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# 1. Safety Precautions

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## 1-1. Repair Precaution

Before attempting any repair or detailed tuning, shield the device from RF noise or static electricity discharges.

Use only demagnetized tools that are specifically designed for small electronic repairs, as most electronic parts are sensitive to electromagnetic forces.

Use only high quality screwdrivers when servicing products. Low quality screwdrivers can easily damage the heads of screws.

Use only conductor wire of the properly gauge and insulation for low resistance, because of the low margin of error of most testing equipment.

We recommend 22-gauge twisted copper wire.

Hand-soldering is not recommended, because printed circuit boards (PCBs) can be easily damaged, even with relatively low heat. Never use a soldering iron with a power rating of more than 100 watts and use only lead-free solder with a melting point below 250°C (482°F).

Prior to disassembling the battery charger for repair, ensure that the AC power is disconnected. Always use the replacement parts that are registered in the SEC system. Third-party replacement parts may not function properly.

## 1-2. ESD(Electrostatically Sensitive Devices) Precaution

Many semiconductors and ESDs in electronic devices are particularly sensitive to static discharge and can be easily damaged by it. We recommend protecting these components with conductive anti-static bags when you store or transport them.

Always use an anti-static strap or wristband and remove electrostatic buildup or dissipate static electricity from your body before repairing ESDs.

Ensure that soldering irons have AC adapter with ground wires and that the ground wires are properly connected.

Use only desoldering tools with plastic tips to prevent static discharge.

Properly shield the work environment from accidental electrostatic discharge before opening packages containing ESDs.

The potential for static electricity discharge may be increased in low humidity environments, such as air-conditioned rooms. Increase the airflow to the working area to decrease the chance of accidental static electricity discharges.

## 2. Specification

### 2-1. GSM General Specification

	GSM850	EGSM 900	DCS1800	PCS1900	WCDMA 2100	WCDMA 1900	WCDMA 900	WCDMA 850
Freq. Band[MHz] Uplink/ Downlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1922~1977 2112~2167	1852~1907 1932~1987	880~915 925~960	824~849 869~894
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL: 9612~9888 DL: 10562~10838	UL: 9262~9538 DL: 9662~9938	UL: 2712~2863 DL: 2937~3088	UL: 4132~4233 DL: 4357~4458
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz	80MHz	45MHz	45MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	3.84Mcps	3.84Mcps	3.84Mcps	3.84Mcps
Time Slot Period/ Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	QPSKHQPSK	QPSKHQPSK	QPSKHQPSK	QPSKHQPSK
MS Power	33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm	24dBm~ -50dBm	24dBm~ -50dBm	24dBm~ -50dBm	24dBm~ -50dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm	-106.7dBm	-106.7dBm	-106.7dBm	-106.7dBm
TDMA Mux	8	8	8	8	8	8	8	8
Cell Radius	35Km	35Km	2Km	2Km	2Km	2Km	2Km	2Km

## 2-2. GSM Tx Power Class

<b>TX Power control level</b>	<b>GSM850</b>	<b>TX Power control level</b>	<b>EGSM900</b>	<b>TX Power control level</b>	<b>DCS1800</b>	<b>TX Power control level</b>	<b>PCS1900</b>
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

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## 3. Operation Instruction and Installation

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### Main Function

- Android OS: Jelly Bean
- Main 3MP FF, Sub 1.3FF
- 10.1" WXGA TFT Full Touch (C-Type)
- HSDPA 21.1Mbps / HSUPA 5.76Mbps
- A-GPS / GLONASS/ BT v4.0 + EDR with LE / USB v2.0 / Wi-Fi (802.11 a/b/g/n)/ OTG
- Recording definition: 720p
- Sensors: Accelation, Magnetic, ALS
- Additional :
  - 1.6GHz Dual Core CPU

## 5. MAIN Electrical Parts List

SEC Code	Design LOC	Description
0403-001870	ZD5005,ZD7000	DIODE-ZENER
0404-001250	D7002	DIODE-SCHOTTKY
0404-001394	D7000	DIODE-SCHOTTKY
0404-001669	D8000	DIODE-SCHOTTKY
0406-001239	D5001	DIODE-TVS
0406-001267	ZD5000,ZD5001,ZD9001	DIODE-TVS
0406-001267	ZD9002,ZD9003,ZD9004	DIODE-TVS
0406-001267	ZD9005,ZD9006	DIODE-TVS
0406-001293	ZD7001,ZD7002	DIODE-TVS
0406-001390	ZD9000	DIODE-TVS
0406-001413	ZD3000,ZD3001,ZD3002	DIODE-TVS
0406-001413	ZD3003,ZD3004,ZD4000	DIODE-TVS
0406-001413	ZD4001,ZD4004,ZD4005	DIODE-TVS
0406-001413	ZD4007,ZD4008,ZD4009	DIODE-TVS
0406-001505	D4000,D4001,ZD4003	DIODE-TVS
0406-001505	ZD4006,ZD5003	DIODE-TVS
0406-001506	ZD5004	DIODE-TVS
0406-001561	ZD5002	DIODE-TVS
0406-001583	ZD5006	DIODE-TVS
0407-001002	D7001	DIODE-ARRAY
0504-001113	TR7001,TR7002	TR-DIGITAL
0504-001171	Q5001	TR-DIGITAL
0505-001995	Q7000	FET-SILICON
0505-002341	Q5000,Q5004,Q9000	FET-SILICON
0505-002384	Q100,Q4000	FET-SILICON
0505-002388	Q5003	FET-SILICON
0505-002720	Q5002	FET-SILICON
0801-003024	U4000	IC-CMOS LOGIC
0801-003079	U6012	IC-CMOS LOGIC
0801-003346	U6002	IC-CMOS LOGIC
0801-003435	U6015	IC-CMOS LOGIC
0801-003437	U3000,U5000,U7007	IC-CMOS LOGIC
0902-003015	UCP6001	IC-MICROPROCESSOR
0904-002738	U8004	IC-GRAPHIC CONT.
1001-001846	U4004	IC-ANALOG MULTIPLEX
1003-002391	U104	IC-LEVEL DRIVER
1006-001552	U6014	IC-BUS TRANSCEIVER
1009-001058	U103	IC-HALL EFFECT S/W
1105-002212	UME3000	IC-RDRAM
1105-002305	UCP6001UP	IC-DDR2 SDRAM

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1107-002239	UME6000	IC-FLASH MEMORY
1201-003400	PAM1000	IC-POWER AMP
1201-003579	U2001	IC-GPS AMP
1202-001123	U4002	IC-VOLTAGE COMP.
1203-002250	U5004,U5007	IC-VOL. DETECTOR
1203-004776	FPC7000,U5008	IC-POSI.FIXED REG.
1203-004818	U6010,U9000	IC-POSI.FIXED REG.
1203-004819	U9002	IC-POSI.FIXED REG.
1203-005512	U5006	IC-POSI.FIXED REG.
1203-005574	U105	IC-POSI.FIXED REG.
1203-005599	U8007	IC-DC/DC CONVERTER
1203-006044	U9004	IC-DC/DC CONVERTER
1203-006115	U9001	IC-POWER SUPERVISOR
1203-006766	U3001,U5001	IC-VOL. DETECTOR
1203-006768	U7001,U8005	IC-DC/DC CONVERTER
1203-006801	U1004	IC-DC/DC CONVERTER
1203-006817	U107	IC-POSI.FIXED REG.
1203-006872	U108	IC-MULTI REG.
1203-006874	U100,U8000	IC-MULTI REG.
1203-006920	U8006	IC-BACKLIGHT DRIVER
1203-007084	U7005	IC-RESET
1203-007142	U6000	IC-DC/DC CONVERTER
1203-007333	U1002	IC-DC/DC CONVERTER
1203-007623	U7003	IC-BATTERY
1203-007702	U8001	IC-DC/DC CONVERTER
1203-007791	U4001,U6016	IC-POSI.FIXED REG.
1203-007842	U8002	IC-POSI.FIXED REG.
1203-007909	U7002	IC-POWER SUPERVISOR
1203-007951	U5005	IC-POWER SUPERVISOR
1204-003387	U109	IC-REMOTE CONTROL
1205-003692	U9006	IC-EXPANDER
1205-004233	U106	IC-TRANSMITTER
1205-004511	UCP3000	IC-MODEM
1205-004513	U5002	IC-SWITCH
1205-004515	U1001	IC-TRANSCEIVER
1205-004548	U8003	IC-TRANSMITTER
1205-004598	U2003	IC-WIFI
1205-004649	U2002	IC-GPS RECEIVER
1205-004803	U9003	IC-COMM. CONTROLLER
1205-004804	U4003	IC-CODEC
1209-002142	U102	IC-SENSOR

1209-002153	U101	IC-SENSOR
1209-002221	U1007	IC-SENSOR
1404-001694	TH7001,TH7002	THERMISTOR-NTC
1404-001726	V1000	THERMISTOR-NTC
1404-001728	TH3000	THERMISTOR-NTC
2007-000141	R6088	R-CHIP
2007-000143	R123,R124	R-CHIP
2007-000162	R5010,R5030	R-CHIP
2007-000163	R8009	R-CHIP
2007-000169	R1003	R-CHIP
2007-000170	R8004	R-CHIP
2007-001217	R104,R105,R106,R107	R-CHIP
2007-001217	R109,R110,R111,R112	R-CHIP
2007-001217	R113,R114,R115,R116	R-CHIP
2007-001217	R117,R118,R119,R120	R-CHIP
2007-002796	R7000	R-CHIP
2007-002970	R6016,R6103,R6105	R-CHIP
2007-003010	R1007	R-CHIP
2007-003015	R5025,R5027,R5038	R-CHIP
2007-007107	R3007	R-CHIP
2007-007131	R9014	R-CHIP
2007-007137	R4002	R-CHIP
2007-007142	R5023,R9023	R-CHIP
2007-007307	R6018,R6019	R-CHIP
2007-007318	R1017	R-CHIP
2007-007489	R8001	R-CHIP
2007-007538	R6060	R-CHIP
2007-007590	R9011	R-CHIP
2007-007627	R8011	R-CHIP
2007-0077419	R127,R128,R5013	R-CHIP
2007-007741	R5018,R7020,R7029	R-CHIP
2007-007741	R7031,R7032,R7033	R-CHIP
2007-007741	R9000,R9001,R9002	R-CHIP
2007-007942	R4016,R4017,R4024	R-CHIP
2007-007942	R4027,R4028	R-CHIP
2007-007943	R4025,R4026	R-CHIP
2007-007981	R8000,R9020	R-CHIP
2007-008045	R3005,R4018,R5000	R-CHIP
2007-008045	R5006,R5041,R6021	R-CHIP
2007-008045	R6077,R6109,R7040	R-CHIP
2007-008045	R7041,R9004	R-CHIP



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2007-008048	R131,R132,R2015	R-CHIP
2007-008052	R125,R133,R134,R3009	R-CHIP
2007-008052	R5014,R6011,R6012	R-CHIP
2007-008052	R6033,R6034,R6107	R-CHIP
2007-008052	R6108	R-CHIP
2007-008055	R3030,R5022,R5043	R-CHIP
2007-008055	R6026,R6058,R6080	R-CHIP
2007-008055	R7036,R7043,R8010	R-CHIP
2007-008055	R9022,R9024,R9025	R-CHIP
2007-0080579	R6104	R-CHIP
2007-008137	R7002,R7003	R-CHIP
2007-008210	R9021	R-CHIP
2007-008298	R6051,R6094	R-CHIP
2007-008312	R4023	R-CHIP
2007-008354	R6055,R8014	R-CHIP
2007-008403	R5044	R-CHIP
2007-008419	R5004,R5007,R5042	R-CHIP
2007-008420	R5028	R-CHIP
2007-008483	R9015,R9016,R9018	R-CHIP
2007-008483	R9019	R-CHIP
2007-008486	R100,R5021	R-CHIP
2007-008516	R121,R126,R2000	R-CHIP
2007-008516	R2002,R2003,R2023	R-CHIP
2007-008516	R2024,R3025,R4011	R-CHIP
2007-008516	R4012,R5001,R5003	R-CHIP
2007-008516	R5008,R5037,R6000	R-CHIP
2007-008516	R6005,R6006,R6007	R-CHIP
2007-008516	R6036,R6038,R7004	R-CHIP
2007-008516	R7025,R9007,R9017	R-CHIP
2007-008531	R1008,R6048	R-CHIP
2007-008588	R1015,R3012,R3013	R-CHIP
2007-008588	R3014,R4004	R-CHIP
2007-008697	R6047	R-CHIP
2007-008721	R7017,R8013	R-CHIP
2007-008774	R9003	R-CHIP
2007-008800	R5005	R-CHIP
2007-008806	R4000,R4019	R-CHIP
2007-008812	R7022	R-CHIP
2007-009084	R108,R122,R4009	R-CHIP
2007-009084	R4010,R5016,R5031	R-CHIP
2007-009084	R5040,R7014,R8003	R-CHIP

2007-009111	R6027	R-CHIP
2007-009155	R3006,R3010,R3031	R-CHIP
2007-009155	R5011	R-CHIP
2007-009158	R129,R130	R-CHIP
2007-009168	R8012	R-CHIP
2007-009171	R2007,R2008,R2009	R-CHIP
2007-009171	R2010,R2011,R6039	R-CHIP
2007-009171	R6040,R6041,R6042	R-CHIP
2007-009171	R6043,R6044,R6045	R-CHIP
2007-009171	R6046	R-CHIP
2007-009182	R6086	R-CHIP
2007-009199	R6031	R-CHIP
2007-009208	R4021,R4022	R-CHIP
2007-009212	R4001,R6052,R6053	R-CHIP
2007-009314	R6025	R-CHIP
2007-009315	R3002,R3008	R-CHIP
2007-009323	R7030	R-CHIP
2007-009361	R1001	R-CHIP
2007-009408	R6008,R6009,R6010	R-CHIP
2007-009793	R5009	R-CHIP
2007-009801	R1005,R1006	R-CHIP
2007-009805	R6030	R-CHIP
2007-009920	R6057,R6059	R-CHIP
2007-009954	R7011	R-CHIP
2007-010233	R3016	R-CHIP
2007-010856	R5012	R-CHIP
2203-000233	C1017,C2065	C-CER,CHIP
2203-000254	C1037,C2013,C8014	C-CER,CHIP
2203-000254	C8020,C9044	C-CER,CHIP
2203-000278	C6096,C7061	C-CER,CHIP
2203-000359	C8030	C-CER,CHIP
2203-000386	C134,C135	C-CER,CHIP
2203-000425	C4014,C4015,C4016	C-CER,CHIP
2203-000425	C4017	C-CER,CHIP
2203-000438	C7031	C-CER,CHIP
2203-000489	C8024	C-CER,CHIP
2203-000627	C8006	C-CER,CHIP
2203-000725	C5040	C-CER,CHIP
2203-001239	C4018,C4019	C-CER,CHIP
2203-001383	C1019	C-CER,CHIP
2203-001437	C1020	C-CER,CHIP

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2203-002687	C7076,C7086	C-CER,CHIP
2203-002709	C107,C8005	C-CER,CHIP
2203-003054	C6095	C-CER,CHIP
2203-005056	C1015	C-CER,CHIP
2203-005682	C1052,C2020,C3039	C-CER,CHIP
2203-005682	C3041,C3042,C5000	C-CER,CHIP
2203-005682	C5001,C5003	C-CER,CHIP
2203-005717	C3047,C7043	C-CER,CHIP
2203-005719	C1055,C1078	C-CER,CHIP
2203-005725	C2002,C2006,C3048	C-CER,CHIP
2203-005725	C7042	C-CER,CHIP
2203-005727	C5025,C5027,C5032	C-CER,CHIP
2203-005729	C1128,C2049,C4002	C-CER,CHIP
2203-005729	C4003,C4010,C4011	C-CER,CHIP
2203-005731	C2050	C-CER,CHIP
2203-005732	C4006,C4007,C4012	C-CER,CHIP
2203-005732	C5002	C-CER,CHIP
2203-005734	C1060,C5021,C7085	C-CER,CHIP
2203-005736	C1053,C2010,C2014	C-CER,CHIP
2203-005777	C2012	C-CER,CHIP
2203-005779	C8022,C8023	C-CER,CHIP
2203-005792	C1051	C-CER,CHIP
2203-005806	C1046,C2008,C2045	C-CER,CHIP
2203-005806	C2056,C4013	C-CER,CHIP
2203-006048	C1028,C8012,C8013	C-CER,CHIP
2203-006048	C8017,C8018,C8019	C-CER,CHIP
2203-006048	C9026	C-CER,CHIP
2203-006121	C126	C-CER,CHIP
2203-006194	C1050,C3001,C3002	C-CER,CHIP
2203-006194	C7002	C-CER,CHIP
2203-006208	C7008,C7009,C7068	C-CER,CHIP
2203-006257	C6094	C-CER,CHIP
2203-006260	C1035,C1044	C-CER,CHIP
2203-006305	C1126,C1127,C2015	C-CER,CHIP
2203-006305	C2016,C2026,C2037	C-CER,CHIP
2203-006305	C2046,C2053,C2057	C-CER,CHIP
2203-006305	C2060,C2063,C2064	C-CER,CHIP
2203-006348	C9014	C-CER,CHIP
2203-006377	C1138,C1139	C-CER,CHIP
2203-006379	C1048	C-CER,CHIP

2203-006399	C1021,C1022,C1098	C-CER,CHIP
2203-006399	C131,C4005,C6080	C-CER,CHIP
2203-006399	C6093,C6097,C6098	C-CER,CHIP
2203-006399	C8003,C8026	C-CER,CHIP
2203-006423	C100,C1001,C1002	C-CER,CHIP
2203-006423	C1003,C1004,C1005	C-CER,CHIP
2203-006423	C1010,C1011,C1012	C-CER,CHIP
2203-006423	C102,C1049,C1056	C-CER,CHIP
2203-006423	C1058,C110,C111,C112	C-CER,CHIP
2203-006423	C115,C118,C119,C121	C-CER,CHIP
2203-006423	C123,C128,C129,C136	C-CER,CHIP
2203-006423	C2007,C3000,C3003	C-CER,CHIP
2203-006423	C3004,C3010,C3012	C-CER,CHIP
2203-006423	C3013,C3014,C3016	C-CER,CHIP
2203-006423	C3018,C3019,C3020	C-CER,CHIP
2203-006423	C3021,C3023,C3024	C-CER,CHIP
2203-006423	C3025,C3027,C3028	C-CER,CHIP
2203-006423	C3029,C3032,C3033	C-CER,CHIP
2203-006423	C3034,C3038,C3045	C-CER,CHIP
2203-006423	C5013,C6084,C6087	C-CER,CHIP
2203-006423	C7082,C8037,C9000	C-CER,CHIP
2203-006423	C9001,C9004,C9005	C-CER,CHIP
2203-006423	C9006,C9007,C9008	C-CER,CHIP
2203-006423	C9009,C9010	C-CER,CHIP
2203-006562	C1059,C114,C130	C-CER,CHIP
2203-006562	C4004,C4008,C4009	C-CER,CHIP
2203-006562	C5019,C5020,C5043	C-CER,CHIP
2203-006562	C6079,C6092,C7000	C-CER,CHIP
2203-006562	C7012,C7013,C7030	C-CER,CHIP
2203-006562	C7032,C7033,C7037	C-CER,CHIP
2203-006562	C7041,C7049,C7056	C-CER,CHIP
2203-006562	C7069,C7070,C7073	C-CER,CHIP
2203-006562	C7077,C7078,C8025	C-CER,CHIP
2203-006562	C8038,C8041,C8042	C-CER,CHIP
2203-006562	C9045	C-CER,CHIP
2203-006626	C1143	C-CER,CHIP
2203-006647	C1006,C1007,C1008	C-CER,CHIP

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2203-006647	C1013	C-CER,CHIP
2203-006668	C125	C-CER,CHIP
2203-006681	C7053,C8033	C-CER,CHIP
2203-006707	C2022,C2029,C2034	C-CER,CHIP
2203-006707	C2047	C-CER,CHIP
2203-006815	C1045,C1047,C5017	C-CER,CHIP
2203-006839	C1057,C1141,C4021	C-CER,CHIP
2203-006839	C5010	C-CER,CHIP
2203-006844	C113,C8034,C8035	C-CER,CHIP
2203-006872	C1009,C1031,C1034	C-CER,CHIP
2203-006872	C1101,C1105,C1125	C-CER,CHIP
2203-006872	C116,C117,C120,C122	C-CER,CHIP
2203-006872	C127,C2003,C4023	C-CER,CHIP
2203-006872	C4038,C4040,C4041	C-CER,CHIP
2203-006872	C6085,C6086,C7074	C-CER,CHIP
2203-006872	C8000,C8002,C8015	C-CER,CHIP
2203-006872	C8021,C9032	C-CER,CHIP
2203-006896	C1023	C-CER,CHIP
2203-006978	C5014,C5018,C5023	C-CER,CHIP
2203-006979	C1000,C1014,C5015	C-CER,CHIP
2203-007133	C9042	C-CER,CHIP
2203-007210	C1089,C3006,C3009	C-CER,CHIP
2203-007210	C3011,C3015,C3017	C-CER,CHIP
2203-007210	C3022,C3026,C3030	C-CER,CHIP
2203-007210	C3031,C3035,C3046	C-CER,CHIP
2203-007240	C5011,C6090,C7001	C-CER,CHIP
2203-007240	C7004,C7005,C7006	C-CER,CHIP
2203-007240	C7007,C7014,C7015	C-CER,CHIP
2203-007240	C7016,C7017,C7018	C-CER,CHIP
2203-007240	C7019,C7045,C7062	C-CER,CHIP
2203-007240	C7063,C7064,C7065	C-CER,CHIP
2203-007240	C7066,C7067,C7071	C-CER,CHIP
2203-007240	C7083,C7084	C-CER,CHIP
2203-007269	C3036,C3037,C5016	C-CER,CHIP
2203-007269	C7075	C-CER,CHIP
2203-007270	C1088,C5031,C7046	C-CER,CHIP

2203-007270	C7047,C8027,C8031	C-CER,CHIP
2203-007270	C8032	C-CER,CHIP
2203-007271	C137,C2036,C5041	C-CER,CHIP
2203-007271	C5042,C7003,C7020	C-CER,CHIP
2203-007271	C7029,C7034,C7035	C-CER,CHIP
2203-007271	C7036,C7038,C7039	C-CER,CHIP
2203-007271	C7050,C7051,C7081	C-CER,CHIP
2203-007271	C9011,C9012,C9013	C-CER,CHIP
2203-007271	C9021,C9022,C9023	C-CER,CHIP
2203-007271	C9024,C9025,C9027	C-CER,CHIP
2203-007271	C9029	C-CER,CHIP
2203-007279	C7023,C7048,C7052	C-CER,CHIP
2203-007279	C7054,C7055	C-CER,CHIP
2203-007317	C1092,C1109,C1110	C-CER,CHIP
2203-007317	C1114,C4024,C4025	C-CER,CHIP
2203-007317	C4029,C4035,C5004	C-CER,CHIP
2203-007317	C8001,C8004,C9047	C-CER,CHIP
2203-007385	C101,C103,C108,C109	C-CER,CHIP
2203-007385	C138,C139,C8011	C-CER,CHIP
2203-007391	C1142,C5044,C6000	C-CER,CHIP
2203-007391	C6001,C6002,C6003	C-CER,CHIP
2203-007391	C6004,C6005,C6006	C-CER,CHIP
2203-007391	C6007,C6008,C6009	C-CER,CHIP
2203-007391	C6010,C6011,C6012	C-CER,CHIP
2203-007391	C6013,C6014,C6015	C-CER,CHIP
2203-007391	C6016,C6017,C6018	C-CER,CHIP
2203-007391	C6019,C6020,C6021	C-CER,CHIP
2203-007391	C6022,C6023,C6024	C-CER,CHIP
2203-007391	C6025,C6026,C6027	C-CER,CHIP
2203-007391	C6028,C6029,C6030	C-CER,CHIP
2203-007391	C6031,C6032,C6033	C-CER,CHIP
2203-007391	C6034,C6035,C6036	C-CER,CHIP
2203-007391	C6037,C6038,C6039	C-CER,CHIP
2203-007391	C6040,C6041,C6042	C-CER,CHIP

Main Electrical Parts List

2203-007391	C6043,C6044,C6045	C-CER,CHIP
2203-007391	C6046,C6047,C6048	C-CER,CHIP
2203-007391	C6049,C6050,C6051	C-CER,CHIP
2203-007391	C6052,C6053,C6054	C-CER,CHIP
2203-007391	C6055,C6056,C6057	C-CER,CHIP
2203-007391	C6058,C6059,C6060	C-CER,CHIP
2203-007391	C6061,C6062,C6063	C-CER,CHIP
2203-007391	C6064,C6065,C6066	C-CER,CHIP
2203-007391	C6067,C6068,C6069	C-CER,CHIP
2203-007391	C6070,C6071,C6072	C-CER,CHIP
2203-007391	C6073,C6074,C6075	C-CER,CHIP
2203-007391	C6076,C6077,C6078	C-CER,CHIP
2203-007393	C1039,C1054,C1086	C-CER,CHIP
2203-007393	C124,C132,C133,C2042	C-CER,CHIP
2203-007393	C2043,C2061,C6091	C-CER,CHIP
2203-007393	C7011,C7024,C7025	C-CER,CHIP
2203-007393	C7026,C7027,C7028	C-CER,CHIP
2203-007393	C7040,C7044,C7057	C-CER,CHIP
2203-007393	C7058,C7059,C7060	C-CER,CHIP
2203-007393	C7072,C8010	C-CER,CHIP
2203-007449	C105,C106,C1100	C-CER,CHIP
2203-007449	C1106,C2001,C2005	C-CER,CHIP
2203-007449	C2011,C3049,C3050	C-CER,CHIP
2203-007449	C4000,C4022,C4026	C-CER,CHIP
2203-007449	C4027,C4030,C4031	C-CER,CHIP
2203-007449	C4039,C5009,C5012	C-CER,CHIP
2203-007449	C5022,C5038,C5039	C-CER,CHIP
2203-007449	C6088,C8007,C8008	C-CER,CHIP
2203-007449	C8009,C8036,C9002	C-CER,CHIP
2203-007449	C9003,C9020,C9028	C-CER,CHIP
2203-007449	C9031,C9035,C9036	C-CER,CHIP
2203-007449	C9037,C9039,C9040	C-CER,CHIP
2203-007449	C9041,C9046	C-CER,CHIP
2203-007693	C9043	C-CER,CHIP

2203-007775	C4020	C-CER,CHIP
2203-007790	C8029,C8039,C8040	C-CER,CHIP
2203-007795	C1030,C1064,C3005	C-CER,CHIP
2203-007795	C3007,C3008,C5006	C-CER,CHIP
2203-007795	C5007	C-CER,CHIP
2203-007796	C104,C2004,C2009	C-CER,CHIP
2203-007796	C2027,C2028,C2032	C-CER,CHIP
2203-007796	C2058,C4033,C4034	C-CER,CHIP
2203-007796	C4036,C4037,C5008	C-CER,CHIP
2203-007796	C5036,C7010,C8028	C-CER,CHIP
2203-007796	C9019,C9030	C-CER,CHIP
2203-008095	C2031,C2033,C2054	C-CER,CHIP
2203-008097	C2024,C2035,C2039	C-CER,CHIP
2203-008097	C2040,C2041,C2044	C-CER,CHIP
2203-008097	C2059,C2062,C8016	C-CER,CHIP
2203-008097	C9015,C9016,C9017	C-CER,CHIP
2203-008097	C9018	C-CER,CHIP
2203-008126	C5024	C-CER,CHIP
2203-008527	C7079,C7080	C-CER,CHIP
2203-008528	C1140	C-CER,CHIP
2404-001506	C4001,TA7001,TA7002	C-TA,CHIP
2409-001127	TA1000	C-POLYMER ,CHIP
2703-002204	L2004	INDUCTOR-SMD
2703-002267	L1003,L1008	INDUCTOR-SMD
2703-002313	L1000,L1001,L1040	INDUCTOR-SMD
2703-002367	L2000	INDUCTOR-SMD
2703-002596	C1099,C1107	INDUCTOR-SMD
2703-002960	L9005,L9006	INDUCTOR-SMD
2703-003004	L1004	INDUCTOR-SMD
2703-003485	L9004	INDUCTOR-SMD
2703-003498	L6000	INDUCTOR-SMD
2703-003686	L8001	INDUCTOR-SMD
2703-003754	L7011,L9001	INDUCTOR-SMD
2703-003755	L1034,L1036,L1037	INDUCTOR-SMD



Main Electrical Parts List

2703-003869	L3002,L3003	INDUCTOR-SMD
2703-003911	L1002,L7004,L7006	INDUCTOR-SMD
2703-003913	L7005,L8005	INDUCTOR-SMD
2703-004012	R2001	INDUCTOR-SMD
2703-004039	L1011	INDUCTOR-SMD
2703-004230	L5000	INDUCTOR-SMD
2703-004287	L1012	INDUCTOR-SMD
2703-004297	L5001	INDUCTOR-SMD
2703-004299	L1014,L1018	INDUCTOR-SMD
2703-004300	L1007	INDUCTOR-SMD
2703-004301	C1032,L1005	INDUCTOR-SMD
2703-004302	L1017	INDUCTOR-SMD
2703-004338	L2011	INDUCTOR-SMD
2703-004345	L2002	INDUCTOR-SMD
2703-004364	L2014	INDUCTOR-SMD
2703-004365	L1016	INDUCTOR-SMD
2703-004366	L2003	INDUCTOR-SMD
2703-004369	L1015	INDUCTOR-SMD
2703-004530	L8004	INDUCTOR-SMD
2703-004635	L7000,L7001,L7002	INDUCTOR-SMD
2703-004635	L7003,L7007,L7008	INDUCTOR-SMD
2703-004635	L7009,L7010	INDUCTOR-SMD
2703-004697	L4004,L4005,L4009	INDUCTOR-SMD
2703-004697	L4010	INDUCTOR-SMD
2801-004785	OSC100	CRYSTAL-SMD
2801-004836	OSC8000	CRYSTAL-SMD
2801-004931	OSC1000	CRYSTAL-SMD
2801-005165	OSC6000	CRYSTAL-SMD
2801-005167	OSC2002	CRYSTAL-SMD
2801-005254	OSC3000,OSC7000	CRYSTAL-SMD
2805-001098	OSC2001	OSCILLATOR-TCXO
2901-001625	F5000	FILTER-EMI/ESD
2901-001673	F8001	FILTER-EMI SMD
2901-001674	F8000,F8002,F9000	FILTER-EMI SMD

2901-001674	F9001	FILTER-EMI SMD
2904-002085	F2001,F2002	FILTER-GPS SAW
2909-001324	F2004	FILTER-LC
2910-000125	F1000	DUPLEXER-SAW
2911-000219	U1000	DUPLEXER-ASM
2911-000257	U2004	DUPLEXER-FEM
2911-000258	U2005	DUPLEXER-FEM
3301-001534	L8000,R2004	BEAD-SMD
3301-001729	L101,L102,L9003	BEAD-SMD
3301-001812	L100	BEAD-SMD
3301-001895	L2001	BEAD-SMD
3301-001901	L9000,L9002	BEAD-SMD
3301-001929	L4011,L4012	BEAD-SMD
3301-001956	L3000,L3001	BEAD-SMD
3301-002037	L8003	BEAD-SMD
3301-002062	L1031	BEAD-SMD
3301-002065	L4000,L4001,L4002	BEAD-SMD
3301-002065	L4003,L4006,L7012	BEAD-SMD
3301-002065	L7013	BEAD-SMD
3301-002078	L4007,L4008	BEAD-SMD
3301-002085	L8002	BEAD-SMD
3301-002236	L1042,L1043	BEAD-SMD
3301-002254	L5004	BEAD-SMD
3705-001731	RFS1000	CONNECTOR-COAXIAL
3708-002183	SLC5000,SLC8000	CONNECTOR-FPC/FFC/PIC
3708-002781	SLC9000	CONNECTOR-FPC/FFC/PIC
3709-001811	CD9000	CONNECTOR-CARD EDGE
3709-001813	SIM3000	CONNECTOR-CARD EDGE
3711-006925	HDC6000,HDC9000	HEADER-BOARD TO BOARD
3711-006925	HDC9001	HEADER-BOARD TO BOARD
3711-007173	HDC3001,HDC4001	HEADER-BOARD TO BOARD
3711-008010	HDC100,HDC4000	HEADER-BOARD TO BOARD
3711-008010	HDC5000	HEADER-BOARD TO BOARD
3711-008347	HDC9002	HEADER-BOARD TO BOARD

