

SAMSUNG

GSM TELEPHONE

SGH-A127

SERVICE *Manual*

GSM TELEPHONE



CONTENTS

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

**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

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 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.

1-2. 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.

2. Specification

2-1. GSM General Specification

	GSM 850 Phase 1	PCS1900 Phase 1
Freq. Band[MHz] Uplink/Downlink	824.2~848.8 869.2~893.8	1850.2~1909.8 1930.2~1989.8
ARFCN range	128~512	512~810
Tx/Rx spacing	45 MHz	80 MHz
Mod. Bit rate/ Bit Period	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
Modulation	0.3 GMSK	0.3 GMSK
MS Power	33 dBm~13 dBm	30 dBm~0 dBm
Power Class	5 pcl ~ 15 pcl	0 pcl ~ 15 pcl
Sensitivity	-102 dBm	-100 dBm
TDMA Mux	8	8
Cell Radius	35 Km	2 Km

2-2. GSM TX power class

TX Power control level	GSM850	TX Power control level	PCS1900
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

- Text Messaging capability
- Speakerphone capability
- Featured tools provide Alarms, Camera, Calendar, To Do List, Voice Memo, Calculator, Currency Converter, and World Time.

4. Array course control



Software Downloading

4-1. Downloading Binary Files

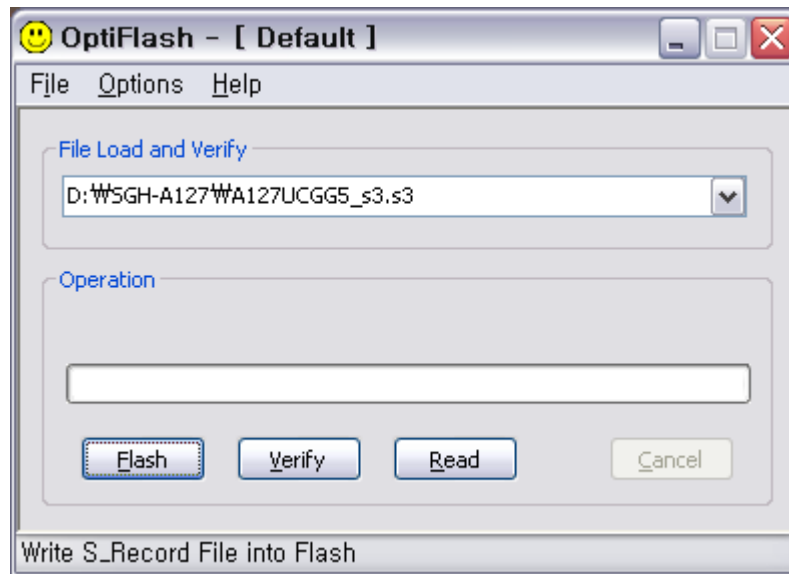
- Three binary files for downloading A127
 - A127XXYY.s3 : Main source code binary

4-2. Pre-requisite for Downloading

- Downloader Program([OptiFlash.exe](#))
- A127 Mobile Phone
- Data Cable
- Binary files

4-3. S/W Downloader Program

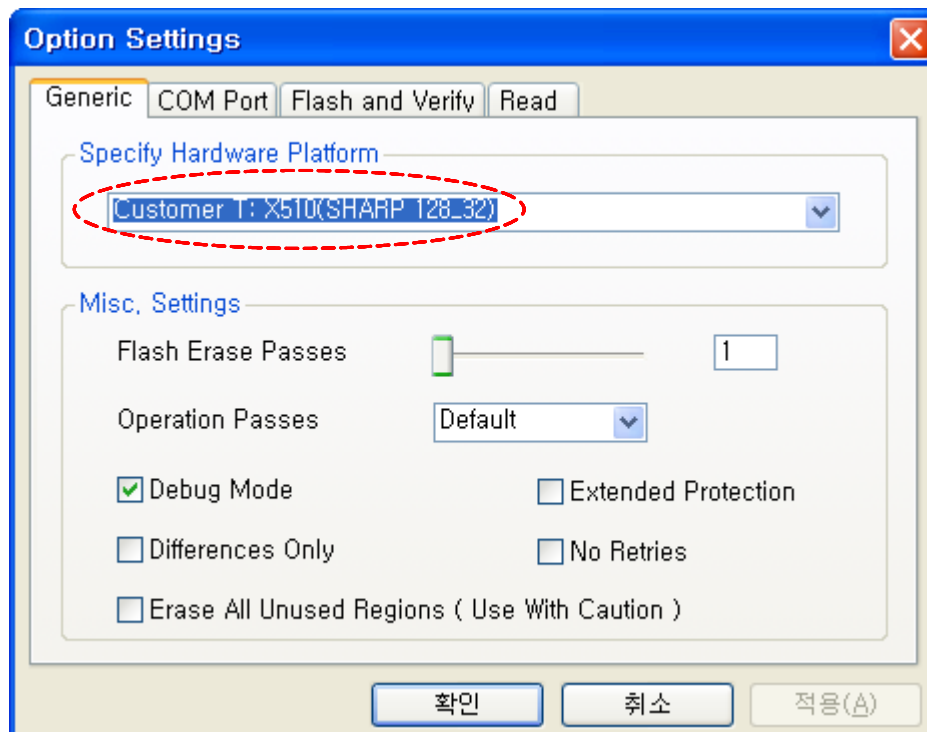
1. Load the binary download program by executing the "**Optiflash.exe**"



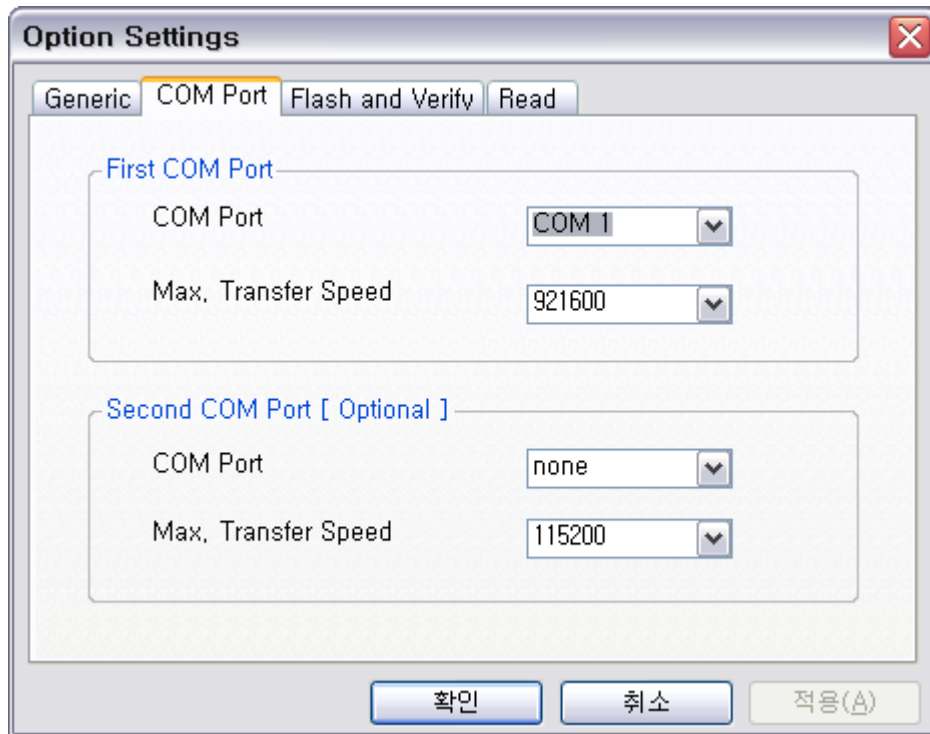
2. Select the "**Options**" → "**Settings**" → "**Generic**" → "**Specify hardware platform**".

Choose hardware platform for the downloader file setting.

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



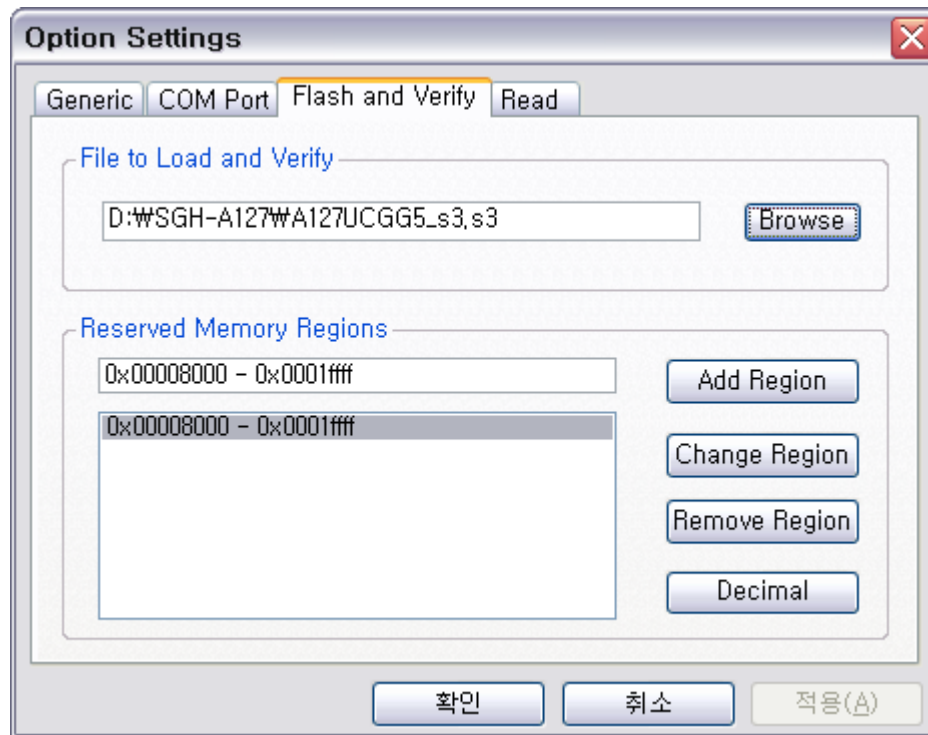
3. Select the **COM port** when the download cable is connected



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 "A127XXYY.s3", for the downloader binary setting.



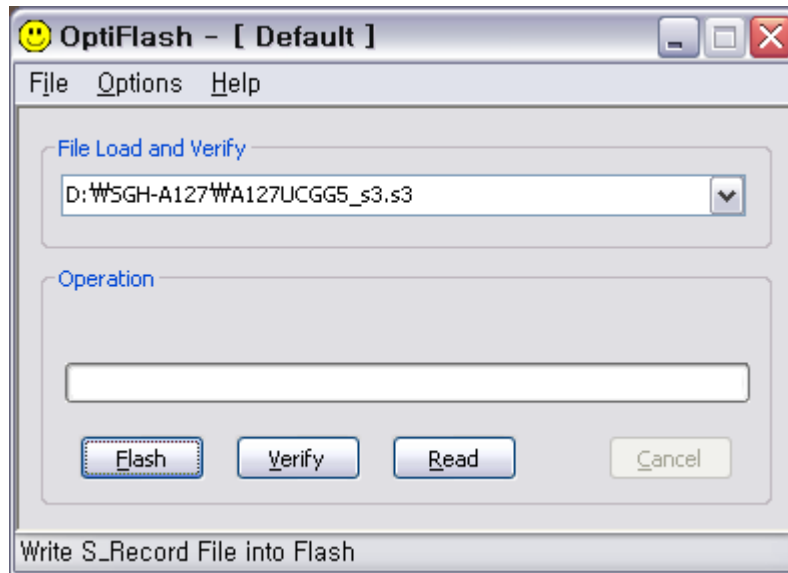
Make sure that not to change the reserved memory regions.

In case of M300 the reserved regions are :

- 0x00008000 - 0x0001ffff

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

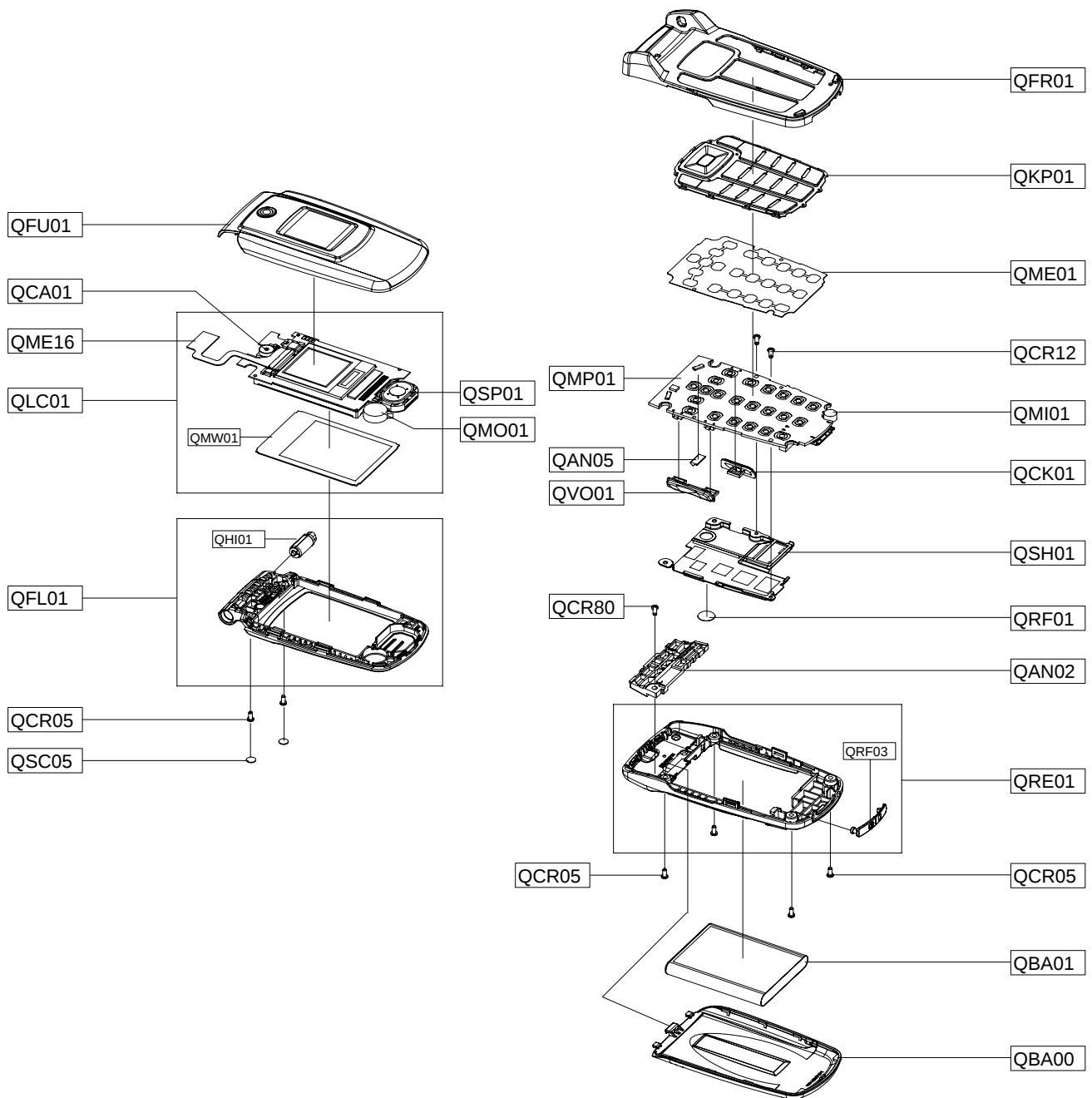
Downloader will upload the binary file as below for the downloading.



