

SAMSUNG

GSM TELEPHONE

SGH-E480

SERVICE *Manual*

GSM TELEPHONE



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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

	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell Radius	35Km	35Km	2Km	-

2-2. GSM Tx Power Class

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

3. Product Function

Main Function

- 1.3 Megapixel Camera
- 65536 Color TFT Screen
- Video Recording & Messaging
- Music Player(MP3/AAC/AAC+)
- Bluetooth Wireless Technology
- FM radio
- Multimedia Message Service (MMS)
- E-mail
- Voice recorder
- Java2.0 / WAP2.0
- Tri-band(900/1800/1900MHz)
- SpeakerPhone
- 64Poly

4. Array course control

4-1. Software Adjustments

Test Jig (GH80-03306A)



Test Cable (GH39-00499A)



Serial Cable(CSA LL64151-A)



Power Supply Cable



4-2. Software Downloading

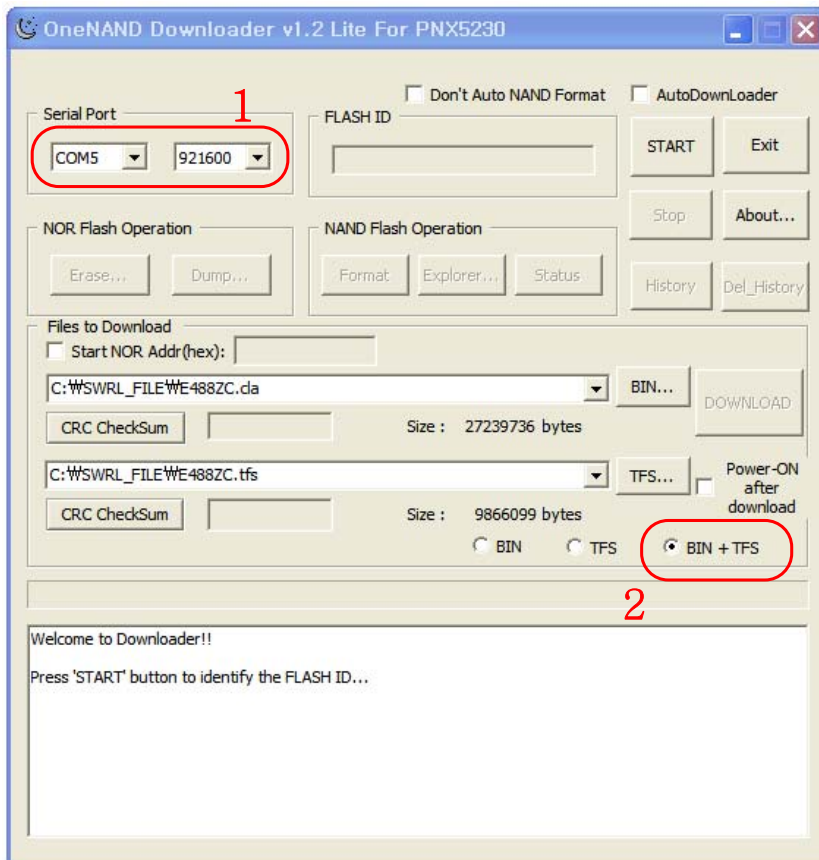
4-2-1. Pre-requisite for Downloading

- Downloader Program([OneNAND_Downloader_v12Lite_for_E480XAFJ3.exe](#))
- E480 Mobile Phone
- Data Cable
- Binary file, TFS file

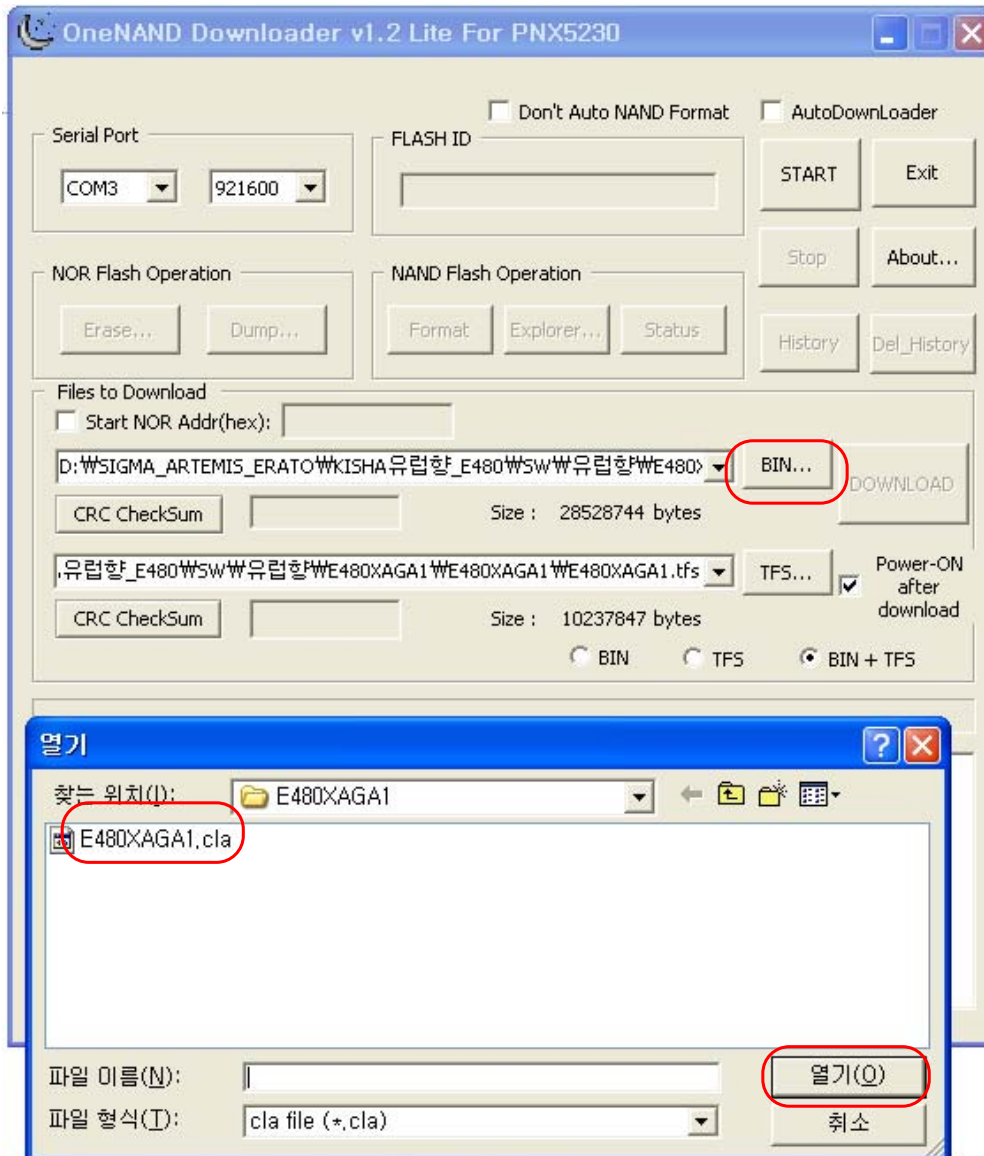
4-2-2. S/W Downloader Program

- Load the binary download program by executing the ["OneNAND_Downloader_v12Lite_for_E480XAFJ3.exe"](#)

1. Select the connected serial port and the rate of speed
2. Select the check box, the mode you want to download.
 - if the binary file wanted, check only 'BIN'
 - if the tfs file wanted, check only 'TFS'
 - if all the files wanted, check 'BIN+TFS'

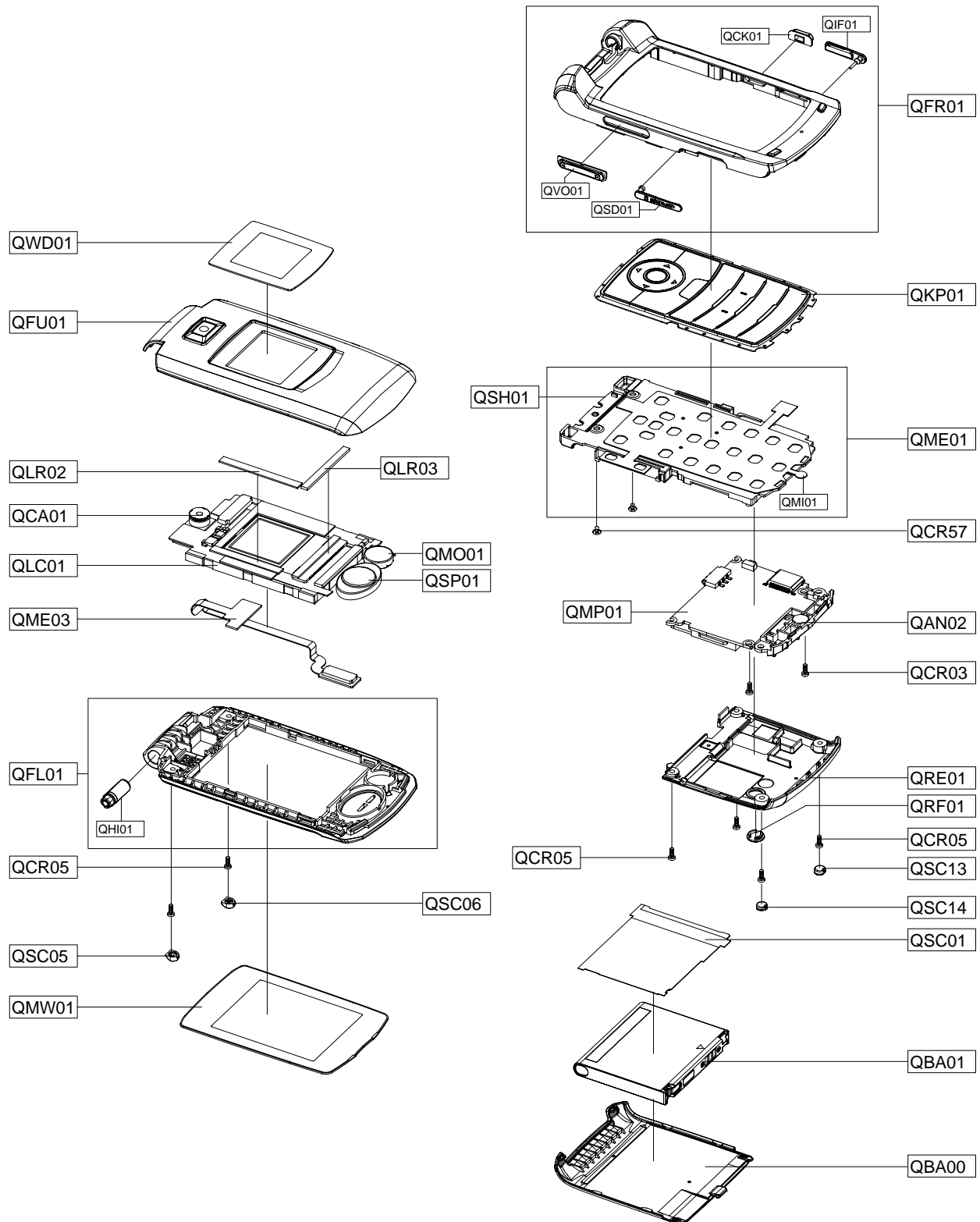


3. Select the file(s) what you want to download



5. Exploded View/Disassembly&Assembly Instructions

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts list

Design LOC		Description	SEC CODE
QAN02		ANTENNA-SGHE480	GH42-01051A
QBA00		ASSY CASE-BATTERY	GH98-03876A
QBA01		INNER BATTERY PACK-800MAH, BLA	GH43-02539A
QCA01		UNIT-CAMERA	GH59-03761A
QCR03		SCREW-MACHINE	6001-001811
QCR05		SCREW-MACHINE	6001-001478
QCR05		SCREW-MACHINE	6001-001478
QCR05		SCREW-MACHINE	6001-001478
QCR57		SCREW-MACHINE	6001-002001
QFU01		ASSY CASE-FOLDER UPPER	GH98-02843A
QKP01		ASSY KEYPAD-MAIN(SER/BLK)	GH98-02939A
QLC01		ELA ETC-SGHE480 LCD MODULE	GH96-02299A
QLR02		RMO-RUBBER LCD UPPER 1	GH73-08731A
QLR03		RMO-RUBBER LCD LOWER	GH73-08599A
QME03		UNIT-CON TO CON	GH59-03404A
QMO01		MOTOR DC-SGHE690	GH31-00282A
QMP01		PBA MAIN-SGH-E480	GH92-03239A
QMW01		ASSY COVER-WINDOW MAIN	GH98-02938A
QRE01		ASSY CASE-REAR	GH98-02937A
QRF01		PMO-RF CAP	GH72-35614A
QSC01		MPR-TAPE	GH74-26708A
QSC05		RMO-RUBBER FOLDER SCREW CAP L	GH73-08520A
QSC06		RMO-RUBBER FOLDER SCREW CAP R	GH73-08521A
QSC13		PMO-REAR SCREW CAP L	GH72-37596A
QSC14		PMO-REAR SCREW CAP R	GH72-37597A
QSH01		ASSY COVER-SHIELD	GH98-03211A
QSP01		MICRO SPEAKER	3001-002101
QWD01		PCT-WINDOW SUB	GH72-35616A
QME01		UNIT-MAIN KEY FPCB	GH59-03410A
	QMI01	AS-MIC SVC	GH81-05445A
QFL01		ASSY CASE-FOLDER LOWER	GH98-02844A
	QHI01	ASSY HINGE-FOLDER	GH98-02958A
QFR01		ASSY CASE-FRONT	GH98-02936A
	QCK01	PMO-CAM KEY	GH72-35608A
	QVO01	PMO-VOL KEY	GH72-35611A
	QSD01	PMO-COVER MICRO SD	GH72-35612A
	QIF01	PMO-COVER IF-EAR JACK	GH72-35613A

Description	SEC CODE
BAG PE	6902-000634
CBF INTERFACE-DATA LINK CABLE	GH39-00444A
ADAPTOR-SGHE690,BLK,EU,A_TYPE	GH44-01361A
S/W CD-E480 PC-LINK CD	GH46-00338A
UNIT-20P,EARPHONE,BLK,B-TYPE	GH59-04029A
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(P)-WATER SOAK	GH68-02026A
MANUAL-SFC	GH68-04336A
LABEL(P)-BARCODE RUSSIA	GH68-08494A
LABEL(R)-MAIN(SER)	GH68-12807A
MANUAL USERS-EU RUSSIAN	GH68-12884A
BOX-UNIT(SER)	GH69-04578A
CUSHION-CASE(EU)	GH69-04682A
RMO-RUBBER LCD UPPER 2	GH73-09013A
MPR-REMOVE TAPE LCD	GH74-13804A
CONE-TAPE SUB LCD INSUL	GH74-19756A
MPR-VINYL BOHO SIDE KEY	GH74-21328A
MPR-INSU TAPE	GH74-24458A
MPR-GASK TAPE	GH74-25025A
MPR-VINYL BOHO LOWER OUT	GH74-25487A
MPR-VINYL BOHO STA ELE SUB WIN	GH74-25811A
MPR-INSU TAPE MAIN BOARD	GH74-27021A
MPR-INSU TAPE	GH74-27711A
MPR-TAPE	GH74-27712A
MPR-TAPE	GH74-27985A
MPR-INSU TAPE	GH74-28186A
MPR-ELEC TAPE	GH74-28559A
MPR-INSU TAPE ZIP CON	GH74-29020A
MPR-GASK TAPE LCD UPPER	GH74-29021A
MPR-GASK TAPE ZIP CON	GH74-29199A
MPR-INSU TAPE	GH74-29200A
MPR-TAPE WINDOW SUB	GH74-29980A
MPR-VINYL BOHO UPPER OUT	GH74-30190A

5-3. Disassembly&Assembly Instructions

— Disassembly

1

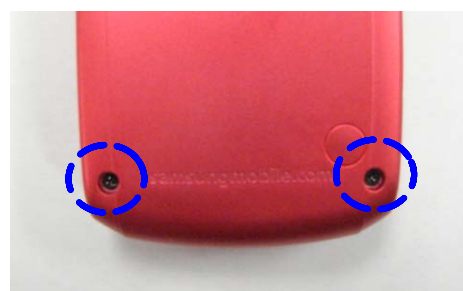


1) Remove SIM CARD and BATTERY.

2

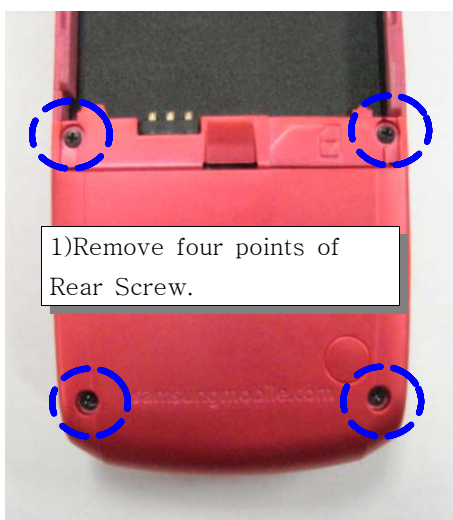


1) Remove Screw Covers by a Pincette.



1) Be careful not to get a damage of Rear Case.

3



1)Remove four points of Rear Screw.

4

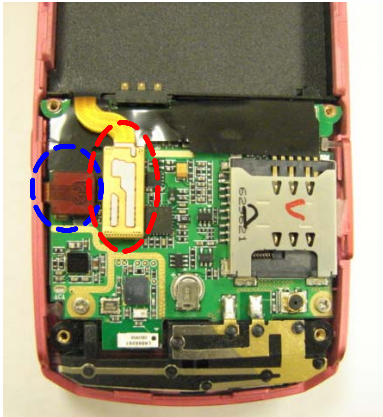


1)Lift up Rear Case softly and twist it to the left after this, remove it.

1) Be Careful not to get a damage of any Devices

1) Be careful not to get a damage of Hooks

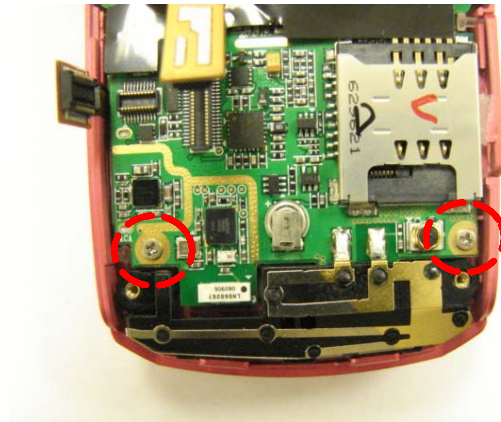
5



1) Disjoint KEY Connector and Con To Con Connector by a Pincette.

1) Be Careful not to get a damage of FPCB.

6



1) Remove two points of screw which is used to fix a PCB.

1) Be Careful not to get a damage of PCB.

7



1) Disjoint a PBA in Front by lifting up from down.

1) Be Careful not to get damage of Connector
2) Be Careful not to get a damage around Cases

8



1) Remove black insulation TAPE that is attached to Shield Can by a Pincette.

1) Be Careful not to get damage of Con To Con.

9



1) Remove Screws on Shield Can.

1) Be Careful not to get a damage around Cases

10



1) Lift up Shield Can's upper side by a Pincette and Disjoint Shield Can from the SET.

1) Be Careful not to get damage of Con To Con

11



1) Disjoint Key Pad in Front.

1) Be Careful not to get a damage around Cases

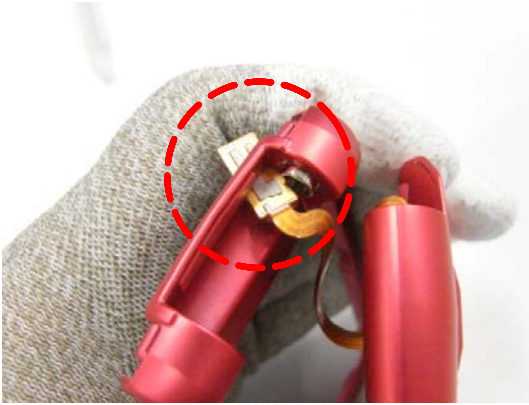
12



1) Disassemble the Folder from Front Case

1) Be Careful not to get a damage.

13



1) Separate the Folder From Front Case with carefully checking Con To Con

- 1) Be Careful not to get damage of Con To Con
- 2) Be Careful not to get a damage around Cases

14



1) Remove Screw Covers by a Pincette.



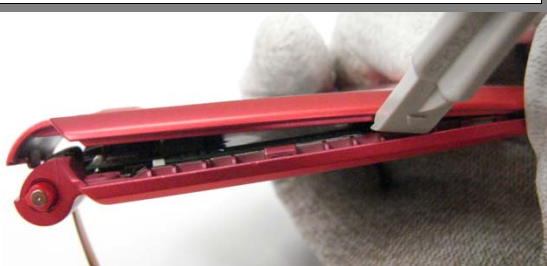
2) Remove Screws on Folder

- 1) Be Careful not to get a damage around Cases

15



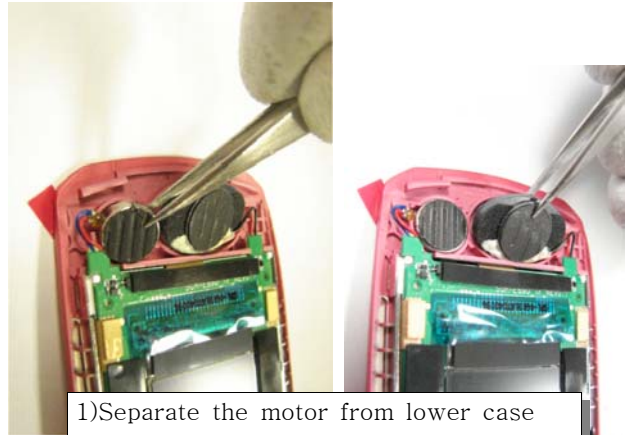
1) Open Hooker in the Upper Hinge decomposition groove by a pincette.



