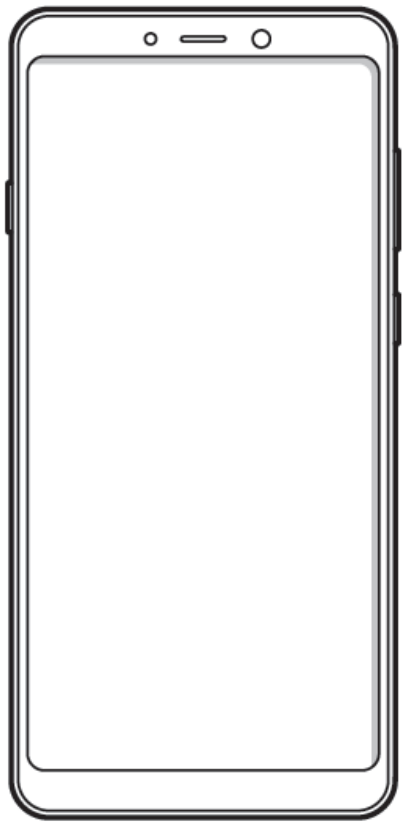
SAMSUNG

Mobile Device

SM-A920F Common

SERVICE Manual

Mobile Device



CONTENTS

1-1. Repair Precaution

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

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

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

Use only conductor wire of the properly gauge and insulation for low resistance, because of the low margin of error of most testing equipment.
We recommend 22-gauge twisted copper wire.

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

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

1-2. ESD(Electrostatically Sensitive Devices) Precaution

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

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

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

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

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

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

2-1. GSM General Specification

Item		GSM 850	EGSM 900	DCS1800	PCS1900
Freq. Band[MHz] Uplink/Downlink		824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range		128~251	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing		45MHz	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period		270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period/ Frame Period		576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	GSM/ EGPRS	GMSK/ 8PSK	GMSK/ 8PSK	GMSK/ 8PSK	GMSK/ 8PSK
MS Power		32.8dBm~5dBm	33dBm~5dBm	29.5dBm~0dBm	29.8dBm~0dBm
Power Class		4(GMSK) E2(8PSK)	4(GMSK) E2(8PSK)	1(GMSK) E2(8PSK)	1(GMSK) E2(8PSK)
Sensitivity		-109.5dBm	-109.5dBm	-108.5dBm	-108dBm
TDMA Mux		8	8	8	8

2-2. GSM Tx Power Class

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

2-3. WCDMA General Specification

Item	WCDMA2100(B1)	WCDMA1900(B2)	WCDMA1700(B4)	WCDMA850(B5)	WCDMA900(B8)
Freq. Band[MHz] Uplink/Downlink	1920~1980 2110~2170	1850~1910 1930~1990	1710~1755 2110~2155	824~849 869~894	880~915 925~960
ARFCN range	UL：9612~9888 DL：10562~10838	UL：9262~9538 DL：9662~9938	UL：1312~1513 DL：1537~1738	UL：4132~4233 DL：4357~4458	UL：2712~2868 DL：2937~3088
Tx/Rx spacing	190MHz	80MHz	400MHz	45MHz	45MHz
Mod. Bit rate/ Bit Period	42.2Mbps(DL) 5.42Mbps(UL)	42.2Mbps(DL) 5.42Mbps(UL)	42.2Mbps(DL) 5.42Mbps(UL)	42.2Mbps(DL) 5.42Mbps(UL)	42.2Mbps(DL) 5.42Mbps(UL)
Time Slot Period/ Frame Period	WCDMA 10ms/0.667ms HSPA 2ms/0.667ms	WCDMA 10ms/0.667ms HSPA 2ms/0.667ms	WCDMA 10ms/0.667ms HSPA 2ms/0.667ms	WCDMA 10ms/0.667ms HSPA 2ms/0.667ms	WCDMA 10ms/0.667ms HSPA 2ms/0.667ms
Modulation	QPSK 16QAM 64QAM	QPSK 16QAM 64QAM	QPSK 16QAM 64QAM	QPSK 16QAM 64QAM	QPSK 16QAM 64QAM
MS Power (dBm)	23.5 ~ -49(↓)	22.5 ~ -49(↓)	22.5 ~ -49(↓)	23 ~ -49(↓)	22.5 ~ -49(↓)
Power Class	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)
Sensitivity	-111.0dBm	-110dBm	-110dBm	-111.5dBm	-111.5dBm

2-4. LTE General Specification

Item	LTE Band1	LTE Band2	LTE Band3	LTE Band4	LTE Band5
Freq. Band[MHz] Uplink/Downlink	1920~1980 2110~2170	1850~1910 1930~1990	1710~1785 1805~1880	1710~1755 2110~2155	824~849 869~894
ARFCN range	UL:18000~18599 DL:0~599	UL:18600~19199 DL:600~1199	UL:19200~19949 DL:1200~1949	UL:19950~20399 DL:1950~2399	UL:20400~20649 DL:2400~2649
Tx/Rx spacing (MHz)	190	80	95	400	45
Channel Bandwidth (MHz)	5/10/15/20	1.4/3/5/10/15/20	1.4/3/5/10/15/20	1.4/3/5/10/15/20	1.4/3/5/10
Modulation	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity (QPSK, BW 10MHz) (dBm)	-100	-98.5	-99	-99	-100

Item	LTE Band7	LTE Band8	LTE Band12	LTE Band13
Freq. Band[MHz] Uplink/Downlink	2500~2570 2620~2690	880~915 925~960	699~716 729~746	777~787 746~756
ARFCN range	UL:20750~21449 DL:2750~3449	UL:21450-21799 DL:3450-3799	UL:23010~23179 DL:5010~5179	UL:23180~23179 DL:5180~5279
Tx/Rx spacing (MHz)	120	45	30	-31
Channel Bandwidth (MHz)	5/10/15/20	1.4/3/5/10	1.4/3/5/10	5/10
Modulation	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity (QPSK, BW 10MHz) (dBm)	-99	-100	-99	-99

2. Specification

Item	LTE Band17	LTE Band20	LTE Band26	LTE Band28
Freq. Band[MHz] Uplink/Downlink	704~716 734~746	832~862 791~821	814~849 859~894	703~748 758~803
ARFCN range	UL:23730~23849 DL:5730~5849	UL:24150~24449 DL:6150~6449	UL:26690~27039 DL:8690~9039	UL:27210~27659 DL:9210~9659
Tx/Rx spacing (MHz)	30	-41	45	55
Channel Bandwidth (MHz)	5/10	5/10/15/20	1.4/3/5/10/15	3/5/10/15/20
Modulation	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity (QPSK, BW 10MHz) (dBm))	-99	-100	-99	-98.5

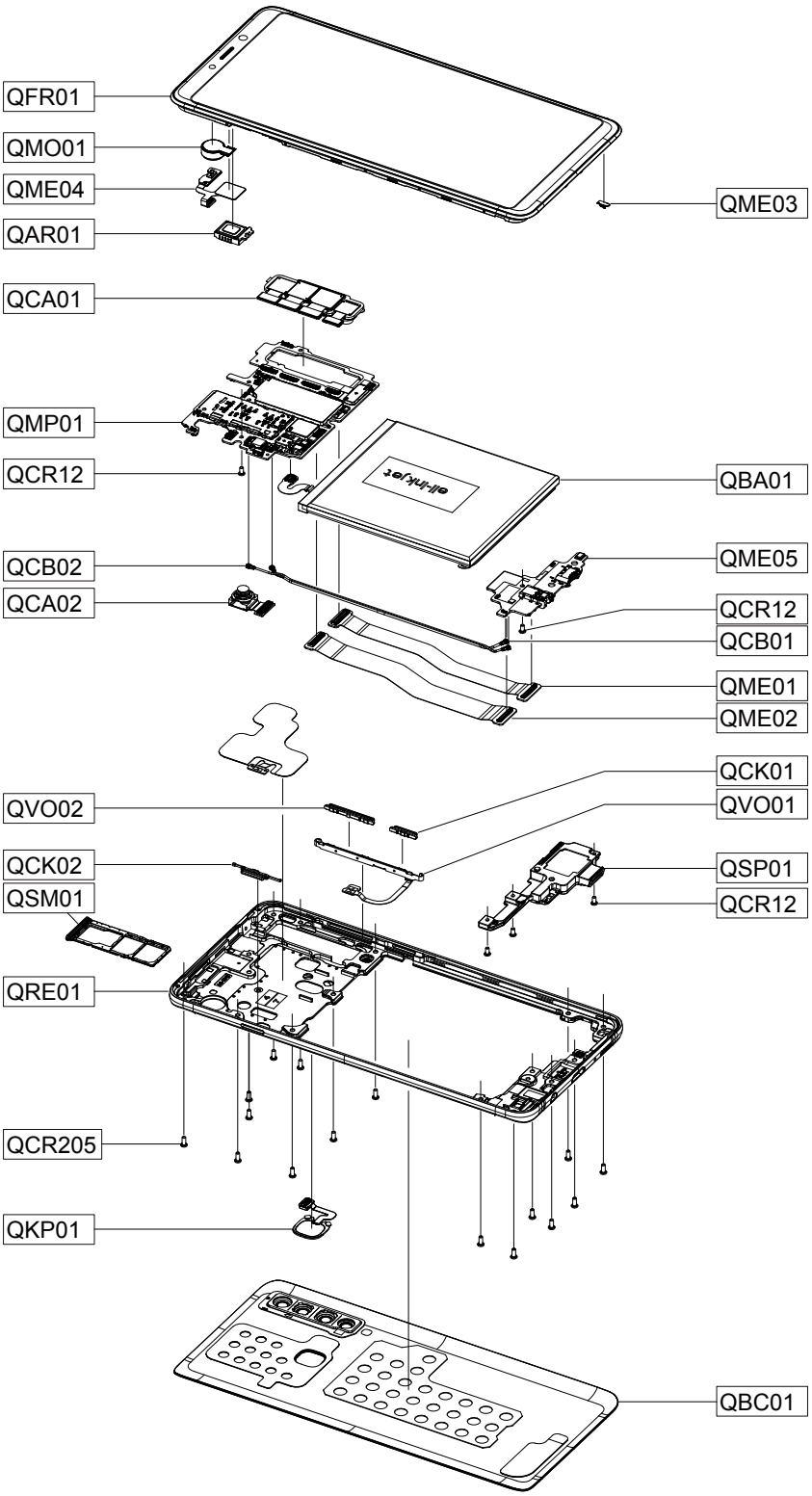
Item	LTE Band38	LTE Band40	LTE Band41	LTE Band66
Freq. Band[MHz] Uplink/Downlink	2570~2620	2300~2400	2496~2690	1710~1780 2111~2200
ARFCN range	UL/DL:37750 ~ 38249	UL/DL:38650 ~ 39649	UL/DL:39650 ~ 41589	UL: 131972~132671 DL: 66436~67335
Tx/Rx spacing (MHz)	0	0	0	400
Channel Bandwidth (MHz)	5/10/15/20	5/10/15/20	5/10/15/20	1.4/3/5/10/15/20
Modulation	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity (QPSK, BW 10MHz) (dBm)	-98	-98	-98	-98

