

SAMSUNG

GSM TELEPHONE

SGH-U300

SERVICE *Manual*

GSM TELEPHONE



CONTENTS

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

**SAMSUNG
ELECTRONICS**



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Contents

1. Specification

1-1. GSM/CDMA General Specification	1-1
1-2. GSM TX power class	1-2

2. Exploded View and Parts list

2-1. Cellular phone Exploded View	2-1
2-2. Cellular phone Parts list	2-2
2-3. Disassembly	2-4
2-4. Assembly	2-8

3. Chart of Troubleshooting

3-1. Baseband	3-1
3-1-1. Power ON	3-1
3-1-2. System Initial	3-6
3-1-3. SIM Part	3-8
3-1-4. Charging Part	3-10
3-1-5. Microphone Part	3-13
3-1-6. Speaker Part	3-16
3-1-7. Receiver Part	3-20
3-1-8. Camera Part	3-22
3-1-9. LCD	3-26
3-2. RF	3-13
3-2-1. EGSM Receiver	3-30
3-2-2. EGSM Transmitter	3-31
3-2-3. DCS Receiver	3-32
3-2-4. DCS Transmitter	3-33
3-2-5. PCS Receiver	3-34
3-2-6. PCS Transmitter	3-35
3-2-7. UMTS Receiver	3-40
3-2-8. UMTS Transmitter	3-41
3-2-9. BLUETOOTH	3-45

Contents

4. Array course control

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

5. Block Diagrams

6. PCB Diagrams

7. MAIN Electrical Parts List

8. Reference data

8-1. Reference Abbreviate	8-1
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9. Safety Precautions

9-1. Repair Precaution	9-1
9-2. ESD(Electrostatically Sensitive Devices) Precaution	9-2

10. Product Function

1. Specification

1-1. GSM/DCS1800/PCS1900 General Specification

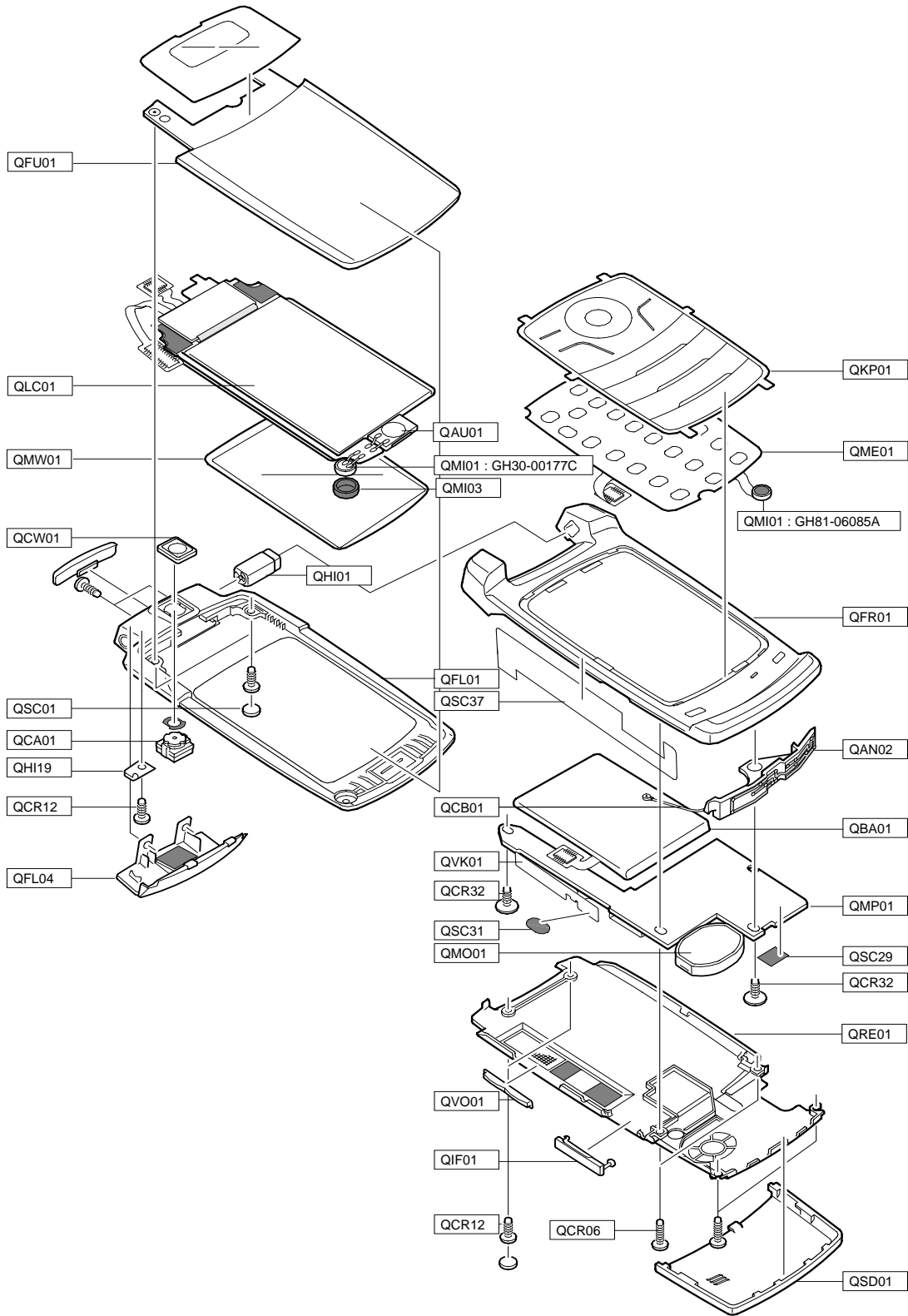
	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45 MHz	95 MHz	80 MHz
Mod. Bit rate/ Bit Period	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 kbps 3.692 us
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	-

1-2. GSM TX power class

TX Power control level	EGSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
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±4 dBm	11	8±4 dBm
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

2. Exploded View and Parts List

2-1. Cellular phone Exploded View



2-2. Cellular phone Parts list

Design LOC	Description	SEC CODE
QAN02	ANTENNA-SGH-U300	GH42-01154A
QAU01	AUDIO-RECEIVER	3009-001262
QBA01	SOFT BATTERY PACK-690MAH,BLK,E	GH43-02812A
QCA01	CAMERA MODULE	GH59-04215A
QCB01	AS-COXIAL CABLE	GH81-06648A
QCR05	SCREW-MACHINE	6001-001478
QCR12	SCREW-MACHINE	6001-001530
QCR12	SCREW-MACHINE	6001-001530
QCR17	SCREW-MACHINE	6001-001460
QCR32	SCREW-MACHINE	6001-001700
QCW01	PMO-CAM WINDOW	GH72-37590A
QFL01	ASSY COVER-F/LOWER SUB	GH98-03829B
QFL04	ASSY DECO-F/LOWER SUB	GH98-03868B
QFR01	ASSY COVER-FR SUB	GH98-03750B
QFU01	ASSY COVER-F/UPPER	GH98-03752B
QHI01	ASSY HINGE	GH98-03062A
QHI19	IPR-HINGE BLOCK	GH70-02395A
QIF01	PMO-COVER IF	GH72-37584B
QKP01	ASSY KEYPAD-(RUSS/BLU)	GH98-04906A
QLC01	LCD-MODULE SGHU300	GH07-01110A
QME01	KEY FPCB-SGHU300 KEY PBA	GH59-04213A
QMI01	MICROPHONE-ASSY-5.25MM	GH30-00177C
QMI01	AS-MIC SVC	GH81-06085A
QMI03	RMO-MIC HOLDER FR	GH73-07324A
QMI03	RMO-MIC HOLDER FR	GH73-07324A
QMO01	MOTOR DC-MOTOR,SPEAKER MODULE(GH31-00316A
QMP01	PBA MAIN-SGHU300	GH92-03487A
QMW01	AS-LCD WINDOW	GH81-06234A
QRE01	ASSY COVER-REAR COVER SUB	GH98-03830B
QSC01	RMO-RUBBER LOWER SCREW CAP	GH73-09620B
QSC29	RMO RUBBER-BT	GH73-10606A
QSC31	RMO RUBBER-RESET DOME	GH73-10607A
QSC37	RMO-RUBBER PCB BASE	GH73-09146A
QSD01	PMO-SIM COVER	GH72-39826B
QVK01	KEY FPCB-SGHU300 VOLUME KEY	GH59-04214A
QVO01	PMO-KEY VOLUME	GH72-39356A

Description	SEC CODE
CBF INTERFACE-DLC,X830,SIL,PCB	GH39-00720B
ADAPTOR-SGHE690,SIL,EU,A_TYPE	GH44-01361B
EARPHONE-EARPHONE,SGHE490,SIL,	GH59-03883B
LABEL(R)-WATER SOAK	GH68-09361A
TAPE INSU	GH74-31680A
MPR-INSU TAPE	GH74-31681A
MPR-SPONGE PCB A	GH74-31689A
MPR-TAPE FPCB	GH74-31994A
TAPE-GASKET BT	GH74-33420A
AS-LCD TAPE	GH81-06235A
AS-LCD SUB	GH81-06335A
TAPE INSU	GH74-31679A
TAPE INSU	GH74-31710A
VINYL-BOHO FOLDER UPPER	GH74-32275A
SPONGE-CAM	GH74-30241A
TAPE-GASKET BATT CONN	GH74-33669A
VINYL-BOHO REAR	GH74-34439A
S/W CD-SGHU300 PC STUDIO 3.1	GH46-00408A
MANUAL-SFC	GH68-04336A
MANUAL USERS-EU RUSSIAN	GH68-14481A
BAG PE	6902-000634
LABEL(P)-UNIT SEAL	GH68-00518B
LABEL(R)-MAIN(SER)	GH68-14742B
BOX(P)-UNIT MAIN(SER)	GH69-05380B
CUSHION-CASE(EU)	GH69-05381A

2-3. Disassembly

<p>1</p> 	<p>2</p> 
<p>1) Remove the SCREW COVER on the REAR. * caution 1) Be careful of damage of cover and scratch.</p>	<p>1) Disassemble the SCREW 6 POINT. 2) Disassemble this set from upper part. * caution 1) Be careful of damage of cover and scratch. 2) When disassemble it, be careful not to change on the REAR.</p>
<p>3</p> 	<p>4</p> 
<p>1) Separate the LCD CONNECOTOR. 2) Separate the BATT. CONNECOTOR. 3) Separate the KEY FPCB CONNECOTOR. * caution 1) Be careful not to occur some damages each LCD CONNECTOR FPCB.</p>	<p>1) Seperate the battery from the SET. 2) After disassemble the LCD CONNECTOR, seperate a PCB fixed SCREW 2 POINT. * caution 1) When separate the battery, using a stick's no sharp side, put this stick in the picture's grey part with lever theory. 2) Be careful of damage and change a battery.</p>

5



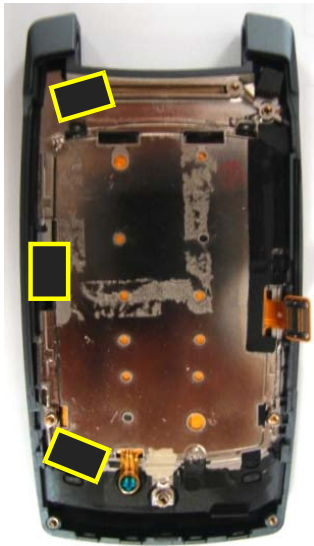
- 1) Separate a RF Cable.
 - 2) Separate a PCB.
- * caution**
- 1) Be careful of damage and change of cable and connector.
 - 2) Be careful of damage of BGA components.

6



- 1) Separate a Intena and front Ass'y.
- * caution**
- 1) When disassembling EL key FPCB, be careful not to be damaged on the FPCB.
 - 1) Be careful of bending of a Cable.

7



- 1) Take off a KEY PAD flange fixed Tape.
 - 2) Take off a PCB RUBBER BASE.
- * caution**
- 1) Remove these using tweezers.
 - 2) Be careful of damage of appearance and scratch.

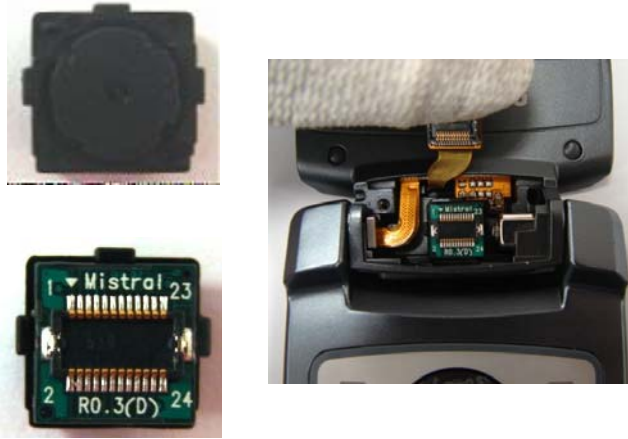
8



- 1) Separate a KEY PAD care about flange.
- * caution**
- 1) Be careful of damage of appearance and scratch.
 - 2) Be careful of damage of a key PAD.

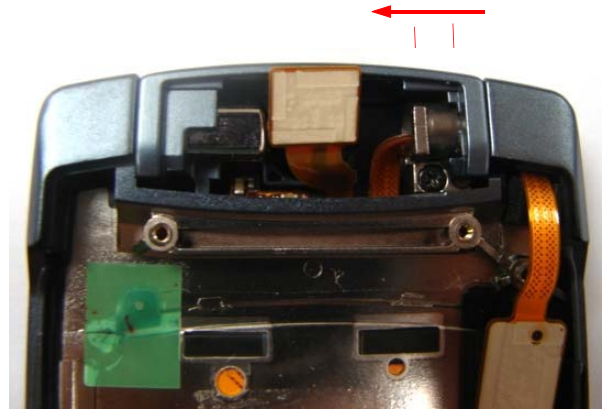
<p>9</p> 	<p>10</p> 
<p>1) Separate a key FPCB carefully about a connector of KEY FPCB and MIC.</p> <p>* caution</p> <p>1) Be careful of damage of a FPCB crack and connector.</p>	<p>1) Separate the Front and Key FPCB.</p> <p>* caution</p> <p>1) When separate it, be careful of bending of the front.</p> <p>2) Be careful to be squeezed and tear a FPCB and connector.</p> <p>3) Be careful of damage of appearance and scratch.</p>
<p>11</p> 	<p>12</p> 
<p>1) Put up the Folder stopper and turn.</p> <p>2) Disassemble two screws.</p> <p>* caution</p> <p>1) Remove these using tweezers.</p> <p>2) Be careful of damage of appearance and scratch.</p>	<p>1) Take off a CAMERA COVER.</p> <p>* caution</p> <p>1) Be careful of damage of appearance and scratch.</p>

13



- 1) Disassemble a camera component.
*** caution**
 - 1) Be careful of damage of a camera component and alien substances.
 - 2) Be careful of damage of a FPCB crack and connector.
 - 3) Be careful of damage of appearance and scratch.

14



- 1) Using tweezers, push a hinge and E-ring in Front.
*** caution**
 - 1) Be careful of damage a FPCB.
 - 2) Be careful of damage of appearance and scratch.

15



- 1) Disassemble a Folder Ass'y and Front Ass'y.
*** caution**
 - 1) Be careful of damage of appearance and scratch.
 - 2) Be careful of damage of a F-PCB.

16



- 1) Disassemble a screw of hinge's block.
 - 2) Separate a hinge's block on FOLDER LOWER.
*** caution**
 - 1) Be careful of damage of appearance and scratch.

17



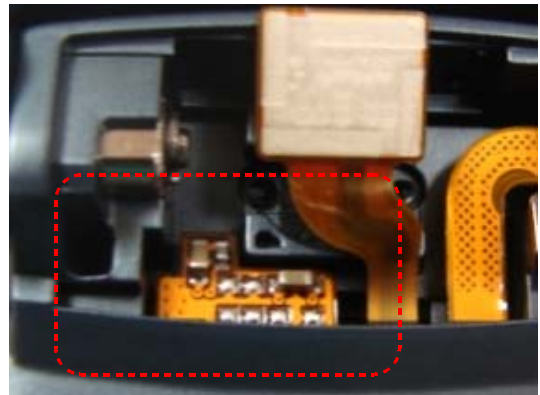
- 1) Take off screw caps.
- 2) At FOLDER LOWER, separate two screws.
*** caution**
 - 1) Be careful of damage of appearance and scratch.
 - 2) Be careful of damage of CAMERA FPCB.

18



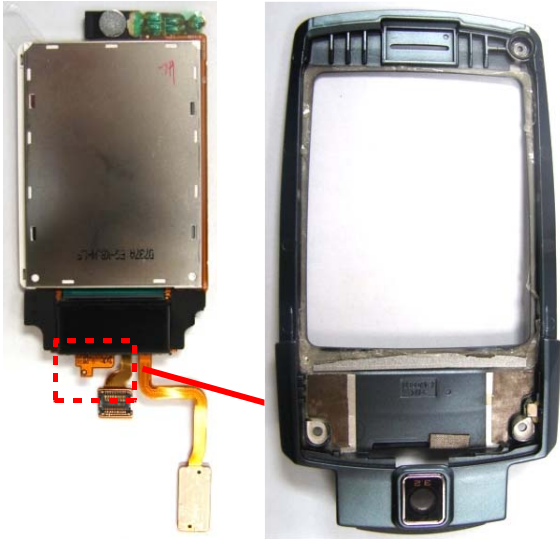



- 1) Separate Folder Lower and Folder Upper.
*** caution**
 - 1) Be careful of damage of appearance and scratch.
 - 2) Separate a sub window as slightly raising and setting down.

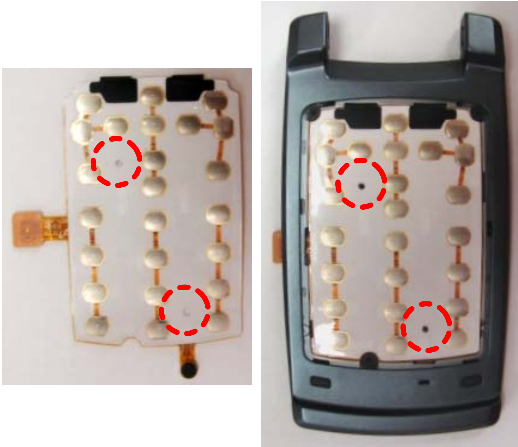

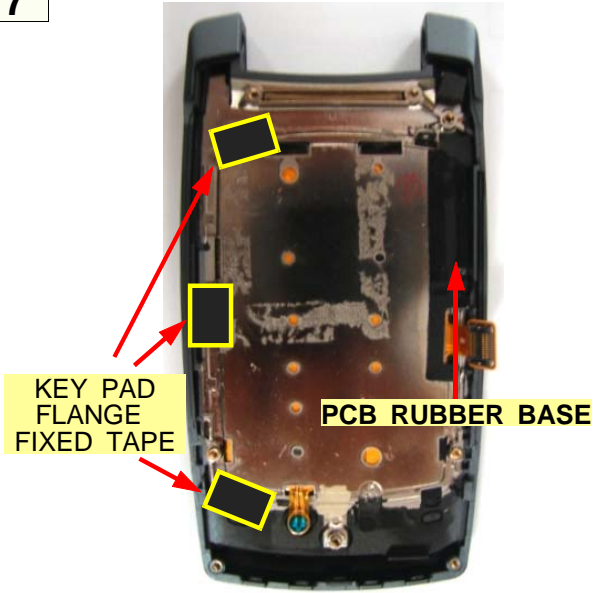
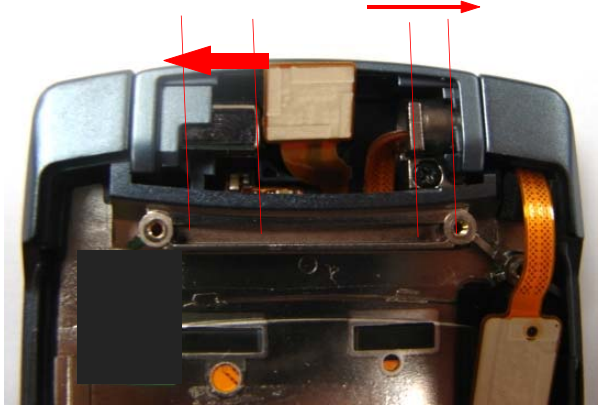
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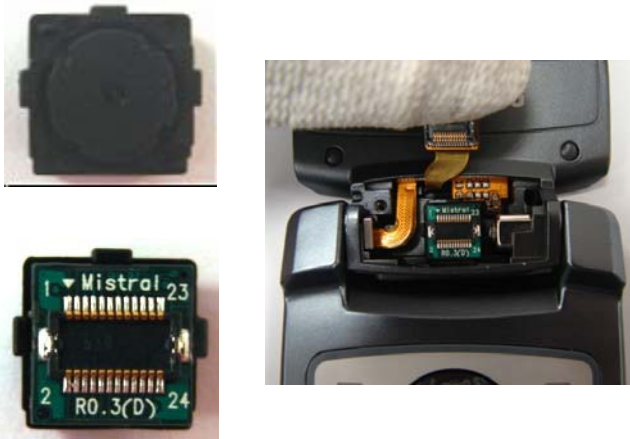

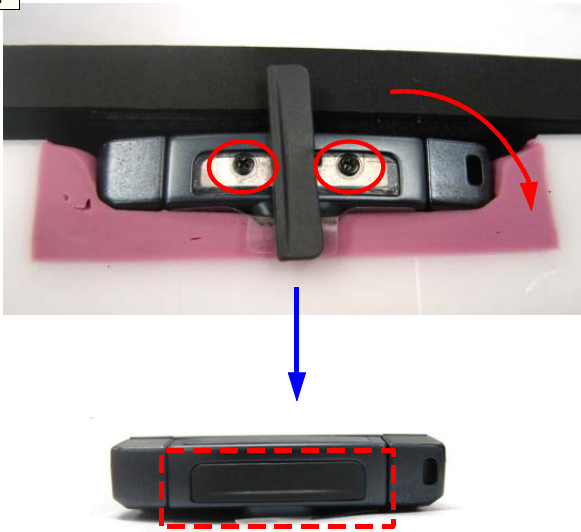
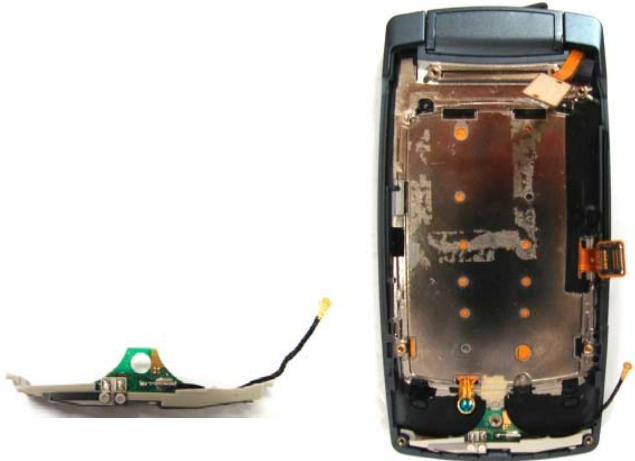


- 1) Separate a Folder Lower and LCD.
*** caution**
 - 1) Disassemble carefully with lower component of LCD.
 - 2) Be careful of damage of appearance and scratch.
 - 3) Be careful of damage of FPCB.

