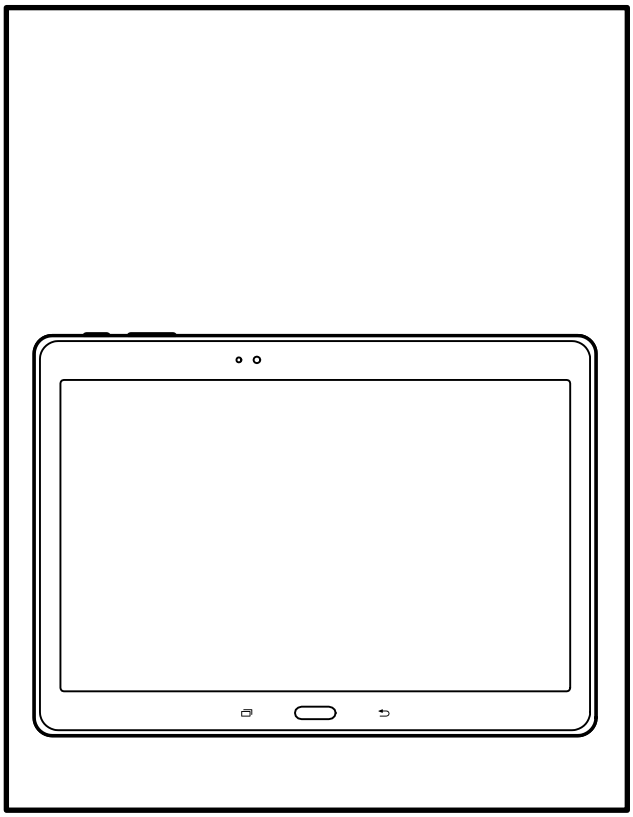
GSM TELEPHONE

SM-T805

SERVICE Manual

GSM TELEPHONE



CONTENTS

1. Safety Precautions
2. Specification
3. Product Function
4. Exploded View and Parts list
5. MAIN Electrical Parts List
6. Level 1 Repair
7. Level 2 Repair
8. Level 3 Repair
9. Reference data

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1. Safety Precautions

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 replac ement parts may not function properly.

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1-2. ESD(Electrostatically Sensitive Devices) Precaution

Many semiconductors and ESDs in electronic devices are particularly sensitive to static discha rge and can be easily damaged by it. We recommend protecting these components with cond uctive 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.

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2. Specification

2-1. GSM General Specification

	GSM850	EGSM 900	DCS1800	PCS1900	WCDMA 2100	WCDMA 900	WCMDA 850	WCDMA 1900
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	880~915 925~960	824~849 869~894	1852~1907 1932~1987
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL: 9612~9888 DL: 10562~10838	UL: 2712~2863 DL: 2937~3088	UL: 4132~4233 DL: 4357~4458	UL: 9612~9888 DL: 10562~10838
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz	45MHz	45MHz	80MHz
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	-103.7dBm	-104.7dBm	-104.7dBm
TDMA Mux	8	8	8	8	–	-	-	-
Cell Radius	35Km	35Km	2Km	2Km	2Km	2Km	2Km	2Km

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2-2. GSM Tx Power Class

TX Power control level	GSM850
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9±3dBm
18	7±3 dBm
19	5±3 dBm

TX Power control level	EGSM900
5	33±2 dBm
6	31±2 dBm
7	29±2 dBm
8	27±2 dBm
9	25±2 dBm
10	23±2 dBm
11	21±2 dBm
12	19±2 dBm
13	17±2 dBm
14	15±2 dBm
15	13±2 dBm
16	11±3 dBm
17	9±3dBm
18	7±3 dBm
19	5±3 dBm

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

TX Power control level	PCS1900
0	30±3 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

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2-3. LTE General Specification

	LTE Band1	LTE Band3	LTE Band5	LTE Band7	LTE Band8	LTE Band20
Freq. Band[MHz] Uplink/ Downlink	1920~1980 2110~2170	1710~1785 1805~1880	824~849 869~894	2500~2570 1805~1880	880~914.9 925~959.9	832~862 791~821
ARFCN range	UL: 18000~18599 DL: 0~599	UL: 19200~19950 DL: 1805~1880	UL: 20400~20649 DL: 2400~2649	UL: 2500~2570 DL: 2620~2690	UL: 21450-21799 DL: 3450-3799	UL: 24150~24450 DL: 6150~6450
Tx/Rx spacing	190MHz	95MHz	45MHz	120MHz	45MHZ	41MHz
Channel Bandwidth	5/10/15/20 MHz	1.4/3/5/10/15/20 MHz	1.4/3/5/10 MHz	5/10/15/20 MHz	1.4/3/5/10MHz	5/10/15/20 MHz
Modulation	QPSK,16/64QAM	QPSK,16/64QAM	QPSK,16/64QAM	QPSK,16/64QAM	QPSK,16/64QAM	QPSK,16/64QAM
MS Power (MPR)	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm
Sensitivit (QPSK) (BW 10MHz)	-94 dBm	-92 dBm	-92 dBm	-95dBm	-95dBm	-94dBm
Cell Radius	>5Km	>5Km	>5Km	>5Km	>5Km	>5Km

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3. Operation Instruction and Installation

Main Function

- Android OS: KitKat (4.4)
- 10.5" WQXGA On-Cell Touch AMOLED (OCTA)
- A-GPS / GLONASS / BT v4.0 + EDR with LE / USB v2.0 / Wi-Fi (802.11 a/b/g/n/ac VHT80) / MHL 2.1 / OTG
- Main 8.0 MP, Sub 2.0 MP
- Recording definition: 1080p
- Sensors: Accelerometer, Gyro, Geomagnetic, Light Sensor, Fingerprint
- Additional :
  - Octa core AP (1.9 GHz Quad Core / 1.3GHz Quad Core)
  - CP (LTE baseband controller)

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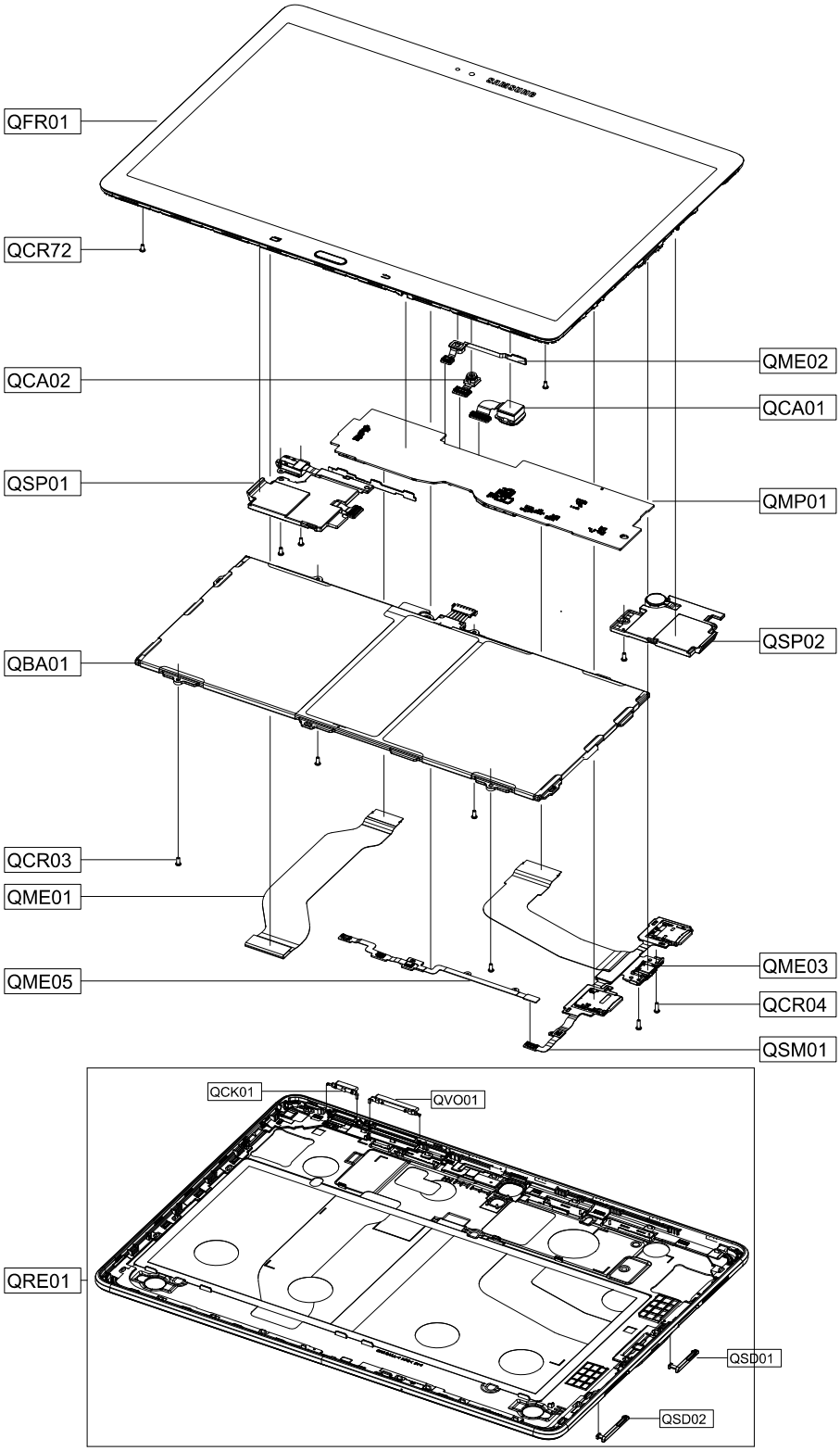
4. Exploded View and Parts List

4-1. Cellular phone Exploded View



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5. MAIN Electrical Parts List

SEC CODE	Design Location	Description
0403-001688	ZD500	DIODE-ZENER
0403-001688	ZD700	DIODE-ZENER
0404-001250	D501	DIODE-SCHOTTKY
0404-001782	D500	DIODE-SCHOTTKY
0404-001782	D502	DIODE-SCHOTTKY
0406-001223	ZD711	DIODE-TVS
0406-001223	ZD712	DIODE-TVS
0406-001375	ZD501	DIODE-TVS
0406-001375	ZD502	DIODE-TVS
0406-001413	ZD702	DIODE-TVS
0406-001413	ZD703	DIODE-TVS
0406-001413	ZD709	DIODE-TVS
0406-001413	ZD710	DIODE-TVS
0406-001413	ZD716	DIODE-TVS
0406-001413	ZD717	DIODE-TVS
0406-001413	ZD718	DIODE-TVS
0406-001459	ZD701	DIODE-TVS
0406-001494	ZD606	DIODE-TVS
0406-001494	ZD607	DIODE-TVS
0406-001494	ZD608	DIODE-TVS
0406-001494	ZD611	DIODE-TVS
0406-001494	ZD613	DIODE-TVS
0406-001494	ZD614	DIODE-TVS
0406-001494	ZD615	DIODE-TVS
0406-001494	ZD616	DIODE-TVS
0406-001494	ZD707	DIODE-TVS
0406-001494	ZD800	DIODE-TVS
0406-001494	ZD801	DIODE-TVS
0406-001494	ZD802	DIODE-TVS
0406-001494	ZD803	DIODE-TVS
0406-001494	ZD804	DIODE-TVS
0406-001494	ZD807	DIODE-TVS
0406-001505	ZD600	DIODE-TVS
0406-001505	ZD601	DIODE-TVS
0406-001505	ZD602	DIODE-TVS
0406-001505	ZD603	DIODE-TVS
0406-001505	ZD604	DIODE-TVS
0406-001505	ZD605	DIODE-TVS
0406-001505	ZD708	DIODE-TVS
0406-001505	ZD713	DIODE-TVS
0406-001505	ZD714	DIODE-TVS
0406-001505	ZD715	DIODE-TVS

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0406-001506	ZD720	DIODE-TVS
0406-001506	ZD721	DIODE-TVS
0406-001549	ZD704	DIODE-TVS
0406-001549	ZD705	DIODE-TVS
0505-002088	TR500	FET-SILICON
0505-002088	TR501	FET-SILICON
0505-002341	TR503	FET-SILICON
0505-002341	TR701	FET-SILICON
0505-002384	TR900	FET-SILICON
0505-002720	U700	FET-SILICON
0505-003070	TR700	FET-SILICON
0505-003234	TR600	FET-SILICON
0505-003234	TR601	FET-SILICON
0601-003398	LED500	LED
0801-003228	U508	IC-CMOS LOGIC
0801-003228	U509	IC-CMOS LOGIC
0801-003228	U510	IC-CMOS LOGIC
0801-003437	U1010	IC-CMOS LOGIC
0902-003074	UCP4001	IC-MICROPROCESSOR
1001-001394	U506	IC-ANALOG SWITCH
1107-002297	UME4000	IC-EMMC
1201-003642	PAM1002	IC-POWER AMP
1201-003645	PAM1001	IC-POWER AMP
1201-003729	U201	IC-GPS AMP
1202-001120	U600	IC-VOLTAGE COMP.
1203-002250	U504	IC-VOL. DETECTOR
1203-004776	U505	IC-POSI.FIXED REG.
1203-006182	U702	IC-VOL. DETECTOR
1203-006766	U203	IC-VOL. DETECTOR
1203-006766	U302	IC-VOL. DETECTOR
1203-006767	U903	IC-MULTI REG.
1203-007766	U1003	IC-DC/DC CONVERTER
1203-007791	U800	IC-POSI.FIXED REG.
1203-007791	U801	IC-POSI.FIXED REG.
1203-007823	U802	IC-DC/DC CONVERTER
1203-008004	U701	IC-VOL. DETECTOR
1203-008158	U502	IC-POWER SUPERVISOR
1203-008172	U500	IC-SWITCH REG.
1203-008193	U512	IC-POWER SUPERVISOR
1203-008217	U805	IC-DC/DC CONVERTER
1205-004753	U804	IC-TRANSMITTER
1205-004772	U602	IC-CODEC
1205-004863	UCP301	IC-MODEM

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1205-004884	U1007	IC-TRANSMITTER
1205-004916	U904	IC-SWITCH
1205-005012	U206	IC-WIFI
1205-005016	U202	IC-GPS RECEIVER
1209-002245	U902	IC-SENSOR
1209-002246	U901	IC-SENSOR
1209-002252	U1009	IC-SENSOR
1301-002167	U900	IC-FPGA
1404-001694	TH4000	THERMISTOR-NTC
1404-001694	TH4001	THERMISTOR-NTC
1404-001694	TH4002	THERMISTOR-NTC
1404-001728	TH301	THERMISTOR-NTC
1405-001375	V1001	VARISTOR
2007-000148	R617	R-CHIP
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2007-003015	R502	R-CHIP
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2007-007139	R807	R-CHIP
2007-007142	R514	R-CHIP
2007-007312	R4051	R-CHIP
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2007-007312	R4071	R-CHIP
2007-007312	R4098	R-CHIP
2007-007312	R4099	R-CHIP

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2007-007312	R4100	R-CHIP
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2007-008055	R724	R-CHIP

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2007-008516	R4115	R-CHIP

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2007-008516	R513	R-CHIP
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2007-009155	R726	R-CHIP
2007-009157	R4074	R-CHIP
2007-009157	R4075	R-CHIP
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2007-009157	R4077	R-CHIP
2007-009157	R4078	R-CHIP
2007-009157	R4089	R-CHIP
2007-009157	R4090	R-CHIP

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2007-009157	R4091	R-CHIP
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2007-009157	R4093	R-CHIP
2007-009157	R4094	R-CHIP
2007-009157	R4095	R-CHIP
2007-009157	R918	R-CHIP
2007-009171	R4053	R-CHIP
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2007-009171	R4056	R-CHIP
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2007-009361	R1004	R-CHIP
2007-009408	R4009	R-CHIP
2007-009408	R4010	R-CHIP
2007-009408	R4011	R-CHIP
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2007-009408	R4013	R-CHIP
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2007-009408	R4019	R-CHIP
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2007-009408	R4040	R-CHIP
2007-009408	R4041	R-CHIP
2007-009408	R4042	R-CHIP
2007-009408	R4043	R-CHIP
2007-009408	R4044	R-CHIP
2007-009408	R4118	R-CHIP
2007-009408	R4119	R-CHIP
2007-009801	R1017	R-CHIP
2007-009801	R1018	R-CHIP
2007-009805	R1013	R-CHIP
2007-009920	R312	R-CHIP

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2007-009969	R605	R-CHIP
2007-010233	R320	R-CHIP
2007-011511	R524	R-CHIP
2203-000233	C1014	C-CER,CHIP
2203-000233	C1015	C-CER,CHIP
2203-000233	C1119	C-CER,CHIP
2203-000233	C1123	C-CER,CHIP
2203-000386	C710	C-CER,CHIP
2203-000425	C1122	C-CER,CHIP
2203-000425	C633	C-CER,CHIP
2203-000438	C214	C-CER,CHIP
2203-000438	C707	C-CER,CHIP
2203-000489	C4099	C-CER,CHIP
2203-000489	C4100	C-CER,CHIP
2203-000725	C248	C-CER,CHIP
2203-000725	C597	C-CER,CHIP
2203-000812	C653	C-CER,CHIP
2203-000812	C654	C-CER,CHIP
2203-000812	C656	C-CER,CHIP
2203-000812	C813	C-CER,CHIP
2203-000995	C577	C-CER,CHIP
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2203-000995	C581	C-CER,CHIP
2203-001072	C711	C-CER,CHIP
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2203-001239	C632	C-CER,CHIP
2203-001383	C1016	C-CER,CHIP
2203-002677	C1093	C-CER,CHIP
2203-002687	C576	C-CER,CHIP
2203-002687	C578	C-CER,CHIP
2203-002687	C579	C-CER,CHIP
2203-005056	C1013	C-CER,CHIP
2203-005482	C563	C-CER,CHIP
2203-005682	C1003	C-CER,CHIP
2203-005682	C1092	C-CER,CHIP
2203-005682	C1107	C-CER,CHIP
2203-005682	C1108	C-CER,CHIP
2203-005682	C212	C-CER,CHIP
2203-005682	C712	C-CER,CHIP
2203-005682	C713	C-CER,CHIP
2203-005717	C1037	C-CER,CHIP
2203-005719	C1004	C-CER,CHIP
2203-005725	C201	C-CER,CHIP

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2203-005725	C4102	C-CER,CHIP
2203-005725	C528	C-CER,CHIP
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2203-005725	C715	C-CER,CHIP
2203-005725	C716	C-CER,CHIP
2203-005725	C717	C-CER,CHIP
2203-005725	C839	C-CER,CHIP
2203-005726	C275	C-CER,CHIP
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2203-005727	C596	C-CER,CHIP
2203-005731	C4000	C-CER,CHIP
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2203-005731	C651	C-CER,CHIP
2203-005734	C648	C-CER,CHIP
2203-005734	C650	C-CER,CHIP
2203-005734	C702	C-CER,CHIP
2203-005736	C1002	C-CER,CHIP
2203-005736	C1020	C-CER,CHIP
2203-005736	C1025	C-CER,CHIP
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2203-005736	C1056	C-CER,CHIP
2203-005736	C1077	C-CER,CHIP
2203-005736	C1104	C-CER,CHIP
2203-005736	C1106	C-CER,CHIP
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2203-005736	C213	C-CER,CHIP
2203-005736	C223	C-CER,CHIP
2203-005777	C1009	C-CER,CHIP
2203-005777	C1031	C-CER,CHIP
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2203-005789	C1006	C-CER,CHIP
2203-005789	C1039	C-CER,CHIP
2203-005789	C258	C-CER,CHIP
2203-005792	C1008	C-CER,CHIP
2203-005792	C1010	C-CER,CHIP
2203-005792	C1034	C-CER,CHIP

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2203-005792	C218	C-CER,CHIP
2203-006048	C4094	C-CER,CHIP
2203-006048	C4098	C-CER,CHIP
2203-006048	C833	C-CER,CHIP
2203-006194	C1096	C-CER,CHIP
2203-006194	C227	C-CER,CHIP
2203-006194	C291	C-CER,CHIP
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2203-006399	C721	C-CER,CHIP
2203-006399	C722	C-CER,CHIP
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2203-006400	C1046	C-CER,CHIP
2203-006400	C1072	C-CER,CHIP

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2203-006423	C573	C-CER,CHIP
2203-006423	C590	C-CER,CHIP
2203-006423	C609	C-CER,CHIP

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2203-006423	C610	C-CER,CHIP
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2203-006674	C1080	C-CER,CHIP
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2203-006707	C1120	C-CER,CHIP
2203-006707	C1121	C-CER,CHIP
2203-006707	C226	C-CER,CHIP
2203-006707	C259	C-CER,CHIP
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2203-006707	C290	C-CER,CHIP
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2203-006872	C202	C-CER,CHIP
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2203-007210	C243	C-CER,CHIP
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2203-007210	C311	C-CER,CHIP

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2203-007271	C4093	C-CER,CHIP
2203-007271	C623	C-CER,CHIP
2203-007271	C704	C-CER,CHIP
2203-007312	C524	C-CER,CHIP
2203-007317	C251	C-CER,CHIP
2203-007317	C4040	C-CER,CHIP

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2203-007449	C4014	C-CER,CHIP
2203-007449	C4016	C-CER,CHIP
2203-007449	C4029	C-CER,CHIP

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2203-007449	C4075	C-CER,CHIP
2203-007449	C4086	C-CER,CHIP
2203-007449	C4087	C-CER,CHIP
2203-007449	C4097	C-CER,CHIP
2203-007449	C4104	C-CER,CHIP
2203-007449	C4105	C-CER,CHIP
2203-007449	C4107	C-CER,CHIP
2203-007449	C4108	C-CER,CHIP
2203-007449	C4111	C-CER,CHIP
2203-007449	C4112	C-CER,CHIP
2203-007449	C4113	C-CER,CHIP
2203-007449	C4115	C-CER,CHIP
2203-007449	C4116	C-CER,CHIP
2203-007449	C4118	C-CER,CHIP
2203-007449	C4119	C-CER,CHIP
2203-007449	C4121	C-CER,CHIP
2203-007449	C4122	C-CER,CHIP
2203-007449	C4124	C-CER,CHIP
2203-007449	C4125	C-CER,CHIP
2203-007449	C4127	C-CER,CHIP
2203-007449	C4128	C-CER,CHIP
2203-007449	C4130	C-CER,CHIP
2203-007449	C4131	C-CER,CHIP
2203-007449	C4133	C-CER,CHIP
2203-007449	C4134	C-CER,CHIP
2203-007449	C4136	C-CER,CHIP
2203-007449	C4137	C-CER,CHIP
2203-007449	C4139	C-CER,CHIP
2203-007449	C4140	C-CER,CHIP
2203-007449	C4142	C-CER,CHIP
2203-007449	C4143	C-CER,CHIP
2203-007449	C4146	C-CER,CHIP
2203-007449	C4147	C-CER,CHIP
2203-007449	C4149	C-CER,CHIP

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2203-007449	C4150	C-CER,CHIP
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2203-007449	C4153	C-CER,CHIP
2203-007449	C4155	C-CER,CHIP
2203-007449	C4156	C-CER,CHIP
2203-007449	C4158	C-CER,CHIP
2203-007449	C4159	C-CER,CHIP
2203-007449	C4161	C-CER,CHIP
2203-007449	C4162	C-CER,CHIP
2203-007449	C4164	C-CER,CHIP
2203-007449	C4165	C-CER,CHIP
2203-007449	C4167	C-CER,CHIP
2203-007449	C4168	C-CER,CHIP
2203-007449	C4170	C-CER,CHIP
2203-007449	C4171	C-CER,CHIP
2203-007449	C4173	C-CER,CHIP
2203-007449	C4174	C-CER,CHIP
2203-007449	C4176	C-CER,CHIP
2203-007449	C4177	C-CER,CHIP
2203-007449	C4179	C-CER,CHIP
2203-007449	C4180	C-CER,CHIP
2203-007449	C4182	C-CER,CHIP
2203-007449	C5000	C-CER,CHIP
2203-007449	C529	C-CER,CHIP
2203-007449	C530	C-CER,CHIP
2203-007449	C533	C-CER,CHIP
2203-007449	C534	C-CER,CHIP
2203-007449	C535	C-CER,CHIP
2203-007449	C536	C-CER,CHIP
2203-007449	C537	C-CER,CHIP
2203-007449	C538	C-CER,CHIP
2203-007449	C539	C-CER,CHIP
2203-007449	C541	C-CER,CHIP
2203-007449	C543	C-CER,CHIP
2203-007449	C545	C-CER,CHIP
2203-007449	C546	C-CER,CHIP
2203-007449	C547	C-CER,CHIP
2203-007449	C549	C-CER,CHIP
2203-007449	C589	C-CER,CHIP
2203-007449	C594	C-CER,CHIP
2203-007449	C607	C-CER,CHIP
2203-007449	C620	C-CER,CHIP
2203-007449	C621	C-CER,CHIP

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2203-007449	C638	C-CER,CHIP
2203-007449	C801	C-CER,CHIP
2203-007449	C804	C-CER,CHIP
2203-007449	C806	C-CER,CHIP
2203-007449	C807	C-CER,CHIP
2203-007449	C809	C-CER,CHIP
2203-007449	C901	C-CER,CHIP
2203-007474	C302	C-CER,CHIP
2203-007474	C303	C-CER,CHIP
2203-007474	C304	C-CER,CHIP
2203-007474	C501	C-CER,CHIP
2203-007474	C502	C-CER,CHIP
2203-007474	C503	C-CER,CHIP
2203-007474	C506	C-CER,CHIP
2203-007474	C507	C-CER,CHIP
2203-007474	C508	C-CER,CHIP
2203-007474	C509	C-CER,CHIP
2203-007474	C514	C-CER,CHIP
2203-007474	C520	C-CER,CHIP
2203-007474	C521	C-CER,CHIP
2203-007474	C554	C-CER,CHIP
2203-007474	C555	C-CER,CHIP
2203-007474	C558	C-CER,CHIP
2203-007474	C815	C-CER,CHIP
2203-007775	C229	C-CER,CHIP
2203-007775	C230	C-CER,CHIP
2203-007775	C231	C-CER,CHIP
2203-007775	C239	C-CER,CHIP
2203-007775	C249	C-CER,CHIP
2203-007781	C552	C-CER,CHIP
2203-007781	C559	C-CER,CHIP
2203-007781	C575	C-CER,CHIP
2203-007795	C360	C-CER,CHIP
2203-007796	C207	C-CER,CHIP
2203-007796	C232	C-CER,CHIP
2203-007796	C235	C-CER,CHIP
2203-007796	C236	C-CER,CHIP
2203-007796	C237	C-CER,CHIP
2203-007796	C244	C-CER,CHIP
2203-007796	C629	C-CER,CHIP
2203-007796	C637	C-CER,CHIP
2203-007796	C800	C-CER,CHIP
2203-007796	C802	C-CER,CHIP

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2203-007796	C803	C-CER,CHIP
2203-007796	C912	C-CER,CHIP
2203-008095	C1060	C-CER,CHIP
2203-008097	C294	C-CER,CHIP
2203-008123	C595	C-CER,CHIP
2203-008126	C587	C-CER,CHIP
2203-008126	C588	C-CER,CHIP
2203-008126	C598	C-CER,CHIP
2203-008176	C586	C-CER,CHIP
2203-008199	C553	C-CER,CHIP
2203-008199	C556	C-CER,CHIP
2203-008217	C298	C-CER,CHIP
2203-008217	C5001	C-CER,CHIP
2203-008217	C570	C-CER,CHIP
2203-008242	C4010	C-CER,CHIP
2203-008242	C4012	C-CER,CHIP
2203-008242	C4058	C-CER,CHIP
2203-008242	C4067	C-CER,CHIP
2203-008242	C4073	C-CER,CHIP
2203-008242	C4103	C-CER,CHIP
2203-008242	C4106	C-CER,CHIP
2203-008242	C4109	C-CER,CHIP
2203-008242	C4110	C-CER,CHIP
2203-008242	C4114	C-CER,CHIP
2203-008242	C4117	C-CER,CHIP
2203-008242	C4120	C-CER,CHIP
2203-008242	C4123	C-CER,CHIP
2203-008242	C4126	C-CER,CHIP
2203-008242	C4129	C-CER,CHIP
2203-008242	C4132	C-CER,CHIP
2203-008242	C4135	C-CER,CHIP
2203-008242	C4138	C-CER,CHIP
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2203-008242	C4160	C-CER,CHIP
2203-008242	C4163	C-CER,CHIP
2203-008242	C4166	C-CER,CHIP
2203-008242	C4169	C-CER,CHIP
2203-008242	C4172	C-CER,CHIP

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2203-008242	C4175	C-CER,CHIP
2203-008242	C4178	C-CER,CHIP
2203-008242	C515	C-CER,CHIP
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2203-008242	C531	C-CER,CHIP
2203-008242	C532	C-CER,CHIP
2203-008242	C540	C-CER,CHIP
2203-008242	C542	C-CER,CHIP
2203-008242	C544	C-CER,CHIP
2203-008242	C548	C-CER,CHIP
2203-008242	C550	C-CER,CHIP
2203-008243	C527	C-CER,CHIP
2203-008394	C1073	C-CER,CHIP
2203-008394	C210	C-CER,CHIP
2203-008394	C215	C-CER,CHIP
2203-008394	C222	C-CER,CHIP
2203-008394	C224	C-CER,CHIP
2203-008394	C250	C-CER,CHIP
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2203-008394	C264	C-CER,CHIP
2203-008394	C265	C-CER,CHIP
2203-008394	C266	C-CER,CHIP
2203-008529	C605	C-CER,CHIP
2203-008529	C606	C-CER,CHIP
2203-008529	C608	C-CER,CHIP
2203-008529	C615	C-CER,CHIP
2203-008529	C616	C-CER,CHIP
2203-008529	C624	C-CER,CHIP
2203-008529	C625	C-CER,CHIP
2203-008529	C635	C-CER,CHIP
2203-008691	C914	C-CER,CHIP
2203-008691	C915	C-CER,CHIP
2203-008691	C916	C-CER,CHIP
2203-008876	C709	C-CER,CHIP
2203-008885	C5003	C-CER,CHIP
2203-008885	C510	C-CER,CHIP
2203-008885	C511	C-CER,CHIP
2203-008885	C512	C-CER,CHIP
2203-008885	C513	C-CER,CHIP

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2203-008885	C523	C-CER,CHIP
2203-008885	C525	C-CER,CHIP
2203-008885	C560	C-CER,CHIP
2203-008885	C561	C-CER,CHIP
2404-001516	TA600	C-TA,CHIP
2703-001178	L1009	INDUCTOR-SMD
2703-002205	L1041	INDUCTOR-SMD
2703-002208	L1070	INDUCTOR-SMD
2703-002309	L605	INDUCTOR-SMD
2703-002309	L606	INDUCTOR-SMD
2703-002309	L607	INDUCTOR-SMD
2703-002309	L608	INDUCTOR-SMD
2703-002309	L609	INDUCTOR-SMD
2703-002313	L1010	INDUCTOR-SMD
2703-002313	L1065	INDUCTOR-SMD
2703-002314	L1011	INDUCTOR-SMD
2703-002367	L202	INDUCTOR-SMD
2703-002367	L232	INDUCTOR-SMD
2703-002369	L1072	INDUCTOR-SMD
2703-002596	L1013	INDUCTOR-SMD
2703-002649	L208	INDUCTOR-SMD
2703-002951	L1044	INDUCTOR-SMD
2703-002951	L1046	INDUCTOR-SMD
2703-002958	L1042	INDUCTOR-SMD
2703-002999	L1058	INDUCTOR-SMD
2703-003121	L1071	INDUCTOR-SMD
2703-003260	L1036	INDUCTOR-SMD
2703-003545	L217	INDUCTOR-SMD
2703-003755	L1001	INDUCTOR-SMD
2703-003755	L1007	INDUCTOR-SMD
2703-003755	L1031	INDUCTOR-SMD
2703-003781	L610	INDUCTOR-SMD
2703-003781	L611	INDUCTOR-SMD
2703-003873	L301	INDUCTOR-SMD
2703-003873	L302	INDUCTOR-SMD
2703-003873	L303	INDUCTOR-SMD
2703-004000	L1052	INDUCTOR-SMD
2703-004000	L1059	INDUCTOR-SMD
2703-004012	L1012	INDUCTOR-SMD
2703-004012	L1014	INDUCTOR-SMD
2703-004012	L1019	INDUCTOR-SMD
2703-004018	L1034	INDUCTOR-SMD
2703-004018	L1060	INDUCTOR-SMD

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2703-004030	L201	INDUCTOR-SMD
2703-004032	L1002	INDUCTOR-SMD
2703-004032	L1016	INDUCTOR-SMD
2703-004032	L1025	INDUCTOR-SMD
2703-004032	L1055	INDUCTOR-SMD
2703-004032	L1057	INDUCTOR-SMD
2703-004032	L1066	INDUCTOR-SMD
2703-004032	L206	INDUCTOR-SMD
2703-004032	L220	INDUCTOR-SMD
2703-004034	L1035	INDUCTOR-SMD
2703-004034	L245	INDUCTOR-SMD
2703-004035	L1017	INDUCTOR-SMD
2703-004035	L1074	INDUCTOR-SMD
2703-004035	L204	INDUCTOR-SMD
2703-004035	L230	INDUCTOR-SMD
2703-004035	L231	INDUCTOR-SMD
2703-004036	L1023	INDUCTOR-SMD
2703-004036	L1028	INDUCTOR-SMD
2703-004037	L1073	INDUCTOR-SMD
2703-004038	L1030	INDUCTOR-SMD
2703-004038	L213	INDUCTOR-SMD
2703-004038	L236	INDUCTOR-SMD
2703-004231	L800	INDUCTOR-SMD
2703-004249	L804	INDUCTOR-SMD
2703-004249	L806	INDUCTOR-SMD
2703-004295	L1015	INDUCTOR-SMD
2703-004295	L1048	INDUCTOR-SMD
2703-004299	L1003	INDUCTOR-SMD
2703-004300	L246	INDUCTOR-SMD
2703-004301	L1047	INDUCTOR-SMD
2703-004301	L1049	INDUCTOR-SMD
2703-004302	L1051	INDUCTOR-SMD
2703-004302	L1053	INDUCTOR-SMD
2703-004302	L1064	INDUCTOR-SMD
2703-004302	L1067	INDUCTOR-SMD
2703-004328	L1038	INDUCTOR-SMD
2703-004328	L1054	INDUCTOR-SMD
2703-004362	L1008	INDUCTOR-SMD
2703-004363	L1005	INDUCTOR-SMD
2703-004366	L1056	INDUCTOR-SMD
2703-004366	L1062	INDUCTOR-SMD
2703-004367	L200	INDUCTOR-SMD
2703-004371	L1024	INDUCTOR-SMD

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2703-004371	L1040	INDUCTOR-SMD
2703-004371	L1050	INDUCTOR-SMD
2703-004554	L513	INDUCTOR-SMD
2703-004775	L500	INDUCTOR-SMD
2703-004775	L501	INDUCTOR-SMD
2703-004775	L503	INDUCTOR-SMD
2703-004775	L504	INDUCTOR-SMD
2703-004775	L506	INDUCTOR-SMD
2703-004775	L507	INDUCTOR-SMD
2703-004775	L509	INDUCTOR-SMD
2703-004775	L512	INDUCTOR-SMD
2703-004901	L502	INDUCTOR-SMD
2703-004901	L505	INDUCTOR-SMD
2703-004901	L508	INDUCTOR-SMD
2703-004901	L510	INDUCTOR-SMD
2703-004901	L511	INDUCTOR-SMD
2703-004976	L1027	INDUCTOR-SMD
2703-005058	L1068	INDUCTOR-SMD
2801-005051	OSC200	CRYSTAL-SMD
2801-005163	OSC4000	CRYSTAL-SMD
2801-005319	OSC500	OSCILLATOR-TCXO
2805-001106	OSC201	OSCILLATOR-TCXO
2809-001376	OSC1001	OSCILLATOR-VCTCXO
2901-001625	F700	FILTER-EMI/ESD
2901-001625	F800	FILTER-EMI/ESD
2901-001625	F803	FILTER-EMI/ESD
2901-001647	F801	FILTER-EMI SMD
2901-001647	F802	FILTER-EMI SMD
2901-001647	F804	FILTER-EMI SMD
2901-001690	C329	FILTER-EMI SMD
2901-001690	C330	FILTER-EMI SMD
2901-001743	F805	FILTER-EMI/ESD
2901-001743	F806	FILTER-EMI/ESD
2901-001743	F807	FILTER-EMI/ESD
2901-001743	F808	FILTER-EMI/ESD
2901-001743	F809	FILTER-EMI/ESD
2904-002015	F1004	FILTER-SAW
2904-002020	F1005	FILTER-SAW
2904-002024	F1008	FILTER-SAW
2904-002091	F1006	FILTER-SAW
2904-002133	F201	FILTER-SAW
2904-002133	F206	FILTER-SAW
2904-002145	F1007	FILTER-SAW

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2904-002168	F200	FILTER-GPS SAW
2904-002168	F202	FILTER-GPS SAW
2910-000223	U1001	DUPLEXER-SAW
2910-000224	F1003	DUPLEXER-SAW
2910-000256	F1002	DUPLEXER-SAW
2911-000267	U1008	DUPLEXER-ASM
2911-000268	U1002	DUPLEXER-ASM
2911-000294	F203	DUPLEXER-FEM
2911-000294	F207	DUPLEXER-FEM
2911-000295	F205	DUPLEXER-FEM
2911-000295	F209	DUPLEXER-FEM
3301-001789	L805	BEAD-SMD
3301-001820	L702	BEAD-SMD
3301-001820	L703	BEAD-SMD
3301-001851	L807	BEAD-SMD
3301-001851	L808	BEAD-SMD
3301-001885	L612	BEAD-SMD
3301-001895	L203	BEAD-SMD
3301-001895	L238	BEAD-SMD
3301-001895	L239	BEAD-SMD
3301-001956	L1026	BEAD-SMD
3301-002065	L602	BEAD-SMD
3301-002078	L603	BEAD-SMD
3301-002078	L604	BEAD-SMD
3301-002122	L1033	BEAD-SMD
3301-002228	L601	BEAD-SMD
3301-002237	L802	BEAD-SMD
3301-002237	L803	BEAD-SMD
3705-001731	RFS1001	CONNECTOR-COAXIAL
3708-003131	SCL800	CONNECTOR-FPC/FFC/PIC
3708-003187	HEA700	CONNECTOR-FPC/FFC/PIC
3711-006852	HDC600	HEADER-BOARD TO BOARD
3711-006925	HEA801	HEADER-BOARD TO BOARD
3711-007295	HEA800	HEADER-BOARD TO BOARD
3711-007467	HEA4000	HEADER-BOARD TO BOARD
3711-007478	HDC900	HEADER-BOARD TO BOARD
3711-008421	BTC500	CONNECTOR-HEADER
3712-001490	ANT100	CONNECTOR-TERMINAL
3712-001490	ANT101	CONNECTOR-TERMINAL
3712-001490	ANT102	CONNECTOR-TERMINAL
3712-001490	ANT103	CONNECTOR-TERMINAL
3712-001490	ANT200	CONNECTOR-TERMINAL
3712-001490	ANT201	CONNECTOR-TERMINAL

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3712-001490	ANT202	CONNECTOR-TERMINAL
3712-001490	ANT203	CONNECTOR-TERMINAL
3712-001493	ANT600	CONNECTOR-TERMINAL
3712-001493	ANT601	CONNECTOR-TERMINAL
3712-001493	ANT602	CONNECTOR-TERMINAL
3712-001493	ANT603	CONNECTOR-TERMINAL
4709-001672	CPL200	FREQ-DISTRIBUTER
4709-002028	F204	FREQ-DISTRIBUTER
4709-002028	F208	FREQ-DISTRIBUTER
4709-002178	F1001	COUPLER-DIRECTION
GH62-00034A	CON800	PAD GAP-SMD GASKET(SM_T230)
GH80-03320A	R302	SOLDER-CREAM/SMT KOREA(FREE)
GH80-03320A	R4116	SOLDER-CREAM/SMT KOREA(FREE)
GH98-31347A	SC102	ASSY COVER-SHIELD COVER A
GH98-31349A	SC103	ASSY COVER-SHIELD COVER C
GH98-31350A	SC101	ASSY COVER-SHIELD COVER D
GH98-31942A	SC104	ASSY COVER-SHIELD FRAME B

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

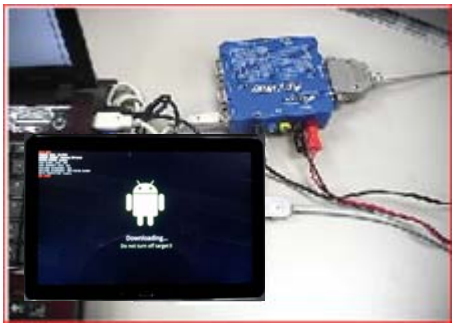
6-1. S/W installation

6-1-1. Required items in order to install S/W

- Installation program: Downloader Program (**Odin3 v3.09.3.exe**)
- SM-T805 Galaxy Tab S
- Data Cable (GH39-01661A)
- JIG BOX (GH99-36900B)
- JIG Cable (GH81-10623A)
- Adapter (GH99-38251A)
- Serial Cable
- Mobile device specific S/W: Binary files

※ Settings

Connect ANYWAY JIG BOX
with JIG CABLE (Phone to JIG)
or PC to Phone Using Data Cable



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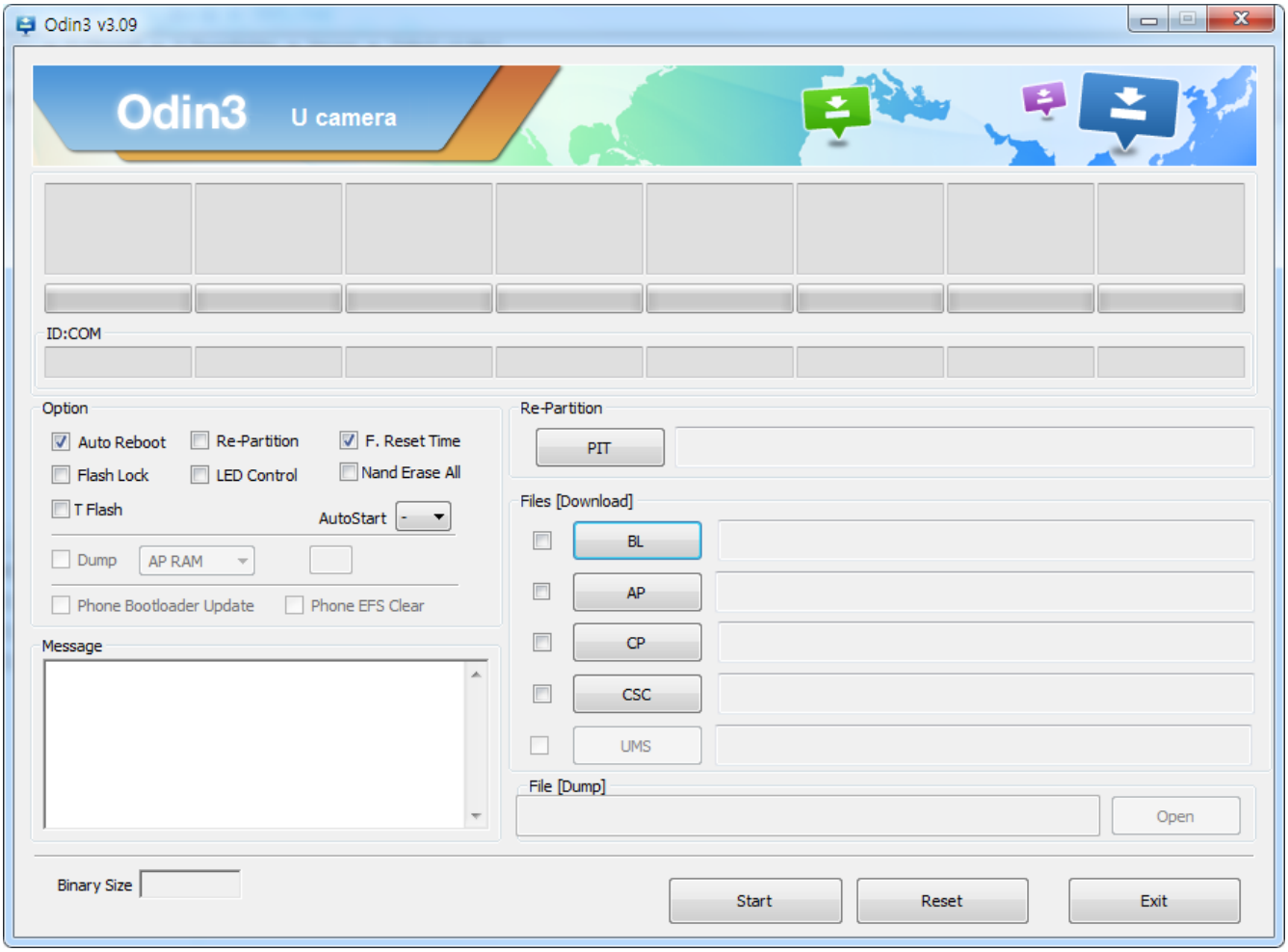
6-1-2. S/W Installation Program (Downloader program)

■ Open up the S/W Installation Program by executing the "**Odin3 v3.09.3.exe**"



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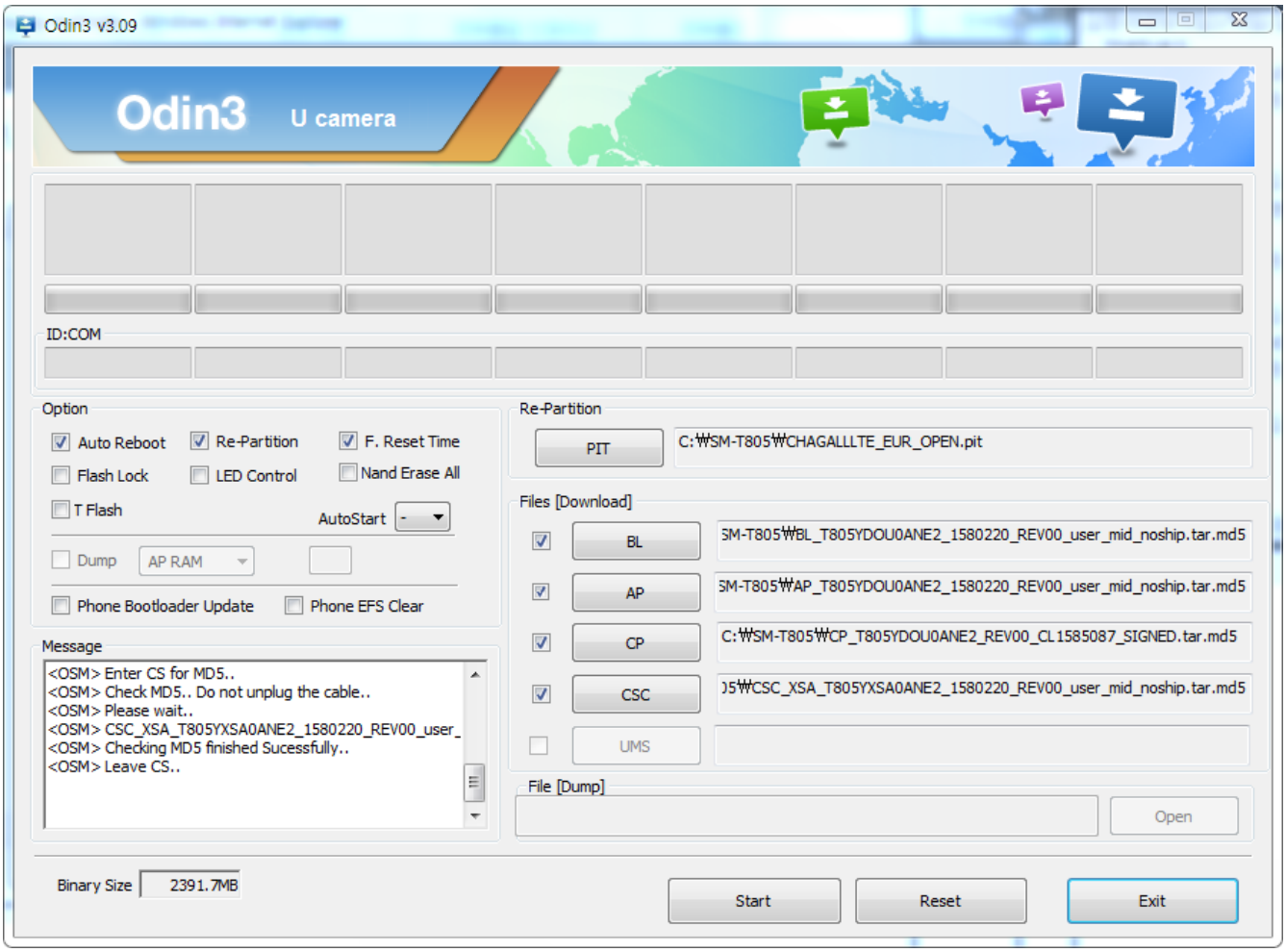
1. Enable the check mark by click on the following options,

- Check Auto Reboot, Re-Partition, and F. Reset Time
- Check PIT
- Check BL, AP, CP, and CSC Files

  * Note : "Odin v3.09 or above" checks MD5 checksum just after file selection.



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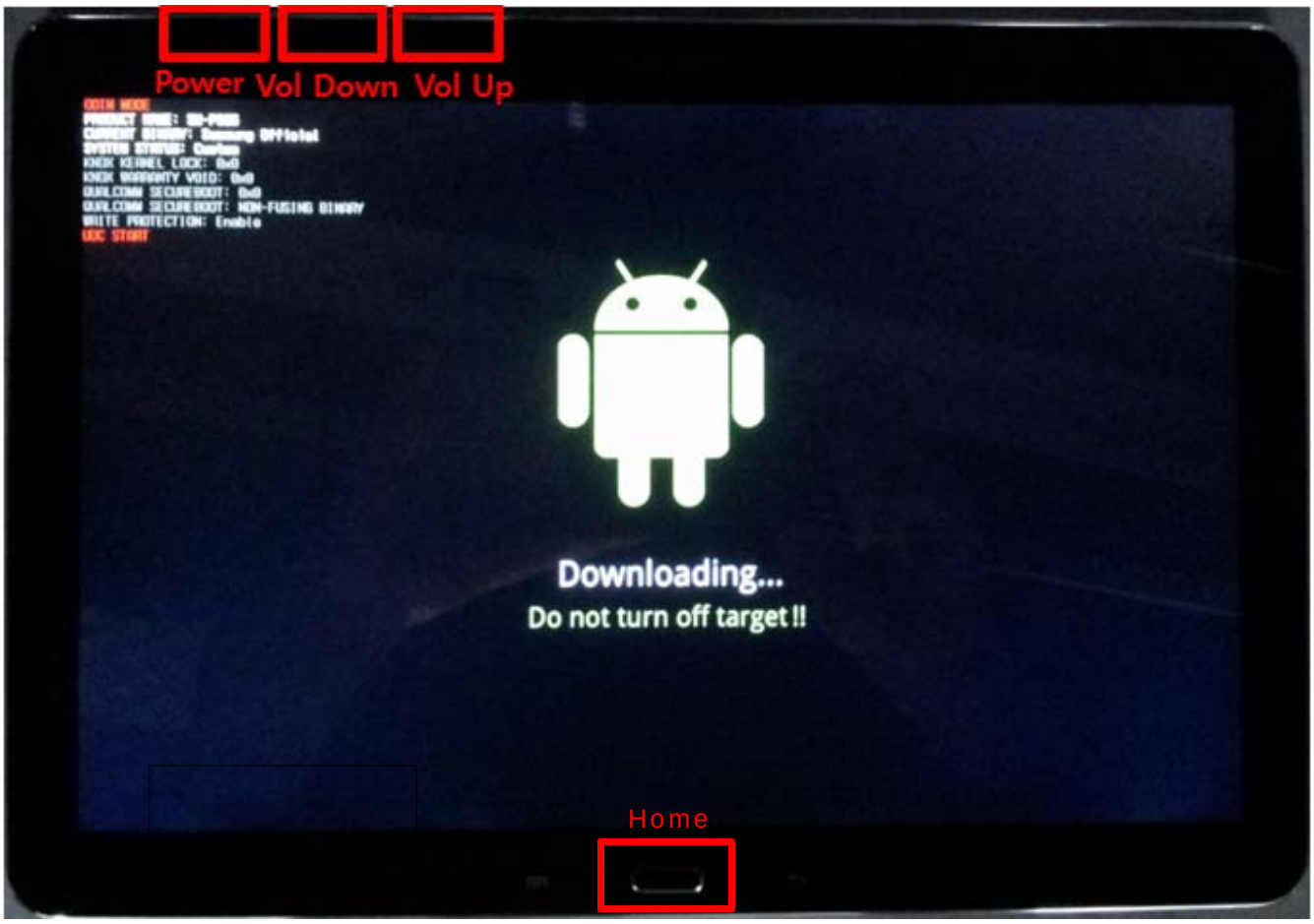
2. Enter into Download Mode

Enter into Download Mode by pressing Home button ,Volume Down button and Power Button simultaneously followed by pressing Volume up button as a direction of the phone.



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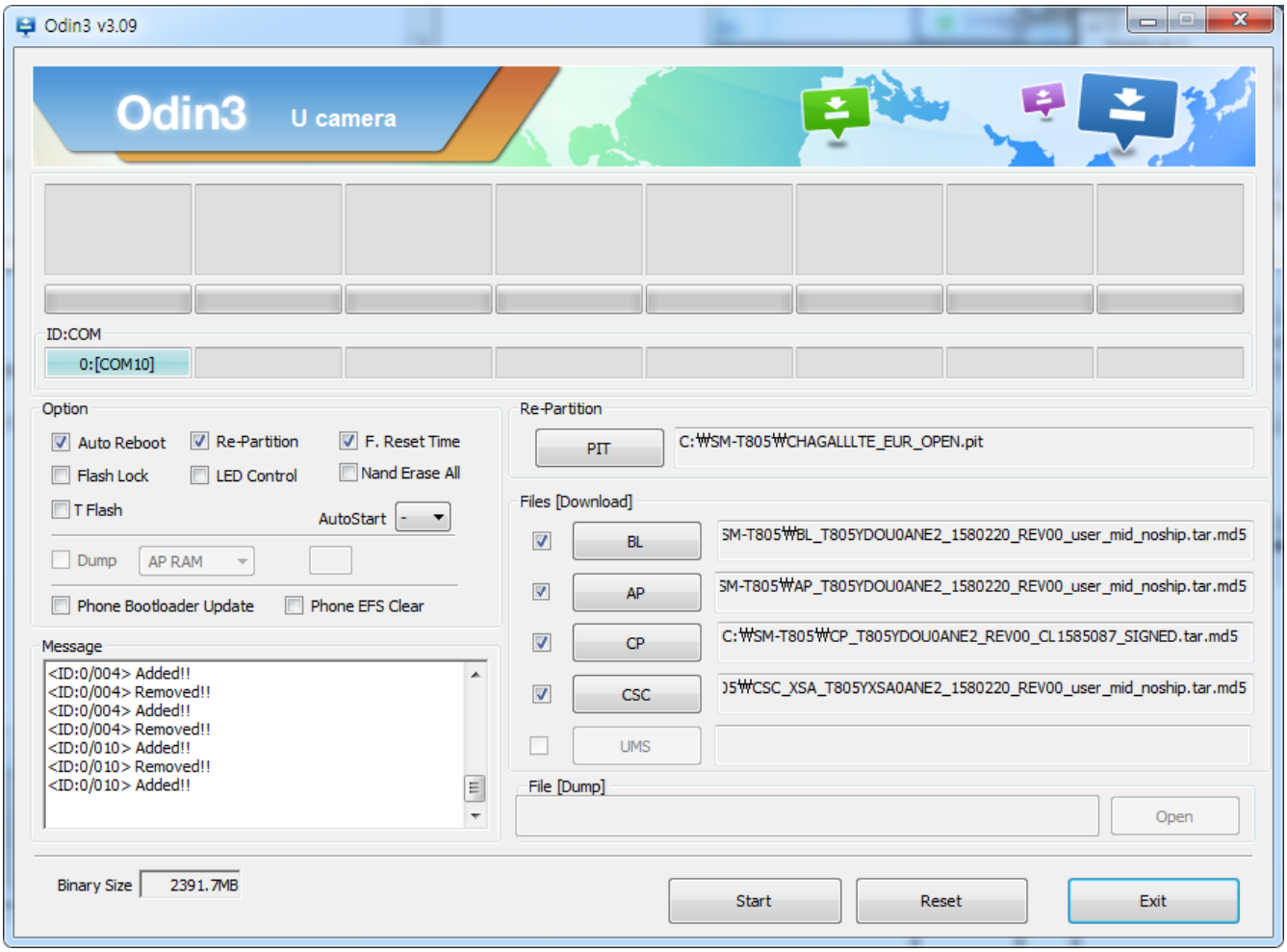
3. Connect the device to PC via Data Cable.

Make sure that the one of communication ports [ID:COM] box is highlighted in sky blue. The device is now connected with the PC and ready to download the binary files in it.



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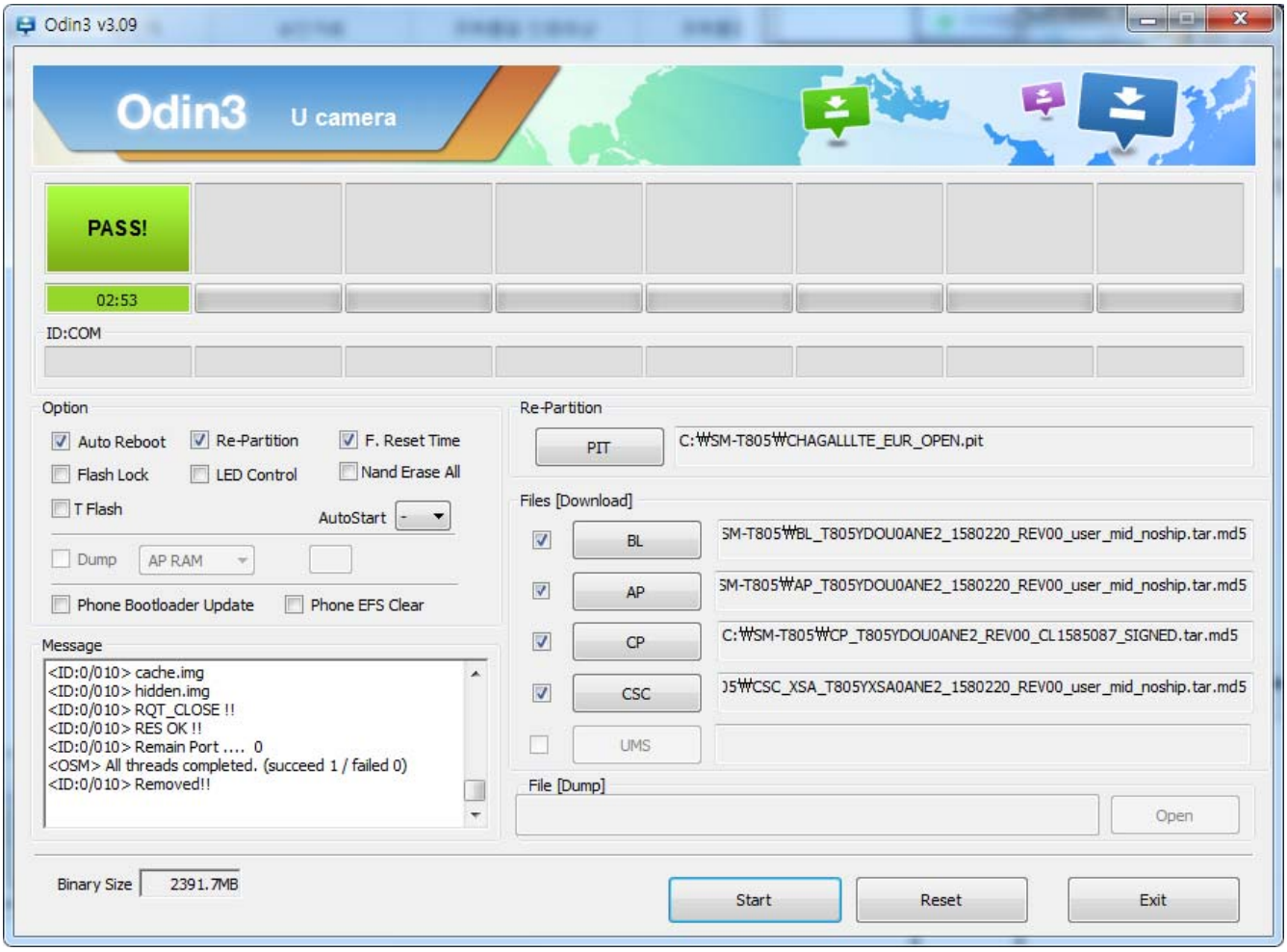
4. Start downloading the binary files into the device by clicking Start button on the screen. The green colored "PASS!" sign will appear on the upper-left box if the binary files have been successfully downloaded into the device.



5. Disconnect the device from the Data cable.

6. Once the device boots up, you can check the version of the binary file or name by pressing the following code in sequence;

***#1234#**

You can perform Factory Reset by Settings → Accounts → Backup and reset

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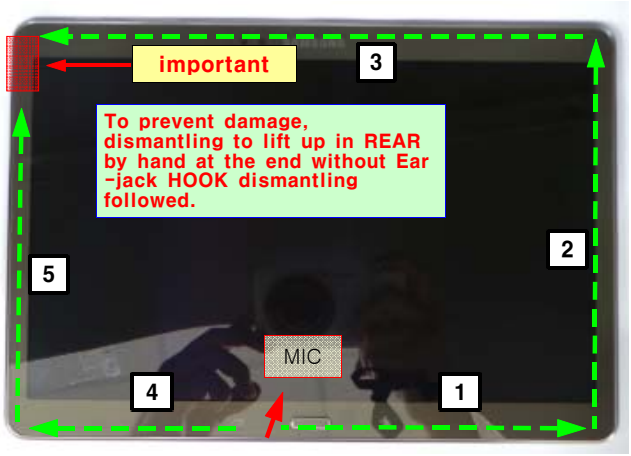
7. Level 2 Repair

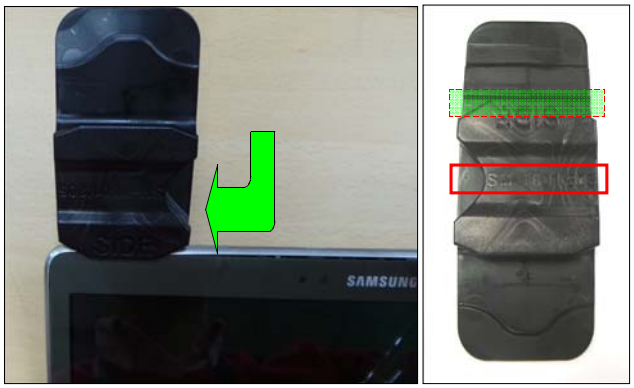
7-1. Disassembly and Assembly Instructions

7-1-1. Disassembly

1 Disjoint Hook at REAR // Disassemble REAR



STEP 1,2,3 → 4,5

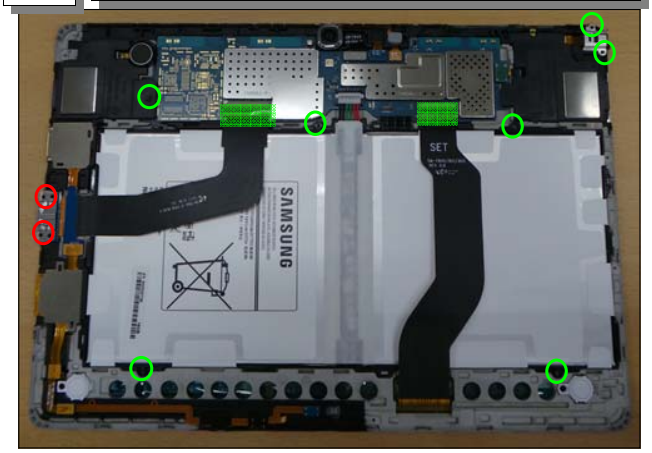


SM-T800_5 disassemble tool

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

1) Use Band point of disassembly jig

2 Remove the screw(9EA)

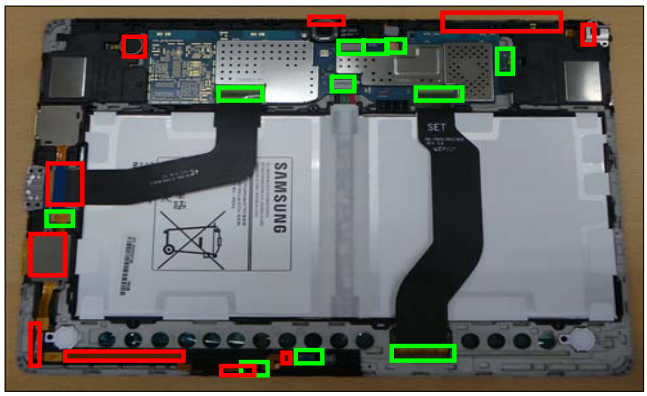


Red point(2EA) : Black screw

Green point(7EA) : Silver screw

Be careful, use of different screws

3 Disconnect the connector and tape



GREEN: Connector

RED : be careful not to crack FPCB(both sides tape)

Be careful, do not damage FPCB connector

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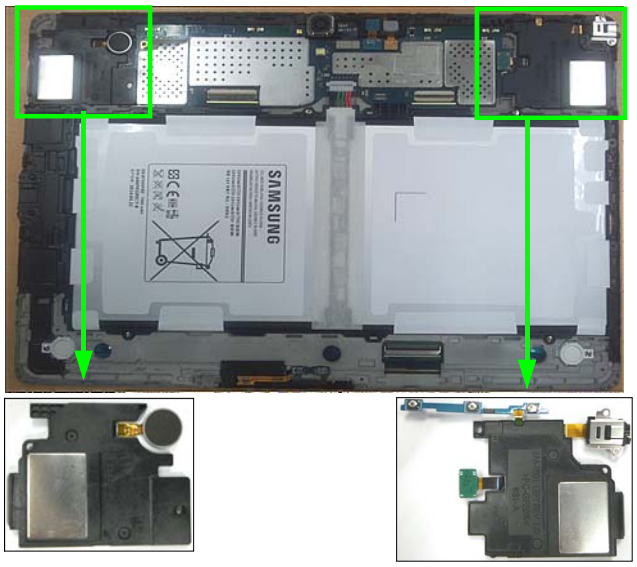
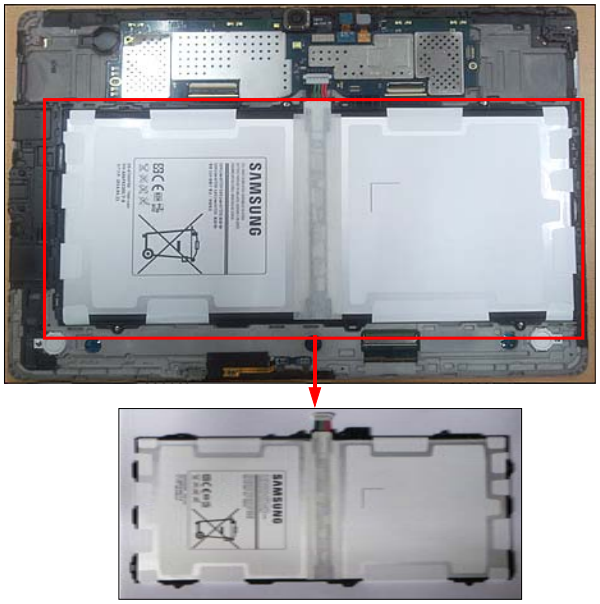
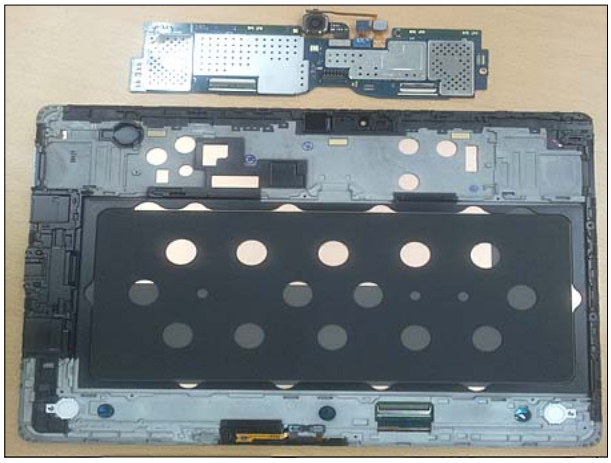
4 Disassemble SPK(L),(R)	5 Remove the battery
	
Be careful, do not damage FPCB	Be careful, do not damage Battery
6 Remove the PBA	
	
Be careful, do not damage FPCB	

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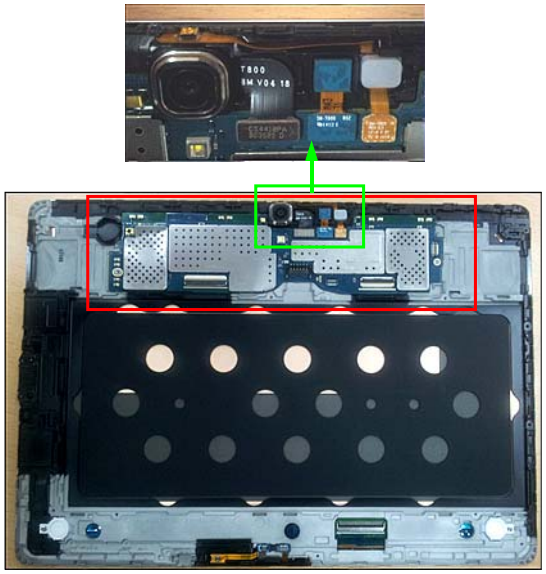
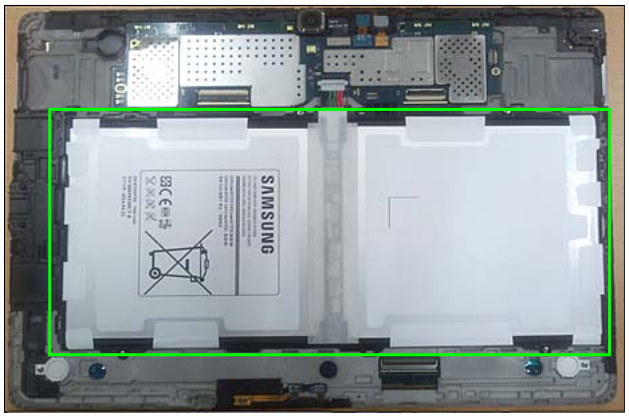
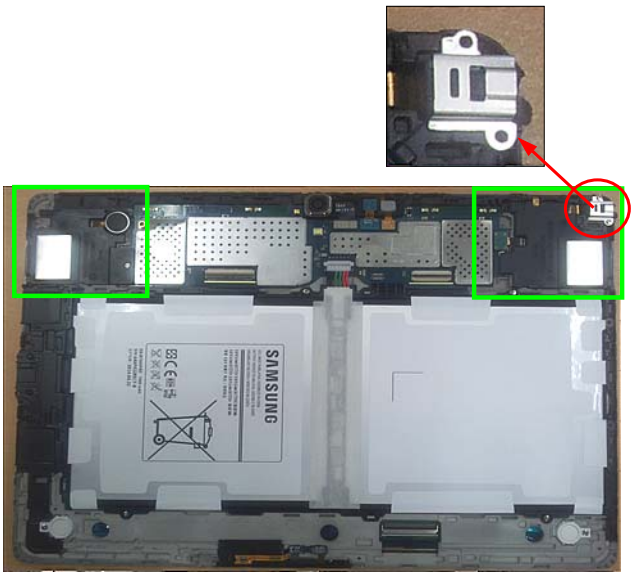
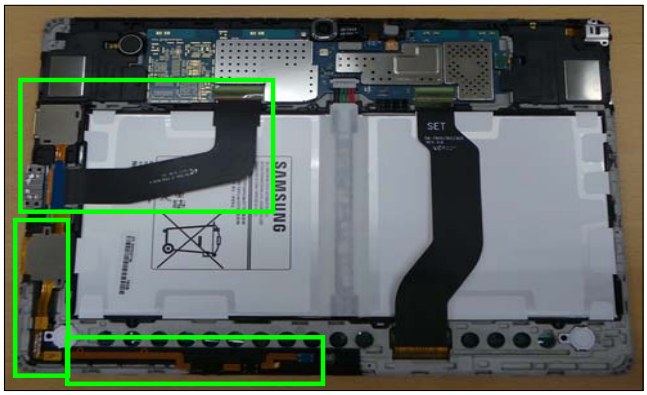
7-1-2. Assembly

1 Assemble PBA	2 Assemble the battery
	
Be careful, do not damage FPCB	Be careful, do not damage Battery
3 Assemble SPK(L),(R)	**4 Assemble the MIC/USB/SIM FPCB**
	
Be careful, do not damage FPCB Check Ear-jack SUS	Be careful, do not damage FPCB

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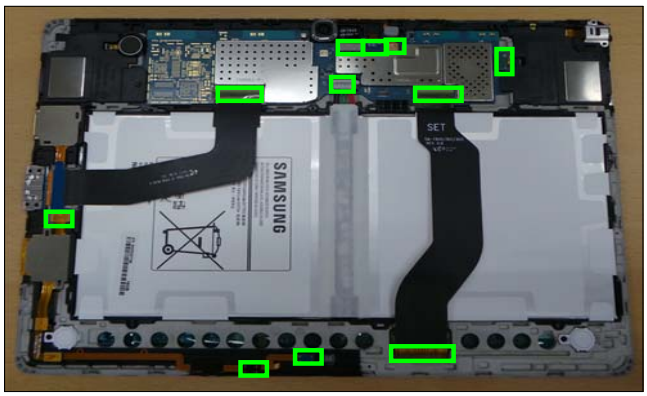
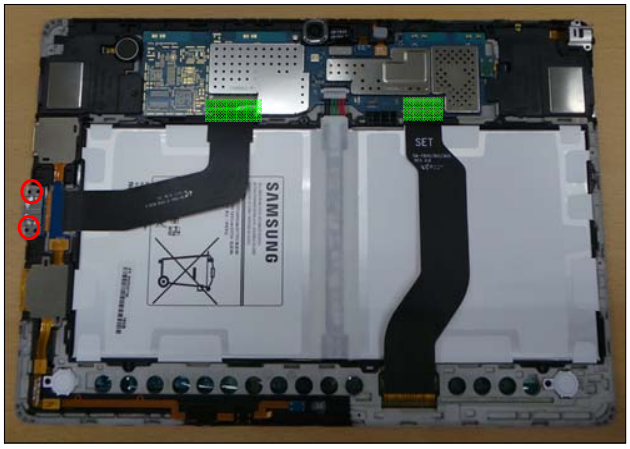
5 Assemble the connector & tape



Be careful, do not damage FPCB connector

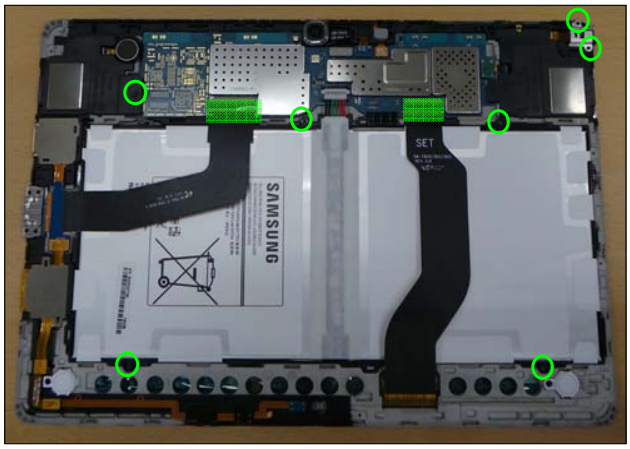
6 tightening the IF screws(2EA)



Red point(2EA) : Black screw

- Torque : 1.1 ~ 1.3 Kgf · cm /
- Size : 1.4 * 4 (6001-001479)

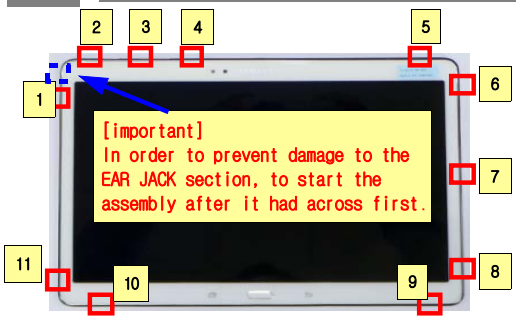
7 tightening the screws(7EA)

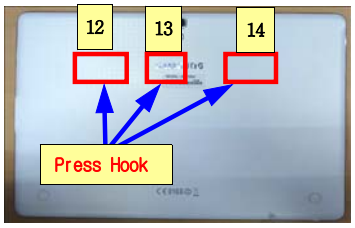


Green point(7EA) : Silver screw

- Torque : 1.1 ~ 1.3 Kgf · cm /
- Size : 1.4 * 3 (6001-001811)