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3711-008421	BTC7000	CONNECTOR-HEADER
3712-001458	ANT1000,ANT1001	CONNECTOR-TERMINAL
3712-001458	ANT2001,ANT2002	CONNECTOR-TERMINAL
4709-001672	F2005	FREQ-DISTRIBUTER
4709-002028	F2003	FREQ-DISTRIBUTER
GH98-27736A	SC1000	ASSY COVER-ASSY SHIELD COVER 1
GH98-27737A	SC1001	ASSY COVER-ASSY SHIELD COVER 2
GH98-27738A	SC1002	ASSY COVER-ASSY SHIELD COVER 3

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

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## 6. Level 1 Repair

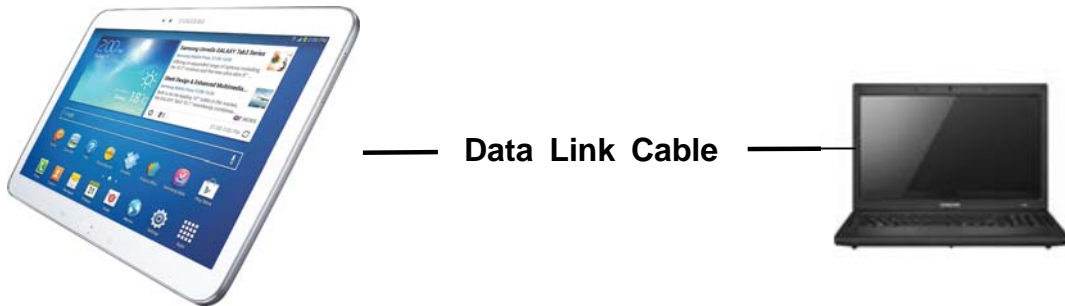
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### 6-1. S/W Download

#### 6-1-1. Pre-requisite for S/W Downloading

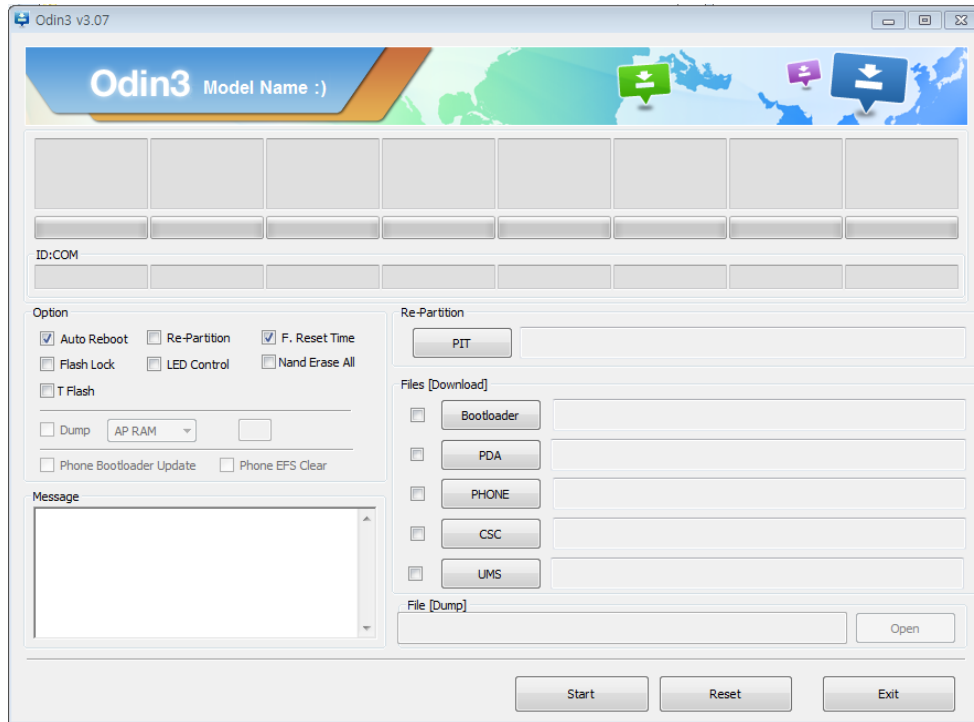
- Downloader Program ([Odin3 v3.07.exe](#))
- GT-P5200
- Data Link Cable (GH39-01578A)
- Binary files

#### ❖ Settings



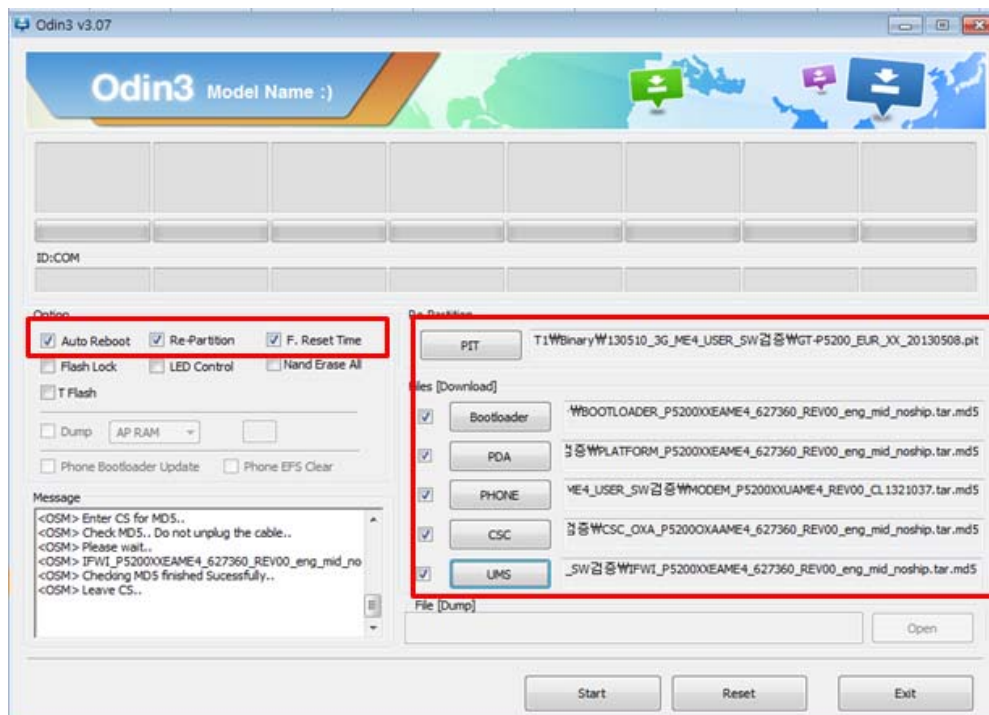
### 6-1-2. S/W Downloader Program

- Load the binary download program by executing the "**Odin3 v3.07.exe**" ← Run this file.



#### 1. Option checking and select files

- Check Auto Reboot and F. Reset Time, then select PIT, Bootloader, CODE, PHONE, CSC and UMS File.



## 2. Enter Device into Download Mode

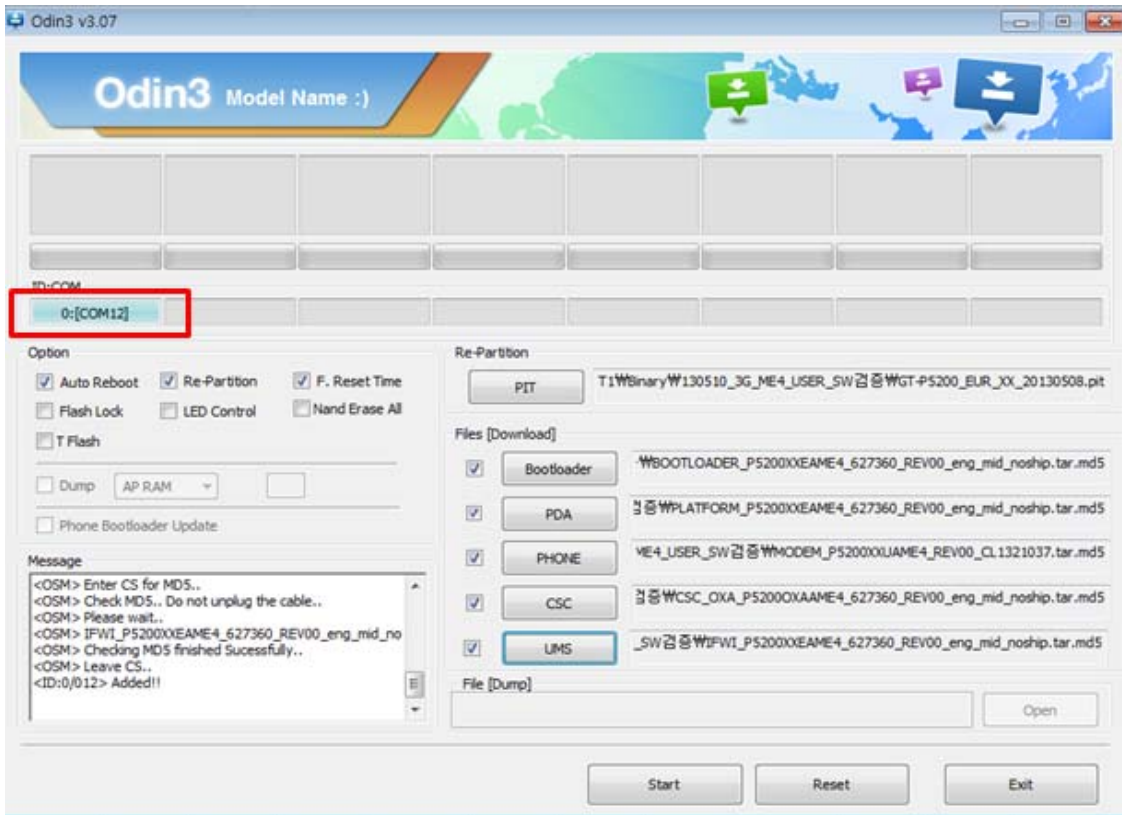
- Press volume down button and power key at same time for 5 seconds, then you can see below display.



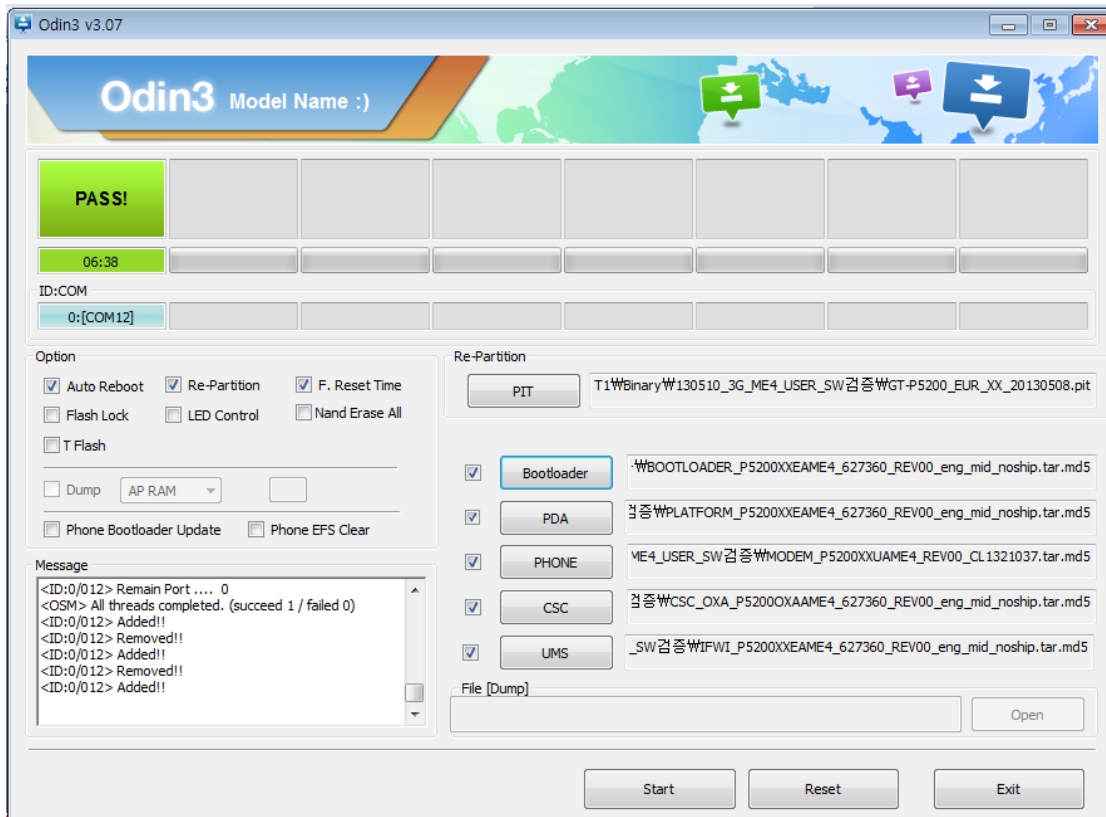
- Press volume up button to enter device into download mode.



3. Connect the Device to PC via Data Cable.  
Make sure ID:COM box highlighted blue that the device is connected to the PC.



4. Start Downloading PIT, CODE, PHONE and CSC files by clicking Start button. Then wait for "PASS" to be appear on the screen.



5. Once the device boots up, confirm the downloaded version name and etc. :  
\*#1234#

Full Reset :

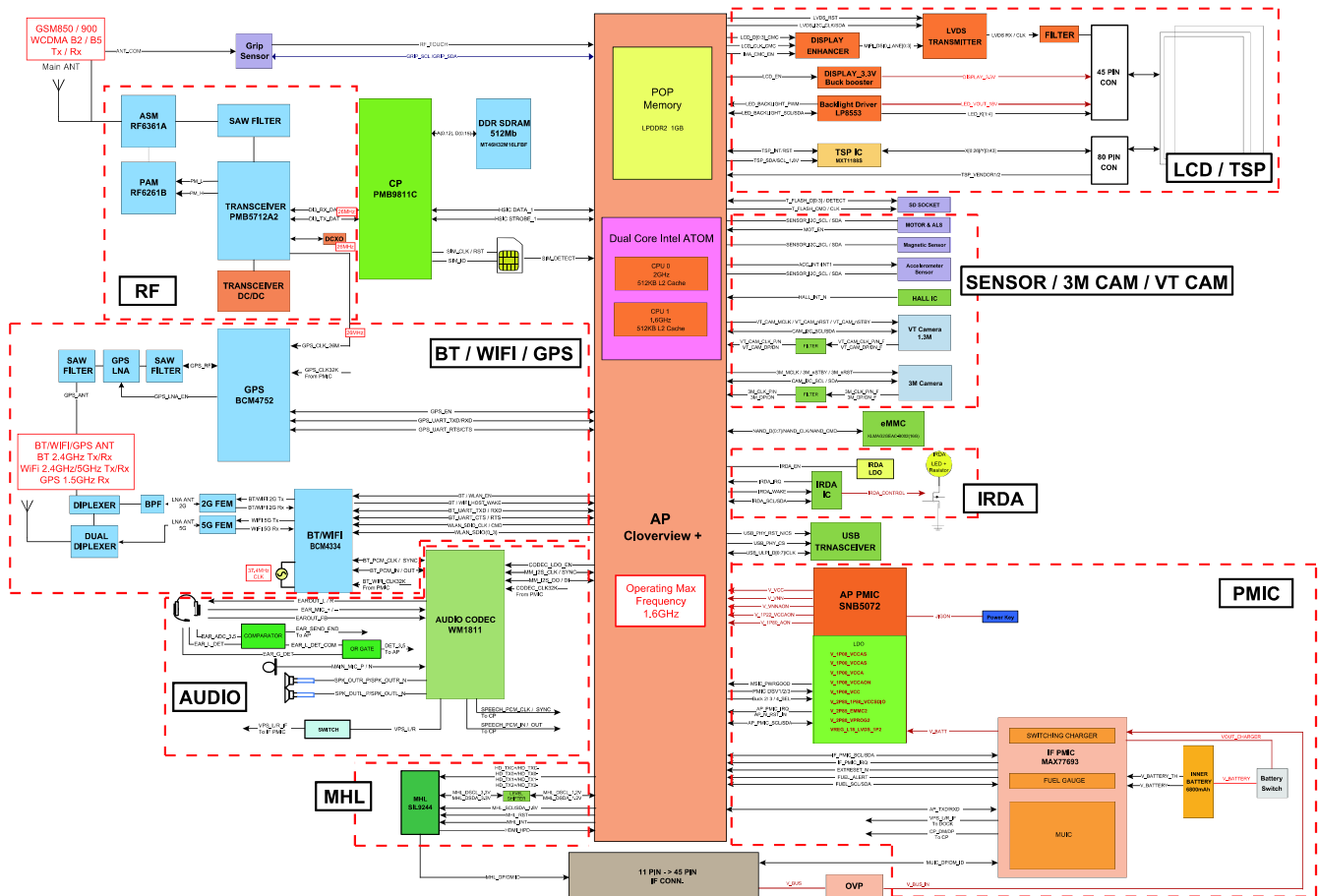
**Apps > Settings > Backup and reset > Factory data reset**



# 8. Level 3 Repair

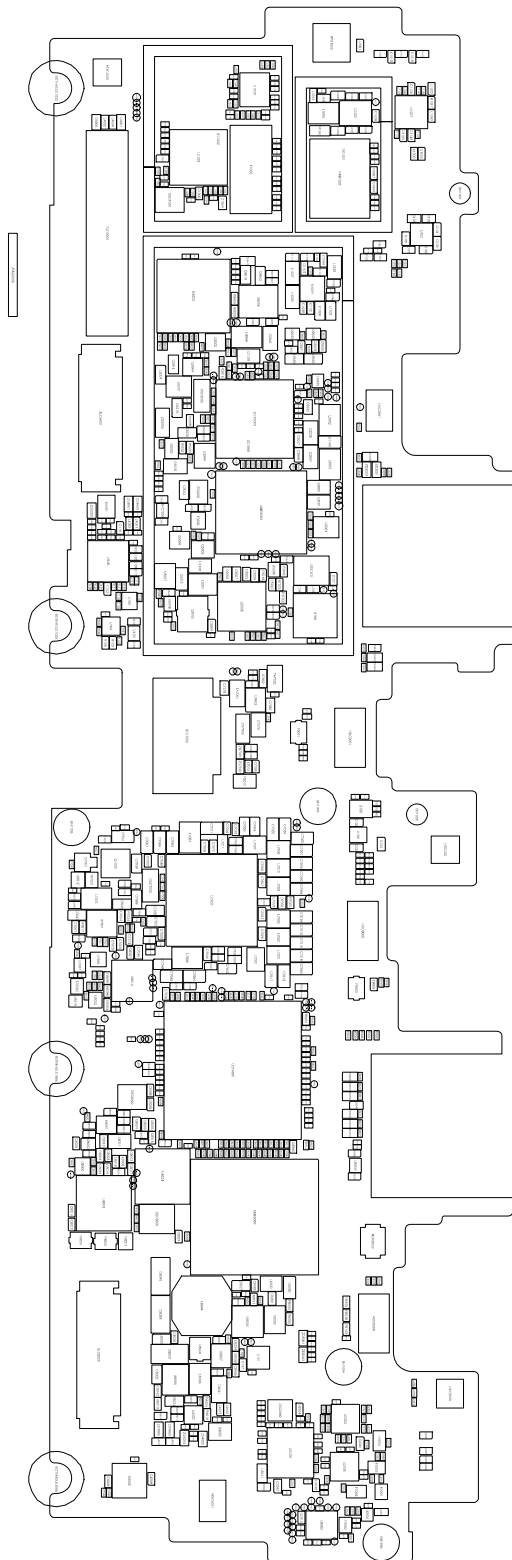
## 8-1. Block Diagram

**GT-P5200 BLOCK DIAGRAM**

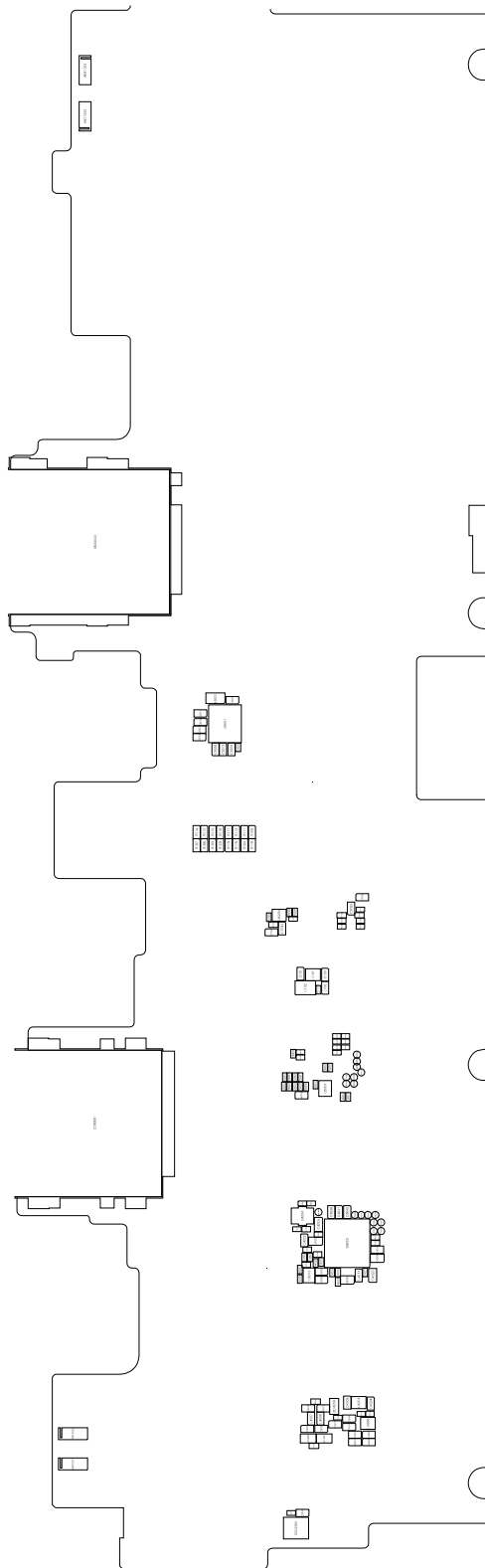


## 8-2. PCB Diagrams

### 8-2-1. Top

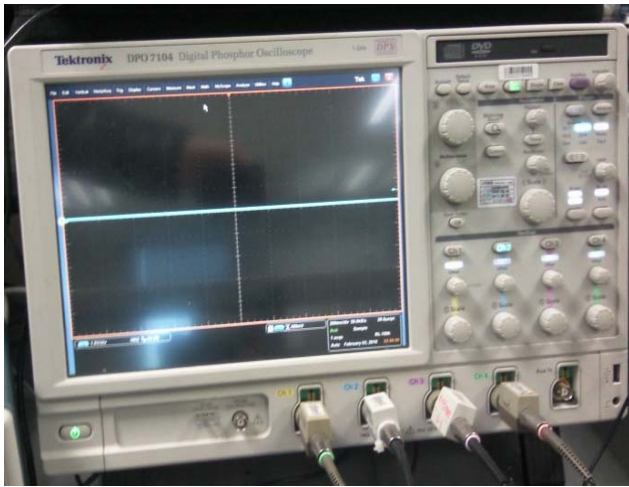


8-2-2. Bottom



### 8-3. Flow Chart of Troubleshooting

#### Equipments



↑ Oscilloscope



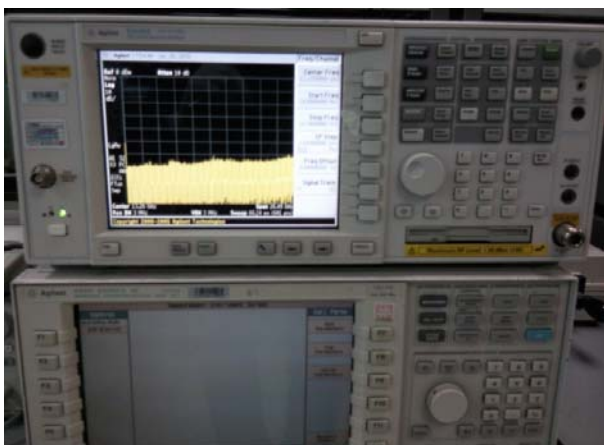
↑ Digital Multimeter



↑ Power Supply



↑ + driver, ESD Safe Tweezer

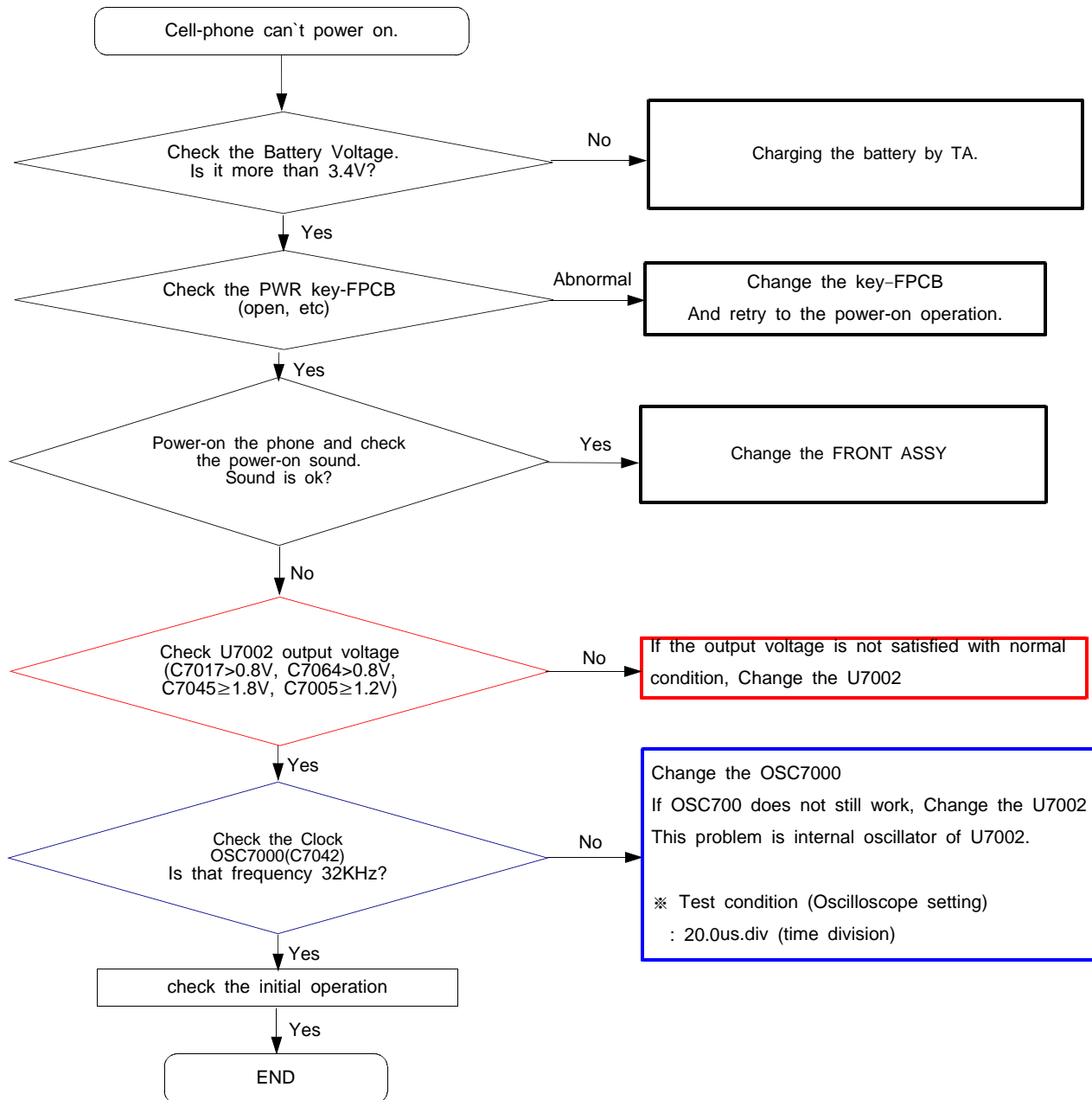


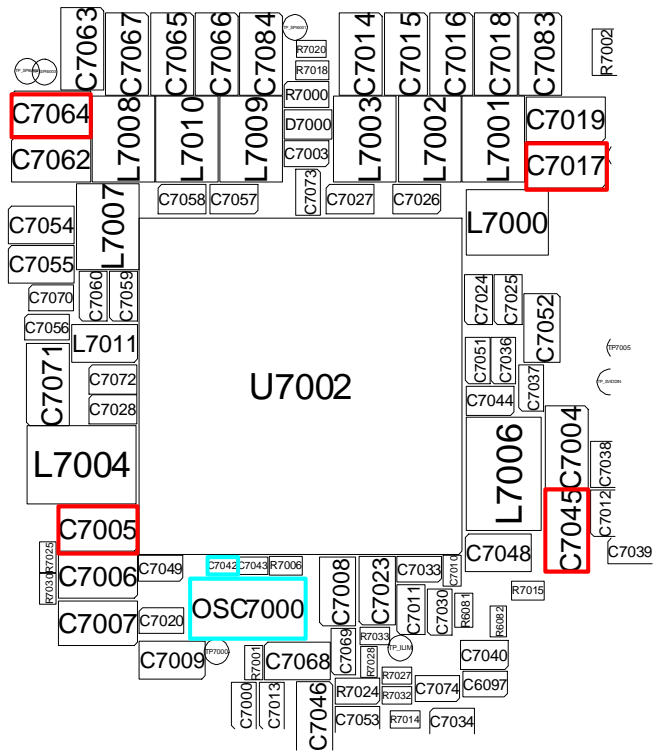
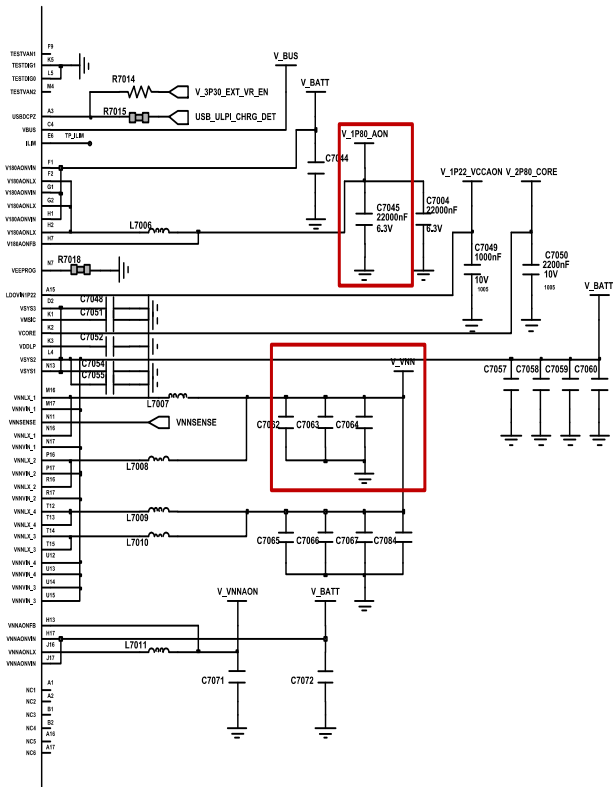
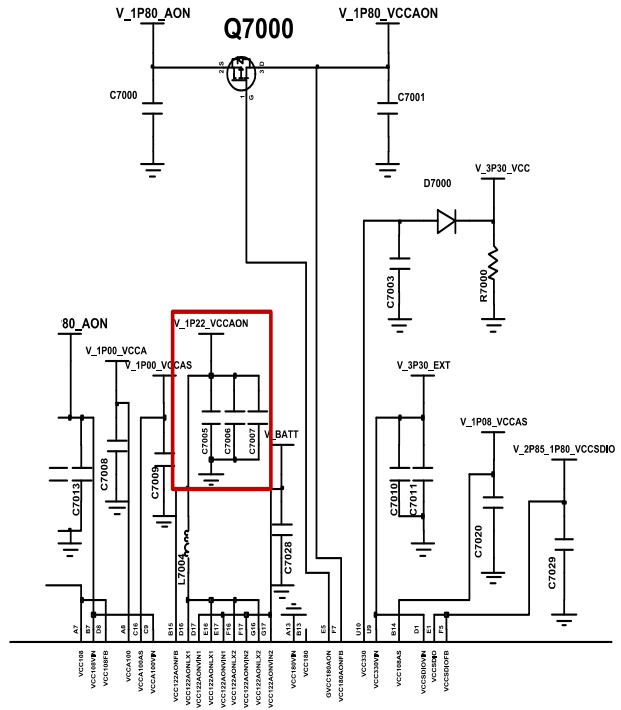
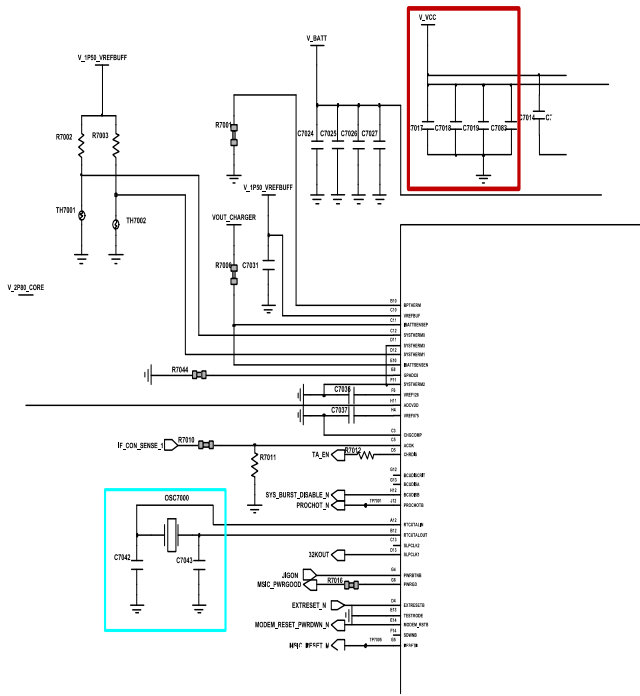
↑ 8960 & Spectrum Analyzer



