

SAMSUNG

UMTS TELEPHONE

SGH-Z720

SERVICE *Manual*

UMTS TELEPHONE



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10. Reference data

1. Safety Precautions

1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
Take specially care of tuning or test, because the specification 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 magnetic 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

	EGSM900	DCS1800	PCS1900	W-CDMA
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	1710~1785 1805~1880	1850~1910 1930~1990	1920~1980 2110~2170
ARFCN range	0~124 & 975~1023	512~885	512~810	UL:9612~9888 DL:10562~10838
Tx/Rx spacing	45MHz	95MHz	80MHz	190MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	3.84Mcps
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	Frame length : 10ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	QPSK HQPSK
MS Power	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm	24dBm ~ - 50dBm
Power Class	4 (max +33dBm)	1 (max +30dBm)	1 (max +30dBm)	3 (max +24dBm)
Sensitivity	-102dBm	-100dBm	-100dBm	-106.7dBm
TDMA Mux	8	8	8	
Cell Radius	35Km	2Km	2Km	2Km

2-2. GSM TX power class

TX Power control level	GSM900	TX Power control level	DCS1800	TX Power control level	PCS1800
5	33±2 dBm	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm	6	18±3 dBm	6	18±3 dBm
12	19±2 dBm	7	16±3 dBm	7	16±3 dBm
13	17±2 dBm	8	14±3 dBm	8	14±3 dBm
14	15±2 dBm	9	12±4 dBm	9	12±4 dBm
15	13±2 dBm	10	10±4 dBm	10	10±4 dBm
16	11±3 dBm	11	8±4dBm	11	8±4dBm
17	9±3dBm	12	6±4 dBm	12	6±4 dBm
18	7±3 dBm	13	4±4 dBm	13	4±4 dBm
19	5±3 dBm	14	2±5 dBm	14	2±5 dBm
		15	0±5 dBm	15	0±5 dBm

3. Product Function

Main Function

- Built-in Digital Cameras(CMOS 3 Mega with Auto Focus, CMOS VGA)
- 2.1" LCD (QVGA 262K TFT)
- Video Telephony / Streaming
- Bluetooth V2.0 Wireless Technology
- USB 1.1
- MP3 player
- Downloadable Game via JAVA
- Sending Photo & Video by MMS or E-Mail
- Supporting 64 Polyphonic Ring Tone
- WAP 2.0 Browser (Including XHTML/WCSS MP, w/HTTP)
- External Memory Card Socket(T-flash)
- GSM 900MHz & DCS1800MHz & 1900MHz & WCDMA 2100MHz
- GPRS Class 10
- EGPRS Class E2

4. Array course control

4-1. Software Adjustments



1. JIG: Download, Trace, Calibration, etc
2. RF test cable: RF test
3. Test cable: JIG to phone
4. TA (Travel Adaptor)
5. Data Link Cable : USB cable
6. Serial cable: PC to JIG

4-2. Software Downloading

4-2-1. Downloading Binary Files

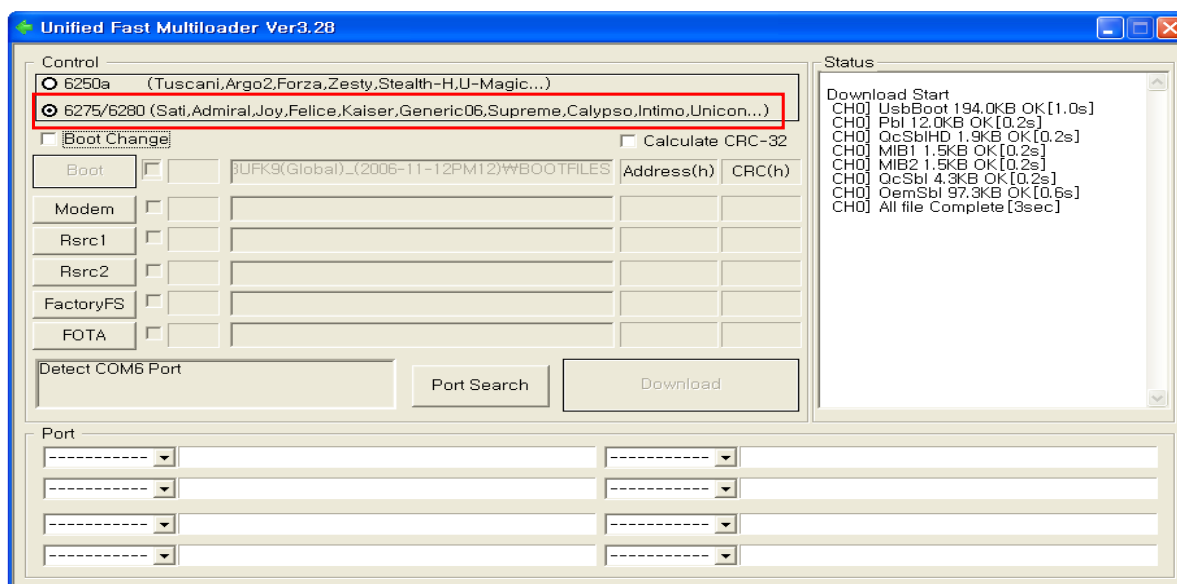
- Four binary files for downloading Z720.
 - amss.bin : Modem binary for communication function
 & Mocha binary for user interface and various application
 - Rsrc_Z720_○○○○.rc1: Files need for each application
 - Rsrc2_Z720(Low).rc2 : Power on/off animation
 - FactoryFS_Z720_○○○○.ffs : Default file system to be put into in initial production

4-2-2. Pre-requisite for Downloading

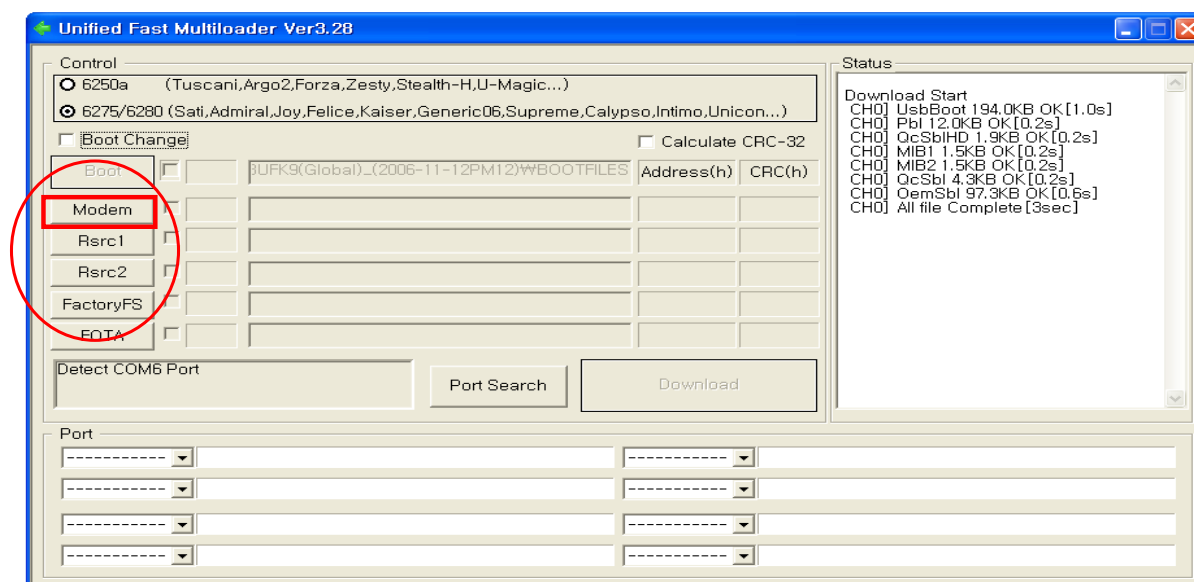
- Downloader Program([FastMultiLoader V3.28.exe](#))
- SGH-Z720 Mobile Phone
- USB Data Link Cable
- Binary files

4-2-3. S/W Downloader Program

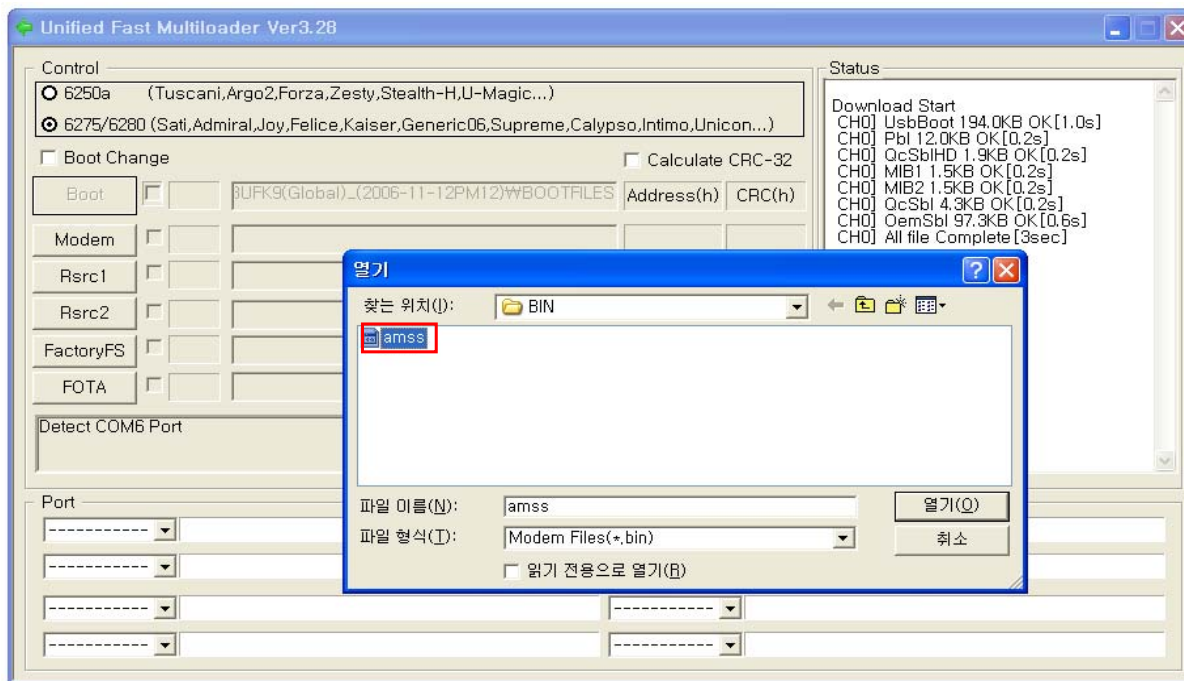
1. Boot the Z720 by pressing 'Power ON key' + 'Number 9 key' at the same time-
If you do properly, you can see the following message on LCD "DOWNLOAD"
2. Load the binary download program by executing the **"FastMultiLoader V3.28.exe"**. And then Check the 6275.



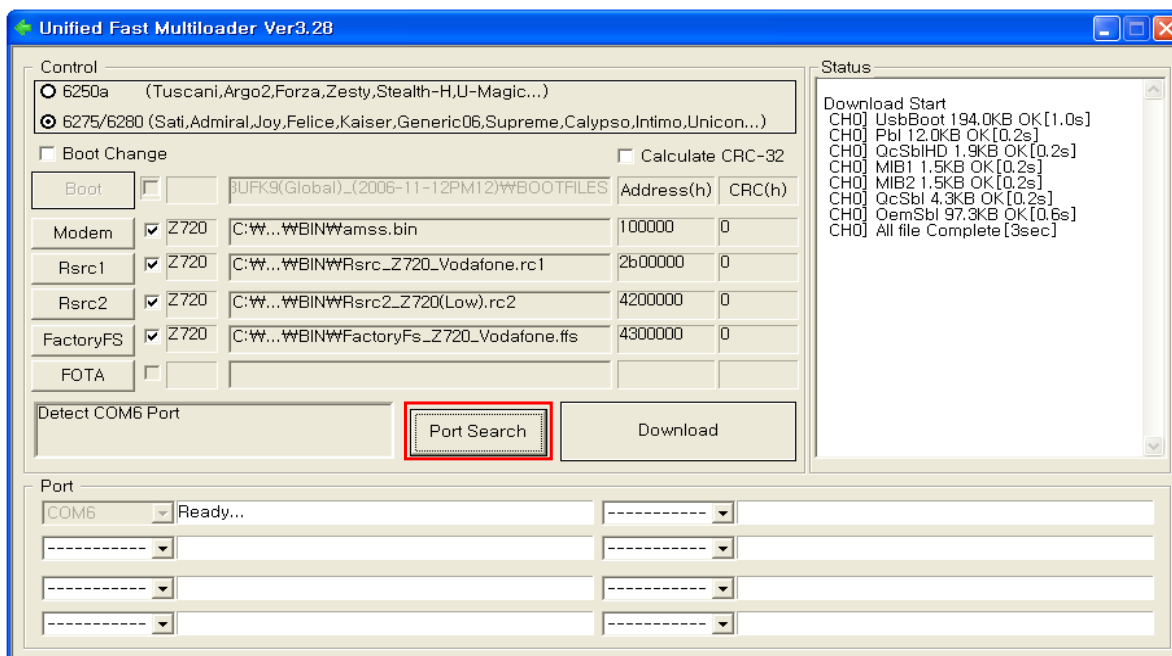
3. Select the check box what you want to download.



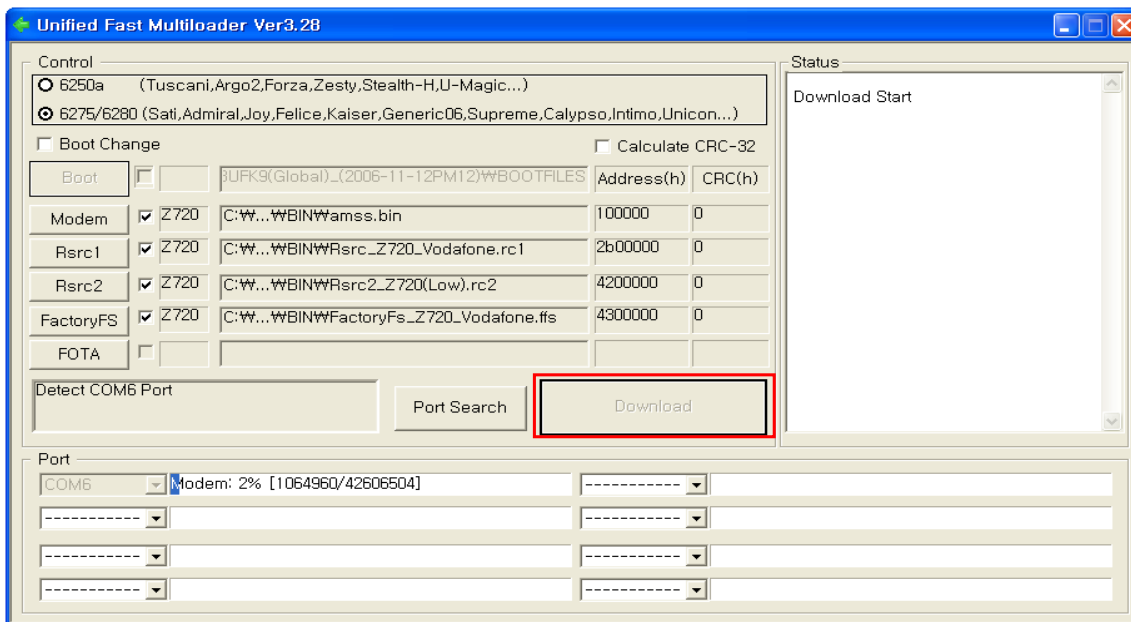
4. Select the binary file what you want to download



5. Now press the button 'Port Search'



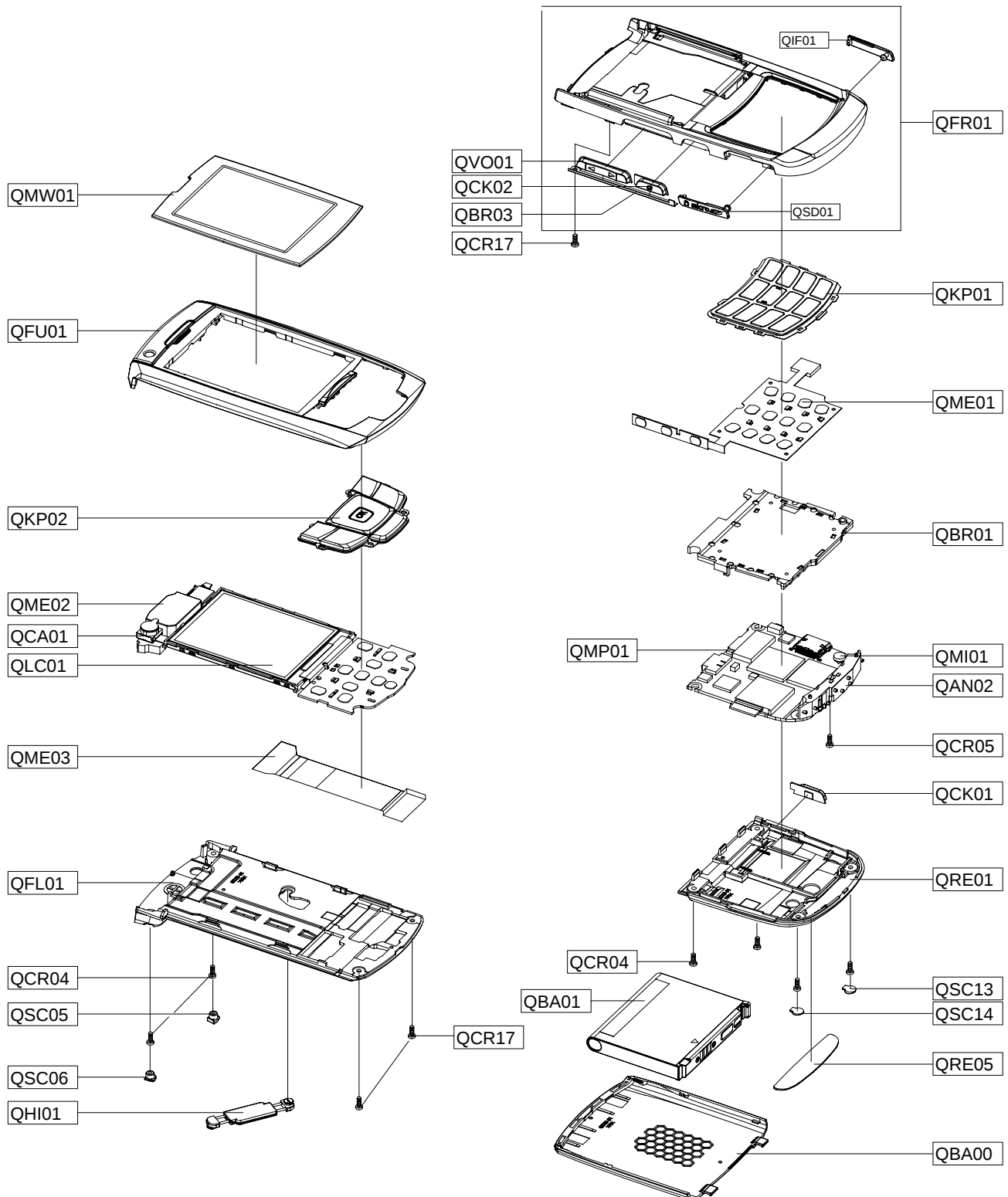
6. Now press the button 'Download'



7. When downloading is complete, UE reboot automatically.
- If there is difference in FactoryFs.bin, UE will format file system automatically.

5. Exploded View/Disassembly&Assembly Instructions

5-1. Cellular Phone Exploded View



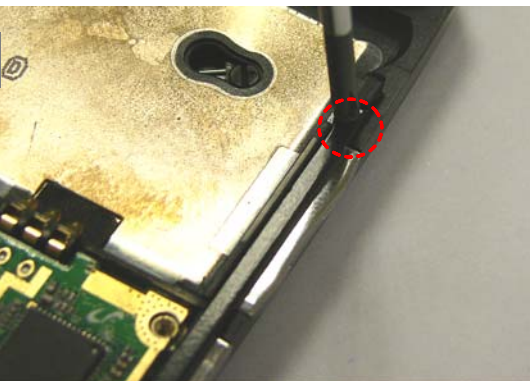
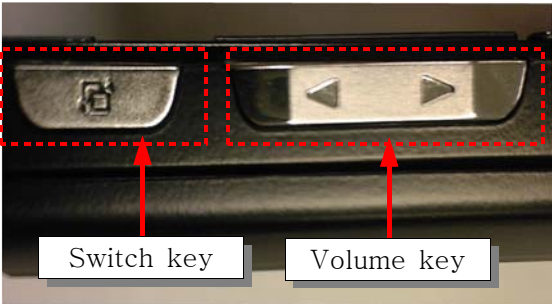
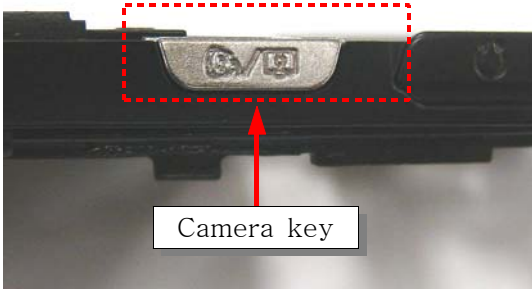
5-2. Cellular Phone Parts list

Design LOC		Description	SEC CODE
QAN02		INTENNA-SGH Z720	GH42-00963A
QBA00		ASSY COVER-BATTERY(XEC)	GH98-03330A
QBA01		INNER BATTERY PACK-900MAH, BLA	GH43-02544A
QBR01		ASSY BRACKET-MAIN KEY	GH98-01733A
QBR03		ICT-BRACKET VOL KEY	GH70-01550A
QCA01		UNIT-CAMERA	GH59-03414A
QCK02		PMO-SWITCH KEY	GH72-33032A
QCK01		PMO-CAMERA KEY	GH72-33031A
QCR04		SCREW-MACHINE	6001-001479
QCR04		SCREW-MACHINE	6001-001479
QCR05		SCREW-MACHINE	6001-001478
QCR17		SCREW-MACHINE	6001-001460
QFL01		ASSY CASE-SLIDE LOWER	GH98-01730A
QFU01		ASSY CASE-SLIDE UPPER	GH98-01729A
QHI01		ASSY ACCE-PUSH ROD	GH98-01237A
QKP01		ASSY KEYPAD-MAIN(EU/BLK)	GH98-02672A
QKP02		ASSY KEYPAD-SUB(EU/BLK)	GH98-02671A
QLC01		LCD-MAINS GH Z720	GH07-00963A
QME01		UNIT-KEY FPCB	GH59-03394A
QME02		UNIT-MODULE SPEAKER	GH59-03789A
QME03		MEA-SLIDE FPCB KIT	GH97-06865A
QMI01		MICROPHONE-ASSY-SGHE340	GH30-00199A
QMP01		PBA MAIN-SGH Z720	GH92-03107A
QMW01		ASSY COVER-MAIN WINDOW(XEC)	GH98-03250A
QRE01		ASSY CASE-REAR	GH98-01732A
QRE05		PMO-DECO REAR	GH72-33041A
QSC05		RMO-RUBBER SCREW LOWER L	GH73-07948A
QSC06		RMO-RUBBER SCREW LOWER R	GH73-07949A
QSC13		RMO-RUBBER SCREW REAR L	GH73-07940A
QSC14		RMO-RUBBER SCREW REAR R	GH73-07947A
QVO01		PMO-VOLUME KEY	GH72-33030A
QFR01		ASSY CASE-FRONT	GH98-01731A
	QSD01	PMO-COVER MSD	GH72-33038A
	QIF01	PMO-COVER IF	GH72-33039A

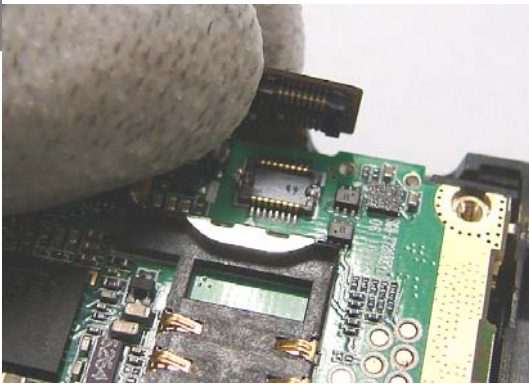
Description	SEC CODE
BAG PE	6902-000634
CBF INTERFACE-DATA LINK CABLE	GH39-00444A
ADAPTOR-SGHE690,BLK,EU,A_TYPE	GH44-01361A
S/W CD-PC STUDIO	GH46-00290A
UNIT-EARPHONE(BLK)	GH59-02541A
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(R)-MAIN(EU)	GH68-12699A
MANUAL USERS-EU SPANISH	GH68-13029A
BOX-UNIT(XEC)	GH69-04521B
CUSHION-CASE(EU)	GH69-04522A
ICT-BRACKET VOL KEY	GH70-01550A
RMO-RUBBERMIC HOLDER	GH73-08696A
MPR-VINYL BOHO MAIN WINDOW V2	GH74-26156A
MPR-INSU TAPE	GH74-27529A
MPR-TAPE	GH74-27536A
MPR-TAPE	GH74-27537A
MPR-ELEC TAPE LCD CONN BOT	GH74-27539A
MPR-TAPE WIN MAIN	GH74-27546A
MPR-INSU TAPE	GH74-27610A
MPR-VINYL BOHO UPPER	GH74-27635A
MPR-SPONGE LCD	GH74-28793A
MPR-TAPE LCD ACRYL	GH74-28801A
MPR-GASK TAPE	GH74-29409A
AS-IC-MCP UMTS	GH81-05910A
AS-DOME SHEET SVC	GH81-05987A

5-3. Disassembly and Assembly Instructions

— Disassembly

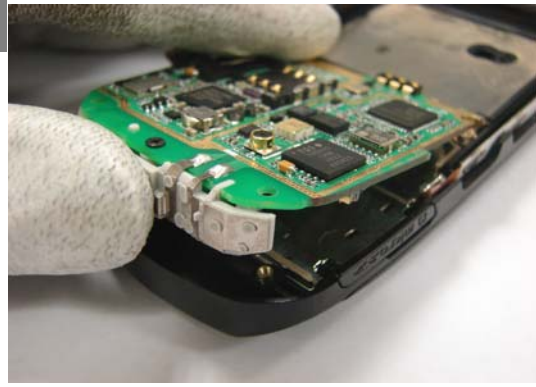
1 	2 
Screw Removal - Remove 2 screw caps and 4 screws	Rear cover Removal - Open the rear cover from the lower with ease
3 	4 
Volume key Bracket Screw Removal - Remove the volume key bracket screw	Volume key Bracket Removal - Remove the volume key bracket without getting bent.
5  Switch key Volume key	6  Camera key
Side key Removal 1. Remove the volume key 2. Remove the Switch key	Camera key Removal - Remove the camera key

7

**Key connector Removal**

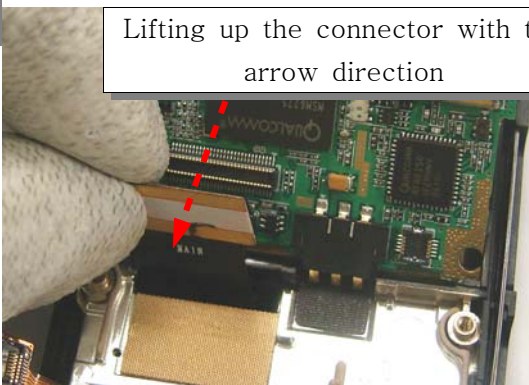
- Detach the key Connector from the PBA
- * Be careful not to damage it When removing the key Connector.

8

**MAIN PBA Removal**

- Separate the main PBA from the front by lifting up.
- * Please handle the main PBA with care not too much force on it.

9

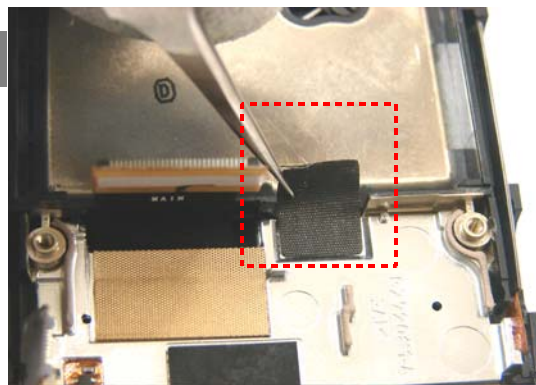


Lifting up the connector with the arrow direction

MAIN F-PCB Connector Removal

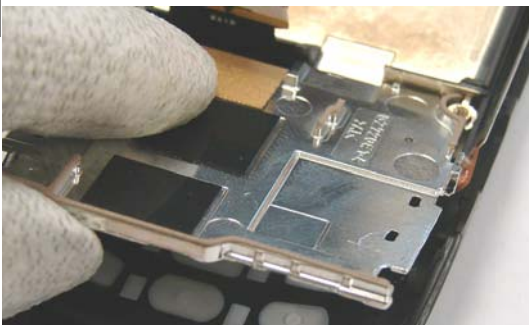
- Lift up the main F-PCB connector with the arrow direction like the picture.
- * Be careful not to rumple and tear it When handling F-PCB.

10

**Front Conduction Tape Removal**

- Remove the front conduction Tape.

