

SAMSUNG

# GSM TELEPHONE

## SGH-X540

# SERVICE *Manual*

GSM TELEPHONE

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### 10. Reference data

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# 1. Safety Precautions

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## 1-1. Repair Precaution

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

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## 2. Specification

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### 2-1. GSM General Specification

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

## 2-2. GSM Tx Power Class

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

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### **3. Product Function**

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#### **Main Function**

- SMS/EMS/MMS Message Service
- WAP HTTP support
- J2ME JAVA (MIDP 2.0/CLDC 1.1)
- Speaker phone
- 16 Poly Melody
- vCard, vCalendar
- E-mail client
- FM Radio
- B/T Headset



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## 4. Array course control

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### 4-1. Software Adjustments

Serial Cable(CSA LL64151-A)



Power Cable



USB DATA CABLE (CSA LL11105 AWM)



JIG BOX (GH80-01909A)



JIG CABLE (GH39-00217A)



## 4-2. Software Downloading

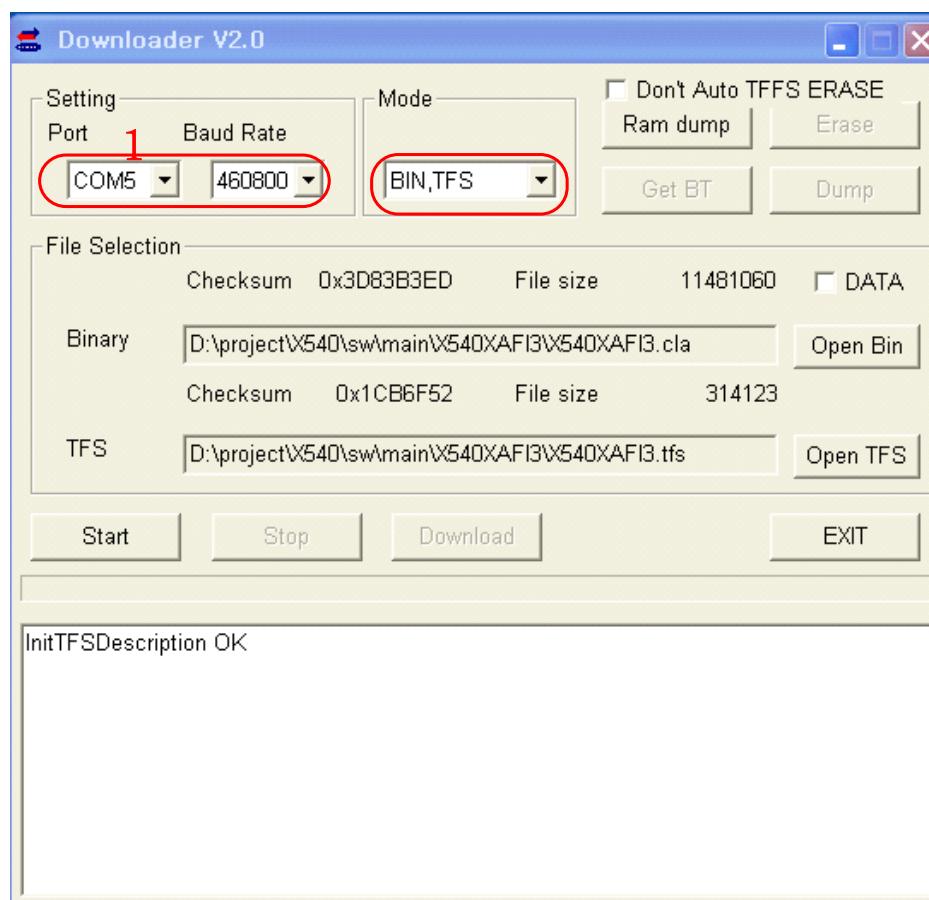
### 4-2-1. Pre-requisite for Downloading

- Downloader Program(Klaus\_Downloader\_V2.0.exe)
- X540 Mobile Phone
- Data Cable
- Binary file, TFS file

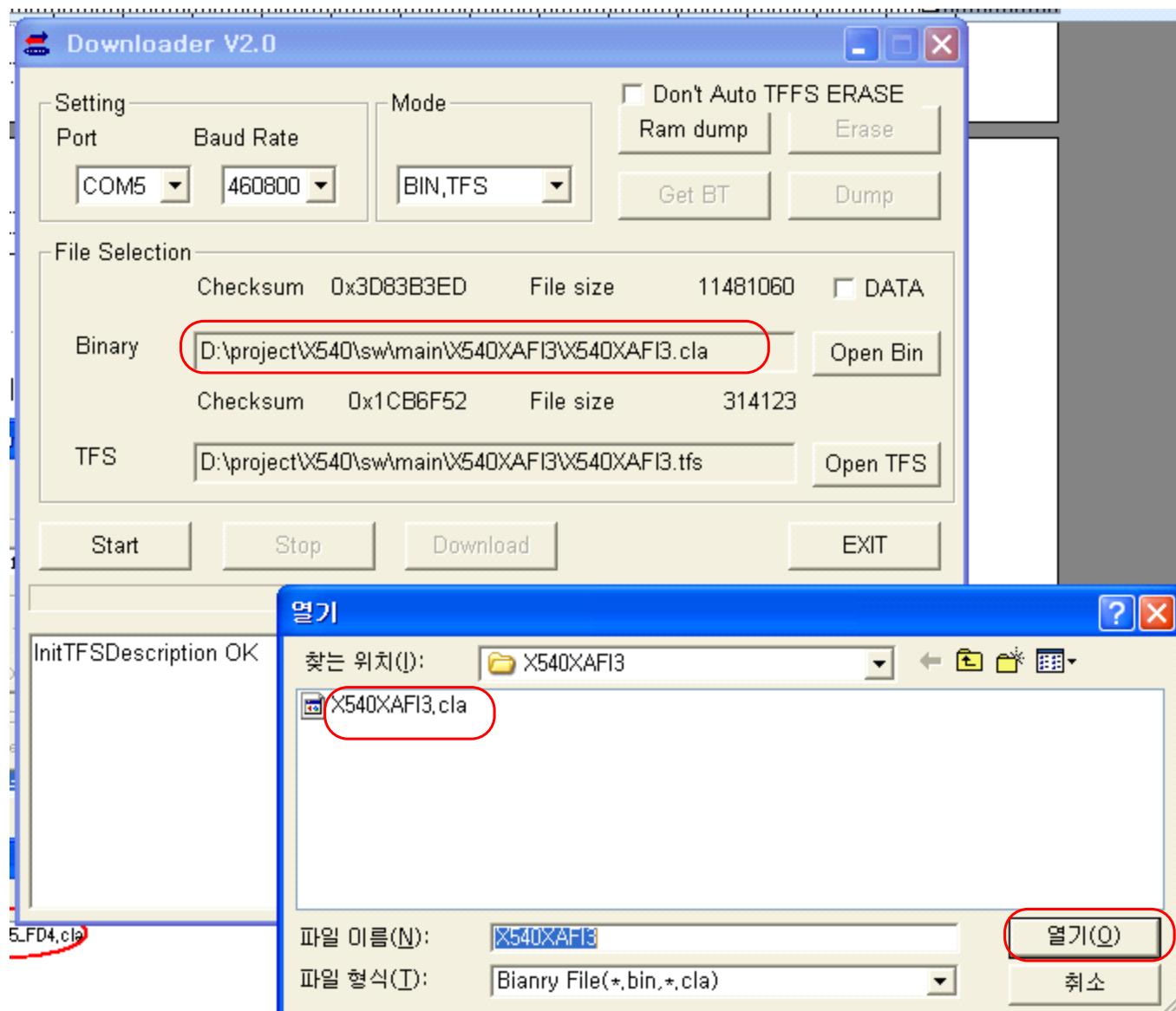
### 4-2-2. S/W Downloader Program

■ Load the binary download program by executing the  
[\*\*"Klaus\\_Downloader\\_V2.0.exe"\*\*](#)

1. Select the connected serial port and the rate of speed
2. Select the check box, the mode you want to download.
  - if the binary file wanted, check only 'BIN'
  - if the tfs file wanted, check only 'TFS'
  - if all the files wanted, check 'BIN+TFS'



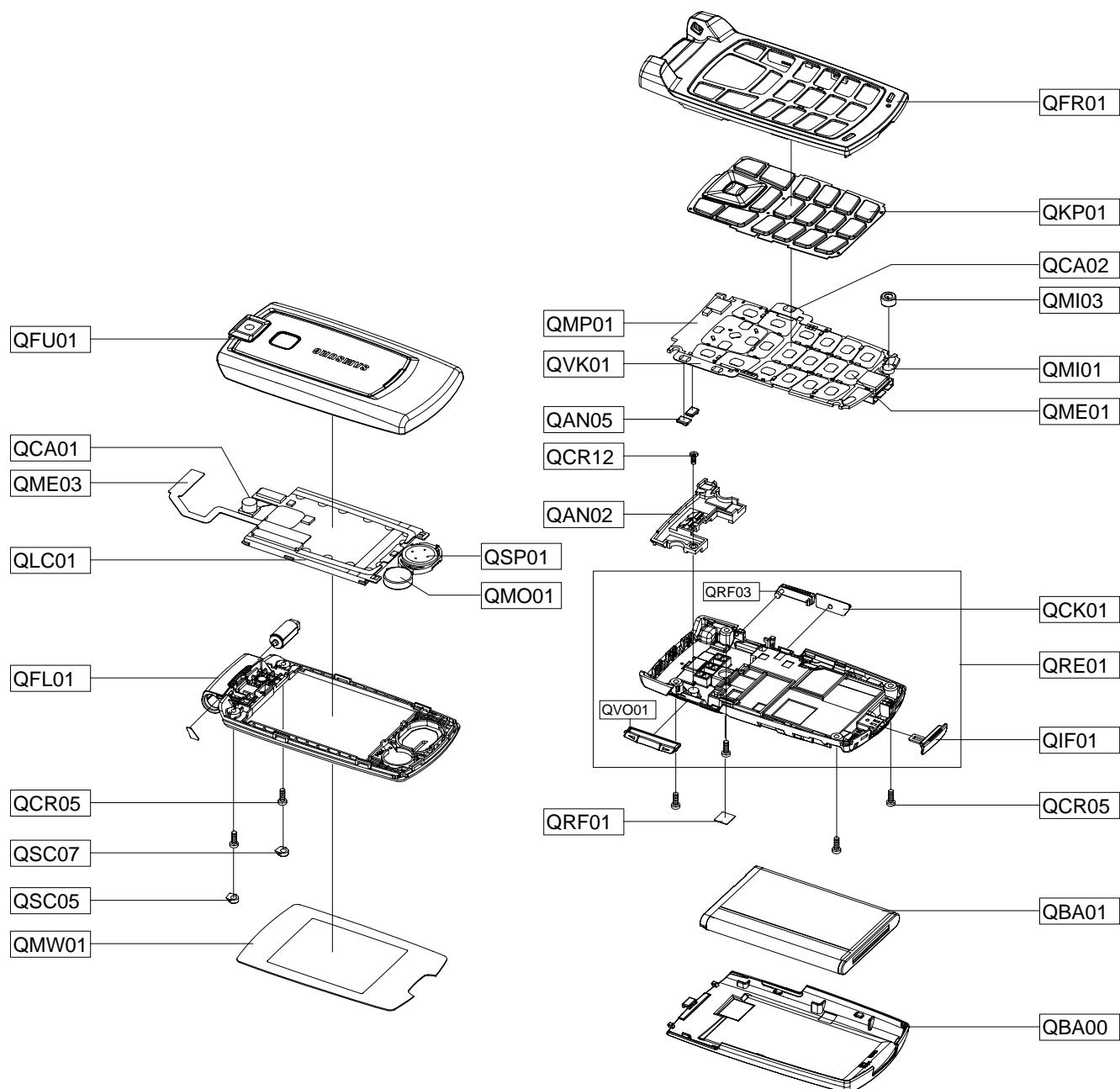
### 3. Select the file(s) what you want to download





## 5. Exploded View/Disassembly&Assembly Instructions

### 5-1. Cellular phone Exploded View



## 5-2. Cellular phone Parts list

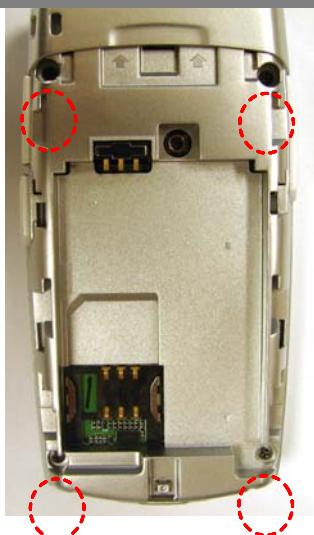
Design LOC	Description	SEC CODE	
QAN02	INTENNA-SGHX540	GH42-01034A	
QAN05	ASSY RUBBER-INTENNA	GH98-02857A	
QBA00	PMO-COVER BATT V2	GH72-35034A	
QBA01	INNER BATTERY PACK-750MAH,BLK,	GH43-02483A	
QCA01	UNIT-SGHX540 CAMERA MODULE	GH59-03655A	
QCA02	UNIT-CAMERA KEY	GH59-03643A	
QCK01	PMO-CAMERA KEY V3	GH72-35488A	
QCR05	SCREW-MACHINE	6001-001478	
QCR05	SCREW-MACHINE	6001-001478	
QCR12	SCREW-MACHINE	6001-001530	
QFL01	ASSY CASE-FOLDER LOWER	GH98-02385A	
QFR01	ASSY CASE-FRONT	GH98-02384A	
QFU01	ASSY CASE-FOLDER UPPER	GH98-02386A	
QIF01	PMO-COVER IF	GH72-34482A	
QKP01	ASSY KEYPAD-(SER/GRY)	GH98-03159A	
QLC01	ELA ETC-SGHX540 LCD MODULE	GH96-02269A	
QME01	UNIT-METAL DOME	GH59-03659A	
QME03	PCB-CON TO CON	GH41-01475A	
QMI01	MICROPHONE-ASSY-SGHX540	GH30-00319A	
QMI03	RMO-MIC HOLDER	GH73-05342A	
QMO01	MOTOR DC-SGHX540	GH31-00119B	
QMP01	PBA MAIN-SGHX540	GH92-03230A	
QMW01	ASSY COVER-MAIN LCD	GH98-02388A	
QRF01	MPR-TAPE	GH74-26974A	
QSC05	RMO-RUBBER SCREW CAP L	GH73-08137A	
QSC07	RMO-RUBBER SCREW CAP R	GH73-08138A	
QSP01	SPEAKER	3001-002072	
QVK01	UNIT-VOLUME KEY	GH59-03660A	
QRE01	ASSY CASE-REAR	GH98-02387A	
	QVO01	PMO-VOL KEY V3	GH72-35489A
	QRF03	PMO-COVER EAR V3	GH72-35490A

<b>Description</b>	<b>SEC CODE</b>
BAG PE	6902-000634
ADAPTOR-SGHD500 TA	GH44-01451A
UNIT-EARPHONE(10P,SIL)	GH59-03757B
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(P)-WATER SOAK	GH68-02026A
MANUAL-SFC	GH68-04336A
LABEL(P)-BARCODE RUSSIA	GH68-08494A
MANUAL USERS-EU RUSSIAN	GH68-12674A
LABEL(R)-MAIN(SER)	GH68-12845A
BOX-UNIT(SER)	GH69-04608A
CUSHION-CASE(EU)	GH69-04932A
MPR-REMOVE TAPE LCD	GH74-13804A
MPR-INSU TAPE	GH74-15070A
MPR-BOHO VINYL LCD CONN	GH74-15350A
MPR-TAPE LED	GH74-17926A
MPR-INSU TAPE	GH74-21312A
MPR-SPONGE LCD	GH74-26952A
MPR-TAPE FPCB HOLE	GH74-26973A
MPR-VINYL BOHO MAIN WINDOW	GH74-26977A
MPR-INSU TAPE	GH74-27176A
MPR-TAPE	GH74-27509A
MPR-INSU TAPE	GH74-27512A
MPR-INSU TAPE	GH74-28085A
MPR-INSU TAPE	GH74-28241A
MPR-TAPE	GH74-28519A
MPR-INSU TAPE	GH74-28609A
MPR-TAPE FPCB	GH74-30174A
MPR-TAPE NAVI KEY	GH74-30365A
MPR-TAPE ZTC BOARD	GH74-30366A
MPR-TAPE LCD ELEC	GH74-30367A
MPR-TAPE CAMERA CONN	GH74-30368A
MPR-TAPE LOWER	GH74-30369A
MPR-INSU TAPE YMU	GH74-30370A

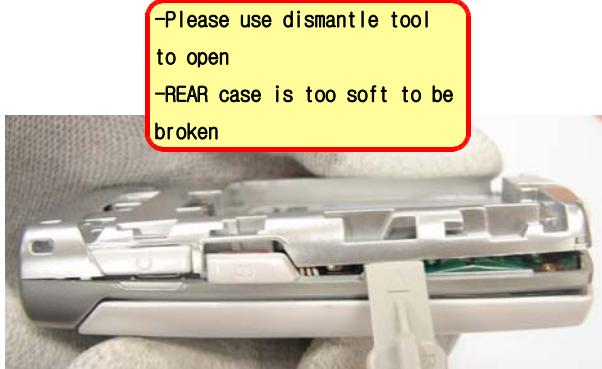
## 5-3. Disassembly and Assembly Instructions

### — Disassembly

1) Release and remove the screws(4 point)



2) 1) Press the Rear Camera Hook side with the dismantle tool to release the locker



1) Handle with care. No scratch.

1) Handle with care. No scratch  
2) Check no bending the board and front/rear cover.

3) 1) Press the opposite side with the dismantle tool to release the locker.  
2) Open the rear cover.



4) 1) Realeae the camera key and the volume key.



1) Handle with care. No scratch  
2) Check no bending the board and front/rear cover.

5

1) Release the LCD connector.



6

1) After separate the CAMERA F-PCB and VOLUME F-PCB, release the PBA.



1) Check the FPCB crack and connector damage.

1) Check the PBA's damage.

7

1) Release the keypad in the FRONT.



8

1) Remove the tape for preventing light emission.



9

- 1) Press the hinge side with the dismantle tool to release the locker.



10

- 1) Release the F-PCB from the front side.



- 1) Care with torn of F-PCB.

- 1) Care with F-PCB crack and CONNECTOR damage.  
2) Care with torn of F-PCB..

11

- 1) Press the side with the dismantle tool to release the locker.



12

- 1) Press the opposite side with the dismantle tool to release the locker.  
2) Separate holding REAR.

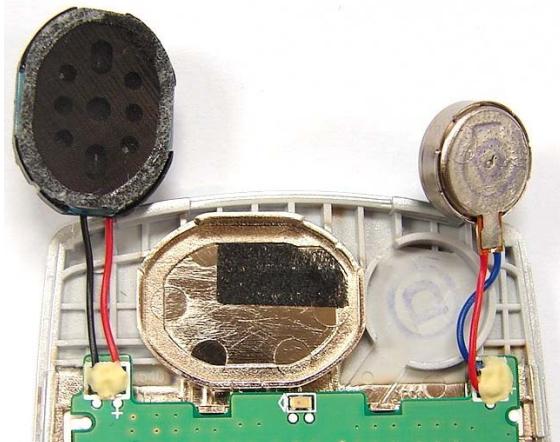


- 1) Handle with care. No scratch  
2) Check no bending the board and front/rear cover.

- 1) Handle with care. No scratch  
2) Check no bending the board and front/rear cover.

13

1) Remove SPEAKER and MOTOR from FOLDER.



14

1) Remove CAMERA MODULE from FOLDER.

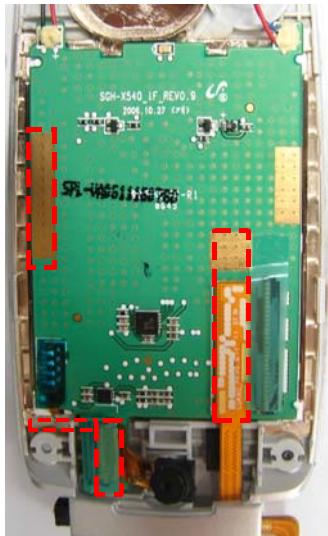


1) Care with disconnecting of WIRE and soldering.

1) Care with torn of F-PCB.

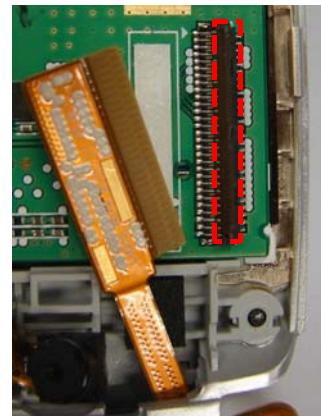
15

1) Remove all shield tape on the LCD MODULE.



16

1) Remove the insulate tape on the LCD CONNECTOR.  
 2) Hold up LOCKER of LCD CONNECTOR,  
 separate LCD CONNECTOR.

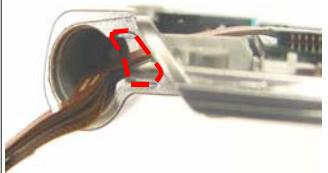


1) Check correctly attaching Shielding tape.

1) Slowly separate for no damage to LCD.

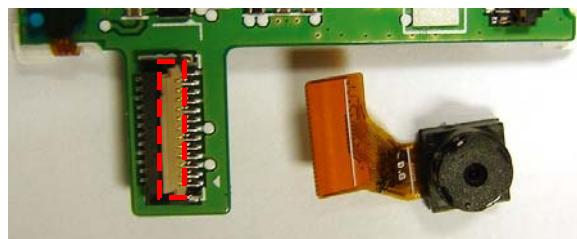
17

- 1) Release the F-PCB HOLE SHEET.
- 2) Release LCD MODULE from FOLDER side.
- 3) Remove LCD CONNECTOR through HINGE.



