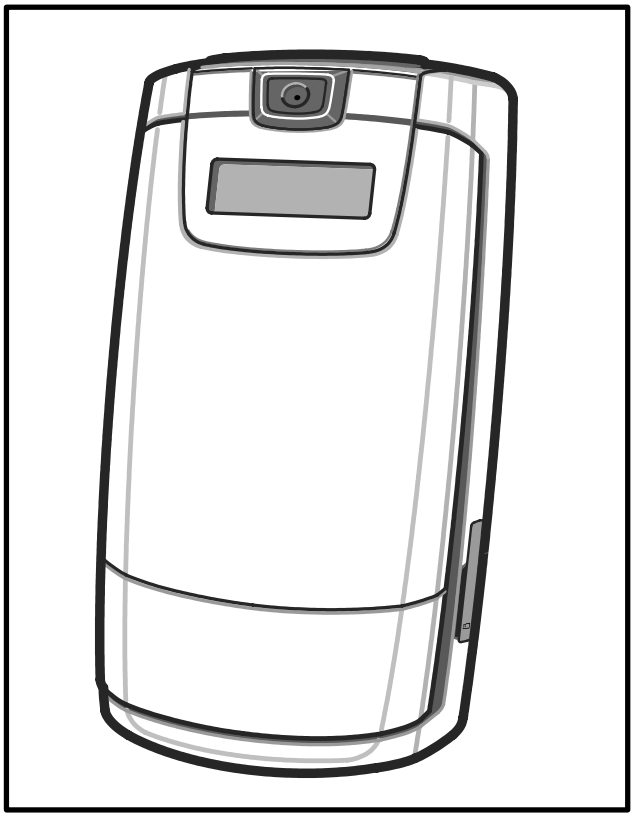
SAMSUNG

GSM TELEPHONE
SGH-D830

SERVICE Manual

GSM TELEPHONE



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1. Safety Precautions

1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
  Take specially care of tuning or test,
  because specipicty of cellular phone is sensitive for surrounding interference(RF noise).

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

		GSM 900	DCS1800	PCS1900
Freq. Band[MHz] Uplink/Downlink		880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range		0~124 & 975~1023	512~885	512~810
Tx/Rx spacing		45 MHz	95 MHz	80 MHz
Mod. Bit rate/ Bit Period	GPRS	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us
	EDGE	812.5 Kbps 3.692 us	812.5 Kbps 3.692 us	812.5 Kbps 3.692 us
Time Slot Period/Frame Period		576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.615 ms
Modulation	GPRS	0.3 GMSK	0.3 GMSK	0.3 GMSK
	EDGE	8 PSK	8 PSK	8 PSK
MS Power	GPRS	33 dBm~5 dBm	30 dBm~0 dBm	30 dBm~0 dBm
	EDGE	27~5 dBm	26~0 dBm	26~0 dBm
Power Level	GPRS	5 pcl~19 pcl	0 pcl~15 pcl	0 pcl~15 pcl
	EDGE	8~19(class E2)	2~15(class E2)	2~15(class E2)
Sensitivity		-102 dBm	-100 dBm	-102 dBm
TDMA Mux		8	8	8
Cell Radius		35 Km	2 Km	2 Km

2-2. GMSK TX power Level

TX Power control level	GSM900
5	33±2 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±2 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±4d Bm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

TX Power control level	PCS1900
0	30±2 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±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

2-3. EDGE TX Power Level

TX Power control level	GSM850
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
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±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

TX Power control level	PCS1900
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±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

3. Product Function

Main Function

- Camera and camcorder
- Image editor
- Music player
- Photo printing
- Phone to TV
- File viewer
- Bluetooth
- Web browser
- Offline mode
- E-,ail
- Multimedia Message Service (MMS)
- Java
- Voice recorder

4. Array course control

Test Jig (GH80-03307A)

Test Cable (GH39-00478A)

RF Test Cable (GH39-00599A)

4-1. Downloading Binary Files (1)

•Swift Model firmware is composed of 2 files

–*.s3 : Main source code binary.

4-2. Prerequisite

•Downloader program(Optiflash.exe)

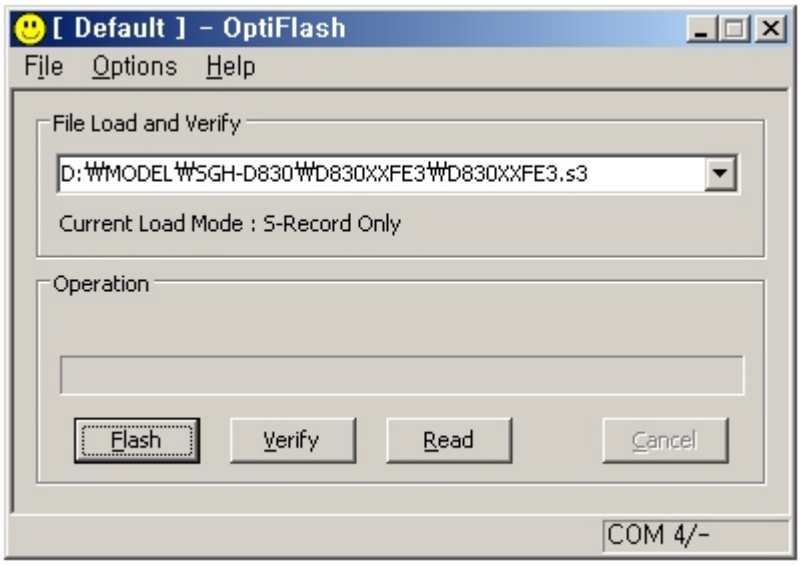
•D830 Moblie Phone

•Data Cable

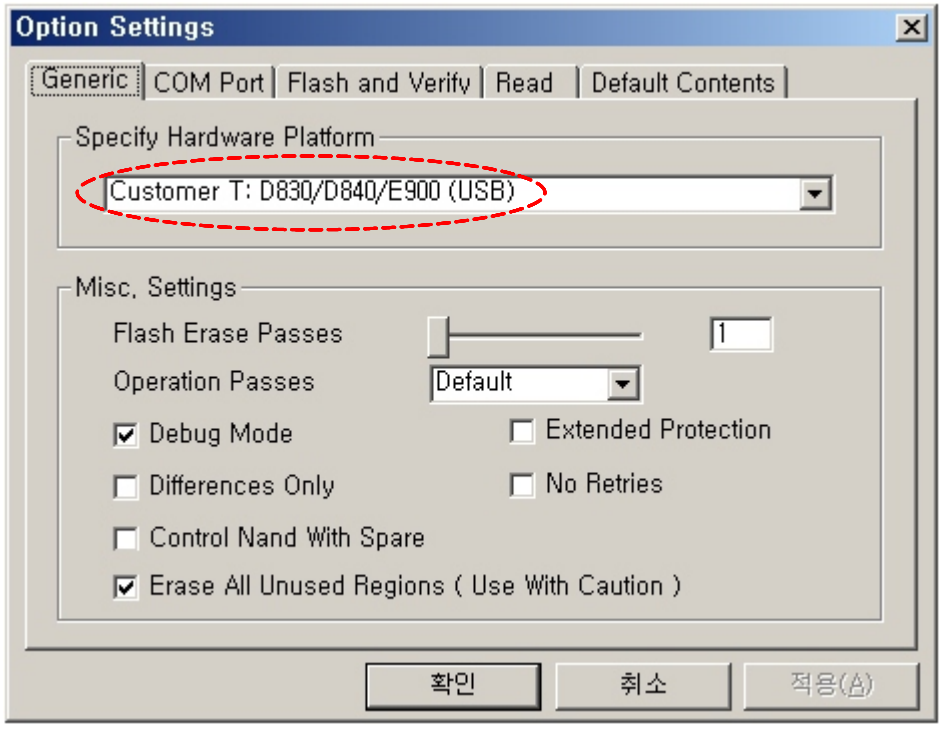
•Binary Files

4-3. S/W Downloader Program

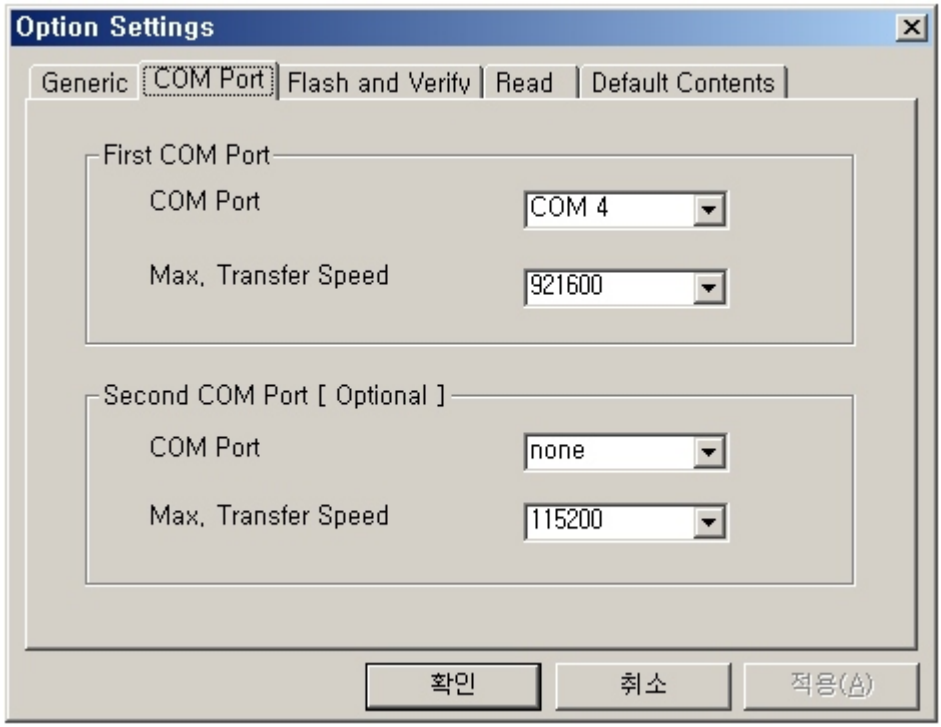
1. Load the binary download program by execution the "OptiFlash.exe"



2. Select the"Options" -> "Settings" -> "Generic" -> "Specify hardware platform".
   Choose hardware platform for the downloader file setting.
   Set the everything else as the default values which are shown below



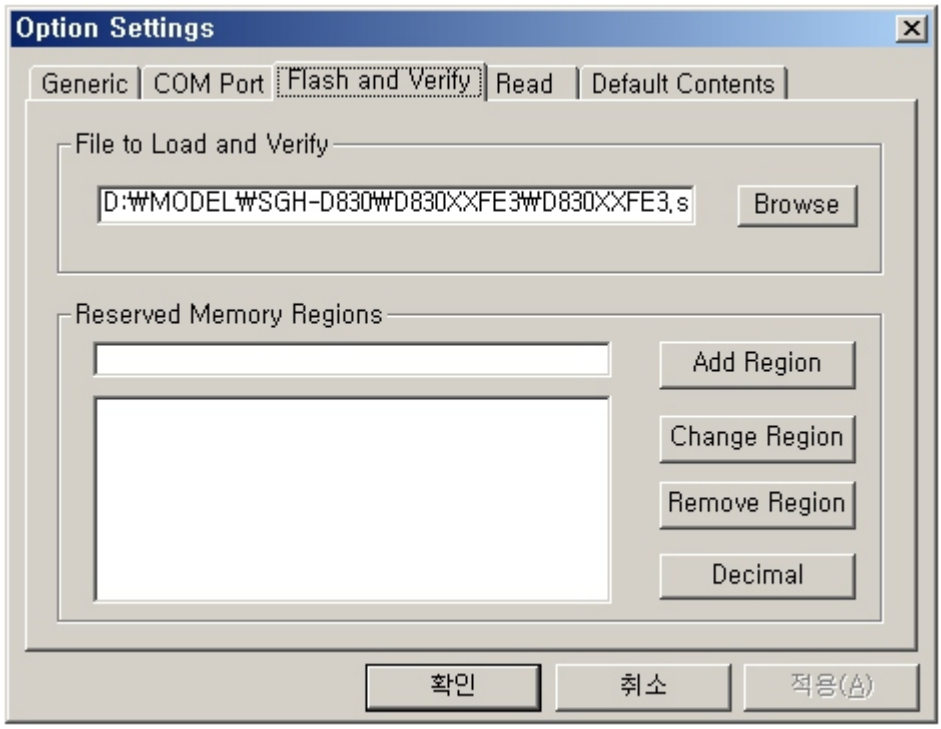
3. Select the COM port where the download cable is connected



Up to twelve ports are supported. Additionally you can select the maximum transfer speed OptiFlash will use to communicate with the phone. However, Optiflash will use a slower speed if either the PC's or the phone's serial hardware is incapable of handling the selected speed.

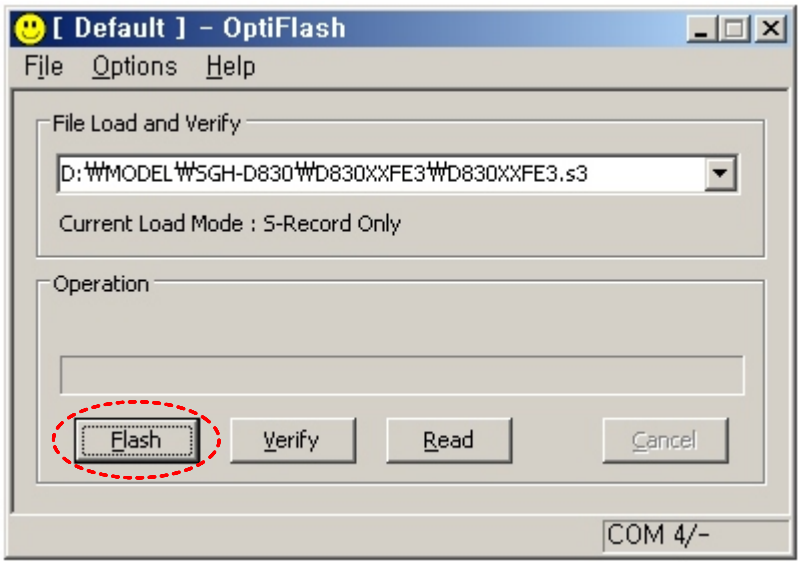
4. Select the “Flash&Verify” -> “Browse”

Set the directory path and choose the latest S/W binary, for example "D830XXYY.s3", for the downloader binary setting.



5. Click “OK” button then press “Flash”.
   (Before pressing 'Flash' button, push the button '*'and 'END' at the same time. then press 'Flash'.)

   Downloader will upload the binary file as below for the downloading.



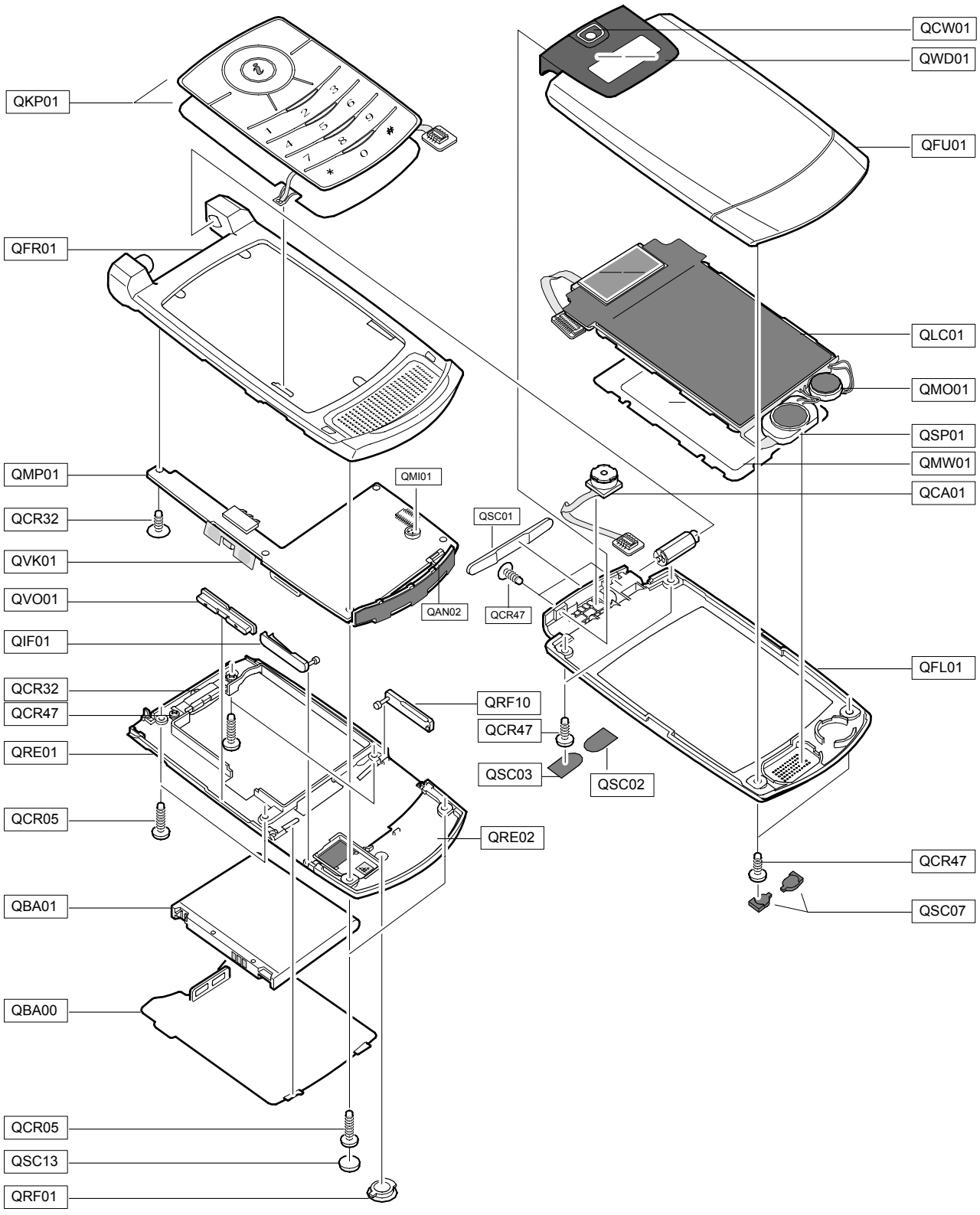
6. When downloading is finished successfully, there is a “All is well” message.

7. After finishing downloading, Certain memory resets should be done to guarantee the normal performance.

8. Confirm the downloaded version name by key-string(***#1234#**)
   Memory reset will be done by pressing the following key-strings.
   Full Reset : “***2767*3855#**” will reboot the phone automatically.

5. Exploded View and Parts List

5-1. Cellular phone Exploded View



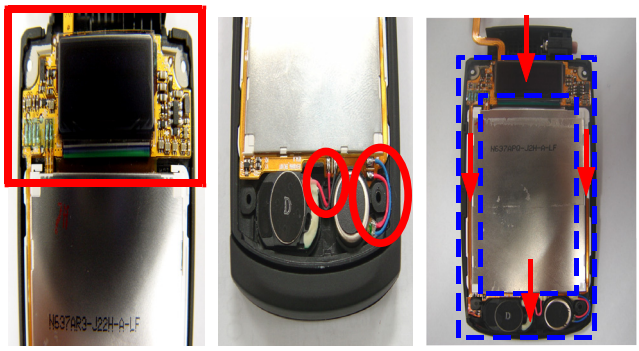
5-2. Cellular phone Parts list

Design LOC		Discription	SEC CODE
QAN02		INTENNA-SGHD830	GH42-00862A
QBA00		IPR-COVER BATT	GH70-01257A
QBA01		INNER BATTERY PACK-630MAH,BLK,	GH43-02386A
QCA01		UNIT-2M CAMERA	GH59-03178A
QCR05		SCREW-MACHINE	6001-001478
QCR32		SCREW-MACHINE	6001-001700
QCR47		SCREW-MACHINE	6001-001695
QCW01		PMO-COVER CAM WINDOW	GH72-30063A
QFL01		ASSY MEC-COVER F/LOWER SUB	GH75-09607A
QFR01		ASSY MEC-COVER FRONT SUB	GH75-09606A
QFU01		ASSY MEC-COVER F/UPPER	GH75-09608A
QKP01		ASSY KEYPAD-(SER/TK)	GH75-09610A
QLC01		LCD-SGHD830 MODULE	GH07-00933A
QMI01		MICROPHONE-ASSY-SGHD830	GH30-00278A
QMO01		MOTOR DC-SGHD830	GH31-00254A
QMP01		PBA MAIN-SGHD830	GH92-02682A
QMW01		AS-LCD WINDOW	GH81-04361A
QRF01		PMO-COVER RF V2	GH72-32939A
QSC01		ASSY MEC-RUBBER STOPPER	GH75-09611A
QSC02		MPR-TAPE,3.45X5.14X0.26,SHEET	GH74-22113A
QSC03		MPR-TAPE,3.45X5.14X0.27,SHEET	GH74-22114A
QSC07		RMO-COVER LOWER SCREW A V2	GH73-07558A
QSC13		RMO-COVER REAR SCREW	GH73-07559A
QSP01		SPEAKER	3001-001965
QVK01		UNIT-VOLUME KEY	GH59-03160A
QVO01		PMO-KEY VOLUME	GH72-30056A
QWD01		PMO-COVER SUB WINDOW	GH72-33401A
QRE01		ASSY MEC-COVER REAR SUB	GH75-09609A
	QCR32	SCREW-MACHINE	6001-001700
	QCR47	SCREW-MACHINE	6001-001695
	QIF01	PMO-COVER IF	GH72-30054A
	QRE02	ASSY-COVER-REAR BOTTOM SUB	GH98-01376A
	QRF10	PMO-COVER MICRO SD	GH72-32061A

Discription	SEC CODE
BAG PE	6902-000297
CBF INTERFACE-DATA LINK CABLE	GH39-00444A
ADAPTOR-SGHD800 TA(EU)	GH44-01060A
S/W CD-SAMSUNG PC STUDIO 3.0	GH46-00267A
UNIT-EARPHONE(BLK)	GH59-02499A
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(P)-WATER SOAK	GH68-02026A
MANUAL-WARRANTY CARD	GH68-02623A
MANUAL-SFC	GH68-04336A
LABEL(P)-BARCODE RUSSIA	GH68-08494A
MANUAL USERS-EU RUSSIAN	GH68-11437A
LABEL(R)-MAIN(SER)	GH68-11753B
BOX(P)-UNIT MAIN(SER)	GH69-04197B
CUSHION-CASE-TA2-MA2	GH69-04208A
RMO-CUSHION RUBBER PCB SOLD A	GH73-07322A
RMO-CUSHION MIC HOLDER	GH73-07324A
RMO-RUBBER PCB B	GH73-07822A
RMO-RUBBER FRONT A	GH73-07927A
RMO-RUBBER FRONT B	GH73-07928A
RMO-RUBBER PCB SOLD AK	GH73-07929A
RMO-RUBBER PCB SOLD CSP	GH73-07930A
MPR-BOHO VINYL LCD CONN	GH74-15350A
MPR-TAPE PCB KET CON	GH74-24316A
MPR-TAPE MAIN WINDOW	GH74-24396A
MPR-SPONGE PCB COMP	GH74-25365A
MPR-VINYL BOHO MAIN WINDOW	GH74-25366A
MPR-TAPE LCD CONN	GH74-25810A
MPR-VINYL BOHO SUB WINDOW	GH74-26198A
MPR-SPONGE REAR BOTTOM	GH74-26376A
AS-LCD SUB	GH81-04360A
AS-LCD MAIN	GH81-04362A
AS-LCD TAPE	GH81-05011A

5-3. Disassembly

1

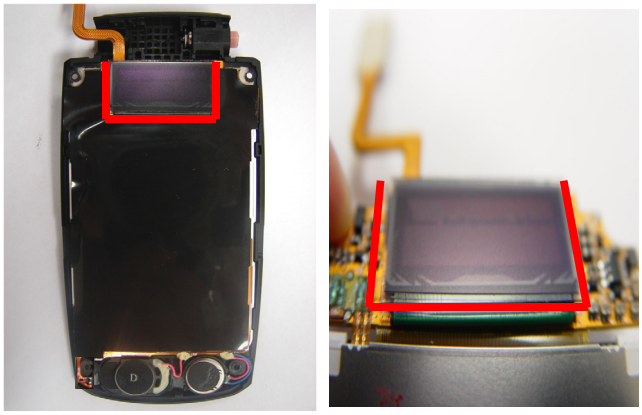


1.Attach the SUB LCD first on the LOWER.
2.Press the WIRE with a finger not to remain it on the SPEAKER/MOTOR and fixtures.
3.Remain the MOTOER WIRE exactly between SCREW BOSS and a fixture.

