

SAMSUNG

GSM TELEPHONE

SGH-M110

SERVICE *Manual*

GSM TELEPHONE



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**SAMSUNG
ELECTRONICS**



GSPN (Global Service Partner Network)

Country	Web Site
North America	service.samsungportal.com
Latin America	latin.samsungportal.com
CIS	cis.samsungportal.com
Europe	europa.samsungportal.com
China	china.samsungportal.com
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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

	GSM850	DCS1800	PCS1900
Freq. Band[MHz] Uplink/Downlink	824~849 869~894	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	128~251	512~885	512~810
Tx/Rx spacing	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period	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
Modulation	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8
Cell Radius	35Km	2Km	-

2-2. GSM Tx Power Class

TX Power control level	GSM850	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

S20 Pin TA

No Java

No MMS

FM radio

WAP 2.0

16 Poly S/W MIDI

Dual band(900/1800MHz)

GPRS Class 10

VGA camera

Bluetooth

Waterproof

4. Array course control

4-1. Software Adjustments



1. JIG Box([GH80-01909A](#)) : Download, Trace, Calibration, etc
2. RF test cable([GH39-00397A](#)) : RF test
3. TA(Travel Adaptor) ([GH39-00919A](#))
4. Serial cable: PC to JIG
5. Test cable([GH39-00854A](#)) : JIG to phone

4-2. Software Downloading

4-2-1. Downloading Binary Files

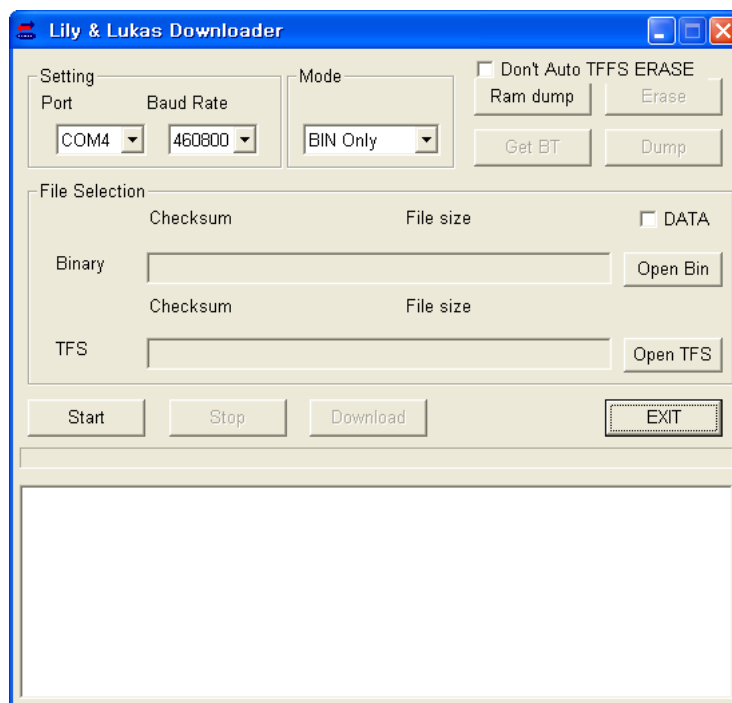
- 2 binary files for downloading M110.
 - M110XAGH2.cla
 - M110XAGH2.tfs

4-2-2. Pre-requisite for Downloading

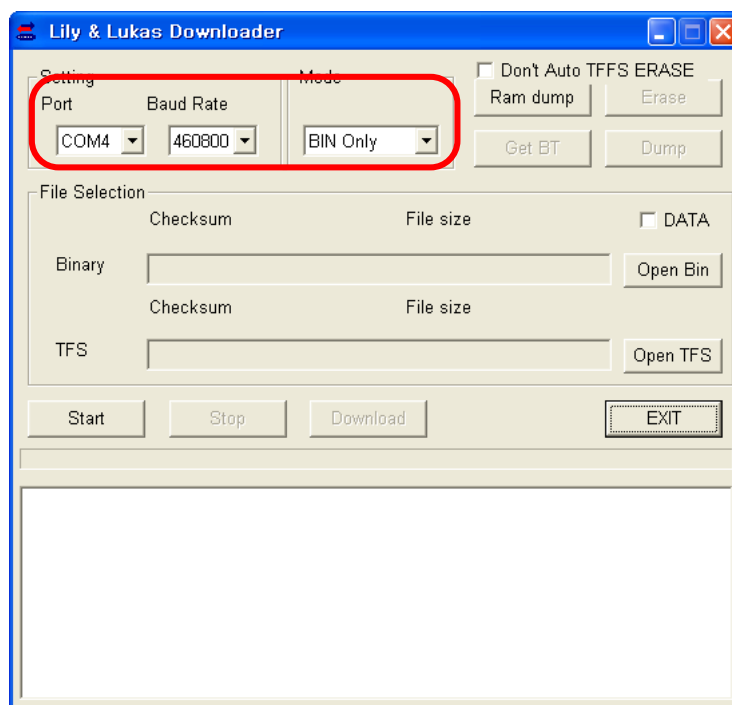
- Downloader Program(C450 Downloader 2.0NEW)
- SGH-M110 Mobile Phone
- JIG BOX
- Test Cable
- Serial Cable
- Binary files

4-2-3. S/W Downloader Program

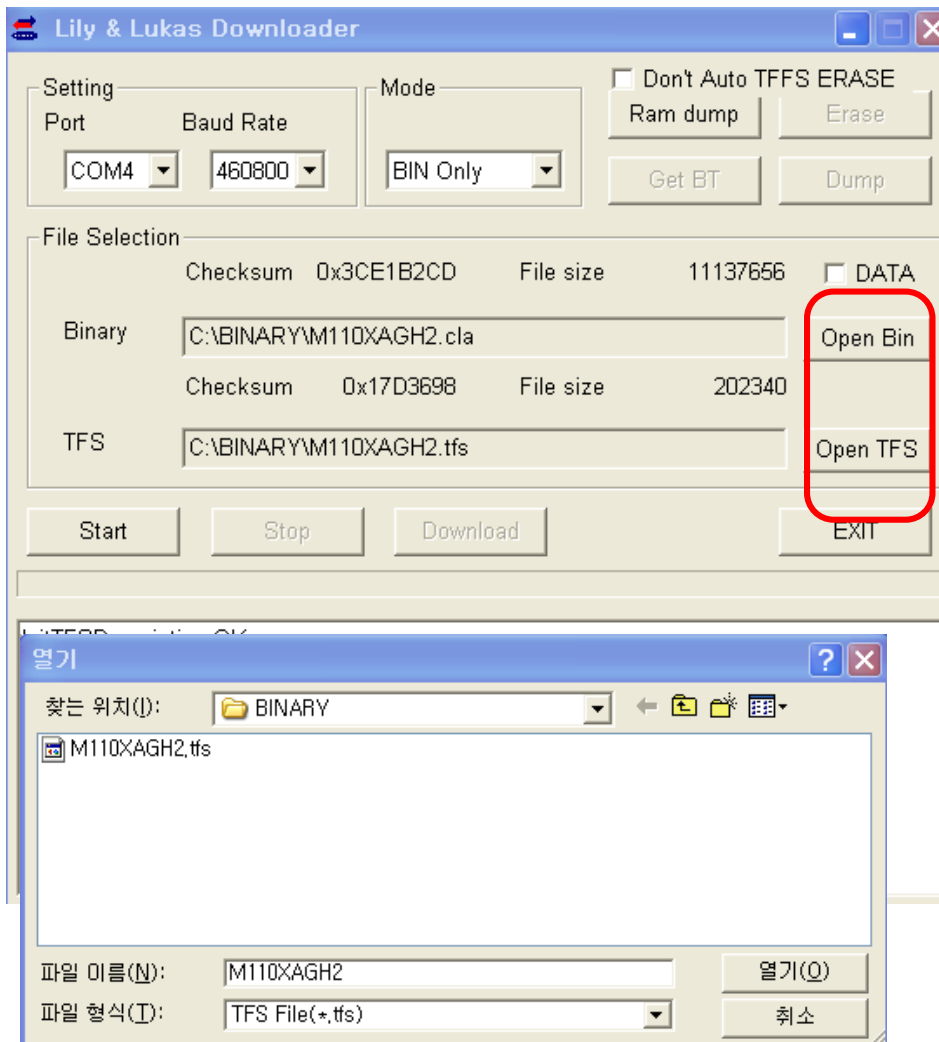
1. Load the binary download program by executing the "C450 Downloader 2.0NEW".



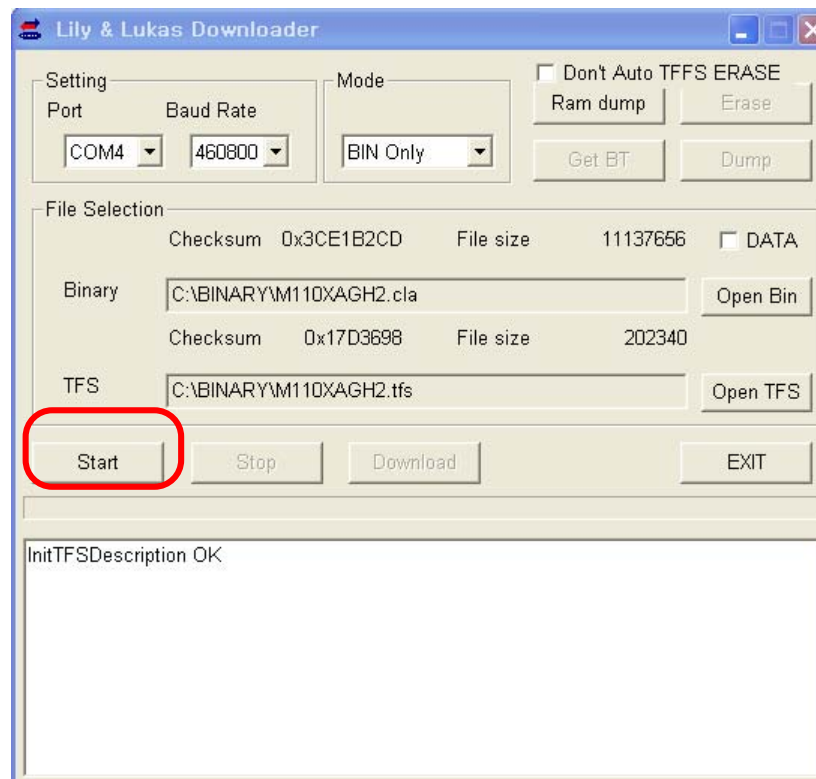
2. Select the Port, Baud Rate and Mode.



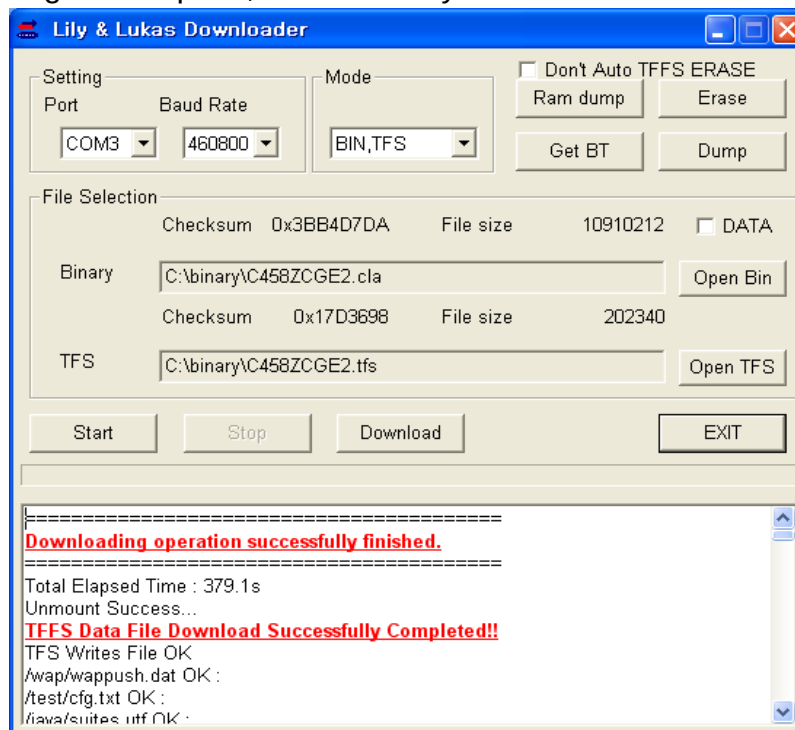
3. Select the binary files what you want to download



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

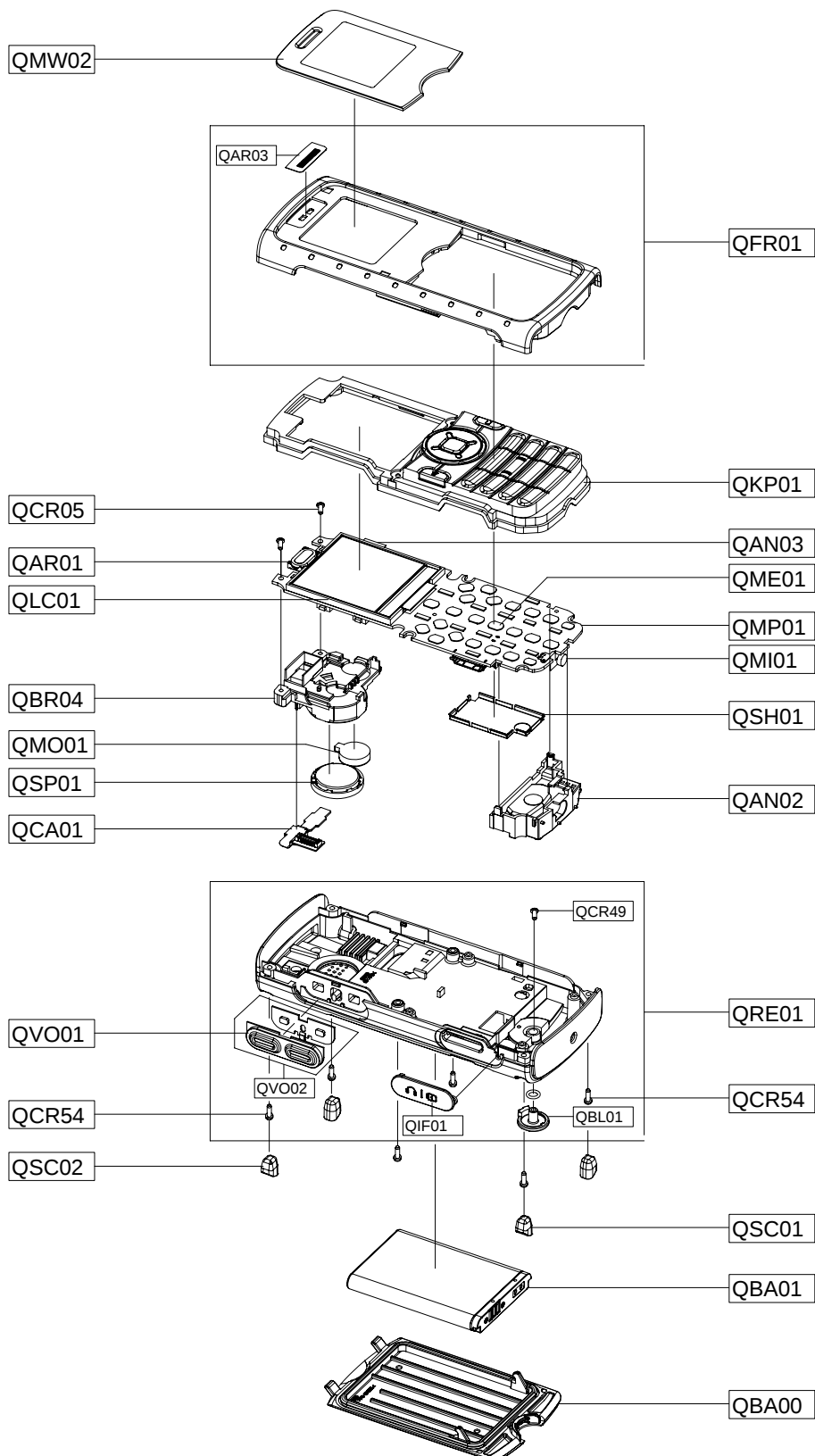


5. When downloading is complete, automatically the small window was showed up..



5. Exploded View and Parts List

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts List

Design LOC		Description	SEC CODE
QAN02		INTENNA-SGHM110	GH42-01418A
QAN03		INTENNA-SGHM110 BT	GH42-01468A
QAR01		AUDIO-RECEIVER	3009-001306
QBA00		PMO COVER-BATT(TMO)	GH72-45594B
QBA01		INNER BATTERY PACK-1000MAH,BLA	GH43-02424A
QBR04		ASSY BRACKET-SPK CARRIER	GH98-07330A
QCA01		CAMERA MODULE-1/7.4" VGA	GH59-05094A
QCR05		SCREW-MACHINE	6001-001478
QCR54		SCREW-MACHINE	6001-001645
QCR54		SCREW-MACHINE	6001-001645
QKP01		ASSY KEYPAD-(EU/BLK)	GH98-06436A
QLC01		LCD-LCD MODULE	GH07-01056A
QME01		DOME SHEET-SGHM110 METAL DOME	GH59-05178A
QMI01		MICROPHONE-ASSY-SGHM110	GH30-00440A
QMO01		MOTOR DC-SGH-M110	GH31-00402A
QMP01		PBA MAIN-SGHM110	GH92-04272A
QMW02		PCT WINDOW-MAIN	GH72-45454A
QSC01		RMO RUBBER-SCREW BOT	GH73-11197B
QSC02		RMO RUBBER-SCREW TOP	GH73-11198B
QSH01		ICT SHIELD-BRACKET	GH70-03060A
QSP01		MICRO SPEAKER	3001-002304
QVO01		PMO KEY-VOLUME	GH72-45427A
QFR01		ASSY CASE-FRONT	GH98-06901B
	QAR03	ASSY DECO-RCV IN	GH98-06922A
QRE01		ASSY CASE-REAR	GH98-06902B
	QBL01	NDC COVER-BATT LOCKER	GH71-07797A
	QCR49	SCREW-MACHINE	6001-001823
	QIF01	PMO COVER-IF	GH72-45415A
	QVO02	ASSY KEY-VOLUME	GH98-06900A

Description	SEC CODE
BAG PE	6902-000634
ADAPTOR-ATADS10EBE,BLK,EU	GH44-01702A
EARPHONE-SGHE210,AAEP405MBE,A	GH59-04535A
LABEL(P)-UNIT SEAL	GH68-00518B
LABEL(P)-IMEI DI	GH68-03060A
LABEL(R)-WATER SOAK	GH68-09361A
LABEL(R)-WATER SOAK	GH68-09361A
MANUAL USERS-T-MOBILE ENGLISH	GH68-16702A
MANUAL USERS-T_MOBILE GERMAN	GH68-16703A
LABEL(R)-MAIN(EU)	GH68-16879A
BOX-UNIT(DTM)	GH69-06212B
CUSHION-CASE(EU)	GH69-06215A
RMO RUBBER-MIC 2	GH73-11371A
MPR-TAPE MAIN DOME EMI	GH74-23675A
MPR-SPONGE PCB 1	GH74-28596A
TAPE GASK	GH74-32077A
VINYL-BOHO MAIN WINDOW	GH74-36710A
SPONGE-MIC OUT	GH74-36983A
TAPE INSU-LCD ESD	GH74-37043A
VINYL-BOHO CAMERA WINDOW OUT	GH74-37159A
ASSY ACCE-FINGER STRAP_KER	GH98-02362A

6. Main Electrical Parts List

SEC Code	Design LOC	Description	STATUS
0406-001104	D502	DIODE-TVS	SA
0406-001150	D600	DIODE-TVS	SA
0406-001254	D404	DIODE-TVS	SA
0406-001254	D405	DIODE-TVS	SA
0406-001279	D300	DIODE-TVS	SA
0406-001279	D400	DIODE-TVS	SA
0406-001279	D401	DIODE-TVS	SA
0406-001279	D402	DIODE-TVS	SA
0406-001279	D403	DIODE-TVS	SA
0406-001279	D500	DIODE-TVS	SA
0406-001279	D501	DIODE-TVS	SA
0406-001279	D503	DIODE-TVS	SA
0406-001279	D504	DIODE-TVS	SA
0406-001279	D601	DIODE-TVS	SA
0502-001116	TR300	TR-POWER	SA
0504-001197	TR500	TR-DIGITAL	SA
0505-001469	U503	FET-SILICON	SA
0505-001469	U600	FET-SILICON	SA
0505-001923	U504	FET-SILICON	SA
0505-002088	TR400	FET-SILICON	SA
0505-002088	TR501	FET-SILICON	SA
0601-002361	LED600	LED	SA
0601-002361	LED601	LED	SA
0601-002361	LED602	LED	SA
0601-002361	LED603	LED	SA
0601-002361	LED604	LED	SA
0601-002361	LED605	LED	SA
0601-002361	LED606	LED	SA
0601-002361	LED607	LED	SA
0601-002361	LED609	LED	SA
0601-002361	LED610	LED	SA
0601-002361	LED611	LED	SA
0801-002237	U502	IC-CMOS LOGIC	SA
1001-001231	U200	IC-ANALOG SWITCH	SA
1001-001349	U402	IC-ANALOG MULTIPLEX	SA
1001-001447	U100	IC-ANALOG MULTIPLEX	SA
1001-001447	U406	IC-ANALOG MULTIPLEX	SA
1108-000163	UME200	IC-MCP	SA
1201-002490	PAM100	IC-POWER AMP	SA
1201-002492	U403	IC-AUDIO AMP	SA
1203-004155	U602	IC-DC/DC CONVERTER	SA
1203-004338	U302	IC-POS.FIXED REG.	SA
1203-004550	U300	IC-POWER SUPERVISOR	SA
1204-002700	U404	IC-TUNER	SA
1204-002783	U401	IC-SOUND GENERATOR	SA
1205-003064	U103	IC-DATA COMM./GEN.	SA
1205-003192	UCP200	IC-COMM. CONTROLLER	SA
1205-003278	U102	IC-TRANSCEIVER	SA
1404-001221	TH200	THERMISTOR-NTC	SA
1405-001082	VR301	VARISTOR	SA
1405-001082	VR602	VARISTOR	SA
1405-001082	VR603	VARISTOR	SA
1405-001082	VR604	VARISTOR	SA

