SAMSUNG

GSM TELEPHONE

SGH-P520

SERVICE Manual

GSM TELEPHONE

CONTENTS

SAMSUNG ELECTRONICS

GSPN (Global Service Partner Network)

Country	Web Site
North America	service.samsungportal.com
Latin America	latin.samsungportal.com
CIS	cis.samsungportal.com
Europe	europe.samsungportal.com
China	china.samsungportal.com
Asia	asia.samsungportal.com
Mideast & Africa	mea.samsungportal.com

2007. 11. Rev.1.0

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/DCS1800/PCS1900 General Specification

	EGSM 900 Phase 2	DCS1800 Phase 1	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	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 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	0.3 GMSK	0.3 GMSK	0.3 GMSK
MS Power	33 dBm~5 dBm	30 dBm~0 dBm	30 dBm~0 dBm
Power Class	5 pcl ~ 19 pcl	0 pcl ~ 15 pcl	0 pcl ~ 15 pcl
Sensitivity	-102 dBm	-100 dBm	-100 dBm
TDMA Mux	8	8	8
Cell Radius	35 Km	2 Km	-

2-2. GSM TX power class

TX Power control level	EGSM900
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9± 3dBm
18	7±3 dBm
19	5±3 dBm

TX Power control level	DCS1800
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

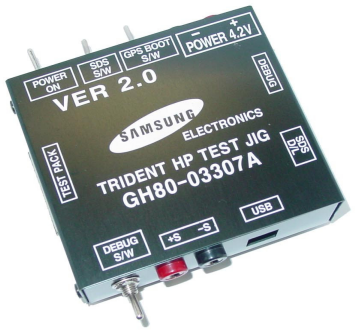
TX Power control level	PCS1900
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

3. Product Function

Main Function

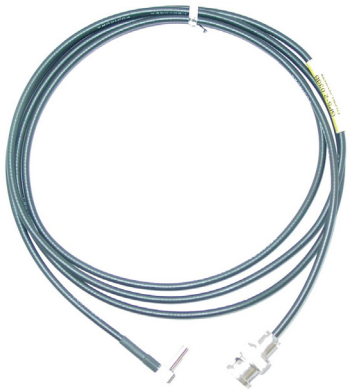
① 3 MCamera
② 2.6” QVGA262K Color TFTw/ Touch Screen
③ Music Player & Ringtone (MP3/MIDI/AAC/ AAC+/WMA)
④ Camcorder & Video Messaging (MPEG4/ H.263)
⑤ Speaker Phone Function
⑥ Picsel File Viewer
⑦ Bluetooth /USB / SyncML DS(Outlook Exchangeable)
⑧ Touch UI / GUI

4. Array course control



Test Jig (GH80-03307A)

Test Cable (GH39-00895A)



RF Test Cable (GH39-00599A)

Software Downloading

4-1. Downloading Binary Files

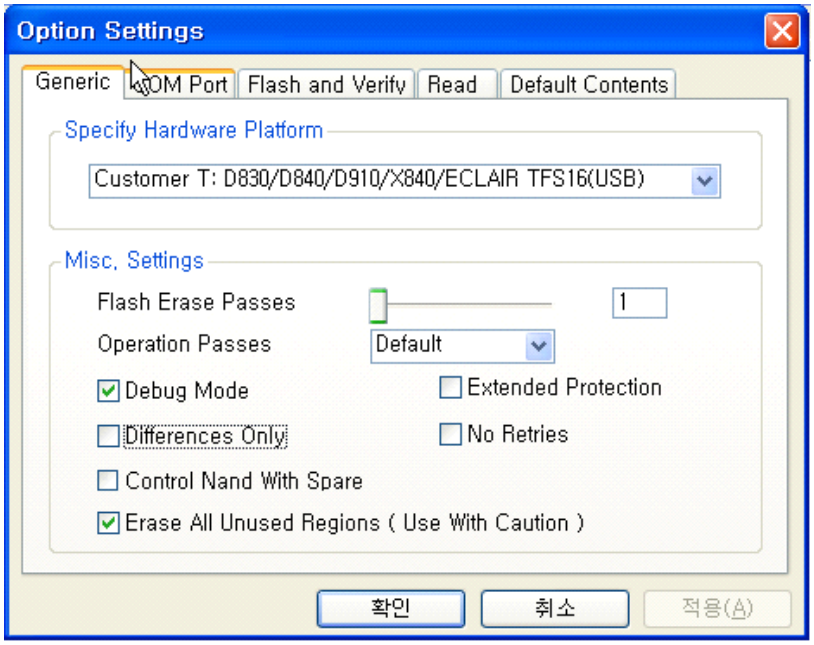
- Three binary files for downloading P520.
  – P520XXYY.s3 : Main source code binary.

4-2. Pre-requsite for Downloading

- Downloader Program(OptiFlash.exe)
- P520 Mobile Phone
- Data Cable
- Binary files

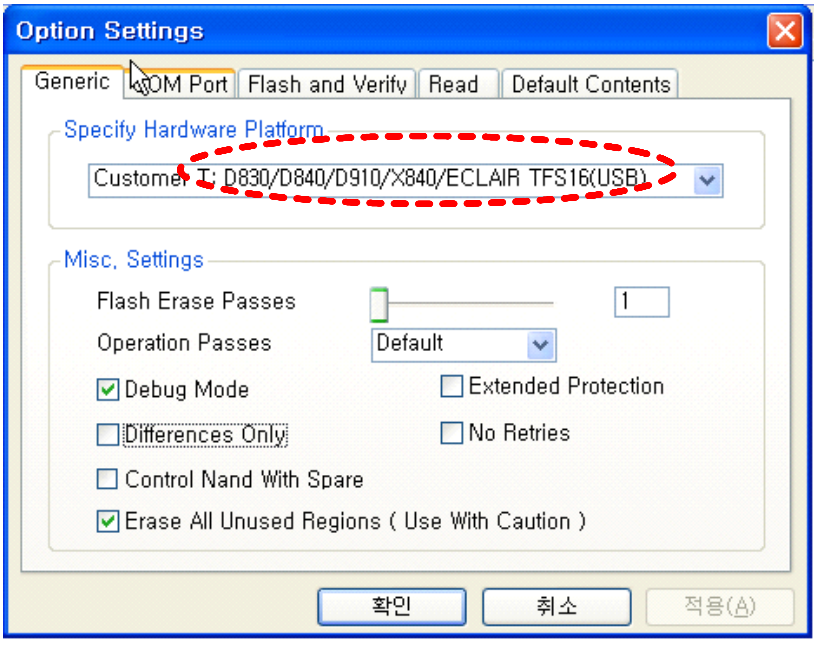
4-3. S/W Downloader Program

1. Load the binary download program by executing the "**OptiFlash.exe**"

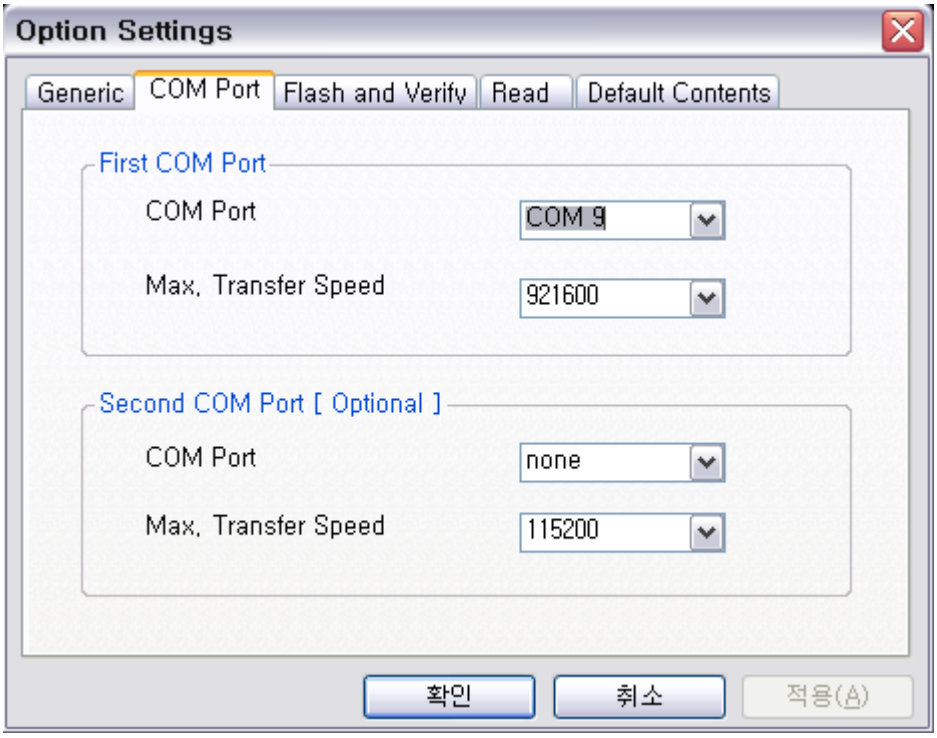


2. Select the **"Options" -> "Settings" -> "Generic" -> "Specify hardware platform"**. Choose hardware platform for the downloader file setting.

Set the everything else as the default values which are shown below



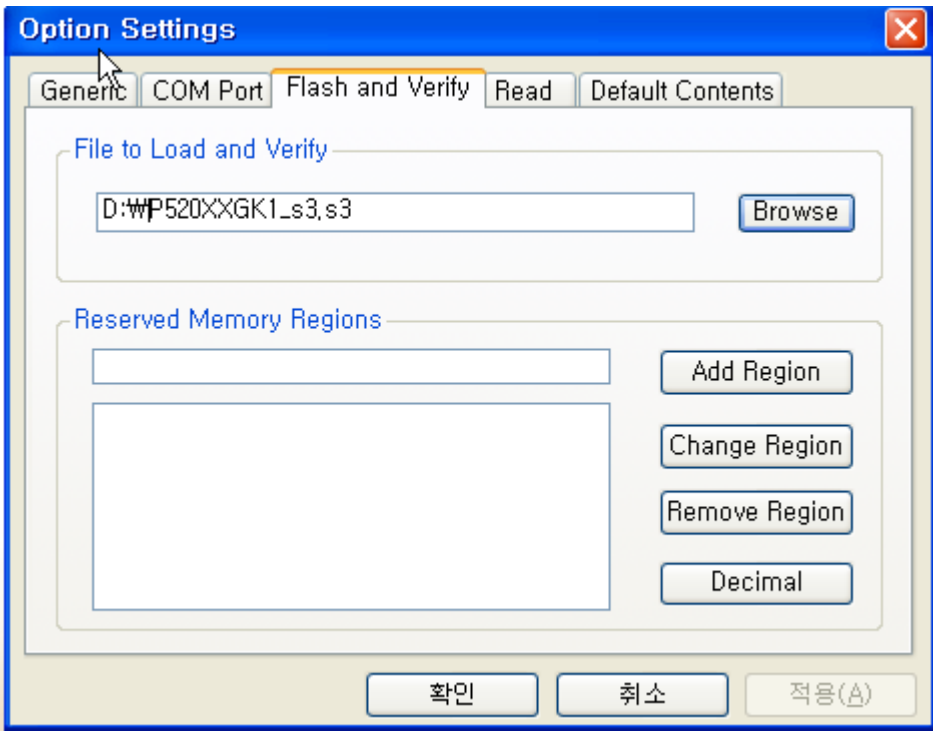
3. Select the **COM port** when the download cable is connected



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**”

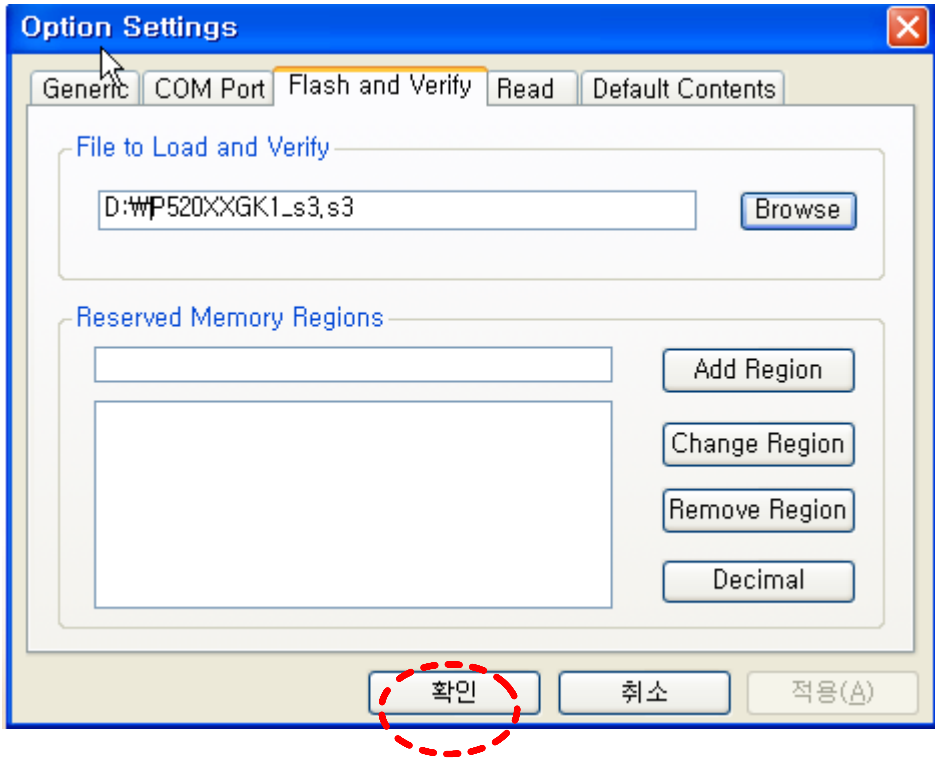
Set the directory path and choose the latest s/w binary, for example “P520XXYY.s3”, for the downloader binary setting.



The reserved memory regions are included in optiflash program, platform.def.

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 and etc. :

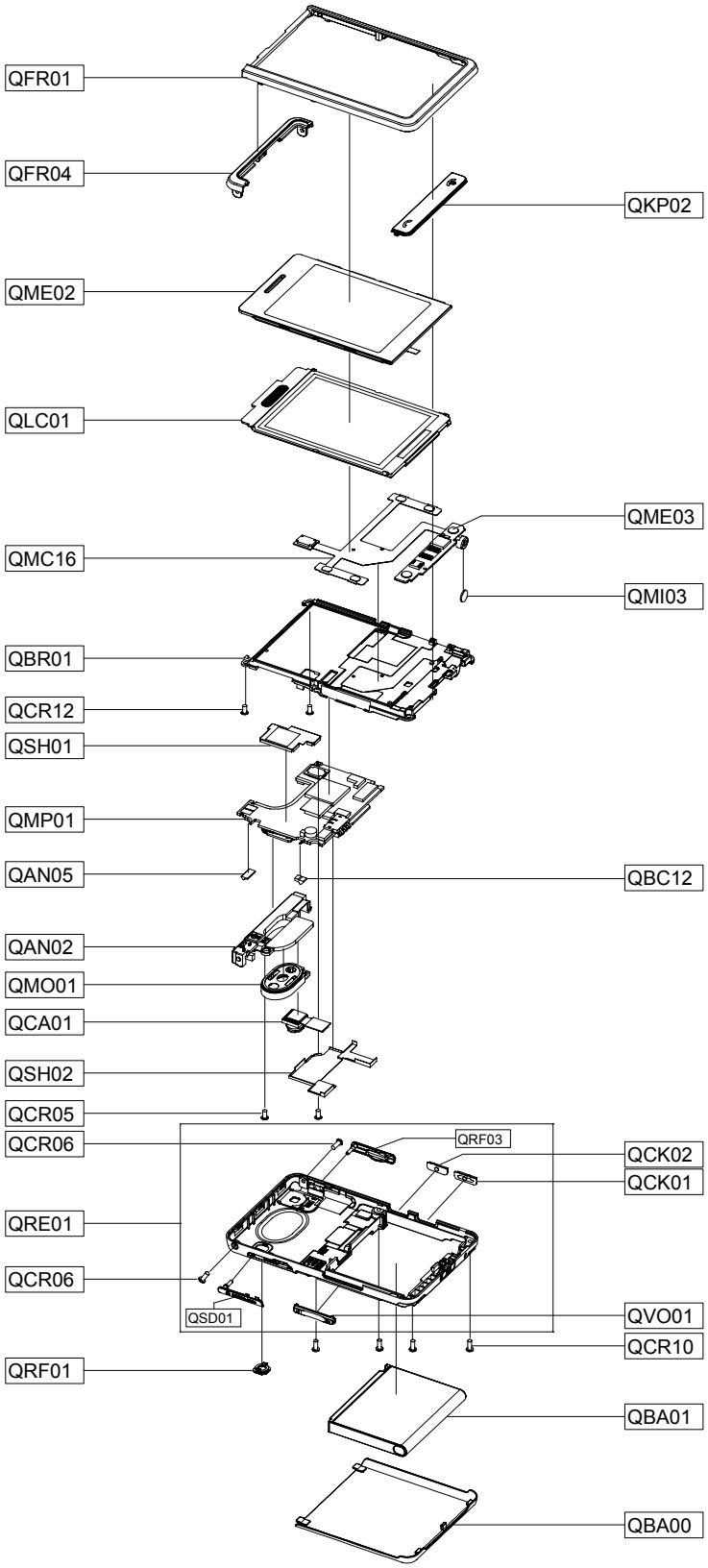
***#1234#**

Full Reset :

***2767*3855#**

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-SGHP520	GH42-01326A
QAN05		ASSY MEC-INTENNA CONTACT	GH75-08168A
QBA00		ASSY COVER-BATTERY	GH98-06920A
QBA01		BATTERY-880MAH,BLK,MAIN	GH43-02253A
QBC12		ASSY RUBBER-BATTERY CONTACT	GH98-06567A
QBR01		ASSY CASE-BRACKET SHIELD	GH98-04114A
QCA01		CAMERA MODULE	GH59-04357A
QCK01		ASSY KEY-CAMERA	GH98-04118B
QCK02		PMO KEY-HOLD	GH72-39597B
QCR05		SCREW-MACHINE	6001-001478
QCR06		SCREW-MACHINE	6001-001155
QCR10		SCREW-MACHINE	6001-001633
QCR10		SCREW-MACHINE	6001-001633
QCR12		SCREW-MACHINE	6001-001530
QFR01		ASSY CASE-FRONT	GH98-04113B
QFR04		PMO DECO-FRONT	GH72-38483B
QKP02		ASSY KEYPAD-SUB(XEN/ZN)	GH98-04121B
QLC01		LCD-MODULE,P500	GH07-01120A
QMC16		KEY FPCB-CON TO CON FPCB,P520	GH59-04478A
QME02		ASSY ETC-LCD SUB PCB ASSY,P520	GH59-04490A
QME03		KEY FPCB-TOUCH SCREEN FPCB ASS	GH59-04922A
QMI03		RMO RUBBER-MIC BOTTOM	GH73-11313A
QMO01		MOTOR DC-SPK + MOTOR DC-SGHP52	GH31-00312A
QMP01		PBA MAIN-SGHP520	GH92-03568A
QRF01		PMO COVER-RF	GH72-38485B
QSH01		IPR SHIELD-COVER	GH70-02599A
QSH02		IPR SHIELD-REAR	GH70-02659A
QVO01		PMO KEY-VOLUME	GH72-39599B
QRE01		ASSY CASE-REAR	GH98-04117B

	QRF03	PMO COVER-EAR IF	GH72-39596B
	QSD01	PMO COVER-MICRO SD	GH72-39598B

Discription	SEC CODE
IC-MEMORY CARD	1109-001363
BAG PE	6902-000297
BAG PP	6902-000913
CBF INTERFACE-DATA LINK CABLE,	GH39-00859C
ADAPTOR-ATADS10EGE,D/BRN,EU	GH44-01702C
S/W CD-SAMSUNG PC STUDIO 3.1,P	GH46-00441A
S/W CD-SAMSUNG PC STUDIO 3.2,P	GH46-00441B
EARPHONE-AAEP407LGE,S20P,D/BRN	GH59-04735D
LABEL(R)-WATER SOAK	GH68-09361A
LABEL(P)-OPEN MP3	GH68-11246A
MANUAL USERS-EU FRENCH	GH68-16436A
LABEL(R)-MAIN(FRANCE)	GH68-16784C
LABEL(P)-SEAL	GH68-17023A
BOX(P)-UNIT MAIN(EU)-PREMIUM N	GH69-06292A
TAPE-BRACKET MASKING	GH74-32353A
SPONGE	GH74-32426A
TAPE	GH74-34545A
TAPE	GH74-34546A
TAPE GASK	GH74-34548A
SPONGE-FRONT DECO	GH74-34549A
TAPE GASK	GH74-35363A
TAPE-CAMERA CONN SIDE	GH74-36377A
TAPE	GH74-36378A
VINYL-BOHO MAIN WINDOW	GH74-36527A
TAPE	GH74-36639A
ASSY CASE-LEATHER	GH98-05609B
ASSY ACCE-POUCH	GH98-06983A
ASSY ACCE-PHONE POUCH	GH98-06984A
ASSY ACCE-CLEANING CLOTH	GH98-06985A
CBF SIGNAL-SCHB490,RF CABLE,BL	GH39-00599A
CBF INTERFACE-S20P, TEST CABLE	GH39-00892A
CBF INTERFACE-S20P, TEST CABLE	GH39-00895A
INSTALL-TEST JIG BOX	GH80-03307A

6. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	STATUS
0403-001547	ZD200	DIODE-ZENER	SA
0403-001547	ZD300	DIODE-ZENER	SA
0403-001547	ZD301	DIODE-ZENER	SA
0403-001547	ZD400	DIODE-ZENER	SA
0404-001172	ZD302	DIODE-SCHOTTKY	SA
0406-001167	ZD500	DIODE-TVS	SA
0406-001167	ZD501	DIODE-TVS	SA
0406-001200	U602	DIODE-TVS	SA
0406-001267	VR500	DIODE-TVS	SA
0406-001267	VR501	DIODE-TVS	SA
0505-002207	U502	FET-SILICON	SA
0601-002015	LED302	LED	SA
0801-002529	U300	IC-CMOS LOGIC	SA
0801-002958	U601	IC-CMOS LOGIC	SA
1001-001428	U401	IC-ANALOG MULTIPLEX	SA
1001-001438	U200	IC-ANALOG SWITCH	SA
1108-000140	UCP200	IC-MCP	SA
1201-002304	U402	IC-AUDIO AMP	SA
1201-002457	U100	IC-POWER AMP	SA
1203-003432	U103	IC-POSI.FIXED REG.	SA
1203-003432	U403	IC-POSI.FIXED REG.	SA
1203-003432	U405	IC-POSI.FIXED REG.	SA
1203-003523	U507	IC-POSI.FIXED REG.	SA
1203-003754	U506	IC-POSI.FIXED REG.	SA
1203-003789	U600	IC-POWER SUPERVISOR	SA
1203-004089	U308	IC-DC/DC CONVERTER	SA
1203-004119	UCP300	IC-POWER SUPERVISOR	SA
1203-004172	U501	IC-DC/DC CONVERTER	SA
1203-004518	U301	IC-BATTERY	SA
1203-004548	U500	IC-DC/DC CONVERTER	SA
1203-004596	U505	IC-MULTI REG.	SA
1203-004654	U302	IC-DC/DC CONVERTER	SA
1203-004813	U404	IC-POSI.FIXED REG.	SA
1204-002138	U202	IC-MELODY	SA
1205-002272	U201	IC-TRANSCEIVER	SA
1205-003093	U101	IC-TRANSCEIVER	SA