※ **caution**

1) Do NOT remain the WIRE on the RIB.
2) Press the LCD to attach well on the LOWER. (Do NOT OVERPOWER Pressing the SUB LCD.)

2

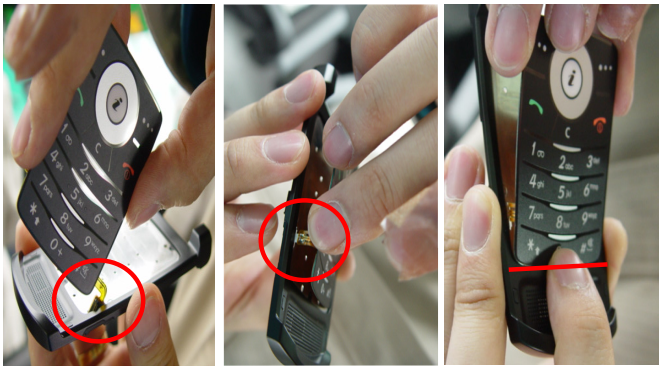


1.Attach a black LCD ESD TAPE along by the SUB LCD outline.

※ **caution**

1) Press the LCD well NOT to get loose.(Do NOT OVERPOWER Pressing the SUB LCD.)

3

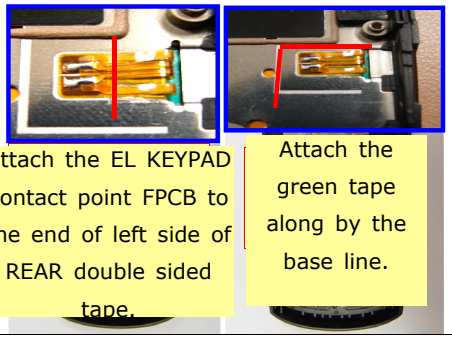


1.Insert EL KEYPAD FPCB into the EL KEYPAD HOLE of the FRONT.
2.Insert a point of EL KEYPAD contact into the HOLE of the FRONT.
3.Attach the EL KEYPAD along by the end of EL KEYPAD GUIDE LINE of the Front

※ **caution**

1) Be careful NOT TO DAMAGE the EL KEYPAD FPCB.
2) Do NOT OVERPOWER attaching the EL KEYPAD.

4

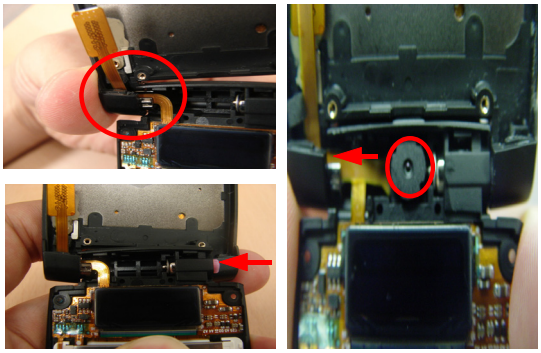


1.Remove the exfoliation paper of the double sided TAPE of the REAR.
2.Remove the exfoliation paper of the double sided TAPE of the EL KEYPAD CONTACT POINT.
3.Attach the EL KEYPAD contact point FPCB along by the base line.
4.Attach a green tape. (the width to the end of GASKET, the length to the SUS HOLE of REAR)

※ **caution**

1) Be careful NOT TO DAMAGE the EL KEYPAD FPCB.
2) Be careful NOT TO ATTACH the green tape on the GASKET.
3) Do NOT FOLDER the EL KEYPAD contact point FPBC by constraint.

5

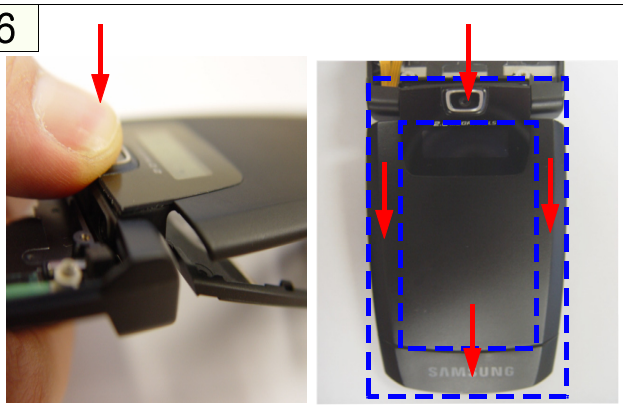


1.Insert LCD FPCB into HINGE DUMMY.
2.Assemble the LOWER with FRONT by Pressing the HINGE insertion part.
3.Insert CAMERA FPCB into FRONT HINGE DUMMY.
4.Set the CAMERA on the camera position of the LOWER.

※ **caution**

1) Be careful NOT TO TEAR the LCD FPCB/CAMERA FPCB inserting into the FRONT HINGE DUMMY.

6

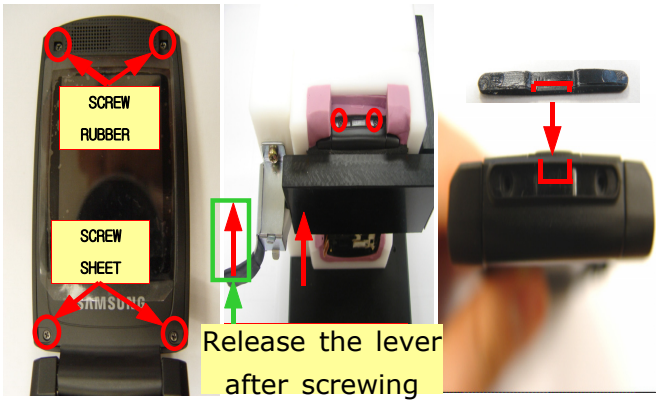


1.Assemble the top part of FOLDER UPPER to the LOWER exactly.
2.Press the UPPER firmly to assemble well as the right picture.
3.Check the upper and lower's locking.

※ **caution**

1) Do NOT OVERPOWER when the LOCKING is difficult.
2) Reassemble after disassembling and checking each part when the LOCKING is not good.

7

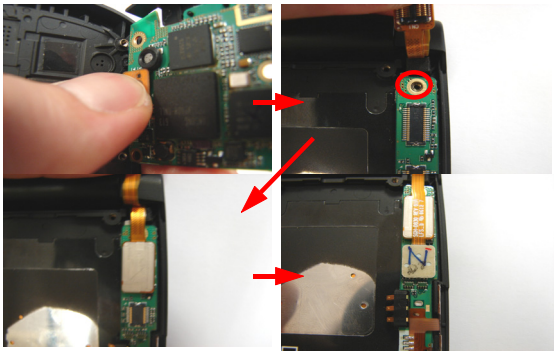


1.Screw 4POINTs of the Folder.
2.SCREW RUBBER(2POINT) to top, SCREW SHEET(2POINT) to bottom.
3.Set the FOLDR ASS'Y to HINGE SCREW JIG.
4.Push the lever to lock completely.
5.Release the lever after screwing SCREW 2POINT.
6.Attach the RUBBER's intaglio to the HINGE's center embossed part.

※ **caution**

1) PRESS the upper of HINGE firmly when screwing HINGE SCREW 2POINTs.
2) Check the handset if there is any rising and gap.

8

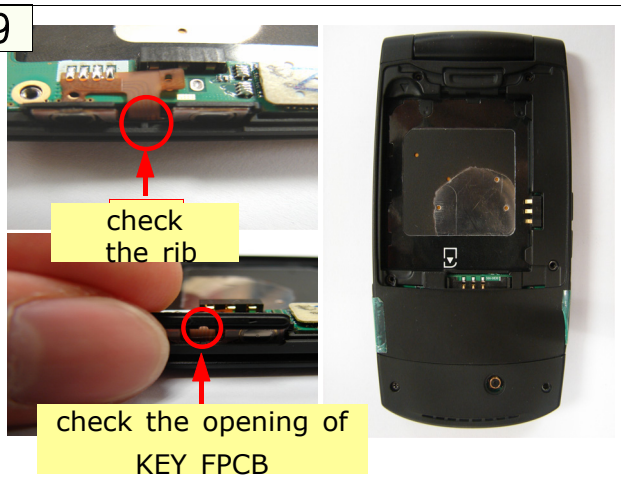


1.Connect the EL KEYPAD CONNECTOR to PBA firmly with a ticking.
2.Set the PBA on the FRONT.
3.Assemble the VOLUME KEY FPCB to FRONT.
4.Screw 1 POINT of PBA's top part.
5.Connect the LCD CONNECTOR firmly with a ticking.
6.Connect the CAMERA CONNECTOR firmly with a ticking.

※ **caution**

1) Be careful NOT TO TEAR the EL SHEET FPCB.
2) Do NOT PRESS T-FLASH CARD SOCKET with fingers when connecting the EL KEYPAD FPCB CONNECTOR.

9

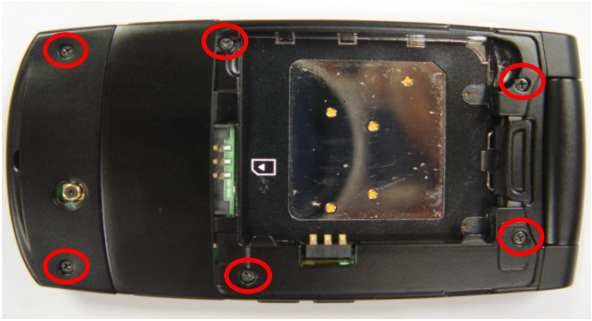


1.Set VOLUME KEY FPCBto the Rib of FRONT side by side.
2.Assemble the VOLUME KEY's opening to FRONT's rising exactly.
3.Assemble the REAR top parts to FRONT top parts exactly.
4.Assemble not to remove T-FLASH COVER/IF COVER/VOLUME KEY.

※ caution

1) Check turning upside down of the VOLUME KEY .
2) Check the remaining of T-FLASH COVER/IF COVER/VOLUME KEY.

10



1.Check the SET assembly and the GAP.
2.Set on the SCREW JIG.
3.Screw 6 POINTs of the REAR.

※ caution

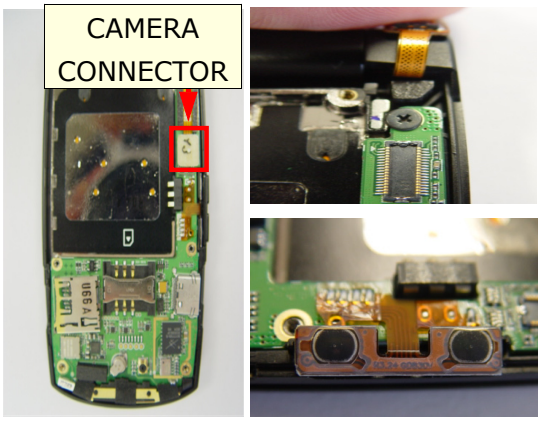
1) Be careful NOT TO SCRATCH the outward appearance.

5-4. Assembly

1

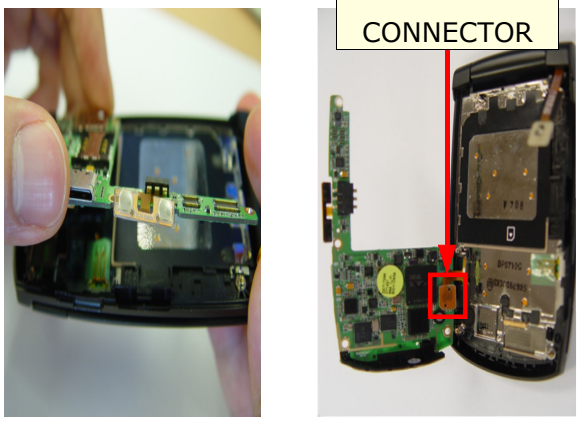
1. Unscrew the rear (6 POINT)
2. Disassemble the rear from a handset.

2



1. Detach the CAMERA CONNECTOR.
2. Detach the LCD CONNECTOR.
3. Disassemble the VOLUME KEY.
4. Unscrew the PBA. (1 POINT)
5. Disassemble the VOLUME KEY FPCB from the FRONT.

3

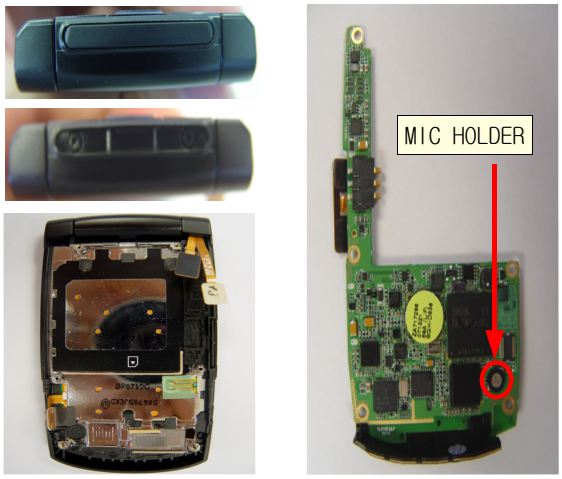


1. Lift the PBA from FRONT carefully.
2. After lifting the PBA completely from FRONT, detach the EL KEYPAD CONNECTOR from the PBA.

※ **caution**

1) Be careful NOT TO TEAR the FPCB of the EL KEYPAD CONNECTOR when lifting the PBA from FRONT.

4



1. Detach the STOPPER with tweezers on the FOLDER HINGE.
2. Unscrew the HINGE (2 POINT).

※ **caution**

1) Be careful NOT TO SCRATCH the outward appearance when using tweezers.

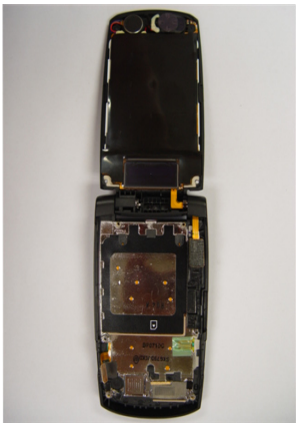
5

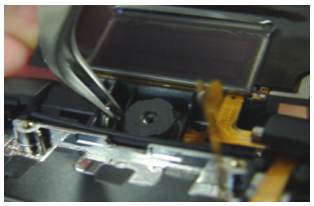
1. Detach the SCREW RUBBER/SHEET with tweezers.
2. Unscrew the FOLDER (4POINT).
3. Disassemble the UPPER from the LOWER with a disassembling JIG.

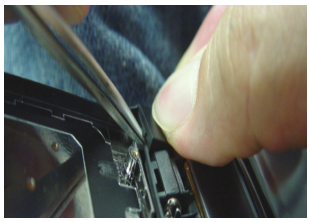
※ **caution**

1) Be careful NOT TO SCRATCH the outward appearance when using tweezers.

6





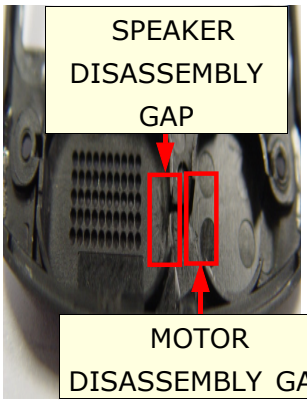


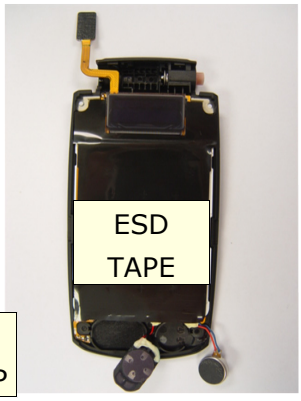
1. After remove CAMERA FPCB from the HINGE DUMMY, detach the CAMERA.
2. Remove the LCD FPCB from the HINGE DUMMY.
3. Disassemble the LOWER from the FRONT inserting tweezers into the gap of the right side top.

※ **caution**

1) Be careful NOT TO SCRATCH the outward appearance when using tweezers.
2) Do NOT OVERPOWER handling the FPCB.

7



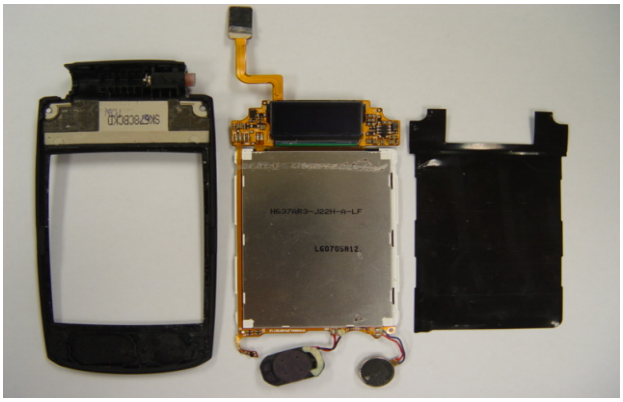


1. Disassemble the SPEAKER/MOTOR with tweezers.
2. Detach the ESD TAPE from the LCD

※ **caution**

1) Do USE the disassembly gap when disassembling SPEAKER/MOTOR.
2) Be careful NOT TO SCRATCH the outward appearance when using tweezers.

8



1. Disassemble the LCD from the LOWER.

※ **caution**

1) Be careful NOT to damage MAIN WINDOW and LCD/LOWER as the MAIN WINDOW and LCD is a part.
2) Do NOT REUSE LCD/ESD TAPE/LOWER after disassembly.

6. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	STATUS
4202-001165	ANT100	ANTENNA-CHIP	SA
4302-001158	BAT300	BATTERY-LI(2ND)	SA
3711-006256	BTC500	HEADER-BATTERY	SA
2203-005729	C100	C-CER,CHIP	SA
2203-005053	C101	C-CER,CHIP	SA
2007-000171	C102	R-CHIP	SA
2203-006423	C104	C-CER,CHIP	SA
2203-006837	C105	C-CER,CHIP	SA
2203-005725	C106	C-CER,CHIP	SA
2203-006562	C107	C-CER,CHIP	SA
2203-000330	C108	C-CER,CHIP	SA
2203-002677	C109	C-CER,CHIP	SA
2203-006318	C110	C-CER,CHIP	SA
2203-005792	C111	C-CER,CHIP	SA
2203-006423	C112	C-CER,CHIP	SA
2203-005682	C113	C-CER,CHIP	SA
2203-006305	C116	C-CER,CHIP	SA
2203-006305	C117	C-CER,CHIP	SA
2203-006896	C119	C-CER,CHIP	SA
2203-006121	C121	C-CER,CHIP	SA
2203-006361	C122	C-CER,CHIP	SA
2203-005736	C123	C-CER,CHIP	SA
2203-000254	C124	C-CER,CHIP	SA
2203-005736	C125	C-CER,CHIP	SA
2203-005736	C126	C-CER,CHIP	SA
2203-006194	C128	C-CER,CHIP	SA
2203-006194	C129	C-CER,CHIP	SA
2203-005806	C130	C-CER,CHIP	SA
2203-005683	C131	C-CER,CHIP	SA
2203-006194	C132	C-CER,CHIP	SA
2203-006562	C133	C-CER,CHIP	SA
2203-006562	C134	C-CER,CHIP	SA
2203-005736	C135	C-CER,CHIP	SA
2203-006423	C136	C-CER,CHIP	SA
2203-006423	C137	C-CER,CHIP	SA
2203-006562	C138	C-CER,CHIP	SA
2203-006423	C139	C-CER,CHIP	SA
2203-006556	C140	C-CER,CHIP	SA
2203-006194	C200	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006194	C201	C-CER,CHIP	SA
2203-006423	C202	C-CER,CHIP	SA
2203-006423	C203	C-CER,CHIP	SA
2203-006194	C204	C-CER,CHIP	SA
2203-006423	C205	C-CER,CHIP	SA
2203-006194	C206	C-CER,CHIP	SA
2203-006194	C207	C-CER,CHIP	SA
2203-006194	C208	C-CER,CHIP	SA
2203-006423	C209	C-CER,CHIP	SA
2203-005482	C210	C-CER,CHIP	SA
2203-006399	C211	C-CER,CHIP	SA
2203-006399	C212	C-CER,CHIP	SA
2203-006399	C213	C-CER,CHIP	SA
2203-005482	C214	C-CER,CHIP	SA
2203-005482	C215	C-CER,CHIP	SA
2203-006423	C216	C-CER,CHIP	SA
2203-005729	C217	C-CER,CHIP	SA
2203-005729	C218	C-CER,CHIP	SA
2203-006562	C219	C-CER,CHIP	SA
2203-006260	C220	C-CER,CHIP	SA
2203-006121	C300	C-CER,CHIP	SA
2203-006423	C301	C-CER,CHIP	SA
2203-005682	C302	C-CER,CHIP	SA
2203-005682	C303	C-CER,CHIP	SA
2203-005682	C304	C-CER,CHIP	SA
2203-005482	C305	C-CER,CHIP	SA
2203-006194	C306	C-CER,CHIP	SA
2203-006194	C307	C-CER,CHIP	SA
2203-006423	C308	C-CER,CHIP	SA
2203-006423	C309	C-CER,CHIP	SA
2203-006201	C310	C-CER,CHIP	SA
2203-005482	C311	C-CER,CHIP	SA
2203-006423	C312	C-CER,CHIP	SA
2203-006562	C313	C-CER,CHIP	SA
2203-006562	C314	C-CER,CHIP	SA
2203-006562	C315	C-CER,CHIP	SA
2203-006562	C316	C-CER,CHIP	SA
2203-006562	C317	C-CER,CHIP	SA
2203-006562	C318	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006562	C319	C-CER,CHIP	SA
2203-005736	C320	C-CER,CHIP	SA
2203-006562	C321	C-CER,CHIP	SA
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2203-006466	C323	C-CER,CHIP	SA
2203-006137	C324	C-CER,CHIP	SA
2203-006648	C325	C-CER,CHIP	SA
2203-006194	C326	C-CER,CHIP	SA
2203-006423	C327	C-CER,CHIP	SA
2203-006562	C328	C-CER,CHIP	SA
2203-006562	C329	C-CER,CHIP	SA
2203-006194	C330	C-CER,CHIP	SA
2203-006562	C331	C-CER,CHIP	SA
2203-005482	C332	C-CER,CHIP	SA
2203-001033	C333	C-CER,CHIP	SA
2203-006562	C334	C-CER,CHIP	SA
2203-006562	C335	C-CER,CHIP	SA
2203-000438	C336	C-CER,CHIP	SA
2203-002443	C337	C-CER,CHIP	SA
2203-002443	C338	C-CER,CHIP	SA
2404-001381	C339	C-TA,CHIP	SA
2203-006825	C340	C-CER,CHIP	SA
2203-006825	C341	C-CER,CHIP	SA
2203-006562	C342	C-CER,CHIP	SA
2203-006825	C343	C-CER,CHIP	SA
2203-006562	C344	C-CER,CHIP	SA
2203-006825	C345	C-CER,CHIP	SA
2203-006825	C346	C-CER,CHIP	SA
2203-006562	C347	C-CER,CHIP	SA
2203-006562	C348	C-CER,CHIP	SA
2404-001381	C349	C-TA,CHIP	SA
2203-006194	C350	C-CER,CHIP	SA
2203-006825	C351	C-CER,CHIP	SA
2203-006257	C352	C-CER,CHIP	SA
2203-006648	C353	C-CER,CHIP	SA
2203-006423	C400	C-CER,CHIP	SA
2203-006562	C401	C-CER,CHIP	SA
2203-006562	C402	C-CER,CHIP	SA
2203-006423	C403	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006423	C404	C-CER,CHIP	SA
2203-006190	C405	C-CER,CHIP	SA
2203-006190	C406	C-CER,CHIP	SA
2404-001225	C407	C-TA,CHIP	SA
2203-006647	C408	C-CER,CHIP	SA
2203-006838	C409	C-CER,CHIP	SA
2404-001339	C410	C-TA,CHIP	SA
2203-005481	C411	C-CER,CHIP	SA
2203-000654	C413	C-CER,CHIP	SA
2203-006562	C414	C-CER,CHIP	SA
2203-006423	C415	C-CER,CHIP	SA
2203-000254	C416	C-CER,CHIP	SA
2203-006257	C417	C-CER,CHIP	SA
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2203-006257	C419	C-CER,CHIP	SA
2203-005806	C420	C-CER,CHIP	SA
2203-006562	C421	C-CER,CHIP	SA
2203-006423	C422	C-CER,CHIP	SA
2203-006324	C423	C-CER,CHIP	SA
2203-006423	C424	C-CER,CHIP	SA
2203-006379	C425	C-CER,CHIP	SA
2203-006647	C426	C-CER,CHIP	SA
2203-006305	C427	C-CER,CHIP	SA
2203-006305	C428	C-CER,CHIP	SA
2203-006562	C429	C-CER,CHIP	SA
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2203-000438	C433	C-CER,CHIP	SA
2203-006562	C434	C-CER,CHIP	SA
2203-006562	C435	C-CER,CHIP	SA
2203-006423	C436	C-CER,CHIP	SA
2203-006585	C437	C-CER,CHIP	SA
2203-006585	C438	C-CER,CHIP	SA
2203-000438	C439	C-CER,CHIP	SA
2203-000438	C440	C-CER,CHIP	SA
2203-006562	C441	C-CER,CHIP	SA
2203-006562	C442	C-CER,CHIP	SA
2203-006562	C443	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006562	C444	C-CER,CHIP	SA
2203-006257	C445	C-CER,CHIP	SA
2404-001352	C446	C-TA,CHIP	SA
2203-006562	C447	C-CER,CHIP	SA
2203-006260	C448	C-CER,CHIP	SA
2203-005682	C449	C-CER,CHIP	SA
2203-006562	C450	C-CER,CHIP	SA
2203-000854	C451	C-CER,CHIP	SA
2203-005682	C452	C-CER,CHIP	SA
2203-005683	C453	C-CER,CHIP	SA
2203-006260	C454	C-CER,CHIP	SA
2203-005682	C455	C-CER,CHIP	SA
2203-005682	C456	C-CER,CHIP	SA
2203-006585	C459	C-CER,CHIP	SA
2203-006585	C460	C-CER,CHIP	SA
2404-001225	C461	C-TA,CHIP	SA
2404-001448	C462	C-TA,CHIP	SA
2404-001448	C463	C-TA,CHIP	SA
2203-006348	C501	C-CER,CHIP	SA
2203-006348	C502	C-CER,CHIP	SA
2404-001377	C503	C-TA,CHIP	SA
1405-001177	C506	VARISTOR	SA
2203-005729	C508	C-CER,CHIP	SA
2203-005729	C509	C-CER,CHIP	SA
1405-001177	C510	VARISTOR	SA
2203-005682	C511	C-CER,CHIP	SA
2203-006190	C512	C-CER,CHIP	SA
2203-006190	C513	C-CER,CHIP	SA
2203-005682	C514	C-CER,CHIP	SA
2203-005682	C515	C-CER,CHIP	SA
2203-006423	C516	C-CER,CHIP	SA
2203-000995	C519	C-CER,CHIP	SA
2203-006190	C520	C-CER,CHIP	SA
2404-001396	C521	C-TA,CHIP	SA
2203-006190	C522	C-CER,CHIP	SA
2203-006137	C523	C-CER,CHIP	SA
2404-001416	C524	C-TA,CHIP	SA
2203-006399	C525	C-CER,CHIP	SA
2203-006194	C526	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2404-001274	C527	C-TA,CHIP	SA
2203-006423	C528	C-CER,CHIP	SA
2203-006423	C529	C-CER,CHIP	SA
2203-006423	C530	C-CER,CHIP	SA
2203-005682	C532	C-CER,CHIP	SA
2203-005682	C533	C-CER,CHIP	SA
2203-005682	C534	C-CER,CHIP	SA
2203-005682	C535	C-CER,CHIP	SA
3709-001344	CD200	CONNECTOR-CARD EDGE	SA
0404-001172	D302	DIODE-SCHOTTKY	SA
2901-001326	F509	FILTER-EMI/ESD	SA
2901-001326	F510	FILTER-EMI/ESD	SA
2901-001326	F511	FILTER-EMI/ESD	SA
2901-001326	F512	FILTER-EMI/ESD	SA
2901-001326	F513	FILTER-EMI/ESD	SA
2901-001353	F514	FILTER-EMI/ESD	SA
2901-001353	F515	FILTER-EMI/ESD	SA
3711-005659	HDC500	HEADER-BOARD TO BOARD	SNA
3711-005581	HDC501	HEADER-BOARD TO BOARD	SNA
3711-005659	HDC502	HEADER-BOARD TO BOARD	SNA
3710-002306	IFC500	SOCKET-INTERFACE	SA
2703-002910	L101	INDUCTOR-SMD	SA
2703-002558	L102	INDUCTOR-SMD	SA
2007-000171	L103	R-CHIP	SA
2703-002198	L106	INDUCTOR-SMD	SA
2703-002198	L107	INDUCTOR-SMD	SA
2703-002586	L108	INDUCTOR-SMD	SA
2703-002586	L109	INDUCTOR-SMD	SA
2703-002700	L110	INDUCTOR-SMD	SA
2703-002700	L111	INDUCTOR-SMD	SA
2703-002794	L112	INDUCTOR-SMD	SNA
2703-002850	L300	INDUCTOR-SMD	SA
2703-002734	L302	INDUCTOR-SMD	SA
2703-002749	L303	INDUCTOR-SMD	SA
3301-001342	L304	BEAD-SMD	SA
3301-001342	L400	BEAD-SMD	SA
3301-001534	L402	BEAD-SMD	SA
3301-001342	L403	BEAD-SMD	SA
3301-001342	L404	BEAD-SMD	SA