2-4. Assembly

<p>1</p> 	<p>2</p> 
<p>1) Put LCD Ass'y in Folder Lower. * caution 1) Disassemble carefully with lower component of LCD. 2) Be careful of damage of appearance and scratch. 3) Be careful of damage of FPCB.</p>	<p>1) Assemble Folder Lower and Folder Upper. * caution 1) Be careful of damage of appearance and scratch. 2) Assemble a sub window as slightly raising and setting up.</p>
<p>3</p> 	<p>4</p> 
<p>1) Screw up two screws at FOLDER LOWER. 2) Put in screw caps. * caution 1) Be careful of damage of appearance and scratch. 2) Be careful of damage of FPCB.</p>	<p>1) Assemble a hinge block at FOLDER LOWER. 2) Screw up a screw. * caution 1) Be careful of damage of appearance and scratch. 2) Be careful of insertion direction of a hinge block.</p>

<p>5</p> 	<p>6</p> 
<p>1) Attach the LCD on the LCD Bracket by guide lib of LCD. 2) Solder the SPK/MOT.</p>	<p>1) Assemble the LCD and the MAIN PBA. * caution 1) Connect the LCD F-PCB connector on the MAIN PBA.</p>
<p>7</p>  <p>KEY PAD FLANGE FIXED TAPE PCB RUBBER BASE</p>	<p>8</p> 
<p>1) Attach the fixed Tape of KEY PAD flange. 2) Attach PCB RUBBER BASE.</p>	<p>1) Using tweezers, fix the hinge and E-ring inner of Front.</p>

<p>9</p> 	<p>10</p> 
<p>1) Put in a camera at decided spot. 2) Assemble camera connector and camera. ※ caution 1) Be careful of damage of F-PCB. 2) Assemble the camera with direct direction. (Assemble that flat part is faced with below part.)</p>	<p>1) Assemble a camera cover. ※ caution 1) When assemble, be careful of direction of LCD CONNECTOR. 2) When assemble, check some click sound.</p>
<p>11</p> 	<p>12</p> 
<p>1) Screw up two screws. 2) Put up the Folder stopper and turn. ※ caution 1) Be careful of the damage of cover and scratch. 2) Check the loosing of stopper.</p>	<p>1) Assemble the fintenna. ※ caution 1) Be careful of the damage of cover and scratch.</p>

13



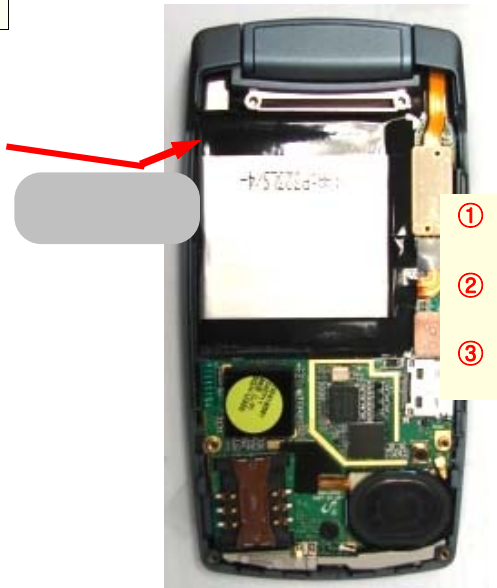
- 1) Screw up two PCB fixed screws.
- ※ **caution**
- 1) Be careful of damage of cover and scratch.

14



- 1) Connect RF CABLE on the connector.
- ※ **caution**
- 1) Keep in order RF cable around MFA.

15



- 1) Assemble the battery.
 - 2) Assemble the LCD CONNECOTOR.
 - 3) Assemble the BATT. CONNECOTOR.
 - 4) Assemble the KEY FPCB CONNECOTOR.
- ※ **caution**
- 1) Be careful of damage of CONNECTOR FPCB.

16



- 1) Assemble REAR from lower part.
 - 2) Screw the six screws.
 - 3) Put screw cap in upper 2 point.
- ※ **caution**
- 1) Be careful of damage of cover and scratch.
 - 2) When assemble, be careful not to be chewed volume key and Ear Cover.
 - 3) upper(2 point)/lower(4 point)SCREW size is different.

2-5. LCD Window Assembly

1

- 1) Check a groove between LCD MODULE and Main window.
- 2) Using a thin tool that is not sharp, put it in the groove and remove Main window slowly.
*** caution**
- 1) Work it slowly.
- 2) Be careful because Main window is broken when you put it out suddenly.
- 3) when you disassemble it, be careful not to leave some a foreign substance and fingerprint on LCD window.

2

- 1) Be careful not to leave fingerprint on Main LCD.
*** caution**
- 1) Work it slowly.
- 2) Be careful because Main window is broken when you put it out suddenly.
- 3) when you disassemble it, be careful not to leave some a foreign substance and fingerprint on LCD window.

3

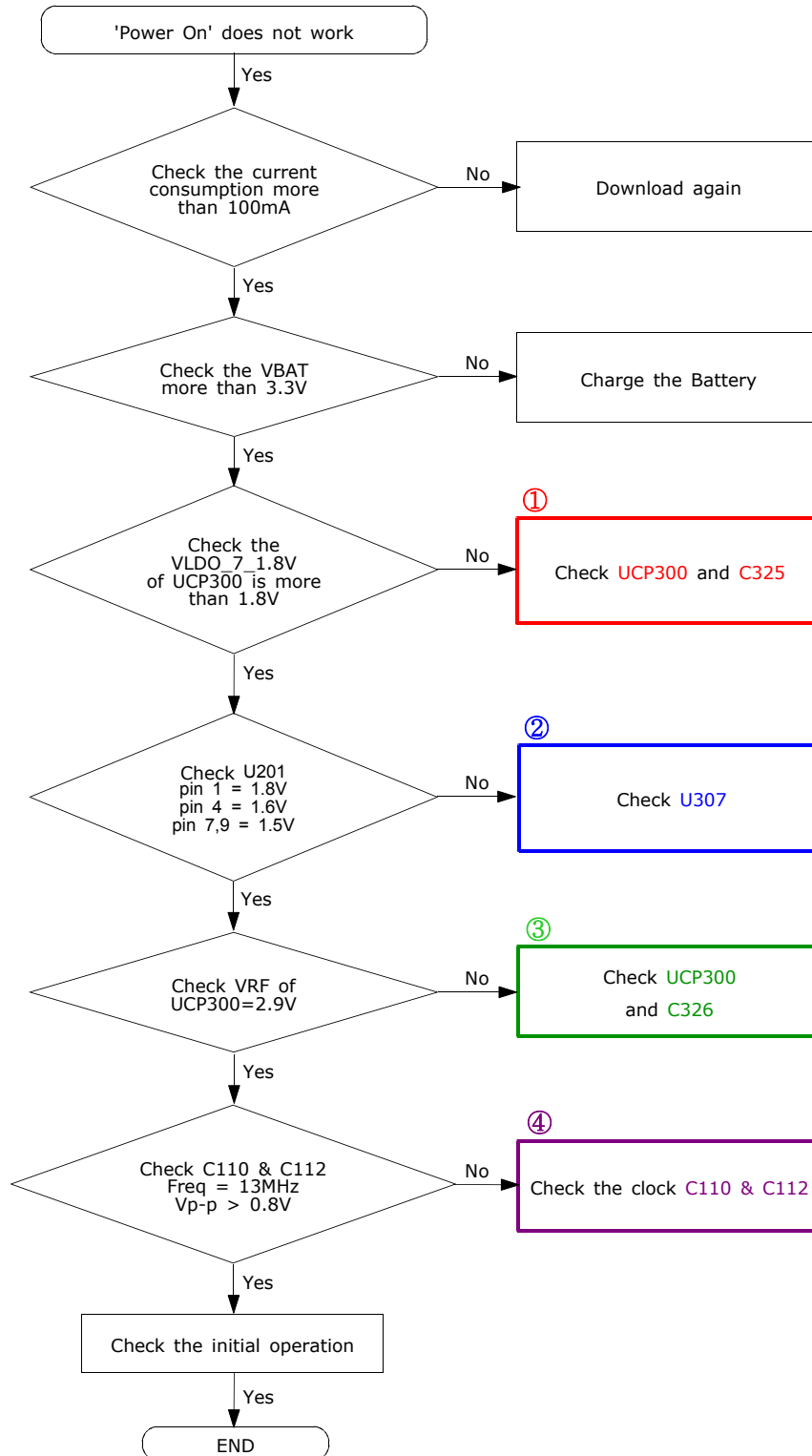


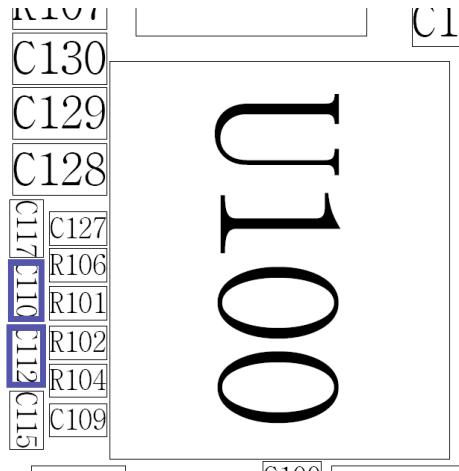
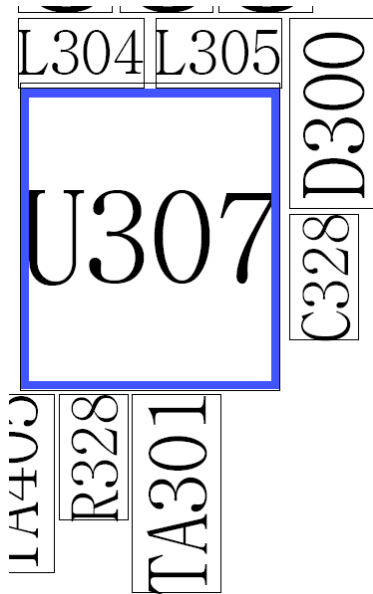
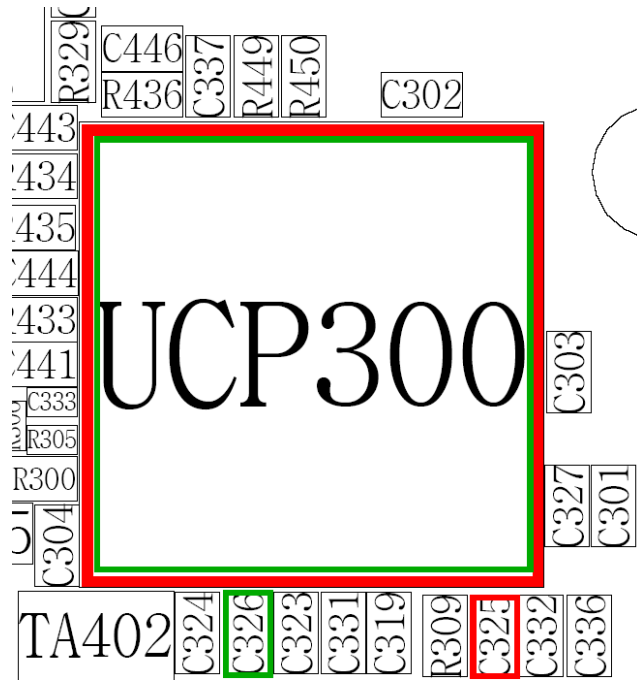
- 1) When attach a LCD window again, Check reverse disassembly order or a assembly standard.
* **caution**
- 1) Attach with a standard reference in circles.

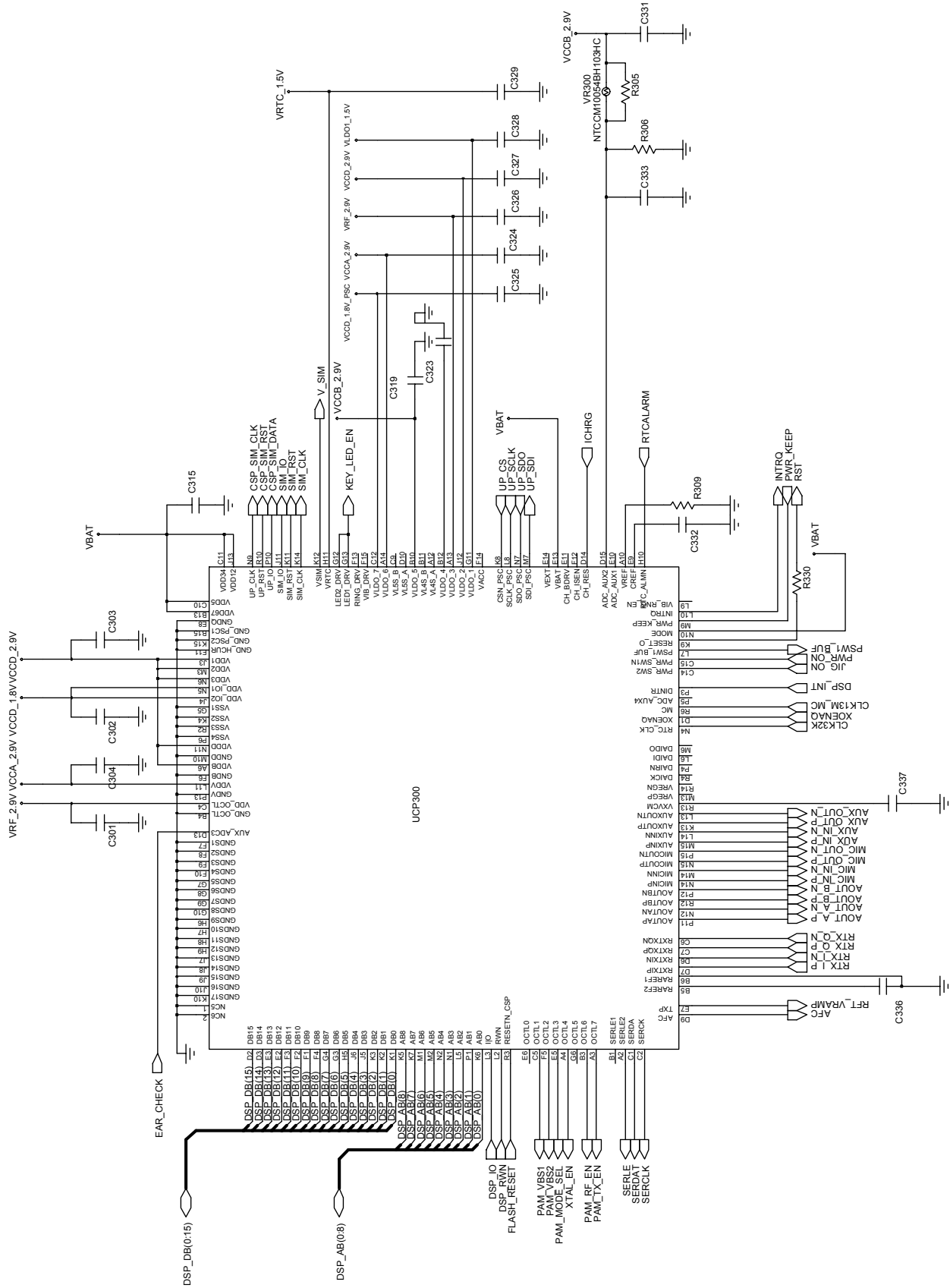
3. Flow Chart of Troubleshooting

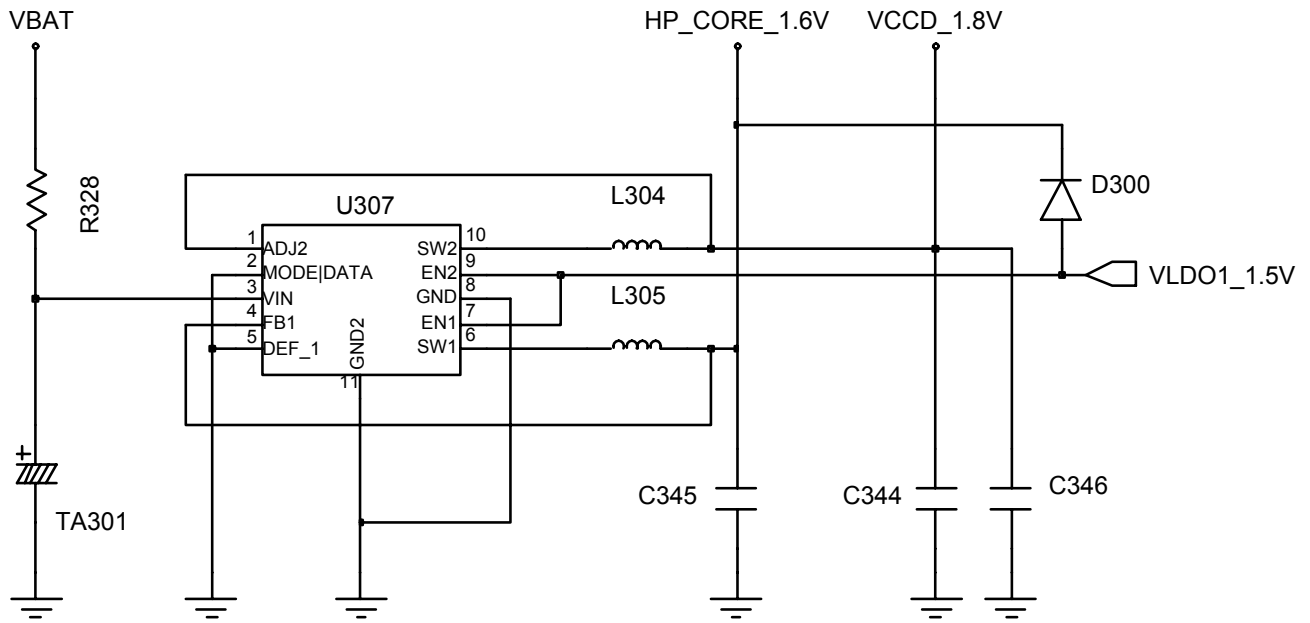
3-1 BASEBAND

3-1-1. Power ON

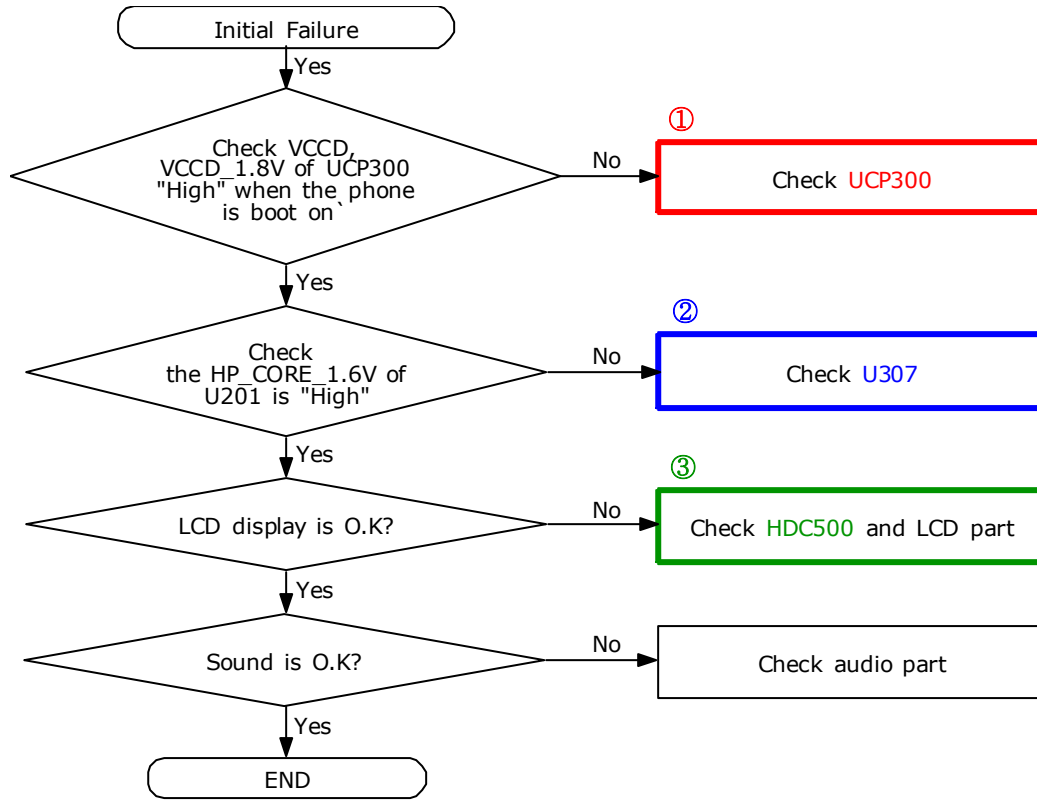


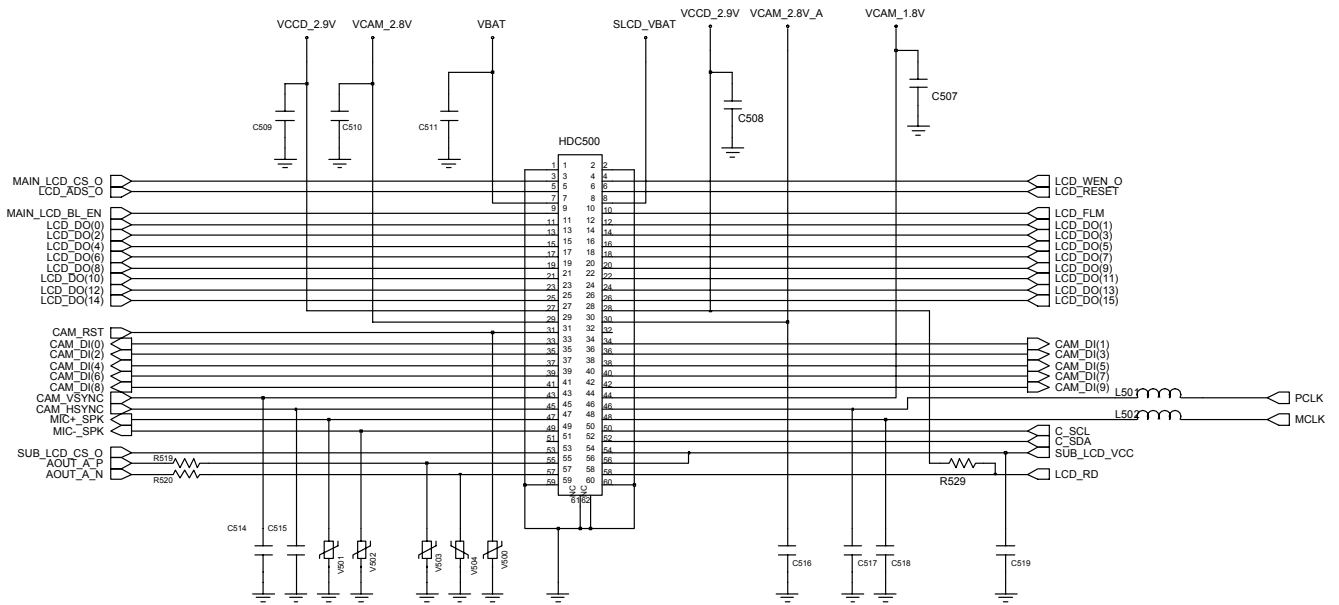
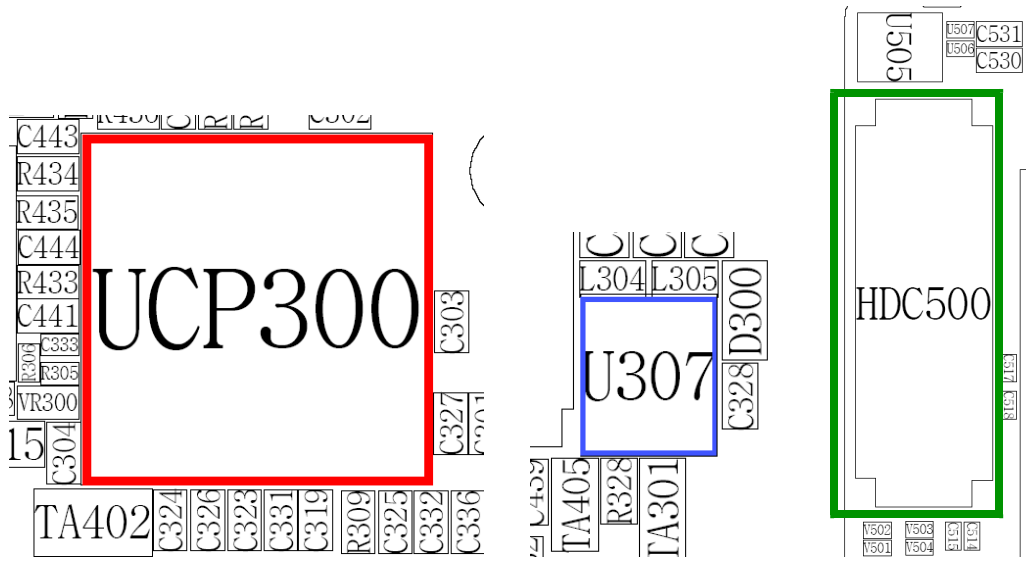