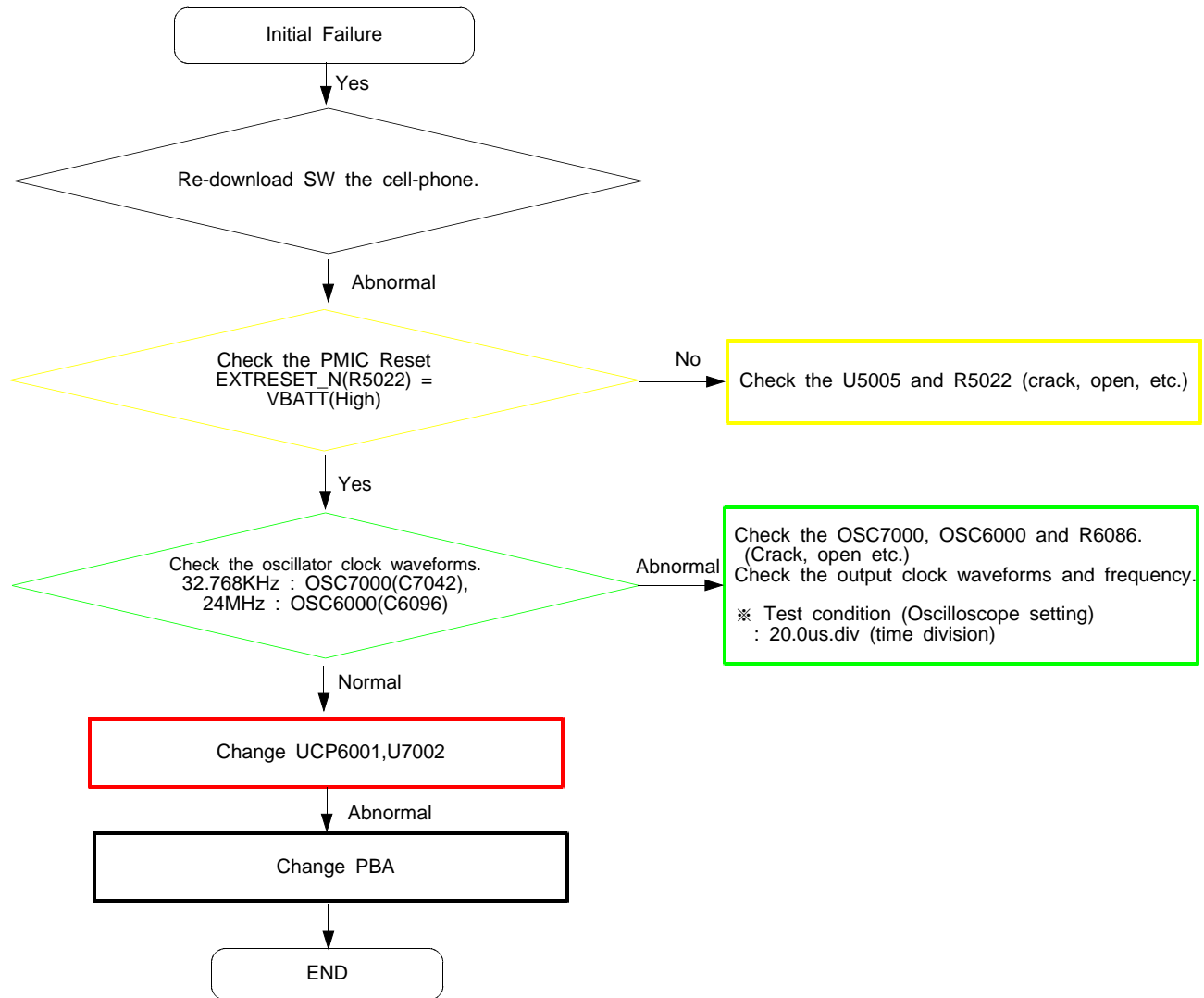
↑ Soldering iron

8-3-1. Power On





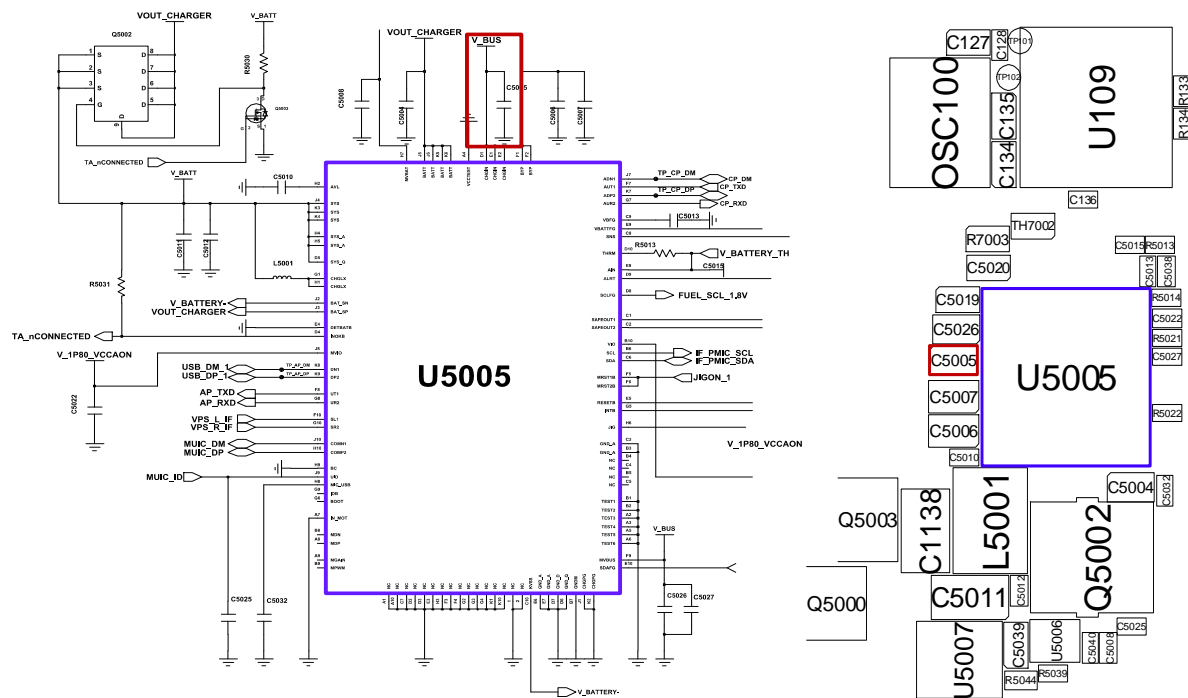
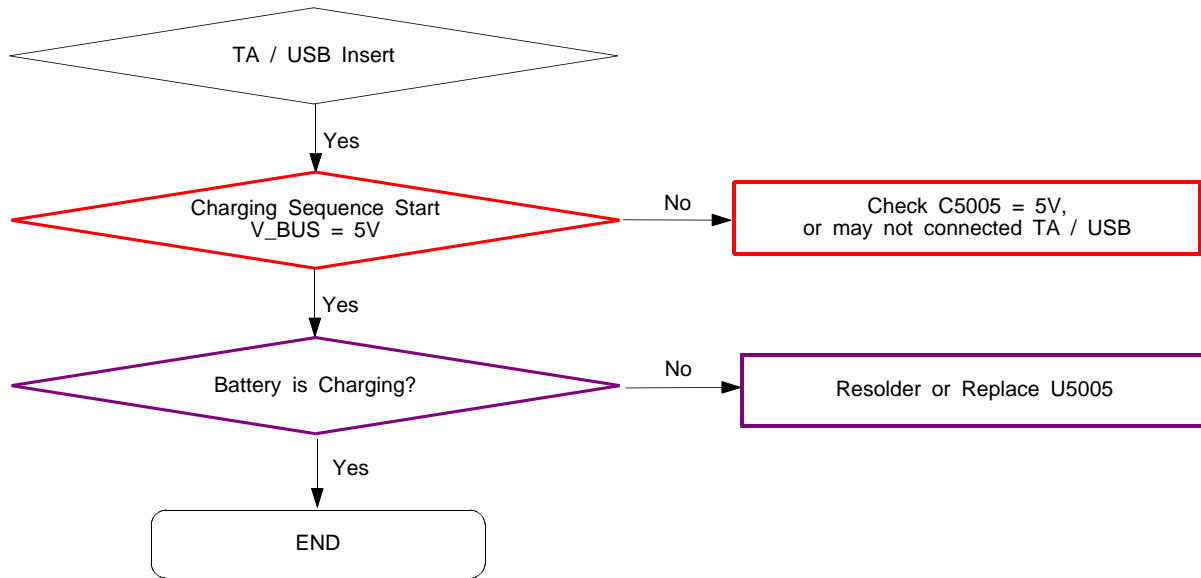
8-3-2. Initial



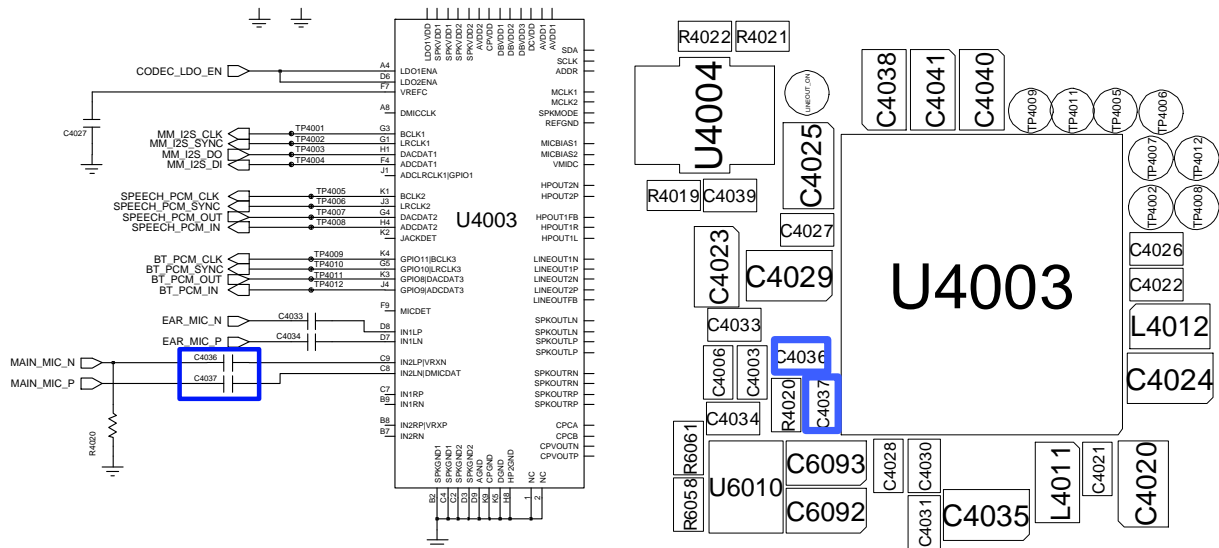
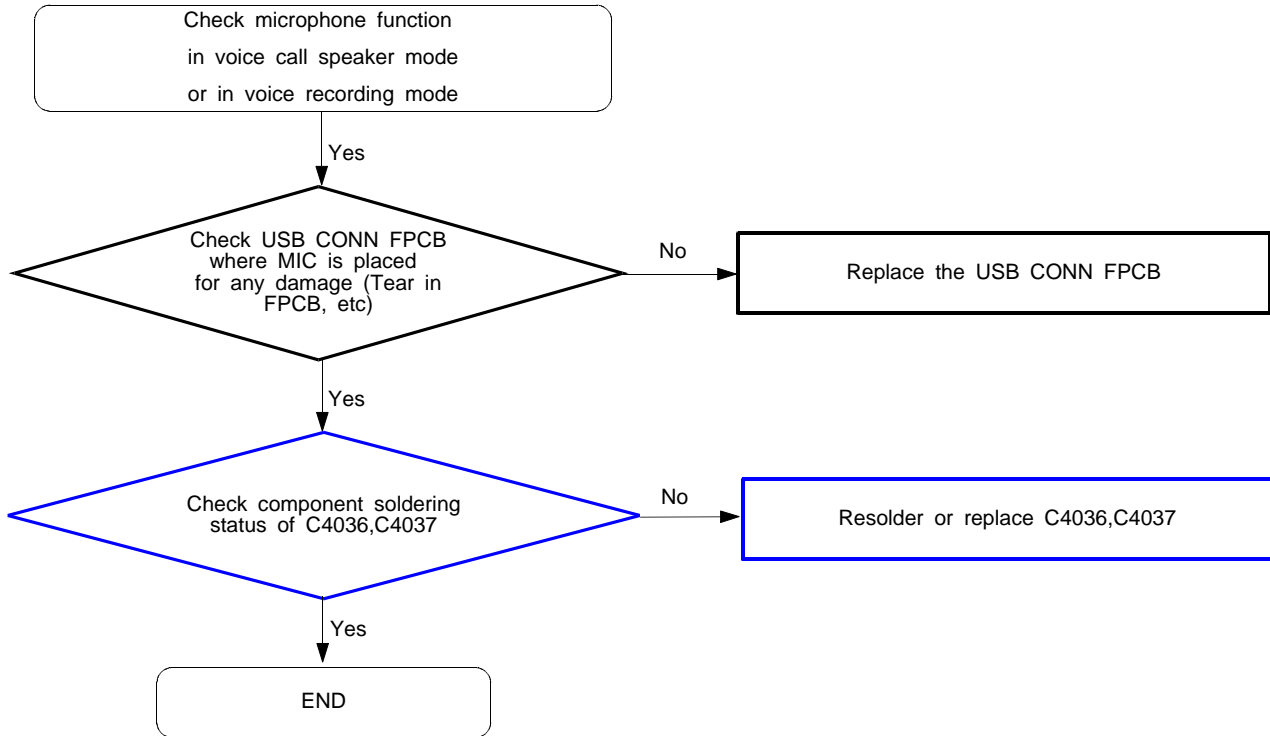




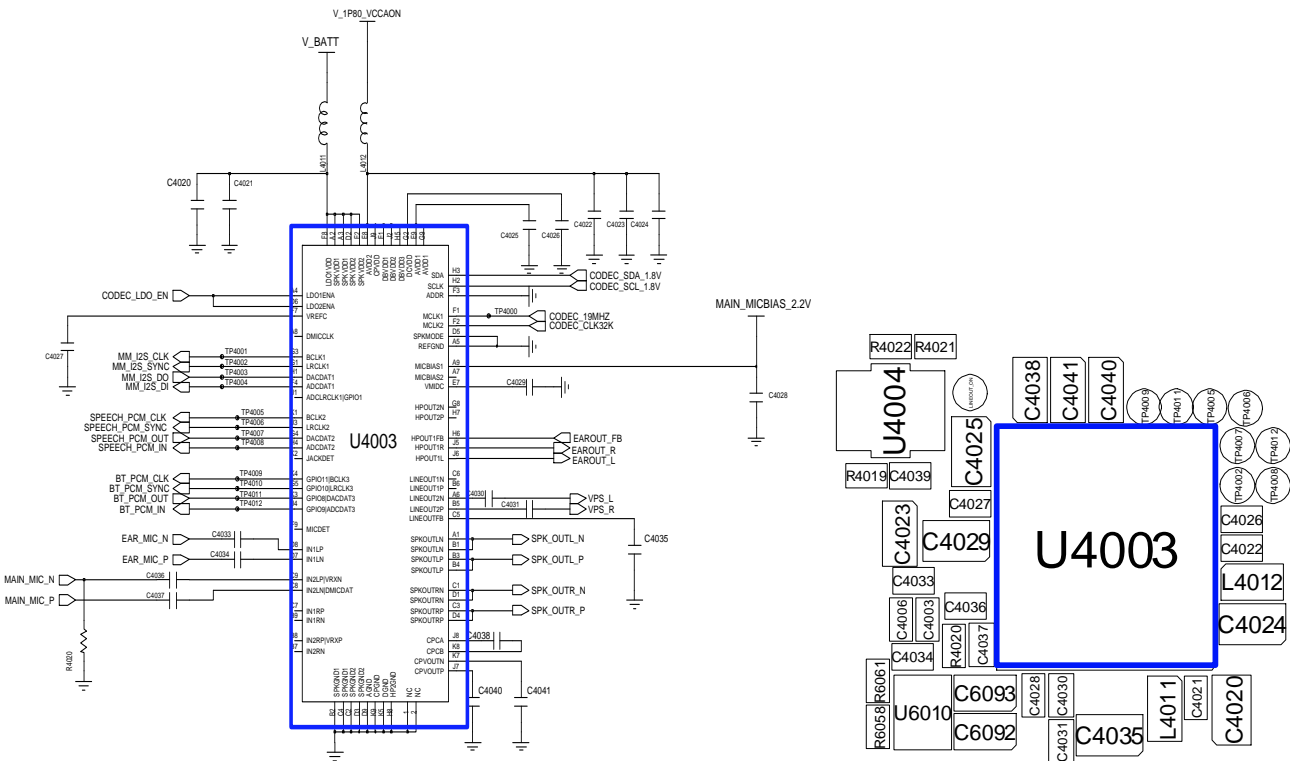
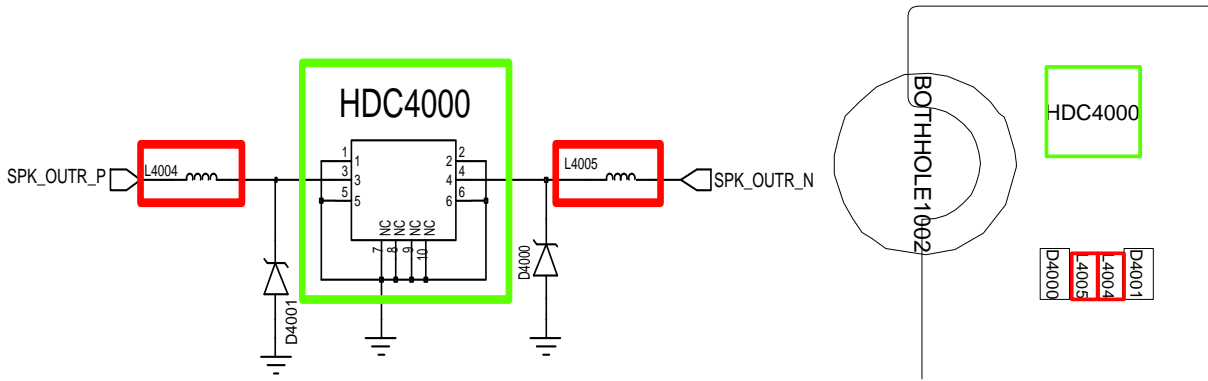
### 8-3-3. Charging Part