Main Function

Item	Description
OS	Android V8.0
RF	GSM850 / GSM900 / DCS1800 / PCS1900 WCDMA: B1/ B2/ B4/ B5/ B8 LTE: B1/ B2/ B3/ B4/ B5/ B7/ B8/ B12/ B13/ B17/ B20/ B26/ B28/ B38/ B40/ B41/ B66
Battery	3720mAh
Base Band	2.2Ghz Quad + 1.8GHz Quad
Other RF	A-GPS, Glonass, BEIDOU, Galileo, BT5.0, USB 2.0 Type-C, WIFI 802.11 a/b/g/n/ac MIMO,NFC,
Camera	QUAD Camera (24MP F1.7+5M F2.2+10M F2.4+8MP F2.4) with LED Flash, 24MP F2.0 (Front)
LCD	6.3", Super AMOLED FHD+, 2220x1080
RAM	6GB
Sensor	Accelerometer, Fingerprint Sensor, Gyro Sensor, Geomagnetic Sensor, Proximity Sensor, RGB Light Sensor
Accessory	Charger: 5V/2A (AFC: 9V/1.67A) Data cable: 3.2pi, 0.8m(Type C/ USB-A) Ear phone: 3.5pi, 4pin

4. Exploded View and Parts List

4-1. Cellular phone Exploded View



※ SVC REPAIR TAPE
QRT01, QRT02

5. MAIN Electrical Parts List

Parts Code	Design LOC	Description
0401-001110	D8000	DIODE-SWITCHING
0404-001250	D5000,D6001	DIODE-SCHOTTKY
0406-001561	ZD6004,ZD6006,ZD6007	DIODE-TVS
0406-001561	ZD8002,ZD8004	DIODE-TVS
0406-001592	ZD3002,ZD3003,ZD3004	DIODE-TVS
0406-001592	ZD3005,ZD3006,ZD3007	DIODE-TVS
0406-001592	ZD3009,ZD3012	DIODE-TVS
0406-001728	ZD5000	DIODE-TVS
0406-001743	C3053,ZD6020	DIODE-TVS
0406-001763	D6007	DIODE-TVS
0406-001776	ZD6000,ZD6001,ZD6018	DIODE-TVS
0406-001776	ZD6019,ZD6021	DIODE-TVS
0406-001787	D6003,D6004	DIODE-TVS
0406-001789	ZD6005	DIODE-TVS
0406-001797	ZD6028,ZD6029	DIODE-TVS
0406-001808	D6000	DIODE-TVS
0406-001829	ZD4000	DIODE-TVS
0505-002088	TR5001,TR5002	FET-SILICON
0505-003234	TR5000	FET-SILICON
0601-003629	LED5000	LED
1001-001835	U3003,U3004	IC
1001-001844	U1009	IC
1001-001911	U2027	IC
1001-001968	U8003	IC
1001-001970	U1005,U2004	IC
1001-001974	U1001	IC
1001-001975	U2025	IC
1001-001994	U2000	IC
1003-002911	U5006	IC
1108-000660	UME6000	IC
1201-003869	U3009	IC
1201-003976	U1000,U1006	IC
1201-003984	U2032,U2033	IC
1201-004109	PAM2000	IC
1201-004135	U1004	IC
1201-004156	U8014	IC
1203-008249	U3000	IC
1203-008251	U5004	IC

5. MAIN Electrical Parts List

1203-008379	U2003	IC
1203-008603	U3017	IC
1203-008704	U7003	IC
1203-008797	U6002	IC
1203-008819	U5002	IC
1203-008859	U7011,U7015	IC
1203-008865	U7004,U7008,U7009	IC
1203-008865	U7013,U7014	IC
1203-008867	U8008	IC
1203-008955	U7006	IC
1203-008998	U6000	IC
1203-009012	U5003	IC
1203-009014	U5005	IC
1203-009158	U7000,U7001	IC
1203-009169	U8000	IC
1204-003685	U8010	IC
1205-005106	U6001	IC
1205-005217	U7002,U7073	IC
1205-005821	U3002	IC
1205-005830	UCP4000	IC
1205-005833	U2029	IC
1205-005979	U3021	IC
1205-006037	U4000	IC
1209-002450	U3010	IC
1209-002513	U3020	IC
1404-001724	TH2000,TH4000,TH5000	THERMISTOR
1404-001724	THM3000	THERMISTOR
1405-001395	VR2001	VARISTOR
1405-001398	VR3001,VR3002	VARISTOR
1405-001403	V2000	VARISTOR
1405-001412	VR1007	VARISTOR
1405-001415	VR2000	VARISTOR
1405-001428	VR6010,VR6015	VARISTOR
1405-001434	VR2002	VARISTOR
1405-001458	V3000	VARISTOR
2007-003015	R6014,R6016	R-CHIP
2007-007014	R3010	R-CHIP
2007-007142	R6060,R7003,R7016	R-CHIP
2007-007190	R6005,R6006	R-CHIP

2007-007308	R5029	R-CHIP
2007-007741	R3000,R3002,R4032	R-CHIP
2007-007741	R4034,R4042,R4046	R-CHIP
2007-007741	R5040,R5047,R5054	R-CHIP
2007-007741	R6015,R6023,R6026	R-CHIP
2007-007741	R6051	R-CHIP
2007-008056	R1008,R1009	R-CHIP
2007-008211	R7012	R-CHIP
2007-008263	R4007	R-CHIP
2007-008298	R3006	R-CHIP
2007-008403	R8011	R-CHIP
2007-008420	R3011,R7002	R-CHIP
2007-008516	R6013	R-CHIP
2007-008531	R5005,R7001,R7008	R-CHIP
2007-008531	R7011,R7015,R8003	R-CHIP
2007-008588	C3084,C3085,R4001	R-CHIP
2007-008588	R4002,R4003,R4008	R-CHIP
2007-008588	R4009,R4010,R4011	R-CHIP
2007-008588	R4013,R4014,R4015	R-CHIP
2007-008588	R4016,R4017,R4021	R-CHIP
2007-008588	R4022,R4023,R4024	R-CHIP
2007-008588	R4025,R4026,R4028	R-CHIP
2007-008588	R4029,R4030,R4031	R-CHIP
2007-008766	R4005,R4006	R-CHIP
2007-008785	R1007	R-CHIP
2007-008800	R6025	R-CHIP
2007-009111	R3001	R-CHIP
2007-009155	R5009,R5020,R8006	R-CHIP
2007-009157	R5019,R5022,R5026	R-CHIP
2007-009157	R5038,R6019,R8007	R-CHIP
2007-009158	R5003	R-CHIP
2007-009201	R4019,R4020,R8021	R-CHIP
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2007-009212	R4045,R4047,R5014	R-CHIP
2007-009212	R8000	R-CHIP
2007-009223	R6037	R-CHIP
2007-009315	R5011,R6002,R6056	R-CHIP
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2007-009315	R6064,R6065,R6066	R-CHIP
2007-009352	R4033,R7006	R-CHIP
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2007-009766	R6001,R6007,R7000	R-CHIP
2007-009766	R7014,R8002	R-CHIP
2007-009793	R6018	R-CHIP
2007-009801	R4049,R8023,R8024	R-CHIP
2007-009805	R1000,R1001,R1002	R-CHIP
2007-009805	R1003,R1004,R2001	R-CHIP
2007-009866	R5016,R7013,R7017	R-CHIP
2007-009920	R4050,R5043,R5044	R-CHIP
2007-009920	R6009,R6010	R-CHIP
2007-009954	R5027,R5028,R5030	R-CHIP
2007-009954	R6011	R-CHIP
2007-009969	R3024,R3025,R4018	R-CHIP
2007-009969	R8001	R-CHIP
2007-010202	R5041	R-CHIP
2007-010233	R4048	R-CHIP
2007-010685	R6000	R-CHIP
2007-011043	R4027	R-CHIP
2007-011648	R6047,R6048	R-CHIP
2007-012068	R5049	R-CHIP
2203-000254	C5068,C5074	C-CERAMIC,CHIP
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2203-001072	C3102	C-CERAMIC,CHIP
2203-001239	C3062,C3063	C-CERAMIC,CHIP
2203-005344	C5014	C-CERAMIC,CHIP
2203-005682	C1023,C2030,C2031	C-CERAMIC,CHIP
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2203-005682	L1001,L1020,L1029	C-CERAMIC,CHIP
2203-005682	L1040,L1046,L1049	C-CERAMIC,CHIP
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2203-005717	C1007,C1027,C1030	C-CERAMIC,CHIP
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2203-005717	C2003,C2011,C2023	C-CERAMIC,CHIP

2203-005717	C2029,C2043,C2055	C-CERAMIC,CHIP
2203-005717	C2076,C2077,C2096	C-CERAMIC,CHIP
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2203-005719	C1118,C2085,C2086	C-CERAMIC,CHIP
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2203-005736	C2053,C2059,C2060	C-CERAMIC,CHIP
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2203-005736	L2005,L2012,L2019	C-CERAMIC,CHIP
2203-005736	L2020,L2023,L2027	C-CERAMIC,CHIP
2203-005736	L2048,L2057,L2058	C-CERAMIC,CHIP
2203-005736	L3016,L3025	C-CERAMIC,CHIP
2203-005777	C1006,C1080,C1086	C-CERAMIC,CHIP
2203-005777	C1090,C1092,C1126	C-CERAMIC,CHIP
2203-005777	C1127,C2036,C2038	C-CERAMIC,CHIP
2203-005777	C2082,C2088,C2095	C-CERAMIC,CHIP
2203-005789	C1031,C2025,C2093	C-CERAMIC,CHIP
2203-005789	C2094,L2061,L2062	C-CERAMIC,CHIP
2203-005792	C1013,C1078,C1094	C-CERAMIC,CHIP
2203-005792	C1101,C1106	C-CERAMIC,CHIP