8 Assemble Rear





Assembly STEP 1 ~ 14

Be careful, do not assemble hook

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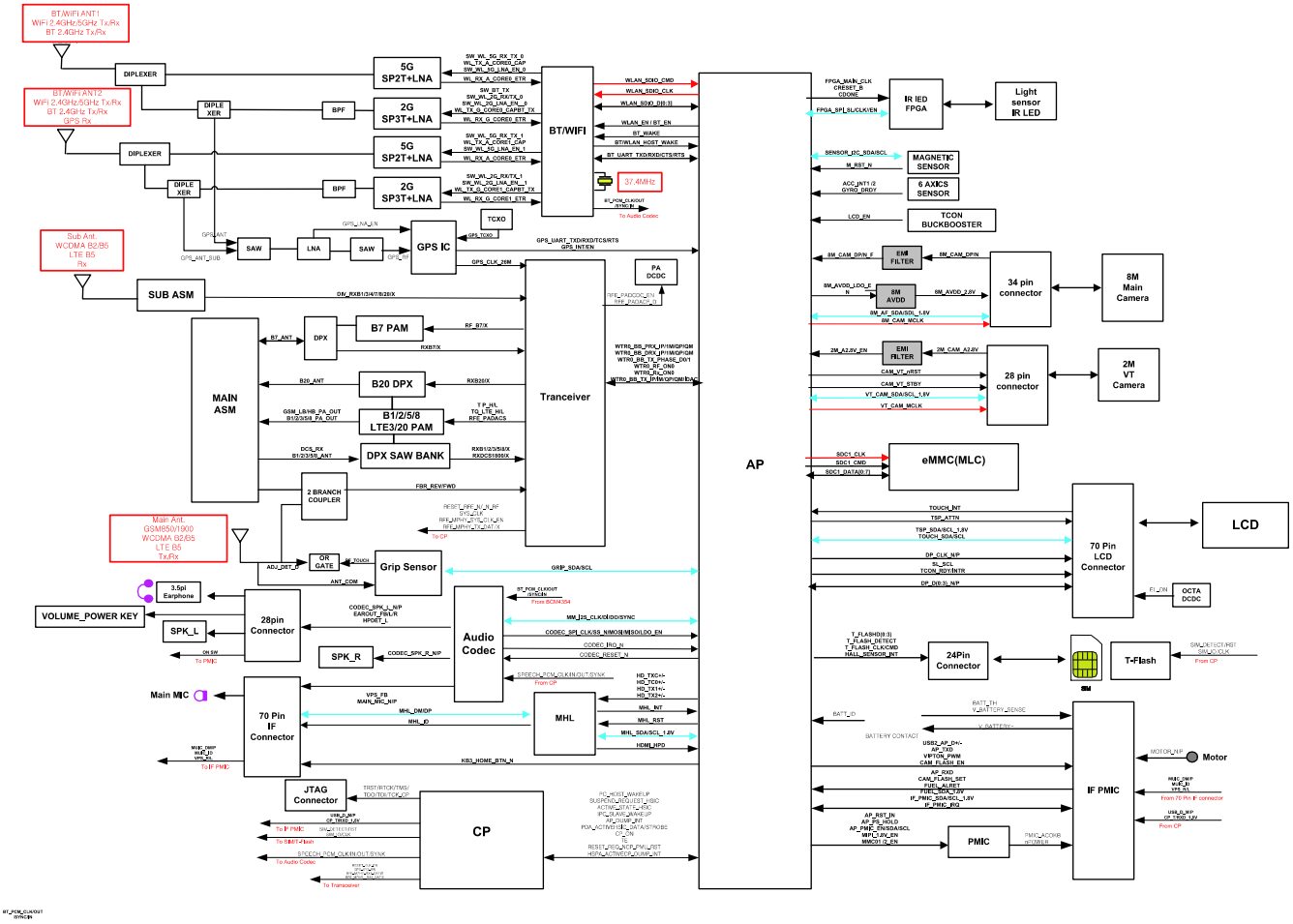
8. Level 3 Repair

8-1. Block Diagram



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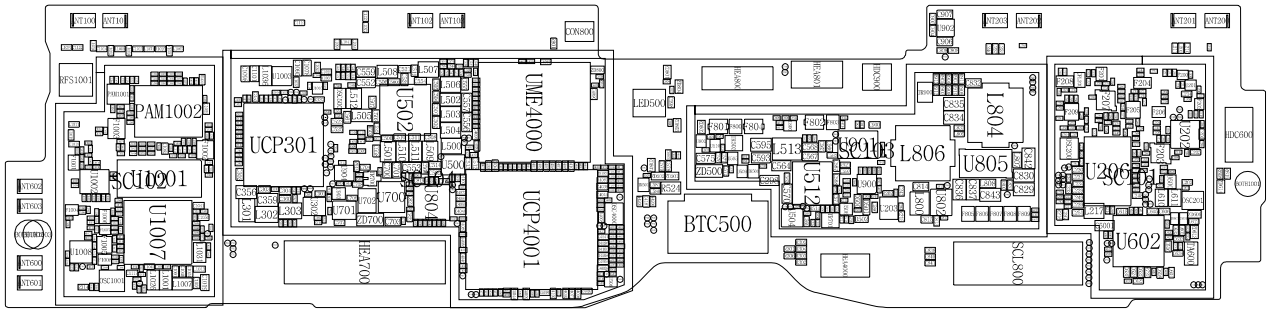
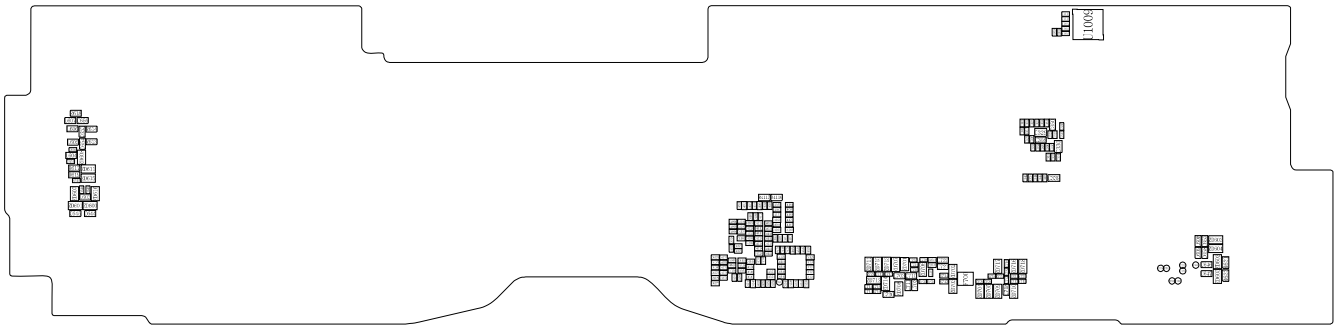
8-2. PCB Diagrams

8-2-1. Main PCB Top



8-2-2. Bottom



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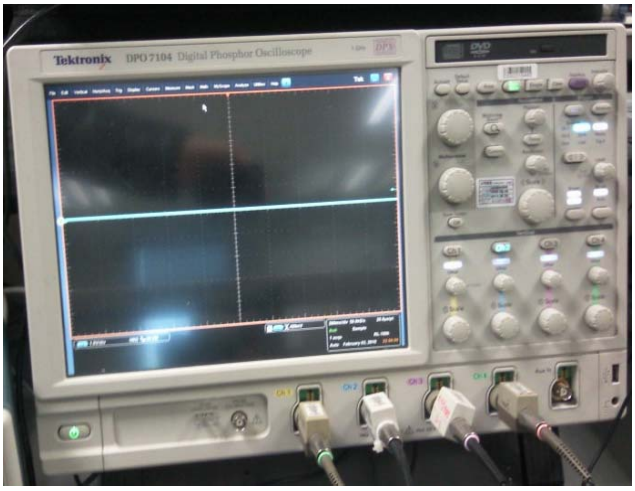
8-3. Flow Chart of Troubleshooting

Equipments

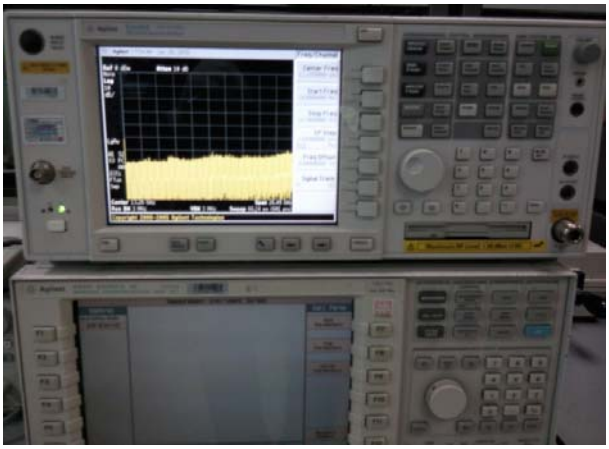


↑ Oscilloscope

↑ Digital Multimeter

↑ Power Supply

↑ + driver, ESD Safe Tweezer



↑ 8960 & Spectrum Analyzer

↑ Soldering iron

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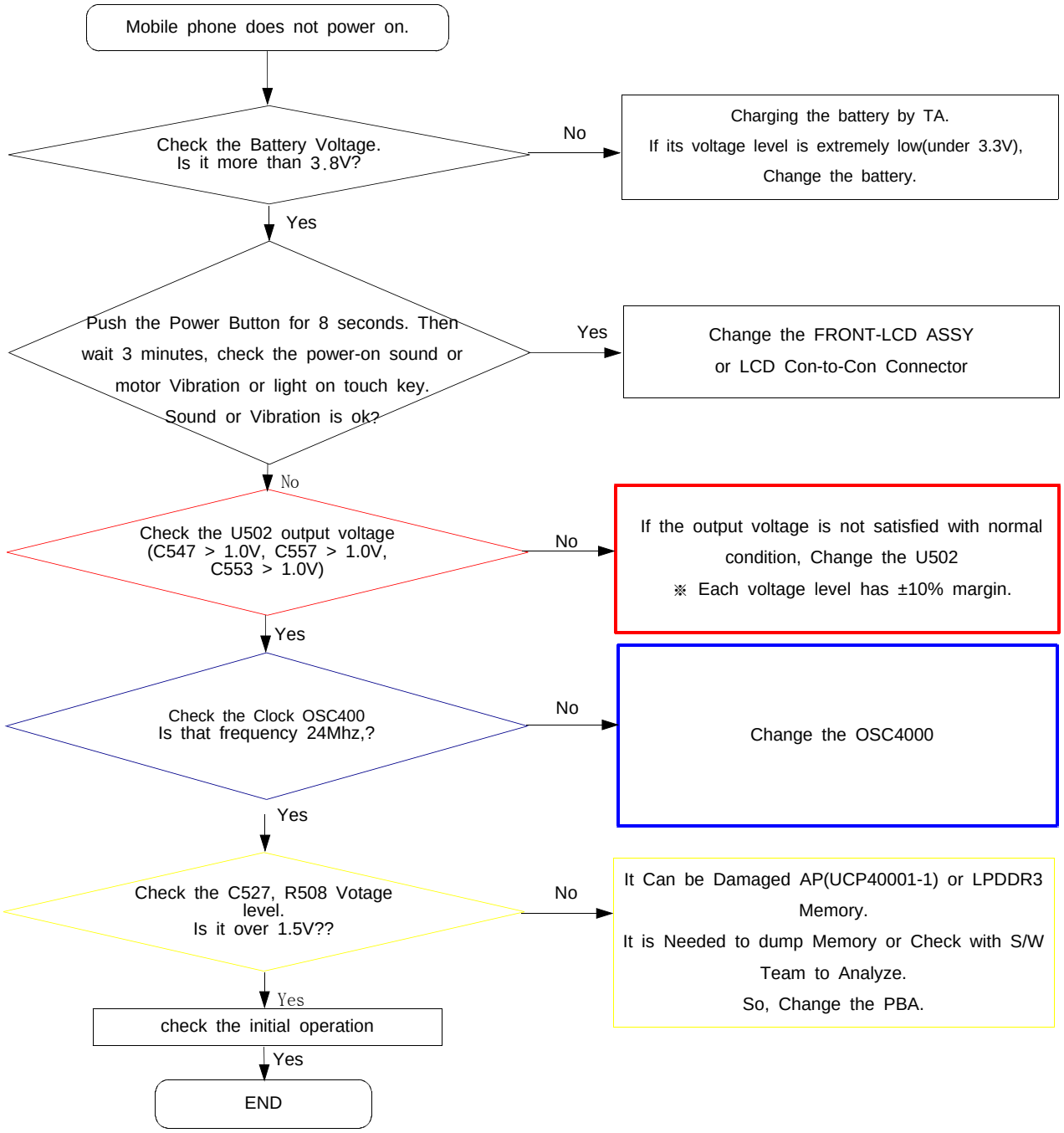
8-3-1. Power On



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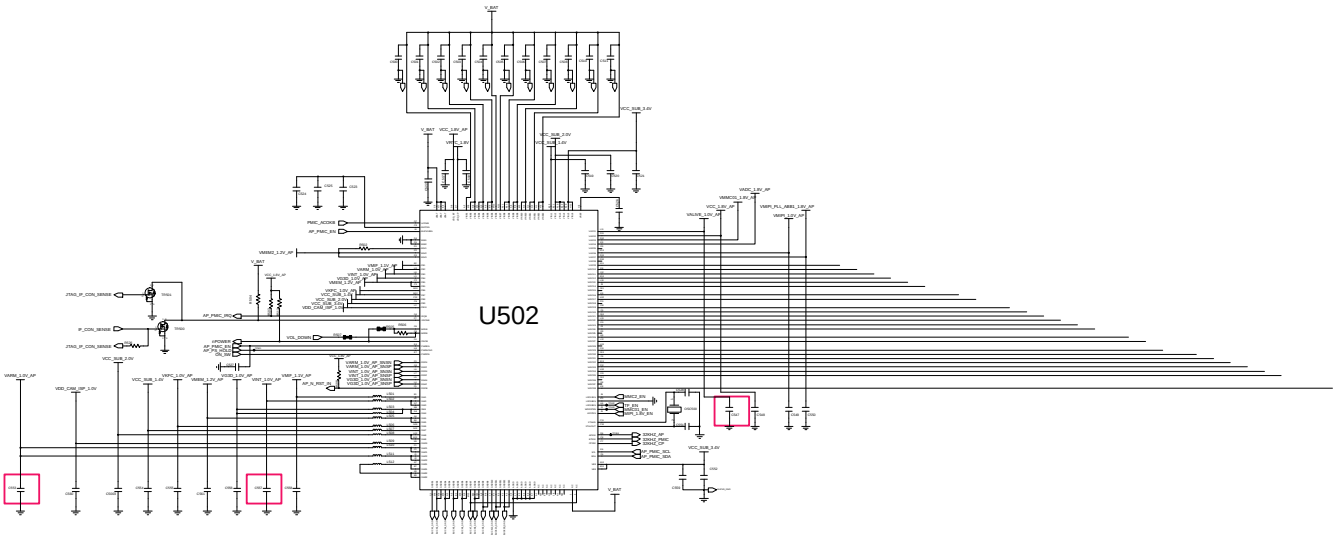

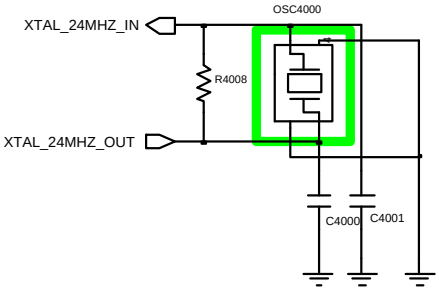

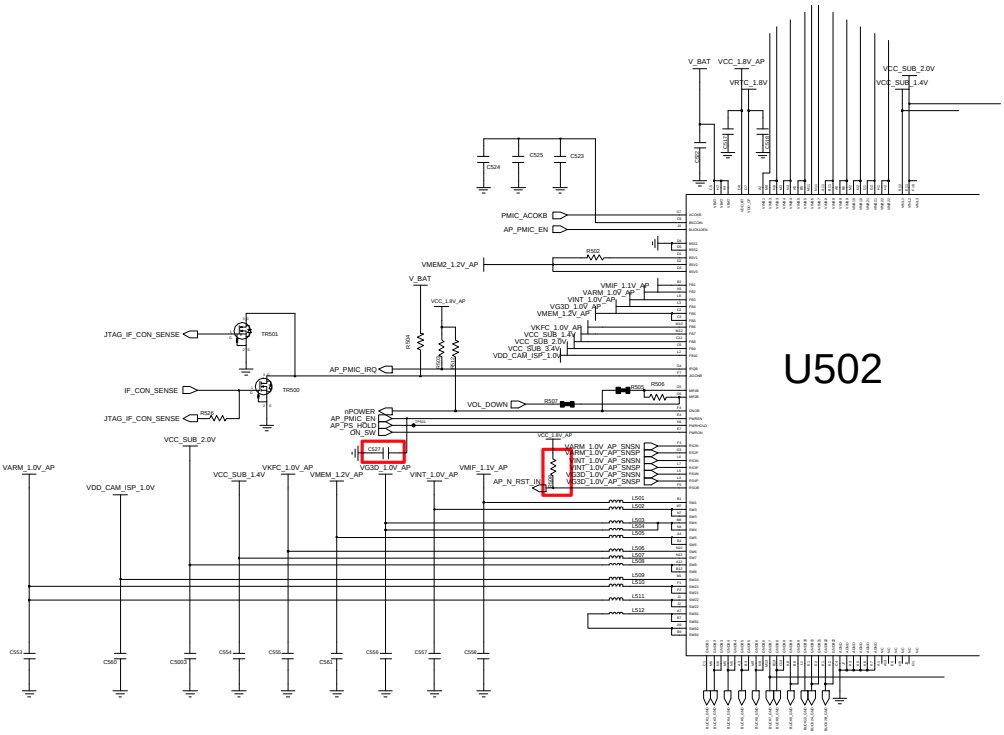

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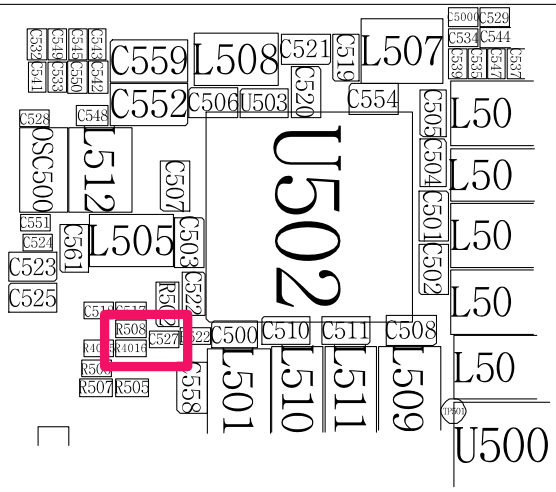

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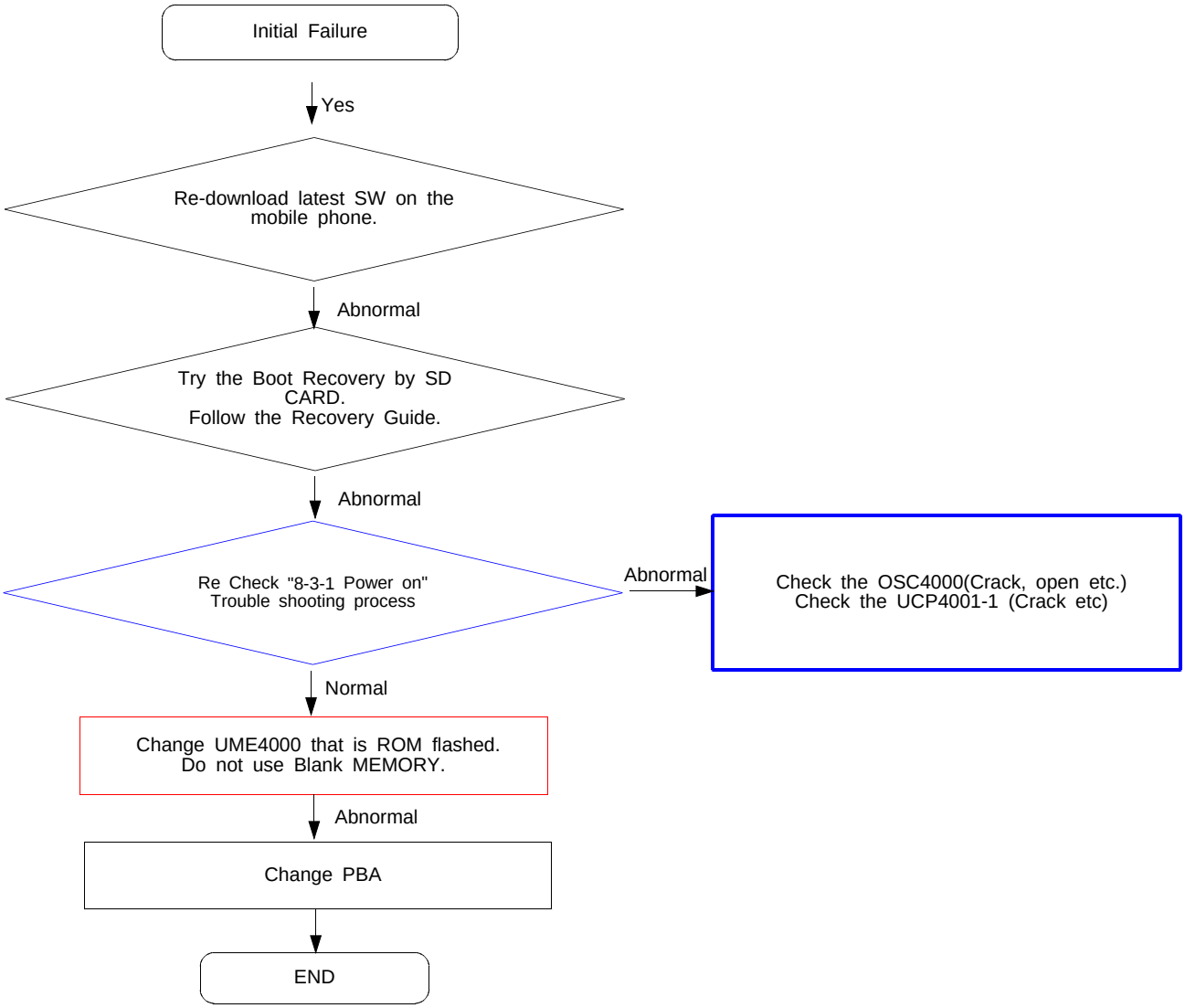
8-3-2. Initial



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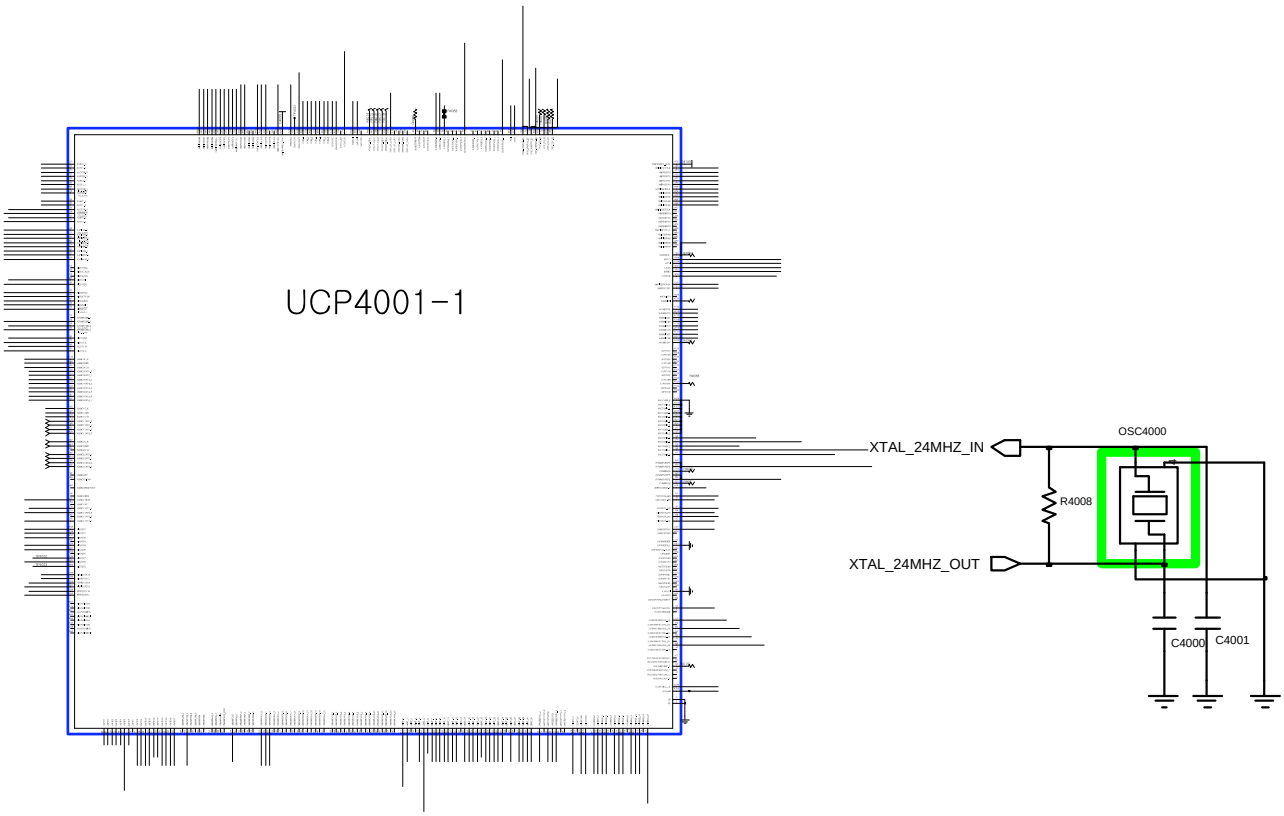

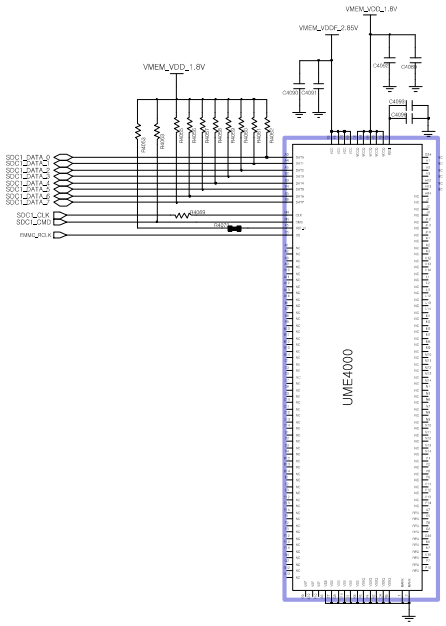

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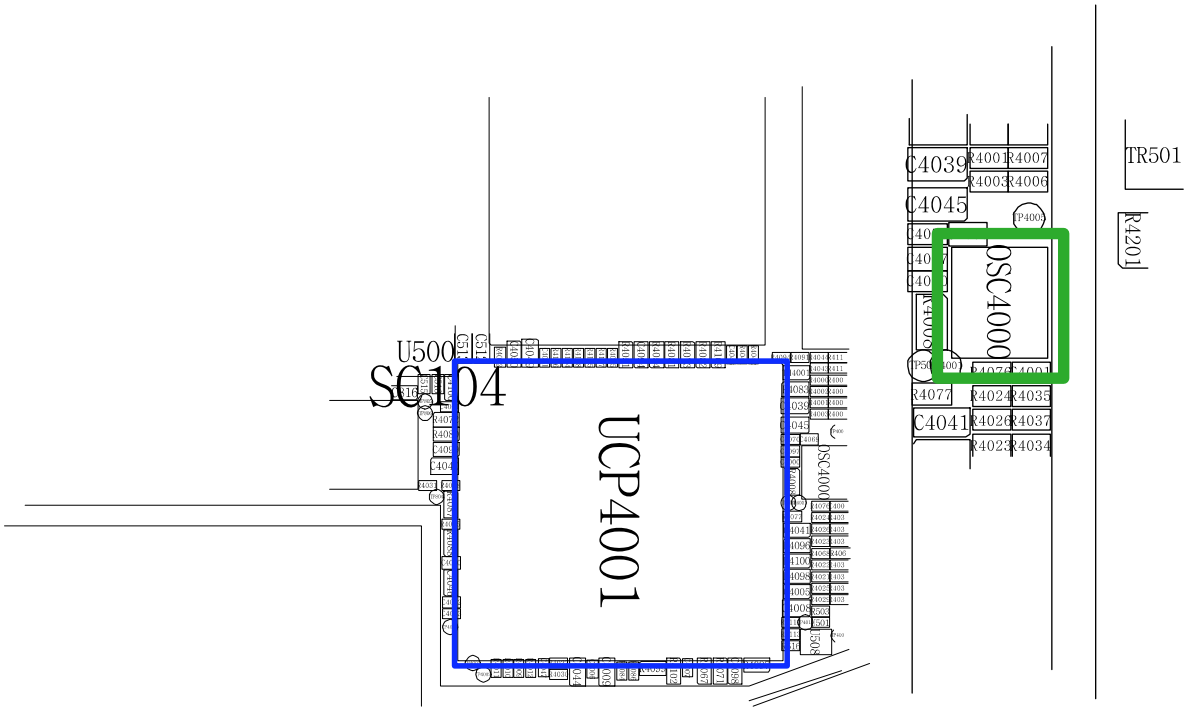

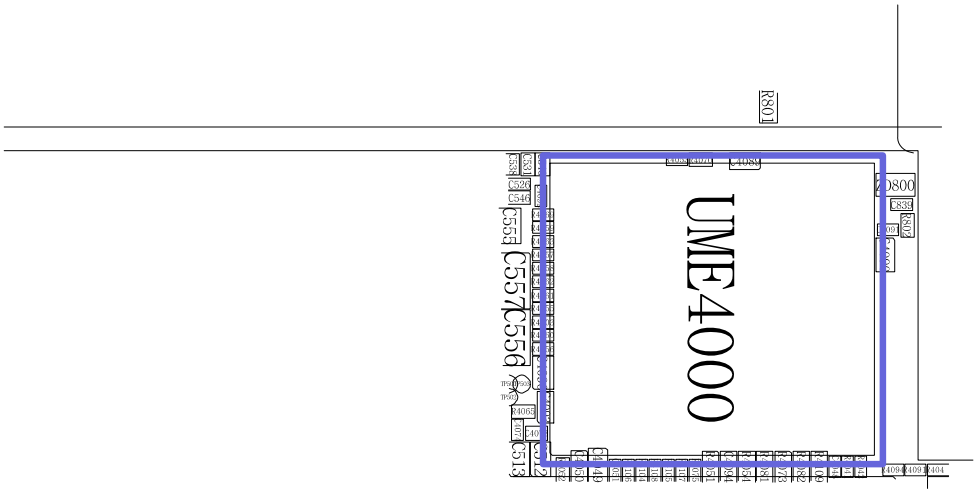

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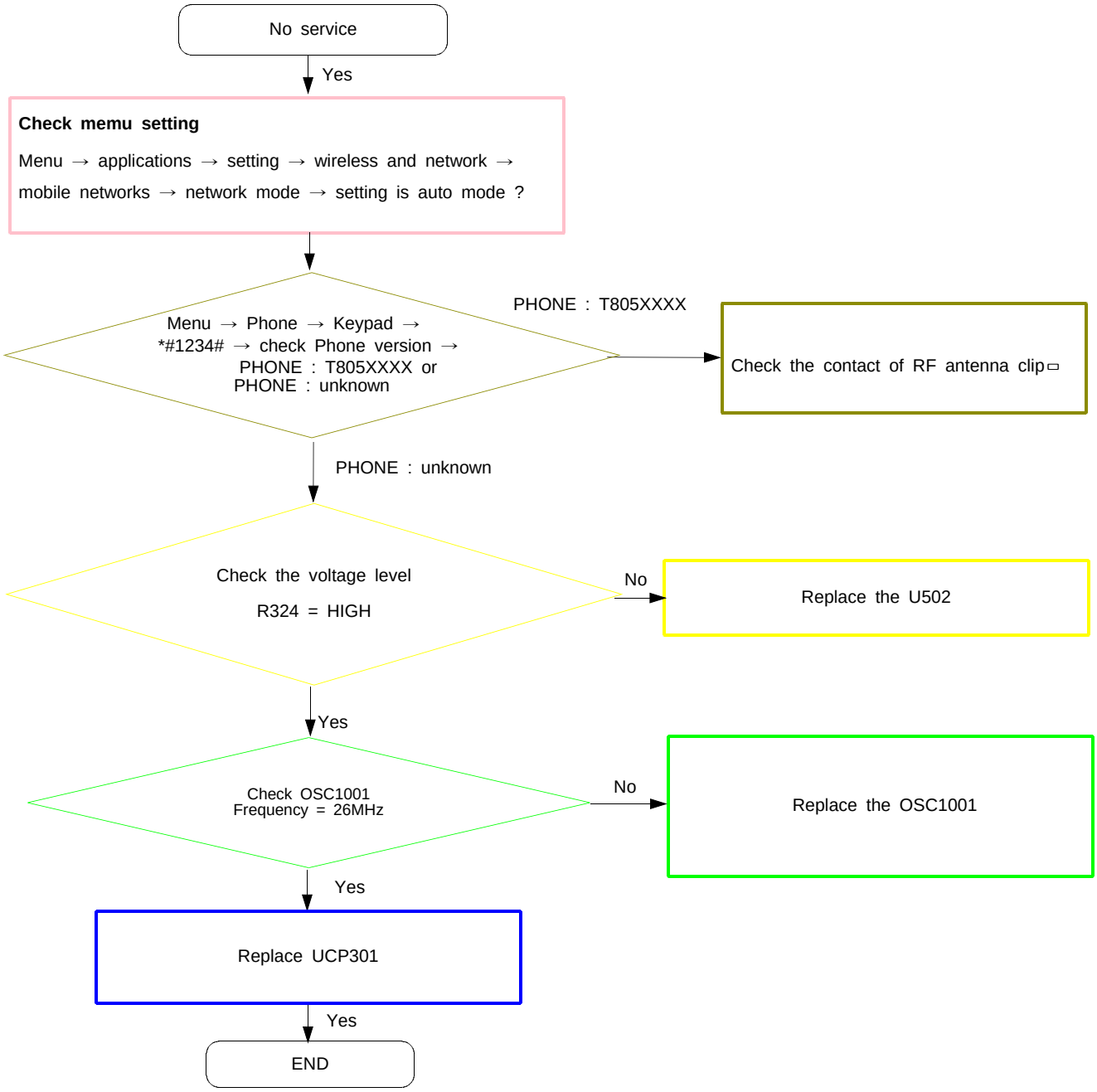
8-3-3. No Service



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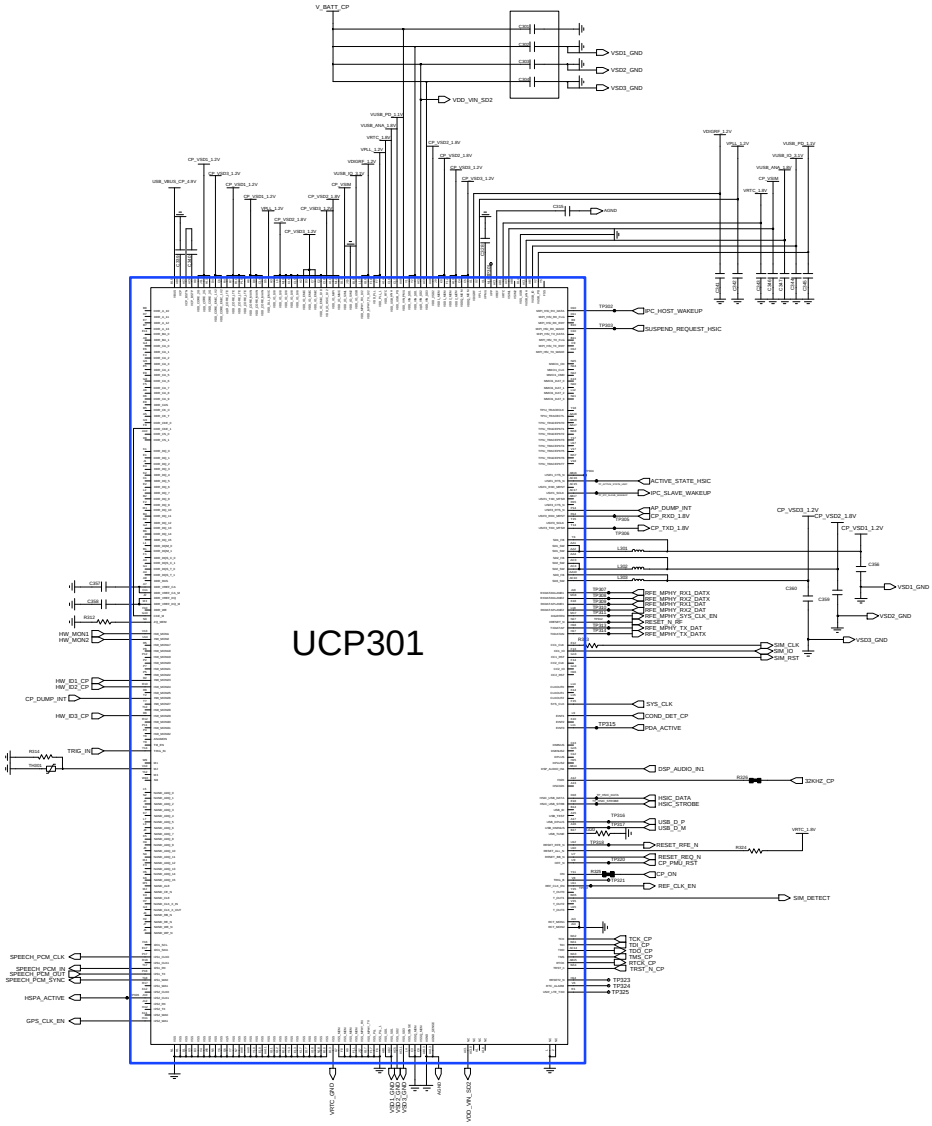

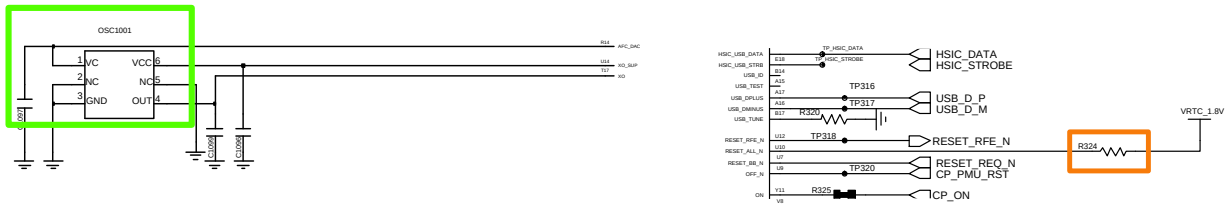

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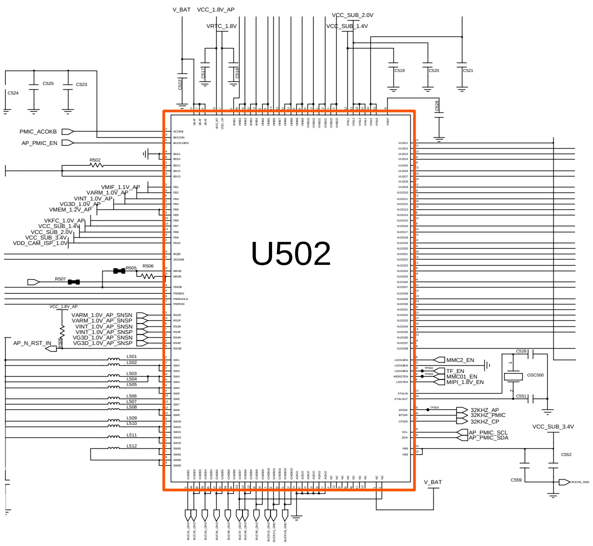

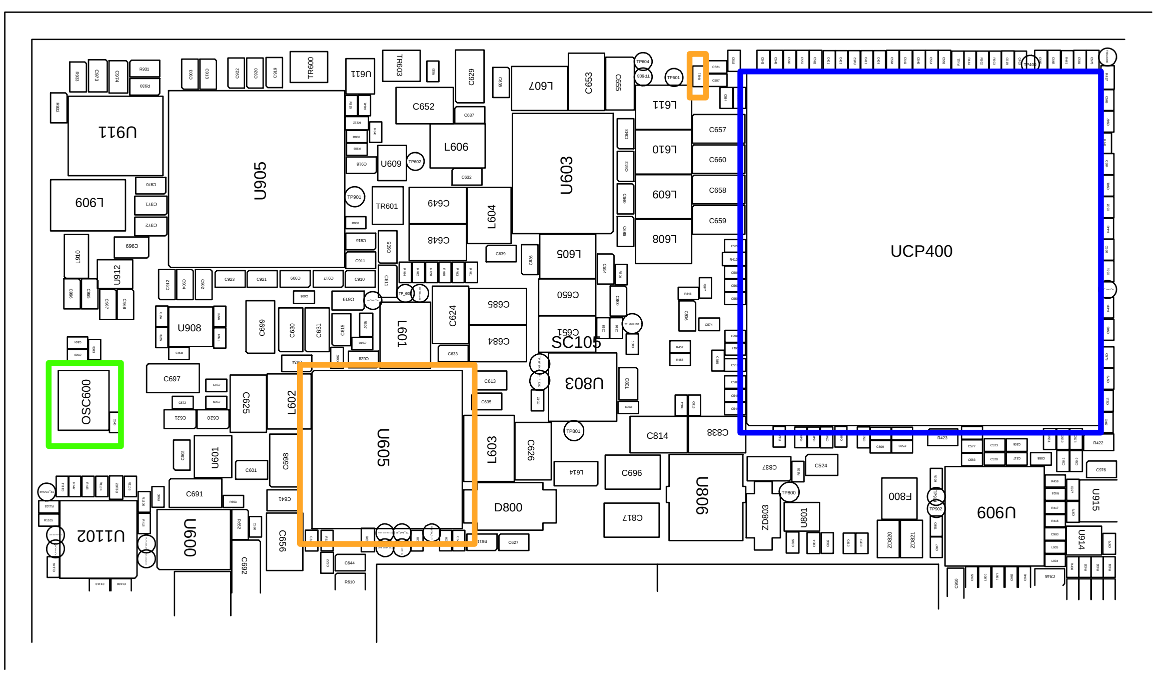

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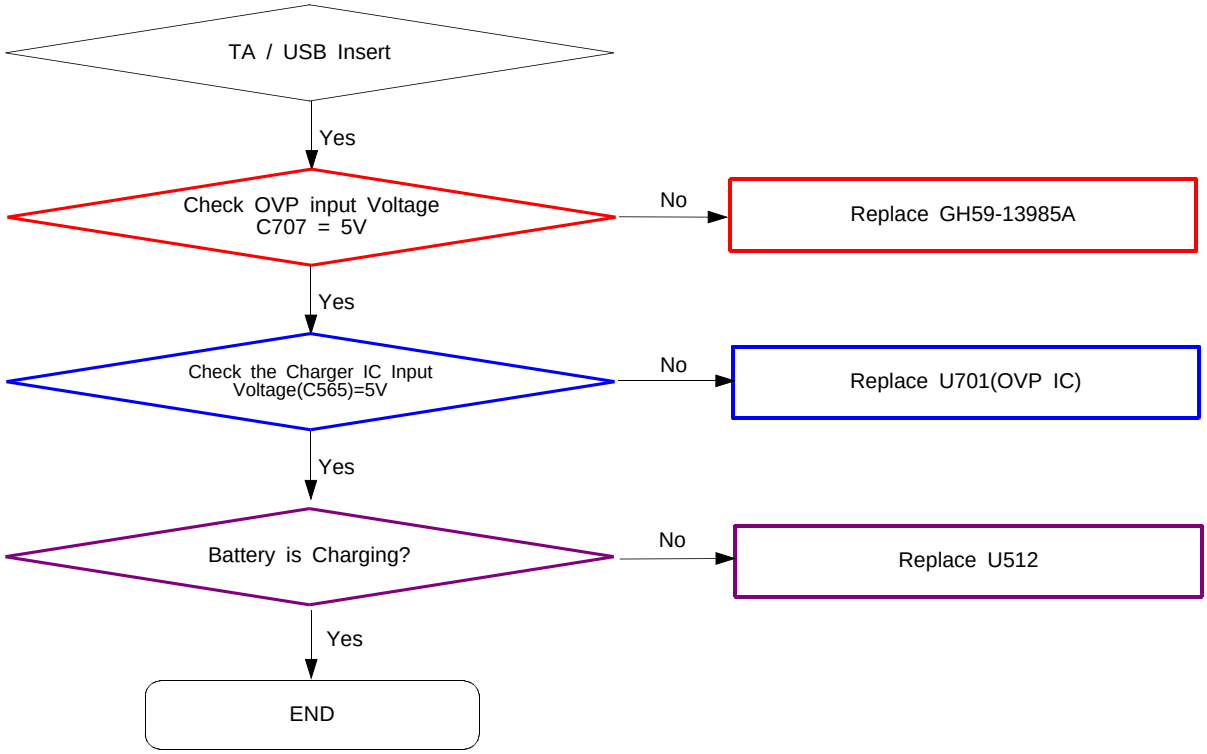
8-3-4. Charging Part



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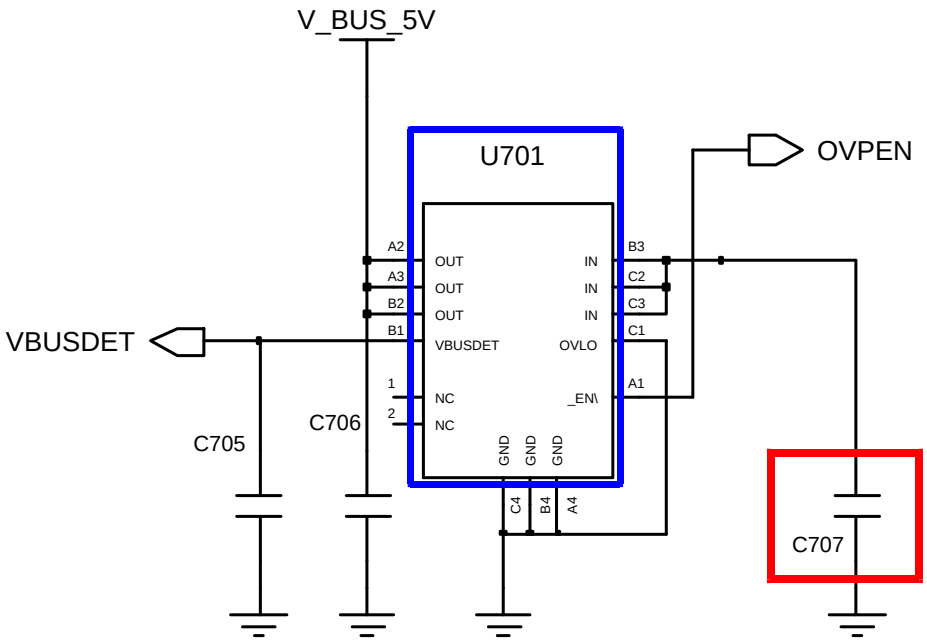

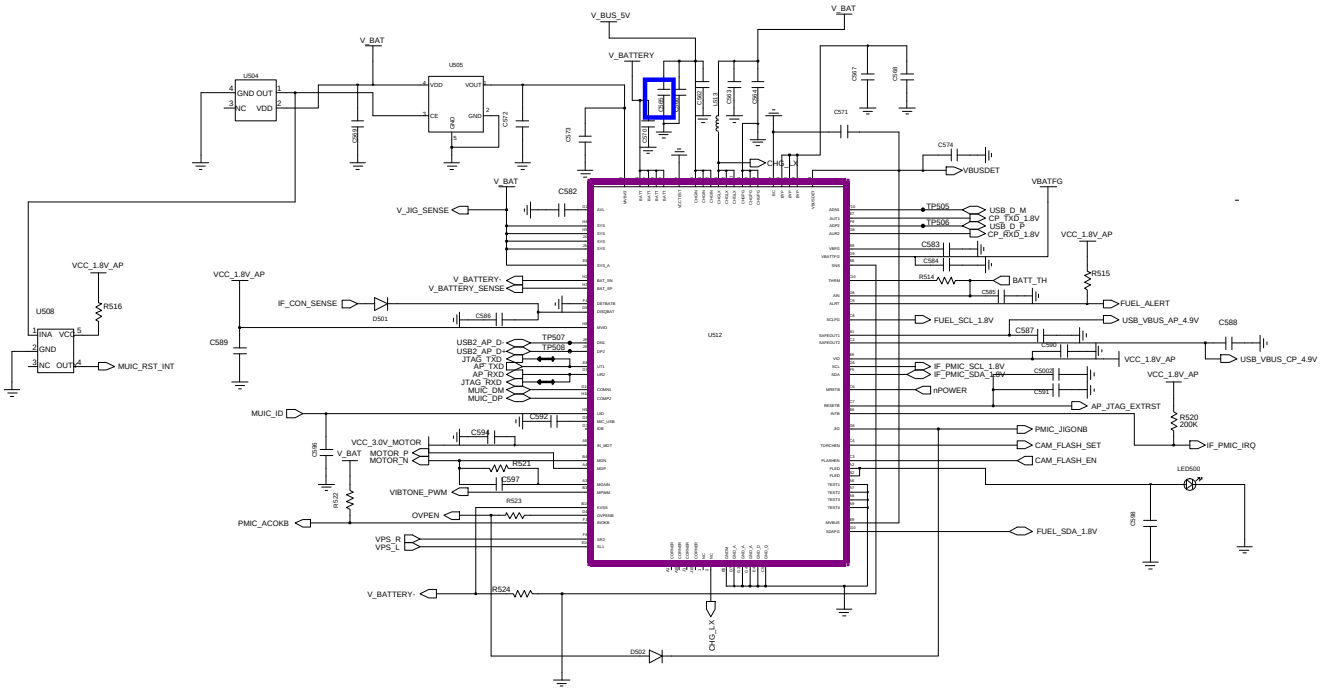

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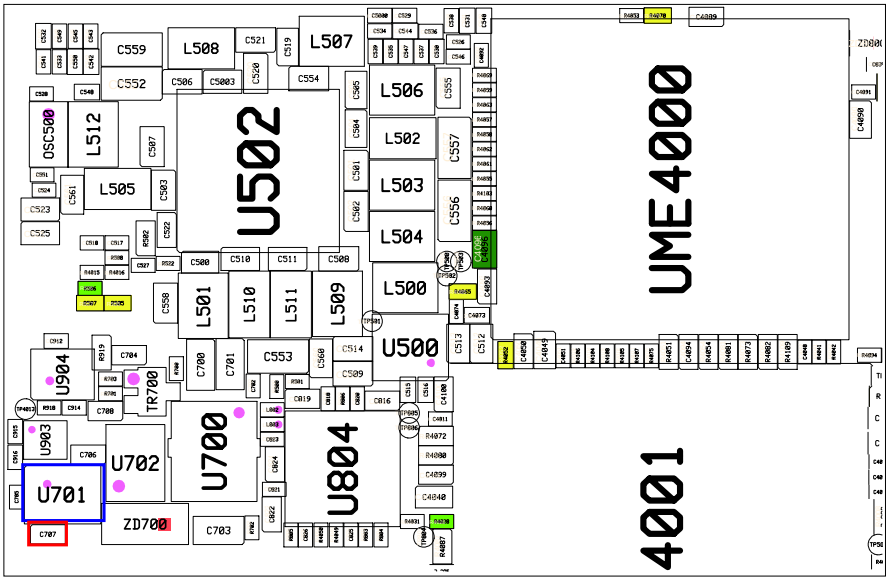

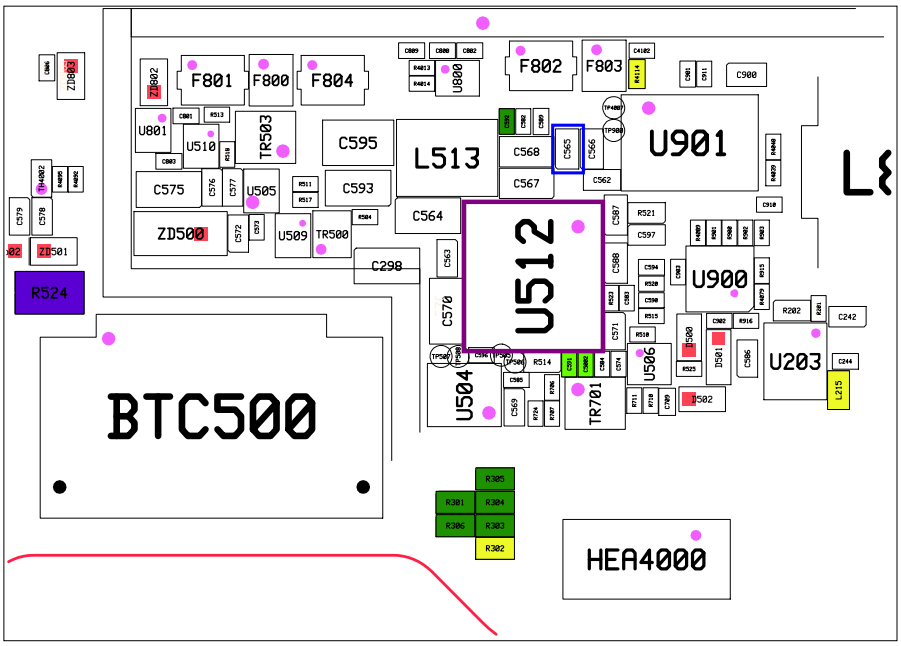

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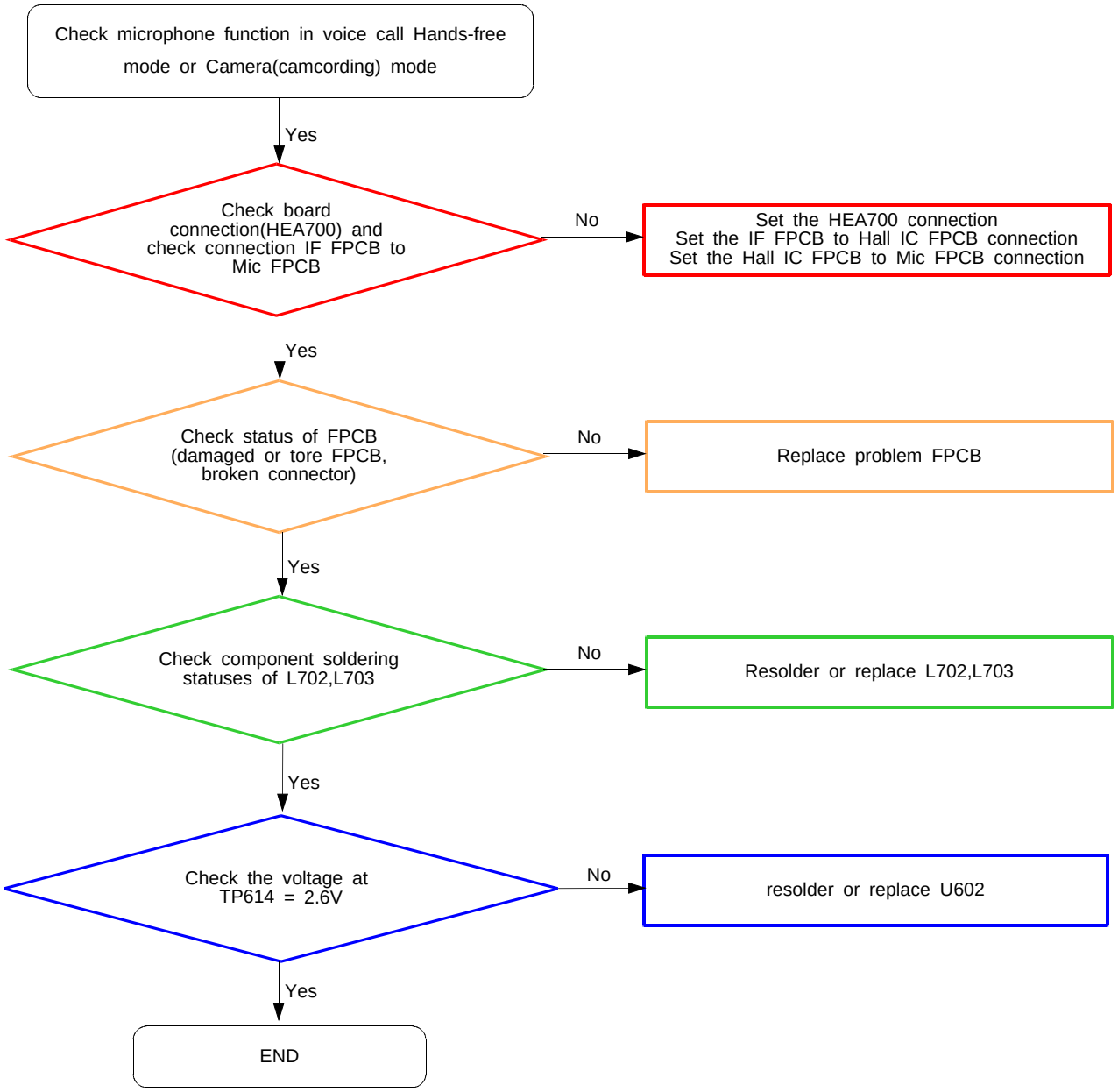
8-3-5 Microphone Part



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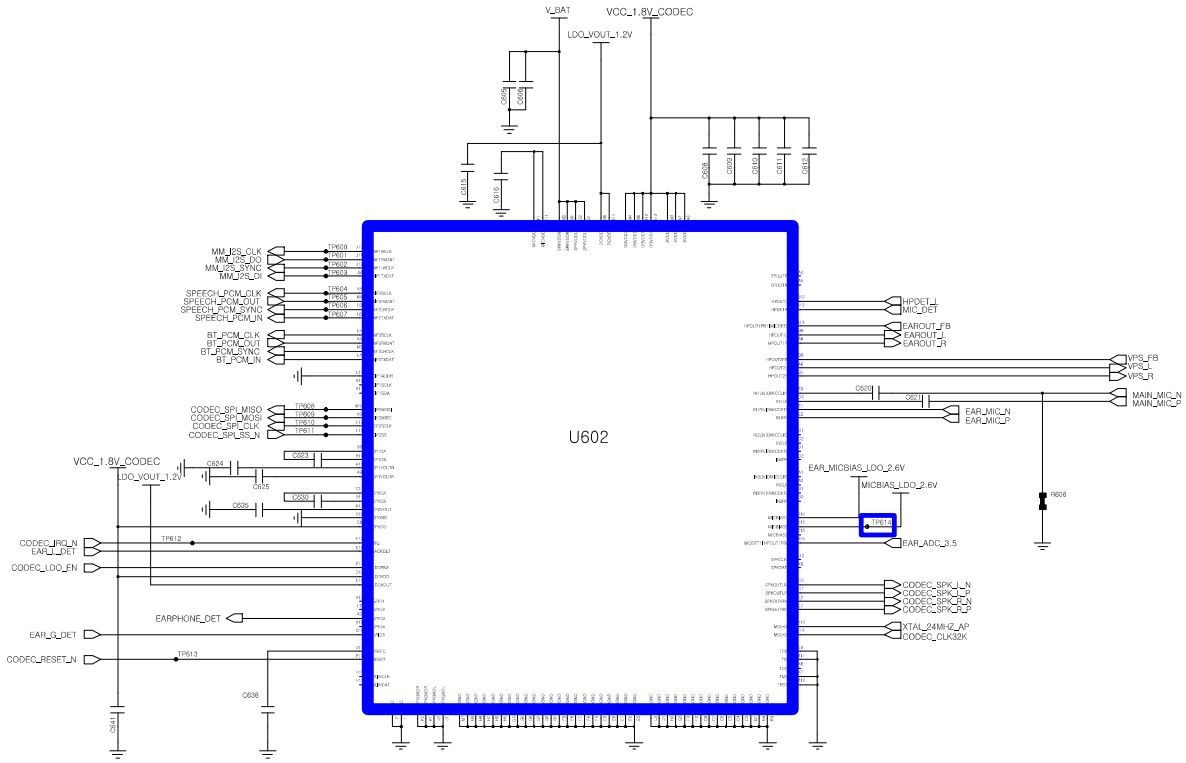

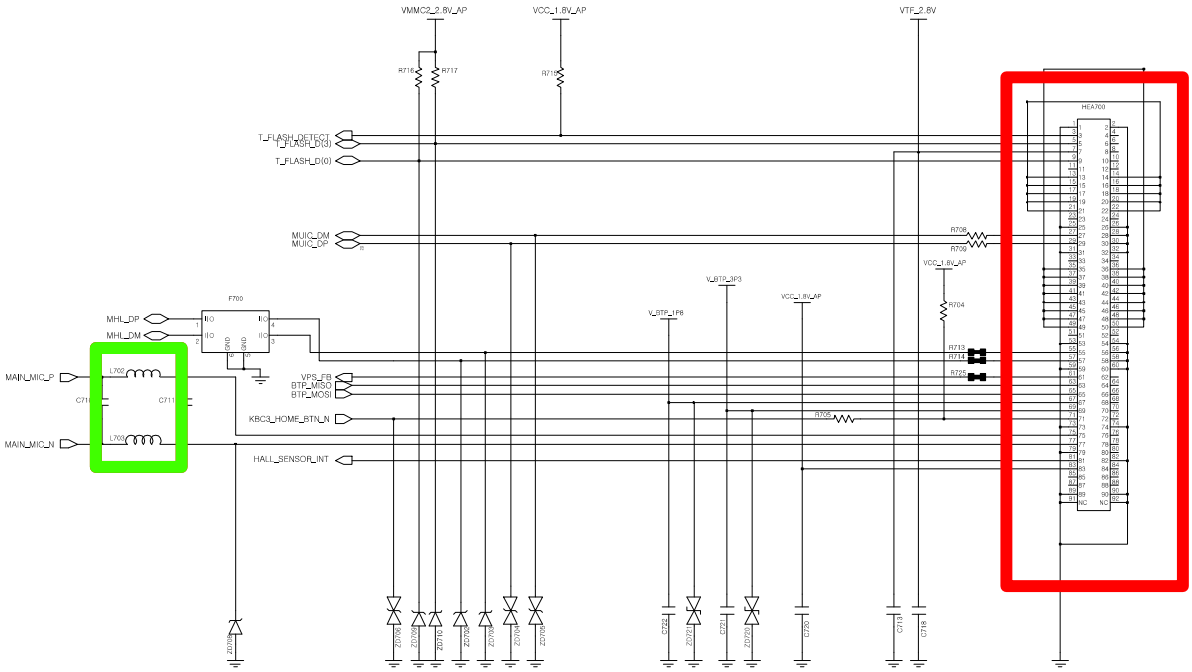

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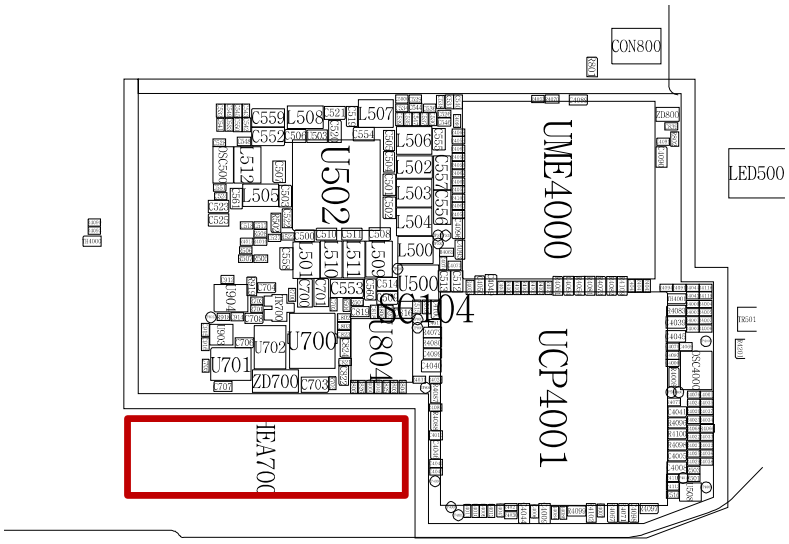

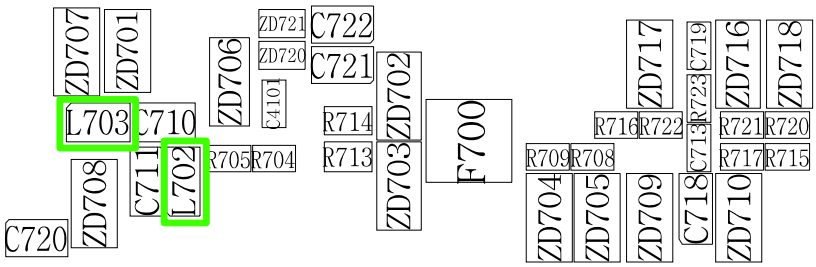

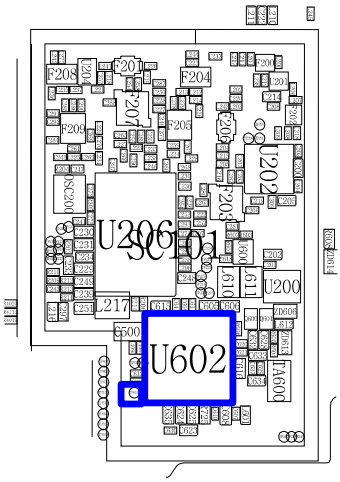

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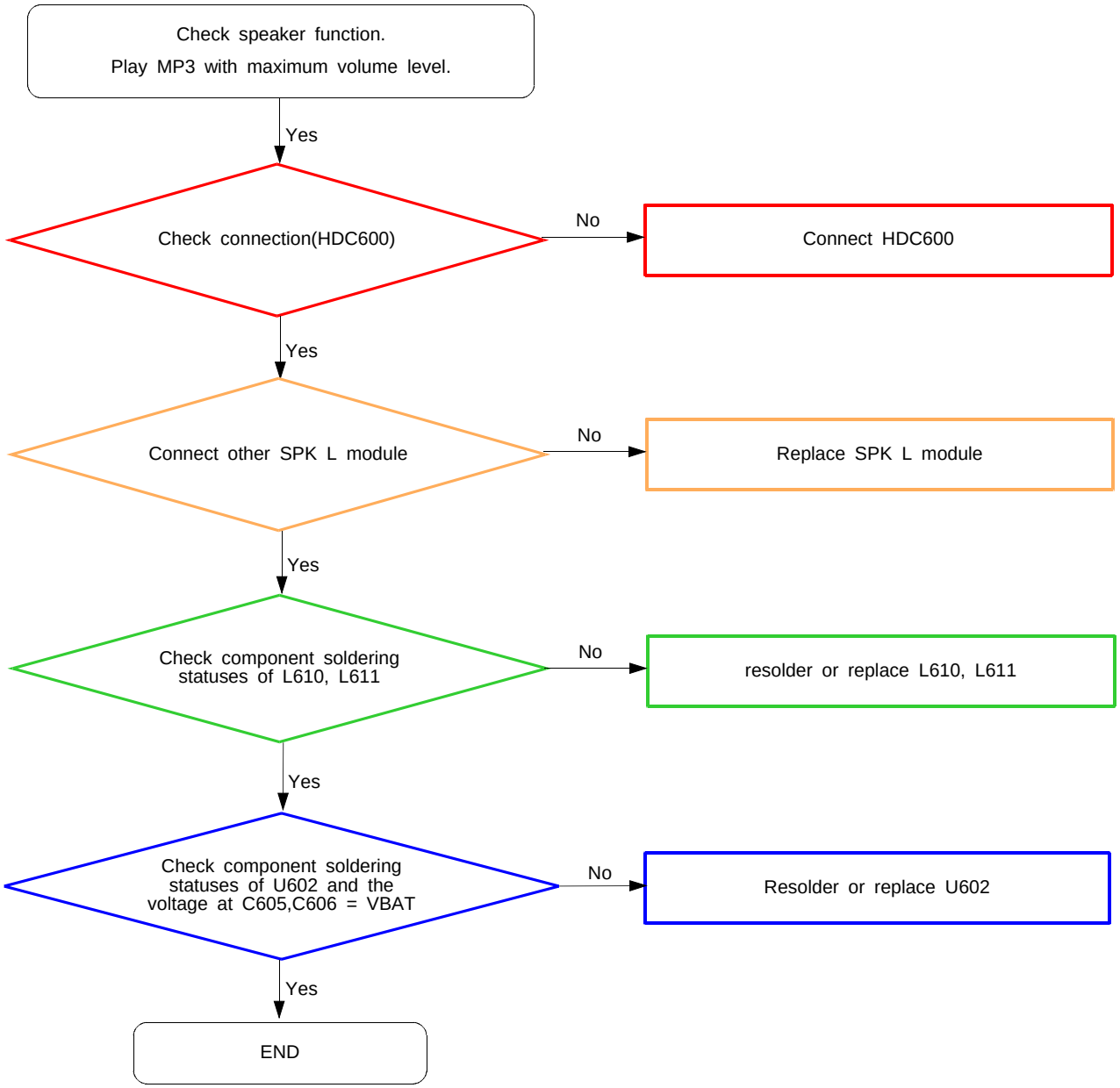
8-3-6-1. Speaker Part (LEFT)



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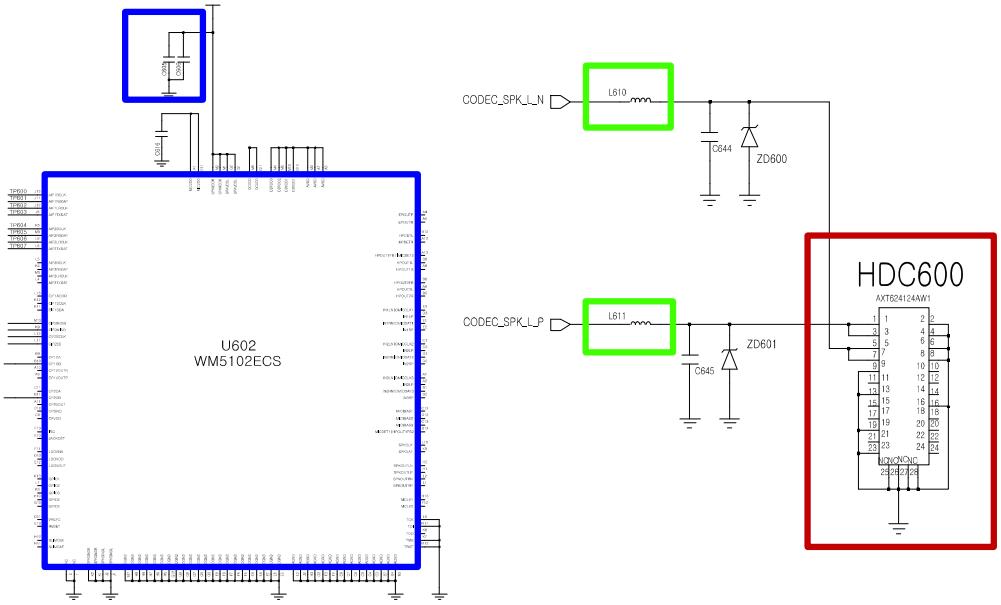

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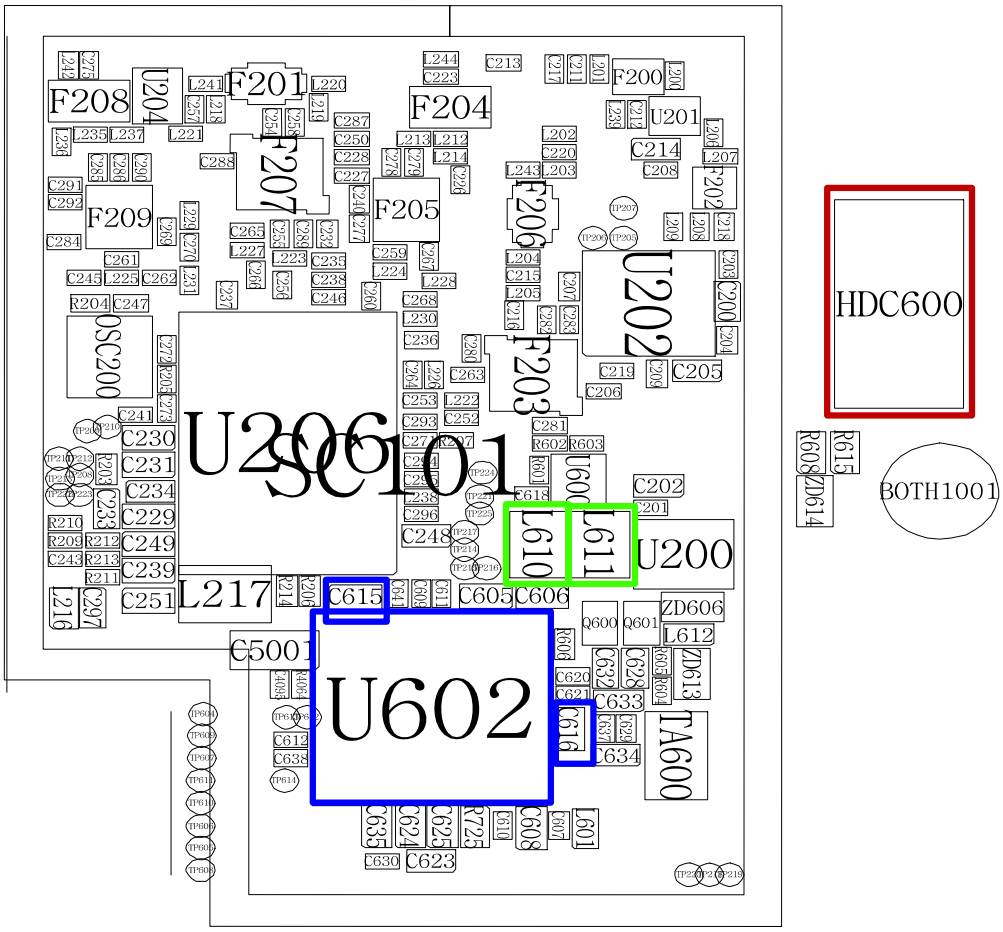

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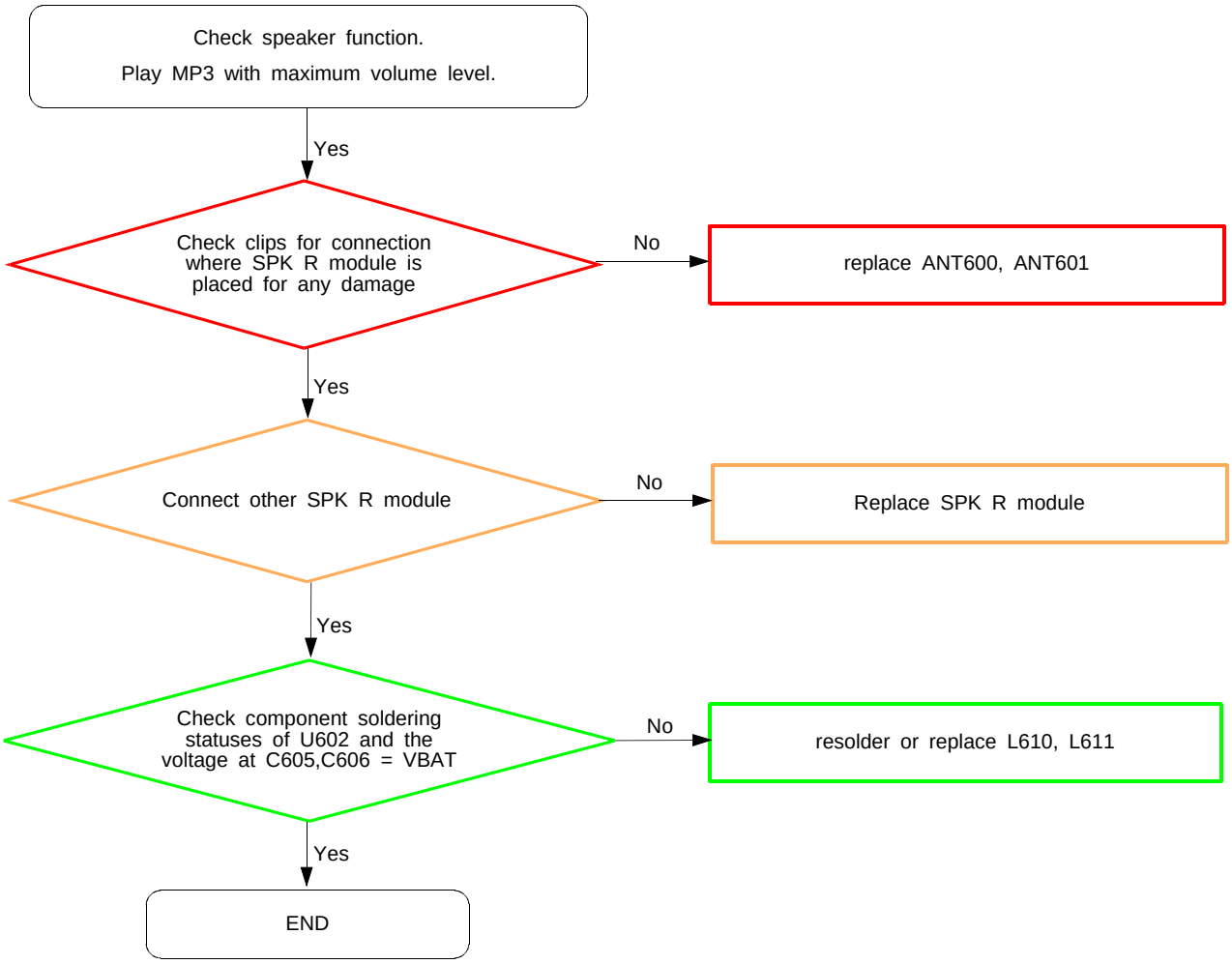
8-3-6-2. Speaker Part (RIGHT)



