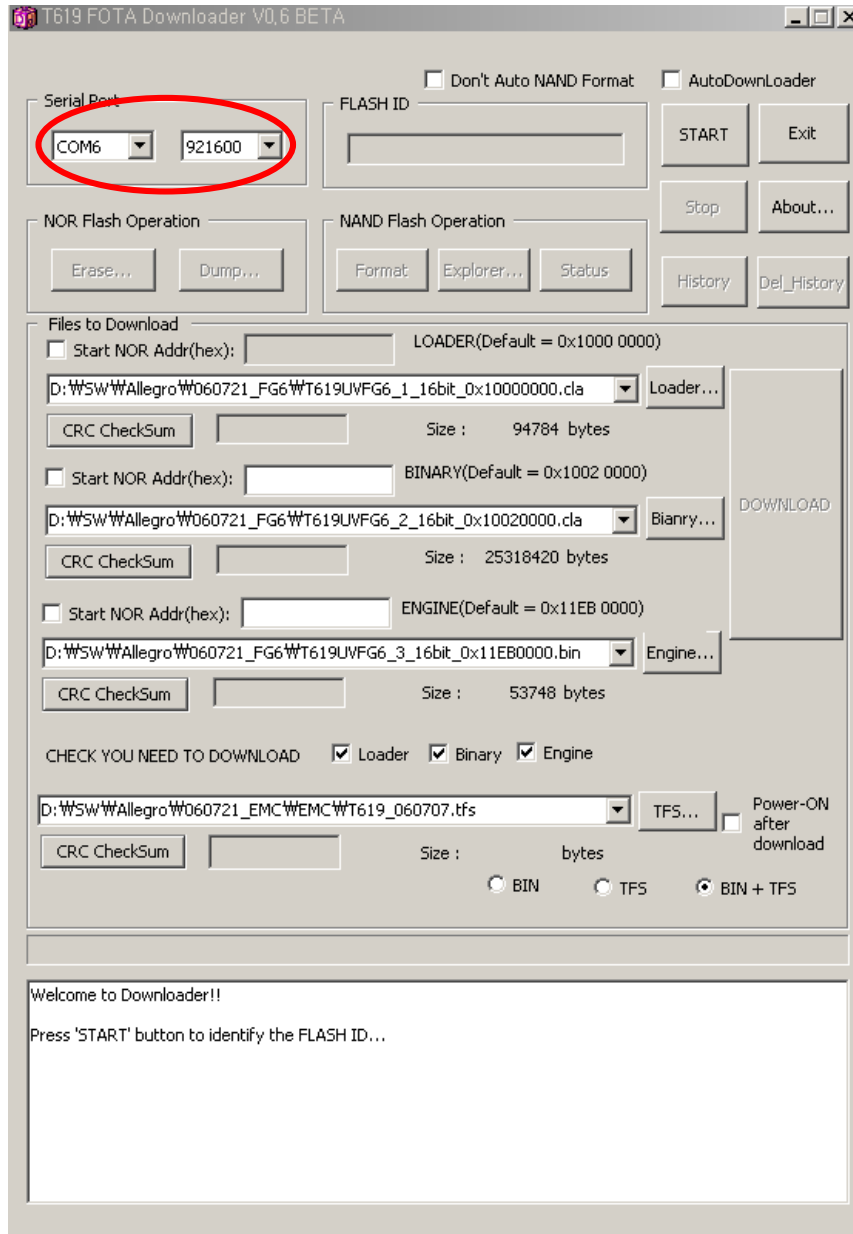
- Downloader (Single or Multi downloader)
- The firmware
- Data Cable

4-3. S/W Downloader Program

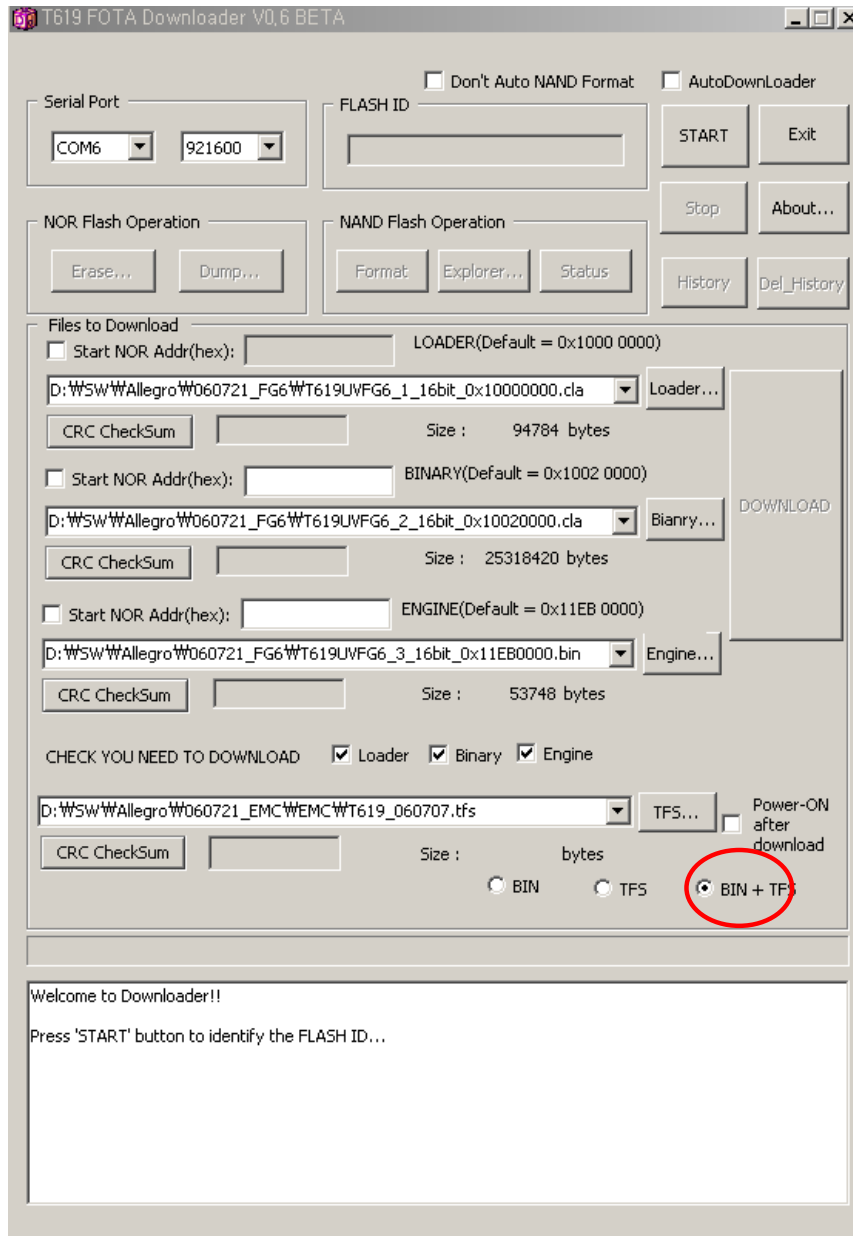
1. Unzip the downloader and firmware files to a folder where you want.
2. Open the downloader



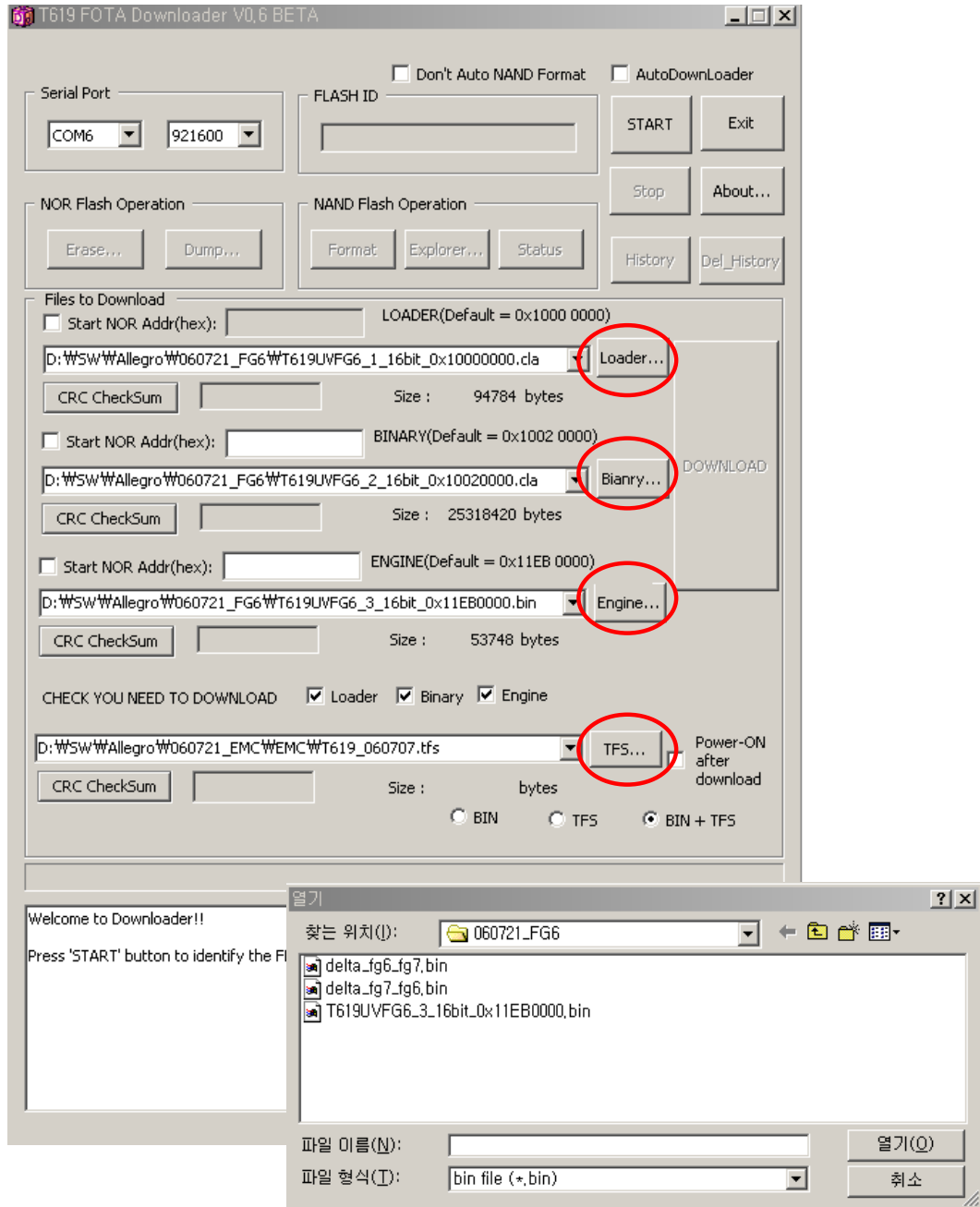
3. Set the serial Port and BAUD rate



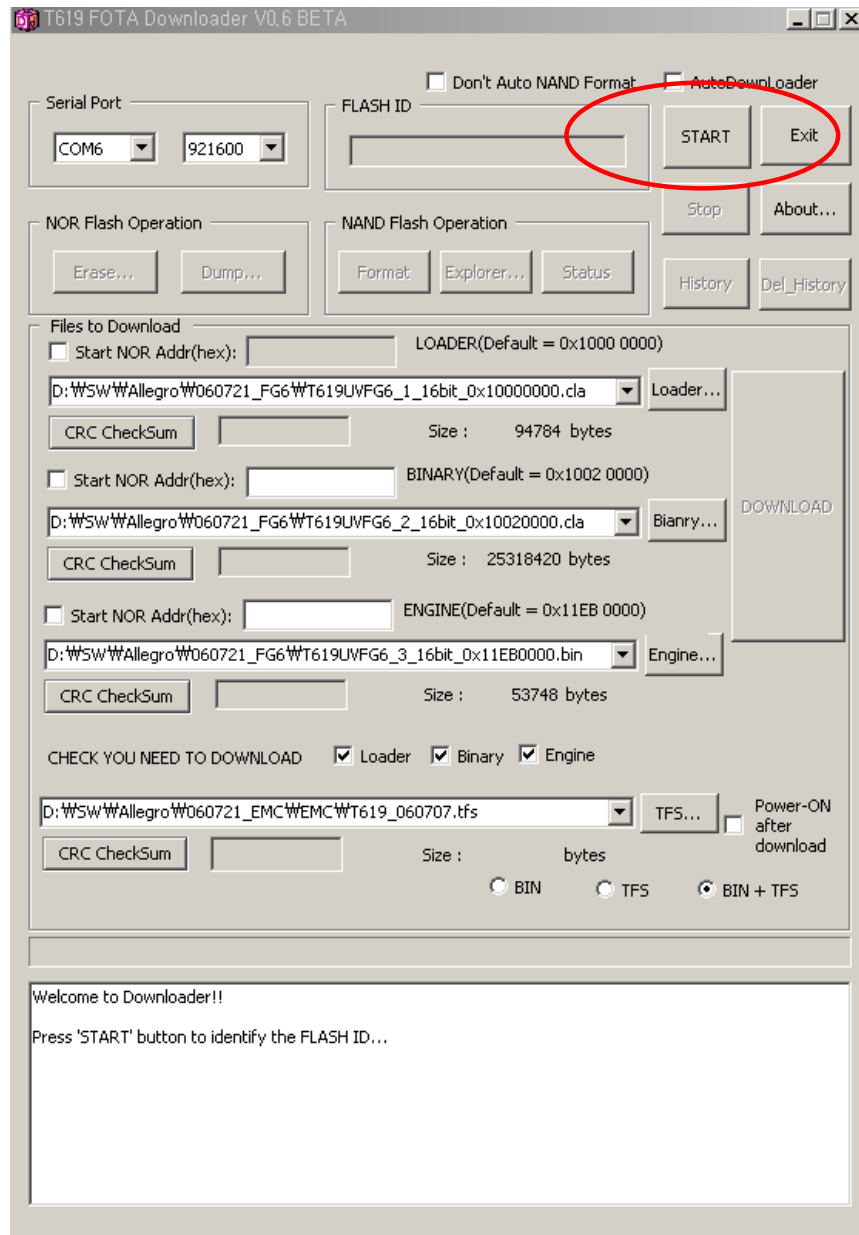
4. Check radio button (Binary only, TFS Only and Binary + TFS).



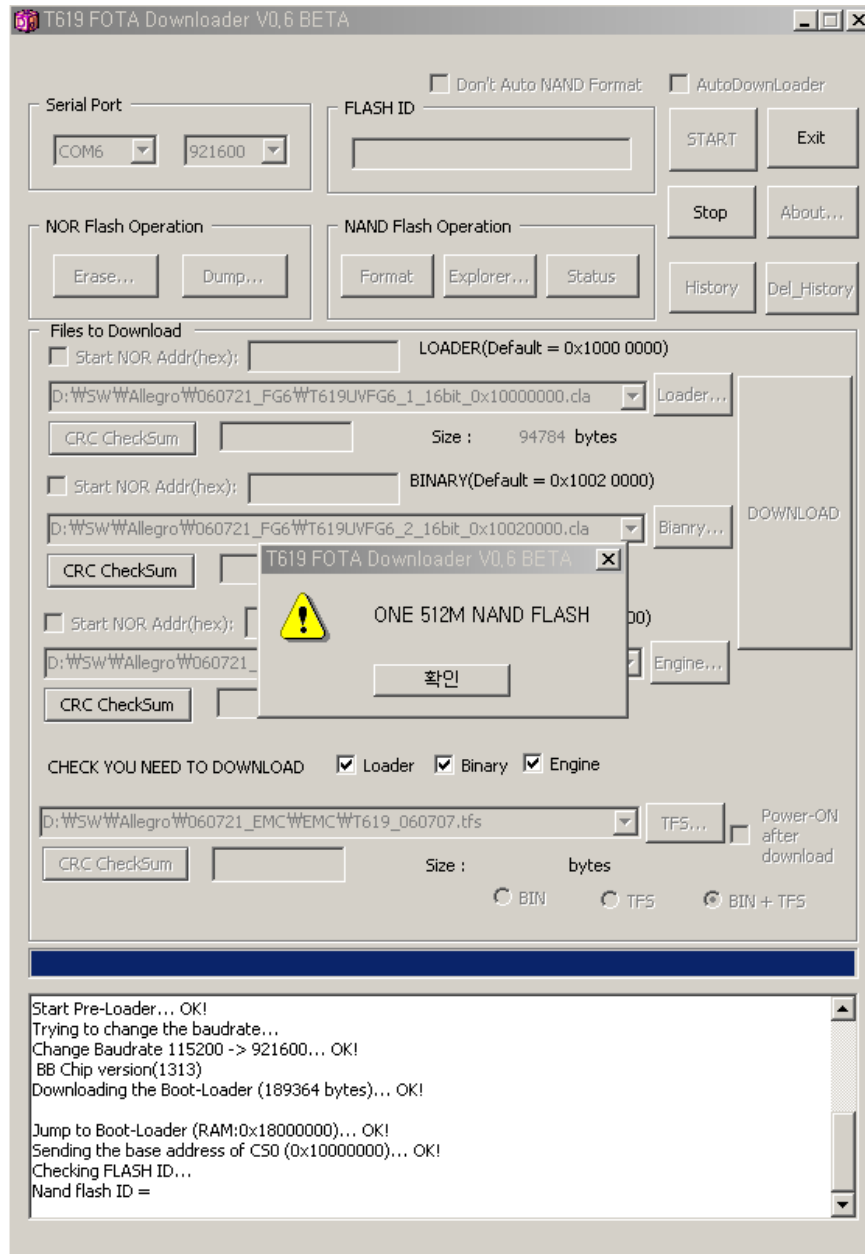
5. Select the binary(and TFS) file(s) that you want to download



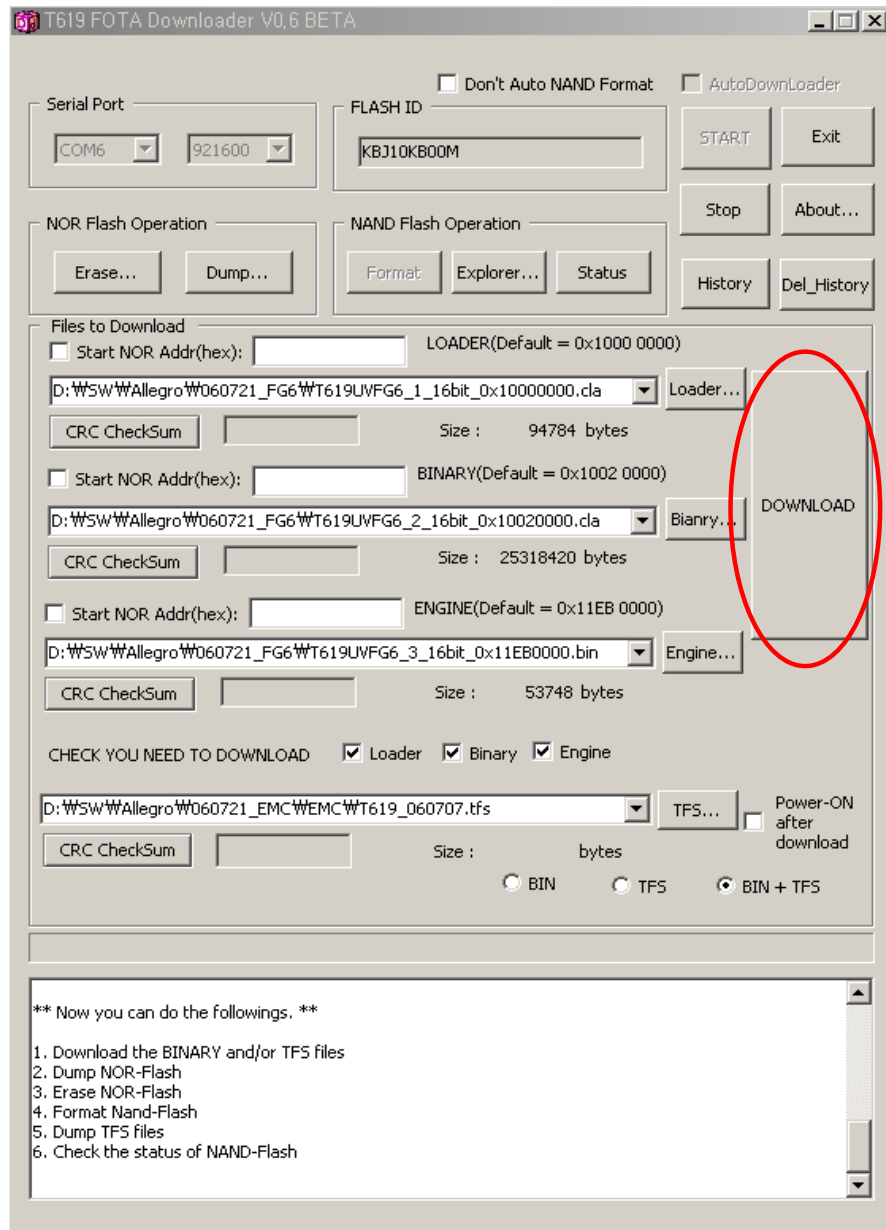
6. Press start button and power on the phone



then the downloader can recognize the flash memory type of the phone

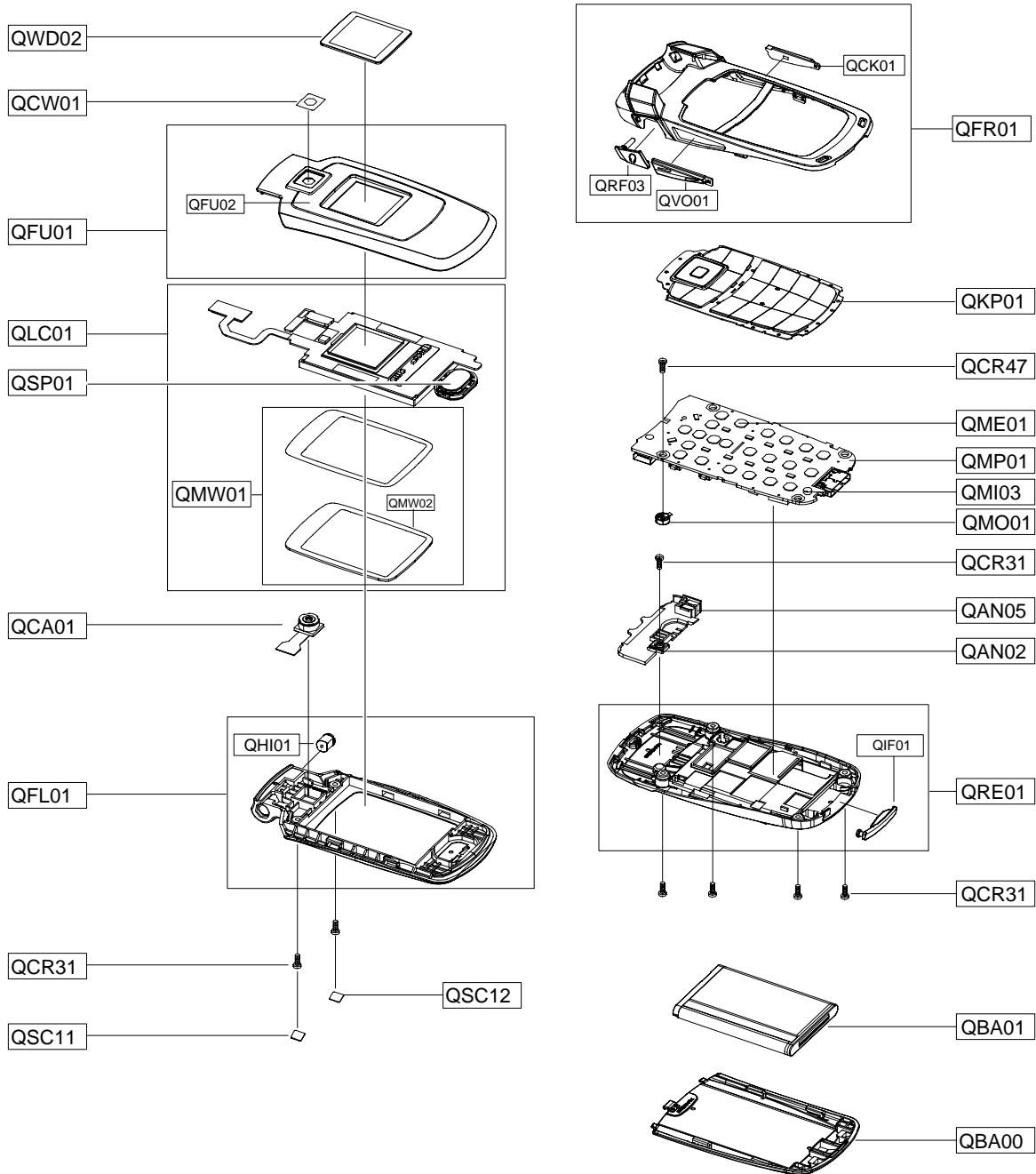


7. After confirming the memory type, press 'DOWNLOAD' button



5. Exploded View/Disassembly&Assembly Instructions

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts list

QAN02			INTENNA-SGHT619	GH42-00938A
QAN05			ASSY MEC-INTENNA CONTACT	GH75-08168A
QBA00			PMO-CASE BATTERY	GH72-32853A
QBA01			INNER BATTERY PACK-800MAH,BLK,	GH43-02186A
QCA01			UNIT-CAMERA MODULE	GH59-03439A
QCR12			SCREW-MACHINE	6001-001530
QCR31			SCREW-MACHINE	6001-001795
QCR31			SCREW-MACHINE	6001-001795
QCR31			SCREW-MACHINE	6001-001795
QCW01			PCT-CAMERA WINDOW	GH72-30893A
QKP01			ASSY KEYPAD-(TMB/SIL)	GH98-01923A
QME01			UNIT-METAL DOME	GH59-03271A
QMI03			RMO-CUSHION RUBBER MIC	GH73-07303A
QMO01			MOTOR DC-SPHM500	GH31-00242A
QMP01			PBA MAIN-SGHT619	GH92-02973A
QSC11			MPR-SHEET FOLDER SCREW CAP R	GH74-21404A
QSC12			MPR-SHEET FOLDER SCREW CAP L	GH74-23942A
QSP01			SPEAKER	3001-002041
QWD02			PCT-SUB WINDOW	GH72-30894A
QFL01			ASSY-CASE-FOLDER LOWER	GH98-01036A
	QHI01		ASSY MEC-HINGE(CAN TYPE)	GH75-04662A
QRE01			ASSY CASE-REAR	GH98-01930A
	QIF01		PMO-COVER IF	GH72-33458A
QLC01			ELA ETC-SGHT619 LCD MODULE	GH96-02250A
	QMW01		ASSY COVER-MAIN WINDOW	GH98-02203A
		QMW02	PCT-LCD MAIN WINDOW	GH72-30773A
QFU01			ASSY CASE-FOLDER UPPER	GH98-01766A
	QFU02		ASSY DECO-FOLDER UPPER	GH98-01637A
QFR01			ASSY CASE-FRONT	GH98-01929A
	QRF03		PMO-COVER EAR	GH72-31900A
	QVO01		PMO-VOLUME KEY	GH72-31905A
	QCK01		PMO-CAMERA KEY	GH72-31906A

