

**SAMSUNG**

# GSM TELEPHONE

## SGH-C450

# ***SERVICE*** *Manual*

GSM TELEPHONE



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**SAMSUNG  
ELECTRONICS**



GSPN (Global Service Partner Network)

<b>Country</b>	<b>Web Site</b>
North America	service.samsungportal.com
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Asia	asia.samsungportal.com
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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 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.

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## 2. Specification

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### 2-1. GSM General Specification

	<b>EGSM 900</b>	<b>DCS1800</b>
Freq. Band[MHz] Uplink/Downlink	880~915 925~960	1710~1785 1805~1880
ARFCN range	0~124 & 975~1023	512~885
Tx/Rx spacing	45MHz	95MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK
MS Power	33dBm~5dBm	30dBm~0dBm
Power Class	4 (max +33dBm)	1 (max +30dBm)
Sensitivity	-102dBm	-100dBm
TDMA Mux	8	8
Cell Radius	35Km	2Km

## 2-2. GSM TX power class

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

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

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## 3. Operation Instruction and Installation

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### Main Function

**S20 Pin TA**

**No Java**

**No MMS**

**FM radio**

**WAP 2.0**

**10 Poly S/W MIDI**

**Dual band(900/1800MHz)**

**GPRS Class 10**

**VGA camera**





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## 4. Array course control

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### 4-1. Software Adjustments



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

## **4-2. Software Downloading**

### **4-2-1. Downloading Binary Files**

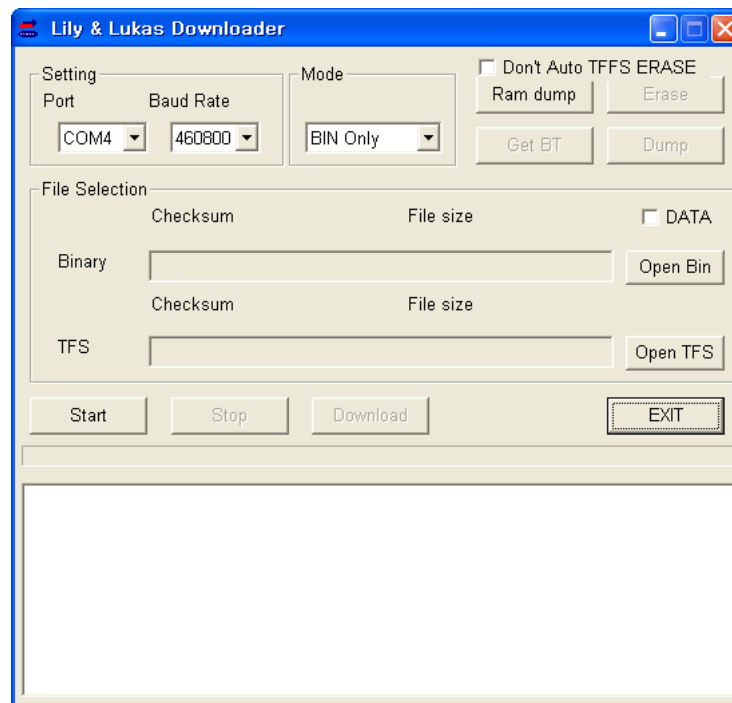
- 2 binary files for downloading C450.
  - C450XAGD3 .cla
  - C450XAGD3.tfs

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

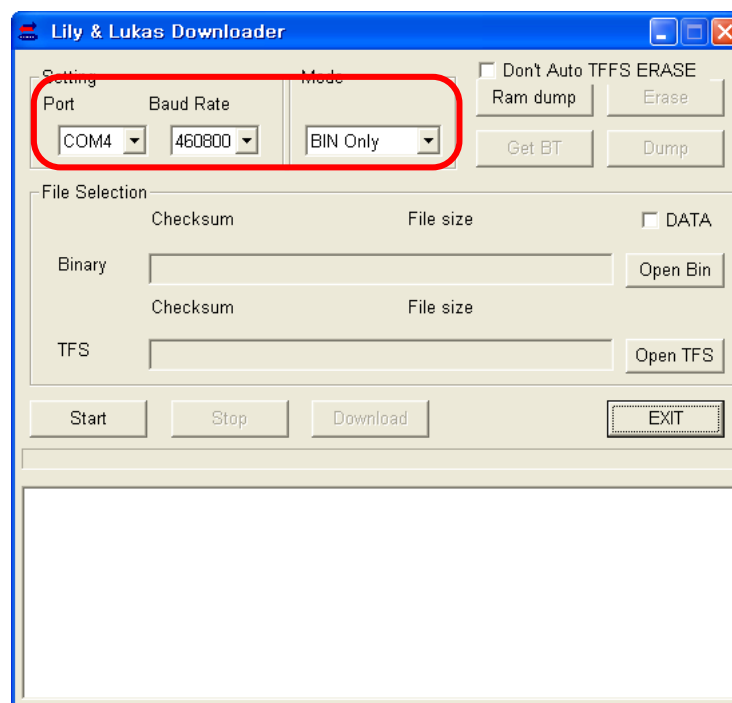
- Downloader Program(C450 Downloader 2.0NEW)
- SGH-C450 Mobile Phone
- JIG BOX
  
- Test Cable
- Serial Cable
- Binary files

### 4-2-3. S/W Downloader Program

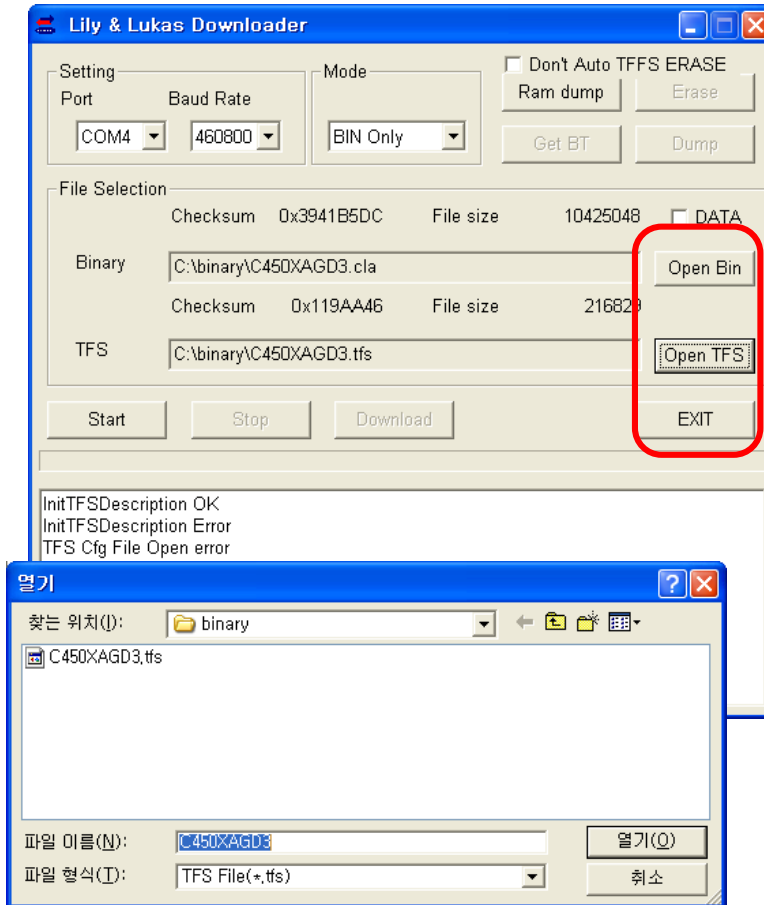
1. Load the binary download program by executing the "C450 Downloader 2.0NEW".



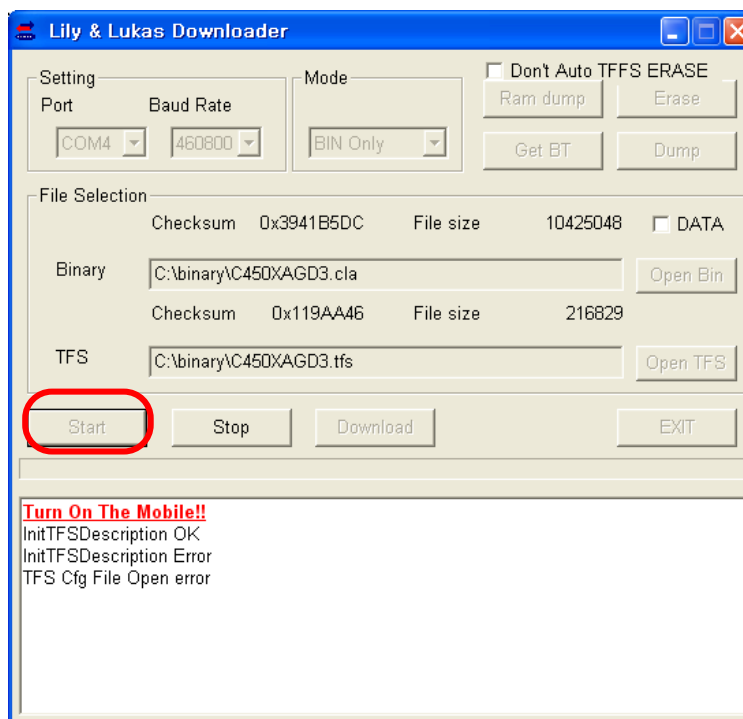
2. Select the Port, Baud Rate and Mode.



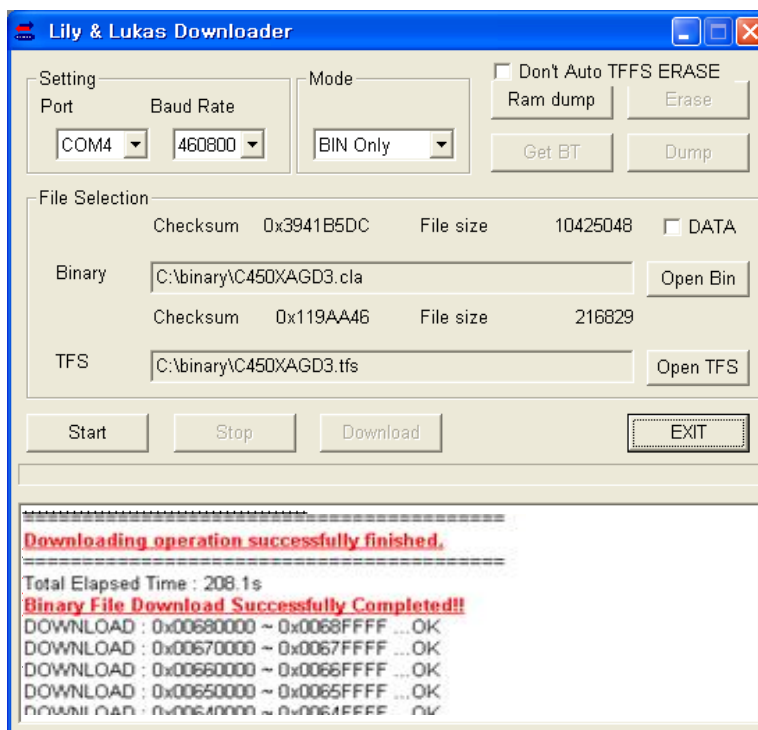
3. Select the binary files what you want to download



4. Press the "Start" button and connect the Handset



5. When downloading is complete, automatically the small window was showed up..



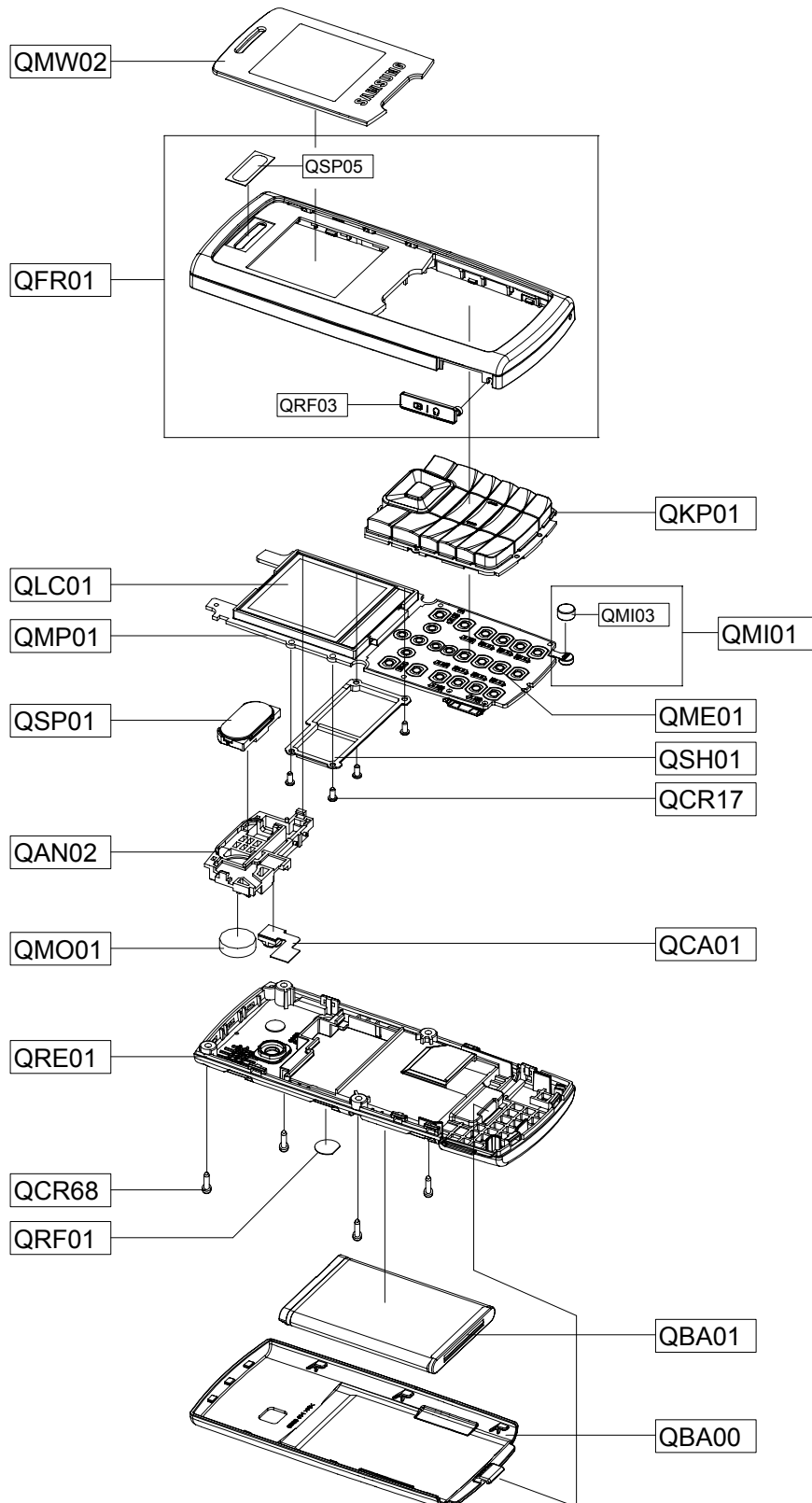


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## 5. Exploded View and Parts List

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### 5-1. Cellular phone Exploded View



## 5-2. Cellular phone Parts List

Design LOC		Description	SEC CODE
QAN02		INTENNA-SGHC420	GH42-01240A
QBA00		PMO COVER-BATTERY	GH72-41901B
QBA01		INNER BATTERY PACK-750MAH,BLK,	GH43-02483A
QCA01		CAMERA MODULE	GH59-04223A
QCR17		SCREW-MACHINE	6001-001460
QCR68		SCREW-TAPPING	6002-001399
QKP01		ASSY KEYPAD-(EU/BLK) V3	GH98-06072B
QLC01		LCD-LCD MODULE	GH07-01056A
QME01		DOME SHEET-DOME SHEET 22KEY(MA	GH59-04572A
QMO01		MOTOR DC	GH31-00296A
QMP01		PBA MAIN-SGHC450	GH92-03544A
QMW02		PCT COVER-WINDOW MAIN	GH72-41907B
QRE01		ASSY CASE-REAR	GH98-05044B
QRF01		TAPE-SHEET RF	GH74-32599B
QSH01		ASSY BRACKET-SHIELD CAN	GH98-05378A
QSP01		SPEAKER	3001-002100
QMI01		MICROPHONE-ASSY-SGHC420	GH30-00390A
	QMI03	AS-SCHS299 MIC RUBBER HOLDER	GH81-06644A
QFR01		ASSY CASE-FRONT	GH98-05043B
	QRF03	PMO COVER-EAR V2	GH72-42135B
	QSP05	ASSY DECO-SPK GRILL	GH98-04853A



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<b>Description</b>	<b>SEC CODE</b>
BAG PE	6902-000634
ADAPTOR-ATADS10EBE,BLK,EU	GH44-01702A
EARPHONE-AAEP405MBE,S20,BLK,EU	GH59-04874A
LABEL(P)-UNIT SEAL	GH68-00518B
LABEL(P)-IMEI	GH68-01335D
LABEL(R)-WATER SOAK	GH68-09361A
LABEL(R)-MAIN(EU)	GH68-15206A
MANUAL USERS-EU ROMANIAN	GH68-15253A
BOX-UNIT(EU)	GH69-05570B
TAPE INSU	GH74-13822A
TAPE INSU	GH74-28075A
MPR-VINYL BOHO WINDOW	GH74-31711A
VINYL-BOHO WINDOW MAIN TOP	GH74-32641A



## 6. MAIN Electrical Parts List

Design LOC	Description	SEC Code	STATUS
BAT600	HEADER-BATTERY	3711-006228	SA
C100	C-CER,CHIP	2203-000854	SA
C101	INDUCTOR-SMD	2703-001726	SA
C103	C-CER,CHIP	2203-005050	SA
C104	C-CER,CHIP	2203-006048	SA
C105	C-CER,CHIP	2203-006361	SA
C106	C-CER,CHIP	2203-000812	SA
C107	C-CER,CHIP	2203-000812	SA
C108	C-CER,CHIP	2203-000812	SA
C109	C-CER,CHIP	2203-000489	SA
C110	C-CER,CHIP	2203-005482	SA
C112	C-CER,CHIP	2203-005482	SA
C113	C-CER,CHIP	2203-005234	SA
C115	C-CER,CHIP	2203-005234	SA
C116	C-CER,CHIP	2203-005288	SA
C118	C-CER,CHIP	2203-000254	SA
C119	C-CER,CHIP	2203-005288	SA
C120	C-CER,CHIP	2203-005482	SA
C121	C-CER,CHIP	2203-000278	SA
C122	C-CER,CHIP	2203-005050	SA
C123	C-CER,CHIP	2203-000278	SA
C124	C-CER,CHIP	2203-000679	SA
C202	C-CER,CHIP	2203-002709	SA
C203	C-CER,CHIP	2203-002709	SA
C204	C-CER,CHIP	2203-002709	SA
C205	C-CER,CHIP	2203-002709	SA
C206	C-CER,CHIP	2203-000254	SA
C207	C-CER,CHIP	2203-002709	SA
C208	C-CER,CHIP	2203-002709	SA
C209	C-CER,CHIP	2203-000254	SA
C210	C-CER,CHIP	2203-000254	SA
C211	C-CER,CHIP	2203-005482	SA
C212	C-CER,CHIP	2203-005482	SA
C213	C-CER,CHIP	2203-000854	SA
C214	C-CER,CHIP	2203-000679	SA
C216	C-CER,CHIP	2203-005482	SA
C217	C-CER,CHIP	2203-005481	SA
C218	C-CER,CHIP	2203-005481	SA
C219	C-CER,CHIP	2203-005482	SA
C220	C-CER,CHIP	2203-002709	SA
C221	C-CER,CHIP	2203-002709	SA
C300	C-CER,CHIP	2203-000278	SA
C301	C-CER,CHIP	2203-000330	SA
C302	C-CER,CHIP	2203-000812	SA
C303	C-CER,CHIP	2203-006824	SA
C304	C-CER,CHIP	2203-006824	SA
C305	C-CER,CHIP	2203-006257	SA
C306	C-CER,CHIP	2203-006257	SA
C307	C-CER,CHIP	2203-006257	SA
C308	C-CER,CHIP	2203-006257	SA
C309	C-CER,CHIP	2203-006257	SA
C310	C-CER,CHIP	2203-005482	SA
C311	C-CER,CHIP	2203-006257	SA

Main Electrical Parts List

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
C312	C-CER,CHIP	2203-006348	SA
C313	C-CER,CHIP	2203-006681	SA
C314	C-CER,CHIP	2203-006348	SA
C316	C-CER,CHIP	2203-006562	SA
C317	C-CER,CHIP	2203-006825	SA
C318	C-CER,CHIP	2203-005482	SA
C327	C-CER,CHIP	2203-002709	SA
C328	C-CER,CHIP	2203-005482	SA
C329	C-CER,CHIP	2203-000812	SA
C330	C-CER,CHIP	2203-006824	SA
C400	C-CER,CHIP	2203-000679	SA
C401	C-CER,CHIP	2203-002709	SA
C402	C-CER,CHIP	2203-000425	SA
C404	C-CER,CHIP	2203-000812	SA
C405	C-CER,CHIP	2203-002709	SA
C406	C-CER,CHIP	2203-000679	SA
C407	C-CER,CHIP	2203-005482	SA
C408	C-CER,CHIP	2203-005482	SA
C410	C-CER,CHIP	2203-006048	SA
C413	C-CER,CHIP	2203-001153	SA
C415	C-CER,CHIP	2203-000233	SA
C416	C-CER,CHIP	2203-005481	SA
C417	C-CER,CHIP	2203-005481	SA
C418	C-CER,CHIP	2203-005482	SA
C419	C-CER,CHIP	2203-006137	SA
C420	C-CER,CHIP	2203-006137	SA
C421	C-CER,CHIP	2203-006324	SA
C422	C-CER,CHIP	2203-006562	SA
C423	C-CER,CHIP	2203-006562	SA
C424	C-CER,CHIP	2203-006562	SA
C425	C-CER,CHIP	2203-000995	SA
C426	C-CER,CHIP	2203-000995	SA
C427	C-CER,CHIP	2203-006824	SA
C428	C-CER,CHIP	2203-006824	SA
C429	C-CER,CHIP	2203-006562	SA
C430	C-CER,CHIP	2203-006562	SA
C501	C-CER,CHIP	2203-000425	SA
C503	C-CER,CHIP	2203-000233	SA
C504	C-CER,CHIP	2203-006824	SA
C506	C-CER,CHIP	2203-001153	SA
C507	C-CER,CHIP	2203-001153	SA
C508	C-CER,CHIP	2203-001153	SA
C509	C-CER,CHIP	2203-000233	SA
C510	C-CER,CHIP	2203-005482	SA
C511	C-CER,CHIP	2203-005482	SA
C512	C-CER,CHIP	2203-005482	SA
C513	C-CER,CHIP	2203-006562	SA
C514	C-CER,CHIP	2203-006562	SA
C515	C-CER,CHIP	2203-005482	SA
C600	C-CER,CHIP	2203-000311	SA
C601	C-NETWORK	2503-001053	SA
C602	C-NETWORK	2503-001053	SA
C603	C-NETWORK	2503-001053	SA