11

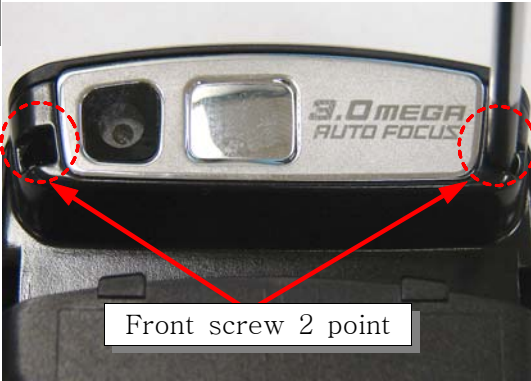
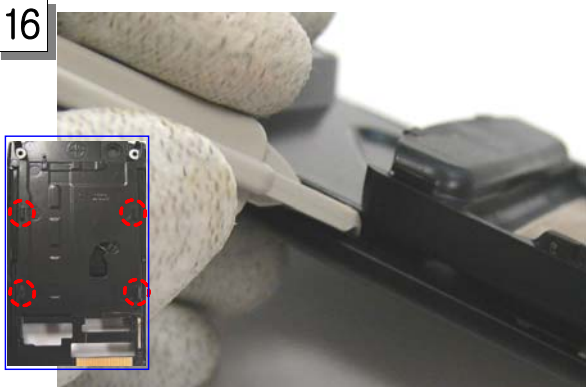
**Shield Cover Removal**

- Remove the shield cover by lifting up.
- * Be careful not to rumple and tear the Gasket When removing the shield cover.

12

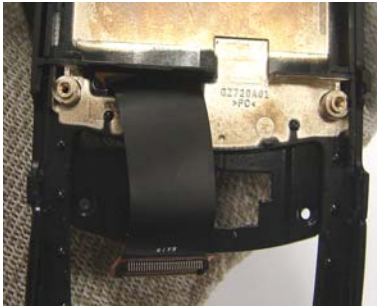
**3*4 Key Removal**

- Remove 3*4 Key from the Front.

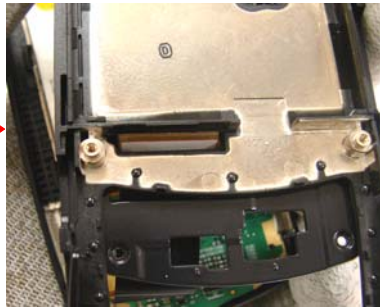
13 	14  Front screw 2 point
Screw cover Removal - Remove the left and right screw covers.	Slide Ass'y Screw Removal 1. Push up the slide a little bit. 2. Remove the slide Ass'y screw 2 points.
15 	16 
Slide Lower Screw Removal 1. Slide up only half of 3*4 Key part like the picture. 2. Remove two unconcealed screws	Slide Ass'y & Front Unlocking - Unlock the 4 locking points with an unlocking stick.
17 	18 
Slide Ass'y & Front Separation - Separate the slide upper and the slide lower after unlocking.	Front Hole Adjustment - Adjust the slide lower hole to the front hole to draw out from the hole.

19

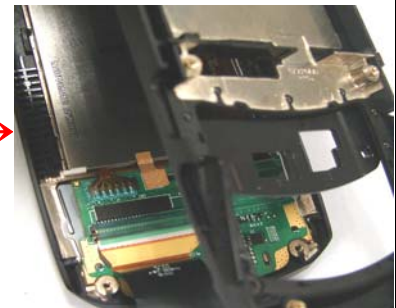
①



②



③



Main F-PCB Removal

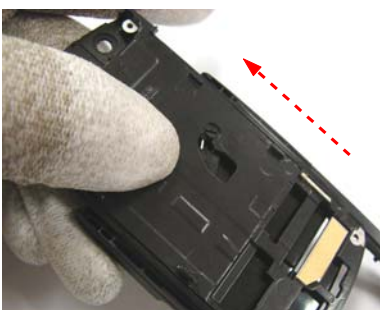
- Draw out the main F-PCB from the hole.
- ※ Be careful not to rumple and tear it When handling F-PCB.

20

①



②



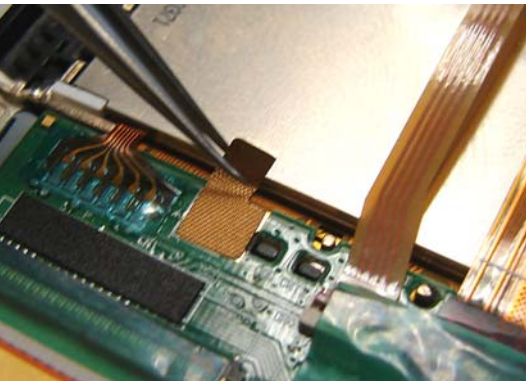
③



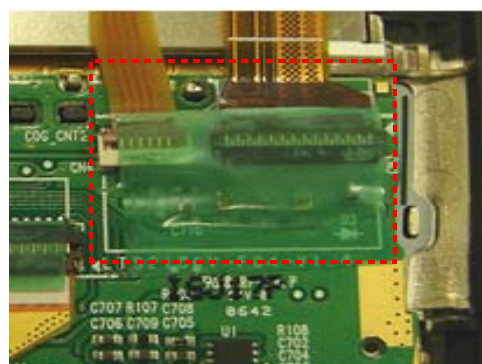
Slide Lower & Front Separation

- Lift up the lower like pictures when the slide lower and the front is combined.

21



22



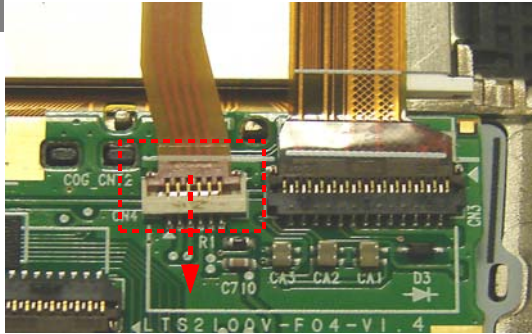
Conduction Tape Removal

- Remove the conduction tape between the LCD module and the menu key.

Untied-Prevention Tape Removal

- Remove the untied-prevention tape from the speaker connector and the camera connector.

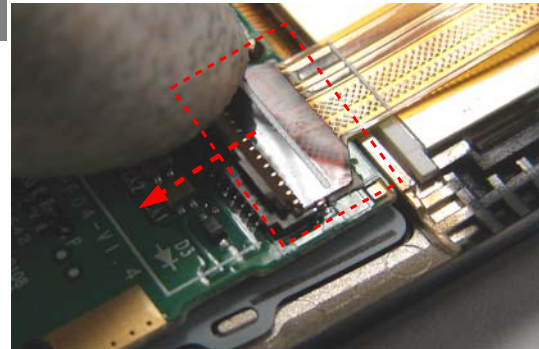
23



Speaker F-PCB Separation

- Open the speaker connector with the arrow direction and then draw out the speaker F-PCB.

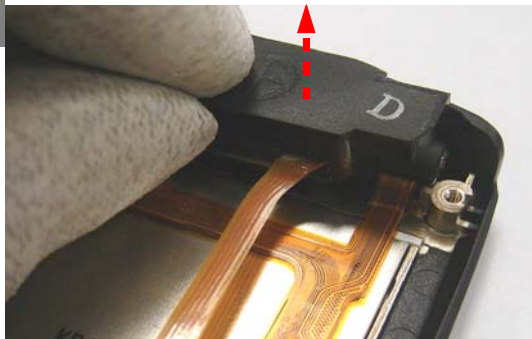
24



Camera F-PCB Separation

- Open the camera connector with an arrow direction and then draw out the Camera F-PCB.
 ※ Be careful with the base tape drawing out the camera F-PCB.

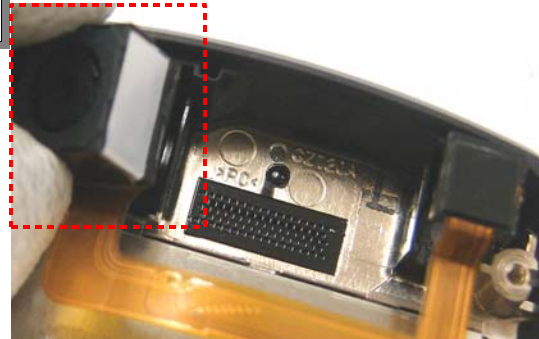
25



Speaker Module Separation

- Separate the speaker module from the slide upper by lifting up with the arrow direction.

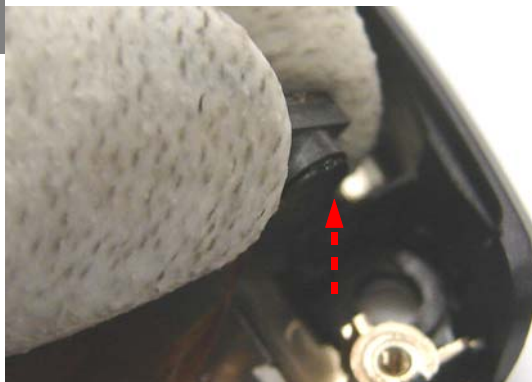
26



3 Mega Camera Module Separation

- Separate the 3M camera module from the slide upper by lifting up with the arrow direction.
 ※ Be careful not to touch or damage the Camera lens when pulling out the 3 Mega Camera.

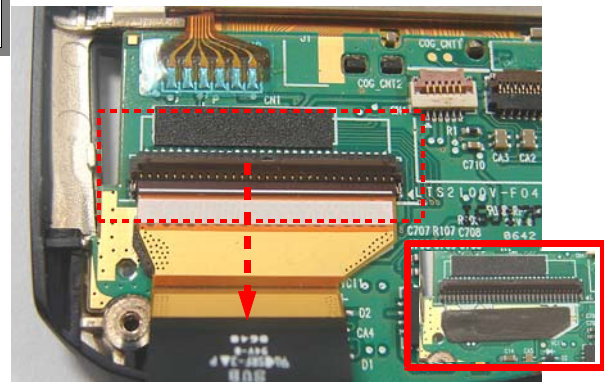
27



VGA Camera Module Separation

- Separate the VGA camera module from the slide upper by lifting up with the arrow direction.

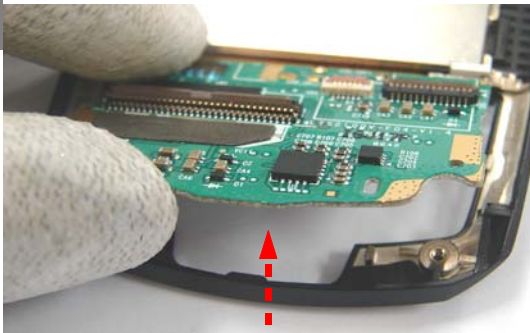
28



Main F-PCB Separation

- Open the main F-PCB connector and then draw out the main F-PCB with the arrow direction.

29

**Menu key PCB Separation**

- Separate the menu key PCB from the upper like the picture.

30

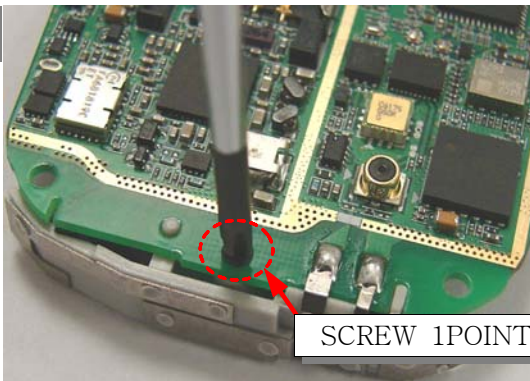
**LCD Module Separation**

- Separate the LCD module from the upper like the picture.

※ Be careful not to lift it up suddenly with too much force!! That could cause LCD crack.

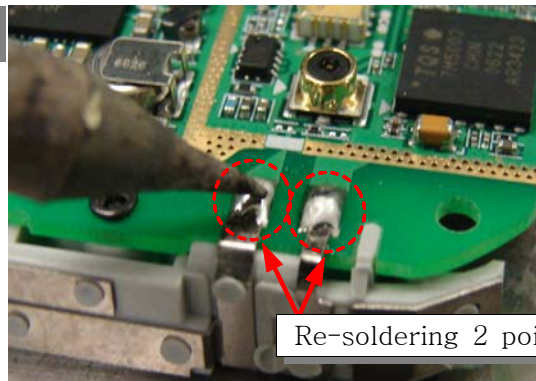
PBA & INTENNA Saperation

1

**Intenna Screw Removal**

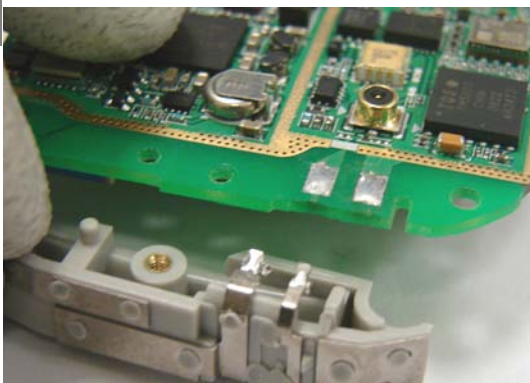
- Remove the intenna screw from the PBA.

2

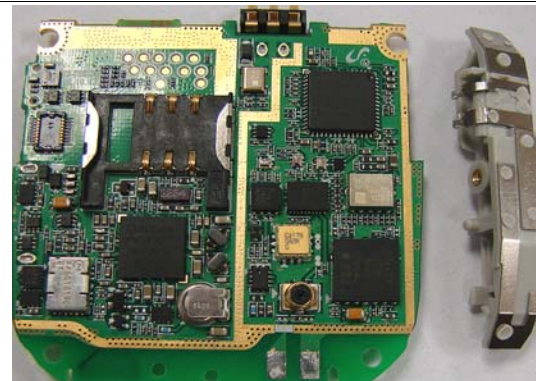
**Intenna Contact Re-soldering**

- Solder the intenna contact points.

3

**Intenna Removal**

- Separate the intenna body from the PBA with melting - lead state.
- ※ Be careful not to break or bend the intenna contact.



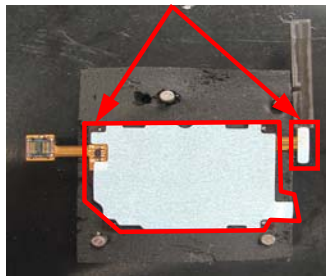
Completely separated state.

— Assembly

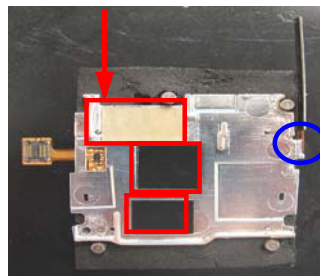
1

(Remove the paper)

(Check three extraneous matters)



< 1. Remove the paper >



< 2. Attach the Key FPCB >

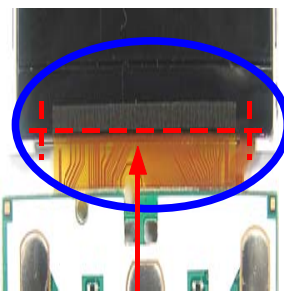


< 3. Check FPCB attachment >

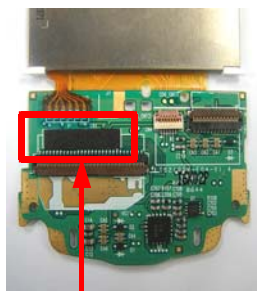
Shield Can Check & Key FPCB Attachment

1. Remove the protection paper on the back side of Key FPCB.
2. Attach the Key PCB on the shield can set to the hole. -> Check the 3 extraneous matter before attaching the shield can.
3. Check the position of volume key part FPCB properly.

2



< 1. LCD Sponge >

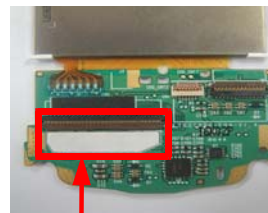


< 2. LCD Acrylic Tape>

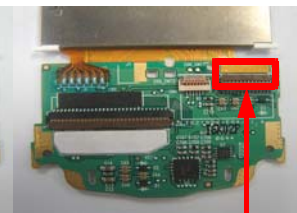
LCD Sponge & LCD Acrylic Tape Attachment

1. Attach the LCD sponge to the width of LCD FPCB.
2. Attach the LCD acrylic tape within the silk line.

3



< 1. Slide FPCB
Fixing Tape >



< 2. Camera FPCB
Fixing Tape >

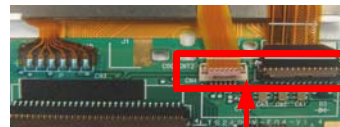
Slide/Camera FPCB Tape Attachment

1. Attach the fixing tape of slide FPCB within the silk line.
2. Attach the fixing tape of camera FPCB within the silk line.

4



< Assemble Camera/Speaker >



< Check Guide Line >

critical point

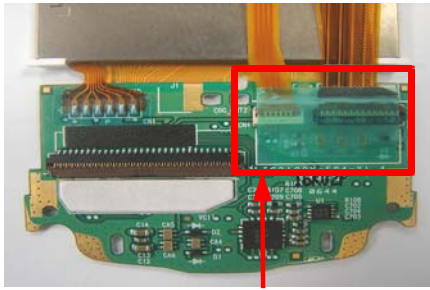


< Close the Locker >

Camera/Speaker Assembly

1. Remove the protection paper of camera FPCB fixing tape.
2. Insert the FPCB up to the guide line With regard to the insertion direction of camera and then close the locker.
3. Insert the FPCB up to the guide line With regard to the insertion direction of speaker and then close the locker.

5

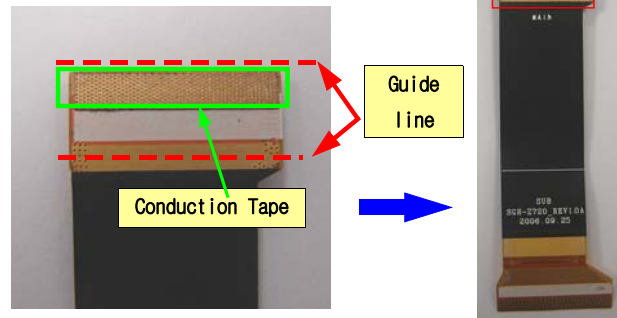


< Untied- Prevention Tape >

Untied - Prevention Tape Attachment

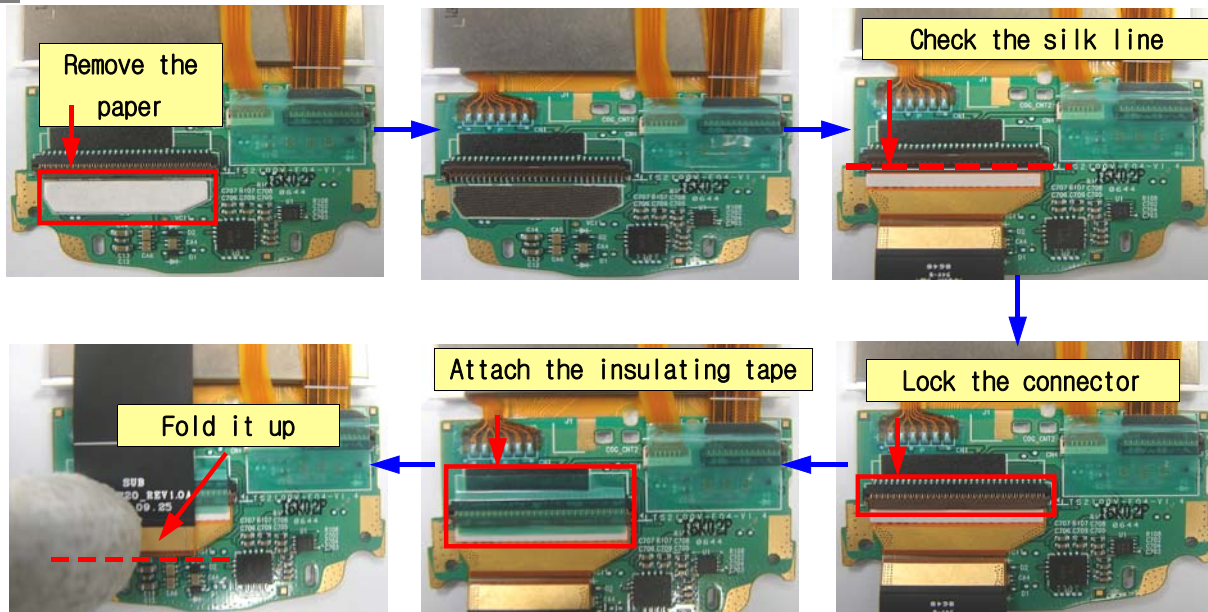
- Attach the untied - prevention tape within the silk line.

6

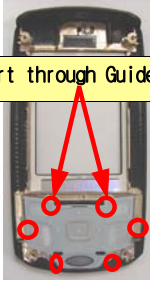
**Conduction Tape Attachment**

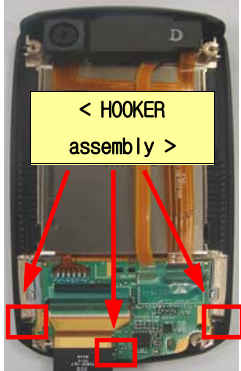
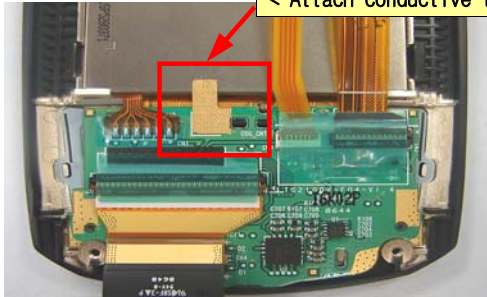
- Attach the conduction tape on the two points of slide FPCB.

7

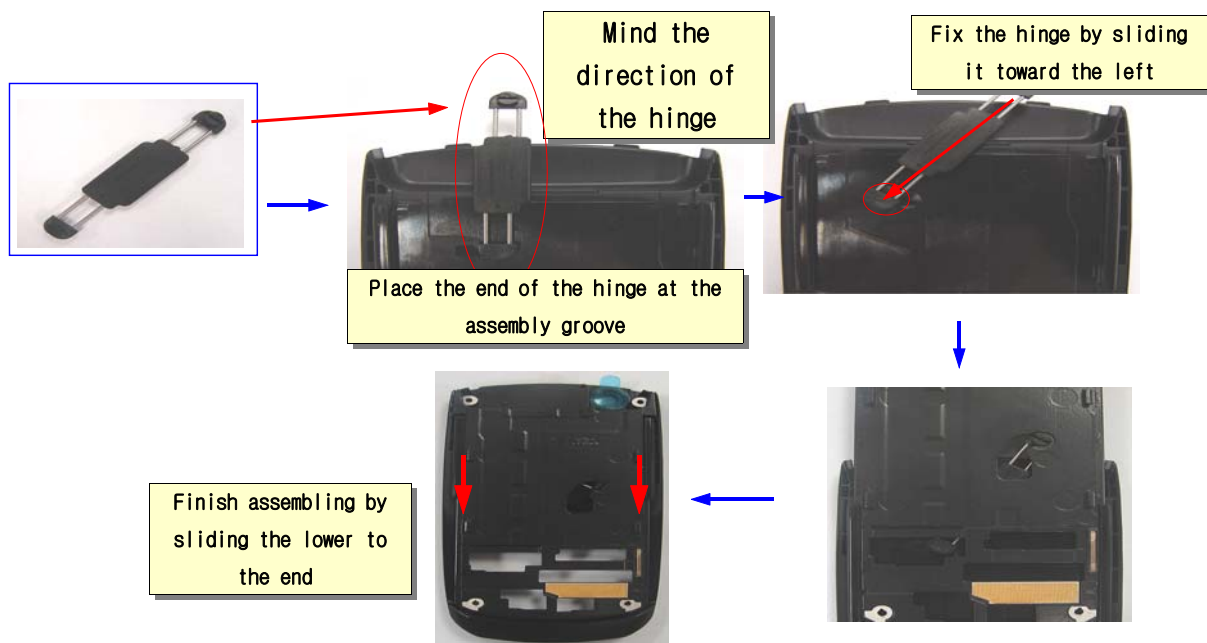
**Slide FPCB Assembly**

1. Remove the protection paper from the double fixing tape of slide FPCB.
 2. Insert the slide FPCB into the connector within the silk guide line on PBA.
 3. Hook up the connector.
 4. Attach the insulating tape to prevent the loosening of connector within the silk guide line.
 5. Fold up the edge by using your fingers.
- ※ Attach the untied - prevention tape without bubble.
 - ※ Attach the extraneous matters at the right position within guide line.

8 Start from the upper point  < Attach MAIN WINDOW >	9  < Remove Protection paper and vinyl >  < Insert through Guide Hole > < KEY PAD Assembly >
MAIN WINDOW attachment - Attach the MAIN WINDOW starting from the upper point of the WINDOW.	Removing protection tape and vinyl Sub key pad assembly 1.Remove the MEGA CAMERA fixing tape, protection tape and VGA CAMERA WINDOW protection vinyl. 2.Place the SUB KEYPAD at the SLIDE UPPER.

10  < Remove LENS protection vinyl>  < HOOKER assembly > 	11 < Attach conductive tape>  < Attach conductive Tape >
LCD Module Assembly 1.Remove VGA CAMERA LENS protection vinyl. 2.Remove the LCD protection vinyl. 3.Remove the Backside Window protection vinyl. 4.Place the LCD at SLIDE UPPER, then hook the SUB PBA to the HOOKER and push the side part of SUB PBA to assemble SLIDE UPPER. 5.Assemble 3MEGA CAMERA, VGA CAMERA 6.Assemble SPEAKER 7.Remove 3MEGA CAMERA LENS protection vinyl. ※ Assemble CAMERA prior to SPEAKER assembly	Attach LCD conductive TAPE - Attach LCD conductive TAPE following the silk guide LINE.

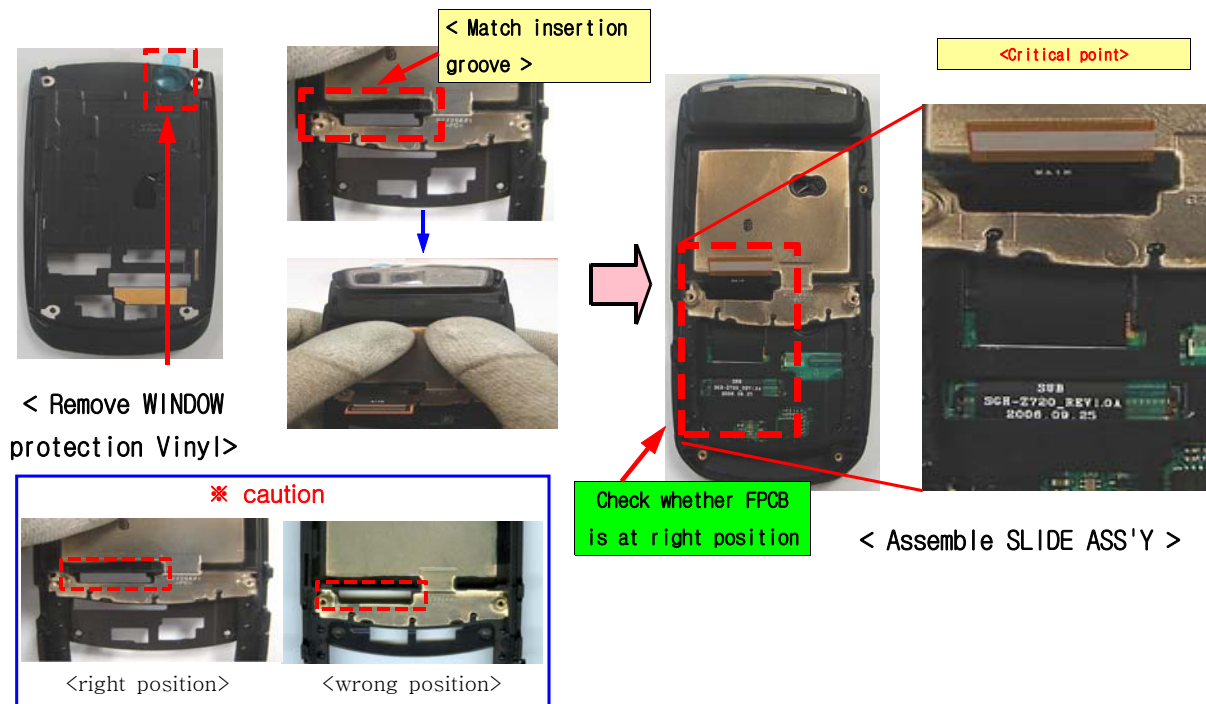
12



FRONT SLIDE Hinge Assembly

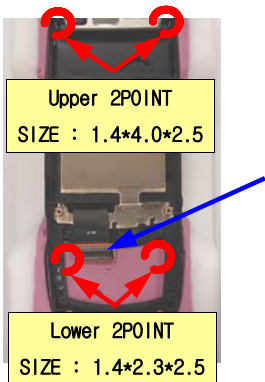
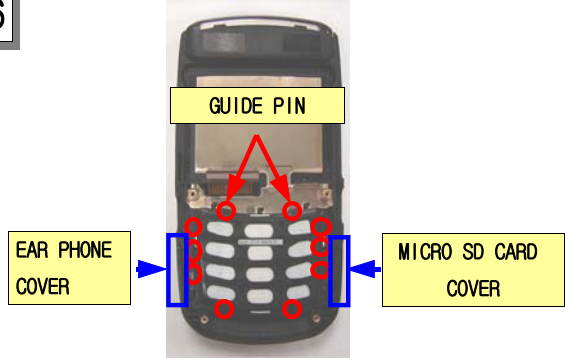
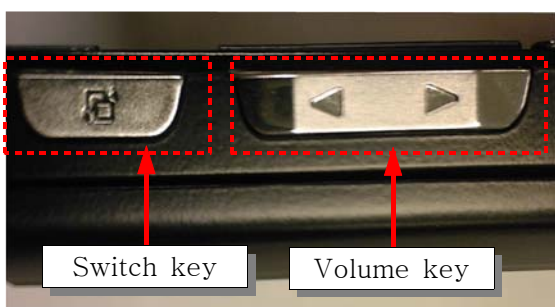
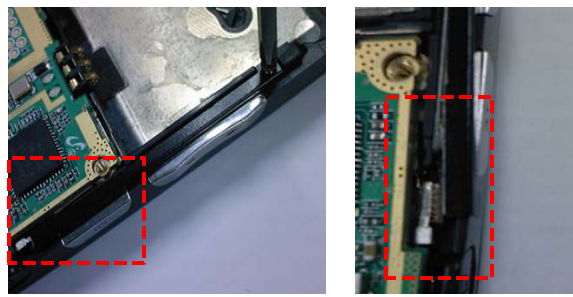
1. Locate the SLIDE hinge at the groove of the Front, then slide it toward the left to fix it.
2. Tilt the fixed SLIDE hinge to 45 degrees.
3. Move the SLIDE LOWER down to 1/2 position following the FRONT rail.
4. Slot the end of the hinge to the assembly groove of the LOWER, then bring Lower to the end to fix hinge

13



Removing 3Mega CAMERA WINDOW protection vinyl and SLIDE ASS'Y Assembly

1. Remove 3MEGA CAMERA WINDOW protection vinyl.
2. Match the FPCB insertion hole of both SLIDE LOWER and FRONT.
3. Insert the FPCB through insertion hole to assemble SLIDE UPPER and FRONT
4. Push FRONT up to where it was

14  Upper 2POINT SIZE : 1.4*4.0*2.5 Lower 2POINT SIZE : 1.4*2.3*2.5 Be careful not to damage FPCB during assembly	15  Insert Left SCREW CAP Insert Right SCREW CAP
Screwing the screw 1.Screw the upper 2 point of the SLIDE LOWER using SCREW Assmebly JIG → SCREW SIZE:1.4*4.0*2.5 2.Screw the lower 2 point of the SLIDE LOWER using SCREW Assmebly JIG → SCREW SIZW:1.4*2.3*2.5	Screw Cap Insertion 1.Insert Left SCREW CAP. 2.Insert Right SCREW CAP. 3.Press the SCREW CAP with Screw Cap JIG
16  GUIDE PIN EAR PHONE COVER MICRO SD CARD COVER	17  Shield Can Assembly - Assemble the Shield Can just like in the picture above. ※ Be careful not to rumple and tear the Gasket When assembling the shield cover.
18  Switch key Volume key	19  <right position> <wrong position> VOL KEY BRACKET -Assemble VOL KEY BRACKET using SCREW JIG → SCREW SIZE:1.4*2.3*2.5 ※ Be careful to assemble the BRACKET right position.

