SAMSUNG

GSM TELEPHONE

SGH-B500

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 General Specification

	GSM 900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880
ARFCN range	1~124	0~124 & 975~1023	512~885
Tx/Rx spacing	45 MHz	45 MHz	95 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~13 dBm	33 dBm~5 dBm	30 dBm~0 dBm
Power Class	5 pcl ~ 15 pcl	5 pcl ~ 19 pcl	0 pcl ~ 15 pcl
Sensitivity	-102 dBm	-102 dBm	-100 dBm
TDMA Mux	8	8	8
Cell Radius	35 Km	35 Km	2 Km

2-2. GSM TX power class

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

3. Product Function

Main Function

- SDN (Service Dialling Numbers)
- Music player
- SOS message
- FM radio

4. Array course control

Test Jig (GH80-03307A)

Test Cable (GH39-00127A)

RF Test Cable (GH39-00283A)

Software Downloading

4-1. Downloading Binary Files

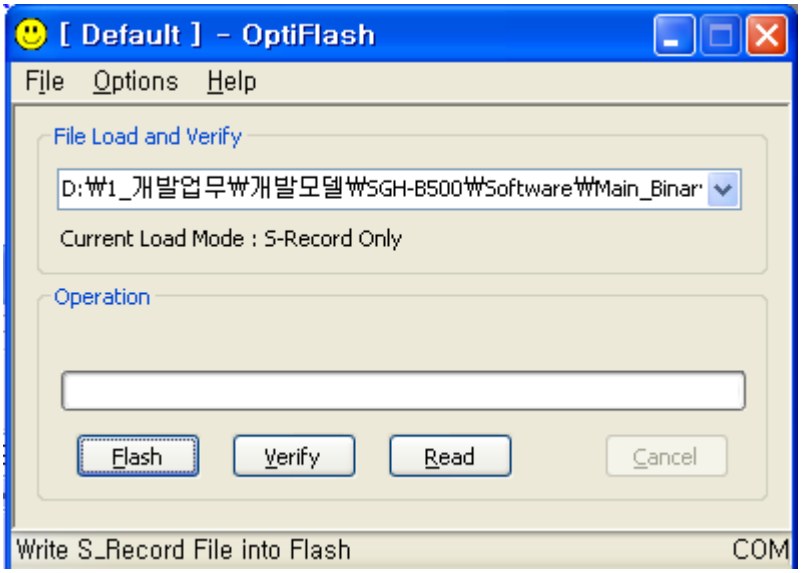
- Three binary files for downloading B500
  - B500XXYY.s3 : Main source code binary

4-2. Pre-requsite for Downloading

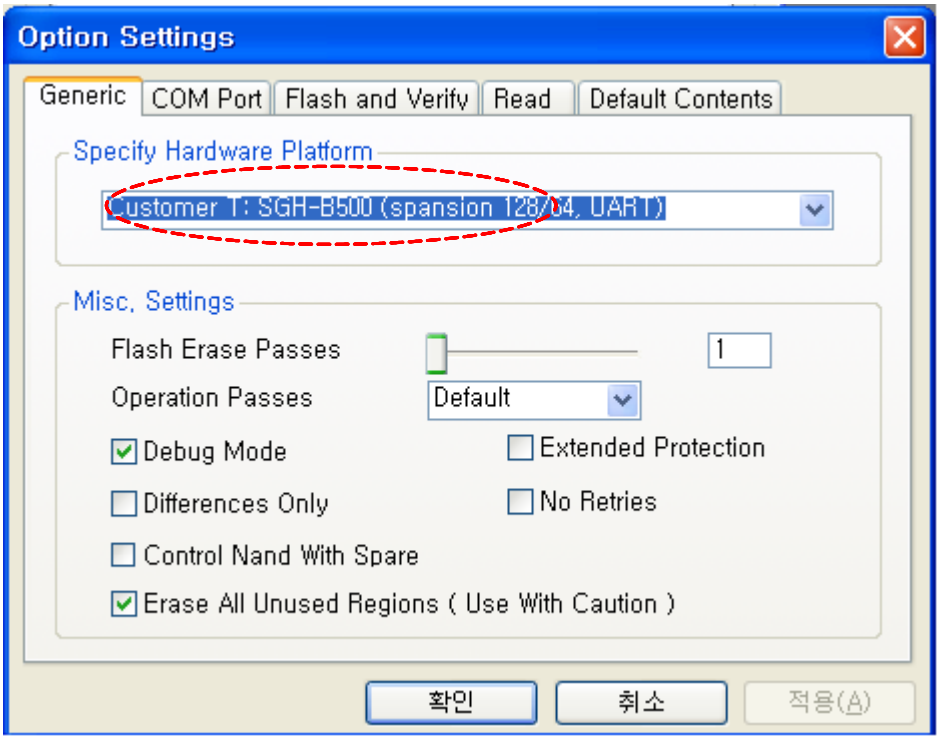
- Downloader Program(**OptiFlash.exe**)
- B500 Mobile Phone
- Data Cable
- Binary files

4-3. S/W Downloader Program

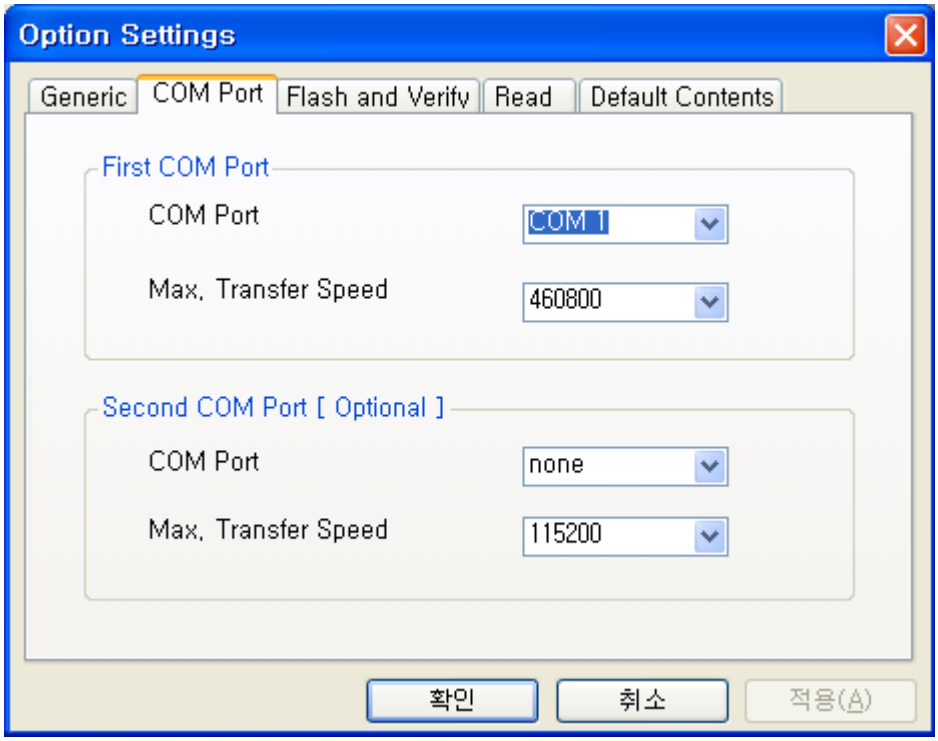
1. Load the binary download program by executing the "**Optiflash.exe**"



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

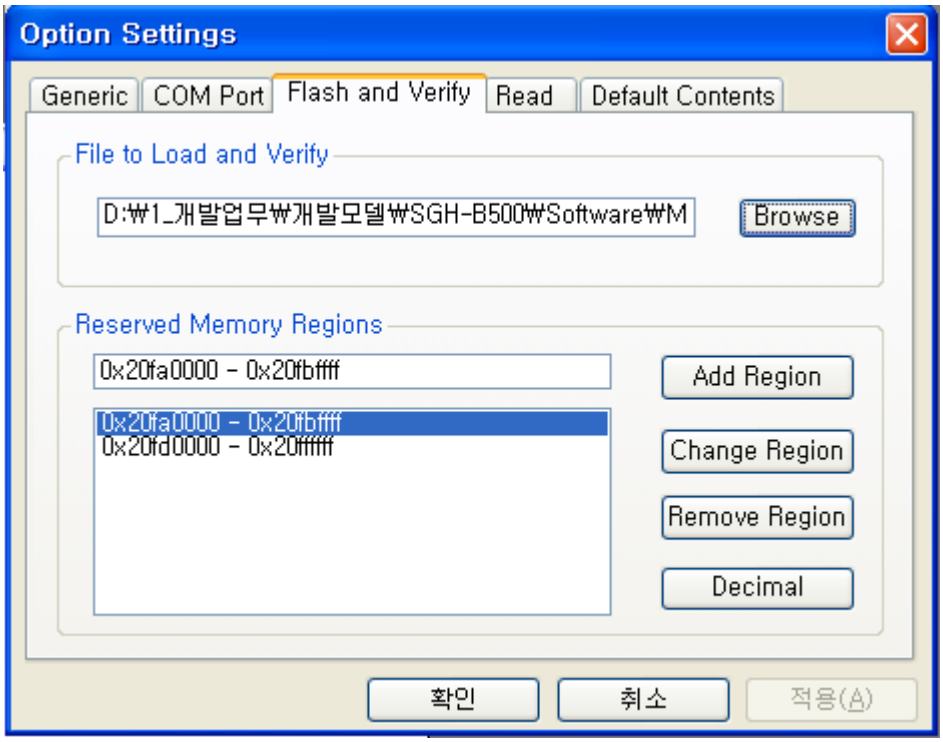


3.Select the **COM port** when the download cable is connected



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

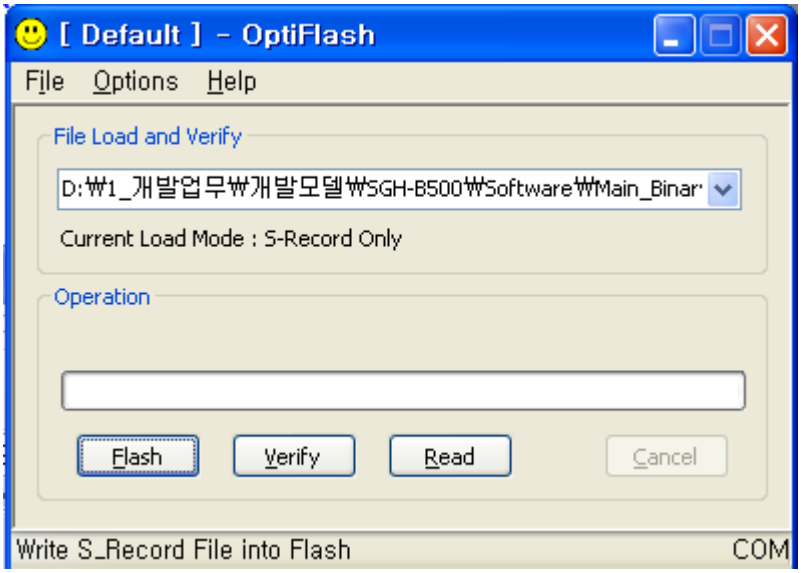
4. Select the **"Flash&Verify" → "Browse"**
   Set the directory path and choose the lastet s/w binary, for example "B500XXYY.s3", for the downloader binary setting.



Make sure that not to change the reserved memory regions.
In case of B500 the reserved regions are :
- 0x20fa0000 - 0x20fbffff
0x20fd0000 - 0x20ffffff

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.



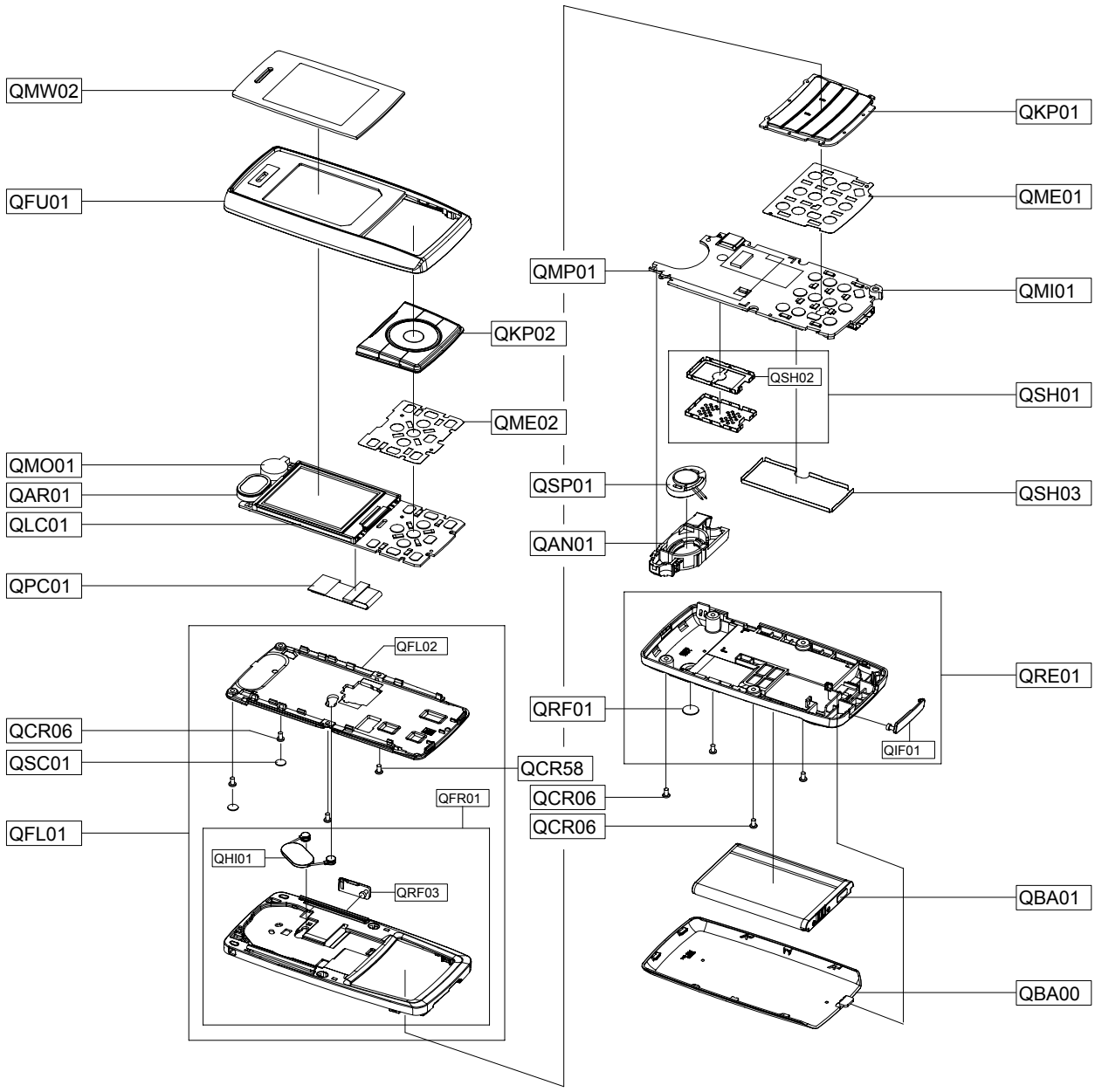
6. When downloading is finished successfully, there is a "All is well" message.

