

SAMSUNG

GSM TELEPHONE

SGH-E420

SERVICE *Manual*

GSM 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 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 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

	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

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

- VGA Camera
- 65536 Color OLED Main Screen (128×160)
65536 Color OLED Sub Screen (96×96)
- SMS/EMS/MMS Message Service
- WAP Http support
- J2ME JAVA (MIDP 2.0/CLDC 1.1)
- Speaker phone
- 40 Poly Melody
- vCard, vCalendar
- E-mail Client
- Tri-band(900/1800/1900MHz)

4. Array course control

4-1. Software Adjustments

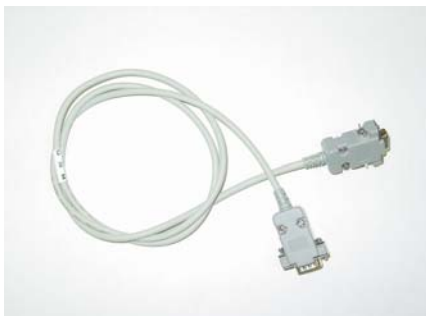
Test Jig (GH80-01909A)



Test Cable (SGH-E420 VER2)



Serial Cable(CSA LL64151-A)



Power Supply Cable



4-2. Software Downloading

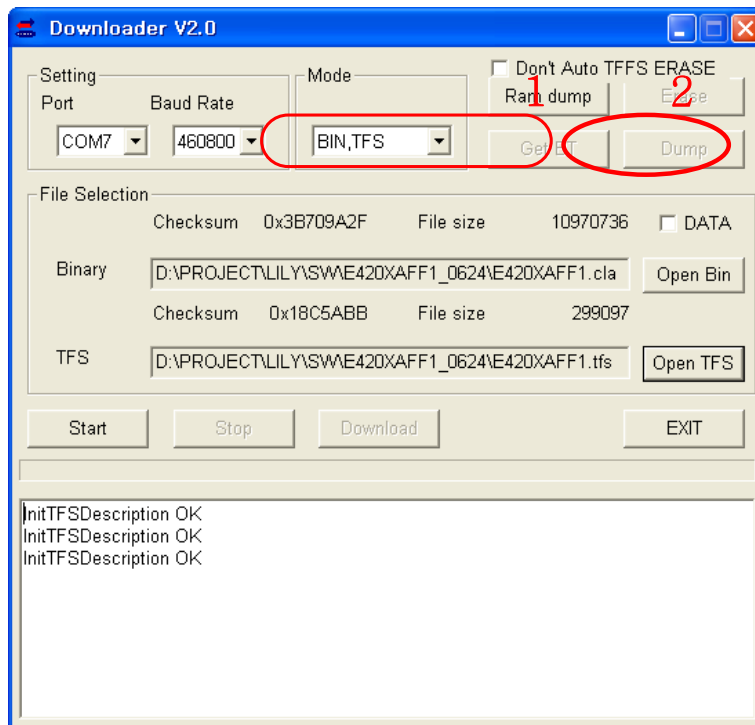
4-2-1. Pre-requisite for Downloading

- Downloader Program([Lily Downloader 2.0.exe](#))
- E420 Mobile Phone
- Data Cable
- Binary file, TFS file

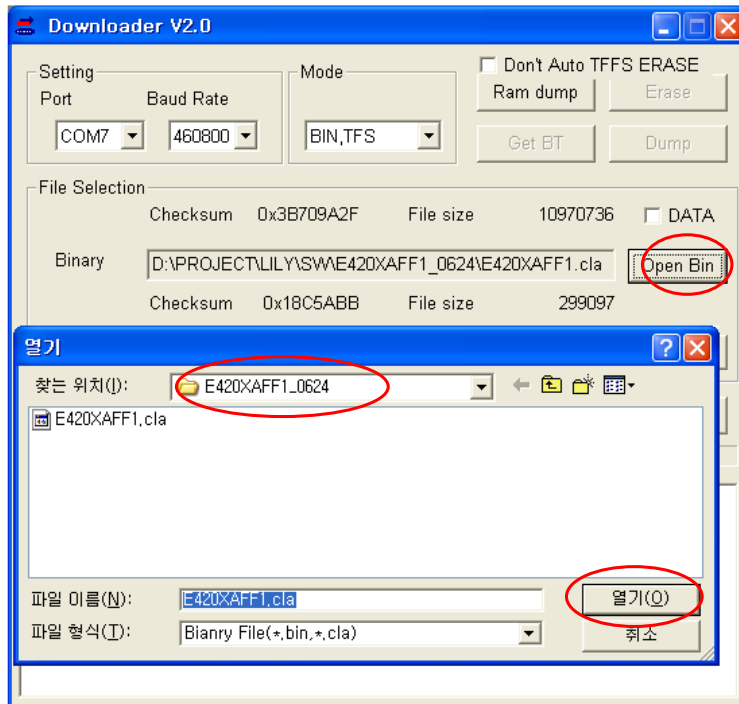
4-2-2. S/W Downloader Program

- Load the binary download program by executing the ["Lily Downloader 2.0.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'

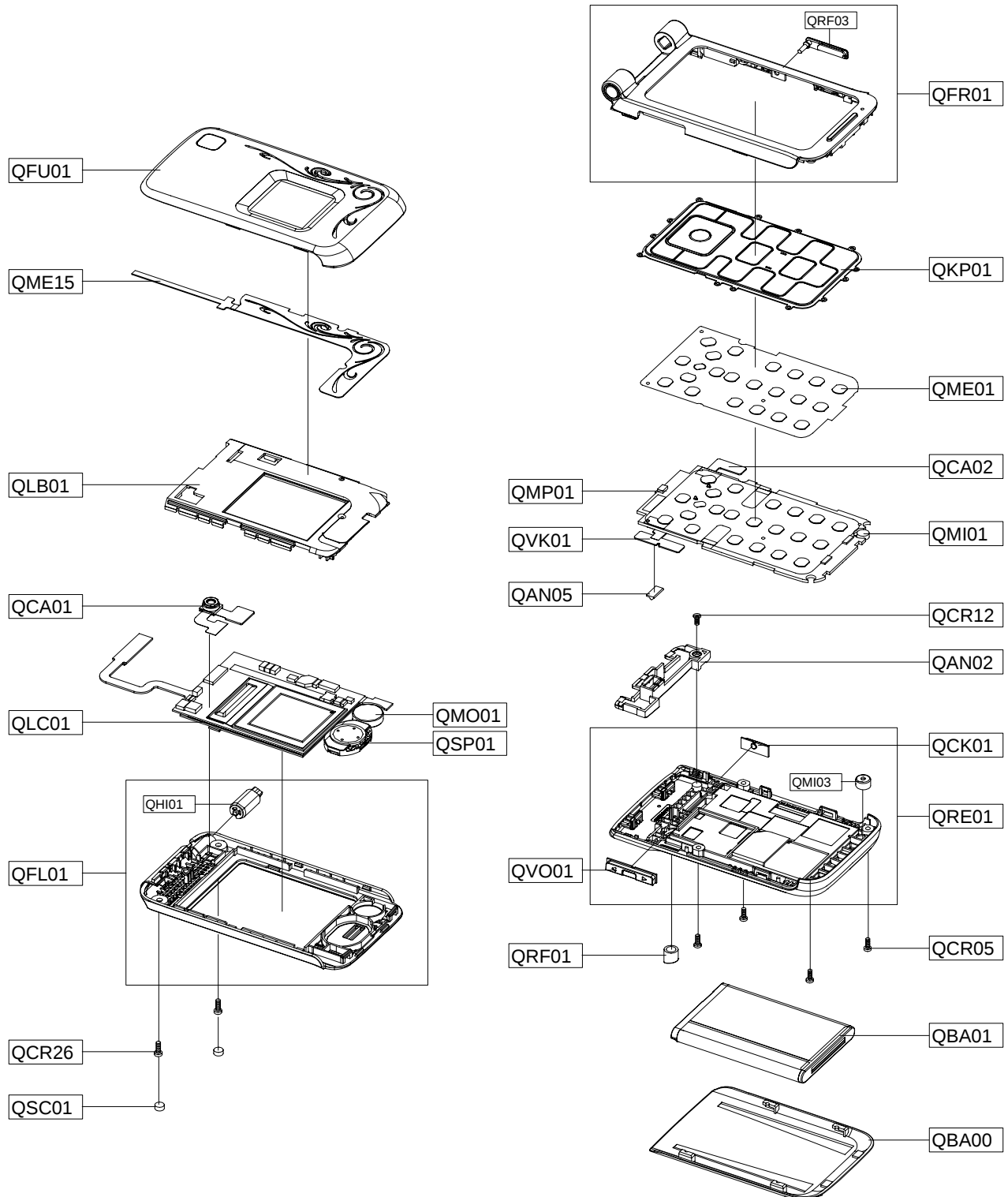


3. Select the file(s) what you want to download



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-SGHE420	GH42-01018A
QAN05		ASSY MEC-INTENNA CONTACT	GH75-08168A
QBA00		PMO-COVER BATTERY	GH72-33285A
QBA01		INNER BATTERY PACK-750MAH,BLK,	GH43-02483A
QCA01		UNIT-CAMERA MODULE	GH59-03566A
QCA02		UNIT-CAMERA KEY	GH59-03606A
QCK01		PMO-CAMERA KEY	GH72-33287A
QCR05		SCREW-MACHINE	6001-001478
QCR12		SCREW-MACHINE	6001-001530
QCR26		SCREW-MACHINE	6001-001850
QFU01		ASSY CASE-FOLDER UPPER	GH98-01842A
QKP01		ASSY KEYPAD-(SER/UWA)	GH98-02645A
QLB01		ASSY BRACKET-LCD	GH98-01846A
QME01		UNIT-METAL DOME	GH59-03605A
QME15		ELA ETC-EL SHEET(PNK)	GH96-02356A
QMI01		MICROPHONE-ASSY-SGHE420	GH30-00311A
QMO01		MOTOR DC-SGHE420	GH31-00198C
QMP01		PBA MAIN-SGHE420	GH92-03133A
QRF01		RMO-COVER RF	GH73-08169A
QSC01		RMO-COVER SCREW	GH73-08170A
QSP01		SPEAKER	3001-002064
QVK01		UNIT-VOLUME KEY	GH59-03595A
QVO01		PMO-VOLUME KEY	GH72-33286A
QFR01		ASSY CASE-FRONT	GH98-01844A
	QRF03	PMO-COVER EAR	GH72-33281A
QFL01		ASSY CASE-FOLDER LOWER	GH98-01843A
	QHI01	ASSY MEC-HINGE(CAN TYPE)	GH75-04662A
QLC01		LCD-M/S SGH-E420	GH07-01014A
	QMW01	AS-LCD WINDOW SVC	GH81-06126A
QRE01		ASSY CASE-REAR	GH98-01845A
	QMI03	RMO-RUBBER MIC	GH73-08187A

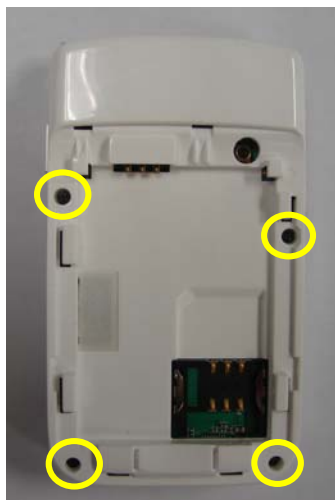
Description	Sec Code
BAG PE	6902-000634
ADAPTOR-SGHE690,SIL,EU,A_TYPE	GH44-01361B
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(P)-WATER SOAK	GH68-02026A
MANUAL-SFC	GH68-04336A
LABEL(P)-BARCODE RUSSIA	GH68-08494A
MANUAL USERS-EU RUSSIAN	GH68-12319A
LABEL(R)-MAIN(SER)	GH68-12806A
BOX-UNIT(SER)	GH69-04579A
CUSHION-CASE(EU)	GH69-04581A
MPR-INSU TAPE	GH74-18047A
MPR-TAPE MIC	GH74-25834A
MPR-GASKET LCD CONN	GH74-25836A
MPR-VINYL BOHO F/LOWER	GH74-26366A
MPR-VINYL BOHO F/UPPER 2DN	GH74-26368A
MPR-TAPE,9.1X3.1XT0.06,3M1361	GH74-26419A
MPR-INSULATION TAPE,11.2X7.5XT	GH74-26425A
MPR-INSU TAPE EL CONN	GH74-27032A
MPR-TAPE MAIN LCD	GH74-27500A
MPR-SPONGE LCD	GH74-27688A
MPR-INSU TAPE	GH74-28027A
MPR-VINYL BOHO MAIN	GH74-29305A
MPR-VINYL BOHO REAR BATT	GH74-29981A
AS-MAIN LCD SVC	GH81-05969A
AS-SUB LCD SVC	GH81-05970A
AS-LCD PCB SVC	GH81-05971A
AS-WINDOW TAPE SVC	GH81-06097A

5-3. Disassembly and Assembly Instructions

— Disassembly

1

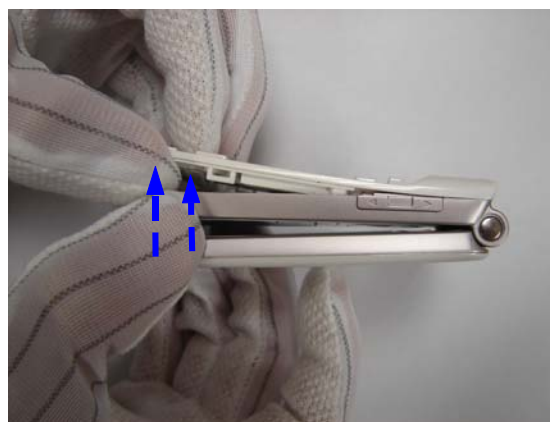
1) Unscrew the REAR at the four points.



1) Be careful not to make scratch and molding damage!

2

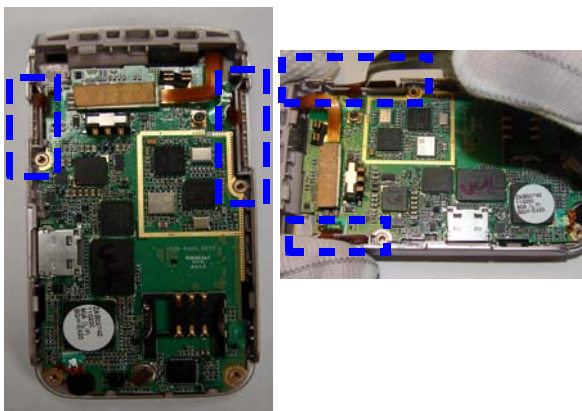
1) Break both side hooks in rear and disassemble the rear from front like the figure.



1) Be careful not to make scratch and molding damage!

3

1) Disassemble the LCD CONNECTOR
2) Disassemble the VOL KEY and CAMERA KEY FPCB from the FRONT ASS'Y using a pincette.
3) Disassemble the PBA from the FRONT ASS'Y.
4) Disassemble the Keypad.



1) When LCD CONNECTOR FPCB and VOLUME KEY FPCB are separated from the front, Be careful not to damage!

4

1) remove the dust prevention tape.
2) Push in the Hinge using the stick and disassemble the Front.



1) Be careful not to make scratch and molding damage!
2) Be careful not to be torn the dust prevention tape.
3) Be careful not to damage LCD FPCB!

5

- 1) Remove screw caps.
- 2) Unscrew the FOLDER Upper.



- 1) Be careful not to make scratch and molding damage!
- 2) Be careful not to damage LCD FPCB!

6

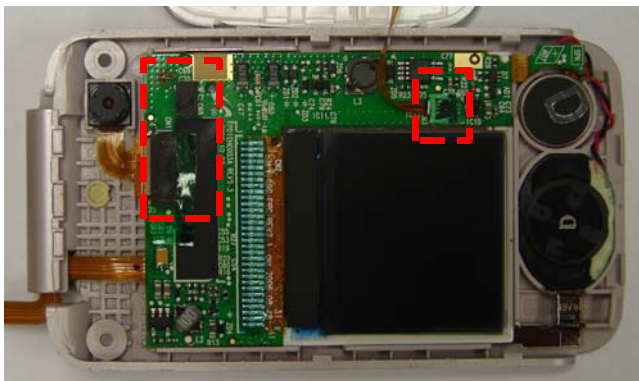
- 1) Be separated Folder upper from folder lower using the stick.



- 1) Be careful not to make scratch and molding damage!

7

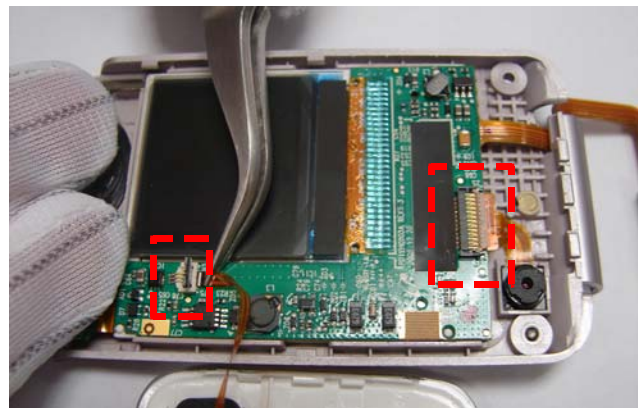
- 1) Remove the cushion tape on the camera connector and some parts using a pincette.
- 2) Remove the insulation tapes on the camera connector and EL sheet connector.



- 1) Be careful not to damage camera FPCB and EL sheet FPCB.

8

- 1) Disassemble the EL sheet FPCB and camera FPCB from the connector using a pincette.



- 1) Be careful not to damage camera FPCB and EL sheet FPCB.

9

- 1) Disassemble the speaker pushing a pincette in a groove.
- 2) Disassemble the motor in the same way



- 1) Be careful not to damage the speaker and a motor wire.