2) Disassemble the Side of Hookers by assembly stick

- 1) Be careful not to get a damage around cases.

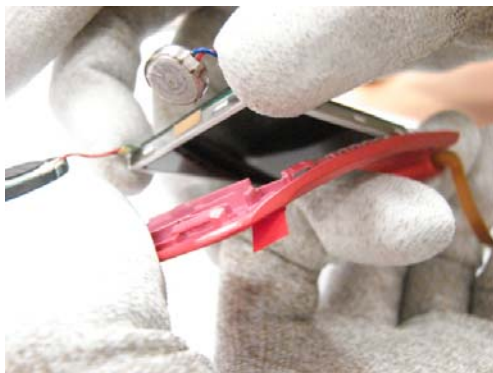
16



1) Separate the motor from lower case by a Pincette.
2) Separate the speaker from lower case by a Pincette.

- 1) Be careful not to get a damage of speaker&motor.
- 2) Be careful not to separate non-woven fabric from speaker.

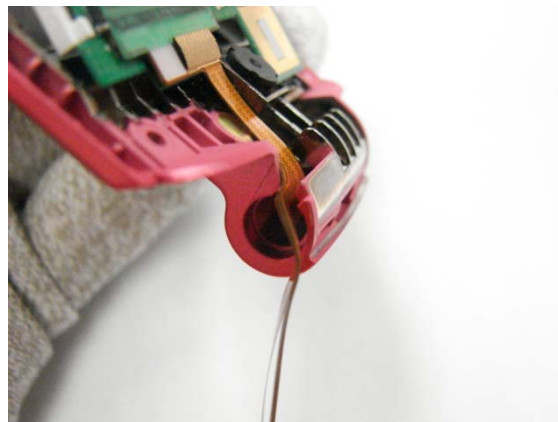
17



1) Bend Lower a little and separate LCD.

1) Don't touch LCD's Glass part.

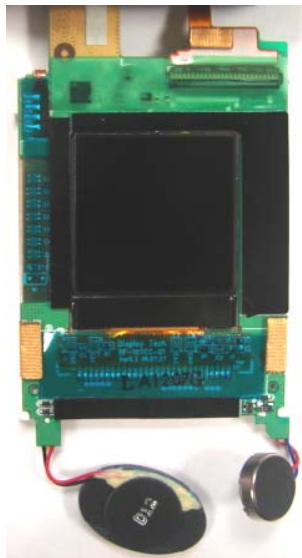
18



1) Separate Con To Con from the Lower.

1) Be careful not to get a damage of Con To Con.

19

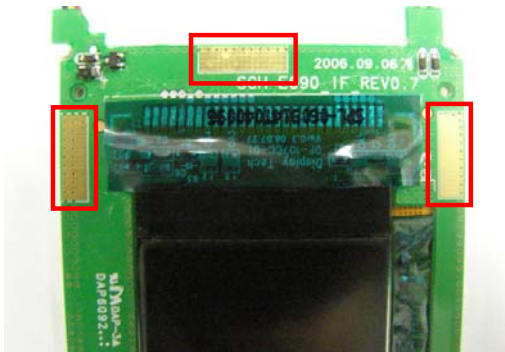


1) Dissolution Completion.

1) Be careful not to get a damage of window.

— Assembly

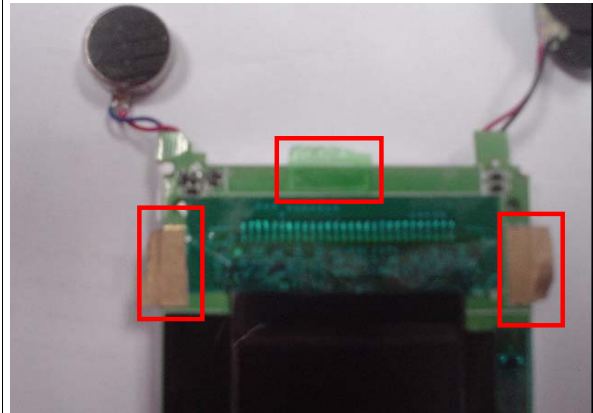
1



1) clean dust on the ground pad by alcohol.

1) Be careful not to be covered any dust on LCD

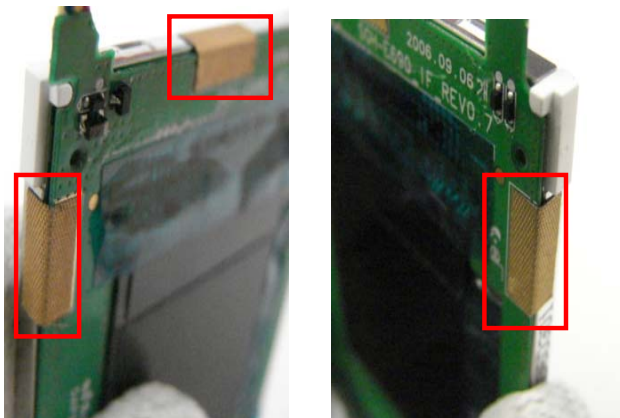
2



1) Attach Tapes on the LCD's left, right, upper sides like picture.

1) Take care so that electric conduction Tape may not attach outside silk.

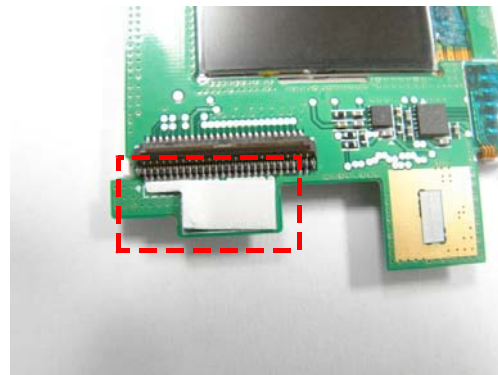
3



1) Attach electric conduction Tape on the LCD's left, right, upper sides like picture.

1) Press electric conduction Tape again so that TAPE may not get loose.

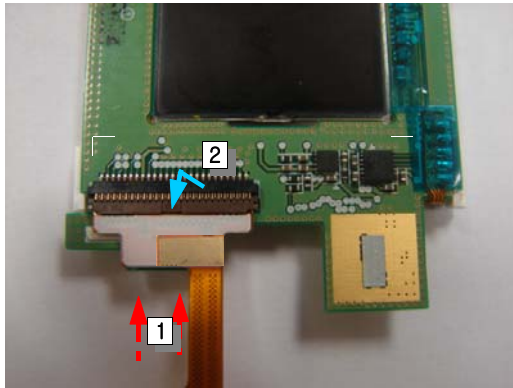
4



1) Remove Tape after attaching two faces Tape for fixing under ZIP Connector.

1) Attach two faces Tape according to silk.

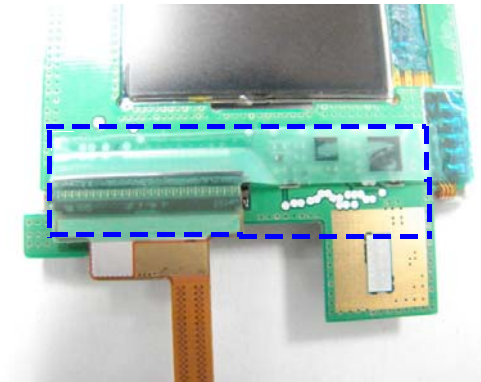
5



1) Fix Connector after inserting Con To Con to the Zip Connector.

1) When inserting Con To Con to the Connector, be careful not to be inserted incompletely.

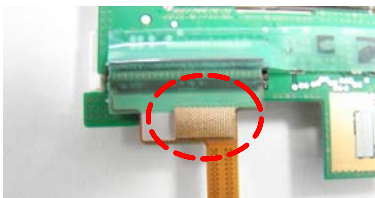
6



1) Attach Tape for fixing a Connector.

1) Attach Tape according to the base line.

7



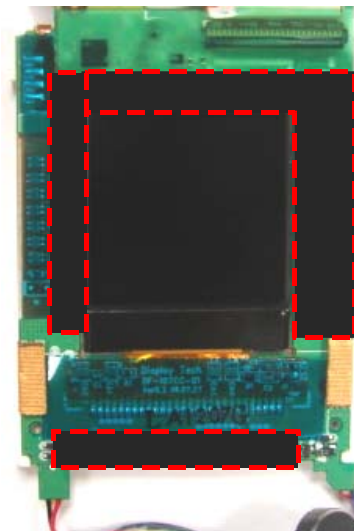
1) Attact 0.3T electric conduction Tape on the Con To Con.



1) Attact 0.5T electric conduction Tape on where LCD's left,right electric conduction Tape are attached.

1) Attach electric conduction Tape so that it may not come out outside base line.

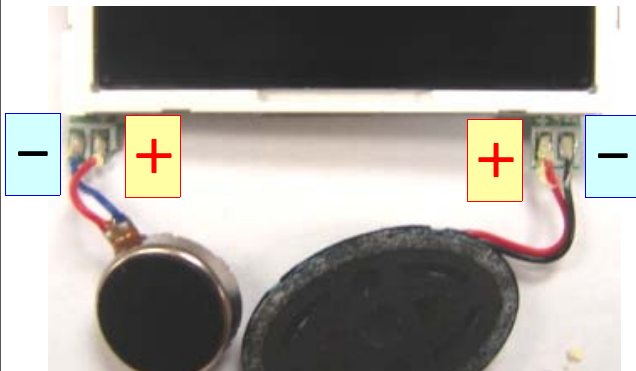
8



1) Attach Rubber like picture.

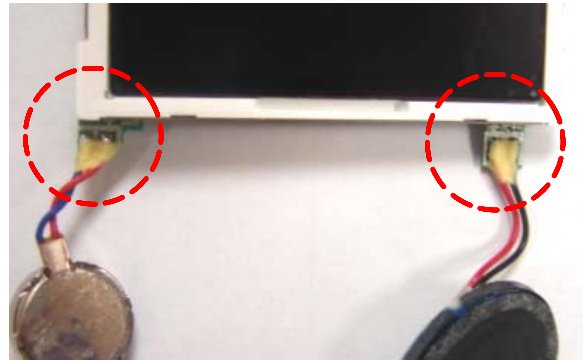
1) Attach rubber so that it may not be projected to outer block of PCB.

9



1) During Solder speaker and vibrator, concern about polarity.

10

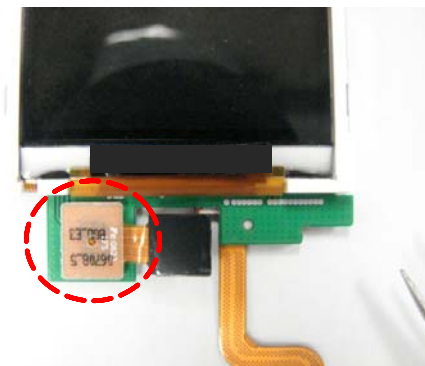


1) paint a little of adhesive on soldering parts.

1) If some dust are covered on LCD, it should be removed by alcohol.

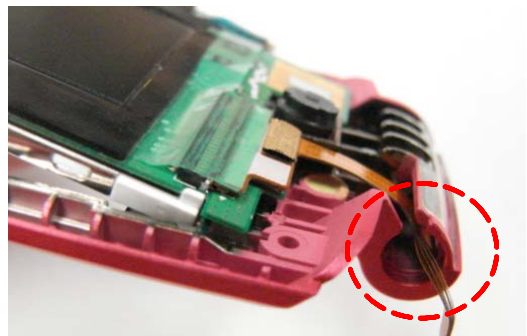
1) Be careful not to get a damage of cases.

11



1) Assemble Camera.

12



1) Insert Con To Con first to the Lower.

1) Press Camera until it is sonant "Click".

1) Be careful not to get a damage of Con To Con.

13



1)After checking up foreign substances of Window, assemble Motor, Speaker, Camera.

1) When you assemble, take care so that foreign substances may not come into the Main Lcd.

14



1)Combine Lower and Upper.

1) Be careful not to get a damage of cases.

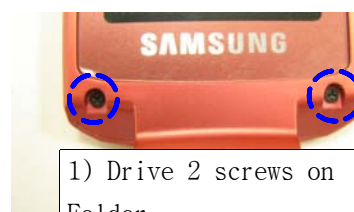
15



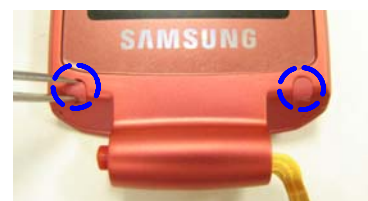
1) Assemble Hooker by left, right side and Hinge in order.

1) Be careful not to get a damage of cases.

16



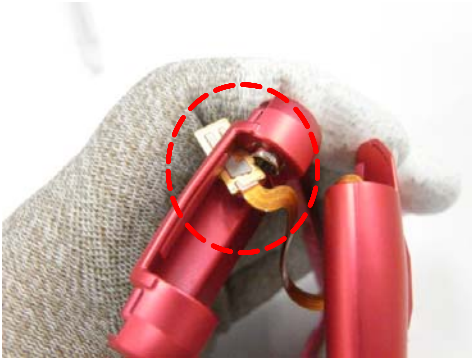
1) Drive 2 screws on Folder.



2) Assemble 2 screw covers on Folder.

1) Be careful not to get a damage of cases.

17



1) Insert the Con To Con to front hole.

1) Be careful not to get a damage of Con To Con.

18



1) Assemble the folder to Front case.

1) Be careful not to get a damage of Case.

19



1) Insert the KeyPad From lower part.

1) Insert KeyPad according to the Front standard rib.

20



1) Insert the Shield Can From lower part.
2) Insert right side volume key first.

1) Confirm first whether volume and camera key has attached.
2) Be careful not to get a damage of Case.

21



1) Insert Con To Con to the Shield Can Hole before assembling the Shield Can.

1) Be Careful not to get damage of Con To Con

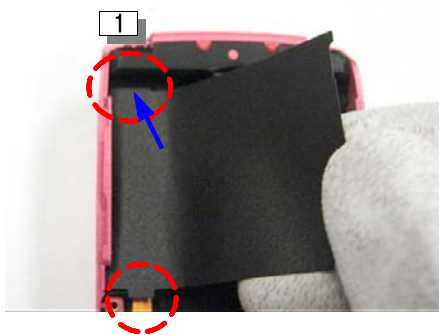
22



1) Tighten two Points of Screw on Shield Can.

1) Be careful not to get a damage of Shield Can.
2) SCREW TORQUE : 0.7~ 0.9 kgf.cm

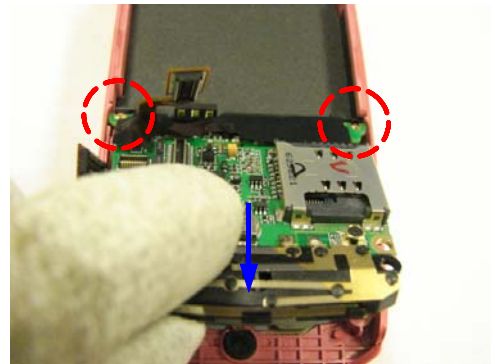
23



1) When attaching a black insulation Tape, insert left side upper part of the tape first.

1) Take care so that Con To Con may not attach Tape.
(Con To Con must be flexible to the left and right.)

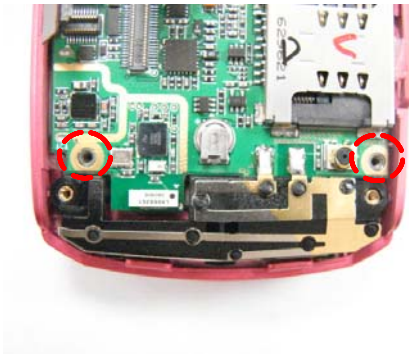
24



1) Assemble a PBA after inserting upper side Boss hall of PBA first.

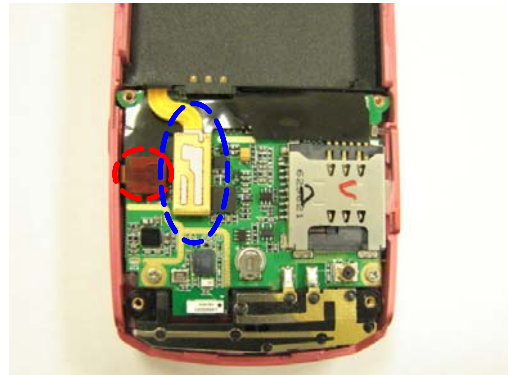
1) Be Careful not to get damage of Connector

25



1) Tighten two Points of screw of the PBA after inserting PBA and Antenna into the Front hall.

26



1) Assemble two Connectors.

- 1) Be careful not to get a damage of case.
- 2) SCREW TORQUE : 1.0 ~ 1.2 kgf.cm

- 1) Be Careful not to get damage of Con To Con

27



1) Assemble Rear Case SET.

- 1) press bottom side of Rear Case with thumb and assemble it.
- 2) Be careful not to get a damage of Front case.

29



1) drive 4 screws on rear case.

- 1) Be careful not to get a damage of case.
- 2) SCREW TORQUE : 1.0 ~ 1.2 kgf.cm

29



1) Insert Screw Caps by pincette.

1) Be careful not to get a damage of case.

6. MAIN Electrical Parts List

Design LOC	Description	SEC Code	STATUS
ANT300	ANTENNA-CHIP	4202-001133	SA
BAT400	BATTERY-LI(2ND)	4302-001181	SA
BTC600	CONNECTOR-BATTERY	3711-006003	SA
C101	C-CER,CHIP	2203-005281	SA
C102	C-CER,CHIP	2203-005281	SA
C103	C-CER,CHIP	2203-000233	SA
C104	C-CER,CHIP	2203-005234	SA
C105	C-CER,CHIP	2203-005234	SA
C106	C-CER,CHIP	2203-000233	SA
C107	C-CER,CHIP	2203-000233	SA
C108	C-CER,CHIP	2203-005234	SA
C109	C-CER,CHIP	2203-005234	SA
C110	C-CER,CHIP	2203-005057	SA
C112	C-CER,CHIP	2203-005056	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
C123	C-CER,CHIP	2203-005482	SA
C125	C-CER,CHIP	2203-001221	SA
C126	C-CER,CHIP	2203-005482	SA
C128	C-CER,CHIP	2203-000233	SA
C131	C-CER,CHIP	2203-000233	SA
C132	C-CER,CHIP	2203-005281	SA
C133	C-CER,CHIP	2203-005482	SA
C201	C-CER,CHIP	2203-005482	SA
C202	C-CER,CHIP	2203-000812	SA
C203	C-CER,CHIP	2203-005482	SA
C204	C-CER,CHIP	2203-005482	SA
C205	C-CER,CHIP	2203-005482	SA
C206	C-CER,CHIP	2203-005482	SA
C208	C-CER,CHIP	2203-005482	SA
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	2203-006824	SA
C221	C-CER,CHIP	2203-005482	SA
C222	C-CER,CHIP	2203-000425	SA
C300	C-CER,CHIP	2203-006423	SA
C301	C-CER,CHIP	2203-006423	SA
C302	C-CER,CHIP	2203-006423	SA
C303	C-CER,CHIP	2203-006194	SA
C304	C-CER,CHIP	2203-000870	SA
C305	C-CER,CHIP	2203-006194	SA
C306	C-CER,CHIP	2203-006562	SA
C307	C-CER,CHIP	2203-005482	SA
C308	C-CER,CHIP	2203-006562	SA

Design LOC	Description	SEC Code	STATUS
C309	C-CER,CHIP	2203-005482	SA
C310	C-CER,CHIP	2203-000233	SA
C311	C-CER,CHIP	2203-006194	SA
C312	C-CER,CHIP	2203-005482	SA
C313	C-CER,CHIP	2203-002443	SA
C314	C-CER,CHIP	2203-006423	SA
C315	C-CER,CHIP	2203-000278	SA
C316	C-CER,CHIP	2203-006674	SNA
C317	C-CER,CHIP	2203-006423	SA
C318	C-CER,CHIP	2203-005729	SA
C319	C-CER,CHIP	2203-005052	SA
C400	C-CER,CHIP	2203-006257	SA
C401	C-CER,CHIP	2203-006257	SA
C403	C-CER,CHIP	2203-006562	SA
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C407	C-CER,CHIP	2203-006257	SA
C409	C-CER,CHIP	2203-006824	SA
C410	C-CER,CHIP	2203-006824	SA
C411	C-CER,CHIP	2203-006257	SA
C412	C-CER,CHIP	2203-000233	SA
C413	C-CER,CHIP	2203-006257	SA
C414	C-CER,CHIP	2203-006562	SA
C415	C-CER,CHIP	2203-006348	SA
C416	C-CER,CHIP	2203-000550	SA
C417	C-CER,CHIP	2203-000550	SA
C418	C-CER,CHIP	2203-006466	SA
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C425	C-CER,CHIP	2203-006361	SA
C426	C-CER,CHIP	2203-006474	SA
C427	C-CER,CHIP	2203-006825	SA
C428	C-CER,CHIP	2203-006348	SA
C431	C-CER,CHIP	2203-006348	SA
C501	C-CER,CHIP	2203-005395	SA
C502	C-CER,CHIP	2203-005482	SA
C503	C-CER,CHIP	2203-000812	SA
C504	C-CER,CHIP	2203-000330	SA
C505	C-CER,CHIP	2203-005482	SA
C506	C-CER,CHIP	2203-005395	SA
C510	C-CER,CHIP	2203-000254	SA
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C516	C-CER,CHIP	2203-000330	SA
C517	C-CER,CHIP	2203-005482	SA
C518	C-CER,CHIP	2203-005395	SA
C520	C-CER,CHIP	2203-005482	SA
C521	C-CER,CHIP	2203-005482	SA