2203-005806	C2044,C2074,C2081	C-CERAMIC,CHIP
2203-005806	C5017	C-CERAMIC,CHIP
2203-006120	C8134,C8135	C-CERAMIC,CHIP
2203-006121	C6045	C-CERAMIC,CHIP
2203-006123	C1114,C3006	C-CERAMIC,CHIP
2203-006187	C2028,C2033	C-CERAMIC,CHIP
2203-006194	C3028,C3030,C3033	C-CERAMIC,CHIP
2203-006194	C3070,C3071,C3072	C-CERAMIC,CHIP
2203-006194	C3073,C3074,C3075	C-CERAMIC,CHIP
2203-006194	C3076,C3077,C3078	C-CERAMIC,CHIP
2203-006194	C6052	C-CERAMIC,CHIP
2203-006305	C1020,C1077,C3012	C-CERAMIC,CHIP
2203-006305	C7011,C7019,L1035	C-CERAMIC,CHIP
2203-006318	C1089,L1064	C-CERAMIC,CHIP
2203-006400	C2052,C3101,C3103	C-CERAMIC,CHIP
2203-006400	C5054,C6031,C8004	C-CERAMIC,CHIP
2203-006400	C8133	C-CERAMIC,CHIP
2203-006410	C1047,C1093	C-CERAMIC,CHIP
2203-006423	C4082,C6071,C8015	C-CERAMIC,CHIP
2203-006462	C8026,C8027	C-CERAMIC,CHIP
2203-006556	C1065,C1071,C1074	C-CERAMIC,CHIP
2203-006556	C2070	C-CERAMIC,CHIP
2203-006611	C3008,C3010,C6053	C-CERAMIC,CHIP
2203-006648	C4077	C-CERAMIC,CHIP
2203-006707	C3018,L2043	C-CERAMIC,CHIP
2203-006839	C3106,C3109,C4083	C-CERAMIC,CHIP
2203-006839	C5011,C5019,C5037	C-CERAMIC,CHIP
2203-006839	C5071,C5084,C5087	C-CERAMIC,CHIP
2203-006839	C5120,C6067	C-CERAMIC,CHIP
2203-006846	C6008,C6033,C6046	C-CERAMIC,CHIP
2203-006846	C6047,C6058,C6059	C-CERAMIC,CHIP
2203-006846	L1066	C-CERAMIC,CHIP
2203-006872	C3026,C3065,C3107	C-CERAMIC,CHIP
2203-006872	C5076,C5078,C5079	C-CERAMIC,CHIP
2203-006872	C5080,C7004,C7076	C-CERAMIC,CHIP
2203-006979	C2050	C-CERAMIC,CHIP
2203-007143	C5059	C-CERAMIC,CHIP
2203-007194	C3015	C-CERAMIC,CHIP
2203-007210	C3027,C4004,C4006	C-CERAMIC,CHIP

2203-007210	C4028,C4029,C4037	C-CERAMIC,CHIP
2203-007210	C4038	C-CERAMIC,CHIP
2203-007317	C2099,C2102,C2111	C-CERAMIC,CHIP
2203-007317	C2115,C2120,C2123	C-CERAMIC,CHIP
2203-007317	C3021,C3034,C3069	C-CERAMIC,CHIP
2203-007317	C3908,C5035,C5038	C-CERAMIC,CHIP
2203-007317	C5069,C5075,C5077	C-CERAMIC,CHIP
2203-007317	C5081,C6014,C6068	C-CERAMIC,CHIP
2203-007317	C7013,C7075,C7077	C-CERAMIC,CHIP
2203-007317	C8024	C-CERAMIC,CHIP
2203-007391	C3024,C3025,C3035	C-CERAMIC,CHIP
2203-007391	C3087,C3088,C3108	C-CERAMIC,CHIP
2203-007391	C6072,C6075	C-CERAMIC,CHIP
2203-007393	C2124,C5043,C5052	C-CERAMIC,CHIP
2203-007393	C5122,C6040,C6065	C-CERAMIC,CHIP
2203-007425	C5095	C-CERAMIC,CHIP
2203-007449	C7024	C-CERAMIC,CHIP
2203-007474	C3023,C7018	C-CERAMIC,CHIP
2203-007486	C6036	C-CERAMIC,CHIP
2203-007544	C3019,C3910,C3911	C-CERAMIC,CHIP
2203-007781	C6039,C8012	C-CERAMIC,CHIP
2203-007796	C3001,C3105,C4000	C-CERAMIC,CHIP
2203-007796	C4001,C4002,C4007	C-CERAMIC,CHIP
2203-007796	C4008,C4009,C4010	C-CERAMIC,CHIP
2203-007796	C4012,C4013,C4016	C-CERAMIC,CHIP
2203-007796	C4017,C4039,C4040	C-CERAMIC,CHIP
2203-007796	C4041,C4042,C4043	C-CERAMIC,CHIP
2203-007796	C4044,C4046,C4047	C-CERAMIC,CHIP
2203-007796	C4055,C4068,C4069	C-CERAMIC,CHIP
2203-007796	C4070,C4071,C4072	C-CERAMIC,CHIP
2203-007796	C4073,C4074,C4075	C-CERAMIC,CHIP
2203-007796	C4076,C4078,C4079	C-CERAMIC,CHIP
2203-007796	C4080,C4081,C4084	C-CERAMIC,CHIP
2203-007796	C4086,C4087,C4088	C-CERAMIC,CHIP
2203-007796	C4089,C4091,C4092	C-CERAMIC,CHIP
2203-007796	C4093,C4094,C4096	C-CERAMIC,CHIP
2203-007796	C4097,C4099,C4100	C-CERAMIC,CHIP
2203-007796	C5010,C5012,C5031	C-CERAMIC,CHIP
2203-007796	C5044,C5048,C5050	C-CERAMIC,CHIP

2203-007796	C5060,C5061,C5062	C-CERAMIC,CHIP
2203-007796	C5065,C5066,C5067	C-CERAMIC,CHIP
2203-007796	C5083,C5085,C5086	C-CERAMIC,CHIP
2203-007796	C5088,C5089,C5090	C-CERAMIC,CHIP
2203-007796	C5091,C5092,C6004	C-CERAMIC,CHIP
2203-007796	C6005,C6006,C6007	C-CERAMIC,CHIP
2203-007796	C6012,C6013,C6015	C-CERAMIC,CHIP
2203-007796	C6018,C6019,C6021	C-CERAMIC,CHIP
2203-007796	C6022,C6023,C6024	C-CERAMIC,CHIP
2203-007796	C6025,C6026,C6027	C-CERAMIC,CHIP
2203-007796	C6028,C6029,C6049	C-CERAMIC,CHIP
2203-007796	C6050,C6051,C7000	C-CERAMIC,CHIP
2203-007796	C7002,C7005,C7006	C-CERAMIC,CHIP
2203-007796	C7017,C7021,C7022	C-CERAMIC,CHIP
2203-007796	C7023,C7030,C7031	C-CERAMIC,CHIP
2203-007796	C7032,C7033,C7034	C-CERAMIC,CHIP
2203-007796	C7036,C7044,C7045	C-CERAMIC,CHIP
2203-007796	C7053,C7055,C7056	C-CERAMIC,CHIP
2203-007796	C7057,C7059,C7063	C-CERAMIC,CHIP
2203-007796	C7064,C7078,C7083	C-CERAMIC,CHIP
2203-007796	C7092,C8005,C8019	C-CERAMIC,CHIP
2203-007796	C8020,C8028,C8030	C-CERAMIC,CHIP
2203-007796	C8034,C8038	C-CERAMIC,CHIP
2203-008097	C1000,C1003,C1004	C-CERAMIC,CHIP
2203-008097	C1044,C1066,C1072	C-CERAMIC,CHIP
2203-008097	C1073,C1075,C1113	C-CERAMIC,CHIP
2203-008097	C1117,C1131,C2002	C-CERAMIC,CHIP
2203-008097	C2005,C2020,C2100	C-CERAMIC,CHIP
2203-008097	C2101,C2103,C2104	C-CERAMIC,CHIP
2203-008097	C2105,C2106,C2107	C-CERAMIC,CHIP
2203-008097	C2108,C2109,C2110	C-CERAMIC,CHIP
2203-008097	C2112,C2113,C2114	C-CERAMIC,CHIP
2203-008097	C2116,C2117,C2118	C-CERAMIC,CHIP
2203-008097	C2119,C3052,C4048	C-CERAMIC,CHIP
2203-008097	C4049,C4090,C5049	C-CERAMIC,CHIP
2203-008097	C6000,C6001,C6002	C-CERAMIC,CHIP
2203-008097	C6003,C8010,C8013	C-CERAMIC,CHIP
2203-008097	C8021,C8025,R8012	C-CERAMIC,CHIP
2203-008242	C3092,C4050,C4051	C-CERAMIC,CHIP

2203-008242	C4052,C4053,C5039	C-CERAMIC,CHIP
2203-008242	C6016,C6017	C-CERAMIC,CHIP
2203-008529	C3016,C3081,C6066	C-CERAMIC,CHIP
2203-008529	C7012	C-CERAMIC,CHIP
2203-008749	C6035	C-CERAMIC,CHIP
2203-008860	C2072,C3000,C3086	C-CERAMIC,CHIP
2203-008860	C5022,C5025,C5064	C-CERAMIC,CHIP
2203-008860	C7020,C7025,C7029	C-CERAMIC,CHIP
2203-008860	C7035,C7039,C7042	C-CERAMIC,CHIP
2203-008860	C7043,C7080,C7082	C-CERAMIC,CHIP
2203-008860	C7086,C8007	C-CERAMIC,CHIP
2203-008876	C1067,C2073,C3066	C-CERAMIC,CHIP
2203-008876	C3067,C3091,C5000	C-CERAMIC,CHIP
2203-008876	C5007,C5009,C5013	C-CERAMIC,CHIP
2203-008876	C5020,C5021,C5041	C-CERAMIC,CHIP
2203-008876	C5042,C5045,C5046	C-CERAMIC,CHIP
2203-008876	C5047,C5051,C5053	C-CERAMIC,CHIP
2203-008876	C5056,C5058,C6010	C-CERAMIC,CHIP
2203-008876	C6011,C7015,C7016	C-CERAMIC,CHIP
2203-008876	C7038,C7040,C7081	C-CERAMIC,CHIP
2203-008876	C7084	C-CERAMIC,CHIP
2203-009064	C4005,C4018,C4019	C-CERAMIC,CHIP
2203-009064	C4020,C4030,C4031	C-CERAMIC,CHIP
2203-009167	C3100,C3104	C-CERAMIC,CHIP
2203-009328	C3032	C-CERAMIC,CHIP
2203-009444	C5018	C-CERAMIC,CHIP
2203-009618	C5028,C5029,C7007	C-CERAMIC,CHIP
2203-009618	C7008,C7027	C-CERAMIC,CHIP
2203-009733	C1076,C2049,C3020	C-CERAMIC,CHIP
2203-009733	C3022,C3907,C5001	C-CERAMIC,CHIP
2203-009733	C5002,C5003,C5004	C-CERAMIC,CHIP
2203-009733	C5005,C5030,C5094	C-CERAMIC,CHIP
2203-009733	C5100,C5101,C5102	C-CERAMIC,CHIP
2203-009733	C5103,C5104,C5105	C-CERAMIC,CHIP
2203-009733	C5106,C5107,C7001	C-CERAMIC,CHIP
2203-009733	C7003,C7058,C7074	C-CERAMIC,CHIP
2203-009733	C7134	C-CERAMIC,CHIP
2203-009734	C5055	C-CERAMIC,CHIP
2203-009735	C4057,C4058	C-CERAMIC,CHIP