20

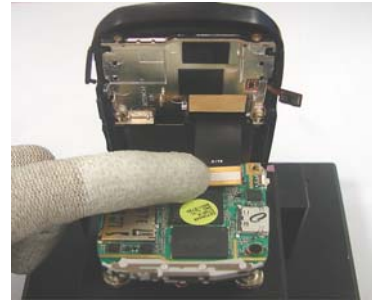


< Conduction Tape >

Conduction Tape Attachment

- Attach the conduction tape like a picture.

21



< FPCB Connector Assembling >

PBA Assembly

1. Open the slide ASS'Y only half and then put the PBA on the PBA JIG.
2. drive the slide FPCB connector.

22



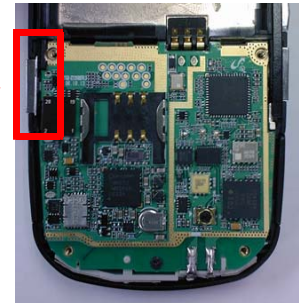
< Close the Key-FPCB Connector >

Key F-PCB Assembly

1. Put the PBA on the FRONT.
2. Close the Key - FPCB connector.

23

Insert the Camera Key

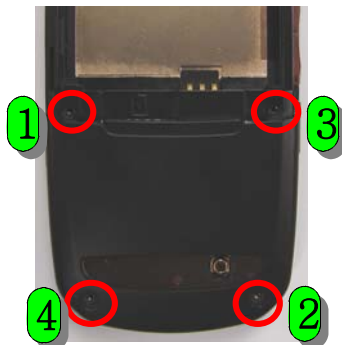


< Camera Key Assembling >

Camera key Assembly

- Insert the camera key into the hole.

24

**Assembling the Rear**

- Put this on the screw JIG and then drive the Screw in order.
→ SCREW SIZE: 1.4*4.0*2.5

25

Insert the left screw cap

Insert the left screw cap

**Rear Screw Cap Insertion**

1. Insert the screw cap of left side.
2. Insert the screw cap of right side.
3. Press the screw caps by using screw cap JIG.

6. MAIN Electrical Parts List

Design LOC	Description	SEC Code	STATUS
ANT102	ANTENNA-CHIP	4202-001031	SA
BAT400	BATTERY-LI(2ND)	4302-001180	SA
BTC600	HEADER-BATTERY	3711-006217	SA
C100	C-CER,CHIP	2203-006556	SA
C103	C-CER,CHIP	2203-006379	SA
C104	C-CER,CHIP	2203-006423	SA
C107	C-CER,CHIP	2203-005682	SA
C108	C-CER,CHIP	2203-000725	SA
C109	C-CER,CHIP	2203-005682	SA
C110	C-CER,CHIP	2203-000836	SA
C111	C-CER,CHIP	2203-006194	SA
C112	C-CER,CHIP	2203-006194	SA
C113	C-CER,CHIP	2203-005682	SA
C114	C-CER,CHIP	2203-005682	SA
C115	C-CER,CHIP	2203-005682	SA
C116	C-CER,CHIP	2203-005806	SNA
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C136	C-CER,CHIP	2203-001124	DNA
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C156	C-CER,CHIP	2203-006648	SA
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Design LOC	Description	SEC Code	STATUS
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C410	C-CER,CHIP	2203-006305	SA
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C501	C-CER,CHIP	2203-005682	SA
C502	C-CER,CHIP	2203-005731	SA
C503	C-CER,CHIP	2203-005731	SA
C504	C-CER,CHIP	2203-000254	SA
C506	C-CER,CHIP	2203-006648	SA
C507	C-CER,CHIP	2203-000854	SA
C508	C-CER,CHIP	2203-006305	SA
C509	C-CER,CHIP	2203-000278	SA
C510	C-CER,CHIP	2203-006648	SA
C512	C-CER,CHIP	2203-000854	SA
C513	C-CER,CHIP	2203-000254	SA

Design LOC	Description	SEC Code	STATUS
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C519	C-CER,CHIP	2203-000278	SA
C520	C-CER,CHIP	2203-006648	SA
C523	C-CER,CHIP	2203-005482	SA
C529	C-CER,CHIP	2203-005725	SA
C530	C-CER,CHIP	2203-005725	SA
C531	C-CER,CHIP	2203-006257	SA
C533	C-CER,CHIP	2203-006423	SA
C534	C-CER,CHIP	2203-006194	SA
C535	C-CER,CHIP	2203-006260	SA
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C601	C-CER,CHIP	2203-006562	SA
C602	C-CER,CHIP	2203-006562	SA
C603	C-CER,CHIP	2203-005683	SA
C606	C-CER,CHIP	2203-005682	SA
C607	C-CER,CHIP	2203-005682	SA
C608	C-CER,CHIP	2203-006562	SA
C609	C-CER,CHIP	2203-006562	SA
C610	C-CER,CHIP	2203-006562	SA
C611	C-CER,CHIP	2203-006562	SA
C613	C-CER,CHIP	2203-006562	SA
C614	C-CER,CHIP	2203-005682	SA
C615	C-CER,CHIP	2203-005717	SA
C616	C-CER,CHIP	2203-005717	SA
C617	C-CER,CHIP	2203-005717	SA
C700	C-CER,CHIP	2203-006562	SA
CD700	CONNECTOR-CARD EDGE	3709-001344	SA
D400	DIODE-ARRAY	0407-001002	SA
D600	DIODE-ARRAY	0407-001002	SA
DUF200	DUPLEXER-SAW	2910-000010	SA
F100	FILTER-SAW	2904-001635	SA
F101	FILTER-SAW	2904-001634	SA
F102	FILTER-SAW	2904-001628	SA
F200	FILTER-SAW	2904-001658	SA
F201	FILTER-SAW	2904-001623	SA
F300	FILTER-EMI SMD	2901-001283	SA
F602	FILTER-EMI SMD	2901-001413	SA
F603	FILTER-EMI SMD	2901-001413	SA
F604	FILTER-EMI SMD	2901-001413	SA
F605	FILTER-EMI SMD	2901-001413	SA
F700	BEAD-SMD	3301-001534	SA
HDC600	HEADER-BOARD TO BOARD	3711-005367	SA
HDC700	HEADER-BOARD TO BOARD	3711-005976	SA
IFC600	SOCKET-INTERFACE	3710-002306	SA
L101	INDUCTOR-SMD	2703-002955	SA
L104	BEAD-SMD	3301-001756	SA
L105	INDUCTOR-SMD	2703-002901	SNA

Design LOC	Description	SEC Code	STATUS
L106	INDUCTOR-SMD	2703-002314	SA
L107	INDUCTOR-SMD	2703-002794	SA
L108	INDUCTOR-SMD	2703-002903	SA
L109	INDUCTOR-SMD	2703-002794	SA
L110	INDUCTOR-SMD	2703-002901	SNA
L111	INDUCTOR-SMD	2703-002906	SA
L112	INDUCTOR-SMD	2703-002907	SNA
L113	INDUCTOR-SMD	2703-002906	SA
L114	INDUCTOR-SMD	2703-002901	SNA
L115	INDUCTOR-SMD	2703-002903	SA
L116	INDUCTOR-SMD	2703-002900	SA
L117	INDUCTOR-SMD	2703-002903	SA
L118	INDUCTOR-SMD	2703-002901	SNA
L119	INDUCTOR-SMD	2703-002958	SA
L120	INDUCTOR-SMD	2703-002958	SA
L121	INDUCTOR-SMD	2703-002958	SA
L124	INDUCTOR-SMD	2703-002958	SA
L125	INDUCTOR-SMD	2703-002958	SA
L129	INDUCTOR-SMD	2703-003125	SA
L130	INDUCTOR-SMD	2703-002906	SA
L131	INDUCTOR-SMD	2703-002798	SNA
L133	INDUCTOR-SMD	2703-002958	SA
L200	INDUCTOR-SMD	2703-003004	SA
L201	INDUCTOR-SMD	2703-002649	SNA
L203	INDUCTOR-SMD	2703-002917	SA
L204	INDUCTOR-SMD	2703-003004	SA
L205	INDUCTOR-SMD	2703-002906	SA
L206	INDUCTOR-SMD	2703-002903	SA
L207	INDUCTOR-SMD	2703-002906	SA
L208	INDUCTOR-SMD	2703-002176	SA
L209	BEAD-SMD	3301-001756	SA
L210	INDUCTOR-SMD	2703-002313	SA
L211	INDUCTOR-SMD	2703-002793	SA
L213	INDUCTOR-SMD	2703-002199	SA
L214	INDUCTOR-SMD	2703-003004	SA
L215	INDUCTOR-SMD	2703-003125	SA
L400	INDUCTOR-SMD	2703-002840	SA
L401	INDUCTOR-SMD	2703-002840	SA
L600	BEAD-SMD	3301-001729	SA
L601	BEAD-SMD	3301-001729	SA
L602	BEAD-SMD	3301-001729	SA
MOD100	BLUETOOTH MODULE	4709-001398	SA
OSC300	RESONATOR-CERAMIC	2802-001182	SA
OSC400	CRYSTAL-SMD	2801-004373	SA
PAM100	IC-POWER AMP	1201-002288	SA
PAM200	IC-POWER AMP	1201-002325	SA
R102	R-CHIP	2007-008542	SA
R104	R-CHIP	2007-008419	SA
R105	R-CHIP	2007-008045	SA
R106	R-CHIP	2007-008051	SA
R107	R-CHIP	2007-000145	SA
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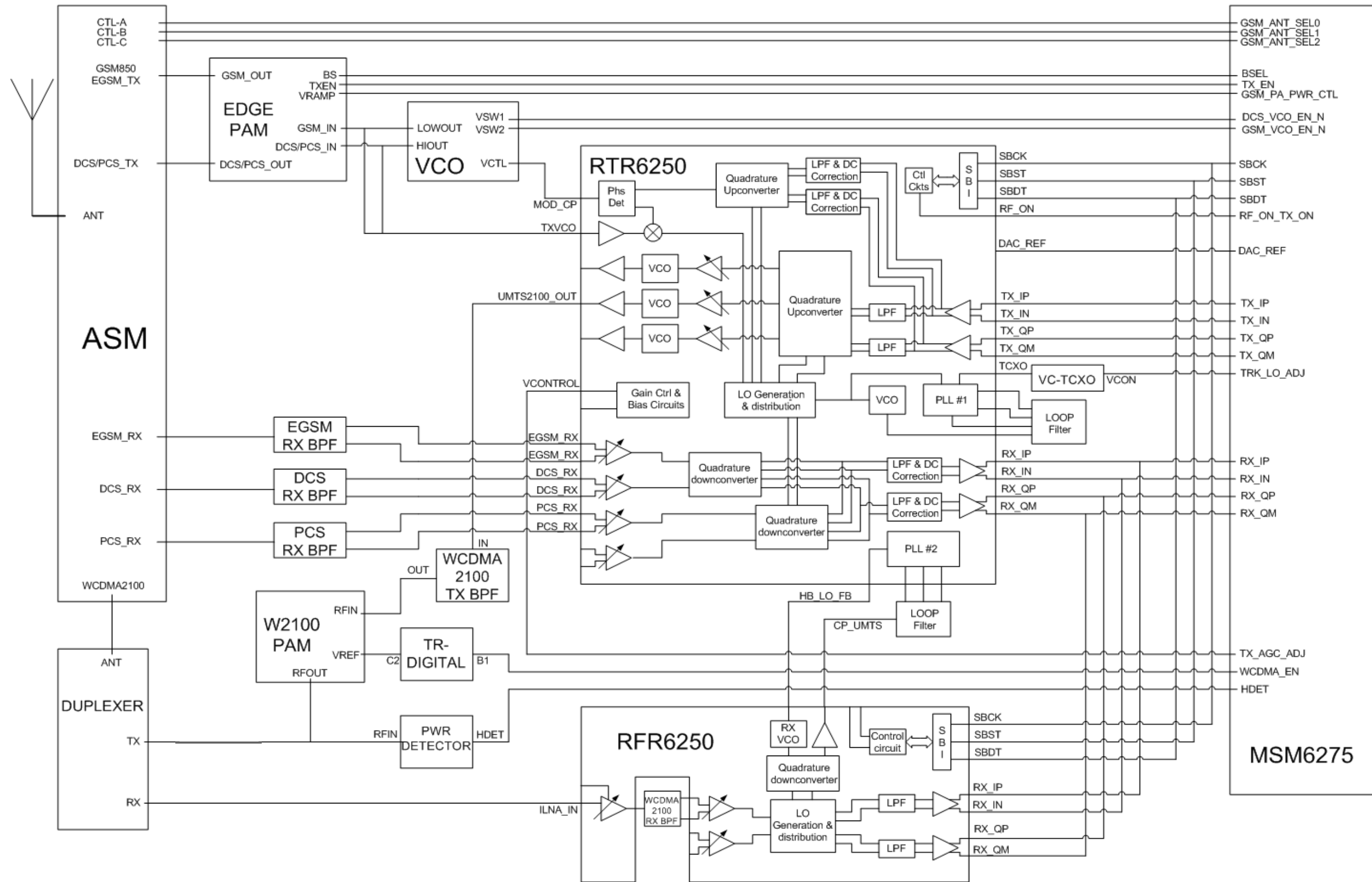
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R112	R-CHIP	2007-007491	SA
R113	R-CHIP	2007-007136	SA
R114	R-CHIP	2007-008052	SA
R115	R-CHIP	2007-008785	SNA
R116	R-CHIP	2007-008045	SA
R117	R-CHIP	2007-009201	SA
R118	R-CHIP	2007-008581	SNA
R119	R-CHIP	2007-008581	SNA
R120	R-CHIP	2007-008579	SA
R121	R-CHIP	2007-008579	SA
R122	R-CHIP	2007-008045	SA
R123	R-CHIP	2007-008588	SA
R124	R-CHIP	2007-007306	SA
R125	R-CHIP	2007-008806	SA
R126	R-CHIP	2007-001292	SA
R127	R-CHIP	2007-008542	SA
R128	R-CHIP	2007-008542	SA
R130	R-CHIP	2007-008542	SA
R131	R-CHIP	2007-008055	SA
R132	R-CHIP	2007-009171	SA
R200	R-CHIP	2007-008045	SA
R201	R-CHIP	2007-009212	SA
R202	R-CHIP	2007-008043	SA
R203	R-CHIP	2007-008045	SA
R204	R-CHIP	2007-007491	SA
R205	R-CHIP	2007-008531	SA
R207	R-CHIP	2007-008531	SA
R300	R-CHIP	2007-007741	SA
R301	R-CHIP	2007-000137	SA
R302	R-CHIP	2007-008419	SA
R305	R-CHIP	2007-007318	SA
R308	R-CHIP	2007-007314	SA
R309	R-CHIP	2007-007135	SA
R310	R-CHIP	2007-008052	SA
R311	R-CHIP	2007-008483	SA
R312	R-CHIP	2007-008483	SA
R313	R-CHIP	2007-008483	SA
R314	R-CHIP	2007-008483	SA
R315	R-CHIP	2007-008483	SA
R319	R-CHIP	2007-008055	SA
R322	R-CHIP	2007-008055	SA
R323	R-CHIP	2007-008478	SA
R324	R-CHIP	2007-008478	SA
R325	R-CHIP	2007-008516	SA
R326	R-CHIP	2007-009170	SA
R327	R-CHIP	2007-009170	SA
R328	R-CHIP	2007-008516	SA
R400	R-CHIP	2007-008055	SA
R401	R-CHIP	2007-007586	SA
R402	R-CHIP	2007-008483	SA
R403	R-CHIP	2007-008516	SA

Design LOC	Description	SEC Code	STATUS
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R405	R-CHIP	2007-008806	SA
R406	R-CHIP	2007-007468	SA
R407	R-CHIP	2007-008648	SA
R408	R-CHIP	2007-007314	SA
R409	R-CHIP	2007-007014	SA
R410	R-CHIP	2007-008055	SA
R411	R-CHIP	2007-008055	SA
R412	R-CHIP	2007-008055	SA
R413	R-CHIP	2007-007316	SA
R414	R-CHIP	2007-007318	SA
R415	R-CHIP	2007-007588	SA
R500	R-CHIP	2007-008588	SA
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R612	R-CHIP	2007-008542	SA
R700	R-CHIP	2007-008055	SA
R701	R-CHIP	2007-008516	SA
R702	R-CHIP	2007-008516	SA
R703	R-CHIP	2007-008516	SA
R704	R-CHIP	2007-000166	SA
R705	R-CHIP	2007-008055	SA
RFS100	CONNECTOR-COAXIAL	3705-001358	SA
SIM400	CONNECTOR-CARD EDGE	3709-001400	SA
TA100	C-TA,CHIP	2404-001474	SA
TA200	C-TA,CHIP	2404-001381	SA
TA300	C-TA,CHIP	2404-001377	SA
TA400	C-TA,CHIP	2404-001381	SA
TA500	C-TA,CHIP	2404-001240	SA
TA600	C-TA,CHIP	2404-001381	SA
TA601	C-TA,CHIP	2404-001474	SA
TA602	C-TA,CHIP	2404-001406	SA
TA603	C-TA,CHIP	2404-001381	SA
TA700	C-TA,CHIP	2404-001381	SA
TAC700	SWITCH-TACT	3404-001152	SA
TCX200	OSCILLATOR-VCTCXO	2809-001312	SA
TR200	TR-DIGITAL	0504-001151	SA
TR400	TR-DIGITAL	0504-000168	SA
TR401	TR-DIGITAL	0504-000168	SA
TR601	FET-SILICON	0505-001423	SA
U100	IC-SWITCH	1205-002724	SA
U101	IC-TRANSCEIVER	1205-002645	SA
U200	IC-DETECTOR	1209-001577	SA
U201	IC-RECEIVER	1205-002781	SA
U301	IC-CMOS LOGIC	0801-003076	SA
U302	IC-ANALOG MULTIPLEX	1001-001358	SA

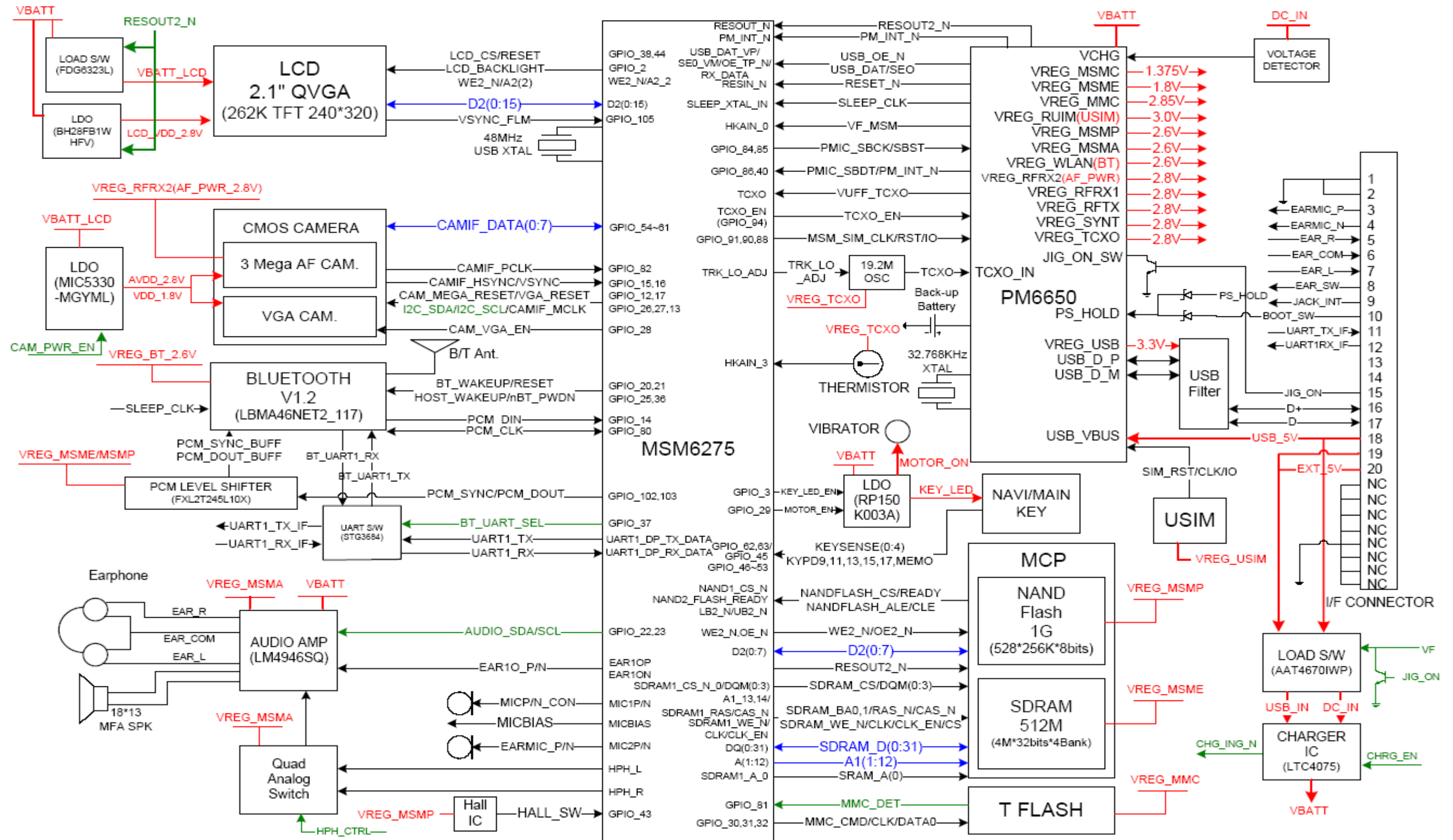
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U401	IC-POWER SUPERVISOR	1203-004102	SA
U402	IC-SWITCH	1205-002874	SNA
U403	IC-BATTERY	1203-003823	SA
U500	IC-AUDIO AMP	1201-002492	SA
U501	IC-ANALOG SWITCH	1001-001336	SA
U600	IC-MULTI REG.	1203-004330	SA
U601	IC-POSIXED REG.	1203-003523	SA
U700	IC-ANALOG SWITCH	1001-001336	SA
UCP300	IC-MODEM	1205-002790	SA
UME300	IC-MCP	1108-000061	SA
VCO100	OSCILLATOR-VCO	2806-001380	SA
VR300	THERMISTOR-NTC	1404-001224	SA
VR600	VARISTOR	1405-001177	SA
VR601	VARISTOR	1405-001177	SA
VR602	VARISTOR	1405-001177	SA
VR603	VARISTOR	1405-001177	SA
VR604	VARISTOR	1405-001177	SA
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VR608	VARISTOR	1405-001177	SA
VR609	VARISTOR	1405-001177	SA
VR610	VARISTOR	1405-001177	SA
VR611	VARISTOR	1405-001177	SA
VR612	VARISTOR	1405-001177	SA
VR613	VARISTOR	1405-001177	SA
VR614	VARISTOR	1405-001177	SA
VR615	VARISTOR	1405-001177	SA
VR616	VARISTOR	1405-001177	SA
VR700	VARISTOR	1405-001177	SA
ZD500	DIODE-TVS	0406-001254	SA
ZD501	DIODE-TVS	0406-001254	SA
ZD600	DIODE-TVS	0406-001254	SA
ZD601	DIODE-TVS	0406-001254	SA
ZD603	DIODE-TVS	0406-001208	SA
ZD604	DIODE-TVS	0406-001208	SA
ZD605	DIODE-ZENER	0403-001427	SA
ZD606	DIODE-ZENER	0403-001547	SA
ZD700	DIODE-TVS	0406-001208	SA
ZD701	DIODE-TVS	0406-001208	SA
ZD702	DIODE-TVS	0406-001215	SA