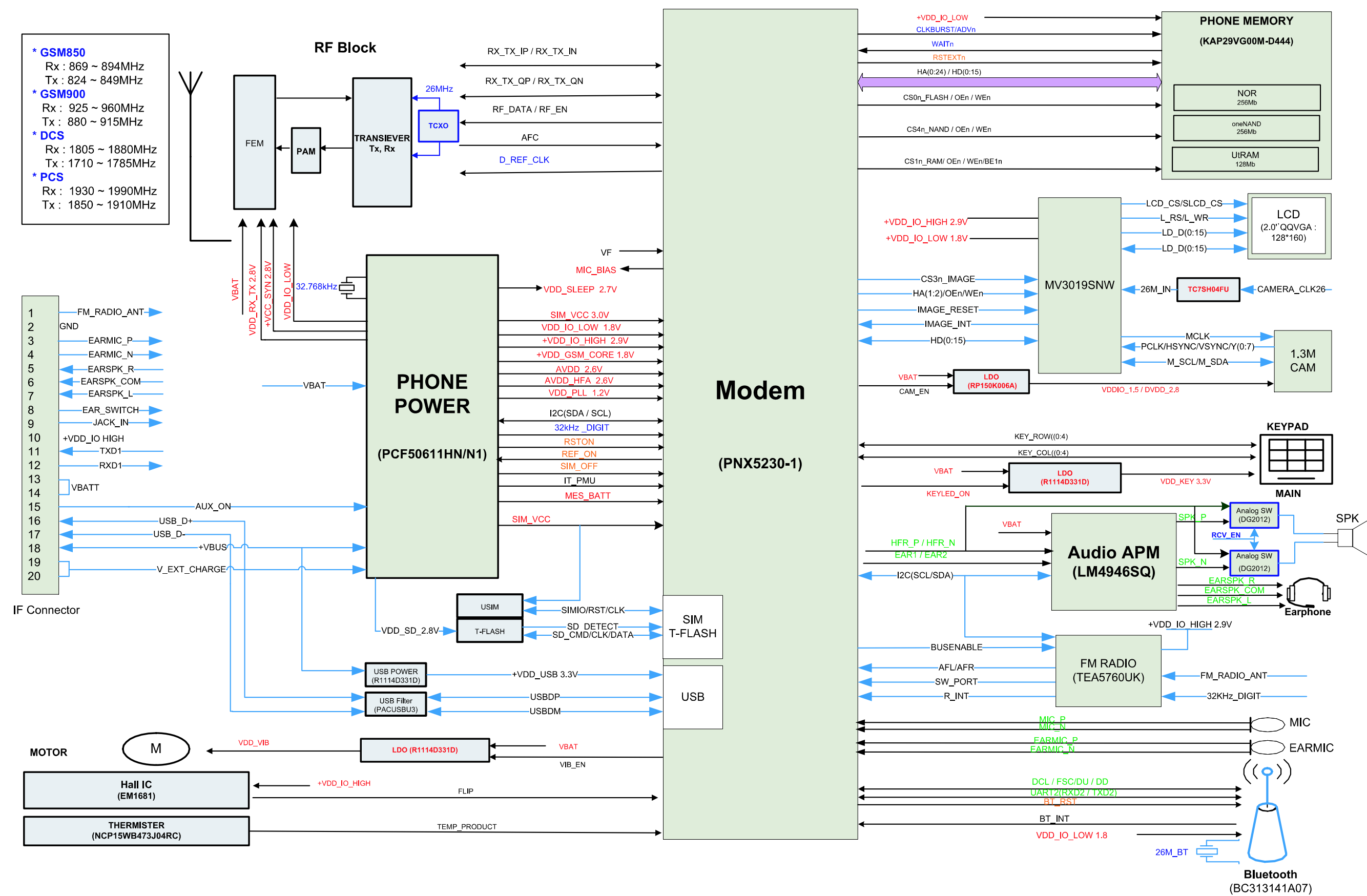
Design LOC	Description	SEC Code	STATUS
C522	C-CER,CHIP	2203-000254	SA
C524	C-CER,CHIP	2203-006260	SA
C525	C-CER,CHIP	2203-006048	SA
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C527	C-CER,CHIP	2203-006260	SA
C528	C-CER,CHIP	2203-006048	SA
C529	C-CER,CHIP	2203-006260	SA
C530	C-CER,CHIP	2203-006647	SA
C531	C-CER,CHIP	2203-006048	SA
C533	C-CER,CHIP	2203-000995	SA
C534	C-CER,CHIP	2203-006647	SA
C535	C-CER,CHIP	2203-000679	SA
C536	C-CER,CHIP	2203-000359	SA
C542	C-CER,CHIP	2203-006562	SA
C543	C-CER,CHIP	2203-006562	SA
C544	C-CER,CHIP	2203-006562	SA
C601	C-CER,CHIP	2203-006123	SA
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C608	C-CER,CHIP	2203-006123	SA
C609	C-CER,CHIP	2203-006123	SA
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C611	C-CER,CHIP	2203-006123	SA
C612	C-CER,CHIP	2203-006123	SA
C613	C-CER,CHIP	2203-006123	SA
C614	C-CER,CHIP	2203-006562	SA
C615	C-CER,CHIP	2203-006423	SA
C616	C-CER,CHIP	2203-005482	SA
C617	C-CER,CHIP	2203-006423	SA
C618	C-CER,CHIP	2203-000425	SA
C619	C-CER,CHIP	2203-006423	SA
C620	C-CER,CHIP	2203-006824	SA
F100	DUPLEXER-FEM	2911-000054	SA
F200	FILTER-EMI SMD	2901-001316	SA
F301	FILTER-LC	2909-001283	SA
F500	FILTER-EMI/ESD	2901-001376	SA
F601	FILTER-EMI/ESD	2901-001322	SA
F602	FILTER-EMI/ESD	2901-001370	SA
F603	FILTER-EMI/ESD	2901-001370	SA
HDC300	HEADER-BOARD TO BOARD	3711-005456	SA
HDC600	HEADER-BOARD TO BOARD	3711-005937	SA
IFC500	SOCKET-INTERFACE	3710-002306	SA
L102	INDUCTOR-SMD	2703-002314	SA
L103	INDUCTOR-SMD	2703-002586	SA
L104	INDUCTOR-SMD	2703-002608	SA
L105	INDUCTOR-SMD	2703-002551	SNA
L106	INDUCTOR-SMD	2703-002199	SA
L107	INDUCTOR-SMD	2703-002267	SA
L301	INDUCTOR-SMD	2703-002795	SNA

Design LOC	Description	SEC Code	STATUS
L400	INDUCTOR-SMD	2703-003113	SA
L501	BEAD-SMD	3301-001729	SA
L502	BEAD-SMD	3301-001729	SA
L506	INDUCTOR-SMD	2703-002155	SA
L507	INDUCTOR-SMD	2703-001231	SNA
L508	INDUCTOR-SMD	2703-002155	SA
L509	INDUCTOR-SMD	2703-001285	SA
L510	INDUCTOR-SMD	2703-001673	SA
OSC100	CRYSTAL-SMD	2801-004587	SA
OSC301	CRYSTAL-SMD	2801-004560	SA
OSC400	CRYSTAL-SMD	2801-004339	SA
PAM100	IC-POWER AMP	1201-002423	SA
R100	R-CHIP	2007-000171	SA
R101	R-CHIP	2007-001313	SA
R103	R-CHIP	2007-000140	SA
R104	R-CHIP	2007-000171	SA
R106	R-CHIP	2007-000171	SA
R107	R-CHIP	2007-000143	SA
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R217	R-CHIP	2007-001319	SA
R218	R-CHIP	2007-000758	SA
R221	R-CHIP	2007-000171	SA
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R227	R-CHIP	2007-000171	SA
R301	R-CHIP	2007-000162	SA
R302	R-CHIP	2007-008055	SA
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R305	R-CHIP	2007-008774	SA
R307	R-CHIP	2007-000170	SA
R308	R-CHIP	2007-001303	SA
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R310	R-CHIP	2007-000162	SA
R311	R-CHIP	2007-007014	SA
R312	R-CHIP	2007-000162	SA
R313	R-CHIP	2007-000171	SA
R401	R-CHIP	2007-007573	SA
R402	R-CHIP	2007-008354	SA
R403	R-CHIP	2007-001333	SA
R407	R-CHIP	2007-009157	SA
R409	R-CHIP	2007-000171	SA
R410	R-CHIP	2007-007100	SA
R411	R-CHIP	2007-007311	SA
R413	R-CHIP	2007-007317	SA
R414	R-CHIP	2007-001333	SA

Design LOC	Description	SEC Code	STATUS
R415	R-CHIP	2007-008542	SA
R416	R-CHIP	2007-009314	SA
R501	R-CHIP	2007-007528	SA
R502	R-CHIP	2007-001333	SA
R503	R-CHIP	2007-009155	SNA
R504	R-CHIP	2007-001333	SA
R505	R-CHIP	2007-001333	SA
R506	R-CHIP	2007-000148	SA
R507	R-CHIP	2007-007741	SA
R508	R-CHIP	2007-000168	SA
R509	R-CHIP	2007-007528	SA
R510	R-CHIP	2007-000172	SA
R511	R-CHIP	2007-000172	SA
R512	R-CHIP	2007-007528	SA
R513	R-CHIP	2007-000148	SA
R514	R-CHIP	2007-007528	SA
R515	R-CHIP	2007-000162	SA
R516	R-CHIP	2007-003001	SA
R517	R-CHIP	2007-000148	SA
R518	R-CHIP	2007-001333	SA
R524	R-CHIP	2007-008055	SA
R525	R-CHIP	2007-008542	SA
R526	R-CHIP	2007-002796	SA
R527	R-CHIP	2007-002796	SA
R528	R-CHIP	2007-008045	SA
R529	R-CHIP	2007-008045	SA
R530	R-CHIP	2007-008542	SA
R531	R-CHIP	2007-008542	SA
R532	R-CHIP	2007-003010	SA
R533	R-CHIP	2007-003010	SA
R534	R-CHIP	2007-003010	SA
R602	R-CHIP	2007-000162	SA
R603	R-CHIP	2007-000140	SA
R604	R-CHIP	2007-000159	SA
R605	R-CHIP	2007-008055	SA
R606	R-CHIP	2007-008055	SA
R607	R-CHIP	2007-008055	SA
R608	R-CHIP	2007-001333	SA
R609	R-CHIP	2007-008542	SA
R611	R-CHIP	2007-008516	SA
R612	R-CHIP	2007-007107	SA
R613	R-CHIP	2007-007312	SA
R614	R-CHIP	2007-000148	SA
R618	R-CHIP	2007-000758	SA
R619	R-CHIP	2007-000148	SA
RFS100	CONNECTOR-COAXIAL	3705-001358	SA
T/SIM600	CONNECTOR-CARD EDGE	3709-001453	SA
TA100	C-TA,CHIP	2404-001474	SA
TA400	C-TA,CHIP	2404-001430	SA
TA500	C-TA,CHIP	2404-001381	SA
TA501	C-TA,CHIP	2404-001381	SA
TA502	C-TA,CHIP	2404-001377	SA
TA503	C-TA,CHIP	2404-001377	SA

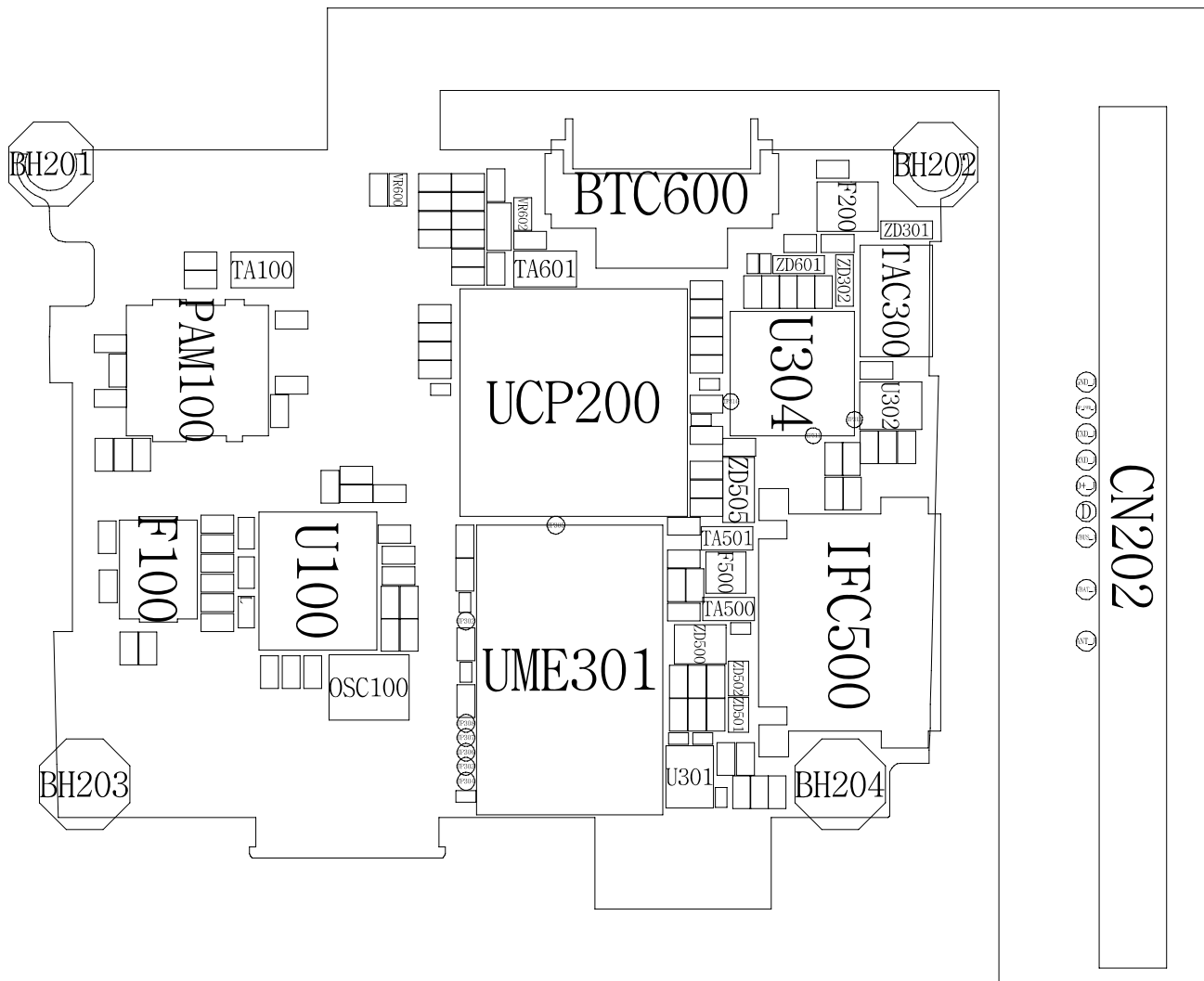
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TA504	C-TA,CHIP	2404-001381	SA
TA505	C-TA,CHIP	2404-001226	SA
TA601	C-TA,CHIP	2404-001474	SA
TAC300	SWITCH-TACT	3404-001152	SA
TR600	FET-SILICON	0505-002111	SA
U100	IC-TRANSCIEVER	1205-003093	SA
U301	IC-CMOS LOGIC	0801-002237	SA
U302	IC-CMOS LOGIC	0801-002237	SA
U303	IC-DATA COMM./GEN.	1205-002920	SA
U304	IC ASIC-SGHE490	GH13-00044A	SA
U401	IC-POSIFIXED REG.	1203-003737	SA
U402	IC-POSIFIXED REG.	1203-003737	SA
U403	IC-POWER SUPERVISOR	1203-004382	SA
U404	IC-POSIFIXED REG.	1203-003737	SA
U500	IC-AUDIO AMP	1201-002492	SA
U501	IC-DEMODULATOR	1204-002688	SA
U502	IC-ANALOG SWITCH	1001-001231	SA
U503	IC-ANALOG SWITCH	1001-001231	SA
UCP200	IC-COMM. CONTROLLER	1205-003082	SA
UME301	IC-MCP	1108-000080	SA
VR500	VARISTOR	1405-001082	SA
VR501	VARISTOR	1405-001177	SA
VR600	THERMISTOR-NTC	1404-001221	SA
VR601	VARISTOR	1405-001082	SA
VR602	VARISTOR	1405-001082	SA
ZD301	DIODE-TVS	0406-001201	SA
ZD302	DIODE-TVS	0406-001201	SA
ZD303	DIODE-TVS	0406-001190	SA
ZD304	DIODE-TVS	0406-001190	SA
ZD305	DIODE-TVS	0406-001201	SA
ZD400	DIODE-ZENER	0403-001547	SA
ZD500	DIODE-TVS	0406-001208	SA
ZD501	DIODE-TVS	0406-001254	SA
ZD502	DIODE-TVS	0406-001254	SA
ZD505	DIODE-ZENER	0403-001427	SA
ZD600	DIODE-TVS	0406-001200	SA
ZD601	DIODE-TVS	0406-001201	SA