SEC CODE	Design LOC	Discription	STATUS
1205-003210	U504	IC-CODEC	SA
1205-003234	U400	IC-CODEC	SA
1205-003235	U102	IC-DATA COMM./GEN.	SA
1404-001165	TH300	THERMISTOR-NTC	SA
1405-001082	VR200	VARISTOR	SA
1405-001082	VR400	VARISTOR	SA
1405-001082	VR401	VARISTOR	SA
1405-001082	VR600	VARISTOR	SA
1405-001082	VR601	VARISTOR	SA
1405-001082	VR602	VARISTOR	SA
1405-001082	VR603	VARISTOR	SA
1405-001082	VR604	VARISTOR	SA
1405-001082	VR605	VARISTOR	SA
1405-001108	VR502	VARISTOR	SA
2007-000141	R412	R-CHIP	SA
2007-000141	R420	R-CHIP	SA
2007-001119	R410	R-CHIP	SA
2007-001119	R411	R-CHIP	SA
2007-001325	R215	R-CHIP	SA
2007-003112	R407	R-CHIP	SA
2007-003112	R408	R-CHIP	SA
2007-007134	R400	R-CHIP	SA
2007-007134	R402	R-CHIP	SA
2007-007142	R415	R-CHIP	SA
2007-007142	R416	R-CHIP	SA
2007-007142	R417	R-CHIP	SA
2007-007142	R421	R-CHIP	SA
2007-007314	R305	R-CHIP	SA
2007-007468	R414	R-CHIP	SA
2007-007468	R418	R-CHIP	SA
2007-007468	R419	R-CHIP	SA
2007-007468	R422	R-CHIP	SA
2007-007528	R413	R-CHIP	SA
2007-007528	R423	R-CHIP	SA
2007-008045	R102	R-CHIP	SA
2007-008045	R200	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-008051	R512	R-CHIP	SA
2007-008052	R310	R-CHIP	SA
2007-008055	R206	R-CHIP	SA
2007-008055	R210	R-CHIP	SA
2007-008055	R211	R-CHIP	SA
2007-008055	R216	R-CHIP	SA
2007-008055	R301	R-CHIP	SA
2007-008055	R302	R-CHIP	SA
2007-008055	R317	R-CHIP	SA
2007-008055	R518	R-CHIP	SA
2007-008055	R530	R-CHIP	SA
2007-008056	R100	R-CHIP	SA
2007-008419	R520	R-CHIP	SA
2007-008419	R521	R-CHIP	SA
2007-008419	R522	R-CHIP	SA
2007-008419	R524	R-CHIP	SA
2007-008419	R527	R-CHIP	SA
2007-008420	R203	R-CHIP	SA
2007-008420	R204	R-CHIP	SA
2007-008420	R403	R-CHIP	SA
2007-008420	R404	R-CHIP	SA
2007-008478	R202	R-CHIP	SA
2007-008483	R107	R-CHIP	SA
2007-008483	R108	R-CHIP	SA
2007-008483	R201	R-CHIP	SA
2007-008483	R205	R-CHIP	SA
2007-008483	R303	R-CHIP	SA
2007-008483	R315	R-CHIP	SA
2007-008483	R406	R-CHIP	SA
2007-008483	R409	R-CHIP	SA
2007-008483	R424	R-CHIP	SA
2007-008483	R506	R-CHIP	SA
2007-008483	R515	R-CHIP	SA
2007-008483	R609	R-CHIP	SA
2007-008483	R610	R-CHIP	SA
2007-008483	R611	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-008483	R613	R-CHIP	SA
2007-008486	R612	R-CHIP	SA
2007-008516	R103	R-CHIP	SA
2007-008516	R104	R-CHIP	SA
2007-008516	R208	R-CHIP	SA
2007-008516	R428	R-CHIP	SA
2007-008516	R429	R-CHIP	SA
2007-008516	R502	R-CHIP	SA
2007-008516	R513	R-CHIP	SA
2007-008516	R532	R-CHIP	SA
2007-008516	R602	R-CHIP	SA
2007-008516	R603	R-CHIP	SA
2007-008531	R209	R-CHIP	SA
2007-008531	R501	R-CHIP	SA
2007-008542	R105	R-CHIP	SA
2007-008542	R217	R-CHIP	SA
2007-008542	R218	R-CHIP	SA
2007-008542	R500	R-CHIP	SA
2007-008542	R533	R-CHIP	SA
2007-008542	R614	R-CHIP	SA
2007-008587	R101	R-CHIP	SA
2007-008588	R307	R-CHIP	SA
2007-008588	R312	R-CHIP	SA
2007-008588	R509	R-CHIP	SA
2007-008588	R510	R-CHIP	SA
2007-008588	R516	R-CHIP	SA
2007-008588	R517	R-CHIP	SA
2007-008774	R106	R-CHIP	SA
2007-008786	R504	R-CHIP	SA
2007-008798	R306	R-CHIP	SNA
2007-008809	R427	R-CHIP	SNA
2007-009084	R507	R-CHIP	SA
2007-009111	R425	R-CHIP	SA
2007-009111	R426	R-CHIP	SA
2007-009157	R508	R-CHIP	SA
2007-009166	R309	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-009167	R313	R-CHIP	SA
2007-009169	R304	R-CHIP	SA
2007-009170	R519	R-CHIP	SA
2007-009171	R300	R-CHIP	SA
2007-009212	R401	R-CHIP	SA
2007-009212	R405	R-CHIP	SA
2007-009361	R316	R-CHIP	SA
2203-000278	C145	C-CER,CHIP	SA
2203-000425	C215	C-CER,CHIP	SA
2203-000425	C216	C-CER,CHIP	SA
2203-000438	C225	C-CER,CHIP	SA
2203-000438	C539	C-CER,CHIP	SA
2203-000438	C540	C-CER,CHIP	SA
2203-000812	C422	C-CER,CHIP	SA
2203-001405	C315	C-CER,CHIP	SA
2203-005234	C116	C-CER,CHIP	SA
2203-005234	C118	C-CER,CHIP	SA
2203-005234	C123	C-CER,CHIP	SA
2203-005234	C124	C-CER,CHIP	SA
2203-005288	C129	C-CER,CHIP	SA
2203-005481	C423	C-CER,CHIP	SA
2203-005481	C425	C-CER,CHIP	SA
2203-005482	C329	C-CER,CHIP	SA
2203-005482	C419	C-CER,CHIP	SA
2203-005682	C115	C-CER,CHIP	SA
2203-005682	C119	C-CER,CHIP	SA
2203-005682	C120	C-CER,CHIP	SA
2203-005682	C125	C-CER,CHIP	SA
2203-005682	C126	C-CER,CHIP	SA
2203-005682	C127	C-CER,CHIP	SA
2203-005682	C130	C-CER,CHIP	SA
2203-005682	C131	C-CER,CHIP	SA
2203-005682	C135	C-CER,CHIP	SA
2203-005682	C324	C-CER,CHIP	SA
2203-005682	C431	C-CER,CHIP	SA
2203-005682	C432	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-005682	C616	C-CER,CHIP	SA
2203-005682	C617	C-CER,CHIP	SA
2203-005682	C618	C-CER,CHIP	SA
2203-005683	C102	C-CER,CHIP	SA
2203-005683	C323	C-CER,CHIP	SA
2203-005719	C407	C-CER,CHIP	SA
2203-005719	C408	C-CER,CHIP	SA
2203-005725	C139	C-CER,CHIP	SA
2203-005731	C114	C-CER,CHIP	SA
2203-005731	C122	C-CER,CHIP	SA
2203-005731	C128	C-CER,CHIP	SA
2203-005736	C305	C-CER,CHIP	SA
2203-005736	C313	C-CER,CHIP	SA
2203-005736	C409	C-CER,CHIP	SA
2203-005736	C415	C-CER,CHIP	SA
2203-005777	C110	C-CER,CHIP	SA
2203-005806	C101	C-CER,CHIP	SNA
2203-006048	C430	C-CER,CHIP	SA
2203-006194	C104	C-CER,CHIP	SA
2203-006194	C117	C-CER,CHIP	SA
2203-006194	C134	C-CER,CHIP	SA
2203-006194	C136	C-CER,CHIP	SA
2203-006194	C137	C-CER,CHIP	SA
2203-006194	C144	C-CER,CHIP	SA
2203-006194	C200	C-CER,CHIP	SA
2203-006194	C202	C-CER,CHIP	SA
2203-006194	C206	C-CER,CHIP	SA
2203-006194	C207	C-CER,CHIP	SA
2203-006194	C209	C-CER,CHIP	SA
2203-006194	C217	C-CER,CHIP	SA
2203-006194	C300	C-CER,CHIP	SA
2203-006194	C301	C-CER,CHIP	SA
2203-006194	C314	C-CER,CHIP	SA
2203-006194	C402	C-CER,CHIP	SA
2203-006194	C403	C-CER,CHIP	SA
2203-006257	C307	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2203-006257	C518	C-CER,CHIP	SA
2203-006260	C421	C-CER,CHIP	SA
2203-006260	C424	C-CER,CHIP	SA
2203-006305	C100	C-CER,CHIP	SA
2203-006305	C113	C-CER,CHIP	SA
2203-006305	C524	C-CER,CHIP	SA
2203-006305	C525	C-CER,CHIP	SA
2203-006324	C304	C-CER,CHIP	SA
2203-006348	C537	C-CER,CHIP	SA
2203-006410	C147	C-CER,CHIP	SA
2203-006423	C105	C-CER,CHIP	SA
2203-006423	C106	C-CER,CHIP	SA
2203-006423	C109	C-CER,CHIP	SA
2203-006423	C132	C-CER,CHIP	SA
2203-006423	C133	C-CER,CHIP	SA
2203-006423	C138	C-CER,CHIP	SA
2203-006423	C143	C-CER,CHIP	SA
2203-006423	C201	C-CER,CHIP	SA
2203-006423	C203	C-CER,CHIP	SA
2203-006423	C204	C-CER,CHIP	SA
2203-006423	C205	C-CER,CHIP	SA
2203-006423	C208	C-CER,CHIP	SA
2203-006423	C211	C-CER,CHIP	SA
2203-006423	C212	C-CER,CHIP	SA
2203-006423	C213	C-CER,CHIP	SA
2203-006423	C214	C-CER,CHIP	SA
2203-006423	C223	C-CER,CHIP	SA
2203-006423	C224	C-CER,CHIP	SA
2203-006423	C302	C-CER,CHIP	SA
2203-006423	C303	C-CER,CHIP	SA
2203-006423	C317	C-CER,CHIP	SA
2203-006423	C400	C-CER,CHIP	SA
2203-006423	C401	C-CER,CHIP	SA
2203-006423	C404	C-CER,CHIP	SA
2203-006423	C405	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2203-006423	C510	C-CER,CHIP	SA
2203-006423	C511	C-CER,CHIP	SA
2203-006423	C512	C-CER,CHIP	SA
2203-006423	C526	C-CER,CHIP	SA
2203-006423	C549	C-CER,CHIP	SA
2203-006423	C610	C-CER,CHIP	SA
2203-006423	C612	C-CER,CHIP	SA
2203-006423	C613	C-CER,CHIP	SA
2203-006423	C615	C-CER,CHIP	SA
2203-006556	C121	C-CER,CHIP	SA
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2203-006562	C306	C-CER,CHIP	SA
2203-006562	C308	C-CER,CHIP	SA
2203-006562	C309	C-CER,CHIP	SA
2203-006562	C310	C-CER,CHIP	SA
2203-006562	C311	C-CER,CHIP	SA
2203-006562	C312	C-CER,CHIP	SA
2203-006562	C318	C-CER,CHIP	SA
2203-006562	C320	C-CER,CHIP	SA
2203-006562	C322	C-CER,CHIP	SA
2203-006562	C325	C-CER,CHIP	SA
2203-006562	C406	C-CER,CHIP	SA
2203-006562	C417	C-CER,CHIP	SA
2203-006562	C418	C-CER,CHIP	SA
2203-006562	C426	C-CER,CHIP	SA
2203-006562	C427	C-CER,CHIP	SA
2203-006562	C502	C-CER,CHIP	SA
2203-006562	C503	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2203-006562	C519	C-CER,CHIP	SA
2203-006562	C520	C-CER,CHIP	SA
2203-006562	C521	C-CER,CHIP	SA
2203-006562	C527	C-CER,CHIP	SA
2203-006562	C531	C-CER,CHIP	SA
2203-006562	C532	C-CER,CHIP	SA
2203-006562	C533	C-CER,CHIP	SA
2203-006562	C542	C-CER,CHIP	SA
2203-006562	C611	C-CER,CHIP	SA
2203-006562	C614	C-CER,CHIP	SA
2203-006611	C602	C-CER,CHIP	SA
2203-006611	C603	C-CER,CHIP	SA
2203-006611	C604	C-CER,CHIP	SA
2203-006611	C605	C-CER,CHIP	SA
2203-006611	C606	C-CER,CHIP	SA
2203-006611	C607	C-CER,CHIP	SA
2203-006611	C608	C-CER,CHIP	SA
2203-006611	C609	C-CER,CHIP	SA
2203-006626	C142	C-CER,CHIP	SA
2203-006626	C428	C-CER,CHIP	SA
2203-006626	C429	C-CER,CHIP	SA
2203-006648	C107	C-CER,CHIP	SA
2203-006648	C112	C-CER,CHIP	SA
2203-006648	C316	C-CER,CHIP	SA
2203-006648	C541	C-CER,CHIP	SA
2203-006674	C141	C-CER,CHIP	SNA
2203-006824	C319	C-CER,CHIP	SA
2203-006824	C501	C-CER,CHIP	SA
2203-006824	C513	C-CER,CHIP	SA
2203-006838	C321	C-CER,CHIP	SA
2203-006838	C515	C-CER,CHIP	SA
2203-006841	C538	C-CER,CHIP	SA
2203-006872	C414	C-CER,CHIP	SA
2203-006872	C416	C-CER,CHIP	SA
2203-006872	C528	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006872	C529	C-CER,CHIP	SA
2203-006872	C530	C-CER,CHIP	SA
2203-006872	C547	C-CER,CHIP	SA
2203-006901	C516	C-CER,CHIP	SA
2203-007143	C545	C-CER,CHIP	SA
2203-007195	C108	C-CER,CHIP	SA
2203-007195	C326	C-CER,CHIP	SA
2203-007195	C327	C-CER,CHIP	SA
2203-007195	C328	C-CER,CHIP	SA
2203-007195	C517	C-CER,CHIP	SA
2404-001339	TA201	C-TA,CHIP	SA
2404-001381	TA402	C-TA,CHIP	SA
2404-001381	TA404	C-TA,CHIP	SA
2404-001414	TA403	C-TA,CHIP	SA
2404-001484	TA400	C-TA,CHIP	SA
2404-001484	TA401	C-TA,CHIP	SA
2404-001496	TA300	C-TA,CHIP	SA
2703-001229	L501	INDUCTOR-SMD	SA
2703-001748	L107	INDUCTOR-SMD	SA
2703-001748	L108	INDUCTOR-SMD	SA
2703-002176	L111	INDUCTOR-SMD	SA
2703-002202	L105	INDUCTOR-SMD	SA
2703-002268	L106	INDUCTOR-SMD	SA
2703-002268	L109	INDUCTOR-SMD	SA
2703-002369	L104	INDUCTOR-SMD	SA
2703-002714	L500	INDUCTOR-SMD	SA
2703-002734	L300	INDUCTOR-SMD	SA
2703-002734	L301	INDUCTOR-SMD	SA
2703-002795	L110	INDUCTOR-SMD	SNA
2703-002900	L102	INDUCTOR-SMD	SA
2703-002910	L103	INDUCTOR-SMD	SA
2703-002917	L100	INDUCTOR-SMD	SA
2703-002917	L101	INDUCTOR-SMD	SA
2801-004455	OSC100	CRYSTAL-SMD	SA
2801-004458	OSC500	CRYSTAL-SMD	SA
2801-004506	OSC101	CRYSTAL-SMD	SA

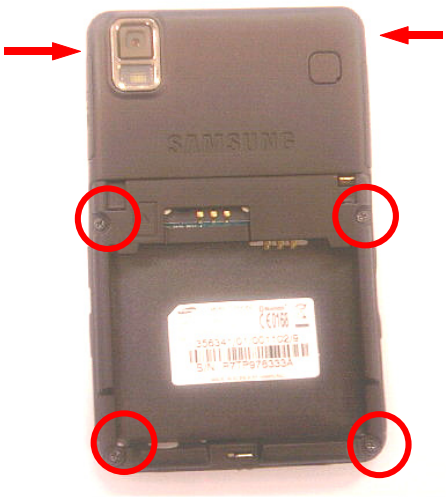
SEC CODE	Design LOC	Discription	STATUS
2801-004551	OSC200	CRYSTAL-SMD	SA
2901-001404	F600	FILTER-EMI SMD	SA
2901-001404	F601	FILTER-EMI SMD	SA
2901-001404	F602	FILTER-EMI SMD	SA
2901-001404	F603	FILTER-EMI SMD	SA
2901-001404	F604	FILTER-EMI SMD	SA
2904-001600	F102	FILTER-SAW	SA
2904-001604	F101	FILTER-SAW	SNA
2904-001628	F100	FILTER-SAW	SA
2909-001283	F103	FILTER-LC	SA
3301-001342	F403	BEAD-SMD	SA
3301-001342	L502	BEAD-SMD	SA
3301-001342	L504	BEAD-SMD	SA
3301-001534	F401	BEAD-SMD	SA
3301-001534	F402	BEAD-SMD	SA
3705-001421	RFS100	CONNECTOR-COAXIAL	SA
3708-002202	CN600	CONNECTOR-FPC/FFC/PIC	SA
3709-001344	CN601	CONNECTOR-CARD EDGE	SA
3709-001391	SIM600	CONNECTOR-CARD EDGE	SA
3710-002499	SOC500	SOCKET-INTERFACE	SA
3711-005643	CN602	HEADER-BOARD TO BOARD	SA
3711-005659	HEA600	HEADER-BOARD TO BOARD	SA
3711-006256	BTC300	HEADER-BATTERY	SA
4302-001158	BAT300	BATTERY-LI(2ND)	SA
GH09-00045A	UCP200	IC MICOM	SA
GH70-02600A	SC100	IPR SHIELD-FRAME	SA
GH70-02640A	FPC600	ICT SHIELD-CAN CLIP	SA
GH70-02640A	FPC601	ICT SHIELD-CAN CLIP	SA
GH70-02640A	FPC602	ICT SHIELD-CAN CLIP	SA
GH71-05666A	ANT100	NPR-ANTENNA CONTACT	SA
GH71-05666A	ANT101	NPR-ANTENNA CONTACT	SA
GH71-07885A	FPC603	NPR CONTACT-BATTERY	SA

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

7. Disassembly and Assembly Instructions

7-1. Disassembly

1

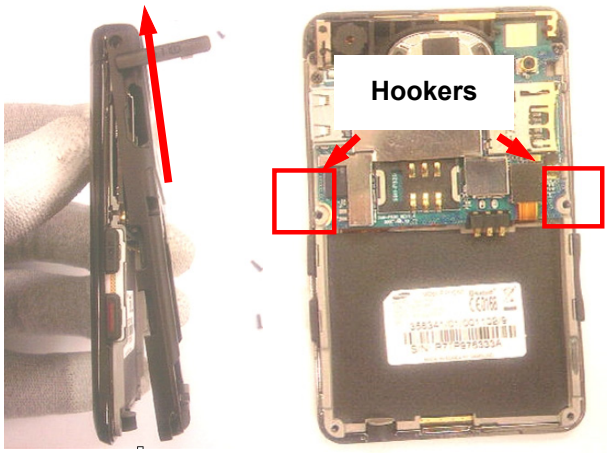


1) Remove six screws on a Rear Case. (6 points)

※ caution

1) Remove the battery and SIM CARD.

2



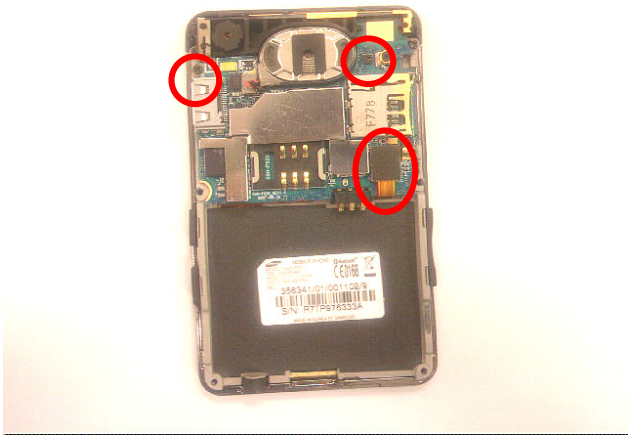
1) Open a cover on an earphone-jack (multi-fucntion jack).

2) Disassemble the rear case to push up by the arrow-direction from the bottom hookers.

※ caution

1) Be careful not to damage a Rear Case.

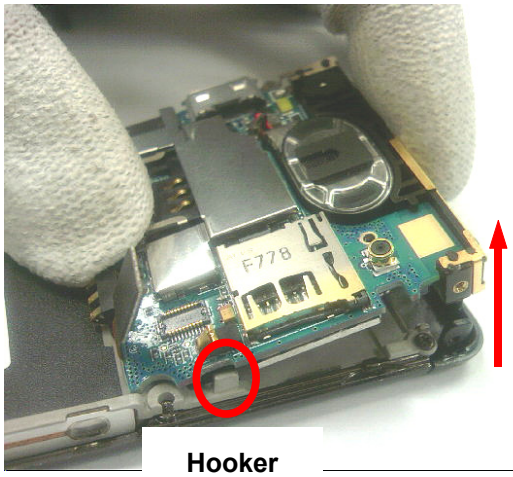
3



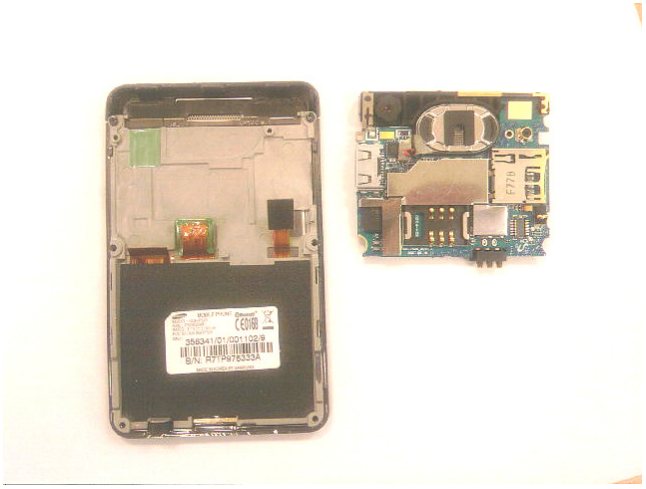
1) Remove two screws on a PBA. (2 points)

2) Detach the connecter from the PBA.

4

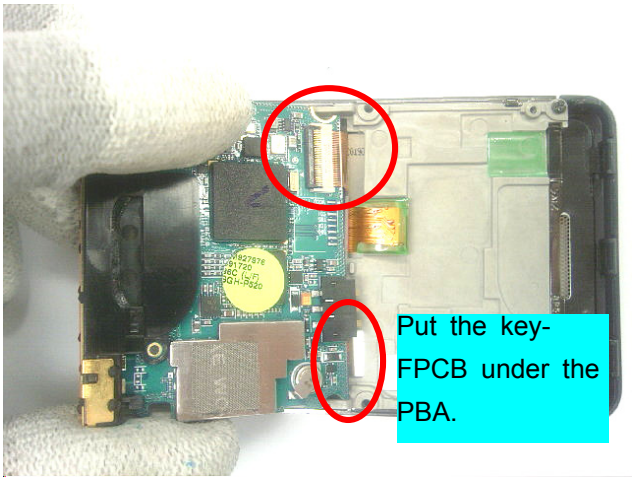


1) Lift off the PBA off holding a INTENNA like the picture.