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			Dicription	SEC CODE
QAN01			INTENNA-SGH-B500	GH42-01298A
QAR01			AUDIO-RECEIVER	3009-001298
QBA00			PMO COVER-BATTERY	GH72-43676A
QBA01			INNER BATTERY PACK-800MAH,MAIN	GH43-02589A
QCR06			SCREW-MACHINE	6001-001155
QCR06			SCREW-MACHINE	6001-001155
QCR06			SCREW-MACHINE	6001-001155
QCR58			SCREW-MACHINE	6001-001870
QFU01			ASSY CASE-UPPER	GH98-05926A
QKP01			ASSY KEYPAD-MAIN(XEF/HBA)	GH98-06175A
QKP02			ASSY KEYPAD-SUB(XEF/BLU)	GH98-07192A
QLC01			ELA UNIT-SGH_B500 LCD HOT BAR	GH96-02882A
QME01			UNIT-DOME SHEET (F/K)	GH59-04766A
QME02			UNIT-DOME SHEET (N/K)	GH59-04765A
QMI01			MICROPHONE-ASSY-SGH-B500	GH30-00432A
QMO01			MOTOR DC-SGHE490	GH31-00280A
QMP01			PBA MAIN-SGH-B500	GH92-03882A
QMW02			PMO WINDOW-MAIN	GH72-43813A
QPC01			MEA-SLIDE FPCB KIT	GH97-08411A
QRF01			TAPE-RF SHEET	GH74-35472A
QSC01			TAPE-SCREW CAP	GH74-34348A
QSH03			ASSY COVER-SHIELD BASE BAND	GH98-06904A
QSP01			SPEAKER	3001-002253
QSH01			IPR SHIELD-COVER RF	GH70-02830A
	QSH02		NPR SHIELD-FRAME RF	GH71-07784A
QFL01			ASSY CASE-LOWER+FRONT	GH98-05925A
	QFR01		ASSY CASE-FRONT	GH98-06993A
		QRF03	PMO COVER-EAR JACK	GH72-43677A
		QHI01	ASSY HINGE-MODULE	GH98-05927A

	QFL02		ASSY CASE-LOWER	GH98-06994A
QRE01			ASSY CASE-REAR	GH98-05923A
	QIF01		PMO COVER-IF	GH72-43675A

Dicription	SEC CODE
BAG PE	6902-000297
ADAPTOR-EU 220V TYPE(BLK)	GH44-01334A
EARPHONE-EARPHONE,10P,BLK(EU)	GH59-04003A
LABEL(P)-UNIT SEAL	GH68-00518B
LABEL(P)-IMEI	GH68-01335D
LABEL(R)-WATER SOAK	GH68-09361A
LABEL(R)-MAIN(EU)	GH68-16382A
MANUAL USERS-EU ITALIAN	GH68-16790A
BOX(P)-UNIT MAIN(EU)	GH69-06051A
TAPE INSU-FPCB CONN	GH74-35379A
TAPE GASK-SUB PCB	GH74-35485A
TAPE GASK	GH74-35486A
TAPE-FPCB BACK	GH74-35890A
VINYL-BOHO SLIDE	GH74-36497A
VINYL-BOHO LCD	GH74-36898A
VINYL-BOHO REAR	GH74-36899A
CBF SIGNAL-SGHV200TEST	GH39-00257B
CBF SIGNAL-SGHV200TEST	GH39-00257D
CBF SIGNAL-SPHA560 RF CABLE	GH39-00397A
INSTALL-TEST JIG BOX	GH80-03312A

6. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	SATAUS
0403-001547	ZD504	DIODE-ZENER	SA
0406-001194	ZD500	DIODE-TVS	SA
0406-001194	ZD501	DIODE-TVS	SA
0406-001194	ZD502	DIODE-TVS	SA
0406-001219	ZD503	DIODE-TVS	SA
0406-001254	ZD505	DIODE-TVS	SA
0406-001254	ZD600	DIODE-TVS	SA
0406-001256	U500	DIODE-TVS	SA
0406-001267	ZD400	DIODE-TVS	SA
0406-001267	ZD401	DIODE-TVS	SA
0601-002053	LED600	LED	SA
0601-002053	LED601	LED	SA
0601-002053	LED602	LED	SA
0601-002053	LED603	LED	SA
0601-002053	LED604	LED	SA
0601-002053	LED605	LED	SA
0601-002053	LED606	LED	SA
0601-002053	LED607	LED	SA
0601-002053	LED609	LED	SA
0601-002053	LED610	LED	SA
0801-002529	U301	IC-CMOS LOGIC	SA
1009-001024	U201	IC-HALL EFFECT S/W	SA
1108-000142	UME200	IC-MCP	SA
1201-002356	U401	IC-AUDIO AMP	SA
1201-002490	PAM100	IC-POWER AMP	SA
1203-003663	U300	IC-BATTERY	SA
1203-004886	UCD300	IC-POWER SUPERVISOR	SA
1204-002700	U400	IC-TUNER	SA
1205-003098	RFT100	IC-TRANSCEIVER	SA
1205-003318	UCP200	IC-DATA COMM./GEN.	SA
1404-001165	TH300	THERMISTOR-NTC	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

SEC CODE	Design LOC	Discription	SATAUS
1405-001082	VR603	VARISTOR	SA
1405-001082	VR610	VARISTOR	SA
1405-001082	VR613	VARISTOR	SA
1405-001082	VR614	VARISTOR	SA
1405-001183	VR609	VARISTOR	SA
1405-001183	VR611	VARISTOR	SA
1405-001183	VR612	VARISTOR	SA
2007-000139	R226	R-CHIP	SA
2007-000140	R518	R-CHIP	SA
2007-000143	R203	R-CHIP	SA
2007-000143	R210	R-CHIP	SA
2007-000144	R308	R-CHIP	SA
2007-000147	R206	R-CHIP	SA
2007-000147	R209	R-CHIP	SA
2007-000148	R100	R-CHIP	SA
2007-000148	R204	R-CHIP	SA
2007-000153	R402	R-CHIP	SA
2007-000153	R409	R-CHIP	SA
2007-000155	R305	R-CHIP	SA
2007-000157	R306	R-CHIP	SA
2007-000159	R307	R-CHIP	SA
2007-000162	R201	R-CHIP	SA
2007-000162	R202	R-CHIP	SA
2007-000162	R225	R-CHIP	SA
2007-000162	R300	R-CHIP	SA
2007-000162	R310	R-CHIP	SA
2007-000162	R403	R-CHIP	SA
2007-000162	R404	R-CHIP	SA
2007-000162	R500	R-CHIP	SA
2007-000162	R501	R-CHIP	SA
2007-000162	R502	R-CHIP	SA
2007-000162	R503	R-CHIP	SA
2007-000162	R504	R-CHIP	SA
2007-000162	R510	R-CHIP	SA
2007-000162	R524	R-CHIP	SA
2007-000171	R102	R-CHIP	SA

SEC CODE	Design LOC	Discription	SATAUS
2007-000171	R211	R-CHIP	SA
2007-000171	R314	R-CHIP	SA
2007-000171	R315	R-CHIP	SA
2007-000171	R412	R-CHIP	SA
2007-000171	R414	R-CHIP	SA
2007-000171	R415	R-CHIP	SA
2007-000171	R416	R-CHIP	SA
2007-000171	R417	R-CHIP	SA
2007-000172	R612	R-CHIP	SA
2007-000172	R613	R-CHIP	SA
2007-000172	R614	R-CHIP	SA
2007-000172	R615	R-CHIP	SA
2007-000172	R616	R-CHIP	SA
2007-000172	R617	R-CHIP	SA
2007-000172	R618	R-CHIP	SA
2007-000172	R619	R-CHIP	SA
2007-000172	R621	R-CHIP	SA
2007-000172	R622	R-CHIP	SA
2007-000174	R114	R-CHIP	SA
2007-001119	R408	R-CHIP	SA
2007-001244	R309	R-CHIP	SA
2007-001292	R521	R-CHIP	SA
2007-001292	R522	R-CHIP	SA
2007-001292	R523	R-CHIP	SA
2007-003015	R200	R-CHIP	SA
2007-007306	R401	R-CHIP	SA
2007-007308	R301	R-CHIP	SA
2007-007314	R302	R-CHIP	SA
2007-007480	R304	R-CHIP	SA
2007-007528	R400	R-CHIP	SA
2007-007528	R405	R-CHIP	SA
2007-007528	R407	R-CHIP	SA
2007-007528	R413	R-CHIP	SA
2007-007741	R101	R-CHIP	SA
2007-008043	R107	R-CHIP	SA
2007-008045	R600	R-CHIP	SA

SEC CODE	Design LOC	Discription	SATAUS
2007-008045	R601	R-CHIP	SA
2007-008045	R602	R-CHIP	SA
2007-008045	R603	R-CHIP	SA
2007-008045	R604	R-CHIP	SA
2007-008045	R605	R-CHIP	SA
2007-008045	R606	R-CHIP	SA
2007-008045	R607	R-CHIP	SA
2007-008045	R608	R-CHIP	SA
2007-008045	R609	R-CHIP	SA
2007-008045	R610	R-CHIP	SA
2007-008045	R611	R-CHIP	SA
2007-008419	R505	R-CHIP	SA
2007-008419	R506	R-CHIP	SA
2007-008419	R507	R-CHIP	SA
2007-008419	R508	R-CHIP	SA
2007-008419	R509	R-CHIP	SA
2007-008419	R511	R-CHIP	SA
2007-008419	R512	R-CHIP	SA
2007-008419	R513	R-CHIP	SA
2007-008419	R514	R-CHIP	SA
2007-008419	R515	R-CHIP	SA
2007-008419	R516	R-CHIP	SA
2007-008419	R517	R-CHIP	SA
2007-008806	R106	R-CHIP	SA
2203-000233	C217	C-CER,CHIP	SA
2203-000233	C332	C-CER,CHIP	SA
2203-000254	C206	C-CER,CHIP	SA
2203-000254	C208	C-CER,CHIP	SA
2203-000254	C215	C-CER,CHIP	SA
2203-000254	C216	C-CER,CHIP	SA
2203-000254	C318	C-CER,CHIP	SA
2203-000254	C319	C-CER,CHIP	SA
2203-000254	C320	C-CER,CHIP	SA
2203-000330	C328	C-CER,CHIP	SA
2203-000330	C329	C-CER,CHIP	SA
2203-000386	C509	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	SATAUS
2203-000627	C125	C-CER,CHIP	SNA
2203-000627	C500	C-CER,CHIP	SNA
2203-000627	C501	C-CER,CHIP	SNA
2203-000812	C111	C-CER,CHIP	SA
2203-000812	C113	C-CER,CHIP	SA
2203-000812	C114	C-CER,CHIP	SA
2203-000812	C336	C-CER,CHIP	SA
2203-000812	C337	C-CER,CHIP	SA
2203-000812	C339	C-CER,CHIP	SA
2203-000812	C340	C-CER,CHIP	SA
2203-000812	C413	C-CER,CHIP	SA
2203-000812	C414	C-CER,CHIP	SA
2203-000812	C415	C-CER,CHIP	SA
2203-000812	C416	C-CER,CHIP	SA
2203-000812	C633	C-CER,CHIP	SA
2203-000940	C629	C-CER,CHIP	SA
2203-000995	C202	C-CER,CHIP	SA
2203-000995	C502	C-CER,CHIP	SA
2203-000995	C503	C-CER,CHIP	SA
2203-000995	C630	C-CER,CHIP	SA
2203-001124	C317	C-CER,CHIP	DNA
2203-001201	C101	C-CER,CHIP	SA
2203-002709	C204	C-CER,CHIP	SA
2203-002709	C301	C-CER,CHIP	SA
2203-002709	C302	C-CER,CHIP	SA
2203-002709	C303	C-CER,CHIP	SA
2203-002709	C304	C-CER,CHIP	SA
2203-002709	C305	C-CER,CHIP	SA
2203-002709	C307	C-CER,CHIP	SA
2203-002709	C330	C-CER,CHIP	SA
2203-005234	C103	C-CER,CHIP	SA
2203-005482	C104	C-CER,CHIP	SA
2203-005482	C200	C-CER,CHIP	SA
2203-005482	C201	C-CER,CHIP	SA
2203-005482	C205	C-CER,CHIP	SA
2203-005482	C207	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	SATAUS
2203-005482	C209	C-CER,CHIP	SA
2203-005482	C210	C-CER,CHIP	SA
2203-005482	C211	C-CER,CHIP	SA
2203-005482	C212	C-CER,CHIP	SA
2203-005483	C400	C-CER,CHIP	SA
2203-005483	C402	C-CER,CHIP	SA
2203-005483	C405	C-CER,CHIP	SA
2203-005483	C411	C-CER,CHIP	SA
2203-005682	C126	C-CER,CHIP	SA
2203-005682	C603	C-CER,CHIP	SA
2203-005682	C604	C-CER,CHIP	SA
2203-005682	C605	C-CER,CHIP	SA
2203-005682	C606	C-CER,CHIP	SA
2203-005682	C607	C-CER,CHIP	SA
2203-005682	C608	C-CER,CHIP	SA
2203-005682	C609	C-CER,CHIP	SA
2203-005682	C610	C-CER,CHIP	SA
2203-005682	C611	C-CER,CHIP	SA
2203-005682	C612	C-CER,CHIP	SA
2203-005682	C613	C-CER,CHIP	SA
2203-005682	C614	C-CER,CHIP	SA
2203-005682	C615	C-CER,CHIP	SA
2203-005682	C616	C-CER,CHIP	SA
2203-005682	C618	C-CER,CHIP	SA
2203-005682	C619	C-CER,CHIP	SA
2203-005682	C620	C-CER,CHIP	SA
2203-005682	C621	C-CER,CHIP	SA
2203-005682	C622	C-CER,CHIP	SA
2203-005682	C623	C-CER,CHIP	SA
2203-005682	C624	C-CER,CHIP	SA
2203-005682	C625	C-CER,CHIP	SA
2203-005682	C626	C-CER,CHIP	SA
2203-005682	C627	C-CER,CHIP	SA
2203-005682	C628	C-CER,CHIP	SA
2203-005683	C105	C-CER,CHIP	SA
2203-005683	C107	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	SATAUS
2203-005719	C108	C-CER,CHIP	SA
2203-005719	C110	C-CER,CHIP	SA
2203-005719	C115	C-CER,CHIP	SA
2203-005719	C117	C-CER,CHIP	SA
2203-005719	C119	C-CER,CHIP	SA
2203-005731	C106	C-CER,CHIP	SA
2203-005731	C109	C-CER,CHIP	SA
2203-005736	C112	C-CER,CHIP	SA
2203-006048	C213	C-CER,CHIP	SA
2203-006048	C214	C-CER,CHIP	SA
2203-006048	C334	C-CER,CHIP	SA
2203-006048	C408	C-CER,CHIP	SA
2203-006048	C508	C-CER,CHIP	SA
2203-006048	C601	C-CER,CHIP	SA
2203-006048	C602	C-CER,CHIP	SA
2203-006048	C617	C-CER,CHIP	SA
2203-006048	C631	C-CER,CHIP	SA
2203-006137	C409	C-CER,CHIP	SA
2203-006137	C506	C-CER,CHIP	SA
2203-006194	C118	C-CER,CHIP	SA
2203-006194	C122	C-CER,CHIP	SA
2203-006260	C128	C-CER,CHIP	SA
2203-006348	C313	C-CER,CHIP	SA
2203-006361	C300	C-CER,CHIP	SA
2203-006361	C311	C-CER,CHIP	SA
2203-006399	C335	C-CER,CHIP	SA
2203-006423	C116	C-CER,CHIP	SA
2203-006423	C130	C-CER,CHIP	SA
2203-006423	C131	C-CER,CHIP	SA
2203-006423	C422	C-CER,CHIP	SA
2203-006462	C129	C-CER,CHIP	SA
2203-006474	C333	C-CER,CHIP	SA
2203-006556	C127	C-CER,CHIP	SA
2203-006562	C312	C-CER,CHIP	SA
2203-006562	C314	C-CER,CHIP	SA
2203-006562	C315	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	SATAUS
2203-006562	C321	C-CER,CHIP	SA
2203-006562	C322	C-CER,CHIP	SA
2203-006562	C323	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	C401	C-CER,CHIP	SA
2203-006562	C403	C-CER,CHIP	SA
2203-006562	C406	C-CER,CHIP	SA
2203-006562	C407	C-CER,CHIP	SA
2203-006562	C600	C-CER,CHIP	SA
2203-006626	C121	C-CER,CHIP	SA
2203-006648	C417	C-CER,CHIP	SA
2203-006648	C418	C-CER,CHIP	SA
2203-006838	C203	C-CER,CHIP	SA
2203-006838	C316	C-CER,CHIP	SA
2203-006838	C327	C-CER,CHIP	SA
2203-006838	C421	C-CER,CHIP	SA
2404-001381	TA402	C-TA,CHIP	SA
2404-001406	TA502	C-TA,CHIP	SA
2404-001414	TA400	C-TA,CHIP	SA
2404-001414	TA401	C-TA,CHIP	SA
2404-001415	TA100	C-TA,CHIP	SA
2703-001180	L103	INDUCTOR-SMD	SA
2703-001236	L108	INDUCTOR-SMD	SA
2703-001722	L106	INDUCTOR-SMD	SA
2703-001737	L101	INDUCTOR-SMD	SA
2703-001737	L102	INDUCTOR-SMD	SA
2703-001851	L504	INDUCTOR-SMD	SA
2703-002484	L105	INDUCTOR-SMD	SA
2703-002558	L402	INDUCTOR-SMD	SA
2703-002558	L403	INDUCTOR-SMD	SA
2703-003184	L300	INDUCTOR-SMD	SA
2801-004466	OSC300	CRYSTAL-SMD	SA
2801-004587	OSC100	CRYSTAL-SMD	SA
2904-001592	F101	FILTER-SAW	SA

SEC CODE	Design LOC	Discription	SATAUS
2904-001599	F102	FILTER-SAW	SA
3301-001534	L400	BEAD-SMD	SA
3301-001534	L401	BEAD-SMD	SA
3301-001729	L200	BEAD-SMD	SA
3301-001812	L502	BEAD-SMD	SA
3301-001812	L503	BEAD-SMD	SA
3301-001885	L500	BEAD-SMD	SA
3301-001885	L501	BEAD-SMD	SA
3301-001885	L505	BEAD-SMD	SA
3301-001912	L404	BEAD-SMD	SA
3705-001358	RFS100	CONNECTOR-COAXIAL	SA
3709-001451	SIM600	CONNECTOR-CARD EDGE	SA
3710-001611	IFC500	SOCKET-INTERFACE	SA
3711-006119	HDC600	HEADER-BOARD TO BOARD	SA
3711-006228	BTC500	HEADER-BATTERY	SA
3722-002181	EAR500	JACK-EAR PHONE	SA
4302-001130	BAT300	BATTERY-LI(2ND)	SA
GH70-02367A	FPC100	ICT-ON-BOARD CLIP	SA
GH70-02367A	FPC101	ICT-ON-BOARD CLIP	SA
GH70-02367A	FPC102	ICT-ON-BOARD CLIP	SA
GH70-02367A	FPC103	ICT-ON-BOARD CLIP	SA
GH70-02367A	FPC104	ICT-ON-BOARD CLIP	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 the Battery and SIM card from handset

※ caution

1) Be careful of scratching the surface of handset

2

1)Remove 4 screws of the Rear

※ caution

1) Be careful of scratching the surface of handset.