Design LOC	Description	SEC Code	STATUS
C604	C-NETWORK	2503-001053	SA
C605	C-CER,CHIP	2203-006562	SA
C606	C-CER,CHIP	2203-006562	SA
C607	C-CER,CHIP	2203-000386	SA
C608	C-CER,CHIP	2203-002709	SA
C609	C-CER,CHIP	2203-000386	SA
C610	C-CER,CHIP	2203-002709	SA
C611	C-CER,CHIP	2203-002709	SA
C612	C-CER,CHIP	2203-000386	SA
C613	C-CER,CHIP	2203-000386	SA
C614	C-CER,CHIP	2203-002709	SA
C615	C-CER,CHIP	2203-006562	SA
C616	C-NETWORK	2503-001053	SA
C617	C-NETWORK	2503-001053	SA
C618	C-CER,CHIP	2203-000995	SA
C619	C-CER,CHIP	2203-000995	SA
CN601	CONNECTOR-FPC/FFC/PIC	3708-002222	SA
D300	DIODE-ARRAY	0407-001002	SA
D401	DIODE-TVS	0406-001254	SA
D402	DIODE-TVS	0406-001254	SA
D403	DIODE-TVS	0406-001223	SA
D404	DIODE-TVS	0406-001223	SA
D501	DIODE-TVS	0406-001231	SA
D502	DIODE-TVS	0406-001231	SA
D503	DIODE-TVS	0406-001231	SA
D504	DIODE-TVS	0406-001231	SA
D505	DIODE-TVS	0406-001197	SA
D506	DIODE-ZENER	0403-001547	SA
D601	DIODE-TVS	0406-001150	SA
F100	FILTER-SAW	2904-001731	SA
F501	FILTER-EMI/ESD	2901-001349	SA
F601	FILTER-EMI SMD	2901-001329	SA
IFC500	SOCKET-INTERFACE	3710-002499	SA
L101	INDUCTOR-SMD	2703-002203	SA
L102	INDUCTOR-SMD	2703-002700	SA
L103	INDUCTOR-SMD	2703-002313	SA
L104	INDUCTOR-SMD	2703-002313	SA
L105	INDUCTOR-SMD	2703-002313	SA
L106	INDUCTOR-SMD	2703-002558	SA
L107	INDUCTOR-SMD	2703-002199	SA
L108	INDUCTOR-SMD	2703-002267	SA
L109	INDUCTOR-SMD	2703-002597	SA
L110	R-CHIP	2007-000171	SA
L301	INDUCTOR-SMD	2703-002309	SA
L302	INDUCTOR-SMD	2703-002309	SA
L401	BEAD-SMD	3301-001729	SA
L402	BEAD-SMD	3301-001729	SA
L403	BEAD-SMD	3301-001729	SA
L404	BEAD-SMD	3301-001729	SA
L405	BEAD-SMD	3301-001729	SA
L406	BEAD-SMD	3301-001729	SA
L407	INDUCTOR-SMD	2703-002313	SA
L408	INDUCTOR-SMD	2703-002313	SA

Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
L409	INDUCTOR-SMD	2703-002201	SA
L501	BEAD-SMD	3301-001729	SA
L502	BEAD-SMD	3301-001729	SA
L503	INDUCTOR-SMD	2703-001513	SA
L504	BEAD-SMD	3301-001729	SA
L505	BEAD-SMD	3301-001729	SA
L506	BEAD-SMD	3301-001729	SA
L601	BEAD-SMD	3301-001729	SA
LED601	LED	0601-002199	SA
LED602	LED	0601-002199	SA
LED603	LED	0601-002199	SA
LED604	LED	0601-002199	SA
LED605	LED	0601-002199	SA
LED606	LED	0601-002199	SA
LED607	LED	0601-002199	SA
LED608	LED	0601-002199	SA
LED609	LED	0601-002199	SA
LED610	LED	0601-002199	SA
LED611	LED	0601-002199	SA
LED612	LED	0601-002199	SA
MEM201	IC-MCP	1108-000059	SA
OSC100	CRYSTAL-SMD	2801-004455	SA
OSC300	CRYSTAL-SMD	2801-003856	SA
PAM100	IC-POWER AMP	1201-002490	SA
Q501	FET-SILICON	0505-002088	SA
R101	R-CHIP	2007-007092	SA
R103	R-CHIP	2007-000143	SA
R108	R-CHIP	2007-000143	SA
R109	R-CHIP	2007-000143	SA
R110	R-CHIP	2007-000143	SA
R111	R-CHIP	2007-000143	SA
R112	R-CHIP	2007-003001	SA
R114	R-CHIP	2007-000932	SA
R115	R-CHIP	2007-000932	SA
R118	R-CHIP	2007-003001	SA
R119	R-CHIP	2007-000932	SA
R120	R-CHIP	2007-000932	SA
R201	R-CHIP	2007-000162	SA
R202	R-CHIP	2007-000171	SA
R203	R-CHIP	2007-000162	SA
R207	R-CHIP	2007-000171	SA
R208	R-CHIP	2007-000162	SA
R209	R-CHIP	2007-000162	SA
R210	R-CHIP	2007-000174	SA
R211	R-CHIP	2007-000171	SA
R212	R-CHIP	2007-000162	SA
R214	R-CHIP	2007-007107	SA
R215	R-CHIP	2007-000159	SA
R216	R-CHIP	2007-007142	SA
R217	R-CHIP	2007-007107	SA
R219	R-CHIP	2007-000162	SA
R221	R-CHIP	2007-000162	SA
R222	R-CHIP	2007-000162	SA

<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
R223	R-CHIP	2007-000162	SA
R224	R-CHIP	2007-007141	SA
R225	R-CHIP	2007-000171	SA
R226	R-CHIP	2007-000162	SA
R228	R-CHIP	2007-000141	SA
R229	R-CHIP	2007-000141	SA
R233	R-CHIP	2007-000162	SA
R234	R-CHIP	2007-000143	SA
R301	R-CHIP	2007-007100	SA
R304	R-CHIP	2007-002796	SA
R305	R-CHIP	2007-007573	SA
R306	R-CHIP	2007-007334	SA
R307	R-CHIP	2007-009379	SA
R308	R-CHIP	2007-000170	SA
R309	R-CHIP	2007-000162	SA
R310	R-CHIP	2007-001339	SA
R311	R-CHIP	2007-000758	SA
R312	R-CHIP	2007-000148	SA
R402	R-CHIP	2007-000148	SA
R404	R-CHIP	2007-000140	SA
R405	R-CHIP	2007-000140	SA
R406	R-CHIP	2007-002796	SA
R407	R-CHIP	2007-002796	SA
R408	R-CHIP	2007-000140	SA
R409	R-CHIP	2007-000140	SA
R410	R-CHIP	2007-000172	SA
R411	R-CHIP	2007-000171	SA
R412	R-CHIP	2007-000138	SA
R413	R-CHIP	2007-000171	SA
R414	R-CHIP	2007-000138	SA
R415	R-CHIP	2007-000172	SA
R416	R-CHIP	2007-000171	SA
R417	R-CHIP	2007-000171	SA
R418	R-CHIP	2007-000148	SA
R419	R-CHIP	2007-000148	SA
R420	R-CHIP	2007-000157	SA
R421	R-CHIP	2007-000171	SA
R422	R-CHIP	2007-000162	SA
R423	R-CHIP	2007-000162	SA
R500	R-CHIP	2007-007009	SA
R501	R-CHIP	2007-007009	SA
R502	R-CHIP	2007-000162	SA
R504	R-CHIP	2007-007107	SA
R505	R-CHIP	2007-001339	SA
R507	R-CHIP	2007-000171	SA
R508	R-CHIP	2007-000171	SA
R509	R-CHIP	2007-007107	SA
R510	R-CHIP	2007-000143	SA
R511	R-CHIP	2007-000143	SA
R512	R-CHIP	2007-000171	SA
R517	R-CHIP	2007-000171	SA
R518	R-CHIP	2007-007014	SA
R519	R-CHIP	2007-001303	SA

Main Electrical Parts List

Design LOC	Description	SEC Code	STATUS
R520	R-CHIP	2007-007014	SA
R523	R-CHIP	2007-000162	SA
R524	R-CHIP	2007-000140	SA
R525	R-CHIP	2007-000162	SA
R526	R-CHIP	2007-000172	SA
R527	R-CHIP	2007-000172	SA
R528	R-CHIP	2007-000172	SA
R529	R-CHIP	2007-000172	SA
R530	R-CHIP	2007-001339	SA
R531	R-CHIP	2007-001339	SA
R601	R-CHIP	2007-000162	SA
R602	R-CHIP	2007-000140	SA
R603	R-CHIP	2007-000171	SA
R605	R-CHIP	2007-000171	SA
R606	R-CHIP	2007-000171	SA
R607	R-CHIP	2007-000171	SA
R608	R-CHIP	2007-003004	SA
R609	R-CHIP	2007-001288	SA
R610	R-CHIP	2007-003030	SA
R611	R-CHIP	2007-003030	SA
R612	R-CHIP	2007-000174	SA
R613	R-CHIP	2007-000174	SA
R614	R-CHIP	2007-003004	SA
R615	R-CHIP	2007-000174	SA
R616	R-CHIP	2007-003030	SA
R617	R-CHIP	2007-003030	SA
R618	R-CHIP	2007-000174	SA
R619	R-CHIP	2007-000162	SA
R620	R-CHIP	2007-003030	SA
RFS100	CONNECTOR-COAXIAL	3705-001358	SA
SIM300	CONNECTOR-CARD EDGE	3709-001400	SA
TA100	C-TA,CHIP	2404-001496	SA
TA301	C-TA,CHIP	2404-001381	SA
TA302	C-TA,CHIP	2404-001381	SA
TA303	C-TA,CHIP	2404-001381	SA
TA401	C-TA,CHIP	2404-001424	SA
TA402	C-TA,CHIP	2404-001240	SA
TH200	THERMISTOR-NTC	1404-001221	SA
TR300	TR-POWER	0502-001116	SA
U100	IC-TRANSCIEVER	1205-003278	SA
U300	IC-POWER SUPERVISOR	1203-004550	SA
U302	IC-POSI.FIXED REG.	1203-004338	SA
U400	IC-ANALOG SWITCH	1001-001362	SA
U401	IC-AUDIO AMP	1201-002492	SA
U402	IC-DC/DC CONVERTER	1203-004765	SA
U404	IC-TUNER	1204-002700	SA
U501	IC ASIC-SGHC420	GH13-00057A	SA
U502	IC-CMOS LOGIC	0801-002237	SA
U503	FET-SILICON	0505-001469	SA
U601	FET-SILICON	0505-001469	SA
U602	R-CHIP	2007-000162	SA
UCP200	IC-COMM. CONTROLLER	1205-003192	SA
VR300	VARISTOR	1405-001082	SA



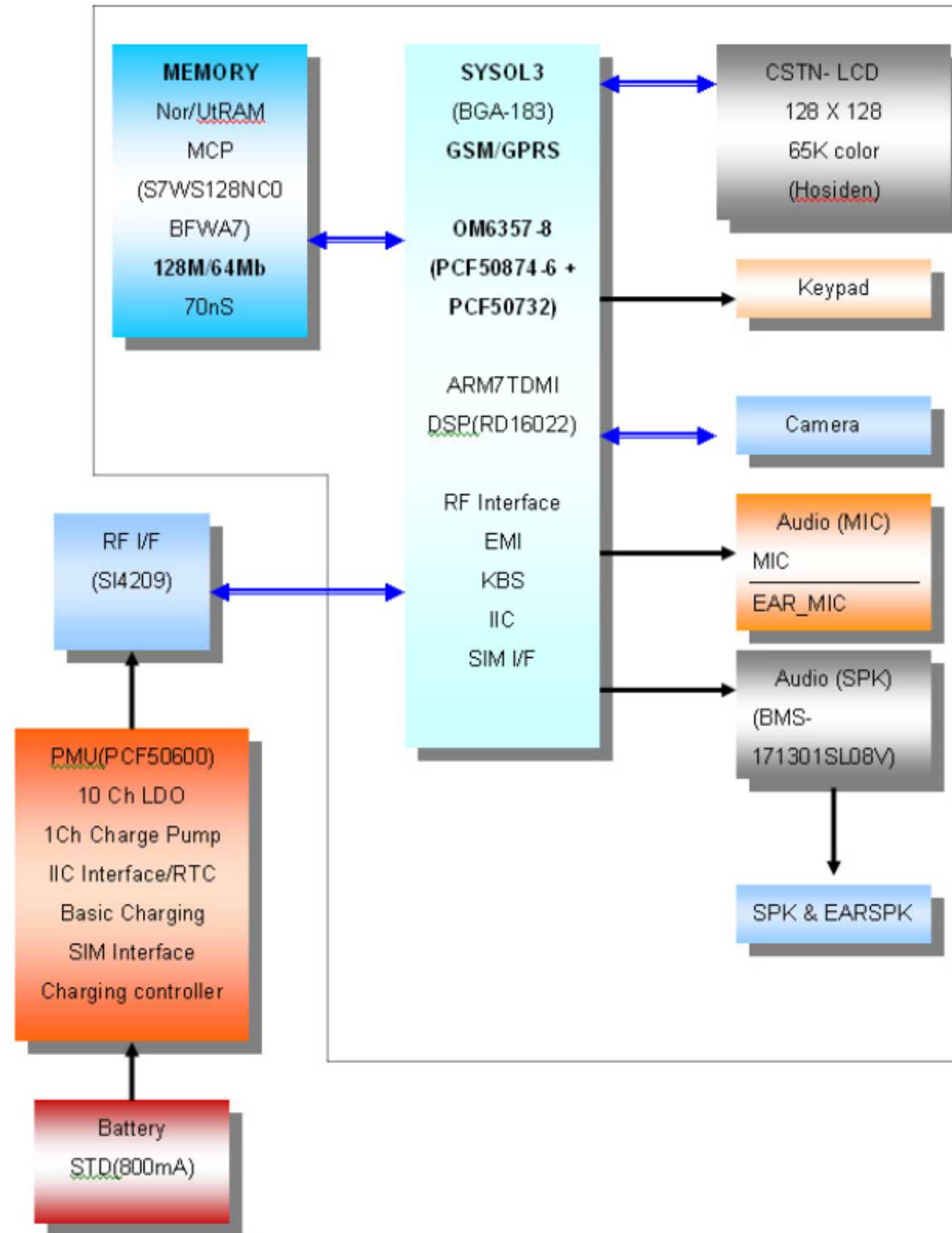
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<b>Design LOC</b>	<b>Description</b>	<b>SEC Code</b>	<b>STATUS</b>
VR301	VARISTOR	1405-001082	SA
VR601	VARISTOR	1405-001082	SA
VR602	VARISTOR	1405-001082	SA
VR603	VARISTOR	1405-001082	SA
VR604	VARISTOR	1405-001082	SA
VR605	VARISTOR	1405-001082	SA
VR606	VARISTOR	1405-001082	SA
VR607	VARISTOR	1405-001082	SA
VR608	VARISTOR	1405-001082	SA
VR609	VARISTOR	1405-001121	SA
ZD100	DIODE-TVS	0406-001267	SA
ZD300	DIODE-ZENER	0403-001340	SA



