

SAMSUNG

GSM TELEPHONE

GT-i8000

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	europe.samsungportal.com
China	china.samsungportal.com
Asia	asia.samsungportal.com
Mideast & Africa	mea.samsungportal.com

1. Safety Precautions

1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
Take specially care of tuning or test, because the specification of cellular phone is sensitive for surrounding interference(RF noise).
- Be careful to use a kind of magnetic object or tool, because performance of parts is damaged by the influence of magnetic force.
- Surely use a standard screwdriver when you disassemble this product, otherwise screw will be worn away.
- Use a thicken twisted wire when you measure level.
A thicken twisted wire has low resistance, therefore error of measurement is few.
- Repair after separate Test Pack and Set because for short danger (for example an overcurrent and furious flames of parts etc) when you repair board in condition of connecting Test Pack and tuning on.
- Take specially care of soldering, because Land of PCB is small and weak in heat.
- Surely tune on/off while using AC power plug, because a repair of battery charger is dangerous when tuning ON/OFF PBA and Connector after disassembling charger.
- Don't use as you pleases after change other material than replacement registered on SEC System.
Otherwise engineer in charge isn't charged with problem that you don't keep this rules.

1-2. ESD(Electrostatically Sensitive Devices) Precaution

Several semiconductor may be damaged easily by static electricity. Such parts are called by ESD (Electrostatically Sensitive Devices), for example IC,BGA chip etc. Read Precaution below.

You can prevent from ESD damage by static electricity.

- Remove static electricity remained your body before you touch semiconductor or parts with semiconductor. There are ways that you touch an earthed place or wear static electricity prevention string on wrist.
- Use earthed soldering steel when you connect or disconnect ESD.
- Use soldering removing tool to break static electricity. , otherwise ESD will be damaged by static electricity.
- Don't unpack until you set up ESD on product. Because most of ESD are packed by box and aluminum plate to have conductive power,they are prevented from static electricity.
- You must maintain electric contact between ESD and place due to be set up until ESD is connected completely to the proper place or a circuit board.

2. Specification

2-1. GSM General Specification

	GSM850 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900	WCDMA2100	WCDMA1900	WCDMA900
Freq. Band[MHz] Uplink/Dow nlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1922~197 7 2112~216 7	1852~1907 1932~1987	882~912 927~957
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL:9612~ 9888DL:10 562~1083 8	UL:9262~9 538DL:966 2~9938	UL:2712~2 863DL:293 7~3088
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz	80MHz	45MHz
Mod. Bit rate/ Bit Period	270.833kb ps 3.692us	270.833k bps 3.692us	270.833kb ps 3.692us	270.833kbp s 3.692us	3.84Mcps	3.84Mcps	3.84Mcps
Time Slot Period/Fra me Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	FrameLen gth: 10ms Slotlength : 0.667ms	FrameLen gth: 10ms Slotlength : 0.667ms	FrameLen gth: 10ms Slotlength : 0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	QPSKHQP SK	QPSKHQP SK	QPSKHQP SK
MS Power	33dBm~5d Bm	33dBm~5 dBm	30dBm~0d Bm	30dBm~0d Bm	24dBm~- 50dBm	24dBm~- 50dBm	24dBm~- 50dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl	3(max+24dB m)	3(max+24dB m)	3(max+24dB m)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm	-106.7dBm	-106.7dBm	-106.7dBm
TDMA Mux	8	8	8	8	8	8	8
Cell Radius	35Km	35Km	2Km	2Km	2Km	2Km	2Km

2-2. GSM Tx Power Class

TX Power control level	GSM850	TX Power control level	EGSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
5	33±2 dBm	5	33±2 dBm	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm	11	21±2 dBm	6	18±3 dBm	6	18±3 dBm
12	19±2 dBm	12	19±2 dBm	7	16±3 dBm	7	16±3 dBm
13	17±2 dBm	13	17±2 dBm	8	14±3 dBm	8	14±3 dBm
14	15±2 dBm	14	15±2 dBm	9	12±4 dBm	9	12±4 dBm
15	13±2 dBm	15	13±2 dBm	10	10±4 dBm	10	10±4 dBm
16	11±3 dBm	16	11±3 dBm	11	8±4 dBm	11	8±4 dBm
17	9±3dBm	17	9±3dBm	12	6±4 dBm	12	6±4 dBm
18	7±3 dBm	18	7±3 dBm	13	4±4 dBm	13	4±4 dBm
19	5±3 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

- Microsoft Windows Mobile 6.1 PPC
- HSDPA 7.2Mbps / HSUPA 5.76Mbps
- 5MP AF Camera / dual Power LED
- 3.7" WVGA 16M AMOLED
- SD (480p) Camcording / Playback
- WMA,WMV,MP3,AAC,AAC+,DivX,XviD
- Accelerometer (3 Axis),Geo Magnetic (3 Axis),Luminance,Proximity Sensor
- Advanced R-Touch,Touchwiz 2.0
- TV Out / DNIE / DNSe / Mic Noise Canceller
- Wi-Fi
- BT2.0
- USB2.0 High Speed

4. Array course control

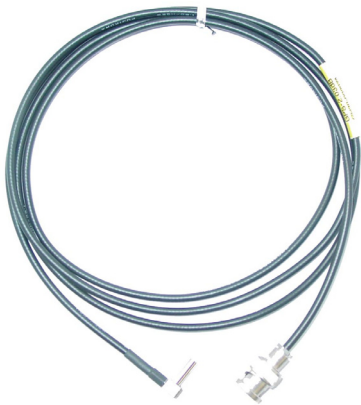
4-1. Software Adjustments



Test Jig (GH99-36900A)



Test Cable (GH39-01290A)



RF Test Cable (GH39-00985A)



Adapter (GH99-38251A)

4-2. Software Download

1-1. Equipment for Software Download



1-2. Pre-requisite for Download

- ▶ Downloader Program
 - [OCTANS Downloader v1.71](#)
- ▶ USB Driver
 - [PDA : Samsung MITs USB Sync \[Samsung MITs USB Sync.zip\]](#)
 - [Phone : Samsung CDMA Modem \[Samsung CDMA Modem.zip\]](#)
- ▶ Driver Installation

2-1. Driver Installation (PDA)

- ▶ Make sure that you install drivers.
- ▶ [If you installed the latest ActiveSync program, you don't need to install the pda driver. Please install the latest ActiveSync program.](#)

2-2. Driver Installation (Phone)

When you download the phone image, you need the driver of Samsung CDMA Modem.
If you want to download the phone image, install the Samsung CDMA Modem driver.

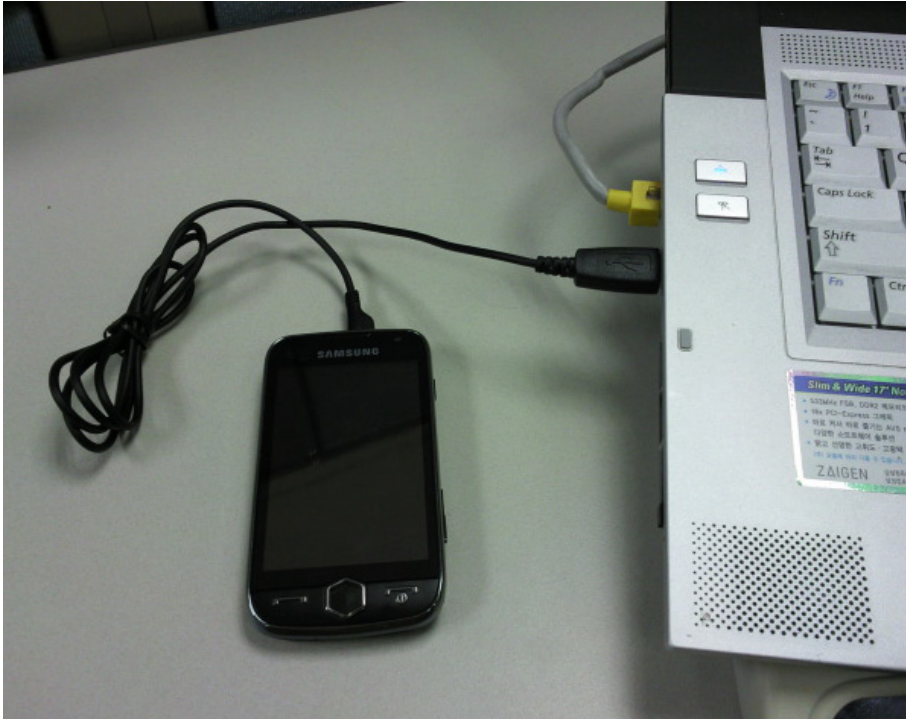
[F After you install the driver of Samsung CDMA Modem, please restart a host computer.](#)

3. Execute the Downloader Program. [OCTANS Downloader v1.71]

4. Check the EBoot,PDA,MultiCSC,MoviNand,Phone.

5. Click the detect.

6. Connect your device to a host computer by using USB DATA Link Cable.



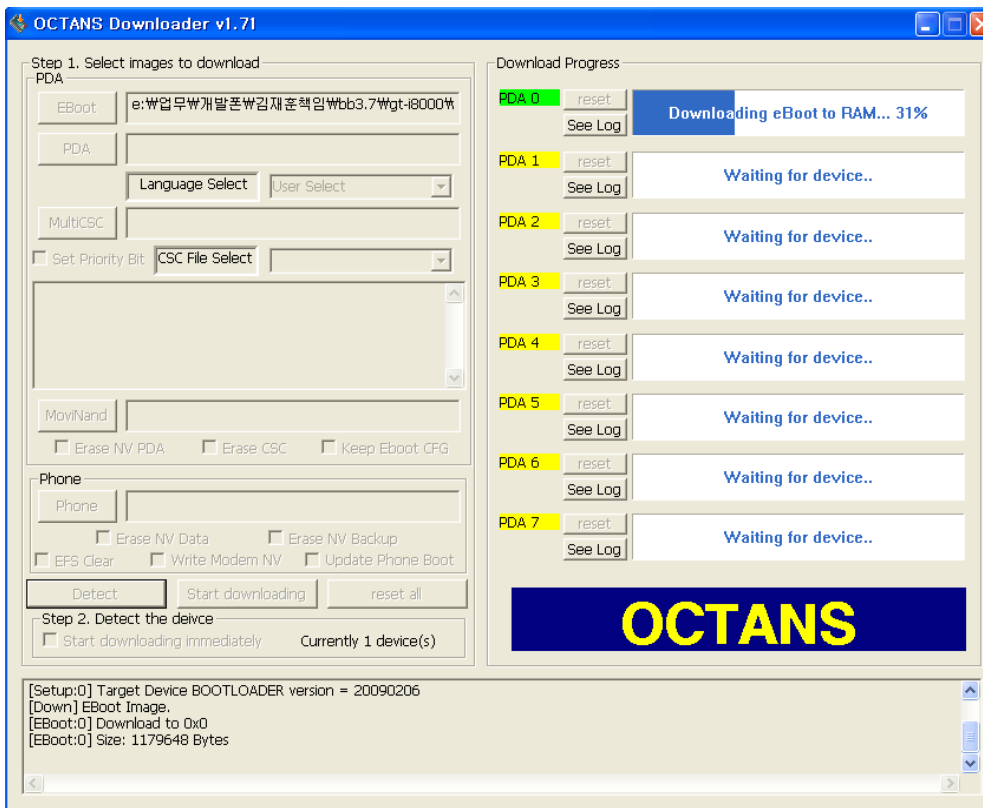
7. Wait until 'START' button is activated.

If 'START' button is not activated, terminate the application and reconnect USB data link cable and retry.

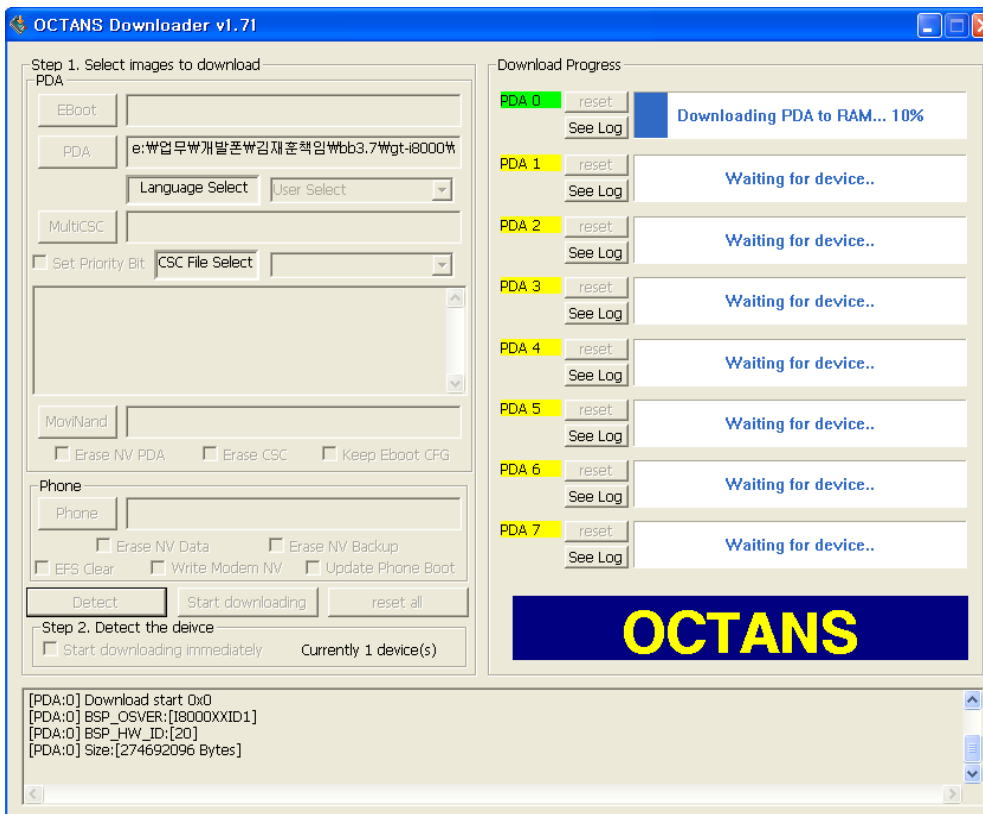
8. Please click "START" button.

9. When the download is finished, the phone is rebooted automatically.

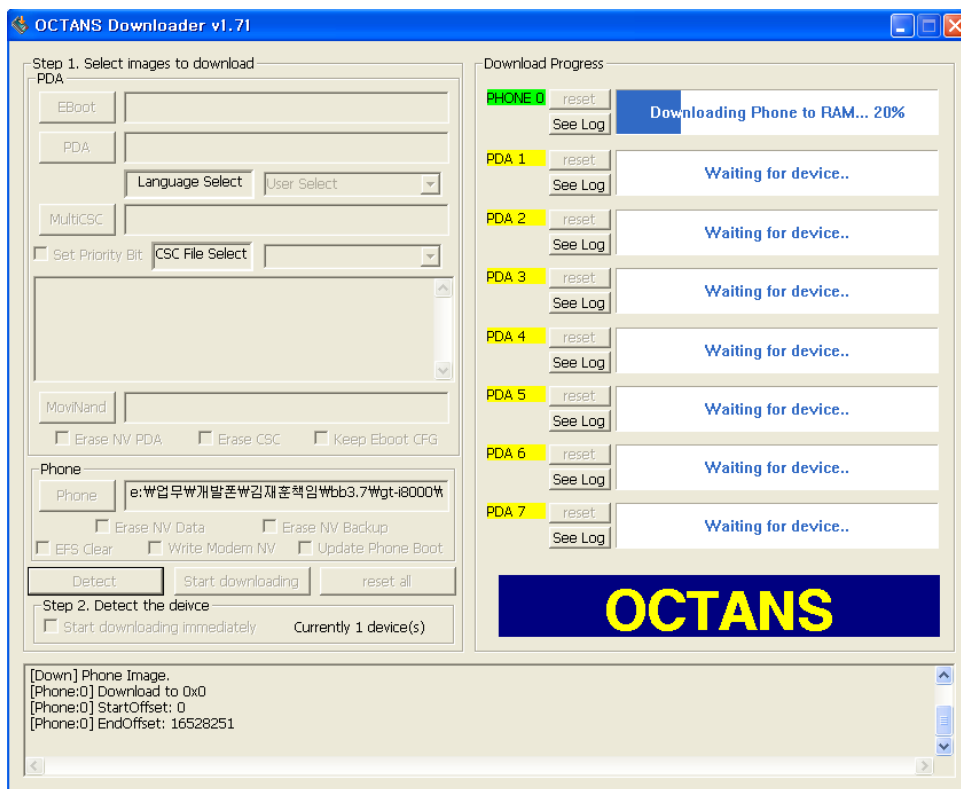
F Download Procedure



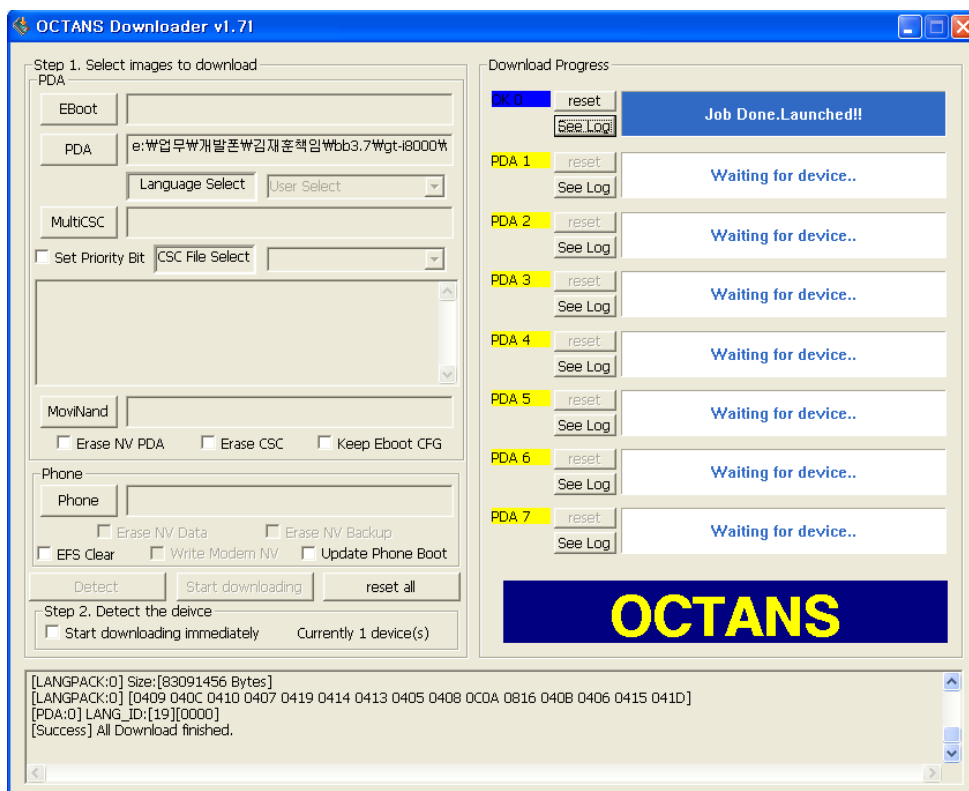
[Downloading EBOOT]



[Downloading PDA]

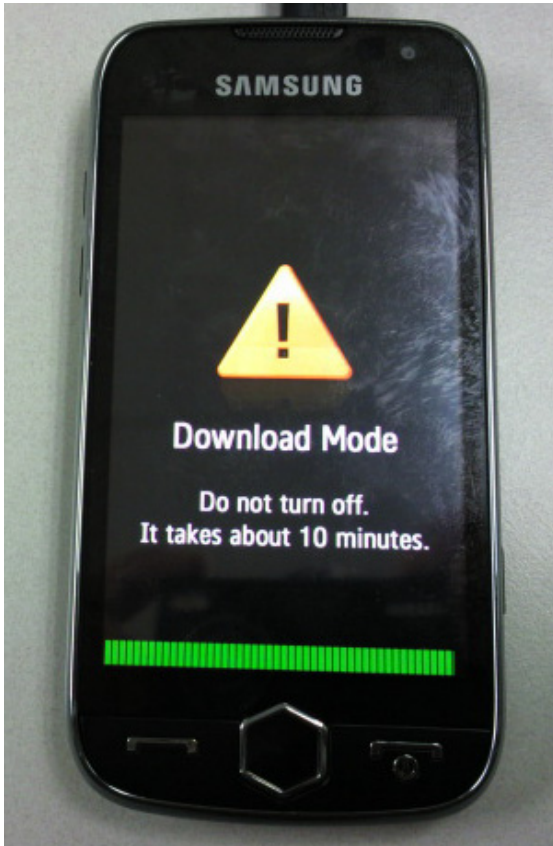


[Downloading PHONE]



[Job Done]

F The Display of your Device



F Trouble Shooting

1. "PDA Device not found" message

F Make sure that your device is connected a host computer by USB DATA Link cable.

2. "Port Open Failed" message or application hang

F After you install "phone USB driver (Samsung CDMA Modem)" at first time, you may see "Port open failed..." message or application hang while downloading a phone image. If so, terminate the application and then try the download again.

F If USB port is changed, at first time you may see "Port open failed..." message or application hang. If so, terminate the application and then try the download again.

F If USB cable to the mobile device is not connected tightly, you may see "Port open failed..." message or application hang. If so, terminate the application and then try the download again..

F If you **always see "port open failed" message or application hang,**

1. When failed application is activated, go to the device manager, remove the SAMSUNG CDMA Modem and SAMSUNG USB Composite Device.
 2. Rename C:\WINDOWS\system32\drivers\Modem.sys to other name. (ex. Modem-.sys)
 3. Go to control panel->program add/remove, and then remove Samsung CDMA Modem driver or Samsung USB driver(MCCI)
 4. Restart your PC.
 5. Install attached SAMSUNG CDMA Modem_4.34
 6. Try the download again.
3. "Write Failed" message

F If battery level is low, use charged battery and try again.

- Reference -

How to deal with the an error in the computer USB port of the computer.

Symptom: Device is not identified after connecting it.

Cause: The device is connected before the previous connection is complete. All devices should be connected one by one. Otherwise, an error may occur in the computer USB port of the computer.

Solution:

Proceed with the following action in order only when the previous action does not work.

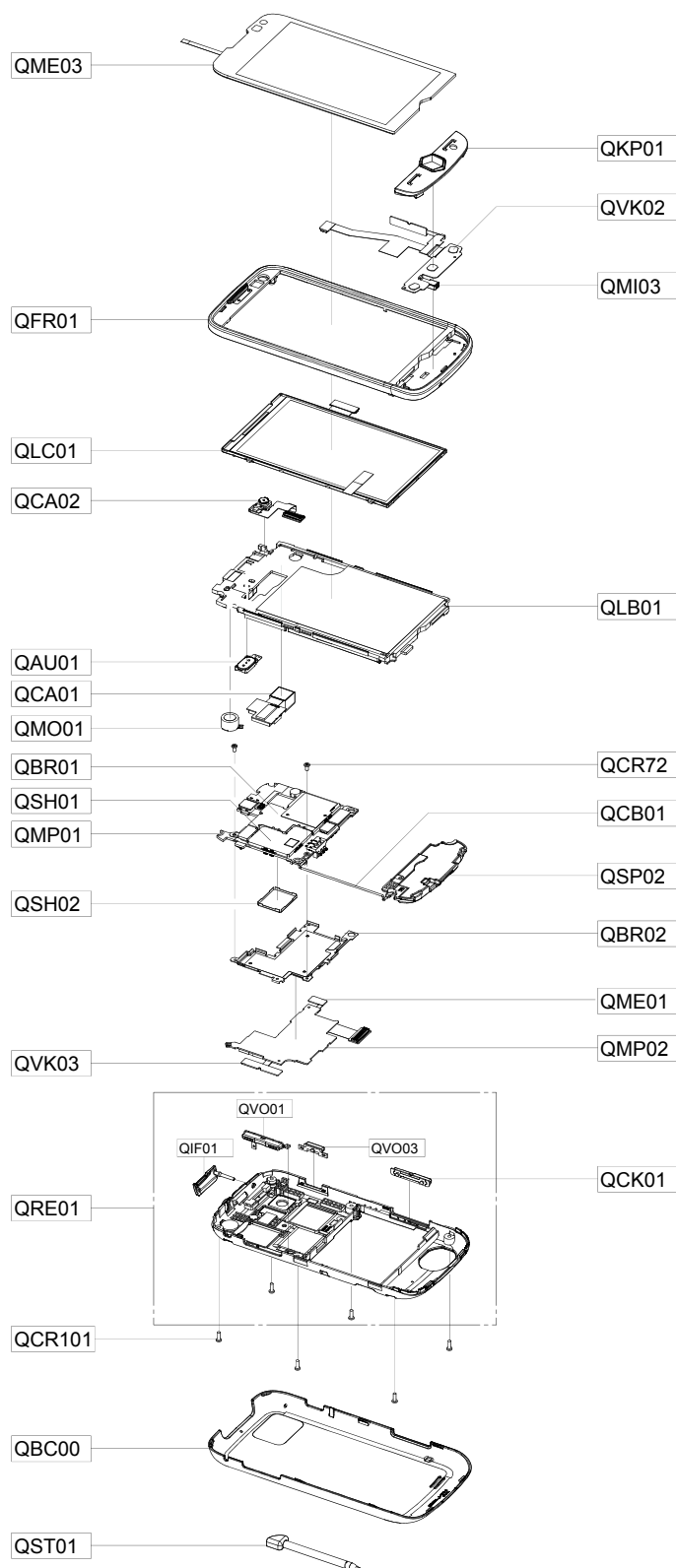
- 1) Unplug the USB port from the computer and plug it again.
- 2) Open the Device Manager and remove the USB hub and install it again.



- 3) Reboot the computer.