3

1) Separate the Rear and the Front with holding top of the Rear.

※ caution

1) Don't devote heavily the bottom of the Rear.

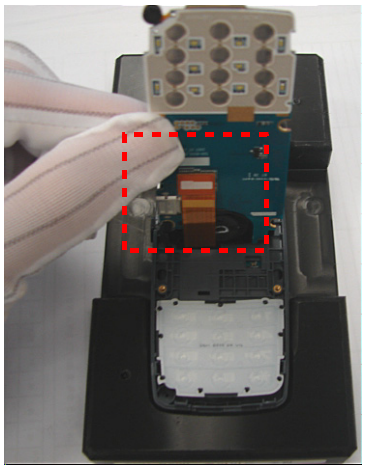
4

1) Separate the Rear Cover from Front Ass'y after verifying the position of 1hooks in Rear Cover.

※ caution

1) Be careful of breaking the Hooks.

5

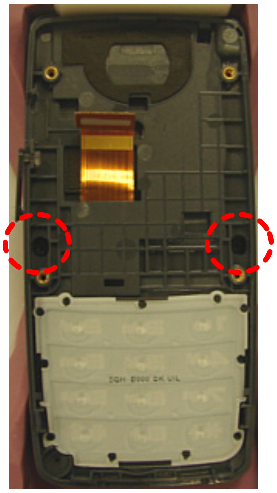


1) Detach sockets of LCD FPCB from PBA.

※ caution

1) Be careful of damaging the FPCB.

6

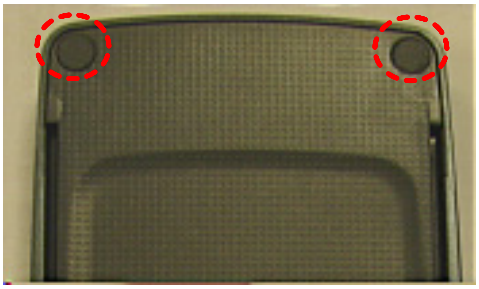


1) Loosen the screw of Slide lower 2point

※ caution

1) Be careful of scratching the surface of handset.

7



1) Remove 2 Screw caps on Slide lower
2) Loosen the screw of Slide lower Top point

※ caution

1) Be careful of scratching the surface of handset.

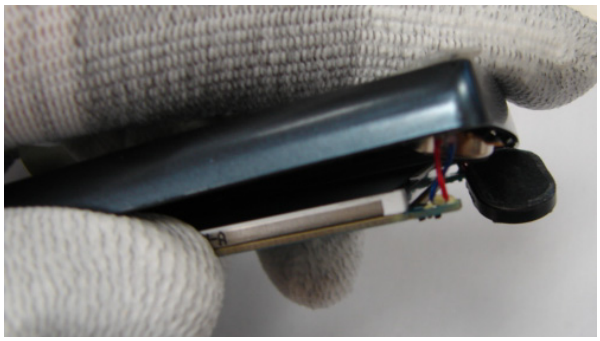
8

1) Separate the Front Ass'y

※ caution

1) Be careful of damaging the FPCB.

9



1) Separate the LCD module

※ caution

1) Be careful of damaging LCD and FPCB

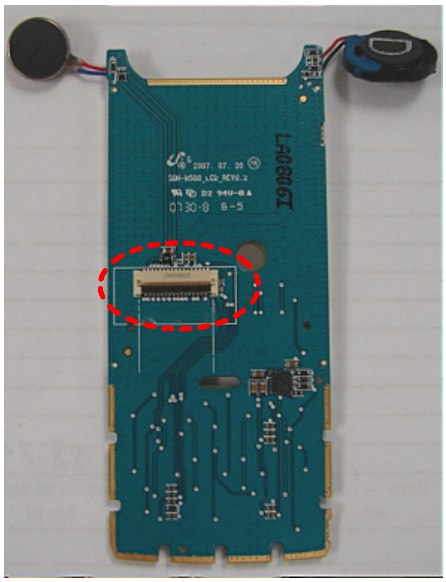
10

1) Separate the LCD module

※ caution

1) Be careful of scratching the surface of handset.

11



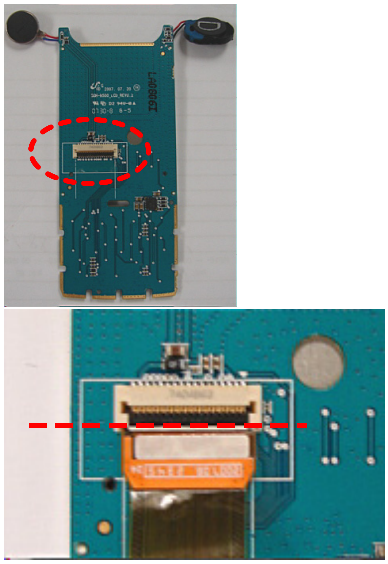
1) Remove the KEY FPCB

※ caution

1) Be careful of damaging the FPCB.

7-2. Assembly

1



1) Insert the LCD FPCB

※ caution

1) Be careful of damaging FPCB and Sub PCB Connector.

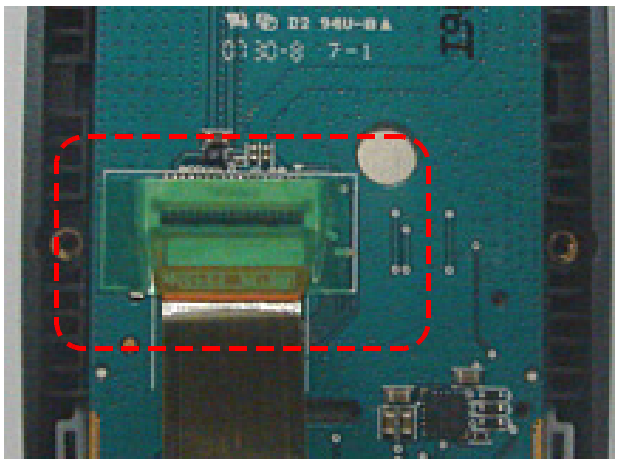
2

1) Put the LCD module on Slide Upper Cover.

※ caution

1) Be careful of damaging LCD and FPCB

3

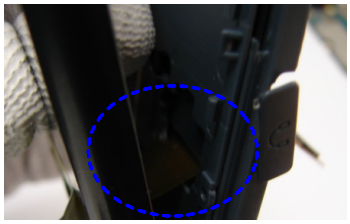


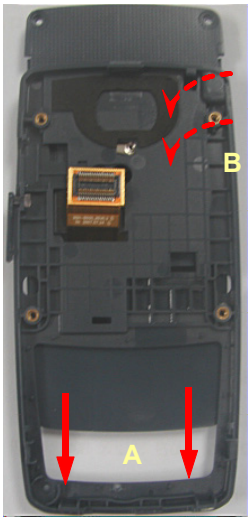
1) sticking the green tape like picture

※ caution

1) Be careful of damaging FPCB and Sub PCB Connector.

4





1) Insert the FPCB into lower hole.

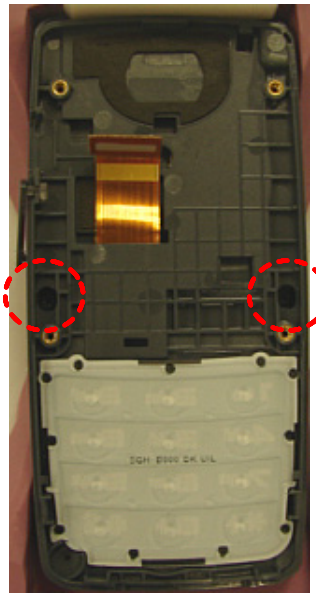
2) Combine Slide lower and upper from A to B

※ caution

1) Be careful of damaging FPCB.

2) Be careful of scratching the surface of handset.

5

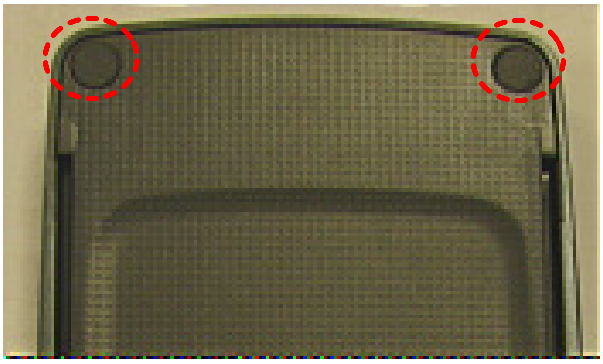


1) Loosen the screw of Slide lower 2point

※ caution

1) Be careful of scratching the surface of handset.

6



1) Remove 2 Screw caps on Slide lower
2) Loosen the screw of Slide lower Top point

※ caution

1) Be careful of scratching the surface of handset.

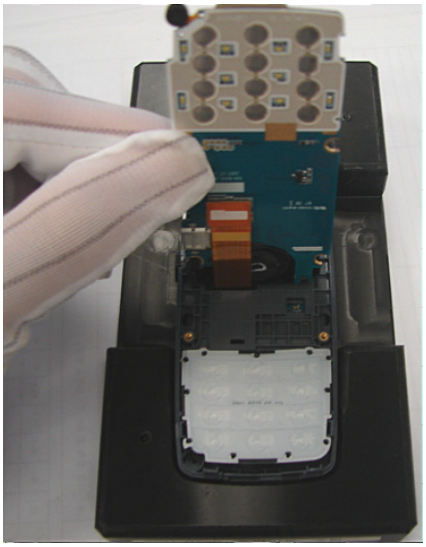
7

1) Inset the keypad

※ caution

1) Be careful of damaging FPCB.

8

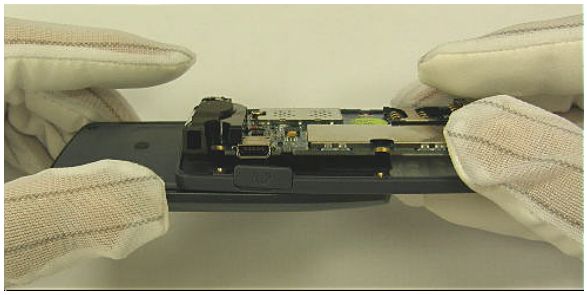


1) Insert the LCD FPCB

※ caution

1) Be careful of damaging the FPCB.

9

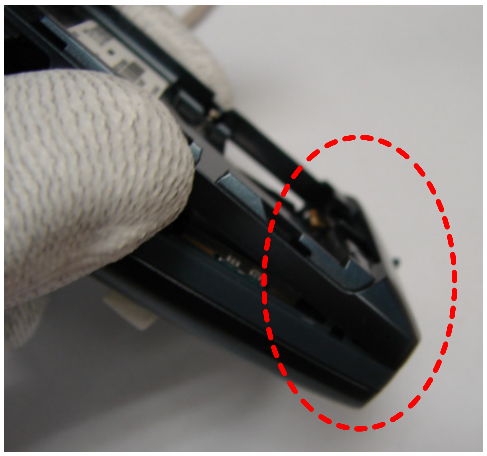


1) Inset the PBA

※ caution

1) Be careful of damaging FPCB.

10



1) Hook the under of rear to front ass'y

※ caution

1) Be careful of scratching the surface of handset.

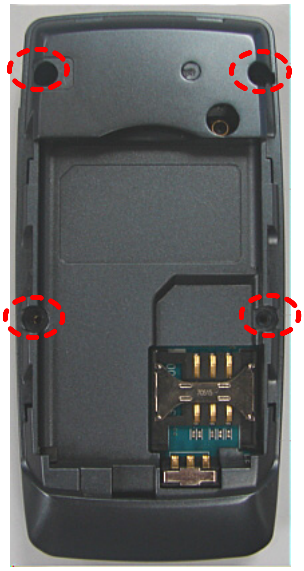
11

1) Combine the rear cover to front ass'y after verifying hook's position

※ caution

1) Be careful of damaging hook and locker.