SEC CODE	Design LOC	Discription	STATUS
2703-002824	L502	INDUCTOR-SMD	SA
1108-000063	MCP200	IC-MCP	SA
GH09-00045A	MCP200	IC MICOM	SA
4709-001374	MOD100	BLUETOOTH MODULE	SA
2801-004373	OSC200	CRYSTAL-SMD	SA
2801-004340	OSC401	CRYSTAL-SMD	SA
1201-002368	PAM100	IC-POWER AMP	SA
0505-001518	Q500	FET-SILICON	SA
2007-008542	R100	R-CHIP	SA
2007-009115	R101	R-CHIP	SA
2007-008579	R102	R-CHIP	SA
2007-008579	R103	R-CHIP	SA
2703-002917	R104	INDUCTOR-SMD	SA
2007-007317	R105	R-CHIP	SA
2007-008542	R108	R-CHIP	SA
2007-007741	R109	R-CHIP	SA
2007-007134	R113	R-CHIP	SA
2007-008531	R114	R-CHIP	SA
2007-008052	R116	R-CHIP	SA
2007-008045	R117	R-CHIP	SA
2007-008516	R118	R-CHIP	SA
2007-008587	R121	R-CHIP	SA
2007-008483	R122	R-CHIP	SA
2007-009314	R123	R-CHIP	SA
2007-008045	R124	R-CHIP	SA
2007-008542	R125	R-CHIP	SA
2007-008486	R200	R-CHIP	SA
2007-009155	R201	R-CHIP	SNA
2007-008483	R202	R-CHIP	SA
2007-008055	R203	R-CHIP	SA
2007-008483	R204	R-CHIP	SA
2007-008483	R205	R-CHIP	SA
2007-008483	R206	R-CHIP	SA
2007-008542	R207	R-CHIP	SA
2007-008516	R208	R-CHIP	SA
2007-008055	R209	R-CHIP	SA
2007-008055	R210	R-CHIP	SA
2007-008542	R211	R-CHIP	SA
2007-008055	R213	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-001284	R214	R-CHIP	SA
2007-008483	R216	R-CHIP	SA
2007-008483	R300	R-CHIP	SA
2007-008478	R301	R-CHIP	SA
2007-008420	R302	R-CHIP	SA
2007-008420	R303	R-CHIP	SA
2007-008588	R304	R-CHIP	SA
2007-009160	R307	R-CHIP	SA
2007-008137	R308	R-CHIP	SA
2007-008483	R309	R-CHIP	SA
2007-008055	R310	R-CHIP	SA
2007-008483	R311	R-CHIP	SA
2007-009170	R312	R-CHIP	SA
2007-009166	R313	R-CHIP	SA
2007-008419	R315	R-CHIP	SA
2007-008052	R316	R-CHIP	SA
2007-009167	R317	R-CHIP	SA
2007-008483	R320	R-CHIP	SA
2007-000690	R321	R-CHIP	SA
2007-008483	R322	R-CHIP	SA
2007-007590	R323	R-CHIP	SA
2007-008483	R324	R-CHIP	SA
2007-008483	R325	R-CHIP	SA
2007-008516	R326	R-CHIP	SA
2007-008542	R327	R-CHIP	SA
2007-008542	R328	R-CHIP	SA
2007-008542	R329	R-CHIP	SA
2007-008483	R400	R-CHIP	SA
2007-008483	R401	R-CHIP	SA
2007-008210	R402	R-CHIP	SA
2007-008210	R403	R-CHIP	SA
2007-008588	R404	R-CHIP	SA
2007-008588	R405	R-CHIP	SA
2007-008531	R406	R-CHIP	SA
2007-007798	R407	R-CHIP	SA
2007-000166	R409	R-CHIP	SA
2007-007798	R410	R-CHIP	SA
2007-000775	R411	R-CHIP	SA
2007-000775	R412	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-008051	R413	R-CHIP	SA
2007-008483	R414	R-CHIP	SA
2007-008419	R415	R-CHIP	SA
2007-008419	R416	R-CHIP	SA
2007-009084	R417	R-CHIP	SA
2007-008516	R418	R-CHIP	SA
2007-008483	R419	R-CHIP	SA
2007-008052	R420	R-CHIP	SA
2007-008483	R421	R-CHIP	SA
2007-008052	R422	R-CHIP	SA
2007-008052	R423	R-CHIP	SA
2007-007009	R424	R-CHIP	SA
2007-001306	R425	R-CHIP	SA
2007-008516	R426	R-CHIP	SA
2007-000171	R427	R-CHIP	SA
2007-007135	R428	R-CHIP	SA
2007-000171	R429	R-CHIP	SA
2007-007135	R430	R-CHIP	SA
2007-007142	R431	R-CHIP	SA
2007-007142	R432	R-CHIP	SA
2007-008483	R433	R-CHIP	SA
2007-000157	R434	R-CHIP	SA
2007-008544	R435	R-CHIP	SA
2007-002965	R436	R-CHIP	SA
2007-007528	R438	R-CHIP	SA
2007-007528	R439	R-CHIP	SA
2007-007142	R440	R-CHIP	SA
2007-007139	R441	R-CHIP	SA
2007-002965	R442	R-CHIP	SA
2007-007142	R443	R-CHIP	SA
2007-007139	R444	R-CHIP	SA
2007-008542	R450	R-CHIP	SA
2007-007142	R453	R-CHIP	SA
2007-007142	R454	R-CHIP	SA
2007-008800	R455	R-CHIP	SA
2007-008542	R500	R-CHIP	SA
2007-008045	R501	R-CHIP	SA
2007-008045	R502	R-CHIP	SA
2007-008045	R503	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-008045	R504	R-CHIP	SA
2007-008045	R505	R-CHIP	SA
2007-008045	R506	R-CHIP	SA
2007-008045	R507	R-CHIP	SA
2007-008045	R508	R-CHIP	SA
2007-008045	R509	R-CHIP	SA
2007-008045	R510	R-CHIP	SA
2007-008045	R511	R-CHIP	SA
2007-008045	R512	R-CHIP	SA
2007-008045	R513	R-CHIP	SA
2007-008045	R514	R-CHIP	SA
2007-008531	R515	R-CHIP	SA
2007-001119	R516	R-CHIP	SA
2007-000137	R517	R-CHIP	SA
2007-008542	R518	R-CHIP	SA
2007-008419	R519	R-CHIP	SA
2007-008055	R520	R-CHIP	SA
2007-008542	R521	R-CHIP	SA
2007-001284	R522	R-CHIP	SA
2007-008531	R523	R-CHIP	SA
2007-008045	R524	R-CHIP	SA
2007-008542	R525	R-CHIP	SA
2007-008045	R526	R-CHIP	SA
2007-007139	R527	R-CHIP	SA
2007-007528	R528	R-CHIP	SA
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2007-007142	R532	R-CHIP	SA
2007-007139	R533	R-CHIP	SA
2007-008403	R535	R-CHIP	SA
2007-000162	R537	R-CHIP	SA
2007-008785	R539	R-CHIP	SNA
2007-008542	R540	R-CHIP	SA
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2007-008785	R543	R-CHIP	SNA
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2007-008055	R546	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2007-008419	R549	R-CHIP	SA
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2007-008542	R552	R-CHIP	SA
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2007-008542	R554	R-CHIP	SA
2007-008542	R555	R-CHIP	SA
2007-008419	R556	R-CHIP	SA
2007-008542	R557	R-CHIP	SA
2007-008419	R559	R-CHIP	SA
2007-009194	R560	R-CHIP	SNA
2007-008486	R561	R-CHIP	SA
2007-008542	R562	R-CHIP	SA
3705-001421	RFS100	CONNECTOR-COAXIAL	SA
3709-001447	SIM300	CONNECTOR-CARD EDGE	SA
2809-001295	TCX100	OSCILLATOR-VCTCXO	SA
1404-001165	TH300	THERMISTOR-NTC	SA
0501-002039	TR300	TR-SMALL SIGNAL	SA
0504-000167	TR301	TR-DIGITAL	SA
2911-000034	U100	DUPLEXER-FEM	SA
1205-002944	U101	IC-TRANSCEIVER	SA
1203-003688	U102	IC-POSI.FIXED REG.	SA
0801-002958	U103	IC-CMOS LOGIC	SA
0801-002958	U200	IC-CMOS LOGIC	SA
1205-002568	U201	IC-SWITCH	SA
1203-003789	U202	IC-POWER SUPERVISOR	SA
1203-004119	U300	IC-POWER SUPERVISOR	SA
1205-002272	U301	IC-TRANSCEIVER	SA
1203-003663	U302	IC-BATTERY	SA
0801-002529	U303	IC-CMOS LOGIC	SA
1003-001395	U304	IC-EL DRIVER	SA
1203-002776	U305	IC-POSI.FIXED REG.	SA
1203-003815	U306	IC-POSI.FIXED REG.	SA
1203-004164	U307	IC-DC/DC CONVERTER	SA
1203-003737	U308	IC-POSI.FIXED REG.	SA
1203-003787	U309	IC-POSI.FIXED REG.	SA
1203-003517	U311	IC-MULTI REG.	SA
1204-002138	U400	IC-MELODY	SA

SEC CODE	Design LOC	Discription	STATUS
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1201-002147	U403	IC-VIDEO AMP	SA
1001-001336	U405	IC-ANALOG SWITCH	SA
1001-001348	U407	IC-ANALOG SWITCH	SA
1201-002233	U408	IC-AUDIO AMP	SA
1001-001306	U409	IC-ANALOG MULTIPLEX	SA
1203-003787	U410	IC-POSI.FIXED REG.	SA
1203-004294	U500	IC-DC/DC CONVERTER	SA
1001-001231	U503	IC-ANALOG SWITCH	SA
1205-002681	UCD400	IC-CODEC	SA
1405-001082	VR200	VARISTOR	SA
1405-001082	VR401	VARISTOR	SA
1405-001082	VR402	VARISTOR	SA
1405-001177	VR501	VARISTOR	SA
1405-001177	VR502	VARISTOR	SA
1405-001082	VR503	VARISTOR	SA
1405-001082	VR504	VARISTOR	SA
1405-001082	VR505	VARISTOR	SA
0406-001210	VR508	DIODE-TVS	SA
1405-001177	VR510	VARISTOR	SA
1405-001082	VR511	VARISTOR	SA
1405-001082	VR512	VARISTOR	SA
1405-001082	VR515	VARISTOR	SA
1405-001082	VR520	VARISTOR	SA
1405-001177	VR538	VARISTOR	SA
2203-006562	VR539	C-CER,CHIP	SA
0406-001210	ZD201	DIODE-TVS	SA
0406-001210	ZD202	DIODE-TVS	SA
0406-001210	ZD203	DIODE-TVS	SA
0406-001210	ZD204	DIODE-TVS	SA
0403-001511	ZD300	DIODE-ZENER	SA
0403-001547	ZD301	DIODE-ZENER	SA
0403-001547	ZD503	DIODE-ZENER	SA
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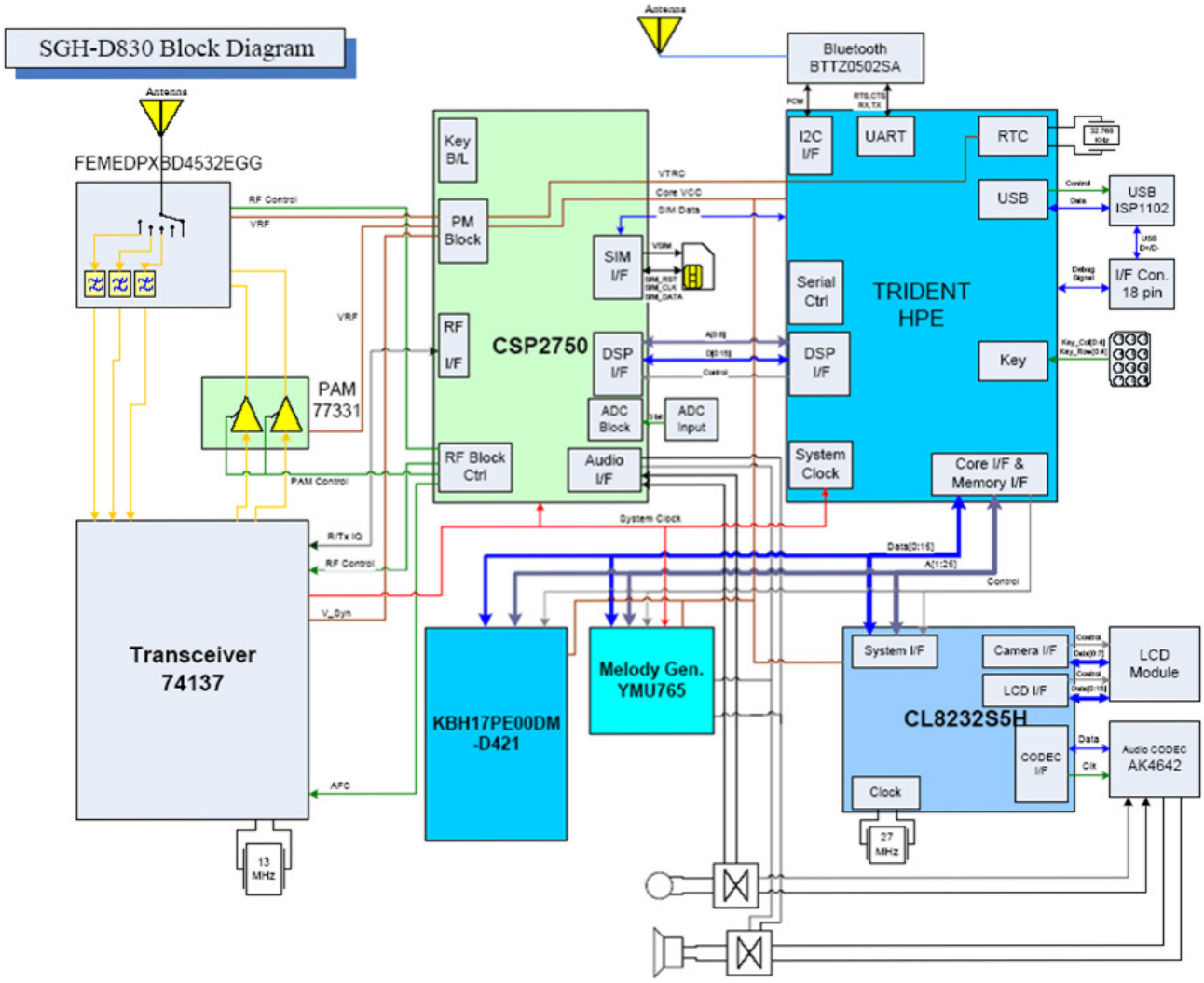
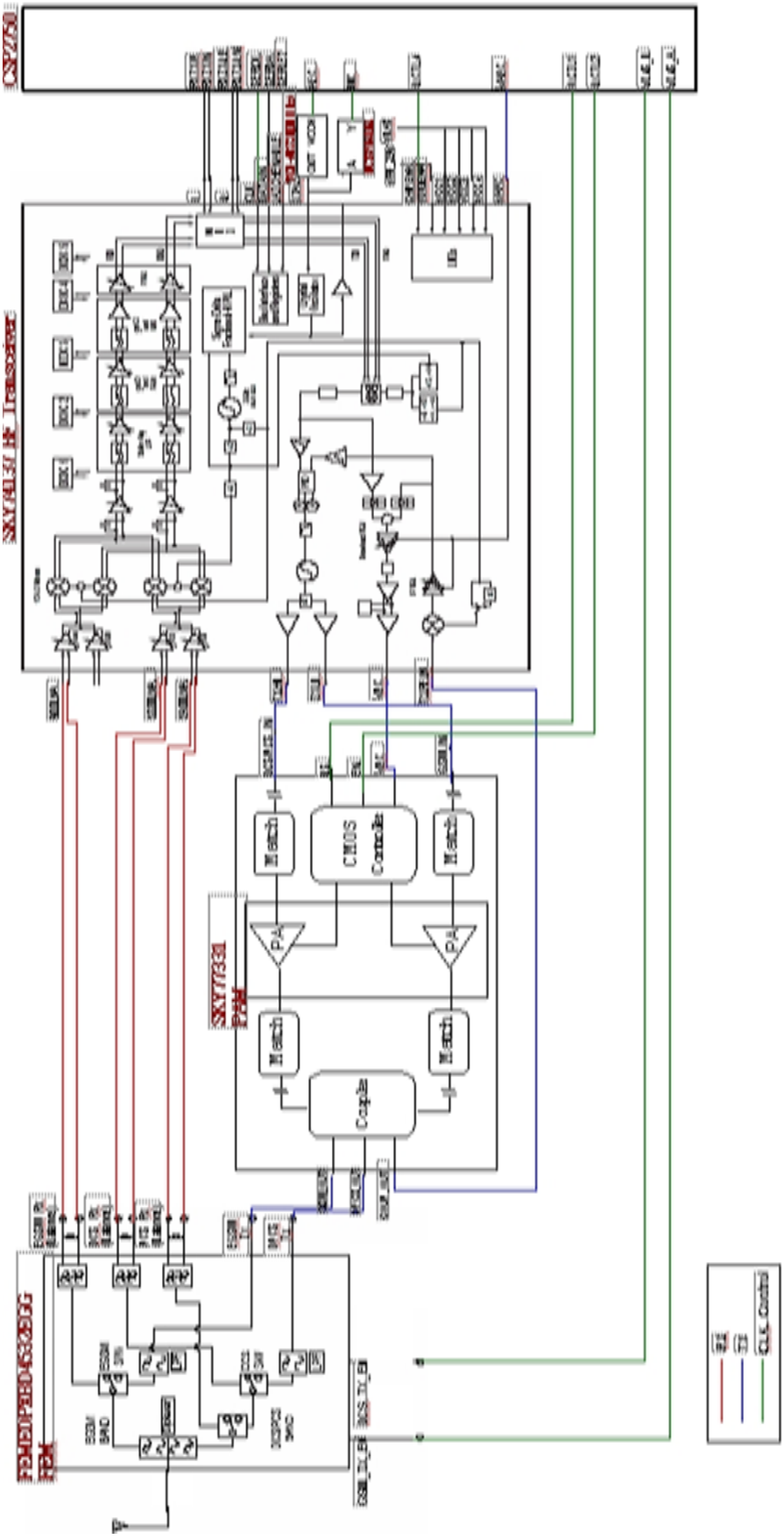
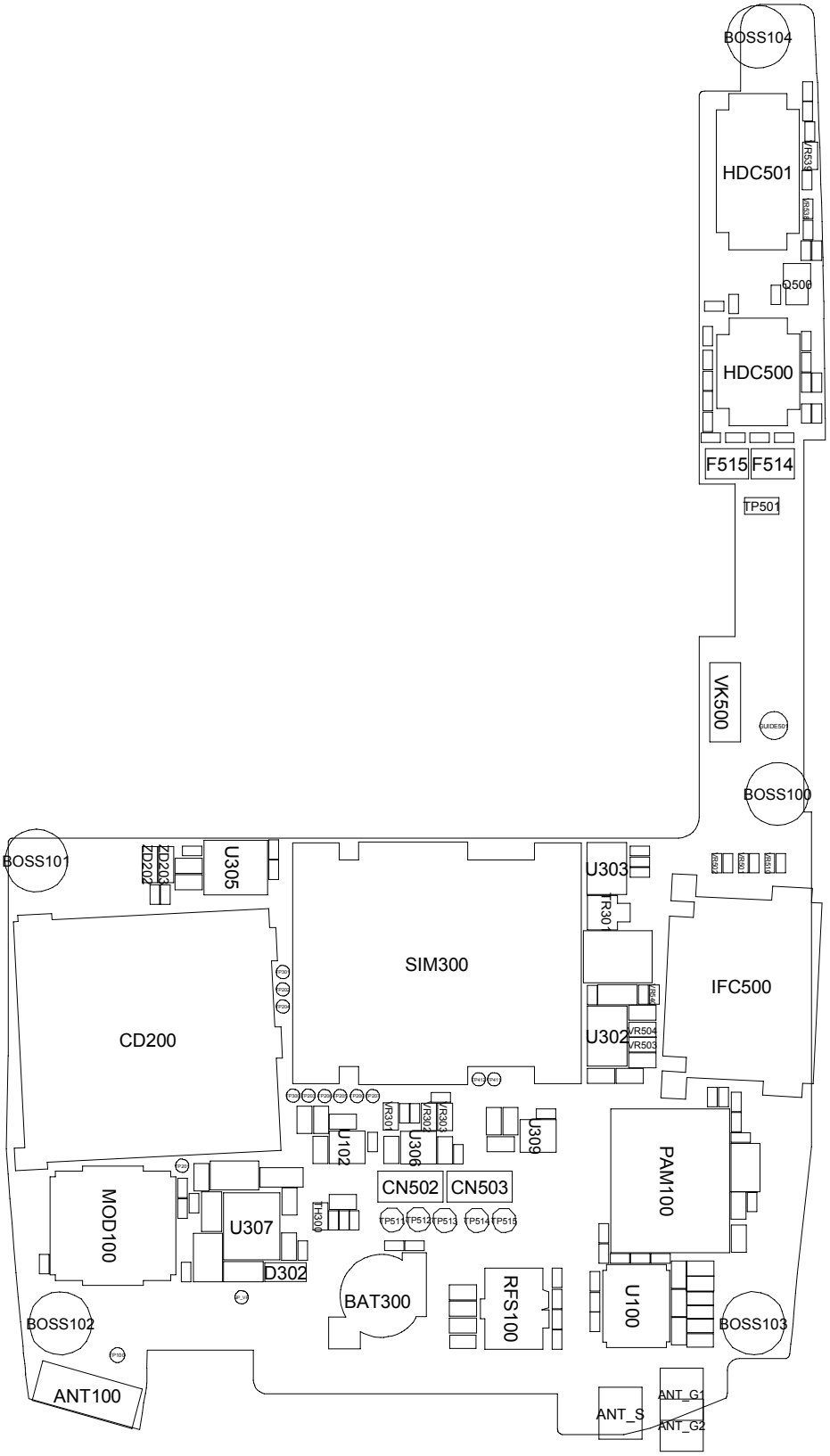
0406-001210	ZD506	DIODE-TVS	SA
0406-001210	ZD507	DIODE-TVS	SA
1405-001110	ZD508	VARISTOR	SA