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		Description	SEC CODE
QAN02		ANTENNA-SGH_A127	GH42-01276A
QAN05		ASSY MEC-ANTENNA CONTACT	GH75-08168A
QBA00		PMO-CASE BATTERY	GH72-39955A
QBA01		INNER BATTERY PACK-800MAH,BLAC	GH43-02321A
QCA01		CAMERA MODULE	GH59-04166A
QCK01		ASSY KEY-CAMERA	GH98-04695A
QCR05		SCREW-MACHINE	6001-001478
QCR05		SCREW-MACHINE	6001-001478
QCR05		SCREW-MACHINE	6001-001478
QCR12		SCREW-MACHINE	6001-001530
QCR80		SCREW-TAPPING	6002-001405
QFR01		ASSY CASE-FRONT	GH98-04791A
QFU01		ASSY CASE-UPPER	GH98-04793A
QKP01		ASSY KEYPAD-MAIN(ATT/ZS)	GH98-05306A
QME01		DOVE SHEET-DOVE SHEET	GH59-04132A
QME16		ASSY ETC-CON TO CON	GH59-04658A
QMI01		MICROPHONE-ASSY-SGH-A127	GH30-00410A
QMO01		MOTOR DC-SGHF210	GH31-00355A
QMP01		PBA MAIN-SGH_A127	GH92-03719A
QRE01		ASSY CASE-REAR	GH98-04794A
	QRF03	PMO-COVER EAR IF	GH72-39967A
QRF01		TAPE-RF SHEET	GH74-34594A
QSC05		TAPE-SCREW CAP LOWER	GH74-34398A
QSH01		ASSY CASE-SHIELD CAN	GH98-04987A
QSP01		SPEAKER	3001-002191
QVO01		ASSY KEY-VOLUME	GH98-04694A
QFL01		ASSY CASE-LOWER	GH98-04792A
	QHI01	ASSY HINGE-FOLDER	GH98-02958A
QLC01		ELA UNIT-SGH_A127 LCD MODULE	GH96-02613A
	QMW01	ASSY COVER-MAIN WINDOW	GH98-04255A

Description	SEC CODE
VINYL-BOHO MAIN WINDOW	GH74-34142A
VINYL-BOHO SUB WINDOW	GH74-34910A
TAPE-LED	GH74-33566A
MPR-TAPE NON WOVEN FELT HINGE	GH74-31063A
MPR-TAPE CON TO CON	GH74-31434A
MPR-TAPE CAM FPCB	GH74-31435A
MPR-VINYL BOHO MAIN WINDOW	GH74-31871A
TAPE-MAIN CONN	GH74-32861A
TAPE-LCD SIDE	GH74-33217A
ASSY ETC-LCD IF PBA(A127)	GH59-04559A
MPR-REMOVE TAPE LCD	GH74-13804A
MPR-INSU TAPE SUB LCD	GH74-27510A
MPR-INSU TAPE	GH74-27512A
MPR-TAPE MAIN FPCB	GH74-30585A
MPR-TAPE MAIN FPCB	GH74-30860A
MPR-VINYL BOHO MAIN WINDOW	GH74-31987A
LCD-SUB LCD PANEL	GH07-01186A
PMO STOPPER-A127	GH72-42169A
VINYL-BOHO SUB IN	GH74-34909A
LABEL(R)-WATERSOAK(NEW)	GH68-14285A
LABEL-ANTENNA WARNING	GH68-16122A
PAA ETC-SGHA127 ATT(CLAMSHELL)	GH99-23490B
LABEL(R)-MAIN AT&T	GH68-15095A
CUSHION-CASE_CI_UP	GH69-05305A
BOX(P)-CLAMSHELL PAD UP	GH69-05763A
CUSHION-CLAM INNER	GH69-05790A
CUSHION-CLAM COVER	GH69-05791A
BOX(P)-CLAMSHELL PAD LO	GH69-05764A
LABEL(P)-IMEI	GH68-01335D
ADAPTOR-ATADS10JSE,SIL,CKD	GH44-01744A

6. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	STATUS
0403-001547	ZD504	DIODE-ZENER	SA
0406-001167	ZD501	DIODE-TVS	SA
0406-001167	ZD502	DIODE-TVS	SA
0406-001201	ZD401	DIODE-TVS	SA
0406-001201	ZD402	DIODE-TVS	SA
0406-001201	ZD603	DIODE-TVS	SA
0406-001260	ZD601	DIODE-TVS	SA
0504-000168	Q301	TR-DIGITAL	SA
0601-002268	LED301	LED	SA
0601-002268	LED302	LED	SA
0801-002529	U302	IC-CMOS LOGIC	SA
1001-001428	U405	IC-ANALOG MULTIPLEX	SA
1001-001428	U503	IC-ANALOG MULTIPLEX	SA
1001-001428	U504	IC-ANALOG MULTIPLEX	SA
1009-001020	U201	IC-HALL EFFECT S/W	SA
1108-000111	UME201	IC-MCP	SA
1201-002278	U100	IC-POWER AMP	SA
1203-003304	UCD301	IC-POWER SUPERVISOR	SA
1203-003663	U301	IC-BATTERY	SA
1204-001811	UCD201	IC-MELODY	SA
1205-003116	U101	IC-TRANSCEIVER	SA
1209-001712	U203	IC-SENSOR	SA
1405-001082	VR602	VARISTOR	SA
1405-001082	VR611	VARISTOR	SA
1405-001082	VR612	VARISTOR	SA
1405-001108	VR302	VARISTOR	SA
1405-001177	VR501	VARISTOR	SA
1405-001177	VR502	VARISTOR	SA
1405-001177	VR503	VARISTOR	SA
1405-001177	VR601	VARISTOR	SA
1405-001177	VR603	VARISTOR	SA
1405-001177	VR604	VARISTOR	SA
1405-001177	VR605	VARISTOR	SA
1405-001177	VR606	VARISTOR	SA
1405-001177	VR607	VARISTOR	SA
1405-001177	VR608	VARISTOR	SA

SEC CODE	Design LOC	Discription	STATUS
1405-001177	VR609	VARISTOR	SA
1405-001177	VR610	VARISTOR	SA
2007-000138	R601	R-CHIP	SA
2007-000140	R413	R-CHIP	SA
2007-000141	R419	R-CHIP	SA
2007-000148	R408	R-CHIP	SA
2007-000148	R411	R-CHIP	SA
2007-000148	R421	R-CHIP	SA
2007-000148	R425	R-CHIP	SA
2007-000157	R202	R-CHIP	SA
2007-000157	R215	R-CHIP	SA
2007-000157	R304	R-CHIP	SA
2007-000161	R410	R-CHIP	SA
2007-000161	R412	R-CHIP	SA
2007-000161	R424	R-CHIP	SA
2007-000161	R426	R-CHIP	SA
2007-000162	R203	R-CHIP	SA
2007-000162	R208	R-CHIP	SA
2007-000162	R212	R-CHIP	SA
2007-000162	R301	R-CHIP	SA
2007-000162	R306	R-CHIP	SA
2007-000162	R307	R-CHIP	SA
2007-000167	R213	R-CHIP	SA
2007-000170	R209	R-CHIP	SA
2007-000171	C137	R-CHIP	SA
2007-000172	R200	R-CHIP	SA
2007-000172	R201	R-CHIP	SA
2007-000172	R217	R-CHIP	SA
2007-000173	R417	R-CHIP	SA
2007-000173	R418	R-CHIP	SA
2007-000174	R401	R-CHIP	SA
2007-000174	R402	R-CHIP	SA
2007-000242	R420	R-CHIP	SA
2007-000775	R216	R-CHIP	SA
2007-001119	R415	R-CHIP	SA
2007-001119	U411	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-001284	R211	R-CHIP	SA
2007-001288	R308	R-CHIP	SA
2007-001288	R309	R-CHIP	SA
2007-001323	R414	R-CHIP	SA
2007-001325	R214	R-CHIP	SA
2007-001339	R305	R-CHIP	SA
2007-007573	R205	R-CHIP	SA
2007-007573	R210	R-CHIP	SA
2007-008045	R103	R-CHIP	SA
2007-008048	R102	R-CHIP	SA
2007-008055	R501	R-CHIP	SA
2007-008055	R503	R-CHIP	SA
2007-008055	R512	R-CHIP	SA
2007-008055	R513	R-CHIP	SA
2007-008055	R621	R-CHIP	SA
2007-008137	R302	R-CHIP	SA
2007-008419	R504	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	R510	R-CHIP	SA
2007-008483	R502	R-CHIP	SA
2007-008483	R620	R-CHIP	SA
2007-008483	U412	R-CHIP	SA
2007-008516	R105	R-CHIP	SA
2007-008516	R106	R-CHIP	SA
2007-008516	R603	R-CHIP	SA
2007-008542	R104	R-CHIP	SA
2007-008542	R108	R-CHIP	SA
2007-008587	R107	R-CHIP	SA
2007-008808	R602	R-CHIP	SA
2007-009160	R303	R-CHIP	SA
2007-009171	R622	R-CHIP	SA
2007-009194	R623	R-CHIP	SNA

SEC CODE	Design LOC	Discription	STATUS
2203-000233	C221	C-CER,CHIP	SA
2203-000233	C313	C-CER,CHIP	SA
2203-000233	C414	C-CER,CHIP	SA
2203-000233	C417	C-CER,CHIP	SA
2203-000254	C200	C-CER,CHIP	SA
2203-000254	C207	C-CER,CHIP	SA
2203-000254	C208	C-CER,CHIP	SA
2203-000254	C209	C-CER,CHIP	SA
2203-000254	C211	C-CER,CHIP	SA
2203-000254	C213	C-CER,CHIP	SA
2203-000254	C215	C-CER,CHIP	SA
2203-000254	C237	C-CER,CHIP	SA
2203-000254	C301	C-CER,CHIP	SA
2203-000254	C303	C-CER,CHIP	SA
2203-000278	C222	C-CER,CHIP	SA
2203-000278	C223	C-CER,CHIP	SA
2203-000278	C424	C-CER,CHIP	SA
2203-000386	C426	C-CER,CHIP	SA
2203-000386	C427	C-CER,CHIP	SA
2203-000438	C235	C-CER,CHIP	SA
2203-000654	C230	C-CER,CHIP	SA
2203-000679	C202	C-CER,CHIP	SA
2203-000940	C601	C-CER,CHIP	SA
2203-000995	C225	C-CER,CHIP	SA
2203-000995	C413	C-CER,CHIP	SA
2203-000995	C415	C-CER,CHIP	SA
2203-000995	C603	C-CER,CHIP	SA
2203-000995	C604	C-CER,CHIP	SA
2203-000995	C605	C-CER,CHIP	SA
2203-001405	C229	C-CER,CHIP	SA
2203-005065	C307	C-CER,CHIP	SA
2203-005065	C308	C-CER,CHIP	SA
2203-005065	C311	C-CER,CHIP	SA
2203-005482	C201	C-CER,CHIP	SA
2203-005482	C212	C-CER,CHIP	SA
2203-005482	C214	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-005482	C224	C-CER,CHIP	SA
2203-005482	C226	C-CER,CHIP	SA
2203-005482	C227	C-CER,CHIP	SA
2203-005482	C231	C-CER,CHIP	SA
2203-005482	C234	C-CER,CHIP	SA
2203-005482	C302	C-CER,CHIP	SA
2203-005482	C315	C-CER,CHIP	SA
2203-005482	C425	C-CER,CHIP	SA
2203-005482	U409	C-CER,CHIP	SA
2203-005552	L107	C-CER,CHIP	SA
2203-005682	C104	C-CER,CHIP	SA
2203-005682	C108	C-CER,CHIP	SA
2203-005682	C128	C-CER,CHIP	SA
2203-005682	C130	C-CER,CHIP	SA
2203-005682	C131	C-CER,CHIP	SA
2203-005682	C132	C-CER,CHIP	SA
2203-005682	C429	C-CER,CHIP	SA
2203-005682	C642	C-CER,CHIP	SA
2203-005682	C643	C-CER,CHIP	SA
2203-005682	U407	C-CER,CHIP	SA
2203-005683	C111	C-CER,CHIP	SA
2203-005683	C619	C-CER,CHIP	SA
2203-005683	C620	C-CER,CHIP	SA
2203-005729	C105	C-CER,CHIP	SA
2203-005731	C103	C-CER,CHIP	SA
2203-005736	C118	C-CER,CHIP	SA
2203-005736	C129	C-CER,CHIP	SA
2203-005777	C101	C-CER,CHIP	SA
2203-005777	C106	C-CER,CHIP	SA
2203-005777	C112	C-CER,CHIP	SA
2203-006047	C232	C-CER,CHIP	SA
2203-006048	C217	C-CER,CHIP	SA
2203-006048	C218	C-CER,CHIP	SA
2203-006048	C219	C-CER,CHIP	SA
2203-006048	C220	C-CER,CHIP	SA
2203-006048	C236	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006048	C506	C-CER,CHIP	SA
2203-006048	C644	C-CER,CHIP	SA
2203-006137	C203	C-CER,CHIP	SA
2203-006137	C314	C-CER,CHIP	SA
2203-006194	C110	C-CER,CHIP	SA
2203-006194	C119	C-CER,CHIP	SA
2203-006194	C124	C-CER,CHIP	SA
2203-006257	C421	C-CER,CHIP	SA
2203-006260	C210	C-CER,CHIP	SA
2203-006260	C216	C-CER,CHIP	SA
2203-006307	C317	C-CER,CHIP	SA
2203-006318	C117	C-CER,CHIP	SA
2203-006318	C120	C-CER,CHIP	SA
2203-006399	C316	C-CER,CHIP	SA
2203-006399	C501	C-CER,CHIP	SA
2203-006399	C504	C-CER,CHIP	SA
2203-006399	C509	C-CER,CHIP	SA
2203-006423	C121	C-CER,CHIP	SA
2203-006423	C123	C-CER,CHIP	SA
2203-006423	C125	C-CER,CHIP	SA
2203-006423	C126	C-CER,CHIP	SA
2203-006423	C502	C-CER,CHIP	SA
2203-006423	C503	C-CER,CHIP	SA
2203-006423	C621	C-CER,CHIP	SA
2203-006423	C640	C-CER,CHIP	SA
2203-006556	C102	C-CER,CHIP	SA
2203-006556	C607	C-CER,CHIP	SA
2203-006556	C614	C-CER,CHIP	SA
2203-006556	C615	C-CER,CHIP	SA
2203-006556	C616	C-CER,CHIP	SA
2203-006556	C617	C-CER,CHIP	SA
2203-006556	C618	C-CER,CHIP	SA
2203-006556	C626	C-CER,CHIP	SA
2203-006556	C627	C-CER,CHIP	SA
2203-006556	C628	C-CER,CHIP	SA
2203-006556	C629	C-CER,CHIP	SA