12

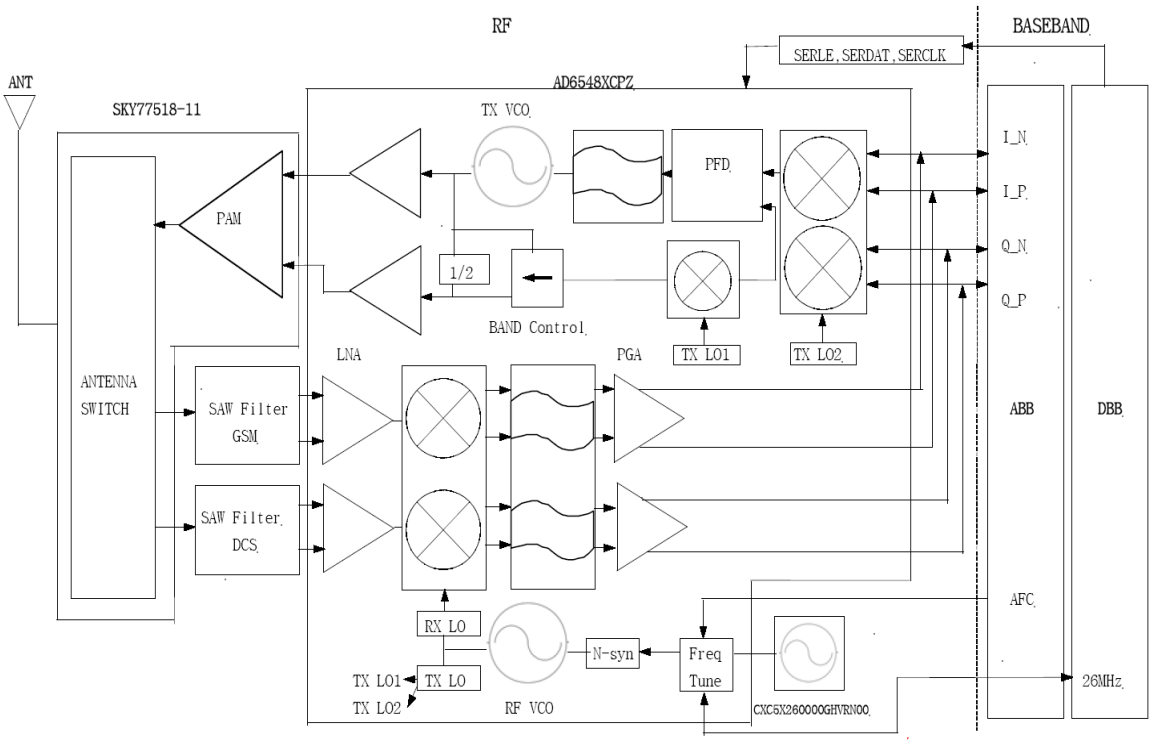


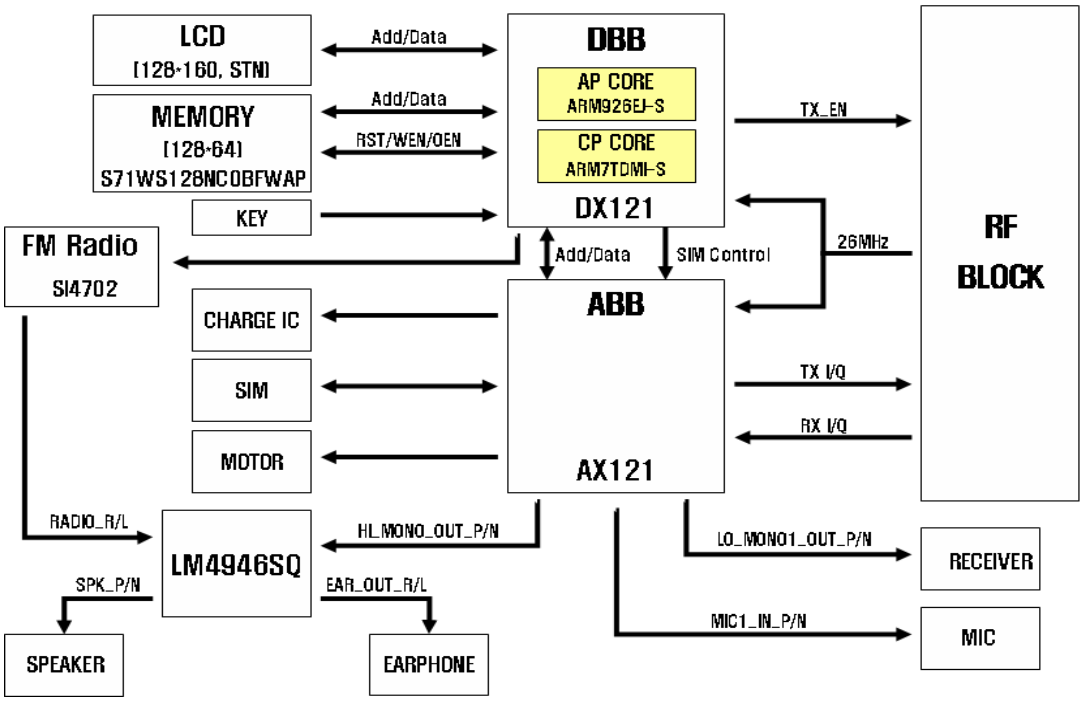
1) Tighten 4 screws on rear red position

※ caution

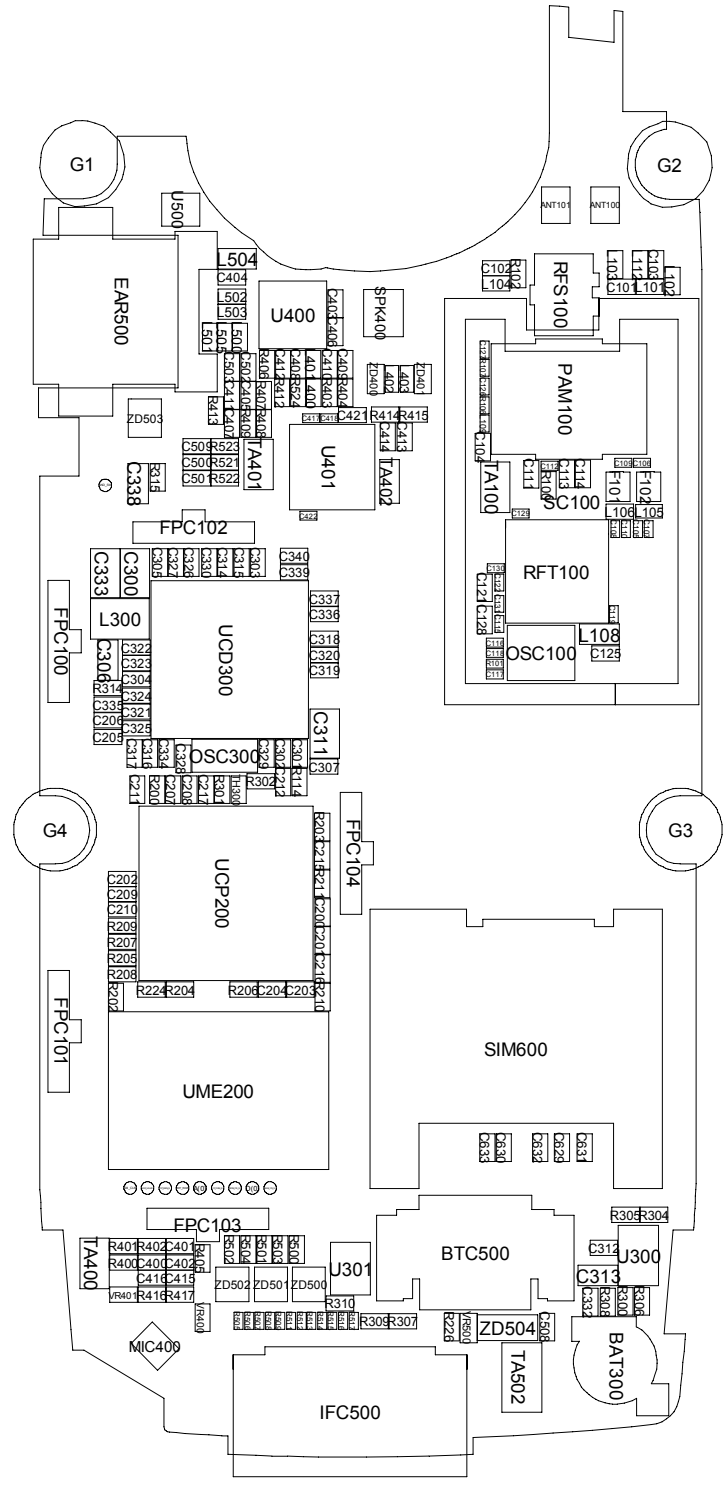
1) Be careful of scratching the surface of handset.