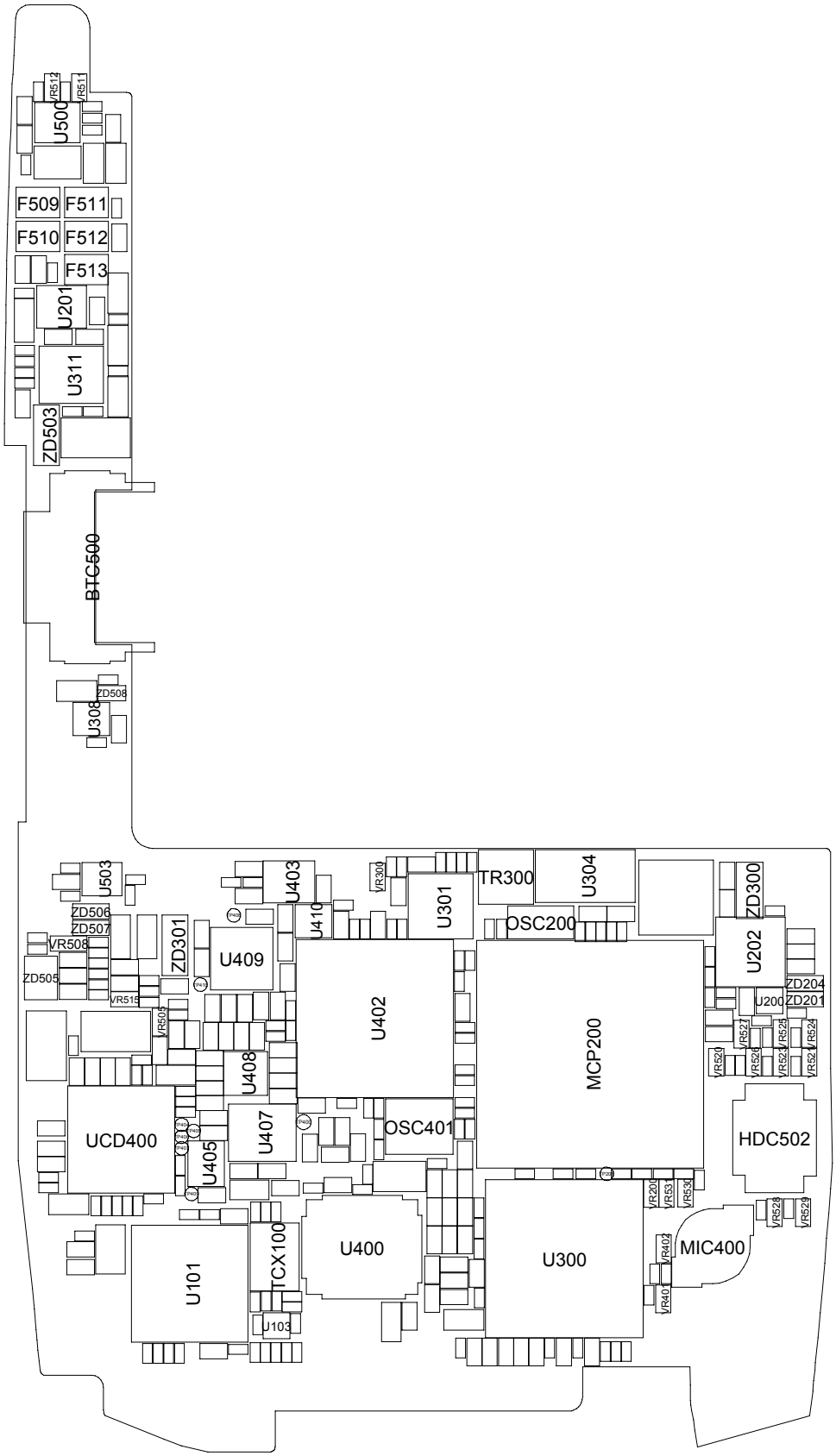
7. Block Diagrams





8. PCB Diagrams

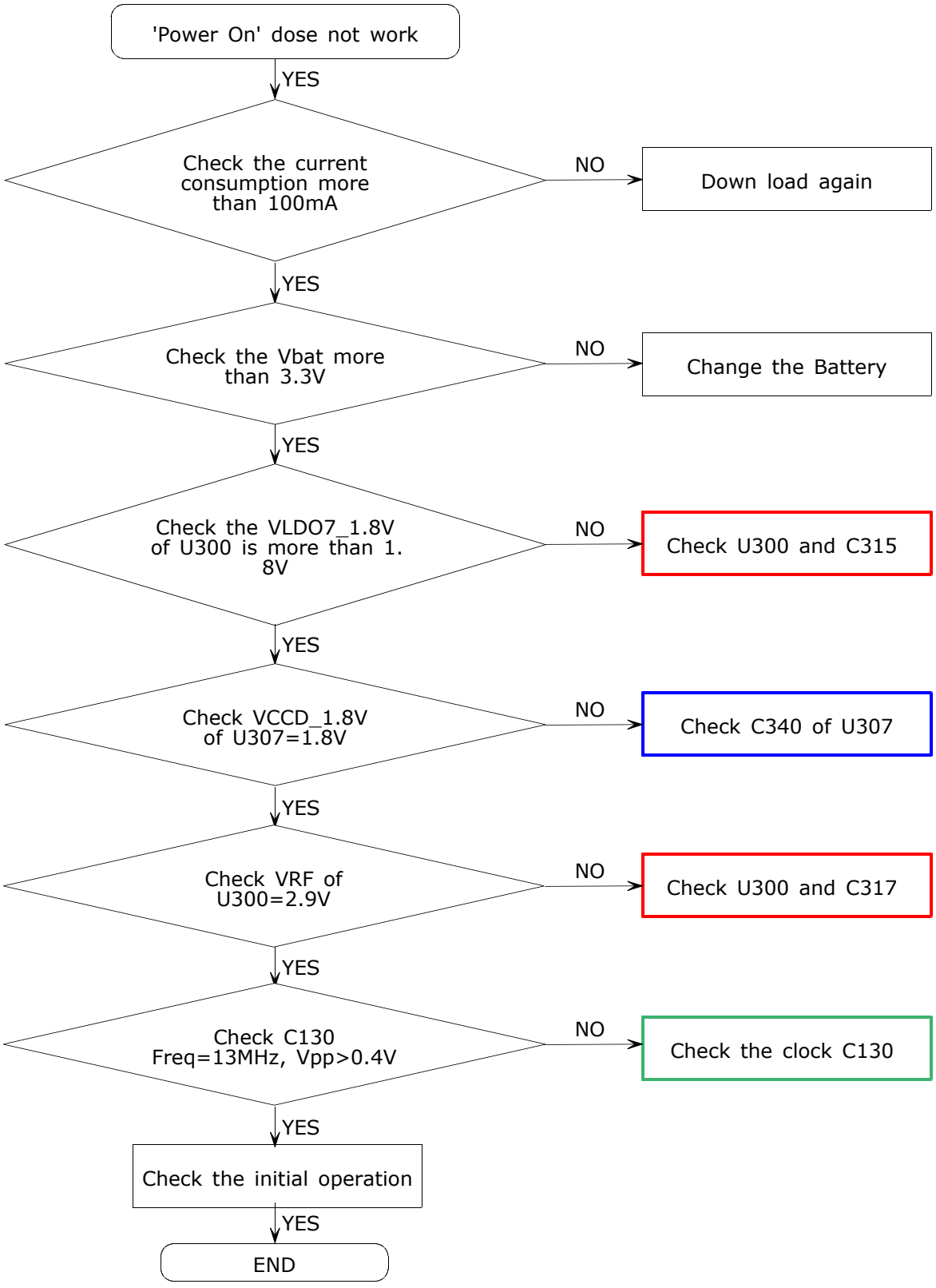


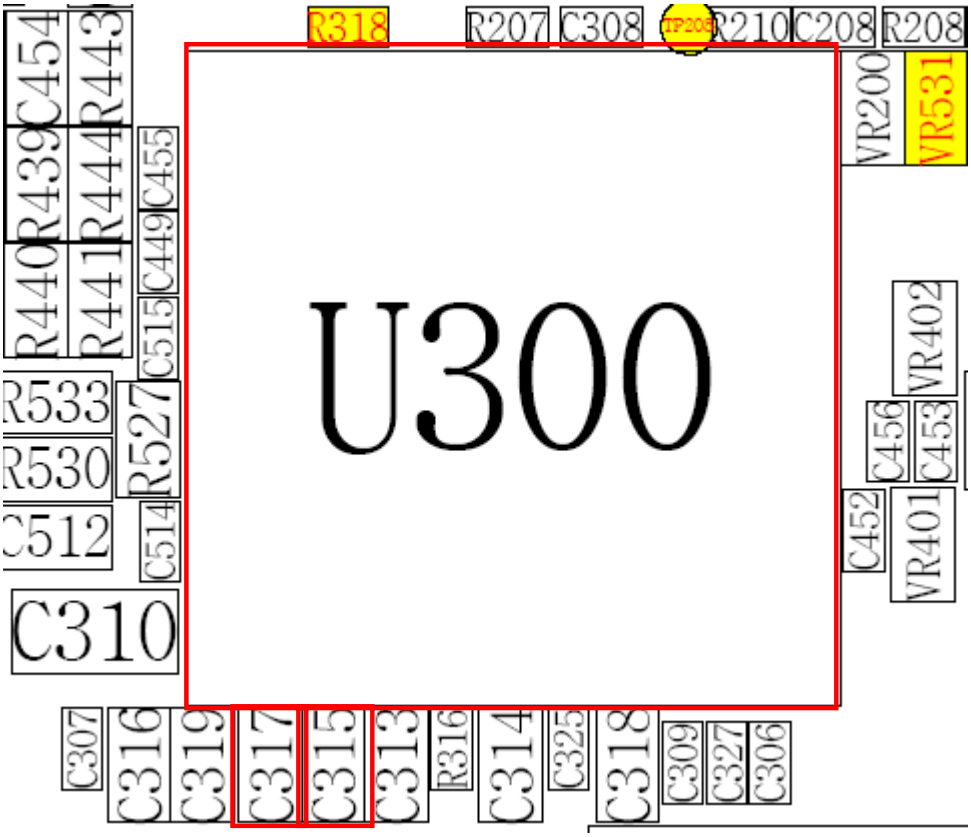


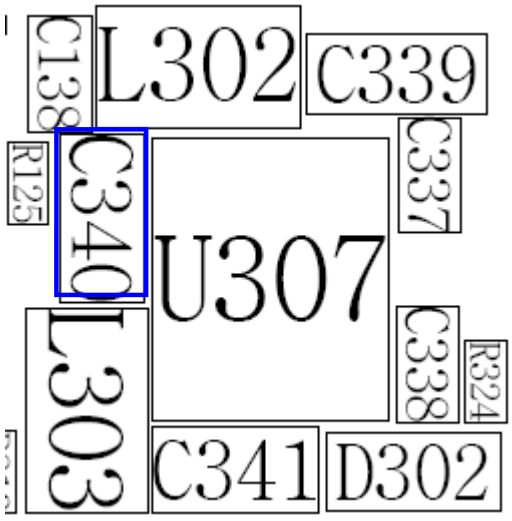
9. Flow Chart of Troubleshooting

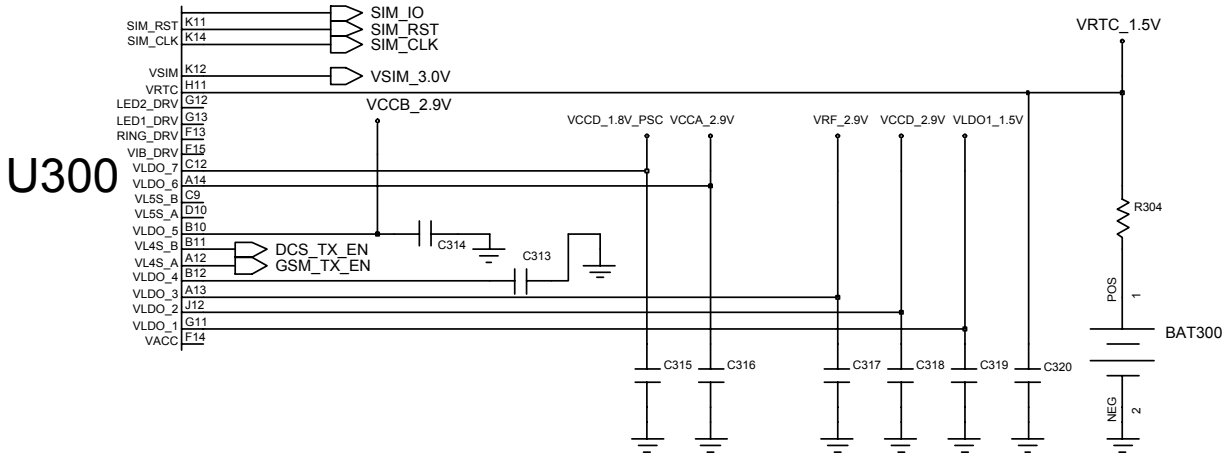
9-1. Baseband

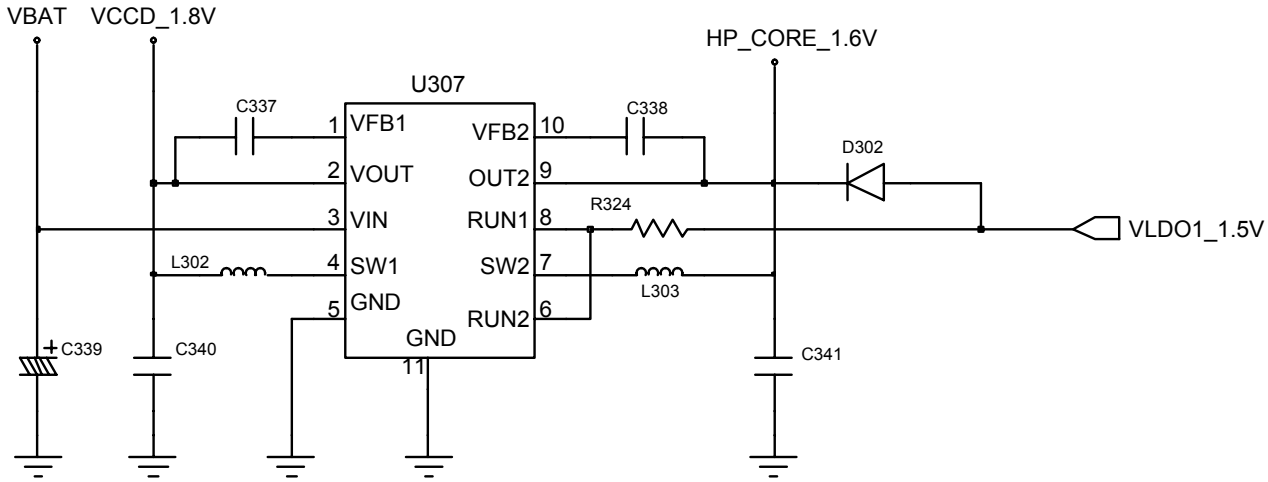
9-1-1. Power ON



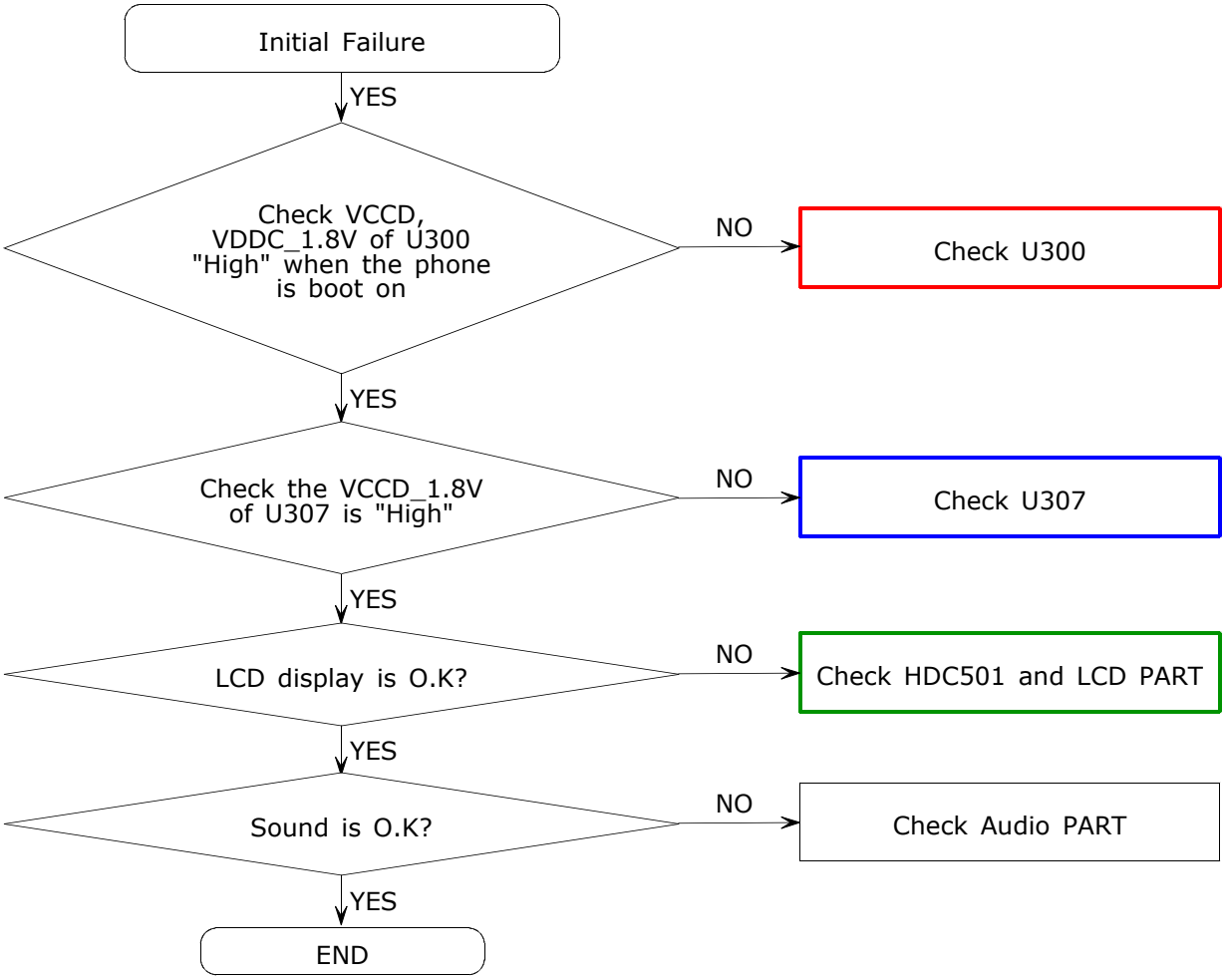


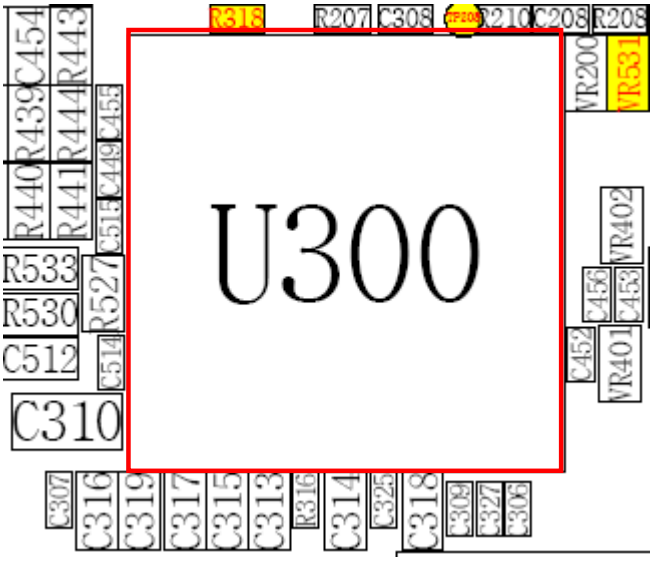


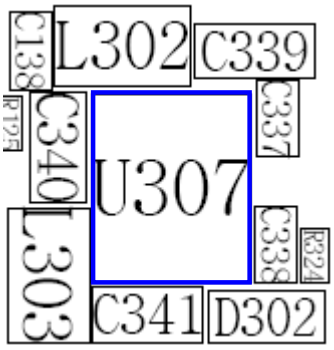


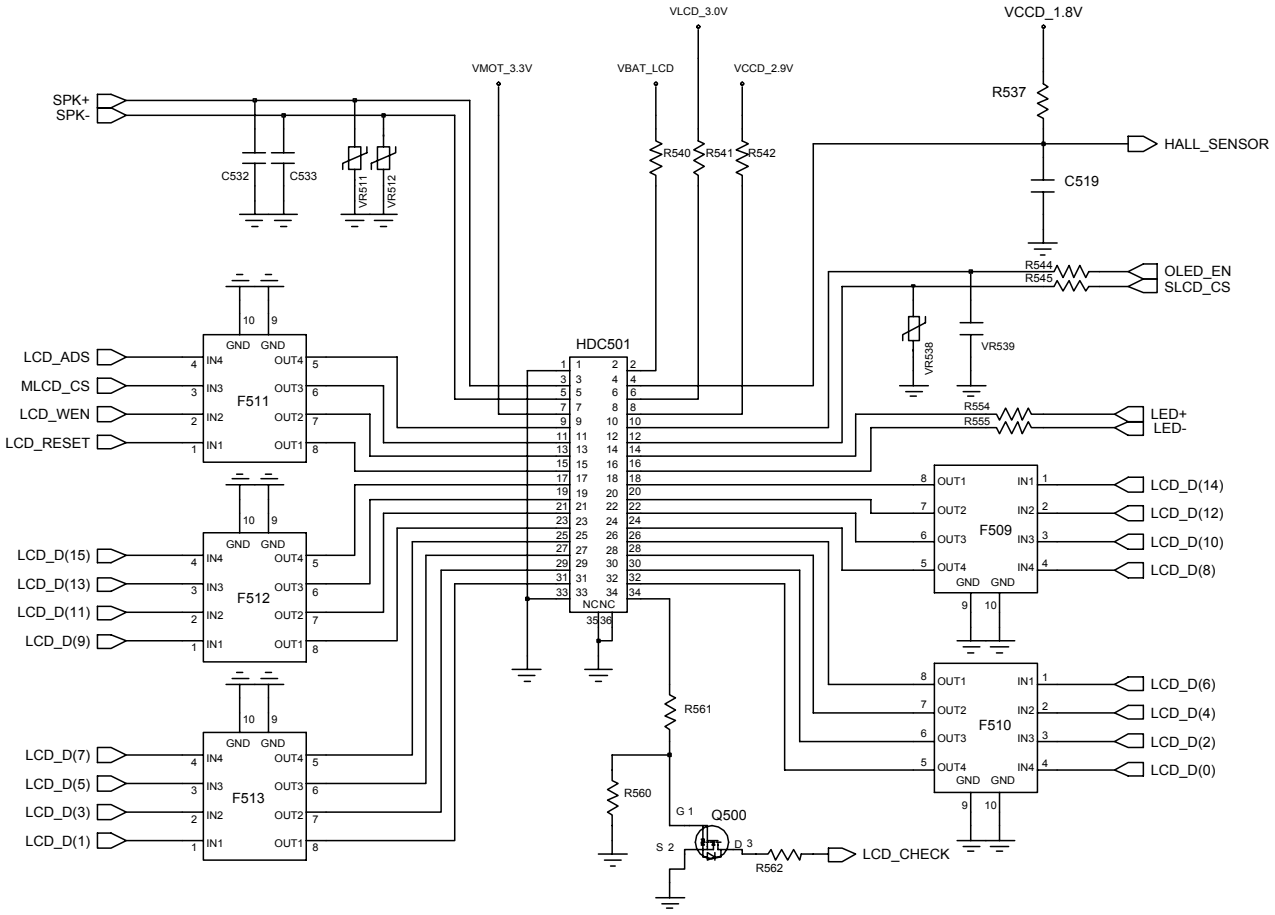