SEC Code	Design LOC	Description	STATUS
1405-001082	VR605	VARISTOR	SA
1405-001082	VR606	VARISTOR	SA
1405-001082	VR607	VARISTOR	SA
1405-001121	VR608	VARISTOR	SA
2007-000138	R103	R-CHIP	SA
2007-000138	R233	R-CHIP	SA
2007-000138	R442	R-CHIP	SA
2007-000138	R449	R-CHIP	SA
2007-000140	R519	R-CHIP	SA
2007-000140	R601	R-CHIP	SA
2007-000141	R224	R-CHIP	SA
2007-000141	R225	R-CHIP	SA
2007-000141	R409	R-CHIP	SA
2007-000141	R410	R-CHIP	SA
2007-000141	R412	R-CHIP	SA
2007-000141	R413	R-CHIP	SA
2007-000143	R105	R-CHIP	SA
2007-000143	R108	R-CHIP	SA
2007-000143	R118	R-CHIP	SA
2007-000143	R119	R-CHIP	SA
2007-000143	R120	R-CHIP	SA
2007-000143	R229	R-CHIP	SA
2007-000143	R501	R-CHIP	SA
2007-000143	R502	R-CHIP	SA
2007-000148	R308	R-CHIP	SA
2007-000148	R421	R-CHIP	SA
2007-000157	R111	R-CHIP	SA
2007-000157	R617	R-CHIP	SA
2007-000157	R618	R-CHIP	SA
2007-000159	R212	R-CHIP	SA
2007-000160	R406	R-CHIP	SA
2007-000162	R202	R-CHIP	SA
2007-000162	R203	R-CHIP	SA
2007-000162	R206	R-CHIP	SA
2007-000162	R207	R-CHIP	SA
2007-000162	R208	R-CHIP	SA
2007-000162	R209	R-CHIP	SA
2007-000162	R211	R-CHIP	SA
2007-000162	R215	R-CHIP	SA
2007-000162	R219	R-CHIP	SA
2007-000162	R220	R-CHIP	SA
2007-000162	R221	R-CHIP	SA
2007-000162	R226	R-CHIP	SA
2007-000162	R227	R-CHIP	SA
2007-000162	R230	R-CHIP	SA
2007-000162	R231	R-CHIP	SA
2007-000162	R234	R-CHIP	SA
2007-000162	R235	R-CHIP	SA
2007-000162	R303	R-CHIP	SA
2007-000162	R432	R-CHIP	SA
2007-000162	R518	R-CHIP	SA
2007-000162	R520	R-CHIP	SA
2007-000162	R600	R-CHIP	SA

SEC Code	Design LOC	Description	STATUS
2007-000162	R615	R-CHIP	SA
2007-000162	R619	R-CHIP	SA
2007-000170	R302	R-CHIP	SA
2007-000171	L300	R-CHIP	SA
2007-000171	R100	R-CHIP	SA
2007-000171	R125	R-CHIP	SA
2007-000171	R204	R-CHIP	SA
2007-000171	R216	R-CHIP	SA
2007-000171	R217	R-CHIP	SA
2007-000171	R402	R-CHIP	SA
2007-000171	R415	R-CHIP	SA
2007-000171	R435	R-CHIP	SA
2007-000171	R509	R-CHIP	SA
2007-000171	R514	R-CHIP	SA
2007-000174	R201	R-CHIP	SA
2007-000758	R305	R-CHIP	SA
2007-000932	R112	R-CHIP	SA
2007-000932	R113	R-CHIP	SA
2007-000932	R115	R-CHIP	SA
2007-000932	R116	R-CHIP	SA
2007-001301	R606	R-CHIP	SA
2007-001301	R607	R-CHIP	SA
2007-001303	R524	R-CHIP	SA
2007-001303	R603	R-CHIP	SA
2007-001303	R608	R-CHIP	SA
2007-001303	R613	R-CHIP	SA
2007-001308	R605	R-CHIP	SA
2007-001325	R411	R-CHIP	SA
2007-001339	R102	R-CHIP	SA
2007-001339	R123	R-CHIP	SA
2007-001339	R304	R-CHIP	SA
2007-001339	R507	R-CHIP	SA
2007-001339	R508	R-CHIP	SA
2007-001339	R510	R-CHIP	SA
2007-001339	R511	R-CHIP	SA
2007-003001	R114	R-CHIP	SA
2007-003001	R117	R-CHIP	SA
2007-003006	R503	R-CHIP	SA
2007-003006	R506	R-CHIP	SA
2007-003015	R107	R-CHIP	SA
2007-003030	R604	R-CHIP	SA
2007-007001	R223	R-CHIP	SA
2007-007008	R614	R-CHIP	SA
2007-007014	R522	R-CHIP	SA
2007-007014	R523	R-CHIP	SA
2007-007092	R101	R-CHIP	SA
2007-007100	R300	R-CHIP	SA
2007-007107	R213	R-CHIP	SA
2007-007107	R222	R-CHIP	SA
2007-007107	R504	R-CHIP	SA
2007-007107	R505	R-CHIP	SA
2007-007107	R517	R-CHIP	SA
2007-007132	R620	R-CHIP	SA

SEC Code	Design LOC	Description	STATUS
2007-007141	R205	R-CHIP	SA
2007-007141	R609	R-CHIP	SA
2007-007141	R610	R-CHIP	SA
2007-007141	R611	R-CHIP	SA
2007-007142	R214	R-CHIP	SA
2007-007306	L502	R-CHIP	SA
2007-007308	R405	R-CHIP	SA
2007-007310	R621	R-CHIP	SA
2007-007334	R309	R-CHIP	SA
2007-007573	R307	R-CHIP	SA
2007-009874	R301	R-CHIP	SA
2203-000233	C136	C-CER,CHIP	SA
2203-000233	C432	C-CER,CHIP	SA
2203-000233	C503	C-CER,CHIP	SA
2203-000233	C512	C-CER,CHIP	SA
2203-000254	C118	C-CER,CHIP	SA
2203-000254	C119	C-CER,CHIP	SA
2203-000254	C121	C-CER,CHIP	SA
2203-000254	C132	C-CER,CHIP	SA
2203-000254	C202	C-CER,CHIP	SA
2203-000254	C205	C-CER,CHIP	SA
2203-000254	C208	C-CER,CHIP	SA
2203-000254	C611	C-CER,CHIP	SA
2203-000254	C624	C-CER,CHIP	SA
2203-000254	C625	C-CER,CHIP	SA
2203-000278	C127	C-CER,CHIP	SA
2203-000278	C130	C-CER,CHIP	SA
2203-000278	R104	C-CER,CHIP	SA
2203-000386	C123	C-CER,CHIP	SA
2203-000386	C615	C-CER,CHIP	SA
2203-000386	C616	C-CER,CHIP	SA
2203-000386	C617	C-CER,CHIP	SA
2203-000386	C618	C-CER,CHIP	SA
2203-000438	C417	C-CER,CHIP	SA
2203-000489	C109	C-CER,CHIP	SA
2203-000627	C301	C-CER,CHIP	SNA
2203-000627	C303	C-CER,CHIP	SNA
2203-000627	C413	C-CER,CHIP	SNA
2203-000627	C421	C-CER,CHIP	SNA
2203-000679	C214	C-CER,CHIP	SA
2203-000812	C106	C-CER,CHIP	SA
2203-000812	C107	C-CER,CHIP	SA
2203-000812	C108	C-CER,CHIP	SA
2203-000812	C305	C-CER,CHIP	SA
2203-000812	C327	C-CER,CHIP	SA
2203-000812	C419	C-CER,CHIP	SA
2203-000812	C627	C-CER,CHIP	SA
2203-000812	C628	C-CER,CHIP	SA
2203-000812	C629	C-CER,CHIP	SA
2203-000854	C213	C-CER,CHIP	SA
2203-000854	C402	C-CER,CHIP	SA
2203-000854	C430	C-CER,CHIP	SA
2203-000854	C431	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-000854	C436	C-CER,CHIP	SA
2203-000854	C437	C-CER,CHIP	SA
2203-000995	C133	C-CER,CHIP	SA
2203-000995	C134	C-CER,CHIP	SA
2203-000995	R414	C-CER,CHIP	SA
2203-000995	R417	C-CER,CHIP	SA
2203-001017	R110	C-CER,CHIP	SA
2203-001153	C505	C-CER,CHIP	SA
2203-001153	C516	C-CER,CHIP	SA
2203-001153	C517	C-CER,CHIP	SA
2203-001201	C100	C-CER,CHIP	SA
2203-001383	C128	C-CER,CHIP	SA
2203-002709	C200	C-CER,CHIP	SA
2203-002709	C201	C-CER,CHIP	SA
2203-002709	C203	C-CER,CHIP	SA
2203-002709	C204	C-CER,CHIP	SA
2203-002709	C206	C-CER,CHIP	SA
2203-002709	C207	C-CER,CHIP	SA
2203-002709	C209	C-CER,CHIP	SA
2203-002709	C210	C-CER,CHIP	SA
2203-002709	C323	C-CER,CHIP	SA
2203-002709	C401	C-CER,CHIP	SA
2203-002709	C406	C-CER,CHIP	SA
2203-002709	C415	C-CER,CHIP	SA
2203-002709	C420	C-CER,CHIP	SA
2203-003054	C416	C-CER,CHIP	SA
2203-005052	C124	C-CER,CHIP	SA
2203-005052	C129	C-CER,CHIP	SA
2203-005056	C418	C-CER,CHIP	SA
2203-005234	C103	C-CER,CHIP	SA
2203-005234	C112	C-CER,CHIP	SA
2203-005234	C114	C-CER,CHIP	SA
2203-005234	C120	C-CER,CHIP	SA
2203-005234	C131	C-CER,CHIP	SA
2203-005481	C433	C-CER,CHIP	SA
2203-005481	C434	C-CER,CHIP	SA
2203-005482	C111	C-CER,CHIP	SA
2203-005482	C126	C-CER,CHIP	SA
2203-005482	C135	C-CER,CHIP	SA
2203-005482	C211	C-CER,CHIP	SA
2203-005482	C212	C-CER,CHIP	SA
2203-005482	C217	C-CER,CHIP	SA
2203-005482	C218	C-CER,CHIP	SA
2203-005482	C300	C-CER,CHIP	SA
2203-005482	C316	C-CER,CHIP	SA
2203-005482	C325	C-CER,CHIP	SA
2203-005482	C438	C-CER,CHIP	SA
2203-005482	C510	C-CER,CHIP	SA
2203-005482	C511	C-CER,CHIP	SA
2203-005482	C515	C-CER,CHIP	SA
2203-005482	C518	C-CER,CHIP	SA
2203-005503	C405	C-CER,CHIP	SA
2203-006048	C104	C-CER,CHIP	SA

SEC Code	Design LOC	Description	STATUS
2203-006048	C117	C-CER,CHIP	SA
2203-006048	C326	C-CER,CHIP	SA
2203-006048	C409	C-CER,CHIP	SA
2203-006048	C410	C-CER,CHIP	SA
2203-006048	C412	C-CER,CHIP	SA
2203-006048	C422	C-CER,CHIP	SA
2203-006137	C404	C-CER,CHIP	SA
2203-006137	C439	C-CER,CHIP	SA
2203-006137	C440	C-CER,CHIP	SA
2203-006137	C519	C-CER,CHIP	SA
2203-006208	C309	C-CER,CHIP	SA
2203-006208	C311	C-CER,CHIP	SA
2203-006208	C321	C-CER,CHIP	SA
2203-006257	C302	C-CER,CHIP	SA
2203-006257	C312	C-CER,CHIP	SA
2203-006257	C313	C-CER,CHIP	SA
2203-006257	C319	C-CER,CHIP	SA
2203-006257	C320	C-CER,CHIP	SA
2203-006257	C322	C-CER,CHIP	SA
2203-006324	C429	C-CER,CHIP	SA
2203-006348	C304	C-CER,CHIP	SA
2203-006348	C307	C-CER,CHIP	SA
2203-006361	C105	C-CER,CHIP	SA
2203-006562	C110	C-CER,CHIP	SA
2203-006562	C219	C-CER,CHIP	SA
2203-006562	C411	C-CER,CHIP	SA
2203-006562	C414	C-CER,CHIP	SA
2203-006562	C423	C-CER,CHIP	SA
2203-006562	C424	C-CER,CHIP	SA
2203-006562	C435	C-CER,CHIP	SA
2203-006562	C441	C-CER,CHIP	SA
2203-006562	C513	C-CER,CHIP	SA
2203-006562	C514	C-CER,CHIP	SA
2203-006562	C605	C-CER,CHIP	SA
2203-006562	C606	C-CER,CHIP	SA
2203-006562	C609	C-CER,CHIP	SA
2203-006562	C610	C-CER,CHIP	SA
2203-006562	C612	C-CER,CHIP	SA
2203-006562	C613	C-CER,CHIP	SA
2203-006562	C614	C-CER,CHIP	SA
2203-006562	C619	C-CER,CHIP	SA
2203-006562	C621	C-CER,CHIP	SA
2203-006681	C116	C-CER,CHIP	SA
2203-006681	C308	C-CER,CHIP	SA
2203-006824	C504	C-CER,CHIP	SA
2203-007165	C607	C-CER,CHIP	SA
2203-007165	C608	C-CER,CHIP	SA
2203-007165	C631	C-CER,CHIP	SA
2203-007165	C632	C-CER,CHIP	SA
2404-001240	TA401	C-TA,CHIP	SA
2404-001377	TA400	C-TA,CHIP	SA
2404-001381	TA300	C-TA,CHIP	SA
2404-001381	TA301	C-TA,CHIP	SA

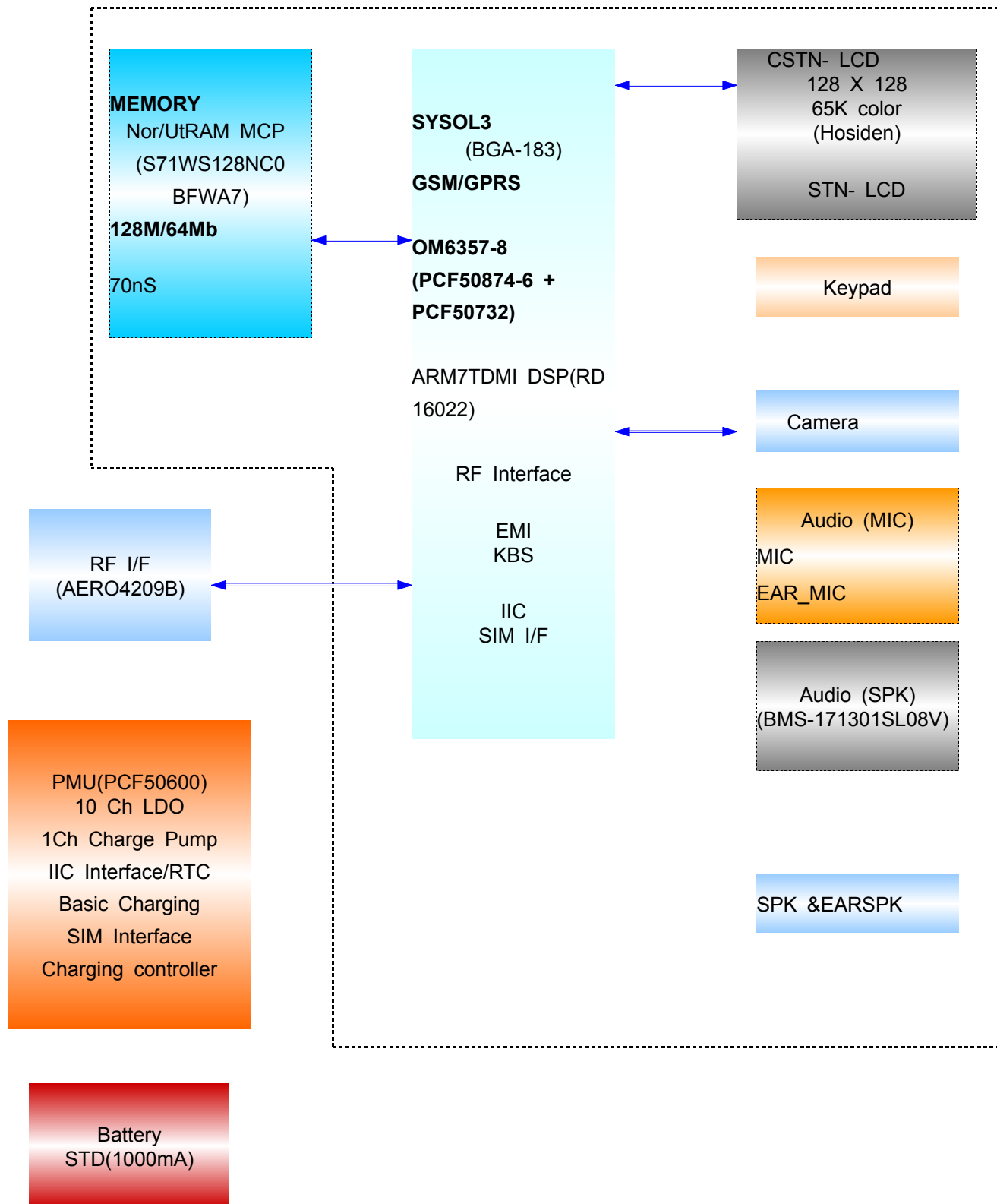
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2503-001053	C602	C-NETWORK	SA
2503-001053	C603	C-NETWORK	SA
2503-001053	C604	C-NETWORK	SA
2503-001053	C622	C-NETWORK	SA
2503-001053	C623	C-NETWORK	SA
2703-001673	L500	INDUCTOR-SMD	SA
2703-001750	C138	INDUCTOR-SMD	SA
2703-001750	L102	INDUCTOR-SMD	SA
2703-002199	C115	INDUCTOR-SMD	SA
2703-002203	L101	INDUCTOR-SMD	SA
2703-002204	L108	INDUCTOR-SMD	SA
2703-002204	L109	INDUCTOR-SMD	SA
2703-002267	C125	INDUCTOR-SMD	SA
2703-002313	L103	INDUCTOR-SMD	SA
2703-002313	L104	INDUCTOR-SMD	SA
2703-002313	L105	INDUCTOR-SMD	SA
2703-002558	L106	INDUCTOR-SMD	SA
2703-003277	L110	INDUCTOR-SMD	SA
2801-004353	OSC300	CRYSTAL-SMD	SA
2801-004426	OSC100	CRYSTAL-SMD	SA
2801-004659	OSC101	CRYSTAL-SMD	SA
2901-001349	F500	FILTER-EMI/ESD	SA
2904-001731	U101	FILTER-SAW	SA
2909-001283	F100	FILTER-LC	SA
3301-001438	L400	BEAD-SMD	SA
3301-001438	L401	BEAD-SMD	SA
3301-001438	L402	BEAD-SMD	SA
3301-001438	L403	BEAD-SMD	SA
3301-001659	R418	BEAD-SMD	SA
3301-001659	R419	BEAD-SMD	SA
3301-001659	R447	BEAD-SMD	SA
3301-001659	R448	BEAD-SMD	SA
3301-001729	L501	BEAD-SMD	SA
3301-001729	L503	BEAD-SMD	SA
3301-001729	L600	BEAD-SMD	SA
3301-001729	R401	BEAD-SMD	SA
3301-001729	R407	BEAD-SMD	SA
3404-001152	TAC DOWN	SWITCH-TACT	SA
3404-001152	TAC UP	SWITCH-TACT	SA
3705-001358	RFS100	CONNECTOR-COAXIAL	SA
3709-001355	SIM300	CONNECTOR-CARD EDGE	SA
3710-002462	CN600	SOCKET-BOARD TO BOARD	SA
3710-002499	IFC500	SOCKET-INTERFACE	SA
3711-006084	BTC600	HEADER-BATTERY	SA
GH13-00057A	U500	IC ASIC-SGHC420	SA
GH70-02640A	SC100	ICT SHIELD-CAN CLIP	SA
GH70-02640A	SC101	ICT SHIELD-CAN CLIP	SA
GH70-02640A	SC102	ICT SHIELD-CAN CLIP	SA
GH70-02640A	SC103	ICT SHIELD-CAN CLIP	SA
GH71-04813A	ANT100	NPR-ANTENNA CONTACT	SA

SEC Code	Design LOC	Description	STATUS
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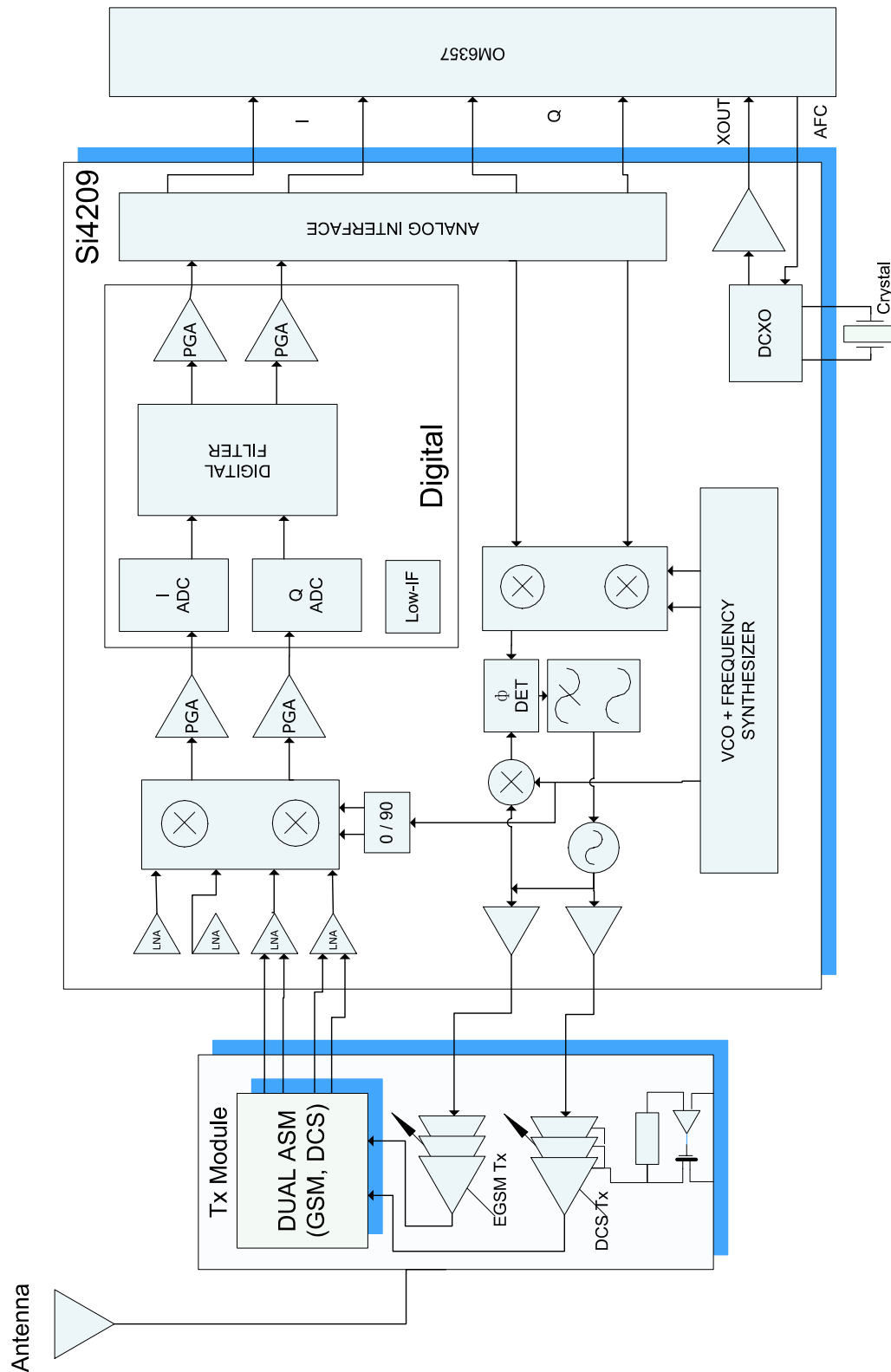
Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.