ADAPTOR-SGHR225 TAD	GH44-00184G
UNIT-EARPHONE	GH59-01659A
PMO-GUIDE MOTOR	GH72-30883A
MPR-CUSHION SPONGE FRONT SHIEL	GH74-24173A
MPR-TAPE MIC RUBBER	GH74-24184A
MPR-GASK TAPE	GH74-25155A
MPR-GASKET TAPE	GH74-26790A
MPR-BOHO VINYL LCD CONN	GH74-15350A
MPR-VINYL BOHO UPPER	GH74-23093A
MPR-VINYL BOHO MAIN	GH74-23096A
MPR-TAPE FRONT SHIELD	GH74-24179A
MPR-TAPE CAMERA CONN INSULATIO	GH74-24191A
MPR-CUSHION SPONGE SUB LCD L	GH74-24276A
MPR-CUSHION SPONGE SUB LCD R	GH74-24277A
MPR-SPONGE GAKSET LCD	GH74-25156A
MPR-GASK TAPE	GH74-25157A
MPR-GASKET TAPE	GH74-26789A
MPR-GASK TAPE FRONT	GH74-26852A
MPR-REMOVE TAPE LCD	GH74-13804A
MPR-TAPE LED	GH74-17926A
MPR-TAPE REMOVE LCD	GH74-18286A
MPR-TAPE SUB LCD INSUL	GH74-18531A
MPR-TAPE MAIN LDI	GH74-19992A
MPR-VINYL BOHO MAIN WINDOW	GH74-22341A
MPR-TAPE,28X7XT0.05,TESA4965	GH74-26546A
MPR-TAPE,24.3X3XT0.05,TESA4965	GH74-26547A
MPR-CUSHION SPONGE MOTOR	GH74-24177A
MPR-SPONGE INTENNA GPCB	GH74-25940A
LABEL(R)-WATER SOAK T_MOBILE	GH68-05914A
MPR-SPONGE LCD CONNECTOR	GH74-26912A
UNIT-AWB SIM CARD	GH59-00943A
LABEL(P)-SEAL UNIT	GH68-04256A
BAG PE	6902-000297
LABEL(R)-MAIN(TMB)	GH68-11825A
CUSHION-CASE UPPER(T809_NEW)	GH69-03561A
BOX(P)-UNIT(TMB)	GH69-04227A
CUSHION-CASE LOW(T619)	GH69-04231A
PAA ETC-MANUAL(TMB)	GH99-18689A
MPR-VINYL BOHO SUB WINDOW	GH74-26770A
MPR-VINYL BOHO MAIN WINDOW A	GH74-26771A

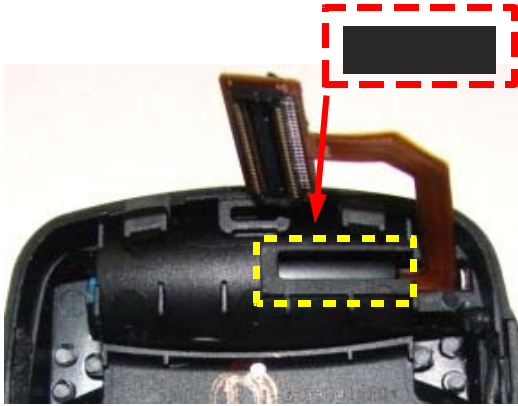
5-3. Disassembly and Assembly Instructions

– Disassembly

<div data-bbox="170 310 246 359" style="border: 1px solid black; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;">1</div> <div data-bbox="261 310 803 430" style="border: 1px solid black; padding: 5px;"> <p>1) Removed RF COVER in the left side top portion. 2) Open earphone COVER, I/F COVER.</p> </div> <div data-bbox="355 447 634 905" style="text-align: center;"> </div>	<div data-bbox="833 310 909 359" style="border: 1px solid black; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;">2</div> <div data-bbox="924 310 1466 384" style="border: 1px solid black; padding: 5px;"> <p>1) Disjoint the 4 screws of rear plastic. 2) Disjoint set from lower part.</p> </div> <div data-bbox="1027 453 1287 892" style="text-align: center;"> </div>
<p>1) Be careful of the damage of cover and scratch. 2) When disjoint, take care so that transformation may not go to REAR.</p>	
<div data-bbox="170 1134 246 1182" style="border: 1px solid black; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;">3</div> <div data-bbox="261 1134 803 1207" style="border: 1px solid black; padding: 5px;"> <p>1) Separate the LCD CONNECOTOR. 2) Separate the MIC HOLDER.</p> </div> <div data-bbox="358 1251 639 1743" style="text-align: center;"> </div>	<div data-bbox="833 1134 909 1182" style="border: 1px solid black; padding: 2px; width: 40px; text-align: center; margin-bottom: 5px;">4</div> <div data-bbox="924 1134 1466 1182" style="border: 1px solid black; padding: 5px;"> <p>1) Separate BOARD from SET.</p> </div> <div data-bbox="888 1247 1414 1709" style="text-align: center;"> </div>
<p>1) Take care so that damage may not occur to LCD CONNECTOR FPCB. 2) Take care lest BGA parts breakdown should occur.</p>	

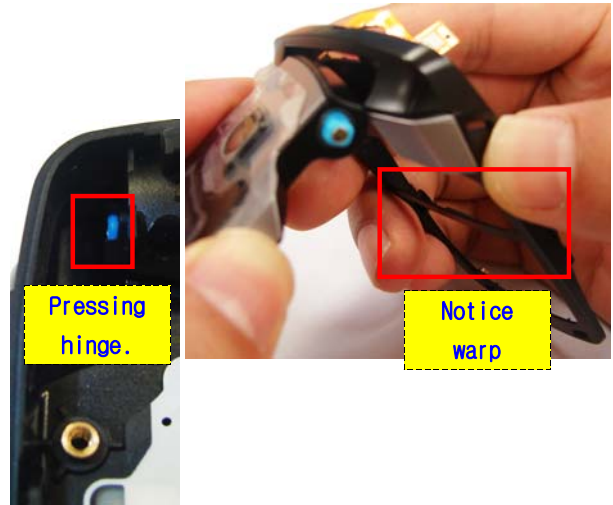
5

1) Remove dust prevention TAPE.



6

1) Separate FRONT from FOLDER by pressing FOLDER hinge.



- 1) Pay attention to FPCB crack and CONNECTOR damage.
- 2) Take care lest BGA parts breakdown should occur.

- 1) When separate, observe in FRONT warp.
- 2) Take care of be tearing LCD and CAMERA FPCB.
- 3) Be careful of the damage of appearance and scratch

7

1) Remove SCREW COVER.



8

1) Disjoint 2 SCREWS.



- 1) Remove using tweezers.
- 2) Be careful of the damage of appearance and scratch.

- 1) Be careful of the damage of appearance and scratch

9

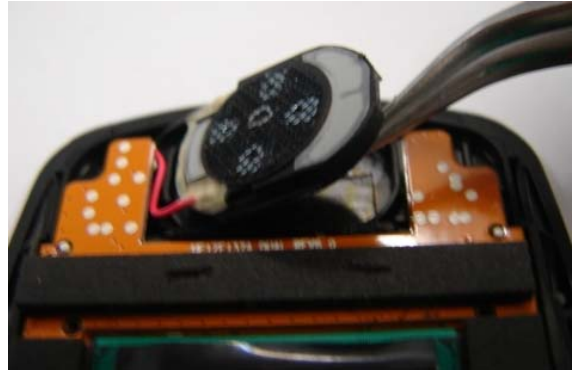
- 1) Disjoint from lower part using decomposition beam.
- 2) Pick out F-PCB.



- 1) Pay attention to FPCB crack and CONNECTOR damage.
- 2) Be careful of the damage of appearance and scratch.

10

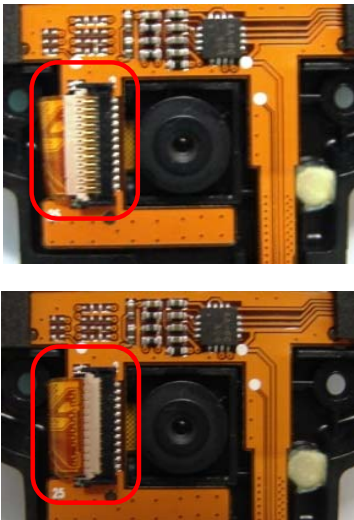
- 1) Using tweezers, separate speaker from FOLDER LOWER.



- 1) When separate, take care lest wire should be cut.
- 2) Be careful of the damage of appearance and scratch

11

- 1) Separate F-PCB by opening CAMERA CONNECTOR's LOCKER to opposite side.



- 1) Be careful of the damage of appearance and scratch.
- 2) Pay attention to F-PCB damage.

12

- 1) Separate LCD module from FOLDER LOWER



- 1) Be careful of the damage of appearance and scratch

13

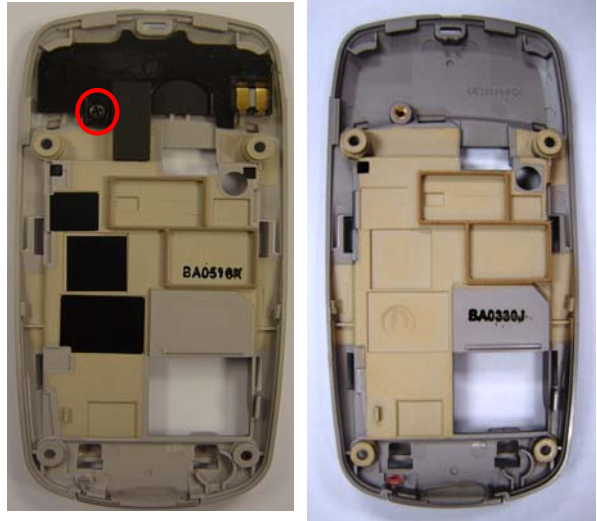
1) Separate CAMERA module from FOLDER LOWER by using tweezers.



1) Be careful of the damage of appearance and scratch.
2) Pay attention to CAMERA FPCB damage.

15

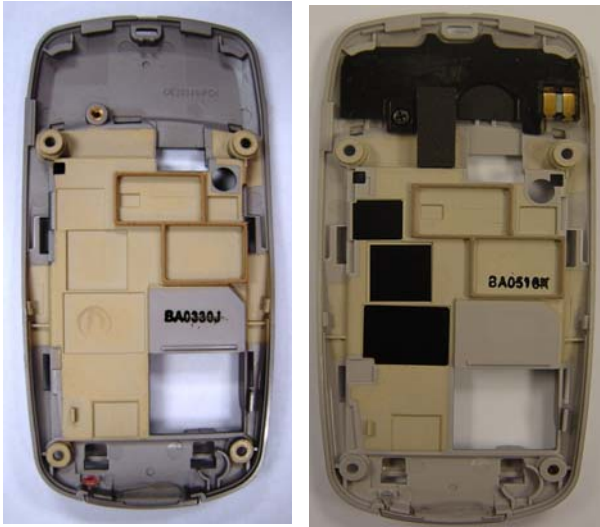
1) After disjoining ANTENNA SCREW, separate ANTENNA from REAR.



1) Be careful of the damage of appearance and scratch

– Assembly

1) Joint INTENNA to REAR by SCREW.



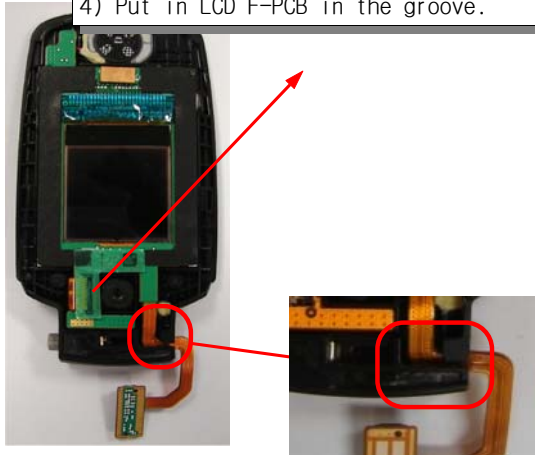
1) Combine camera and LCD MODULE.
2) Insert CAMERA module to FOLDER LOWER
3) Preserve CAMERA CONNECTOR not to come out, set LCD safely on LOWER.



1) Be careful of the damage of appearance and scratch.

1) Pay attention to CAMERA FPCB damage.

1) Install LCD module to UPPER.
2) Install SPEAKER , preserving WIRE threads not to get snarl.
3) Attach CAMERA CONNECTOR fixing insulation TAPE.
4) Put in LCD F-PCB in the groove.



1) Combine UPPER and LOWER from upper direction.



1) Be careful of the damage of appearance and scratch.
2) Pay attention to F-PCB damage.

1) Be careful of the damage of appearance and scratch

7

1) Joint 2 SCREWS.



8

1) Attach SCREW COVER.



7

1) Pass LCD module F-PCB through REAR's aperture.
2) By pressing hinge, combine FOLDER and FRONT.



8

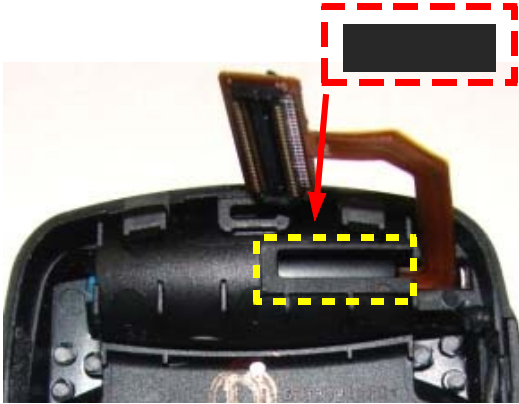
1) Set KEYPAD safely to FRONT.



1) Be careful of the damage of appearance and scratch.
2) When pass home, observe as F-PCB does not damage.

1) Confirm whether KEYPAD matches rear exactly, when KEYPAD be set.

9 1) Attach dust protection TAPE.



1) Pay attention to F-PCB damage.

10 1) Set BOARD safely to REAR.
2) Combine LCD CONNECTOR.



1) Assemble by observing on LCD CONNECTOR direction.
2) Confirm whether click sound sounds when contract.

11 1) Combine FRONT and REAR from upper direction.



1) Be careful of the damage of appearance and scratch.

12 1) Joint SCREW.



1) Be careful of the damage of appearance and scratch

13

- 1) Attach RF COVER in the left side top portion.
- 2) Insert earphone COVER and I/F COVER.



1) Be careful of the damage of appearance and scratch.

6. MAIN Electrical Parts List

Design LOC	Description	SEC Code	STATUS
ANT_GND	NPR-ANTENNA CONTACT	GH71-06379A	SA
ANT101	NPR-ANTENNA CONTACT	GH71-06379A	SA
ANT300	ANTENNA-CHIP	4202-001178	SA
BAT409	BATTERY-LI(2ND)	4302-001181	SA
BTC500	HEADER-BATTERY	3711-006137	SA
C100	C-CER,CHIP	2203-001259	SA
C101	C-CER,CHIP	2203-000812	SA
C102	C-CER,CHIP	2203-005446	SA
C103	C-CER,CHIP	2203-000233	SA
C104	C-CER,CHIP	2203-000812	SA
C105	C-CER,CHIP	2203-000812	SA
C107	C-CER,CHIP	2203-005552	SA
C108	C-CER,CHIP	2203-005052	SA
C111	C-CER,CHIP	2203-006123	SA
C113	C-CER,CHIP	2203-000812	SA
C114	C-CER,CHIP	2203-000233	SA
C115	C-CER,CHIP	2203-005736	SA
C117	C-CER,CHIP	2203-006120	SA
C118	C-CER,CHIP	2203-000438	SA
C119	C-CER,CHIP	2203-000812	SA
C120	C-CER,CHIP	2203-001383	SA
C121	C-CER,CHIP	2203-000254	SA
C122	C-CER,CHIP	2203-000812	SA
C125	C-CER,CHIP	2203-005450	SA
C127	C-CER,CHIP	2203-006190	SA
C128	C-CER,CHIP	2203-006642	SA
C129	C-CER,CHIP	2203-005736	SA
C130	C-CER,CHIP	2203-000812	SA
C131	C-CER,CHIP	2203-005053	SA
C132	C-CER,CHIP	2203-005054	SA
C134	C-CER,CHIP	2203-005446	SA
C135	C-CER,CHIP	2203-000438	SA
C136	C-CER,CHIP	2203-000233	SA
C137	C-CER,CHIP	2203-006194	SA
C139	C-CER,CHIP	2203-000812	SA
C141	INDUCTOR-SMD	2703-002268	SA
C142	C-CER,CHIP	2203-000812	SA
C143	C-CER,CHIP	2203-005288	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	2203-005682	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	2203-006399	SA
C211	C-CER,CHIP	2203-006423	SA
C212	C-CER,CHIP	2203-005482	SA
C214	C-CER,CHIP	2203-005682	SA
C215	C-CER,CHIP	2203-006423	SA
C218	C-CER,CHIP	2203-005482	SA

Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
C220	C-CER,CHIP	2203-006562	SA
C221	C-CER,CHIP	2203-006423	SA
C300	C-CER,CHIP	2203-003054	SA
C301	C-CER,CHIP	2203-000254	SA
C302	C-CER,CHIP	2203-005482	SA
C303	C-CER,CHIP	2203-005482	SA
C304	C-CER,CHIP	2203-005736	SA
C305	C-CER,CHIP	2203-006562	SA
C306	C-CER,CHIP	2203-006423	SA
C307	C-CER,CHIP	2203-006423	SA
C308	C-CER,CHIP	2203-006423	SA
C309	C-CER,CHIP	2203-006562	SA
C310	C-CER,CHIP	2203-000679	SA
C311	C-CER,CHIP	2203-005482	SA
C315	C-CER,CHIP	2203-006562	SA
C316	C-CER,CHIP	2203-006562	SA
C401	C-CER,CHIP	2203-006562	SA
C402	C-CER,CHIP	2203-006838	SA
C405	C-CER,CHIP	2203-005482	SA
C406	C-CER,CHIP	2203-006257	SA
C407	C-CER,CHIP	2203-000386	SA
C408	C-CER,CHIP	2203-000386	SA
C411	C-CER,CHIP	2203-000812	SA
C412	C-CER,CHIP	2203-006208	SA
C414	C-CER,CHIP	2203-006208	SA
C415	C-CER,CHIP	2203-006257	SA
C416	C-CER,CHIP	2203-006257	SA
C418	C-CER,CHIP	2203-006208	SA
C419	C-CER,CHIP	2203-005482	SA
C422	C-CER,CHIP	2203-006208	SA
C423	C-CER,CHIP	2203-006208	SA
C424	C-CER,CHIP	2203-006257	SA
C425	C-CER,CHIP	2203-006257	SA
C426	C-CER,CHIP	2203-000233	SA
C500	C-CER,CHIP	2203-006423	SA
C501	C-CER,CHIP	2203-006361	SA
C502	C-CER,CHIP	2203-006090	SA
C503	C-CER,CHIP	2203-006626	SA
C504	C-CER,CHIP	2203-003054	SA
C505	C-CER,CHIP	2203-005482	SA
C506	C-CER,CHIP	2203-006399	SA
C602	C-CER,CHIP	2203-005482	SA
C603	C-CER,CHIP	2203-000278	SA
C604	C-CER,CHIP	2203-005482	SA
C607	C-CER,CHIP	2203-000278	SA
C608	C-CER,CHIP	2203-000995	SA
C609	C-CER,CHIP	2203-005050	SA
C610	C-CER,CHIP	2203-000278	SA
C612	C-CER,CHIP	2203-000425	SA
C613	C-CER,CHIP	2203-001437	SA
C614	C-CER,CHIP	2203-001259	SA
C615	C-CER,CHIP	2203-000995	SA
C616	C-CER,CHIP	2203-001437	SA

Design LOC	Description	SEC Code	STATUS
C618	C-CER,CHIP	2203-005482	SA
C619	C-CER,CHIP	2203-000425	SA
C620	C-CER,CHIP	2203-006137	SA
C621	C-CER,CHIP	2203-001239	SA
C623	C-CER,CHIP	2203-000438	SA
C624	C-CER,CHIP	2203-005482	SA
C625	C-CER,CHIP	2203-001239	SA
C626	C-CER,CHIP	2203-000278	SA
C627	C-CER,CHIP	2203-005482	SA
C628	C-CER,CHIP	2203-000438	SA
C631	C-CER,CHIP	2203-002709	SA
C633	C-CER,CHIP	2203-006562	SA
C634	C-CER,CHIP	2203-005482	SA
C635	C-CER,CHIP	2203-006585	SA
C636	C-CER,CHIP	2203-006585	SA
C639	C-CER,CHIP	2203-006562	SA
C642	C-CER,CHIP	2203-003054	SA
C643	C-CER,CHIP	2203-003054	SA
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C703	C-CER,CHIP	2203-006190	SA
C704	C-CER,CHIP	2203-006048	SA
C705	C-CER,CHIP	2203-005682	SA
C706	C-CER,CHIP	2203-005682	SA
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C708	C-CER,CHIP	2203-005682	SA
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C717	C-CER,CHIP	2203-005682	SA
C718	C-CER,CHIP	2203-005682	SA
C719	C-CER,CHIP	2203-005682	SA
C720	C-CER,CHIP	2203-005682	SA
C721	C-CER,CHIP	2203-005682	SA
C722	C-CER,CHIP	2203-005682	SA
C723	C-CER,CHIP	2203-005682	SA
C724	C-CER,CHIP	2203-005682	SA
C725	C-CER,CHIP	2203-006562	SA
C726	C-CER,CHIP	2203-006562	SA
C728	C-CER,CHIP	2203-006562	SA
C729	C-CER,CHIP	2203-005482	SA
C730	C-CER,CHIP	2203-005482	SA
D404	DIODE-SCHOTTKY	0404-001172	SA
D603	DIODE-SWITCHING	0401-001141	SA
EAR600	JACK-EAR PHONE	3722-002010	SA
F101	DUPLEXER-FEM	2911-000043	SA
F102	FILTER-EMI SMD	2901-001254	SA

Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
F500	FILTER-EMI SMD	2901-001316	SA
HDC700	HEADER-BOARD TO BOARD	3711-005747	SA
IFC500	CONNECTOR-INTERFACE	3710-001994	SA
L100	INDUCTOR-SMD	2703-002367	SA
L101	INDUCTOR-SMD	2703-002208	SA
L103	INDUCTOR-SMD	2703-002200	SA
L104	INDUCTOR-SMD	2703-002369	SA
L106	INDUCTOR-SMD	2703-002201	SA
L108	INDUCTOR-SMD	2703-002281	SA
L109	INDUCTOR-SMD	2703-002365	SA
L110	INDUCTOR-SMD	2703-002205	SA
L111	INDUCTOR-SMD	2703-002199	SA
L112	INDUCTOR-SMD	2703-002199	SA
L113	INDUCTOR-SMD	2703-002313	SA
L114	INDUCTOR-SMD	2703-002170	SA
L115	INDUCTOR-SMD	2703-002365	SA
L116	INDUCTOR-SMD	2703-002267	SA
L121	INDUCTOR-SMD	2703-002268	SA
L141	INDUCTOR-SMD	2703-002201	SA
L201	BEAD-SMD	3301-001729	SA
L500	INDUCTOR-SMD	2703-002962	SA
L601	INDUCTOR-SMD	2703-002204	SA
L603	INDUCTOR-SMD	2703-002204	SA
L617	INDUCTOR-SMD	2703-002204	SA
L618	INDUCTOR-SMD	2703-002204	SA
L701	BEAD-SMD	3301-001534	SA
LED700	LED	0601-002094	SA
LED701	LED	0601-002094	SA
LED702	LED	0601-002094	SA
LED703	LED	0601-002094	SA
LED704	LED	0601-002094	SA
LED705	LED	0601-002094	SA
LED706	LED	0601-002094	SA
LED708	LED	0601-002094	SA
LED709	LED	0601-002094	SA
LED710	LED	0601-002094	SA
LED711	LED	0601-002094	SA
LED712	LED	0601-002094	SA
MIC600	MIC-CONDENSOR	3003-001107	SA
OSC100	OSCILLATOR-VCTCXO	2809-001293	SA
OSC400	CRYSTAL-SMD	2801-004339	SA
PAM100	IC-POWER AMP	1201-002275	SA
R103	R-CHIP	2007-007741	SA
R104	R-CHIP	2007-000566	SA
R105	R-CHIP	2007-008531	SA
R106	R-CHIP	2007-000566	SA
R107	R-CHIP	2007-007741	SA
R109	R-CHIP	2007-009157	SA
R136	R-CHIP	2007-000171	SA
R137	R-CHIP	2007-000171	SA
R138	R-CHIP	2007-000140	SA
R139	R-CHIP	2007-000171	SA
R140	R-CHIP	2007-000171	SA

