

SAMSUNG

GSM TELEPHONE

SGH-S720i

***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

Contents

1. Specification

1-1. GSM 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	2-9
2-4. Assembly	2-11

3. Chart of Troubleshooting

3-1. Baseband	3-1
3-1-1. Power ON	3-1
3-1-2. System Initial	3-5
3-1-3. SIM Part	3-8
3-1-4. Charging Part	3-10
3-1-5. Microphone Part	3-12
3-1-6. Speaker Part	3-15
3-1-7. Camera Part	3-18
3-1-8. LCD	3-21
3-2. RF	3-13
3-2-1. EGSM Rx	3-23
3-2-2. DCS Rx	3-24
3-2-3. PCS Rx	3-25
3-2-4. EGSM Tx	3-27
3-2-4. DCS & PCS Tx	3-28
3-2-6. BLUETOOTH	3-30

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
---------------------------------	-----

9. Safety Precautions

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

10. Product Function

1. Specification

1-1. GSM General Specification

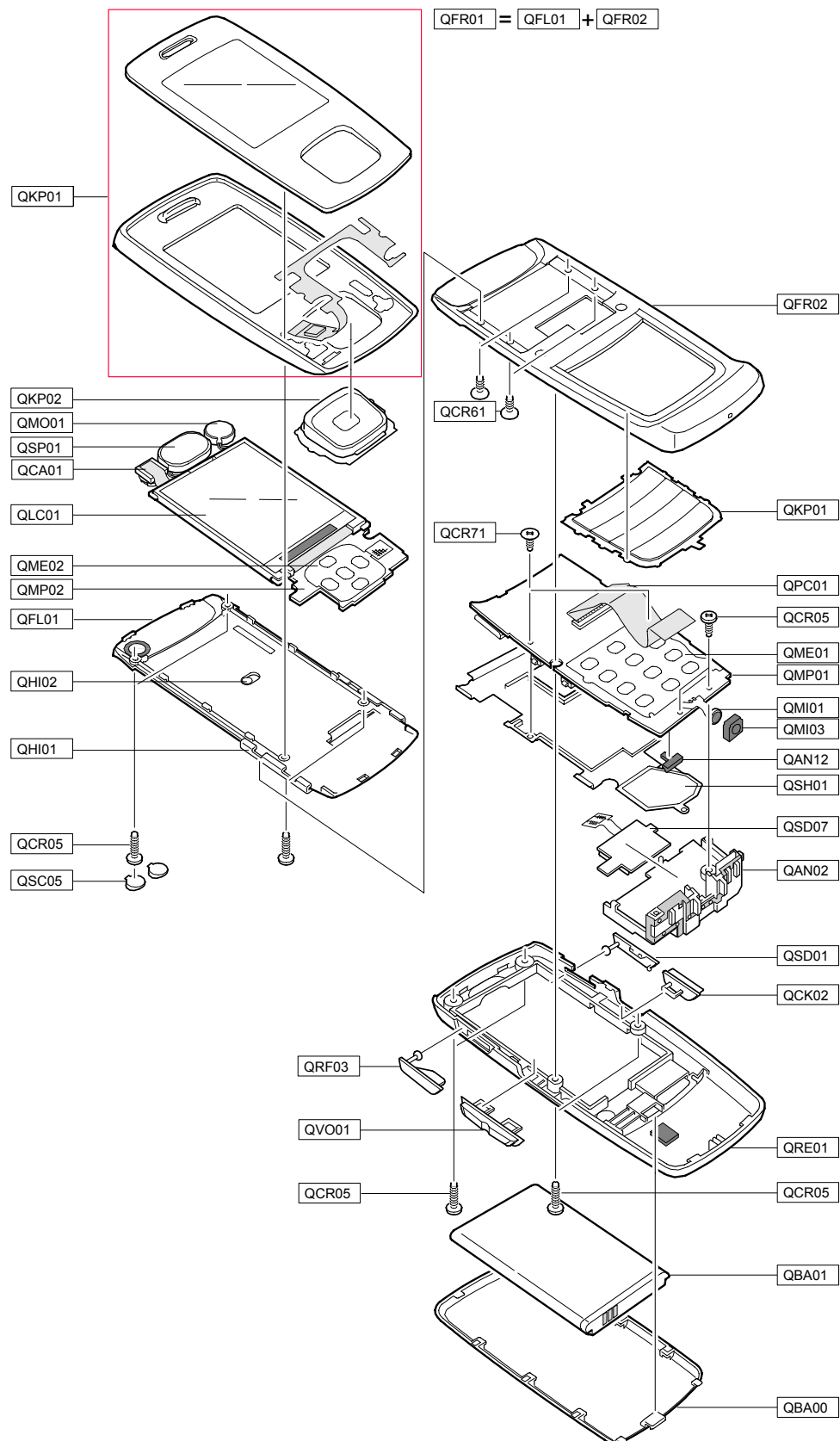
	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45 MHz	45 MHz	95 MHz	80 MHz
Mod. Bit rate/ Bit Period	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 kbps 3.692 us	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	576.9 us 4.615 ms
Modulation	0.3 GMSK	0.3 GMSK	0.3 GMSK	0.3 GMSK
MS Power	33 dBm~13 dBm	33 dBm~5 dBm	30 dBm~0 dBm	30 dBm~0 dBm
Power Class	5 pcl ~ 15 pcl	5 pcl ~ 19 pcl	0 pcl ~ 15 pcl	0 pcl ~ 15 pcl
Sensitivity	-102 dBm	-102 dBm	-100 dBm	-100 dBm
TDMA Mux	8	8	8	8
Cell Radius	35 Km	35 Km	2 Km	-

1-2. GSM TX power class

TX Power control level	GSM900	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

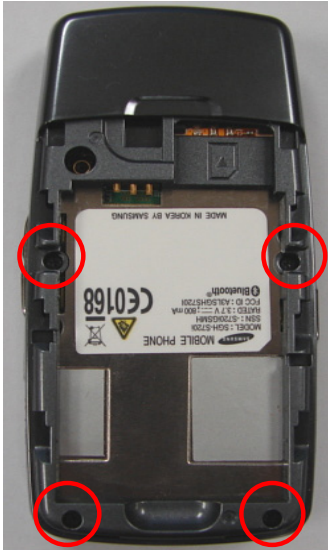
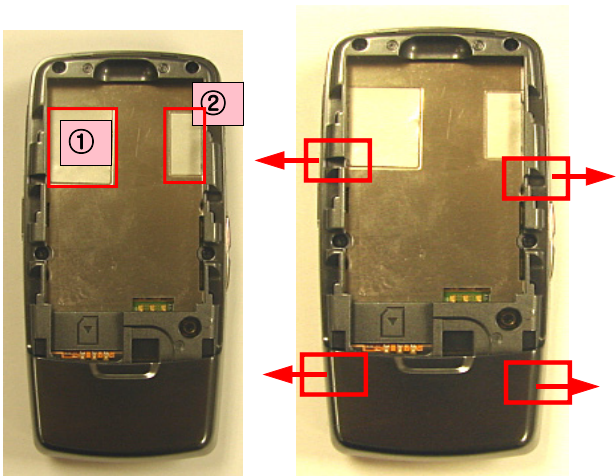
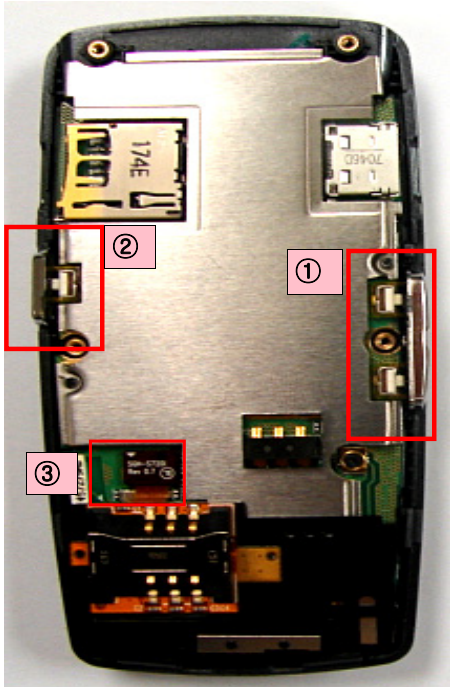
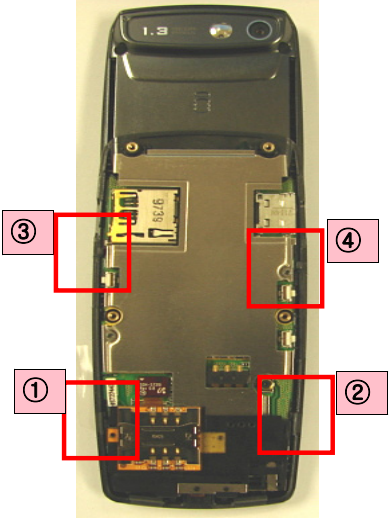


2-2. Cellular phone Parts list

Design LOC		Discription	STATUS
QAN02		INTENNA-SGHS720I	GH42-01281A
QAN12		ASSY-CUSHION-INTENNA CONTACT R	GH98-00966A
QBA00		PMO-COVER BATTERY	GH72-38382A
QBA01		INNER BATTERY PACK-800MAH,BLK,	GH43-02644A
QCA01		UNIT-CAMERA,S720I	GH59-04352A
QCK02		PMO-KEY POWER	GH72-38379A
QCR05		SCREW-MACHINE	6001-001478
QCR05		SCREW-MACHINE	6001-001478
QCR05		SCREW-MACHINE	6001-001478
QCR71		SCREW-MACHINE	6001-002095
QFU01		ASSY CASE-SLIDE UPPER	GH98-04049A
QKP01		ASSY KEYPAD-MAIN(XEF/SB)	GH98-04140A
QKP02		ASSY KEYPAD-SUB(XEF/SB)	GH98-04141A
QLC01		ELA UNIT-SGHX530 LCD MODULE	GH96-02314A
QME01		DOME SHEET-TF DOME SHEET 12 KE	GH59-04351A
QME02		AS-NAVY DOMESHEET SVC,S720I	GH81-06671A
QMO01		MOTOR DC-SGHS720I	GH31-00334A
QMP01		PBA MAIN-SGHS720I	GH92-03514A
QMP02		ASSY ETC-LCD SUB PBA	GH59-04356A
QPC01		MEA-SLIDE FPCB KIT	GH97-07781A
QSC05		RMO-LOWER COVER SCREW CAP	GH73-09431A
QSD07		ASSY ETC-SIM SOCKET FPCB,S720I	GH59-04362A
QSH01		ASSY CASE-SHELDE CAN	GH98-04302A
QSP01		SPEAKER	3001-002144
QVO01		PMO-KEY VOLUME	GH72-38378A
QMI01		MICROPHONE-ASSY-SGH-S720I	GH30-00360A
	QMI03	AS-MIC HOLDER SVC.S720I	GH81-06664A
QFR01		ASSY CASE-FRONT SLIDE LOWER	GH98-05614A
QCR61		SCREW-MACHINE	6001-002008
QFL01		ASSY CASE-SLIDE LOWER	GH98-04054A
QFR02		ASSY CASE-SLIDE FRONT	GH98-04055A
QHI01		ASSY CASE-HINGE MODULE	GH98-04300A
	QHI02	ASSY HINGE-LINK	GH98-05837A
QRE01		ASSY CASE-SLIDE REAR	GH98-04056A
	QSD01	PMO-COVER SD	GH72-38380A
	QRF03	PMO-COVER EAR	GH72-38381A

Discription	STATUS
BAG PE	6902-000297
ADAPTOR-SGHE690,BLK,EU,A_TYPE	GH44-01361A
EARPHONE-EARPHONE,20P,B-TYPE	GH59-03883A
LABEL(R)-WATER SOAK	GH68-09361A
LABEL(R)-MASTER_FANCE_BOG	GH68-13691B
MANUAL USERS-BOG FRENCH	GH68-14582A
LABEL(R)-MAIN XEF	GH68-15299G
BOX(P)-UNIT MAIN(EU)	GH69-05581A
CUSHION-CASE(EU)	GH69-05587A
MPR-REMOVE TAPE LCD	GH74-13804A
MPR-SUB CON INSLATION	GH74-15319A
MPR-TAPE PCB ESD 1	GH74-15507A
MPR-GASKET PCB C	GH74-18278A
MPR-TAPE MAIN FPCB	GH74-20124A
MPR-TAPE MAIN FPCB	GH74-20124A
MPR-INSU TAPE	GH74-28241A
MPR-TAPE SHEET EARJACK	GH74-31132A
MPR-TAPE SHEET SD	GH74-31134A
VINYL-BOHO MAIN KEY	GH74-32384A
VINYL-BOHO MP3 D	GH74-32937A
TAPE-SHIELD CAN CON	GH74-33006A
TAPE	GH74-33007A
TAPE	GH74-33341A
AS-SUB DOME SHEET TAPE SVC,S72	GH81-06672A
AS-ELEC TAPE LCD MODULE SVC,S7	GH81-06673A
AS-TAPE LCD BOT SVC,S720I	GH81-06674A

2-3. Disassembly

1 	2 
1) Unscrew the 4 point REAR Screws. 2) Extract the IF COVER. ※ Caution 1) Be careful not to scratch the appearance.	1) Remove the ①② tapes of Rear. 2) Dissolve the READ LOCKER. ※ Caution 1) Be careful not to scratch the appearance or damage the framework.
3 	4 
1) Remove the VOLUME, POWER KEY. 2) Disconnect the SIM CONNECTOR.	1) Unlock the MAIN B'D LOCKER of lower part first, then unlock the other part. ※ Caution 1) The slide should be open when dissolving the MAIN PBA. 2) Be careful not to cut off the slide FPCB when dissolving the MAIN PBA.

5

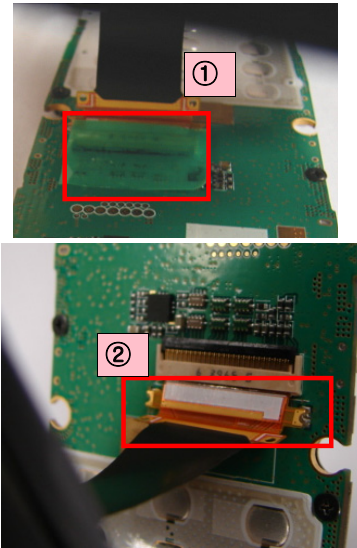


1) Dissolve the MAIN PBA from the main frame.

※ **Caution**

1) Take precaution not to cut off the slide FPCB.

6



1) Remove the protection tape.
2) Remove the left and right SOLDER, then dissolve the F-PCB.

※ **Caution**

1) Take precaution not to cut off the slide FPCB.

7

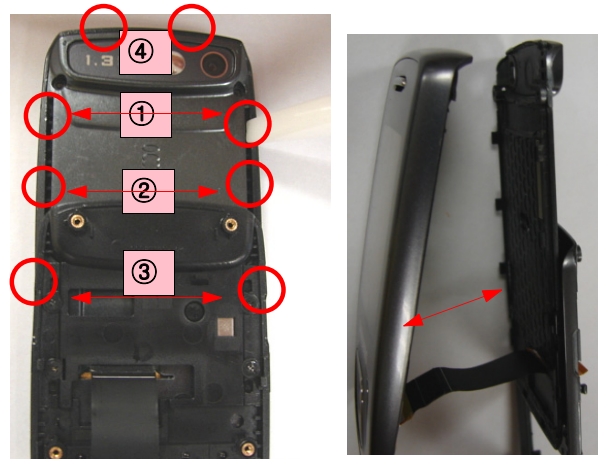


1) Unscrew the 4 point SCREWS.

※ **Caution**

1) Be careful not to scratch the appearance.

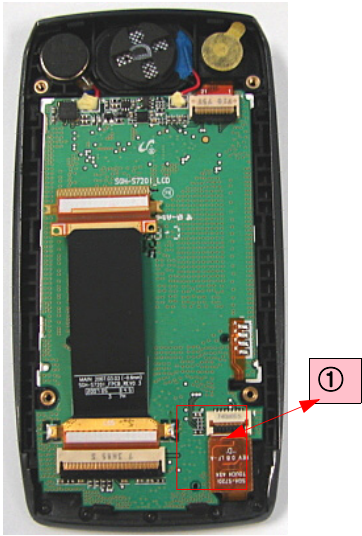
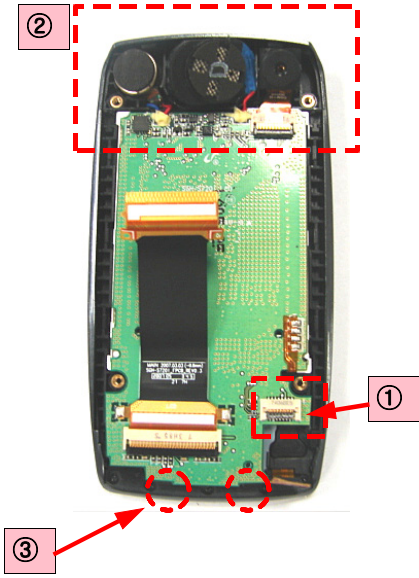
8



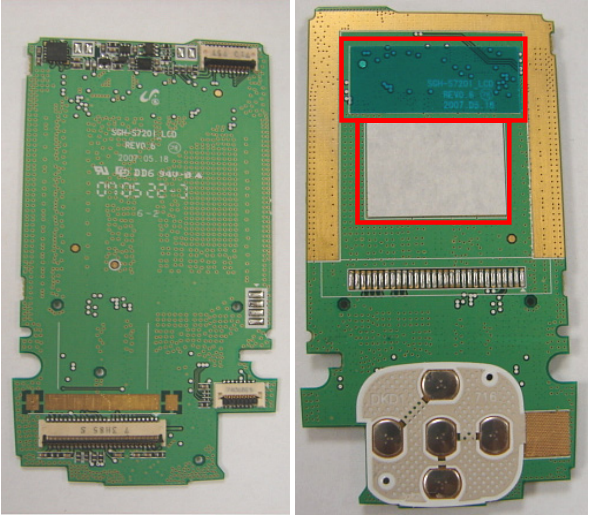
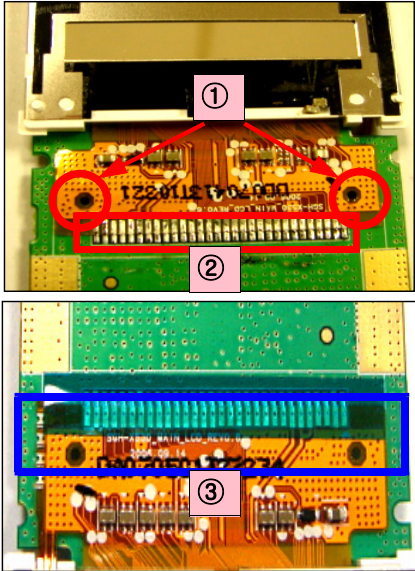
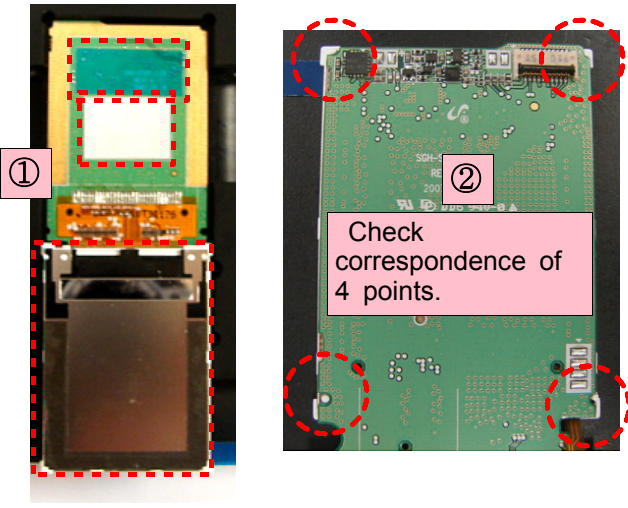
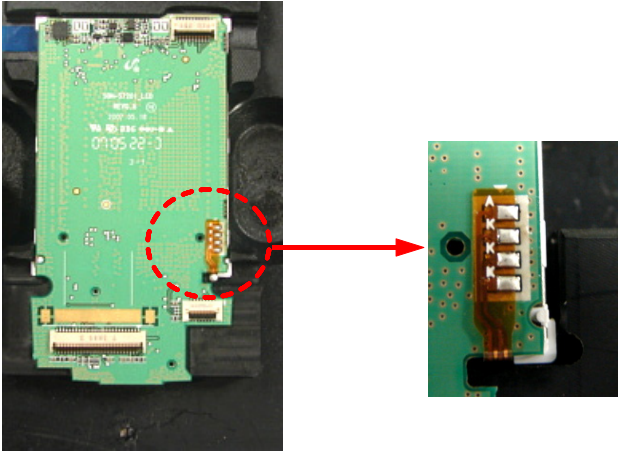
1) Unlock the LOCKER in numerical order from ① to ④.

※ **Caution**

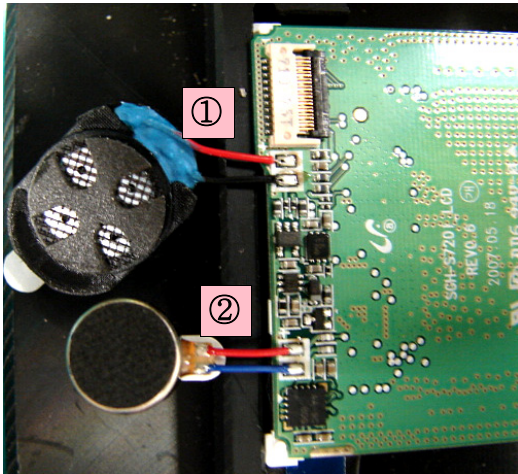
1) Take precaution not to damage the F-PCB.

9 	10  ※ Caution 1) Disconnect the touch key connector. 2) Detach the MOTOR , SPEAKER, CAMERA. 3) Check the unlock of LOCKER and seperate the PBA from LCD.
11  1) Seperate the PBA ASS'Y from LCD frame.	

2-4. Assembly

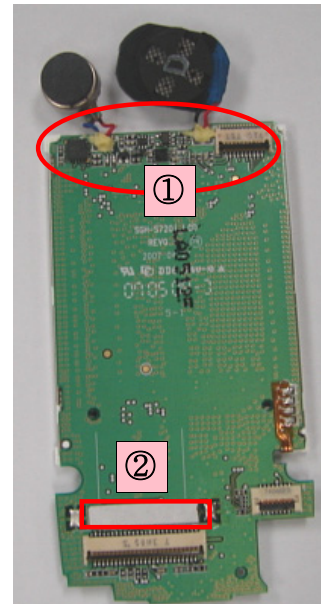
1 	2  1) Correspond the LCD module FPCB to guide holes. 2) Solder the LCD PBA and LCD FPCB together. 3) Attach the protection tape on LCD FPCB soldering.
1) LCD PBA 3  Check correspondence of 4 points. 1) Remove the release papers as shown in Figure ①. (3 points) 2) Check correspondence of 4 points after assembling LCD to PBA as shown in Figure ②.	4  1) Solder LCD BACKLIGHT FPCB.

5



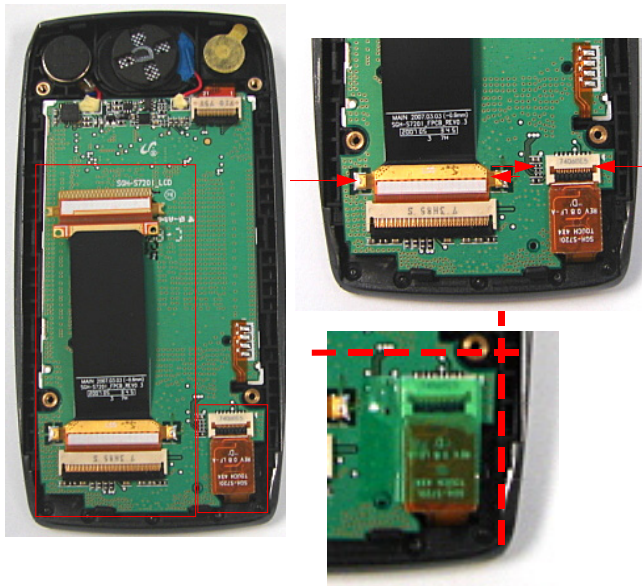
- 1) Solder the motor and speaker.
- Confirm direction of parts and polarity before soldering.

6



- 1) Work bonding operation in WIRE SOLDER area.
- 2) Attach the both-sided electric conduction tape.

7



- 1) Insert the slide F-PCB and touch key F-PCB to the each connector.
- 2) Attach the protection tape on the touch-key connector.