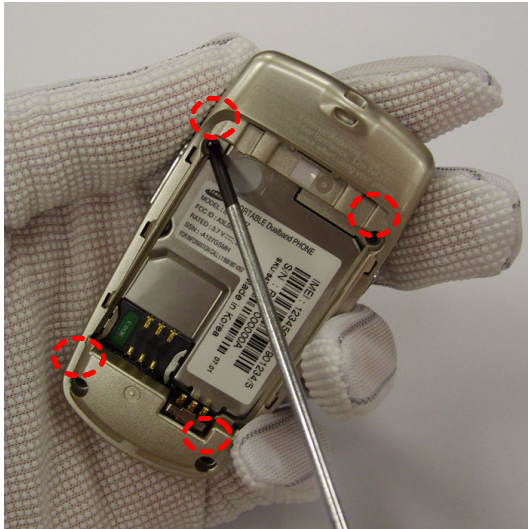
SEC CODE	Design LOC	Discription	STATUS
2203-006556	C630	C-CER,CHIP	SA
2203-006556	C632	C-CER,CHIP	SA
2203-006556	C633	C-CER,CHIP	SA
2203-006556	C635	C-CER,CHIP	SA
2203-006556	C636	C-CER,CHIP	SA
2203-006626	C412	C-CER,CHIP	SA
2203-006626	C418	C-CER,CHIP	SA
2203-006648	C122	C-CER,CHIP	SA
2203-006648	C508	C-CER,CHIP	SA
2203-006681	C306	C-CER,CHIP	SA
2203-006824	C233	C-CER,CHIP	SA
2203-006824	C310	C-CER,CHIP	SA
2203-006824	C312	C-CER,CHIP	SA
2203-006841	C305	C-CER,CHIP	SA
2203-006841	C422	C-CER,CHIP	SA
2203-006841	C507	C-CER,CHIP	SA
2203-006841	C625	C-CER,CHIP	SA
2404-001374	C127	C-TA,CHIP	SA
2404-001396	C228	C-TA,CHIP	SA
2404-001396	C304	C-TA,CHIP	SA
2404-001406	TA501	C-TA,CHIP	SA
2404-001414	C420	C-TA,CHIP	SA
2404-001414	C423	C-TA,CHIP	SA
2703-002313	L105	INDUCTOR-SMD	SA
2703-002544	L109	INDUCTOR-SMD	SA
2703-002551	L102	INDUCTOR-SMD	SNA
2703-002558	L101	INDUCTOR-SMD	SA
2703-003003	L103	INDUCTOR-SMD	SA
2703-003003	L104	INDUCTOR-SMD	SA
2801-003856	OSC200	CRYSTAL-SMD	SA
2801-004587	OSC101	CRYSTAL-SMD	SA
2901-001404	F601	FILTER-EMI SMD	SA
2901-001404	F602	FILTER-EMI SMD	SA
2904-001600	F102	FILTER-SAW	SA
2904-001633	F100	FILTER-SAW	SA
3301-001729	L402	BEAD-SMD	SA

SEC CODE	Design LOC	Discription	STATUS
3301-001729	L602	BEAD-SMD	SA
3301-001729	L604	BEAD-SMD	SA
3301-001812	L200	BEAD-SMD	SA
3404-001303	TAC600	SWITCH-TACT	SA
3404-001303	TAC601	SWITCH-TACT	SA
3404-001303	TAC602	SWITCH-TACT	SA
3705-001421	RFS100	CONNECTOR-COAXIAL	SA
3709-001400	SIM103	CONNECTOR-CARD EDGE	SA
3710-002499	CN501	SOCKET-INTERFACE	SA
3711-006141	HDC601	HEADER-BOARD TO BOARD	SA
3711-006228	BTC500	HEADER-BATTERY	SA
GH09-00034A	UCP201	IC MICOM-SGHX466	SA
GH13-00050A	U502	IC ASIC-SGHC510	SA
GH71-06338A	ANT	NPR-BRACKET ANT CONTACT	SA
GH71-06338A	GND	NPR-BRACKET ANT CONTACT	SA

7. Disassembly and Assembly Instructions

7-1. Disassembly

1



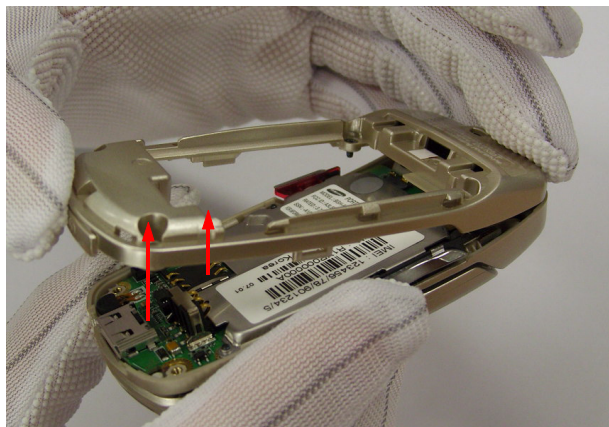
1) Remove the Rear Screw (4-points)

2



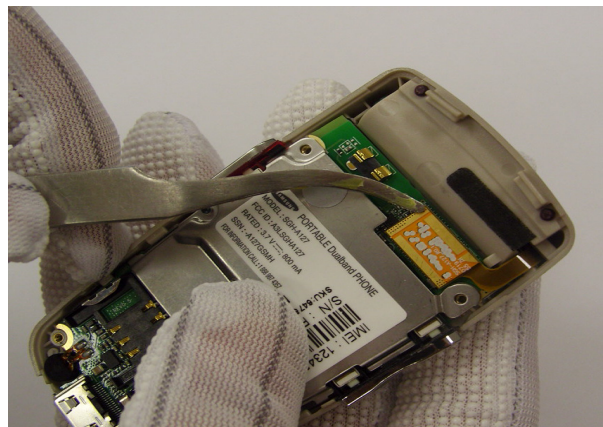
1) Open the side with a knife
(as the arrow shown)

3



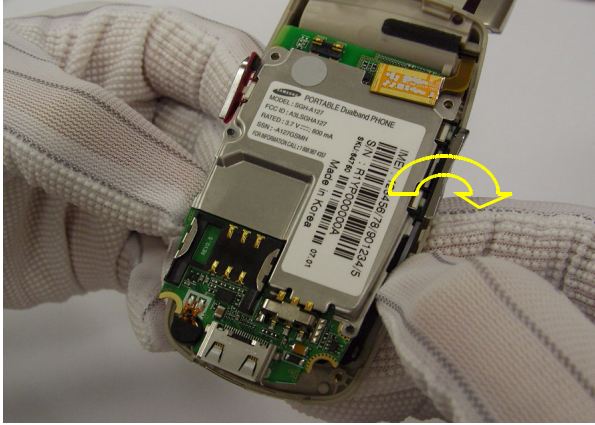
1) Disjoint the Rear

4



1) Disjoint the LCD Connector

5

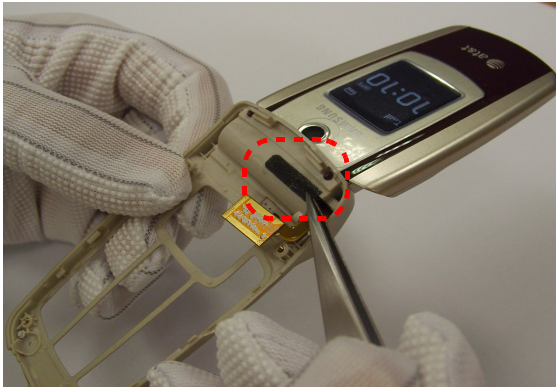


- 1) Draw the PBA out
- 2) Draw the key pad out

6

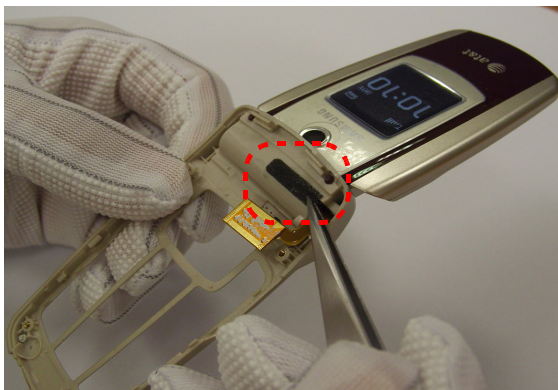


7



- 1) Remove the Felt Hinge Tape

8



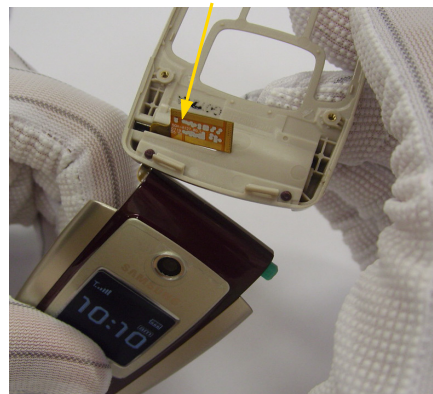
1) Remove the Felt Hinge Tape

9



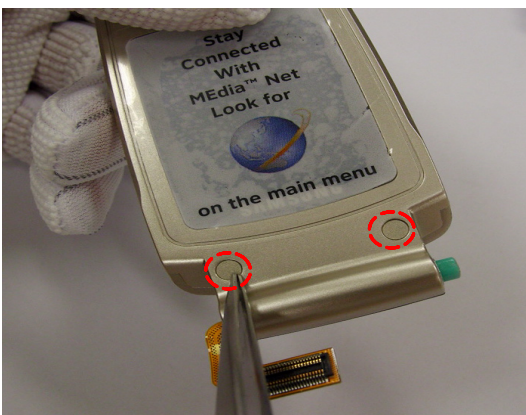
1) Press the Hinge cap with a lever

10



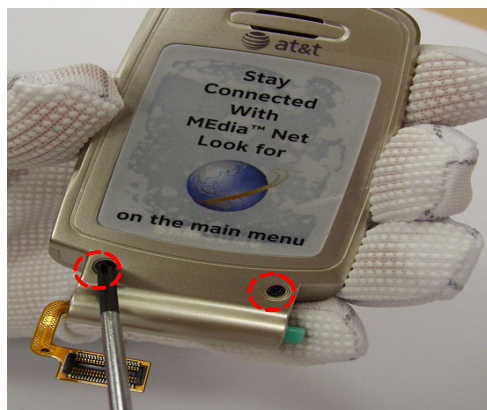
1) Draw out the LCD Connector from Front
2) Separate Front from Folder

11

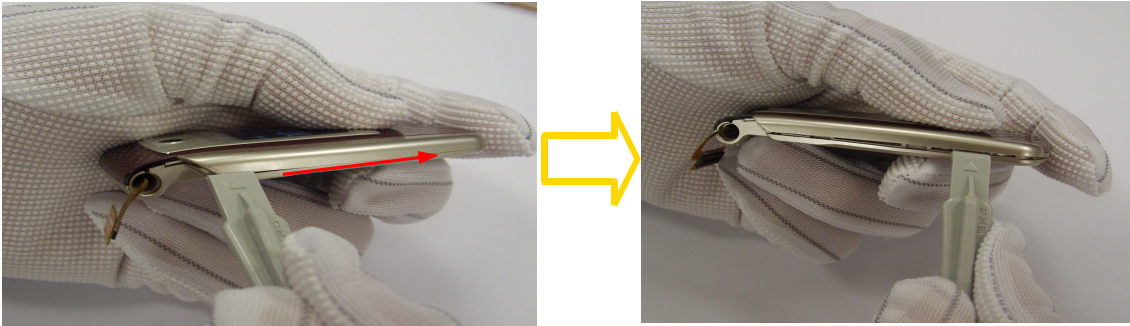


1) Remove the Screw Caps (2 Points)

12



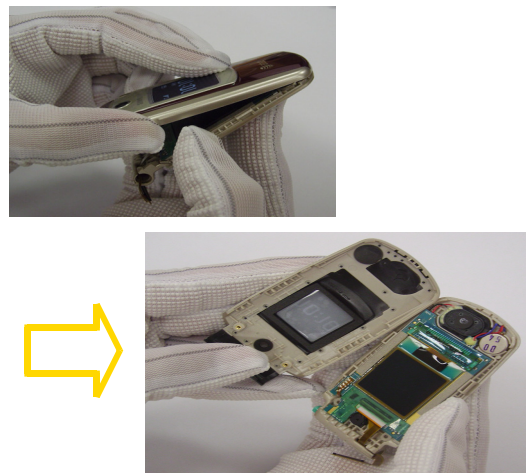
1) Remove the Screws (2 Points)

13

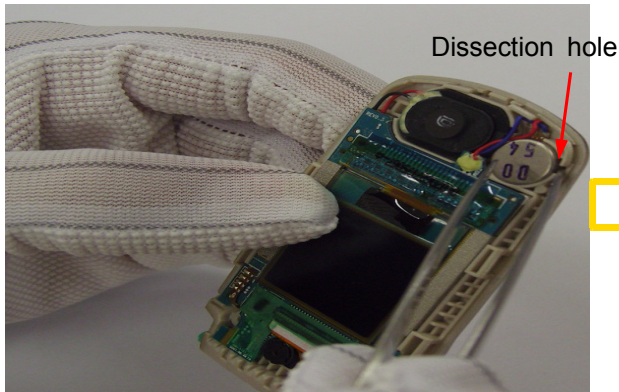
1) Open the side with a knife (as the arrow shown)

14

1) Open the Upper's top part with a knife
(Two hooks are on bottom of lower)

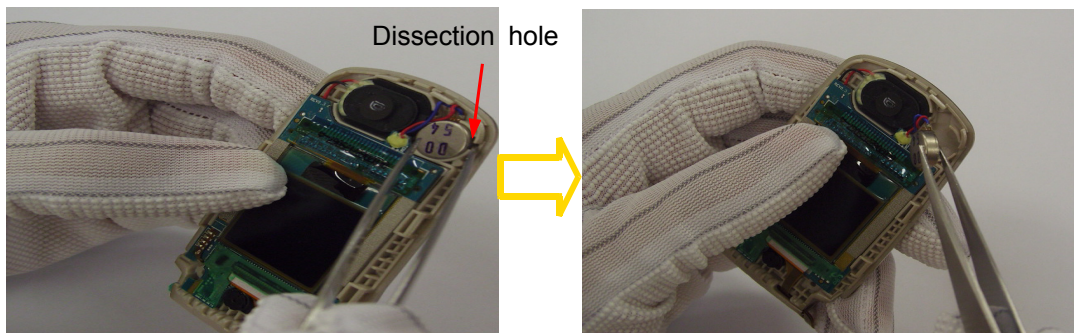
15

1) Open the Upper's top part with a knife
(Two hooks are on bottom of lower)