7. Block Diagrams

7-1. Main Block Diagram

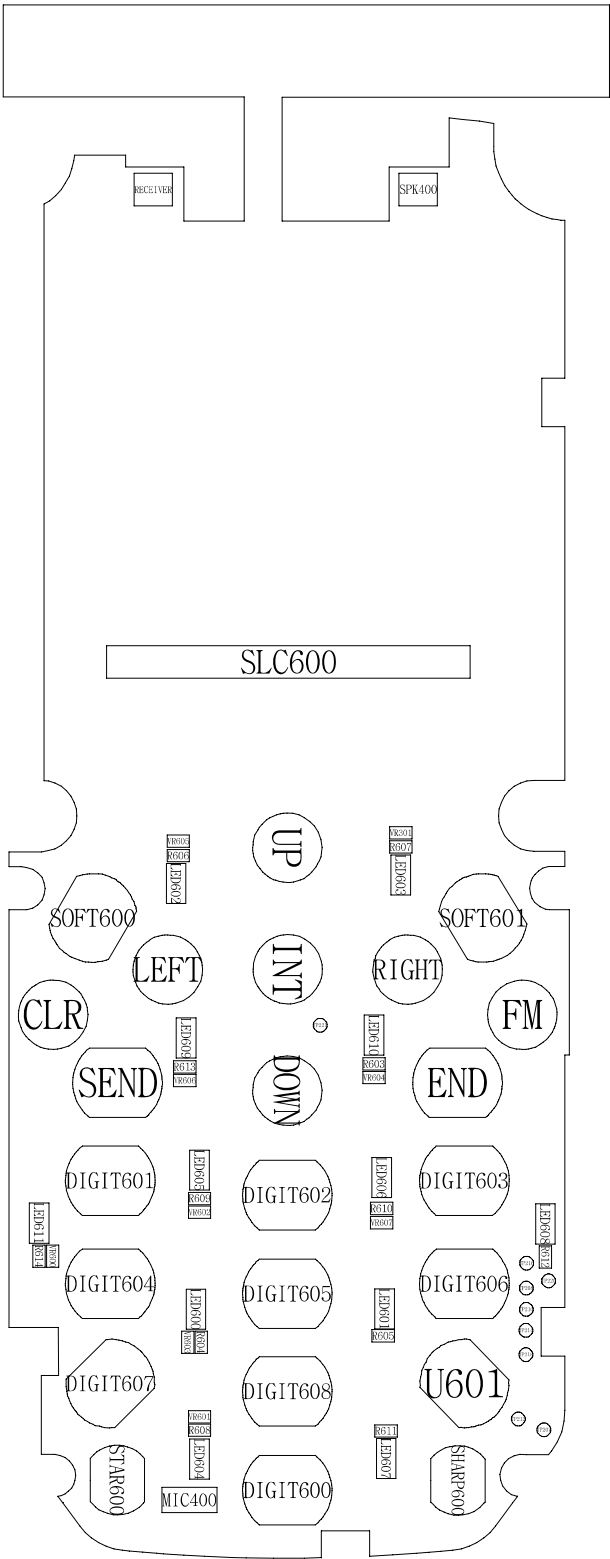


7-2. RF Solution Block Diagram

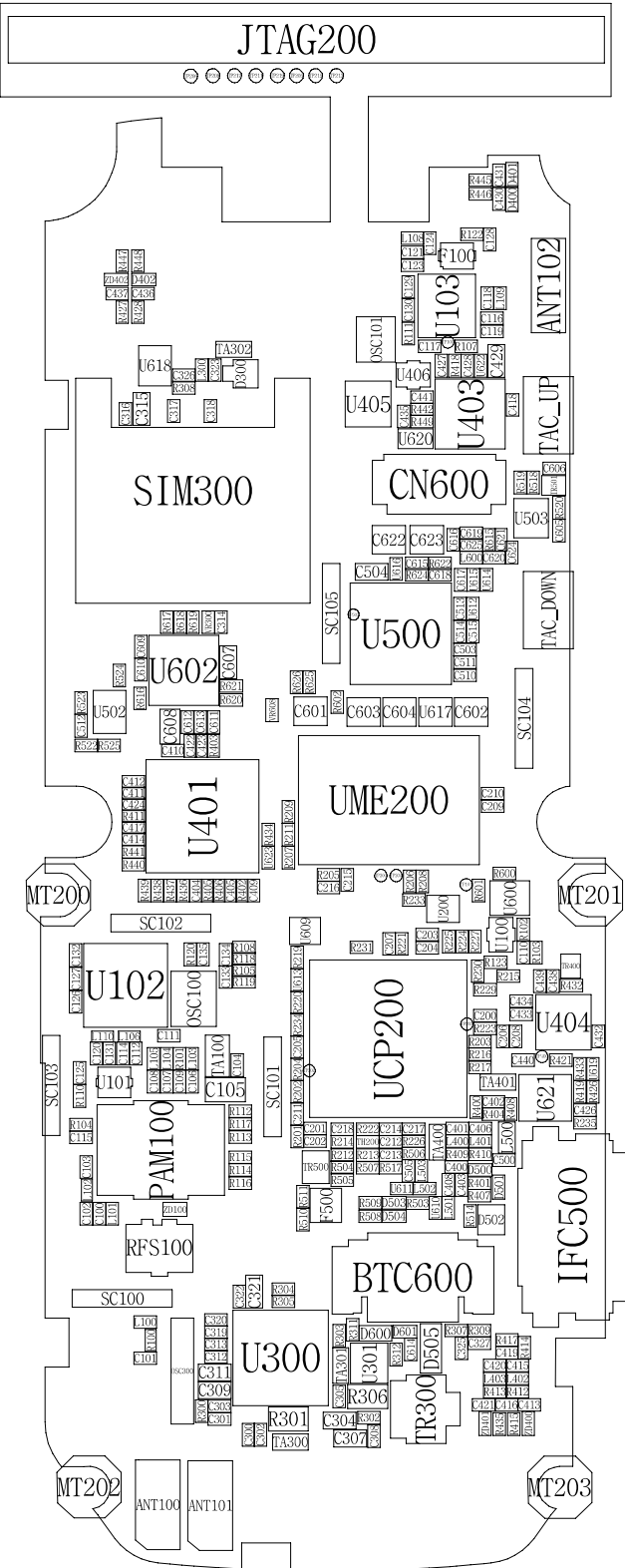


8. PCB Diagrams

– Main top view

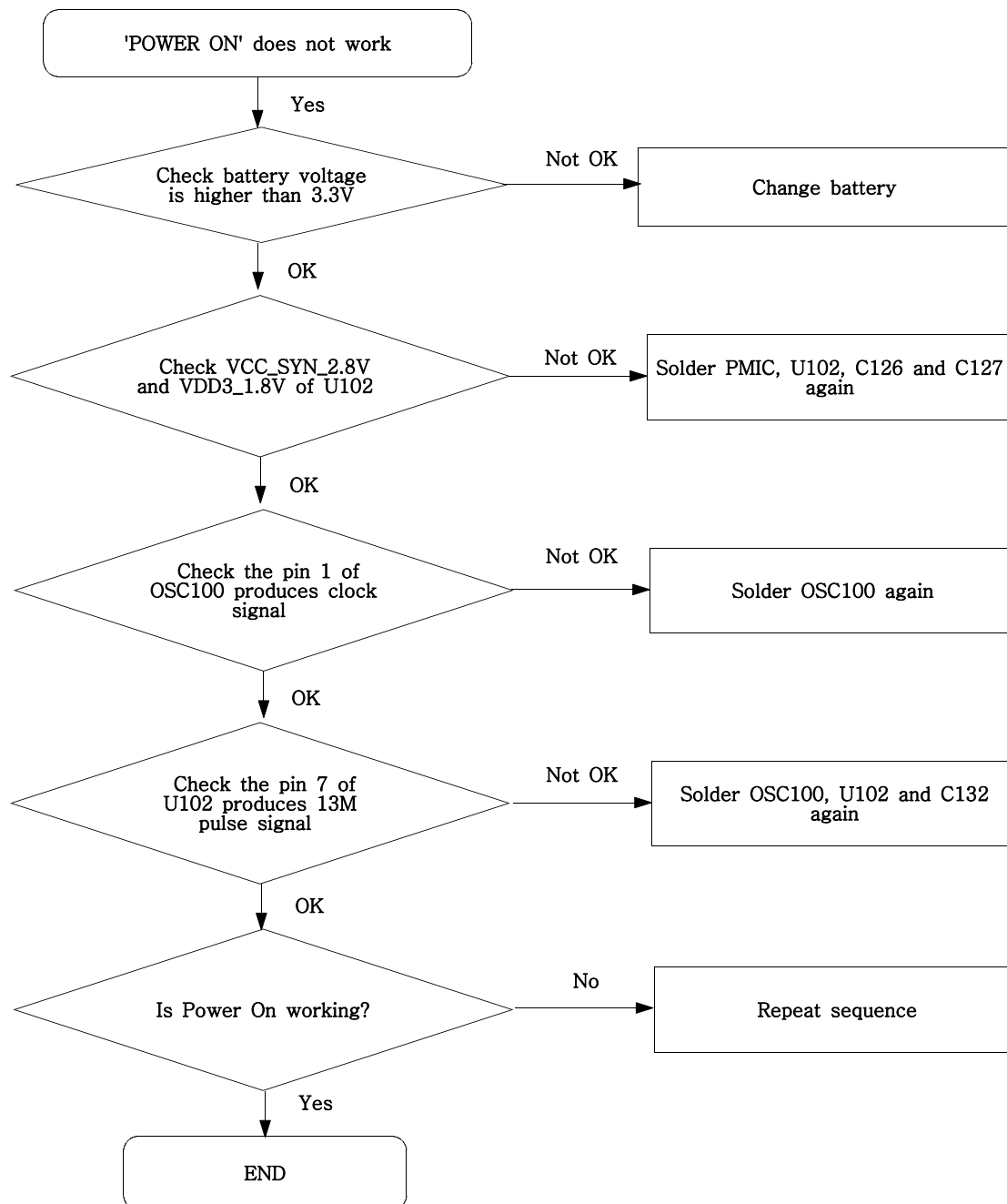


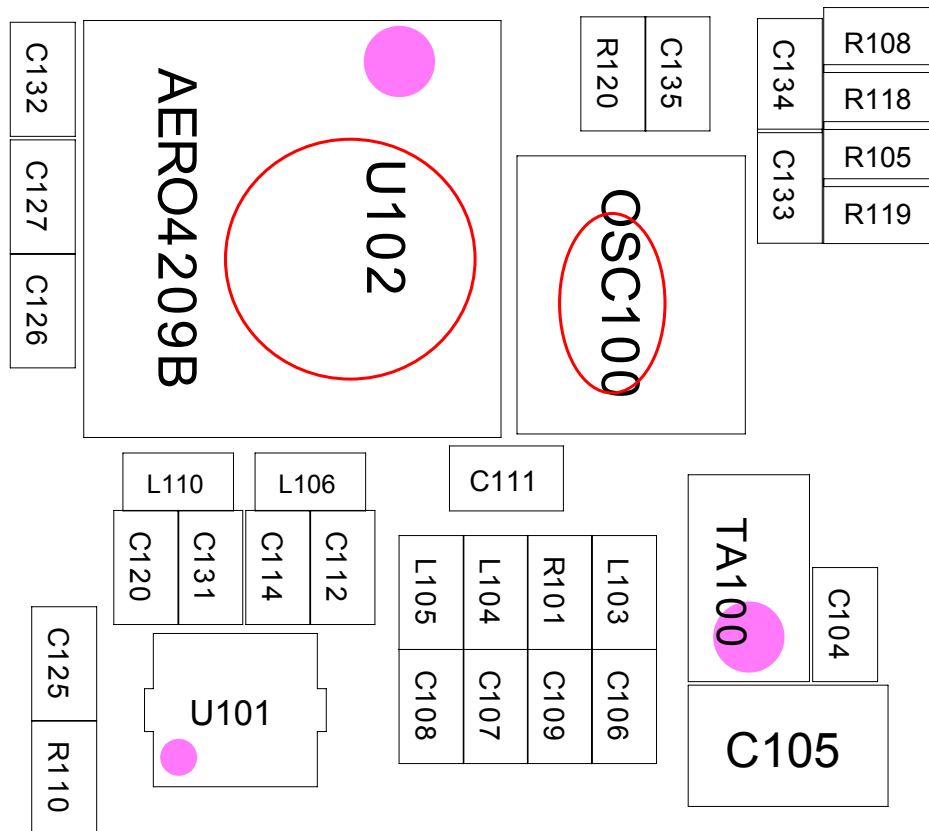
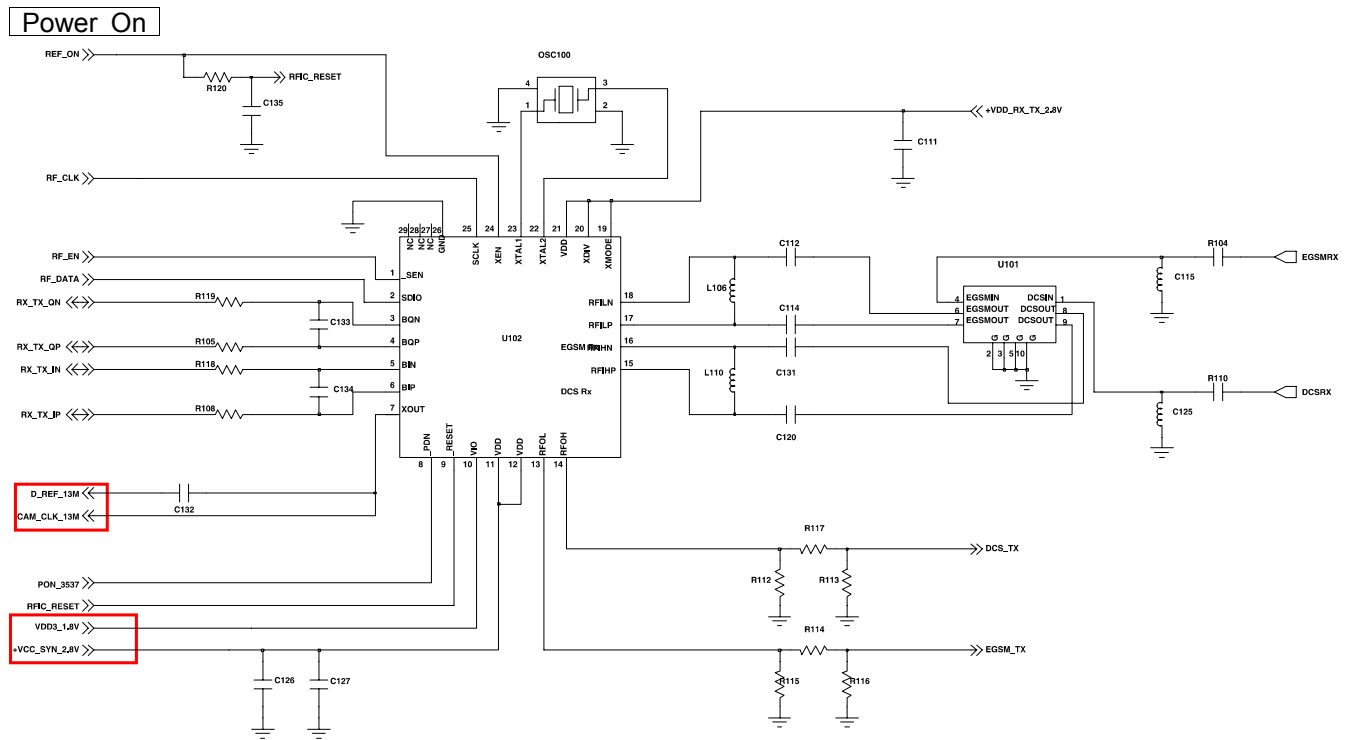
– Main bottom biew



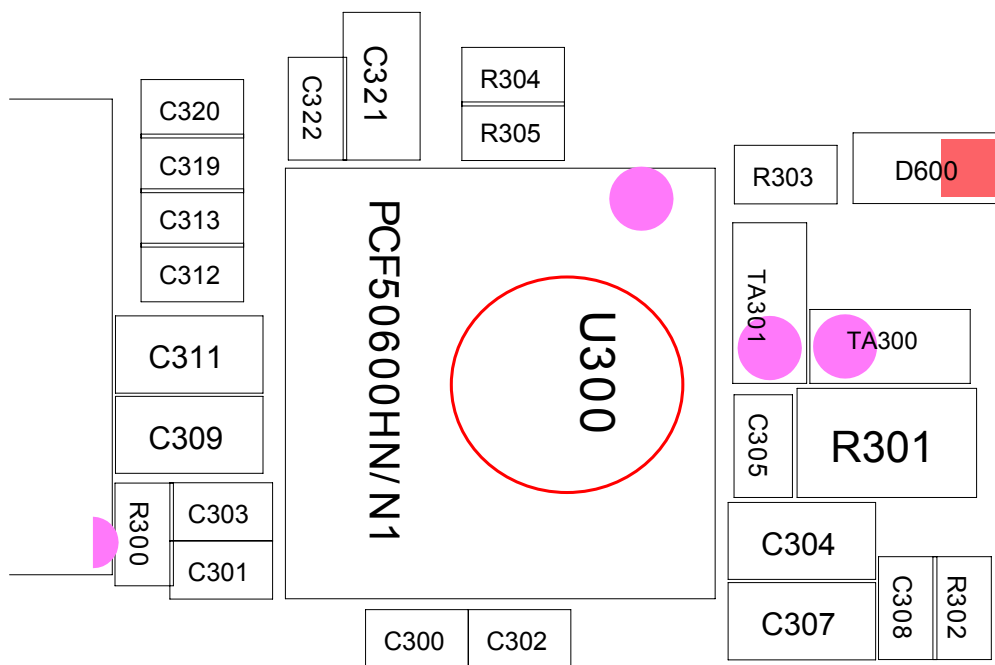
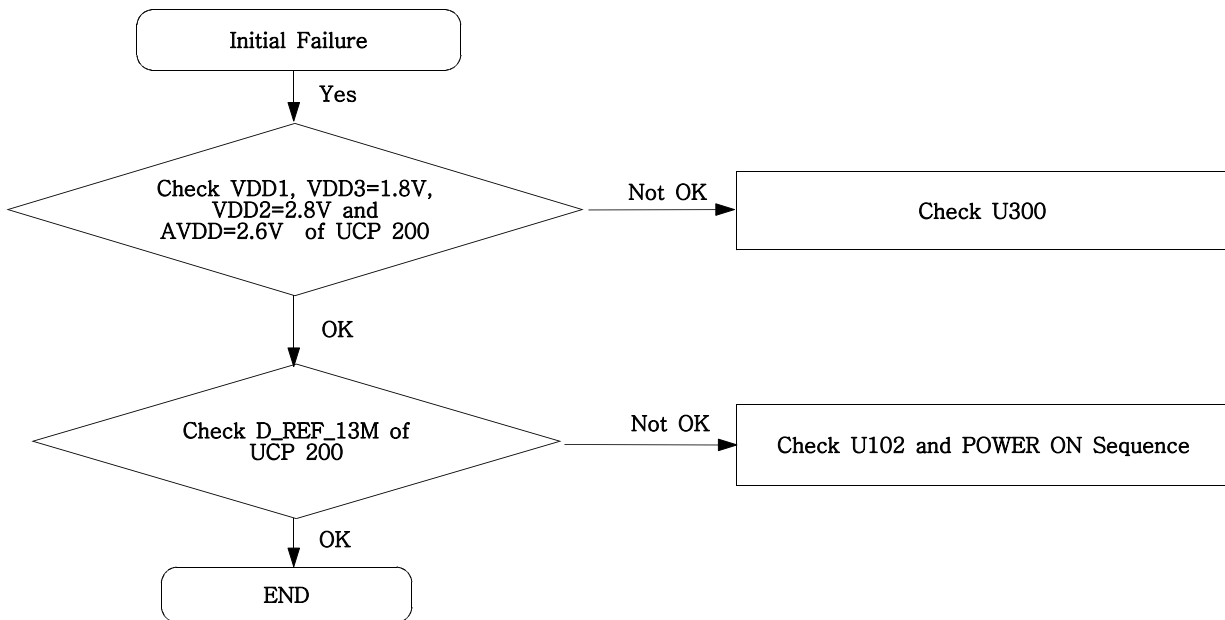
9. Flow Chart of Troubleshooting