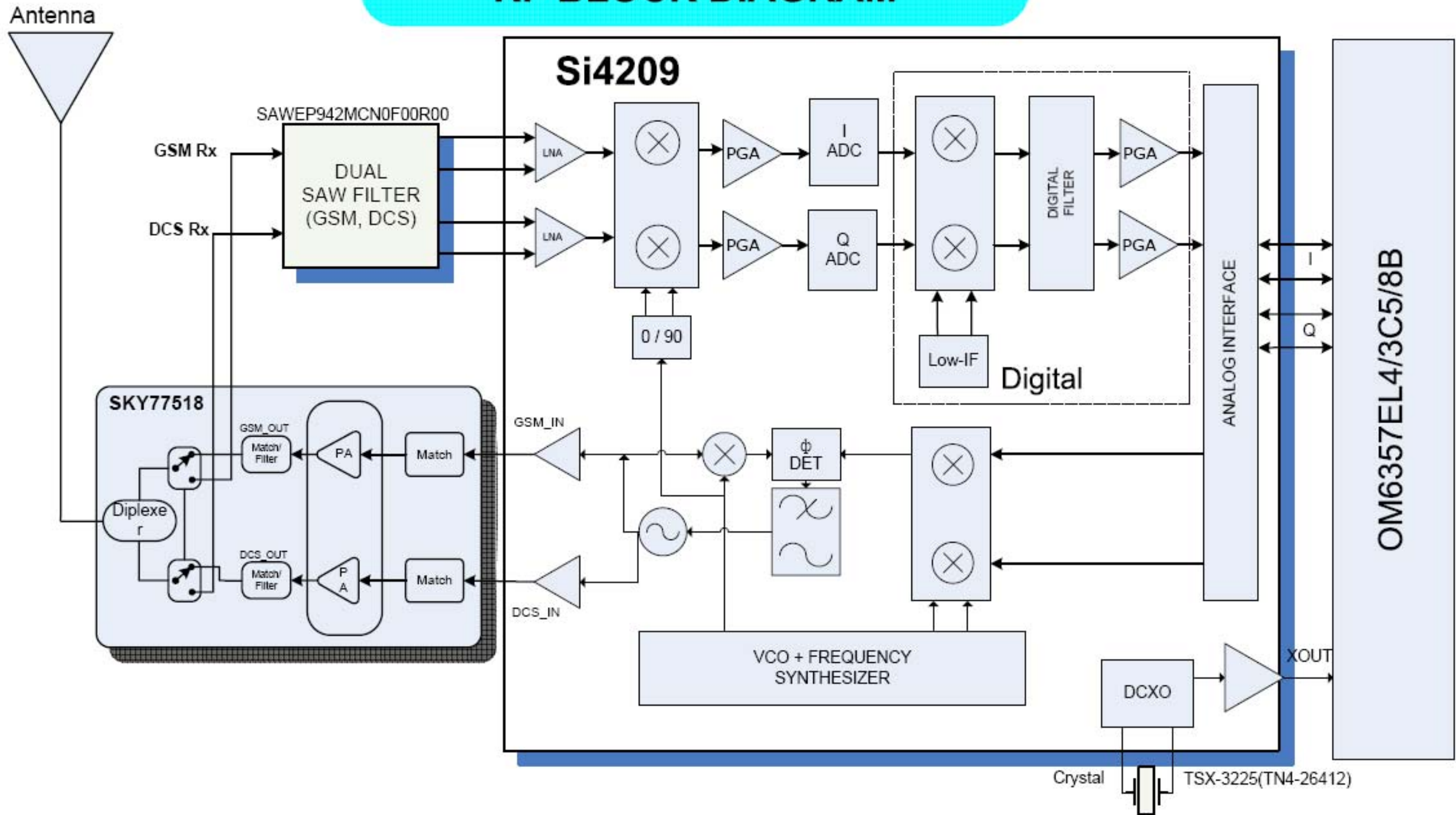
## 7. Block Diagrams

### 7-1. Main Block Diagram



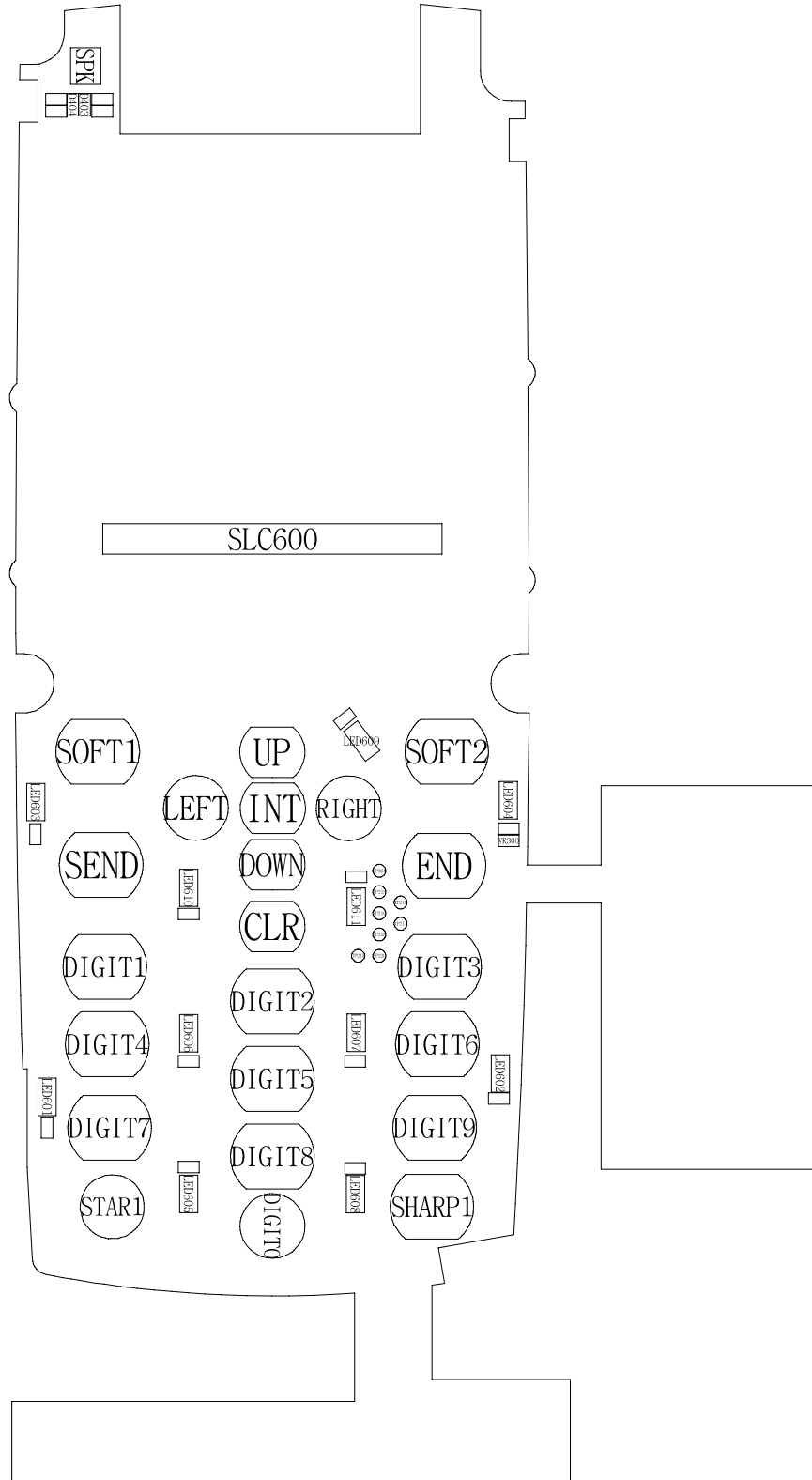
7-2. RF Solution Block Diagram

**RF BLOCK DIAGRAM**

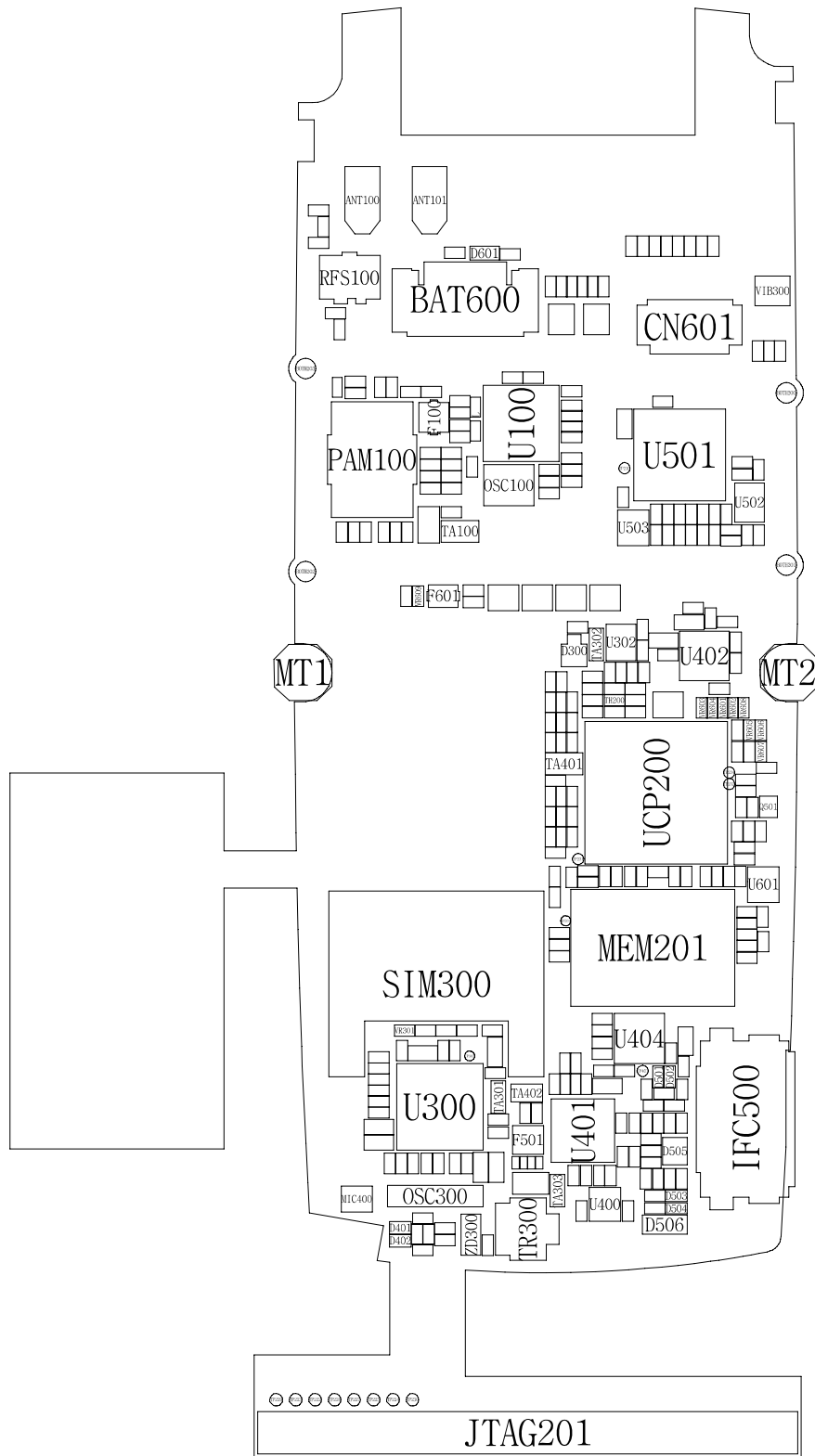


# 8. PCB Diagrams

Top



Bottom

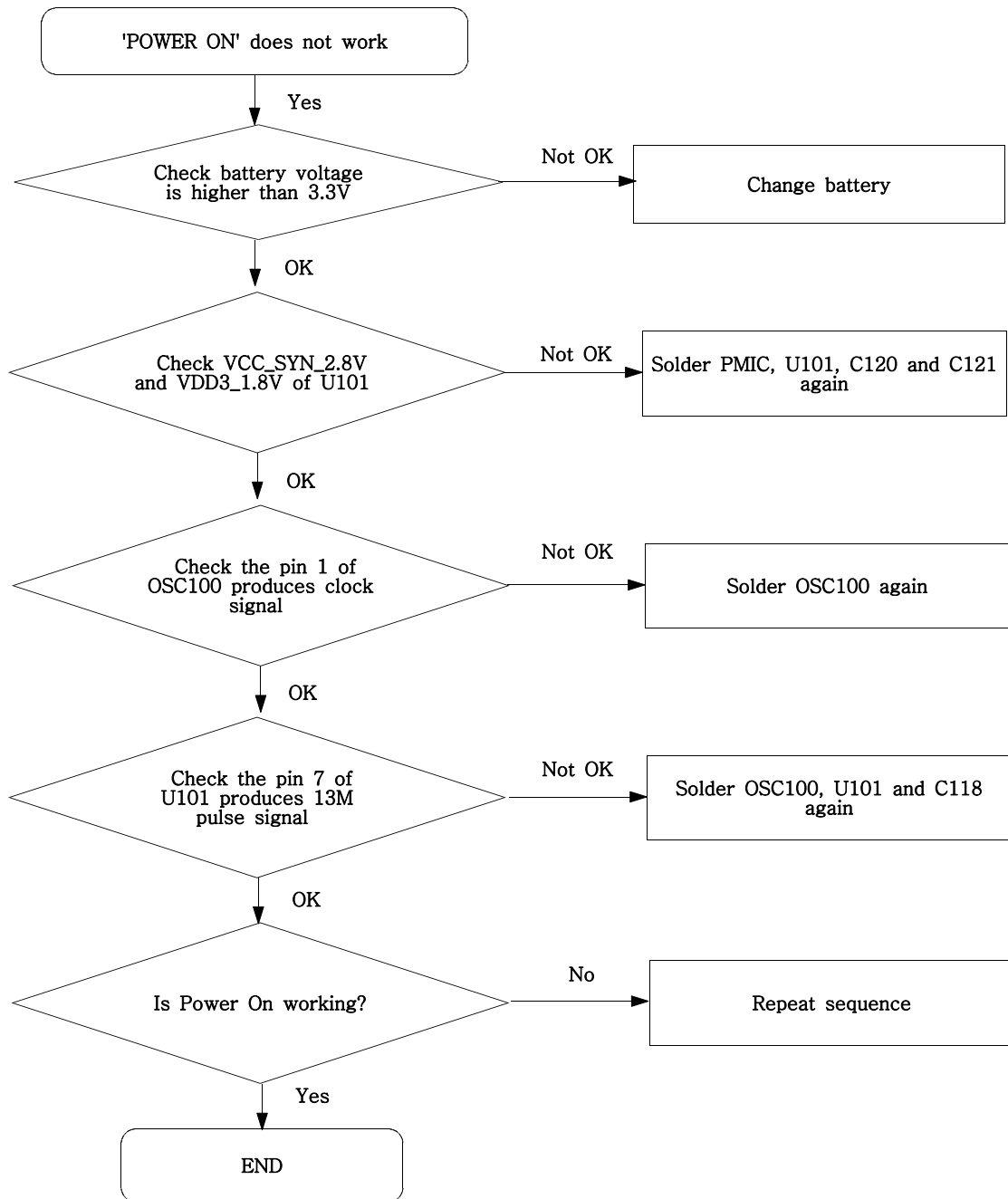


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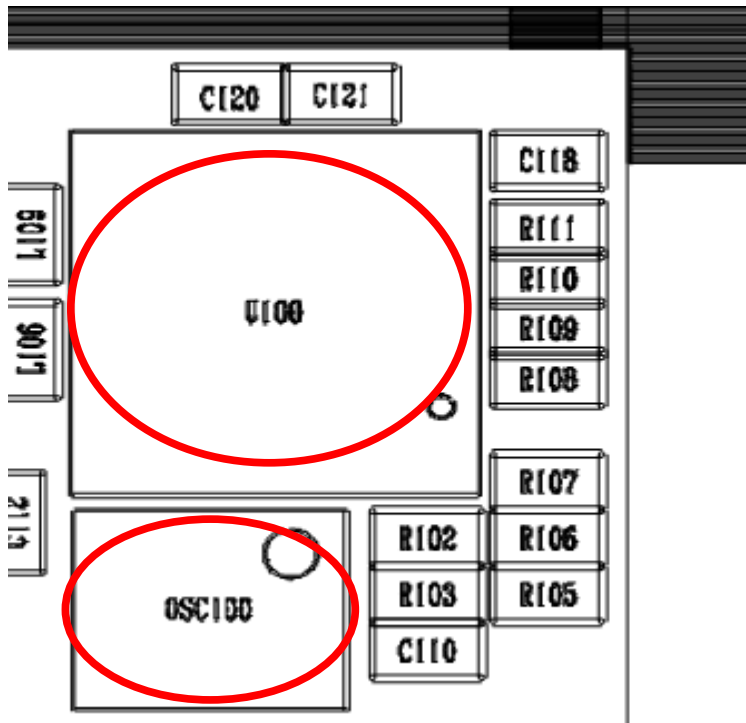
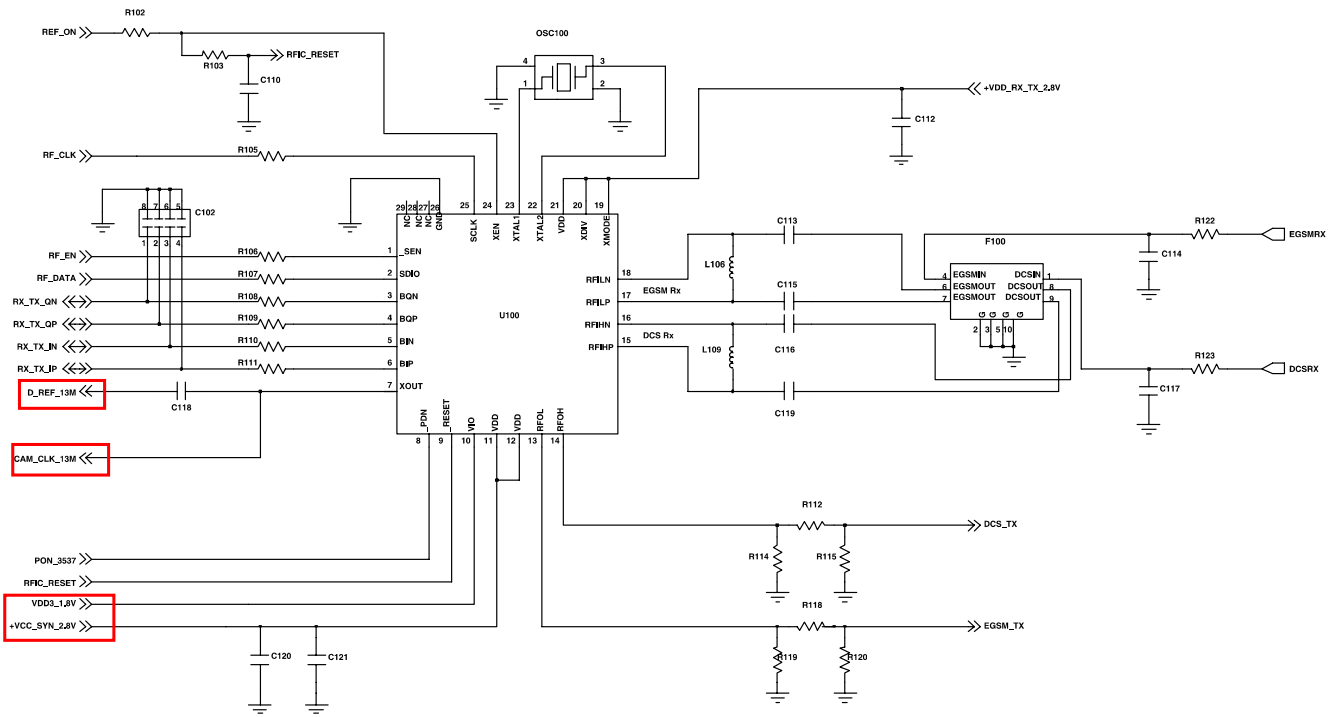
## 9. Flow Chart of Troubleshooting

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### 9-1. Power On

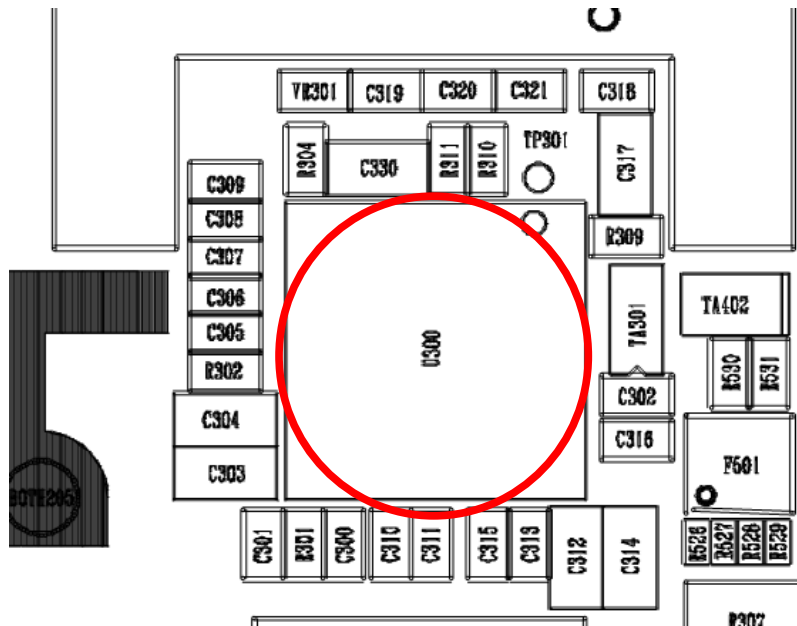
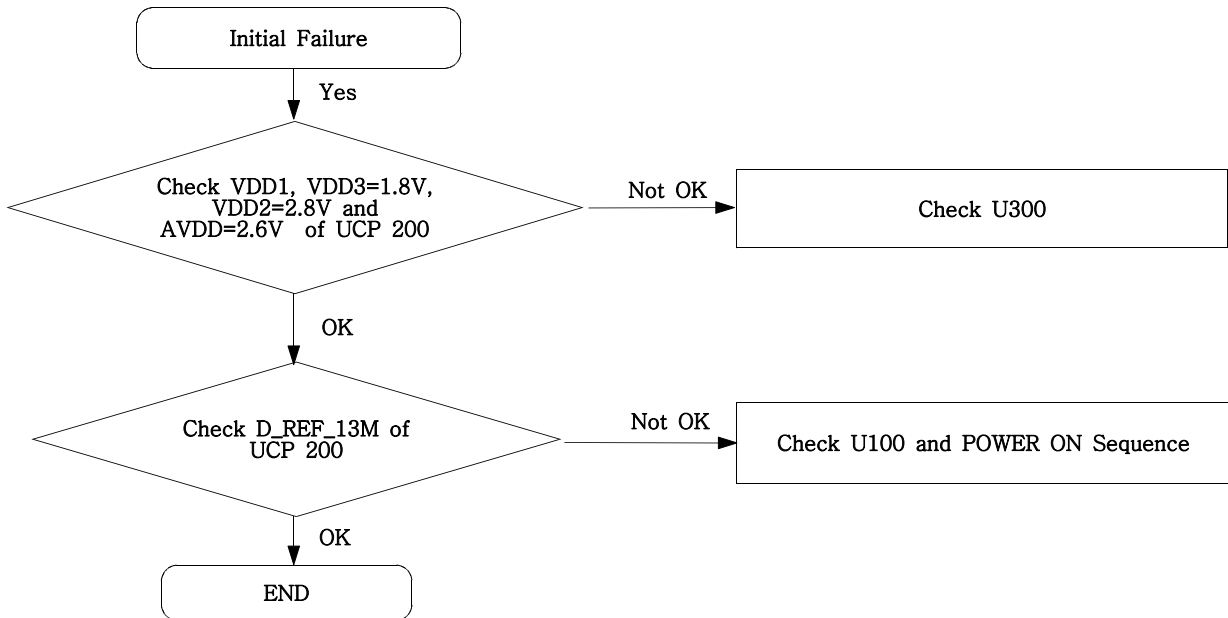