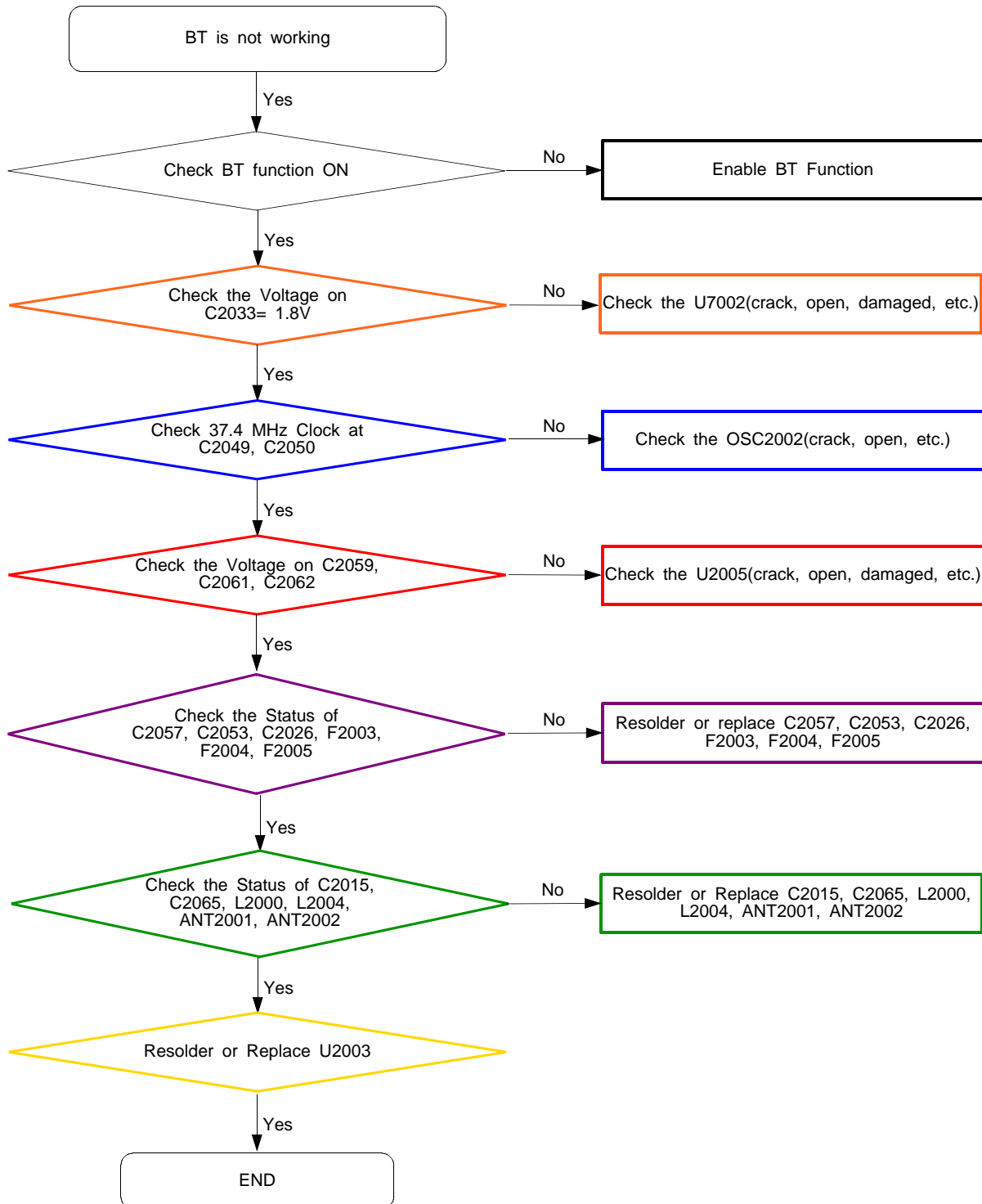
### 8-3-4. Microphone Part

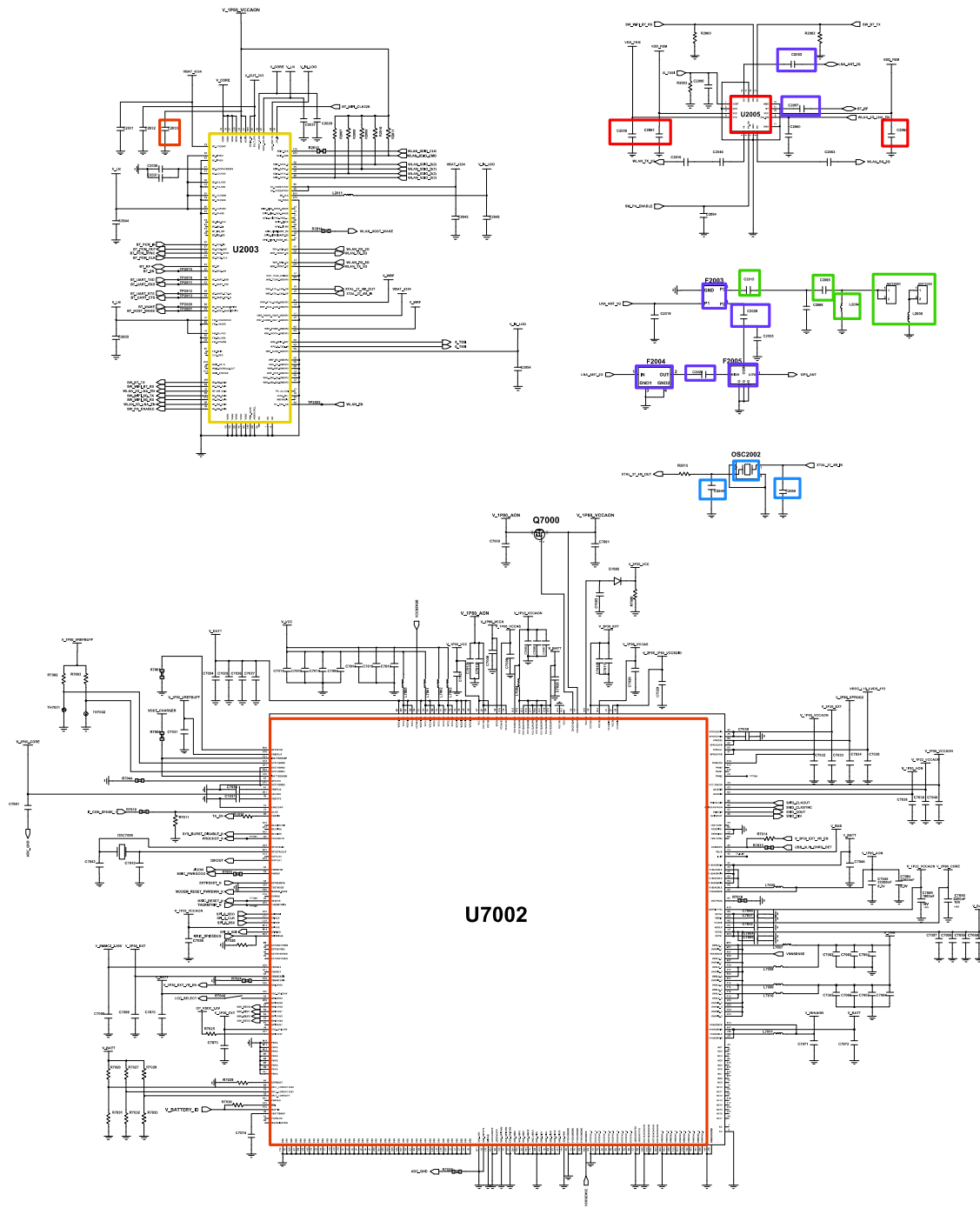


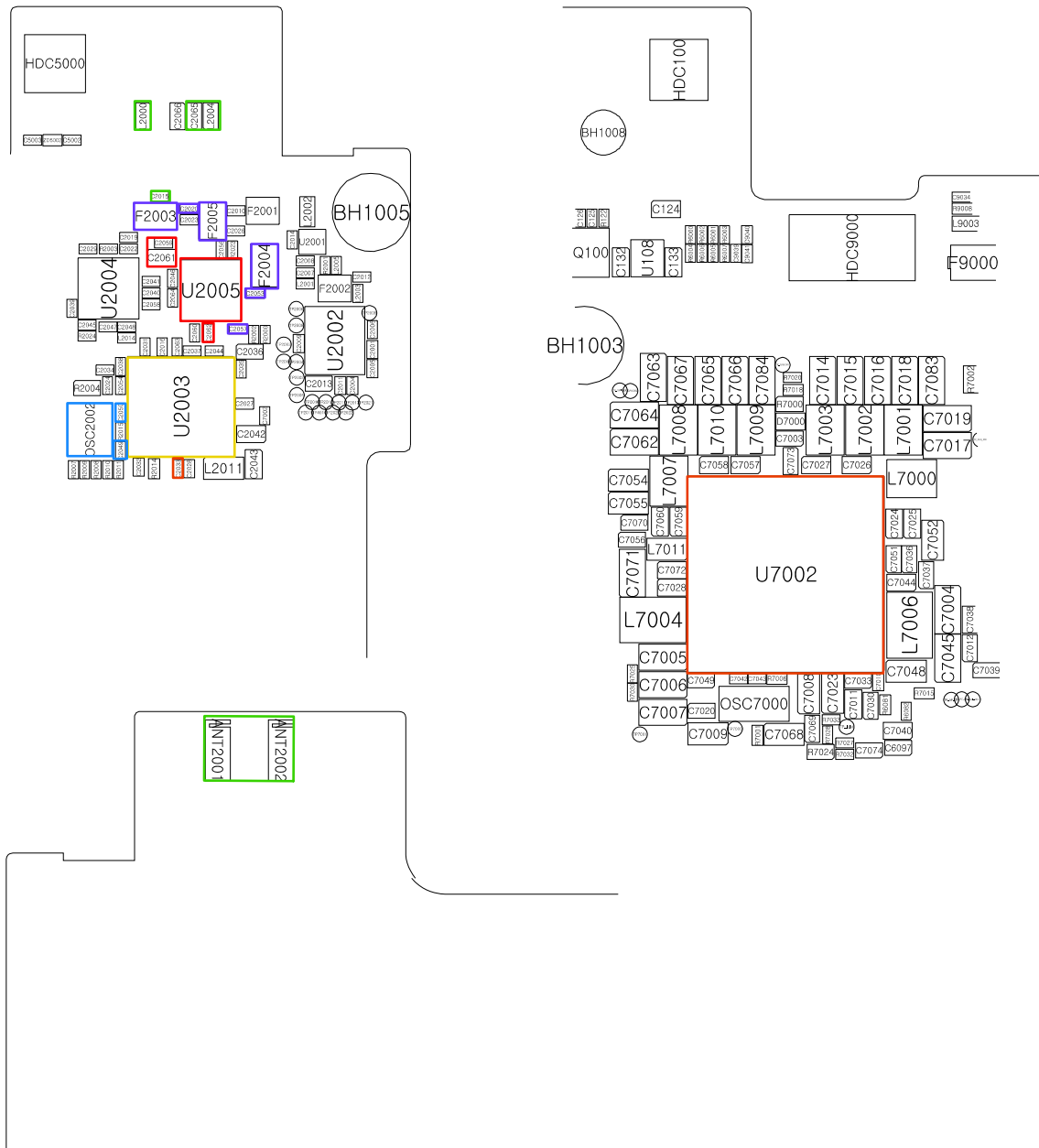




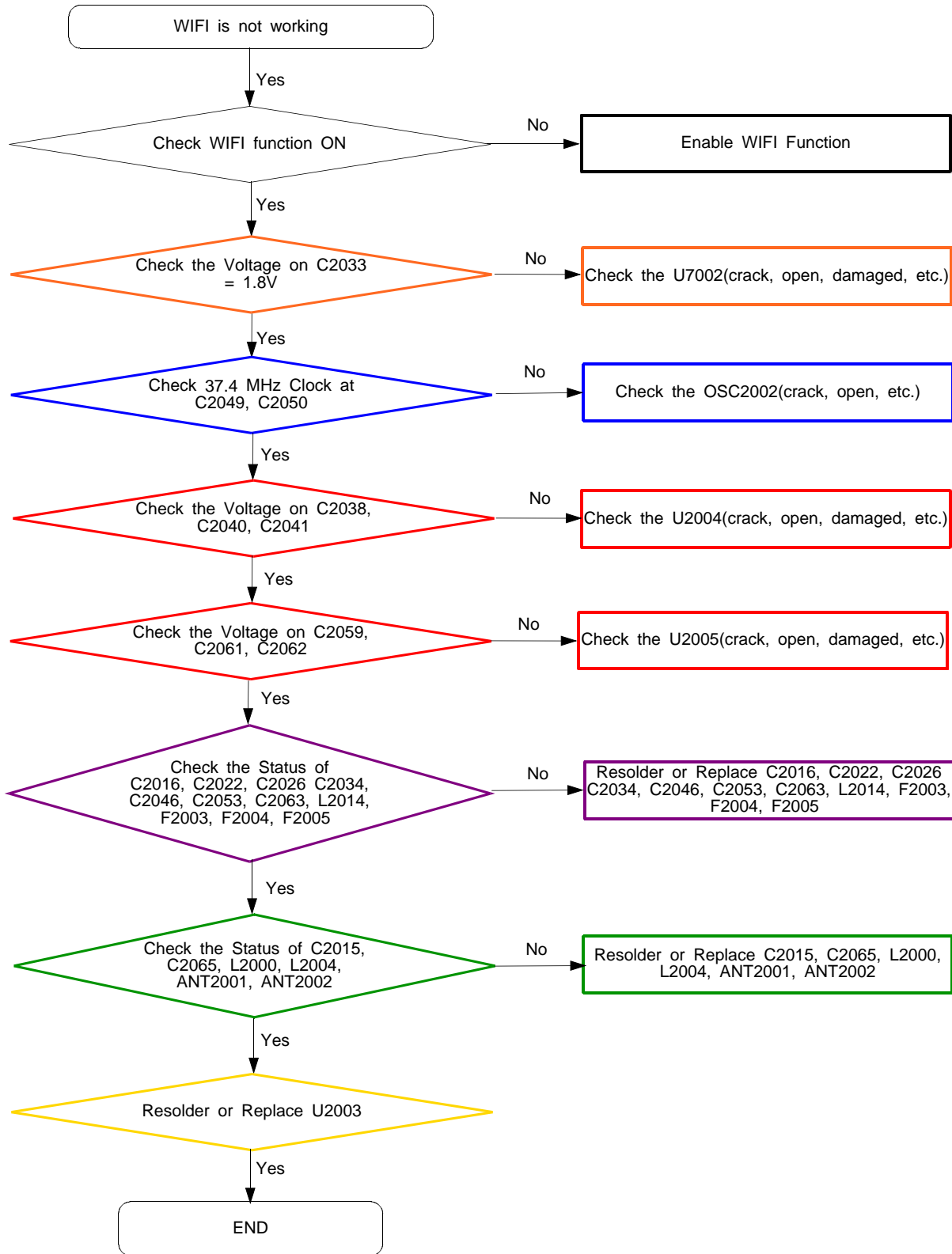
8-3-6. BT Part



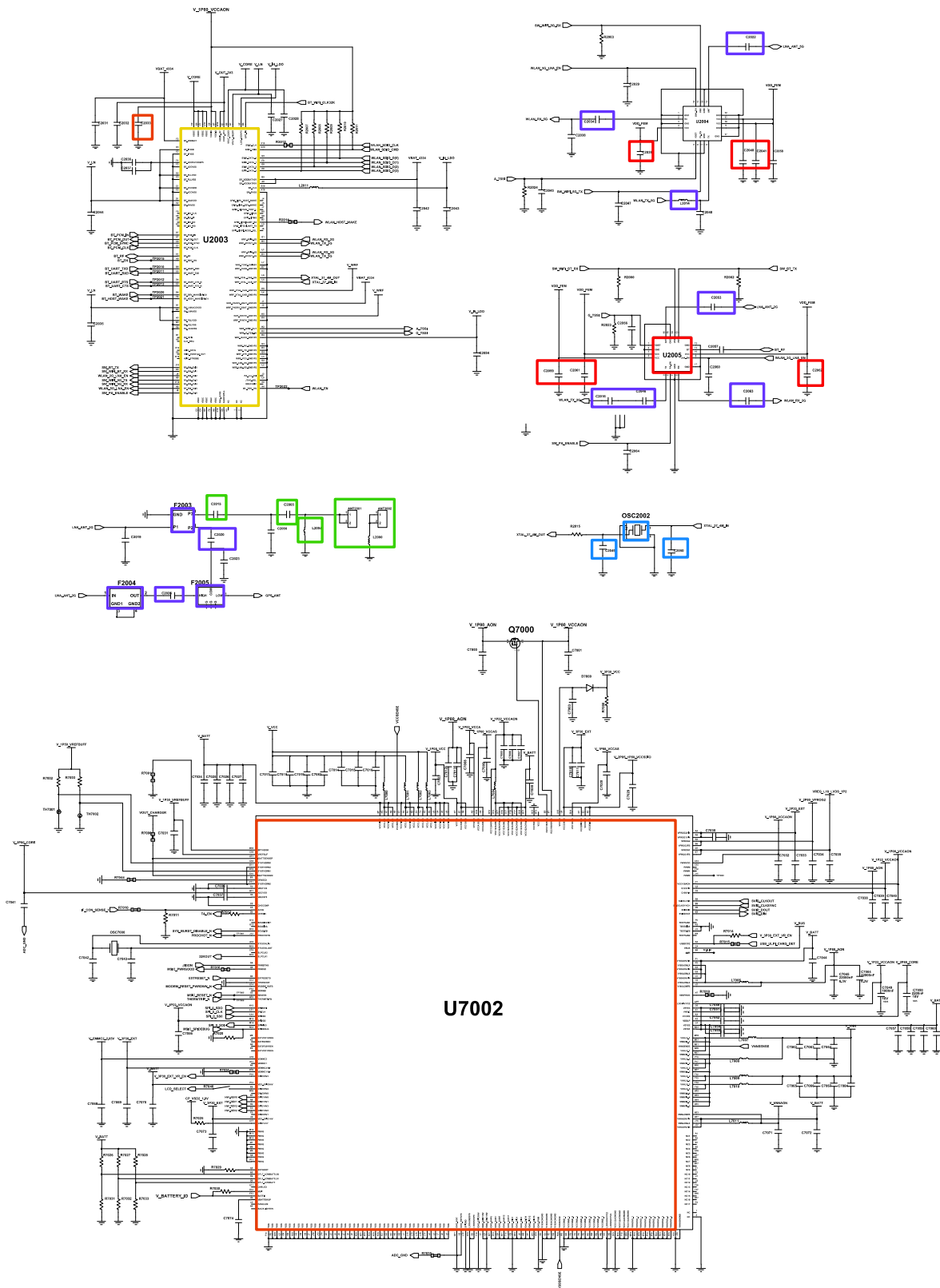


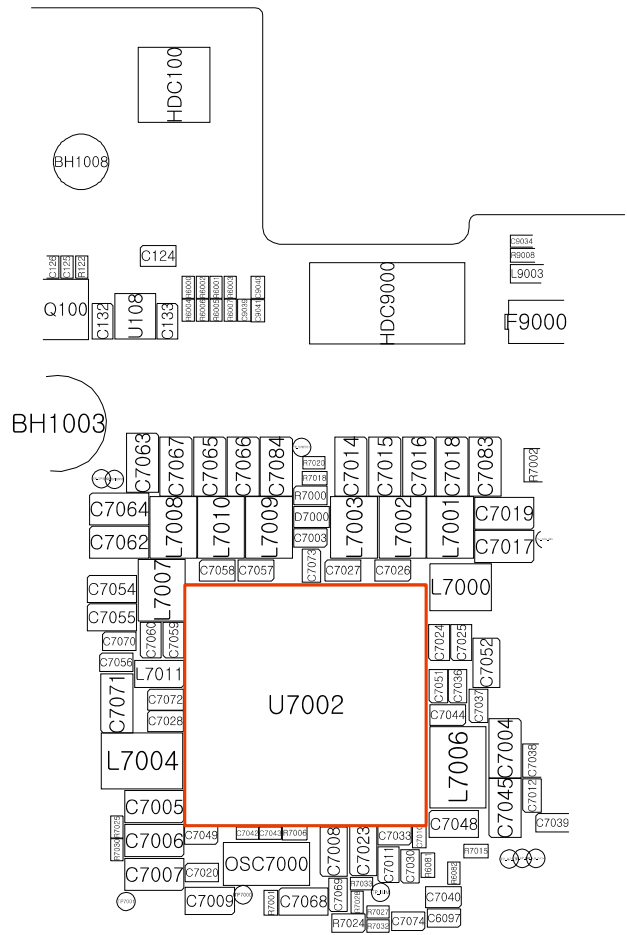
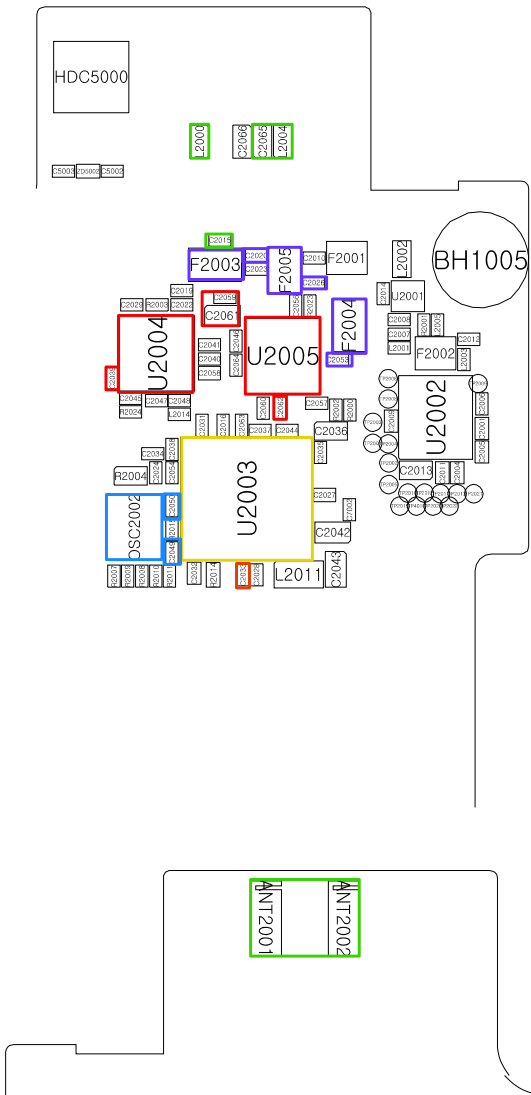