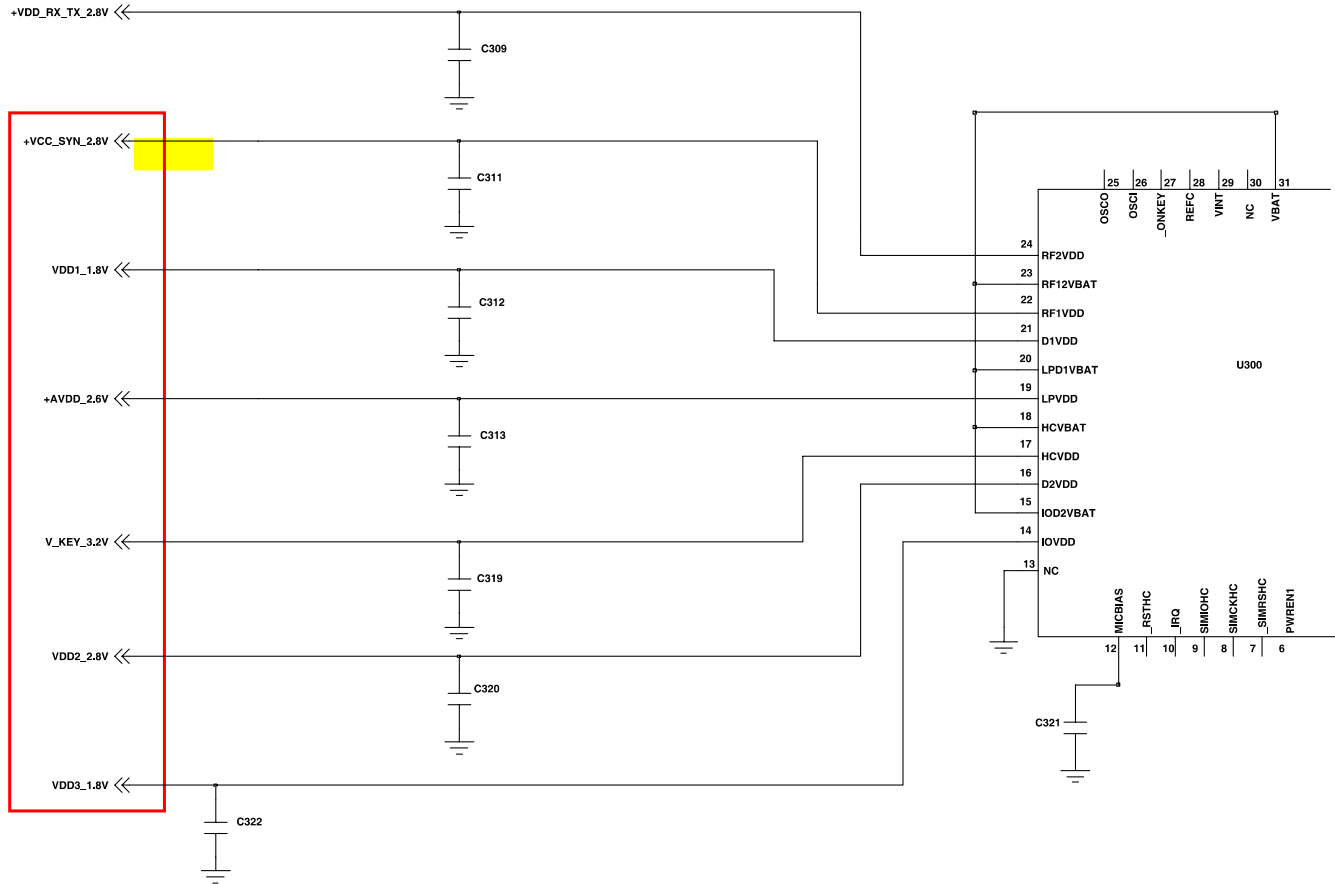
9-1. Power On



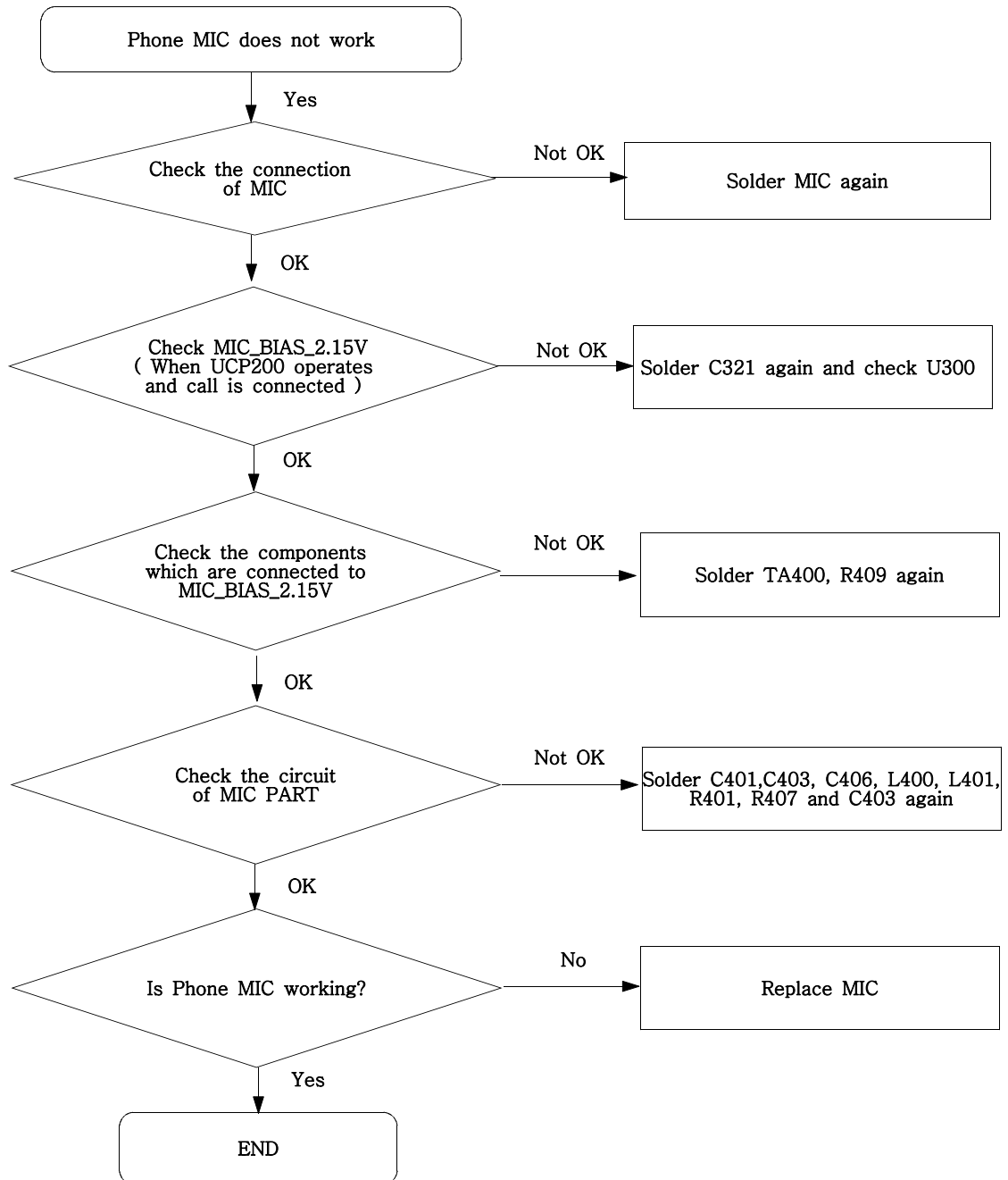


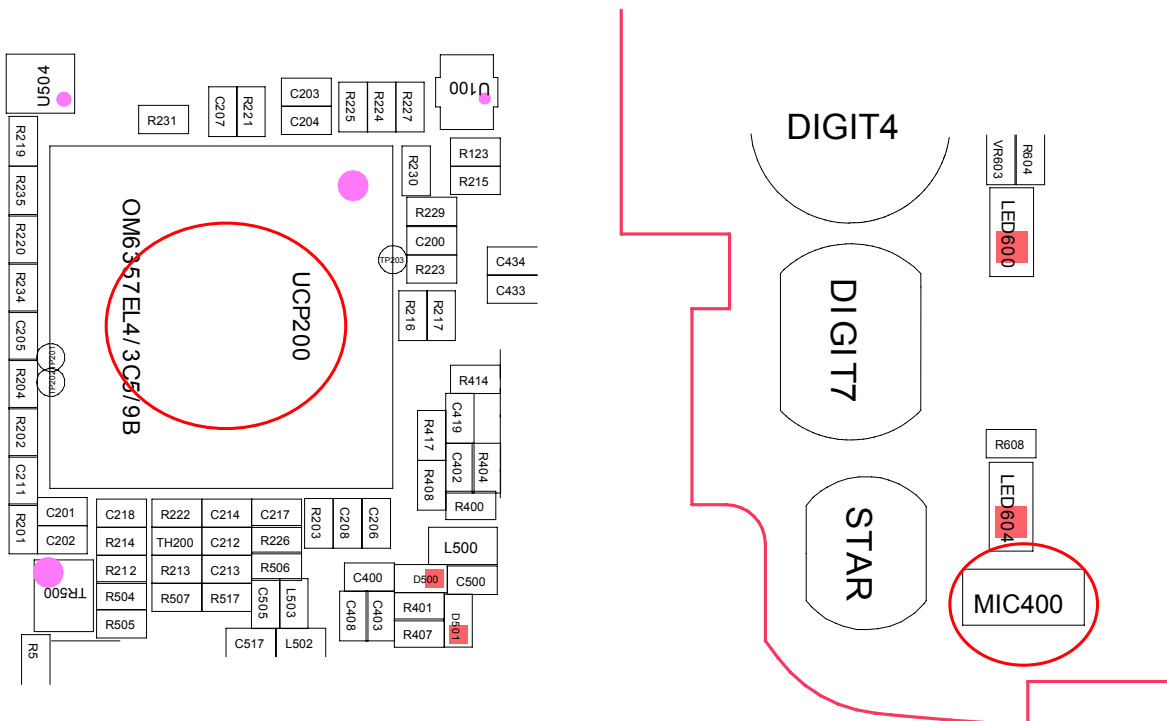
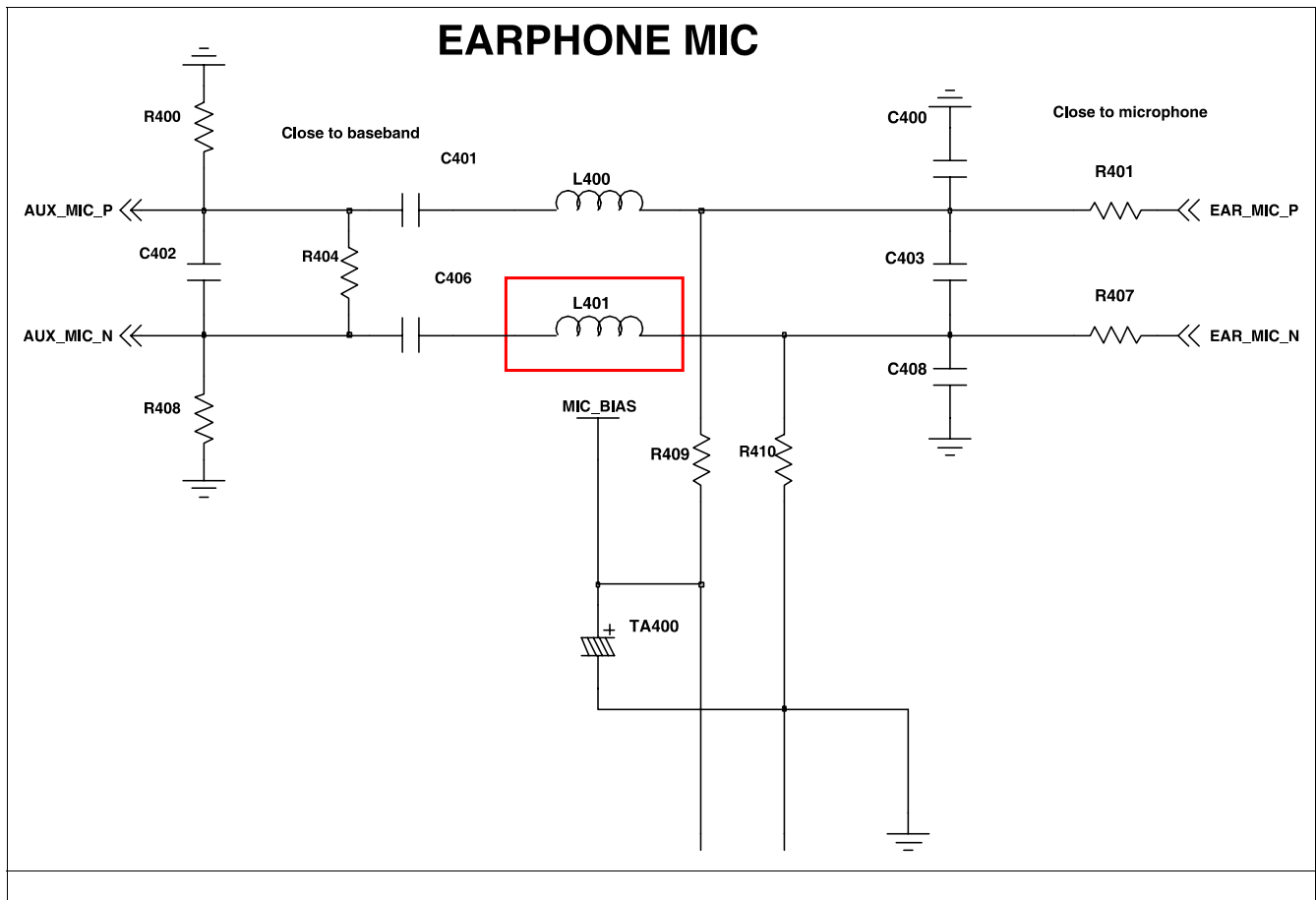
9-2. Initial



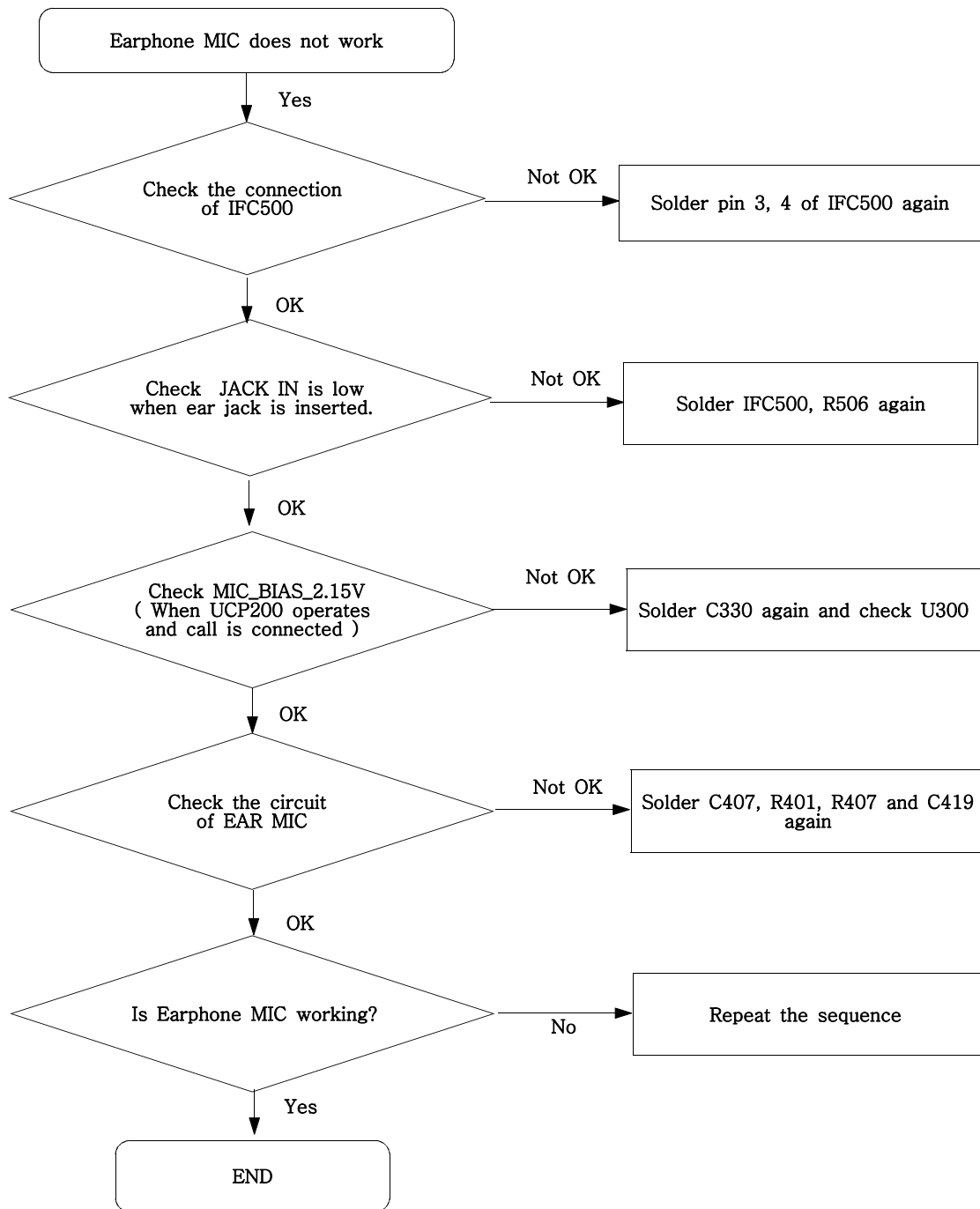


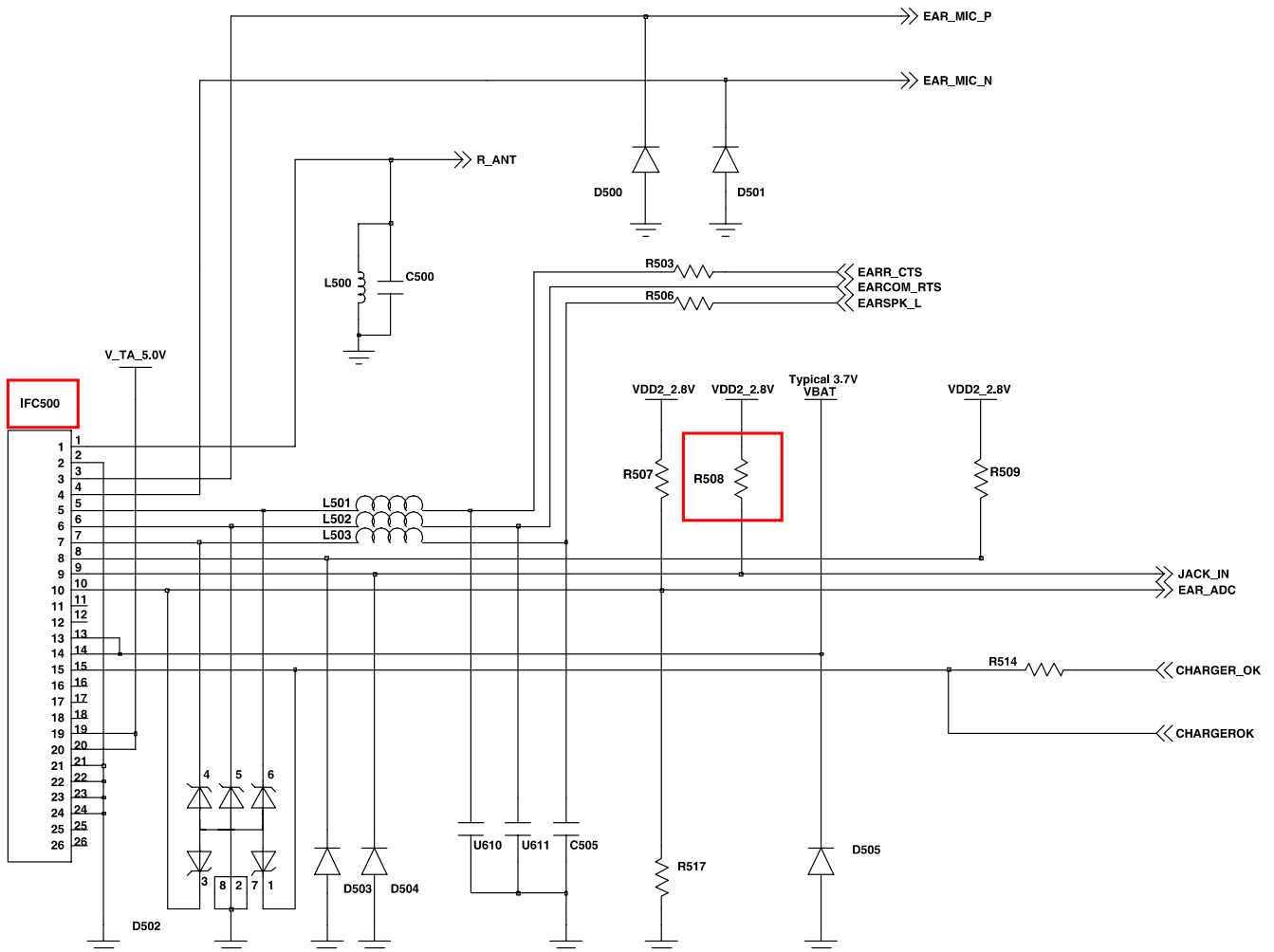
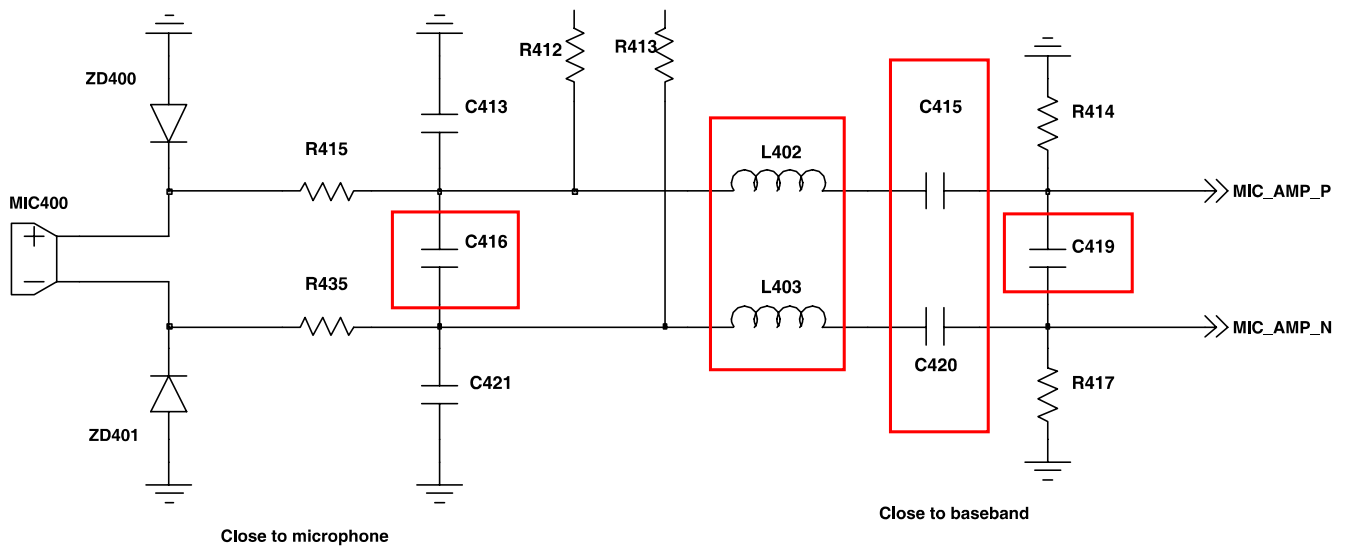
9-4. Microphone Part - Phone MIC

