SAMSUNG

GSM TELEPHONE

SGH-F300

SERVICE Manual

GSM TELEPHONE

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10. Product Function

1. Specification

1-1. GSM General Specification

		GSM 900	DCS1800	PCS1900
Freq. Band[MHz] Uplink/Downlink		880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range		0~124 & 975~1023	512~885	512~810
Tx/Rx spacing		45 MHz	95 MHz	80 MHz
Mod. Bit rate/ Bit Period	GPRS	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us
	EDGE	812.5 Kbps 3.692 us	812.5 Kbps 3.692 us	812.5 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	GPRS	0.3 GMSK	0.3 GMSK	0.3 GMSK
	EDGE	8 PSK	8 PSK	8 PSK
MS Power	GPRS	33 dBm~5 dBm	30 dBm~0 dBm	30 dBm~0 dBm
	EDGE	27~5 dBm	26~0 dBm	26~0 dBm
Power Level	GPRS	5 pcl~19 pcl	0 pcl~15 pcl	0 pcl~15 pcl
	EDGE	8~19(class E2)	2~15(class E2)	2~15(class E2)
Sensitivity		-102 dBm	-100 dBm	-102 dBm
TDMA Mux		8	8	8
Cell Radius		35 Km	2 Km	2 Km

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1-2. GMSK TX power Level

TX Power control level	GSM900
5	33±2 dBm
6	31±3 dBm
7	29±3 dBm
8	27±3 dBm
9	25±3 dBm
10	23±3 dBm
11	21±3 dBm
12	19±3 dBm
13	17±3 dBm
14	15±3 dBm
15	13±3 dBm
16	11±5 dBm
17	9±5 dBm
18	7±5 dBm
19	5±5 dBm

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

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

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2-3. EDGE TX Power Level

TX Power control level	GSM850
8	27±3 dBm
9	25±3 dBm
10	23±3 dBm
11	21±3 dBm
12	19±3 dBm
13	17±3 dBm
14	15±3 dBm
15	13±3 dBm
16	11±5 dBm
17	9±5 dBm
18	7±5 dBm
19	5±5 dBm

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

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

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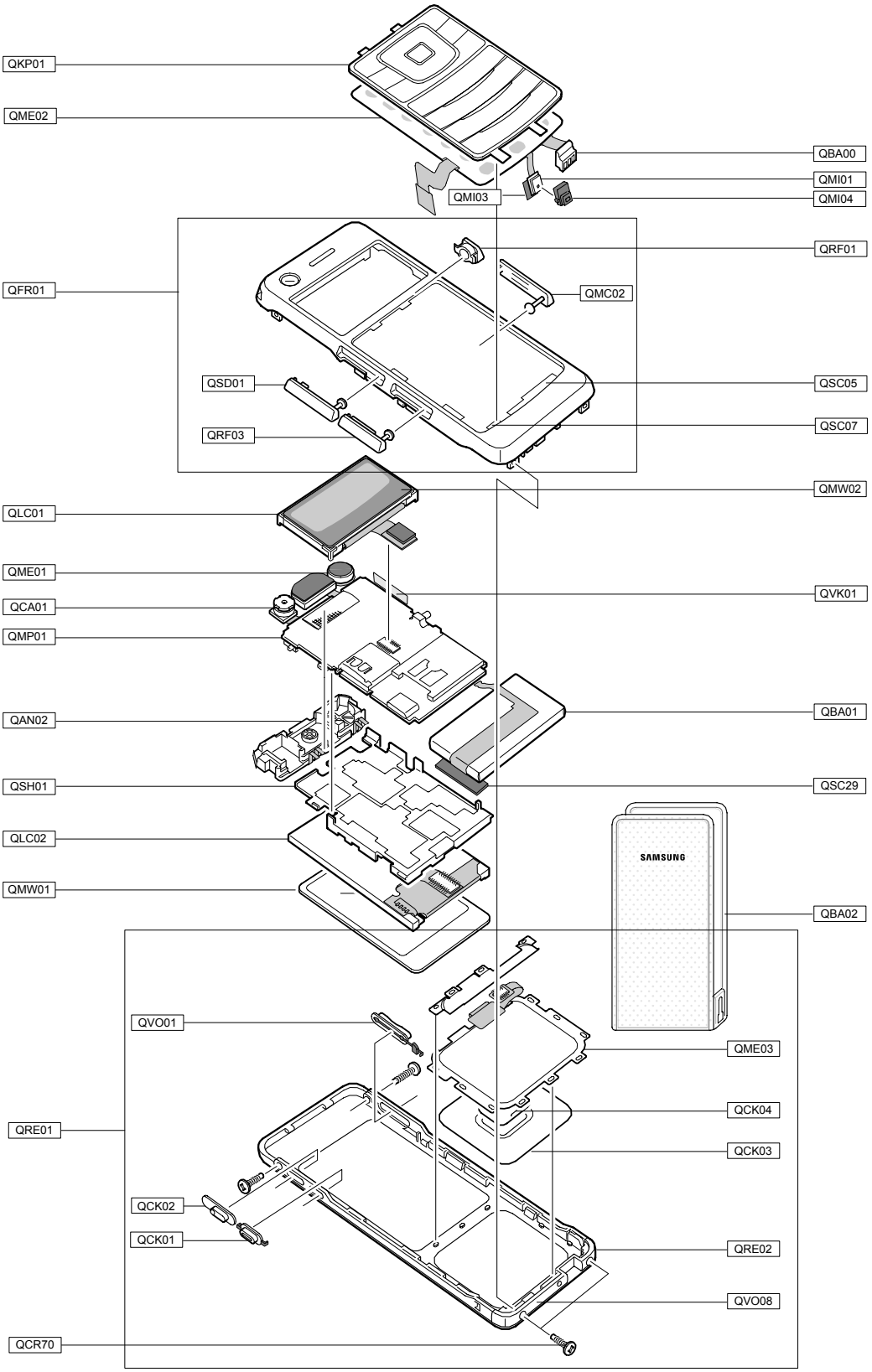
2. Exploded View and Parts List

2-1. Cellular phone Exploded View



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2-2. Cellular phone Parts list

Design LOC		Discription	SEC CODE
QAN02		INTENNA-SGHF300	GH42-00997A
QBA01		SOFT BATTERY PACK-630MAH,BLK,E	GH43-02620A
QBA02		INNER BATTERY PACK-950MAH,BLK,	GH43-02792A
QCA01		UNIT-CAMERA MODULE	GH59-03924A
QCK01		PMO-MODE KEY	GH72-33514A
QCK02		ASSY KEY-HOLD	GH98-03984A
QCK03		PMO-MP3 TOUCH KEY	GH72-33520A
QCK04		PMO-OK KEY GSM	GH72-34018A
QCR70		SCREW-TAPPING	6002-001402
QKP01		ASSY KEYPAD-(SER/ZKA)	GH98-03827A
QLC01		LCD-MODULE SGHX510	GH07-00982A
QME01		UNIT-SPK/MOT ASS'Y	GH59-03507A
QME03		UNIT-TOUCH KEY	GH59-03506A
QMI03		RMO-RUBBER MIC	GH73-08450A
QMI04		RMO-MIC HOLDER	GH73-09225A
QMP01		PBA MAIN-SGHF300 (PBA MAIN)	GH92-03013A
QMW02		ASSY COVER-PHONE WINDOW GSM	GH98-02161A
QRE01		MEA-REAR KIT	GH97-07341A
QRE02		ASSY CASE-MP3	GH98-01986A
QRF01		PMO-RF COVER	GH72-33879A
QSC05		RMO-RUBBER BATTERY L	GH73-09007A
QSC07		RMO-RUBBER BATTERY R	GH73-09008A
QSC29		RMO-RUBBER BATTERY	GH73-08211A
QSH01		NDC-MAIN BRACKET GSM	GH71-06802A
QVK01		UNIT-SIDE VOL KEY	GH59-03525A
QVO01		ASSY KEY-VOLUME	GH98-03985A
QVO08		NDC-SIDE BELT V2	GH71-06996A
QLC02		ELA UNIT-SGHF300 LCD MODULE	GH96-02316A
	QMW01	ASSY COVER-MAIN WINDOW	GH98-02630A
QME02		UNIT-3X4 KEY	GH59-03516A
	QMI01	AS-MIC SVC	GH81-05919A
	QBA00	ASSY CASE-BATTERY TERMINAL	GH98-03390A
QFR01		ASSY CASE-PHONE	GH98-01980A
	QMC02	PMO-COVER SIM	GH72-33508A
	QRF03	PMO-COVER EAR JACK	GH72-33509A
	QSD01	PMO-COVER SD	GH72-33510A

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SEC CODE	Discription
1109-001363	IC-MEMORY CARD
3719-001319	CONNECTOR-ADAPTOR
6902-000634	BAG PE
6902-000683	BAG ZIPPER
GH39-00686A	CBF INTERFACE-MIC CABLE
GH39-00720A	CBF INTERFACE-DLC,X830,BLK,PCB
GH44-01361A	ADAPTOR-SGHE690,BLK,EU,A_TYPE
GH46-00399A	S/W CD-SGHF300 PC STUDIO 3.1
GH59-03909A	UNIT-EARPHONE,SGHF300,MAIN,PLU
GH68-04336A	MANUAL-SFC
GH68-08494B	LABEL(P)-BARCODE RUSSIA
GH68-09361A	LABEL(R)-WATER SOAK
GH68-13514A	MANUAL USERS-EU RUSSIAN
GH68-13668A	LABEL(R)-MAIN 2
GH68-14730A	MANUAL USERS-IMEI LEAFLET
GH69-04965A	CUSHION-CASE TA2 MA2
GH69-04967B	BOX(P)-UNIT MAIN SER
GH73-09011A	RMO-RUBBER KEY FPCB
GH74-13804A	MPR-REMOVE TAPE LCD
GH74-17600A	MPR-INSU TAPE
GH74-17926A	MPR-TAPE LED
GH74-20021A	MPR-INSU TAPE
GH74-23391A	MPR-INSU TAPE
GH74-26397A	MPR-SPONGE PHONE LCD CONTACT
GH74-27919A	MPR-SPONGE SPK MOTOR CONNECTOR
GH74-27921A	MPR-SPONGE CAMERA CONNECTOR
GH74-28462A	MPR-TAPE PBA SHEET A
GH74-28463A	MPR-TAPE PBA SHEET B
GH74-28471A	MPR-TAPE PBA SHEET C
GH74-28891A	MPR-TPAE PHONE LCD BACK
GH74-29280A	MPR-INSU TAPE
GH74-29971A	MPR-PBA SHEET D
GH74-29972A	MPR-PBA SHEET G
GH74-29973A	MPR-SPONGE
GH74-30411A	MPR-INSU TAPE
GH74-30451A	MPR-GASK TAPE
GH74-30452A	MPR-GASK TAPE

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GH74-30453A	MPR-GASK TAPE
GH74-30455A	MPR-ELEC TAPE
GH74-30456A	MPR-GASK TAPE
GH74-30457A	MPR-GASK TAPE
GH74-30627A	MPR-INSU TAPE PBA
GH74-30628A	MPR-ELEC TAPE CAM
GH74-30630A	MPR-INSU TAPE TOUCH KEY
GH74-30672A	MPR-VINYL BOHO MP3 A
GH74-30673A	MPR-VINYL BOHO MP3 B
GH74-30674A	MPR-VINYL BOHO TOUCH B
GH74-30675A	MPR-VINYL BOHO PHONE A
GH74-30676A	MPR-VINYL BOHO PHONE B
GH74-30768A	MPR-VINYL BOHO TOUCH A
GH74-30984A	MPR-TAPE MP3 LCD A
GH74-30985A	MPR-TAPE MP3 LCD B
GH74-31028A	MPR-INSU TAPE
GH74-31188A	MPR-VINYL BOHO MAIN WINDOW
GH74-31268A	MPR-INSU TAPE
GH74-31473A	MPR-GASK TAPE
GH74-31474A	MPR-TAPE BATTERY CON BOTTOM
GH74-31495A	MPR-GASK TAPE
GH74-31578A	MPR-INSU TAPE
GH74-31579A	MPR-GASK TAPE
GH74-31580A	MPR-GASK TAPE
GH74-32171A	TAPE GASK

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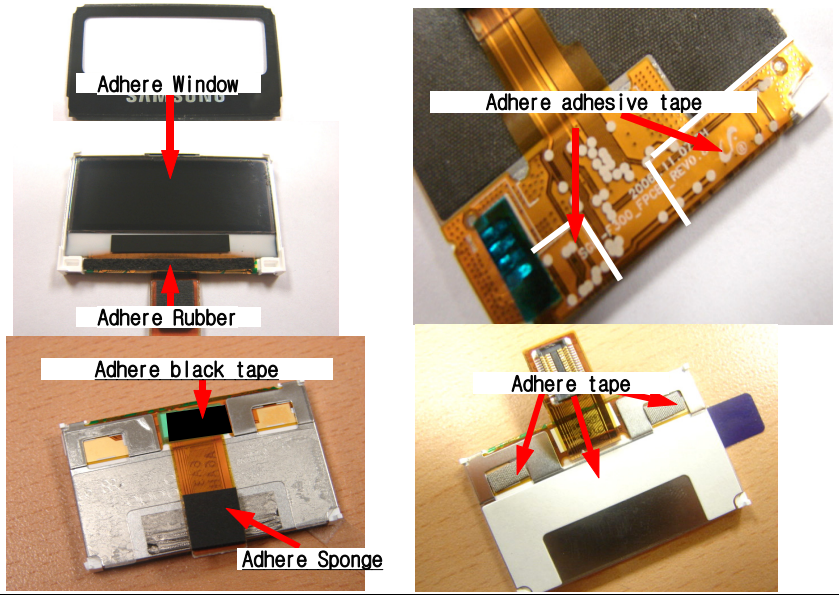
2-3. Disassembly

1

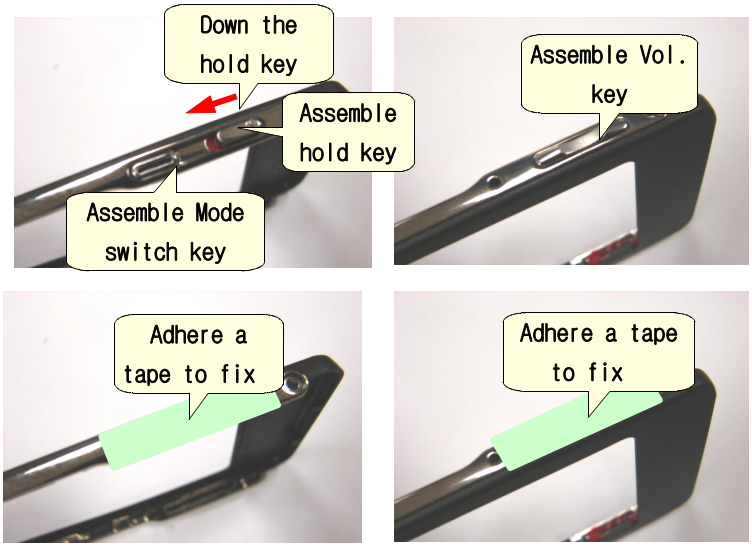


1) Adhere conductive tape, adhesive tape and insulation tpae to the back side of LCD
2) Adhere a sponge to LCD connector
3) Adhere a rubber below the LCD screen
4) Adhere a window up to the LCD
5) Adhere an adhesive tape back of the MP3 LCD

※ **caution**

1) Be care of scratch and molding damage.

2



1) Inset the hold key, mode key and Vol. key into the side belt
2) Adhere a tape to fix the keys

※ **caution**

1) Be care of scratch and molding damage.
   Especially FPCB of 'con to con'

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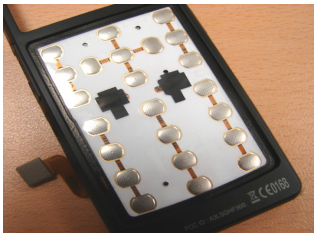
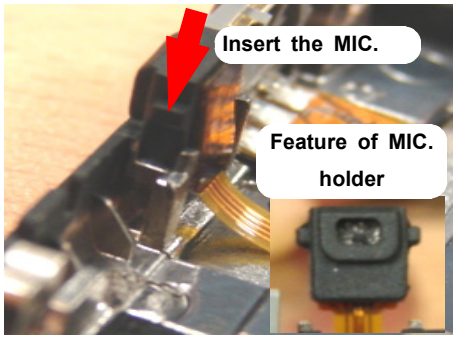
3

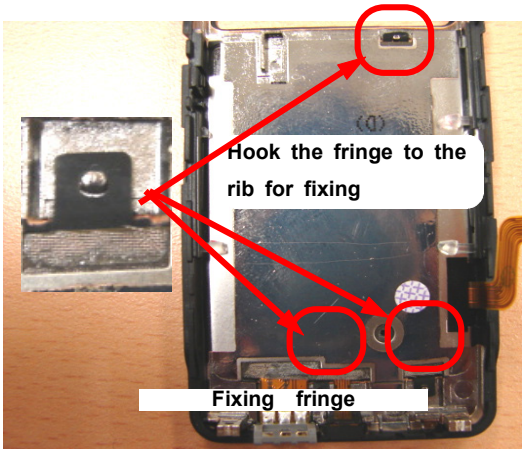


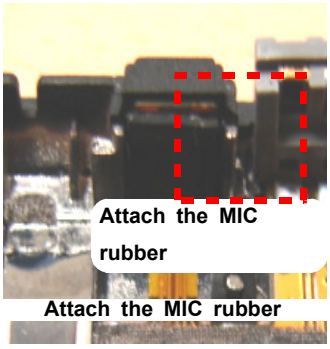
Attach the key-PBA



Insert the MIC.

Insert the Key-PAD





Attach the MIC rubber

1)Remove a detaching sheet of the Key-PBA
2)Attach the Key-PBA to the Phone cover after inserting the connectors.
3)Assemble the MIC. and MIC. holder
4)Insert the MIC.
5)Attach the Key PAD and fix the fringe hole to the rib

※ caution

1) Be care of scratch and molding damage.
2) Verify the direction of side key care of scratch and molding damage.

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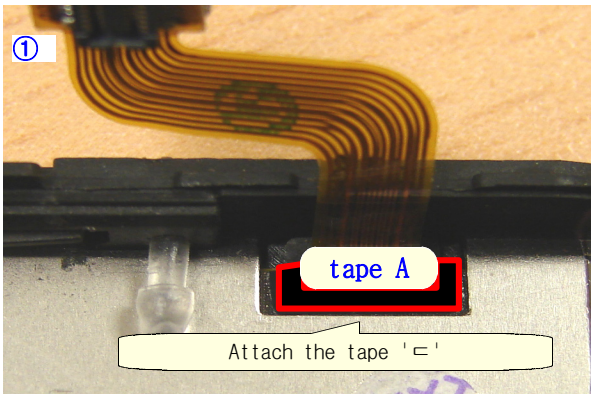
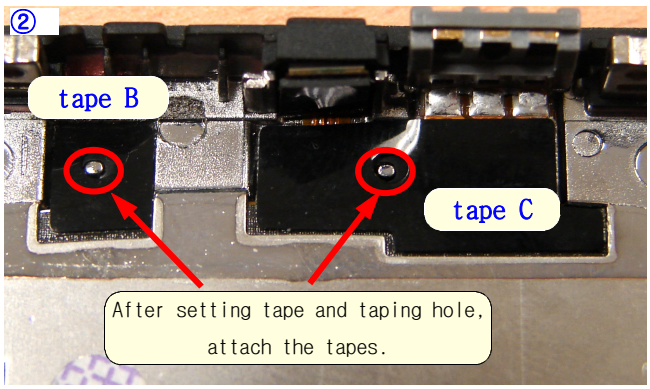
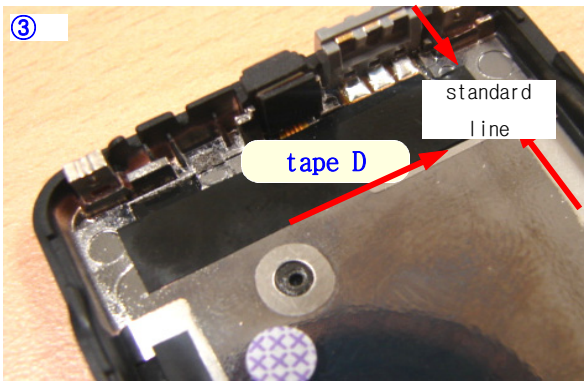
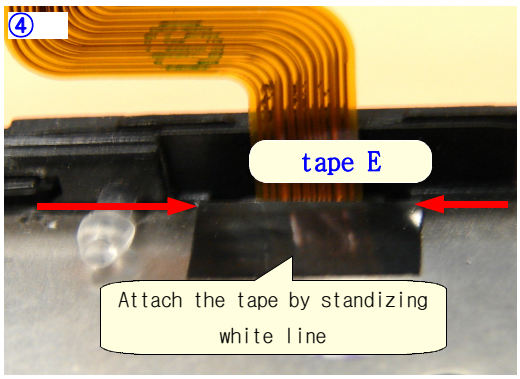
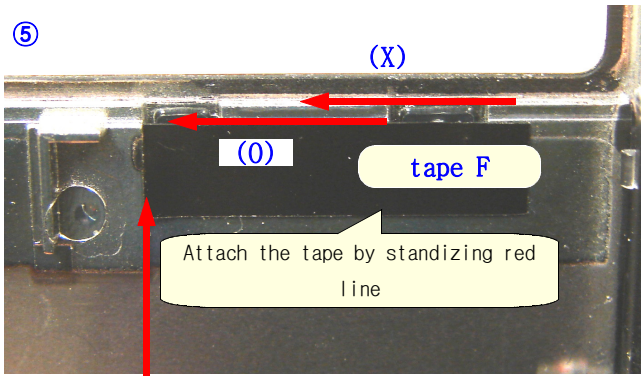
4











1)Attach the tape '⊂' at inserting hole of pnone cover's key FPCB.
2)Attach the tape B,C(rubber) at the lower part of MAIN keypad fringe.
3)Attach an insulated tape D at the lower part of within pnone cover.
4)Attach the tape E at inserting hole of pnone cover's key FPCB.
5)Attach an insulated tape D at the upper part of MAIN keypad fringe.

※ **caution**

1) Especially FPCB of 'con to con'

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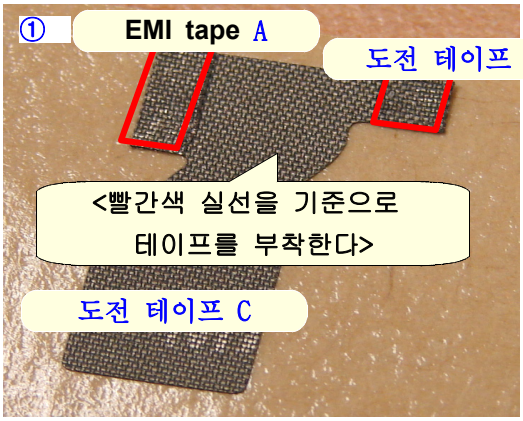
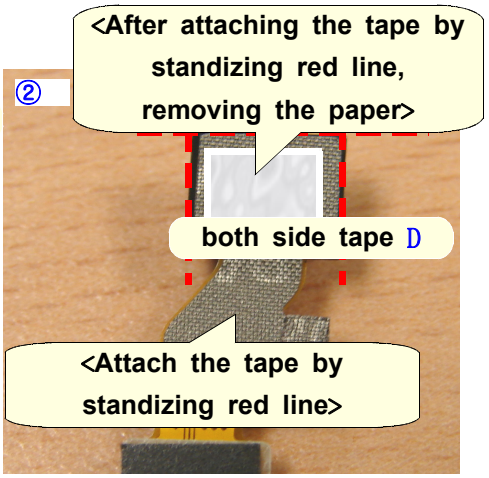
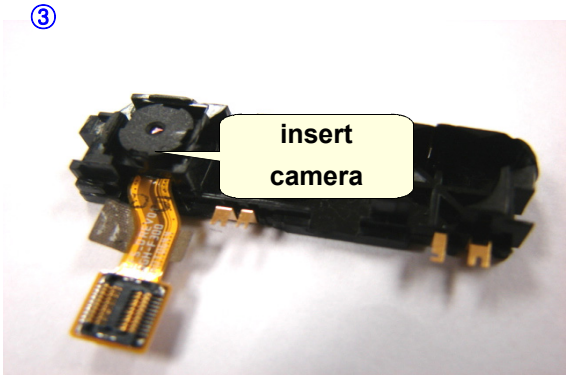
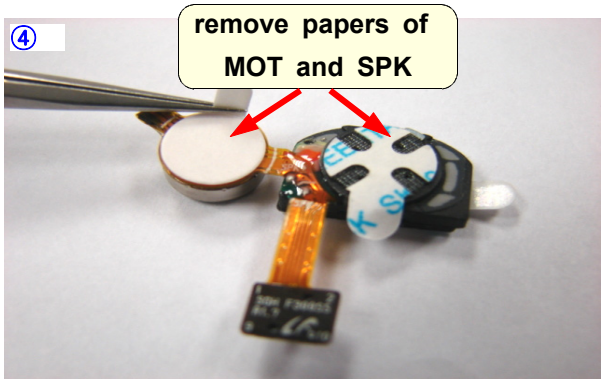
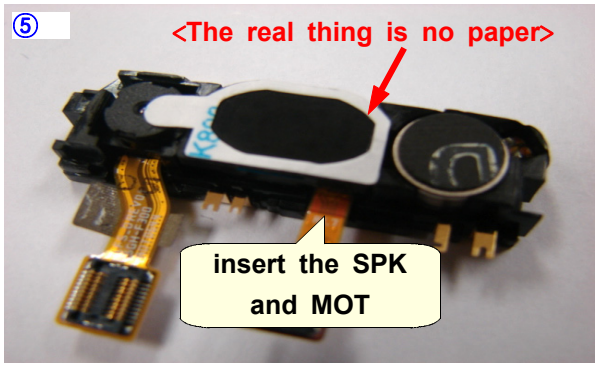
5











1) Attach the EMI tape A and B on EMI tape C.
2) Attach the completed tape on camera.
3) After attaching the tape on camera and removing the paper.
4) Insert the camera in intenna.
5) Remove the papers of MOT and SPK.
6) Insert the MOT and SPK in intenna.