10

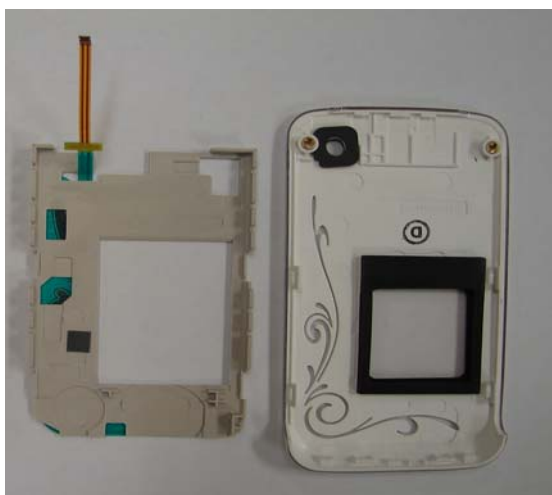
- 1) Disassemble LCD module from Folder lower



- 1) Be careful when you disassemble because the LCD module was fixed by the tape.
- 2) Be careful not to damage the LCD FPCB when disassemble

11

- 1) Disassemble the UPPER and the LCD bracket

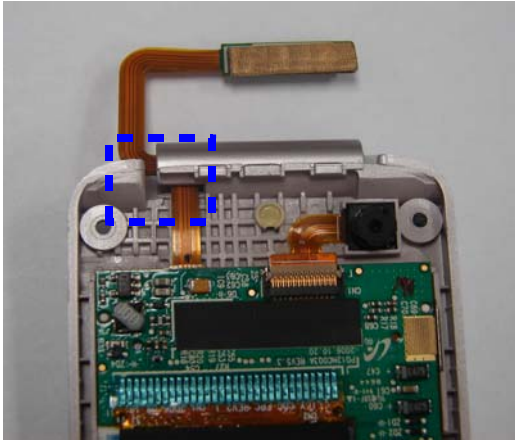


- 1) Be careful not to make scratch and molding damage!

— Assembly

1

- 1) Insert the Camera FPCB to CONNECTOR
- 2) Insert the camera into FOLDER LOWER before LCD module inserting.
- 3) Insert the LCD CONNECTOR FPCB to HINGE



- 1) When inserting the FPCB and when in order, be careful not to damage not the FPCB.
- 2) When inserting the camera module, be careful not to damage not the FPCB.

2

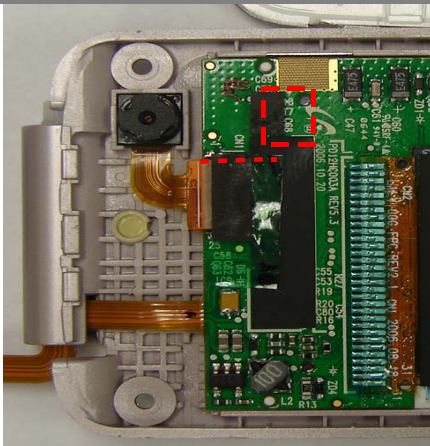
- 1) Insert the Motor into Lower
- 2) Twist the Speaker Wire three times
- 3) Insert the Speaker into Lower



- 1) When inserting the motor and the speaker, it pays attention in WIRE control.

3

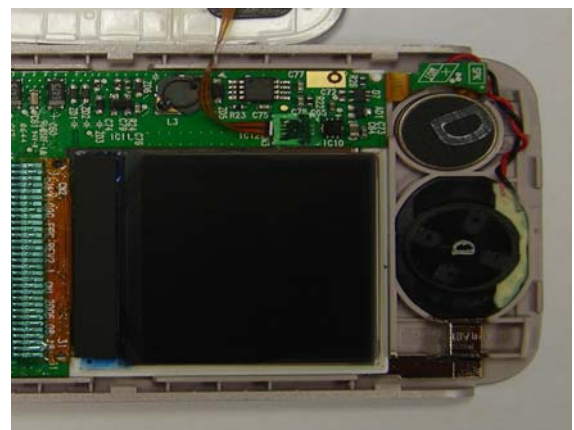
- 1) To a base line, attach the insulation TAPE and cushion TAPE on camera CONNECTOR top.
- 2) Attach the EL Sheet damage prevention cushion TAPE like the figure.



- 1) When attaching the TAPE, be careful not to damage camera FPCB at pincette.

4

- 1) Using the pincette, insert The EL SHEET FPCB in the CONNECTOR.
- 2) Attach the fixation insulation TAPE above the connector.



- 1) When inserting the FPCB, be careful not to damage the FPCB.
- 2) When attaching an insulation TAPE, be careful not to cover the LCD.

5

1) Assemble the UPPER and LOWER



1) Be careful not to make scratch and molding damage!

6

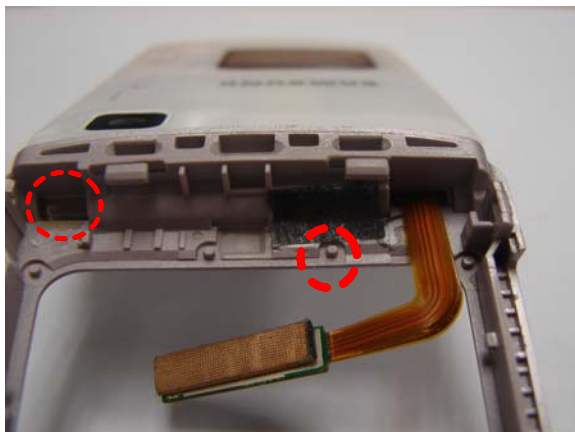
1) Screw up the two points
2) Insert the SCREW CAP



1) Use 1.2 ± 0.2 Kgf.cm!

7

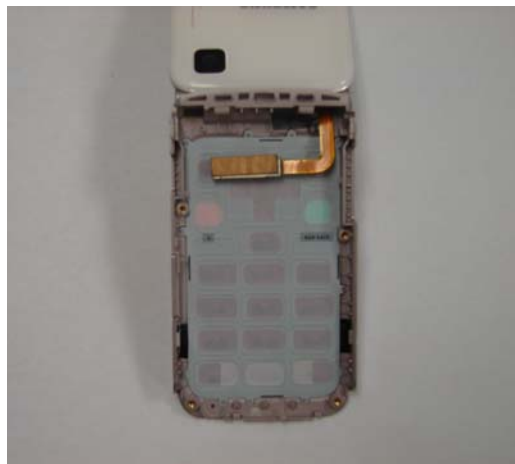
1) When assembling the Folder Assy and the Front, pass the LCD CONNECTOR in first and assemble the HINGE.
2) Attach the dust prevention TAPE like the photograph.



1) Be careful not to damage the LCD CONNECTOR FPCB .
2) When attaching the dust prevention TAPE, be careful not to cover the keypad groove.

8

1) Insert the KEYPAD.



1) Be careful not to insert keypad into FRONT incorrectly!

9

- 1) Insert in the PBA, arrives the PBA in the HOOKER lower part which is visible in the lower part picture.
- 2) Insert the VOL KEY and CAMERA KEY FPCB
- 3) Insert LCD CONNECTOR correctly



10

- 1) Insert the Camera Key and Volume Key
- 2) Assembling the REAR, assemble from lower part portion.
- 3) With the lower part picture press the top region and assemble it.

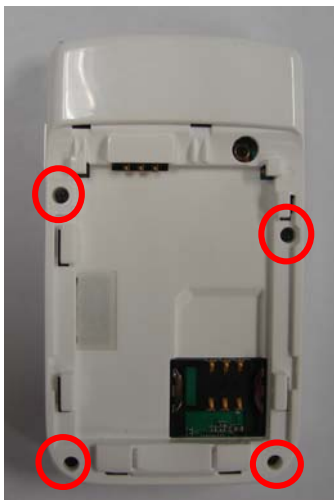


- 1) When inserting the PBA, be careful not to break and the HOOK to break, or nine, in order not to break, it pays attention to the PBA
- 2) When contracting the LCD CONNECTOR, in order for the sound to be born "tightly", it contracts with thumb.

- 1) Be careful not to damage LCD CONNECTOR FPCB!

11

- 1) Screw up the REAR at 4 Points.



- 1) Be careful not to make scratch and molding damage!

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
BAT500	BATTERY-LI(2ND)	4302-001130	SA
BTC600	HEADER-BATTERY	3711-006219	SA
C100	C-CER,CHIP	2203-005482	SA
C101	C-CER,CHIP	2203-000233	SA
C102	C-CER,CHIP	2203-000233	SA
C103	C-CER,CHIP	2203-005138	SA
C104	C-CER,CHIP	2203-005482	SA
C105	C-CER,CHIP	2203-002525	SA
C106	C-CER,CHIP	2203-000838	SA
C107	C-CER,CHIP	2203-006961	SA
C108	C-CER,CHIP	2203-005482	SA
C109	C-CER,CHIP	2203-005057	SA
C110	C-CER,CHIP	2203-005057	SA
C111	C-CER,CHIP	2203-005482	SA
C112	C-CER,CHIP	2203-000254	SA
C113	C-CER,CHIP	2203-005481	SA
C114	C-CER,CHIP	2203-005480	SA
C115	C-CER,CHIP	2203-000233	SA
C116	C-CER,CHIP	2203-000233	SA
C117	C-CER,CHIP	2203-006562	SA
C118	C-CER,CHIP	2203-000438	SA
C119	C-CER,CHIP	2203-005482	SA
C120	C-CER,CHIP	2203-005057	SA
C121	C-CER,CHIP	2203-000254	SA
C122	C-CER,CHIP	2203-006562	SA
C123	C-CER,CHIP	2203-000585	SA
C124	C-CER,CHIP	2203-000585	SA
C125	C-CER,CHIP	2203-000233	SA
C126	C-CER,CHIP	2203-000609	SA
C127	C-CER,CHIP	2203-000585	SA
C128	C-CER,CHIP	2203-000679	SA
C129	C-CER,CHIP	2203-000585	SA
C130	C-CER,CHIP	2203-000679	SA
C131	C-CER,CHIP	2203-000585	SA
C201	C-CER,CHIP	2203-005482	SA
C202	C-CER,CHIP	2203-000311	SA
C203	C-CER,CHIP	2203-000585	SA
C204	C-TA,CHIP	2404-001474	SA
C205	C-CER,CHIP	2203-005482	SA
C206	C-CER,CHIP	2203-006190	SA
C207	C-CER,CHIP	2203-006190	SA
C208	C-CER,CHIP	2203-005234	SA
C209	C-CER,CHIP	2203-000812	SA
C210	C-CER,CHIP	2203-001385	SA
C212	C-CER,CHIP	2203-000233	SA
C213	C-CER,CHIP	2203-000233	SA
C219	INDUCTOR-SMD	2703-002208	SA
C300	C-CER,CHIP	2203-005061	SA
C301	C-CER,CHIP	2203-005061	SA
C302	C-CER,CHIP	2203-005061	SA
C303	C-CER,CHIP	2203-005061	SA

Design LOC	Description	SEC Code	STATUS
C304	C-CER,CHIP	2203-000254	SA
C305	C-CER,CHIP	2203-005061	SA
C306	C-CER,CHIP	2203-005061	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
C317	C-CER,CHIP	2203-005482	SA
C319	C-CER,CHIP	2203-000679	SA
C320	C-CER,CHIP	2203-000679	SA
C321	C-CER,CHIP	2203-000679	SA
C322	C-CER,CHIP	2203-000679	SA
C323	C-CER,CHIP	2203-000679	SA
C400	C-CER,CHIP	2203-006562	SA
C401	C-CER,CHIP	2203-005061	SA
C403	C-CER,CHIP	2203-005061	SA
C404	C-CER,CHIP	2203-005061	SA
C405	C-CER,CHIP	2203-000643	SA
C407	C-CER,CHIP	2203-005482	SA
C409	C-CER,CHIP	2203-006562	SA
C410	C-CER,CHIP	2203-006562	SA
C411	C-CER,CHIP	2203-005061	SA
C500	C-CER,CHIP	2203-006208	SA
C501	C-CER,CHIP	2203-005482	SA
C502	C-CER,CHIP	2203-006825	SA
C503	C-CER,CHIP	2203-005482	SA
C504	C-CER,CHIP	2203-005482	SA
C505	C-CER,CHIP	2203-005482	SA
C506	C-CER,CHIP	2203-006208	SA
C507	C-CER,CHIP	2203-005395	SA
C508	C-CER,CHIP	2203-000386	SA
C509	C-TA,CHIP	2404-001225	SA
C510	C-CER,CHIP	2203-005482	SA
C511	C-CER,CHIP	2203-000627	SNA
C512	C-CER,CHIP	2203-006257	SA
C513	C-CER,CHIP	2203-000189	SA
C514	C-CER,CHIP	2203-000627	SNA
C515	C-CER,CHIP	2203-006208	SA
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C517	C-CER,CHIP	2203-006208	SA
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C521	C-TA,CHIP	2404-001225	SA
C522	C-CER,CHIP	2203-005482	SA
C523	C-CER,CHIP	2203-005482	SA
C524	C-CER,CHIP	2203-005482	SA
C525	C-CER,CHIP	2203-006208	SA
C526	C-CER,CHIP	2203-005061	SA
C527	C-CER,CHIP	2203-002443	SA

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C533	C-CER,CHIP	2203-006208	SA
C534	C-CER,CHIP	2203-006208	SA
C535	C-CER,CHIP	2203-000679	SA
C538	C-CER,CHIP	2203-006348	SA
C540	C-CER,CHIP	2203-006562	SA
C541	C-CER,CHIP	2203-006257	SA
C542	C-TA,CHIP	2404-001381	SA
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C603	C-CER,CHIP	2203-005061	SA
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C605	C-CER,CHIP	2203-000679	SA
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C607	C-CER,CHIP	2203-000386	SA
C609	C-CER,CHIP	2203-000812	SA
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C703	C-CER,CHIP	2203-005683	SA
C704	C-CER,CHIP	2203-005683	SA
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C708	C-CER,CHIP	2203-005683	SA
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C711	C-CER,CHIP	2203-005683	SA
C712	C-CER,CHIP	2203-005683	SA
C713	C-CER,CHIP	2203-005683	SA
C714	C-CER,CHIP	2203-005683	SA
C715	C-CER,CHIP	2203-005683	SA
C716	C-CER,CHIP	2203-000278	SA
C717	C-CER,CHIP	2203-005482	SA
C718	C-CER,CHIP	2203-005482	SA
C719	C-CER,CHIP	2203-000812	SA
C720	C-CER,CHIP	2203-000812	SA
C800	C-CER,CHIP	2203-000854	SA
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C805	C-CER,CHIP	2203-005482	SA

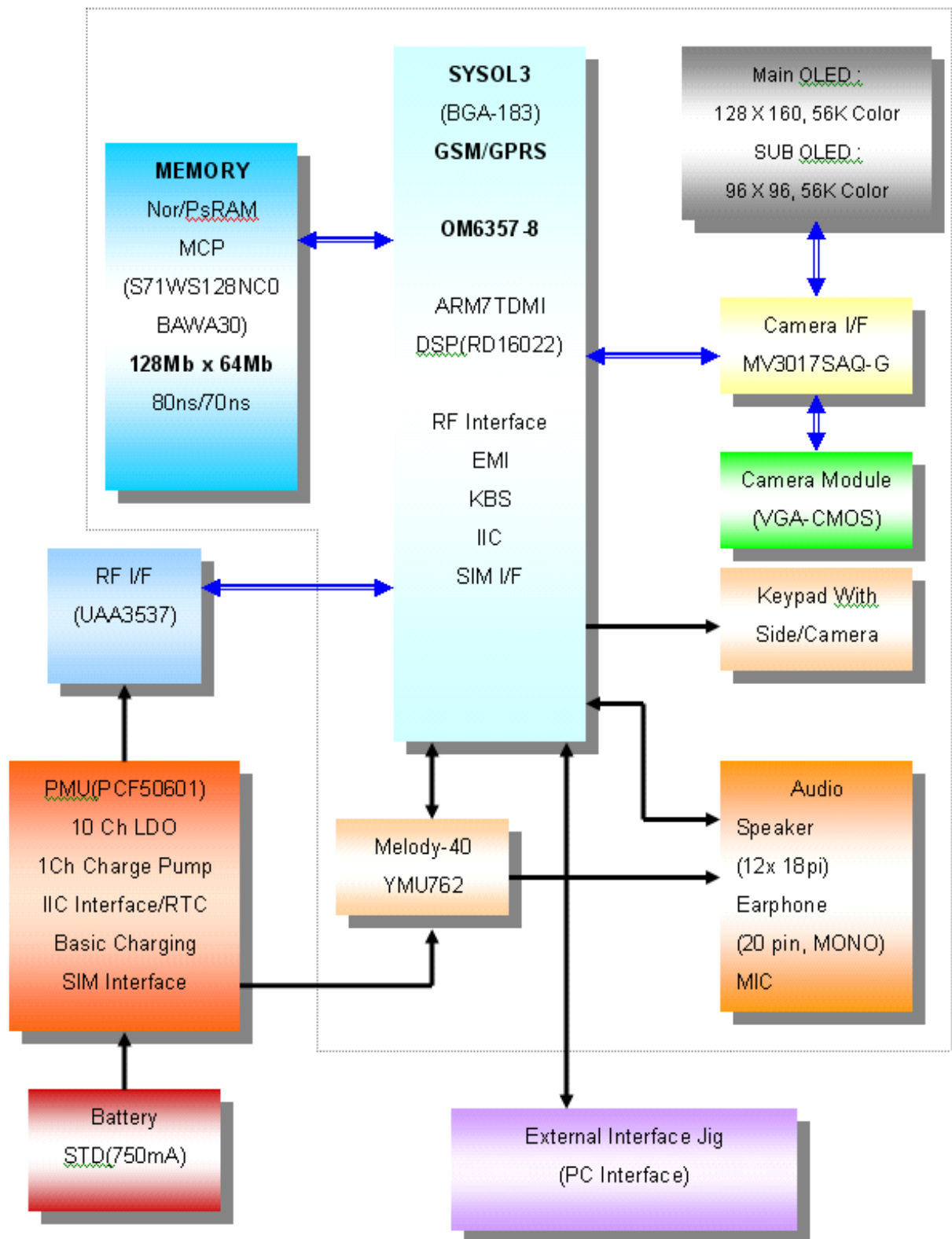
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C809	C-CER,CHIP	2203-000812	SA
C810	C-CER,CHIP	2203-000812	SA
C811	C-CER,CHIP	2203-006260	SA
C812	C-TA,CHIP	2404-001381	SA
C813	C-CER,CHIP	2203-005482	SA
C814	C-CER,CHIP	2203-001221	SA
C815	C-CER,CHIP	2203-006048	SA
D600	DIODE-SCHOTTKY	0404-001172	SA
D610	DIODE-TVS	0406-001231	SA
D611	DIODE-TVS	0406-001231	SA
D612	DIODE-TVS	0406-001231	SA
D800	DIODE-TVS	0406-001231	SA
D801	DIODE-TVS	0406-001231	SA
D802	DIODE-TVS	0406-001231	SA
D803	DIODE-TVS	0406-001231	SA
D804	DIODE-TVS	0406-001231	SA
D805	DIODE-TVS	0406-001235	SA
F201	FILTER-EMI SMD	2901-001254	SA
F700	FILTER-EMI SMD	2901-001286	SA
F701	FILTER-EMI SMD	2901-001286	SA
F702	FILTER-EMI SMD	2901-001286	SA
F703	FILTER-EMI SMD	2901-001286	SA
F704	FILTER-EMI SMD	2901-001286	SA
IFC600	SOCKET-INTERFACE	3710-002442	SA
L100	INDUCTOR-SMD	2703-002201	SA
L101	INDUCTOR-SMD	2703-002176	SA
L103	INDUCTOR-SMD	2703-002176	SA
L105	INDUCTOR-SMD	2703-002208	SA
L106	INDUCTOR-SMD	2703-002208	SA
L107	INDUCTOR-SMD	2703-002208	SA
L108	INDUCTOR-SMD	2703-002208	SA
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L208	INDUCTOR-SMD	2703-002313	SA
L210	R-CHIP	2007-000171	SA
L213	INDUCTOR-SMD	2703-002176	SA
L216	C-CER,CHIP	2203-005158	SA
L500	BEAD-SMD	3301-001105	SA
L501	BEAD-SMD	3301-001729	SA
L600	BEAD-SMD	3301-001438	SA
L601	BEAD-SMD	3301-001438	SA
L602	BEAD-SMD	3301-001438	SA
L603	BEAD-SMD	3301-001438	SA
LED1	LED	0601-002268	SA
LED2	LED	0601-002268	SA
MODULE200	DUPLEXER-FEM	2911-000044	SA
OSC100	OSCILLATOR-VCO	2806-001329	SA
OSC101	OSCILLATOR-VCTCXO	2809-001307	SA
Q800	FET-SILICON	0505-002088	SA
R100	R-CHIP	2007-007148	SA
R101	R-CHIP	2007-000141	SA