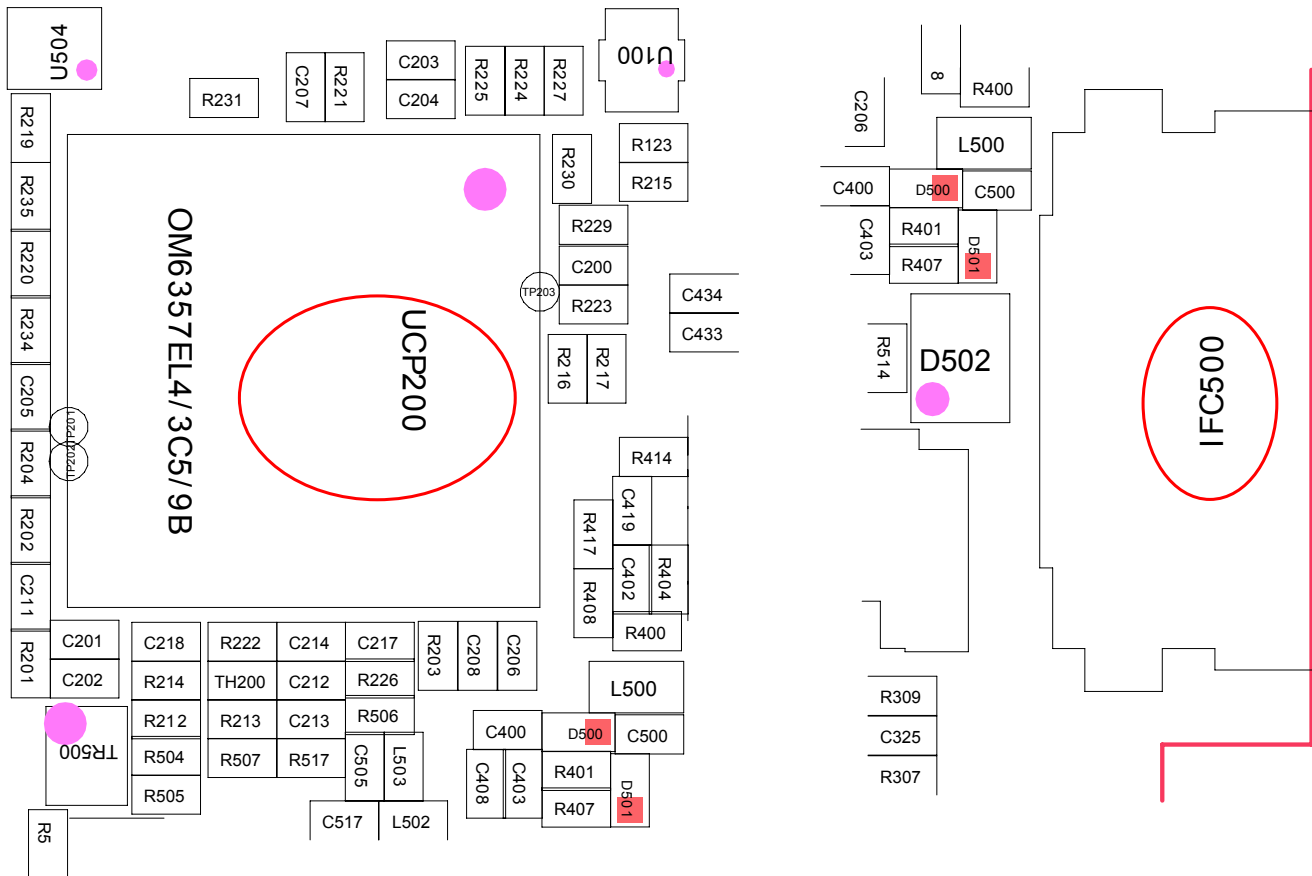




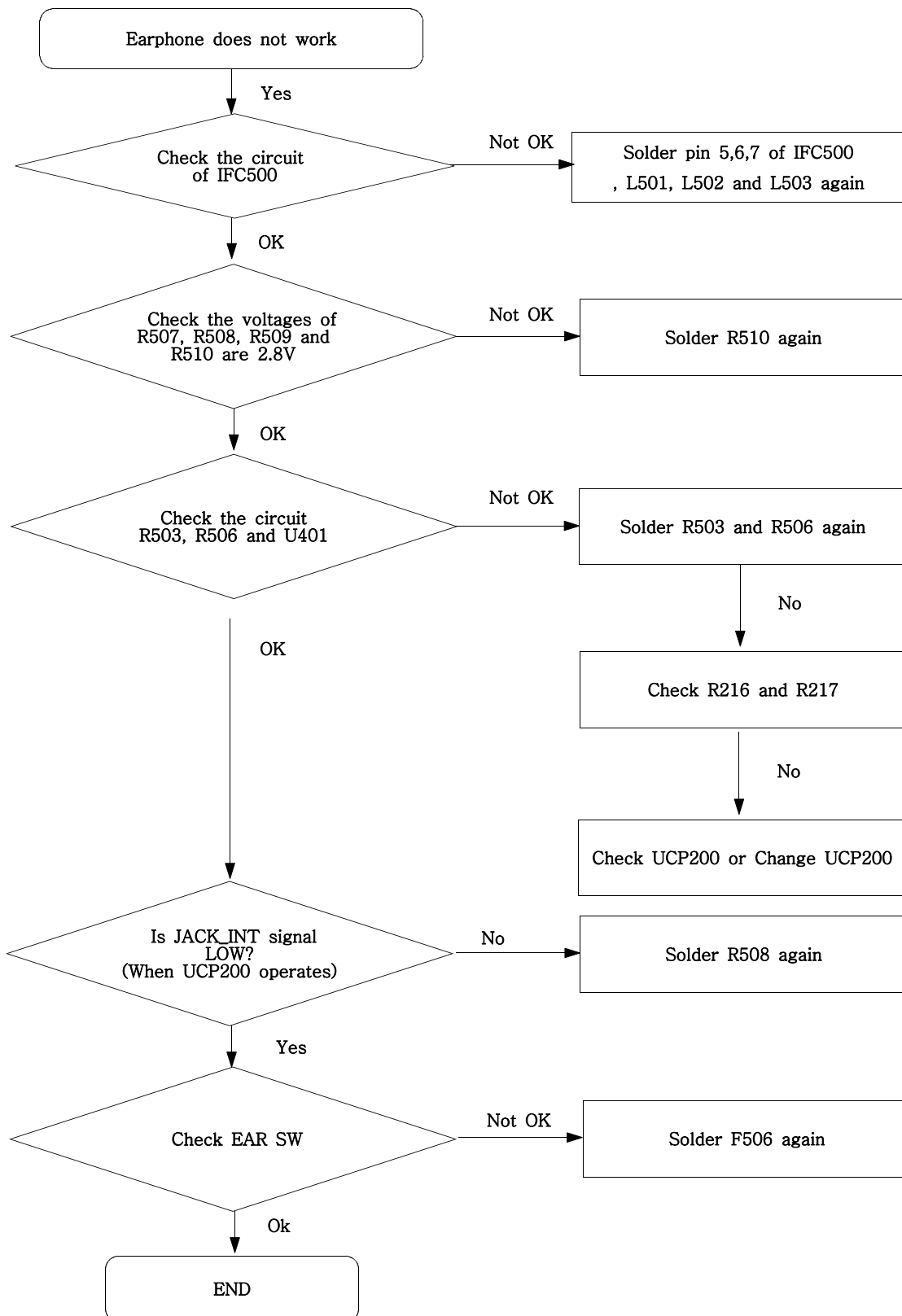
9-5. Microphone Part - Earphone MIC

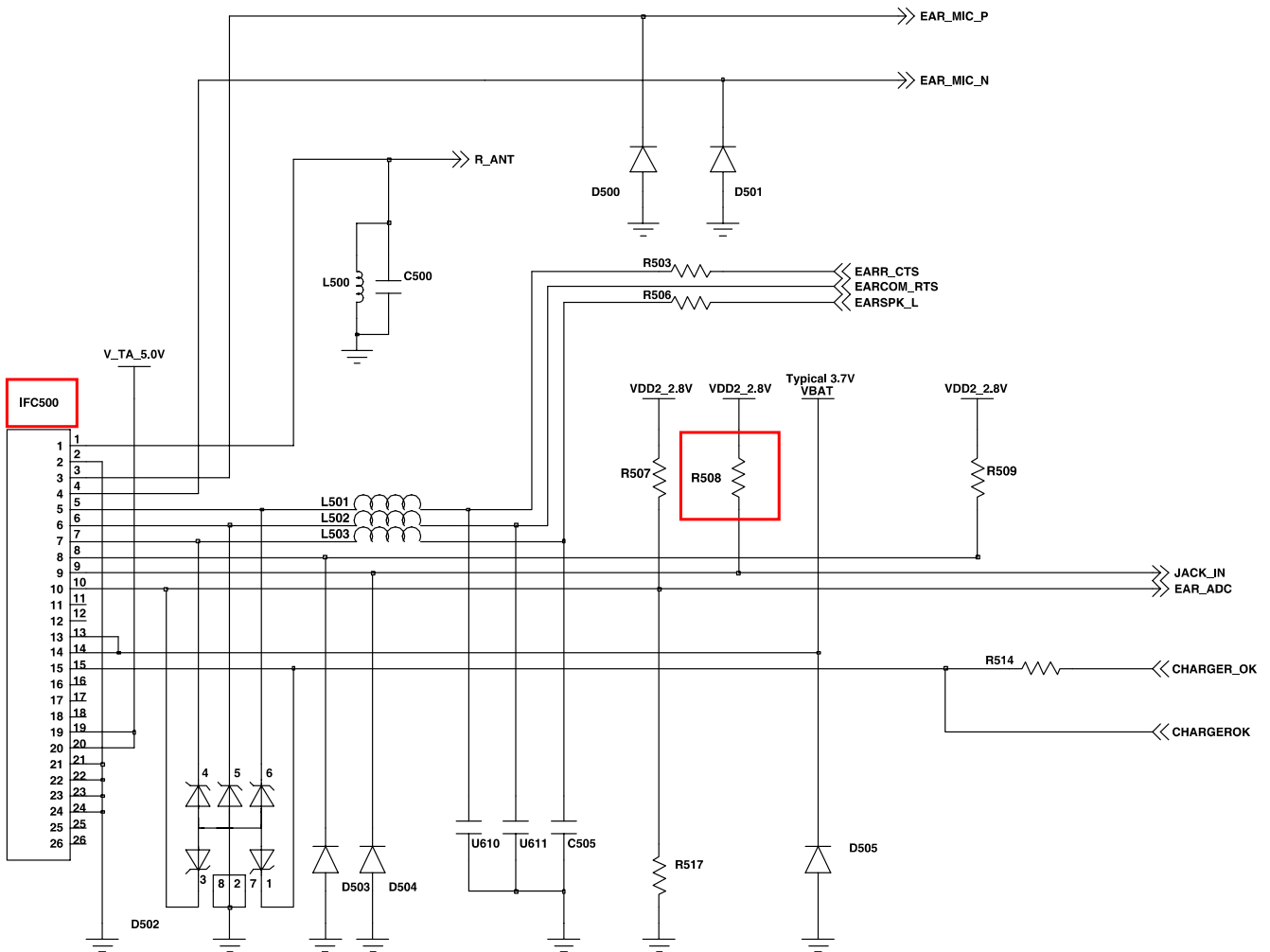
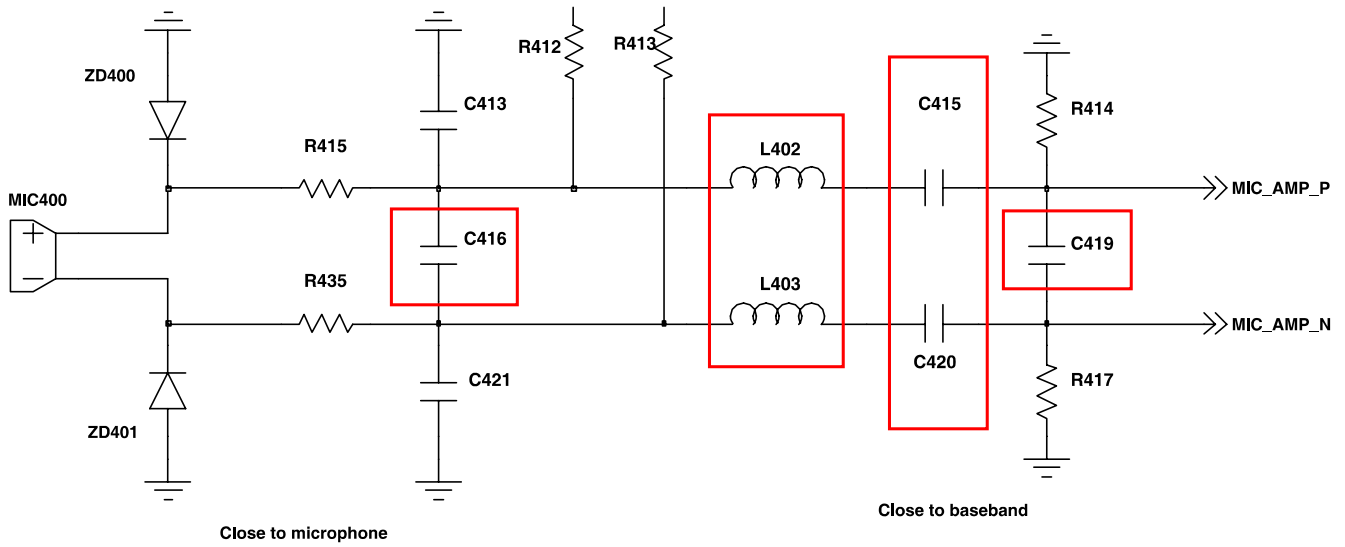




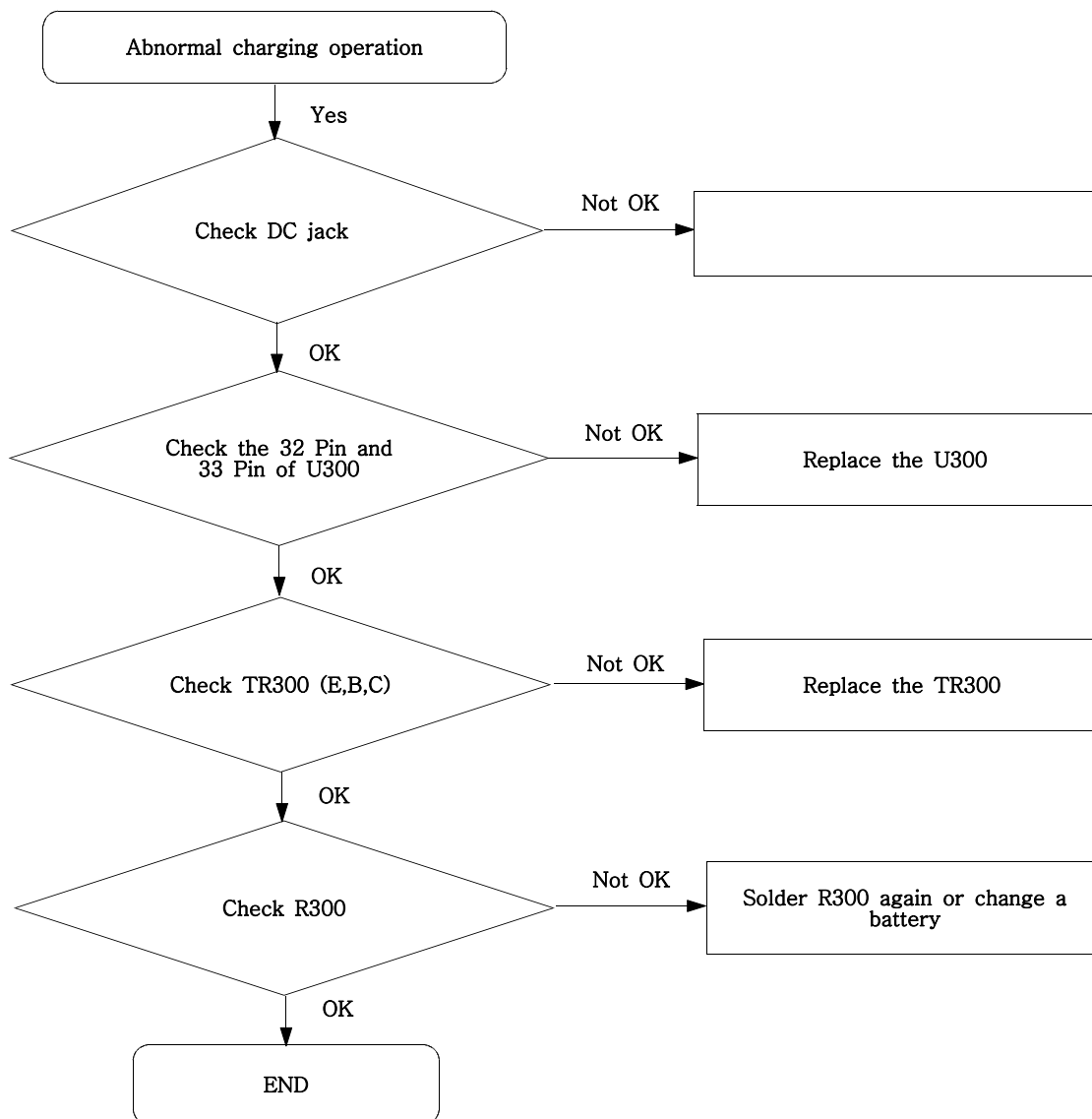


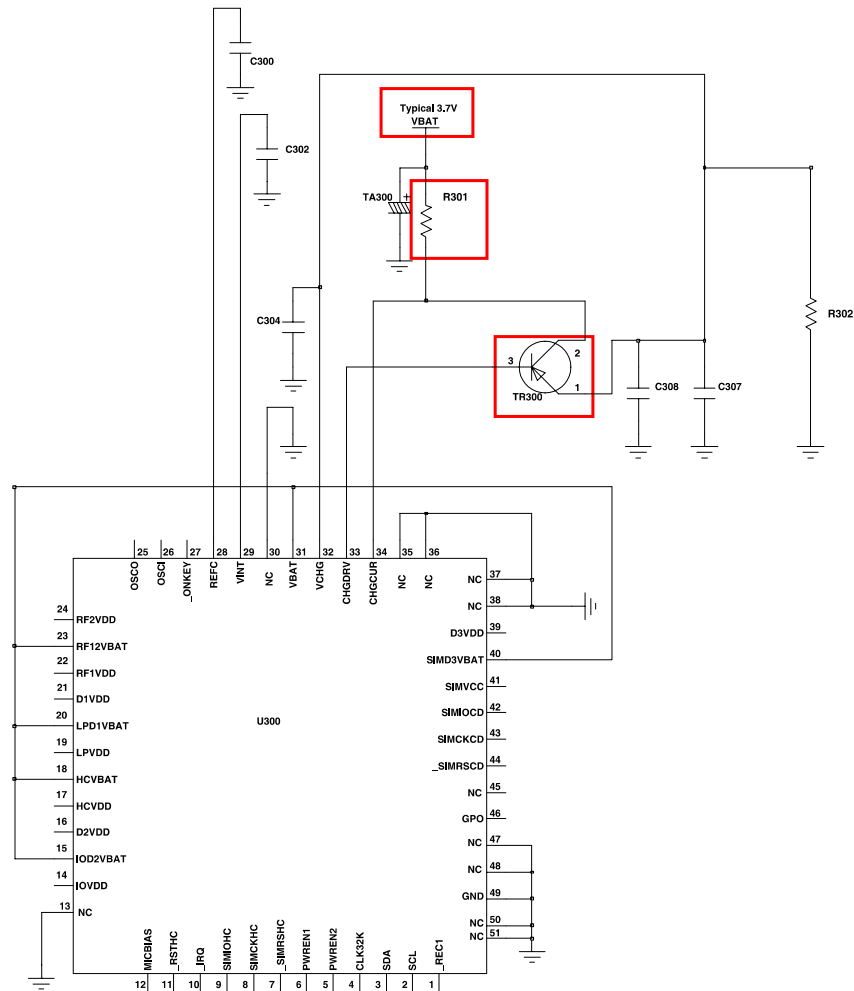
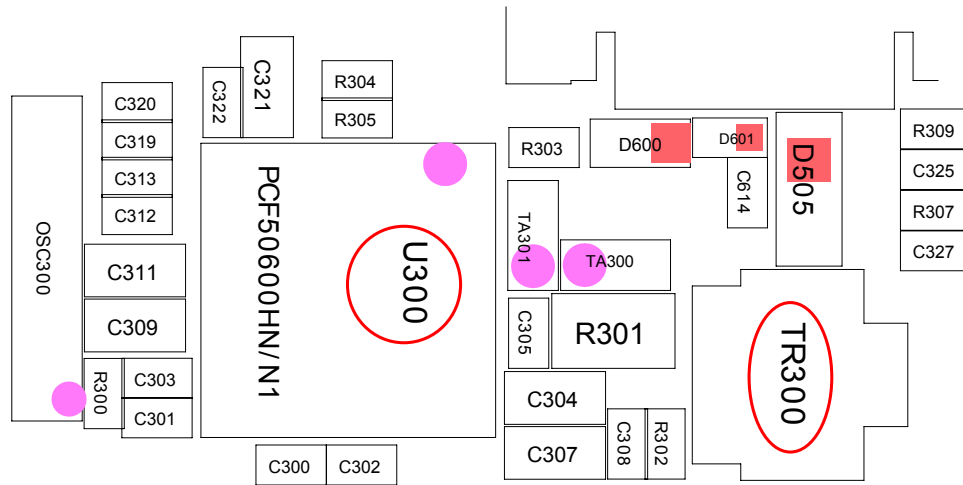
9-6. Earphone Part