※ caution

1) Be care of scratch and molding damage.
2) Verify the direction of side key

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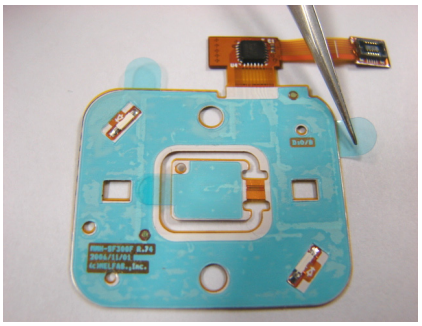
6



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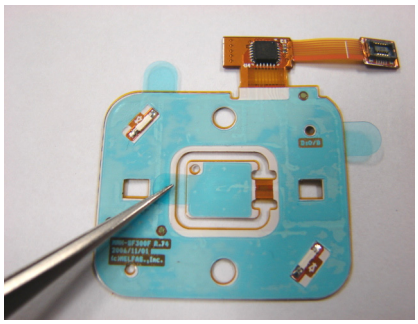

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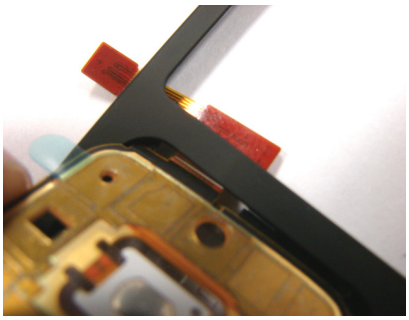
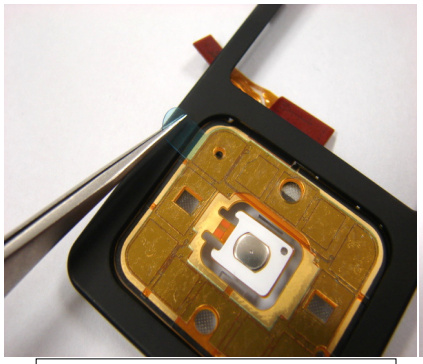


<Insert the key FPCB in MP3 cover>

<Attach the key FPCB on MP3 cover>



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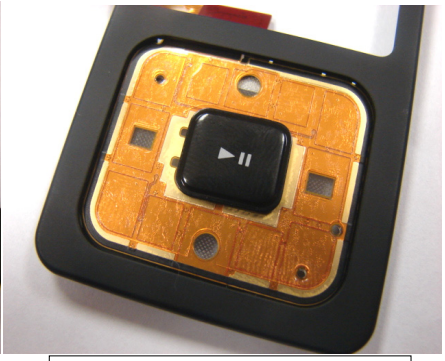

Attach the play key

Attach the touch key pad

1)Remove the papers of touch key FPCB.

2)Insert the touch key FPCB connector at MP3 cover.

3)After setting between JIG's pin and hole's key PBA position by using the JIG, attaching the key PBA.

4)Remove the paper of touch key FPCB.

5)Attach the play key(▶ II) at a dome's center.

6)Attach the touch key pad.(so as to the circle shape is positioned center)

7)Attach the sponge on the upper side of touch key connector.

※ caution

1) Be care of scratch and molding damage.

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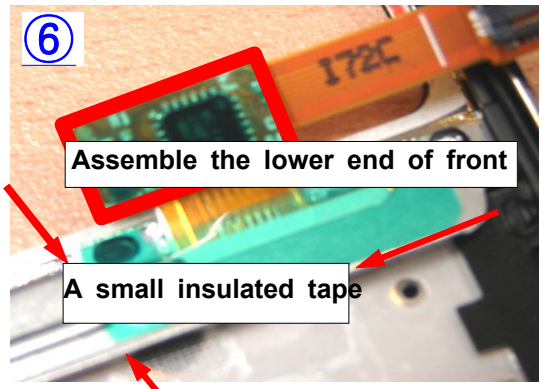


1)Test of the sidebelt externally.

2)Assemble the side belt and MP3 cover.
=> the lower part of MP3 cover → the right side of a upper part
→ the left side of a lower part → the left side of a upper part

3)Attach a large insulated tape on the upper side of MP3 cover demper.

4)Attach a small insulated tape on the upper side of touch key chip.

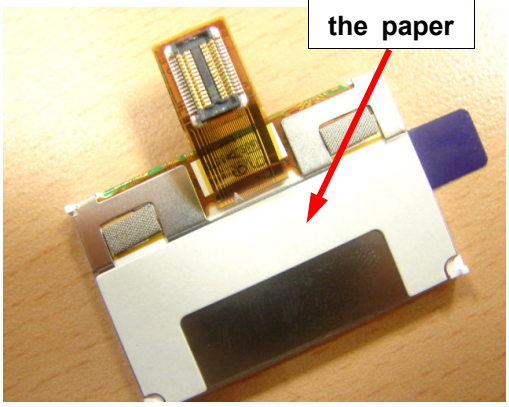
※ caution

1) Be care of scratch and molding damage.

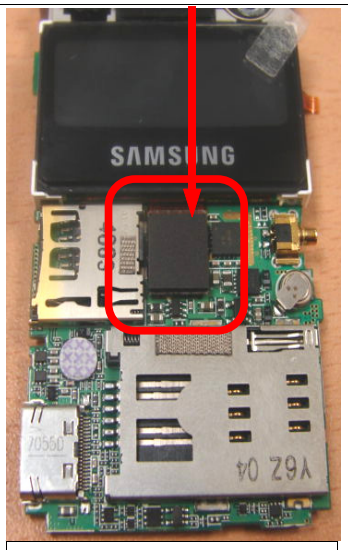
8

Point of important management

Press again!



Remove the paper of sub LCD



Condition between sub LCD and B'd

1)Remove the paper of sub LCD

2)Put down the sub LCD connector at board.

※ caution

1) Be care of scratch and molding damage.

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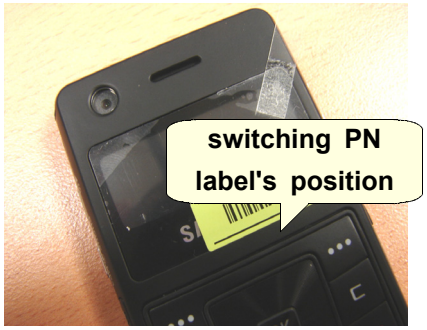
9

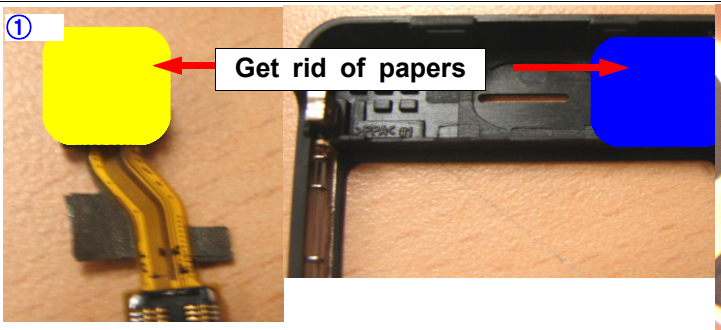


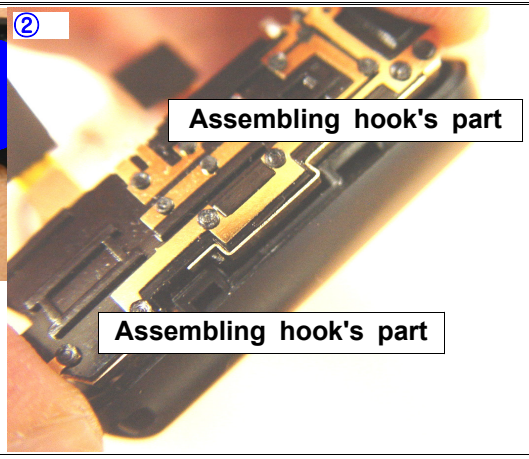
1)Assemble board and cover.
2)After assembling PBA, switching PN label's position on sub LCD.

※ caution

1) Be care of scratch and molding damage.

10





1)Remove the paper of camera lens at phone cover.

2)Get rid of paper at camera.

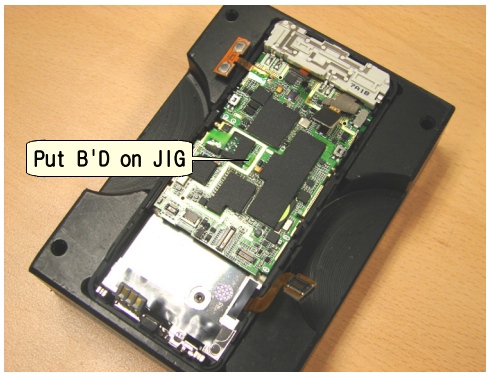
3)Assemble between intenna and front part.

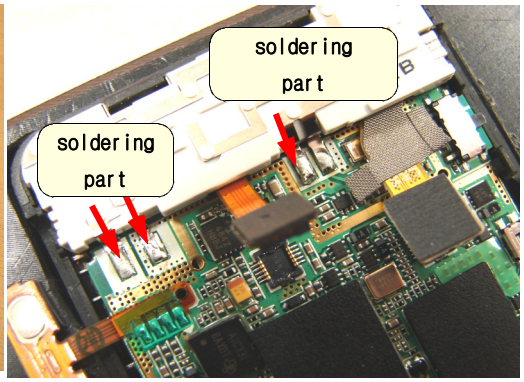
4)After setting screw's hole of intenna and hole's rib of screw, put down the intenna.

※ caution

1) Be care of scratch and molding damage.

11





1)Excute soldering work for intenna at Board.

※ caution

1) Be care of scratch and molding damage.

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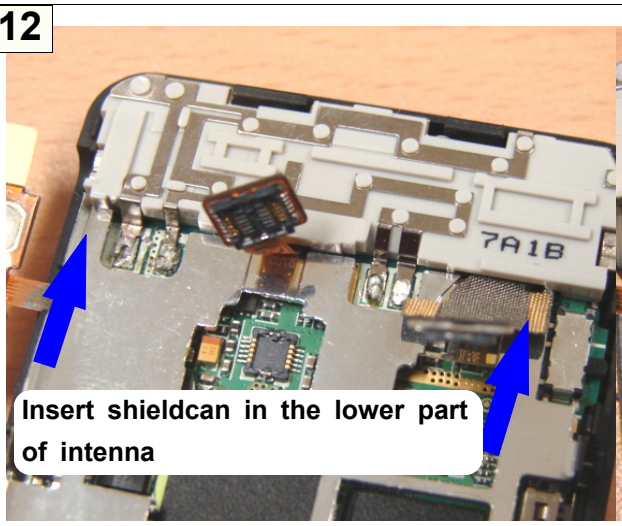
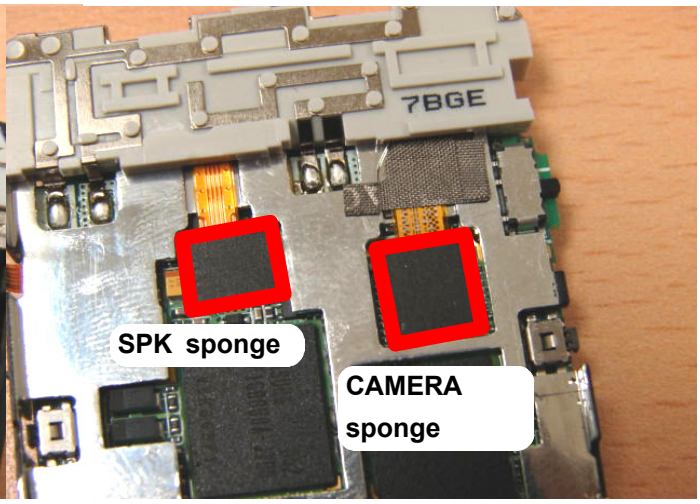
12





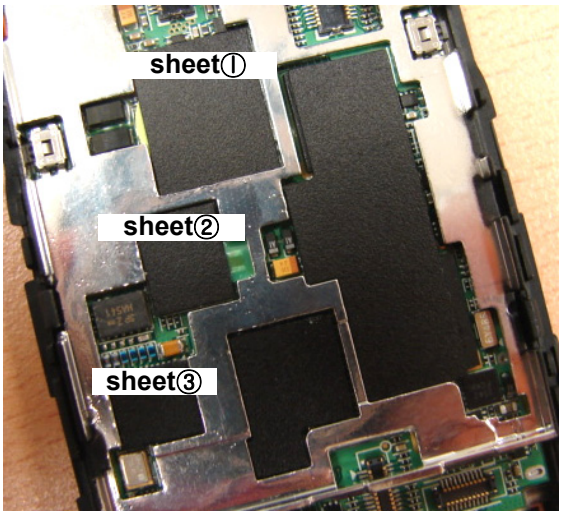
1)After assembling shieldcan at board following fig.1, Insert SPK and camera connectors following fig.2.

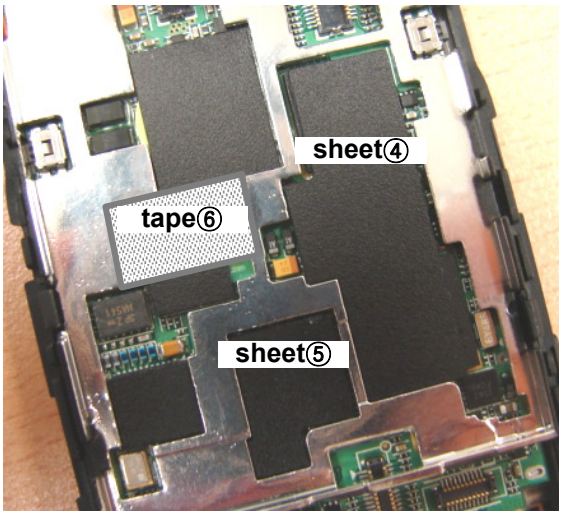
2)Attach poron sponge on SPK and camera connectors.

※ **caution**

1) Be care of scratch and molding damage.

13





1) Attach sheet No.1,2,3,4,5 at the decided positions following fig.

2) Attach tape No.6 at the decided position following fig.

※ **caution**

1) Be care of scratch and molding damage.

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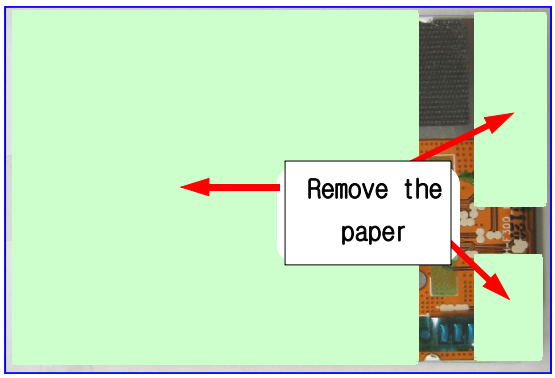
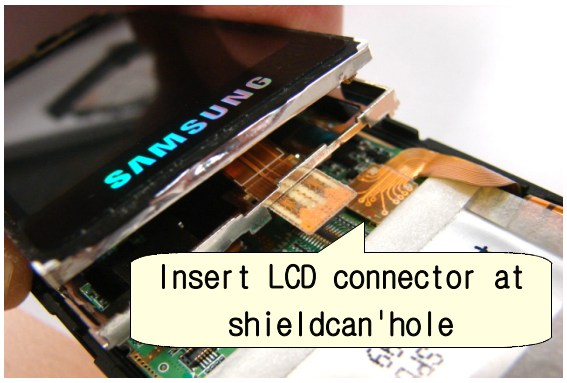
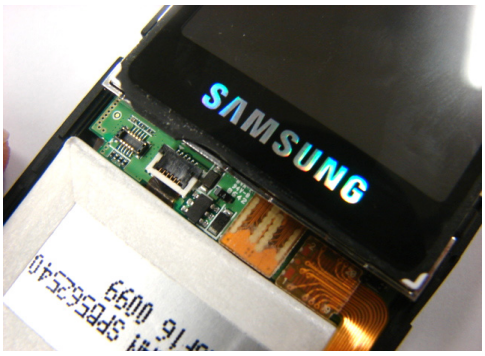


<Remove the paper>



<Insert connector>



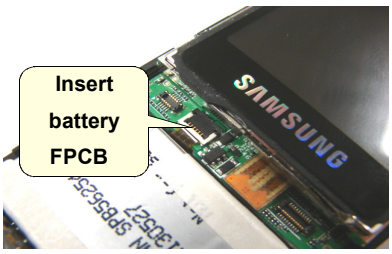
> Put down the main LCD connector

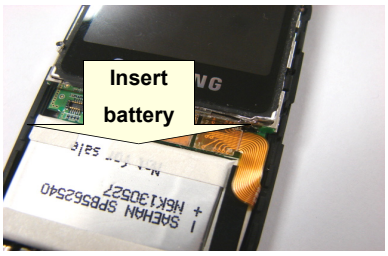
1)Attach the side key at shieldcan.
2)Get rid of 3 papers at the MAIN LCD back side.
3)Insert the MAIN LCD connector at shieldcan's hole.
4)put down the LCD connector.
5)Atfer pushing camera and SPK connectors again, putting down the MAIN LCD connector.

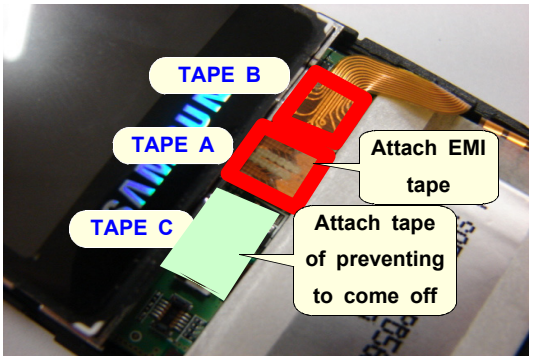
※ **caution**

1) Be care of scratch and molding damage.

15







1)Remove the paper of battery FPCB fixing tape.
2)Romeve the paper of battery fixing both faces tape.
3)Insert battery FPCB.
4)Insert battery.
5)Attach EMI tape A,B at the upper side of key connector.
6)Attach an insulated tape at the upper side of battery FPCB connector.
7)Put down main key connector following the fig.4.

※ **caution**

1) Be care of scratch and molding damage.

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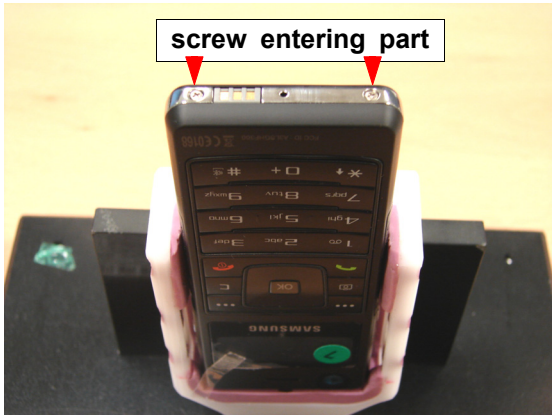
> Main Key connector conclusion part

1)Insert the Touch key connector.
2)Assemble the top portion.
3)Assemble the right side.
4)Assemble the left side.
5)Assemble the lower end.
6)Remove the both side of key fixing tape.
7)Test hold key and mode key's action and tension.
8)Excute volume key test.

※ caution

1) Be care of scratch and molding damage.

17



1) Screw down following screw entering's flow chart.

※ caution

1) Be care of scratch and molding damage.

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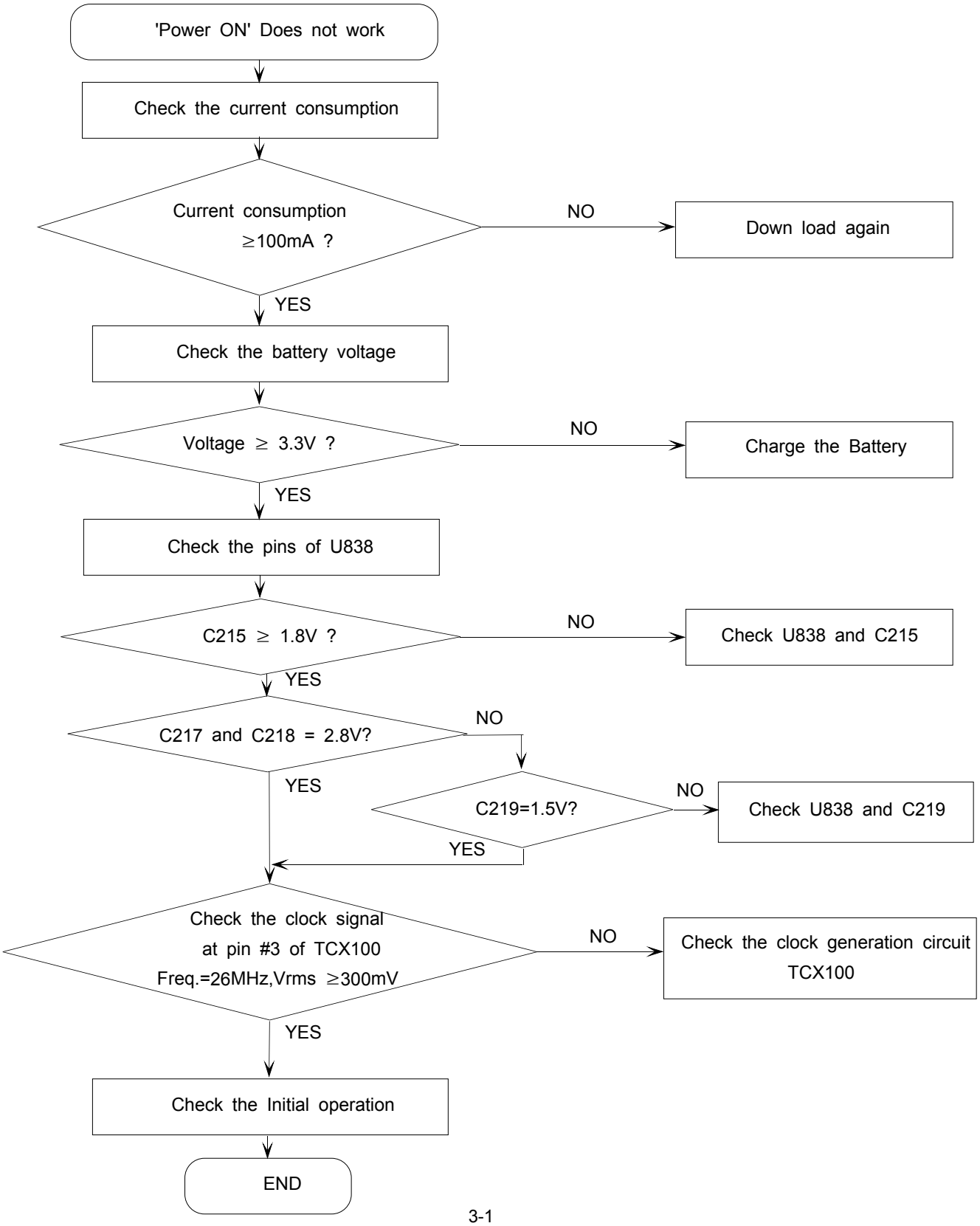
3. Flow Chart of Troubleshooting

3-1.Baseband

3-1-1. Power ON



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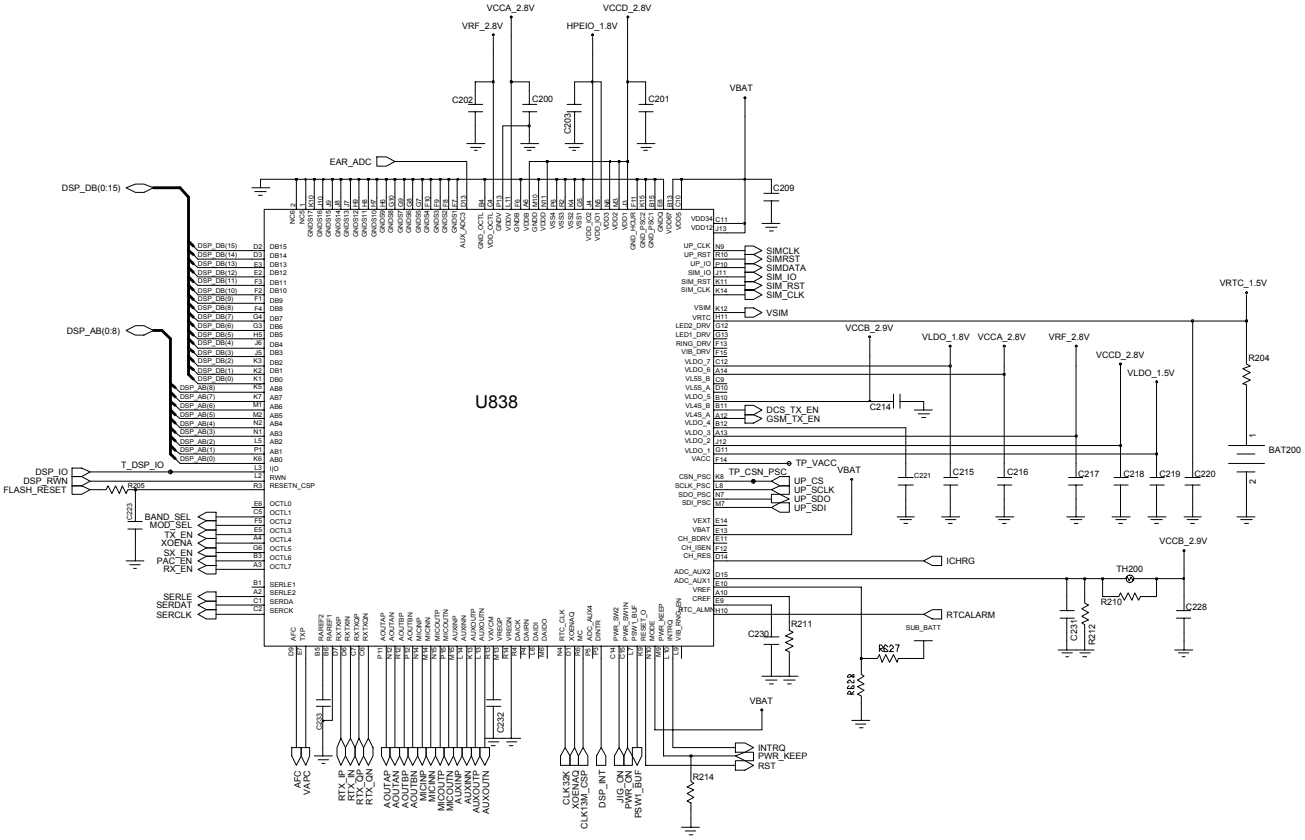