16

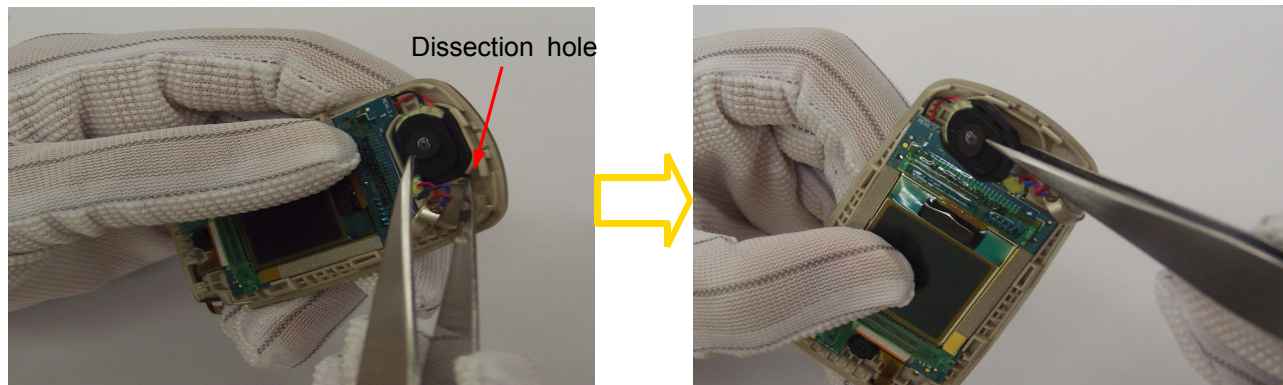
1) Draw the Motor out

13



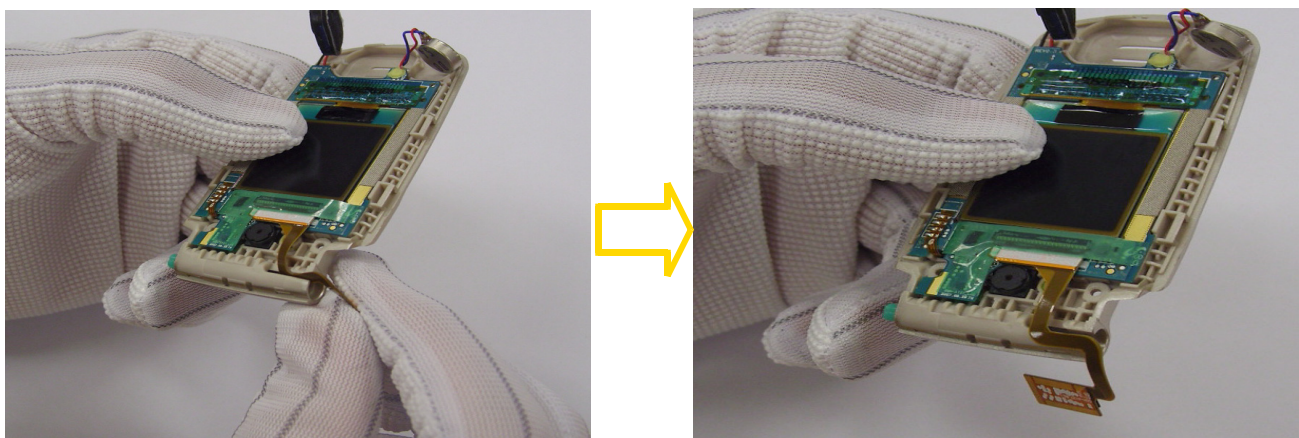
1) Draw the Motor out

14



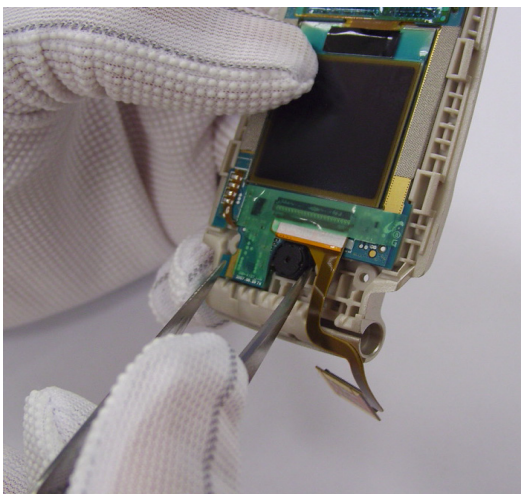
1) Draw the Speaker out

15



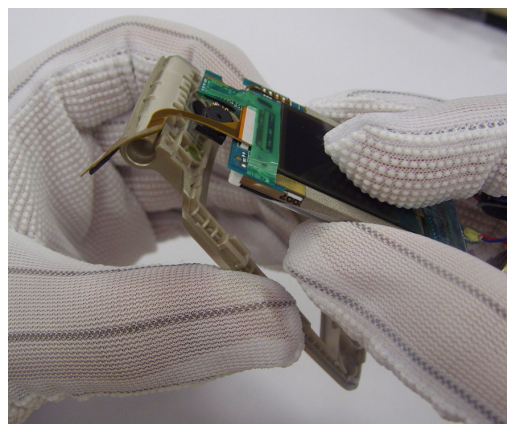
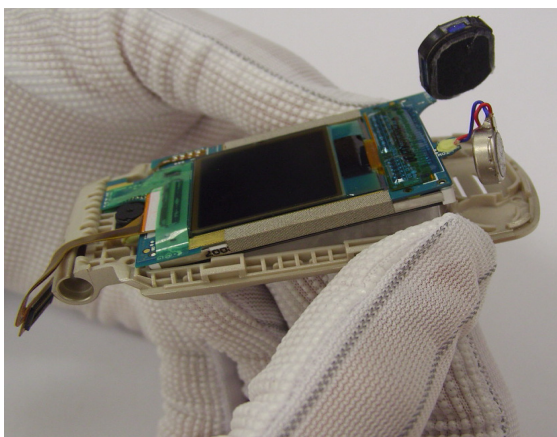
1) Draw the LCD FPCB out from the Lower hole

16



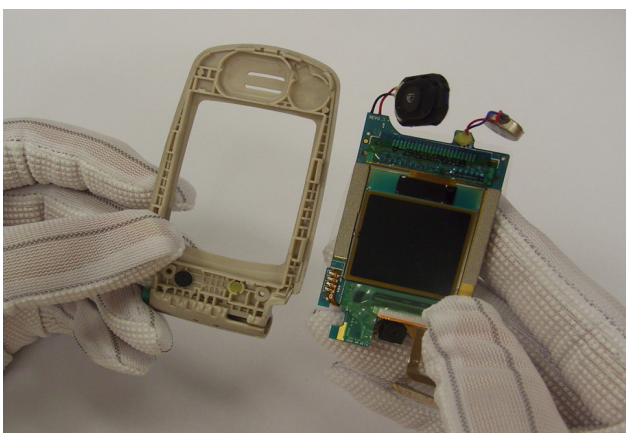
1) Draw the Camera out

17



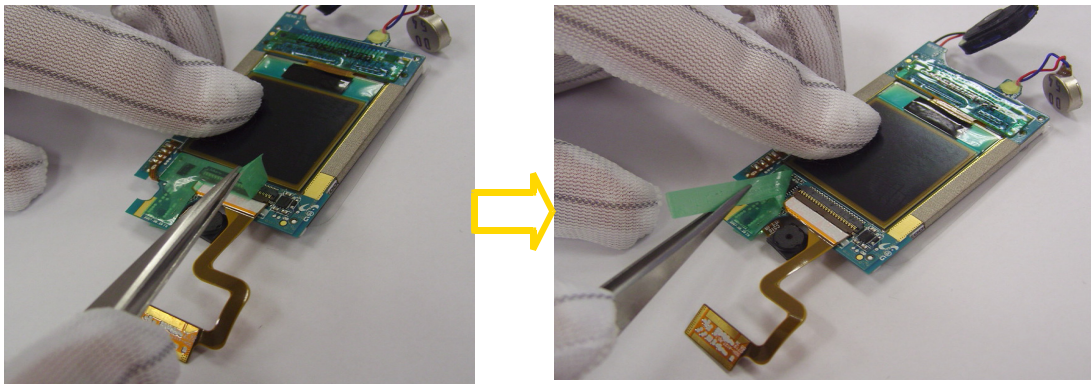
1) Draw the LCD out

18



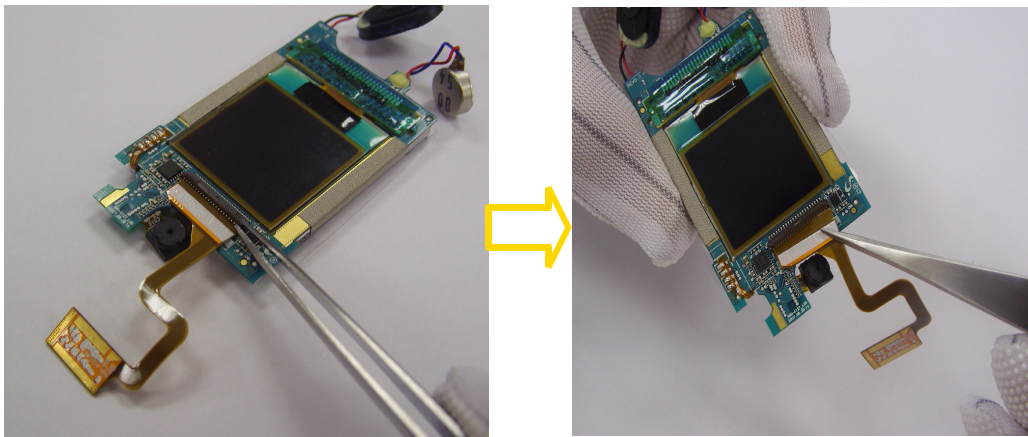
1) Disjoint the LCD from the Lower

19



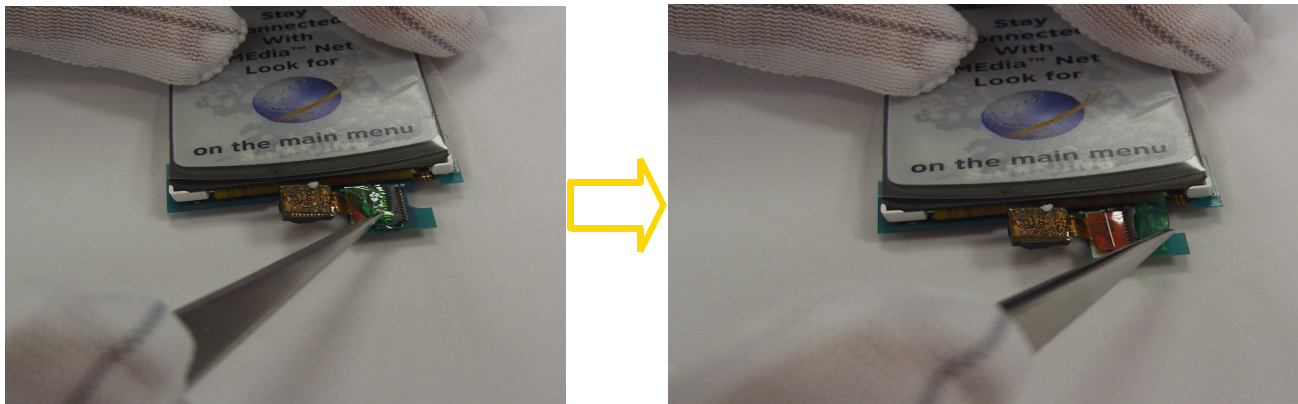
1) Remove The Tape Main Conn

20



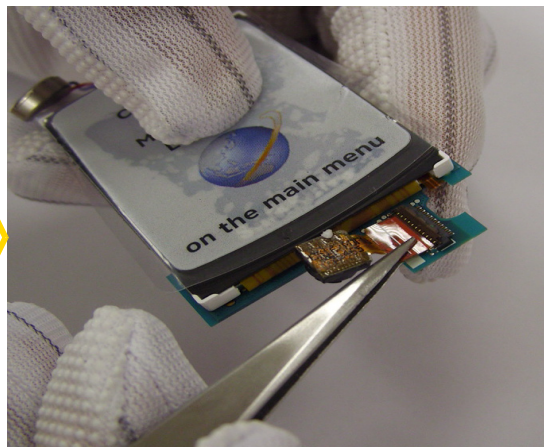
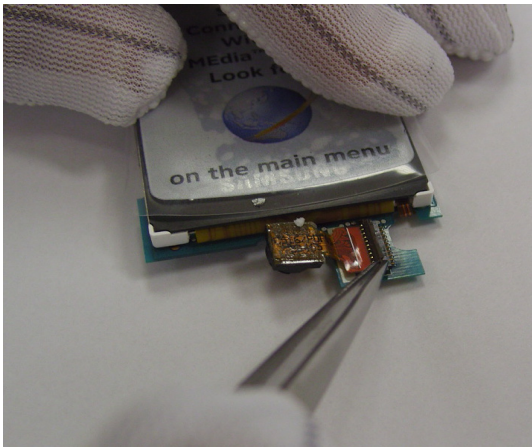
1) Draw out the LCD Connector from Actuator

21



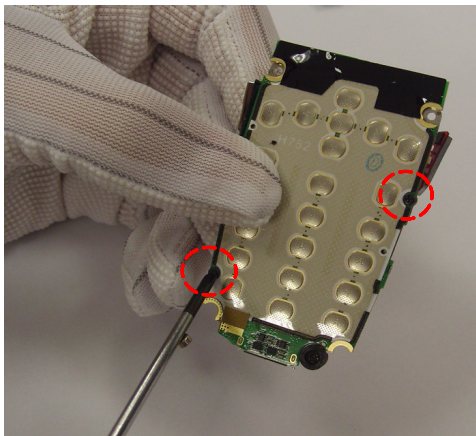
1) Remove The Tape Cam Conn

22



1) Draw out the Camera Connector from Actuator

23



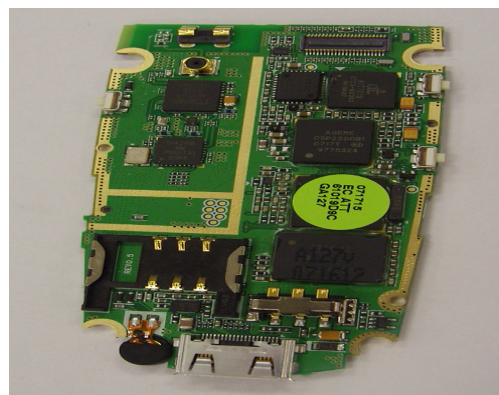
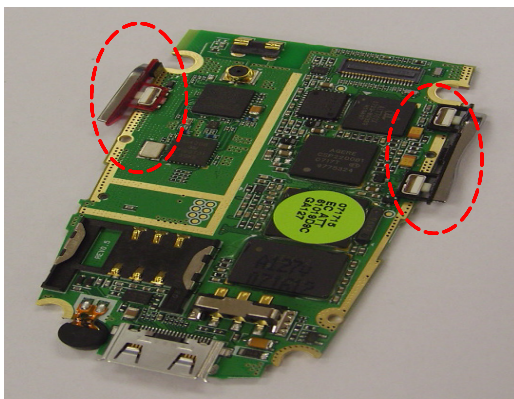
24



1) Draw out the LCD Connector from Actuator

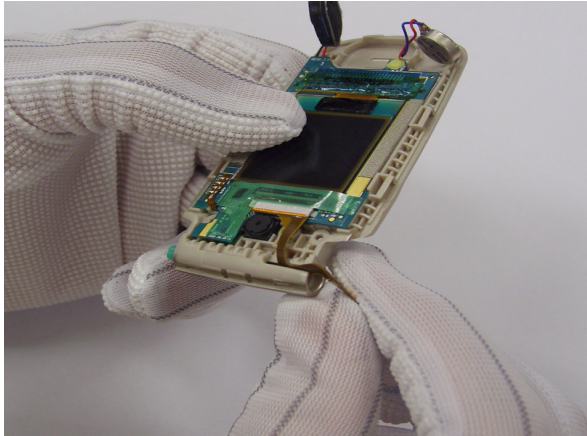
1) Draw out the LCD Connector from Actuator

25

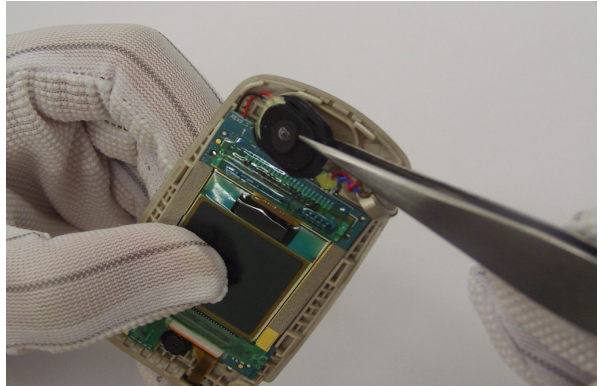


- 1) Remove the Shield can Screw (2point)
- 2) Draw the Shield can out
- 3) Draw the Side Key out