7. Block Diagrams

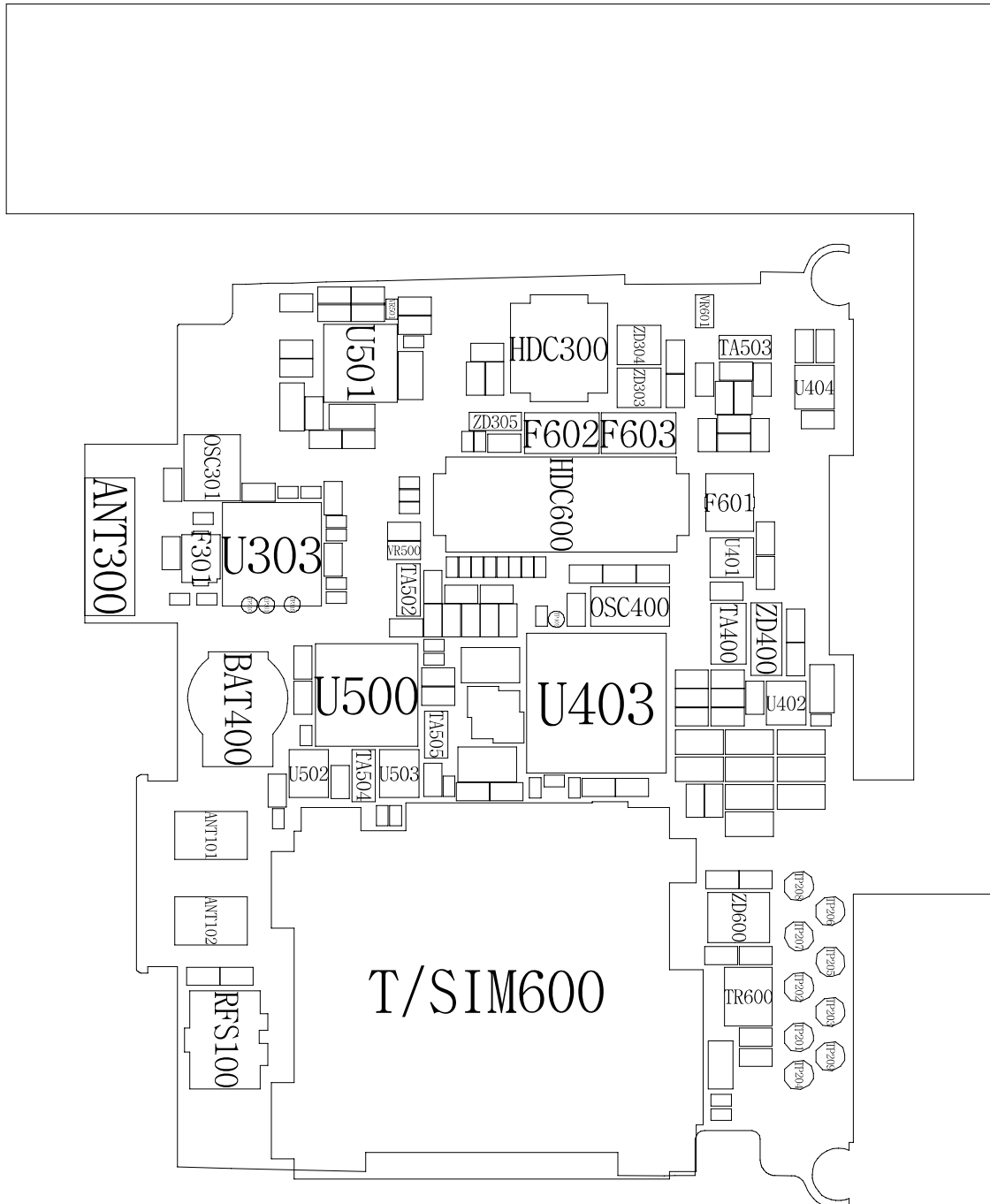


8. PCB Diagrams

Top

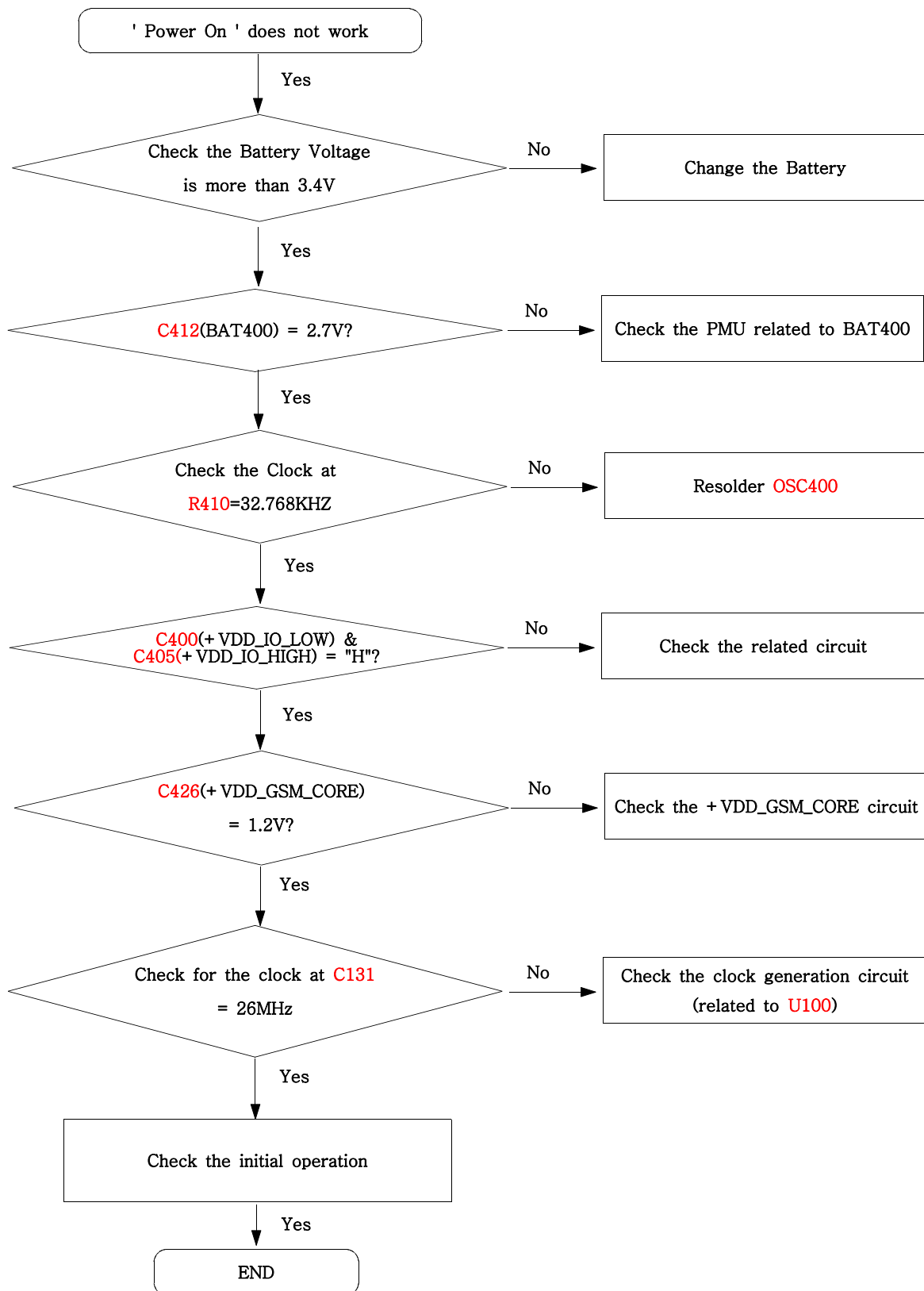


Bottom

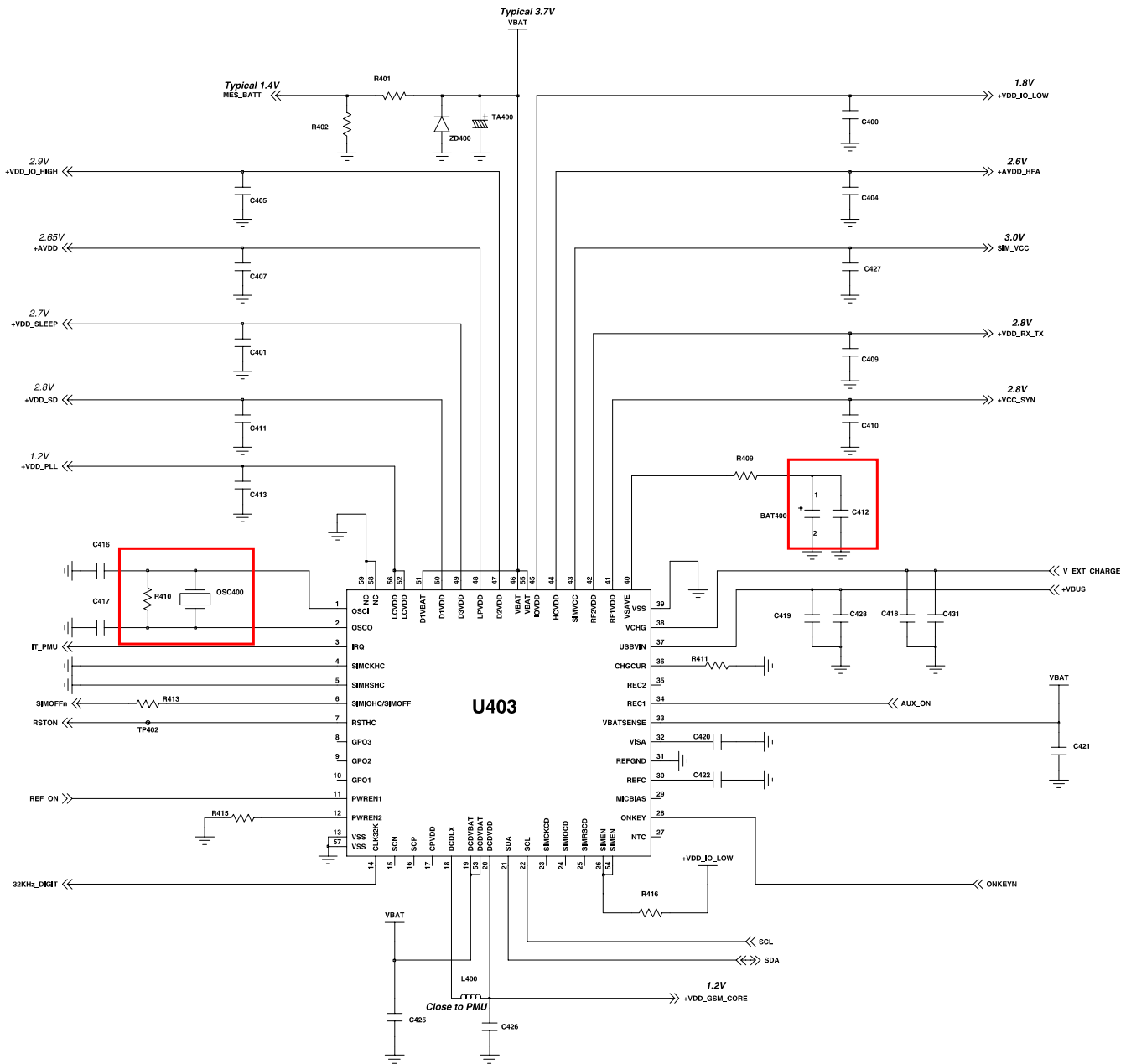


9. Flow Chart of Troubleshooting

9-1. Power On

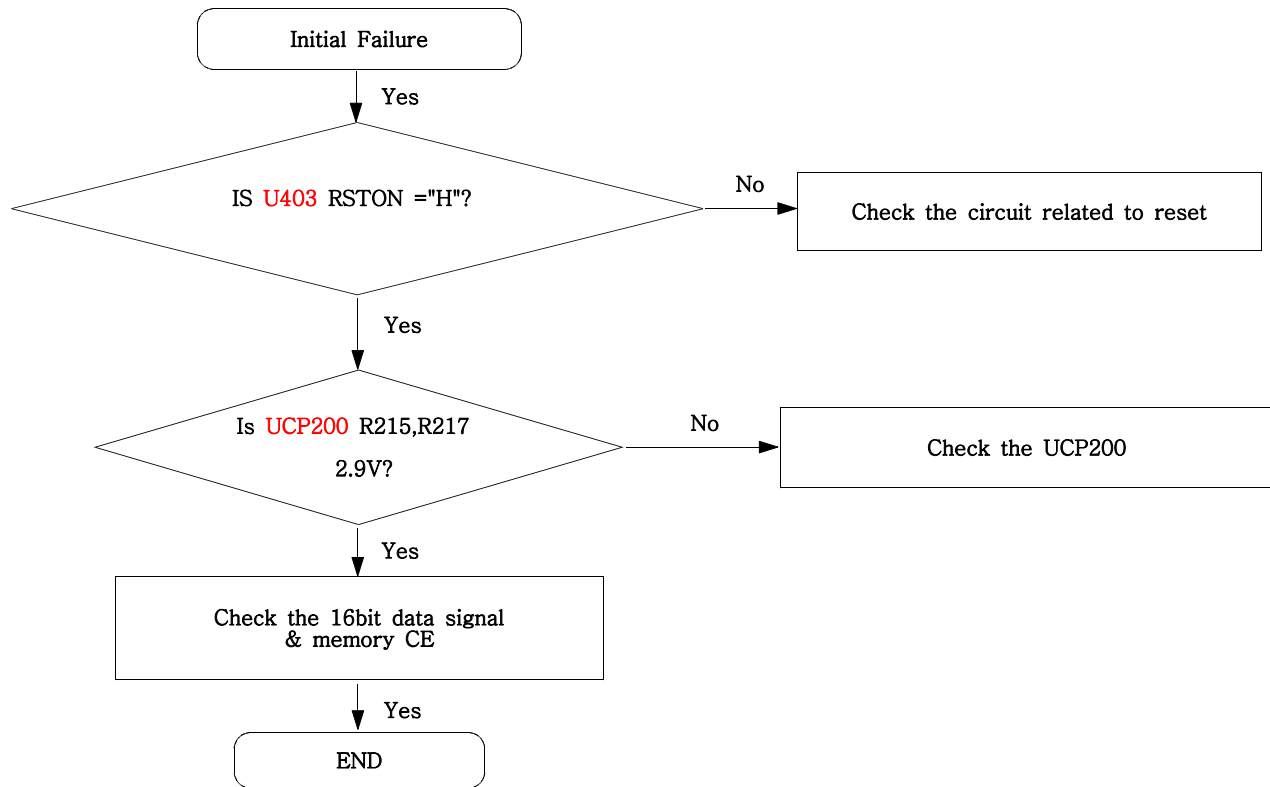


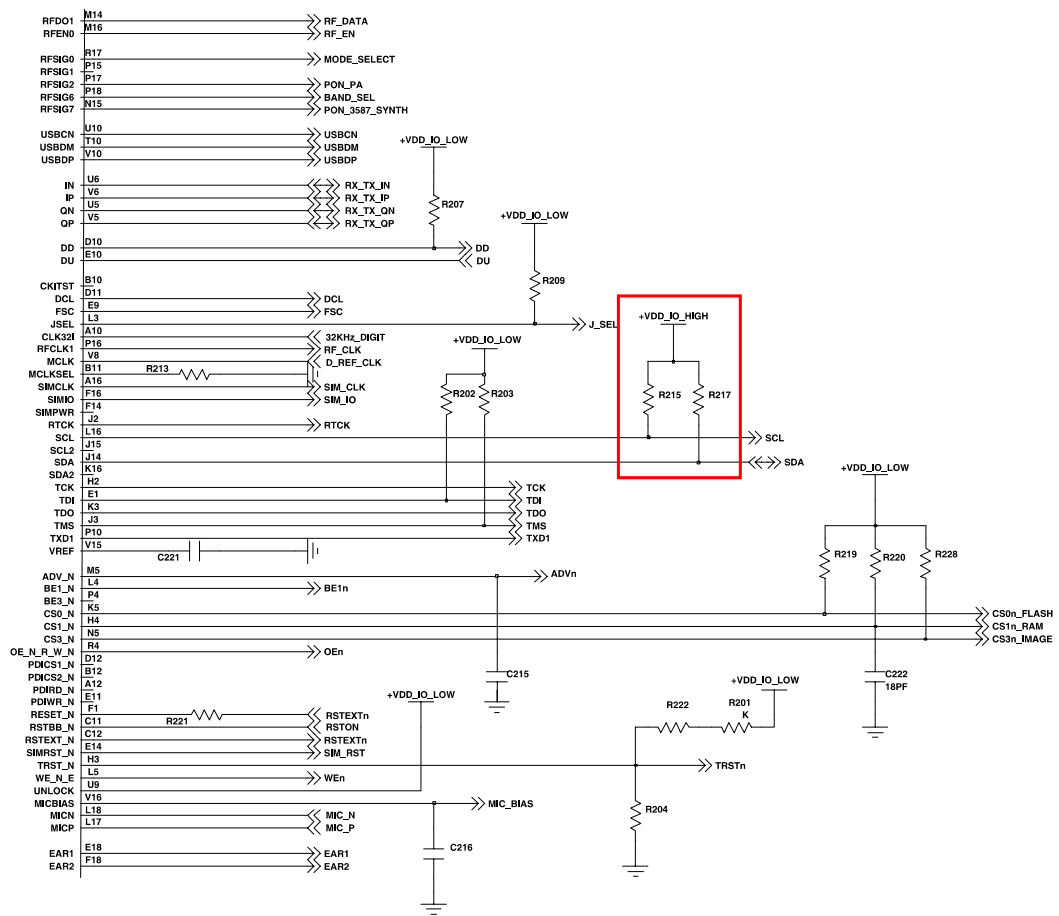
Flow Chart of Troubleshooting



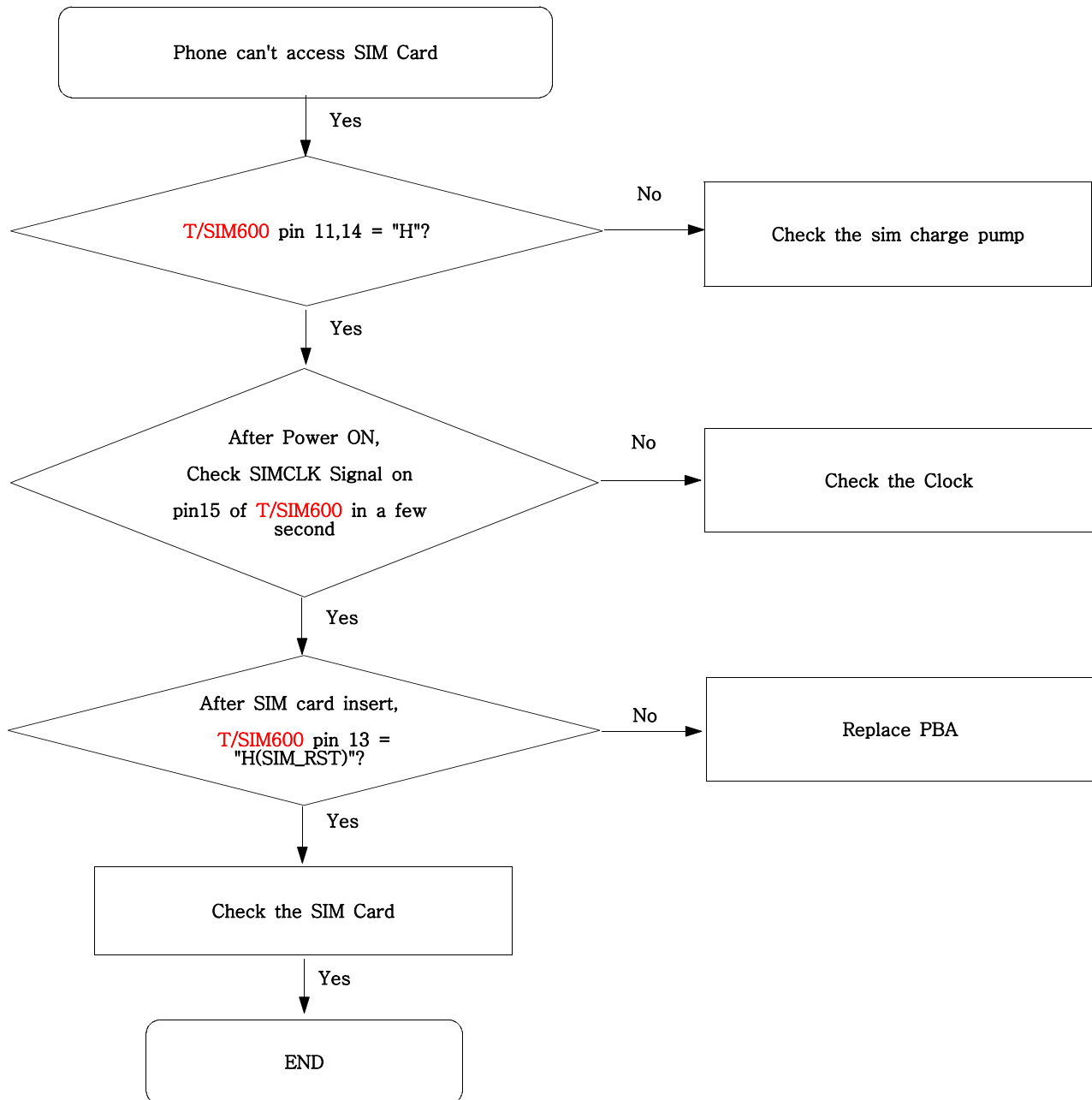


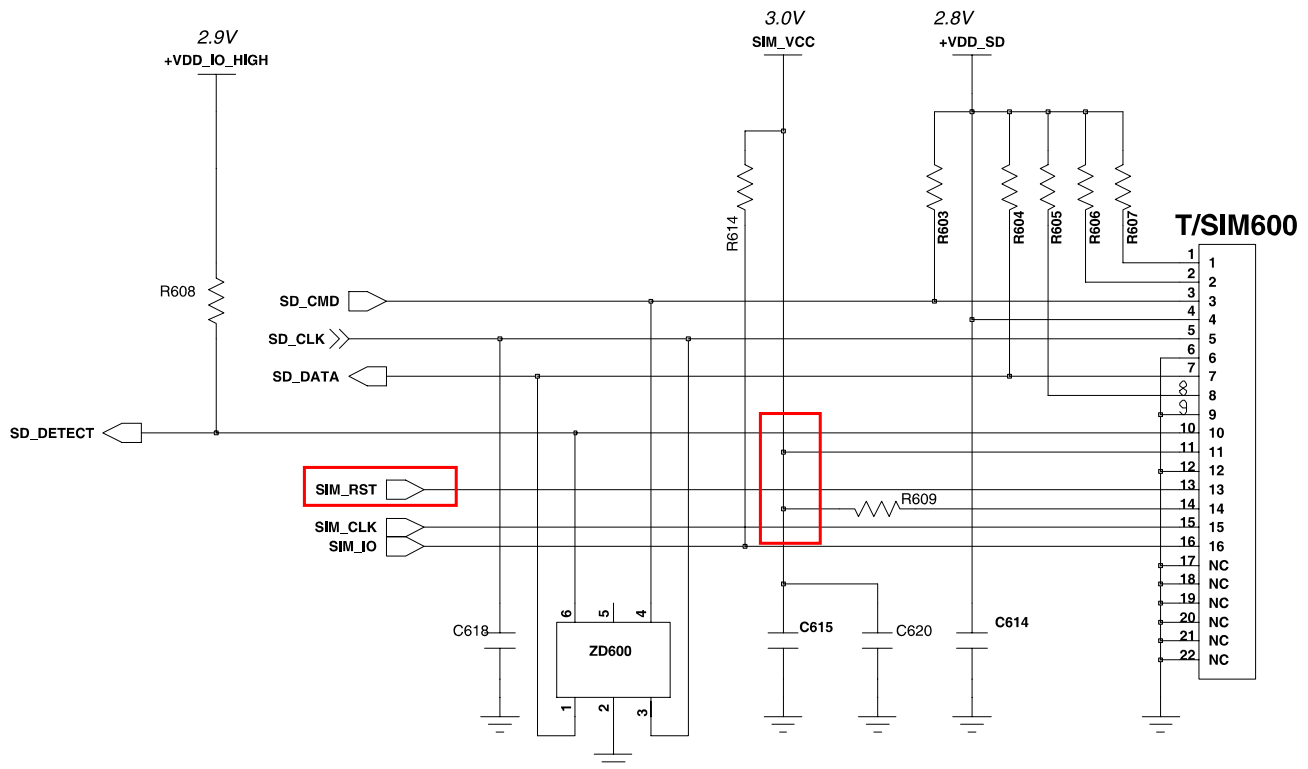