8-3-7. WIFI Part

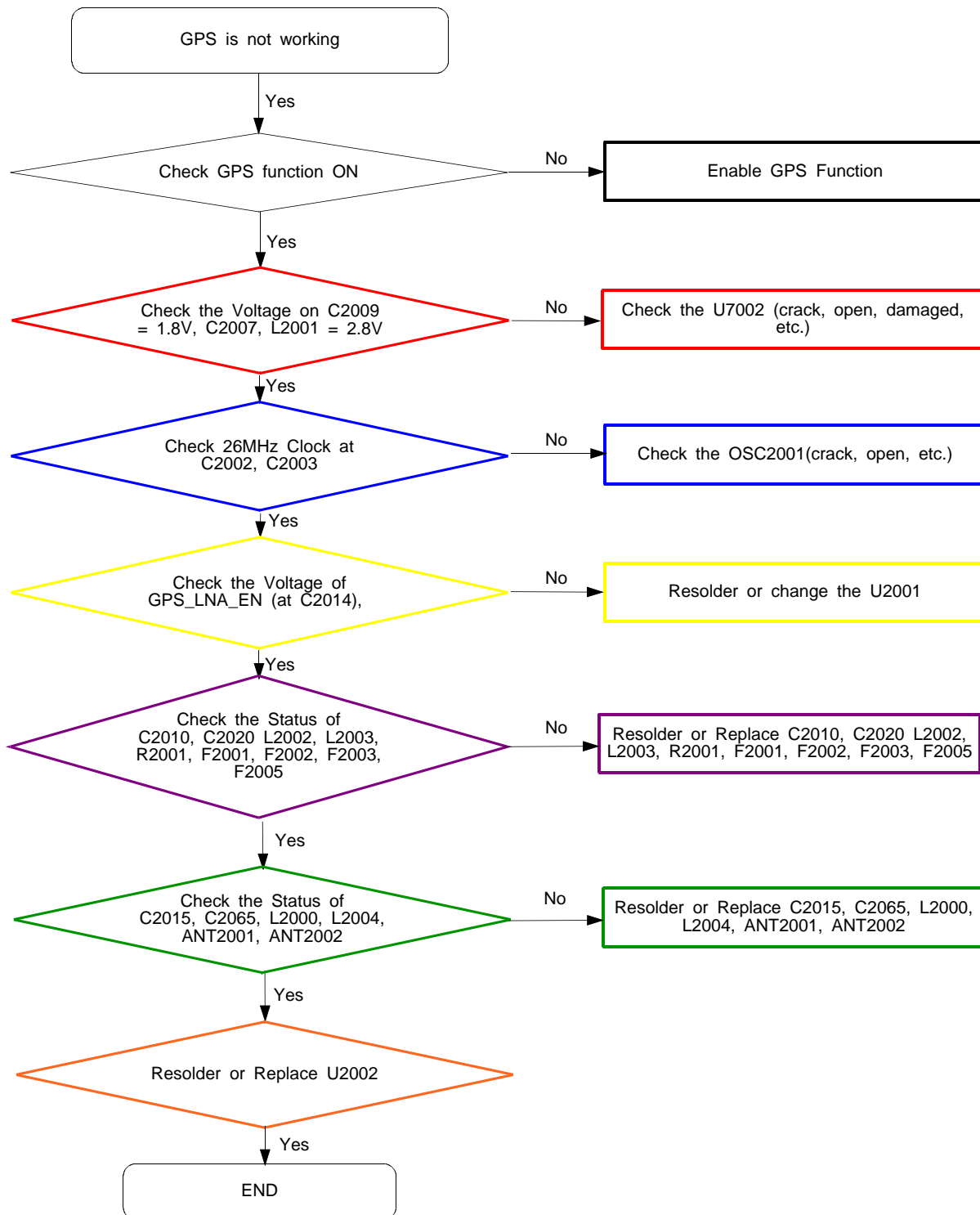




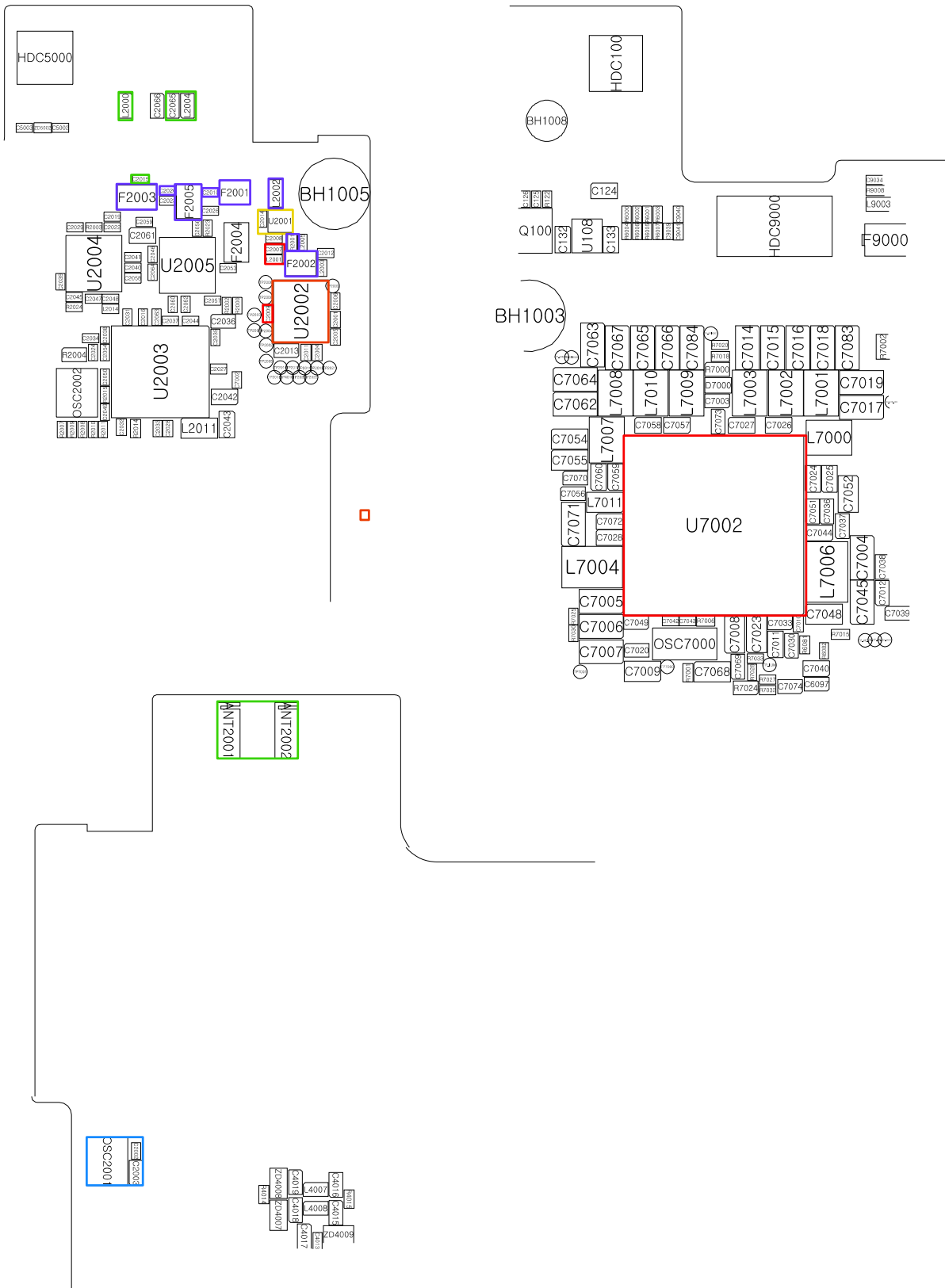




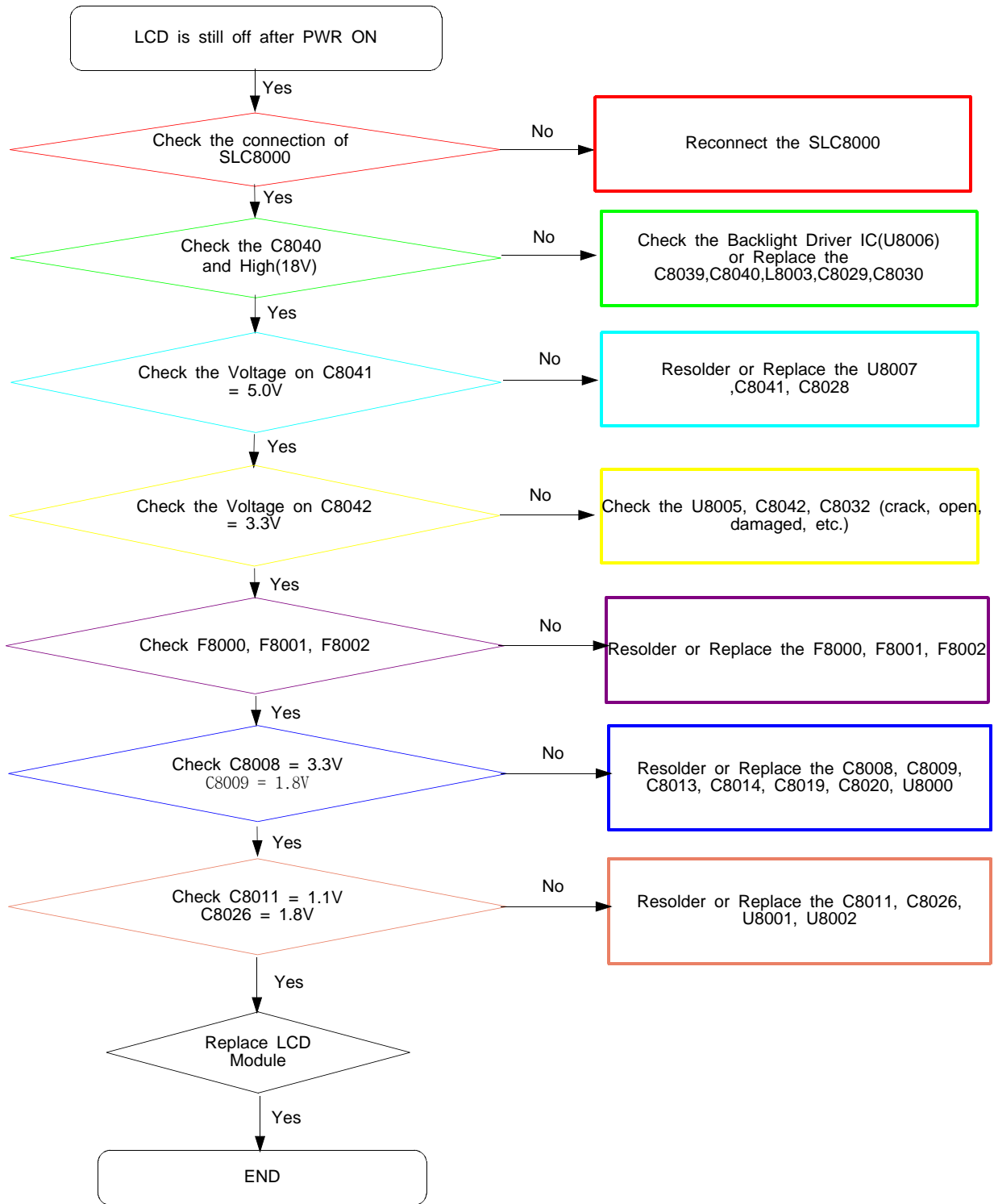
8-3-8. GPS Part

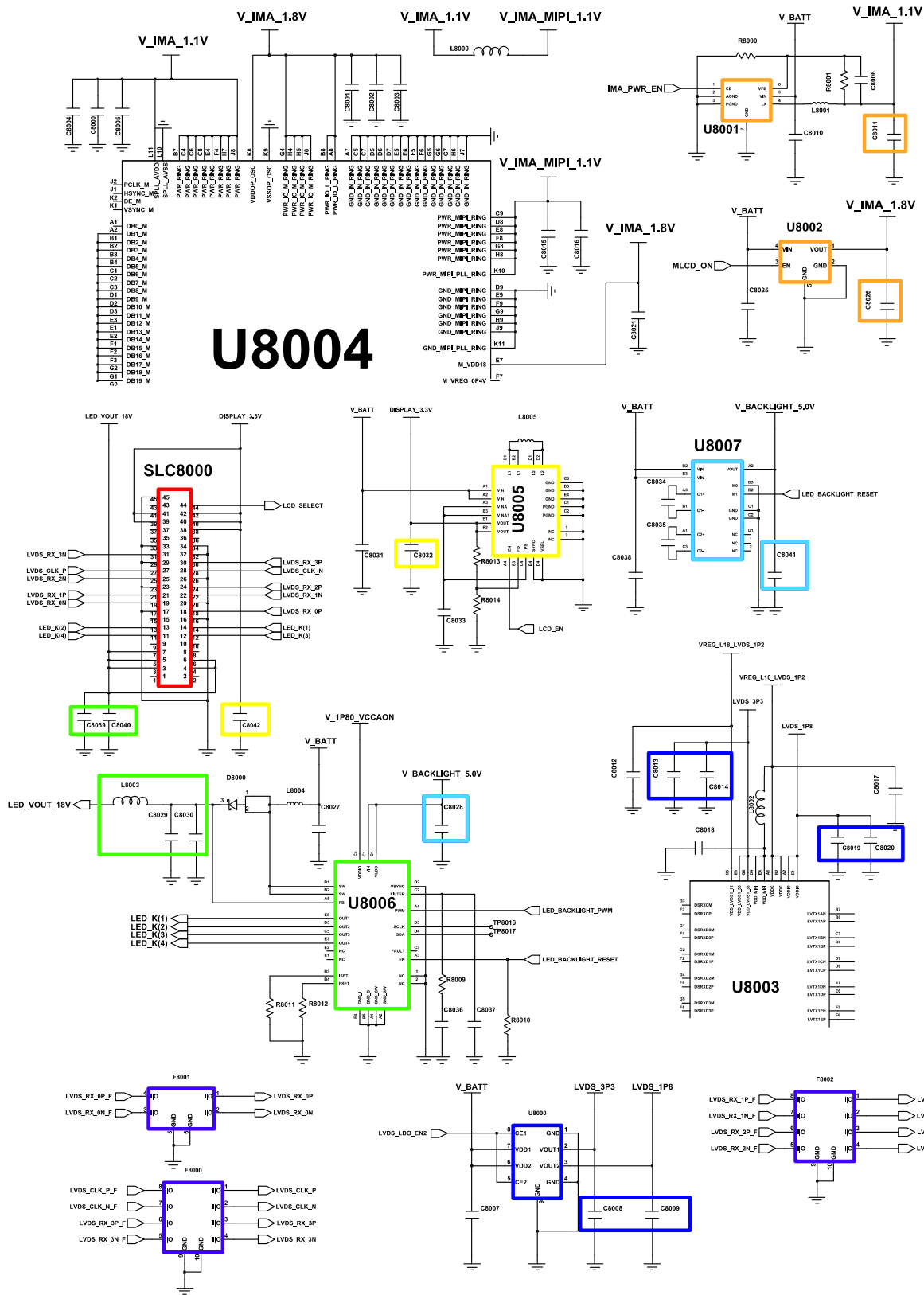






8-3-9. LCD

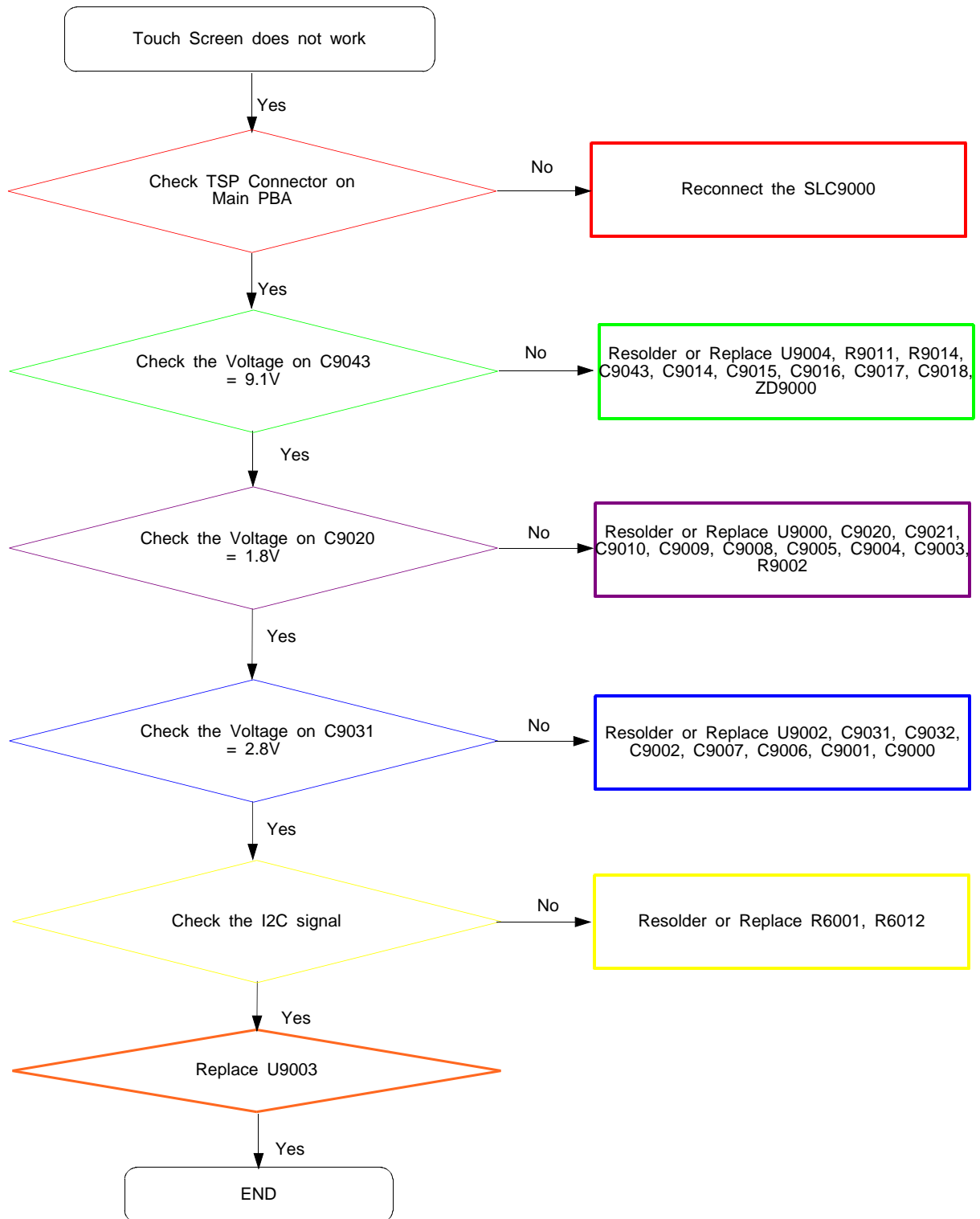


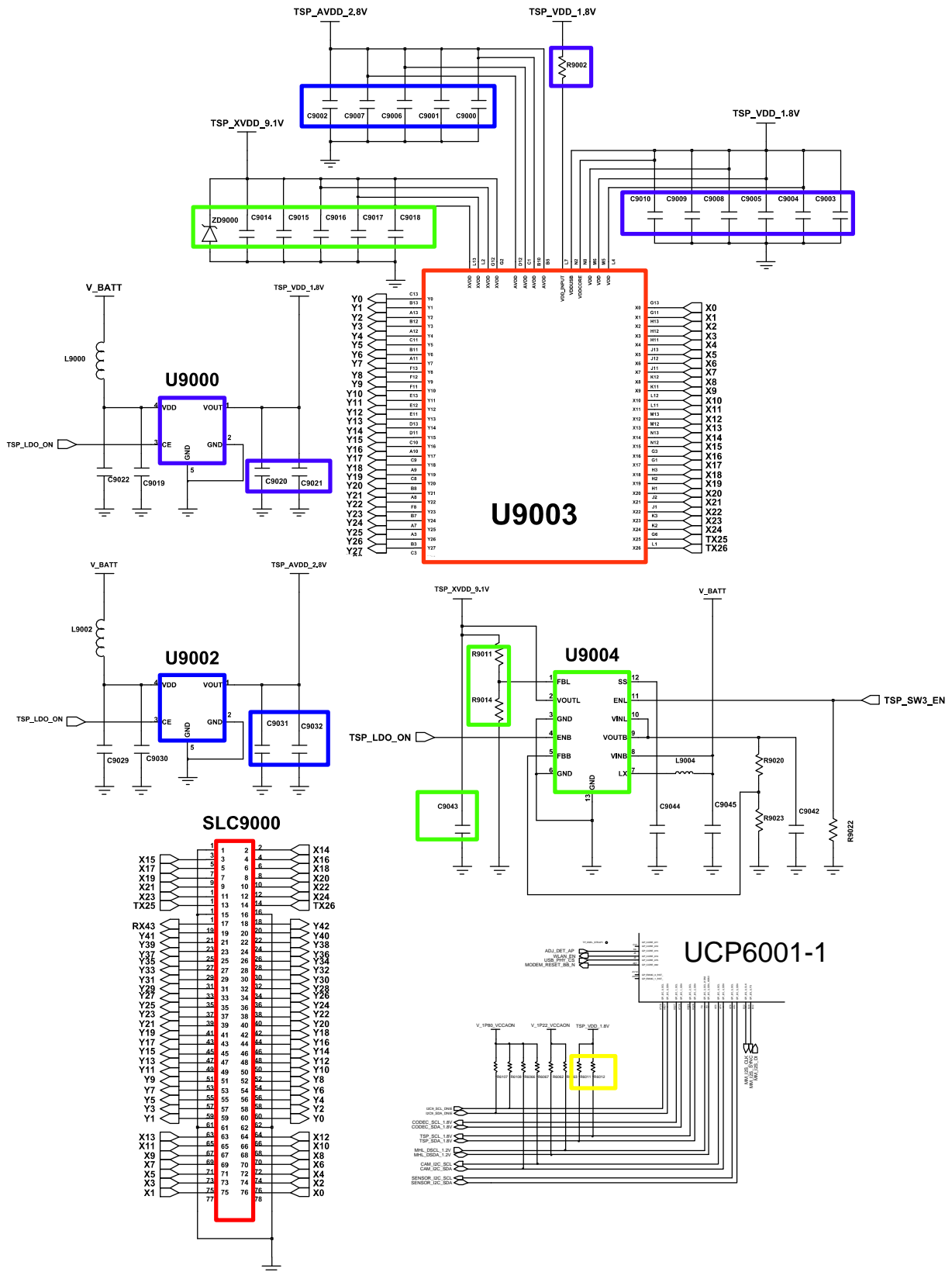


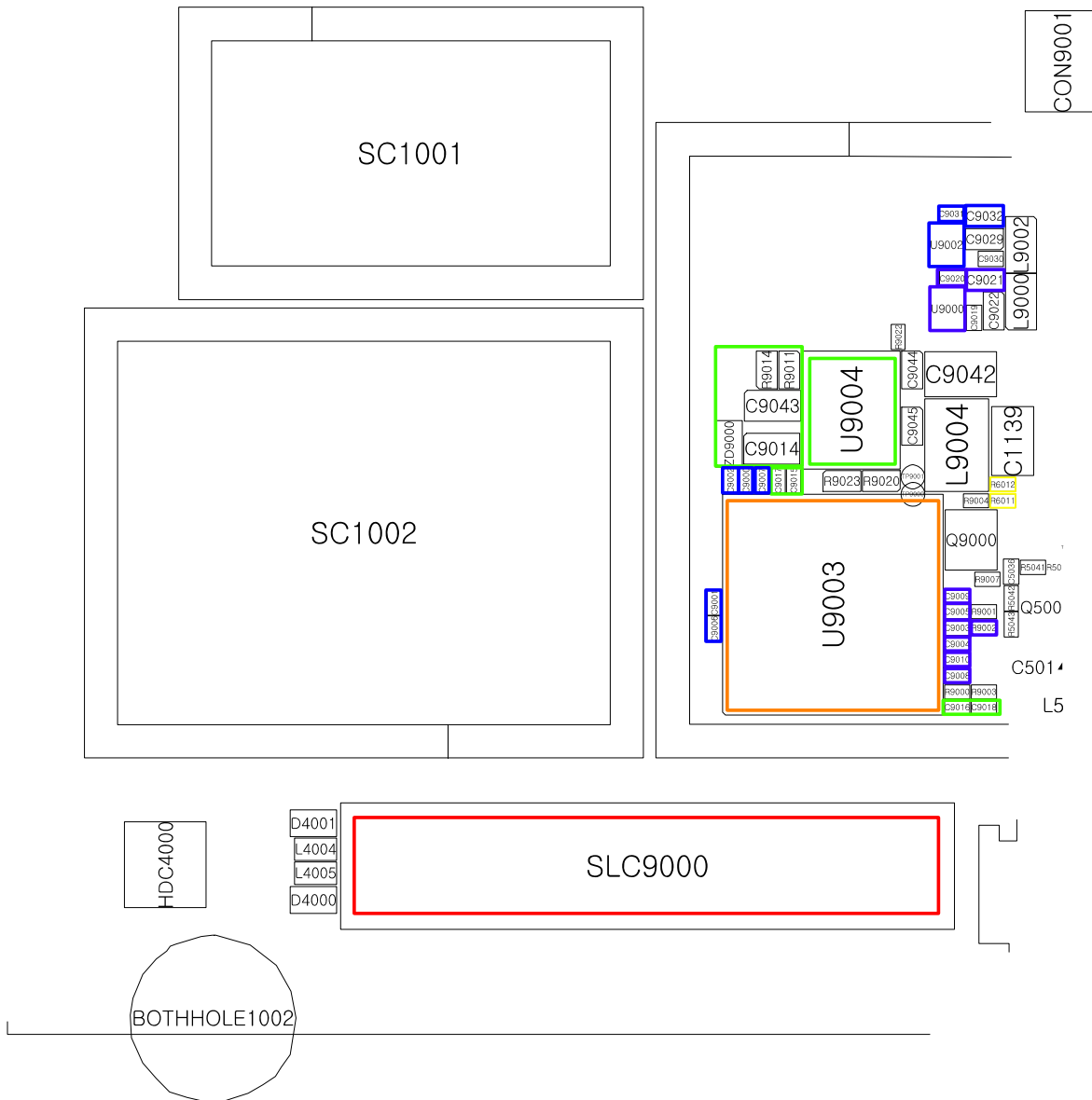




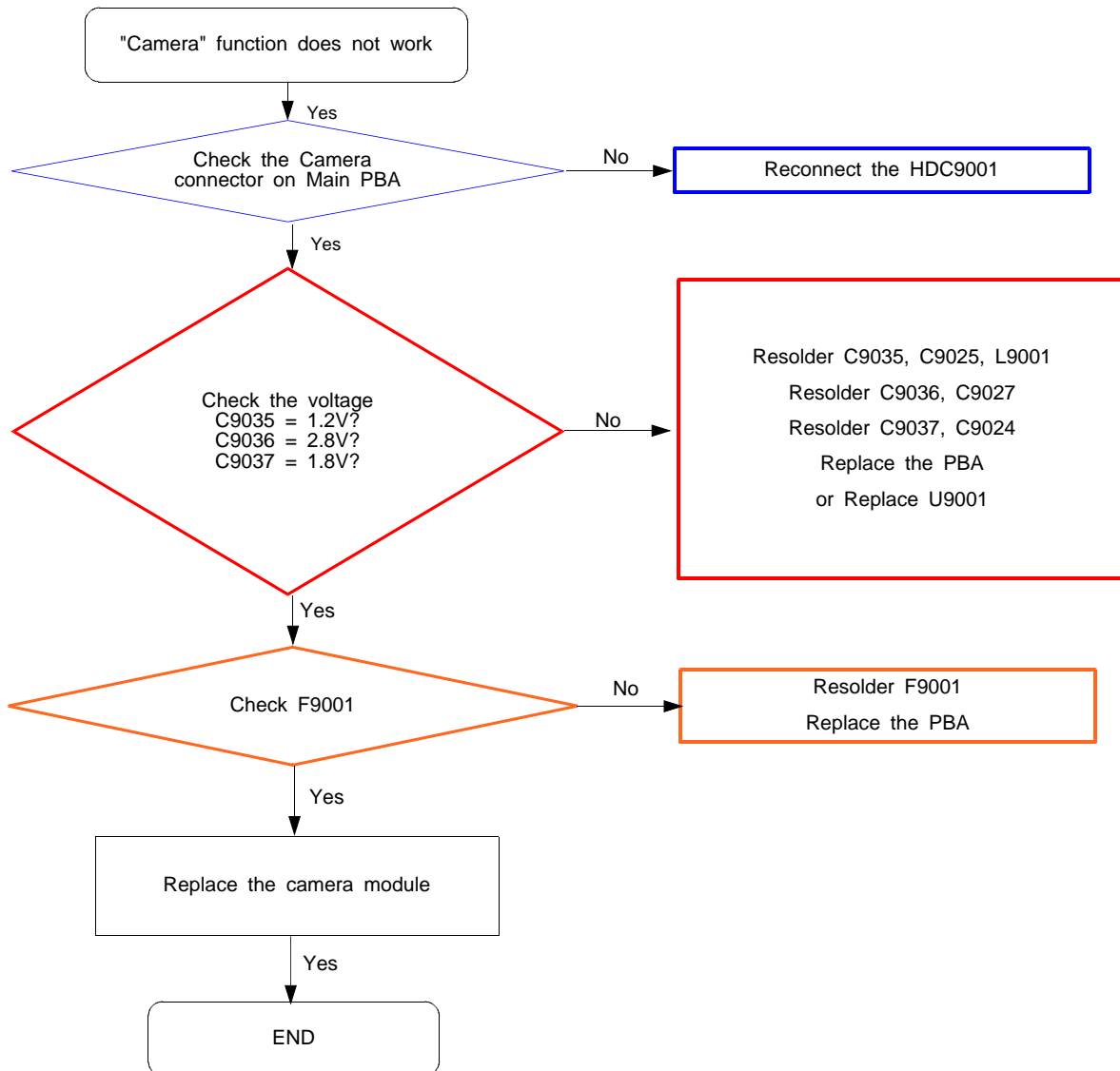
8-3-10. TSP

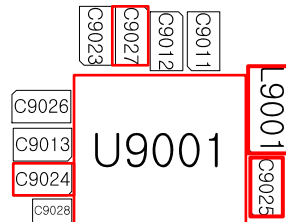
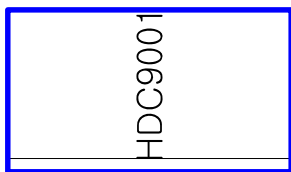
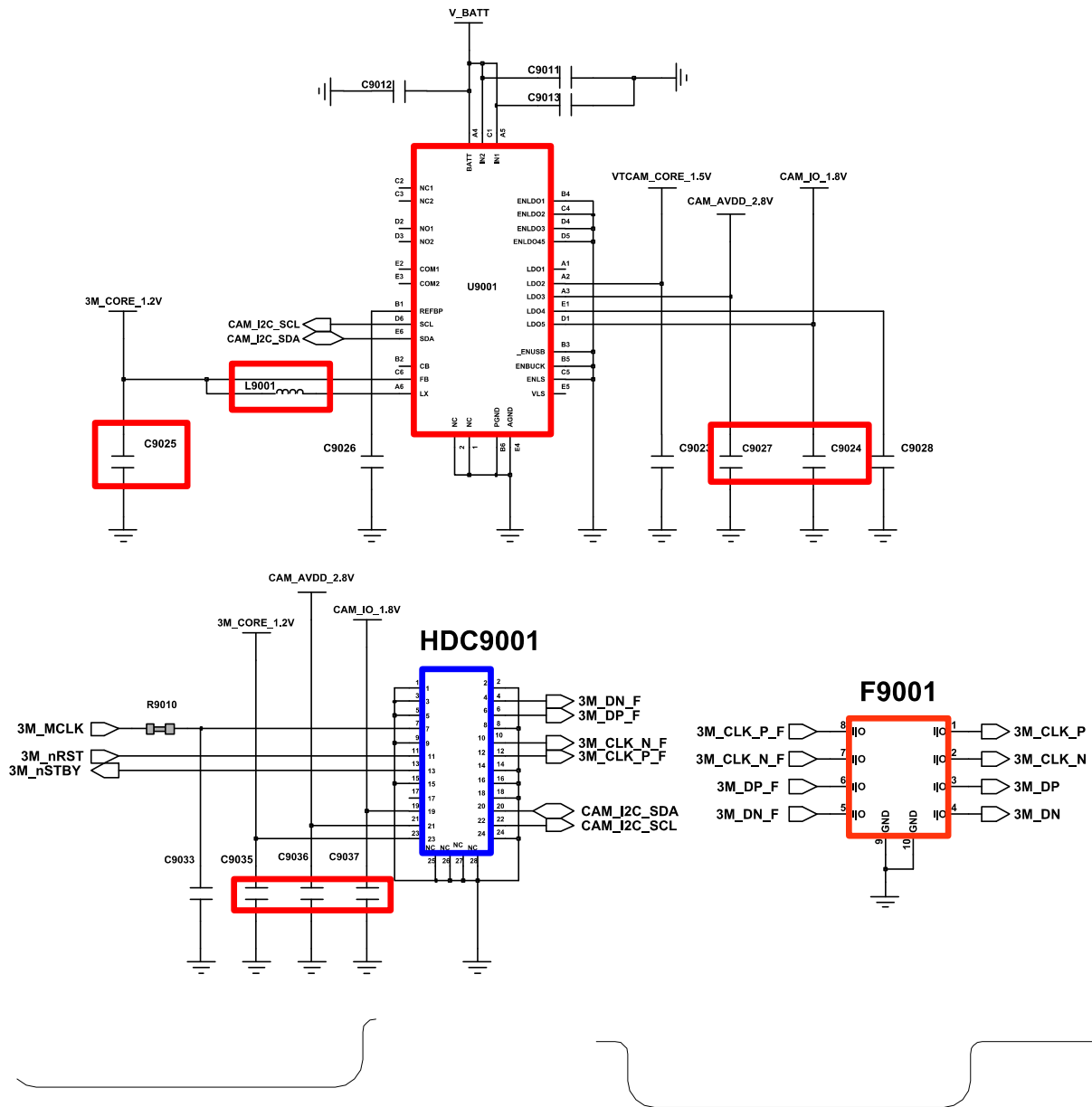




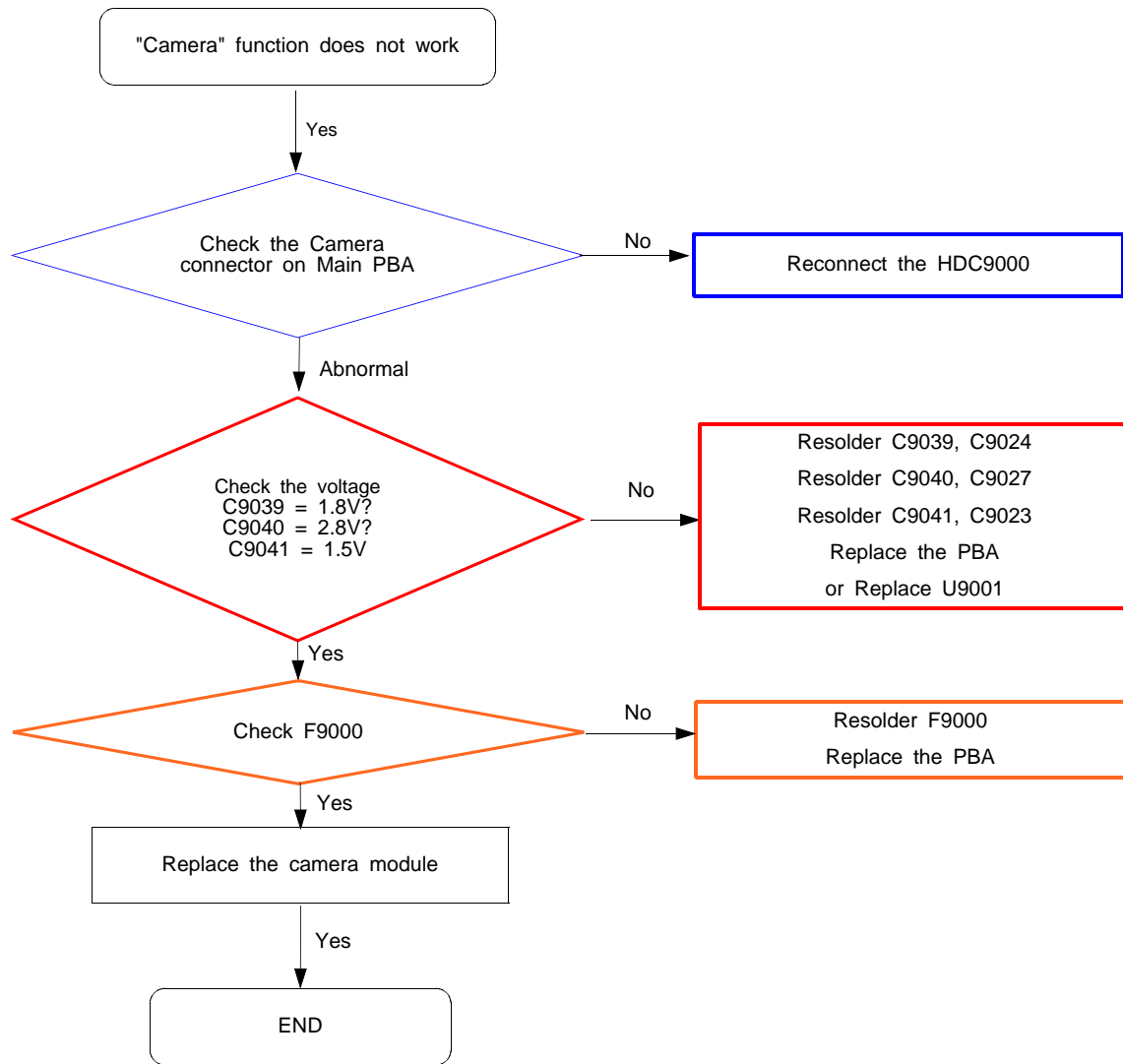


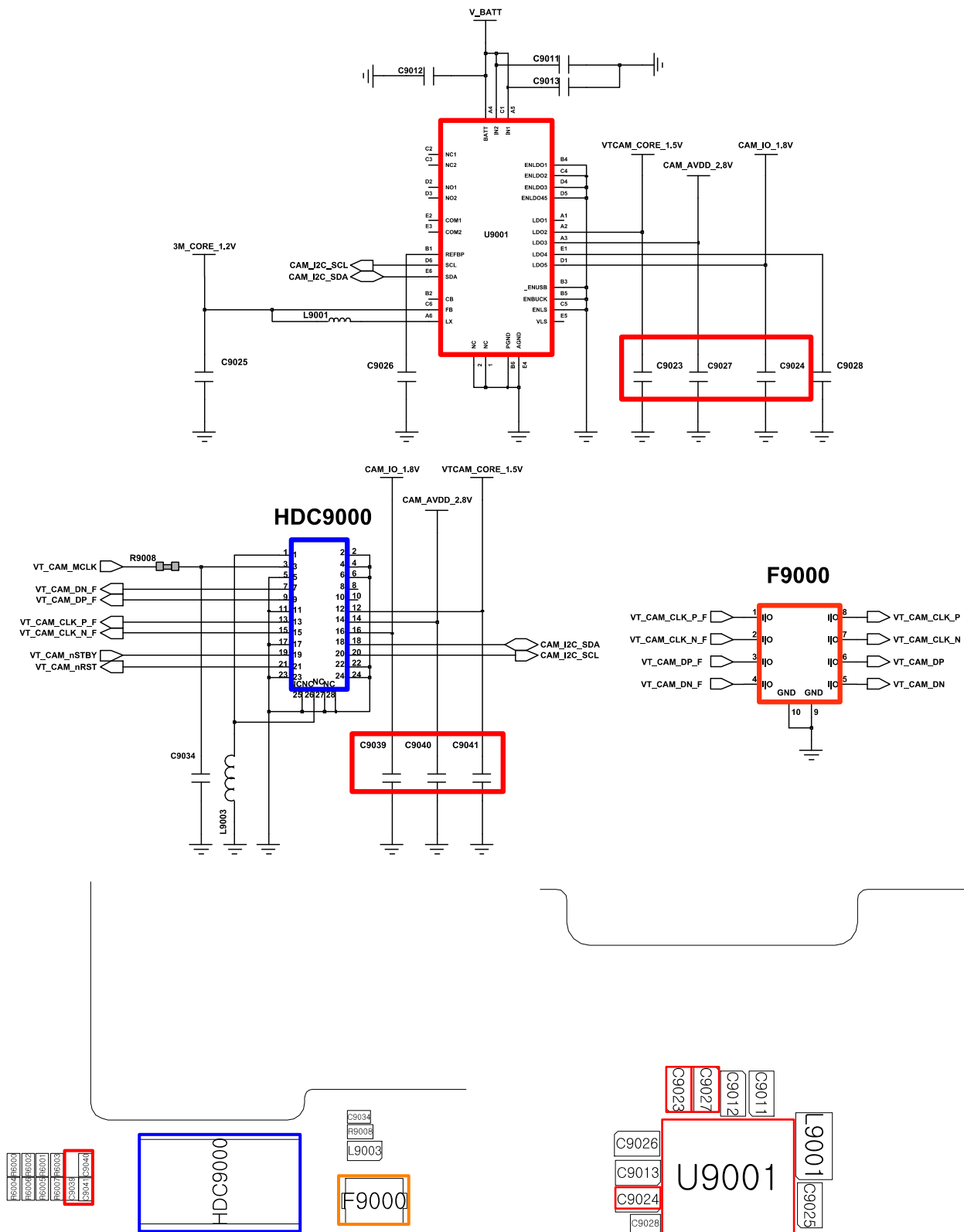
### 8-3-11. 3M CAM



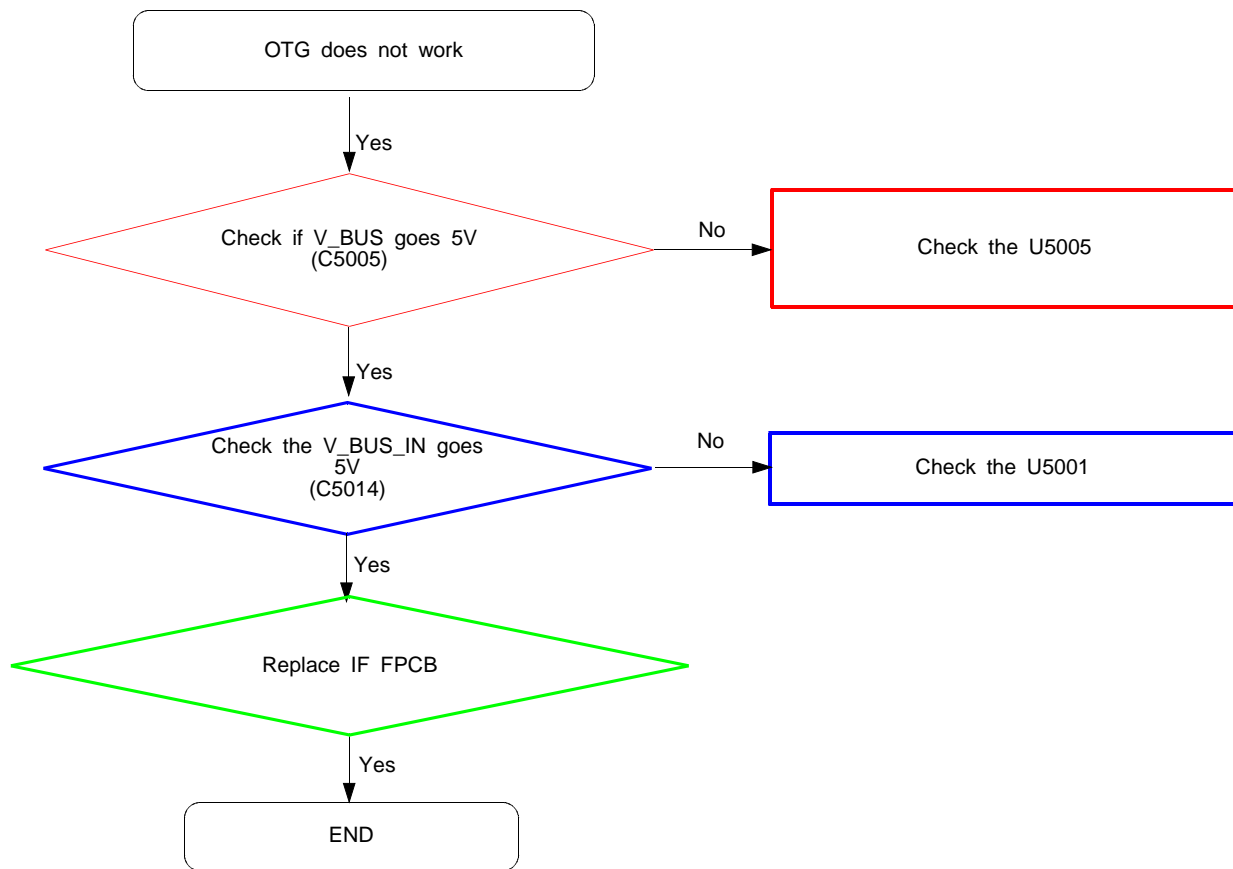


8-3-12. 1.3M CAM





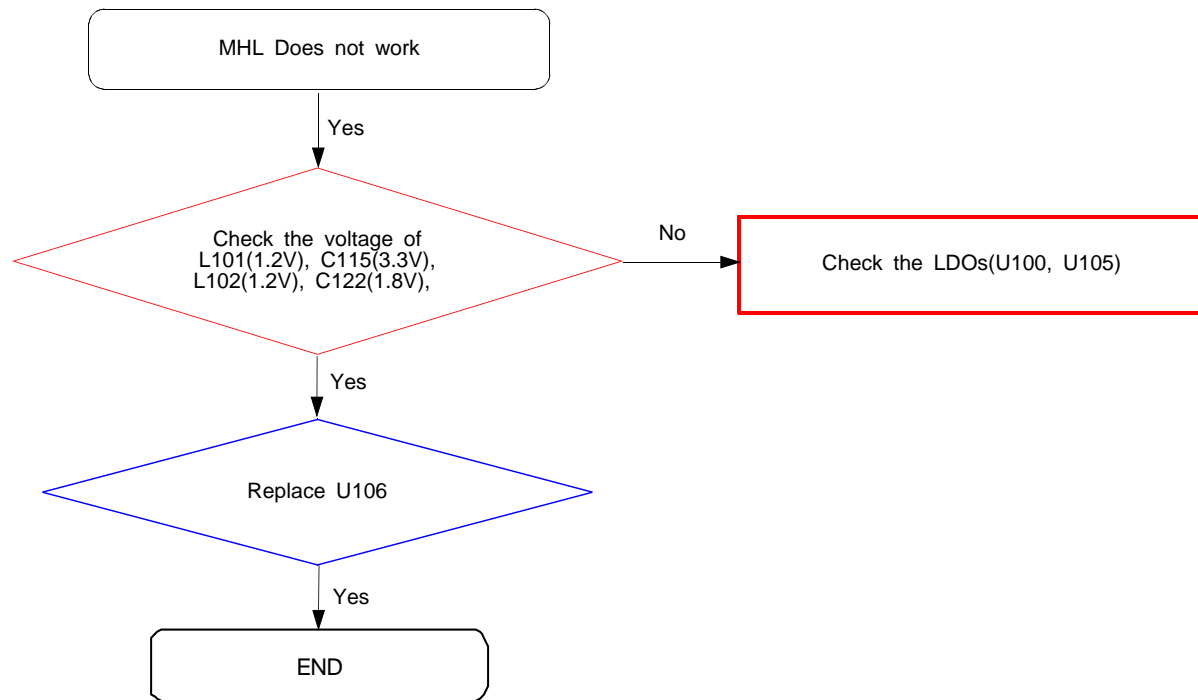
### 8-3-13. OTG

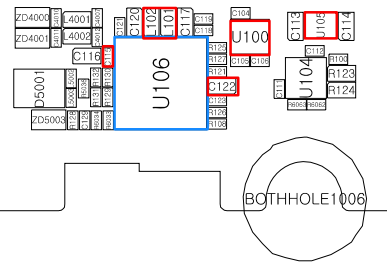
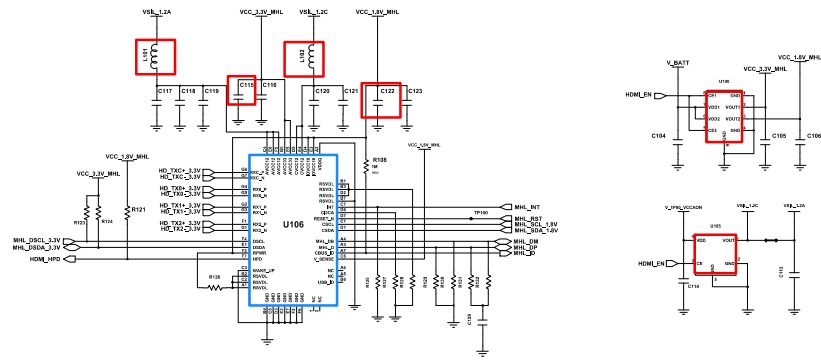