Design LOC	Description	SEC Code	STATUS
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R103	R-CHIP	2007-007311	SA
R104	R-CHIP	2007-000566	SA
R105	R-CHIP	2007-000174	SA
R106	R-CHIP	2007-000148	SA
R107	R-CHIP	2007-000566	SA
R108	R-CHIP	2007-001305	SA
R109	R-CHIP	2007-003030	SA
R110	R-CHIP	2007-000982	SA
R111	R-CHIP	2007-000138	SA
R112	R-CHIP	2007-000138	SA
R113	R-CHIP	2007-000982	SA
R114	R-CHIP	2007-000982	SA
R115	R-CHIP	2007-000982	SA
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R205	R-CHIP	2007-000171	SA
R206	R-CHIP	2007-000171	SA
R207	R-CHIP	2007-000162	SA
R208	R-CHIP	2007-000162	SA
R210	R-CHIP	2007-000171	SA
R212	INDUCTOR-SMD	2703-002208	SA
R300	R-CHIP	2007-000174	SA
R301	R-CHIP	2007-000171	SA
R302	R-CHIP	2007-000162	SA
R306	R-CHIP	2007-007107	SA
R307	R-CHIP	2007-000162	SA
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R316	R-CHIP	2007-000143	SA
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R410	R-CHIP	2007-000171	SA
R411	R-CHIP	2007-000171	SA
R412	R-CHIP	2007-000171	SA
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R500	R-CHIP	2007-000148	SA
R501	R-CHIP	2007-007573	SA

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R515	R-CHIP	2007-007311	SA
R602	R-CHIP	2007-000148	SA
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R620	R-CHIP	2007-000162	SA
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R622	R-CHIP	2007-000171	SA
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R804	R-CHIP	2007-000171	SA
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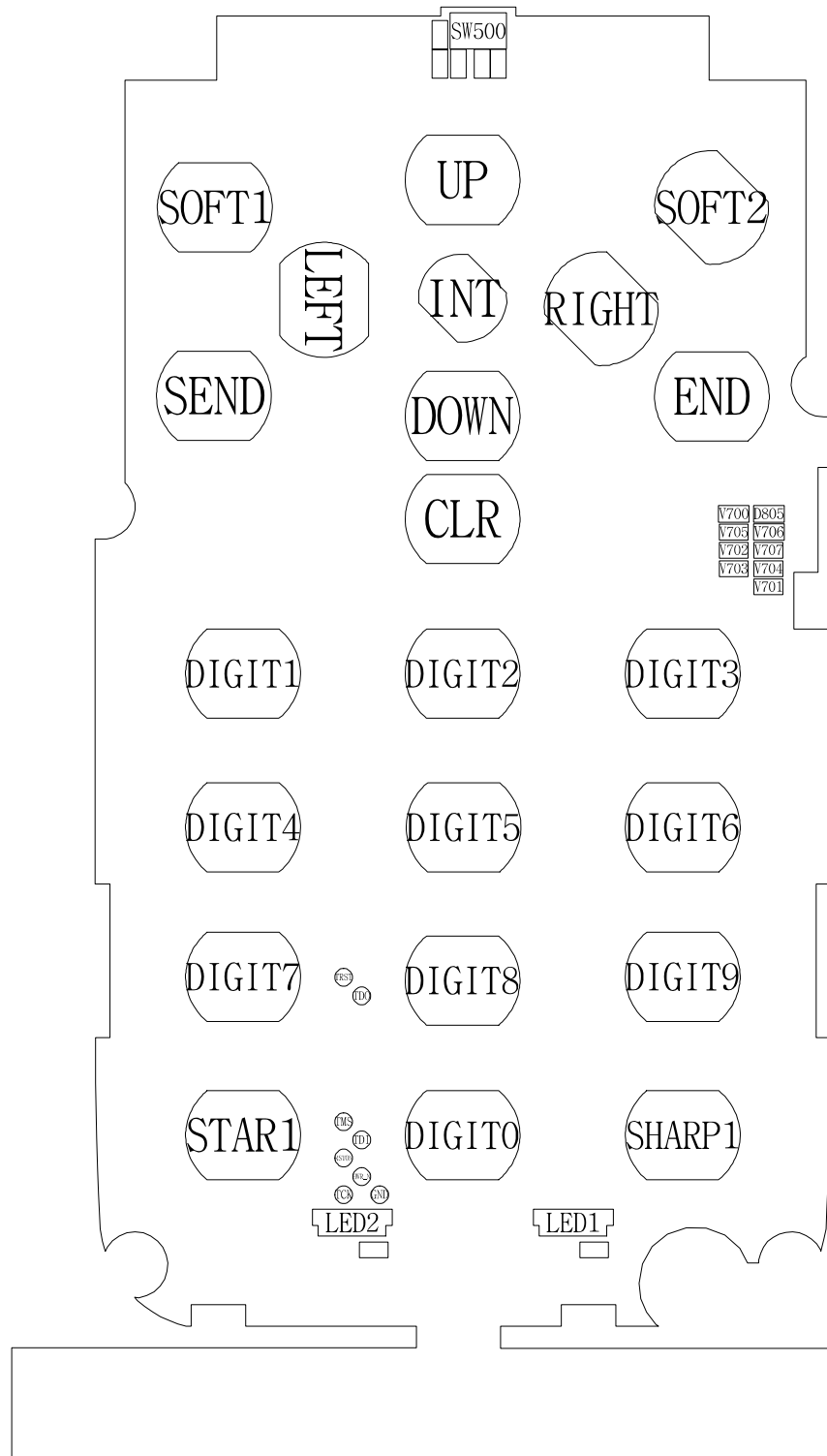
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R814	R-CHIP	2007-000171	SA
R815	R-CHIP	2007-000172	SA
R816	R-CHIP	2007-000172	SA
R817	R-CHIP	2007-001339	SA
RFS201	CONNECTOR-COAXIAL	3705-001358	SA
SIM500	CONNECTOR-CARD EDGE	3709-001400	SA
SOC700	HEADER-BOARD TO BOARD	3711-005918	SA
SW500	IC-HALL EFFECT S/W	1009-001018	SA
TH300	THERMISTOR-NTC	1404-001221	SA
U100	IC-TRANSCEIVER	1205-002327	SA
U200	IC-POWER AMP	1201-002218	SA
U401	IC ASIC-SGHX670	GH13-00036A	SA
U402	FET-SILICON	0505-001923	SA
U403	FET-SILICON	0505-002088	SA
U500	IC-CONTROLLER	1205-002350	SA
U503	IC-POSITIVE FIXED REG.	1203-003787	SA
U505	IC-BATTERY	1203-003663	SA
U600	IC-ANALOG MULTIPLEX	1001-001345	SA
U601	IC-ANALOG SWITCH	1001-001362	SA
U602	IC-VOLTAGE COMP.	1202-001068	SA
U603	FILTER-EMI/ESD	2901-001349	SA
U605	TR-DIGITAL	0504-001100	SA
U800	IC-MELODY	1204-002690	SA
U801	IC-CMOS LOGIC	0801-003025	SA
UCP300	IC-COMM. CONTROLLER	1205-003065	SA
UME400	IC-MCP	1108-000059	SA
V700	DIODE-TVS	0406-001235	SA
V701	DIODE-TVS	0406-001235	SA
V702	DIODE-TVS	0406-001235	SA
V703	DIODE-TVS	0406-001235	SA
V704	DIODE-TVS	0406-001235	SA
V705	DIODE-TVS	0406-001235	SA
V706	DIODE-TVS	0406-001235	SA
V707	DIODE-TVS	0406-001235	SA
V708	VARISTOR	1405-001082	SA
X500	CRYSTAL-SMD	2801-004373	SA
ZD600	DIODE-TVS	0406-001231	SA
ZD601	DIODE-TVS	0406-001231	SA
ZD602	DIODE-TVS	0406-001197	SA
ZD603	DIODE-ZENER	0403-001547	SA
ZD604	DIODE-TVS	0406-001201	SA