5. Exploded View and Parts List

5-1. Cellular phone Exploded View



- This Document can not be used without Samsung's authorization -

5-2. Cellular phone Parts list : GT-I8000KKAXEC

Design LOC	Description	SEC CODE
QAU01	AUDIO-RECEIVER	3009-001370
QBC00	ASSY COVER-BATT	GH98-13956A
QBR01	ASSY BRACKET-SHIELD CAN FRONT	GH98-13957A
QBR02	ASSY BRACKET-SHIELD CAN REAR	GH98-13958A
QCA01	CAMERA MODULE-5M (GT-I8000)	GH59-07146A
QCA02	ASSY CAMERA-VGA GT-I8000	GH96-03788A
QCB01	COAXIAL CABLE-60MM(GT-I8000)	GH39-01359A
QCK01	ASSY KEY-CAM	GH98-12194A
QCR101	SCREW-MACHINE	6001-002005
QCR72	SCREW-MACHINE	6001-002051
QFR01	ASSY CASE-FRONT	GH98-12191B
QIF01	PMO COVER-IF	GH72-52875A
QKP01	ASSY KEYPAD-(EU/BLACK)	GH98-12201A
QLB01	ASSY BRACKET-LCD	GH98-12195A
QLC01	ASSY LCD-3.7" WVGA GT-I8000 AMOLED ASSY	GH96-03807A
QME01	KEY FPCB-FPC(H/K) ASS'Y (GT-I8000)	GH59-07489A
QME03	TOUCH/PANEL-GT-I8000 TSP,8GB(BLK)	GH59-07371A
QMI03	ASSY COVER-MIC HOLDER 2	GH98-14486A
QMO01	MOTOR LINEAR VIBRATION-LINEAR MOTOR	GH31-00483A
QMP01	A/S ASSY-PBA MAIN,GT-I8000,XSO(SVC)	GH82-03839A
QMP02	A/S ASSY-PBASUB,GT-I8000,XSO(SVC)	GH82-03854A
QRE01	ASSY CASE-REAR	GH98-12192A
QSH01	ICT SHIELD-A	GH70-04893A
QSH02	ICT SHIELD-B	GH70-04894A
QSP02	MODULE-SPK+ANTENNA (GT-I8000)	GH59-07325A
QST01	ASSY STYLUS PEN-RELOADED	GH98-12411A
QVK02	KEY FPCB-SUB KEY FPCB ASS'Y	GH59-07234A
QVK03	KEY FPCB-2KEY FPCB ASS'Y (GT-I8000)	GH59-07490A
QVO01	ASSY KEY-VOL	GH98-12193A
QVO03	PMO KEY-HOLD	GH72-54059A

6. MAIN Electrical Parts List

SEC CODE	Design LOC	Description
RES-Z0603	C312,C333,C353	RES-Z0603-SHORT-P
RES-Z0603	R10048,R10146,R10153	RES-Z0603-SHORT-P
RES-Z0603	R10163,R10279,R10281	RES-Z0603-SHORT-P
RES-Z0603	R10282,R10290,R1201	RES-Z0603-SHORT-P
RES-Z0603	R207,R221,R222,R505	RES-Z0603-SHORT-P
RES-Z0603	R506,R556,R600,R739	RES-Z0603-SHORT-P
RES-Z0603	R843,R962,R963,R976	RES-Z0603-SHORT-P
RES-Z1005	R10278,R220,R431	RES-Z1005-SHORT-P
0401-001144	D902	DIODE-SWITCHING
0403-001547	ZD601	DIODE-ZENER
0404-001172	R548	DIODE-SCHOTTKY
0406-001231	ZD10000,ZD10001	DIODE-TVS
0406-001231	ZD10002,ZD10003	DIODE-TVS
0406-001231	ZD801,ZD802	DIODE-TVS
0406-001254	ZD10004,ZD10005	DIODE-TVS
0406-001254	ZD600,ZD901	DIODE-TVS
0406-001305	F1200,F1201,F700	DIODE-TVS
0406-001329	ZD400,ZD701	DIODE-TVS
0504-001138	TR900	TR-DIGITAL
0505-002088	TR10000,U504	FET-SILICON
0801-003016	U502	IC
0801-003022	U302	IC
0801-003130	U10014	IC
0801-003200	U506	IC
0801-003265	U501	IC
0801-003271	U10007	IC
0902-002440	UCP10000	IC
1001-001410	U700	IC
1001-001481	U10003	IC
1001-001488	U703	IC
1001-001580	U905	IC
1001-001581	U911	IC
1003-002185	U10000,U10002,U503	IC
1201-002147	U910	IC
1201-002740	PAM200	IC
1201-002774	U406	IC
1201-002864	U704	IC

SEC CODE	Design LOC	Description
1201-002888	PAM301	IC
1201-002889	PAM303	IC
1201-002890	PAM300	IC
1202-001079	U705,U706	IC
1203-002832	U603	IC
1203-004458	U1201	IC
1203-004571	U1200	IC
1203-004806	U701	IC
1203-004819	U602	IC
1203-004925	U1202,U405	IC
1203-005244	U404	IC
1203-005434	U601	IC
1203-005503	U800	IC
1203-005667	U903	IC
1203-005690	U802	IC
1203-005772	U10010	IC
1203-005783	U902	IC
1204-003026	U400	IC
1205-003297	U205	IC
1205-003467	U505	IC
1205-003488	U702	IC
1205-003582	UCP500	IC
1209-001823	U1203	IC
1404-001221	TH10000	THERMISTOR
2007-000166	R606	R-CHIP
2007-000170	R981	R-CHIP
2007-001119	R716	R-CHIP
2007-001285	R205,R208	R-CHIP
2007-001306	R978,R979	R-CHIP
2007-003014	R602,R734	R-CHIP
2007-007107	R10114,R10147,R558	R-CHIP
2007-007137	R938	R-CHIP
2007-007142	R926	R-CHIP
2007-007193	R719,R720	R-CHIP
2007-007306	R379	R-CHIP
2007-007313	R710	R-CHIP
2007-007316	R933	R-CHIP

SEC CODE	Design LOC	Description
2007-007318	R206	R-CHIP
2007-007480	R604	R-CHIP
2007-007529	R557	R-CHIP
2007-007698	R601	R-CHIP
2007-007741	R709	R-CHIP
2007-007875	R807	R-CHIP
2007-007942	R10144,R423	R-CHIP
2007-007943	U908	R-CHIP
2007-008045	R10149,R10150,R10151	R-CHIP
2007-008045	R10152,R10164,R10165	R-CHIP
2007-008045	R10167,R10168,R10300	R-CHIP
2007-008045	R10301,R302,R306	R-CHIP
2007-008045	R509,R559,R560,R561	R-CHIP
2007-008045	R562,R722,R736,R737	R-CHIP
2007-008045	R738,R955	R-CHIP
2007-008047	R210,R211	R-CHIP
2007-008049	R507	R-CHIP
2007-008052	R10091,R10092,R10124	R-CHIP
2007-008052	R10125,R10128,R10129	R-CHIP
2007-008052	R10138,R10139,R10145	R-CHIP
2007-008052	R605,R607,R704	R-CHIP
2007-008055	R10030,R10042,R10043	R-CHIP
2007-008055	R10044,R10045,R10049	R-CHIP
2007-008055	R10052,R10059,R10060	R-CHIP
2007-008055	R10061,R10076,R10088	R-CHIP
2007-008055	R10089,R10140,R10142	R-CHIP
2007-008055	R1202,R405,R406,R419	R-CHIP
2007-008055	R518,R553,R611,R810	R-CHIP
2007-008055	R811,R906,R908,R924	R-CHIP
2007-008055	R943	R-CHIP
2007-008056	R1109,R1110	R-CHIP
2007-008057	R959	R-CHIP
2007-008167	R608	R-CHIP
2007-008419	R200,R201,R202,R203	R-CHIP
2007-008419	R430	R-CHIP
2007-008420	R544	R-CHIP
2007-008516	R500,R502,R503,R504	R-CHIP

SEC CODE	Design LOC	Description
2007-008516	R612,R939,R941,R952	R-CHIP
2007-008531	U10011,U10012	R-CHIP
2007-008549	R732	R-CHIP
2007-008579	R213,R214	R-CHIP
2007-008588	R215	R-CHIP
2007-008686	R975	R-CHIP
2007-008766	R552	R-CHIP
2007-008798	R10126,R10127	R-CHIP
2007-008806	R1112,R307,R554,R555	R-CHIP
2007-009084	R10070,R529,R727	R-CHIP
2007-009084	R729,R730	R-CHIP
2007-009115	R212,R513	R-CHIP
2007-009155	R610	R-CHIP
2007-009157	R10143,R304	R-CHIP
2007-009158	R603	R-CHIP
2007-009165	R300,R301,R303,R305	R-CHIP
2007-009201	R209	R-CHIP
2007-009233	R735	R-CHIP
2007-009402	R717	R-CHIP
2007-009420	R204	R-CHIP
2007-009805	R840	R-CHIP
2007-009954	U600	R-CHIP
2007-009964	R10131	R-CHIP
2007-010030	R10122	R-CHIP
2203-000233	C249,C442,C446,C605	C-CERAMIC,CHIP
2203-000233	C623,C750	C-CERAMIC,CHIP
2203-000254	C933	C-CERAMIC,CHIP
2203-000359	C609	C-CERAMIC,CHIP
2203-000386	C10029,C10030	C-CERAMIC,CHIP
2203-000696	C417	C-CERAMIC,CHIP
2203-000812	C200,C441	C-CERAMIC,CHIP
2203-000995	C543	C-CERAMIC,CHIP
2203-001153	C1220	C-CERAMIC,CHIP
2203-002668	C266,C274	C-CERAMIC,CHIP
2203-002709	C1217,C1218	C-CERAMIC,CHIP
2203-005053	C253	C-CERAMIC,CHIP
2203-005138	C10035	C-CERAMIC,CHIP

SEC CODE	Design LOC	Description
2203-005234	C246,C251,C267	C-CERAMIC,CHIP
2203-005552	C440	C-CERAMIC,CHIP
2203-005682	C1221,C1222,C201	C-CERAMIC,CHIP
2203-005682	C229,C268,C321,C325	C-CERAMIC,CHIP
2203-005682	C343,C523,C700,C735	C-CERAMIC,CHIP
2203-005717	C10027,C10028,C303	C-CERAMIC,CHIP
2203-005725	C216,C219,C227,C231	C-CERAMIC,CHIP
2203-005725	C234,C236,C238,C239	C-CERAMIC,CHIP
2203-005725	C256,C261,C272,C273	C-CERAMIC,CHIP
2203-005729	C320,C743,C744,C745	C-CERAMIC,CHIP
2203-005729	C746	C-CERAMIC,CHIP
2203-005732	C203,C205	C-CERAMIC,CHIP
2203-005734	C1219	C-CERAMIC,CHIP
2203-005736	C211,C220,C223,C224	C-CERAMIC,CHIP
2203-005736	C226,C237,C240,C242	C-CERAMIC,CHIP
2203-005736	C250,C258,C307,C311	C-CERAMIC,CHIP
2203-005736	C334,C335,C341,C344	C-CERAMIC,CHIP
2203-005736	C354,C355,R216,U200	C-CERAMIC,CHIP
2203-005739	C435	C-CERAMIC,CHIP
2203-005740	C426	C-CERAMIC,CHIP
2203-005789	U201	C-CERAMIC,CHIP
2203-005792	C264,R217,C352	C-CERAMIC,CHIP
2203-005806	C235,C301,C317,C324	C-CERAMIC,CHIP
2203-005806	C326,C332,C339,C512	C-CERAMIC,CHIP
2203-005806	C513,C514	C-CERAMIC,CHIP
2203-006123	C1116,C322	C-CERAMIC,CHIP
2203-006137	C739,C740	C-CERAMIC,CHIP
2203-006187	C350	C-CERAMIC,CHIP
2203-006194	C232,C255,C319,C328	C-CERAMIC,CHIP
2203-006194	C516,C519,C538,C539	C-CERAMIC,CHIP
2203-006194	C707	C-CERAMIC,CHIP
2203-006260	C741,C742	C-CERAMIC,CHIP
2203-006305	C413,C731,L301	C-CERAMIC,CHIP
2203-006305	VR10001,VR10002	C-CERAMIC,CHIP
2203-006305	VR10003,VR10004	C-CERAMIC,CHIP
2203-006324	C809	C-CERAMIC,CHIP
2203-006377	C907	C-CERAMIC,CHIP

SEC CODE	Design LOC	Description
2203-006379	C712	C-CERAMIC,CHIP
2203-006399	C500,C505,C506,C507	C-CERAMIC,CHIP
2203-006399	C508,C515,C518,C525	C-CERAMIC,CHIP
2203-006399	C528,C533,C536,C537	C-CERAMIC,CHIP
2203-006399	C542,C600,C604,C922	C-CERAMIC,CHIP
2203-006399	C924	C-CERAMIC,CHIP
2203-006410	C337	C-CERAMIC,CHIP
2203-006423	C10000,C10001,C10002	C-CERAMIC,CHIP
2203-006423	C10003,C10004,C10005	C-CERAMIC,CHIP
2203-006423	C10006,C10007,C10008	C-CERAMIC,CHIP
2203-006423	C10009,C10010,C10011	C-CERAMIC,CHIP
2203-006423	C10013,C10017,C10018	C-CERAMIC,CHIP
2203-006423	C10022,C10023,C10024	C-CERAMIC,CHIP
2203-006423	C10025,C10032,C10033	C-CERAMIC,CHIP
2203-006423	C10042,C10043,C10044	C-CERAMIC,CHIP
2203-006423	C1114,C1115,C202	C-CERAMIC,CHIP
2203-006423	C212,C218,C228,C230	C-CERAMIC,CHIP
2203-006423	C245,C254,C257,C259	C-CERAMIC,CHIP
2203-006423	C262,C327,C342,C501	C-CERAMIC,CHIP
2203-006423	C502,C509,C511,C517	C-CERAMIC,CHIP
2203-006423	C520,C522,C529,C532	C-CERAMIC,CHIP
2203-006423	C534,C540,C541,C544	C-CERAMIC,CHIP
2203-006423	C545,C546,C547,C548	C-CERAMIC,CHIP
2203-006423	C625,C626,C705,C706	C-CERAMIC,CHIP
2203-006423	C715,C808,C923,U904	C-CERAMIC,CHIP
2203-006439	C434	C-CERAMIC,CHIP
2203-006462	C524	C-CERAMIC,CHIP
2203-006556	C315,C316,C356,C503	C-CERAMIC,CHIP
2203-006556	C549,C733	C-CERAMIC,CHIP
2203-006562	C1211,C1212,C1213	C-CERAMIC,CHIP
2203-006562	C1214,C1215,C410	C-CERAMIC,CHIP
2203-006562	C425,C607,C617,C618	C-CERAMIC,CHIP
2203-006562	C628,C710,C711,C738	C-CERAMIC,CHIP
2203-006562	C747,C748,C749,C910	C-CERAMIC,CHIP
2203-006562	C911,C912,C915,C916	C-CERAMIC,CHIP
2203-006562	C917,C932,C937,C939	C-CERAMIC,CHIP
2203-006611	C263	C-CERAMIC,CHIP

SEC CODE	Design LOC	Description
2203-006642	C302,C318,C340	C-CERAMIC,CHIP
2203-006665	C217,C222,L202,L203	C-CERAMIC,CHIP
2203-006668	C445,C521	C-CERAMIC,CHIP
2203-006674	C213,C215,C349	C-CERAMIC,CHIP
2203-006681	C909	C-CERAMIC,CHIP
2203-006707	C734	C-CERAMIC,CHIP
2203-006824	C603,C900,C901,C902	C-CERAMIC,CHIP
2203-006824	C904,C905,C906	C-CERAMIC,CHIP
2203-006838	C510,C704,C714,C914	C-CERAMIC,CHIP
2203-006838	C918	C-CERAMIC,CHIP
2203-006839	C10034,C10040,C424	C-CERAMIC,CHIP
2203-006839	C444,C613,C737	C-CERAMIC,CHIP
2203-006841	C10019,C1112,C716	C-CERAMIC,CHIP
2203-006841	C717,C718,C719,C722	C-CERAMIC,CHIP
2203-006841	C723,C724,C725,C726	C-CERAMIC,CHIP
2203-006841	C729,C730,C929	C-CERAMIC,CHIP
2203-006846	C427,L205,L206,L309	C-CERAMIC,CHIP
2203-006872	C1216,C409,C412,C414	C-CERAMIC,CHIP
2203-006872	C430,C439,C615,C616	C-CERAMIC,CHIP
2203-006872	C619	C-CERAMIC,CHIP
2203-006979	C10012,C10026	C-CERAMIC,CHIP
2203-007165	C10014,C260,C610	C-CERAMIC,CHIP
2203-007165	C810	C-CERAMIC,CHIP
2203-007210	C713	C-CERAMIC,CHIP
2203-007271	C408,C433,C602,C612	C-CERAMIC,CHIP
2203-007271	C620,C621,C629,C800	C-CERAMIC,CHIP
2203-007271	C801,C802,C807,C811	C-CERAMIC,CHIP
2203-007271	C812,C813,C814,C815	C-CERAMIC,CHIP
2203-007271	C823,C824,C825,C831	C-CERAMIC,CHIP
2203-007271	C832,C833,C835,C838	C-CERAMIC,CHIP
2203-007271	C908,C934,C935,C936	C-CERAMIC,CHIP
2203-007271	C938	C-CERAMIC,CHIP
2203-007279	C275,C300,C314,C338	C-CERAMIC,CHIP
2203-007279	C437,C608,C630,C703	C-CERAMIC,CHIP
2203-007279	C803,C927,TA701	C-CERAMIC,CHIP
2203-007317	C606,C624	C-CERAMIC,CHIP
2404-001339	TA500	C-TA,CHIP

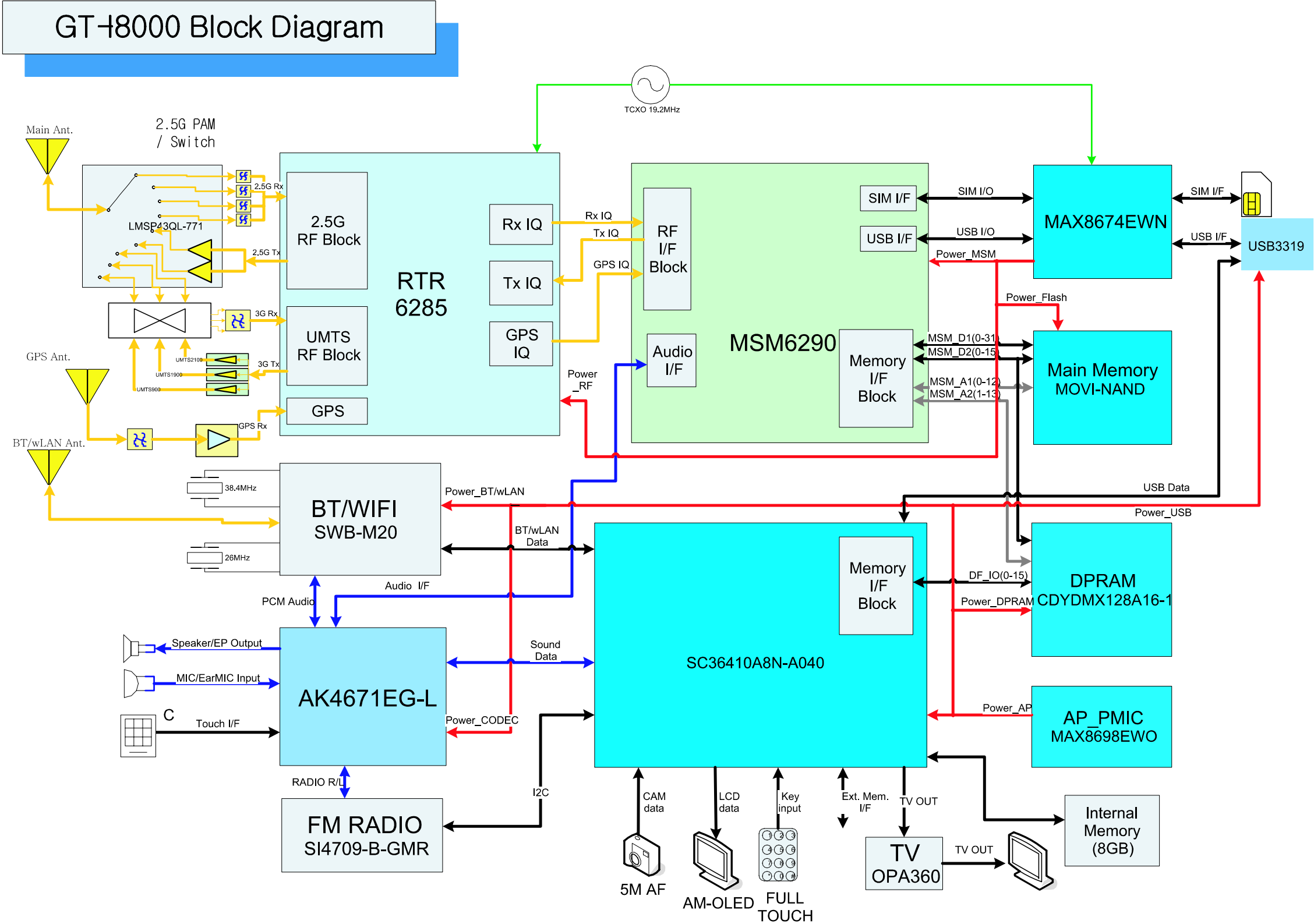
SEC CODE	Design LOC	Description
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2404-001496	TA800	C-TA,CHIP
2404-001497	TA700	C-TA,CHIP
2703-001737	C265	INDUCTOR-SMD
2703-001750	L210,L213	INDUCTOR-SMD
2703-001751	L211	INDUCTOR-SMD
2703-002308	L401	INDUCTOR-SMD
2703-002314	L201	INDUCTOR-SMD
2703-002557	L704	INDUCTOR-SMD
2703-002708	L215	INDUCTOR-SMD
2703-002710	L403	INDUCTOR-SMD
2703-002793	L208,L300,U202	INDUCTOR-SMD
2703-002795	L204,L207,L304	INDUCTOR-SMD
2703-002842	C306,C323	INDUCTOR-SMD
2703-002858	L305,L308	INDUCTOR-SMD
2703-002866	L801	INDUCTOR-SMD
2703-002903	C313,L302	INDUCTOR-SMD
2703-002907	C304,C308	INDUCTOR-SMD
2703-002955	C310,R10154,R10155	INDUCTOR-SMD
2703-002955	R10156,R10157	INDUCTOR-SMD
2703-003003	C305	INDUCTOR-SMD
2703-003009	C348	INDUCTOR-SMD
2703-003127	C331,U203	INDUCTOR-SMD
2703-003182	L900,L901	INDUCTOR-SMD
2703-003260	L600,L601,L602,L902	INDUCTOR-SMD
2703-003335	L209	INDUCTOR-SMD
2703-003347	L800	INDUCTOR-SMD
2703-003470	L400	INDUCTOR-SMD
2801-004340	OSC10001	CRYSTAL-UNIT
2801-004543	OSC10002	CRYSTAL-UNIT
2801-004560	OSC401	CRYSTAL-UNIT
2801-004749	OSC400	CRYSTAL-UNIT
2804-001700	OSC10003	OSCILLATOR-CLOCK
2804-001796	OSC700	OSCILLATOR-CLOCK
2804-001845	OSC10000	OSCILLATOR-CLOCK
2809-001341	TCX300	OSCILLATOR-VCTCXO
2901-001413	F1100	FILTER-EMI SMD

SEC CODE	Design LOC	Description
2901-001448	F1101,F1102,F1103	FILTER-EMI SMD
2901-001469	F800,F801	FILTER-EMI SMD
2904-001739	F302	FILTER-SAW
2904-001756	F201	FILTER-SAW
2904-001785	F300	FILTER-SAW
2904-001789	F304	FILTER-SAW
2910-000065	DUF300	FILTER
2910-000070	DUF302	FILTER
2910-000073	DUF301	FILTER
2911-000128	F200	FILTER
3003-001136	MIC701	MIC-CONDENSOR
3301-001729	L802,L804	CORE-FERRITE BEAD
3301-001756	L1200,L306,L700	CORE-FERRITE BEAD
3301-001901	L407	CORE-FERRITE BEAD
3301-001917	L701,L702,L703	CORE-FERRITE BEAD
3705-001358	RFS200	CONNECTOR-COAXIAL
3705-001448	ANT200	CONNECTOR-COAXIAL
3711-006078	BTC600	CONNECTOR-HEADER
3711-006352	HDC801	CONNECTOR-HEADER
3711-006615	HDC700	CONNECTOR-HEADER
3711-006676	HDC1200	CONNECTOR-HEADER
3711-006865	HDC800	CONNECTOR-HEADER
3711-006919	HDC1201	CONNECTOR-HEADER
3722-002871	IFC902	JACK-PHONE
4302-001181	BAT600	BATTERY
4709-001662	MOD400	RF-MODULE
GH70-03349A	SC200,SC201,SC202	ONBOARD-CLIP-6
GH70-03349A	SC203,SC204,SC205	ONBOARD-CLIP-6
GH70-03349A	SC207,SC209,SC210	ONBOARD-CLIP-6
GH70-03349A	SC212,SC213,SC214	ONBOARD-CLIP-6
GH70-03349A	SC216,SC217,SC218	ONBOARD-CLIP-6
GH70-04132A	SC208,SC211,SC219	ONBOARD-CLIP-8
GH70-04132A	SC221,SC220	ONBOARD-CLIP-8
GH71-08731A	ANT_GPS,ANT_WIFI_BT	NPR-CONTACT ANT

Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.

7. Block Diagrams

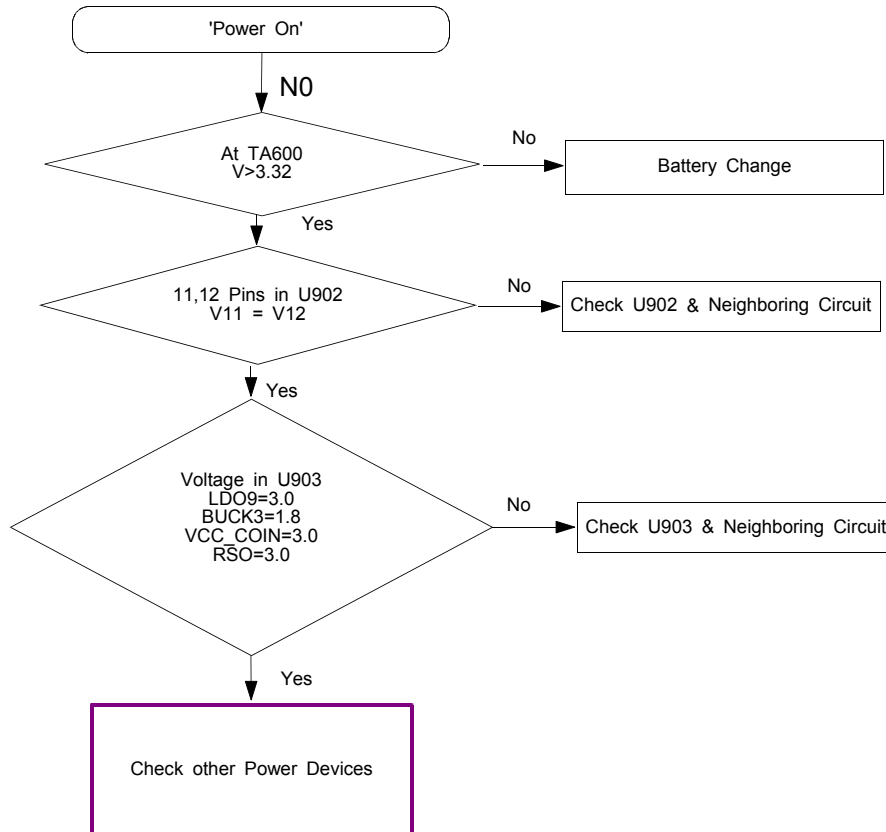
7-1. Block Diagram

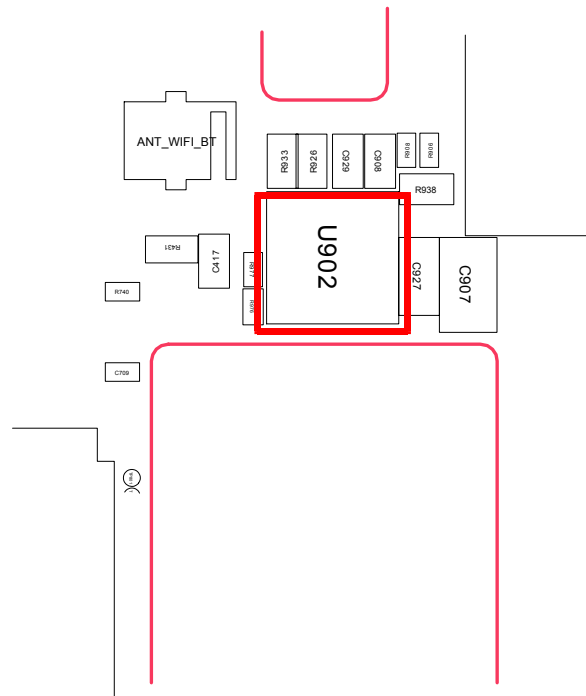
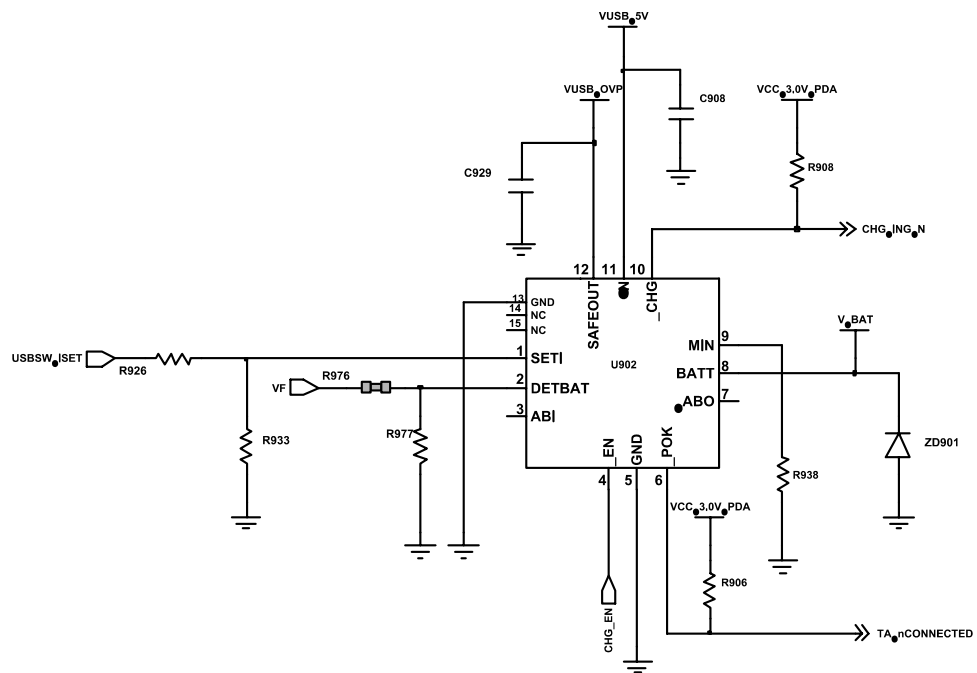


9. Flow Chart of TroubleShooting

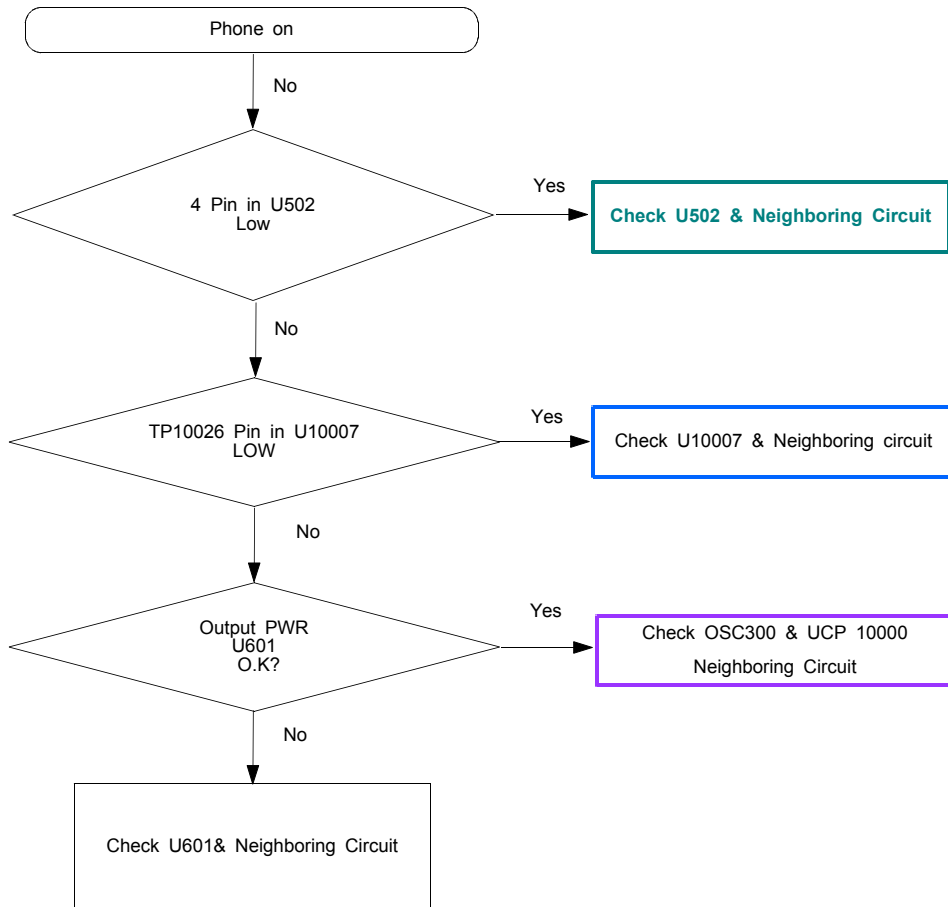
9-1. Power On

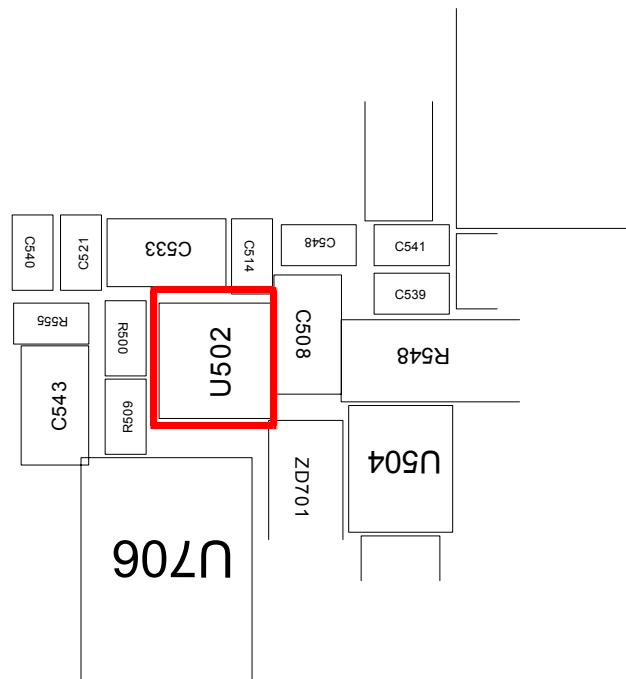
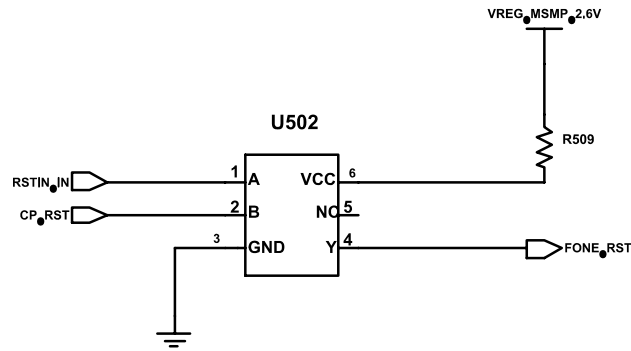
● PDA Part