18

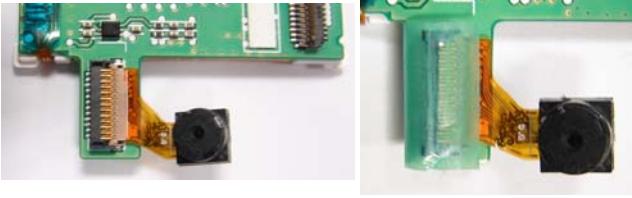
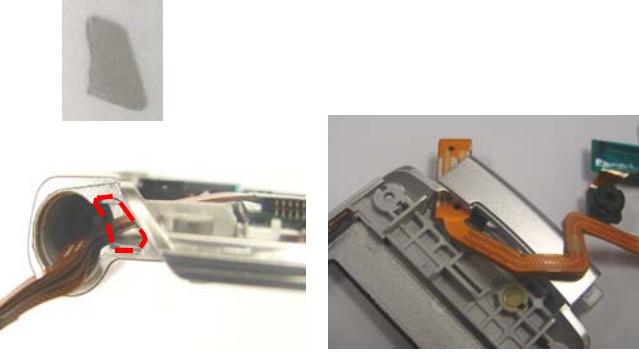
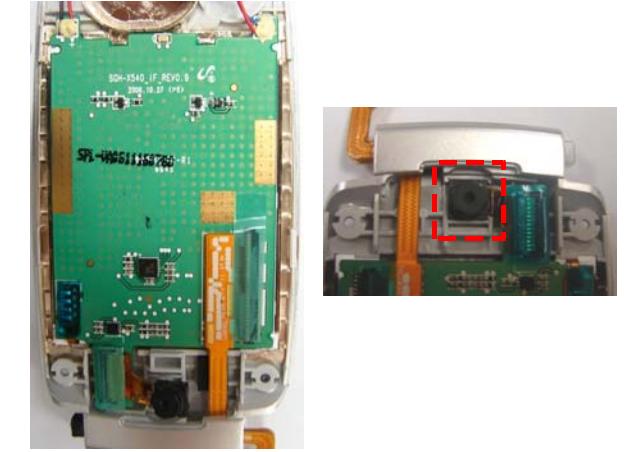
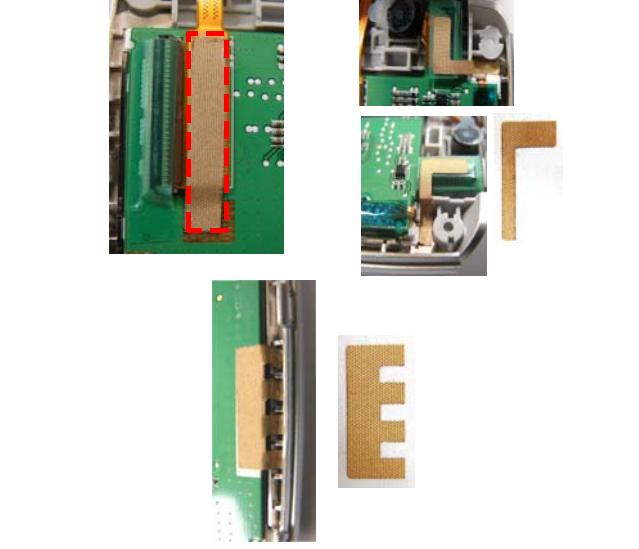
- 1) Remove all SHIELD TAPE on the PBA.
- 2) Remove insulation tape of CAMERA F-PCB CONNECTOR side.
- 3) Hold LOCKER and separate CAMERA MODULE



1) Care with torn of F-PCB.

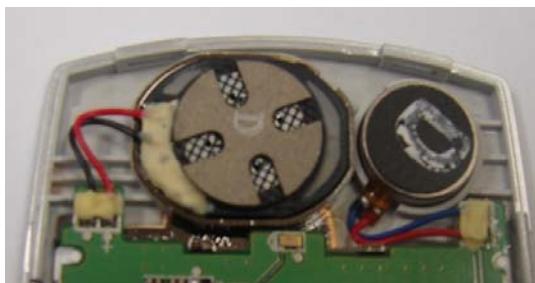
1) Care with torn of F-PCB.  
2) Slowly separate for no damage to CAMERA.

## — Assembly

<p><b>1</b></p> <p>1) Insert CAMERA F-PCB into connector putting SILK line. 2) Attach insulating tape on CONNECTOR.</p> 	<p><b>2</b></p> <p>1) Through LCD CONNECTOR into Hinge. 2) Hold F-PCB HOLE SHEET.</p> 
<p>1) Check correctly attaching insulating tape..</p>	<p>1) Care with torn of F-PCB.</p>
<p><b>3</b></p> <p>1) Attach the LCD module to the Folder. 2) Combine LCD CONNECTOR, attach insulating tape for preventing unfasten. 3) Insert Camera.</p> 	<p><b>4</b></p> <p>1) Attach SHIELD TAPE making meet standard</p> 
<p>1) Check correctly inserting Camera Module.. 2) Care with torn of F-PCB.</p>	<p>1) Check correctly attaching tape.</p>

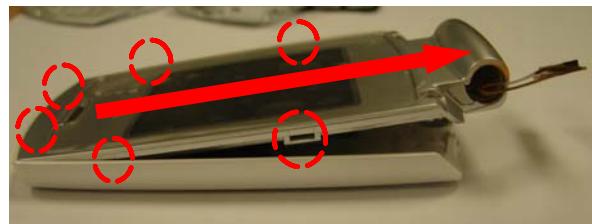
5

- 1) Insert the SPEAKER and MOTOR.
- 2) Keep in order WIRE not to do interfere structure and PBA.



6

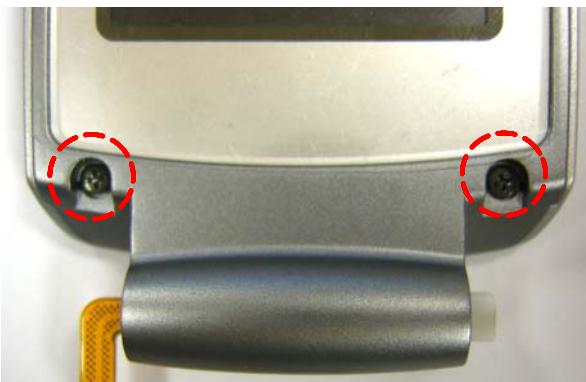
- 1) Put UPPER to LOWER(Left of picture)
- 2) Press and hold both sides to arrow direction and hang on LOCKER.



- 1) Care with disconnecting of WIRE and soldering.
- 2) Check correctly attaching them.

7

- 1) Tighten the SCREWS (2 POINT)



- 1) Check there is no gap between Upper and Lower case

8

- 1) Put the SCREW CAPS



- 1) Check correctly attaching Screw cap.

**9**

- 1) Go through LCD CONNECOR into FRONT HOLE

**10**

- 1) Hold FOLDER and FRONT's HINGE.

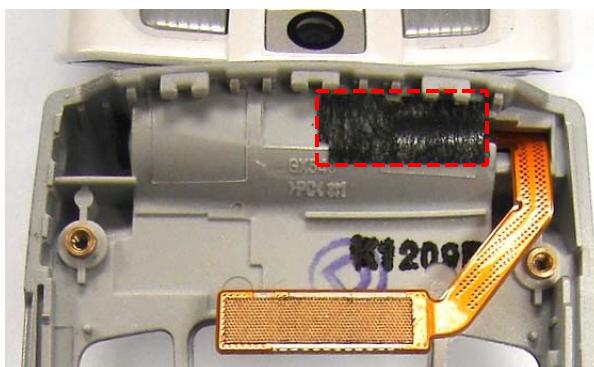


- 1) Care with torn of F-PCB.

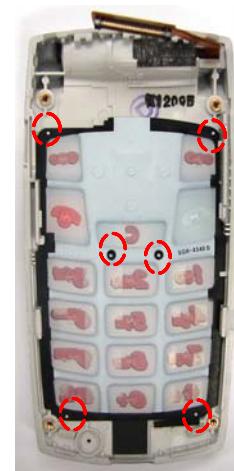
- 1) After holding Hinge, open and close Folder for 'click' sound.(One time)  
2) Check allophone when folder open and close.  
3) Care with torn of F-PCB.

**11**

- 1) Attach preventing light emission tape through FRONT into LCD Connector

**12**

- 1) Attach a KEY PAD to the Front cover

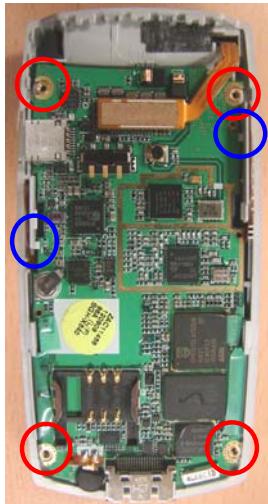


- 1) Check correctly attaching.  
2) Check the torn.

- 1) Check key pad correct.

13

- 1) Place MAIN PBA as below picture with caring the Bosses and the Holders.



14

- 1) Insert REAR to FONT ASS'Y.
- 2) Insert CAMERA KEY, VOLUME KEY at correct place.
- 3) Put the Rear cover with pressing.



- 1) Check the correct.

- 1) Check there is no gap between Front and rear case
- 2) Check the direction of PBA.
- 3) After insert KEY, check tension.

15

- 1) Tighten the REAR SCREWS (4 POINT)



16

- 1) Attach RF SHEET.
- 2) Check the structure.



## 6. MAIN Electrical Parts List

Design LOC	Description	SEC Code	STATUS
ANT200	NPR-ANTENNA CONTACT	GH71-05666A	SA
ANT201	NPR-ANTENNA CONTACT	GH71-05666A	SA
ANT600	ANTENNA-CHIP	4202-001239	SA
BAT500	BATTERY-LI(2ND)	4302-001130	SA
BAT700	HEADER-BATTERY	3711-006250	SA
C100	C-CER,CHIP	2203-000812	SA
C101	C-CER,CHIP	2203-000278	SA
C102	C-CER,CHIP	2203-000854	SA
C103	C-CER,CHIP	2203-000812	SA
C104	C-CER,CHIP	2203-001607	SA
C105	C-CER,CHIP	2203-001397	SA
C106	C-CER,CHIP	2203-000854	SA
C108	C-CER,CHIP	2203-000278	SA
C110	C-CER,CHIP	2203-006048	SA
C112	C-CER,CHIP	2203-000278	SA
C114	INDUCTOR-SMD	2703-002208	SA
C115	C-CER,CHIP	2203-000233	SA
C116	INDUCTOR-SMD	2703-002208	SA
C117	C-CER,CHIP	2203-000233	SA
C118	C-CER,CHIP	2203-006562	SA
C120	C-CER,CHIP	2203-005446	SA
C121	C-CER,CHIP	2203-001153	SA
C122	C-CER,CHIP	2203-000854	SA
C125	C-CER,CHIP	2203-001153	SA
C126	C-CER,CHIP	2203-000233	SA
C127	C-CER,CHIP	2203-005281	SA
C128	C-CER,CHIP	2203-000278	SA
C129	C-CER,CHIP	2203-000854	SA
C130	C-CER,CHIP	2203-005234	SA
C131	C-CER,CHIP	2203-000679	SA
C132	C-CER,CHIP	2203-000254	SA
C133	C-CER,CHIP	2203-000278	SA
C137	C-CER,CHIP	2203-000679	SA
C138	C-CER,CHIP	2203-005234	SA
C139	C-CER,CHIP	2203-000278	SA
C140	C-CER,CHIP	2203-005395	SA
C142	C-CER,CHIP	2203-000995	SA
C143	C-CER,CHIP	2203-000995	SA
C201	C-CER,CHIP	2203-000812	SA
C202	C-CER,CHIP	2203-006048	SA
C204	C-CER,CHIP	2203-006048	SA
C207	C-CER,CHIP	2203-000278	SA
C208	C-CER,CHIP	2203-000278	SA
C210	C-CER,CHIP	2203-005659	SA
C211	C-CER,CHIP	2203-000585	SA
C212	C-CER,CHIP	2203-006048	SA
C213	C-CER,CHIP	2203-006048	SA
C214	C-CER,CHIP	2203-000696	SA
C215	C-CER,CHIP	2203-005446	SA
C216	C-CER,CHIP	2203-000870	SA
C300	C-CER,CHIP	2203-002709	SA
C301	C-CER,CHIP	2203-002709	SA
C302	C-CER,CHIP	2203-002709	SA
C303	C-CER,CHIP	2203-002709	SA
C304	C-CER,CHIP	2203-000254	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
C305	C-CER,CHIP	2203-002709	SA
C306	C-CER,CHIP	2203-002709	SA
C307	C-CER,CHIP	2203-000254	SA
C308	C-CER,CHIP	2203-000254	SA
C309	C-CER,CHIP	2203-005482	SA
C310	C-CER,CHIP	2203-005482	SA
C311	C-CER,CHIP	2203-000854	SA
C312	C-CER,CHIP	2203-000679	SA
C314	C-CER,CHIP	2203-005482	SA
C315	C-CER,CHIP	2203-006562	SA
C316	C-CER,CHIP	2203-006562	SA
C317	C-CER,CHIP	2203-005482	SA
C400	C-CER,CHIP	2203-002709	SA
C401	C-CER,CHIP	2203-002709	SA
C402	C-CER,CHIP	2203-000643	SA
C403	C-CER,CHIP	2203-005482	SA
C404	C-CER,CHIP	2203-002709	SA
C406	C-CER,CHIP	2203-006562	SA
C407	C-CER,CHIP	2203-006562	SA
C408	C-CER,CHIP	2203-006562	SA
C410	C-CER,CHIP	2203-002709	SA
C500	C-CER,CHIP	2203-006562	SA
C501	C-CER,CHIP	2203-006257	SA
C502	C-CER,CHIP	2203-000627	SNA
C503	C-CER,CHIP	2203-000854	SA
C506	C-CER,CHIP	2203-000233	SA
C507	C-TA,CHIP	2404-001381	SA
C508	C-CER,CHIP	2203-000812	SA
C509	C-CER,CHIP	2203-006208	SA
C510	C-CER,CHIP	2203-006562	SA
C511	C-CER,CHIP	2203-006208	SA
C512	C-CER,CHIP	2203-006257	SA
C513	C-CER,CHIP	2203-006257	SA
C515	C-CER,CHIP	2203-006825	SA
C516	C-CER,CHIP	2203-005482	SA
C519	C-CER,CHIP	2203-006208	SA
C520	C-CER,CHIP	2203-006208	SA
C521	C-CER,CHIP	2203-006257	SA
C522	C-CER,CHIP	2203-006257	SA
C523	C-CER,CHIP	2203-000627	SNA
C524	C-CER,CHIP	2203-005482	SA
C525	C-CER,CHIP	2203-006257	SA
C600	C-CER,CHIP	2203-005482	SA
C602	C-CER,CHIP	2203-006562	SA
C603	C-CER,CHIP	2203-005057	SA
C604	C-CER,CHIP	2203-005057	SA
C605	C-CER,CHIP	2203-002709	SA
C607	C-CER,CHIP	2203-000628	SA
C608	C-CER,CHIP	2203-002709	SA
C609	C-CER,CHIP	2203-005057	SA
C610	C-CER,CHIP	2203-006562	SA
C611	C-CER,CHIP	2203-002709	SA
C612	C-CER,CHIP	2203-002443	SA
C613	C-CER,CHIP	2203-006348	SA
C614	C-CER,CHIP	2203-006681	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
C700	C-CER,CHIP	2203-002709	SA
C701	C-CER,CHIP	2203-001153	SA
C702	C-CER,CHIP	2203-002709	SA
C703	C-CER,CHIP	2203-002709	SA
C704	C-CER,CHIP	2203-000330	SA
C705	C-CER,CHIP	2203-002709	SA
C707	C-CER,CHIP	2203-001153	SA
C708	C-CER,CHIP	2203-002709	SA
C709	C-CER,CHIP	2203-000330	SA
C710	C-CER,CHIP	2203-006562	SA
C711	C-CER,CHIP	2203-006562	SA
C712	C-CER,CHIP	2203-005482	SA
C713	C-CER,CHIP	2203-000278	SA
C714	C-CER,CHIP	2203-000278	SA
C715	C-CER,CHIP	2203-000386	SA
C716	C-CER,CHIP	2203-000425	SA
C717	C-CER,CHIP	2203-000386	SA
C718	C-CER,CHIP	2203-001153	SA
C720	C-CER,CHIP	2203-001153	SA
C721	C-CER,CHIP	2203-000679	SA
C722	C-CER,CHIP	2203-000679	SA
C724	C-CER,CHIP	2203-000643	SA
C800	C-CER,CHIP	2203-000278	SA
C801	C-CER,CHIP	2203-005482	SA
C802	C-CER,CHIP	2203-005482	SA
C803	C-CER,CHIP	2203-005683	SA
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C807	C-CER,CHIP	2203-005683	SA
C808	C-CER,CHIP	2203-005683	SA
C809	C-CER,CHIP	2203-005683	SA
C810	C-CER,CHIP	2203-005683	SA
C811	C-CER,CHIP	2203-005683	SA
C812	C-CER,CHIP	2203-005683	SA
C813	C-CER,CHIP	2203-005683	SA
C814	C-CER,CHIP	2203-005683	SA
C815	C-CER,CHIP	2203-005683	SA
C816	C-CER,CHIP	2203-005683	SA
C817	C-CER,CHIP	2203-000812	SA
C818	C-CER,CHIP	2203-000812	SA
C900	C-CER,CHIP	2203-000854	SA
C901	C-CER,CHIP	2203-006562	SA
C902	C-CER,CHIP	2203-000233	SA
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C910	C-CER,CHIP	2203-000812	SA
C911	C-CER,CHIP	2203-000812	SA
C912	C-CER,CHIP	2203-006260	SA
C913	C-TA,CHIP	2404-001381	SA
C914	C-CER,CHIP	2203-005482	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
C915	C-CER,CHIP	2203-000138	SA
C916	C-TA,CHIP	2404-001240	SA
C917	C-CER,CHIP	2203-005482	SA
C918	C-CER,CHIP	2203-006260	SA
C919	C-CER,CHIP	2203-000233	SA
C920	C-CER,CHIP	2203-006260	SA
C921	C-CER,CHIP	2203-006260	SA
C922	C-CER,CHIP	2203-006260	SA
C923	C-CER,CHIP	2203-000254	SA
C924	C-CER,CHIP	2203-000254	SA
C925	C-CER,CHIP	2203-000386	SA
C926	C-CER,CHIP	2203-000386	SA
C927	C-TA,CHIP	2404-001226	SA
C928	C-CER,CHIP	2203-005482	SA
C929	C-CER,CHIP	2203-006137	SA
C930	C-CER,CHIP	2203-006137	SA
D400	C-CER,CHIP	2203-000254	SA
D700	DIODE-TVS	0406-001150	SA
D703	DIODE-TVS	0406-001231	SA
D704	DIODE-TVS	0406-001231	SA
D705	DIODE-TVS	0406-001231	SA
D706	DIODE-TVS	0406-001231	SA
D707	DIODE-TVS	0406-001231	SA
D708	DIODE-TVS	0406-001231	SA
D709	DIODE-TVS	0406-001231	SA
D710	DIODE-TVS	0406-001231	SA
D711	DIODE-TVS	0406-001231	SA
D712	DIODE-TVS	0406-001231	SA
D713	DIODE-TVS	0406-001231	SA
D714	DIODE-TVS	0406-001197	SA
EAR700	JACK-EAR PHONE	3722-002010	SA
F702	FILTER-EMI/ESD	2901-001348	SA
F800	FILTER-EMI SMD	2901-001286	SA
F801	FILTER-EMI SMD	2901-001286	SA
F802	FILTER-EMI SMD	2901-001286	SA
F803	FILTER-EMI SMD	2901-001286	SA
F804	FILTER-EMI SMD	2901-001286	SA
HEA800	HEADER-BOARD TO BOARD	3711-005918	SA
IFC700	CONNECTOR-INTERFACE	3710-001611	SA
L100	INDUCTOR-SMD	2703-002200	SA
L101	INDUCTOR-SMD	2703-002313	SA
L104	INDUCTOR-SMD	2703-002314	SA
L105	INDUCTOR-SMD	2703-002309	SA
L106	INDUCTOR-SMD	2703-002203	SA
L107	INDUCTOR-SMD	2703-001733	SA
L108	INDUCTOR-SMD	2703-002314	SA
L109	INDUCTOR-SMD	2703-002309	SA
L110	INDUCTOR-SMD	2703-002203	SA
L111	INDUCTOR-SMD	2703-002204	SA
L112	INDUCTOR-SMD	2703-002206	SA
L113	INDUCTOR-SMD	2703-002268	SA
L114	INDUCTOR-SMD	2703-002267	SA
L115	INDUCTOR-SMD	2703-002199	SA
L116	INDUCTOR-SMD	2703-002206	SA
L117	INDUCTOR-SMD	2703-002268	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
L118	INDUCTOR-SMD	2703-002369	SA
L119	INDUCTOR-SMD	2703-002369	SA
L204	INDUCTOR-SMD	2703-002314	SA
L205	INDUCTOR-SMD	2703-002313	SA
L206	INDUCTOR-SMD	2703-002313	SA
L207	INDUCTOR-SMD	2703-002313	SA
L210	INDUCTOR-SMD	2703-002170	SA
L600	BEAD-SMD	3301-001729	SA
L700	BEAD-SMD	3301-001885	SA
L701	BEAD-SMD	3301-001885	SA
L702	BEAD-SMD	3301-001876	SA
L703	BEAD-SMD	3301-001876	SA
L704	BEAD-SMD	3301-001876	SA
L705	INDUCTOR-SMD	2703-001513	SA
LED700	LED	0601-002258	SA
LED701	LED	0601-002258	SA
LED702	LED	0601-002258	SA
LED703	LED	0601-002258	SA
LED704	LED	0601-002258	SA
LED705	LED	0601-002258	SA
LED706	LED	0601-002258	SA
LED707	LED	0601-002258	SA
LED708	LED	0601-002258	SA
LED709	LED	0601-002258	SA
LED710	LED	0601-002258	SA
LED711	LED	0601-002258	SA
LED712	LED	0601-002258	SA
LED713	LED	0601-002258	SA
LED714	LED	0601-002258	SA
LED715	LED	0601-002258	SA
LED716	LED	0601-002258	SA
OSC101	OSCILLATOR-VCTCXO	2809-001307	SA
Q400	FET-SILICON	0505-002088	SA
Q900	FET-SILICON	0505-002088	SA
R100	INDUCTOR-SMD	2703-002313	SA
R101	R-CHIP	2007-000982	SA
R102	R-CHIP	2007-000171	SA
R103	R-CHIP	2007-007316	SA
R105	R-CHIP	2007-009323	SA
R106	R-CHIP	2007-003001	SA
R108	R-CHIP	2007-008516	SA
R110	R-CHIP	2007-000932	SA
R111	R-CHIP	2007-000932	SA
R112	R-CHIP	2007-009323	SA
R113	R-CHIP	2007-000171	SA
R117	R-CHIP	2007-000143	SA
R118	R-CHIP	2007-000171	SA
R119	R-CHIP	2007-000143	SA
R120	R-CHIP	2007-000143	SA
R121	R-CHIP	2007-000143	SA
R200	C-CER,CHIP	2203-005446	SA
R201	R-CHIP	2007-000171	SA
R202	R-CHIP	2007-000147	SA
R205	R-CHIP	2007-000171	SA
R300	R-CHIP	2007-000174	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
R301	R-CHIP	2007-000171	SA
R302	R-CHIP	2007-000162	SA
R303	R-CHIP	2007-007107	SA
R304	R-CHIP	2007-007107	SA
R305	R-CHIP	2007-007107	SA
R306	R-CHIP	2007-007142	SA
R307	R-CHIP	2007-007142	SA
R308	R-CHIP	2007-007107	SA
R309	R-CHIP	2007-000162	SA
R310	R-CHIP	2007-000162	SA
R311	R-CHIP	2007-007001	SA
R312	R-CHIP	2007-000171	SA
R313	R-CHIP	2007-000141	SA
R314	R-CHIP	2007-000141	SA
R315	R-CHIP	2007-000162	SA
R316	R-CHIP	2007-000162	SA
R317	R-CHIP	2007-000143	SA
R324	R-CHIP	2007-000171	SA
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R402	R-CHIP	2007-000171	SA
R403	R-CHIP	2007-000162	SA
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R406	R-CHIP	2007-007141	SA
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R409	R-CHIP	2007-000171	SA
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R411	R-CHIP	2007-000162	SA
R412	R-CHIP	2007-000162	SA
R413	R-CHIP	2007-000162	SA
R414	R-CHIP	2007-000171	SA
R500	R-CHIP	2007-000171	SA
R501	R-CHIP	2007-000162	SA
R502	R-CHIP	2007-007100	SA
R503	R-CHIP	2007-000171	SA
R504	R-CHIP	2007-000171	SA
R505	R-CHIP	2007-000162	SA
R508	R-CHIP	2007-001339	SA
R509	R-CHIP	2007-000758	SA
R510	R-CHIP	2007-000162	SA
R511	R-CHIP	2007-000171	SA
R512	R-CHIP	2007-000166	SA
R513	R-CHIP	2007-003000	SA
R601	R-CHIP	2007-000171	SA
R602	R-CHIP	2007-007334	SA
R603	R-CHIP	2007-008542	SA
R604	R-CHIP	2007-008542	SA
R607	R-CHIP	2007-008542	SA
R608	R-CHIP	2007-009233	SA
R611	R-CHIP	2007-000171	SA
R619	R-CHIP	2007-000157	SA
R620	R-CHIP	2007-008542	SA
R621	R-CHIP	2007-008542	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
R622	R-CHIP	2007-000171	SA
R624	R-CHIP	2007-008542	SA
R625	R-CHIP	2007-008542	SA
R626	R-CHIP	2007-000140	SA
R627	R-CHIP	2007-000140	SA
R628	R-CHIP	2007-007489	SA
R629	R-CHIP	2007-007311	SA
R631	R-CHIP	2007-000162	SA
R632	R-CHIP	2007-007573	SA
R633	R-CHIP	2007-000162	SA
R700	R-CHIP	2007-000162	SA
R701	R-CHIP	2007-000162	SA
R702	R-CHIP	2007-008531	SA
R703	R-CHIP	2007-008531	SA
R705	BEAD-SMD	3301-001885	SA
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R710	R-CHIP	2007-000140	SA
R711	R-CHIP	2007-000140	SA
R712	R-CHIP	2007-008531	SA
R713	R-CHIP	2007-002796	SA
R714	R-CHIP	2007-008531	SA
R715	R-CHIP	2007-008531	SA
R716	R-CHIP	2007-002796	SA
R717	R-CHIP	2007-000140	SA
R718	R-CHIP	2007-000140	SA
R719	C-CER,CHIP	2203-000278	SA
R720	R-CHIP	2007-000148	SA
R721	C-CER,CHIP	2203-000278	SA
R722	R-CHIP	2007-007009	SA
R723	R-CHIP	2007-007009	SA
R724	R-CHIP	2007-000173	SA
R725	R-CHIP	2007-007009	SA
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R736	R-CHIP	2007-000173	SA
R737	R-CHIP	2007-000173	SA
R738	R-CHIP	2007-000173	SA
R739	R-CHIP	2007-007573	SA
R740	R-CHIP	2007-000138	SA
R741	R-CHIP	2007-007529	SA
R742	R-CHIP	2007-000138	SA
R743	R-CHIP	2007-000138	SA
R744	R-CHIP	2007-007107	SA
R745	R-CHIP	2007-001339	SA
R746	R-CHIP	2007-000171	SA