7. Block Diagrams

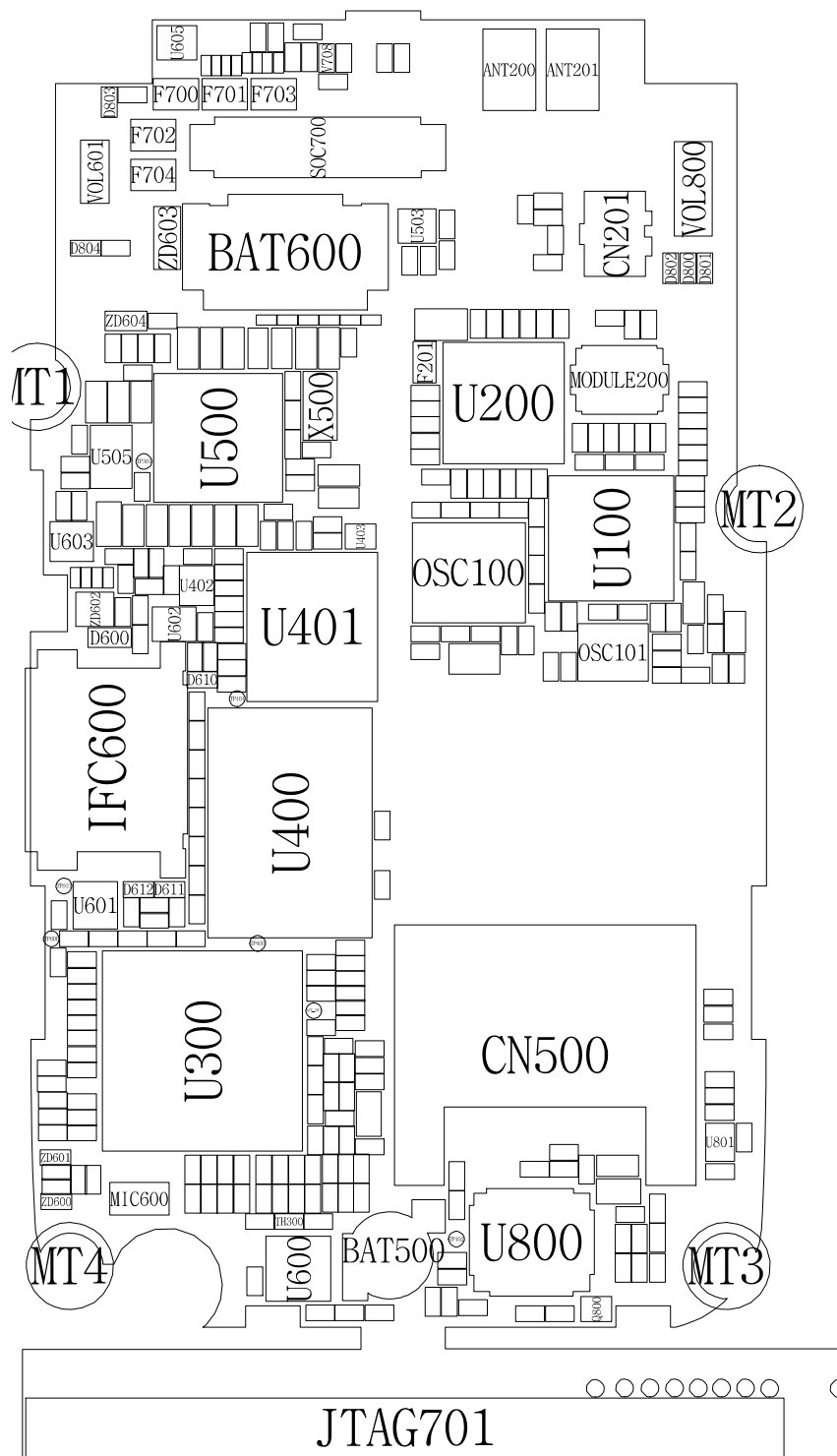


8. PCB Diagrams

Top

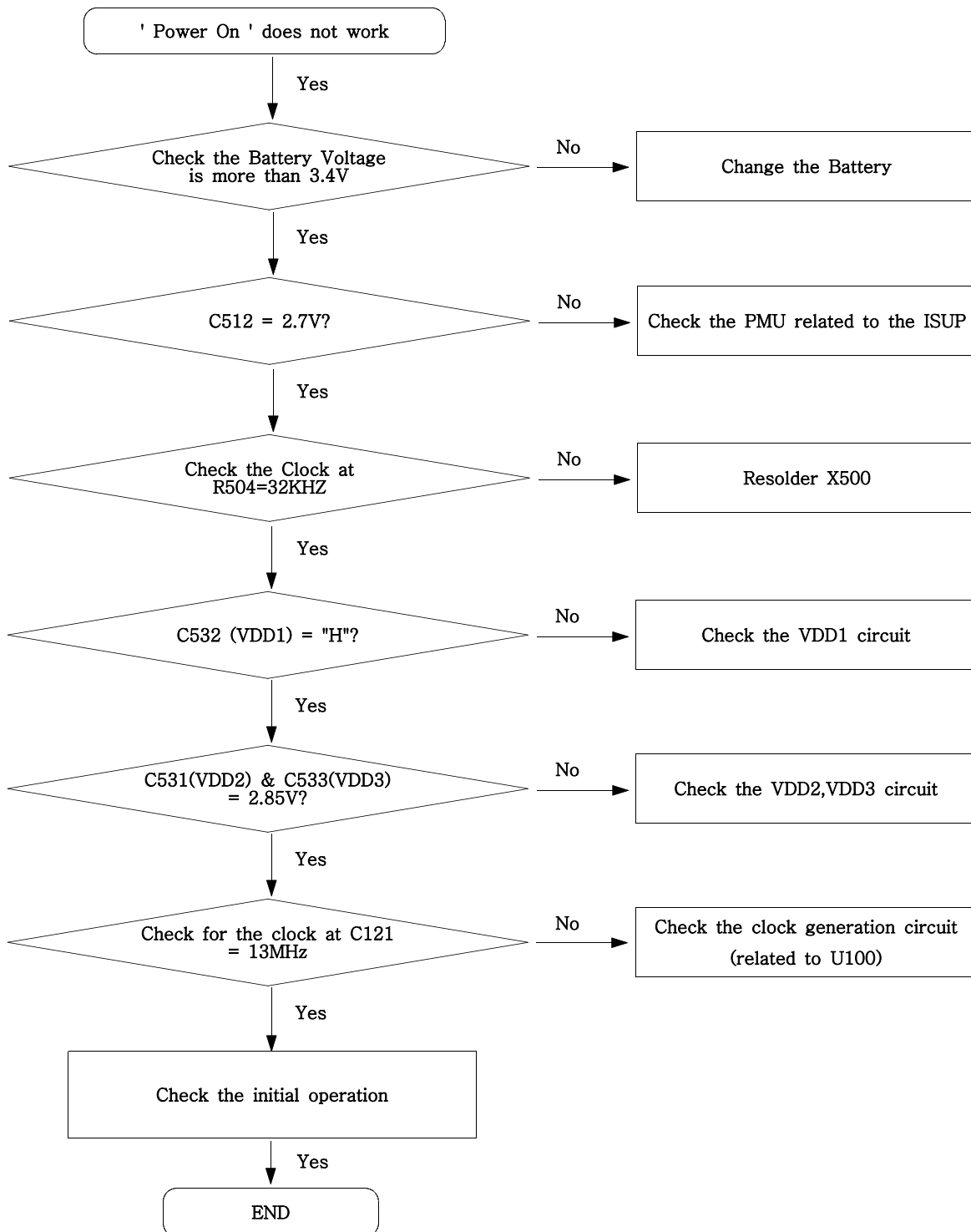


Bottom



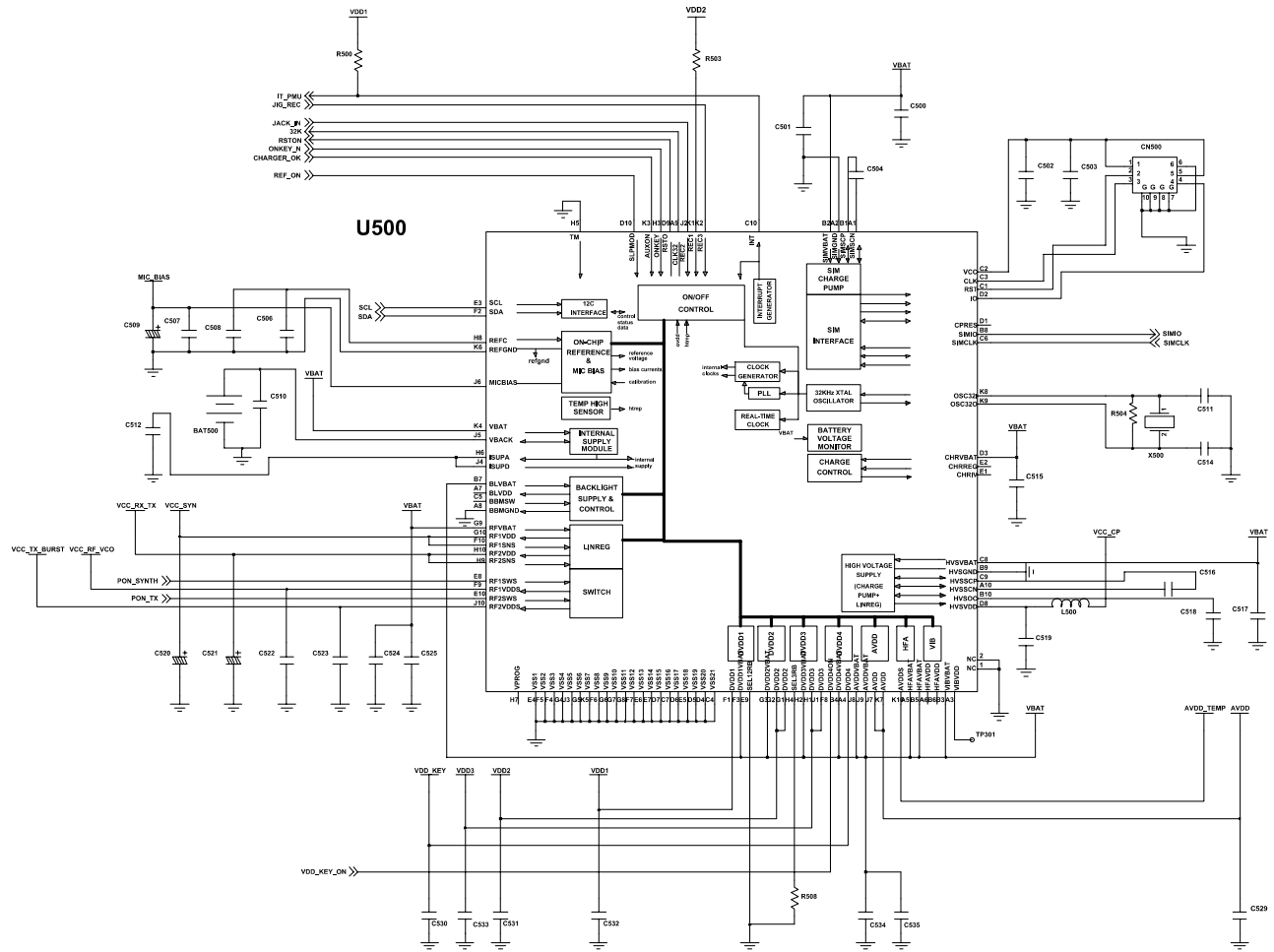
9. Flow Chart of Troubleshooting

9-1. Power On

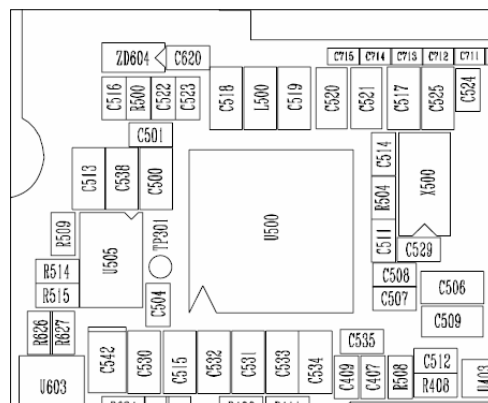


Flow Chart of Troubleshooting

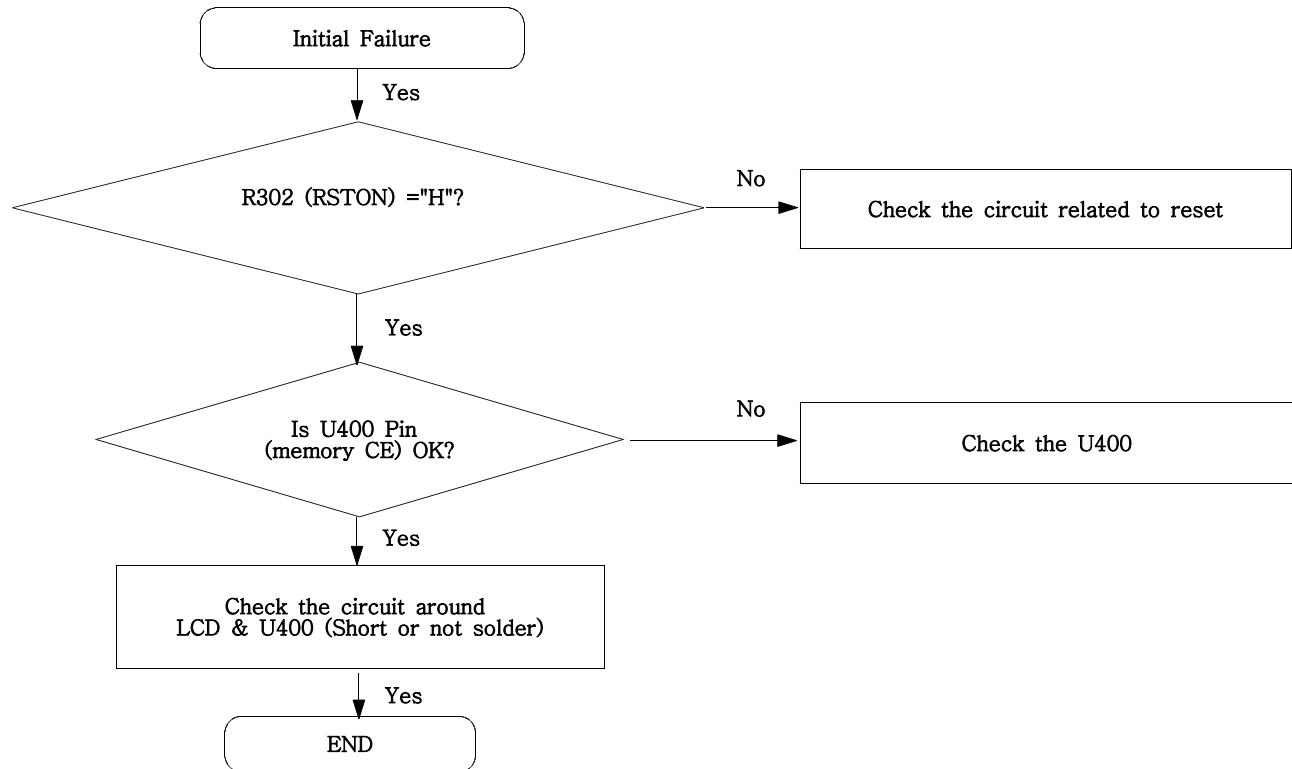
Power On



POWER MANAGEMENT UNIT(PMU IC)