9-1-2. Initial

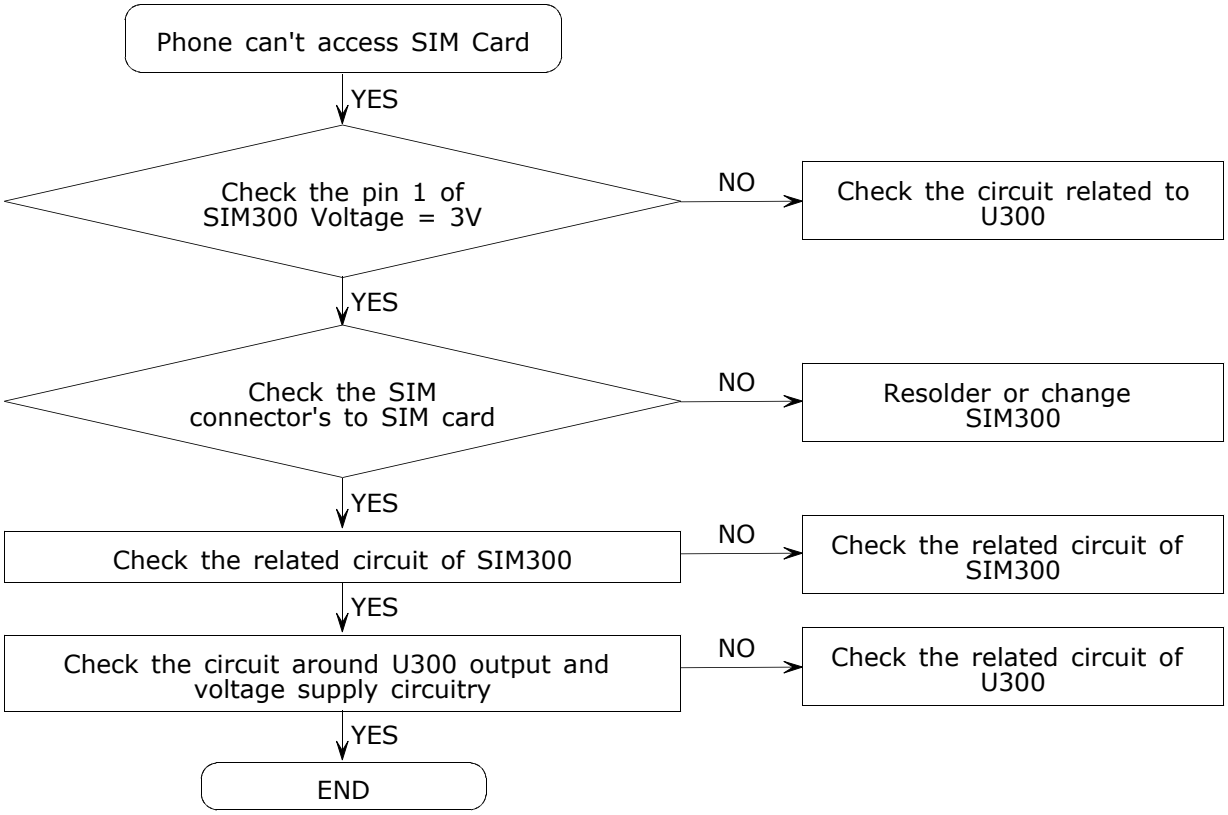


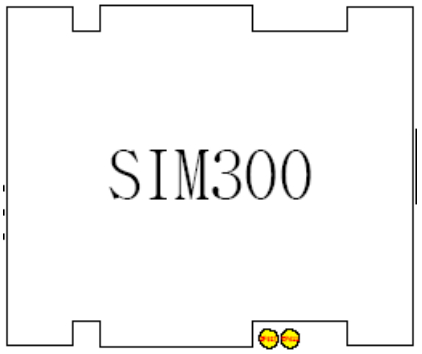


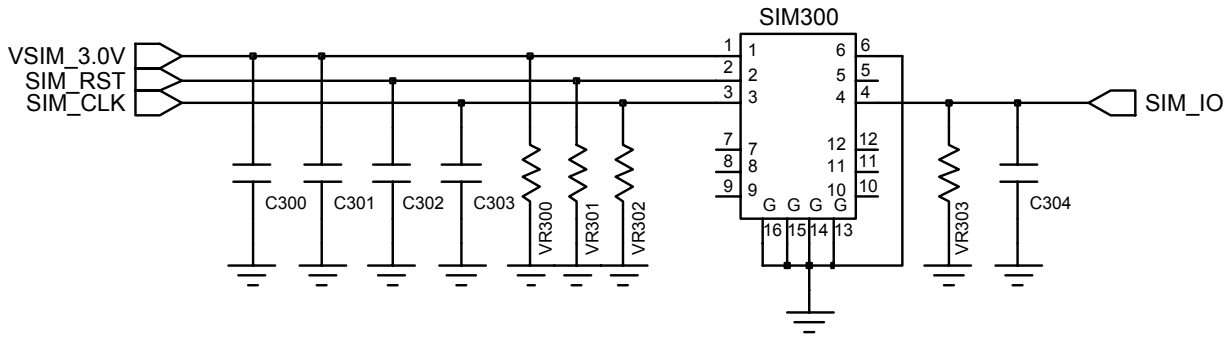




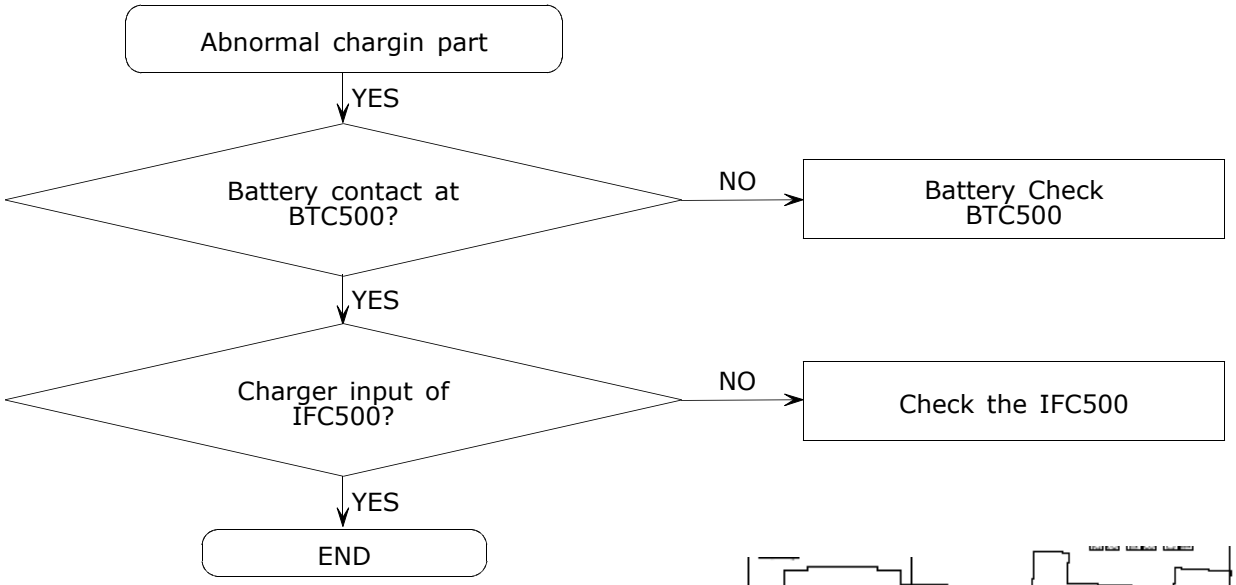
9-1-3. Sim Part

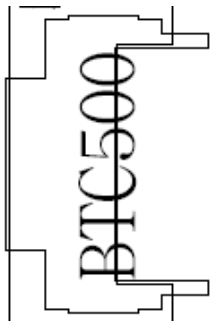


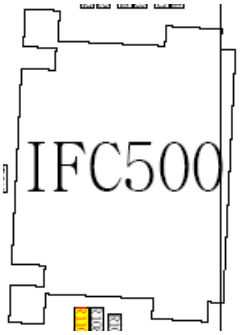


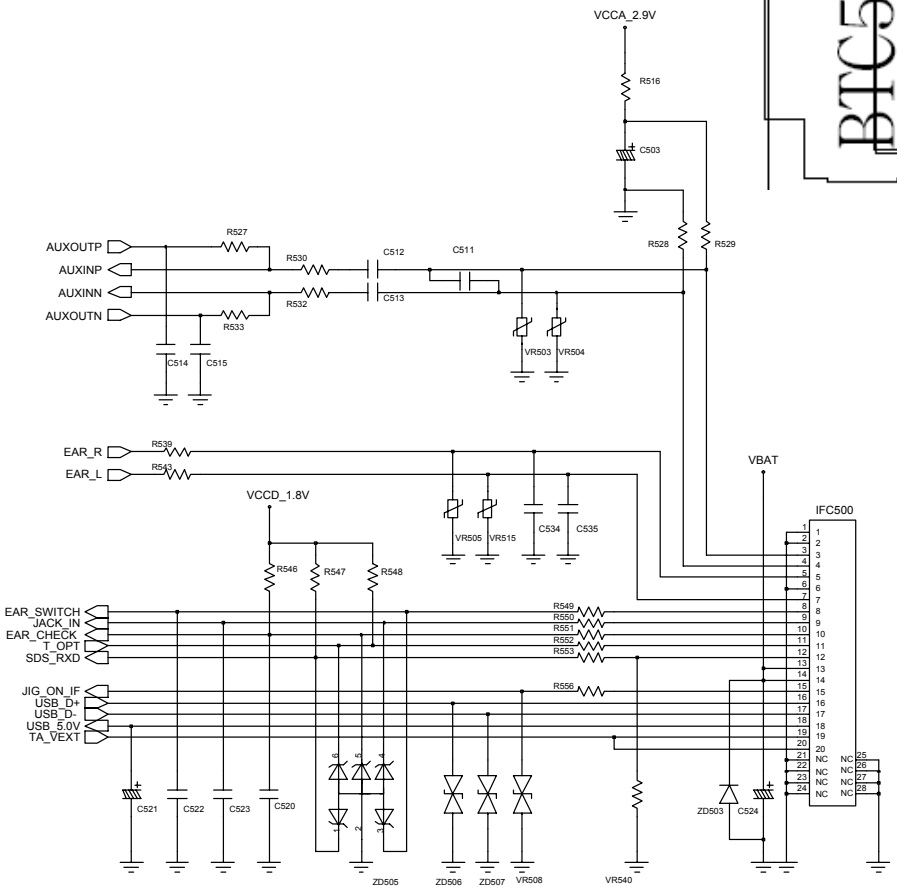


9-1-4. Charging Part

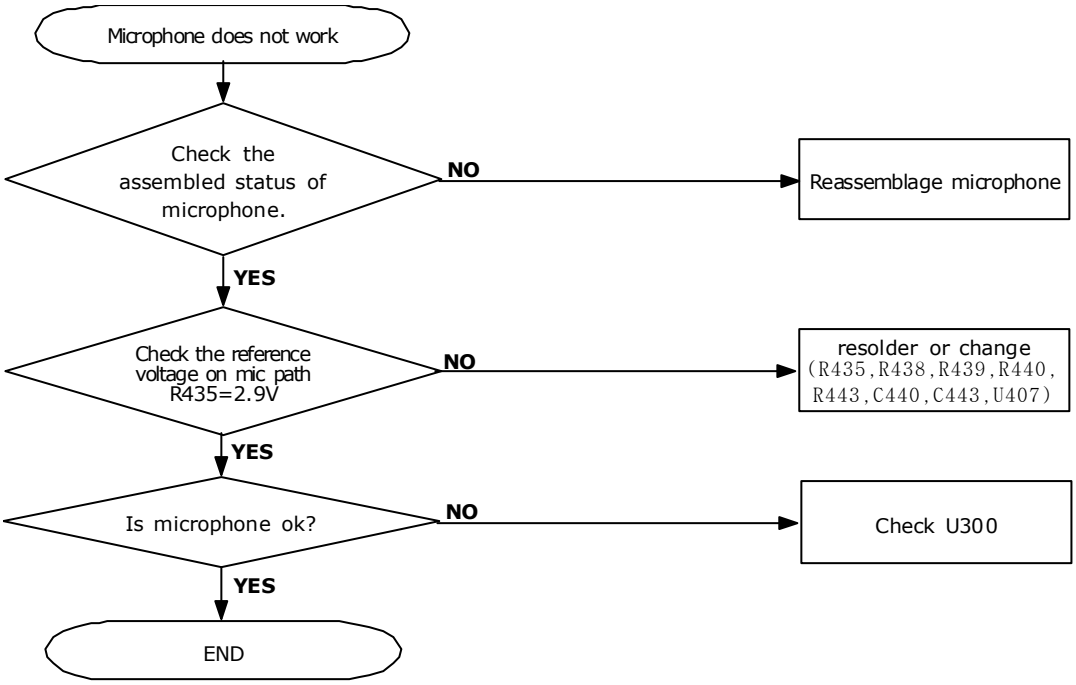


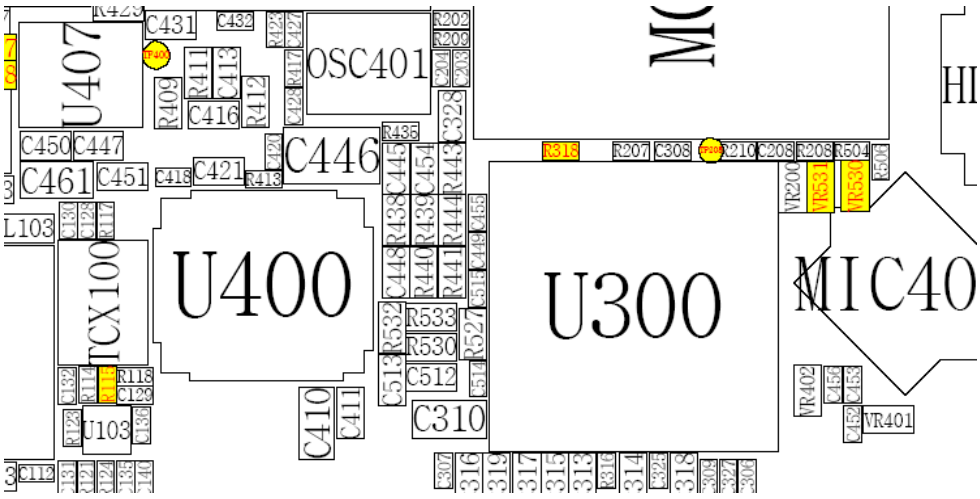


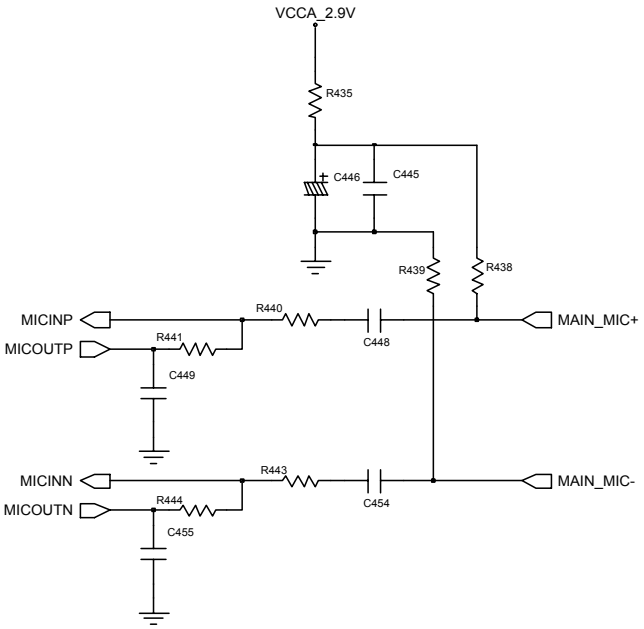


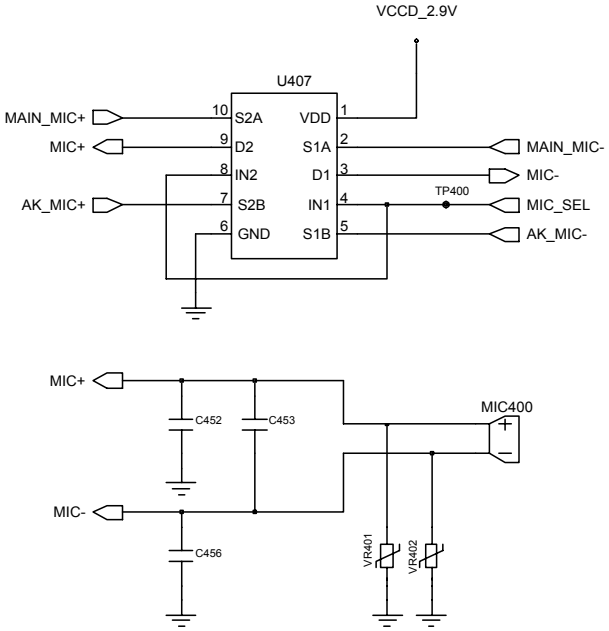