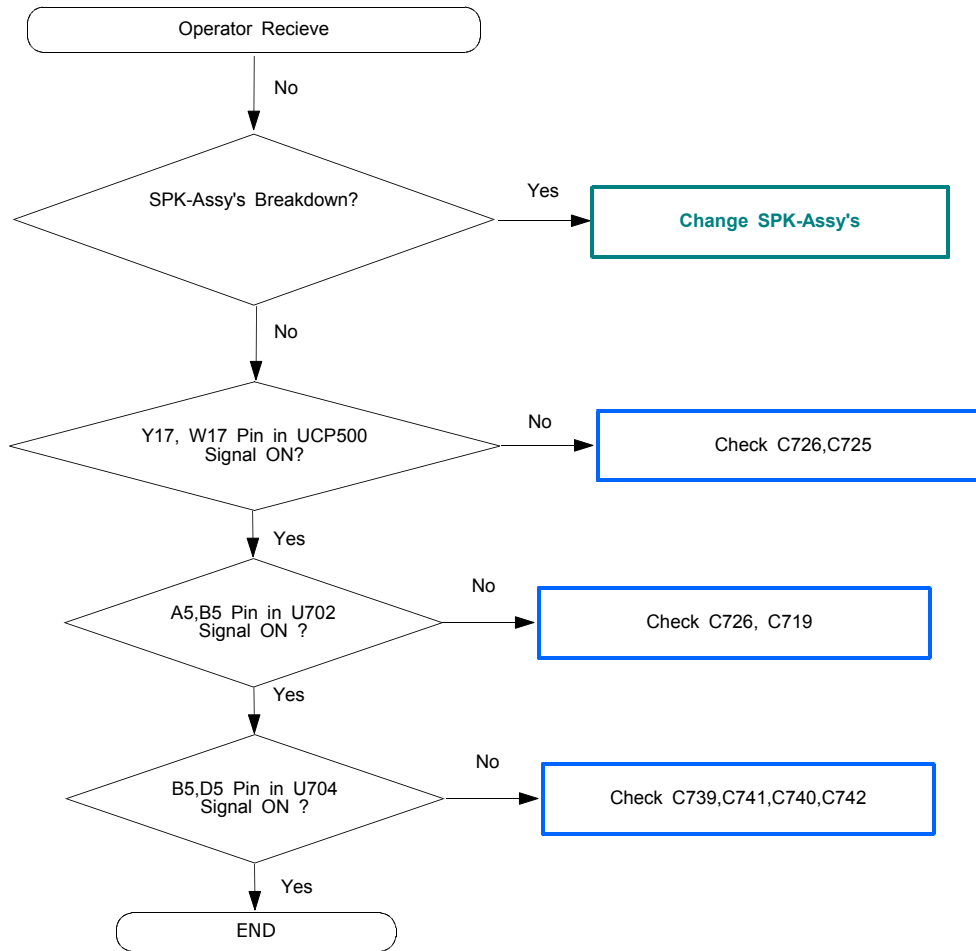


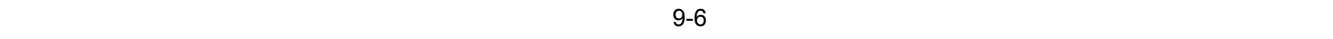
● PHONE Part

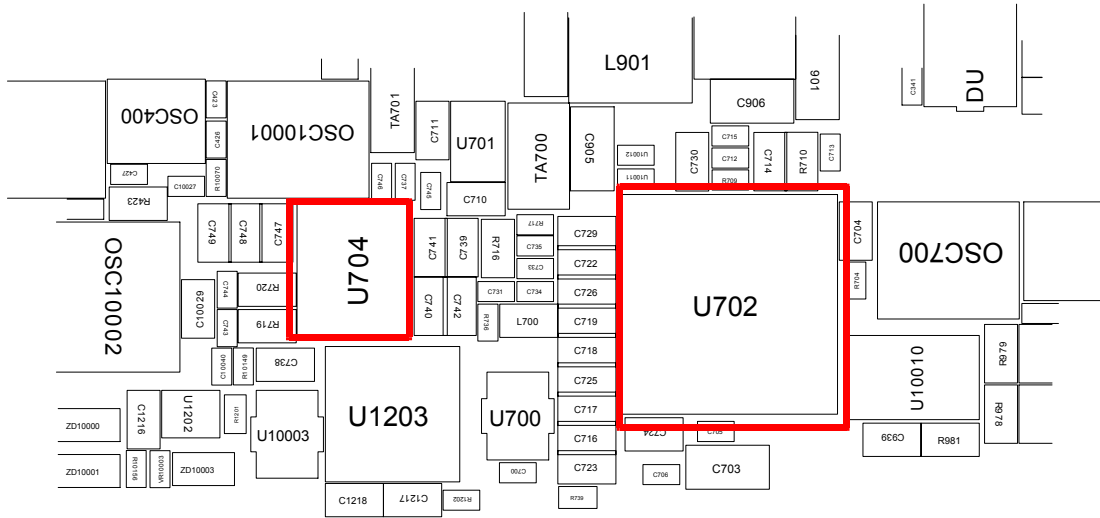




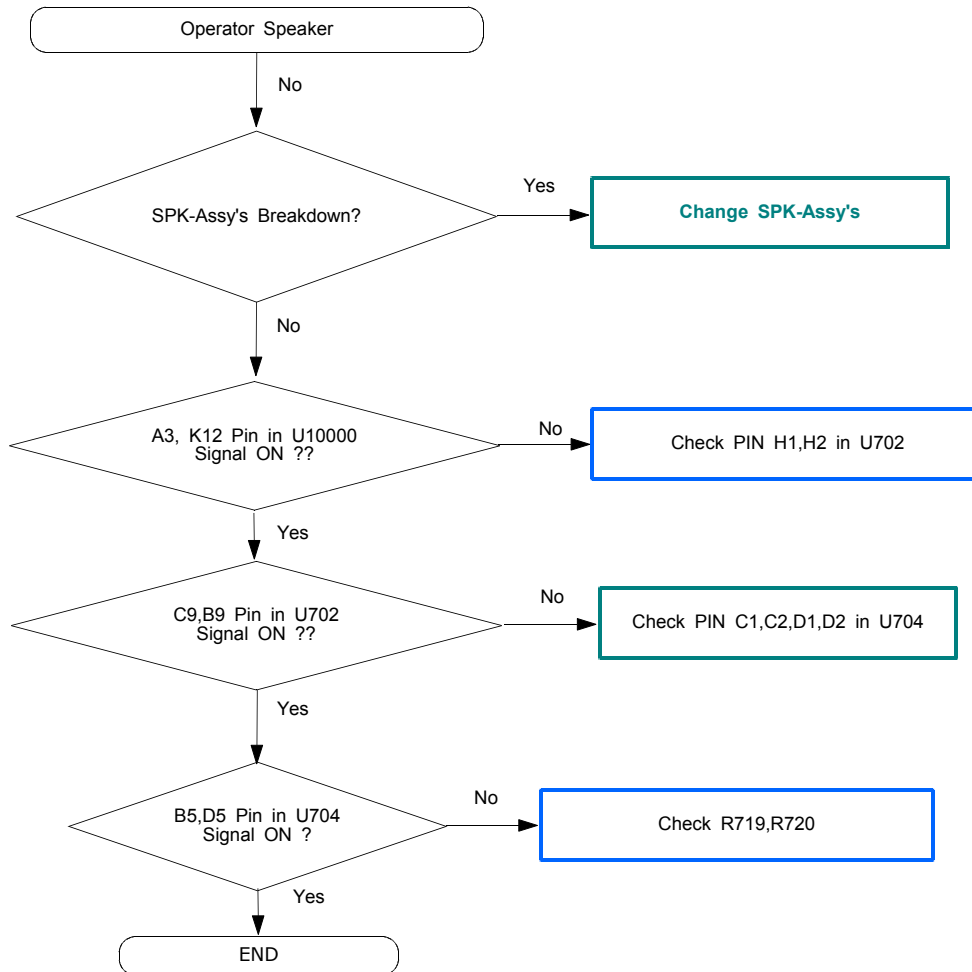
9-2. RECEIVER Working

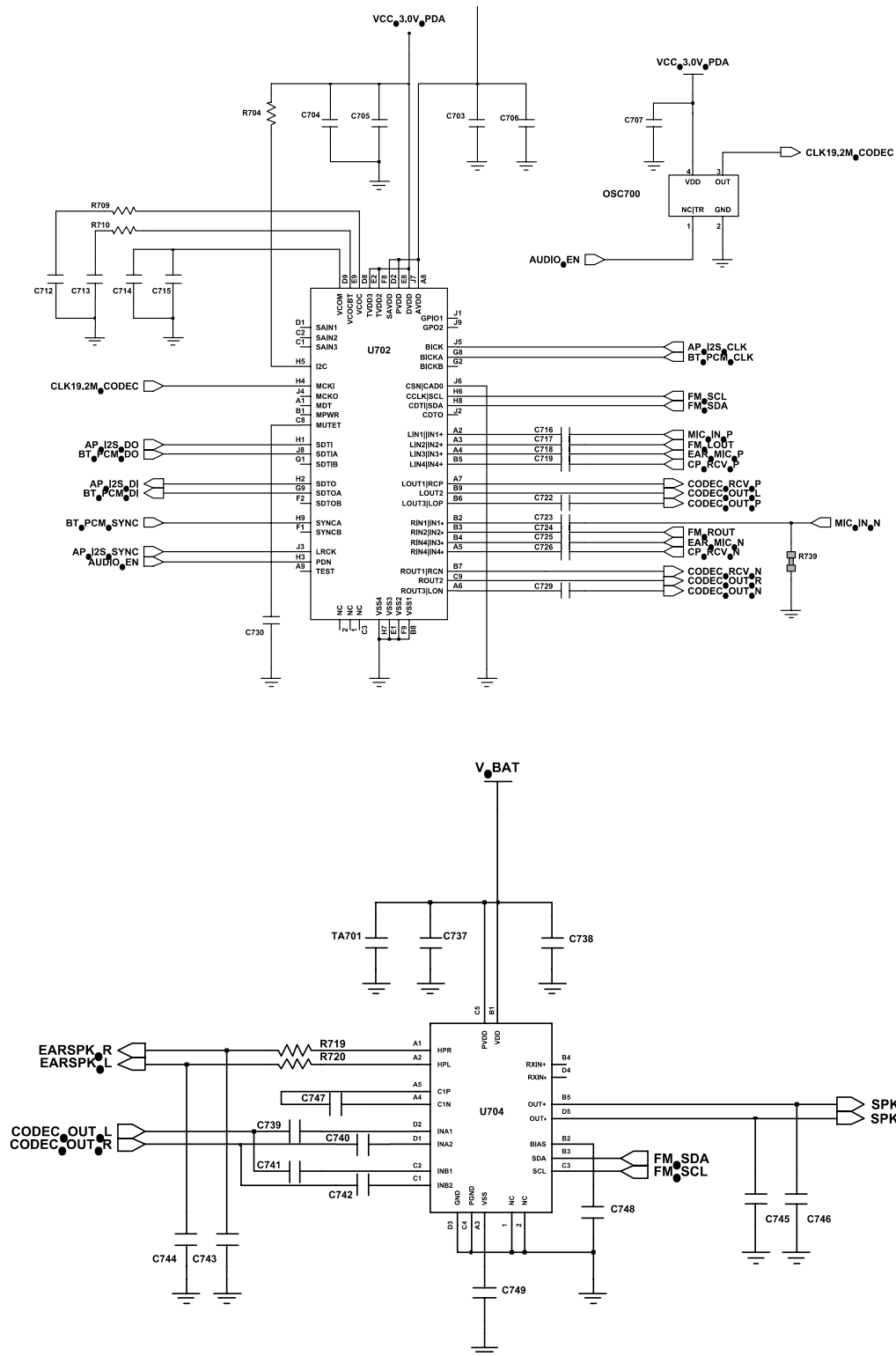


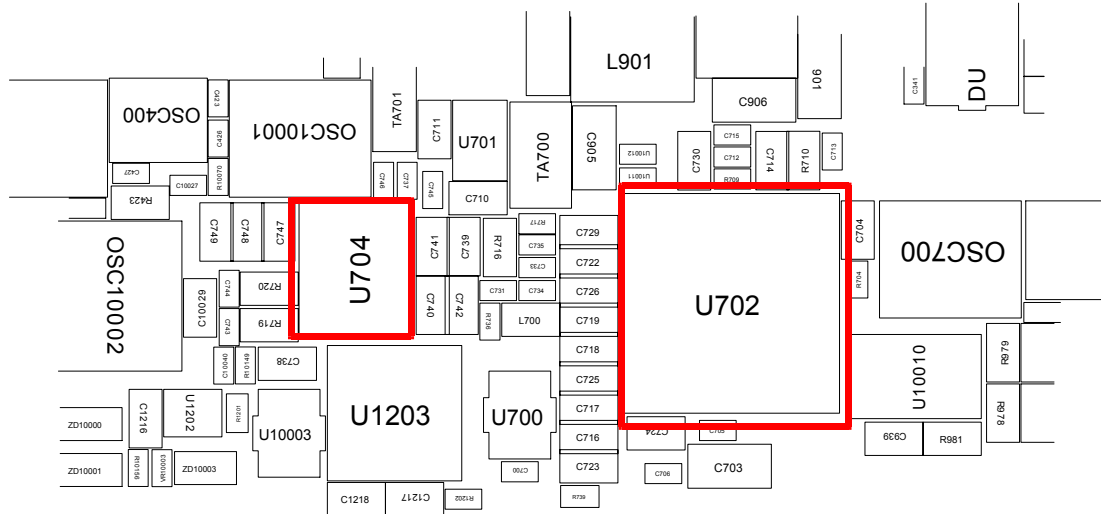




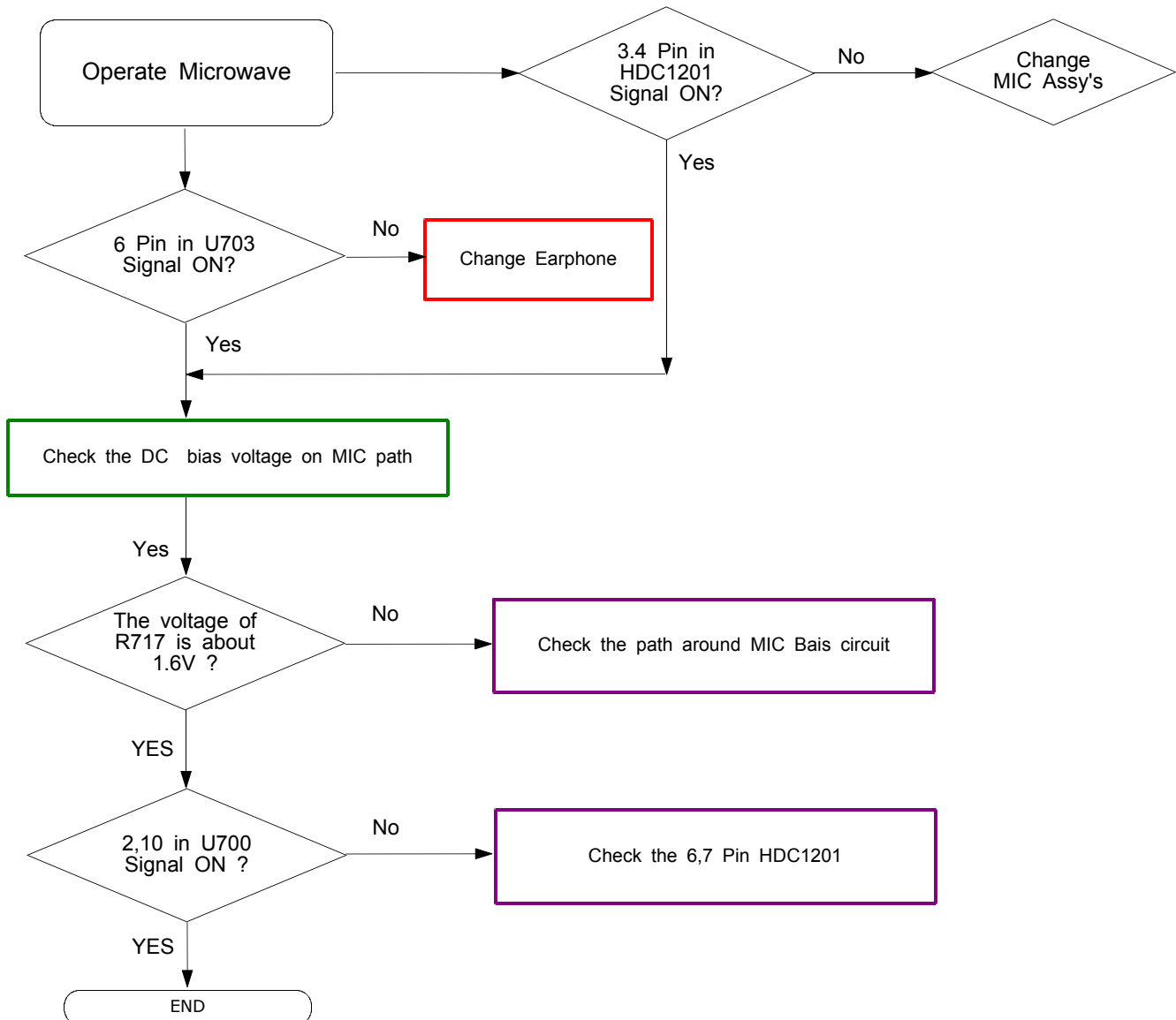
9-3. SPEAKER Working

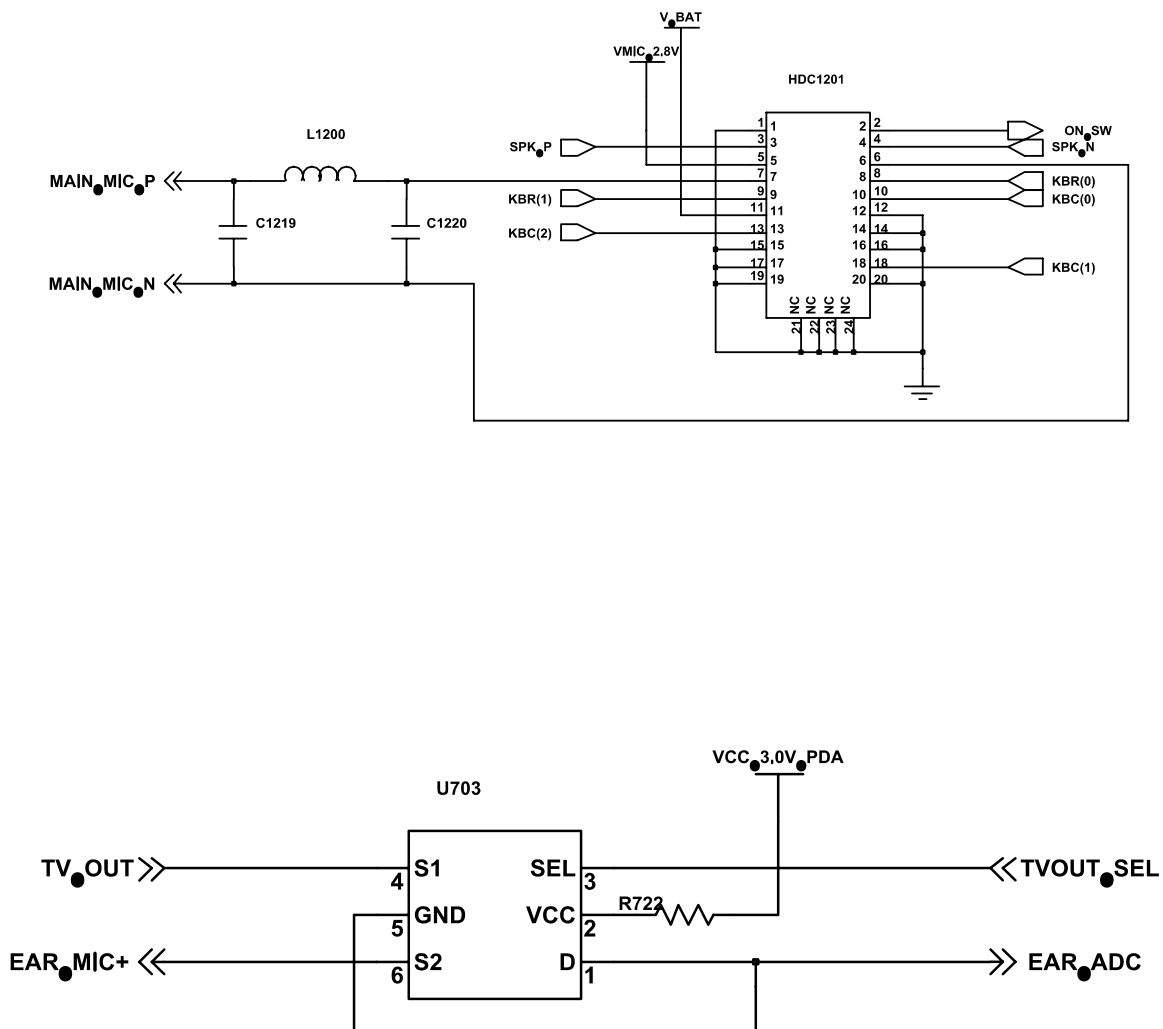


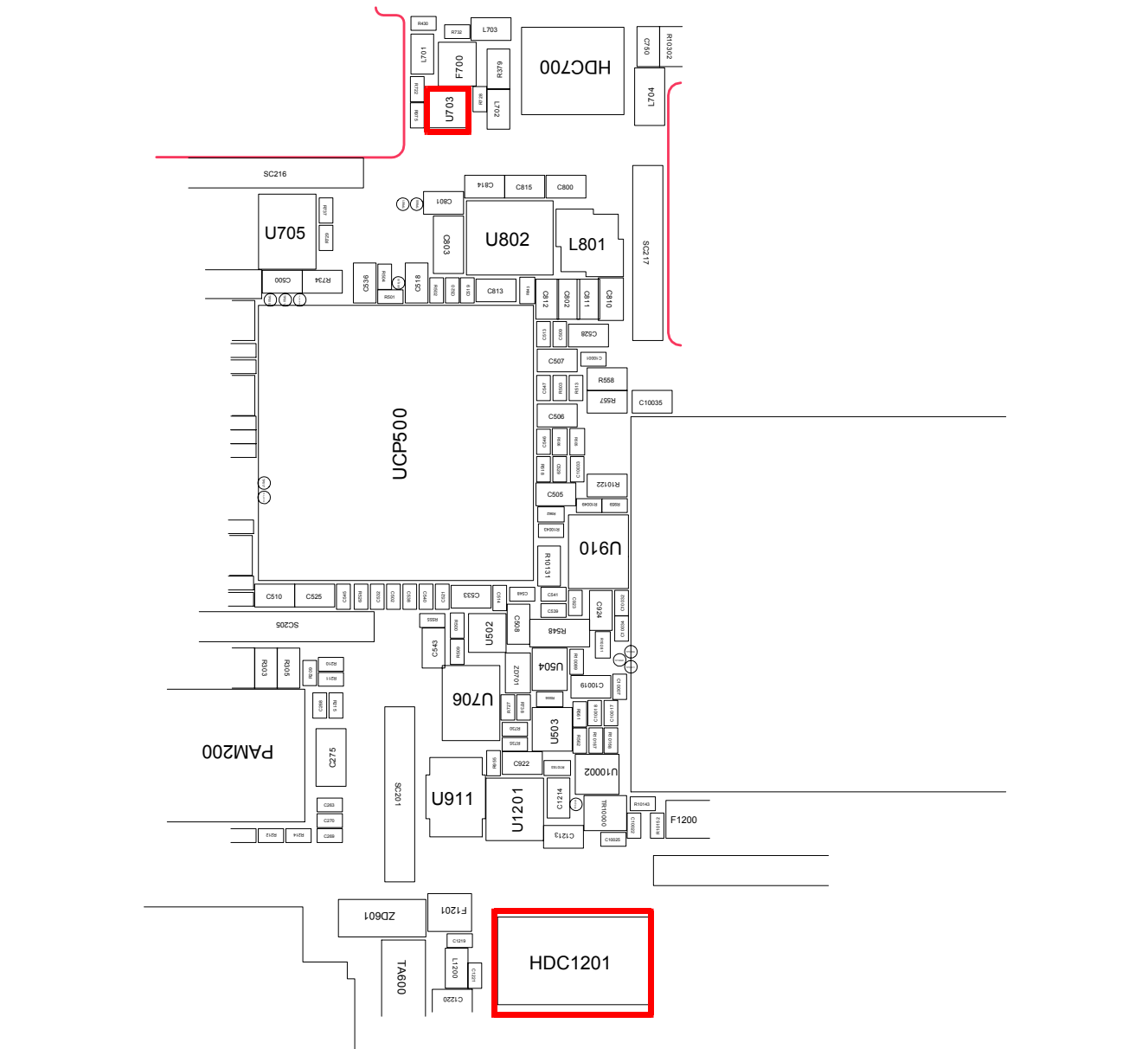




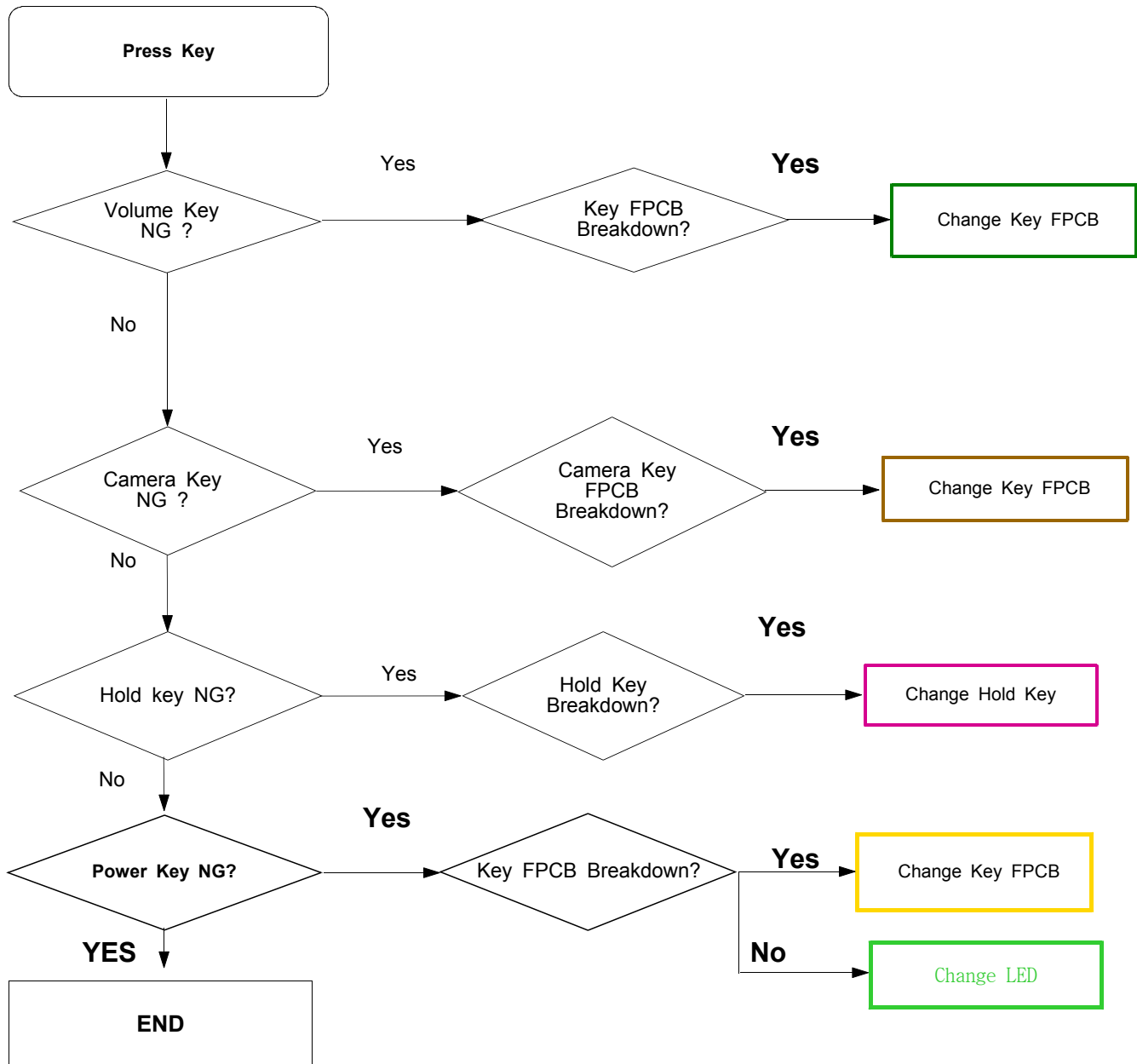
9-4. MIC Working



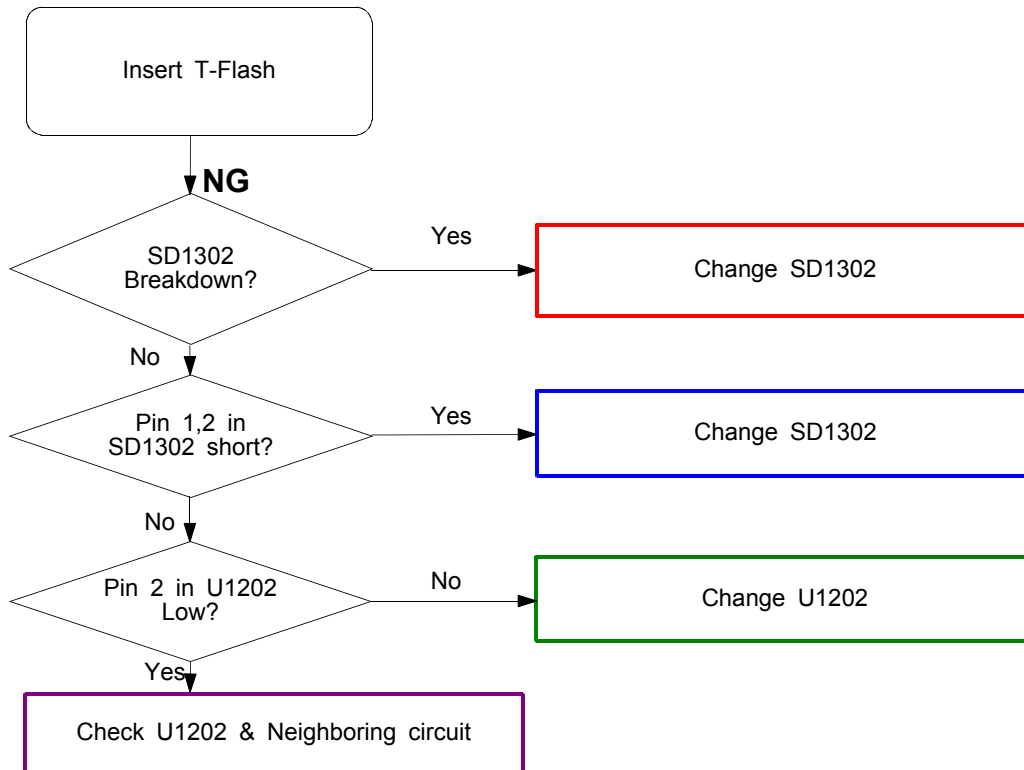


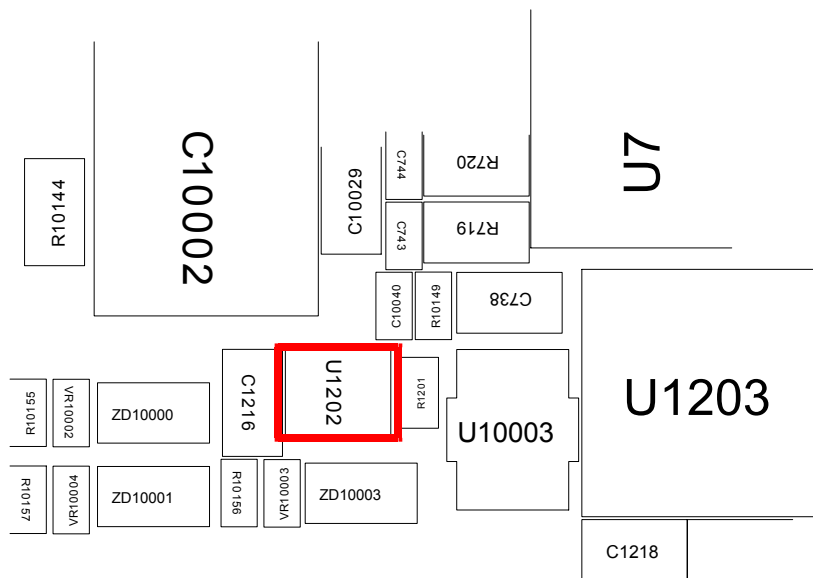