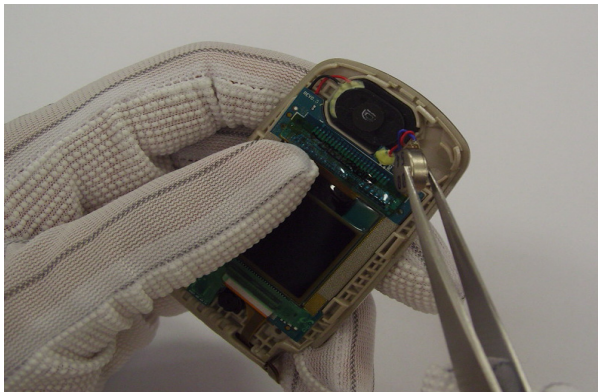
7-2. Assembly

1

1) Join the LCD & Camera to the Lower

2

1) Join the Speaker to the Lower

3

1) Join the Motor to the Lower

4

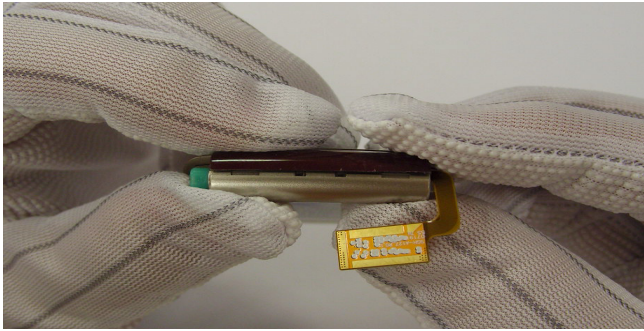
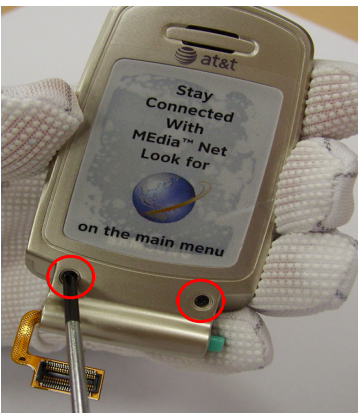
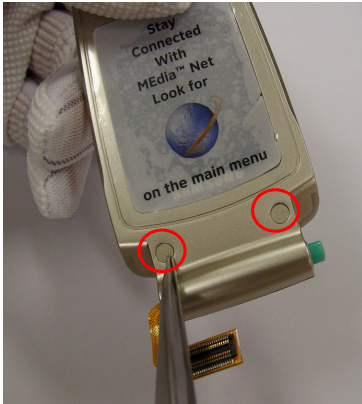
1) Join the Upper to the bottom of the Lower

5

1) Assemble the middle of the Upper

6

1) Assemble the middle of the Upper
(Opposite Side)

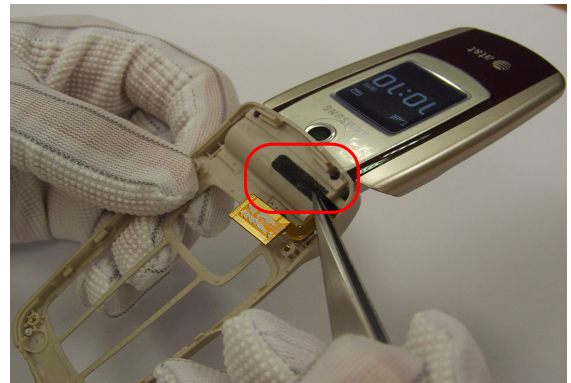
7 	8 
1) Assemble the middle of the Upper 2) Join the Upper to the top of the Lower	1) Join the Upper to the Lower Tightly
9 	10 
1) Insert the Screws (2 Points)	1) Attach the Screw Caps (2 Points)
9 	10 
1) Insert the LCD Connector to Front Hole	1) Put LCD FPCB in the Front Hinge

11



1) Put the Hinge into the Hinge Bracket

12



1) Attach The Felt Hinge Tape

13



1) Put the Hinge into the Hinge Bracket

14



1) Attach The Felt Hinge Tape

15



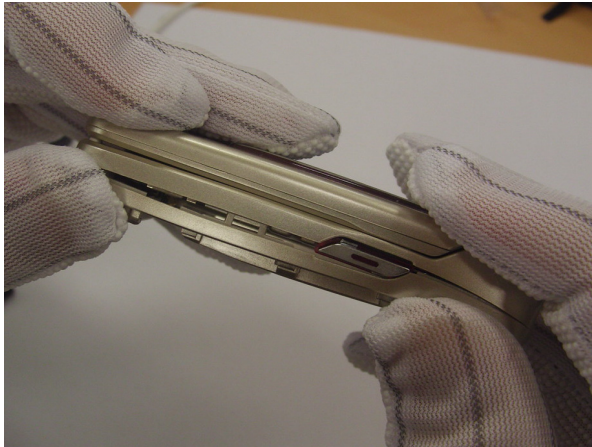
1) Assemble the LCD Connector

16



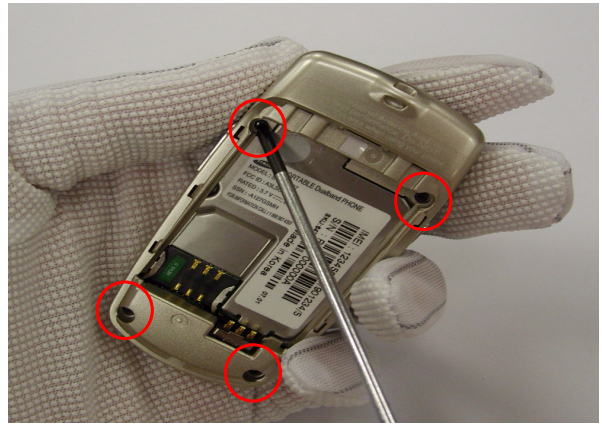
1) Join the Rear to the top of the Folder

17



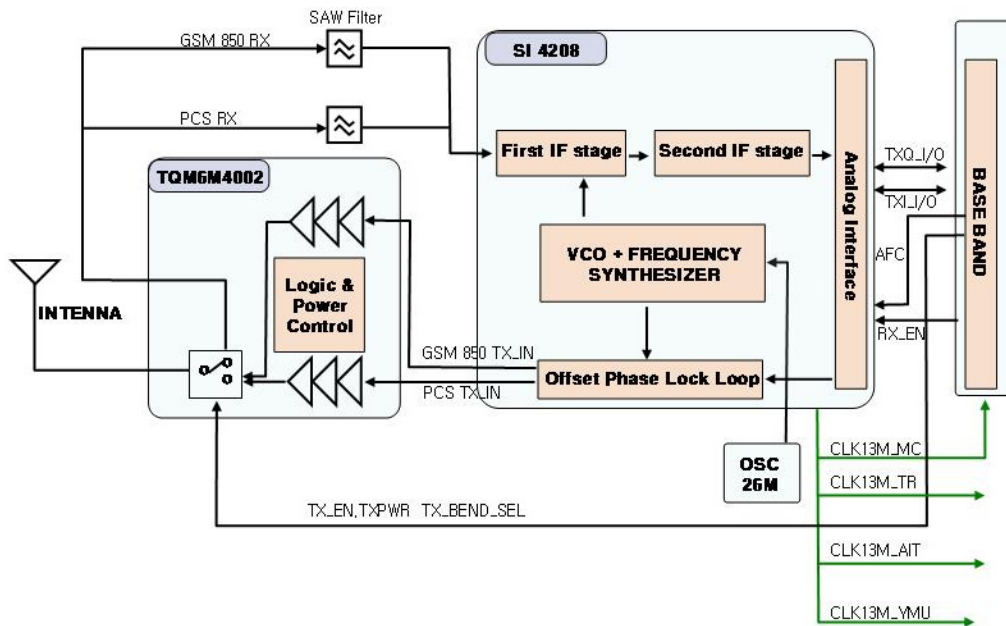
1) Assemble the middle of the Folder

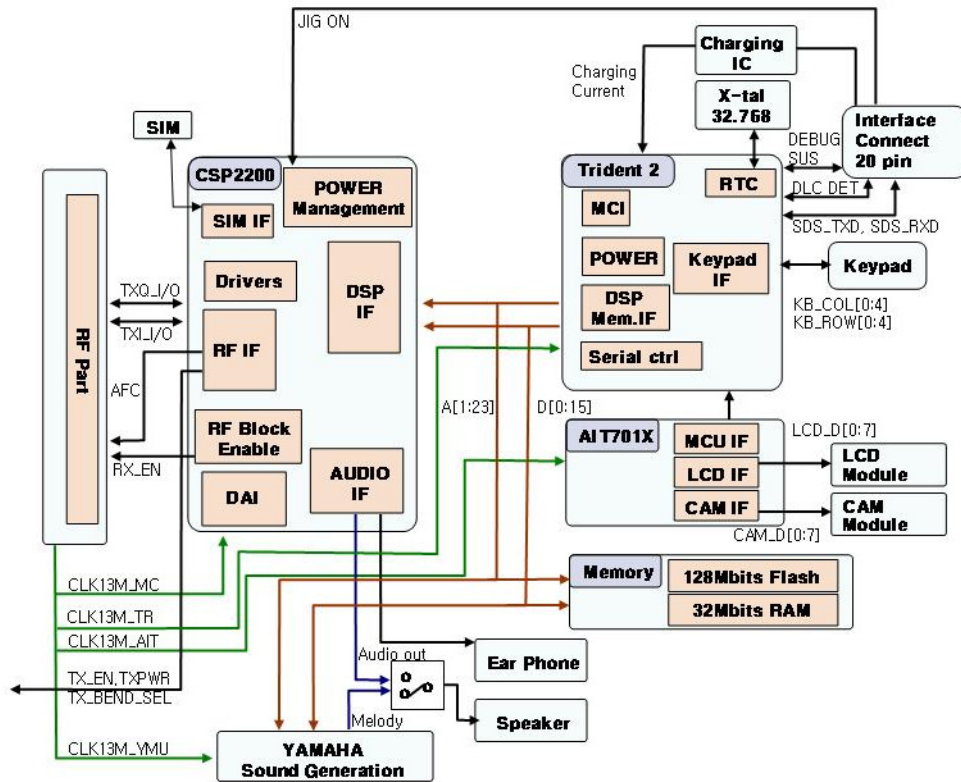
18



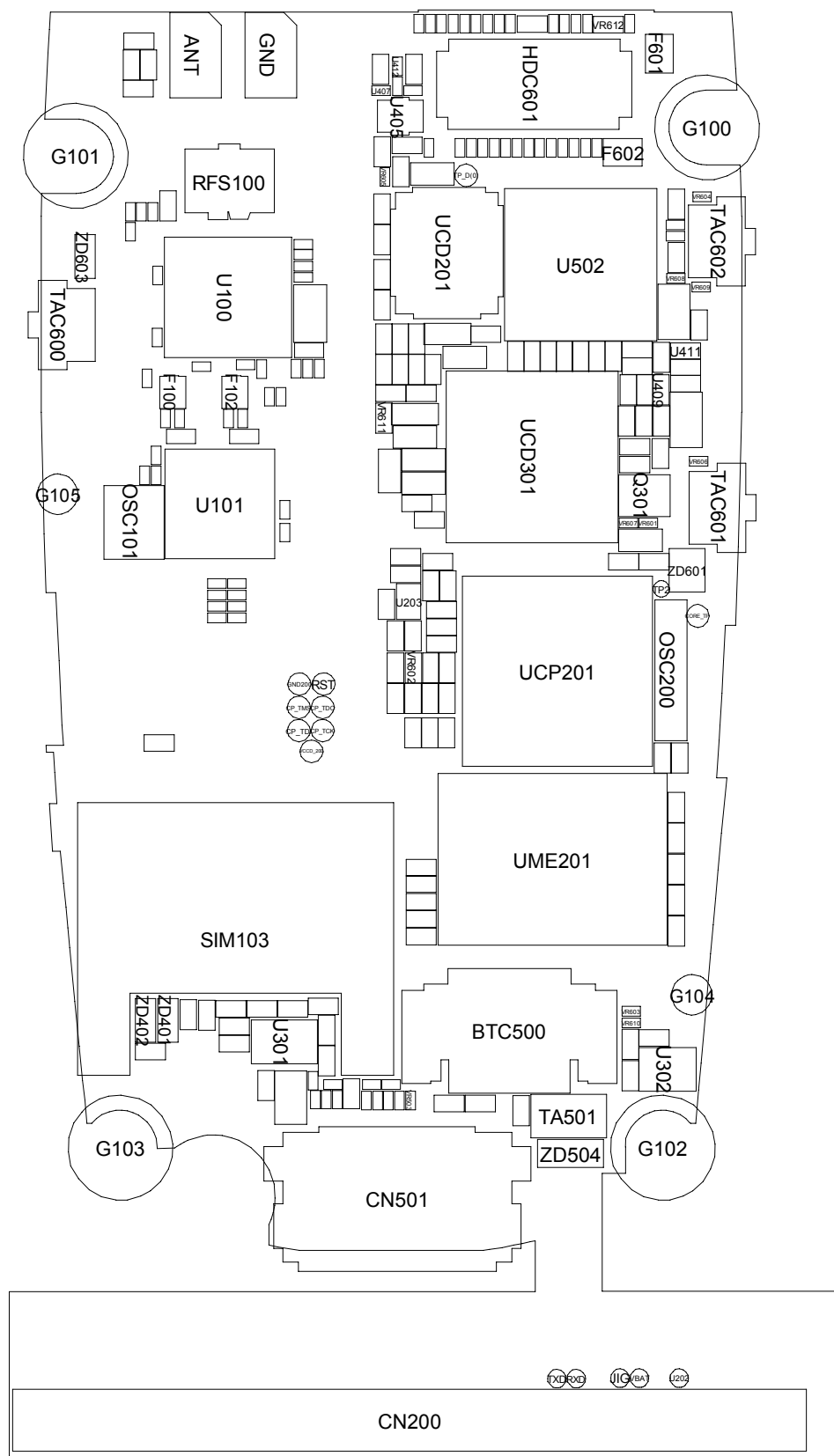
1) Insert the Screws (4 Points)