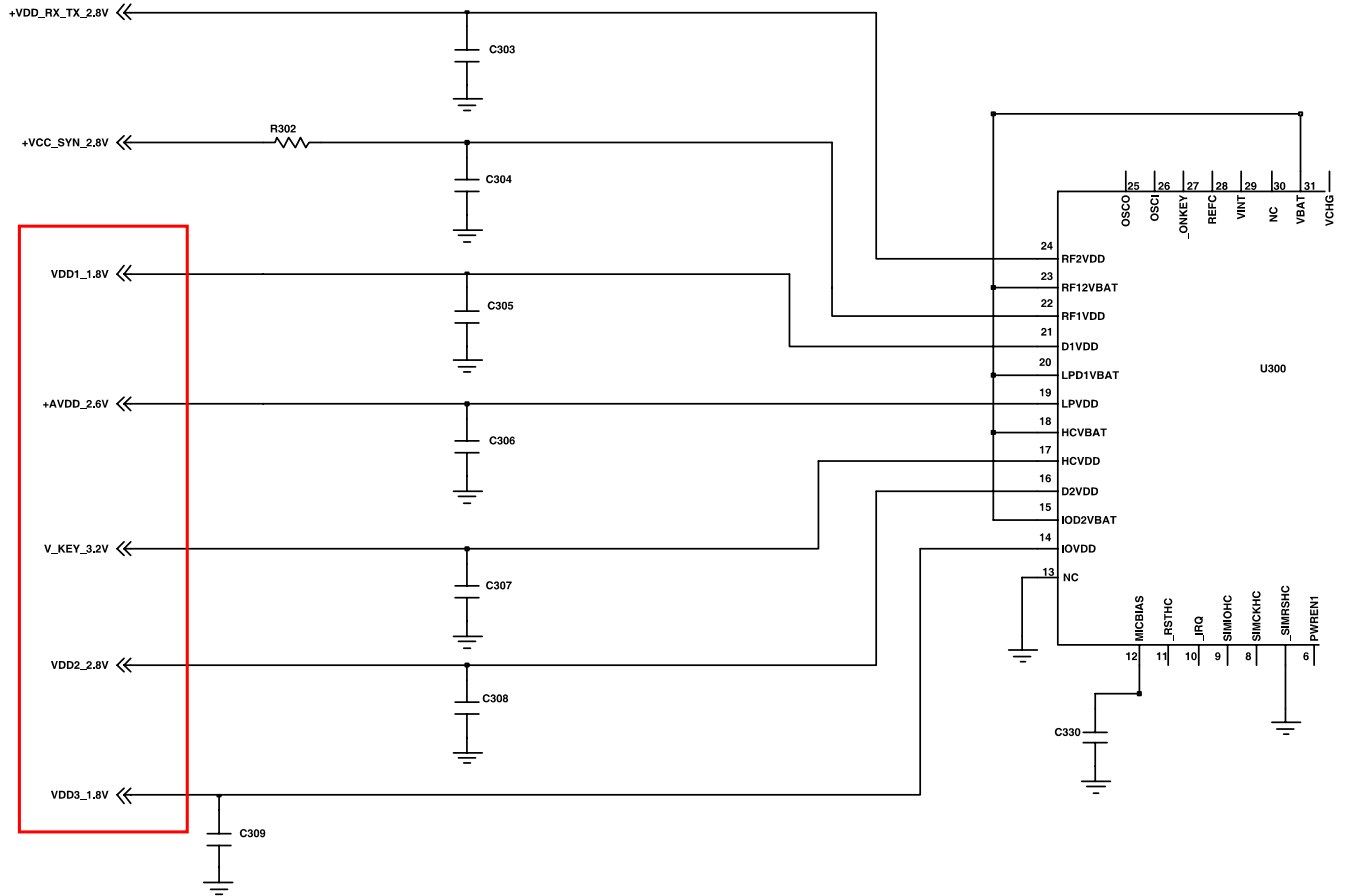
Power On



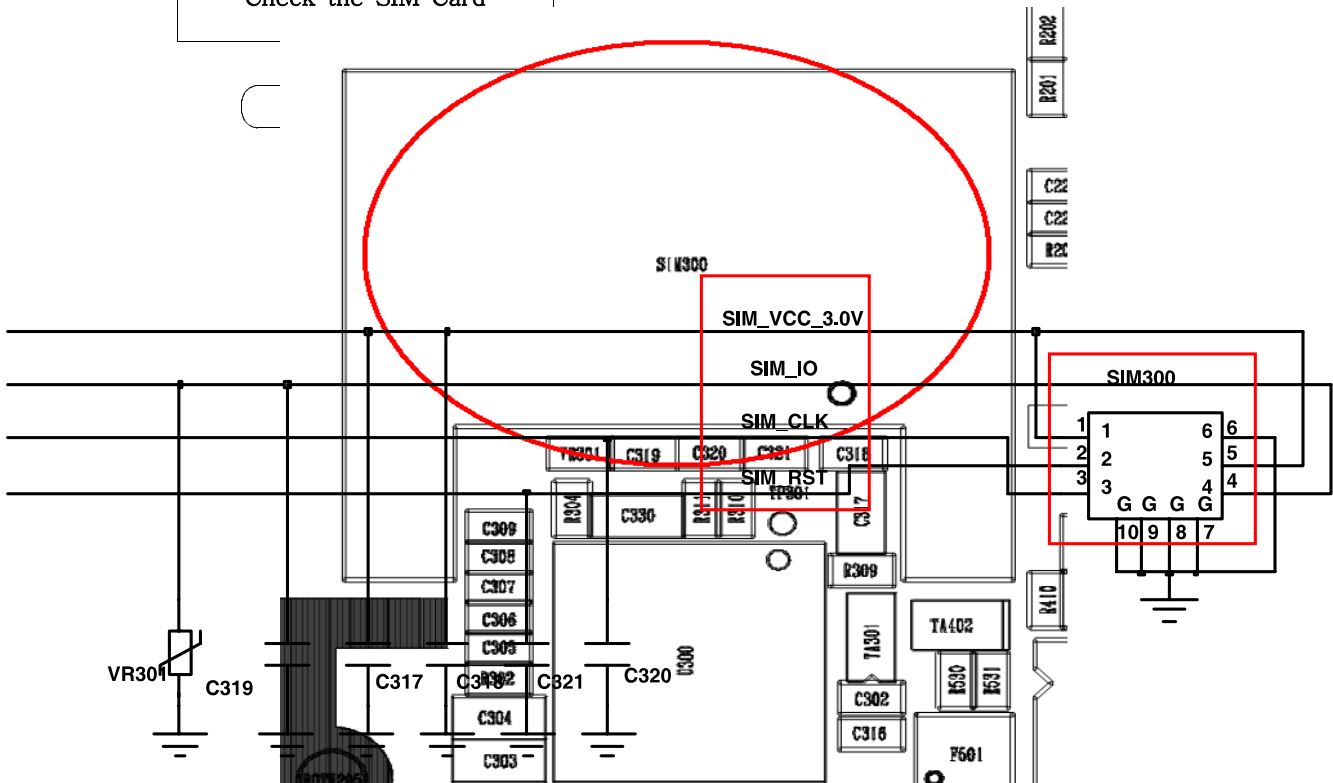
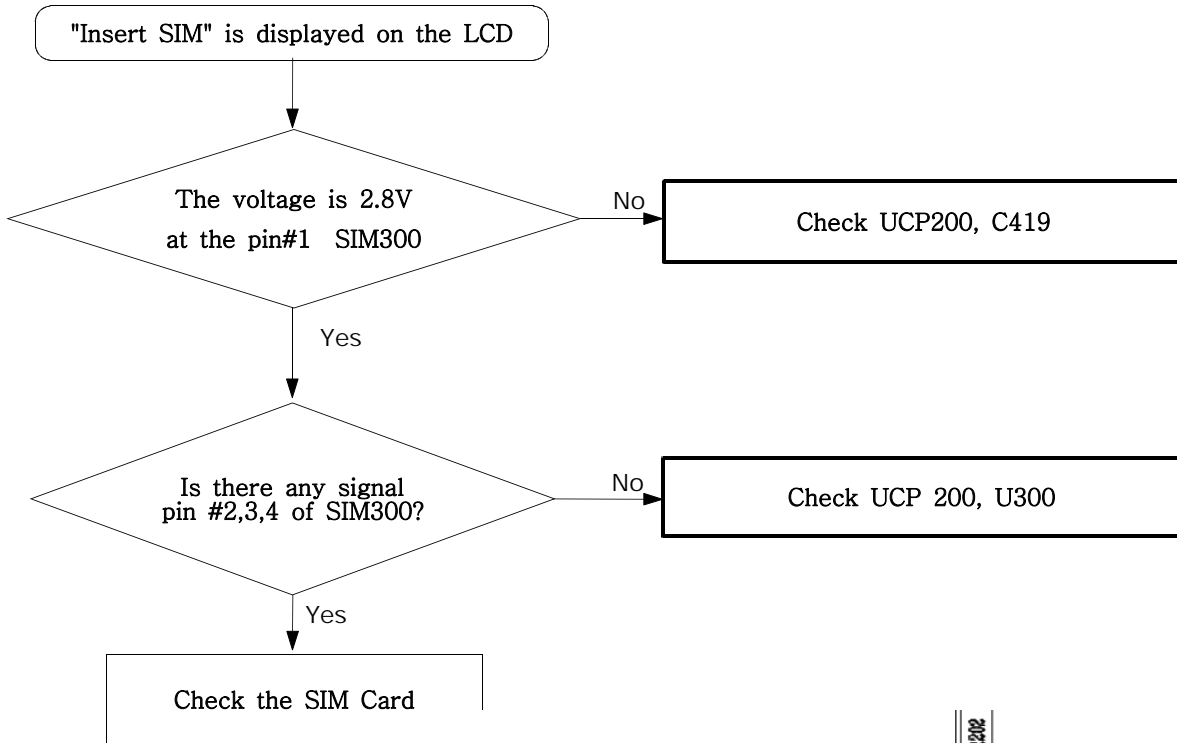


9-2. Initial

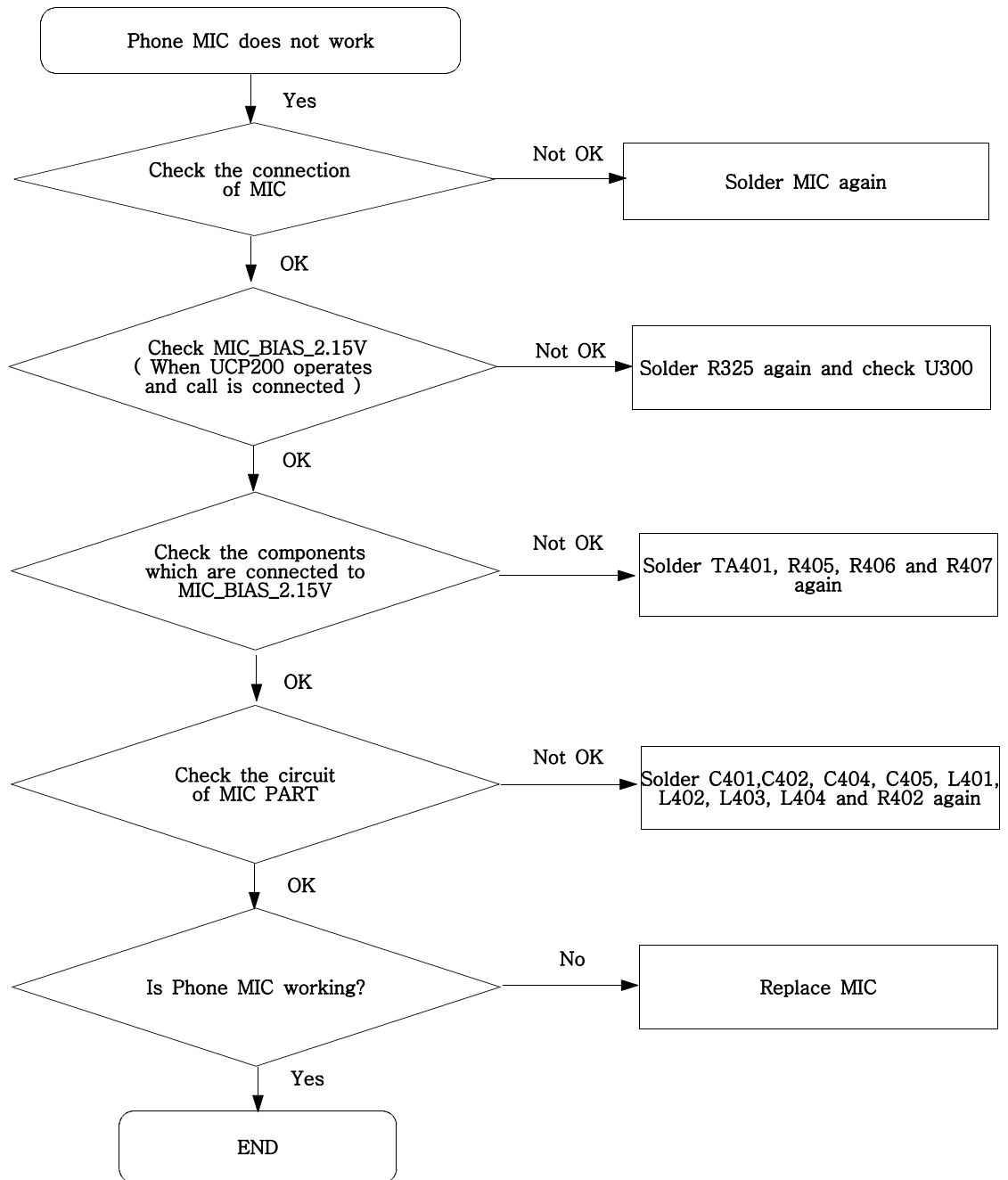


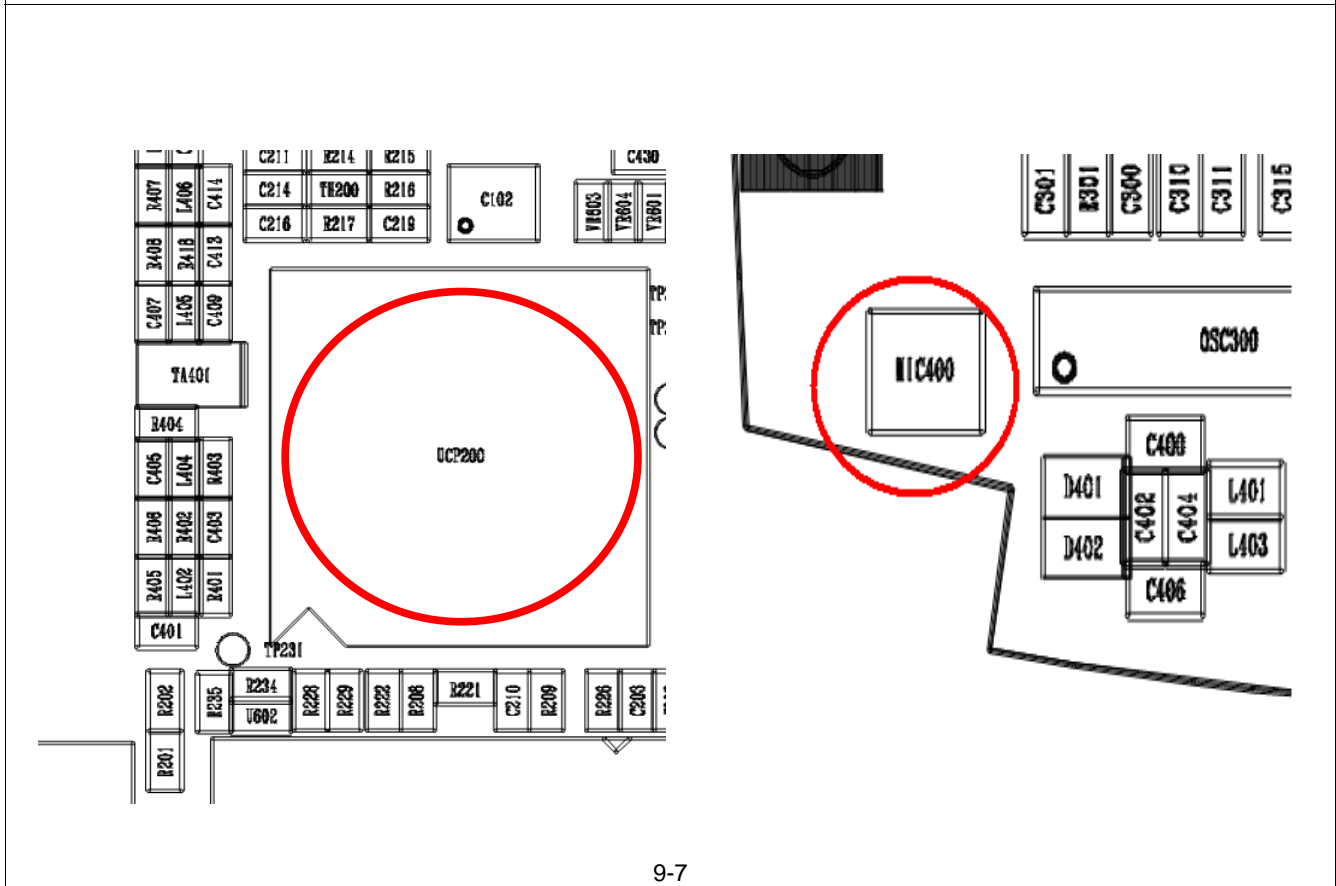
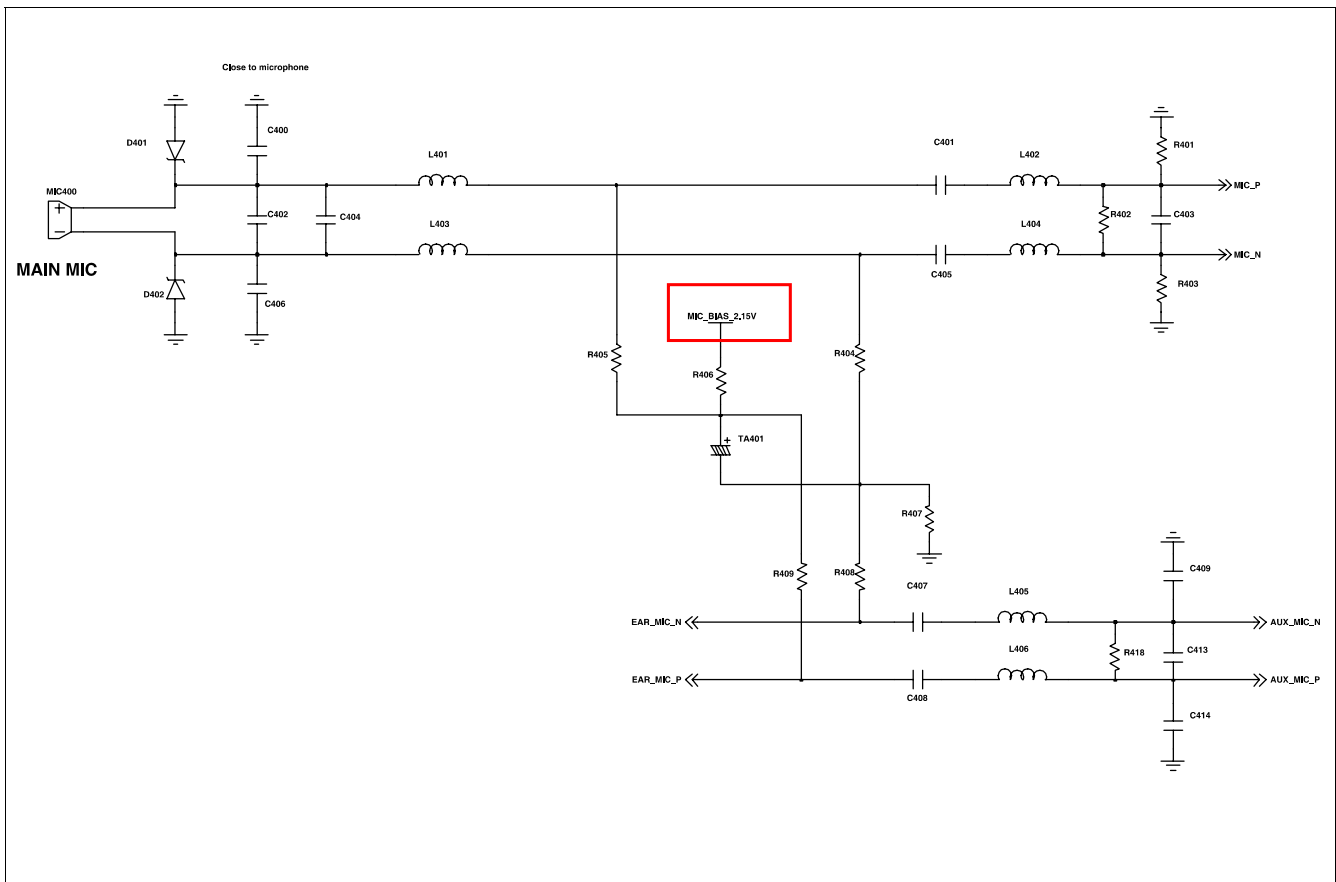