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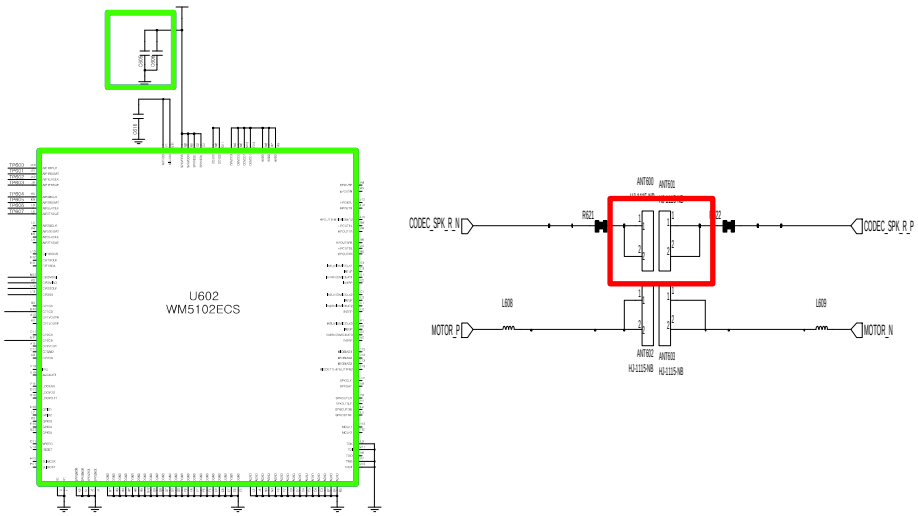

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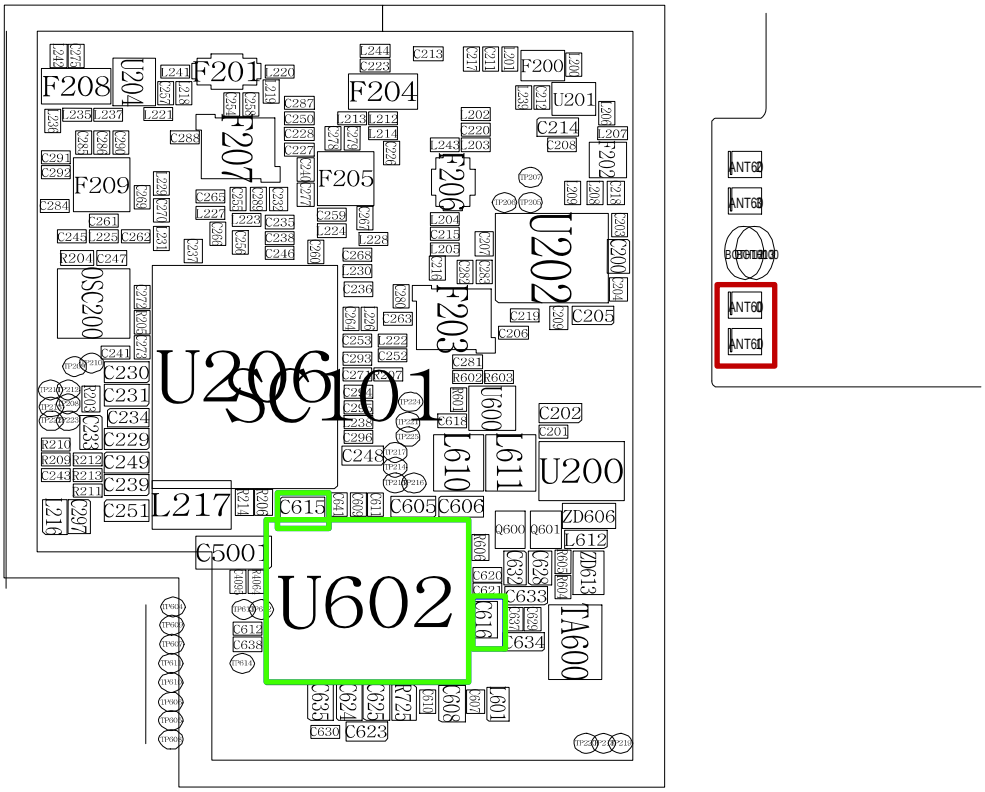

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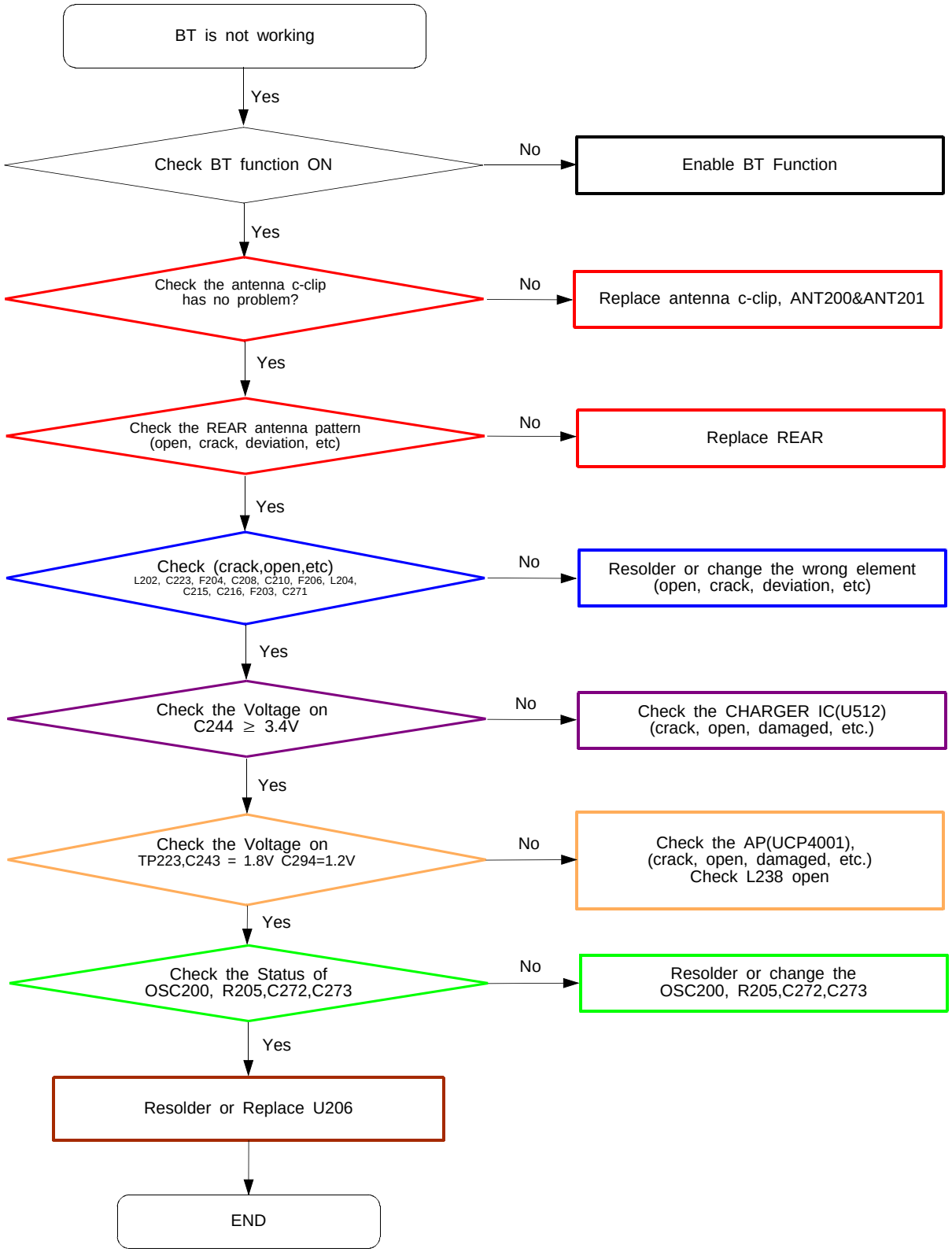
8-3-7. BT



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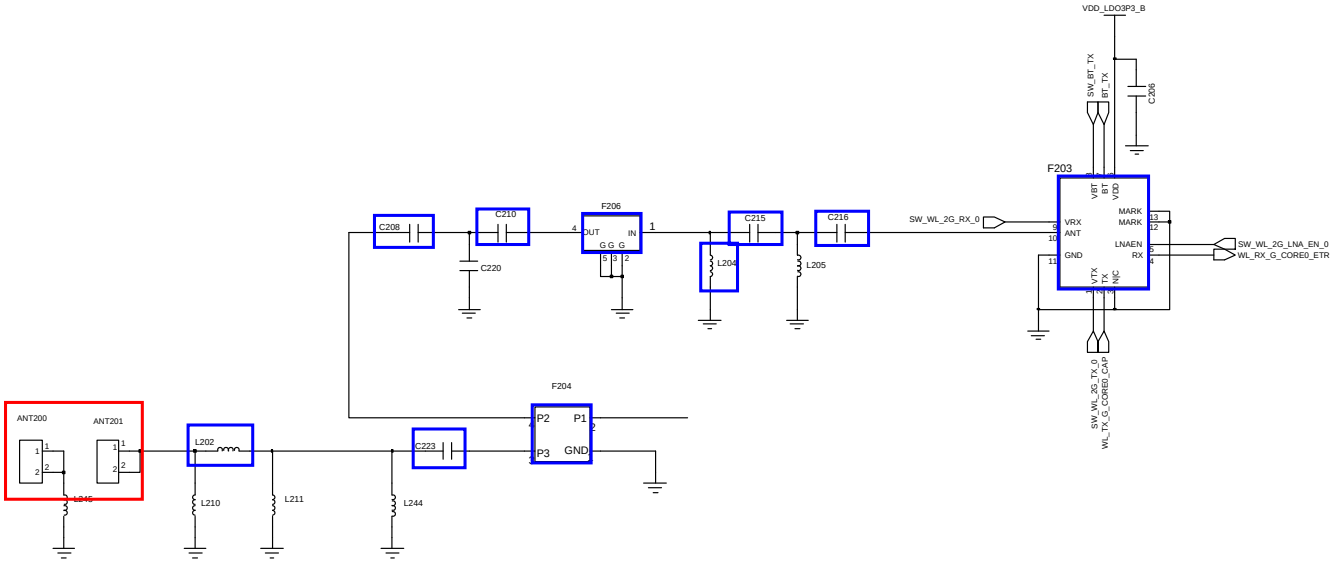

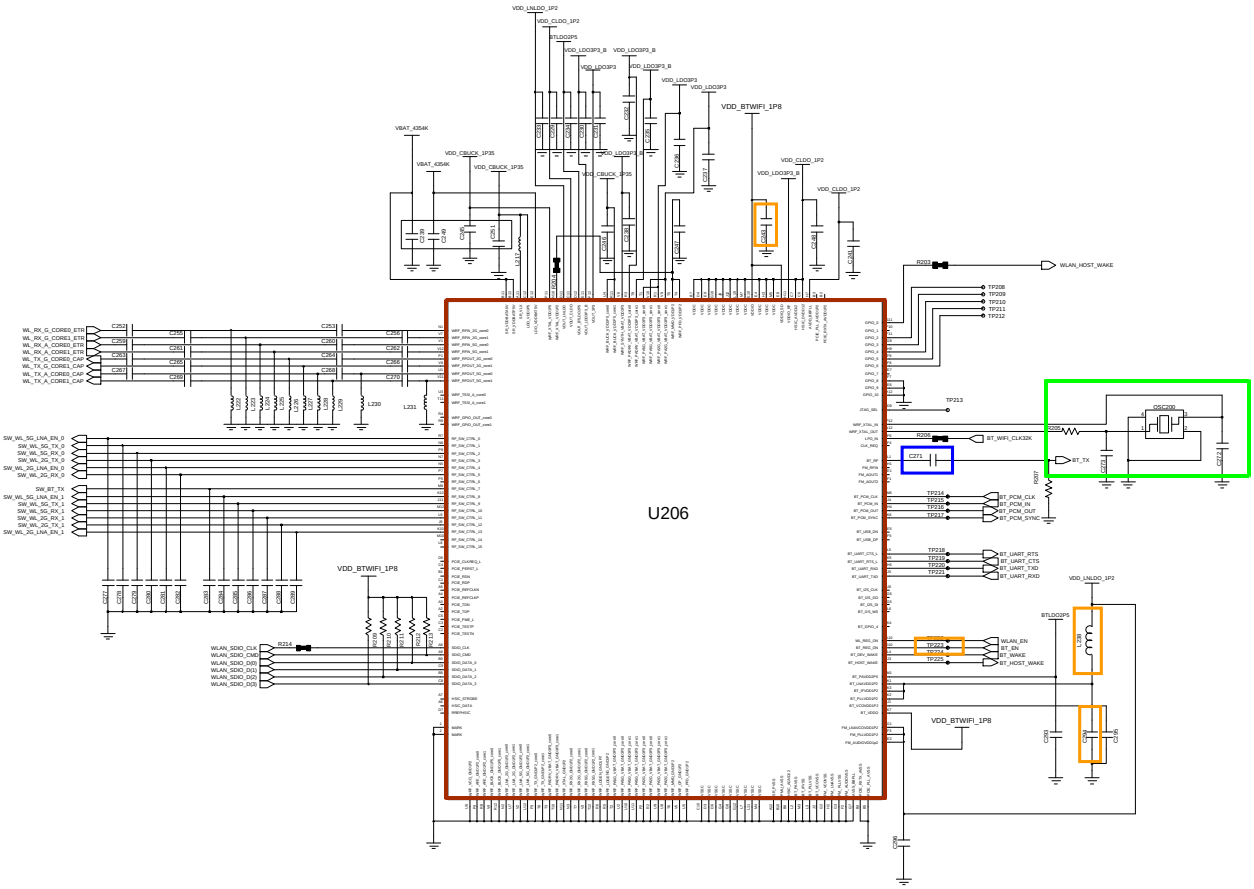

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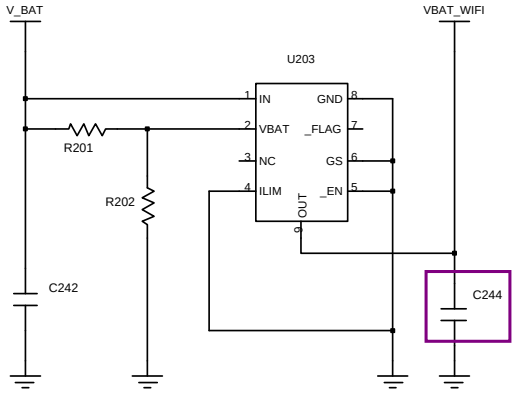

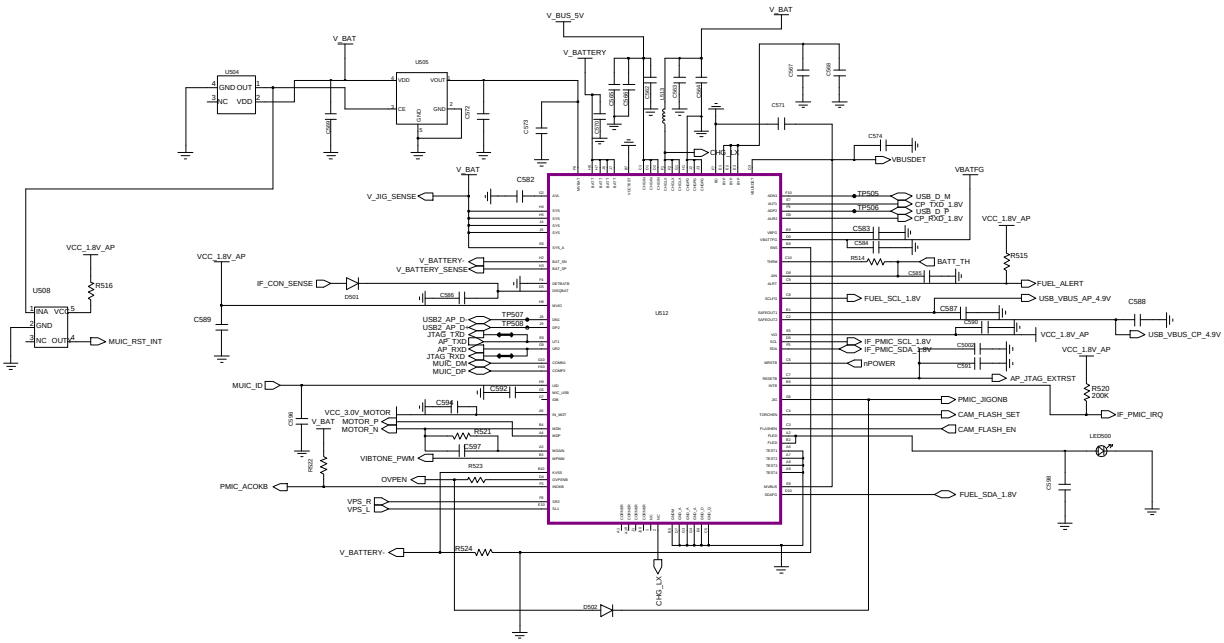

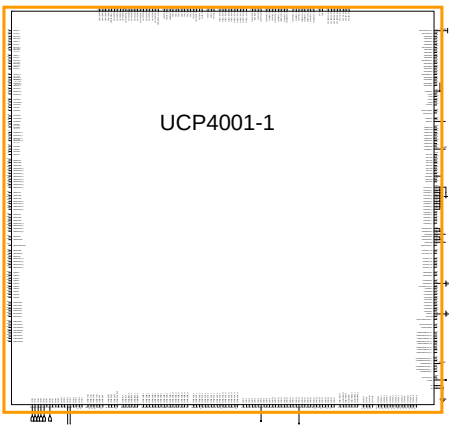

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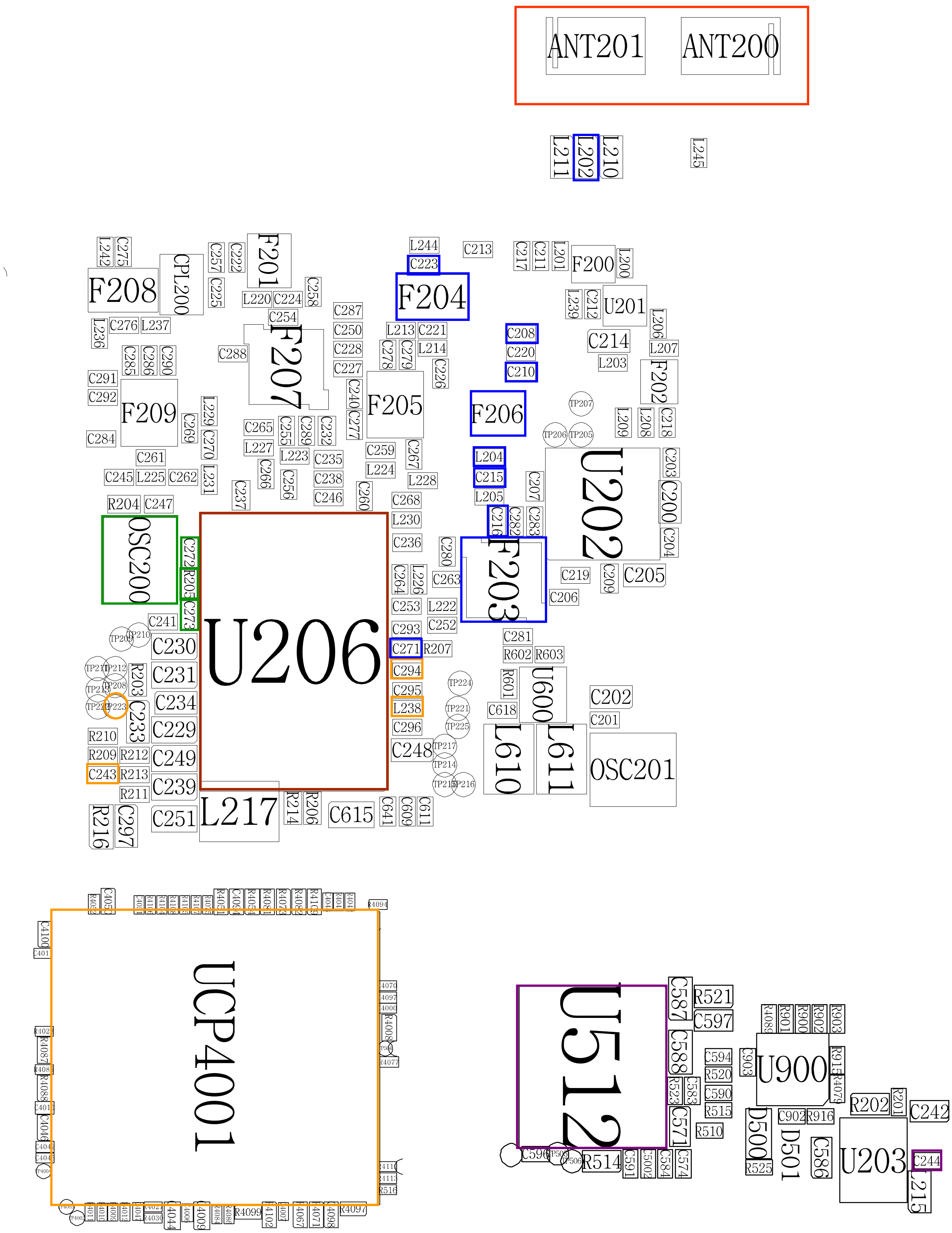

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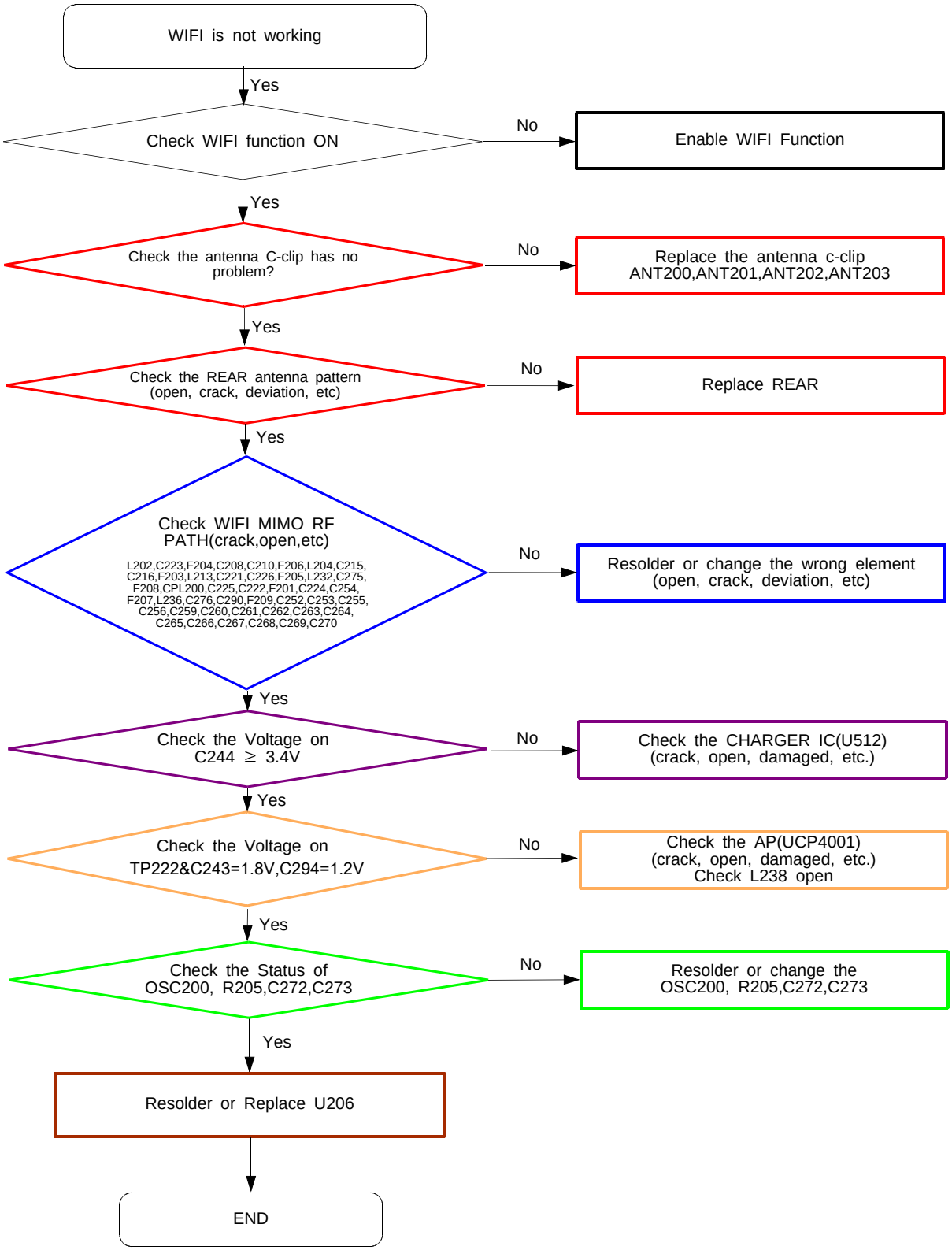
8-3-8. WIFI



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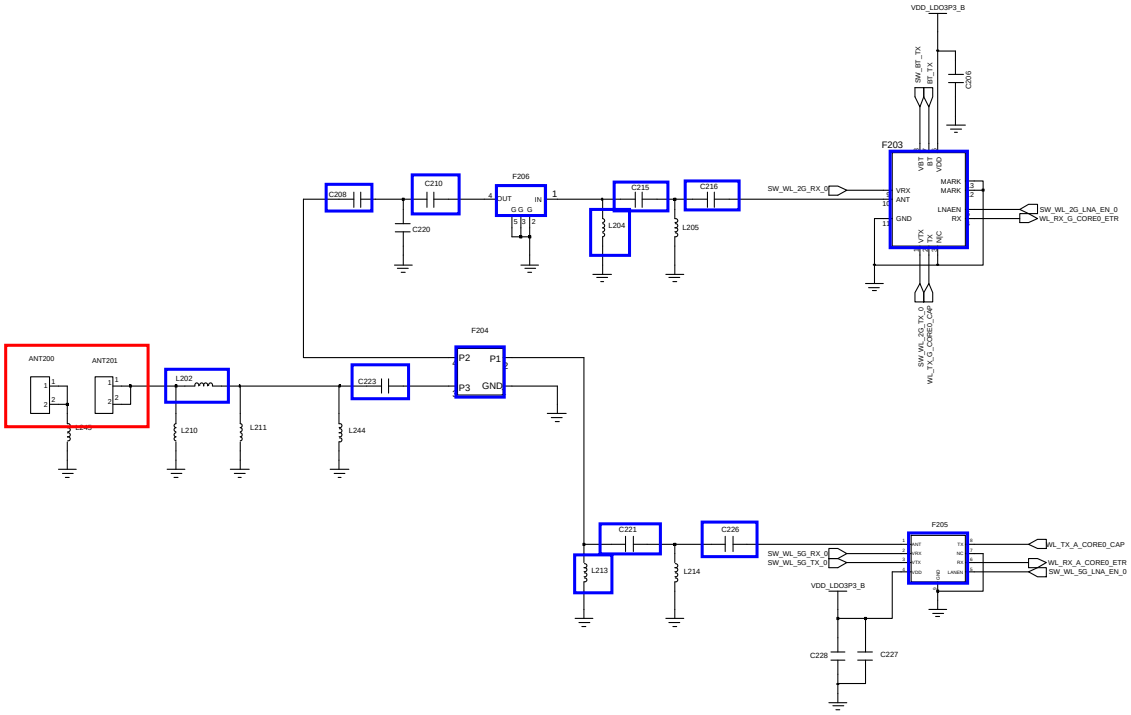

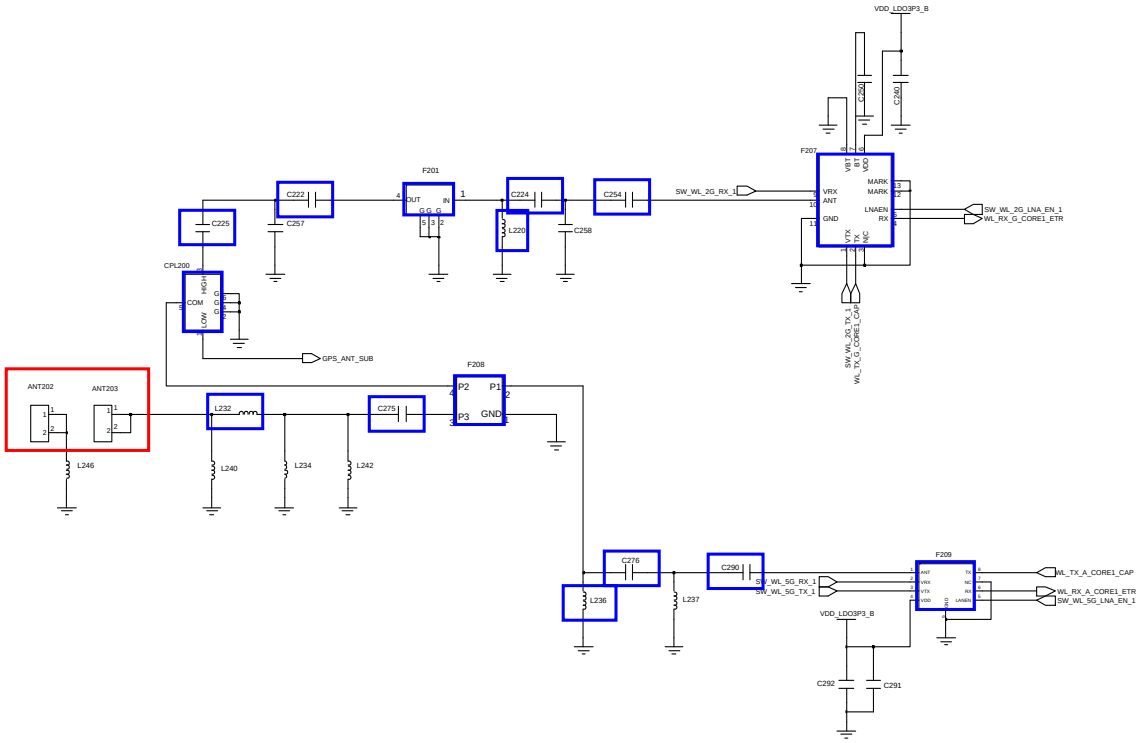

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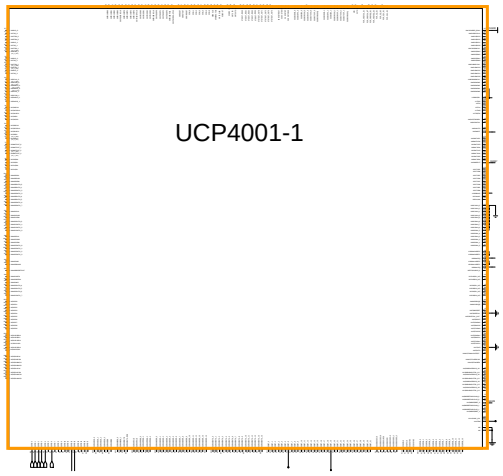

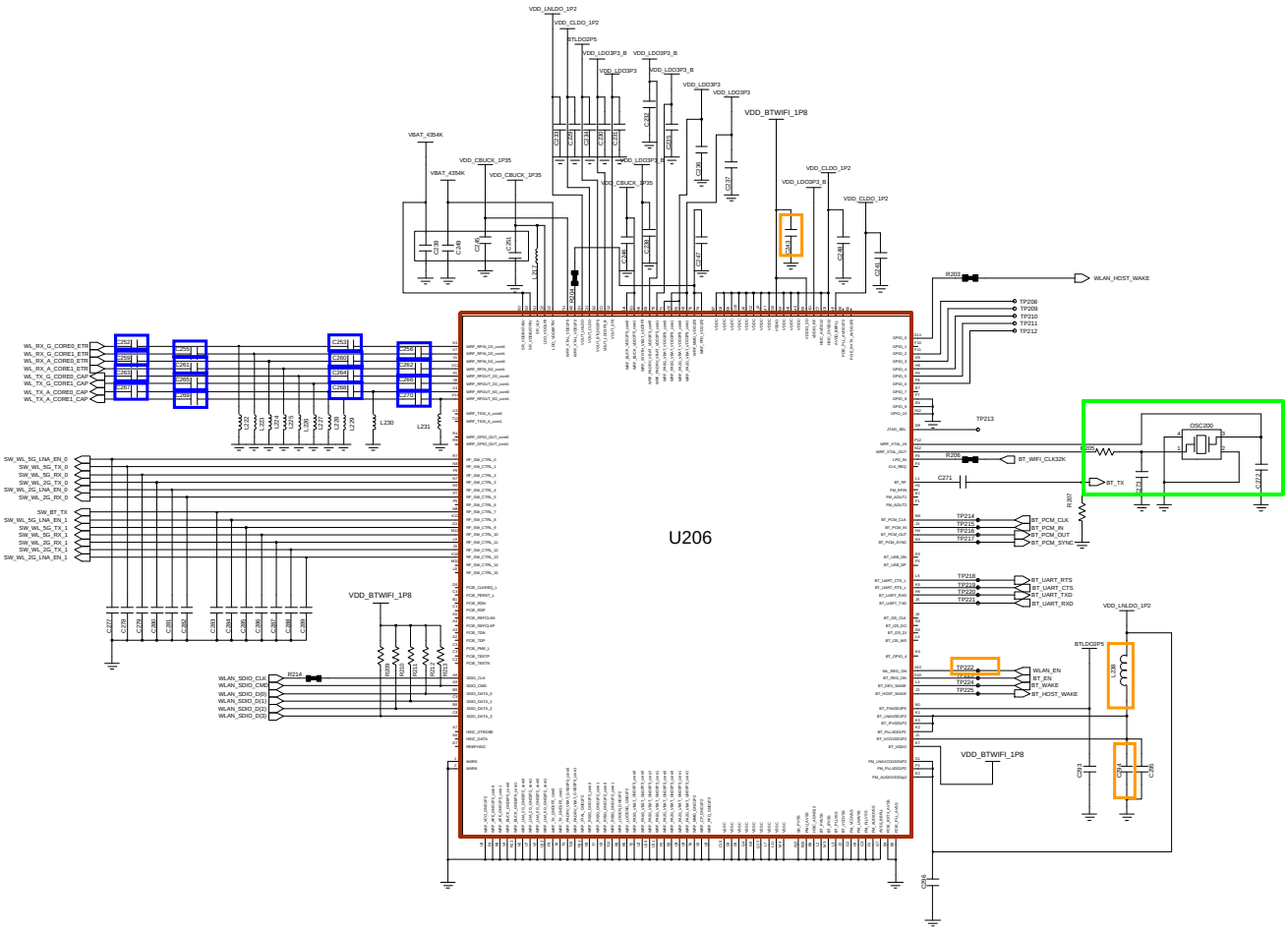

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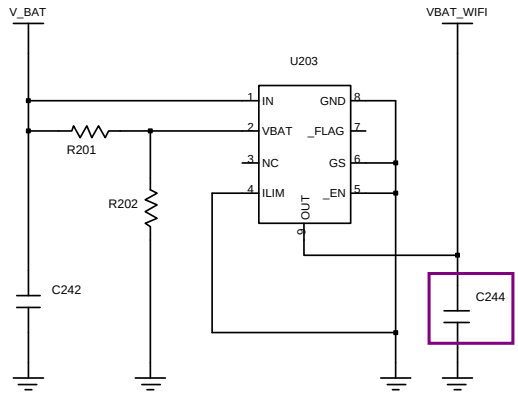

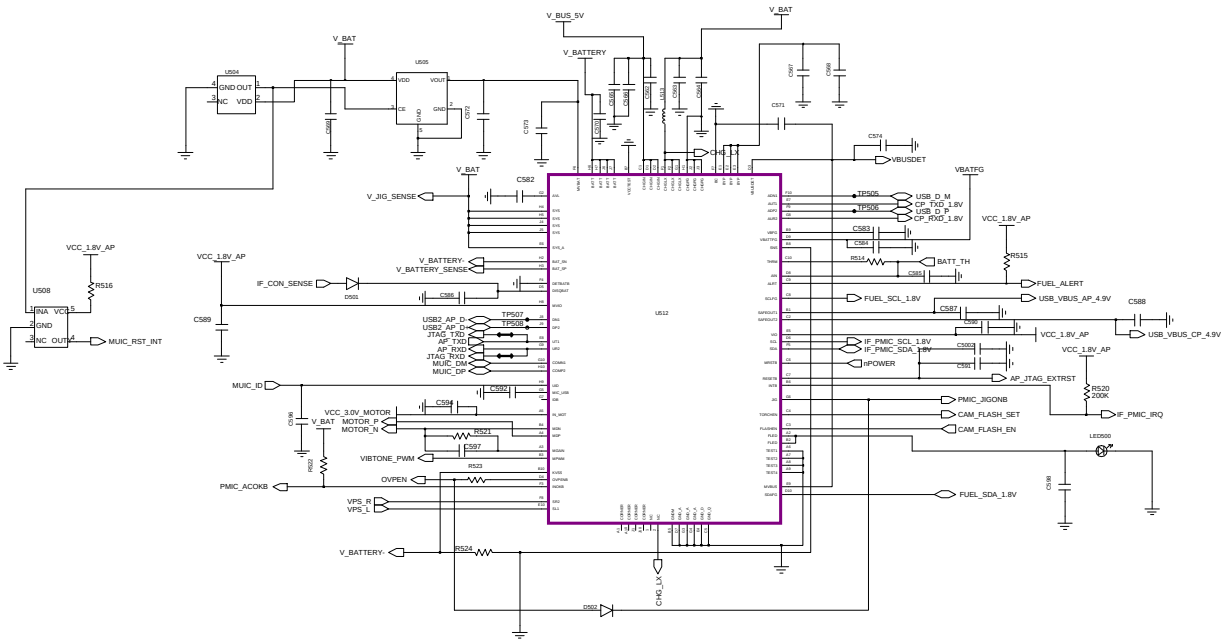

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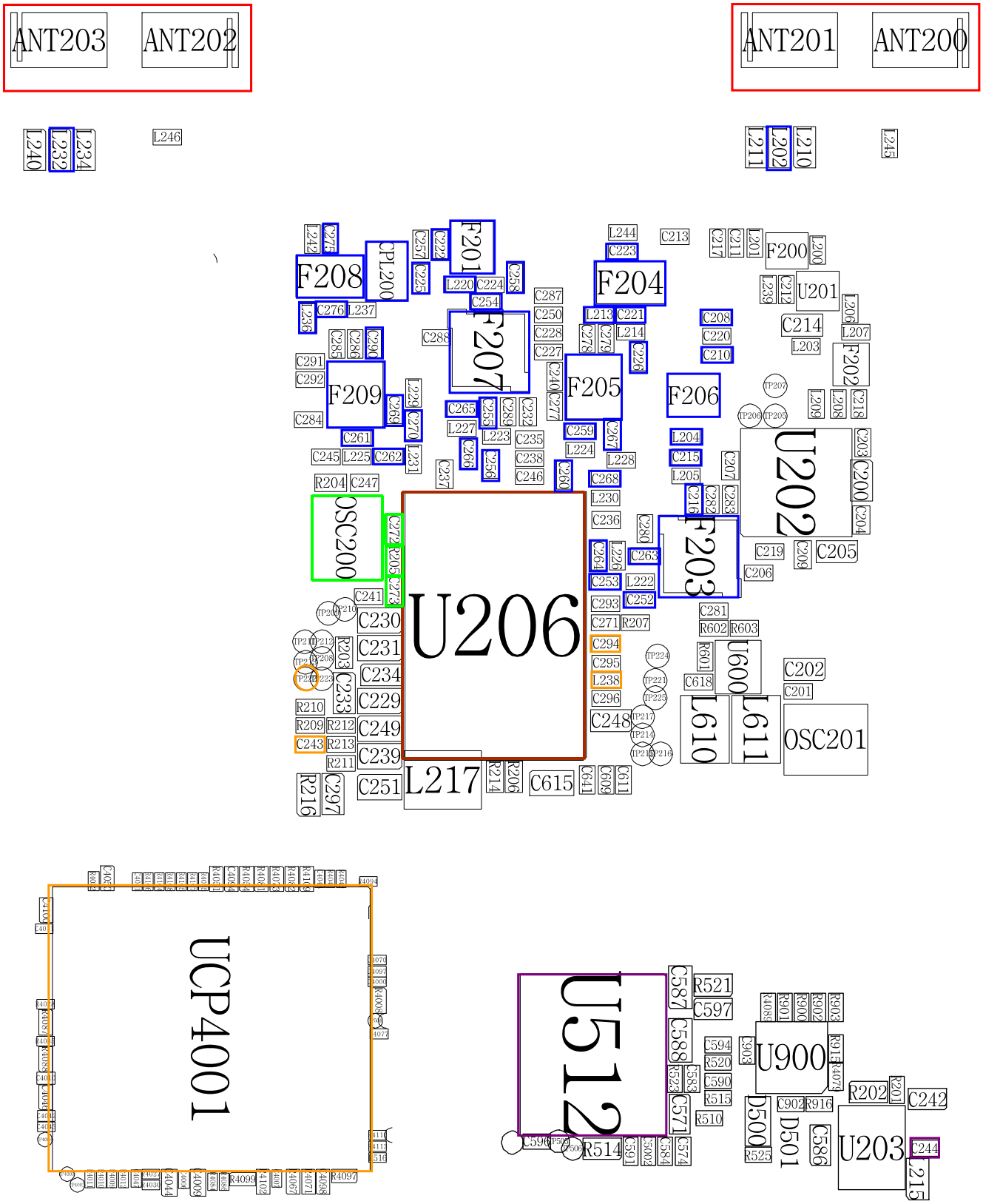

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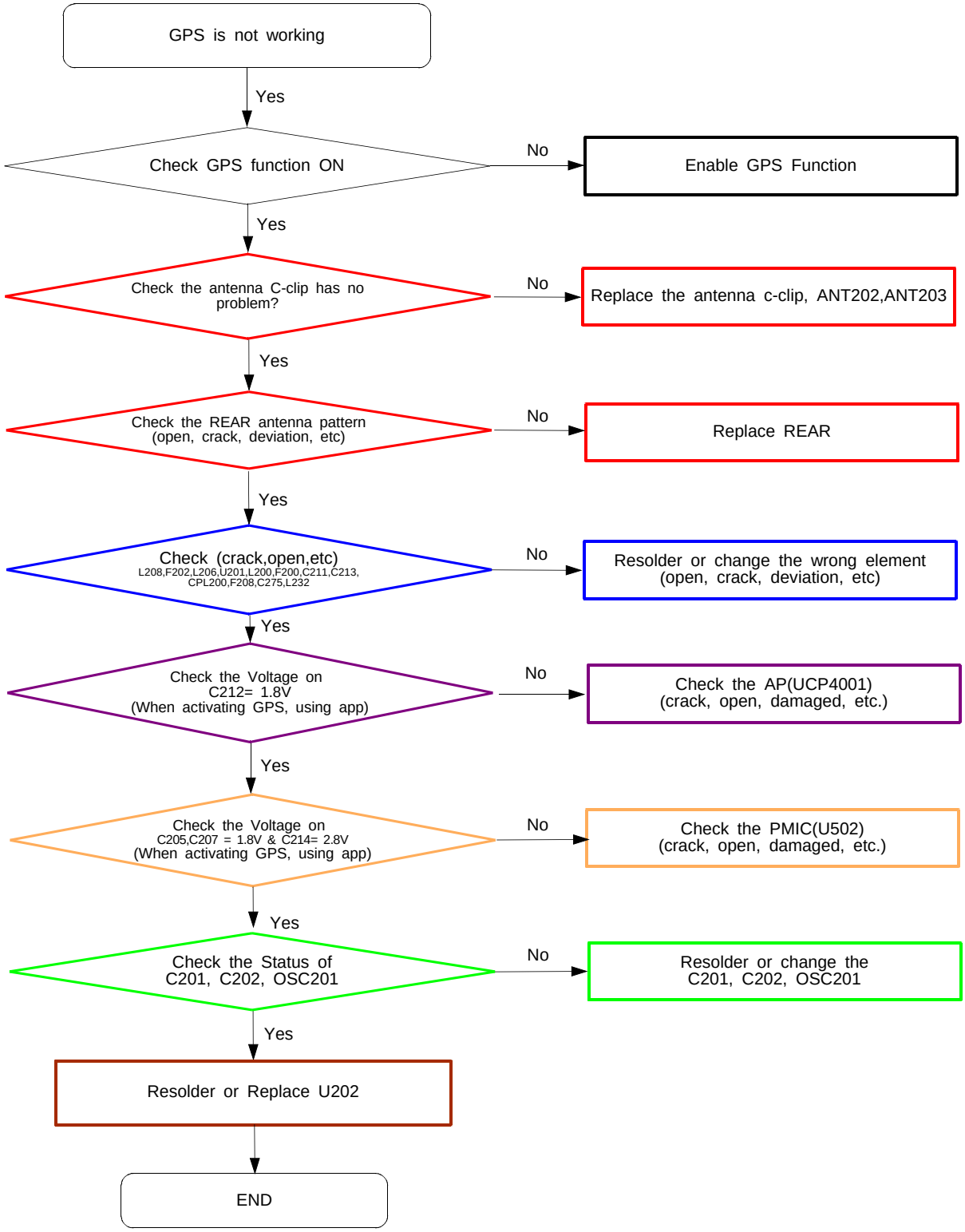
8-3-9. GPS



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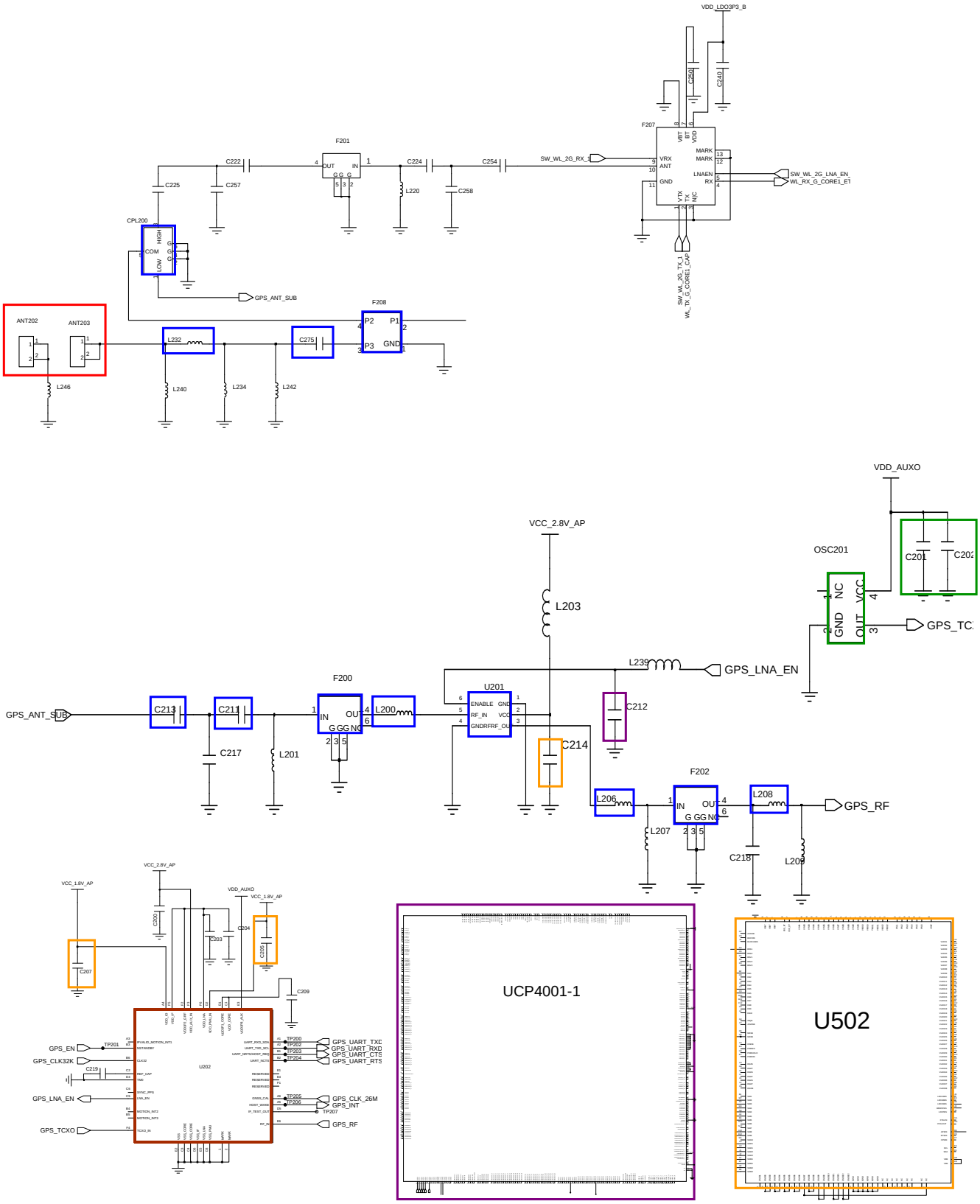

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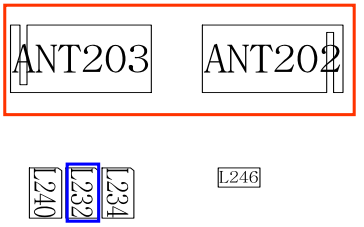

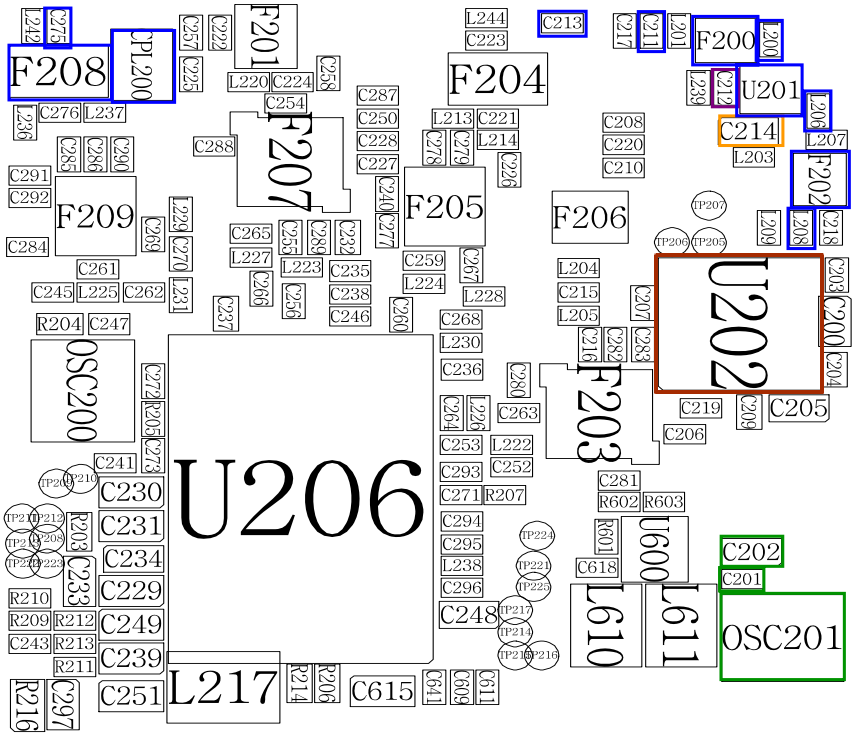

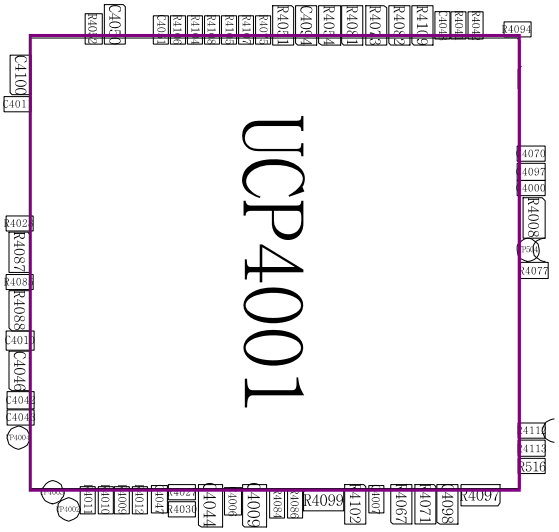

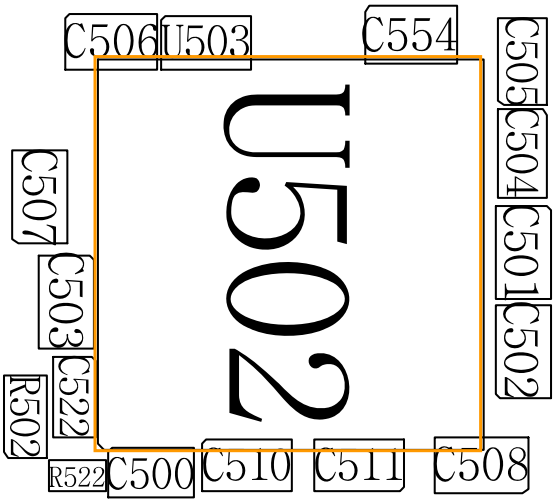

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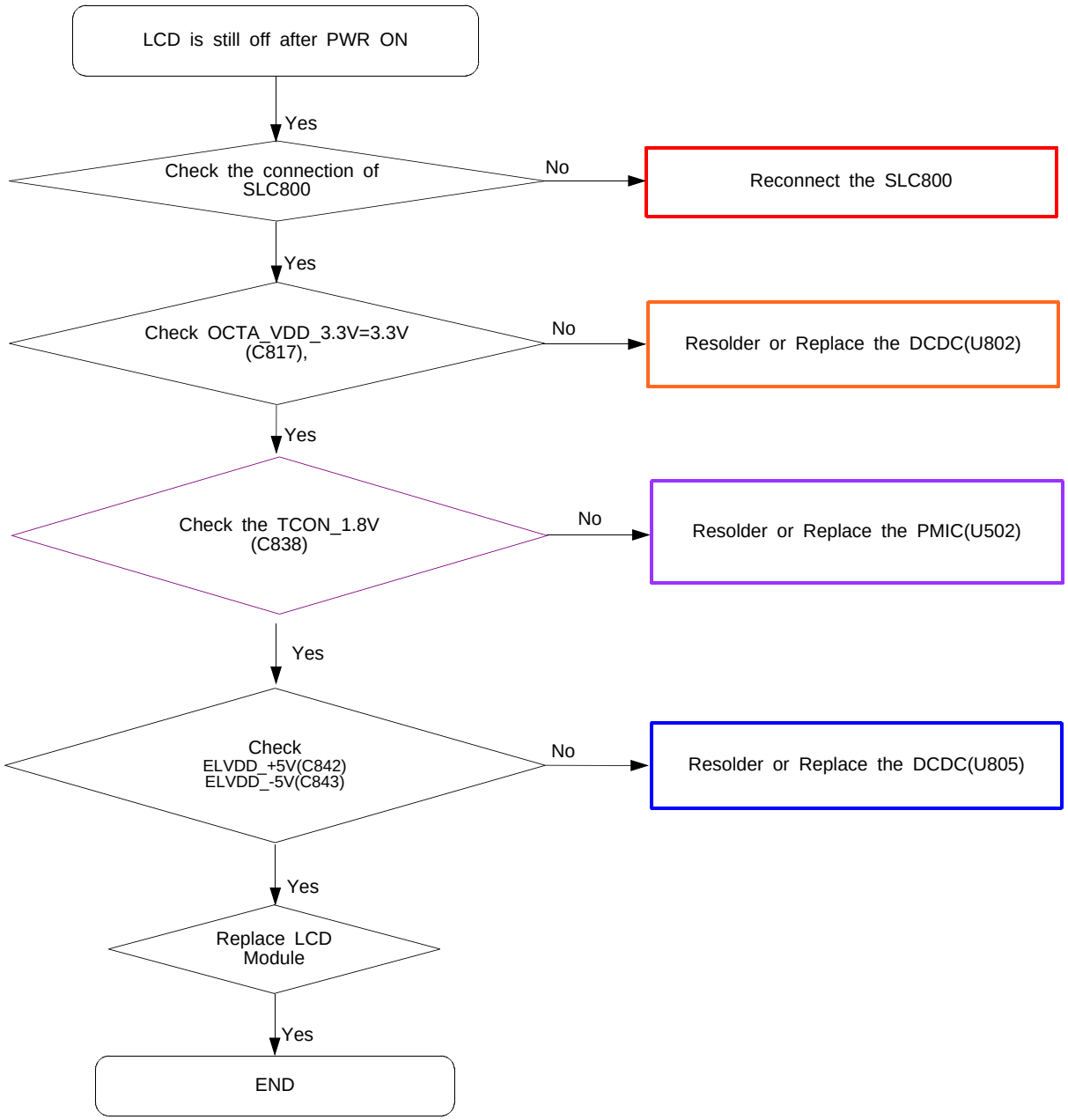
8-3-10. LCD



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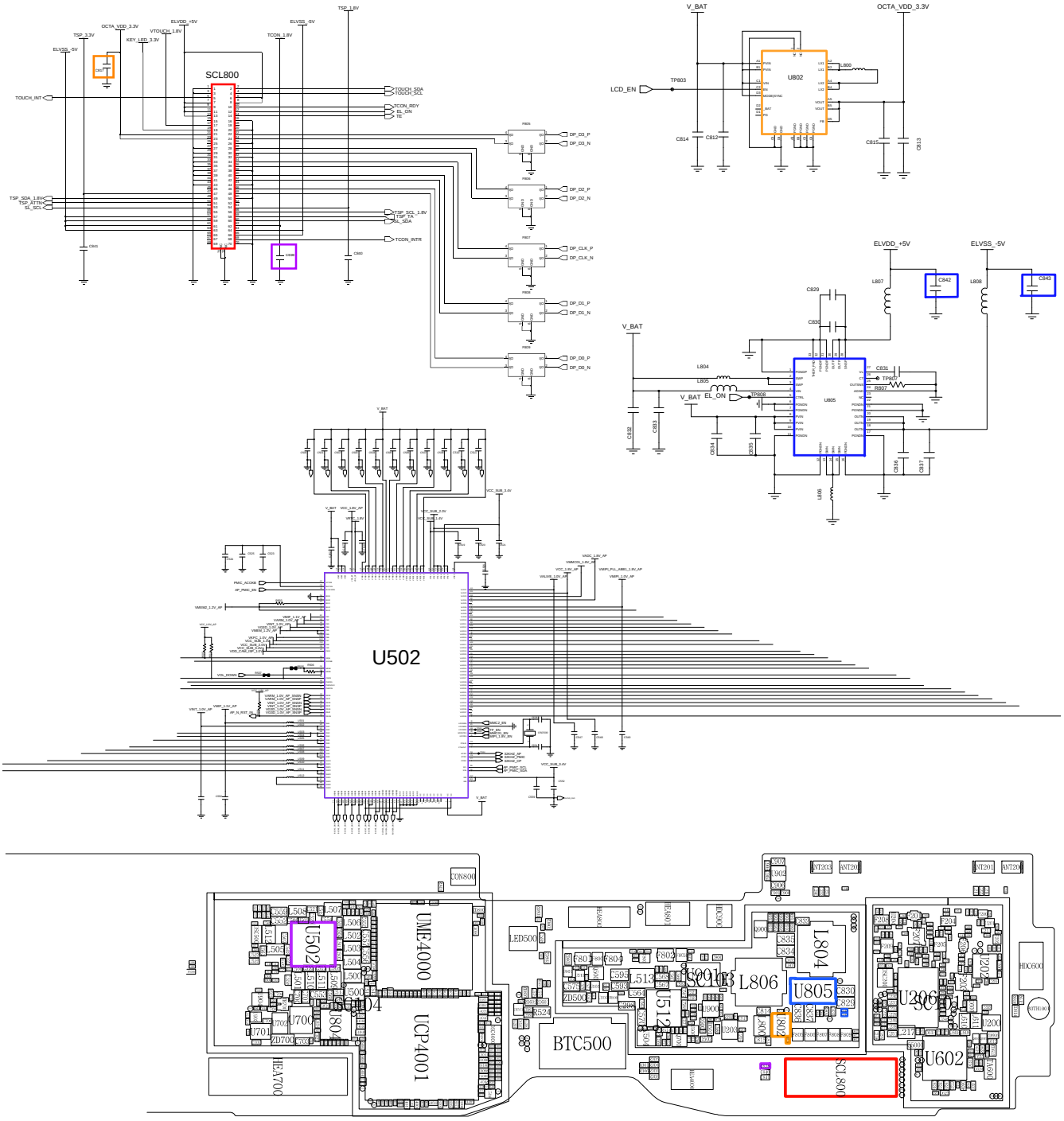

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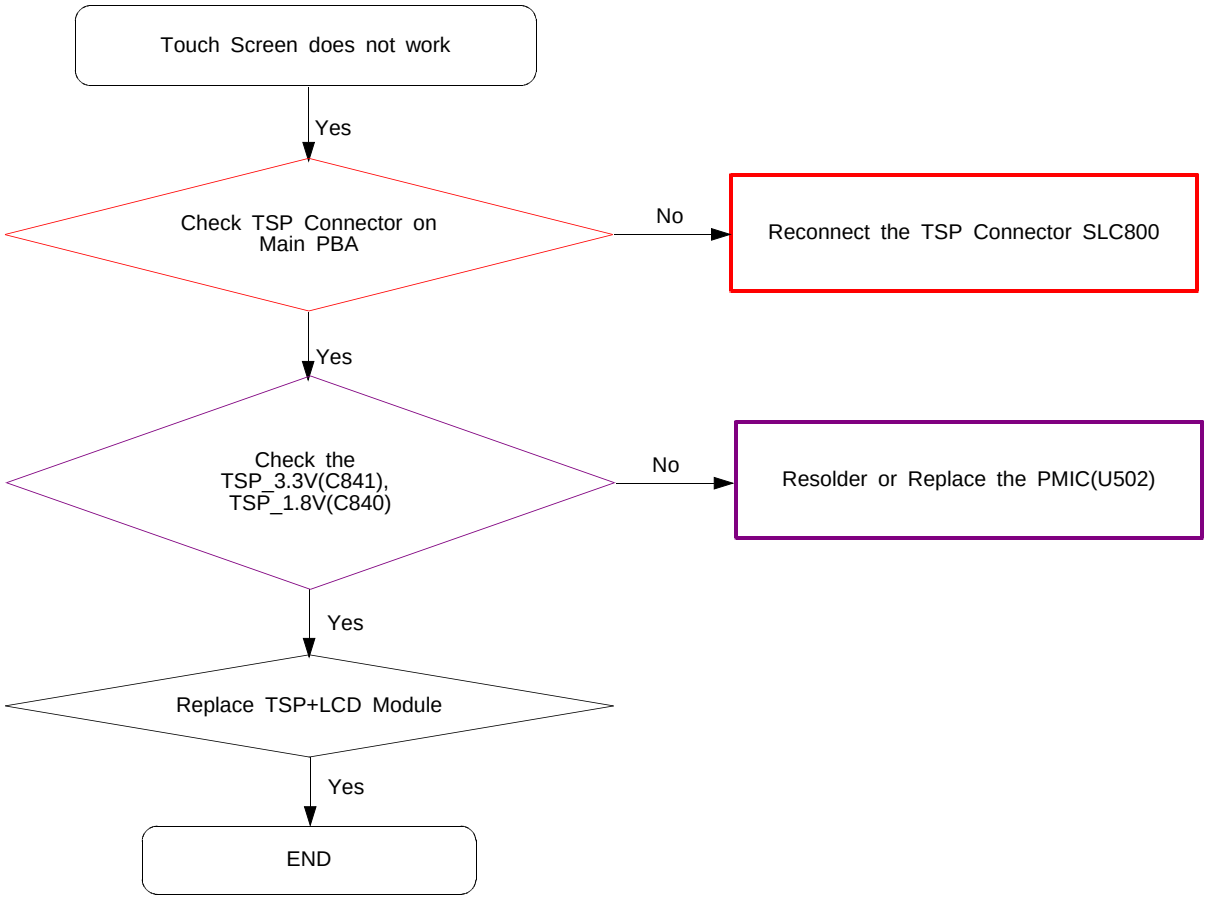
8-3-11. TSP



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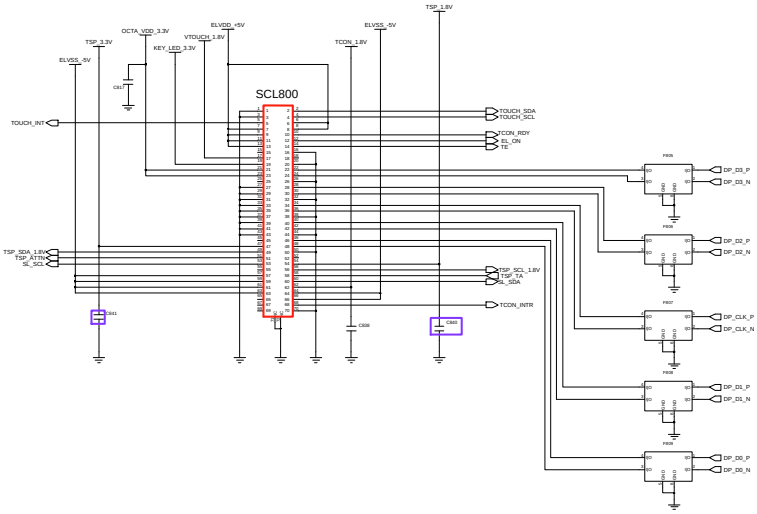

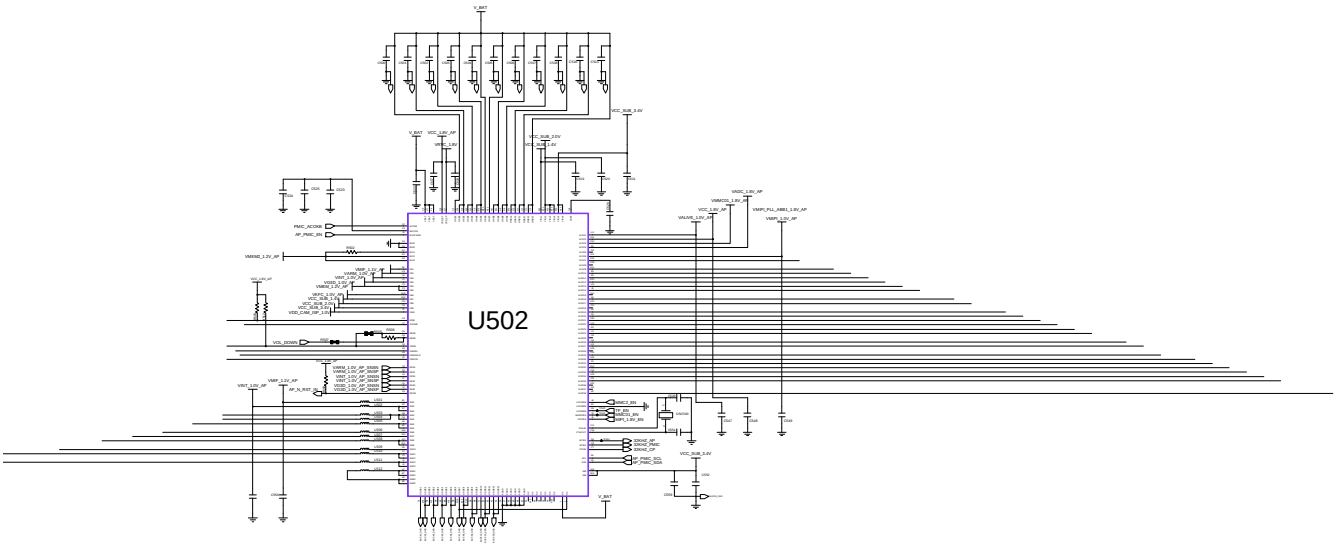

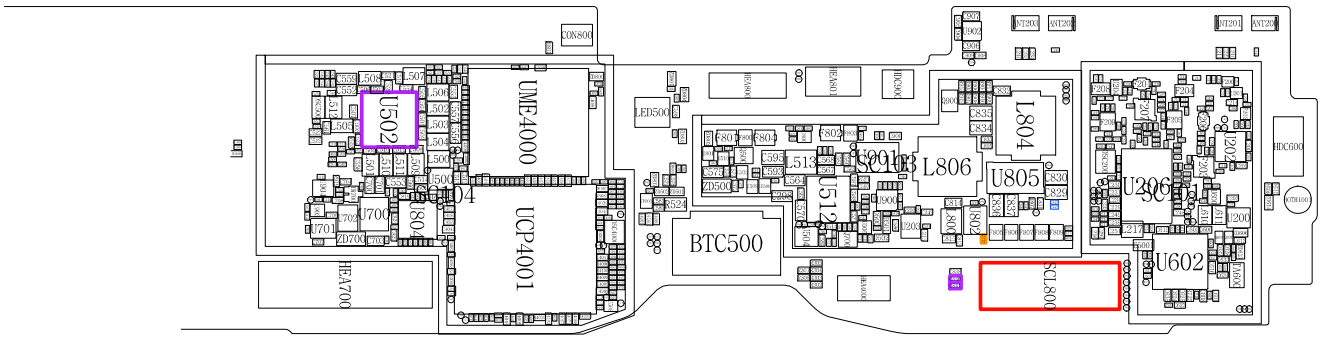

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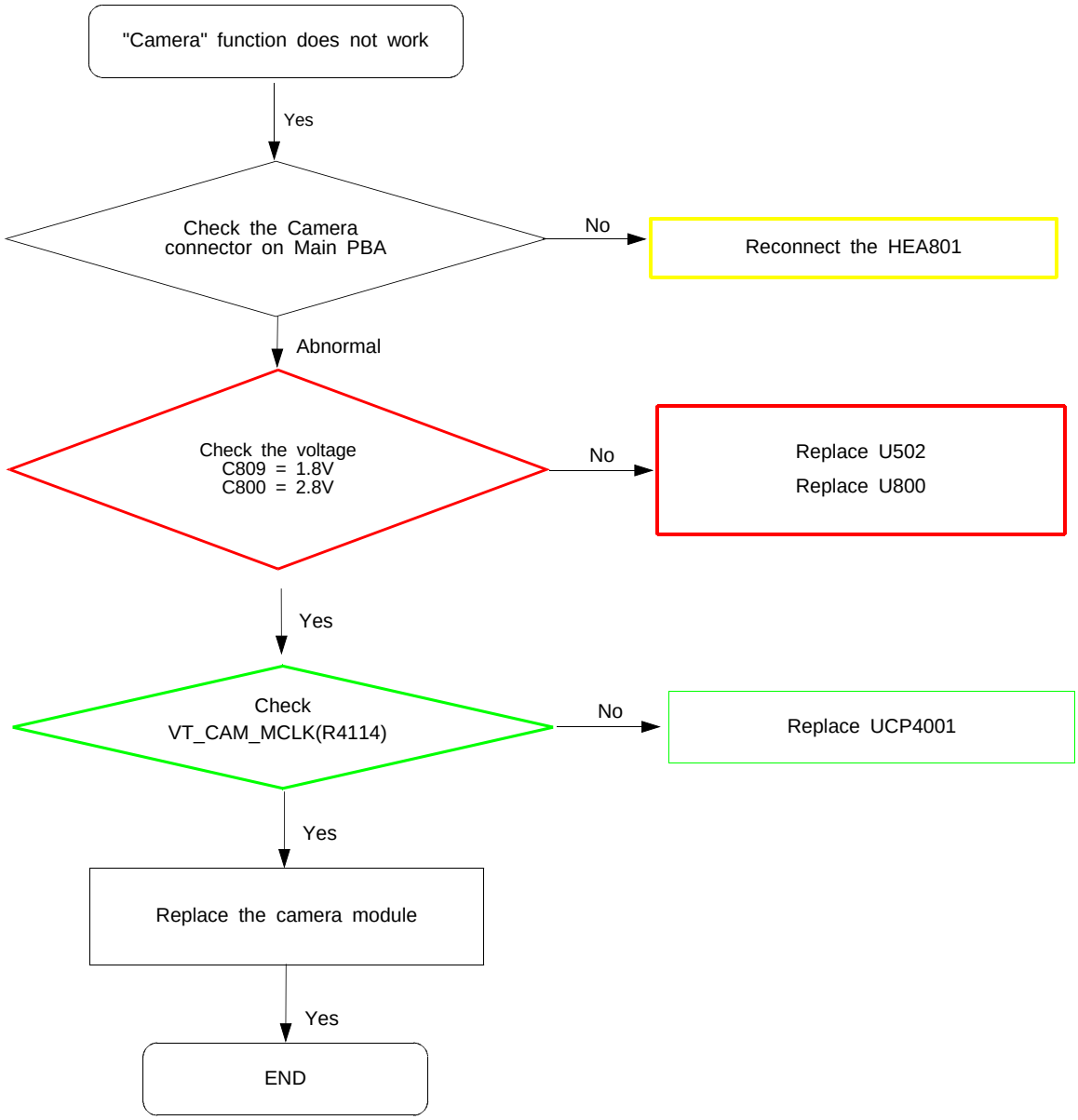
8-3-12. VT CAM



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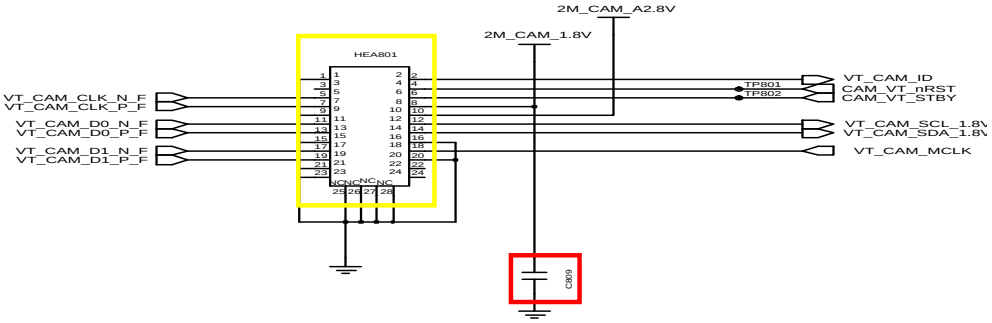