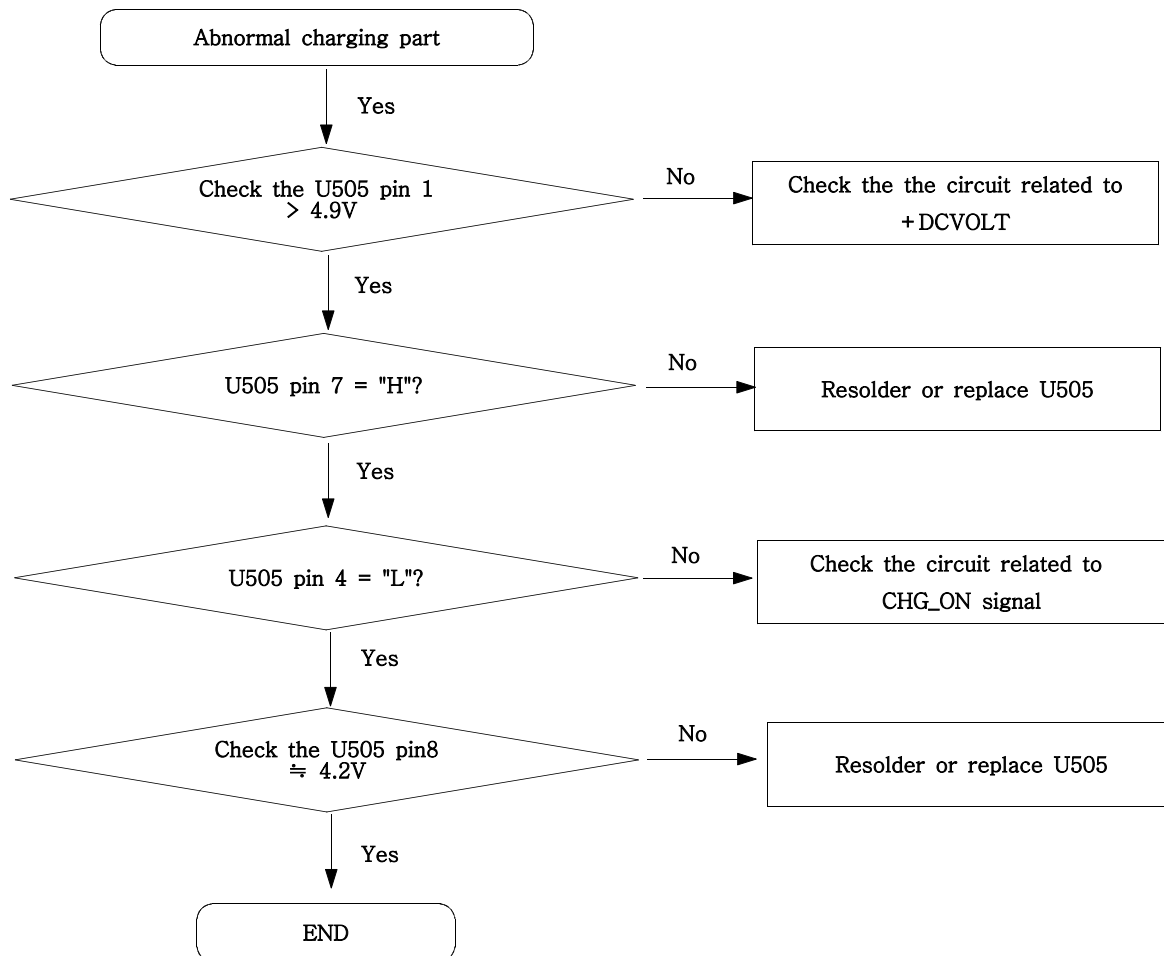
9-2. Initial



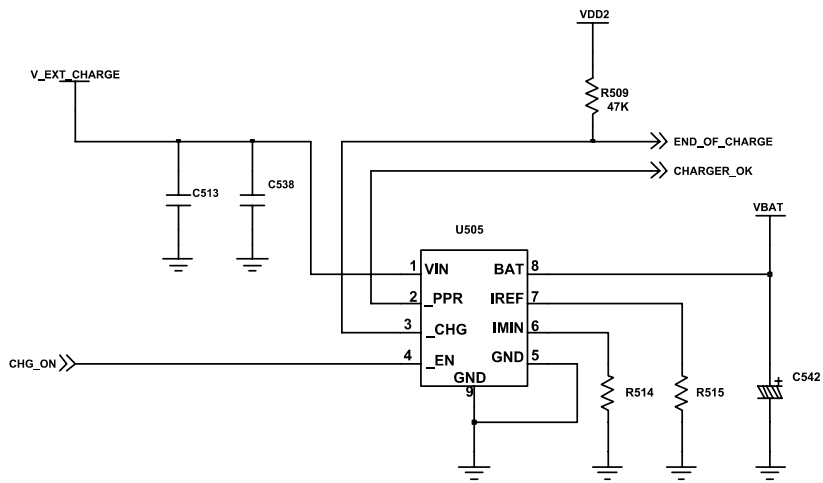
Initial



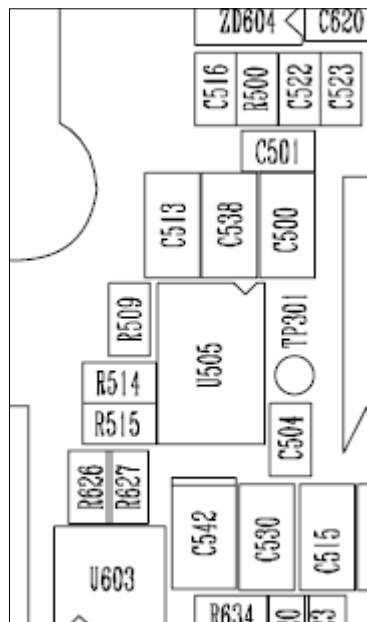
9-3. Charging Part



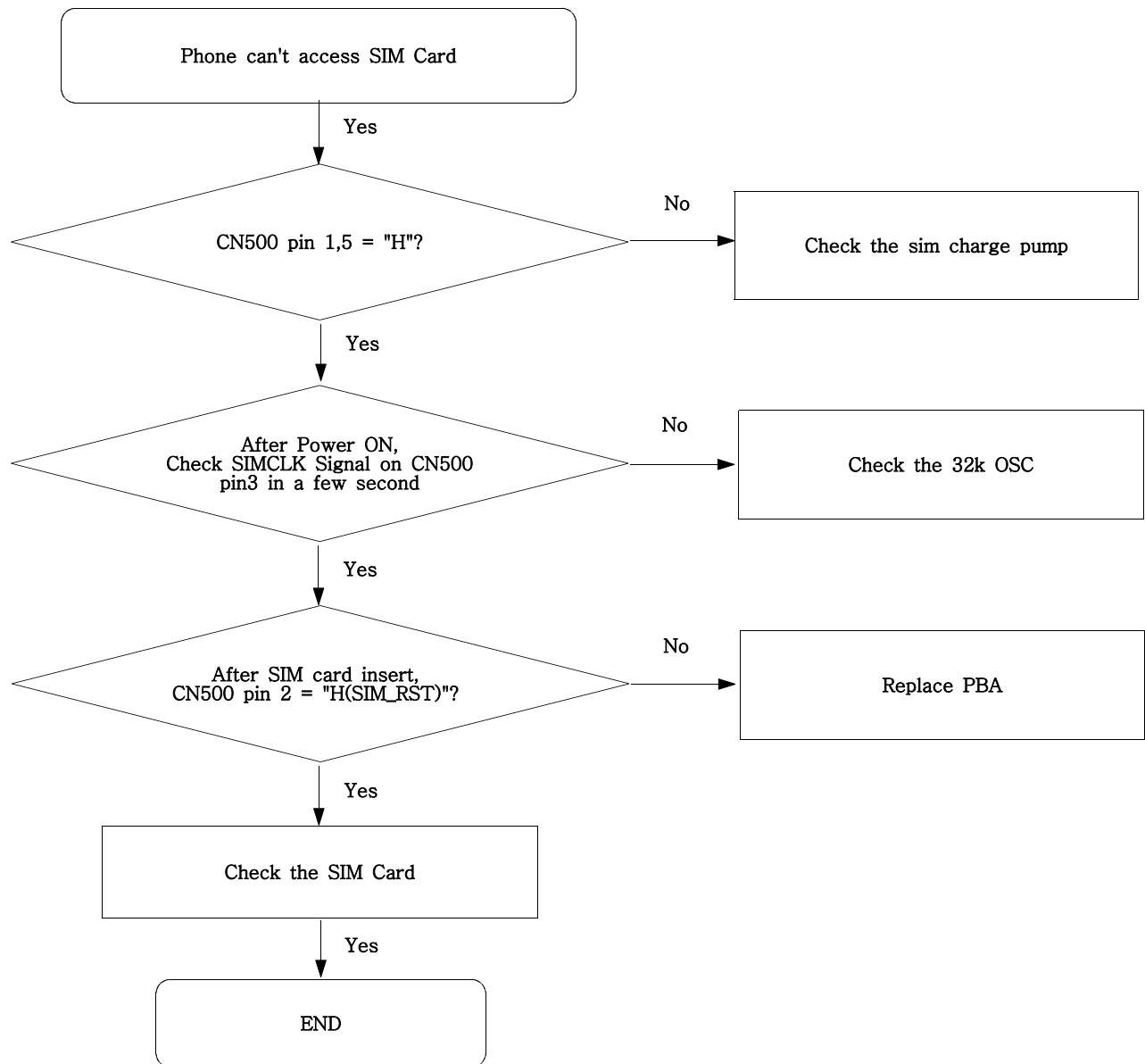
Charging

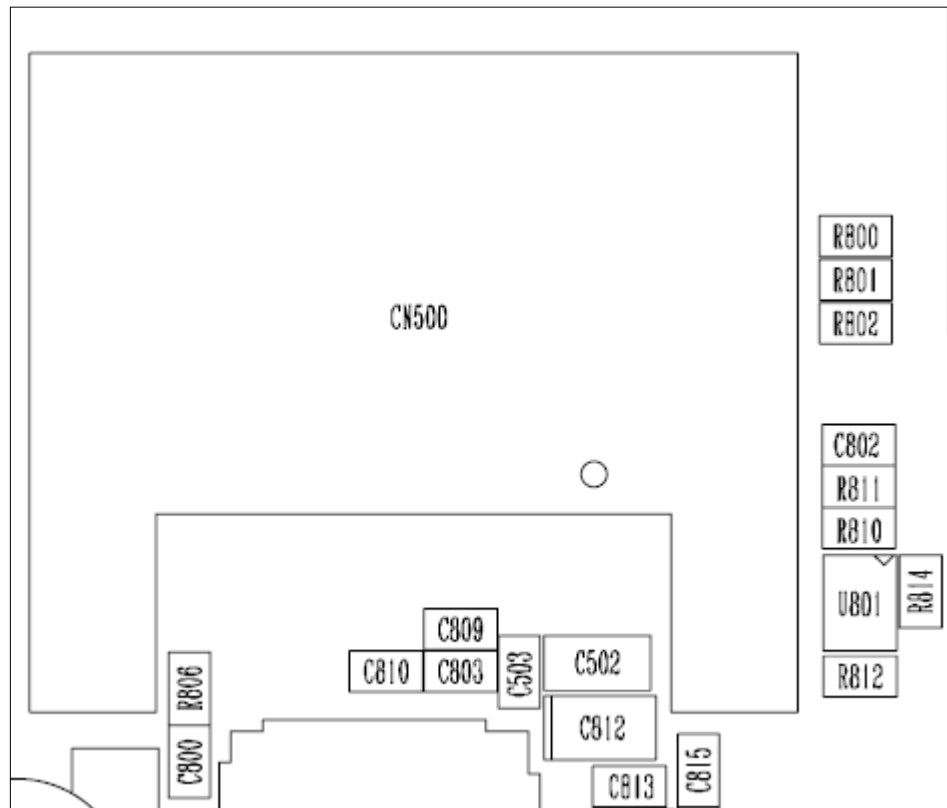


CHARGER IC

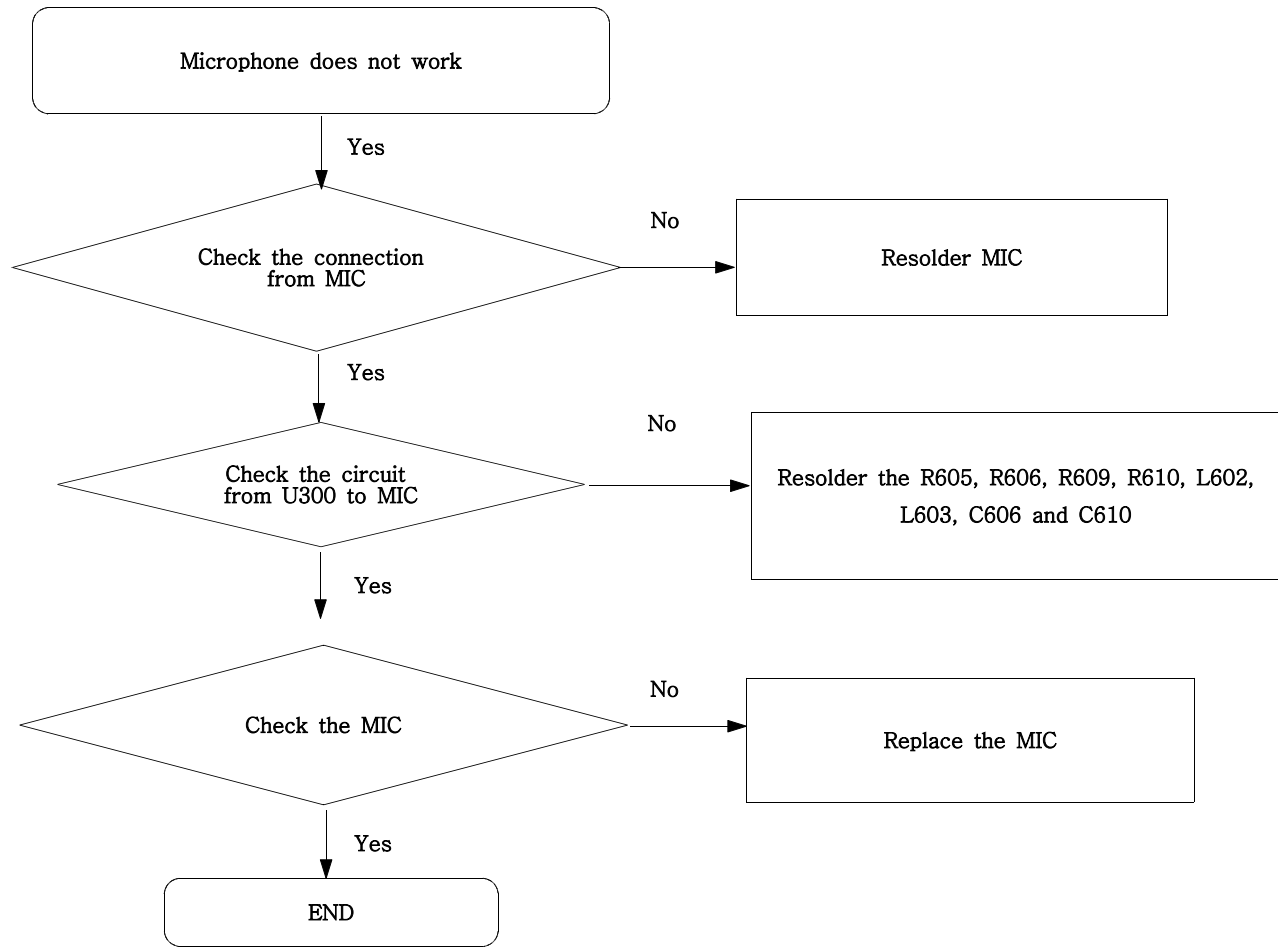


9-4. Sim Part

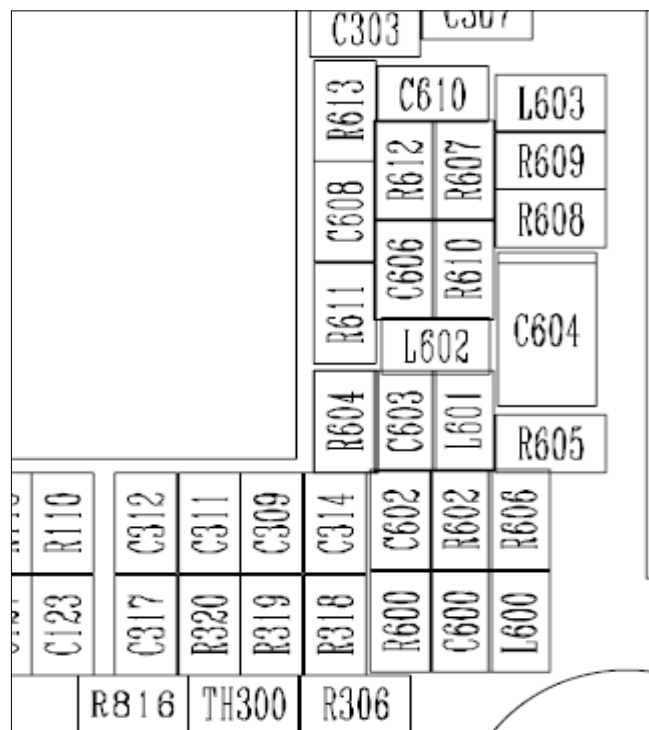
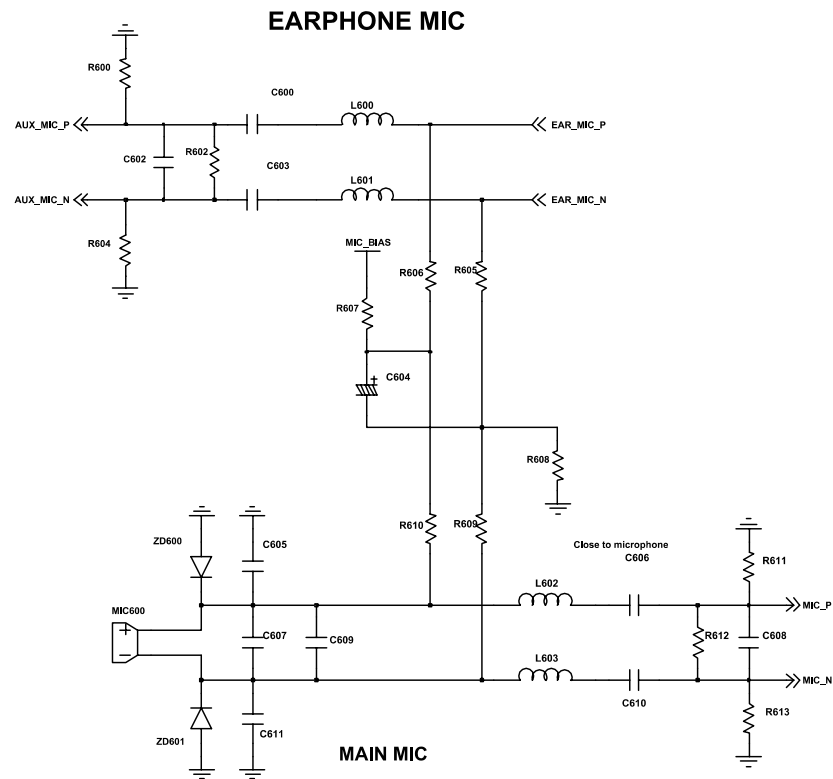




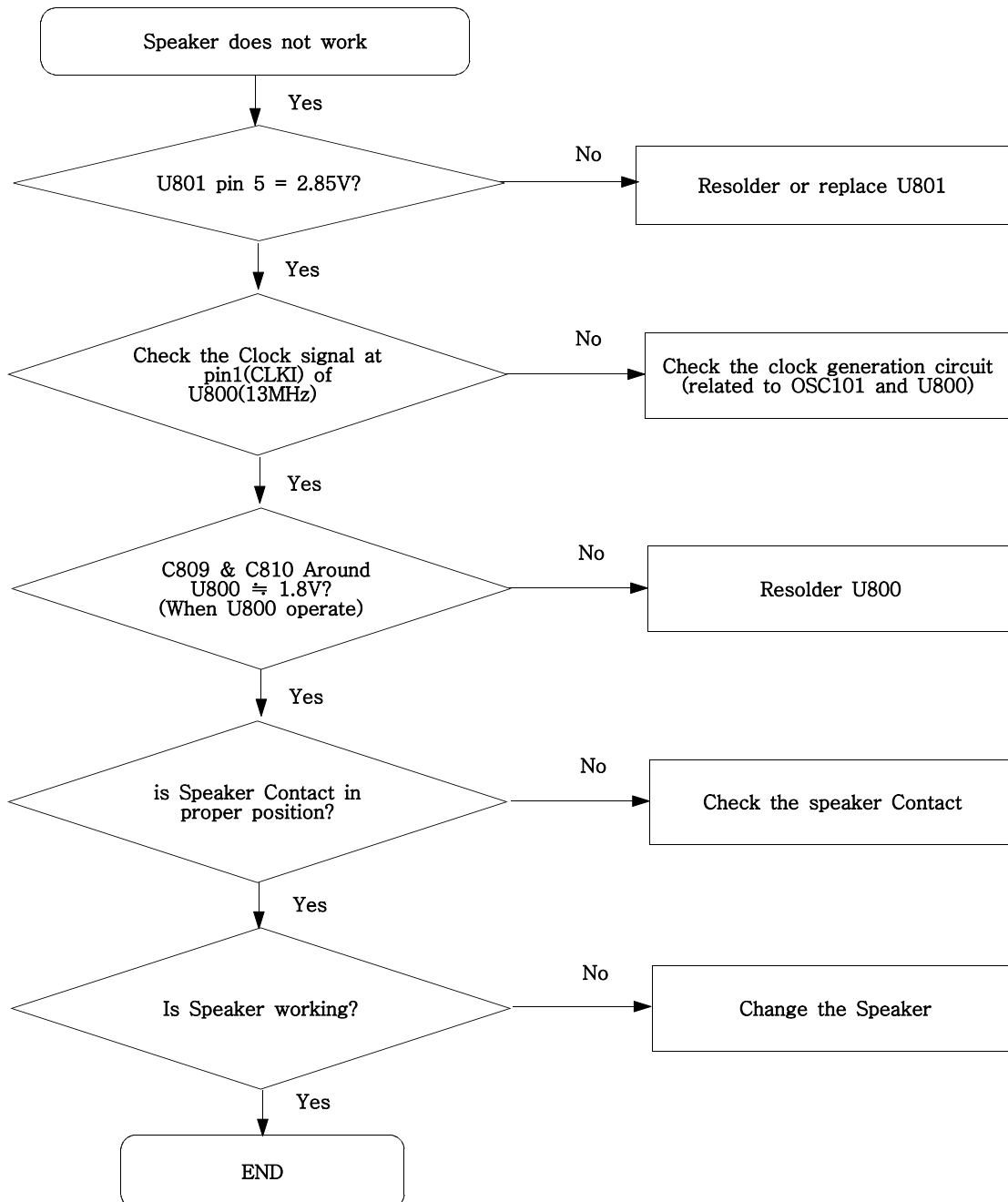
9-5. Microphone Part



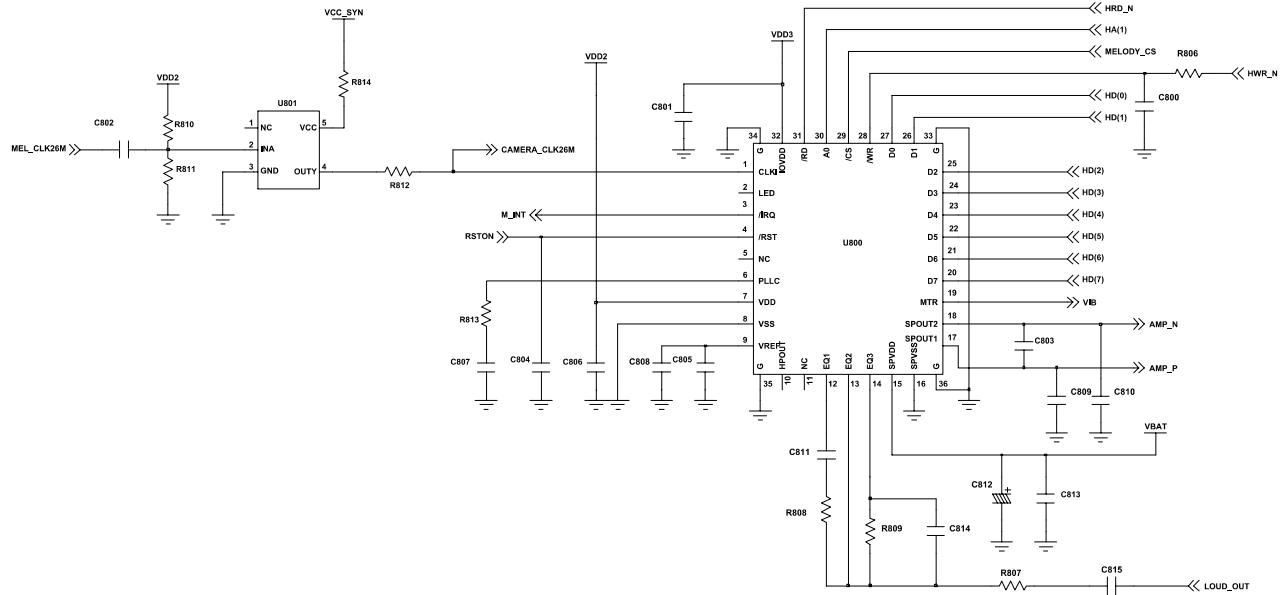
Microphone



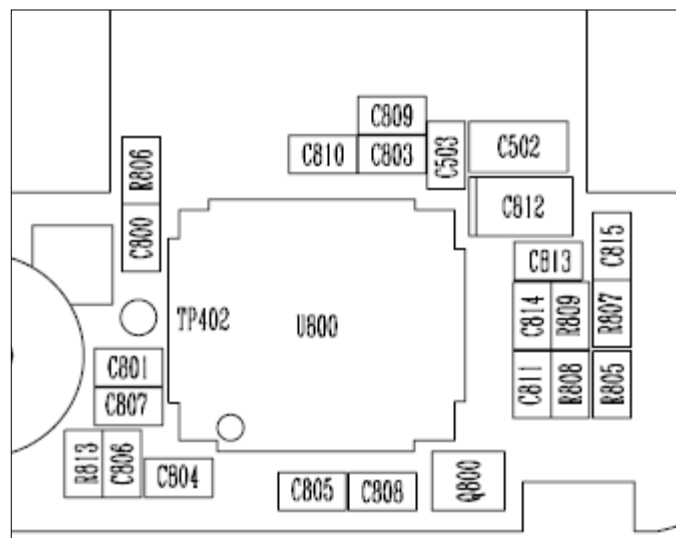
9-6. Speaker Part(Melody)