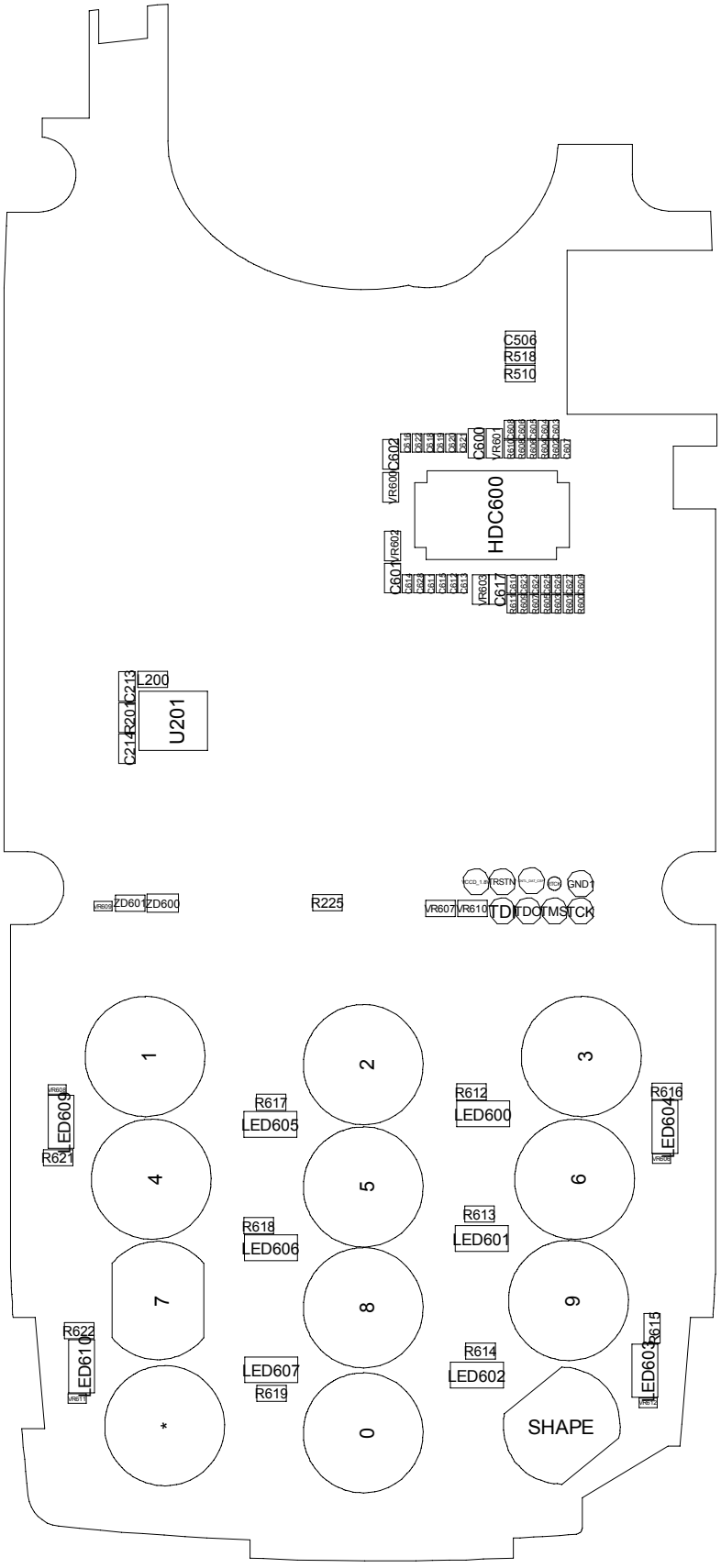
8. Block Diagrams





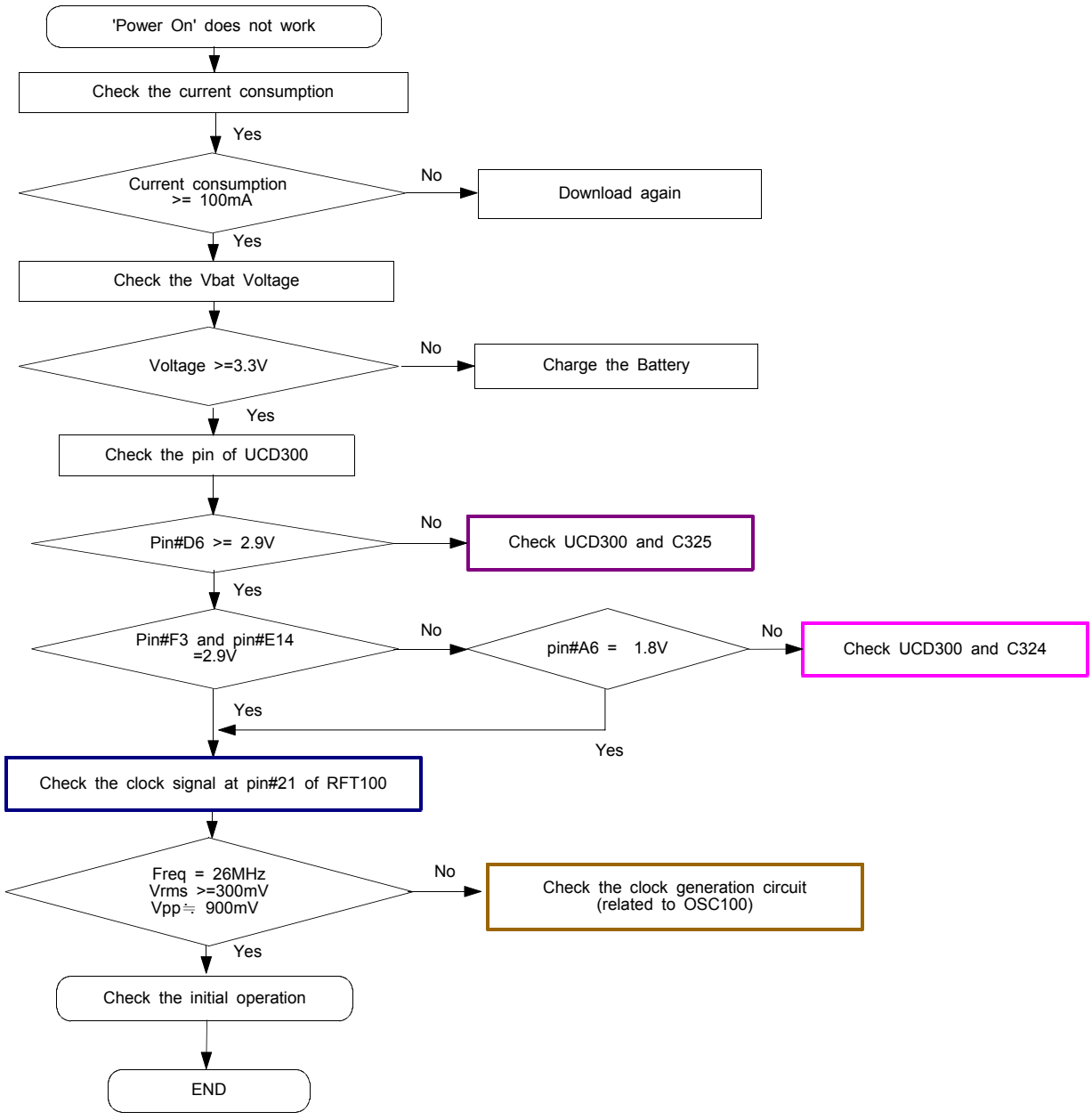
9. PCB Diagrams

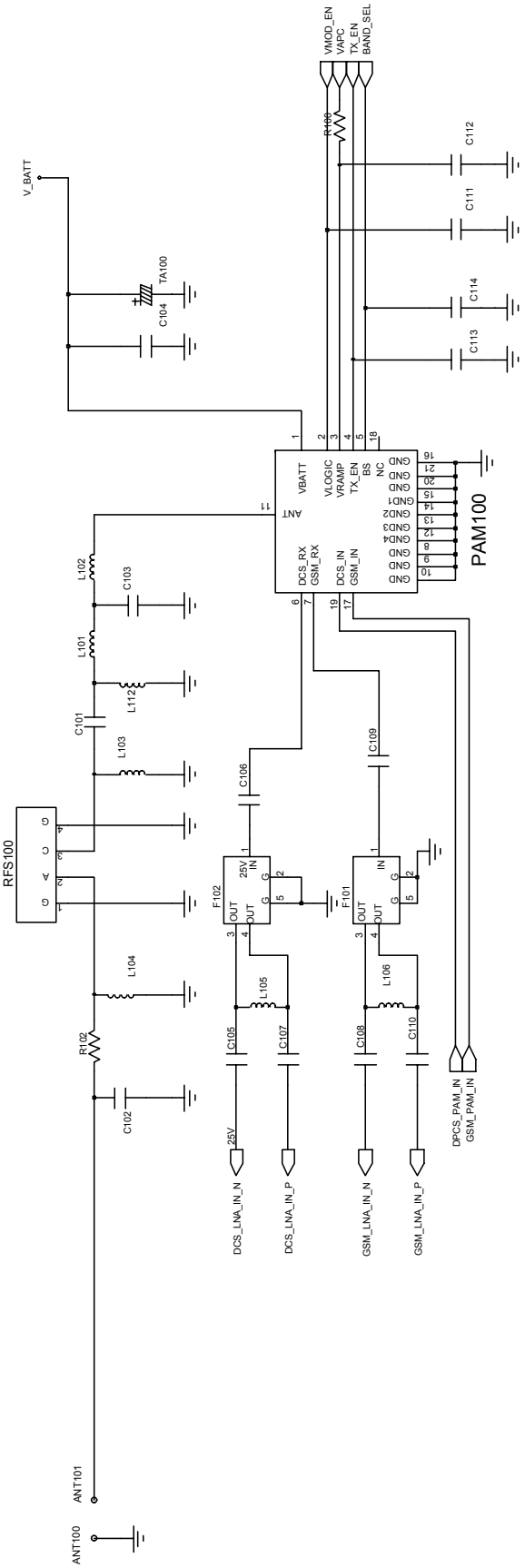


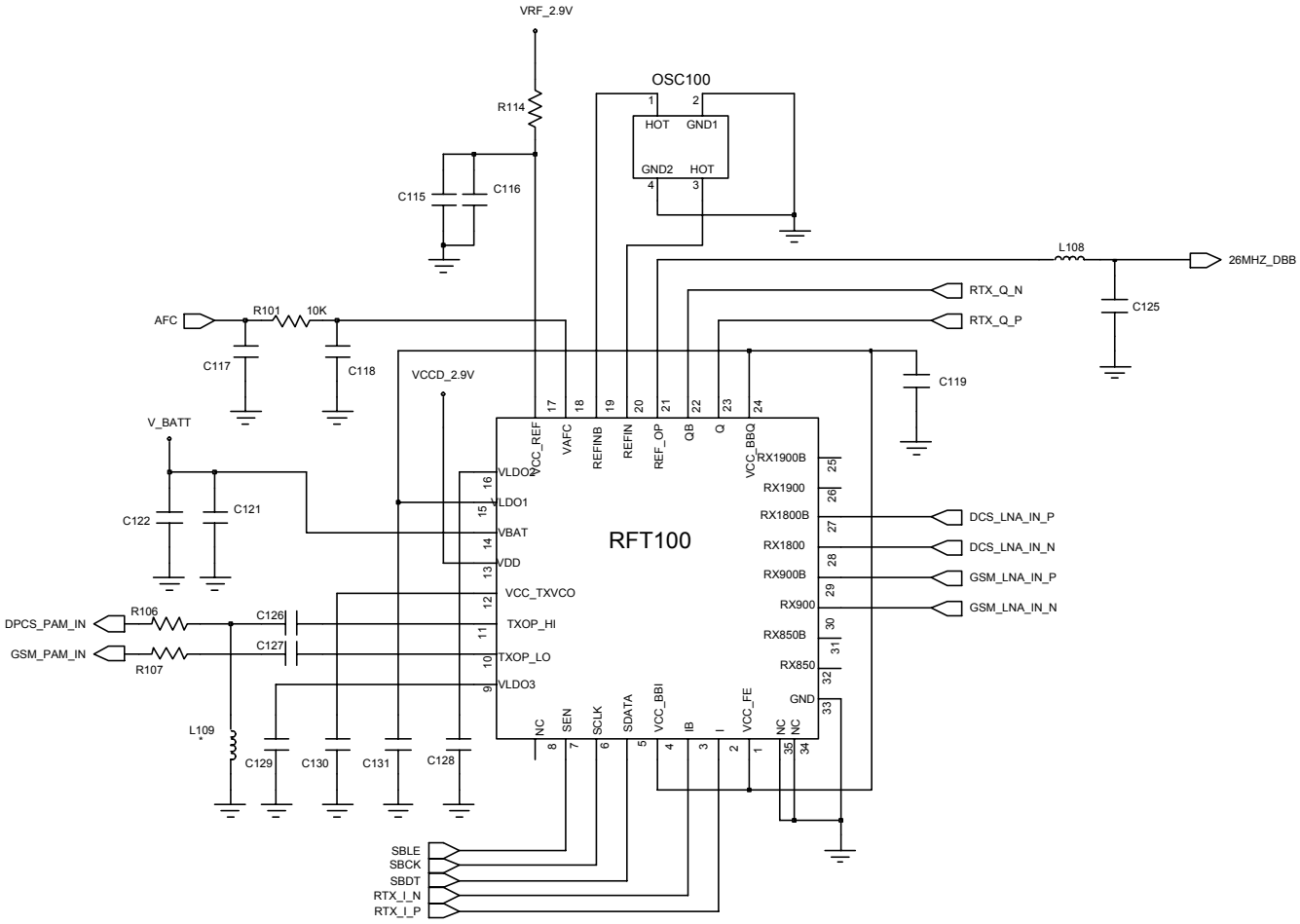


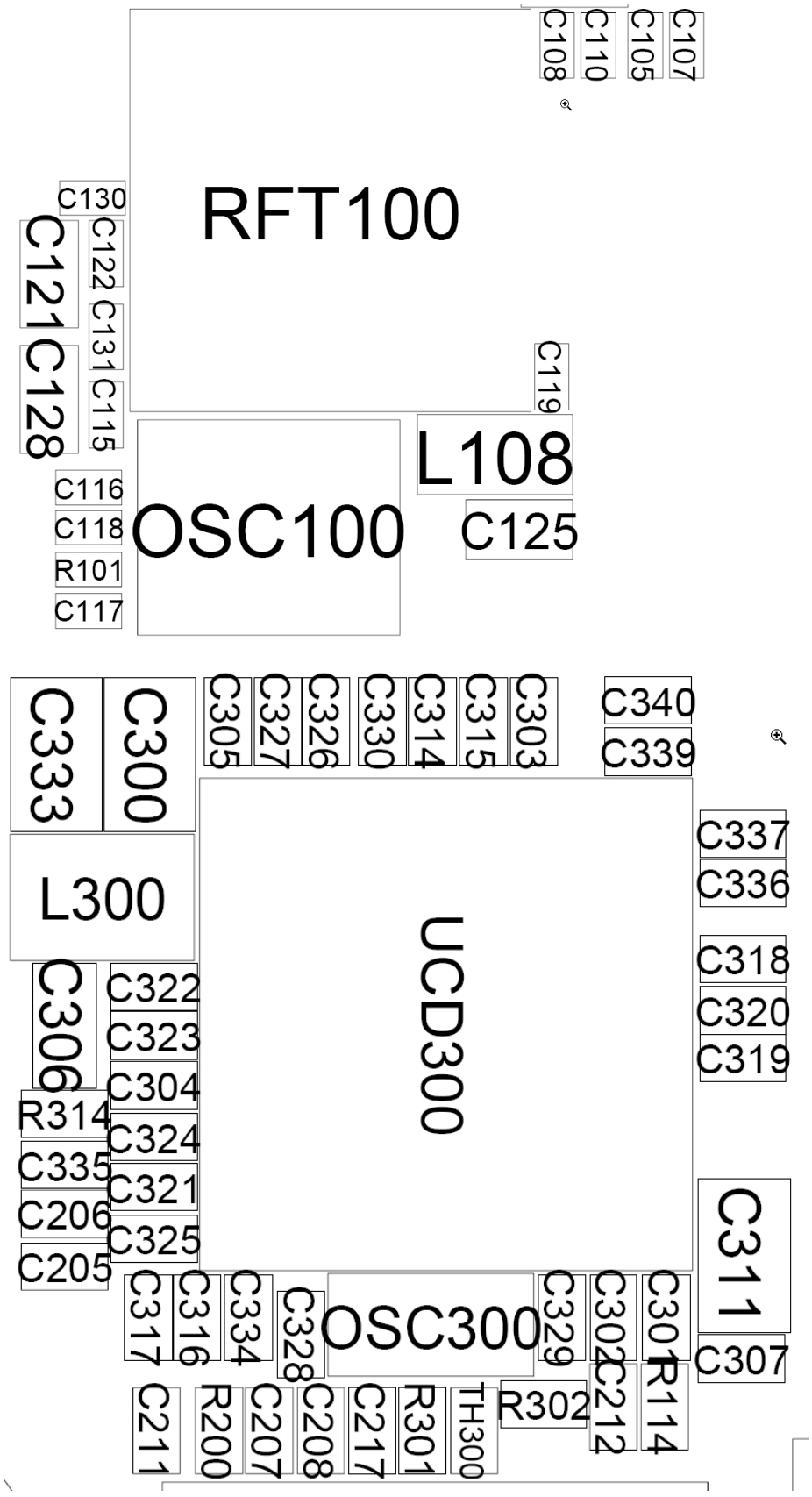
10. Flow Chart of Troubleshooting

10-1-1. Power ON

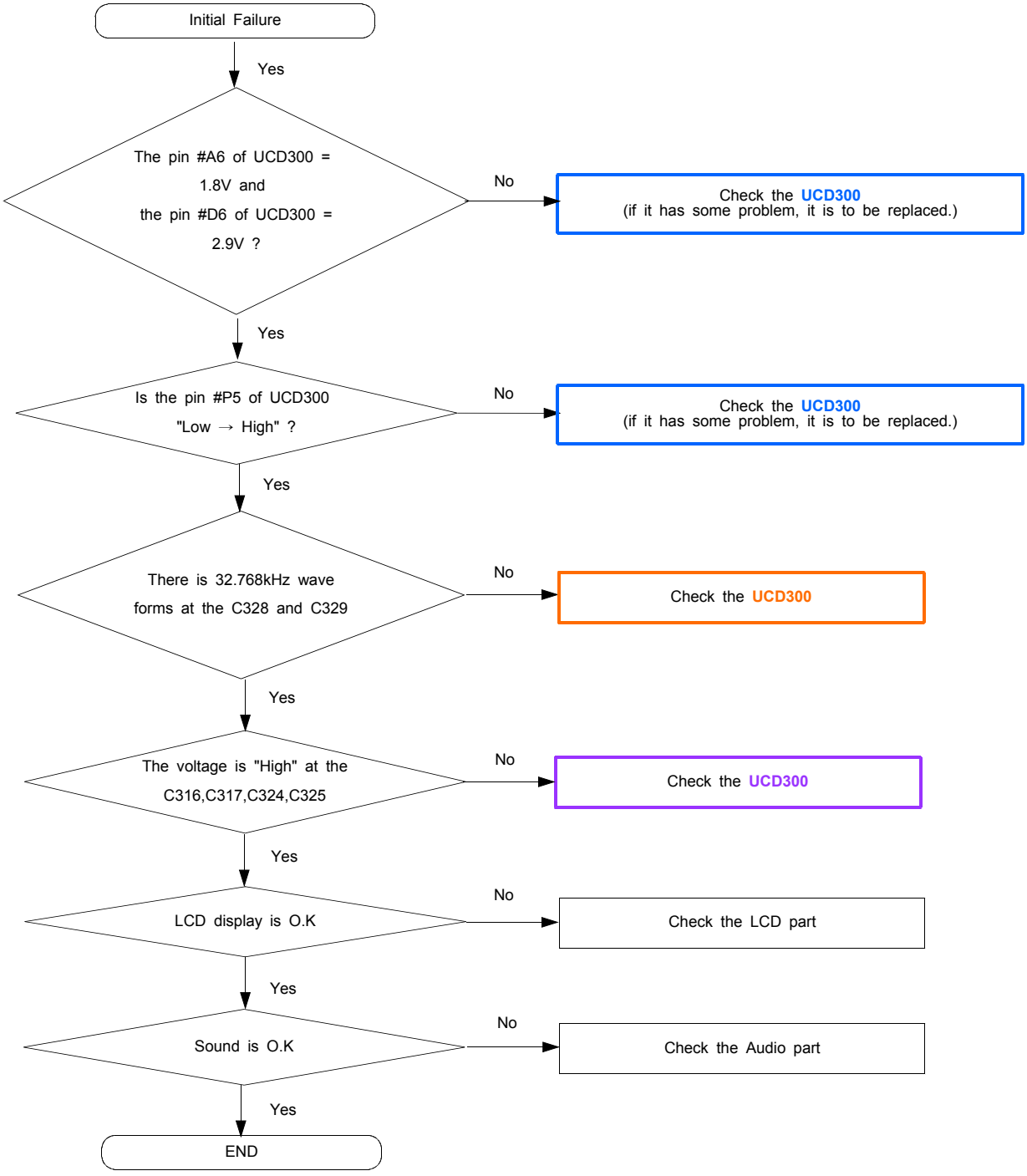