5	6
	
1) Remove a tape on the connecter. 2) Extract the FPCB from the connecter.	1) Detach the PBA from the Front Ass'y.

7-2. Assembly

1

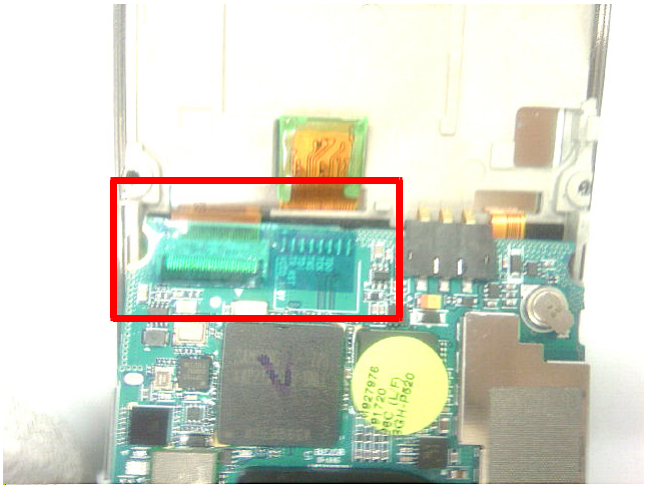


1) Insert the LCD-FPCB into the connecter holding the PBA tilted to one side.

※ caution

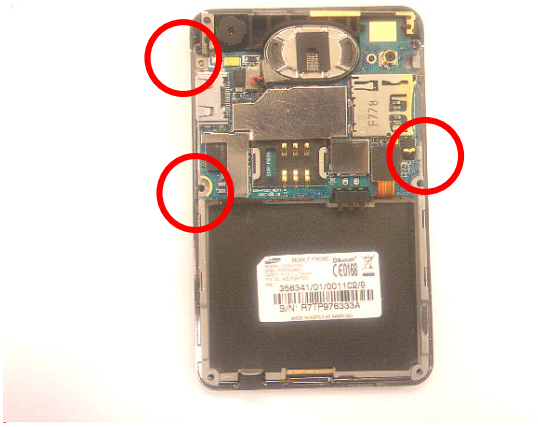
1) Confirm the silk-line after the insertion.

2



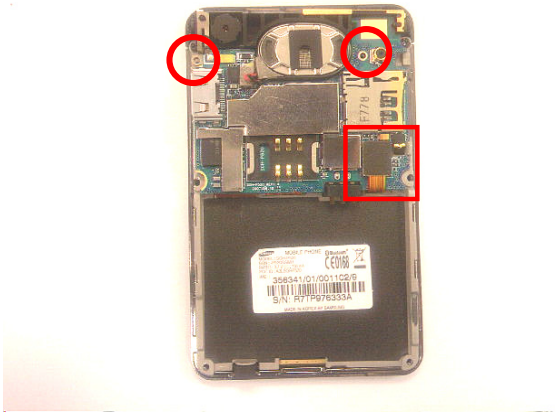
1) Attach a tape on the LCD-connecter like a picture.

3



1) Assemble the PBA and the front ass'y aligning remarked points.

4



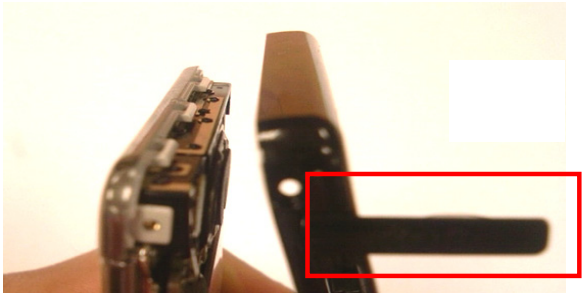
1) Tighten two screws.

2) Attach the key-FPCB to the connecter.

※ caution

1) Confirm which the key-FPCB and the PBA are connected surely.

5



1) Assemble the rear case with an open earphone-jack cover.

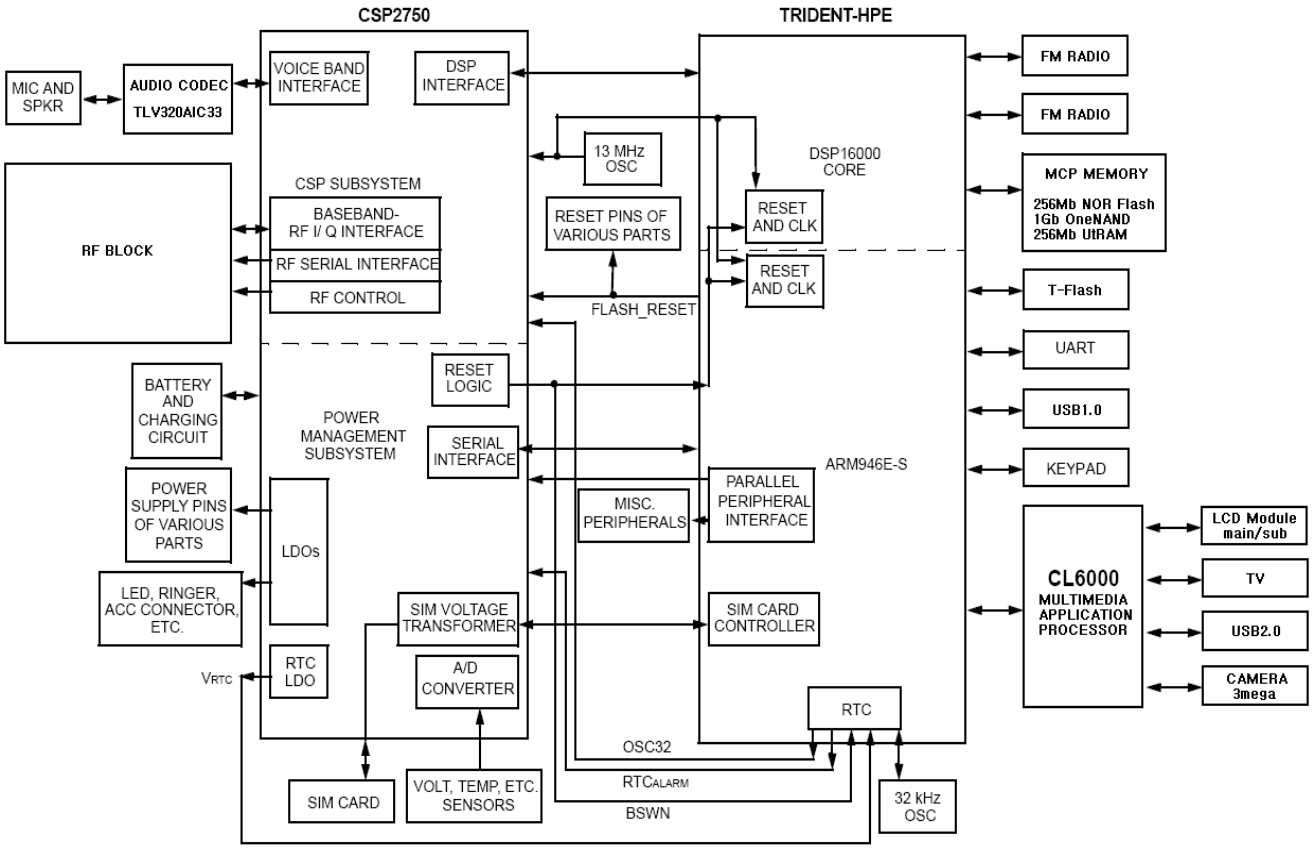
6

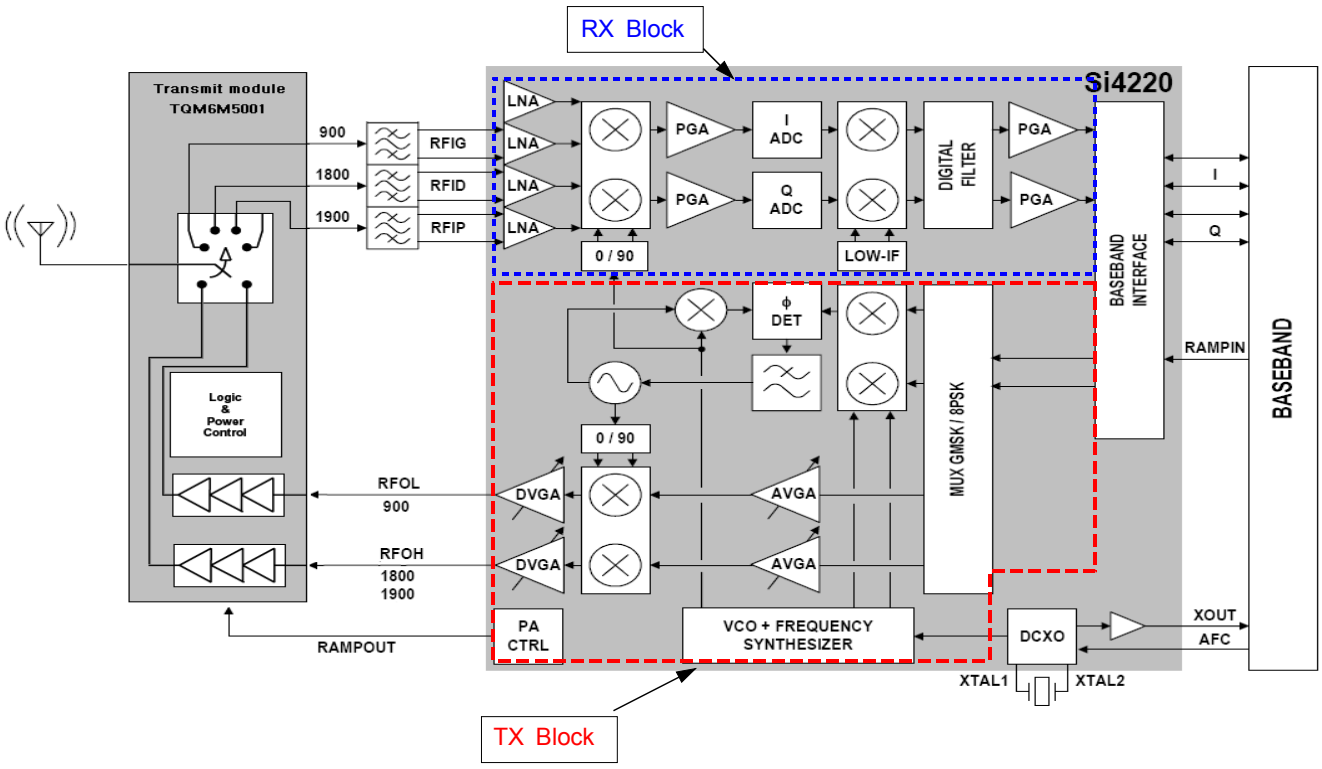
1) Assemble side-keys to the body like a picture.

7

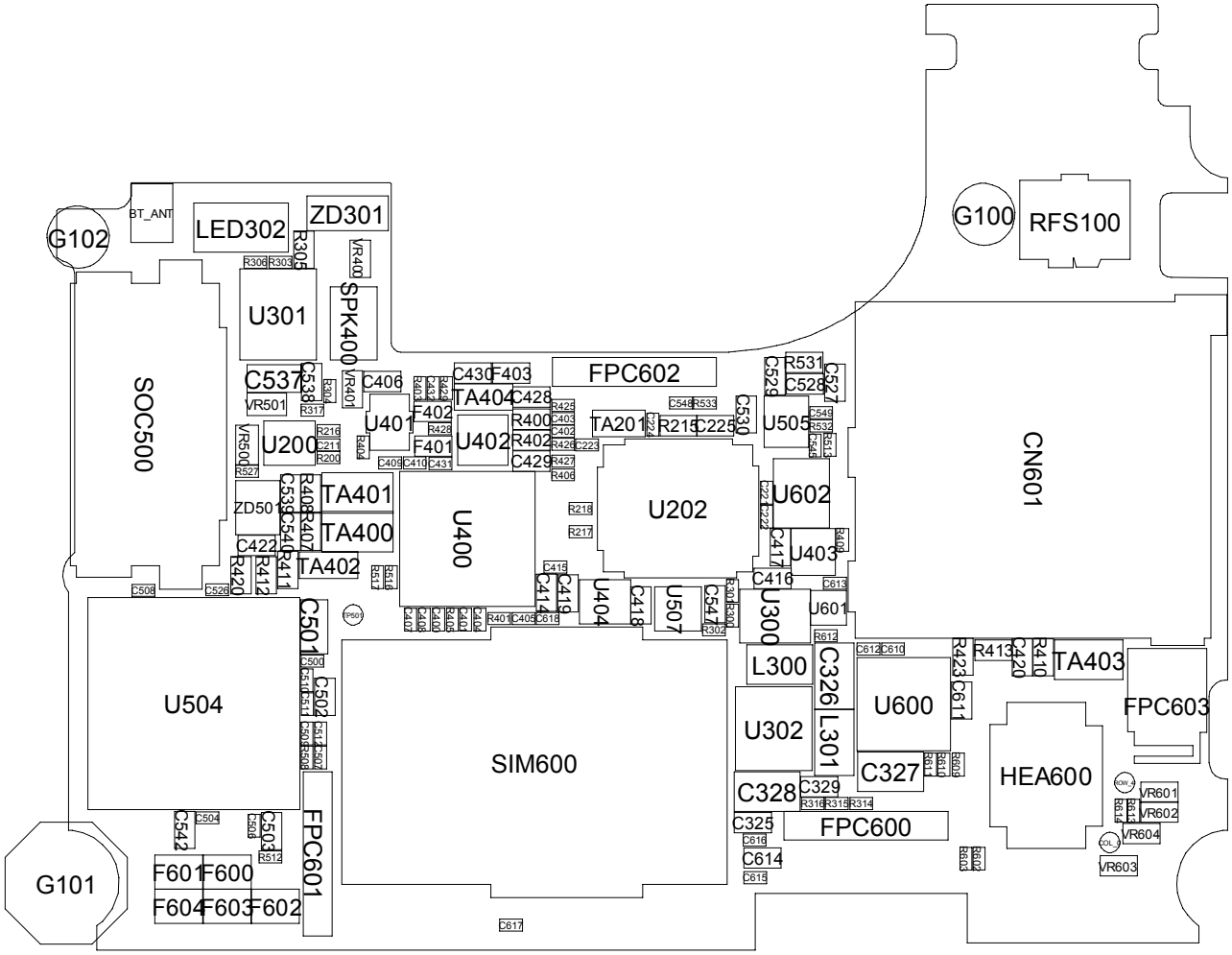
1) Tighten six screws on the rear case. (6 points)