Design LOC	Description	SEC Code	STATUS
R201	R-CHIP	2007-008516	SA
R202	R-CHIP	2007-000171	SA
R203	R-CHIP	2007-000162	SA
R215	R-CHIP	2007-008478	SA
R216	R-CHIP	2007-008478	SA
R219	R-CHIP	2007-008052	SA
R220	R-CHIP	2007-009157	SA
R221	R-CHIP	2007-000171	SA
R250	R-CHIP	2007-008055	SA
R251	R-CHIP	2007-008055	SA
R252	R-CHIP	2007-008055	SA
R300	R-CHIP	2007-007317	SA
R301	R-CHIP	2007-007317	SA
R303	R-CHIP	2007-000171	SA
R304	R-CHIP	2007-000171	SA
R305	R-CHIP	2007-000148	SA
R306	R-CHIP	2007-007488	SA
R308	R-CHIP	2007-001303	SA
R309	R-CHIP	2007-007589	SA
R310	R-CHIP	2007-000171	SA
R311	R-CHIP	2007-000171	SA
R314	R-CHIP	2007-000171	SA
R315	R-CHIP	2007-000162	SA
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R500	R-CHIP	2007-000162	SA
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R503	R-CHIP	2007-008516	SA
R504	R-CHIP	2007-007334	SA
R506	R-CHIP	2007-009084	SA
R507	R-CHIP	2007-009084	SA
R509	R-CHIP	2007-000162	SA
R510	R-CHIP	2007-008483	SA
R511	R-CHIP	2007-007573	SA
R512	R-CHIP	2007-007334	SA
R513	R-CHIP	2007-008117	SA
R514	R-CHIP	2007-007318	SA
R515	R-CHIP	2007-007766	SA
R516	R-CHIP	2007-007798	SA
R517	R-CHIP	2007-007798	SA
R600	R-CHIP	2007-000141	SA
R601	R-CHIP	2007-008516	SA
R604	R-CHIP	2007-000141	SA
R605	R-CHIP	2007-002796	SA
R606	R-CHIP	2007-000162	SA
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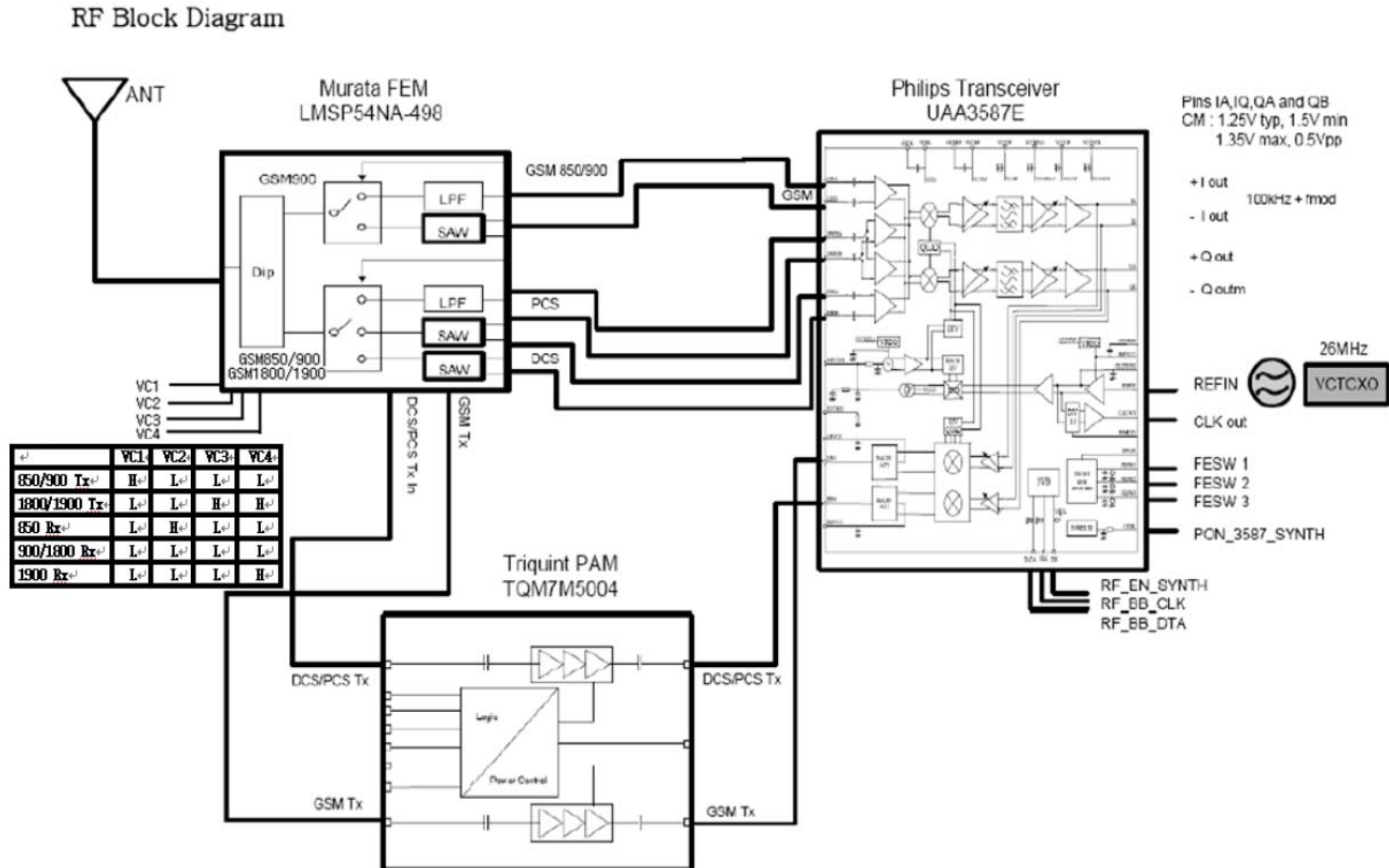
Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
R611	R-CHIP	2007-007334	SA
R612	R-CHIP	2007-002796	SA
R613	R-CHIP	2007-000140	SA
R614	R-CHIP	2007-000140	SA
R615	R-CHIP	2007-002796	SA
R616	R-CHIP	2007-002796	SA
R619	R-CHIP	2007-007142	SA
R620	R-CHIP	2007-007142	SA
R621	R-CHIP	2007-000170	SA
R622	R-CHIP	2007-000170	SA
R623	R-CHIP	2007-007528	SA
R624	R-CHIP	2007-000171	SA
R700	R-CHIP	2007-008055	SA
R701	R-CHIP	2007-001217	SA
R702	R-CHIP	2007-001298	SA
R703	R-CHIP	2007-001298	SA
R704	R-CHIP	2007-001298	SA
R705	R-CHIP	2007-001294	SA
R706	R-CHIP	2007-001298	SA
R707	R-CHIP	2007-001298	SA
R708	R-CHIP	2007-001298	SA
R709	R-CHIP	2007-001298	SA
R710	R-CHIP	2007-001217	SA
R711	R-CHIP	2007-000171	SA
R712	R-CHIP	2007-000171	SA
R713	R-CHIP	2007-009157	SA
R714	R-CHIP	2007-001298	SA
R715	R-CHIP	2007-001298	SA
RFS100	CONNECTOR-COAXIAL	3705-001421	SA
SIM400	CONNECTOR-CARD EDGE	3709-001400	SA
TA123	C-TA,CHIP	2404-001411	SA
TA400	C-TA,CHIP	2404-001381	SA
TA504	C-TA,CHIP	2404-001268	SA
TA507	C-TA,CHIP	2404-001380	SA
TA600	C-TA,CHIP	2404-001281	SA
TA622	C-TA,CHIP	2404-001281	SA
TA632	C-TA,CHIP	2404-001381	SA
TAC702	SWITCH-TACT	3404-001152	SA
TAC703	SWITCH-TACT	3404-001152	SA
TAC704	SWITCH-TACT	3404-001152	SA
U102	IC-TRANSCEIVER	1205-002817	SA
U301	IC ASIC-SGHE380	GH13-00038A	SA
U302	BLUETOOTH MODULE	4709-001426	SA
U303	IC-CMOS LOGIC	0801-002958	SA
U304	TR-DIGITAL	0504-001151	SA
U308	IC-CMOS LOGIC	0801-002237	SA
U314	IC-POSI.FIXED REG.	1203-003767	SA
U400	IC-POWER SUPERVISOR	1203-003882	SA
U402	IC-POSI.FIXED REG.	1203-003737	SA
U501	IC-DC/DC CONVERTER	1203-004273	SA
U600	IC-ANALOG SWITCH	1001-001408	SA
U601	IC-AUDIO AMP	1201-002240	SA
U602	IC-ANALOG SWITCH	1001-001359	SA

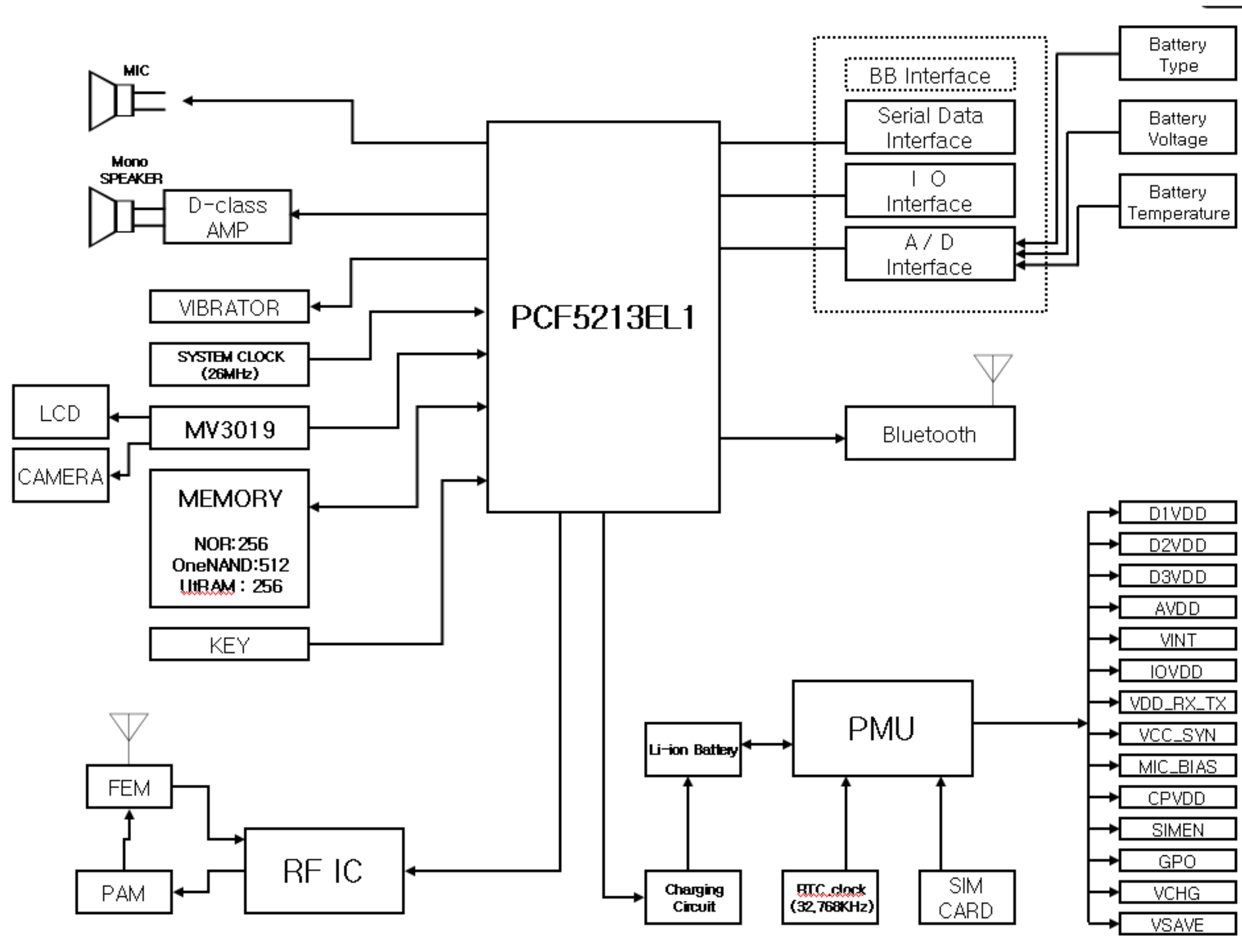
Design LOC	Description	SEC Code	STATUS
U700	IC-POSI.FIXED REG.	1203-003737	SA
U701	IC-HALL EFFECT S/W	1009-001020	SA
U702	IC-POSI.FIXED REG.	1203-003737	SA
UCP200	IC-COMM. CONTROLLER	1205-002757	SA
UME300	IC-MCP	1108-000083	SA
VR400	VARISTOR	1405-001082	SA
VR500	THERMISTOR-NTC	1404-001221	SA
VR600	VARISTOR	1405-001138	SA
VR601	VARISTOR	1405-001138	SA
VR700	VARISTOR	1405-001082	SA
VR701	VARISTOR	1405-001138	SA
VR702	VARISTOR	1405-001138	SA
VR703	VARISTOR	1405-001138	SA
VR704	VARISTOR	1405-001138	SA
VR705	VARISTOR	1405-001138	SA
ZD500	DIODE-TVS	0406-001188	SA
ZD505	DIODE-ZENER	0403-001427	SA
ZD506	DIODE-ZENER	0403-001547	SA
ZD600	DIODE-TVS	0406-001201	SA
ZD601	DIODE-TVS	0406-001104	SA
ZD602	DIODE-TVS	0406-001201	SA
ZD701	DIODE-TVS	0406-001201	SA
ZD703	DIODE-SWITCHING	0401-001141	SA