9-1-5. Microphone Part

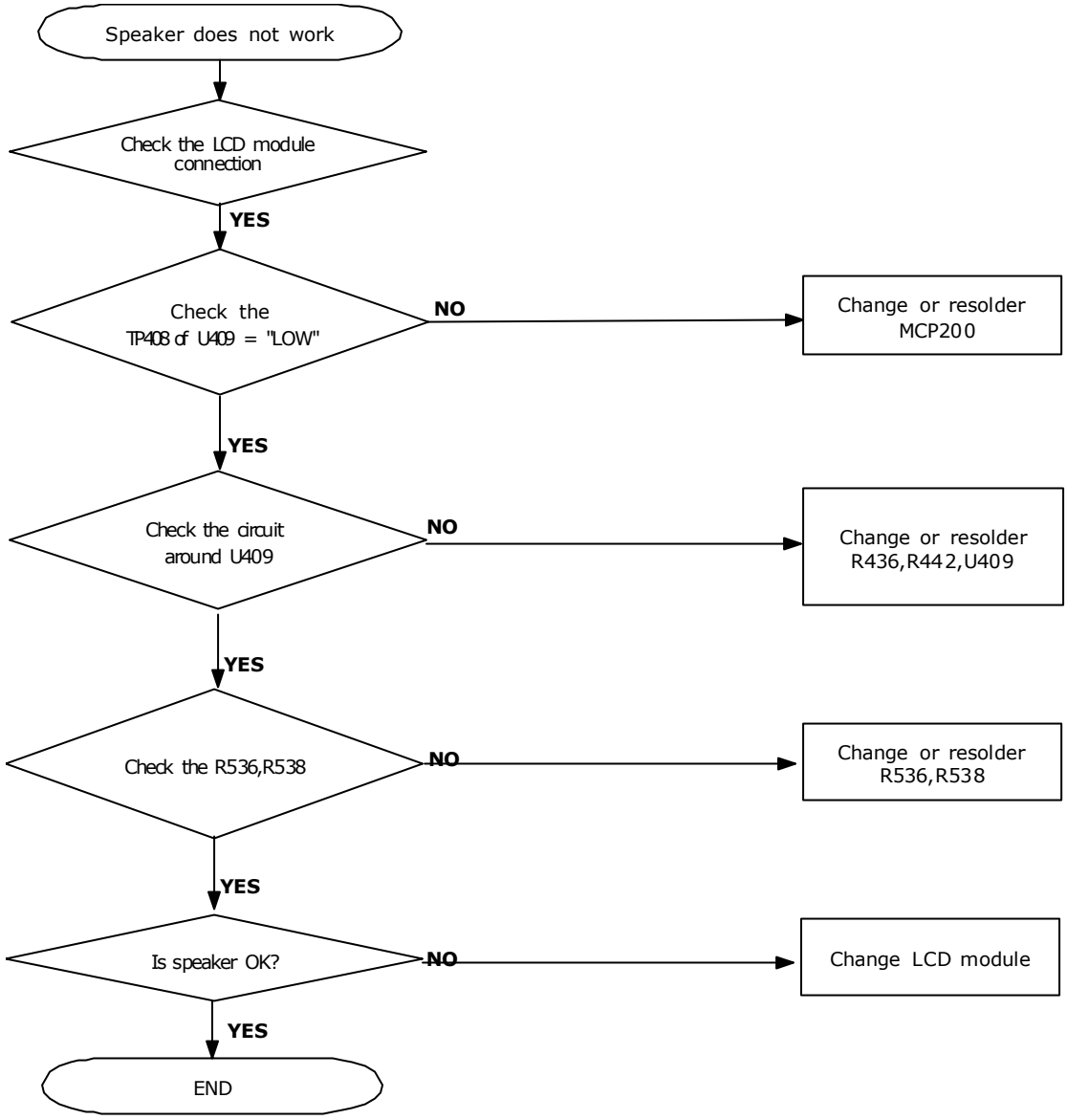


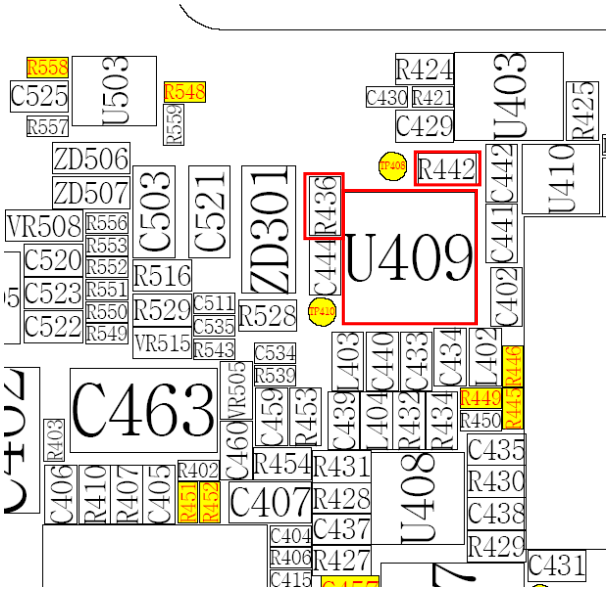


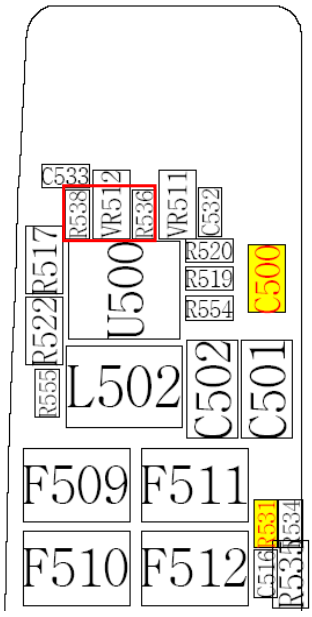


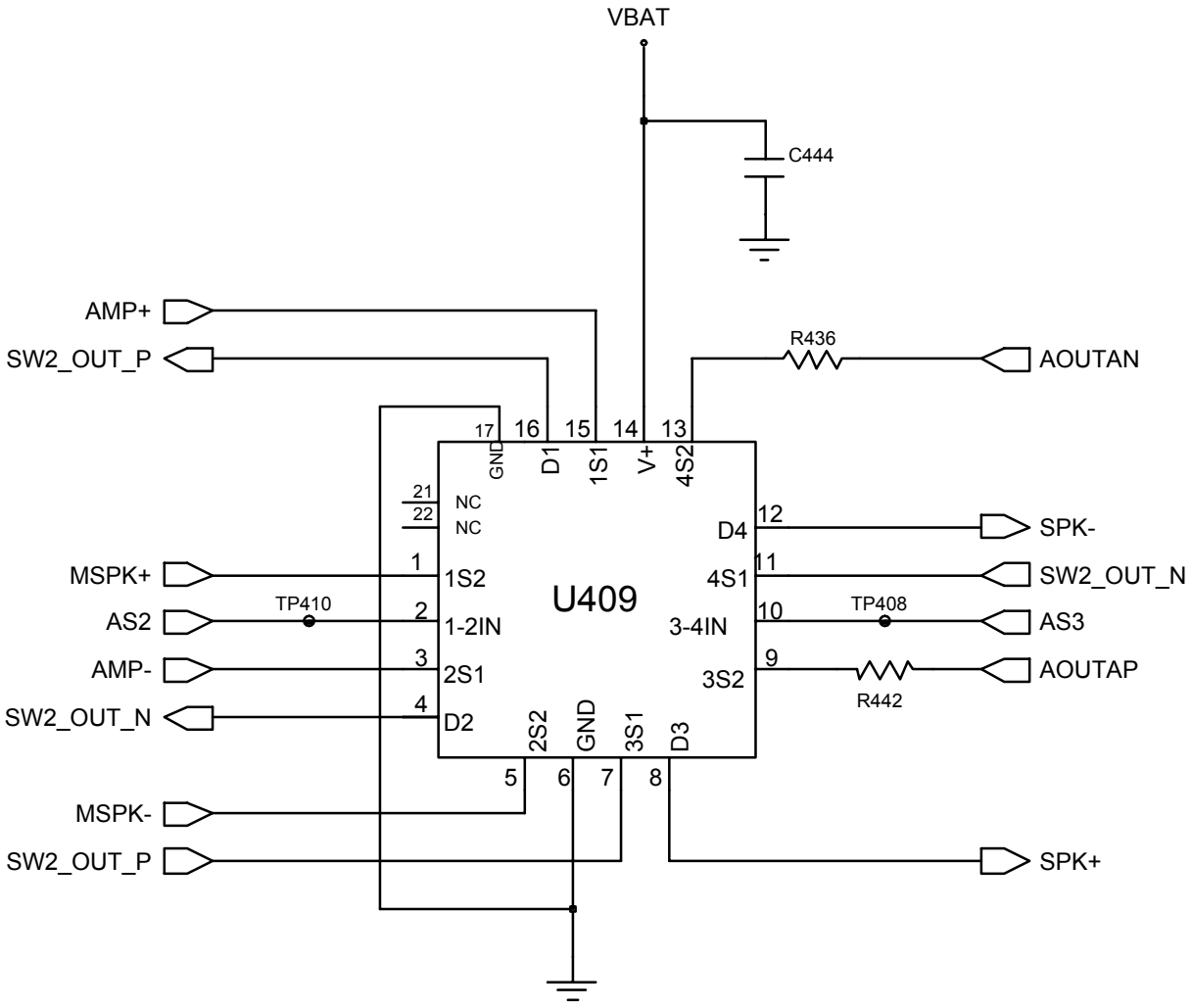


9-1-6. Speaker Part

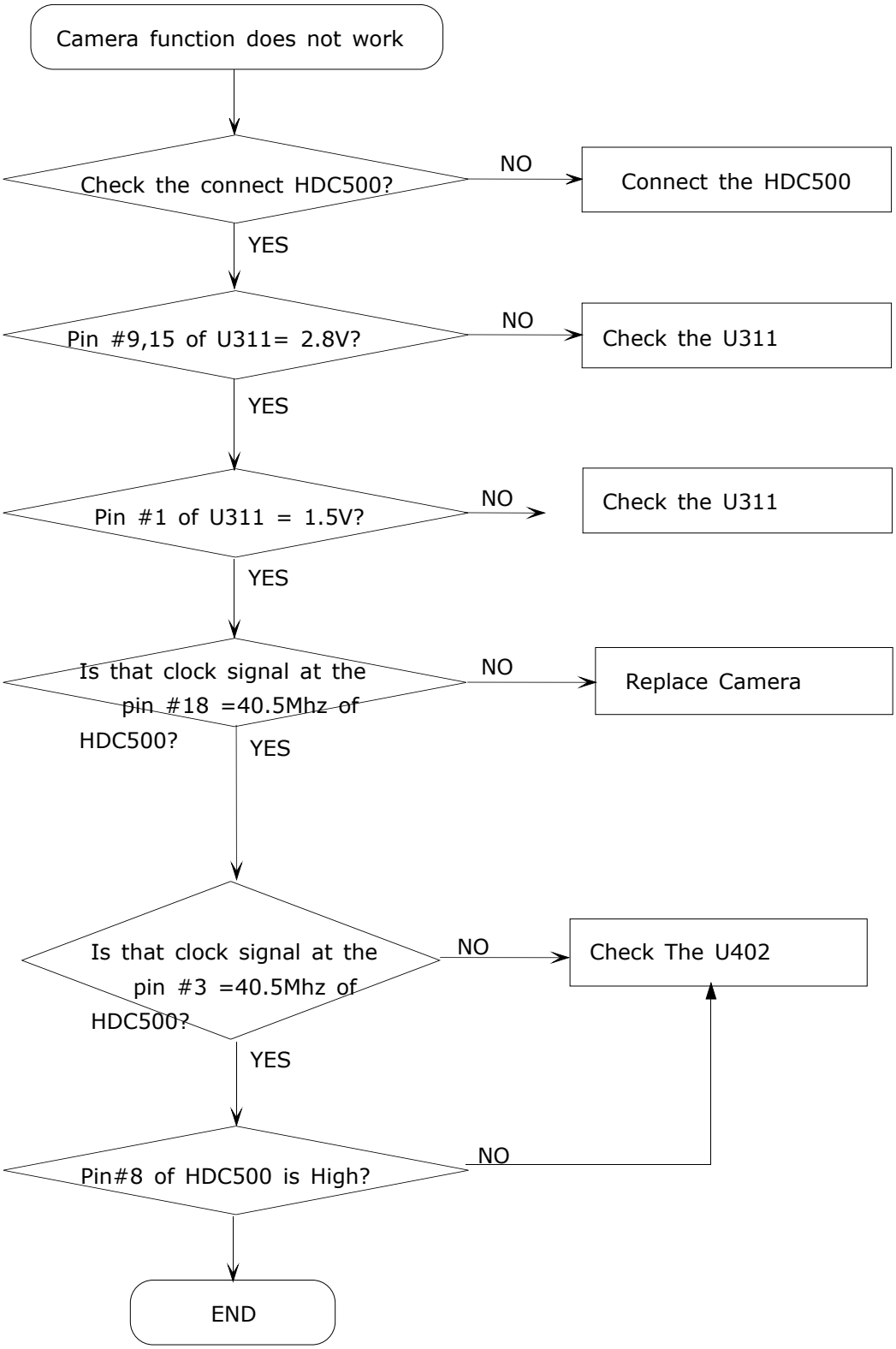


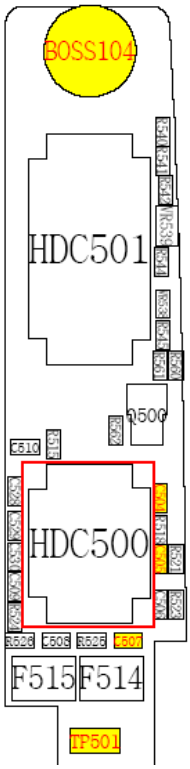


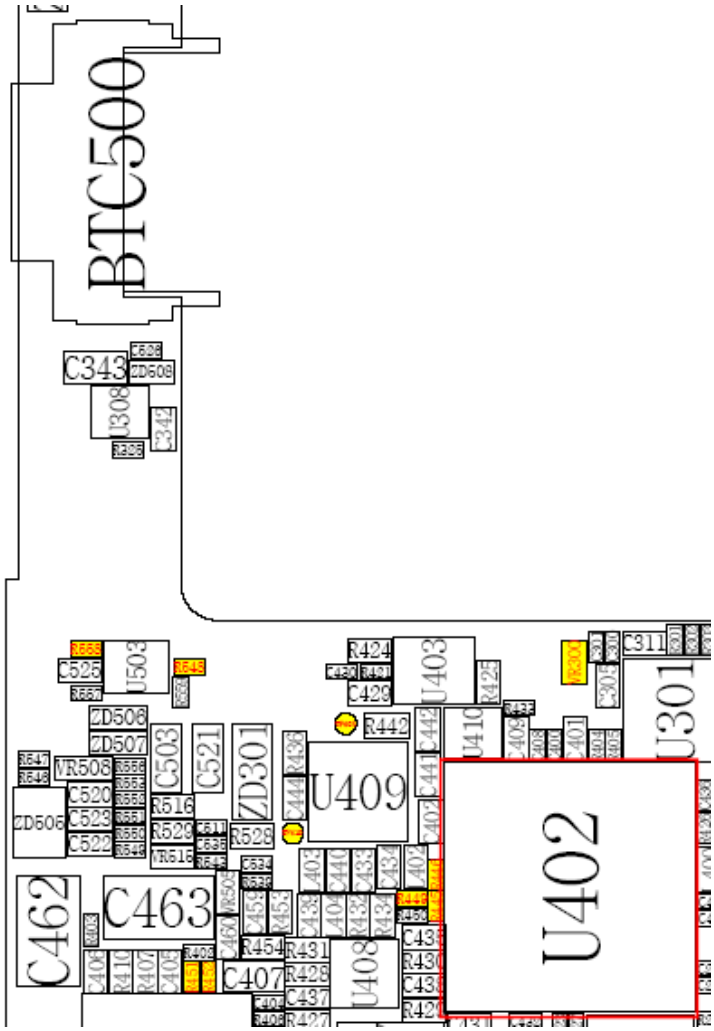


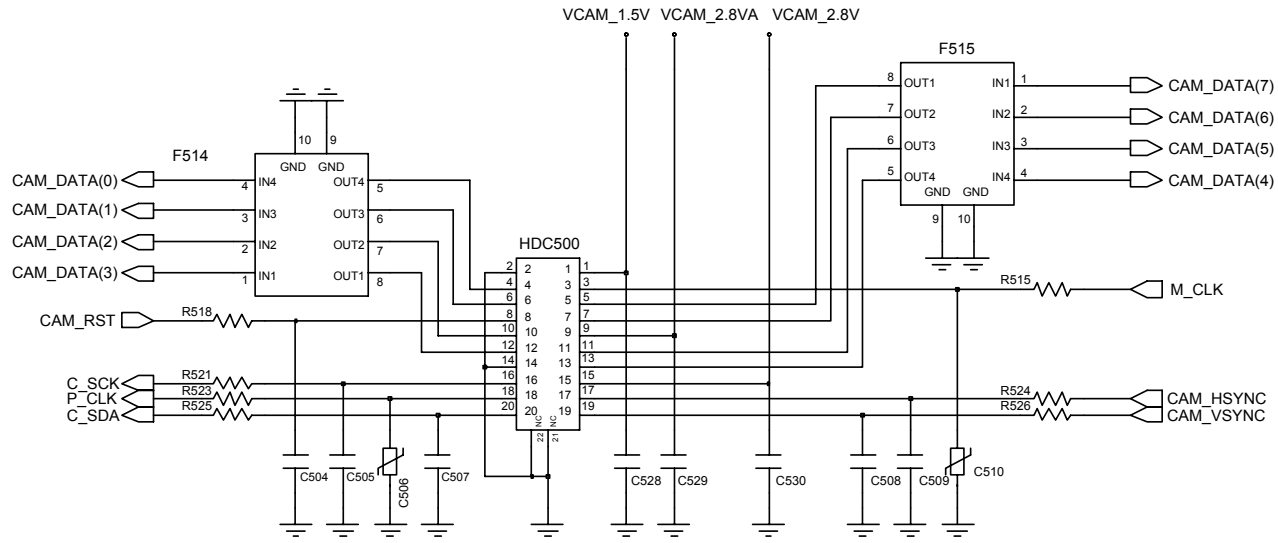


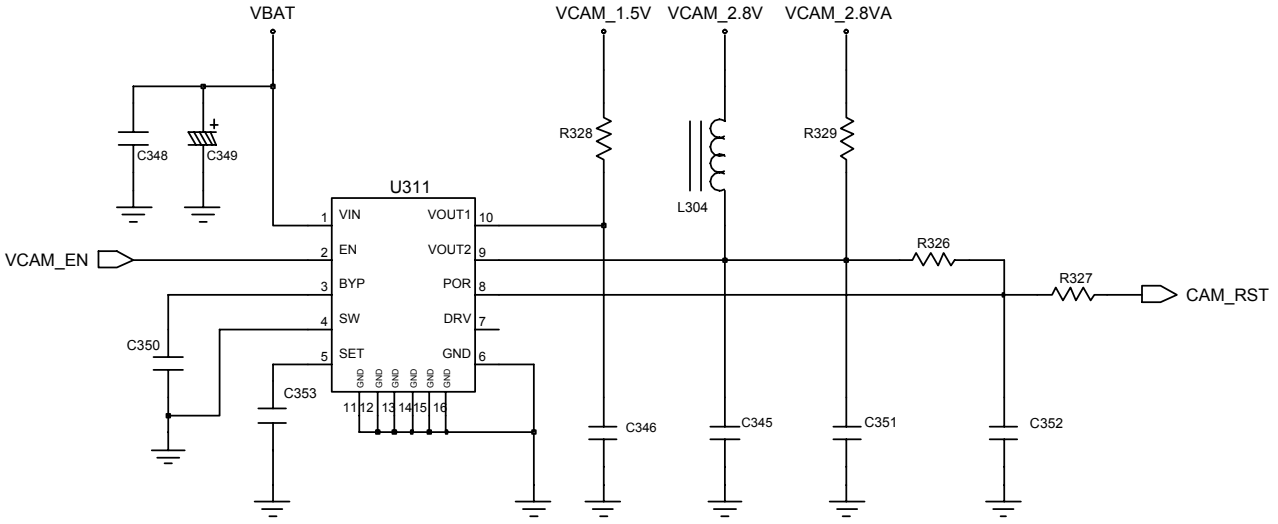
9-1-7. Camera Part



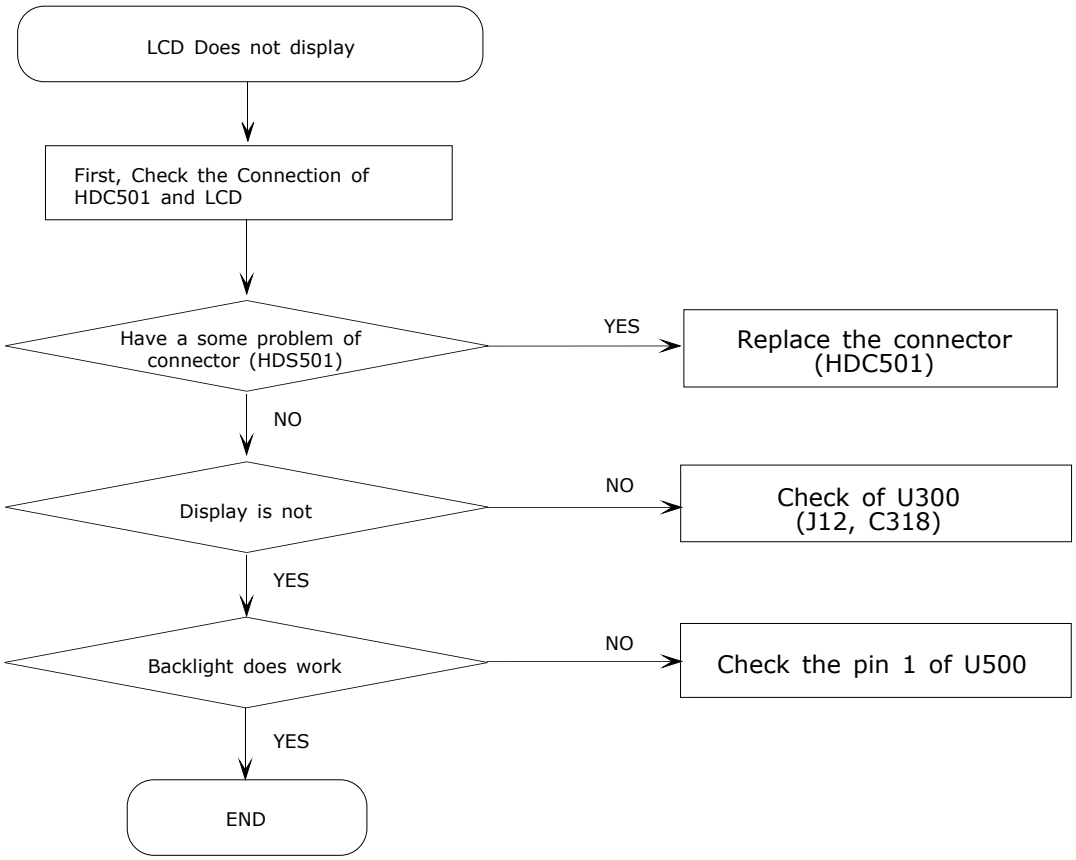


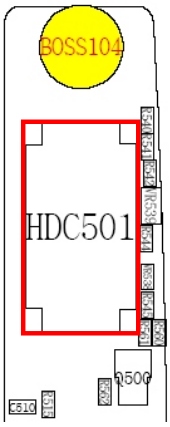