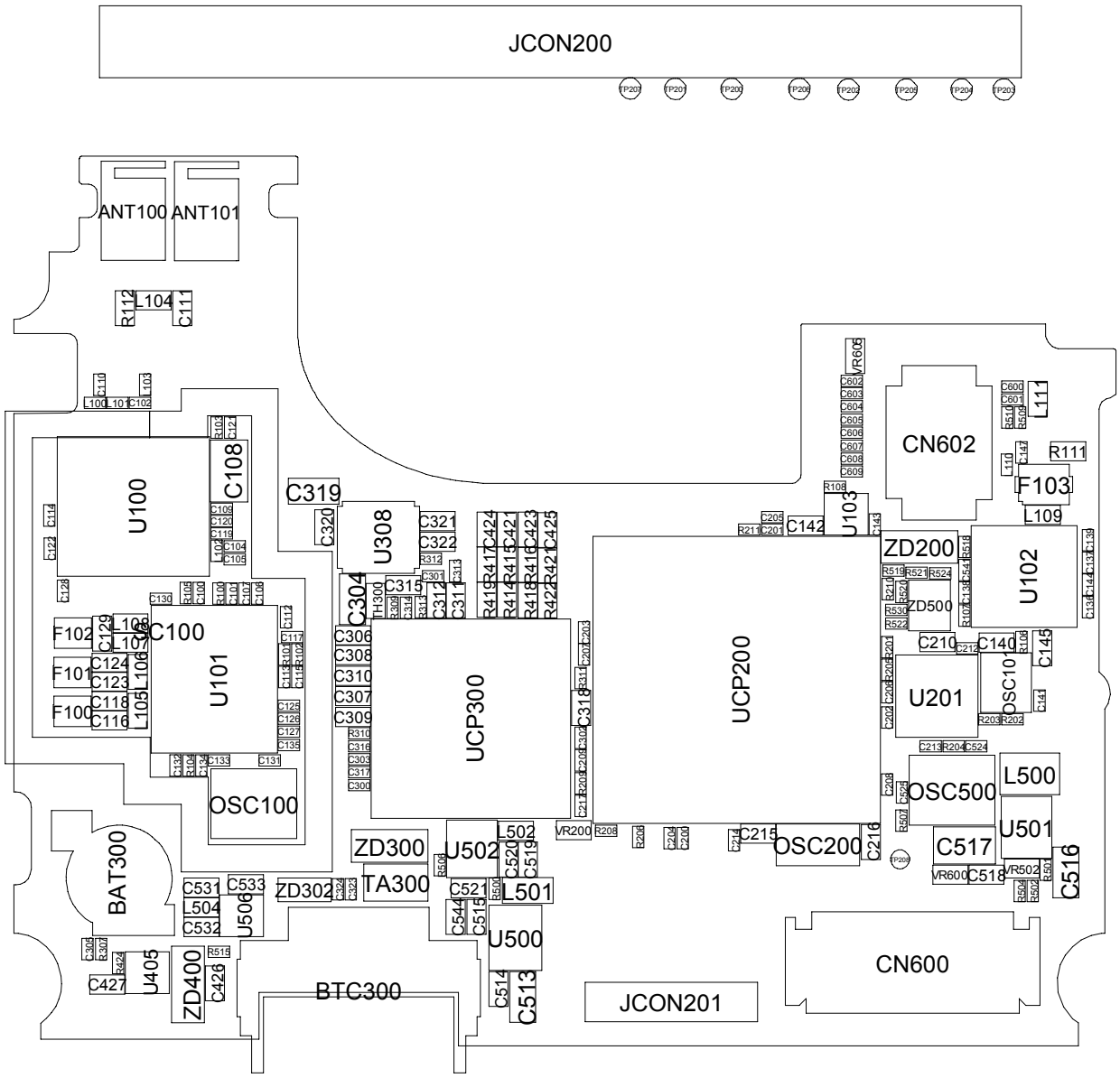
8. Block Diagrams





9. PCB Diagrams

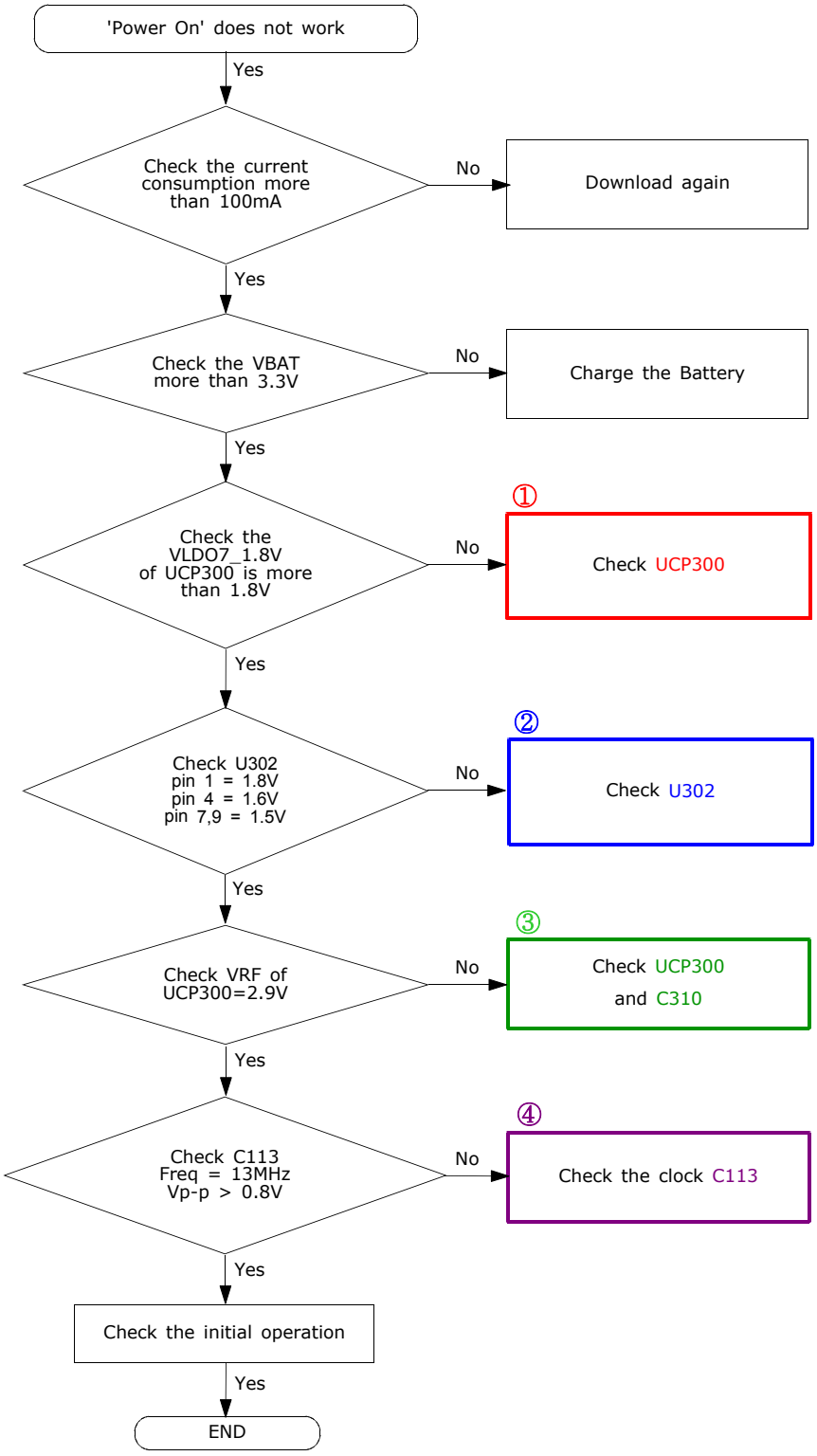


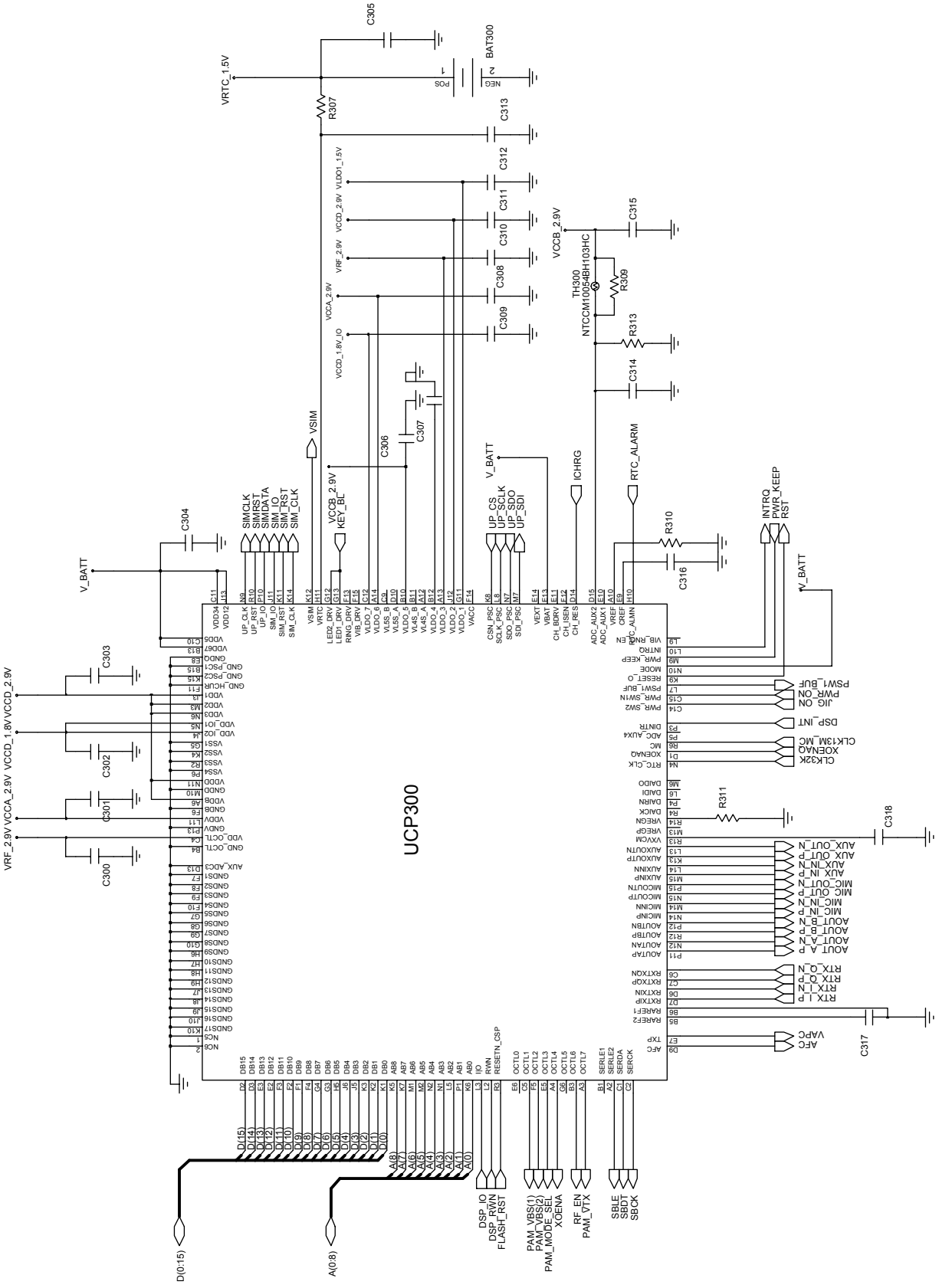


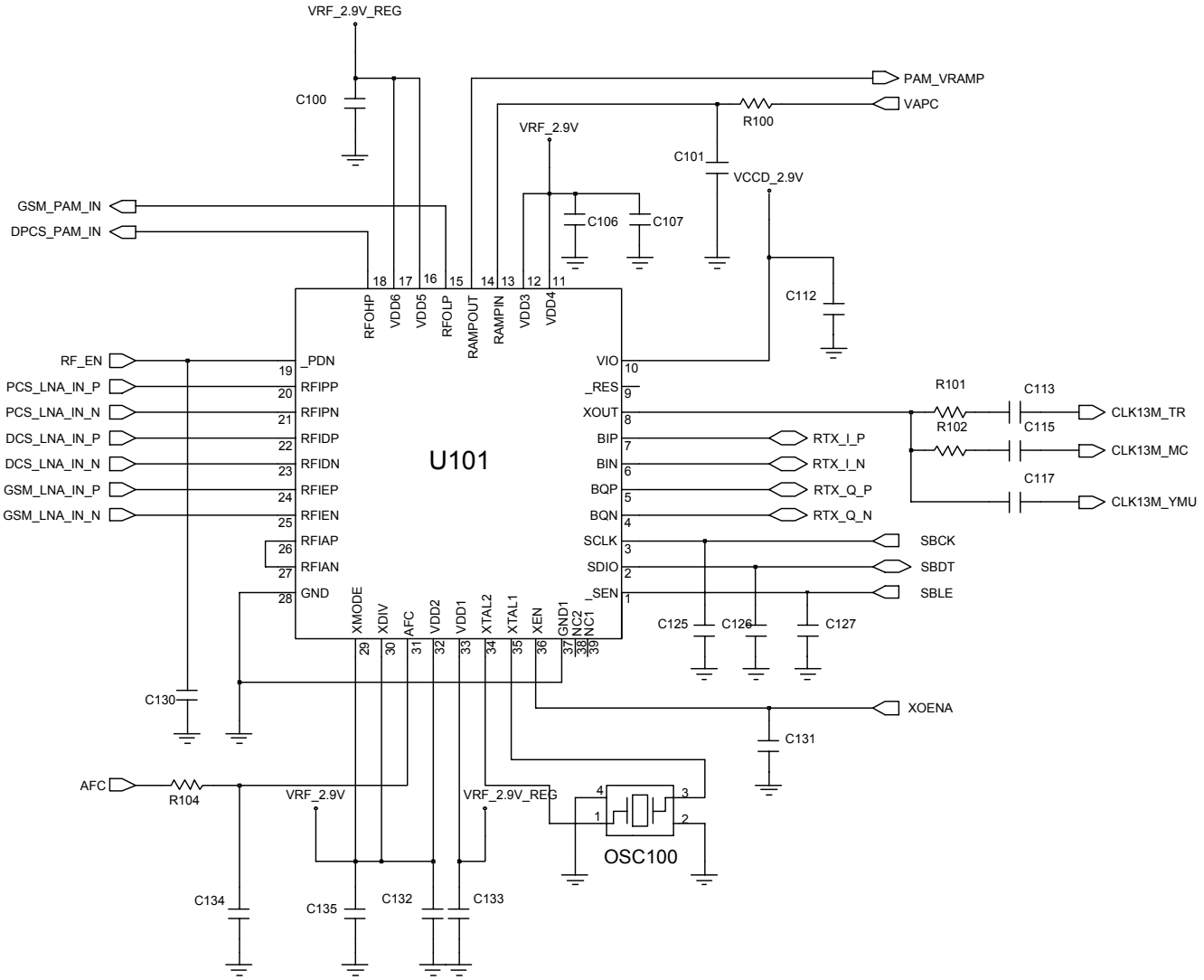
10. Flow Chart of Troubleshooting

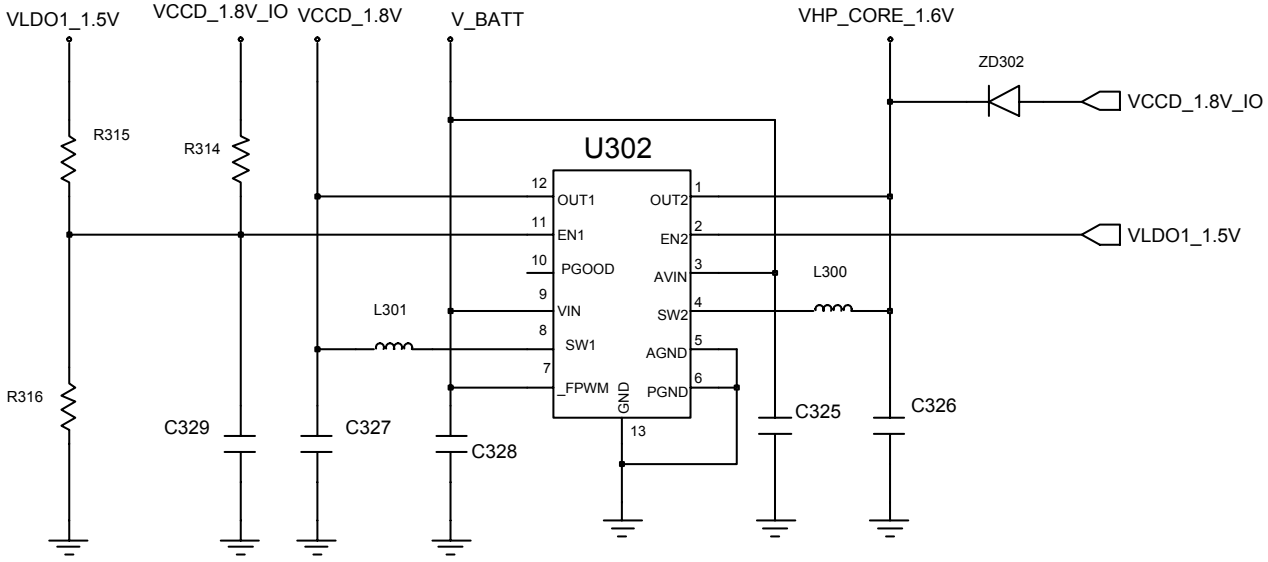
10-1 BASEBAND

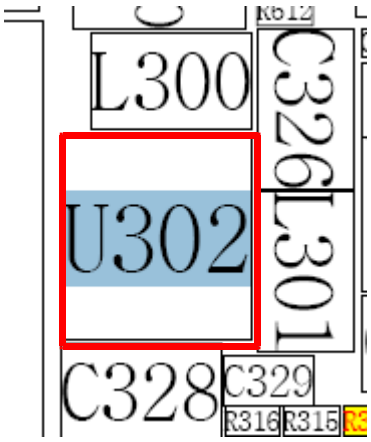
10-1-1. Power ON

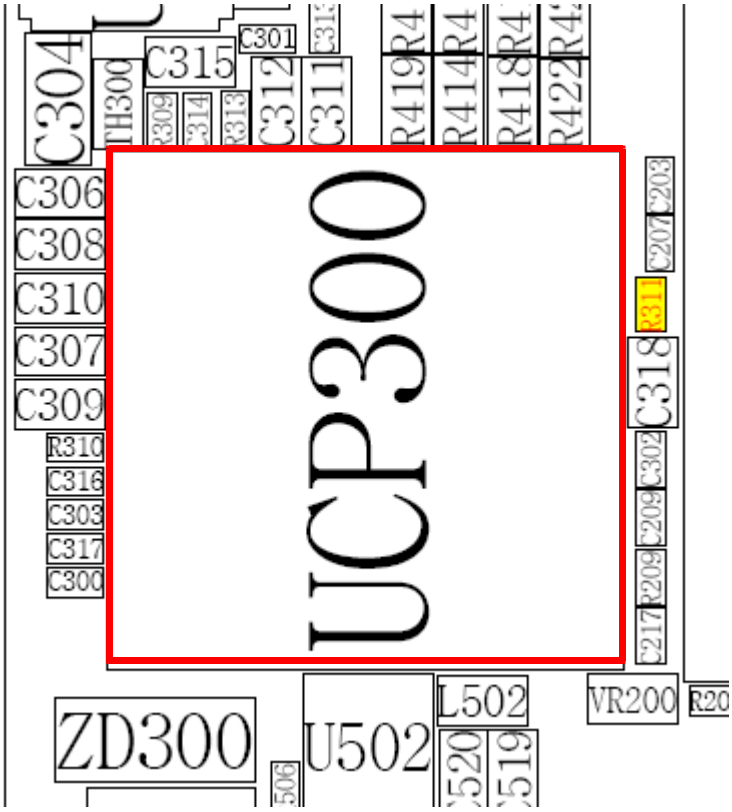




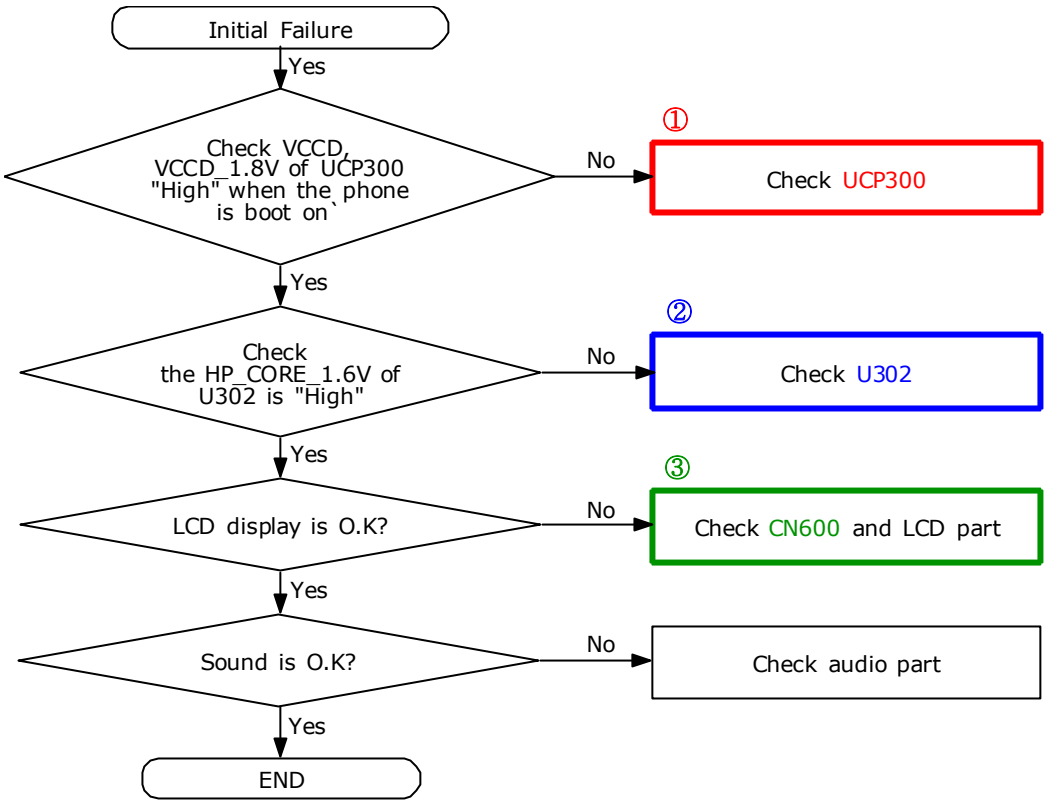


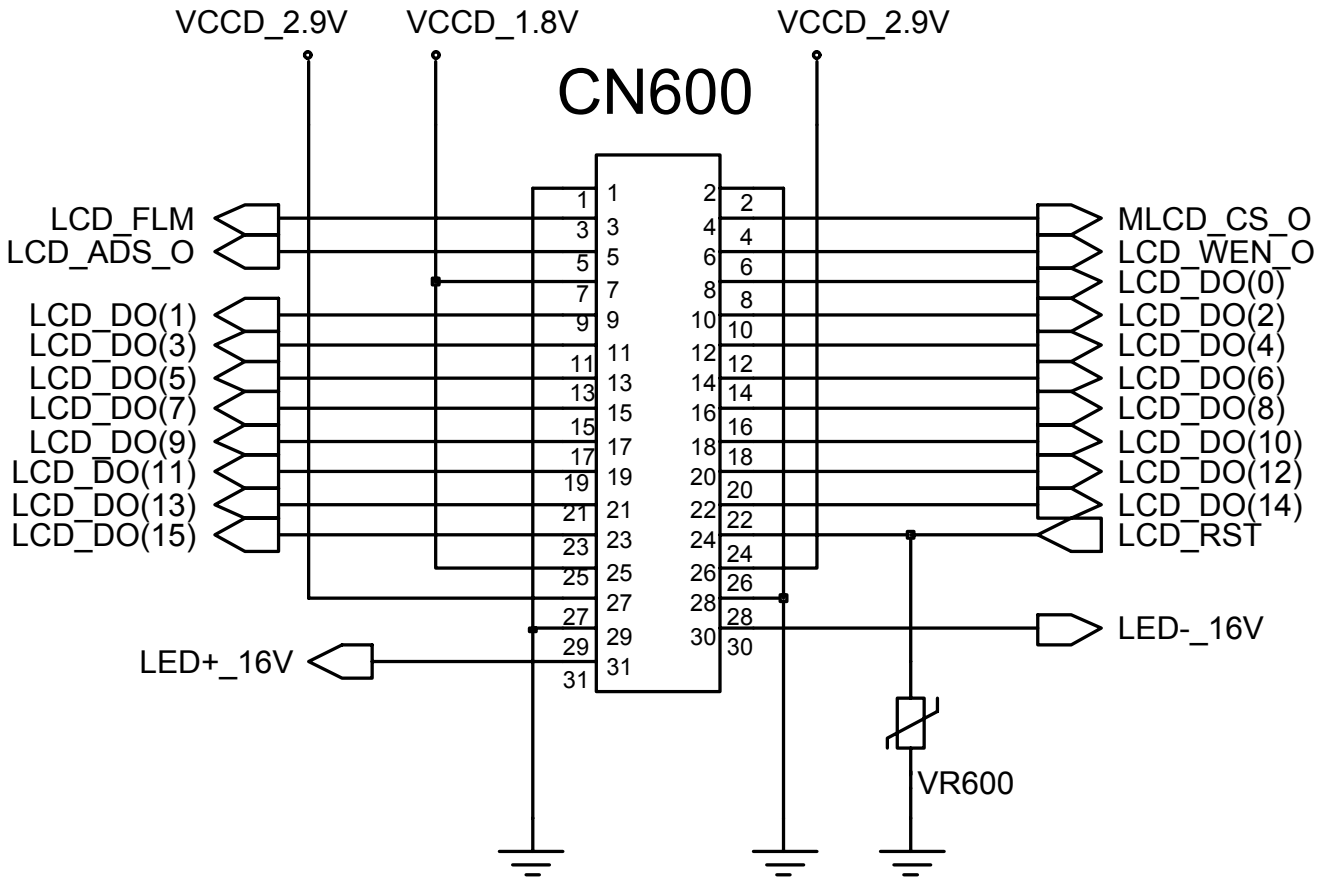


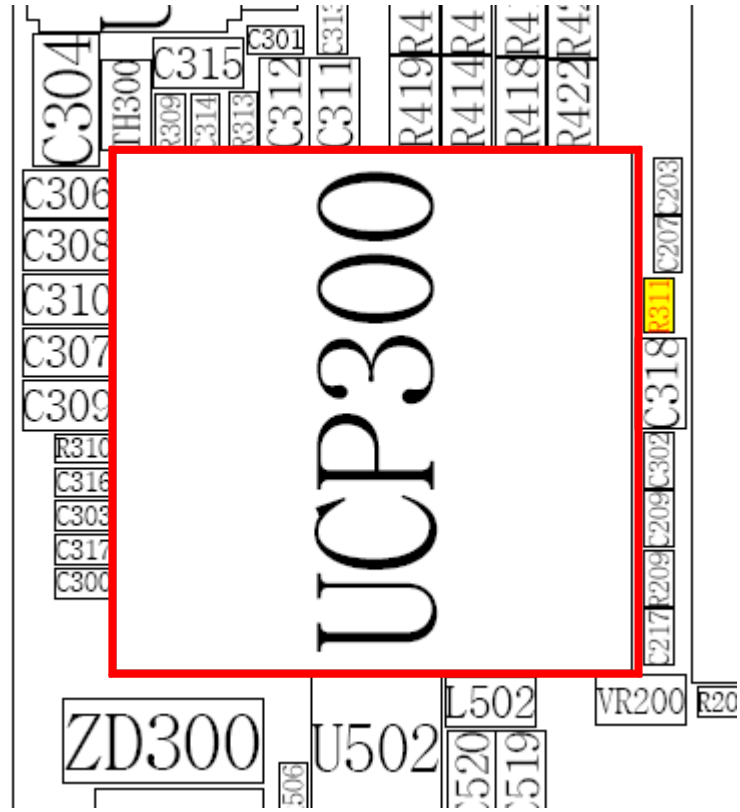


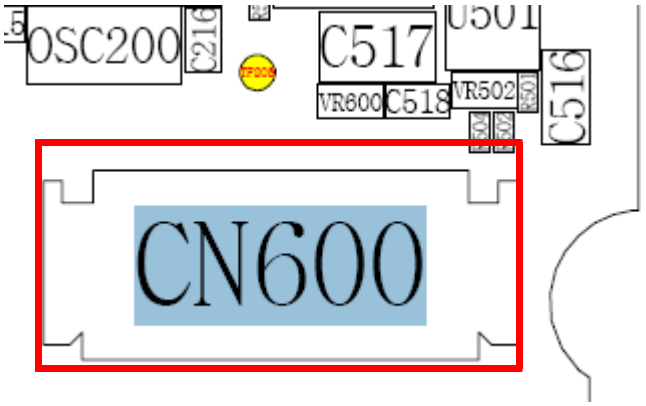


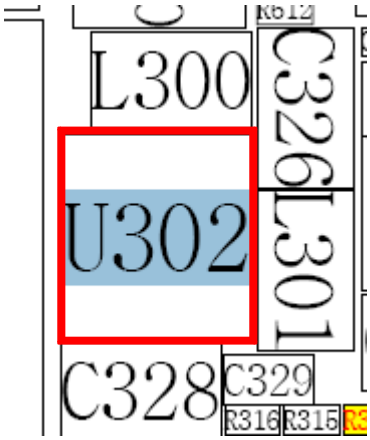
10-2-2. Initial