7. Block Diagrams

7-1. RF Solution Block Diagram

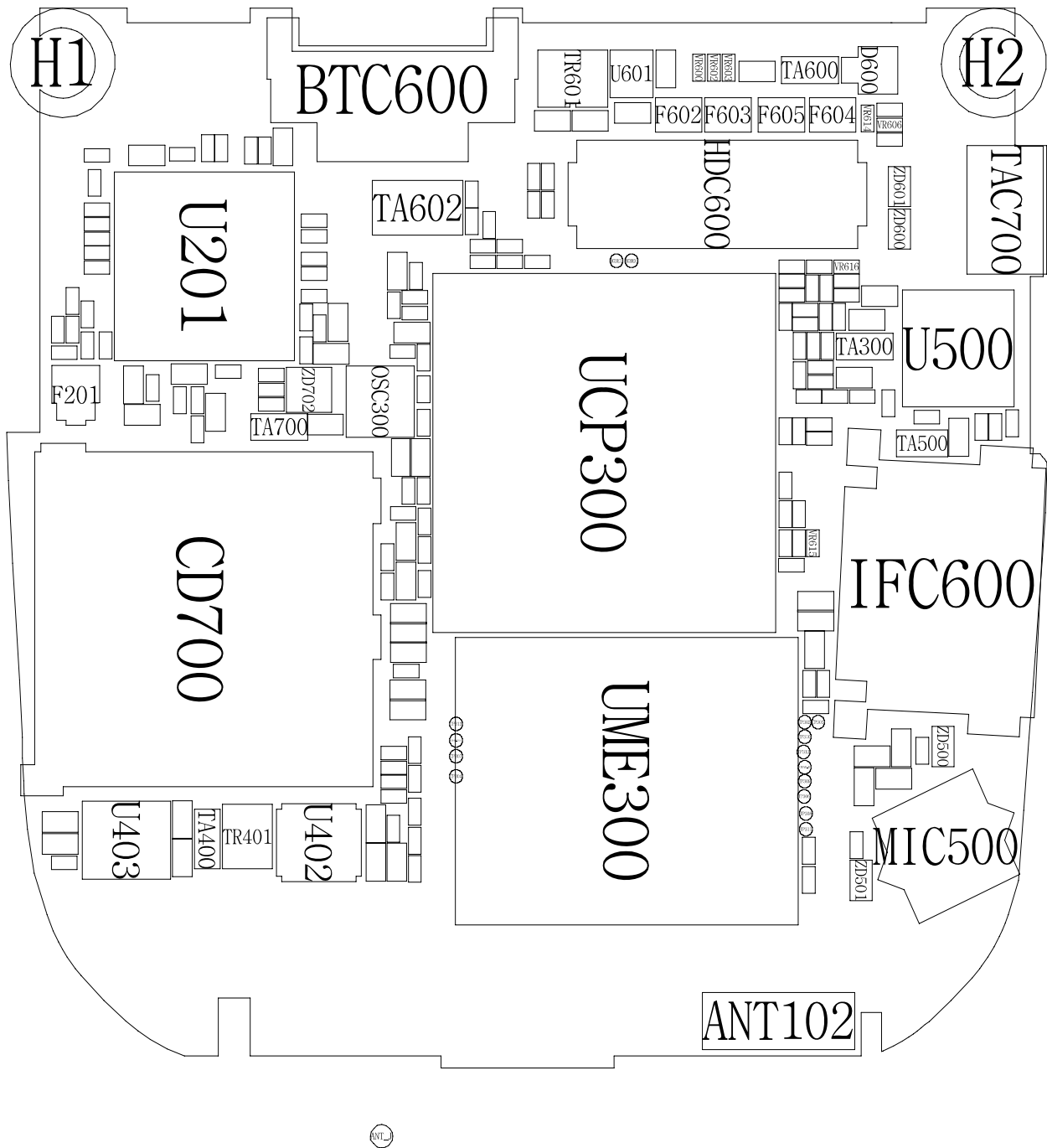


7-2. Logic Block Diagram

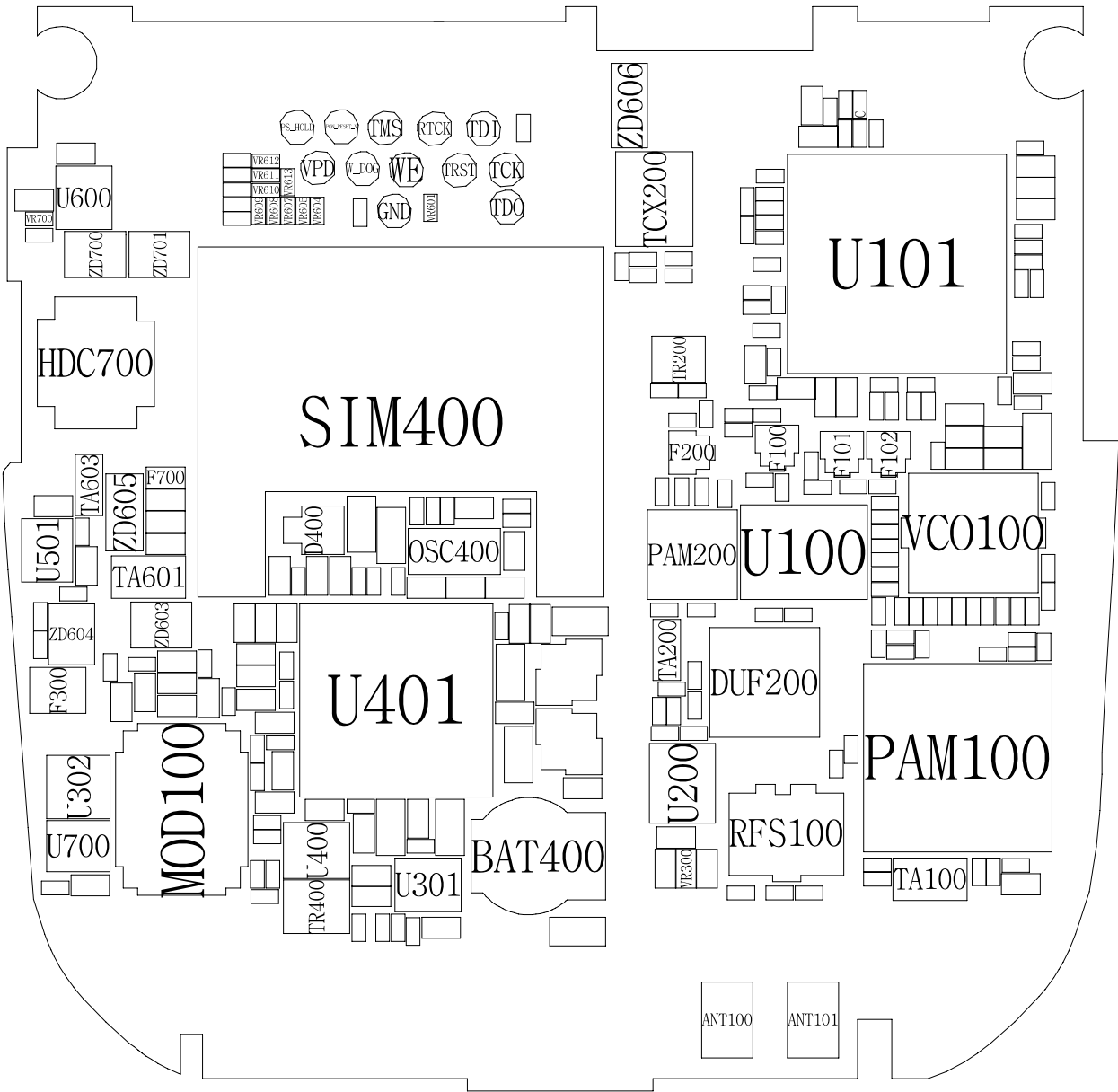


8. PCB Diagrams

Top

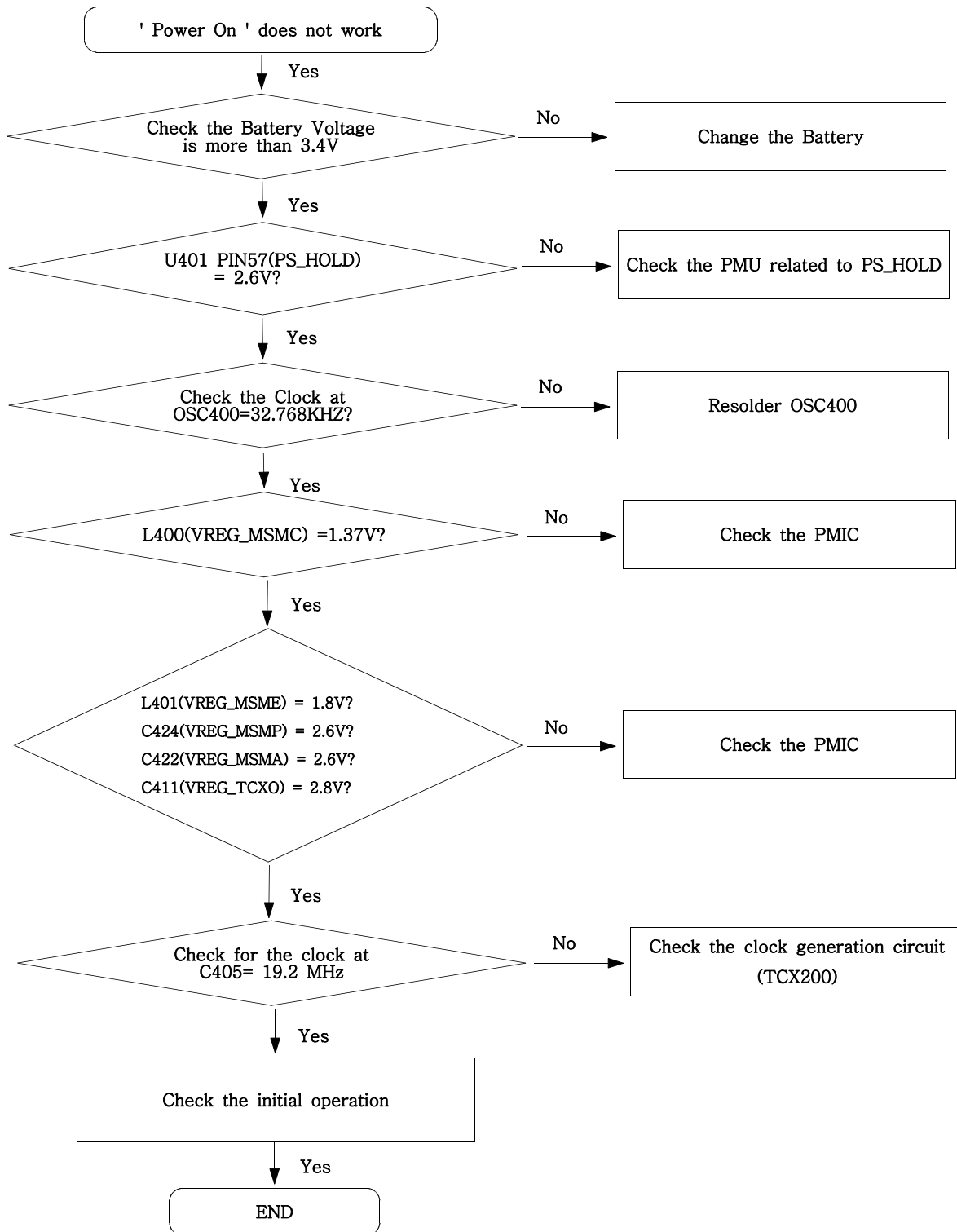


Bottom

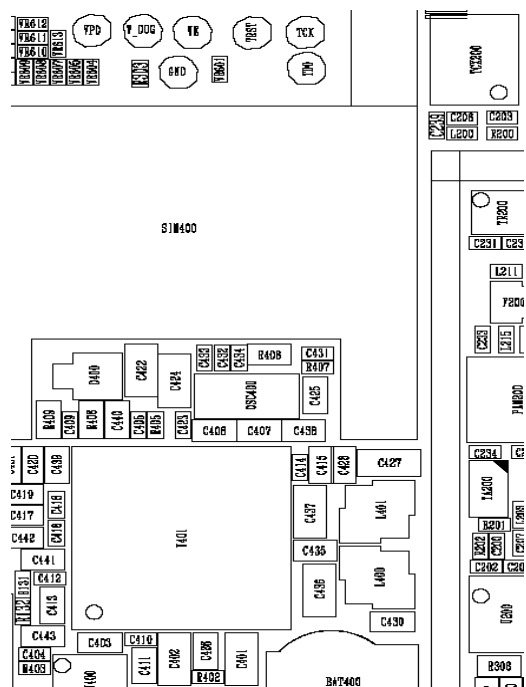
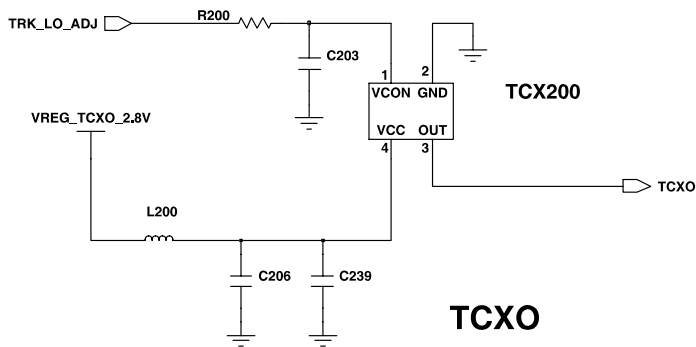
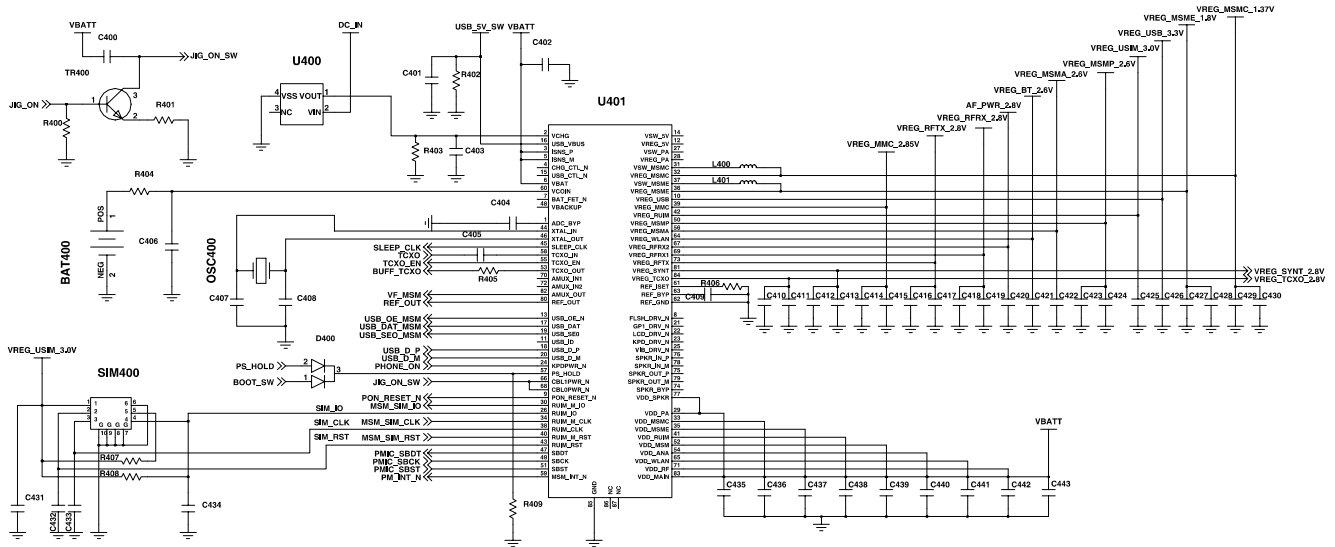


9. Flow Chart of Troubleshooting

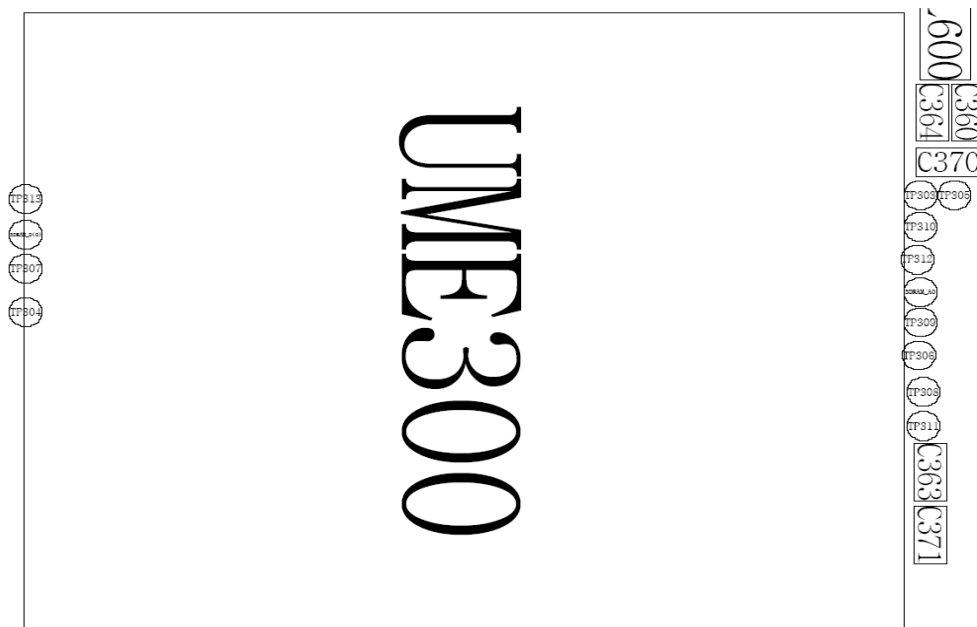
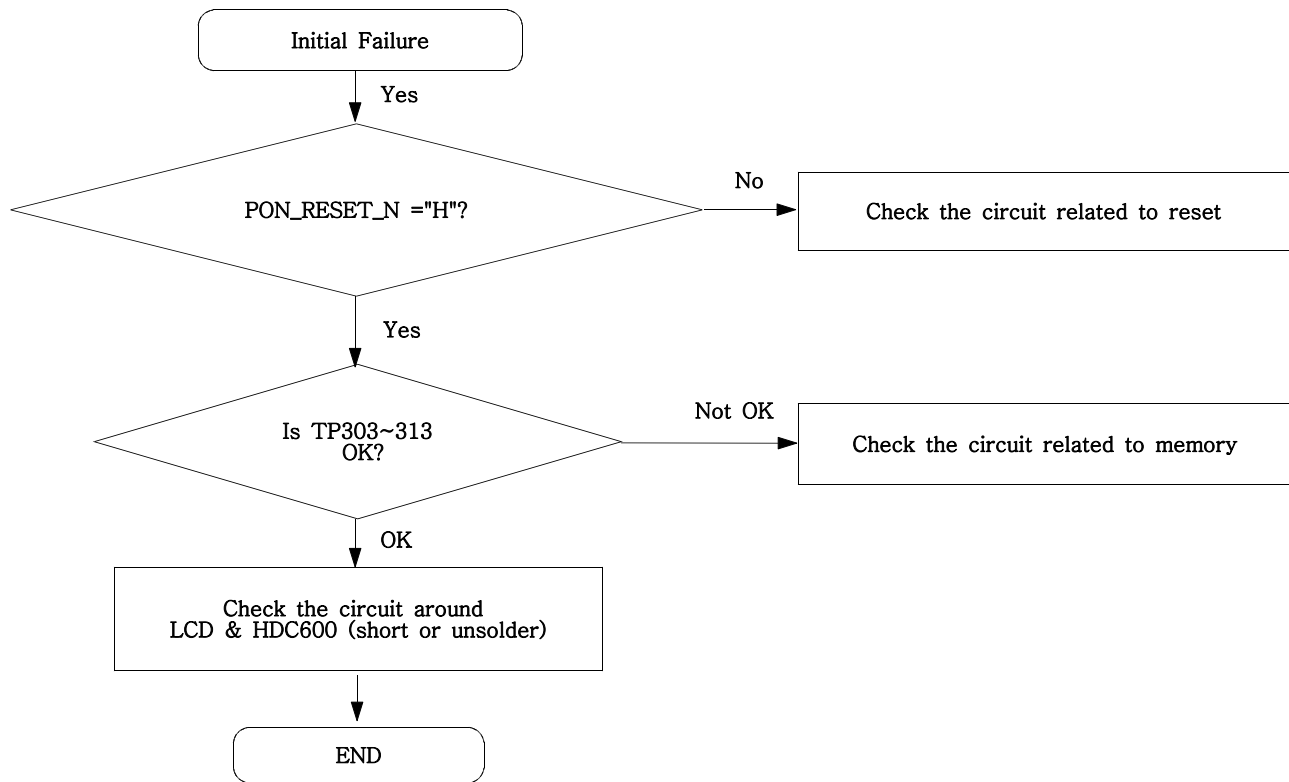
9-1. Power On



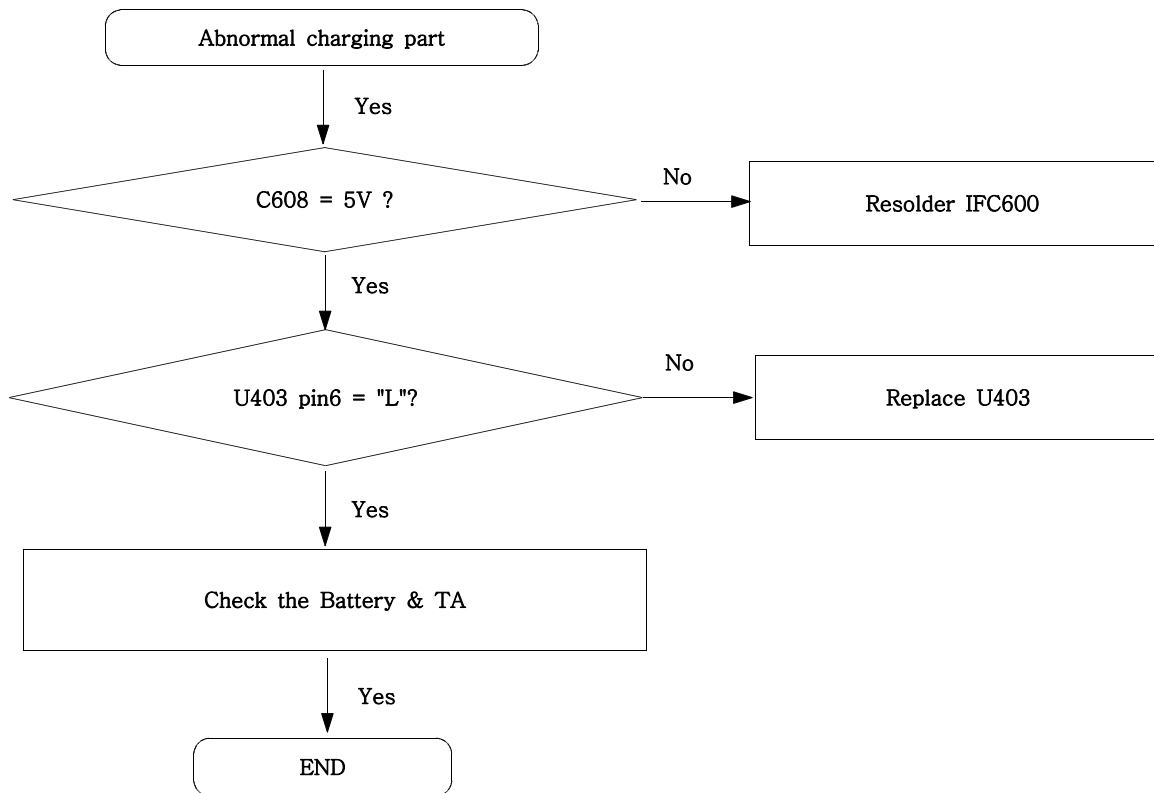
Power On

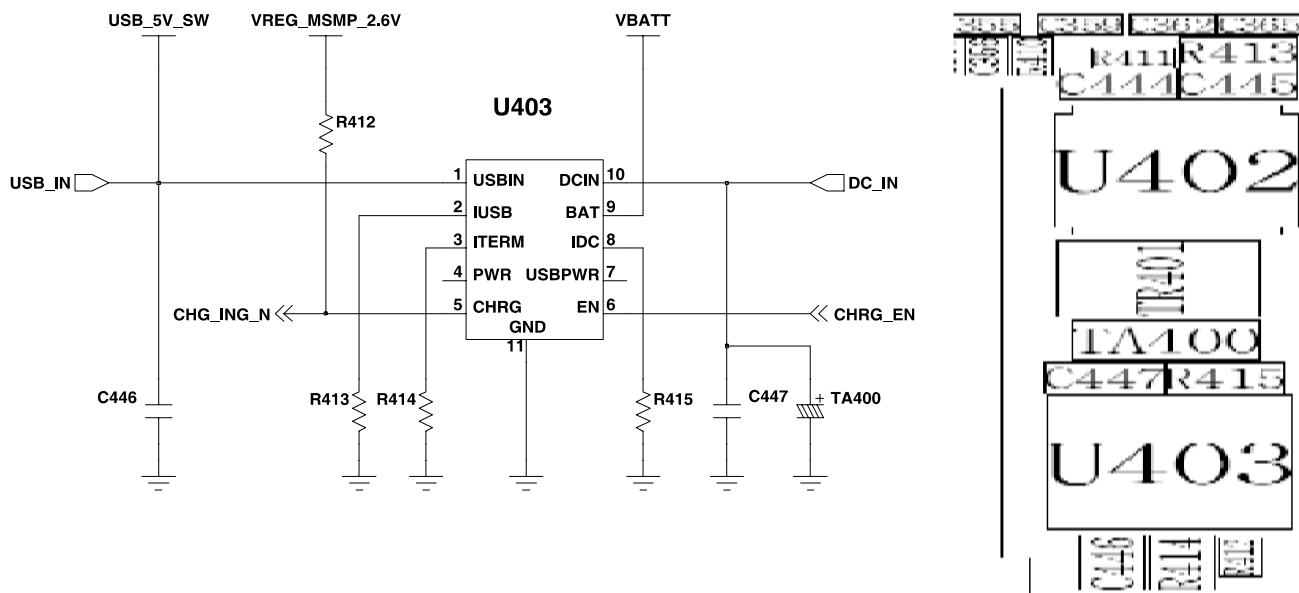
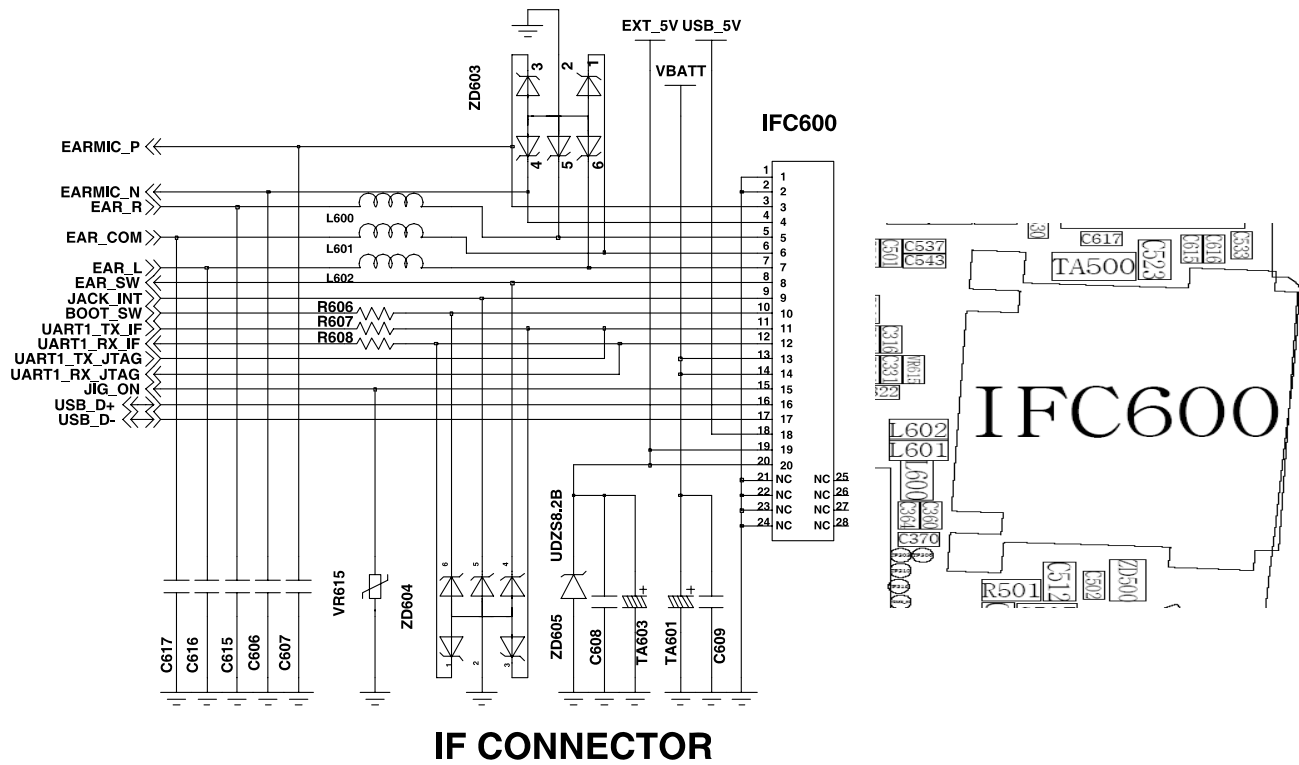