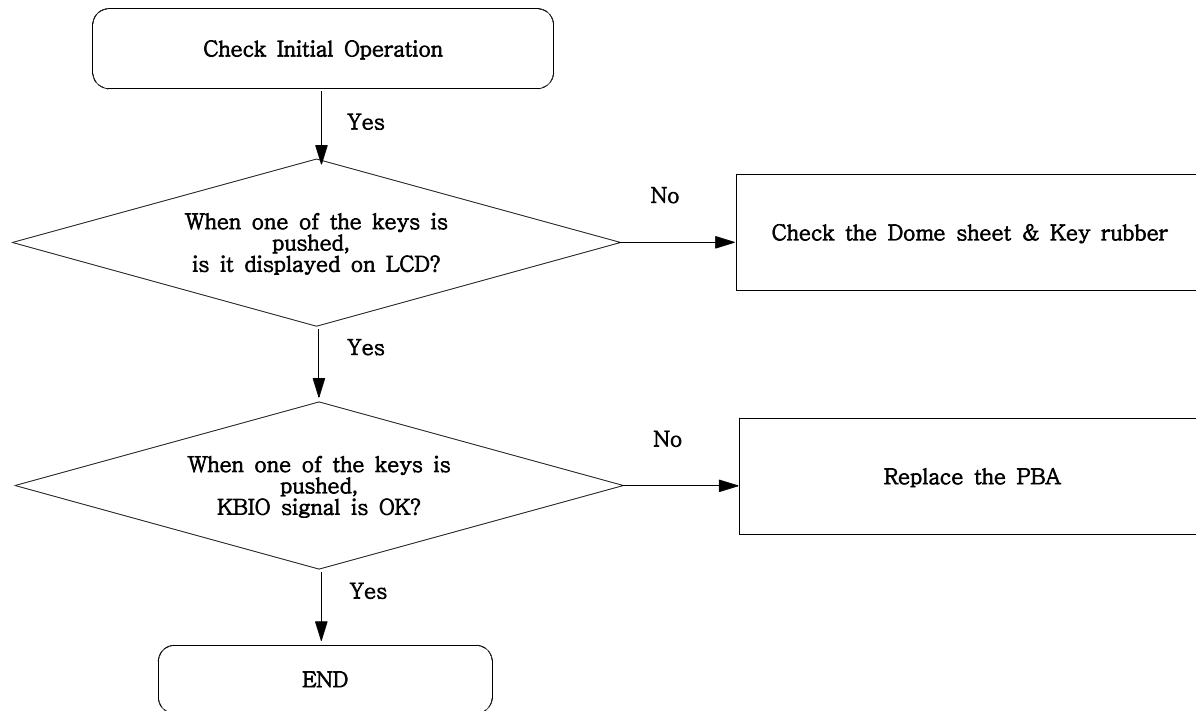
Speaker



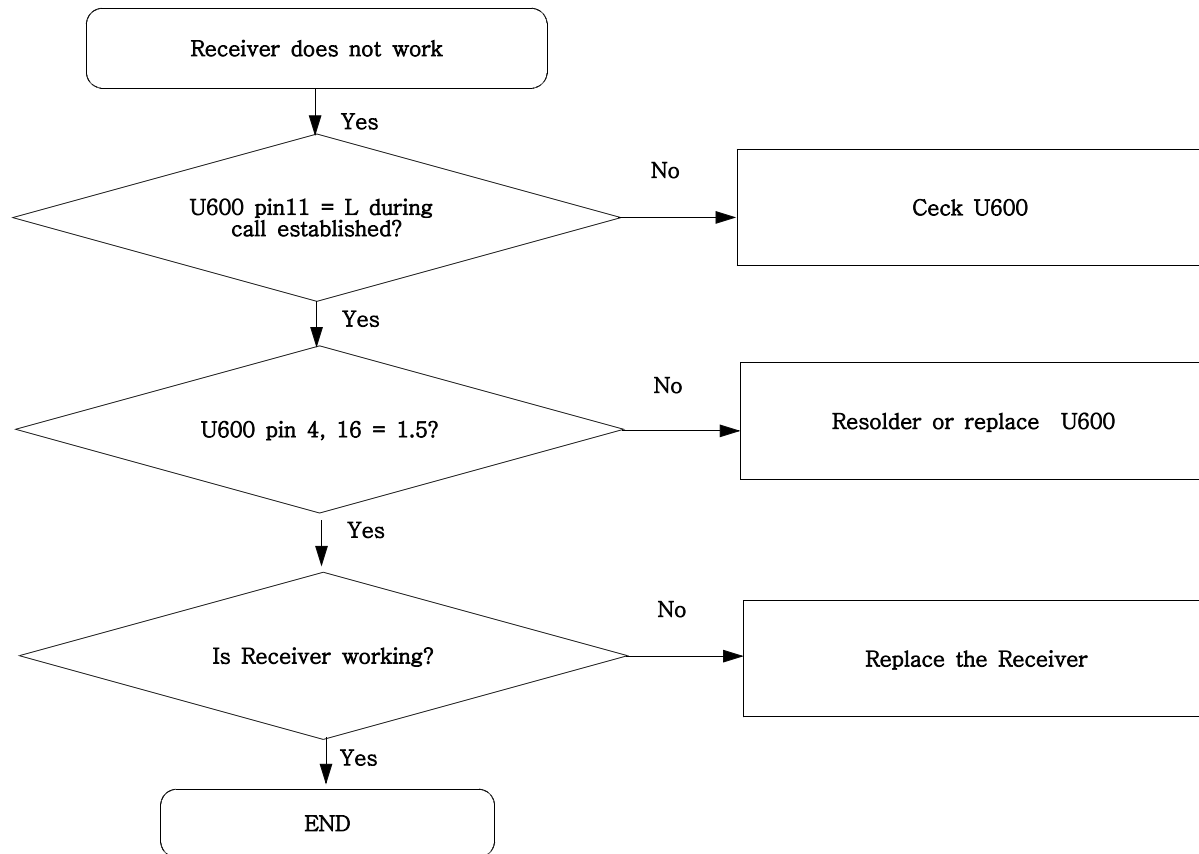
MELODY IC



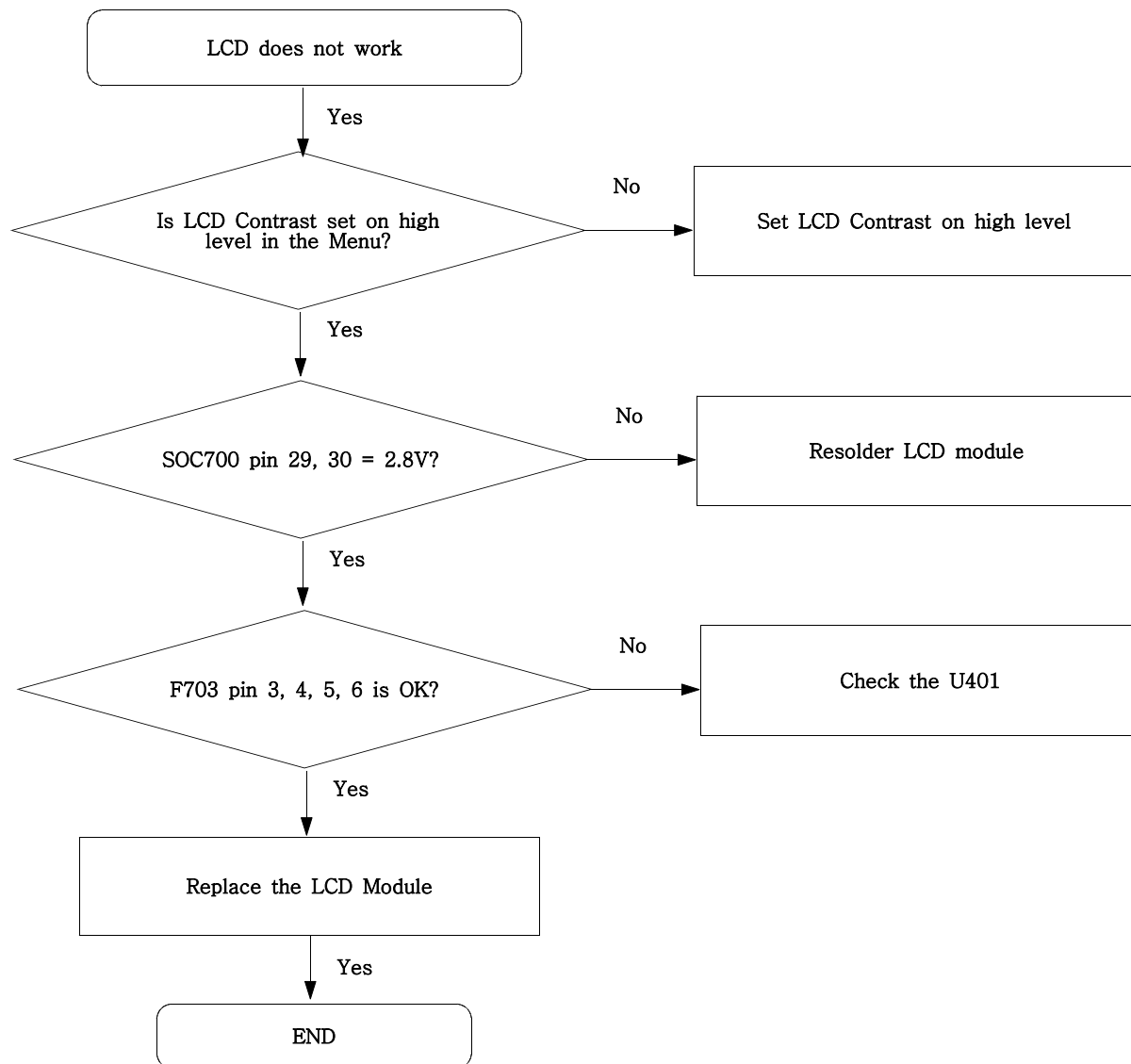
9-7. Key Data Input

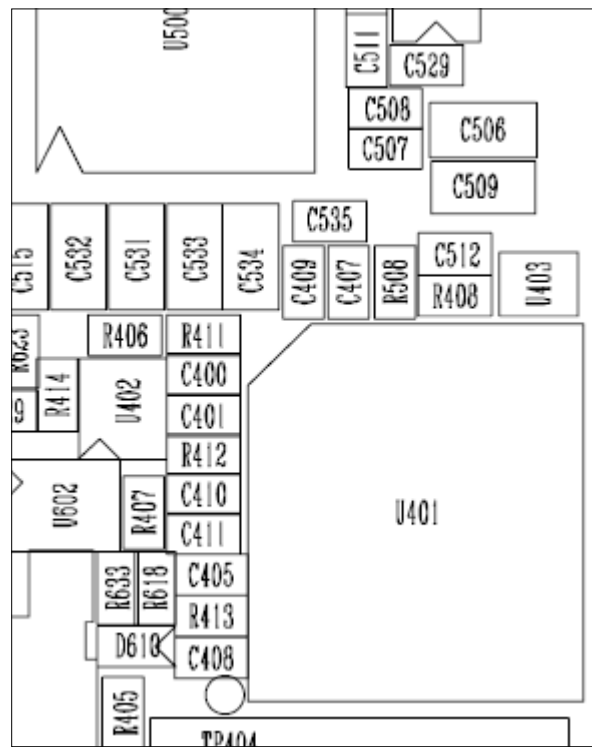
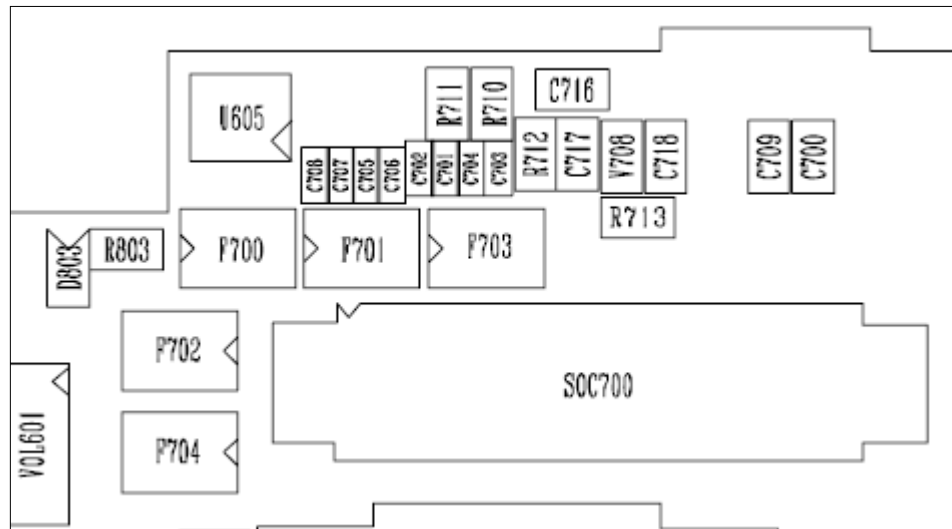


9-8. Receiver Part

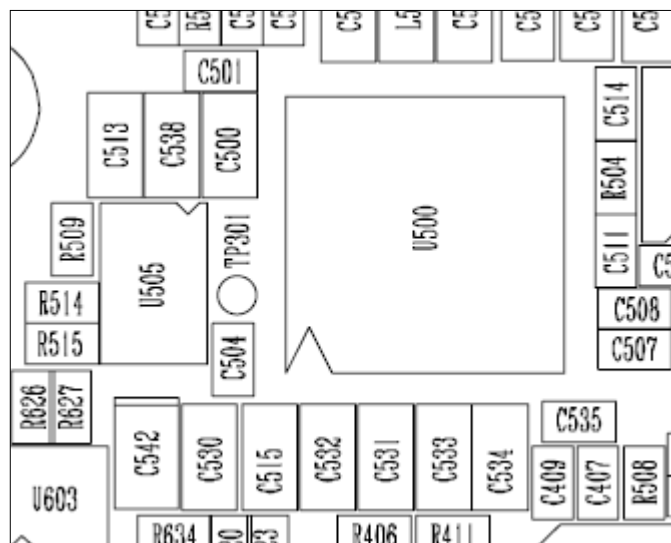
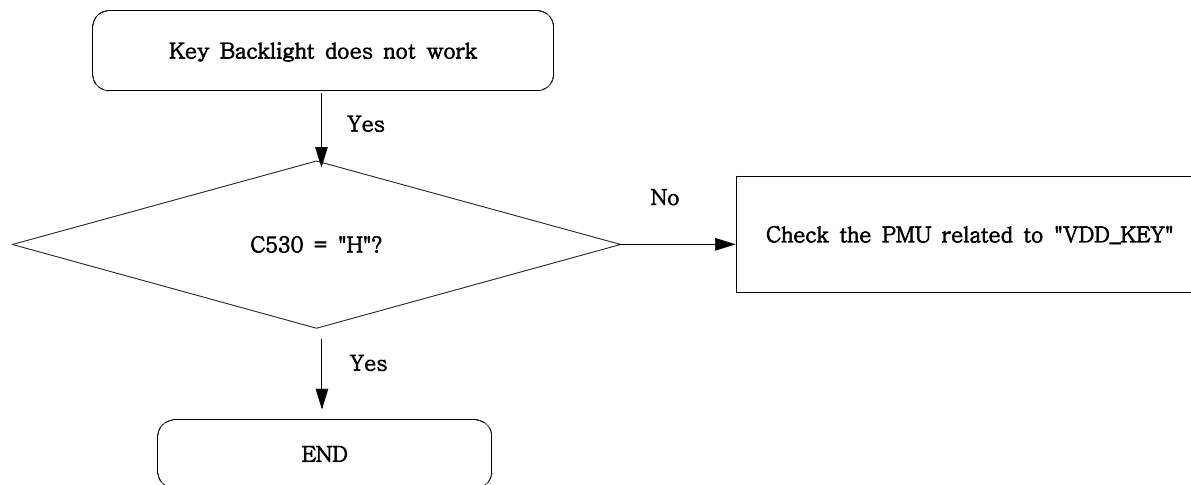


9-9. LCD Part (for Color Main)