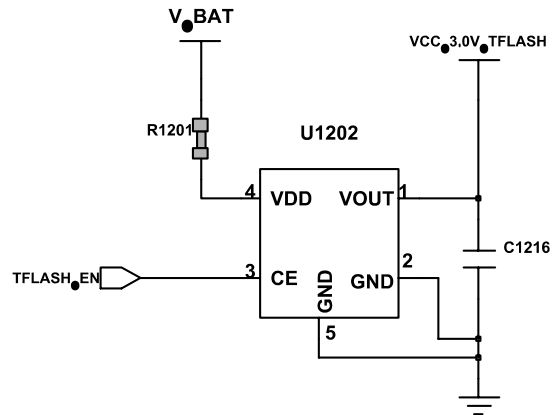


9-5. KEY Working

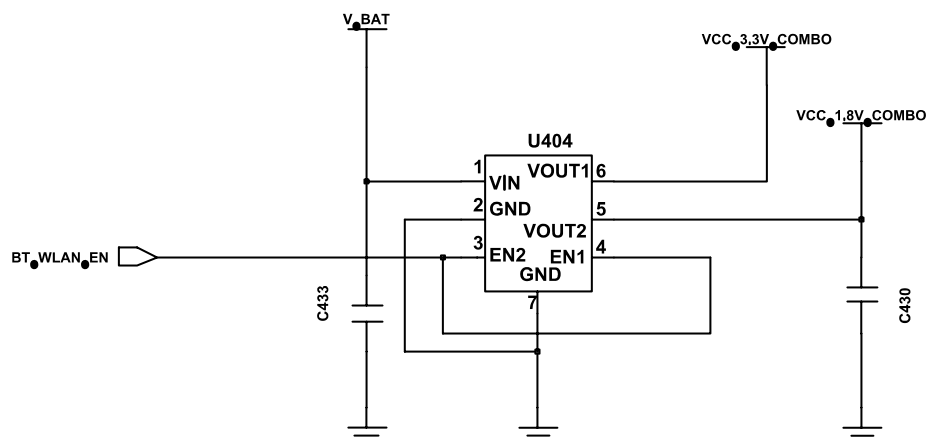
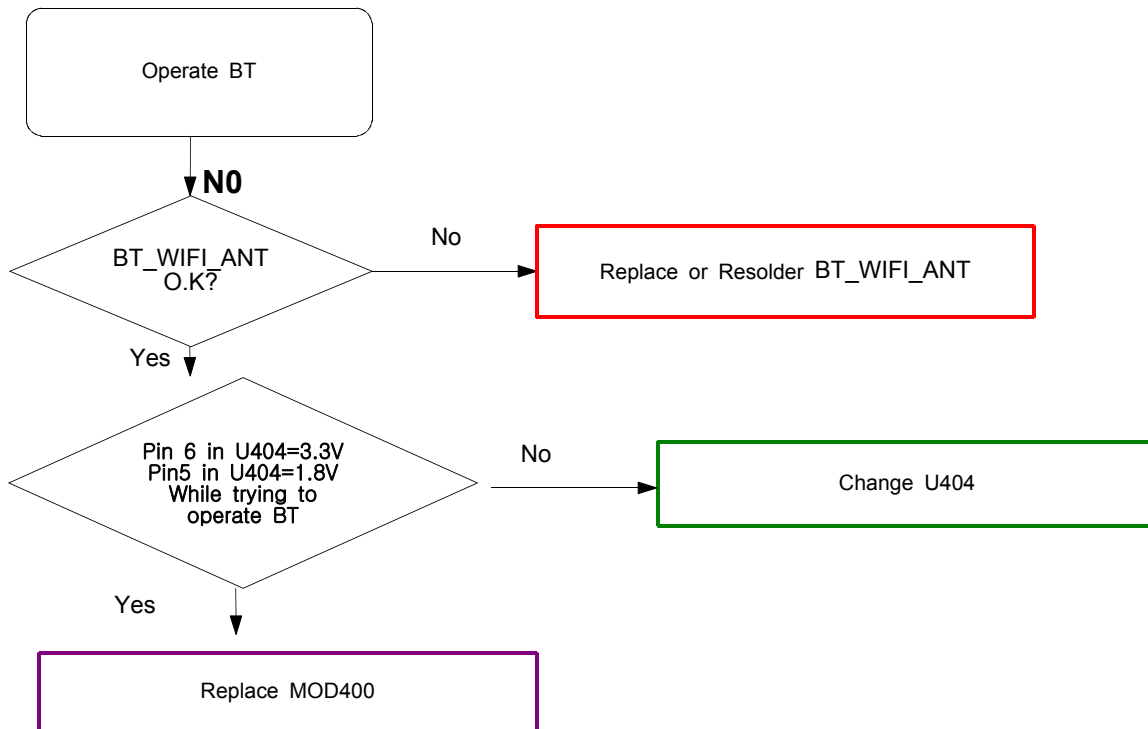


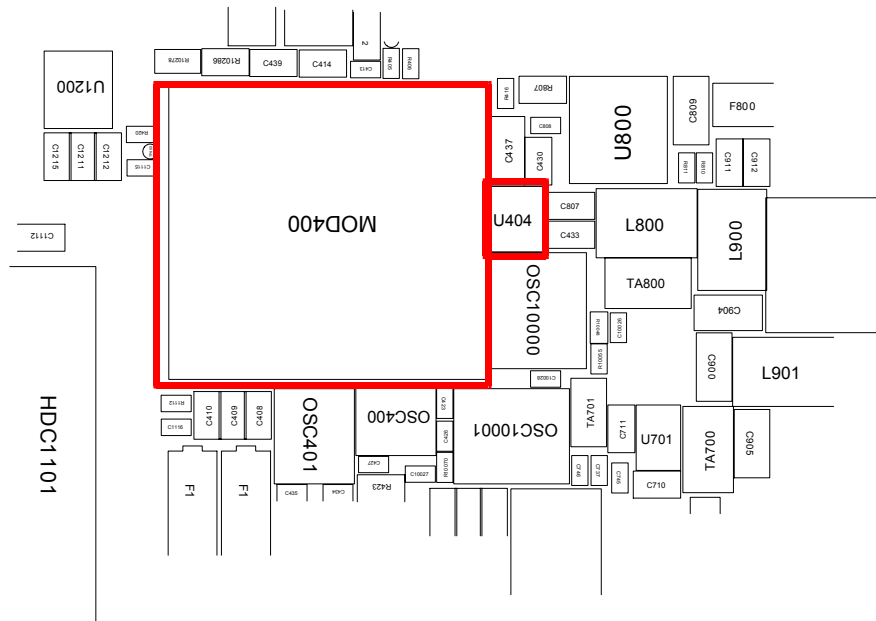
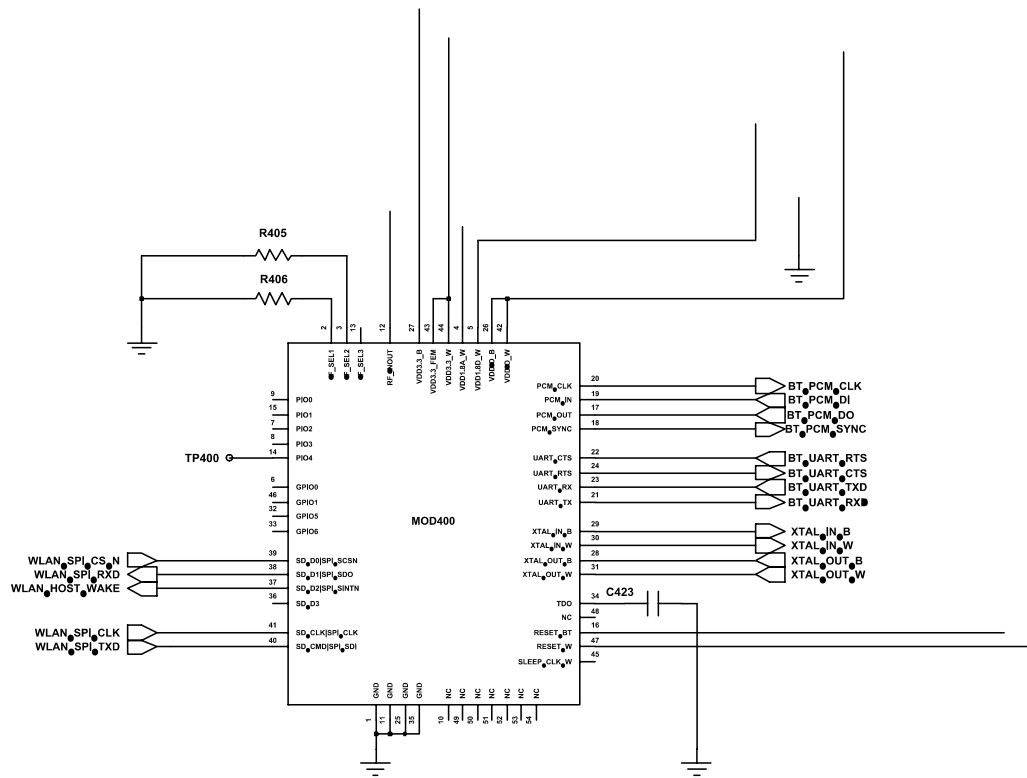
9-6. T-Flash Card Working



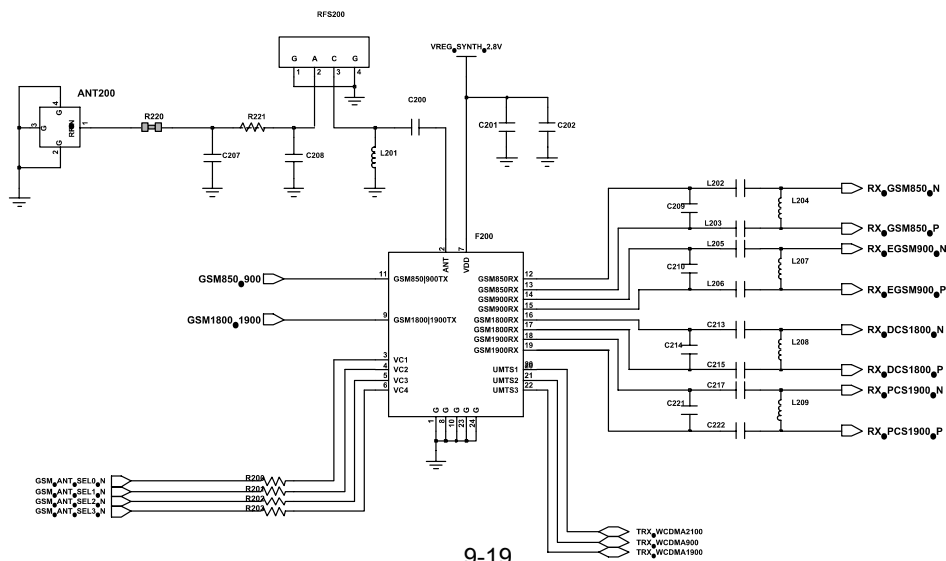
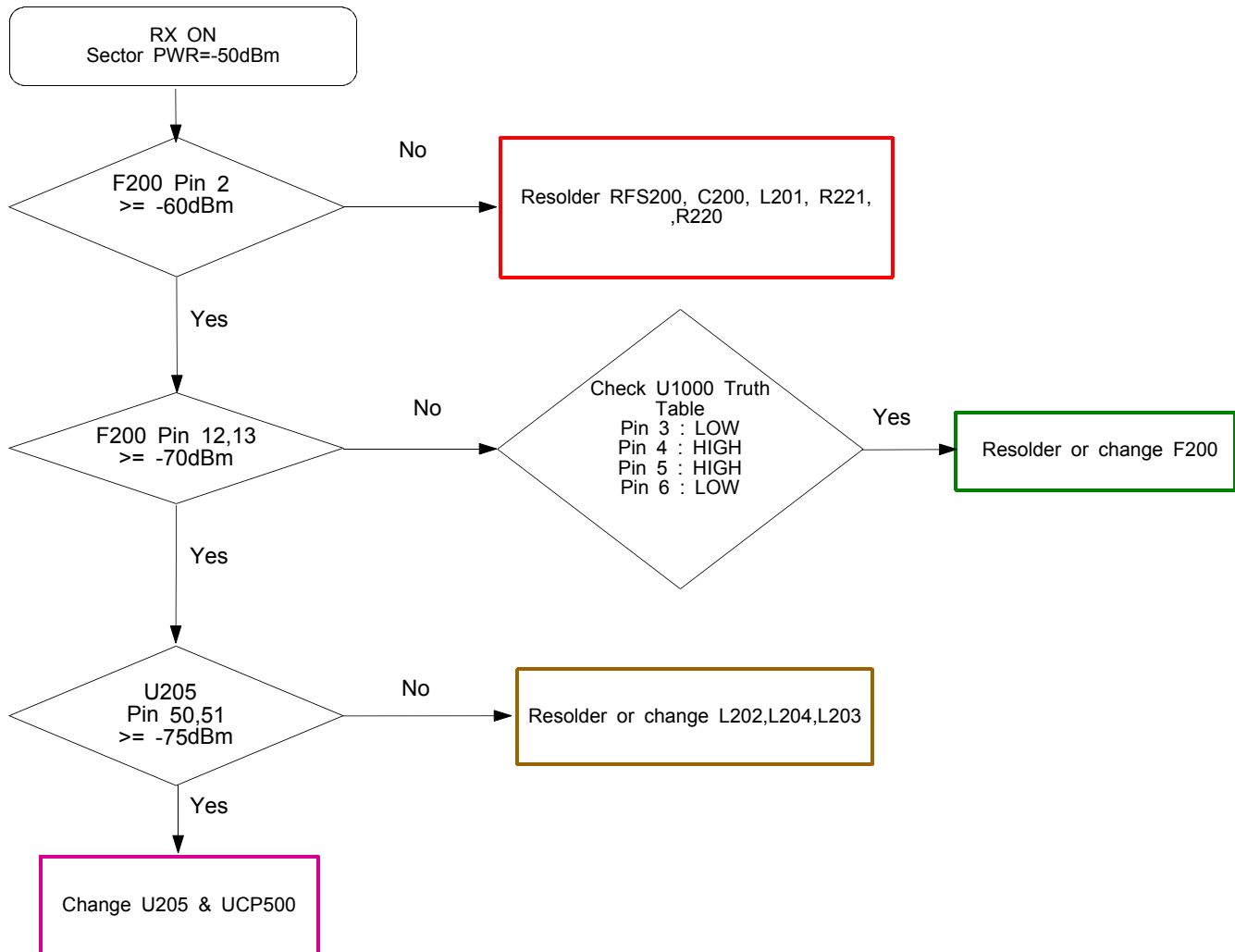


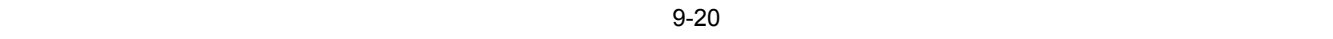
9-7. Bluetooth Working



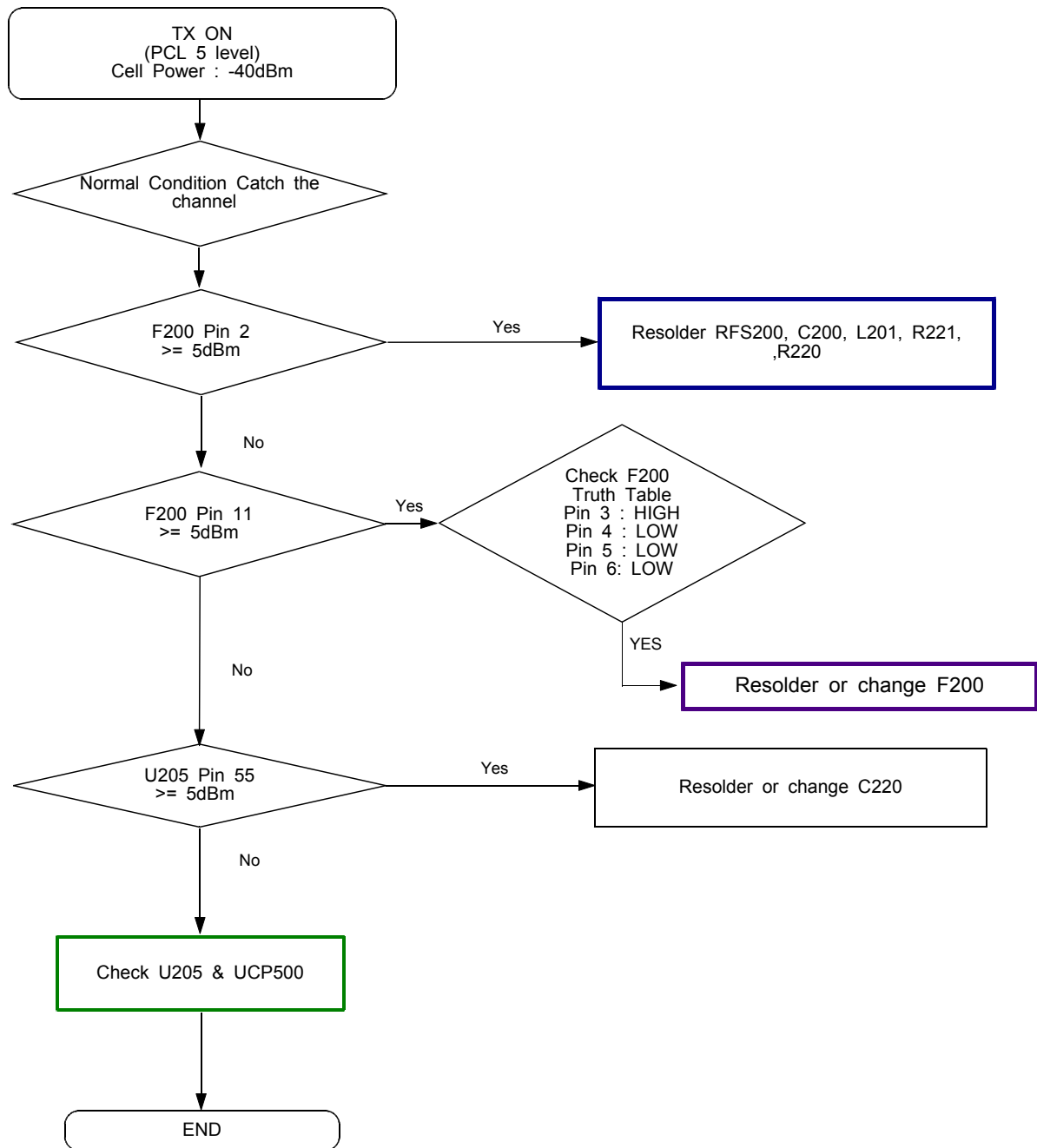


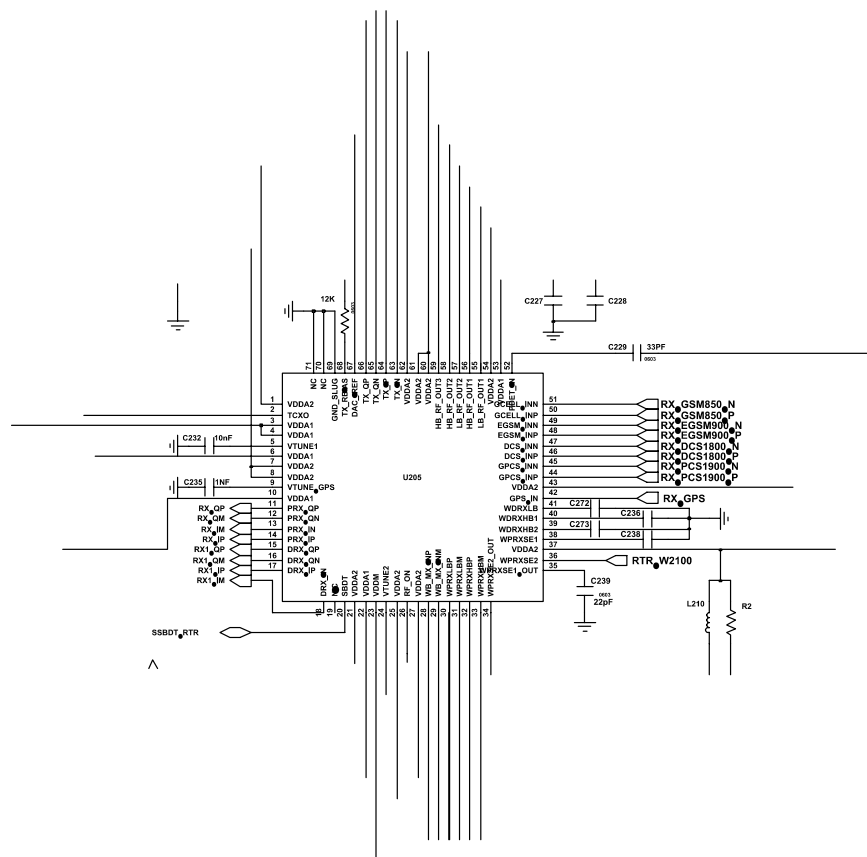
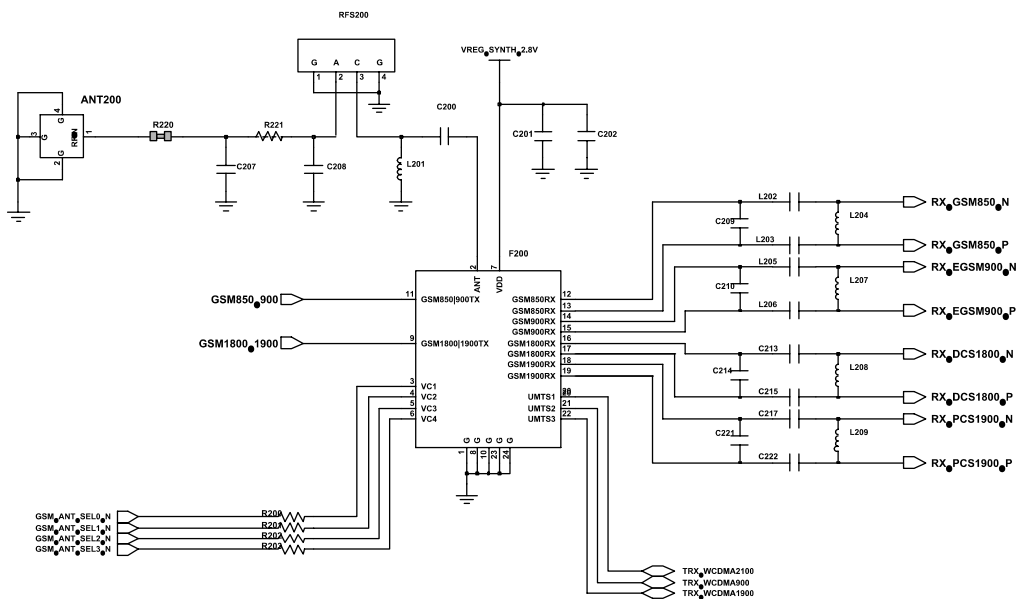
9-8. GSM850 Receiver