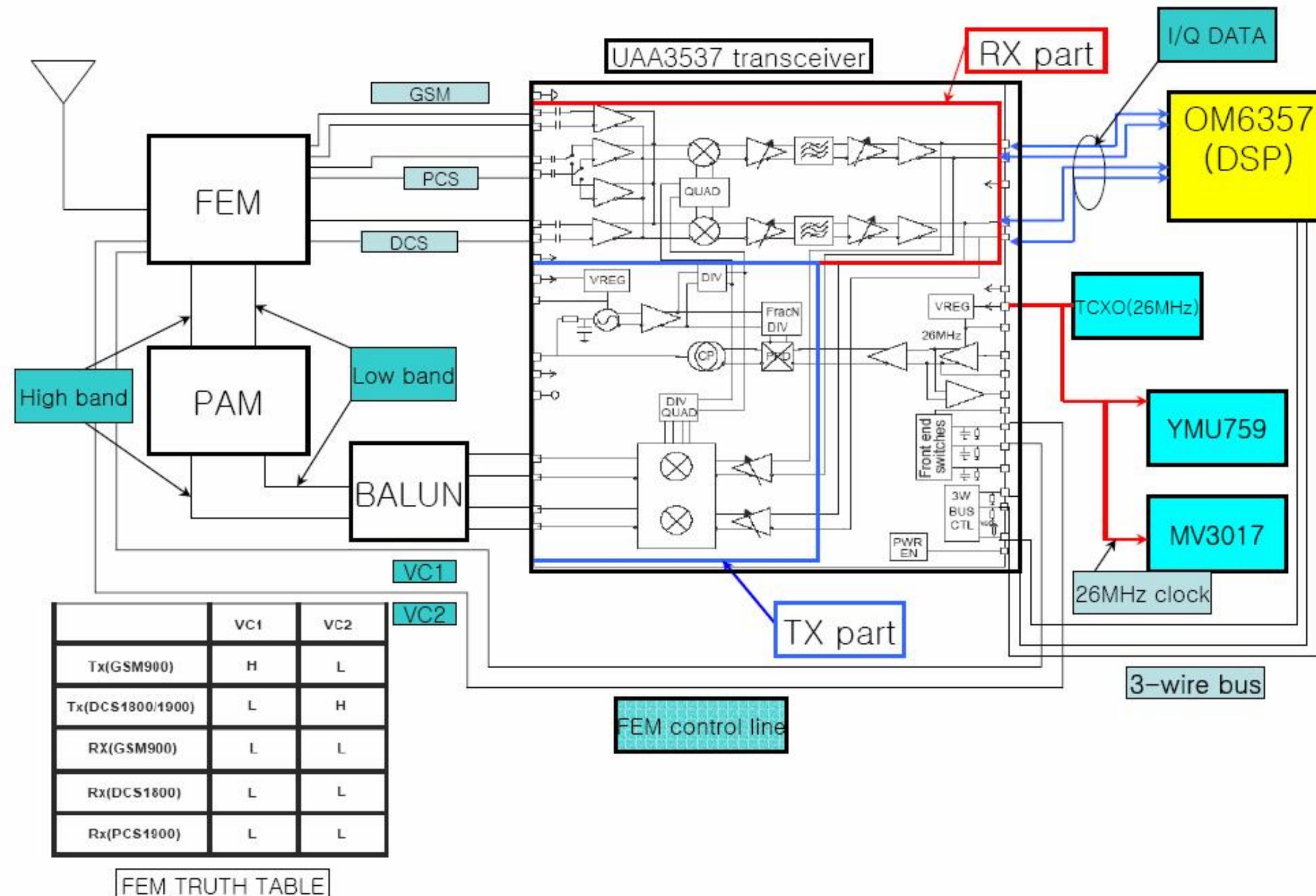
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R750	R-CHIP	2007-000162	SA
R751	R-CHIP	2007-000162	SA
R752	R-CHIP	2007-000162	SA
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R809	R-CHIP	2007-007136	SA
R810	R-CHIP	2007-007136	SA
R812	R-CHIP	2007-008419	SA
R900	R-CHIP	2007-001303	SA
R901	R-CHIP	2007-007014	SA
R902	R-CHIP	2007-007014	SA
R903	R-CHIP	2007-000172	SA
R904	R-CHIP	2007-001325	SA
R905	R-CHIP	2007-000162	SA
R906	R-CHIP	2007-007137	SA
R907	R-CHIP	2007-007470	SA
R908	R-CHIP	2007-000171	SA
R909	R-CHIP	2007-000162	SA
R910	R-CHIP	2007-000172	SA
R911	R-CHIP	2007-000172	SA
R912	R-CHIP	2007-000171	SA
R913	R-CHIP	2007-000171	SA
RFS200	CONNECTOR-COAXIAL	3705-001358	SA
SIM500	CONNECTOR-CARD EDGE	3709-001400	SA
SW600	IC-HALL EFFECT S/W	1009-001018	SA
TA200	C-TA,CHIP	2404-001474	SA
TA600	C-TA,CHIP	2404-001381	SA
TA700	C-TA,CHIP	2404-001377	SA
TH300	THERMISTOR-NTC	1404-001221	SA
TR700	TR-DIGITAL	0504-001100	SA
U100	IC-TRANSCEIVER	1205-002689	SA
U200	IC-POWER AMP	1201-002425	SA
U201	DUPLEXER-FEM	2911-000044	SA
U301	IC-CMOS LOGIC	0801-002529	SA
U401	IC ASIC-SGHE420	GH13-00042A	SA
U402	FET-SILICON	0505-001923	SA
U500	IC-POWER SUPERVISOR	1203-003882	SA
U501	IC-POSI.FIXED REG.	1203-003787	SA
U502	IC-CMOS LOGIC	0801-002507	SA
U600	BLUETOOTH MODULE	4709-001496	SA
U602	IC-BATTERY	1203-003663	SA
U605	IC-CMOS LOGIC	0801-003076	SA
U606	IC-CMOS LOGIC	0801-003076	SA
U700	IC-POSI.FIXED REG.	1203-003531	SA
U701	IC-VOLTAGE COMP.	1202-001068	SA
U702	IC-ANALOG SWITCH	1001-001410	SA
U900	IC-CMOS LOGIC	0801-003025	SA
U901	IC-MELODY	1204-001811	SA
U902	IC-TUNER	1204-002700	SA
U903	IC-AUDIO AMP	1201-002356	SA
UCP300	IC-COMM. CONTROLLER	1205-003065	SA
UME400	IC-MCP	1108-000059	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
V500	VARISTOR	1405-001082	SA
V800	VARISTOR	1405-001082	SA
V801	VARISTOR	1405-001082	SA
V802	VARISTOR	1405-001082	SA
V803	DIODE-TVS	0406-001231	SA
V804	DIODE-TVS	0406-001231	SA
V805	VARISTOR	1405-001082	SA
V806	DIODE-TVS	0406-001231	SA
V807	DIODE-TVS	0406-001231	SA
V808	VARISTOR	1405-001082	SA
X500	CRYSTAL-SMD	2801-004373	SA
ZD700	DIODE-ZENER	0403-001547	SA