9-2. Initial

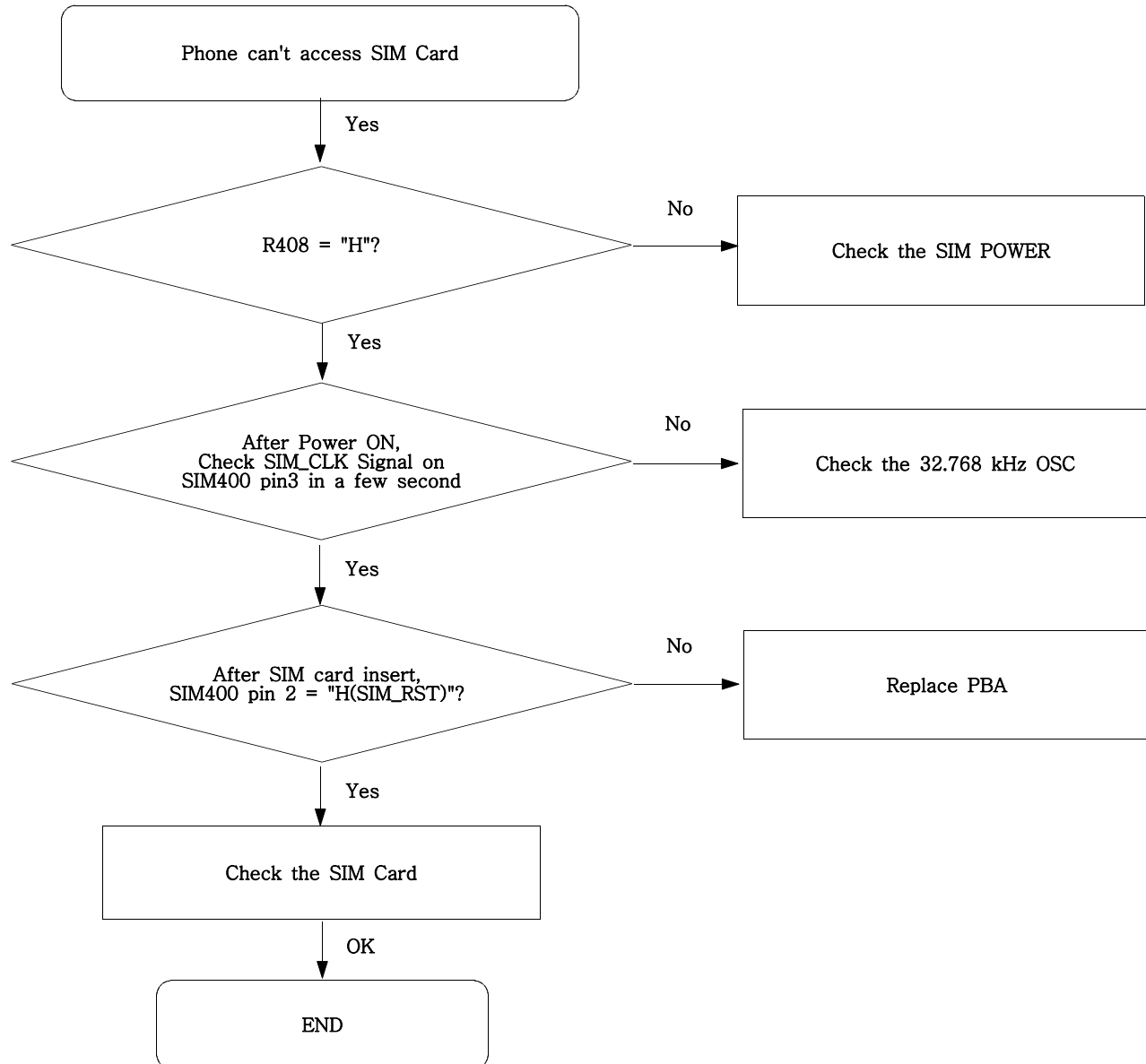


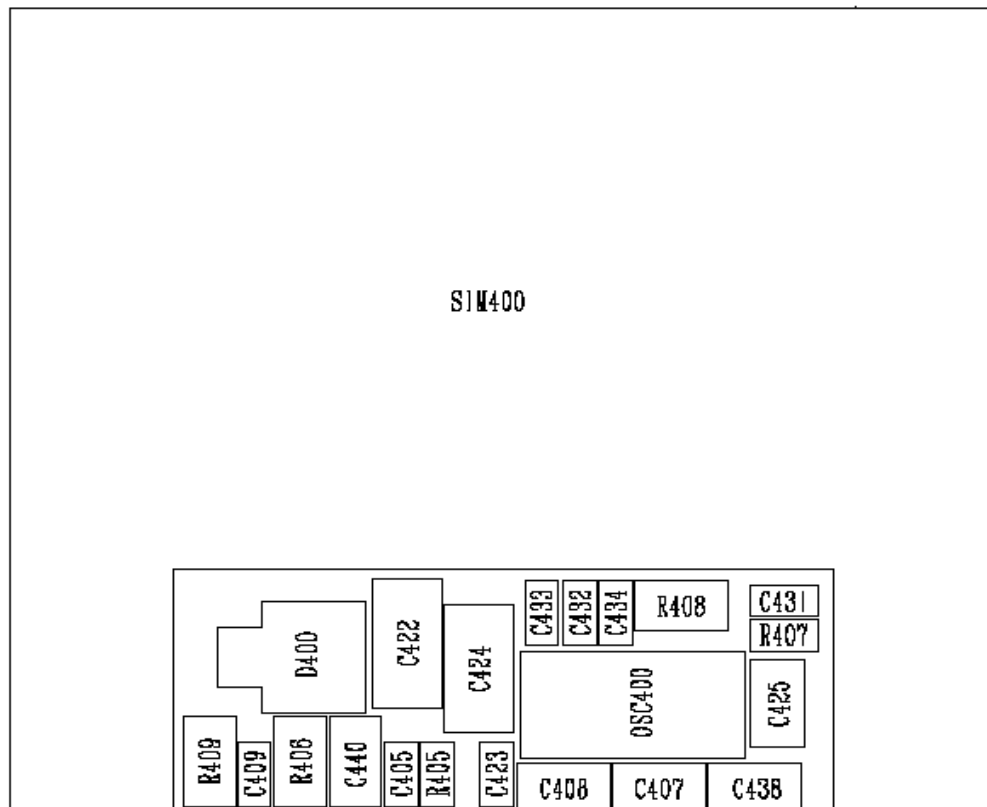
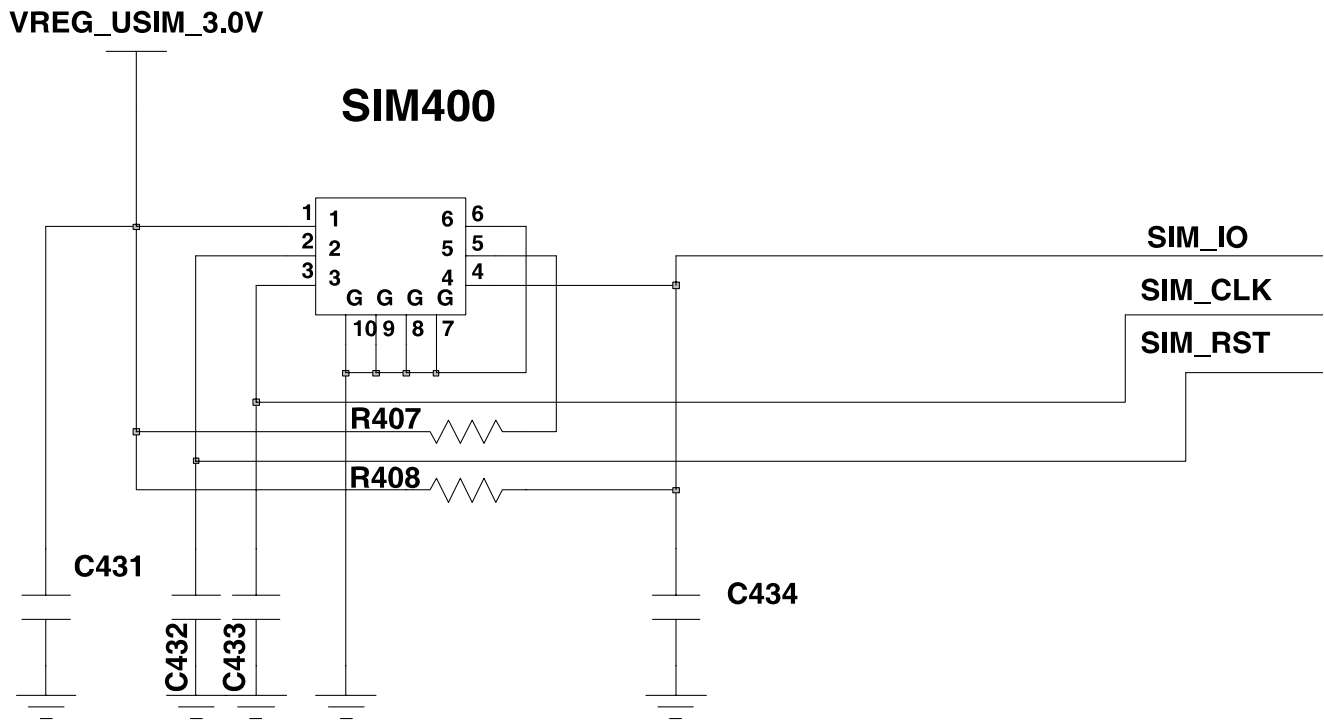
9-3. Charging Part



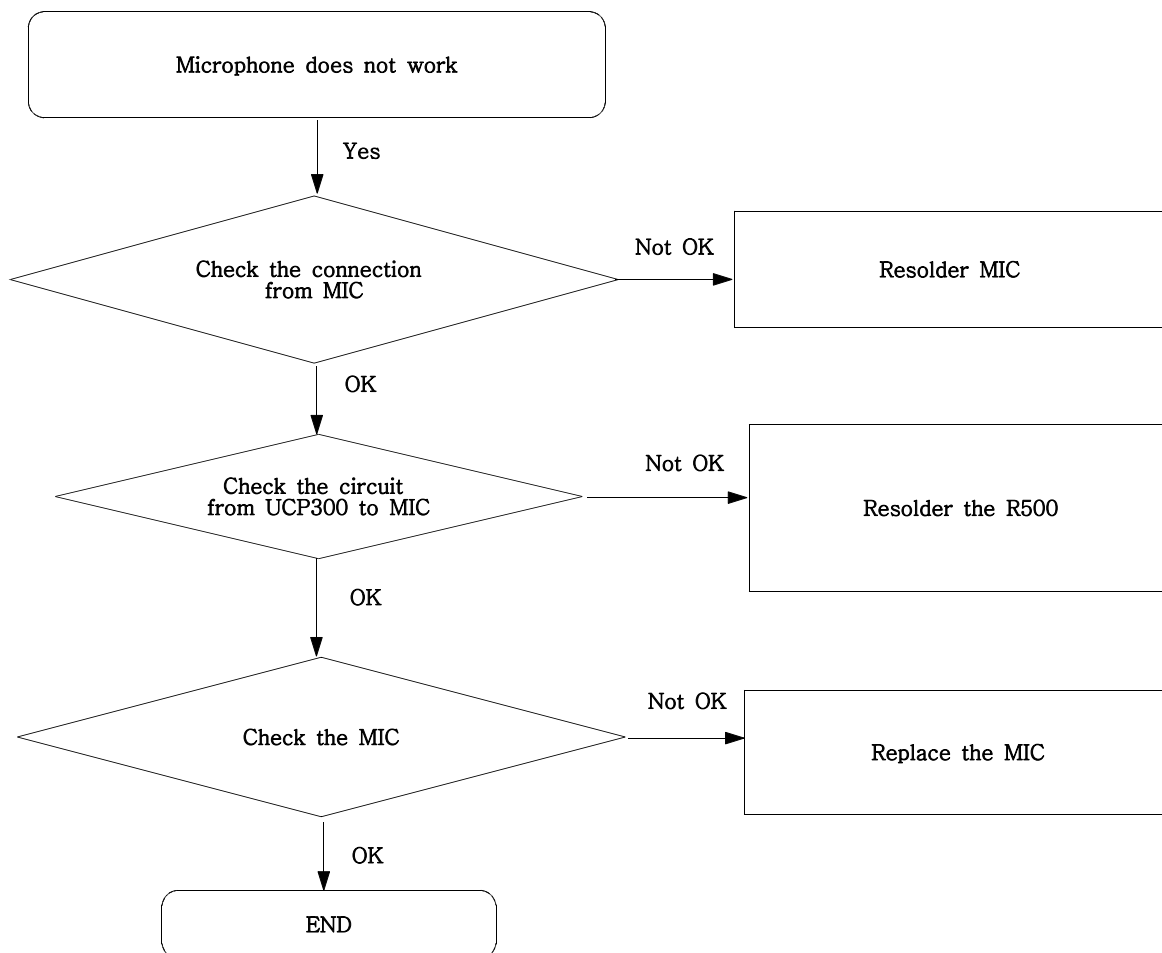


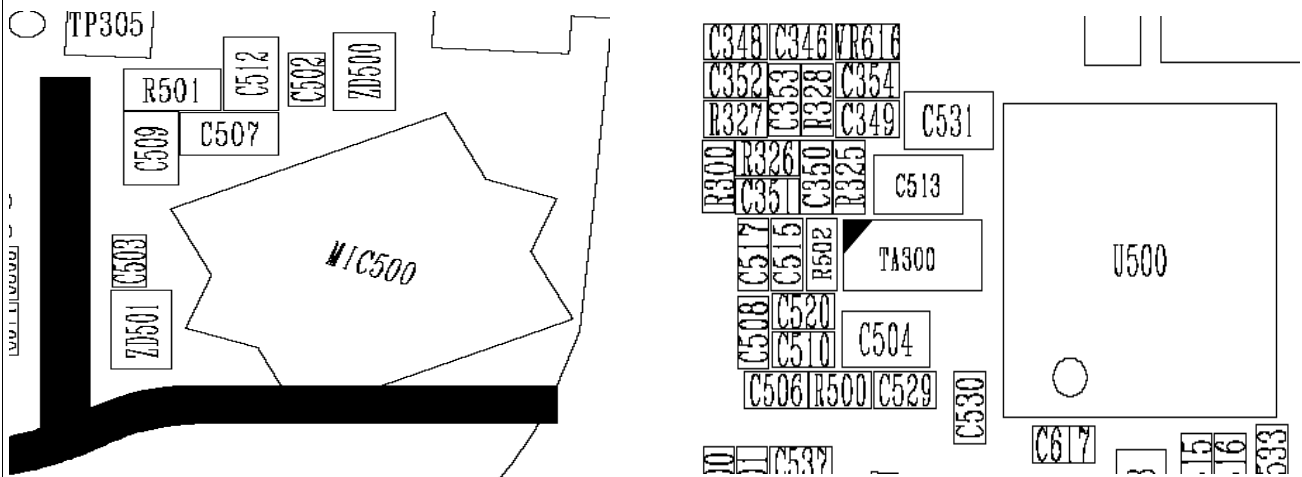
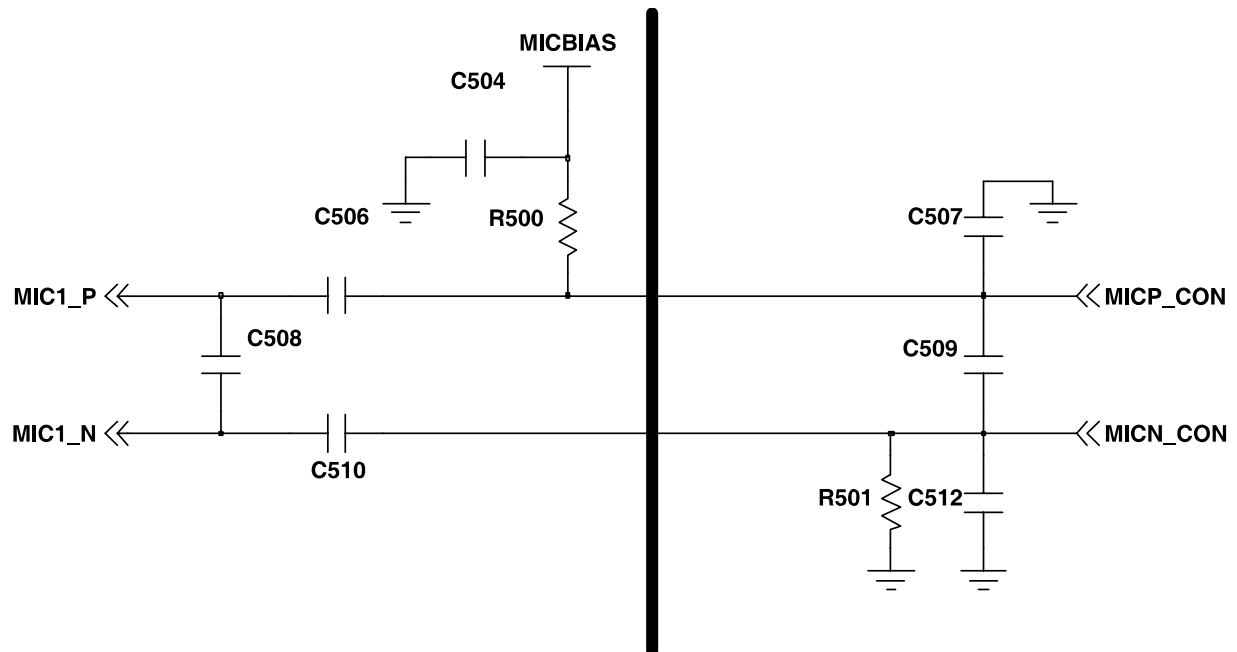
9-4. SIM Part



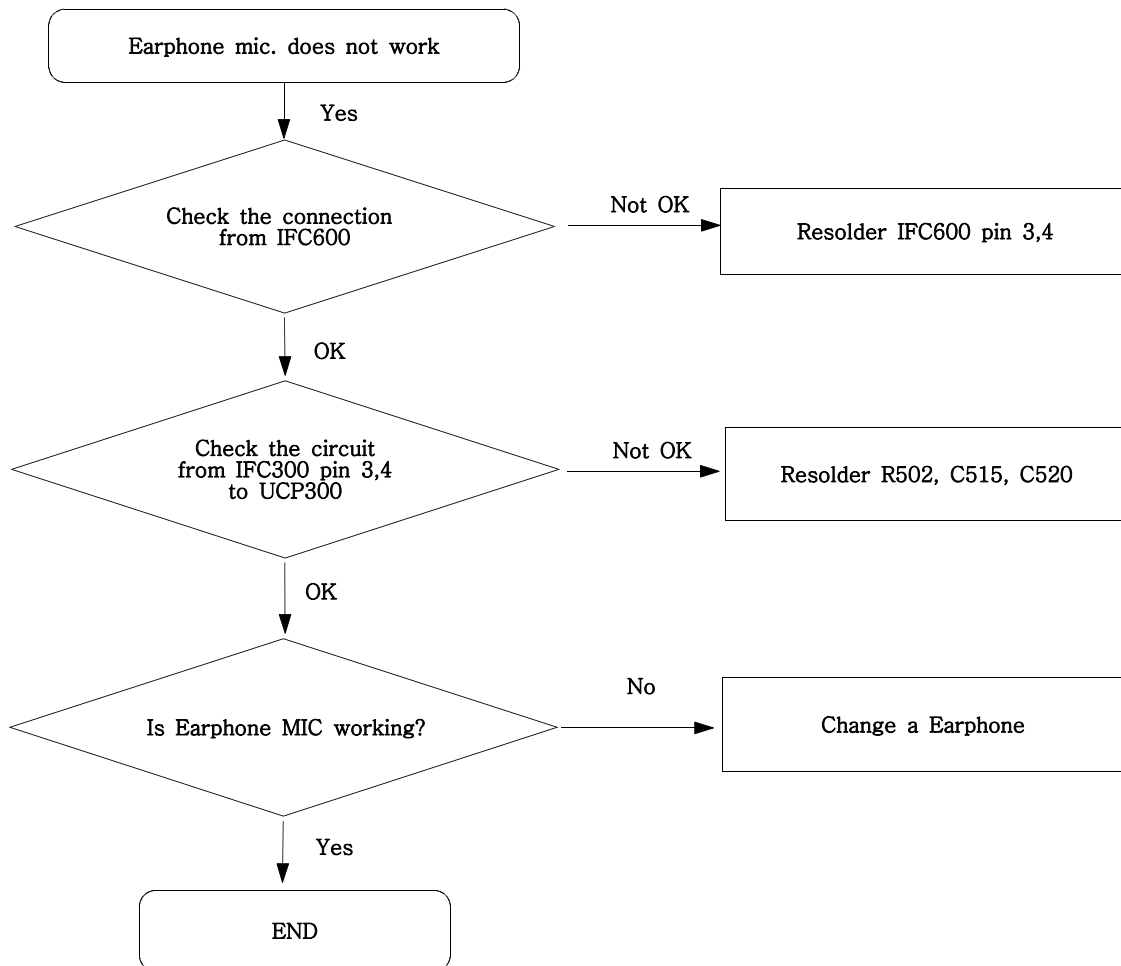


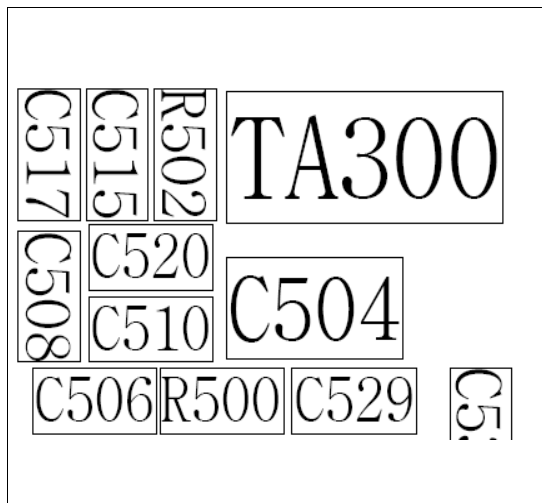
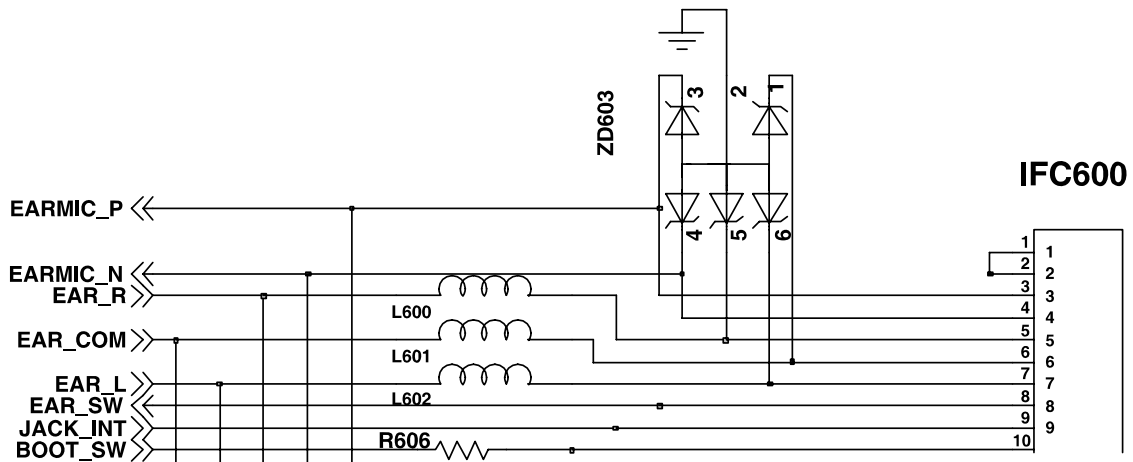
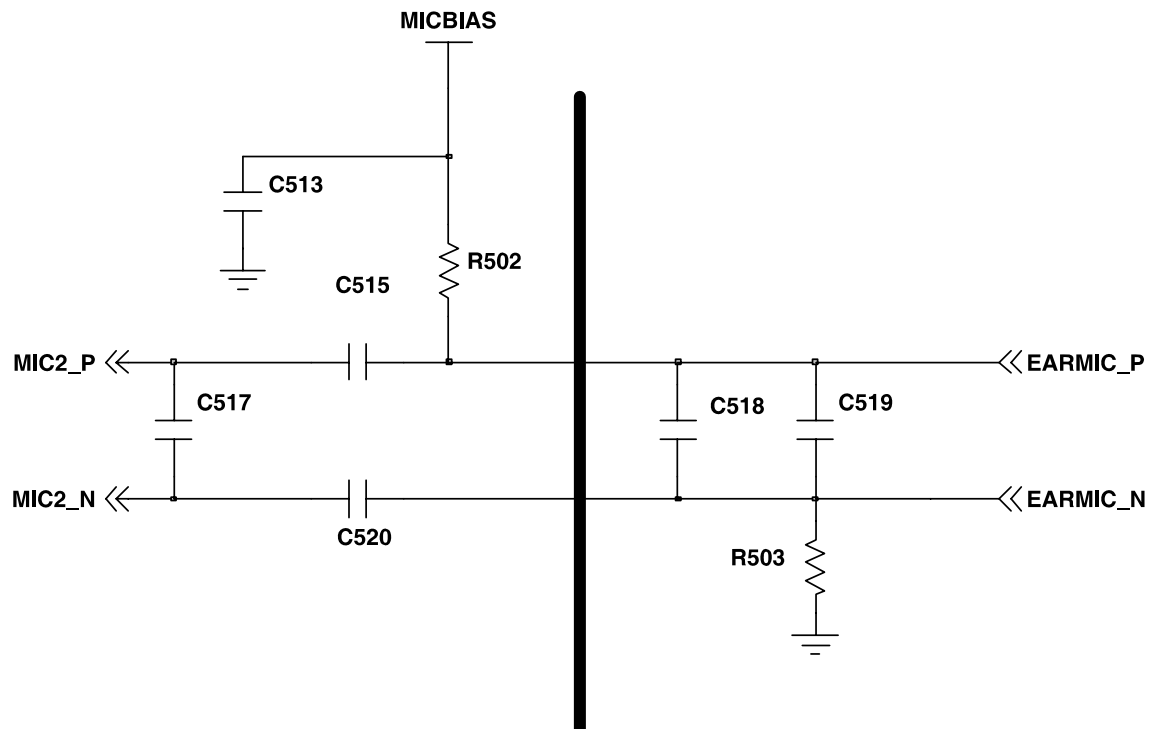
9-5. Microphone Part – Phone MIC



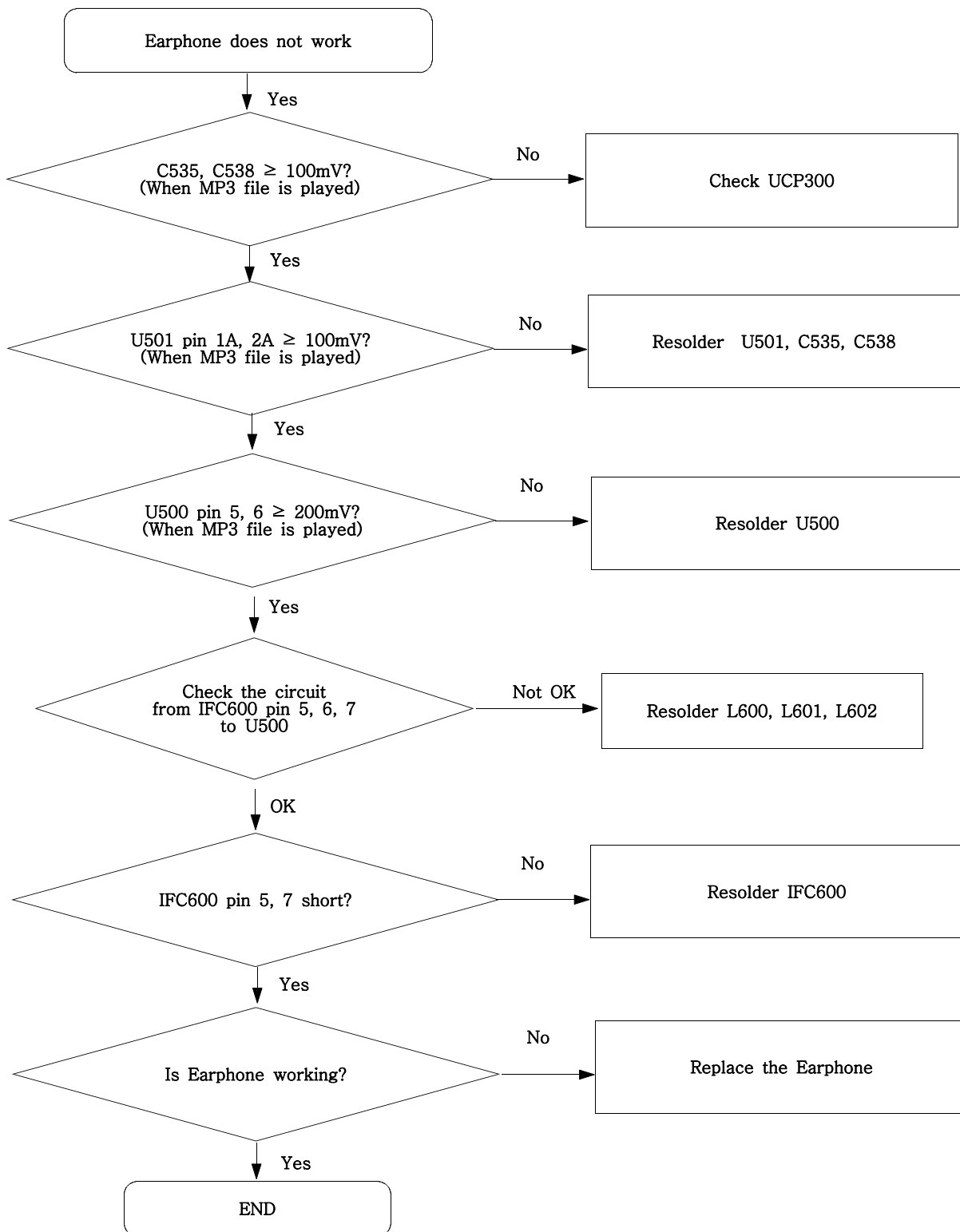


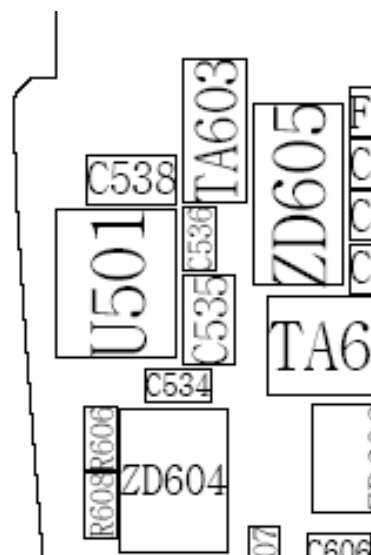
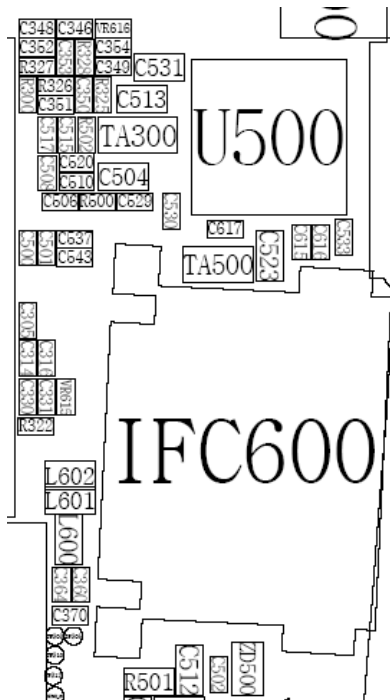
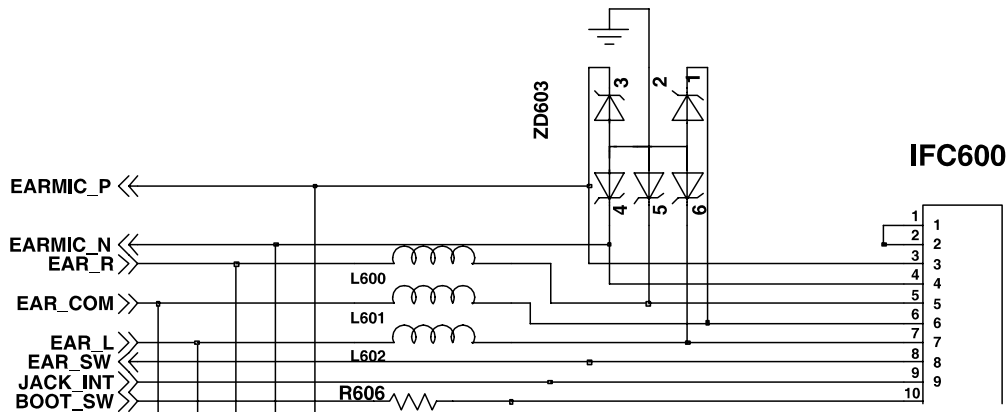
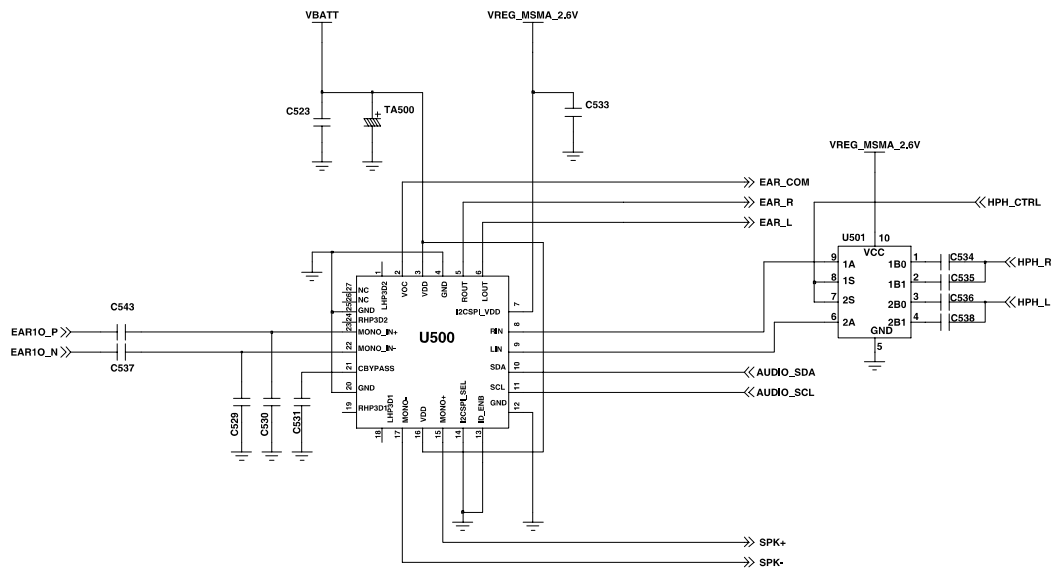
9-6 Microphone Part – Earphone MIC