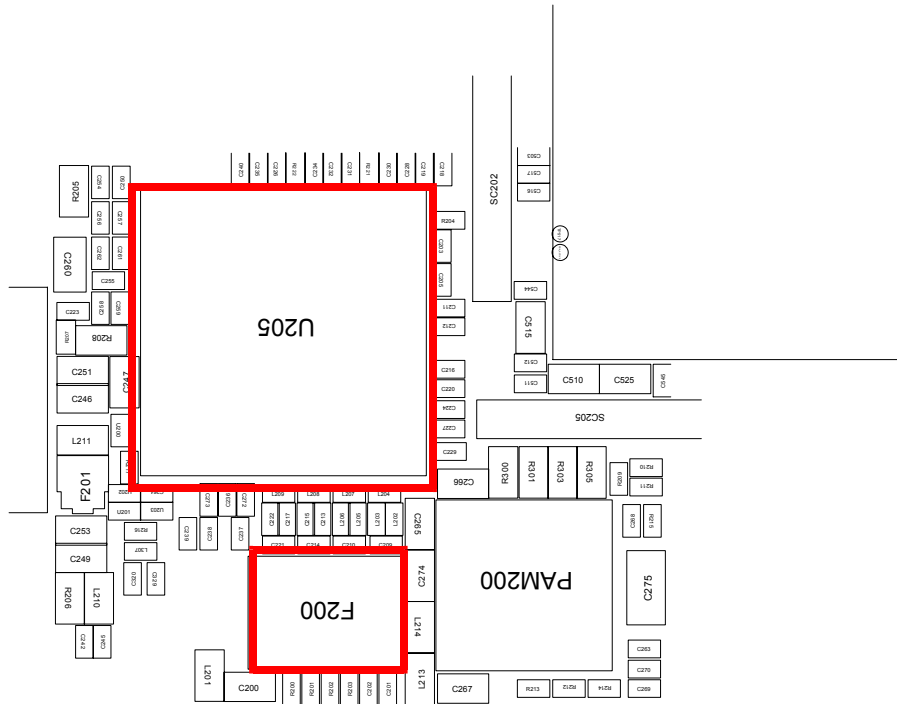




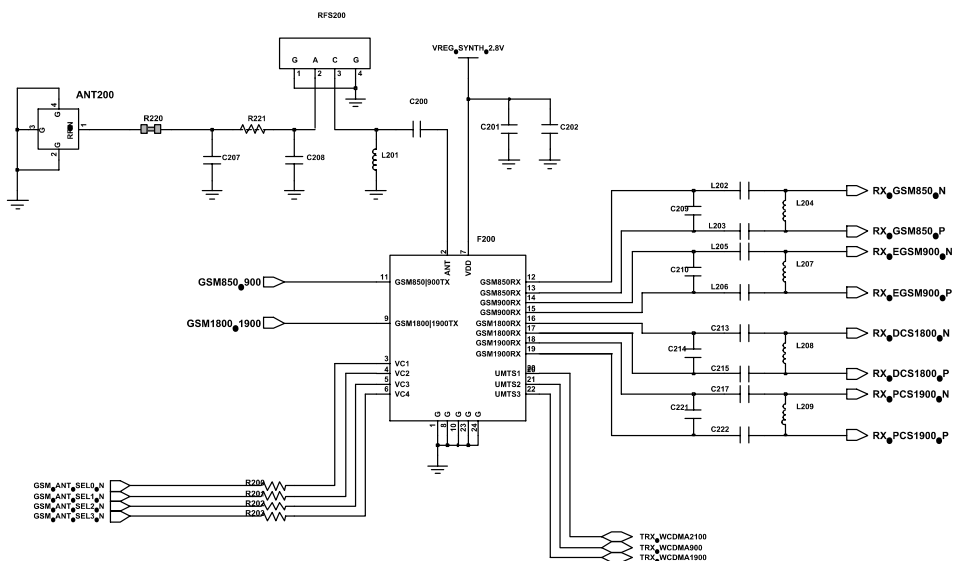
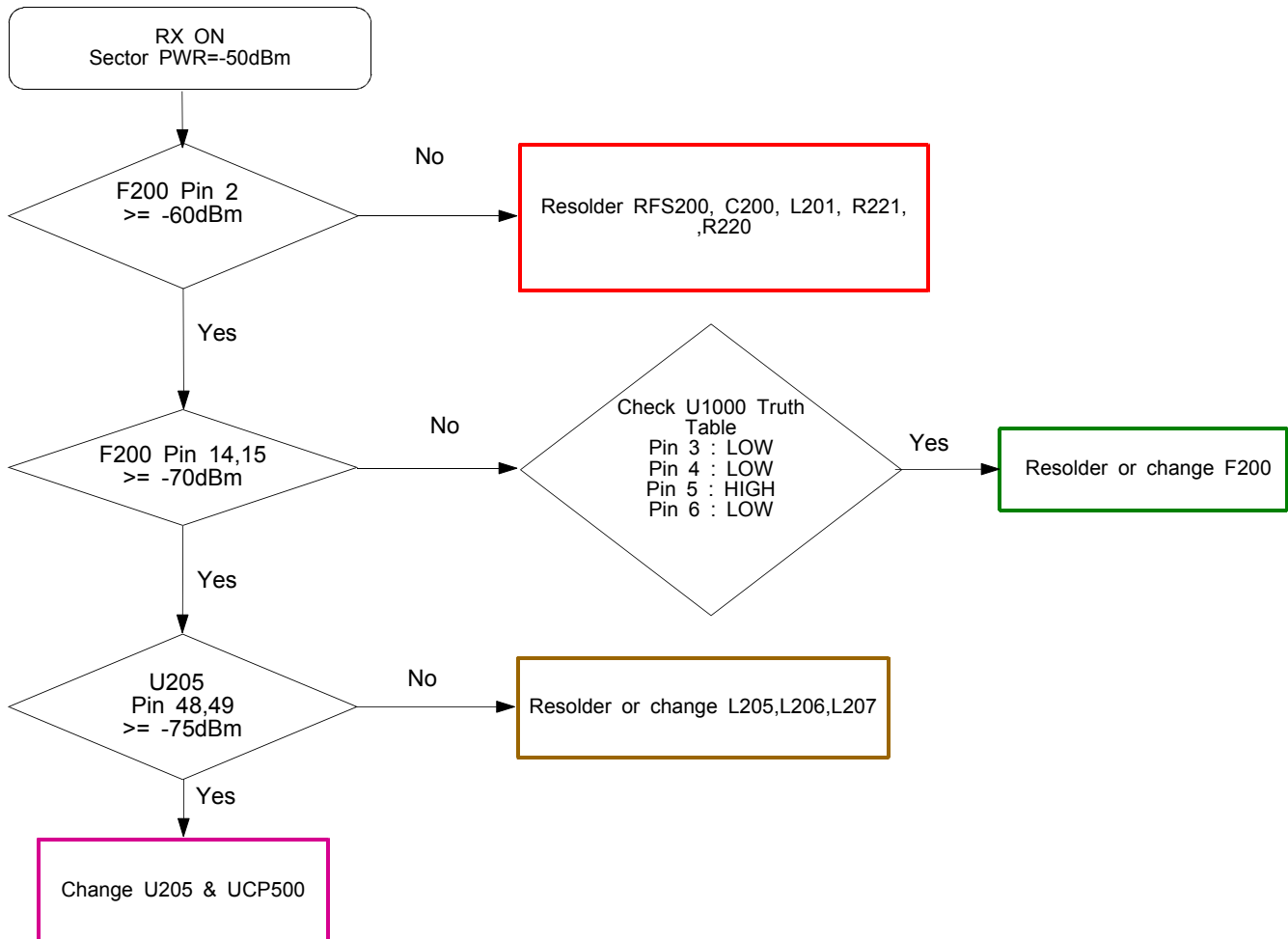
9-9. GSM850 Transmitter

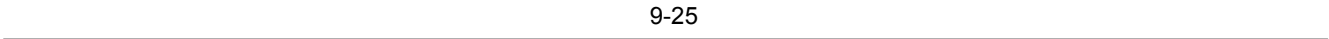




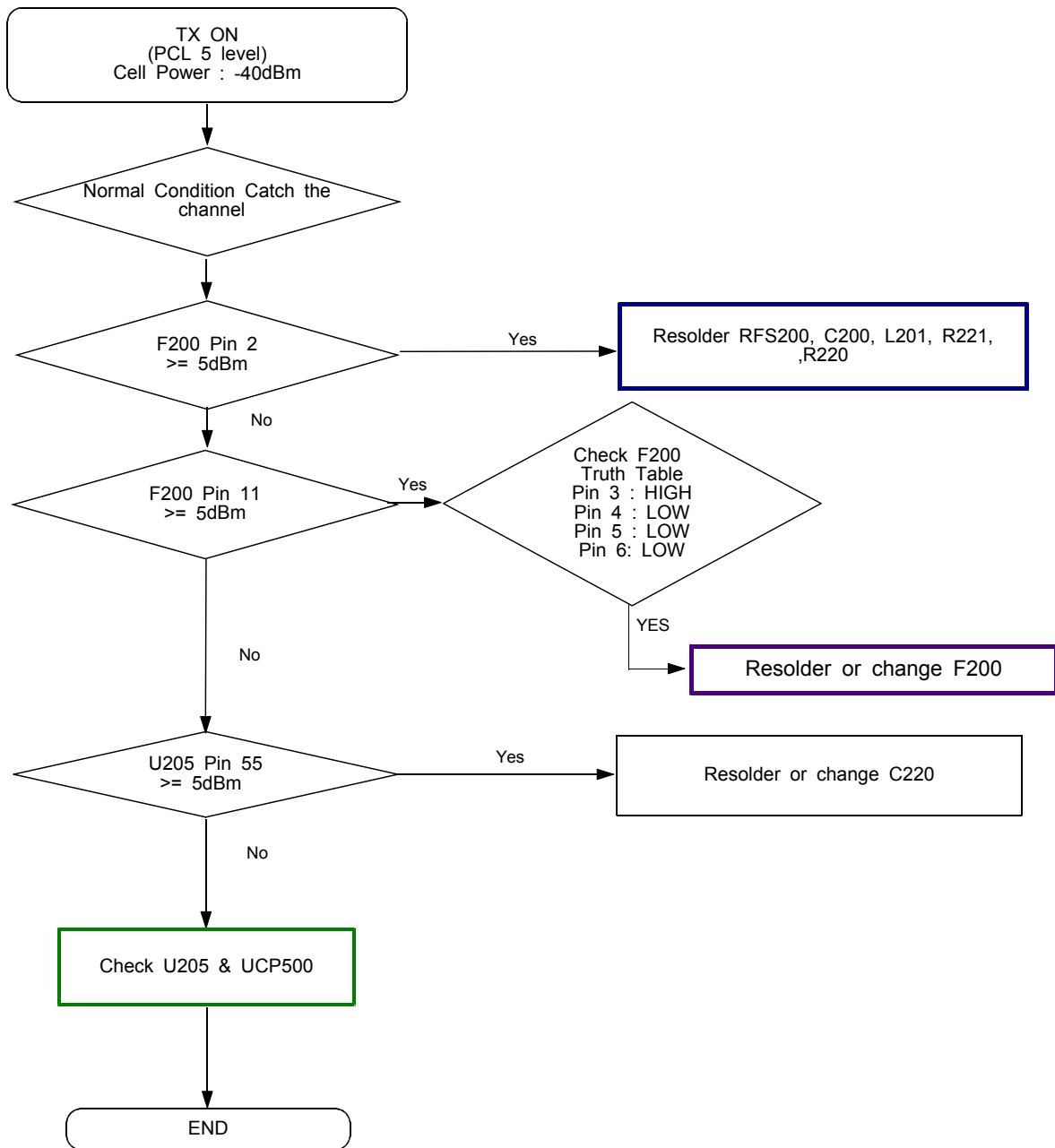


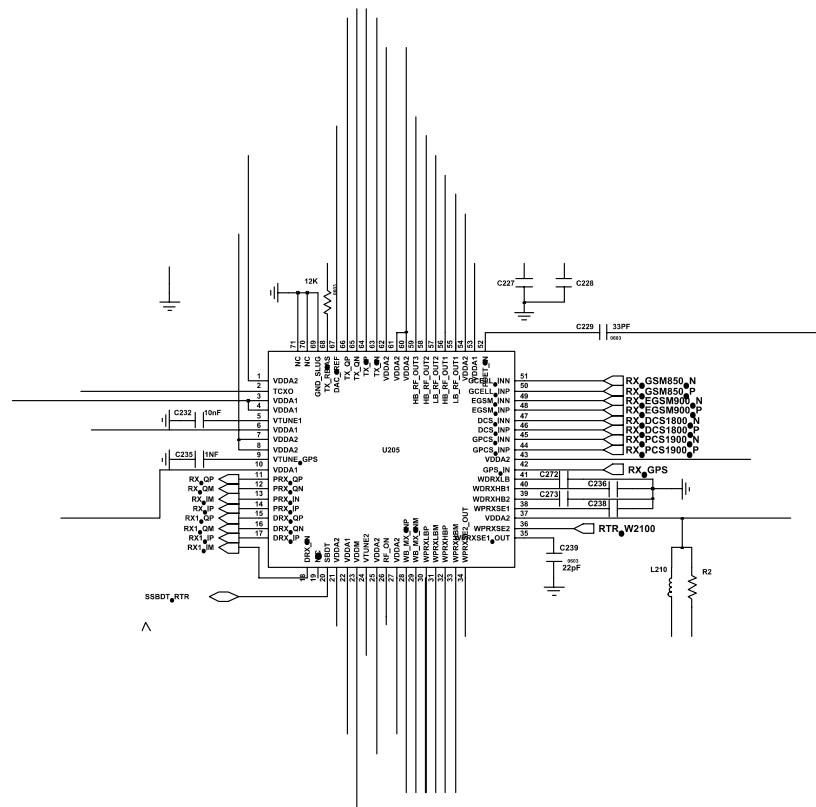
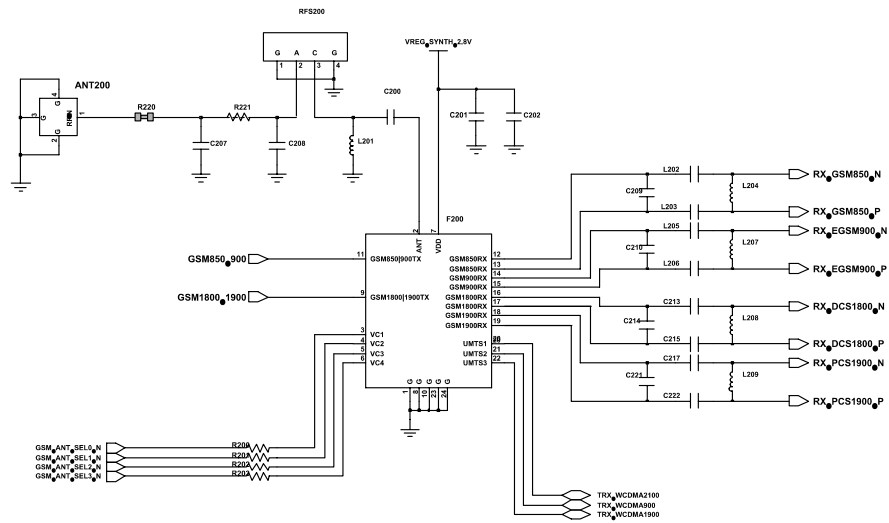
9-10. GSM900 Receiver

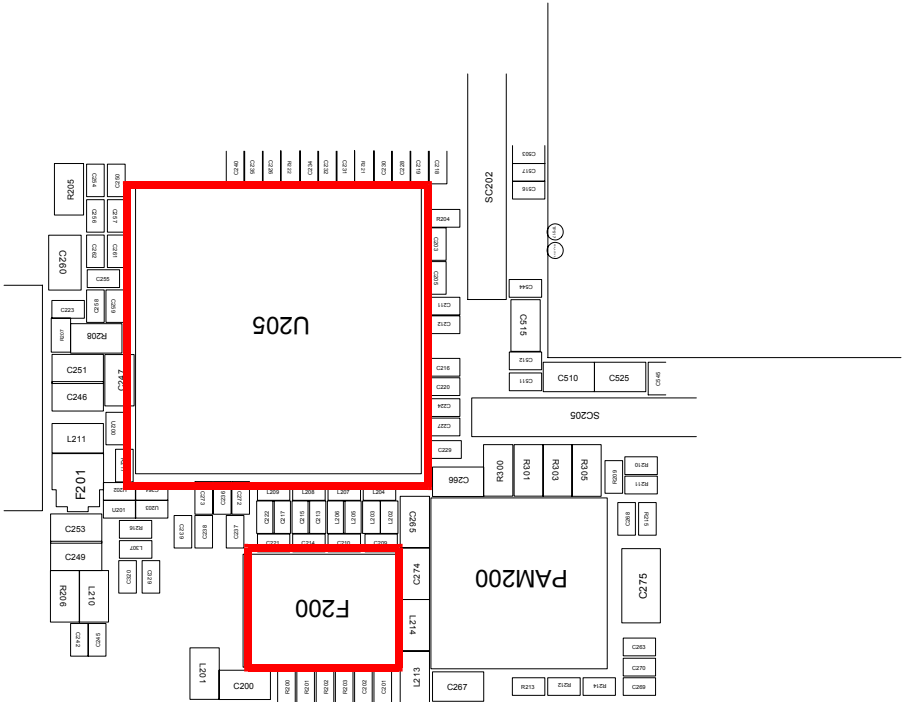




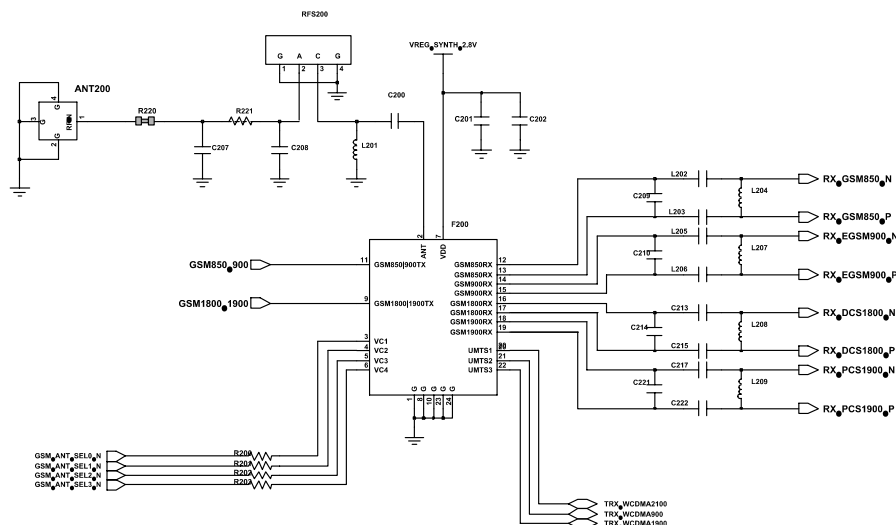
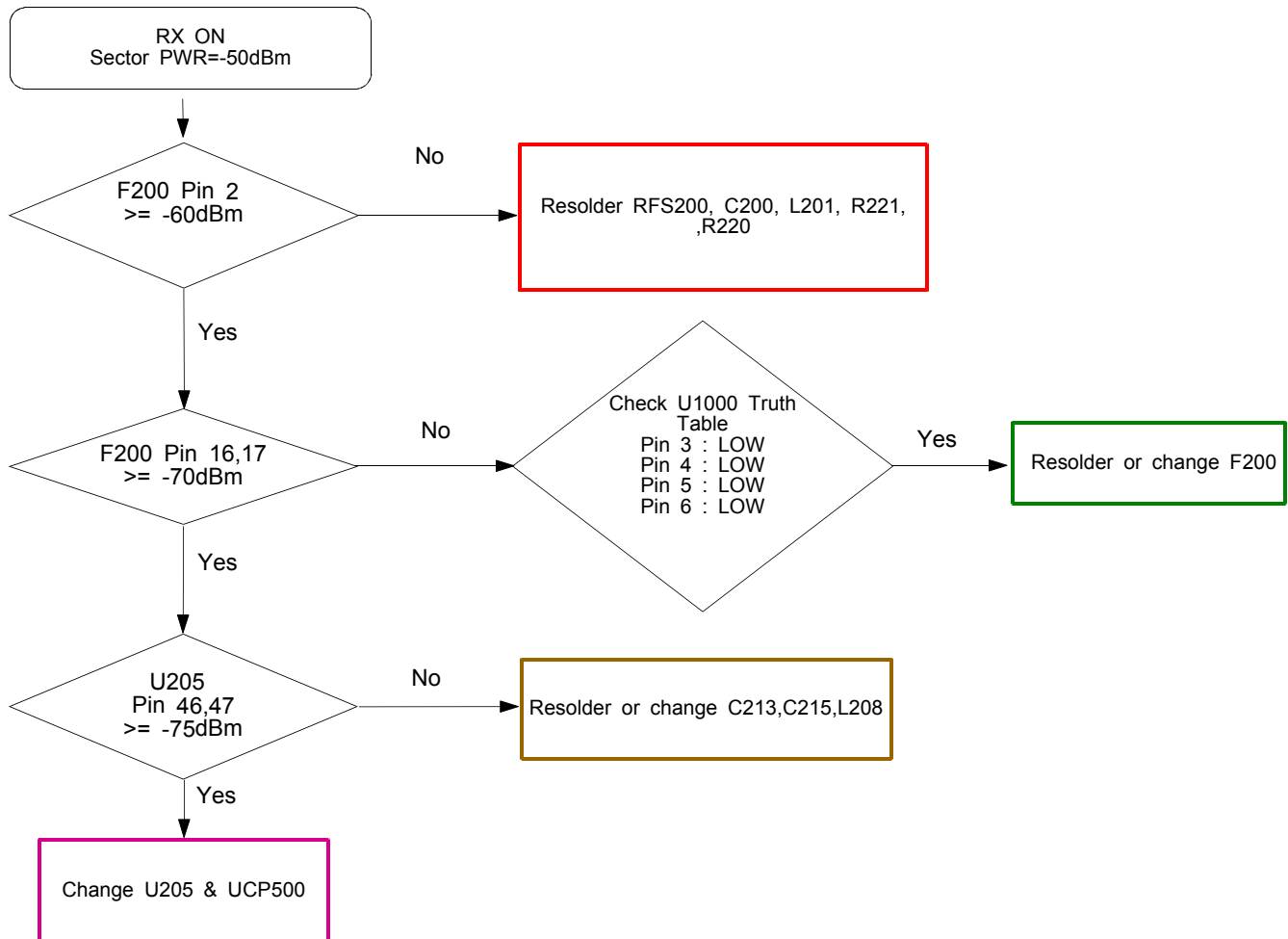
9-11. GSM900 Transmitter

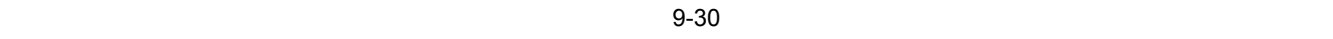


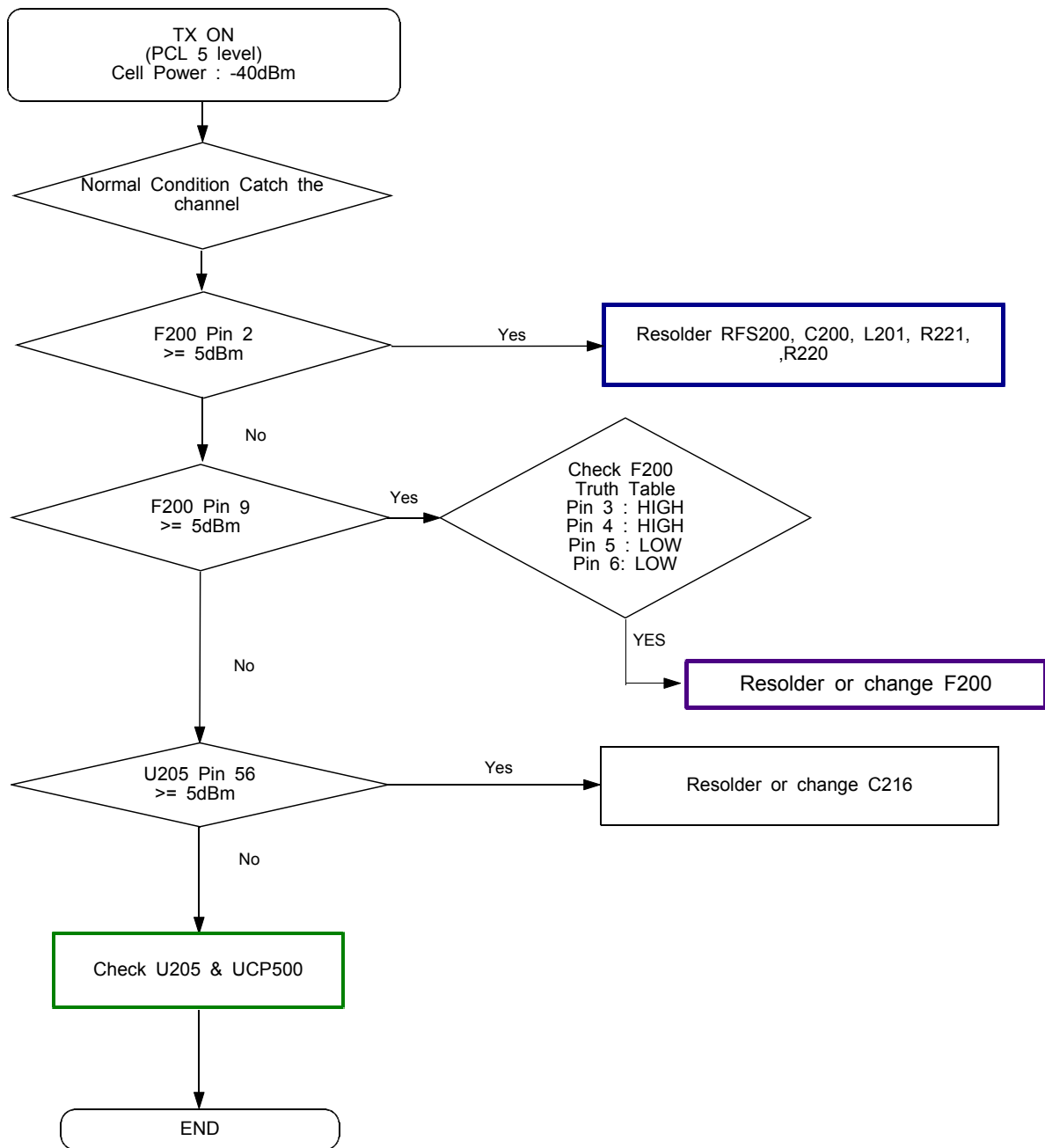


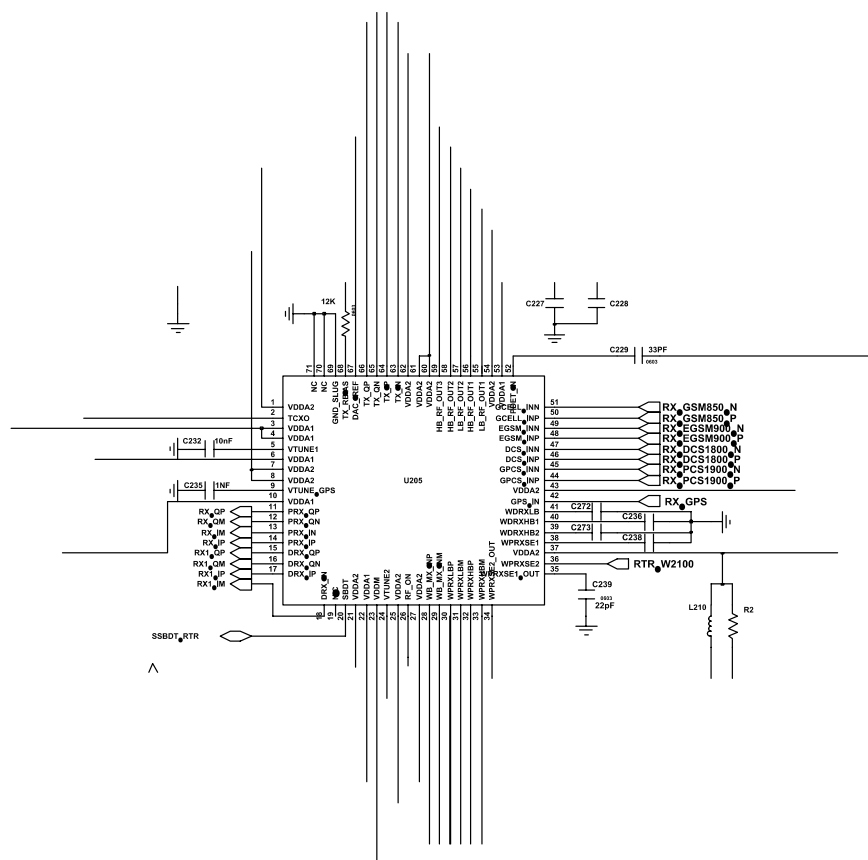
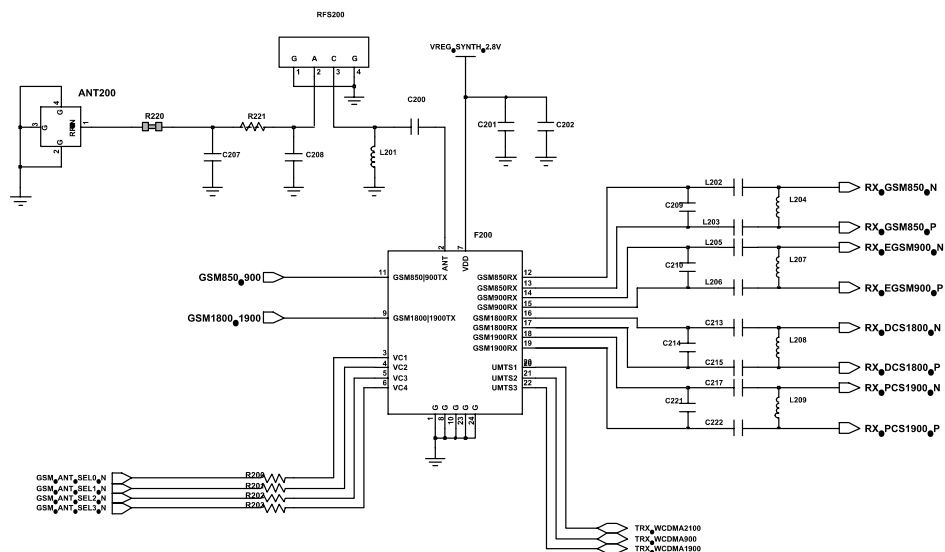