※ **Caution**

Insert each F-PCB exactly to the each connector.

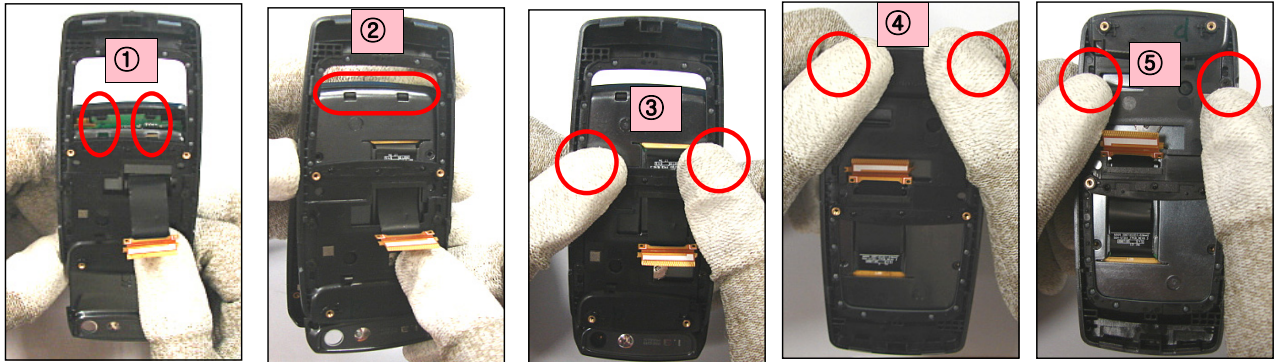
8



- 1) Put the F-PCB into the hole of main frame as the slide is down.

※ **Caution**

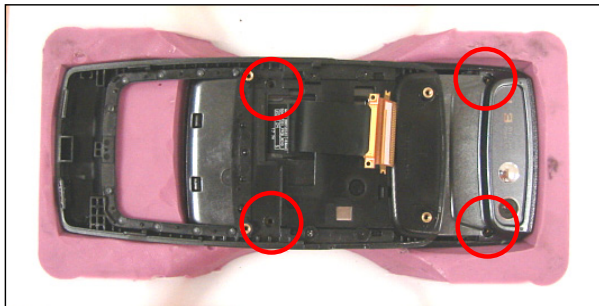
Take precaution not to damage the F-PCB.

9

- 1) Lay the LOCKER of LCD PBA on top of LOWER, assemble the LOCKERS.
- 2) Lock the other LOCKERS as followed pictures of ③,④,⑤.

※ **Caution**

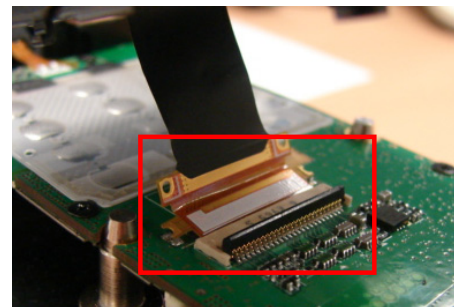
- Assemble the UPPER and FRONT when slide is open.
- Take serious precaution when locking ①.
- Be careful not the slide F-PCB to be fold.

10

- 1) Screw the 4 point screws.
- 2) Put the screw cover on top of screws in upper side.

11

Identification line to
check FPCB insertion.

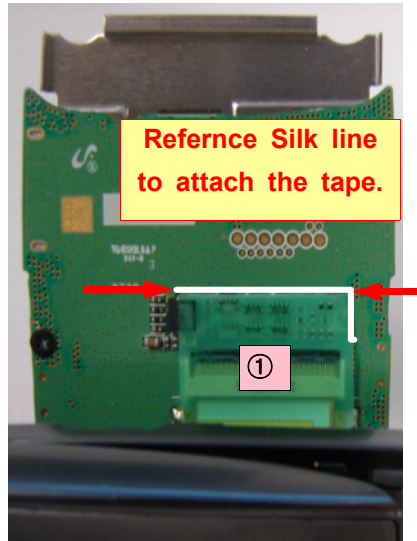


- 1) Inserting slide F-PCB and soldering

※ **Caution**

- Make sure to check the Slide F-PCB insertion exactly.
- Solder right and left F-PCB not the slide F-PCB connector to move.

12

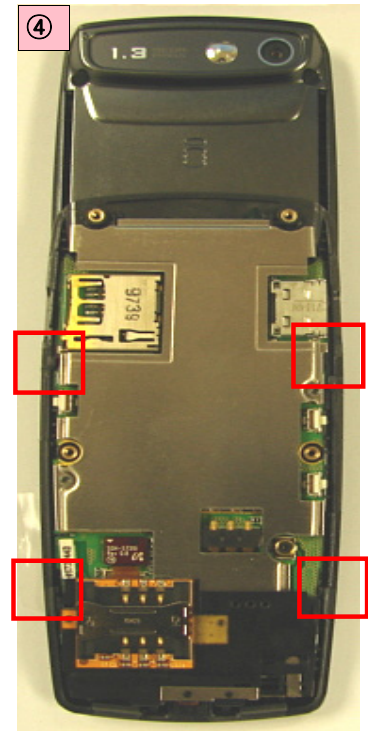
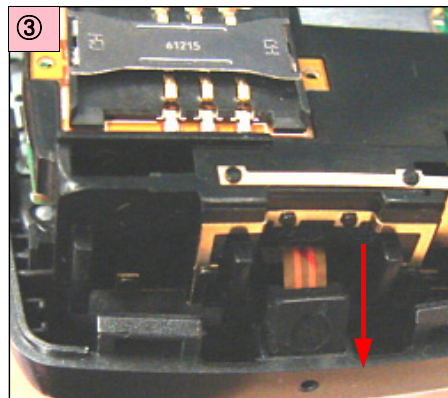
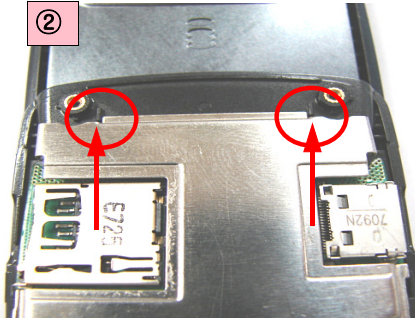
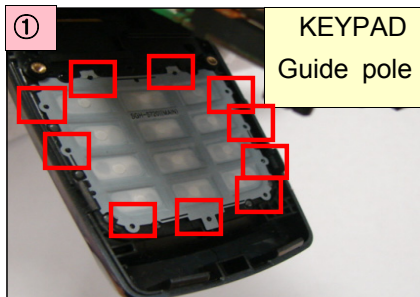


1) Attach the protection tape on slide F-PCB CONNECTOR.

※ **Caution**

1) Attach the tape exactly based on the silk line.

13



1) Assemble KEYPAD

2) Guide the upper side.

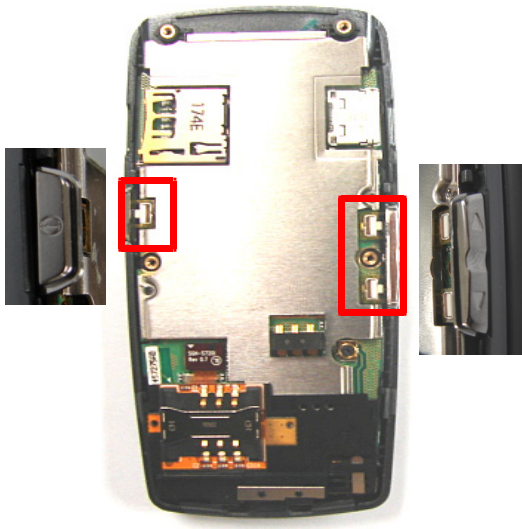
3) Put the MIC into MIC hole.

4) Assemble the PBA and lock.

※ **Caution**

1) Be careful not KEYPAD to move and to put the MIC into MIC hole.

14



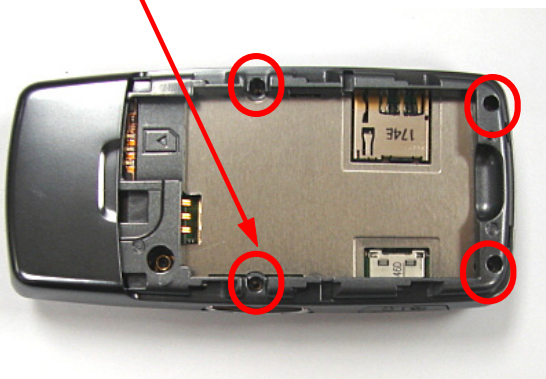
- 1) LOCK PBA Right
- 2) LOCK PBA Left
- 3)&4) Insert POWER/VOLUME KEY

※ **Caution**

- 1) Repeat slide open and close so that the F-PCB could be right position in the main frame.

16

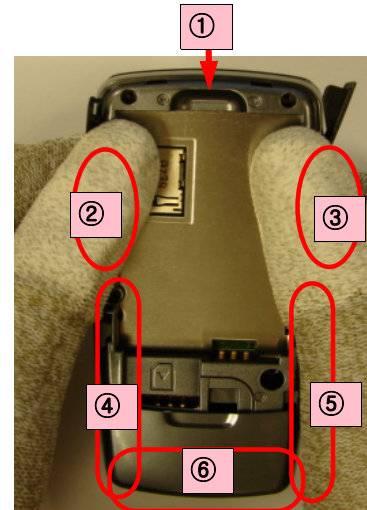
4 points of screws



- 1) Screw the 4 point screws.

15

Lock the REAR LOCKERS in numerical order from ① to ⑥. The "tick-tack" sound comes when locking exactly.

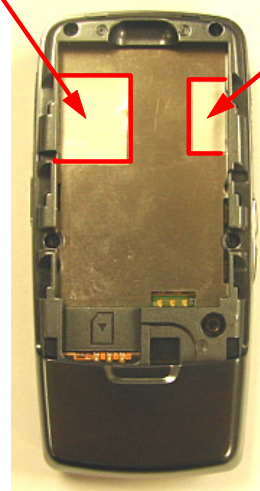


- 1) Make sure the LOCKERS is locked exactly.

17

SD connector tape

earjack tape

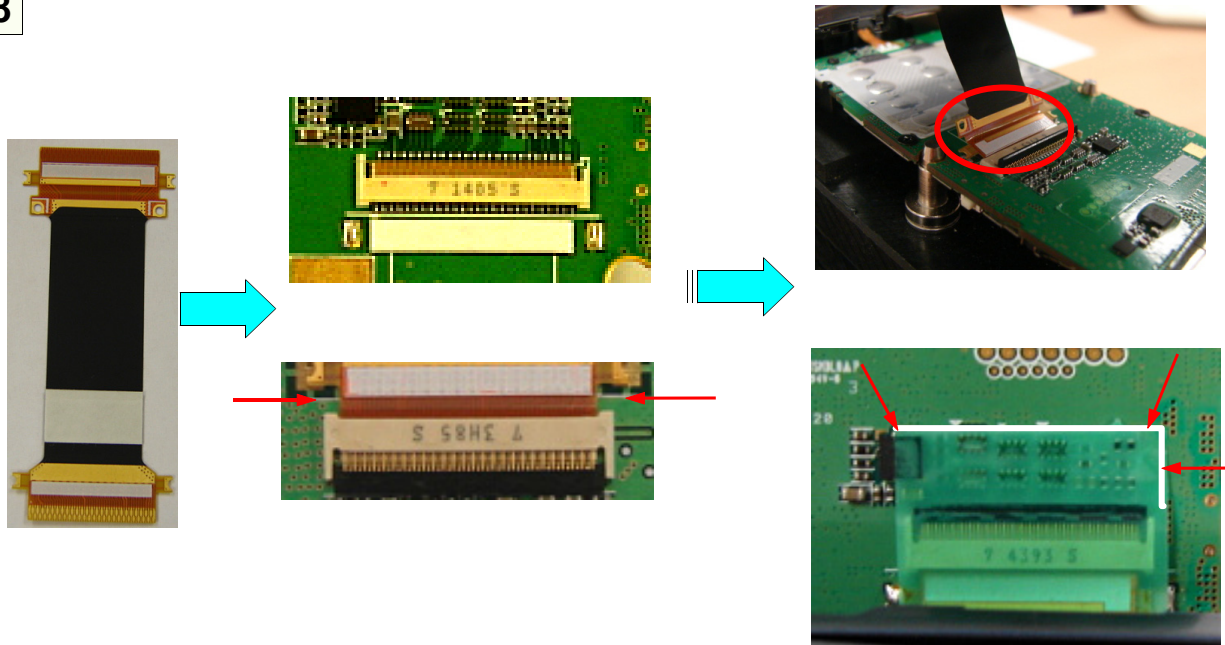


- 1) Attach the EARJACK / SD connector tapes.

※ **Caution**

- 1) Attach tapes in the guide line.

18

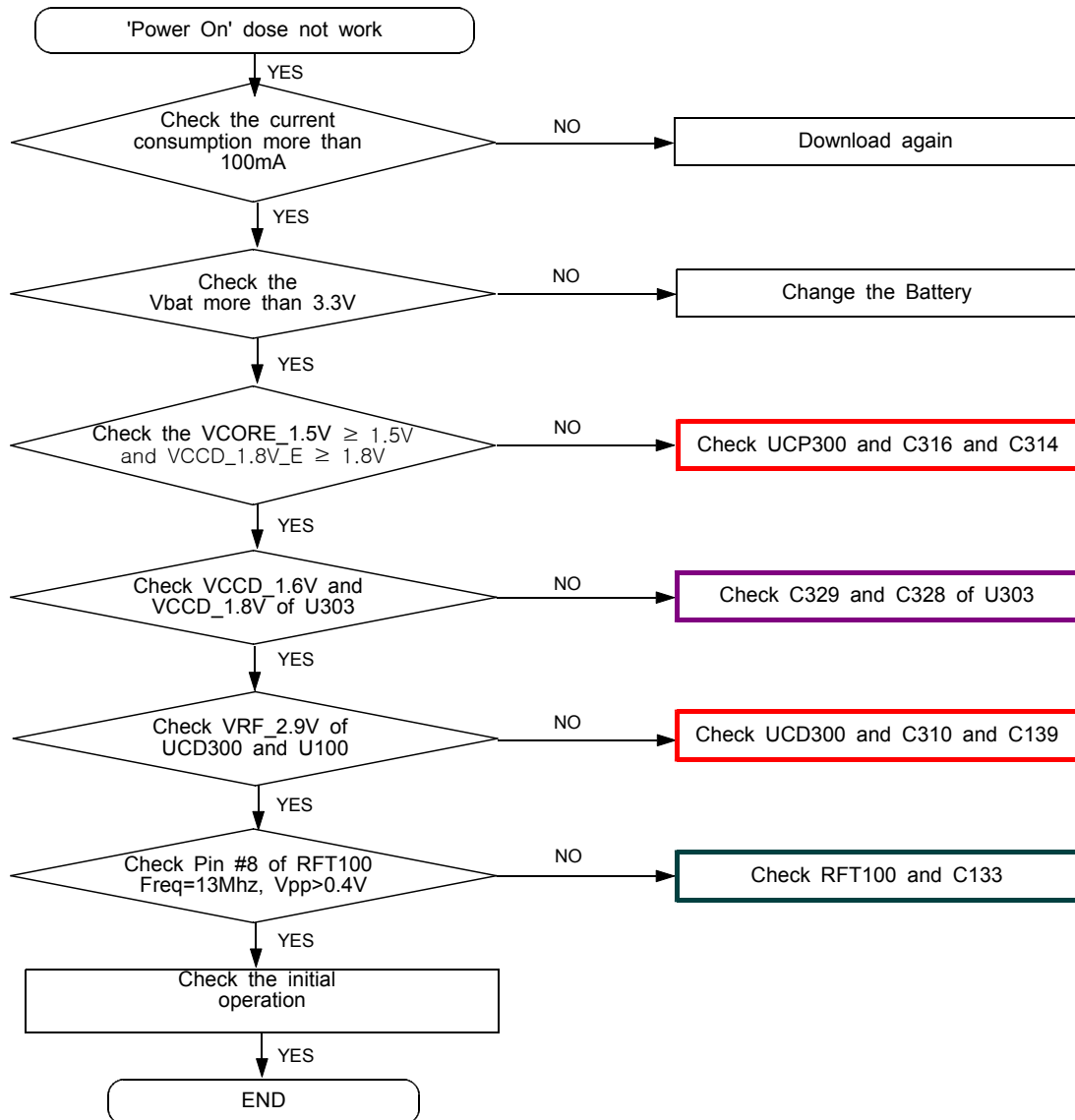


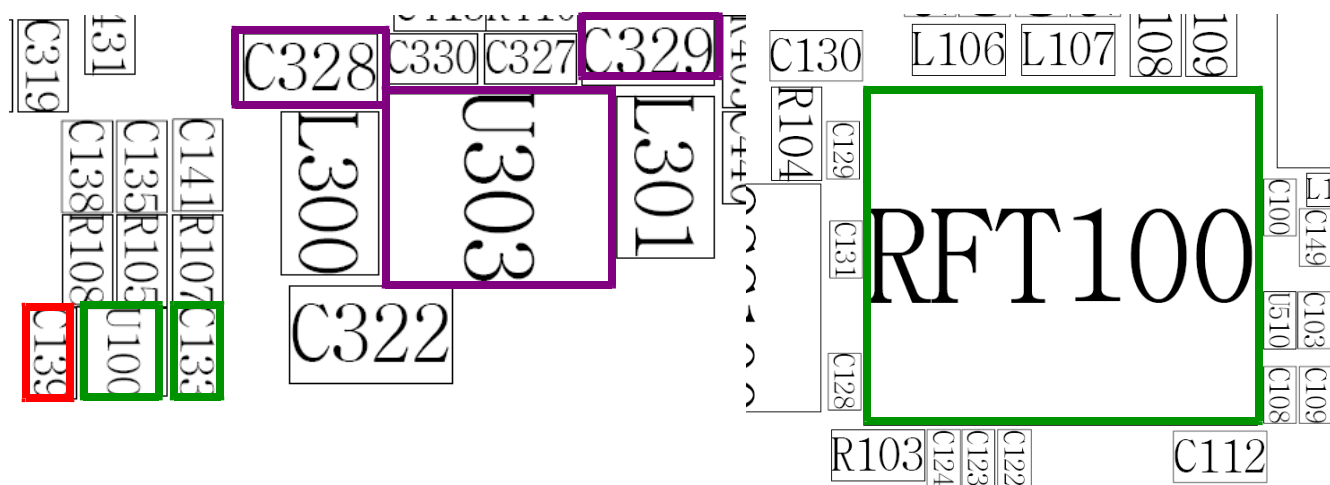
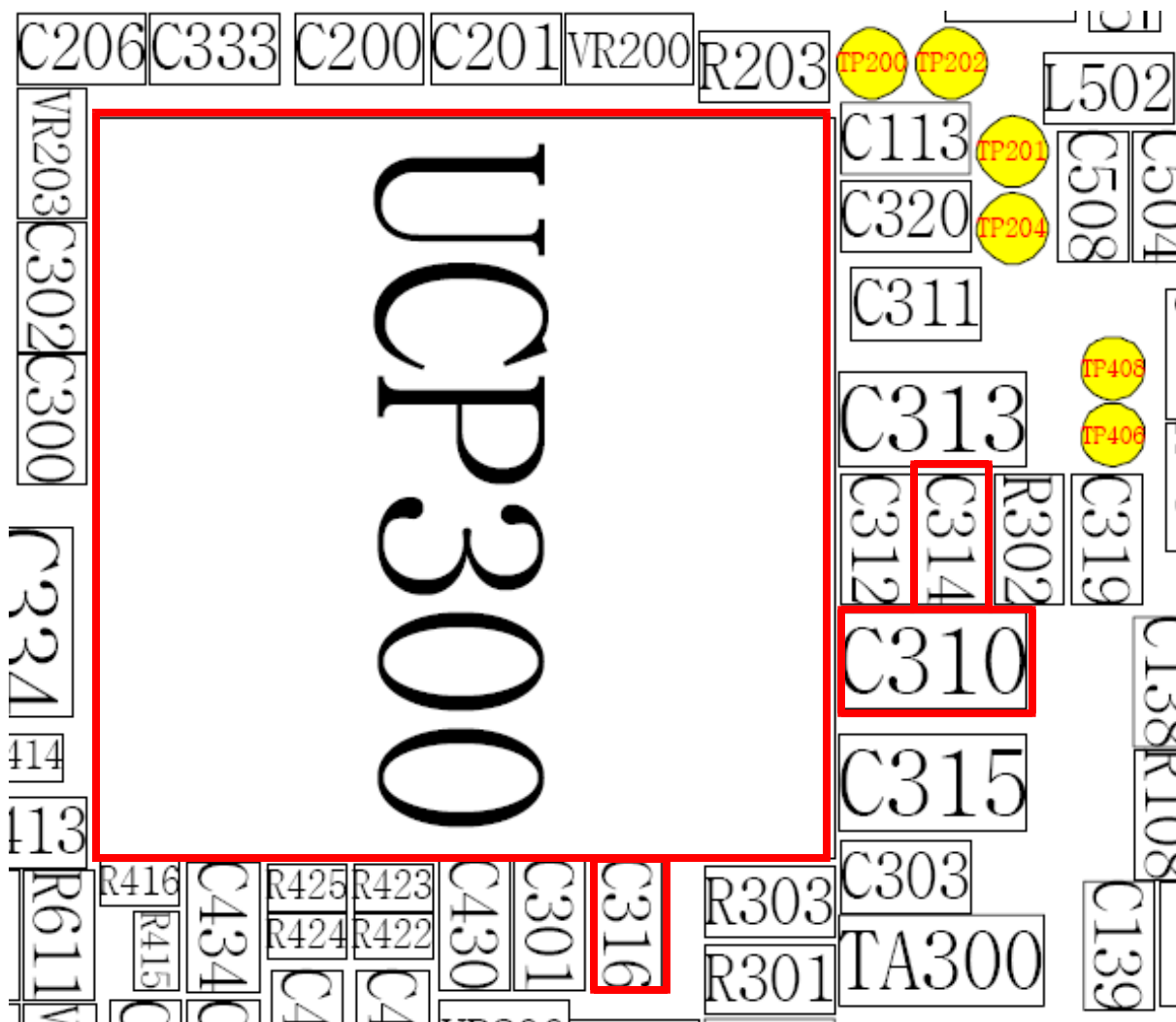
1. Remove the protection tape on conduction tape of LCD MODULE.
2. Insert LCD FPCB into connector with lined up with guide silk