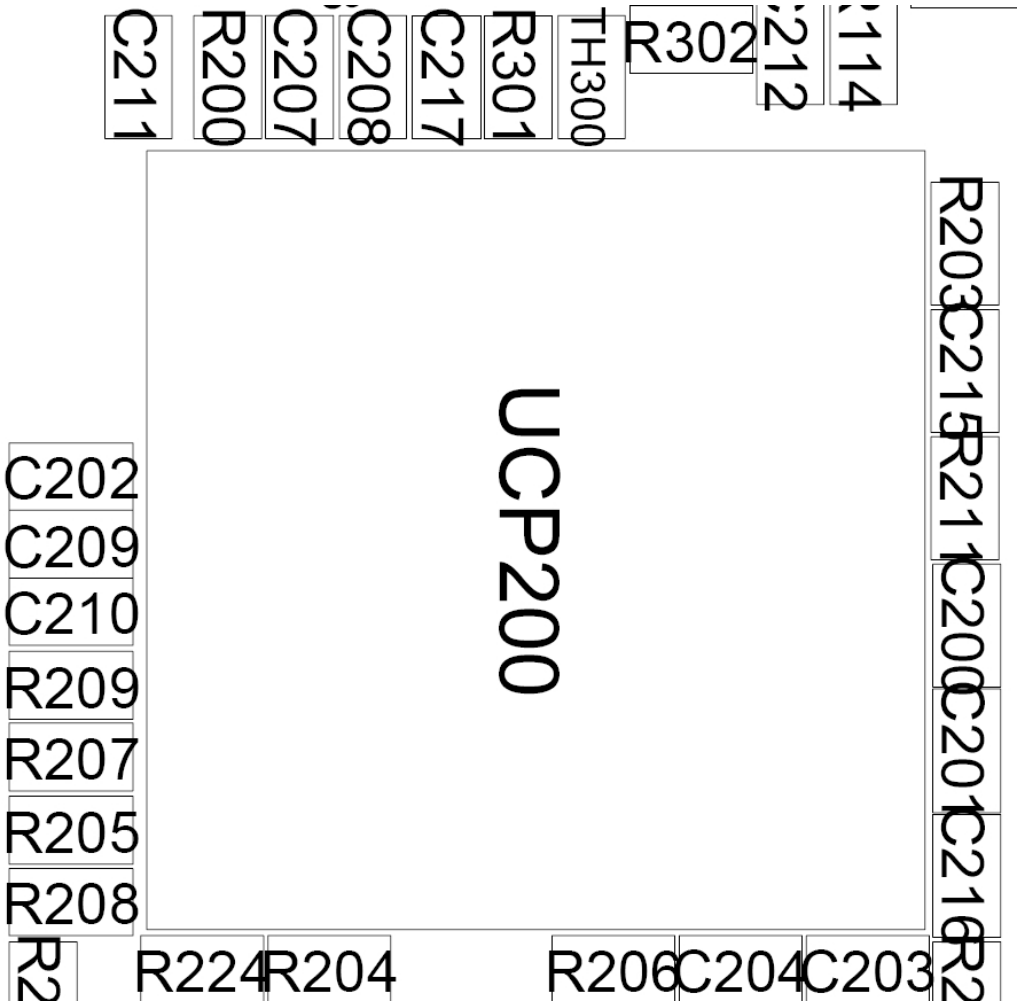


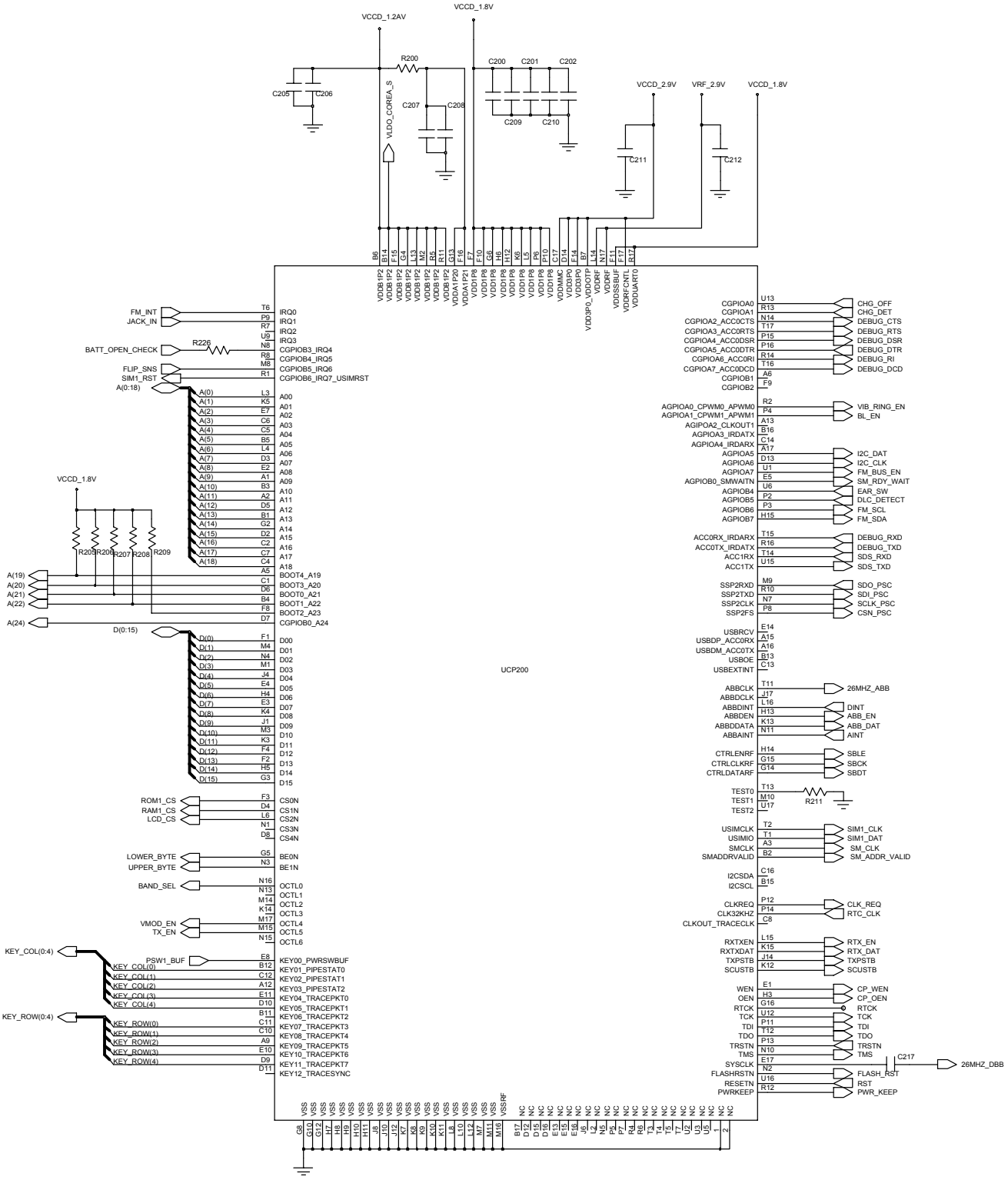




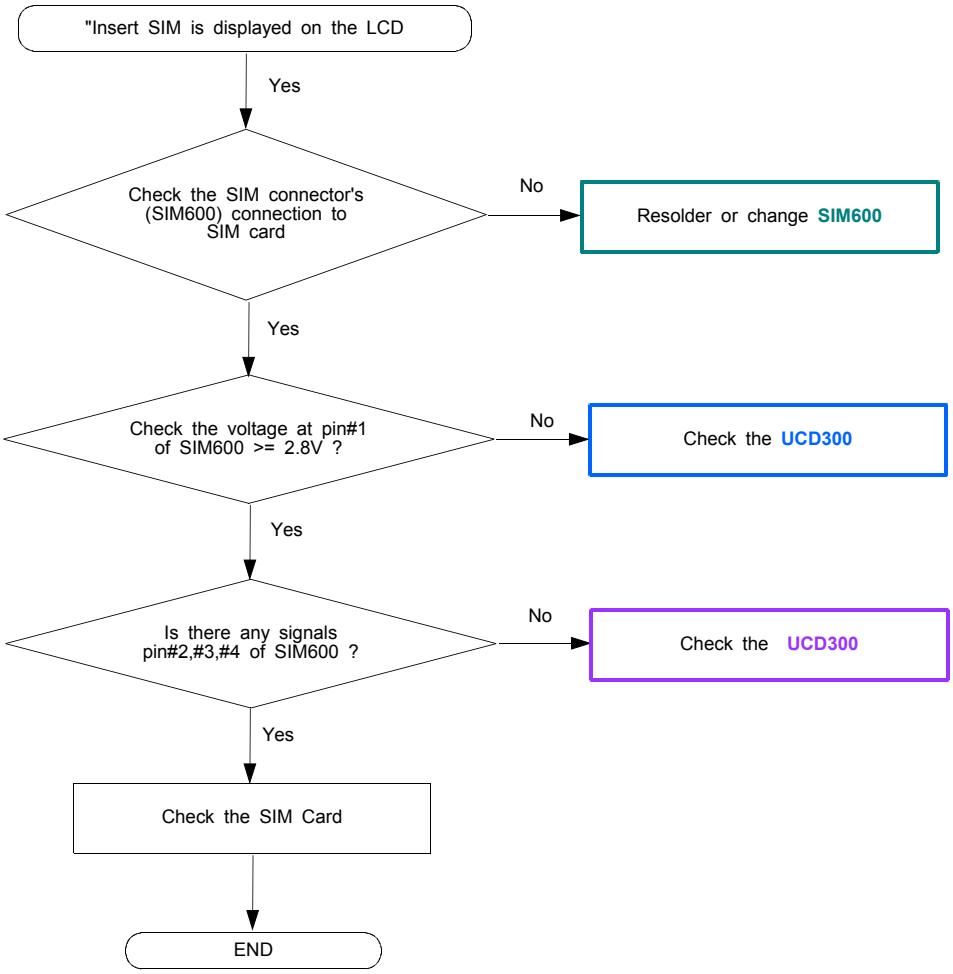
10-1-2. Initial

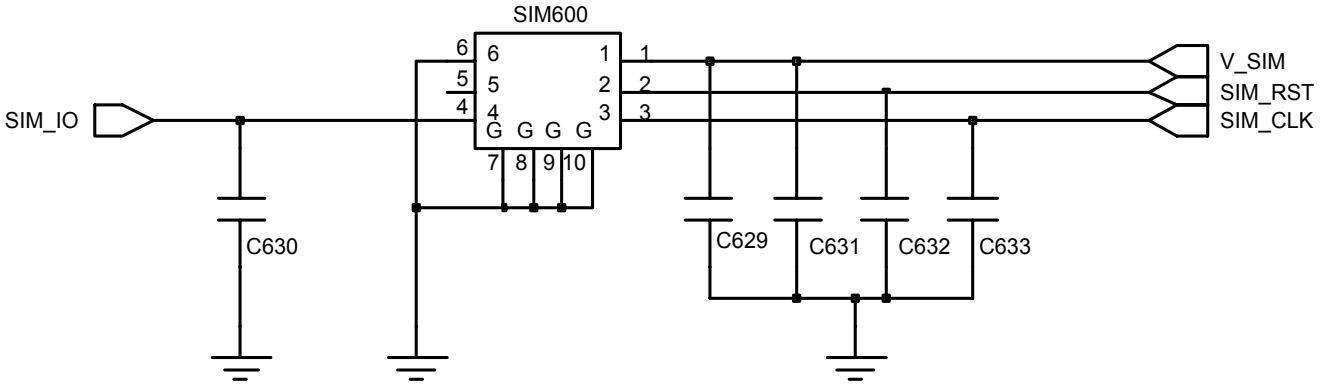


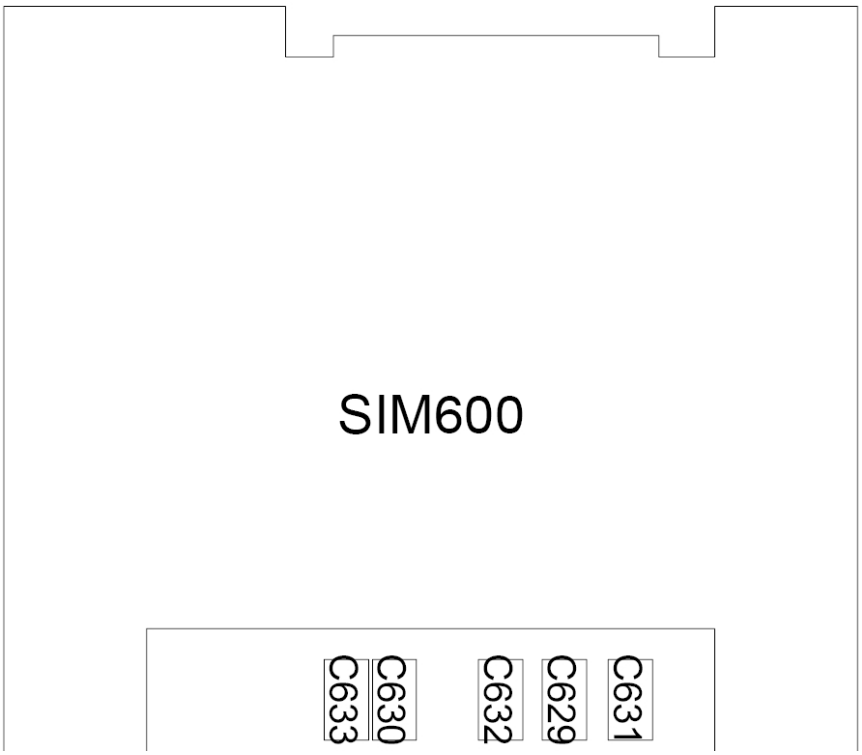




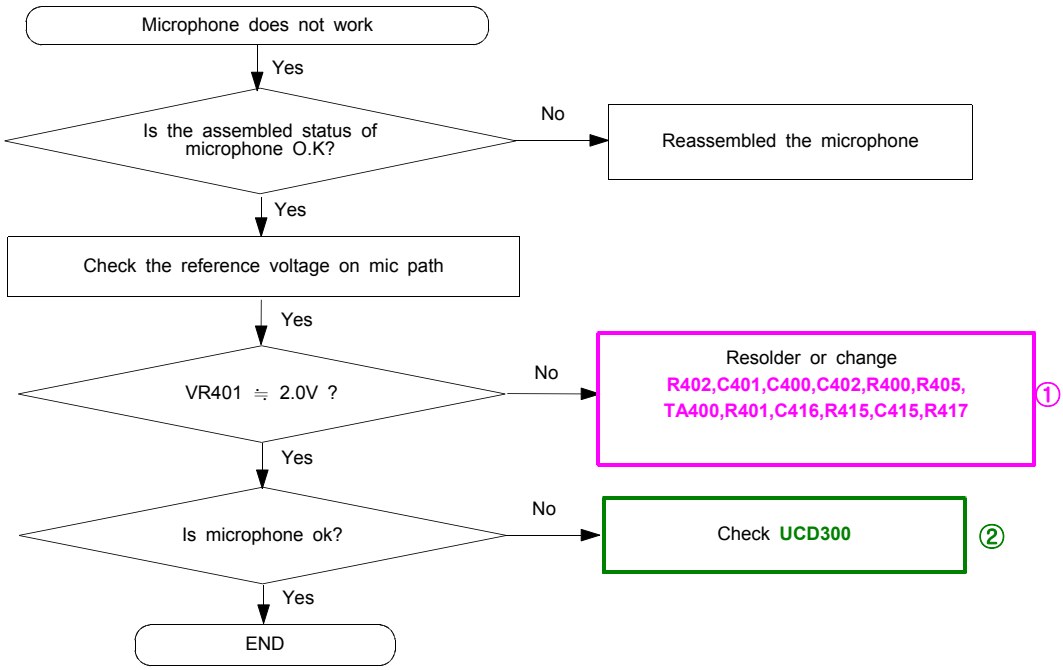
10-1-3. Sim Part

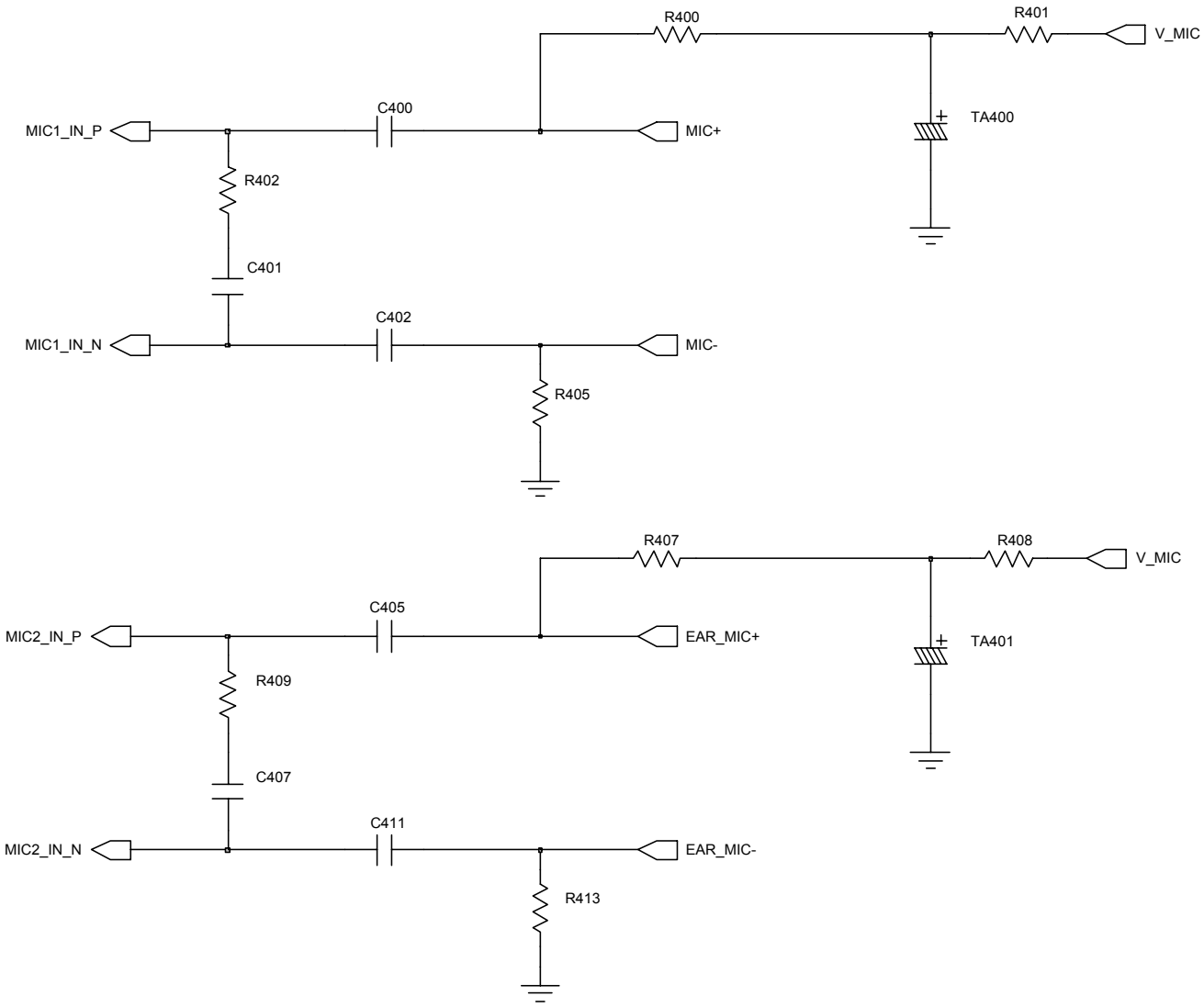