9-2. Initial



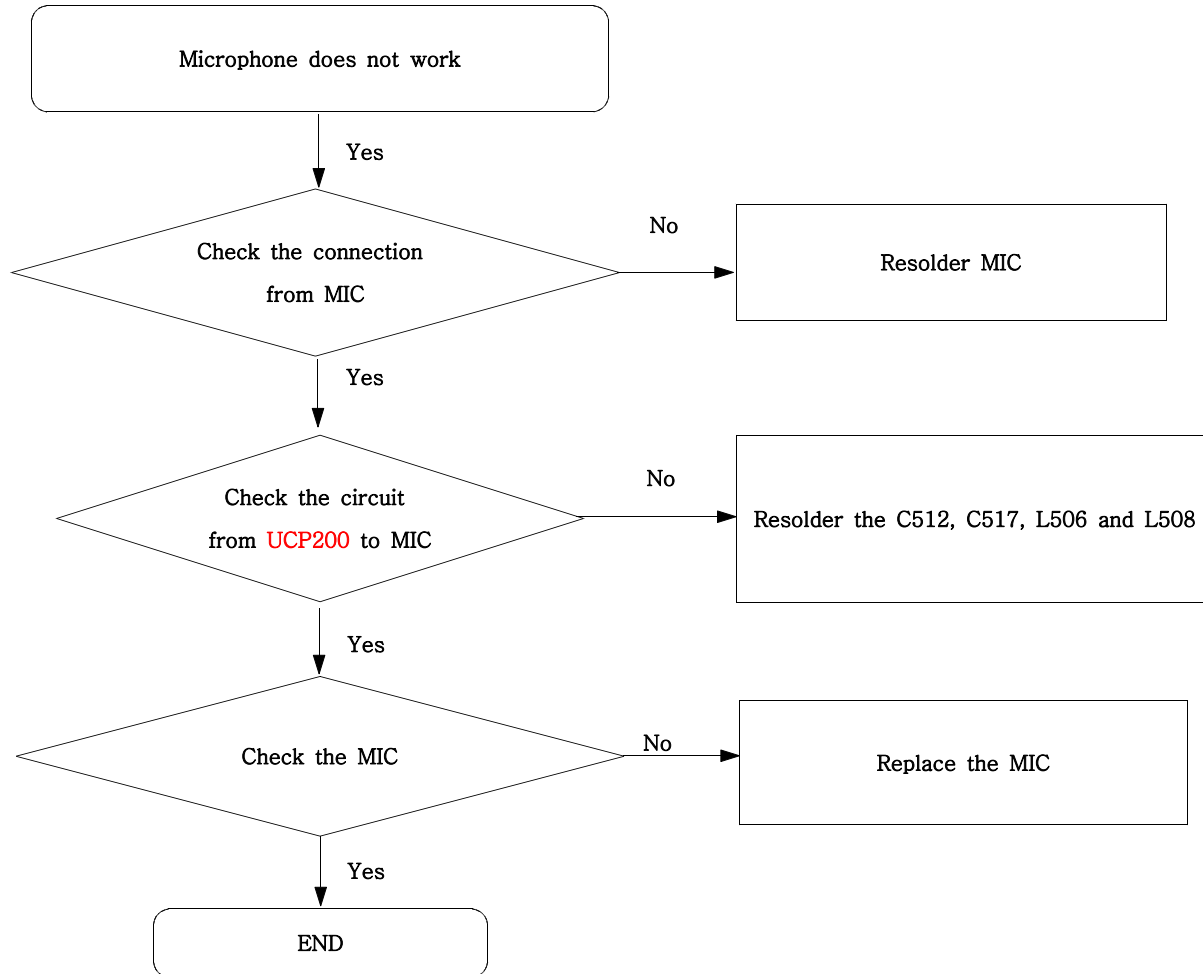


9-4. Sim Part

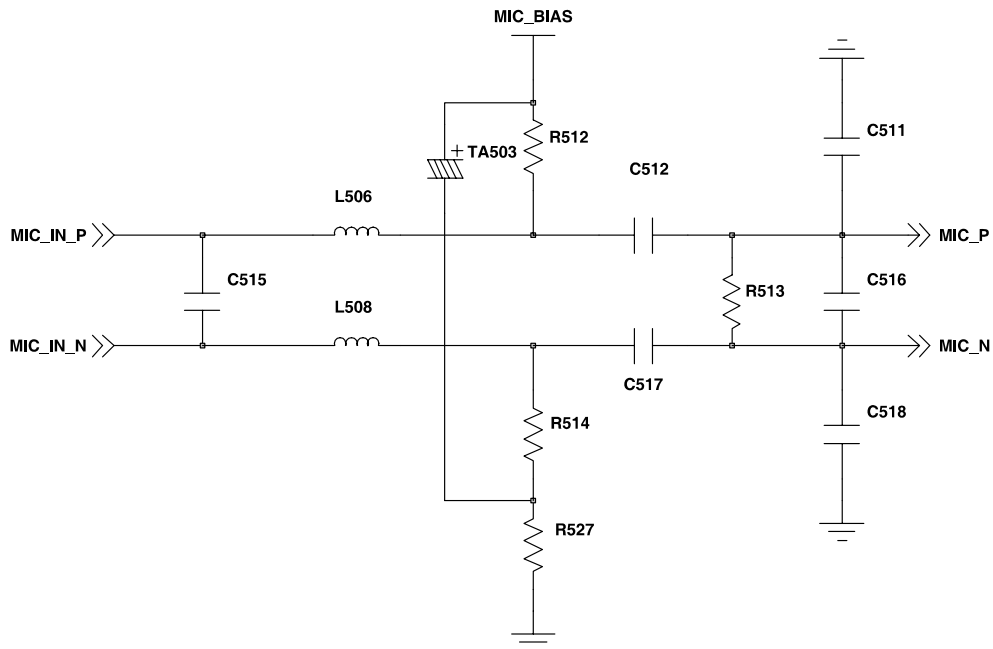
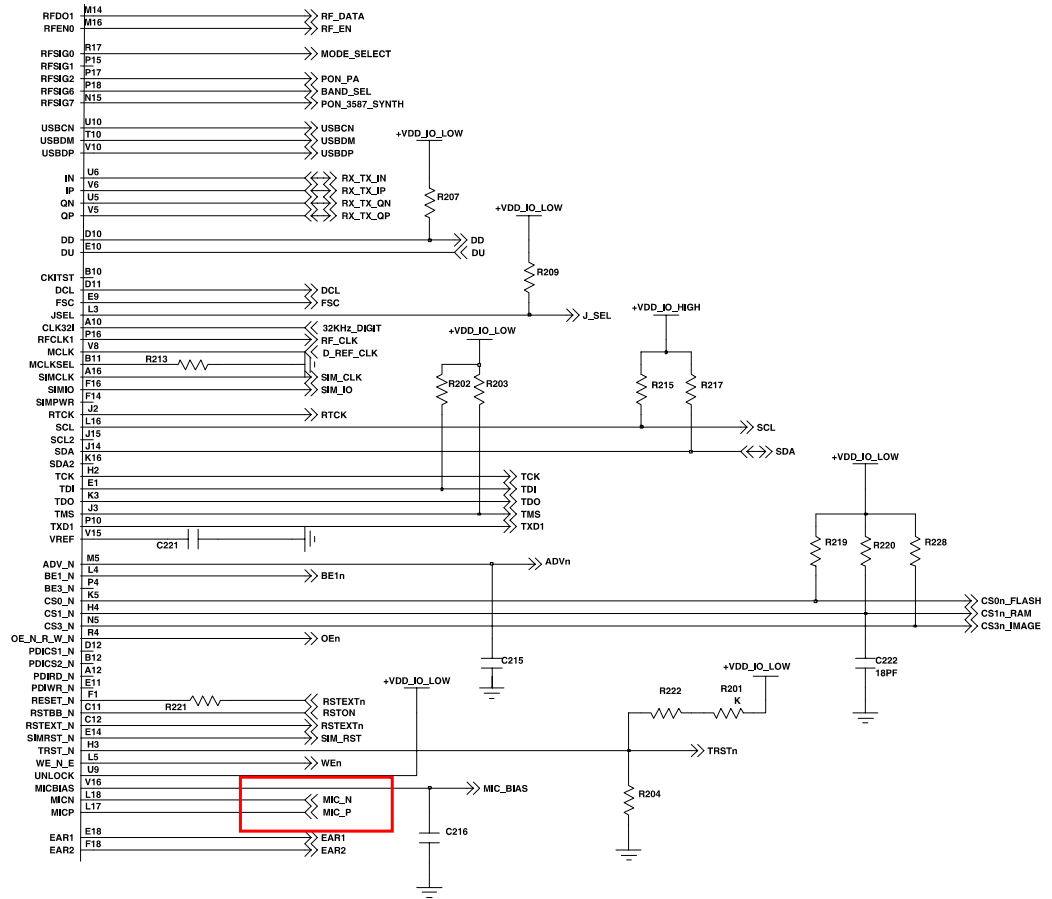




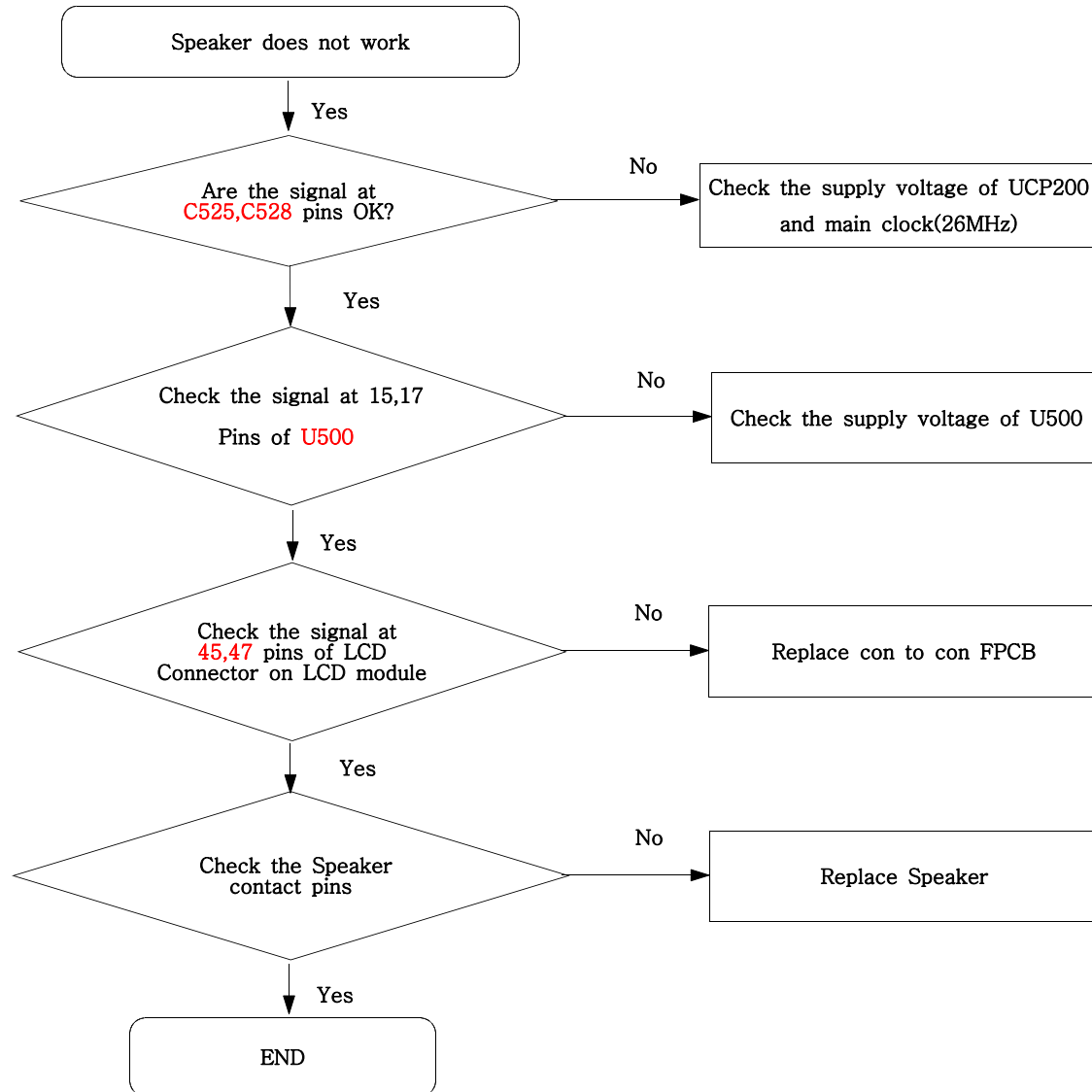
9-5. Microphone Part



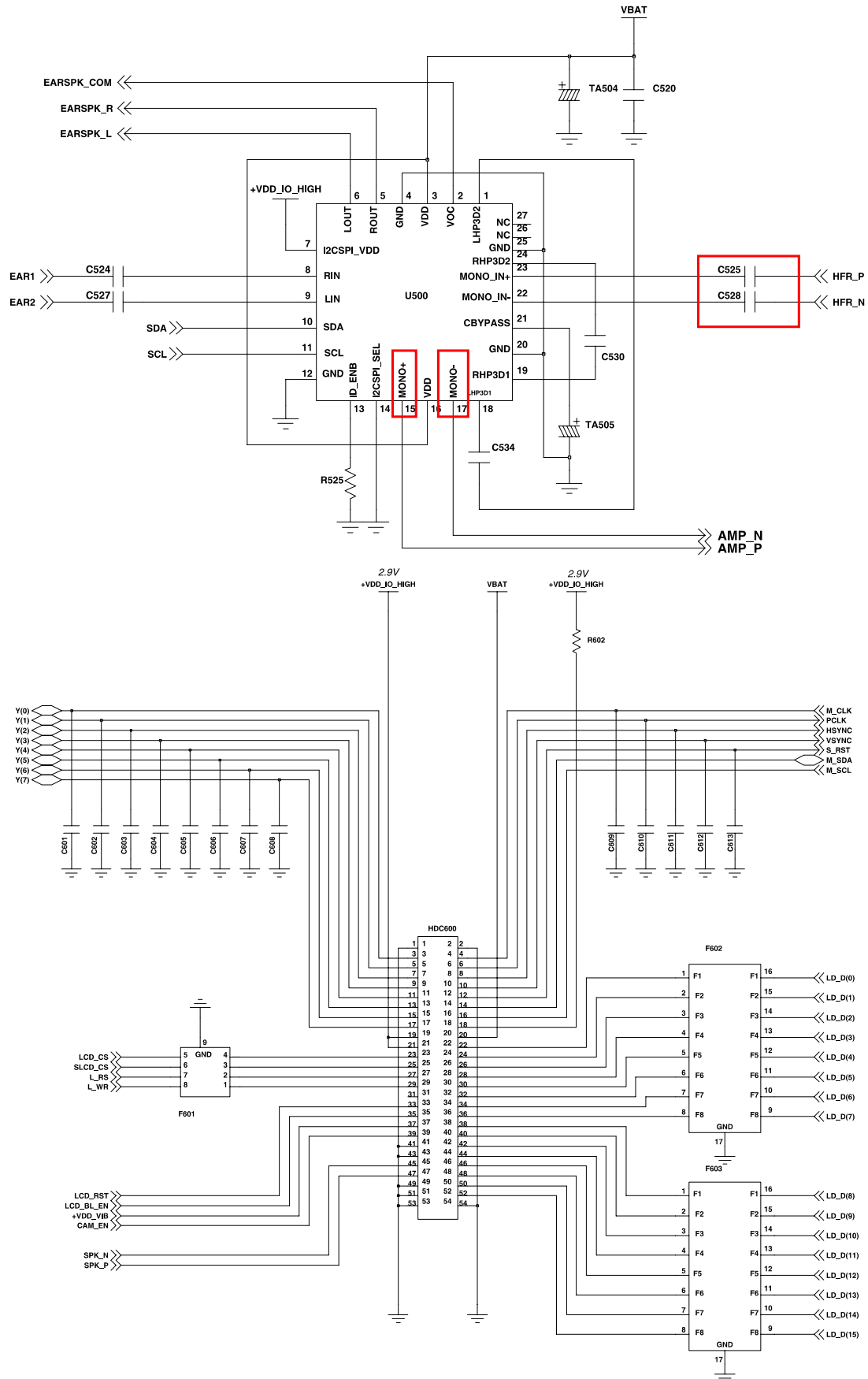
UCP200



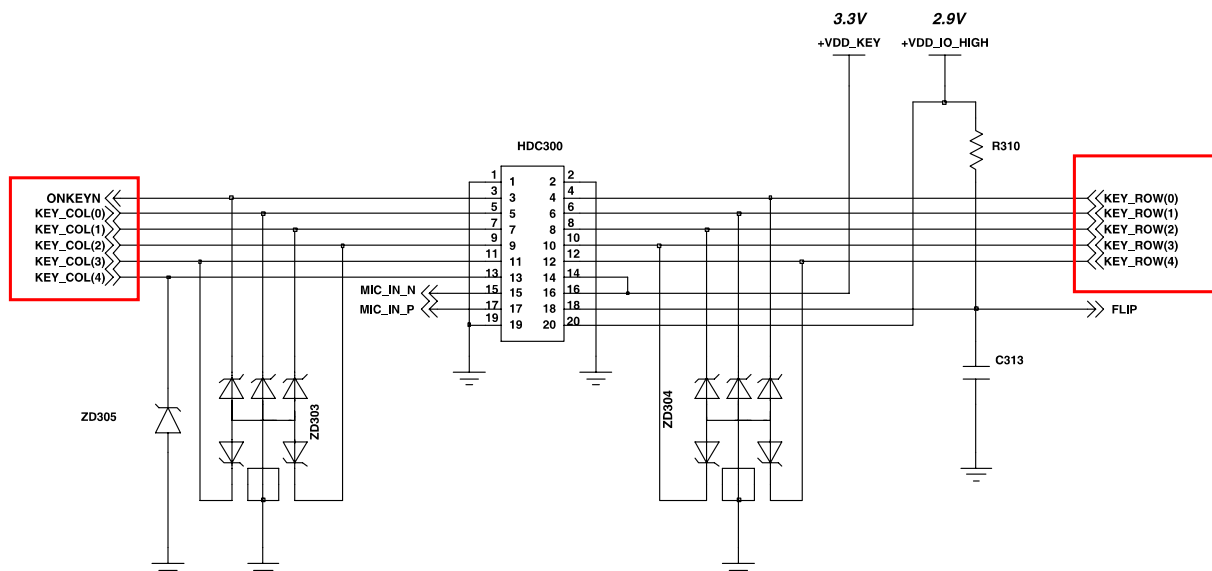
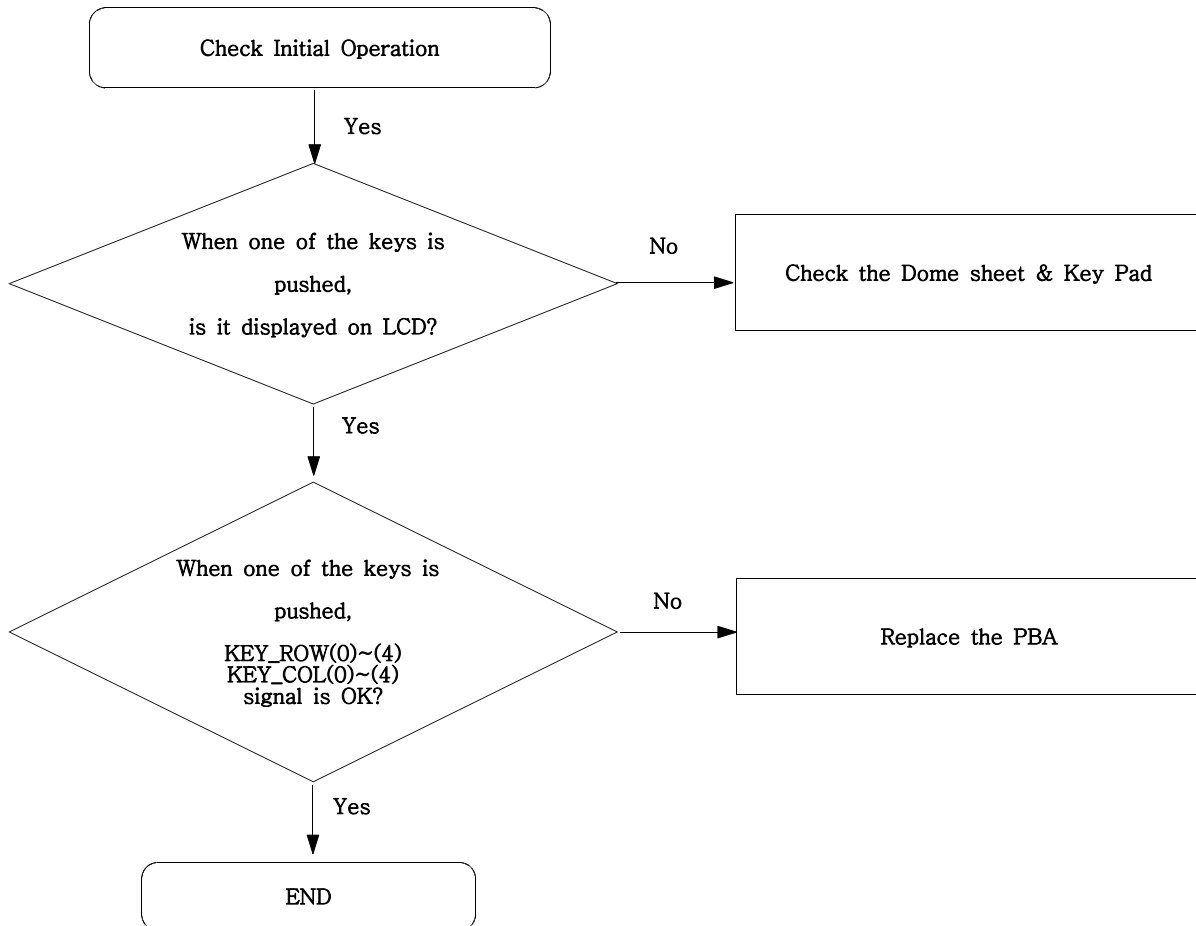
9-6. Speaker Part(MP3/SPK)