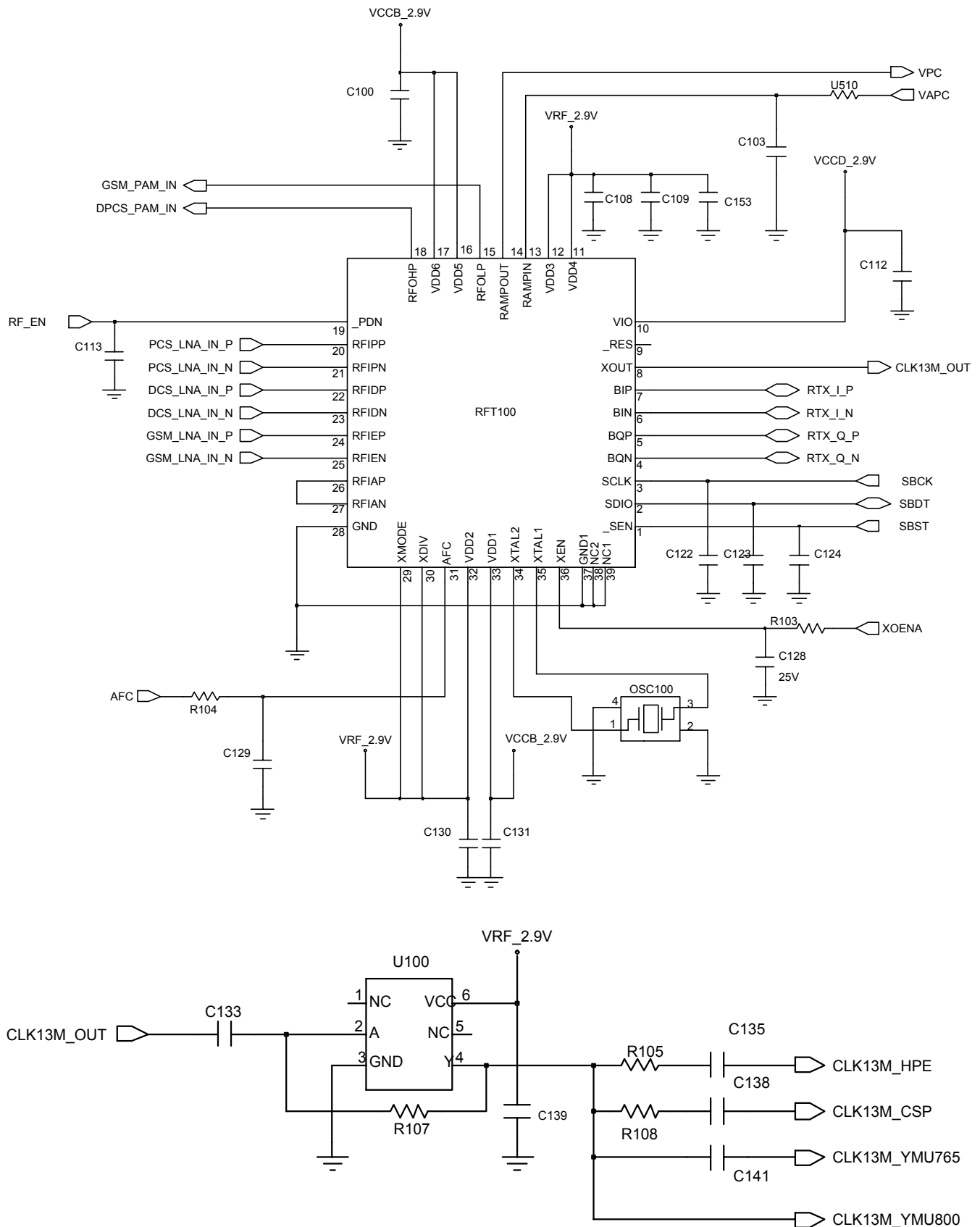
3. Chart of Troubleshooting

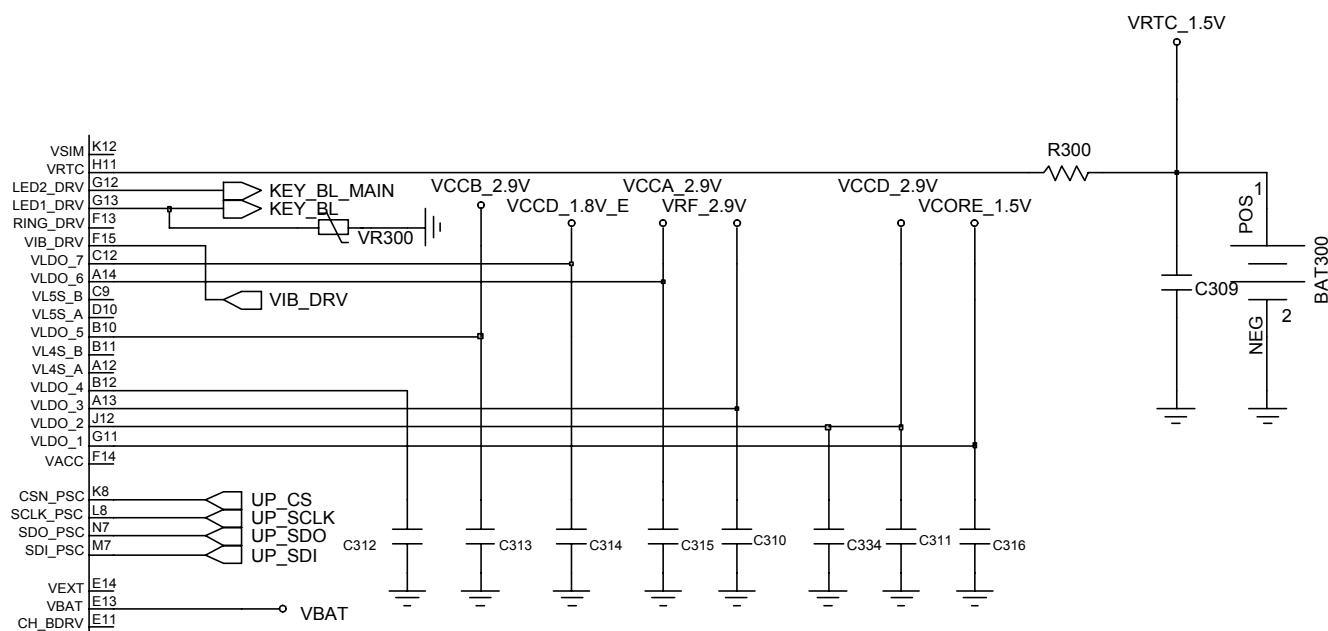
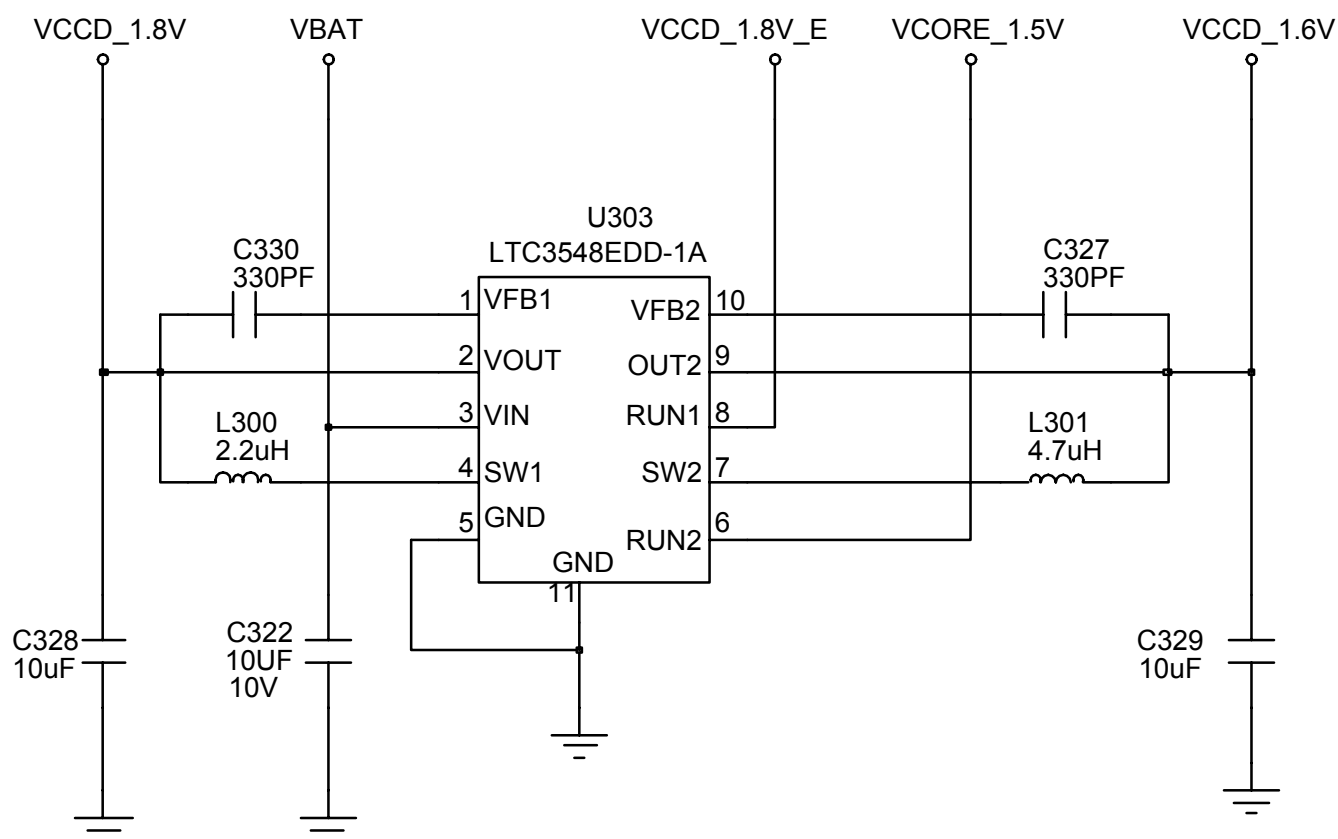
3-1.Baseband

3-1-1. Power ON

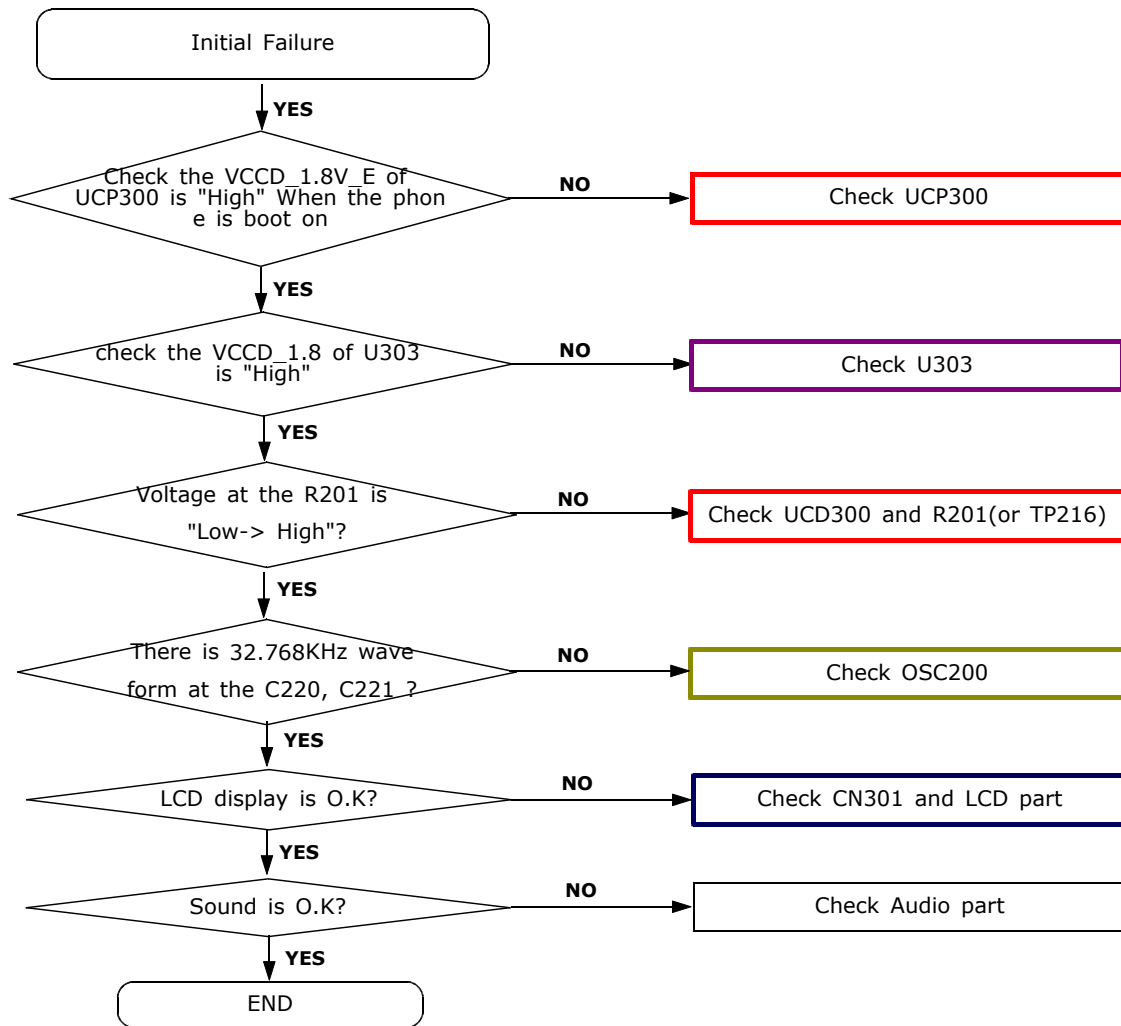


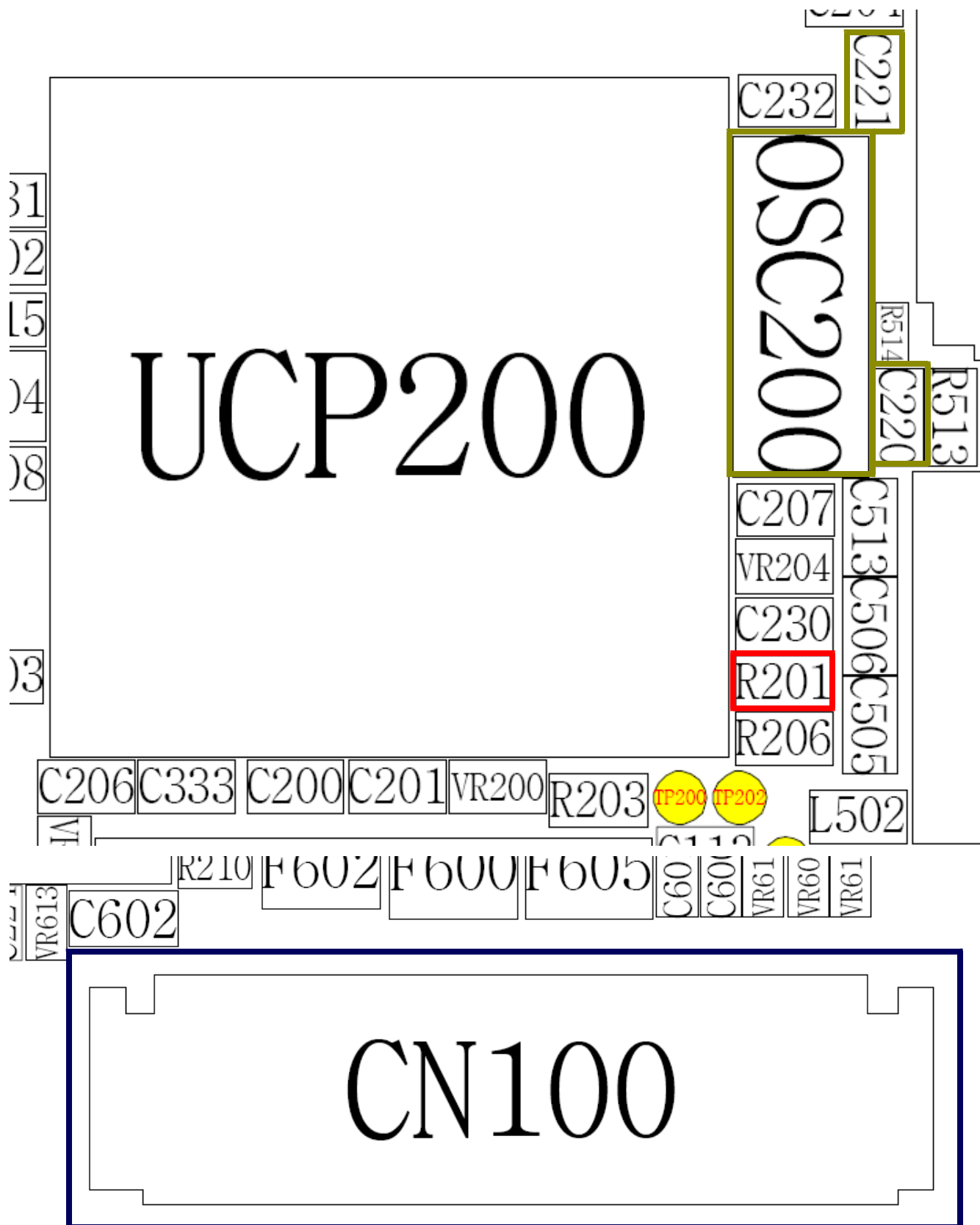


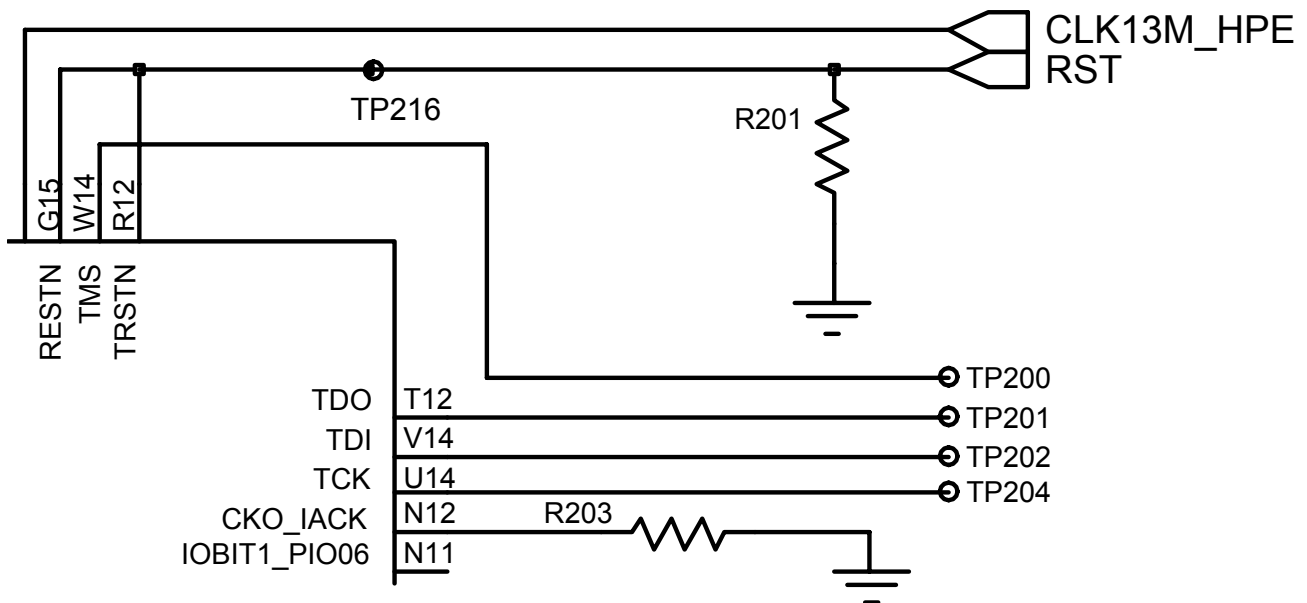
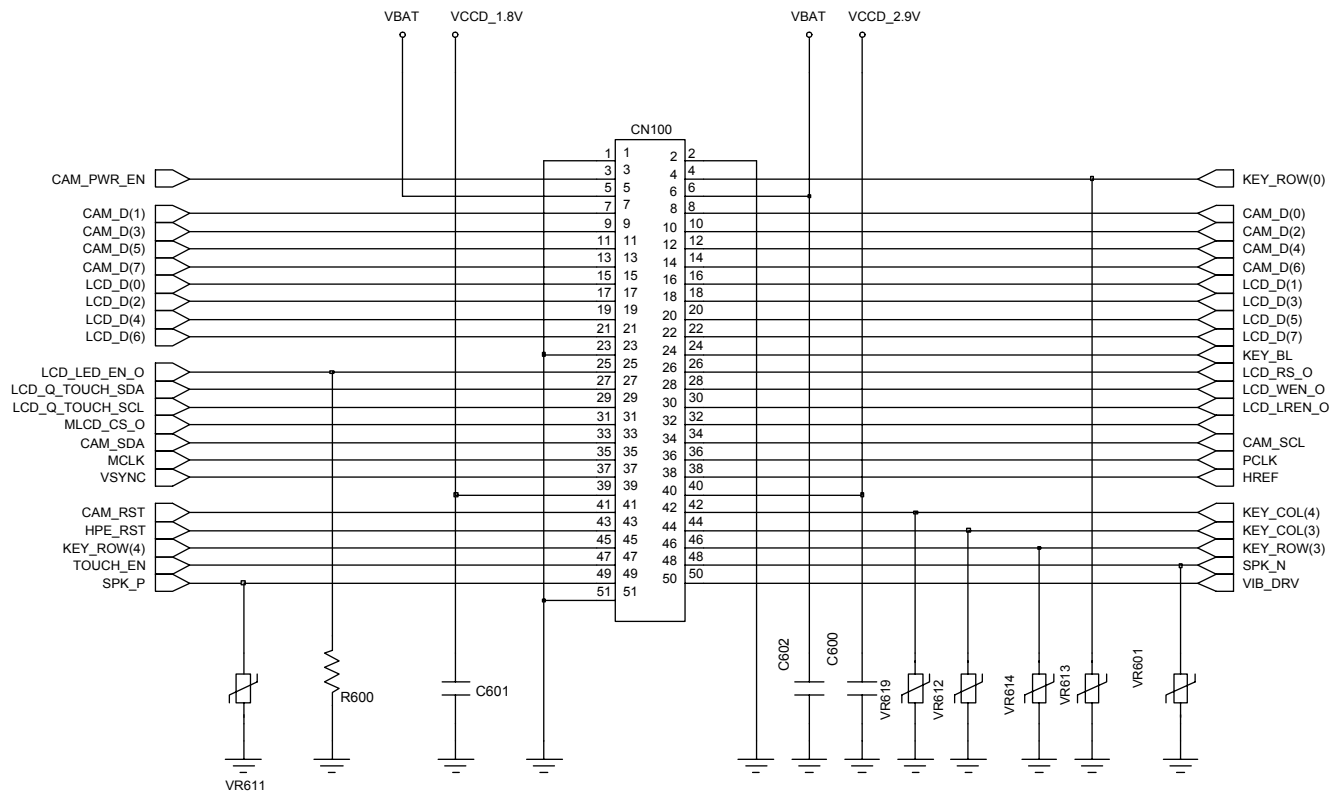