2203-009738	C4003,C4999,C5008	C-CERAMIC,CHIP
2203-009738	C5057,C6020	C-CERAMIC,CHIP
2203-009858	C5015,C5016,C5023	C-CERAMIC,CHIP
2203-009858	C5073,C5108,C5109	C-CERAMIC,CHIP
2203-009858	C7026,C8003,C8006	C-CERAMIC,CHIP
2203-009859	C7009,C7010	C-CERAMIC,CHIP
2203-009969	C5096,C5097,C8011	C-CERAMIC,CHIP
2203-010085	C6009,C6057	C-CERAMIC,CHIP
2703-002649	C2024,C2122,L2065	INDUCTOR-SMD
2703-002900	L1005	INDUCTOR-SMD
2703-002901	C1024,C6060,L1021	INDUCTOR-SMD
2703-002901	L1071,L6001,L6005	INDUCTOR-SMD
2703-002901	L6006,L6008,L6009	INDUCTOR-SMD
2703-002903	L2010,L2071	INDUCTOR-SMD
2703-002953	L1033,L6000	INDUCTOR-SMD
2703-002955	L2016,L3022	INDUCTOR-SMD
2703-002958	C1034,L3004	INDUCTOR-SMD
2703-002959	L3916	INDUCTOR-SMD
2703-003970	C1035	INDUCTOR-SMD
2703-004000	C1098,L3020	INDUCTOR-SMD
2703-004001	L2014	INDUCTOR-SMD
2703-004012	C1018,L1008,L1059	INDUCTOR-SMD
2703-004012	L2036,L2050,L2055	INDUCTOR-SMD
2703-004012	L2076,L2081,L3013	INDUCTOR-SMD
2703-004012	L8018	INDUCTOR-SMD
2703-004013	L1009,L1023	INDUCTOR-SMD
2703-004014	L1006,L1024,L1074	INDUCTOR-SMD
2703-004014	L3008	INDUCTOR-SMD
2703-004018	C1029,L1002,L1031	INDUCTOR-SMD
2703-004018	L1057	INDUCTOR-SMD
2703-004032	C1005	INDUCTOR-SMD
2703-004034	C1040,C1115,L2009	INDUCTOR-SMD
2703-004034	L2067,L3014,L3017	INDUCTOR-SMD
2703-004034	L3023	INDUCTOR-SMD
2703-004035	C1010	INDUCTOR-SMD
2703-004036	L1063,L2003,L2008	INDUCTOR-SMD
2703-004038	L1028,L1038,L2002	INDUCTOR-SMD
2703-004038	L2006,L2021,L2022	INDUCTOR-SMD
2703-004038	L2051,L2066,L2068	INDUCTOR-SMD

2703-004259	L2035,L2059	INDUCTOR-SMD
2703-004286	C2004,L1077,L2007	INDUCTOR-SMD
2703-004286	L2029,L2047,L2056	INDUCTOR-SMD
2703-004286	L3005	INDUCTOR-SMD
2703-004287	L1058,L1072,L2042	INDUCTOR-SMD
2703-004287	L2072,L3018,L3019	INDUCTOR-SMD
2703-004288	L1022,L2038,L2077	INDUCTOR-SMD
2703-004288	L2078	INDUCTOR-SMD
2703-004290	C1001	INDUCTOR-SMD
2703-004300	L3000	INDUCTOR-SMD
2703-004301	L3015	INDUCTOR-SMD
2703-004302	L1060	INDUCTOR-SMD
2703-004317	L2045	INDUCTOR-SMD
2703-004328	C1041,C1043,L2084	INDUCTOR-SMD
2703-004328	L3006	INDUCTOR-SMD
2703-004363	L2018	INDUCTOR-SMD
2703-004408	C1110	INDUCTOR-SMD
2703-004703	L2013	INDUCTOR-SMD
2703-004763	L2082	INDUCTOR-SMD
2703-004862	L1052,L2049,L2080	INDUCTOR-SMD
2703-004911	L3012	INDUCTOR-SMD
2703-004976	L2070,U8065	INDUCTOR-SMD
2703-005066	L5012,L5013,L5014	INDUCTOR-SMD
2703-005085	C2063,L2026,L2046	INDUCTOR-SMD
2703-005085	L2063	INDUCTOR-SMD
2703-005087	L1056,L3026	INDUCTOR-SMD
2703-005089	C1119	INDUCTOR-SMD
2703-005098	C1116,L2025	INDUCTOR-SMD
2703-005101	L2039	INDUCTOR-SMD
2703-005295	C1025,C1105,C2047	INDUCTOR-SMD
2703-005295	L2011,L2074	INDUCTOR-SMD
2703-005296	L1030,L1041,L3011	INDUCTOR-SMD
2703-005418	L7016	INDUCTOR-SMD
2703-005419	L7005	INDUCTOR-SMD
2703-005428	L7004	INDUCTOR-SMD
2703-005505	L8001	INDUCTOR-SMD
2703-005555	L3021,U8056	INDUCTOR-SMD
2703-005581	L5002,L5006,L5008	INDUCTOR-SMD
2703-005581	L6002	INDUCTOR-SMD

2703-005614	L1053	INDUCTOR-SMD
2703-005660	L5001,L5003,L5004	INDUCTOR-SMD
2703-005660	L5005,L5007,L5009	INDUCTOR-SMD
2703-005660	L5011	INDUCTOR-SMD
2801-005495	OSC5000	CRYSTAL-UNIT
2901-001690	C4056	FILTER-EMI SMD
2901-001798	F7010,F7011,F7012	FILTER-EMI SMD
2901-001798	F7013,F7014	FILTER-EMI SMD
2903-001576	F3000,F3004	FILTER-CERAMIC
2904-002134	F1009	FILTER-SAW
2904-002143	F2008	FILTER-SAW
2904-002190	F1004	FILTER-SAW
2904-002198	F2001	FILTER-SAW
2904-002326	F2006	FILTER-SAW
2904-002339	F2002	FILTER-SAW
2904-002350	F2010	FILTER-SAW
2904-002356	F3003	FILTER-SAW
2904-002361	F2004	FILTER-SAW
2904-002390	F3005,F3006	FILTER-SAW
2904-002397	F2000,F2003	FILTER-SAW
2910-000364	F1006	FILTER
2910-000390	F2007	FILTER
2910-000402	F1005	FILTER
2910-000404	F1010	FILTER
2911-000430	U2031	FILTER
2911-000452	F1000	FILTER
3003-001210	MIC1000	MIC-CONDENSOR
3301-001885	L8000,L8006	CORE-FERRITE BEAD
3301-002085	L6003,L6004,L8002	CORE-FERRITE BEAD
3301-002085	L8003,L8004,L8005	CORE-FERRITE BEAD
3301-002122	L8016,L8017	CORE-FERRITE BEAD
3301-002223	L7000,L7001,L7008	CORE-FERRITE BEAD
3301-002223	L7012,L7013	CORE-FERRITE BEAD
3301-002237	L1000,L8008	CORE-FERRITE BEAD
3301-002238	L3010	CORE-FERRITE BEAD
3301-002312	L5010,L7002,L7003	CORE-FERRITE BEAD
3301-002312	L7017	CORE-FERRITE BEAD
3301-002331	L5000,L6007	CORE-FERRITE BEAD
3404-001567	SW6000	SWITCH-TACT

3705-001937	RFS1000,RFS1001	CONNECTOR-COAXIAL
3709-001932	SIM4UP	CONNECTOR-CARD EDGE
3709-001933	SIM1	CONNECTOR-CARD EDGE
3709-001934	SIM2,SIM3	CONNECTOR-CARD EDGE
3711-007107	HEA7000	CONNECTOR-HEADER
3711-008508	HDC7000,HDC7001	CONNECTOR-HEADER
3711-008511	HEA7003	CONNECTOR-HEADER
3711-008593	HEA7001	CONNECTOR-HEADER
3711-008847	HDC5000	CONNECTOR-HEADER
3711-008931	HEA7004	CONNECTOR-HEADER
3711-008997	HDC3001,HEA3000	CONNECTOR-HEADER
3711-009073	HEA6000	CONNECTOR-HEADER
3712-001604	ANT3003,ANT3004	CONNECTOR
3712-001626	ANT2001,ANT2002	CONNECTOR
3712-001626	ANT2005,ANT2007	CONNECTOR
3712-001626	ANT2008,ANT2009	CONNECTOR
3712-001626	ANT3001,ANT3005	CONNECTOR
3712-001626	ANT3016,CON6003	CONNECTOR
3712-001633	ANT1007,ANT2003	CONNECTOR
3712-001633	ANT3015	CONNECTOR
3712-001634	ANT8003,ANT8004	CONNECTOR
3712-001694	ANT3014,ANT3017	CONNECTOR
3712-001694	ANT6000,ANT6001	CONNECTOR
3712-001694	ANT8001,ANT8002	CONNECTOR
4709-002226	F1007	RF-MODULE
4709-002285	DIF3000,DIF3001	RF-MODULE
4709-002484	U2002	RF-MODULE
4709-002589	F1001,F1003	RF-MODULE
GH60-00010A	CON6004	CLIP
GH61-10712A	SUS6000,SUS6001	SUS
GH62-00048A	CON6000	GASKET
GH63-12632A	SC6006	SHIELD-CAN
GH63-15682A	SC6002	SHIELD-CAN
GH63-16351A	SC6001	SHIELD-CAN
GH63-16352A	SC6005	SHIELD-CAN
GH63-16353A	SC6003	SHIELD-CAN
GH63-16354A	SC6007	SHIELD-CAN
GH63-16355A	SC6004	SHIELD-CAN
GH63-16356A	SC6008	SHIELD-CAN

5. MAIN Electrical Parts List

GH63-16357A	SC6000	SHIELD-CAN
GH02-17416A	SC6003SP	TAPE
GH02-16575A	SC6002SP	TAPE

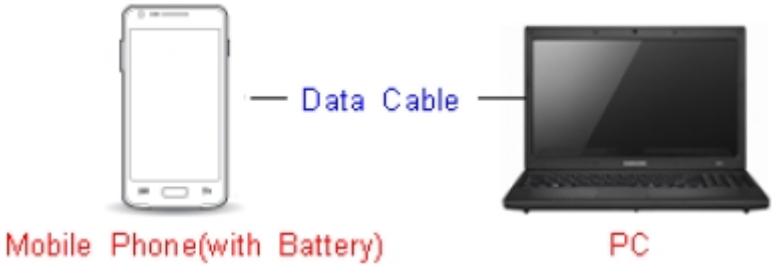
Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.