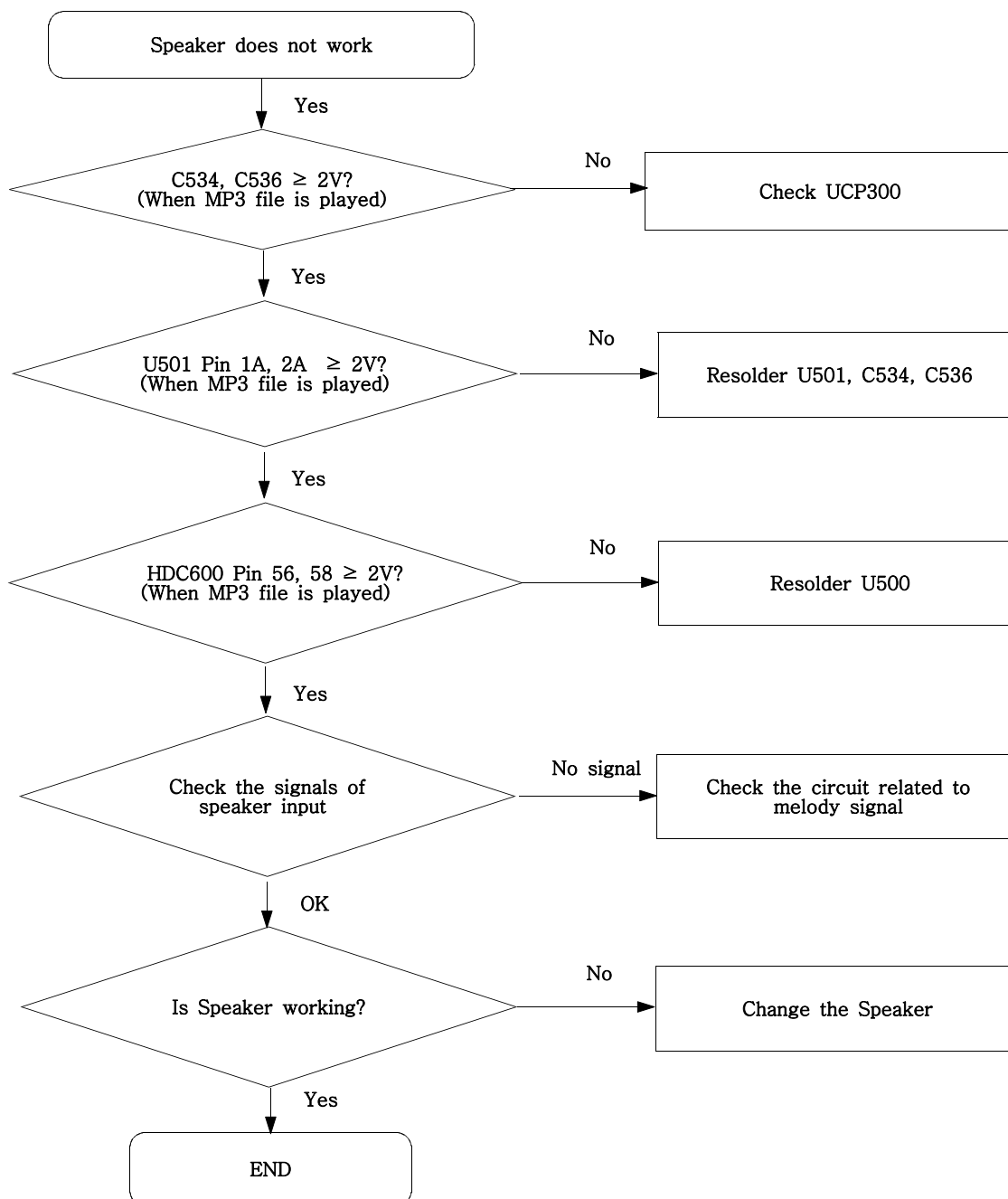


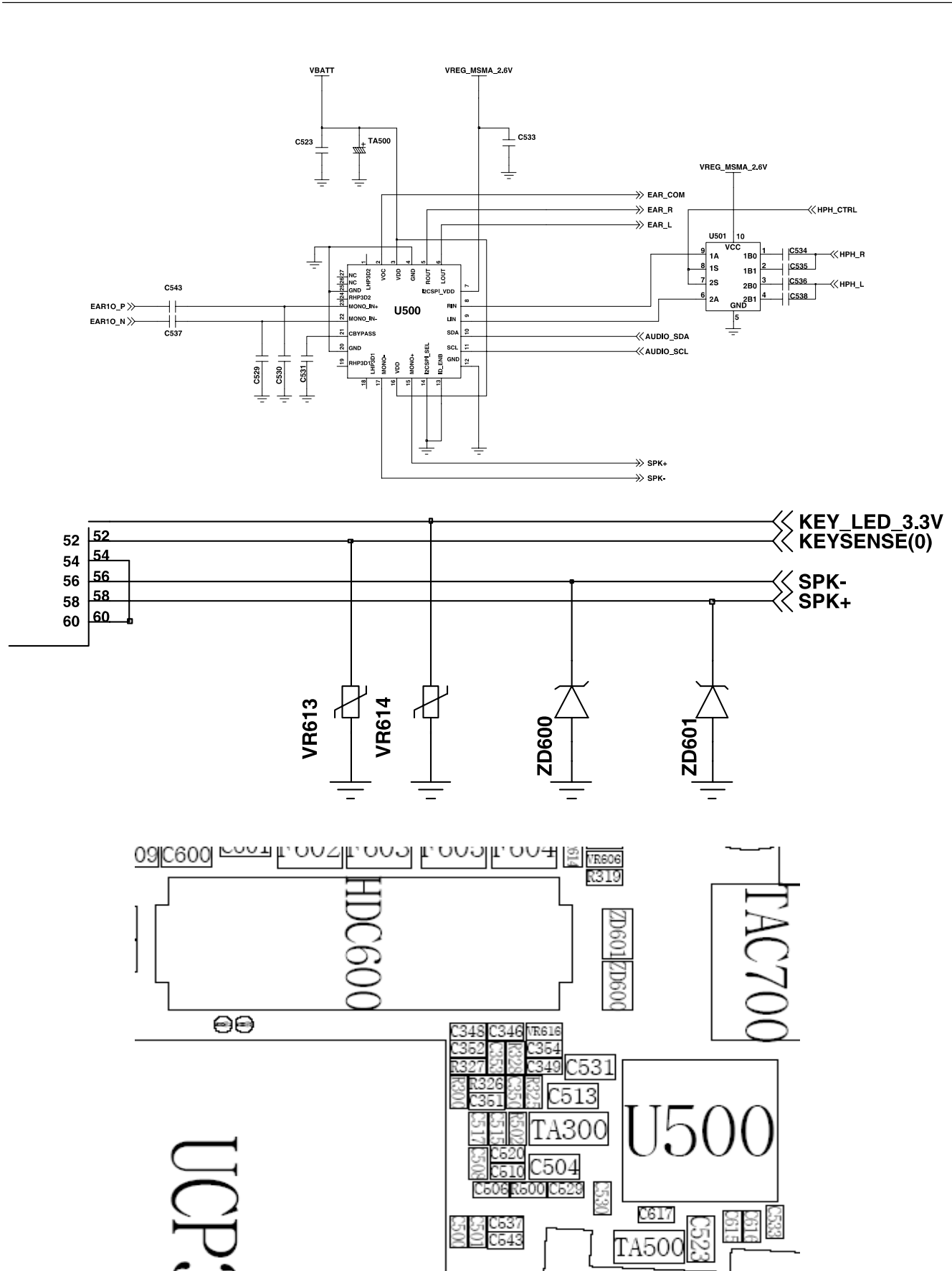
9-7. Earphone Part



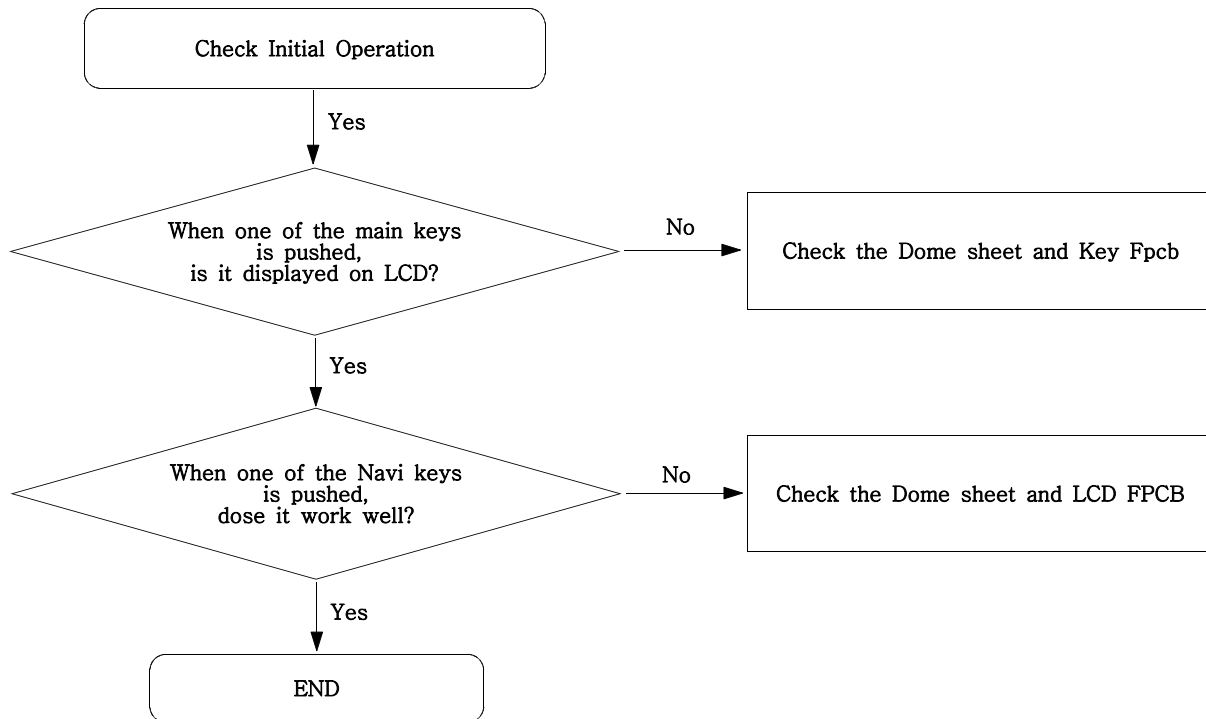


9-8. Speaker Part

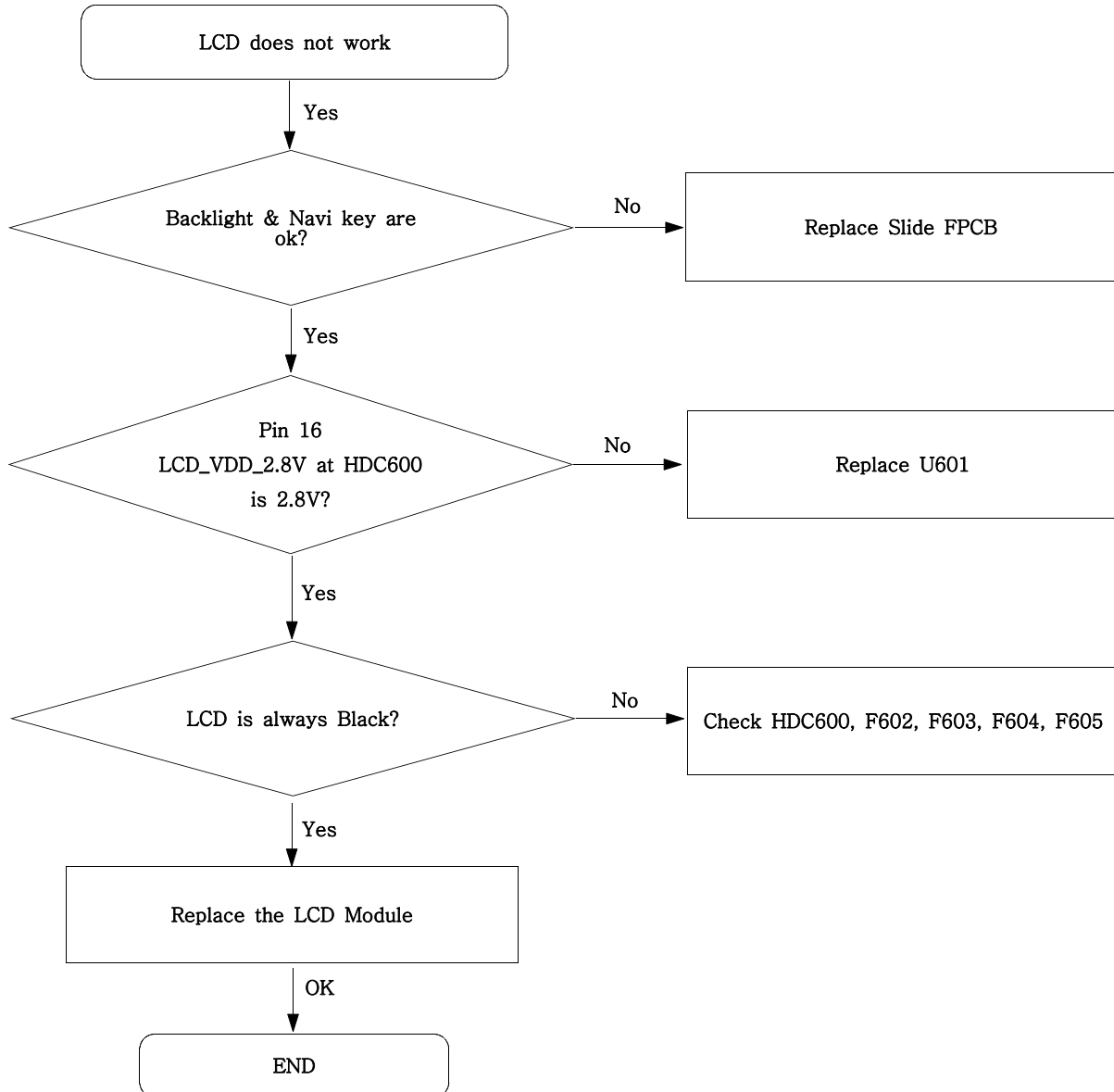


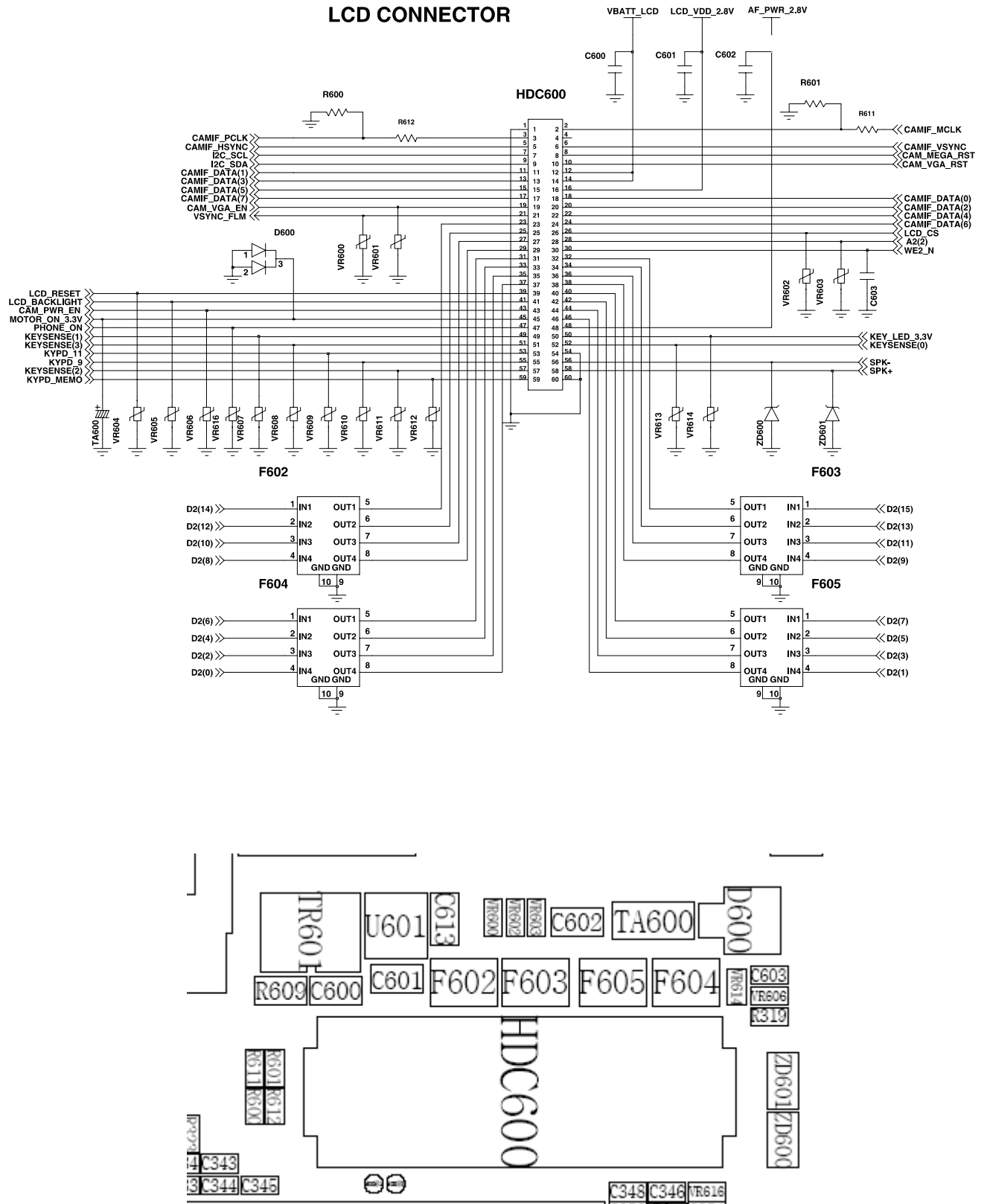


9-9. Key Data Input

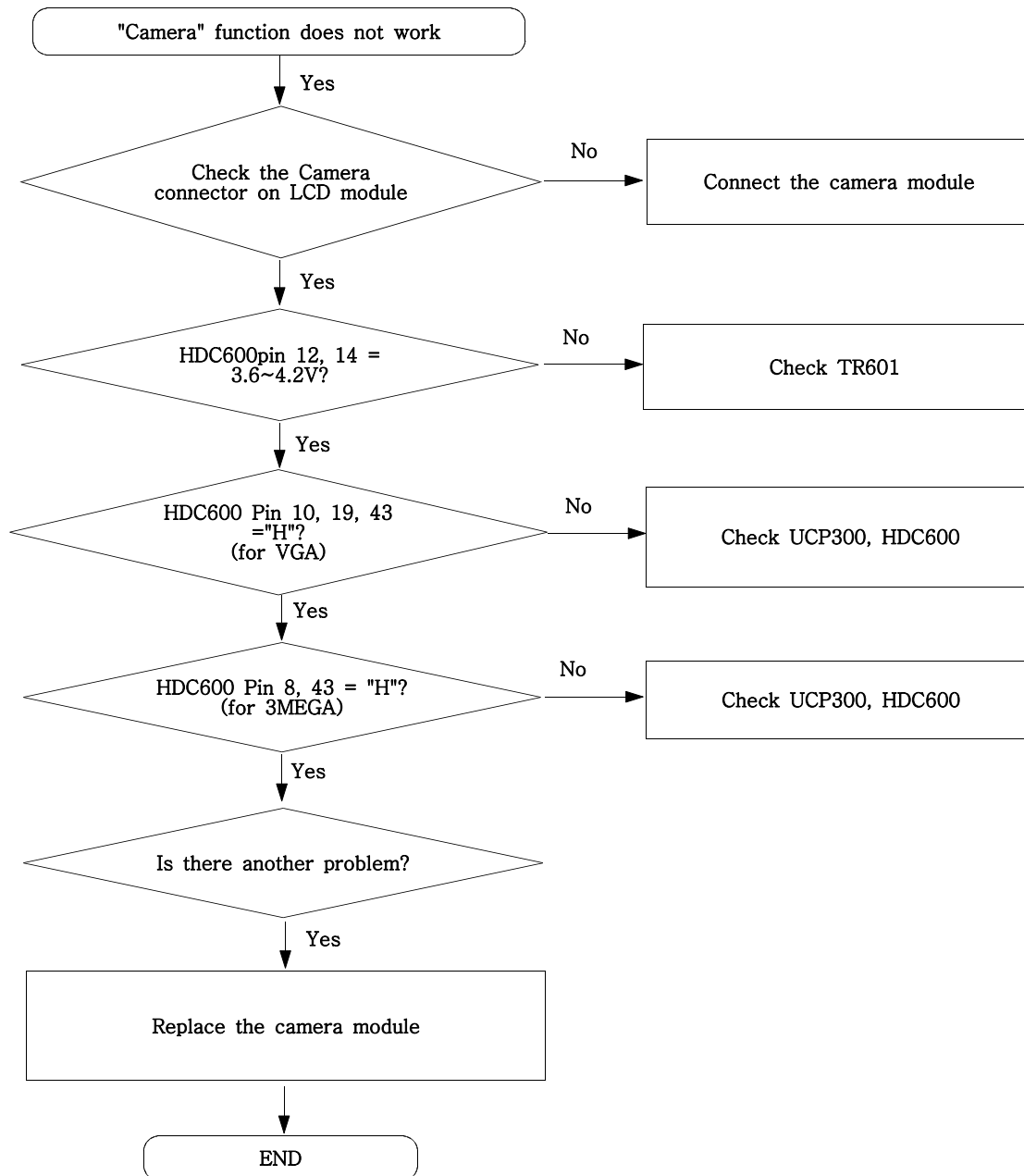


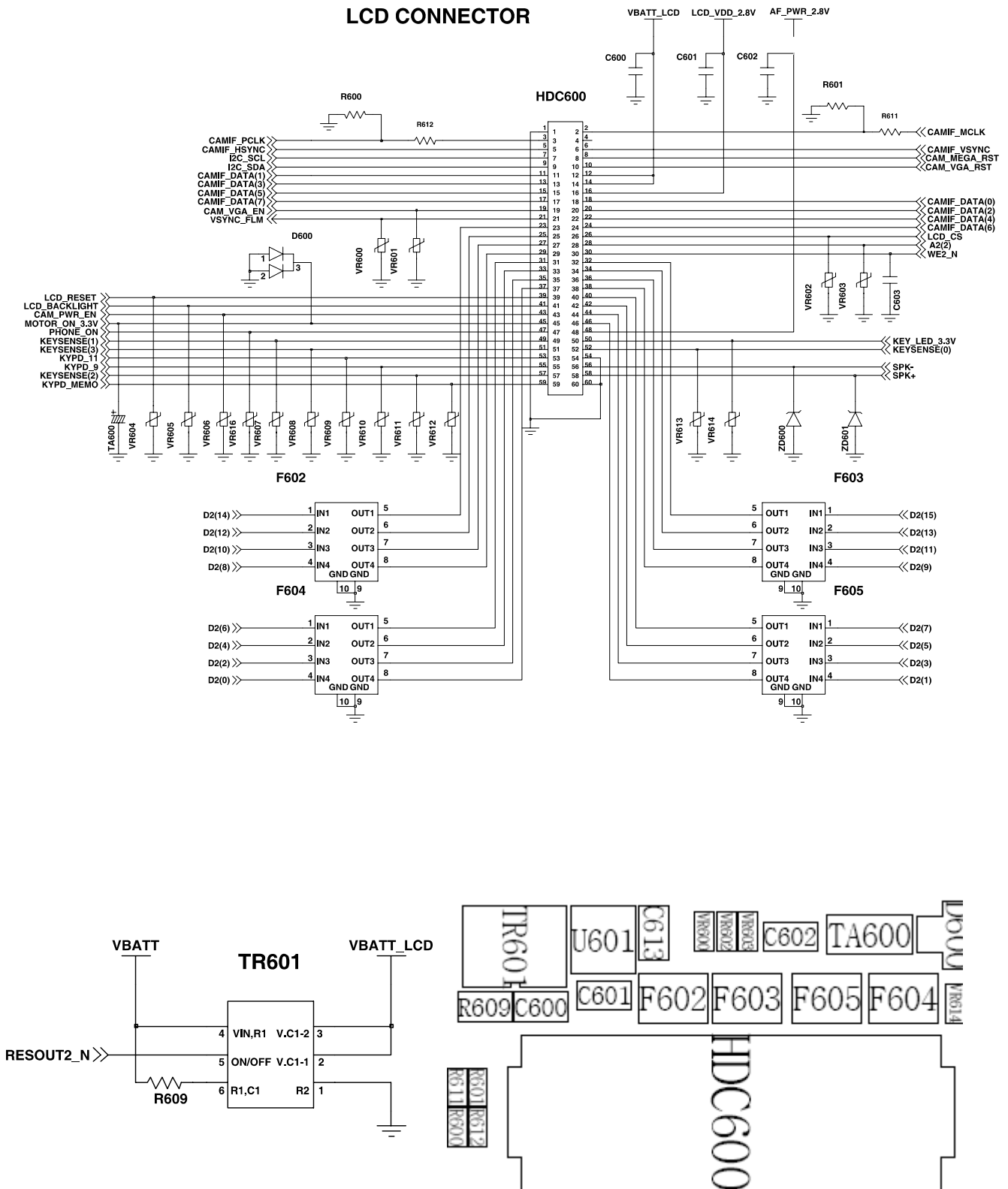
9-10. LCD part



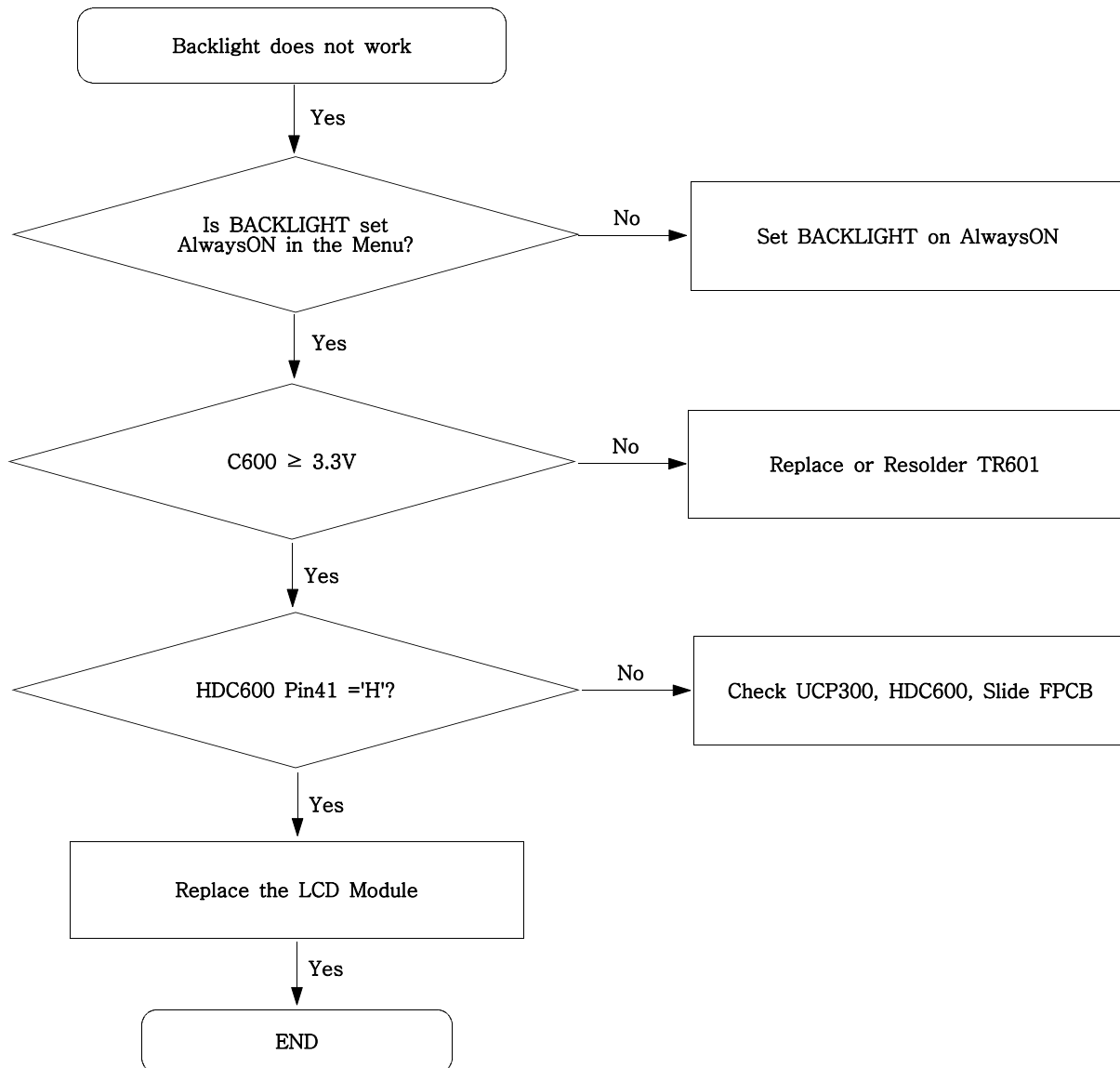


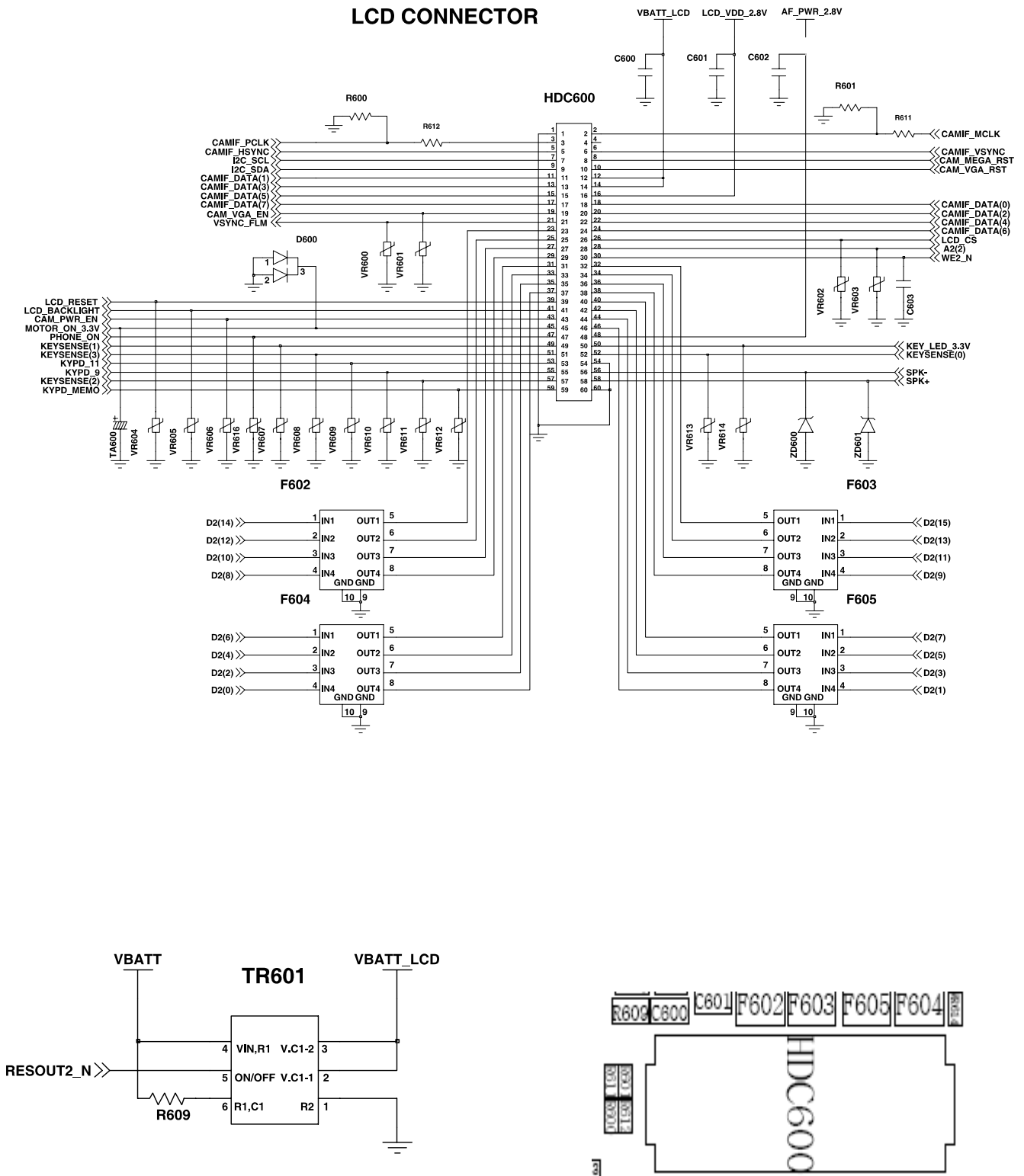
9-11. Camera part



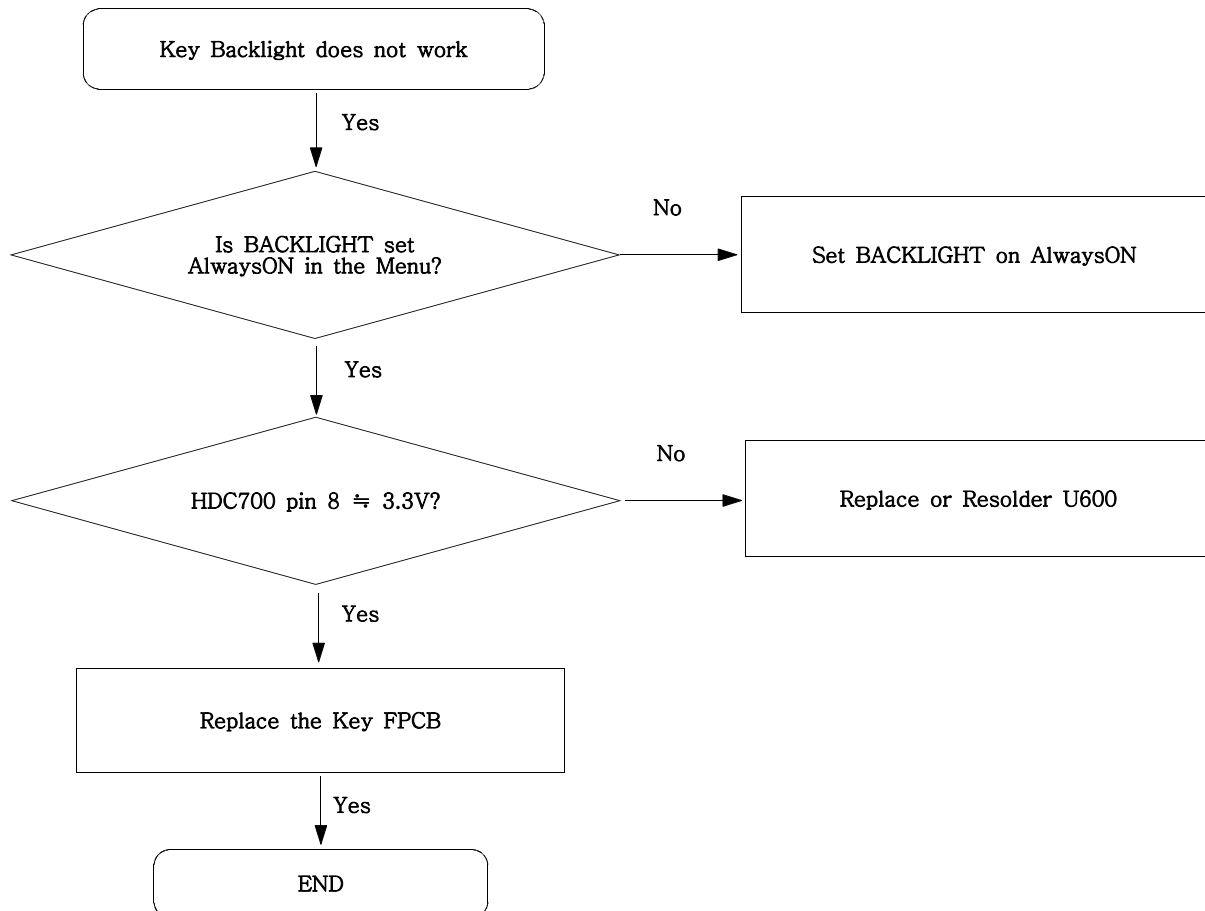


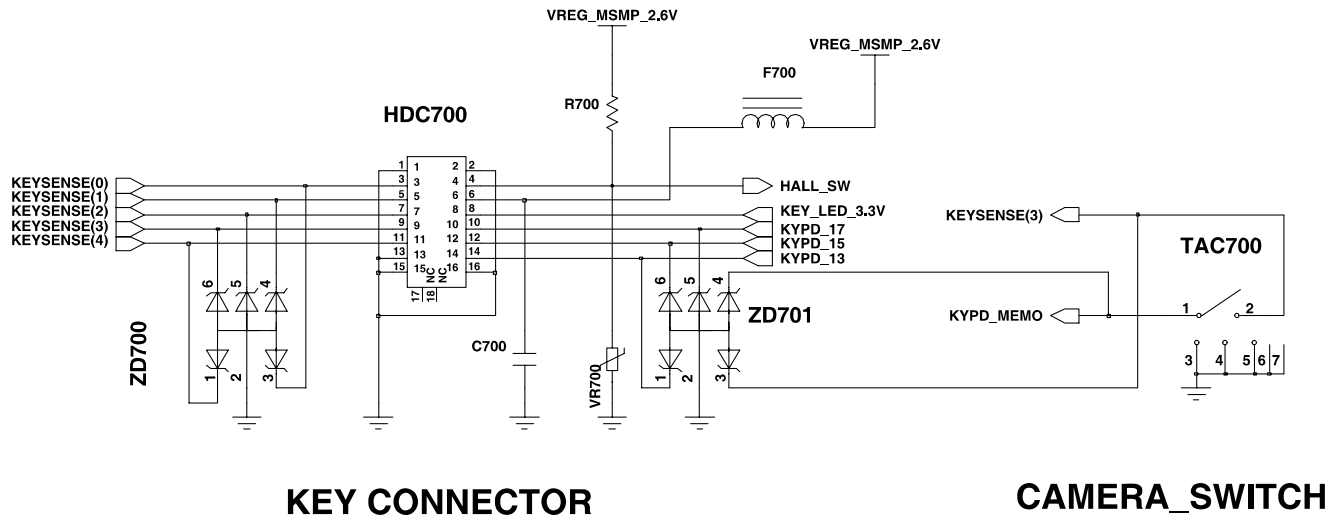