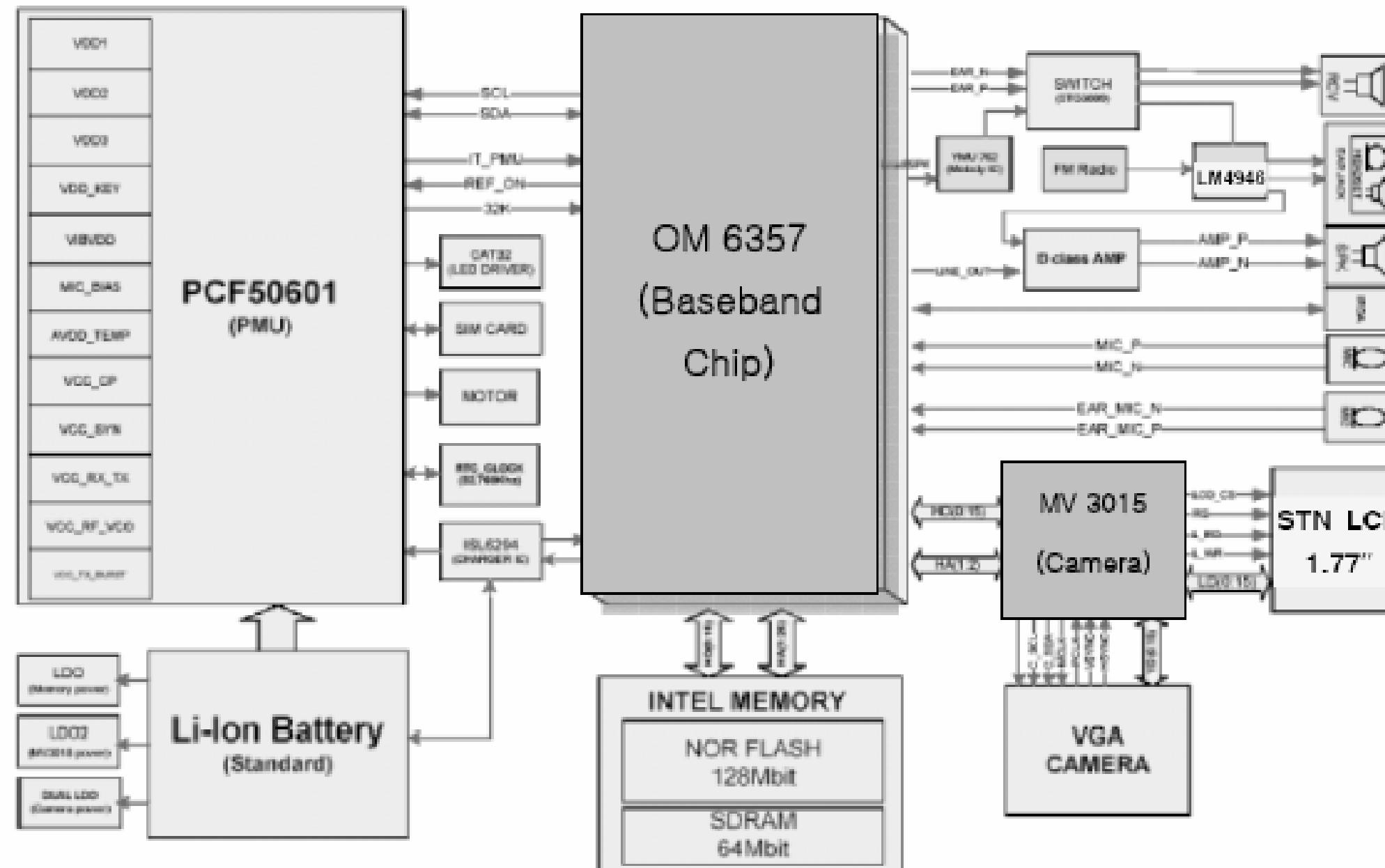


## 7. Block Diagrams

### 7-1. RF Solution Block Diagram

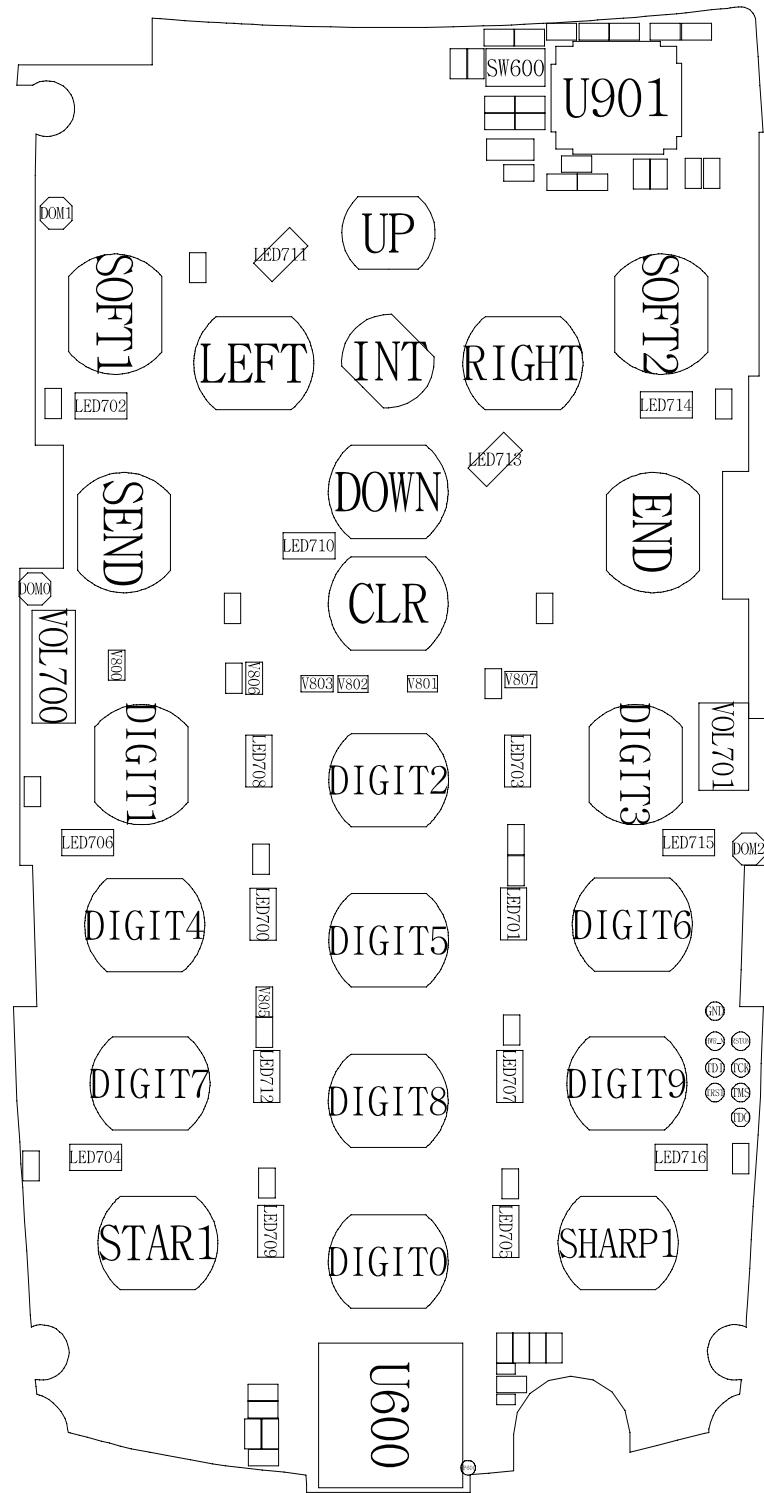


## 7-2. Base Band Solution Block Diagram

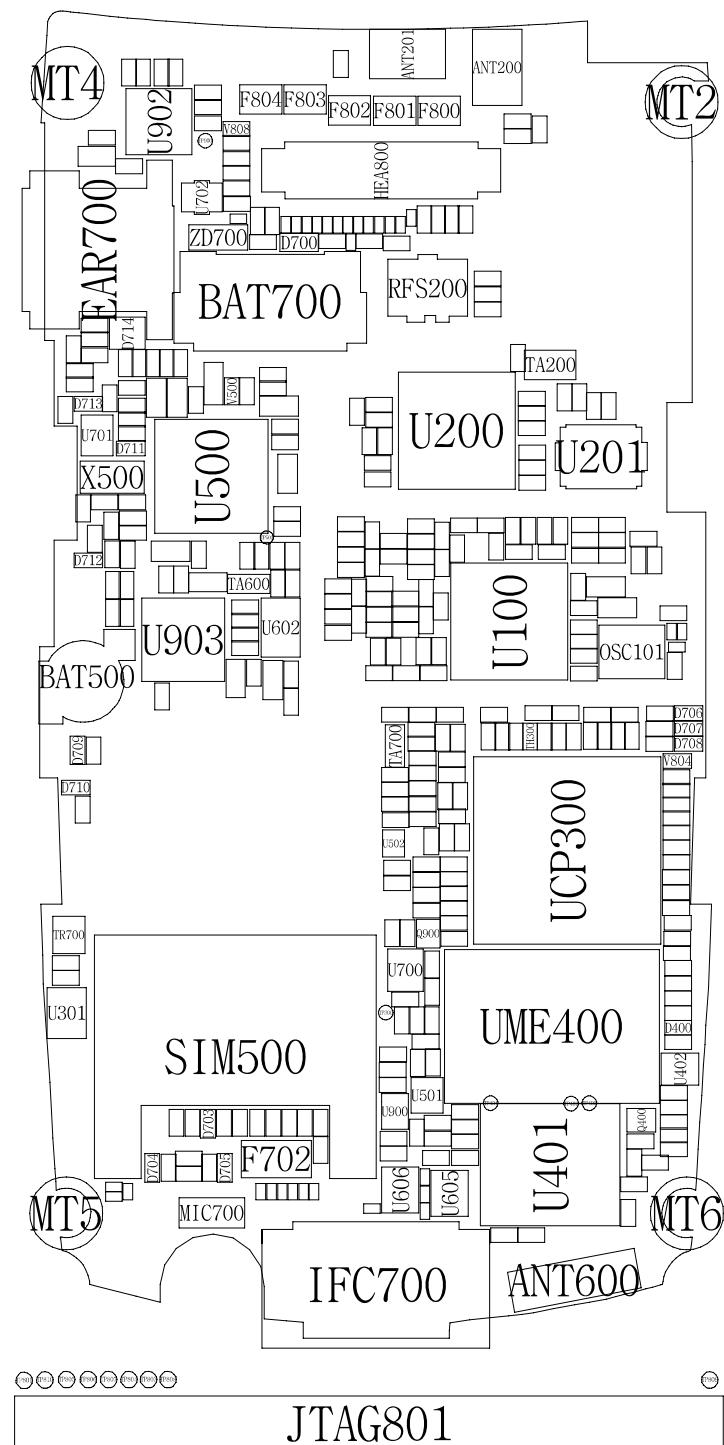


## 8. PCB Diagrams

Top

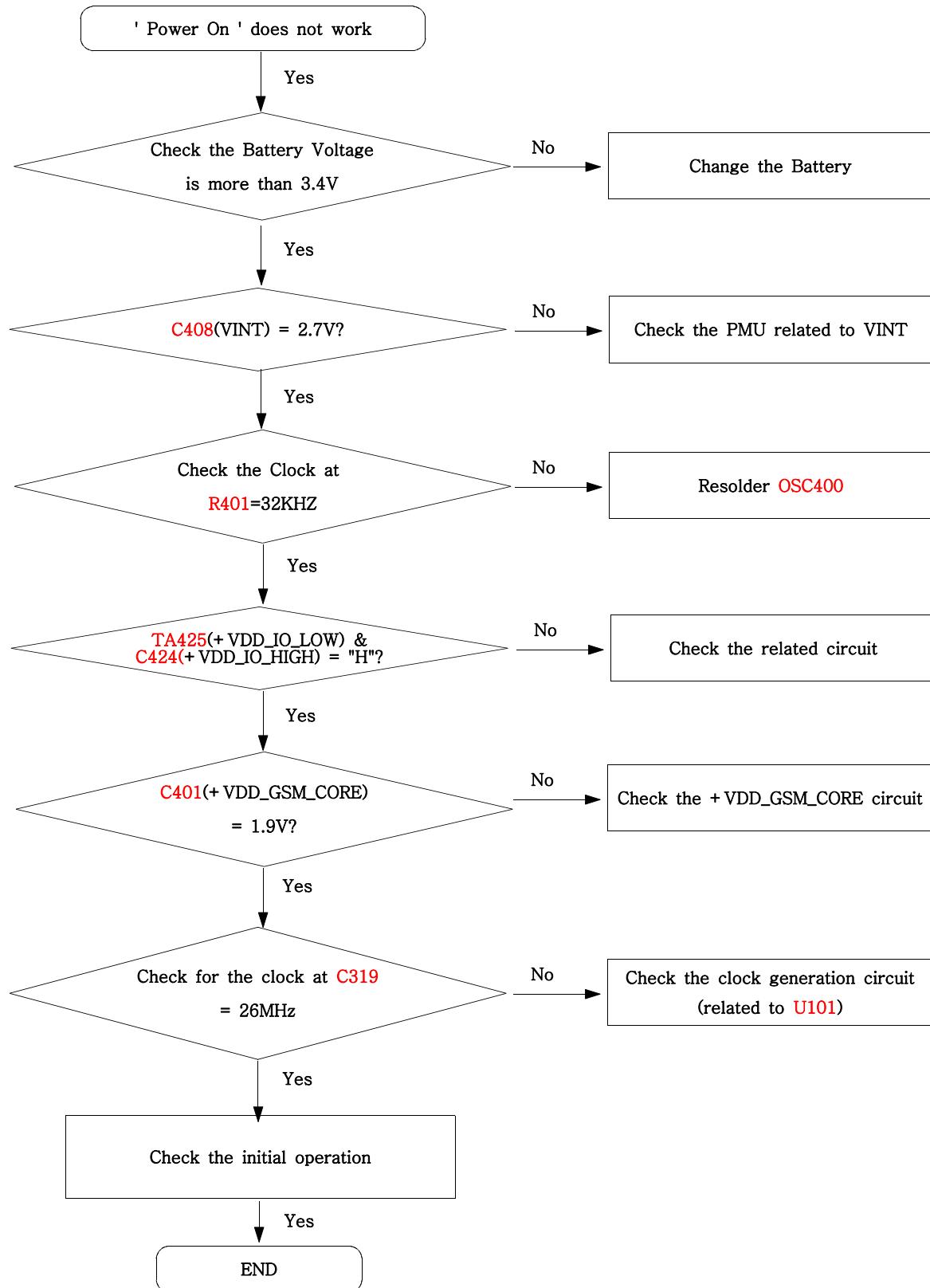


**Top**

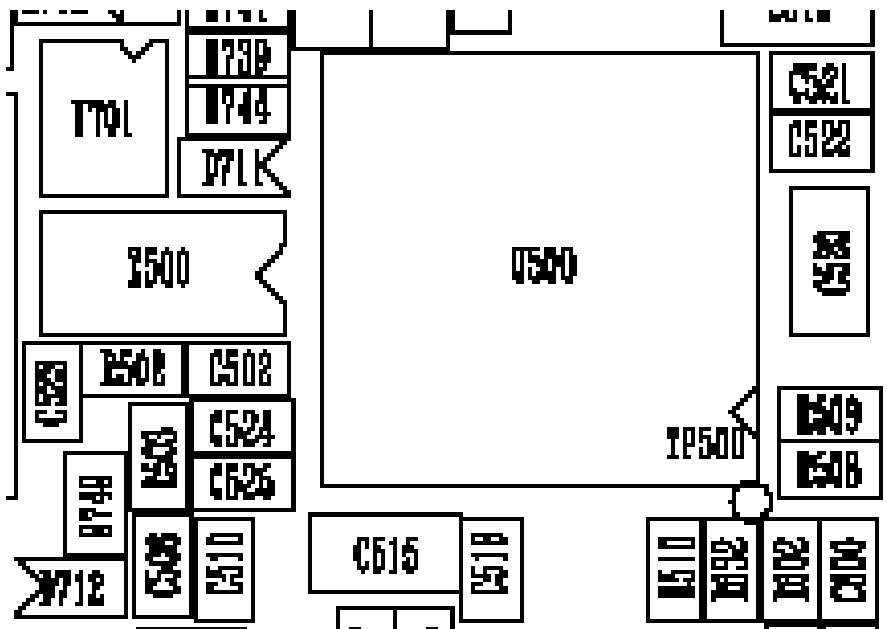
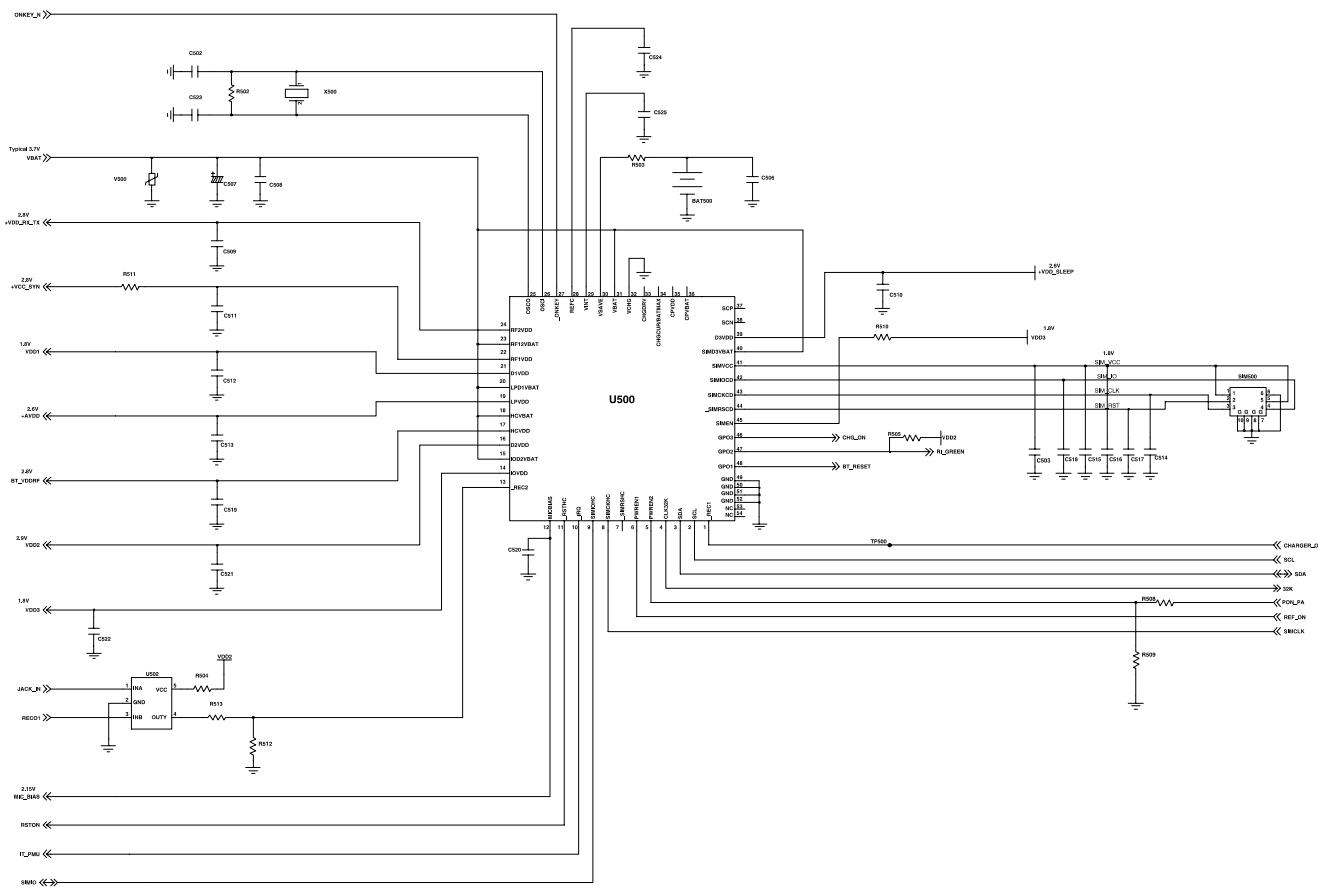