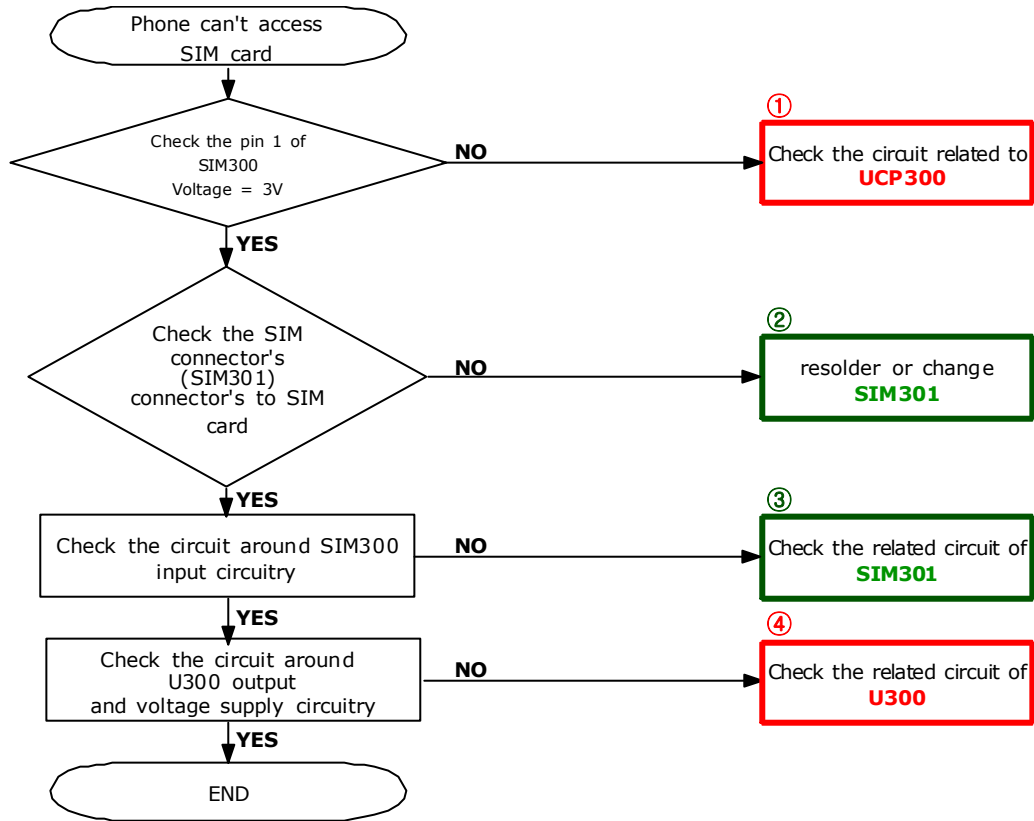


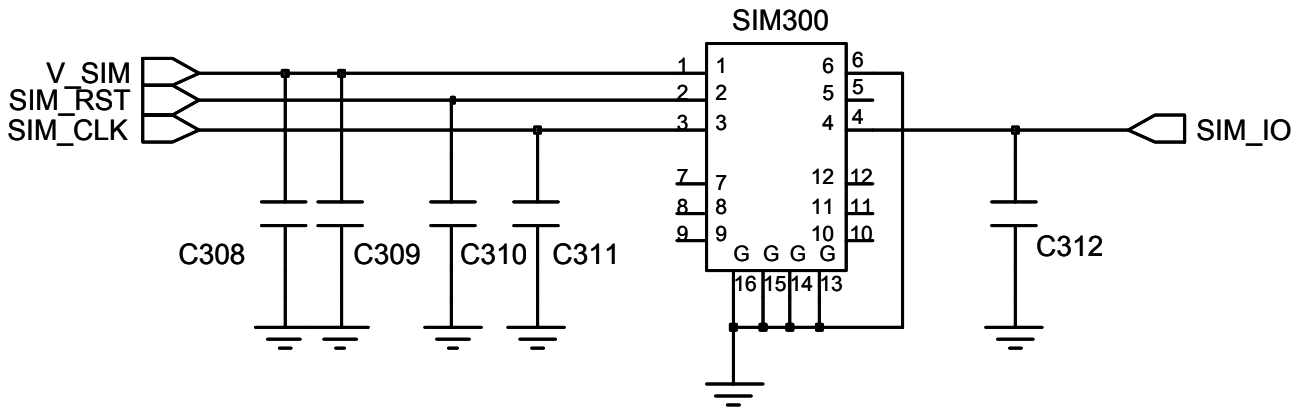
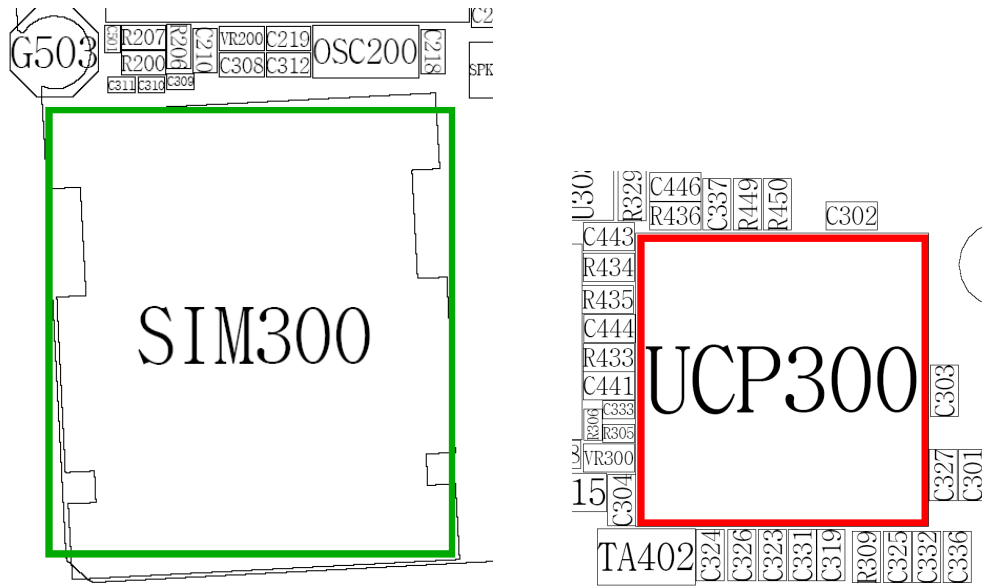
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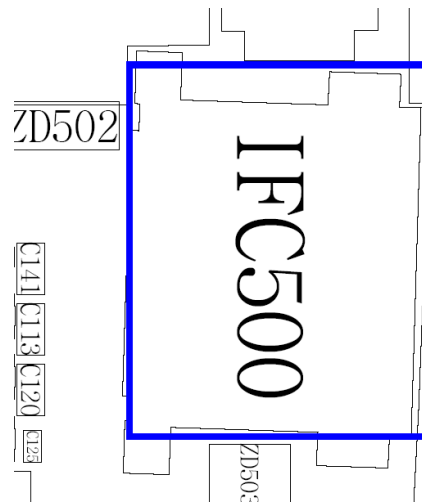
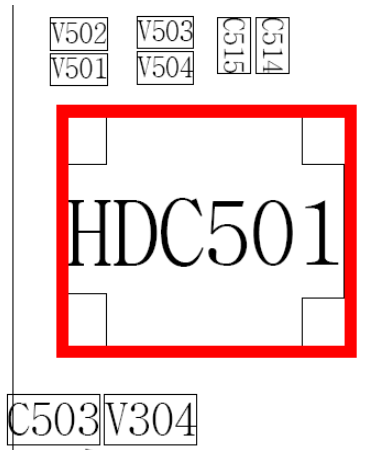
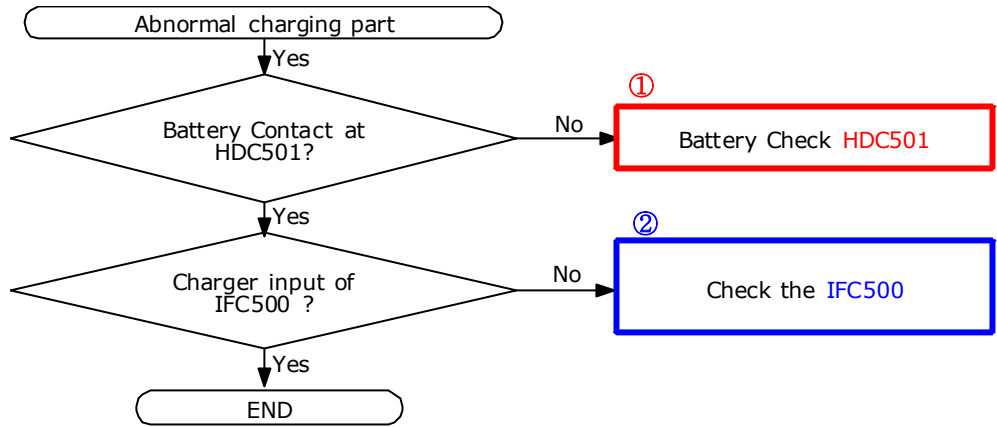


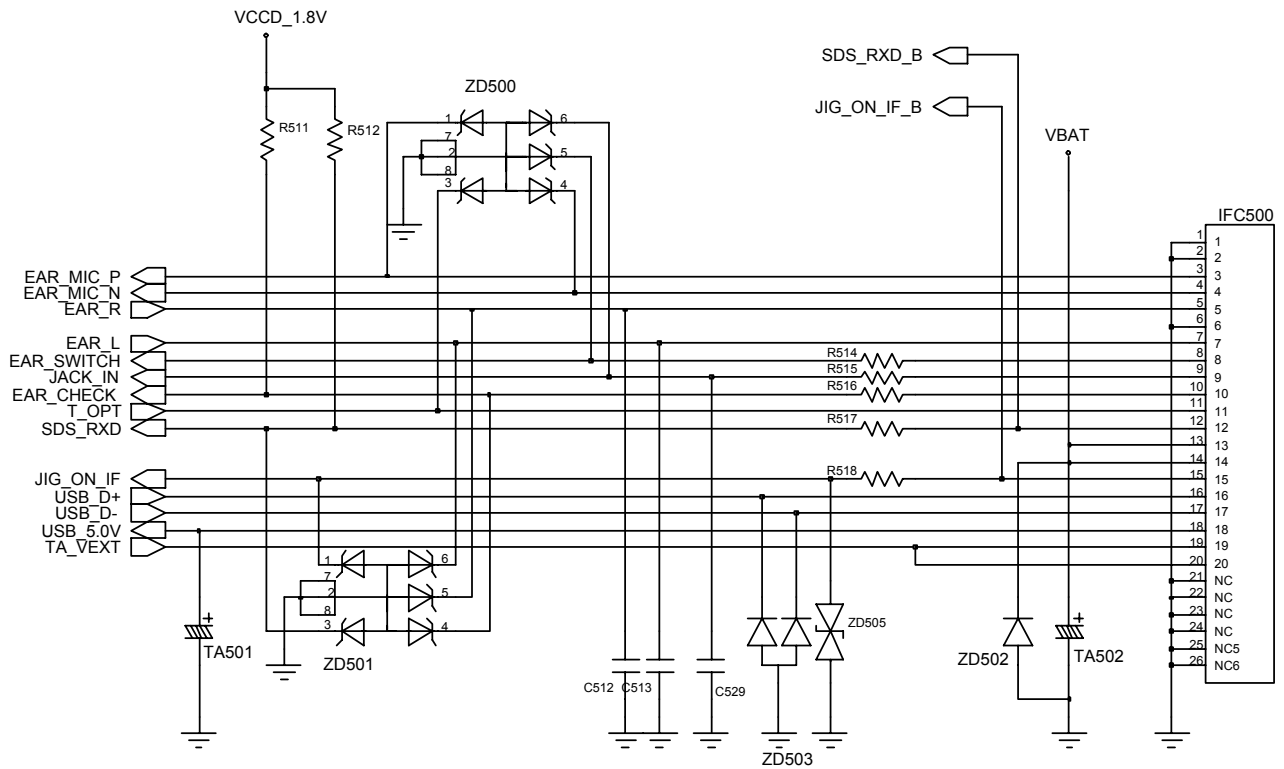
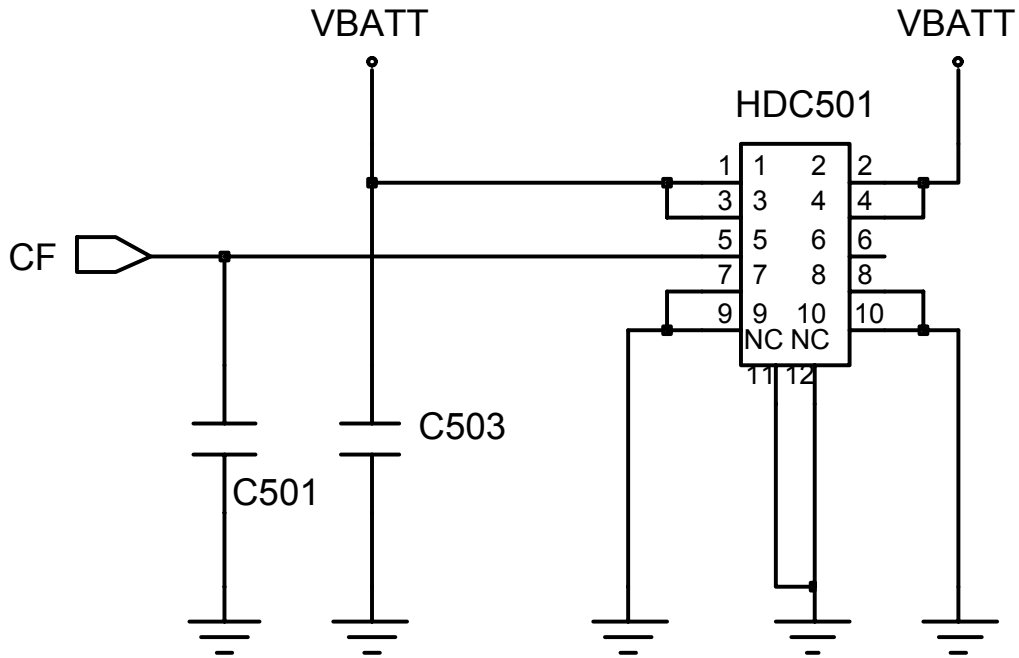
3-1-3. Sim Part



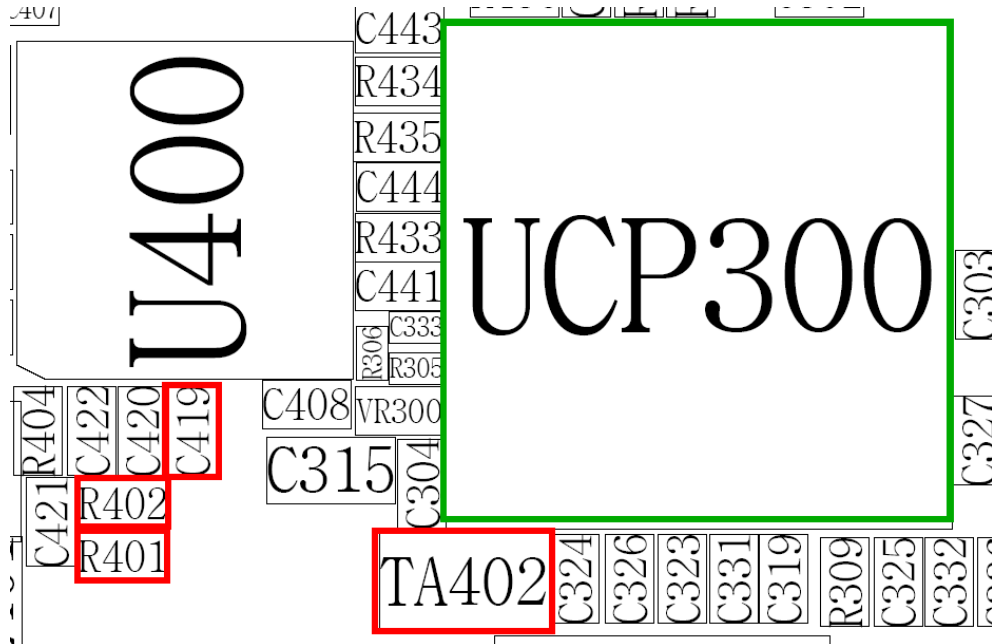
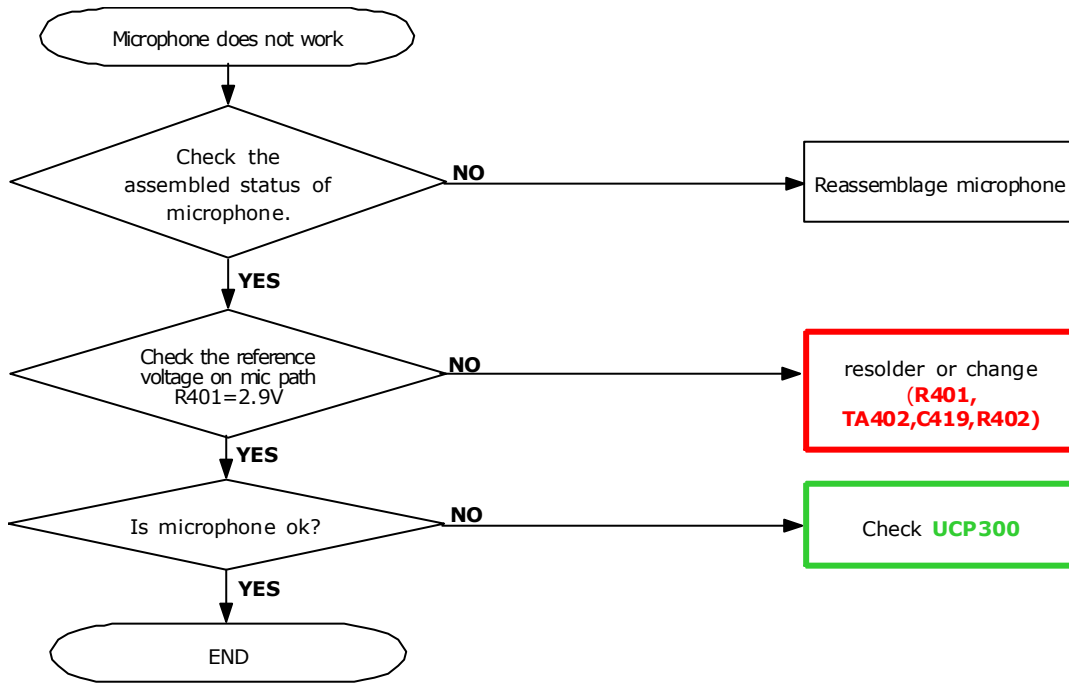


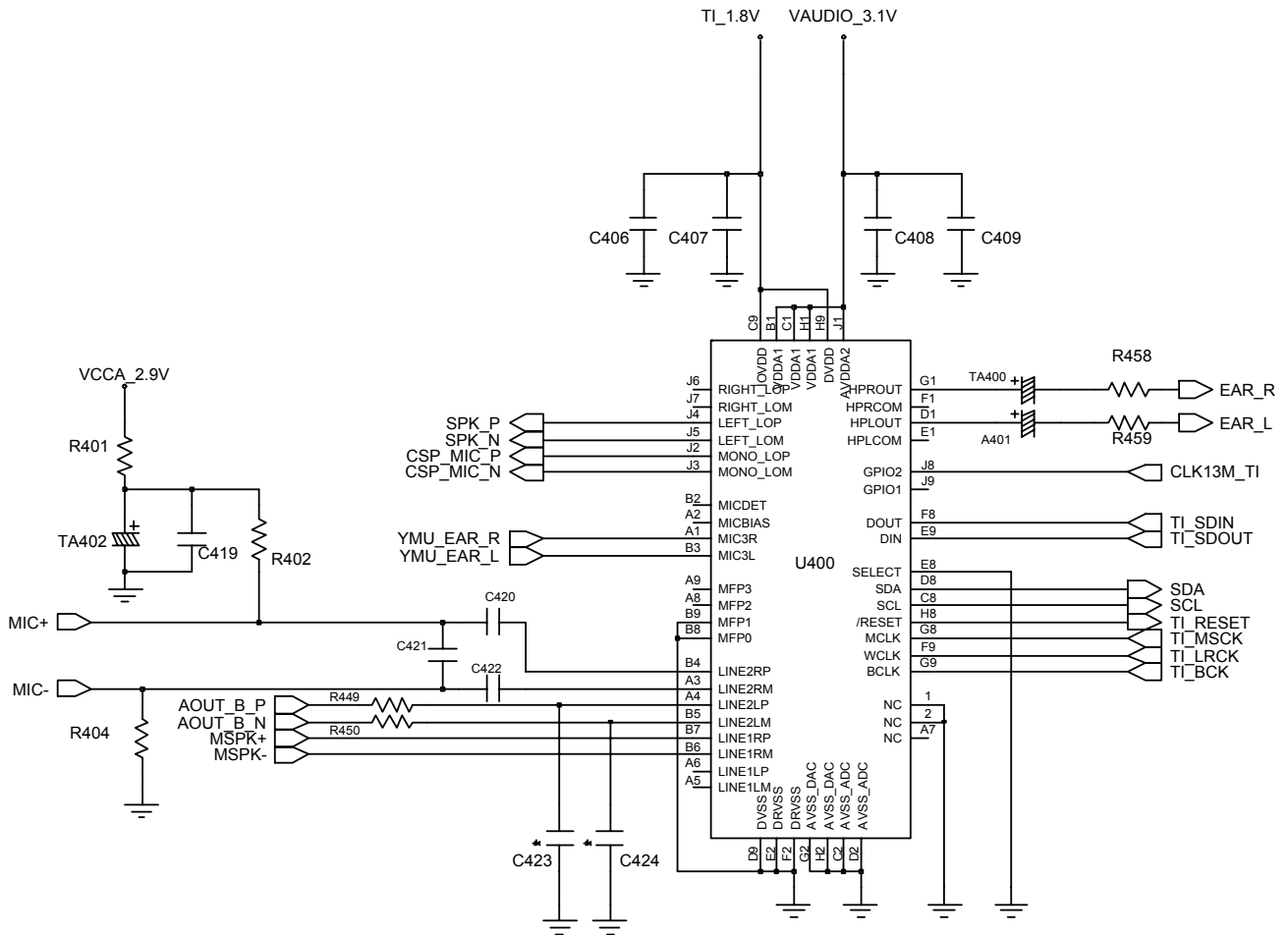
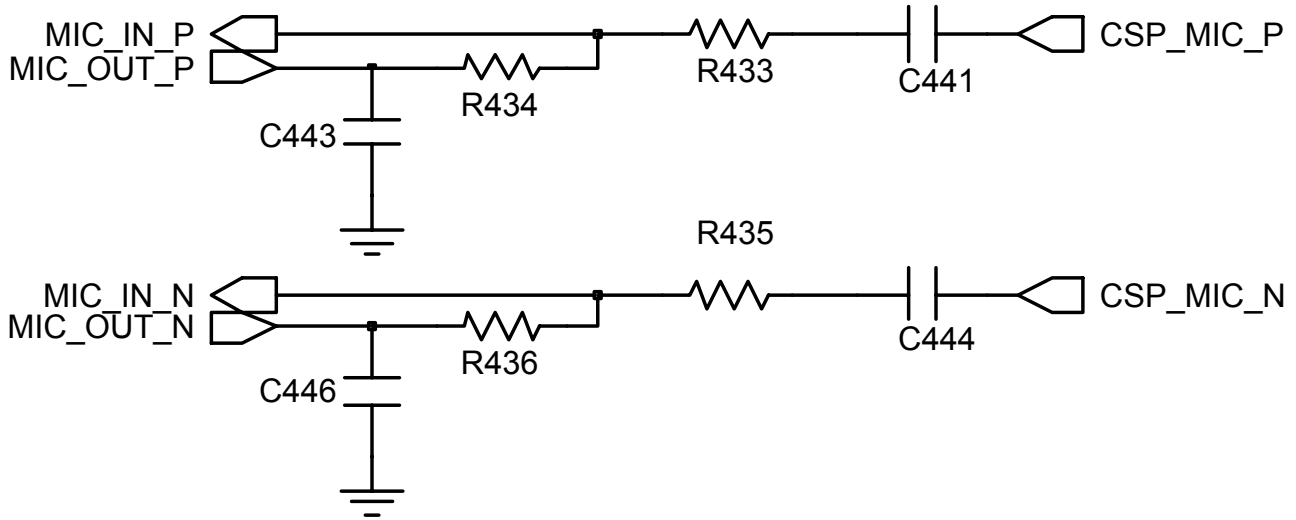
3-1-4. Charging Part