9-3. SIM Part

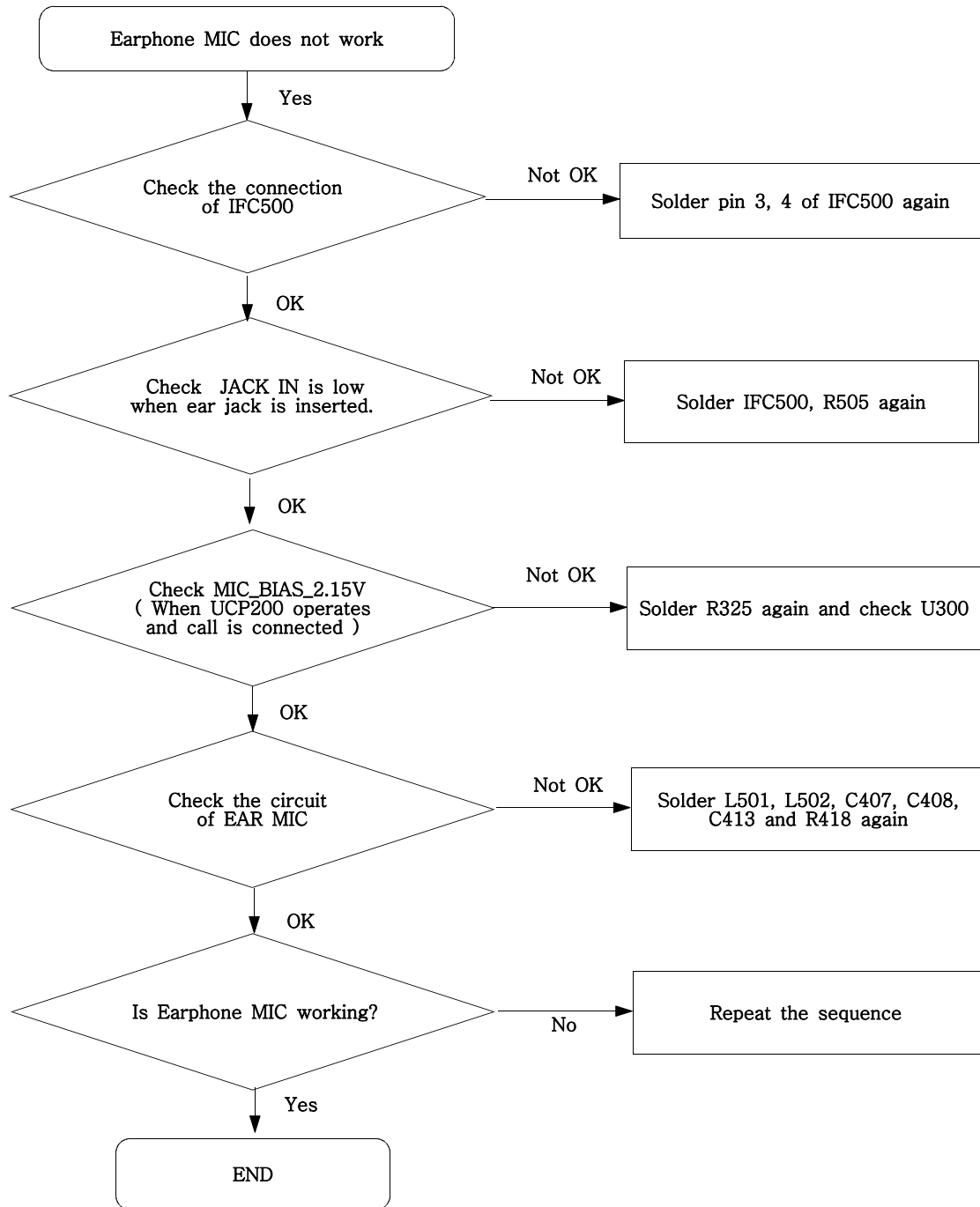


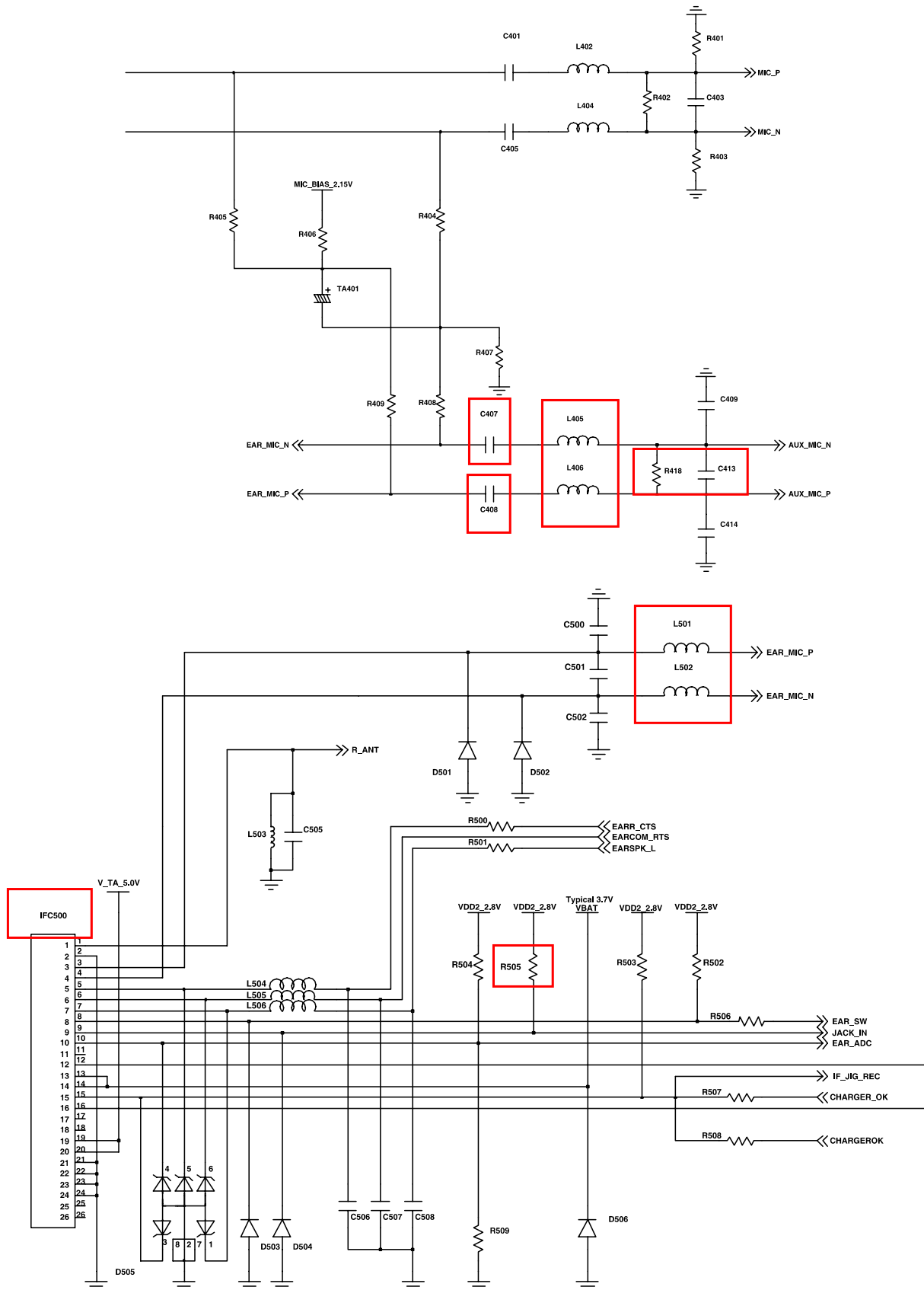
### 9-4. Microphone Part - Phone MIC

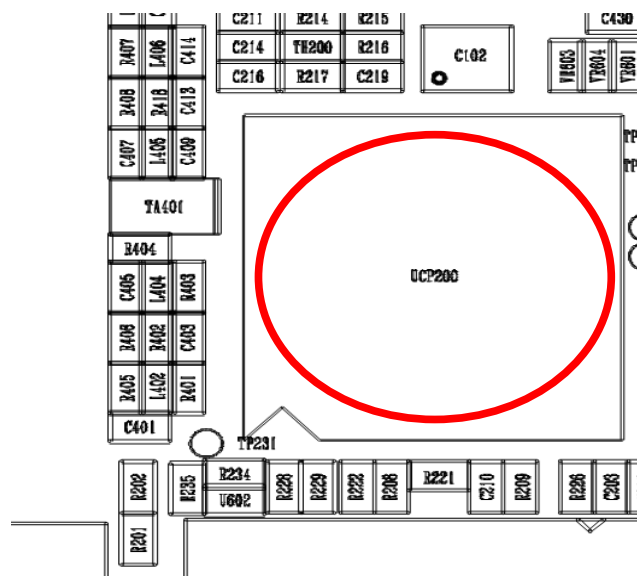
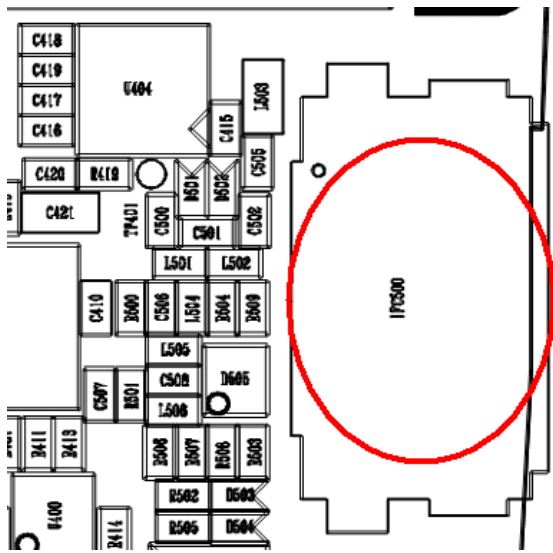




### 9-5. Microphone Part - Earphone MIC

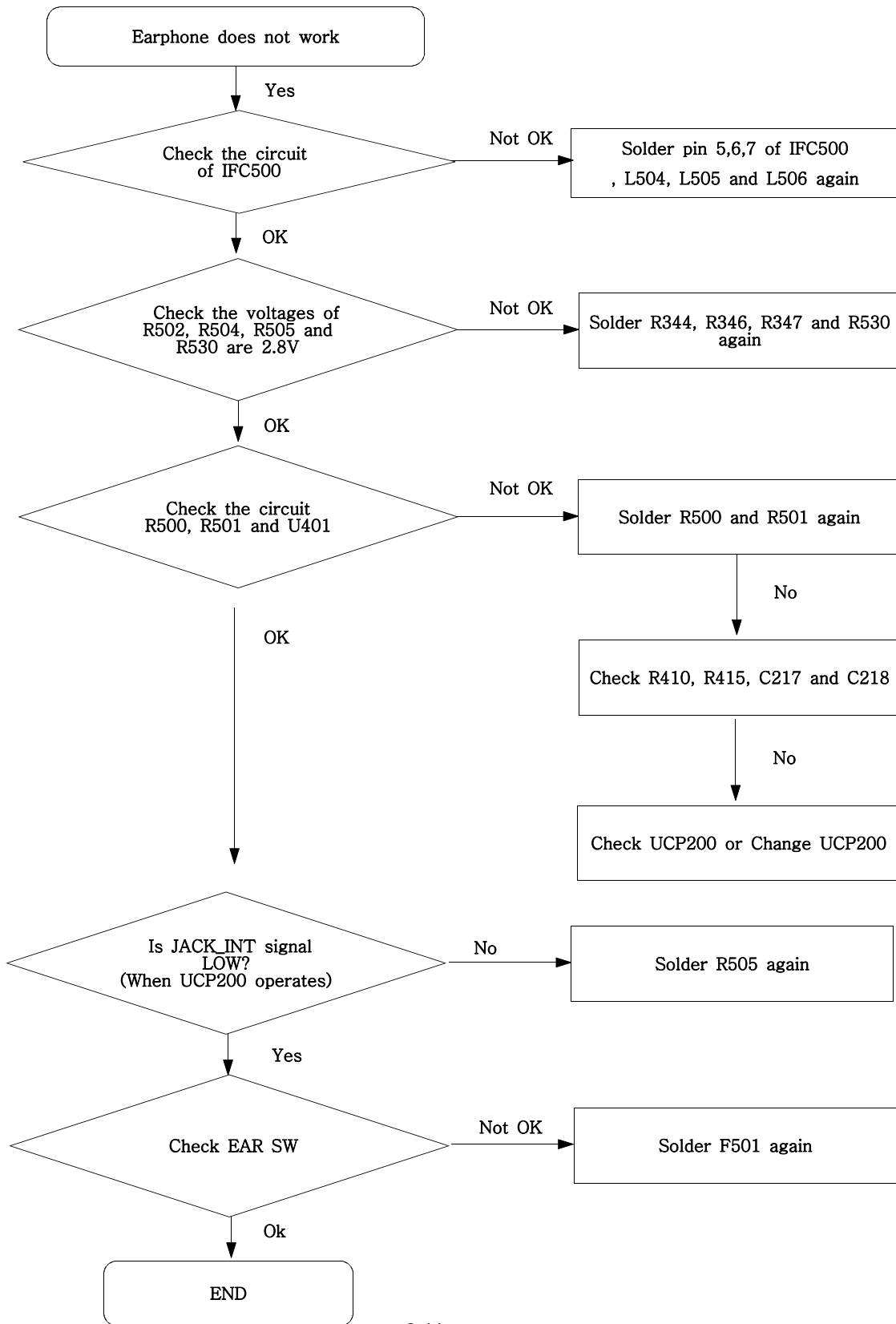


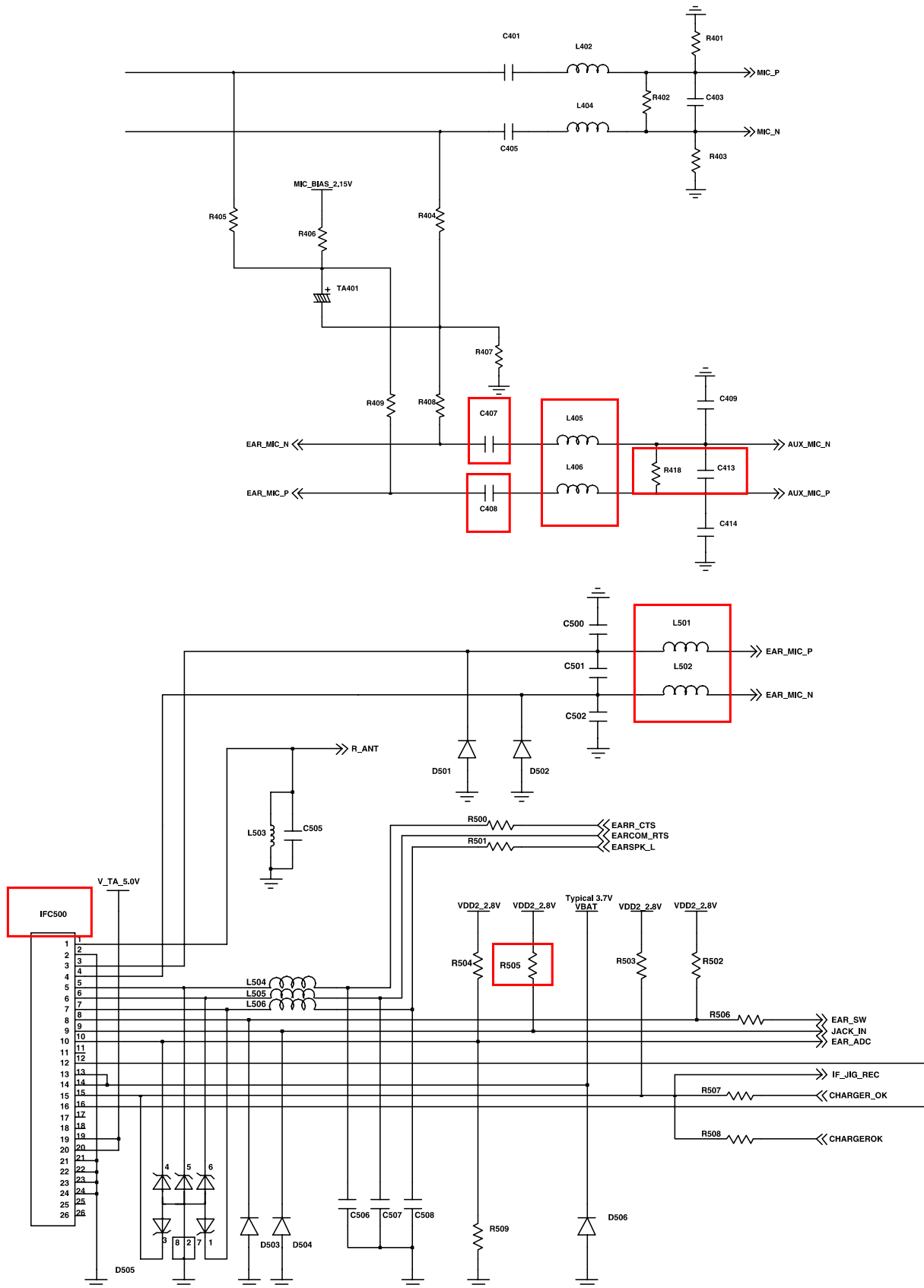


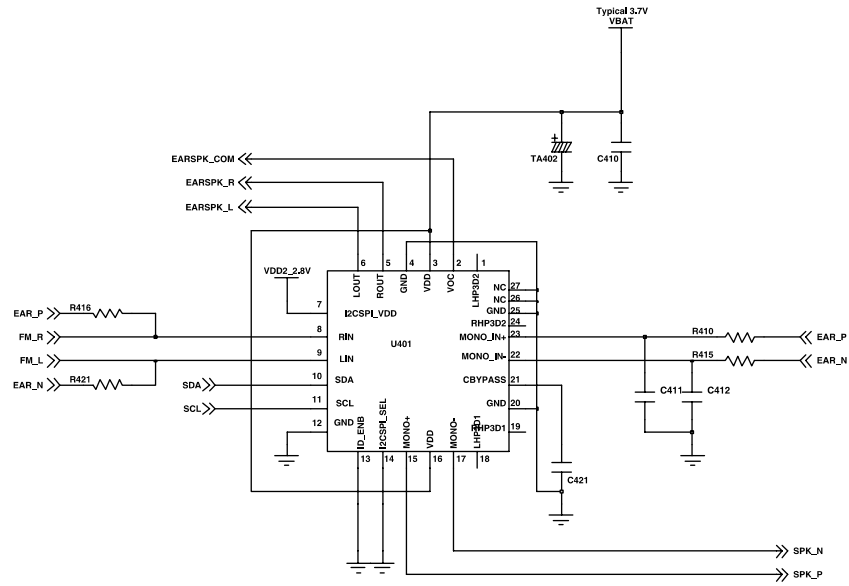




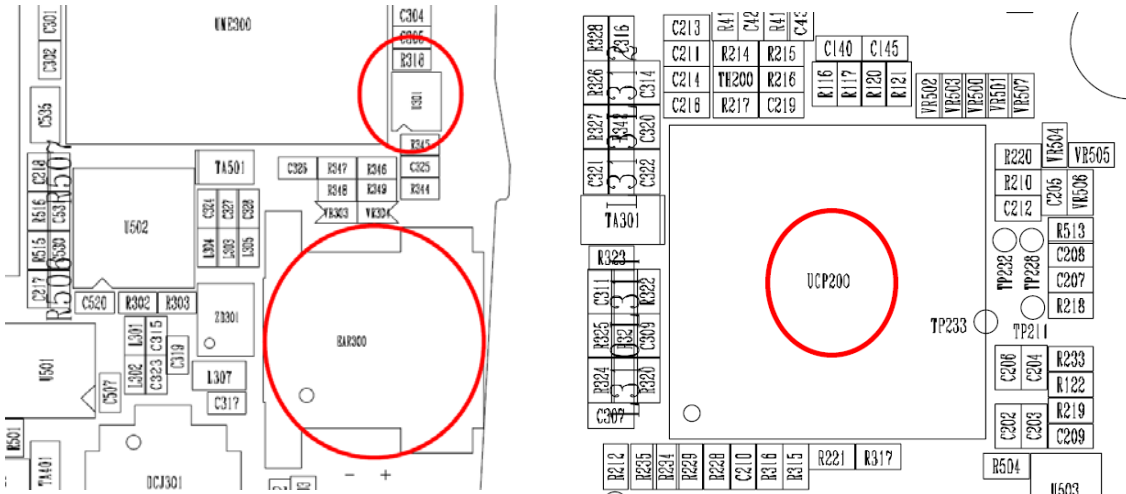
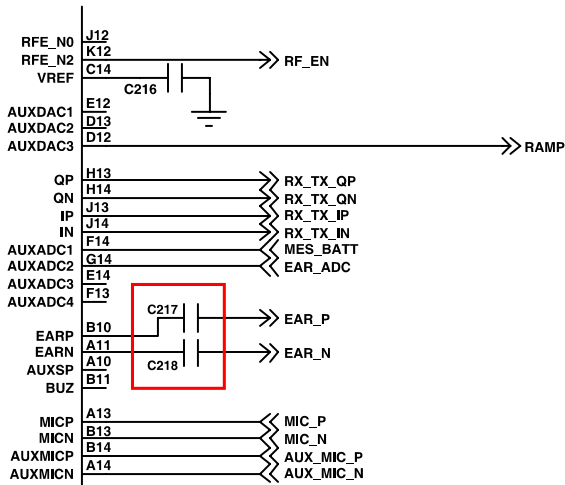
9-6. Earphone Part