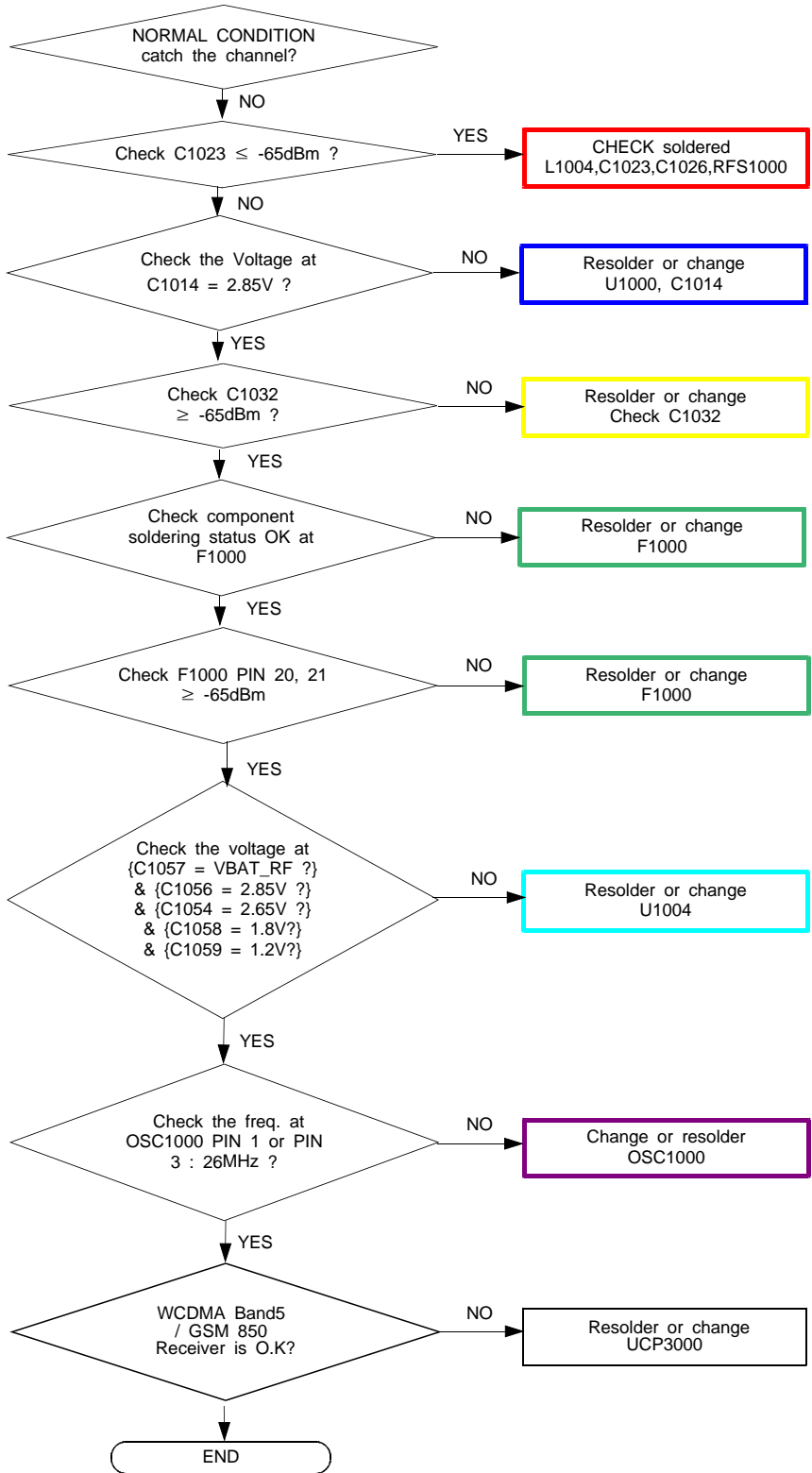
### 8-3-14. MHL

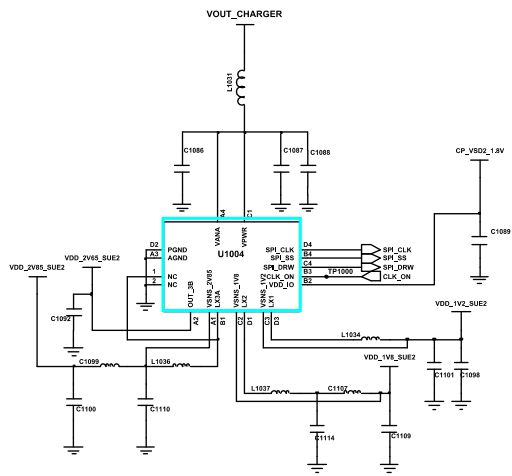
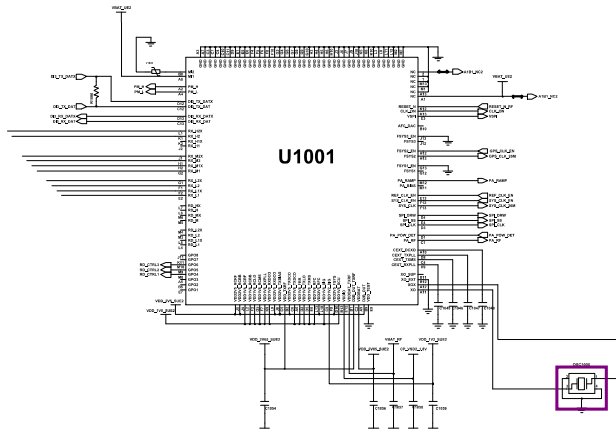
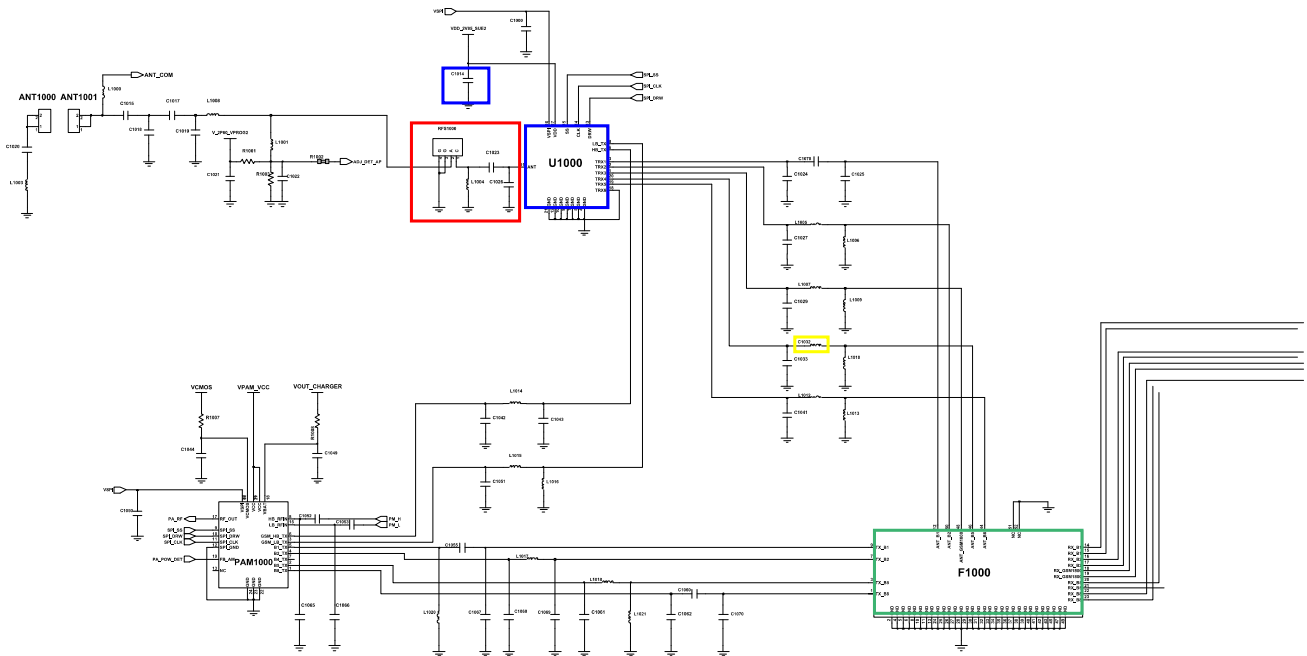


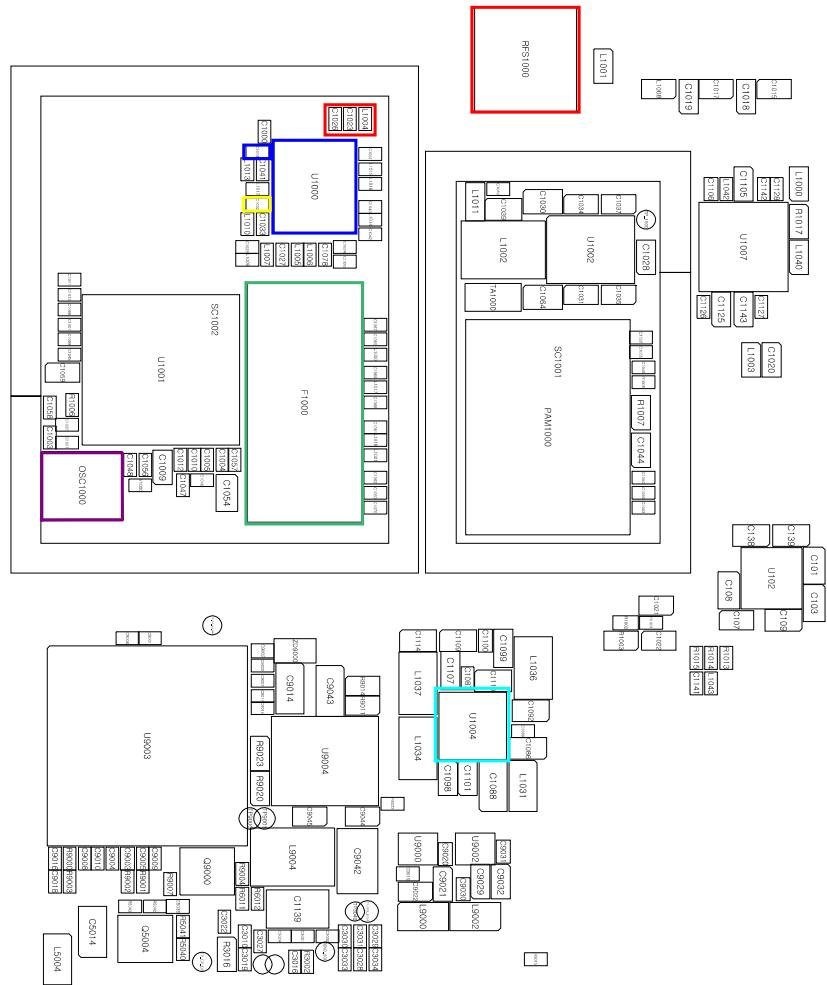


8-3-16. GSM850/ WCDMA Band5 RX

CONTINUO  
 US RX ON  
 RF INPUT : 4408CH  
 AMP : -50dBm

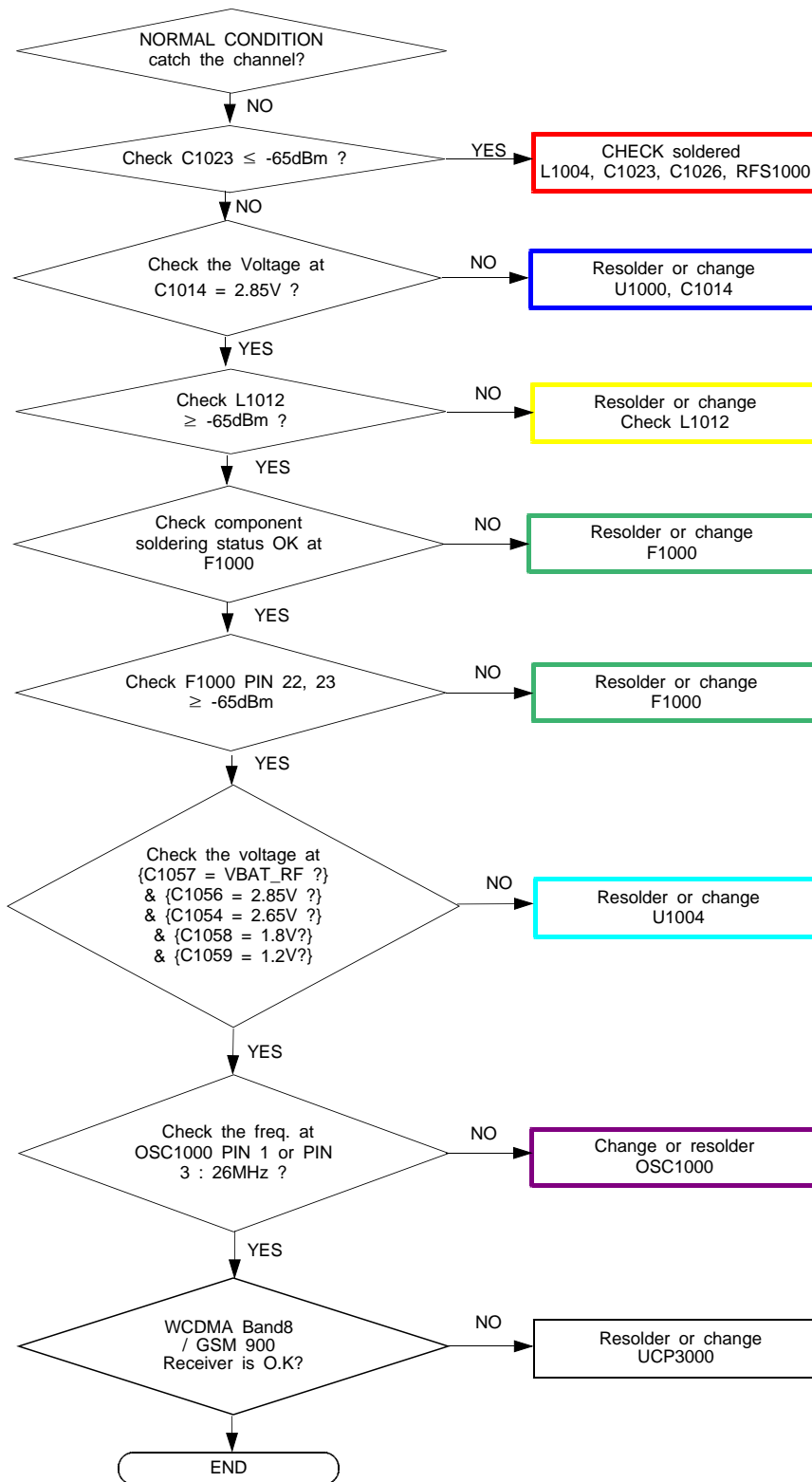


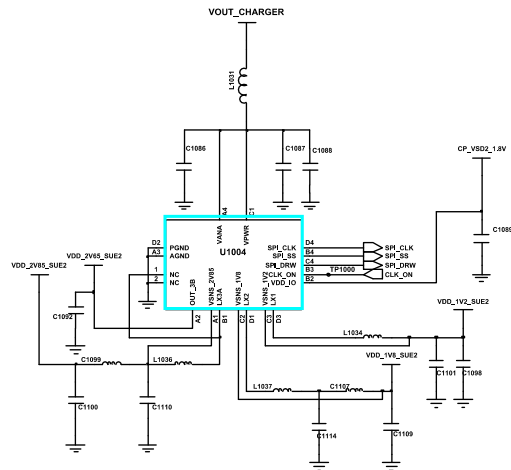
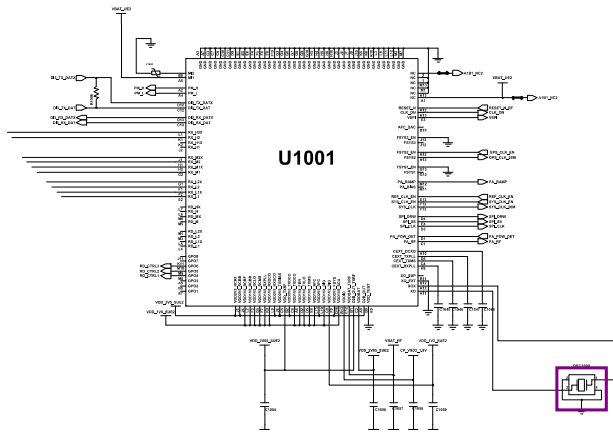
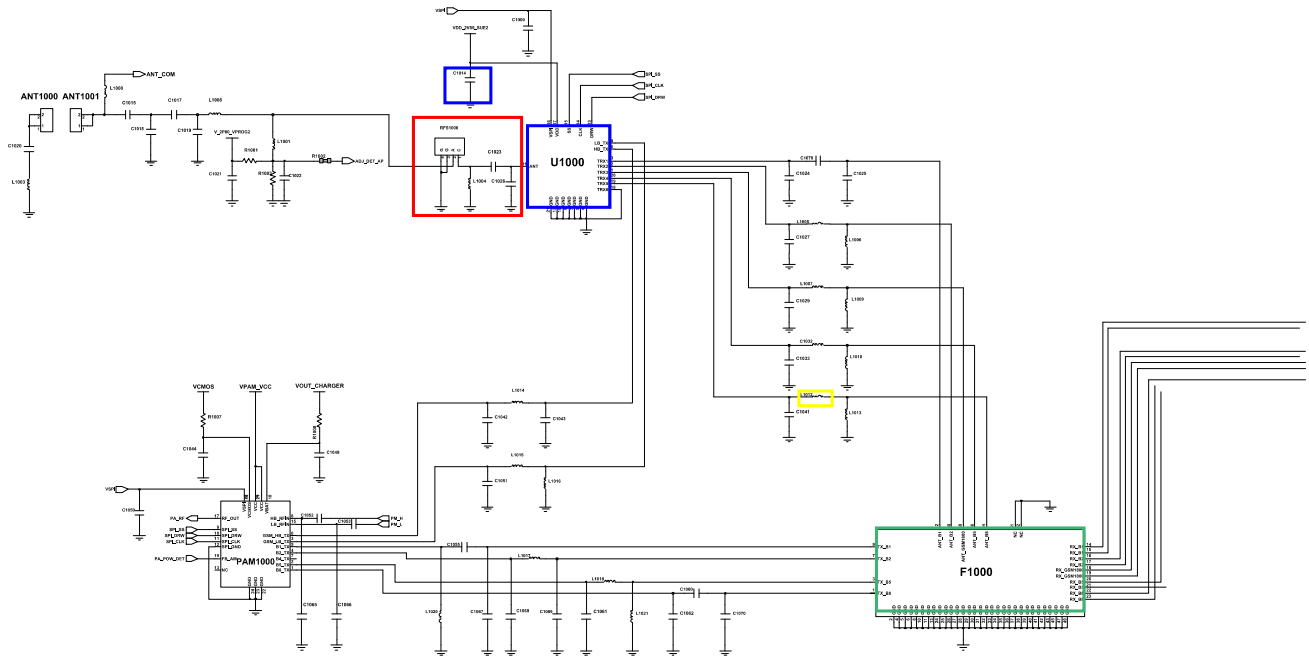




8-3-17. GSM900/ WCDMA Band8 RX

CONTINUOUS RX ON  
RF INPUT : 3013CH  
AMP : -50dBm



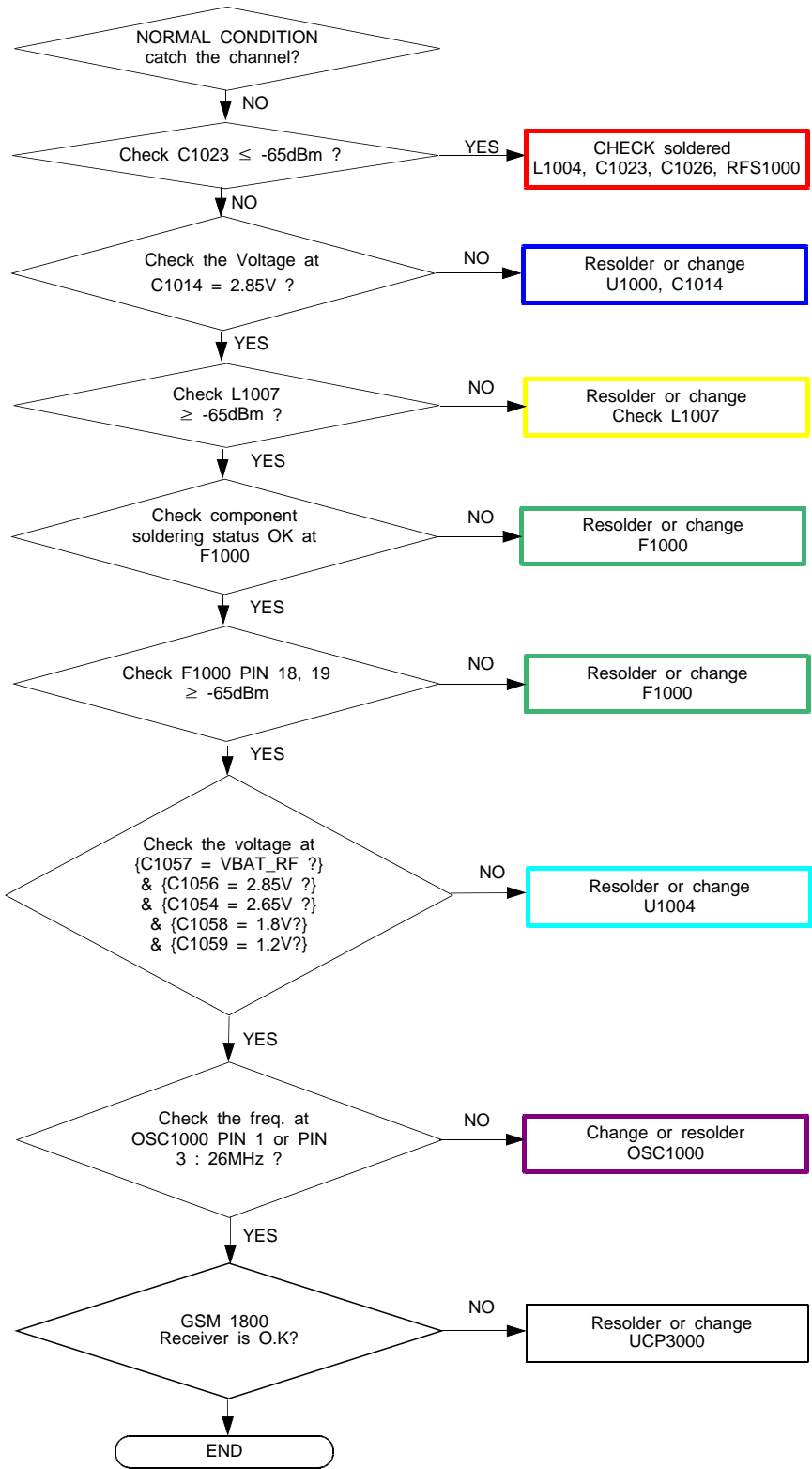


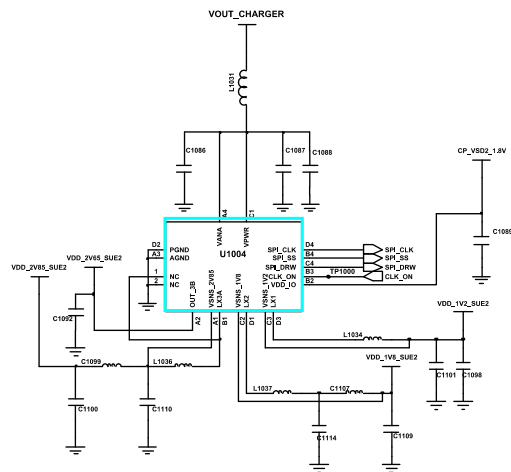
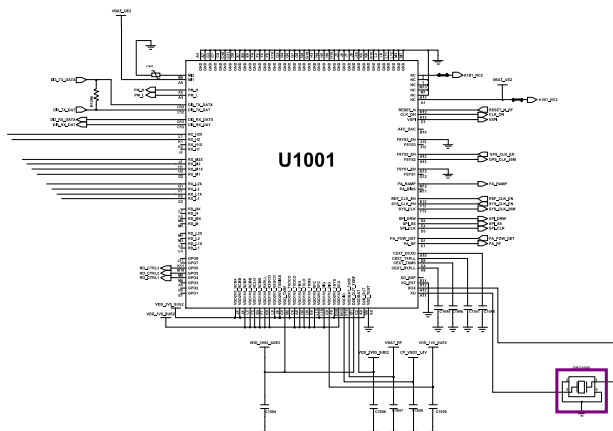
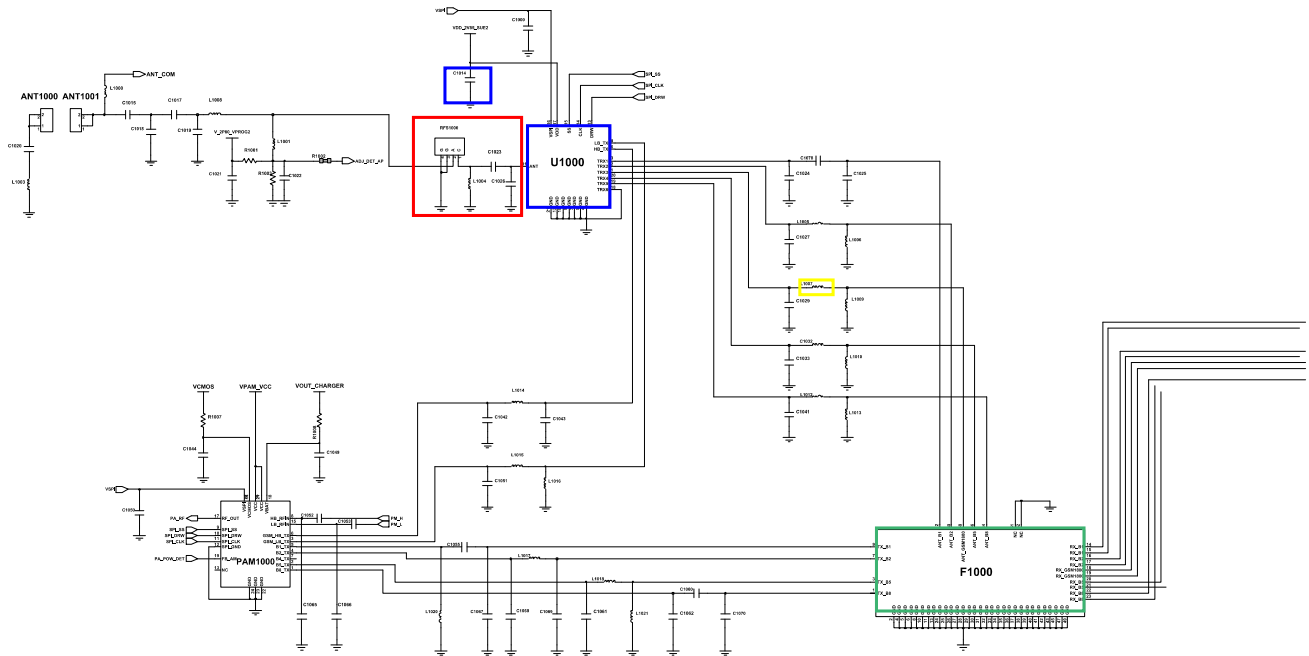




8-3-18. GSM1800 RX

CONTINUOUS RX ON  
 RF INPUT : 698CH  
 AMP : -50dBm

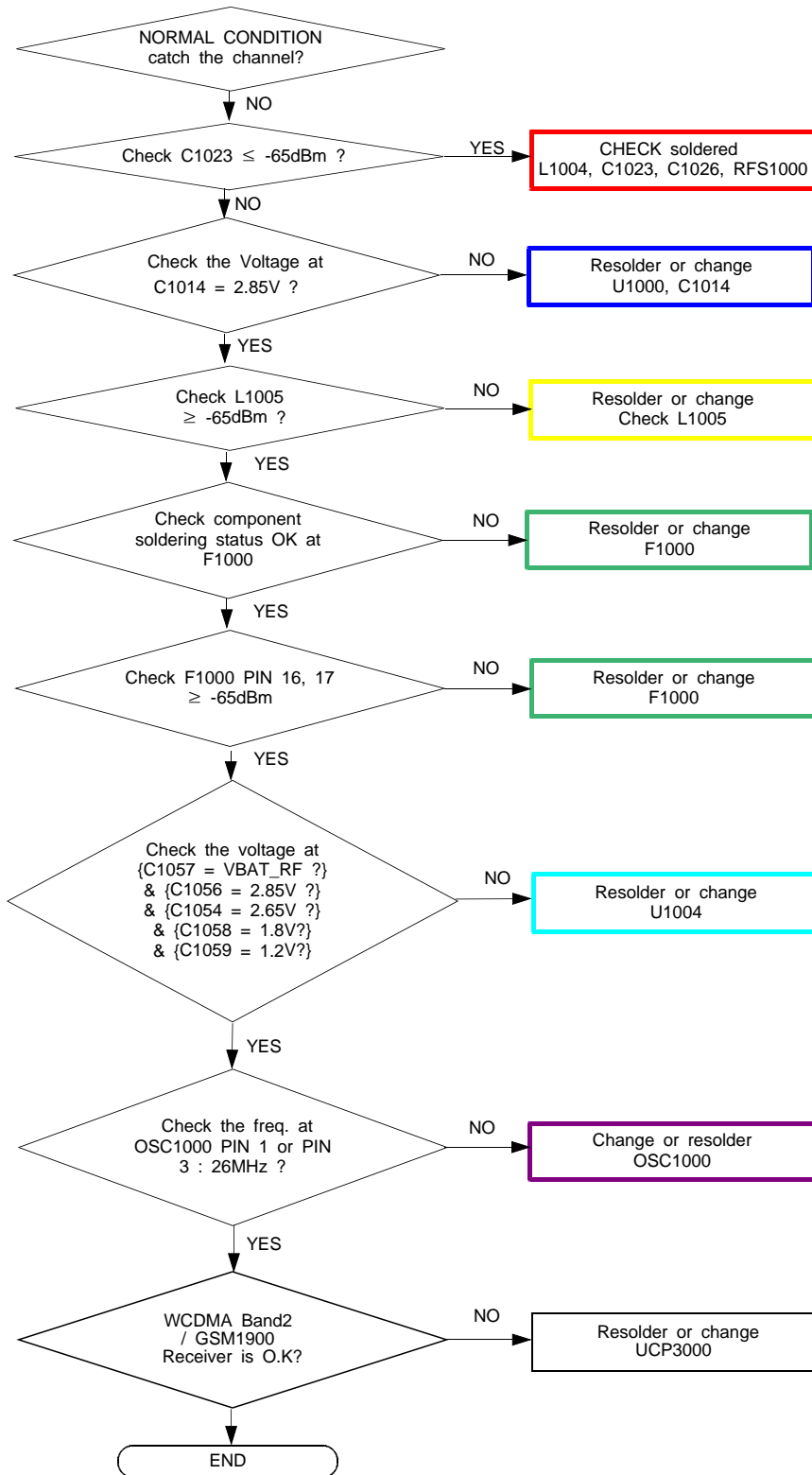


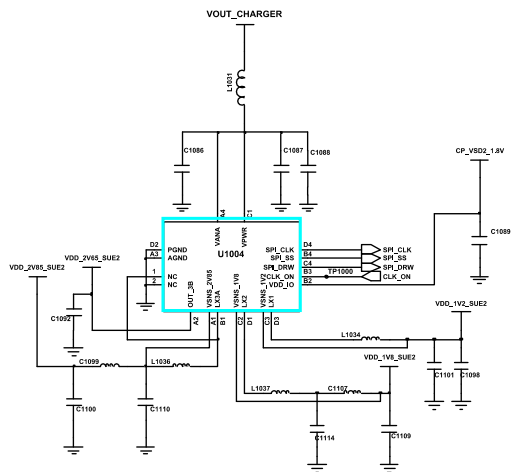
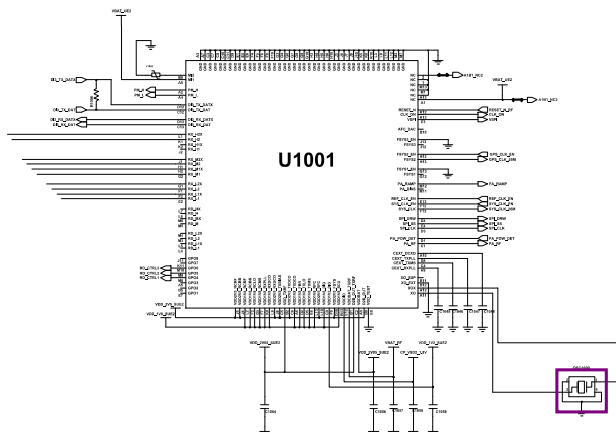
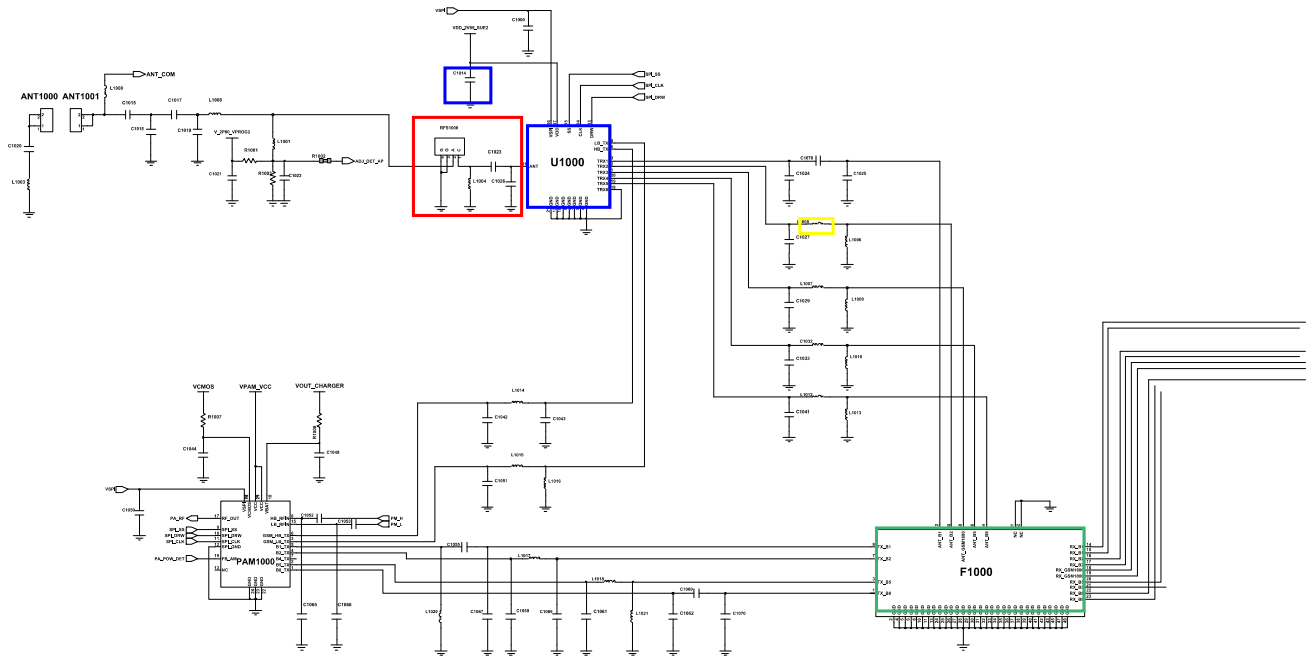