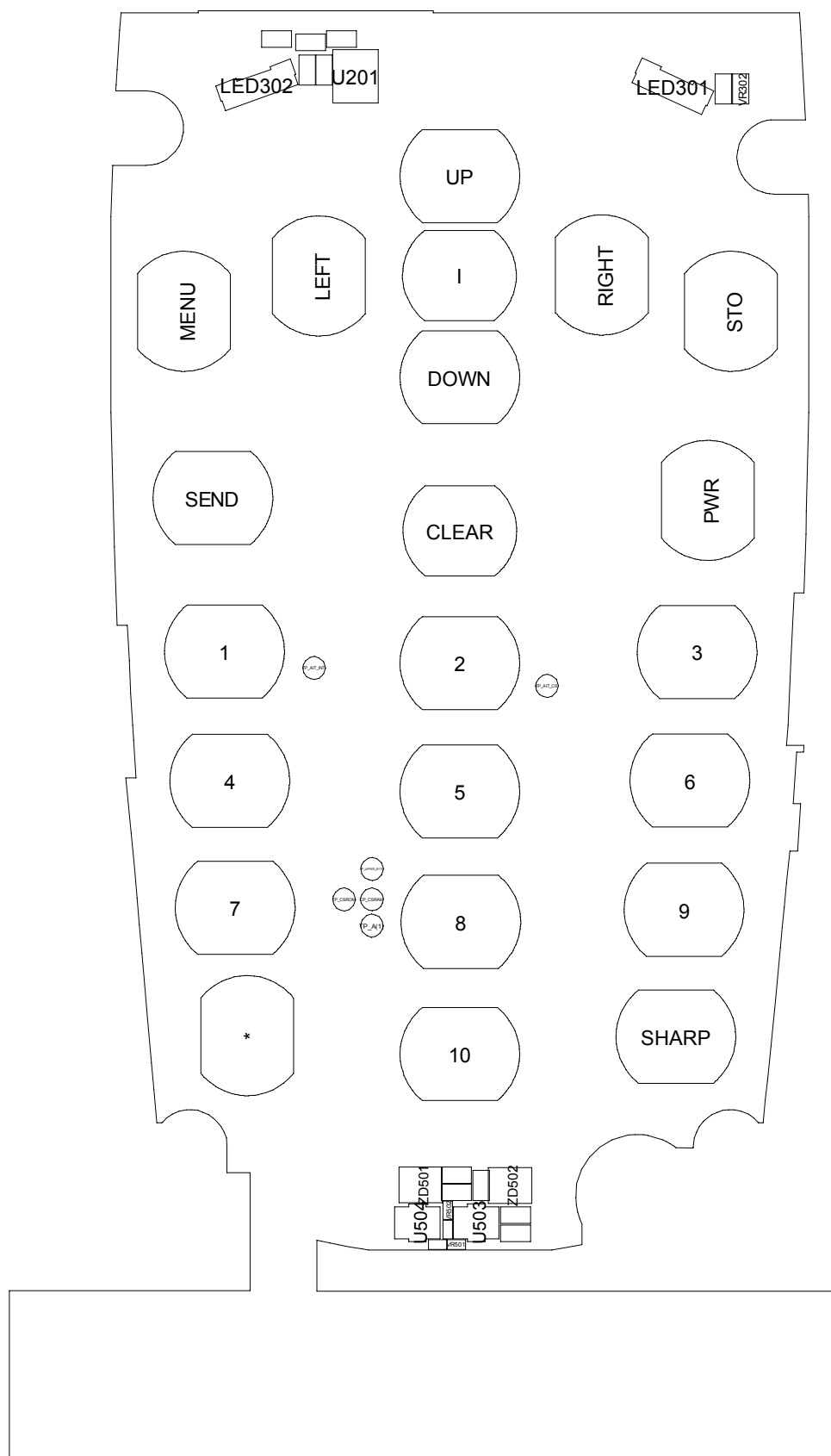
8. Block Diagrams





9. PCB Diagrams

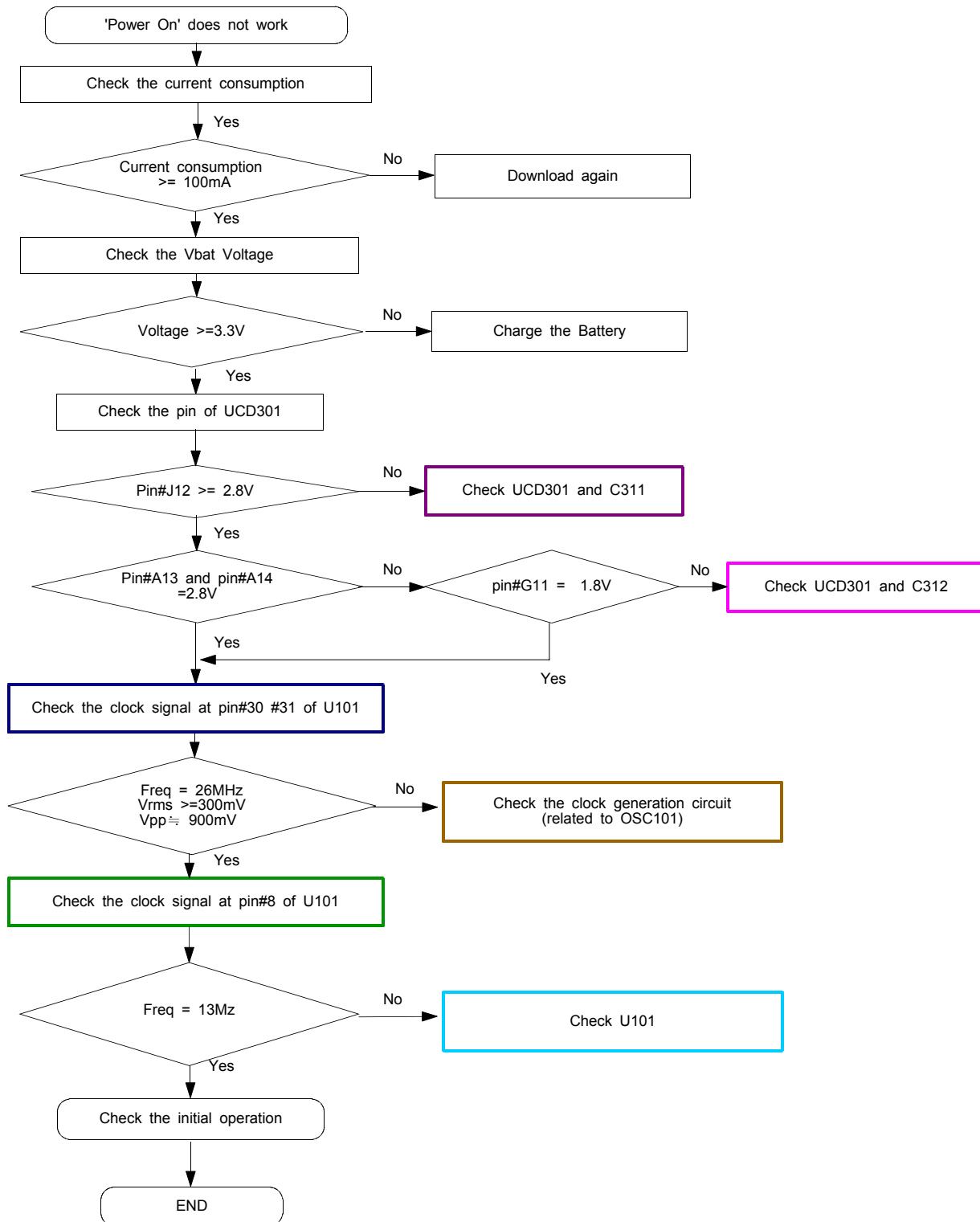


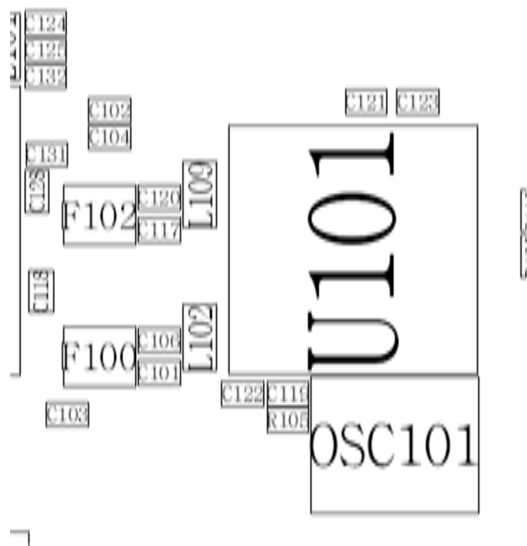


10. Flow Chart of Troubleshooting

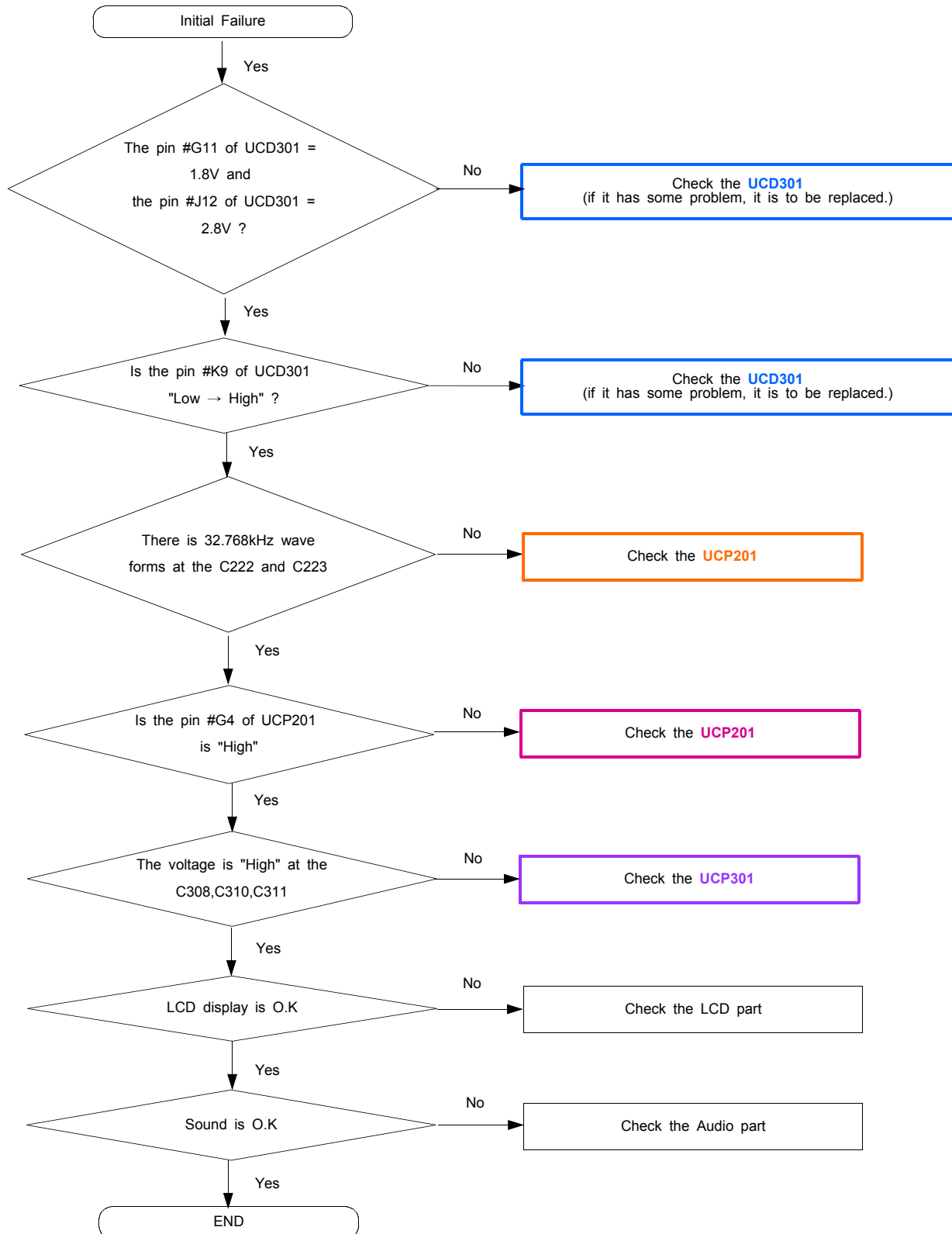
10-1.Baseband

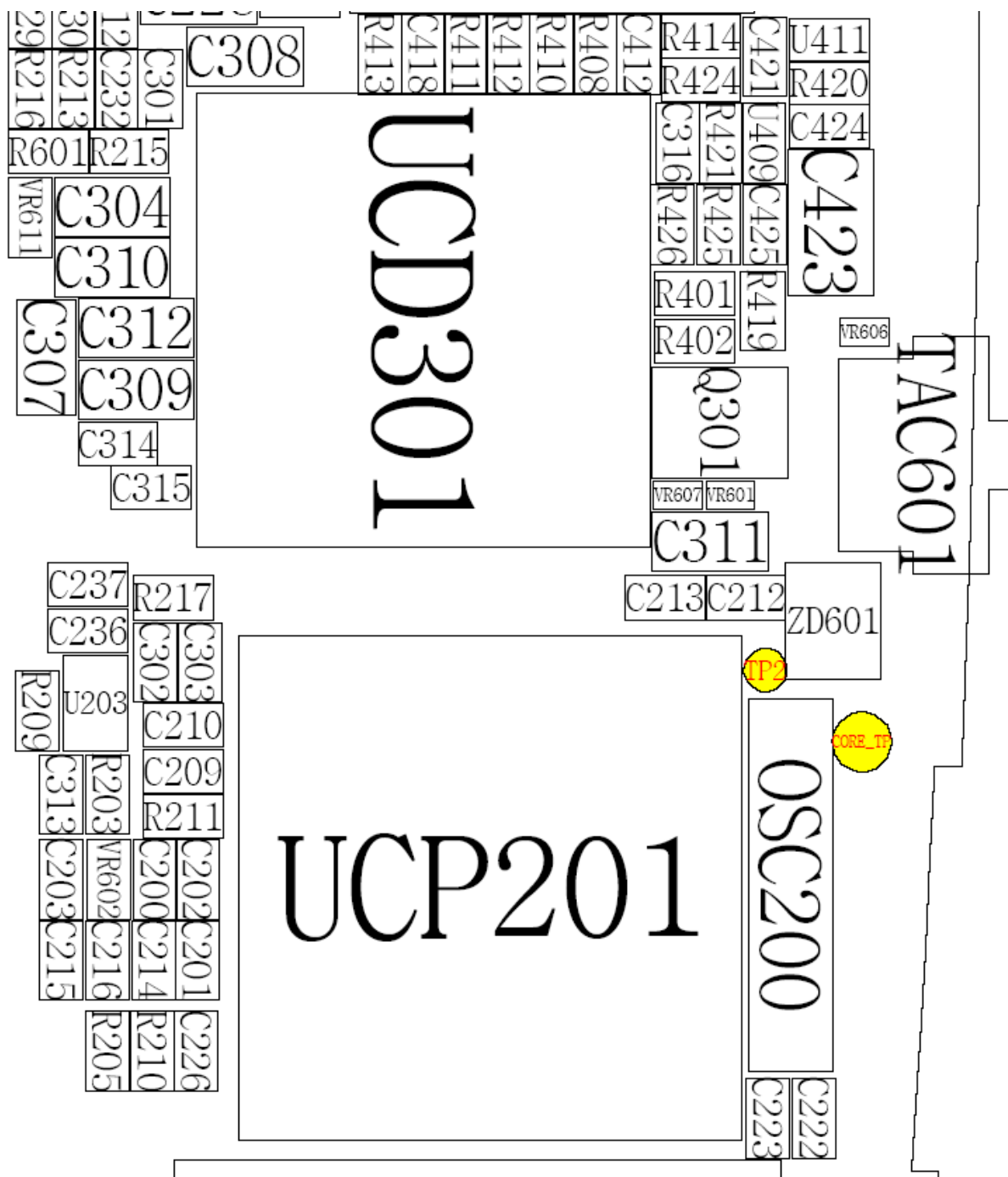
10-1-1. Power ON



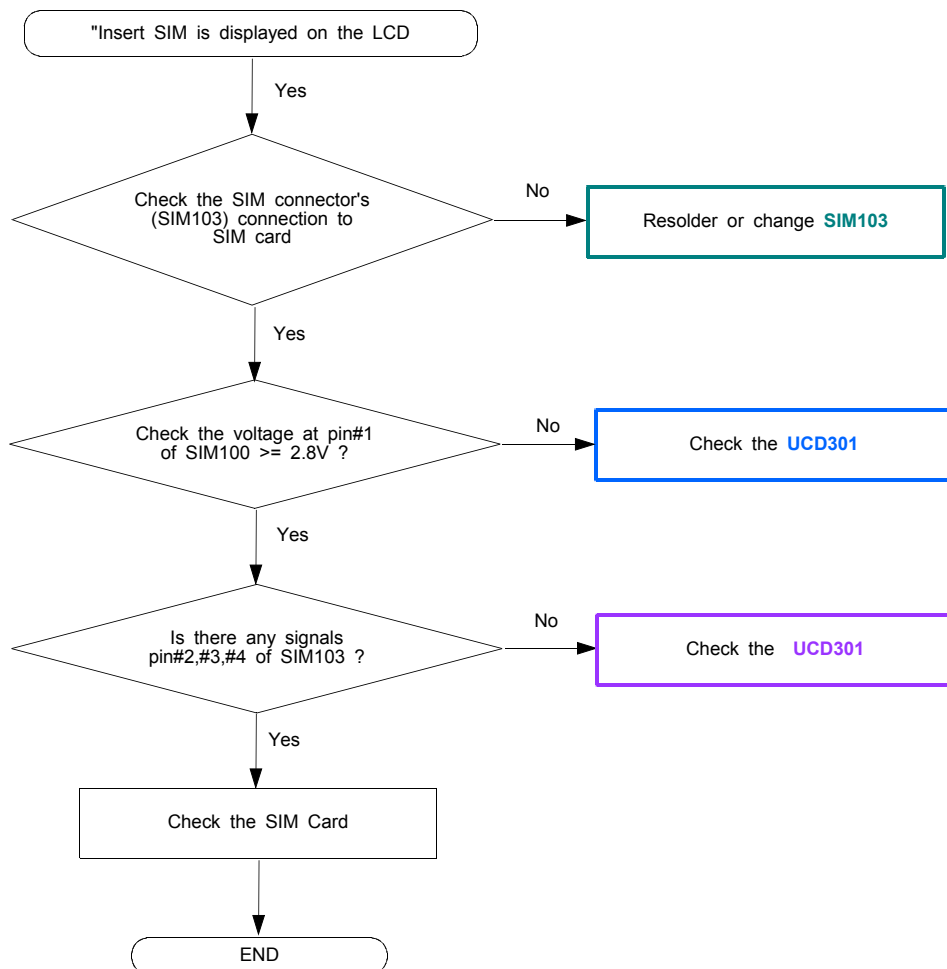


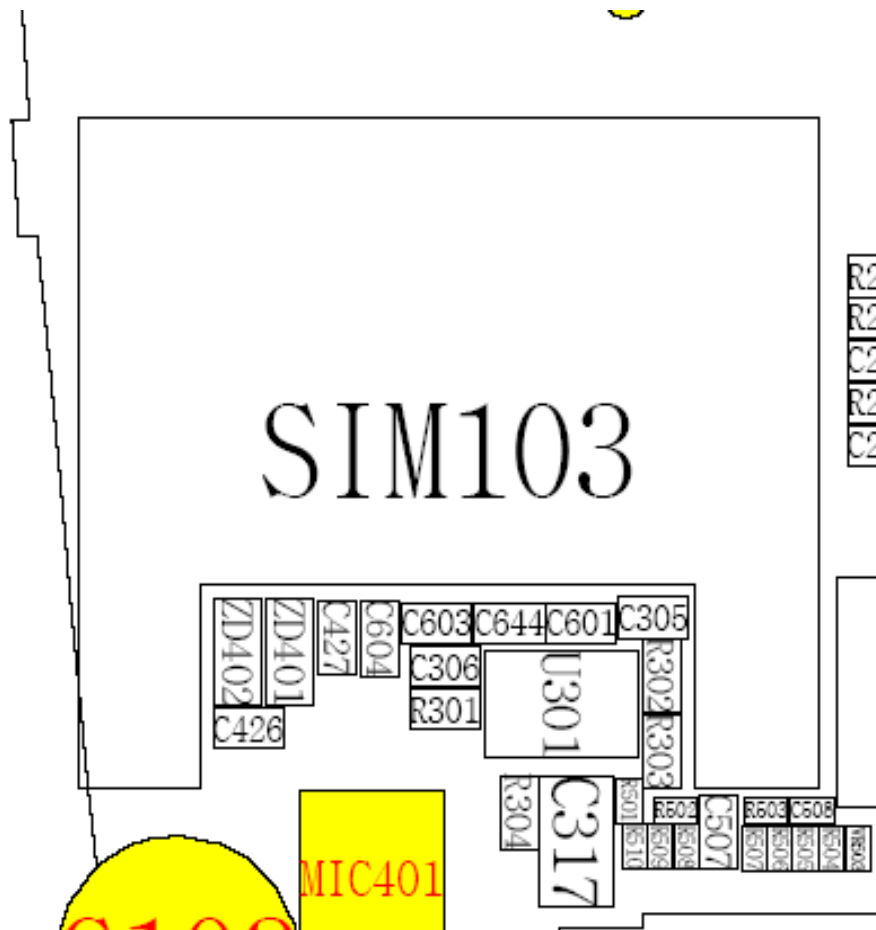
10-1-2. Initial



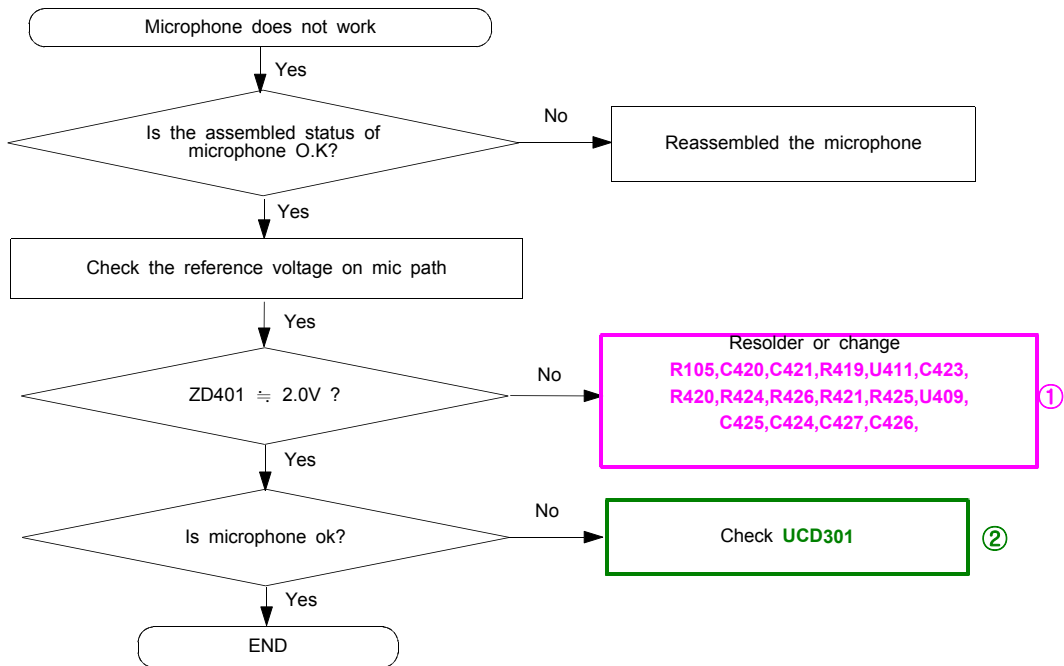