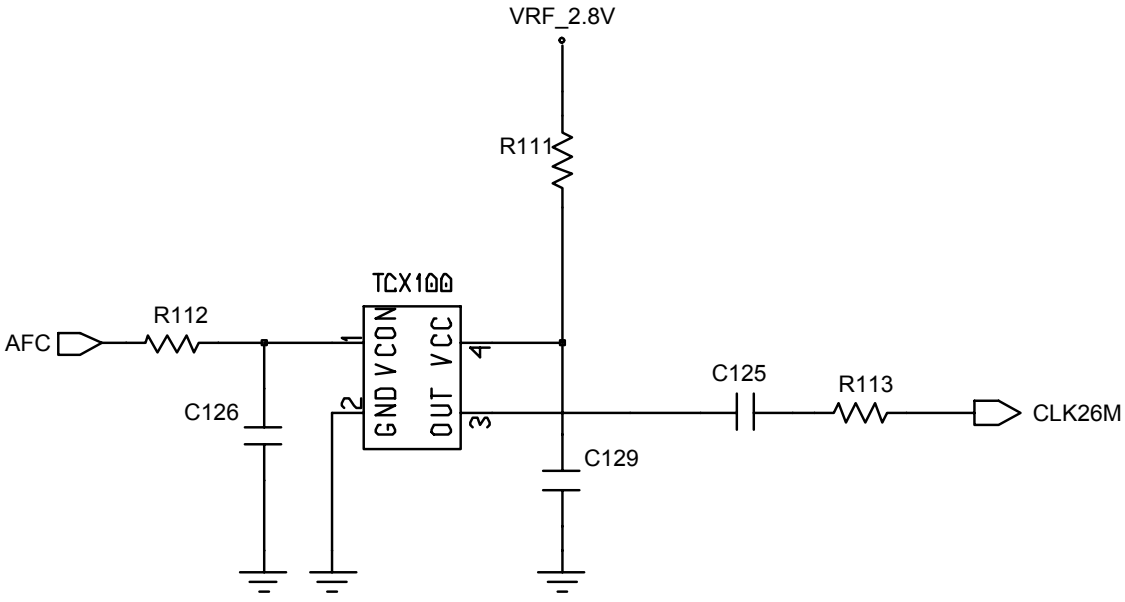

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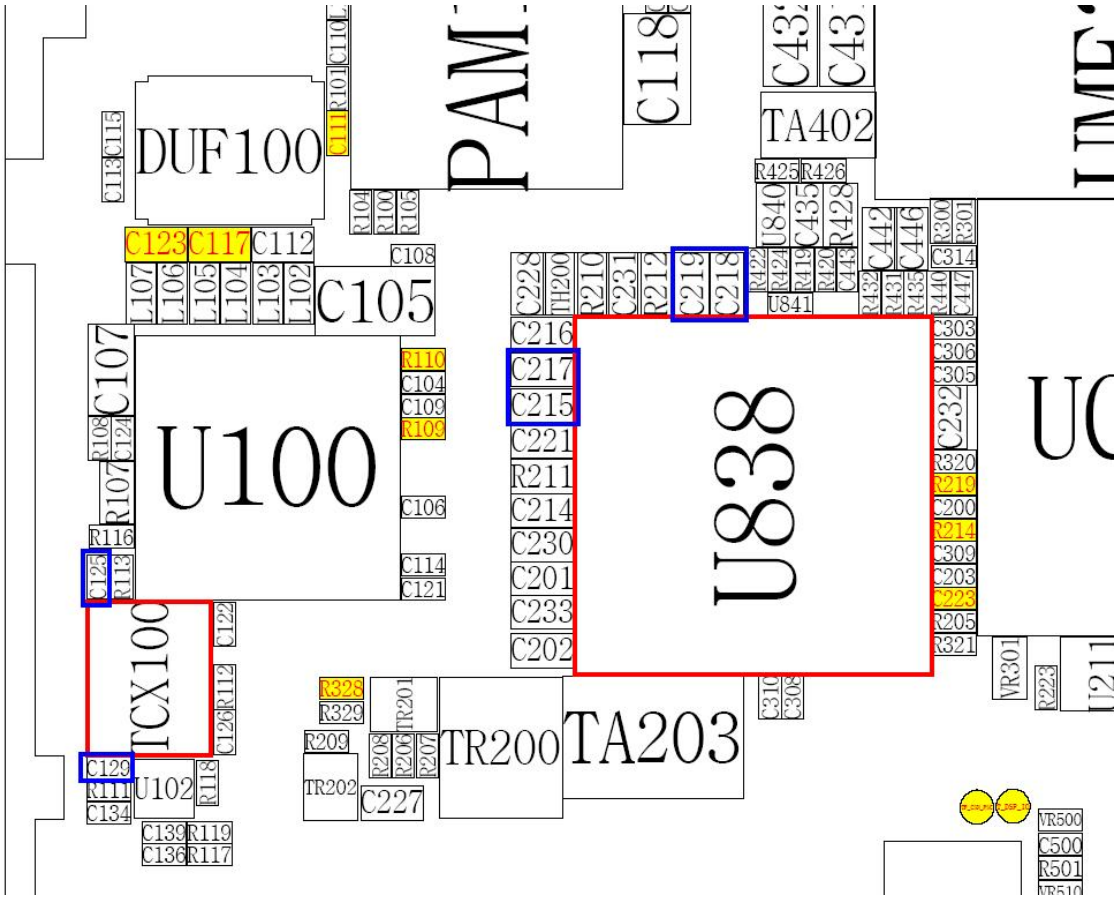

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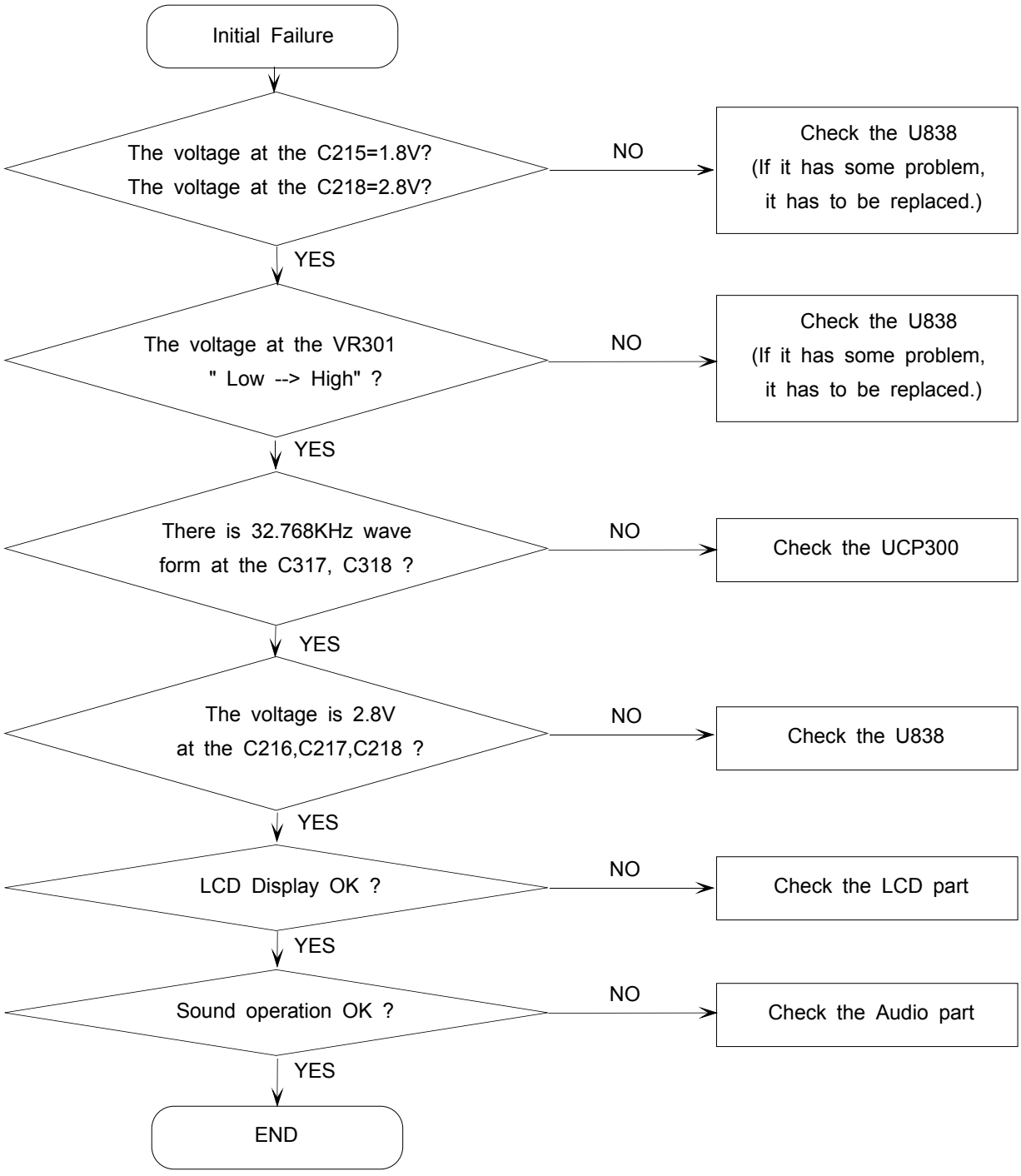
3-1-2. Initial



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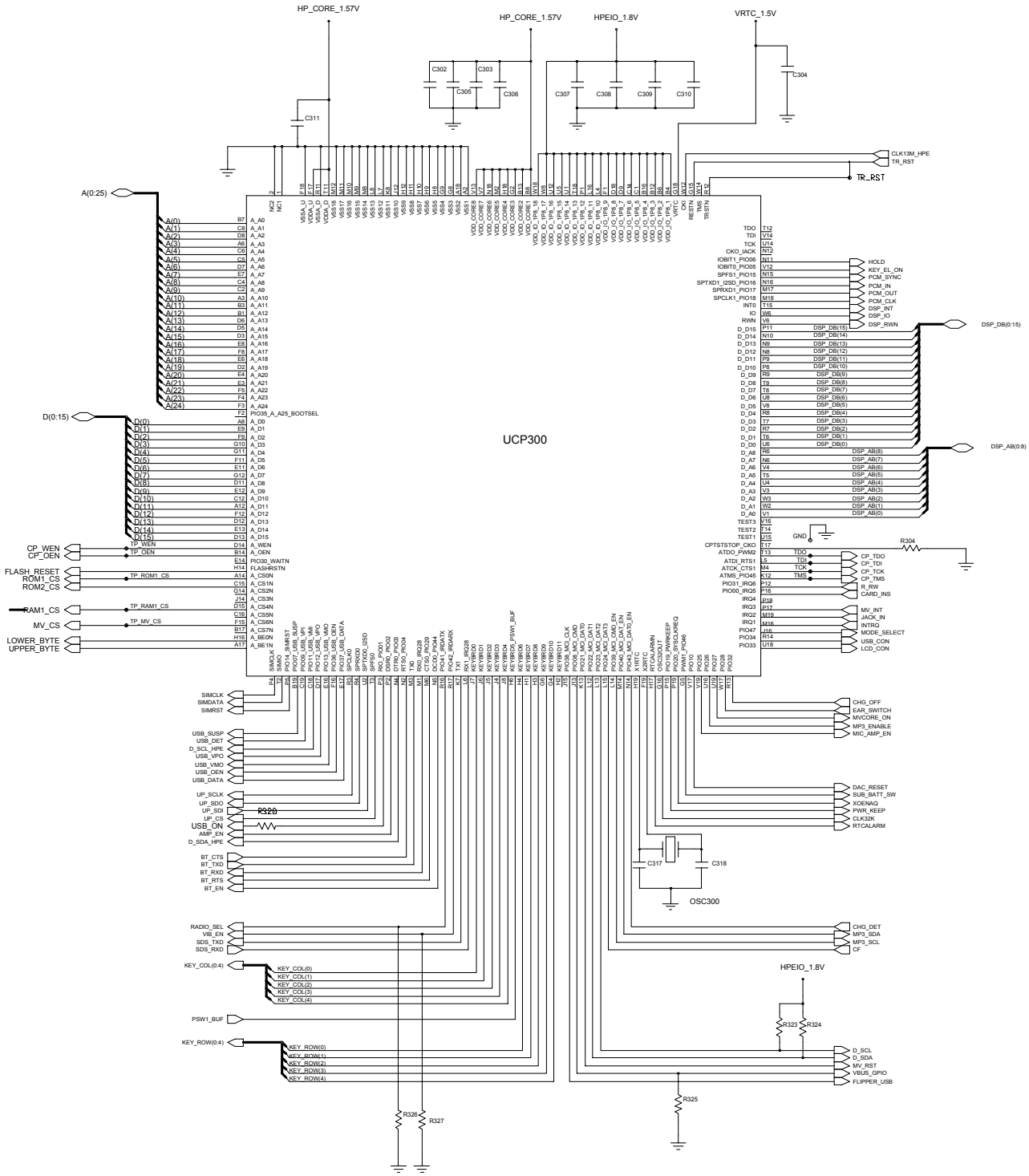

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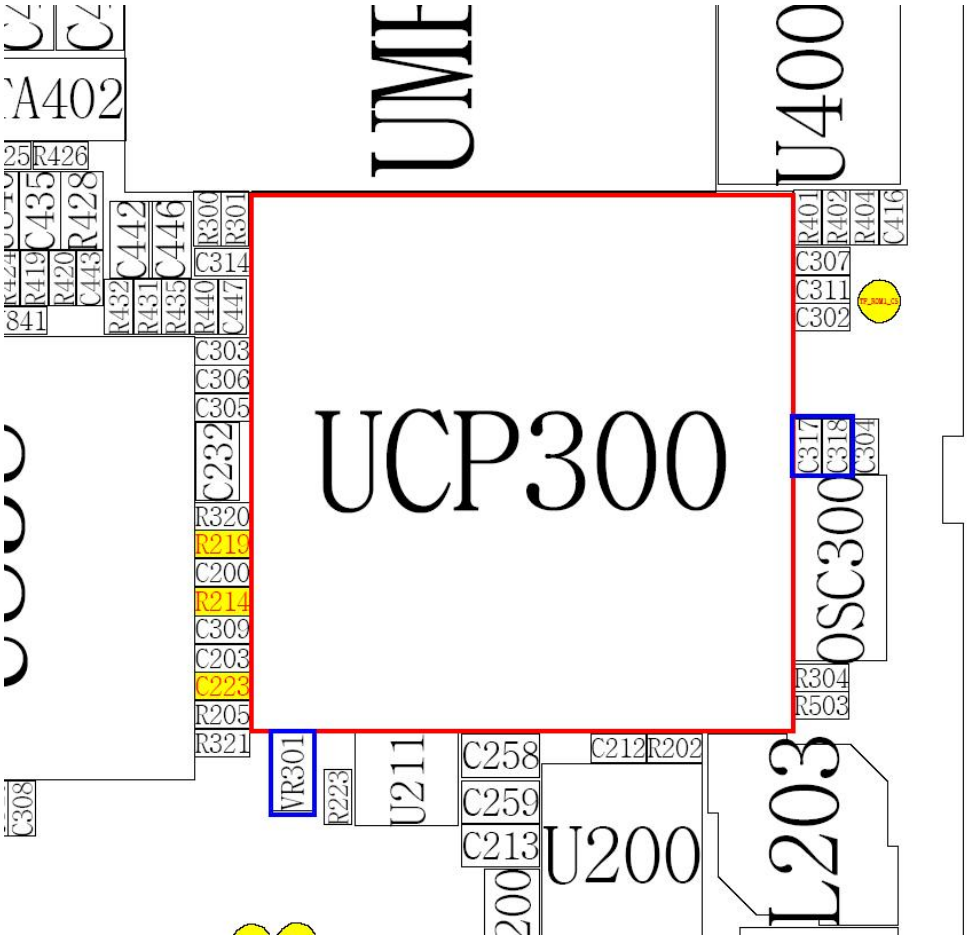

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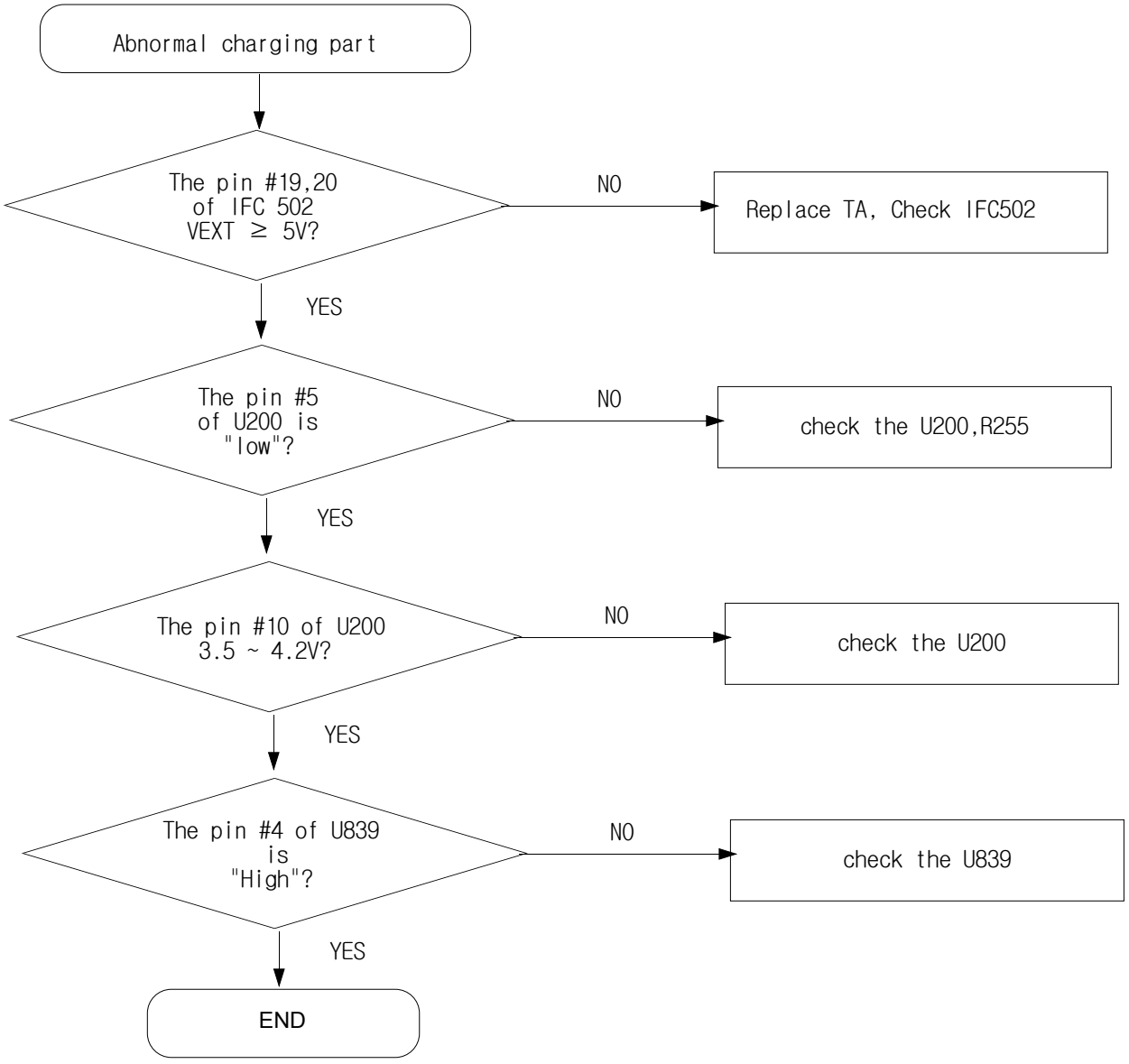
3-1-3. Charging



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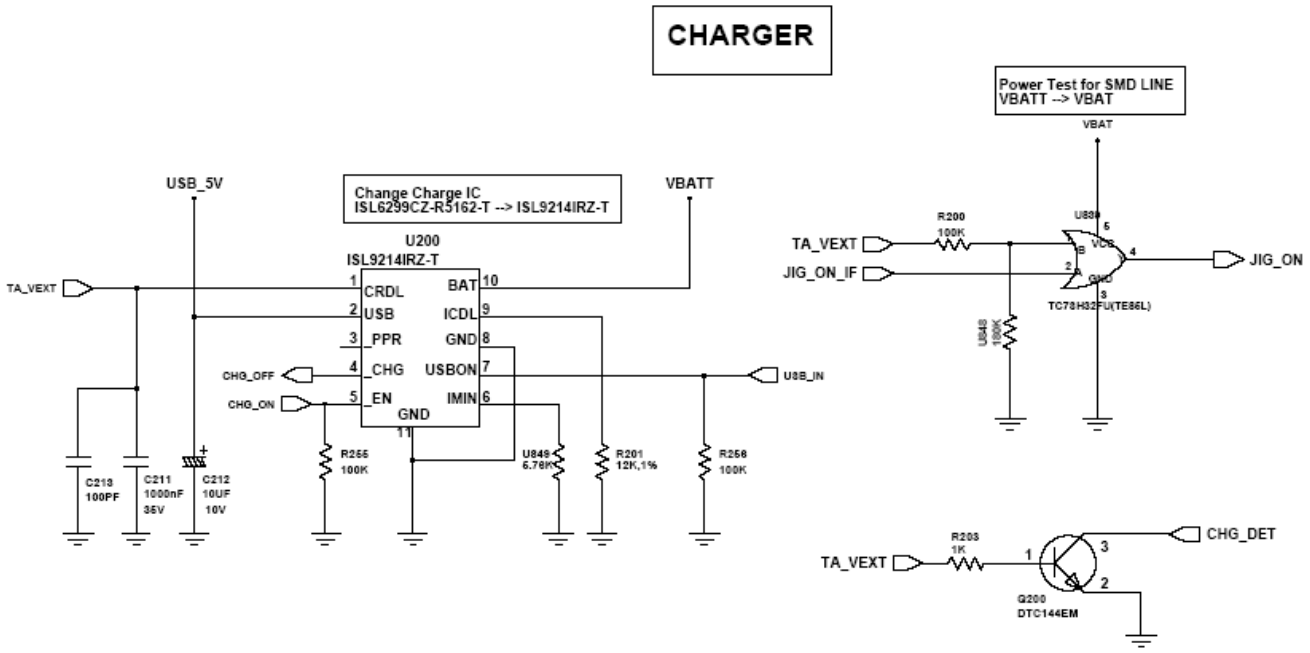

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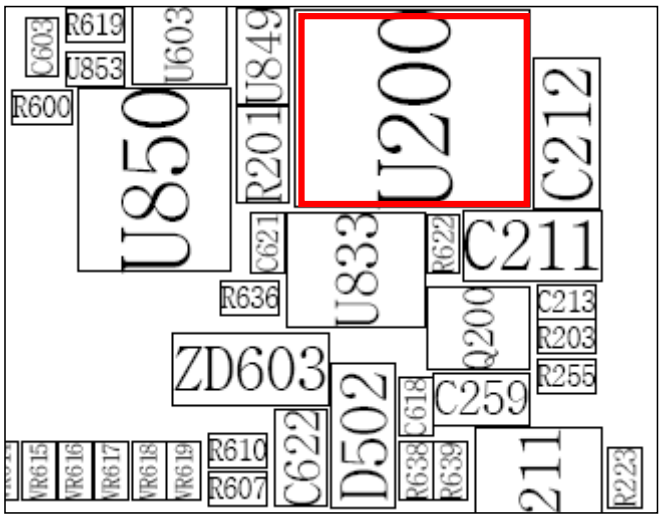

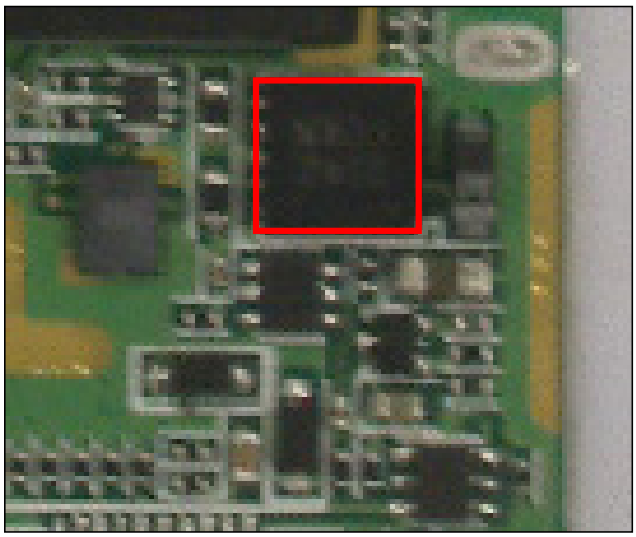

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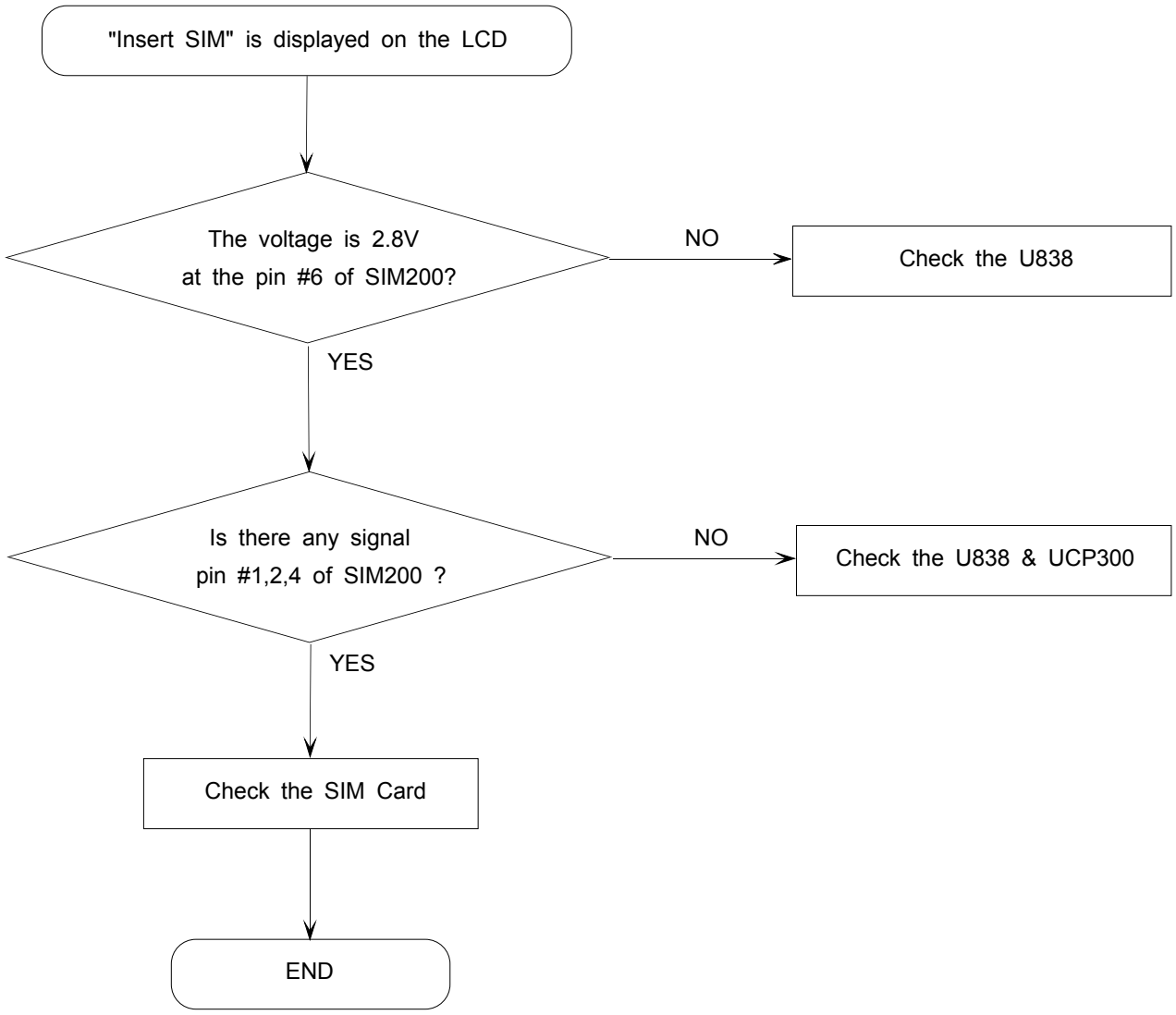
3-1-4. Sim Part