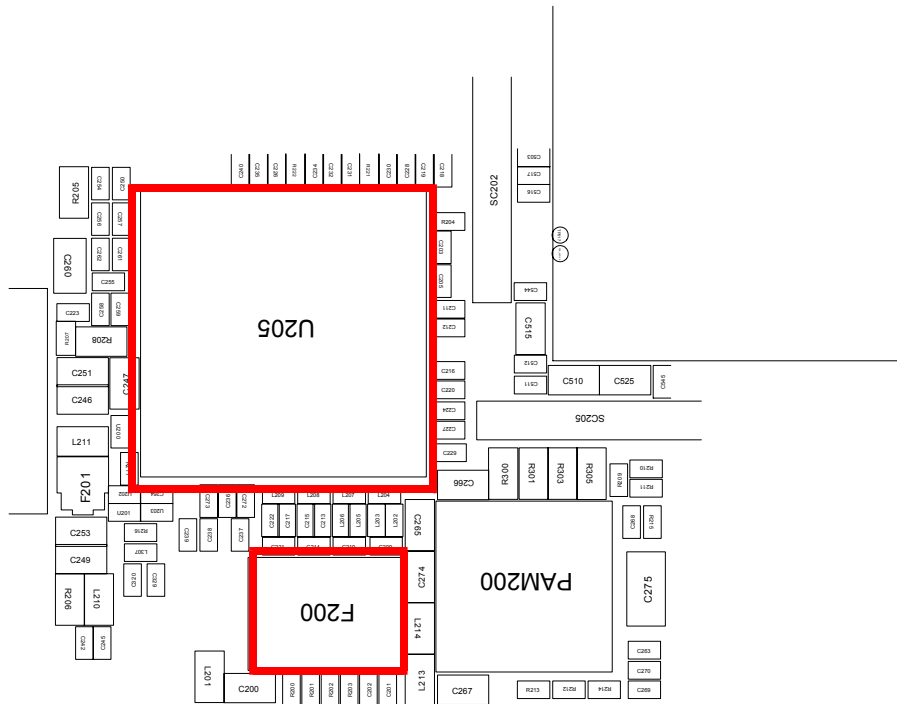
9-12. DCS Receiver

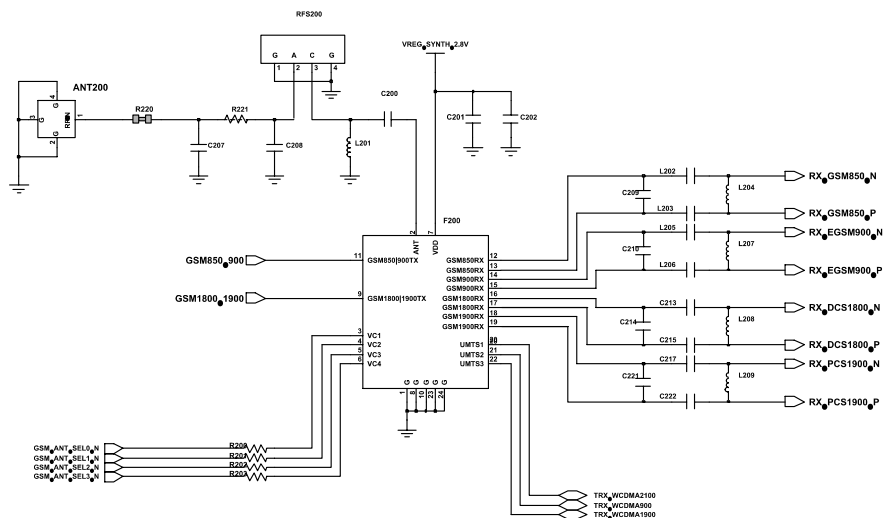


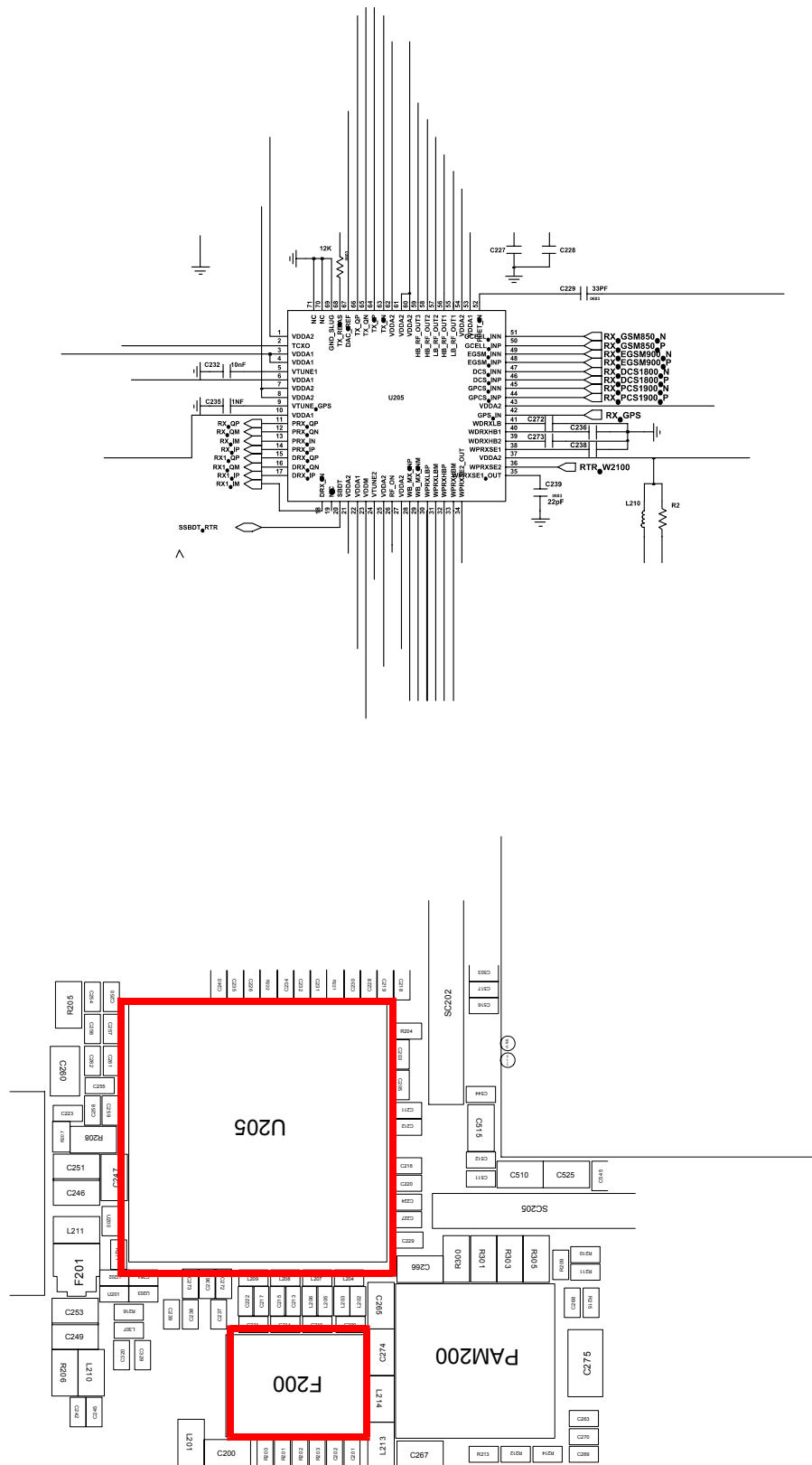


9-13. DCS Transmitter

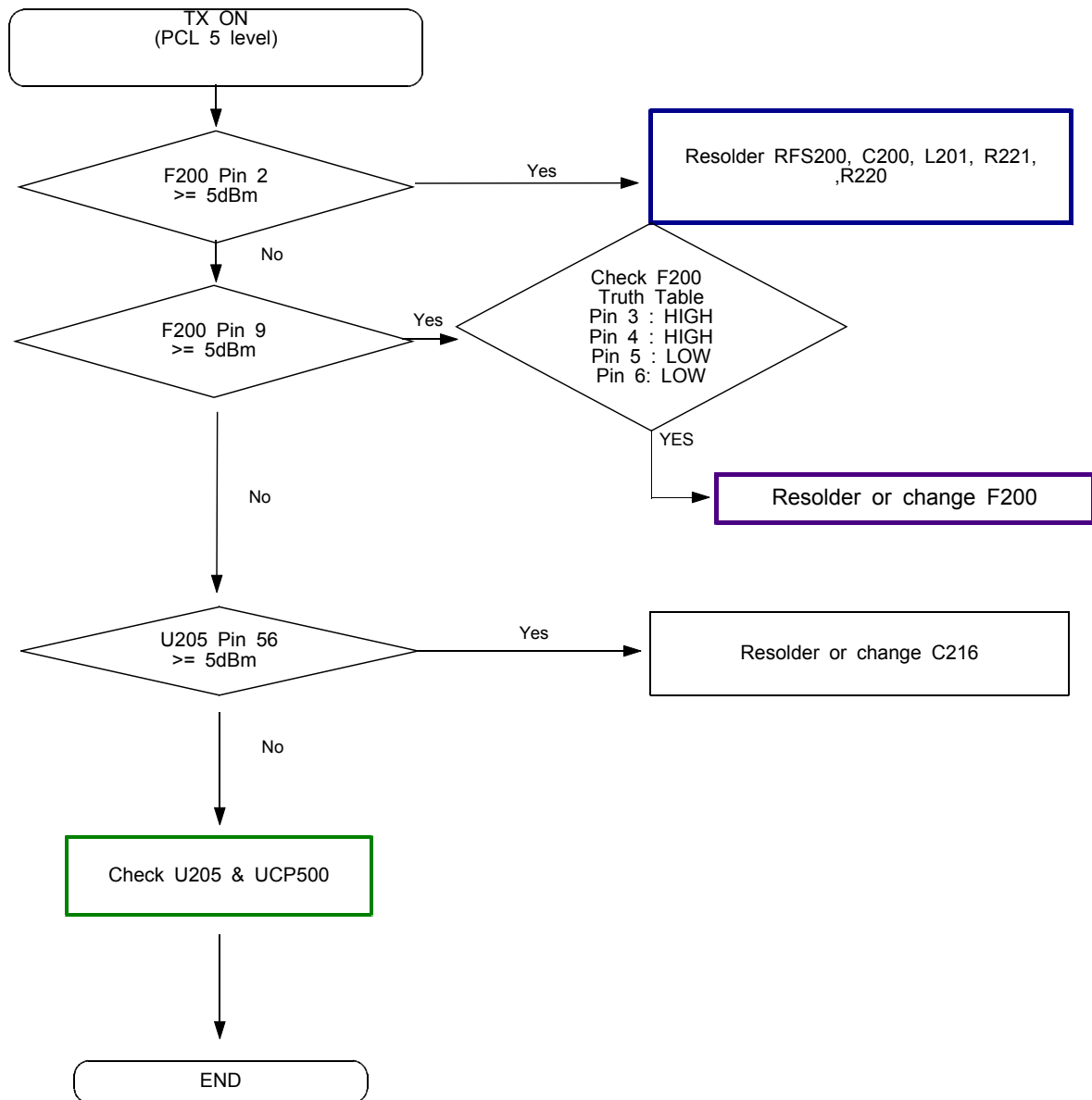


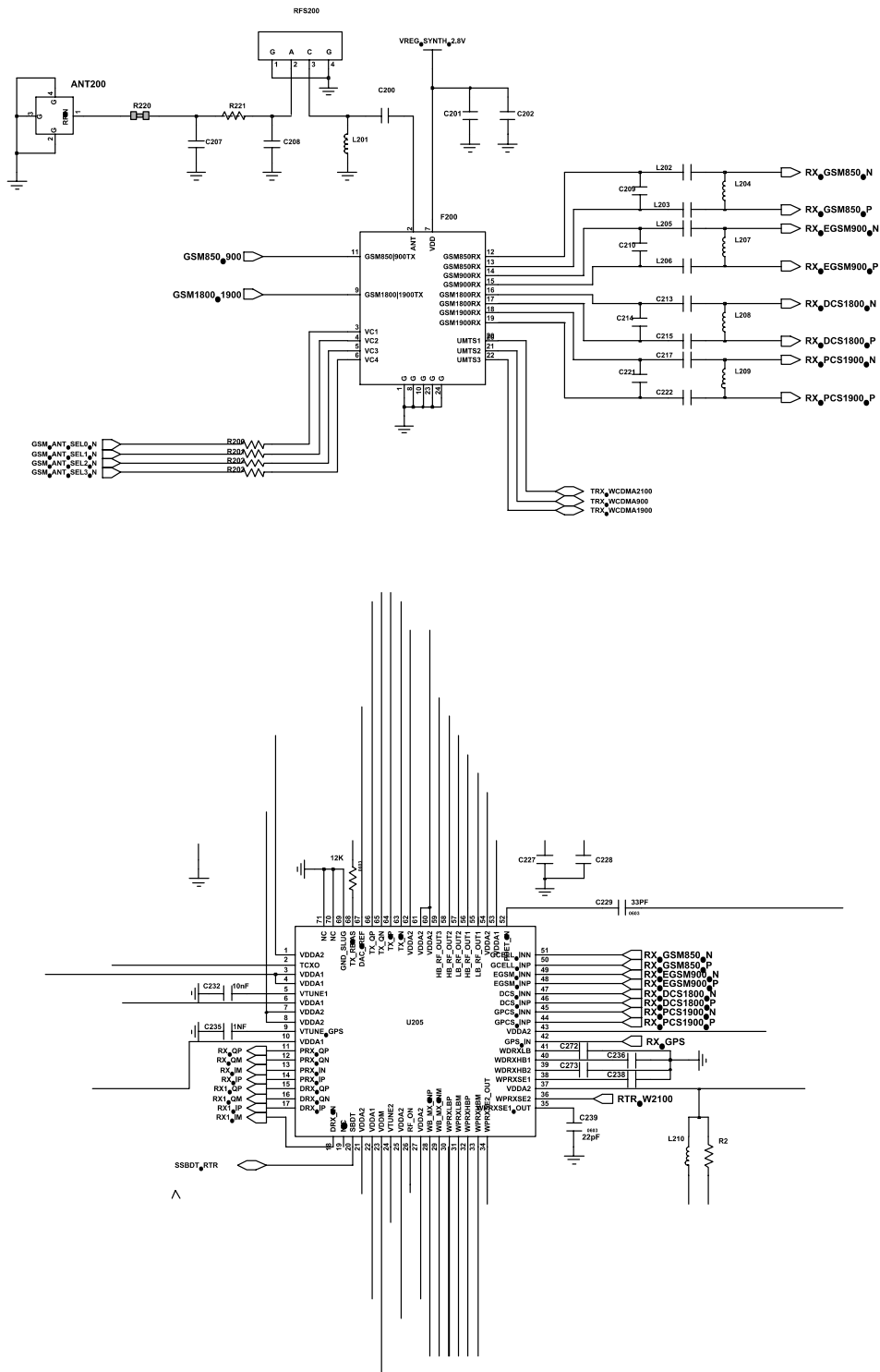


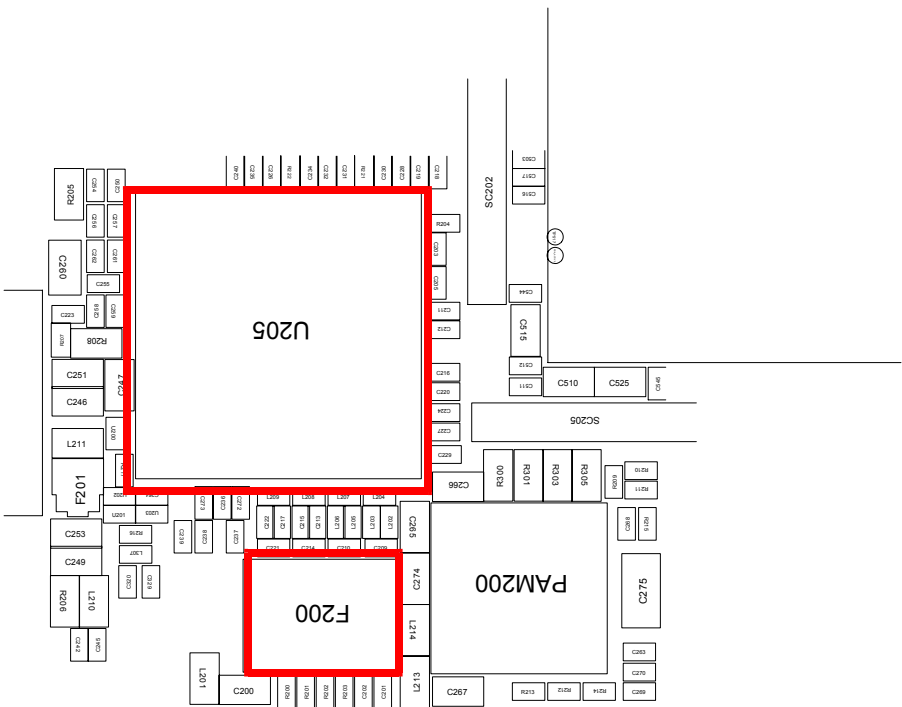


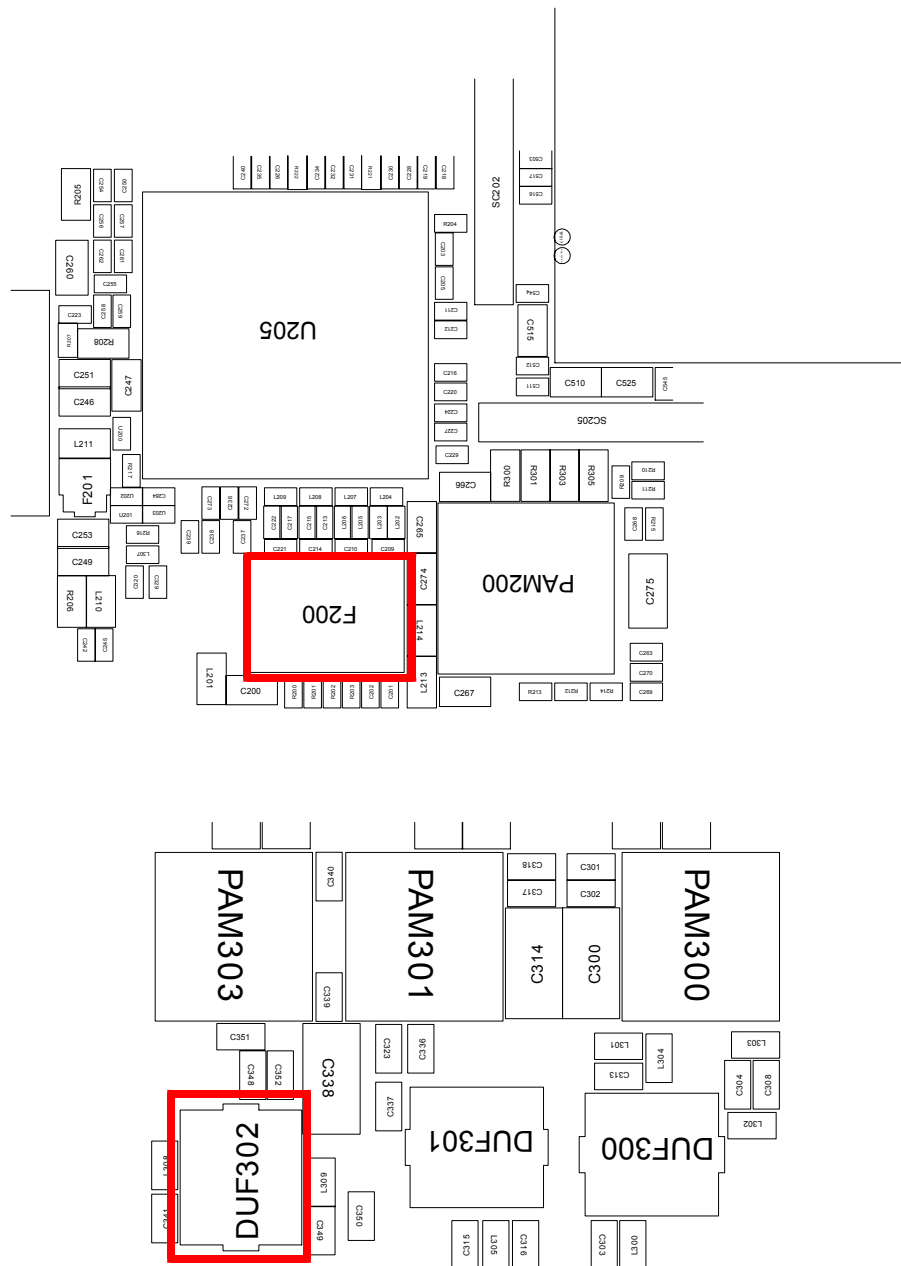


9-15. PCS Transmitter

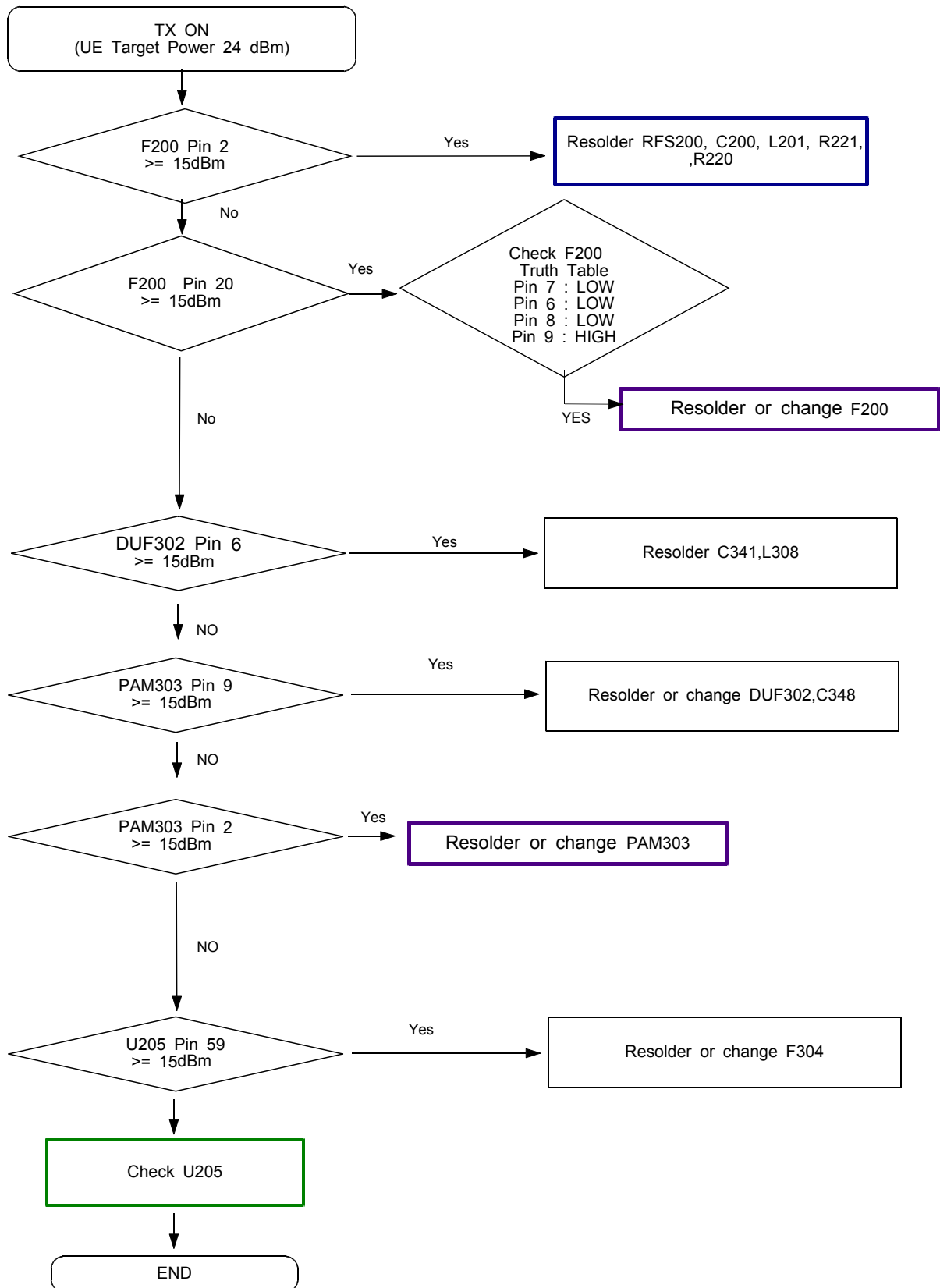


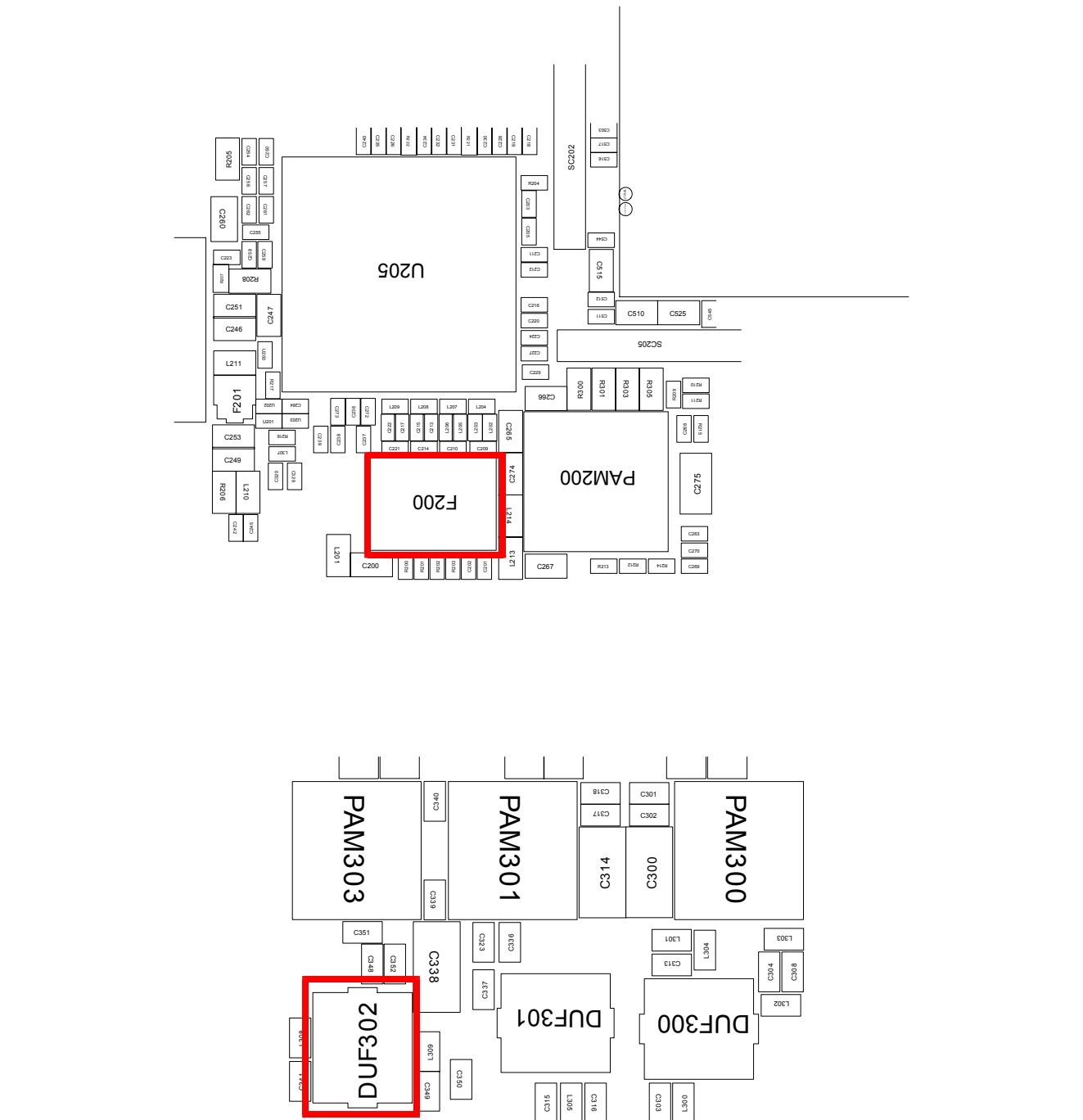




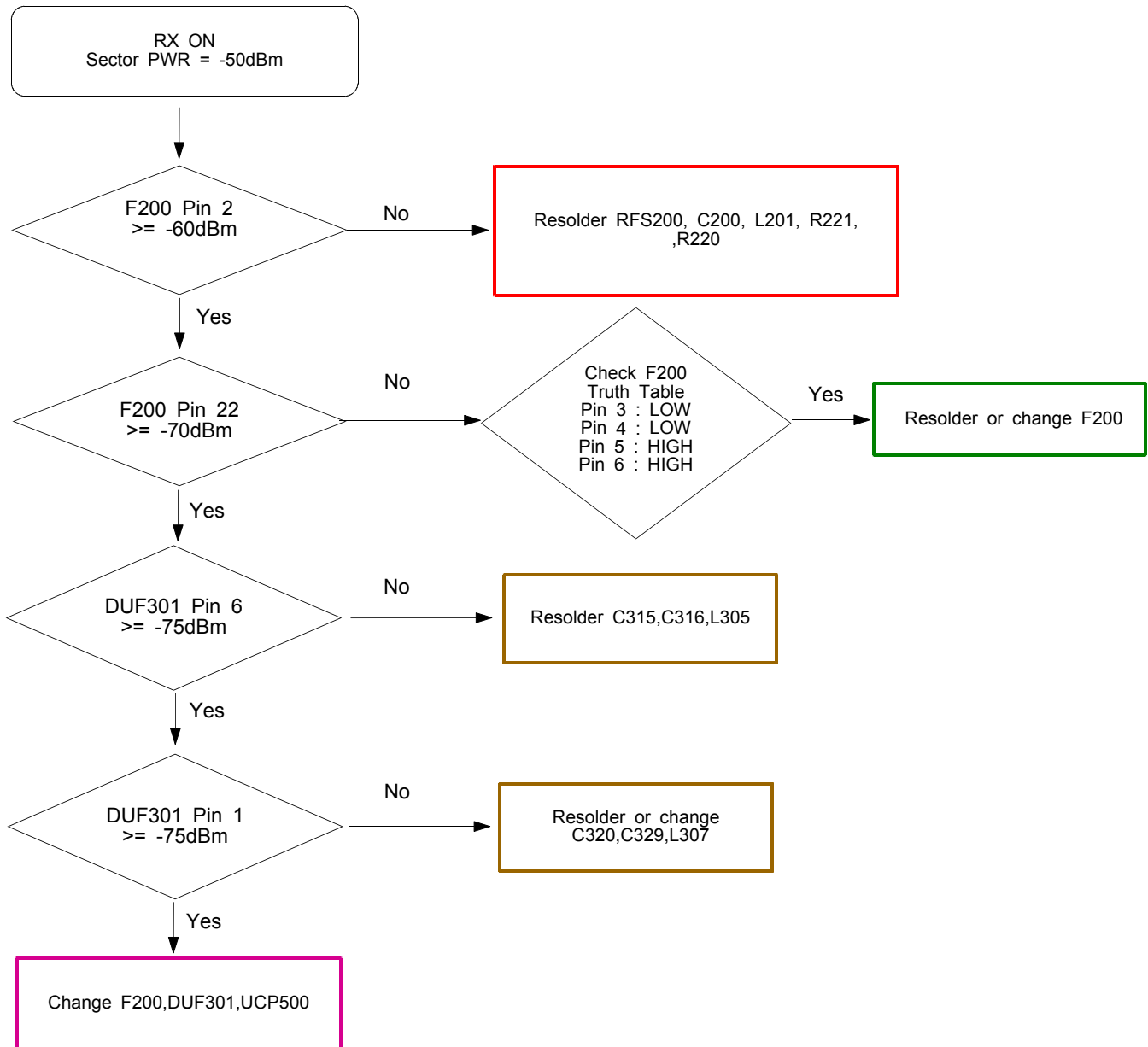


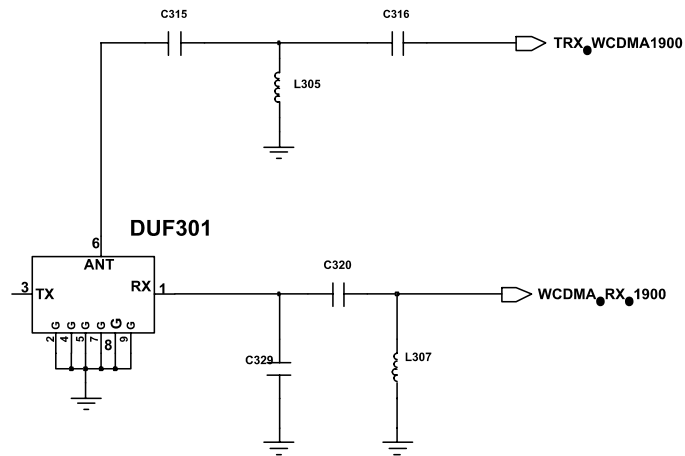
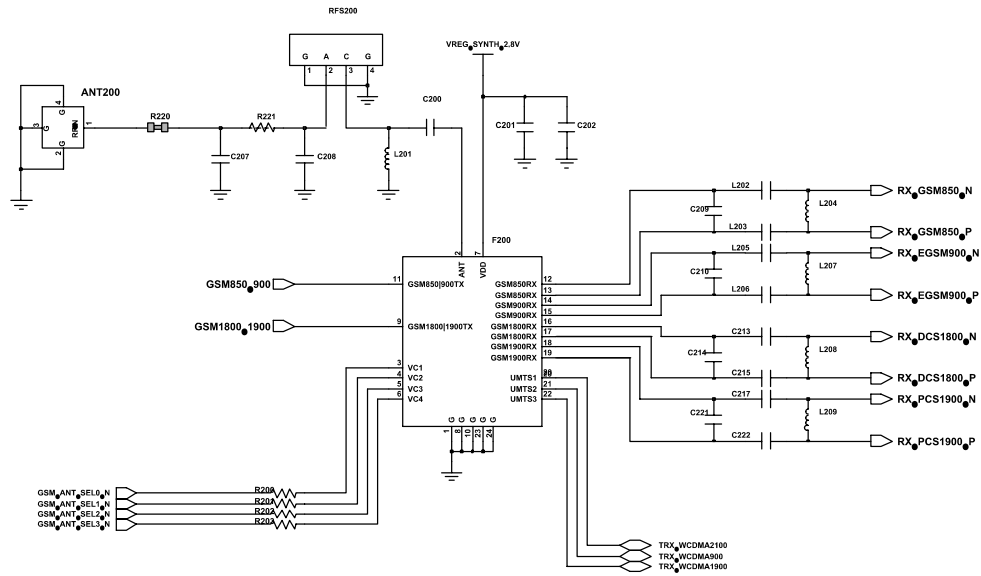
9-17. WCDMA 2100 Transmitter