## 9. Flow Chart of Troubleshooting

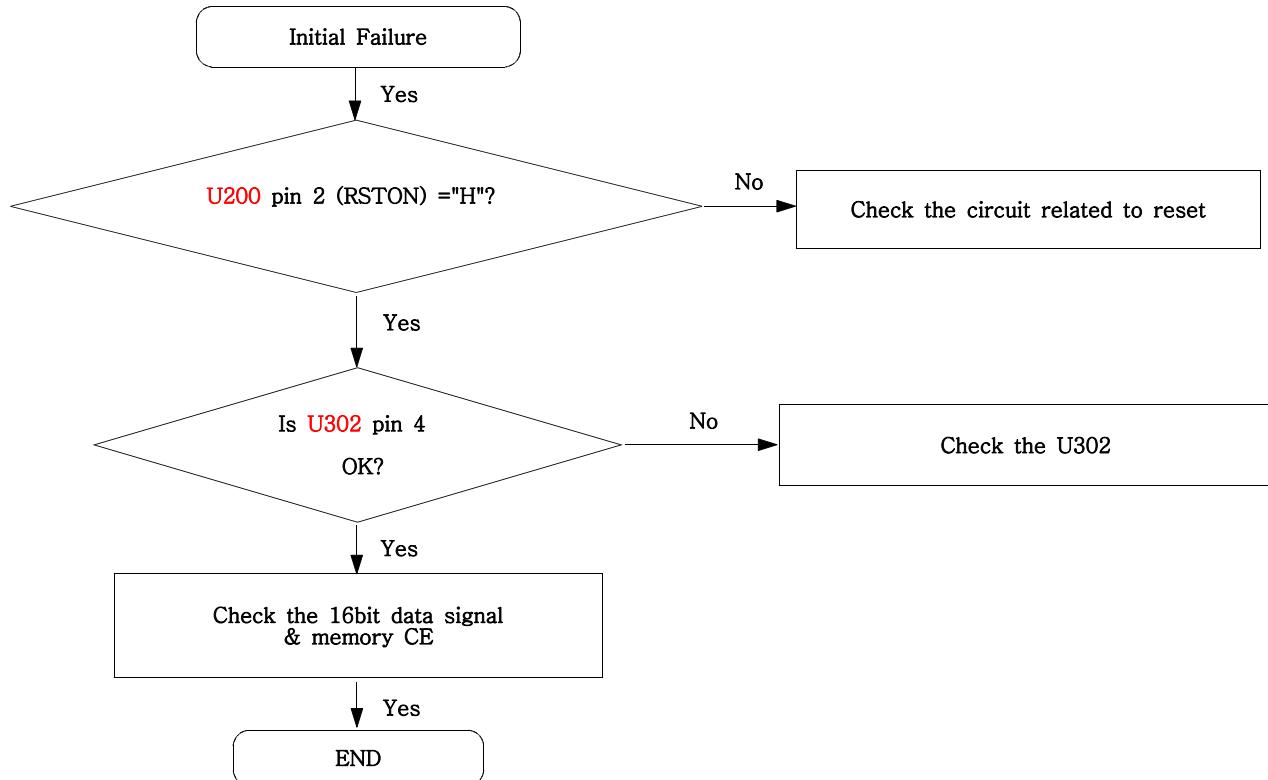
### 9-1. Power On



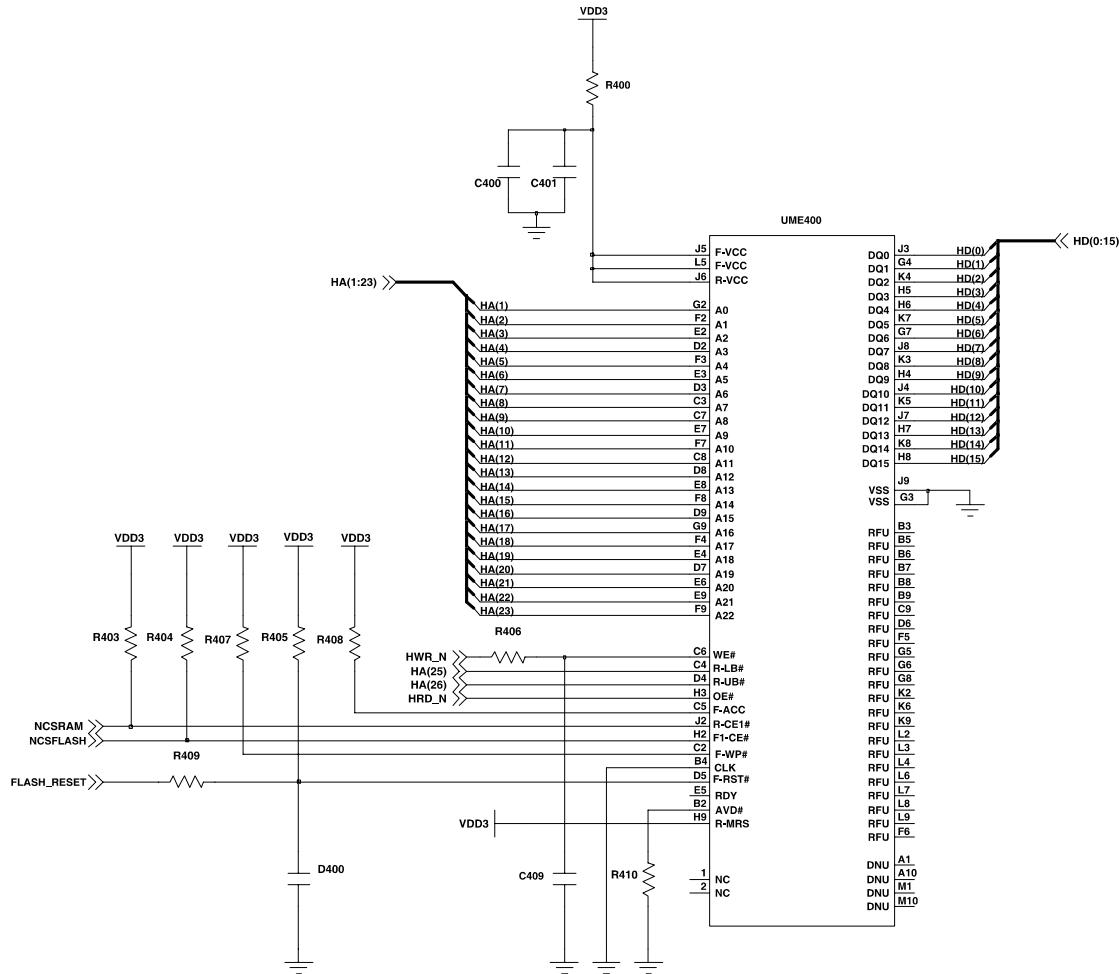
## **Flow Chart of Troubleshooting**



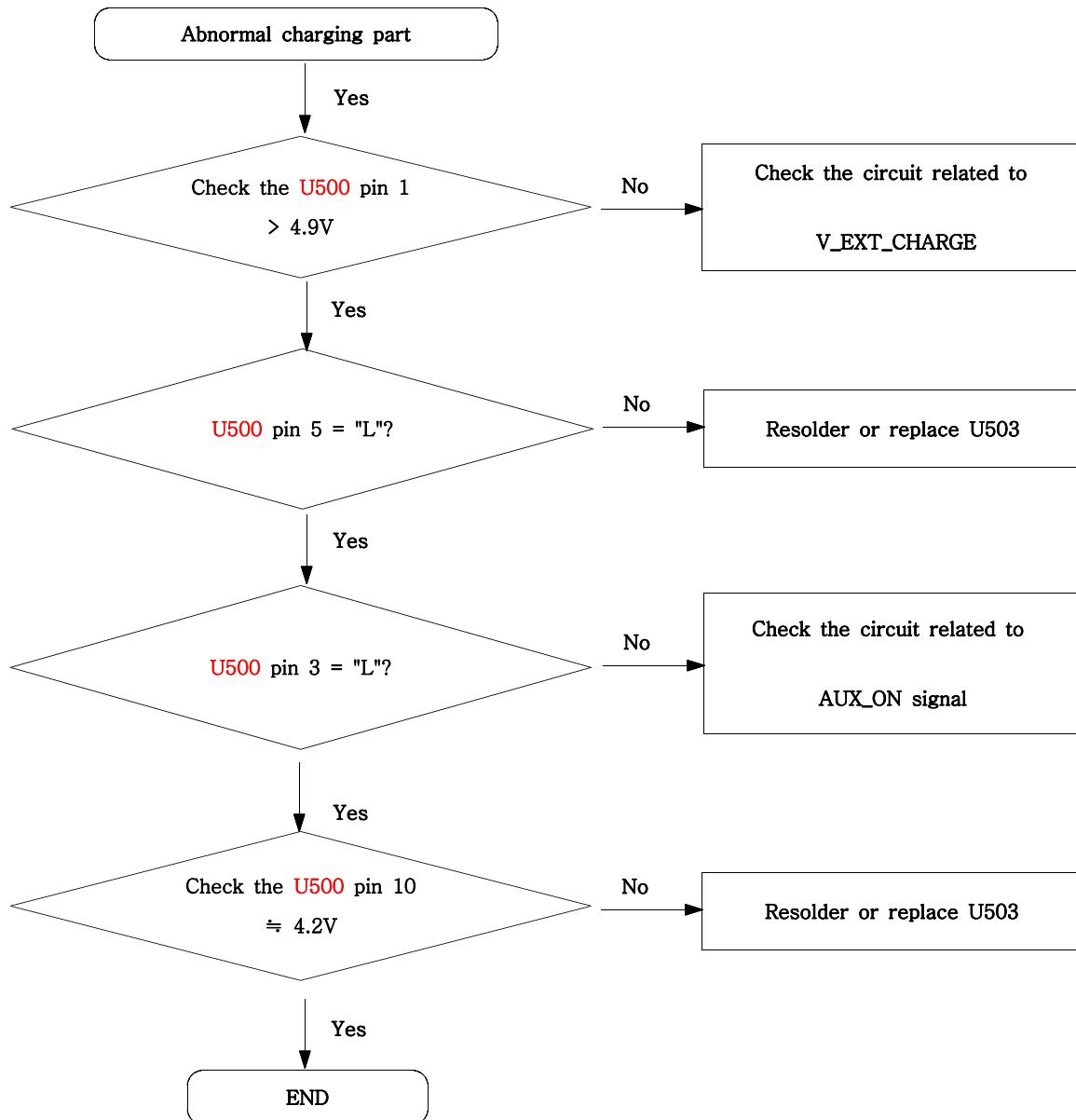
## 9-2. Initial



## Flow Chart of Troubleshooting

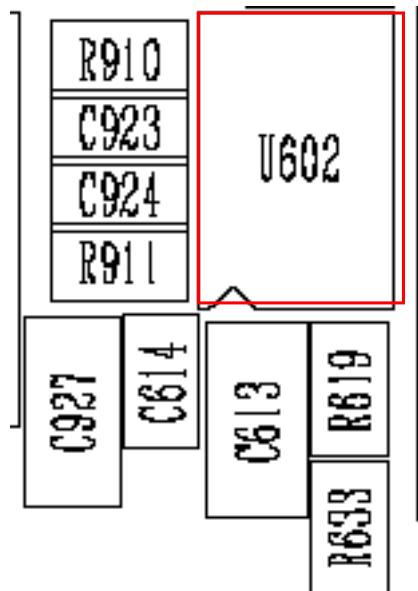
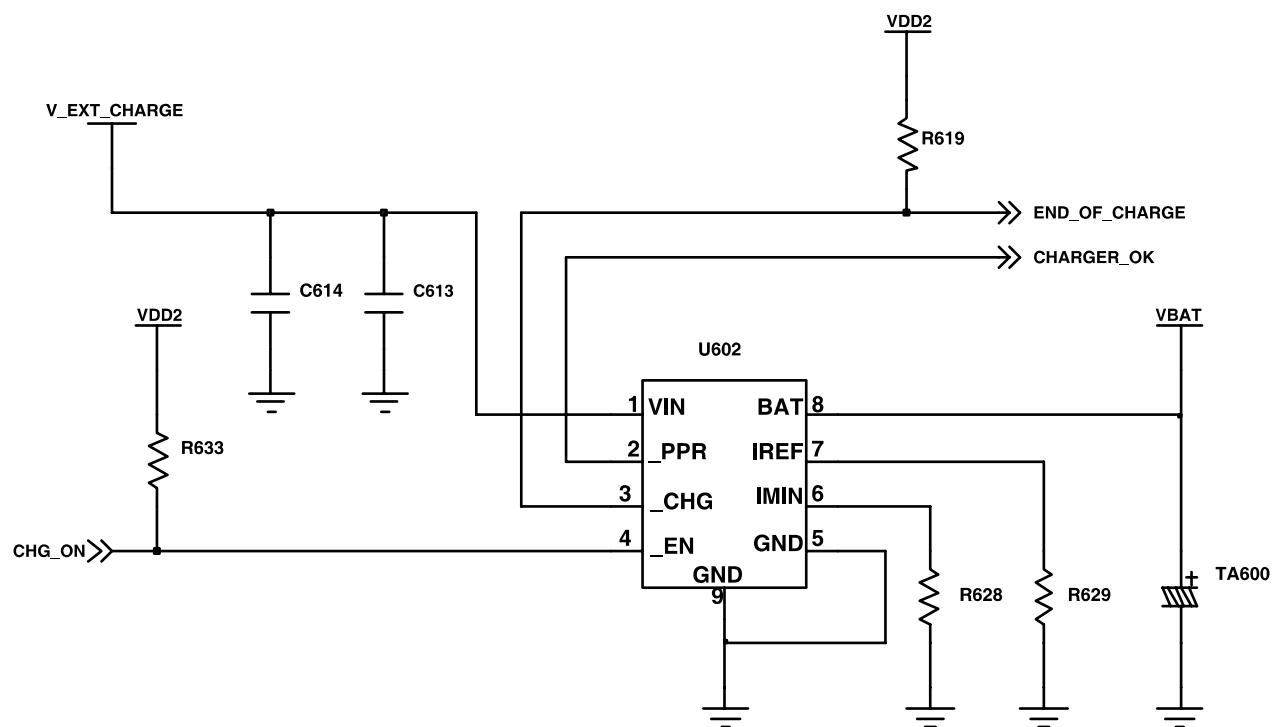


## 9-3. Charging Part

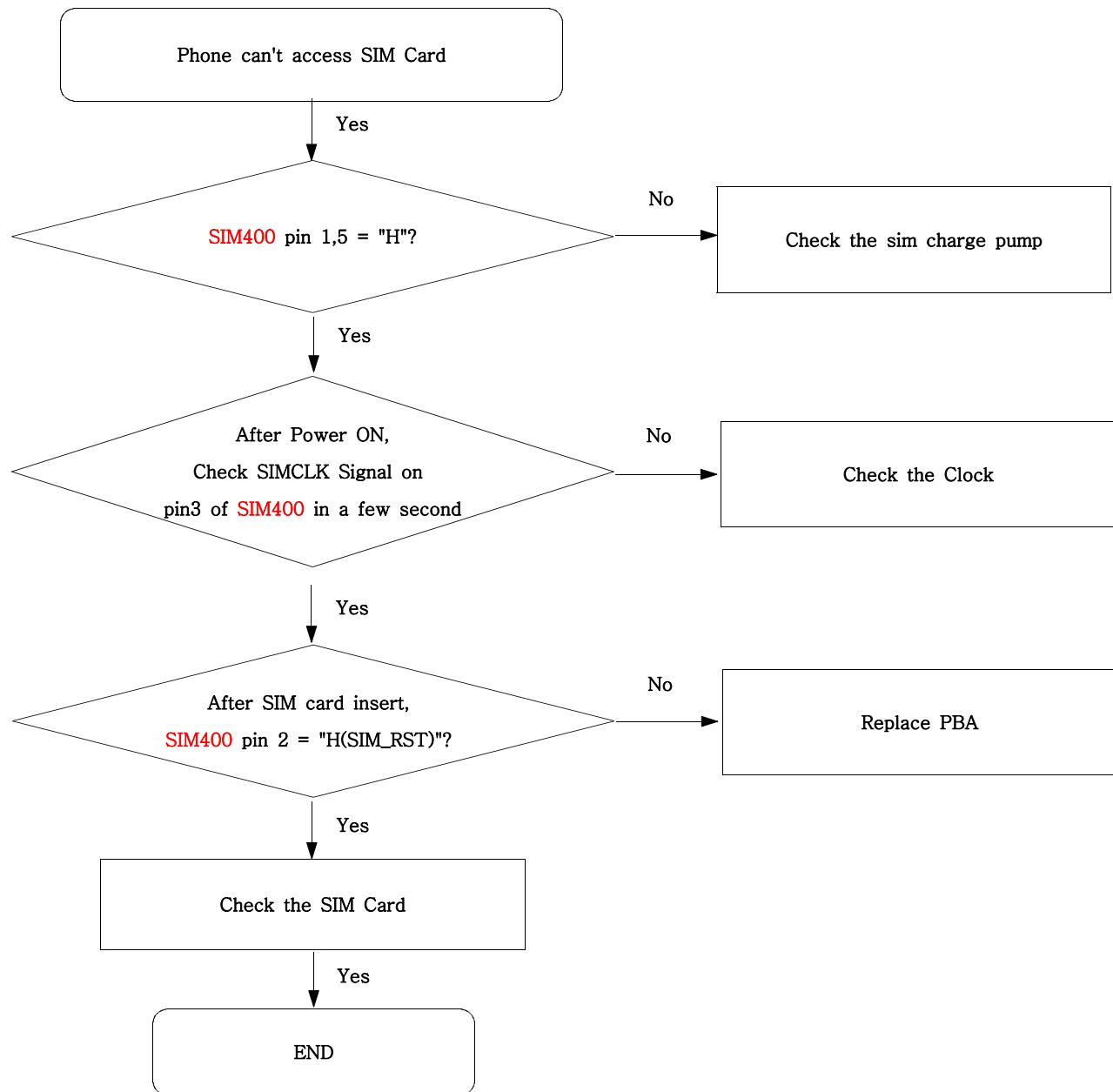


## Flow Chart of Troubleshooting

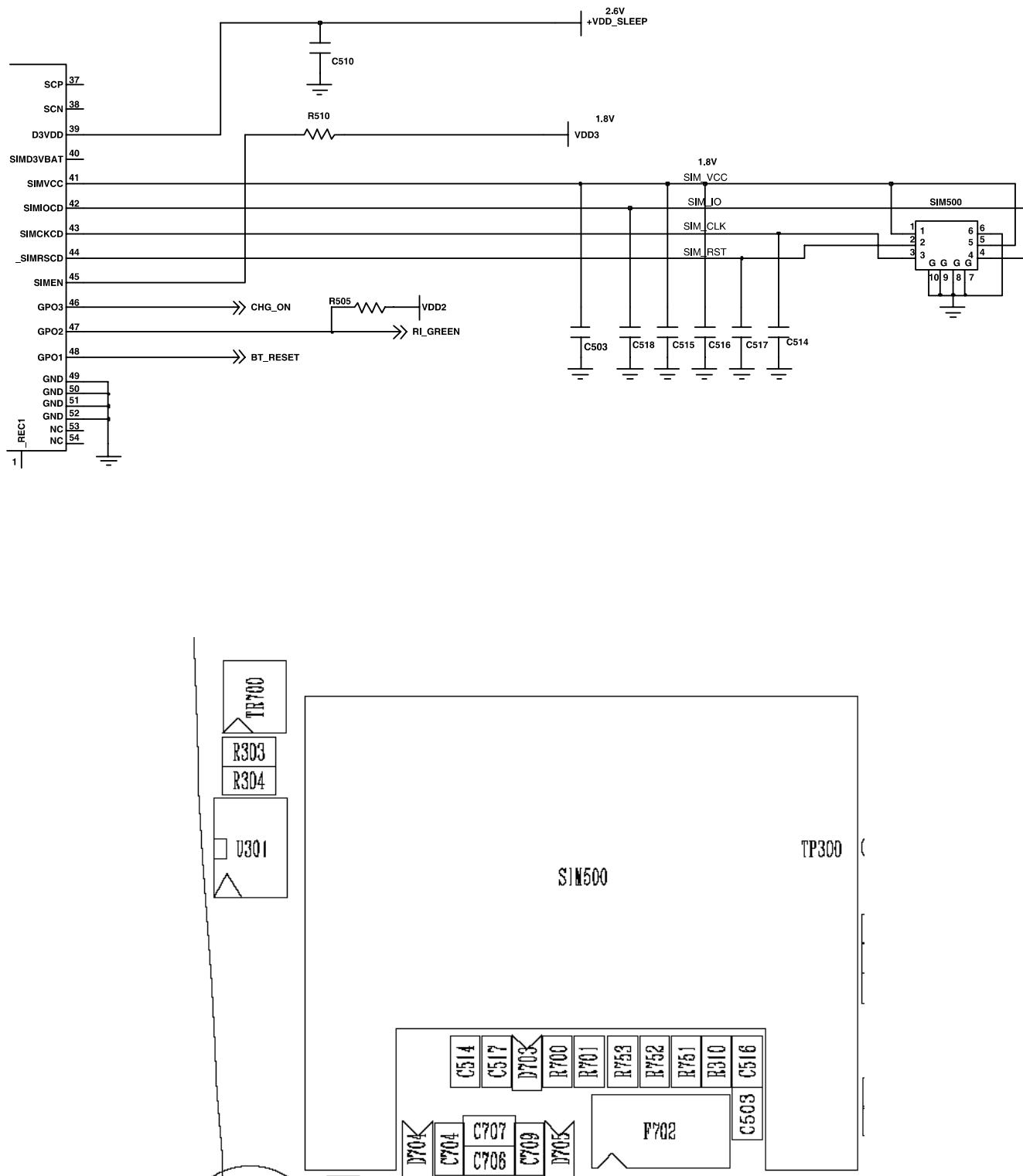
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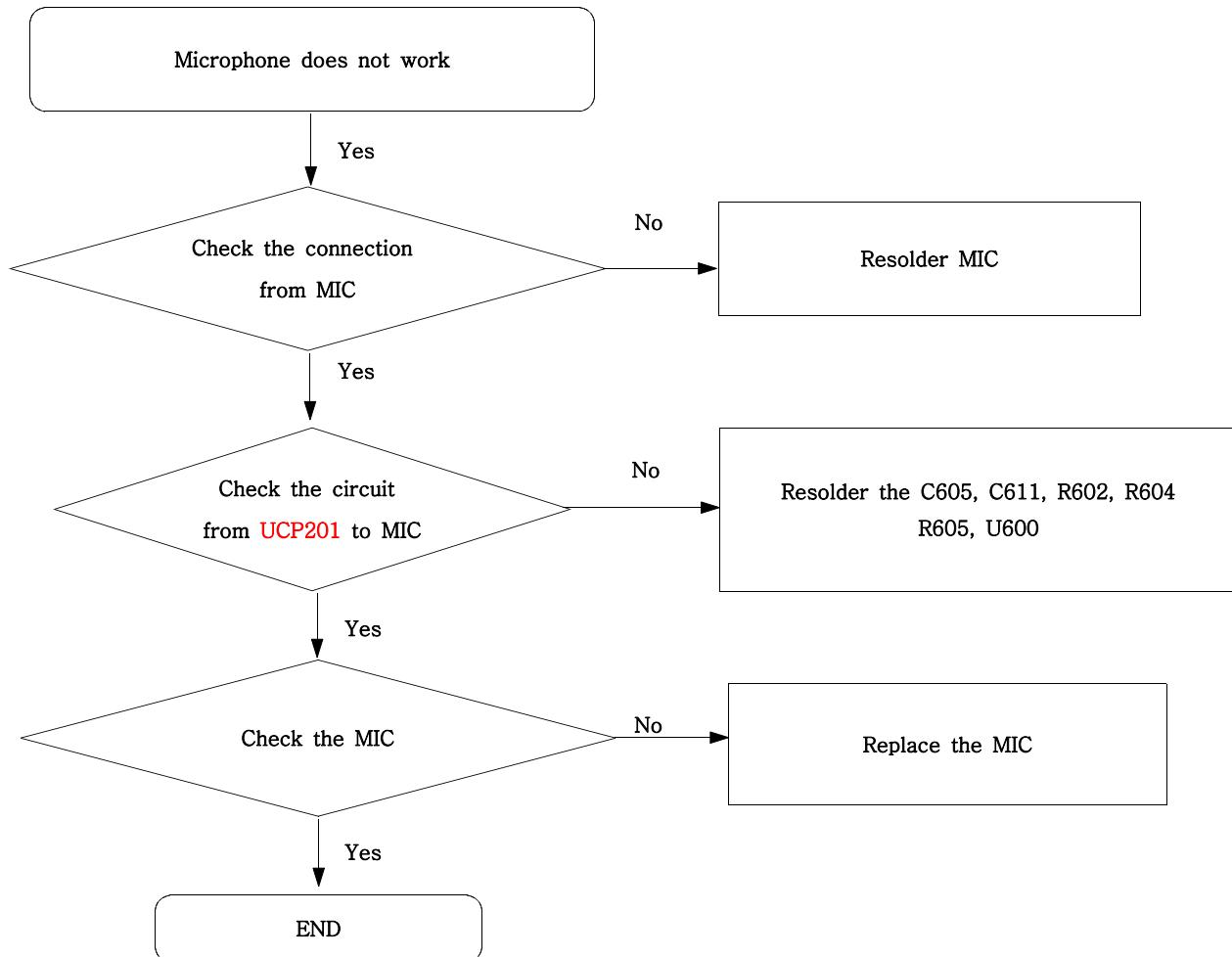
## 9-4. Sim Part



## Flow Chart of Troubleshooting

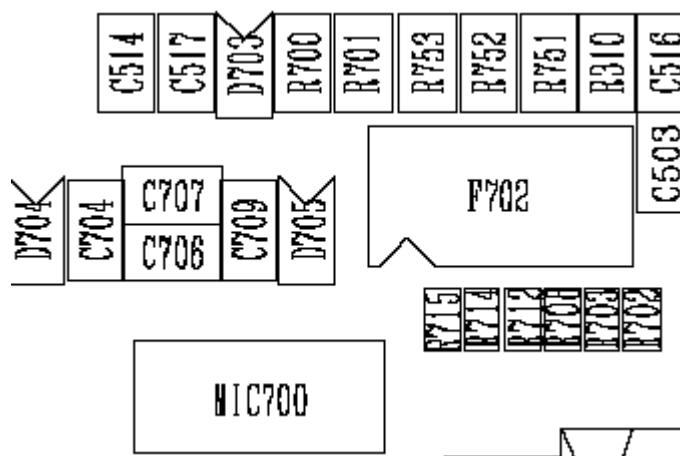
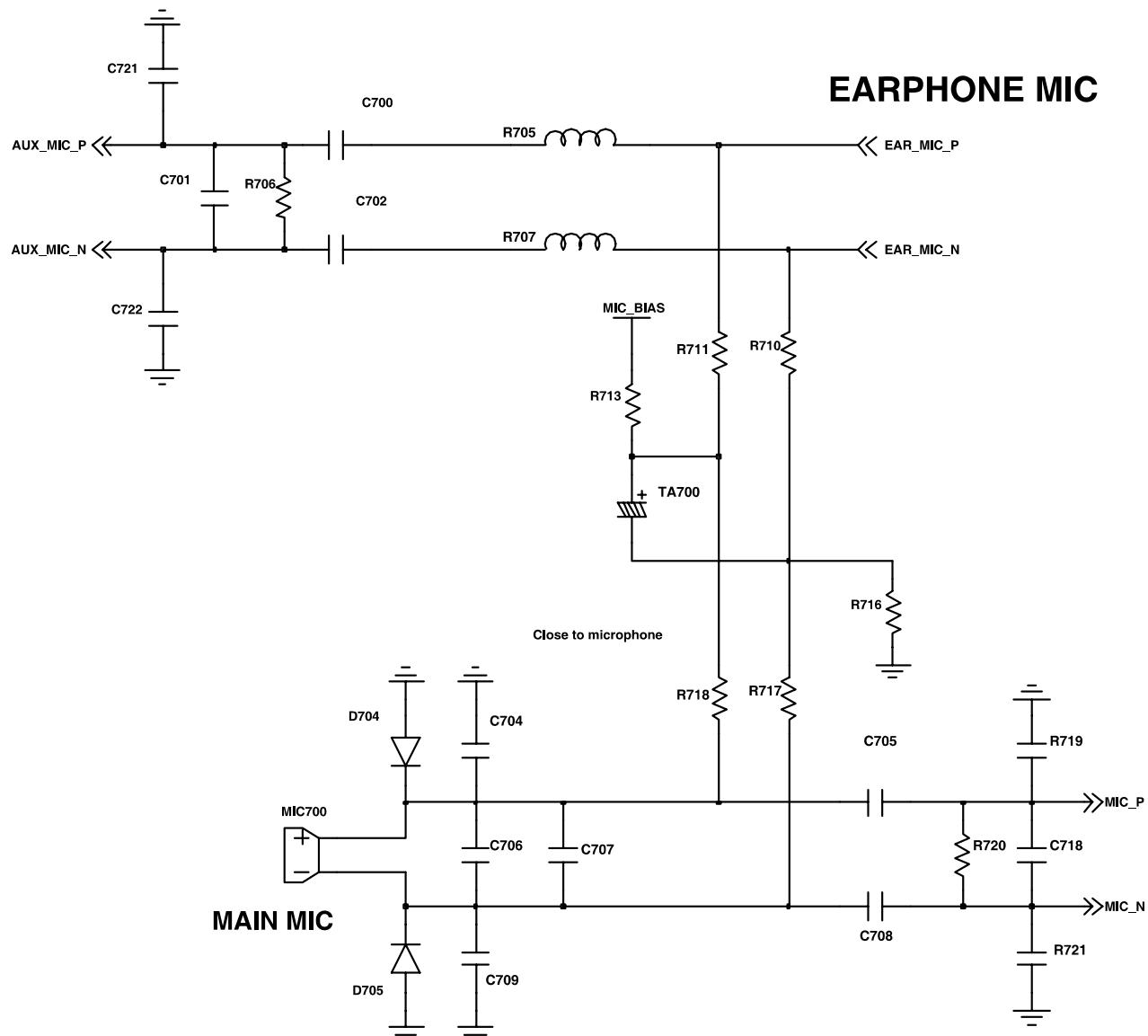