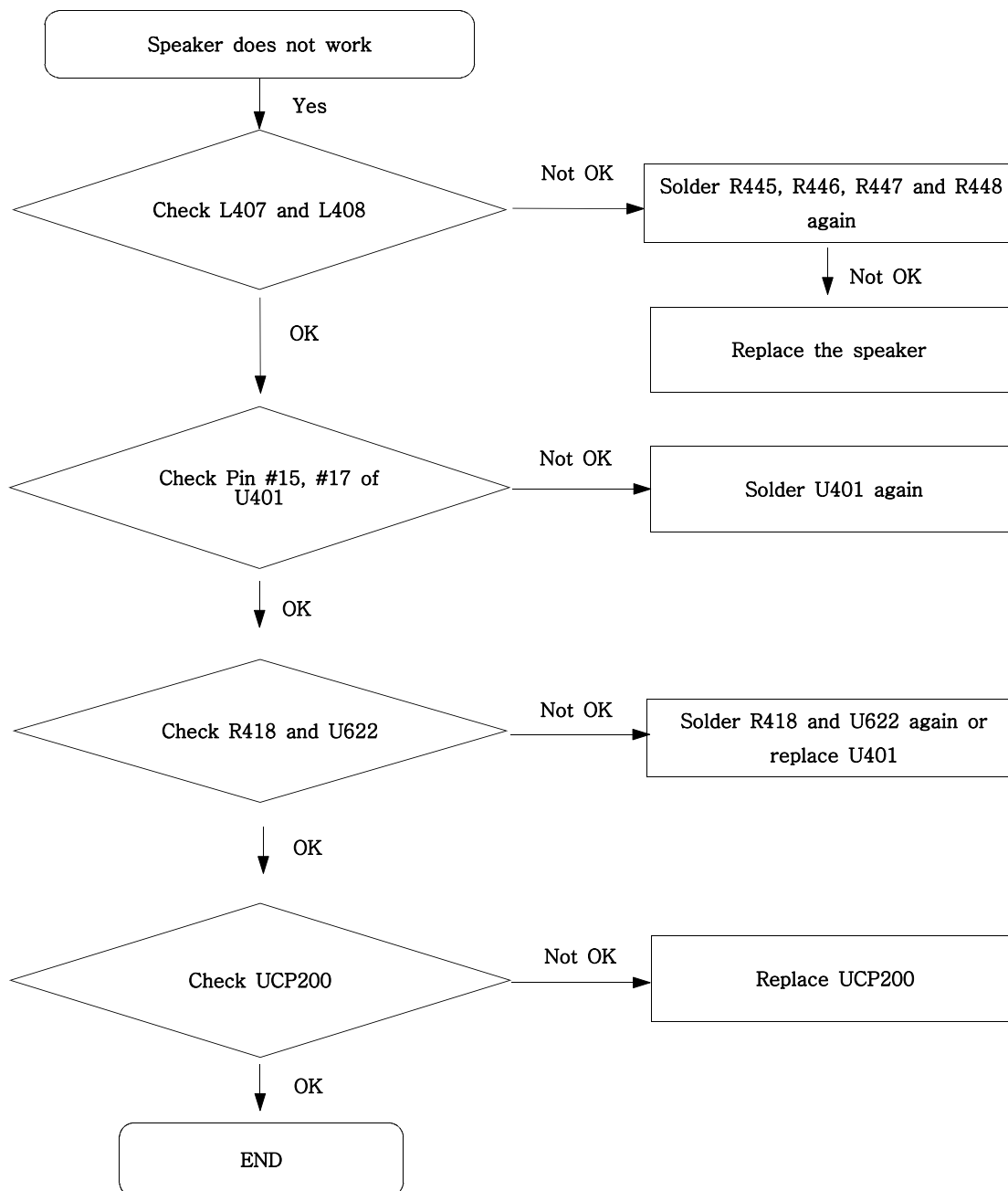


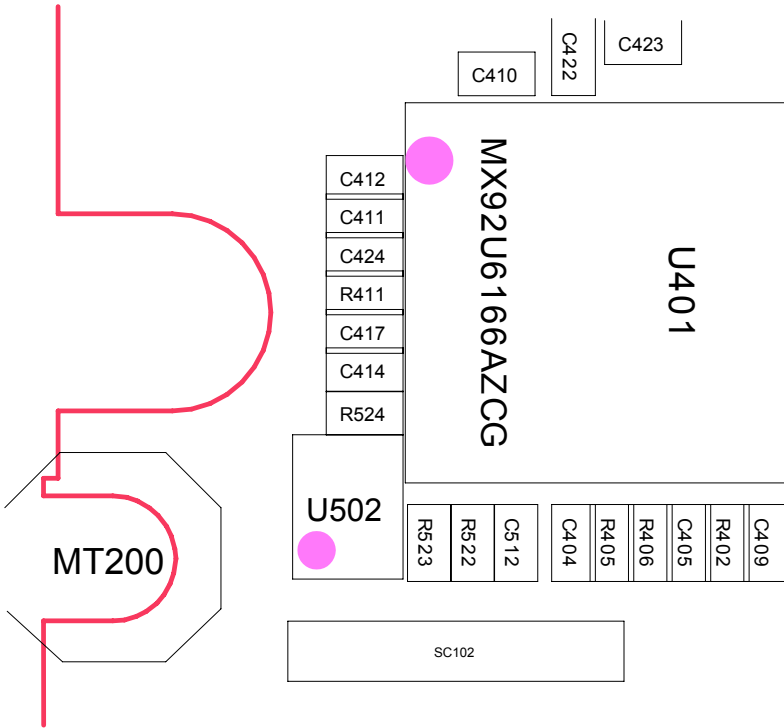
9-7. Charging Part



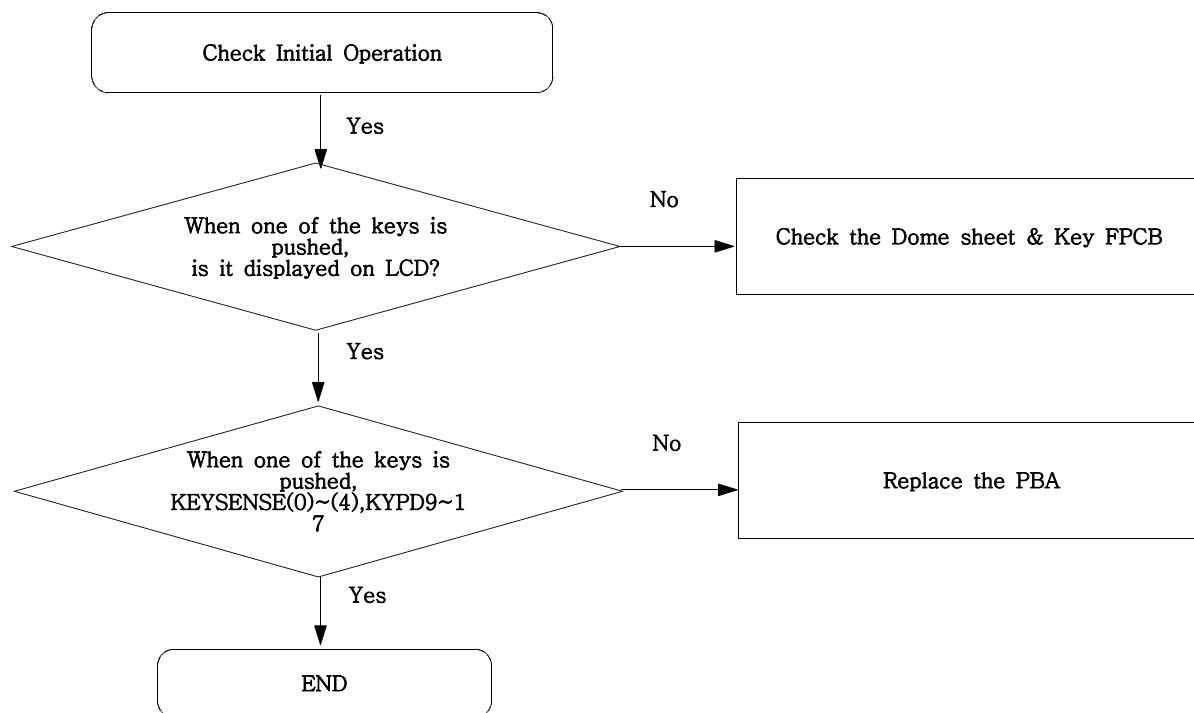


9-8. Speaker Part

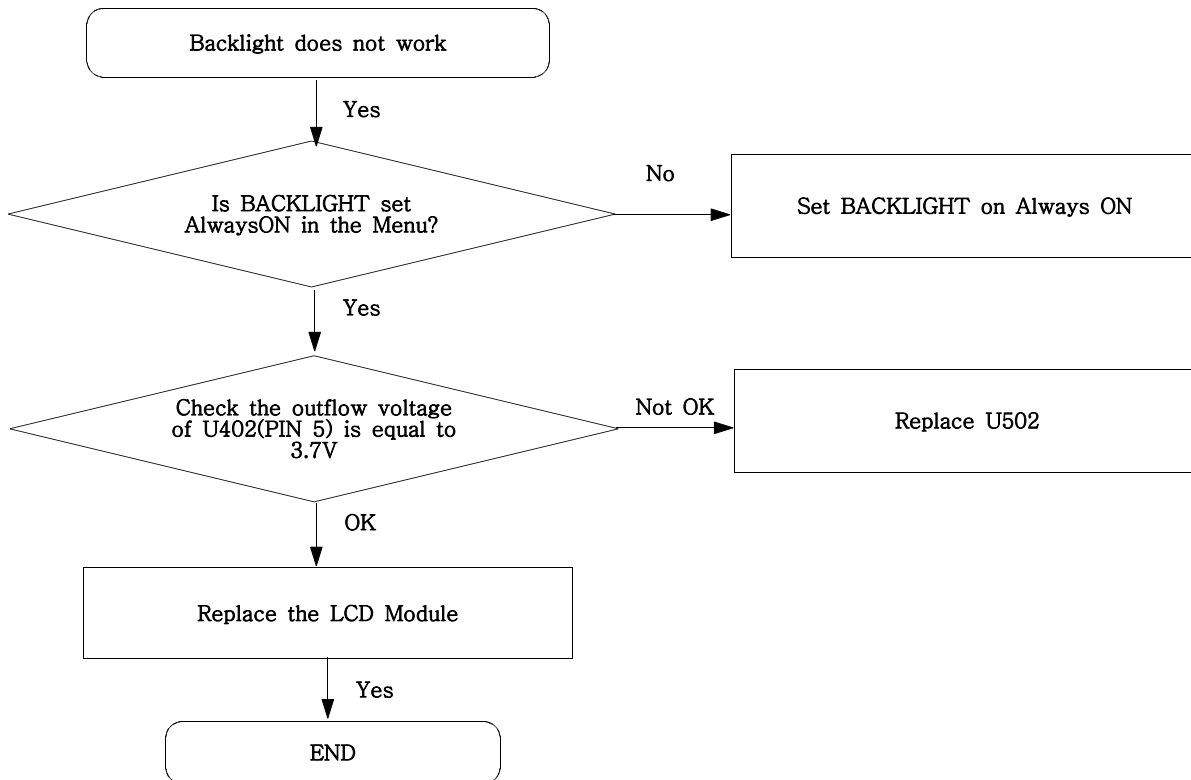


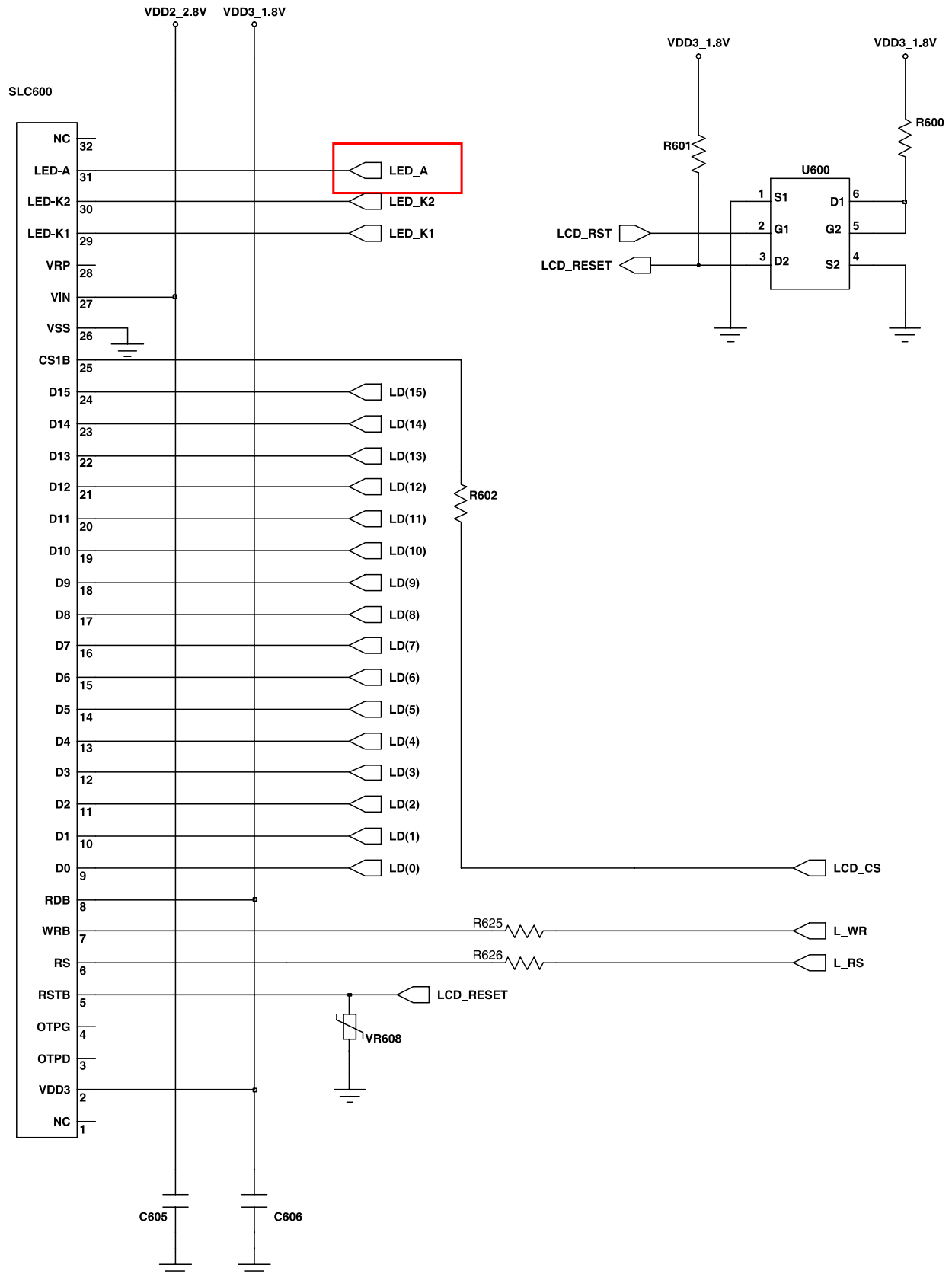


9-9. Key Data Input

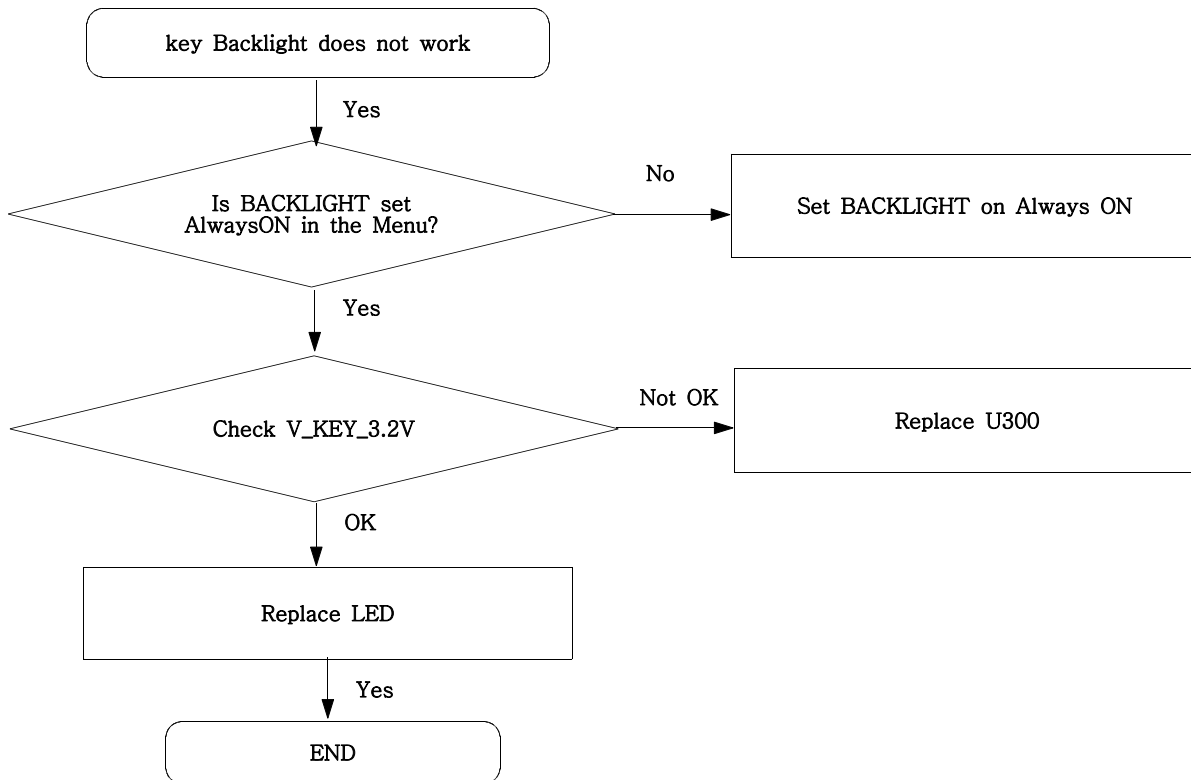


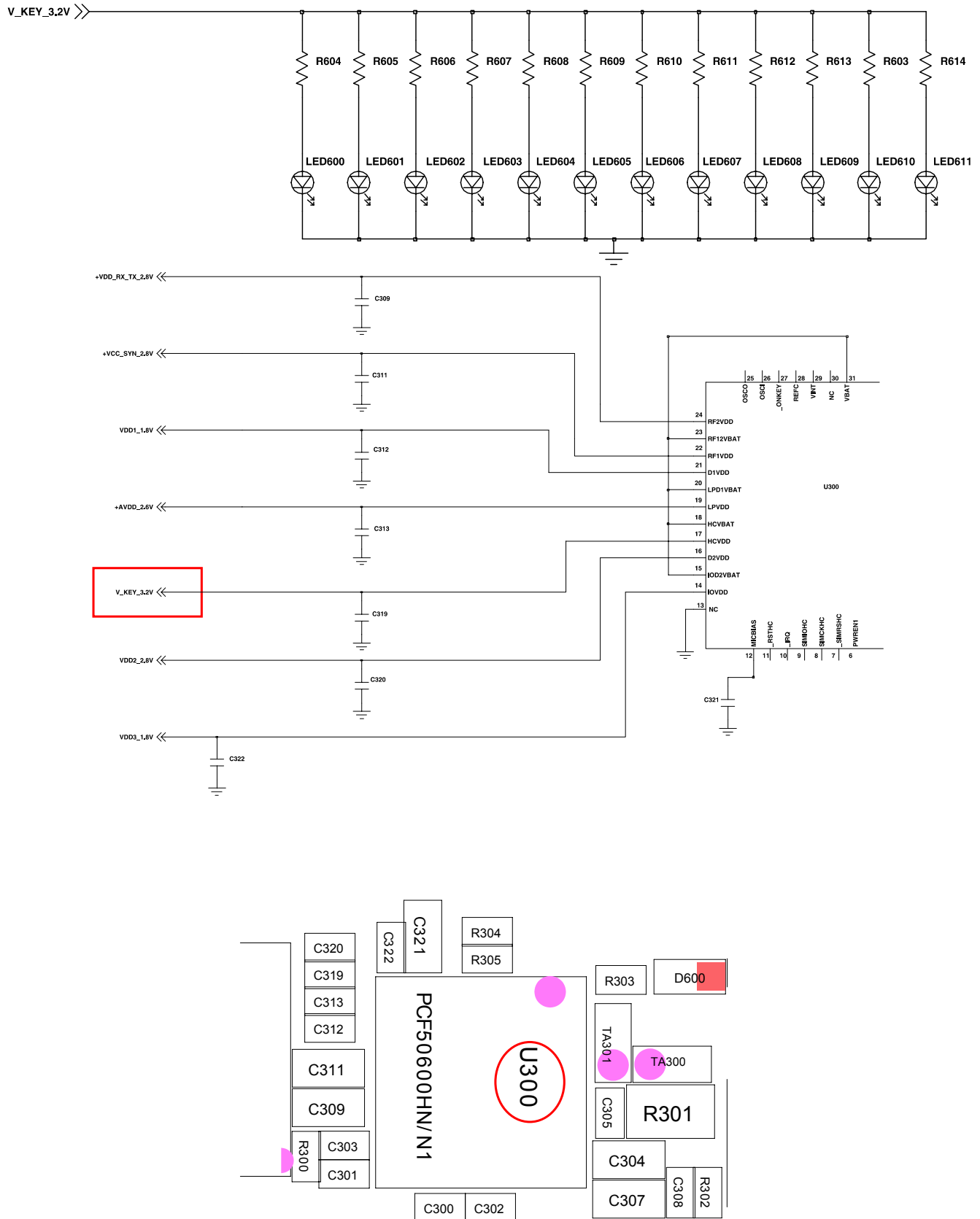
9-10. Back Light (for Color Main LCD)