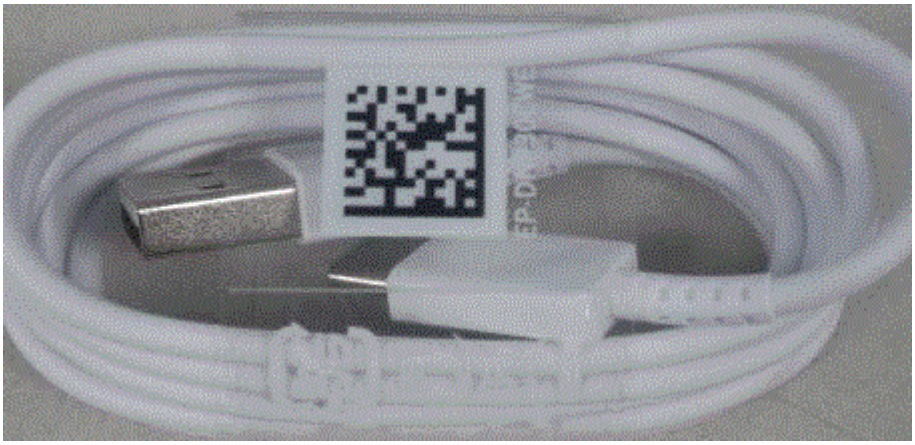
6-1. S/W Update

6-1-1. Preparation

- S/W Update program : **Fenrir 5.17.xxxx**
- Mobile Phone
- Data Cable

※ Settings





Data Cable : GH39-01949A

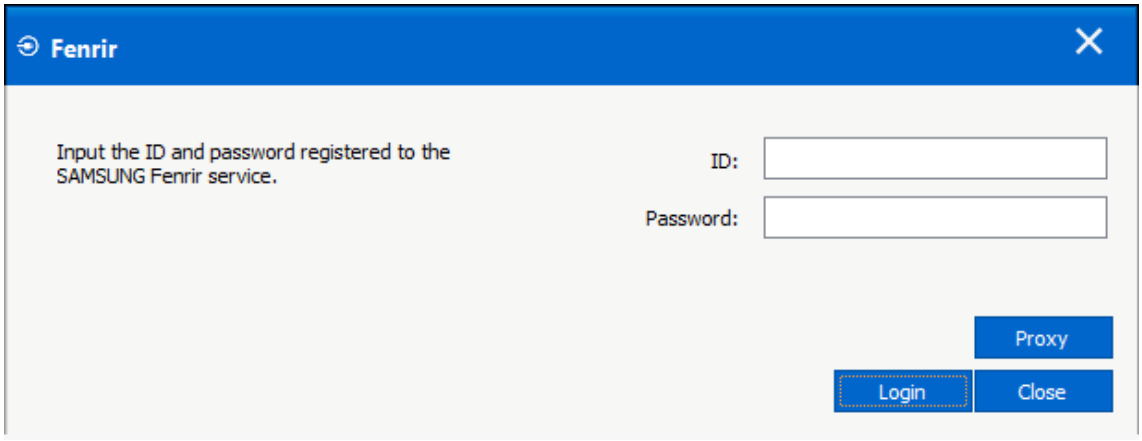
6-1-2. How to use ‘Fenrir’ S/W update program.

1) Launch Fenrir by clicking on the icon on the desktop

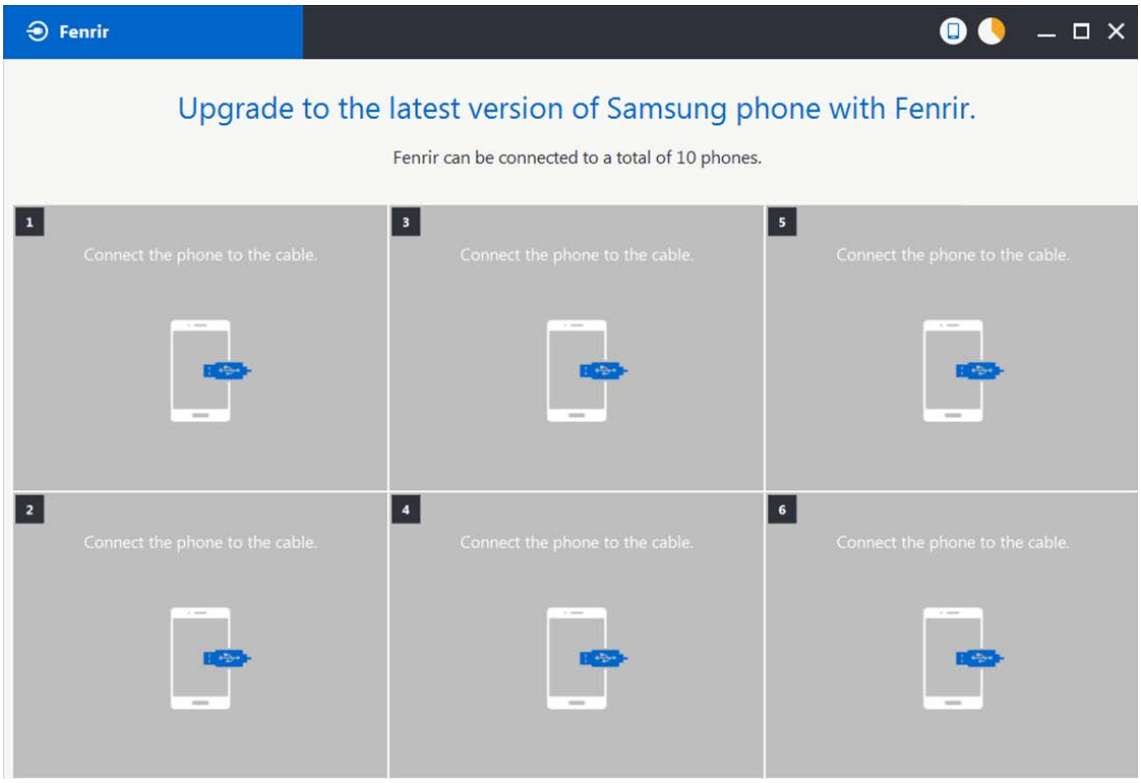
- SVH (Fenrir_Home) : It uses Home binary which does not have user data area in the memory when flashed to a device. (Keep user data)

- SVC (Fenrir_Factory) : It uses Factory binary which erases all user data in the memory when flashed to a device. (Clear user data)
- SVA (Fenrir_All) : It uses Factory and Home binaries. you can download Home and Factory binary in a PC(but requires double HDD storage and NW traffic)

2) Input ID & password
※You need to reset the ID information in case of PC change and format and repair, hard disk change

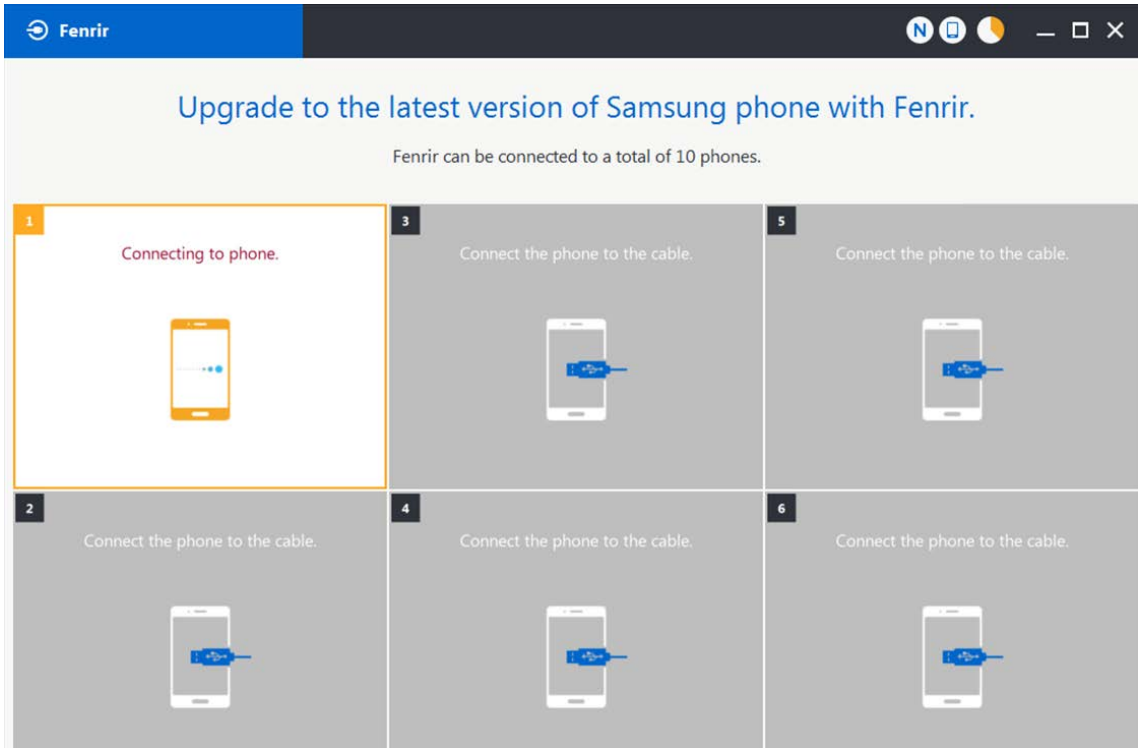


3) Ensure device has sufficient charge (at least 20%) to start firmware update.