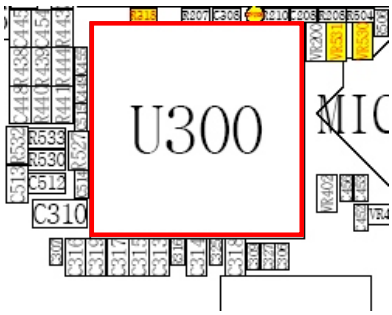


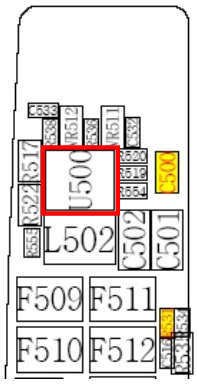


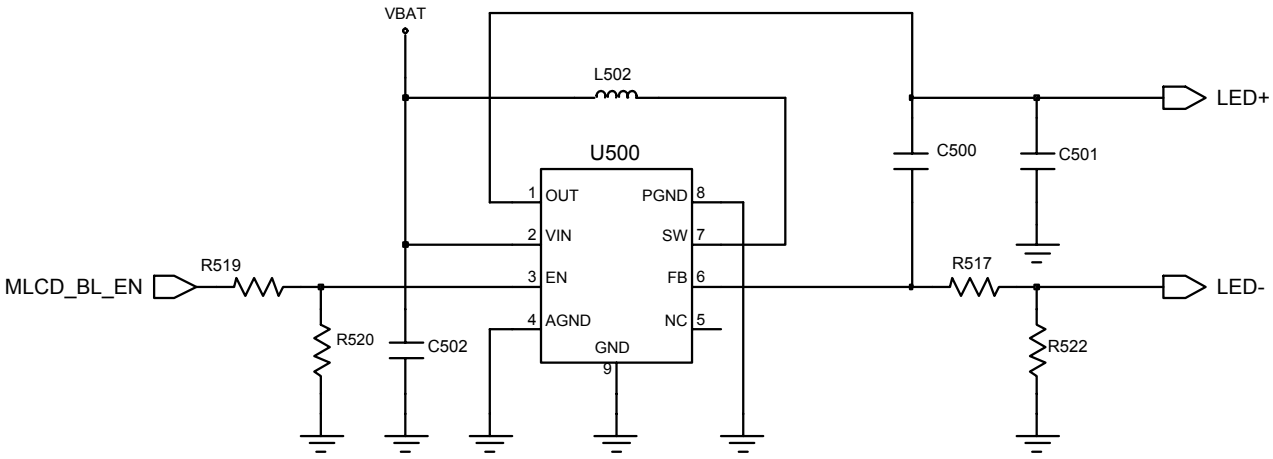
9-1-8. LCD





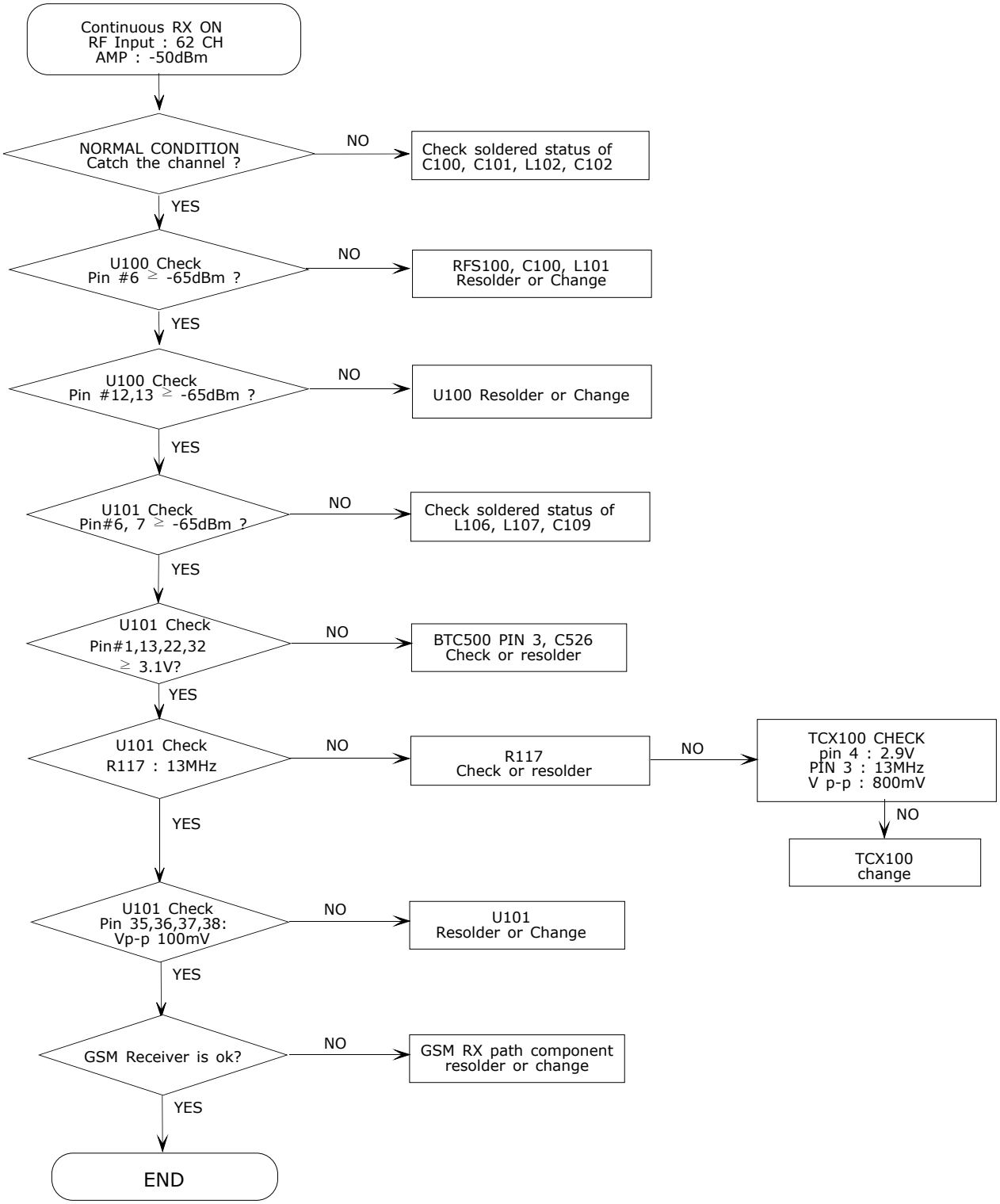




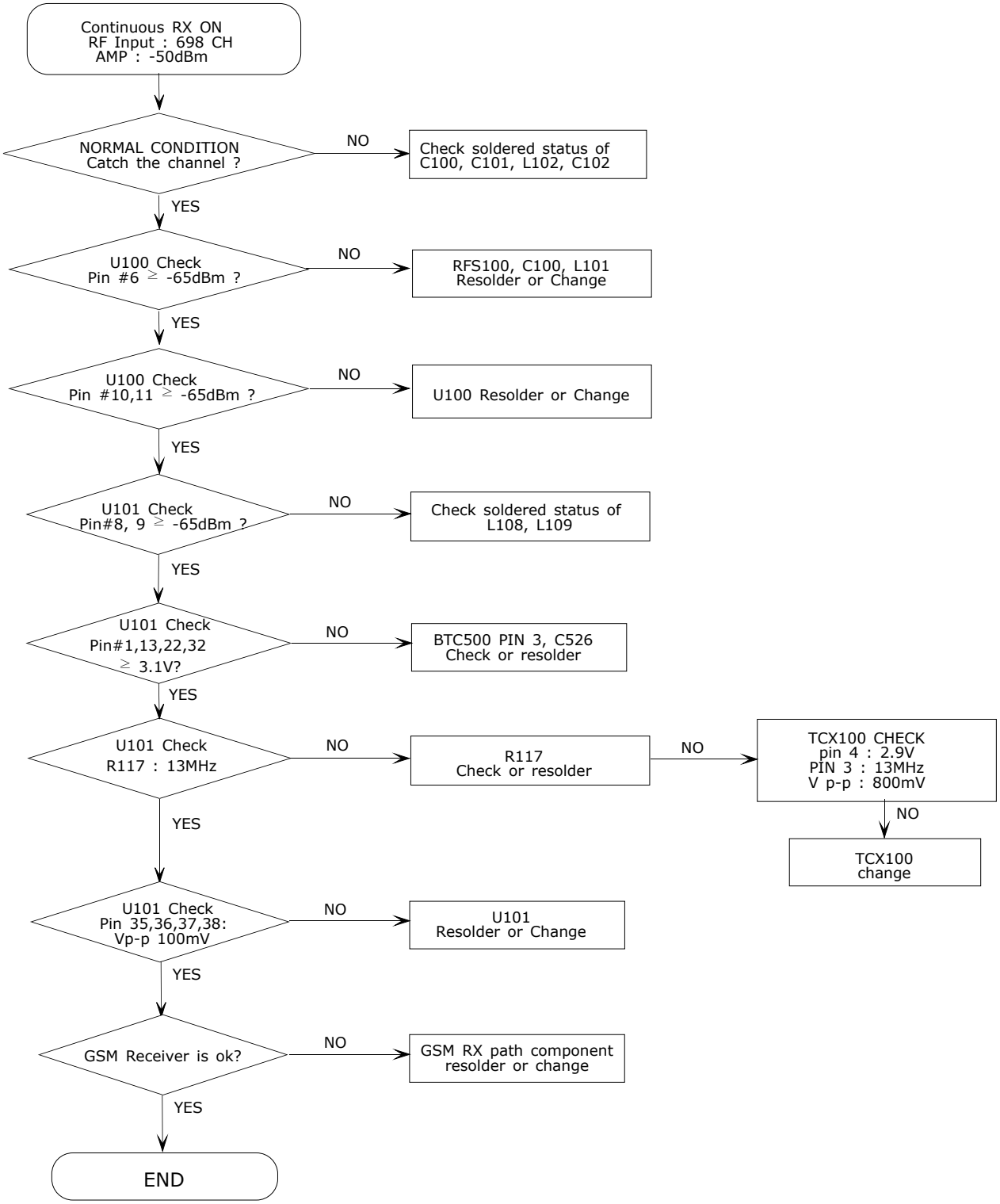


9-2.RF

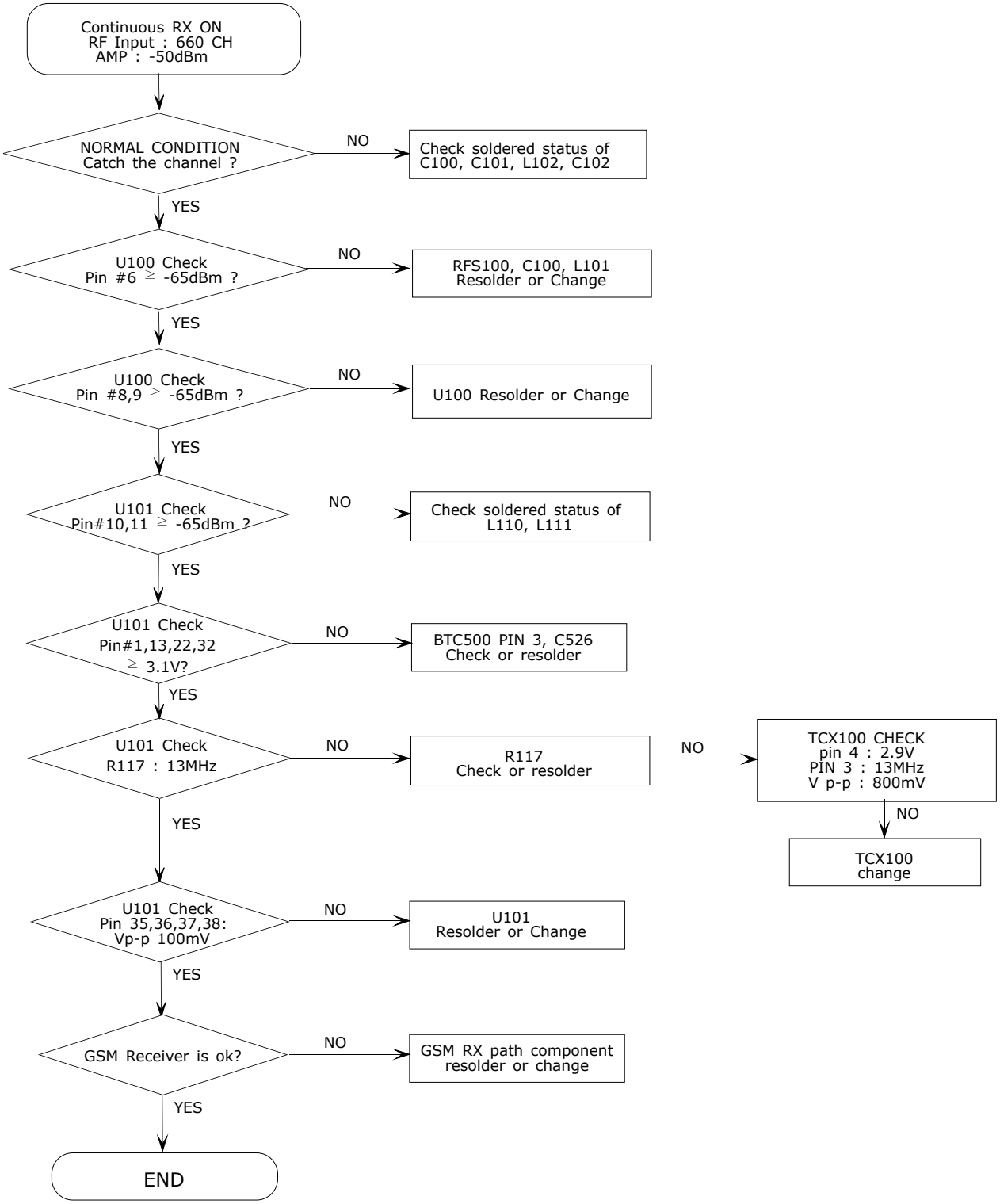
9-2-1. EGSM RX

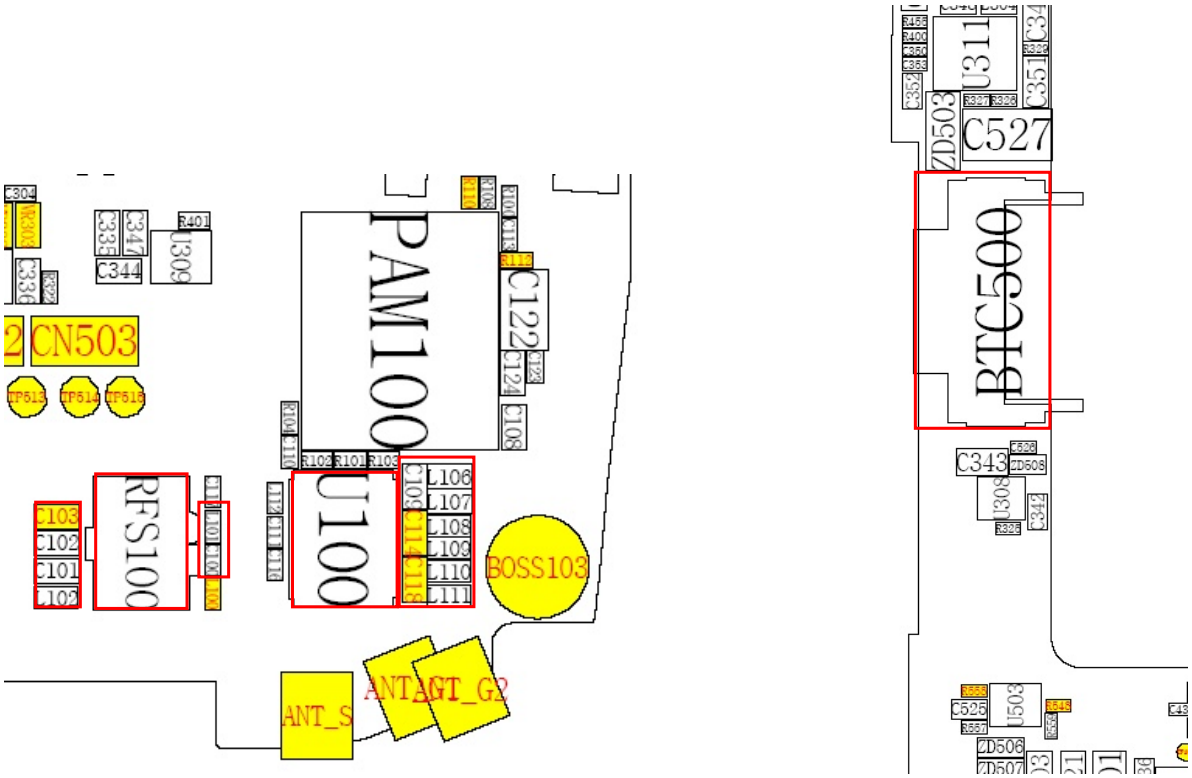


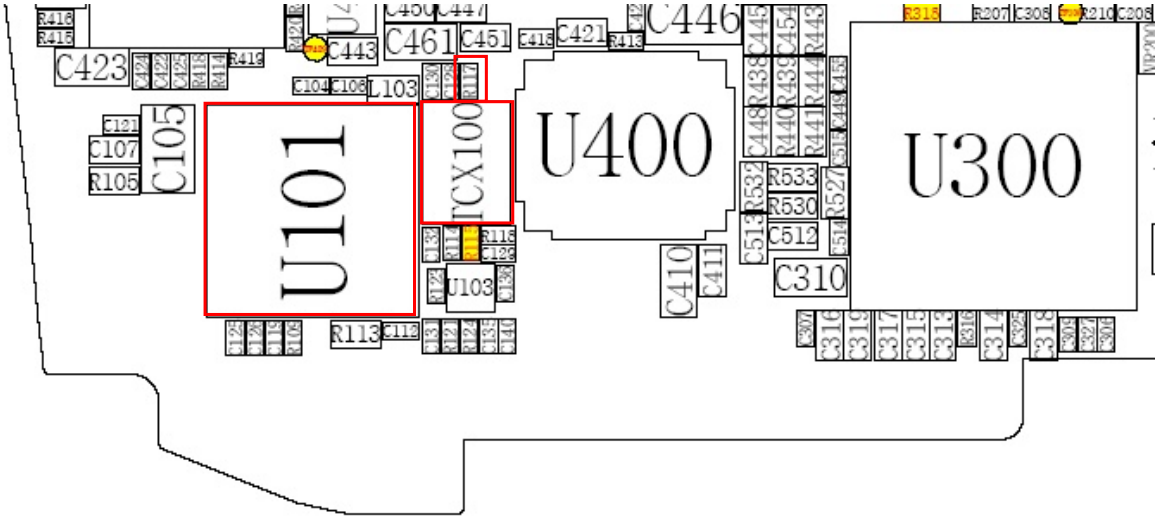
9-2-2. DCS RX



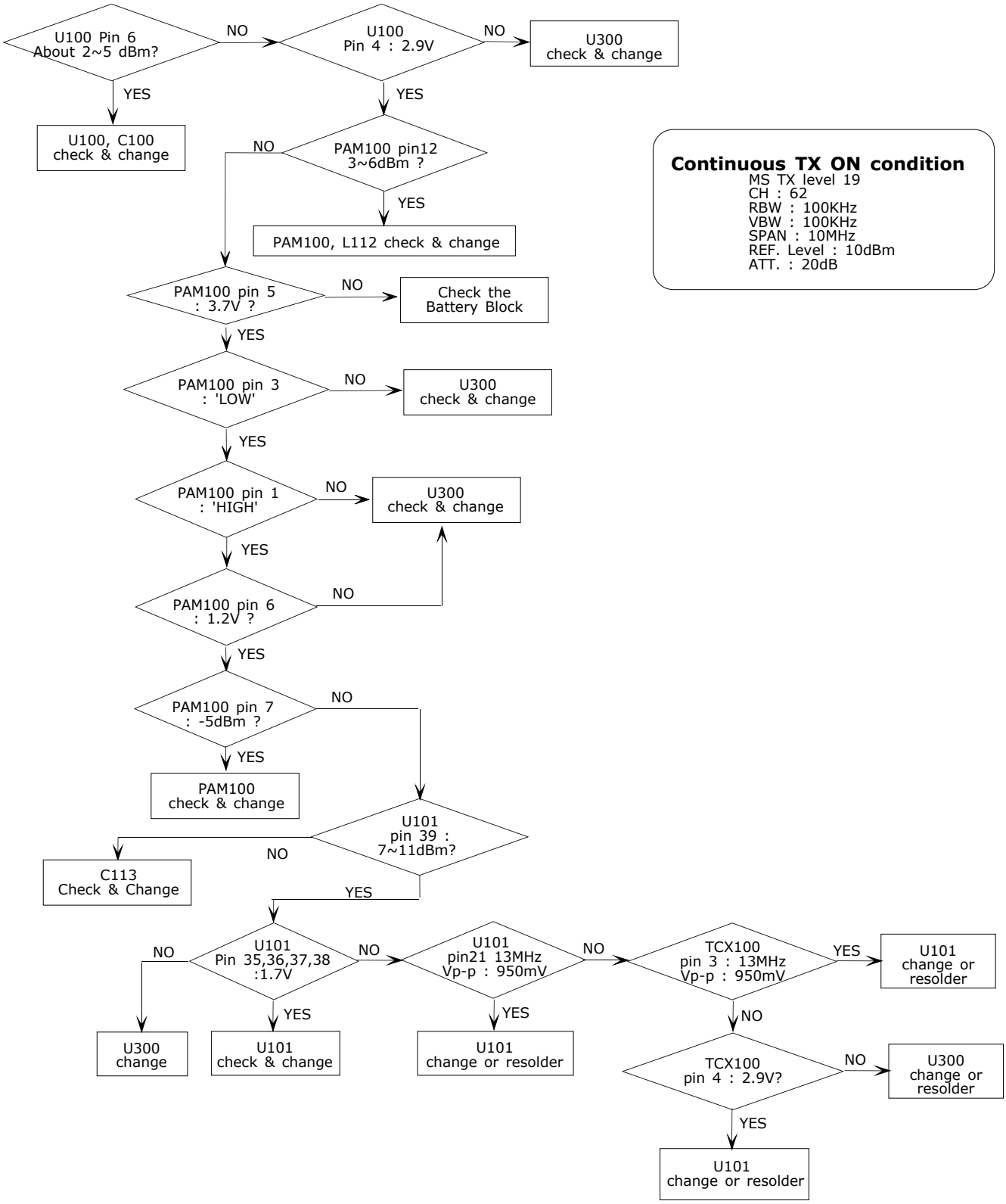
9-2-3. PCS RX



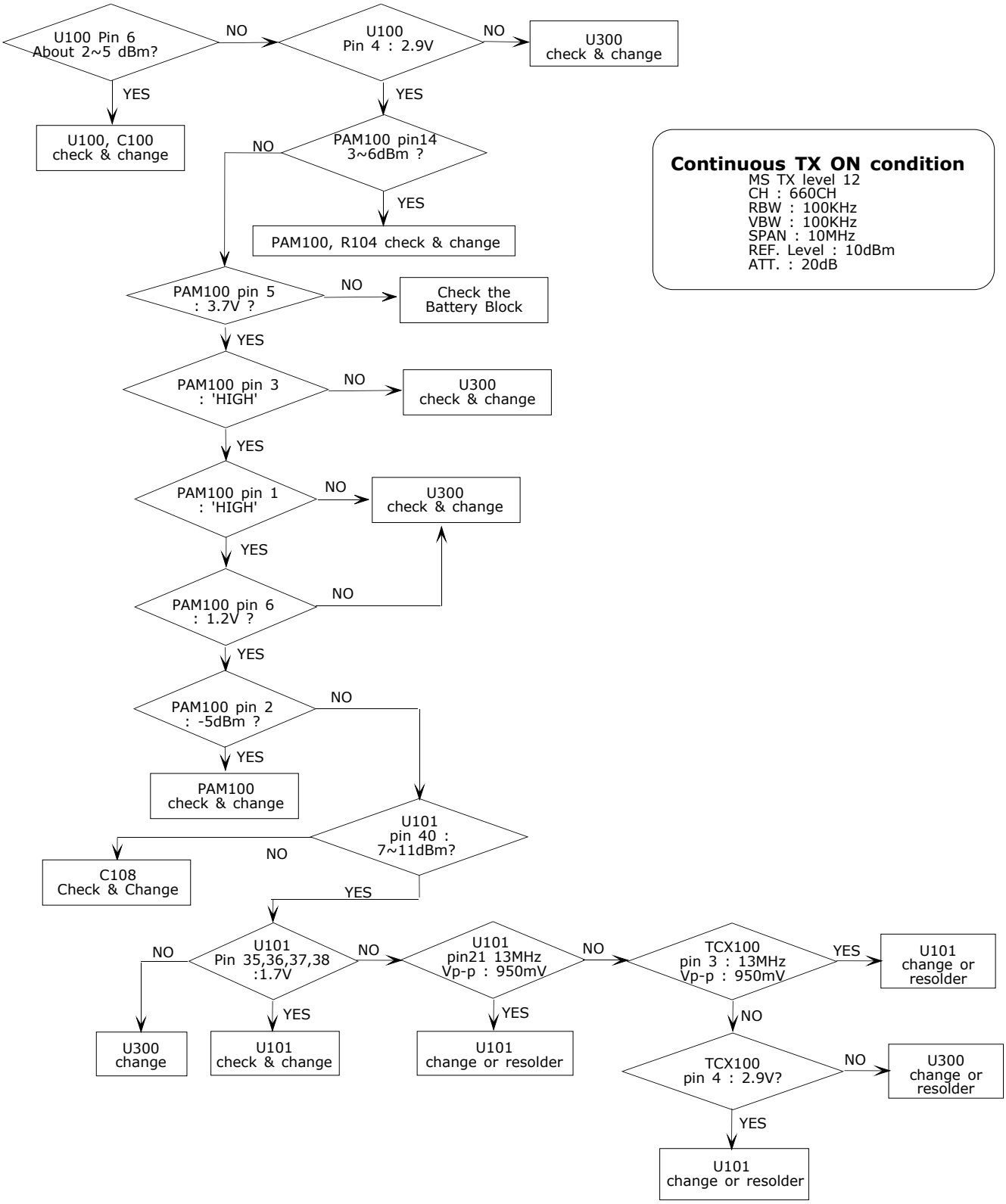


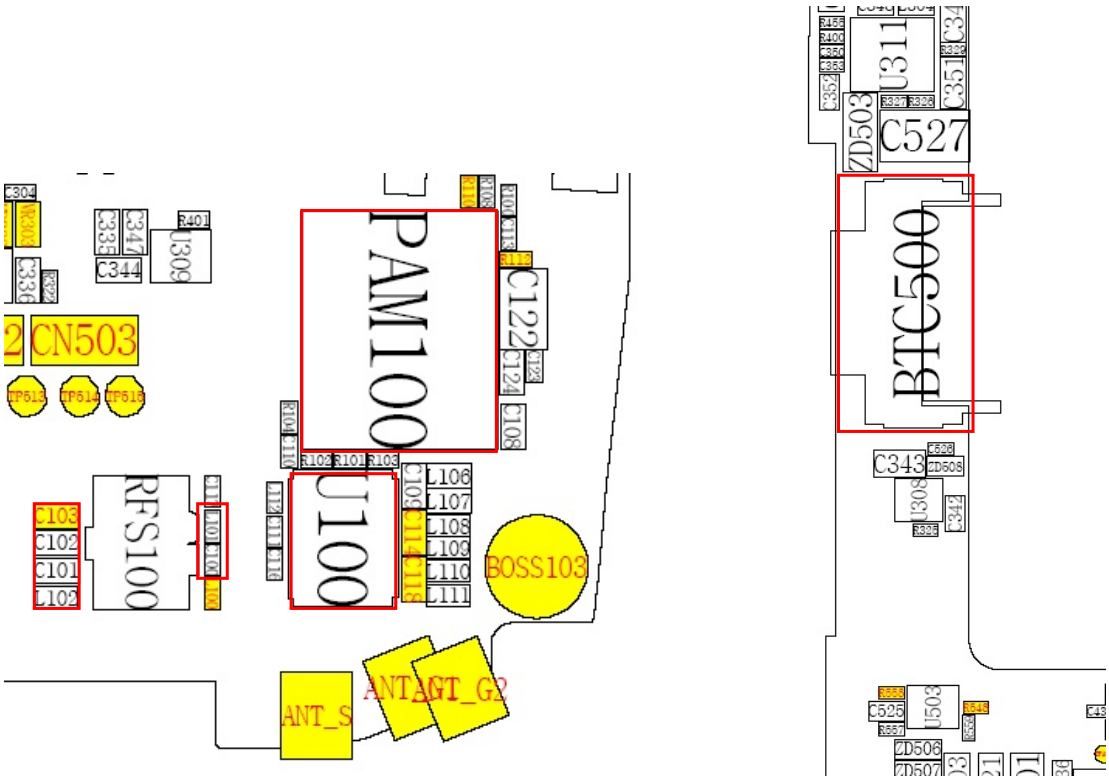