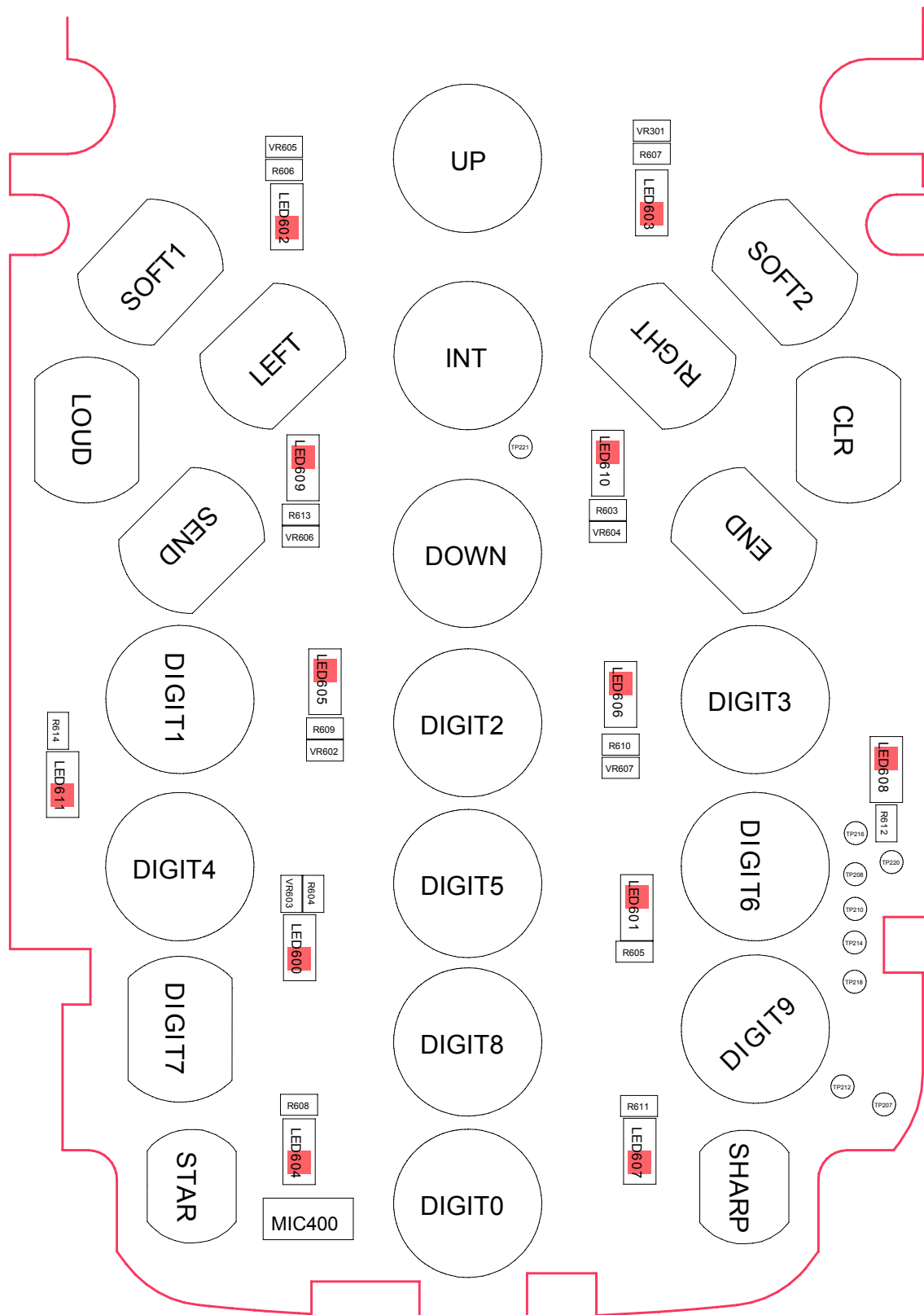




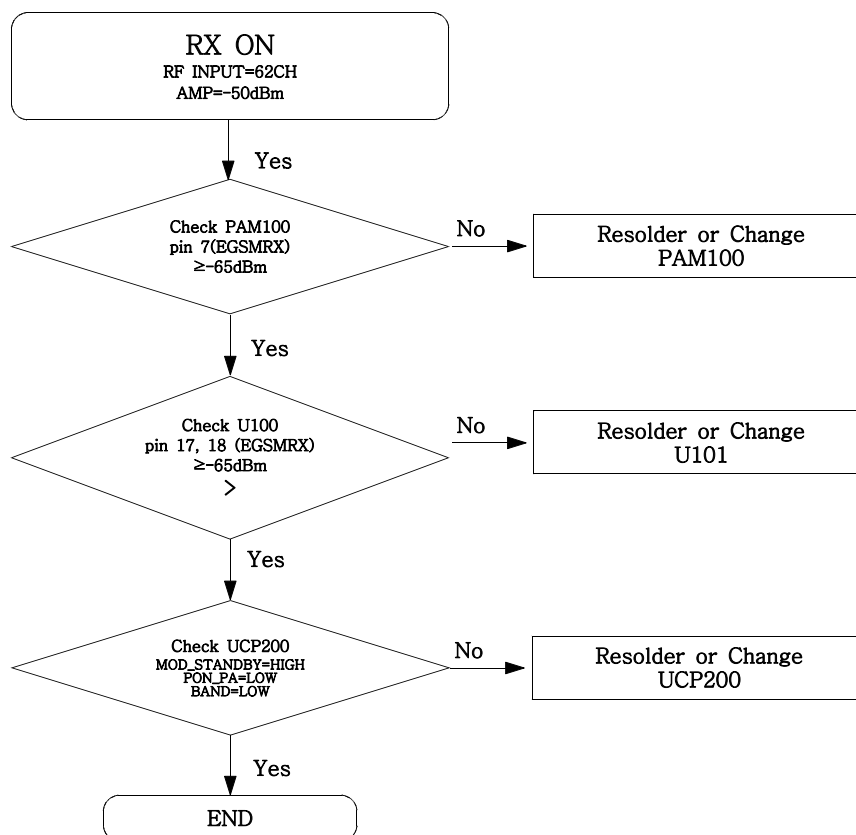
9-11. Key Back Light

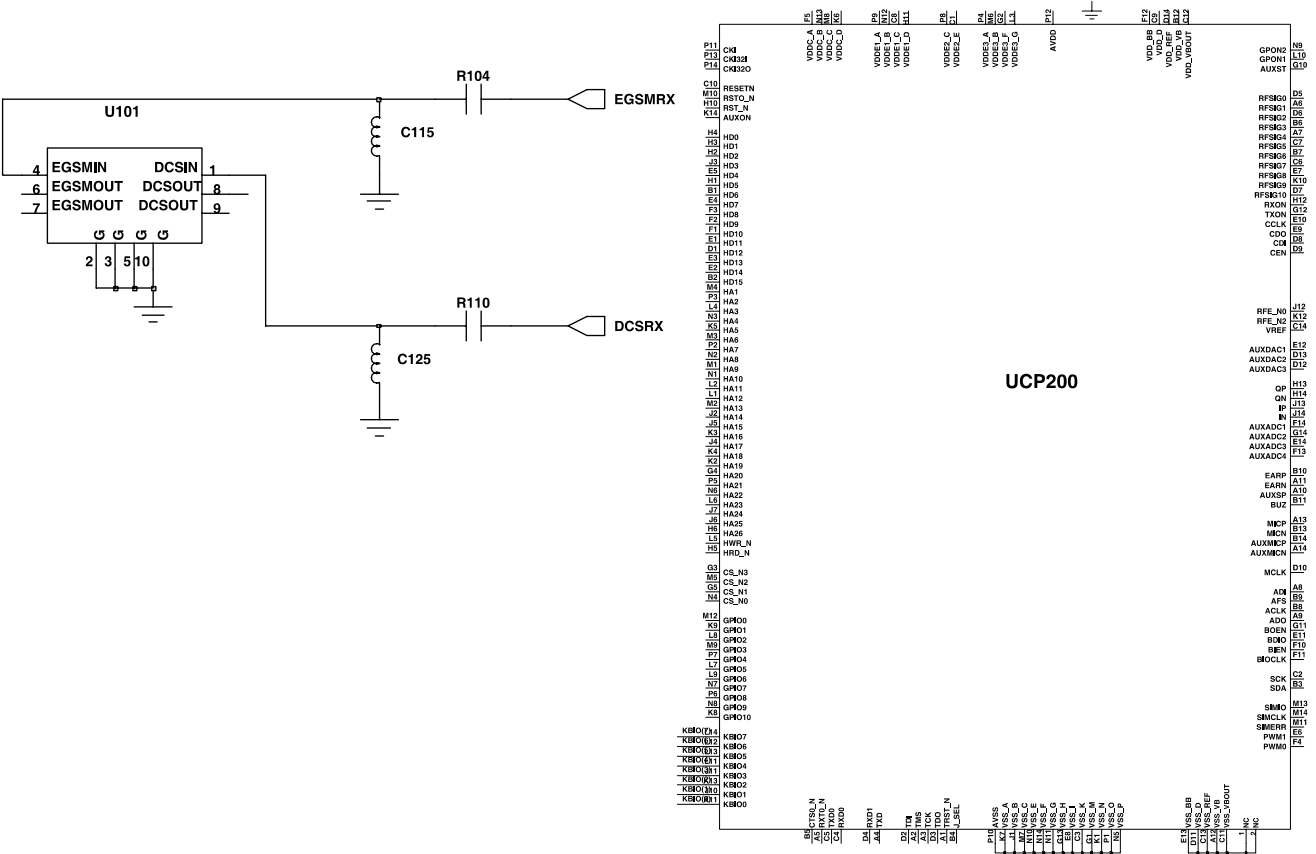
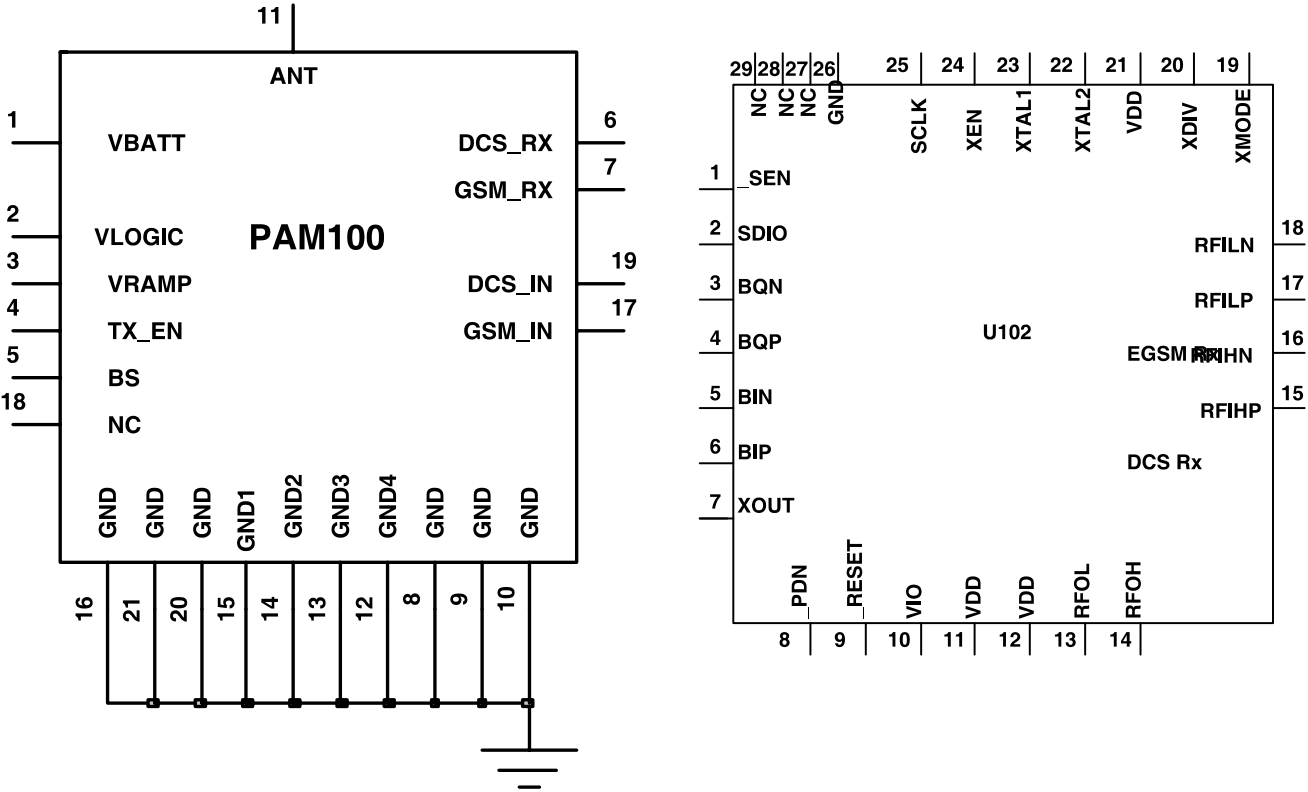


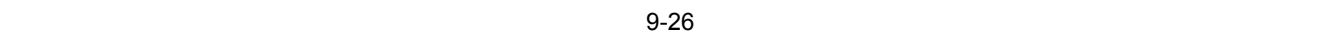




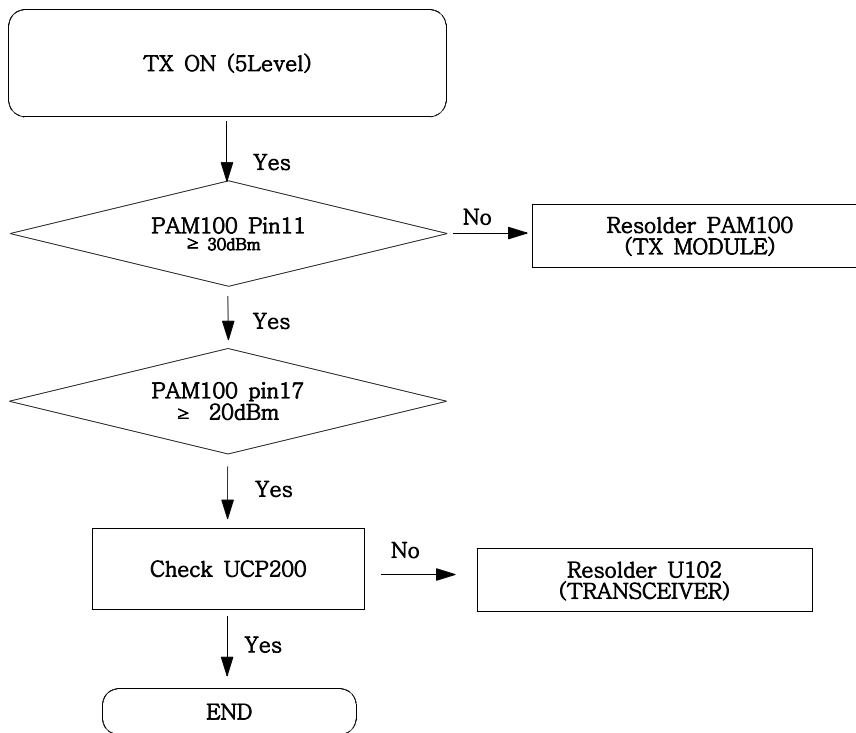
9-12. GSM Receiver

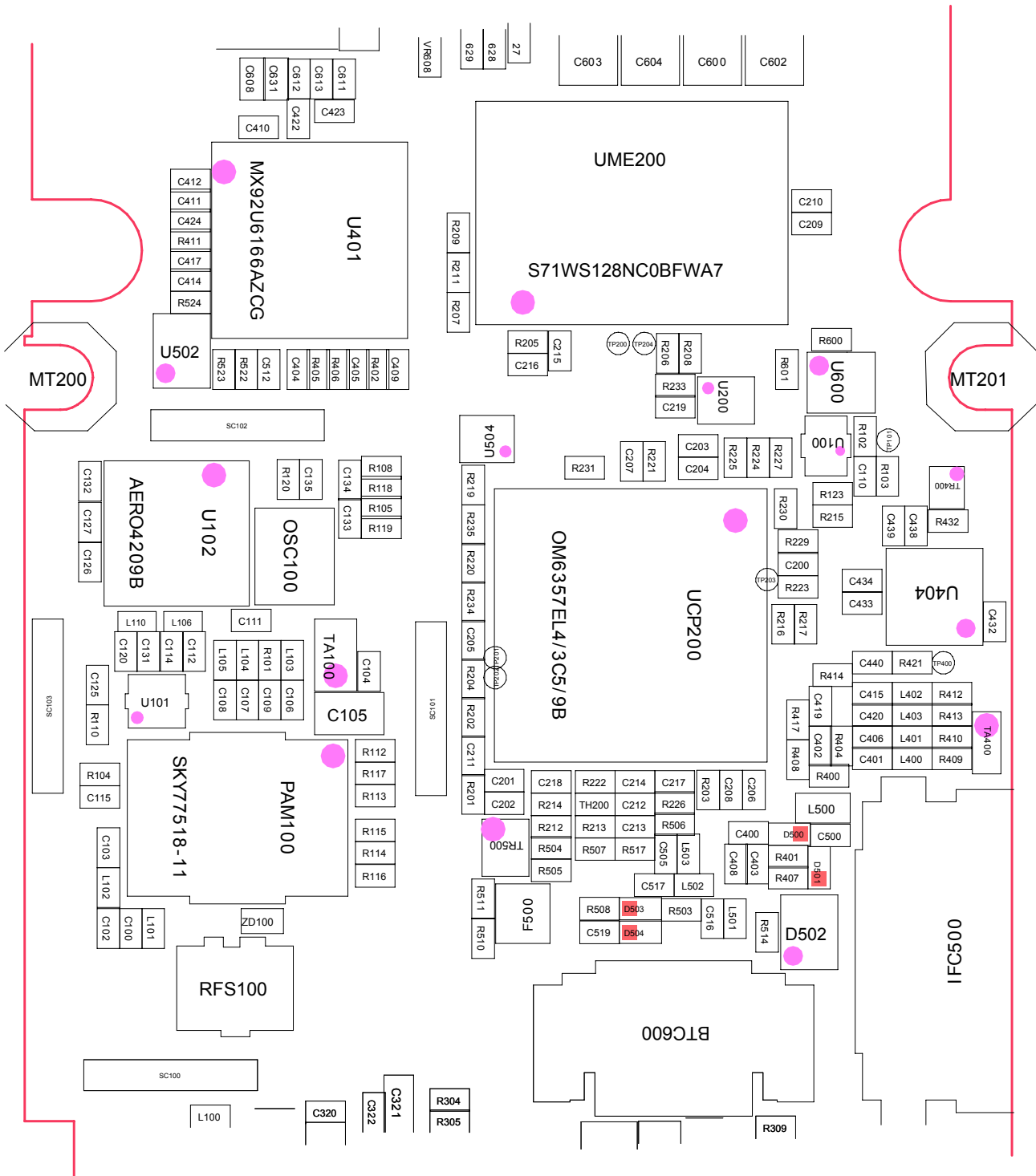




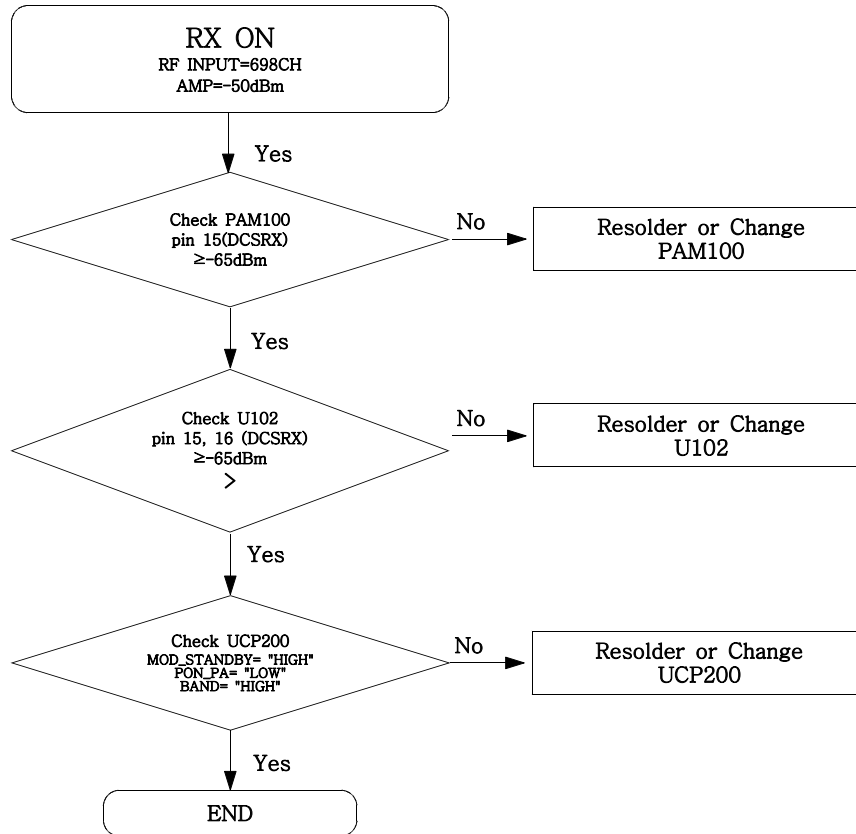


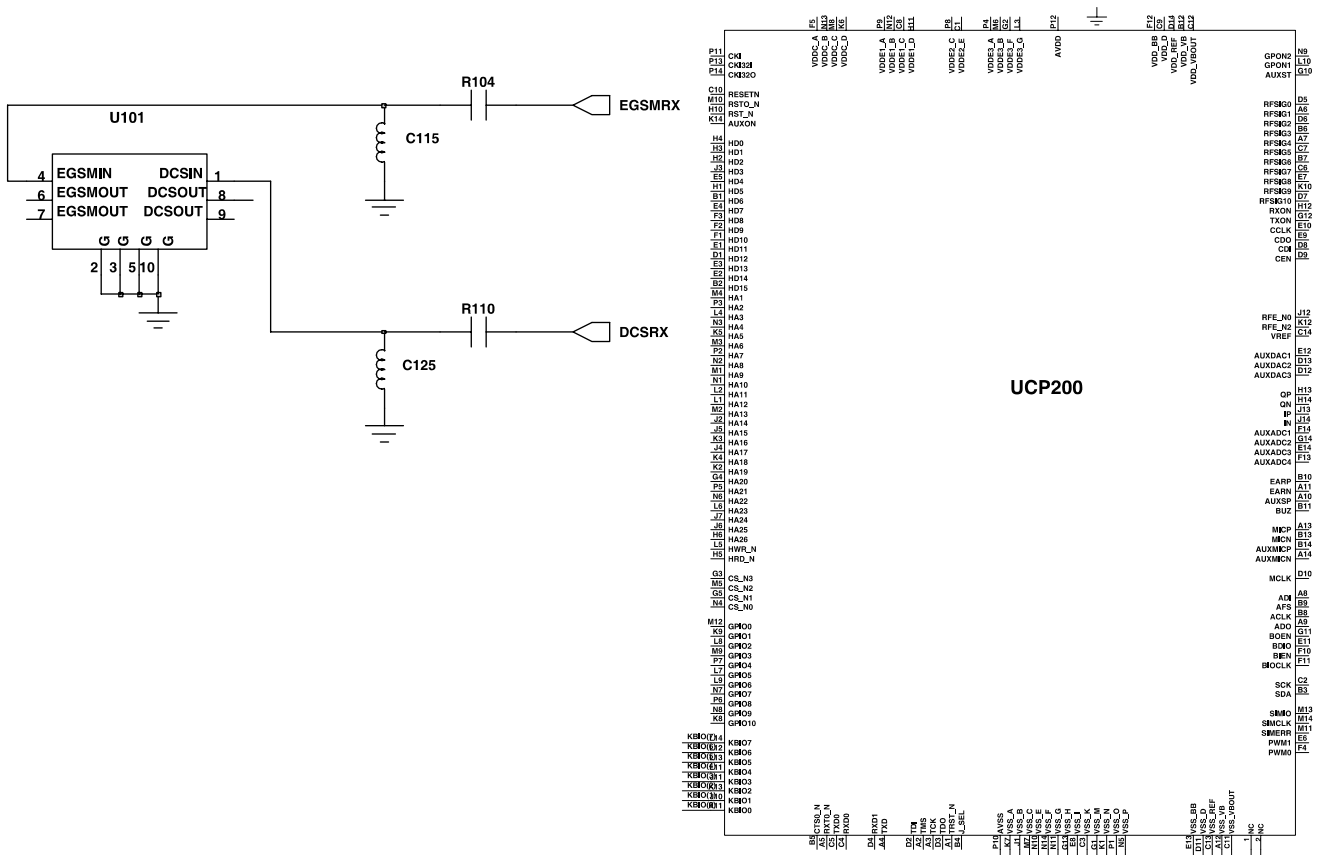
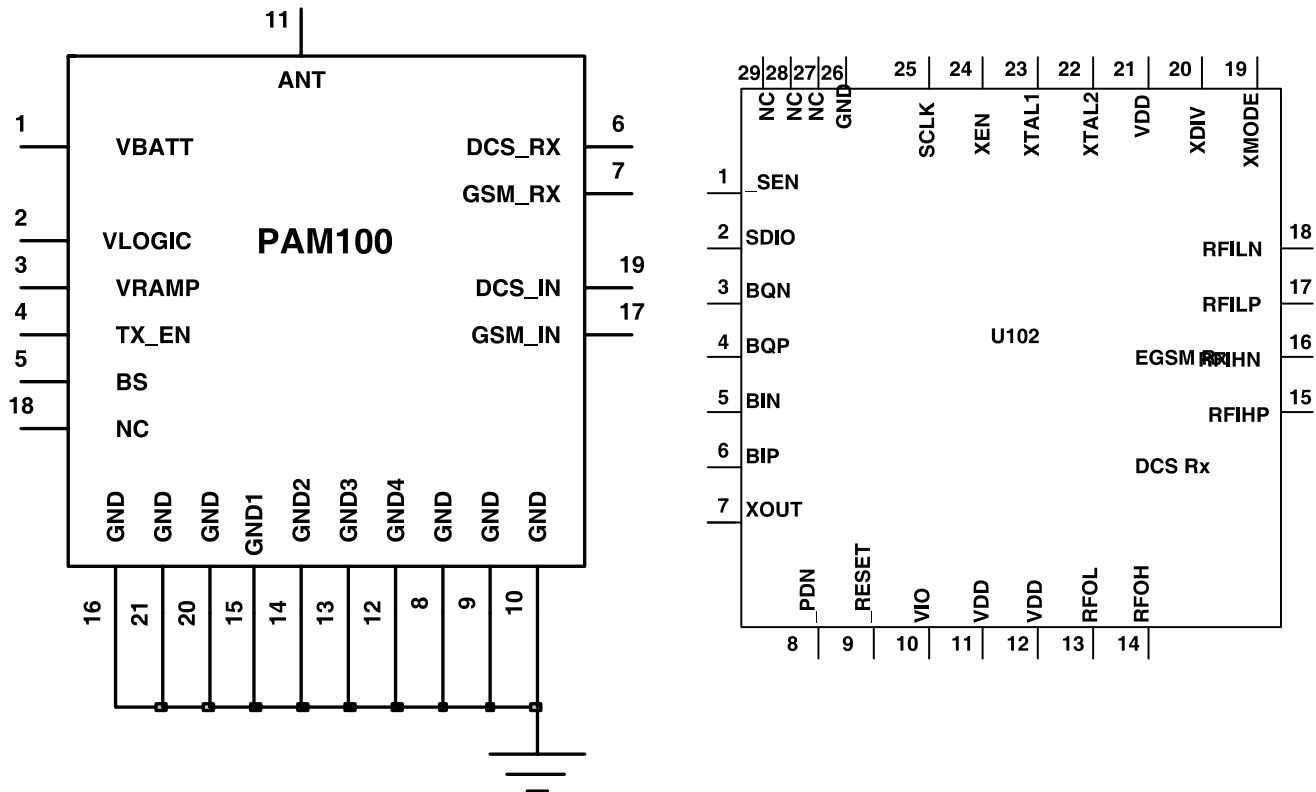
9-13. GSM Transmitter