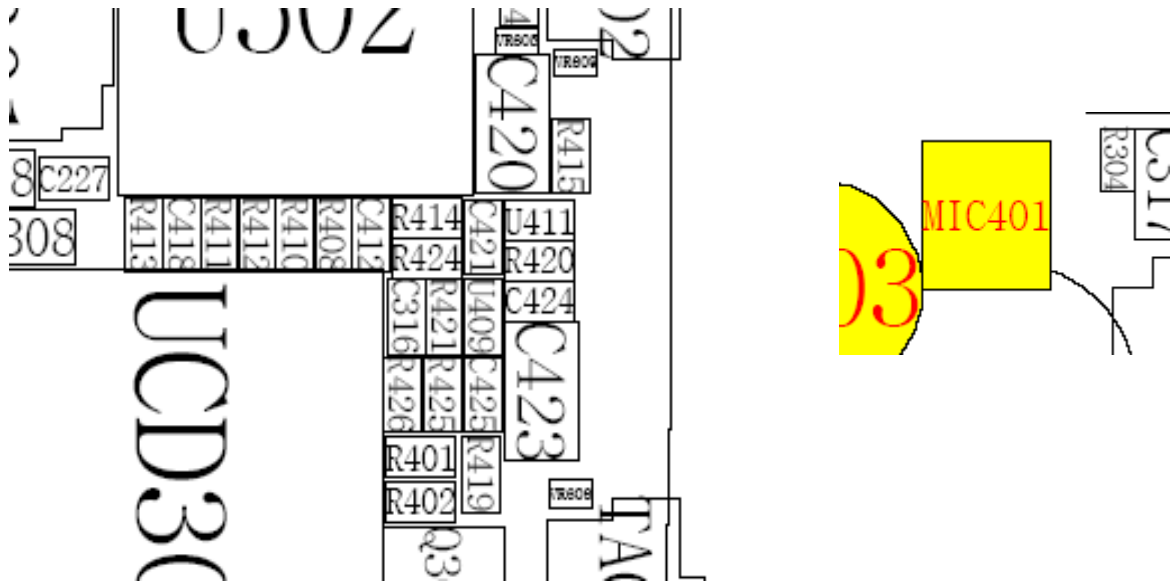
10-1-3. Sim Part



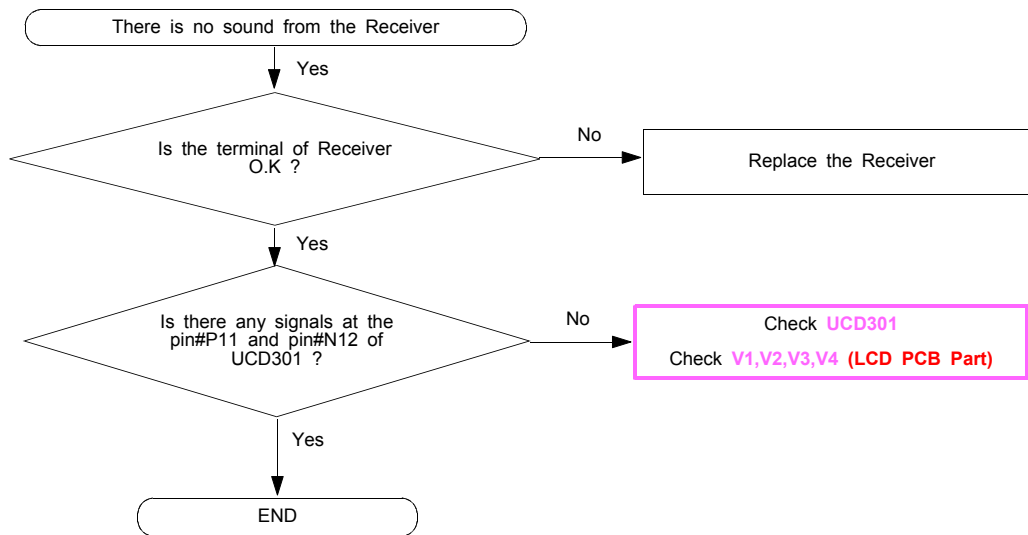


10-1-4. Microphone Part

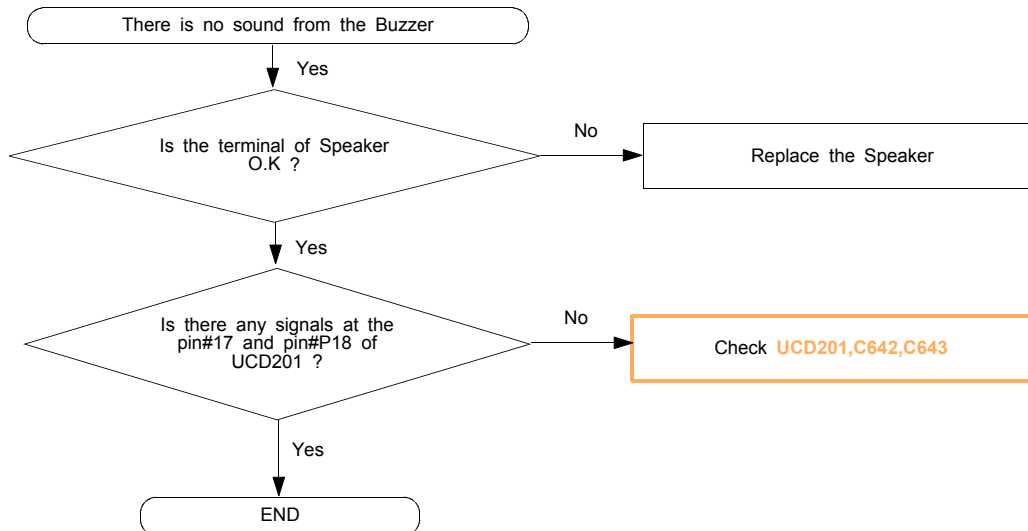




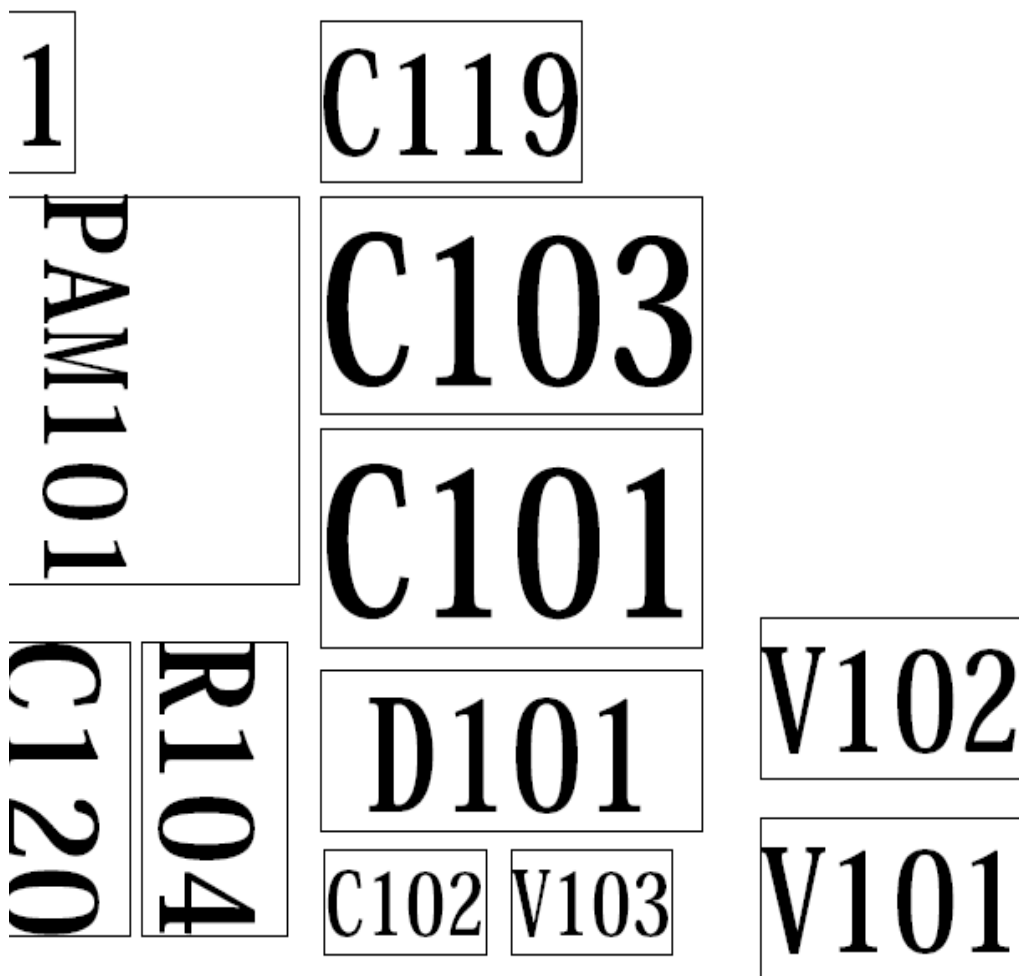
10-1-5. Receiver Part



10-1-6. Speaker Part



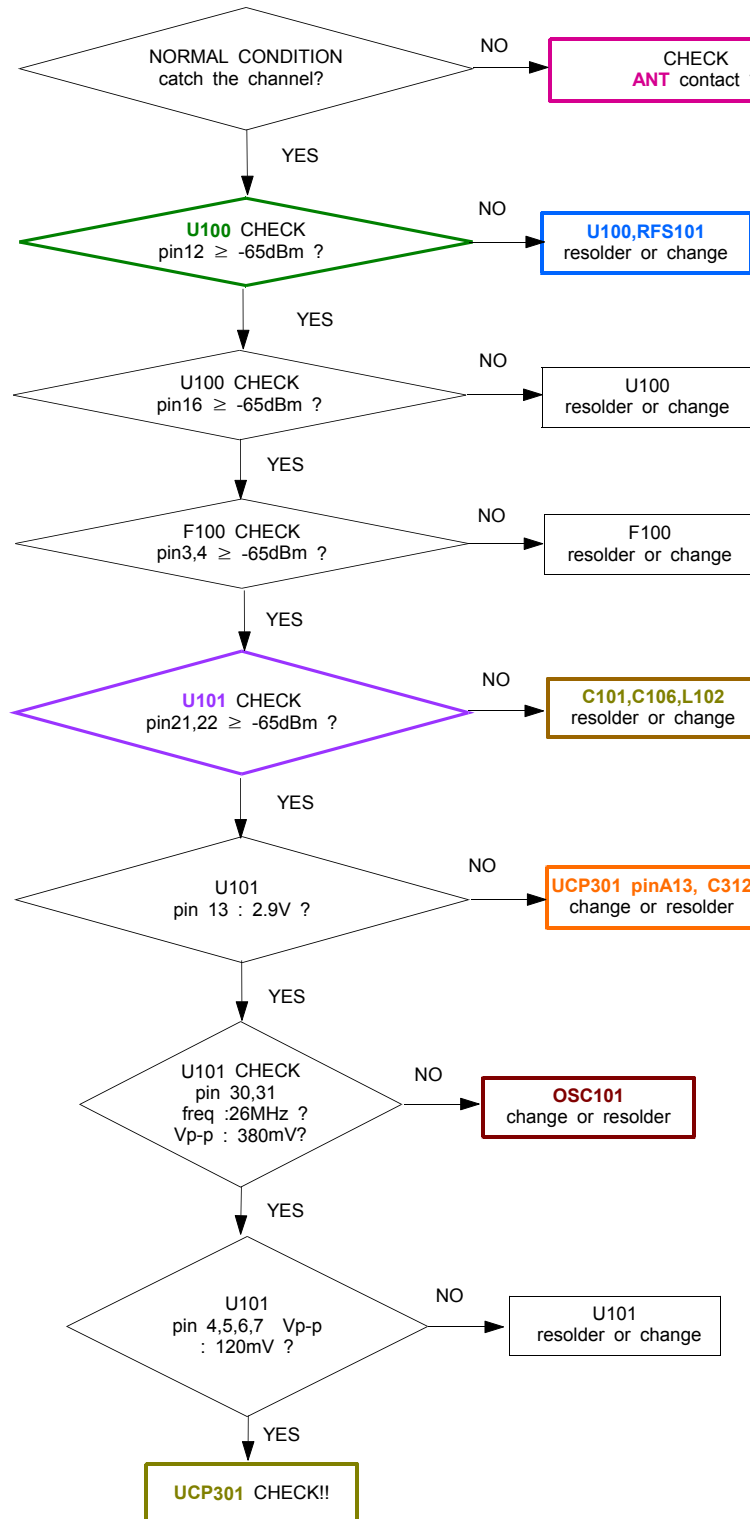
< LCD PCB Part >

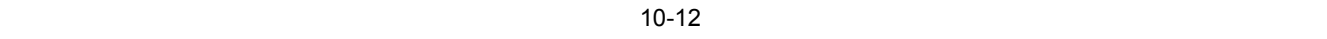


10-2.RF

10-2-1. EGSM RX

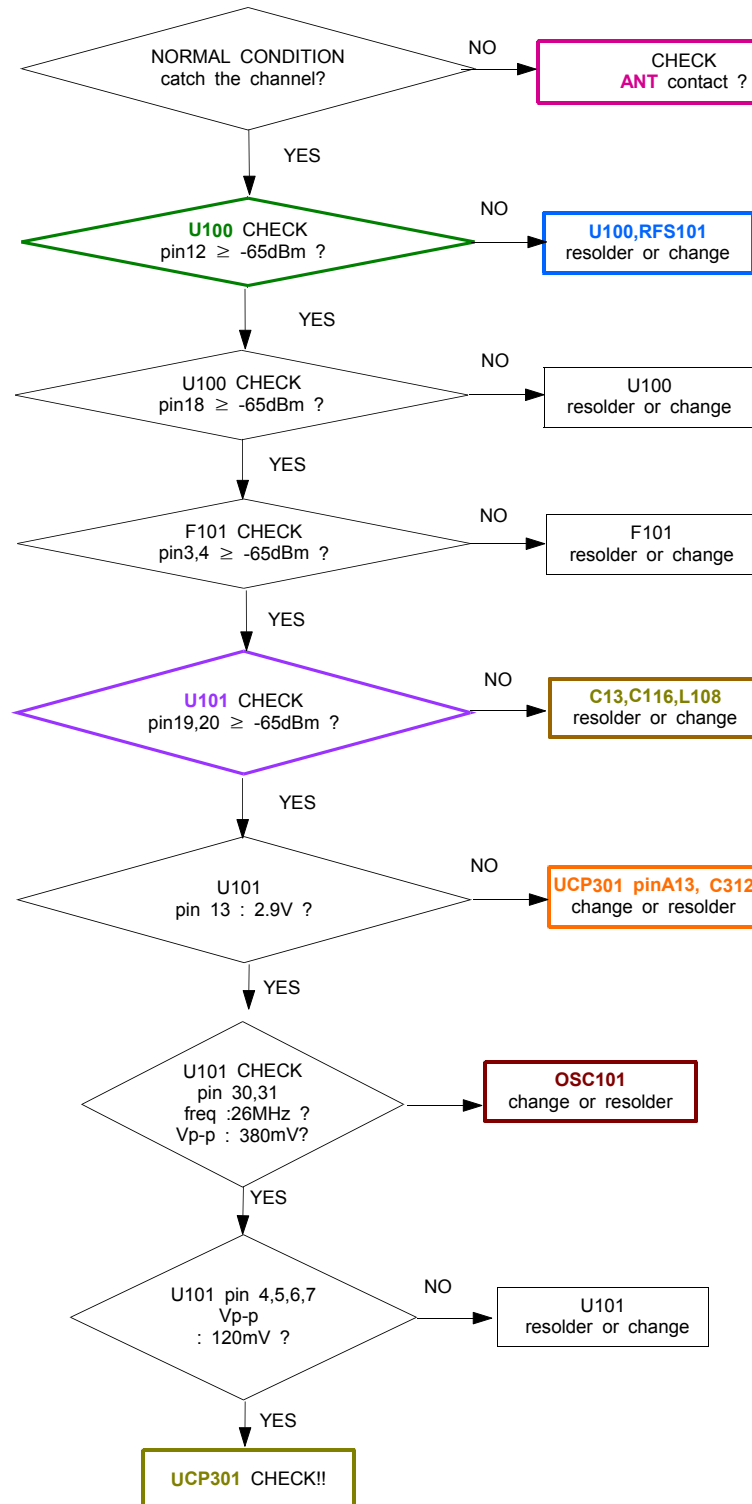
CONTINUOUS RX ON
RF INPUT : 62CH
AMP : -50dBm