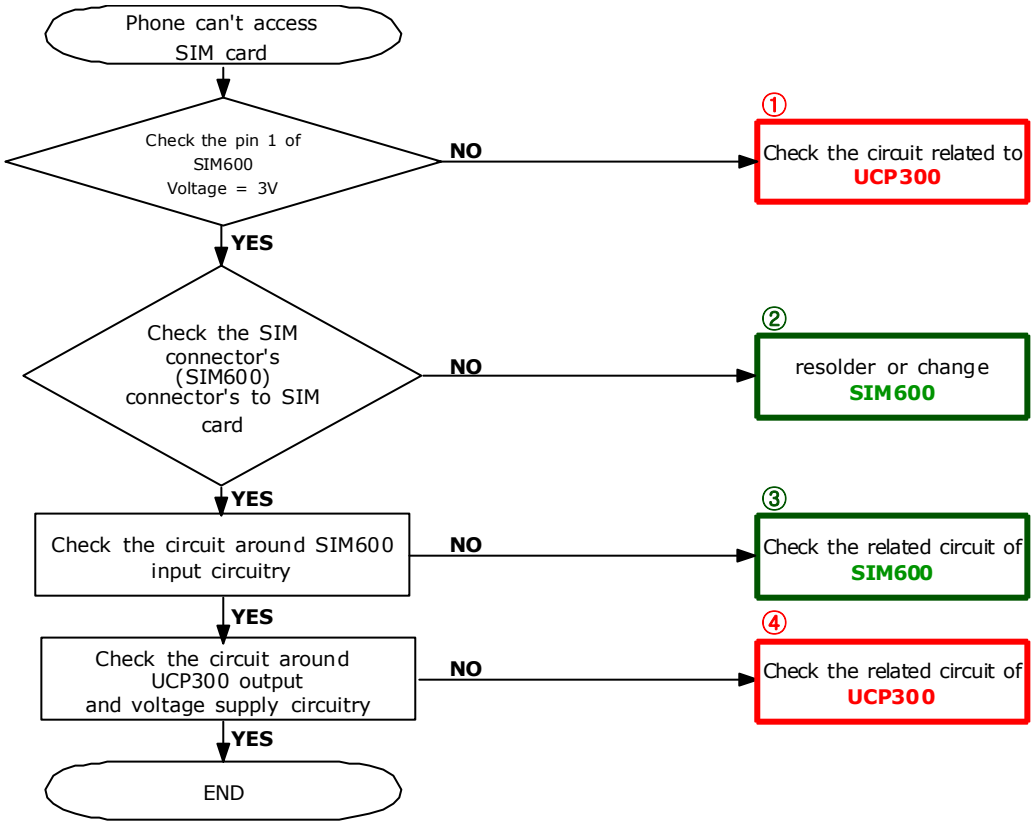


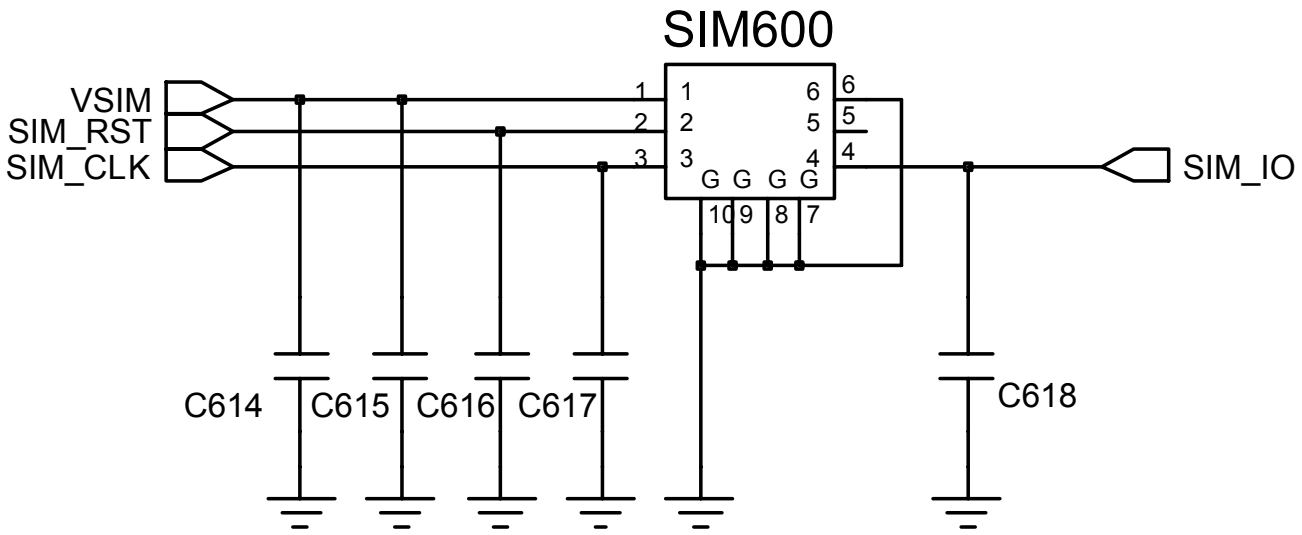


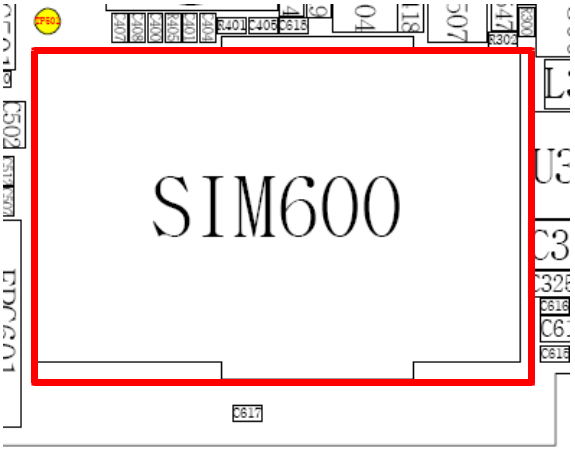




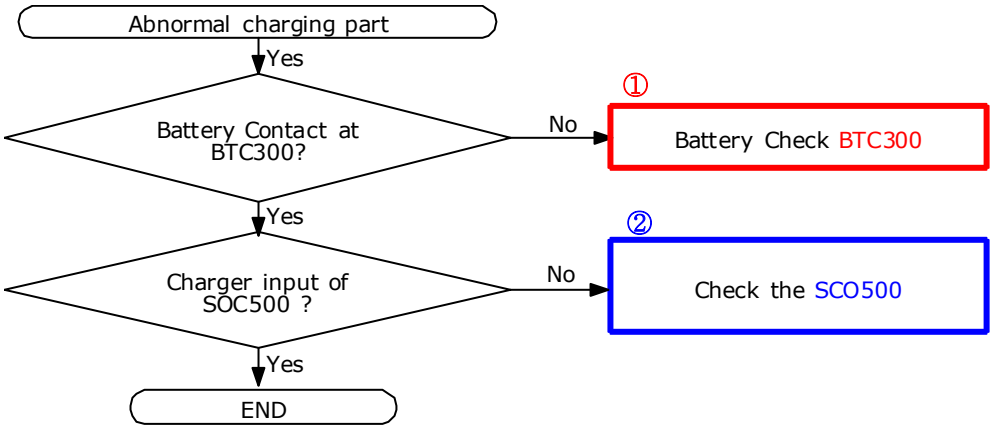
10-1-3. Sim Part

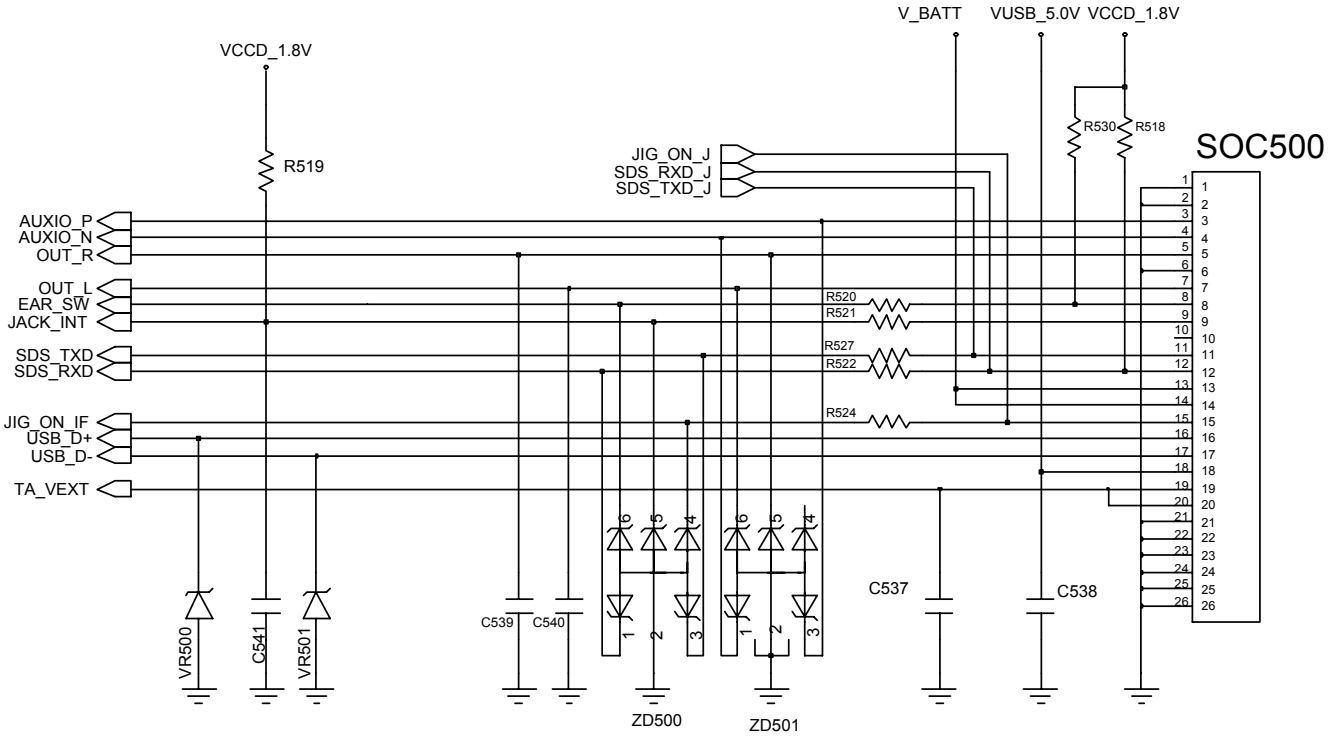


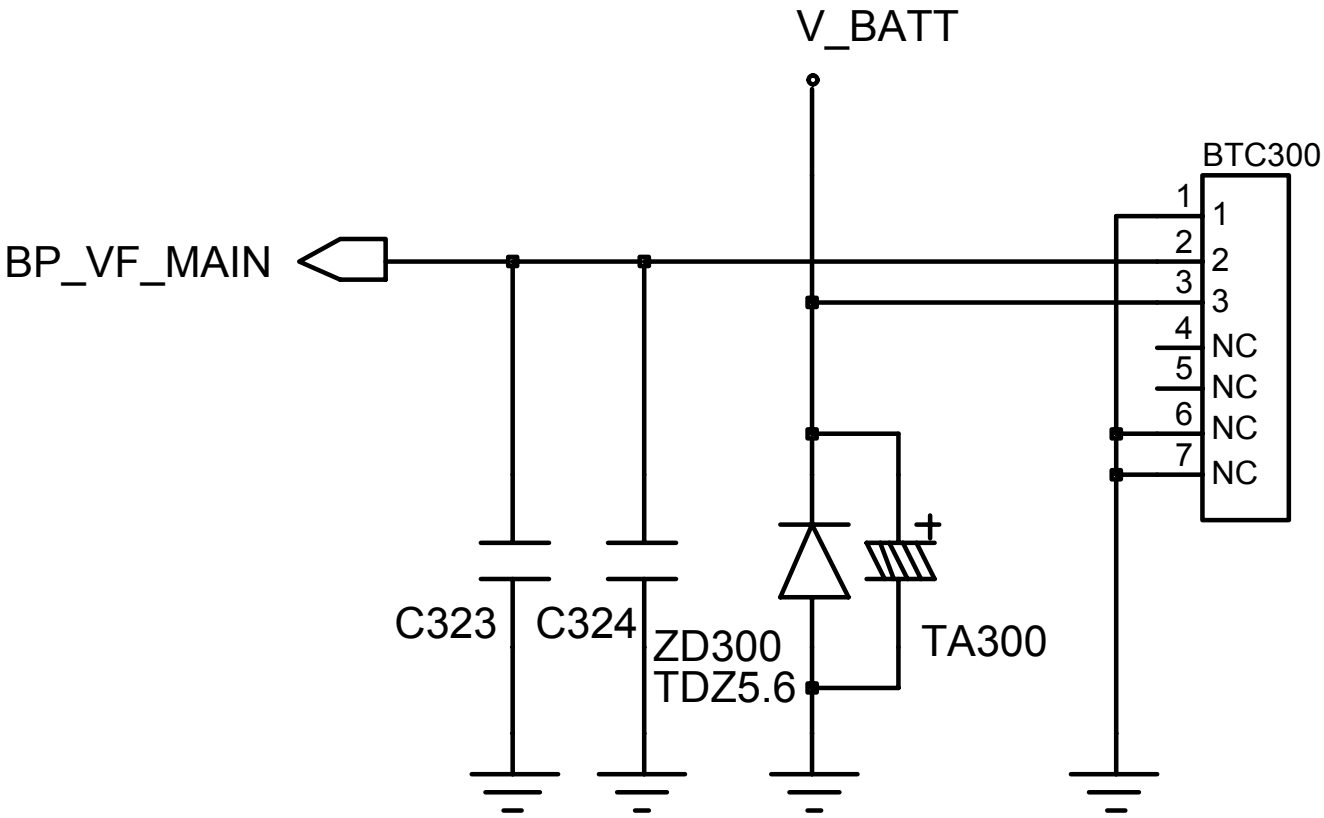


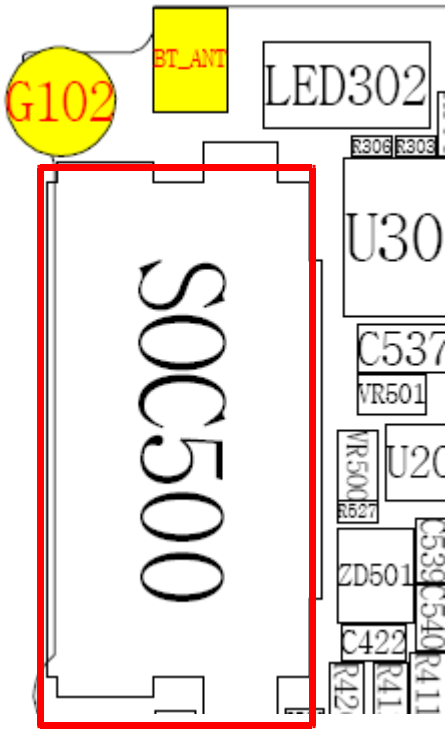


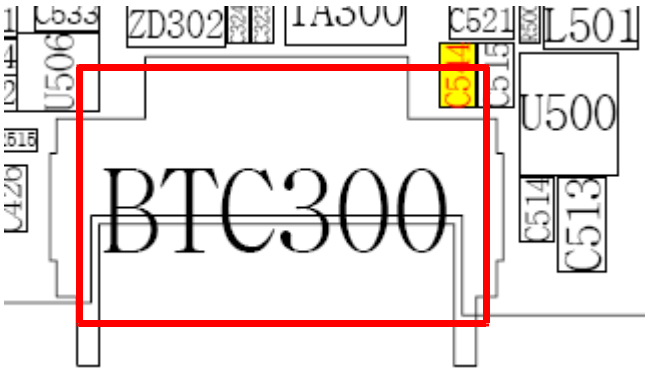
10-1-4. Charging Part











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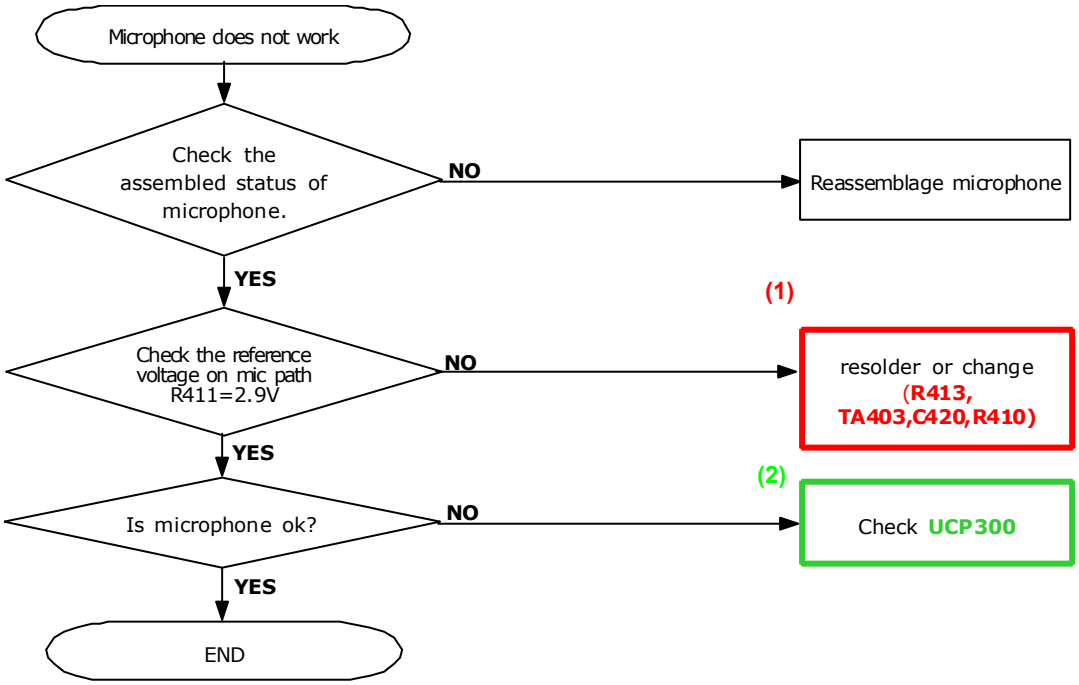

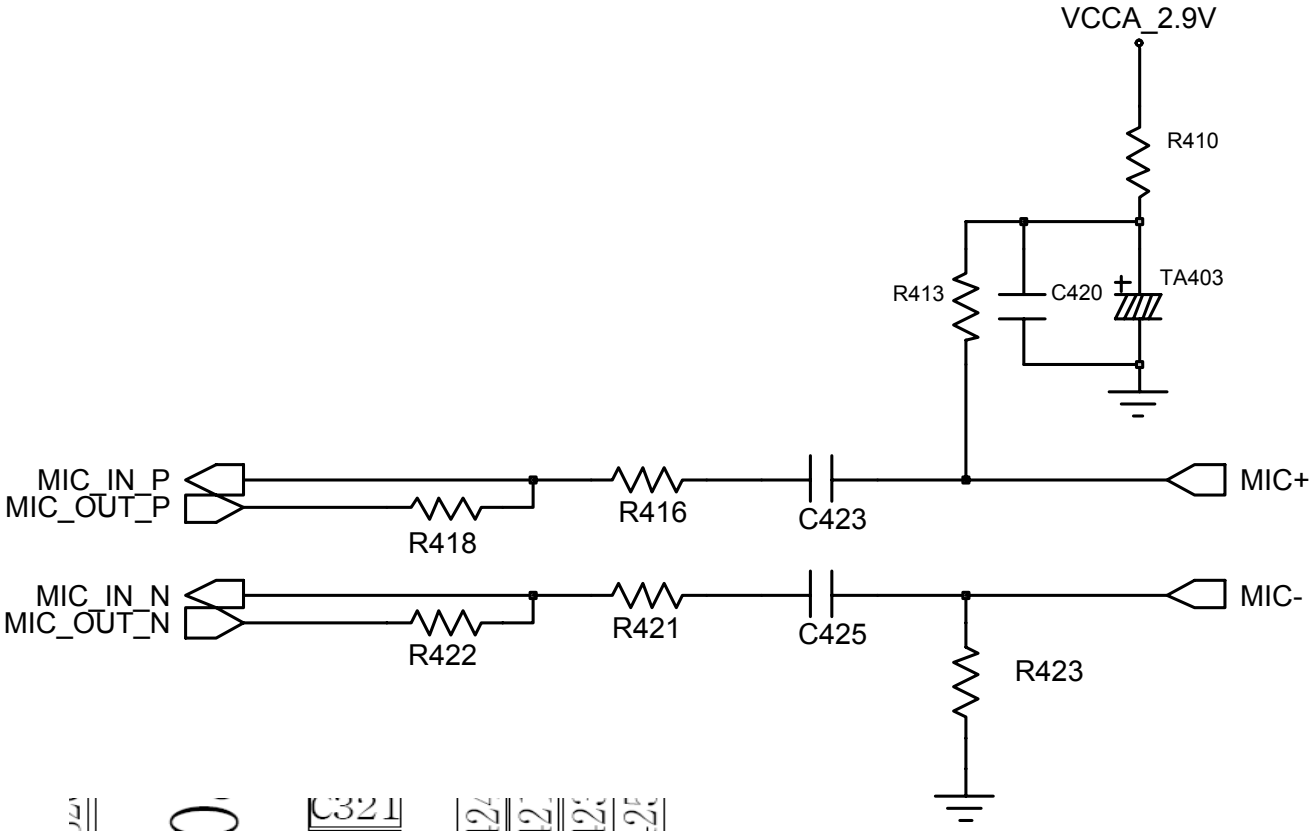

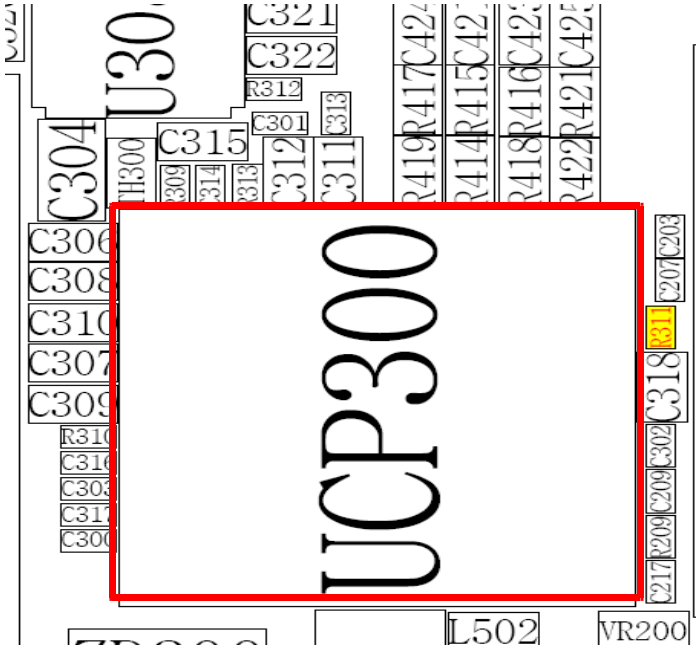

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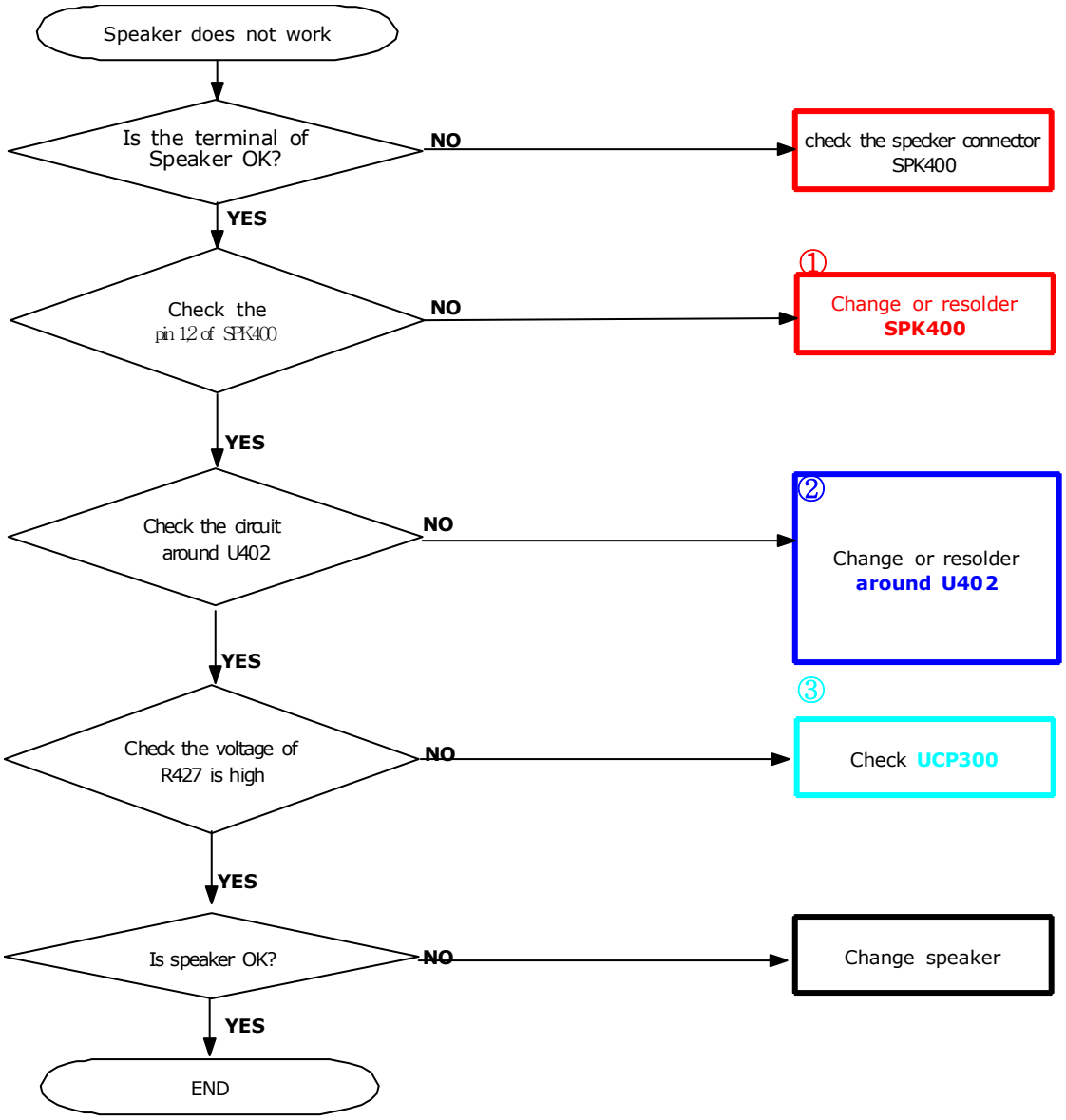