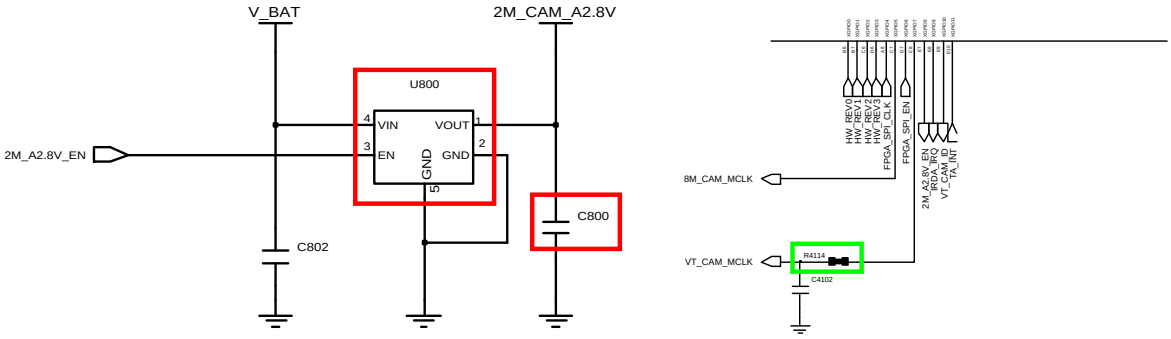

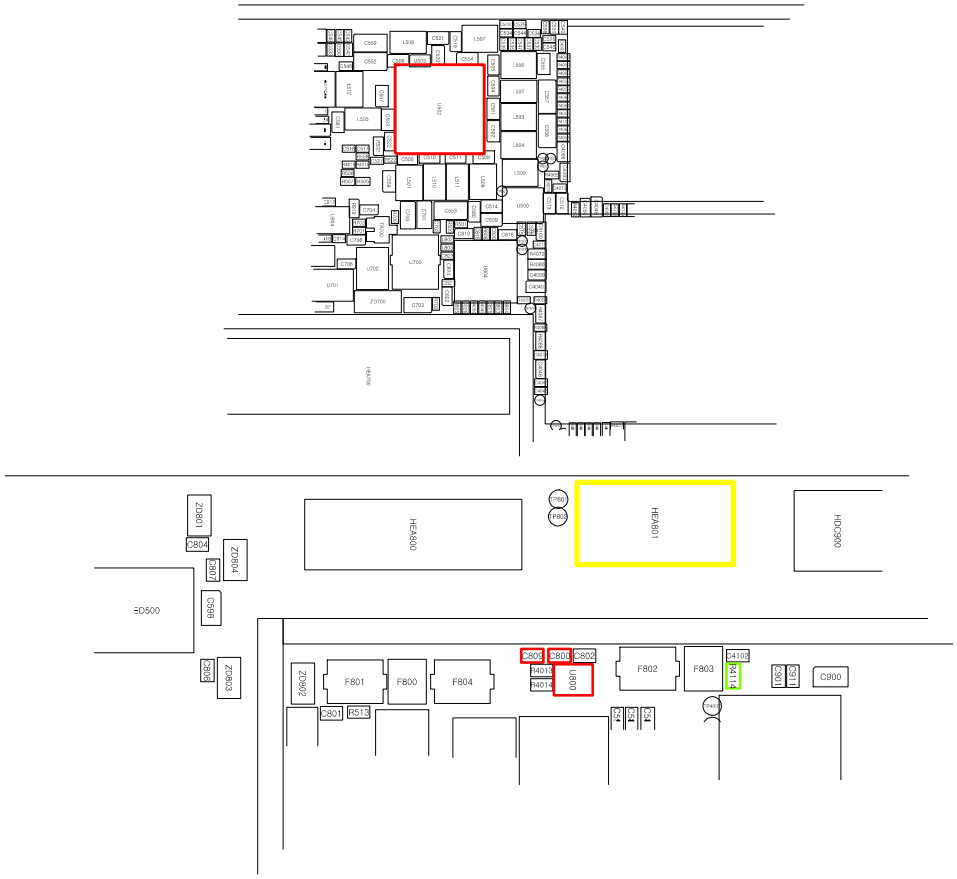

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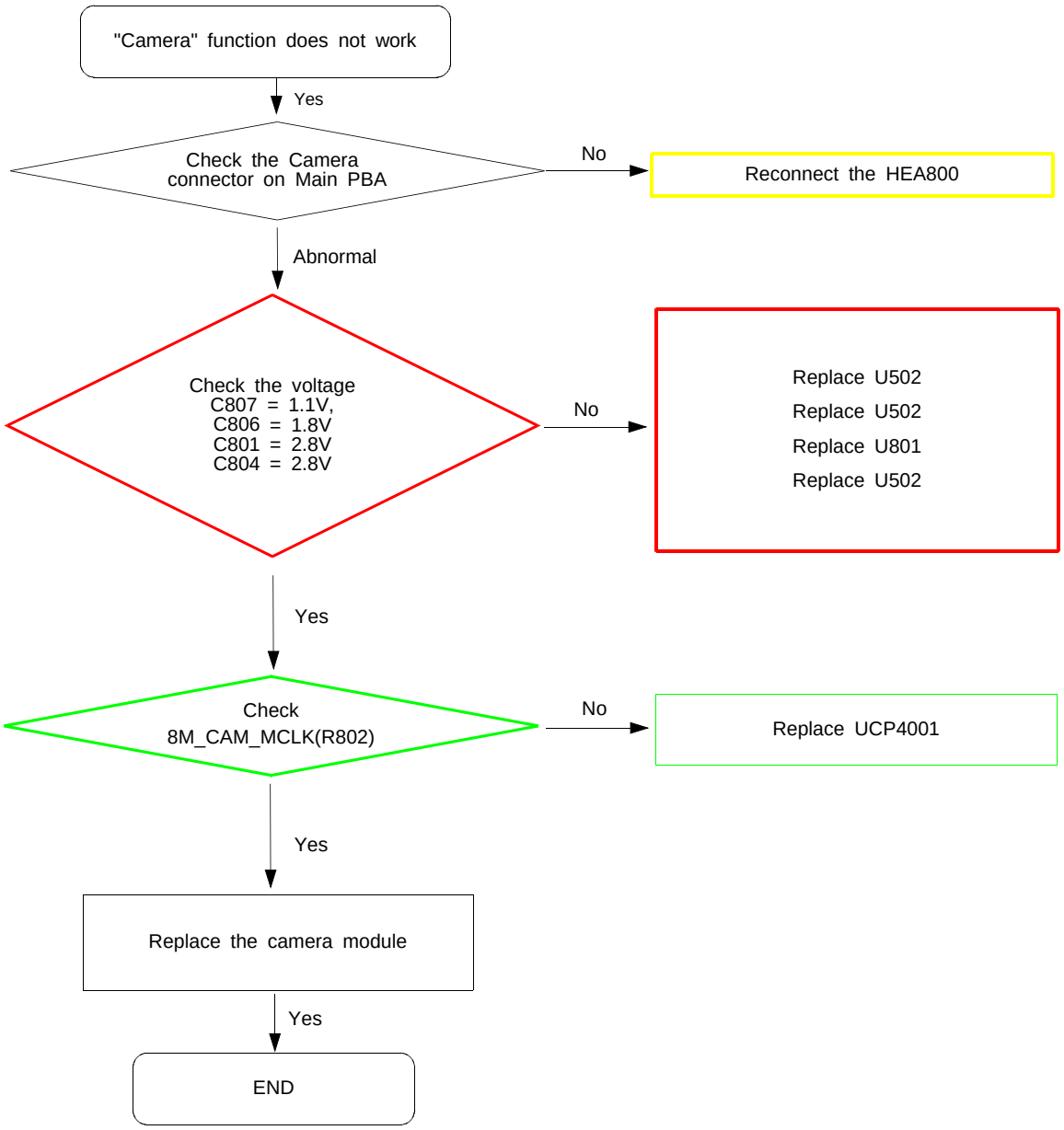
8-3-13. 8M CAM



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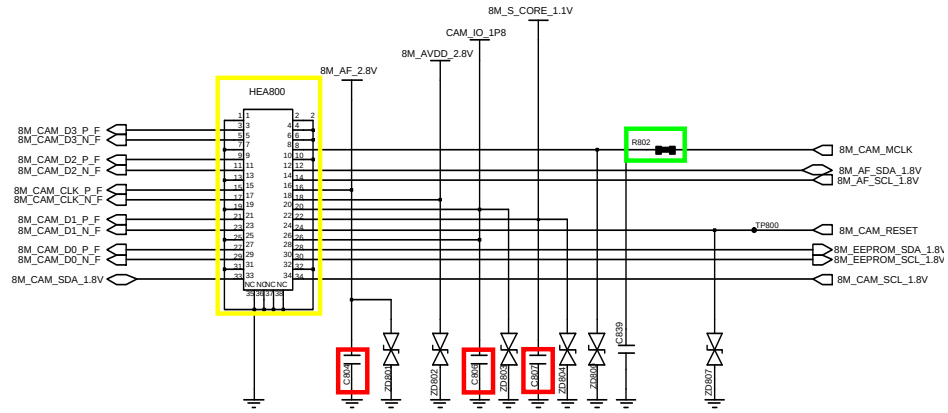

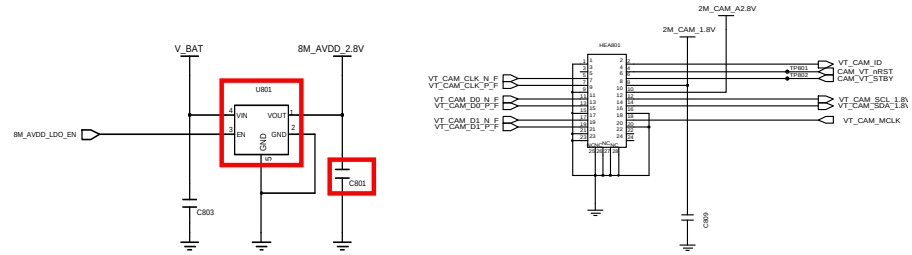

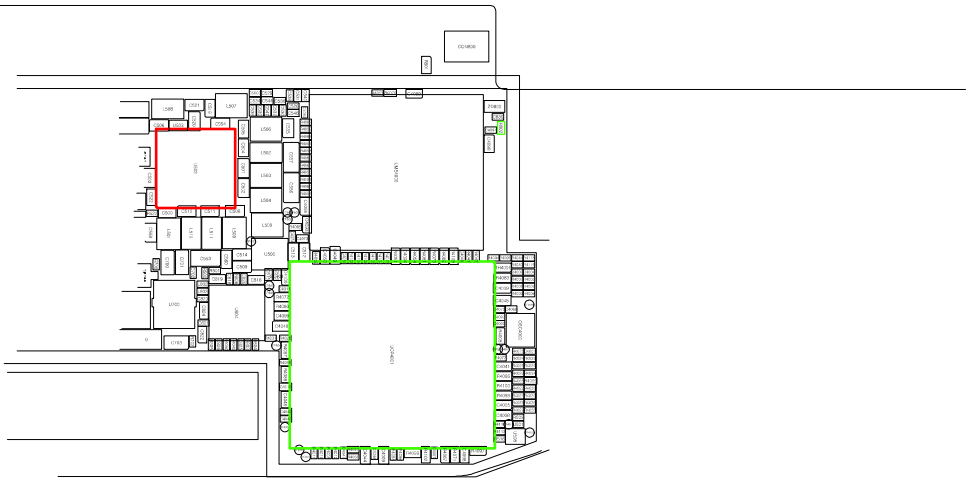

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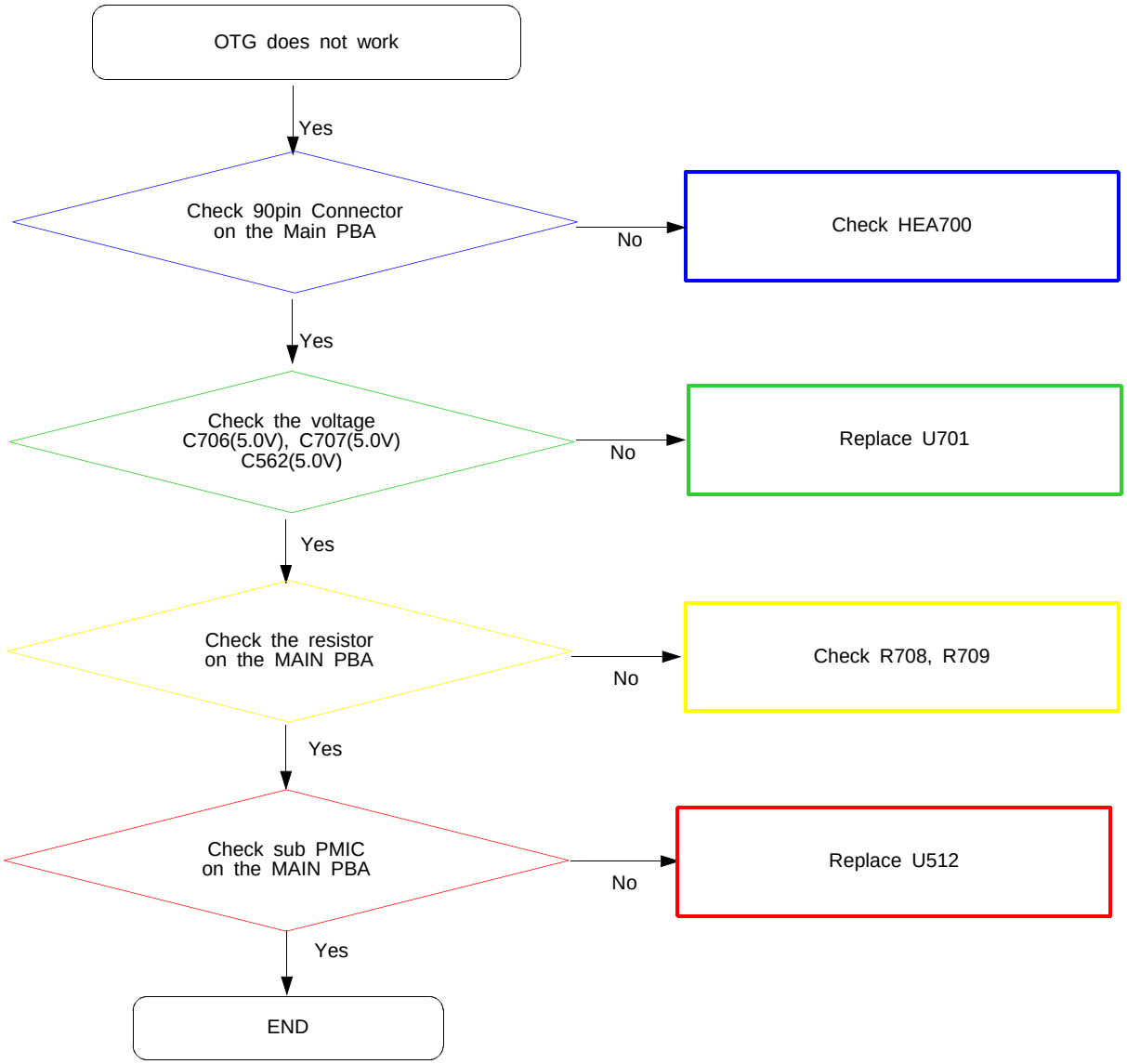
8-3-13. OTG



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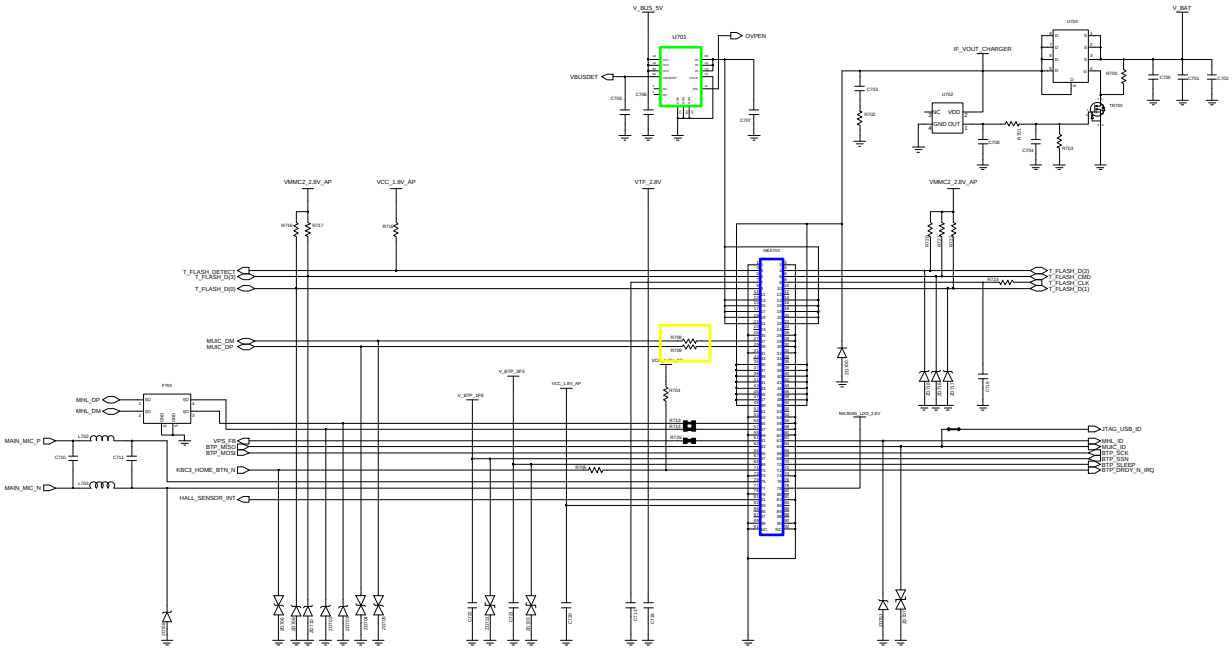

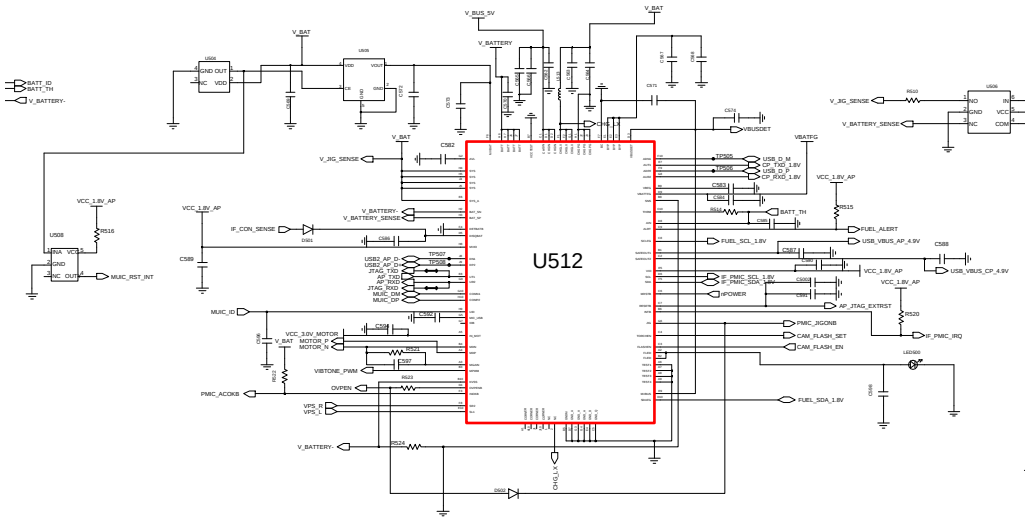

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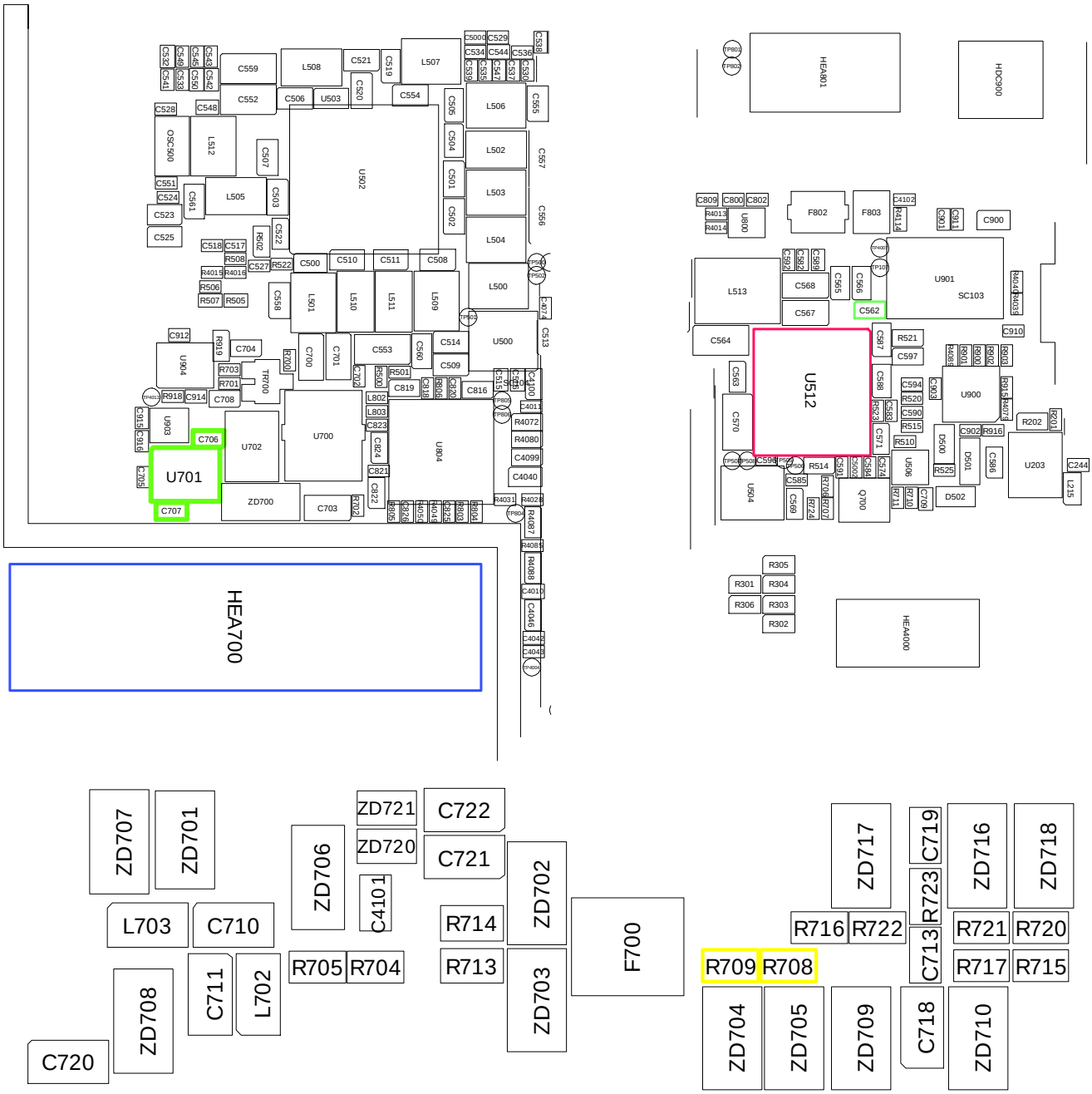

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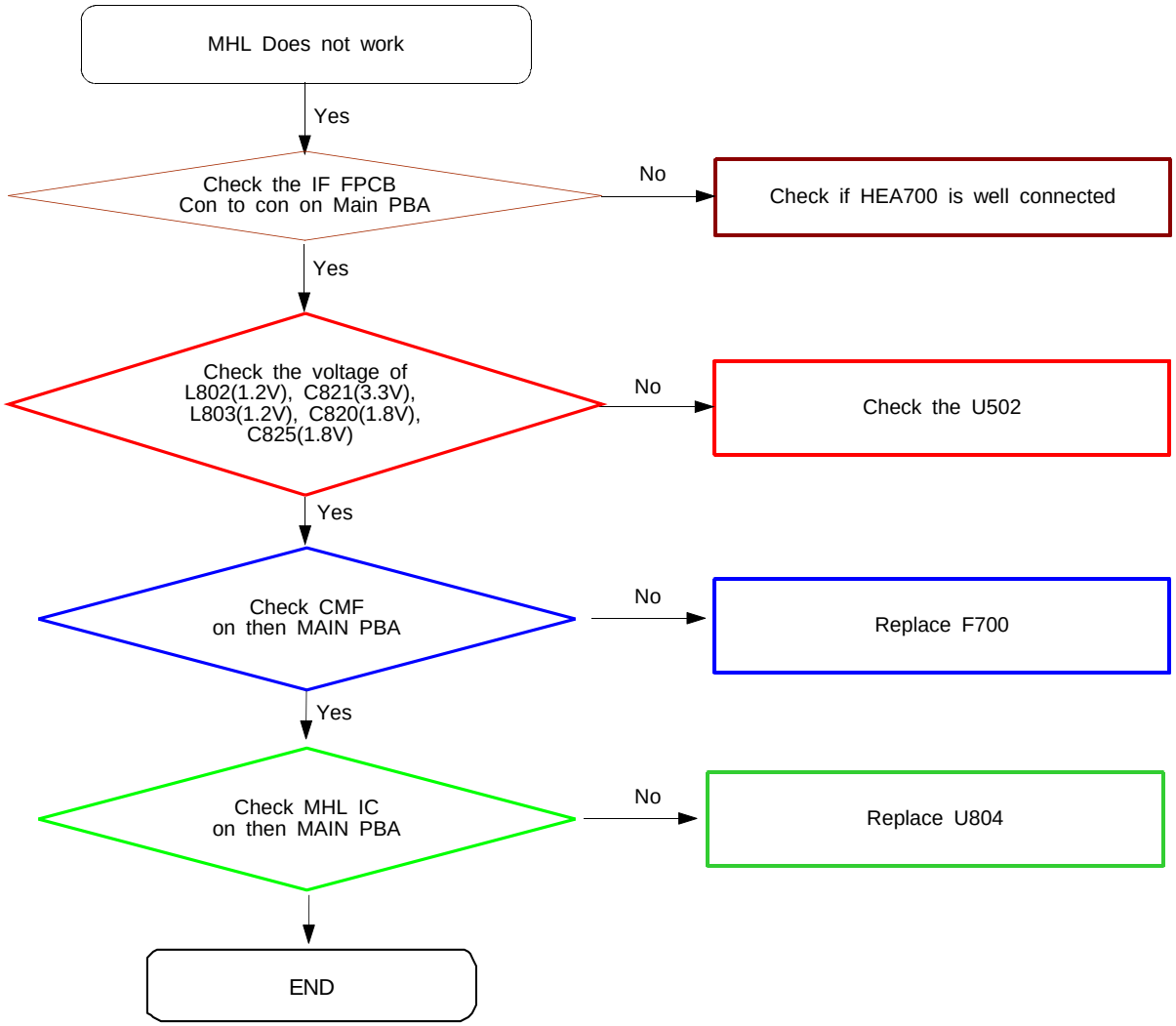
8-3-14. MHL



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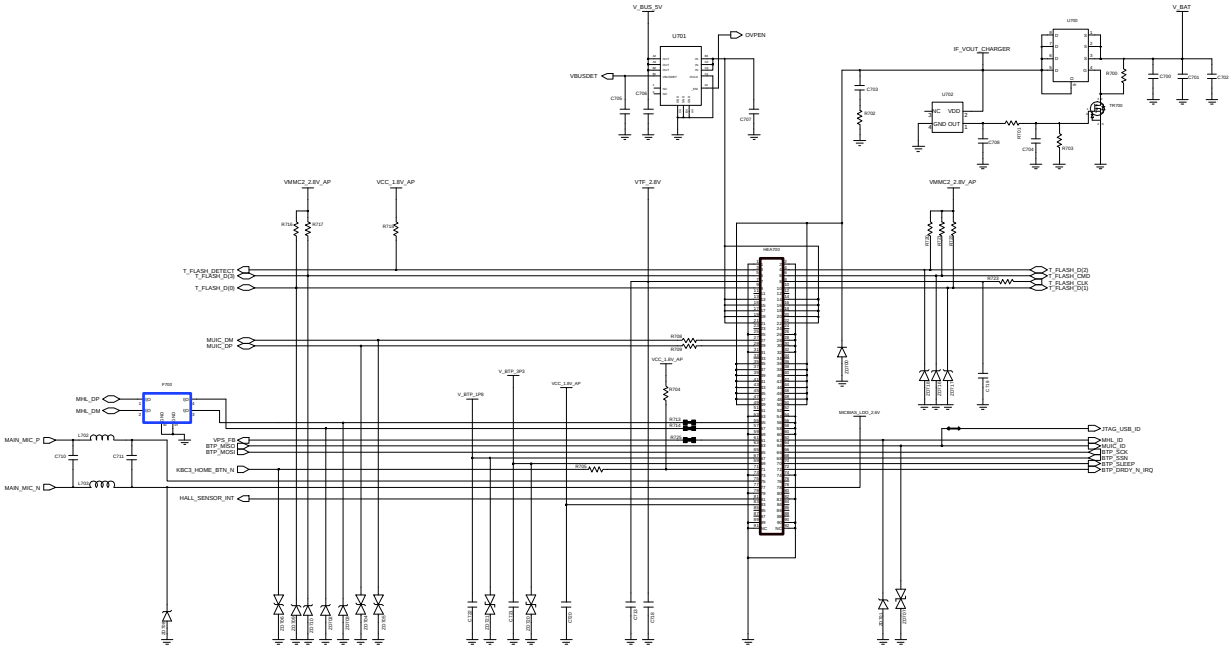

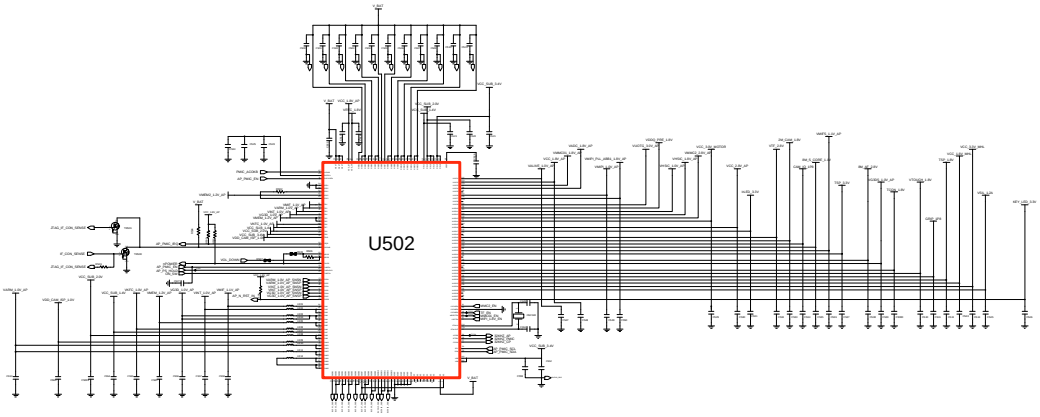

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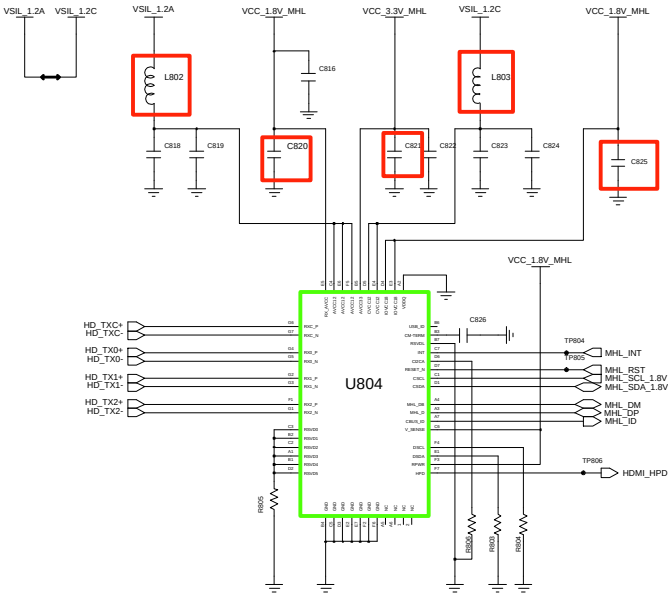

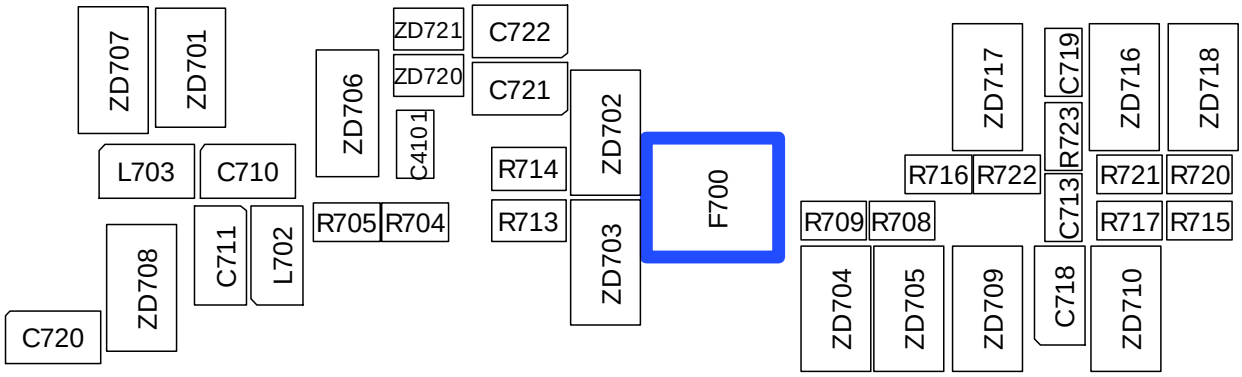

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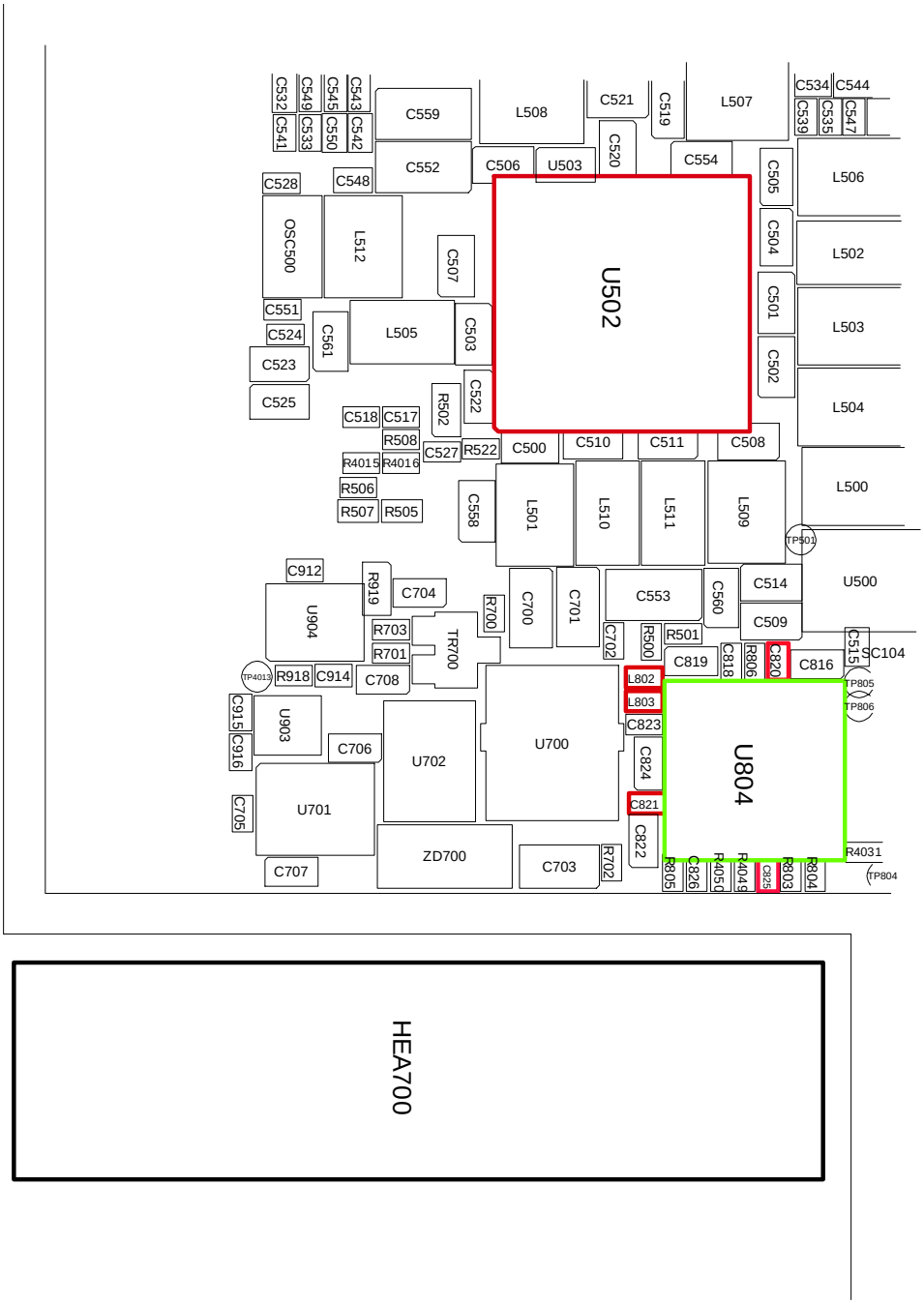

HEA700

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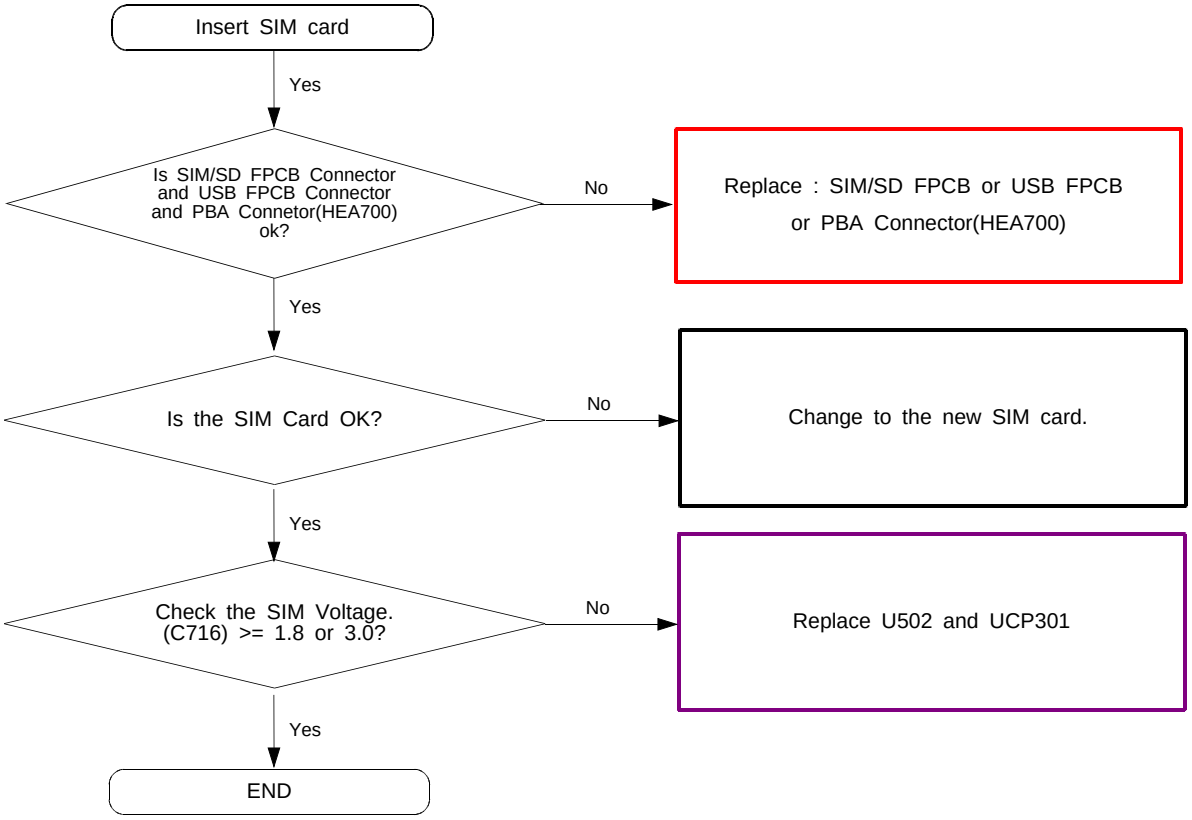
8-3-16. Sim Part



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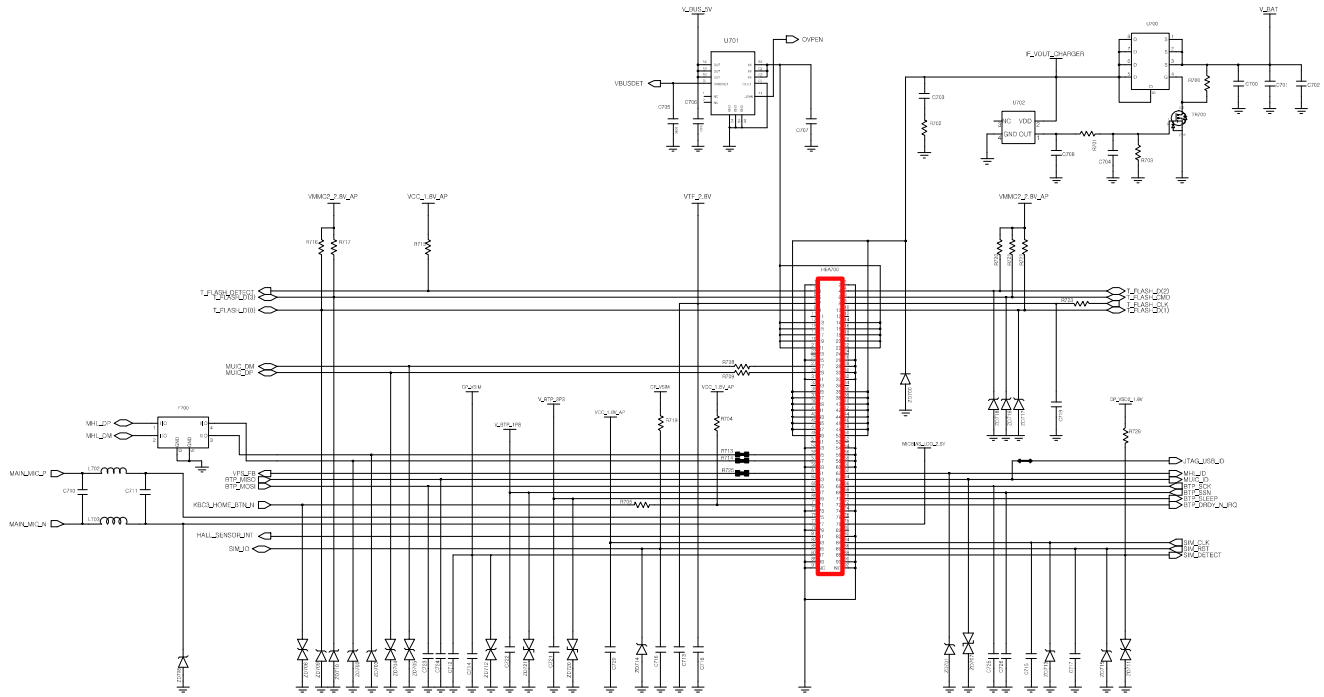

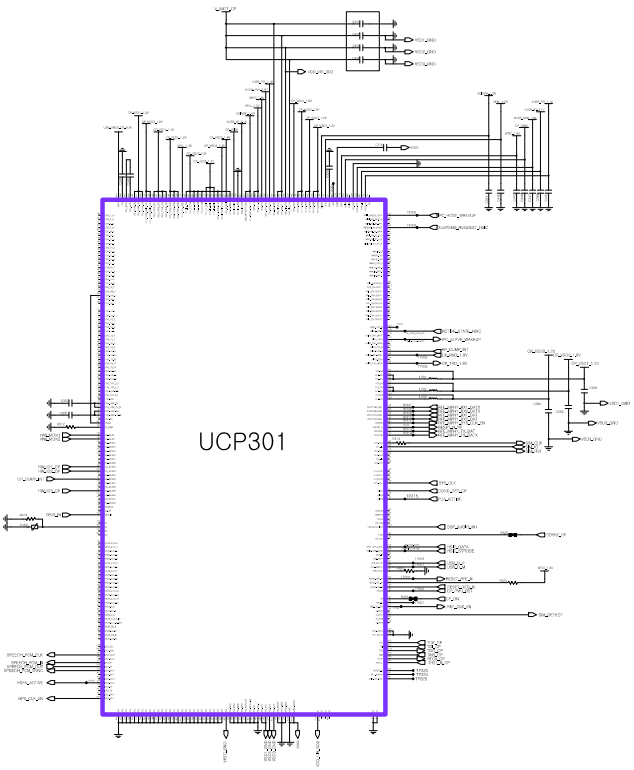

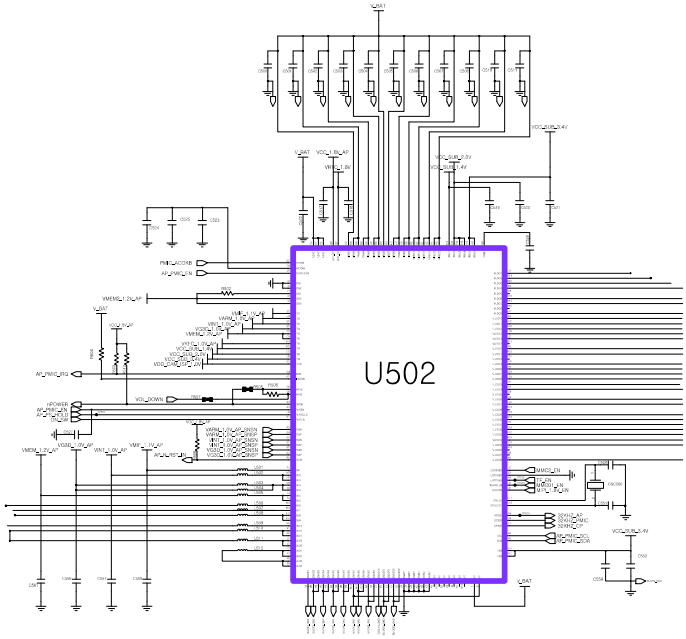

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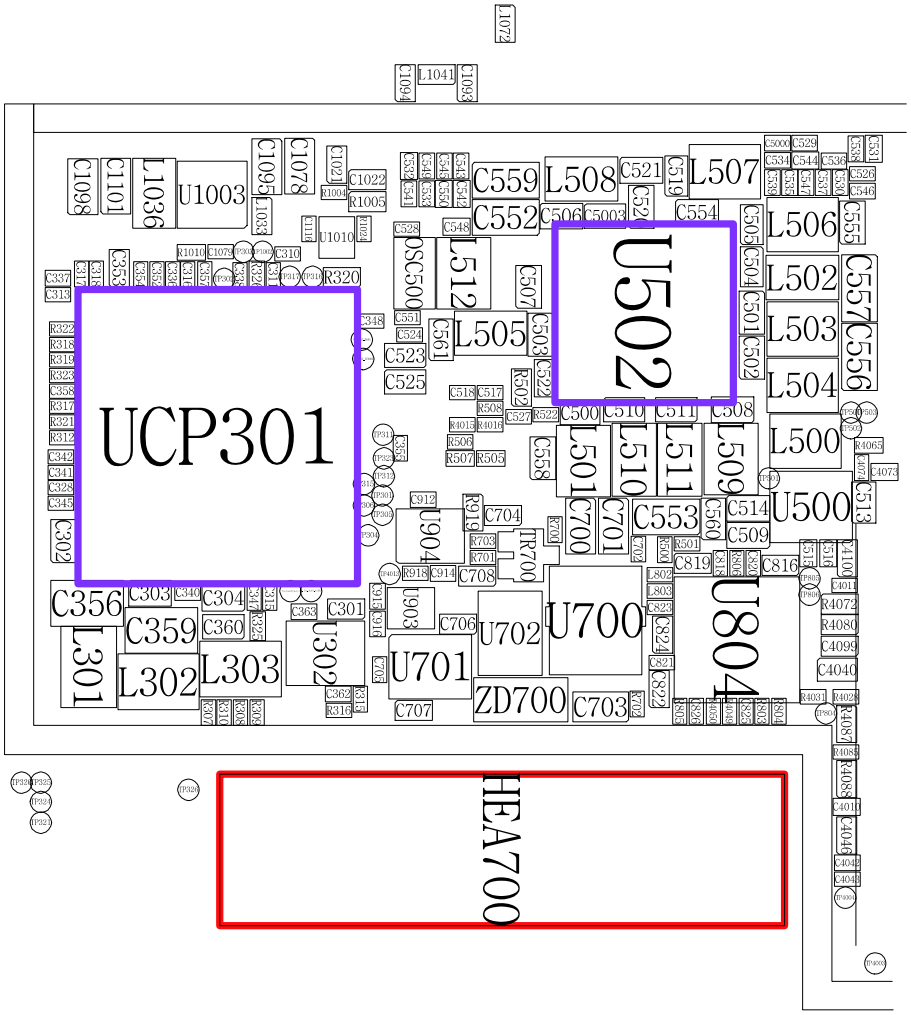

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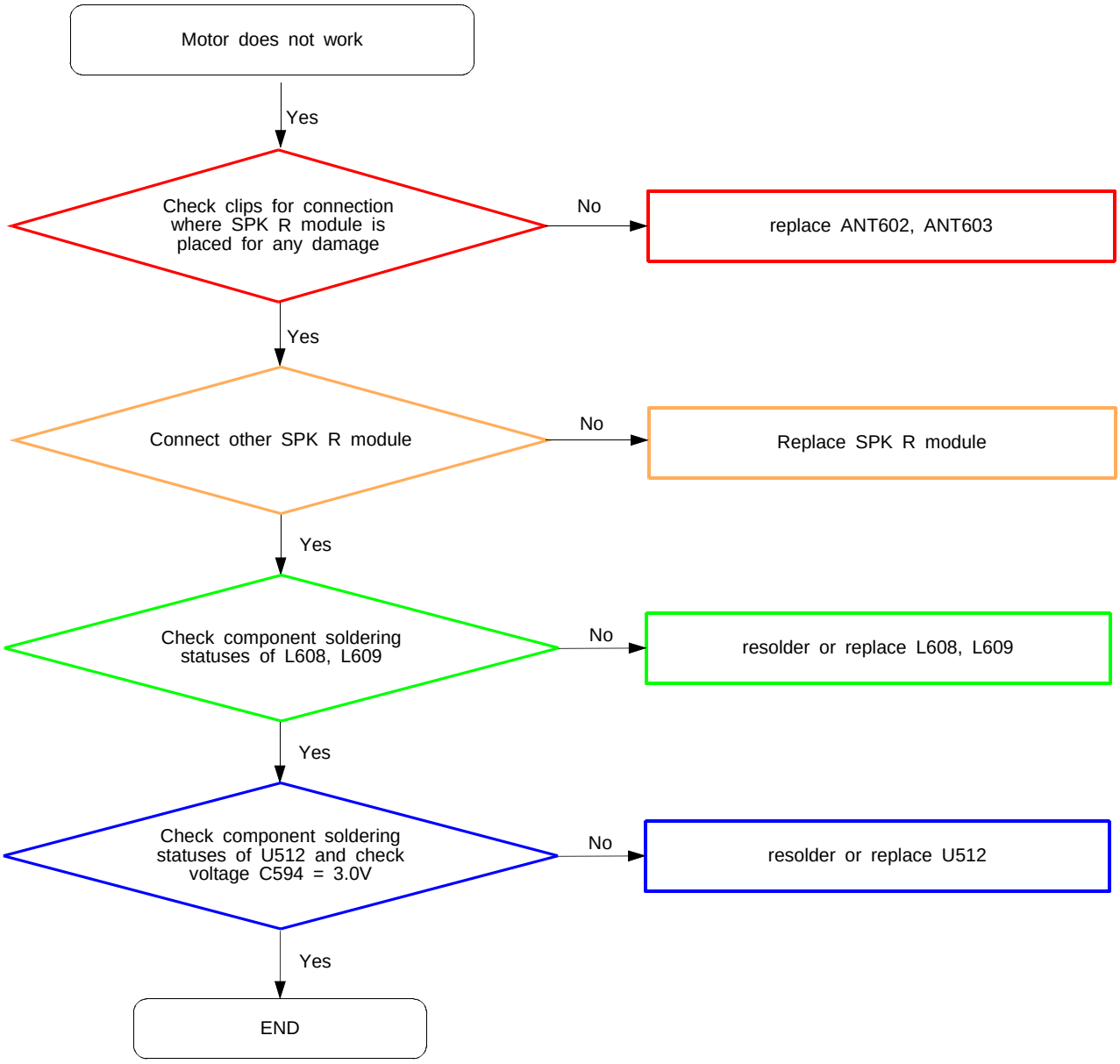
8-3-17. Motor



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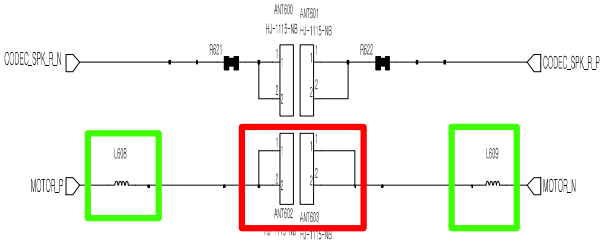

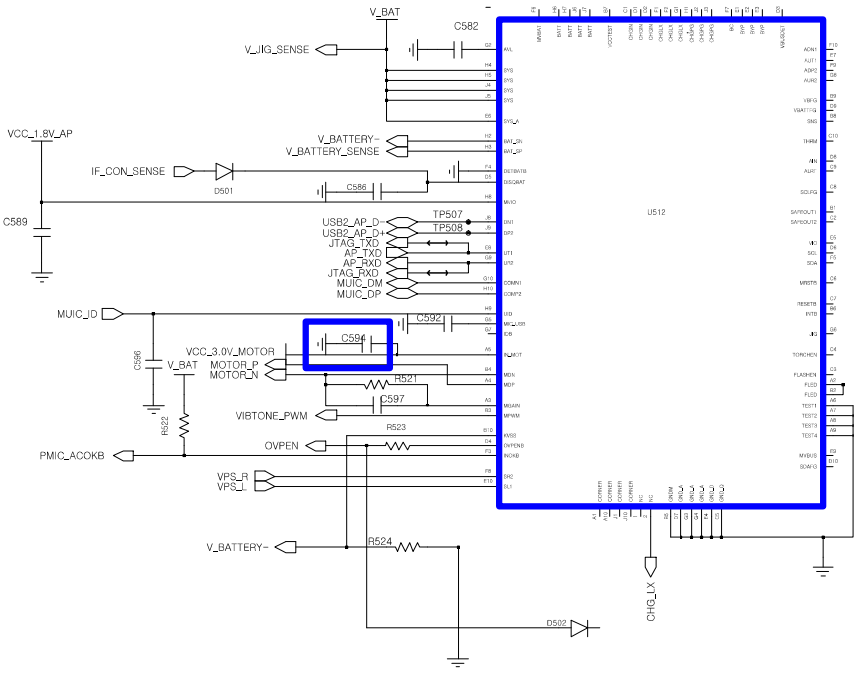

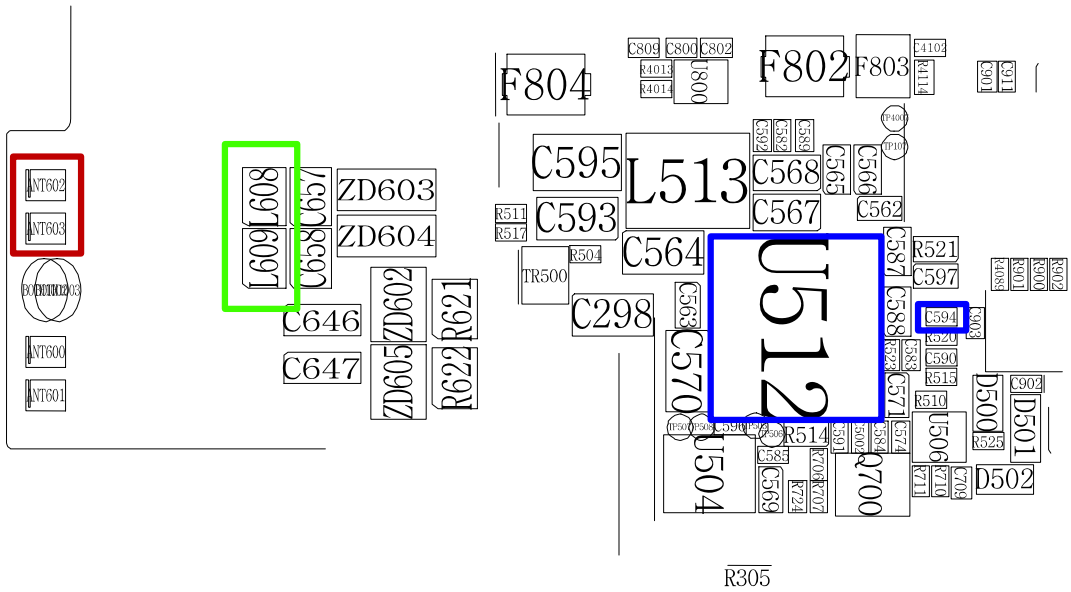

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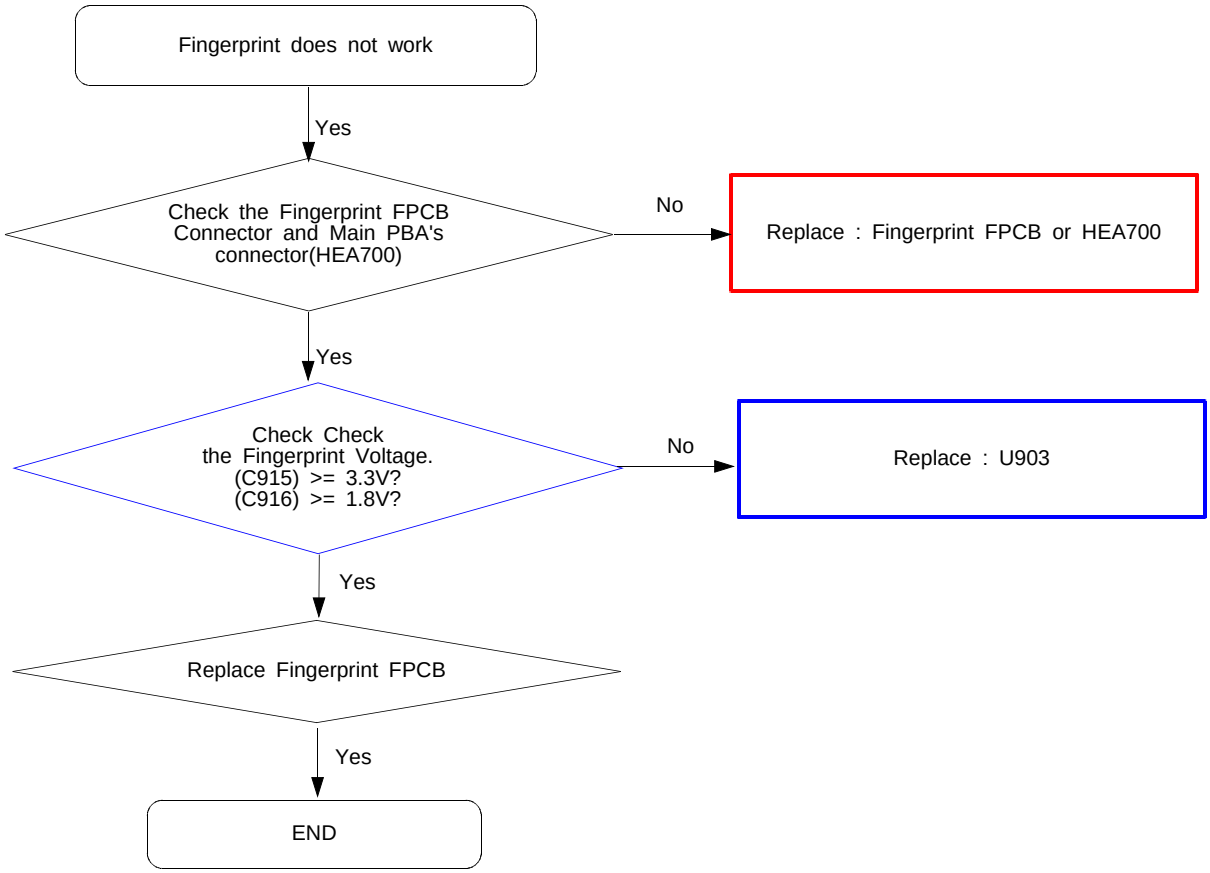
8-3-18. Fingerprint



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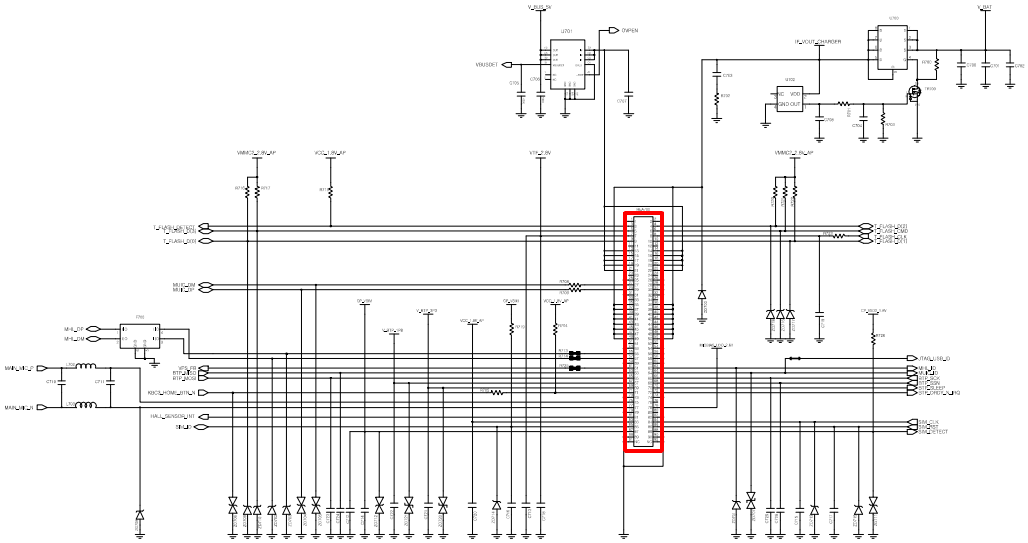

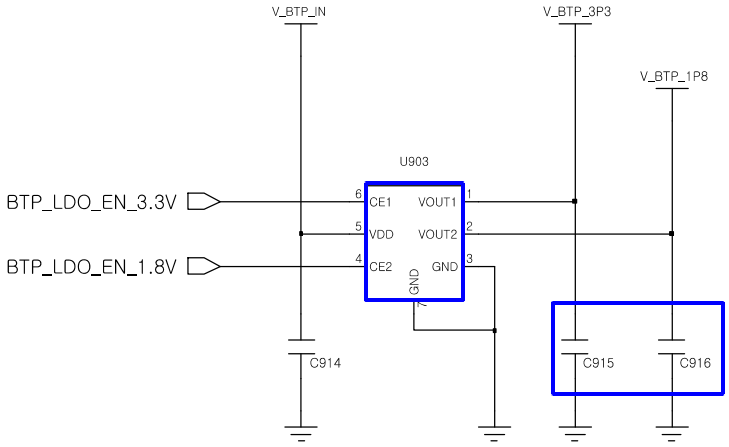

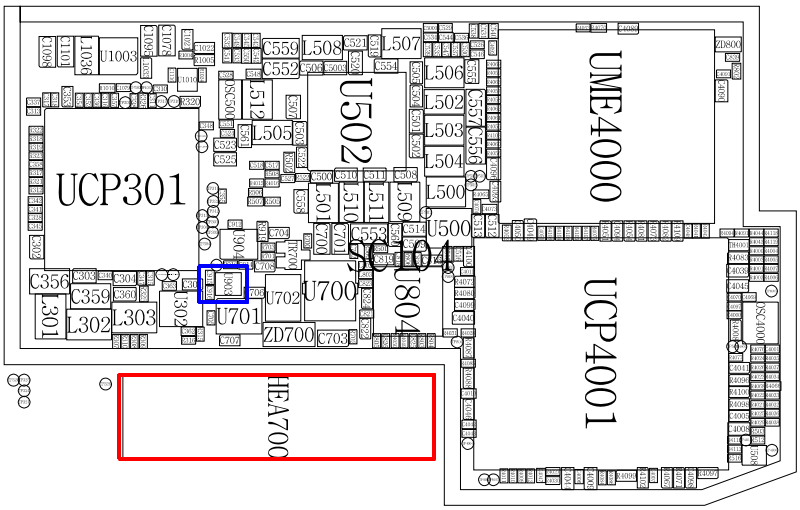

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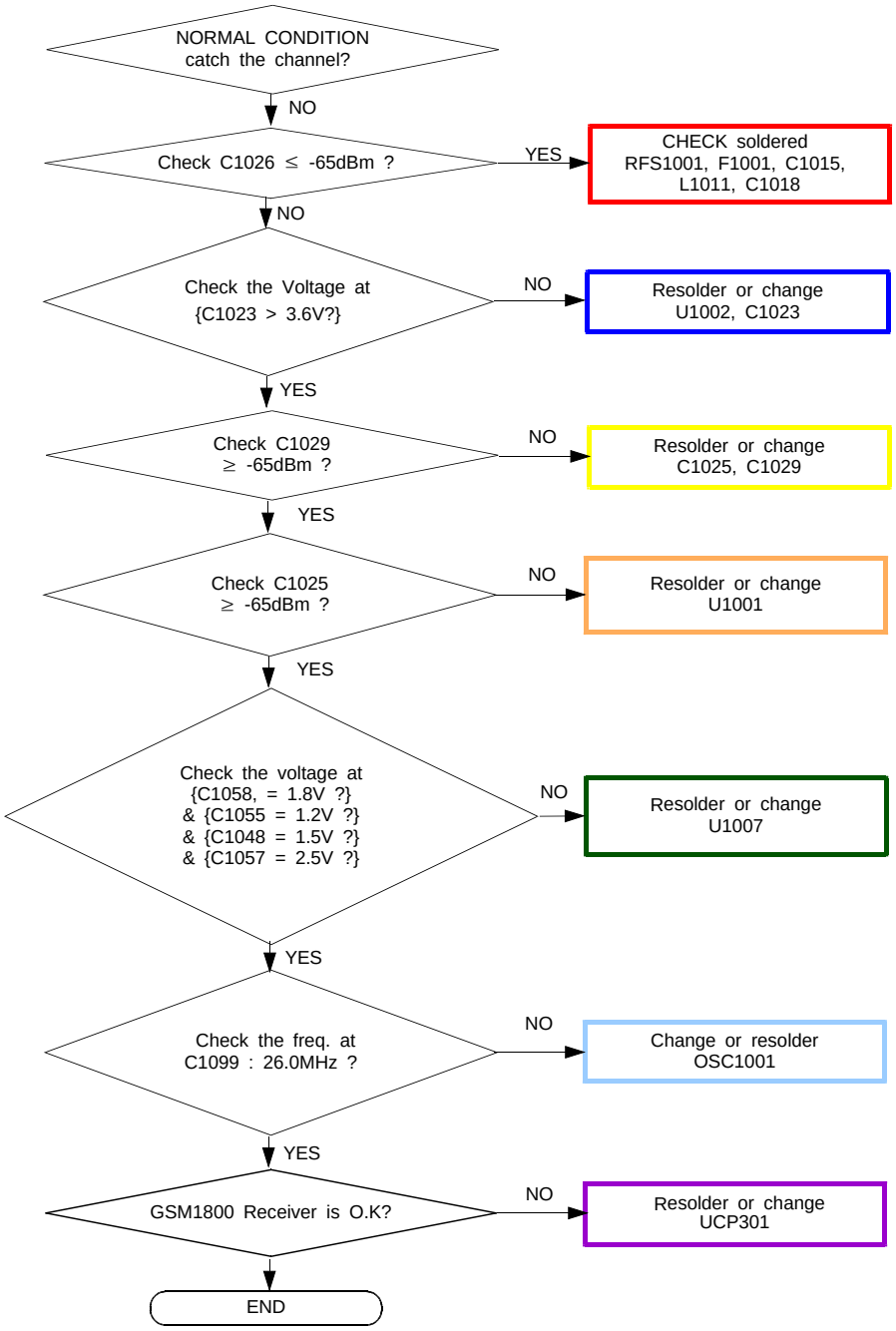
8-3-19. GSM1800 RX



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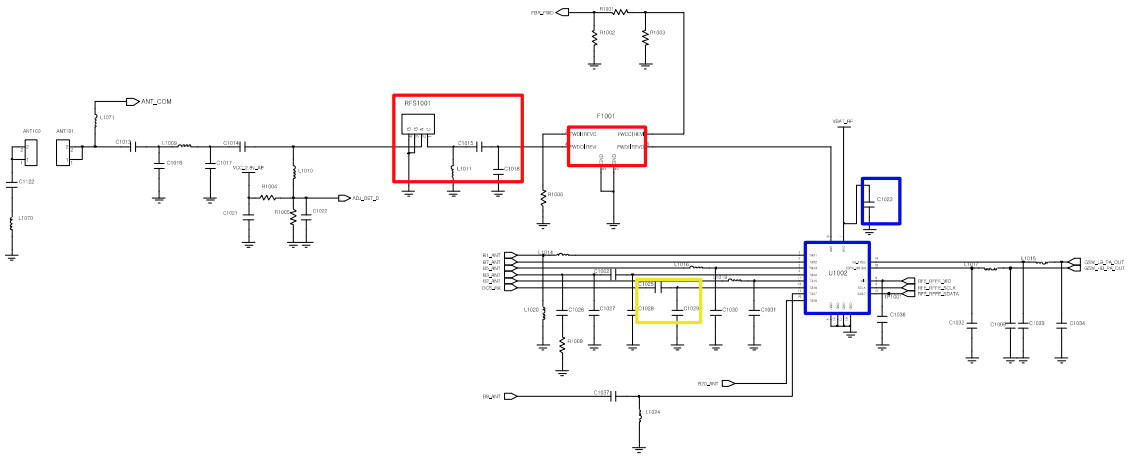

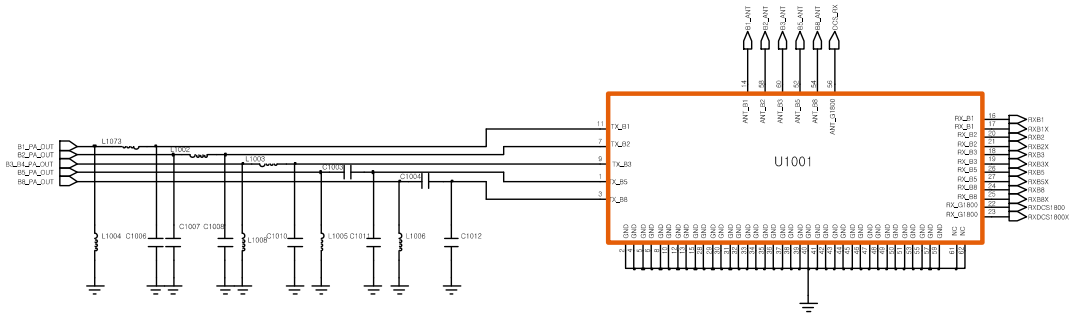

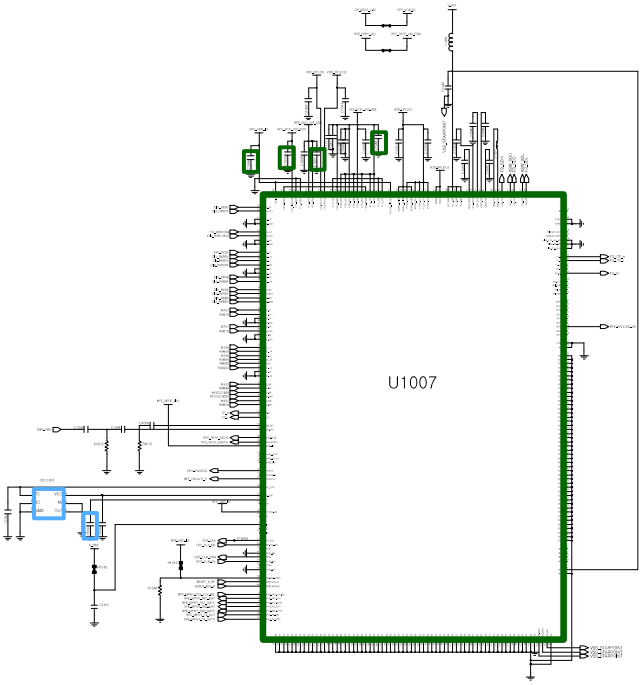

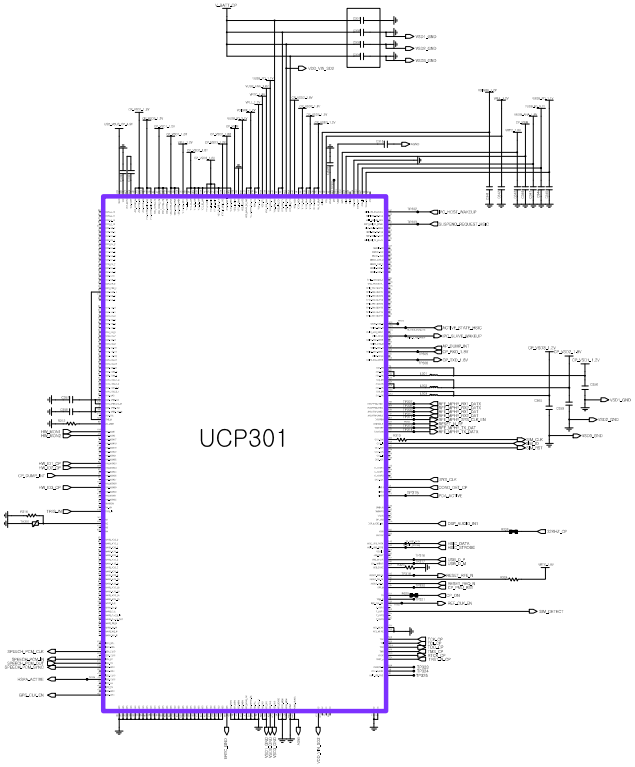

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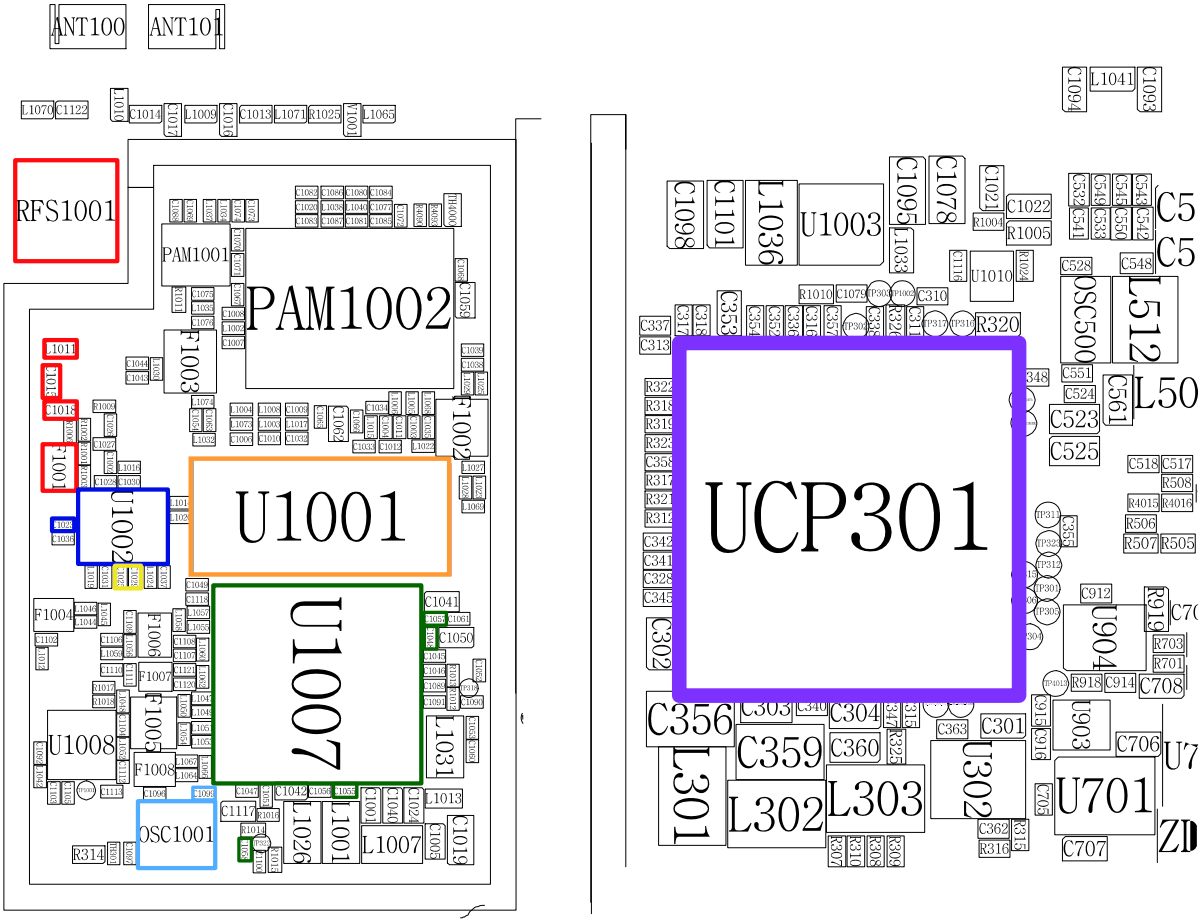

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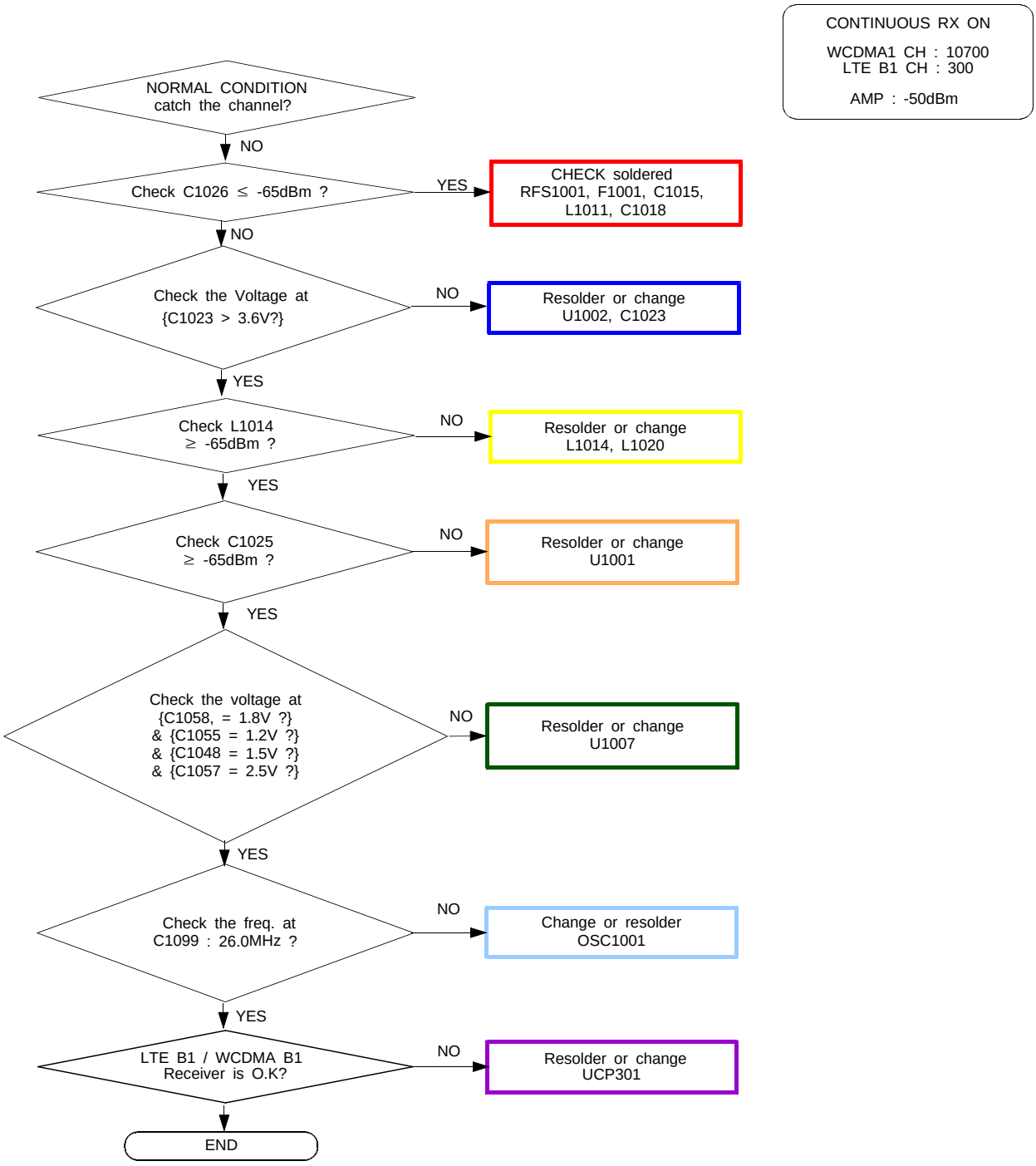
8-3-20. LTE Band1/ WCDMA Band1 RX