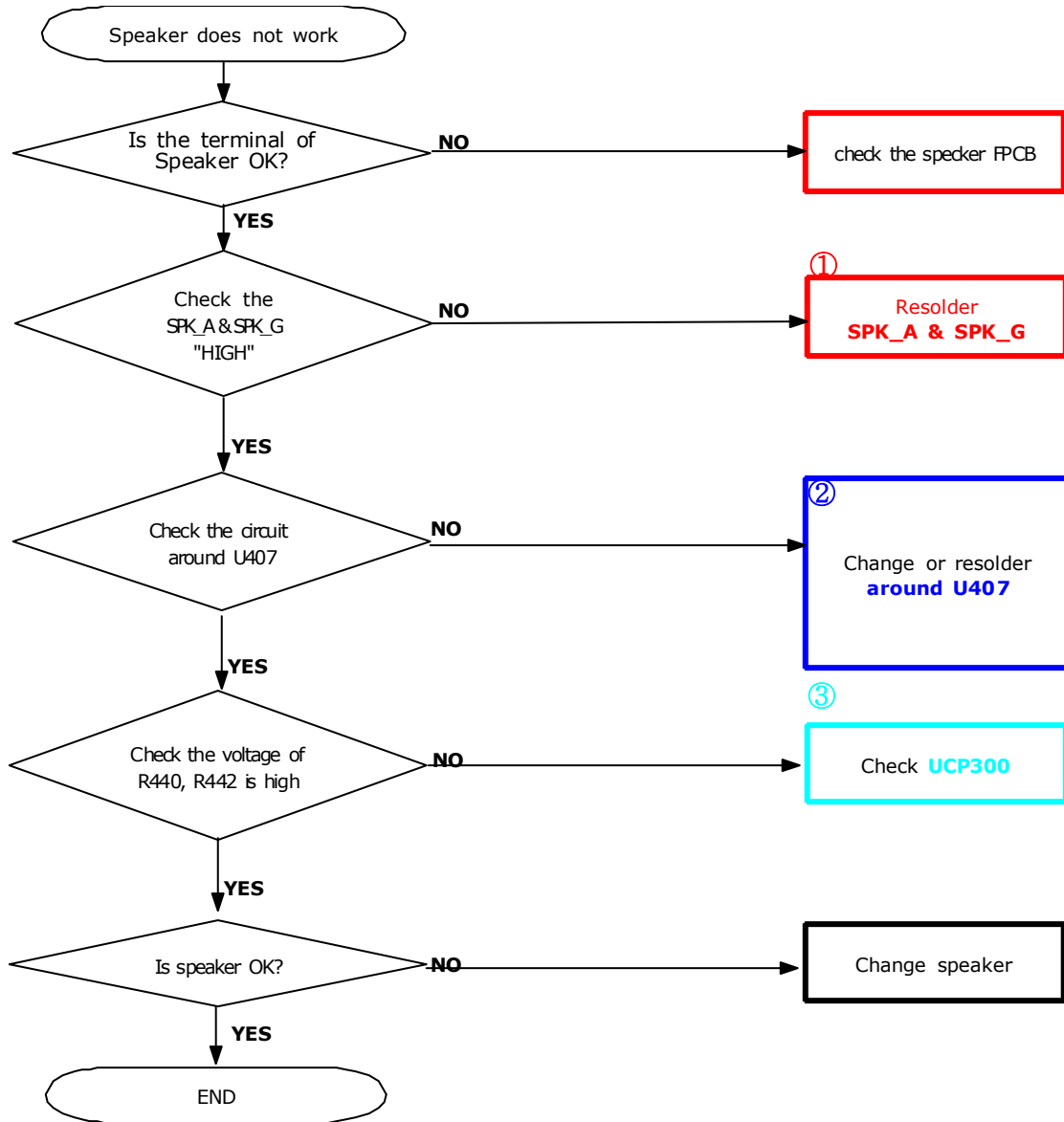


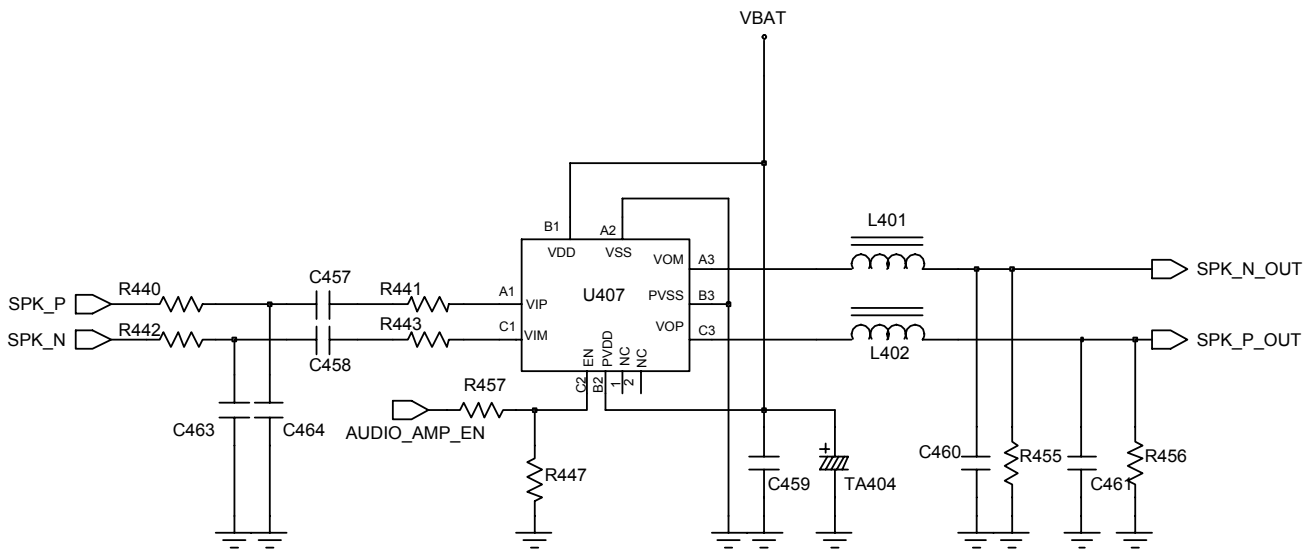
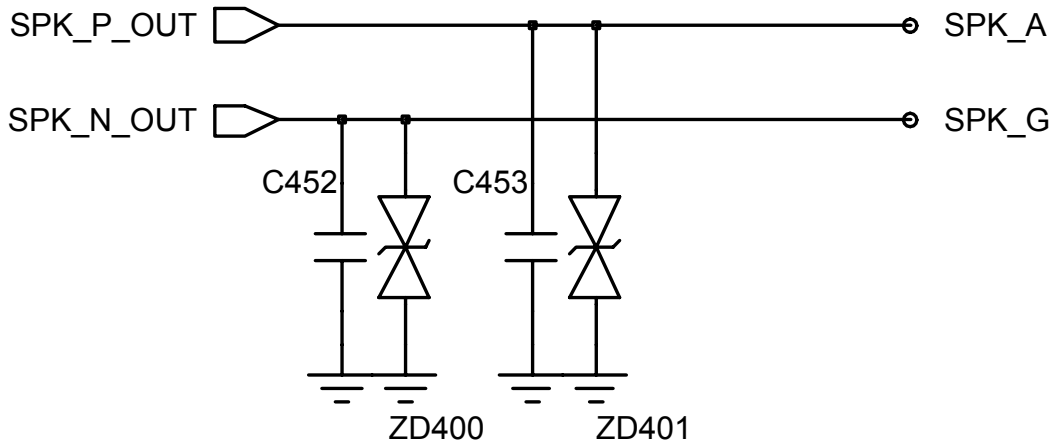
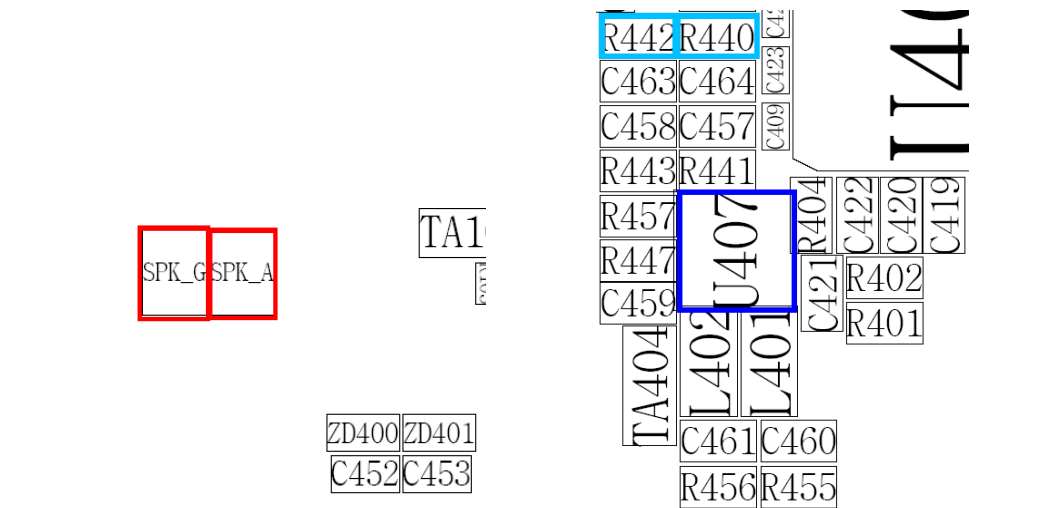
3-1-5. Microphone Part



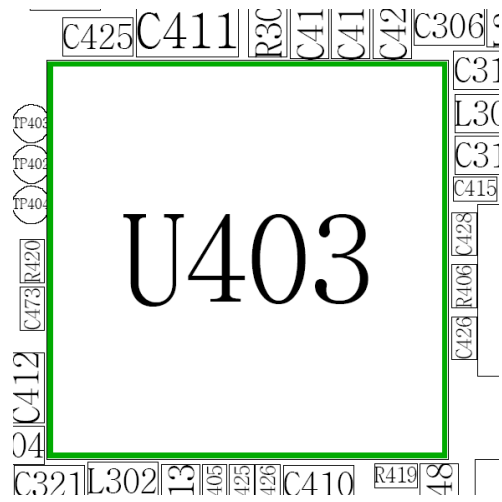
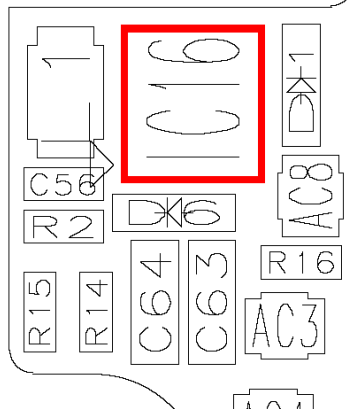
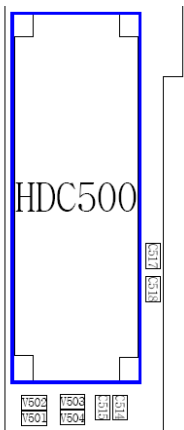
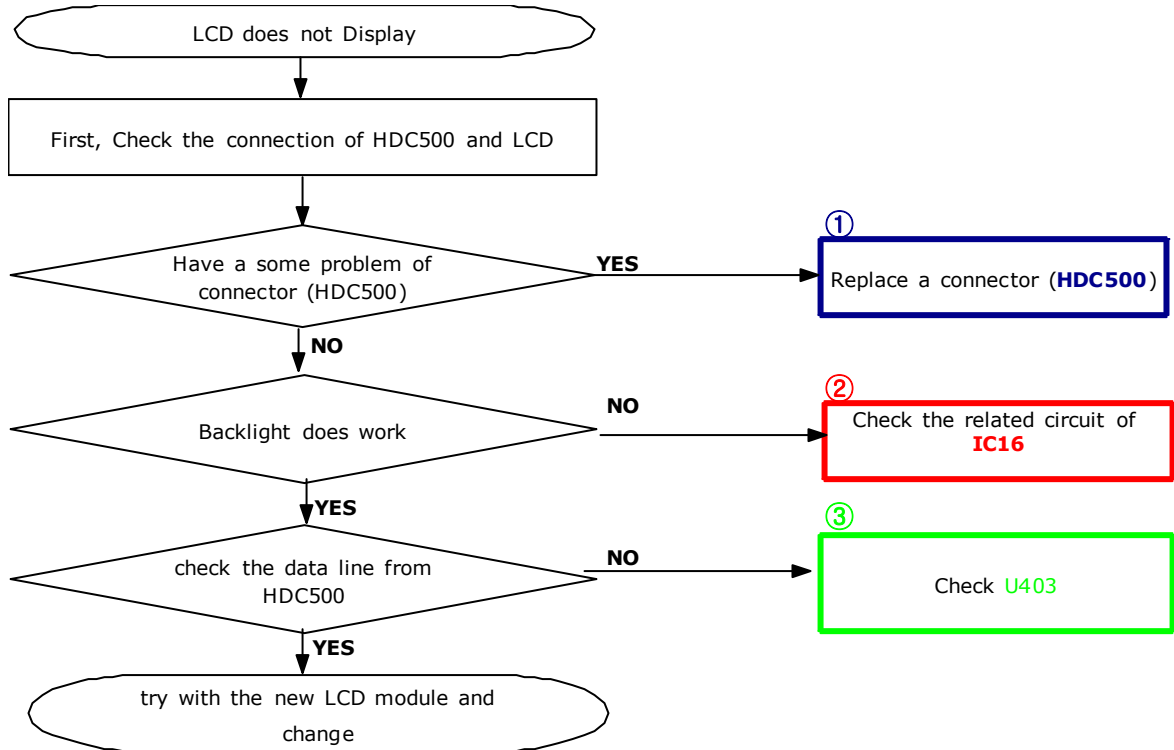