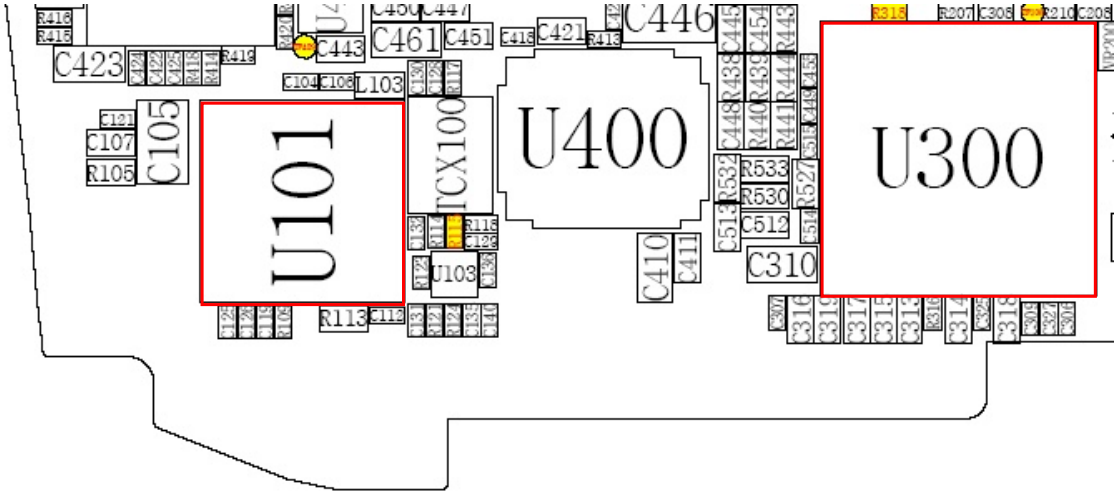
9-2-4. EGSM TX

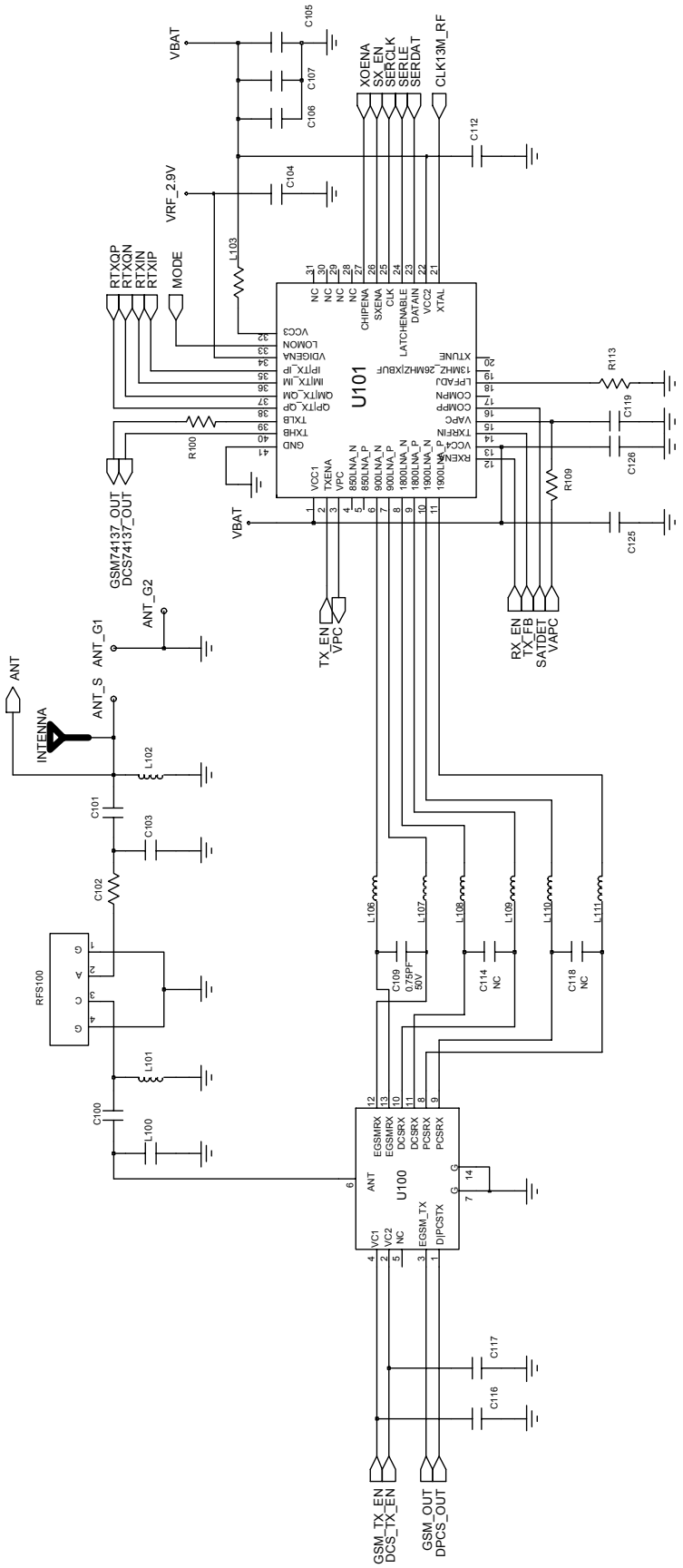


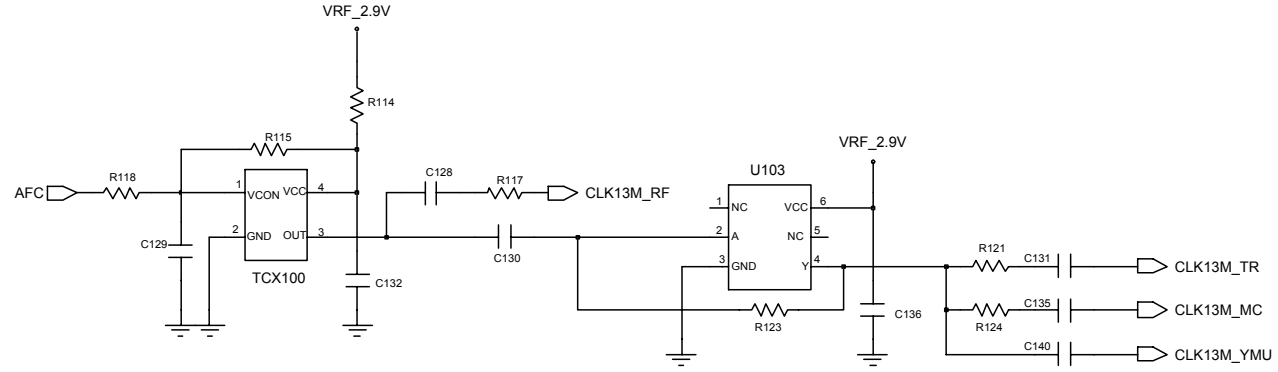
9-2-5. DCS & PCS TX

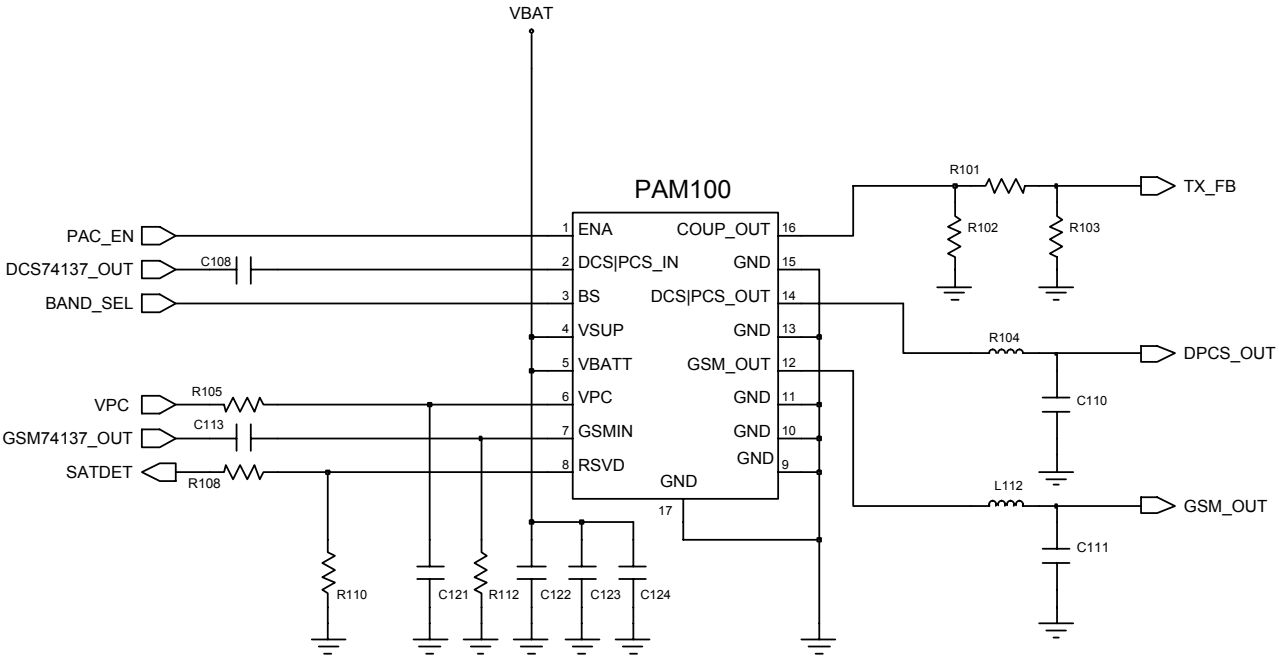




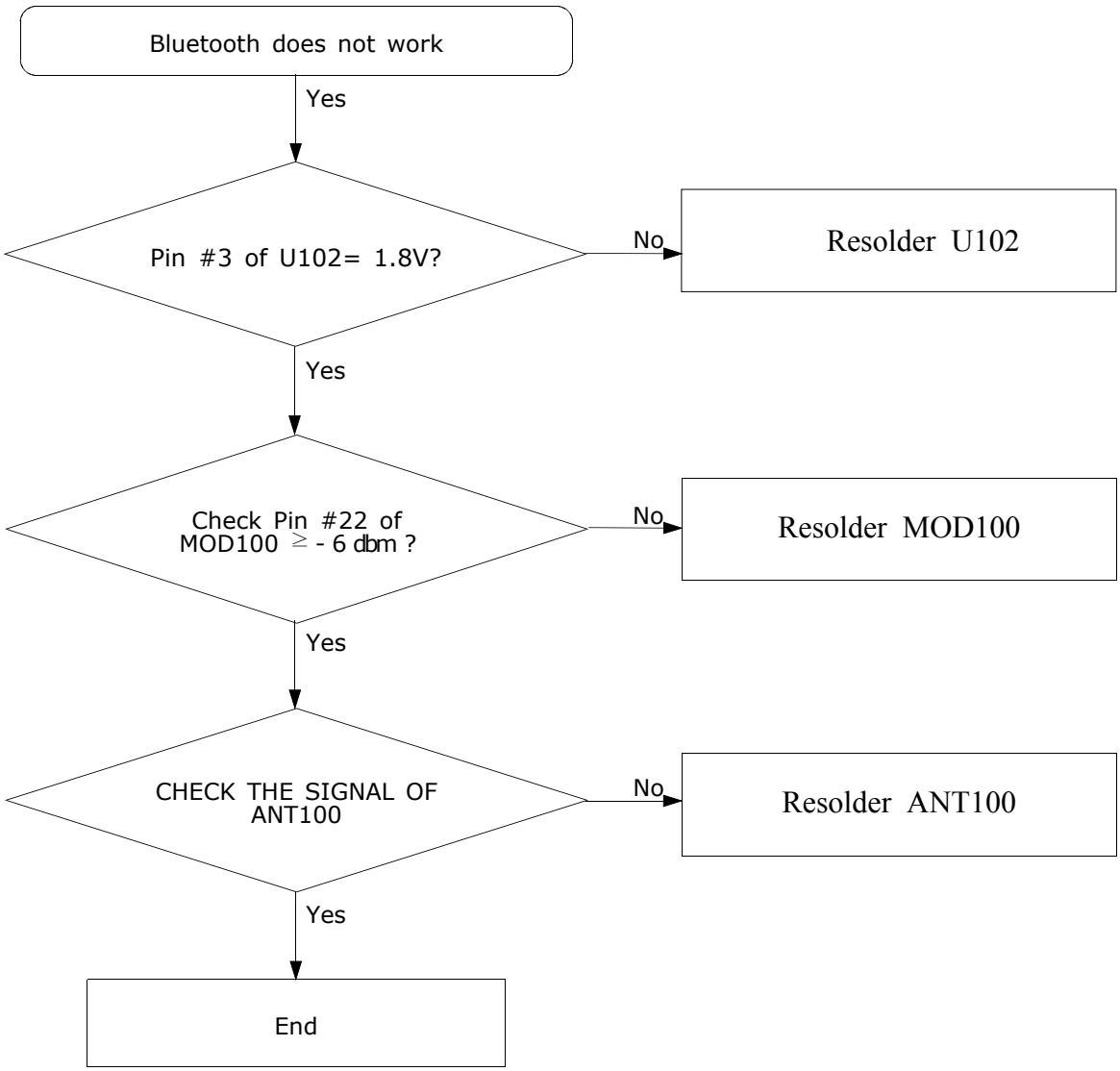


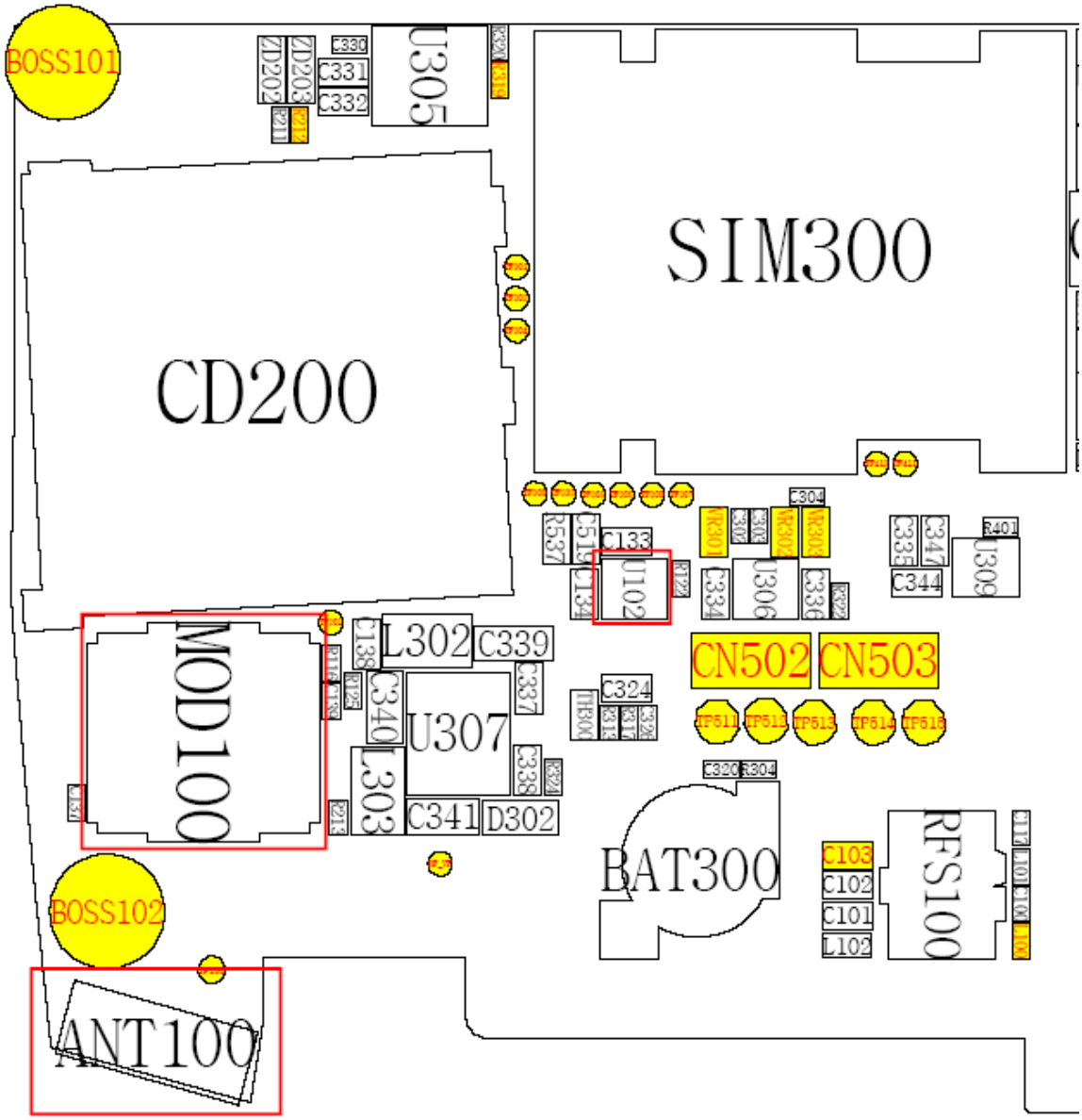


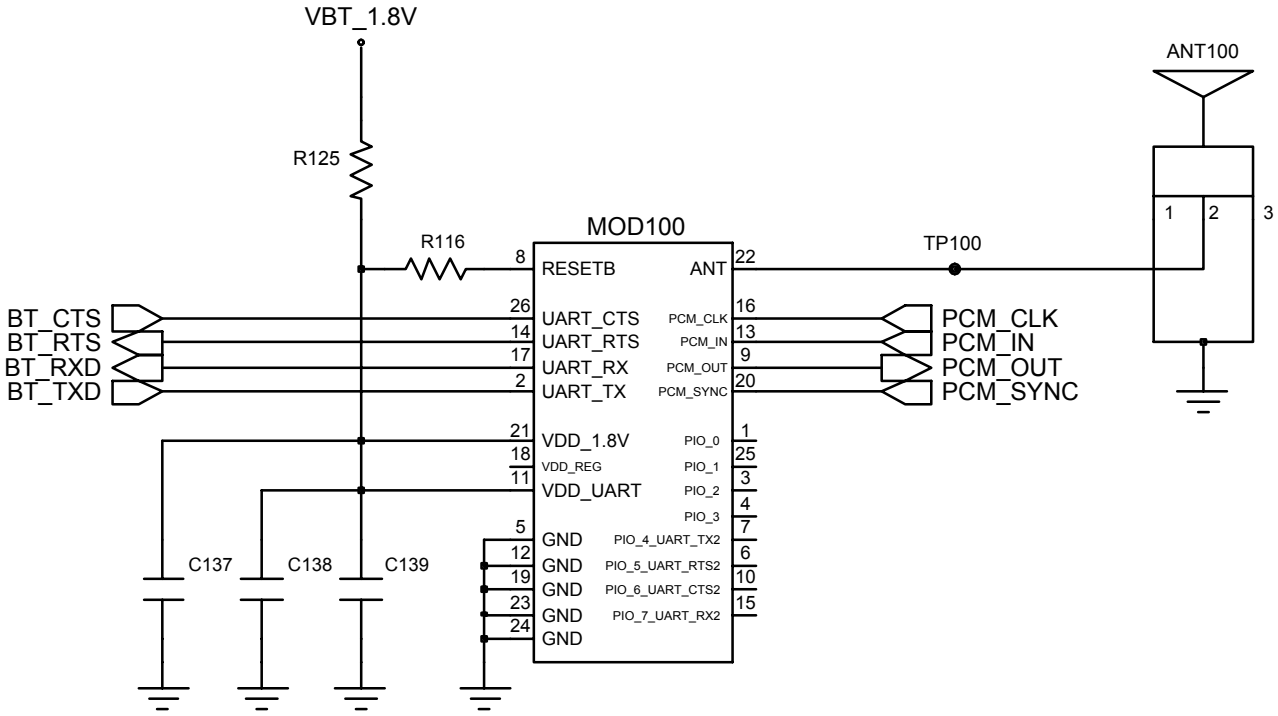


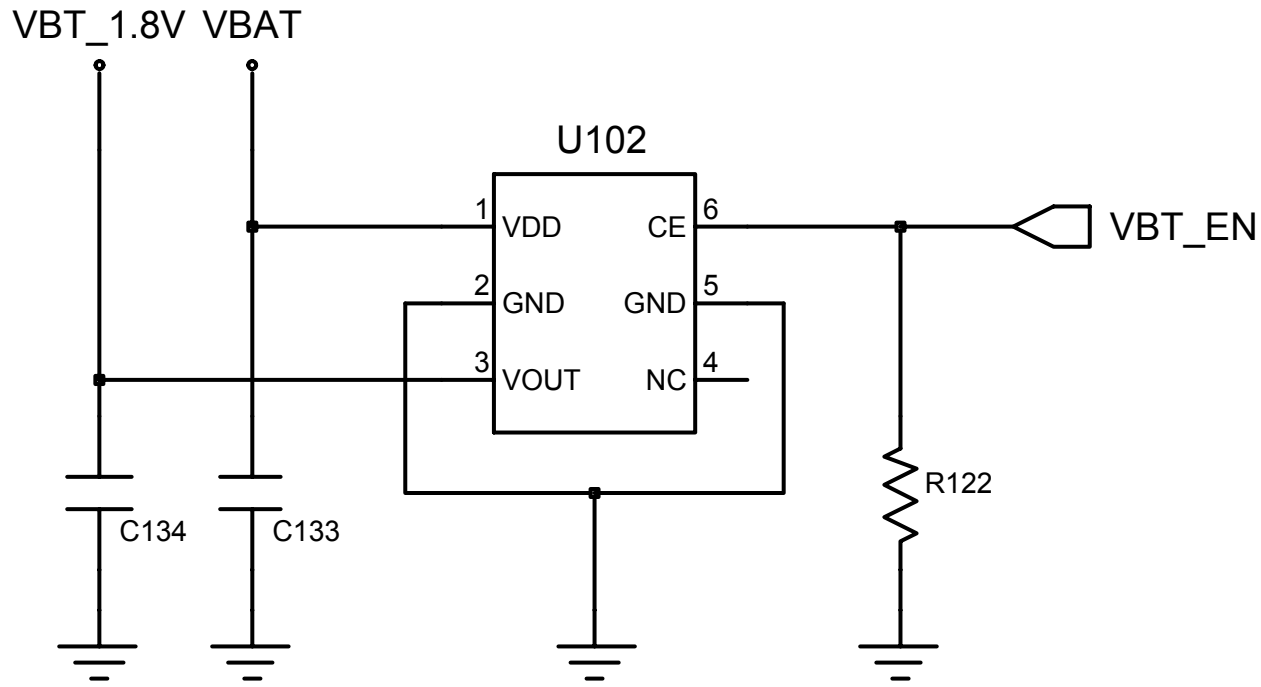


9-2-6. BLUETOOTH









10. Reference data

10-1. 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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