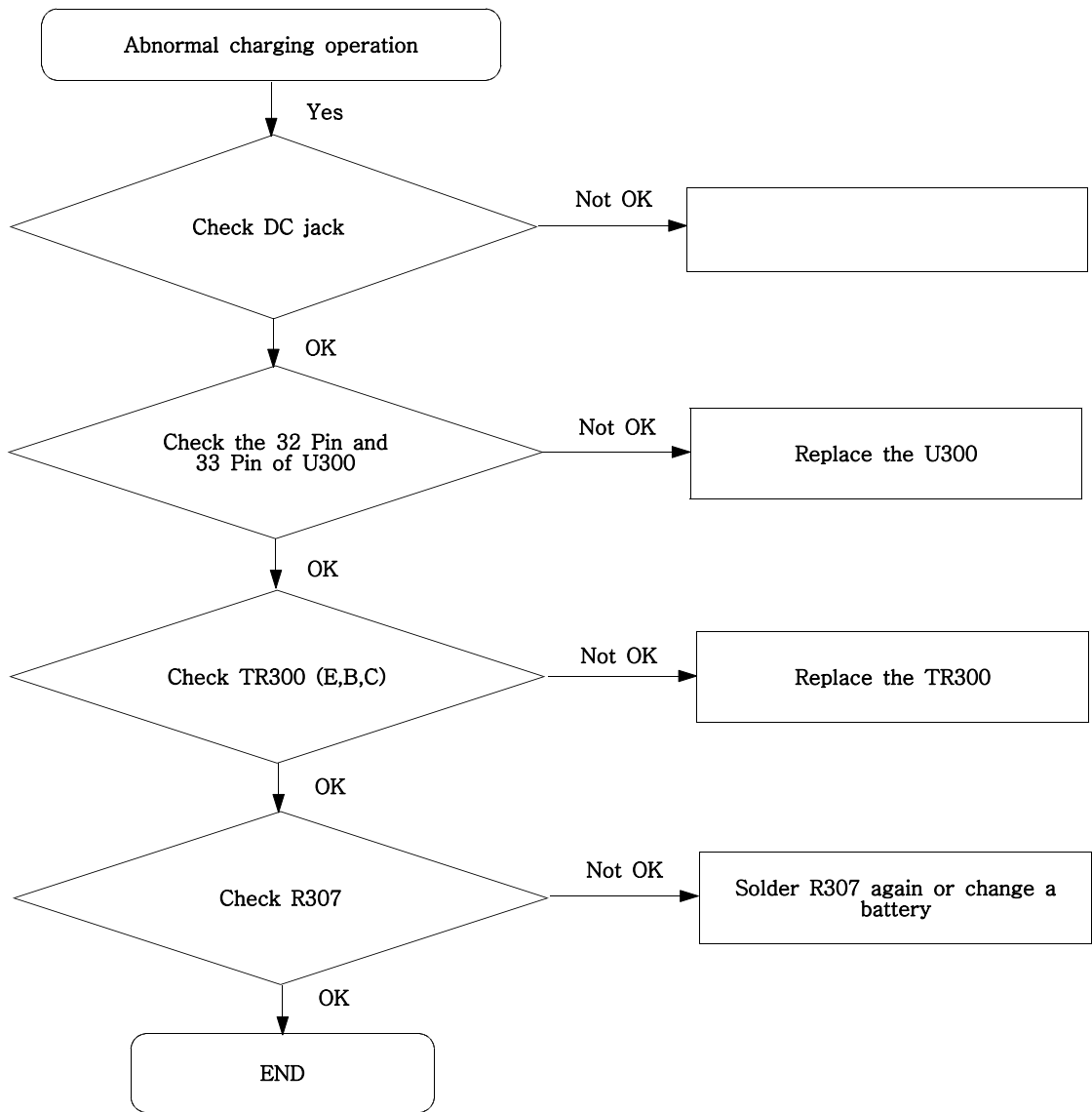


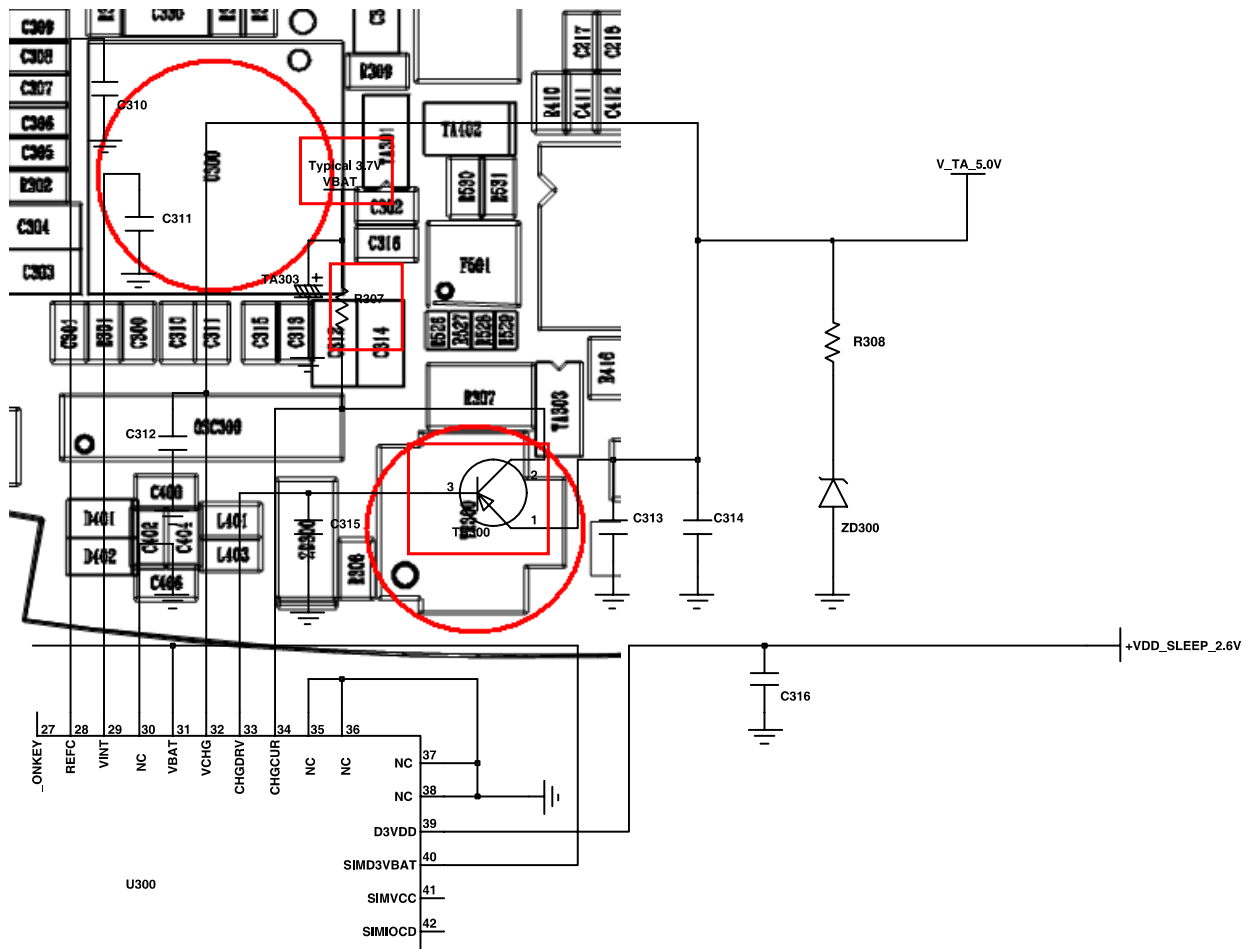


**UCP200**

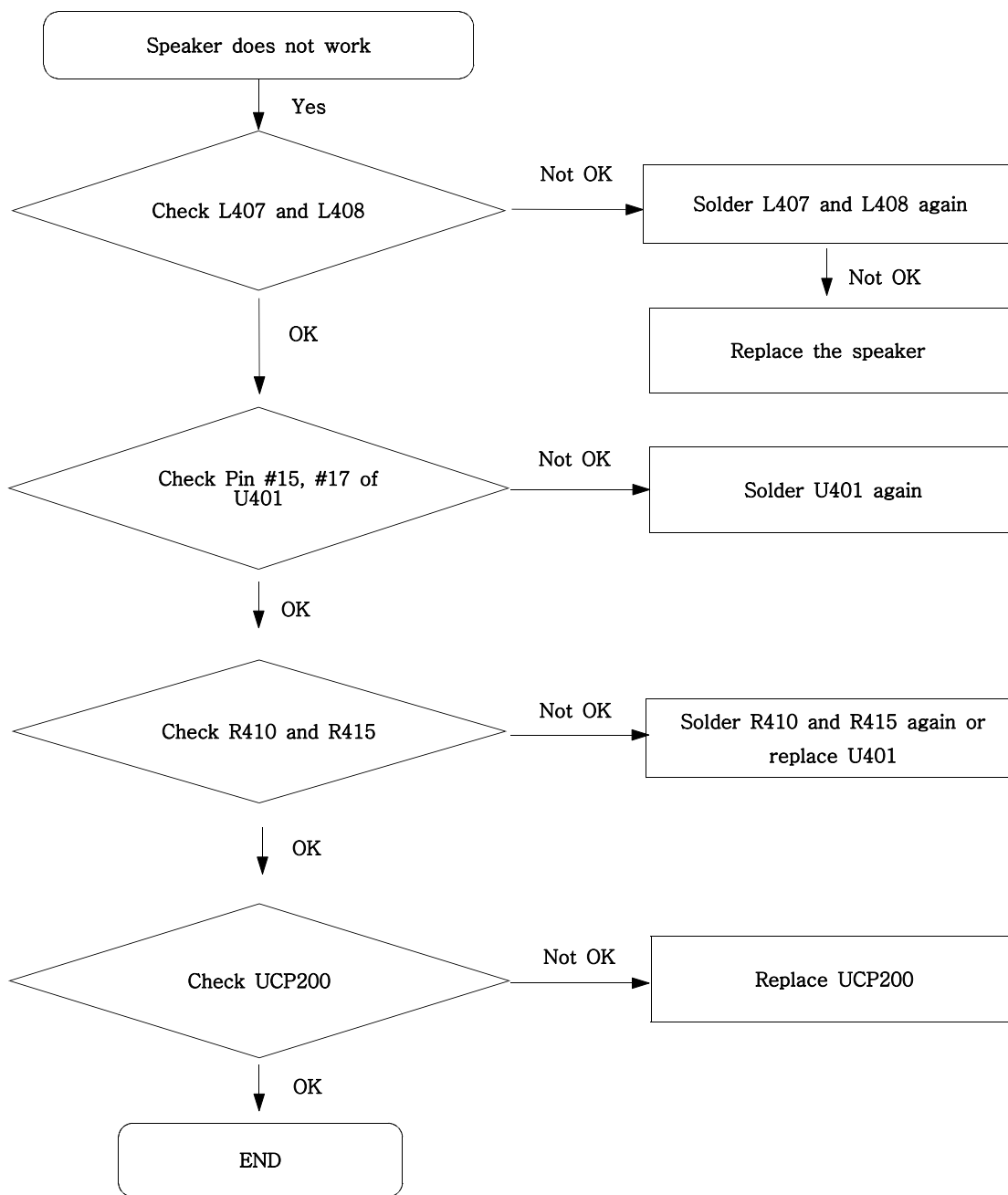


### 9-7. Charging Part



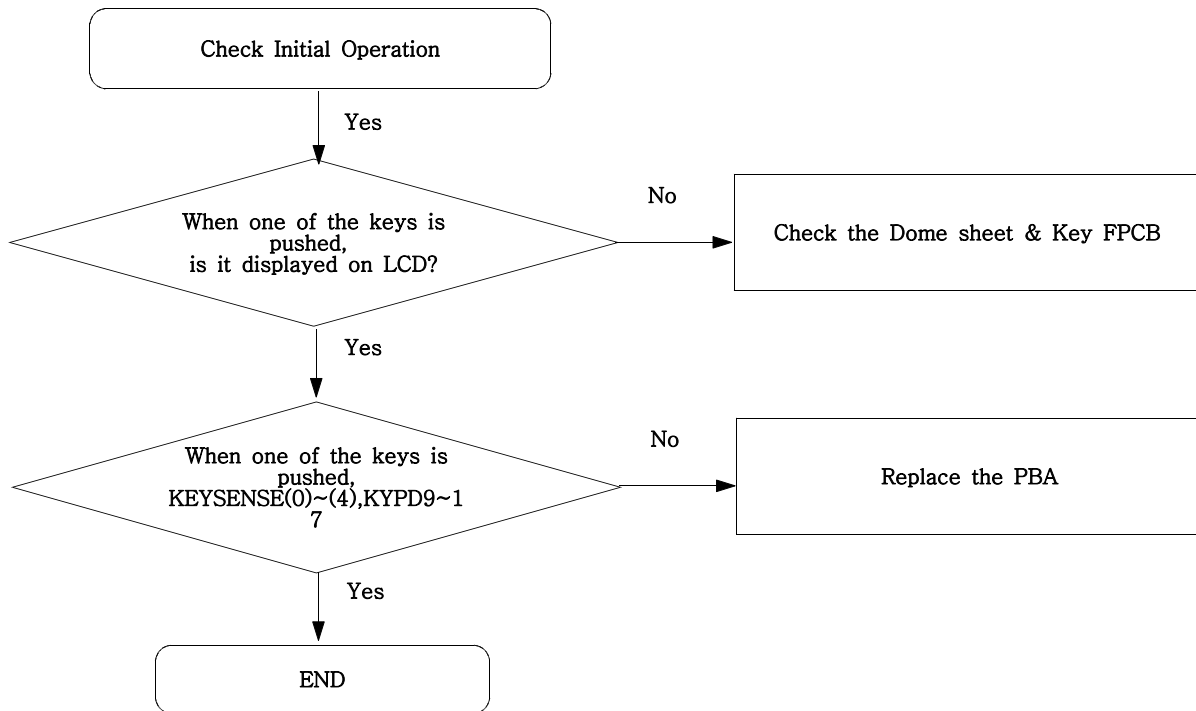


### 9-8. Speaker Part



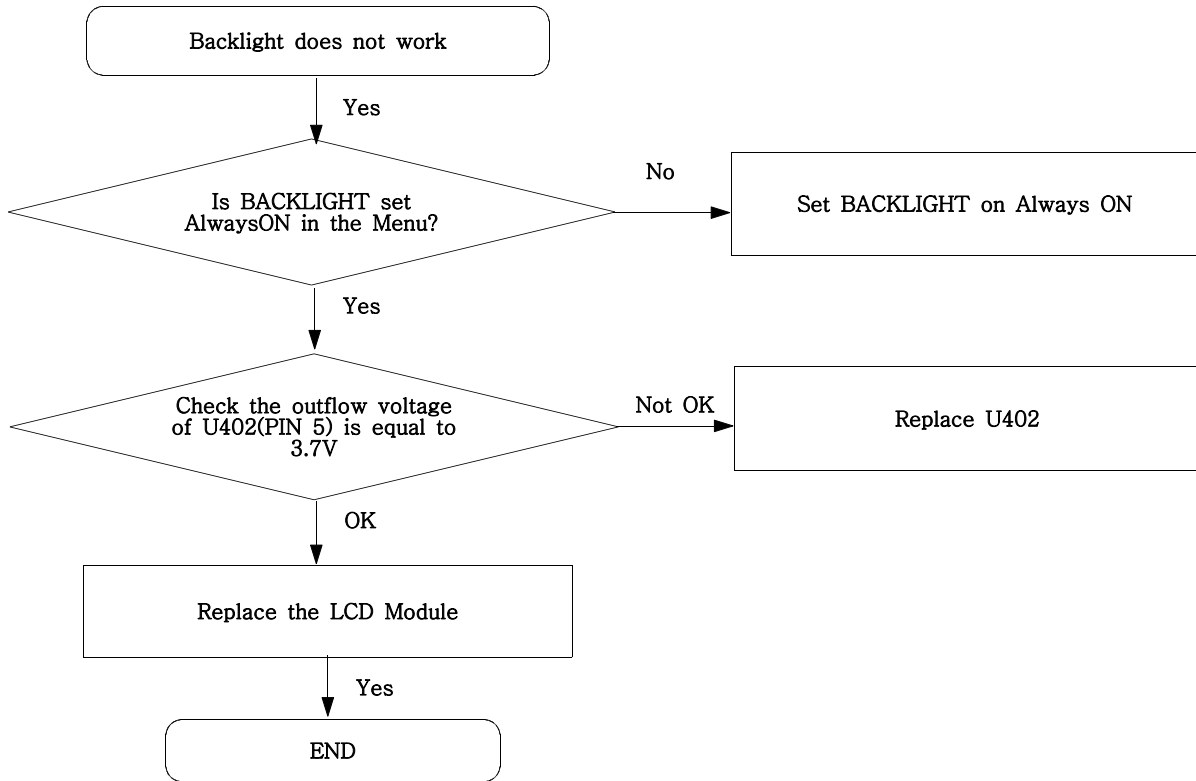


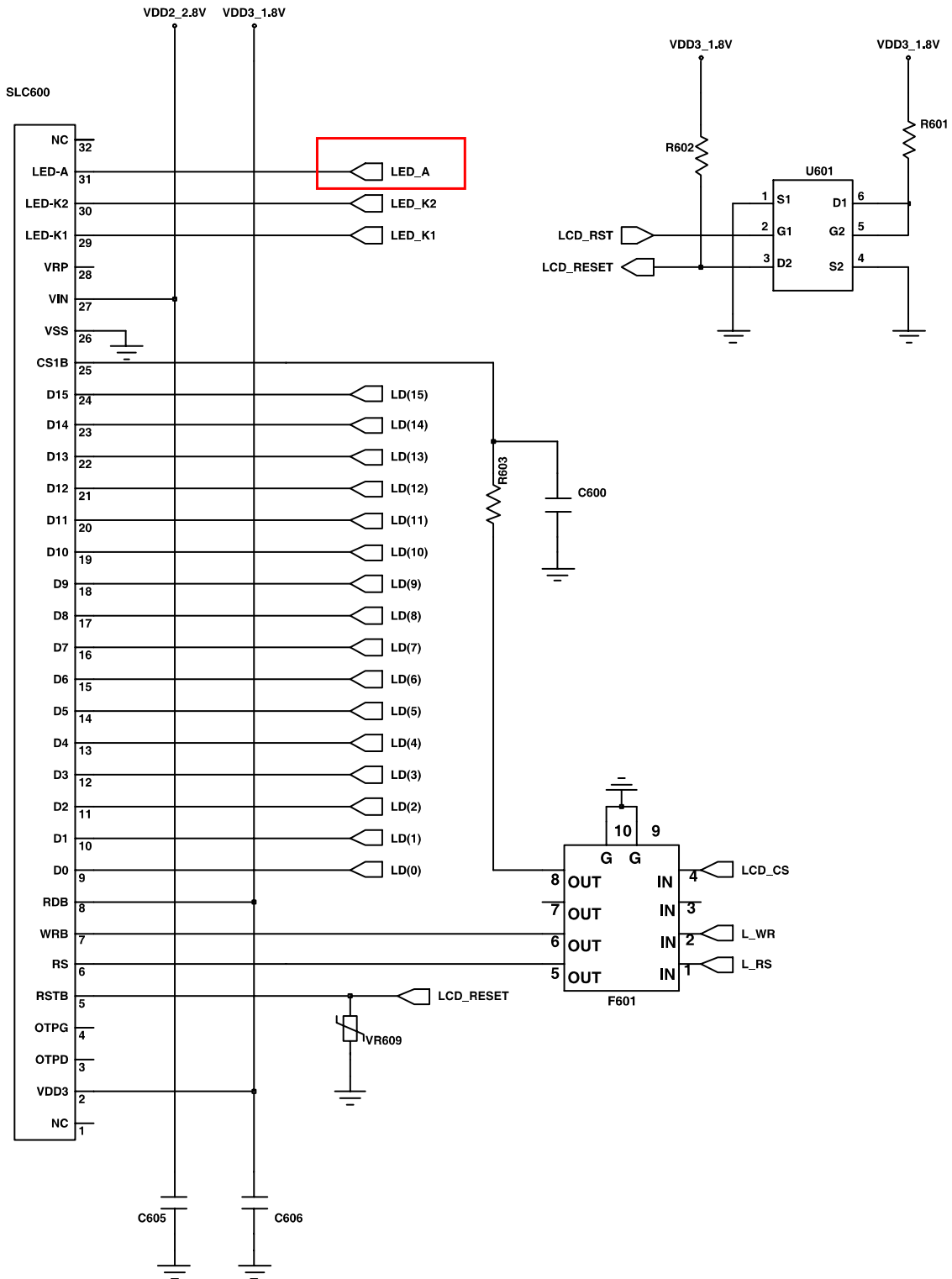
### 9-9. Key Data Input



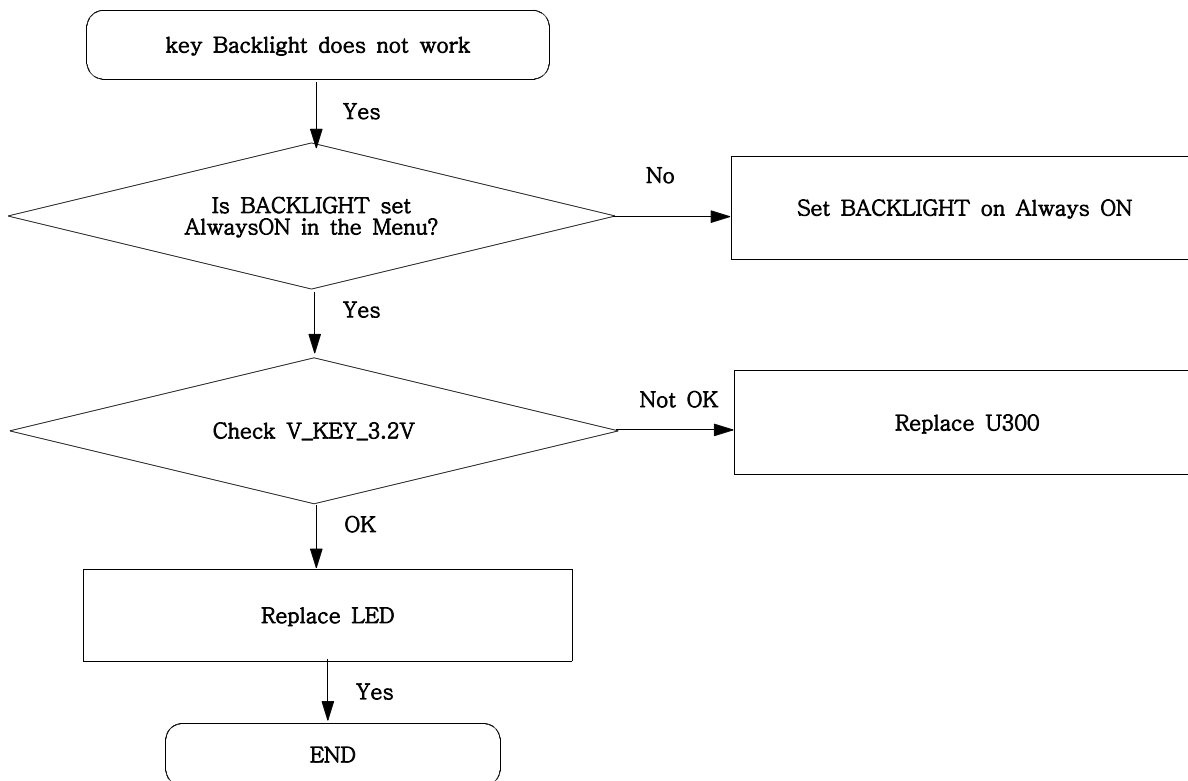


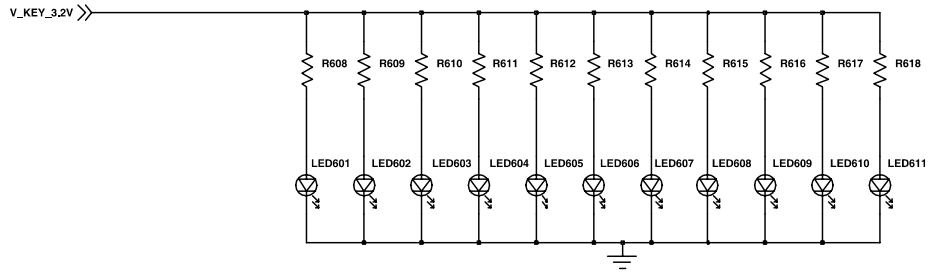
## 9-10. Back Light (for Color Main LCD)



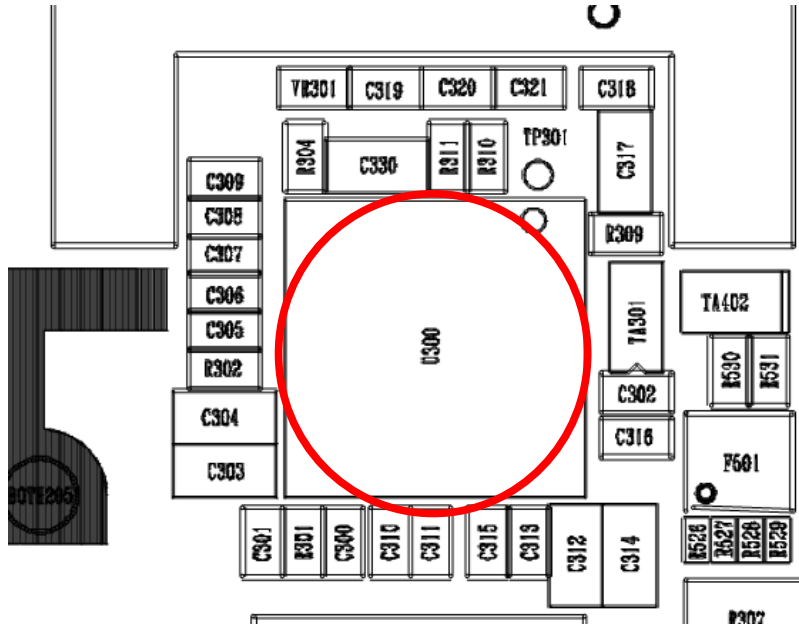
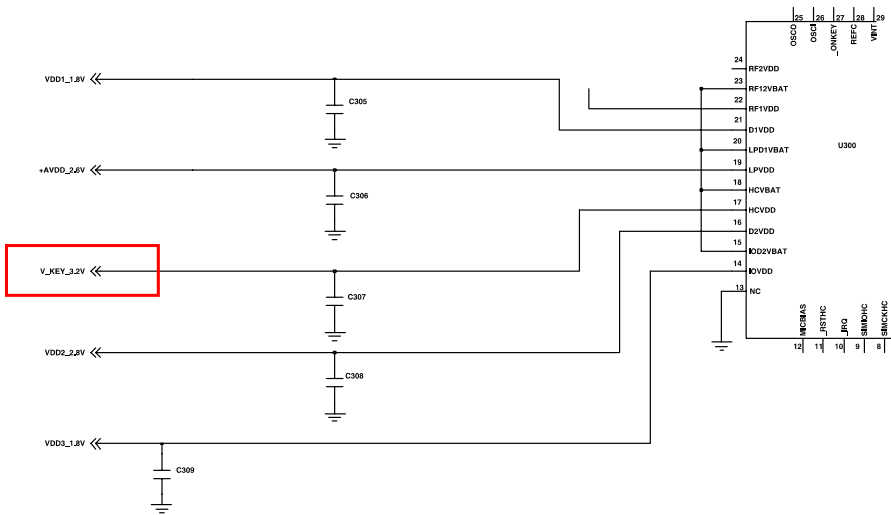