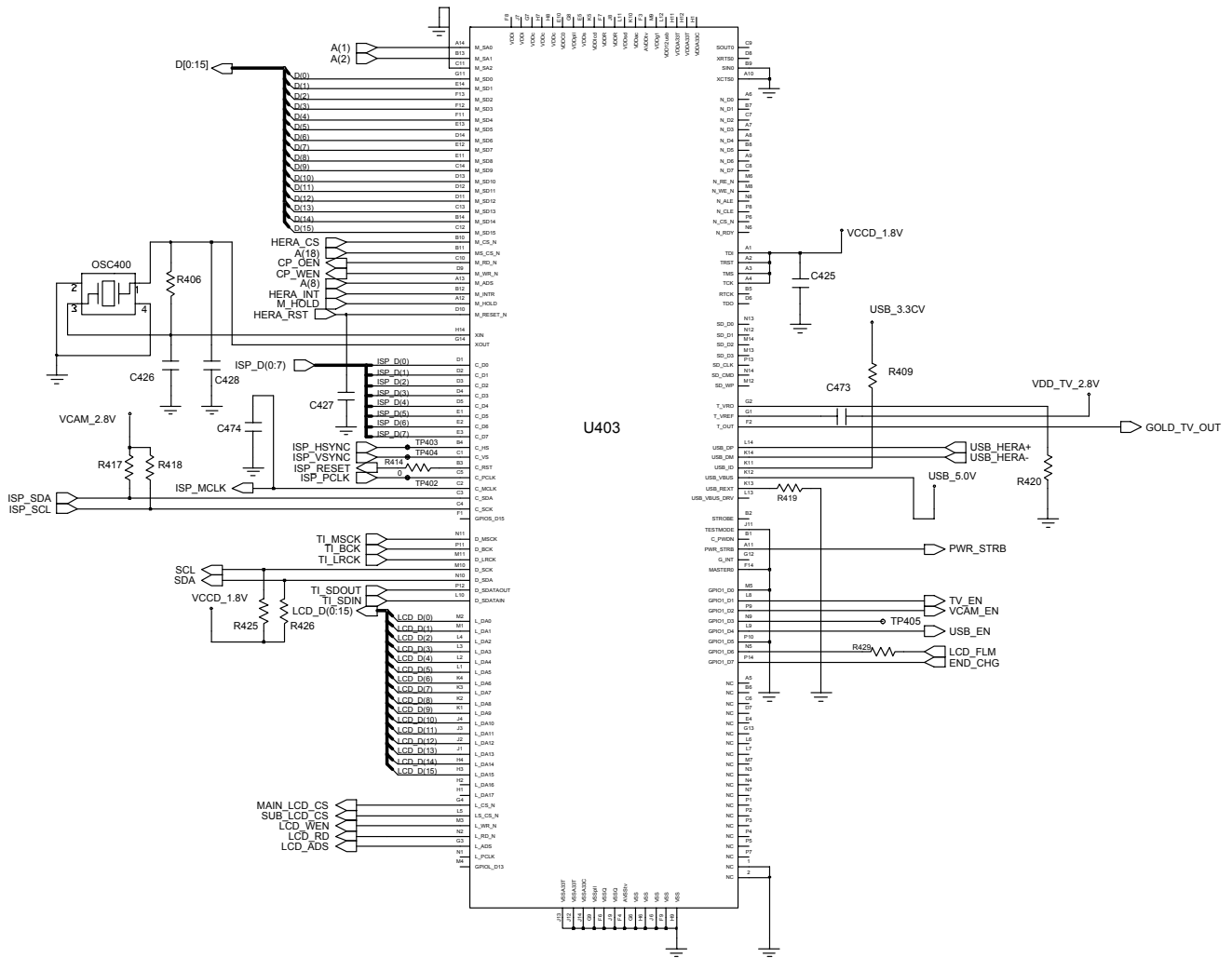
3-1-6. Speaker Part



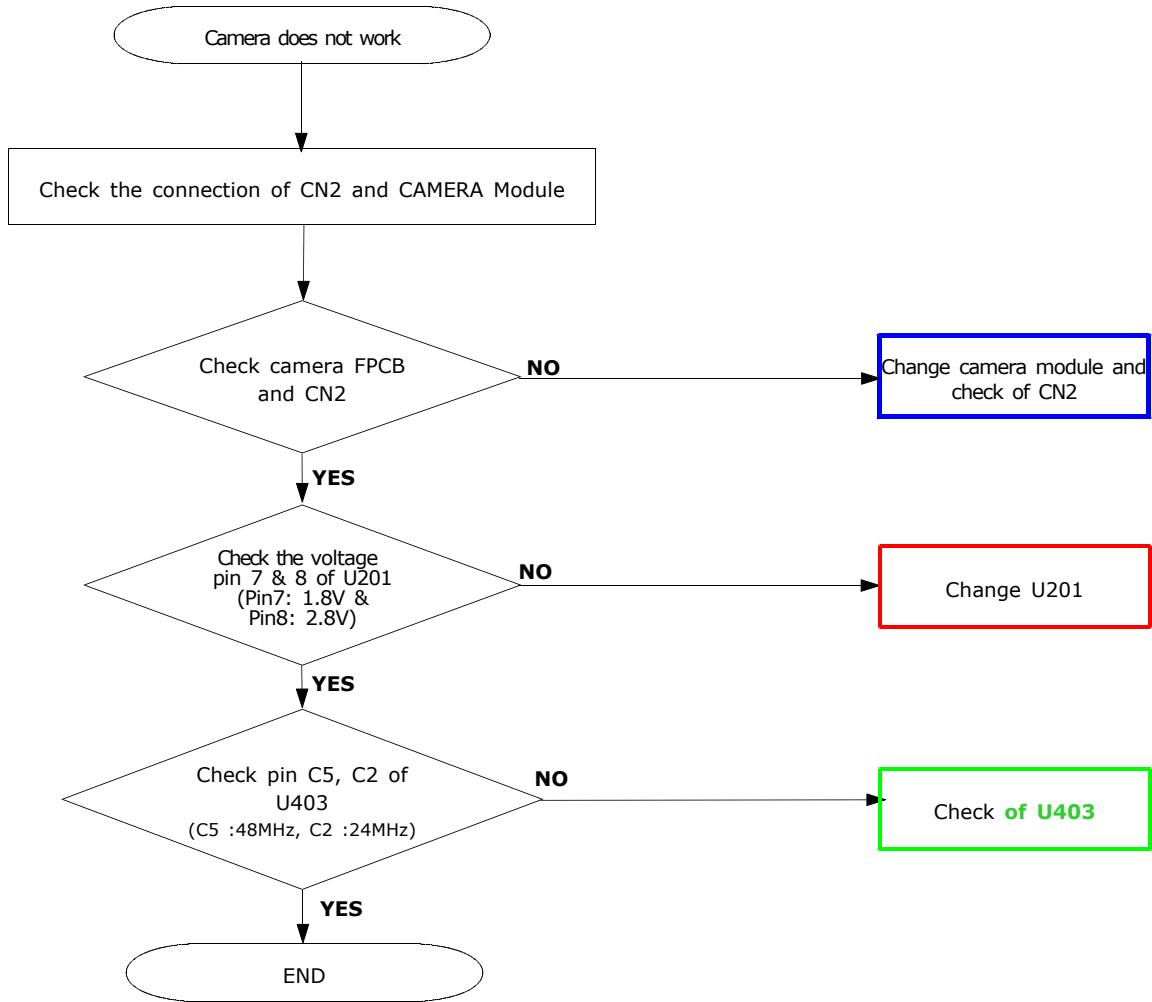


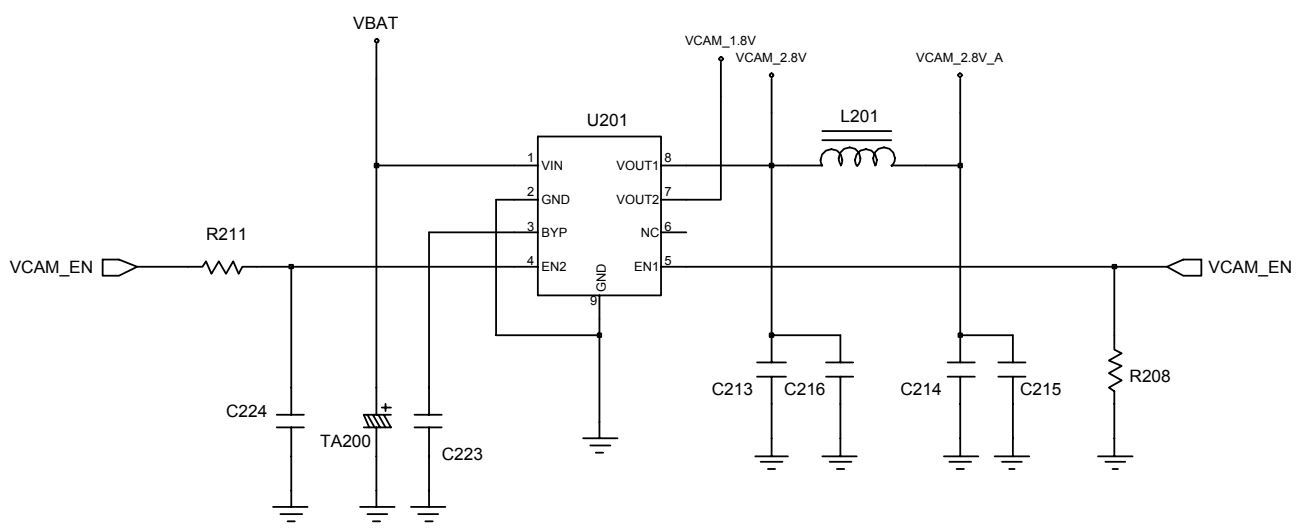
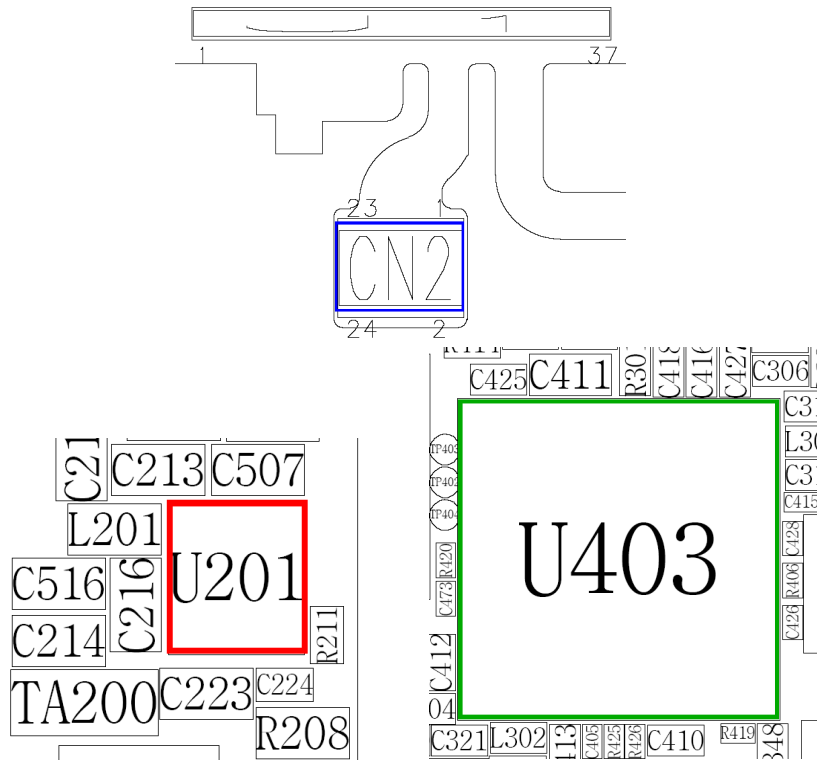
3-1-7. LCD





3-1-8. Camera

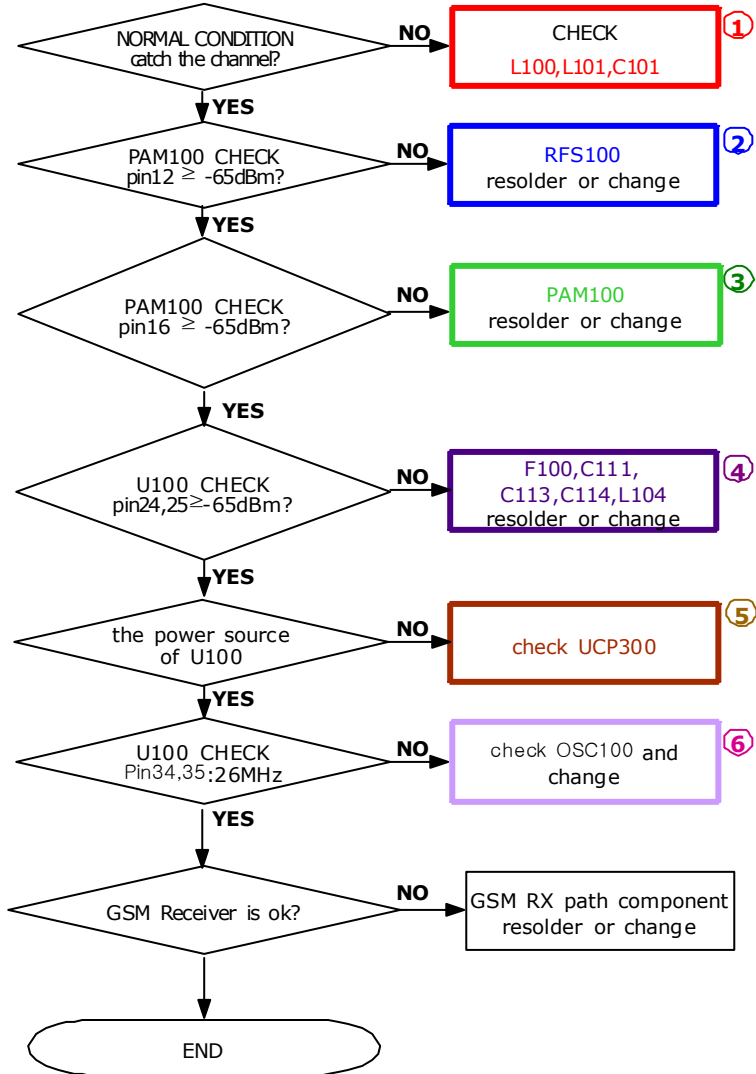




3-2. RF

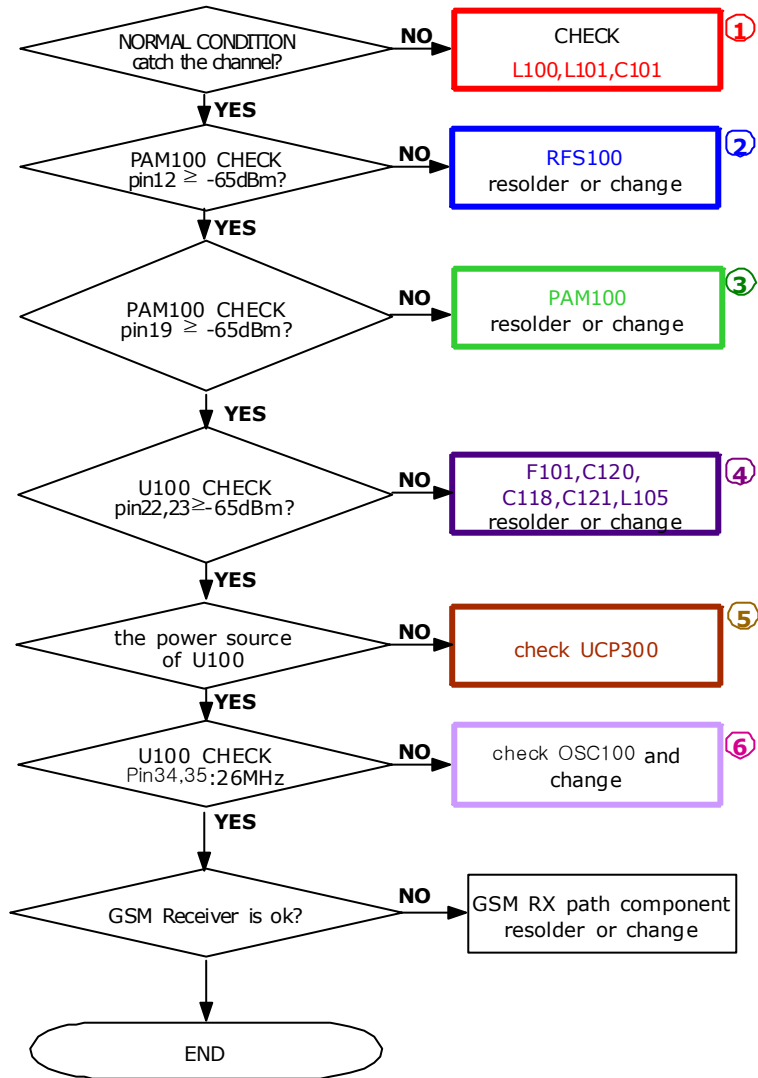
3-2-1. GSM900 Receiver

CONTINUOUS RX ON
RF INPUT : 62CH
Cell power : -50dBm



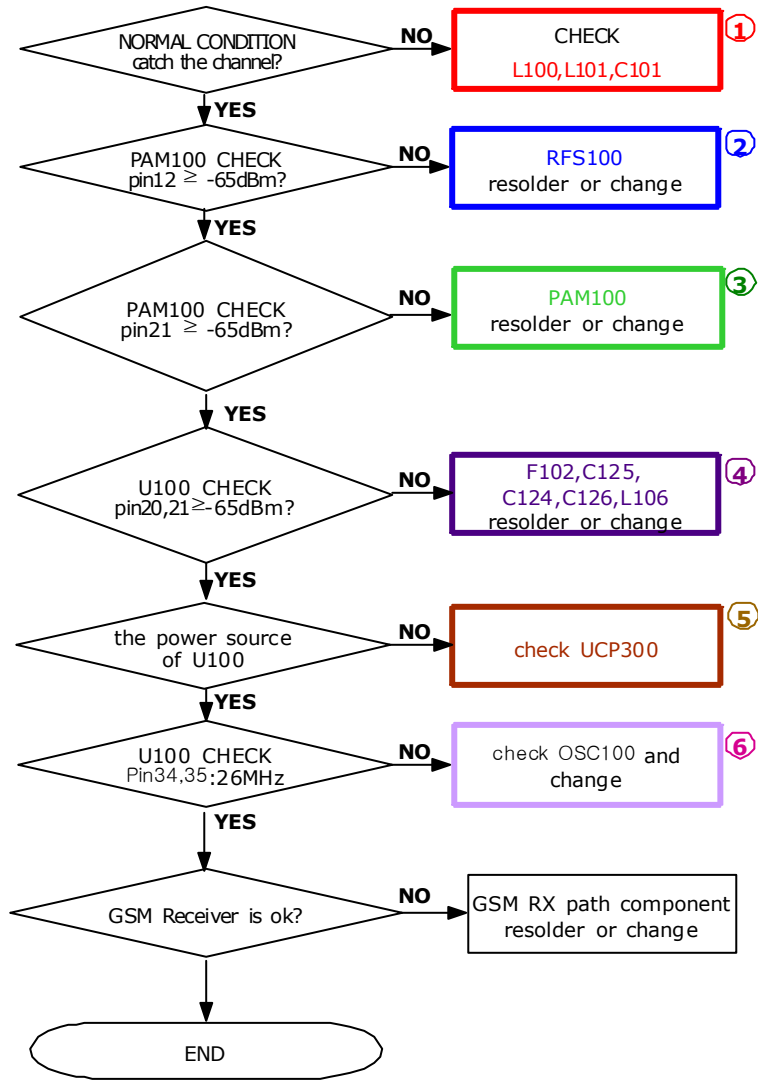
3-2-2. DCS Receiver

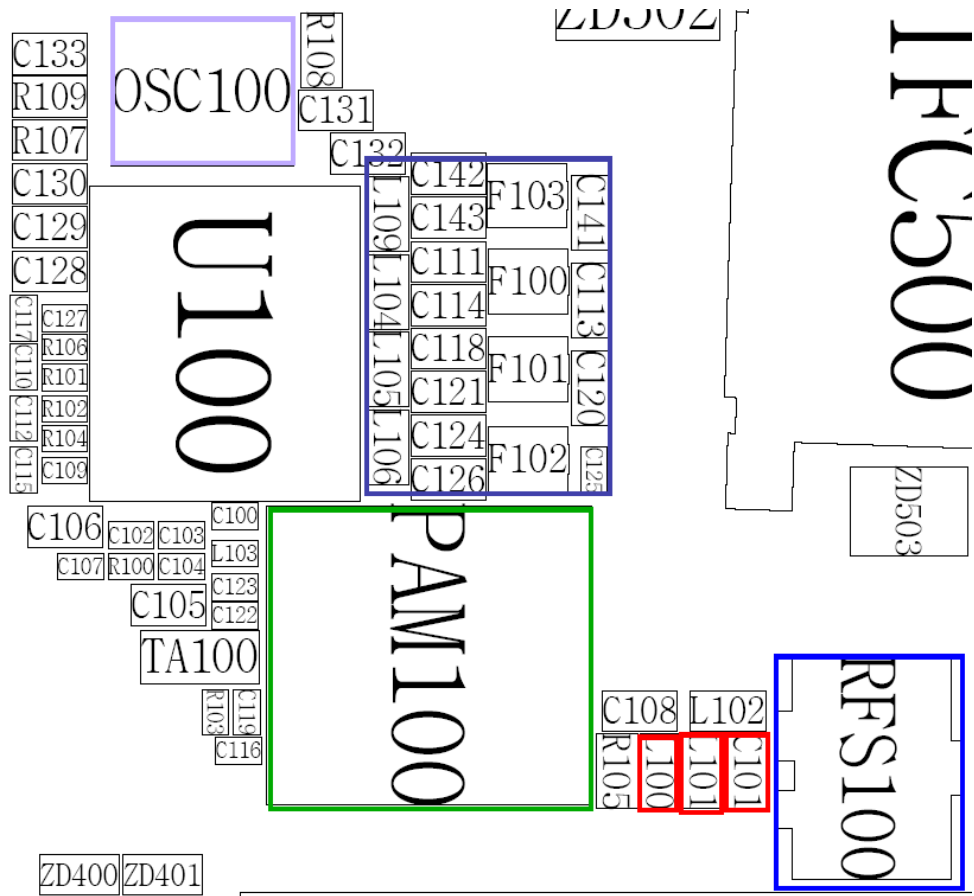
CONTINUOUS RX ON
 RF INPUT : 698CH
 Cell power : -50dBm