8-3-19. GSM1900/ WCDMA Band2 RX

CONTINUOUS RX ON  
RF INPUT : 9880CH  
AMP : -50dBm

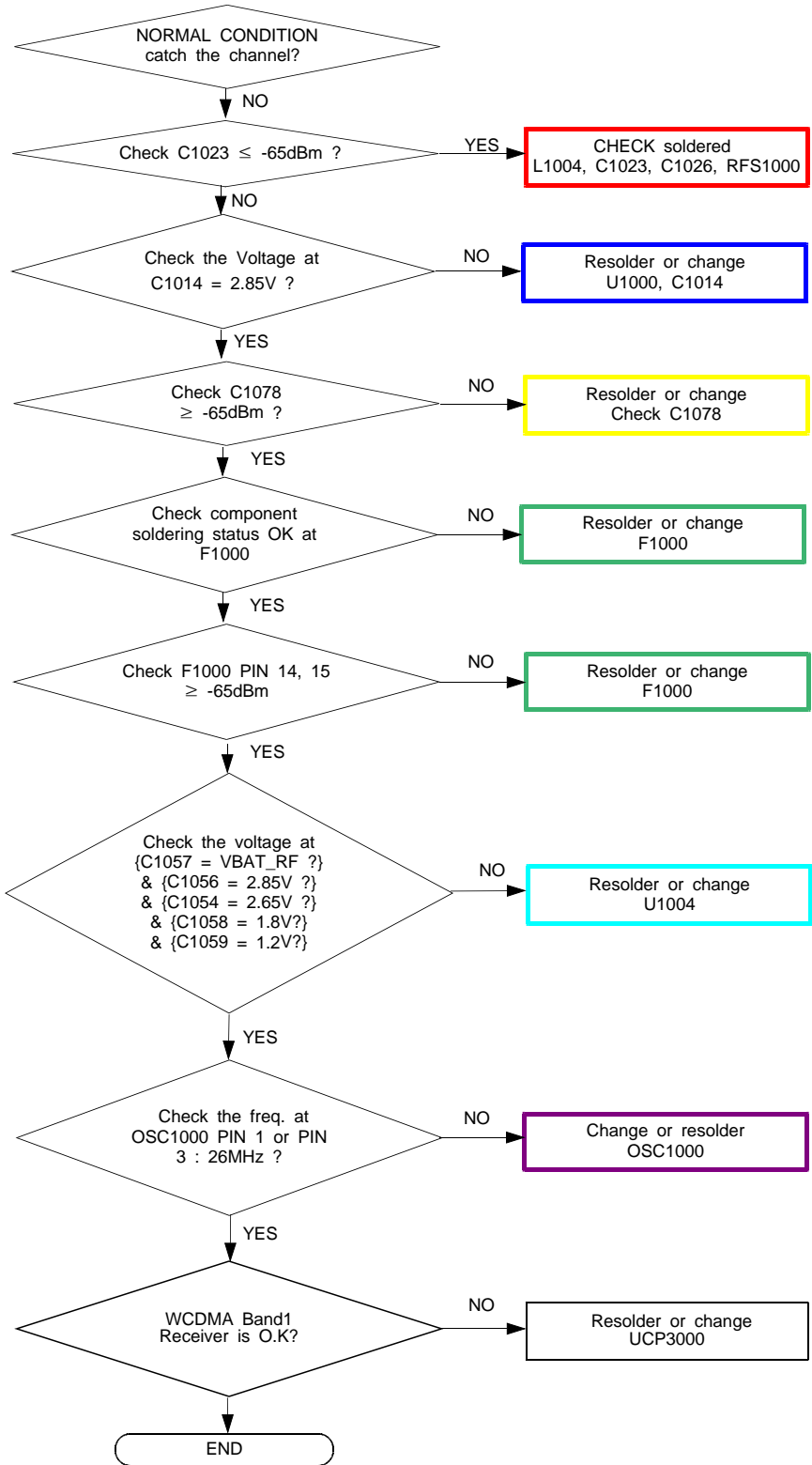




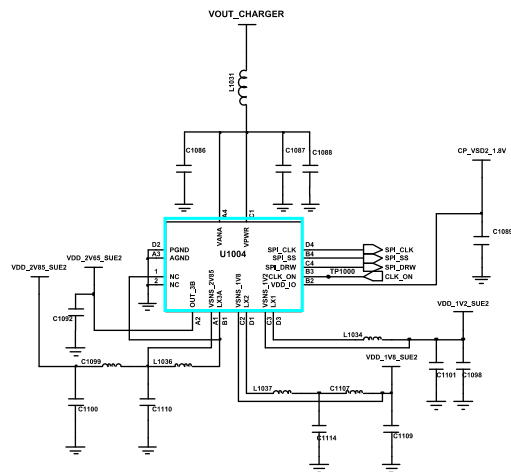
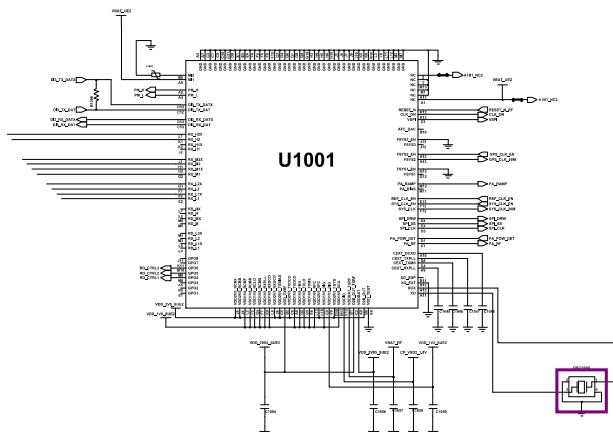
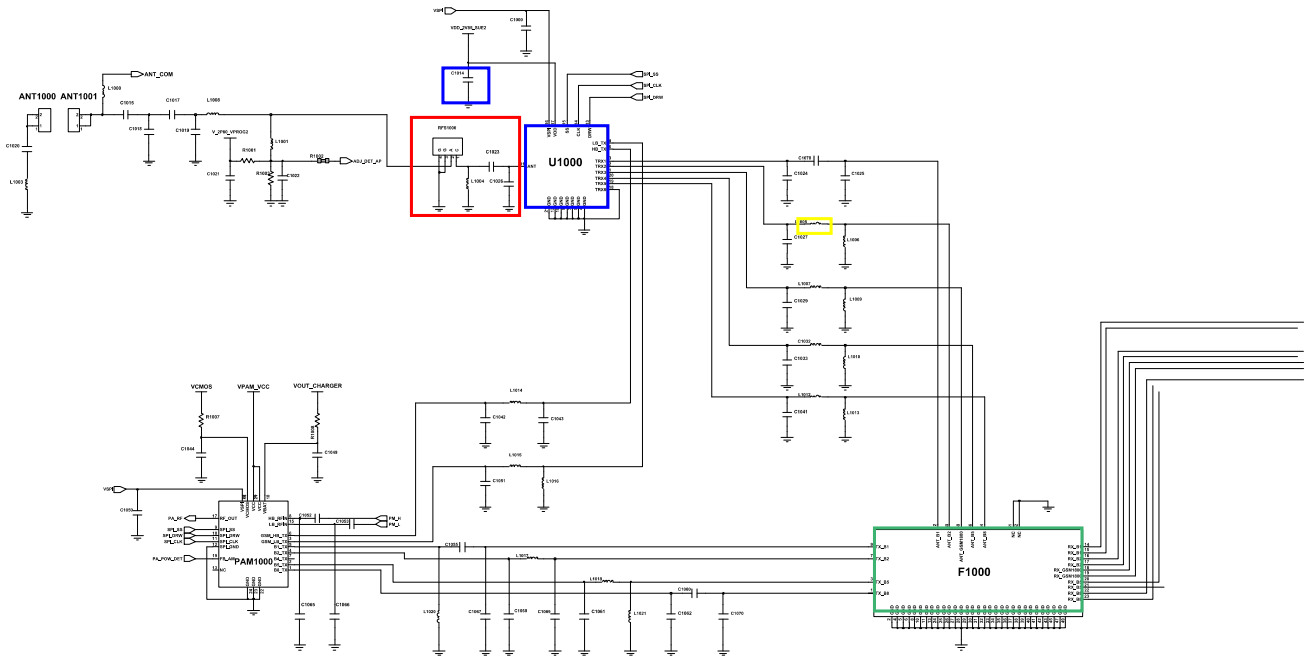


8-3-20. WCDMA Band1 RX

CONTINUOUS RX ON  
RF INPUT : 10700CH  
AMP : -50dBm



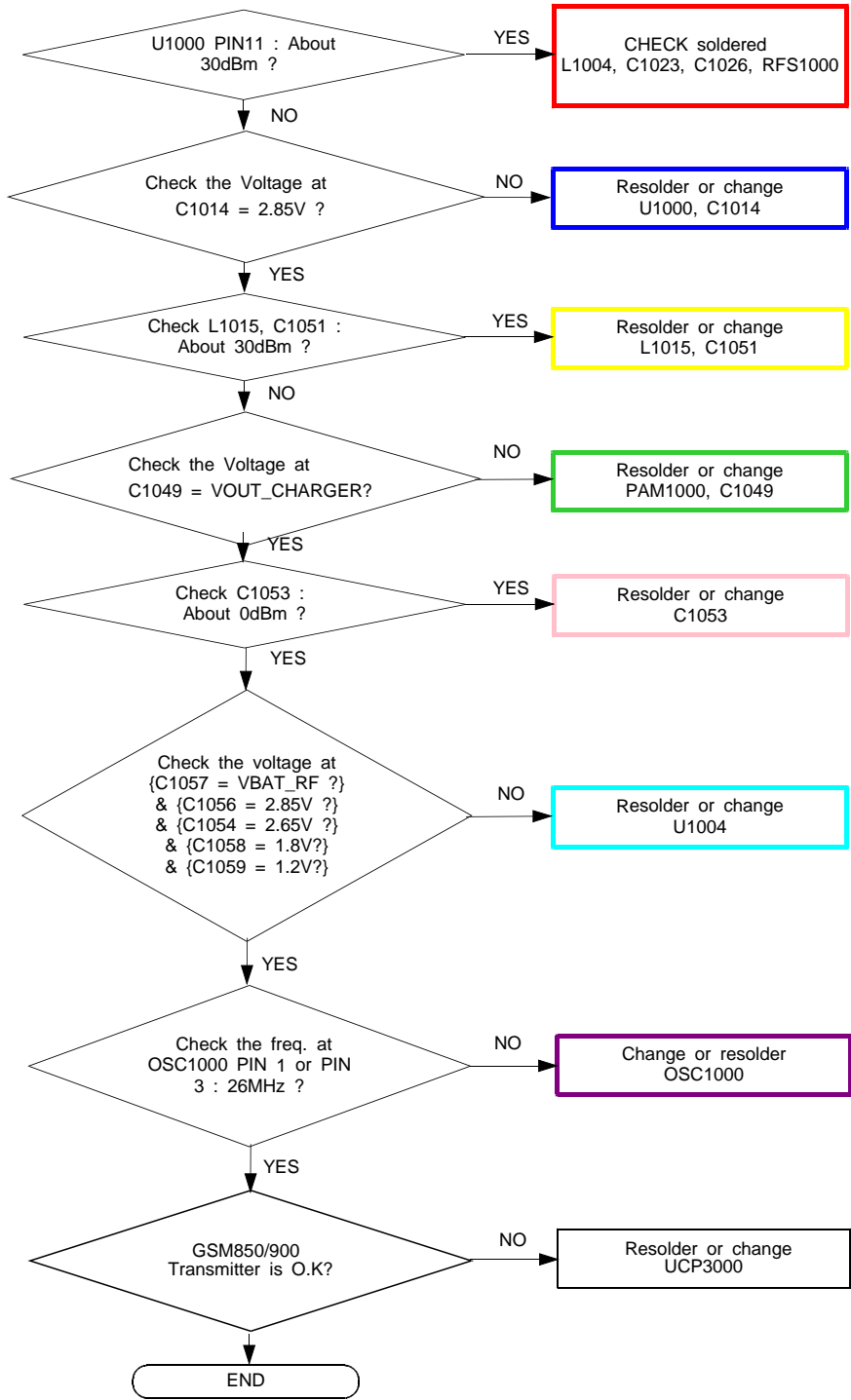


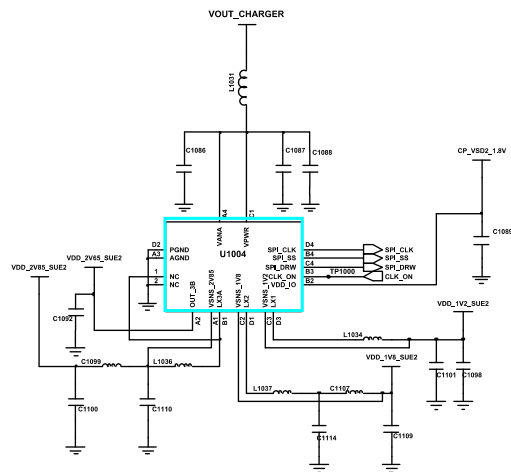
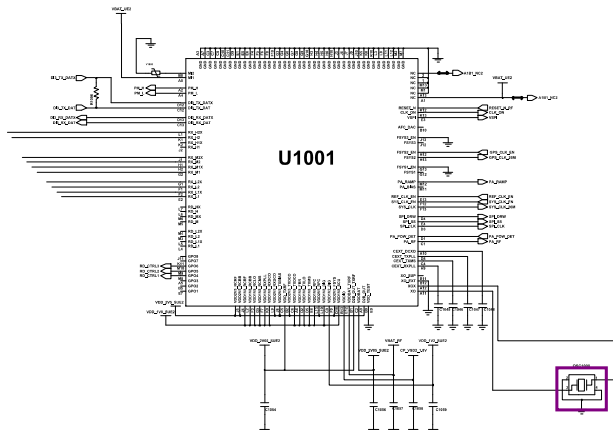
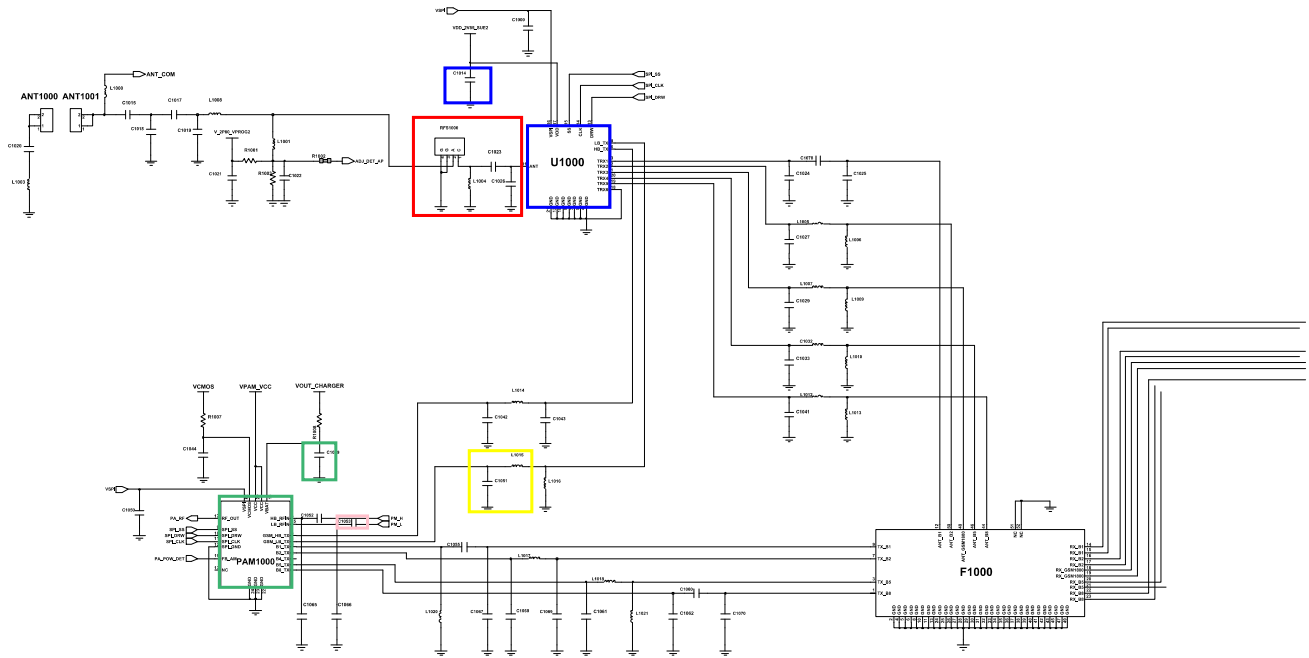




8-3-21. GSM850/ GSM900 TX

CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 GSM850 CH : 190  
 GSM900 CH : 62  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB

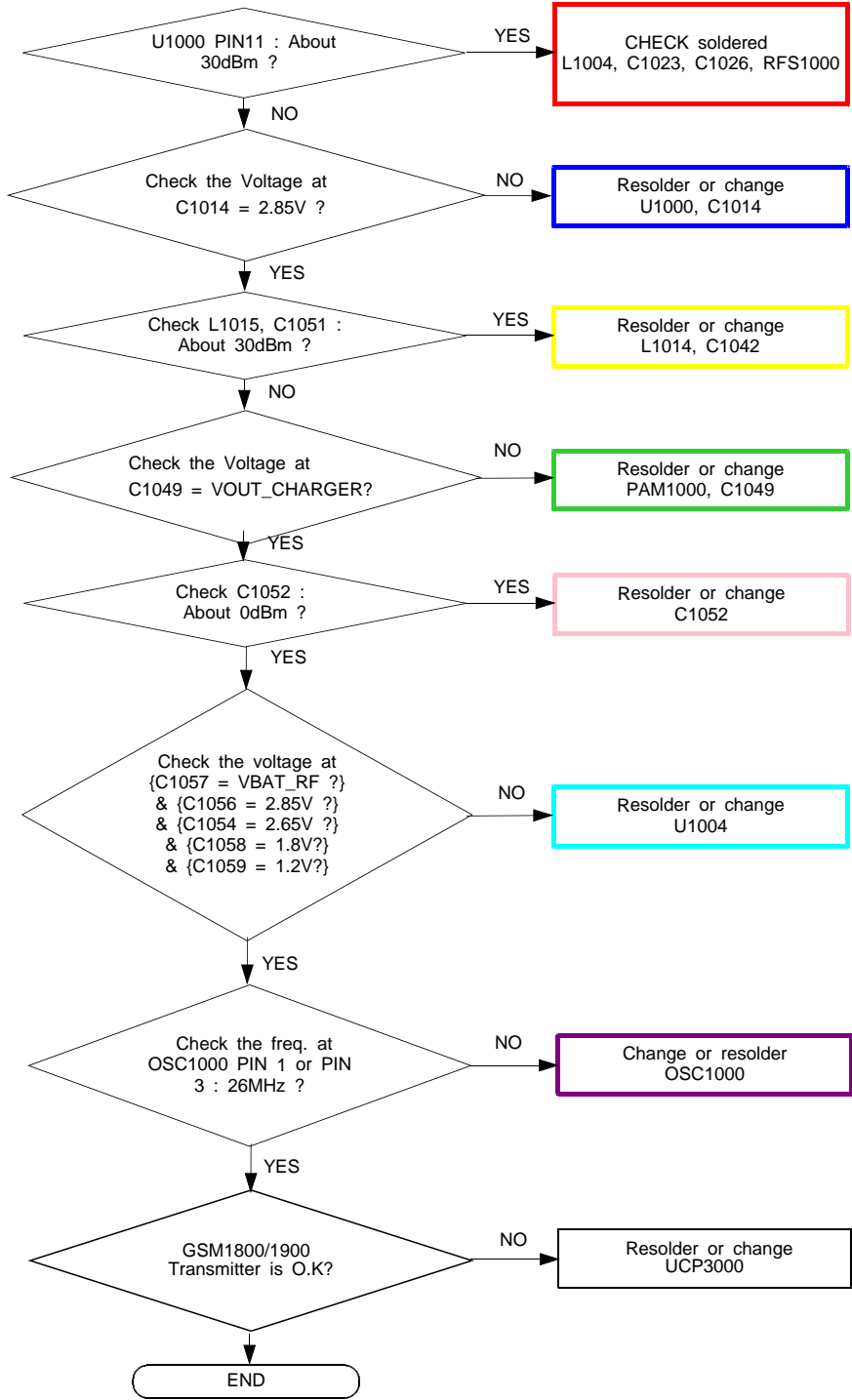


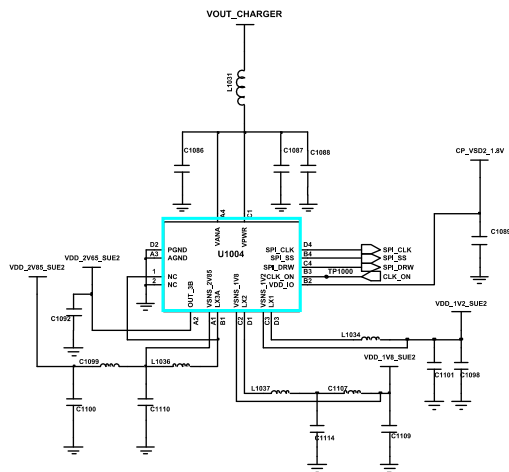
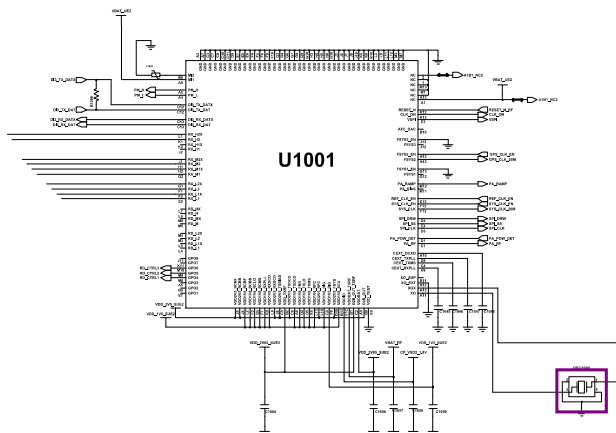
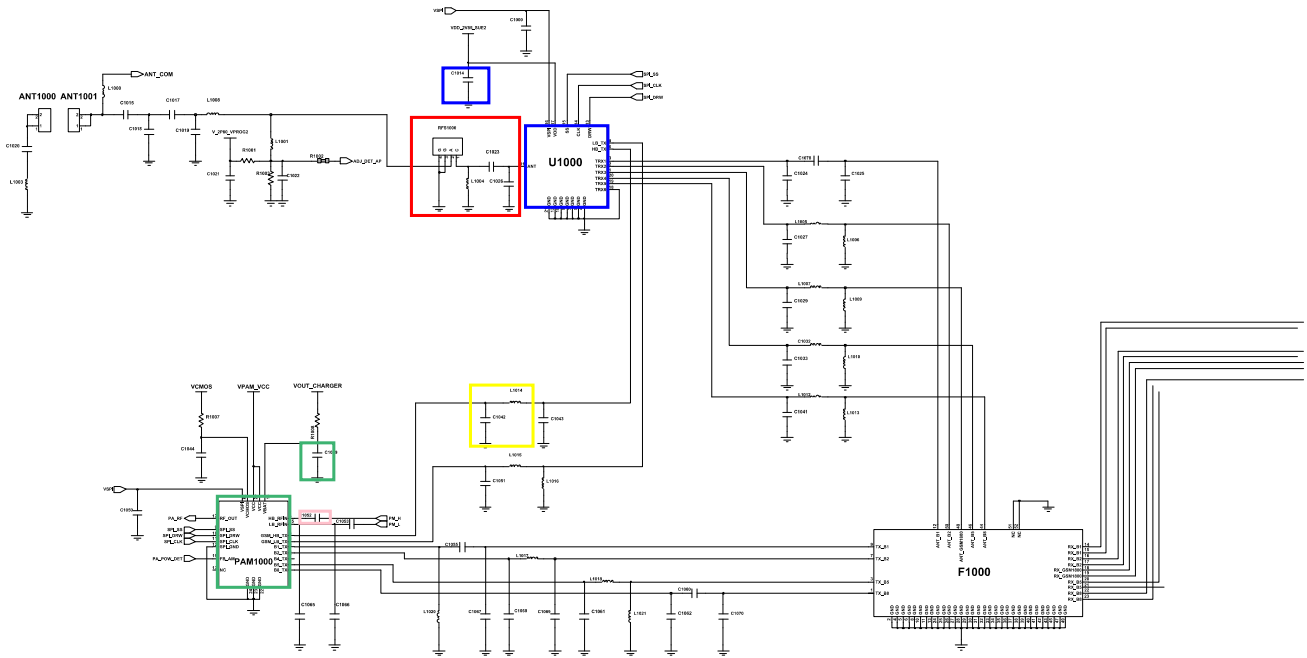




8-3-22. GSM1800/ GSM1900 TX

CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 DCS CH : 685  
 PCS CH : 661  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB



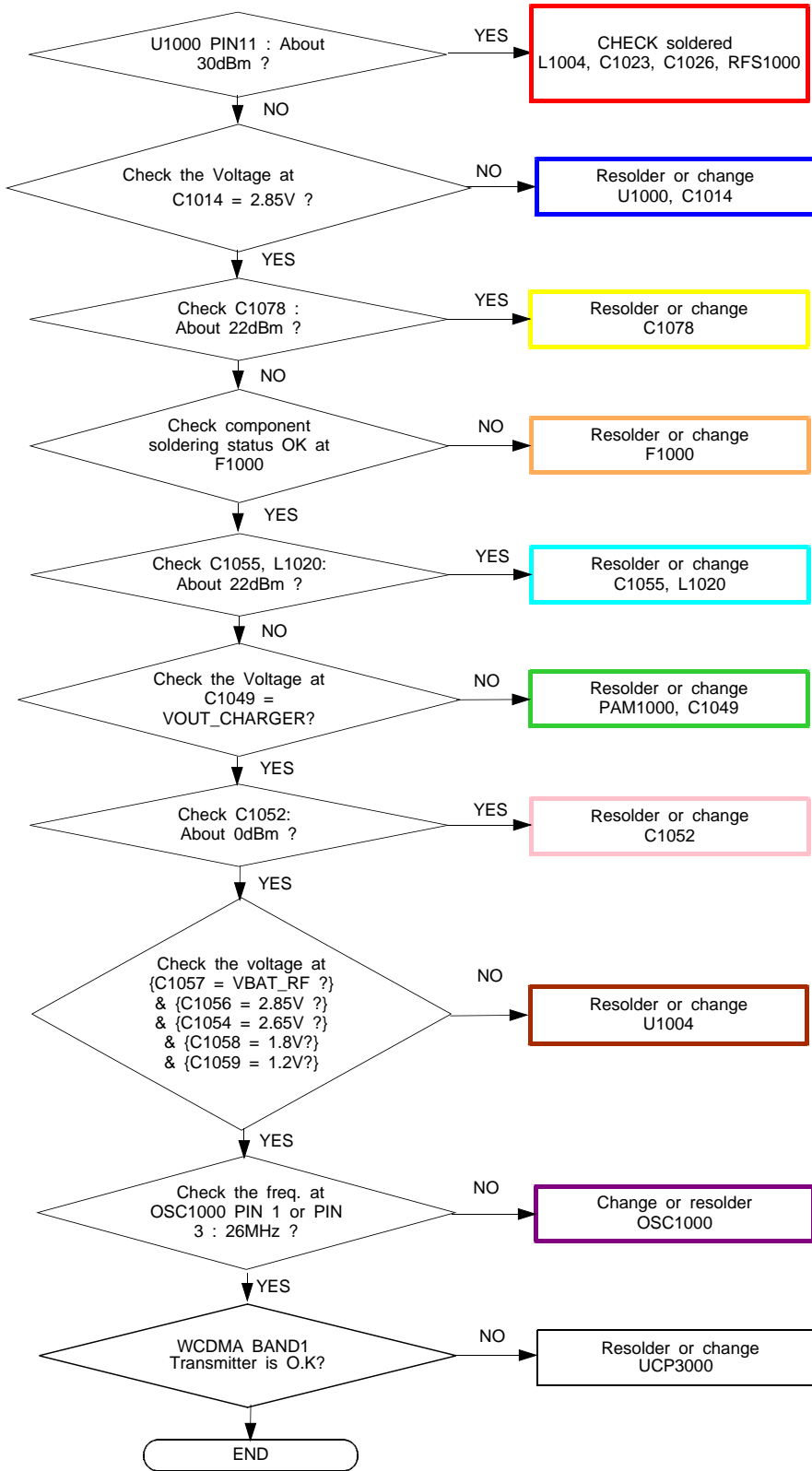


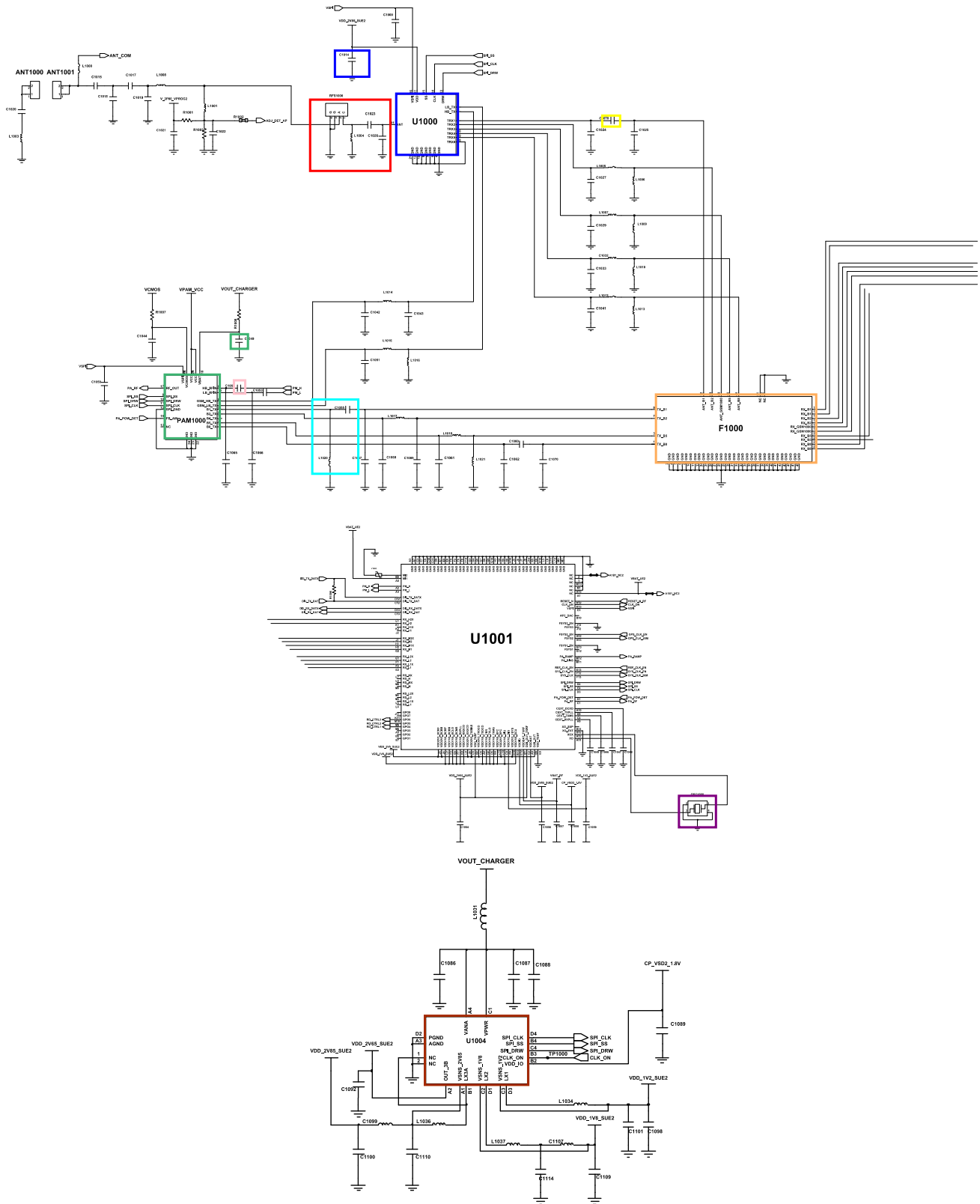




8-3-23. WCDMA BAND1 TX

CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 WCDMA Band1 CH : 10700  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB