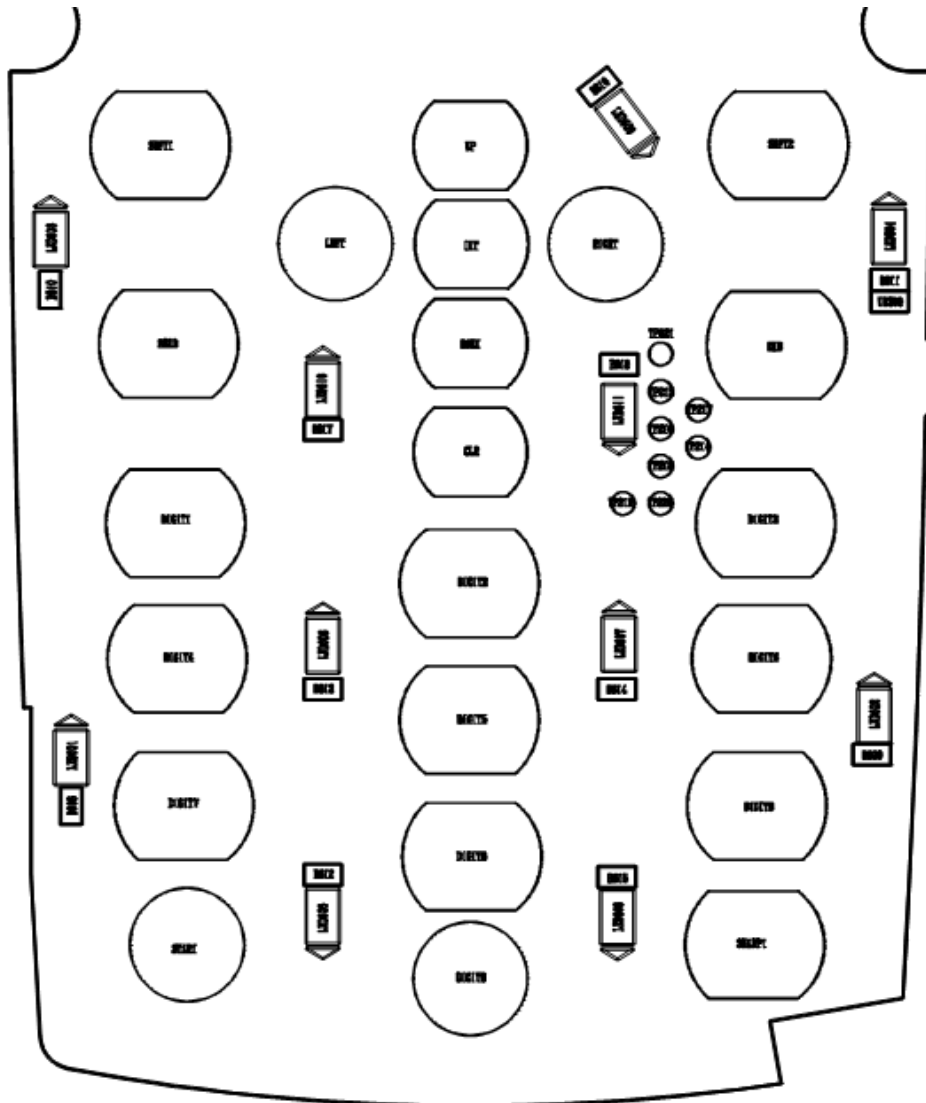
## 9-11. Key Back Light



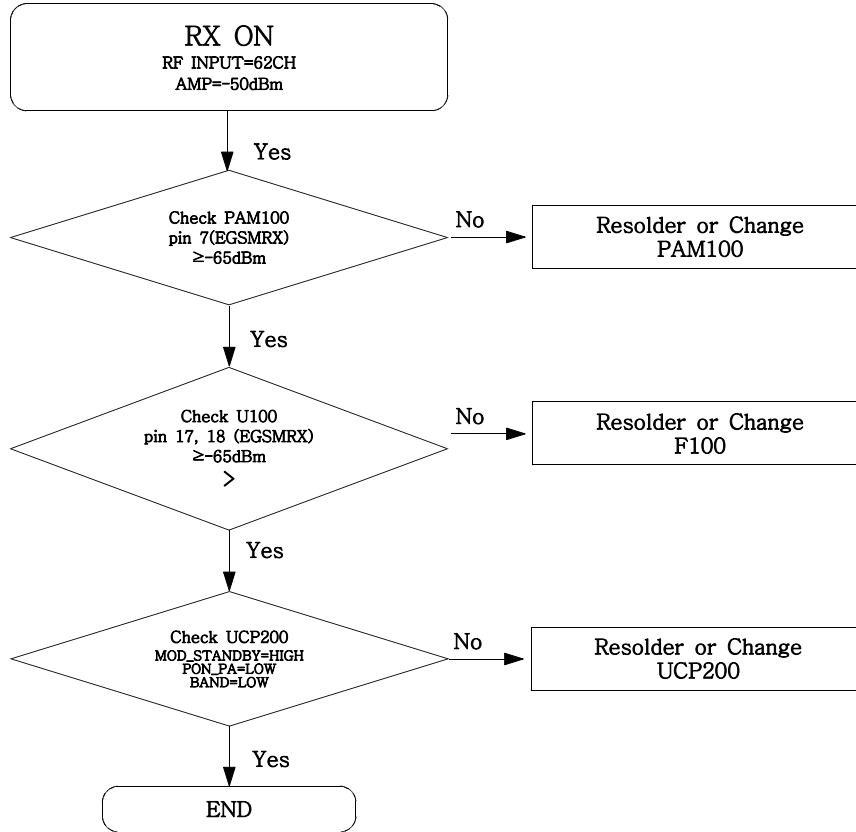


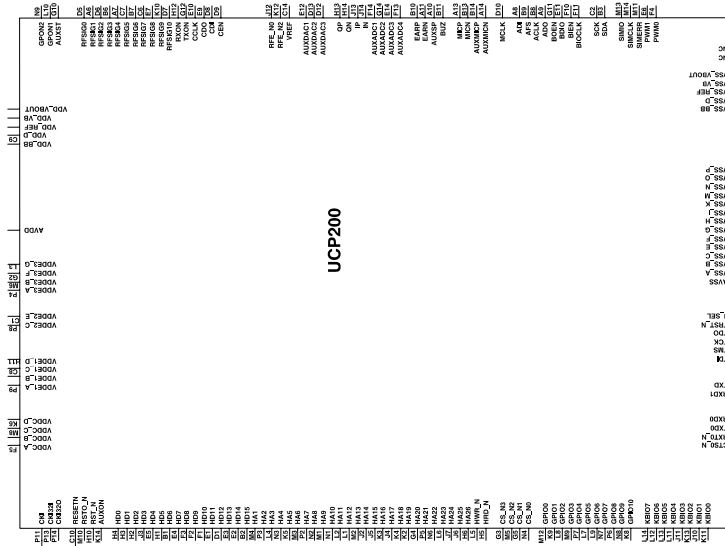
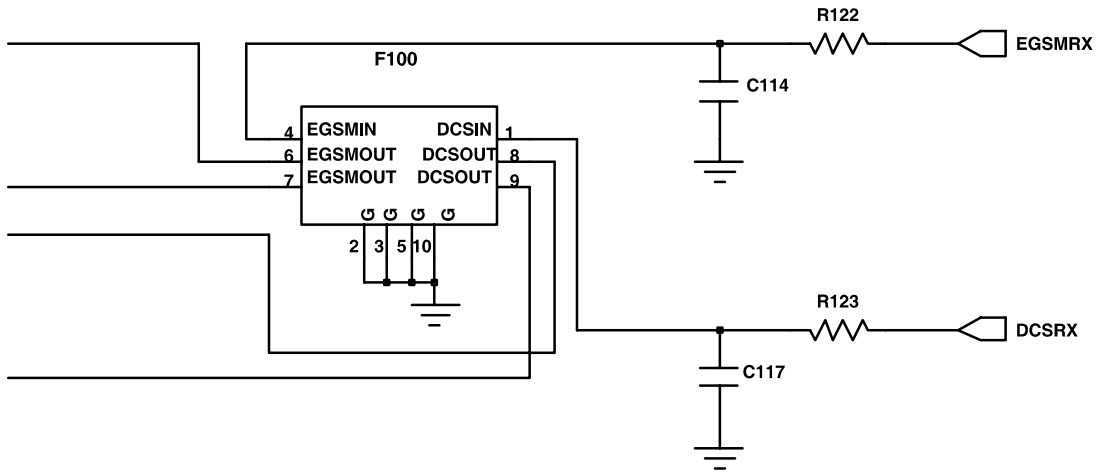
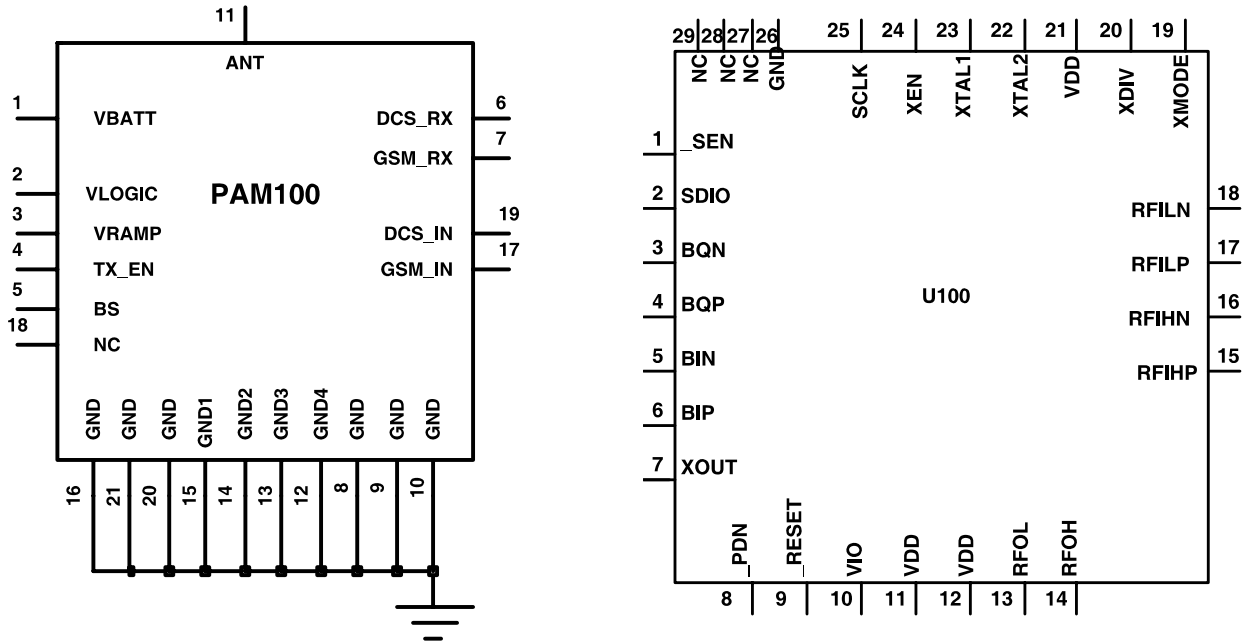
# KEY LED





### 9-15. GSM Receiver

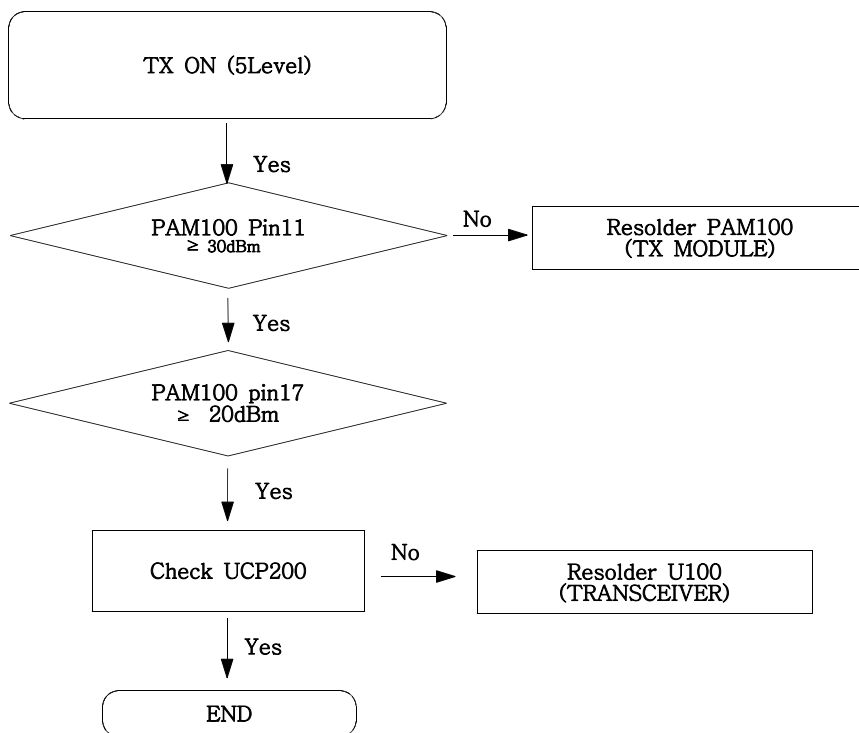


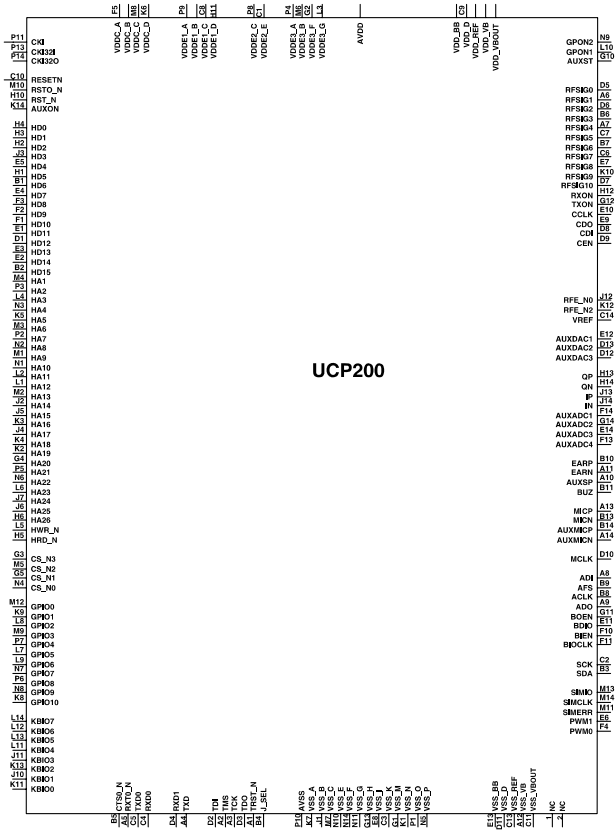
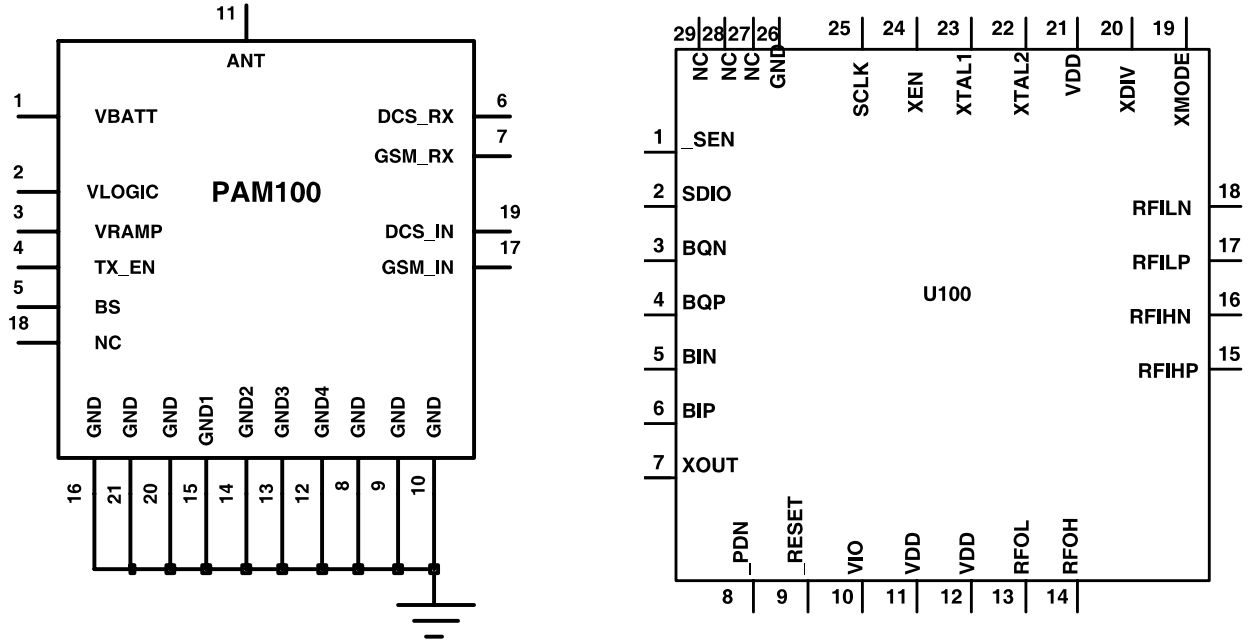