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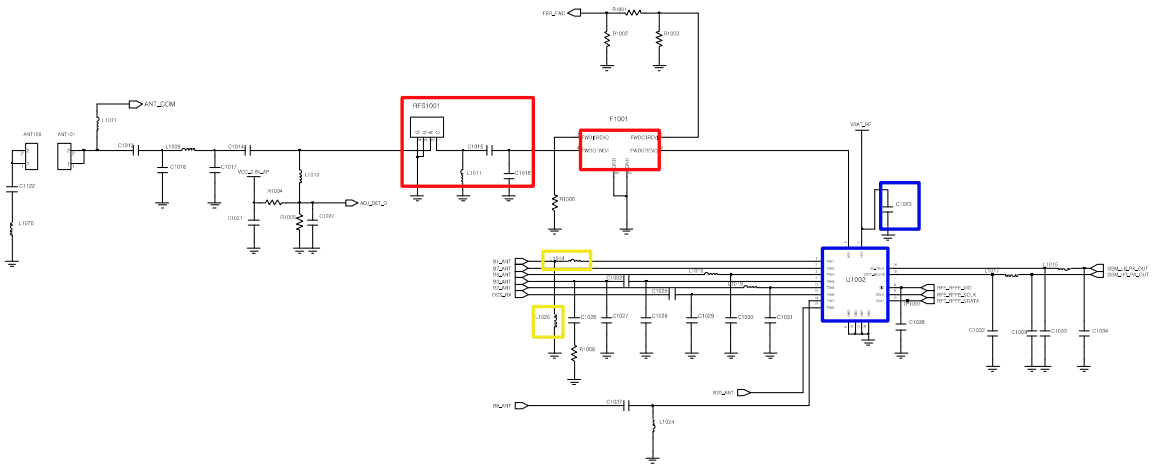

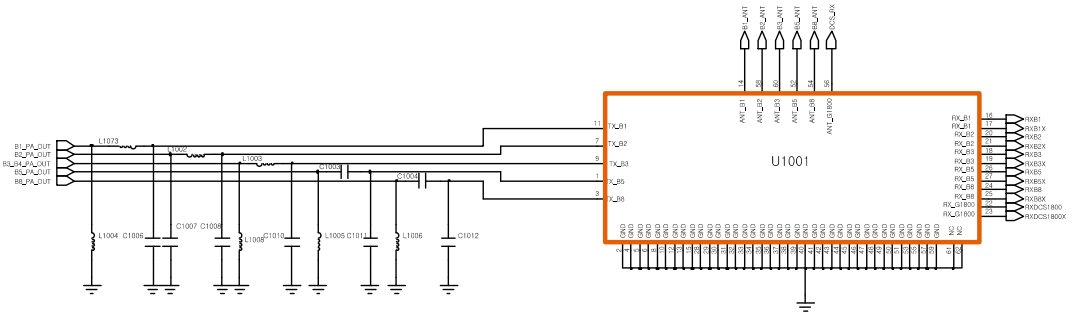

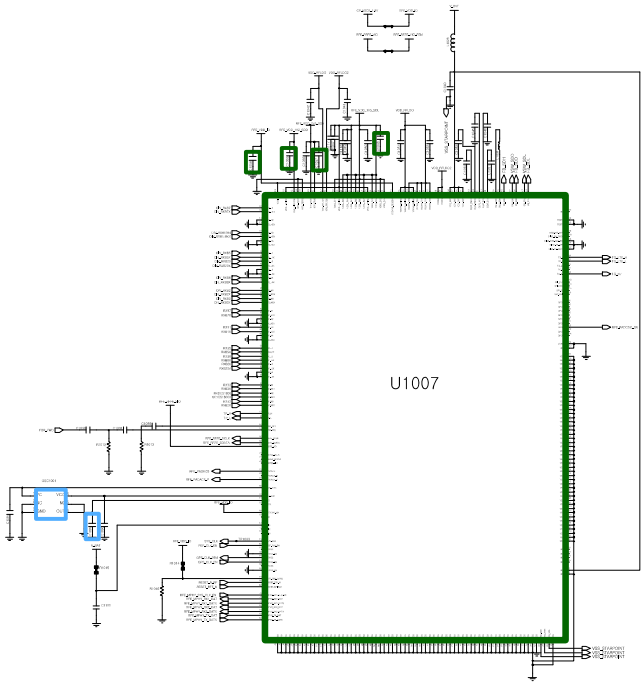

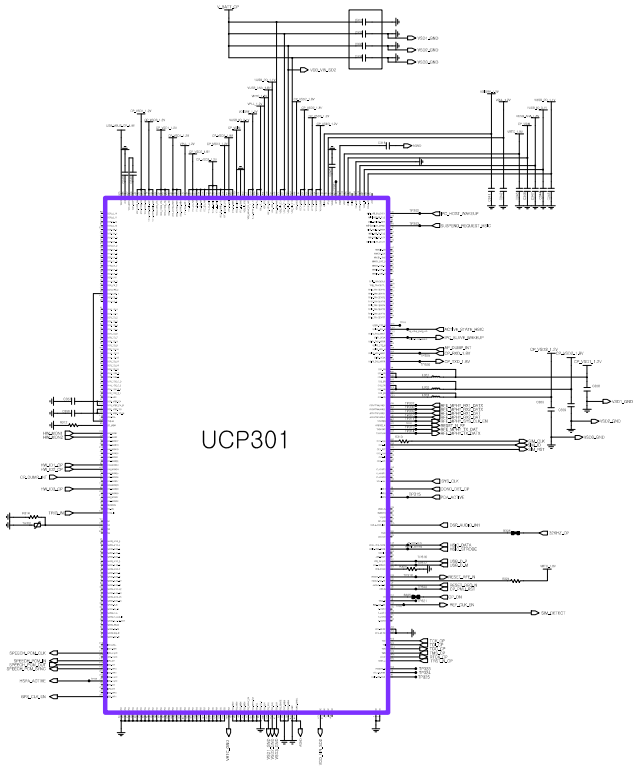

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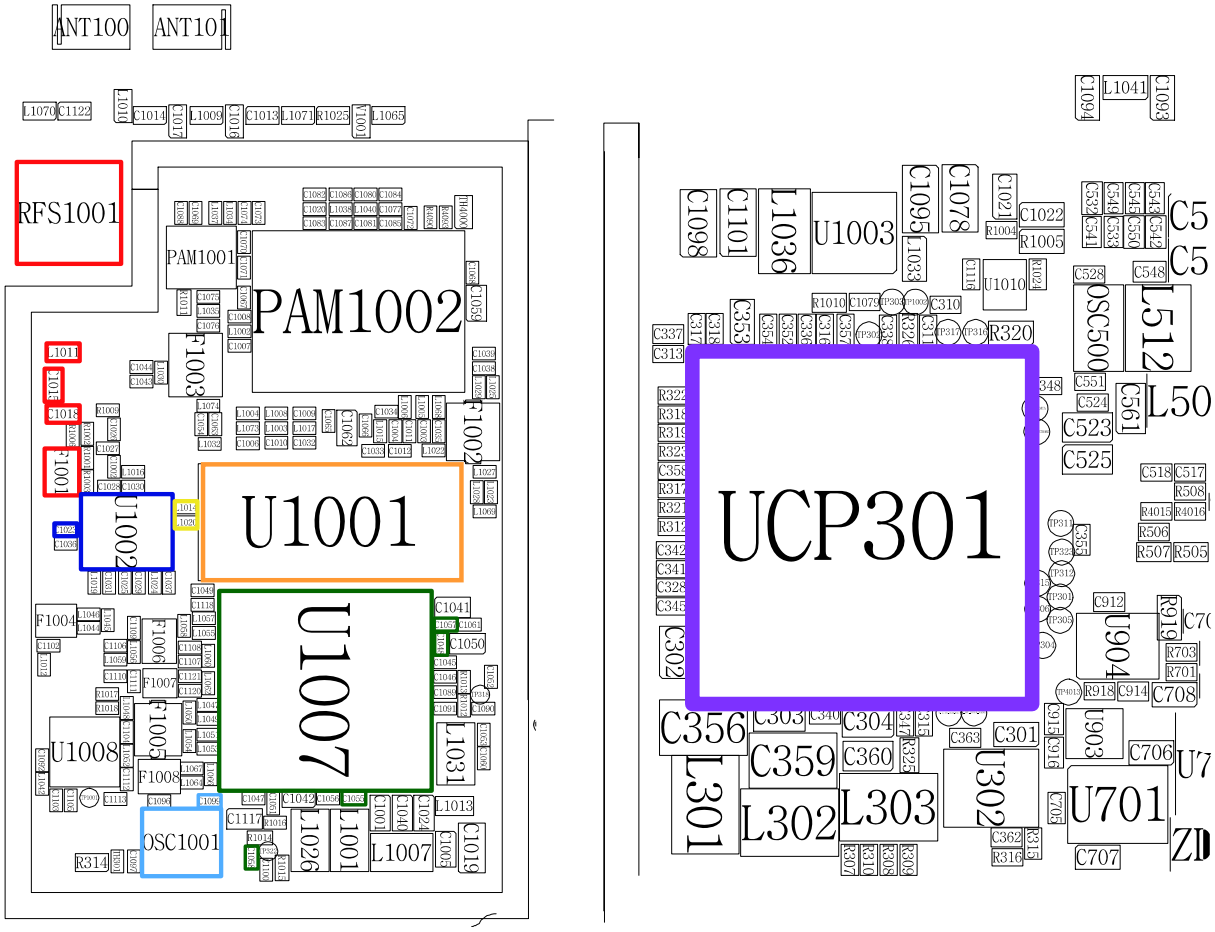

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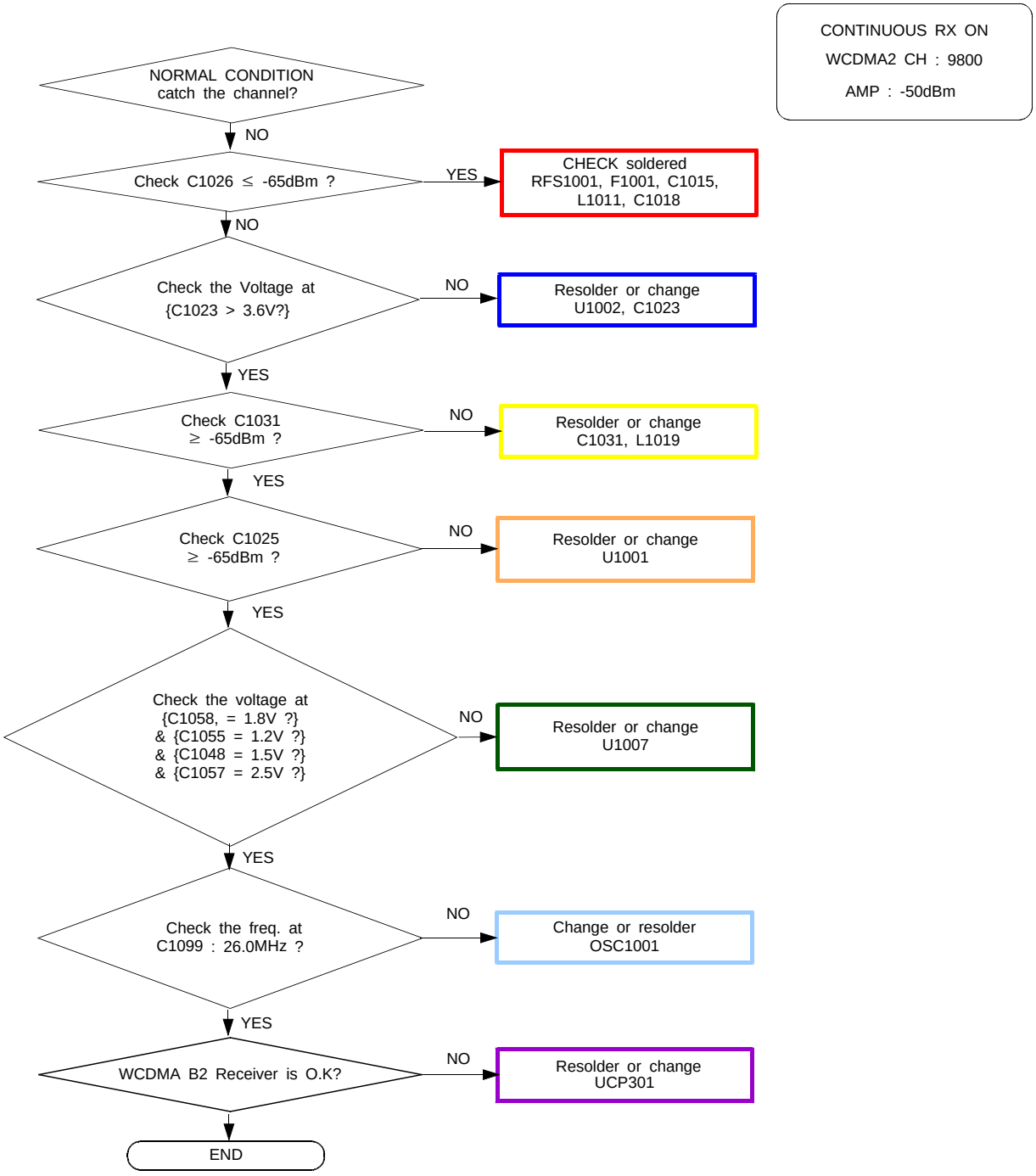
8-3-21. WCDMA Band2 RX



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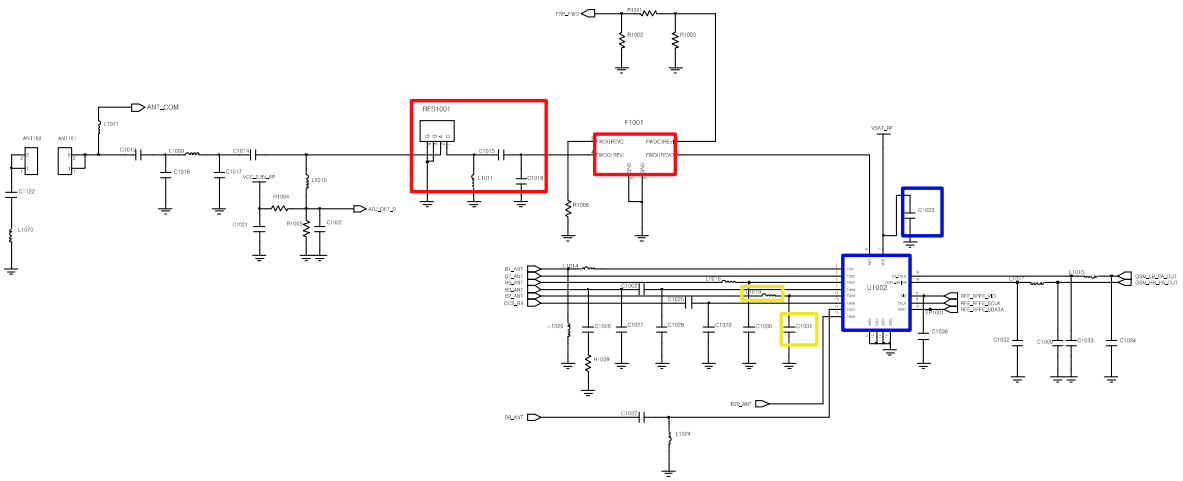

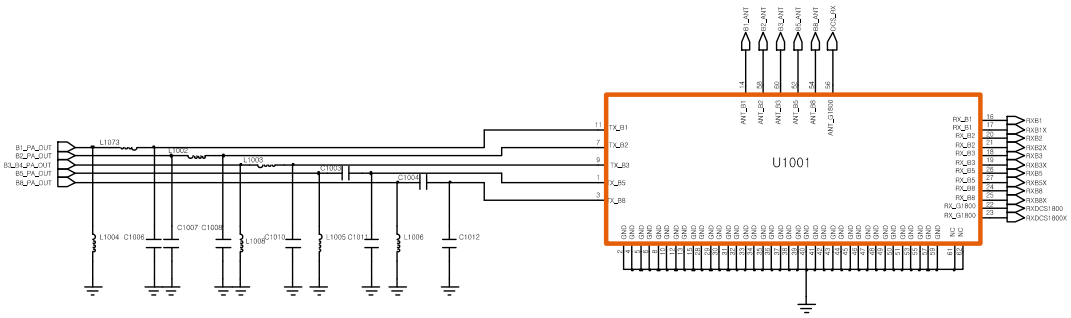

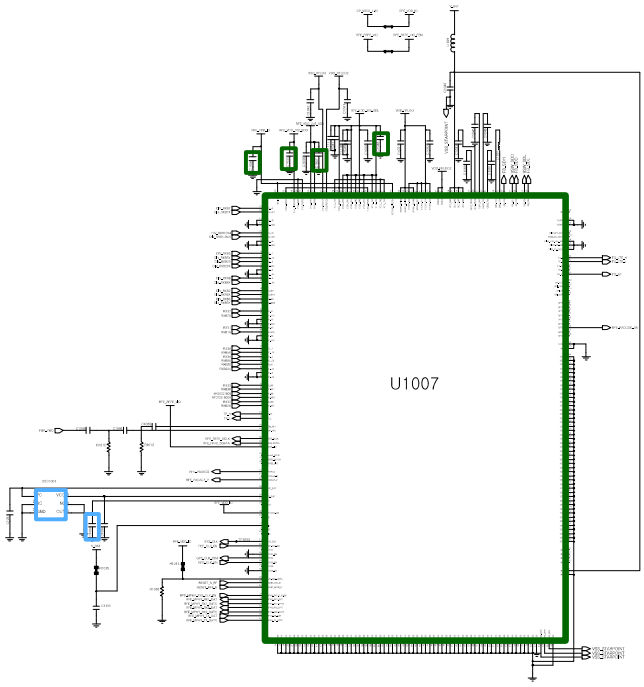

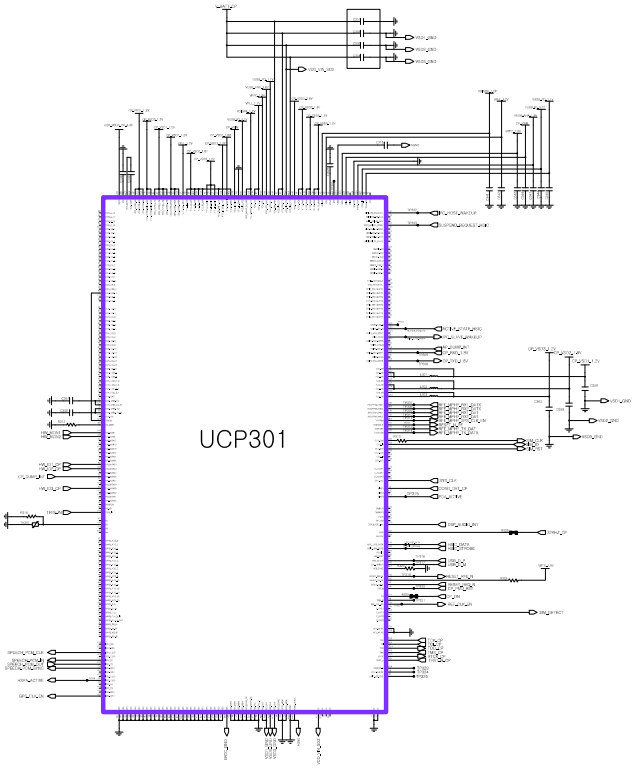

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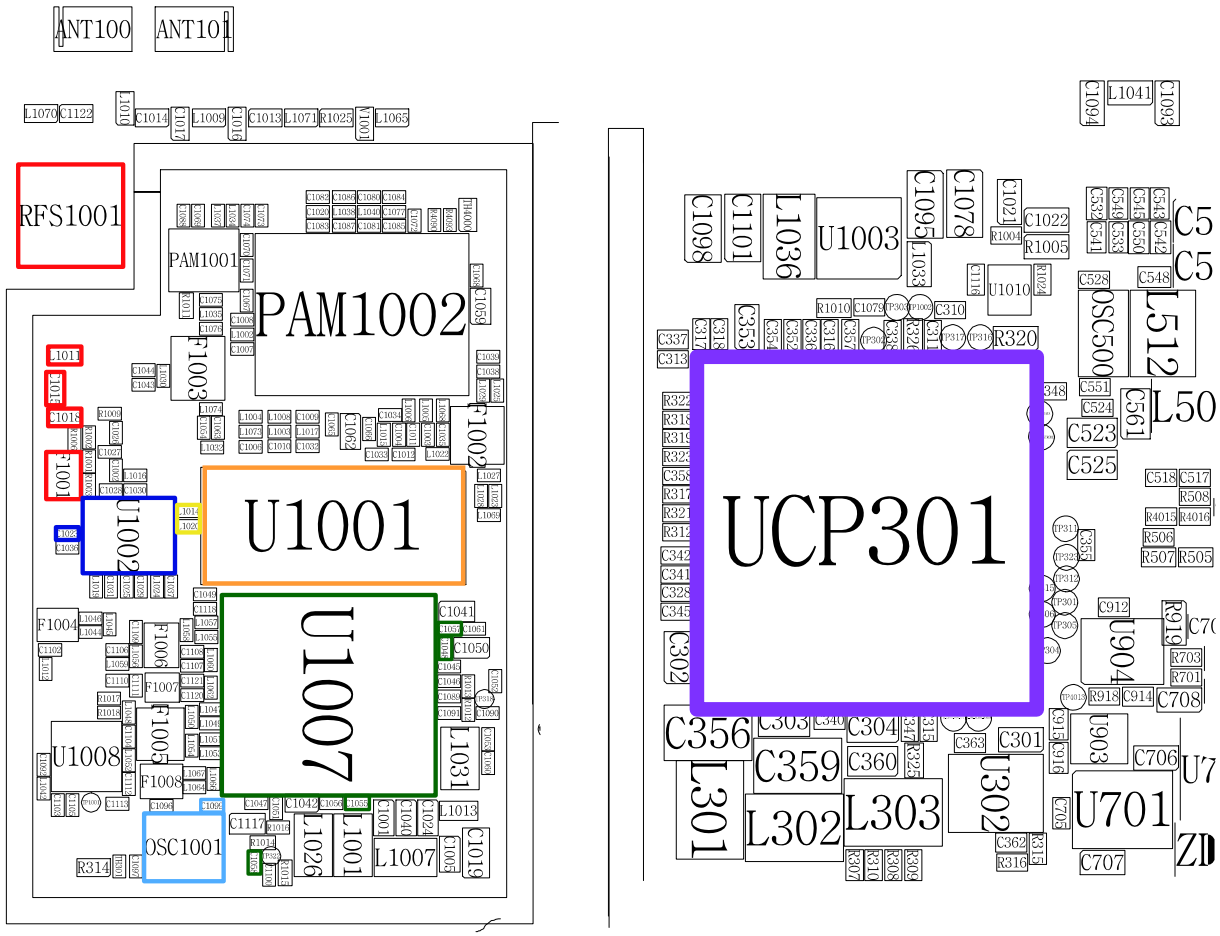

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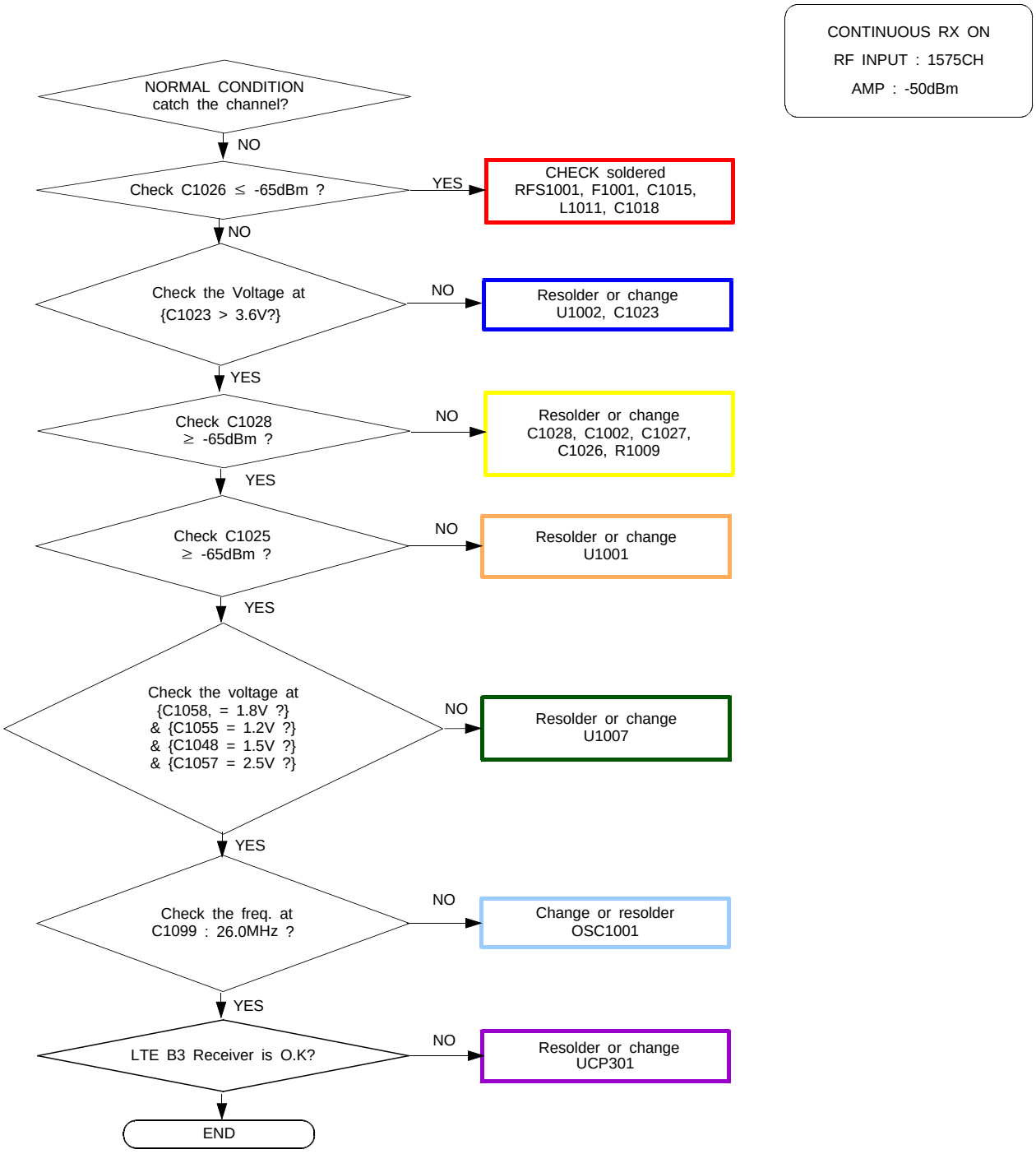
8-3-22. LTE Band3 RX



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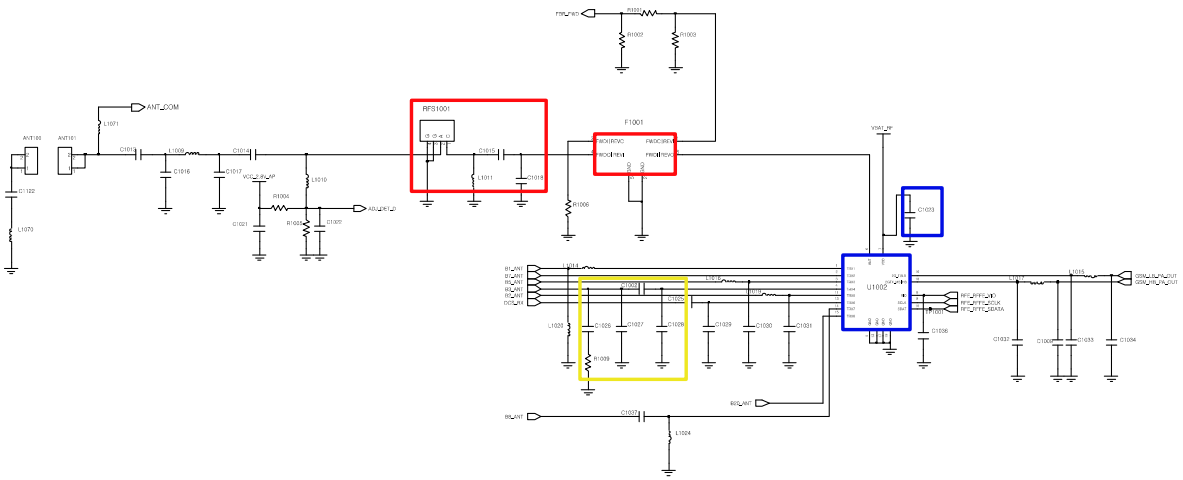

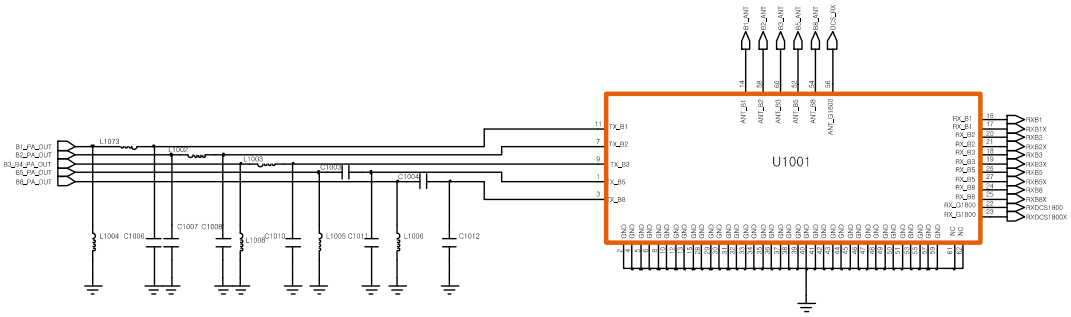

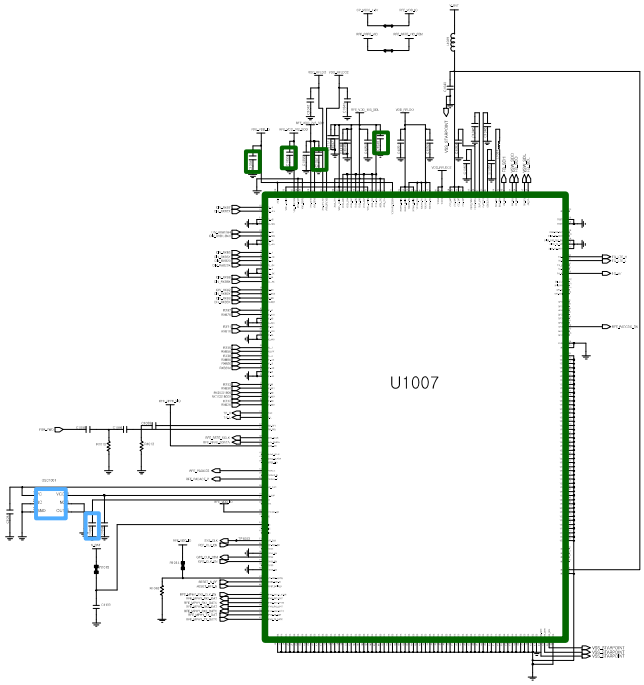

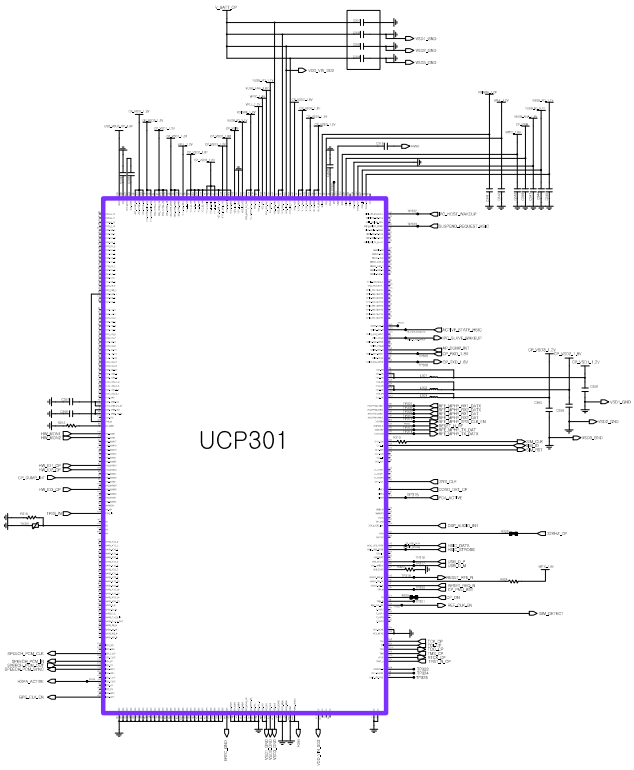

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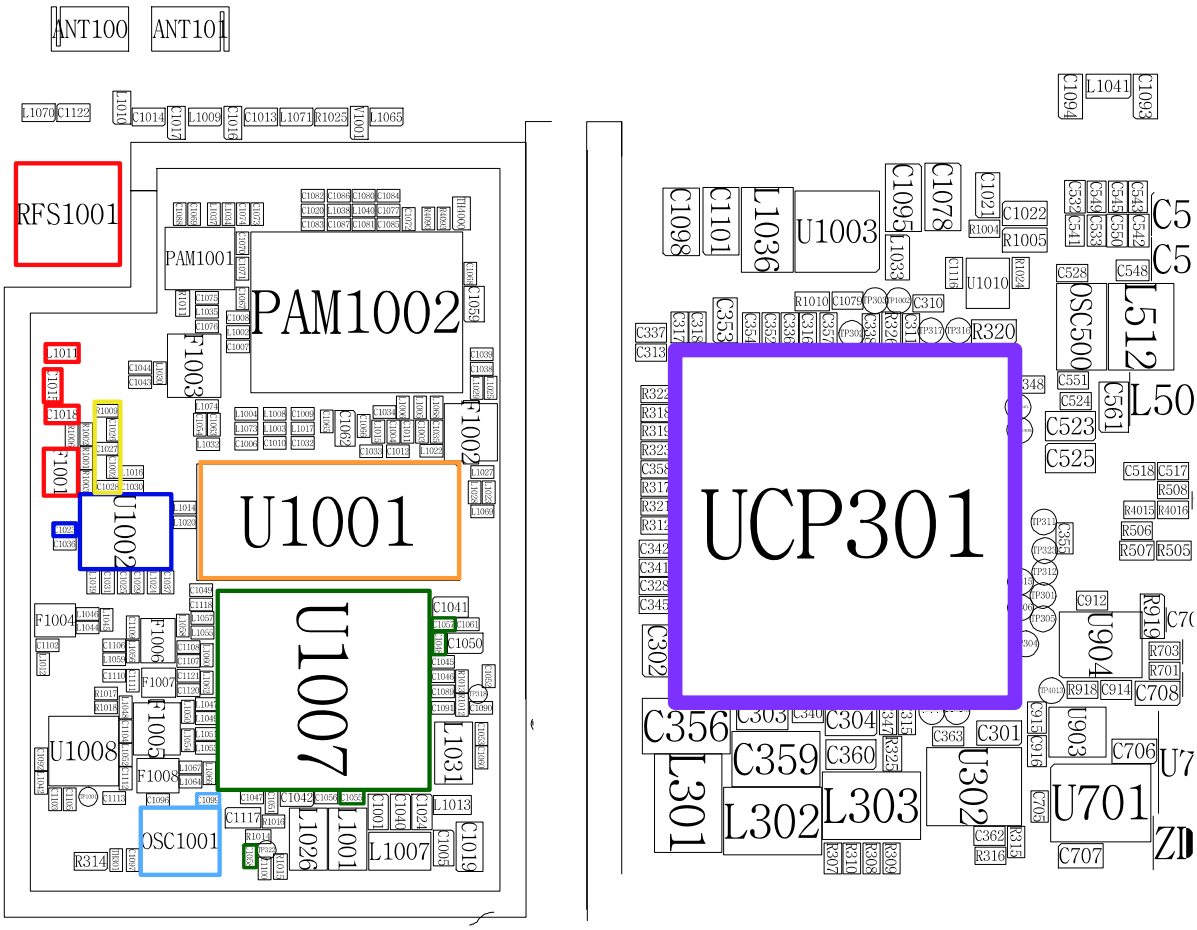

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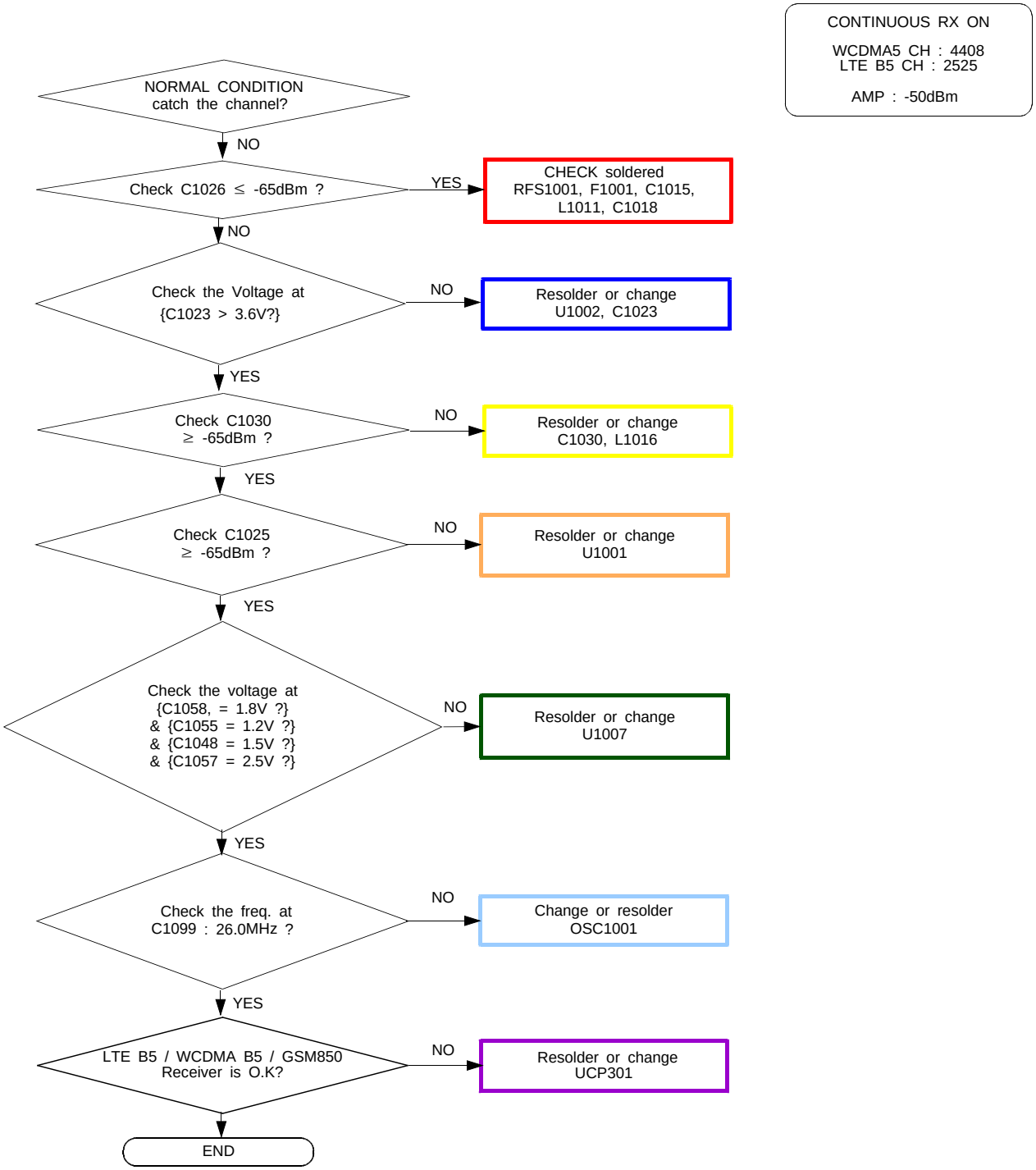
8-3-23. LTE Band5 / WCDMA Band5 / GSM850 RX



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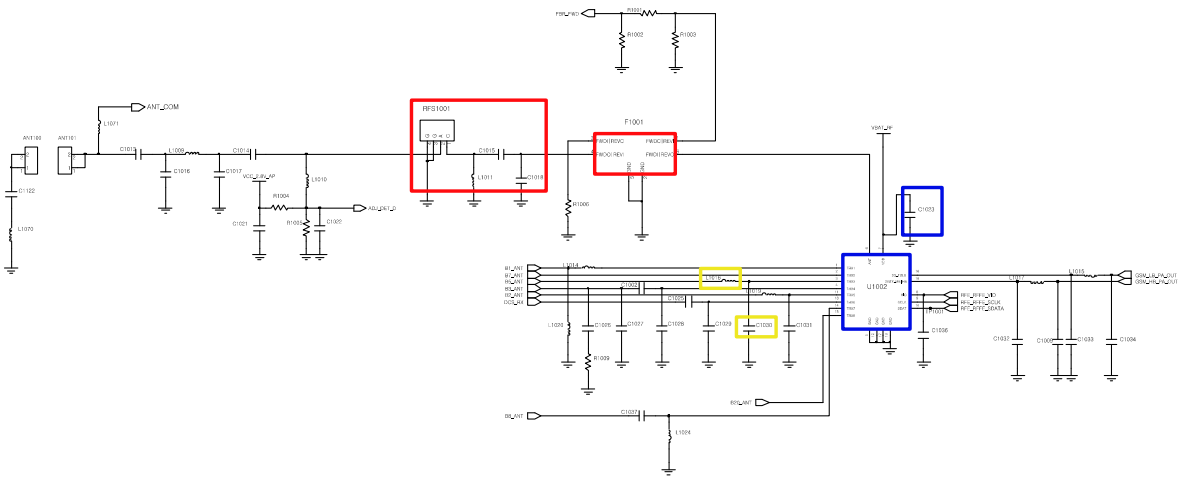

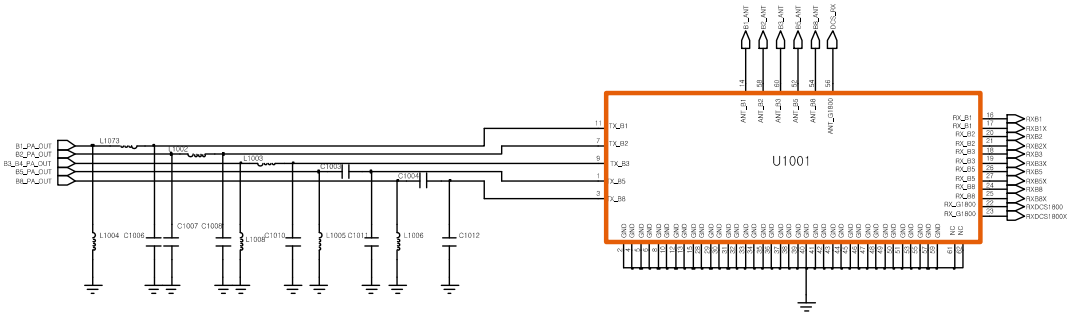

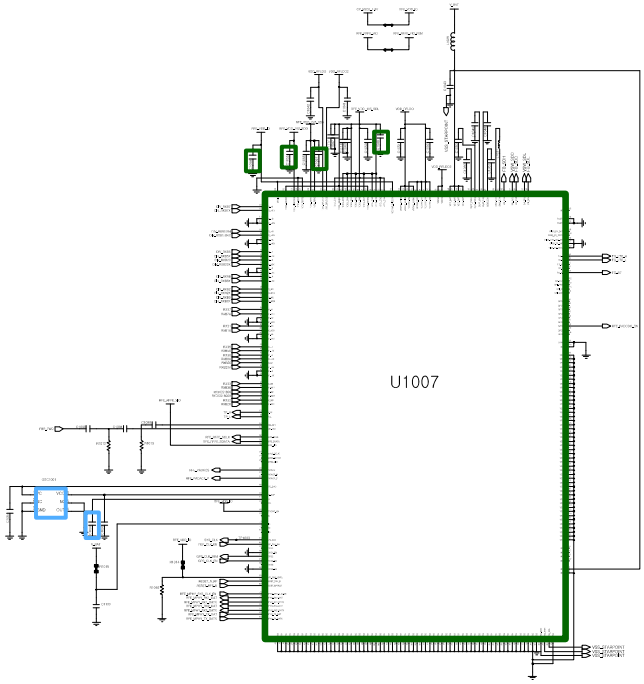

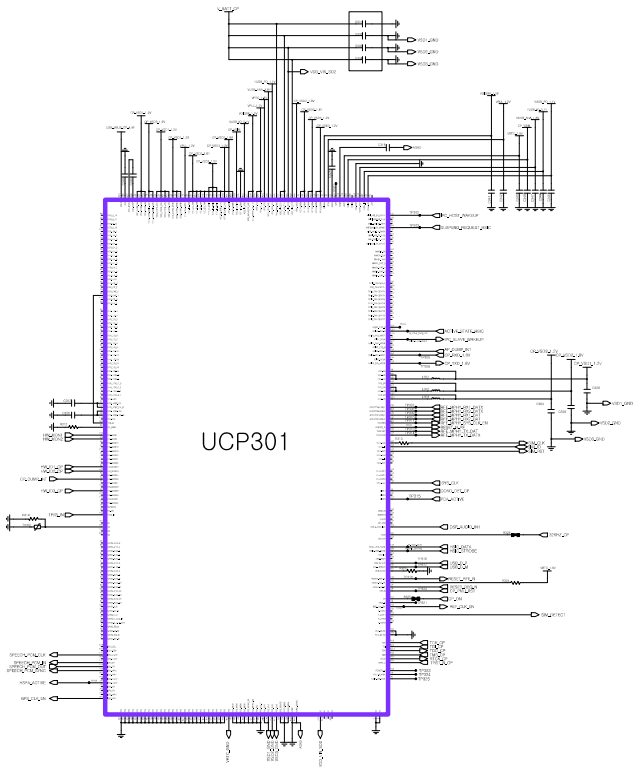

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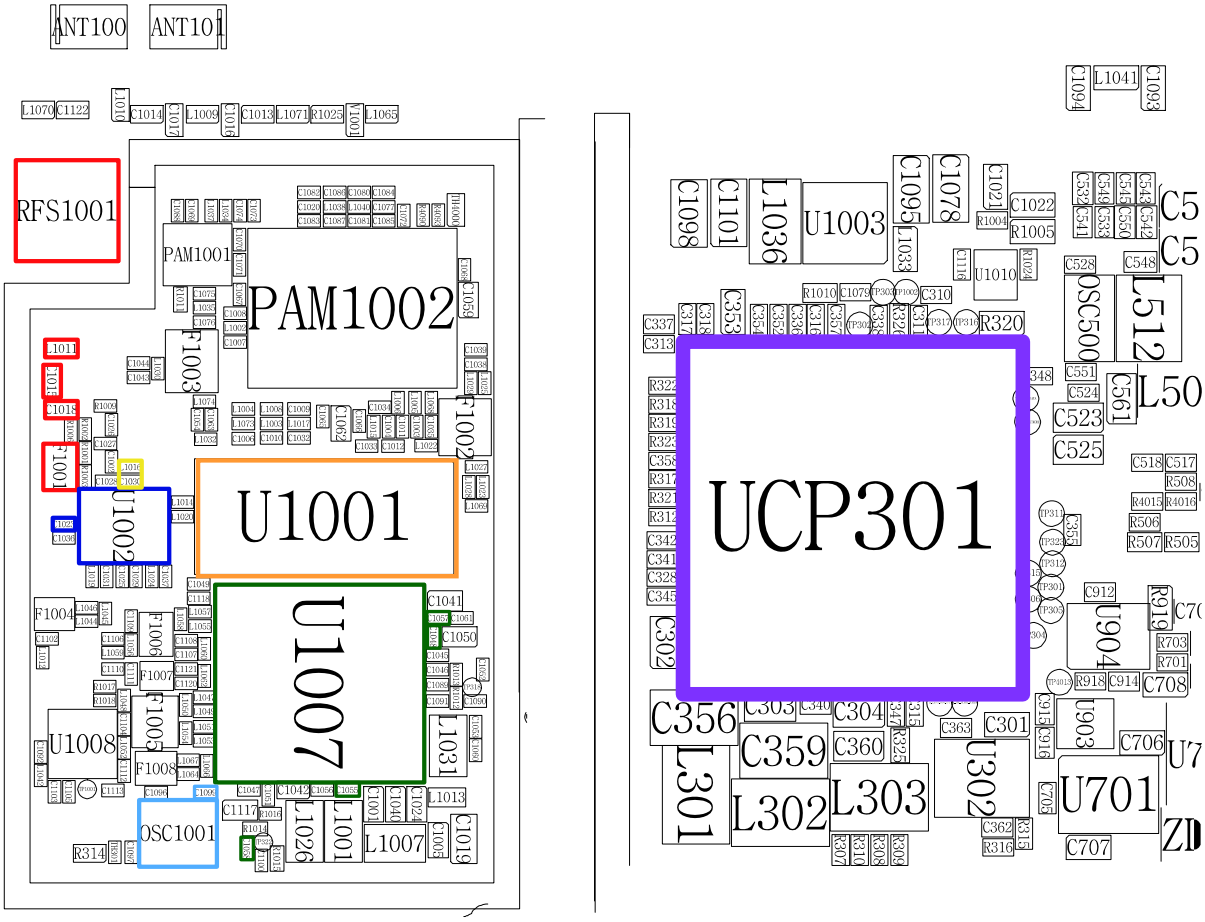

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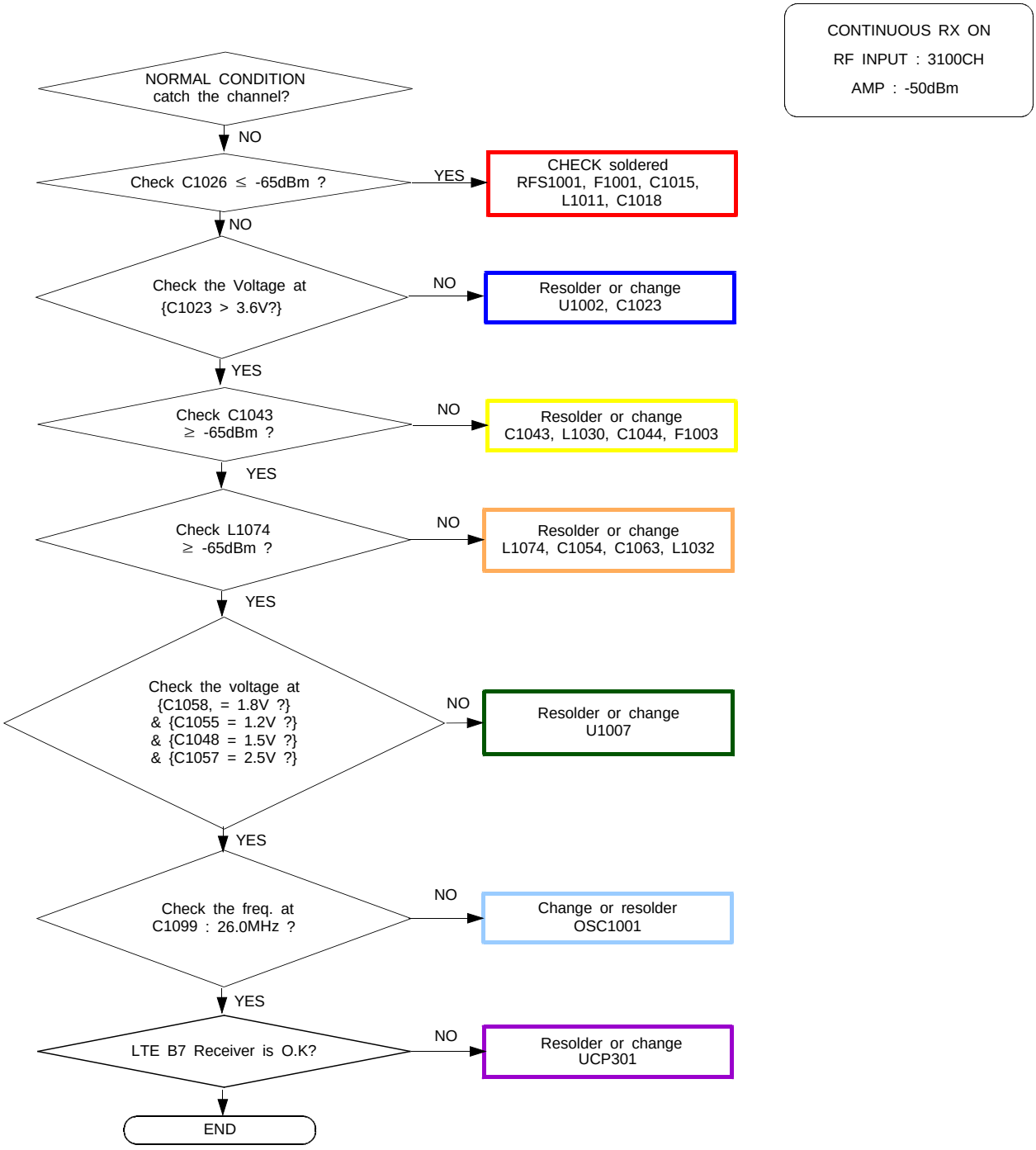
8-3-24. LTE Band7 RX



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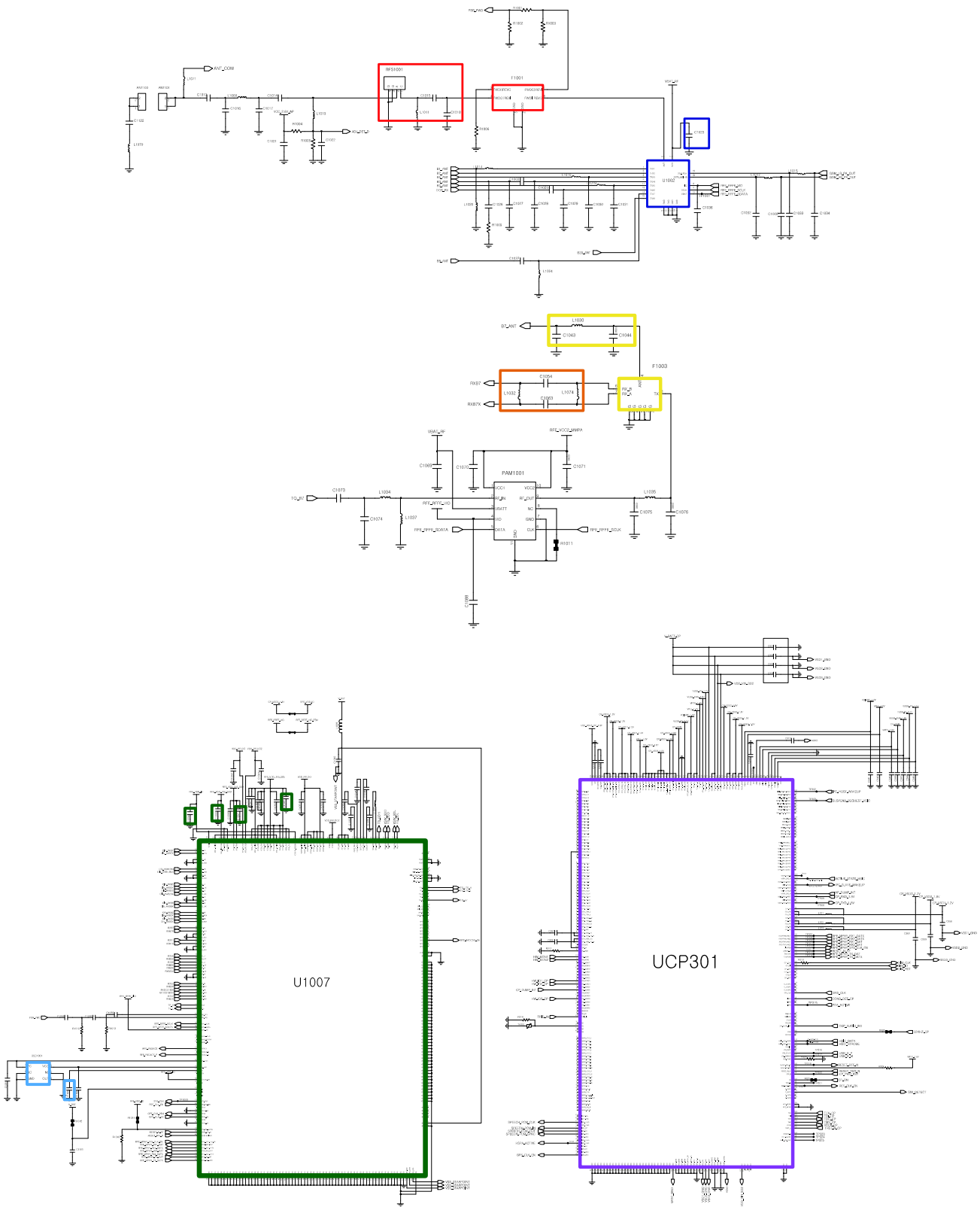

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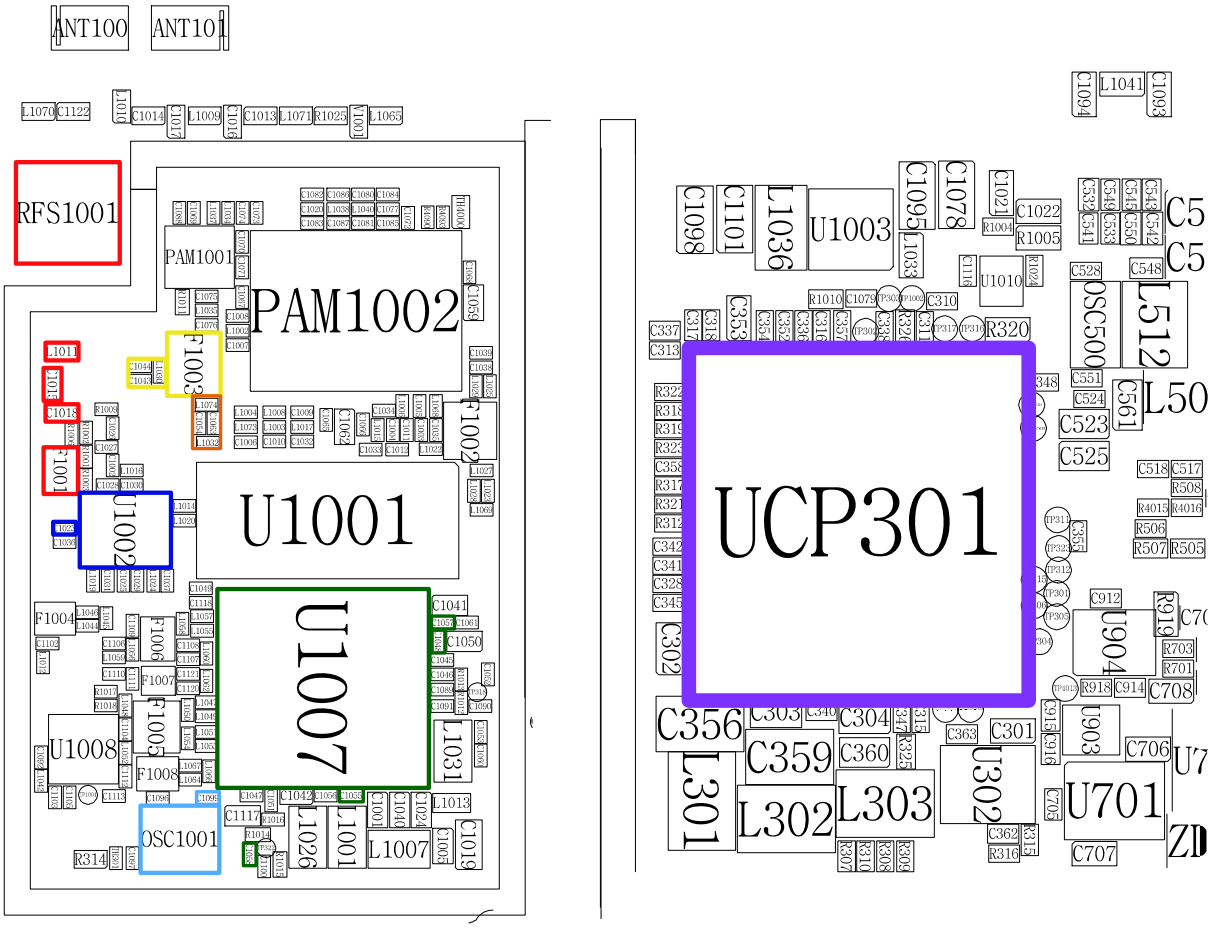

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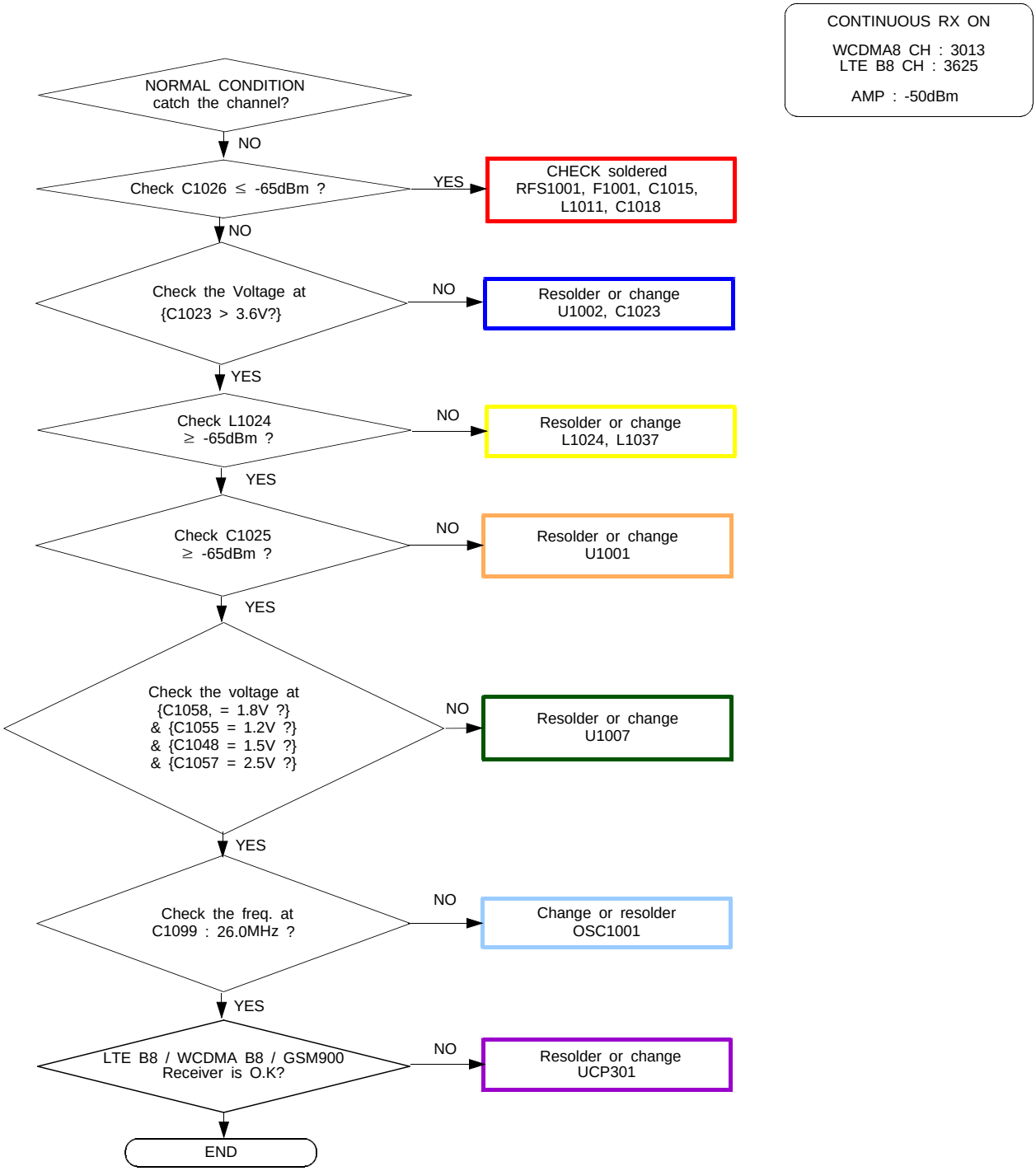
8-3-25. LTE Band8 / WCDMA Band8 / GSM900 RX



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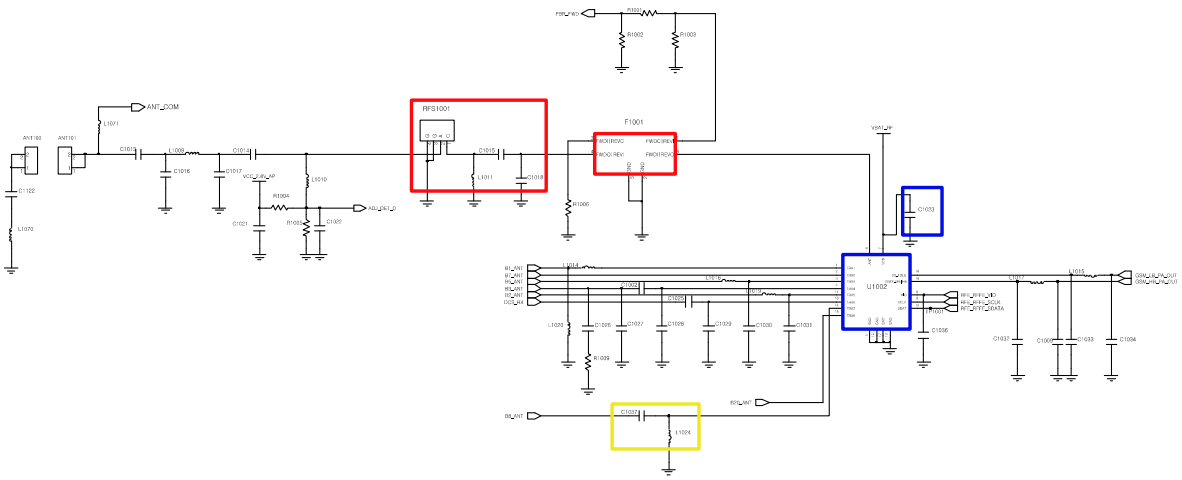

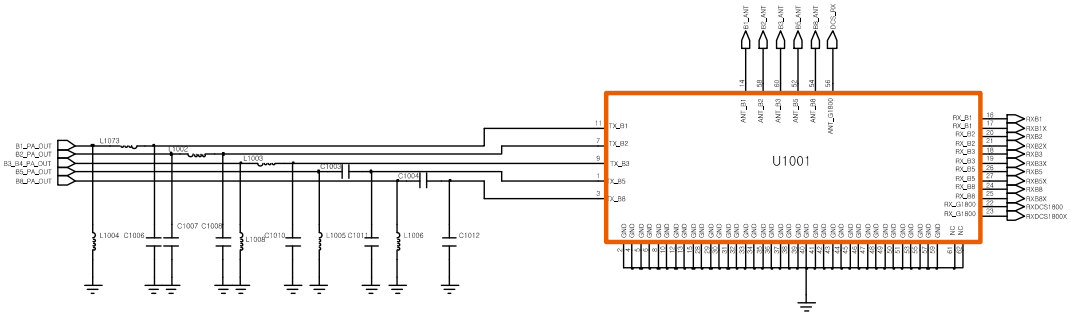

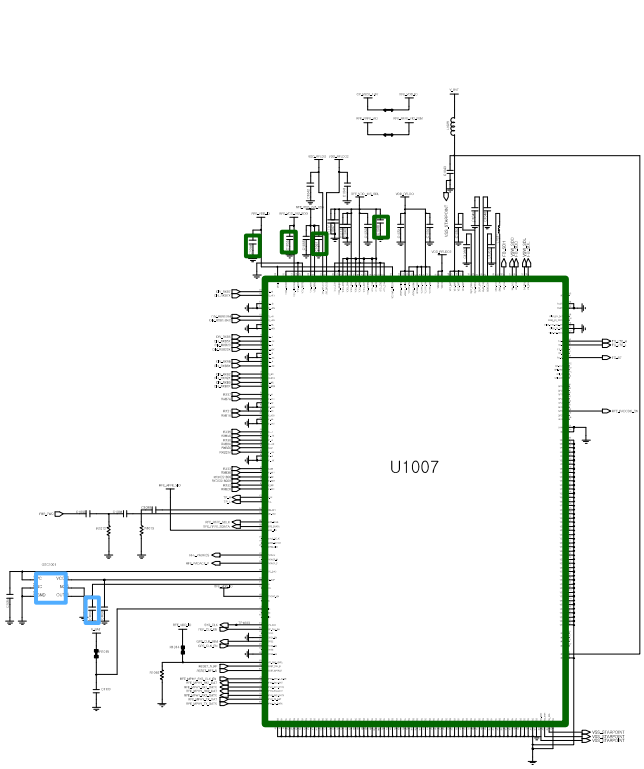

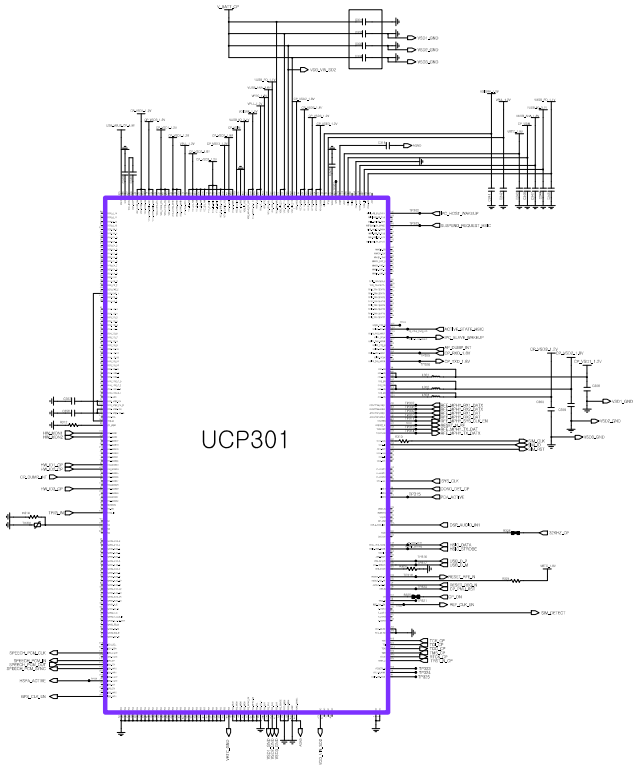

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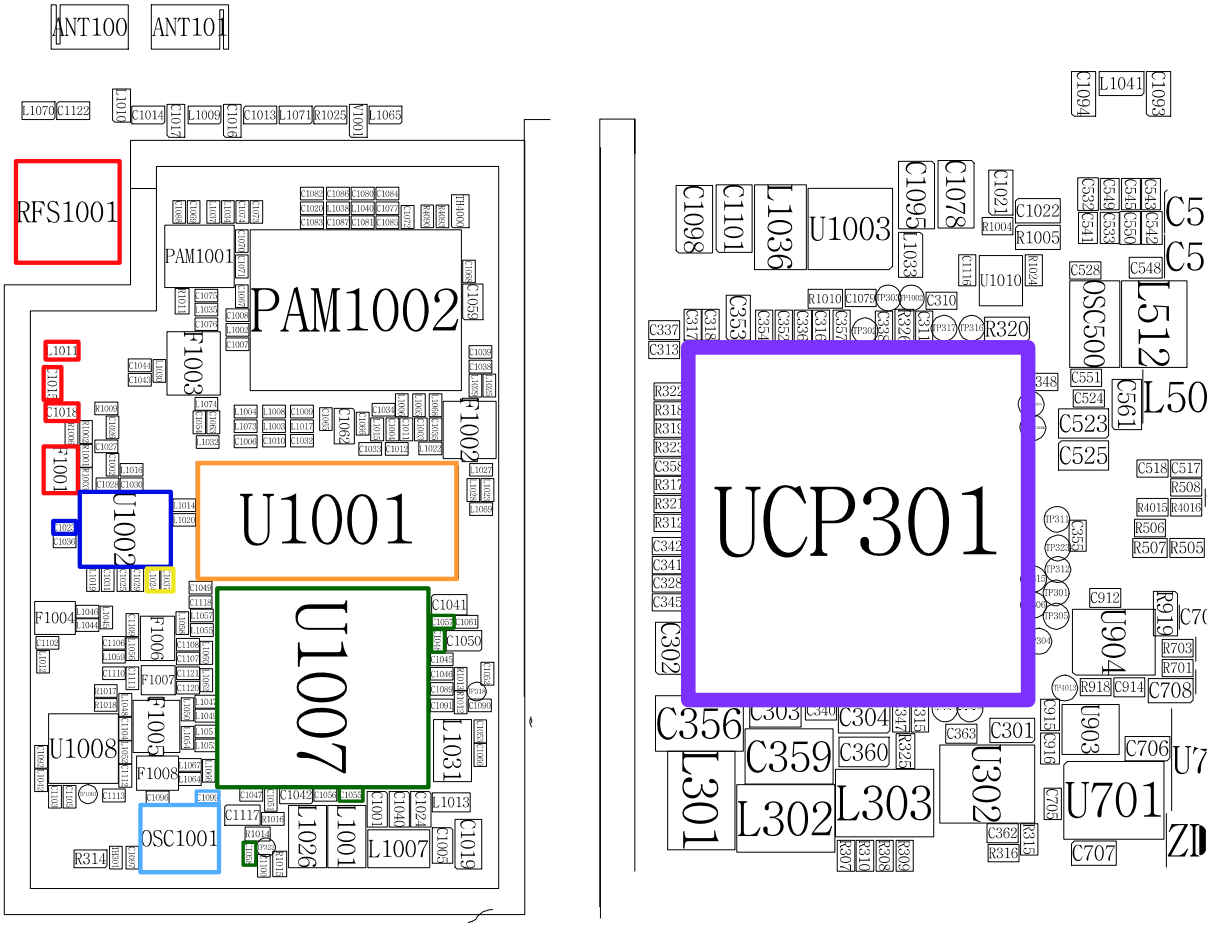