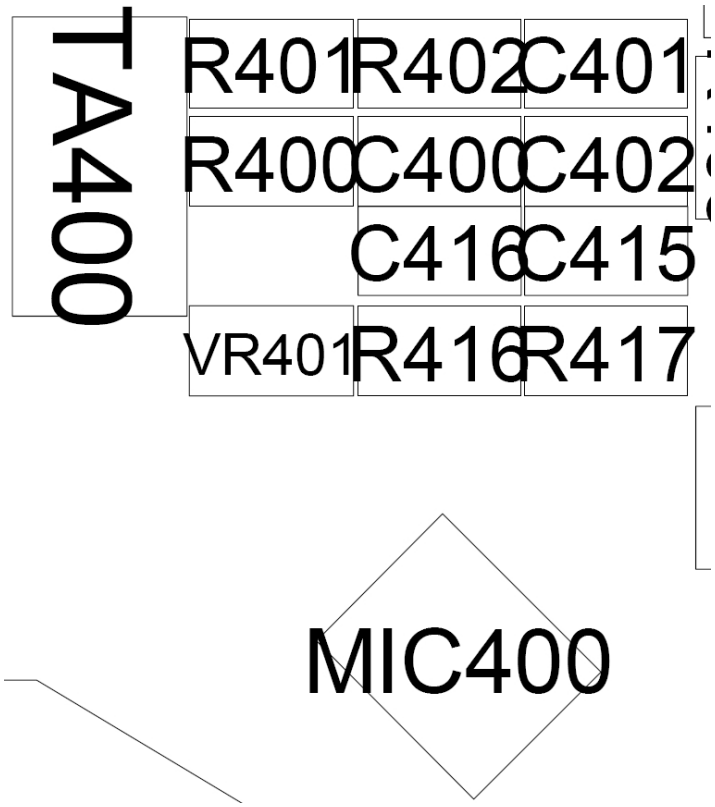




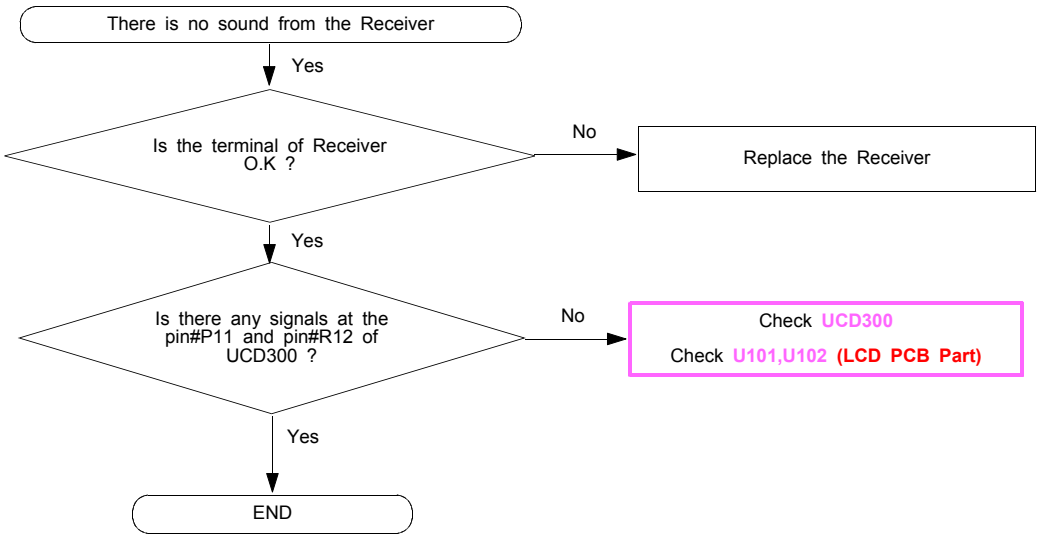
10-1-4. Microphone Part



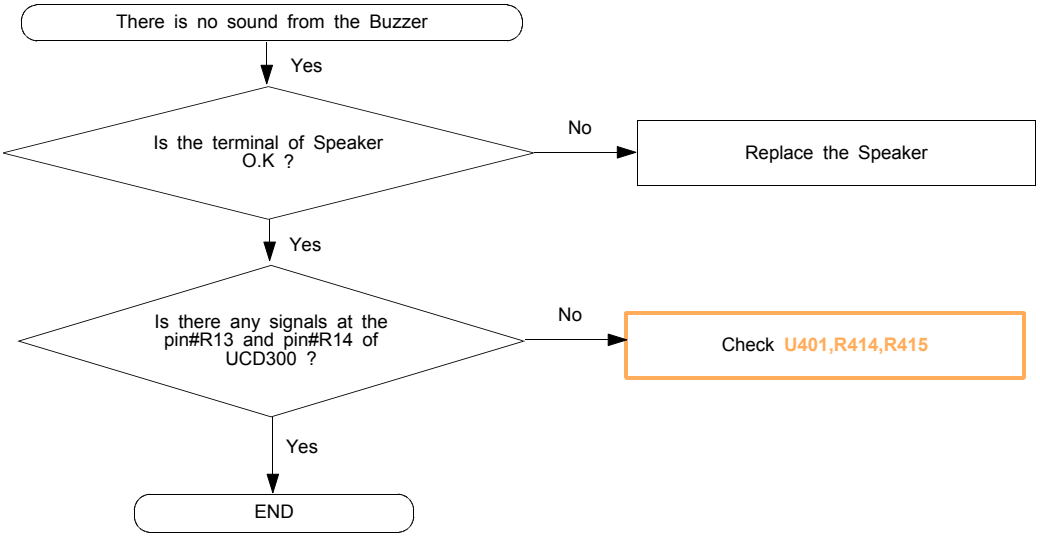




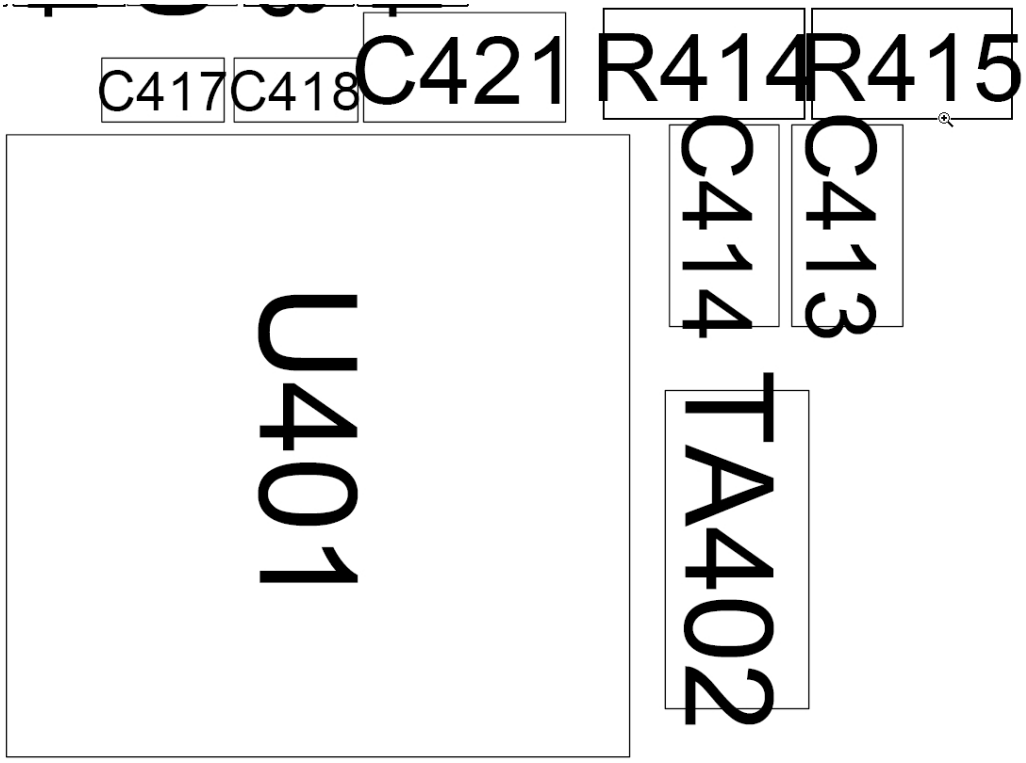
10-1-5. Receiver Part

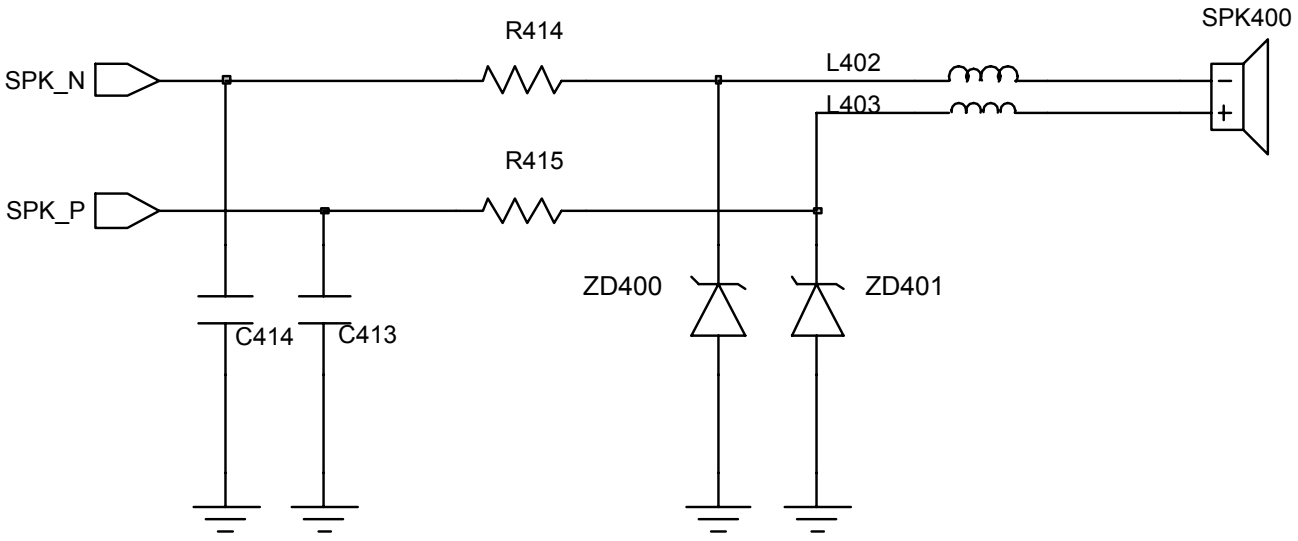


10-1-6. Speaker Part



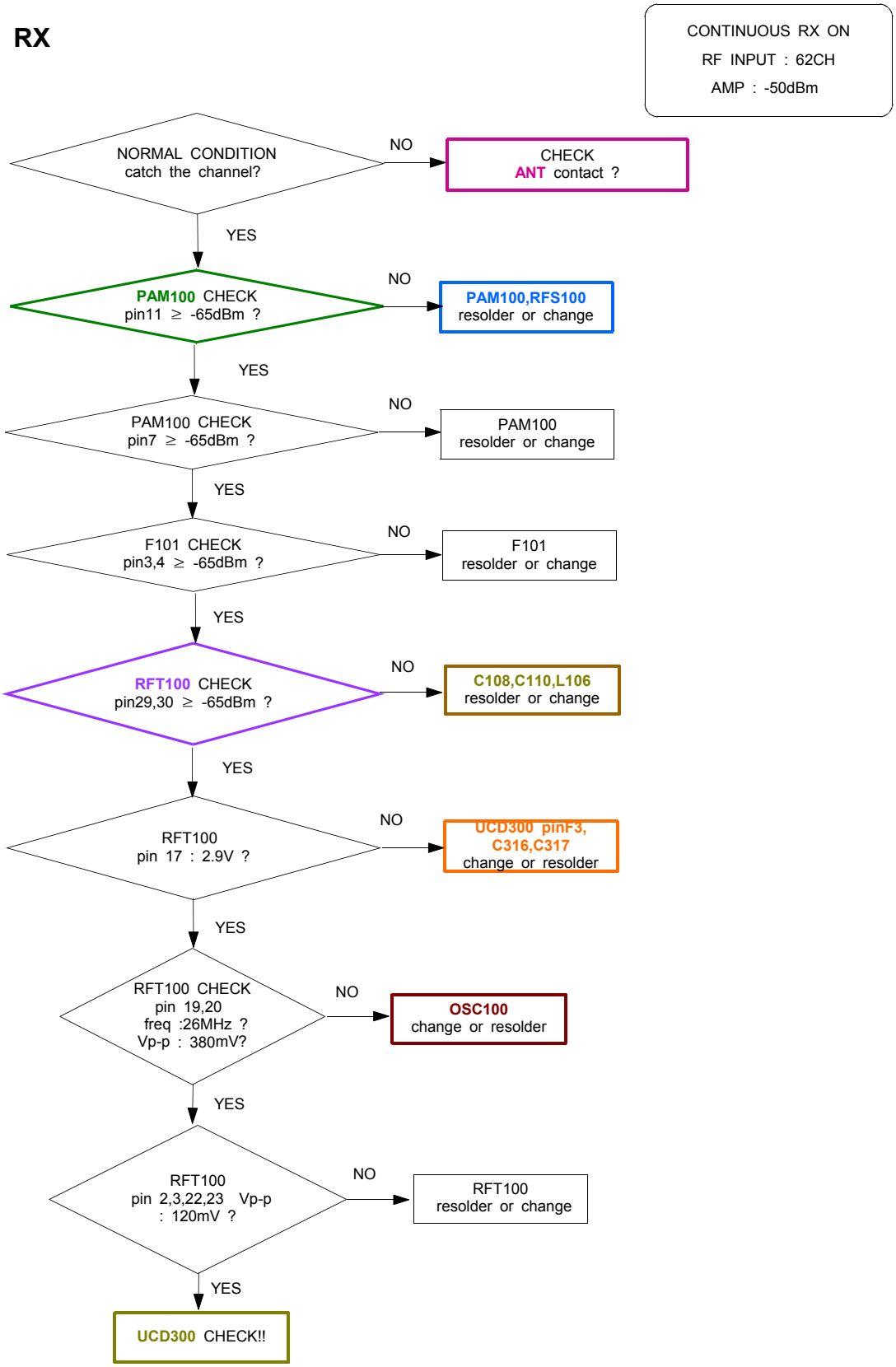
< LCD PCB Part >