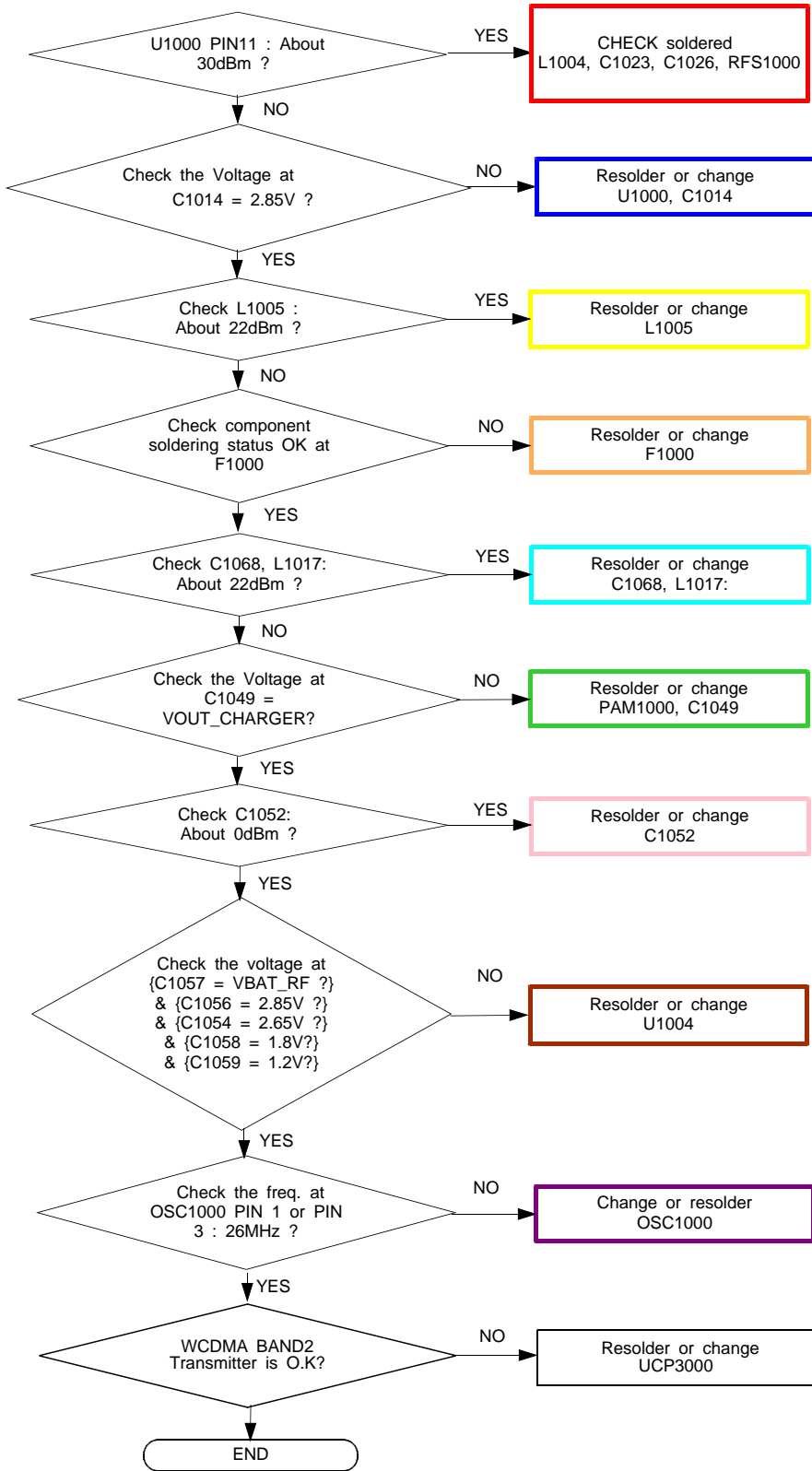


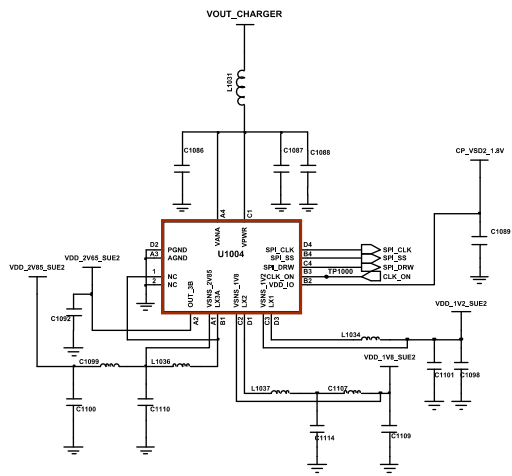
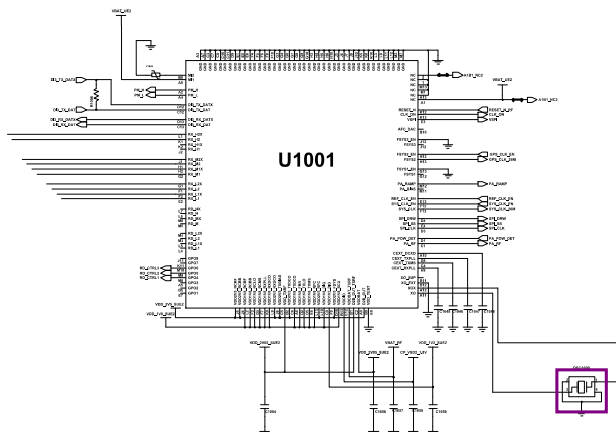
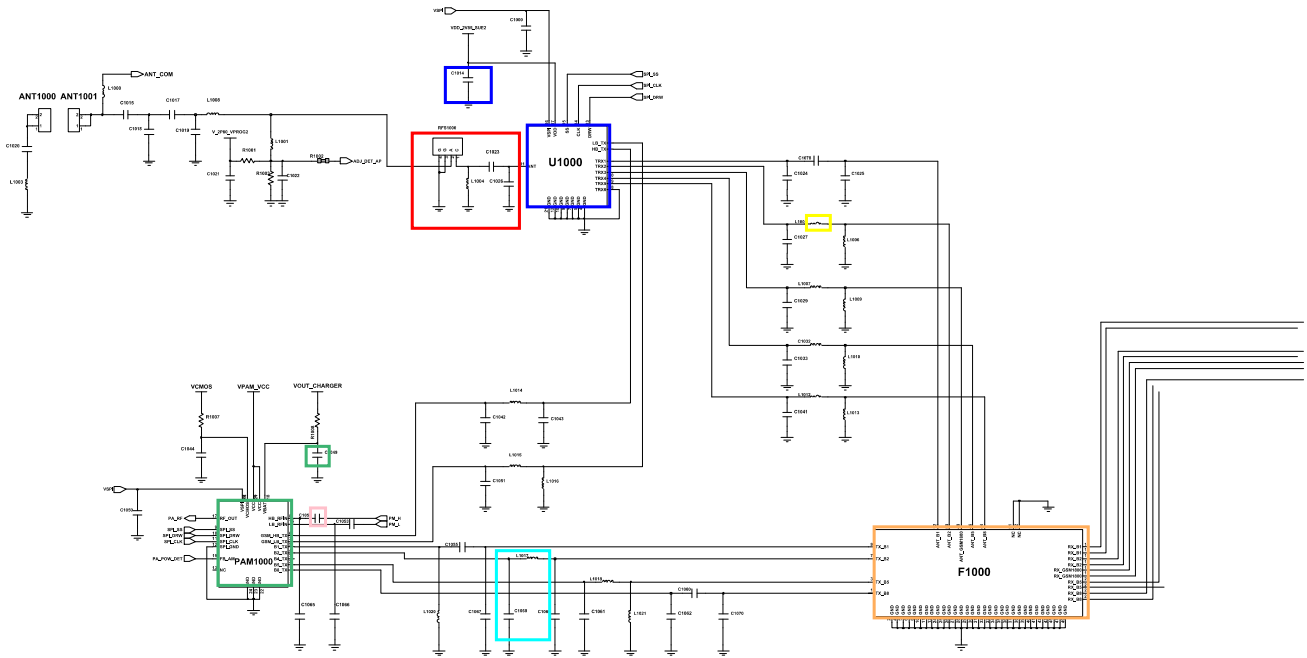




8-3-24. WCDMA BAND2 TX

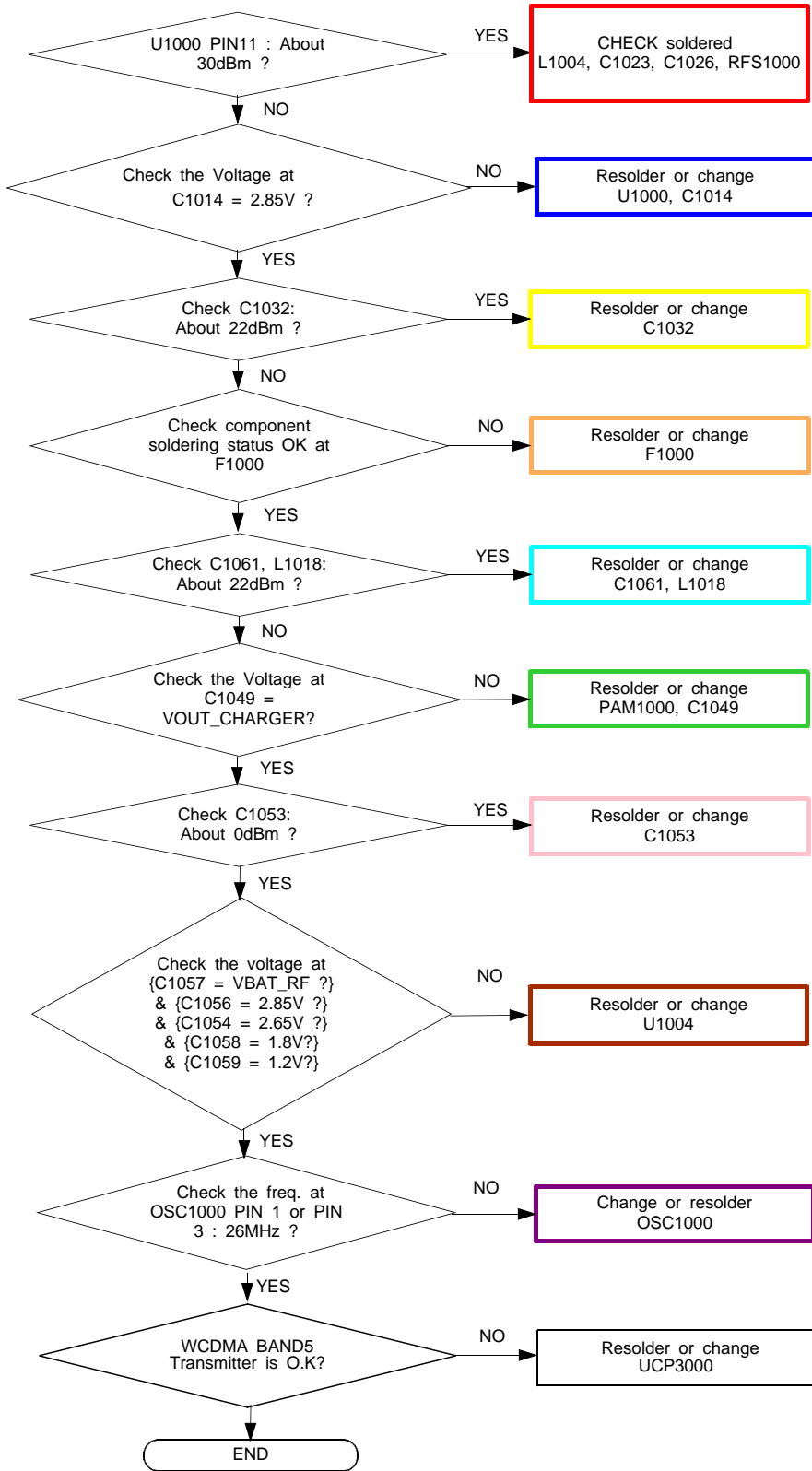
CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 WCDMA Band2 CH : 9880  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB



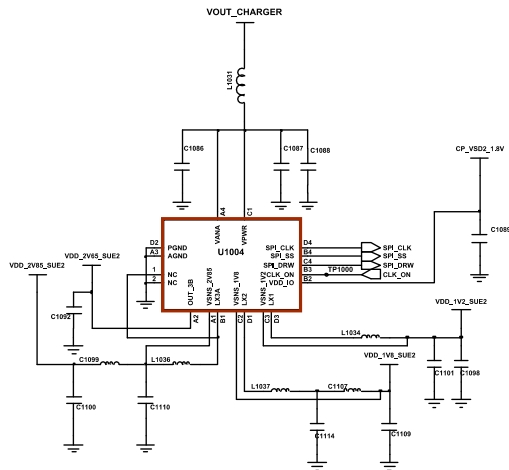
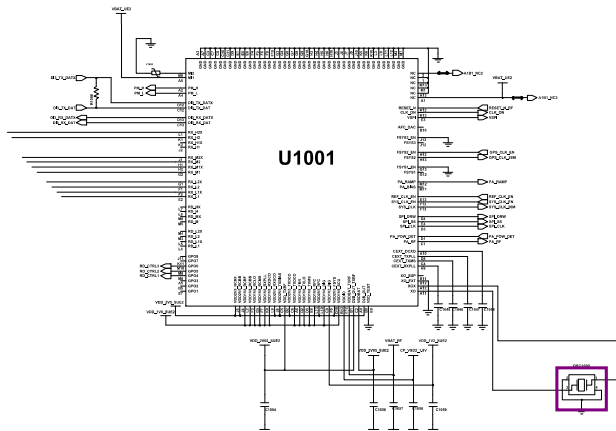
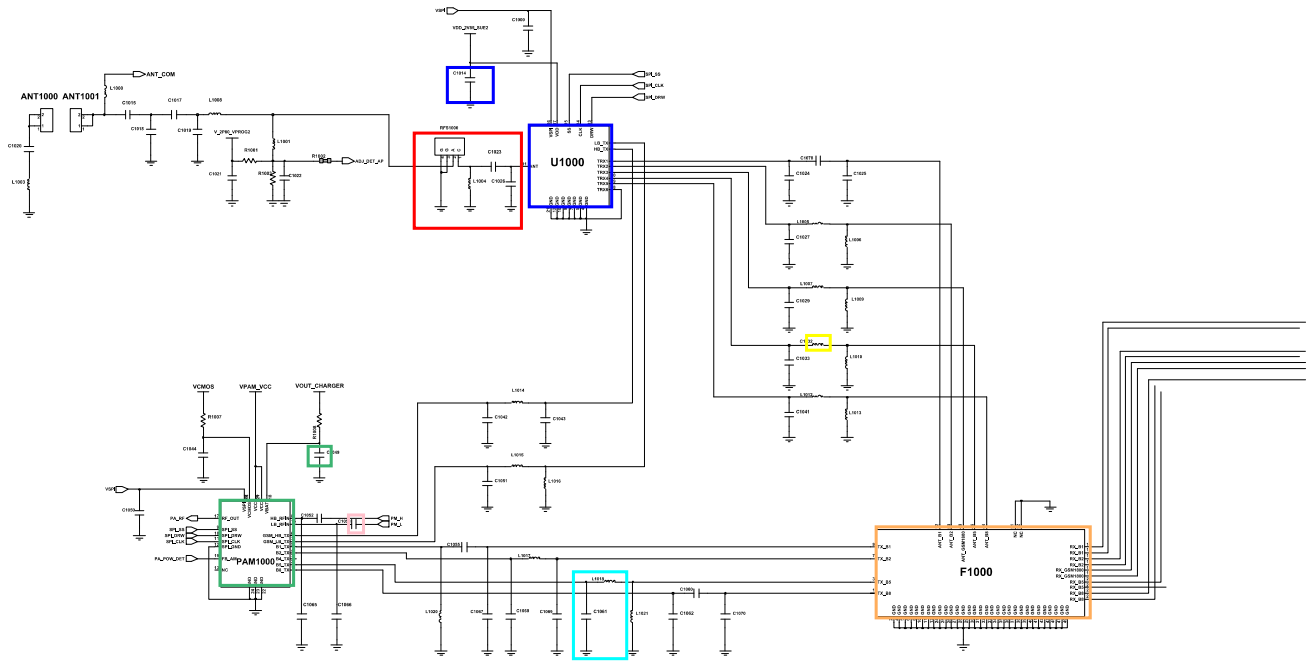




8-3-25. WCDMA BAND5 TX



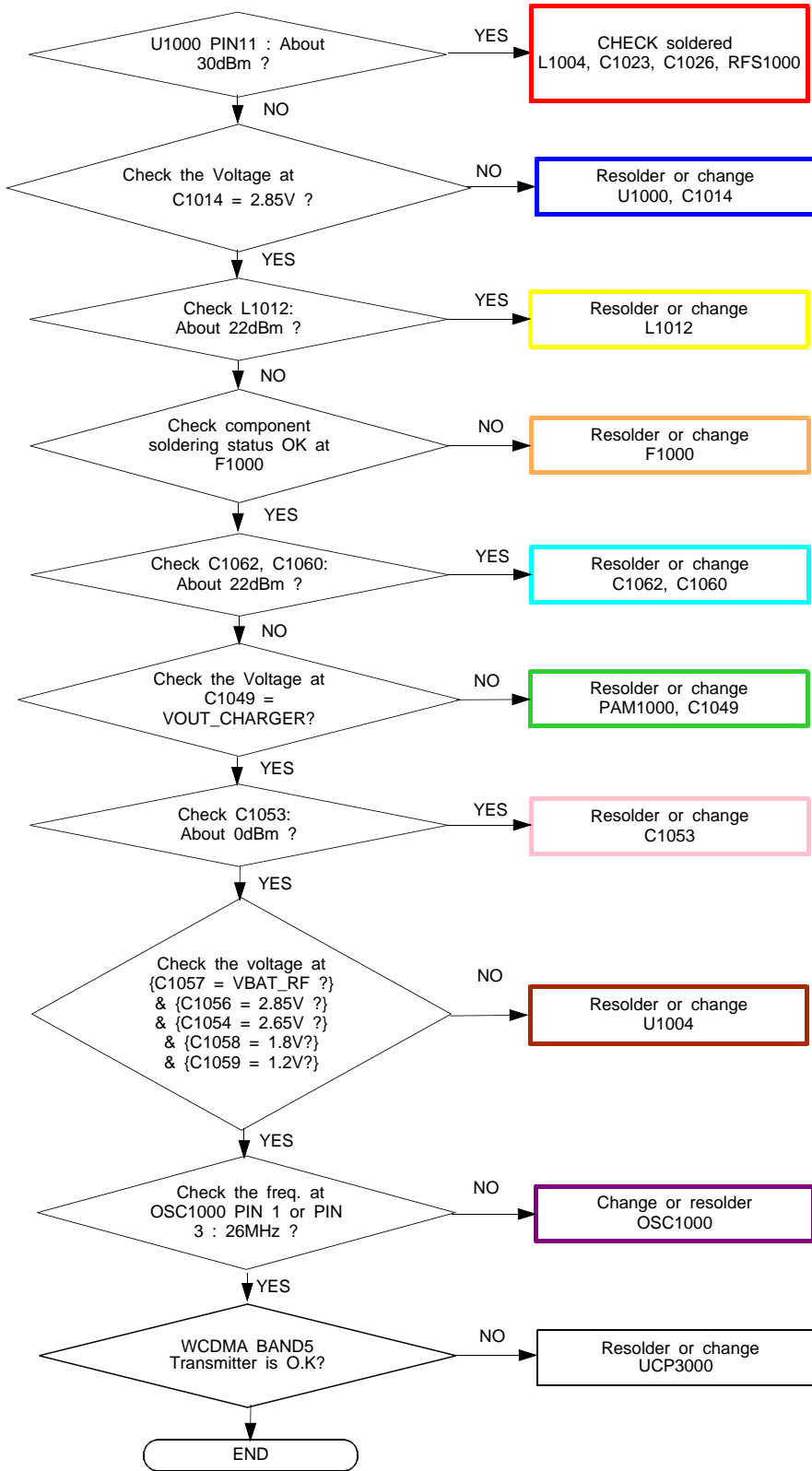
CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 WCDMA Band5 CH : 4408  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB



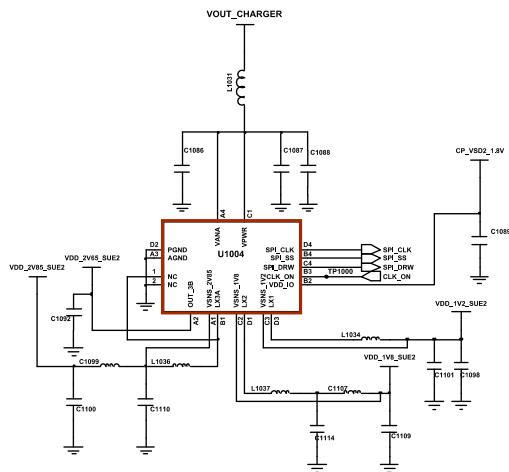
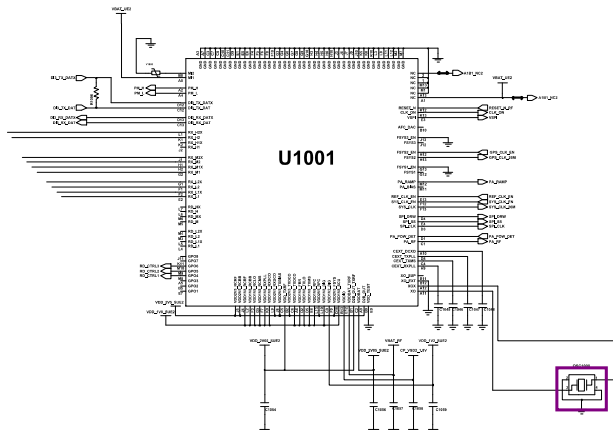
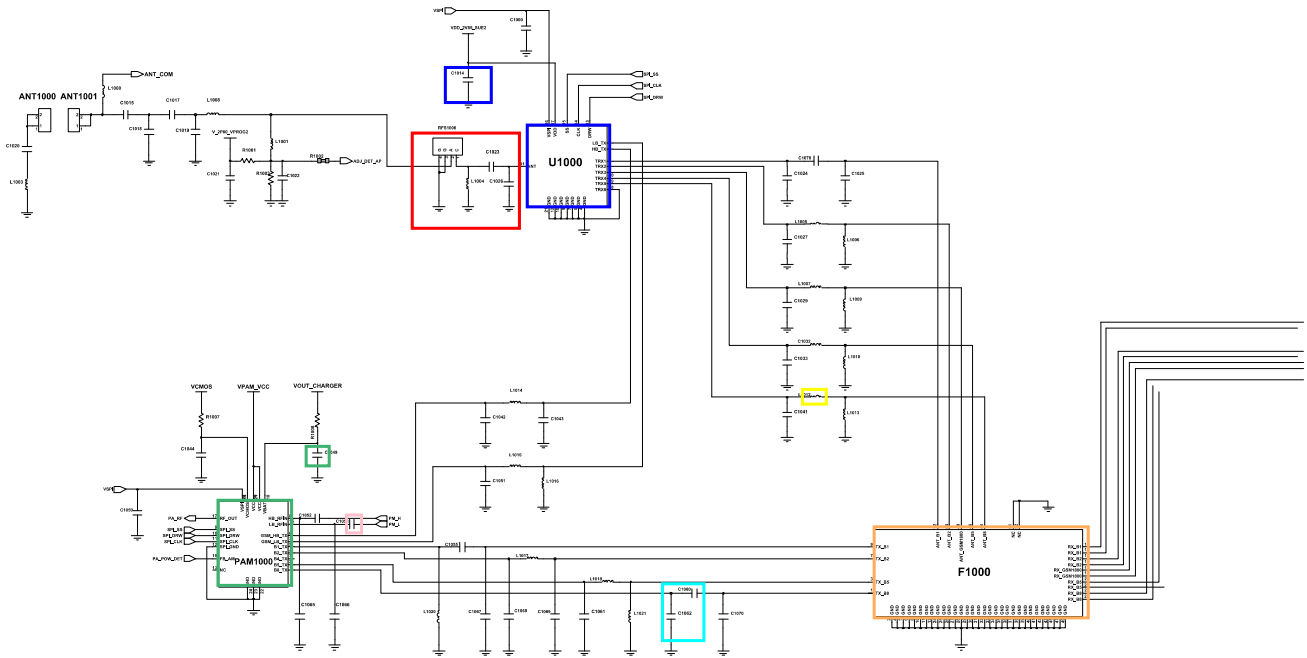




8-3-26. WCDMA BAND8 TX

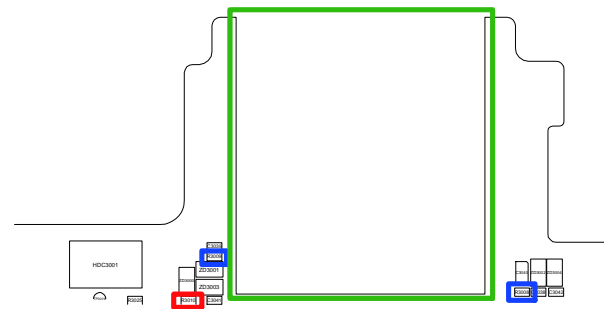
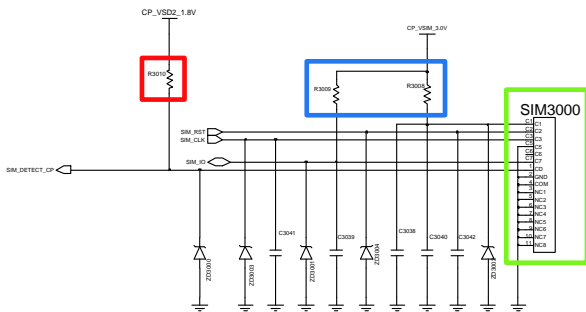
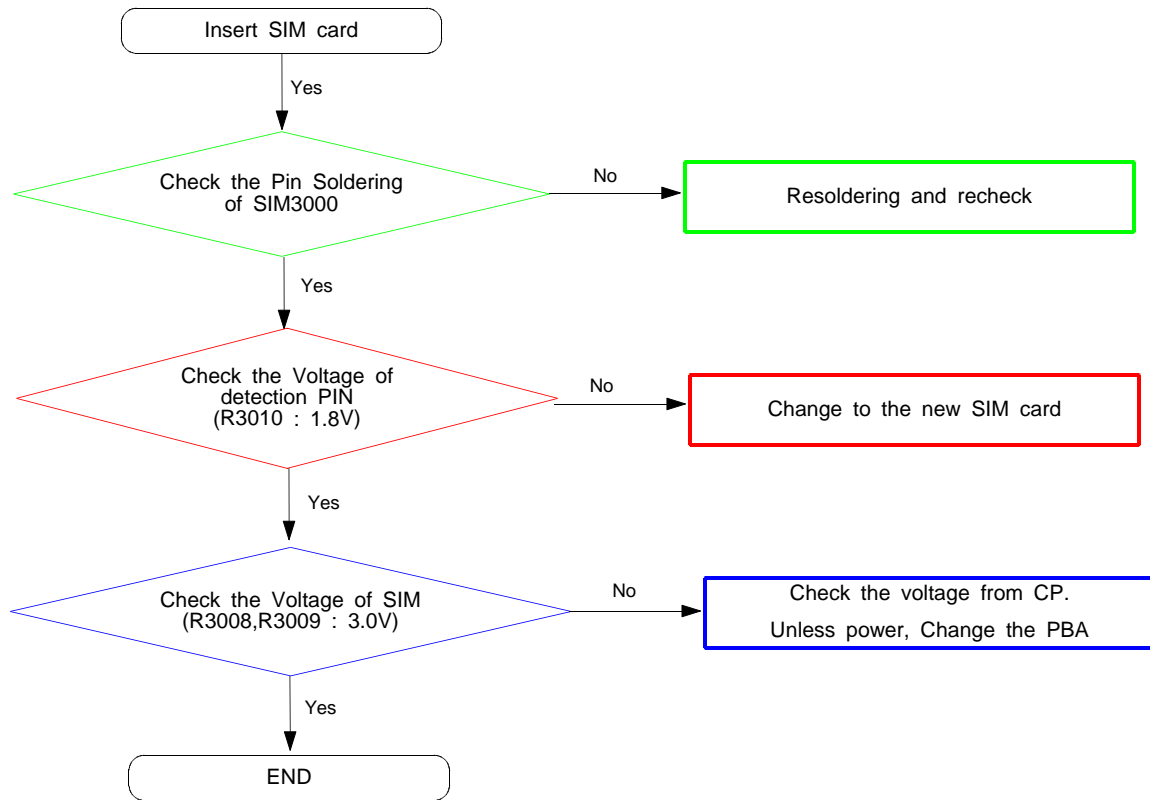


CONTINUOUS TX ON CONDITION  
 TX POWER DAC:14500 CODE  
 APPLIED  
 WCDMA Band8 CH : 3013  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB





8-3-27. Sim Part



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## 9. Reference Abbreviate

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### Reference Abbreviate

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

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