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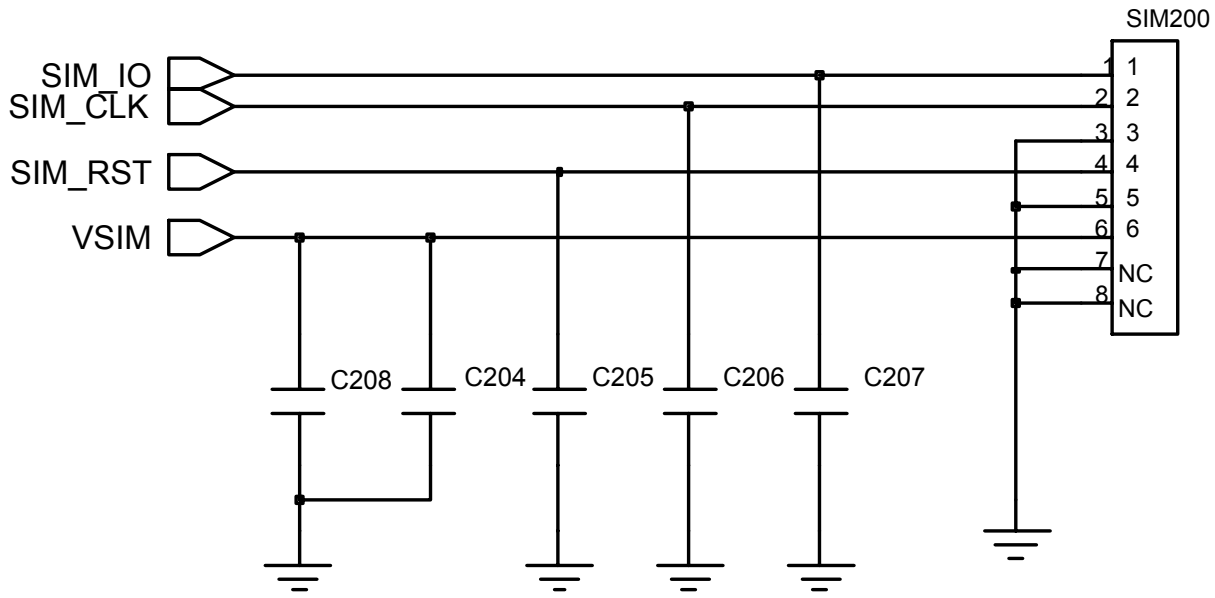

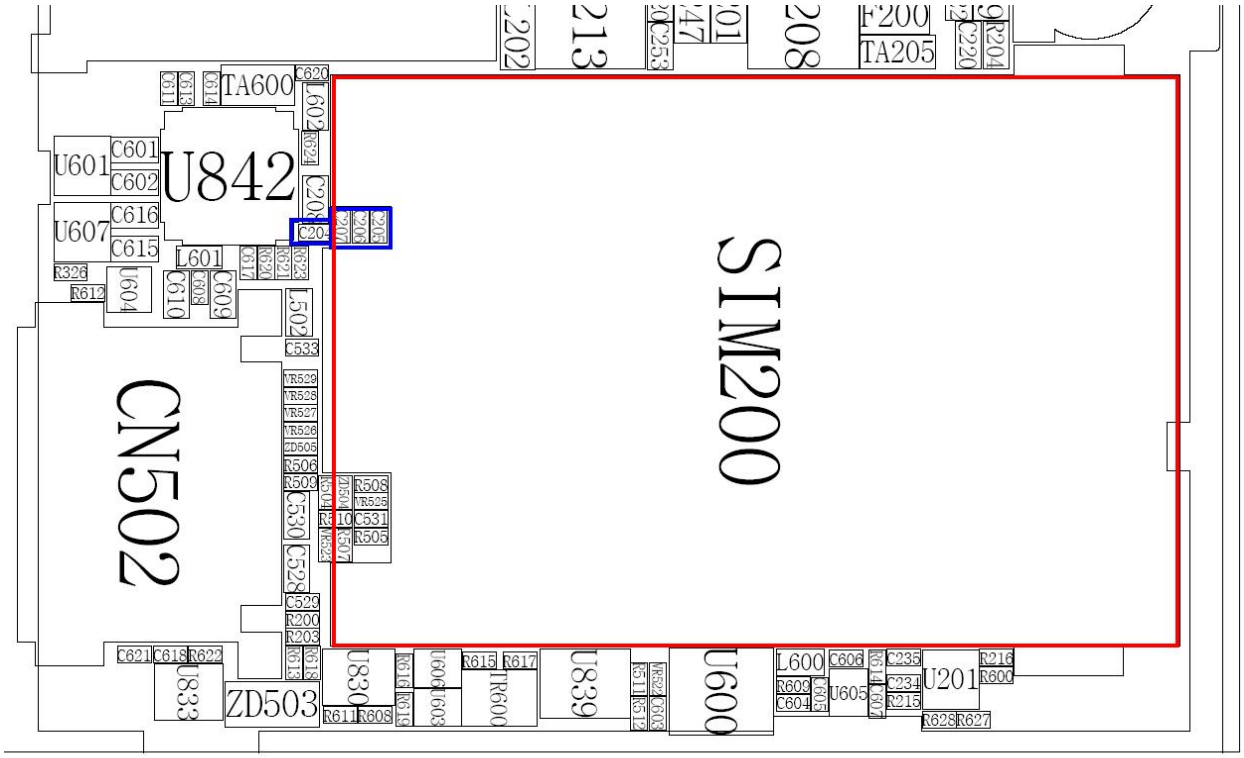

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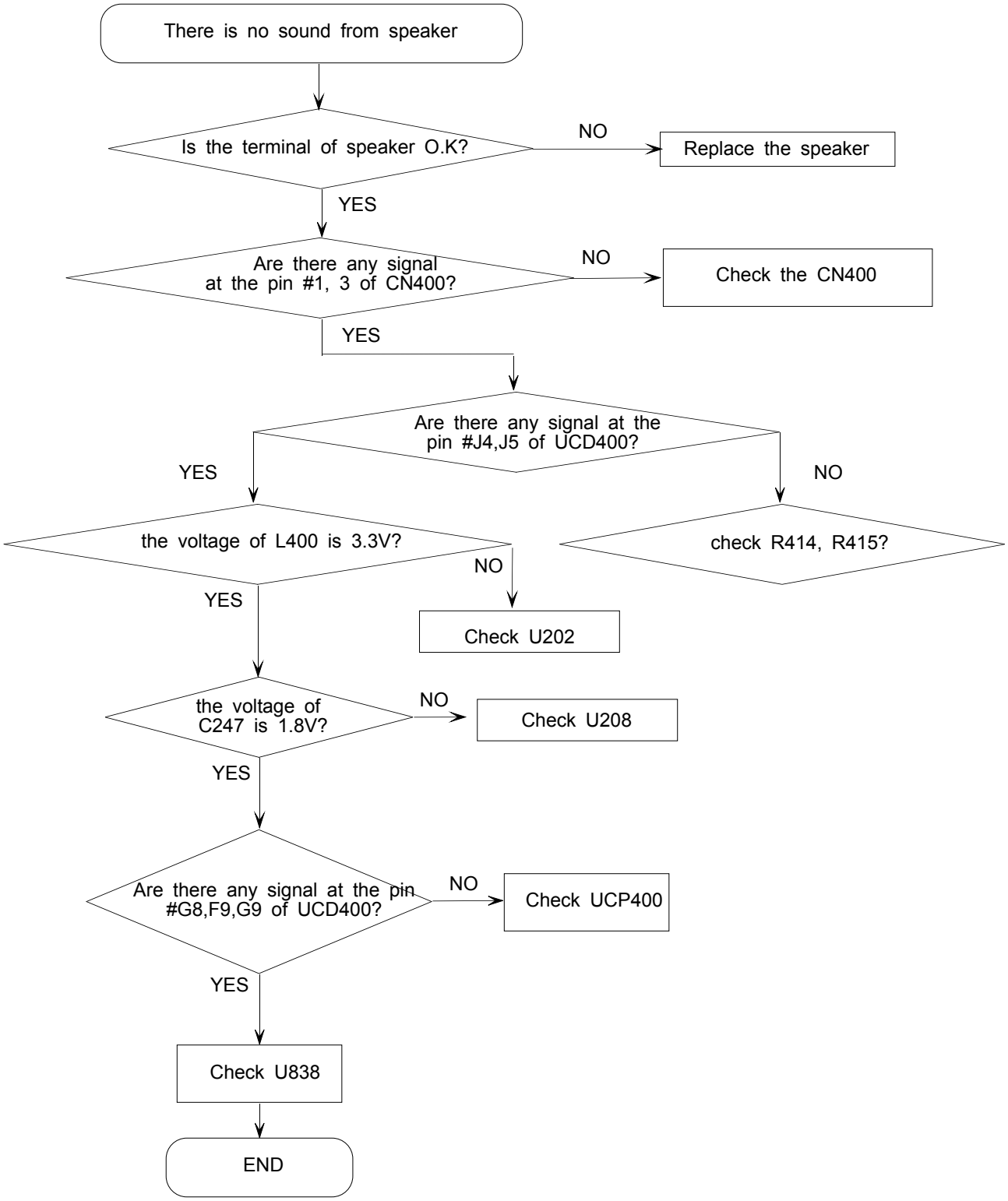
3-1-5. Speaker Part



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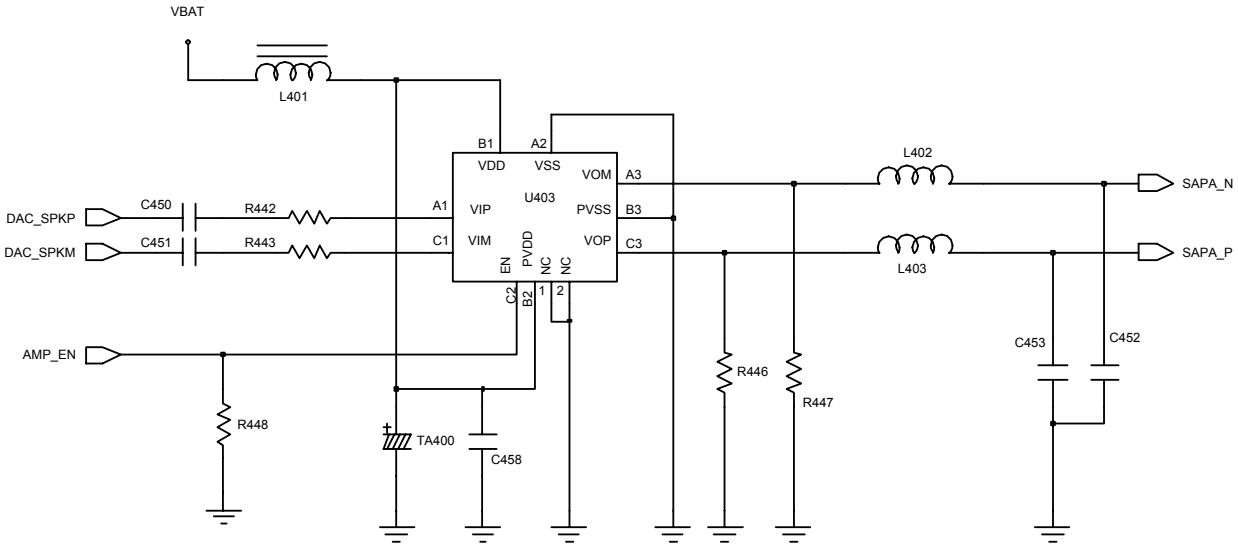

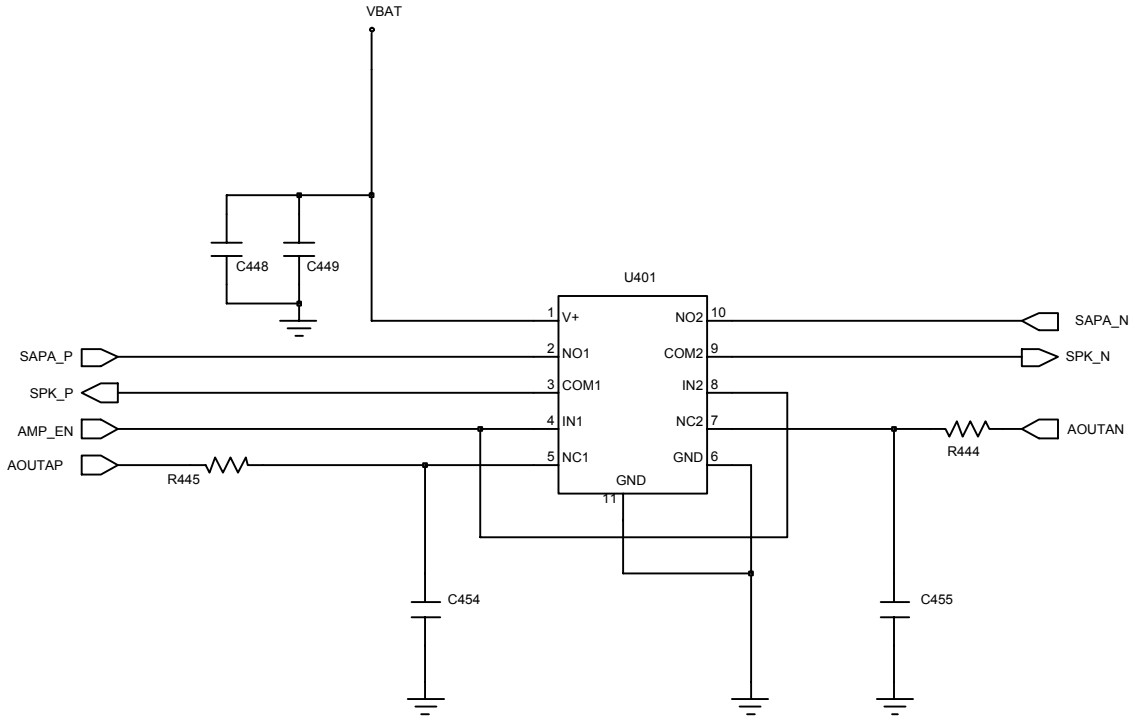

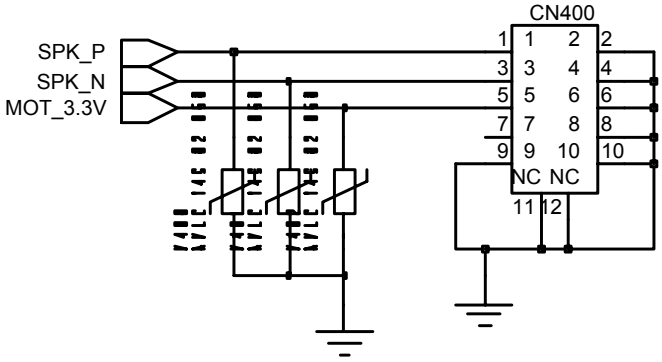

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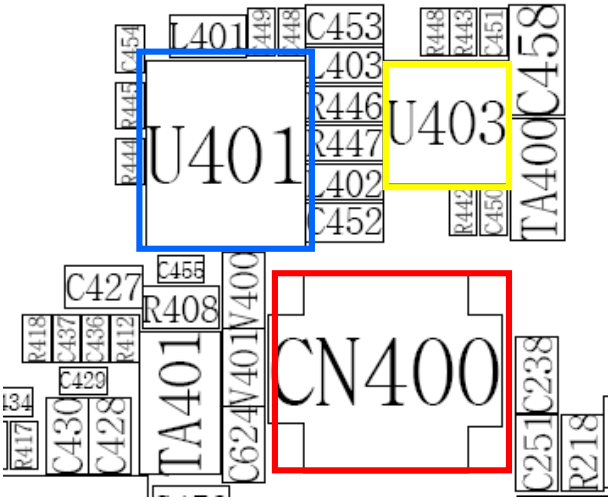

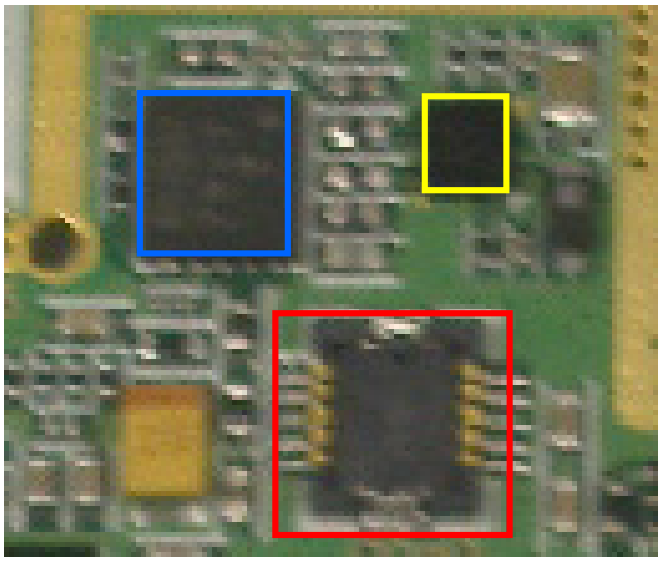

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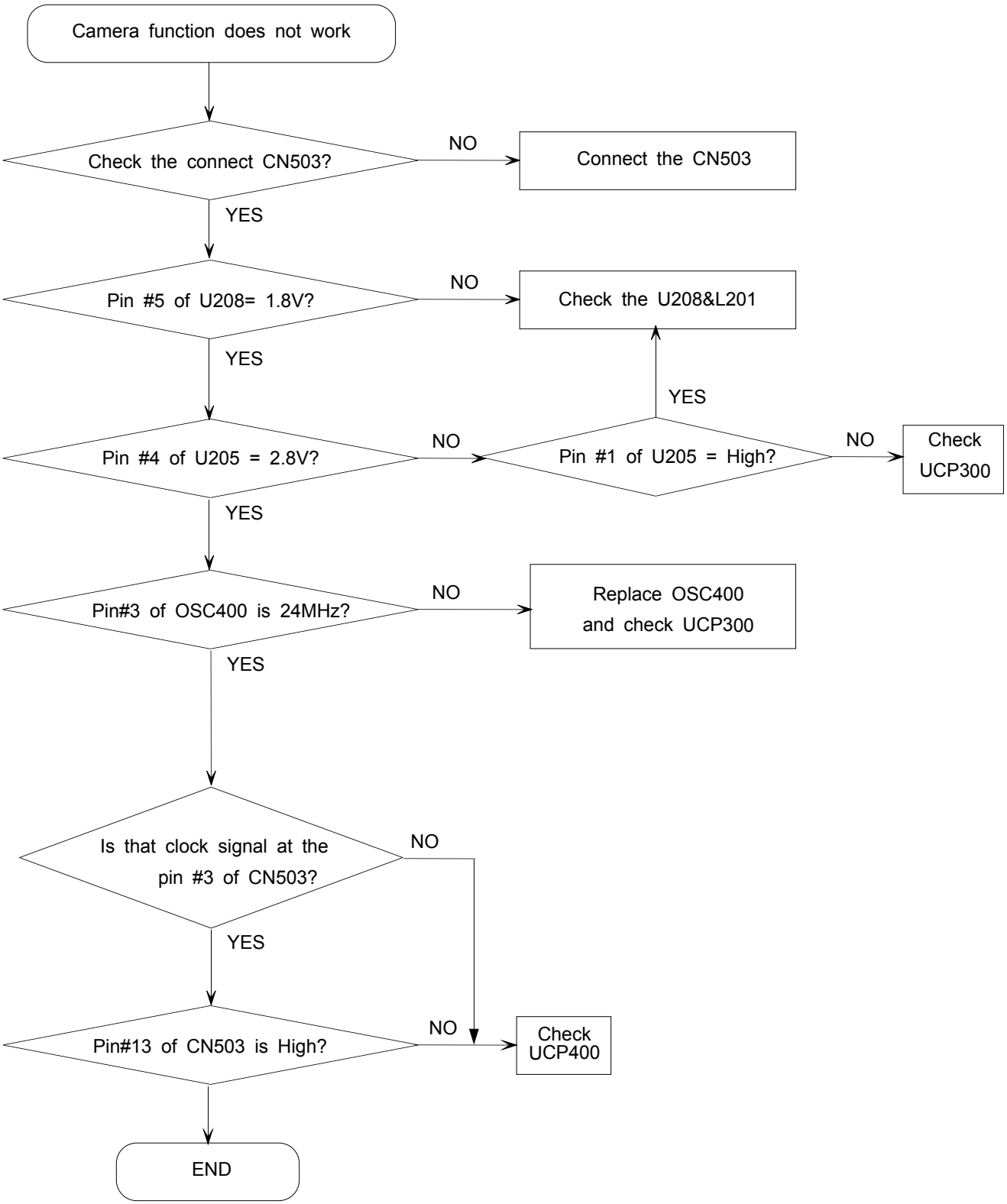
3-1-6. Camera Part



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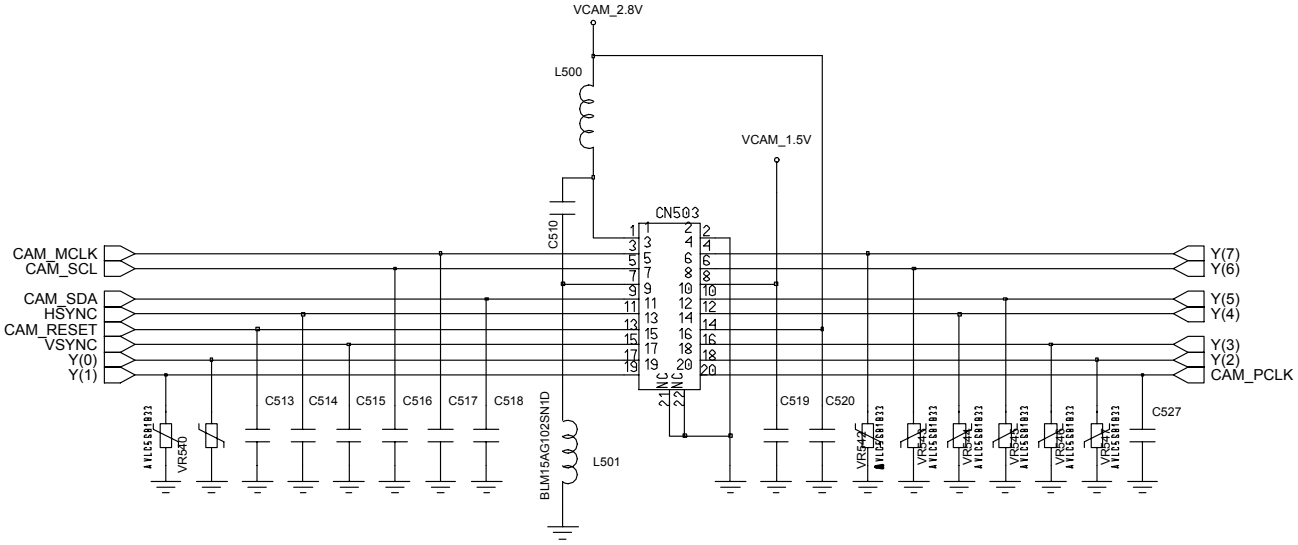

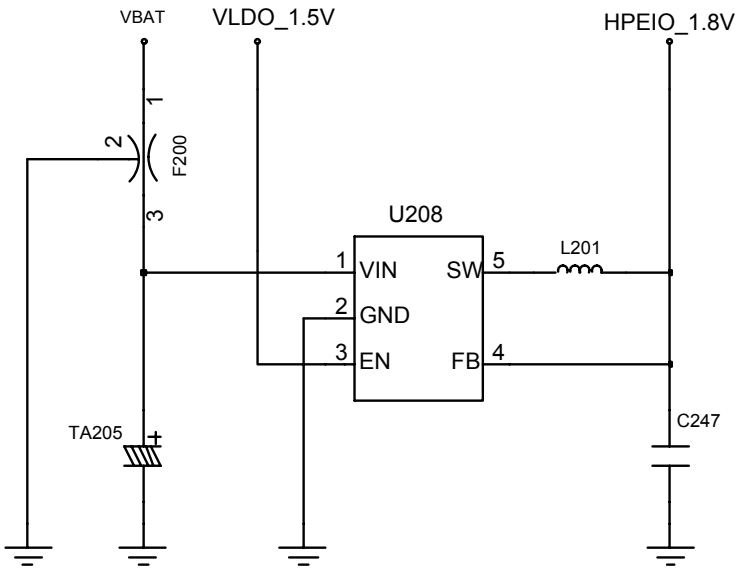

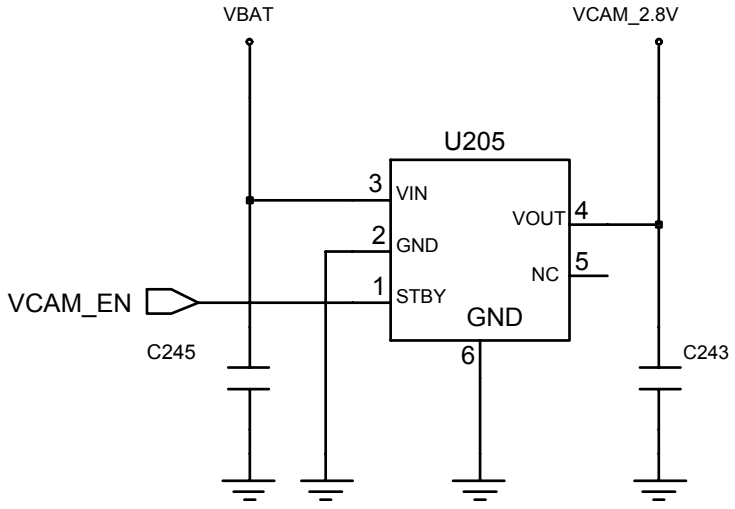

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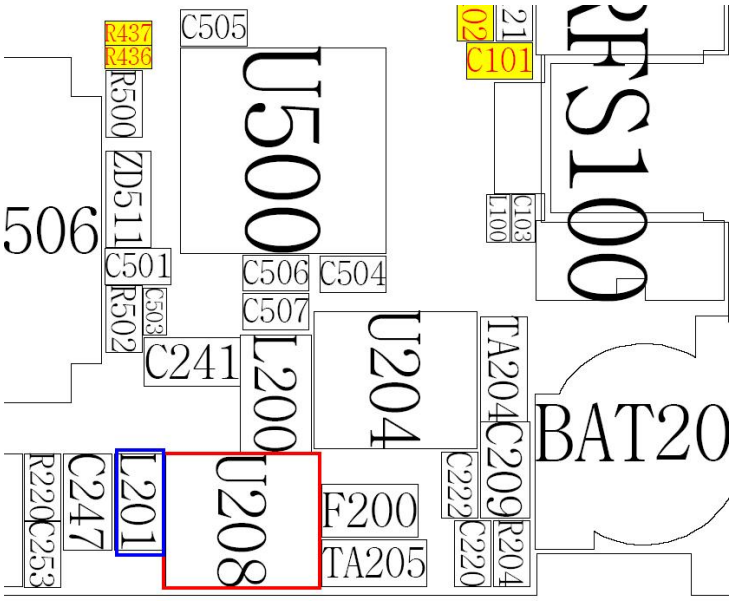