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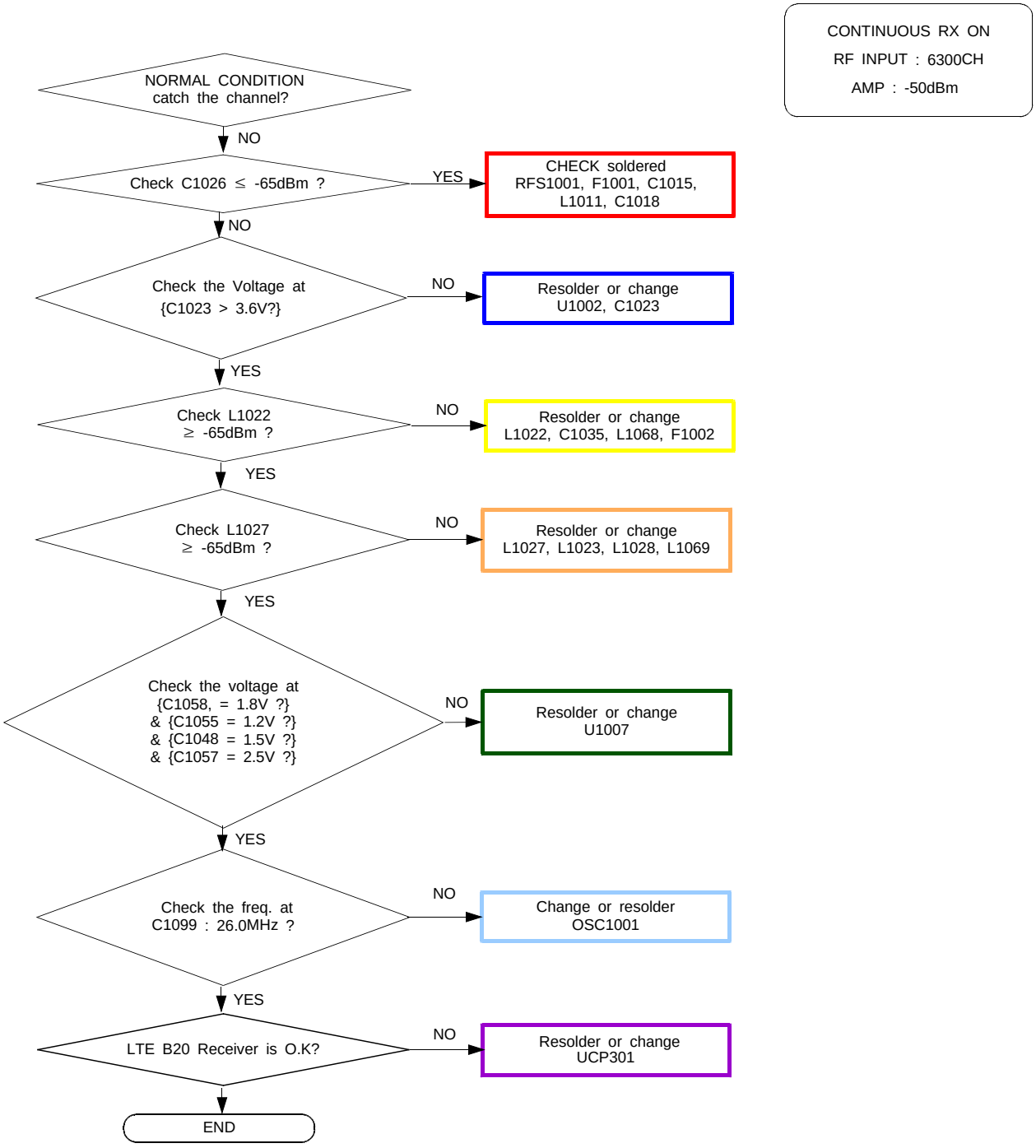
8-3-26. LTE Band20 RX



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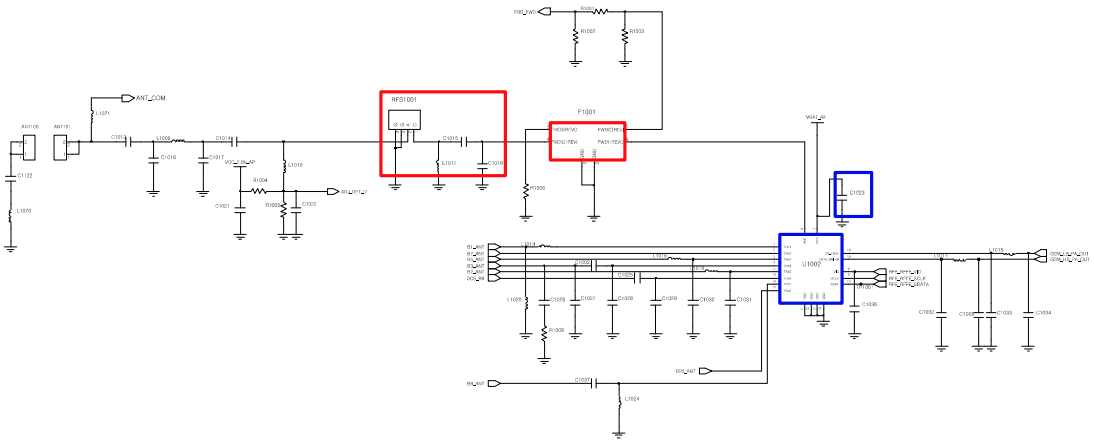

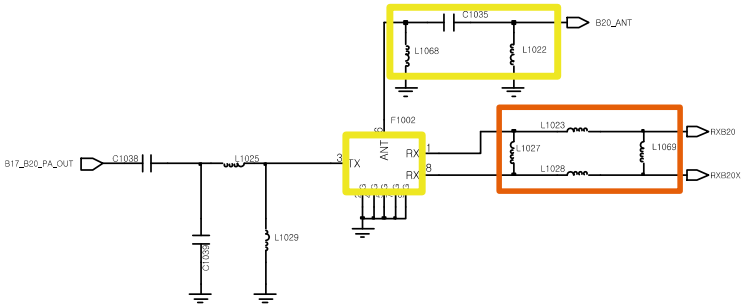

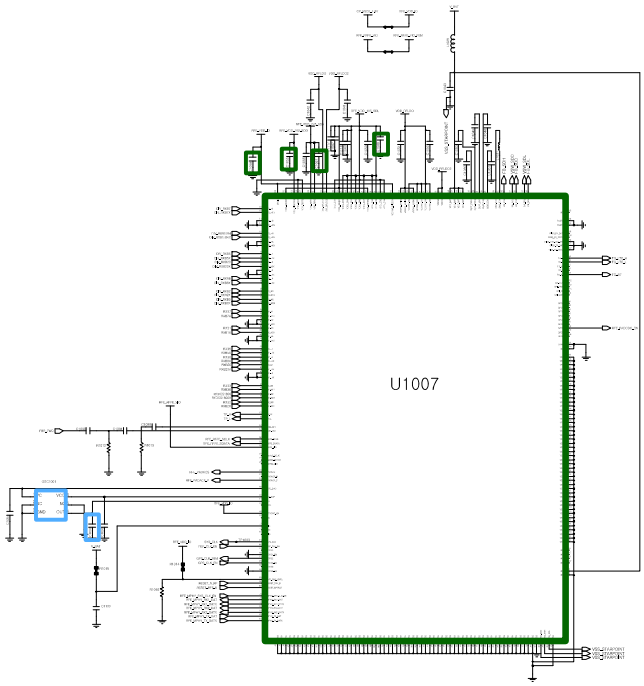

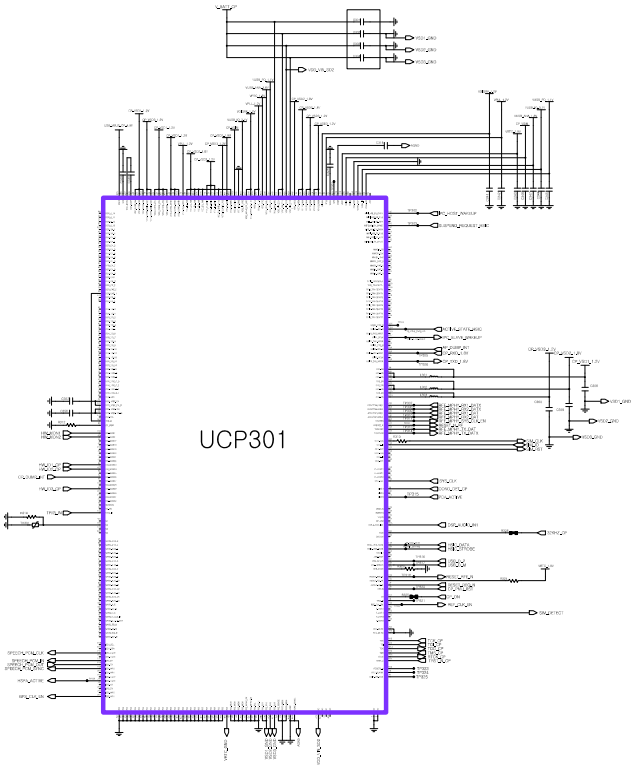

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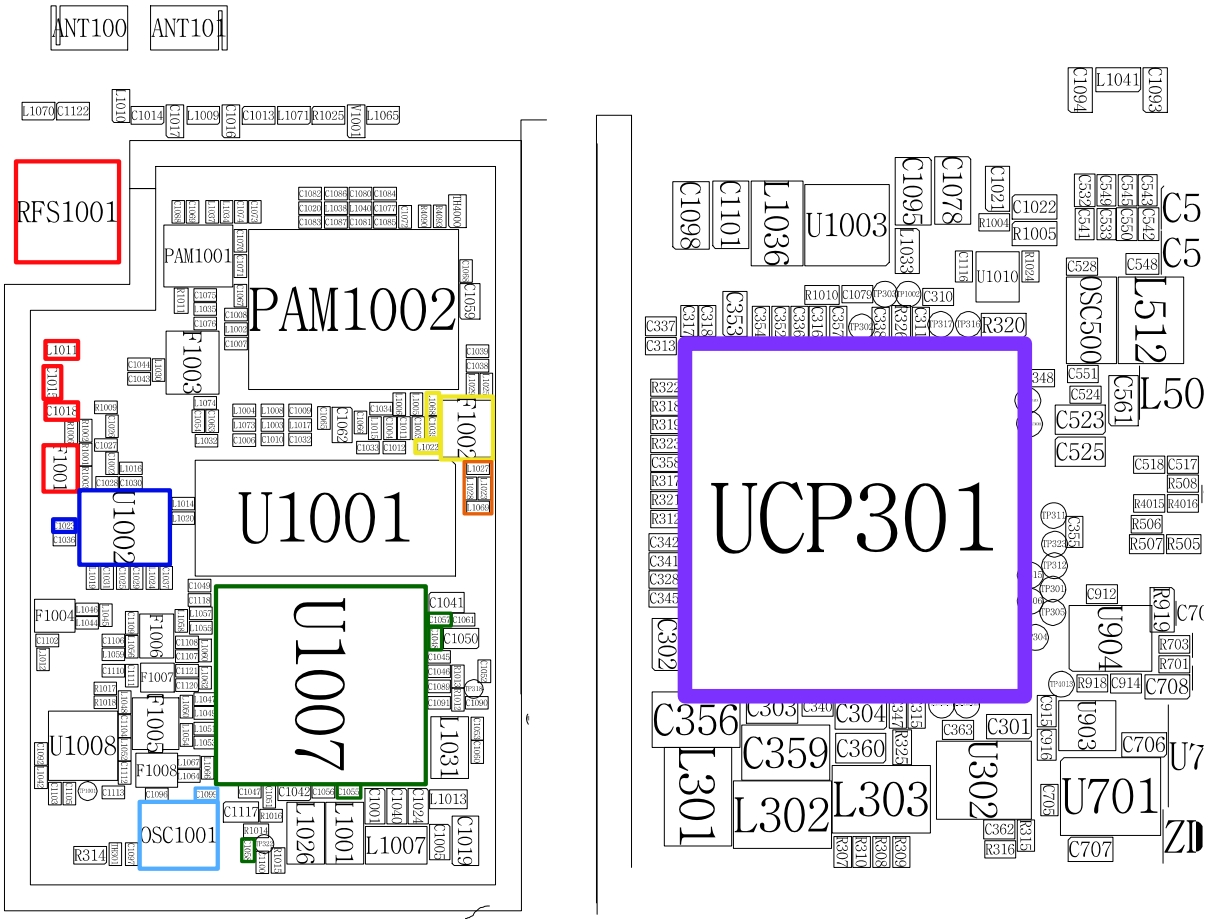

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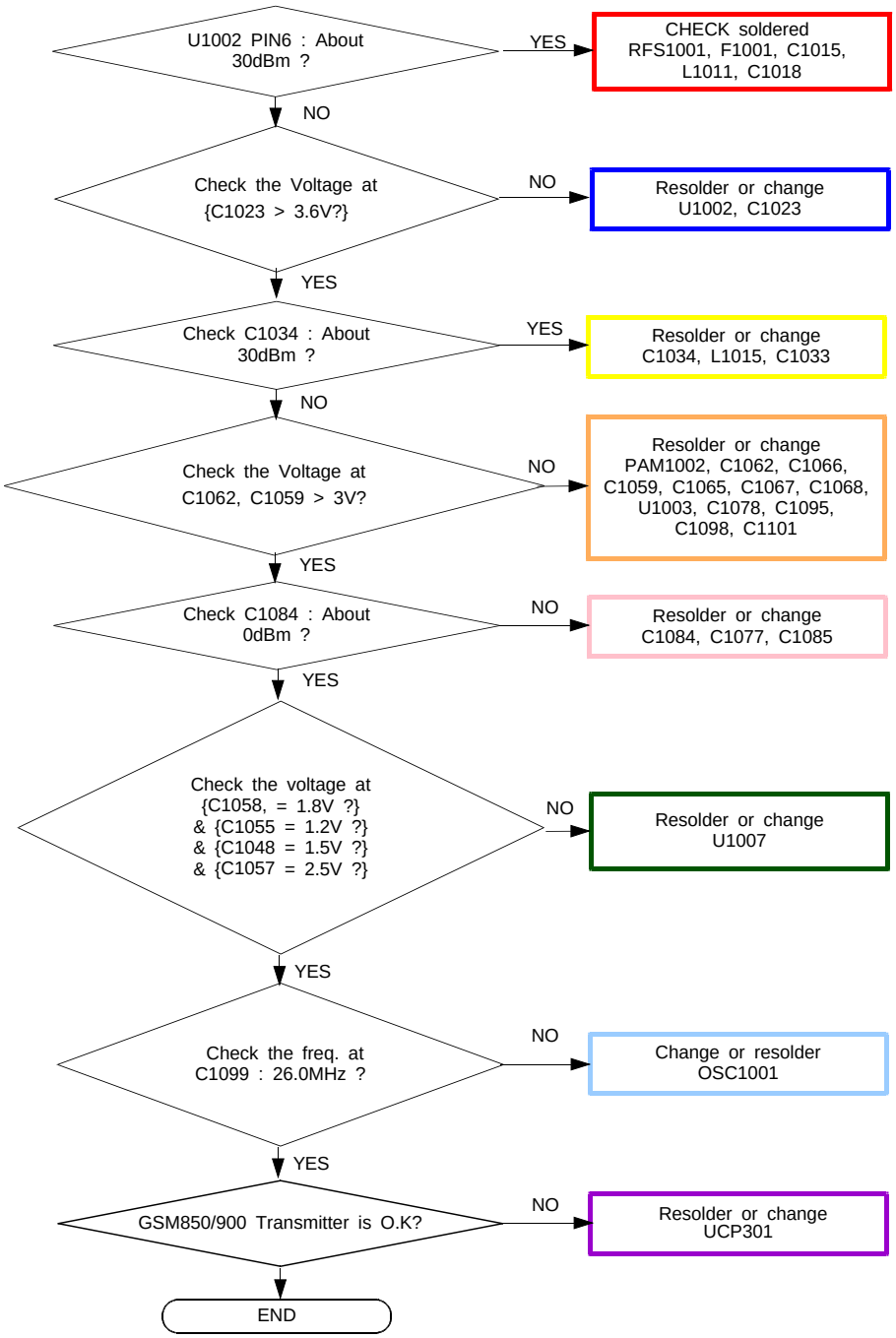
8-3-27. GSM850 / GSM900 TX

CONTINOUS 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



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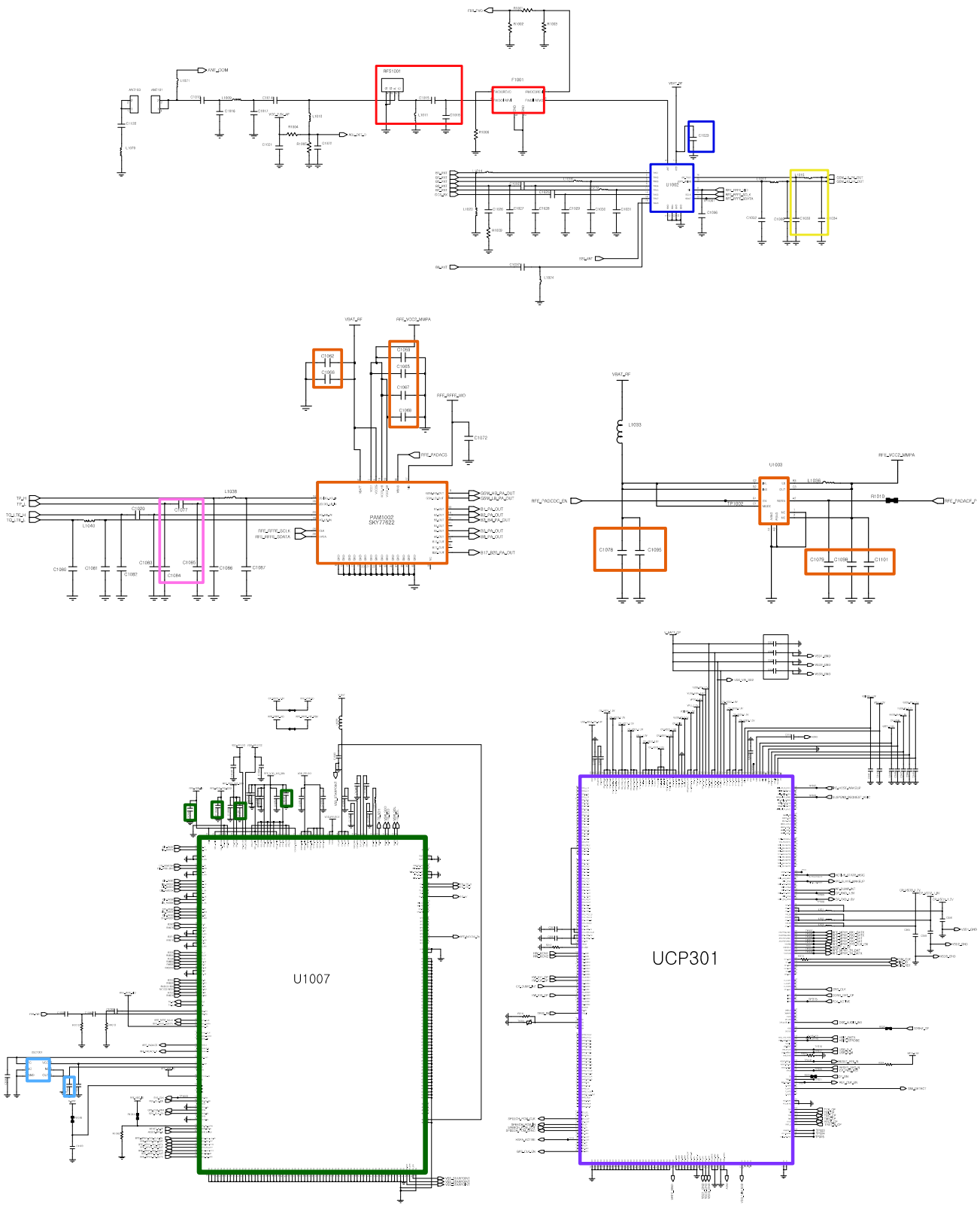

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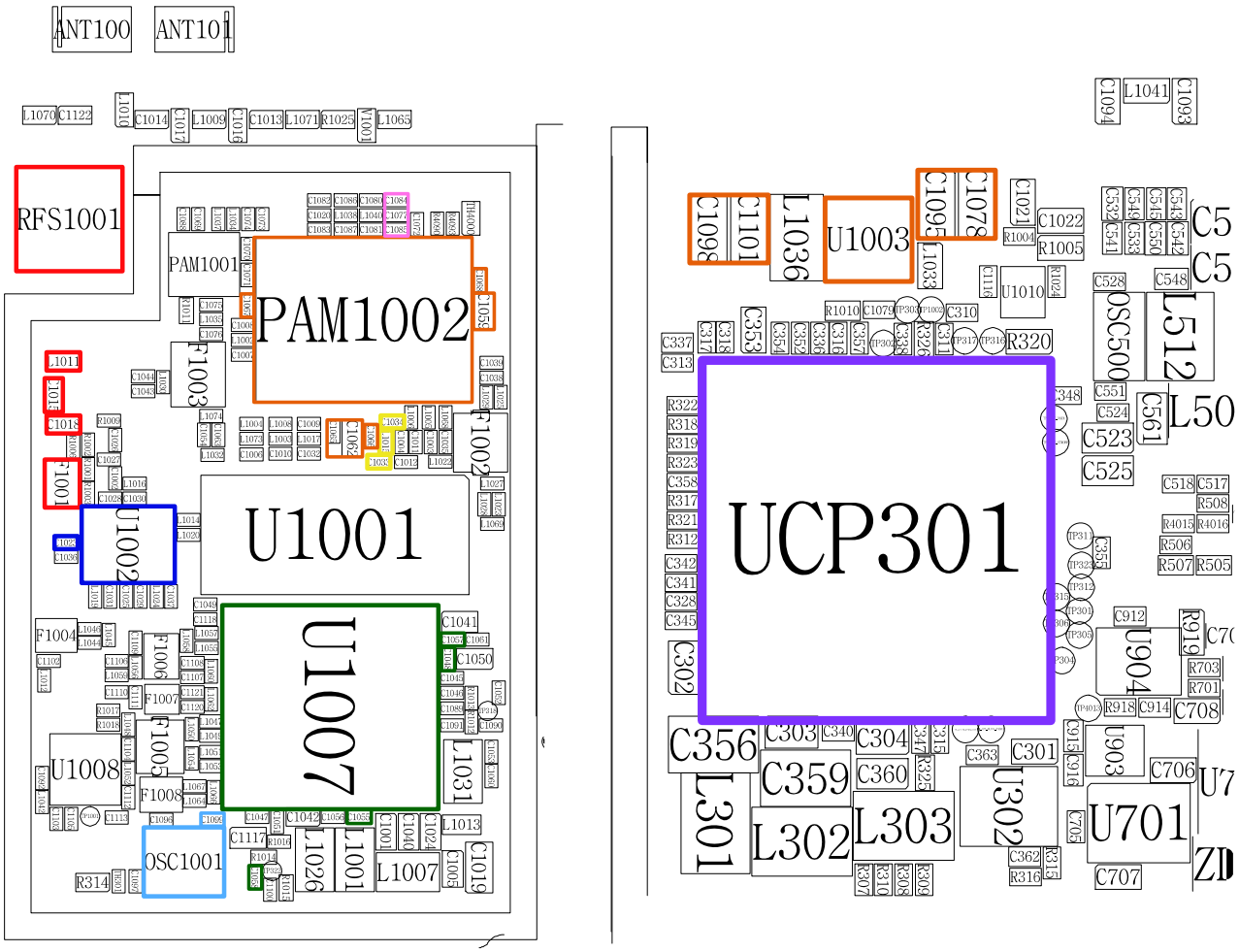

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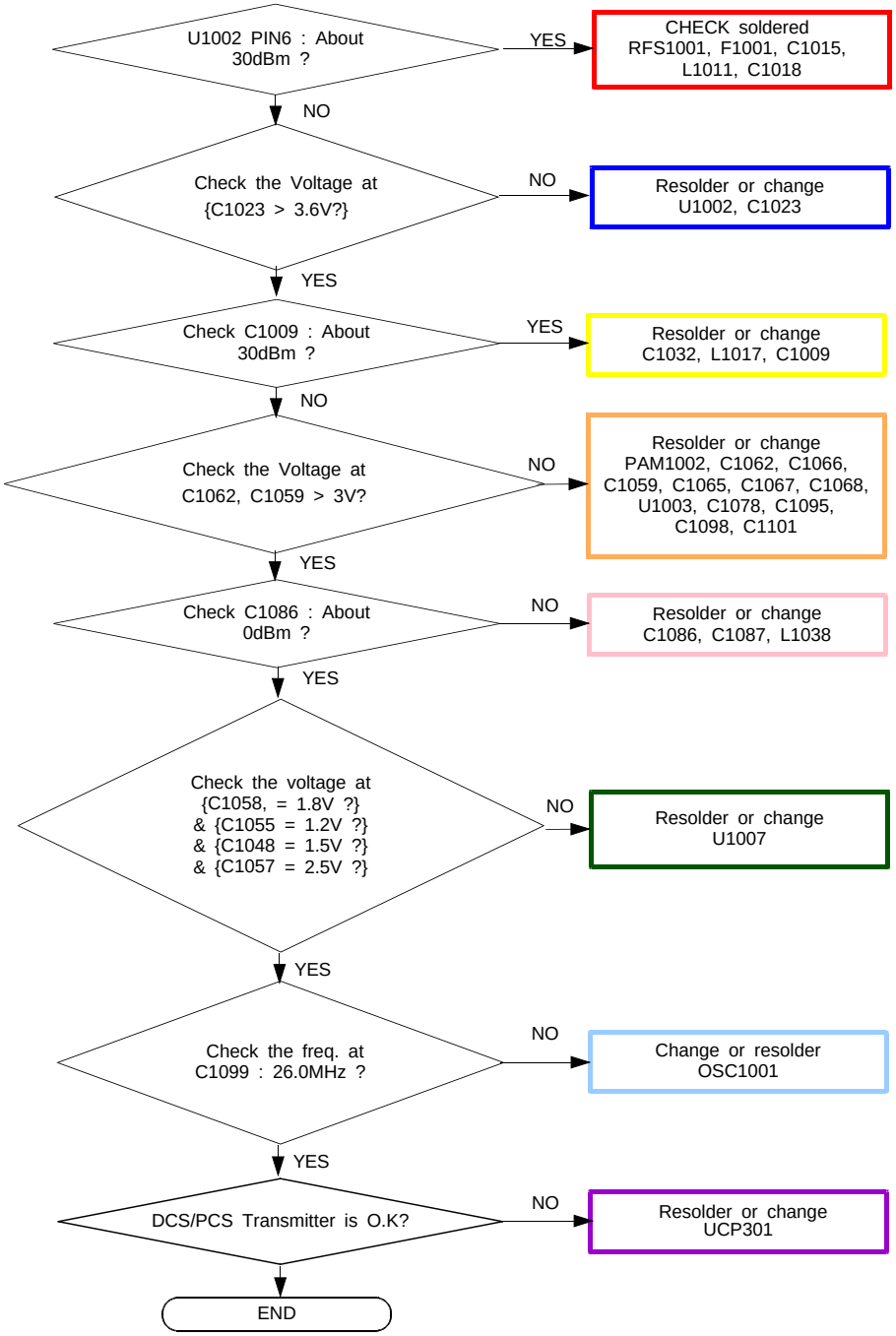
8-3-28. DCS/ PCS TX

CONTINOUS 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



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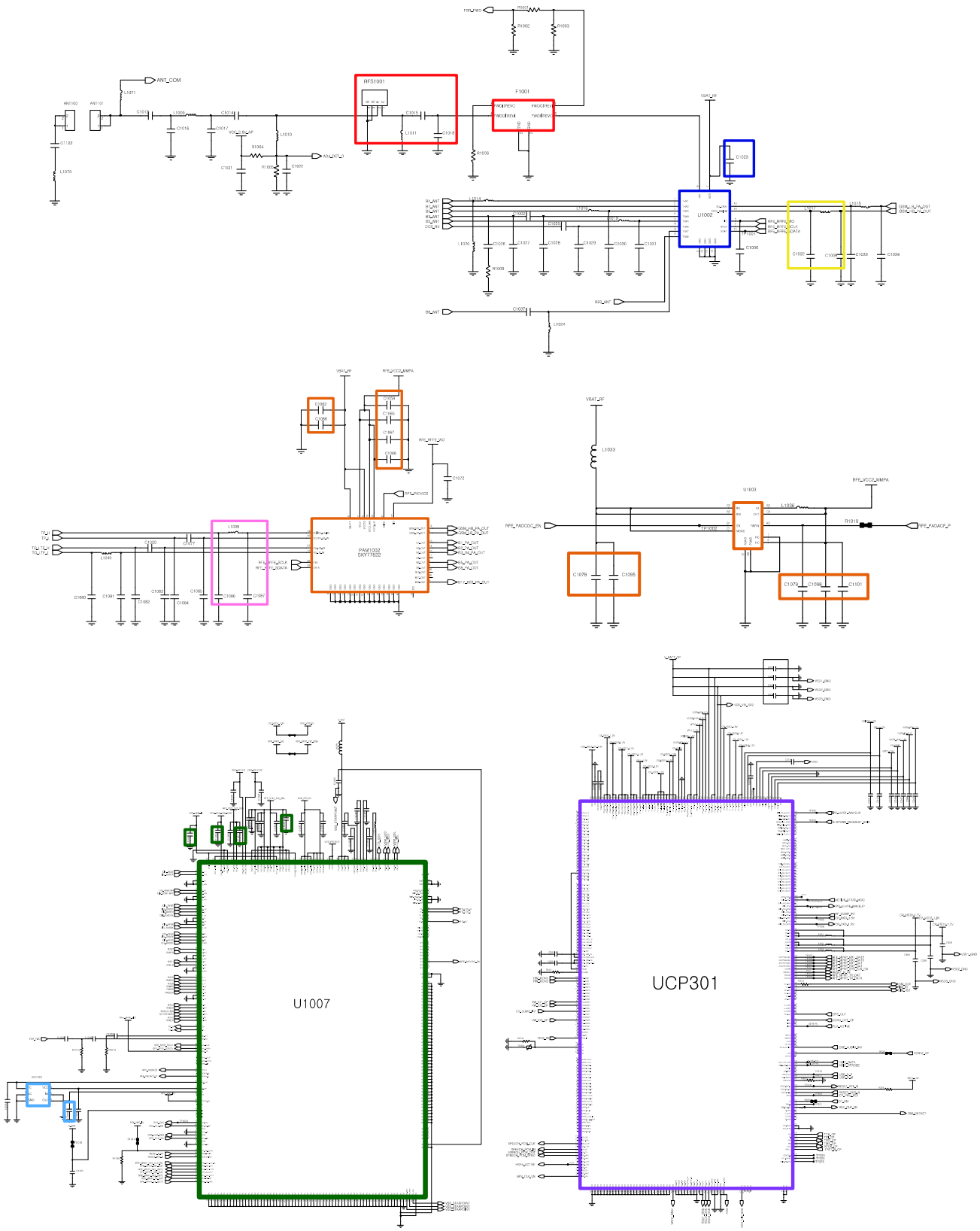

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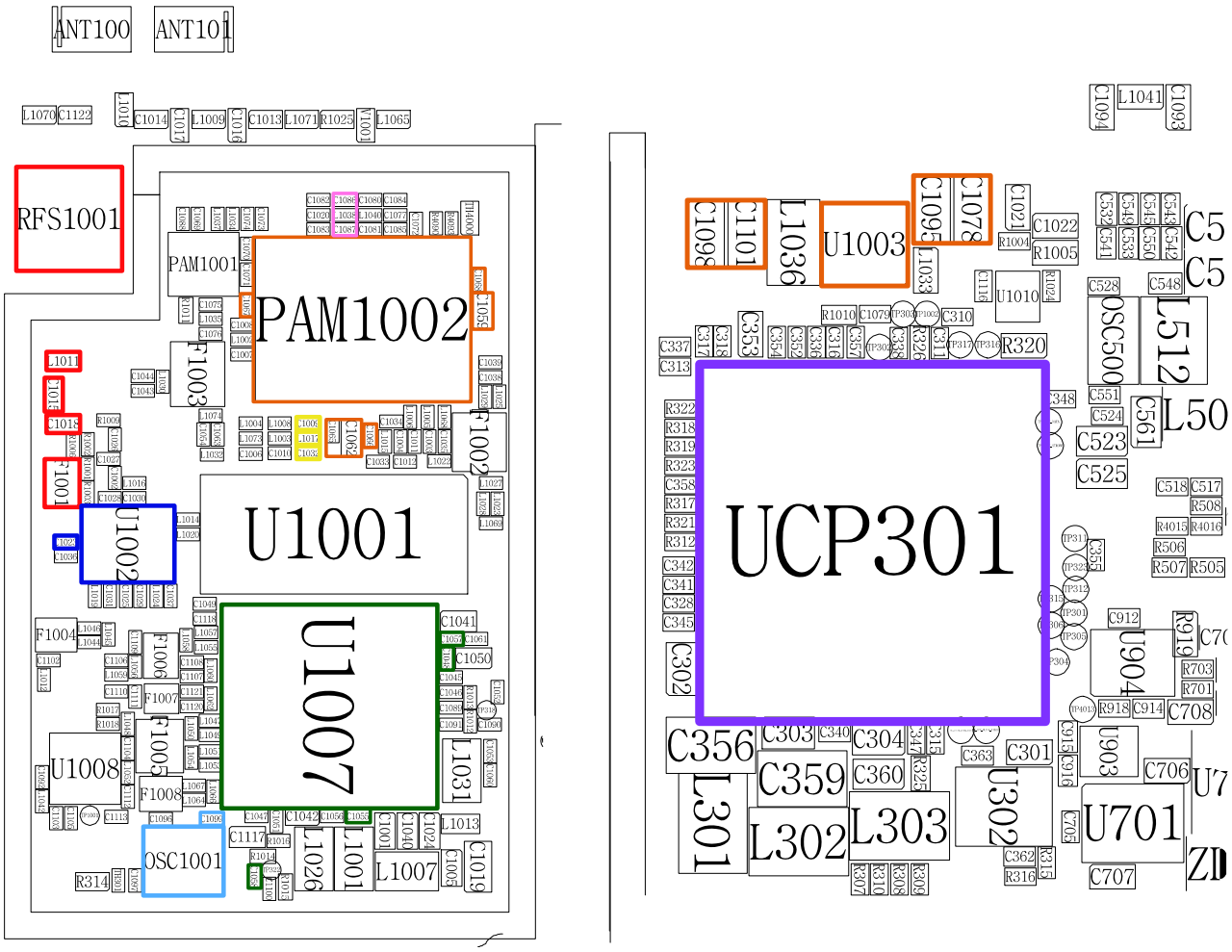

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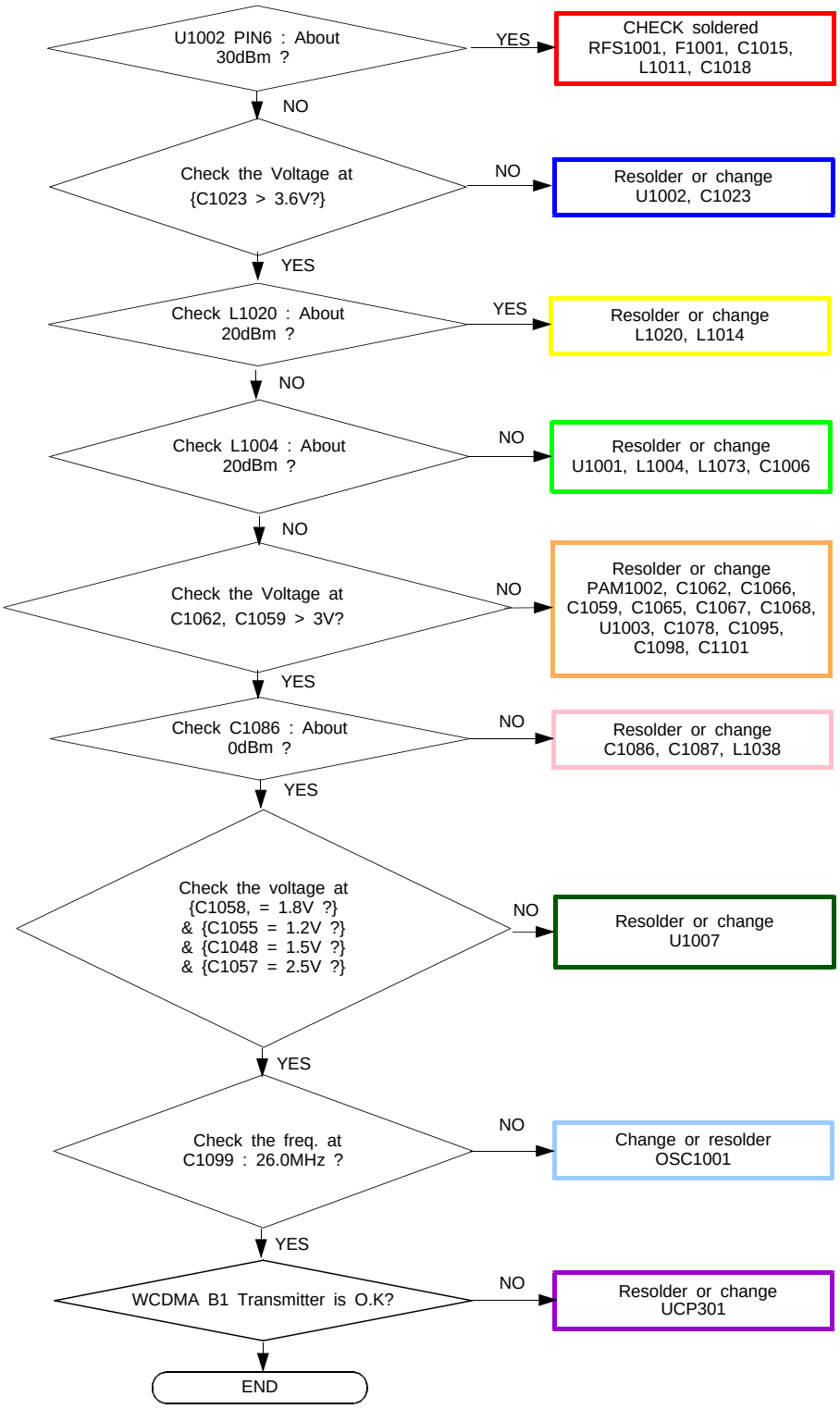
8-3-28. WCDMA Band1 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
WCDMA Band1 CH : 9750
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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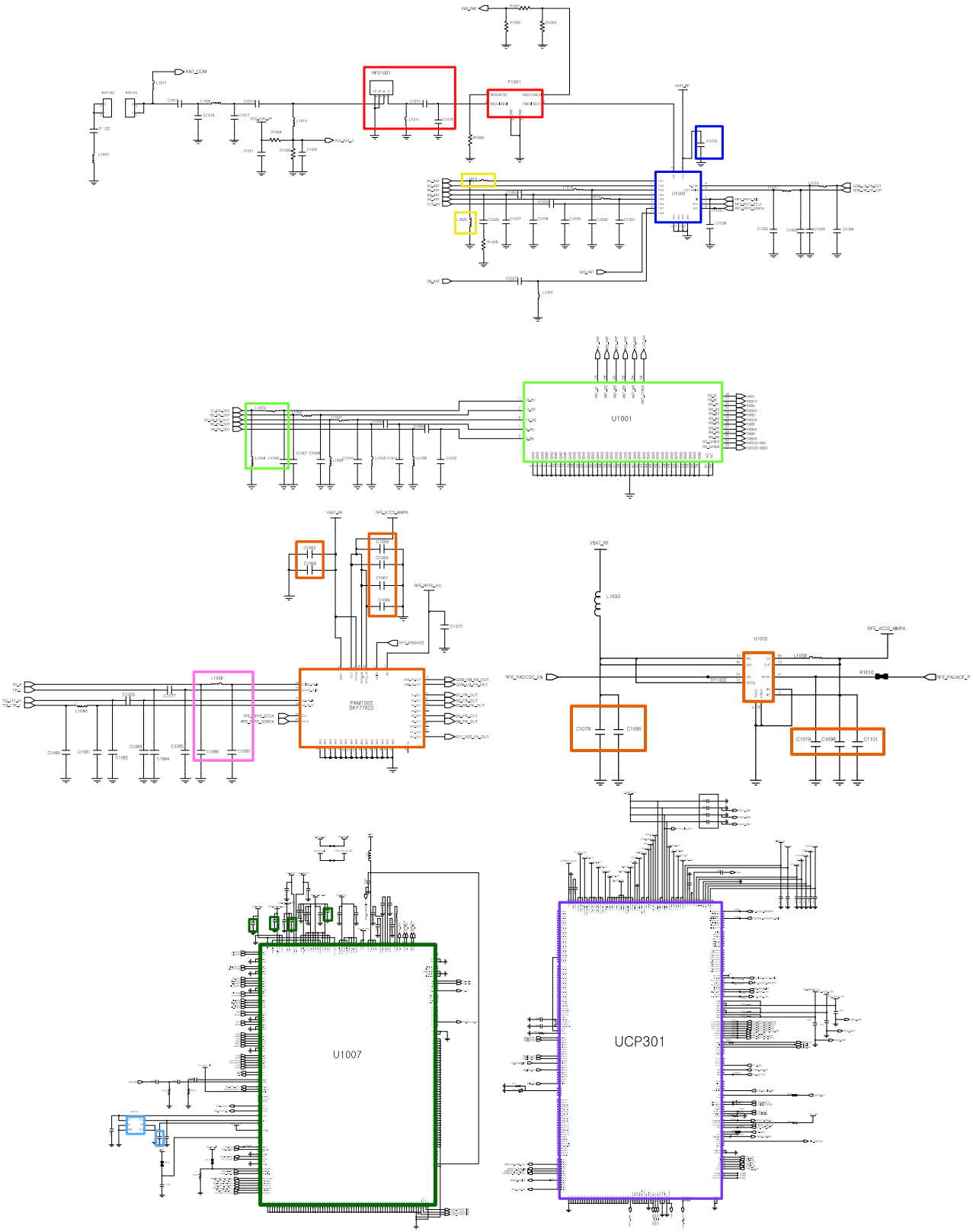

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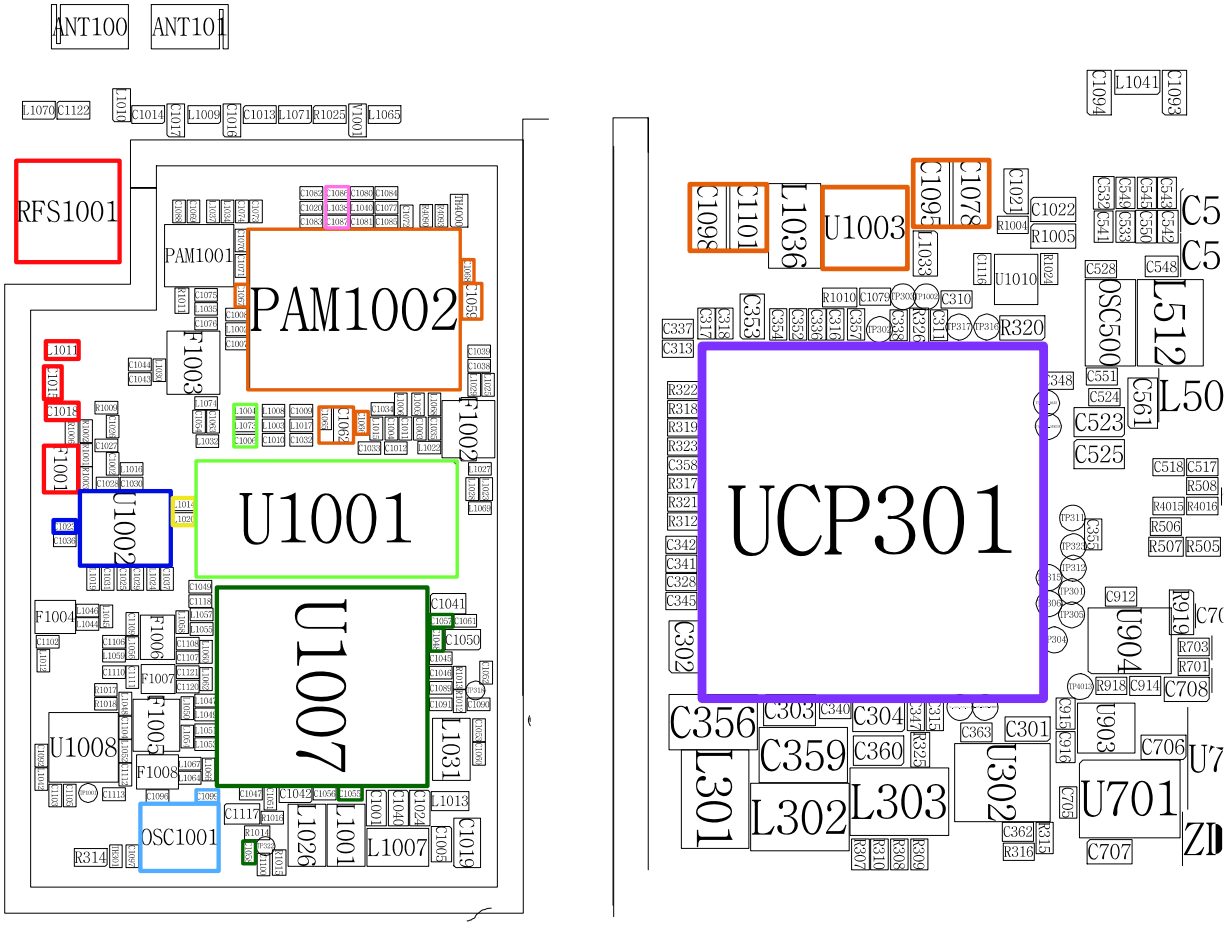

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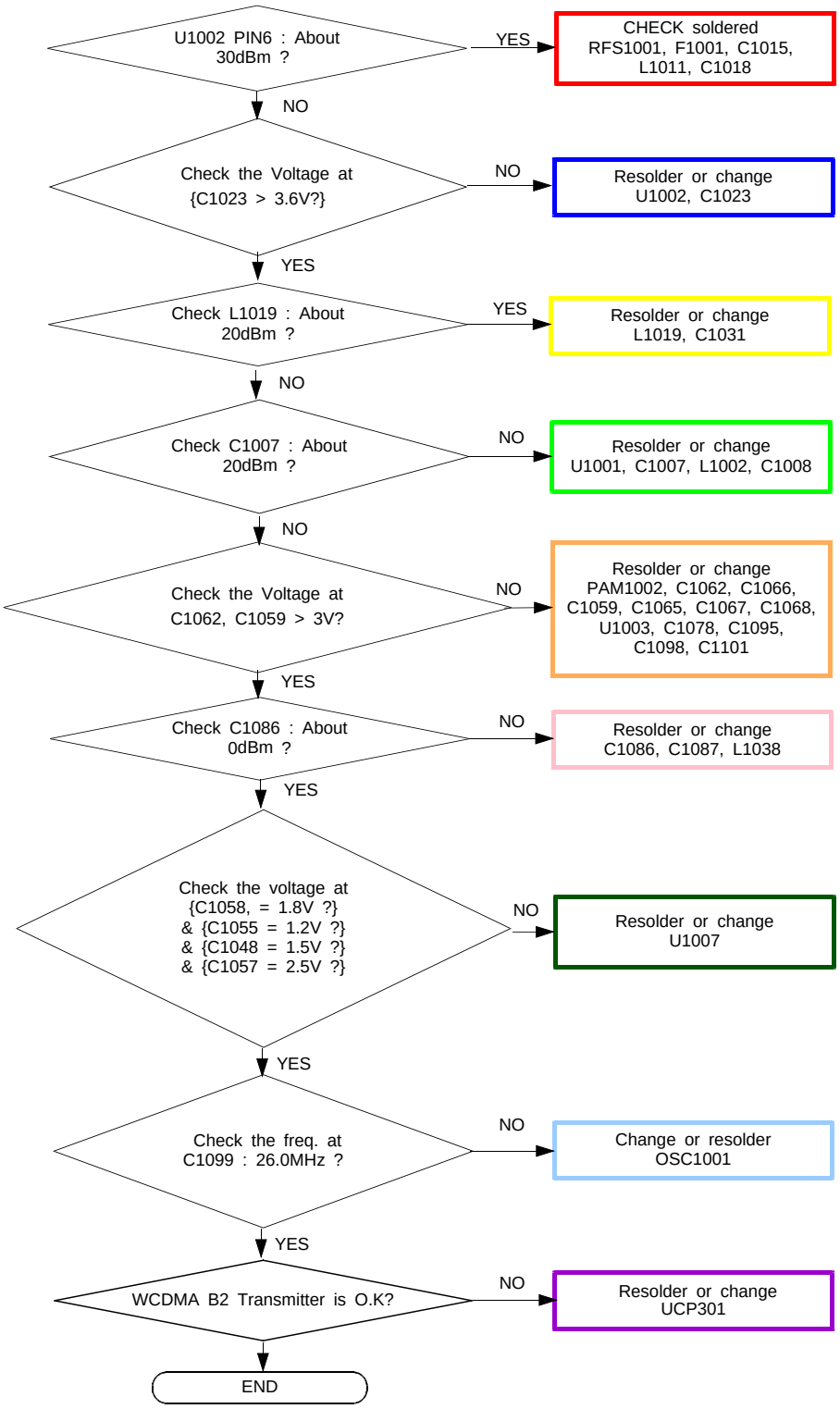
8-3-28. WCDMA Band2 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
WCDMA Band2 CH : 9400
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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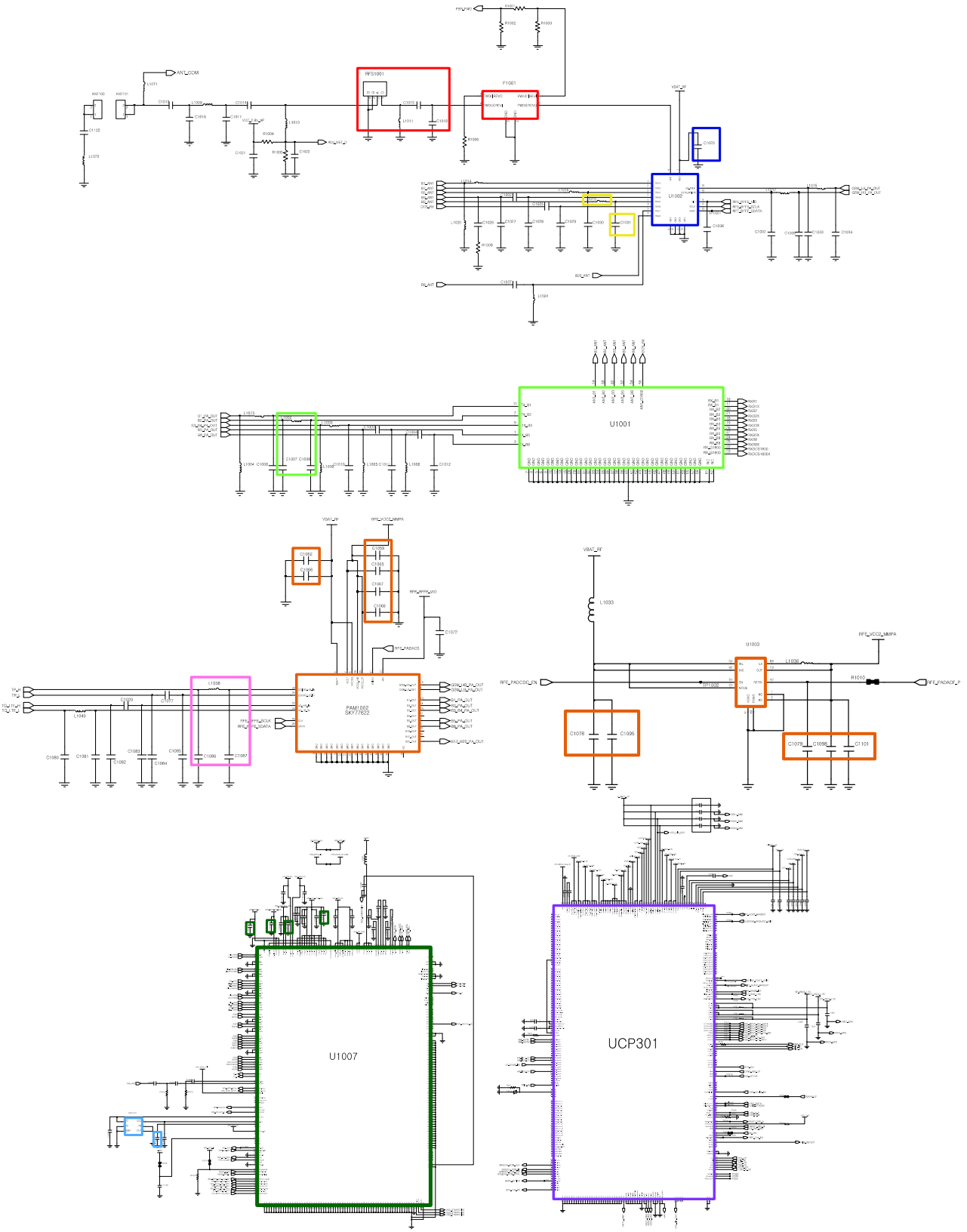

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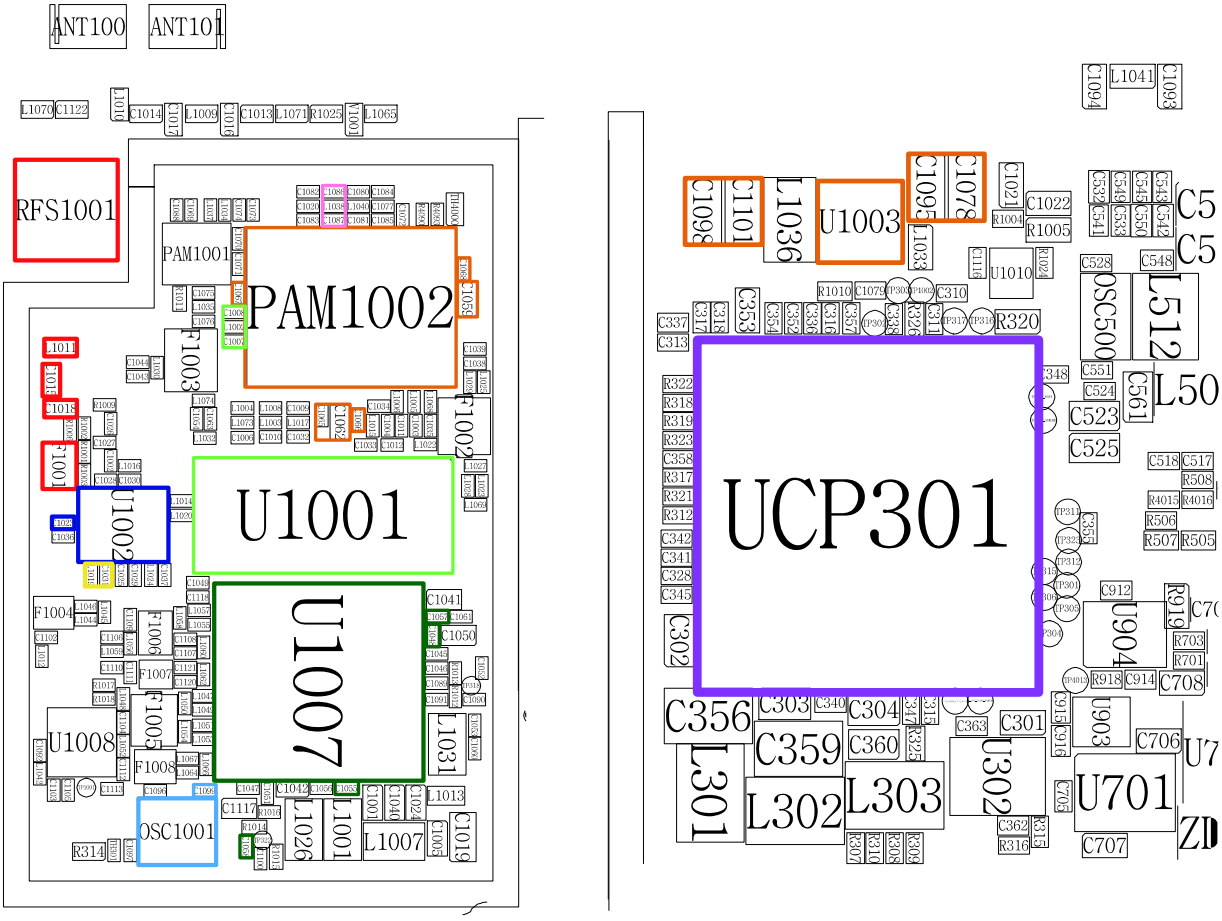

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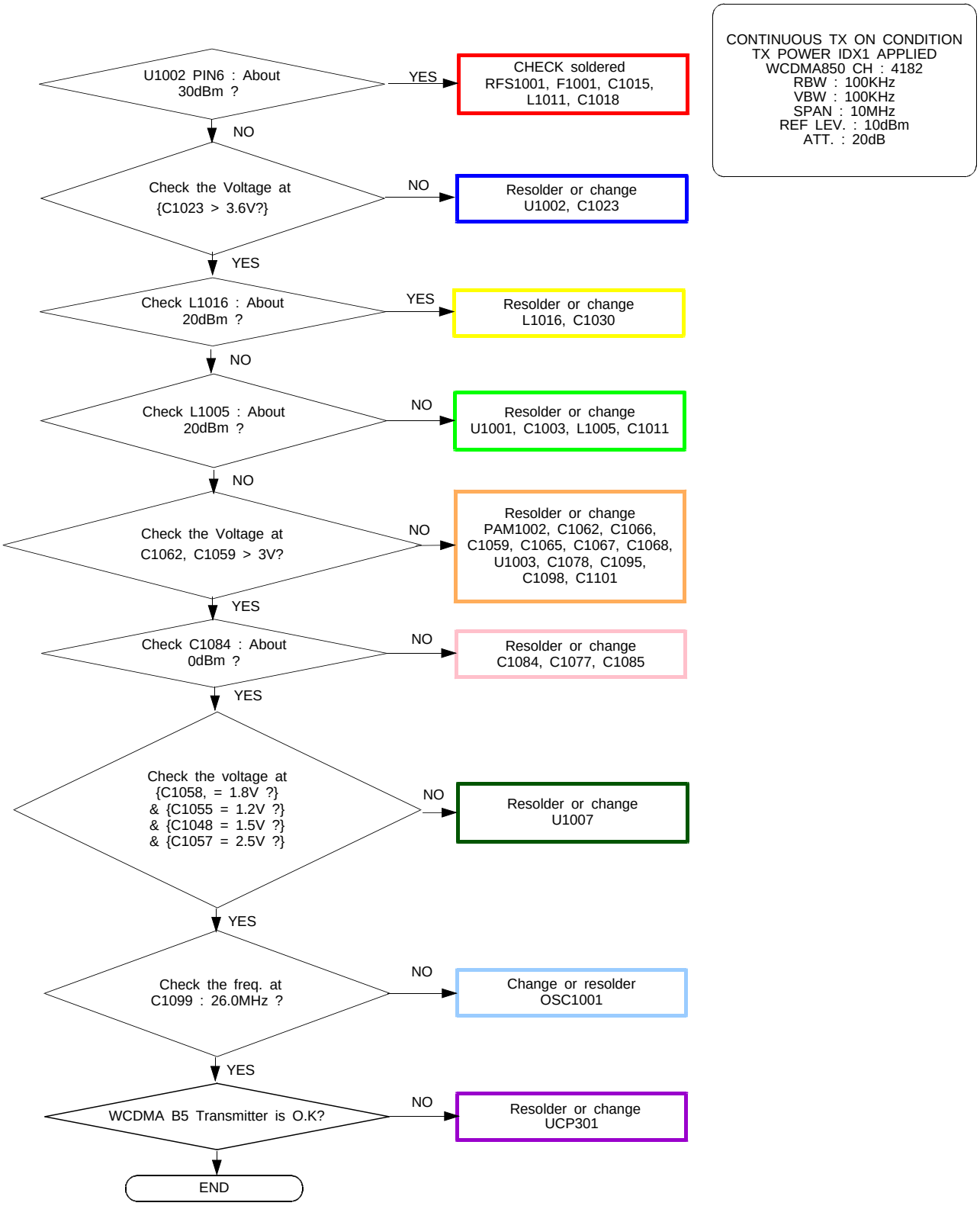
8-3-28. WCDMA Band5 TX



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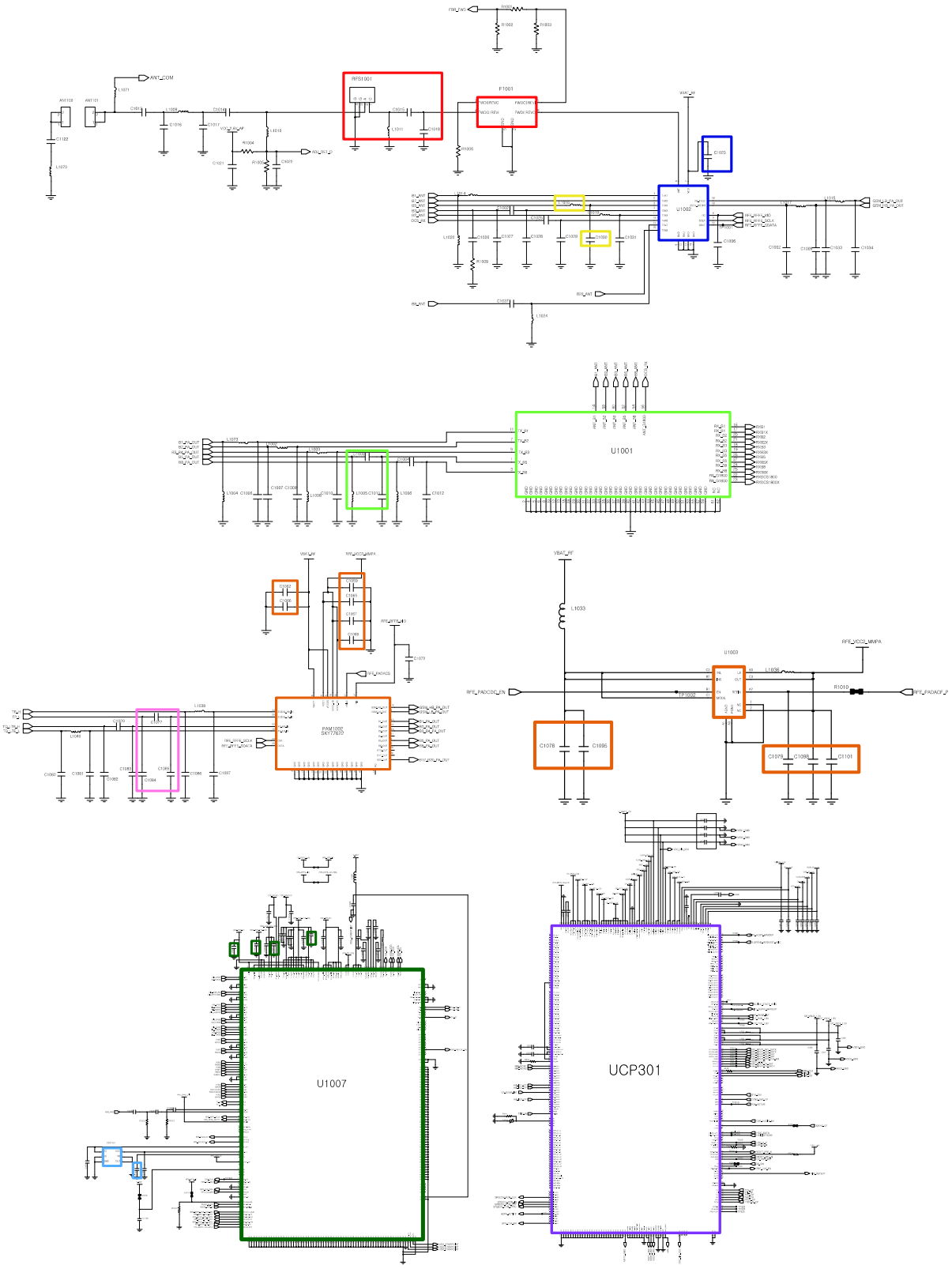

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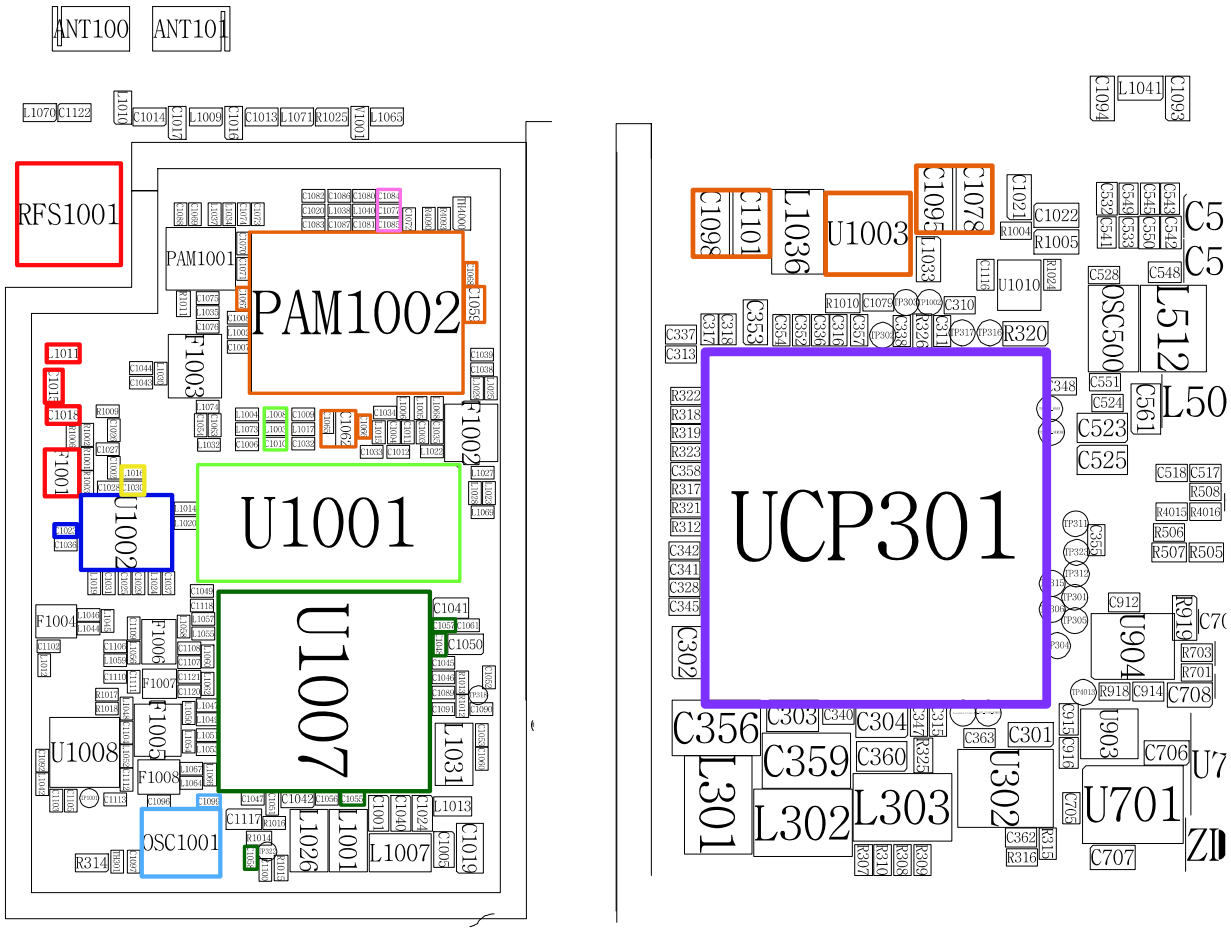

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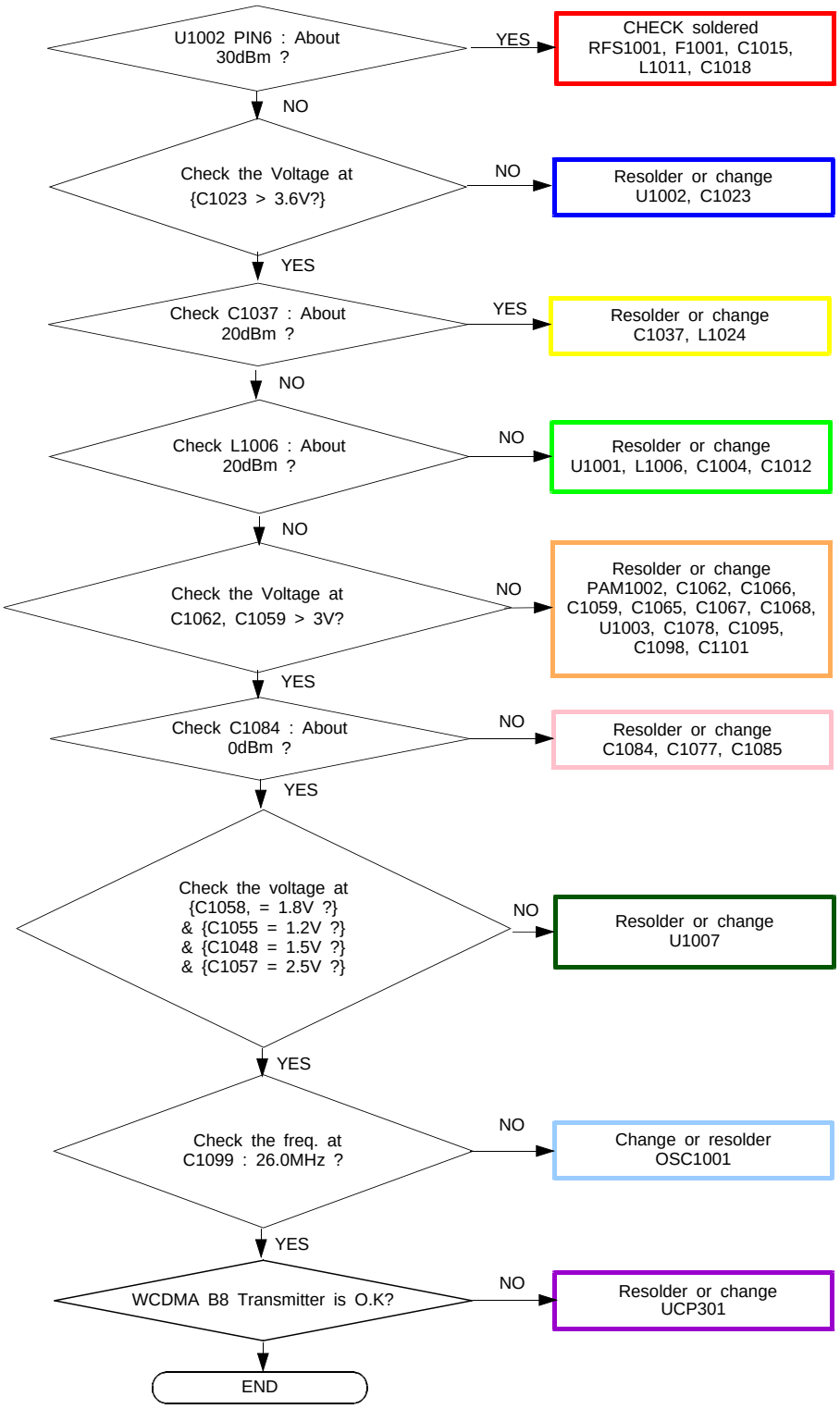
8-3-28. WCDMA Band8 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
WCDMA Band900 CH : 2788
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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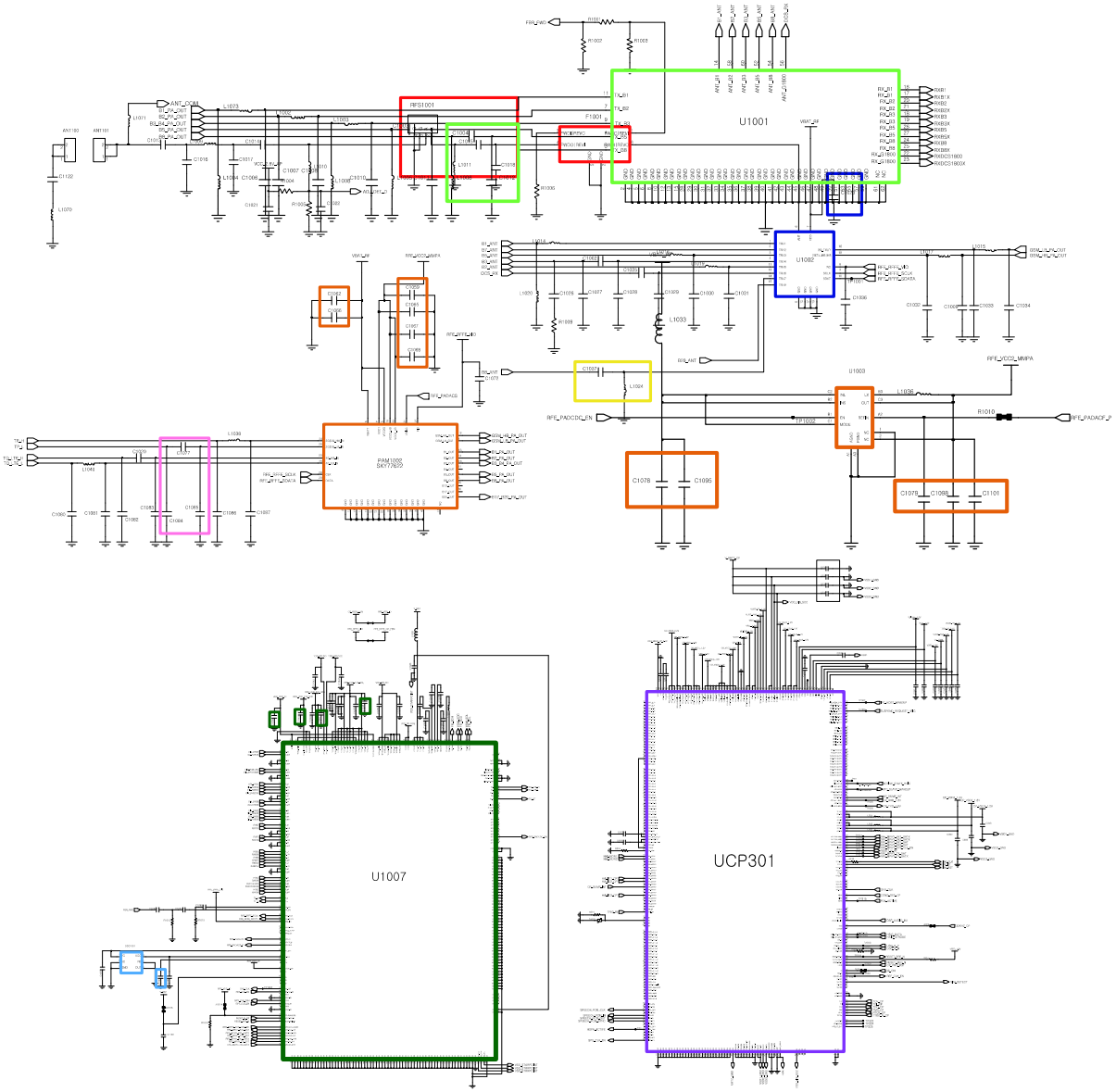

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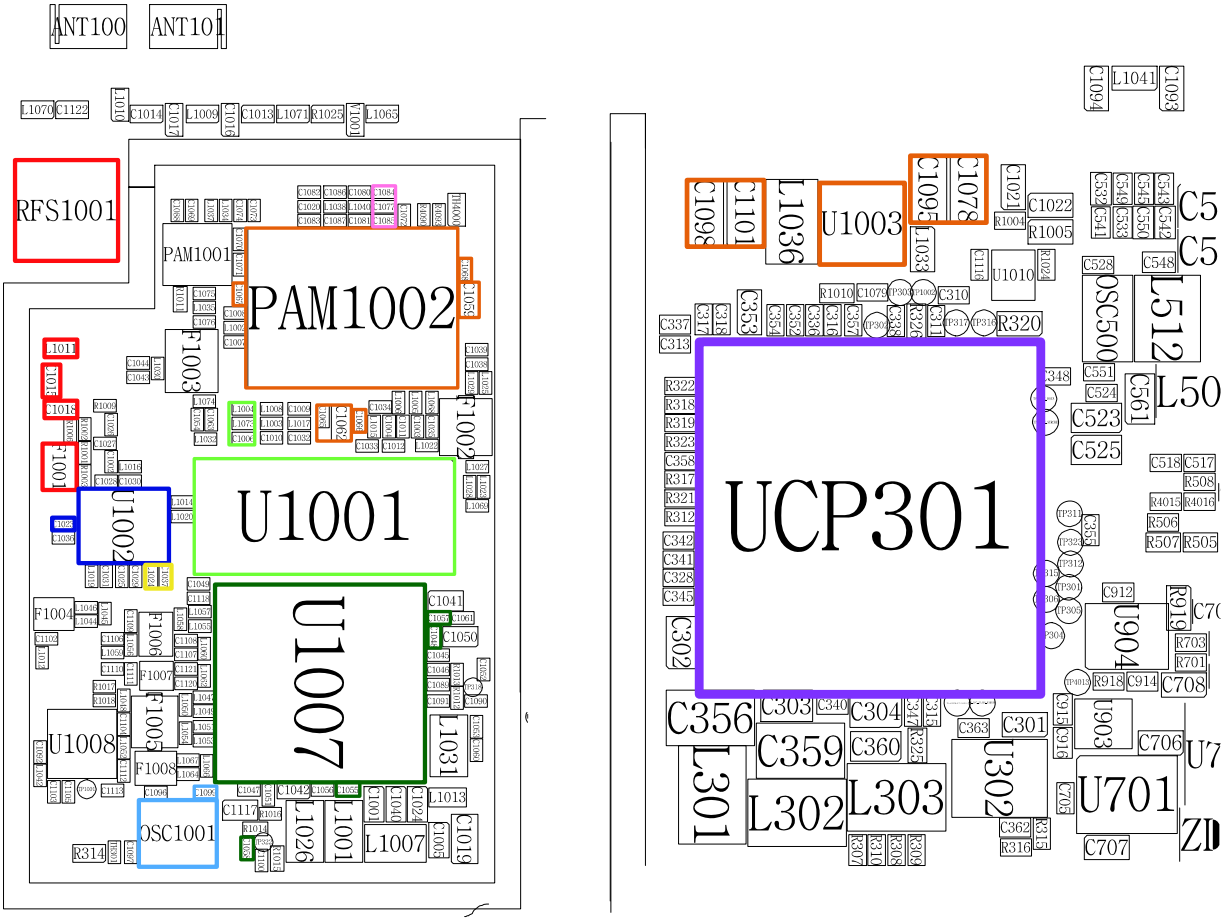