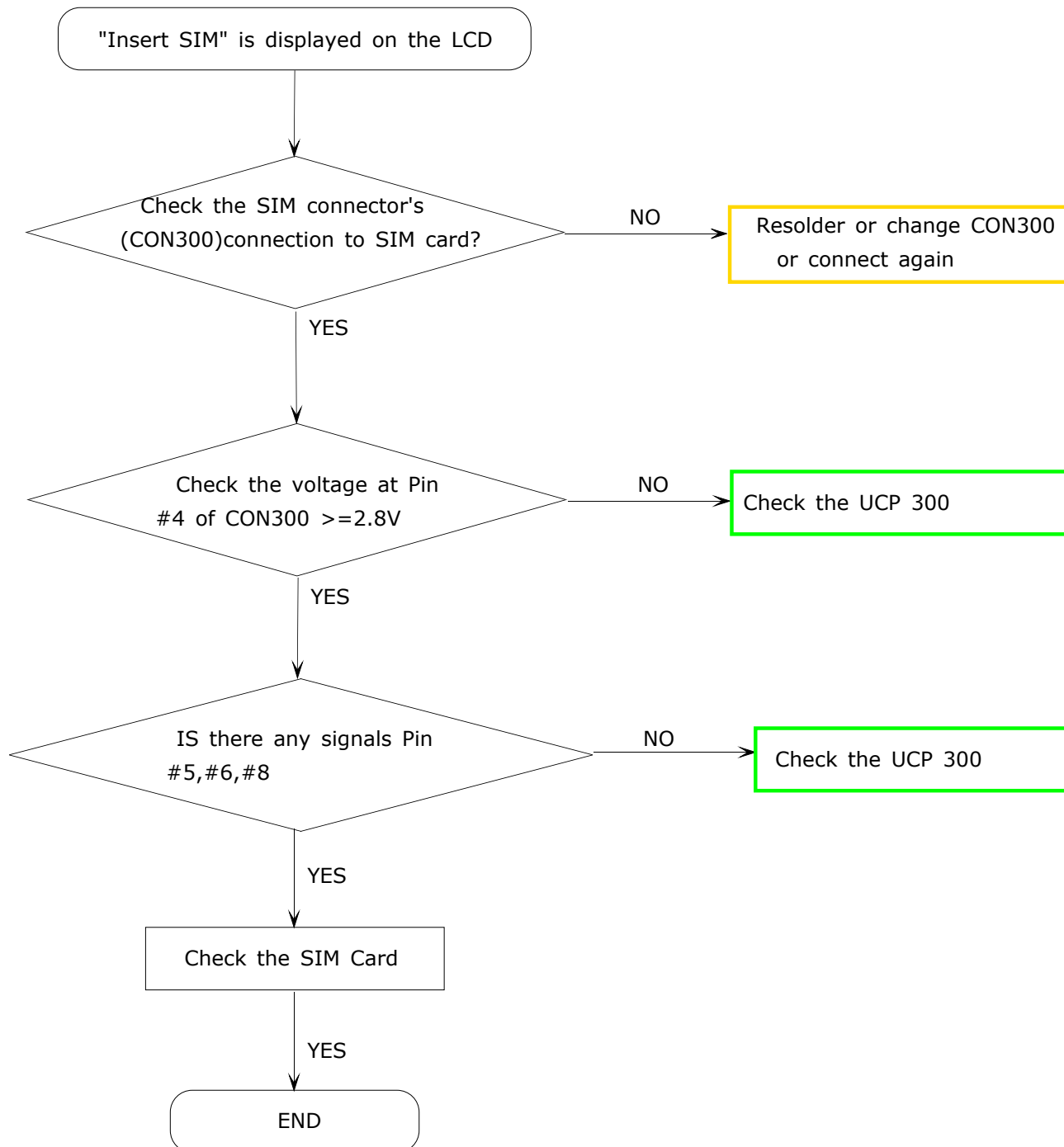
3-1-2. System Initial



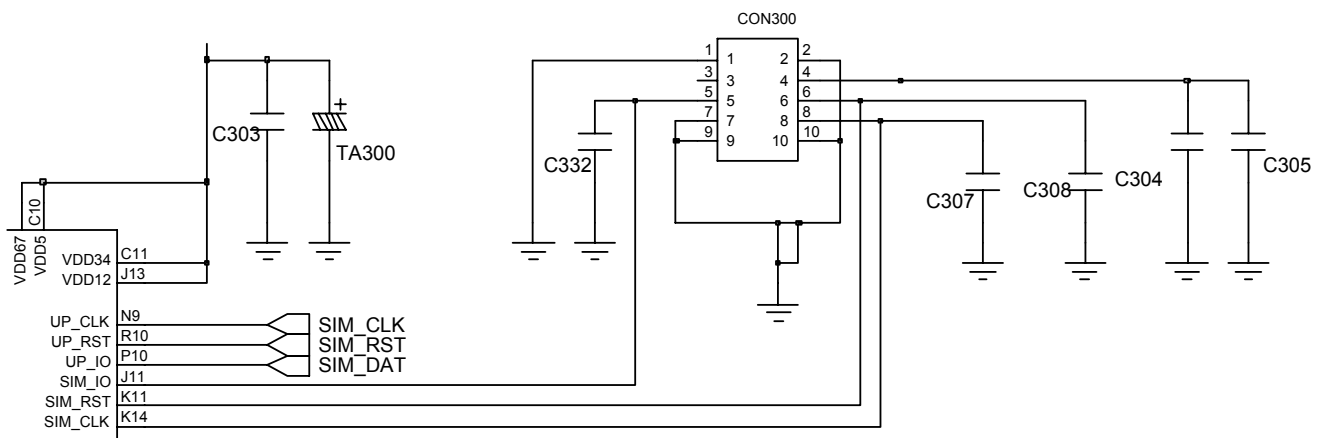
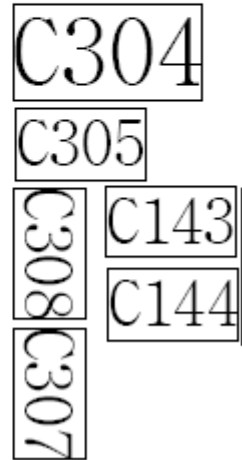
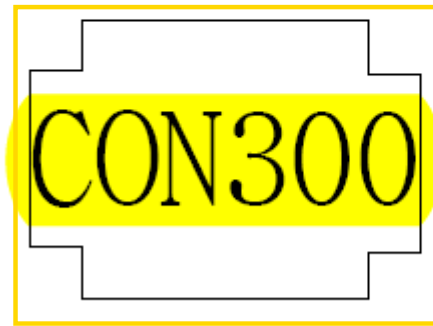




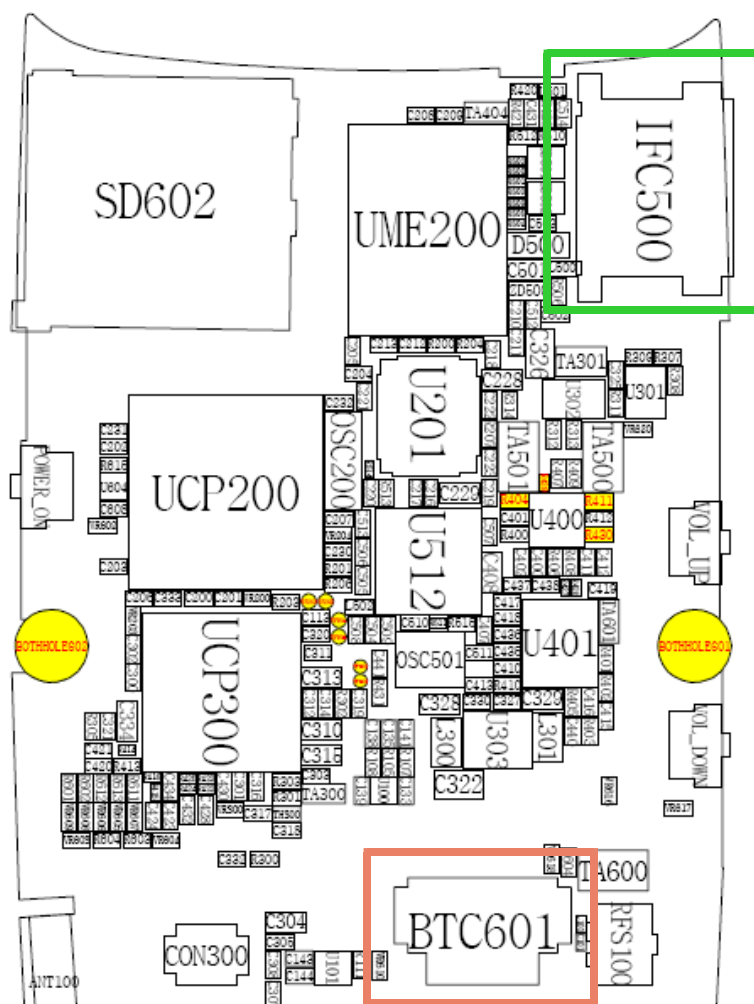
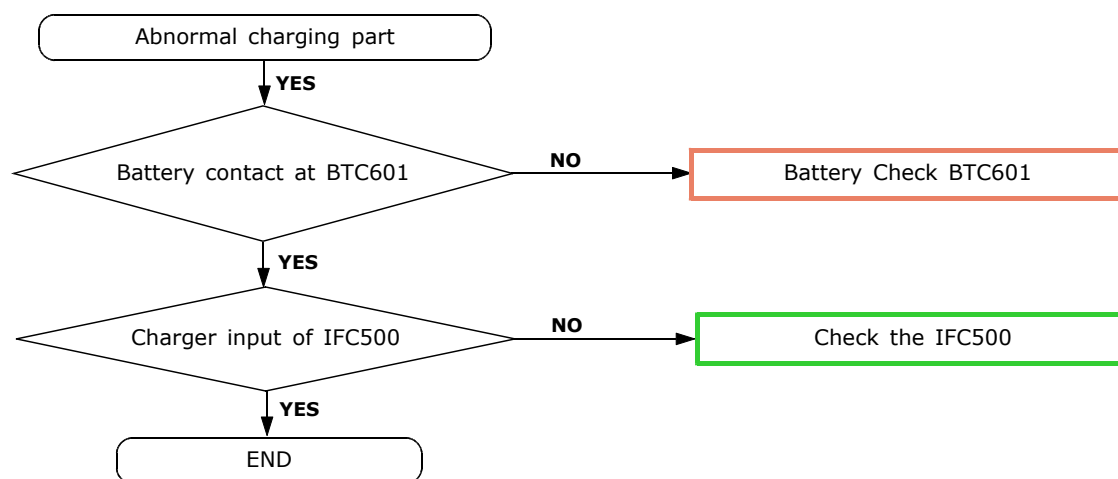
3-1-3. Sim Part