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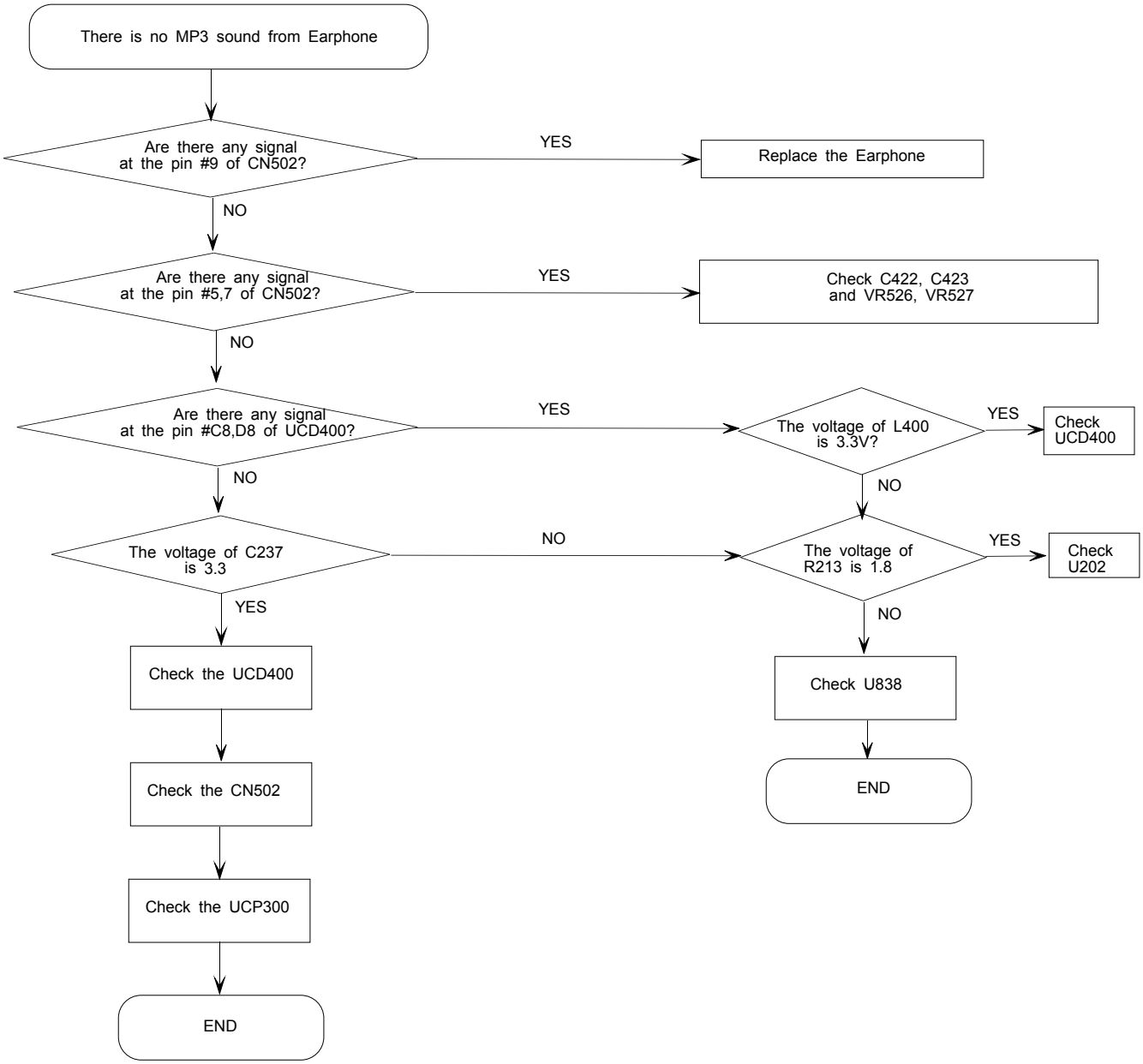
3-1-7. Mp3 Part



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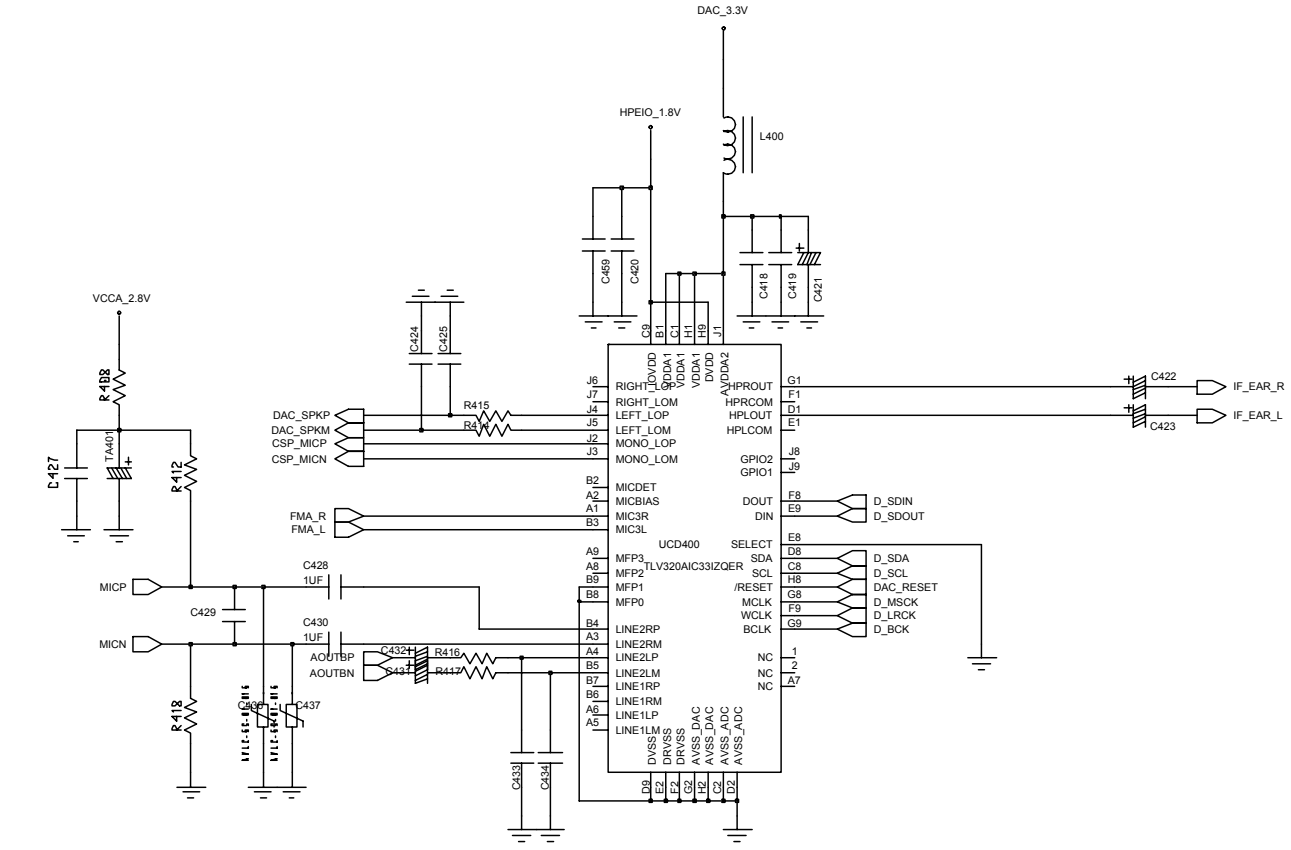

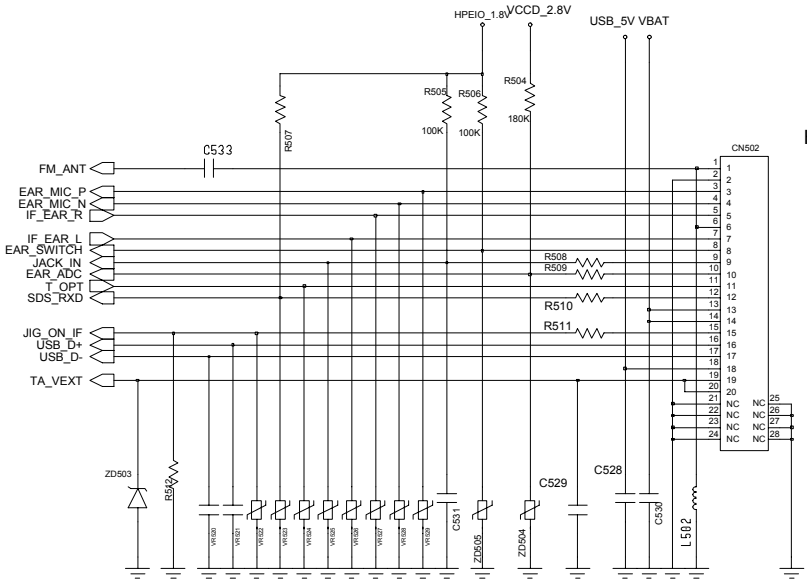

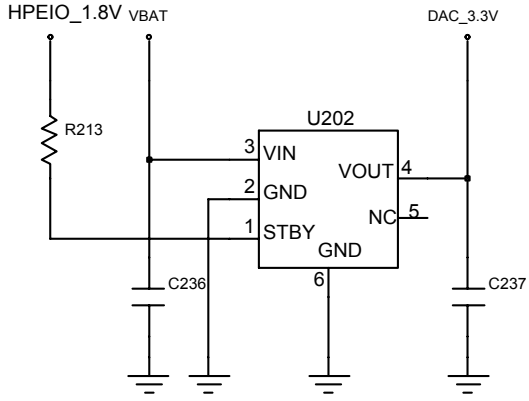

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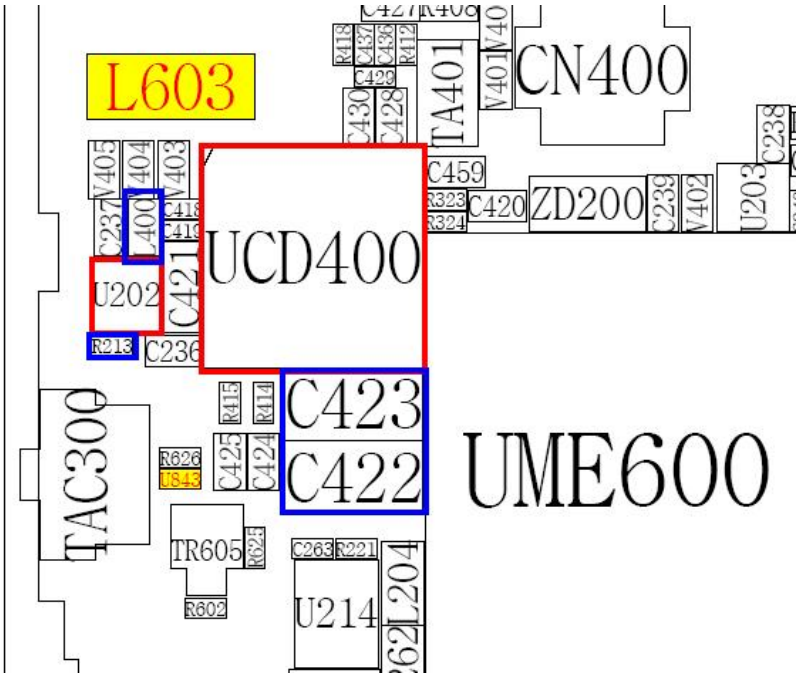

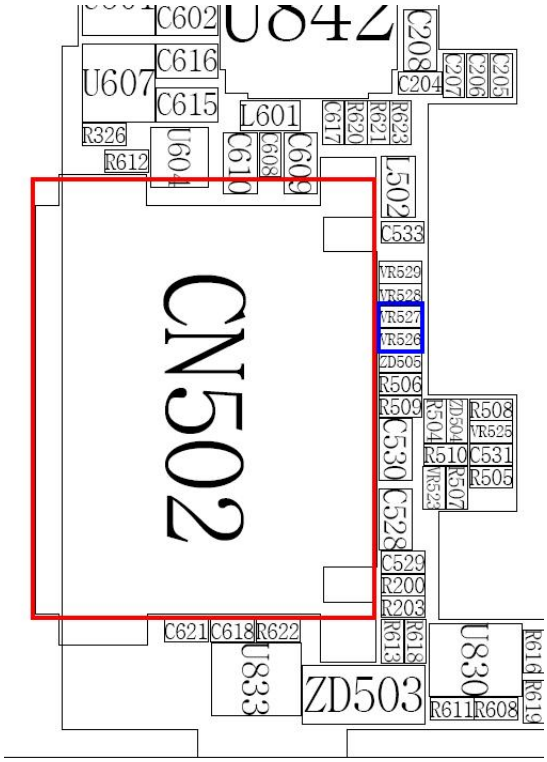

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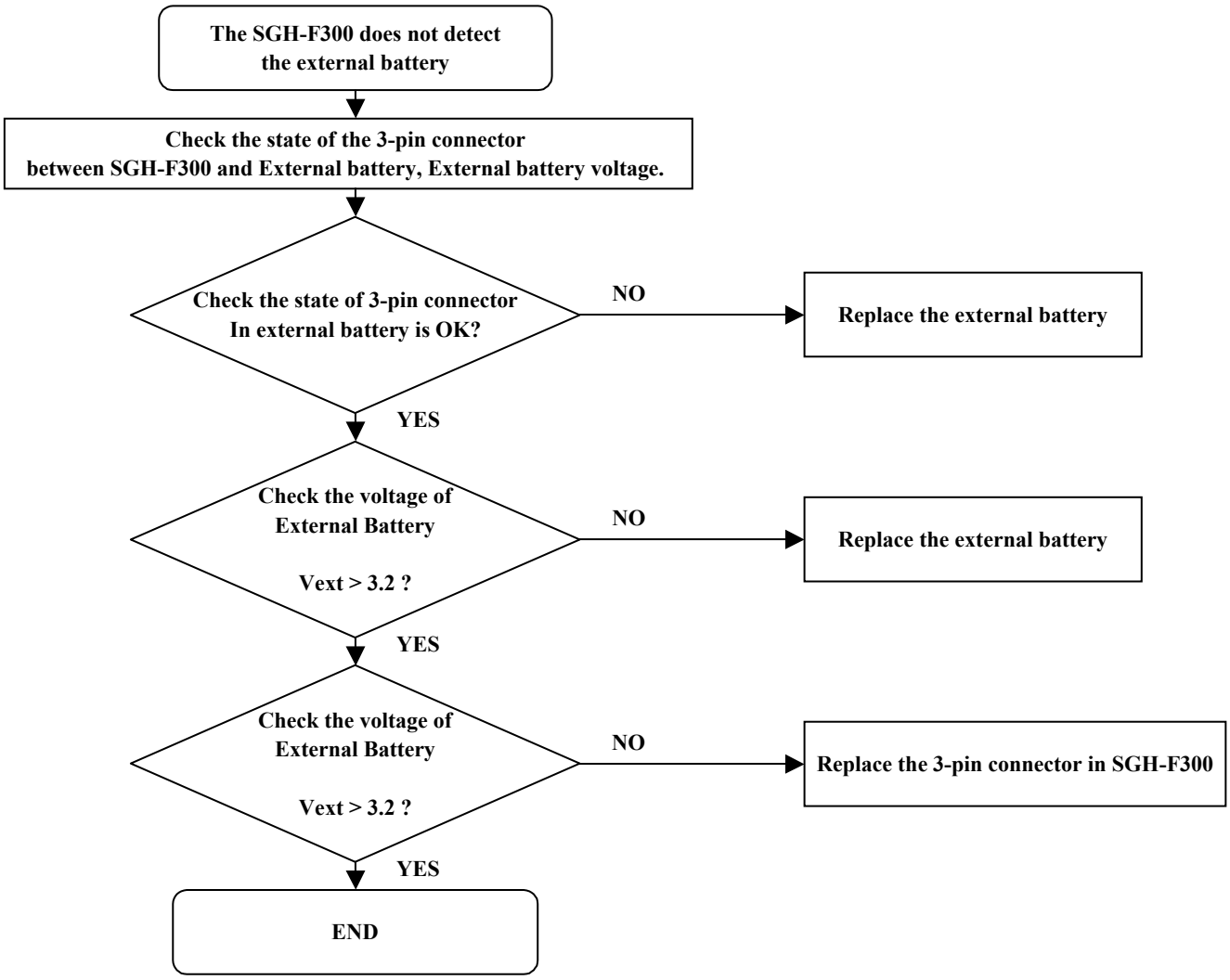
3-1-8. External Battery



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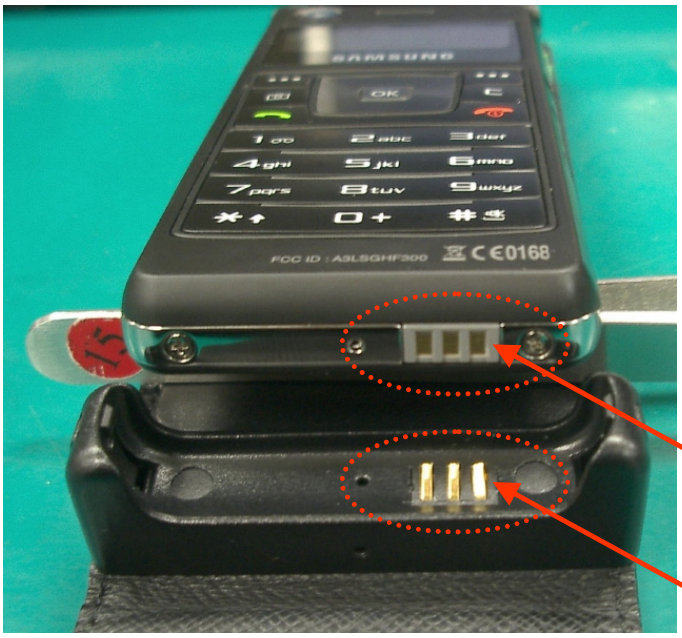

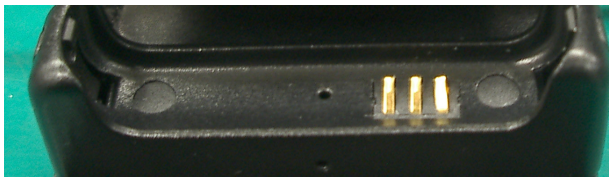

GND Vf Vext

Pin Array of external battery

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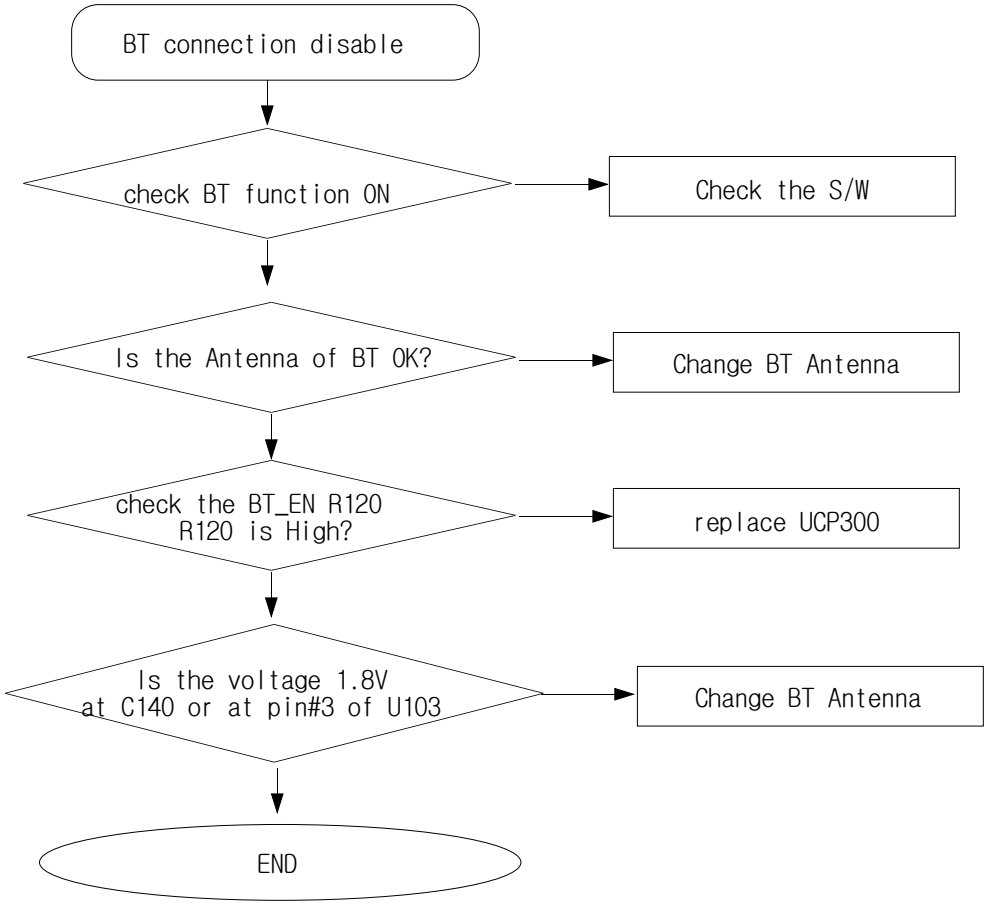
3-1-9. BLUETOOTH



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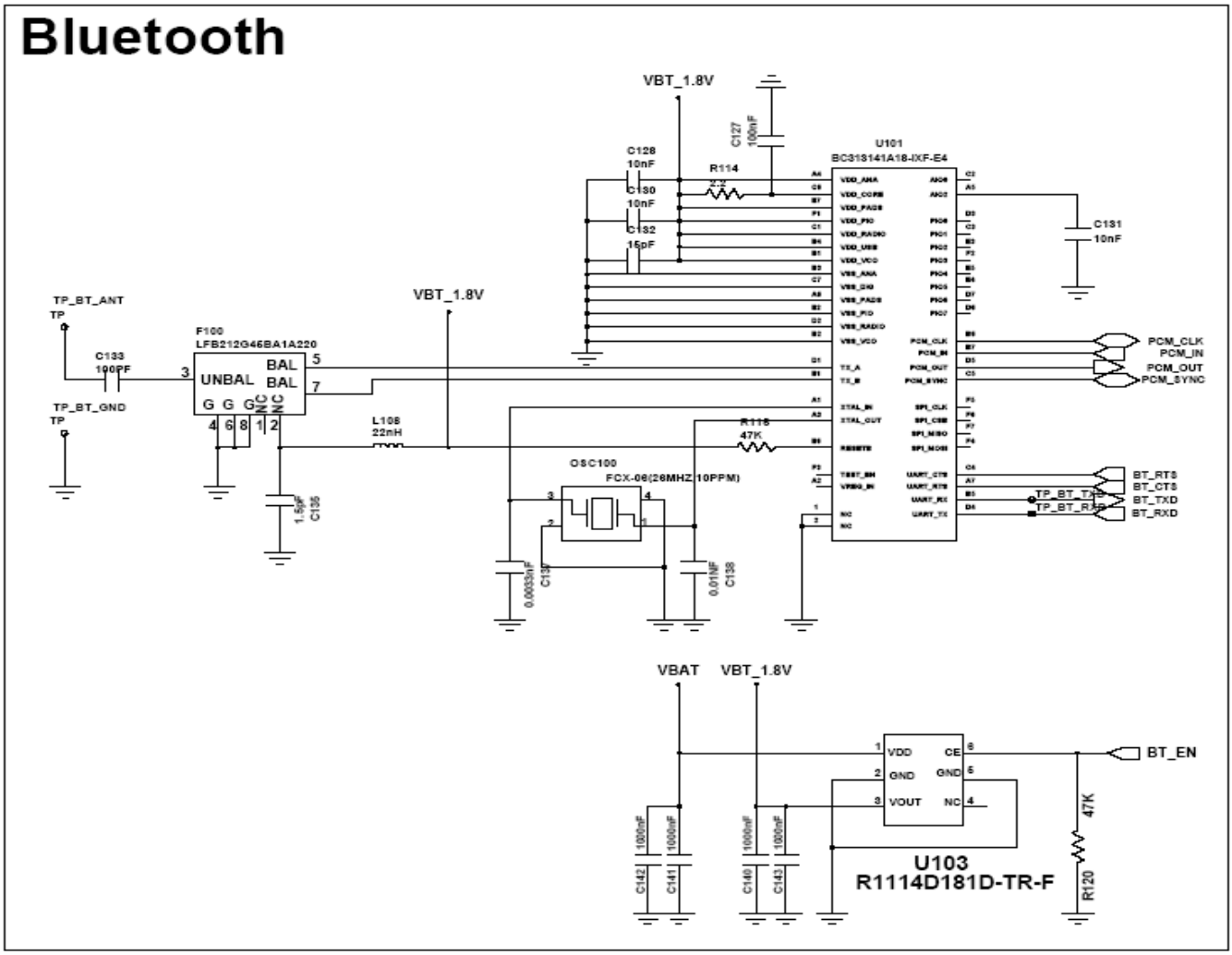

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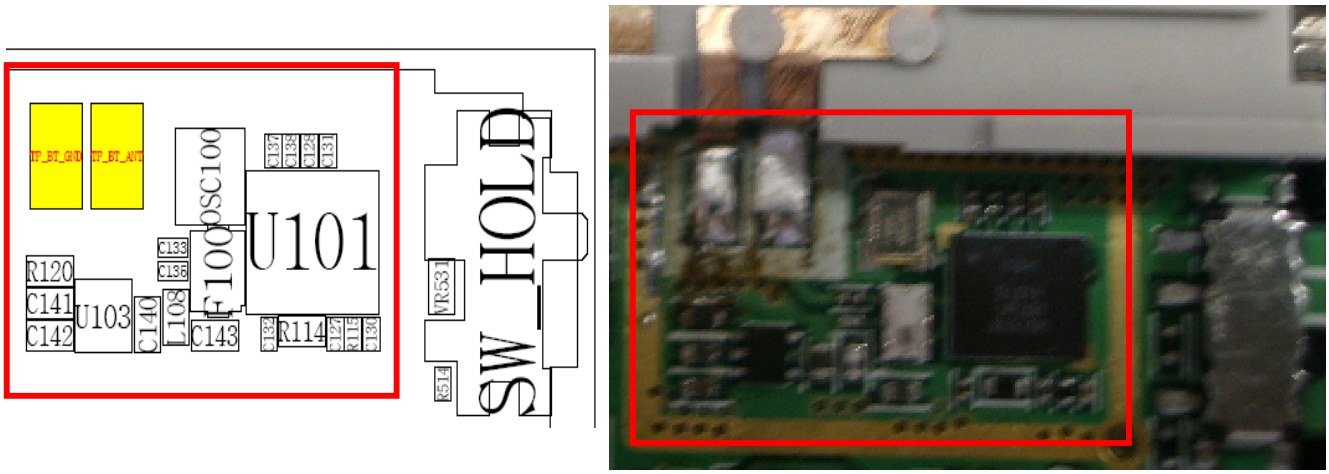
Layout