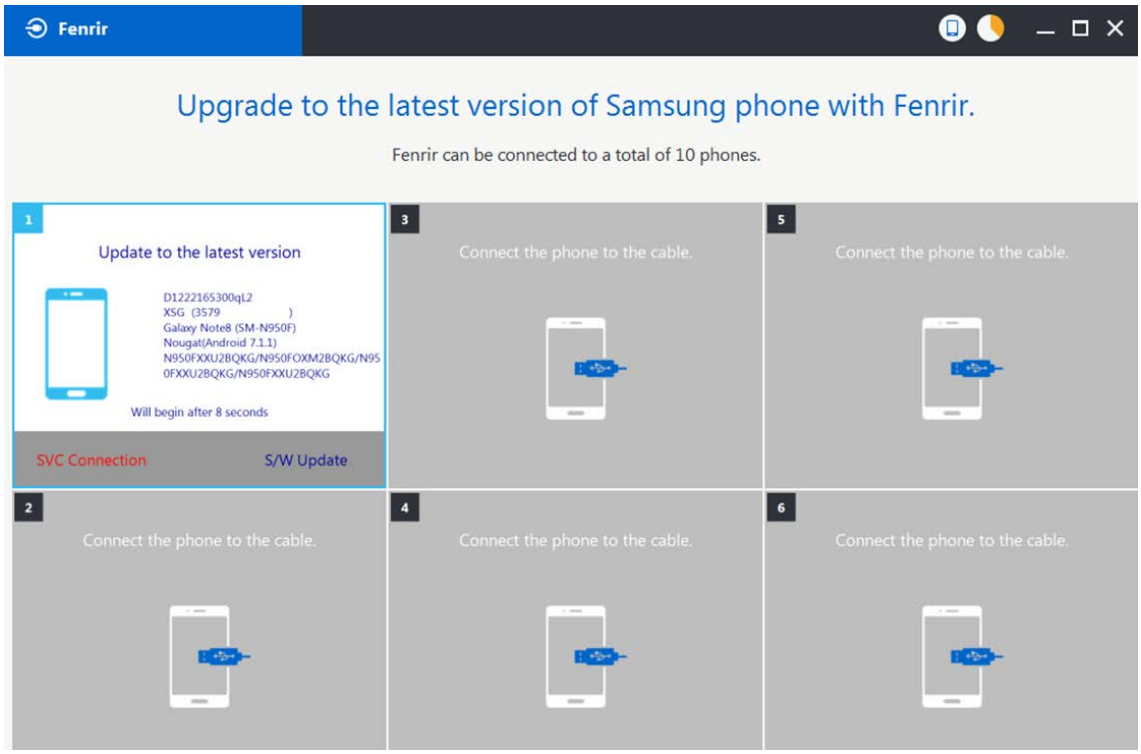
4) Connect the device to PC via data cable.

5) Upon USB connection, you will be presented with below screen.

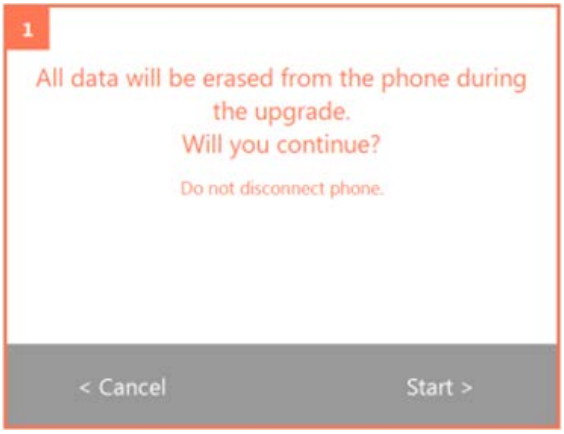


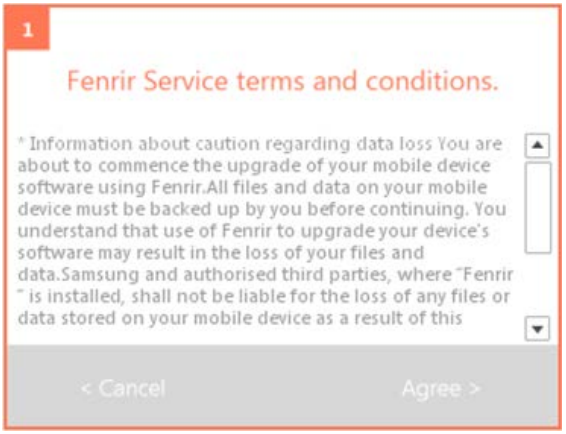
6. Level 1 Repair

6) Once device is detected, you will be presented with below screen. To update S/W, select “S/W Update” or to exit select “SVC Connection”. If you select “SVC Connection”, only Fenrir connection history (record) will be stored in the FUS server to support warranty validation. (This is known as “Service Connection” history)

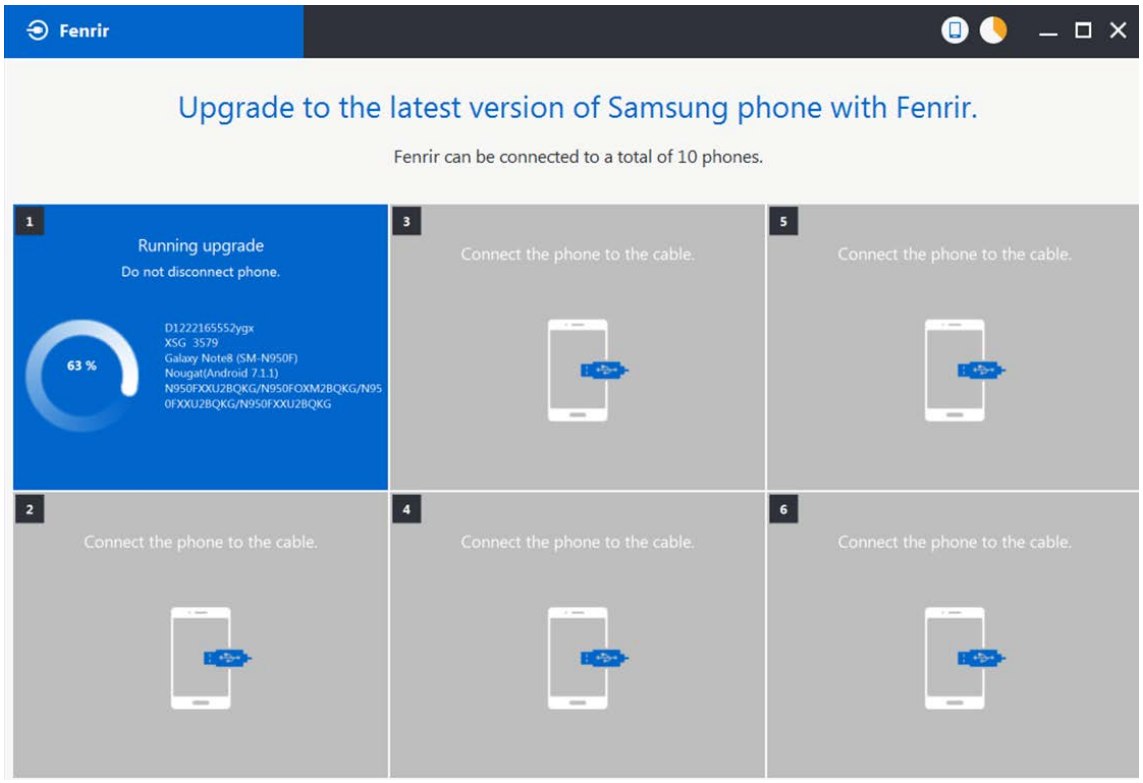


7) Once Fenrir starts, application will display the below screen. And select the Start button & Agree button.

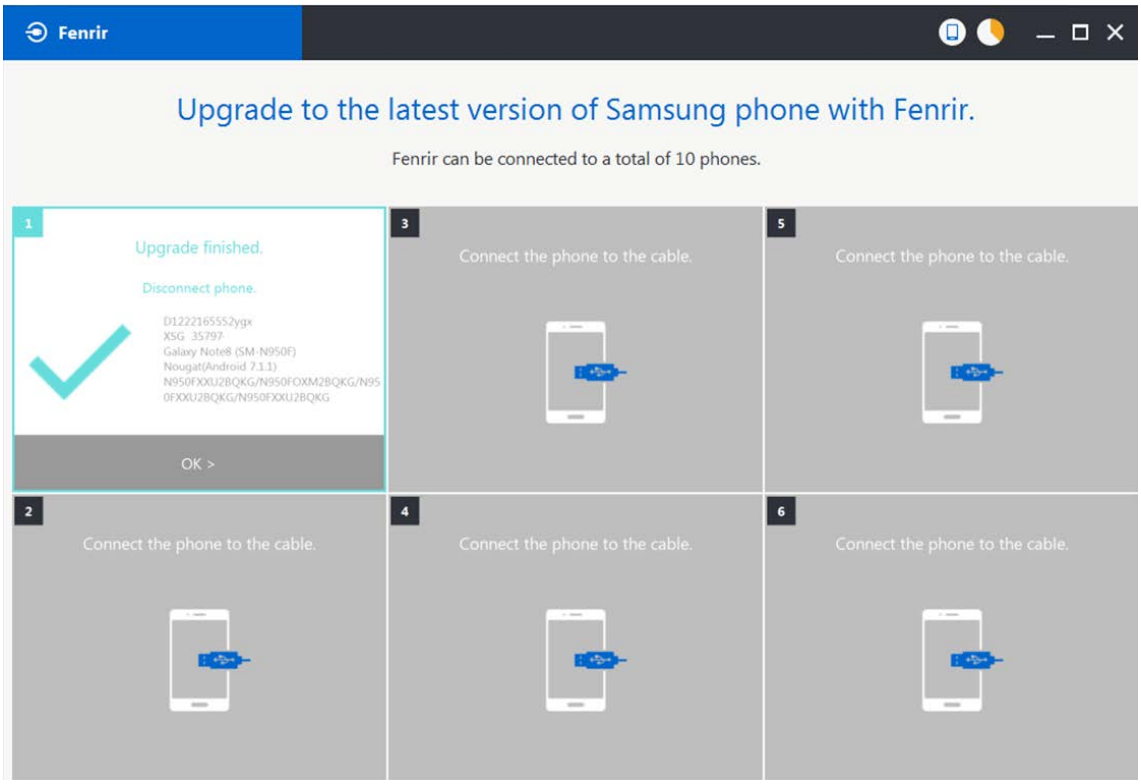




8) The status circle increases as the update installs. The update process takes approximately 5-10 minutes to complete. Do not disconnect the device from USB during processing.