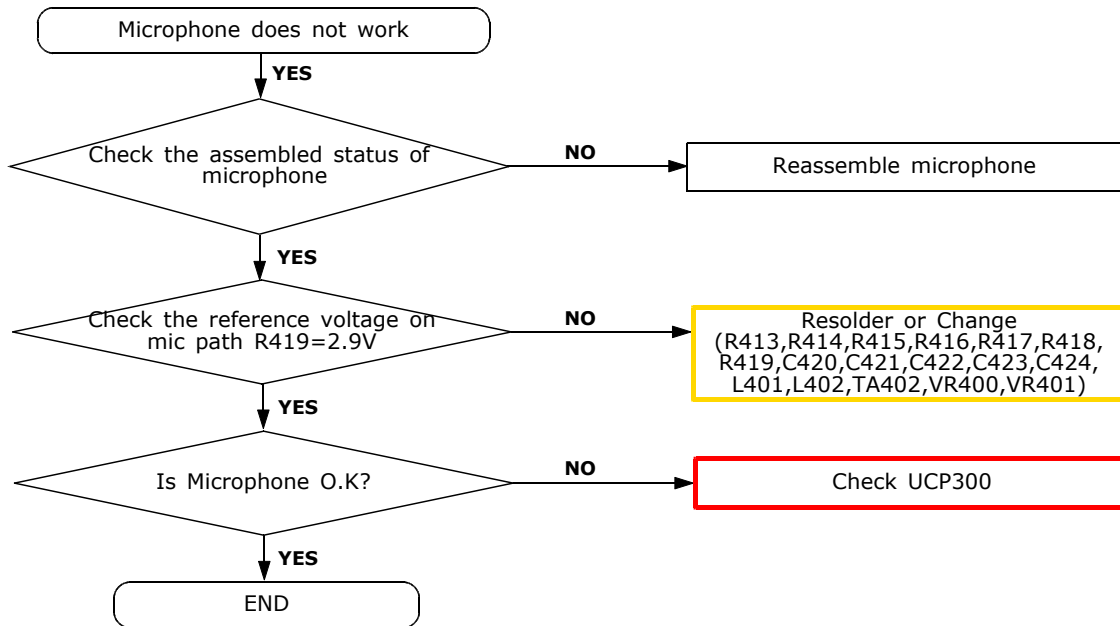
C332 R300

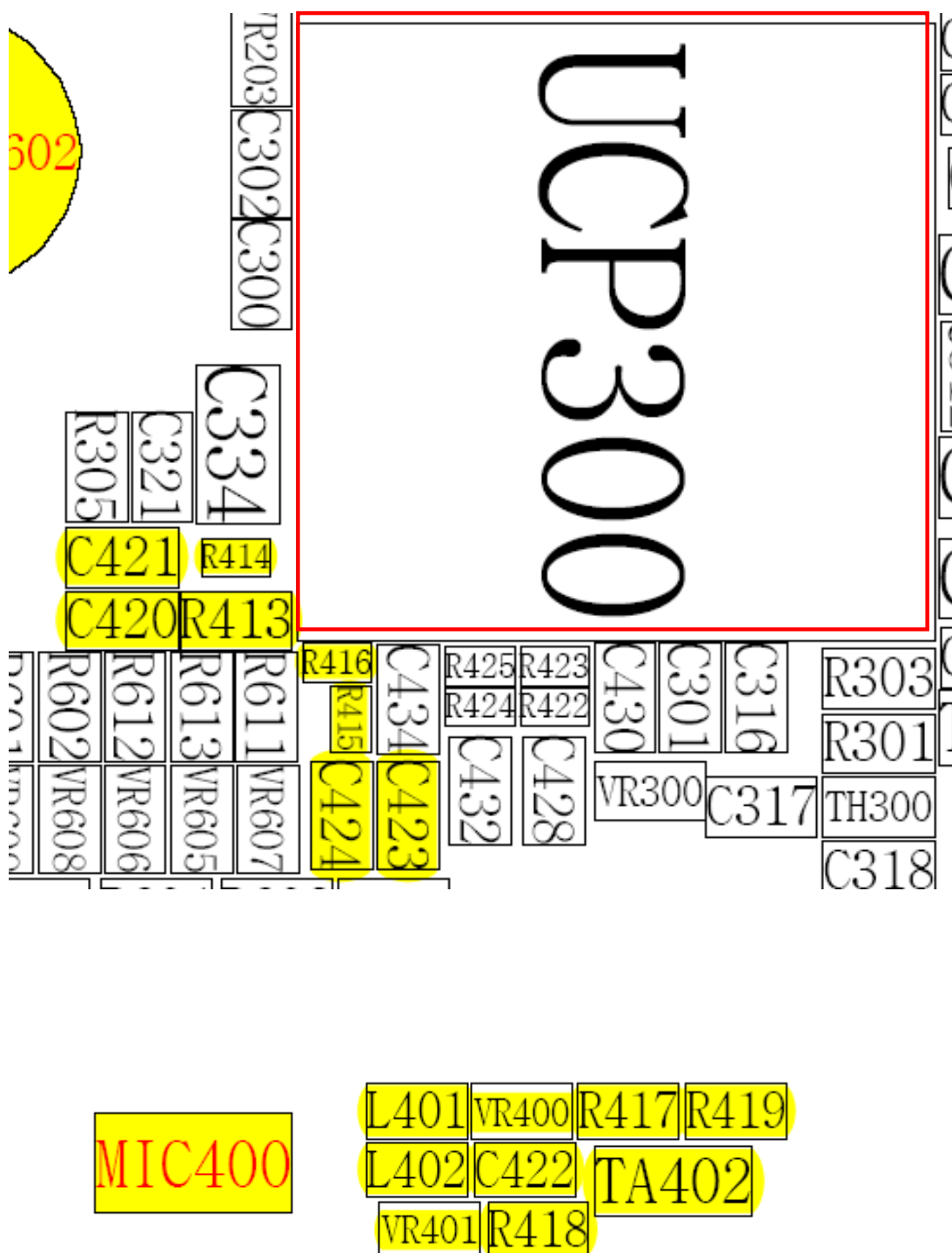


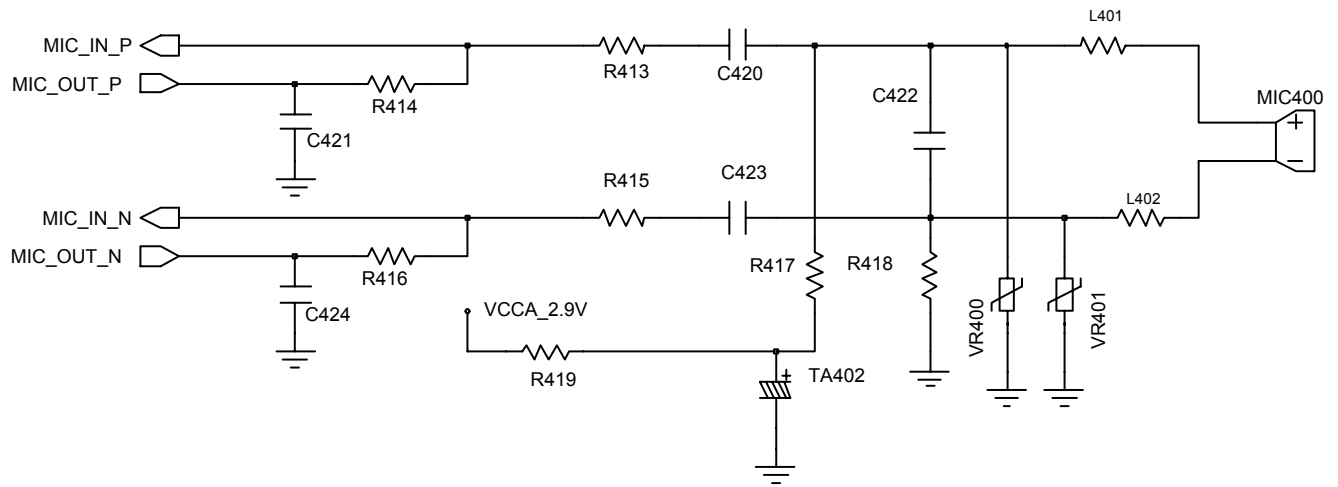
3-1-4. Charging Part



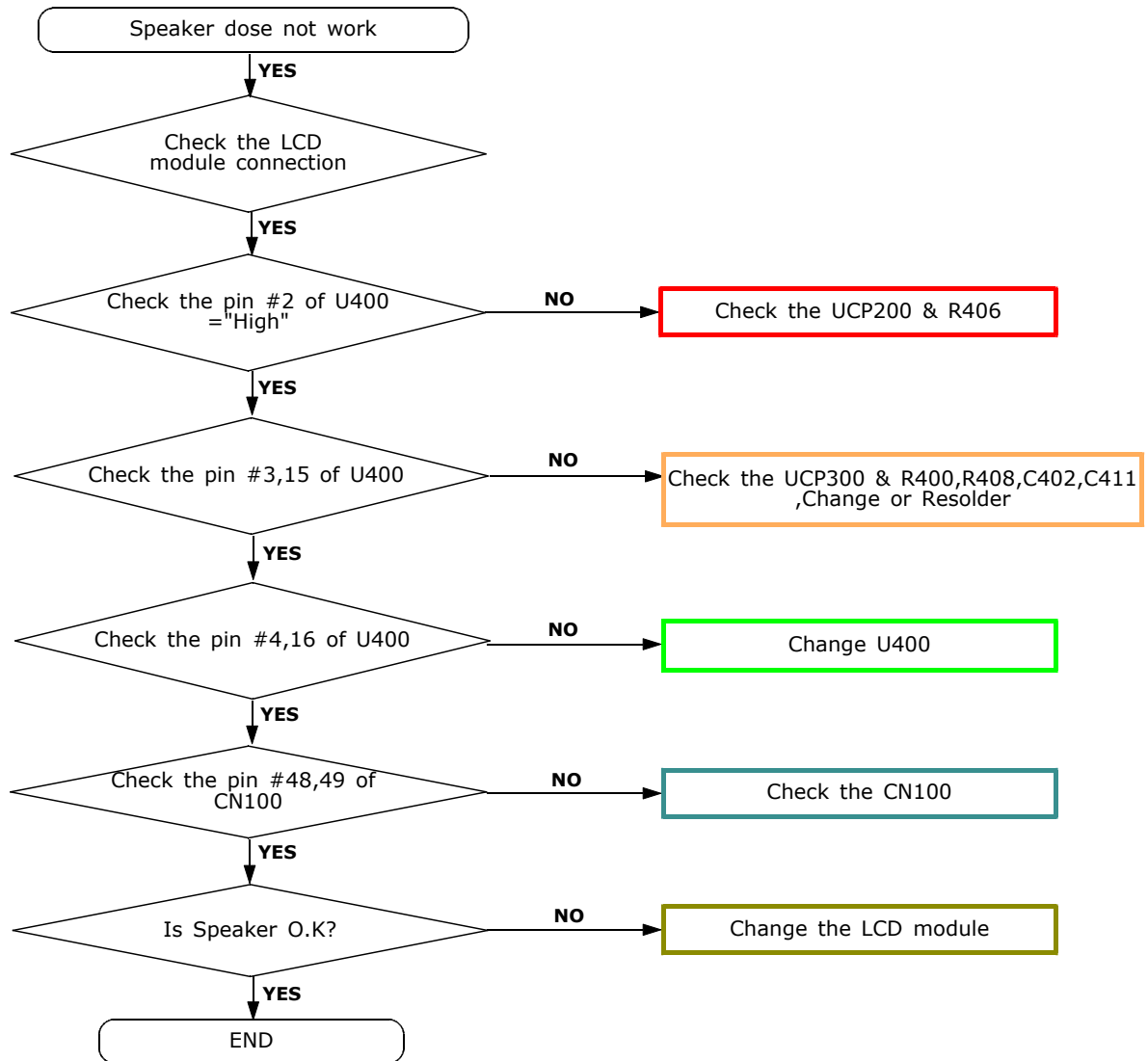
3-1-5. Microphone Part

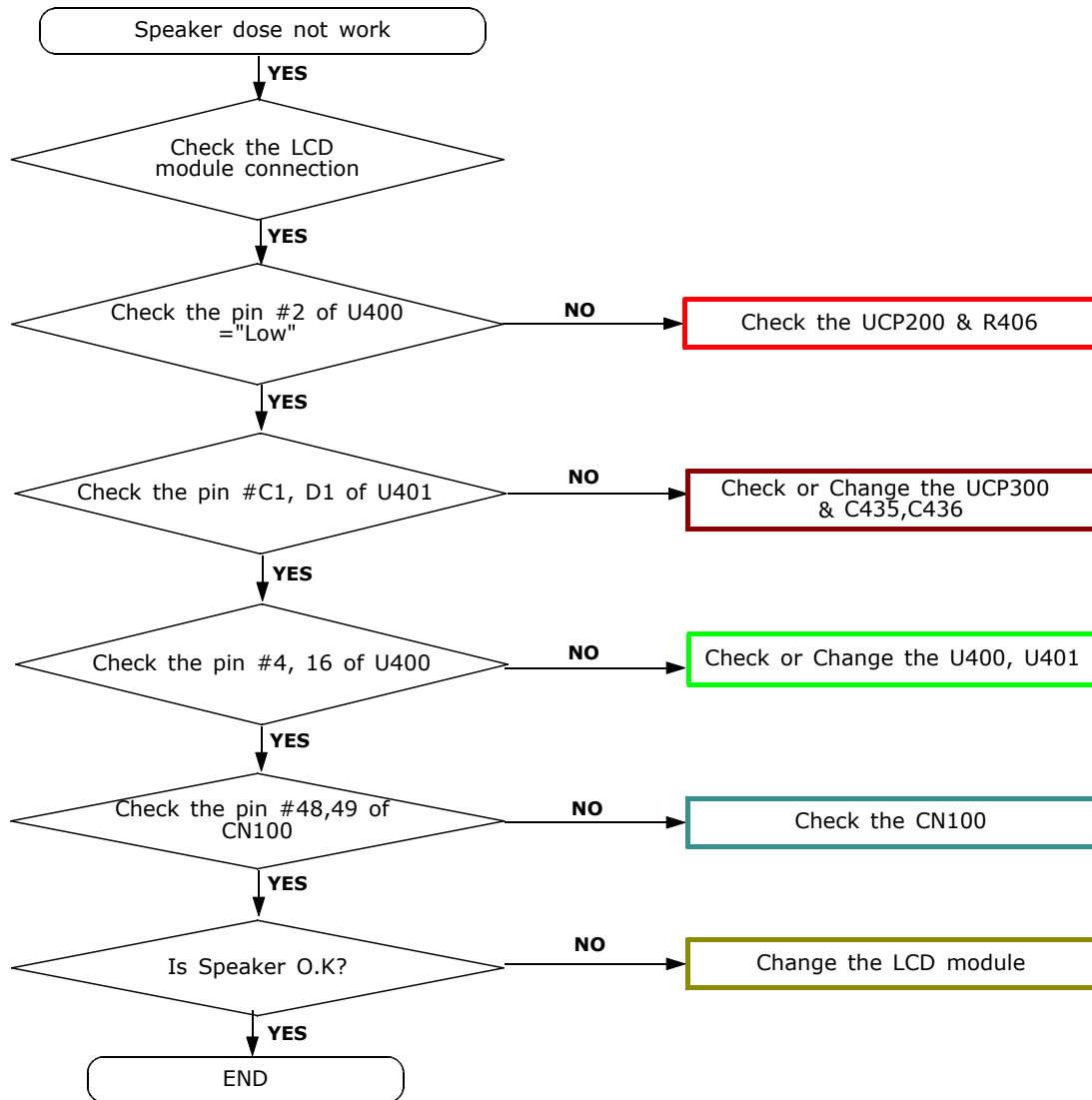


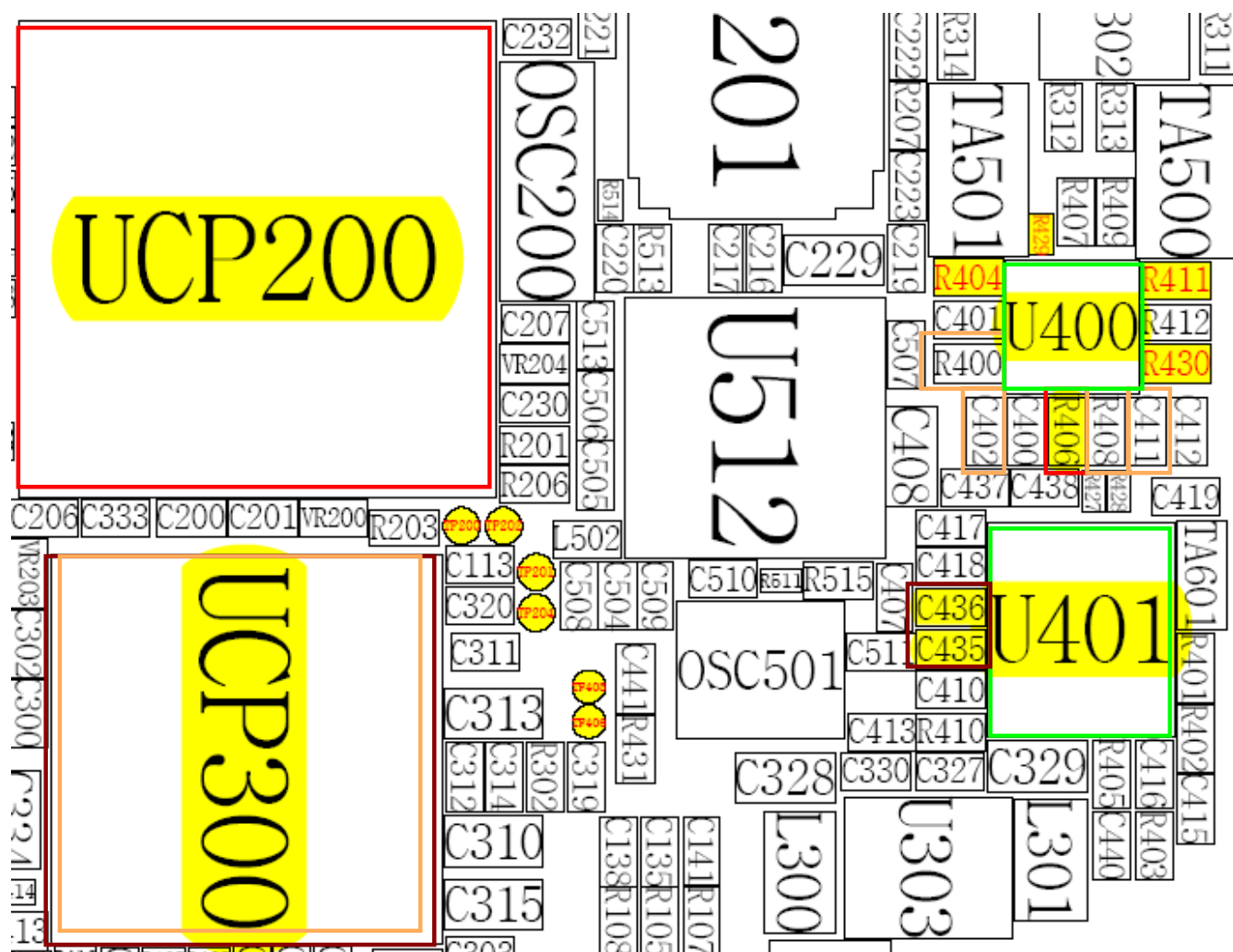


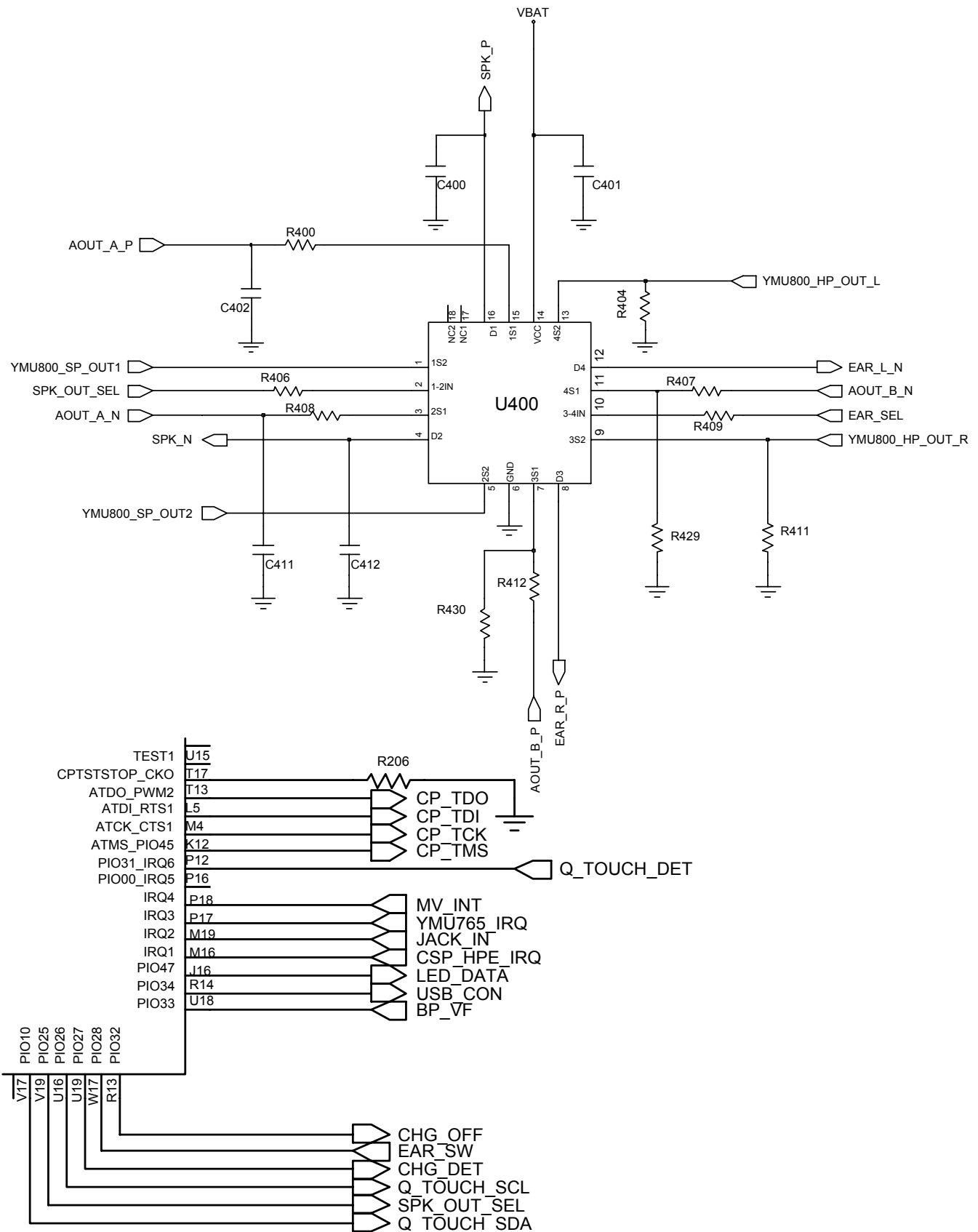


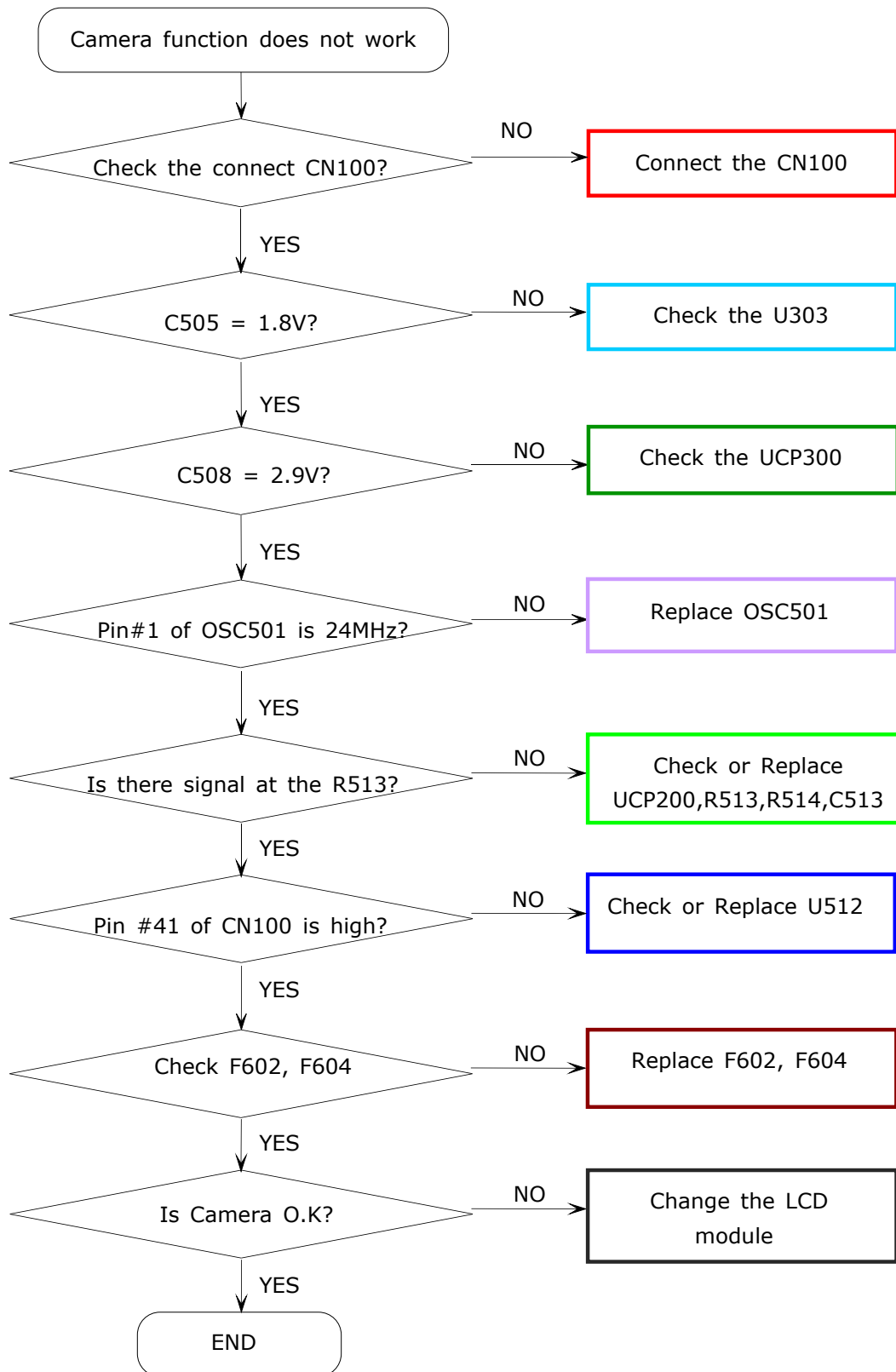
3-1-6. Receiver Part

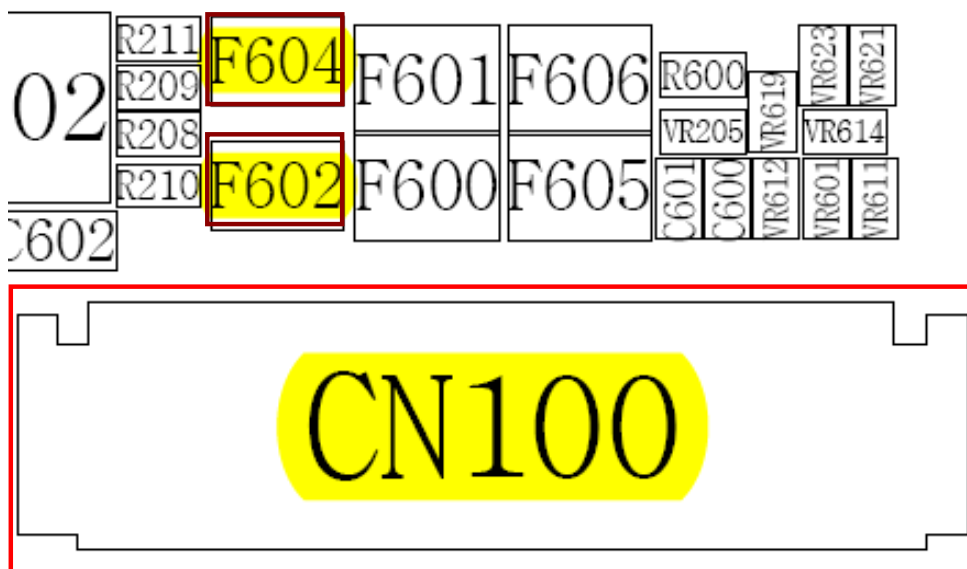


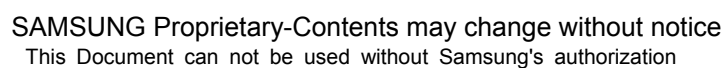
3-1-7. Speaker Part

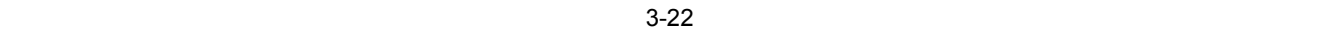




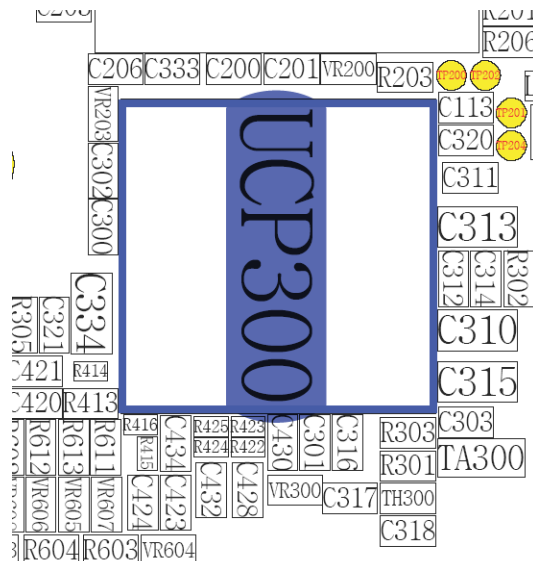
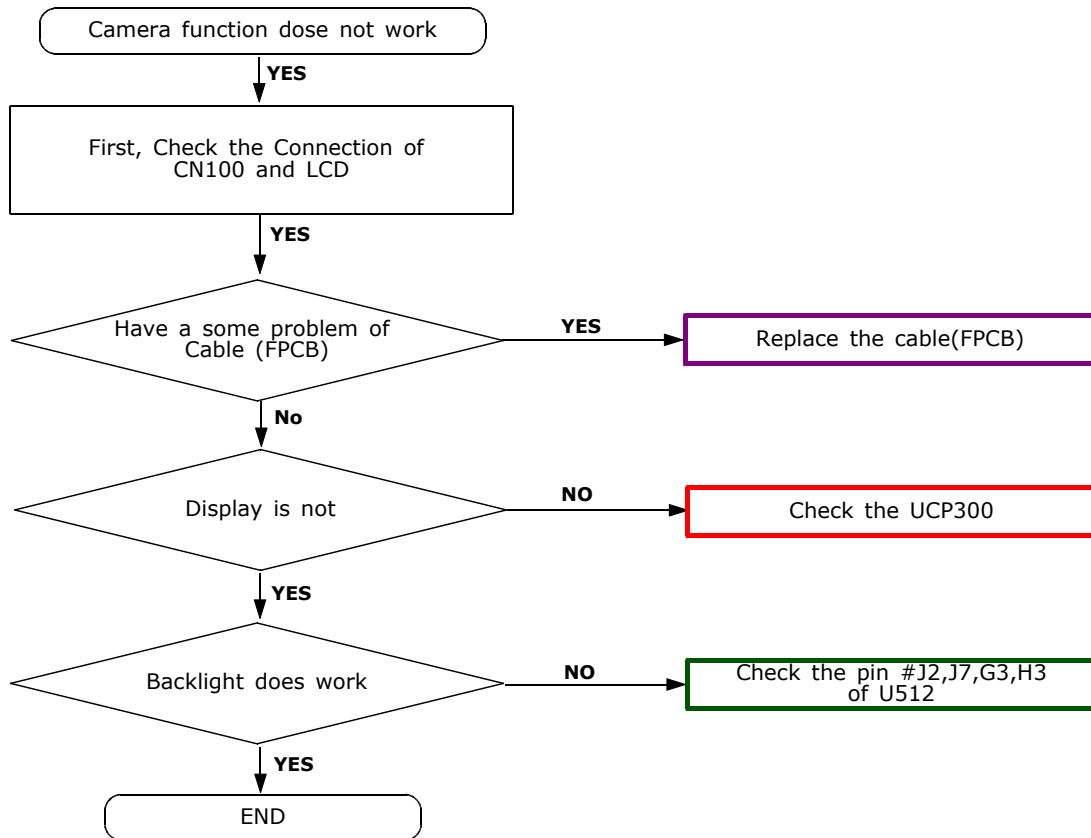
3-1-8. Camera Part