## 9-5. Microphone Part

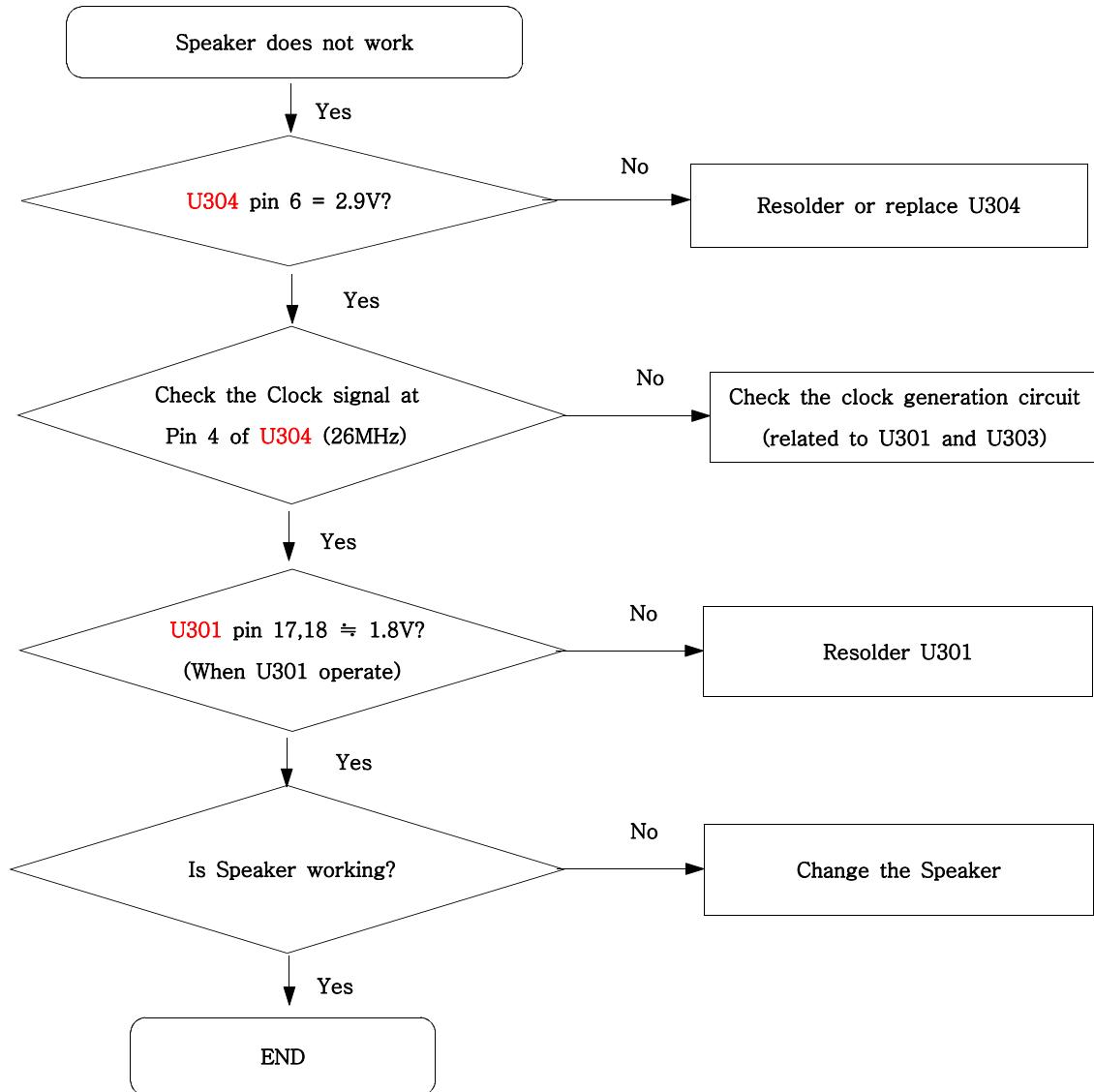


## Flow Chart of Troubleshooting

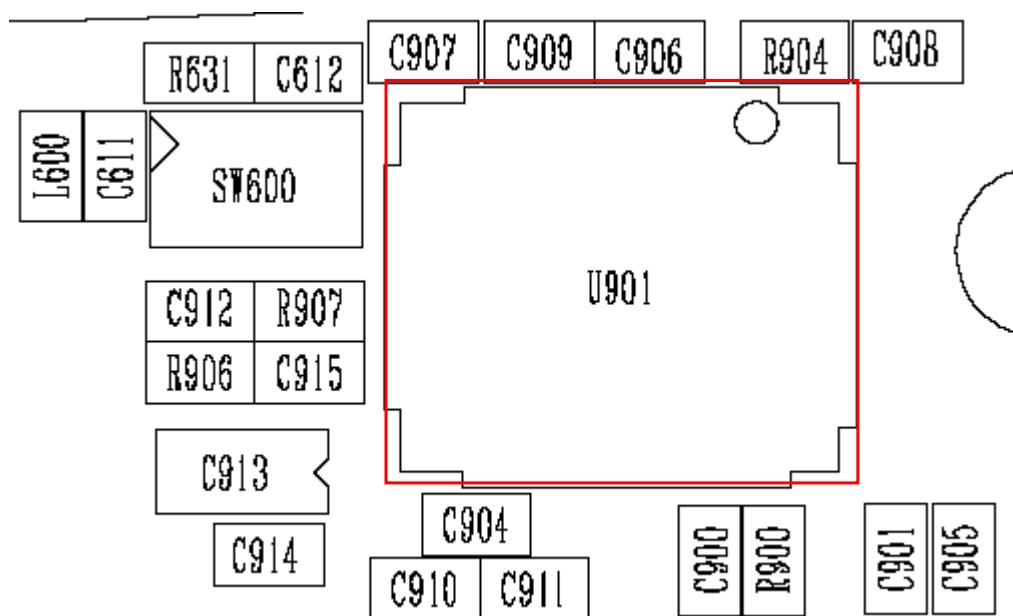
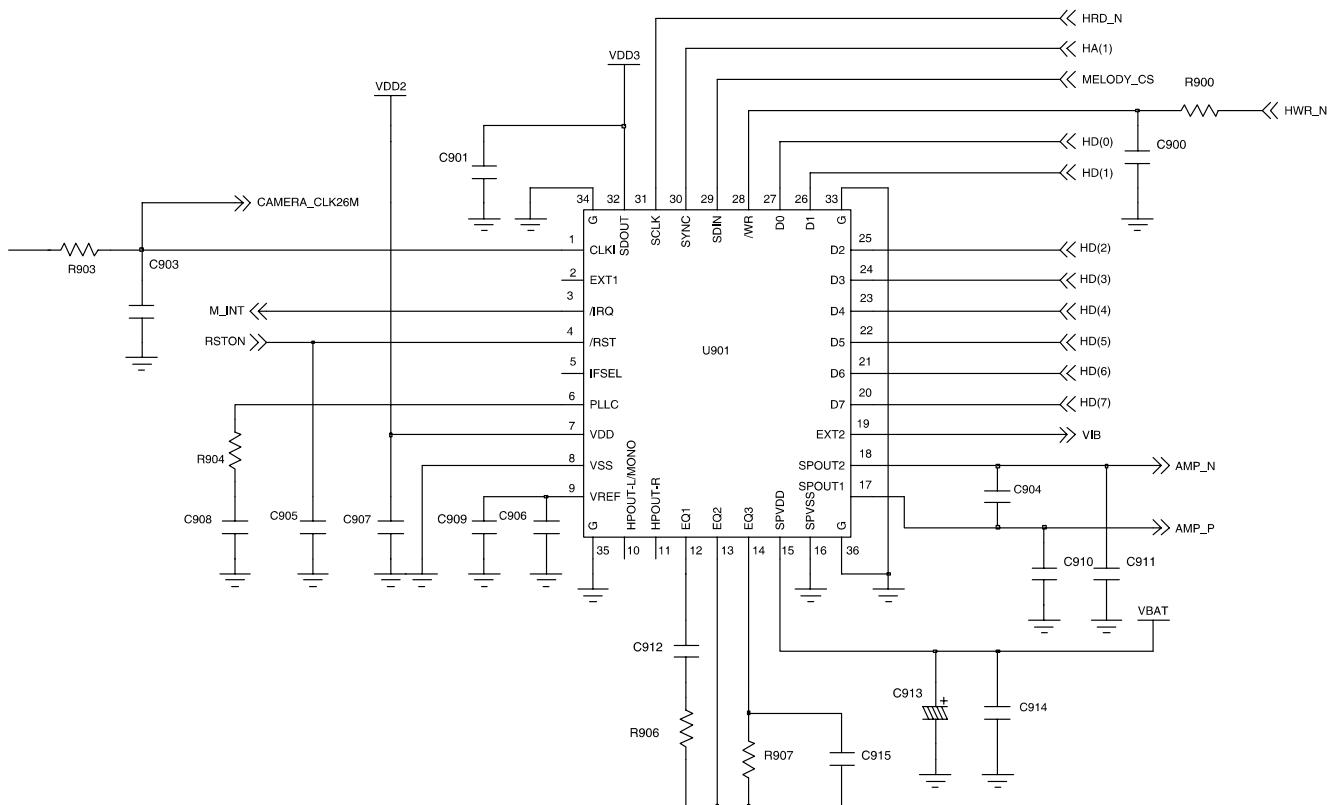
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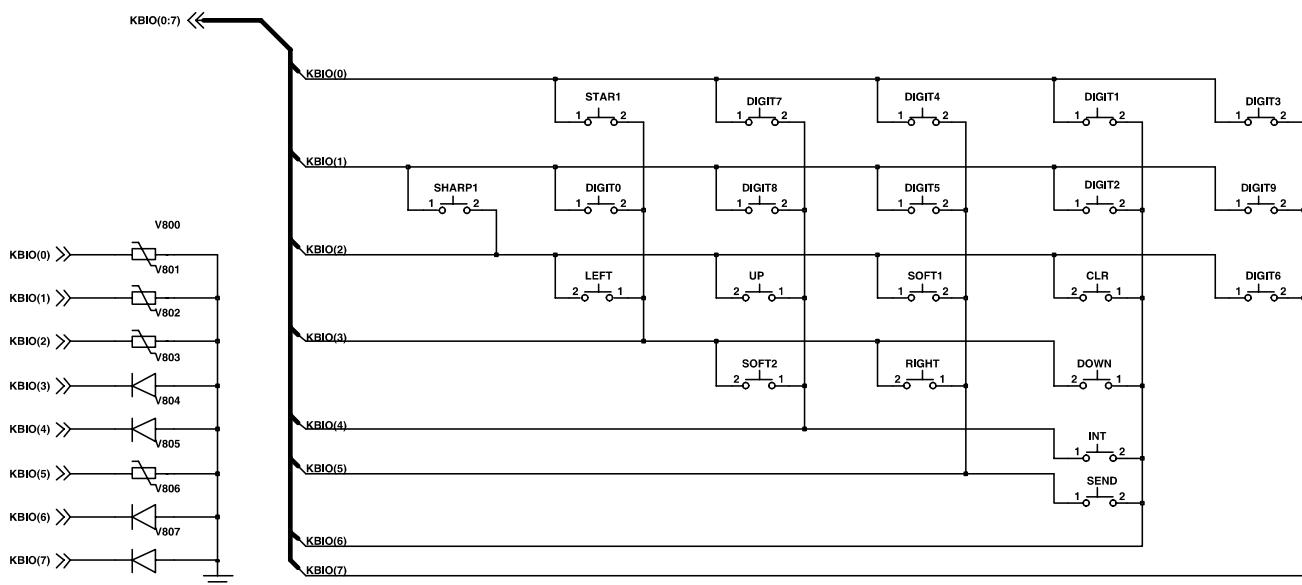
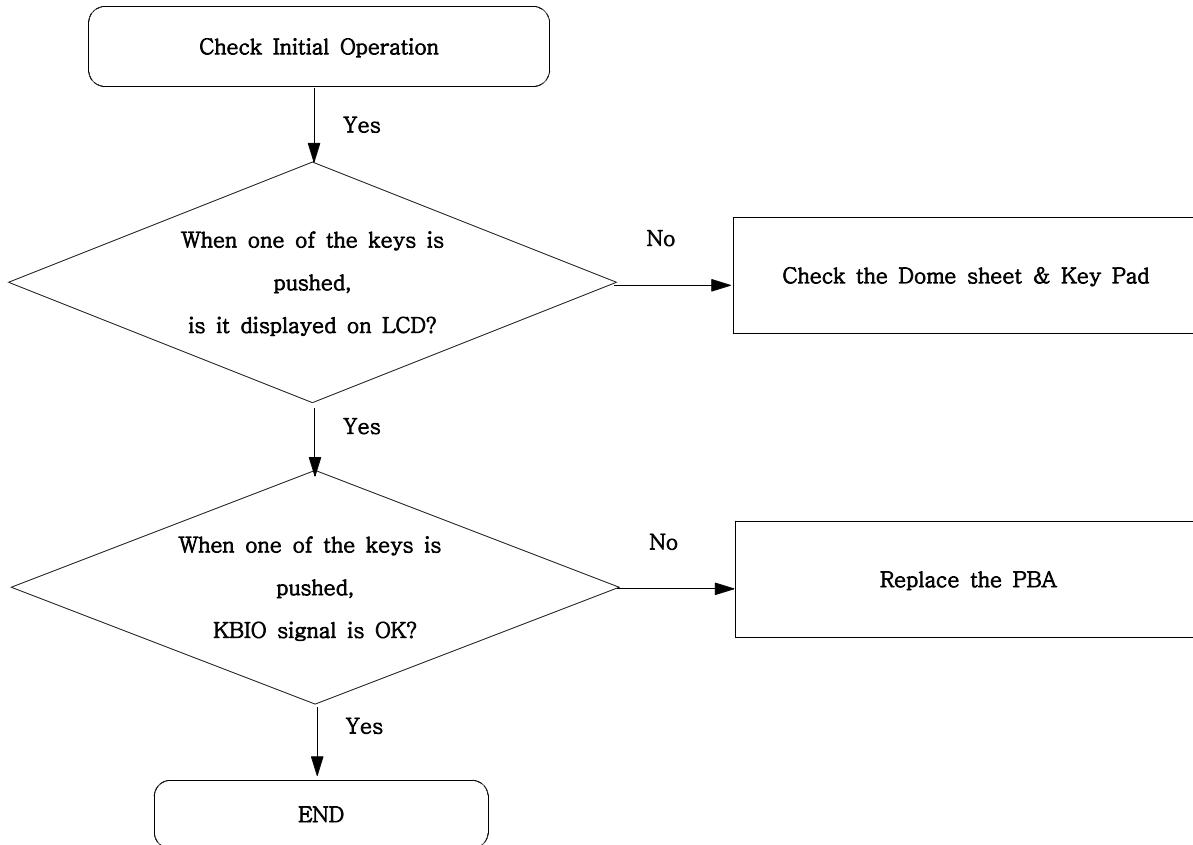
## 9-6. Speaker Part(Melody)



## Flow Chart of Troubleshooting

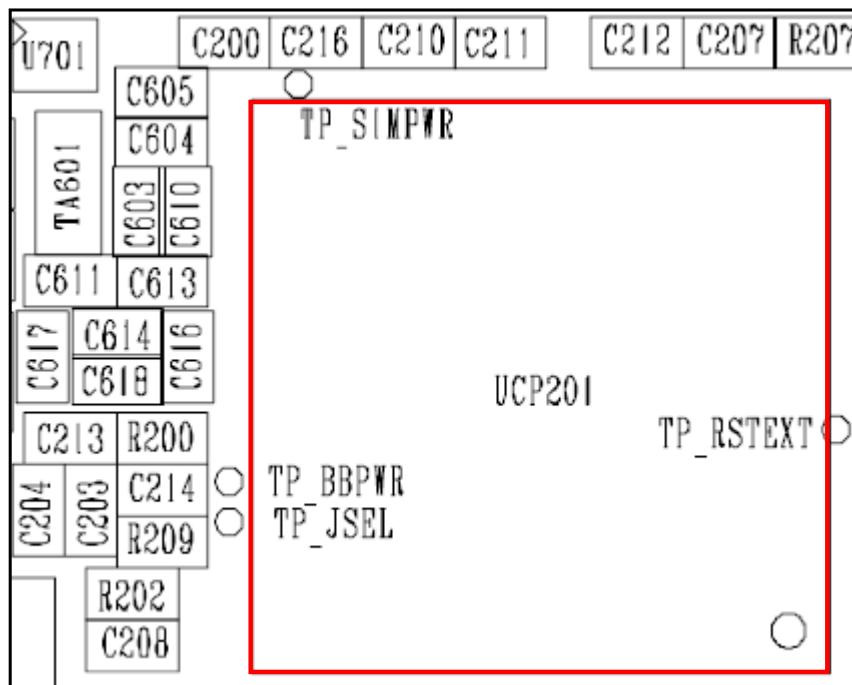
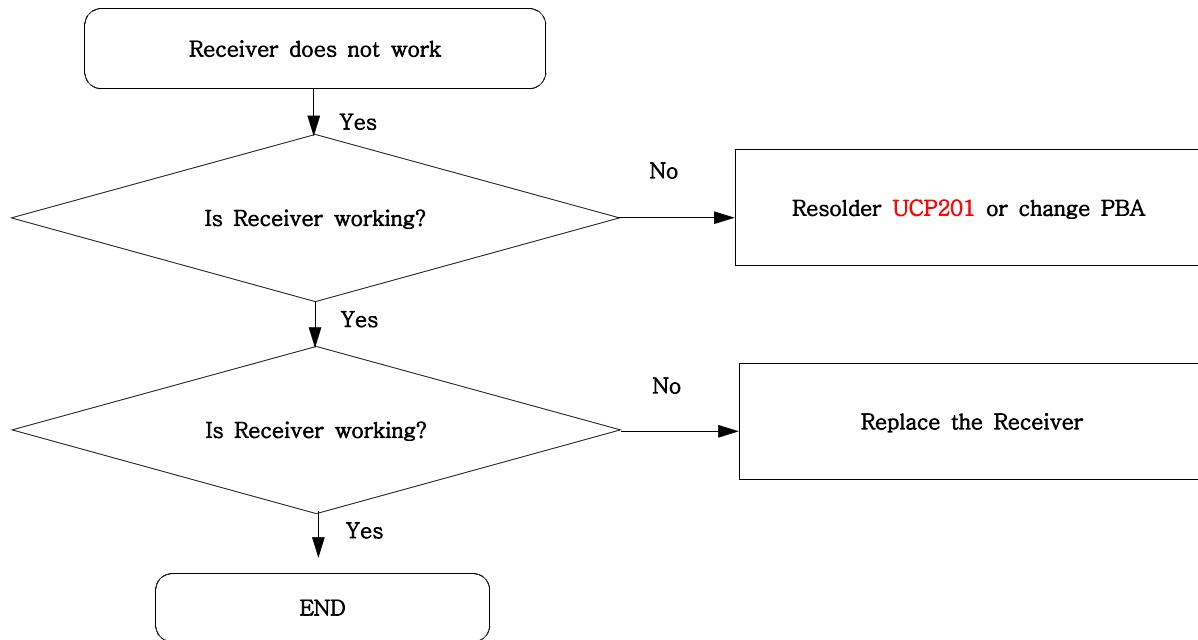