9-12. LCD Back Light





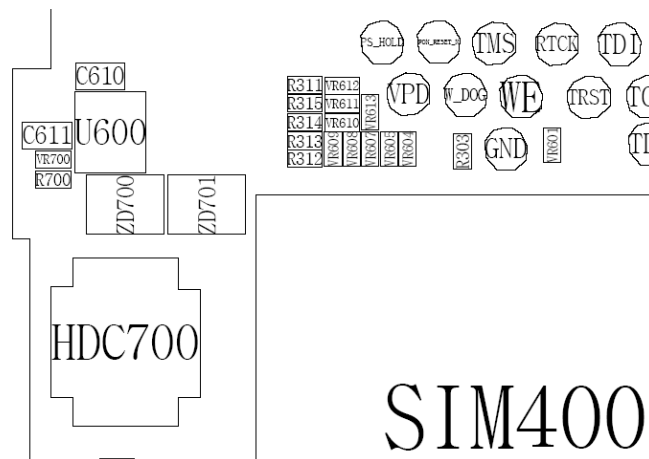
9-13. Key Back Light





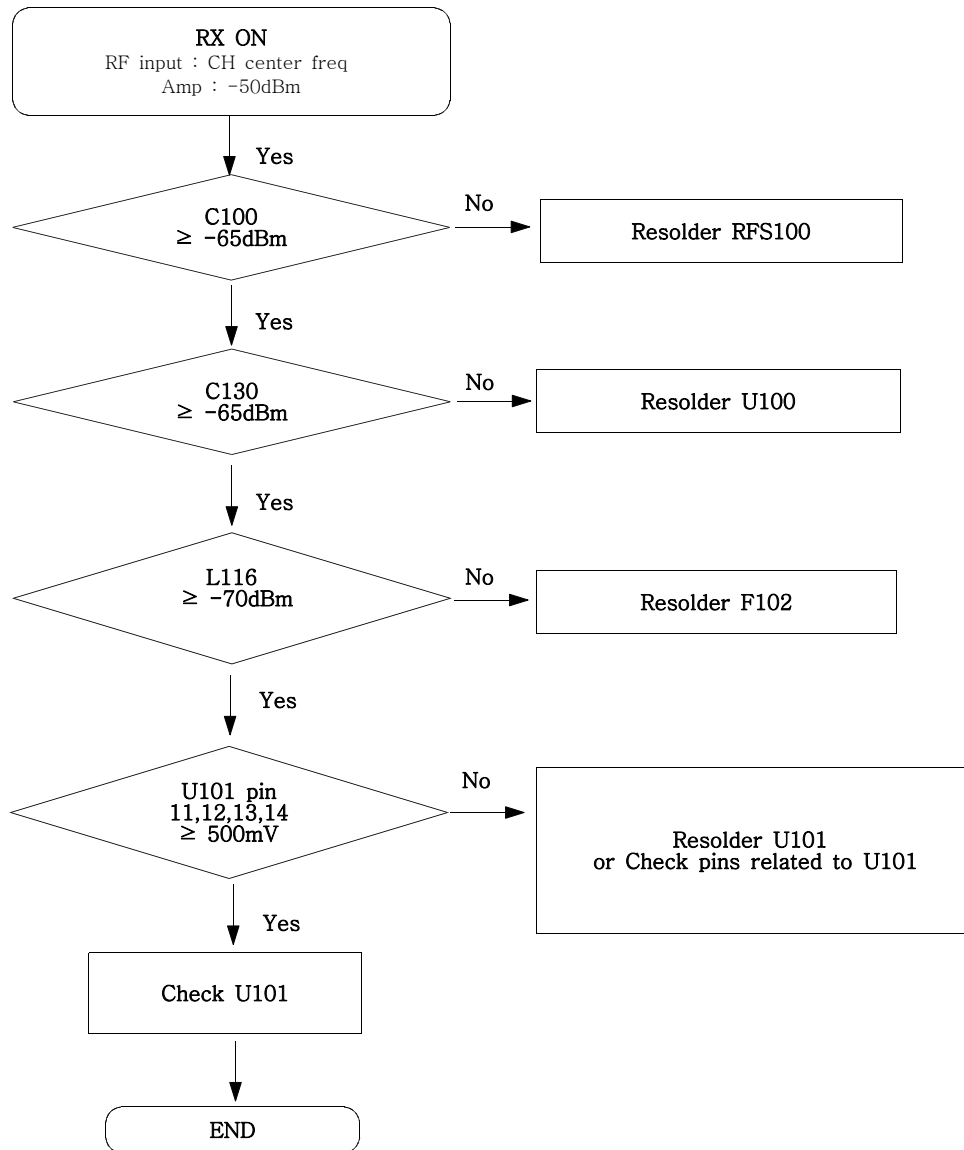
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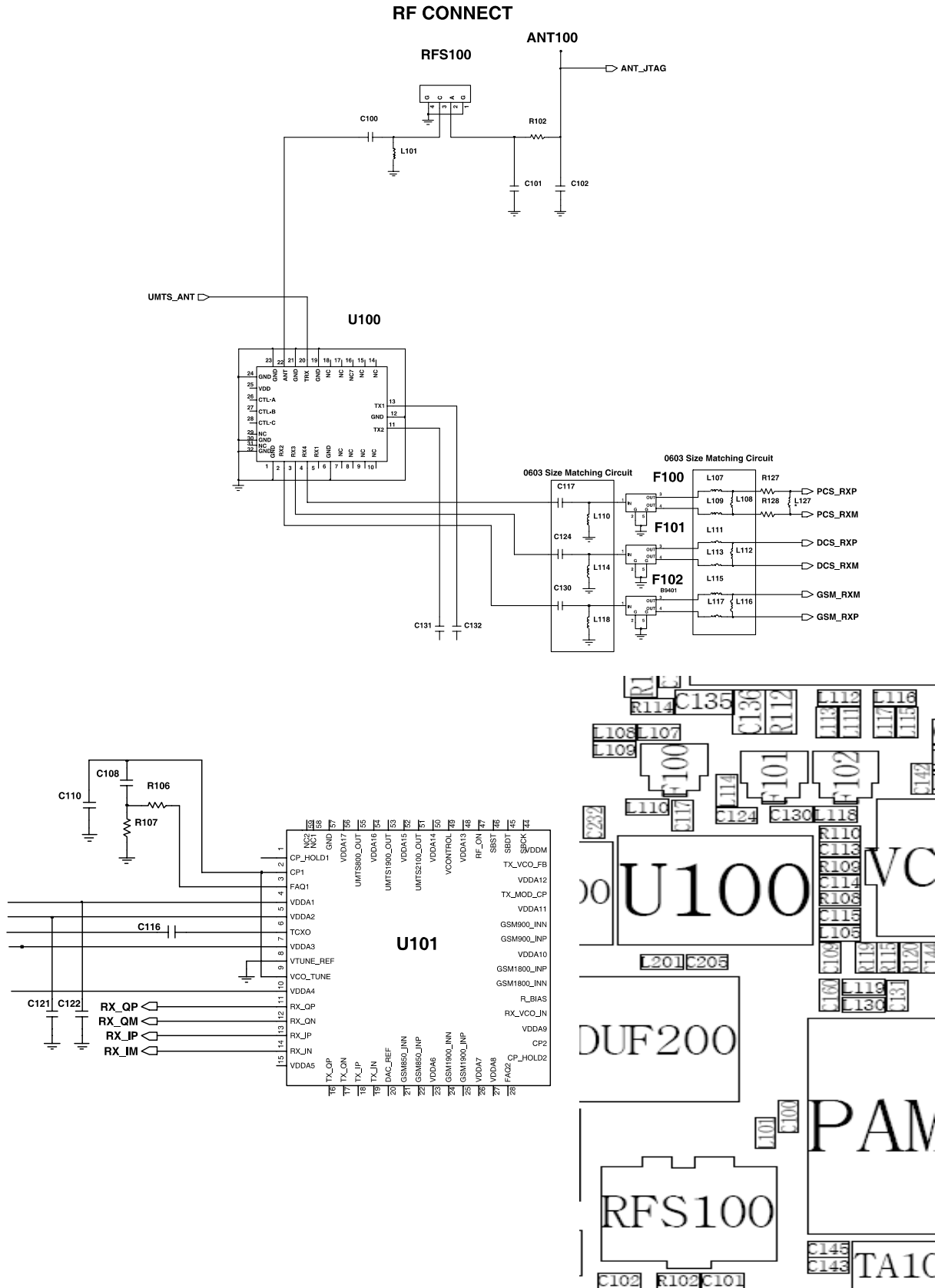
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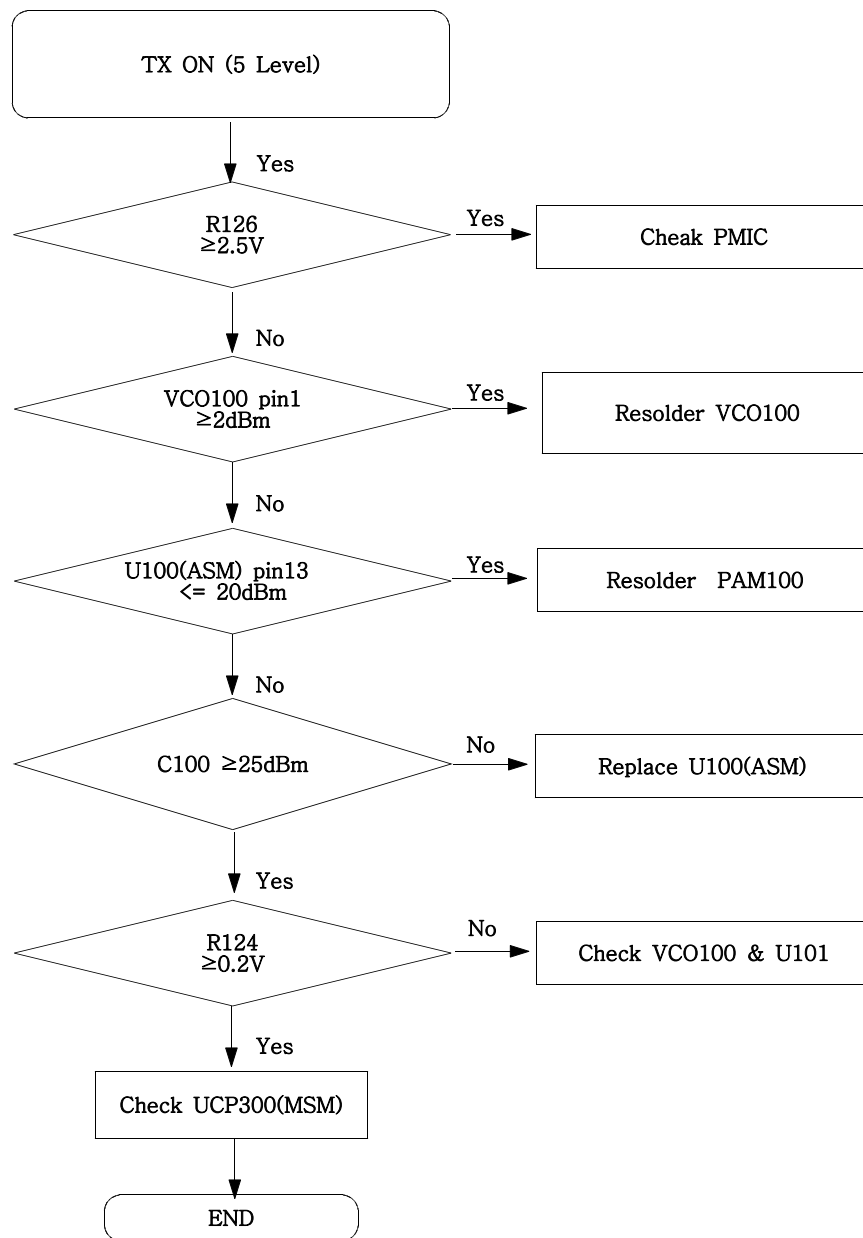
SIM400

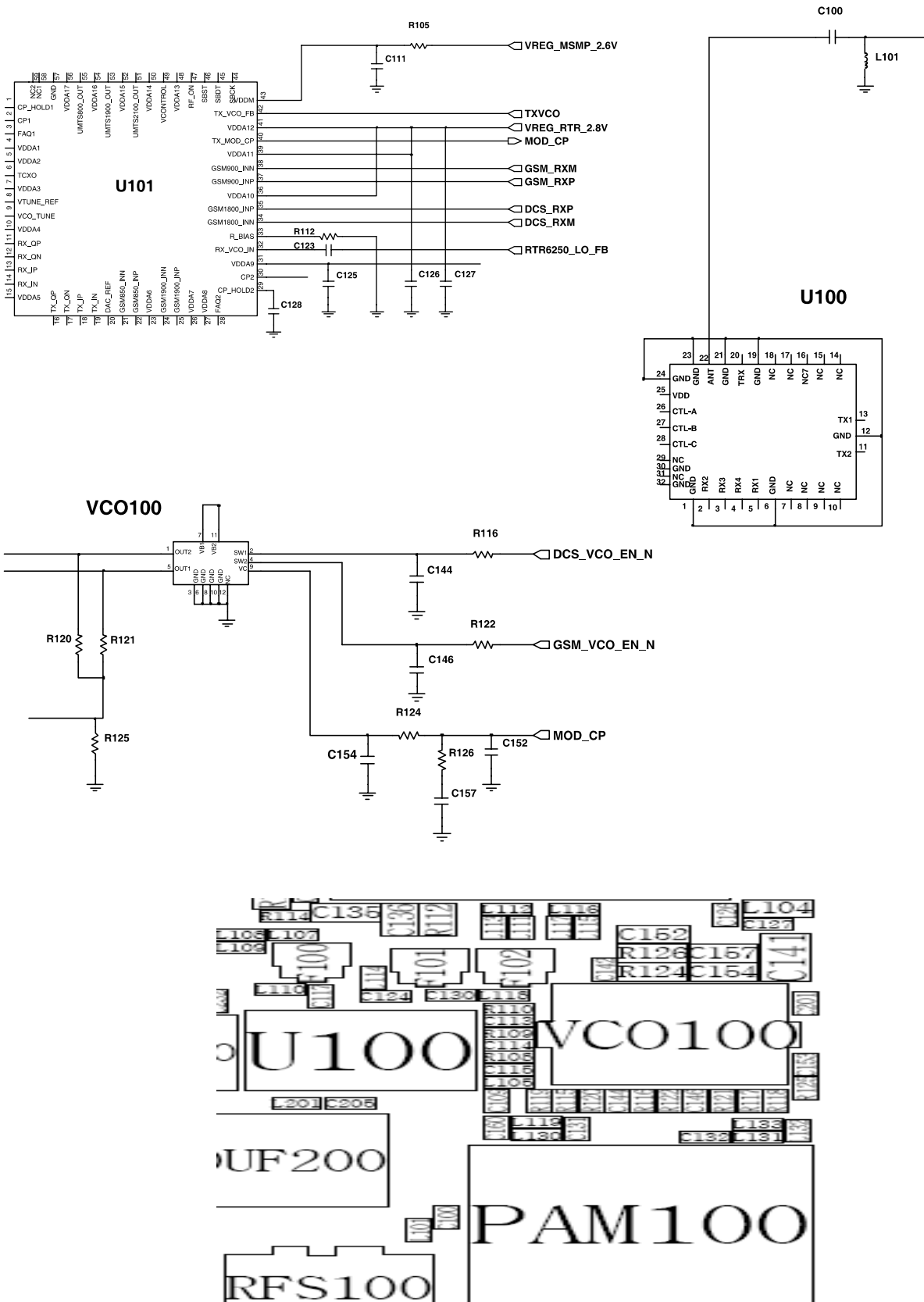
9-14. GSM Receiver



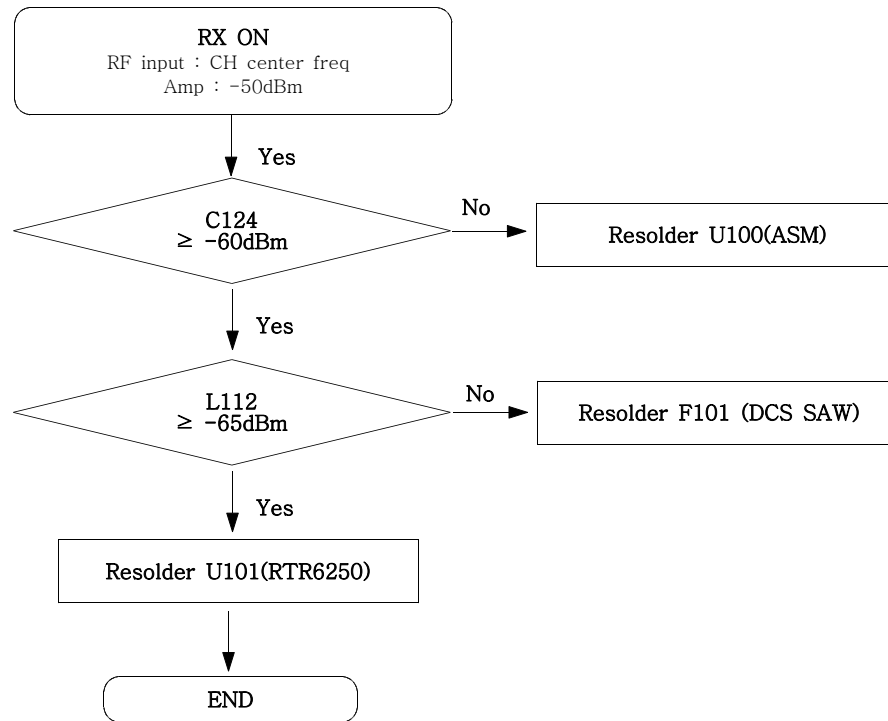


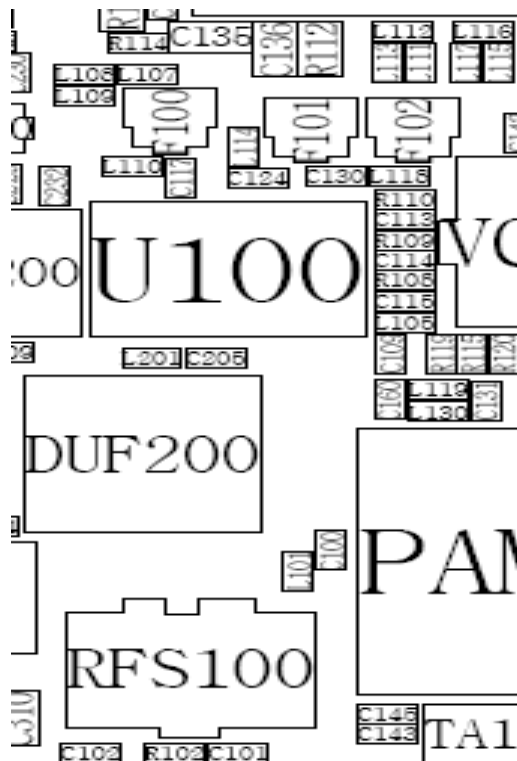
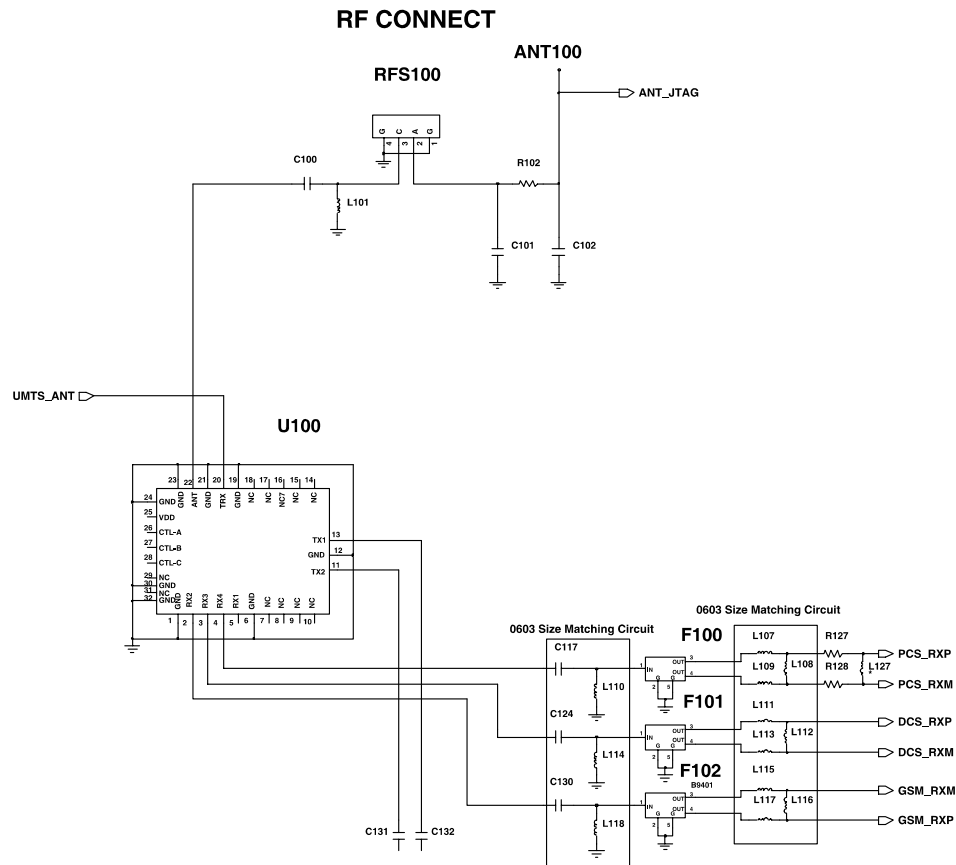
9-15. GSM Transmitter