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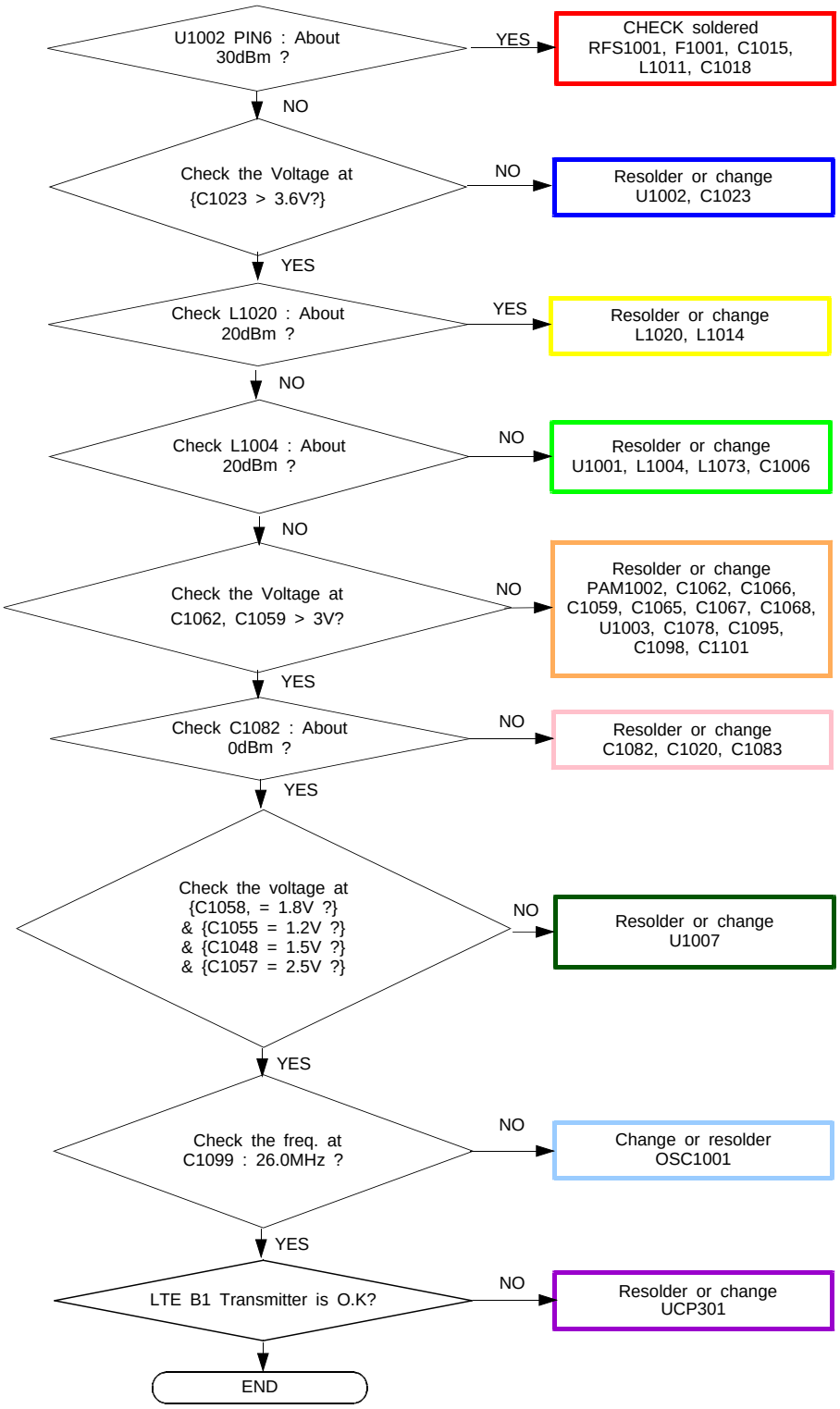
8-3-28. LTE Band1 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
LTE Band1 CH : 18300
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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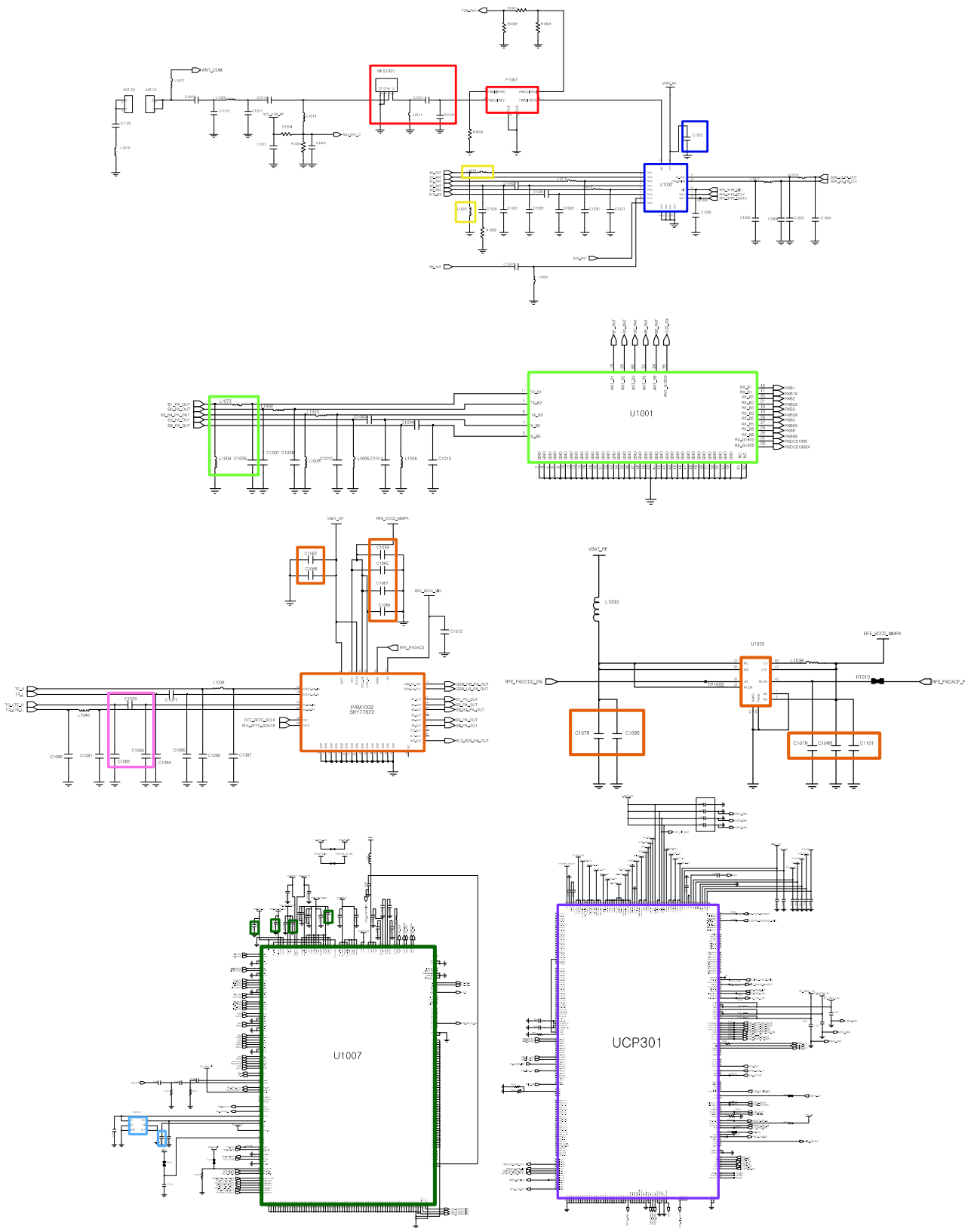

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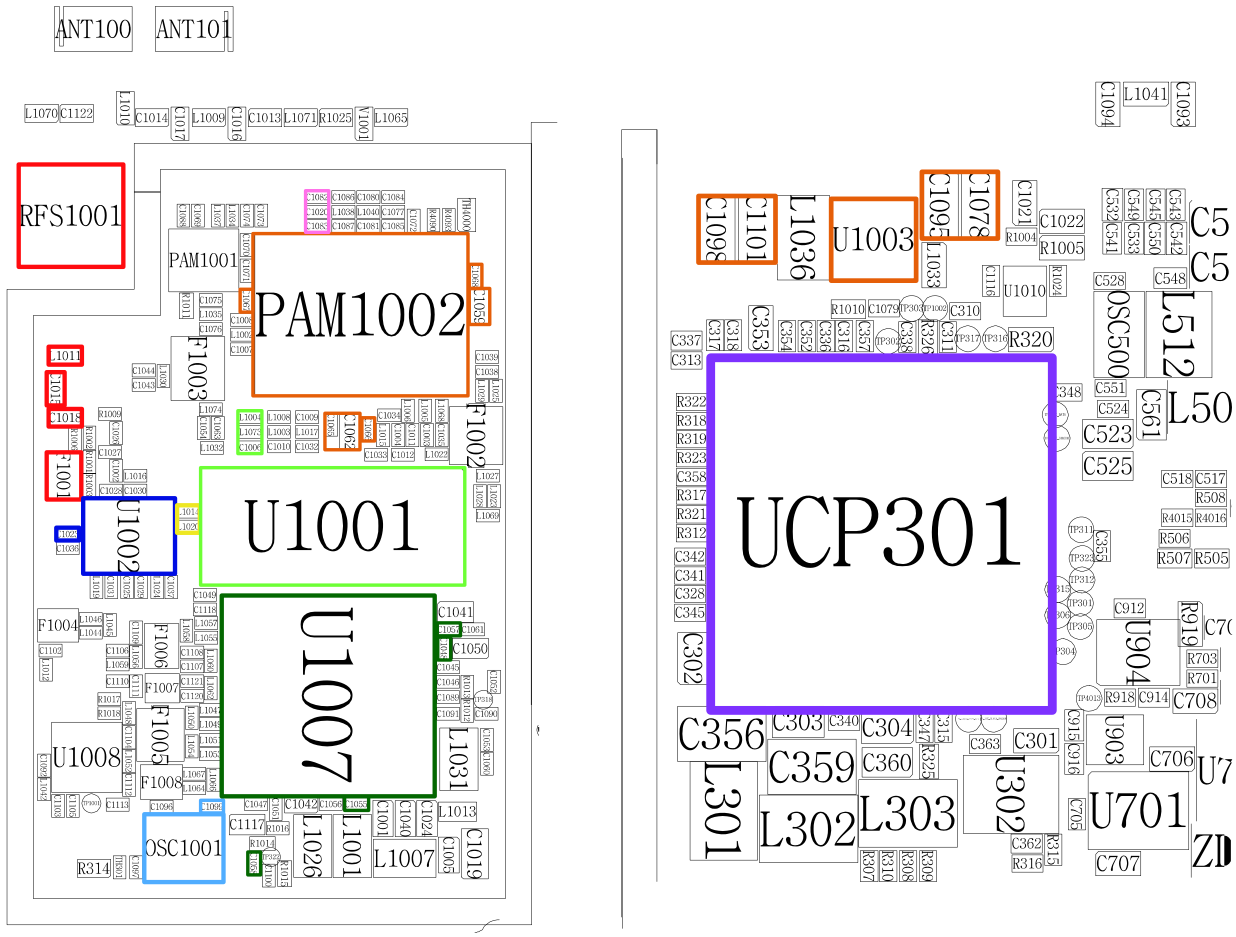

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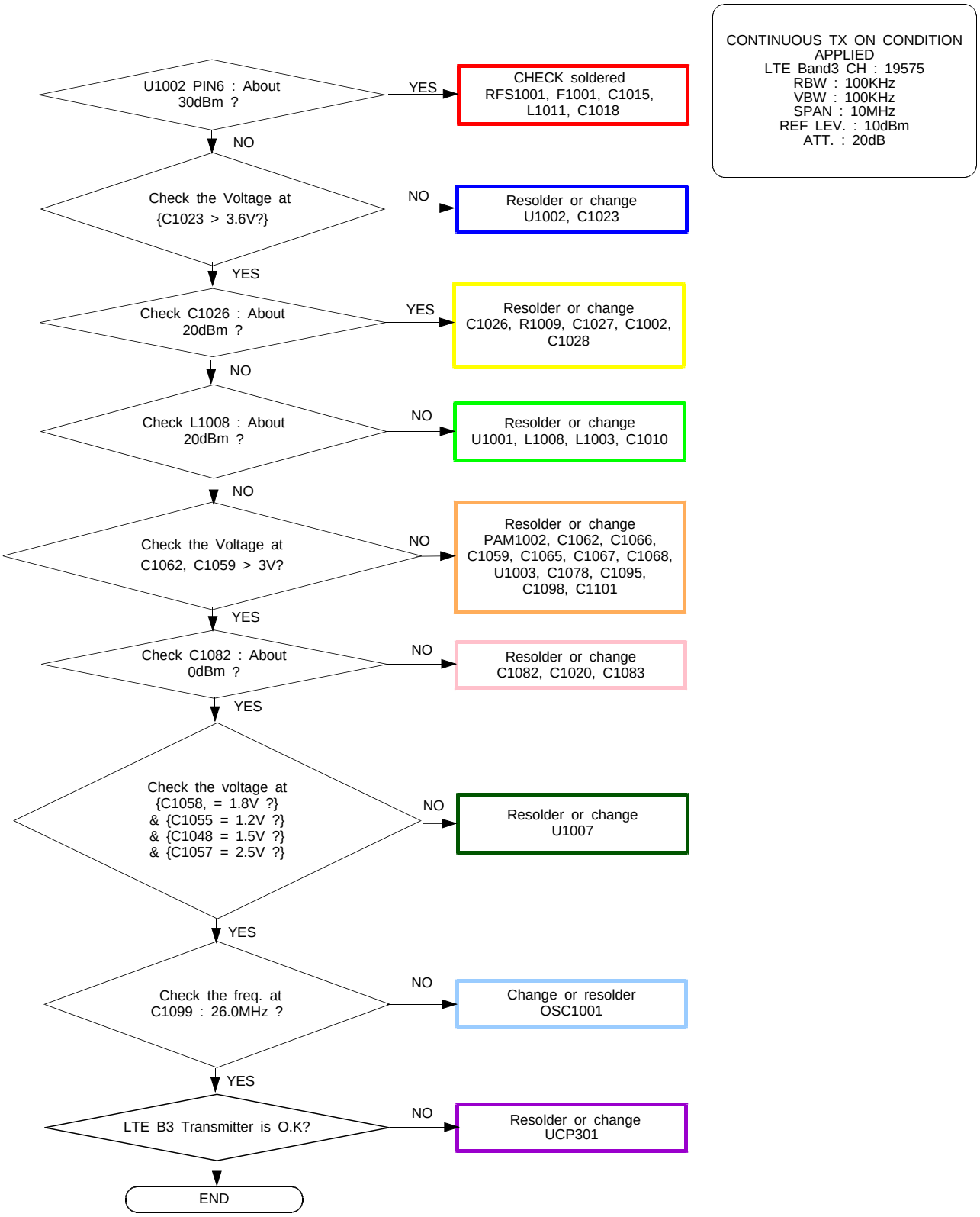
8-3-28. LTE Band3 TX



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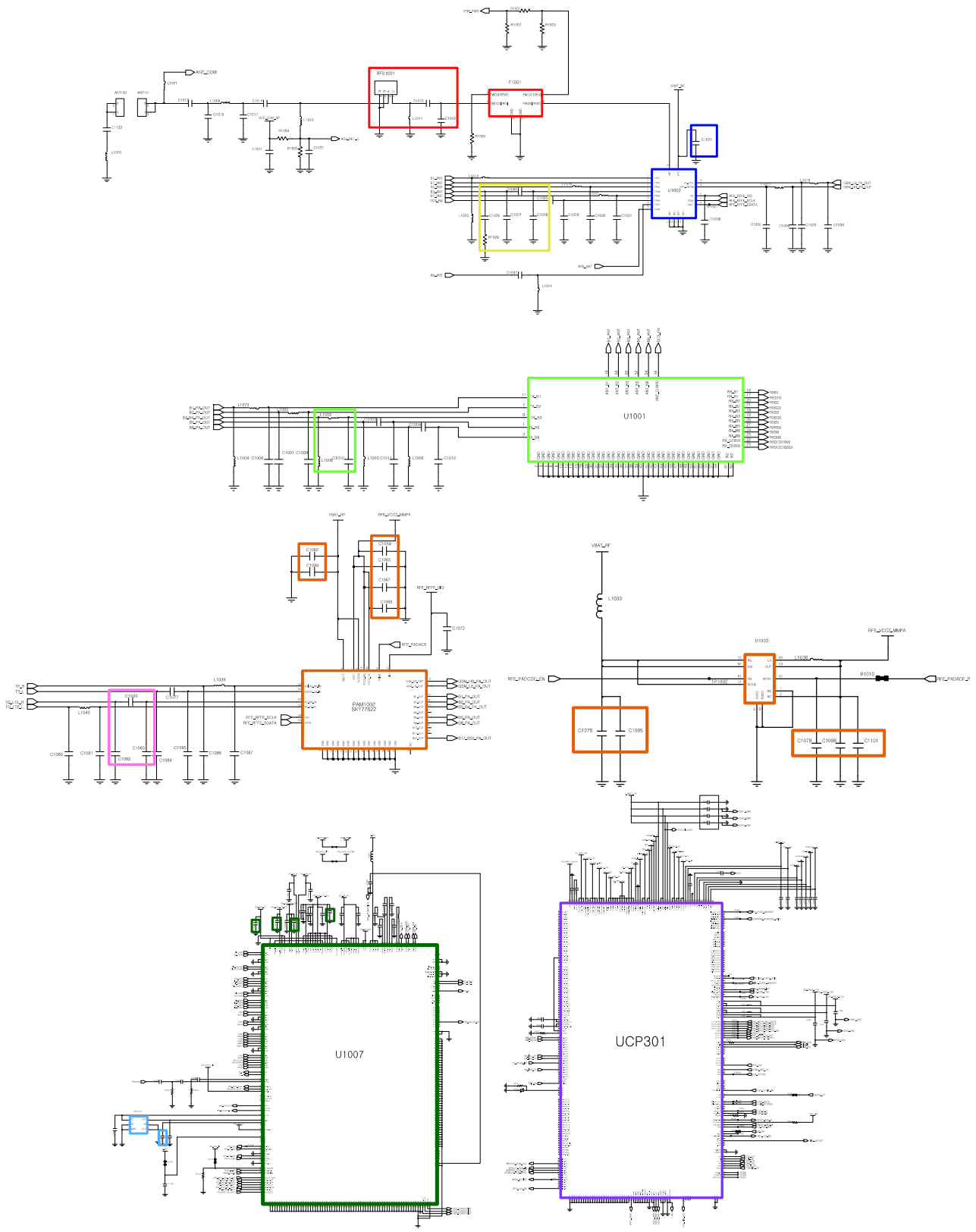

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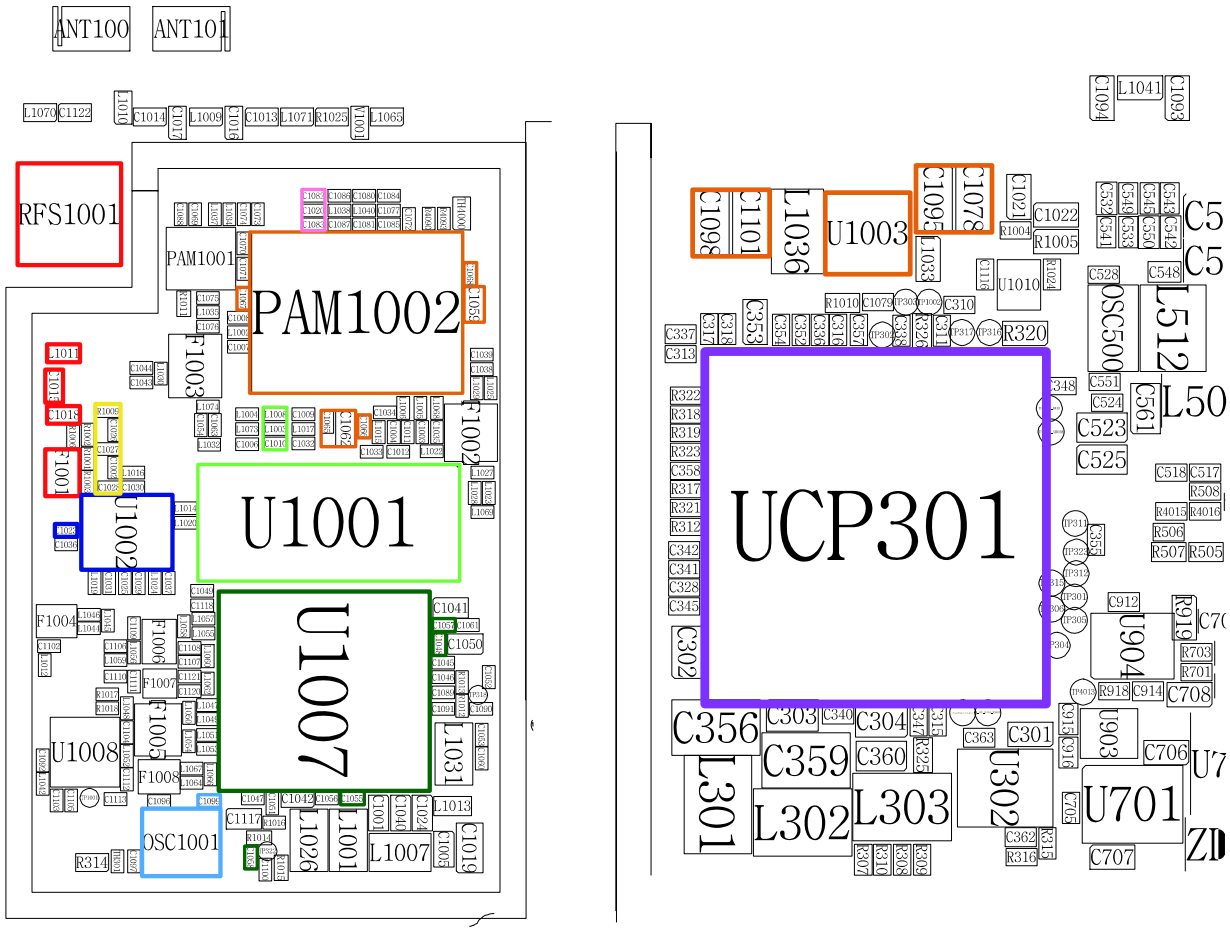

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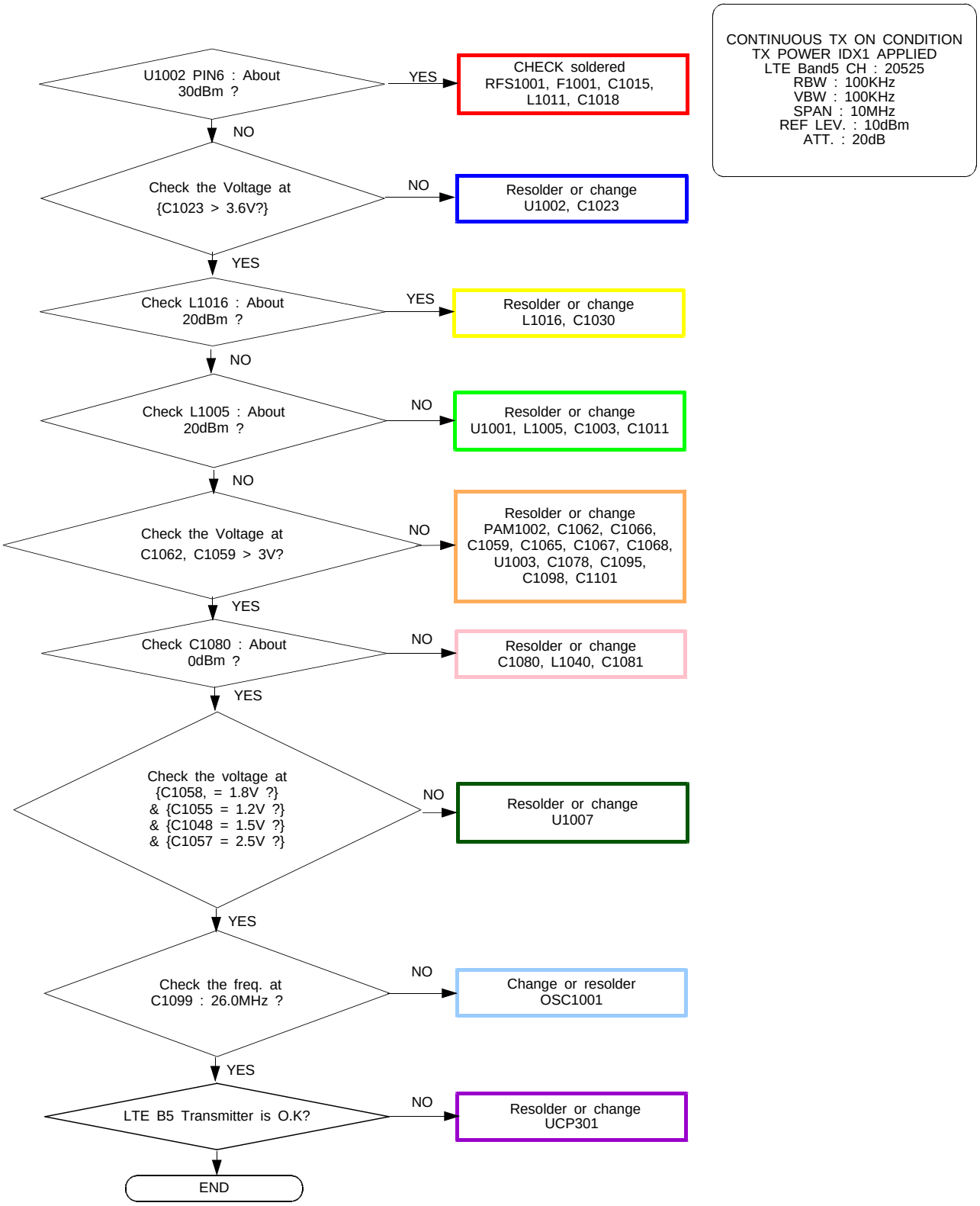
8-3-28. LTE Band5 TX



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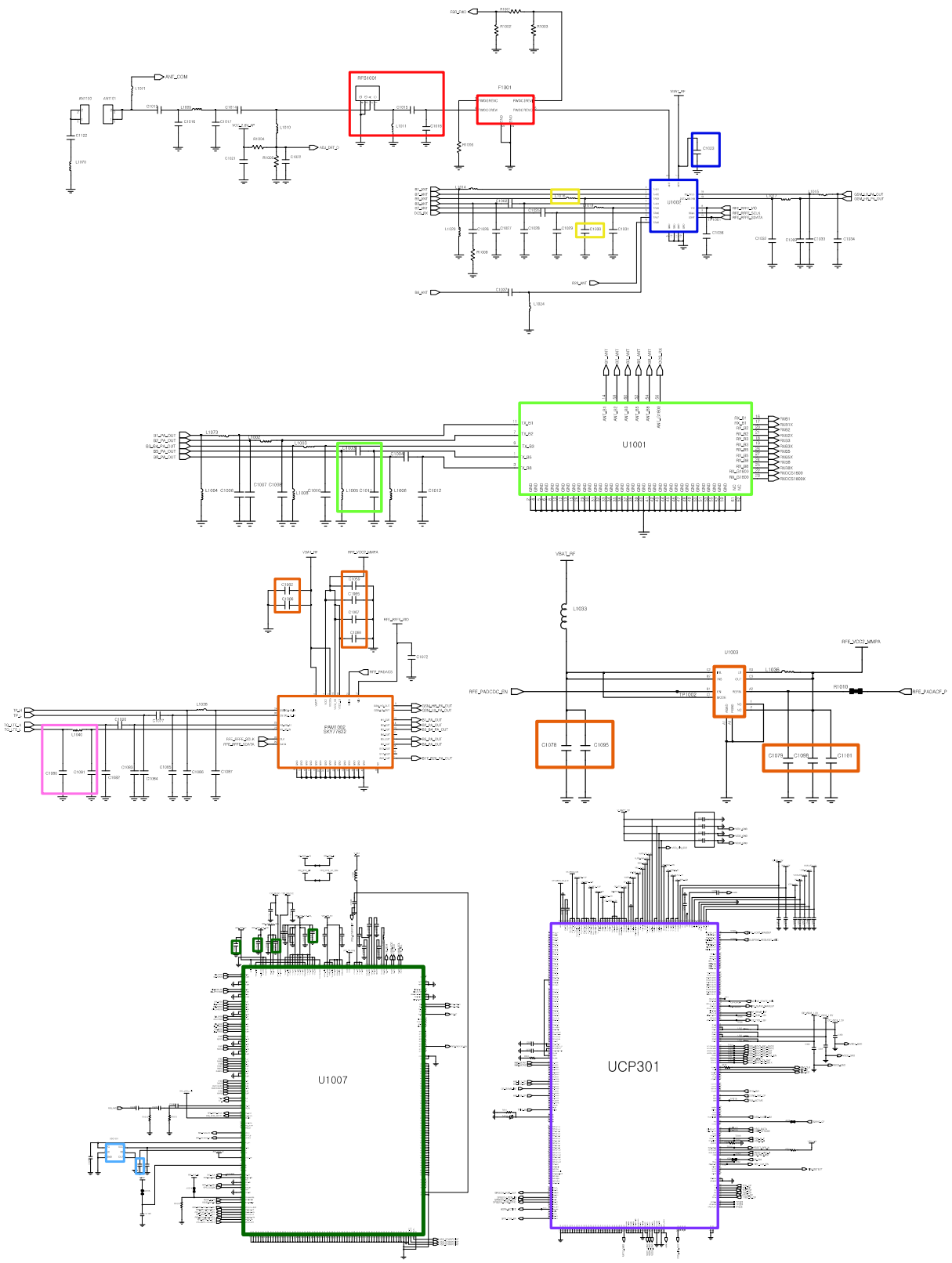

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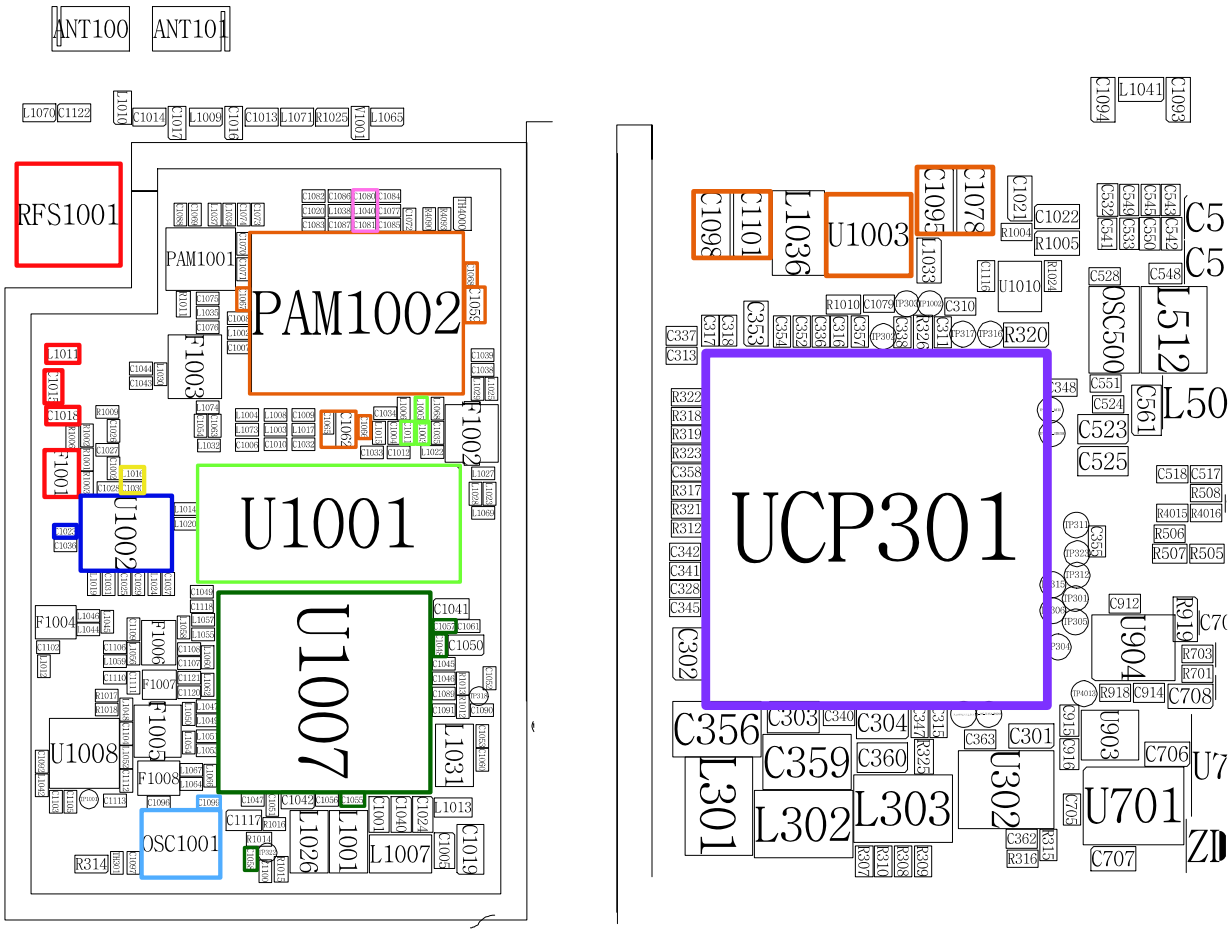

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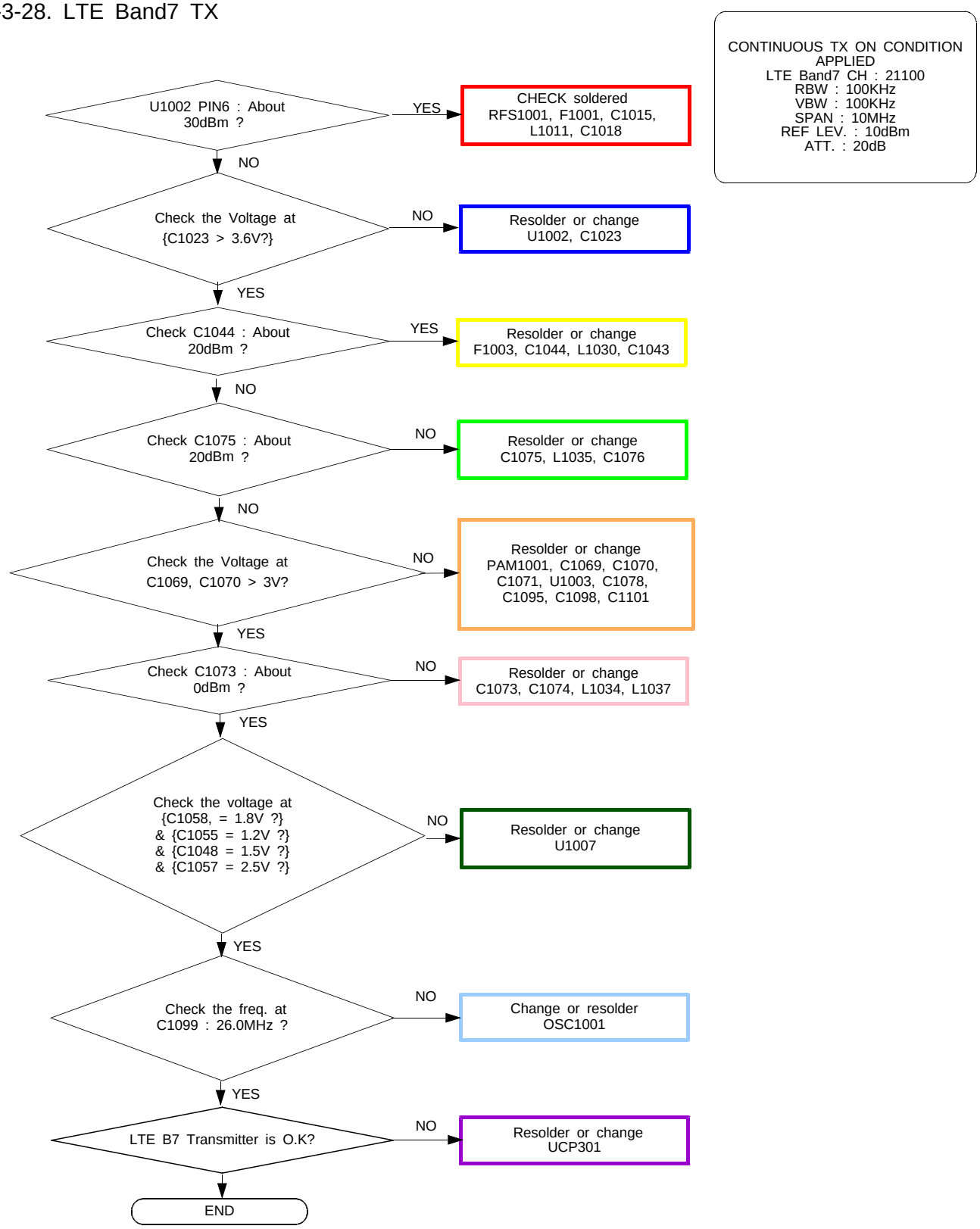
8-3-28. LTE Band7 TX



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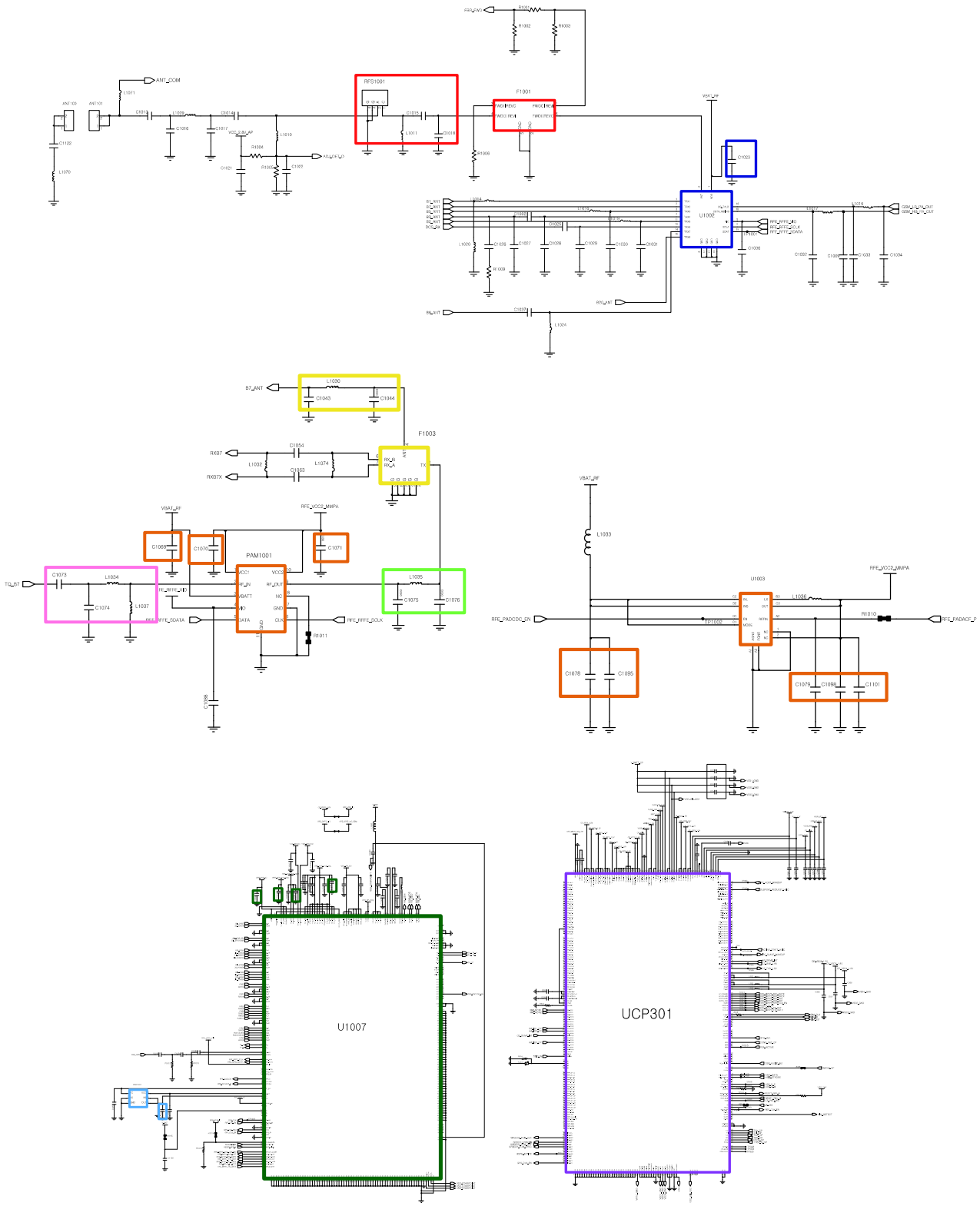

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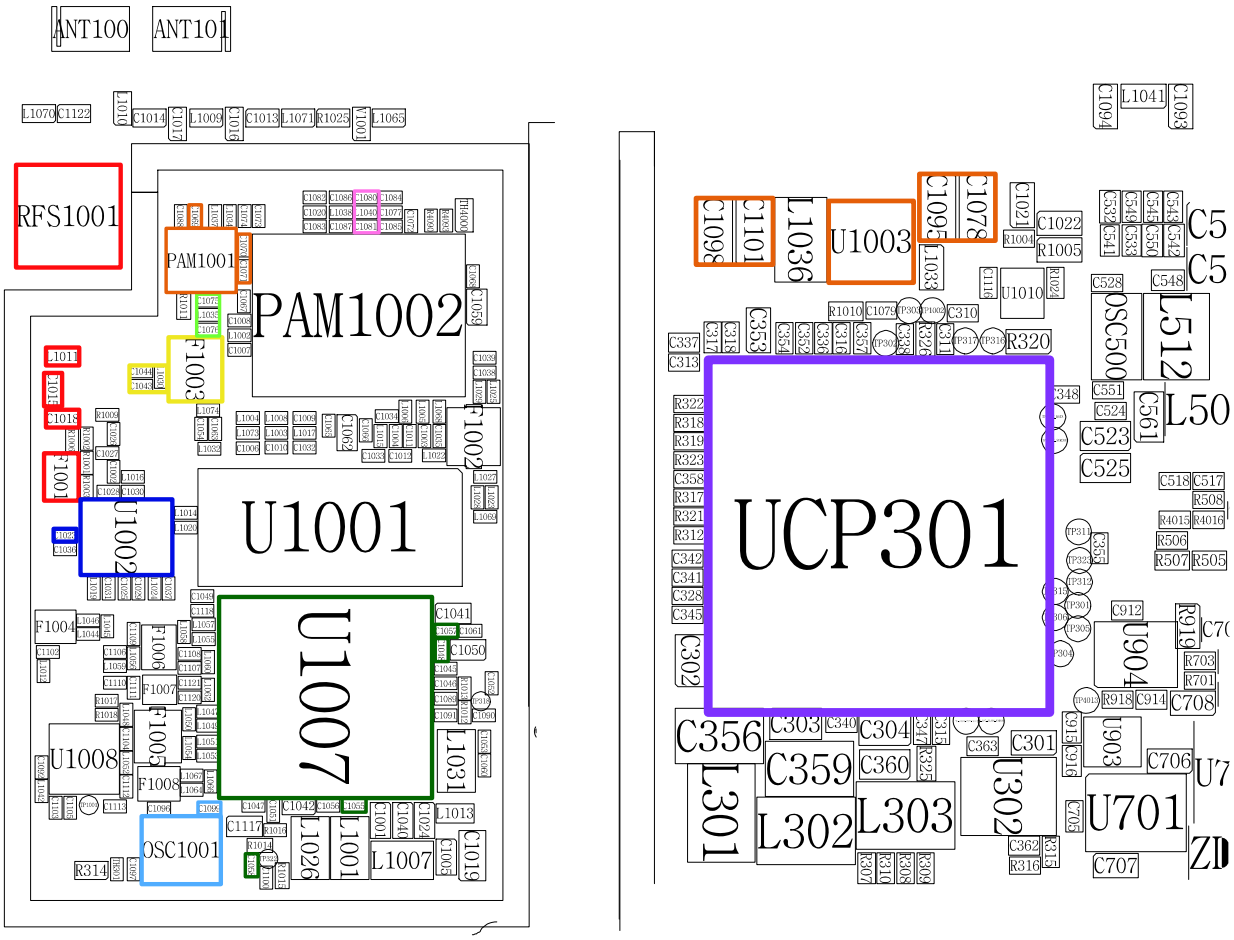

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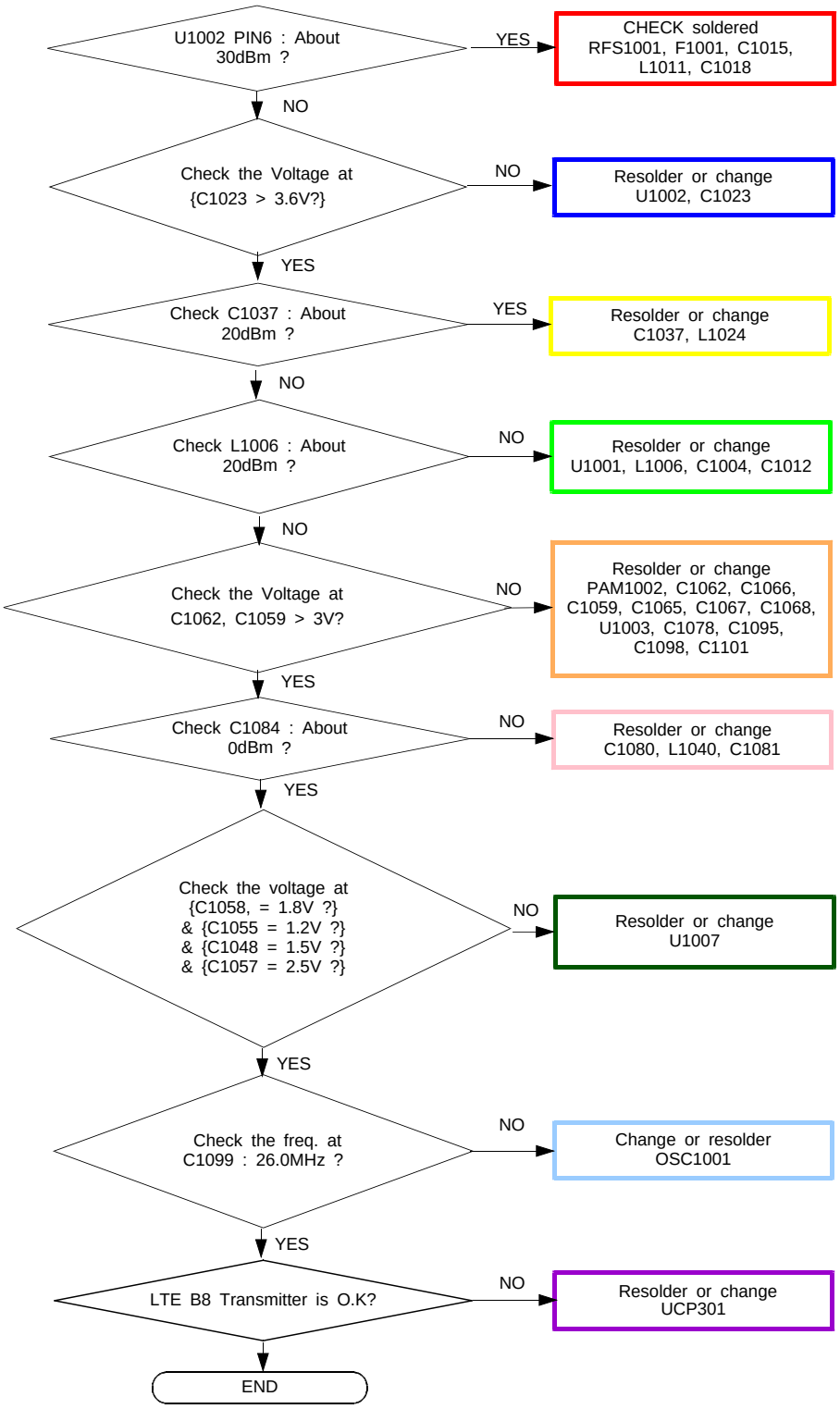
8-3-28. LTE Band8 TX

CONTINOUS TX ON CONDITION
TX POWER DAC:14500 CODE APPLIED
LTE Band8 CH : 21625
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



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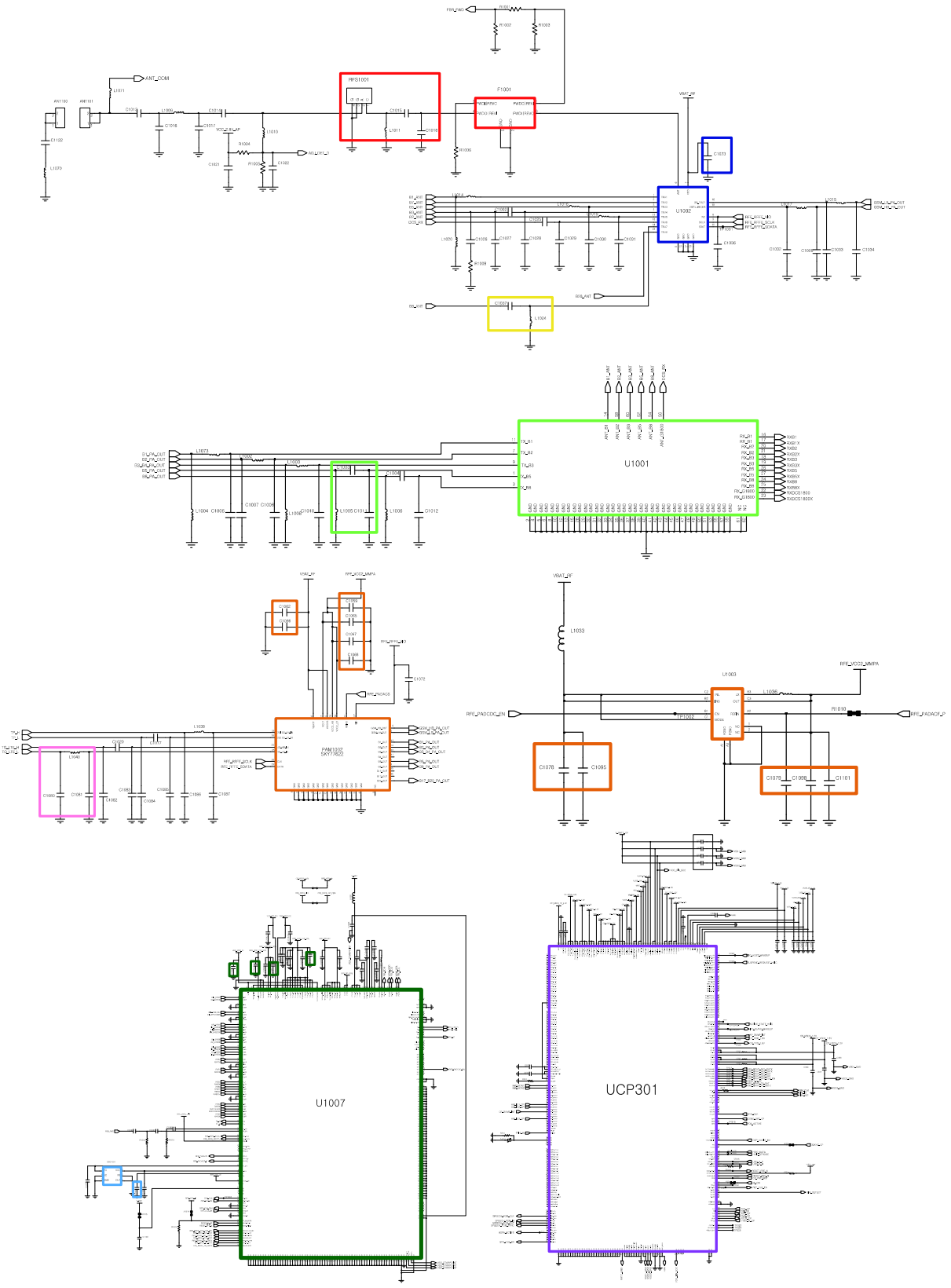

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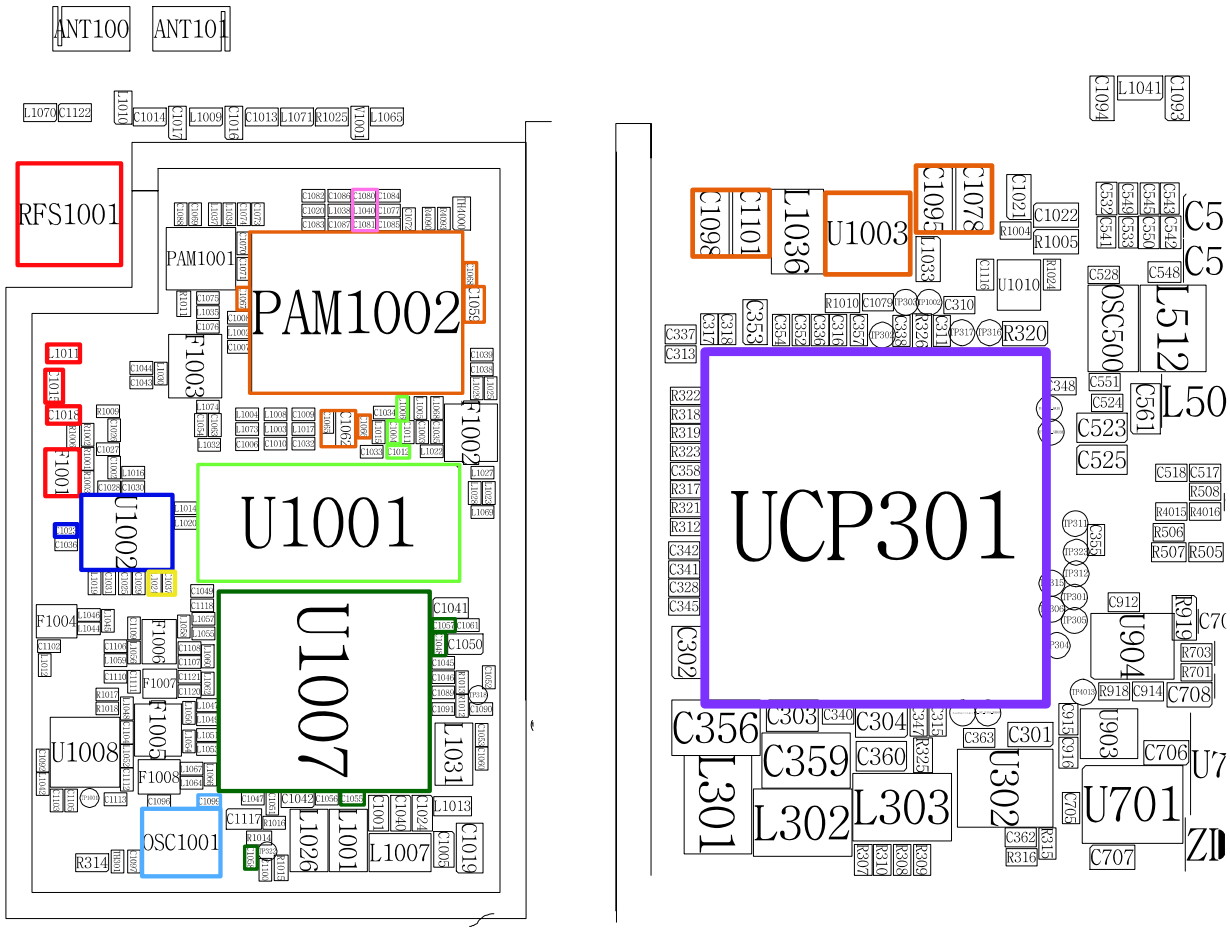

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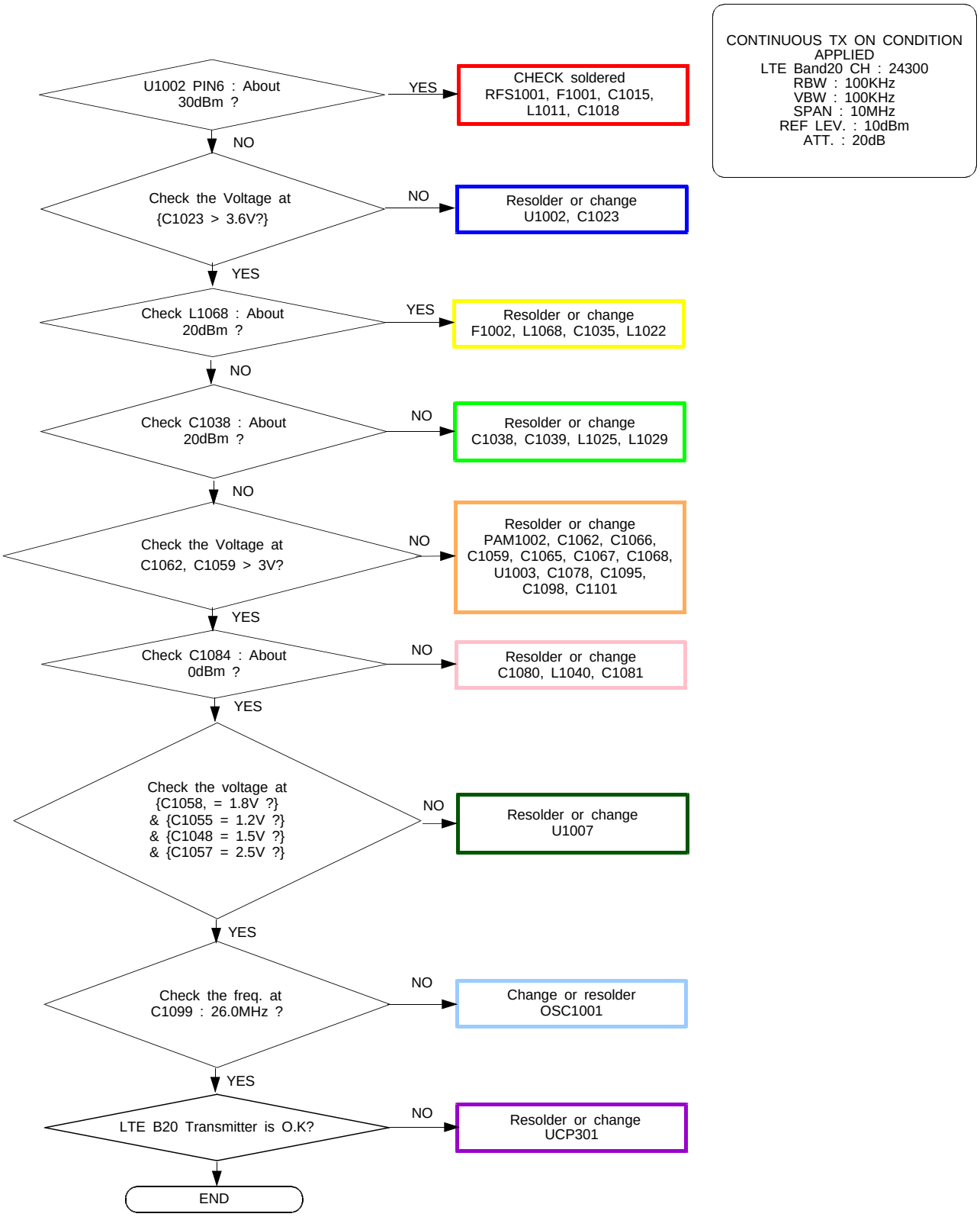
8-3-28. LTE Band20 TX



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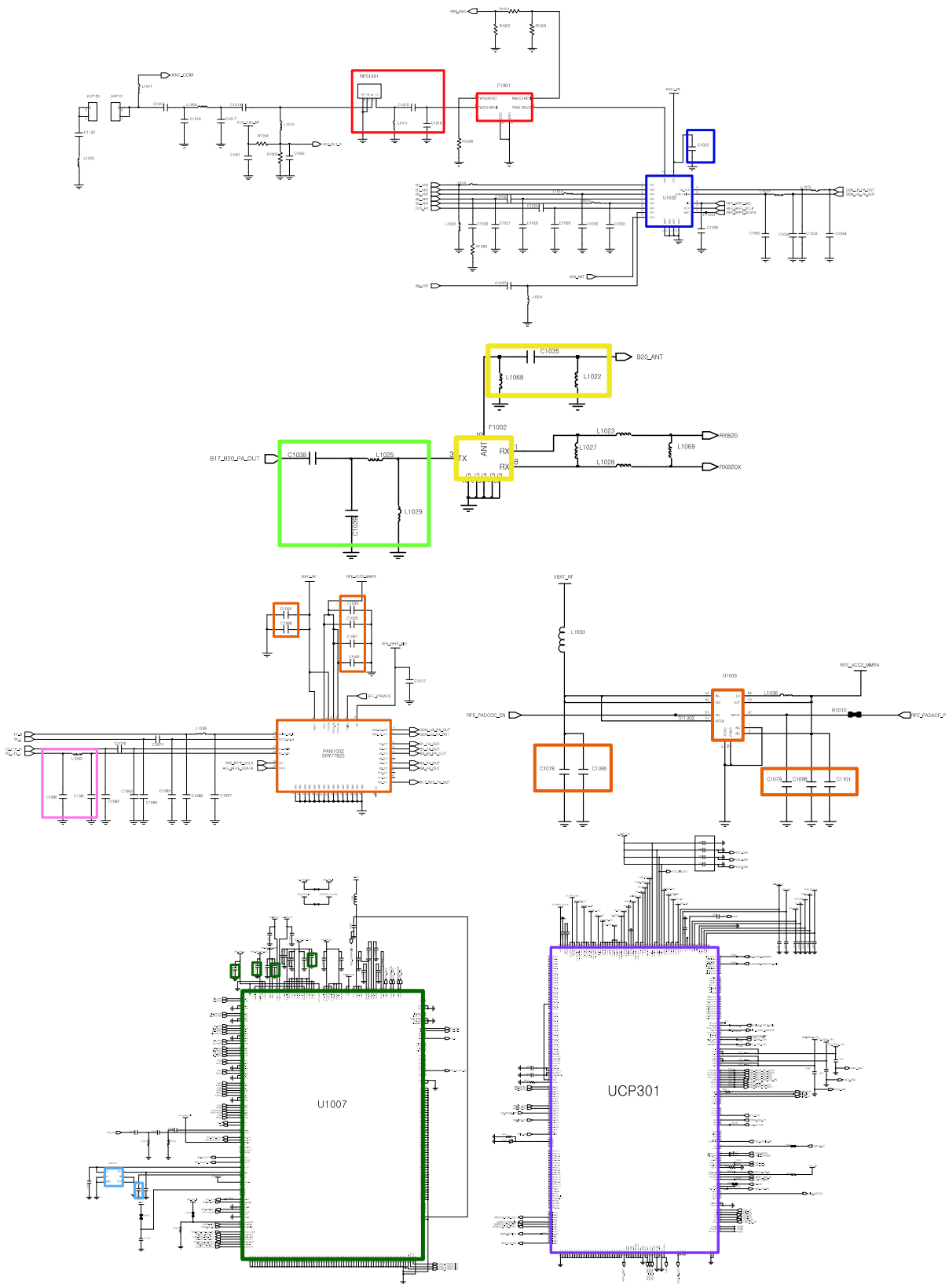

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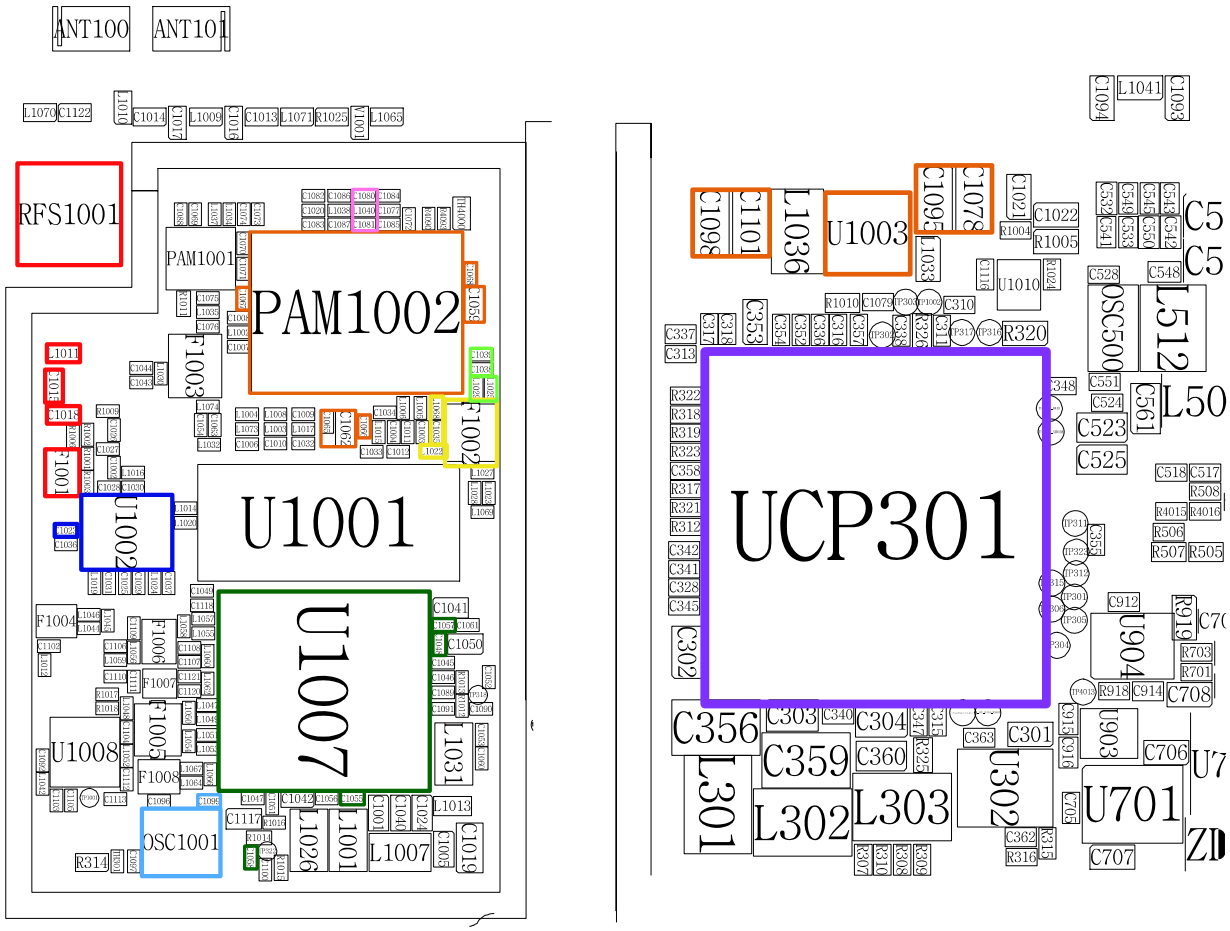

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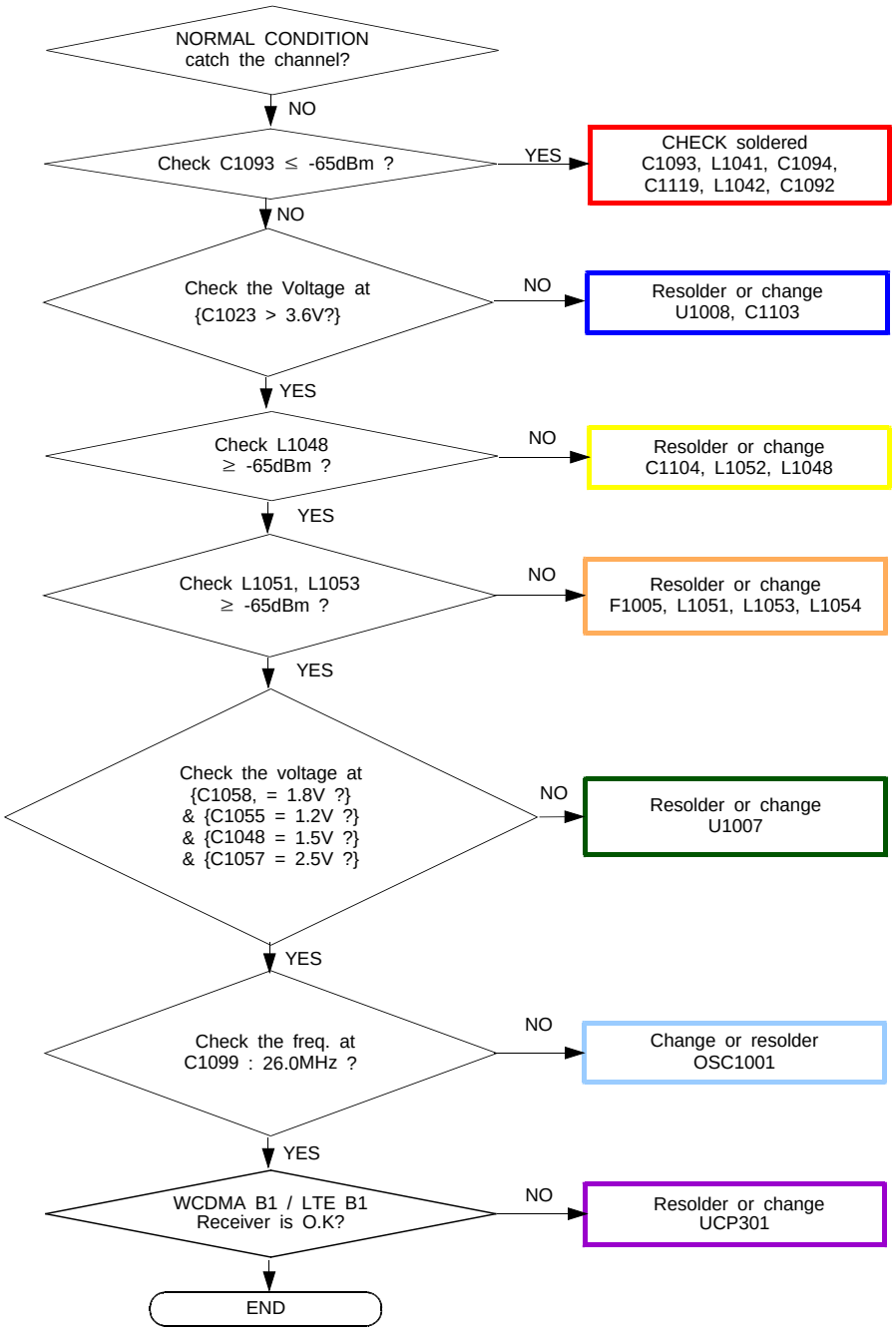
8-3-24. LTE Band1 / WCDMA Band1 DRX

CONTINUOUS RX ON
RF INPUT : LTE B1: 300CH
WCDMA B1: 10700CH
AMP : -50dBm



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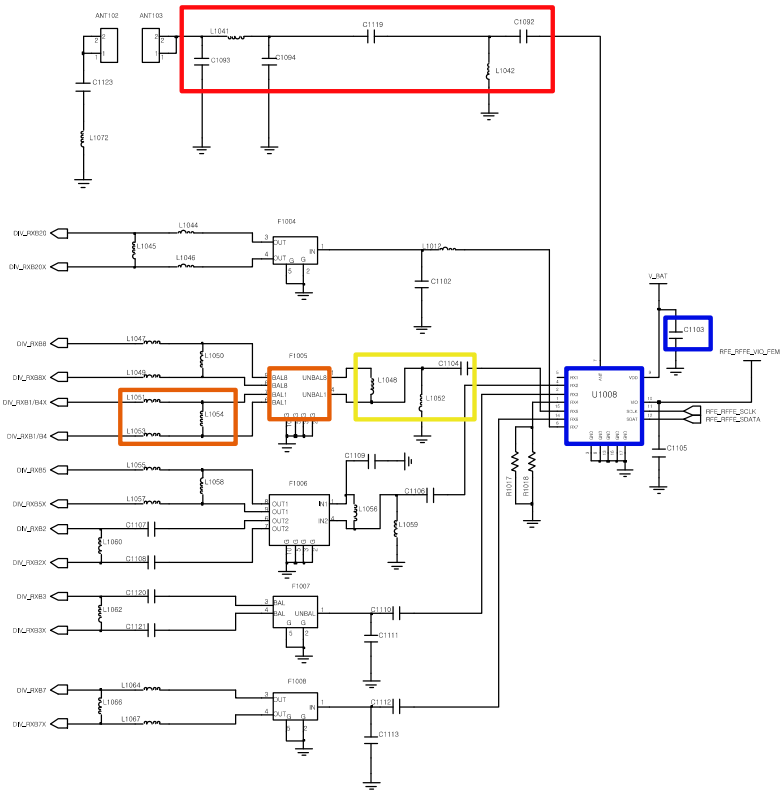

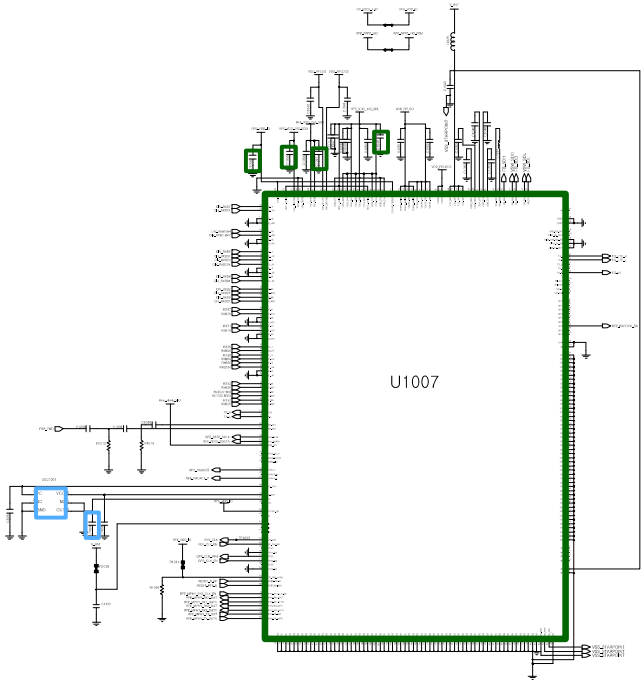

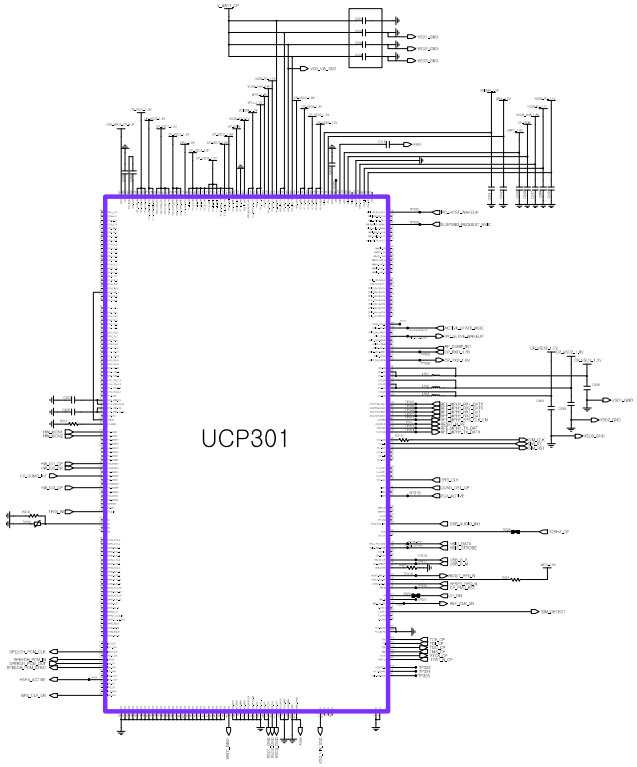

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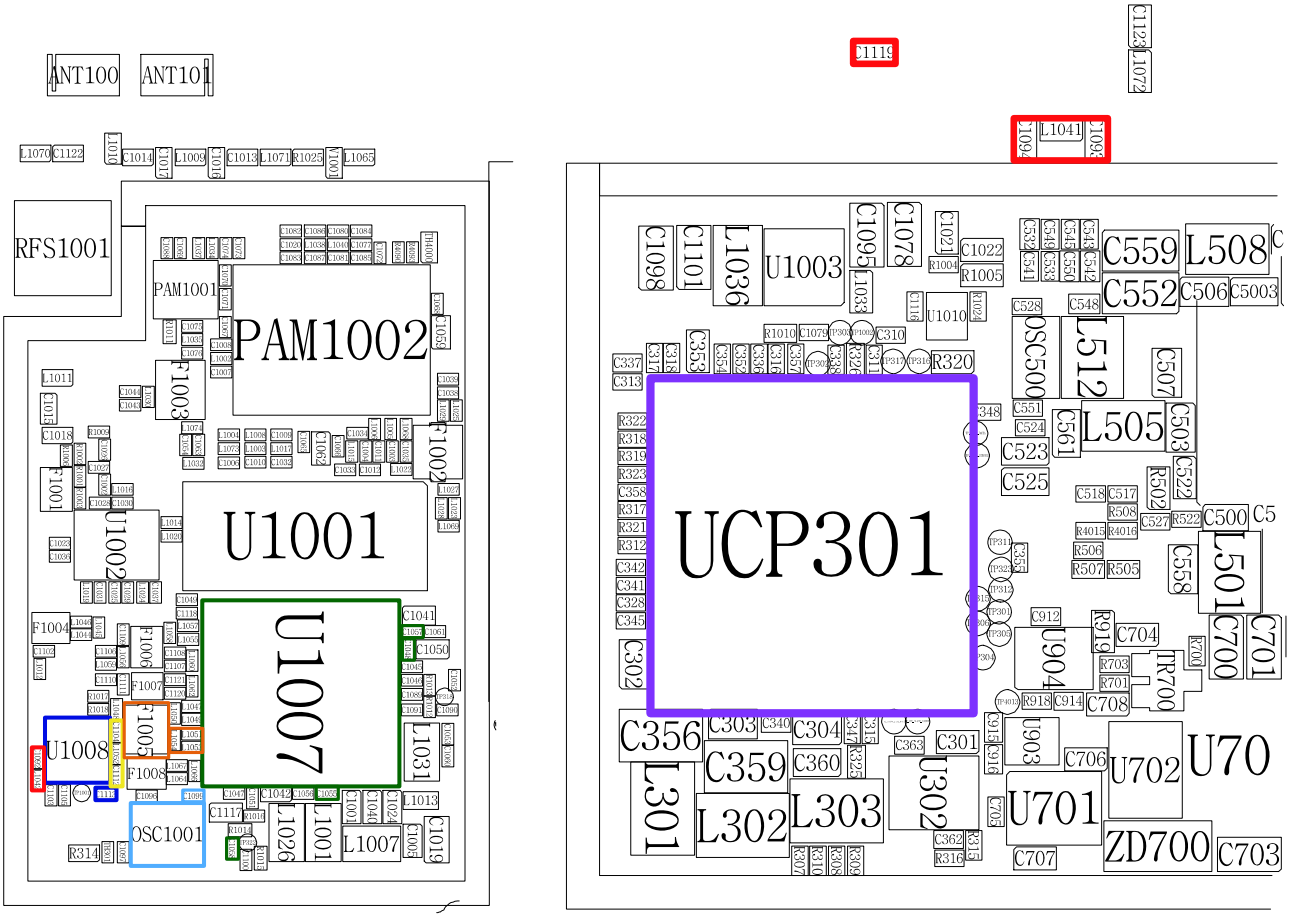