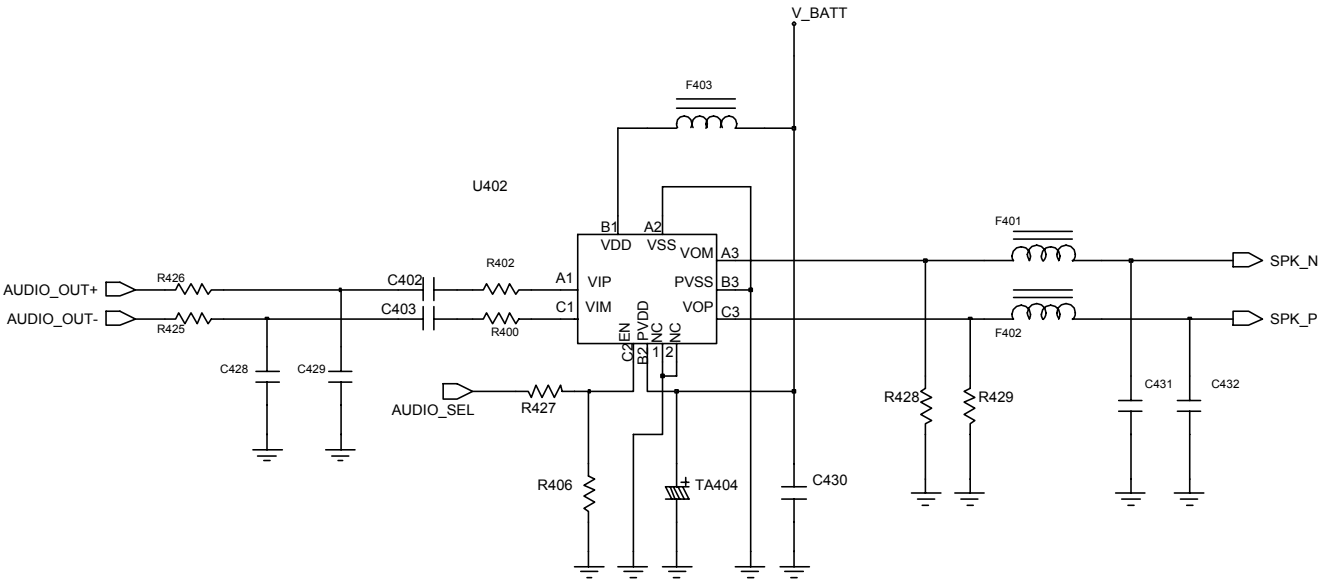

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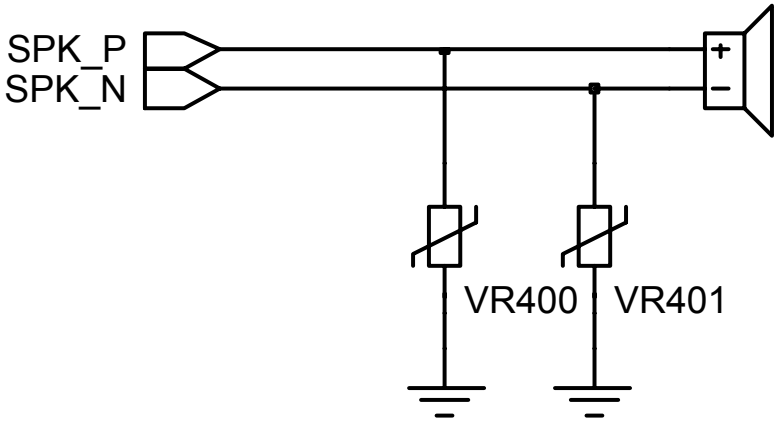

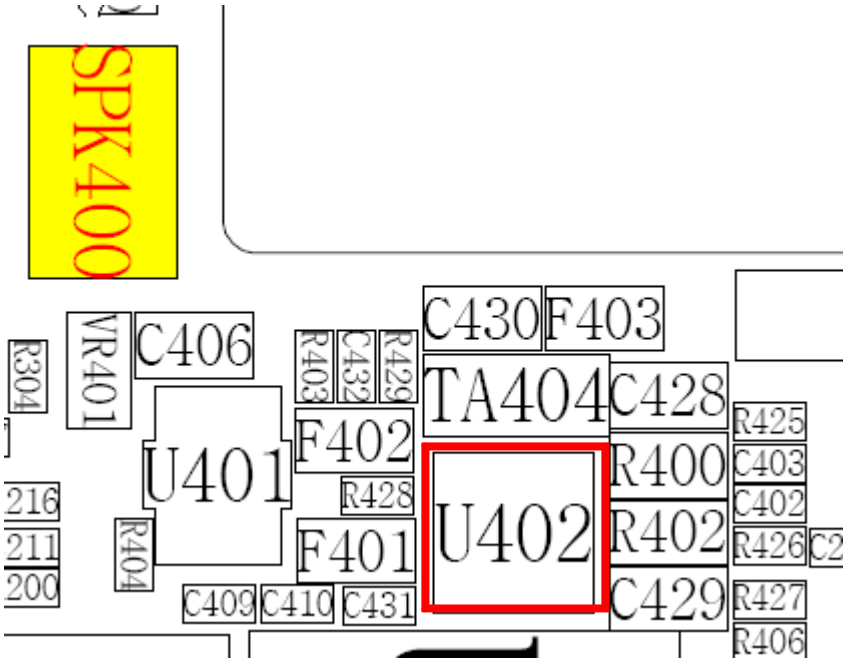

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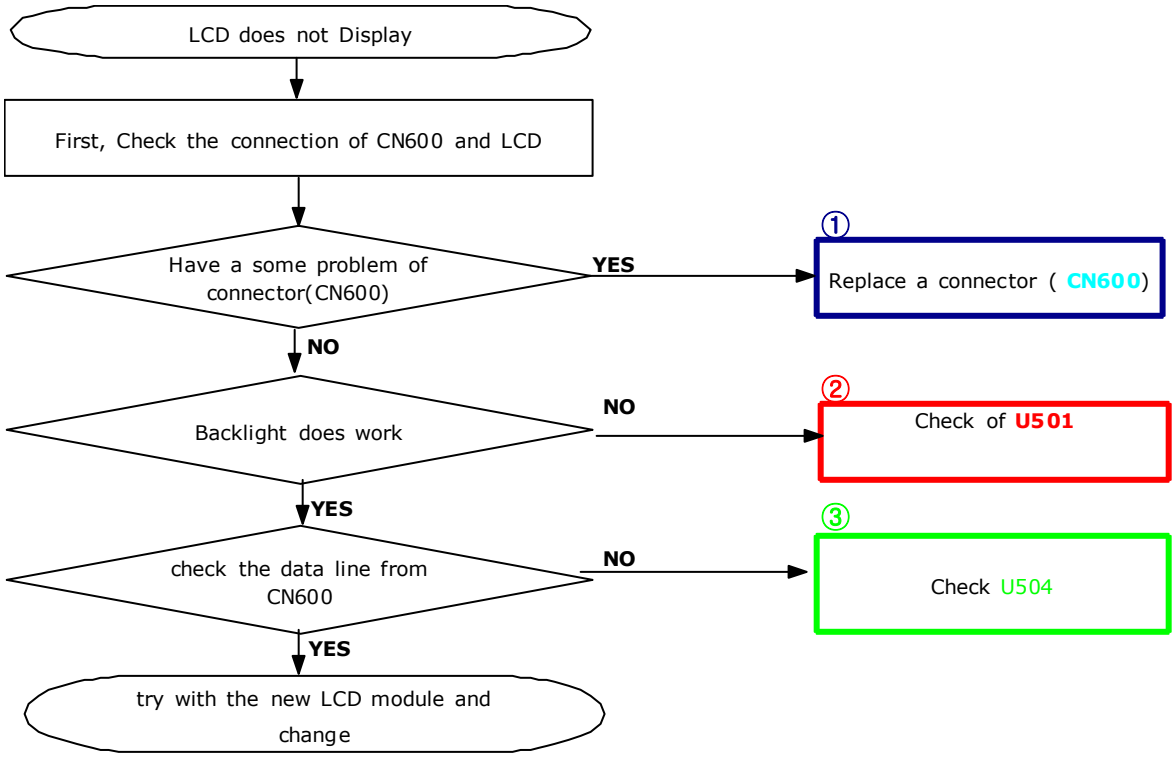

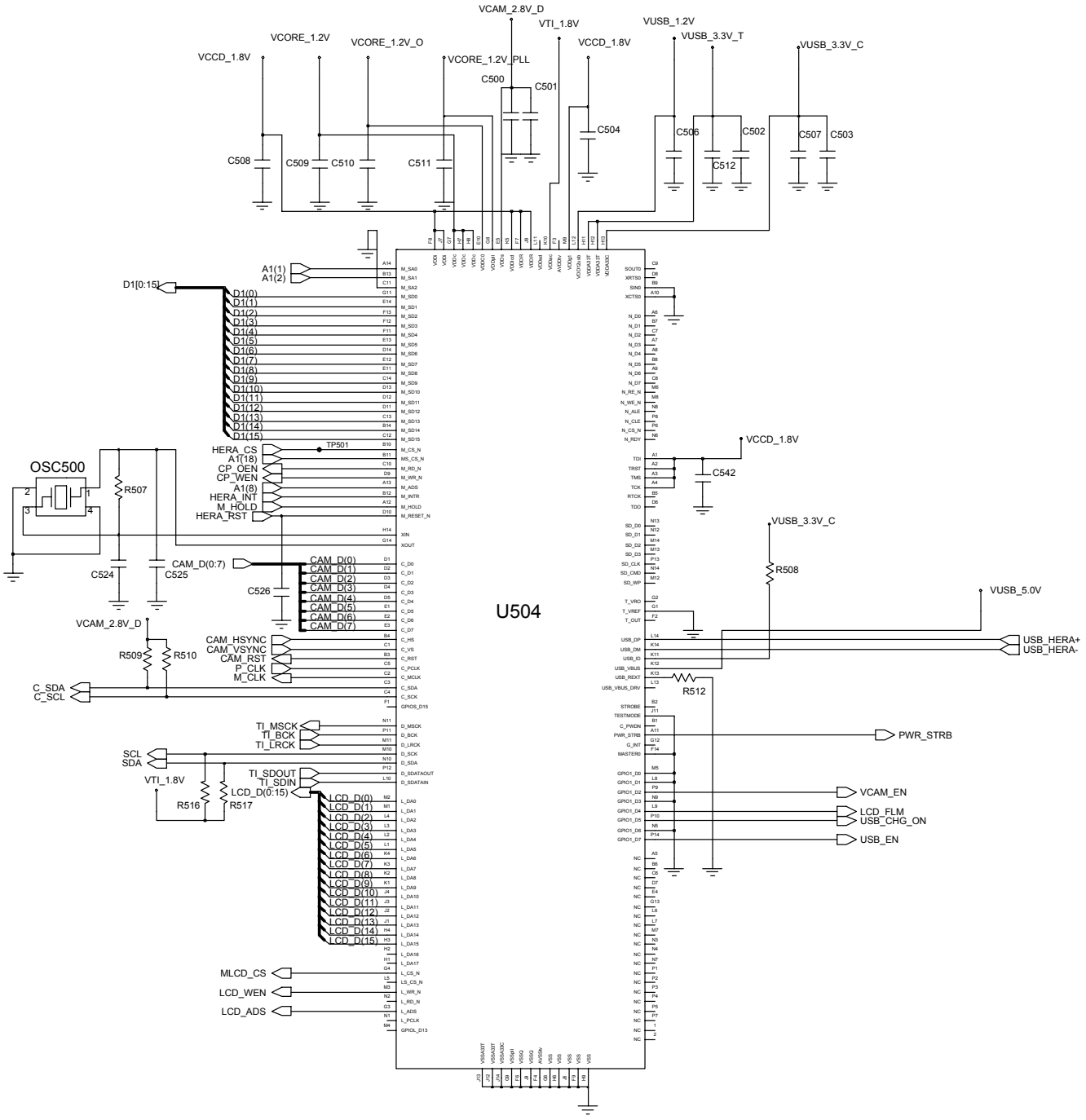

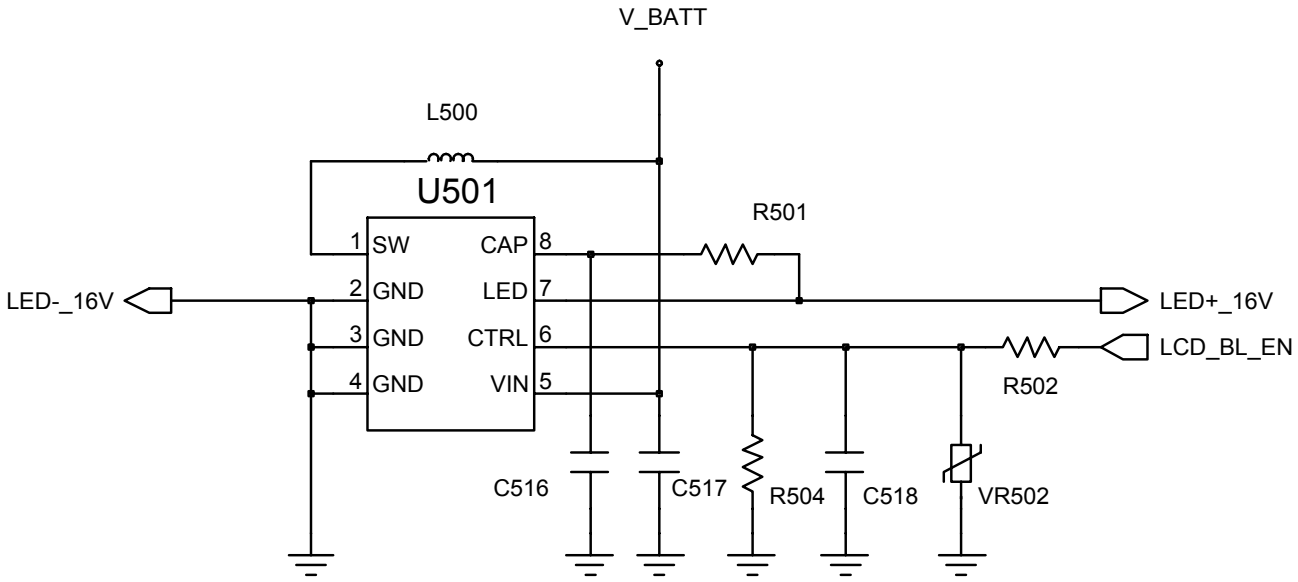

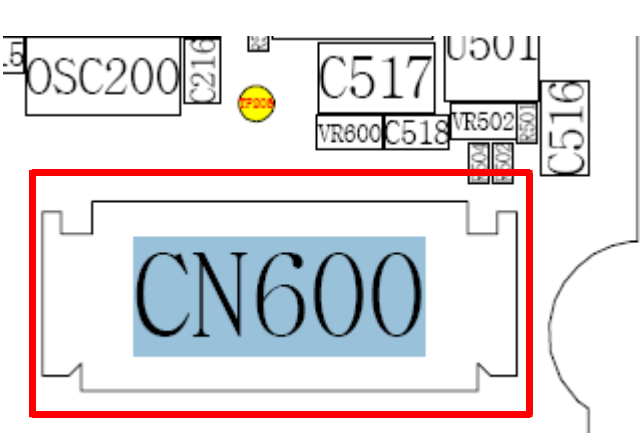

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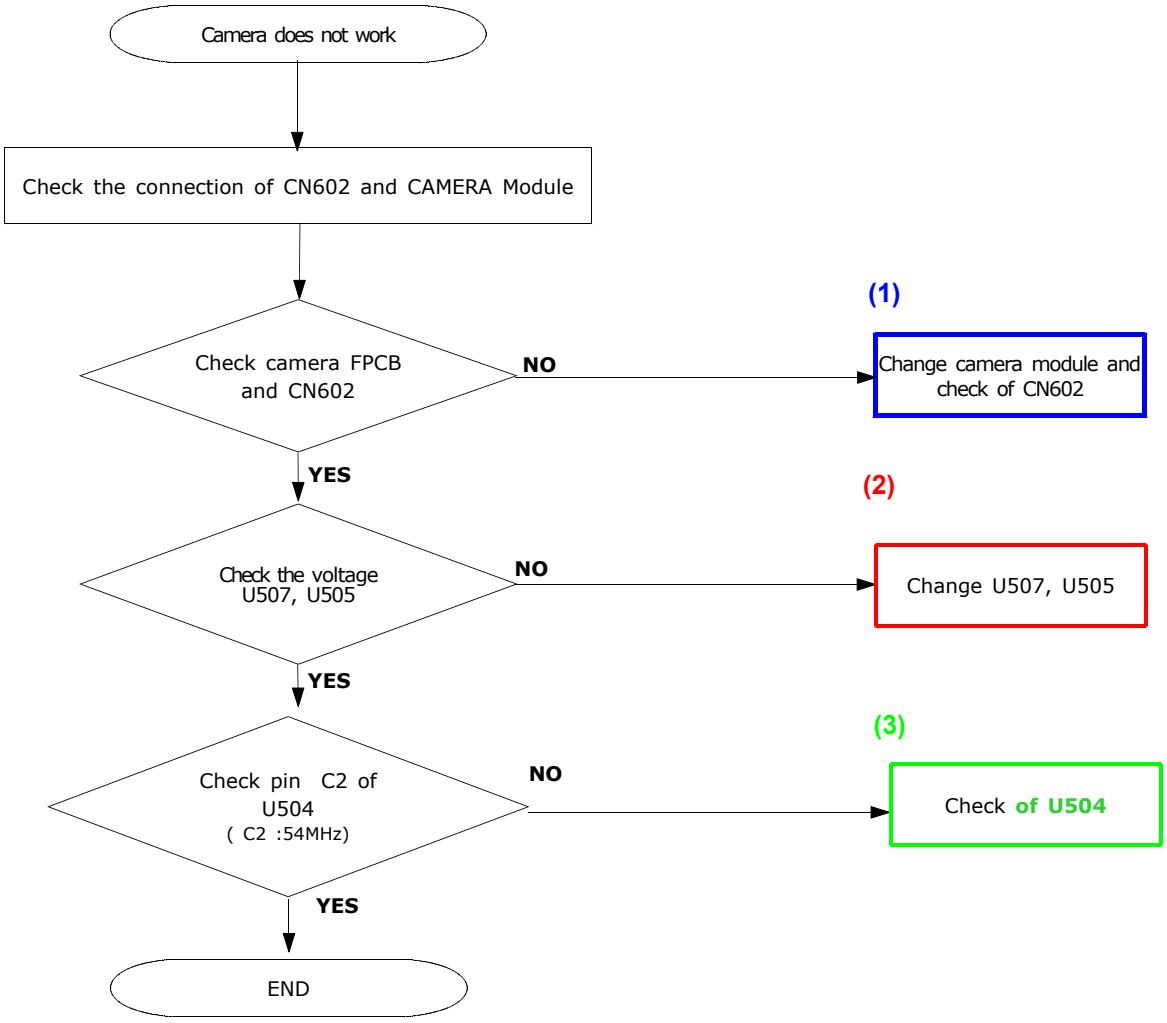
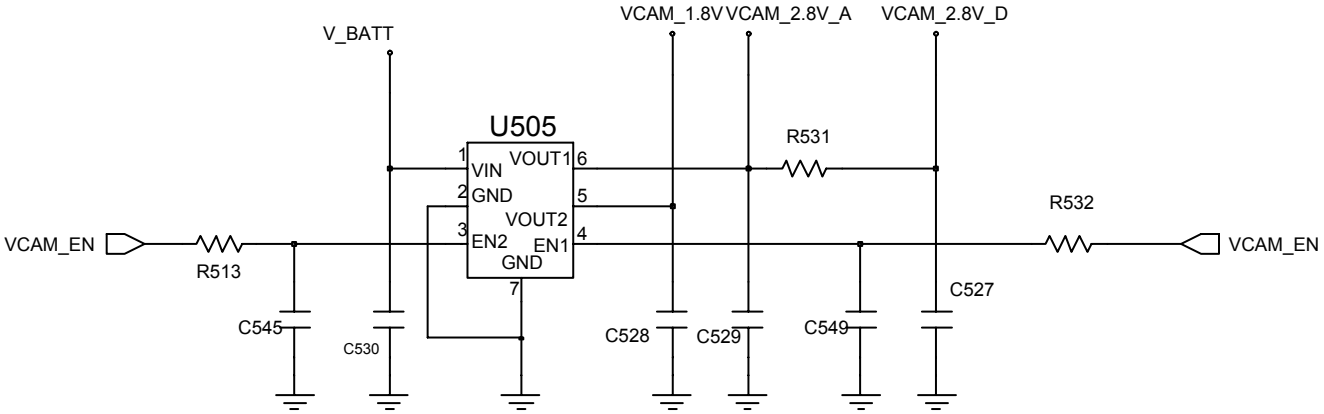
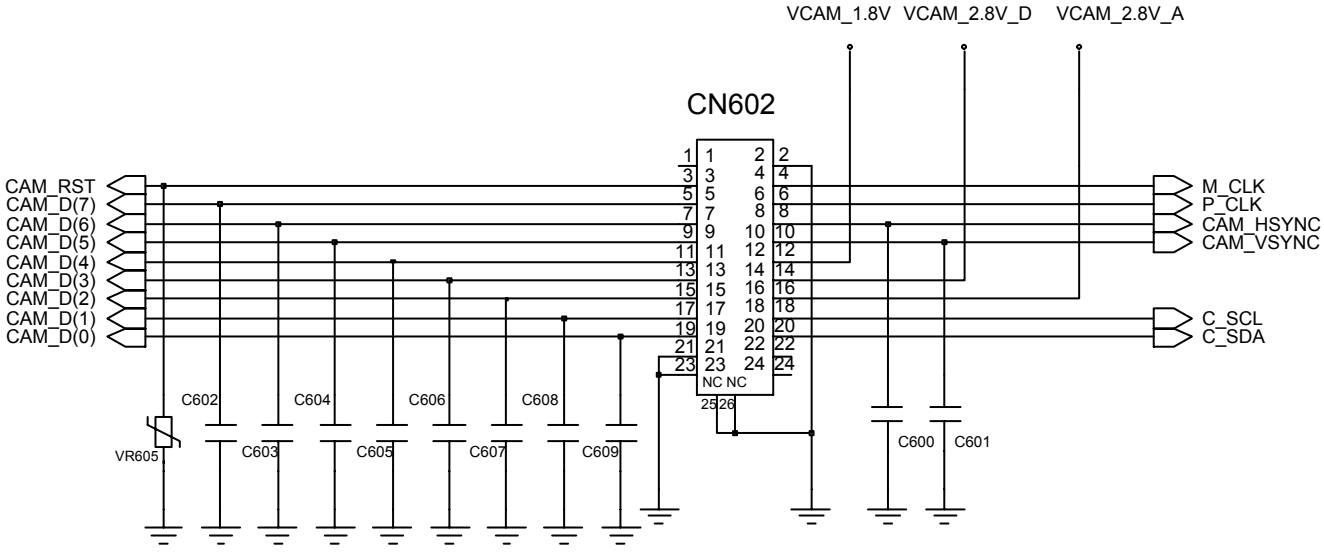
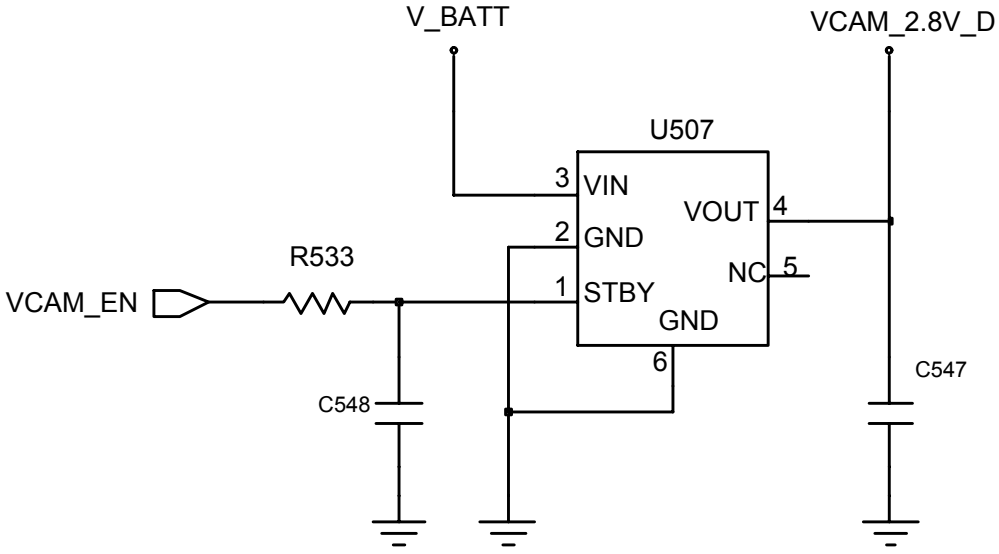
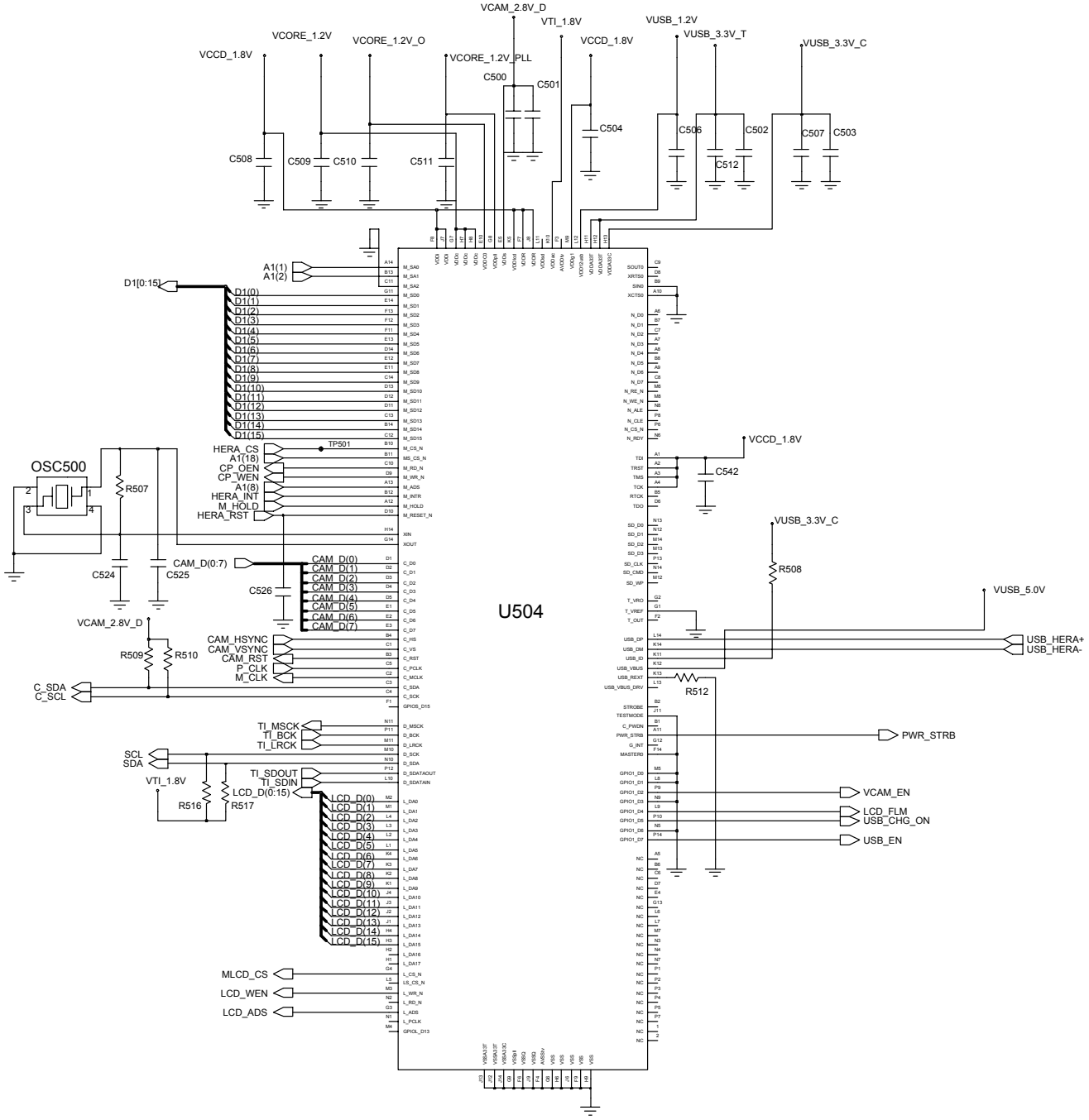
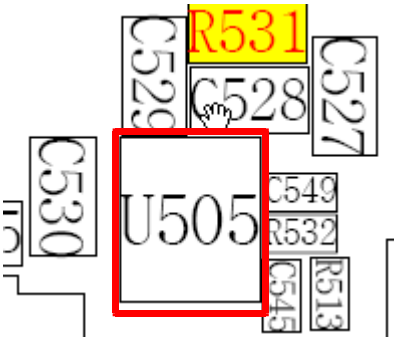