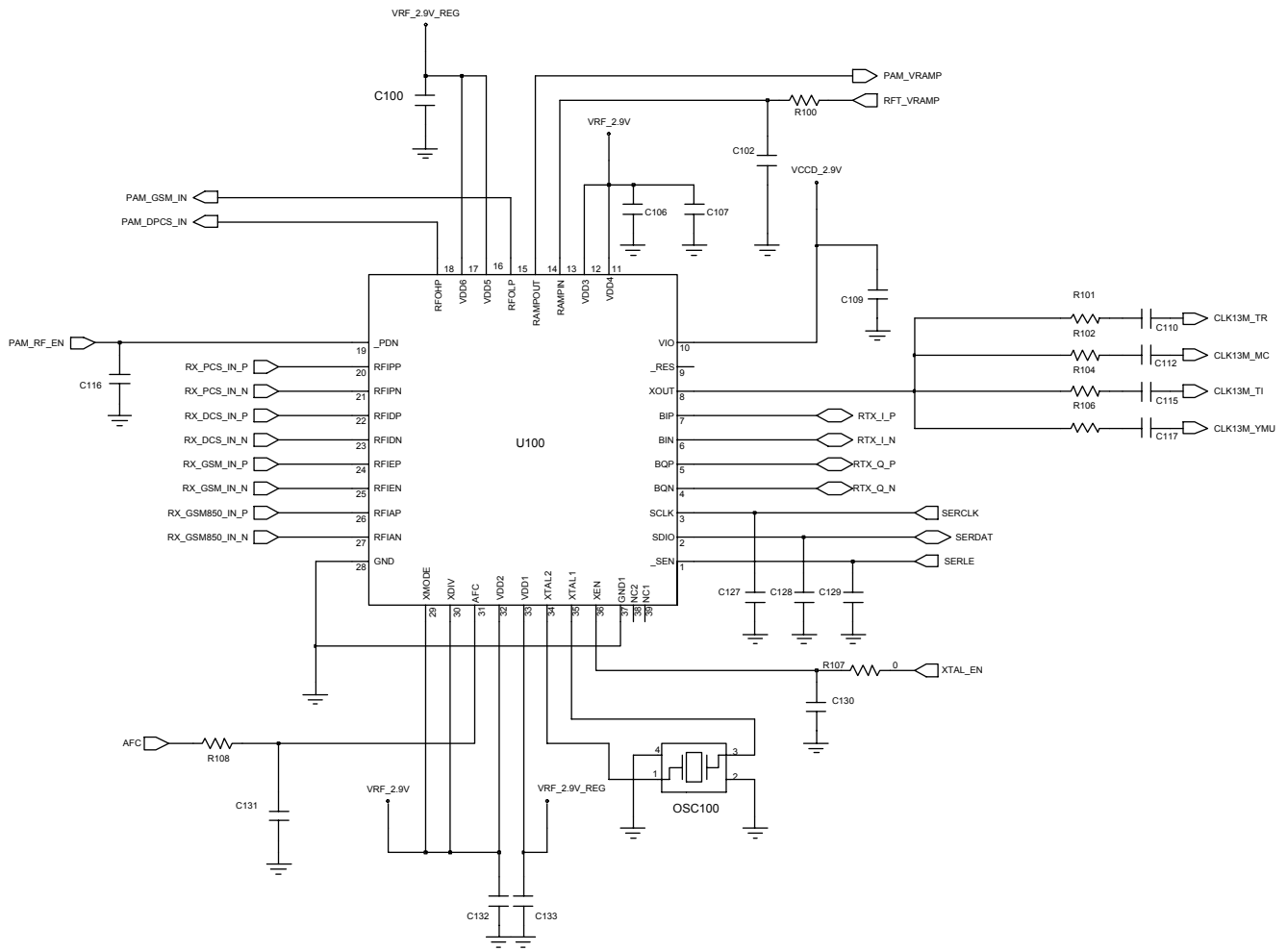


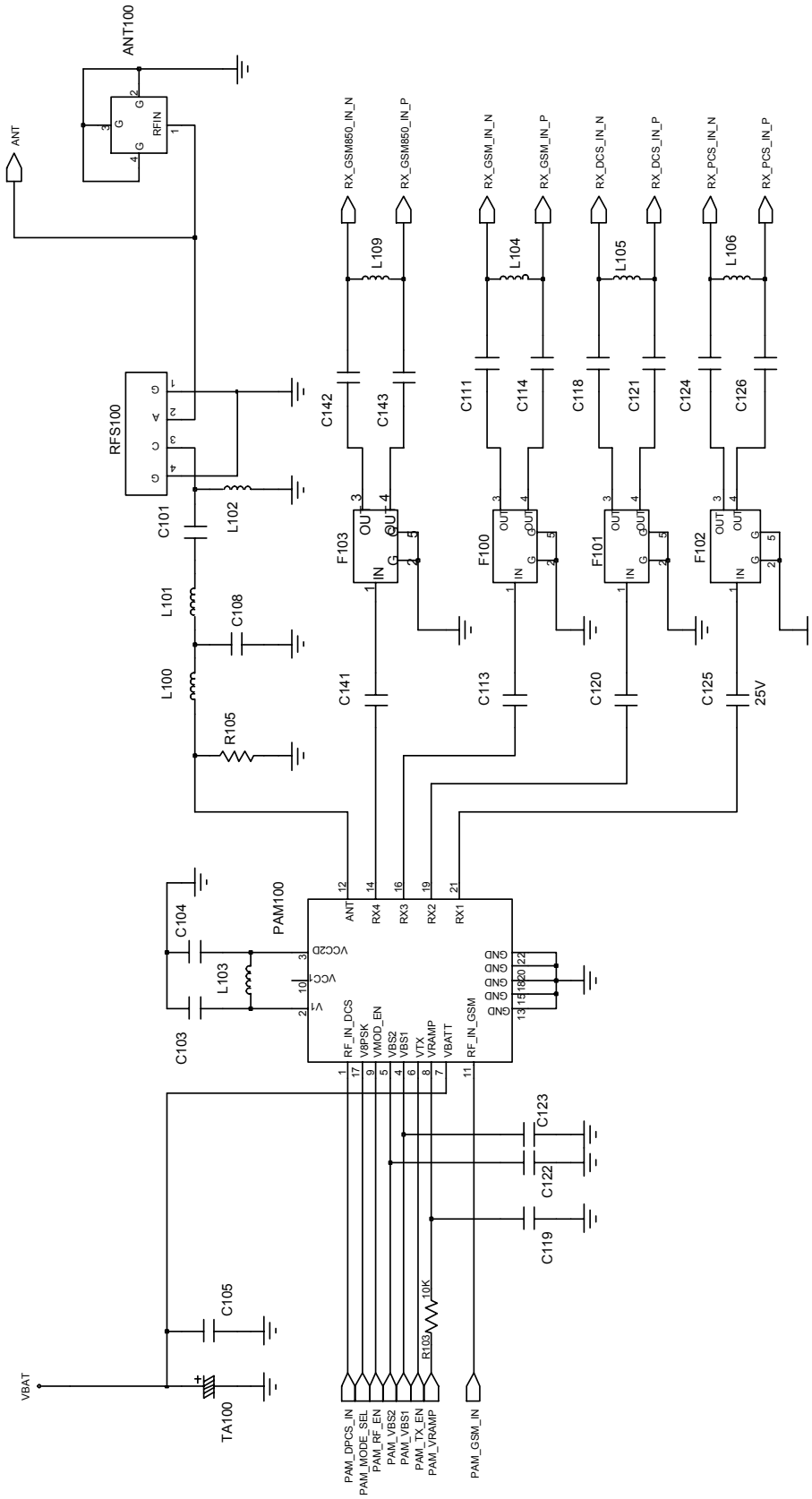
3-2-3. PCS Receiver

CONTINUOUS RX ON
 RF INPUT : 698CH
 Cell power : -50dBm

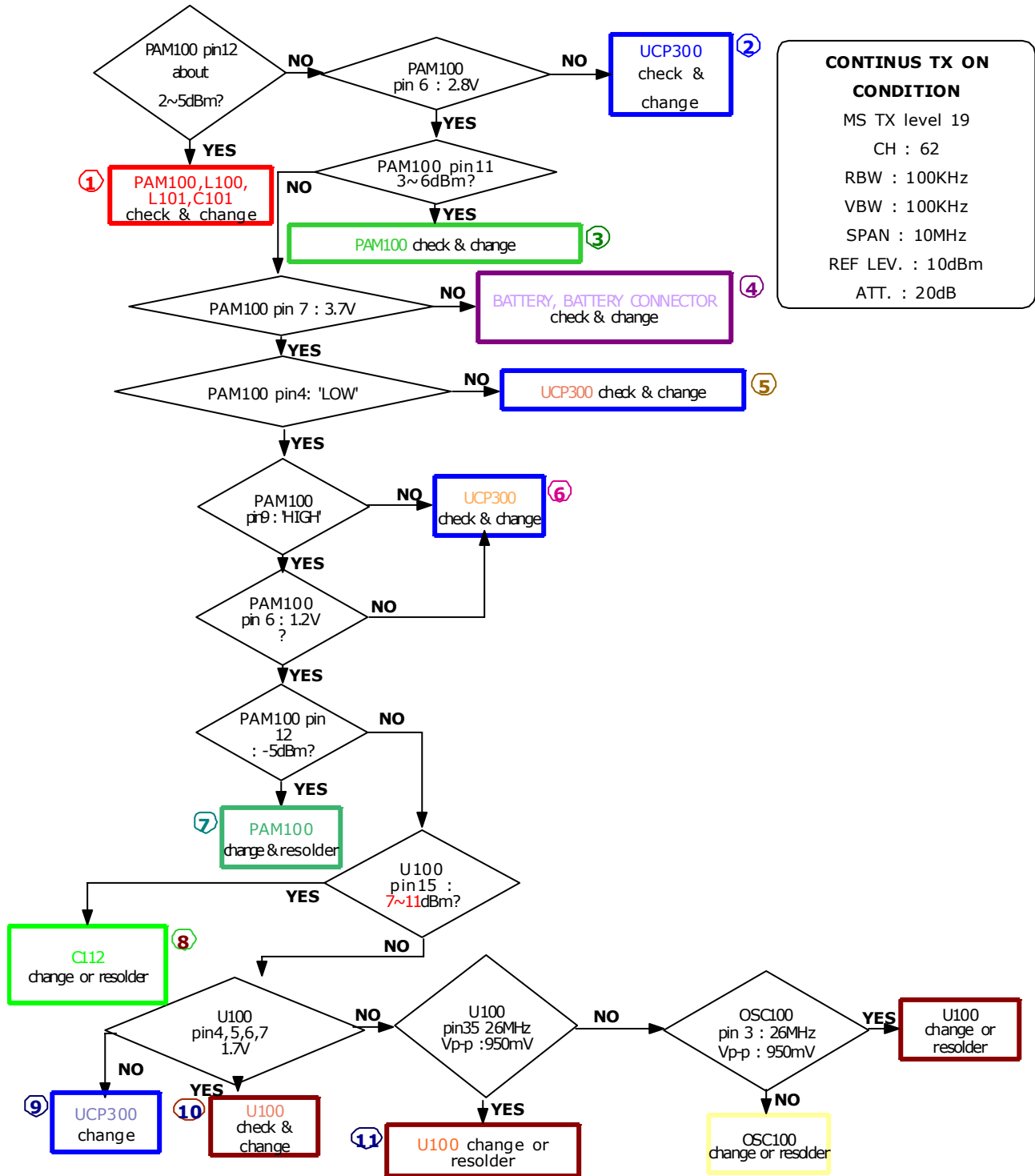








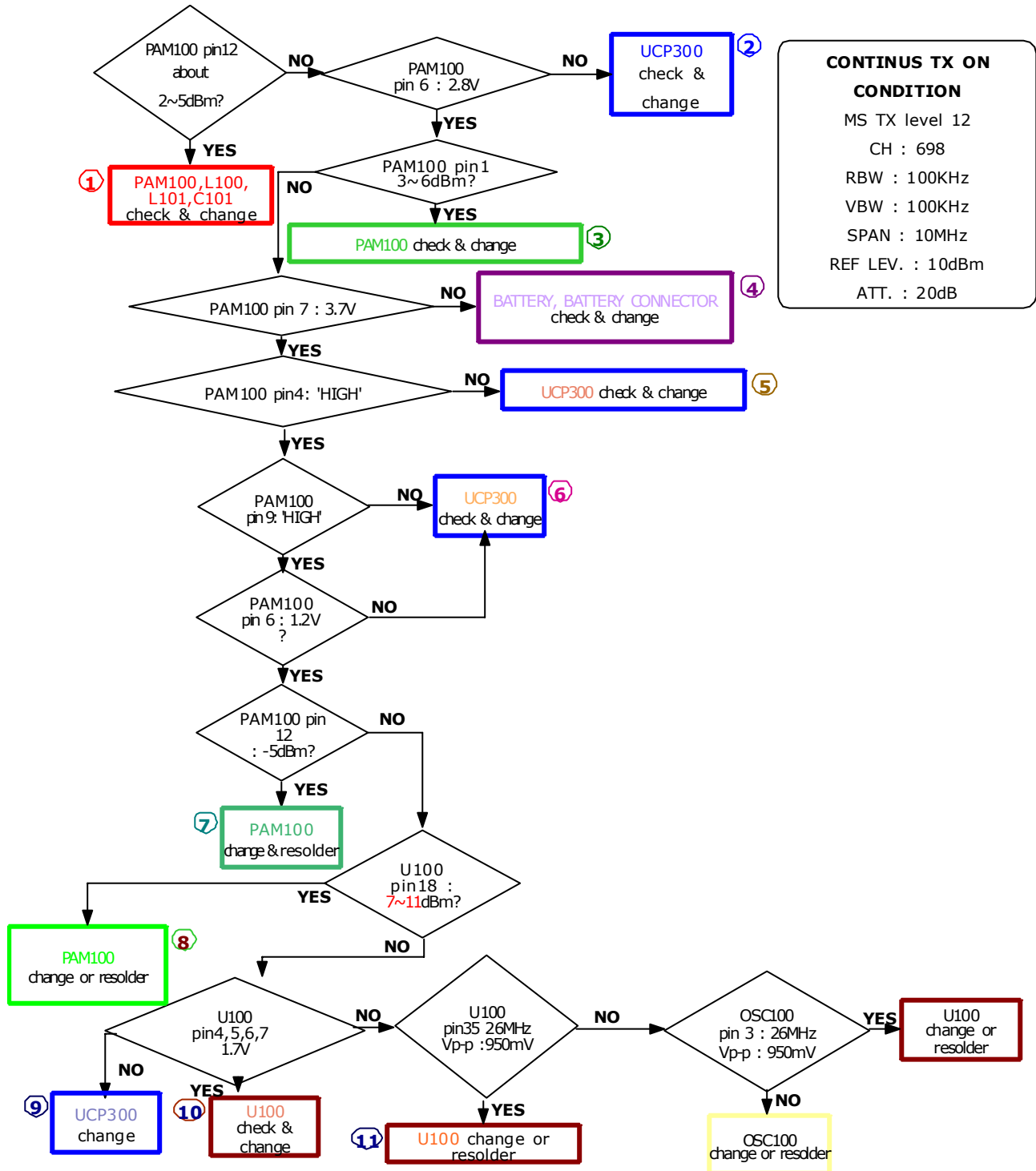
3-2-4. GSM900 Transmitter



CONTINUS TX ON CONDITION

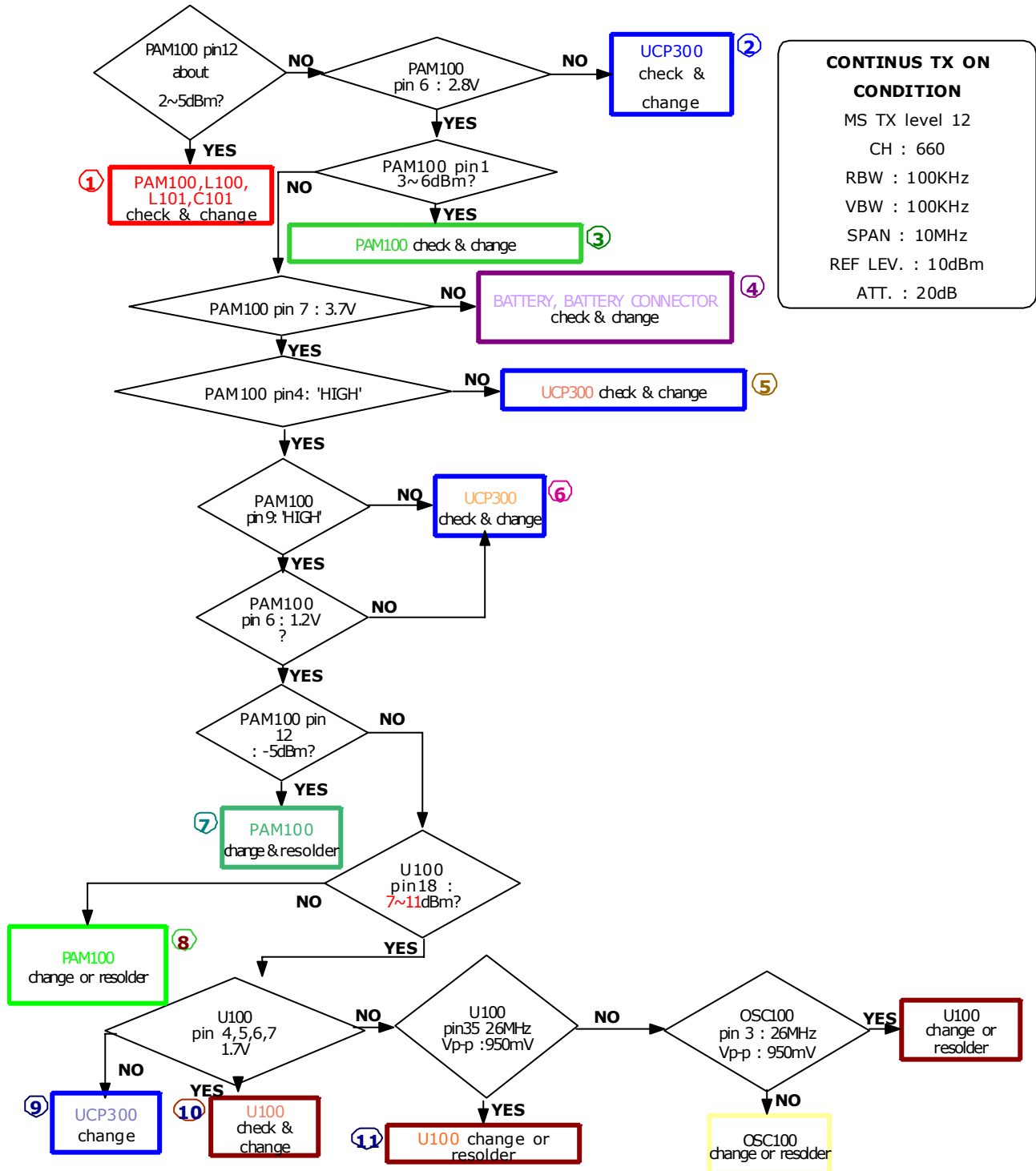
MS TX level 19
 CH : 62
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

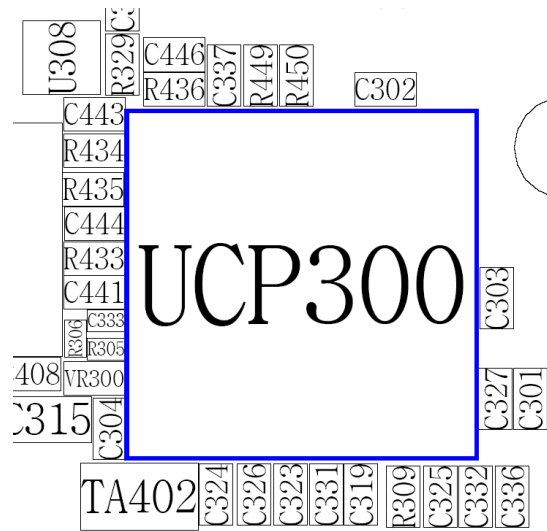
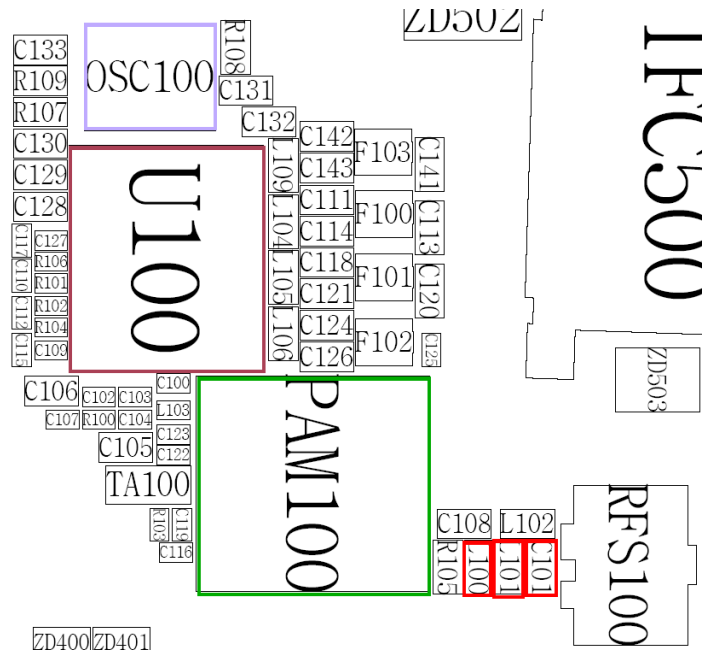
3-2-5. DCS Transmitter



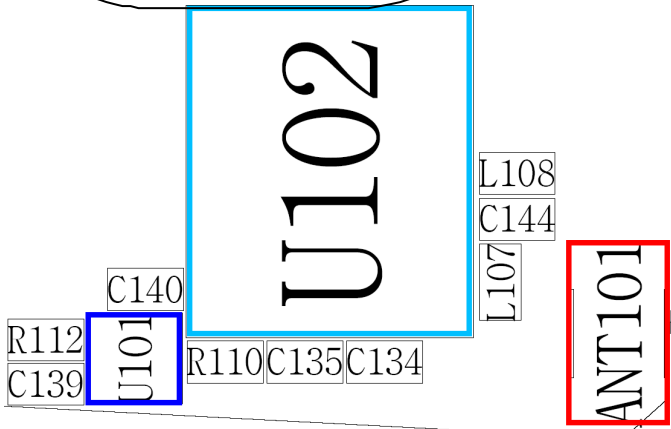
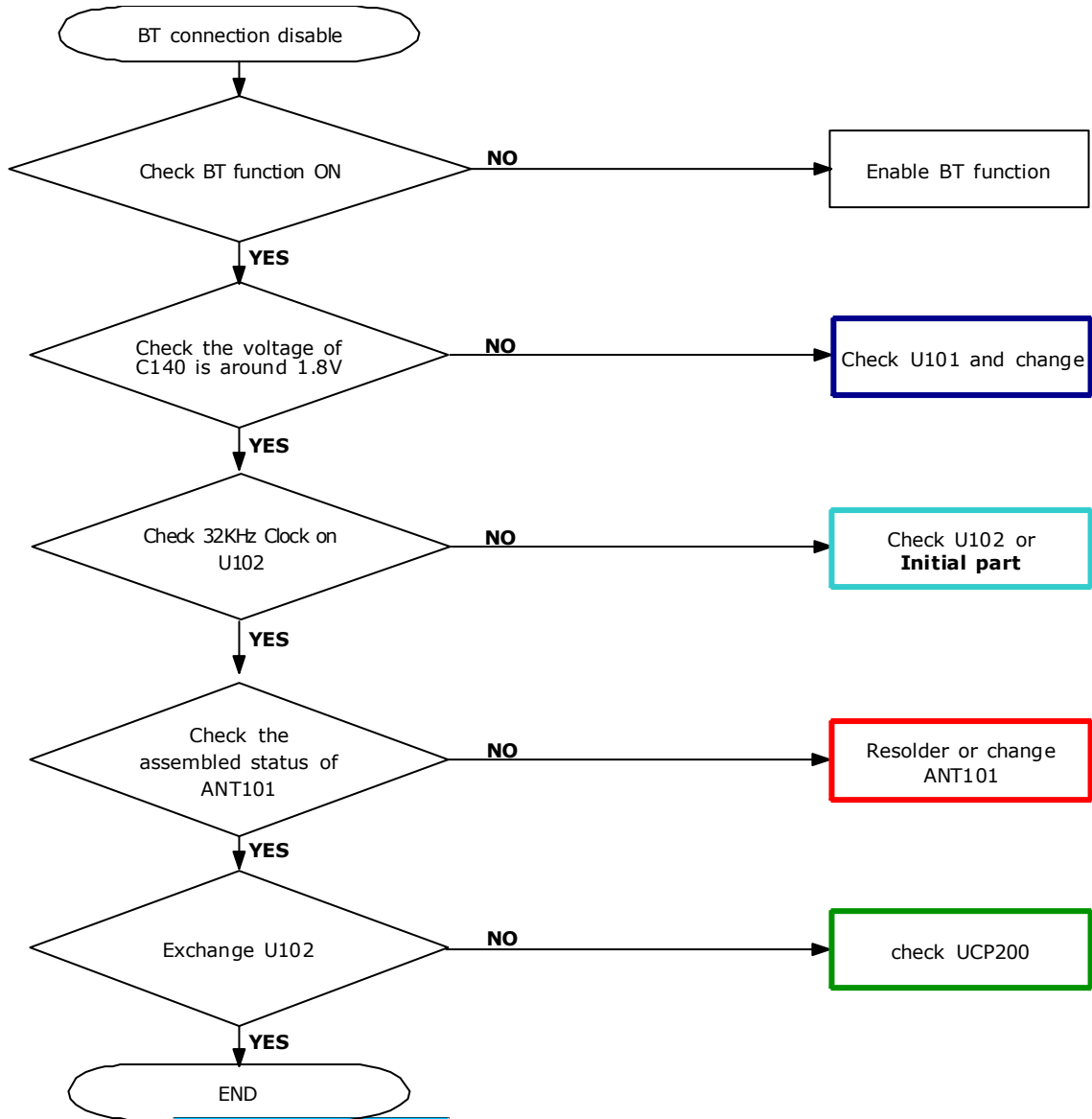
**CONTINUS TX ON
CONDITION**
 MS TX level 12
 CH : 698
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

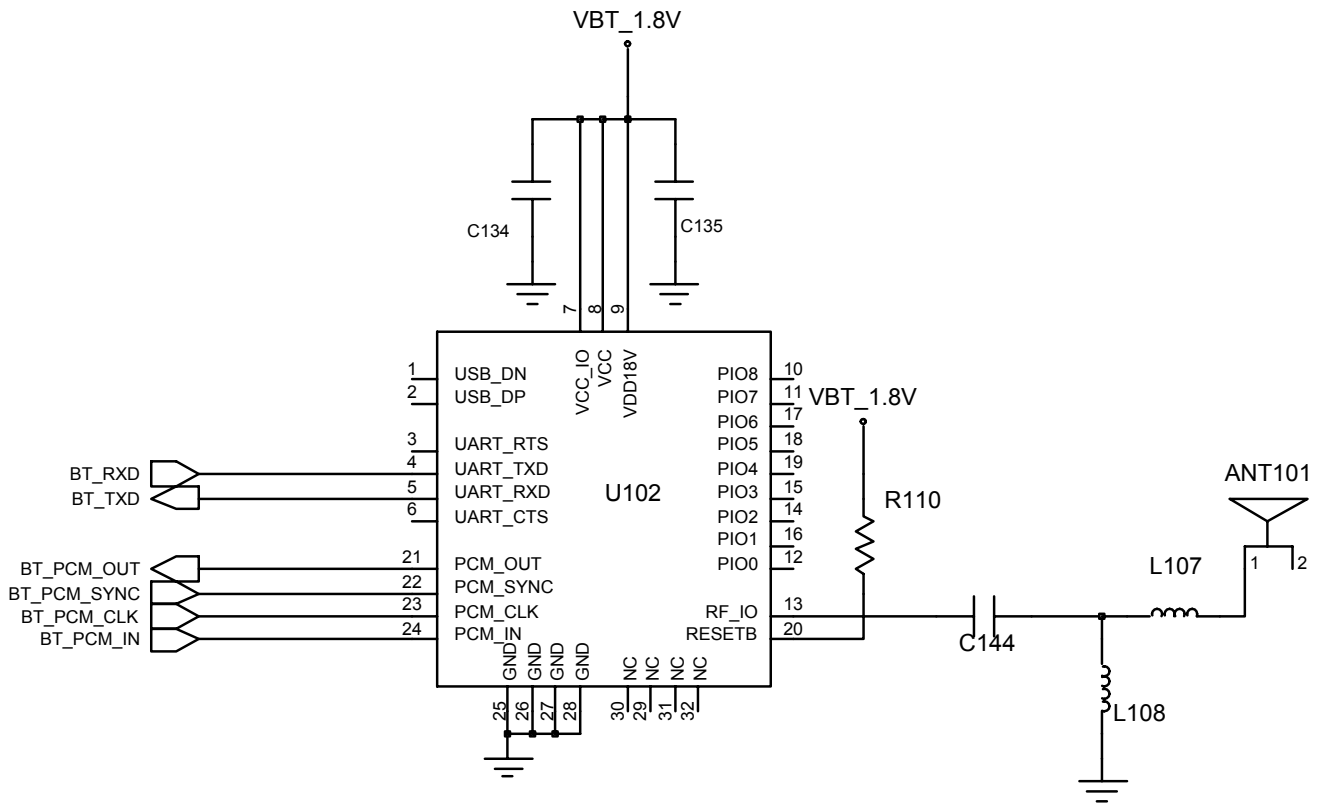
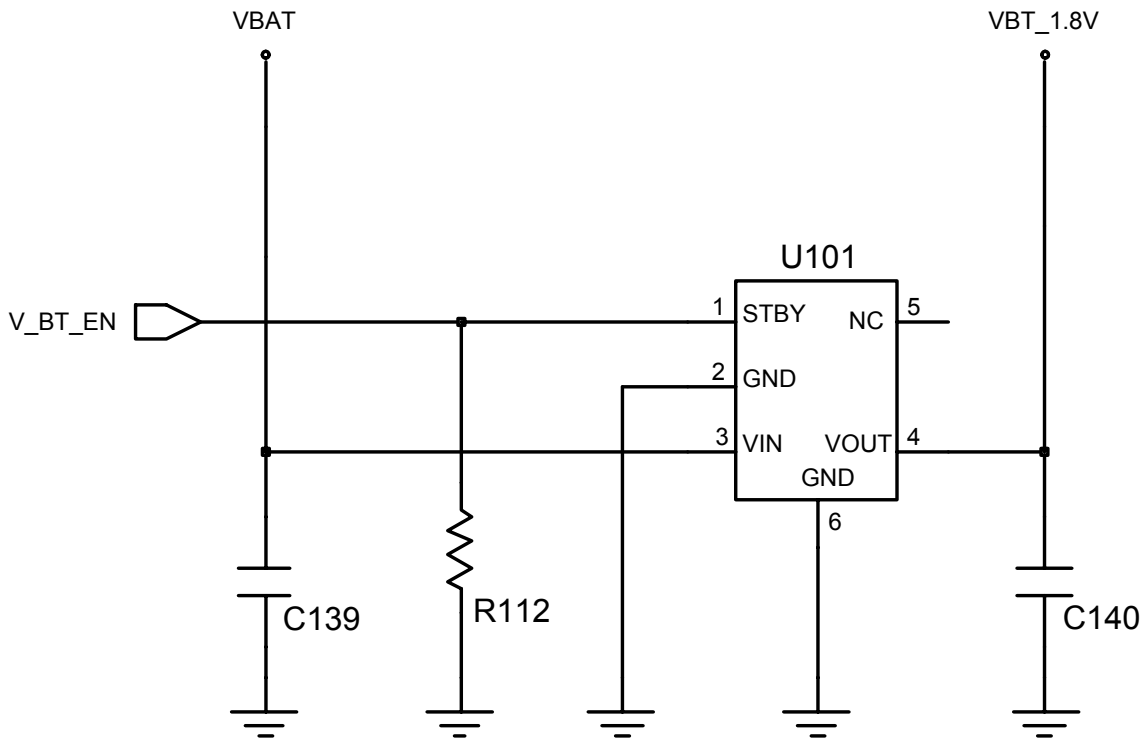
3-2-6. PCS Transmitter