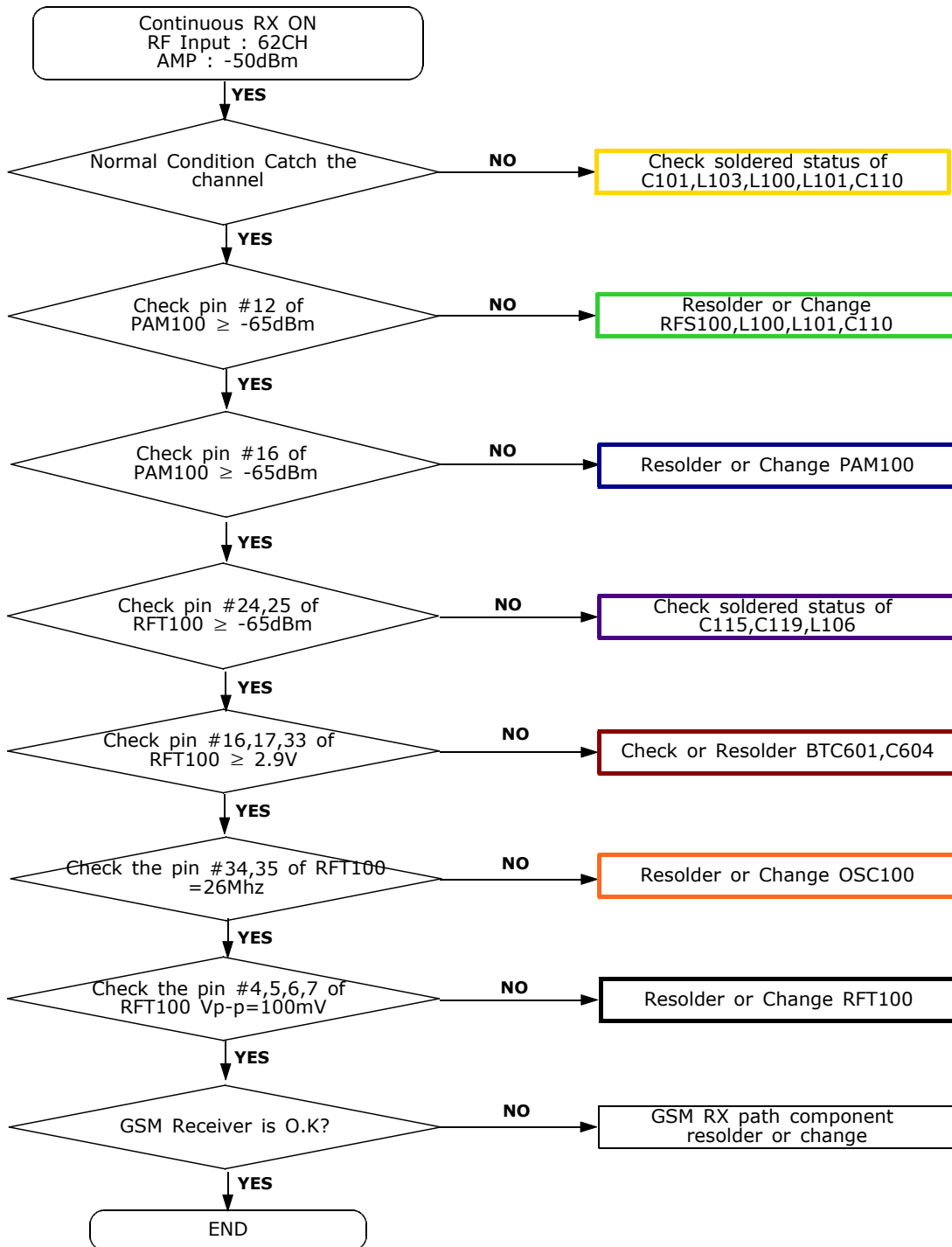


3-1-9. LCD

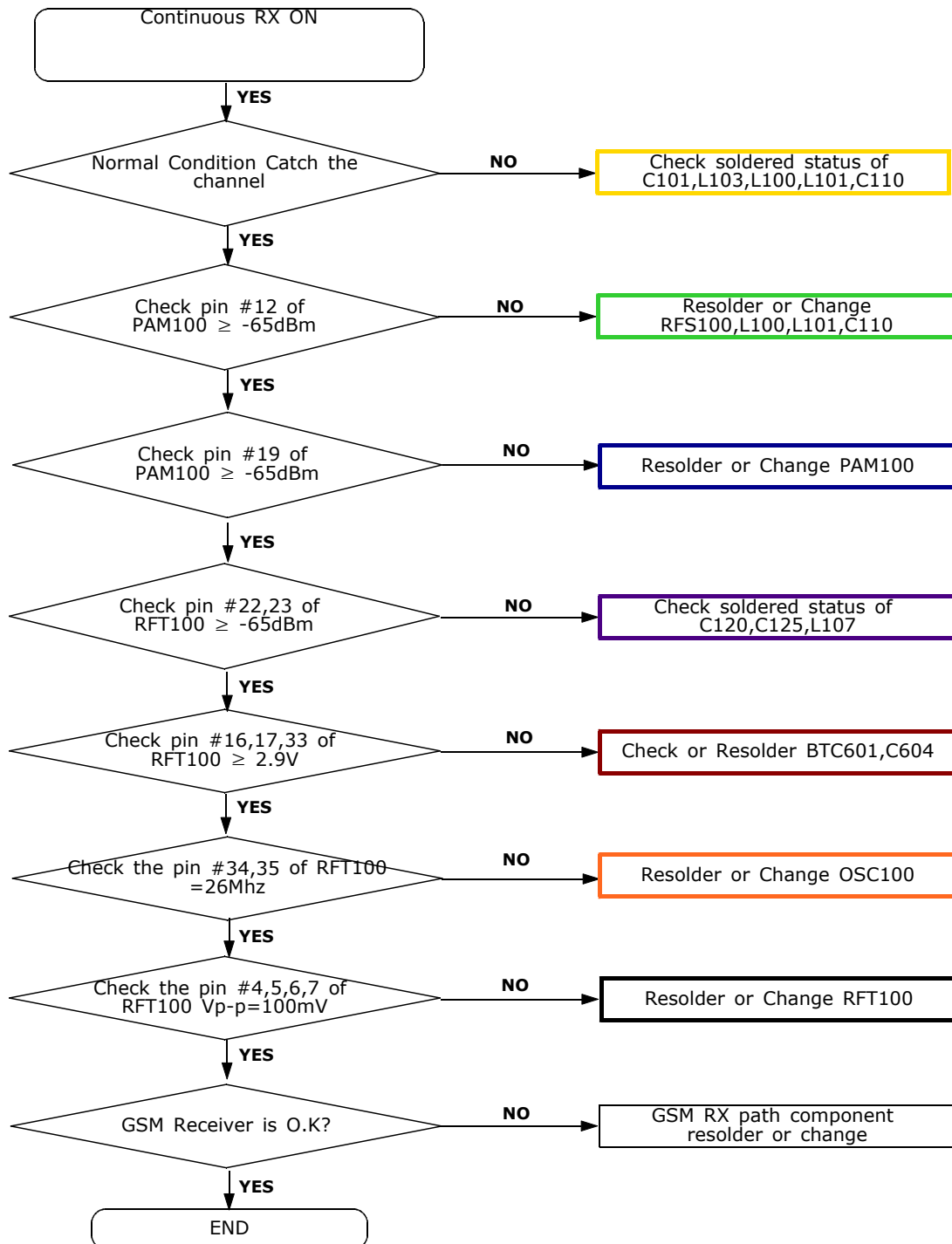


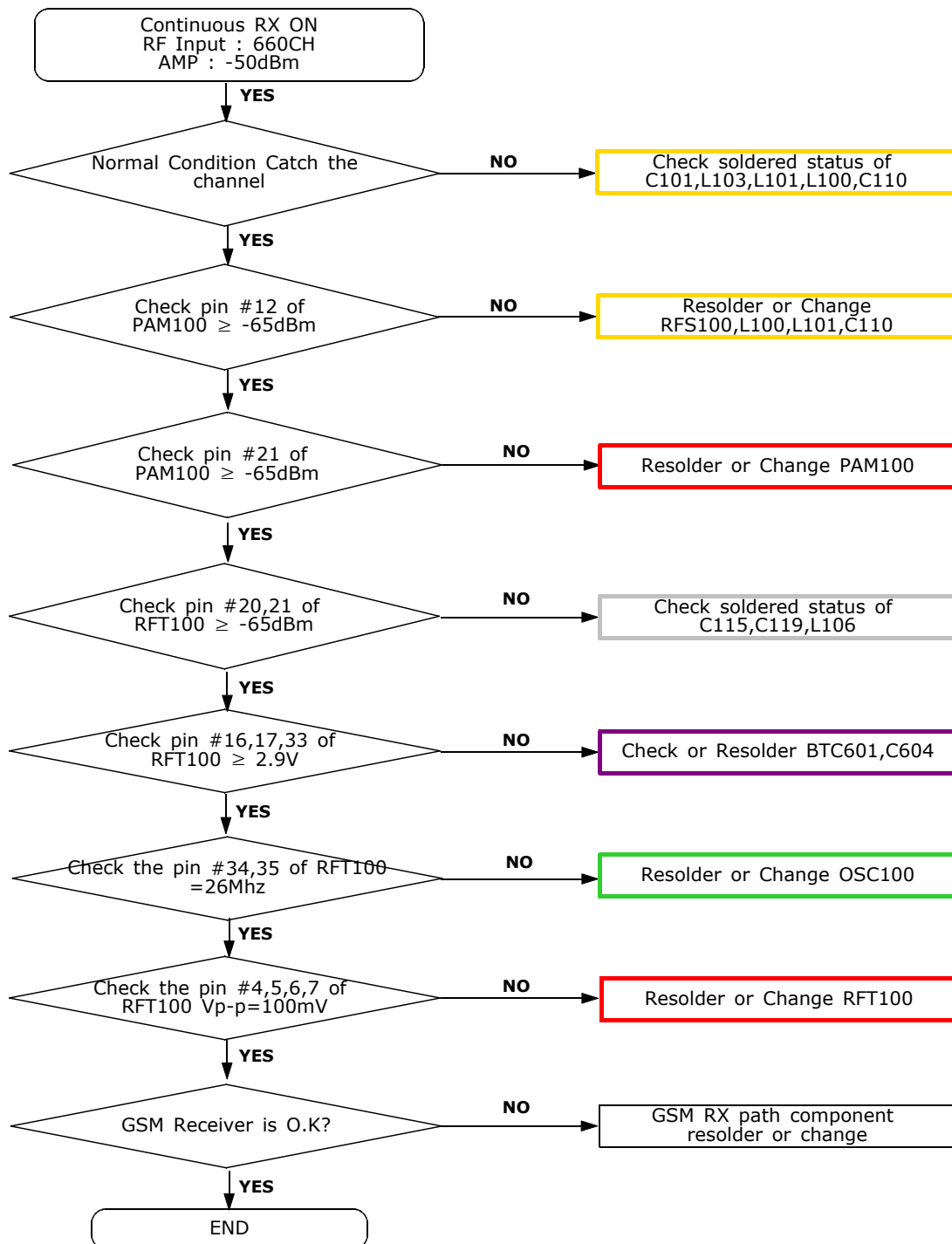
3-2.RF

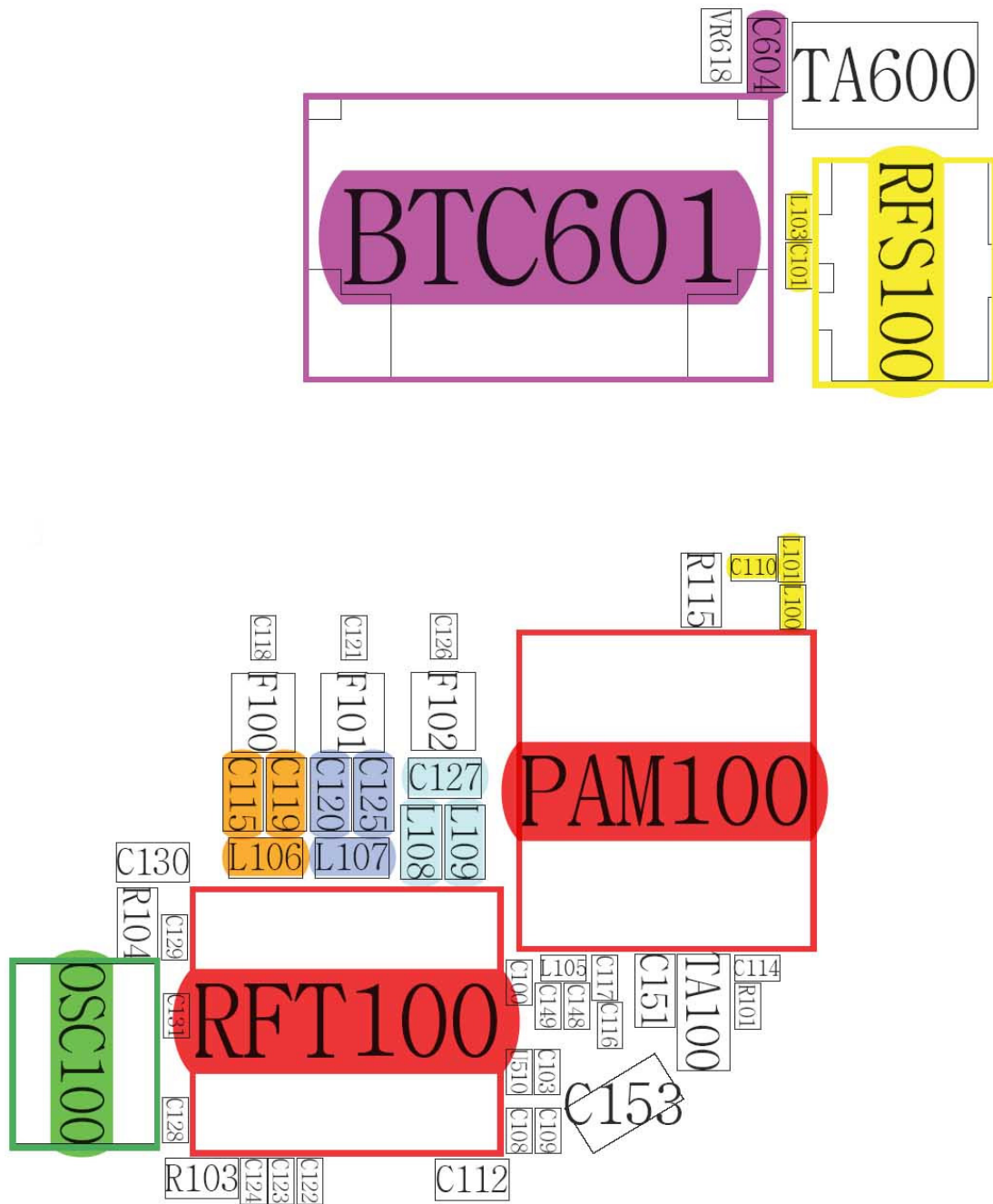
3-2-1. EGSM Rx



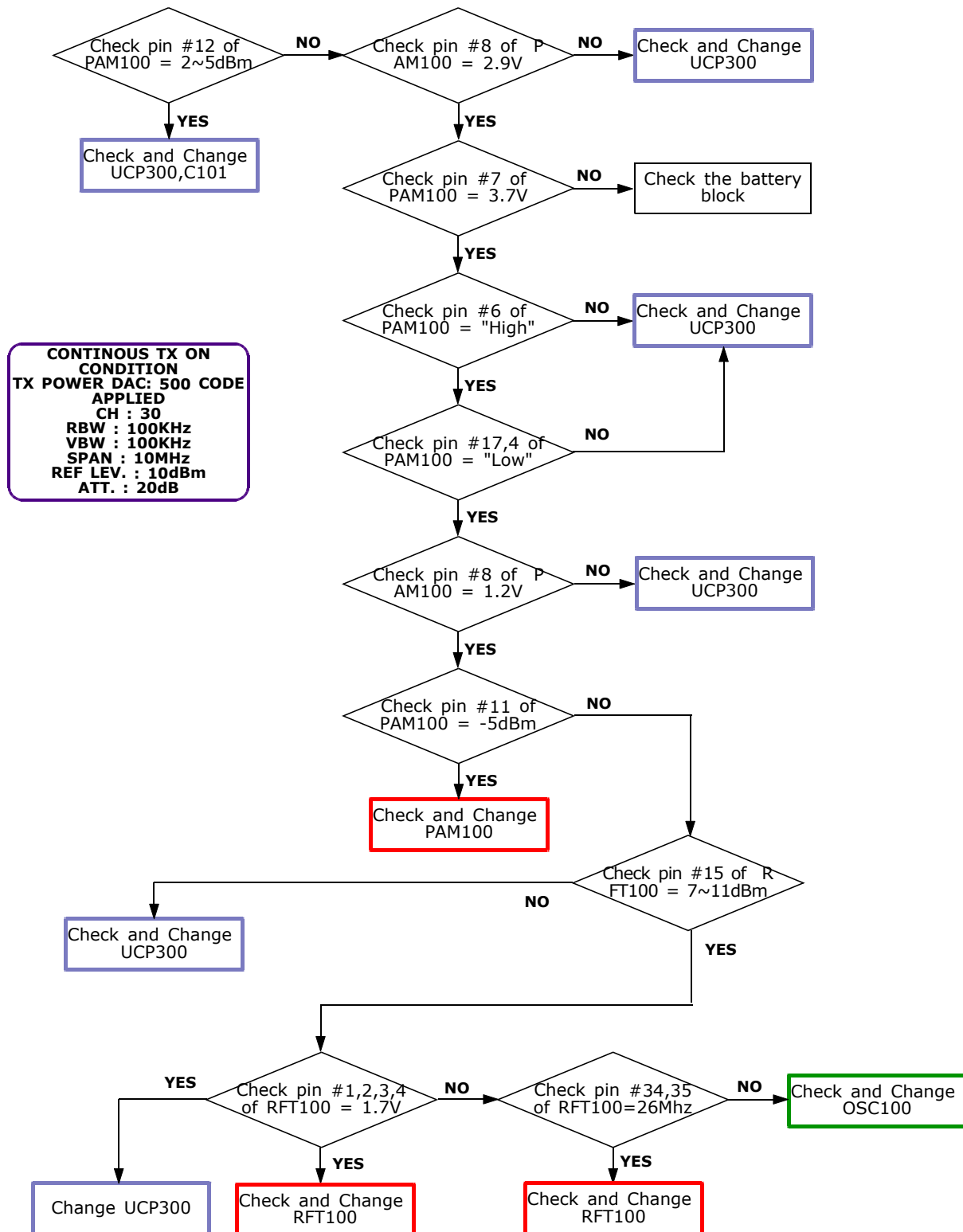
3-2-2. DCS Rx



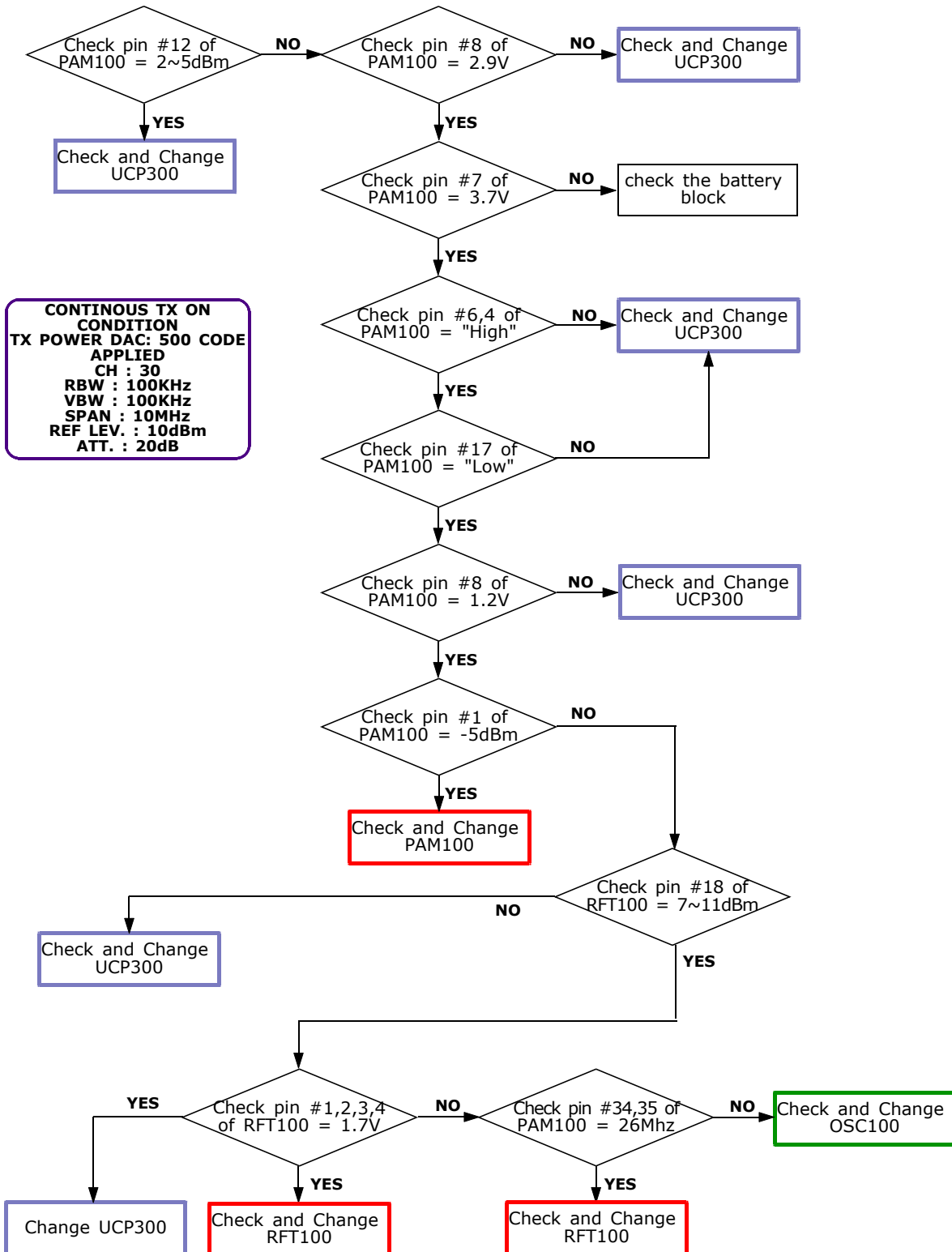
3-2-3. PCS Rx

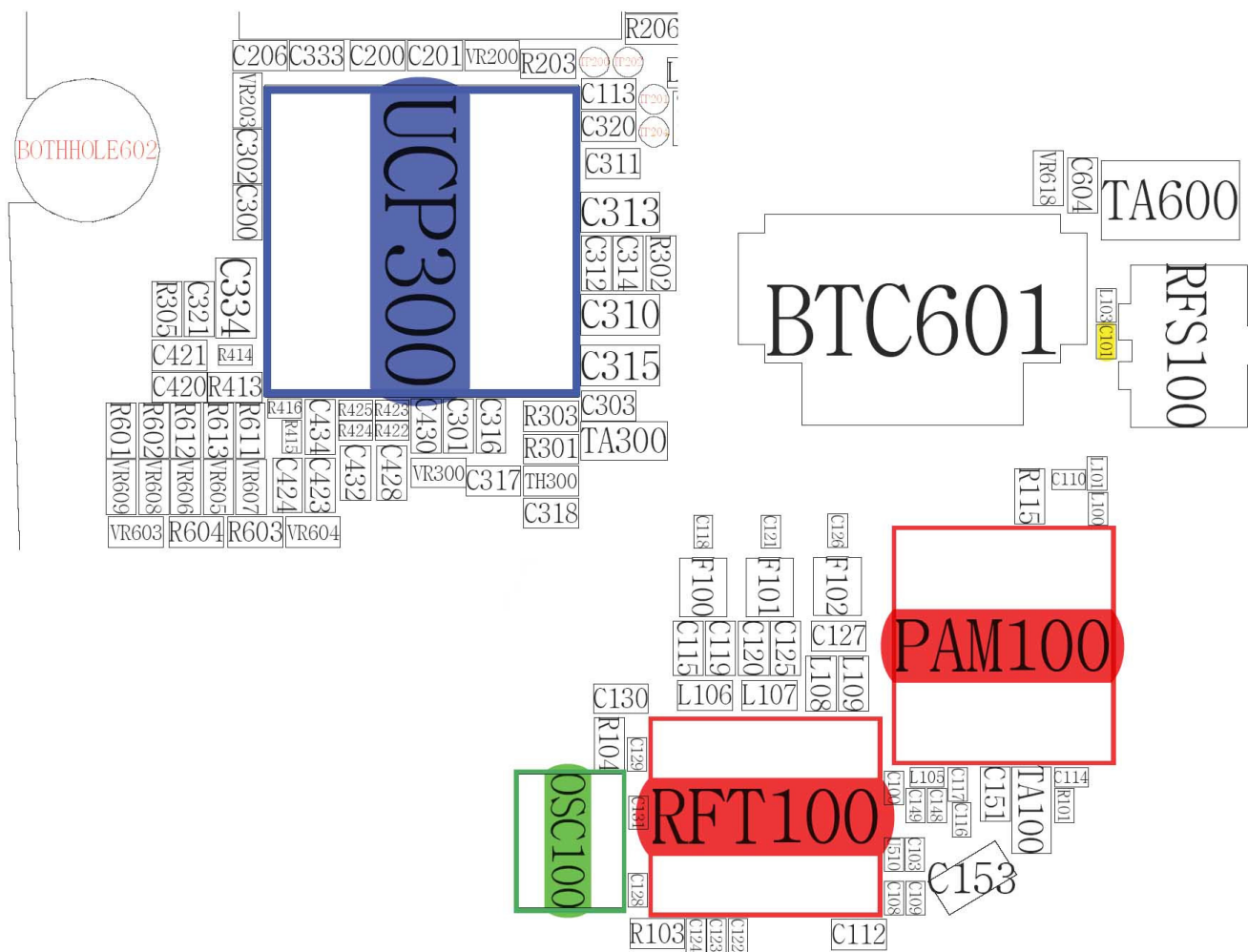


3-2-4. EGSM Tx

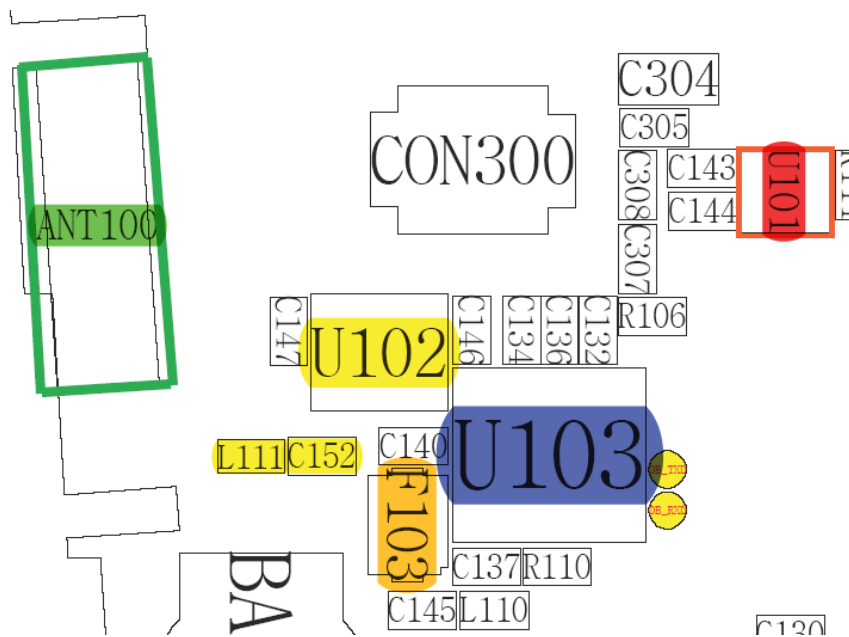
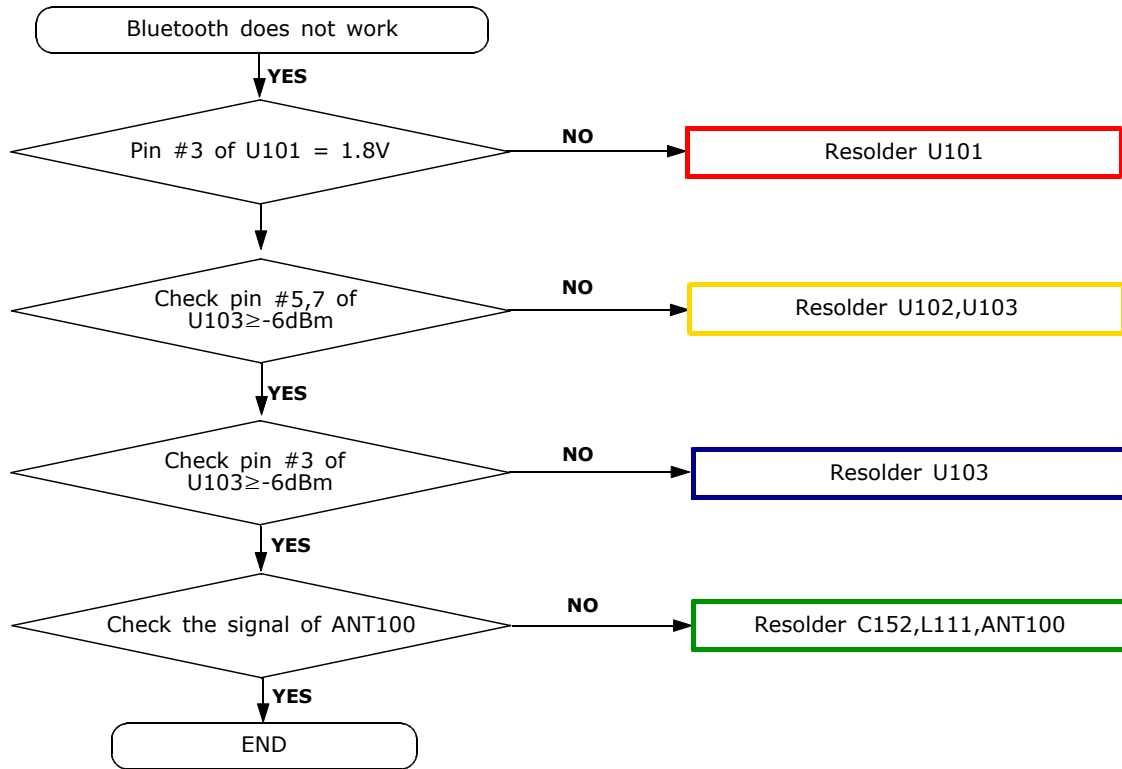