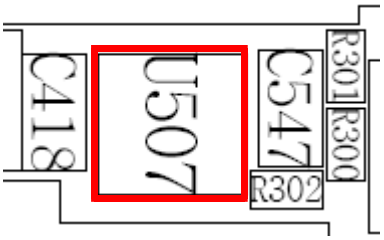


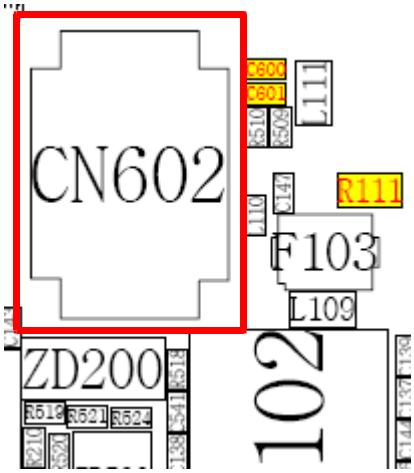






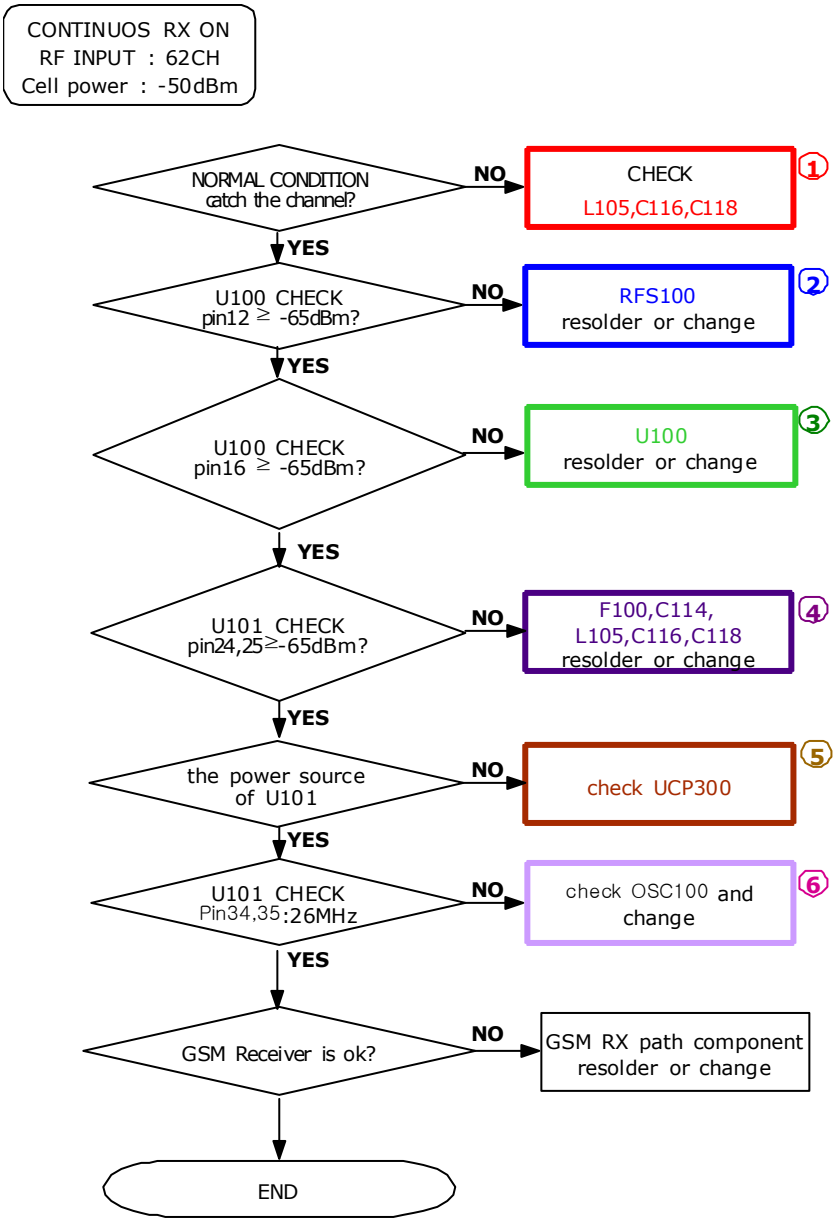




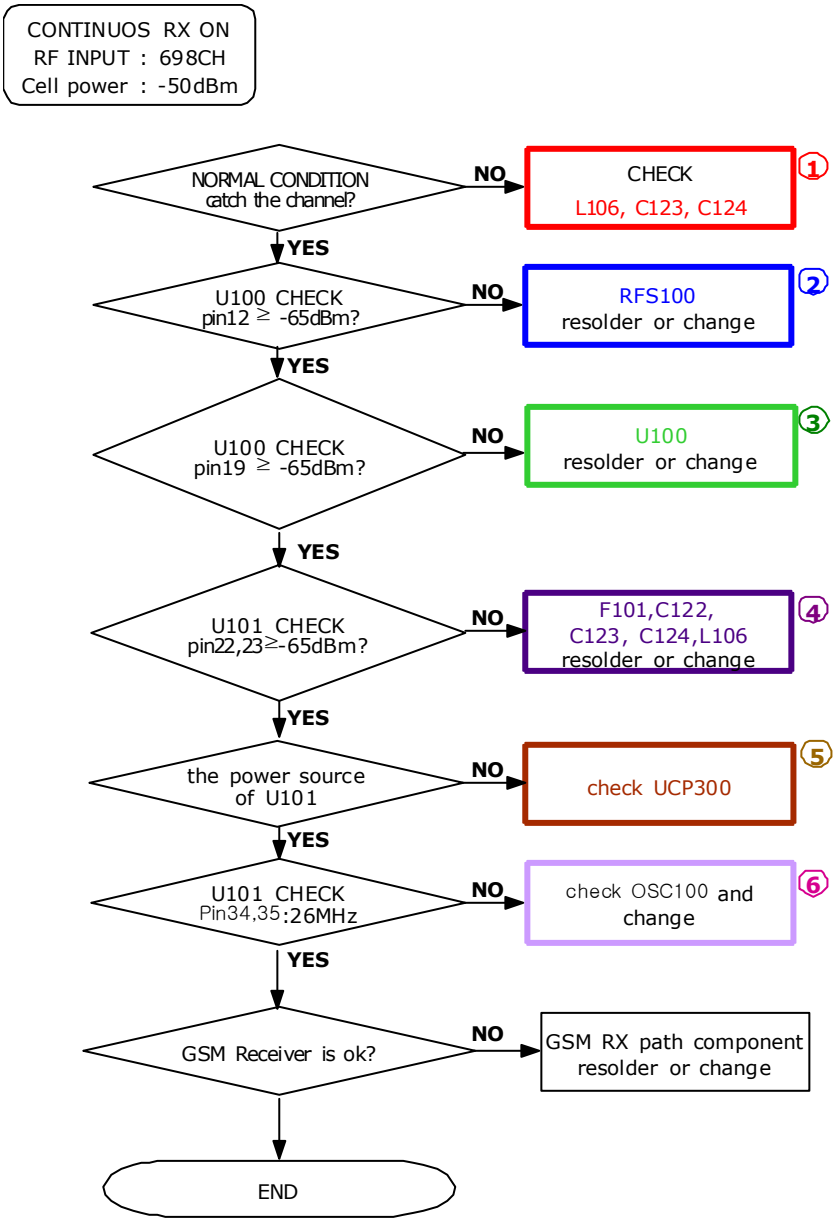


10-2. RF

10-2-1. GSM900 Receiver



10-2-2. DCS Receiver



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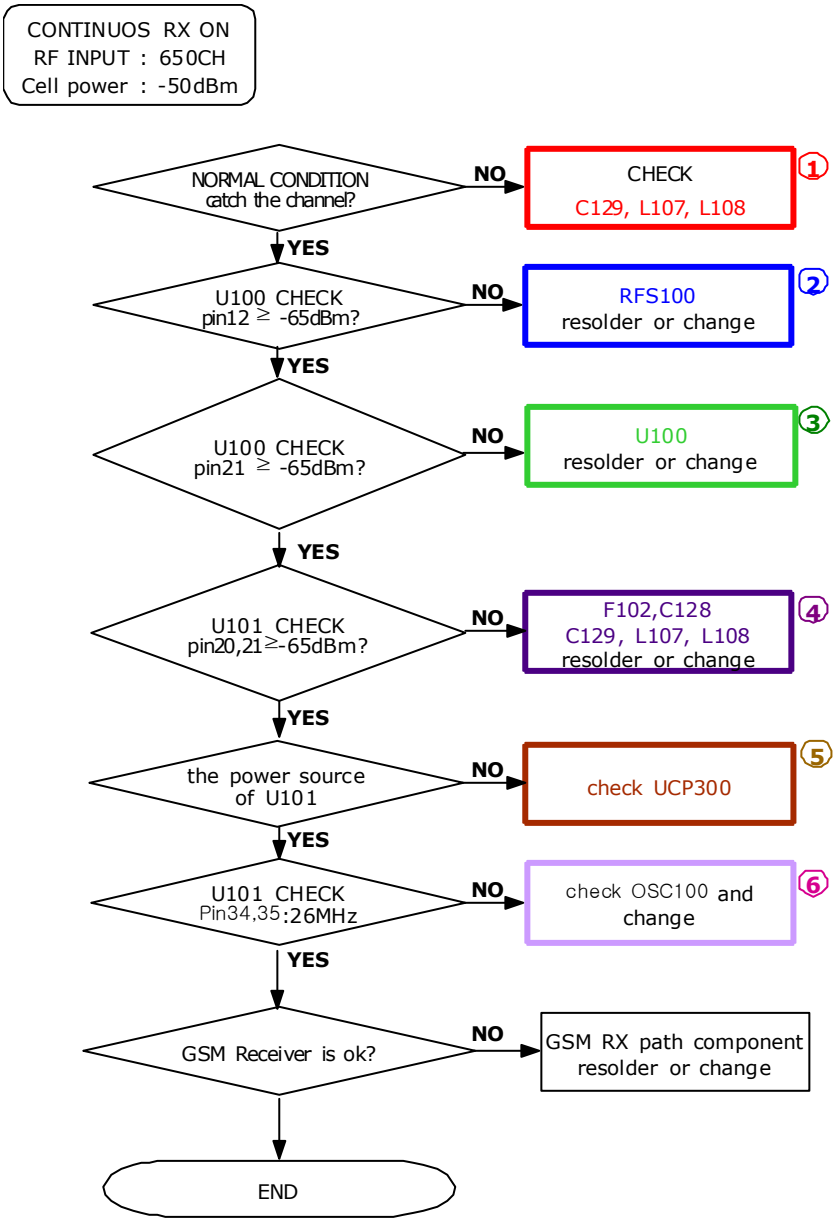

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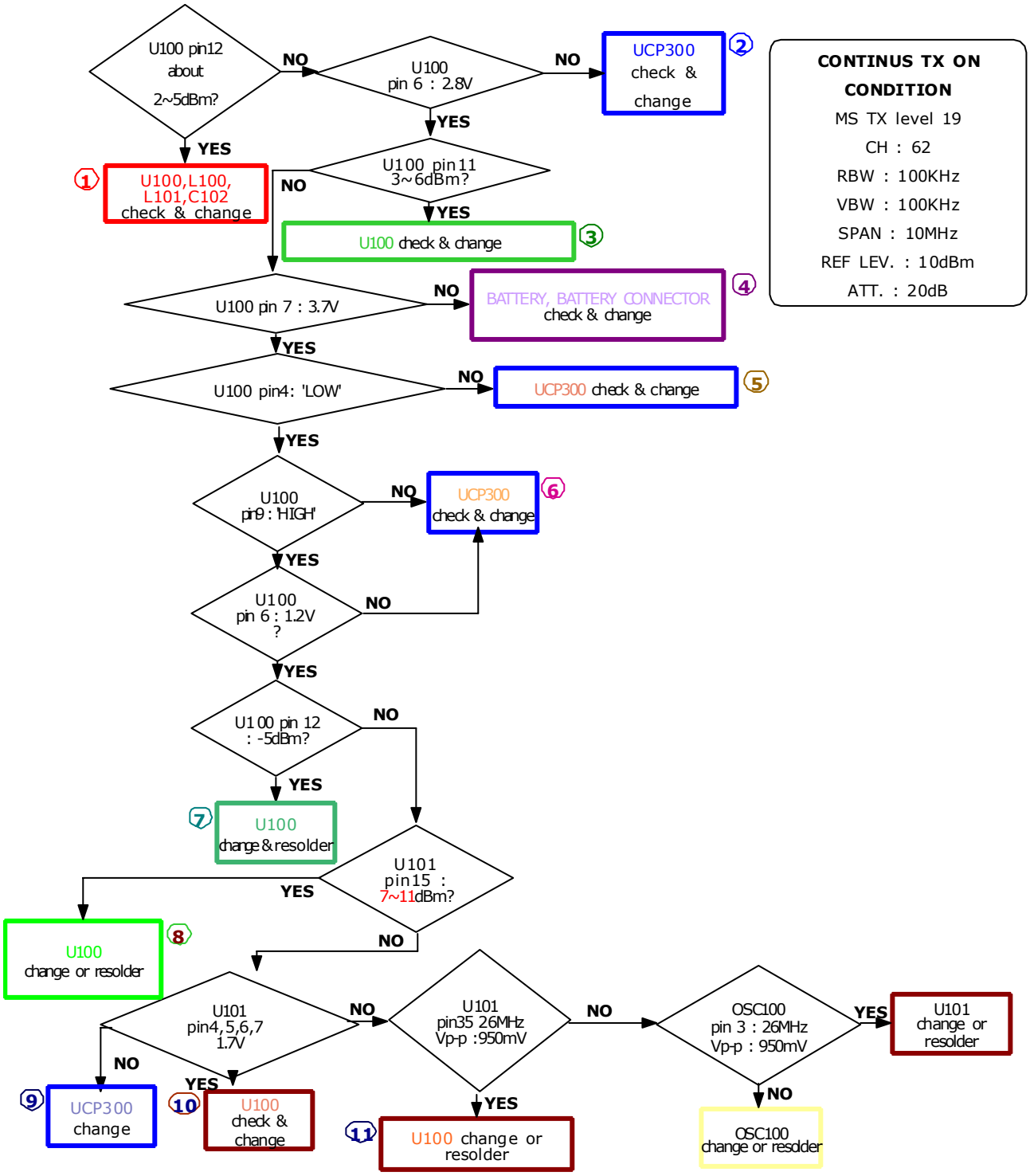

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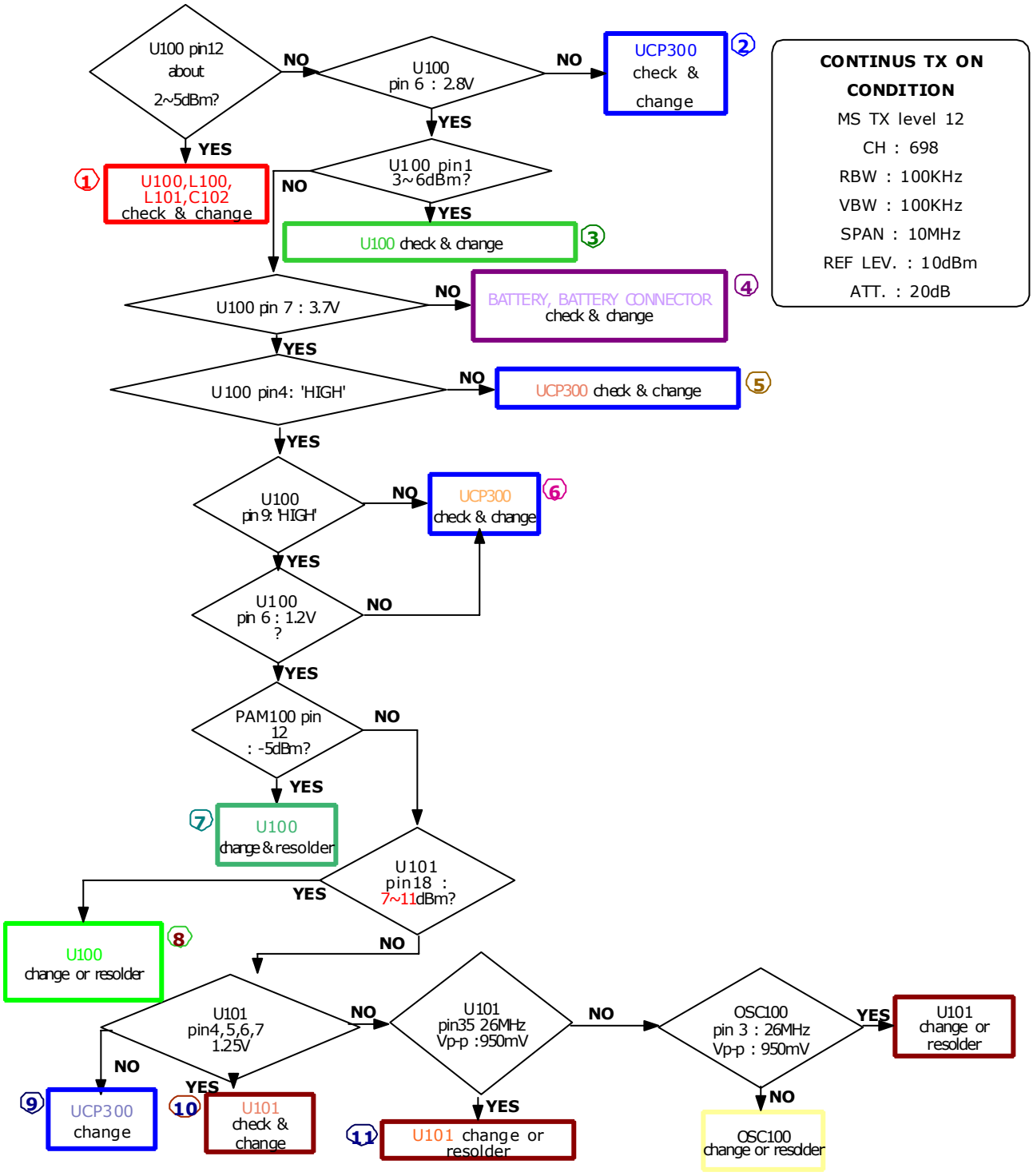