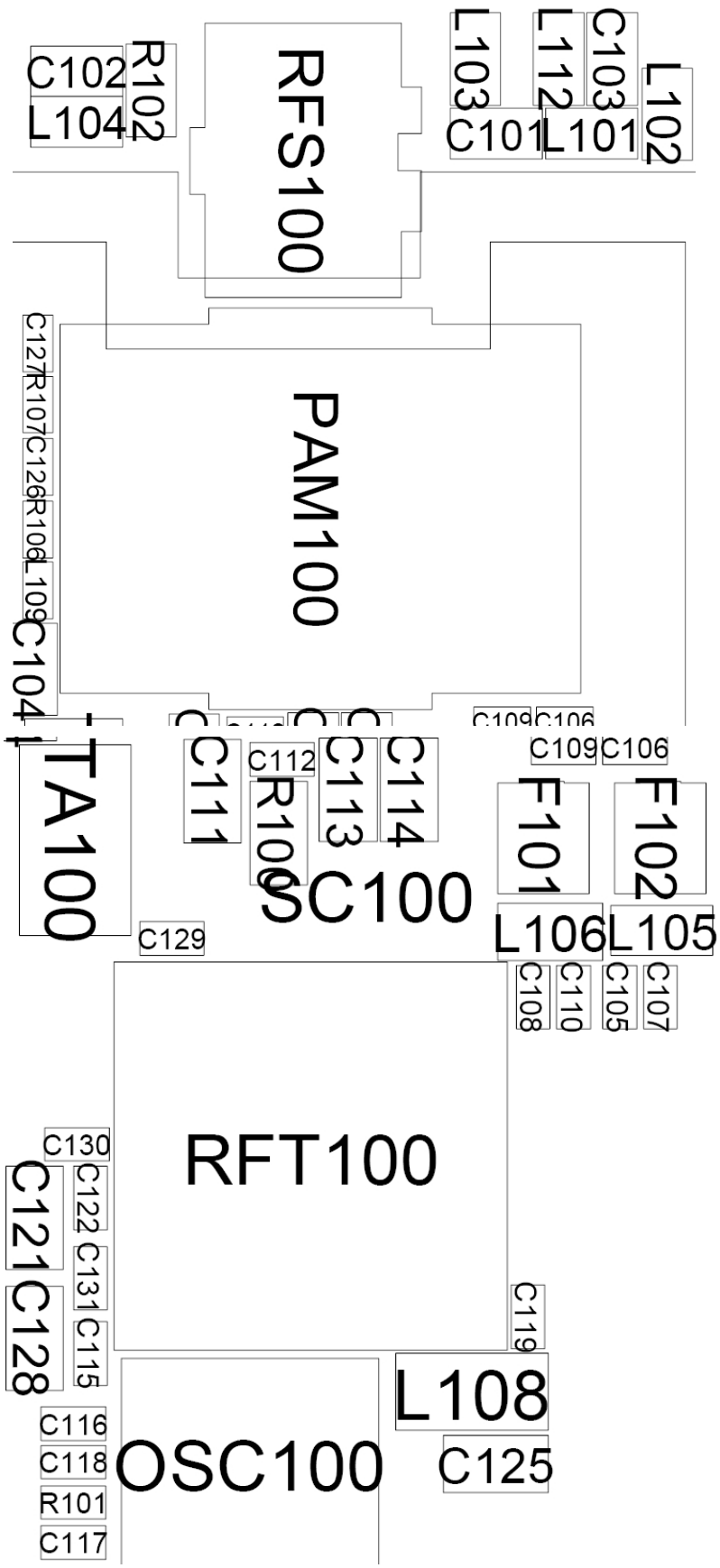




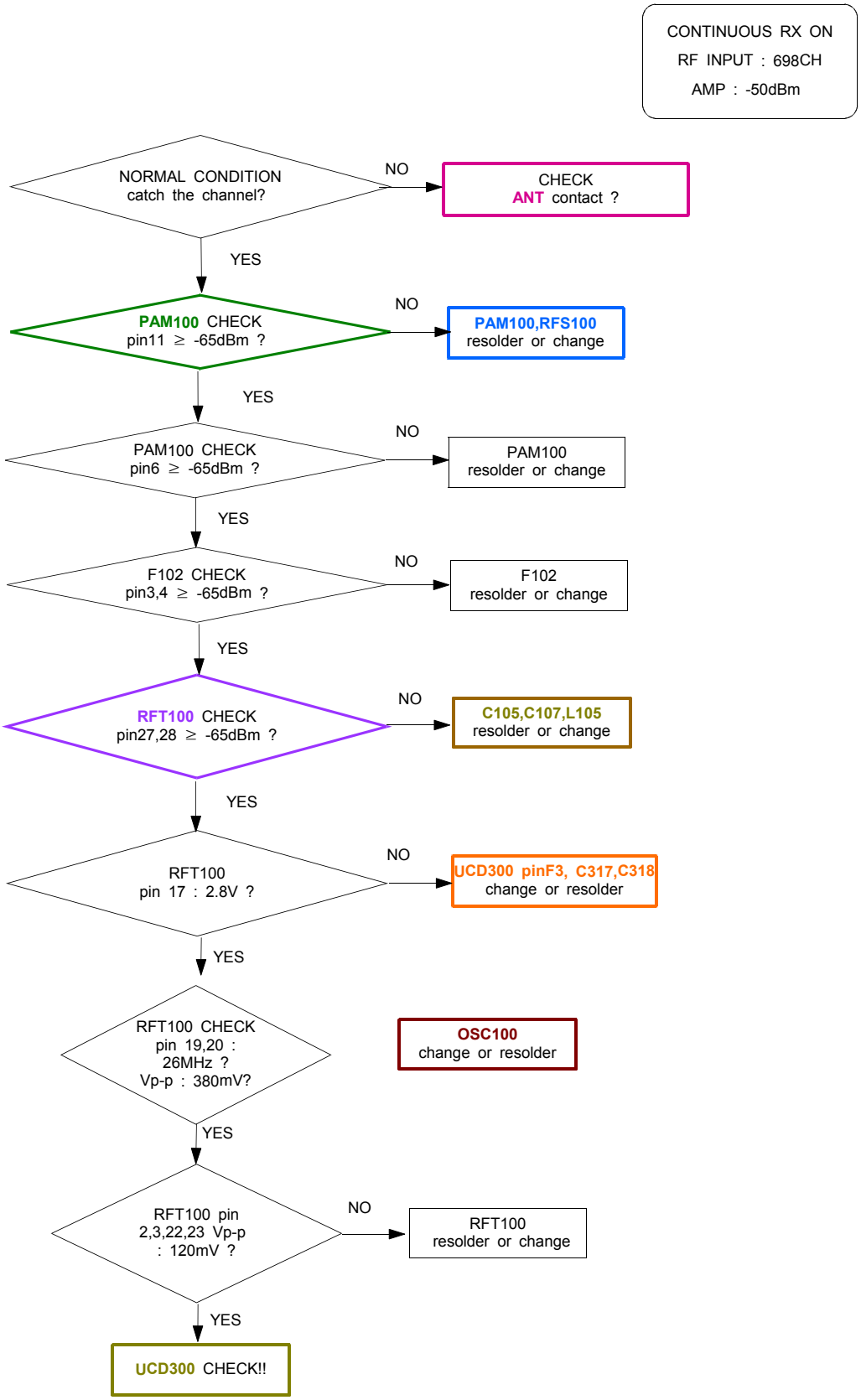
10-2.RF

10-2-1. EGSM RX

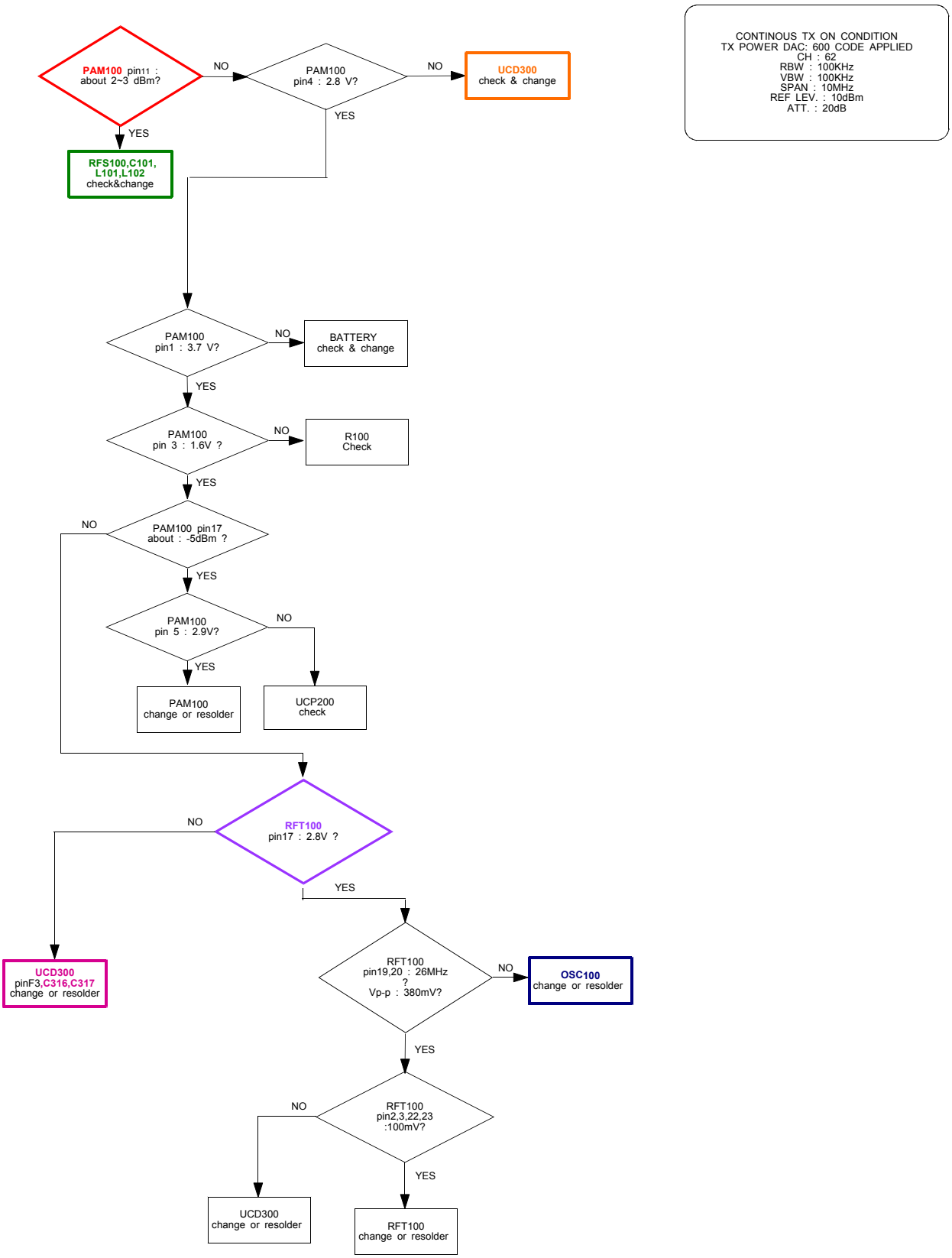




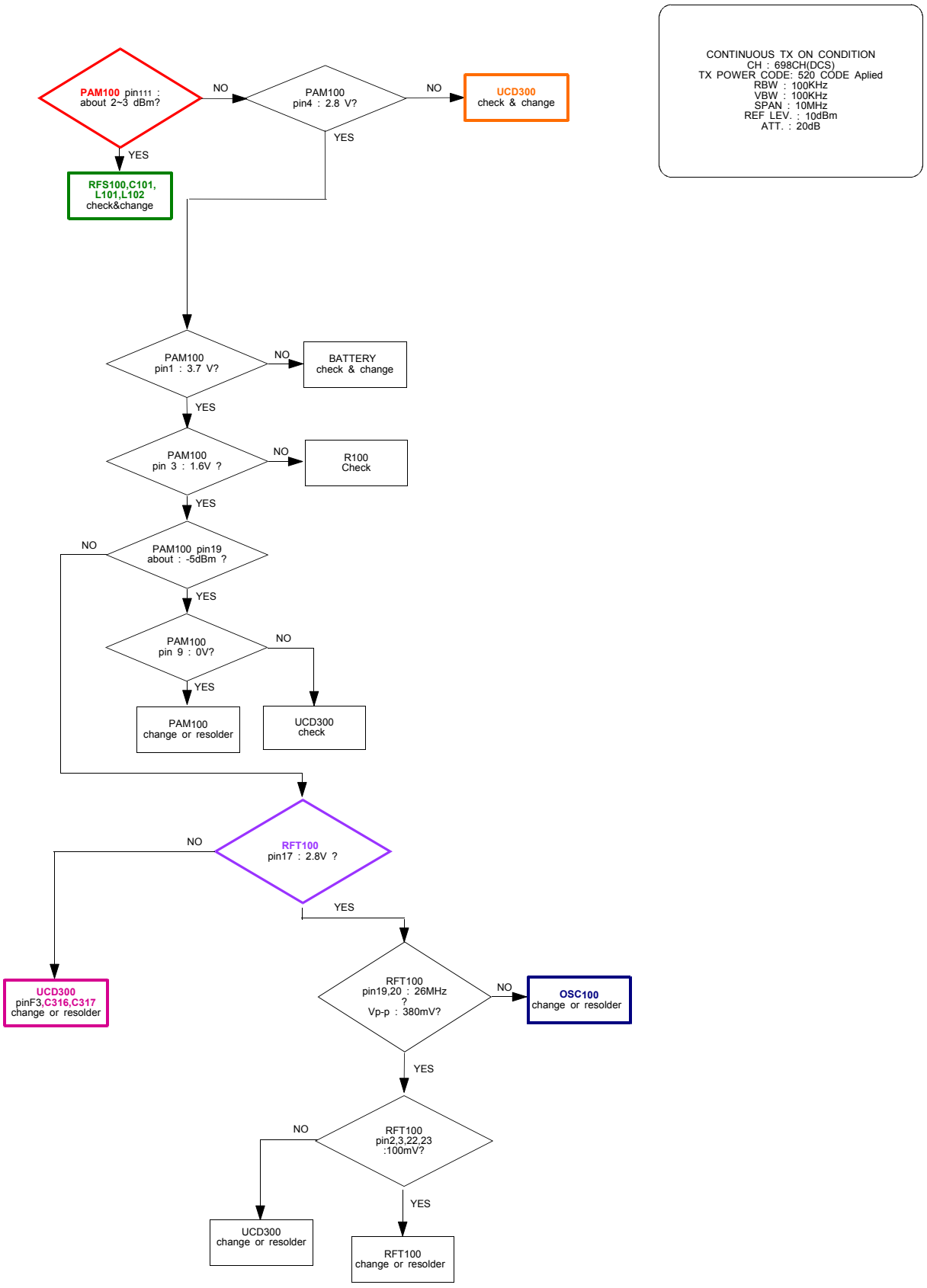
10-2-2. DCS RX

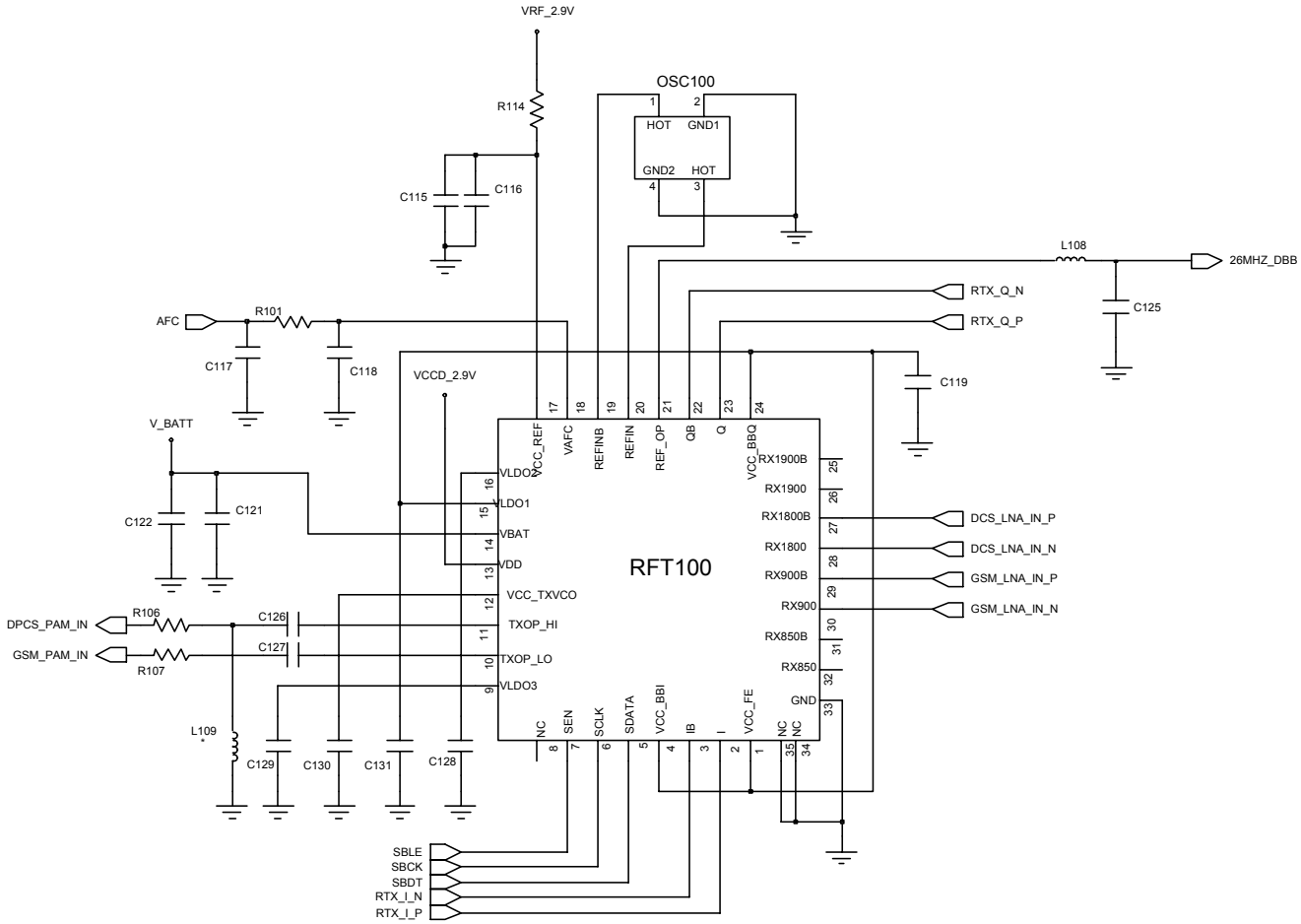


10-2-3. EGSM TX



10-2-4. DCS TX





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