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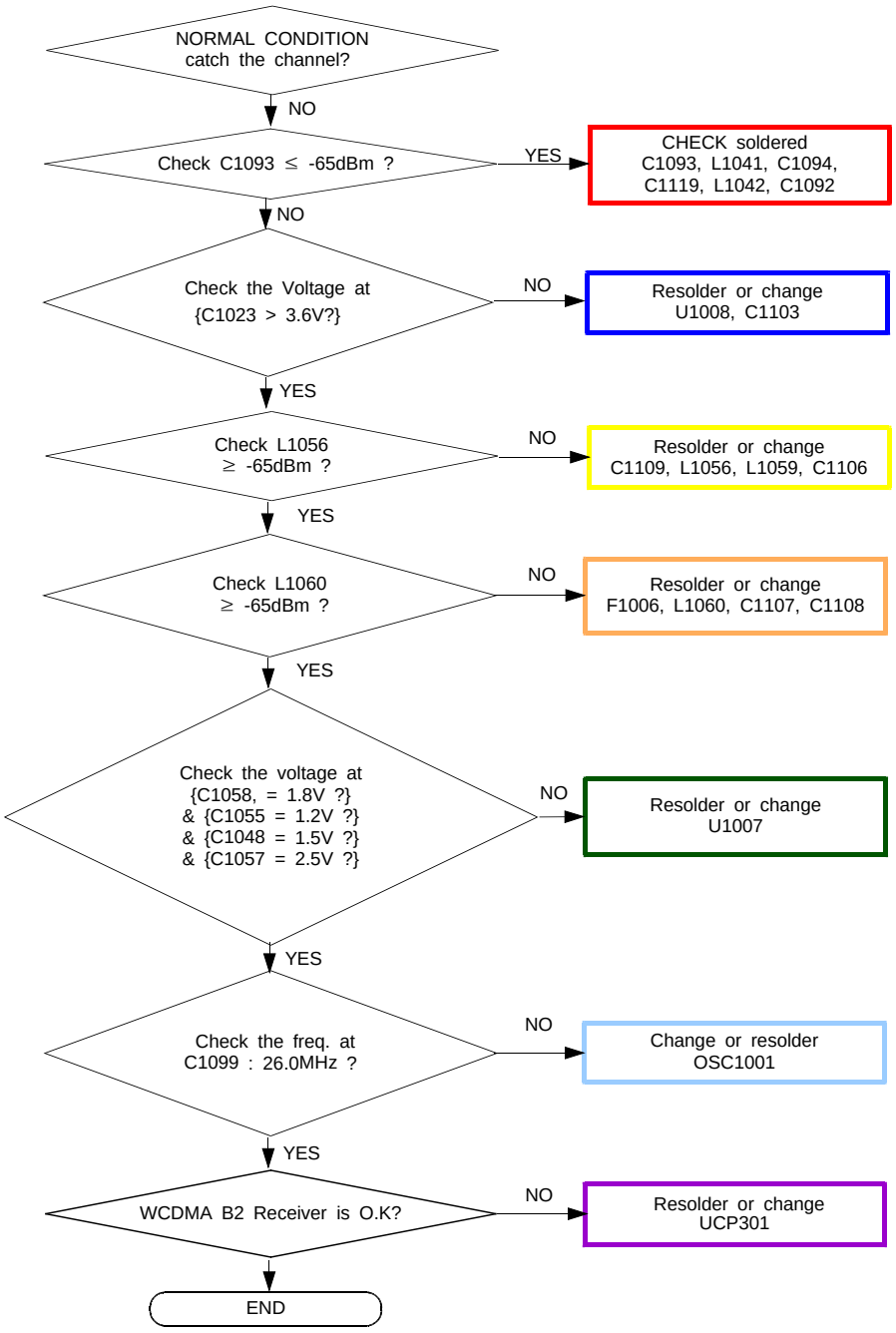
8-3-24. WCDMA Band2 DRX

CONTINUOUS RX ON
RF INPUT : WCDMA B2: 9800CH
AMP : -50dBm



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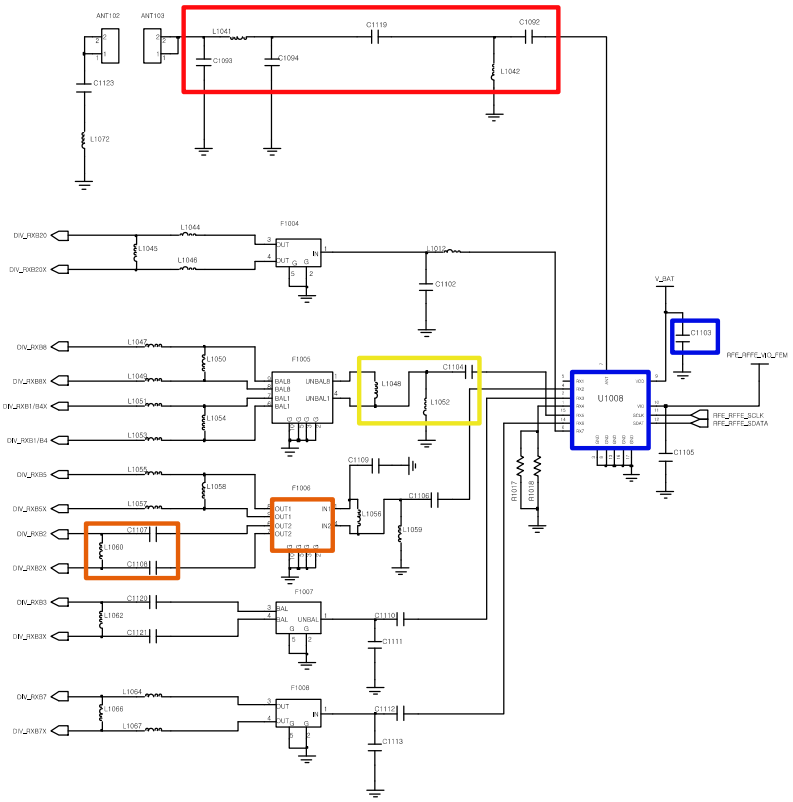

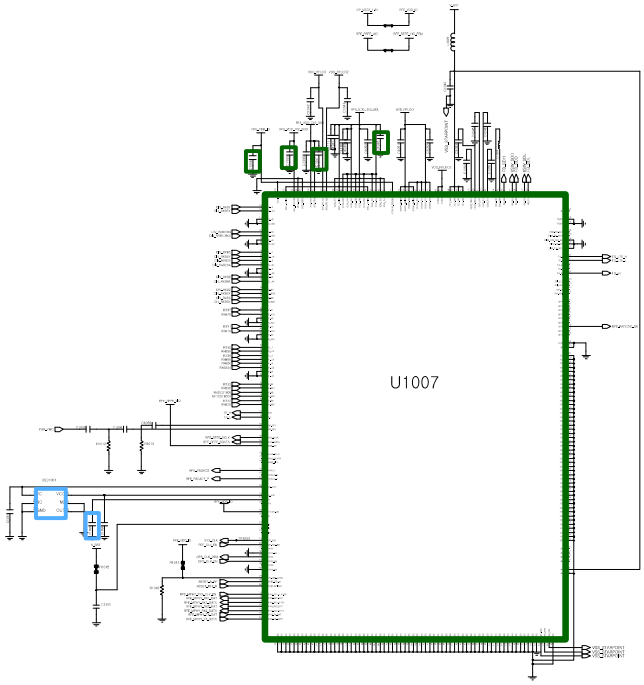

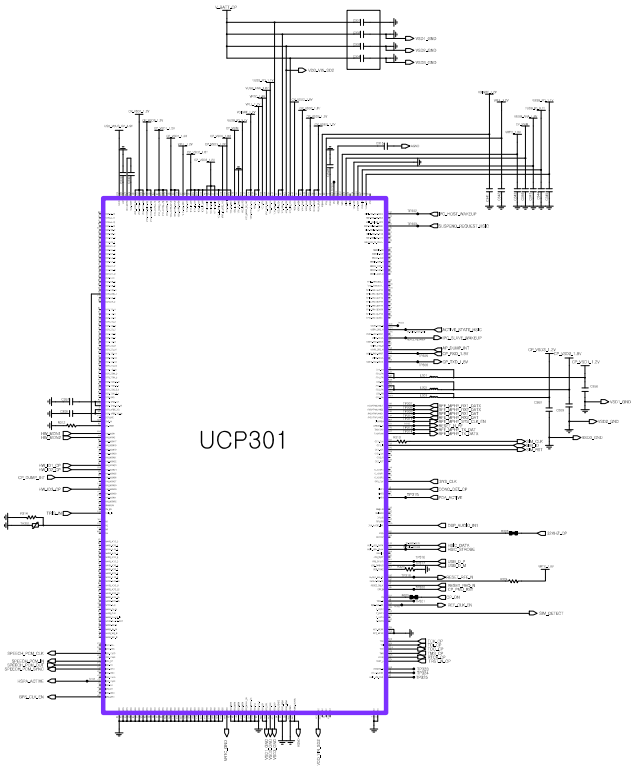

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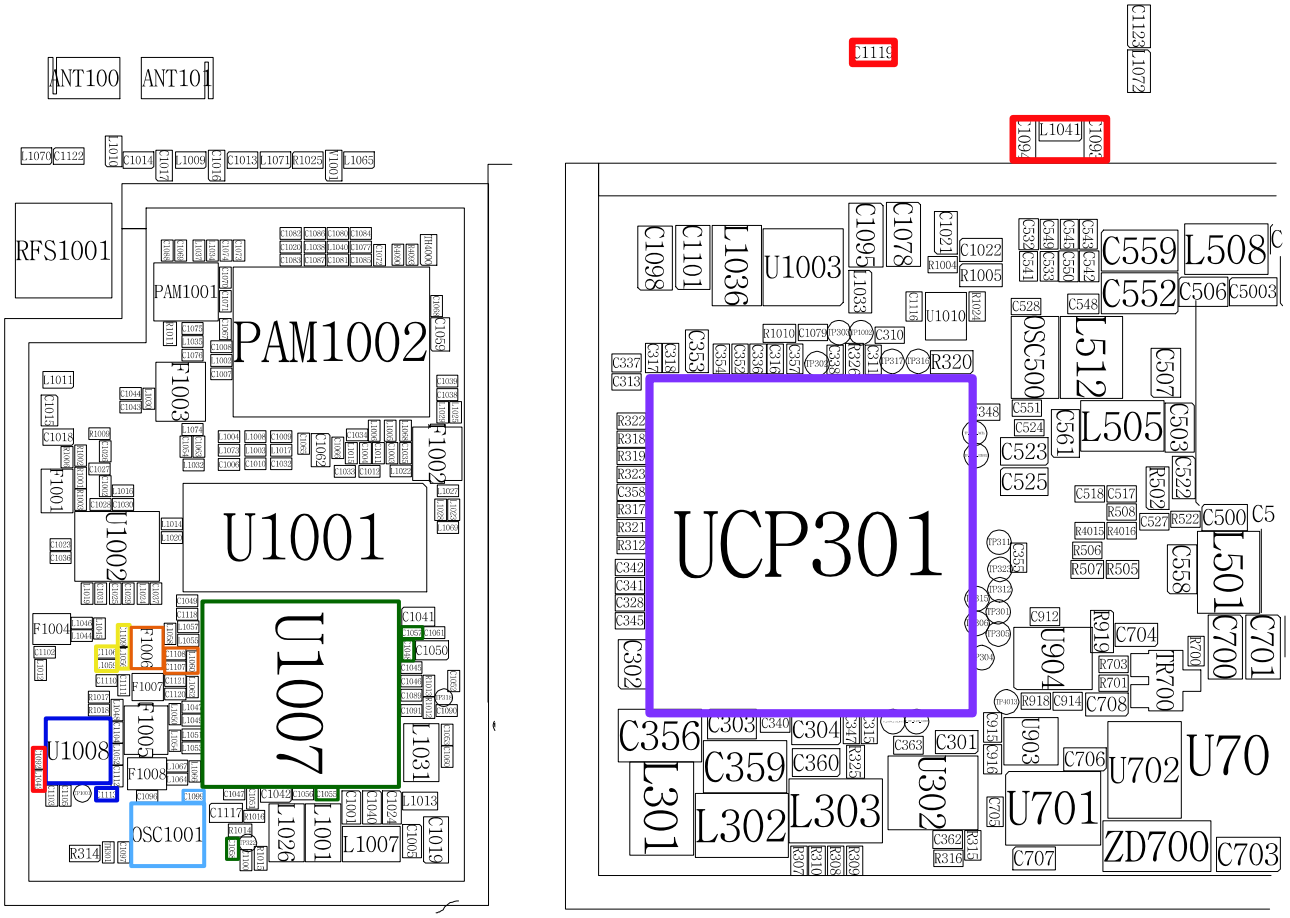

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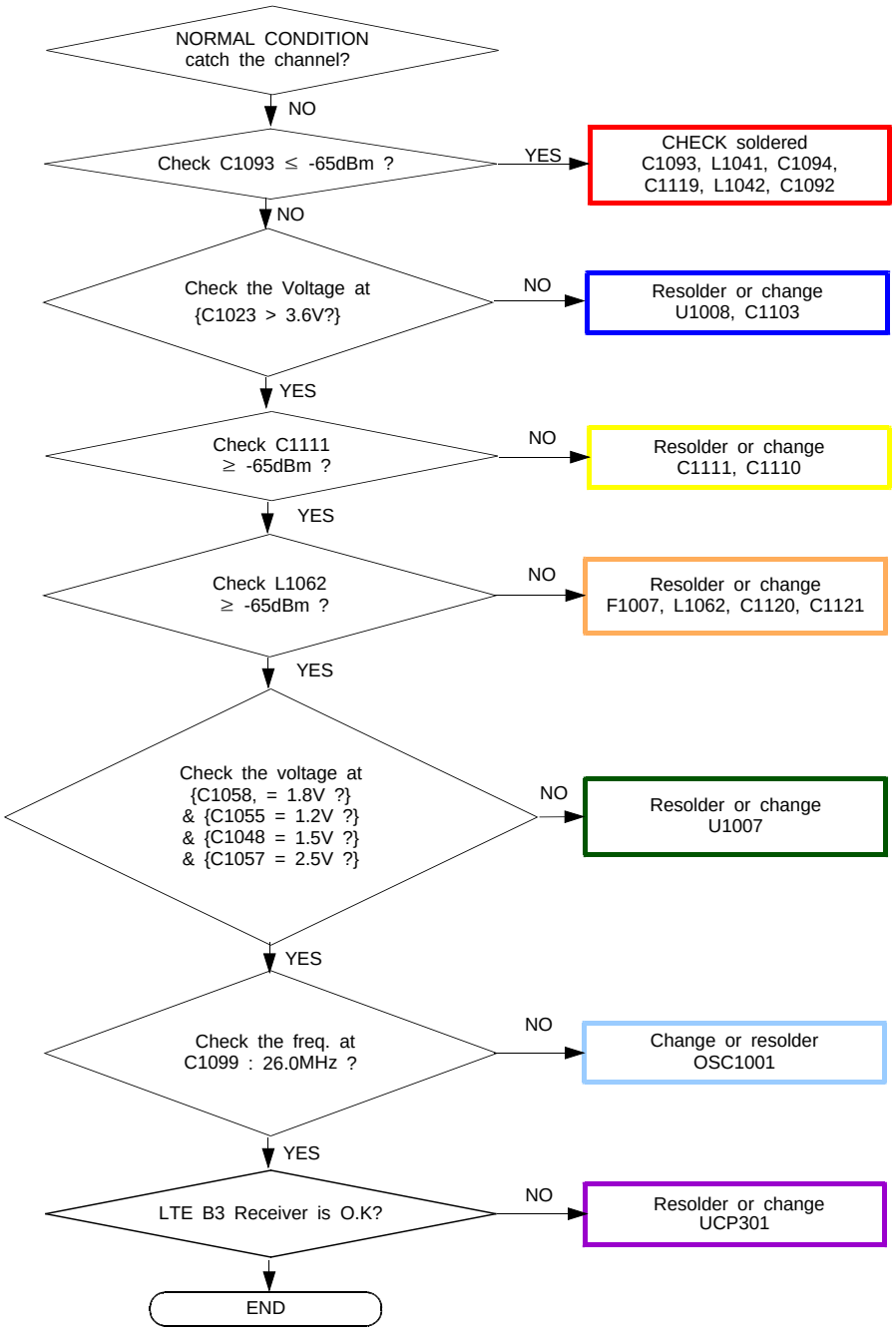
8-3-24. LTE Band3 DRX

CONTINUOUS RX ON
RF INPUT : LTE B3: 1575CH
AMP : -50dBm



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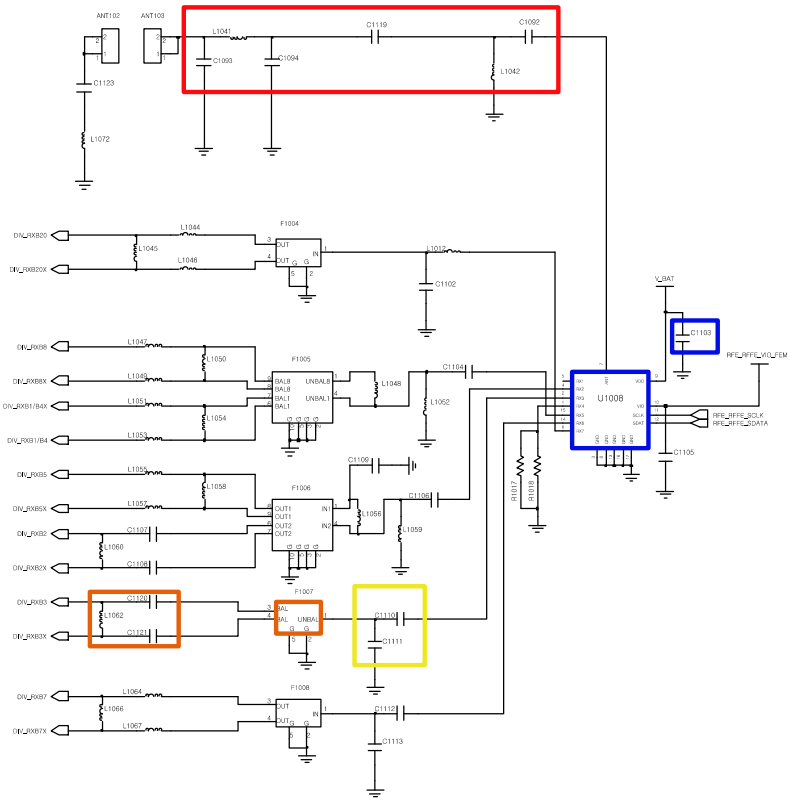

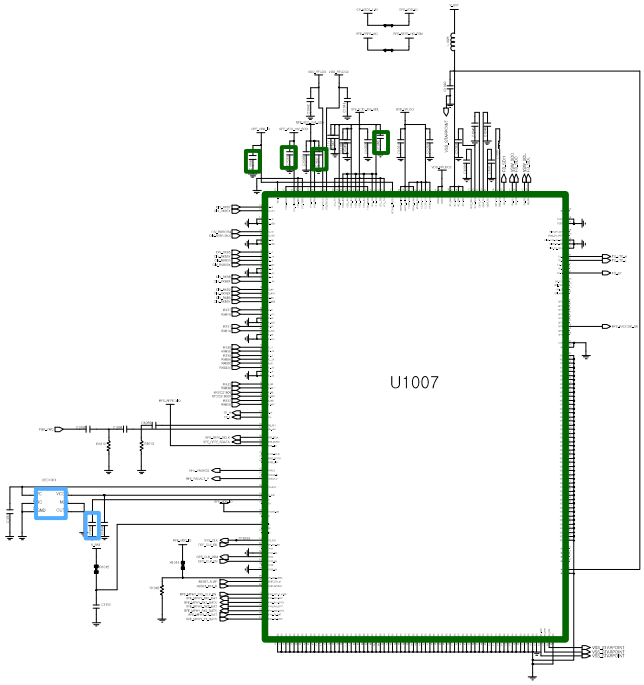

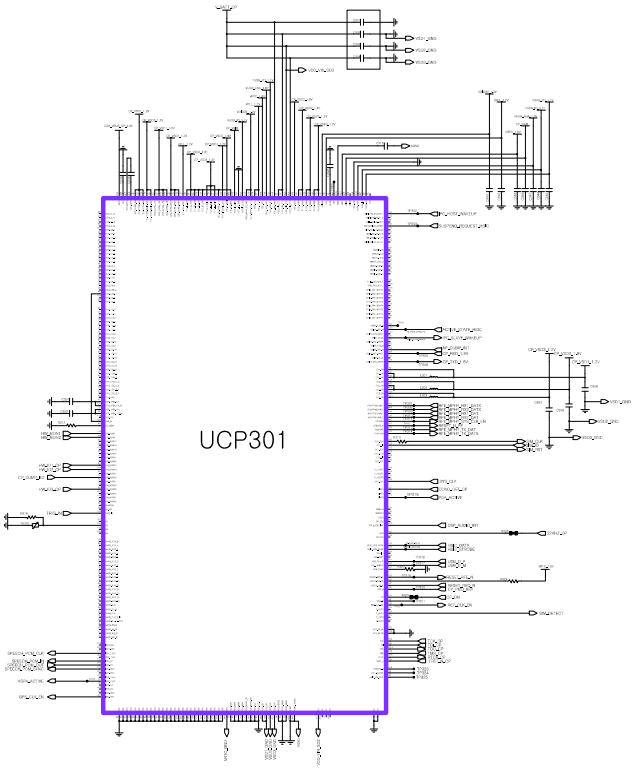

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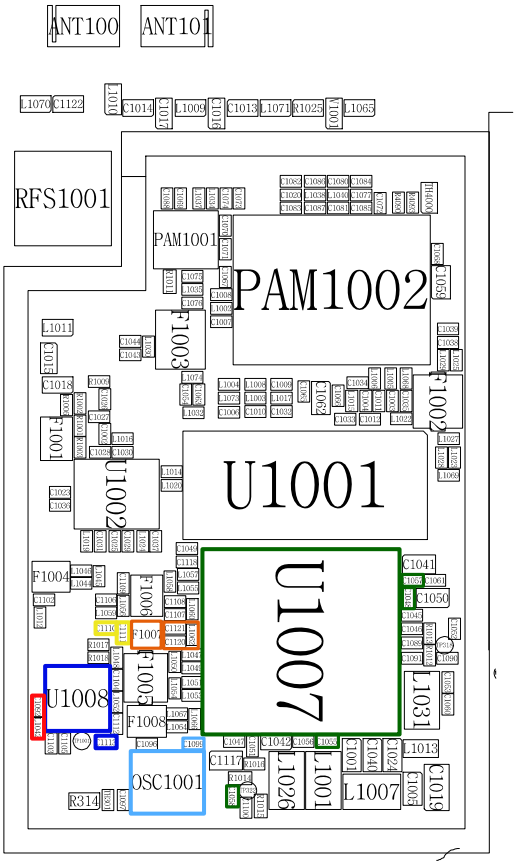

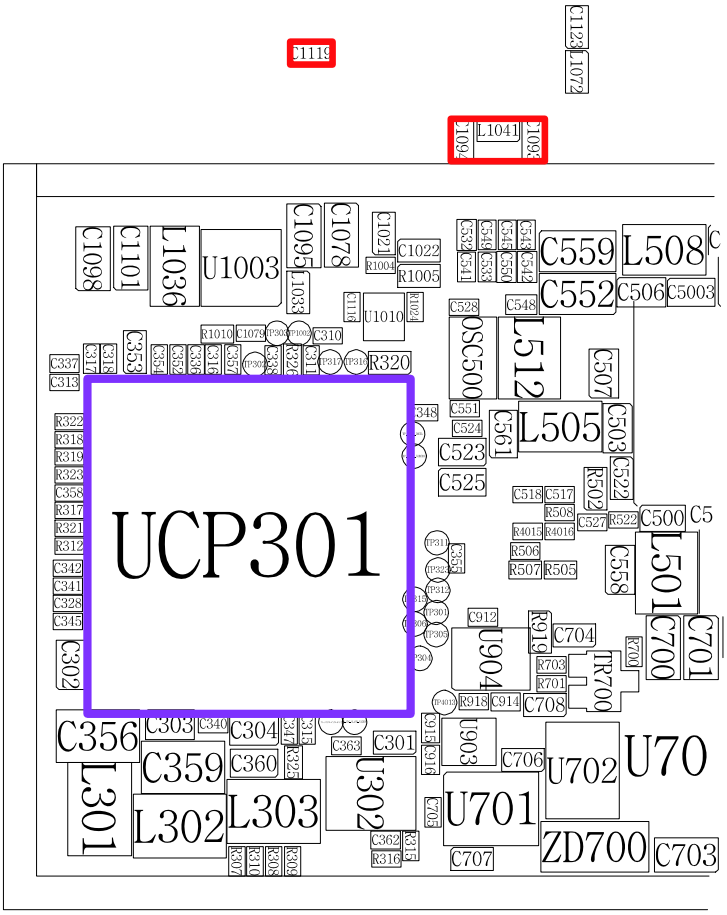

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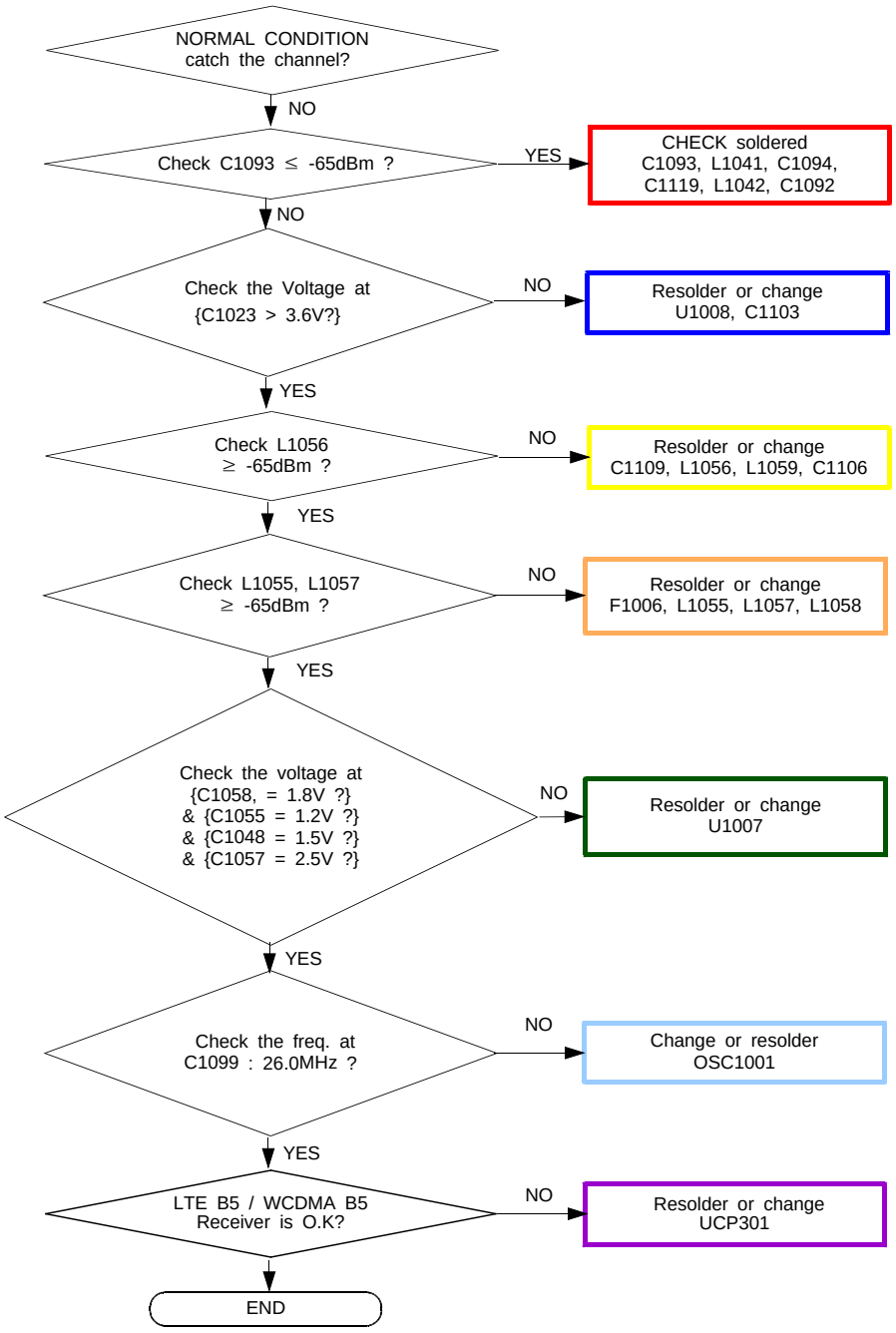
8-3-24. LTE Band5 / WCDMA Band5 DRX

CONTINUOUS RX ON
RF INPUT : LTE B5: 2525CH
WCDMA B5: 4408CH
AMP : -50dBm



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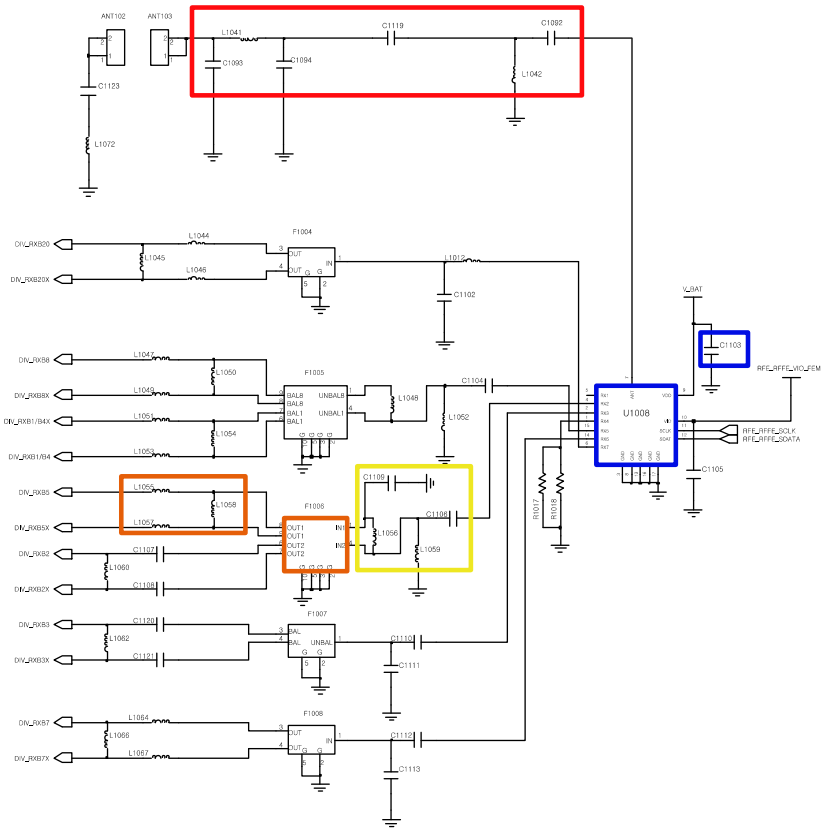

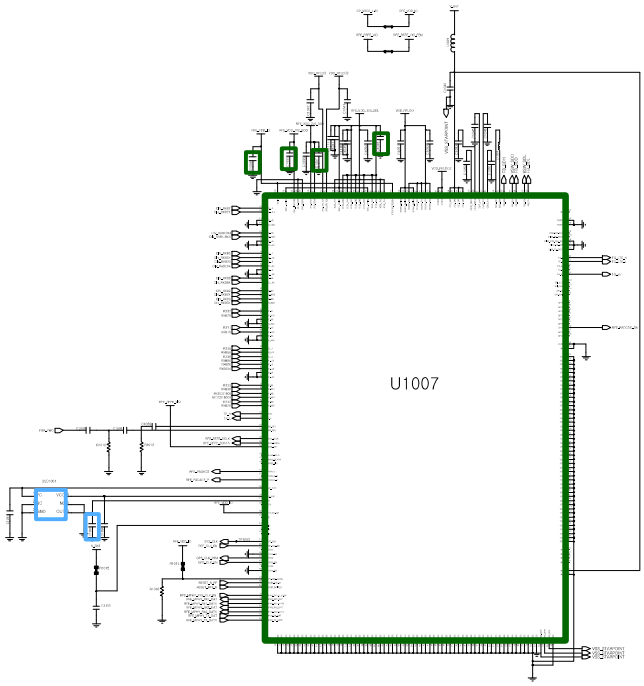

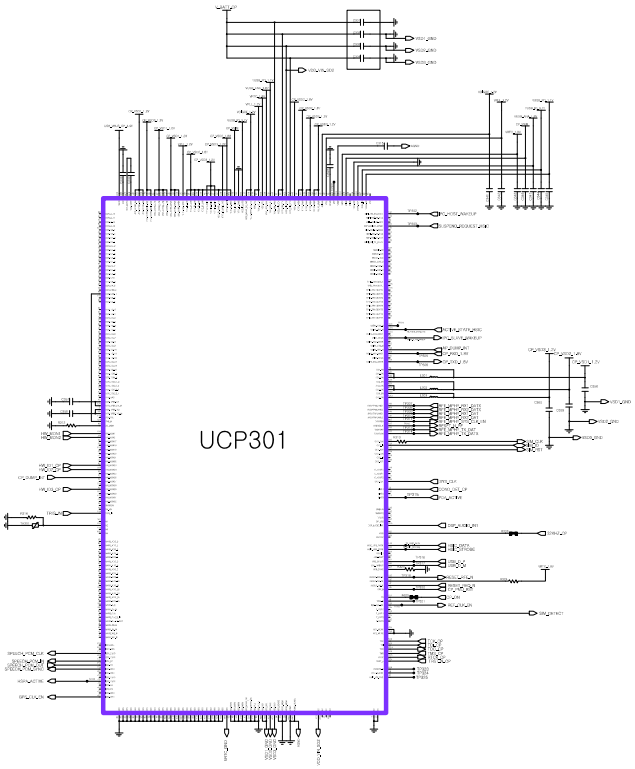

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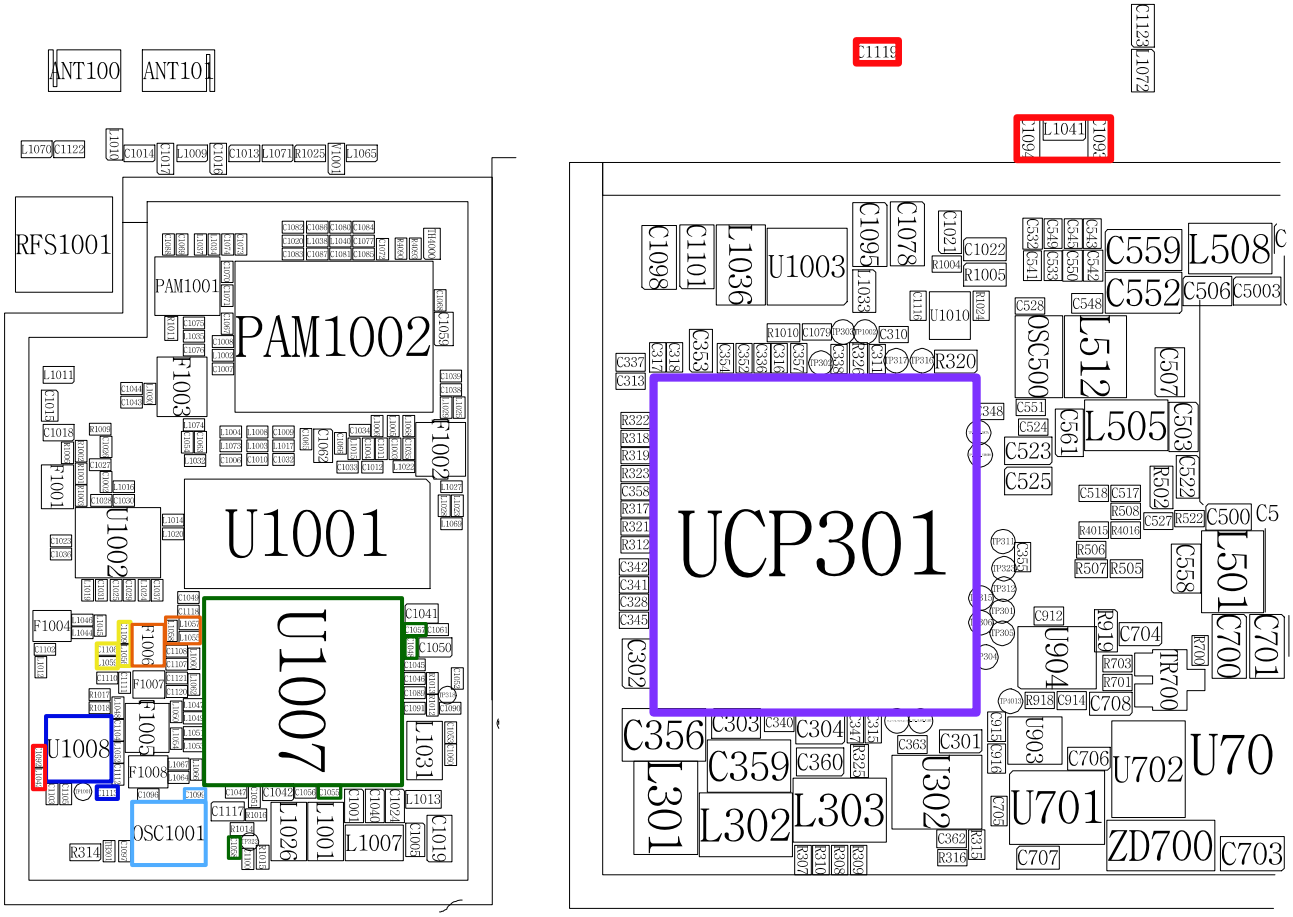

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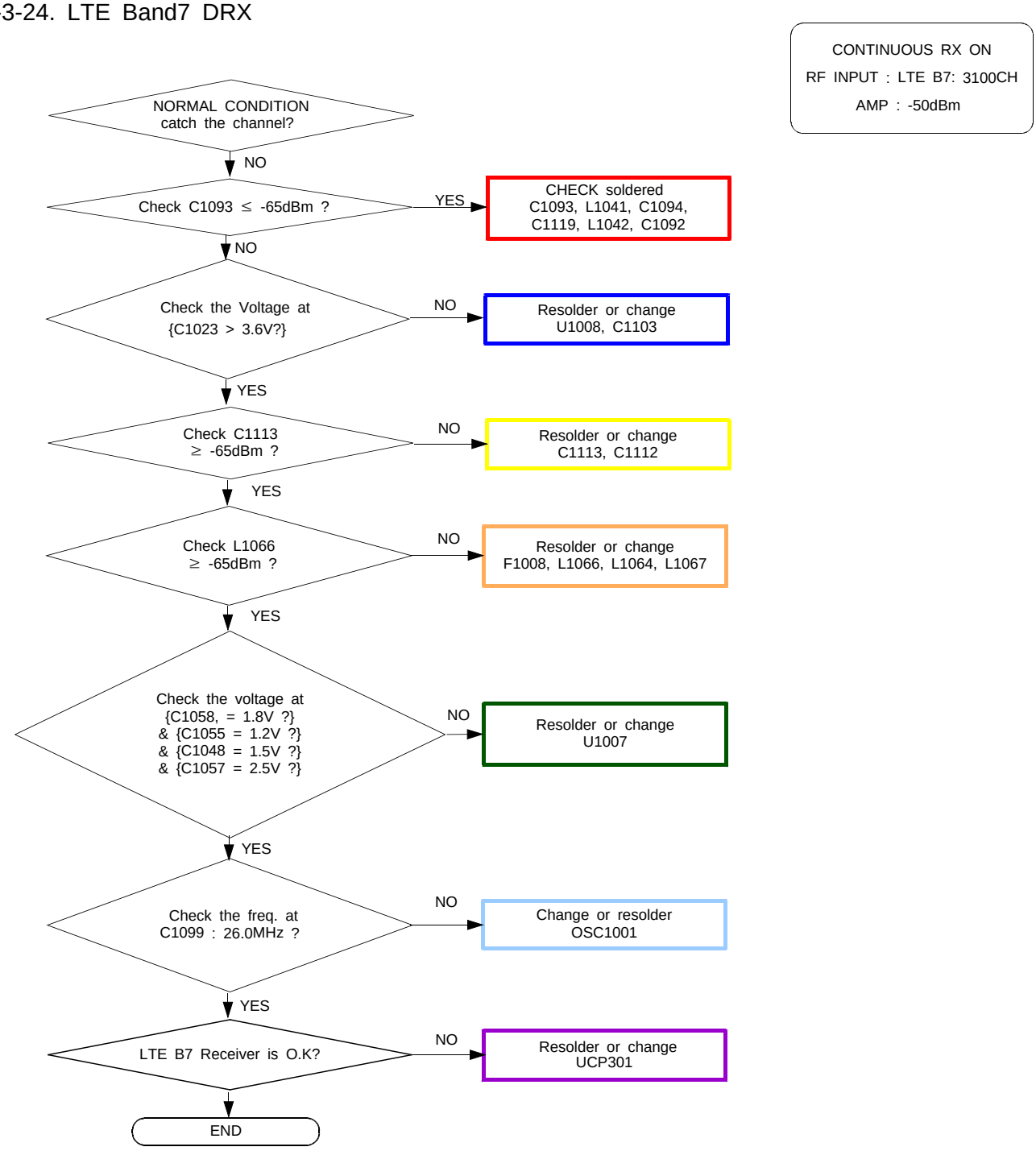
8-3-24. LTE Band7 DRX



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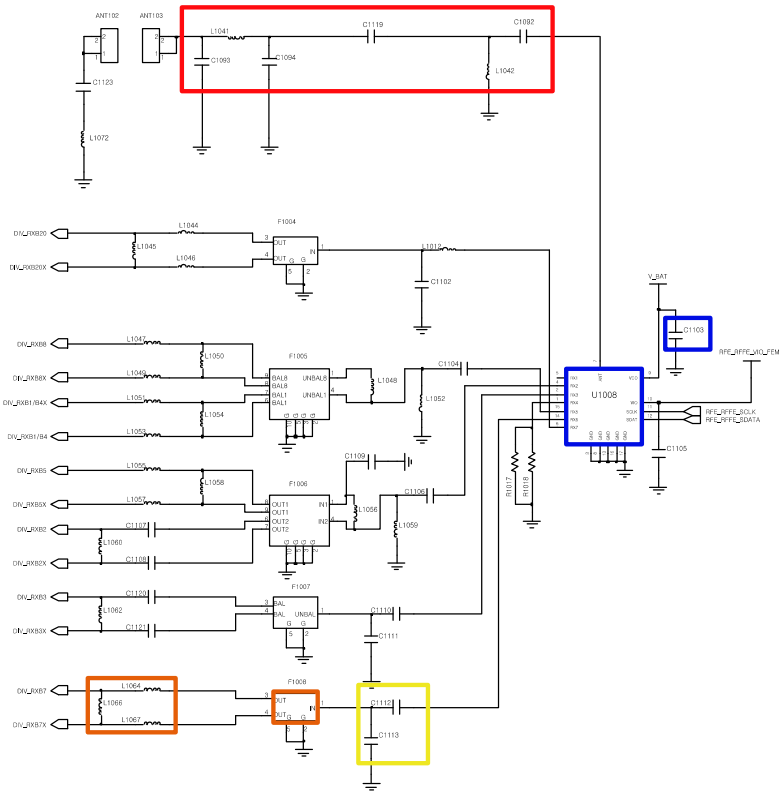

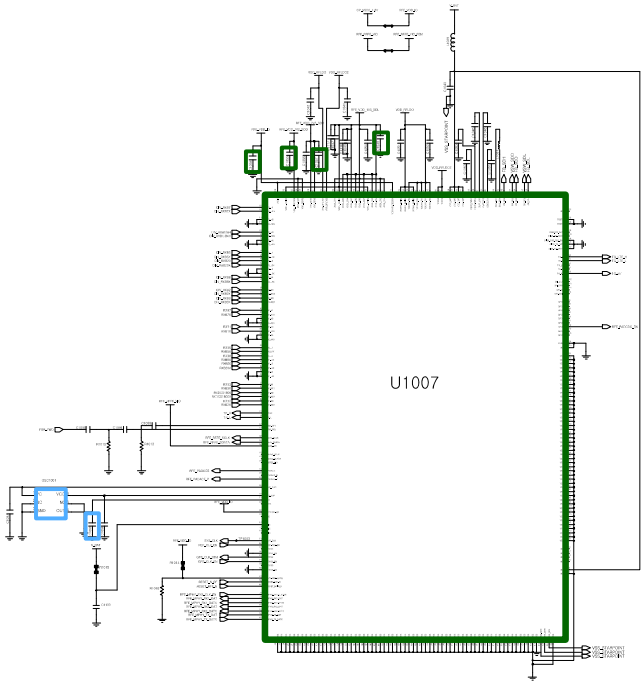

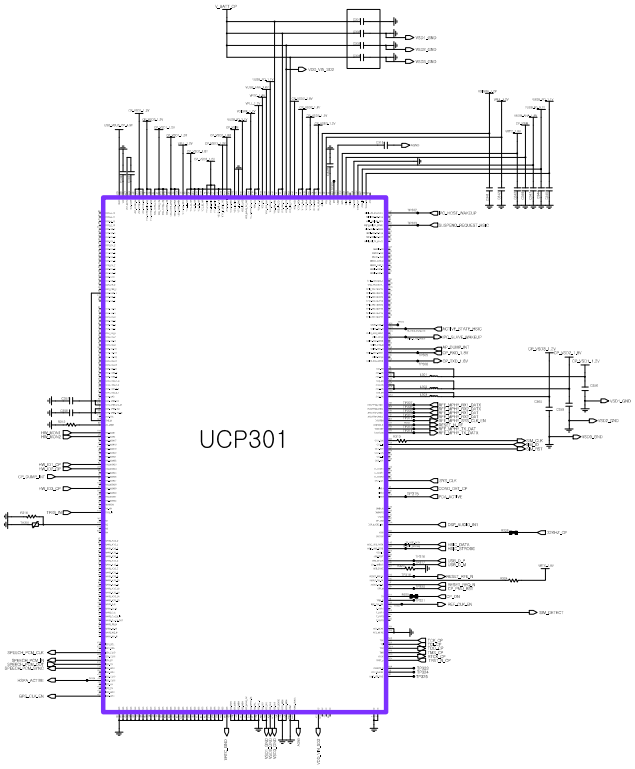

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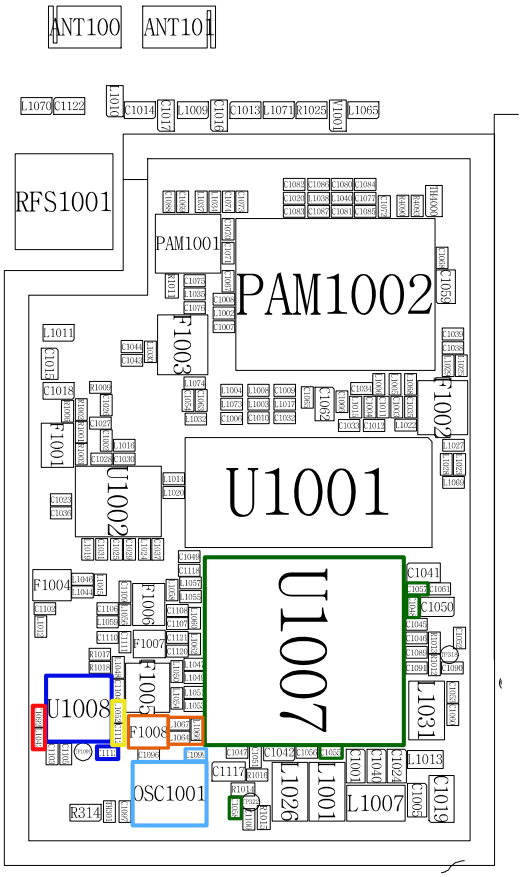

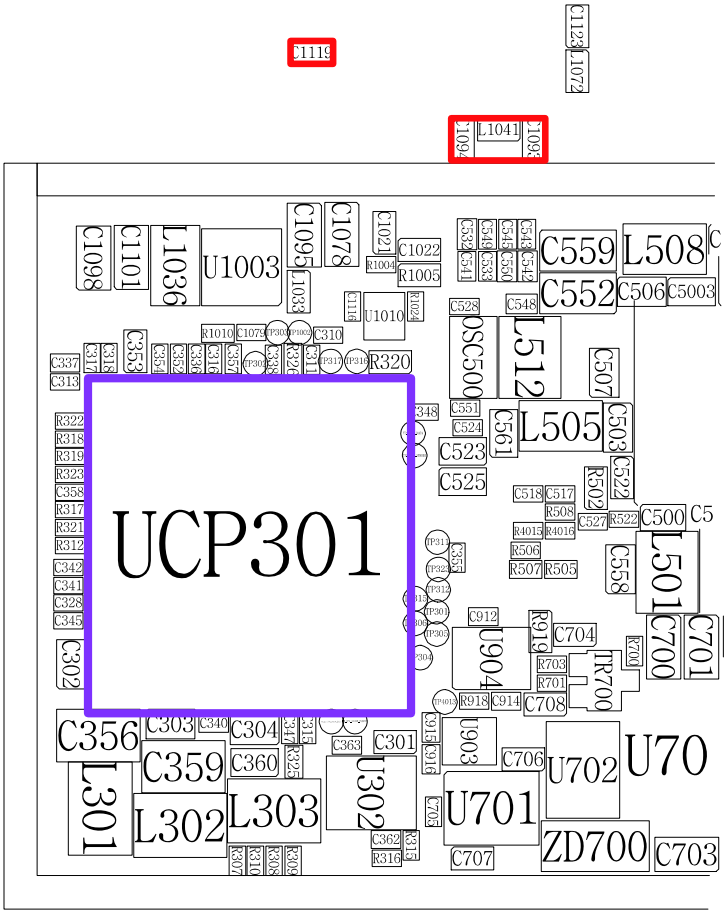

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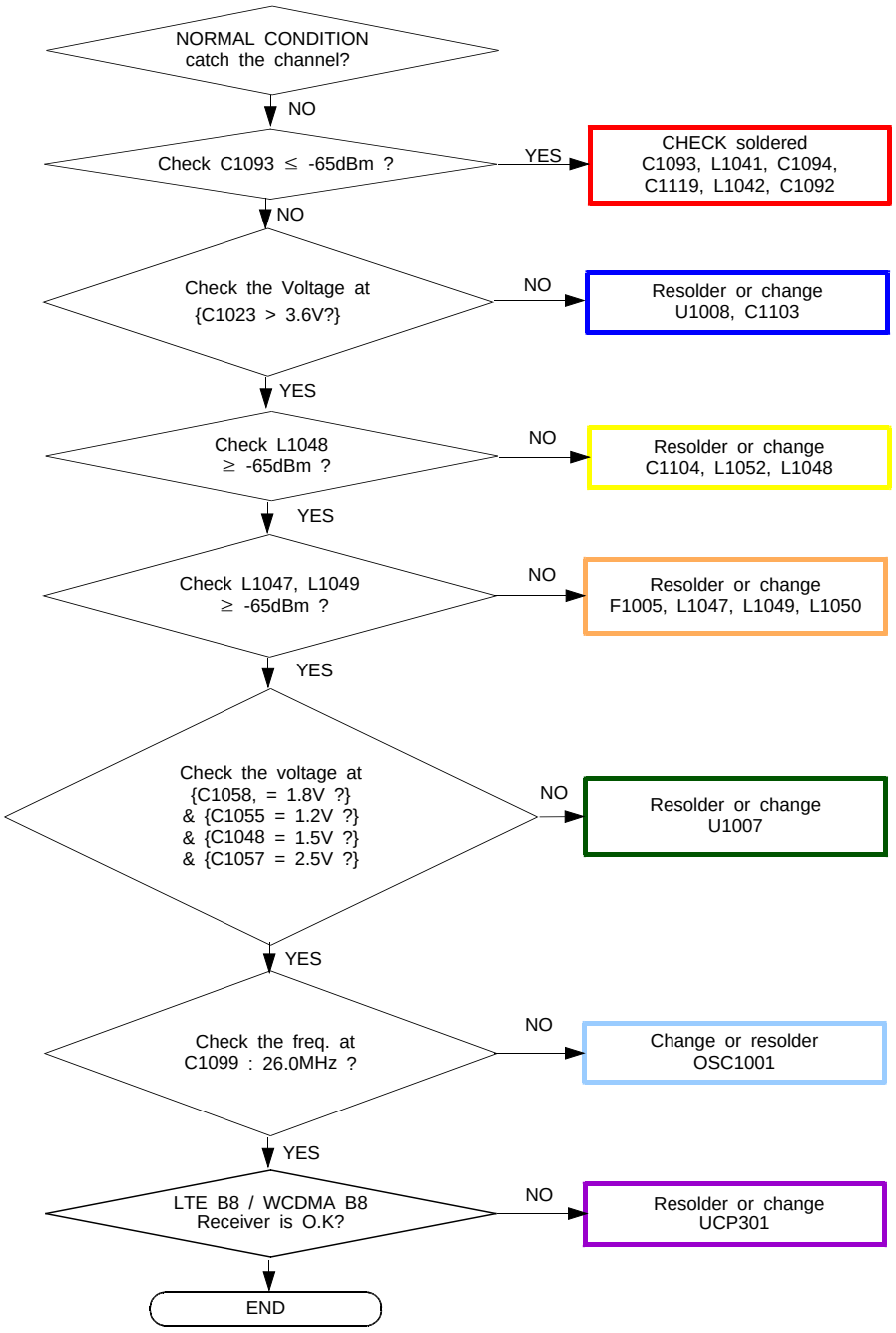
8-3-24. LTE Band8 / WCDMA Band8 DRX

CONTINUOUS RX ON
RF INPUT : LTE B8: 3625CH
WCDMA B8: 3013CH
AMP : -50dBm



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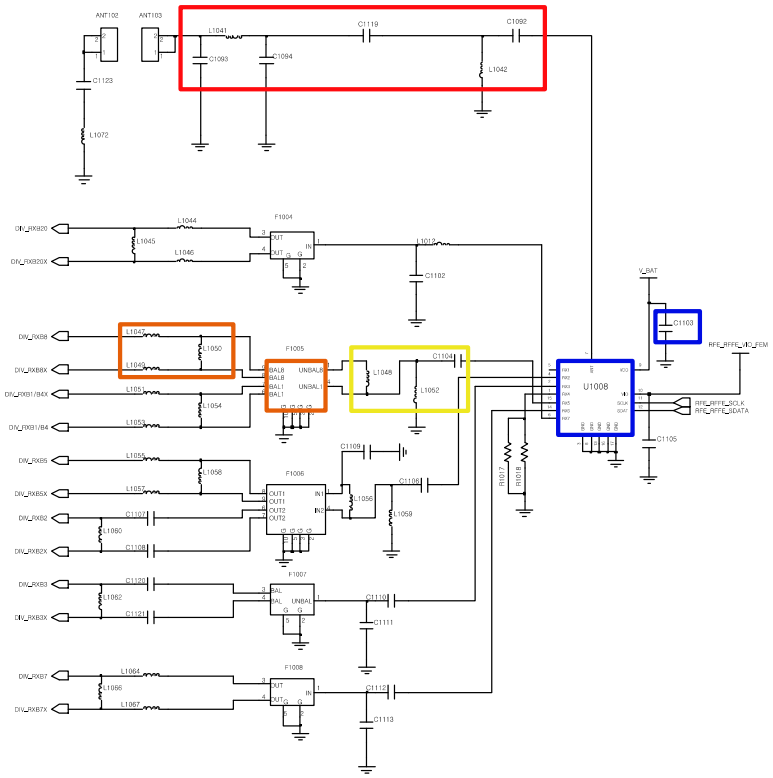

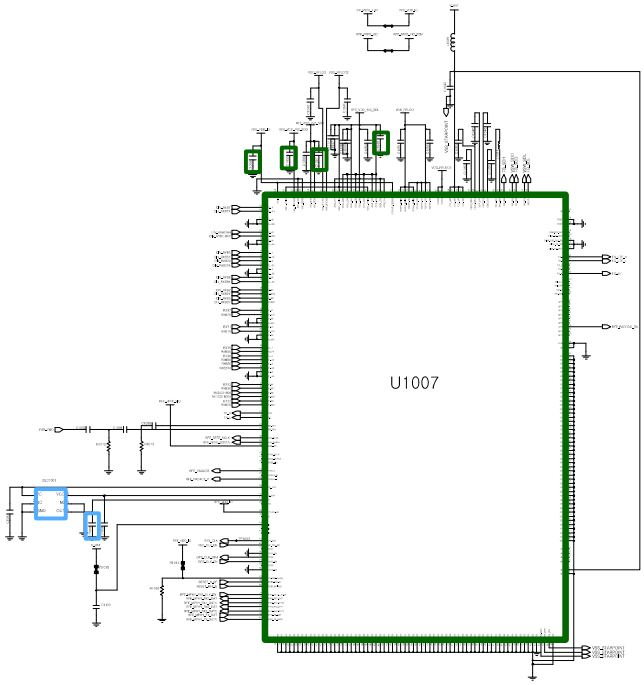

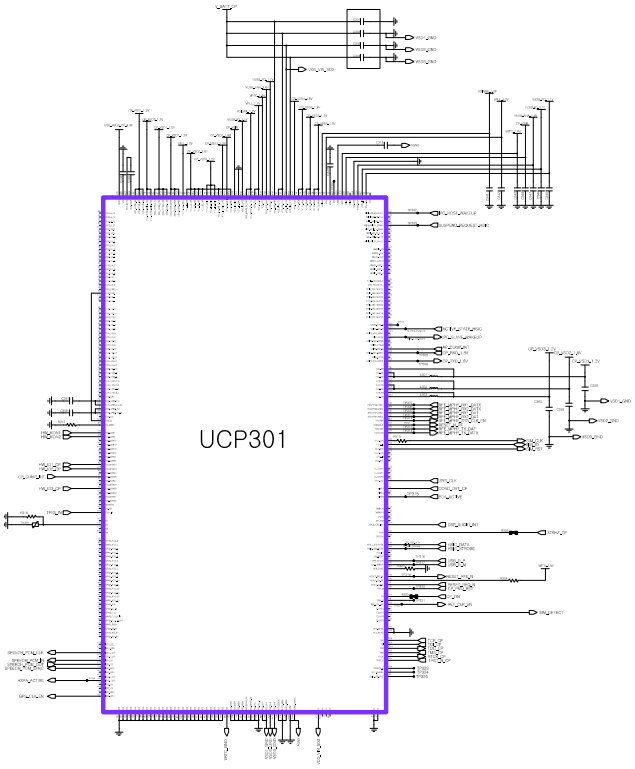

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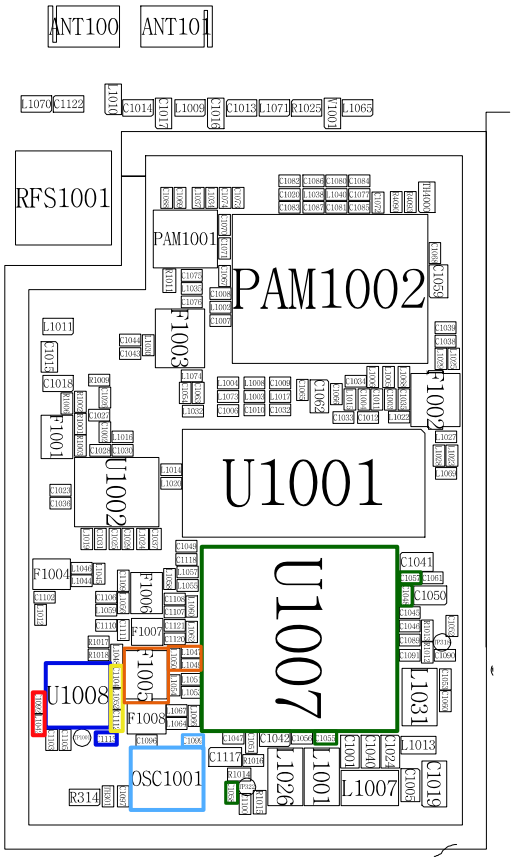

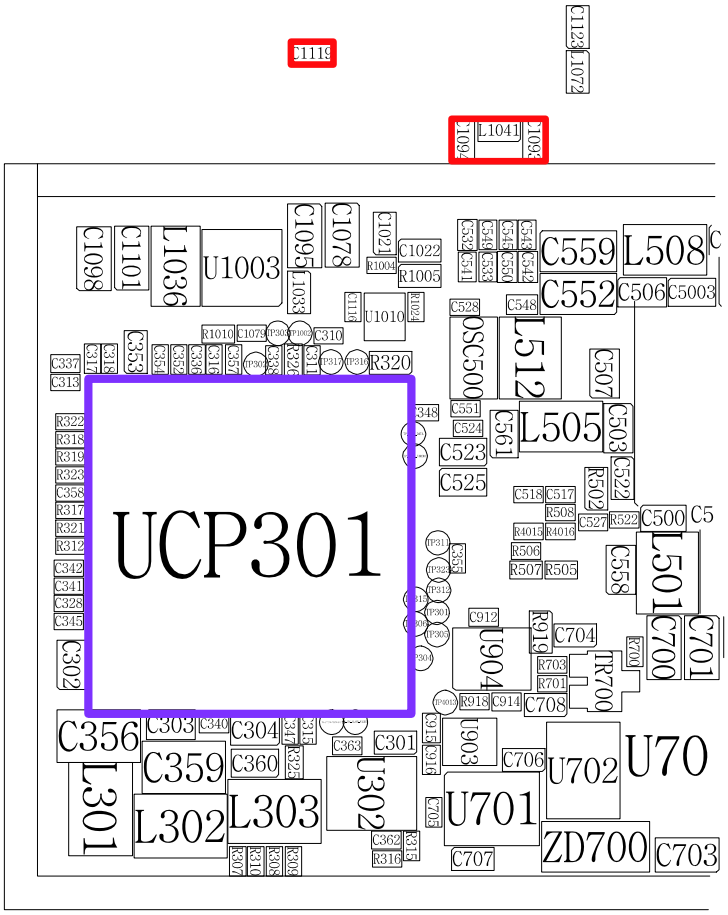

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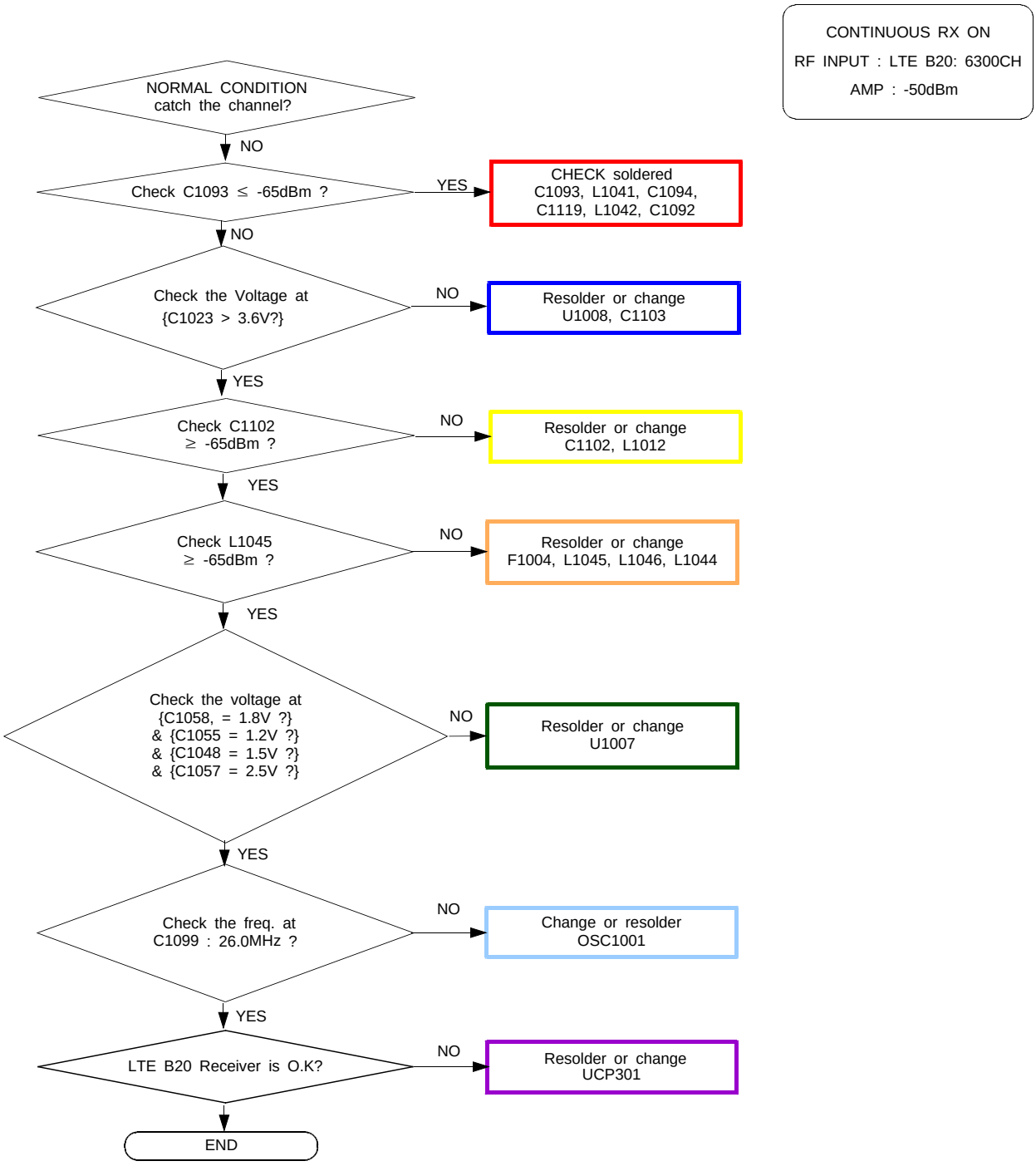
8-3-24. LTE Band20 DRX



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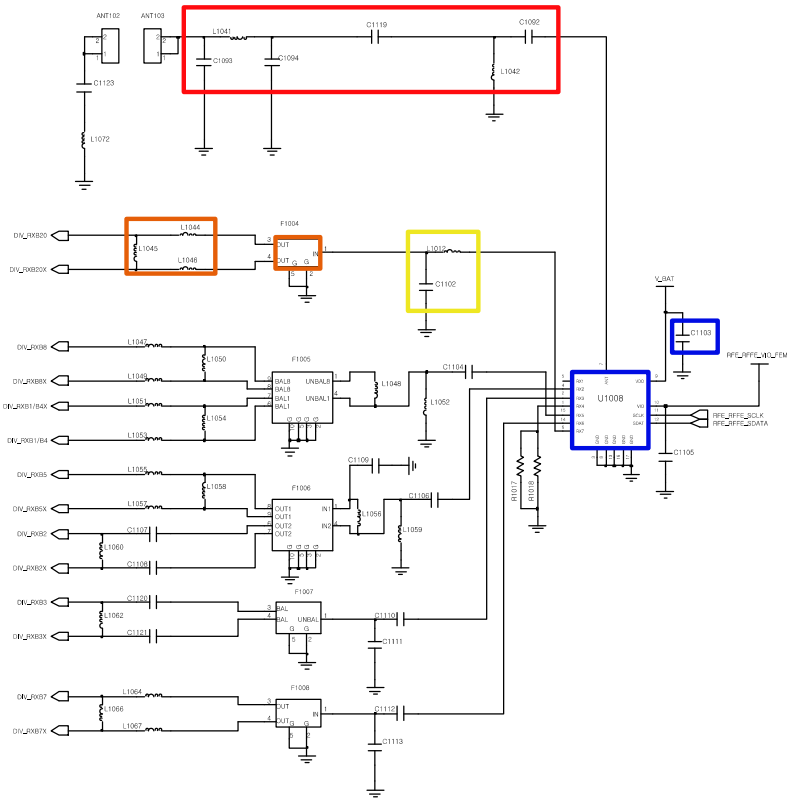

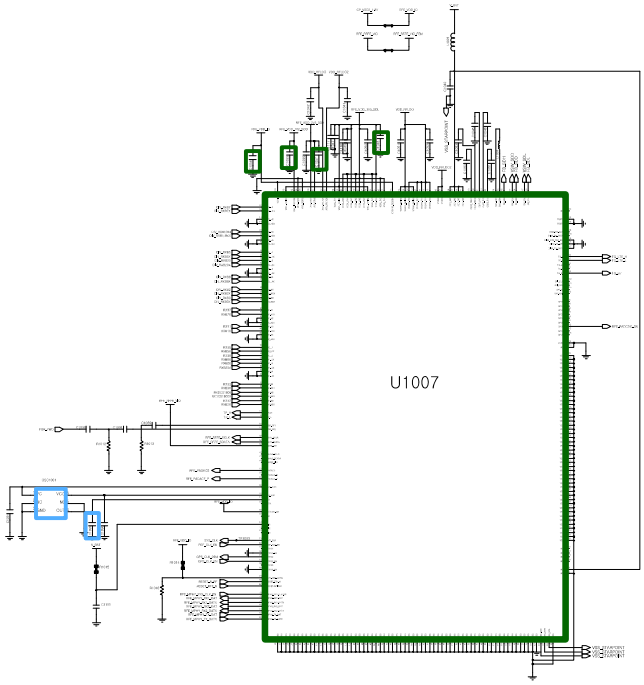

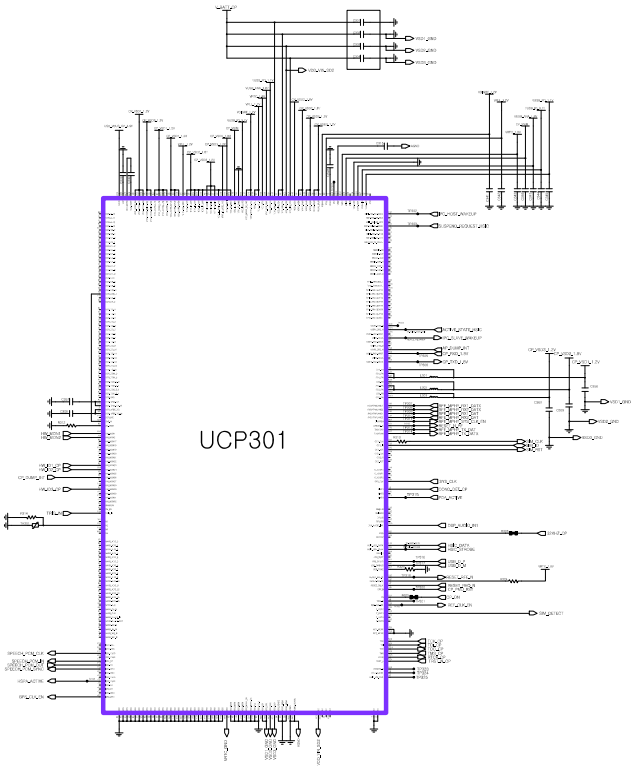

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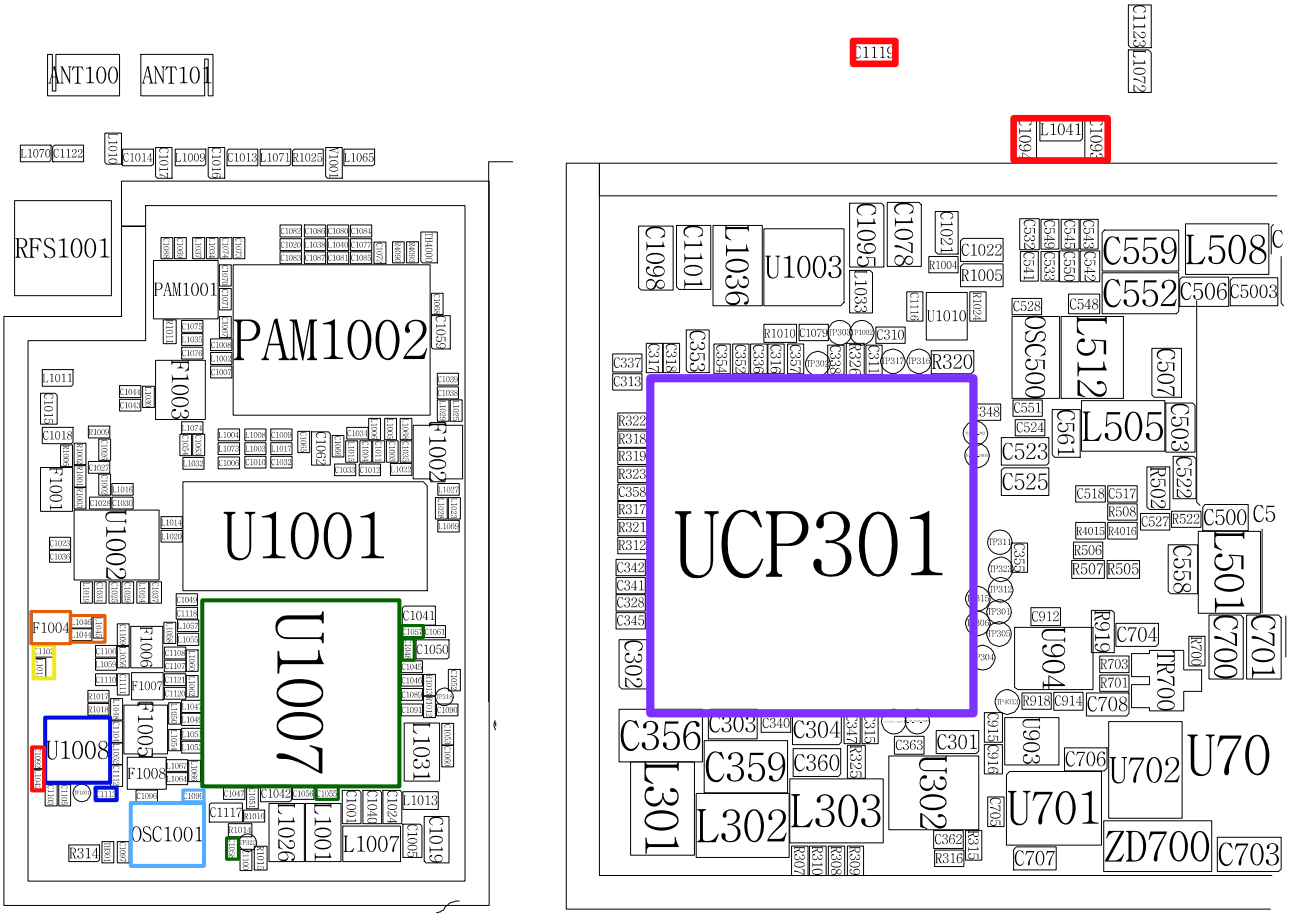

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9. Reference Abbreviate

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- **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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