7. Block Diagrams

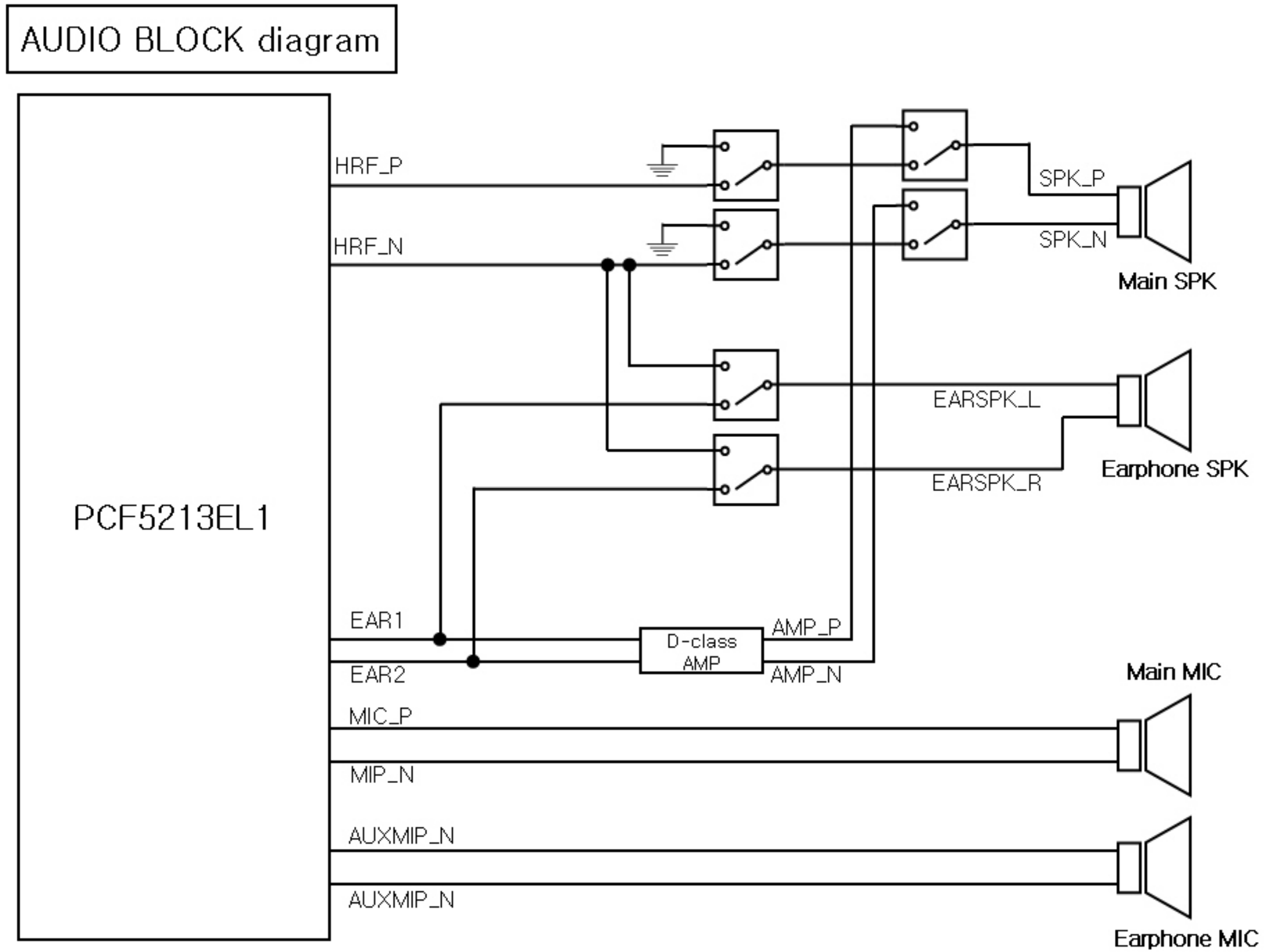
7-1. RF Solution Block Diagram



7-2. Base Band Solution Block Diagram

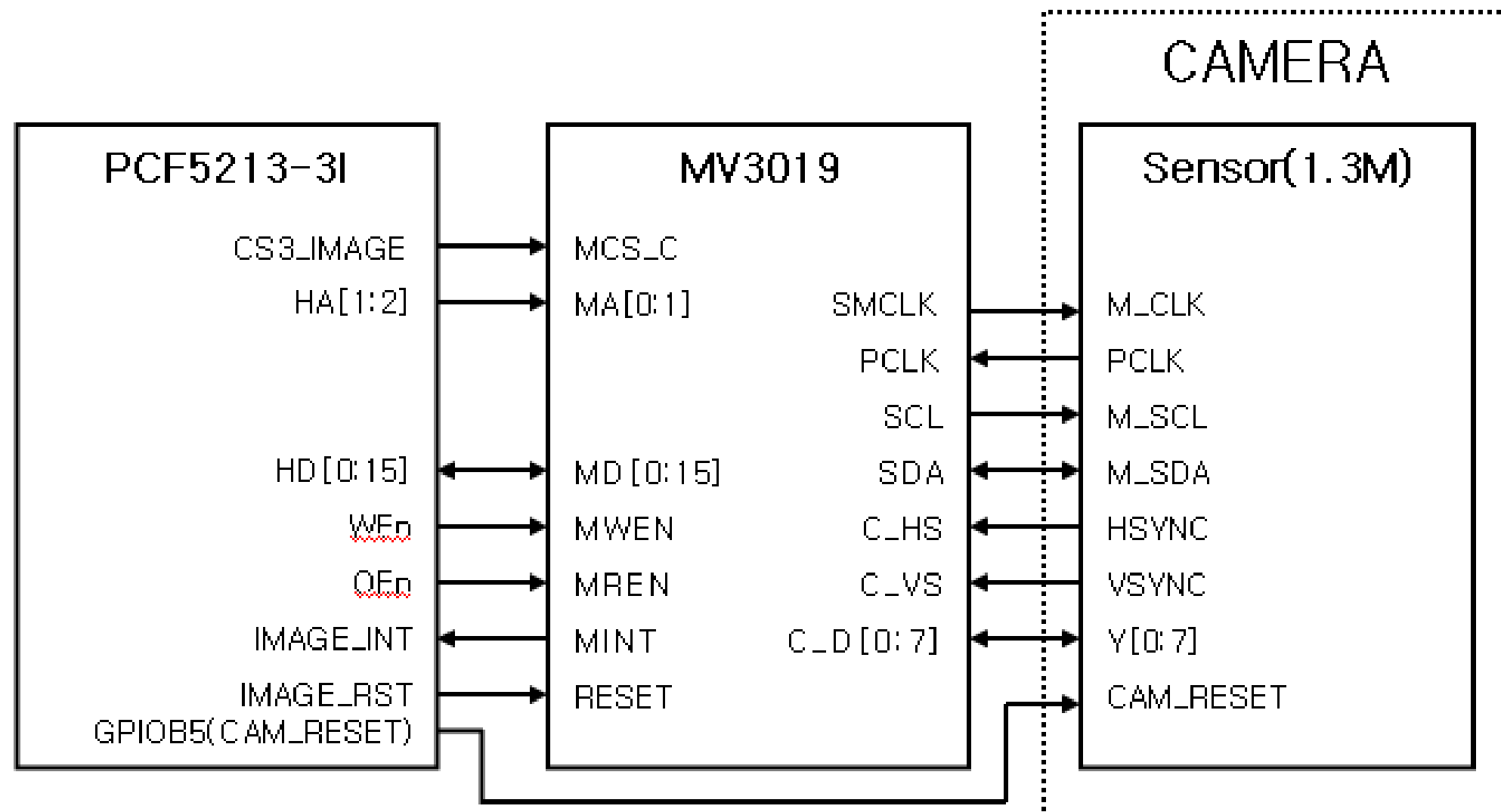


7-3. AUDIO BLOCK



7-4. CAMERA BLOCK

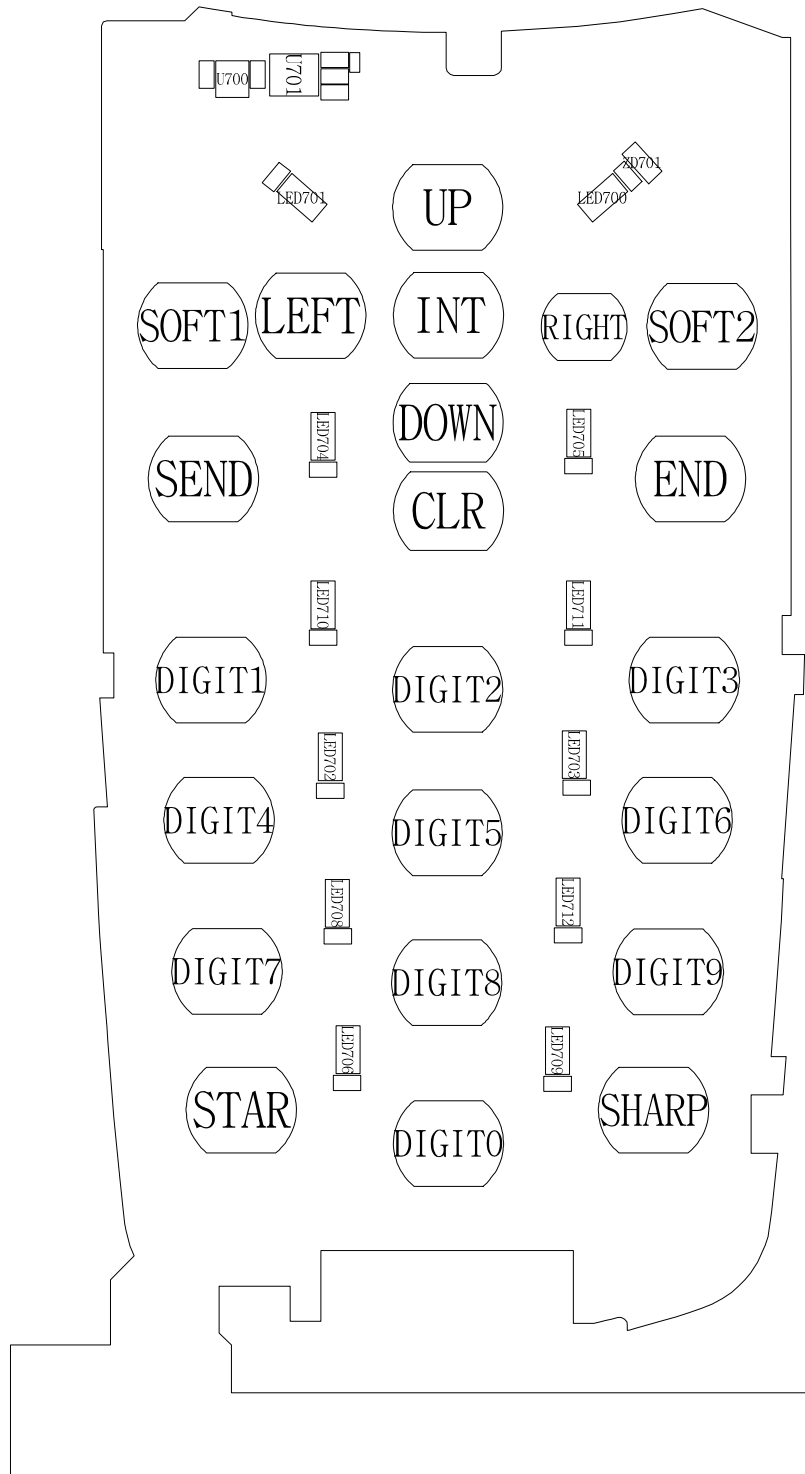
CAMERA Block diagram



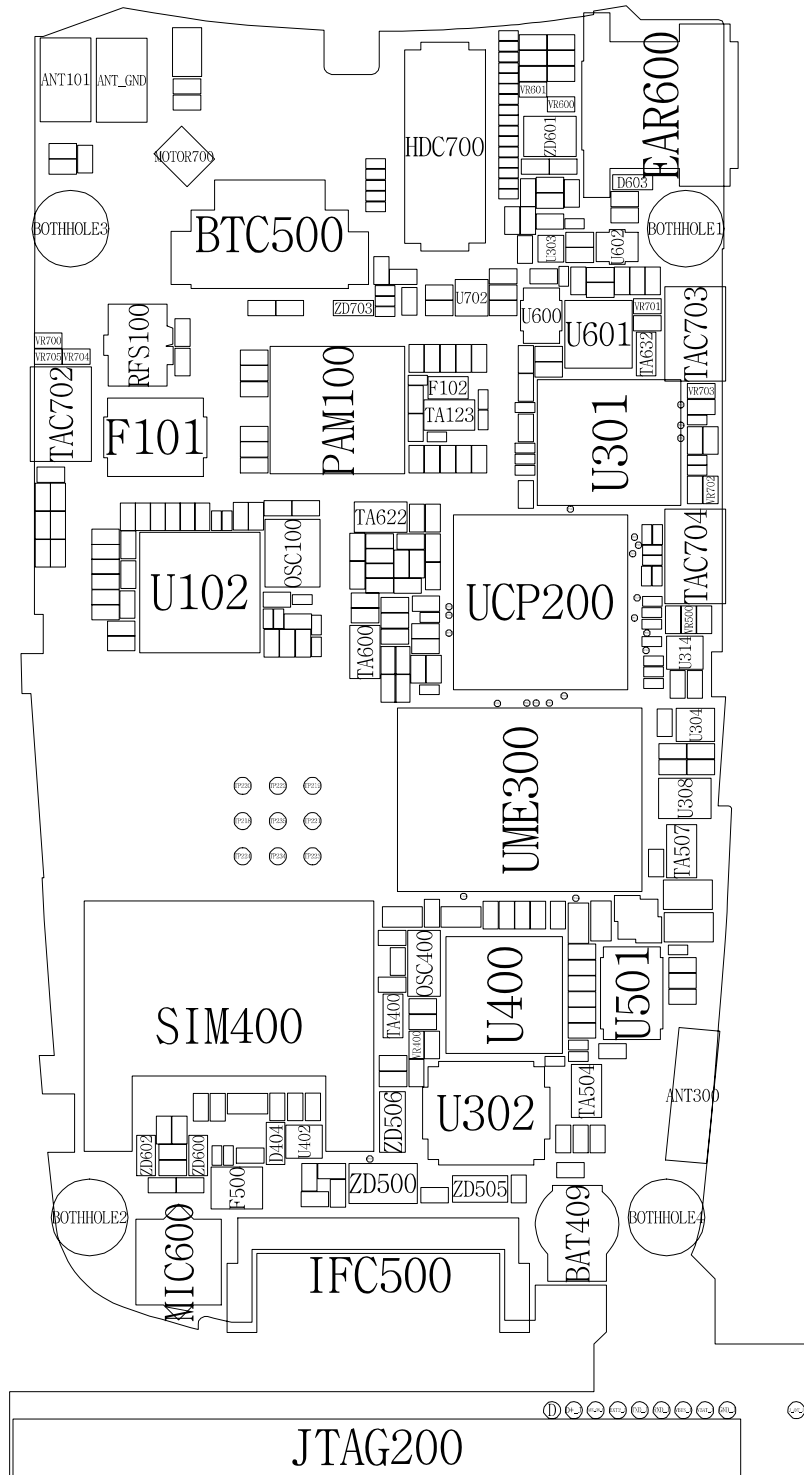
8. PCB Diagrams

8-1. MAIN

Top

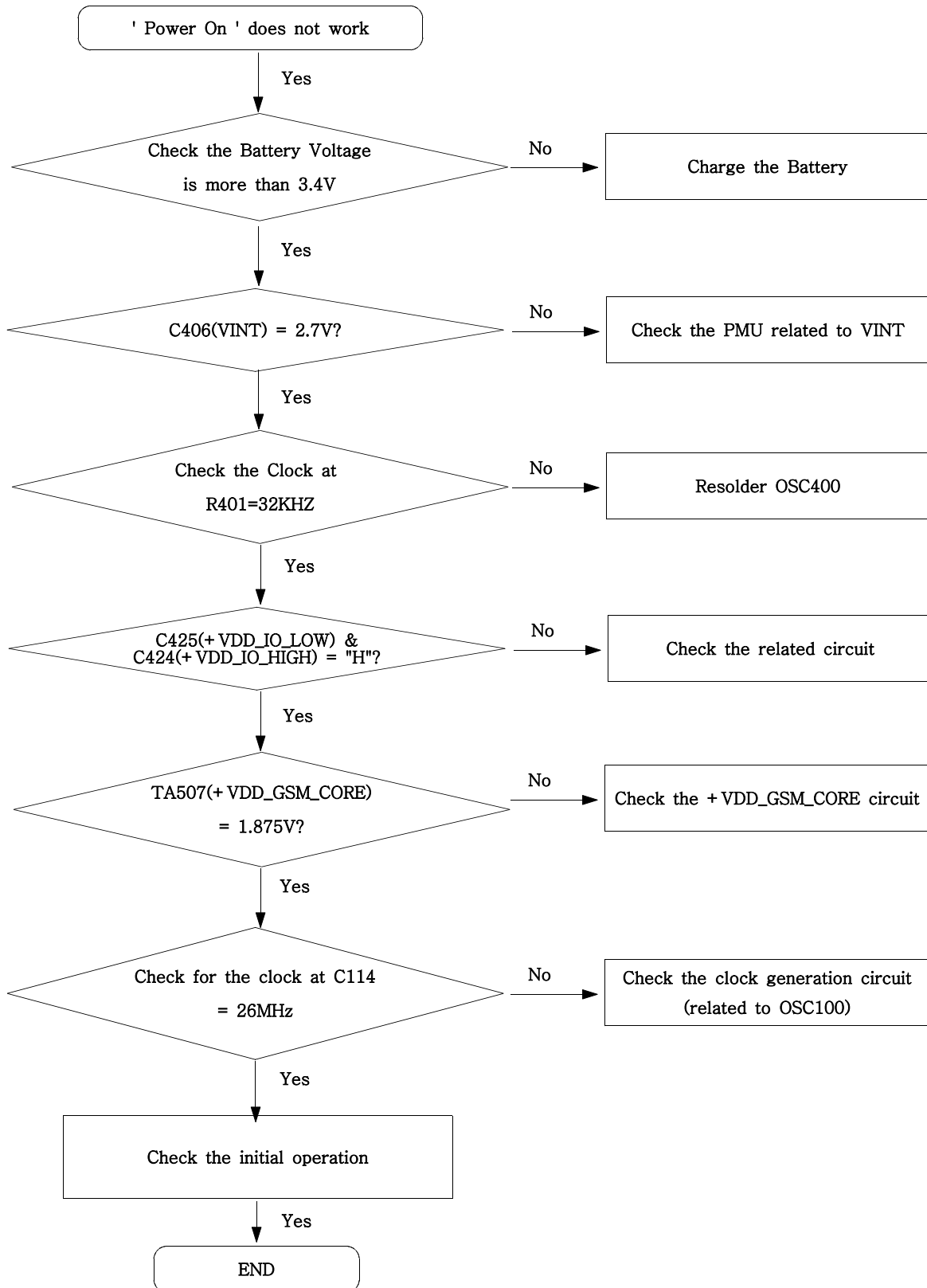


Bottom

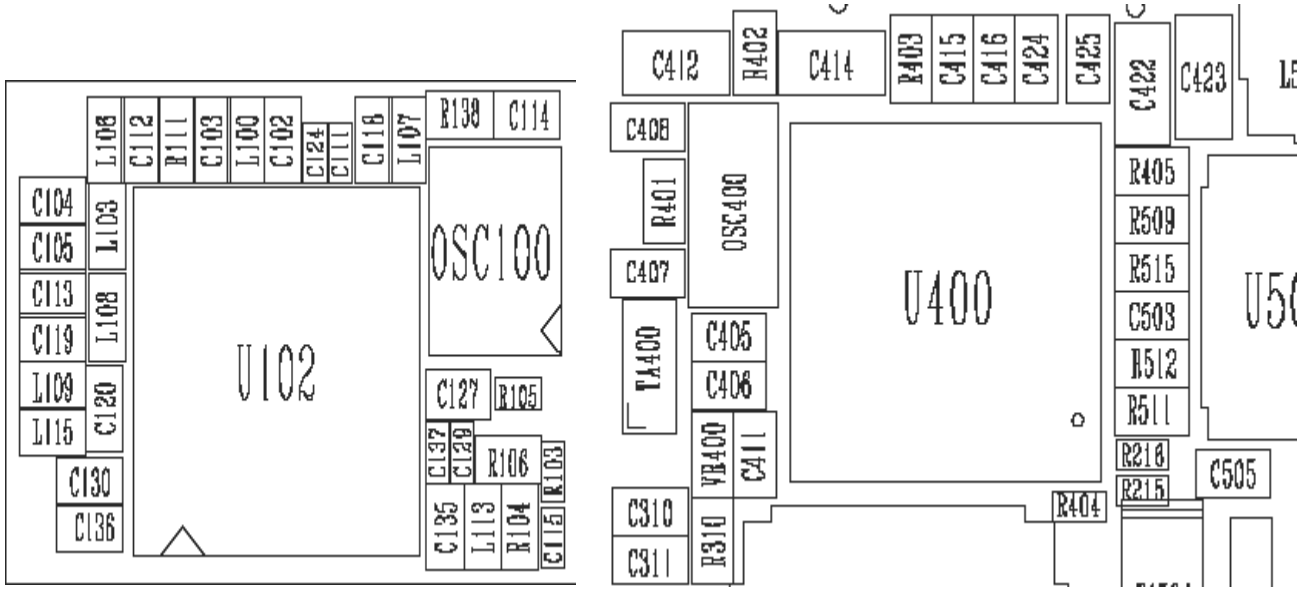
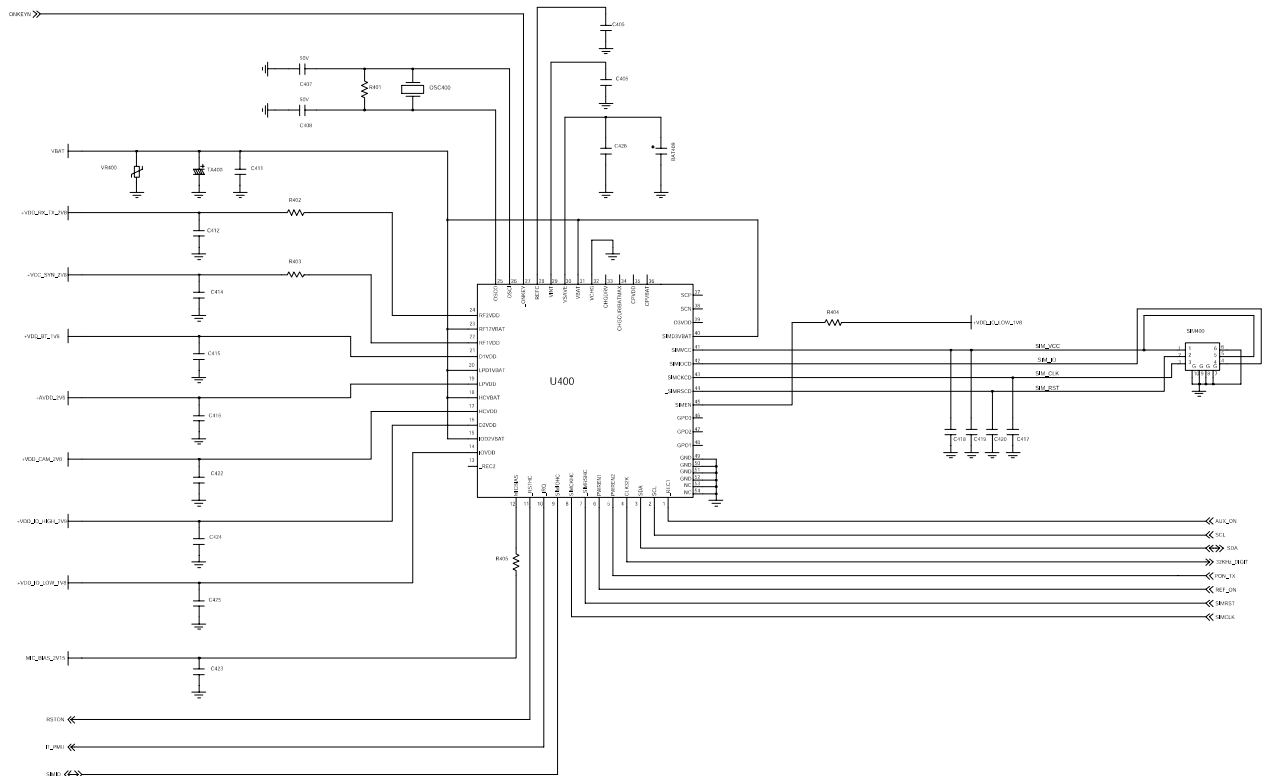


9. Flow Chart of Troubleshooting

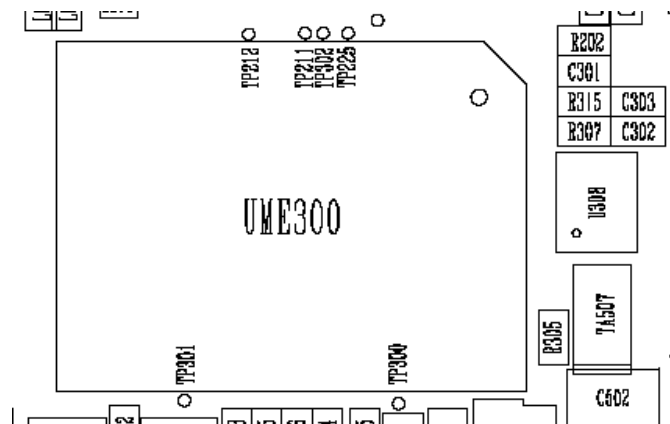
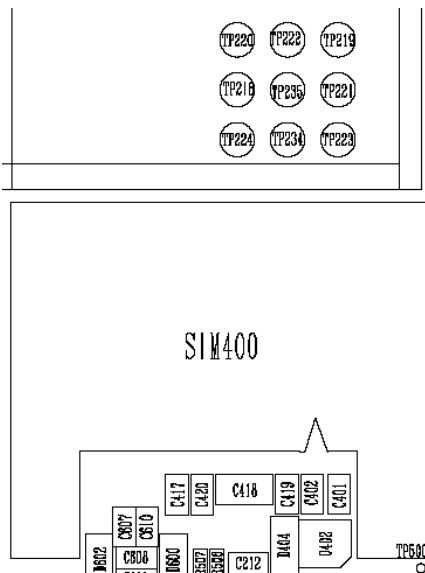
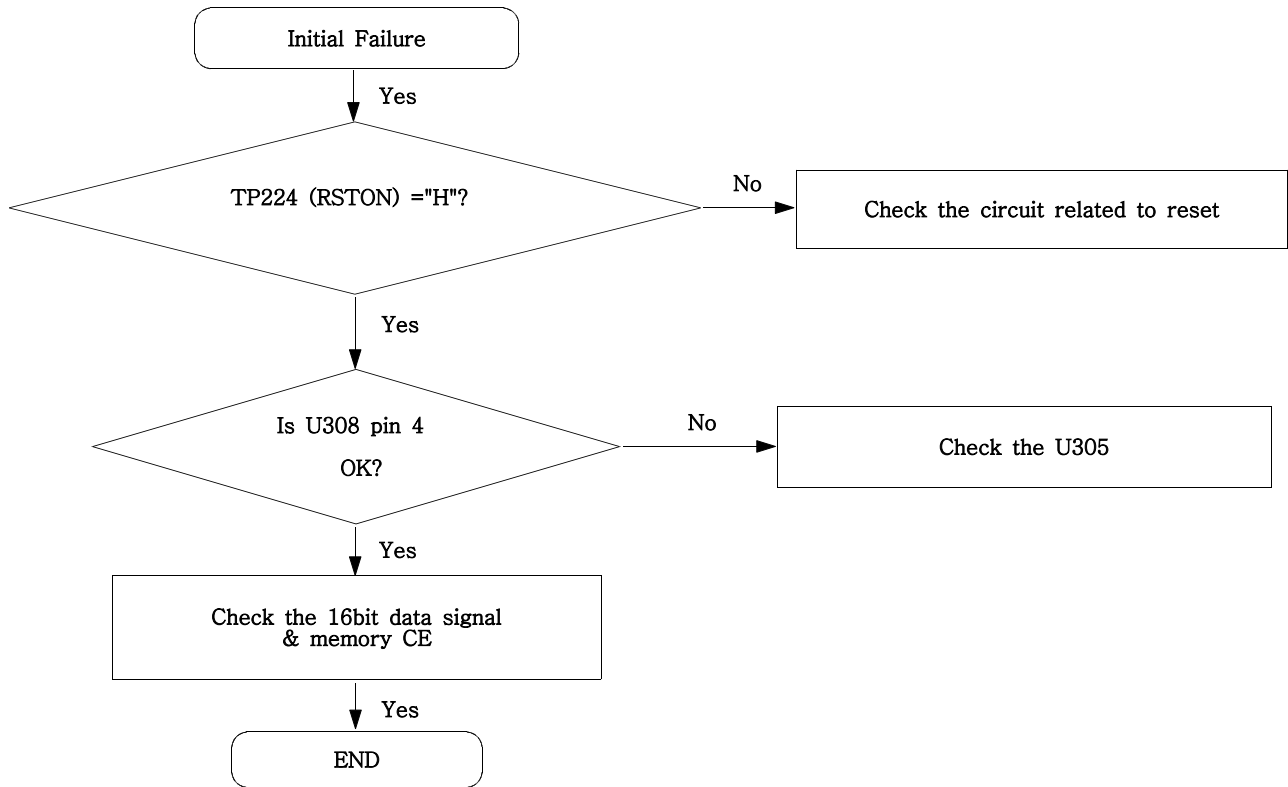
9-1. Power On



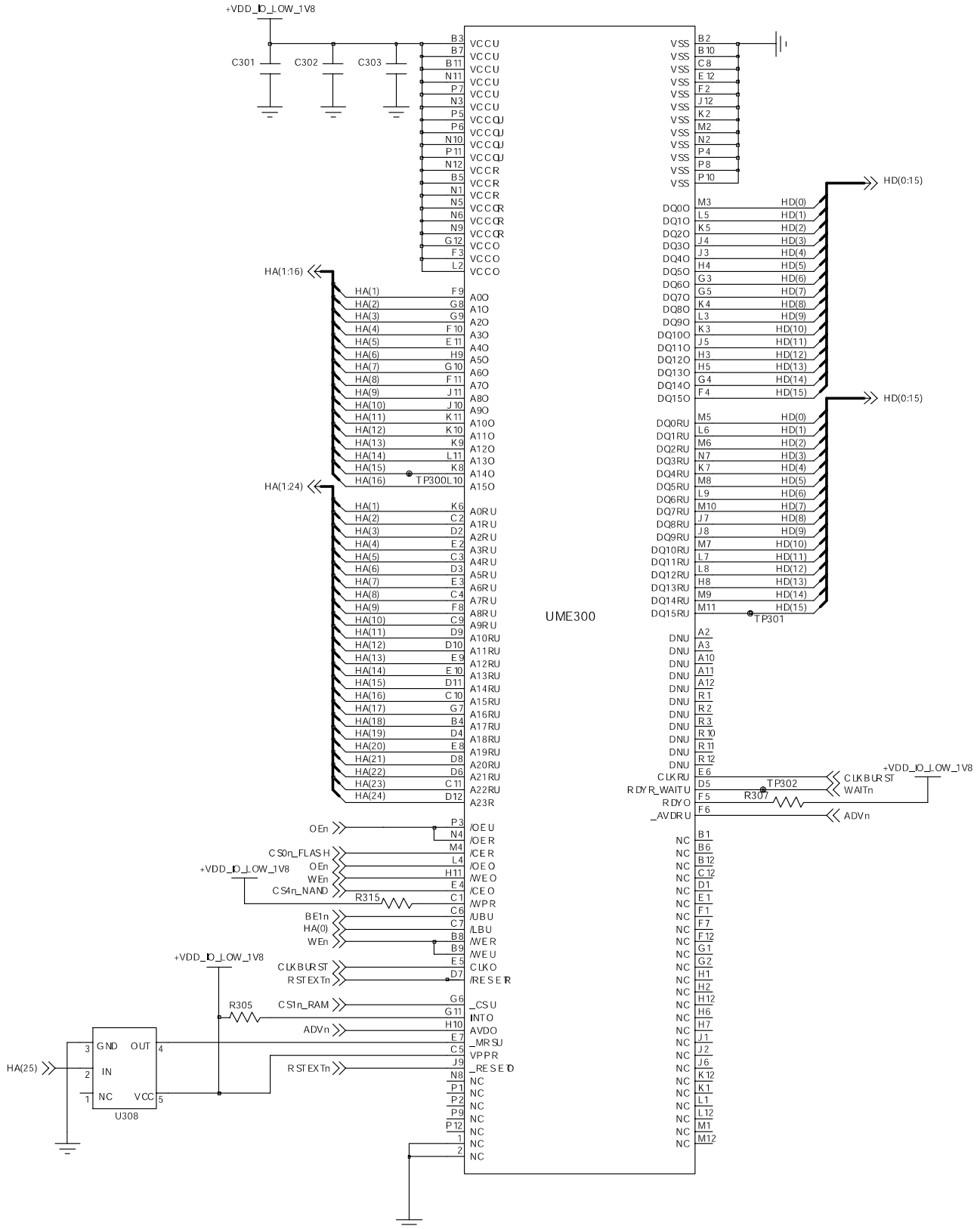
Flow Chart of Troubleshooting



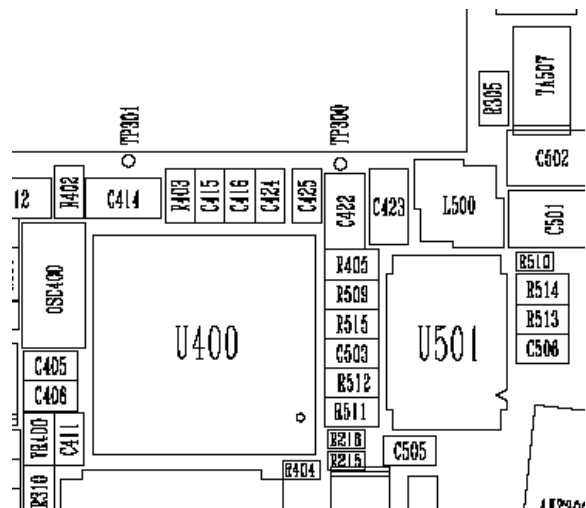
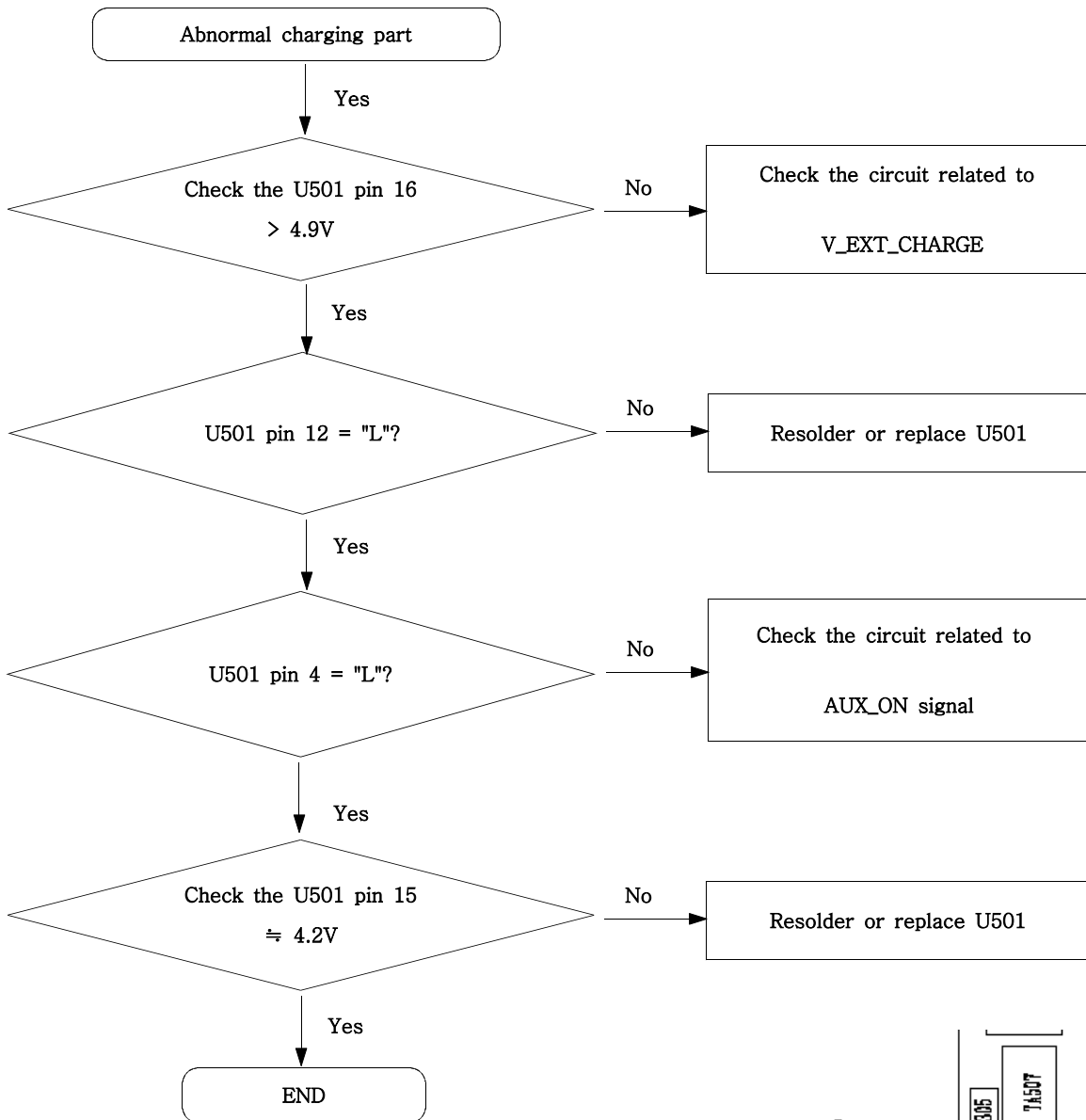
9-2. Initial