9) Once complete, application will present the below screen indicating update complete.
Click Ok and detach device from USB.



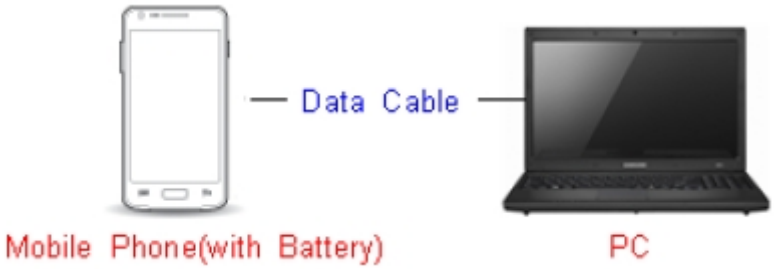
6-2. How to use ‘Odin’ program

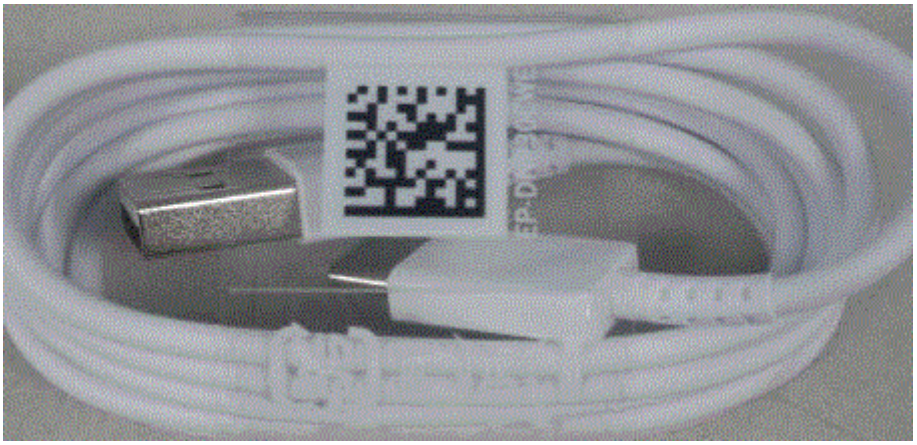
※ S/W Update via Fenrir is mandatory.
Below is the method to use ‘Odin’ program in any specific case.

6-2-1. Preparation

- Installation program : **Odin3 v3.13.2.exe or above**
- Mobile Phone
- Data Cable
- S/W Binary files (downloaded from GSPN)