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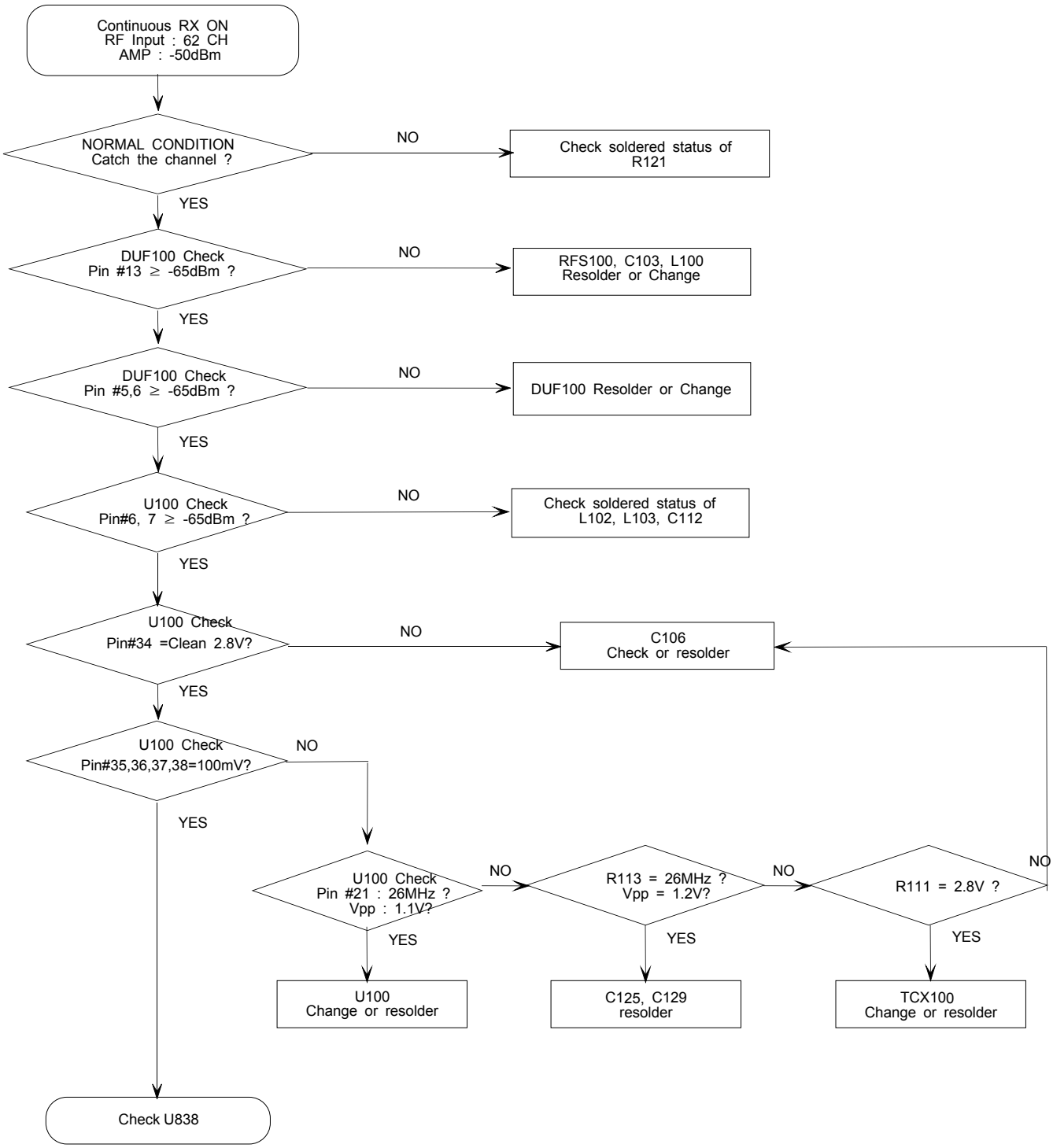
3-2.RF

3-2-1. EGSM RX



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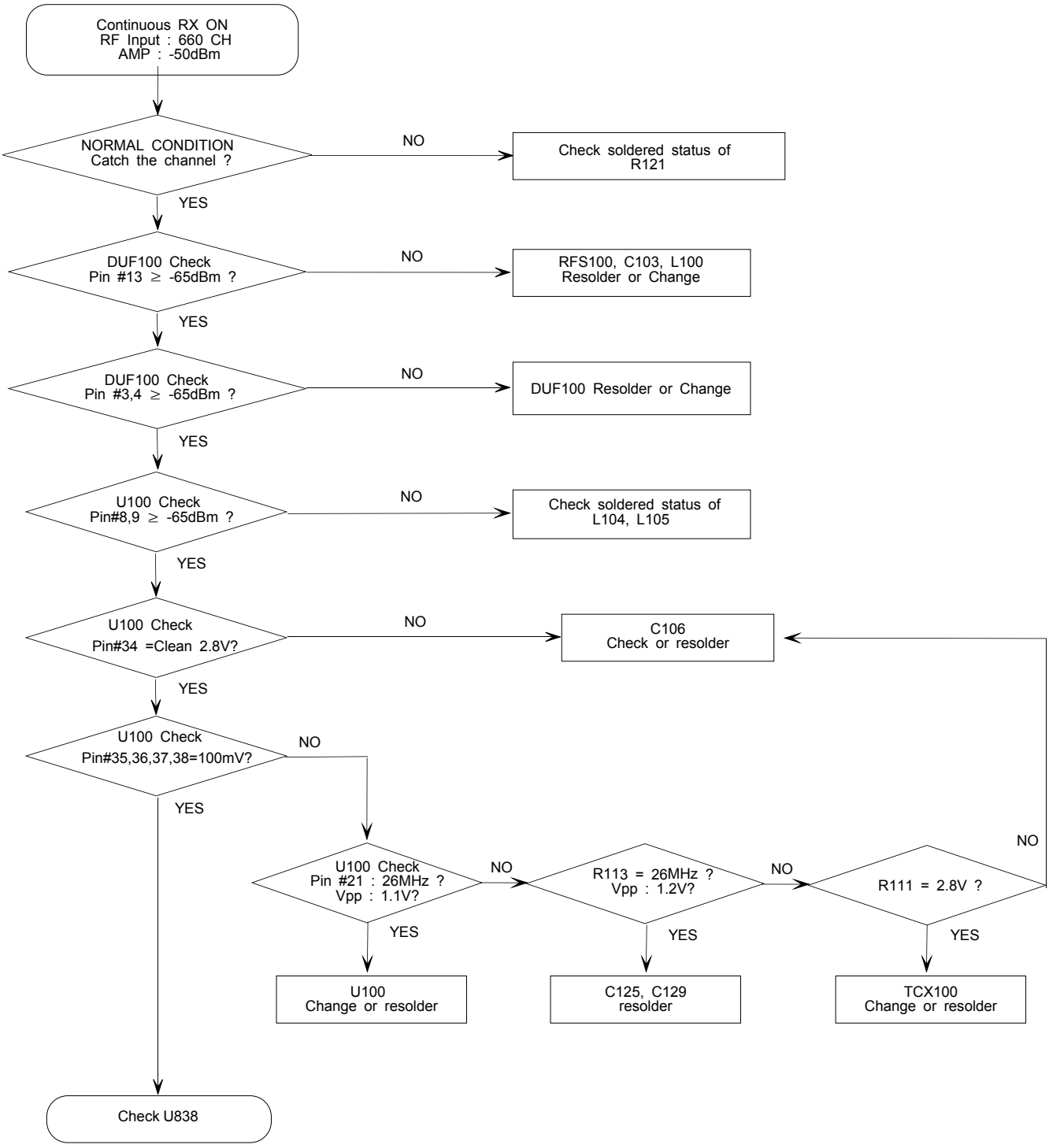
3-2-2. DCS RX



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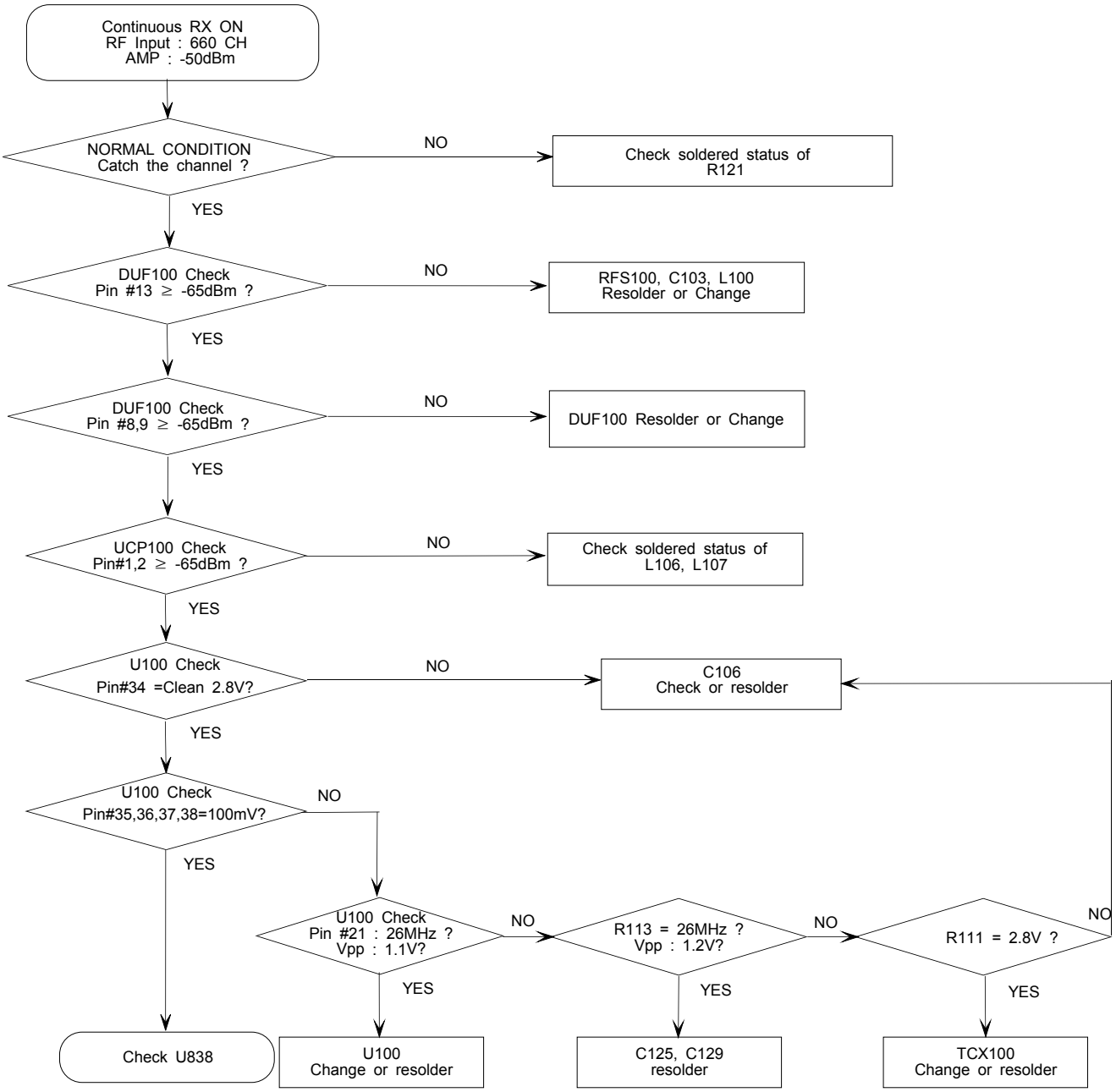
3-2-3. PCS RX



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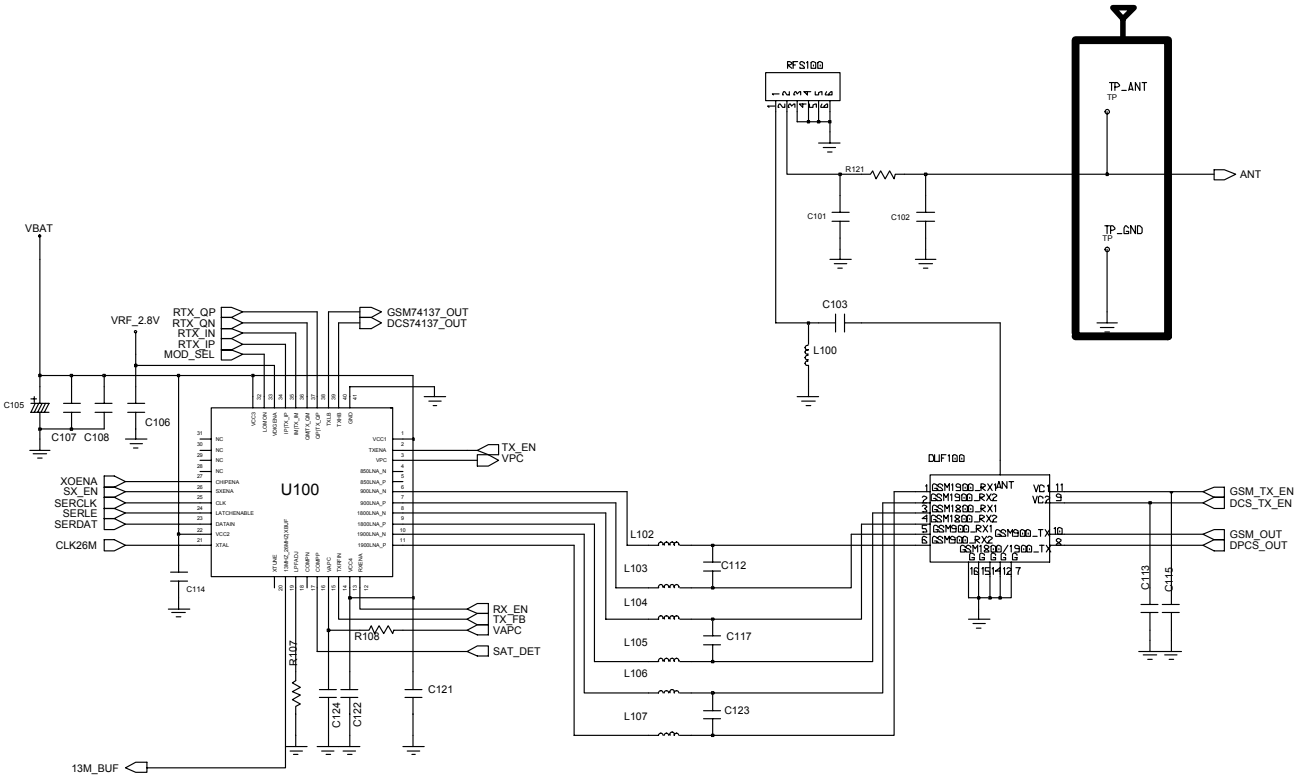

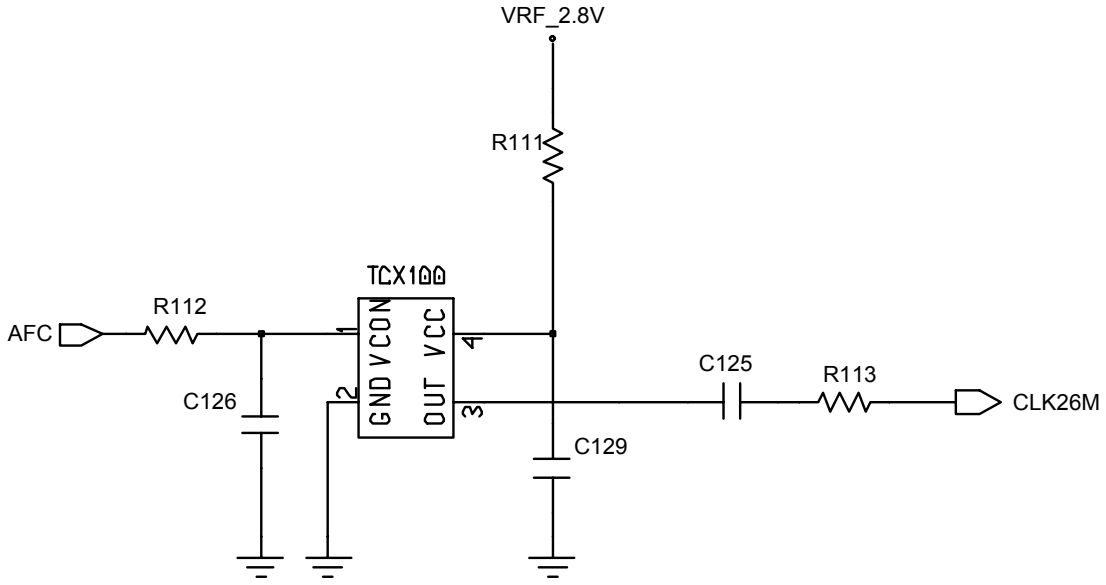

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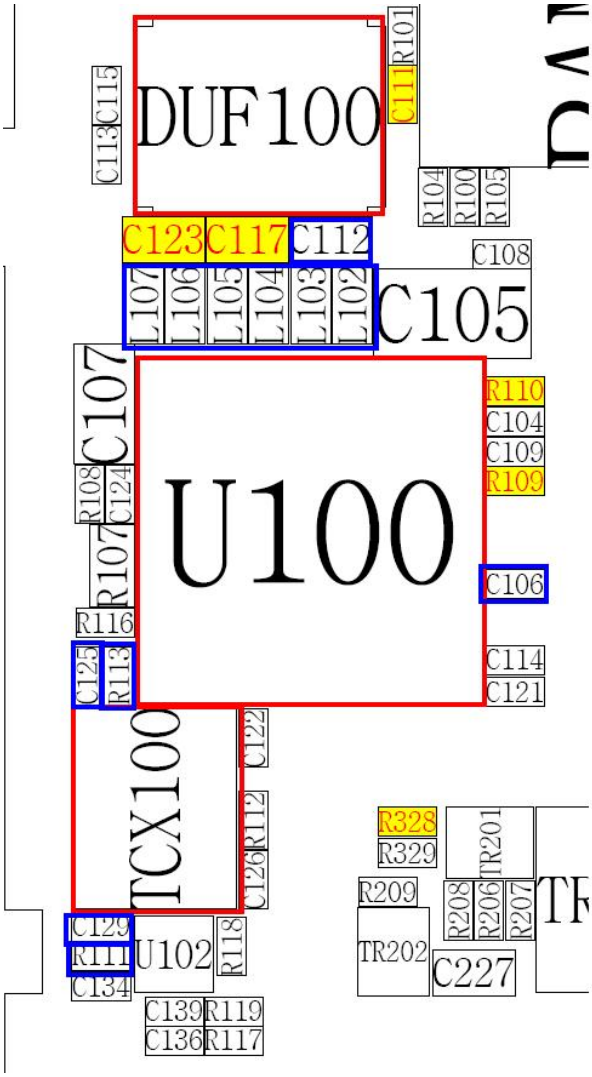

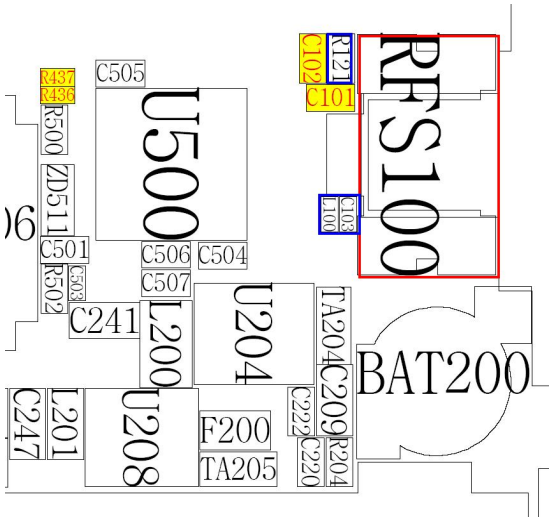

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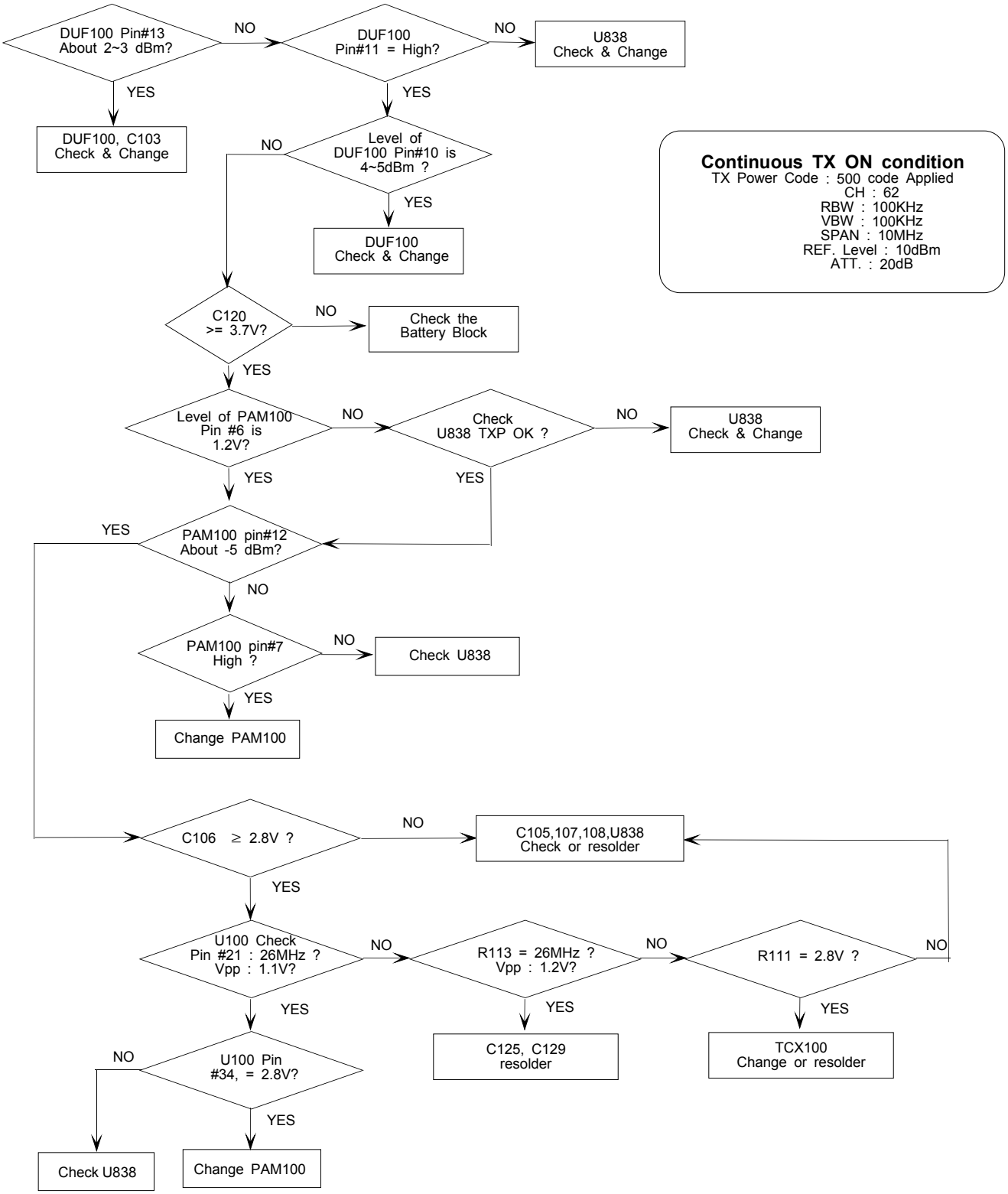
3-2-4. EGSM TX



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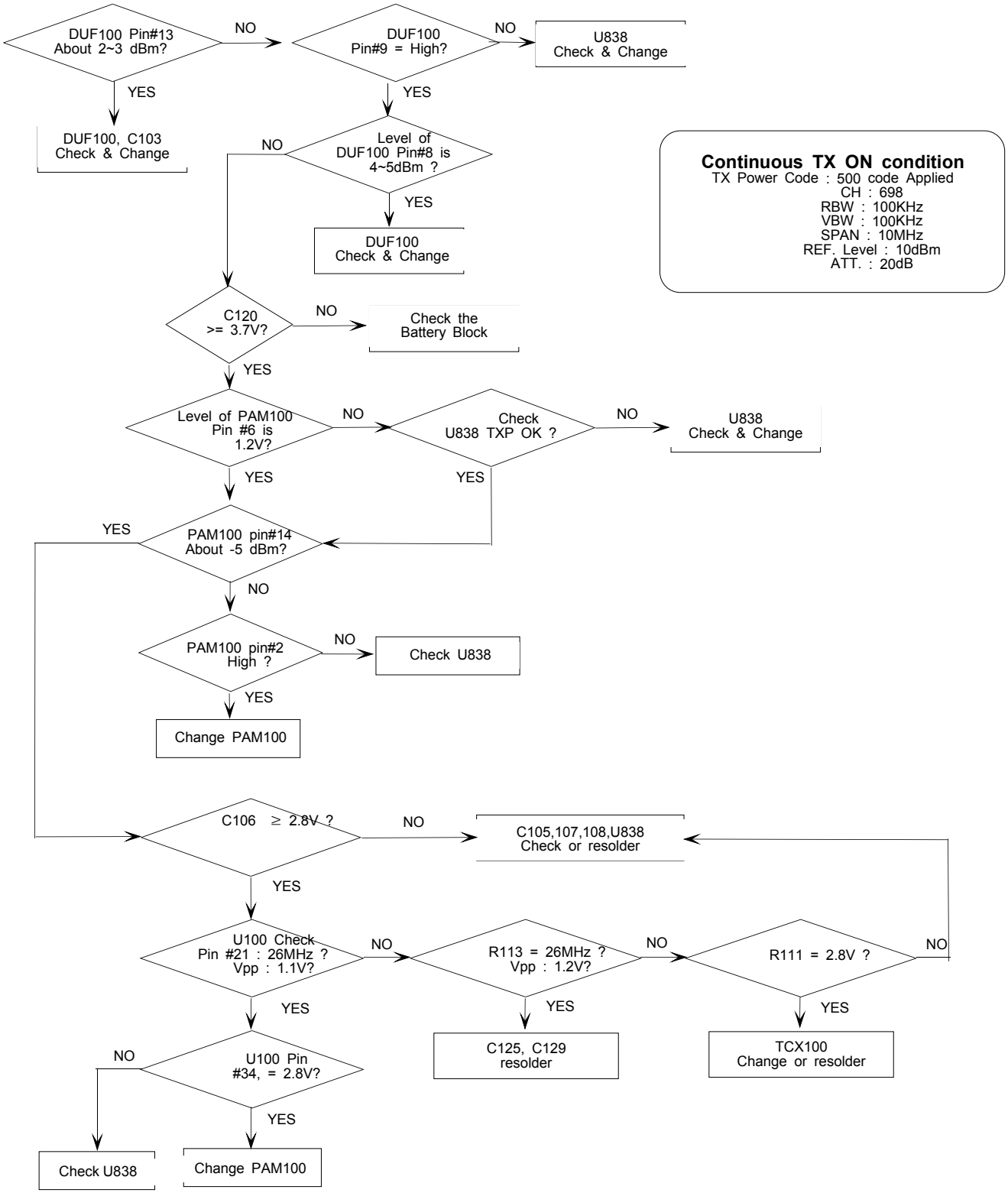
3-2-5. DCS/PCS TX



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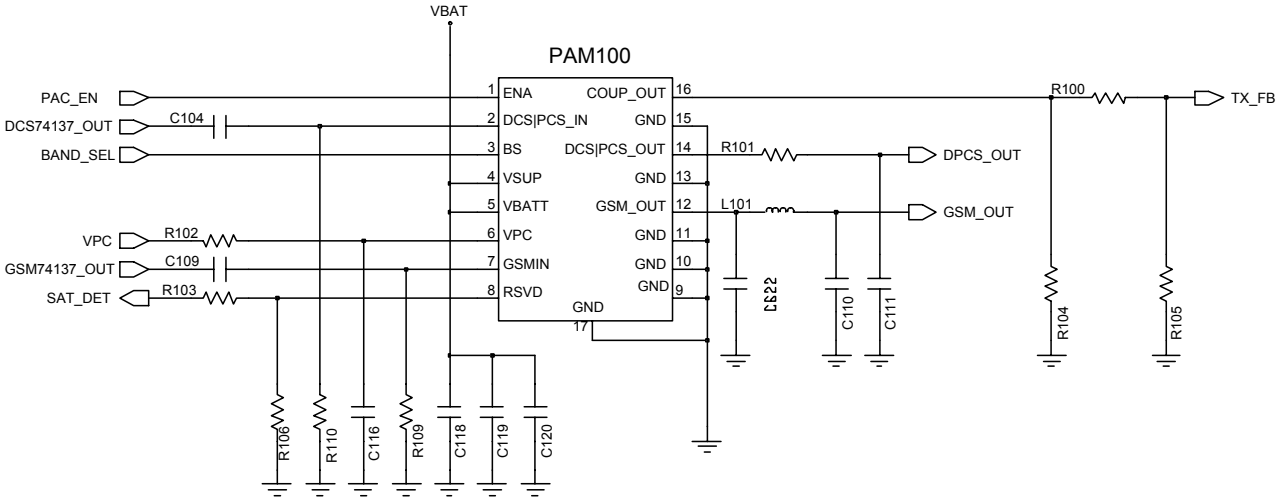

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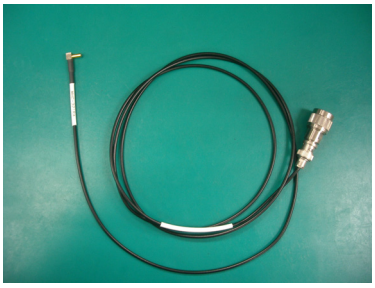
4. Array course control

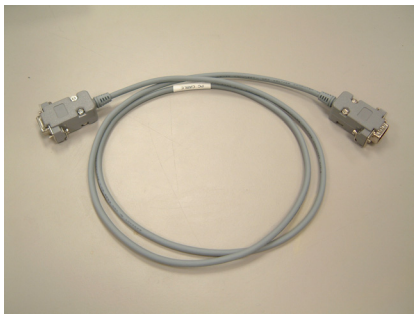
Test Jig (GH80-03307A)

RF Test Cable
(GH39-00643A)

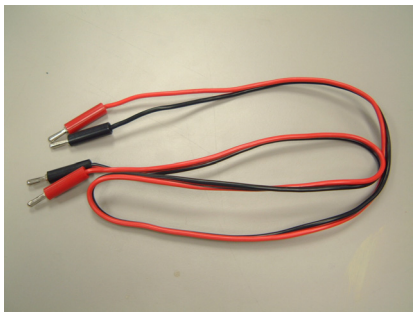


Test Cable
GH39-00484A)

Serial Cable

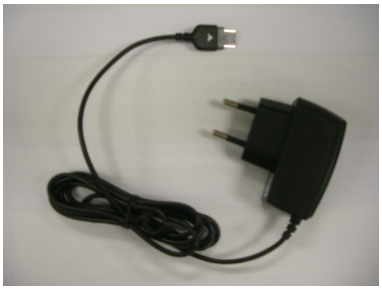


Power Supply Cable



DATA CABLE
(GH39-00720A)

TA
(GH44-01361A)



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4-1. Downloading Binary Files (1)

•Swift Model firmware is composed of 2 files

–*.s3 : Main source code binary.