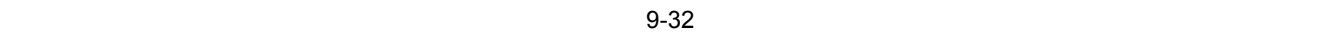




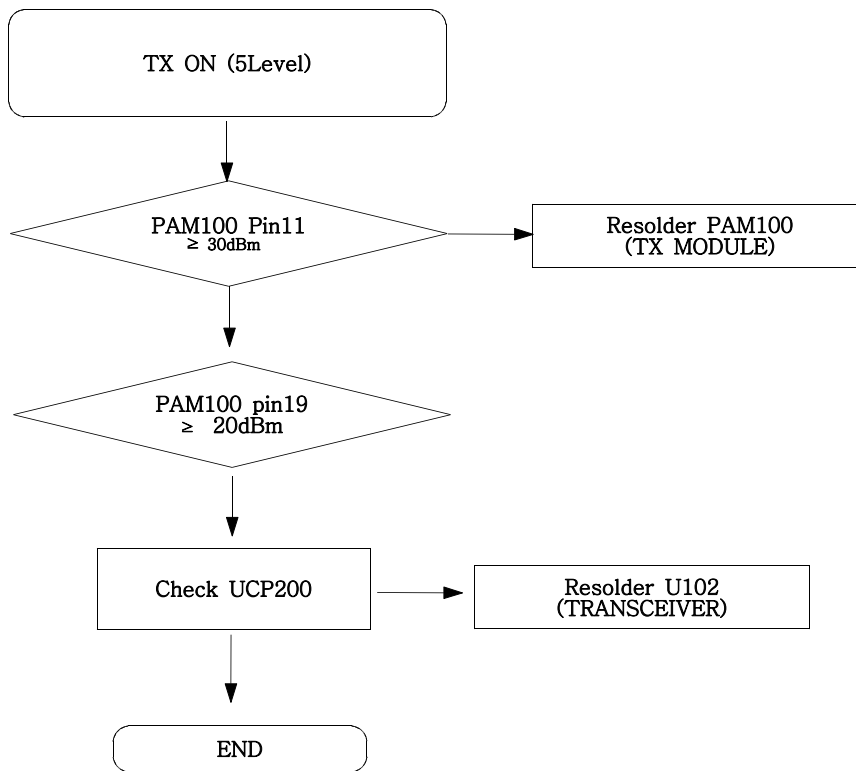
9-14. DCS Receiver

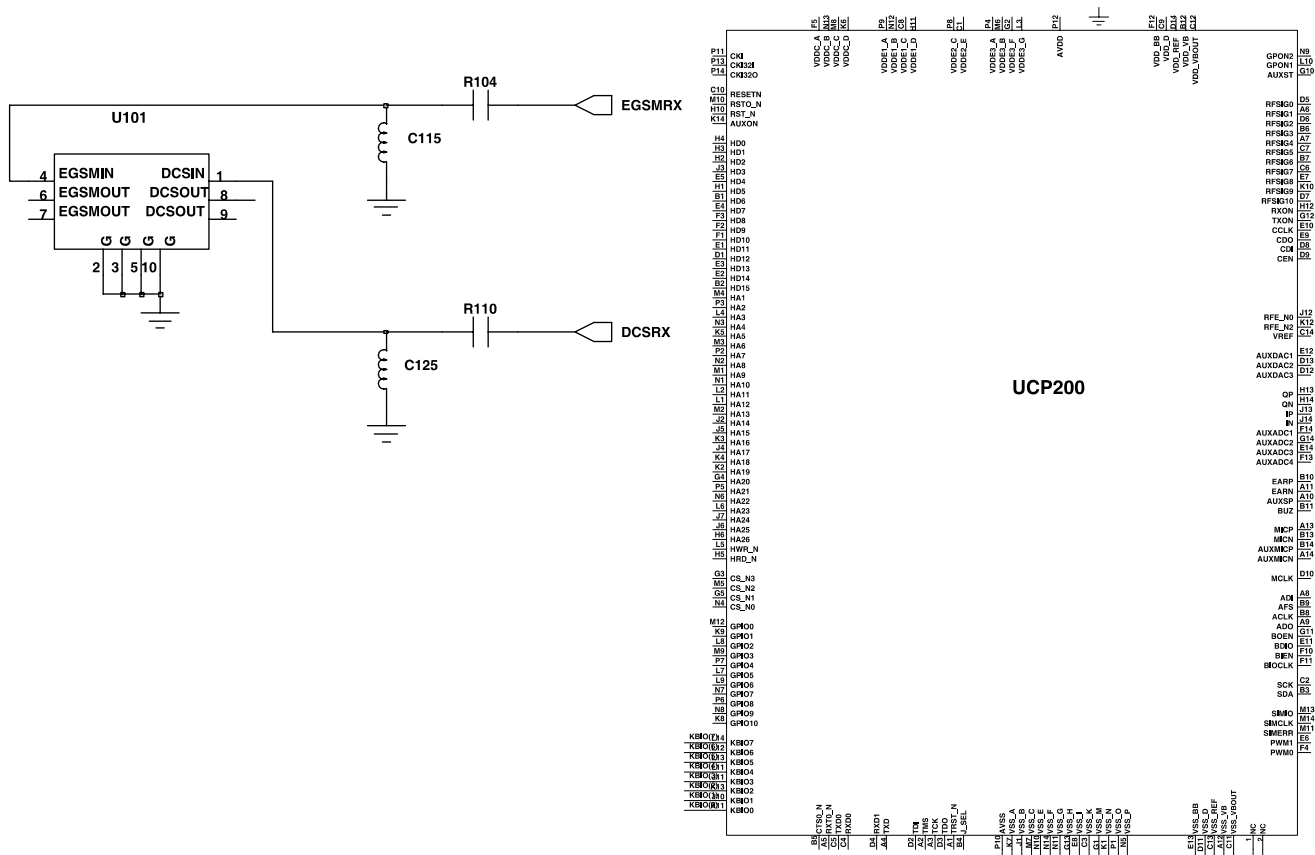
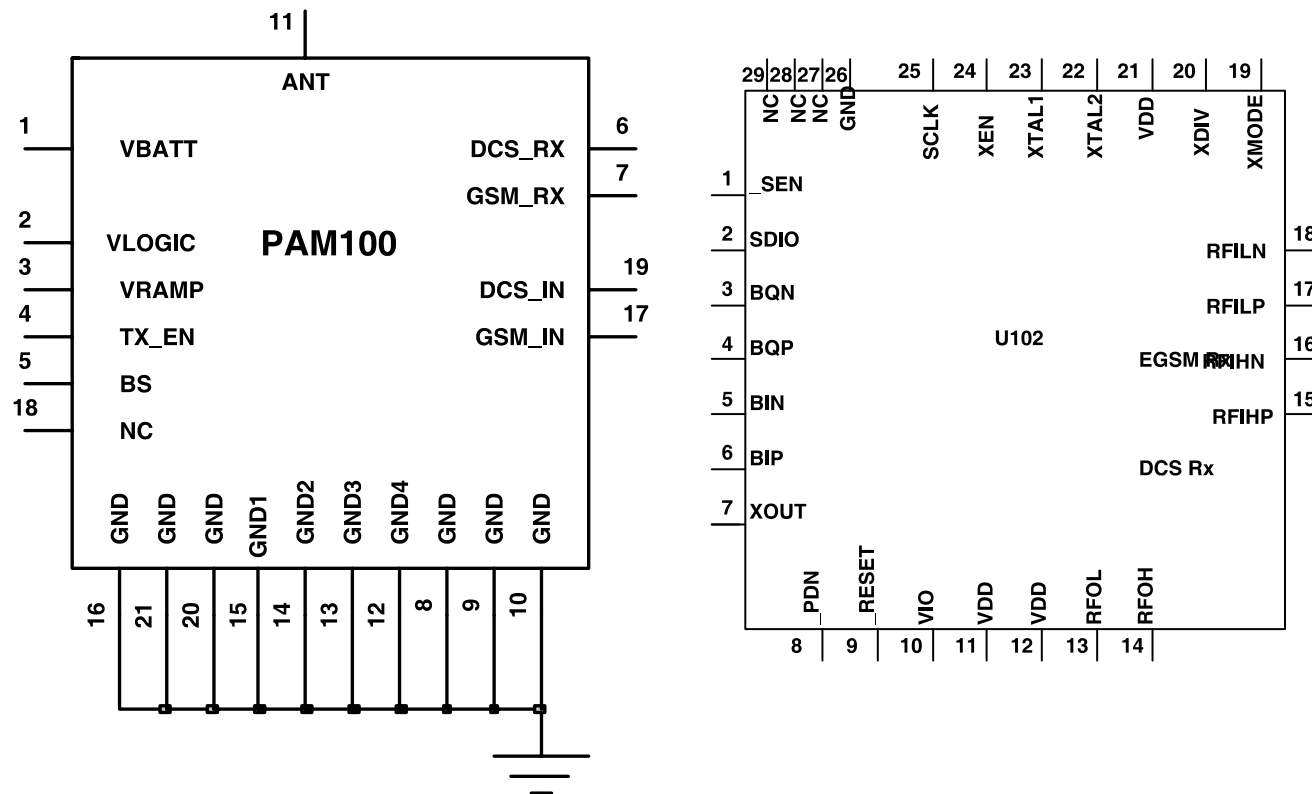


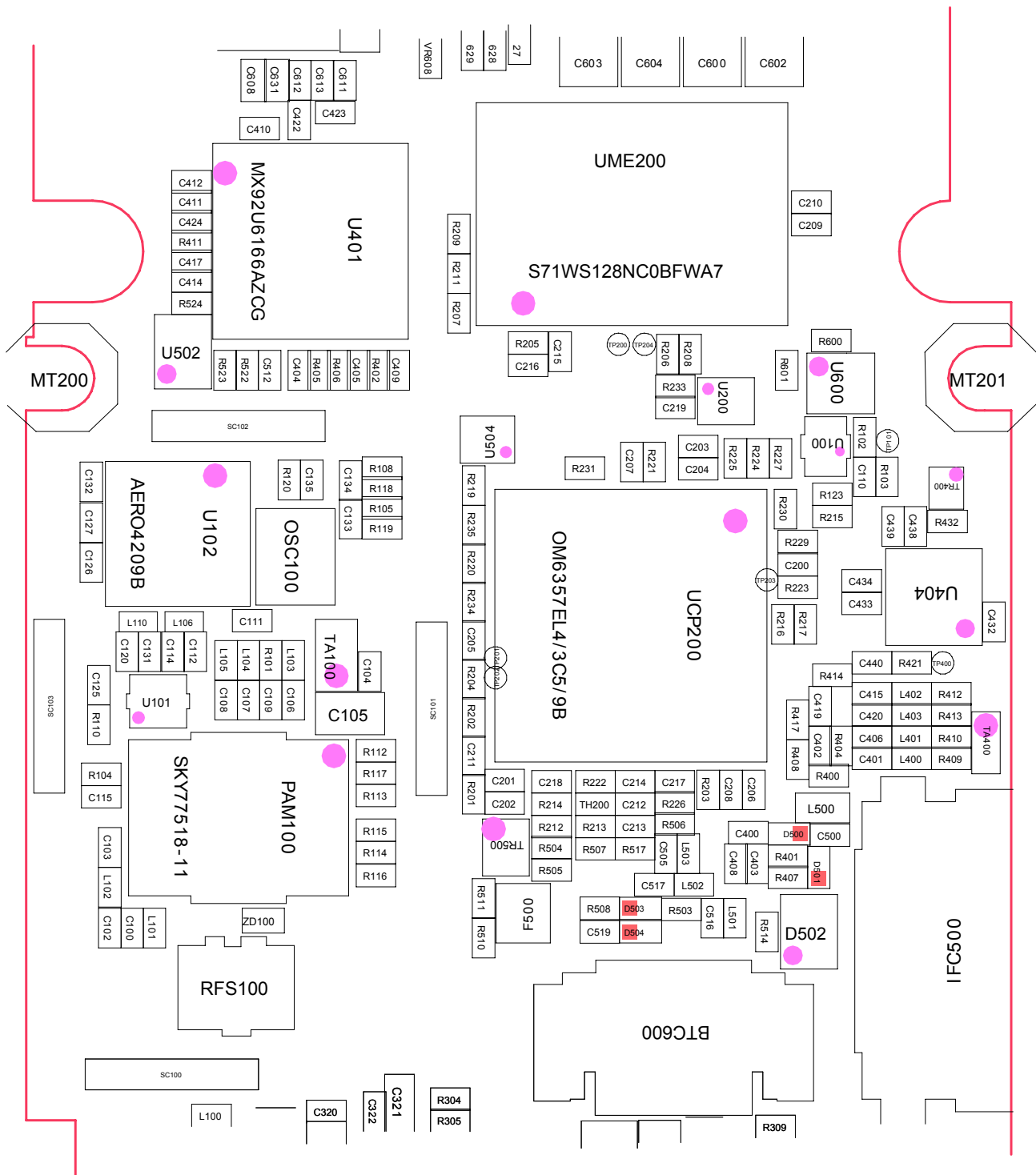




9-15. DCS Transmitter







10. Reference data

Reference Abbreviate

- **AAC**: Advanced Audio Coding.
- **AVC** : Advanced Video Coding.
- **BER** : Bit Error Rate
- **BPSK**: Binary Phase Shift Keying
- **CA** : Conditional Access
- **CDM** : Code Division Multiplexing
- **C/I** : Carrier to Interference
- **DMB** : Digital Multimedia Broadcasting
- **EN** : European Standard
- **ES** : Elementary Stream
- **ETSI**: European Telecommunications Standards Institute
- **MPEG**: Moving Picture Experts Group
- **PN** : Pseudo-random Noise
- **PS** : Pilot Symbol
- **QPSK**: Quadrature Phase Shift Keying
- **RS** : Reed-Solomon
- **SI** : Service Information
- **TDM** : Time Division Multiplexing
- **TS** : Transport Stream

11. Disassembly and Assembly Instructions

11-1. Disassembly Instructions

1

- 1) Remove 4 screw-caps on the rear cover.
- 2) Unscrew 6 bolts.



- 1) Be careful not to make any scratch or damage on the exterior.

2

- 1) Unlock the lockers forcibly following the directions below.



- 1) Be careful not to make any scratch or damage on the exterior.
- 2) Make no distortion of the rear cover while disassembling.

3

- 1) Disassemble the volume keys.



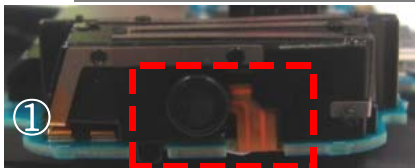
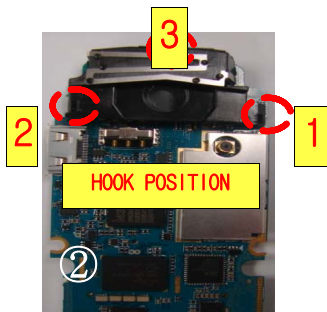
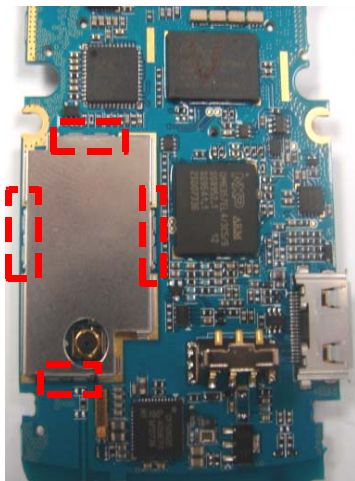
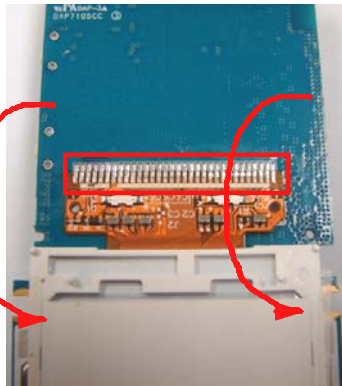
- 1) Be careful not to make any scratch or damage on the exterior.

4

- 1) Disassemble the keypad

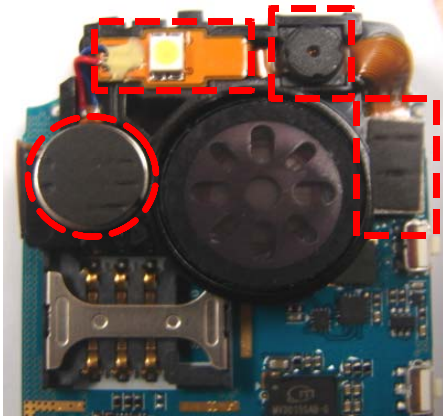


- 1) Be careful not to make a damage to the keypad

5 1) Separate the PBA from the rear	6 1)Pull out the mike from intenna 2)Disassemble intenna from the pba 	 
1) Be careful not to make any damage to the pba	1) Be careful not to make any damage to the intenna	
7 1)Disassemble shield can from the pba	8 1) Separate the window slowly. 2) Detach the lcd module after resoldering lcd module f-pcb 	
1) Be careful not to make any damage to the pba	1) Separate slowly with no damage to the LCD module.	

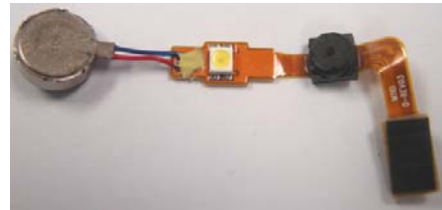
9

- 1) Separate the camera connector
- 2) Separate the camera and motor from speaker module



10

- 1) Detach motor after resoldering 2 points
- 2) Unscrew 2 bolts
- 3) Detach receiver from speaker module

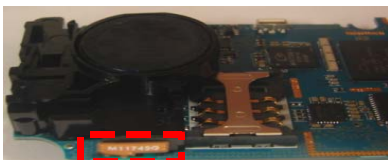


- 1) Separate slowly with no damage to f-pcb

- 1) Be careful not to make any damage to the F-PCB.

11

- 1) Detach BT antenna from speaker module
- 2) Detach speaker module from pba
- 3) Resolder receiver and speaker module



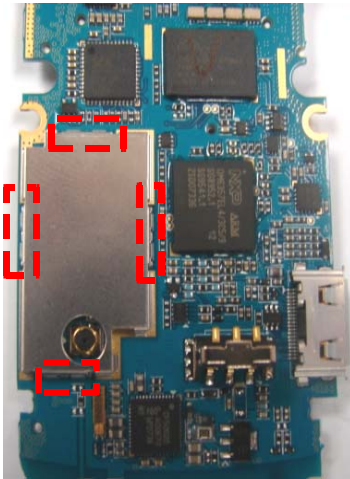
- 1) Be careful not to make any damage to the BT antenna

11-2. Assembly Instructions

1 1) solder receiver and speaker module. 2) Assemble speaker module to the pba 2) Place the BT ANTENNA on the correct position in the picture below.	2 1) Solder the mike with camera f-pcb. 2) bond the soldering part.
1) Handle the BT F-PCB with care not to be torn.	1) Check the polarity of motor
3 1) Put camera and motor into speaker module 2) Connect the camera connector.	4 1) Solder a lcd module. 2) attach the lcd into PBA
1) Handle the F-PCB with care not to be torn.	1) Handle the key F-PCB with care not to be torn while assembling.

5

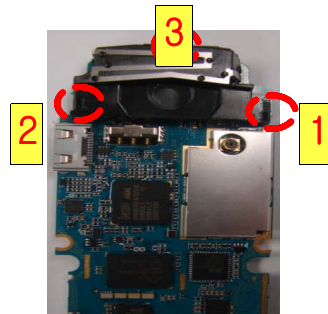
1) Assemble shield can



1) 4 clip must be assembled properly

6

1) Assemble the antenna
2) put the mike f-pcb into antenna



1) Handle the F-PCB with care not to be torn.

7

1) Assemble the PBA with rear
2) After assembling the PBA and rear, press them properly.



1) Be careful not to make any scratch or damage on the exterior.

8

1) Assemble the keypad with rear
2) After assembling the keypad and rear, press them properly.



1) Be careful not to make any scratch or damage on the exterior.

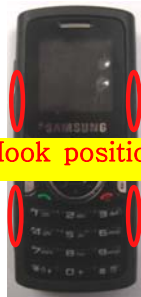
9

- 1) Attach the volumekey to the front cover.
- 2) Assemble front to the rear
- 3) Screw 6 bolts.
- 4) Put the screw 4 caps

Be caution with
direction



Hook position



Cap



- 1) Check dust and dirt on the LCD and the window.
- 2) Check the front cover and the window completely assembled without an unnecessary gap.