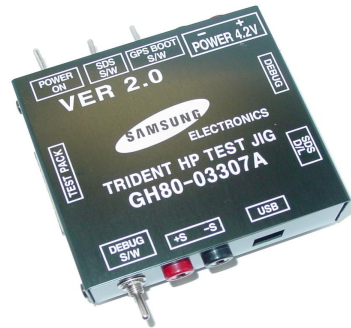


3-2-7. Bluetooth Part





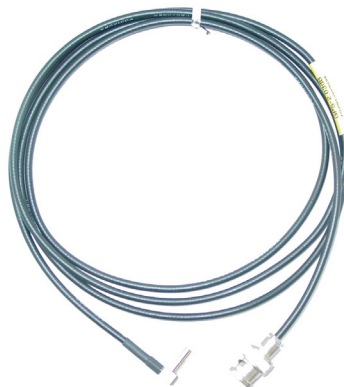
4. Array course control



Test Jig (GH80-03307A)



Test Cable (GH39-00478A)



RF Test Cable (GH39-00182A)

Software Downloading

4-1. Downloading Binary Files

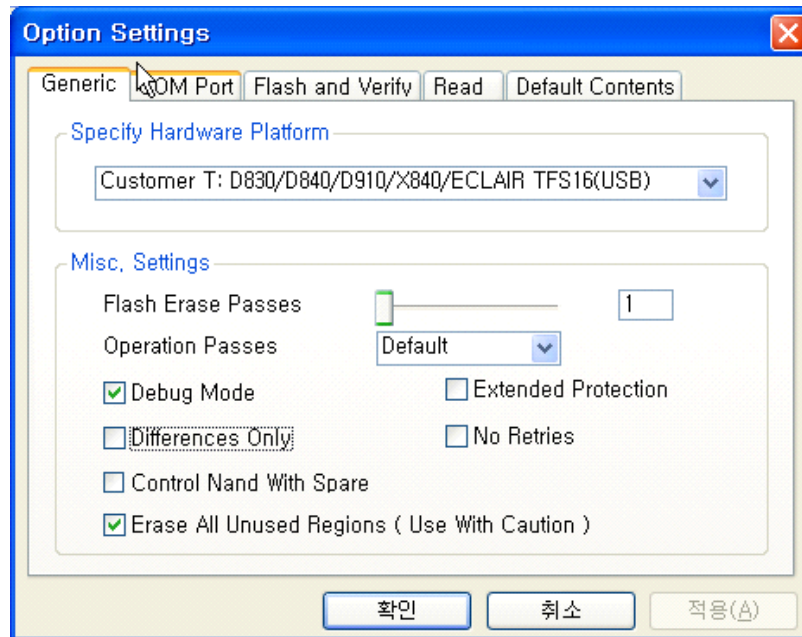
- Three binary files for downloading U300.
 - U300XXYY.s3 : Main source code binary.

4-2. Pre-requisite for Downloading

- Downloader Program([OptiFlash.exe](#))
- U300 Mobile Phone
- Data Cable
- Binary files

4-3. S/W Downloader Program

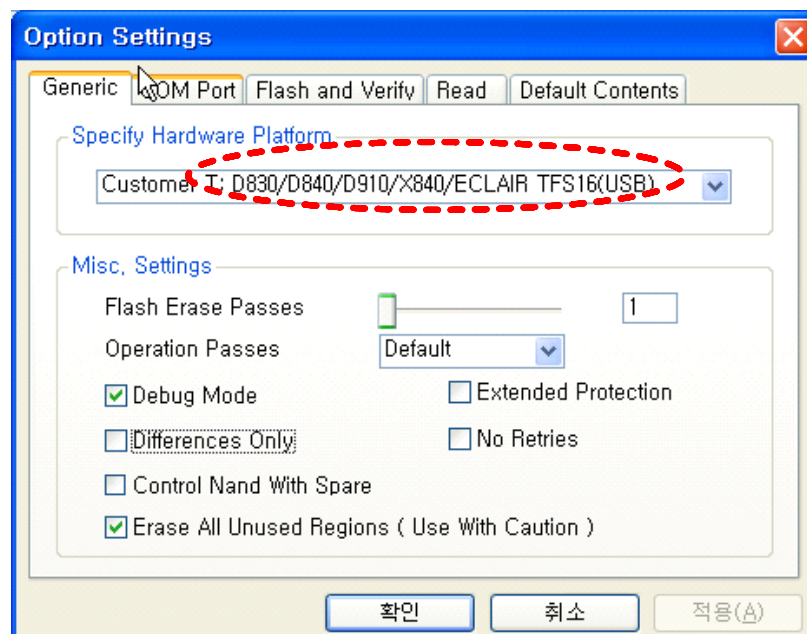
1. Load the binary download program by executing the "**OptiFlash.exe**"



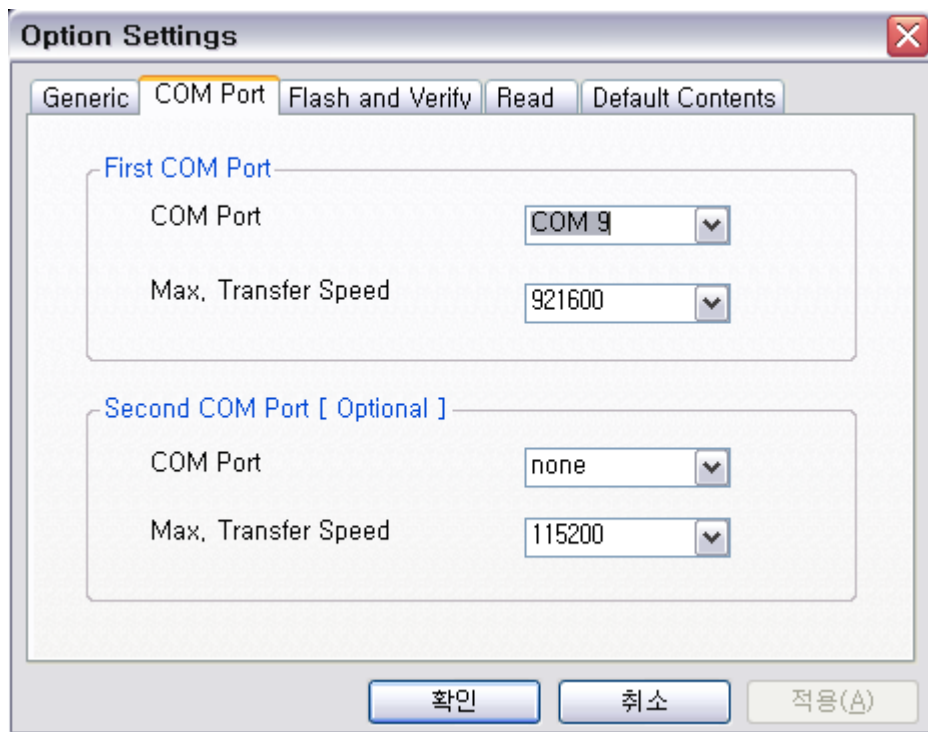
2. Select the "**Options**" -> "**Settings**" -> "**Generic**" -> "**Specify hardware platform**".

Choose hardware platform for the downloader file setting.

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



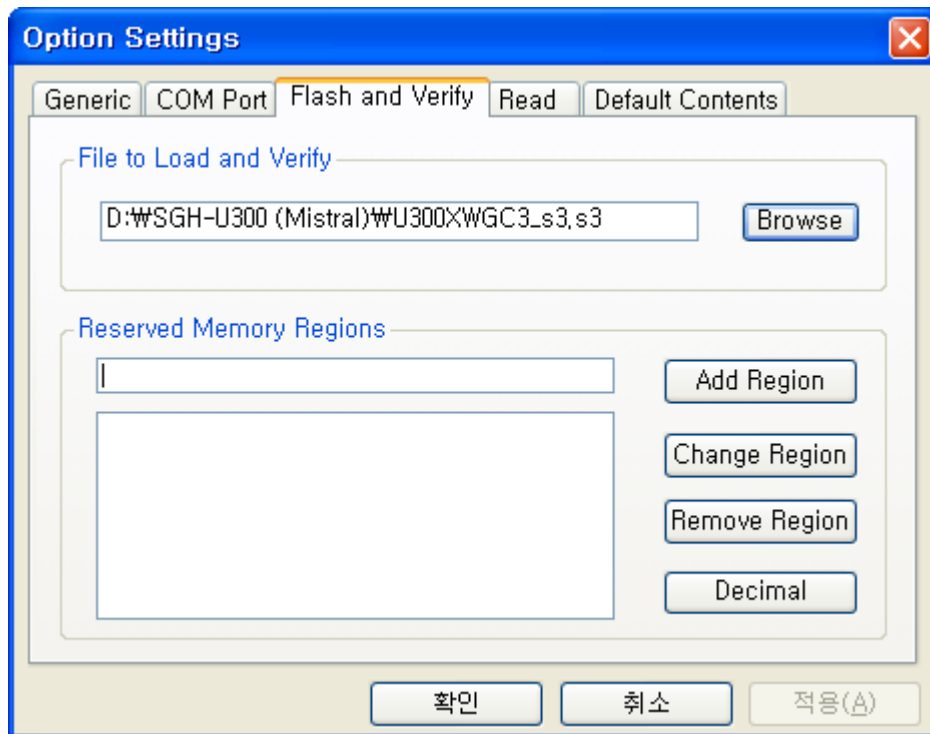
3. Select the **COM port** when the download cable is connected



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"

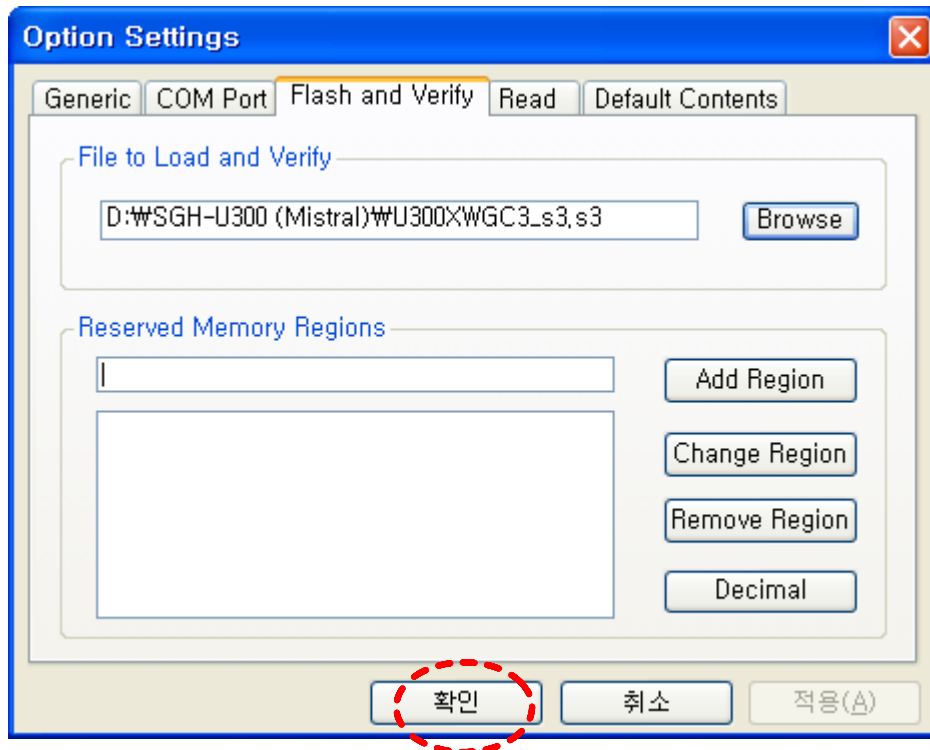
Set the directory path and choose the latest s/w binary, for example "U300XXYY.s3", for the downloader binary setting.



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.



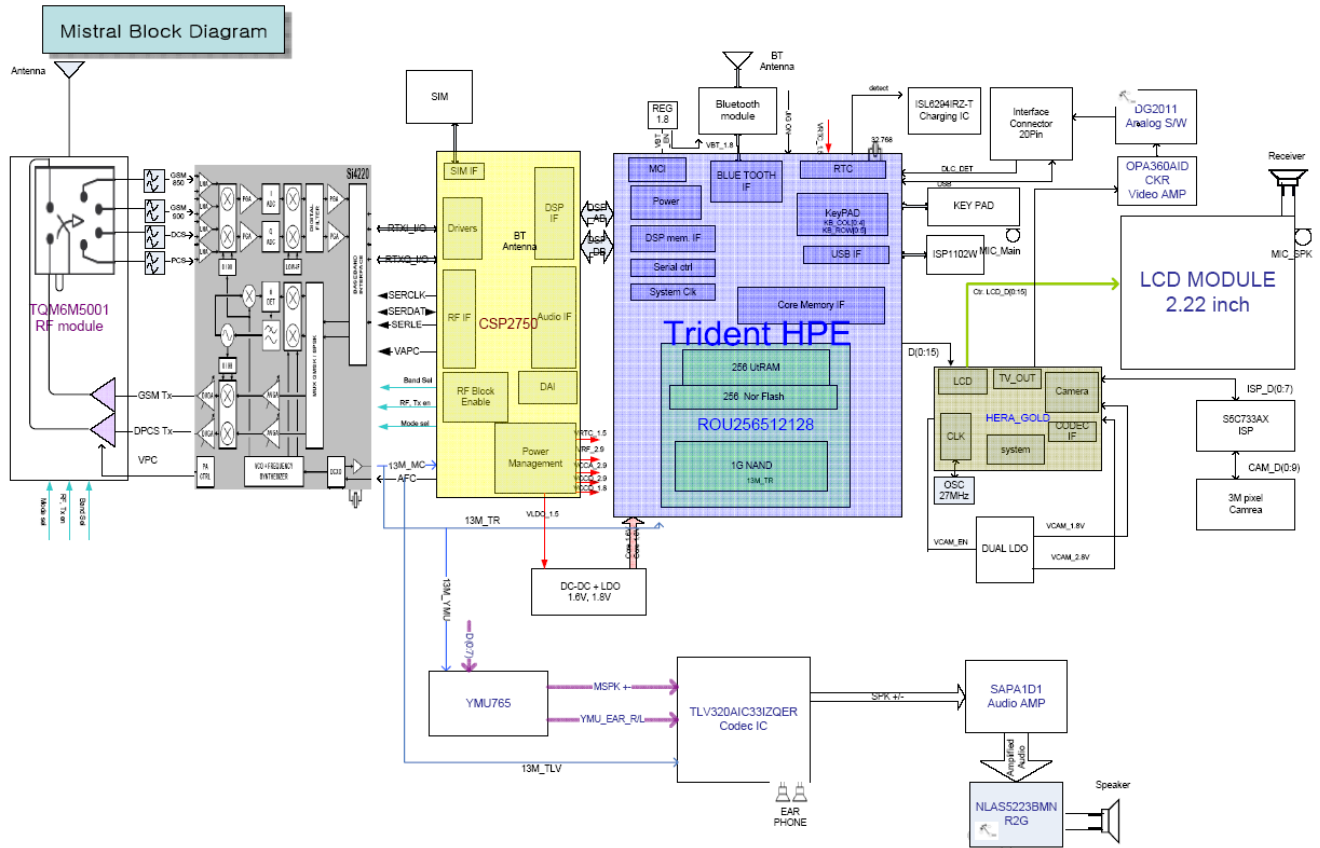
6. When downloading is finished successfully, there is a "All is well" message.
7. After finishing downloading, Certain memory resets should be done to guarantee the normal performance.
8. Confirm the downloaded version name and etc. :

***#1234#**

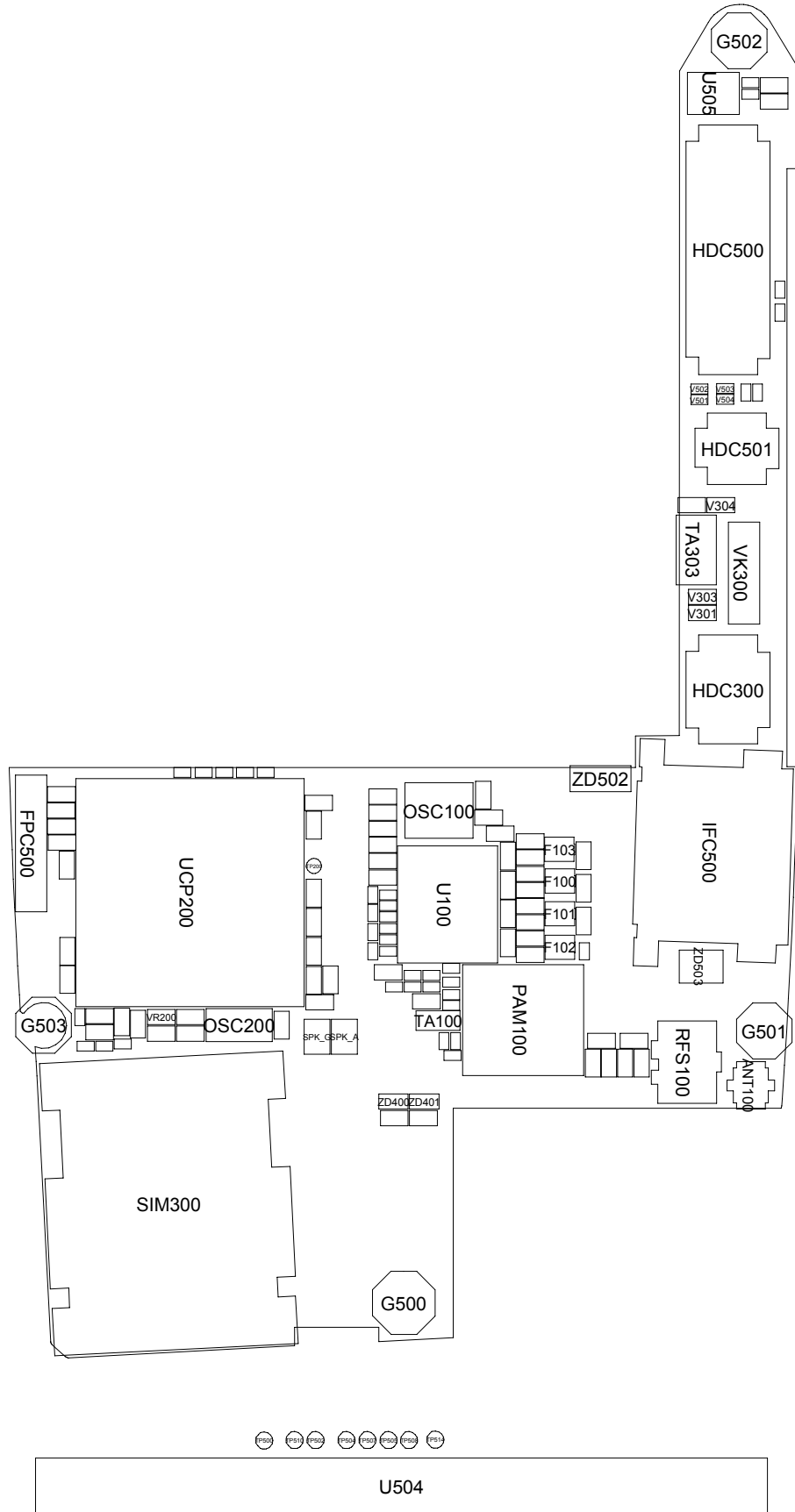
Full Reset :