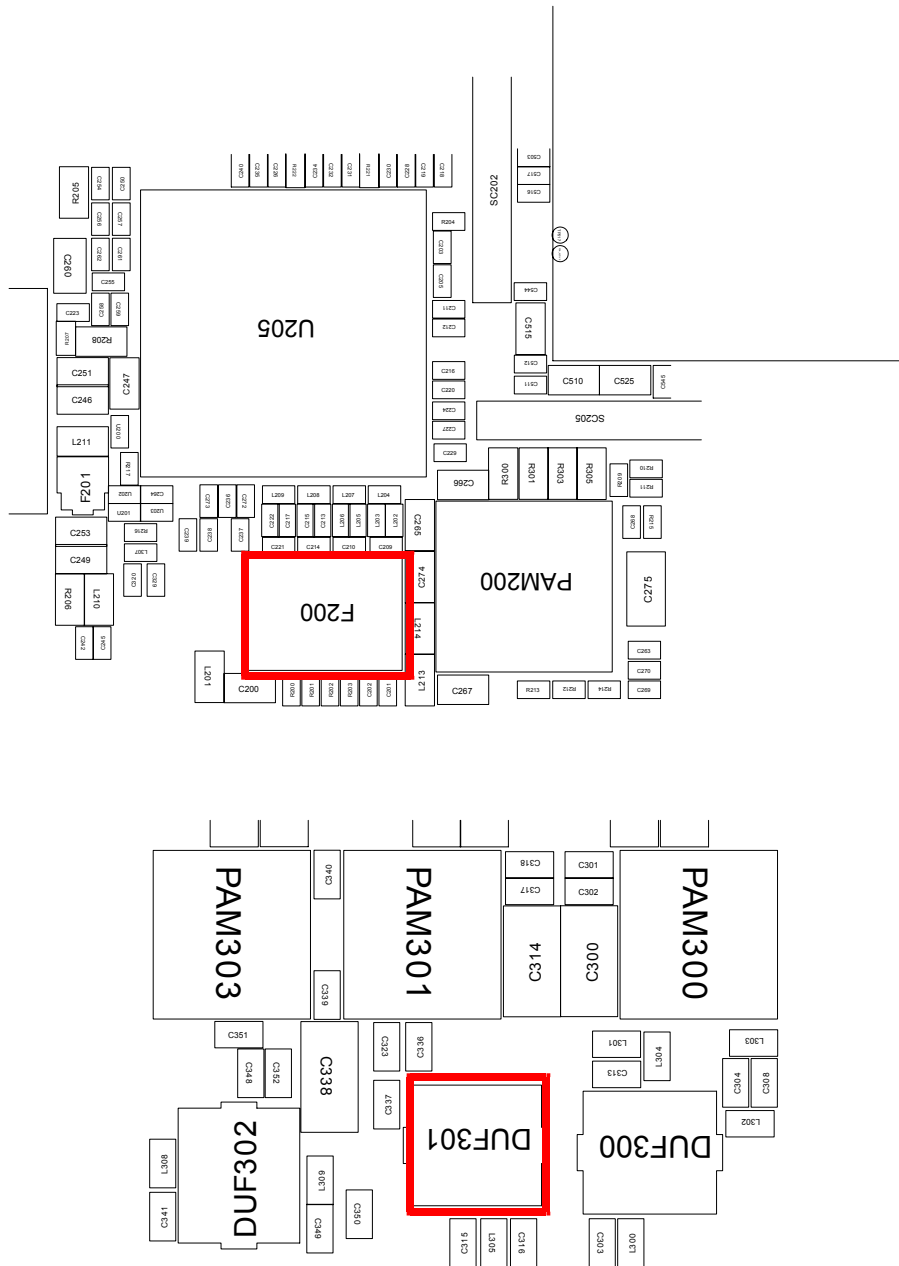




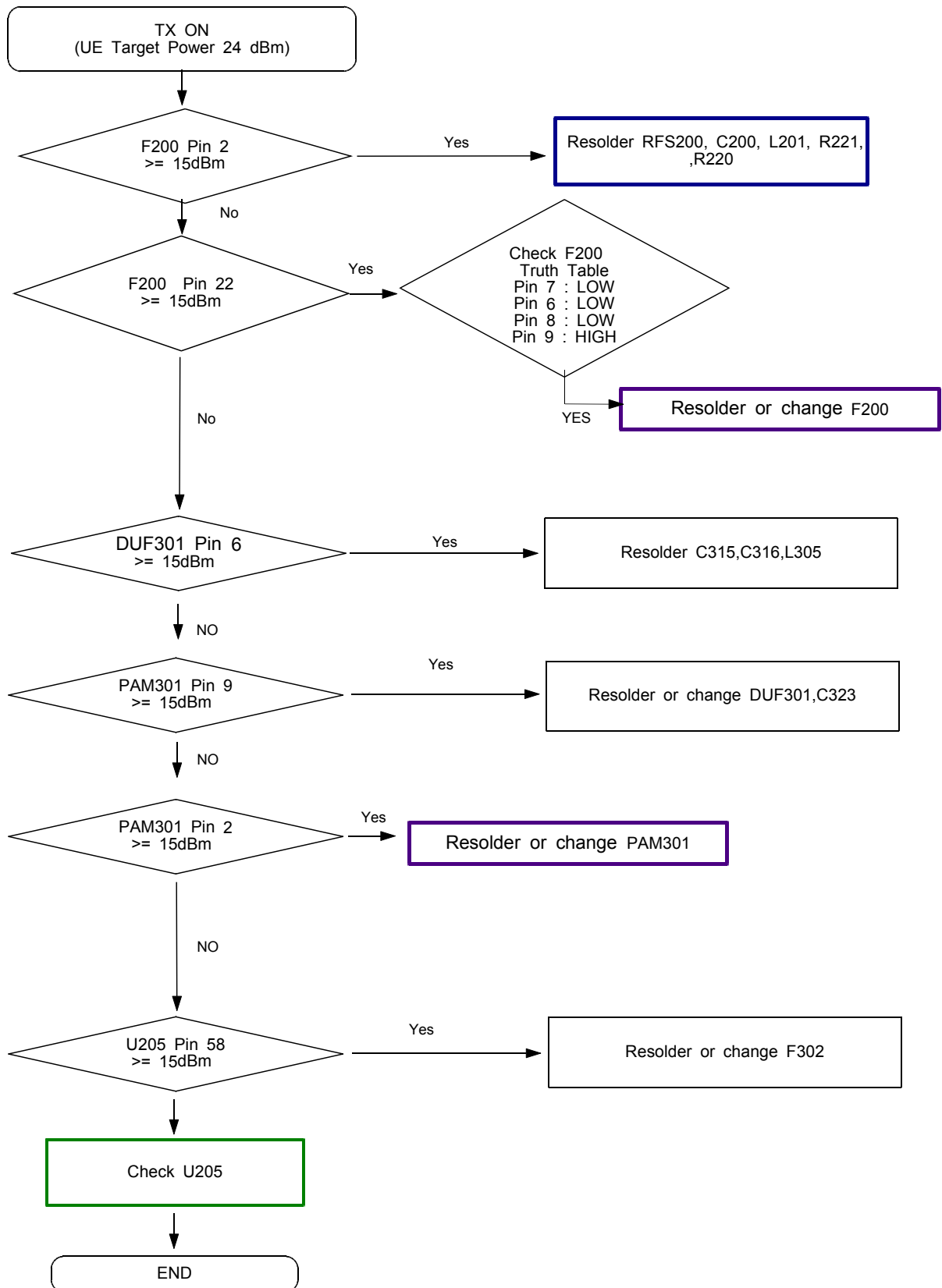
9-18. WCDMA 1900 Receiver

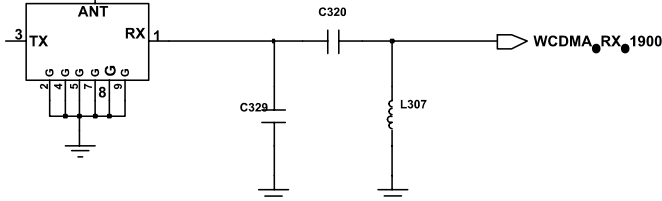
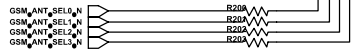