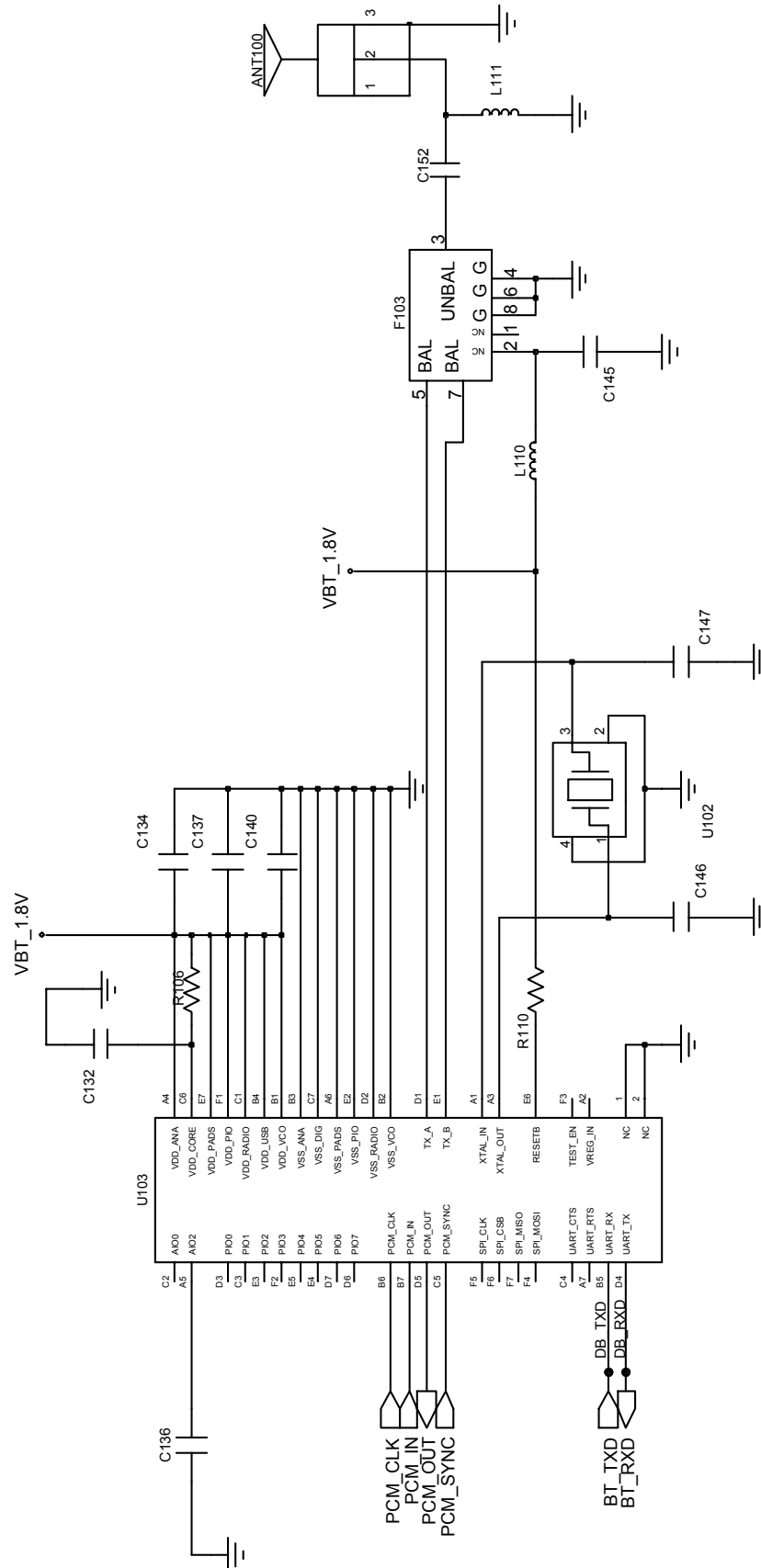
3-2-5. DCS & PCS Tx

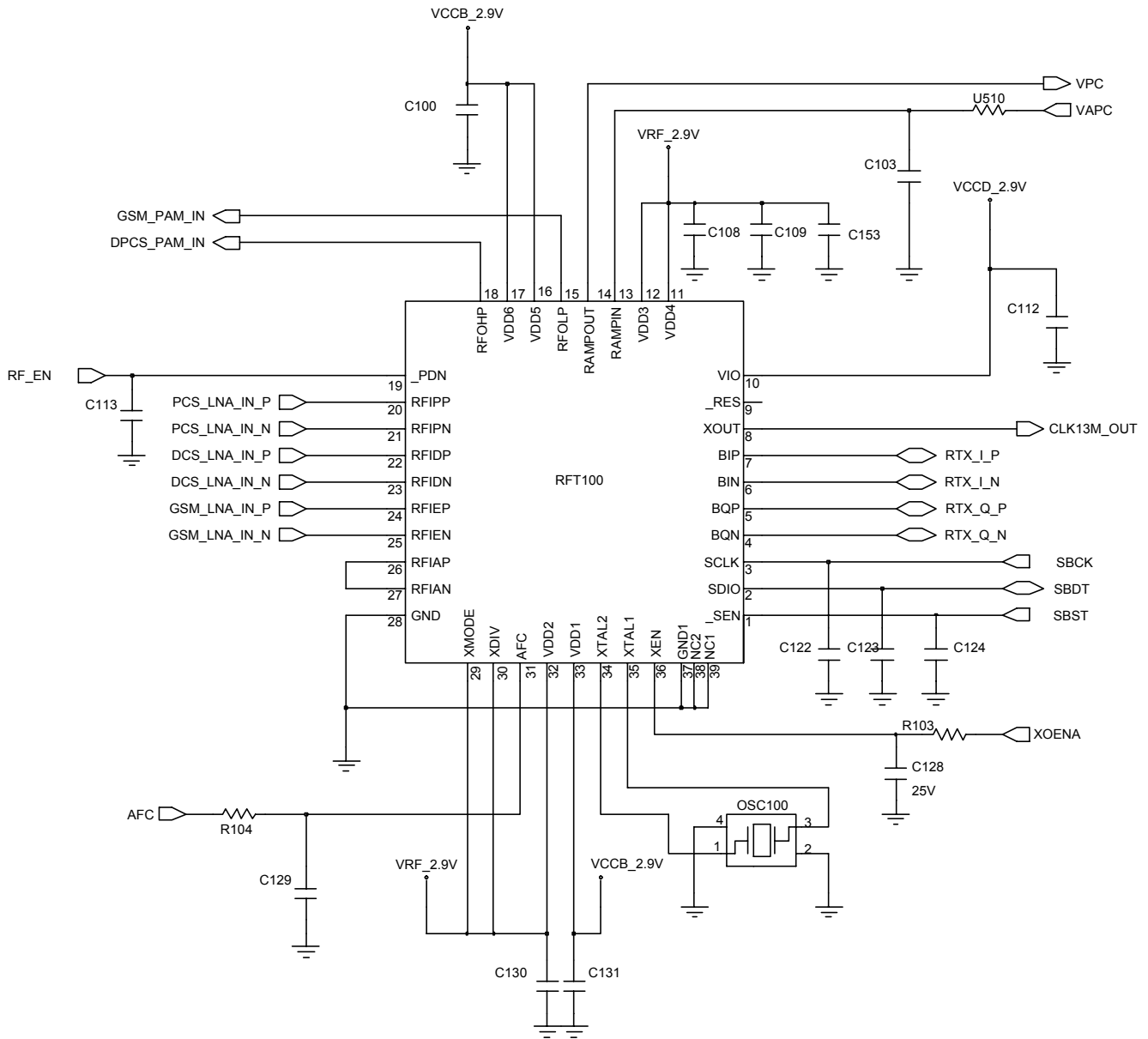


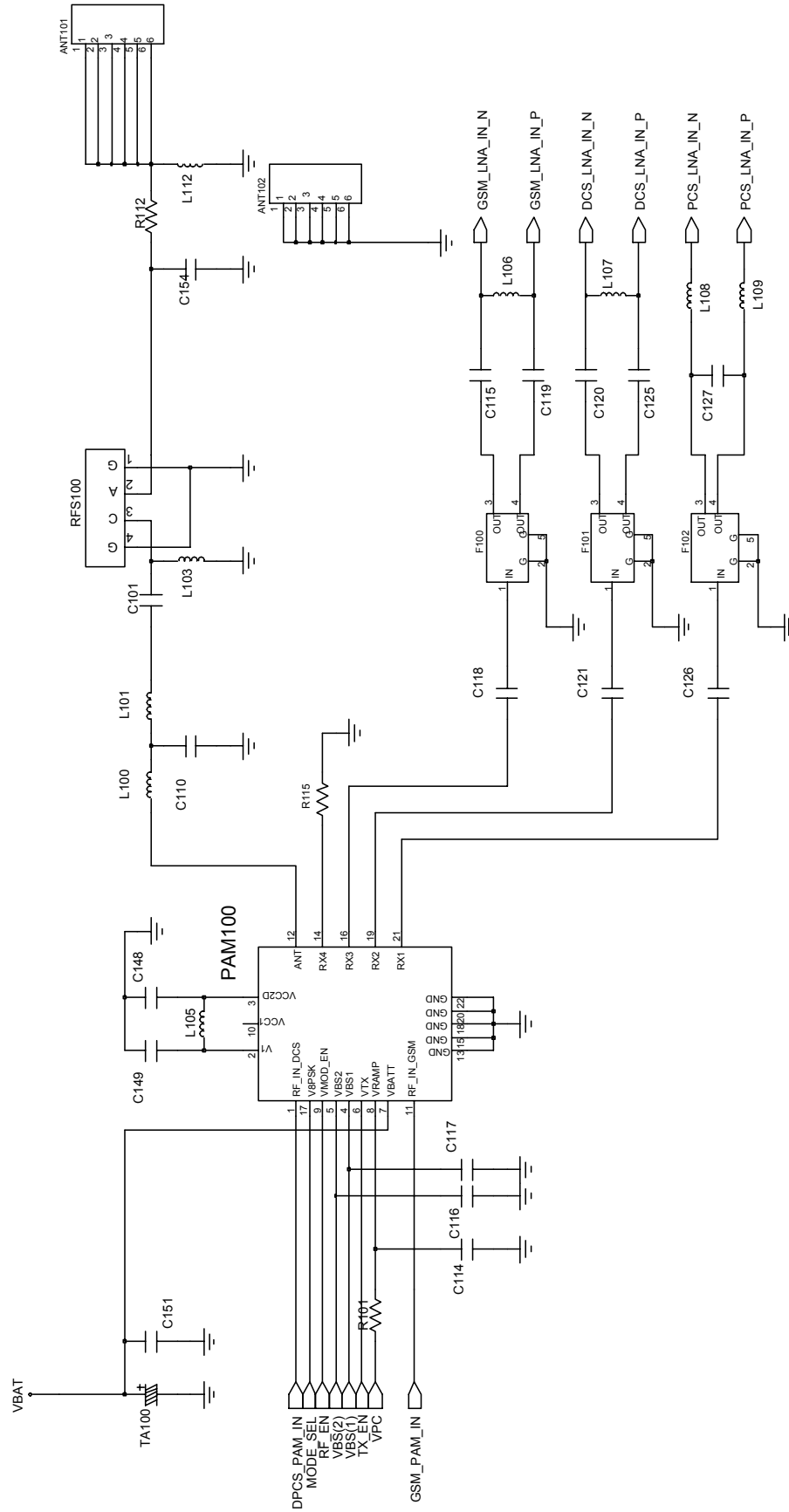


3-2-6. BLUETOOTH

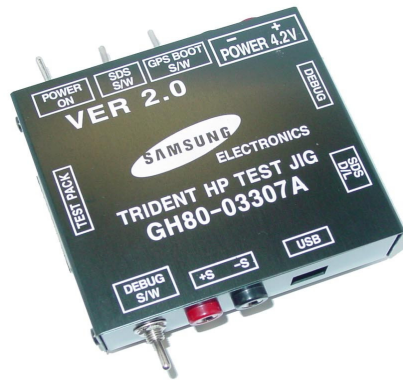








4. Array course control



Test Jig (GH80-03307A)



Test Cable (GH39-00483A)



RF Test Cable (GH39-00397A)

Software Downloading

4-1. Downloading Binary Files

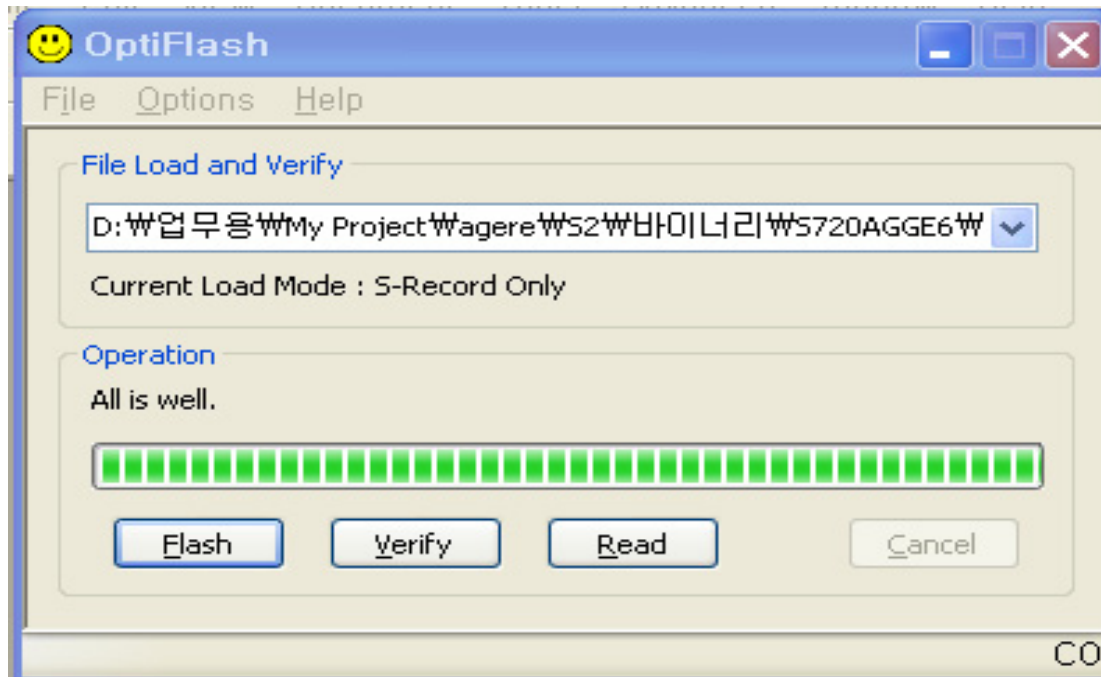
- 1) Three binary files for S720i
-S720XXYY.s3

4-2. Pre-requisite for Downloading

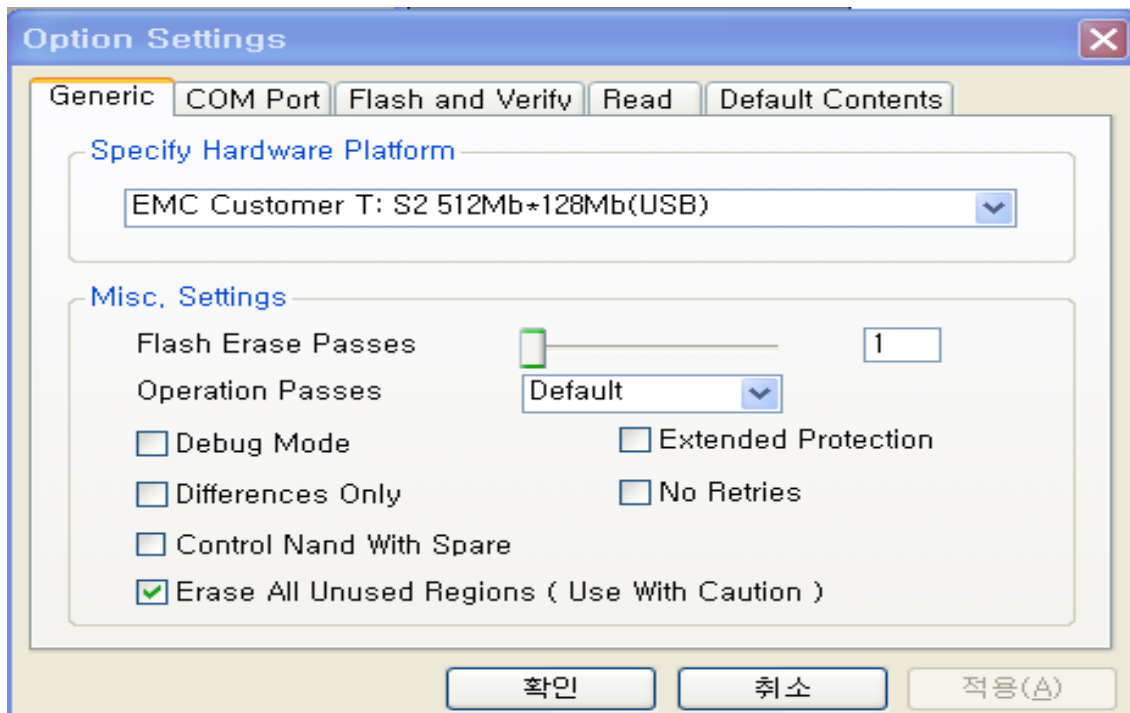
- Downloader Program (OptiFlash.exe)
- S720i Mobile Phone
- Data Cable
- Binary files

4-3. S/W Downloader Program

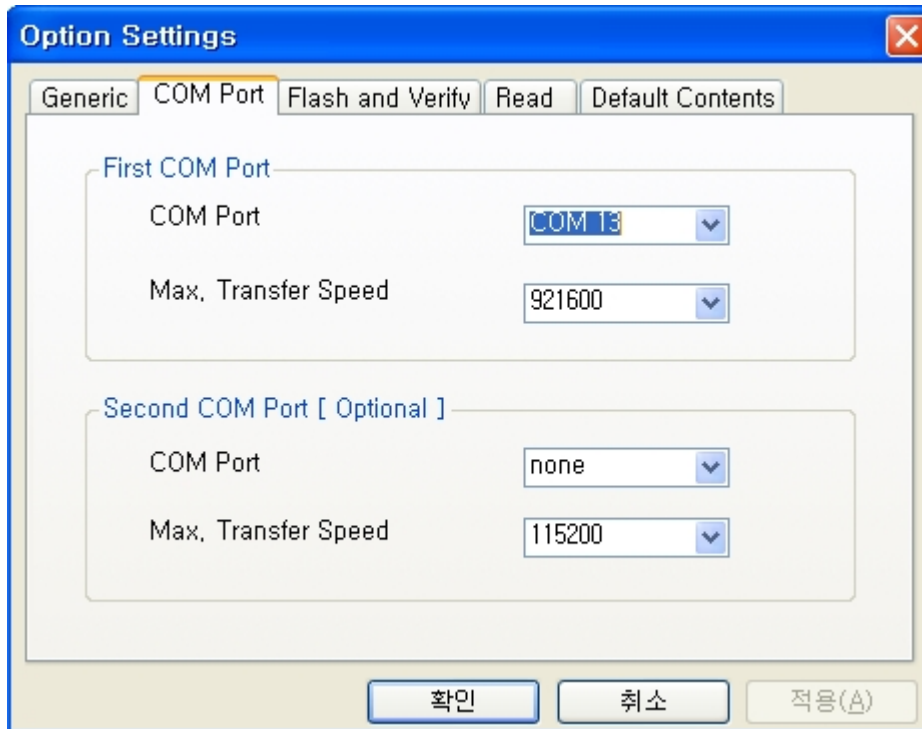
1. Load the binary download program by executing the "**OptiFlash.exe**"



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

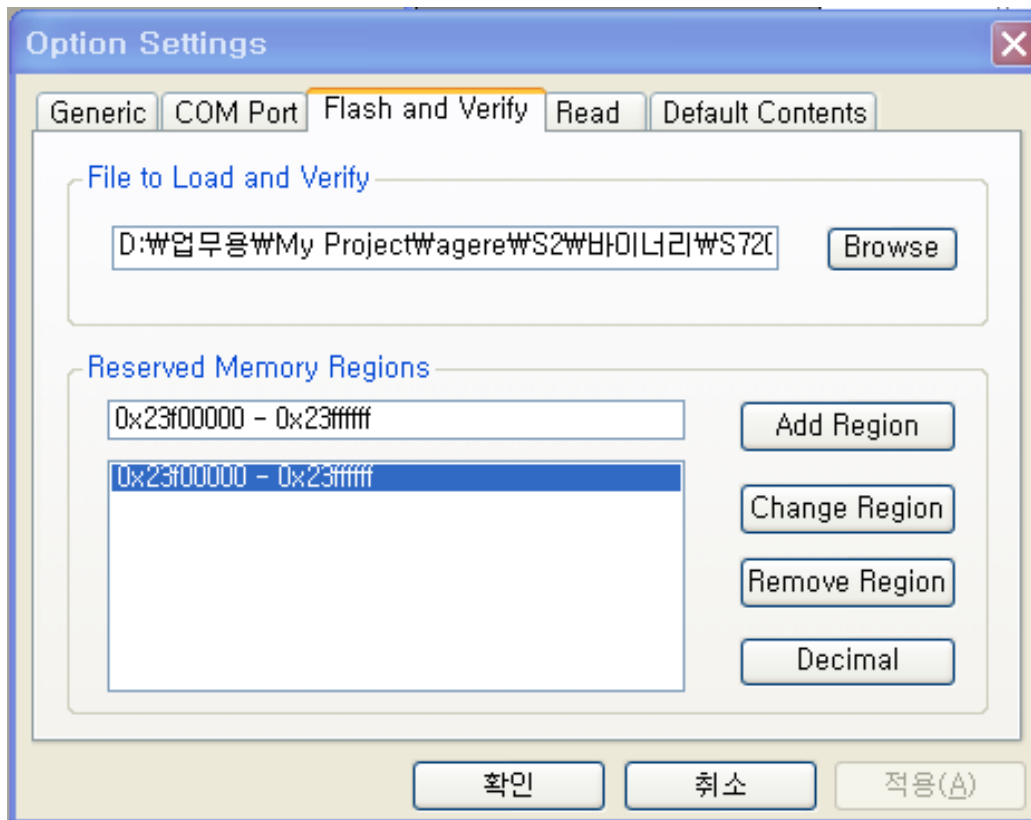


3. Select the **COM port** when the download cable is connected



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 S720XXYY.s3 for the downloader binary setting.

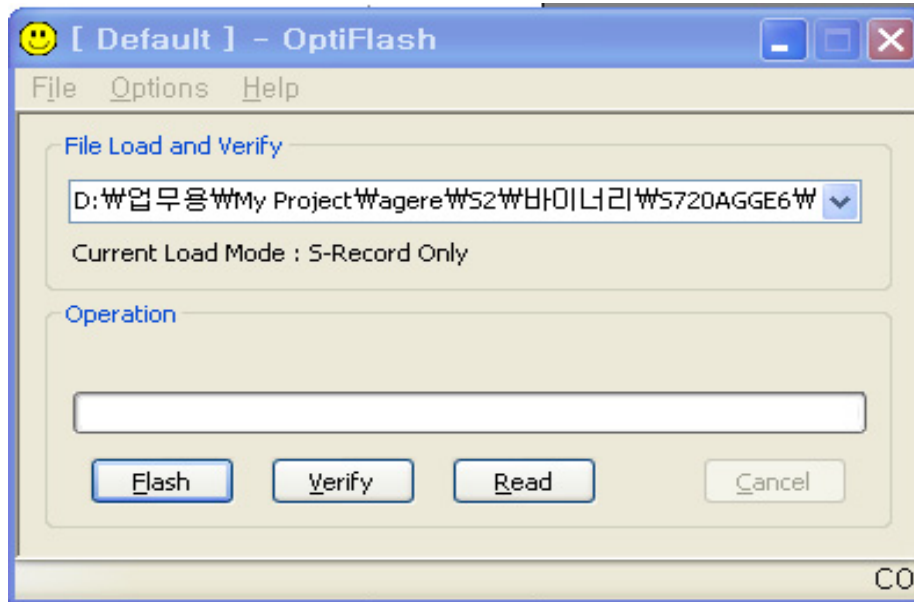


Make sure that not to change the reserved memory regions.

In case of S720i the reserved regions are :

-0x23f00000 - 0x23ffff

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.