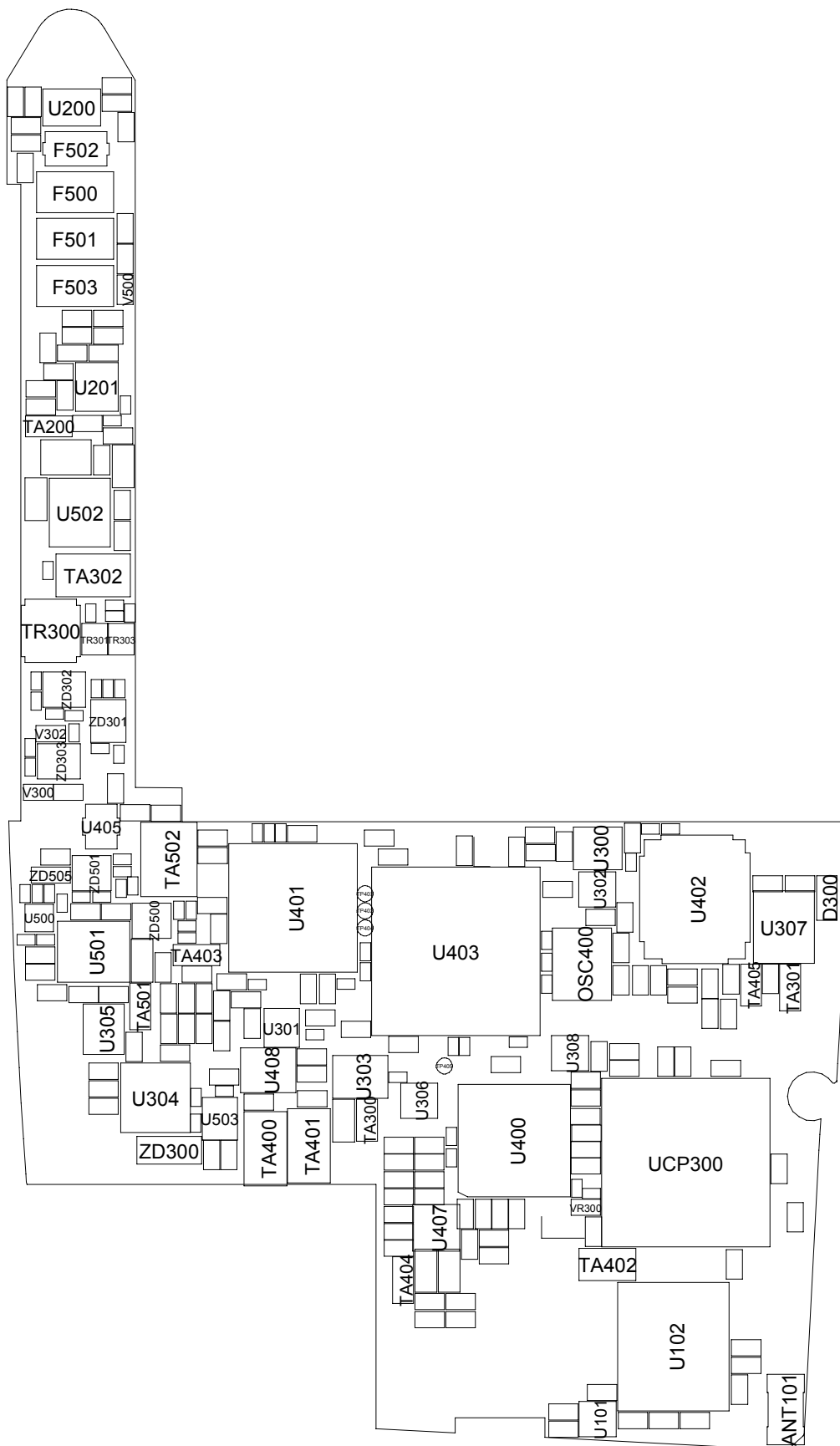
***2767*3855#**

5. Block Diagrams



6. PCB Diagrams





7. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	STATUS
0403-001547	ZD300	DIODE-ZENER	SA
0403-001547	ZD502	DIODE-ZENER	SA
0404-001172	D300	DIODE-SCHOTTKY	SA
0406-001167	ZD301	DIODE-TVS	SA
0406-001167	ZD302	DIODE-TVS	SA
0406-001167	ZD303	DIODE-TVS	SA
0406-001190	ZD500	DIODE-TVS	SA
0406-001190	ZD501	DIODE-TVS	SA
0406-001210	ZD505	DIODE-TVS	SA
0406-001223	ZD400	DIODE-TVS	SA
0406-001223	ZD401	DIODE-TVS	SA
0406-001239	ZD503	DIODE-TVS	SA
0504-001171	TR301	TR-DIGITAL	SA
0504-001171	TR303	TR-DIGITAL	SA
0505-002207	U300	FET-SILICON	SA
0505-002210	TR300	FET-SILICON	SA
0801-002995	U500	IC-CMOS LOGIC	SA
1001-001231	U503	IC-ANALOG SWITCH	SA
1001-001401	U305	IC-ANALOG SWITCH	SA
1001-001410	U405	IC-ANALOG SWITCH	SA
1009-001018	U200	IC-HALL EFFECT S/W	SA
1108-000063	UCP200	IC-MCP	SA
1201-002147	U408	IC-VIDEO AMP	SA
1201-002233	U407	IC-AUDIO AMP	SA
1201-002457	PAM100	IC-POWER AMP	SA
1203-003340	U306	IC-POSI.FIXED REG.	SA
1203-003432	U101	IC-POSI.FIXED REG.	SA
1203-003432	U308	IC-POSI.FIXED REG.	SA
1203-003674	U502	IC-DC/DC CONVERTER	SA
1203-003754	U302	IC-POSI.FIXED REG.	SA
1203-003787	U301	IC-POSI.FIXED REG.	SA
1203-004119	UCP300	IC-POWER SUPERVISOR	SA
1203-004394	U201	IC-MULTI REG.	SA
1203-004482	U307	IC-DC/DC CONVERTER	SA

SEC CODE	Design LOC	Discription	STATUS
1203-004518	U501	IC-BATTERY	SA
1203-004554	U303	IC-DC/DC CONVERTER	SA
1204-002138	U402	IC-MELODY	SA
1205-002272	U304	IC-TRANSCEIVER	SA
1205-002784	U505	IC-SWITCH	SA
1205-002946	U400	IC-CODEC	SA
1205-003093	U100	IC-TRANSCEIVER	SA
1205-003210	U403	IC-CODEC	SA
1404-001165	VR300	THERMISTOR-NTC	SA
1405-001082	V300	VARISTOR	SA
1405-001082	V500	VARISTOR	SA
1405-001082	VR200	VARISTOR	SA
1405-001108	V301	VARISTOR	SA
1405-001108	V302	VARISTOR	SA
1405-001108	V303	VARISTOR	SA
1405-001108	V304	VARISTOR	SA
1405-001183	V501	VARISTOR	SA
1405-001183	V502	VARISTOR	SA
1405-001183	V503	VARISTOR	SA
1405-001183	V504	VARISTOR	SA
2007-000138	R314	R-CHIP	SA
2007-000138	R528	R-CHIP	SA
2007-000140	R518	R-CHIP	SA
2007-000141	R430	R-CHIP	SA
2007-000141	R452	R-CHIP	SA
2007-000143	R309	R-CHIP	SA
2007-000148	R108	R-CHIP	SA
2007-000148	R207	R-CHIP	SA
2007-000148	R421	R-CHIP	SA
2007-000148	R423	R-CHIP	SA
2007-000148	R433	R-CHIP	SA
2007-000148	R435	R-CHIP	SA
2007-000148	R455	R-CHIP	SA
2007-000148	R456	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2007-000149	R506	R-CHIP	SA
2007-000149	R530	R-CHIP	SA
2007-000154	R502	R-CHIP	SA
2007-000157	R110	R-CHIP	SA
2007-000157	R112	R-CHIP	SA
2007-000157	R208	R-CHIP	SA
2007-000157	R301	R-CHIP	SA
2007-000157	R329	R-CHIP	SA
2007-000157	R444	R-CHIP	SA
2007-000157	R447	R-CHIP	SA
2007-000157	R521	R-CHIP	SA
2007-000157	R522	R-CHIP	SA
2007-000157	R523	R-CHIP	SA
2007-000157	R524	R-CHIP	SA
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2007-000162	R206	R-CHIP	SA
2007-000162	R209	R-CHIP	SA
2007-000162	R409	R-CHIP	SA
2007-000166	R507	R-CHIP	SA
2007-000169	R500	R-CHIP	SA
2007-000171	R107	R-CHIP	SA
2007-000171	R109	R-CHIP	SA
2007-000171	R304	R-CHIP	SA
2007-000171	R313	R-CHIP	SA
2007-000171	R328	R-CHIP	SA
2007-000171	R336	R-CHIP	SA
2007-000171	R414	R-CHIP	SA
2007-000171	R519	R-CHIP	SA
2007-000171	R520	R-CHIP	SA
2007-000172	R200	R-CHIP	SA
2007-000173	R440	R-CHIP	SA
2007-000173	R442	R-CHIP	SA
2007-000775	R510	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2007-001292	R311	R-CHIP	SA
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2007-001306	R448	R-CHIP	SA
2007-001325	R437	R-CHIP	SA
2007-007009	R446	R-CHIP	SA
2007-007014	R431	R-CHIP	SA
2007-007092	R460	R-CHIP	SA
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2007-007306	R454	R-CHIP	SA
2007-007489	R432	R-CHIP	SA
2007-007528	R308	R-CHIP	SA
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2007-007528	R404	R-CHIP	SA
2007-007590	R422	R-CHIP	SA
2007-007590	R424	R-CHIP	SA
2007-007590	R428	R-CHIP	SA
2007-007590	R434	R-CHIP	SA
2007-007590	R436	R-CHIP	SA
2007-007798	R449	R-CHIP	SA
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2007-008040	R317	R-CHIP	SA
2007-008040	R318	R-CHIP	SA
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2007-008040	R325	R-CHIP	SA
2007-008040	R326	R-CHIP	SA
2007-008040	R327	R-CHIP	SA
2007-008045	R104	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2007-008055	R210	R-CHIP	SA
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2007-008055	R512	R-CHIP	SA
2007-008056	R100	R-CHIP	SA
2007-008401	R508	R-CHIP	SA
2007-008419	R514	R-CHIP	SA
2007-008419	R515	R-CHIP	SA
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2007-008483	R303	R-CHIP	SA
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2007-008542	R106	R-CHIP	SA
2007-008542	R315	R-CHIP	SA
2007-008542	R334	R-CHIP	SA
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2007-008542	R429	R-CHIP	SA
2007-008542	R438	R-CHIP	SA
2007-008544	R411	R-CHIP	SA
2007-008548	R101	R-CHIP	SA
2007-008588	R417	R-CHIP	SA
2007-008588	R418	R-CHIP	SA
2007-008588	R425	R-CHIP	SA
2007-008588	R426	R-CHIP	SA
2007-008588	R453	R-CHIP	SA
2007-008672	R458	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2007-008786	R333	R-CHIP	SA
2007-009084	R331	R-CHIP	SA
2007-009084	R335	R-CHIP	SA
2007-009084	R406	R-CHIP	SA
2007-009155	R531	R-CHIP	SNA
2007-009157	R527	R-CHIP	SA
2007-009166	R305	R-CHIP	SA
2007-009167	R306	R-CHIP	SA
2007-009167	R504	R-CHIP	SA
2007-009168	R501	R-CHIP	SA
2007-009170	R511	R-CHIP	SA
2007-009212	R330	R-CHIP	SA
2007-009233	R503	R-CHIP	SA
2007-009354	R419	R-CHIP	SA
2007-009408	R415	R-CHIP	SA
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2203-000233	C120	C-CER,CHIP	SA
2203-000233	C141	C-CER,CHIP	SA
2203-000233	C144	C-CER,CHIP	SA
2203-000233	C329	C-CER,CHIP	SA
2203-000254	C131	C-CER,CHIP	SA
2203-000254	C202	C-CER,CHIP	SA
2203-000254	C205	C-CER,CHIP	SA
2203-000254	C207	C-CER,CHIP	SA
2203-000254	C208	C-CER,CHIP	SA
2203-000254	C210	C-CER,CHIP	SA
2203-000254	C223	C-CER,CHIP	SA
2203-000254	C301	C-CER,CHIP	SA
2203-000254	C304	C-CER,CHIP	SA
2203-000254	C457	C-CER,CHIP	SA
2203-000254	C458	C-CER,CHIP	SA
2203-000330	C218	C-CER,CHIP	SA
2203-000330	C219	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2203-000386	C421	C-CER,CHIP	SA
2203-000438	C447	C-CER,CHIP	SA
2203-000438	C460	C-CER,CHIP	SA
2203-000438	C461	C-CER,CHIP	SA
2203-000438	C525	C-CER,CHIP	SA
2203-000812	C128	C-CER,CHIP	SA
2203-000812	C129	C-CER,CHIP	SA
2203-000812	C130	C-CER,CHIP	SA
2203-000812	C312	C-CER,CHIP	SA
2203-000812	C432	C-CER,CHIP	SA
2203-000812	C433	C-CER,CHIP	SA
2203-000812	C436	C-CER,CHIP	SA
2203-000812	C443	C-CER,CHIP	SA
2203-000812	C446	C-CER,CHIP	SA
2203-000812	C474	C-CER,CHIP	SA
2203-000812	C508	C-CER,CHIP	SA
2203-000995	C101	C-CER,CHIP	SA
2203-000995	C212	C-CER,CHIP	SA
2203-001101	C437	C-CER,CHIP	SA
2203-001405	C331	C-CER,CHIP	SA
2203-002709	C105	C-CER,CHIP	SA
2203-002709	C402	C-CER,CHIP	SA
2203-002709	C420	C-CER,CHIP	SA
2203-002709	C422	C-CER,CHIP	SA
2203-002709	C468	C-CER,CHIP	SA
2203-002709	C469	C-CER,CHIP	SA
2203-005234	C111	C-CER,CHIP	SA
2203-005234	C114	C-CER,CHIP	SA
2203-005234	C118	C-CER,CHIP	SA
2203-005234	C121	C-CER,CHIP	SA
2203-005234	C124	C-CER,CHIP	SA
2203-005234	C126	C-CER,CHIP	SA
2203-005234	C142	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-005234	C143	C-CER,CHIP	SA
2203-005288	C108	C-CER,CHIP	SA
2203-005481	C441	C-CER,CHIP	SA
2203-005481	C444	C-CER,CHIP	SA
2203-005482	C206	C-CER,CHIP	SA
2203-005482	C340	C-CER,CHIP	SA
2203-005682	C110	C-CER,CHIP	SA
2203-005682	C115	C-CER,CHIP	SA
2203-005682	C116	C-CER,CHIP	SA
2203-005682	C122	C-CER,CHIP	SA
2203-005682	C123	C-CER,CHIP	SA
2203-005682	C127	C-CER,CHIP	SA
2203-005682	C310	C-CER,CHIP	SA
2203-005682	C311	C-CER,CHIP	SA
2203-005682	C342	C-CER,CHIP	SA
2203-005682	C343	C-CER,CHIP	SA
2203-005682	C512	C-CER,CHIP	SA
2203-005682	C513	C-CER,CHIP	SA
2203-005719	C423	C-CER,CHIP	SA
2203-005719	C424	C-CER,CHIP	SA
2203-005736	C112	C-CER,CHIP	SA
2203-005736	C125	C-CER,CHIP	SA
2203-005736	C406	C-CER,CHIP	SA
2203-005736	C409	C-CER,CHIP	SA
2203-005806	C102	C-CER,CHIP	SNA
2203-006048	C106	C-CER,CHIP	SA
2203-006048	C330	C-CER,CHIP	SA
2203-006048	C338	C-CER,CHIP	SA
2203-006137	C215	C-CER,CHIP	SA
2203-006137	C332	C-CER,CHIP	SA
2203-006194	C104	C-CER,CHIP	SA
2203-006194	C200	C-CER,CHIP	SA
2203-006194	C333	C-CER,CHIP	SA
2203-006257	C216	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006257	C323	C-CER,CHIP	SA
2203-006257	C419	C-CER,CHIP	SA
2203-006257	C465	C-CER,CHIP	SA
2203-006260	C431	C-CER,CHIP	SA
2203-006260	C434	C-CER,CHIP	SA
2203-006305	C100	C-CER,CHIP	SA
2203-006305	C426	C-CER,CHIP	SA
2203-006305	C428	C-CER,CHIP	SA
2203-006348	C505	C-CER,CHIP	SA
2203-006348	C506	C-CER,CHIP	SA
2203-006423	C103	C-CER,CHIP	SA
2203-006423	C201	C-CER,CHIP	SA
2203-006423	C203	C-CER,CHIP	SA
2203-006423	C224	C-CER,CHIP	SA
2203-006423	C309	C-CER,CHIP	SA
2203-006423	C359	C-CER,CHIP	SA
2203-006423	C405	C-CER,CHIP	SA
2203-006423	C407	C-CER,CHIP	SA
2203-006423	C414	C-CER,CHIP	SA
2203-006423	C415	C-CER,CHIP	SA
2203-006423	C435	C-CER,CHIP	SA
2203-006423	C456	C-CER,CHIP	SA
2203-006423	C473	C-CER,CHIP	SA
2203-006423	C500	C-CER,CHIP	SA
2203-006423	C532	C-CER,CHIP	SA
2203-006426	C117	C-CER,CHIP	SNA
2203-006556	C119	C-CER,CHIP	SA
2203-006562	C140	C-CER,CHIP	SA
2203-006562	C211	C-CER,CHIP	SA
2203-006562	C213	C-CER,CHIP	SA
2203-006562	C214	C-CER,CHIP	SA
2203-006562	C300	C-CER,CHIP	SA
2203-006562	C305	C-CER,CHIP	SA
2203-006562	C306	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006562	C307	C-CER,CHIP	SA
2203-006562	C313	C-CER,CHIP	SA
2203-006562	C316	C-CER,CHIP	SA
2203-006562	C319	C-CER,CHIP	SA
2203-006562	C320	C-CER,CHIP	SA
2203-006562	C321	C-CER,CHIP	SA
2203-006562	C322	C-CER,CHIP	SA
2203-006562	C324	C-CER,CHIP	SA
2203-006562	C325	C-CER,CHIP	SA
2203-006562	C326	C-CER,CHIP	SA
2203-006562	C327	C-CER,CHIP	SA
2203-006562	C328	C-CER,CHIP	SA
2203-006562	C337	C-CER,CHIP	SA
2203-006562	C403	C-CER,CHIP	SA
2203-006562	C412	C-CER,CHIP	SA
2203-006562	C425	C-CER,CHIP	SA
2203-006562	C440	C-CER,CHIP	SA
2203-006562	C442	C-CER,CHIP	SA
2203-006562	C455	C-CER,CHIP	SA
2203-006562	C470	C-CER,CHIP	SA
2203-006562	C471	C-CER,CHIP	SA
2203-006562	C472	C-CER,CHIP	SA
2203-006562	C502	C-CER,CHIP	SA
2203-006562	C507	C-CER,CHIP	SA
2203-006562	C509	C-CER,CHIP	SA
2203-006562	C510	C-CER,CHIP	SA
2203-006562	C511	C-CER,CHIP	SA
2203-006562	C516	C-CER,CHIP	SA
2203-006562	C519	C-CER,CHIP	SA
2203-006562	C524	C-CER,CHIP	SA
2203-006562	C526	C-CER,CHIP	SA
2203-006562	C527	C-CER,CHIP	SA
2203-006626	C139	C-CER,CHIP	SA
2203-006626	C339	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006626	C347	C-CER,CHIP	SA
2203-006626	C463	C-CER,CHIP	SA
2203-006626	C464	C-CER,CHIP	SA
2203-006626	C503	C-CER,CHIP	SA
2203-006648	C107	C-CER,CHIP	SA
2203-006648	C109	C-CER,CHIP	SA
2203-006648	C529	C-CER,CHIP	SA
2203-006681	C132	C-CER,CHIP	SA
2203-006681	C133	C-CER,CHIP	SA
2203-006681	C204	C-CER,CHIP	SA
2203-006681	C209	C-CER,CHIP	SA
2203-006681	C217	C-CER,CHIP	SA
2203-006681	C302	C-CER,CHIP	SA
2203-006681	C303	C-CER,CHIP	SA
2203-006681	C334	C-CER,CHIP	SA
2203-006681	C335	C-CER,CHIP	SA
2203-006681	C336	C-CER,CHIP	SA
2203-006681	C404	C-CER,CHIP	SA
2203-006681	C410	C-CER,CHIP	SA
2203-006681	C413	C-CER,CHIP	SA
2203-006681	C416	C-CER,CHIP	SA
2203-006681	C417	C-CER,CHIP	SA
2203-006681	C418	C-CER,CHIP	SA
2203-006681	C427	C-CER,CHIP	SA
2203-006681	C439	C-CER,CHIP	SA
2203-006681	C445	C-CER,CHIP	SA
2203-006681	C449	C-CER,CHIP	SA
2203-006681	C459	C-CER,CHIP	SA
2203-006824	C315	C-CER,CHIP	SA
2203-006824	C411	C-CER,CHIP	SA
2203-006825	C344	C-CER,CHIP	SA
2203-006825	C345	C-CER,CHIP	SA
2203-006825	C346	C-CER,CHIP	SA
2203-006838	C134	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006838	C135	C-CER,CHIP	SA
2203-006838	C308	C-CER,CHIP	SA
2203-006838	C341	C-CER,CHIP	SA
2203-006838	C348	C-CER,CHIP	SA
2203-006838	C408	C-CER,CHIP	SA
2203-006841	C466	C-CER,CHIP	SA
2203-006841	C528	C-CER,CHIP	SA
2203-006841	C530	C-CER,CHIP	SA
2203-006841	C531	C-CER,CHIP	SA
2203-006872	C317	C-CER,CHIP	SA
2203-006872	C318	C-CER,CHIP	SA
2404-001339	TA300	C-TA,CHIP	SA
2404-001339	TA405	C-TA,CHIP	SA
2404-001352	TA402	C-TA,CHIP	SA
2404-001381	TA100	C-TA,CHIP	SA
2404-001381	TA200	C-TA,CHIP	SA
2404-001381	TA301	C-TA,CHIP	SA
2404-001381	TA303	C-TA,CHIP	SA
2404-001381	TA403	C-TA,CHIP	SA
2404-001381	TA404	C-TA,CHIP	SA
2404-001396	TA501	C-TA,CHIP	SA
2404-001406	TA302	C-TA,CHIP	SA
2404-001416	TA502	C-TA,CHIP	SA
2404-001448	TA400	C-TA,CHIP	SA
2404-001448	TA401	C-TA,CHIP	SA
2703-001737	L107	INDUCTOR-SMD	SA
2703-001749	L108	INDUCTOR-SMD	SA
2703-002170	L105	INDUCTOR-SMD	SA
2703-002170	L106	INDUCTOR-SMD	SA
2703-002202	L104	INDUCTOR-SMD	SA
2703-002202	L109	INDUCTOR-SMD	SA
2703-002208	L100	INDUCTOR-SMD	SA
2703-002208	L101	INDUCTOR-SMD	SA
2703-002309	L102	INDUCTOR-SMD	SA

SEC CODE	Design LOC	Discription	STATUS
2703-002819	L304	INDUCTOR-SMD	SA
2703-002819	L305	INDUCTOR-SMD	SA
2703-002824	L500	INDUCTOR-SMD	SA
2703-002900	L103	INDUCTOR-SMD	SA
2703-003002	L303	INDUCTOR-SMD	SA
2801-004455	OSC100	CRYSTAL-SMD	SA
2801-004458	OSC400	CRYSTAL-SMD	SA
2801-004466	OSC200	CRYSTAL-SMD	SA
2901-001348	F500	FILTER-EMI/ESD	SA
2901-001348	F501	FILTER-EMI/ESD	SA
2901-001348	F503	FILTER-EMI/ESD	SA
2901-001389	F502	FILTER-EMI/ESD	SA
2904-001600	F102	FILTER-SAW	SA
2904-001602	F103	FILTER-SAW	SA
2904-001604	F101	FILTER-SAW	SNA
2904-001628	F100	FILTER-SAW	SA
3301-001158	L401	BEAD-SMD	SA
3301-001158	L402	BEAD-SMD	SA
3301-001342	L200	BEAD-SMD	SA
3301-001342	L201	BEAD-SMD	SA
3301-001342	L300	BEAD-SMD	SA
3301-001342	L301	BEAD-SMD	SA
3301-001342	L302	BEAD-SMD	SA
3301-001809	L501	BEAD-SMD	SA
3301-001809	L502	BEAD-SMD	SA
3301-001879	L503	BEAD-SMD	SA
3705-001358	RFS100	CONNECTOR-COAXIAL	SA
3705-001448	ANT100	CONNECTOR-COAXIAL	SA
3709-001447	SIM300	CONNECTOR-CARD EDGE	SA
3710-002442	IFC500	SOCKET-INTERFACE	SA
3711-005550	HDC501	HEADER-BOARD TO BOARD	SA
3711-005659	HDC300	HEADER-BOARD TO BOARD	SA
3711-005933	HDC500	HEADER-BOARD TO BOARD	SA
4202-001172	ANT101	ANTENNA-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
4709-001516	U102	BLUETOOTH MODULE	SA
GH09-00045A	UCP200	IC MICOM	SA
GH13-00051A	U401	IC ASIC-SGHU300	SA

8. Reference data

8-1. 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

9. Safety Precautions

9-1. 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 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.

9-2. 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.

10. Product Function

Main Function

- Camera and camcorder
- Synchronisation with Windows Media Player
- Music player
- Image editor
- Photo printing
- Phone to TV
- Offline mode
- Bluetooth
- File viewer
- SOS message