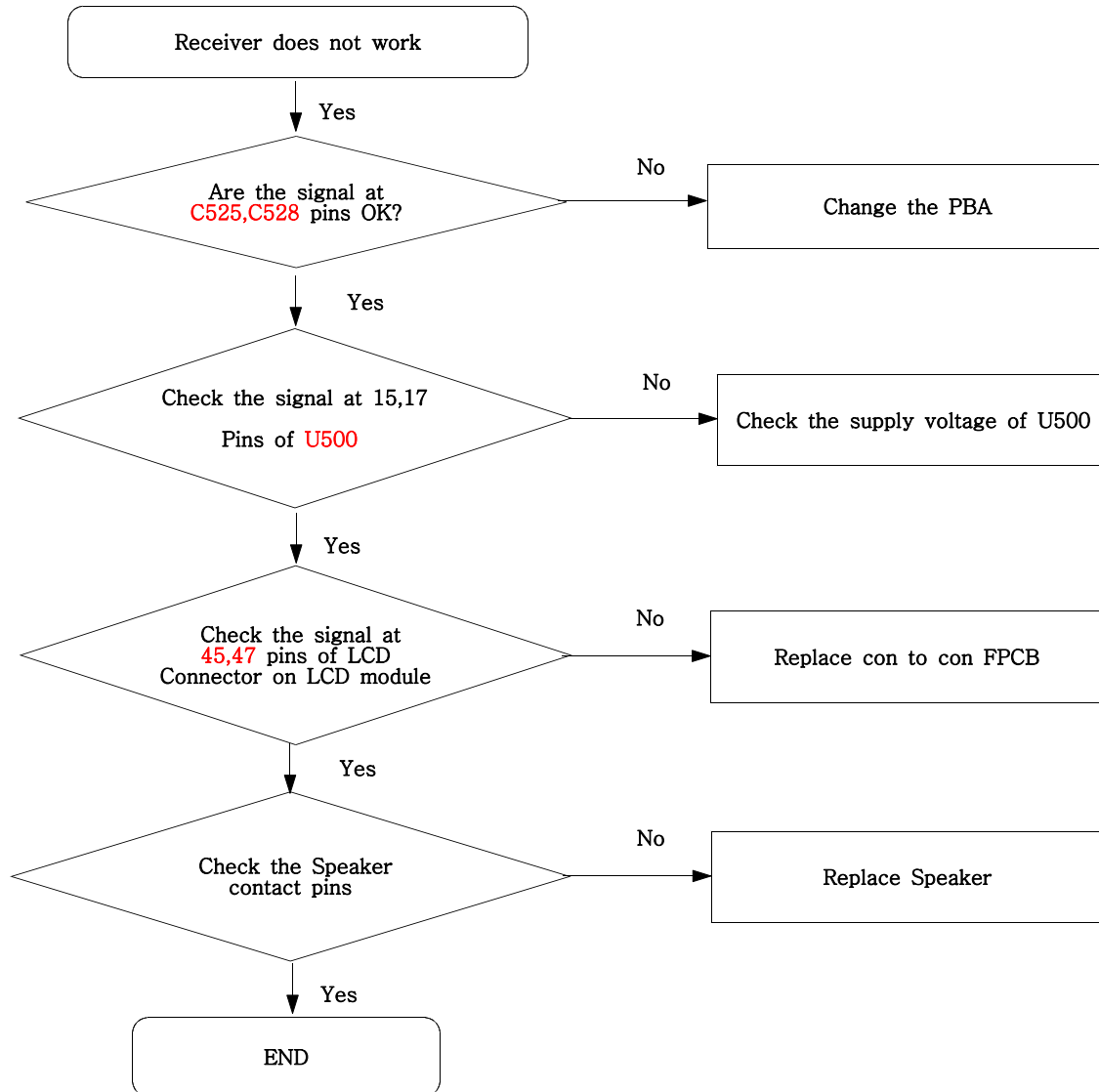
Flow Chart of Troubleshooting

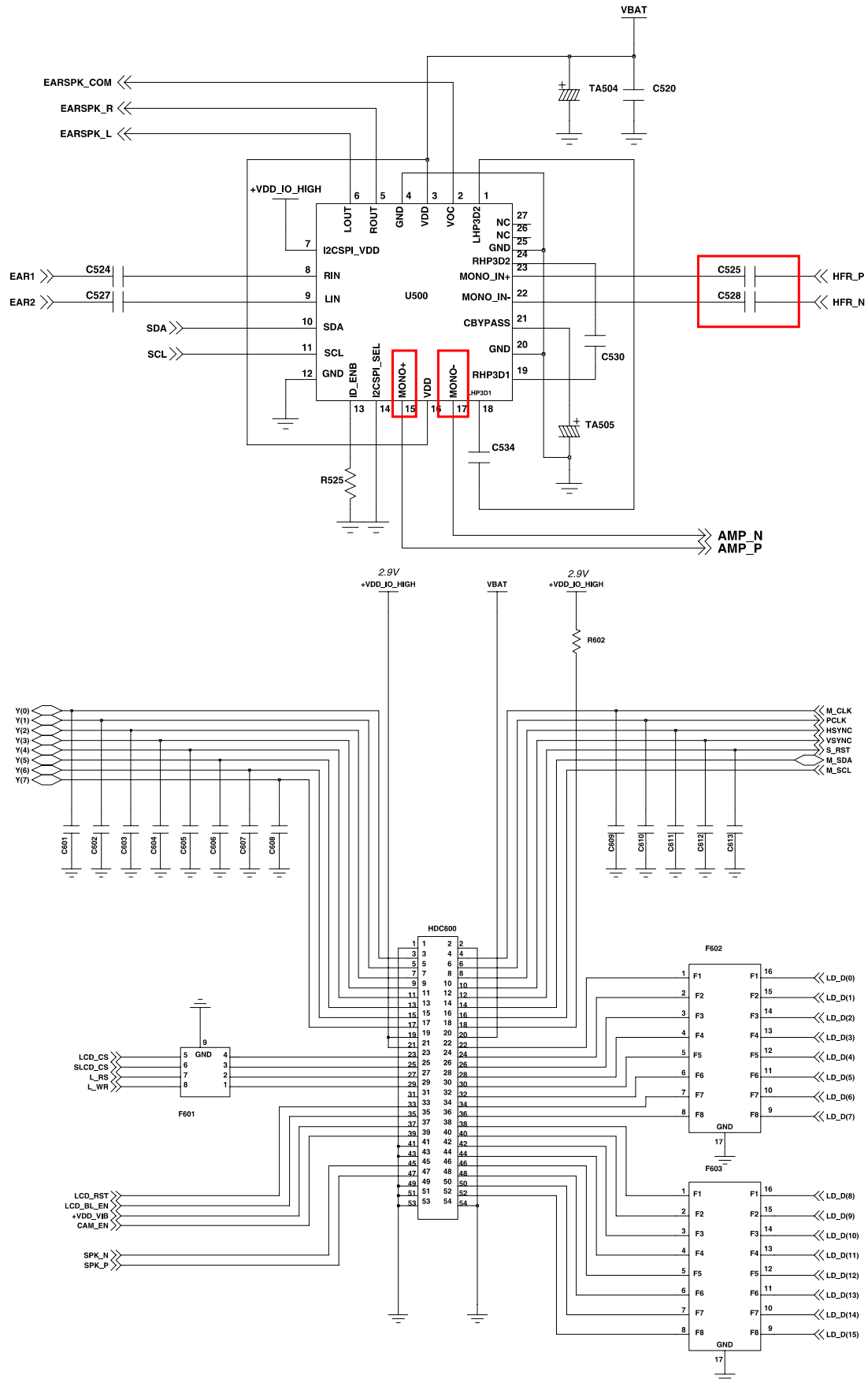


9-7. Key Data Input

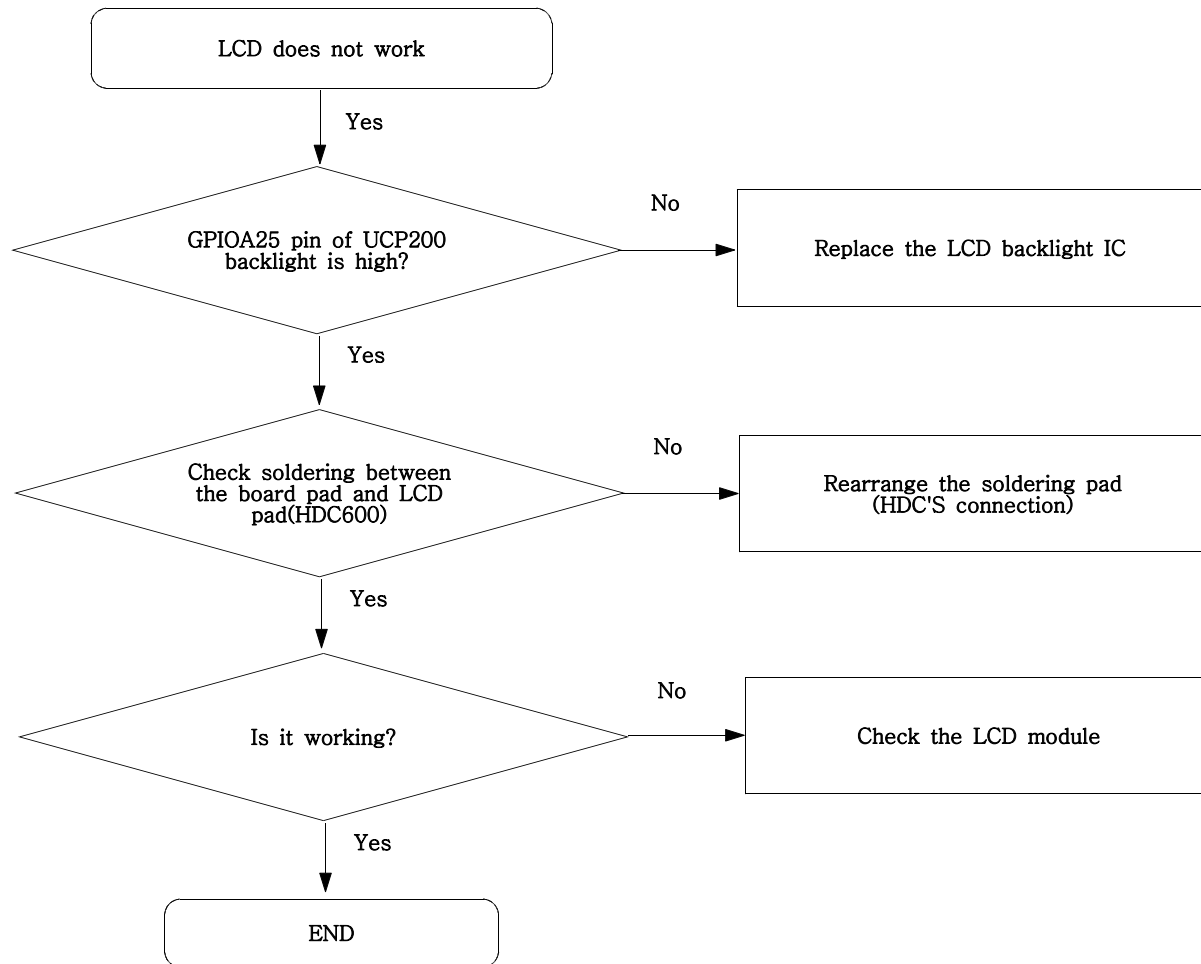


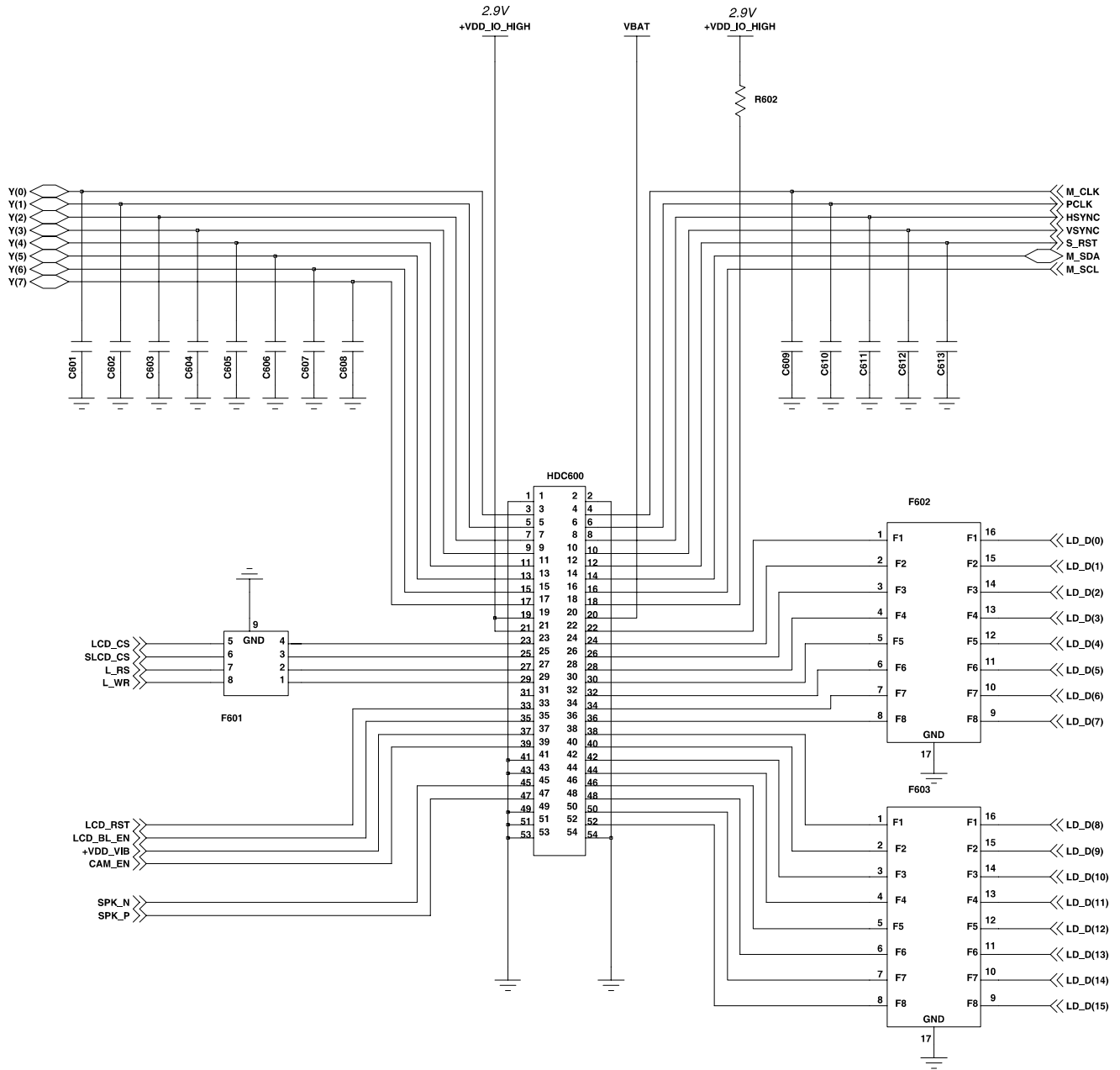
9-8. Receiver Part



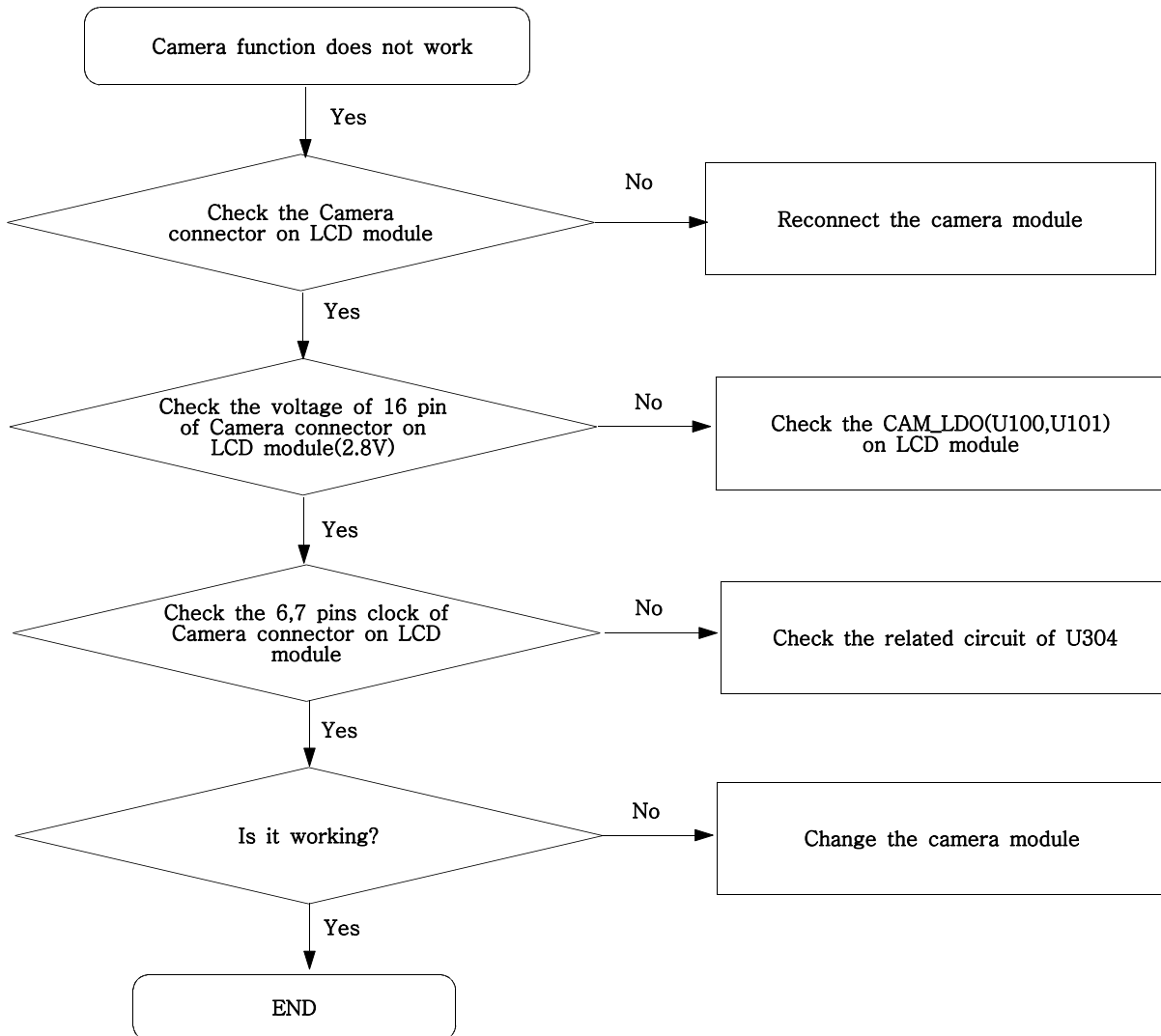


9-9. LCD Part

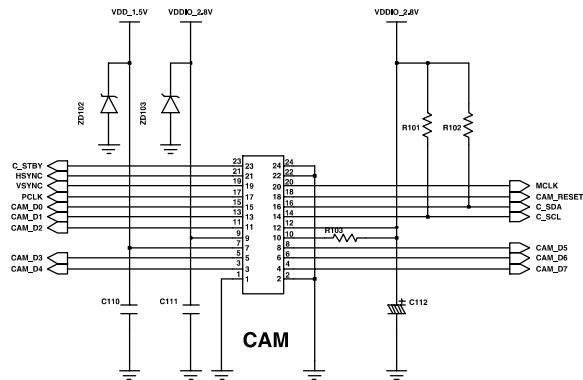




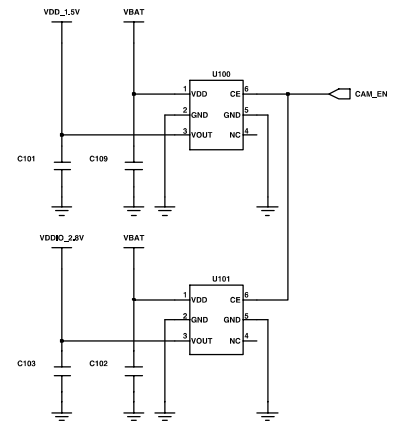
9-10. Camera part



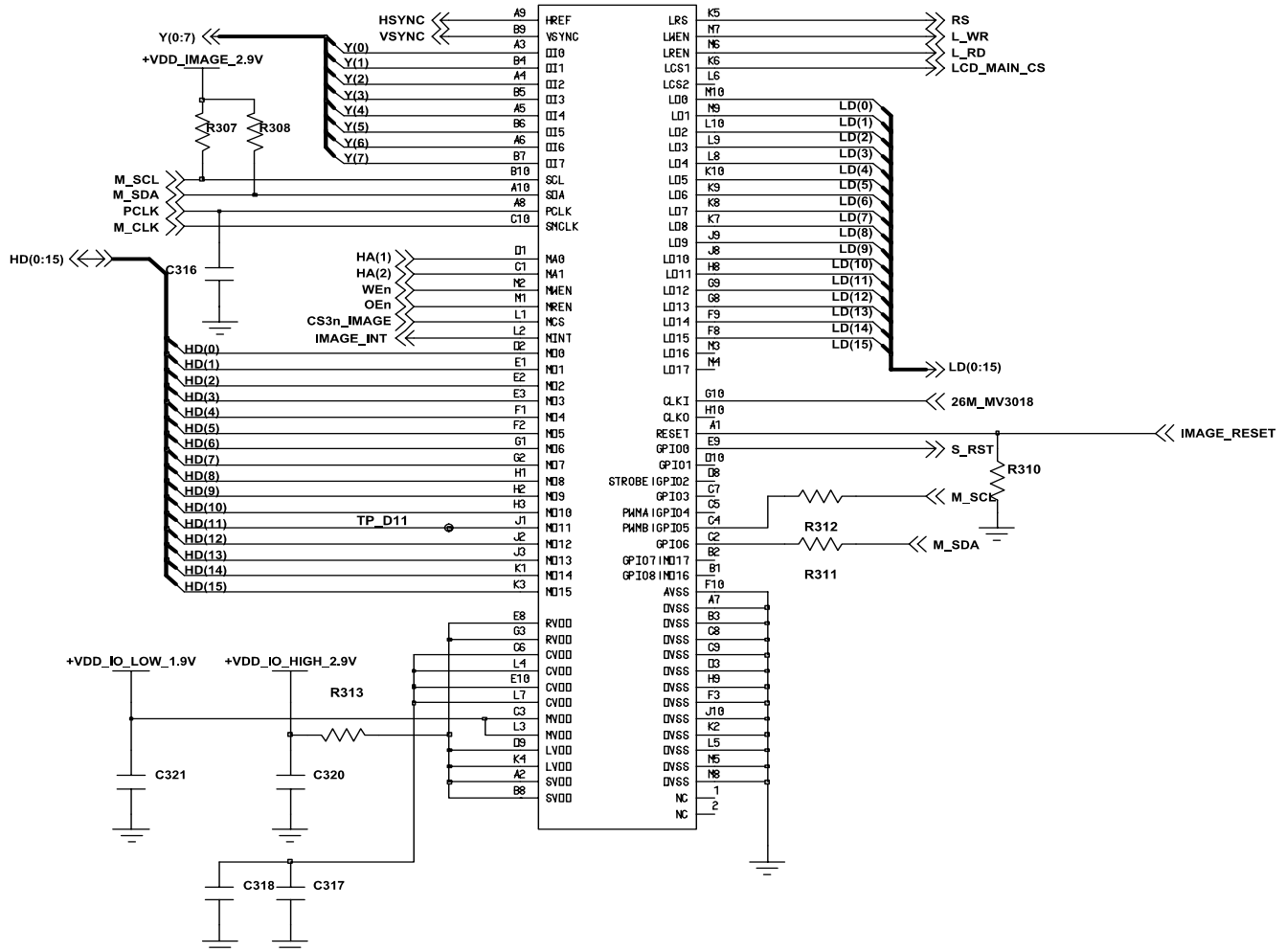
CAM CONN.