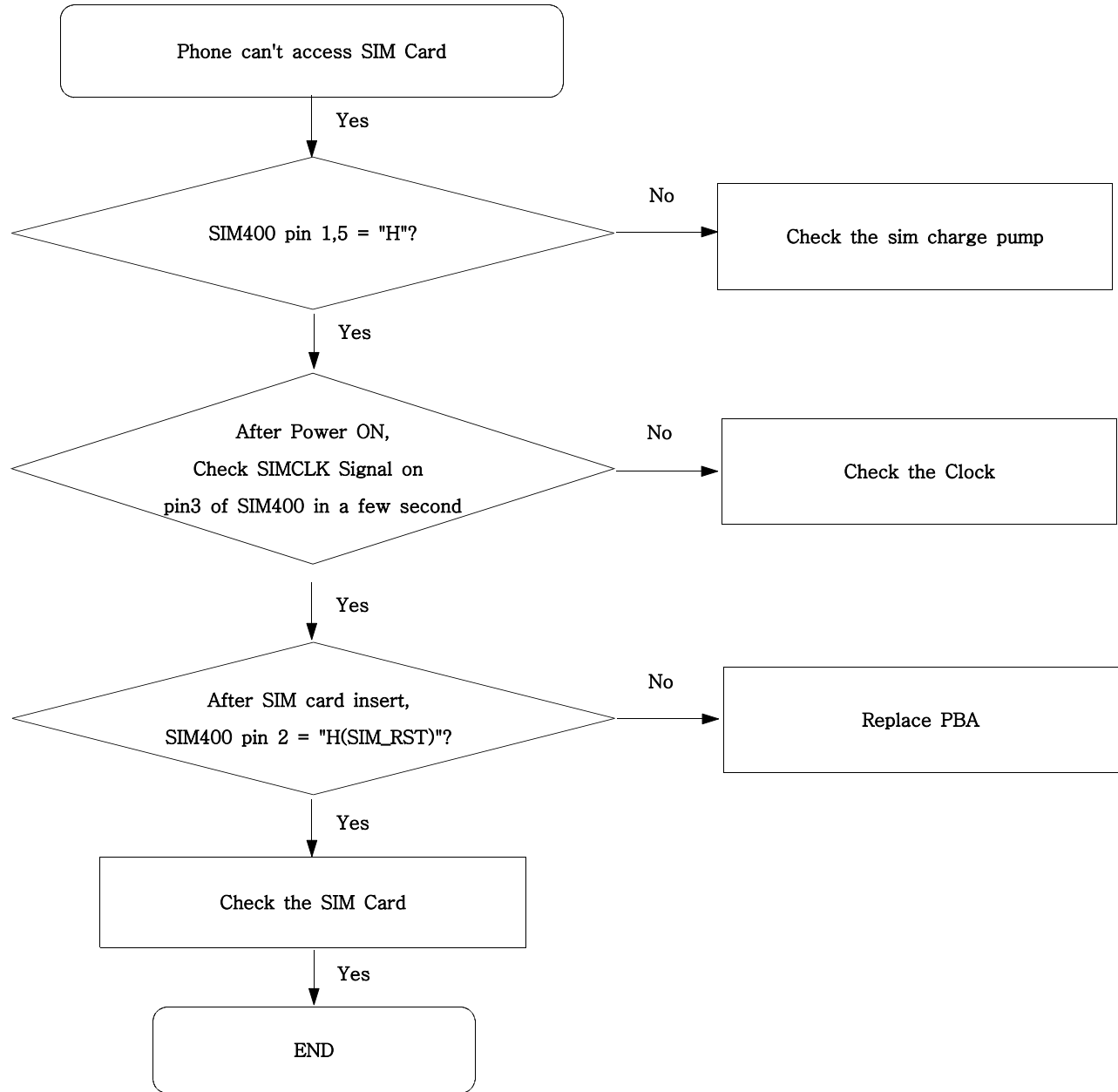
Flow Chart of Troubleshooting

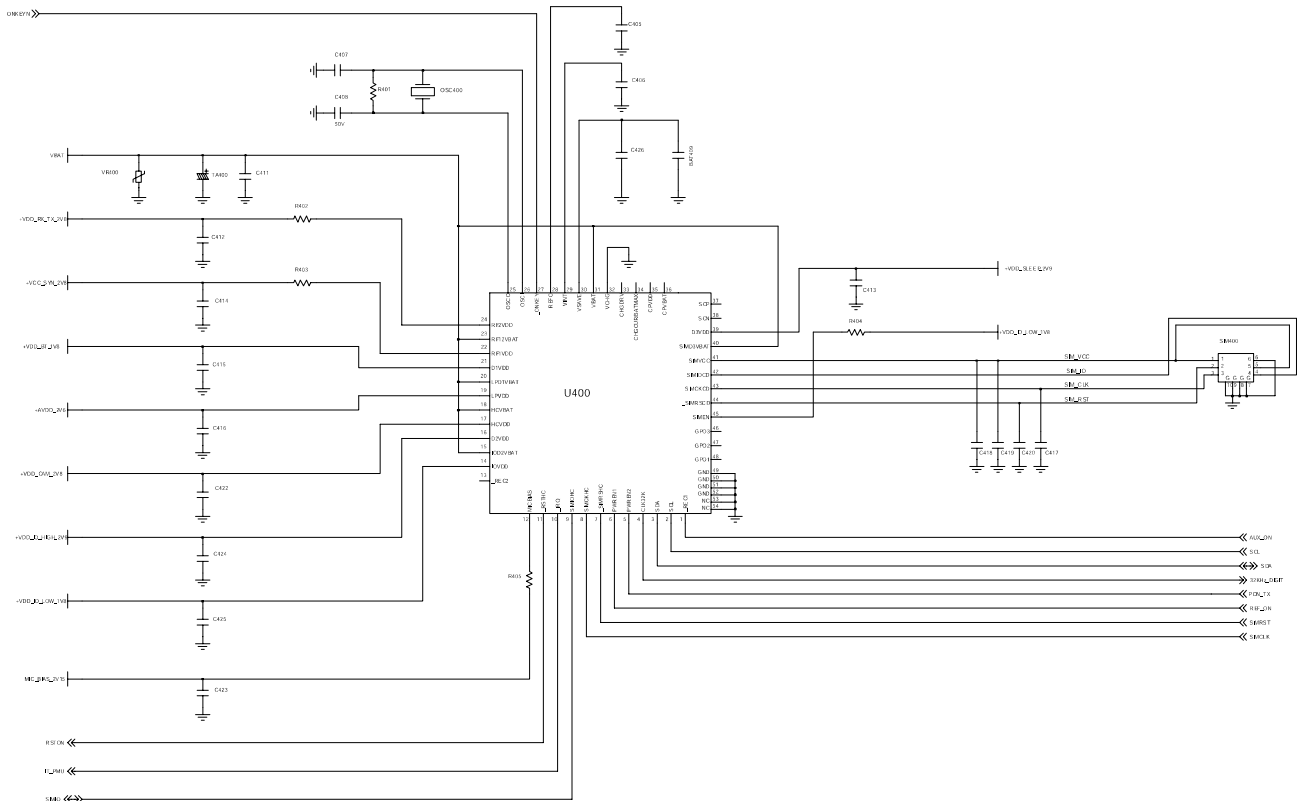


9-3. Charging Part

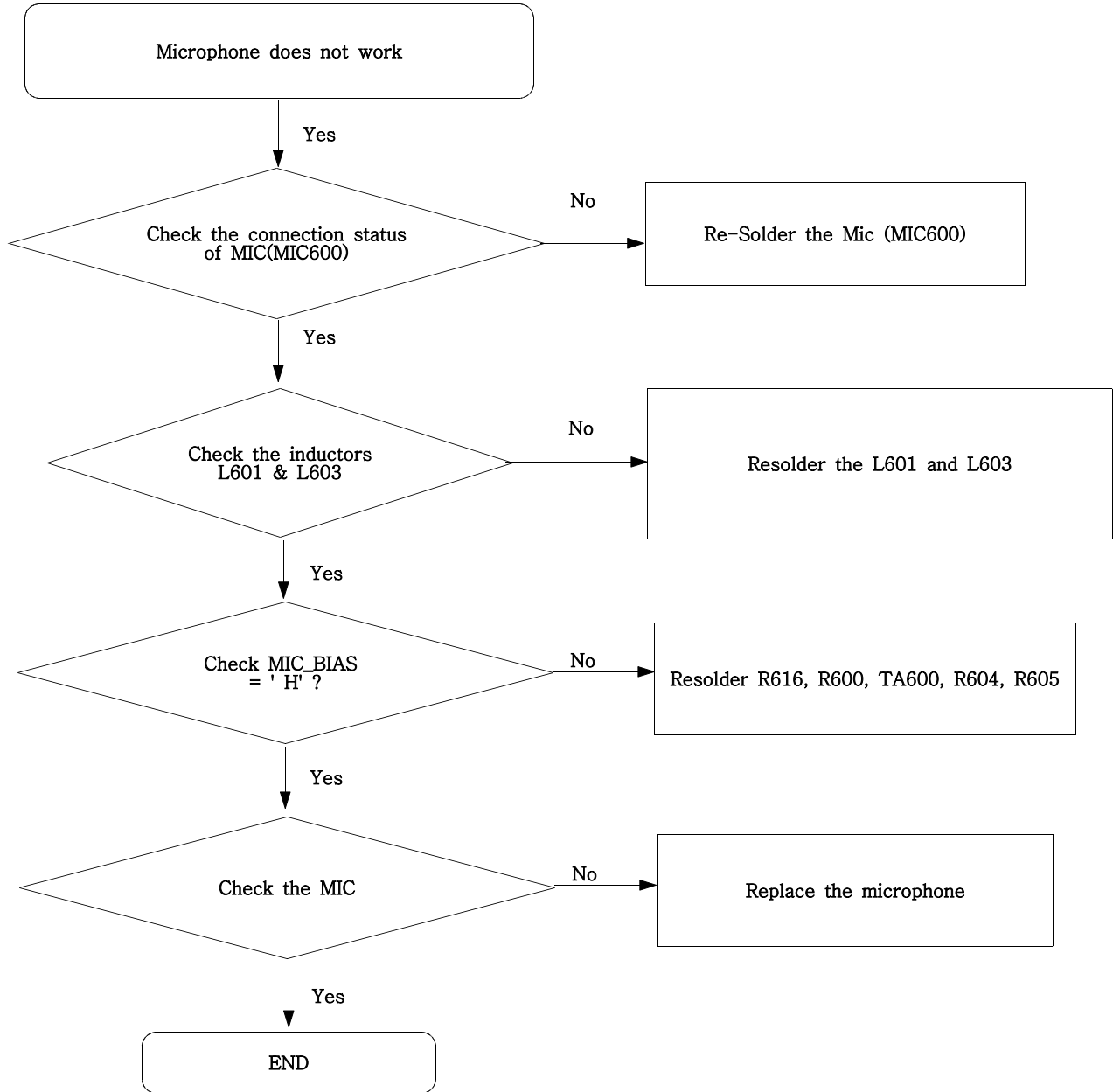


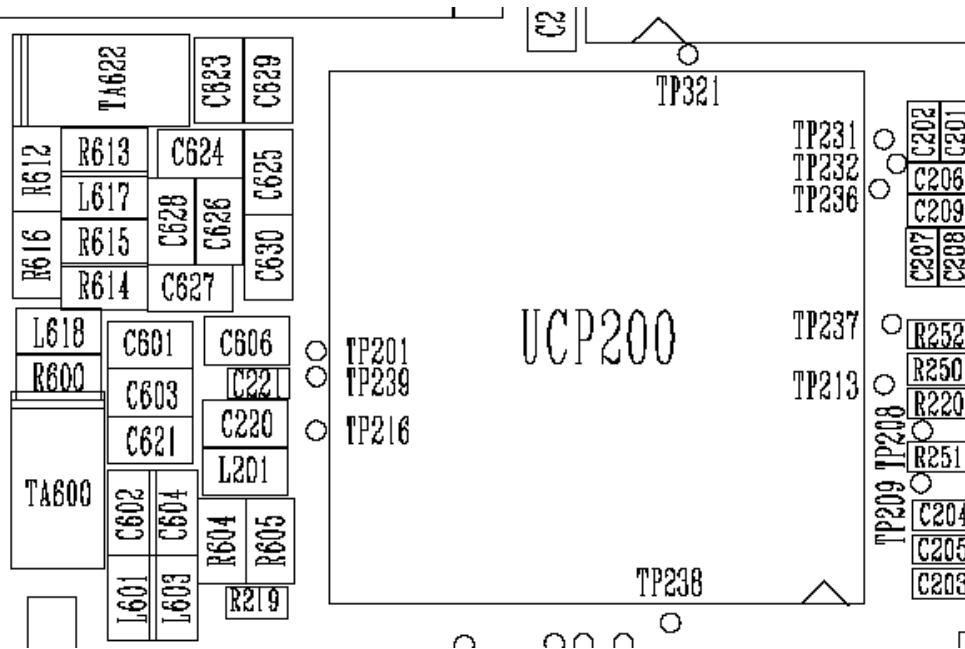
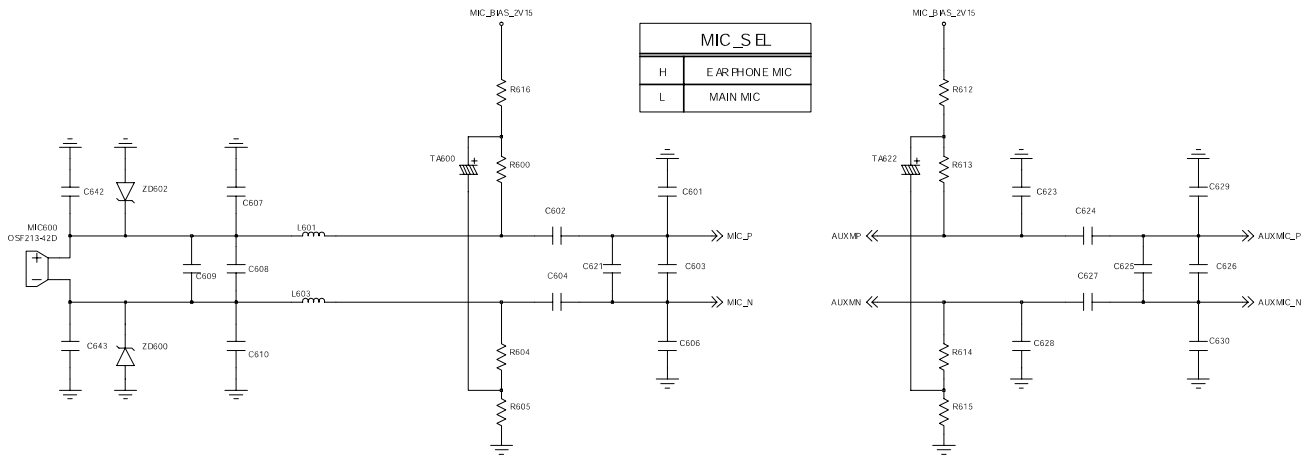
9-4. Sim Part



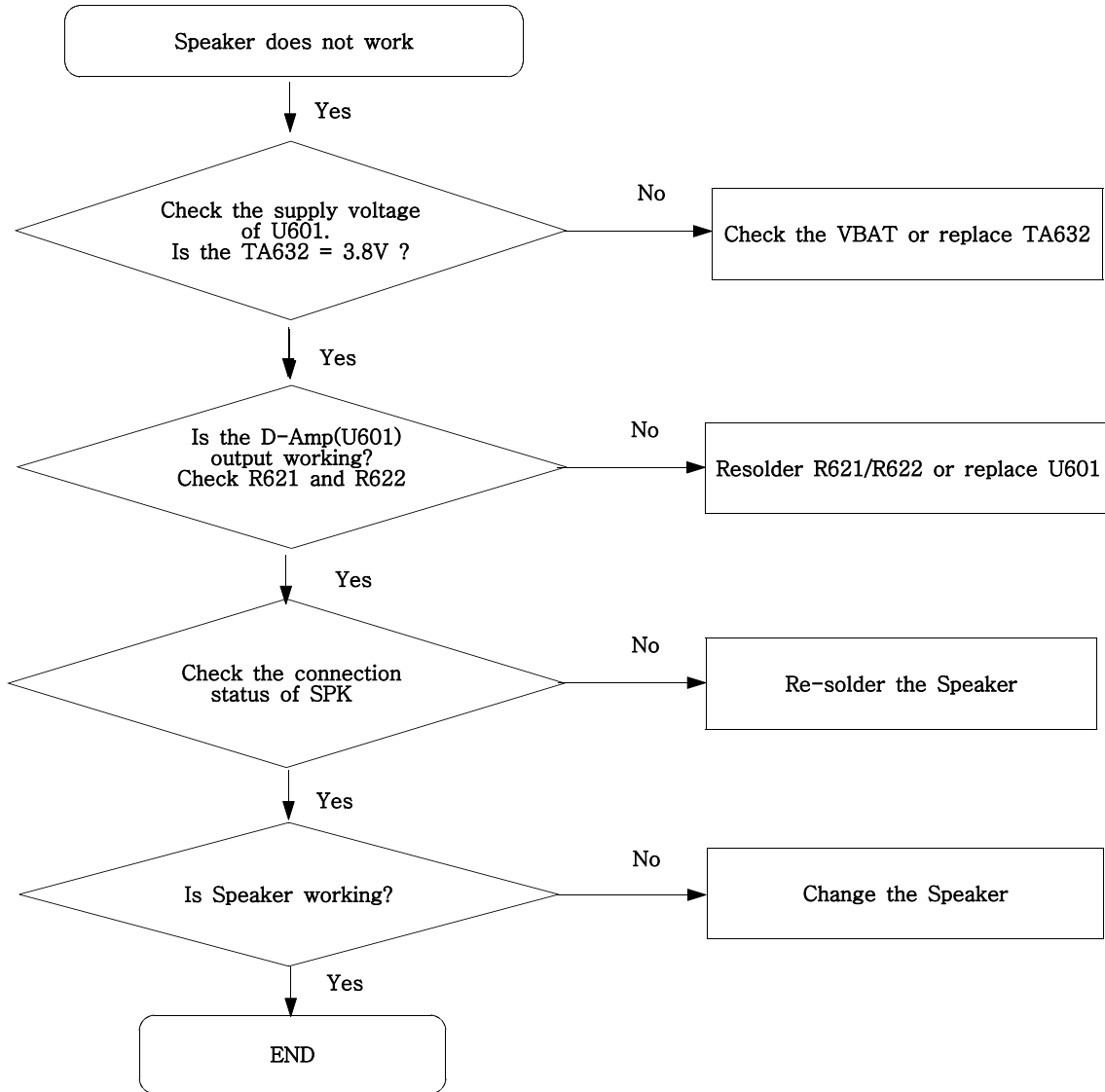


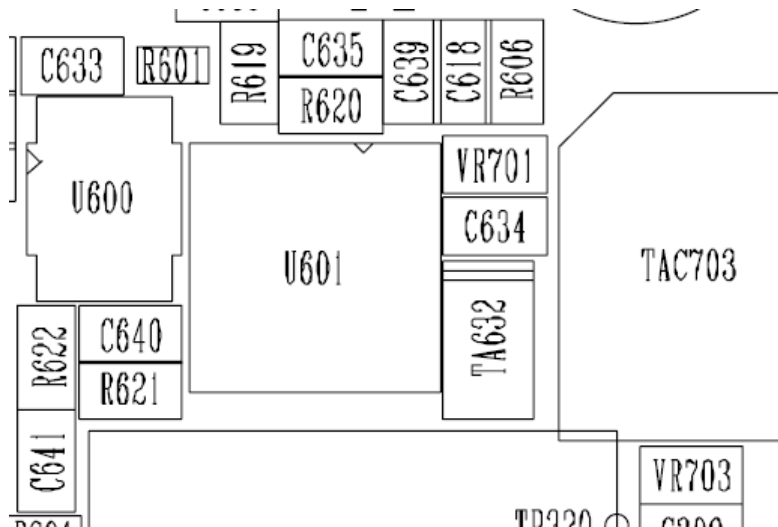
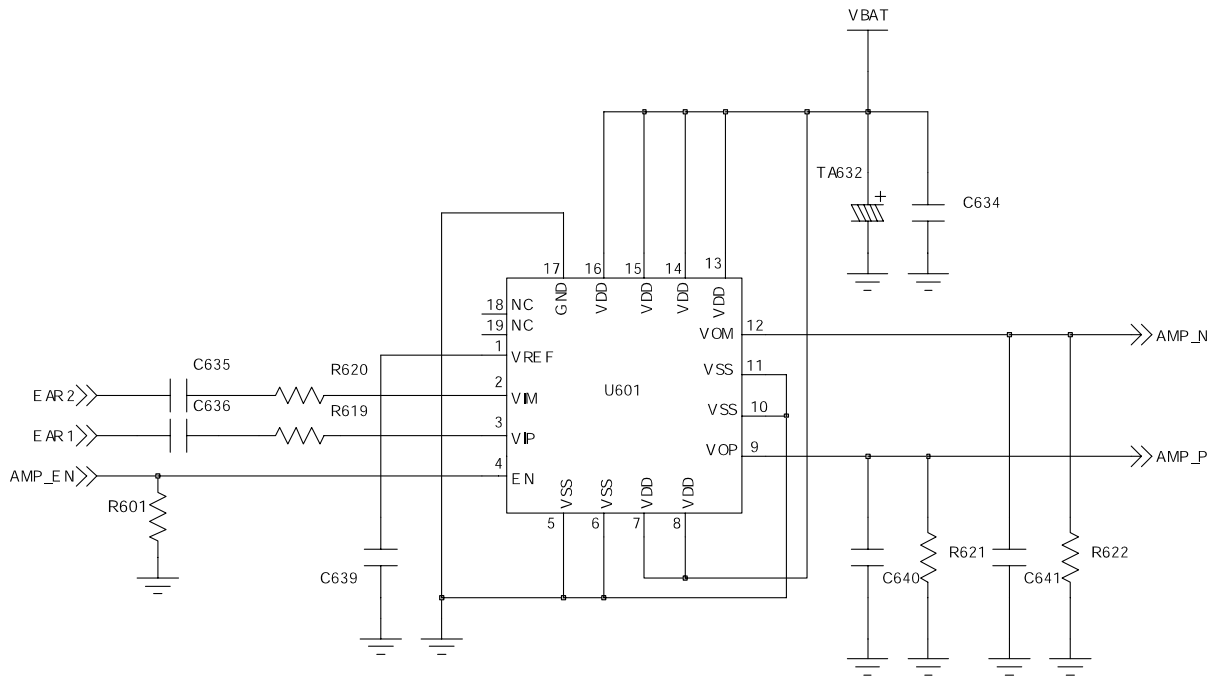
9-5. Microphone Part