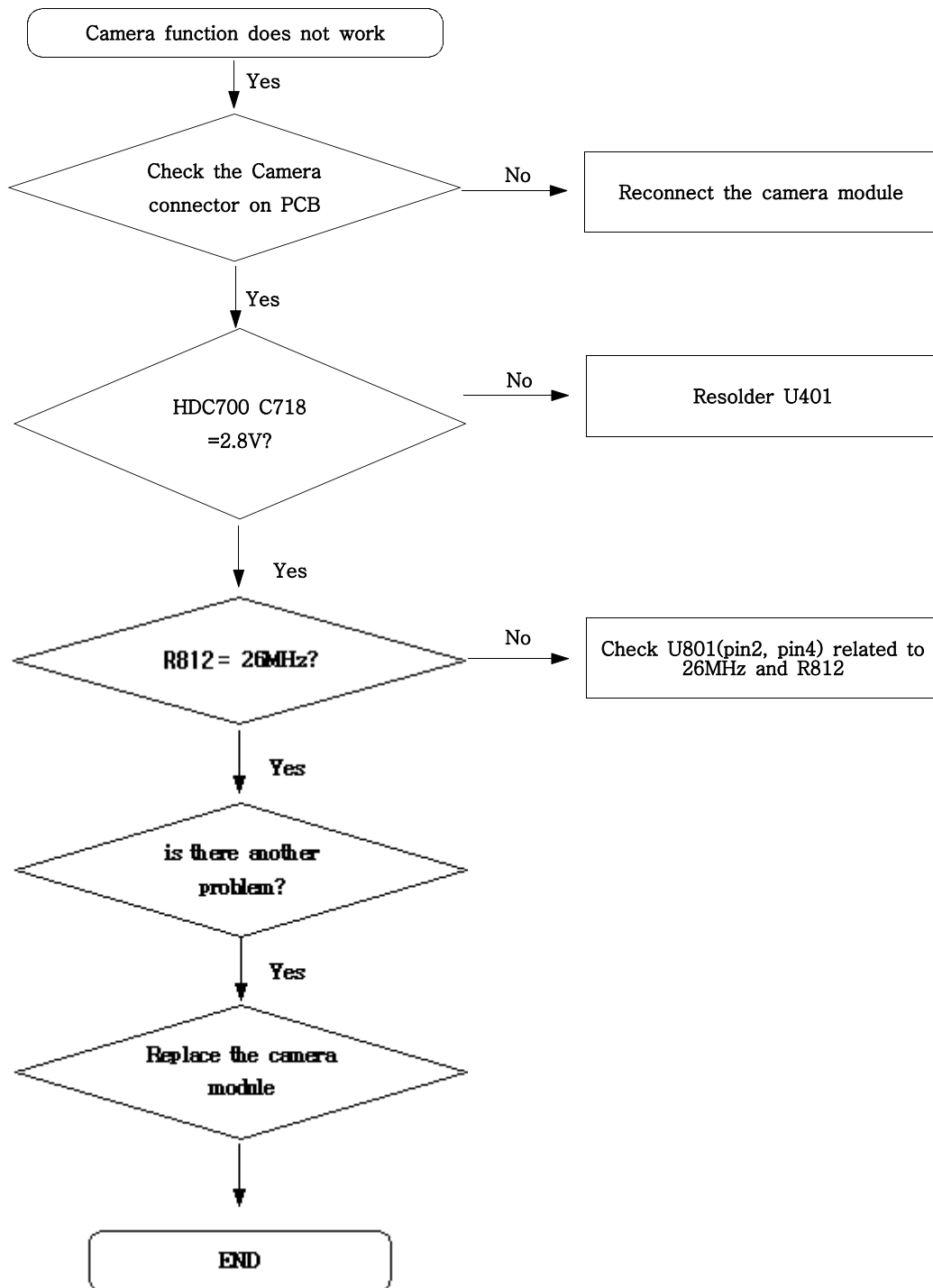




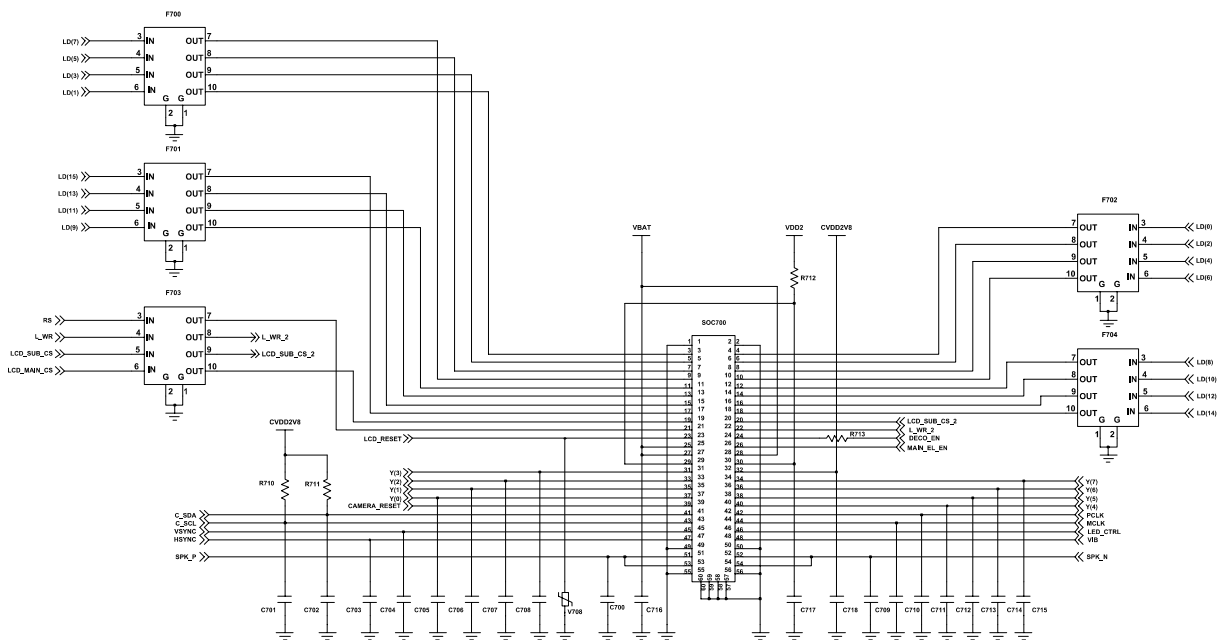
9-10. Key Back Light



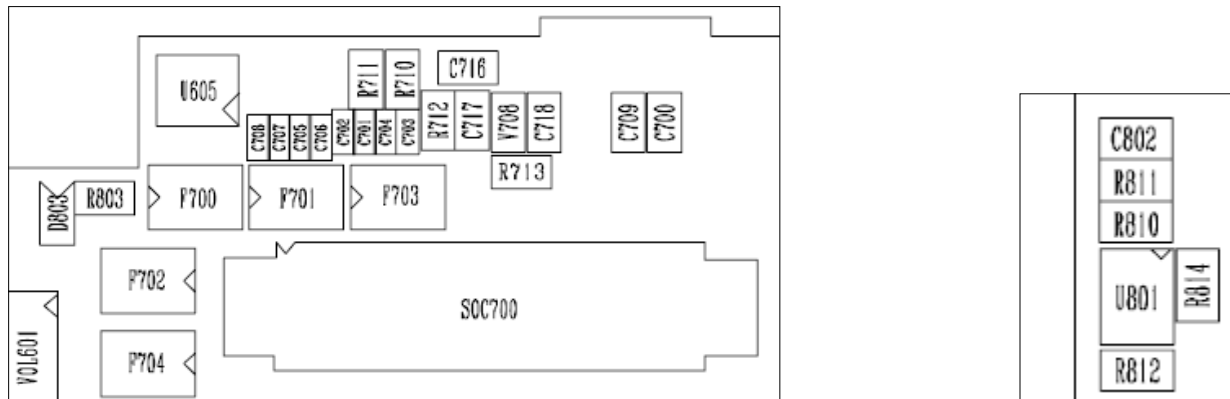
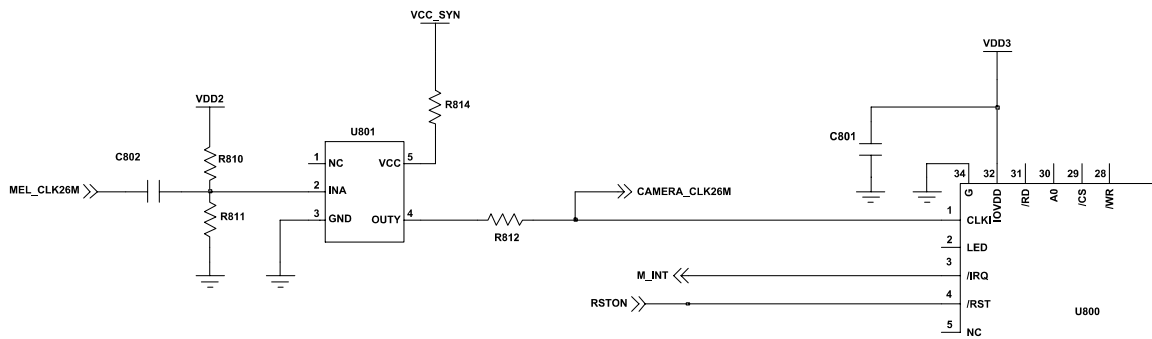
9-11. Camera part