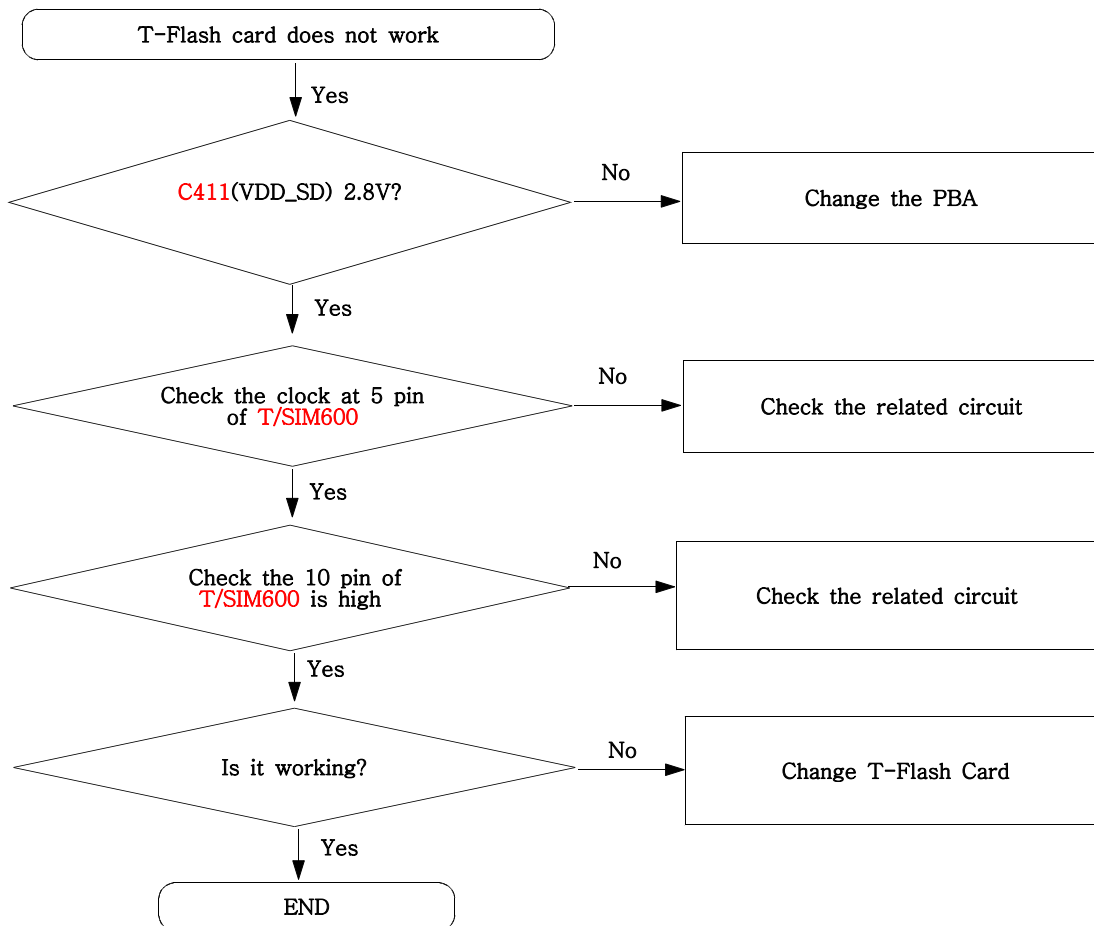
CAM_LDO



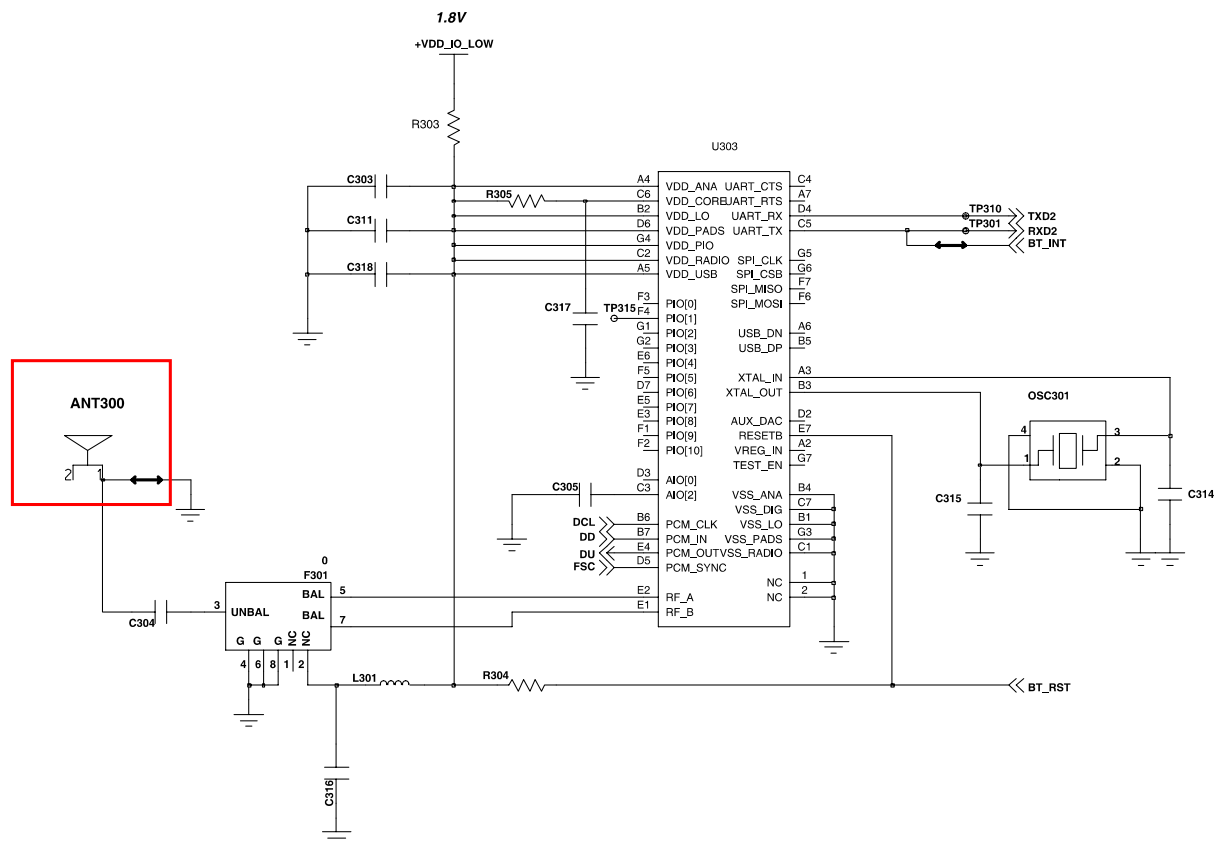
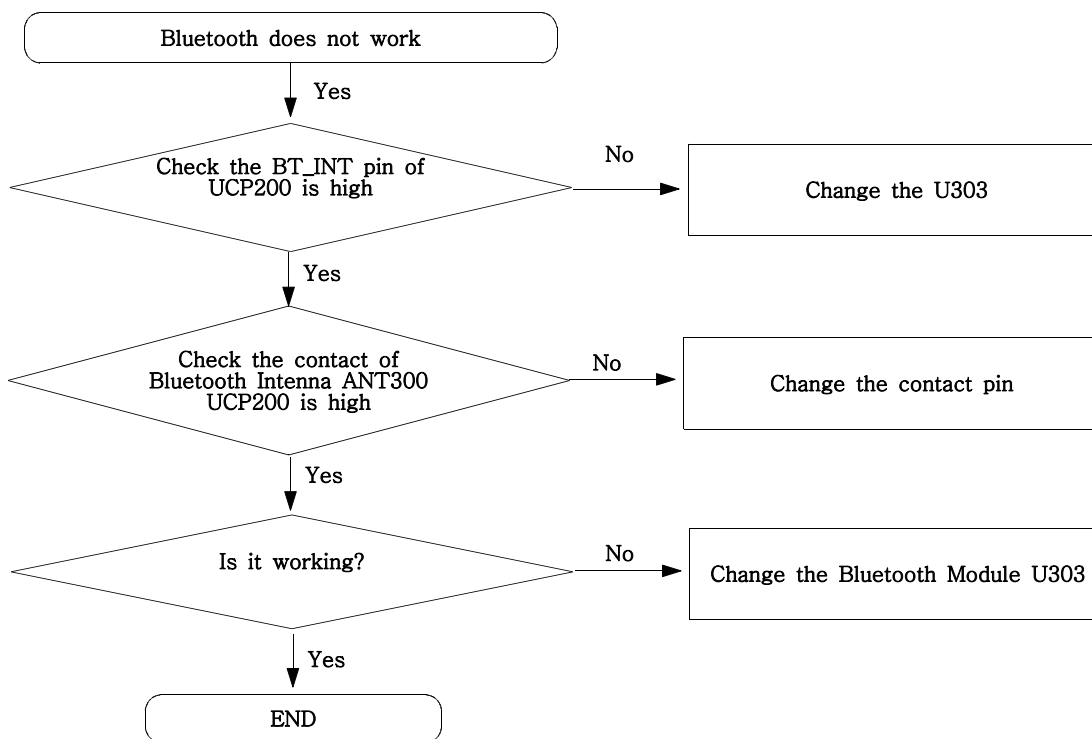
U303



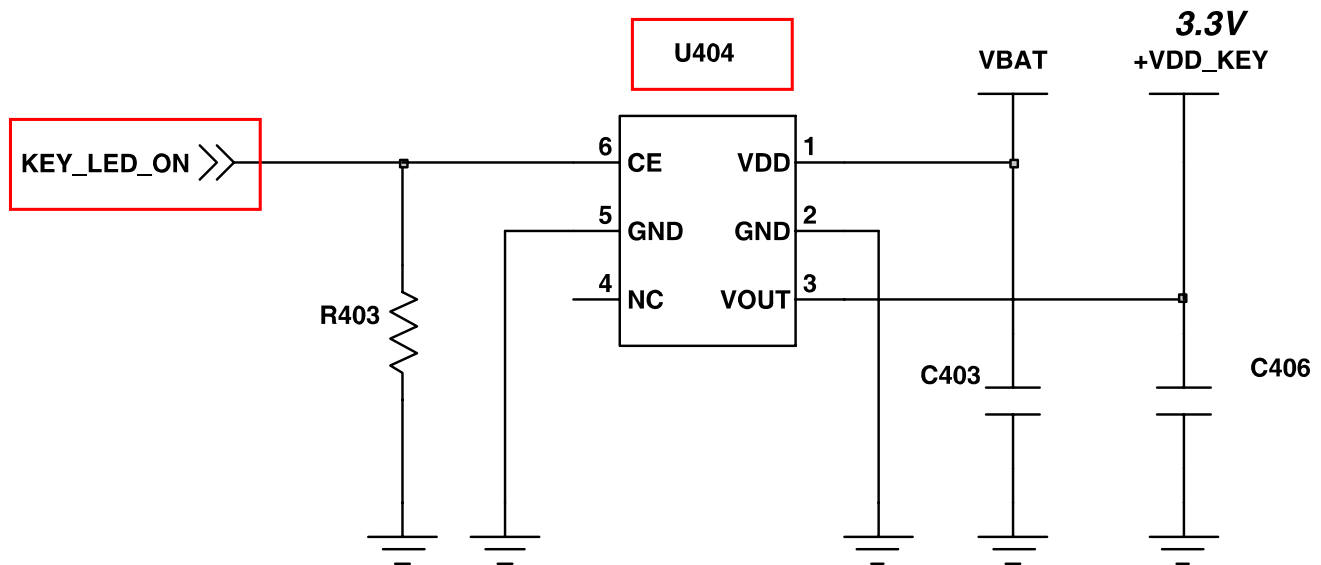
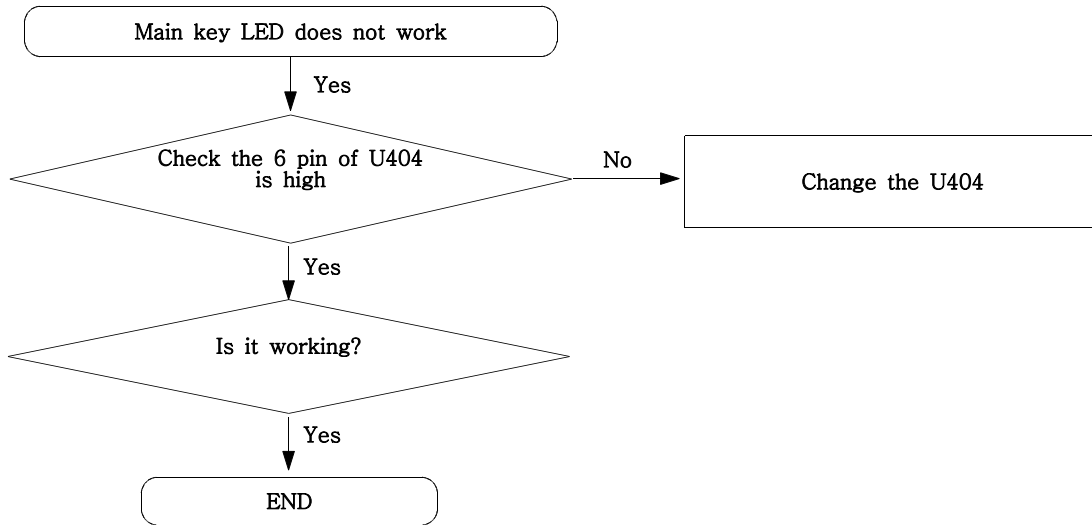
9-11. Trans Flash Card part