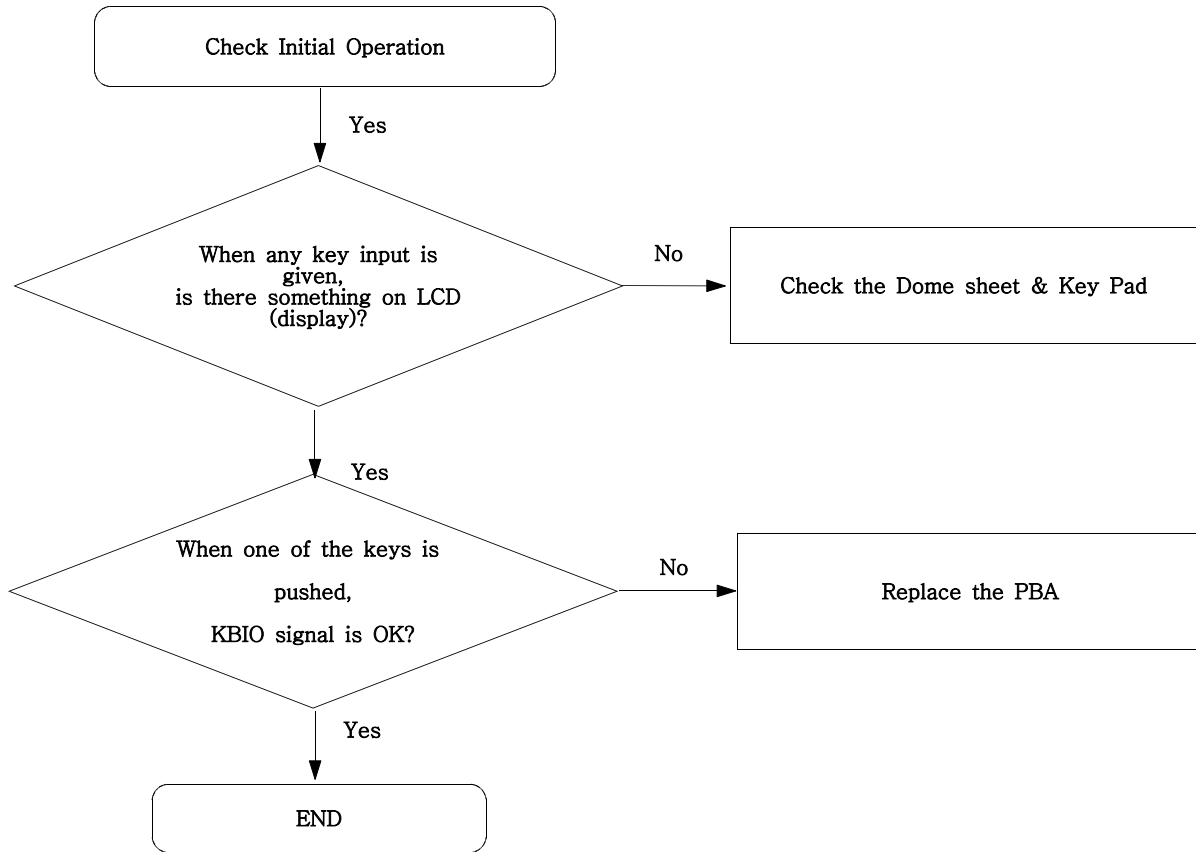


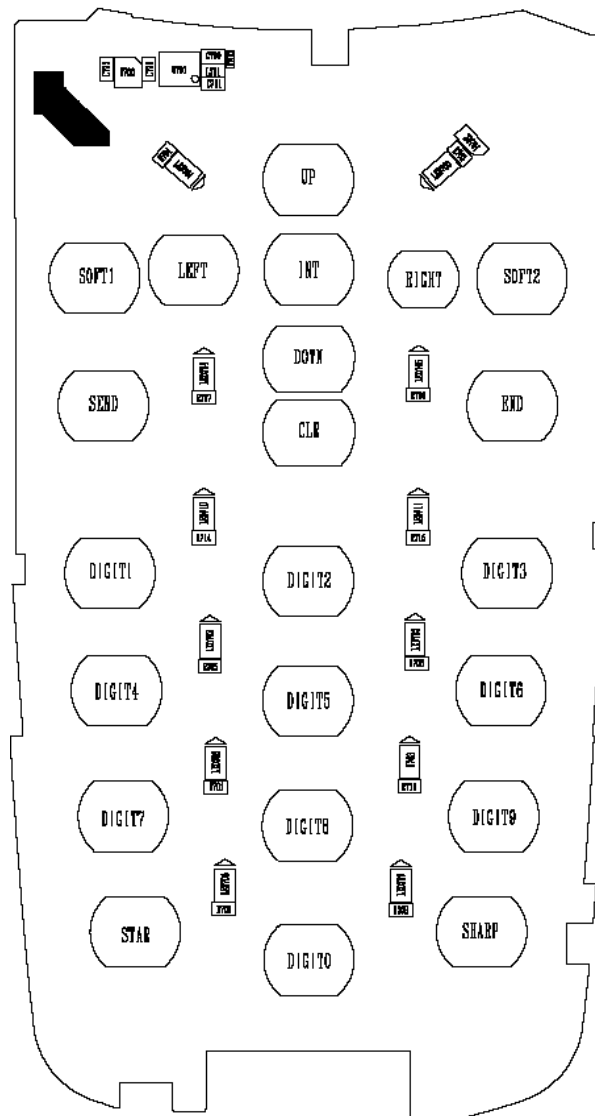
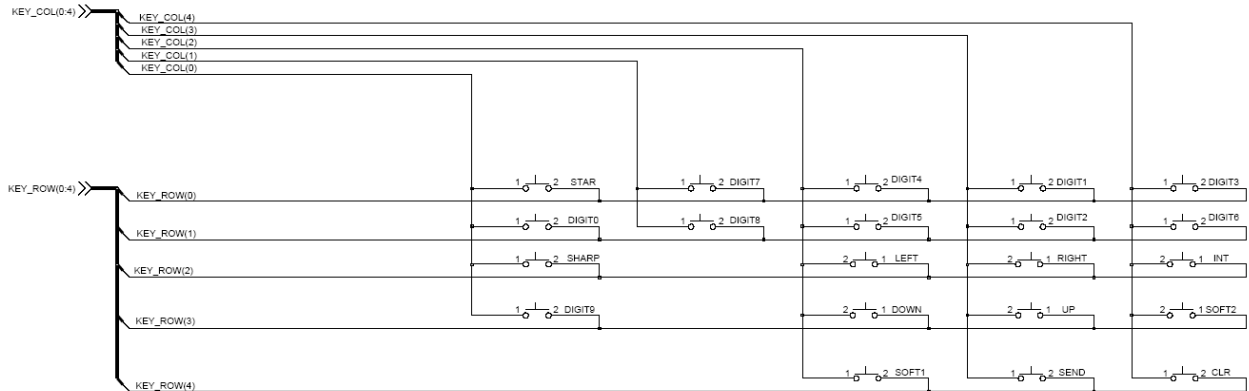
9-6. Speaker Part



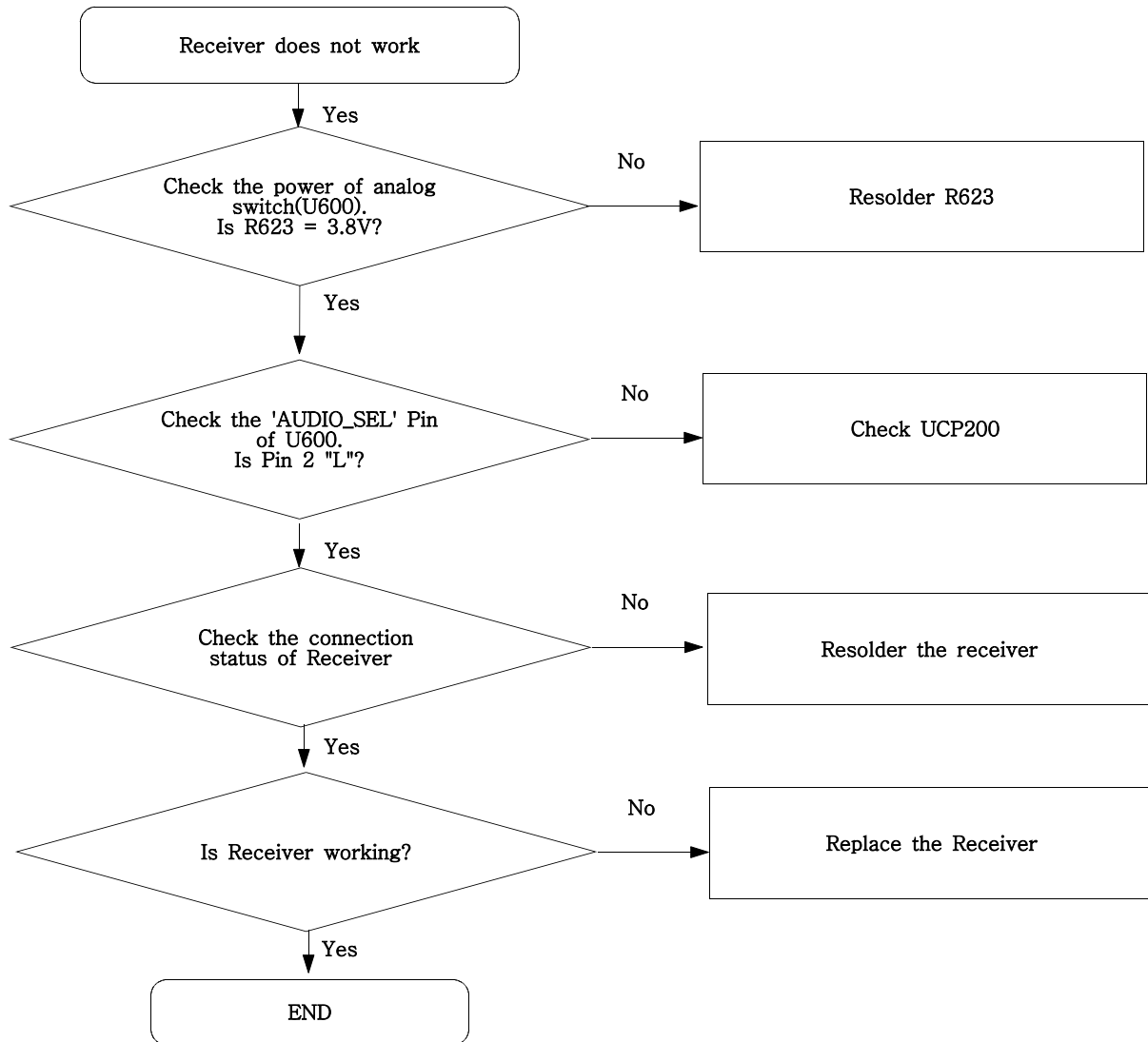


9-7. Key Data Input

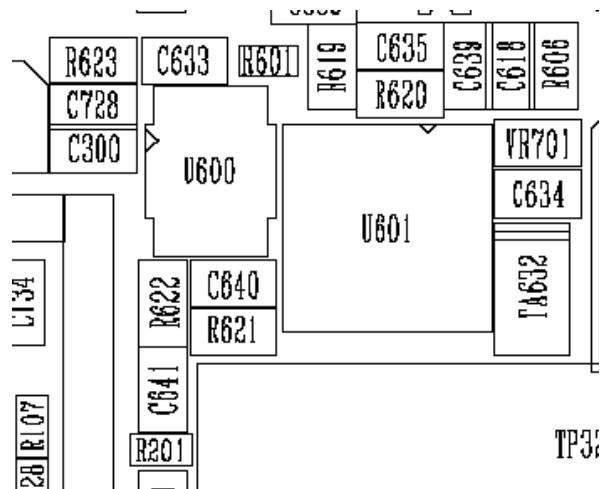
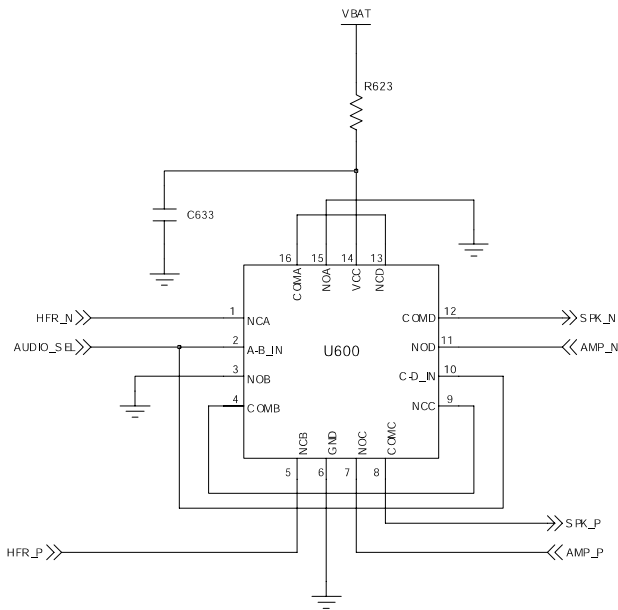
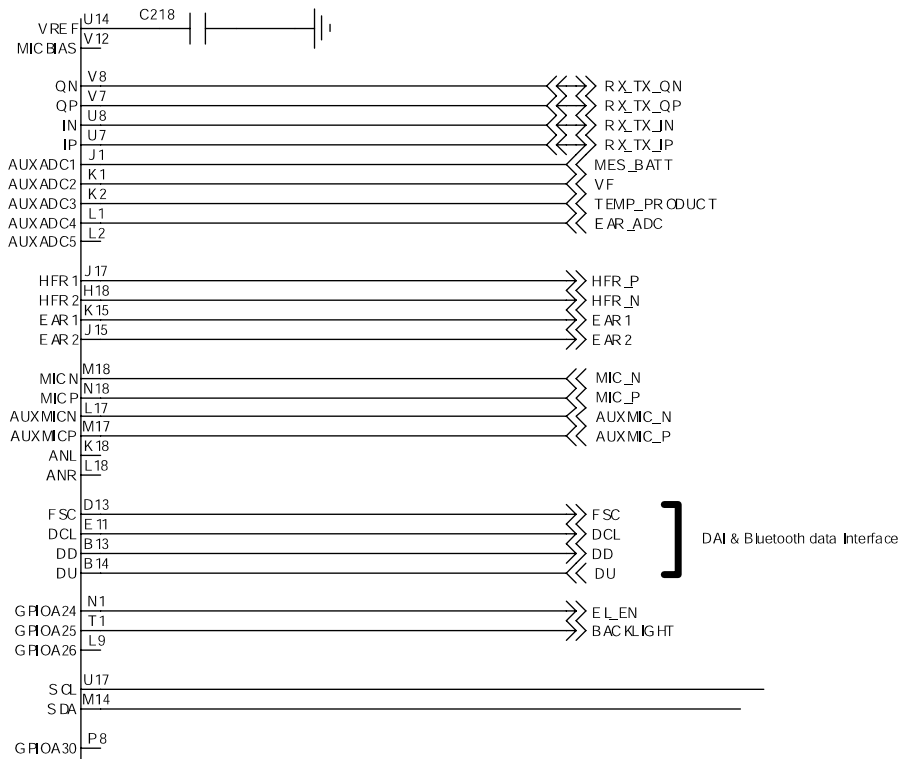




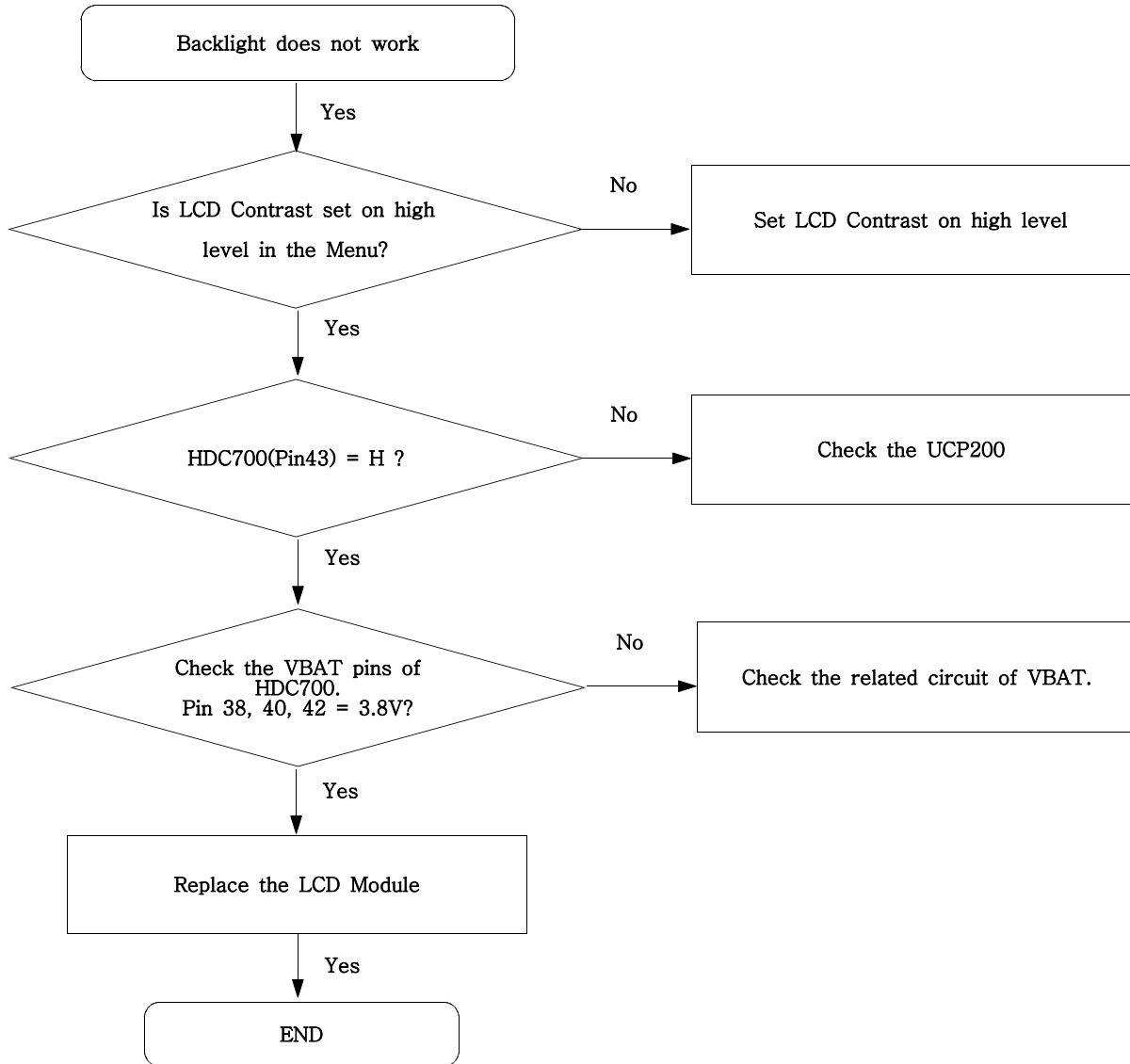
9-8. Receiver Part

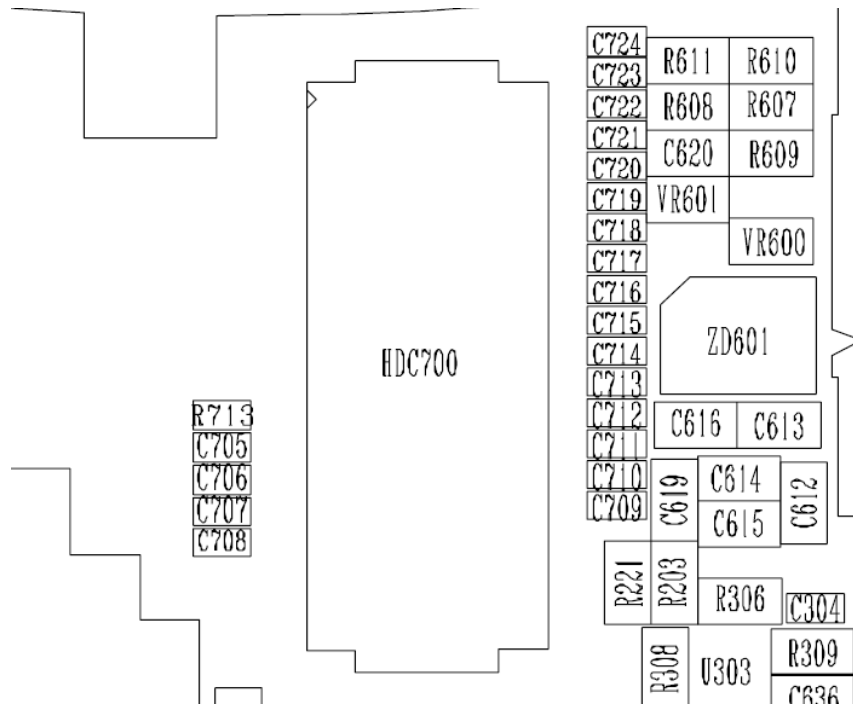
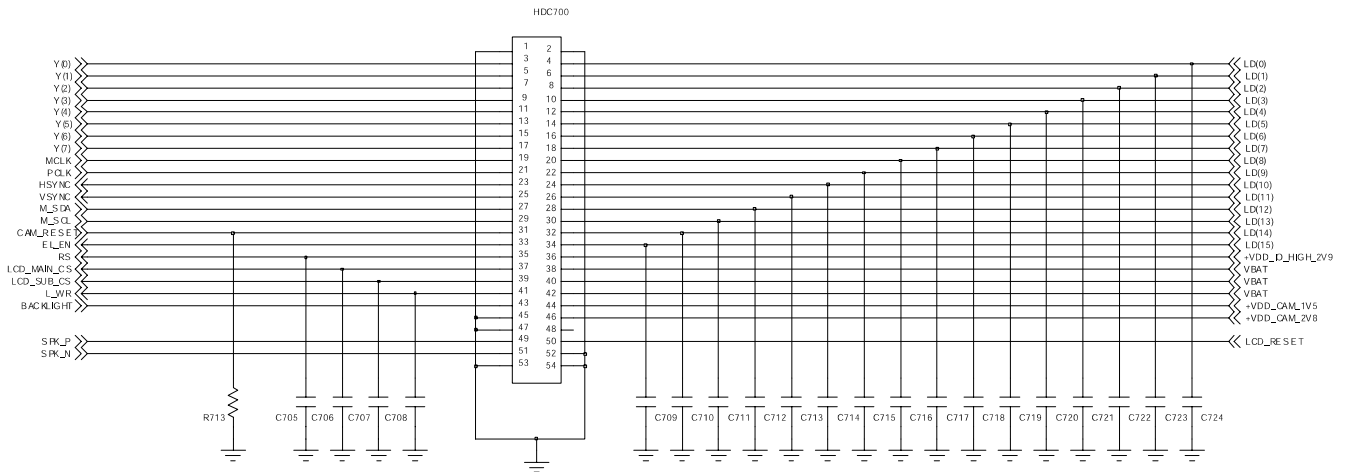