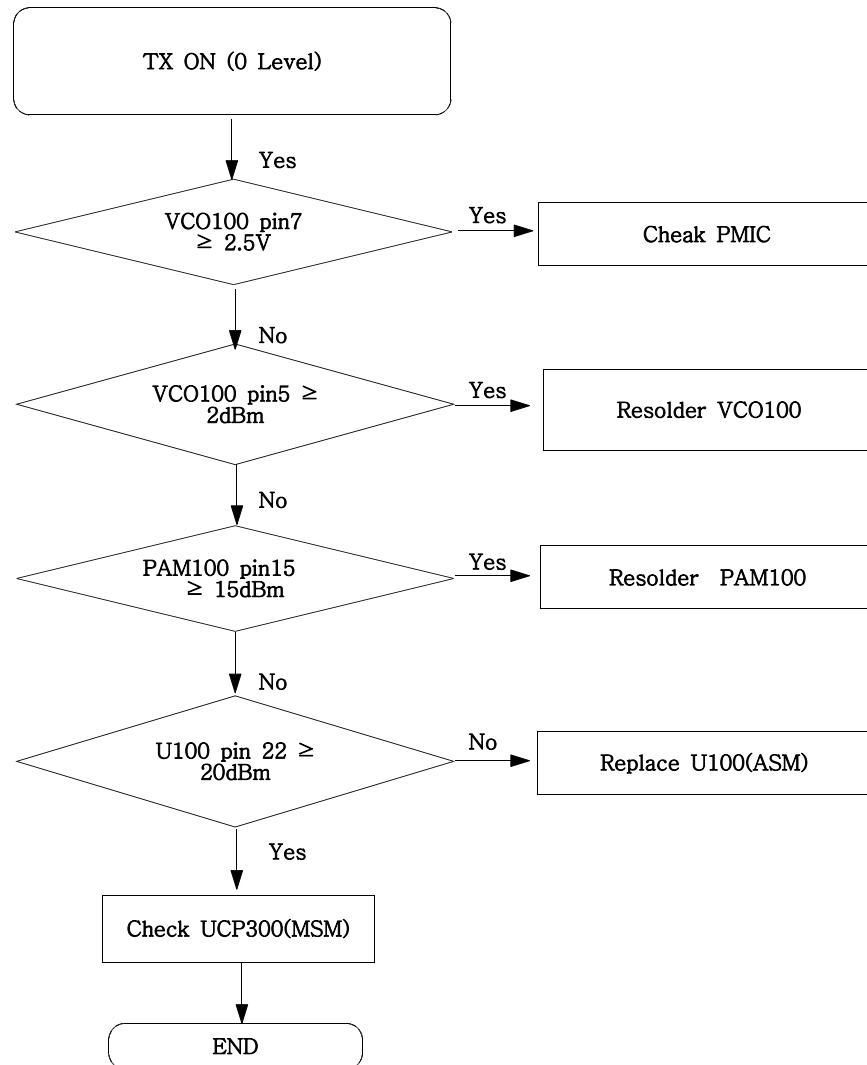


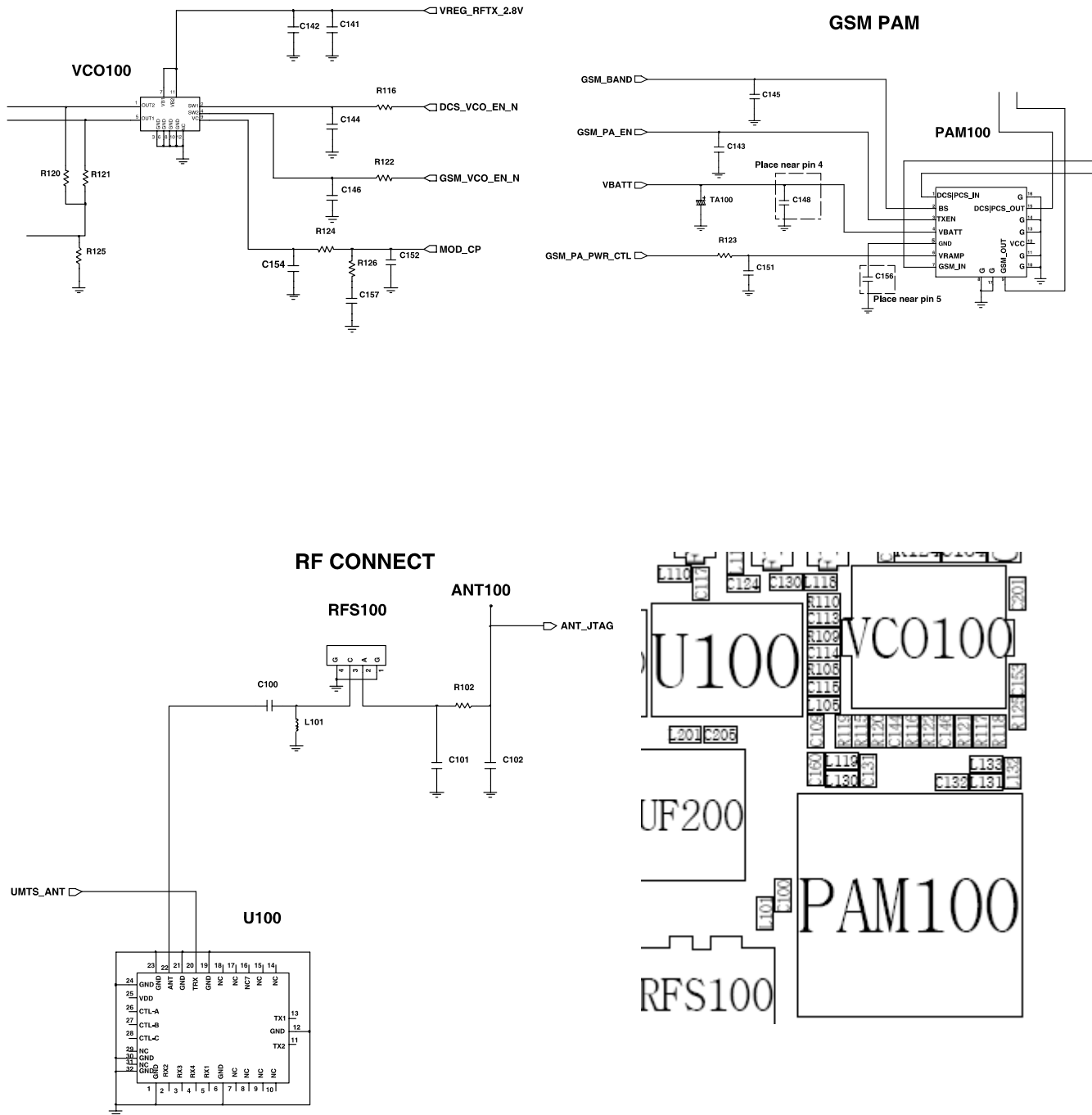
9-16. DCS Receiver



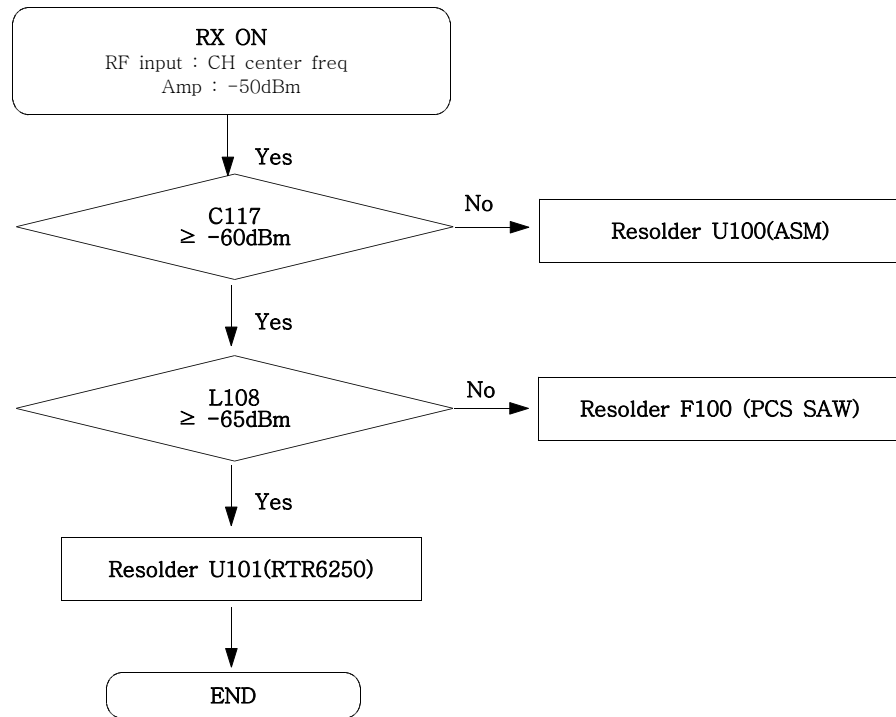


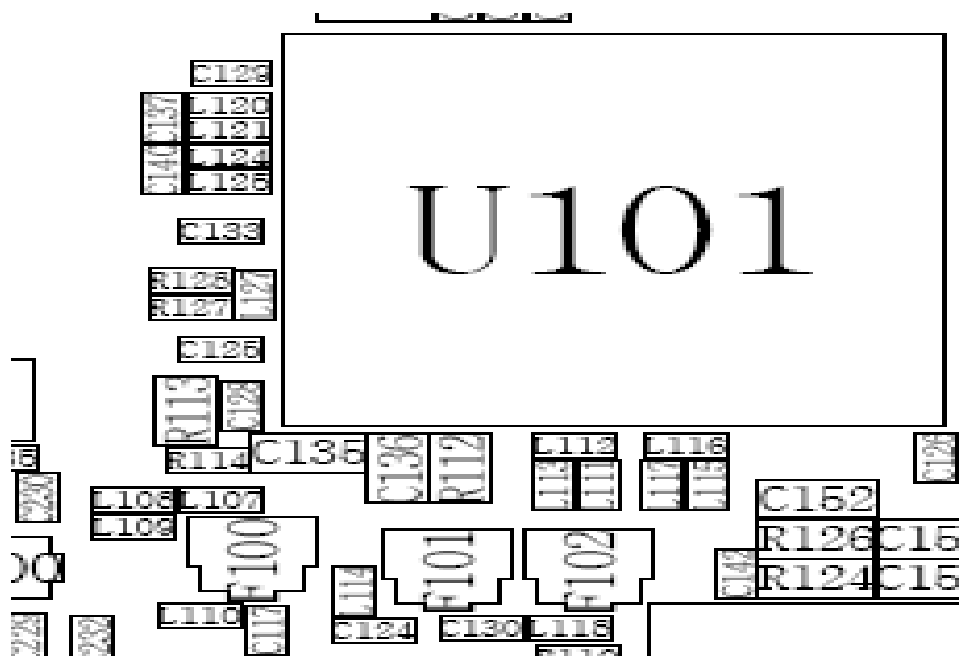
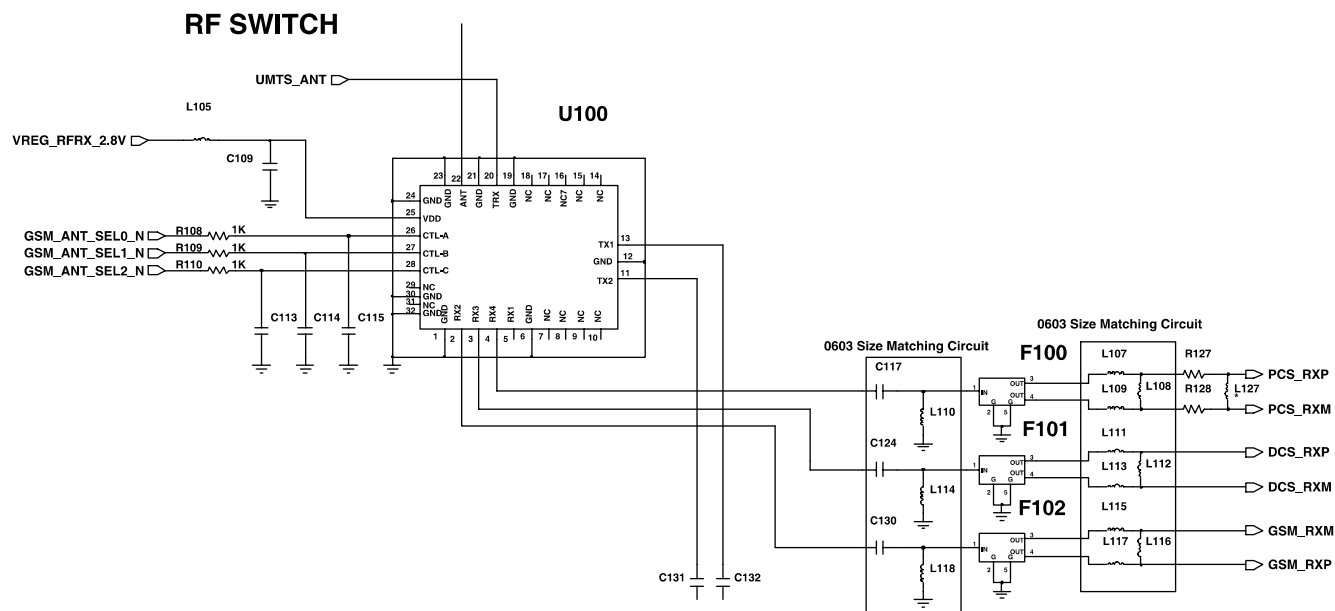
9-17. DCS Transmitter



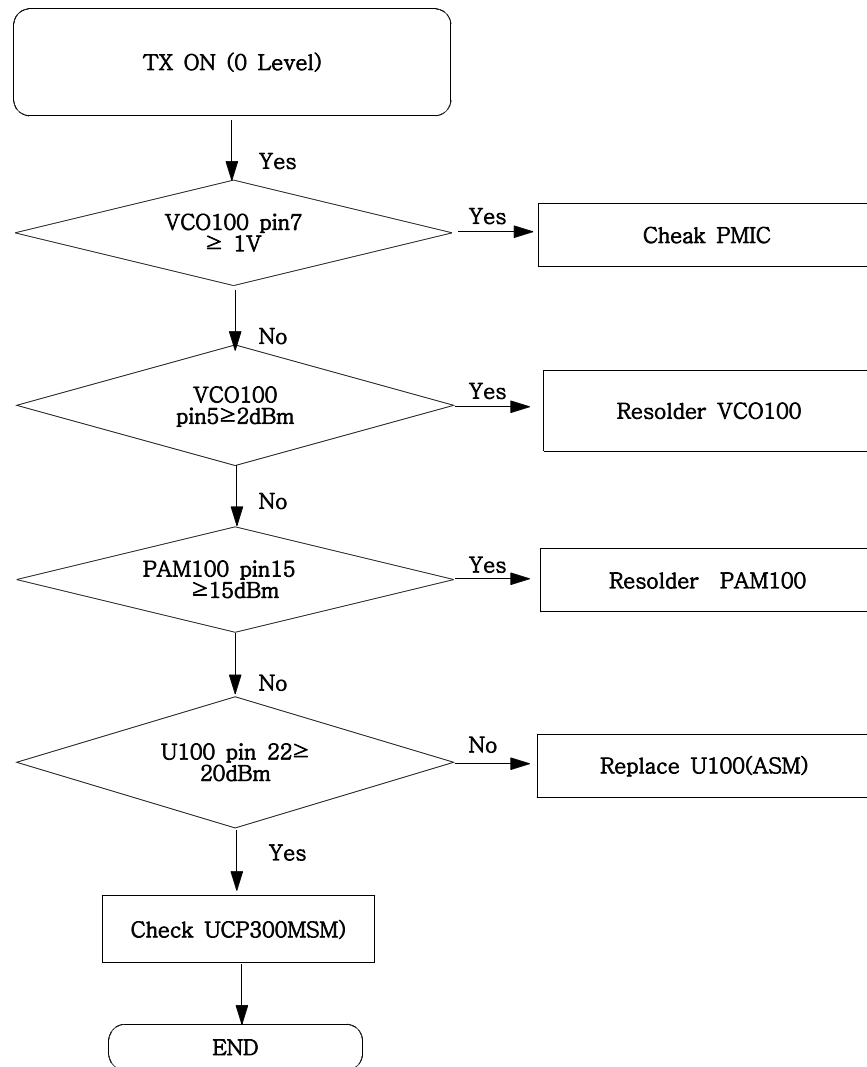


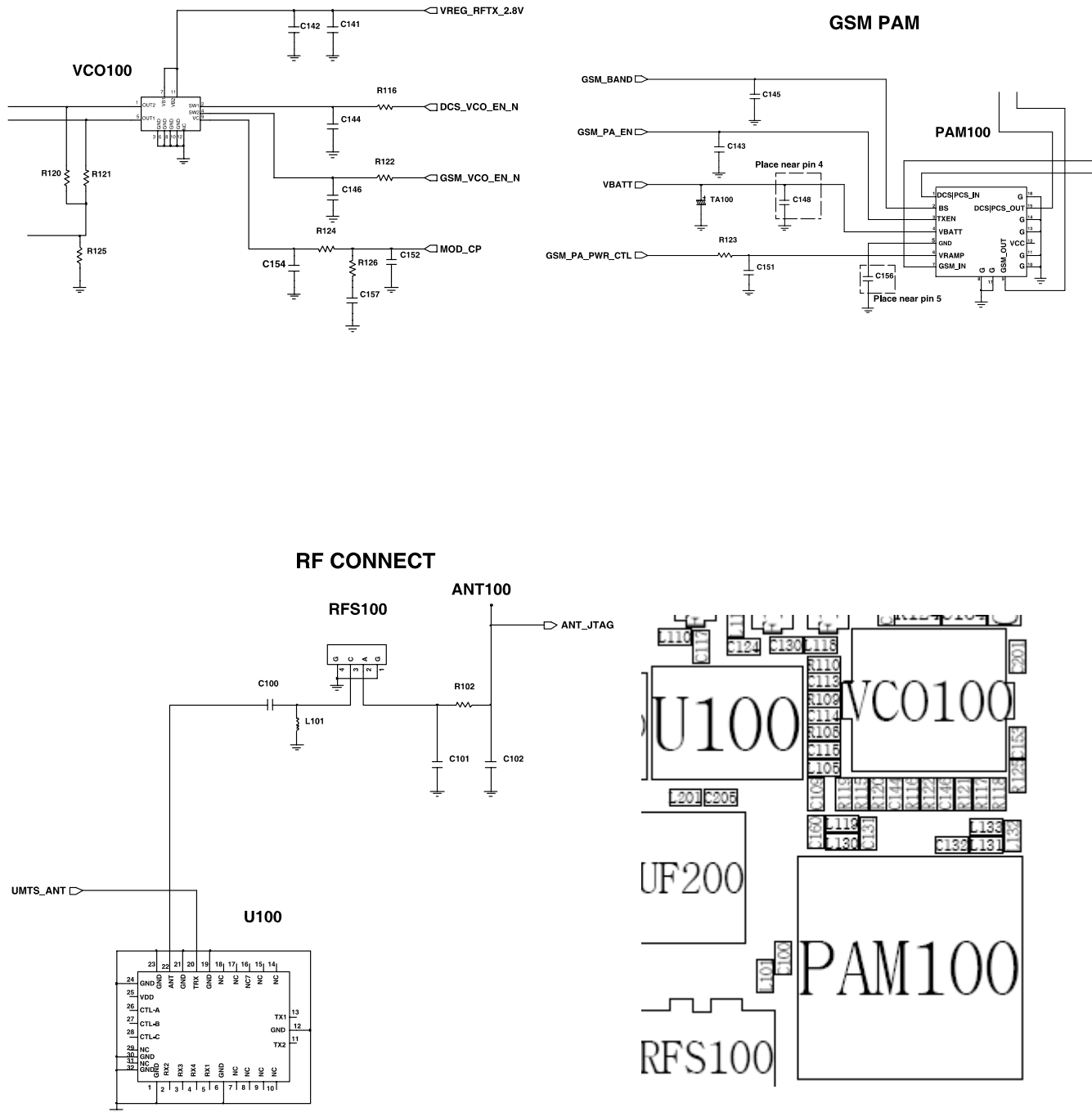
9-18. PCS Receiver



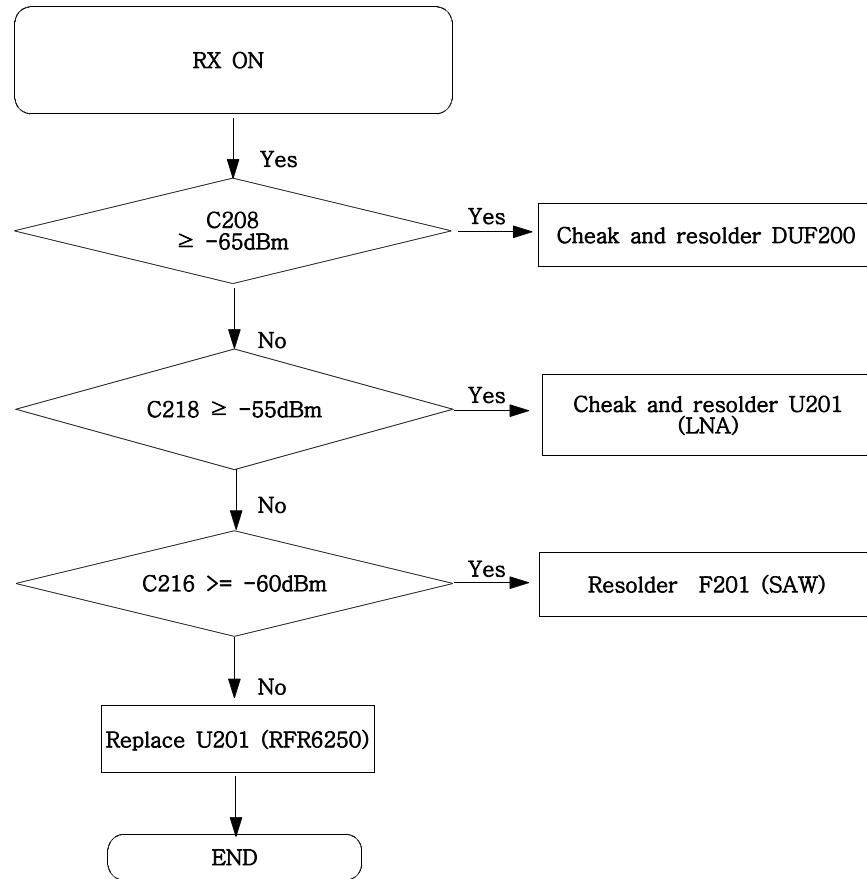


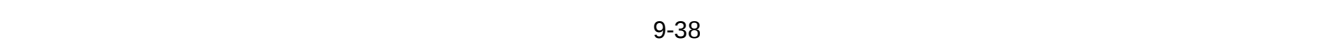
9-19. PCS Transmitter



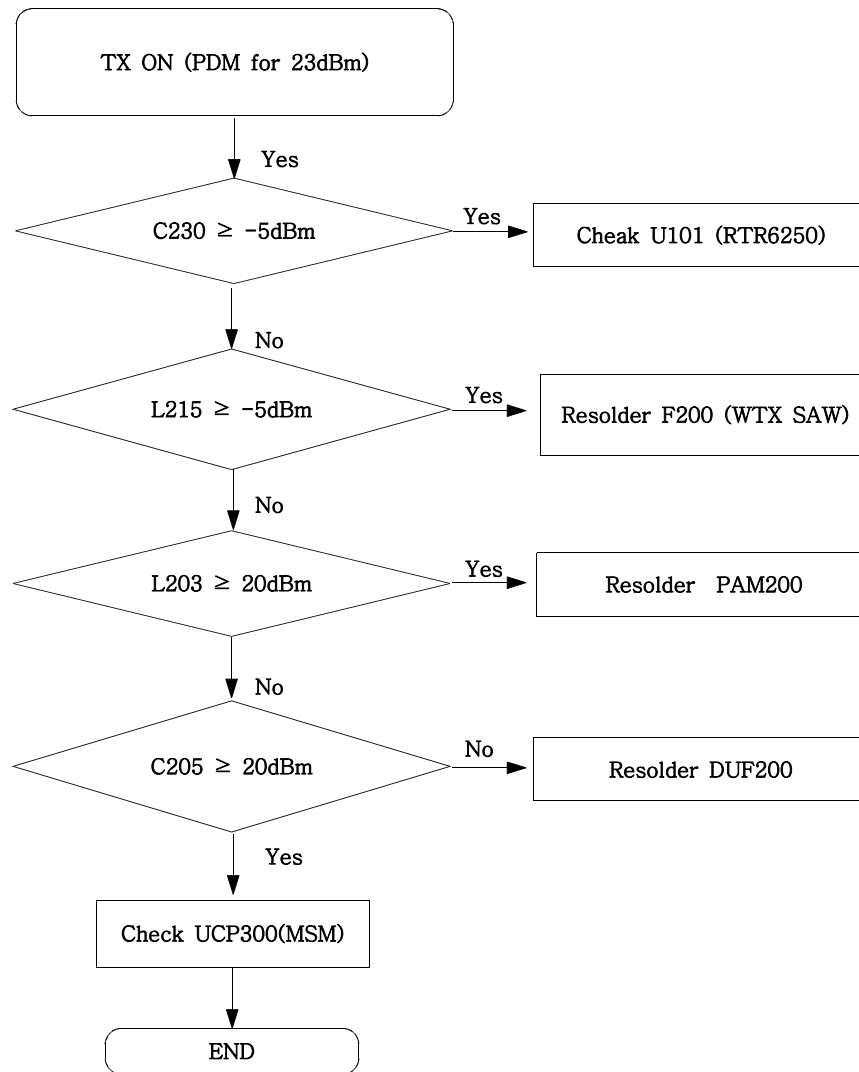


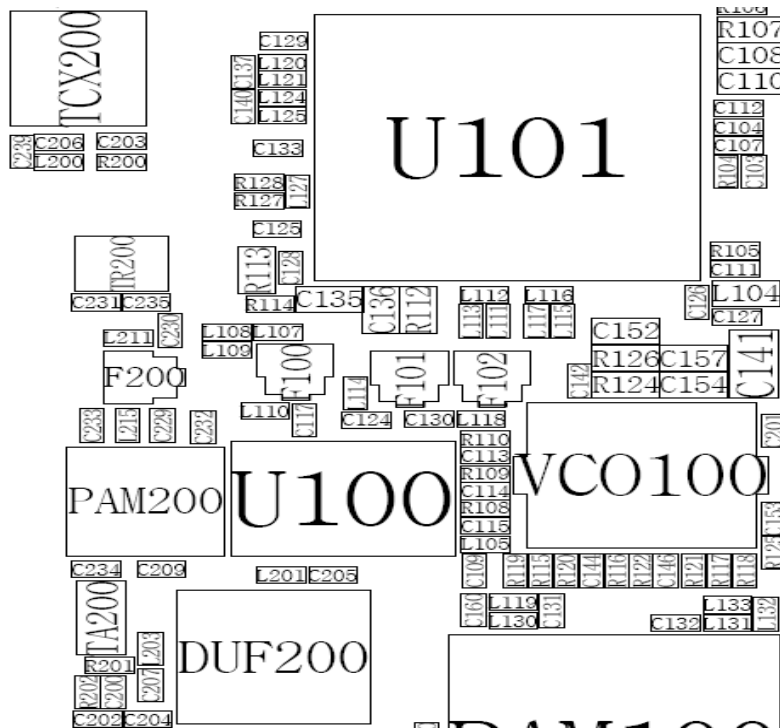
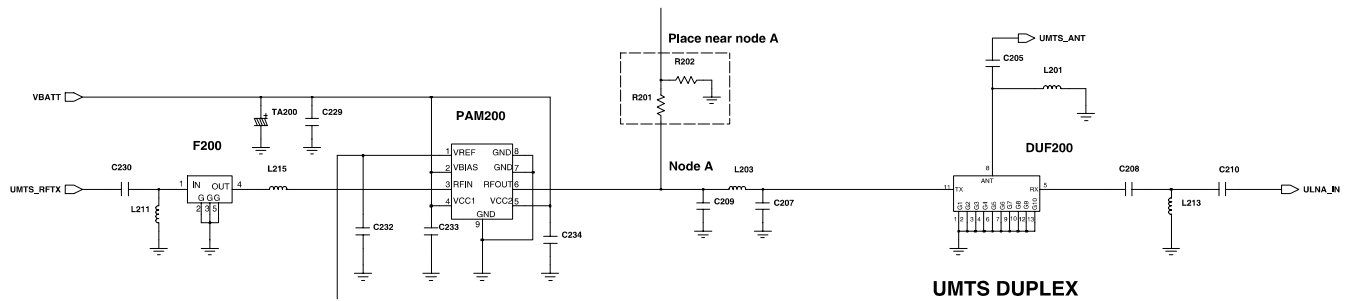
9-20. WCDMA Receiver





9-21. WCDMA Transmitter





10. Reference data

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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