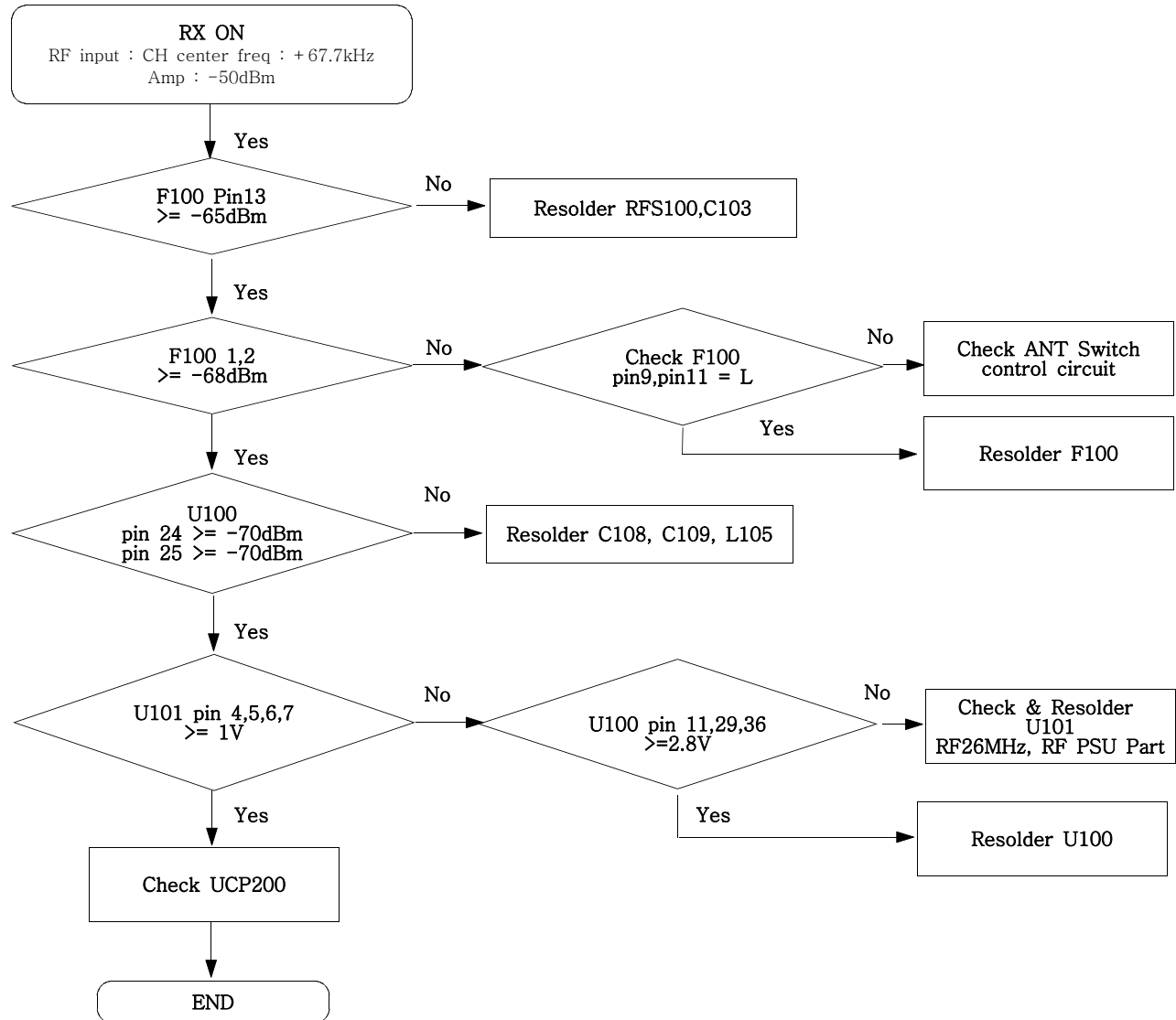
9-12. Bluetooth part



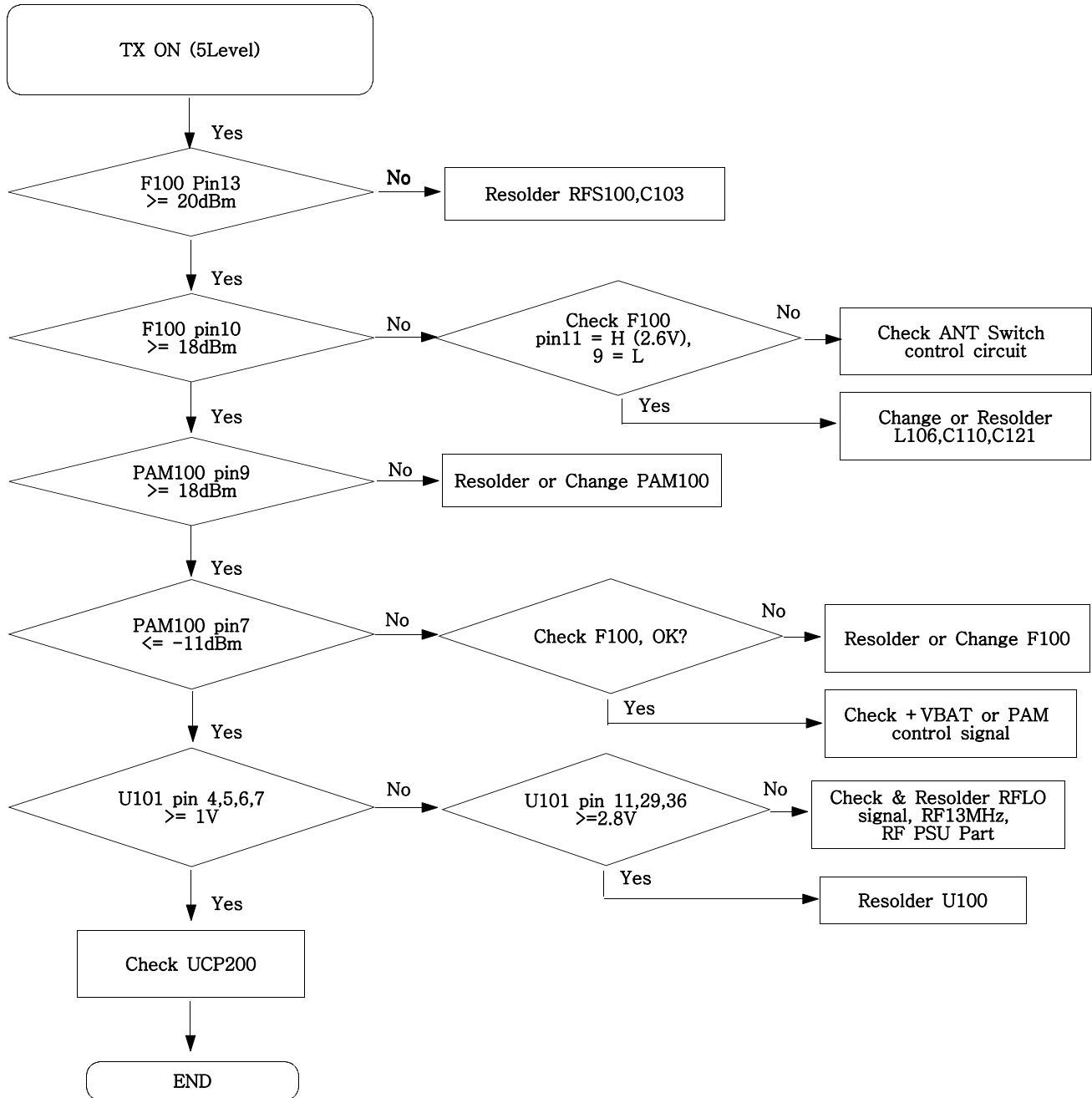
9-13. Main Key LED part



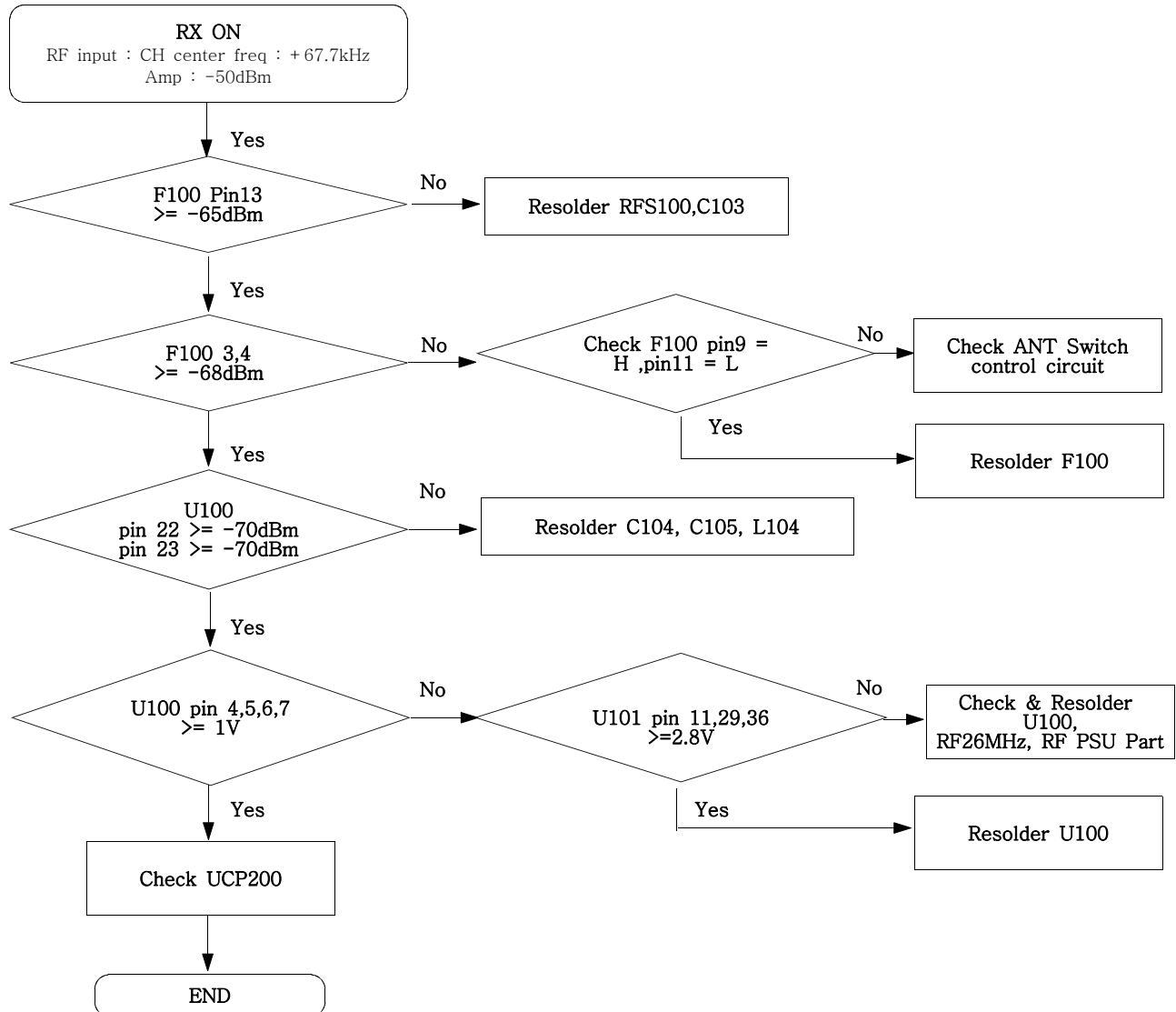
9-14. GSM Receiver



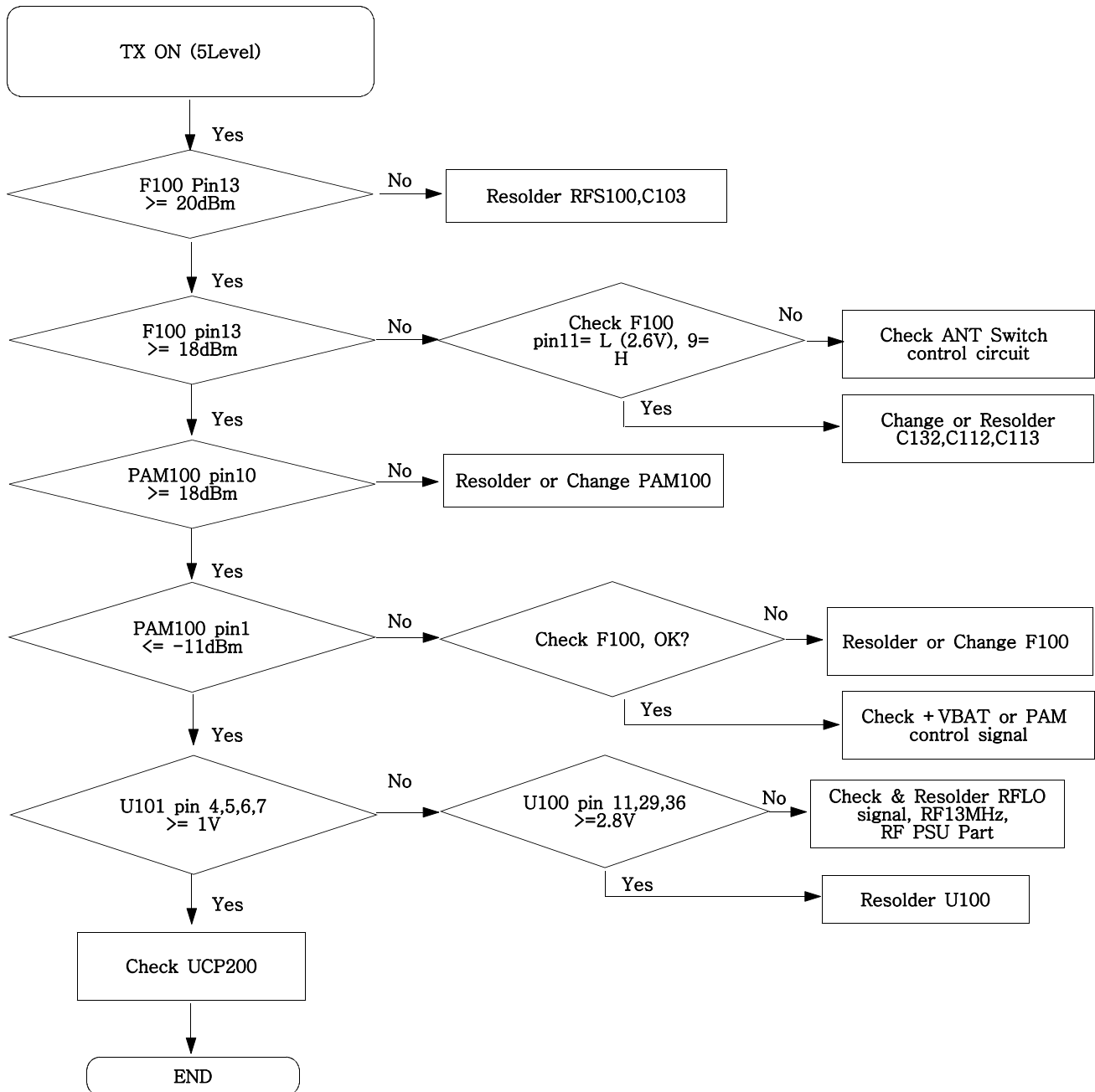
9-15. GSM Transmitter



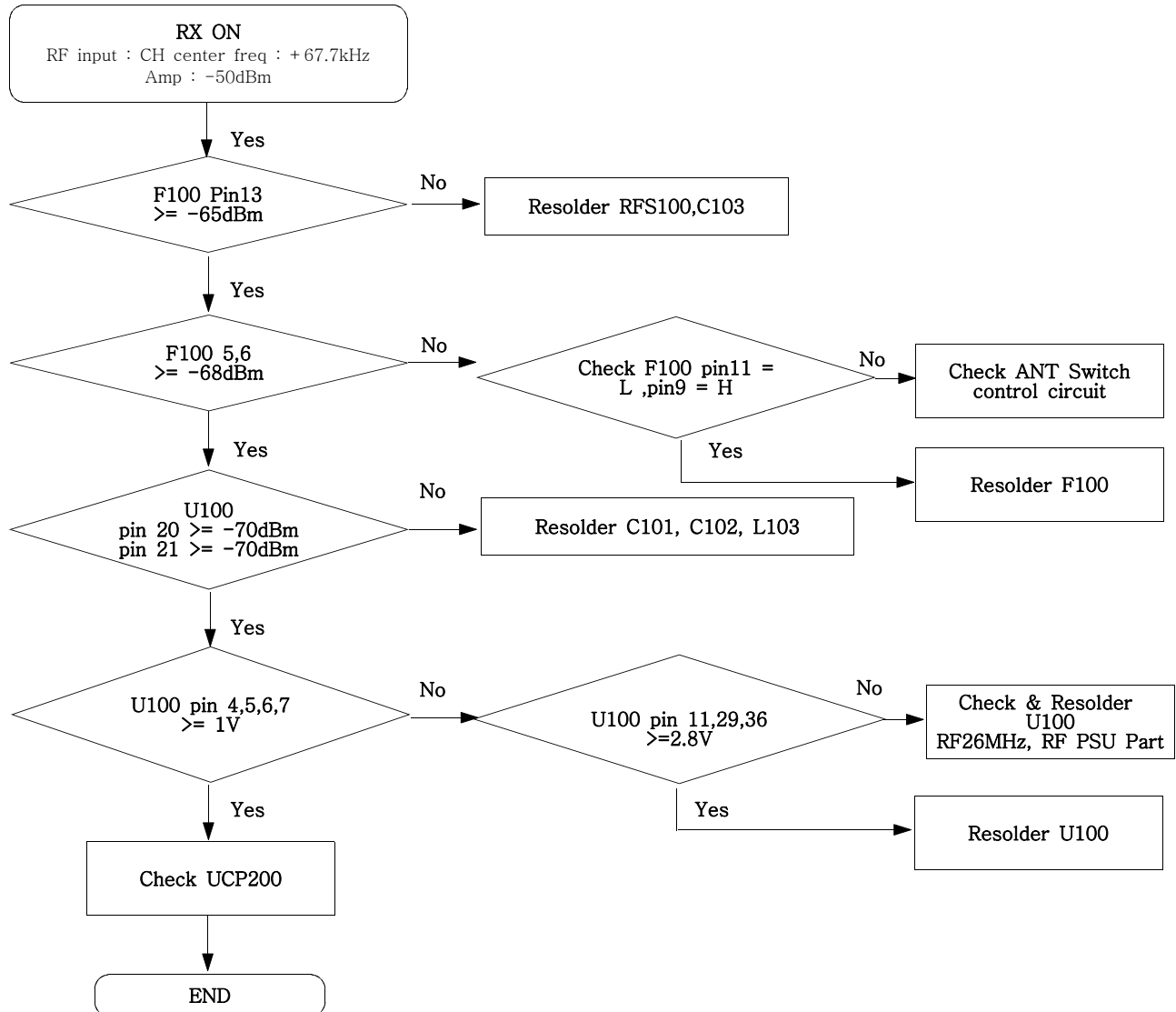
9-16. DCS Receiver



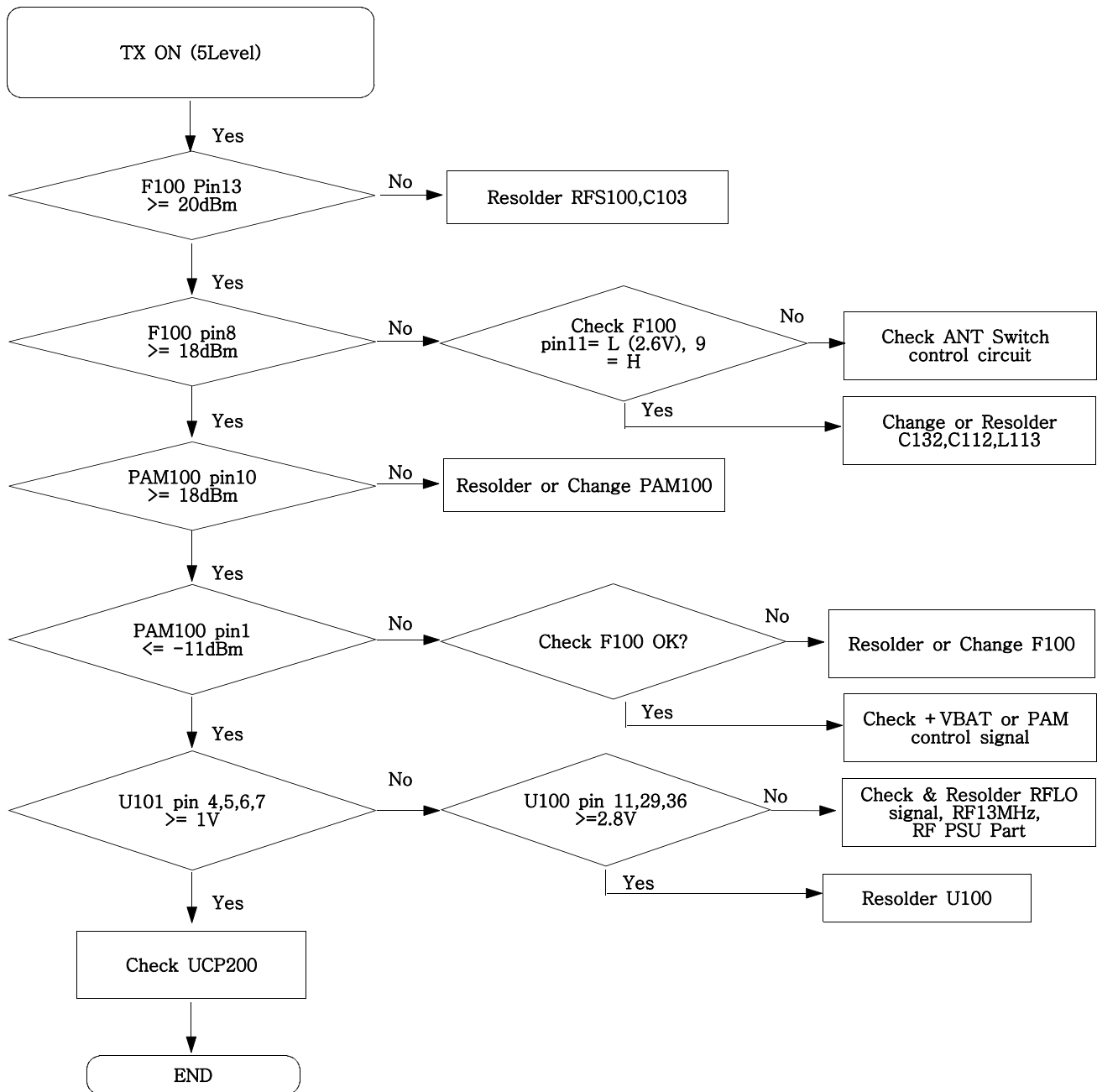
9-17. DCS Transmitter

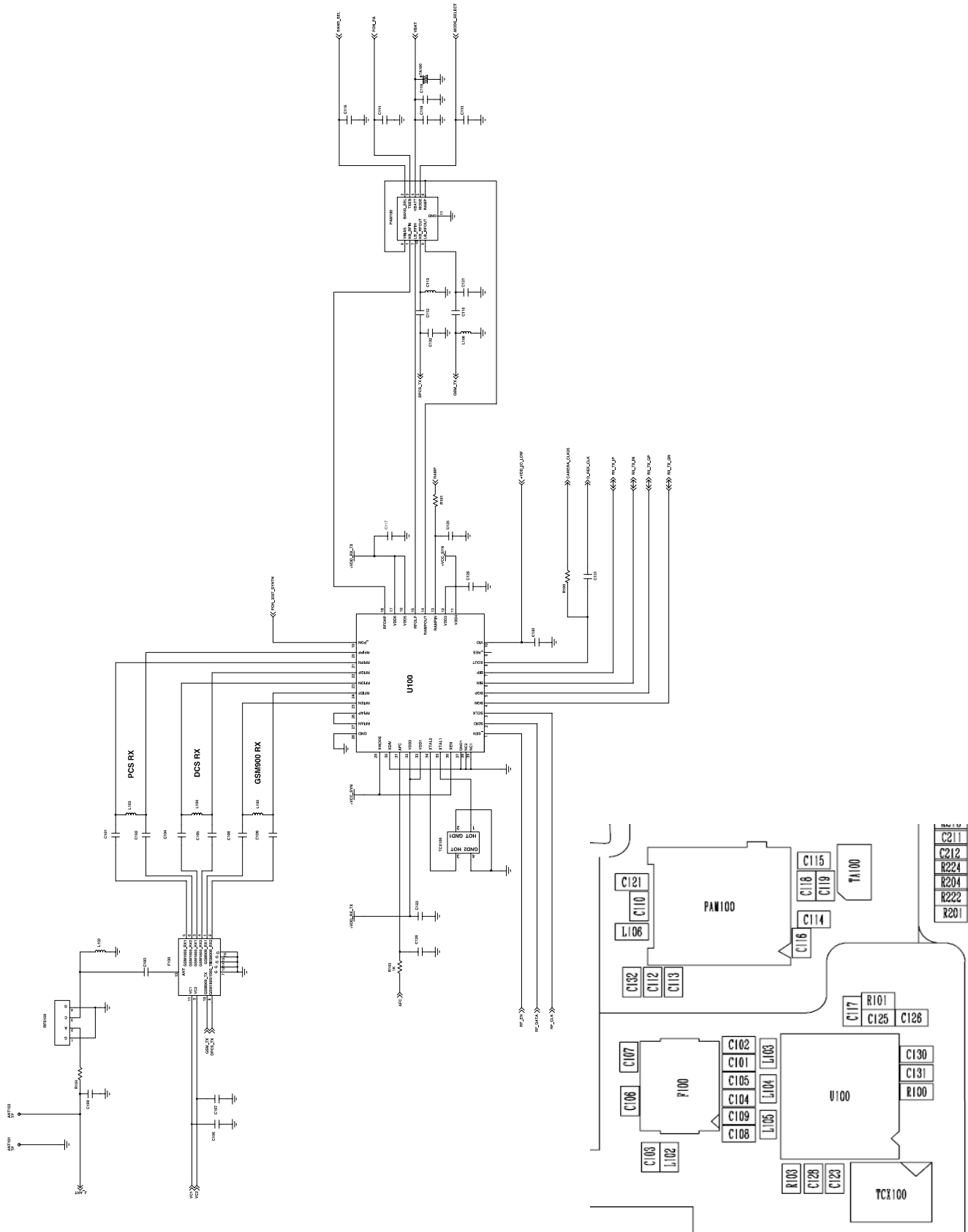


9-18. PCS Receiver



9-19. PCS Transmitter





10. Reference data

Reference Abbreviate

- **AAC**: Advanced Audio Coding.
- **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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