## 9-7. Key Data Input

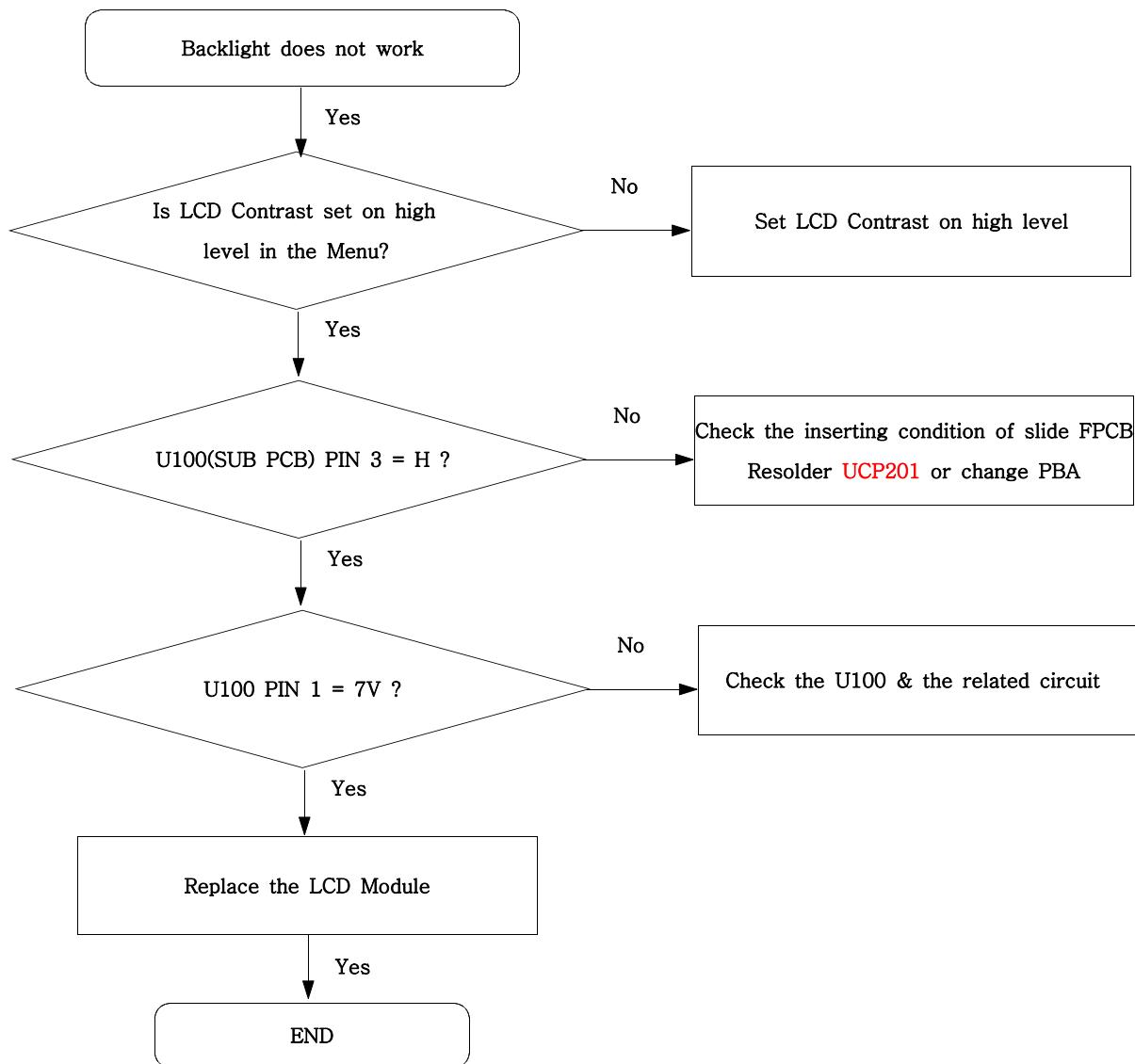


MAIN KEY MAP

## 9-8. Receiver Part

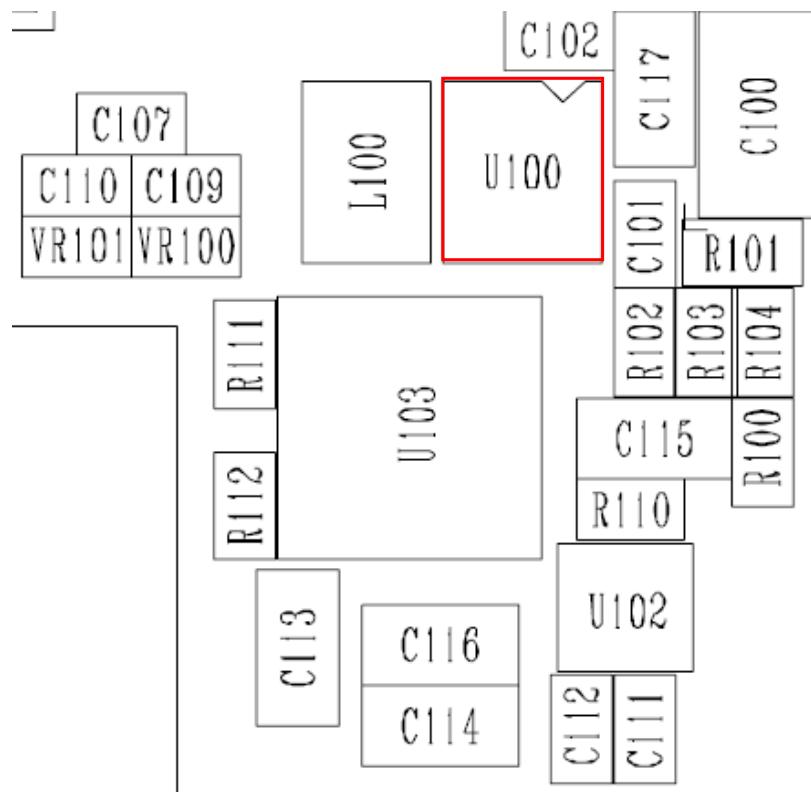
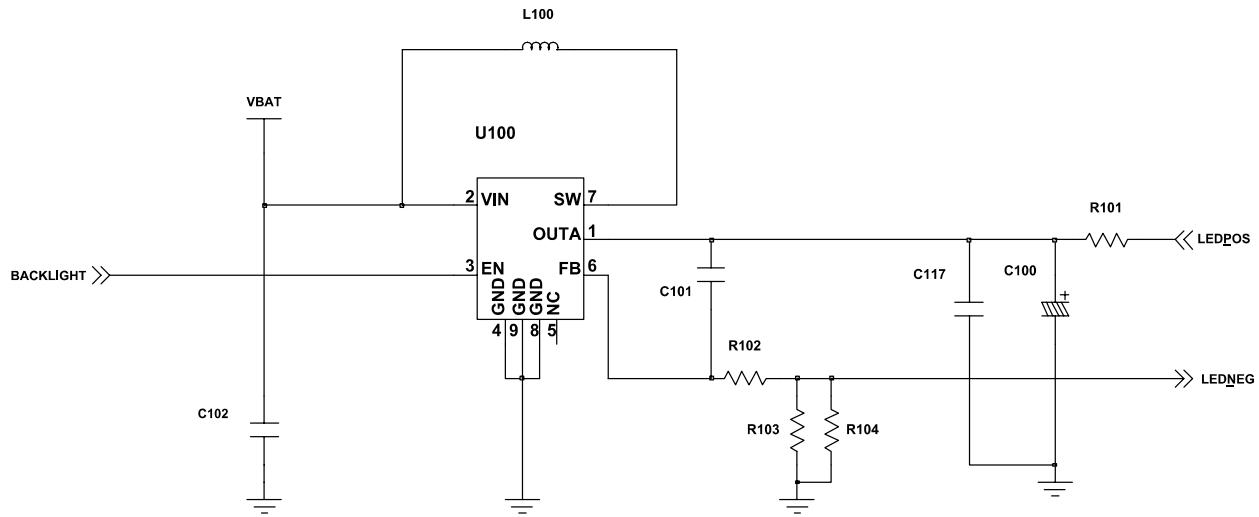


## 9-9. Back Light (for Color Main LCD)

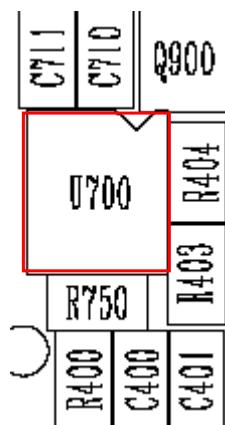
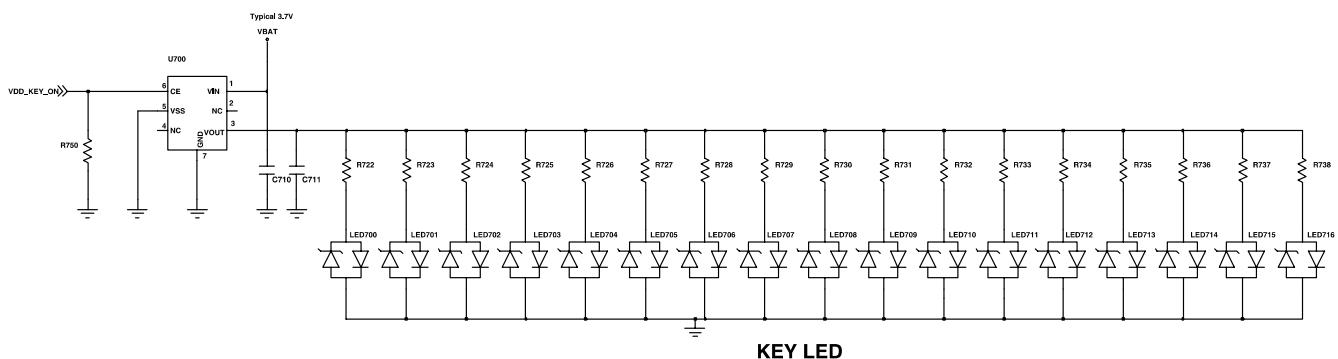
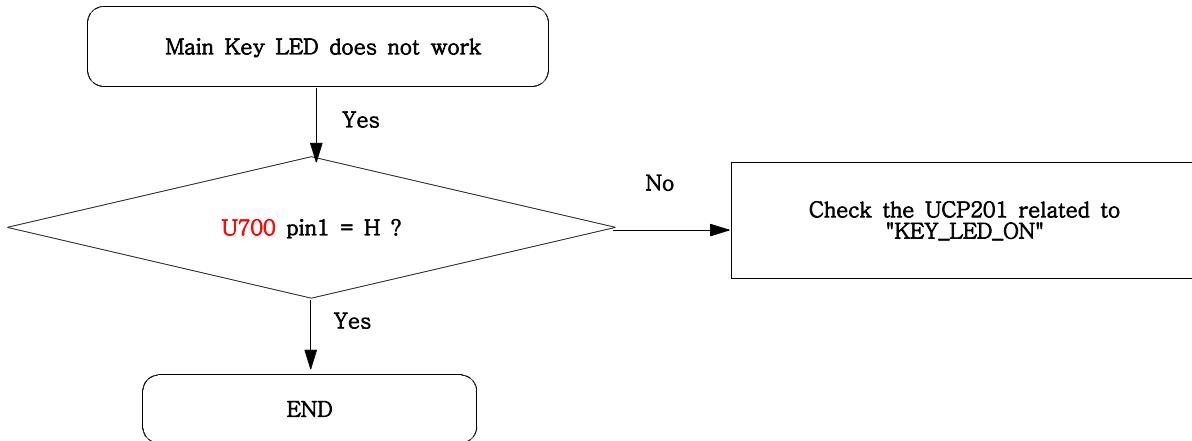


## Flow Chart of Troubleshooting

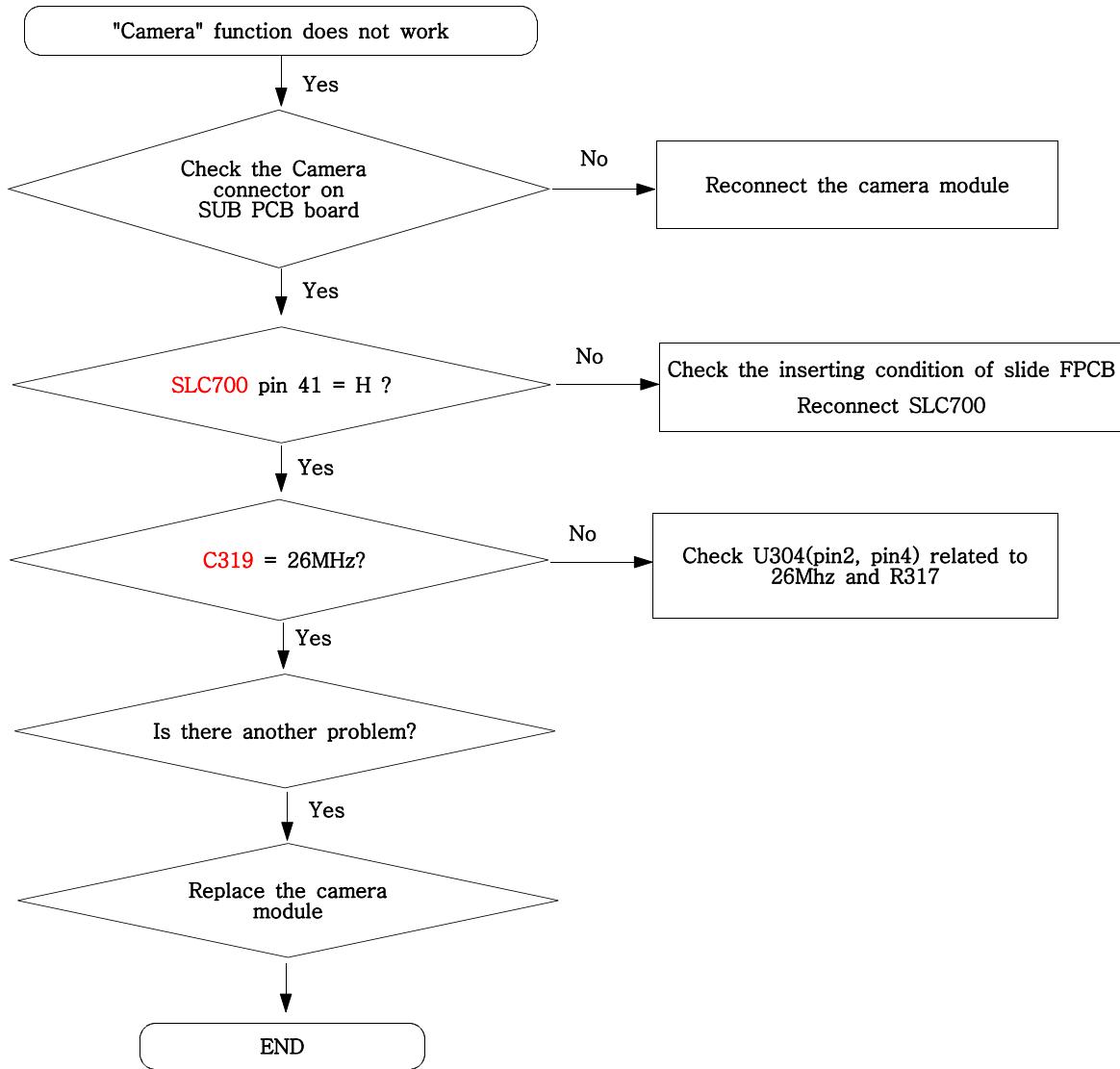
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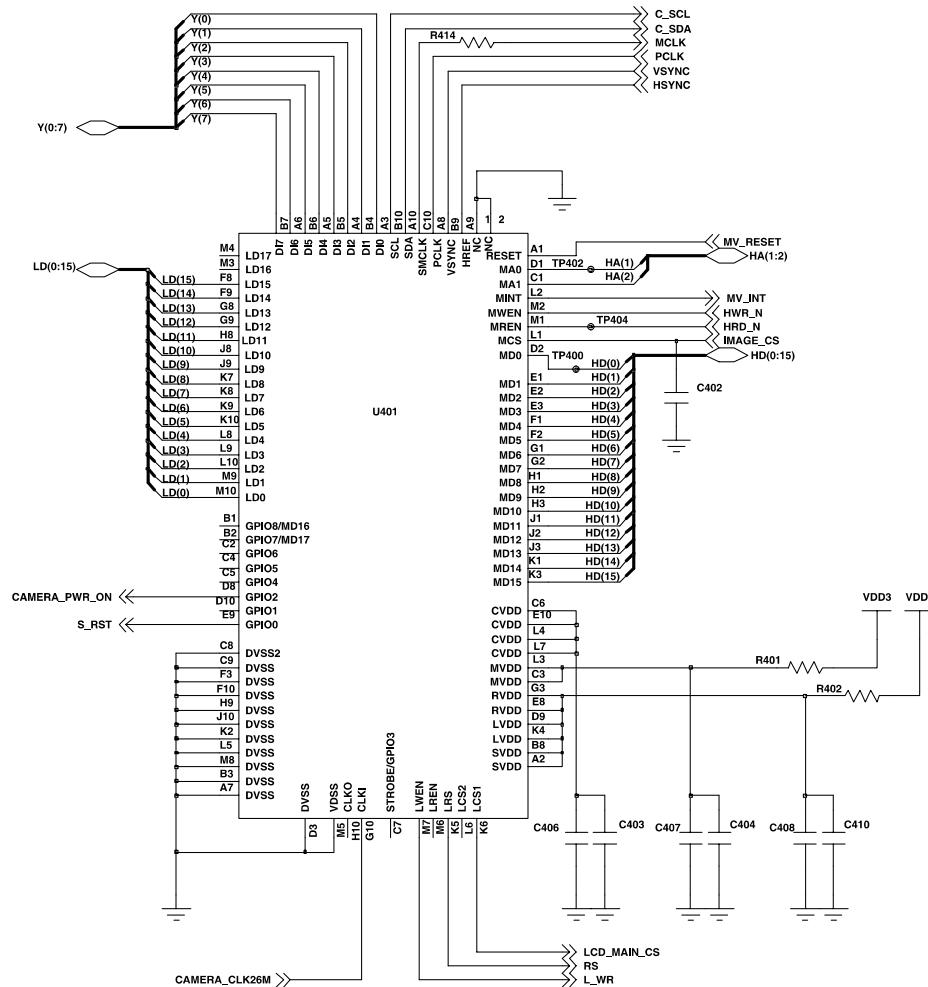