UCP200

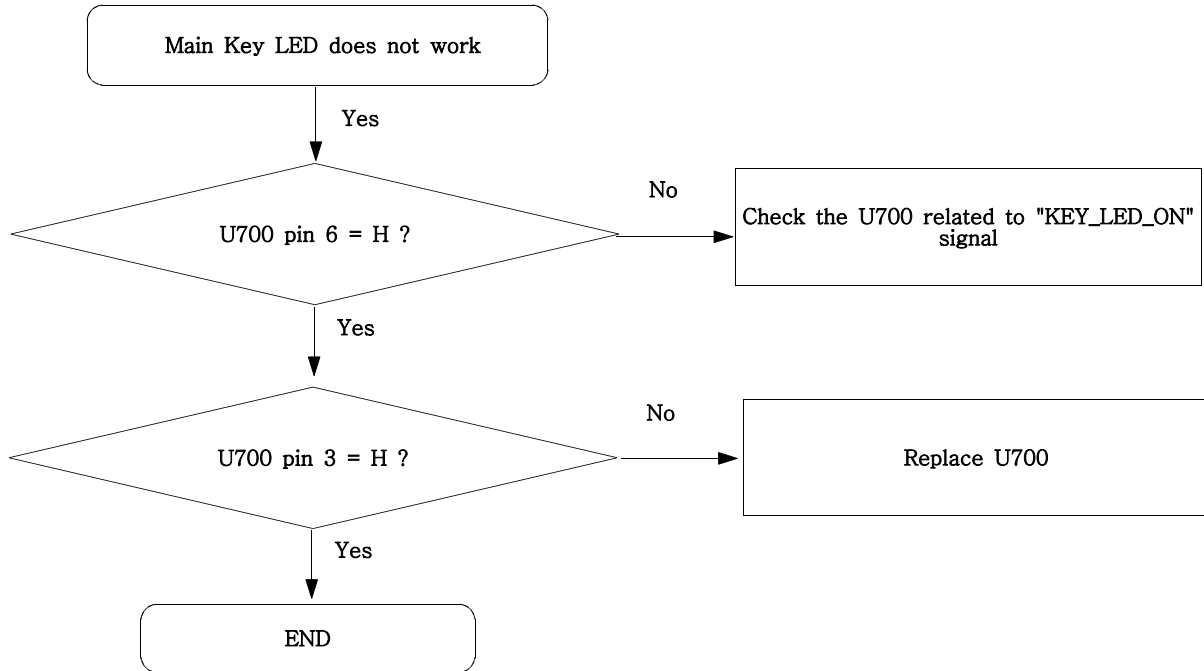


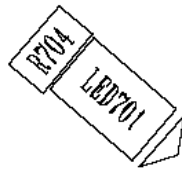
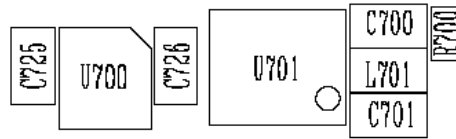
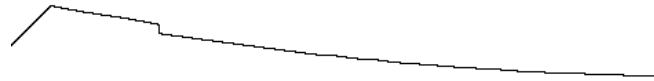
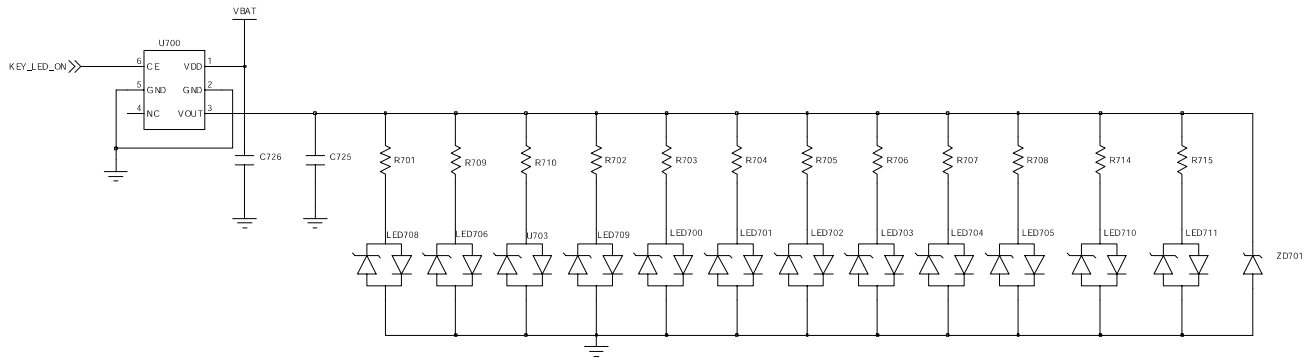
9-9. Back Light (for LCD)



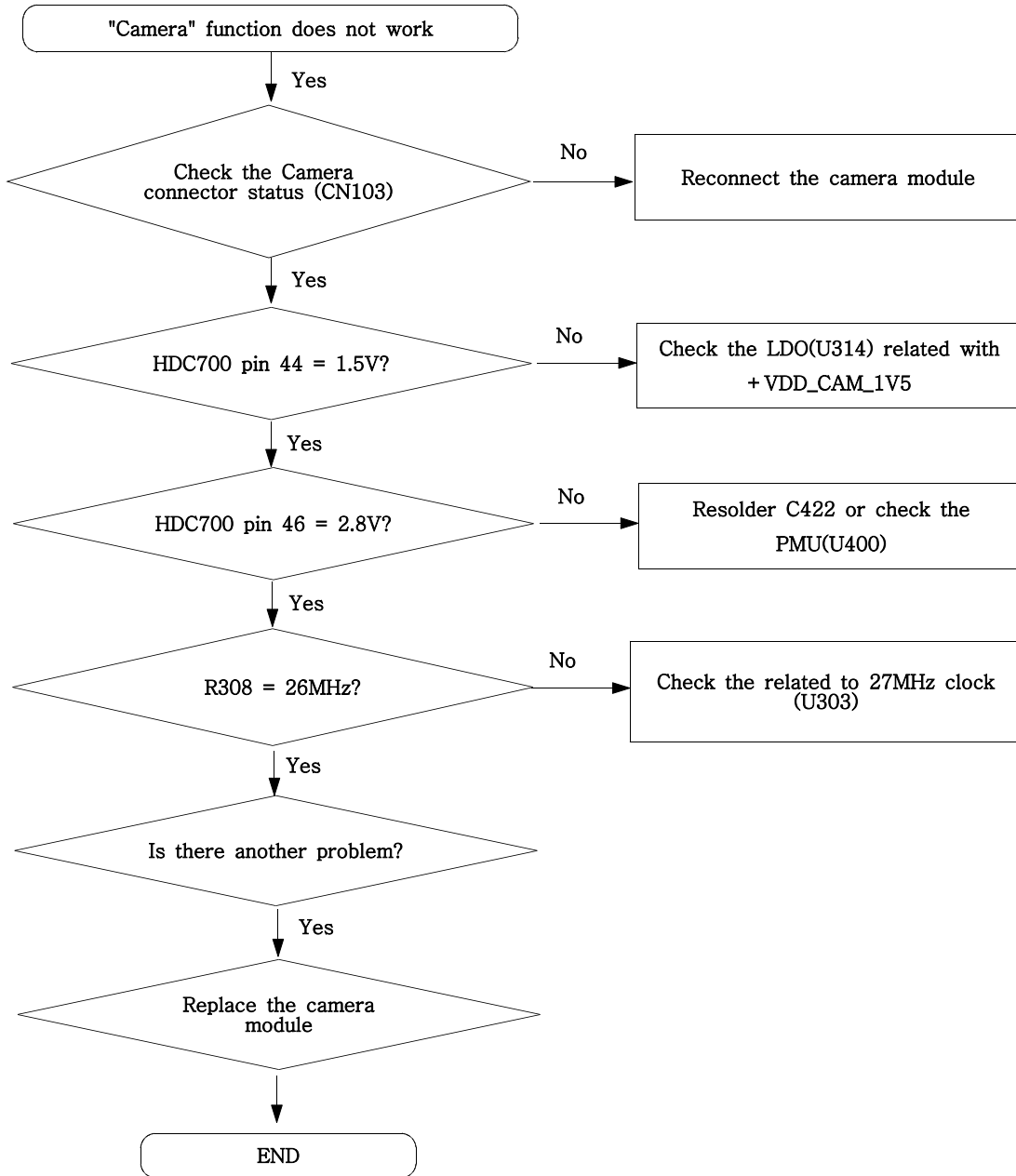


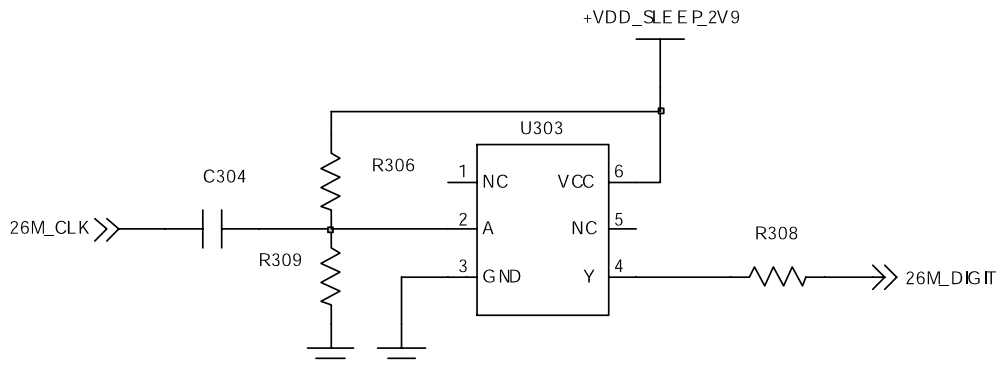
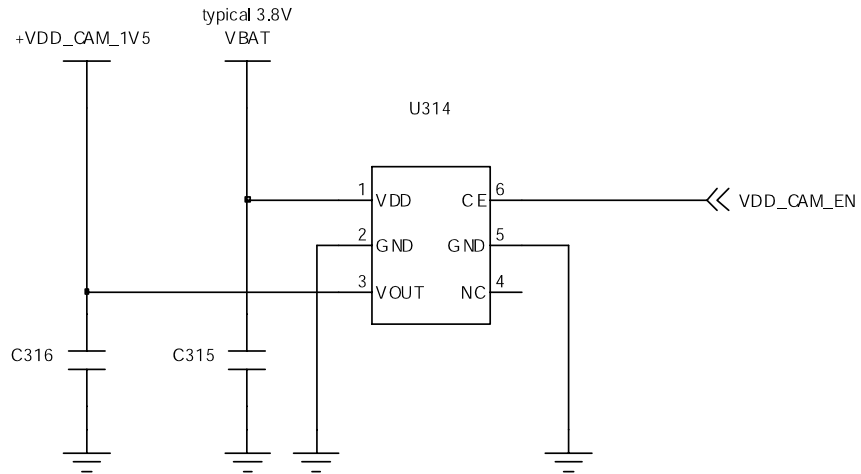
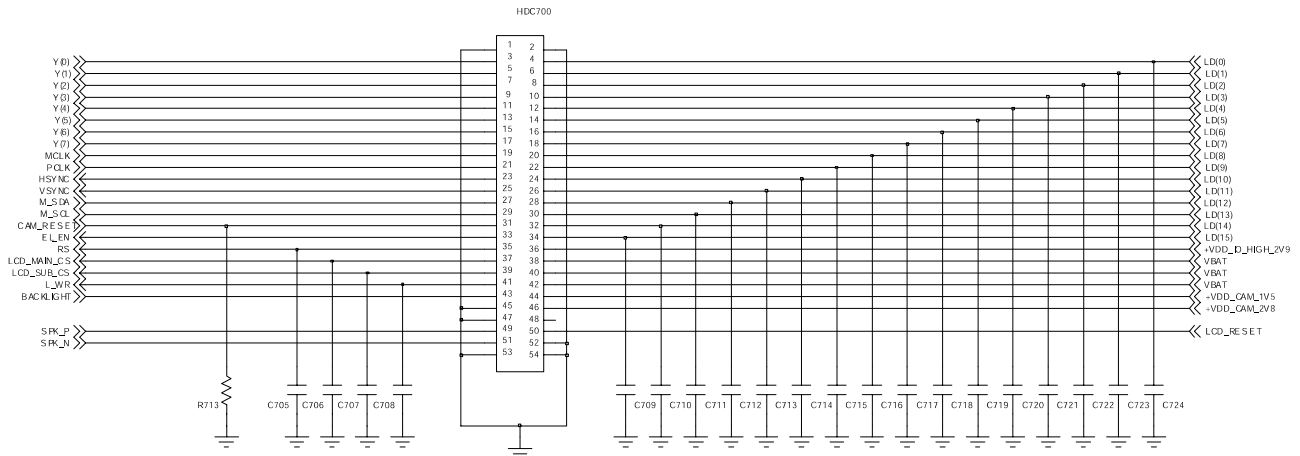
9-10. Key Back Light

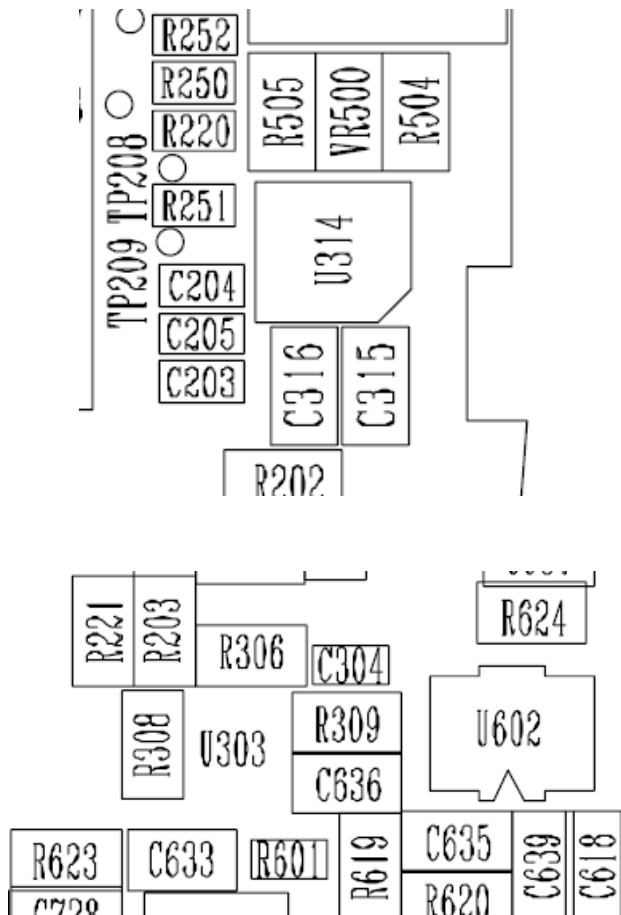
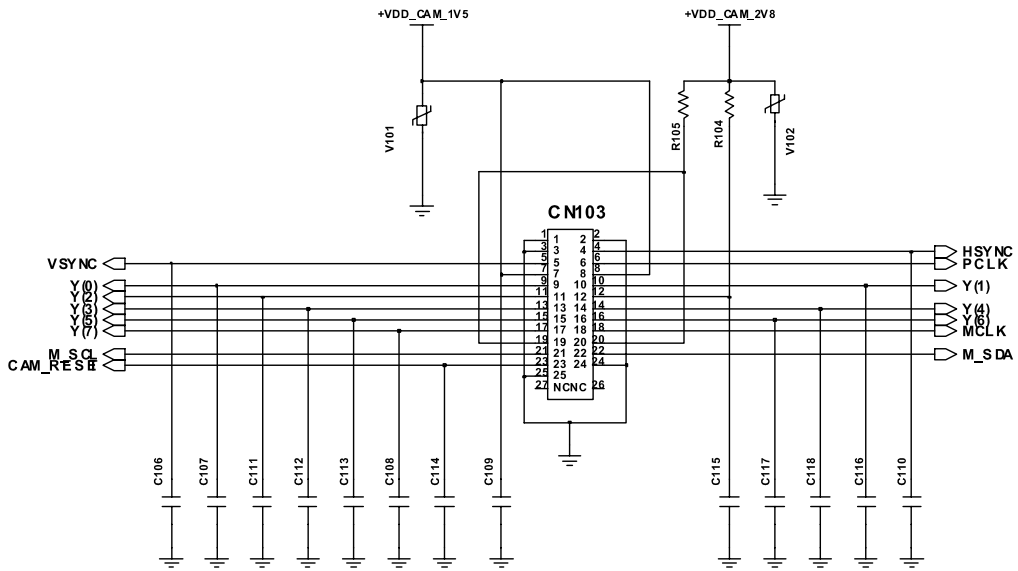