4-2. Prerequisite

•Downloader program(Optiflash.exe)

•F300 Moblie Phone

•Data Cable

•Binary Files

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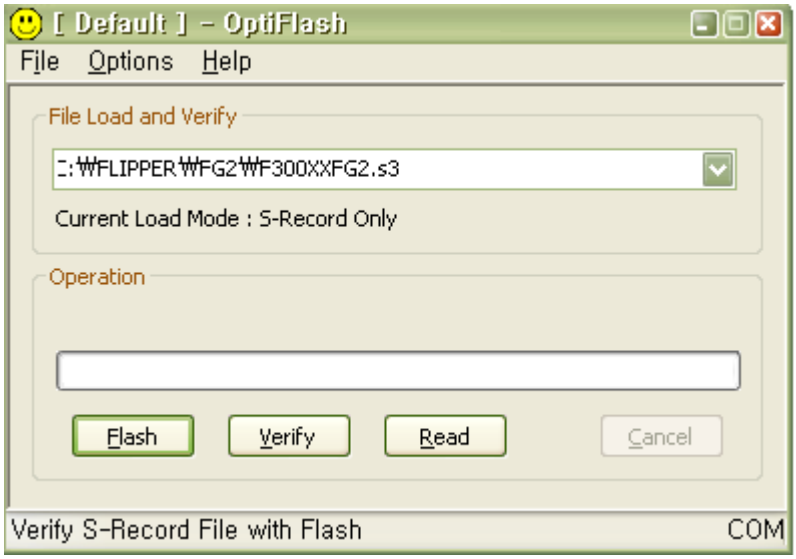
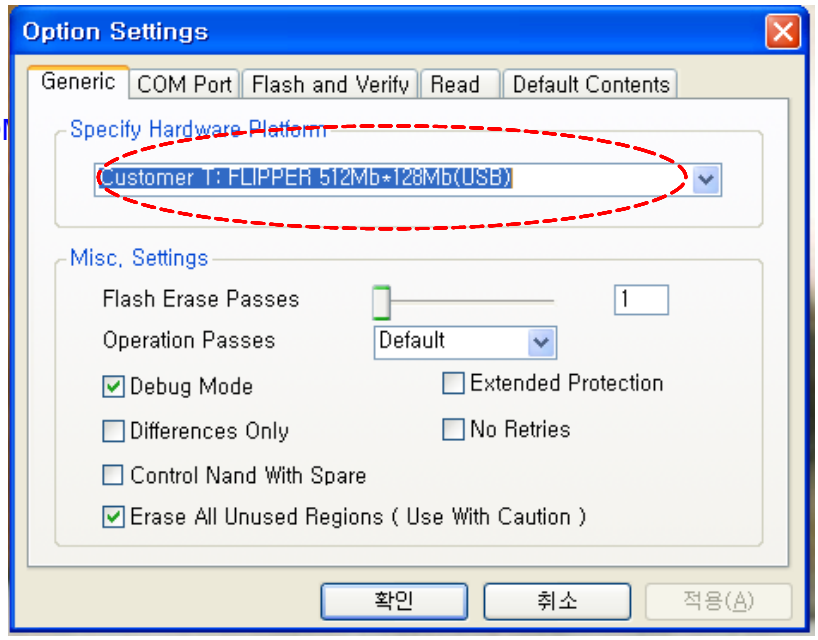
4-3. S/W Downloader Program

1. Load the binary download program by execution 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



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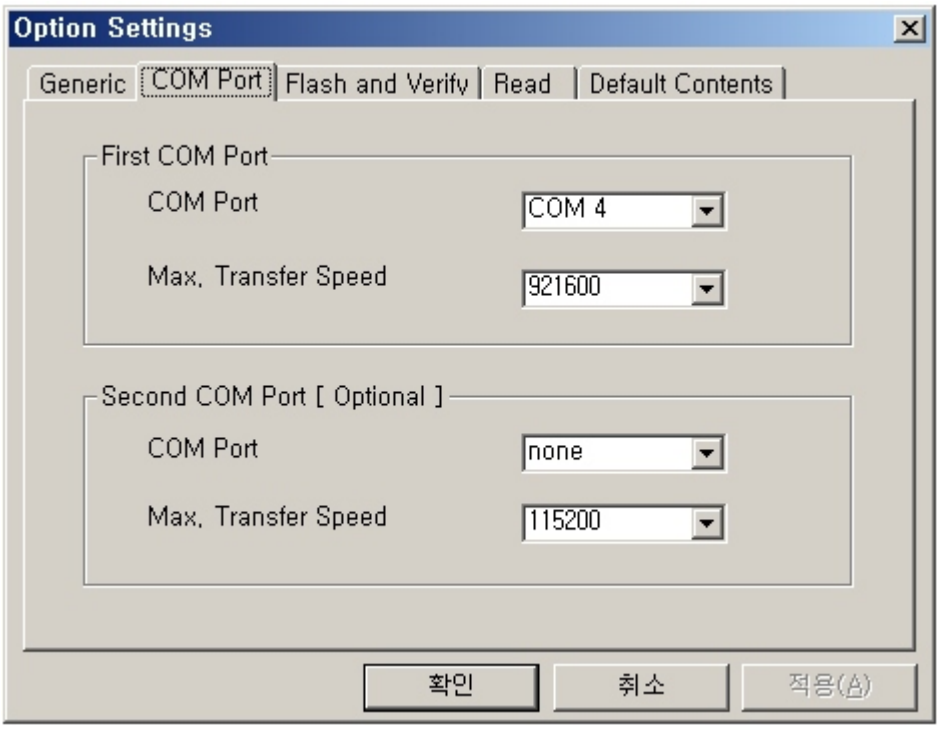

Up to twelve ports are supported. Additionally you can select the maximum transfer speed OptiFlash will use to communicate with the phone. However, Optiflash will use a slower speed if either the PC's or the phone's serial hardware is incapable of handling the selected speed.

4. Select the "Flash&Verify" -> "Browse"

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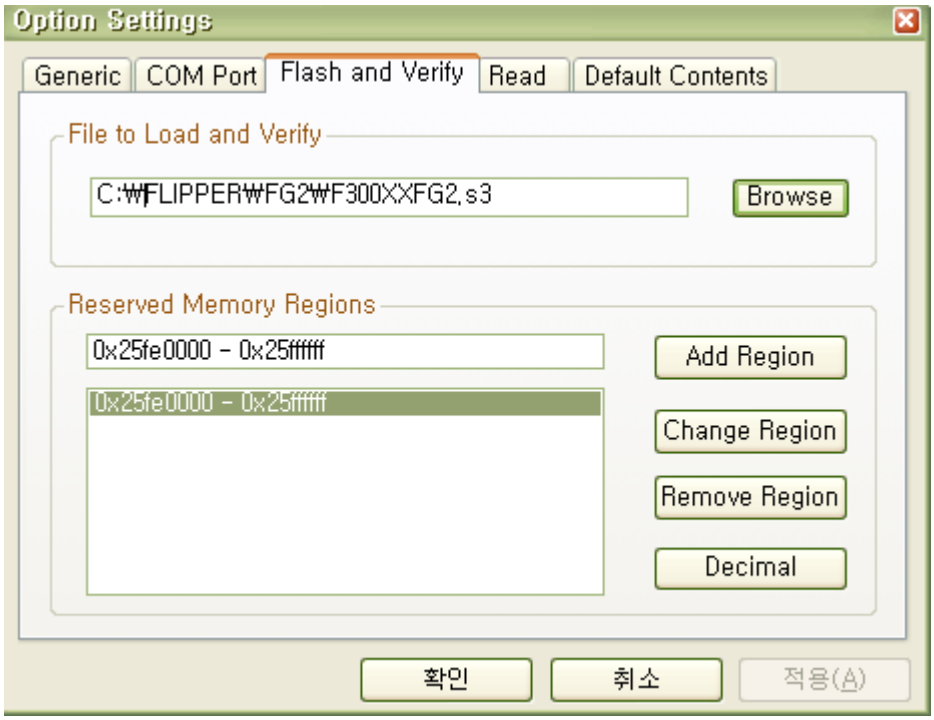
Set the directory path and choose the latest S/W binary, for example "F300XXYY.s3", for the downloader binary setting.



5. Click “OK” button then press “Flash”.

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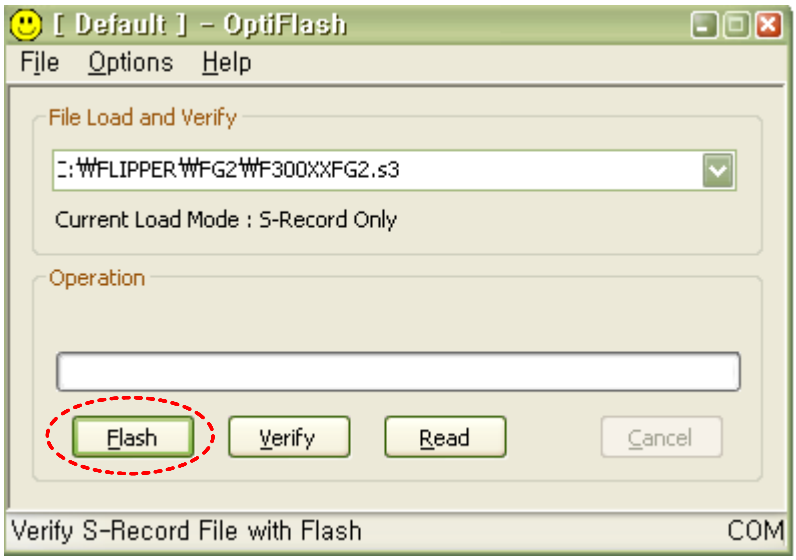
(Before pressing 'Flash' button, push the button '*'and 'END' at the same time. then press 'Flash'.)

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 by key-string(***#1234#**)
   Memory reset will be done by pressing the following key-strings.
   NAND Reset : "***2767*6263#**" will reboot the phone automatically.
   Full Reset : "***2767*3855#**" will reboot the phone automatically.

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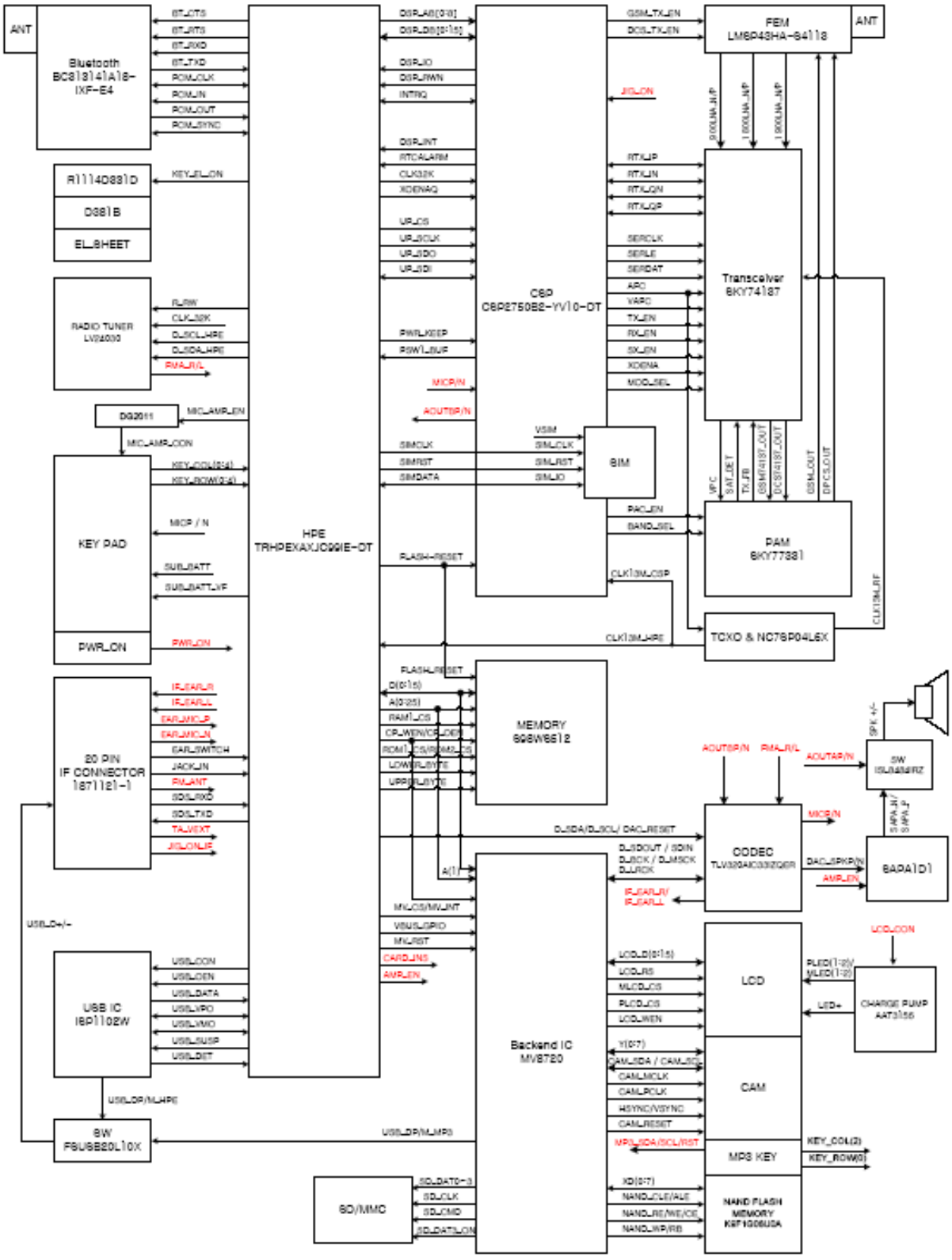
5. Block Diagrams



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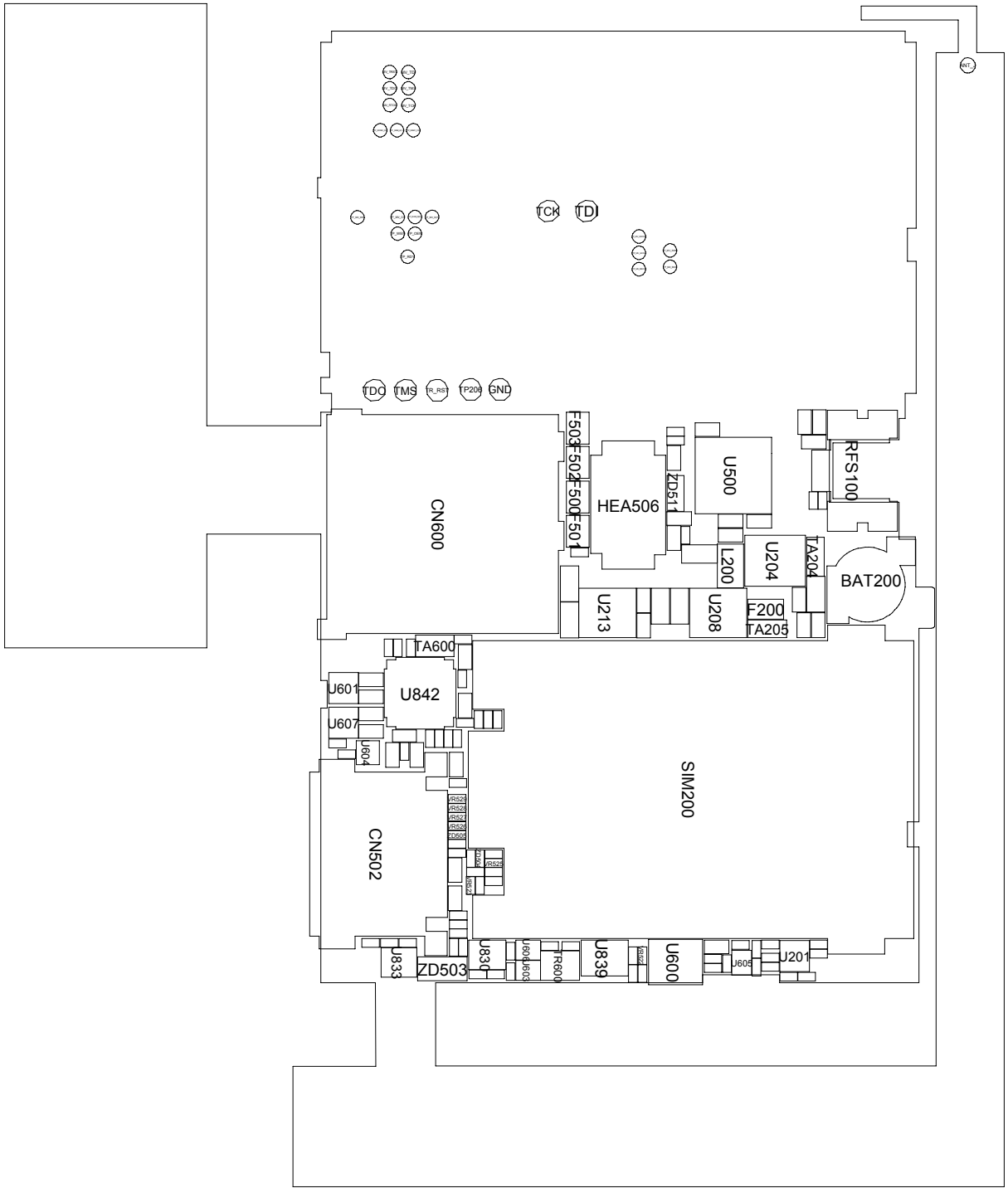
6. PCB Diagrams



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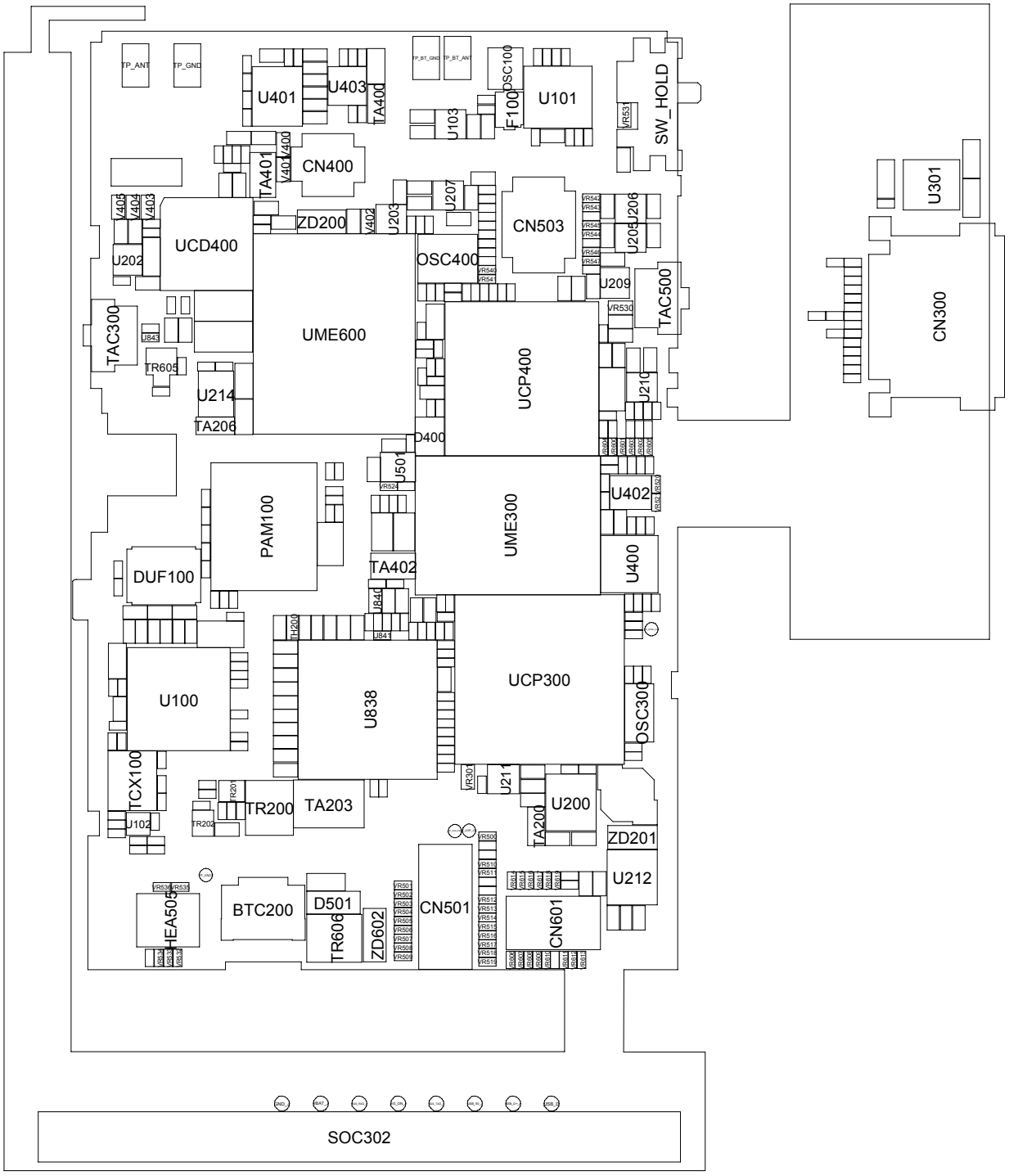

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7. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	STATUS
0403-001547	D501	DIODE-ZENER	SA
0403-001547	ZD602	DIODE-ZENER	SA
0404-001172	D502	DIODE-SCHOTTKY	SA
0404-001172	ZD200	DIODE-SCHOTTKY	SA
0406-001201	U861	DIODE-TVS	SA
0406-001253	ZD603	DIODE-TVS	SA
0504-001012	TR605	TR-DIGITAL	SA
0504-001113	Q200	TR-DIGITAL	SA
0504-001171	Q201	TR-DIGITAL	SA
0504-001171	TR201	TR-DIGITAL	SA
0504-001171	TR202	TR-DIGITAL	SA
0505-001165	TR606	FET-SILICON	SA
0505-002116	TR607	FET-SILICON	SA
0505-002157	TR200	FET-SILICON	SA
0801-002529	U839	IC-CMOS LOGIC	SA
0801-002958	U102	IC-CMOS LOGIC	SA
0801-002958	U604	IC-CMOS LOGIC	SA
0801-003079	U864	IC-CMOS LOGIC	SA
0801-003139	U603	IC-CMOS LOGIC	SA
0801-003139	U605	IC-CMOS LOGIC	SA
0801-003139	U606	IC-CMOS LOGIC	SA
0801-003139	U851	IC-CMOS LOGIC	SA
1001-001231	U833	IC-ANALOG SWITCH	SA
1001-001371	U401	IC-ANALOG SWITCH	SA
1001-001401	U402	IC-ANALOG SWITCH	SA
1006-001355	U850	IC-LINE TRANSCEIVER	SA
1107-001670	UME600	IC-FLASH MEMORY	SA
1108-000092	U854	IC-MCP	SA
1201-002233	U403	IC-AUDIO AMP	SA
1201-002368	PAM100	IC-POWER AMP	SA
1202-001068	U830	IC-VOLTAGE COMP.	SA
1203-003340	U859	IC-POSI.FIXED REG.	SA
1203-003428	U208	IC-DC/DC CONVERTER	SA
1203-003523	U205	IC-POSI.FIXED REG.	SA
1203-003523	U207	IC-POSI.FIXED REG.	SA
1203-003523	U601	IC-POSI.FIXED REG.	SA
1203-003523	U607	IC-POSI.FIXED REG.	SA
1203-003612	U204	IC-DC/DC CONVERTER	SA

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SEC CODE	Design LOC	Discription	STATUS
1203-003688	U103	IC-POSI.FIXED REG.	SA
1203-003737	U211	IC-POSI.FIXED REG.	SA
1203-003754	U203	IC-POSI.FIXED REG.	SA
1203-003754	U209	IC-POSI.FIXED REG.	SA
1203-003754	U845	IC-POSI.FIXED REG.	SA
1203-003787	U202	IC-POSI.FIXED REG.	SA
1203-004104	U844	IC-DC/DC CONVERTER	SA
1203-004119	U838	IC-POWER SUPERVISOR	SA
1203-004291	U855	IC-MULTI REG.	SA
1203-004416	U214	IC-DC/DC CONVERTER	SA
1203-004518	U200	IC-BATTERY	SA
1203-004548	U858	IC-DC/DC CONVERTER	SA
1204-002694	U842	IC-TUNER	SA
1205-002272	U400	IC-TRANSCEIVER	SA
1205-002944	U100	IC-TRANSCEIVER	SA
1205-002946	UCD400	IC-CODEC	SA
1205-003064	U101	IC-DATA COMM./GEN.	SA
1404-001165	TH200	THERMISTOR-NTC	SA
1405-001082	VR530	VARISTOR	SA
1405-001082	VR531	VARISTOR	SA
1405-001110	V400	VARISTOR	SA
1405-001110	V401	VARISTOR	SA
1405-001110	V402	VARISTOR	SA
1405-001110	V403	VARISTOR	SA
1405-001110	V404	VARISTOR	SA
1405-001110	V405	VARISTOR	SA
1405-001177	C436	VARISTOR	SA
1405-001177	C437	VARISTOR	SA
1405-001177	VR500	VARISTOR	SA
1405-001177	VR501	VARISTOR	SA
1405-001177	VR502	VARISTOR	SA
1405-001177	VR503	VARISTOR	SA
1405-001177	VR504	VARISTOR	SA
1405-001177	VR505	VARISTOR	SA
1405-001177	VR506	VARISTOR	SA
1405-001177	VR507	VARISTOR	SA
1405-001177	VR508	VARISTOR	SA
1405-001177	VR509	VARISTOR	SA