## 9-10. Key Back Light

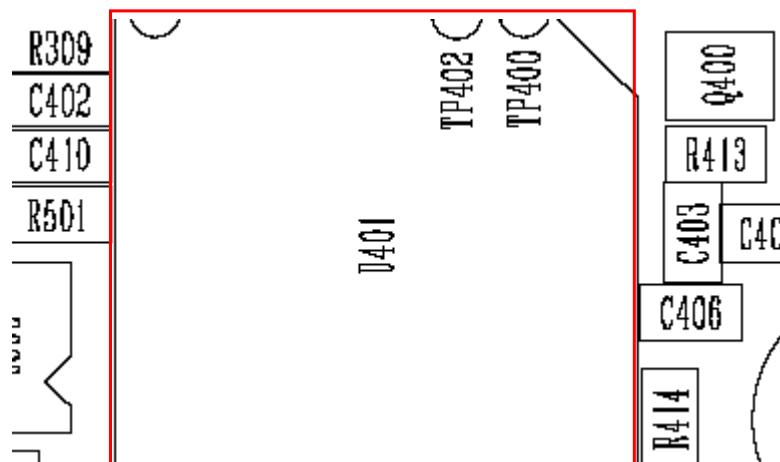


## 9-11. Camera part

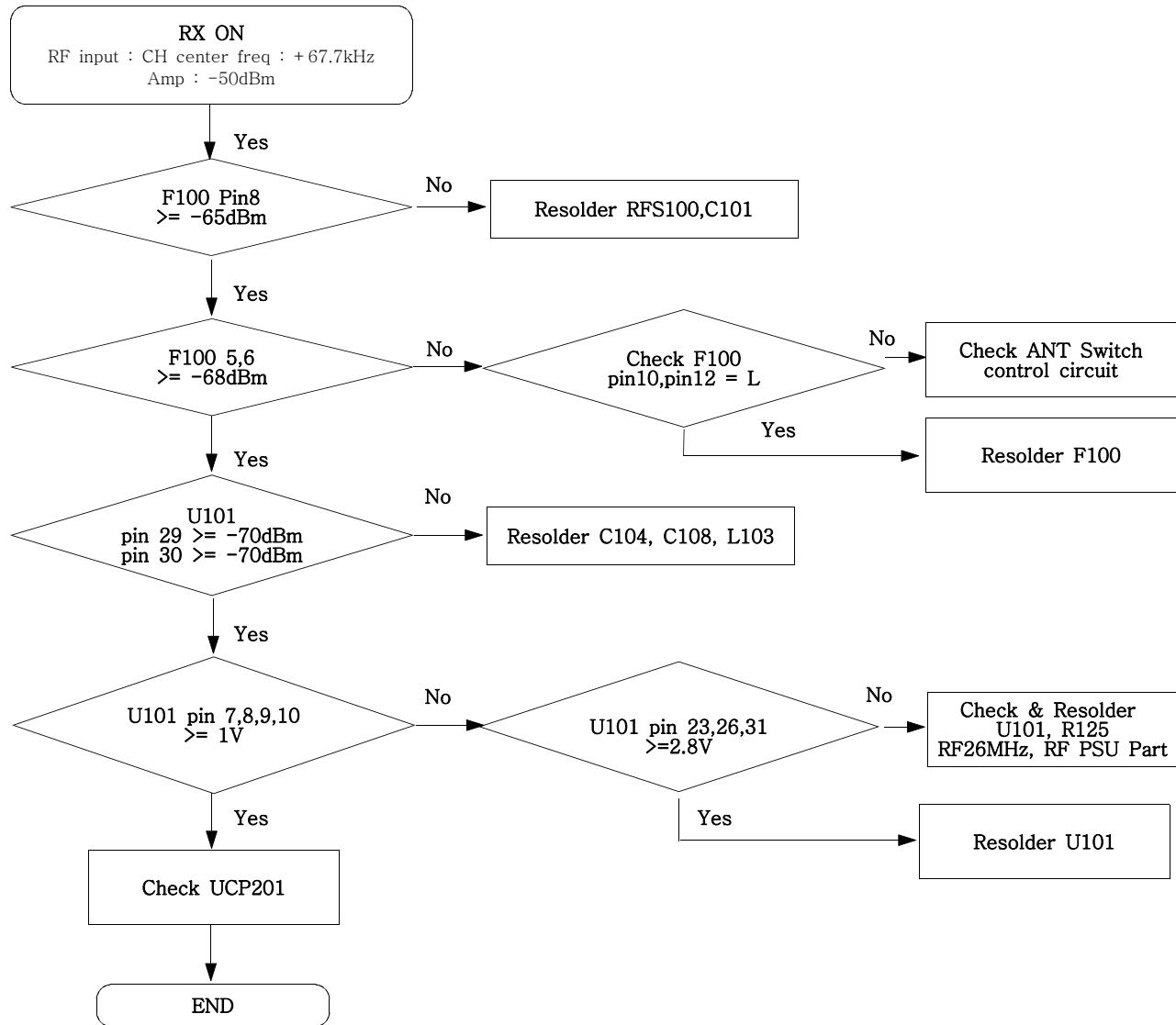




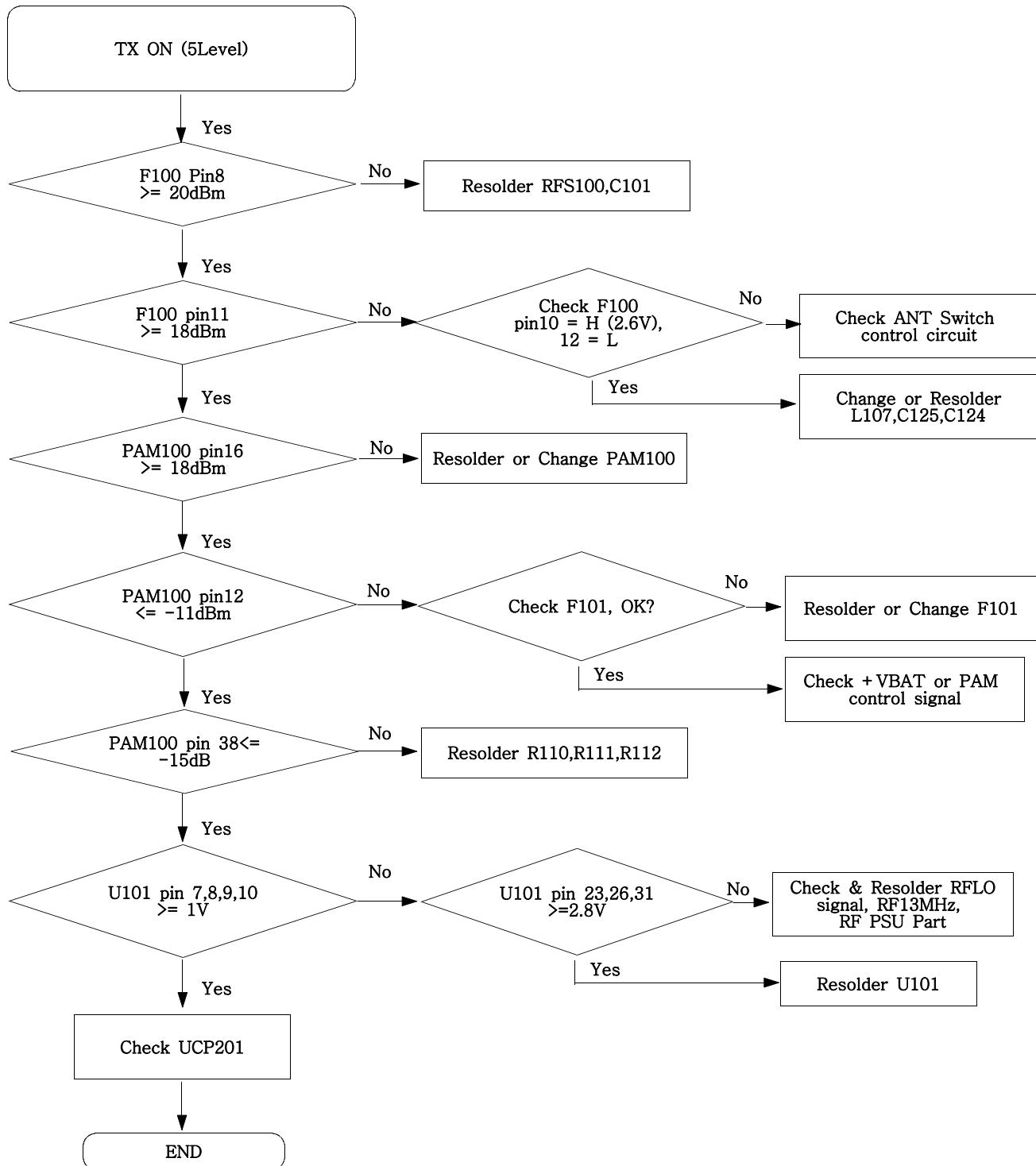
## CAMERA CHIP



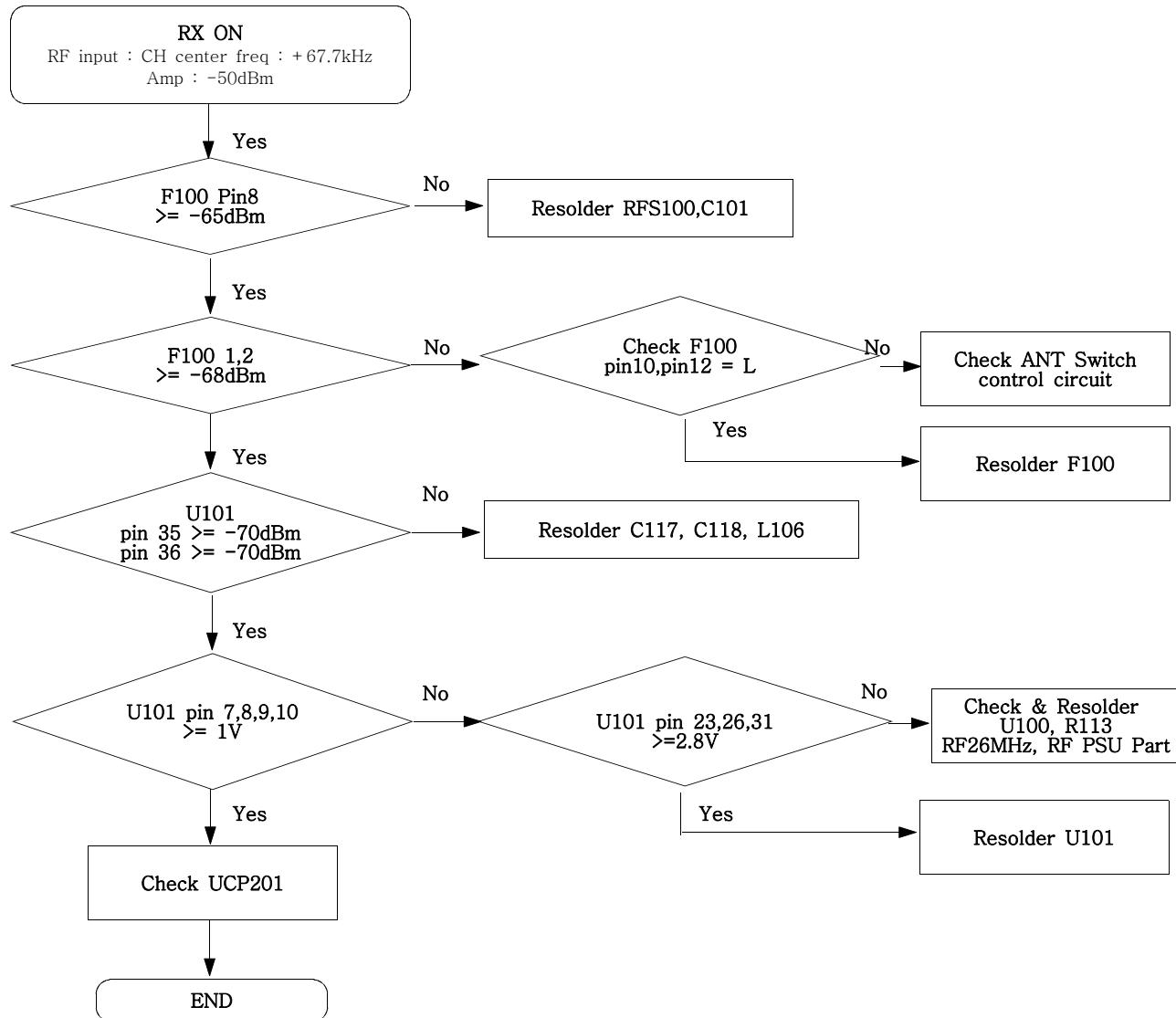
## 9-12. GSM Receiver



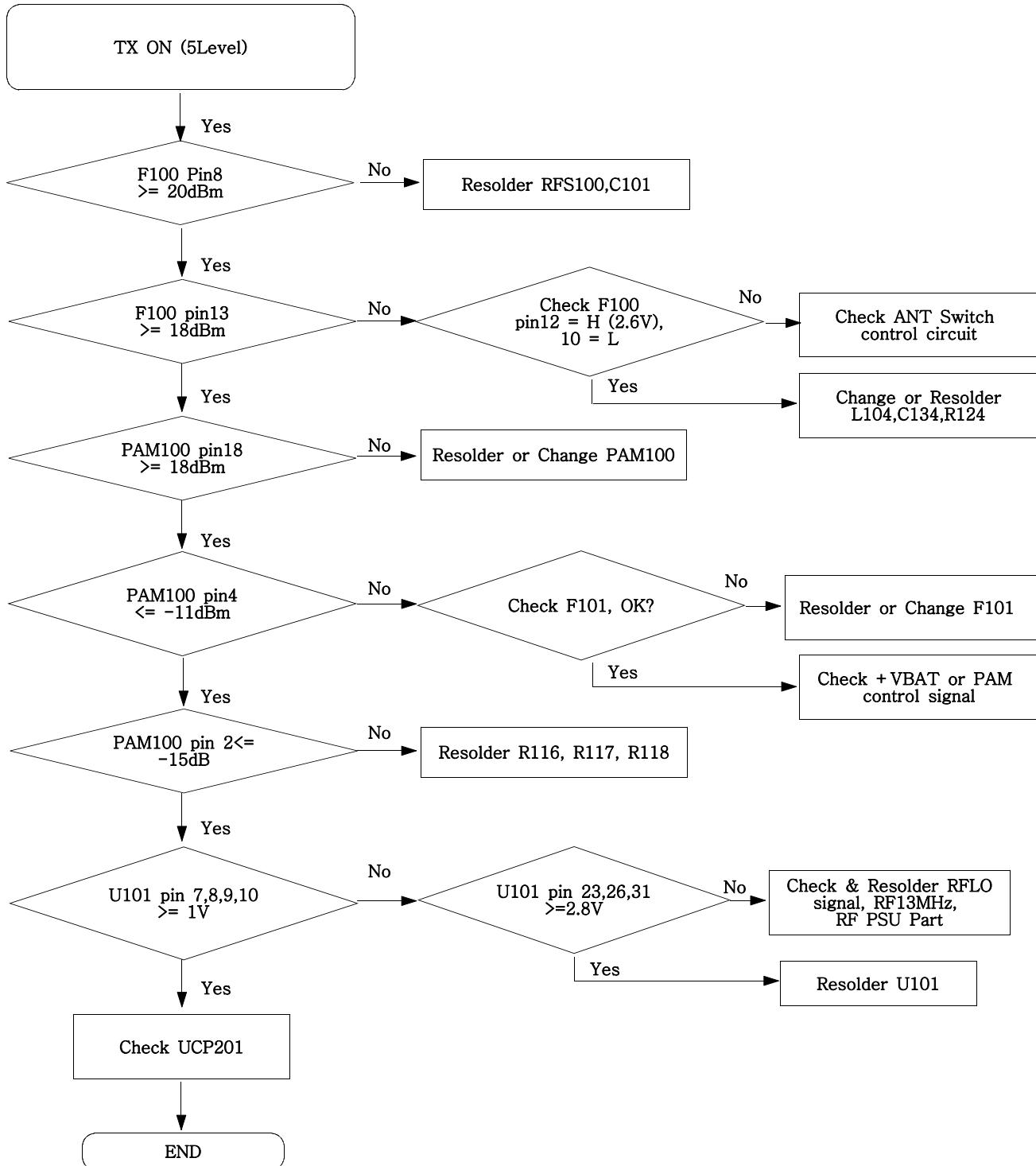
## 9-13. GSM Transmitter



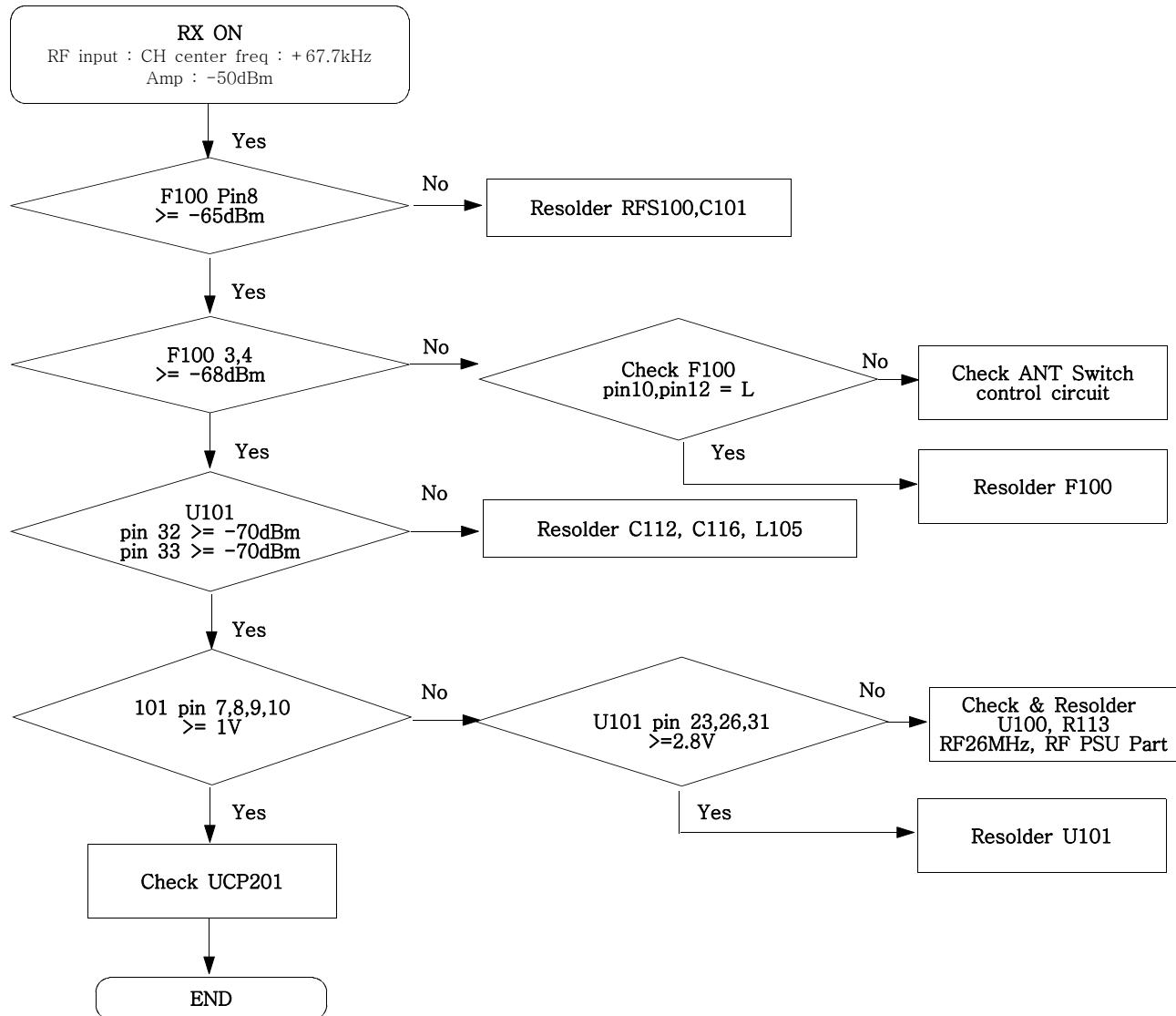
### 9-14. DCS Receiver



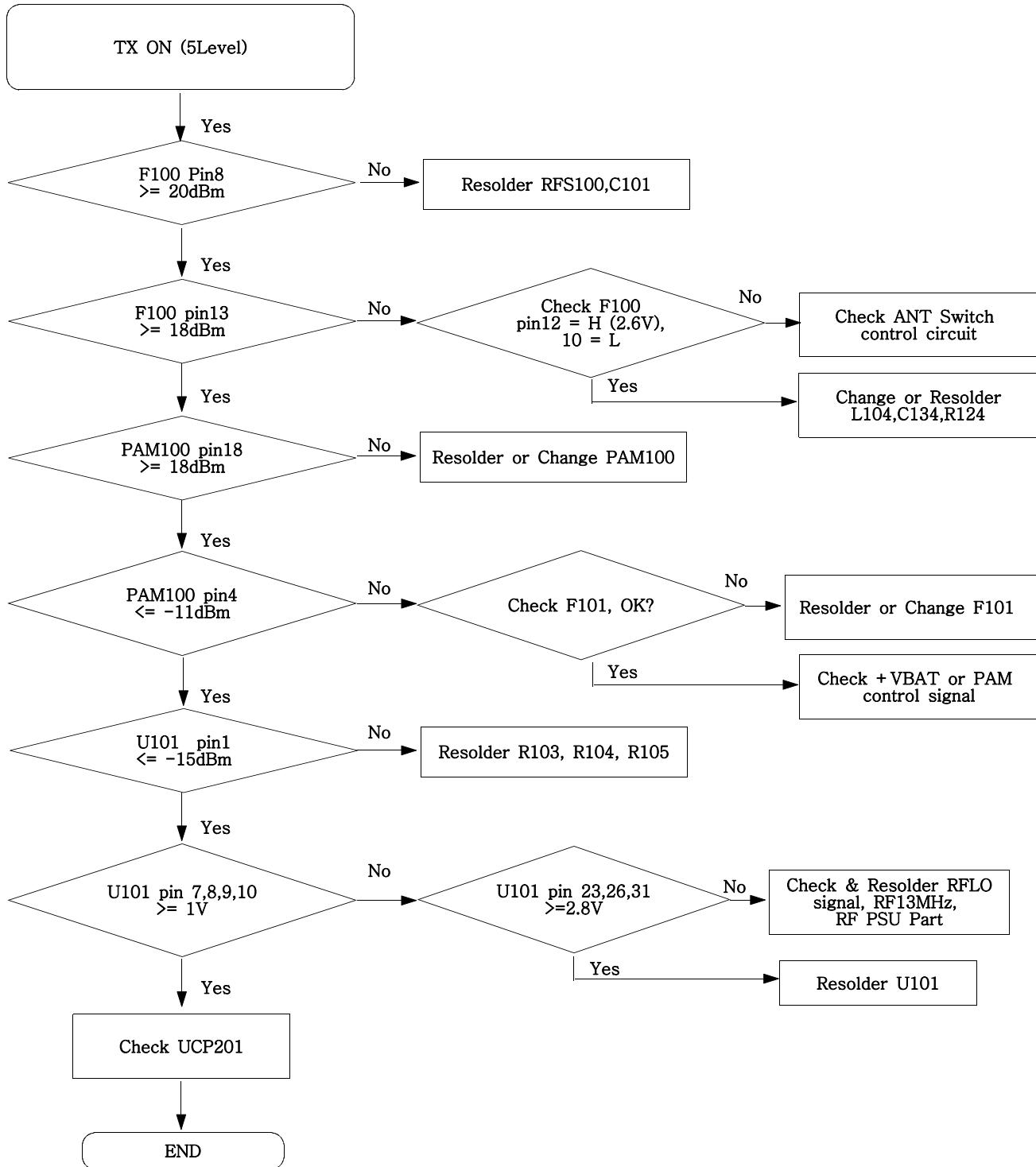
## 9-15. DCS Transmitter



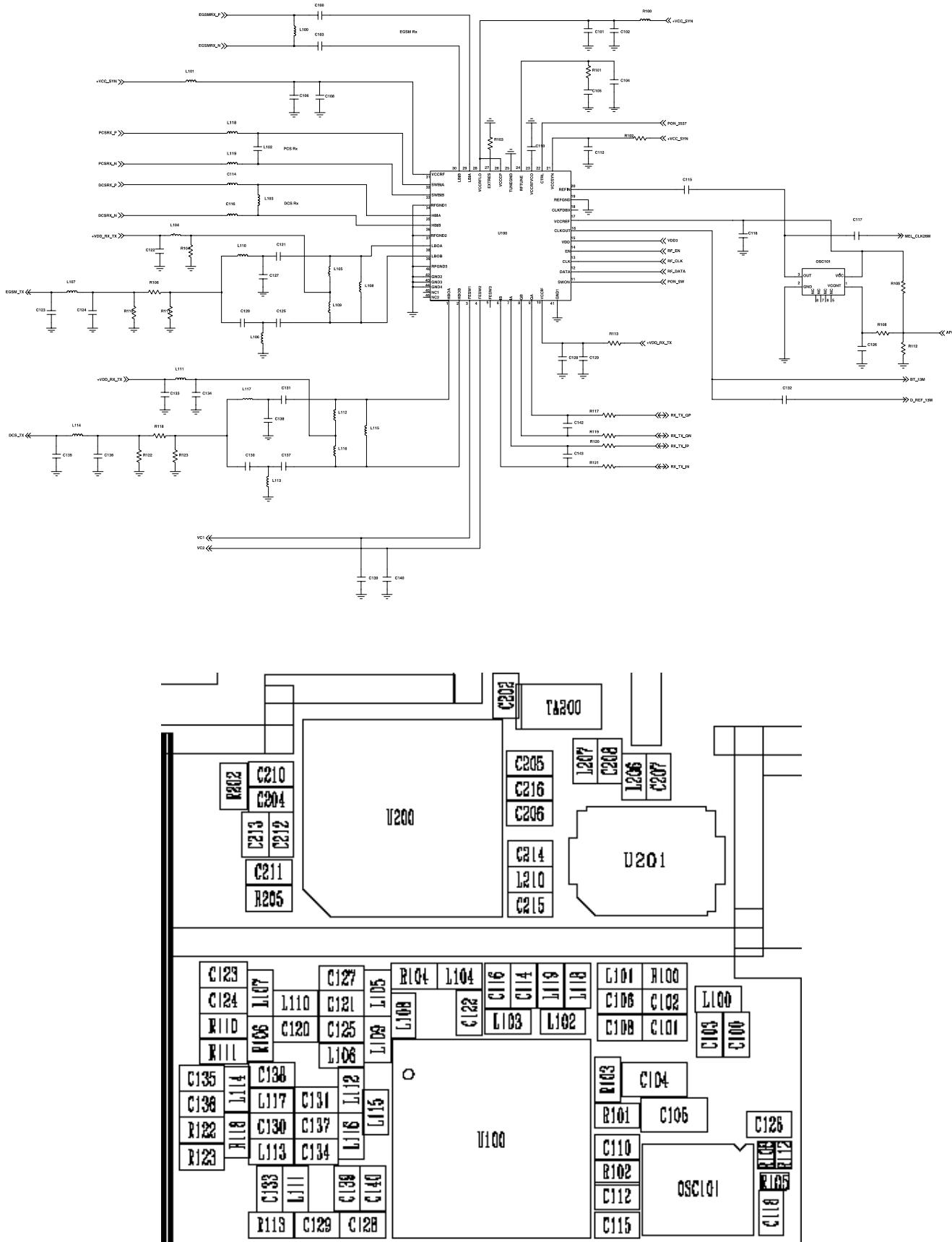
## 9-16. PCS Receiver



## 9-17. PCS Transmitter



## **Flow Chart of Troubleshooting**



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## 10. Reference data

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### 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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