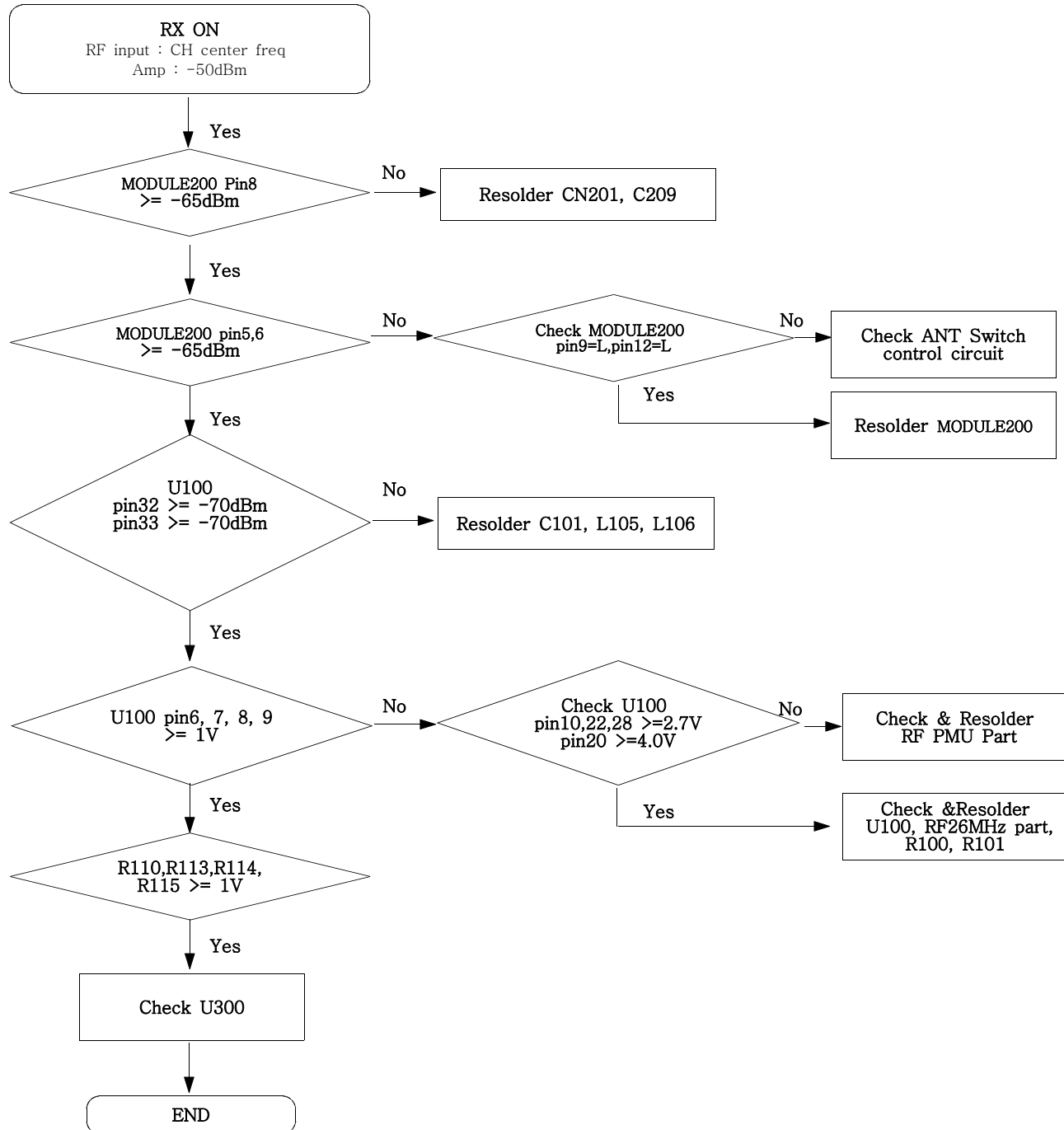
Flow Chart of Troubleshooting



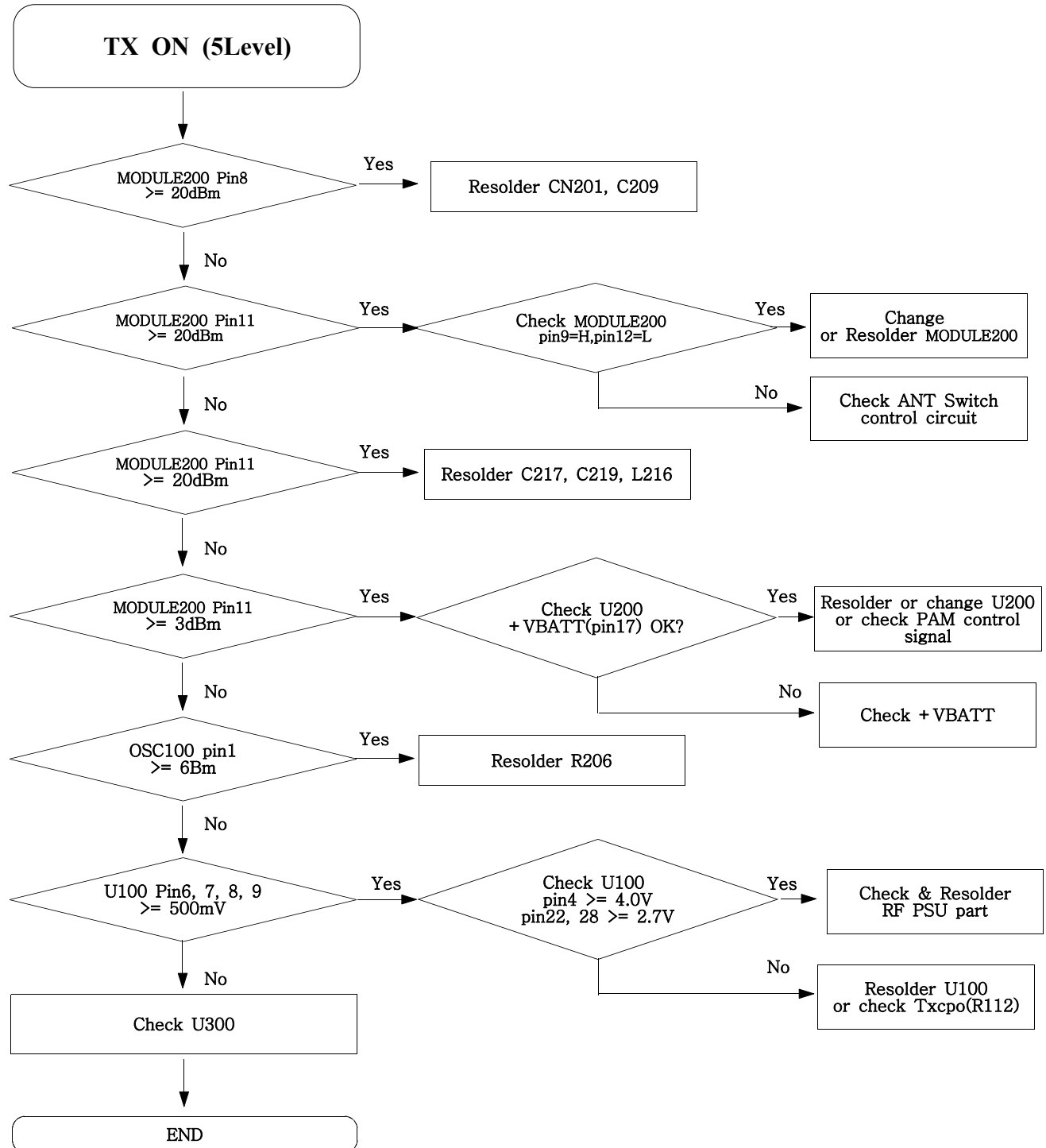
LCD CONNECTOR



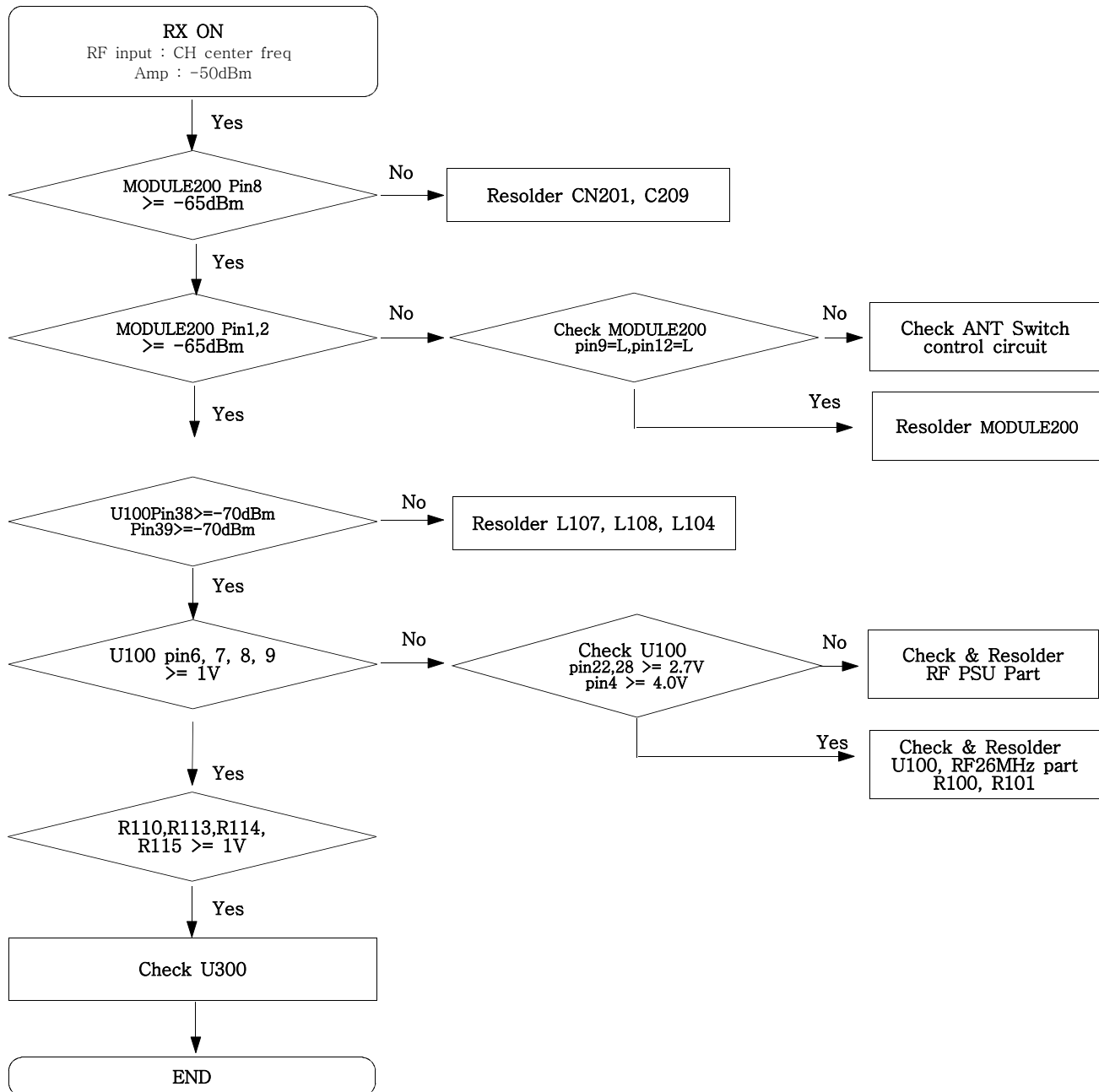
9-12. GSM Receiver



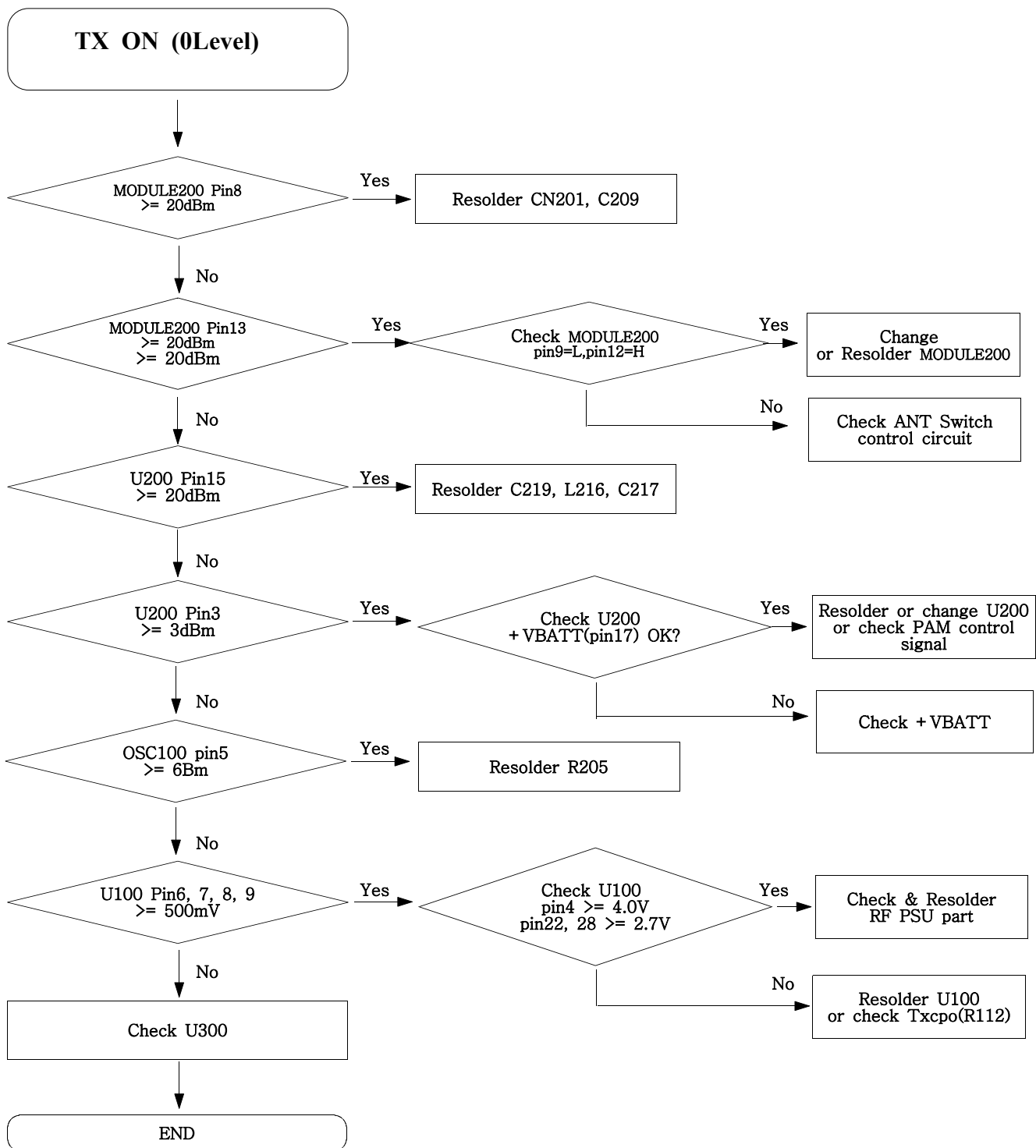
9-13. GSM Transmitter



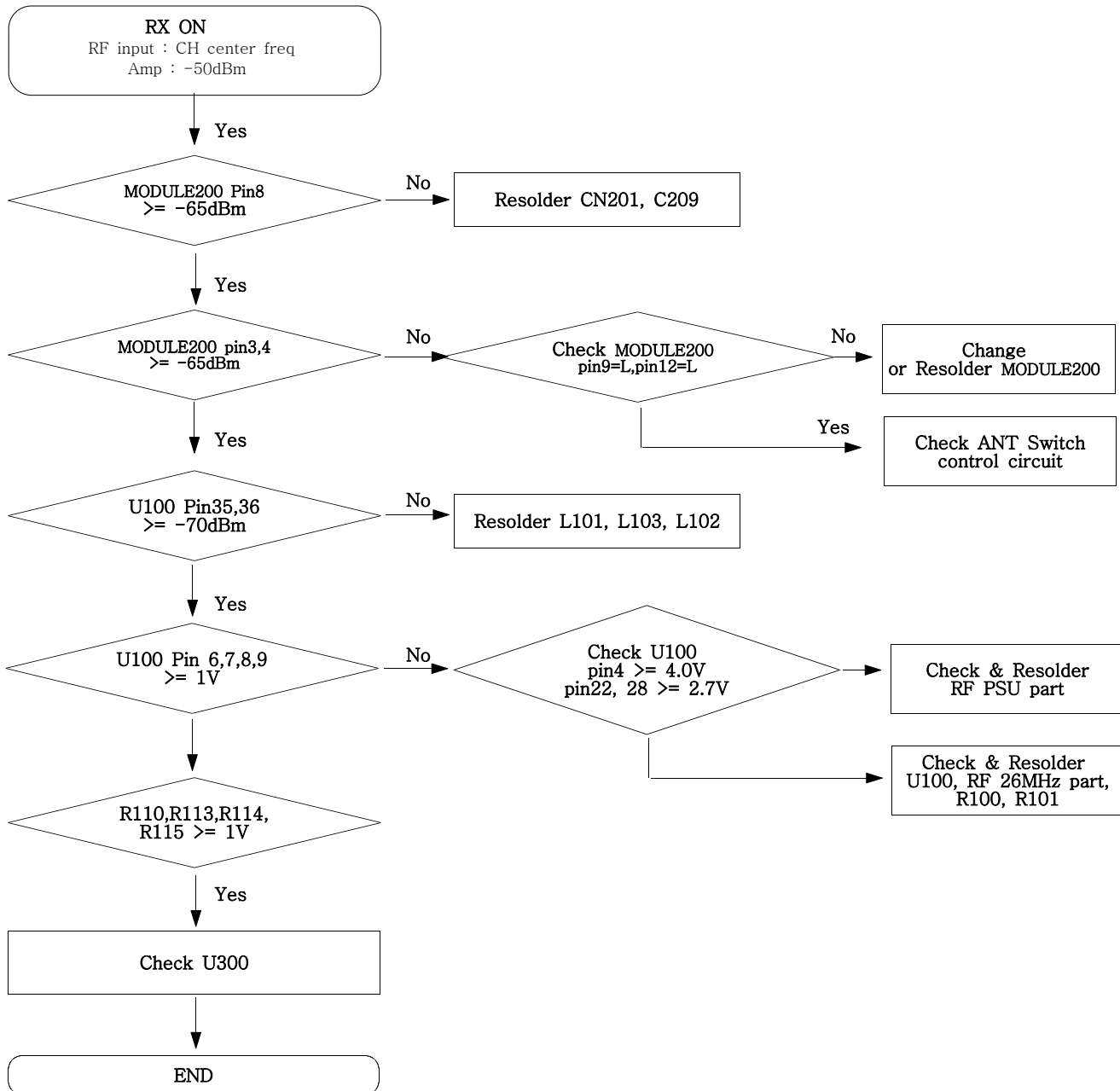
9-14. DCS Receiver



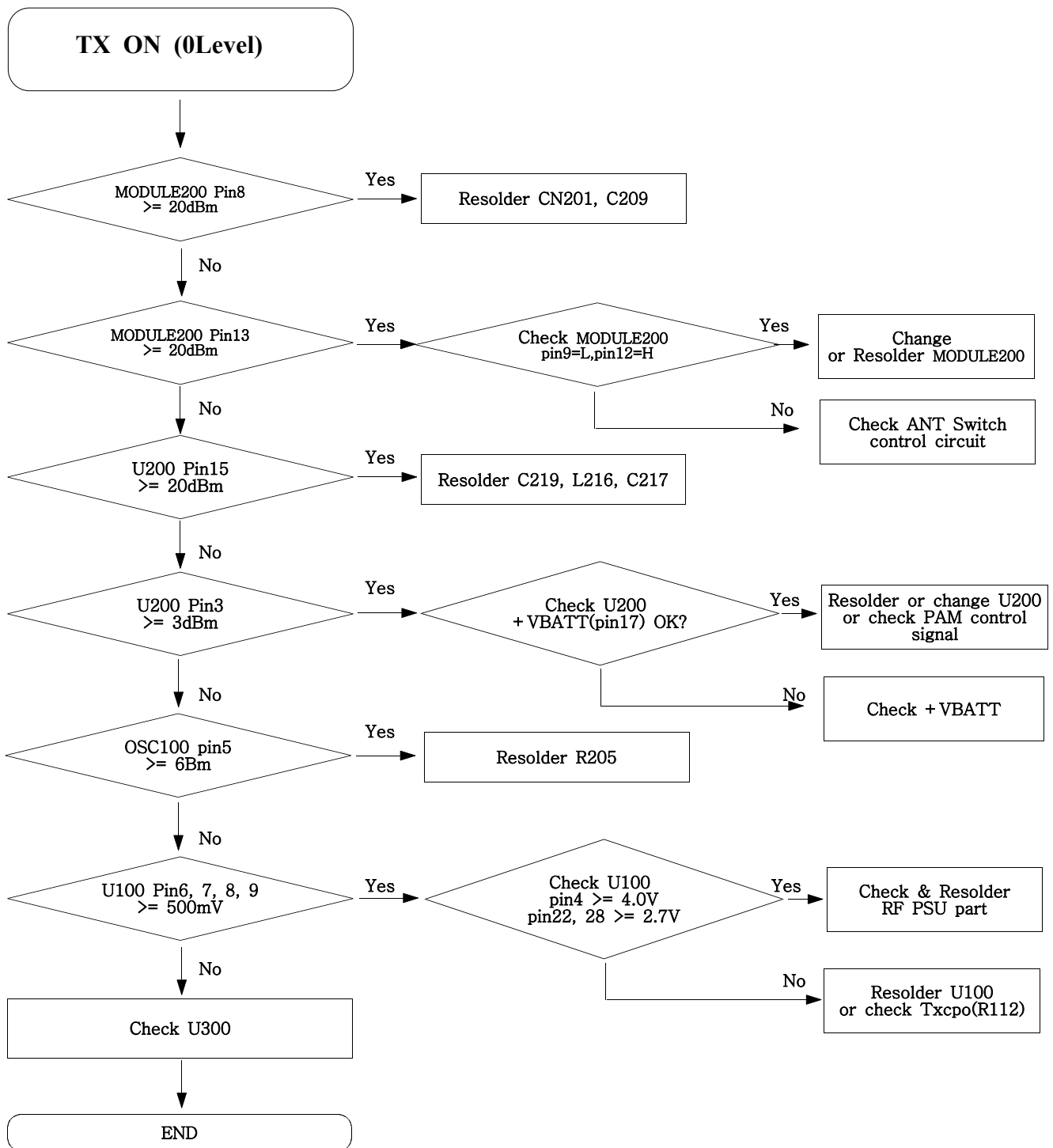
9-15. DCS Transmitter

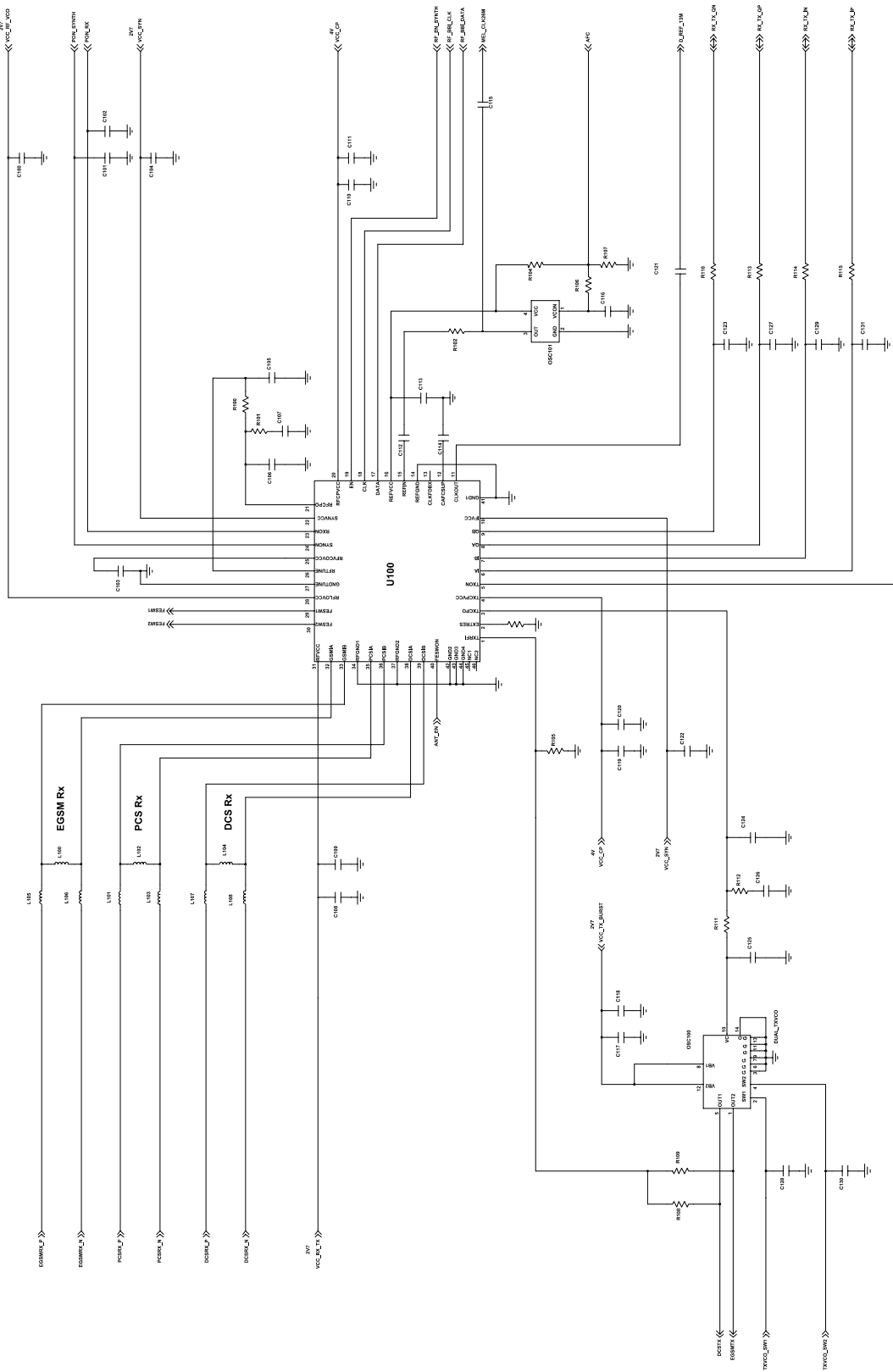


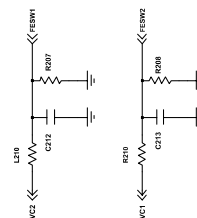
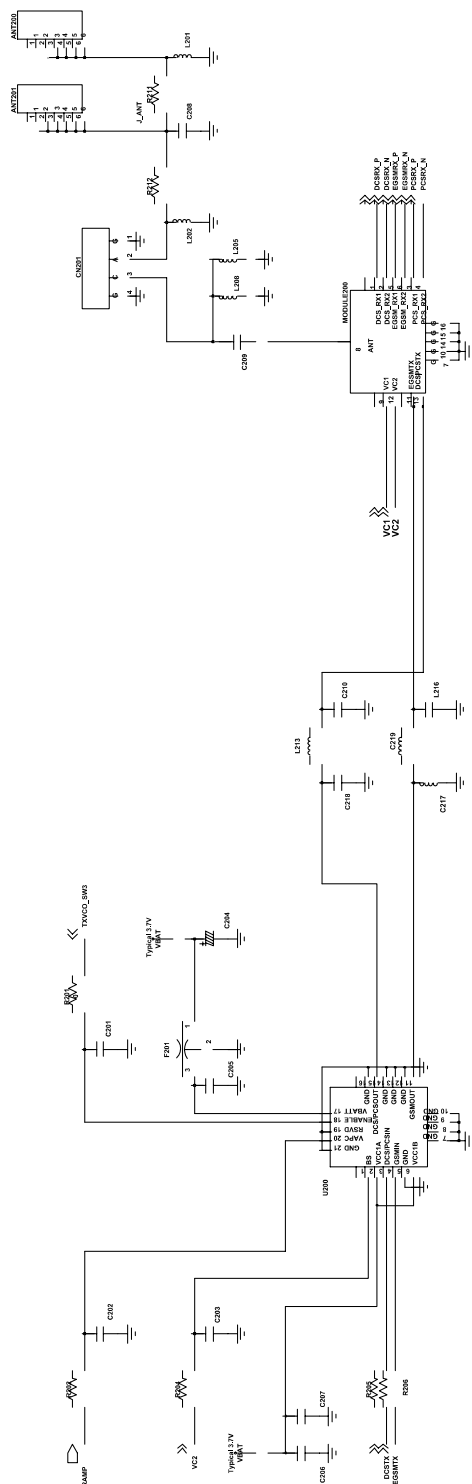
9-16. PCS Receiver



9-17. PCS Transmitter







	VC1	VC2	VC3
Tx(GSM900)	H	L	L
Tx(DCS 1800/1900)	L	H	L
Rx(GSM900)	L	L	L
Rx(DCS 1800)	L	L	L
Rx(PCS 1900)	L	L	H

Antenna S/W Control Circuit

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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