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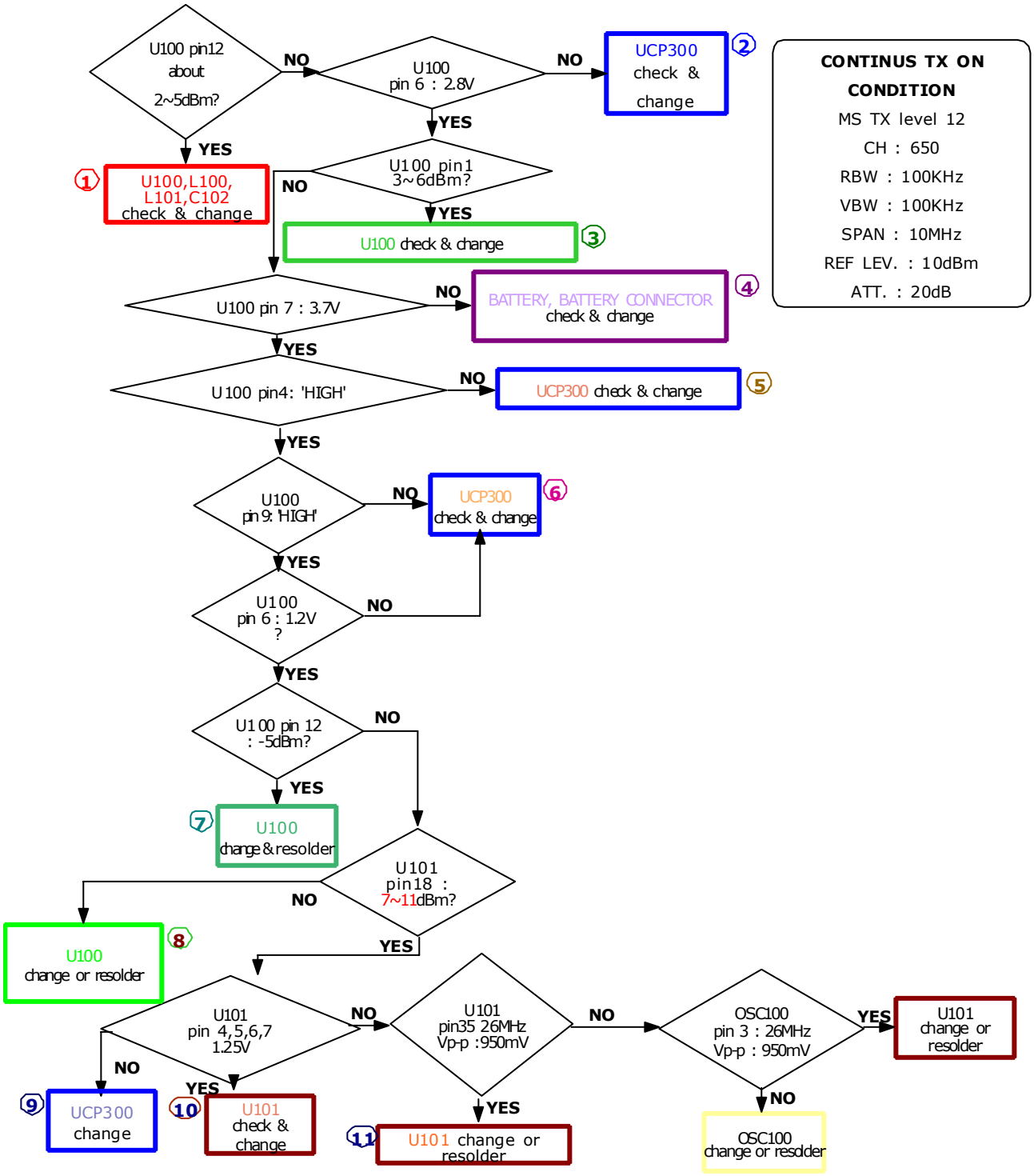
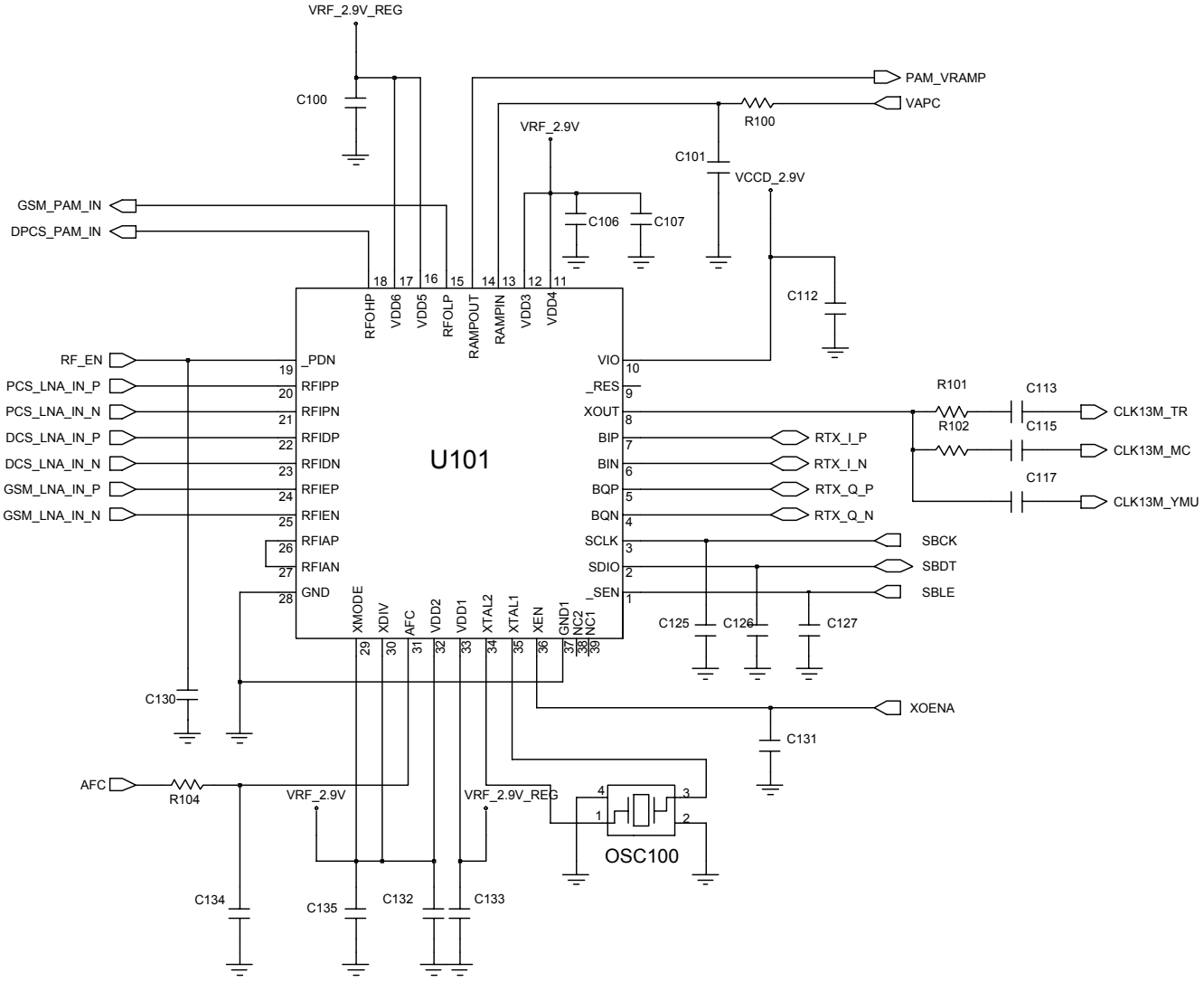
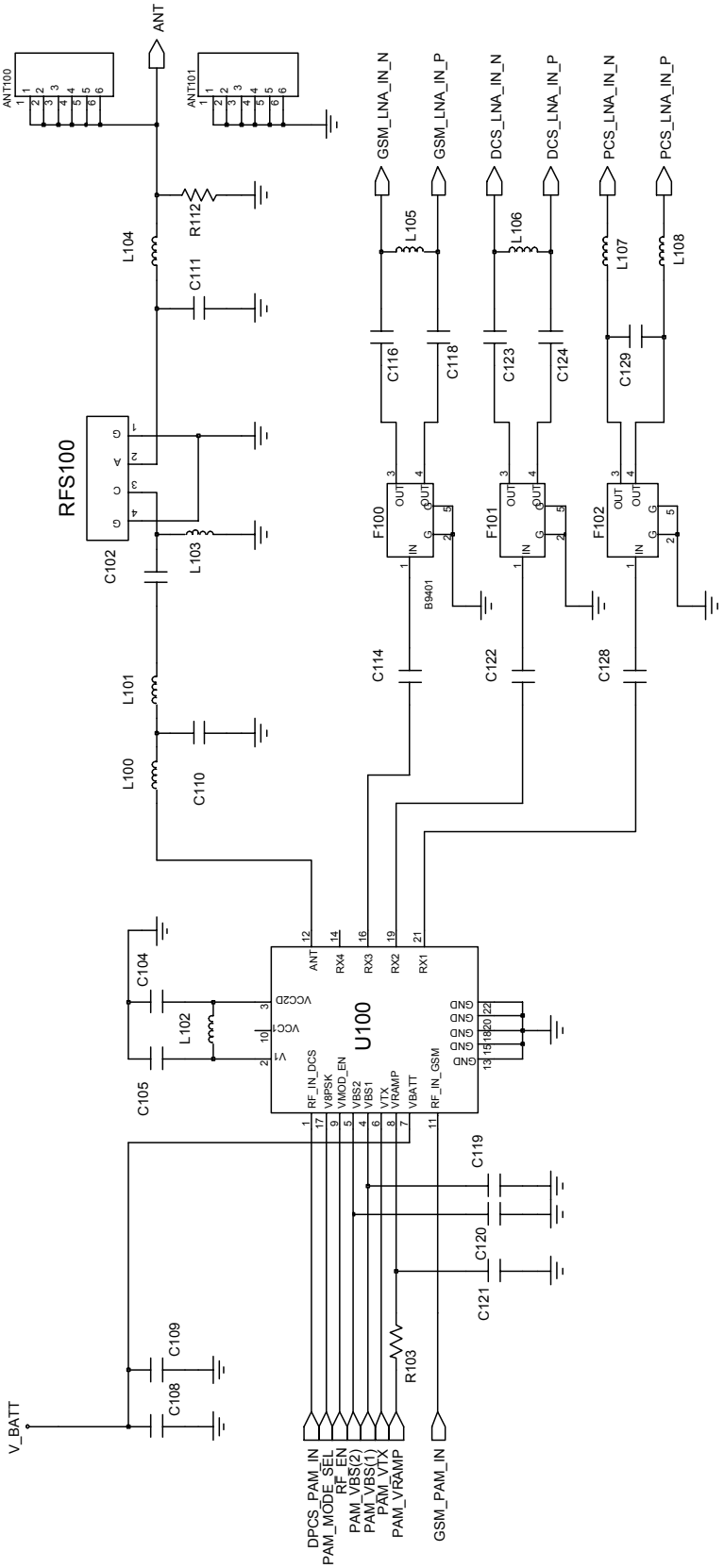
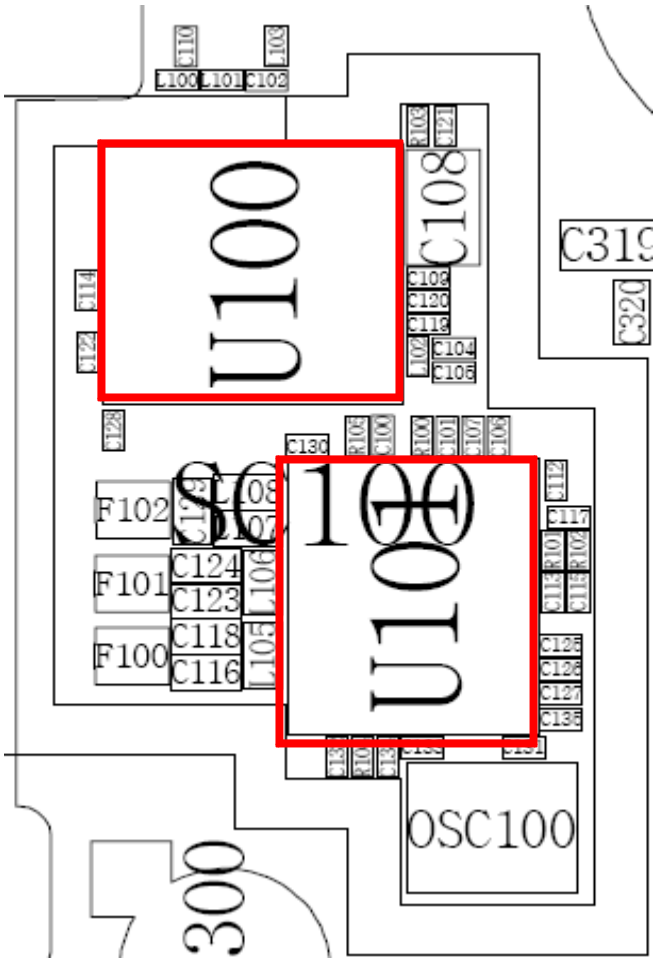
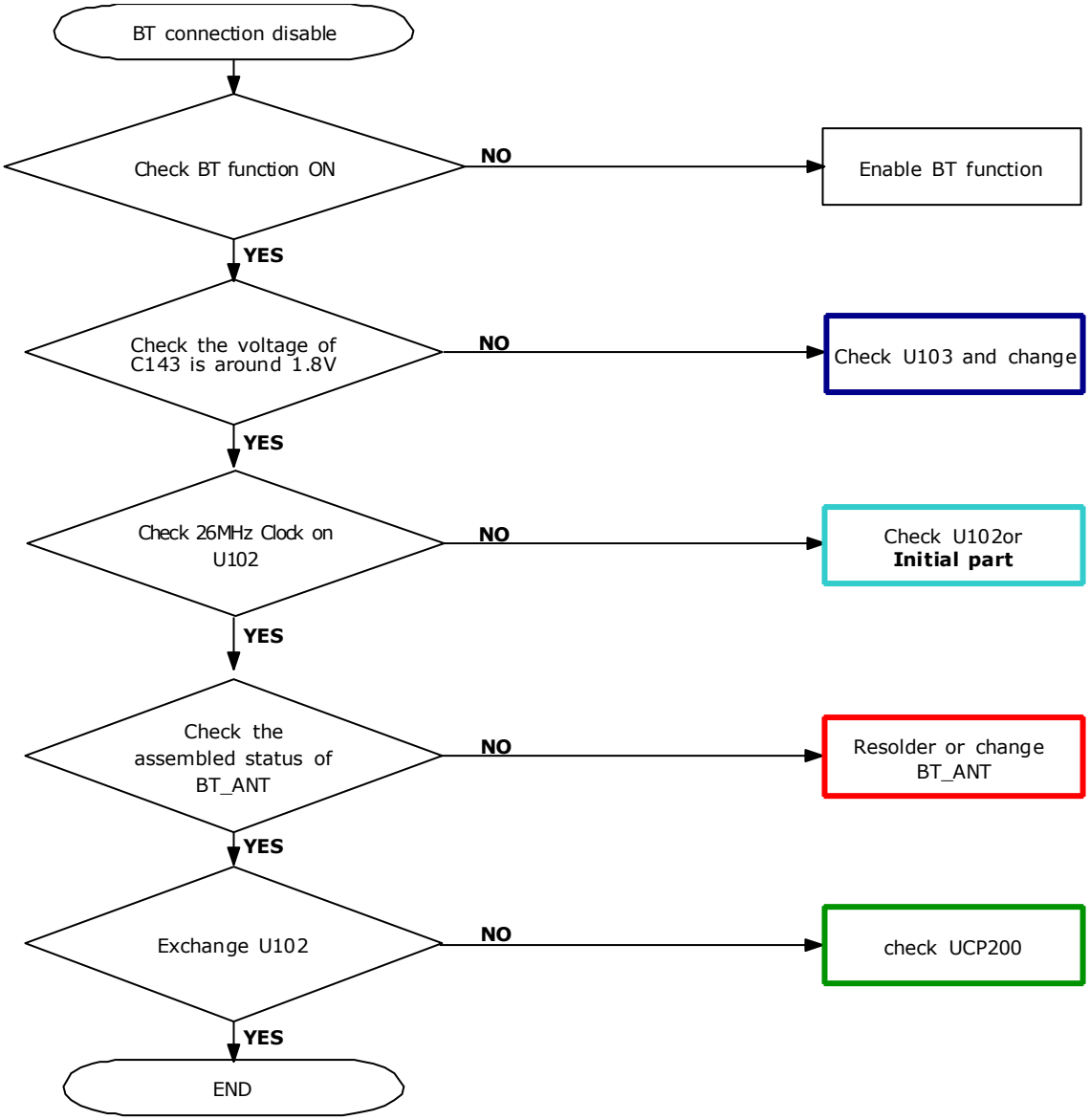


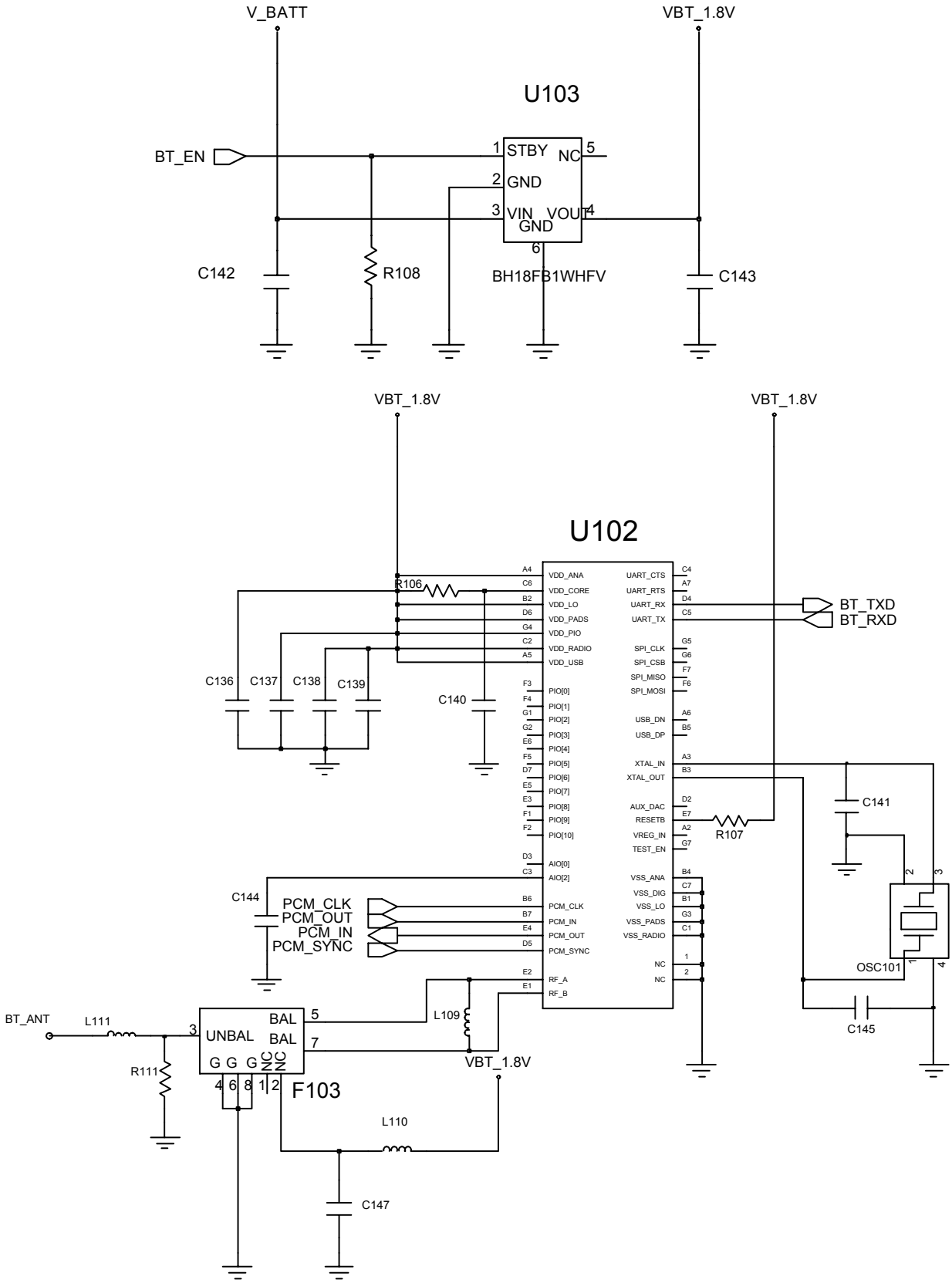


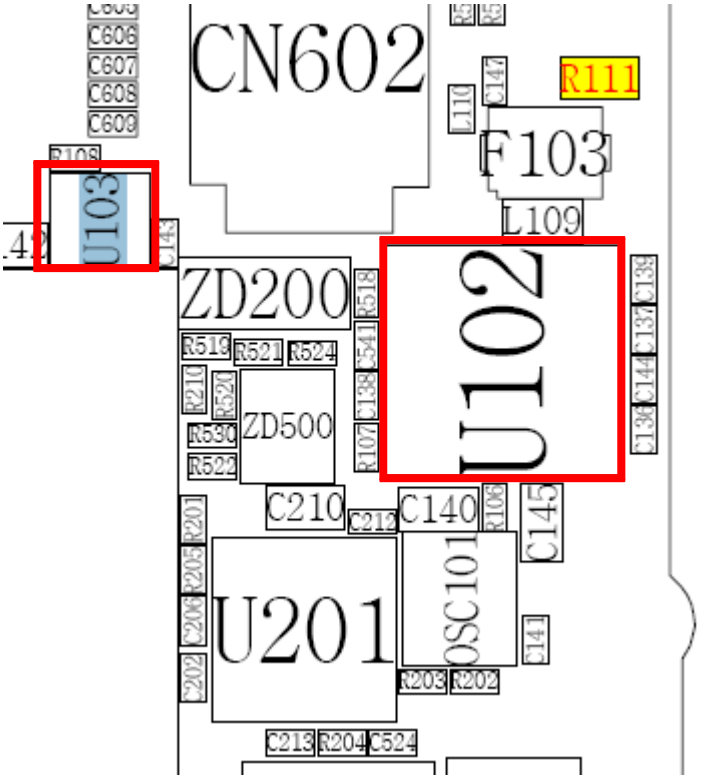




10-2-7. Bluetooth Part







11. Reference data

11-1. 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