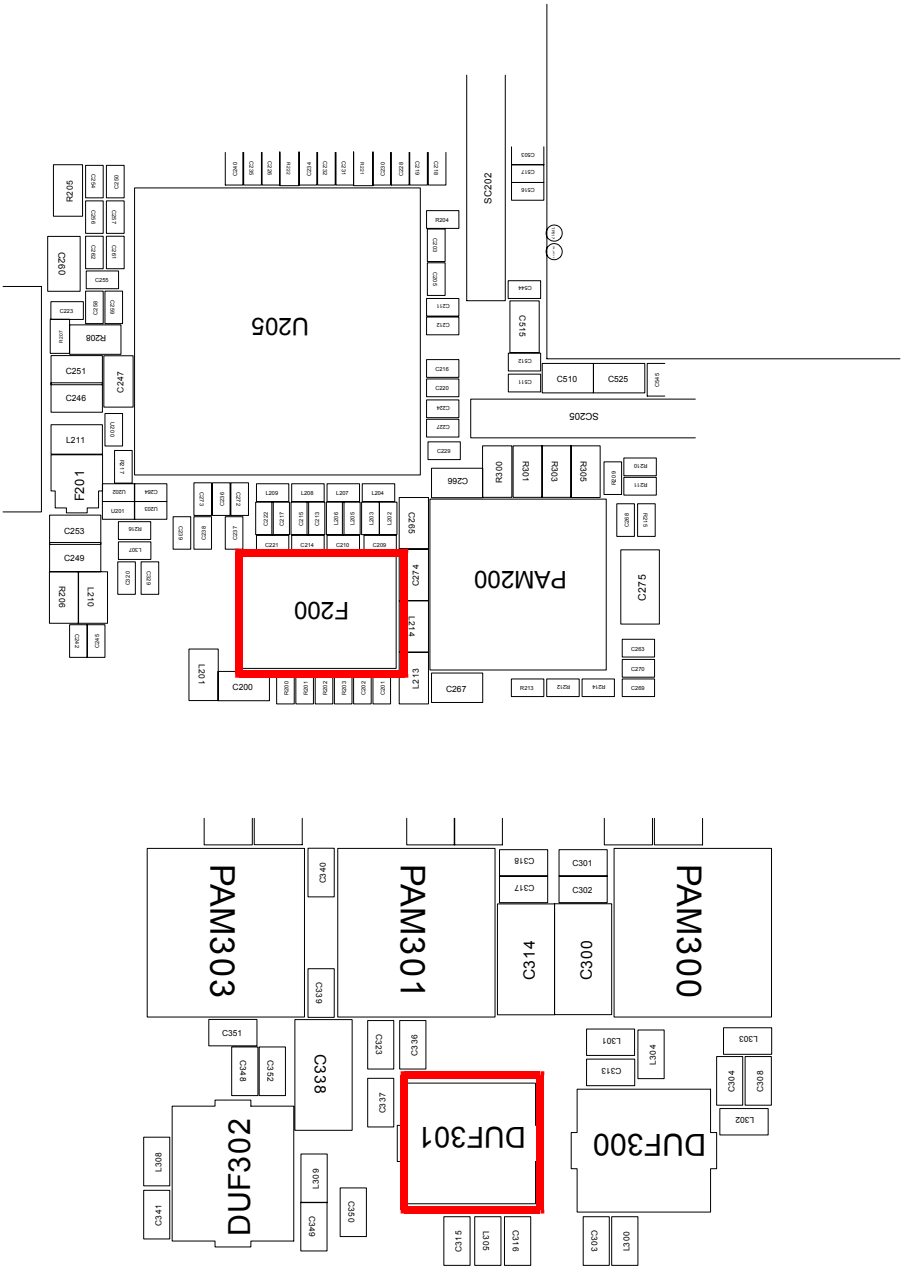




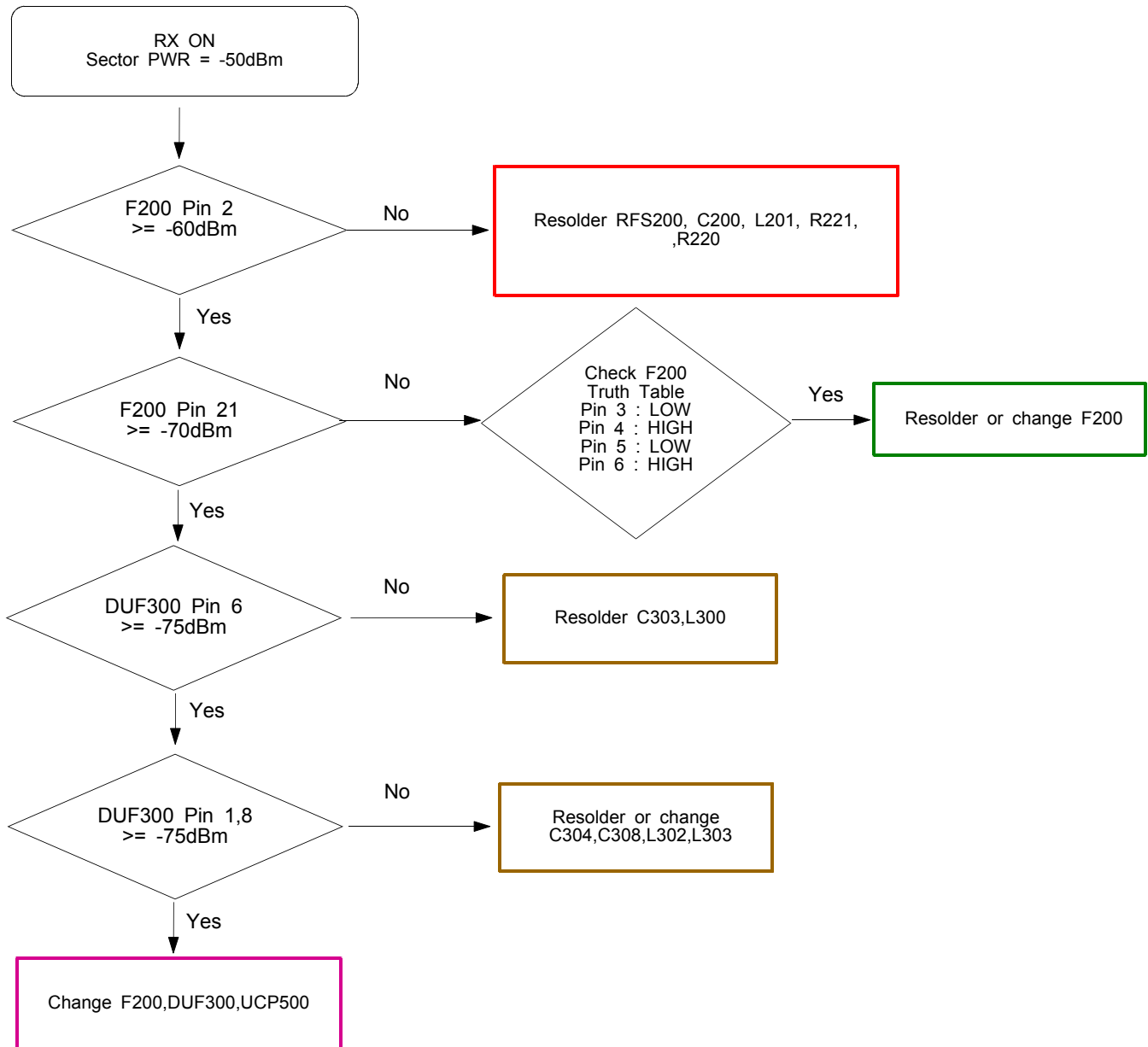
9-19. WCDMA 1900 Transmitter

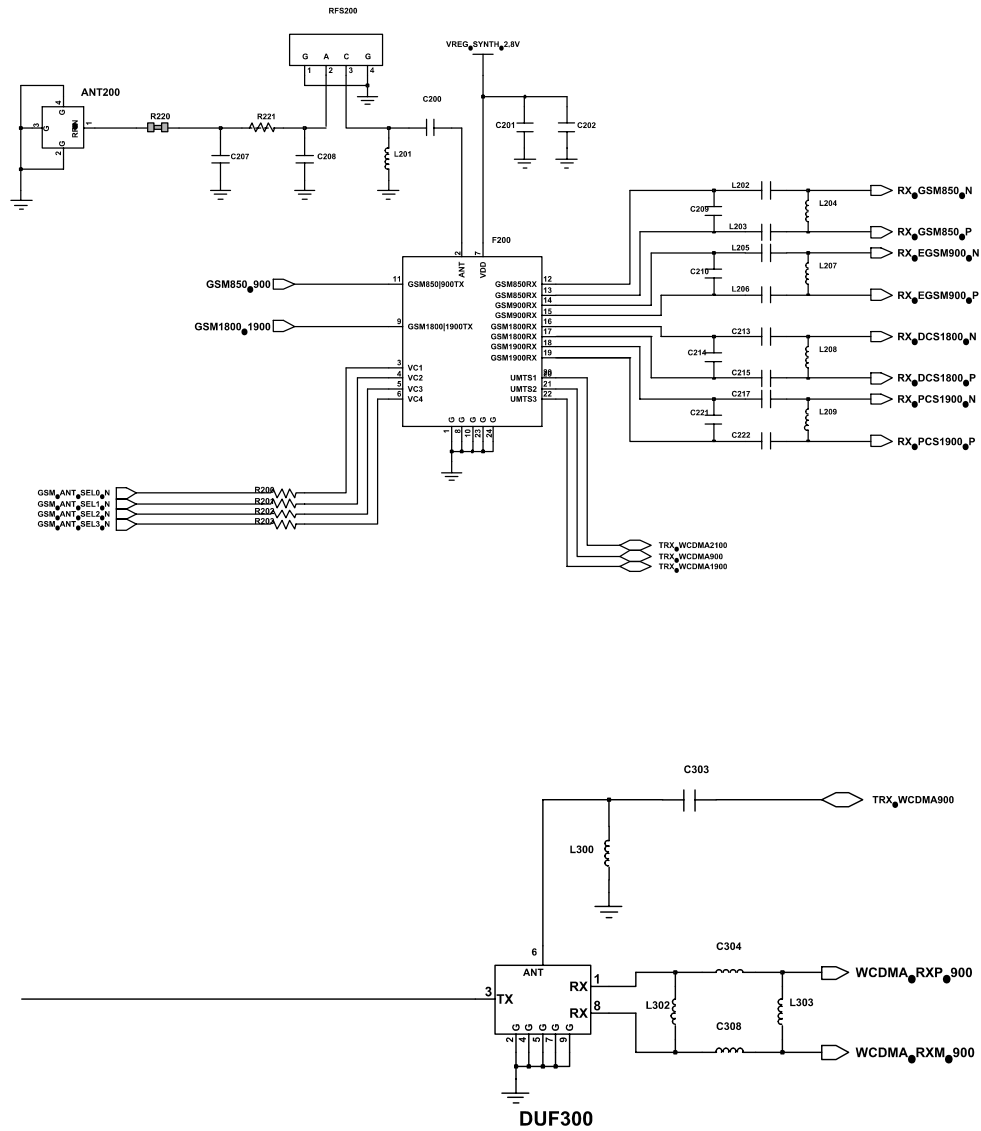


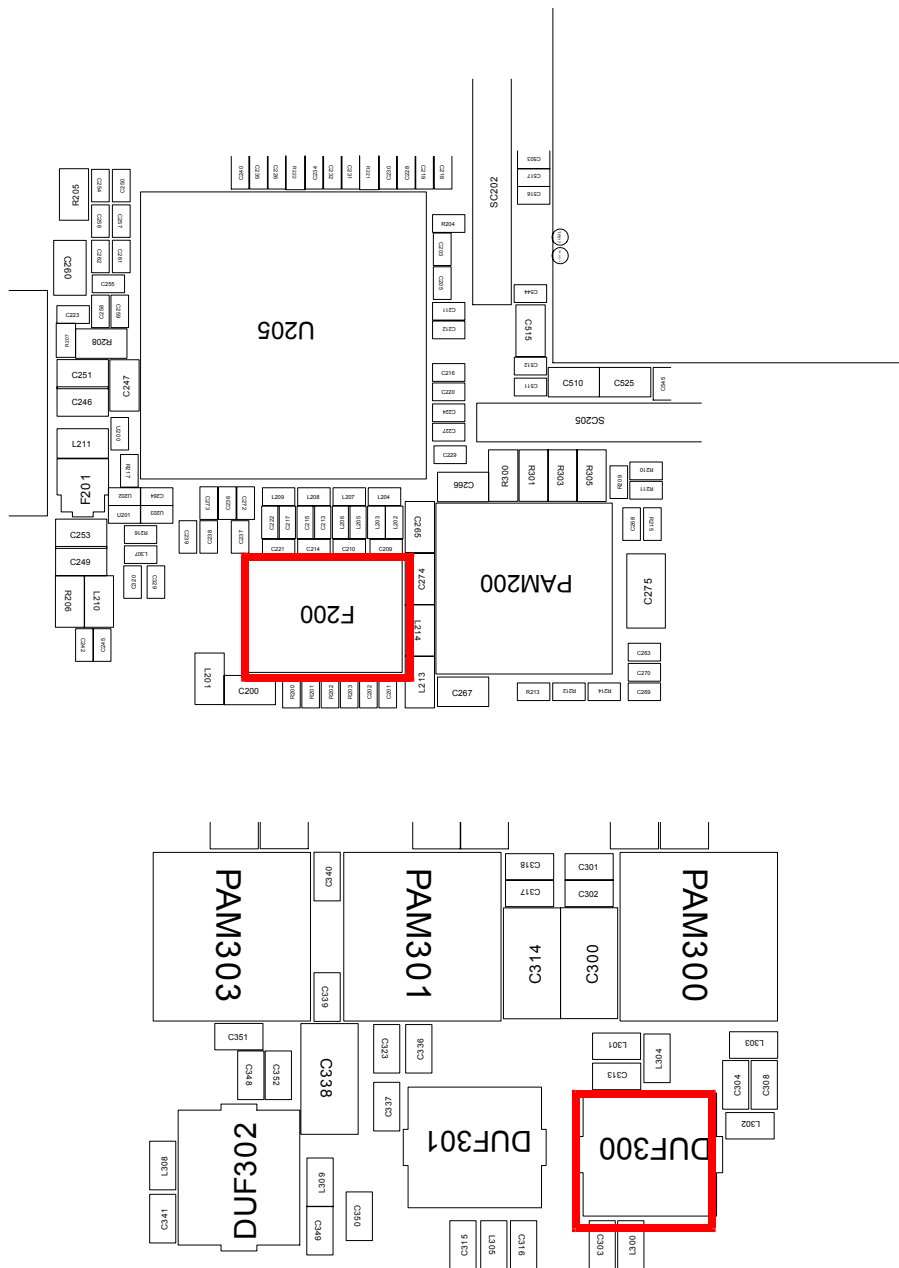




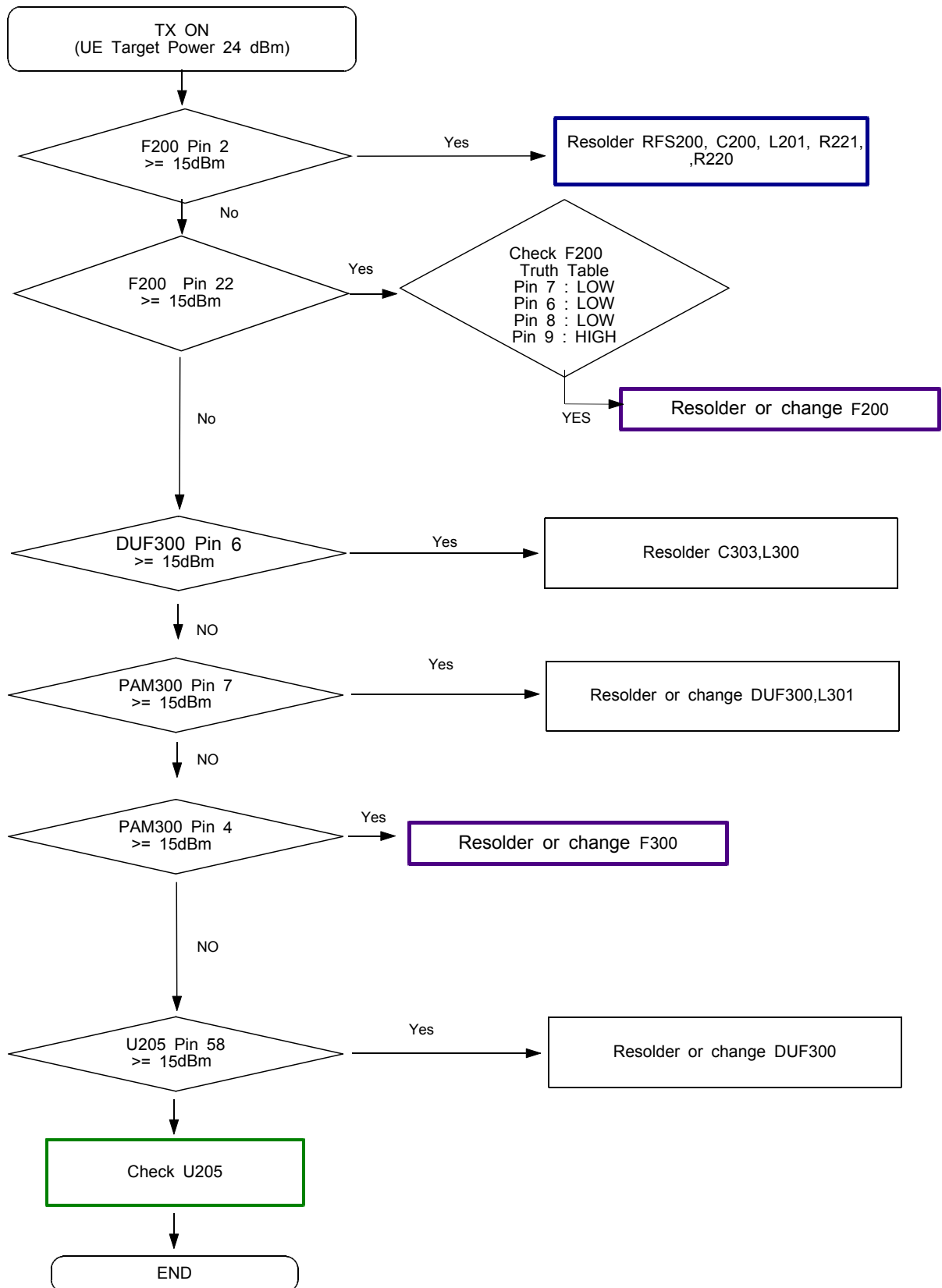
9-20. WCDMA 900 Receiver

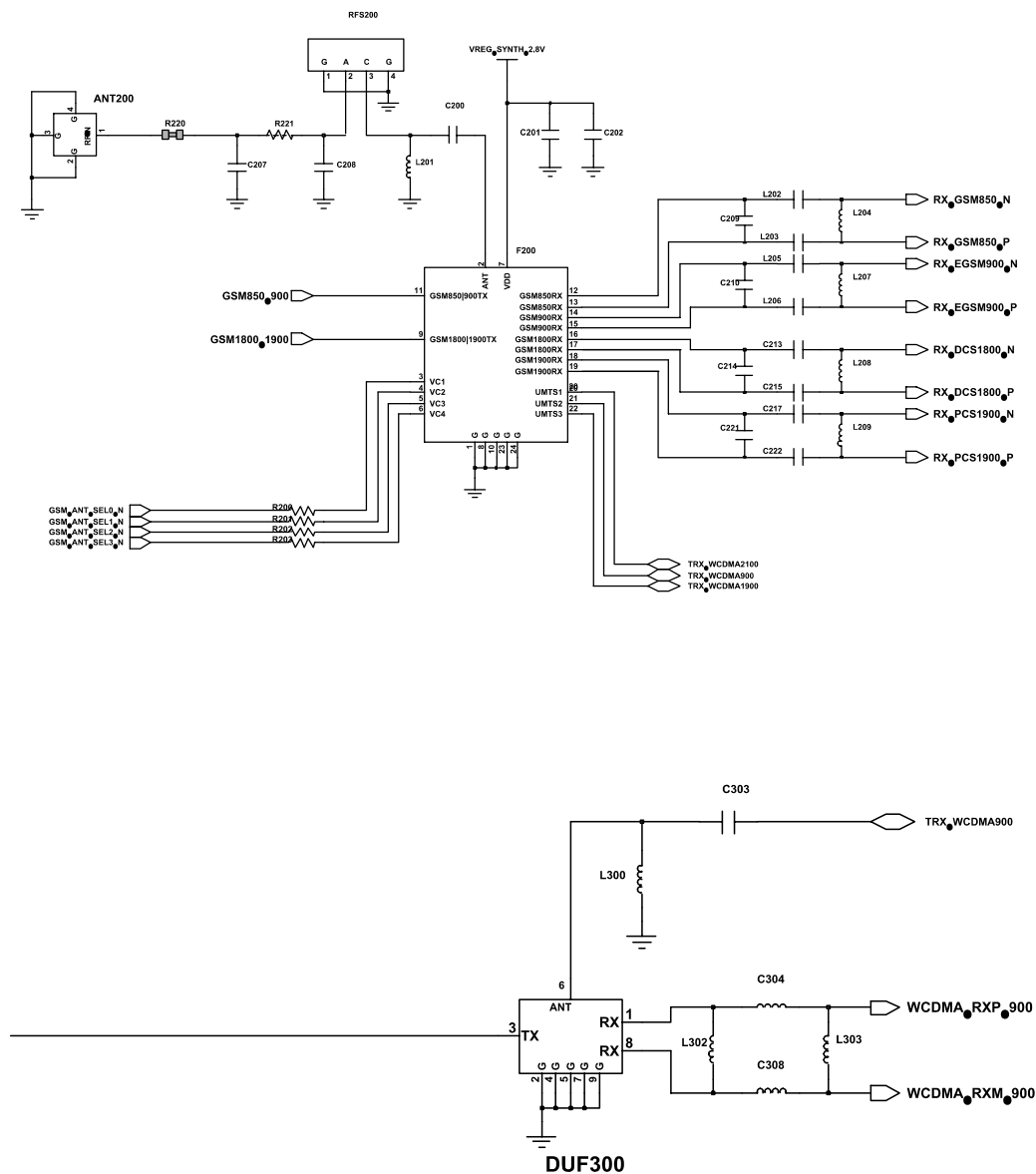


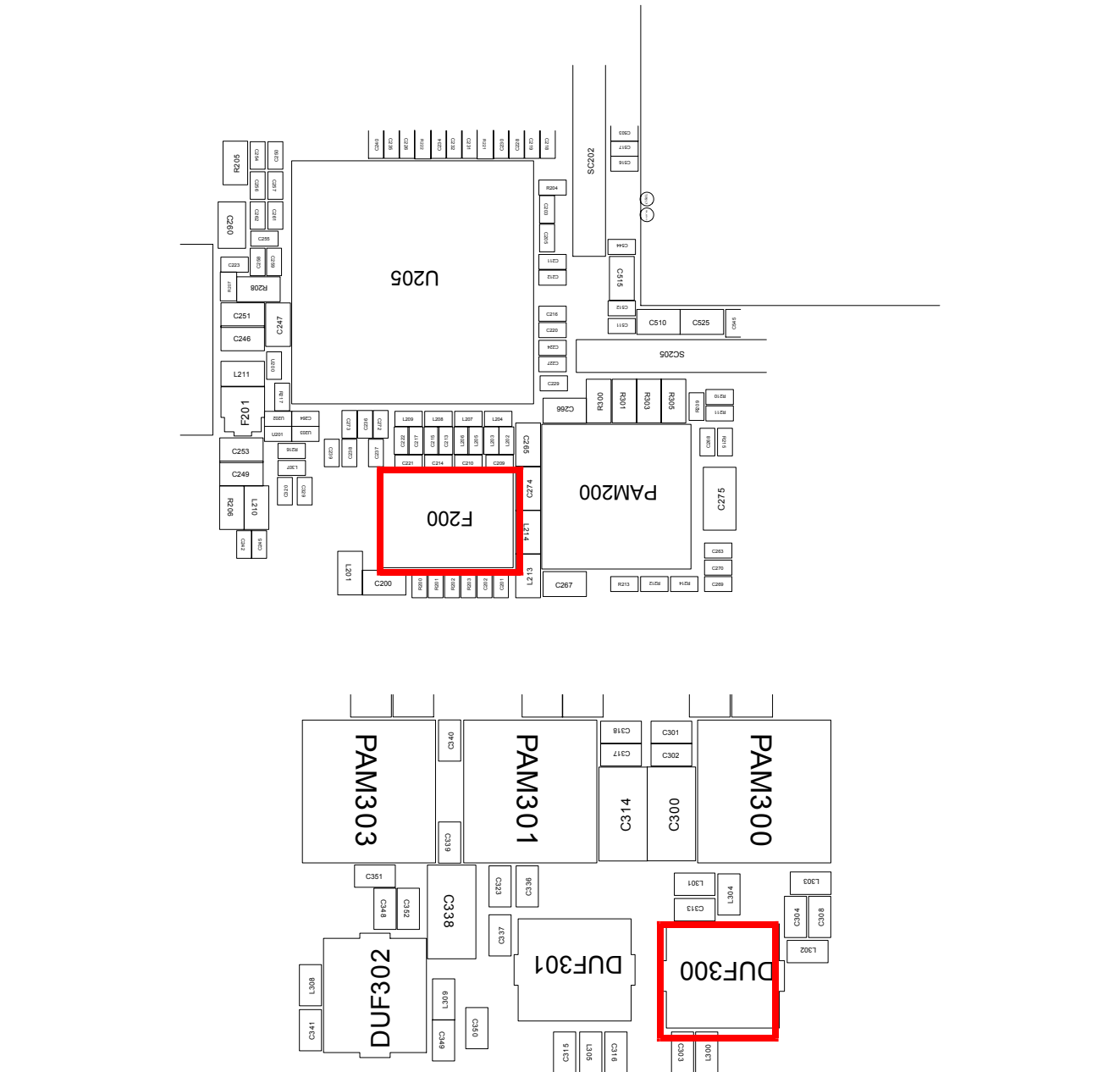




9-21. WCDMA 900 Transmitter







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

1

1) Unscrew 6 bolts.



2

1) separate the Hook by pushing REAR's sides
2) Separate REAR after unlocking Hook by using the disassembly tool

1



2



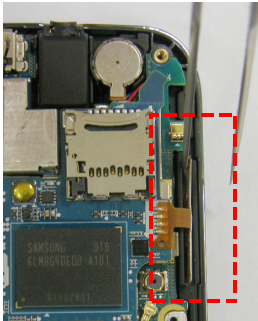
1) Be careful not to make any scratch or damage on the exterior.

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

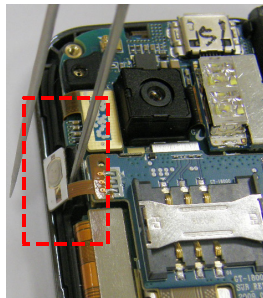
3

1) Separate Volume Key FPCB from Bracket by using tweezers.
2) Separate Hold Key FPCB from Bracket by using tweezers.

1

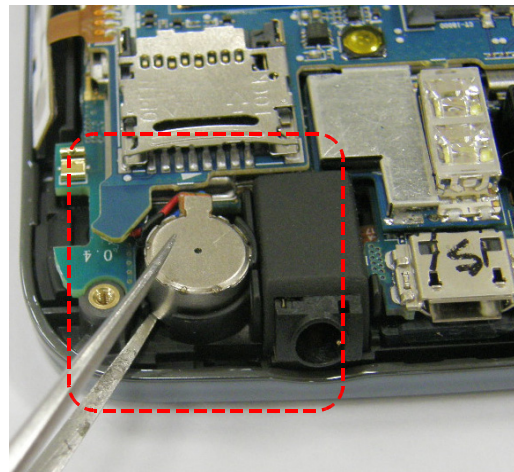


2



4

1) Separate Motor from Bracket by using tweezers.

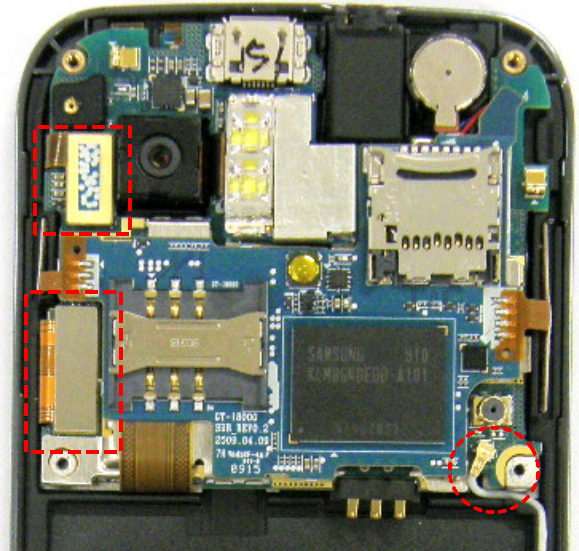


1) Be careful not to tear FPCB.
2) Be careful not to make any damage to the Chip parts

1) Be careful not to broken Motor Wire.
2) Be careful not to make any damage to the Chip parts.

5

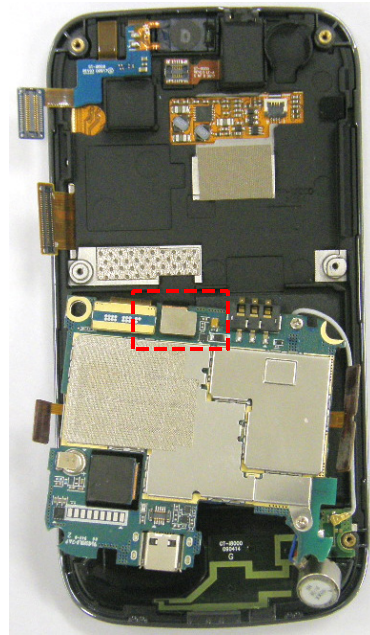
- 1) Separate Connectors that are built to PBA.



- 1) Be careful not to broken FPCB and Wire.
- 2) Be careful not to make any damage to the Chip parts.

6

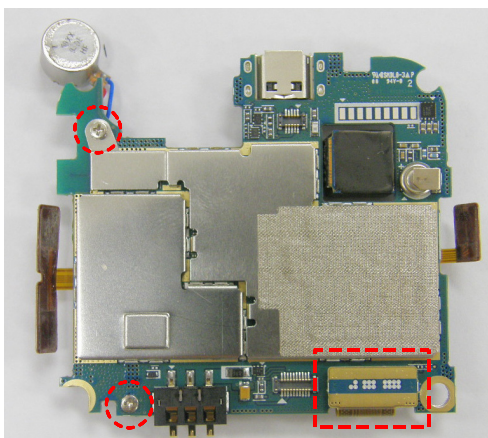
- 1) Turn over PBA.
- 2) Separate below Key Connector.



- 1) Be careful not to broken FPCB and Wire.
- 2) Be careful not to make any damage to the Chip parts.

7

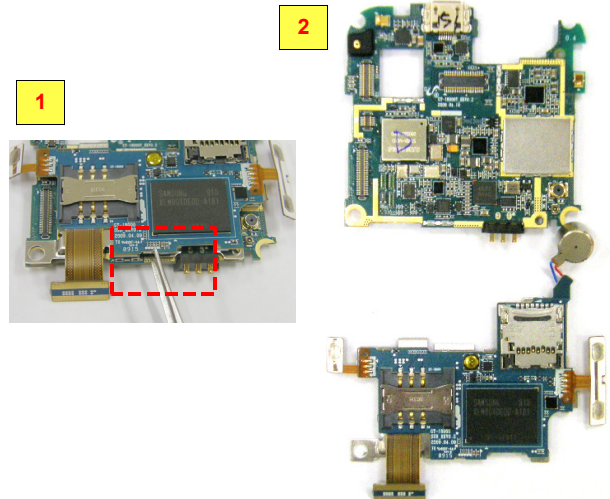
- 1) In case of wish to separate PBA, first unscrew 2 bolts and separate Connector.



- 1) Be careful not to broken FPCB and Wire.
- 2) Be careful not to make any damage to the Chip parts.

8

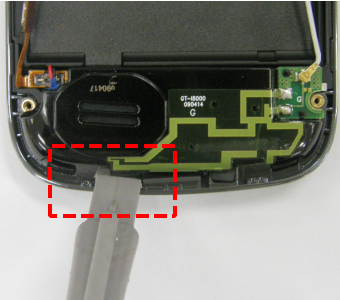
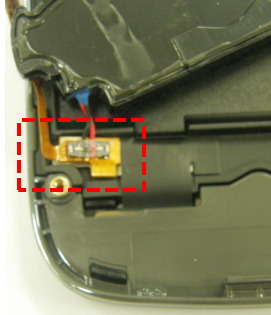
- 1) Separate Shieldcan from Clip by using tweezers.
- 2) PBA separation picture reference.



- 1) Be careful not to broken FPCB and Wire.
- 2) Be careful not to make any damage to the Chip parts.
- 3) Never separate Shieldcan besides SUB PBA

9

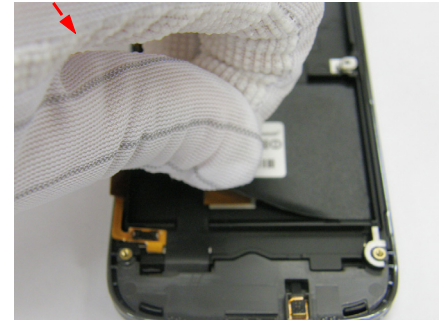
- 1) Separate Speaker from Bracket by using disassembly tool.
- 2) Separate Speaker Connector .

1**2**

- 1) Be careful not to make any damage to the Connector.
- 2) Be careful not to tear FPCB.

10

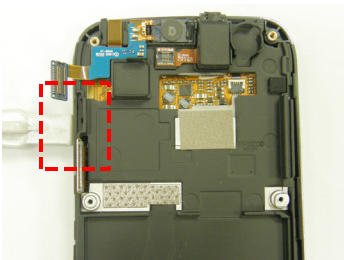
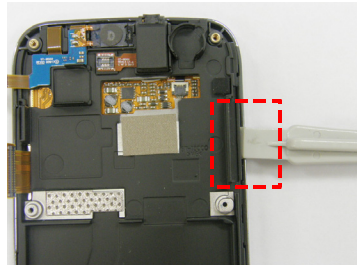
- 1) Pick up below point by hand and remove.



- 1) Be careful not to tear Tape.
- 2) IMEI Label and PBA should be managed together.

11

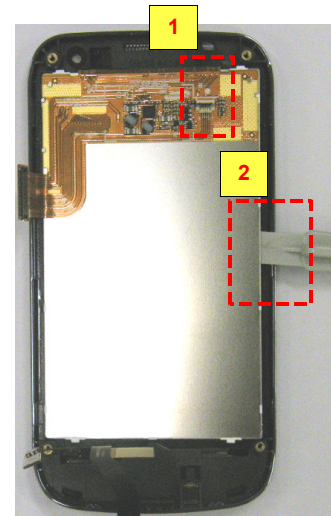
- 1) Separate Bracket by using disassembly tool.
- Remove below 2 point Hook.



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

12

- 1) Separate TSP Connector.
- 2) Separate LCD by using disassembly tool.

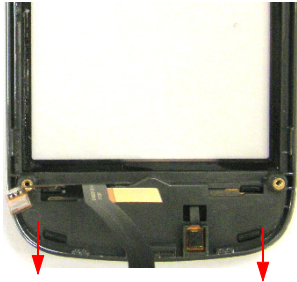


- 1) Be careful not to make any damage to the LCD

13

- 1) Separate Key pad's Hook by push following the arrow directions below.
- 2) Separate Key pad.

1



2

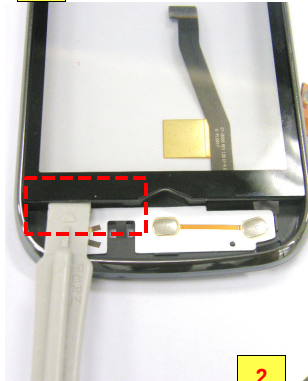


- 1) Be careful not to make any scratch or damage on the exterior.

14

- 1) Separate TSP Panel by using disassembly tool.
- 2) Extract TSP FPCB from Front Hole.

1



2



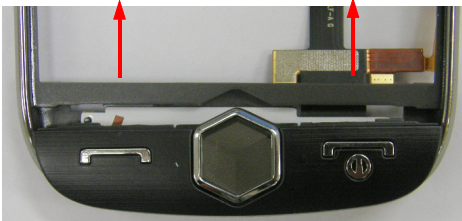
- 1) Be careful not to make any scratch or damage on the exterior.

11-2 Assembly

1

- 1) Push Key Pad's assembly standard RIB to the Front.
- 2) Press down and assemble Key Pad
- When assemble, confirm "Tick" sound.

1



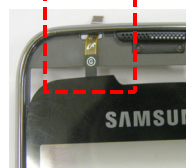
2



2

- 1) Insert TSP FPCB into Front's assembly Hole
- 2) Attach TSP to the Front exactly.

1



2



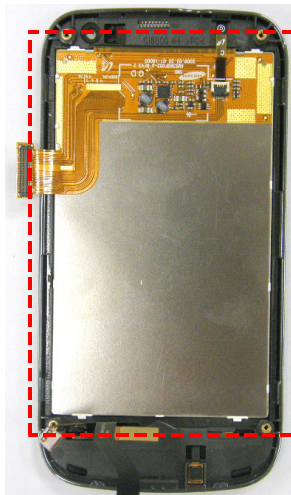
- 1) Be careful not to make any scratch or damage on the exterior.

- 1) Be careful not to bow to the dust and dirt.

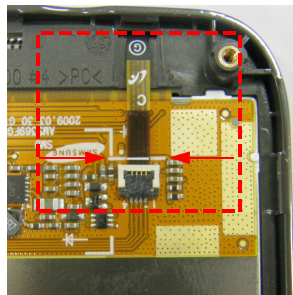
3

- 1) Assemble LCD to the FRONT.
- 2) Assemble TSP FPCB to the Connector.

1



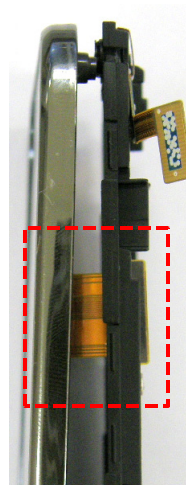
2



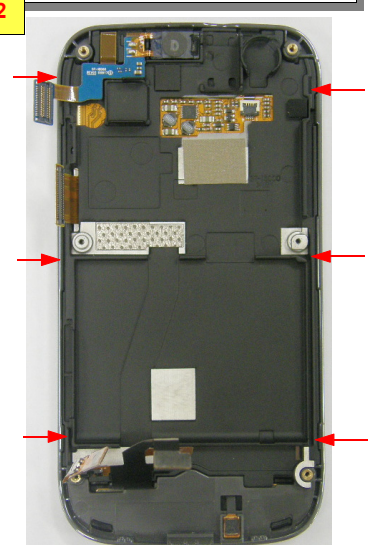
4

- 1) Insert LCD Connector into Hole of Bracket.
- 2) Assemble Hook 6 points after assemble to Front Bracket.

1



2

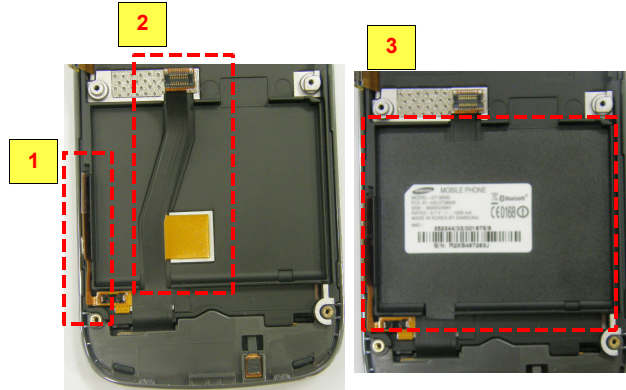


- 1) Be careful not to bow to the dust and dirt.
- 2) Check FPCB Assembly line.

- 1) Be careful not to make any damage to the LCD.
- 2) Be careful not to tear FPCB.

5

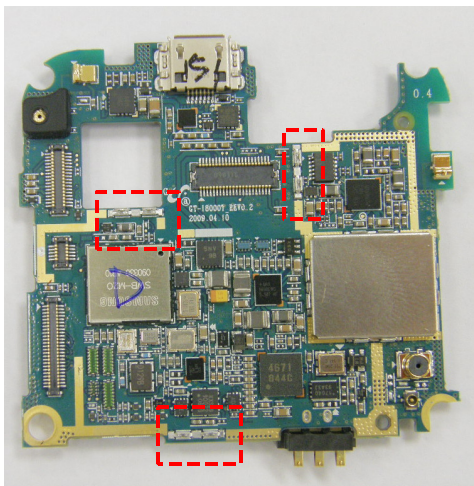
- 1) Fix Camera Key FPCB.
- 2) Attach Key FPCB on Bracket.
- 3) Attach IMEI Tape on Bracket.



- 1) Be careful not to tear FPCB.
- 2) Confirm whether IMEI Label and PBA are equal.

7

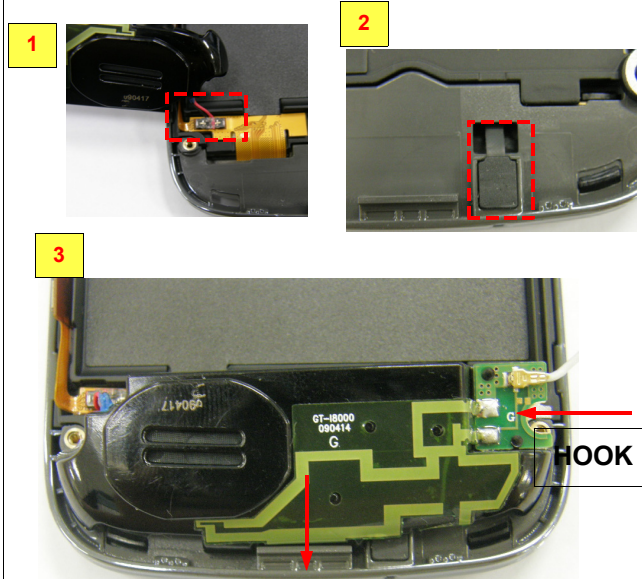
- 1) Assemble SuB PBA according to Main PBA's Clip position.



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

6

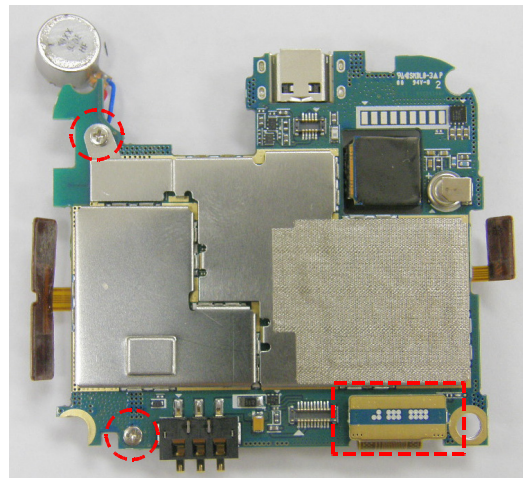
- 1) Assemble Speaker Connector.
- 2) Check the assembly state of MIC Holder.
- 3) Assemble Hook after push Speaker below from middle.



- 1) Be careful not to make any damage to the Speaker Connector.
- 2) Assemble adjusting Speaker Wire color.

8

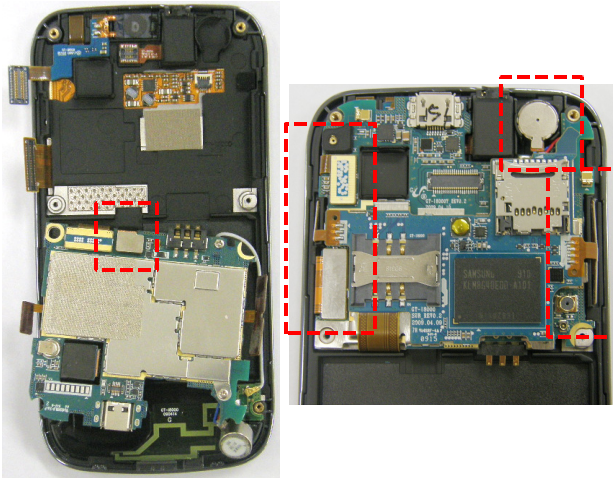
- 1) Screw 2 bolts.
- 2) Assemble Connector.



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

9

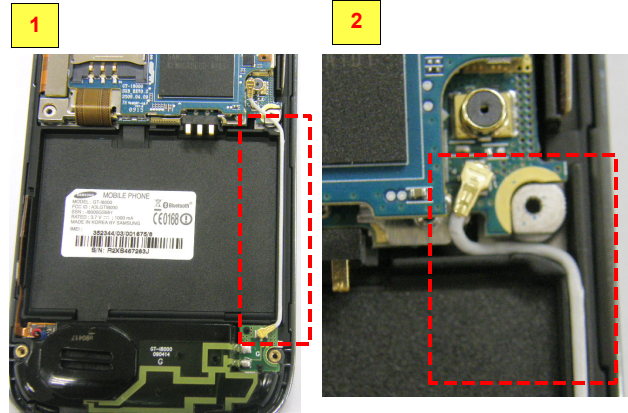
- 1) Assemble Key Connector.
- 2) Attach Motor, Connector, Volume Key FPCB, Hold Key FPCB.



- 1) Be careful not to make any damage to the part.
- 2) Be careful not to tear FPCB.
- 3) Be careful not to insert Connector inaccurately.

10

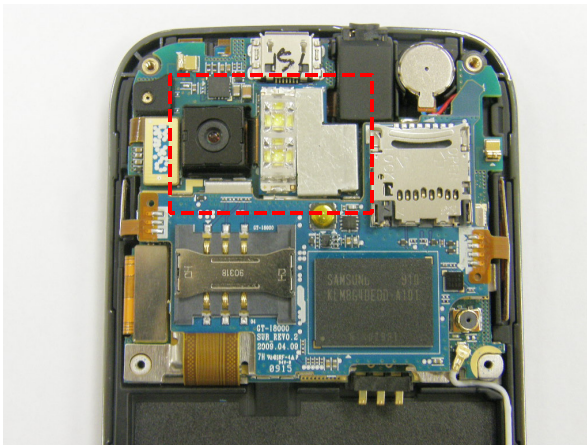
- 1) Insert Intenna Wire into front groove.
- 2) Assemble Wire Connector.



- 1) Be careful not to make any damage to the part.
- 2) If Wire arrangement is wrong, radiation problem is occurred by chewing wire when Rear is assembled.

11

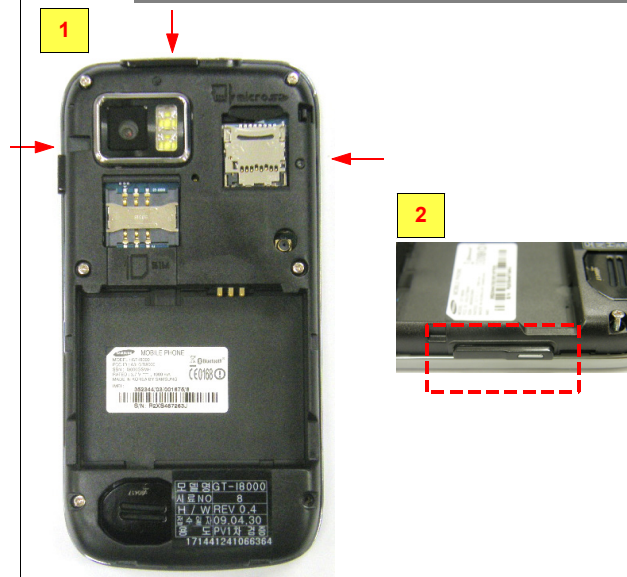
- 1) Assemble Camera Connector.



- 1) Be careful not to make any damage to the part.
- 2) Be careful not to insert Connector inaccurately.

12

- 1) Assemble top portion Hook and Volume Key,
Hook beside Hold Key.
- 2) Assemble Camera Key.



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

13

1) Assemble both side Hook and lower column Hook.



- 1) Be careful not to make any scratch or damage on the exterior
- 2) Check Gap and Terminal.

14

1) Screw 6 bolts.



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

Caution ! Never directly heat to Backup battery by the soldering iron or heat-gun.