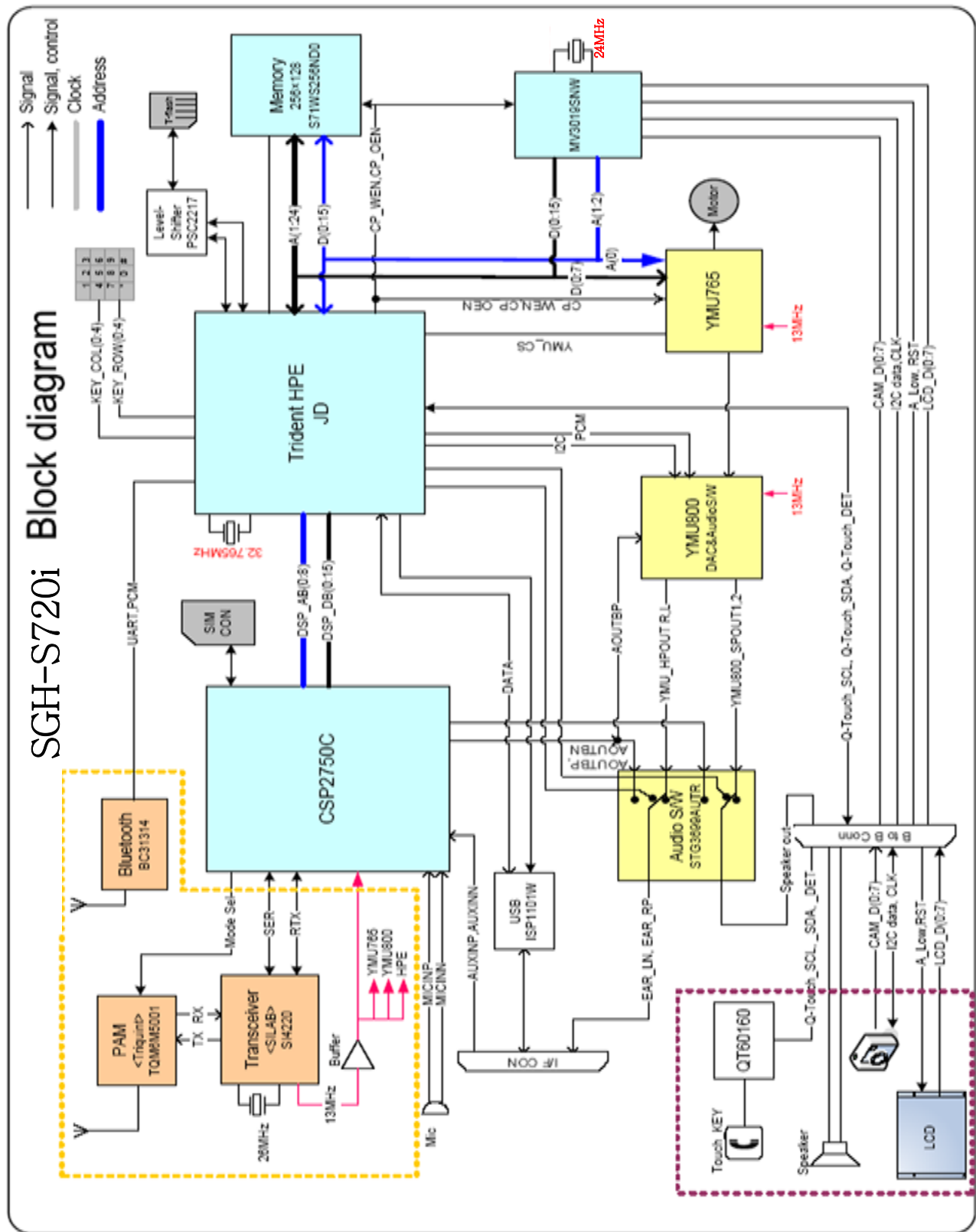
6. When downloading is finished successfully, there is a "All is well" message.
7. After finishing downloading, Certain memory resets should be done to guarantee the normal performance.
8. Confirm the downloaded version name and etc. :

***#1234#**

Full Reset :

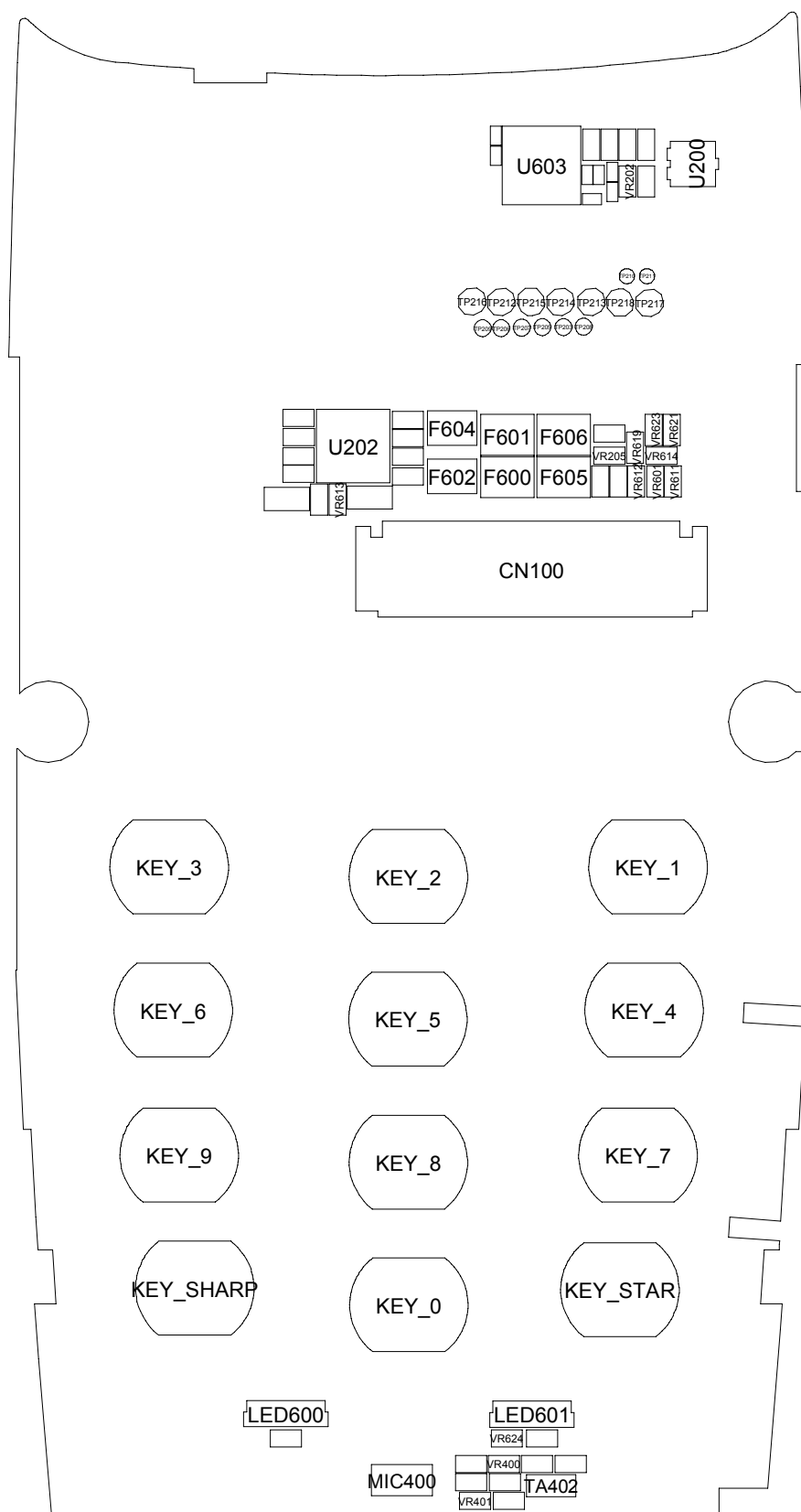
***2767*3855#**

5. Block Diagrams



6. PCB Diagrams





7. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	STATUS
0403-001547	D500	DIODE-ZENER	SA
0406-001150	ZD500	DIODE-TVS	SA
0406-001197	ZD501	DIODE-TVS	SA
0406-001197	ZD502	DIODE-TVS	SA
0601-002310	LED600	LED	SA
0601-002310	LED601	LED	SA
0801-002529	U301	IC-CMOS LOGIC	SA
0801-002958	U604	IC-CMOS LOGIC	SA
0801-003022	U100	IC-CMOS LOGIC	SA
1001-001349	U400	IC-ANALOG MULTIPLEX	SA
1009-001023	U200	IC-HALL EFFECT S/W	SA
1108-000092	UME200	IC-MCP	SA
1201-002457	PAM100	IC-POWER AMP	SA
1203-003663	U302	IC-BATTERY	SA
1203-003688	U101	IC-POSI.FIXED REG.	SA
1203-003789	U603	IC-POWER SUPERVISOR	SA
1203-004119	UCP300	IC-POWER SUPERVISOR	SA
1203-004164	U303	IC-DC/DC CONVERTER	SA
1204-002138	U201	IC-MELODY	SA
1205-002272	U202	IC-TRANSCEIVER	SA
1205-003064	U103	IC-DATA COMM./GEN.	SA
1205-003093	RFT100	IC-TRANSCEIVER	SA
1205-003227	U401	IC-CODEC	SA
1404-001165	TH300	THERMISTOR-NTC	SA
1405-001082	VR200	VARISTOR	SA
1405-001082	VR202	VARISTOR	SA
1405-001082	VR300	VARISTOR	SA
1405-001082	VR400	VARISTOR	SA
1405-001082	VR401	VARISTOR	SA
1405-001082	VR610	VARISTOR	SA
1405-001082	VR618	VARISTOR	SA
1405-001108	VR203	VARISTOR	SA
1405-001108	VR204	VARISTOR	SA
1405-001108	VR205	VARISTOR	SA
1405-001108	VR601	VARISTOR	SA
1405-001108	VR602	VARISTOR	SA
1405-001108	VR603	VARISTOR	SA

SEC CODE	Design LOC	Discription	STATUS
1405-001108	VR604	VARISTOR	SA
1405-001108	VR605	VARISTOR	SA
1405-001108	VR606	VARISTOR	SA
1405-001108	VR607	VARISTOR	SA
1405-001108	VR608	VARISTOR	SA
1405-001108	VR609	VARISTOR	SA
1405-001108	VR611	VARISTOR	SA
1405-001108	VR612	VARISTOR	SA
1405-001108	VR613	VARISTOR	SA
1405-001108	VR614	VARISTOR	SA
1405-001108	VR616	VARISTOR	SA
1405-001108	VR617	VARISTOR	SA
1405-001108	VR619	VARISTOR	SA
1405-001108	VR620	VARISTOR	SA
1405-001108	VR624	VARISTOR	SA
1405-001133	VR621	VARISTOR	SA
1405-001133	VR623	VARISTOR	SA
2007-000138	R108	R-CHIP	SA
2007-000139	R209	R-CHIP	SA
2007-000139	R211	R-CHIP	SA
2007-000140	R506	R-CHIP	SA
2007-000141	R300	R-CHIP	SA
2007-000146	R201	R-CHIP	SA
2007-000148	R104	R-CHIP	SA
2007-000148	R413	R-CHIP	SA
2007-000154	R311	R-CHIP	SA
2007-000157	R110	R-CHIP	SA
2007-000157	R111	R-CHIP	SA
2007-000157	R208	R-CHIP	SA
2007-000157	R312	R-CHIP	SA
2007-000171	C514	R-CHIP	SA
2007-000171	L401	R-CHIP	SA
2007-000171	L402	R-CHIP	SA
2007-000171	R103	R-CHIP	SA
2007-000171	R112	R-CHIP	SA
2007-000171	R406	R-CHIP	SA
2007-000171	R407	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-000171	R409	R-CHIP	SA
2007-000171	R412	R-CHIP	SA
2007-000172	R513	R-CHIP	SA
2007-000982	R303	R-CHIP	SA
2007-001119	R405	R-CHIP	SA
2007-001119	R419	R-CHIP	SA
2007-001119	R420	R-CHIP	SA
2007-001292	R212	R-CHIP	SA
2007-001292	R213	R-CHIP	SA
2007-001313	R401	R-CHIP	SA
2007-001313	R402	R-CHIP	SA
2007-001325	R207	R-CHIP	SA
2007-002796	R431	R-CHIP	SA
2007-003001	R400	R-CHIP	SA
2007-003001	R408	R-CHIP	SA
2007-003010	R510	R-CHIP	SA
2007-003010	R512	R-CHIP	SA
2007-003014	R313	R-CHIP	SA
2007-003015	R106	R-CHIP	SA
2007-007107	R200	R-CHIP	SA
2007-007107	R203	R-CHIP	SA
2007-007107	R206	R-CHIP	SA
2007-007107	R309	R-CHIP	SA
2007-007107	R314	R-CHIP	SA
2007-007135	R308	R-CHIP	SA
2007-007136	R302	R-CHIP	SA
2007-007139	R204	R-CHIP	SA
2007-007142	R307	R-CHIP	SA
2007-007306	R305	R-CHIP	SA
2007-007308	R301	R-CHIP	SA
2007-007313	R410	R-CHIP	SA
2007-007317	R600	R-CHIP	SA
2007-007318	R403	R-CHIP	SA
2007-007334	R115	R-CHIP	SA
2007-007334	R615	R-CHIP	SA
2007-007405	R105	R-CHIP	SA
2007-007528	R210	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-007528	R417	R-CHIP	SA
2007-007528	R418	R-CHIP	SA
2007-007528	R421	R-CHIP	SA
2007-007528	R426	R-CHIP	SA
2007-007573	R107	R-CHIP	SA
2007-007741	R415	R-CHIP	SA
2007-007741	R422	R-CHIP	SA
2007-007741	R424	R-CHIP	SA
2007-007798	R609	R-CHIP	SA
2007-007798	R614	R-CHIP	SA
2007-008055	R205	R-CHIP	SA
2007-008055	R500	R-CHIP	SA
2007-008056	U510	R-CHIP	SA
2007-008419	R502	R-CHIP	SA
2007-008419	R503	R-CHIP	SA
2007-008419	R504	R-CHIP	SA
2007-008419	R505	R-CHIP	SA
2007-008483	R509	R-CHIP	SA
2007-008483	R605	R-CHIP	SA
2007-008483	R606	R-CHIP	SA
2007-008483	R607	R-CHIP	SA
2007-008516	R101	R-CHIP	SA
2007-008542	R427	R-CHIP	SA
2007-008542	R428	R-CHIP	SA
2007-008542	R610	R-CHIP	SA
2007-008648	R514	R-CHIP	SA
2007-008672	R601	R-CHIP	SA
2007-008672	R602	R-CHIP	SA
2007-008672	R603	R-CHIP	SA
2007-008672	R604	R-CHIP	SA
2007-008672	R611	R-CHIP	SA
2007-008672	R612	R-CHIP	SA
2007-008672	R613	R-CHIP	SA
2007-008808	R423	R-CHIP	SA
2007-008808	R425	R-CHIP	SA
2007-009084	R511	R-CHIP	SA
2007-009124	R515	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-009168	R414	R-CHIP	SA
2007-009168	R416	R-CHIP	SA
2007-009170	R501	R-CHIP	SA
2203-000189	C501	C-CER,CHIP	SA
2203-000233	C216	C-CER,CHIP	SA
2203-000233	C217	C-CER,CHIP	SA
2203-000233	C309	C-CER,CHIP	SA
2203-000233	C410	C-CER,CHIP	SA
2203-000254	C134	C-CER,CHIP	SA
2203-000254	C136	C-CER,CHIP	SA
2203-000254	C137	C-CER,CHIP	SA
2203-000254	C202	C-CER,CHIP	SA
2203-000254	C205	C-CER,CHIP	SA
2203-000254	C206	C-CER,CHIP	SA
2203-000254	C208	C-CER,CHIP	SA
2203-000254	C211	C-CER,CHIP	SA
2203-000254	C212	C-CER,CHIP	SA
2203-000254	C300	C-CER,CHIP	SA
2203-000254	C301	C-CER,CHIP	SA
2203-000254	C317	C-CER,CHIP	SA
2203-000254	C513	C-CER,CHIP	SA
2203-000278	C133	C-CER,CHIP	SA
2203-000278	C135	C-CER,CHIP	SA
2203-000278	C146	C-CER,CHIP	SA
2203-000278	C307	C-CER,CHIP	SA
2203-000278	C332	C-CER,CHIP	SA
2203-000386	C140	C-CER,CHIP	SA
2203-000386	C510	C-CER,CHIP	SA
2203-000386	C511	C-CER,CHIP	SA
2203-000425	C220	C-CER,CHIP	SA
2203-000425	C221	C-CER,CHIP	SA
2203-000438	C141	C-CER,CHIP	SA
2203-000438	C223	C-CER,CHIP	SA
2203-000438	C440	C-CER,CHIP	SA
2203-000489	C413	C-CER,CHIP	SA
2203-000627	C441	C-CER,CHIP	SNA
2203-000696	C152	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-000812	C113	C-CER,CHIP	SA
2203-000812	C138	C-CER,CHIP	SA
2203-000812	C308	C-CER,CHIP	SA
2203-000812	C400	C-CER,CHIP	SA
2203-000812	C402	C-CER,CHIP	SA
2203-000812	C411	C-CER,CHIP	SA
2203-000812	C412	C-CER,CHIP	SA
2203-000812	C422	C-CER,CHIP	SA
2203-000812	C431	C-CER,CHIP	SA
2203-000854	C421	C-CER,CHIP	SA
2203-000854	C424	C-CER,CHIP	SA
2203-000854	C430	C-CER,CHIP	SA
2203-000854	C434	C-CER,CHIP	SA
2203-001405	C207	C-CER,CHIP	SA
2203-001405	C318	C-CER,CHIP	SA
2203-001405	C319	C-CER,CHIP	SA
2203-001432	C435	C-CER,CHIP	SA
2203-001432	C436	C-CER,CHIP	SA
2203-002443	C327	C-CER,CHIP	SA
2203-002443	C330	C-CER,CHIP	SA
2203-002709	C224	C-CER,CHIP	SA
2203-002709	C226	C-CER,CHIP	SA
2203-002709	C227	C-CER,CHIP	SA
2203-002709	C302	C-CER,CHIP	SA
2203-002709	C303	C-CER,CHIP	SA
2203-002709	C305	C-CER,CHIP	SA
2203-002709	C320	C-CER,CHIP	SA
2203-002709	C333	C-CER,CHIP	SA
2203-002709	C419	C-CER,CHIP	SA
2203-002709	C502	C-CER,CHIP	SA
2203-005052	C147	C-CER,CHIP	SA
2203-005234	C115	C-CER,CHIP	SA
2203-005234	C119	C-CER,CHIP	SA
2203-005234	C120	C-CER,CHIP	SA
2203-005234	C125	C-CER,CHIP	SA
2203-005281	C145	C-CER,CHIP	SA
2203-005288	C127	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-005481	C437	C-CER,CHIP	SA
2203-005481	C438	C-CER,CHIP	SA
2203-005482	C132	C-CER,CHIP	SA
2203-005482	C151	C-CER,CHIP	SA
2203-005482	C407	C-CER,CHIP	SA
2203-005482	C417	C-CER,CHIP	SA
2203-005482	C418	C-CER,CHIP	SA
2203-005659	C214	C-CER,CHIP	SA
2203-005682	C116	C-CER,CHIP	SA
2203-005682	C117	C-CER,CHIP	SA
2203-005682	C122	C-CER,CHIP	SA
2203-005682	C123	C-CER,CHIP	SA
2203-005682	C124	C-CER,CHIP	SA
2203-005682	C128	C-CER,CHIP	SA
2203-005717	C101	C-CER,CHIP	SA
2203-005731	C118	C-CER,CHIP	SA
2203-005731	C121	C-CER,CHIP	SA
2203-005731	C126	C-CER,CHIP	SA
2203-005792	C110	C-CER,CHIP	SA
2203-005806	C103	C-CER,CHIP	SNA
2203-006048	C130	C-CER,CHIP	SA
2203-006048	C200	C-CER,CHIP	SA
2203-006048	C201	C-CER,CHIP	SA
2203-006048	C203	C-CER,CHIP	SA
2203-006048	C204	C-CER,CHIP	SA
2203-006048	C209	C-CER,CHIP	SA
2203-006048	C210	C-CER,CHIP	SA
2203-006048	C213	C-CER,CHIP	SA
2203-006048	C215	C-CER,CHIP	SA
2203-006048	C218	C-CER,CHIP	SA
2203-006048	C219	C-CER,CHIP	SA
2203-006048	C222	C-CER,CHIP	SA
2203-006048	C230	C-CER,CHIP	SA
2203-006048	C231	C-CER,CHIP	SA
2203-006048	C232	C-CER,CHIP	SA
2203-006048	C415	C-CER,CHIP	SA
2203-006048	C416	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006048	C505	C-CER,CHIP	SA
2203-006048	C506	C-CER,CHIP	SA
2203-006048	C507	C-CER,CHIP	SA
2203-006048	C508	C-CER,CHIP	SA
2203-006048	C509	C-CER,CHIP	SA
2203-006048	C604	C-CER,CHIP	SA
2203-006048	C608	C-CER,CHIP	SA
2203-006137	C112	C-CER,CHIP	SA
2203-006137	C512	C-CER,CHIP	SA
2203-006141	C313	C-CER,CHIP	SA
2203-006141	C315	C-CER,CHIP	SA
2203-006141	C408	C-CER,CHIP	SA
2203-006194	C129	C-CER,CHIP	SA
2203-006194	C148	C-CER,CHIP	SA
2203-006208	C153	C-CER,CHIP	SA
2203-006260	C420	C-CER,CHIP	SA
2203-006260	C423	C-CER,CHIP	SA
2203-006260	C428	C-CER,CHIP	SA
2203-006260	C432	C-CER,CHIP	SA
2203-006305	C100	C-CER,CHIP	SA
2203-006307	C326	C-CER,CHIP	SA
2203-006348	C225	C-CER,CHIP	SA
2203-006348	C304	C-CER,CHIP	SA
2203-006361	C322	C-CER,CHIP	SA
2203-006423	C108	C-CER,CHIP	SA
2203-006423	C131	C-CER,CHIP	SA
2203-006423	C149	C-CER,CHIP	SA
2203-006423	C605	C-CER,CHIP	SA
2203-006423	C607	C-CER,CHIP	SA
2203-006556	C114	C-CER,CHIP	SA
2203-006562	C143	C-CER,CHIP	SA
2203-006562	C144	C-CER,CHIP	SA
2203-006562	C311	C-CER,CHIP	SA
2203-006562	C312	C-CER,CHIP	SA
2203-006562	C314	C-CER,CHIP	SA
2203-006562	C316	C-CER,CHIP	SA
2203-006562	C321	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006562	C401	C-CER,CHIP	SA
2203-006562	C503	C-CER,CHIP	SA
2203-006562	C504	C-CER,CHIP	SA
2203-006562	C600	C-CER,CHIP	SA
2203-006562	C601	C-CER,CHIP	SA
2203-006562	C606	C-CER,CHIP	SA
2203-006648	C109	C-CER,CHIP	SA
2203-006681	C139	C-CER,CHIP	SA
2203-006681	C325	C-CER,CHIP	SA
2203-006708	C310	C-CER,CHIP	SA
2203-006708	C334	C-CER,CHIP	SA
2203-006824	C228	C-CER,CHIP	SA
2203-006824	C229	C-CER,CHIP	SA
2203-006824	C602	C-CER,CHIP	SA
2203-006825	C328	C-CER,CHIP	SA
2203-006825	C329	C-CER,CHIP	SA
2404-001377	TA402	C-TA,CHIP	SA
2404-001377	TA404	C-TA,CHIP	SA
2404-001381	TA100	C-TA,CHIP	SA
2404-001381	TA300	C-TA,CHIP	SA
2404-001381	TA601	C-TA,CHIP	SA
2404-001413	TA600	C-TA,CHIP	SA
2404-001415	TA301	C-TA,CHIP	SA
2404-001448	TA500	C-TA,CHIP	SA
2404-001448	TA501	C-TA,CHIP	SA
2703-001747	L112	INDUCTOR-SMD	SA
2703-001748	L108	INDUCTOR-SMD	SA
2703-001748	L109	INDUCTOR-SMD	SA
2703-001990	L110	INDUCTOR-SMD	SA
2703-002202	L106	INDUCTOR-SMD	SA
2703-002268	L107	INDUCTOR-SMD	SA
2703-002612	L111	INDUCTOR-SMD	SA
2703-002734	L300	INDUCTOR-SMD	SA
2703-002749	L301	INDUCTOR-SMD	SA
2703-002900	L105	INDUCTOR-SMD	SA
2703-002910	L103	INDUCTOR-SMD	SA
2703-002917	L100	INDUCTOR-SMD	SA

SEC CODE	Design LOC	Discription	STATUS
2703-002917	L101	INDUCTOR-SMD	SA
2801-004190	OSC200	CRYSTAL-SMD	SA
2801-004455	OSC100	CRYSTAL-SMD	SA
2801-004458	OSC501	CRYSTAL-SMD	SA
2801-004560	U102	CRYSTAL-SMD	SA
2901-001286	F602	FILTER-EMI SMD	SA
2901-001286	F604	FILTER-EMI SMD	SA
2901-001320	F600	FILTER-EMI/ESD	SA
2901-001320	F601	FILTER-EMI/ESD	SA
2901-001320	F605	FILTER-EMI/ESD	SA
2901-001320	F606	FILTER-EMI/ESD	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
3301-001534	L200	BEAD-SMD	SA
3301-001792	L502	BEAD-SMD	SA
3301-001914	L500	BEAD-SMD	SA
3404-001303	POWER_ON	SWITCH-TACT	SA
3404-001303	VOL_DOWN	SWITCH-TACT	SA
3404-001303	VOL_UP	SWITCH-TACT	SA
3705-001358	RFS100	CONNECTOR-COAXIAL	SA
3708-002278	CN100	CONNECTOR-FPC/FFC/PIC	SA
3709-001344	SD602	CONNECTOR-CARD EDGE	SA
3710-002442	IFC500	SOCKET-INTERFACE	SA
3711-006249	BTC601	HEADER-BATTERY	SA
3711-006277	CON300	HEADER-BOARD TO BOARD	SA
4202-001297	ANT100	ANTENNA-CHIP	SA
4302-001201	BAT300	BATTERY-LI(2ND)	SA
GH09-00044A	UCP200	IC MICOM	SA
GH13-00044A	U512	IC ASIC-SGHE490	SA
GH71-06031A	ANT101	NPR-INTENNA CONTACT	SA
GH71-06031A	ANT102	NPR-INTENNA CONTACT	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 specipcty 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
- Music player
- Photo printing
- Bluetooth
- Offline mode
- SOS message
- i-mode browser
- Email (i-mail)
- Multimedia Message Service (i-mms)
- Phonebook

**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