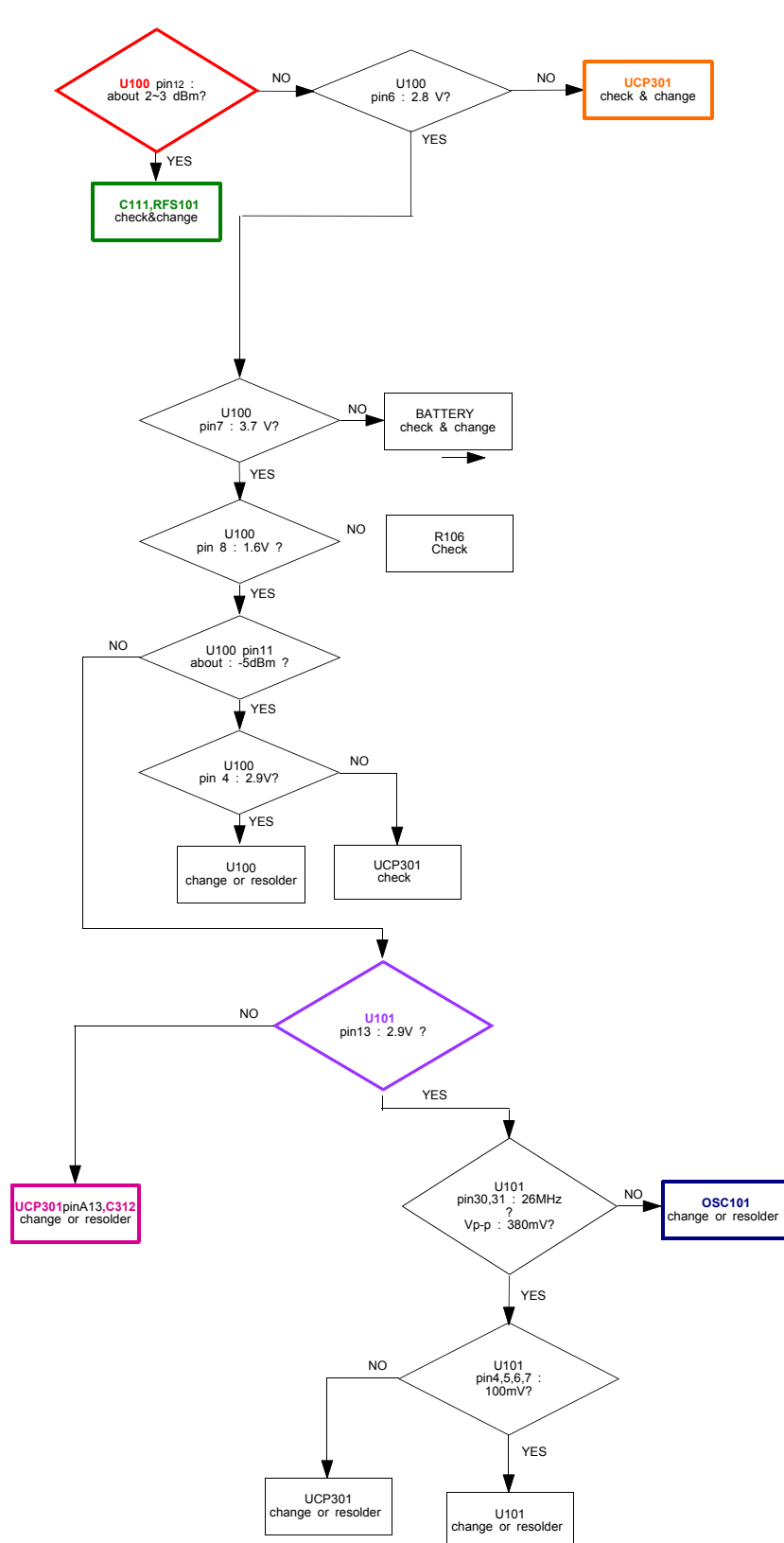


10-2-2. DCS RX

CONTINUOUS RX ON
RF INPUT : 698CH
AMP : -50dBm

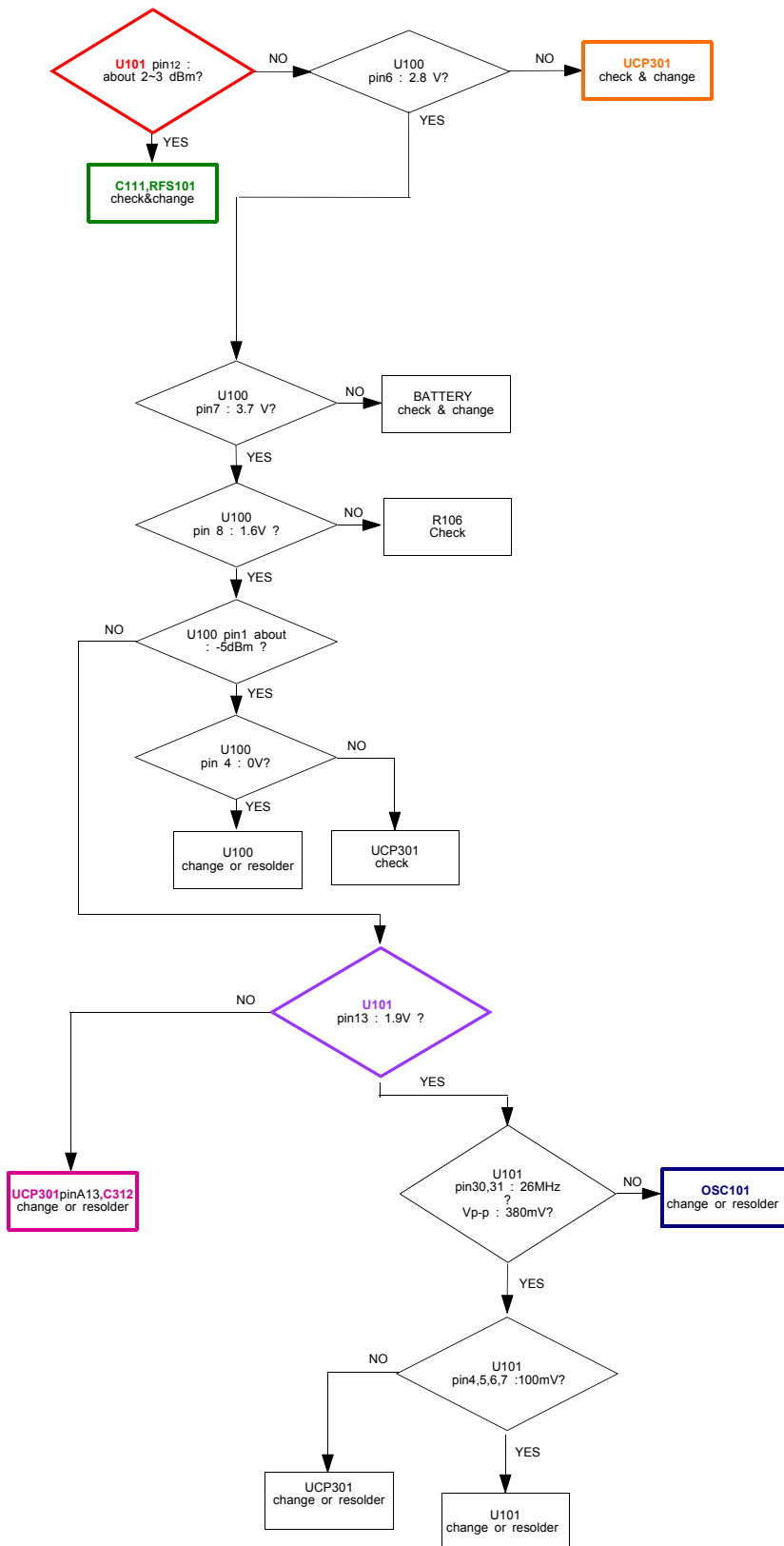


10-2-3. EGSM TX



CONTINUOUS TX ON CONDITION
 TX POWER DAC: 600 CODE APPLIED
 CH : 62
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

10-2-4. DCS TX



CONTINUOUS TX ON CONDITION
 CH : 698CH(DCS)
 TX POWER CODE: 520 CODE Applied
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

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