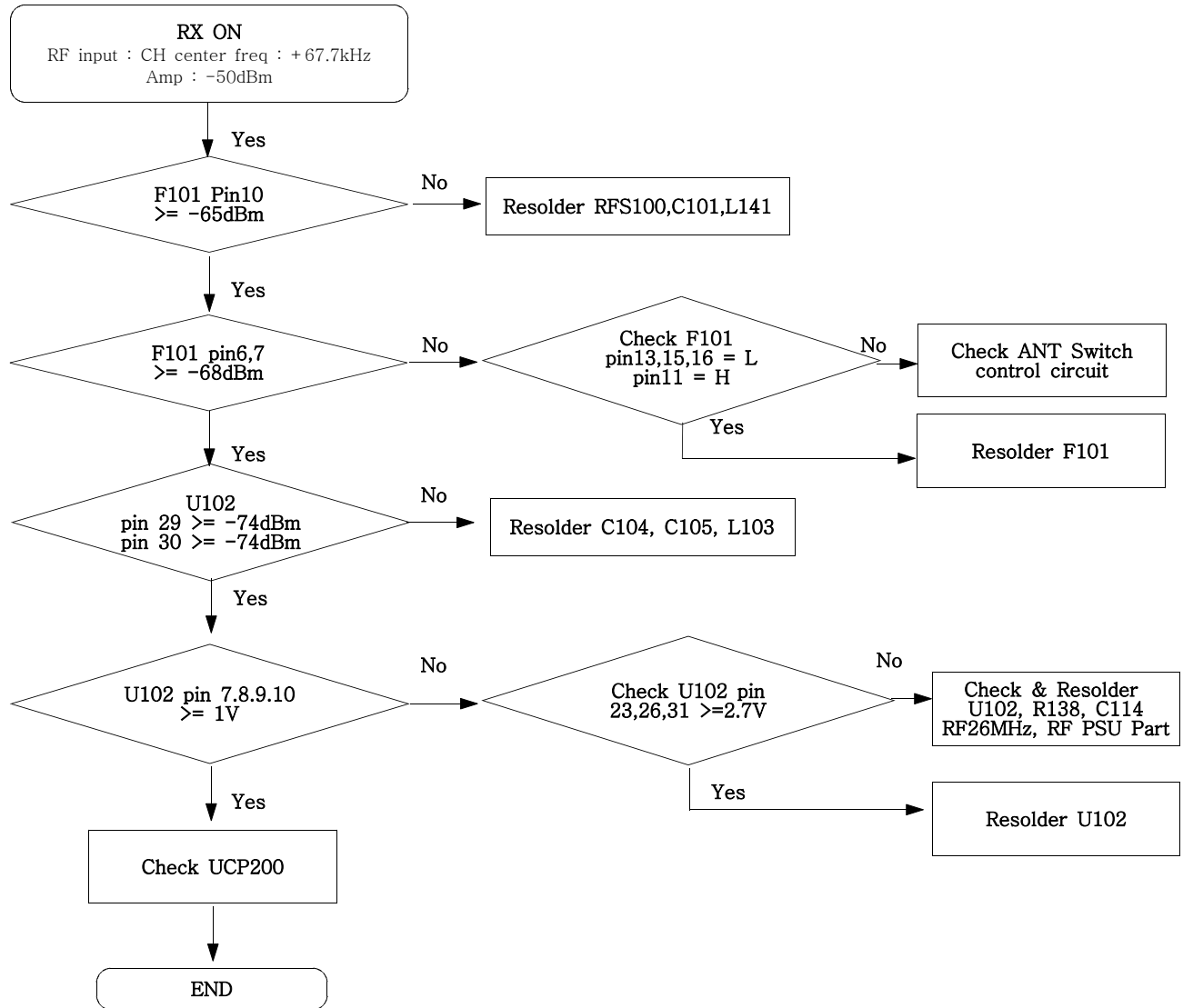
9-11. Camera part



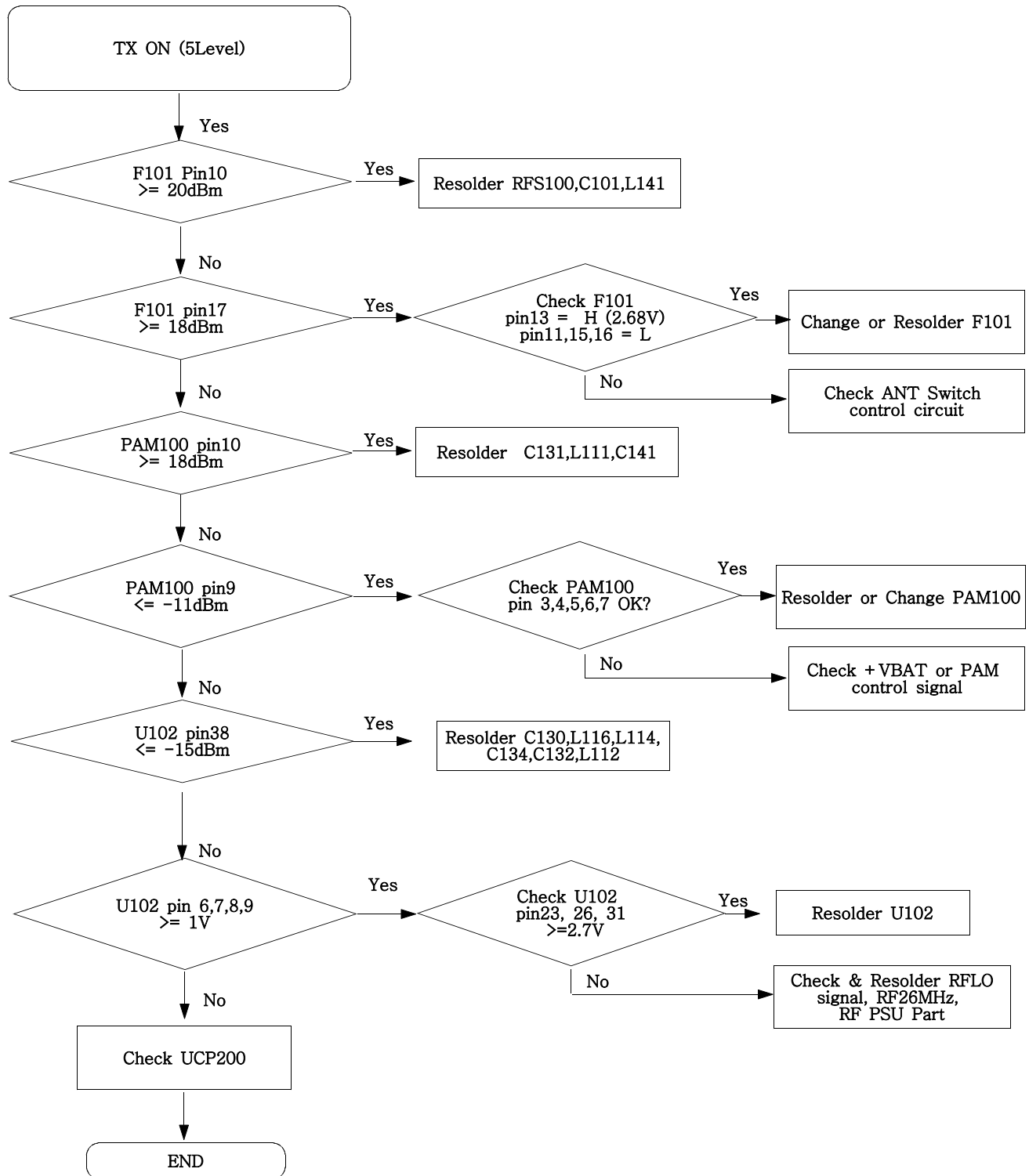




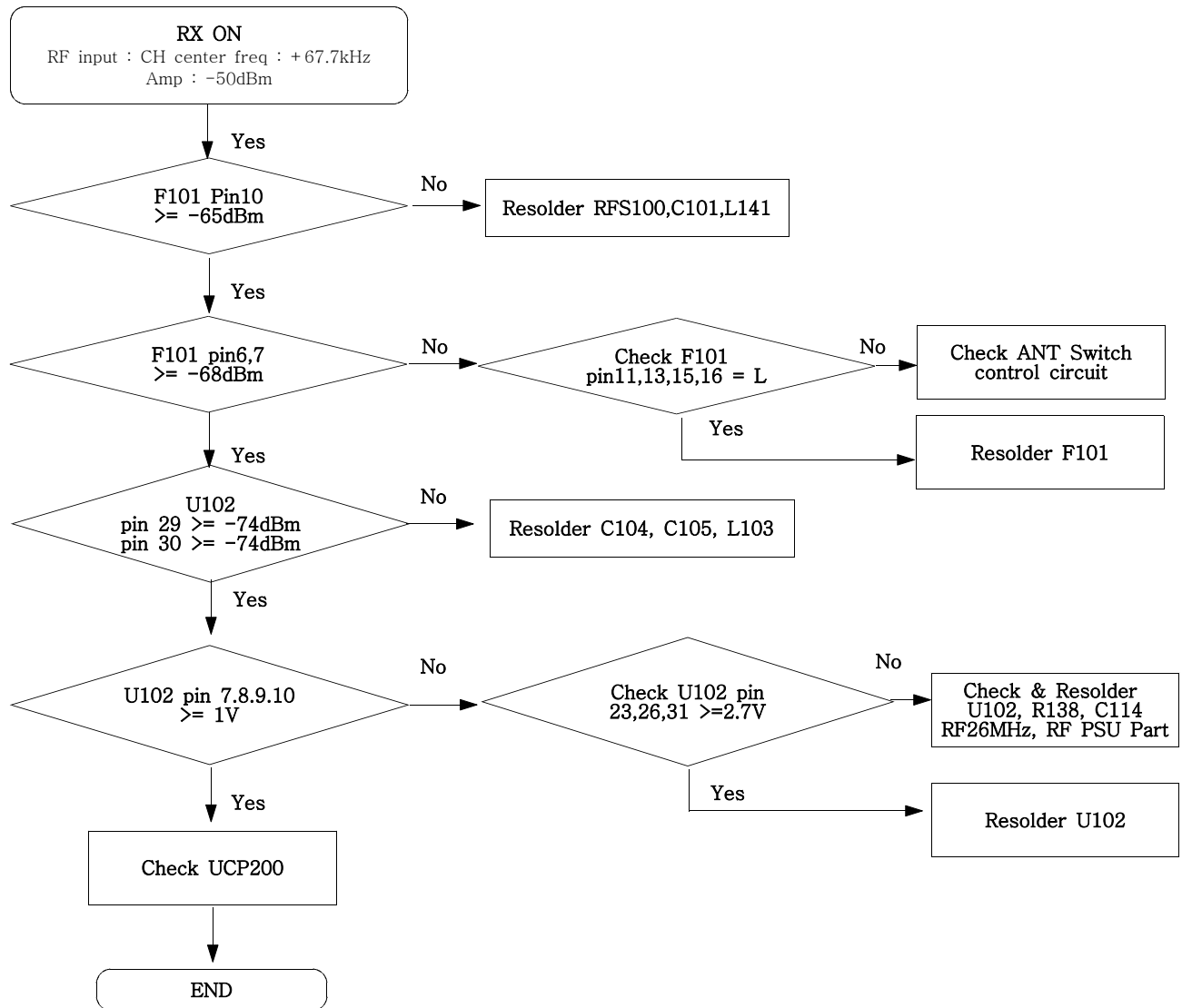
9-12. GSM850 Receiver



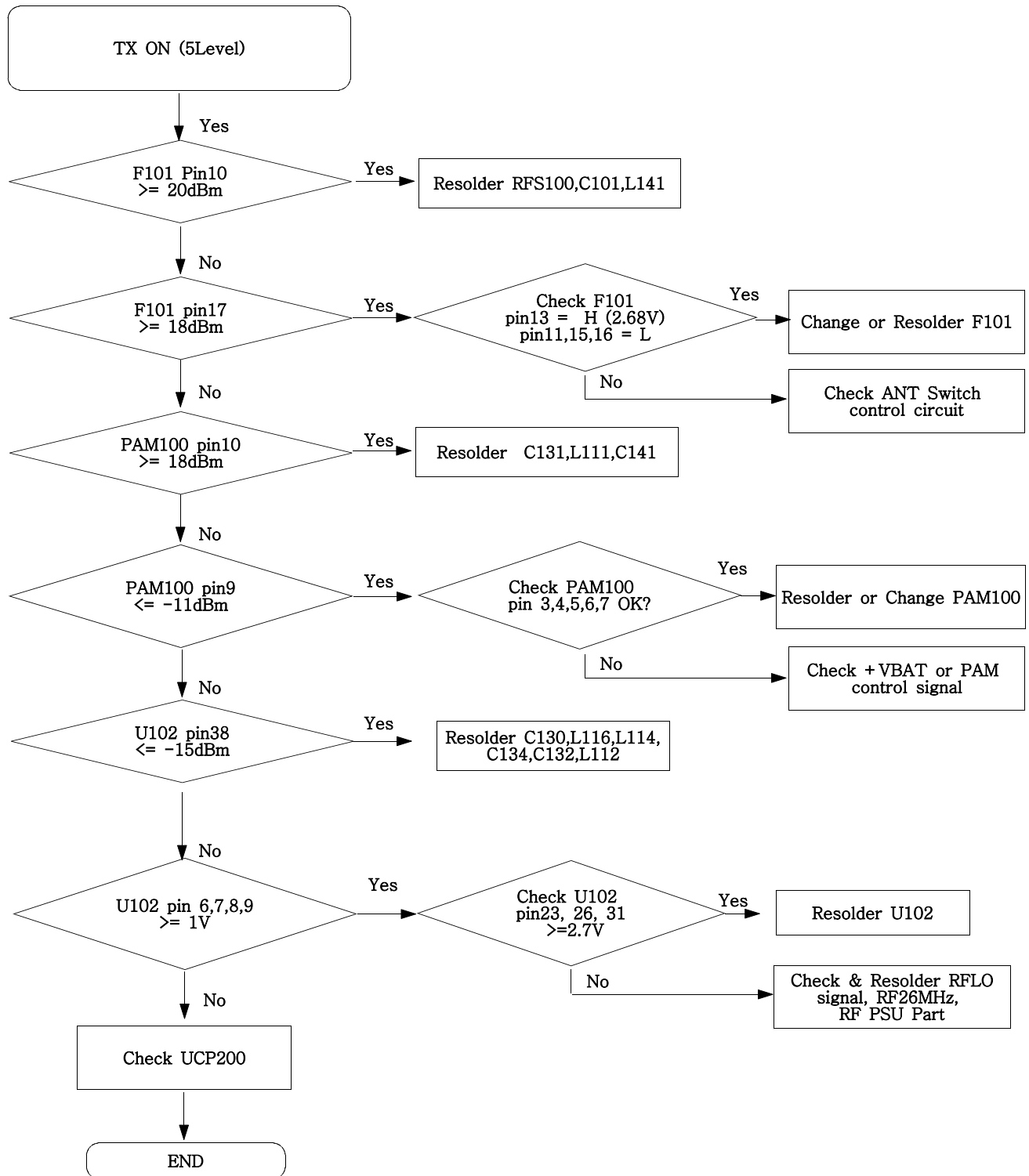
9-13. GSM850 Transmitter



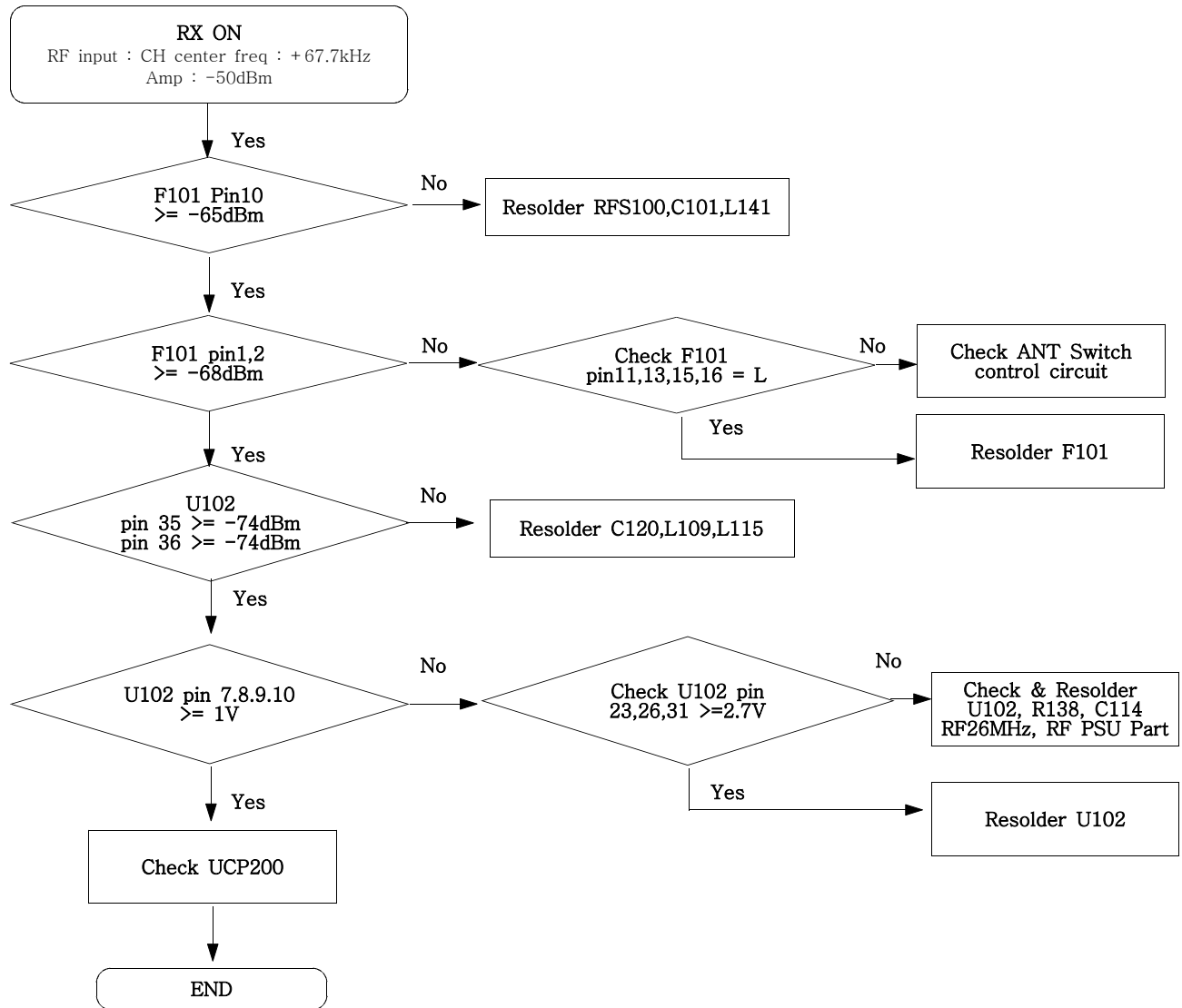
9-14. GSM900 Receiver



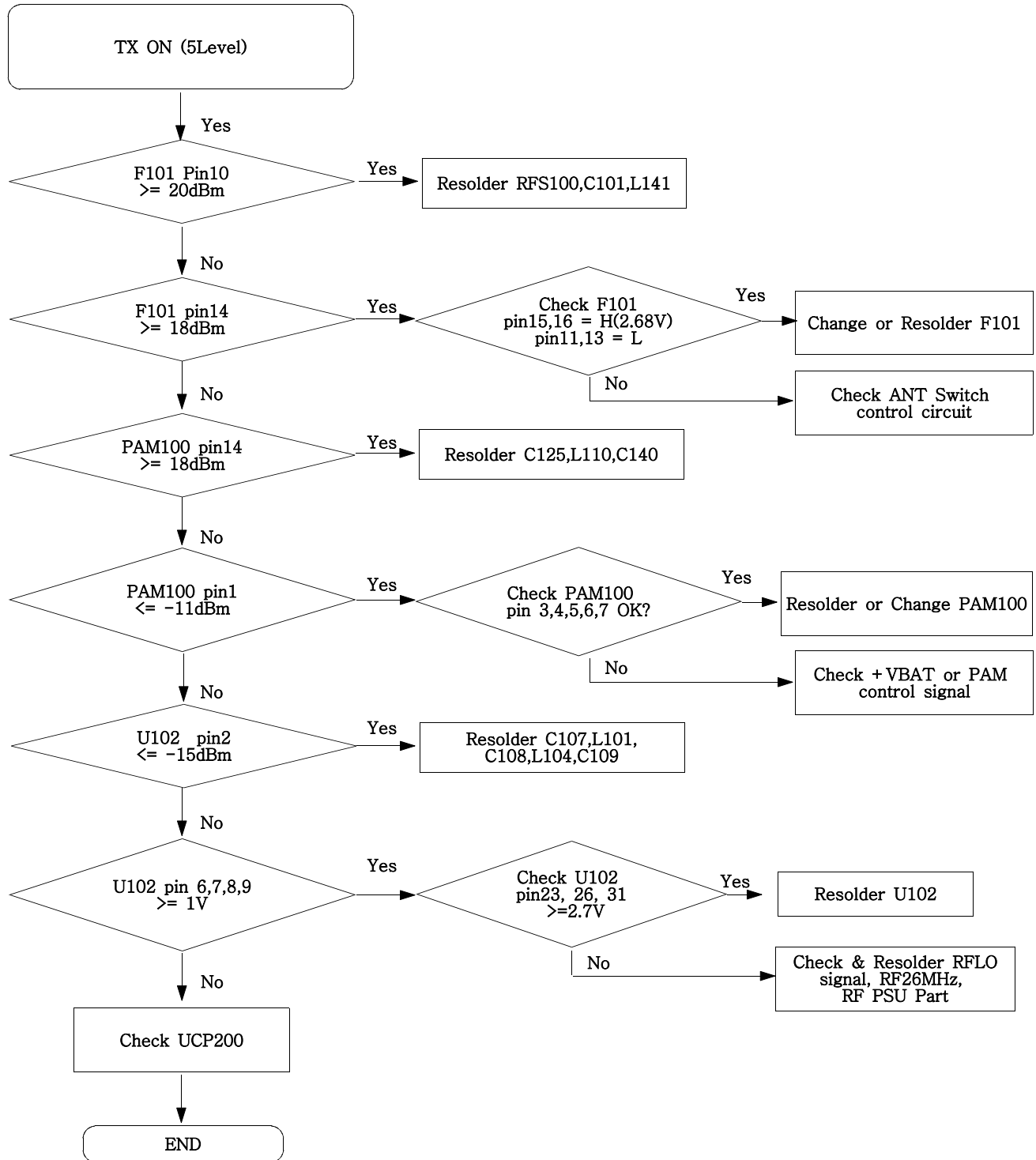
9-15. GSM900 Transmitter



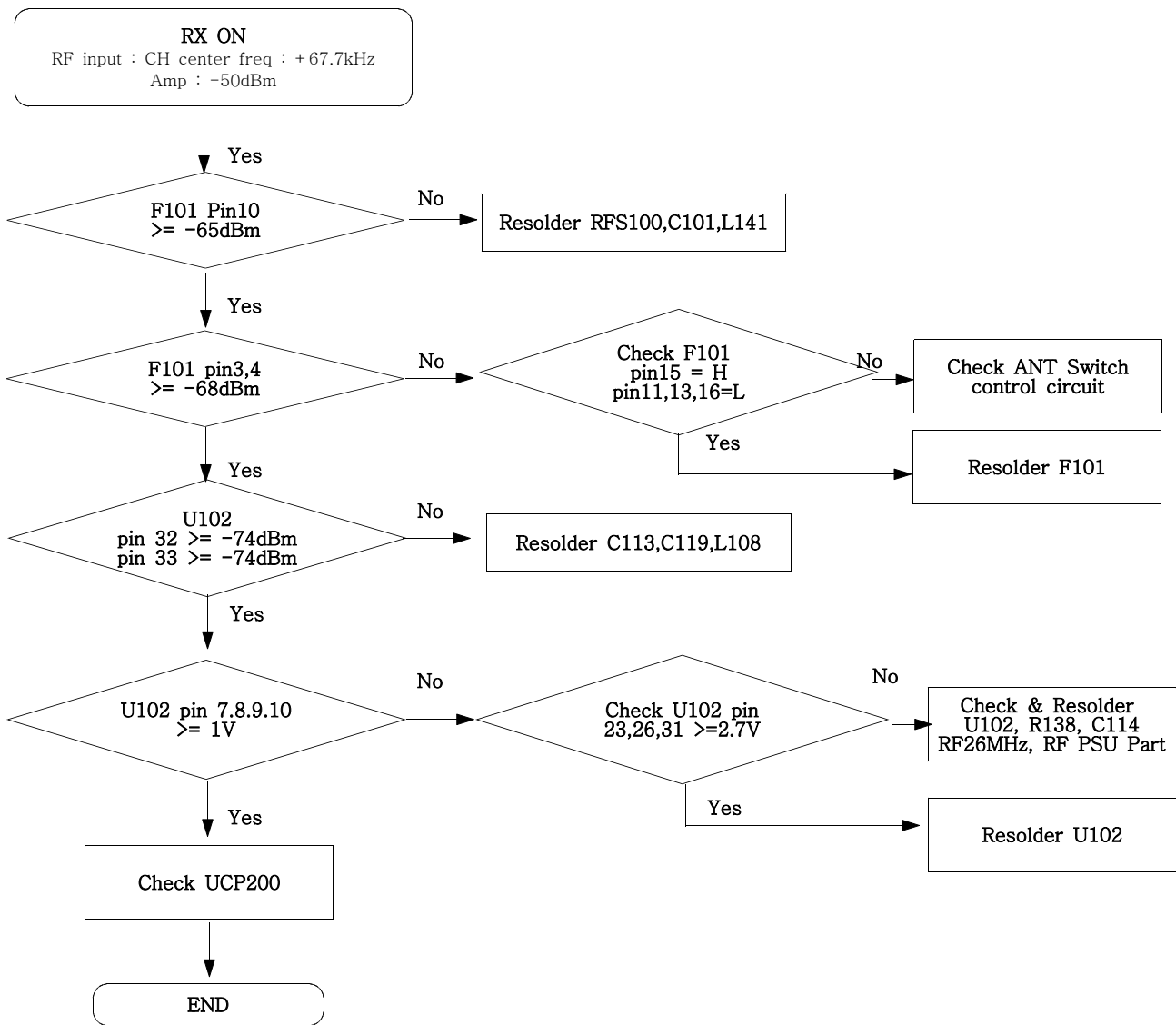
9-16. DCS Receiver



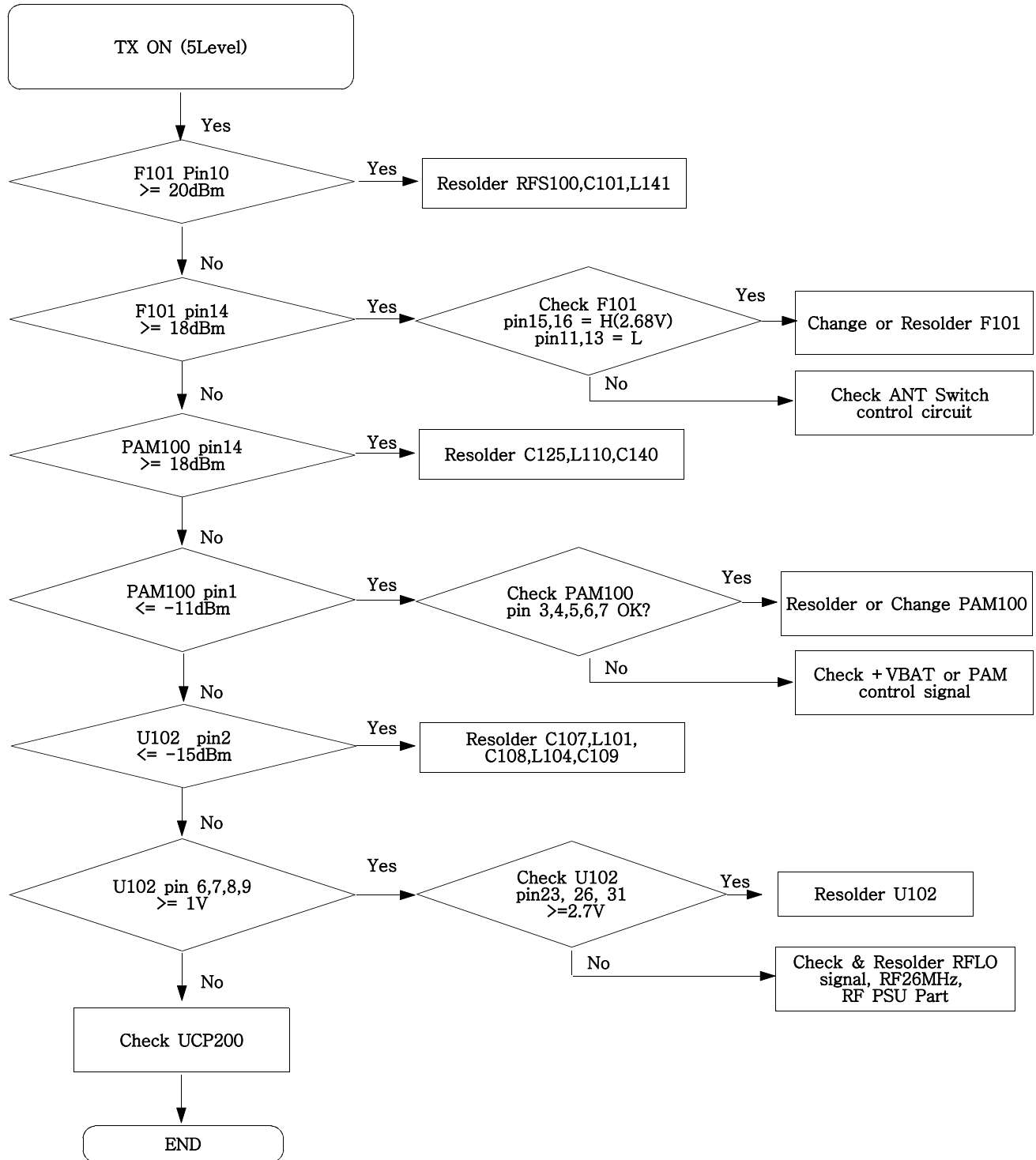
9-17. DCS Transmitter

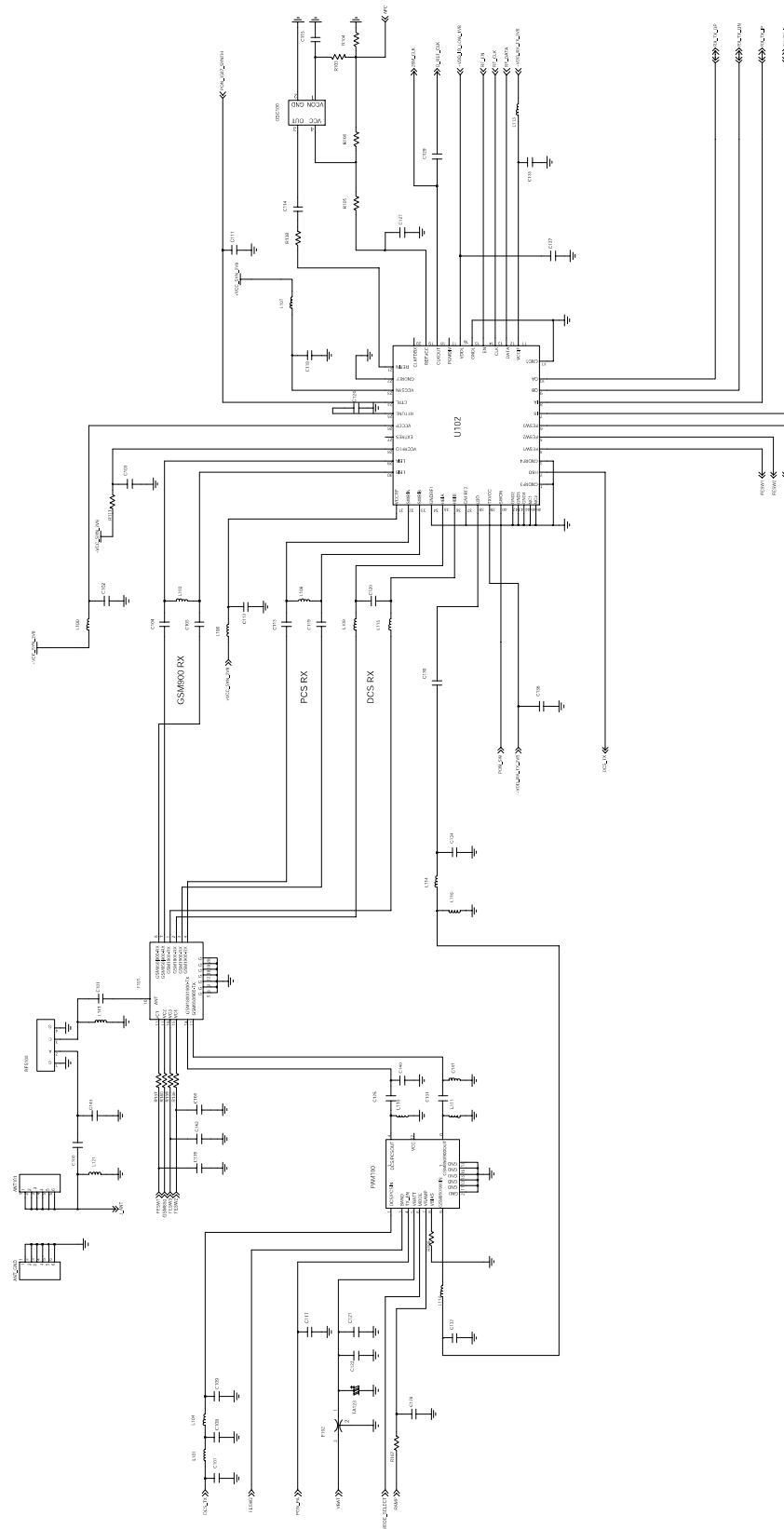


9-18. PCS Receiver



9-19. PCS Transmitter





10. Reference data

Reference Abbreviate

- **AAC** : Advanced Audio Coding
- **ADC** : Analog to Digital Converter
- **AMR** : Adaptive Multi-rate Codec, Narrow and Wide Band
- **ARM** : Advanced Risc Machines
- **BAI** : Baseband and Audio Interface
- **BB** : BaseBand
- **BGA** : Ball Grid Array
- **DAC** : Digital to Analog Converter
- **DAI** : **Digital Audio Interface**
- **DSP** : Digital Signal Processor (Saturn)
- **EDGE** : Enhanced Data Rates for GSM Evolution
- **EEPROM** : Electrically Erasable Programmable Read Only Memory
- **EGPRS** : Enhanced GPRS
- **ETM** : Embedded Trace Macrocell
- **ETSI** : European Telecommunications Standards Institute
- **FM** : Frequency Modulation
- **FPGA** : Field Programmable Gate Array
- **FR** : Full Rate
- **FTA** : Full Type Approval (GSM specification)
- **GPIO** : General Purpose Input Output
- **GPRS** : General Packet Radio Service
- **GSM** : Global System for Mobile communication
- **I2C** : Inter IC Control bus; I2C-bus design unit
- **I2S** : Inter IC Sound bus
- **IC** : Integrated Circuit
- **JTAG** : Joint Test Action Group
- **KBS** : Keyboard Scanner
- **LCD** : Liquid Crystal Display
- **MCP** : Multi Chip Package
- **MICBIAS** : Microphone Bias
- **MMC** : Multi Media Card
- **MMI** : Man Machine Interface
- **MP3** : MPEG Audio Layer 3
- **MPEG** : Motion Picture Expert Group

- **PCM** : Pulse Code Modulation
- **PDCU** : Power-Down Control Unit
- **PIO** : Parallel IO unit
- **PLL** : Phase Locked Loop
- **RAM** : Random Access Memory
- **ROM** : Read Only Memory
- **SRAM** : Static Random Access Memory
- **SW** : Software
- **TDMA** : Time Division Multiple Access
- **UART** : Universal Asynchronous Receiver Transmitter
- **UMTS** : Universal Mobile Telecommunication System
- **USB** : Universal Serial Bus
- **USIM** : UMTS SIM