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SEC CODE	Design LOC	Discription	STATUS
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1405-001177	VR511	VARISTOR	SA
1405-001177	VR512	VARISTOR	SA
1405-001177	VR513	VARISTOR	SA
1405-001177	VR514	VARISTOR	SA
1405-001177	VR515	VARISTOR	SA
1405-001177	VR516	VARISTOR	SA
1405-001177	VR517	VARISTOR	SA
1405-001177	VR518	VARISTOR	SA
1405-001177	VR519	VARISTOR	SA
1405-001177	VR523	VARISTOR	SA
1405-001177	VR524	VARISTOR	SA
1405-001177	VR525	VARISTOR	SA
1405-001177	VR528	VARISTOR	SA
1405-001177	VR529	VARISTOR	SA
1405-001177	VR600	VARISTOR	SA
1405-001177	VR601	VARISTOR	SA
1405-001177	VR602	VARISTOR	SA
1405-001177	VR603	VARISTOR	SA
1405-001177	VR604	VARISTOR	SA
1405-001177	VR605	VARISTOR	SA
1405-001177	ZD504	VARISTOR	SA
1405-001177	ZD505	VARISTOR	SA
1405-001183	VR533	VARISTOR	SA
1405-001183	VR534	VARISTOR	SA
1405-001183	VR540	VARISTOR	SA
1405-001183	VR541	VARISTOR	SA
1405-001183	VR542	VARISTOR	SA
1405-001183	VR543	VARISTOR	SA
1405-001183	VR544	VARISTOR	SA
1405-001183	VR545	VARISTOR	SA
1405-001183	VR546	VARISTOR	SA
1405-001183	VR547	VARISTOR	SA
1405-001183	VR612	VARISTOR	SA
1405-001183	VR613	VARISTOR	SA
1405-001194	VR520	VARISTOR	SA
1405-001194	VR521	VARISTOR	SA
1405-001200	VR522	VARISTOR	SA

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SEC CODE	Design LOC	Discription	STATUS
1405-001200	VR526	VARISTOR	SA
1405-001200	VR527	VARISTOR	SA
1405-001200	VR532	VARISTOR	SA
1405-001200	VR535	VARISTOR	SA
1405-001200	VR536	VARISTOR	SA
1405-001200	VR606	VARISTOR	SA
1405-001200	VR607	VARISTOR	SA
1405-001200	VR608	VARISTOR	SA
1405-001200	VR609	VARISTOR	SA
1405-001200	VR610	VARISTOR	SA
1405-001200	VR611	VARISTOR	SA
1405-001200	VR614	VARISTOR	SA
1405-001200	VR615	VARISTOR	SA
1405-001200	VR616	VARISTOR	SA
1405-001200	VR617	VARISTOR	SA
1405-001200	VR618	VARISTOR	SA
1405-001200	VR619	VARISTOR	SA
2007-000143	R211	R-CHIP	SA
2007-000157	R120	R-CHIP	SA
2007-000162	R218	R-CHIP	SA
2007-000162	R220	R-CHIP	SA
2007-000162	R500	R-CHIP	SA
2007-000162	R502	R-CHIP	SA
2007-000162	R513	R-CHIP	SA
2007-000170	R446	R-CHIP	SA
2007-000170	R447	R-CHIP	SA
2007-000171	R121	R-CHIP	SA
2007-000775	R210	R-CHIP	SA
2007-000982	R212	R-CHIP	SA
2007-001119	R408	R-CHIP	SA
2007-001119	R428	R-CHIP	SA
2007-001294	R518	R-CHIP	SA
2007-001294	R519	R-CHIP	SA
2007-001325	U849	R-CHIP	SA
2007-003015	R114	R-CHIP	SA
2007-007134	R107	R-CHIP	SA
2007-007491	R201	R-CHIP	SA
2007-007741	R108	R-CHIP	SA

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SEC CODE	Design LOC	Discription	STATUS
2007-007741	R420	R-CHIP	SA
2007-007741	R422	R-CHIP	SA
2007-007741	R431	R-CHIP	SA
2007-007741	R435	R-CHIP	SA
2007-007741	R614	R-CHIP	SA
2007-008040	R444	R-CHIP	SA
2007-008040	R445	R-CHIP	SA
2007-008043	R416	R-CHIP	SA
2007-008043	R417	R-CHIP	SA
2007-008045	R113	R-CHIP	SA
2007-008045	R119	R-CHIP	SA
2007-008045	R321	R-CHIP	SA
2007-008045	R403	R-CHIP	SA
2007-008045	R636	R-CHIP	SA
2007-008052	R303	R-CHIP	SA
2007-008052	R323	R-CHIP	SA
2007-008052	R324	R-CHIP	SA
2007-008052	R601	R-CHIP	SA
2007-008052	R602	R-CHIP	SA
2007-008052	R603	R-CHIP	SA
2007-008052	R605	R-CHIP	SA
2007-008052	R606	R-CHIP	SA
2007-008054	R331	R-CHIP	SA
2007-008055	R200	R-CHIP	SA
2007-008055	R213	R-CHIP	SA
2007-008055	R255	R-CHIP	SA
2007-008055	R256	R-CHIP	SA
2007-008055	R300	R-CHIP	SA
2007-008055	R301	R-CHIP	SA
2007-008055	R304	R-CHIP	SA
2007-008055	R325	R-CHIP	SA
2007-008055	R407	R-CHIP	SA
2007-008055	R449	R-CHIP	SA
2007-008055	R452	R-CHIP	SA
2007-008055	R501	R-CHIP	SA
2007-008055	R506	R-CHIP	SA
2007-008055	R507	R-CHIP	SA
2007-008055	R514	R-CHIP	SA

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SEC CODE	Design LOC	Discription	STATUS
2007-008055	R617	R-CHIP	SA
2007-008055	R627	R-CHIP	SA
2007-008419	R203	R-CHIP	SA
2007-008419	R215	R-CHIP	SA
2007-008419	R624	R-CHIP	SA
2007-008420	R414	R-CHIP	SA
2007-008420	R415	R-CHIP	SA
2007-008478	R400	R-CHIP	SA
2007-008478	R412	R-CHIP	SA
2007-008478	R418	R-CHIP	SA
2007-008478	R425	R-CHIP	SA
2007-008478	R426	R-CHIP	SA
2007-008478	R515	R-CHIP	SA
2007-008483	R115	R-CHIP	SA
2007-008483	R258	R-CHIP	SA
2007-008483	R401	R-CHIP	SA
2007-008483	R600	R-CHIP	SA
2007-008483	R615	R-CHIP	SA
2007-008483	R616	R-CHIP	SA
2007-008483	R618	R-CHIP	SA
2007-008483	R619	R-CHIP	SA
2007-008483	U852	R-CHIP	SA
2007-008483	U853	R-CHIP	SA
2007-008483	U860	R-CHIP	SA
2007-008486	R216	R-CHIP	SA
2007-008486	R612	R-CHIP	SA
2007-008486	R638	R-CHIP	SA
2007-008486	R639	R-CHIP	SA
2007-008516	R112	R-CHIP	SA
2007-008516	R217	R-CHIP	SA
2007-008516	R221	R-CHIP	SA
2007-008516	R413	R-CHIP	SA
2007-008531	R111	R-CHIP	SA
2007-008542	R101	R-CHIP	SA
2007-008542	R103	R-CHIP	SA
2007-008542	R116	R-CHIP	SA
2007-008542	R205	R-CHIP	SA
2007-008542	R208	R-CHIP	SA

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SEC CODE	Design LOC	Discription	STATUS
2007-008542	R320	R-CHIP	SA
2007-008542	R421	R-CHIP	SA
2007-008542	R423	R-CHIP	SA
2007-008542	R450	R-CHIP	SA
2007-008542	R453	R-CHIP	SA
2007-008542	R613	R-CHIP	SA
2007-008542	R625	R-CHIP	SA
2007-008542	R637	R-CHIP	SA
2007-008542	R640	R-CHIP	SA
2007-008579	R104	R-CHIP	SA
2007-008579	R105	R-CHIP	SA
2007-008579	R402	R-CHIP	SA
2007-008579	R404	R-CHIP	SA
2007-008587	R117	R-CHIP	SA
2007-008587	R511	R-CHIP	SA
2007-008588	R102	R-CHIP	SA
2007-008588	R204	R-CHIP	SA
2007-008588	R409	R-CHIP	SA
2007-008588	R410	R-CHIP	SA
2007-008591	R439	R-CHIP	SA
2007-008648	R609	R-CHIP	SA
2007-008786	R206	R-CHIP	SA
2007-008786	R223	R-CHIP	SA
2007-008786	R433	R-CHIP	SA
2007-008786	R434	R-CHIP	SA
2007-008786	R448	R-CHIP	SA
2007-008786	R503	R-CHIP	SA
2007-008808	R419	R-CHIP	SA
2007-008808	R424	R-CHIP	SA
2007-008808	R432	R-CHIP	SA
2007-008808	R440	R-CHIP	SA
2007-008816	R622	R-CHIP	SA
2007-009084	R207	R-CHIP	SA
2007-009084	R209	R-CHIP	SA
2007-009084	R427	R-CHIP	SA
2007-009084	R512	R-CHIP	SA
2007-009084	R607	R-CHIP	SA
2007-009084	R608	R-CHIP	SA

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SEC CODE	Design LOC	Discription	STATUS
2007-009084	R610	R-CHIP	SA
2007-009084	R611	R-CHIP	SA
2007-009084	U856	R-CHIP	SA
2007-009108	R628	R-CHIP	SA
2007-009111	R405	R-CHIP	SA
2007-009111	R406	R-CHIP	SA
2007-009112	R442	R-CHIP	SNA
2007-009112	R443	R-CHIP	SNA
2007-009115	R100	R-CHIP	SA
2007-009115	R430	R-CHIP	SA
2007-009170	R504	R-CHIP	SA
2007-009170	R505	R-CHIP	SA
2007-009170	U848	R-CHIP	SA
2007-009212	R508	R-CHIP	SA
2007-009212	R509	R-CHIP	SA
2007-009212	R510	R-CHIP	SA
2007-009212	R516	R-CHIP	SA
2007-009223	R118	R-CHIP	SA
2203-000233	C220	C-CER,CHIP	SA
2203-000254	C202	C-CER,CHIP	SA
2203-000254	C231	C-CER,CHIP	SA
2203-000679	C610	C-CER,CHIP	SA
2203-000812	C452	C-CER,CHIP	SA
2203-000812	C453	C-CER,CHIP	SA
2203-000995	C609	C-CER,CHIP	SA
2203-001405	C230	C-CER,CHIP	SA
2203-002677	C112	C-CER,CHIP	SA
2203-002709	C201	C-CER,CHIP	SA
2203-002709	C233	C-CER,CHIP	SA
2203-002709	C501	C-CER,CHIP	SA
2203-005344	C228	C-CER,CHIP	SA
2203-005482	C624	C-CER,CHIP	SA
2203-005682	C109	C-CER,CHIP	SA
2203-005682	C120	C-CER,CHIP	SA
2203-005682	C139	C-CER,CHIP	SA
2203-005682	C205	C-CER,CHIP	SA
2203-005682	C206	C-CER,CHIP	SA
2203-005682	C207	C-CER,CHIP	SA

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SEC CODE	Design LOC	Discription	STATUS
2203-005682	U841	C-CER,CHIP	SA
2203-005683	C429	C-CER,CHIP	SA
2203-005683	C513	C-CER,CHIP	SA
2203-005683	C514	C-CER,CHIP	SA
2203-005683	C515	C-CER,CHIP	SA
2203-005683	C516	C-CER,CHIP	SA
2203-005683	C517	C-CER,CHIP	SA
2203-005683	C518	C-CER,CHIP	SA
2203-005683	C527	C-CER,CHIP	SA
2203-005719	C433	C-CER,CHIP	SA
2203-005719	C434	C-CER,CHIP	SA
2203-005719	C454	C-CER,CHIP	SA
2203-005719	C455	C-CER,CHIP	SA
2203-005725	C103	C-CER,CHIP	SA
2203-005725	C108	C-CER,CHIP	SA
2203-005727	C104	C-CER,CHIP	SA
2203-005727	C317	C-CER,CHIP	SA
2203-005727	C318	C-CER,CHIP	SA
2203-005729	C132	C-CER,CHIP	SA
2203-005736	C122	C-CER,CHIP	SA
2203-005736	C133	C-CER,CHIP	SA
2203-005736	C213	C-CER,CHIP	SA
2203-005792	C135	C-CER,CHIP	SA
2203-006048	C222	C-CER,CHIP	SA
2203-006048	C400	C-CER,CHIP	SA
2203-006048	C403	C-CER,CHIP	SA
2203-006048	C417	C-CER,CHIP	SA
2203-006121	C116	C-CER,CHIP	SA
2203-006121	C533	C-CER,CHIP	SA
2203-006194	C119	C-CER,CHIP	SA
2203-006194	C121	C-CER,CHIP	SA
2203-006194	C125	C-CER,CHIP	SA
2203-006194	C126	C-CER,CHIP	SA
2203-006194	C128	C-CER,CHIP	SA
2203-006194	C129	C-CER,CHIP	SA
2203-006194	C130	C-CER,CHIP	SA
2203-006194	C131	C-CER,CHIP	SA
2203-006194	C200	C-CER,CHIP	SA

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SEC CODE	Design LOC	Discription	STATUS
2203-006194	C300	C-CER,CHIP	SA
2203-006194	C302	C-CER,CHIP	SA
2203-006194	C305	C-CER,CHIP	SA
2203-006194	C309	C-CER,CHIP	SA
2203-006194	C310	C-CER,CHIP	SA
2203-006194	C314	C-CER,CHIP	SA
2203-006194	C448	C-CER,CHIP	SA
2203-006257	C258	C-CER,CHIP	SA
2203-006257	C259	C-CER,CHIP	SA
2203-006257	C319	C-CER,CHIP	SA
2203-006257	C427	C-CER,CHIP	SA
2203-006260	C221	C-CER,CHIP	SA
2203-006260	C424	C-CER,CHIP	SA
2203-006260	C425	C-CER,CHIP	SA
2203-006260	C435	C-CER,CHIP	SA
2203-006260	C500	C-CER,CHIP	SA
2203-006260	U840	C-CER,CHIP	SA
2203-006260	U862	C-CER,CHIP	SA
2203-006305	C113	C-CER,CHIP	SA
2203-006305	C115	C-CER,CHIP	SA
2203-006305	C136	C-CER,CHIP	SA
2203-006305	C138	C-CER,CHIP	SA
2203-006305	C439	C-CER,CHIP	SA
2203-006305	C441	C-CER,CHIP	SA
2203-006324	C107	C-CER,CHIP	SA
2203-006324	C630	C-CER,CHIP	SA
2203-006361	C118	C-CER,CHIP	SA
2203-006423	C106	C-CER,CHIP	SA
2203-006423	C114	C-CER,CHIP	SA
2203-006423	C127	C-CER,CHIP	SA
2203-006423	C134	C-CER,CHIP	SA
2203-006423	C203	C-CER,CHIP	SA
2203-006423	C204	C-CER,CHIP	SA
2203-006423	C234	C-CER,CHIP	SA
2203-006423	C235	C-CER,CHIP	SA
2203-006423	C240	C-CER,CHIP	SA
2203-006423	C263	C-CER,CHIP	SA
2203-006423	C301	C-CER,CHIP	SA

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SEC CODE	Design LOC	Discription	STATUS
2203-006423	C303	C-CER,CHIP	SA
2203-006423	C306	C-CER,CHIP	SA
2203-006423	C307	C-CER,CHIP	SA
2203-006423	C308	C-CER,CHIP	SA
2203-006423	C311	C-CER,CHIP	SA
2203-006423	C312	C-CER,CHIP	SA
2203-006423	C313	C-CER,CHIP	SA
2203-006423	C405	C-CER,CHIP	SA
2203-006423	C406	C-CER,CHIP	SA
2203-006423	C411	C-CER,CHIP	SA
2203-006423	C412	C-CER,CHIP	SA
2203-006423	C413	C-CER,CHIP	SA
2203-006423	C414	C-CER,CHIP	SA
2203-006423	C416	C-CER,CHIP	SA
2203-006423	C418	C-CER,CHIP	SA
2203-006423	C419	C-CER,CHIP	SA
2203-006423	C444	C-CER,CHIP	SA
2203-006423	C449	C-CER,CHIP	SA
2203-006423	C457	C-CER,CHIP	SA
2203-006423	C502	C-CER,CHIP	SA
2203-006423	C503	C-CER,CHIP	SA
2203-006423	C508	C-CER,CHIP	SA
2203-006423	C509	C-CER,CHIP	SA
2203-006423	C519	C-CER,CHIP	SA
2203-006423	C520	C-CER,CHIP	SA
2203-006423	C529	C-CER,CHIP	SA
2203-006423	C600	C-CER,CHIP	SA
2203-006423	C603	C-CER,CHIP	SA
2203-006423	C604	C-CER,CHIP	SA
2203-006423	C605	C-CER,CHIP	SA
2203-006423	C606	C-CER,CHIP	SA
2203-006423	C607	C-CER,CHIP	SA
2203-006423	C611	C-CER,CHIP	SA
2203-006423	C612	C-CER,CHIP	SA
2203-006423	C613	C-CER,CHIP	SA
2203-006423	C614	C-CER,CHIP	SA
2203-006423	C617	C-CER,CHIP	SA
2203-006423	C618	C-CER,CHIP	SA

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2203-006423	C620	C-CER,CHIP	SA
2203-006423	C621	C-CER,CHIP	SA
2203-006562	C140	C-CER,CHIP	SA
2203-006562	C141	C-CER,CHIP	SA
2203-006562	C142	C-CER,CHIP	SA
2203-006562	C143	C-CER,CHIP	SA
2203-006562	C208	C-CER,CHIP	SA
2203-006562	C209	C-CER,CHIP	SA
2203-006562	C214	C-CER,CHIP	SA
2203-006562	C215	C-CER,CHIP	SA
2203-006562	C216	C-CER,CHIP	SA
2203-006562	C217	C-CER,CHIP	SA
2203-006562	C218	C-CER,CHIP	SA
2203-006562	C219	C-CER,CHIP	SA
2203-006562	C227	C-CER,CHIP	SA
2203-006562	C232	C-CER,CHIP	SA
2203-006562	C236	C-CER,CHIP	SA
2203-006562	C237	C-CER,CHIP	SA
2203-006562	C238	C-CER,CHIP	SA
2203-006562	C239	C-CER,CHIP	SA
2203-006562	C243	C-CER,CHIP	SA
2203-006562	C248	C-CER,CHIP	SA
2203-006562	C249	C-CER,CHIP	SA
2203-006562	C251	C-CER,CHIP	SA
2203-006562	C252	C-CER,CHIP	SA
2203-006562	C253	C-CER,CHIP	SA
2203-006562	C267	C-CER,CHIP	SA
2203-006562	C268	C-CER,CHIP	SA
2203-006562	C404	C-CER,CHIP	SA
2203-006562	C407	C-CER,CHIP	SA
2203-006562	C408	C-CER,CHIP	SA
2203-006562	C409	C-CER,CHIP	SA
2203-006562	C410	C-CER,CHIP	SA
2203-006562	C415	C-CER,CHIP	SA
2203-006562	C420	C-CER,CHIP	SA
2203-006562	C428	C-CER,CHIP	SA
2203-006562	C430	C-CER,CHIP	SA
2203-006562	C459	C-CER,CHIP	SA

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SEC CODE	Design LOC	Discription	STATUS
2203-006562	C504	C-CER,CHIP	SA
2203-006562	C505	C-CER,CHIP	SA
2203-006562	C506	C-CER,CHIP	SA
2203-006562	C507	C-CER,CHIP	SA
2203-006562	C528	C-CER,CHIP	SA
2203-006562	C530	C-CER,CHIP	SA
2203-006562	C535	C-CER,CHIP	SA
2203-006562	C601	C-CER,CHIP	SA
2203-006562	C602	C-CER,CHIP	SA
2203-006562	C615	C-CER,CHIP	SA
2203-006562	C616	C-CER,CHIP	SA
2203-006562	C622	C-CER,CHIP	SA
2203-006562	C623	C-CER,CHIP	SA
2203-006562	C626	C-CER,CHIP	SA
2203-006562	C627	C-CER,CHIP	SA
2203-006562	C628	C-CER,CHIP	SA
2203-006562	C629	C-CER,CHIP	SA
2203-006562	U846	C-CER,CHIP	SA
2203-006562	U847	C-CER,CHIP	SA
2203-006617	C450	C-CER,CHIP	SA
2203-006617	C451	C-CER,CHIP	SA
2203-006626	C442	C-CER,CHIP	SA
2203-006626	C446	C-CER,CHIP	SA
2203-006647	C304	C-CER,CHIP	SA
2203-006648	C531	C-CER,CHIP	SA
2203-006674	C137	C-CER,CHIP	SNA
2203-006825	C241	C-CER,CHIP	SA
2203-006825	C247	C-CER,CHIP	SA
2203-006825	C257	C-CER,CHIP	SA
2203-006825	C262	C-CER,CHIP	SA
2203-006846	C110	C-CER,CHIP	SA
2203-006896	C124	C-CER,CHIP	SA
2203-006963	C458	C-CER,CHIP	SA
2203-006978	C211	C-CER,CHIP	SA
2203-006978	C534	C-CER,CHIP	SA
2404-001377	TA600	C-TA,CHIP	SA
2404-001381	C212	C-TA,CHIP	SA
2404-001381	C229	C-TA,CHIP	SA

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2404-001381	C245	C-TA,CHIP	SA
2404-001381	C421	C-TA,CHIP	SA
2404-001381	C431	C-TA,CHIP	SA
2404-001381	C432	C-TA,CHIP	SA
2404-001381	C510	C-TA,CHIP	SA
2404-001381	C625	C-TA,CHIP	SA
2404-001381	TA204	C-TA,CHIP	SA
2404-001381	TA205	C-TA,CHIP	SA
2404-001381	TA206	C-TA,CHIP	SA
2404-001381	TA400	C-TA,CHIP	SA
2404-001414	TA401	C-TA,CHIP	SA
2404-001414	TA402	C-TA,CHIP	SA
2404-001474	C105	C-TA,CHIP	SA
2404-001478	C422	C-TA,CHIP	SA
2404-001478	C423	C-TA,CHIP	SA
2404-001479	TA203	C-TA,CHIP	SA
2703-001229	L201	INDUCTOR-SMD	SA
2703-001229	L202	INDUCTOR-SMD	SA
2703-001242	L204	INDUCTOR-SMD	SA
2703-002204	L108	INDUCTOR-SMD	SA
2703-002597	L102	INDUCTOR-SMD	SA
2703-002597	L103	INDUCTOR-SMD	SA
2703-002636	L104	INDUCTOR-SMD	SA
2703-002636	L105	INDUCTOR-SMD	SA
2703-002700	L106	INDUCTOR-SMD	SA
2703-002700	L107	INDUCTOR-SMD	SA
2703-002734	L200	INDUCTOR-SMD	SA
2703-002819	L502	INDUCTOR-SMD	SA
2703-002910	L100	INDUCTOR-SMD	SA
2703-002989	L601	INDUCTOR-SMD	SA
2703-003120	L101	INDUCTOR-SMD	SA
2801-004285	OSC400	CRYSTAL-SMD	SA
2801-004466	OSC300	CRYSTAL-SMD	SA
2801-004506	OSC100	CRYSTAL-SMD	SA
2809-001293	TCX100	OSCILLATOR-VCTCXO	SA
2901-001256	F200	FILTER-EMI SMD	SA
2901-001408	F500	FILTER-EMI SMD	SA
2901-001408	F501	FILTER-EMI SMD	SA

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SEC CODE	Design LOC	Discription	STATUS
2901-001408	F502	FILTER-EMI SMD	SA
2901-001408	F503	FILTER-EMI SMD	SA
2909-001283	F100	FILTER-LC	SA
2911-000056	DUF100	DUPLEXER-FEM	SA
3301-001342	L400	BEAD-SMD	SA
3301-001534	L402	BEAD-SMD	SA
3301-001534	L403	BEAD-SMD	SA
3301-001534	L600	BEAD-SMD	SA
3301-001534	L602	BEAD-SMD	SA
3301-001729	L401	BEAD-SMD	SA
3301-001729	L501	BEAD-SMD	SA
3404-001317	CN602	SWITCH-TACT	SA
3404-001317	CN_RST	SWITCH-TACT	SA
3408-001132	SW_HOLD	SWITCH-SLIDE	SA
3705-001454	RFS100	CONNECTOR-COAXIAL	SA
3708-002015	BTC200	CONNECTOR-FPC/FFC/PIC	SA
3709-001344	CD600	CONNECTOR-CARD EDGE	SA
3709-001469	SIM200	CONNECTOR-CARD EDGE	SA
3710-002306	IFC502	SOCKET-INTERFACE	SA
3711-005550	CN400	HEADER-BOARD TO BOARD	SA
3711-005659	CN503	HEADER-BOARD TO BOARD	SA
3711-005728	HEA506	HEADER-BOARD TO BOARD	SA
3711-006326	CN601	HEADER-BOARD TO BOARD	SA
3711-006327	HEA505	HEADER-BOARD TO BOARD	SA
3711-006328	CN501	HEADER-BOARD TO BOARD	SA
4302-001158	BAT200	BATTERY-LI(2ND)	SA
GH09-00044A	UCP300	IC MICOM	SA
GH13-00041A	UCP400	IC ASIC-SGHF300	SA

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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

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9. Safety Precautions

9-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
  Take specially care of tuning or test,
  because specipicty of cellular phone is sensitive for surrounding interference(RF noise).

- Be careful to use a kind of magnetic object or tool,
  because performance of parts is damaged by the influence of manetic force.

- Surely use a standard screwdriver when you disassemble this product,
  otherwise screw will be worn away.

- Use a thicken twisted wire when you measure level.
  A thicken twisted wire has low resistance, therefore error of measurement is few.

- Repair after separate Test Pack and Set because for short danger (for example an overcurrent and furious flames of parts etc) when you repair board in condition of connecting Test Pack and tuning on.

- Take specially care of soldering, because Land of PCB is small and weak in heat.

- Surely tune on/off while using AC power plug, because a repair of battery charger is dangerous when tuning ON/OFF PBA and Connector after 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.

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9-2. 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.

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10. Product Function

Main Function

- Multimedia gate
- Synchronisation with Windows Media Player
- Music player
- Camera and camcorder
- FM radio
- Voice recorder
- Offline mode
- Bluetooth
- Web browser
- Multimedia Message Service(MMS)
- SOS message
- Organiser

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SAMSUNG ELECTRONICS

GSPN (Global Service Partner Network)

Country	Web Site
North America	service.samsungportal.com
Latin America	latin.samsungportal.com
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Europe	europe.samsungportal.com
China	china.samsungportal.com
Asia	asia.samsungportal.com
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