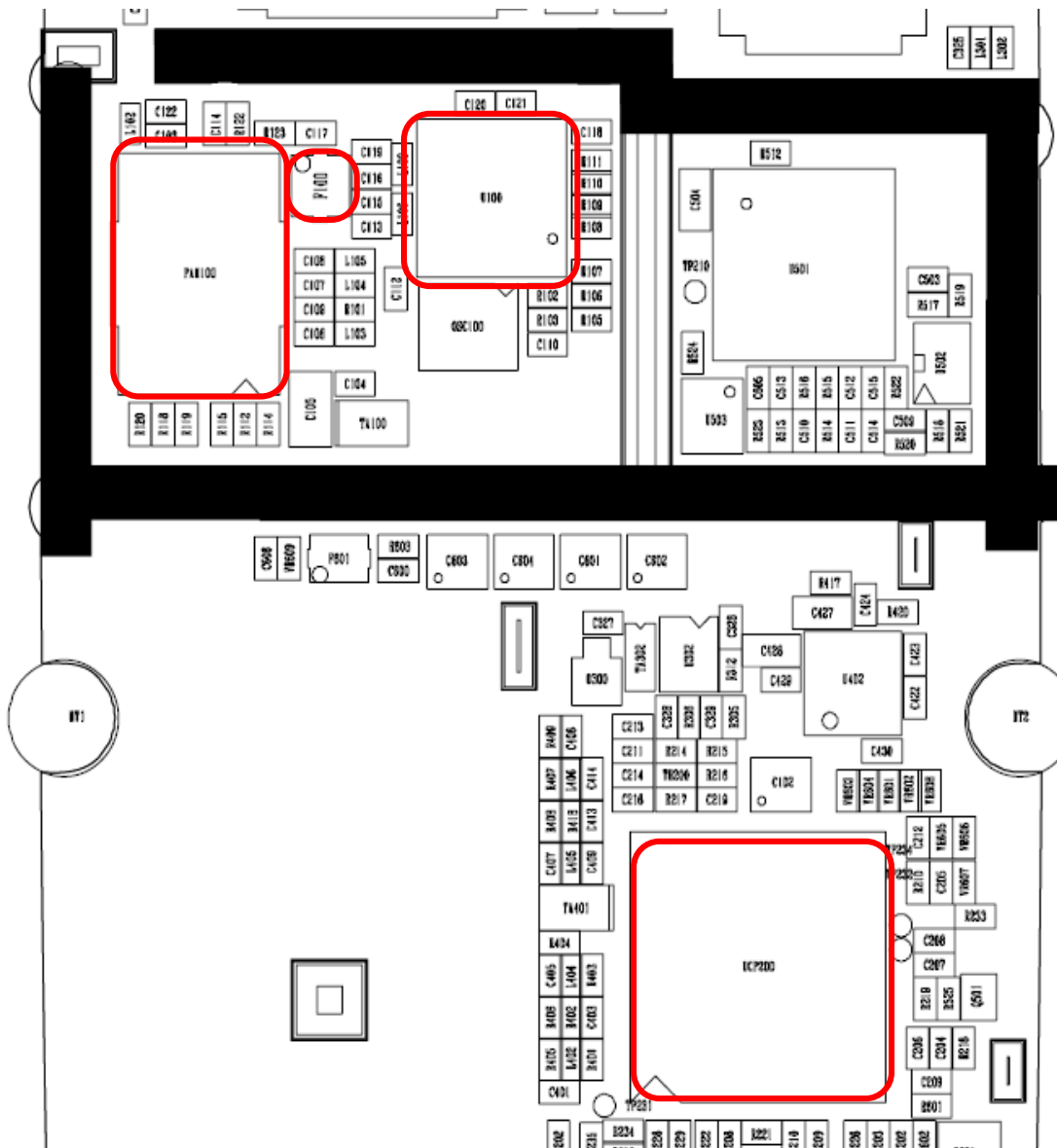




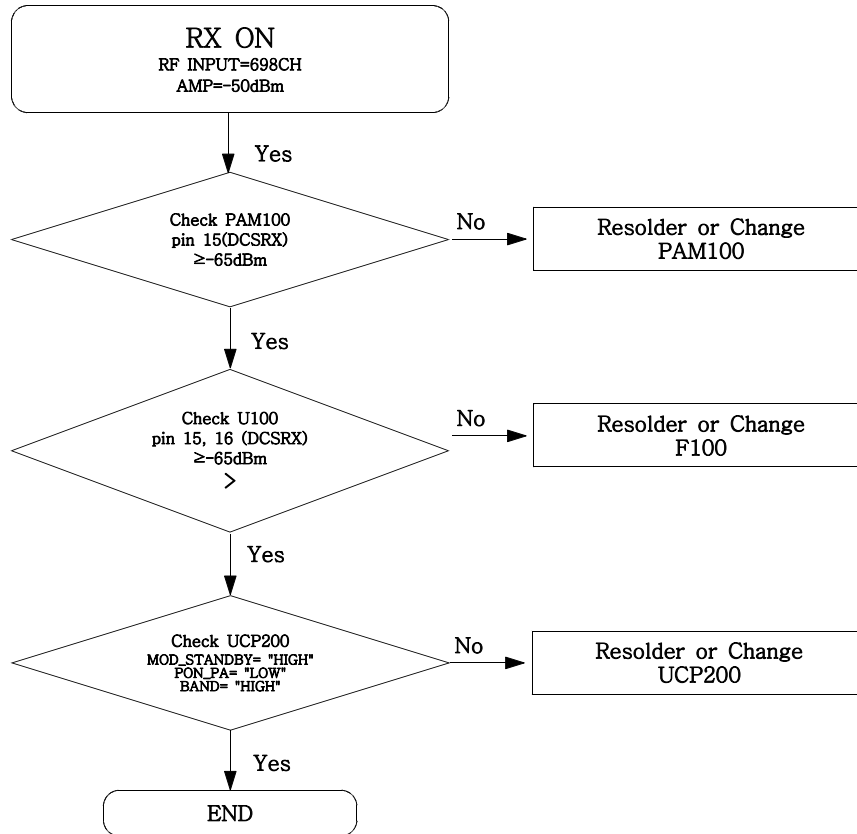
## 9-15. GSM Transmitter

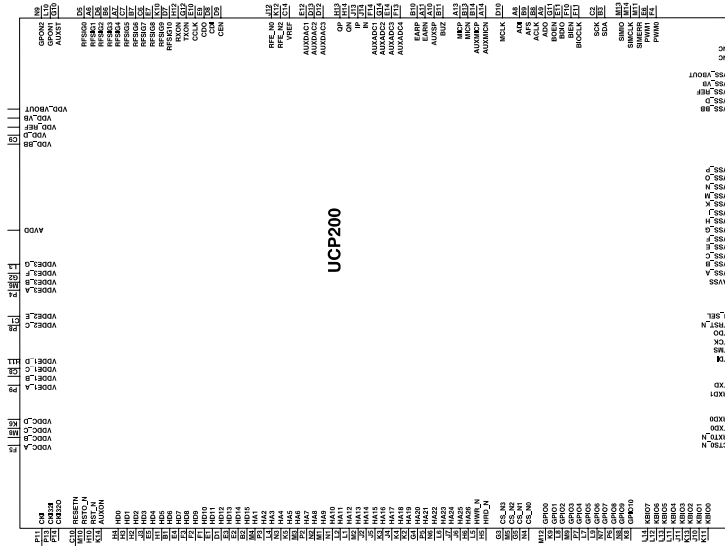
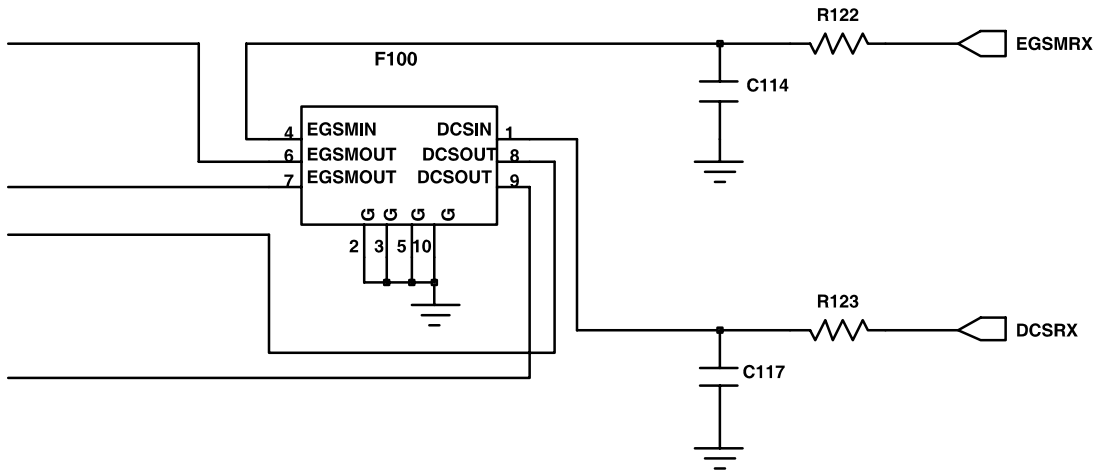
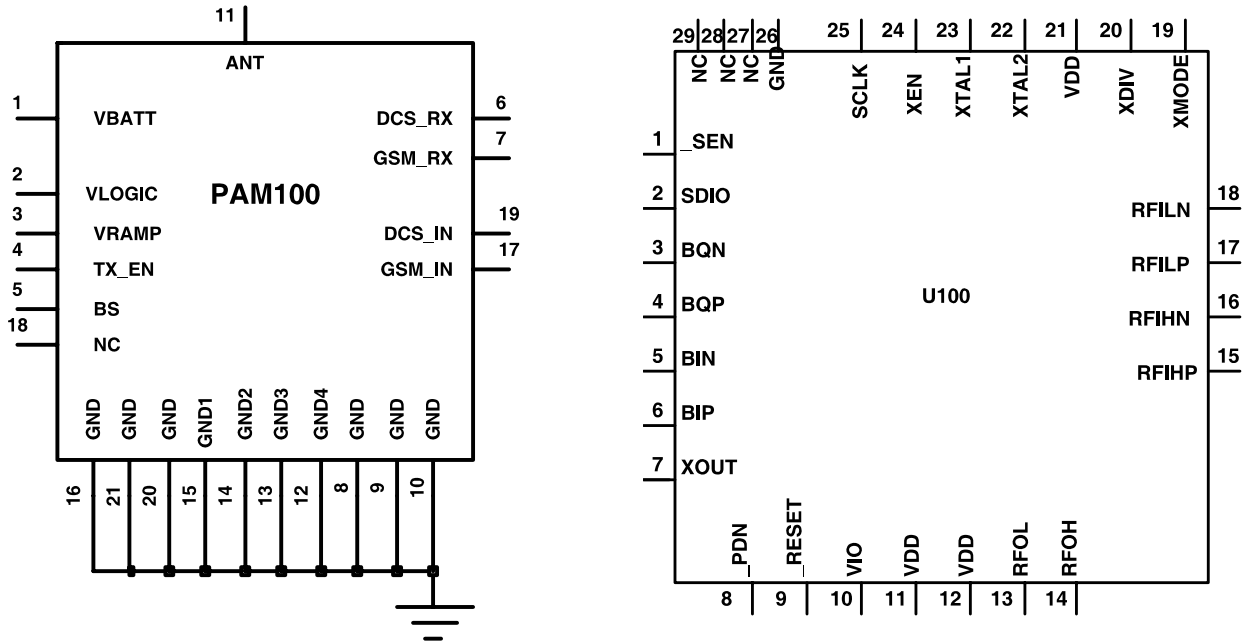






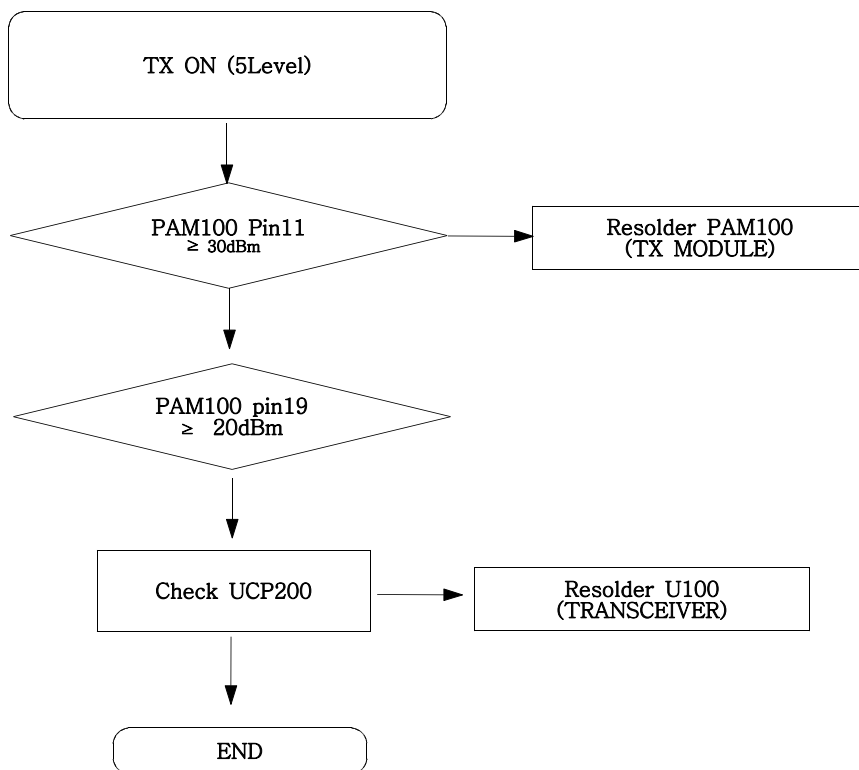
### 9-16. DCS Receiver

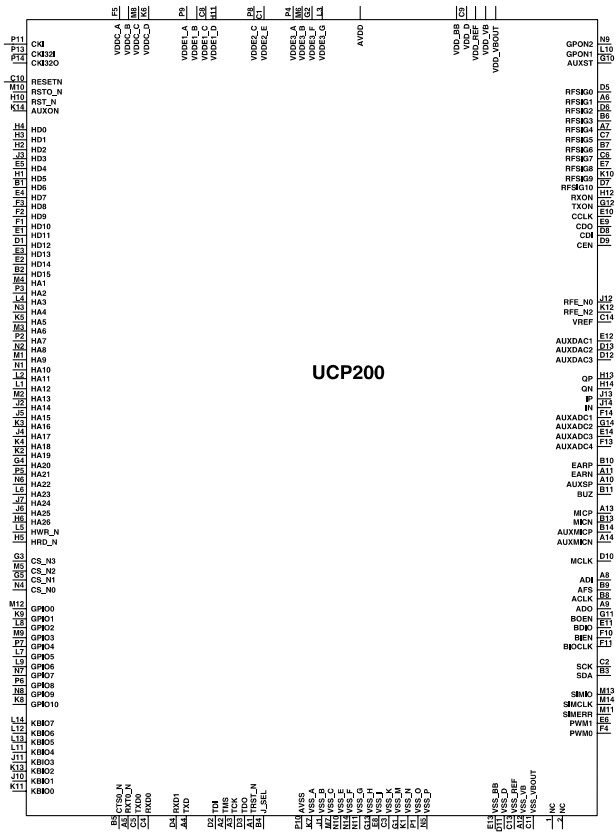
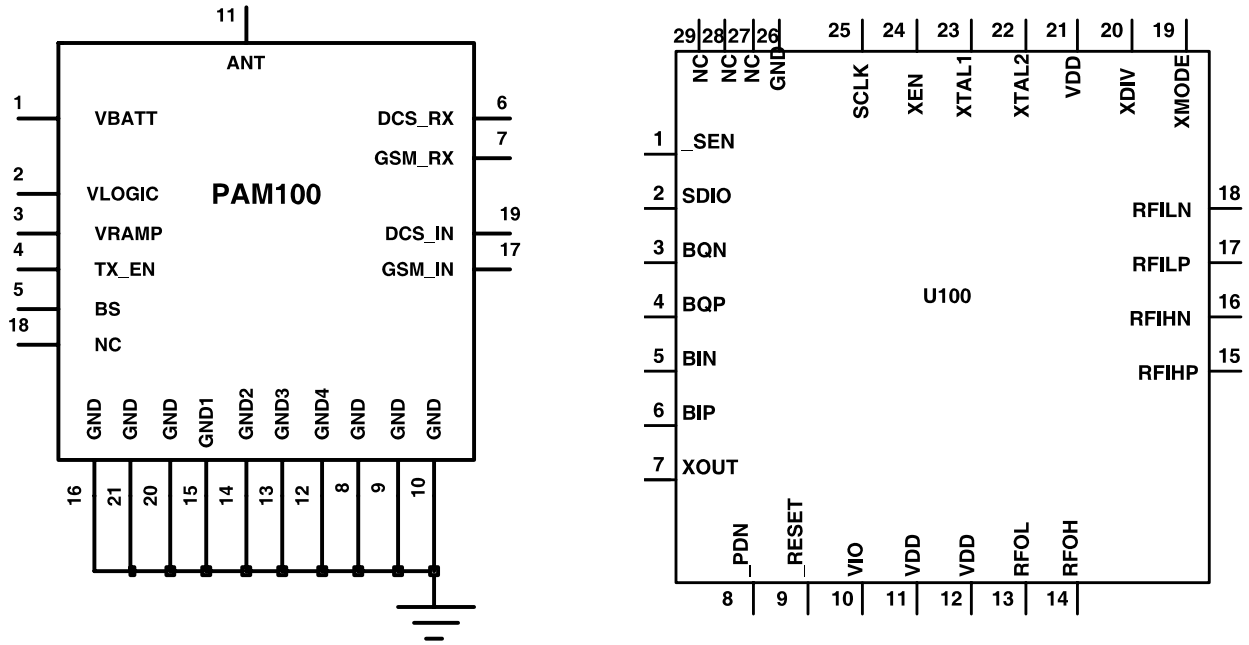




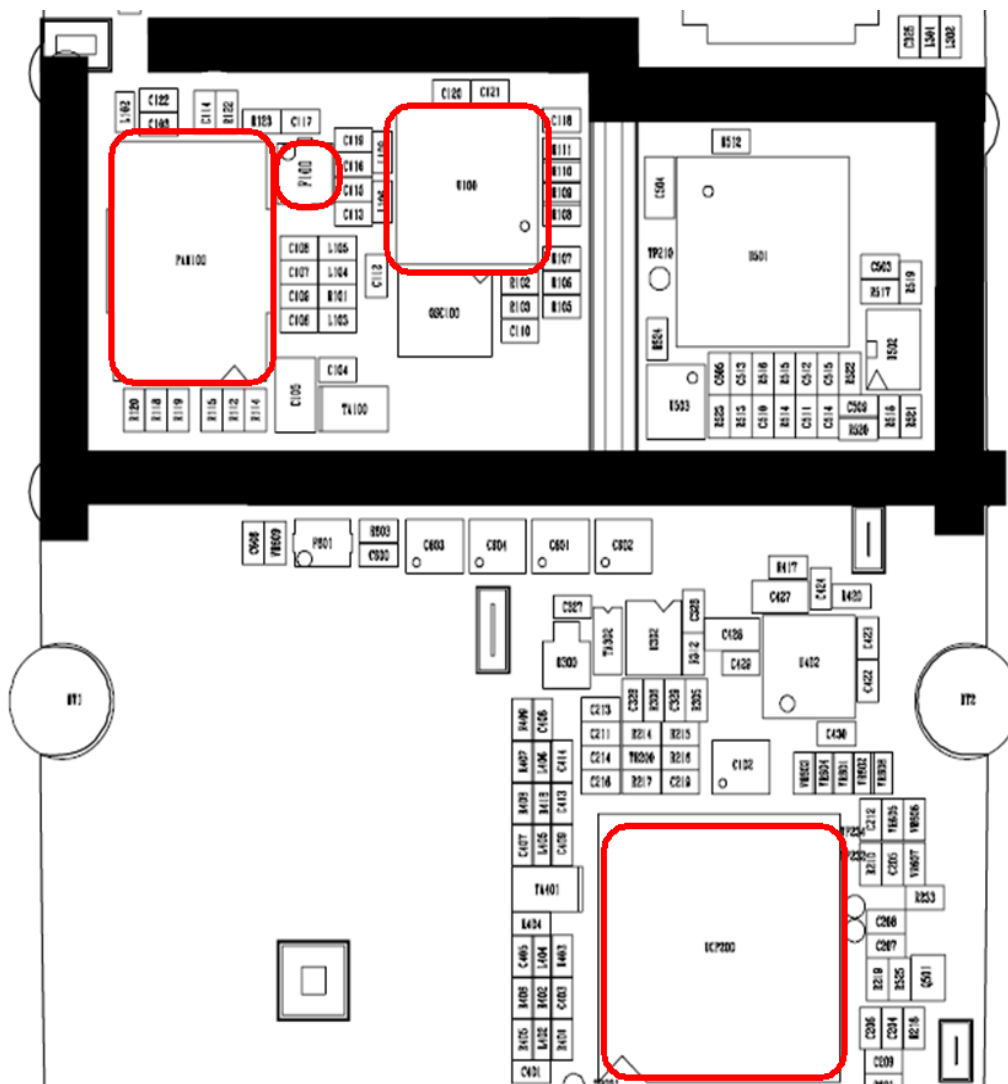


## 9-17. DCS Transmitter











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## 10. Reference data

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### Reference Abbreviate

- ARFCN : Absolute Radio Frequency Channel Number
- BER : Bit Error Rate
- BPSK: Binary Phase Shift Keying
- ESD : Electrostatically Sensitive Devices
- ETSI: European Telecommunications Standards Institute
- MS: Mobile Station
- QPSK: Quadrature Phase Shift Keying
- RF : Radio Frequency
- TDMA : Time Division Multiple Access

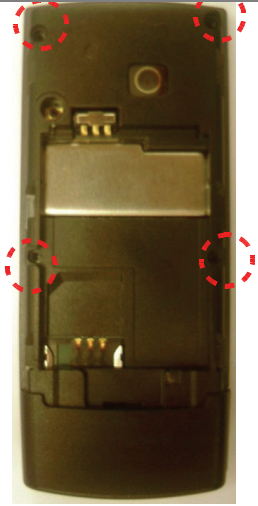


# 11. Disassembly and Assembly Instructions

## 11-1. Disassembly Instructions

1

1) Remove 4 screws from a rear case REAR Screw.



2

2) Disassemble a rear case by using a disassembly knife.

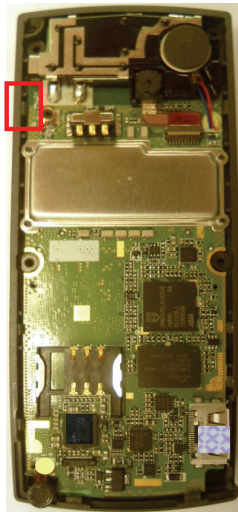


1) Be cautious when you remove a screw. It is possible to damage a case or to scratch the one.

1) Be cautious when you remove a screw. It is possible to damage a case or to scratch the one.

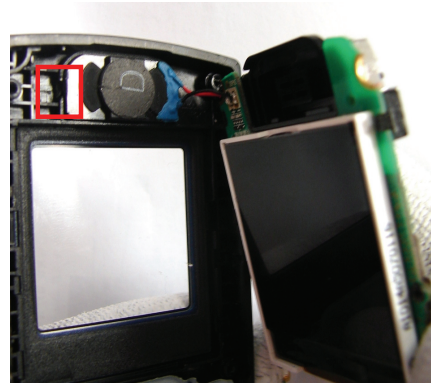
3

Detach a locker which holds a PBA.



4

Detach a speaker by using a pincette.



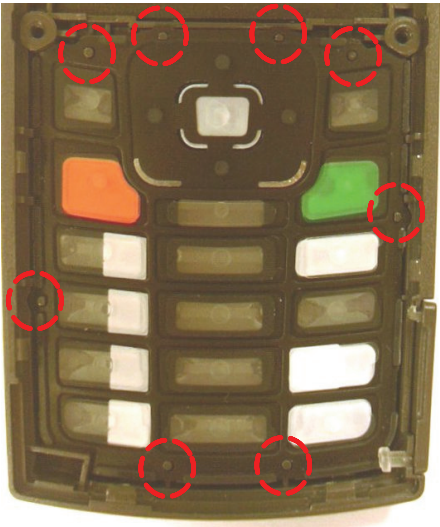
1) Be careful for breaking a component.

1) Be careful for damaging a speaker wire and a LCD wire.

## 11-2. Assembly Instructions

1

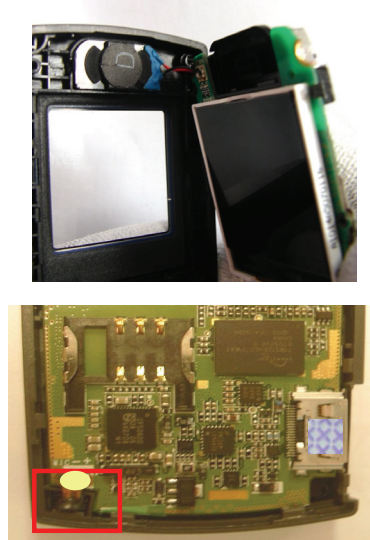
1) Put a Keypad to a front case.



1) The Keypad should be inserted accurately into a front case.

2

1) Insert a speaker and a LCD to a front case.  
2) Insert a MIC to a hole which is shown below.



1) Be careful for inserting a LCD. Dust may be attached to the LCD screen.  
2) Be cautious when inserting a speaker. There is a possibility for disconnecting a wire.

3

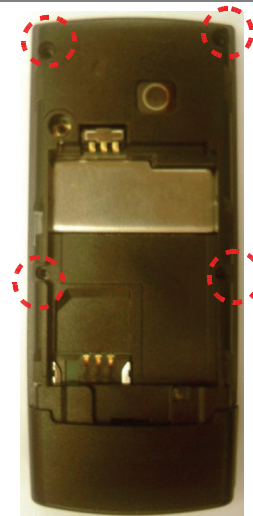
1) After pulling an earjack cover, assemble a rear case to a front case like this.



1) Be cautious when you remove a screw. It is possible to damage a case or to scratch the one.

4

1) Screw on a rear case with 4 screws.



1) Be cautious when you remove a screw. It is possible to damage a case or to scratch the one.