※ Settings

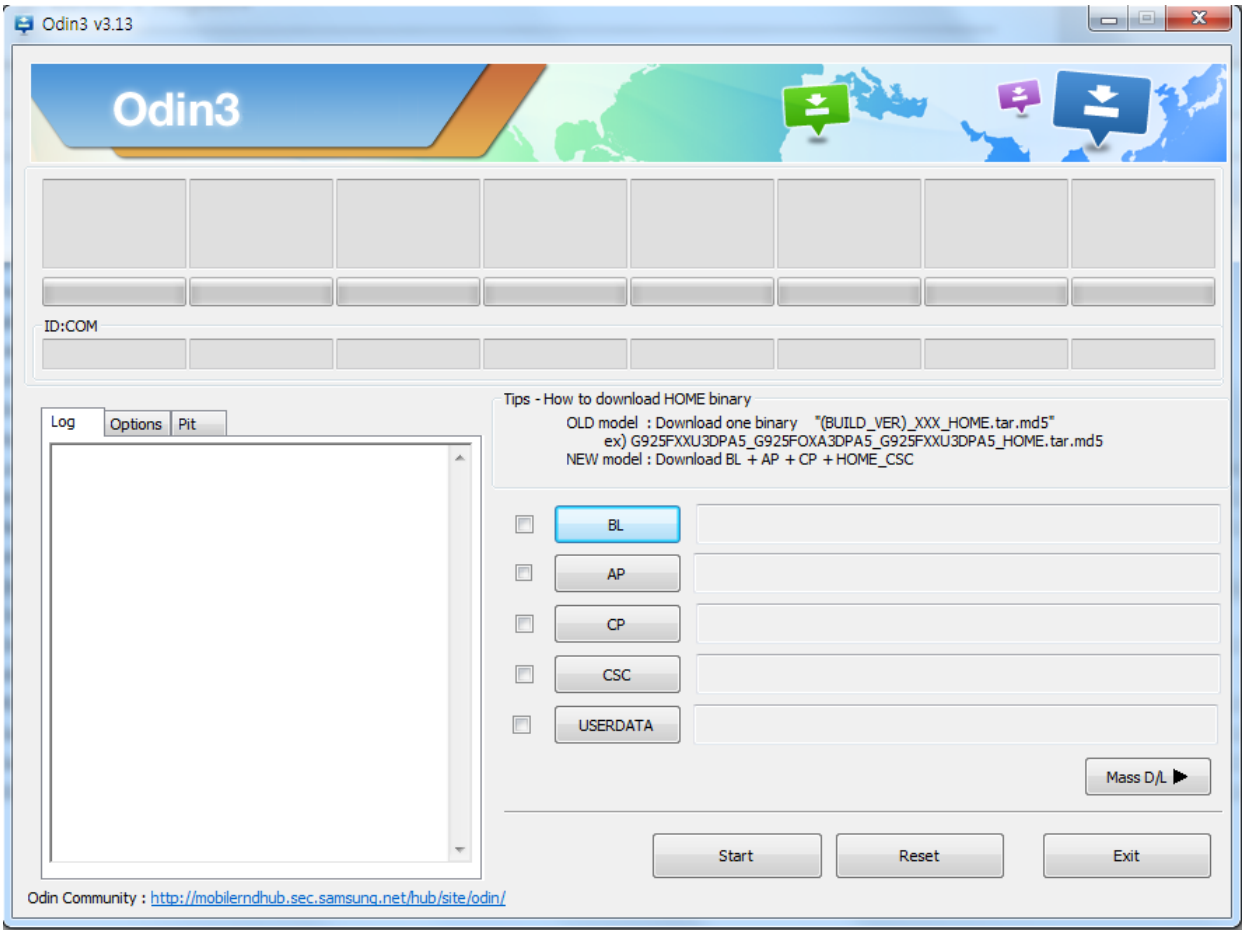




Data Cable : GH39-01949A

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

Open up the S/W Installation Program by executing the **"Odin3 v3.13.2.exe"**



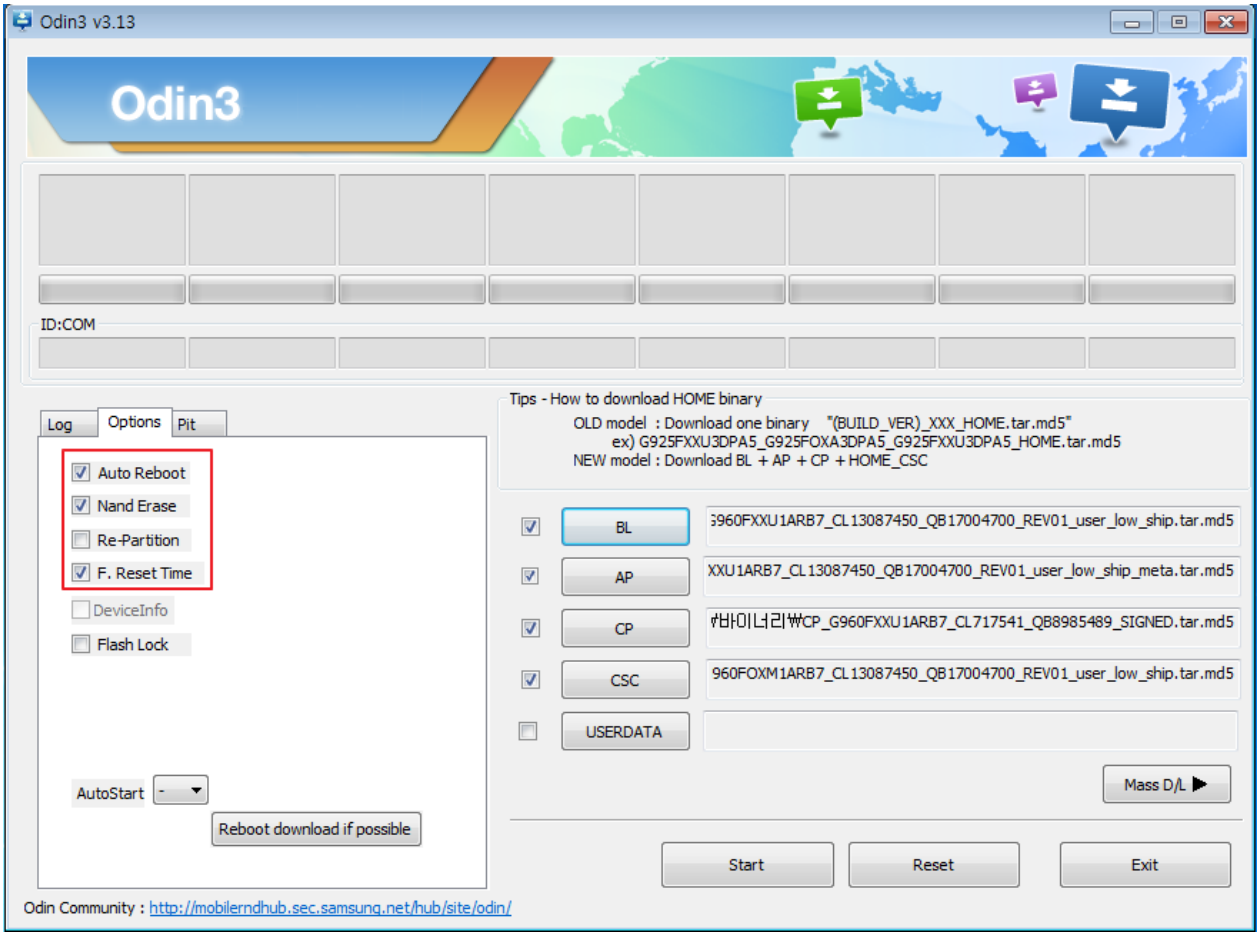
6. Level 1 Repair

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

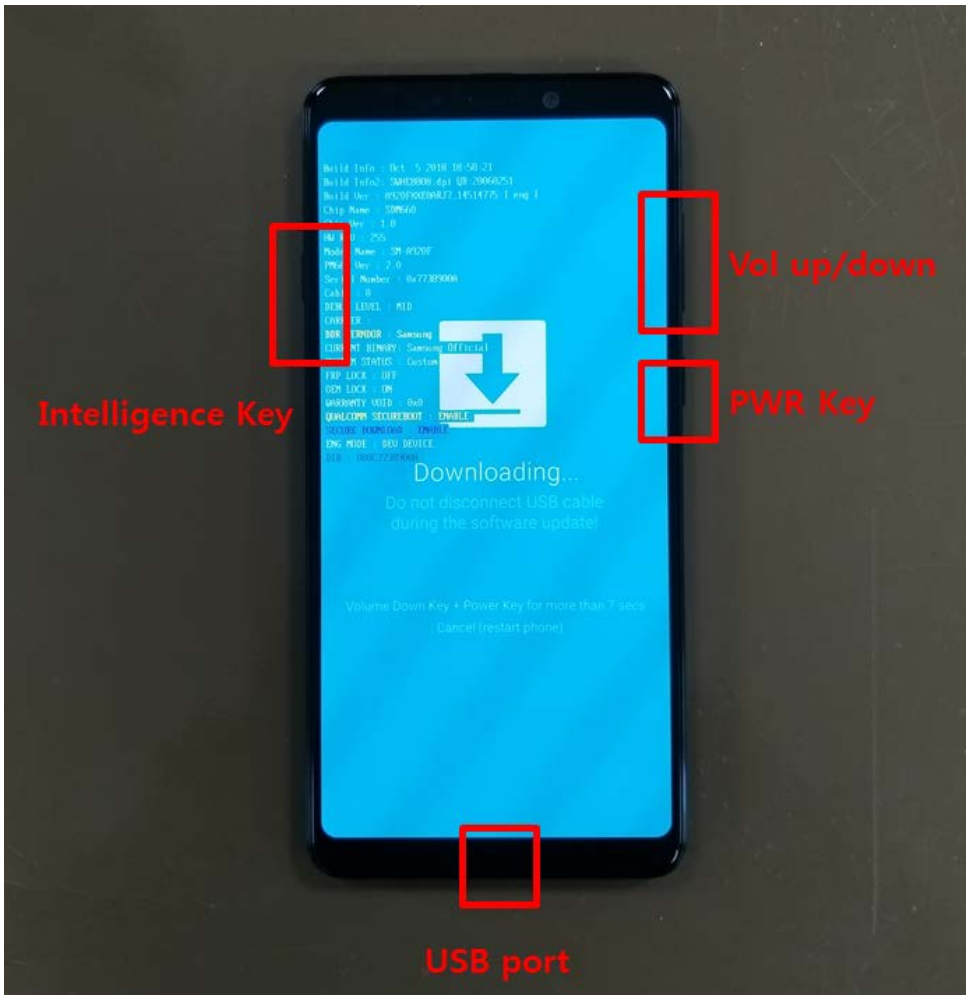
- Check Auto Reboot, F. Reset Time, Nand Erase

- Check BL, AP, CP, CSC Files

* Note : "Odin v3.13.2 or above" checks MD5 checksum just after file selection.

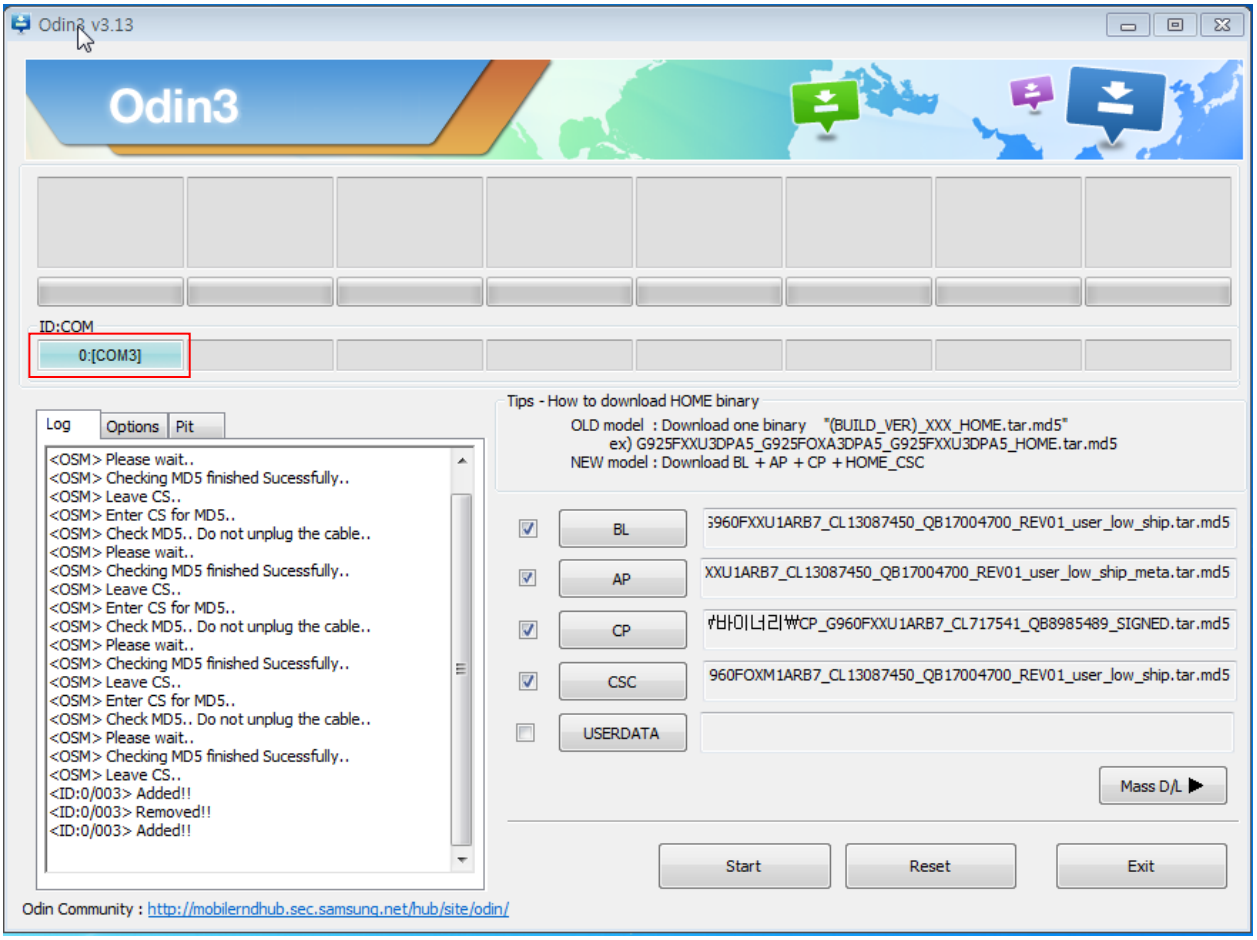


2. Enter into Download Mode
- Enter into Download Mode by pressing Volume Down button, Intelligence button and connecting USB cable
-Press Volume Up button to download mode.



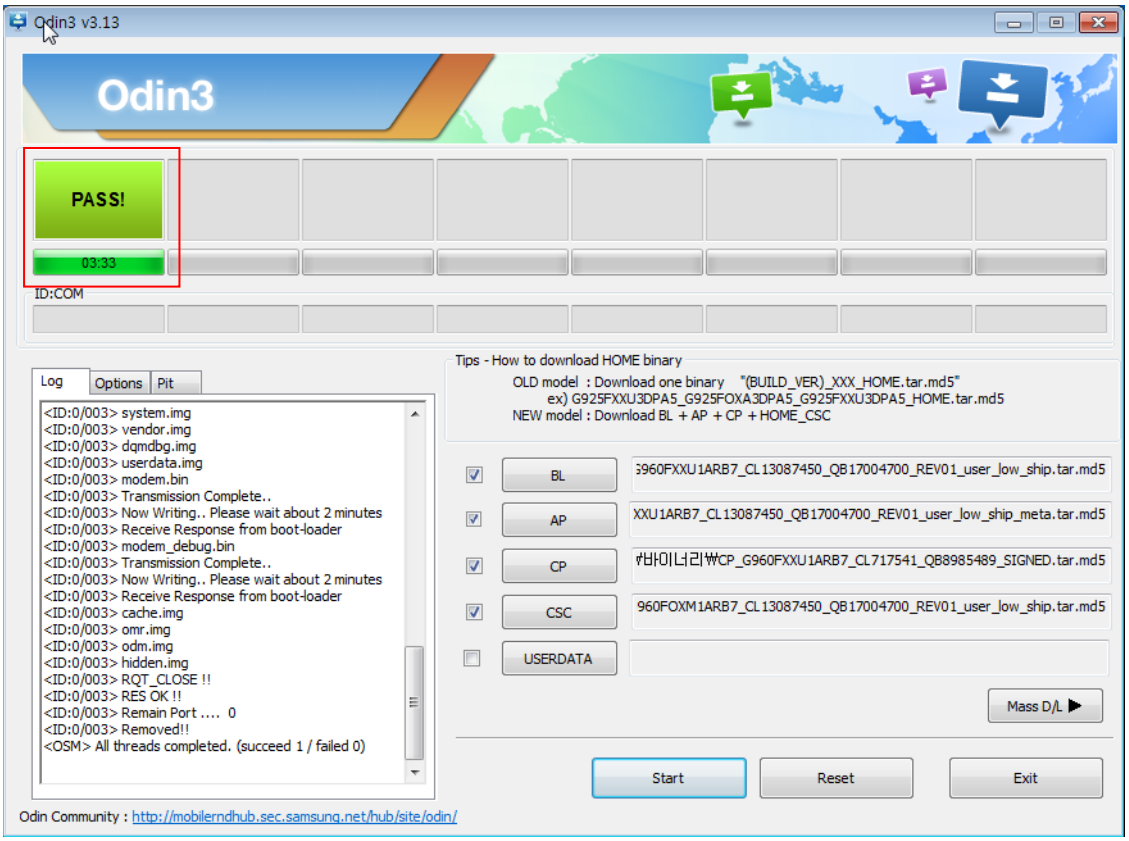
6. Level 1 Repair

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.



6. Level 1 Repair

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 data Reset by Settings → General Management → Reset

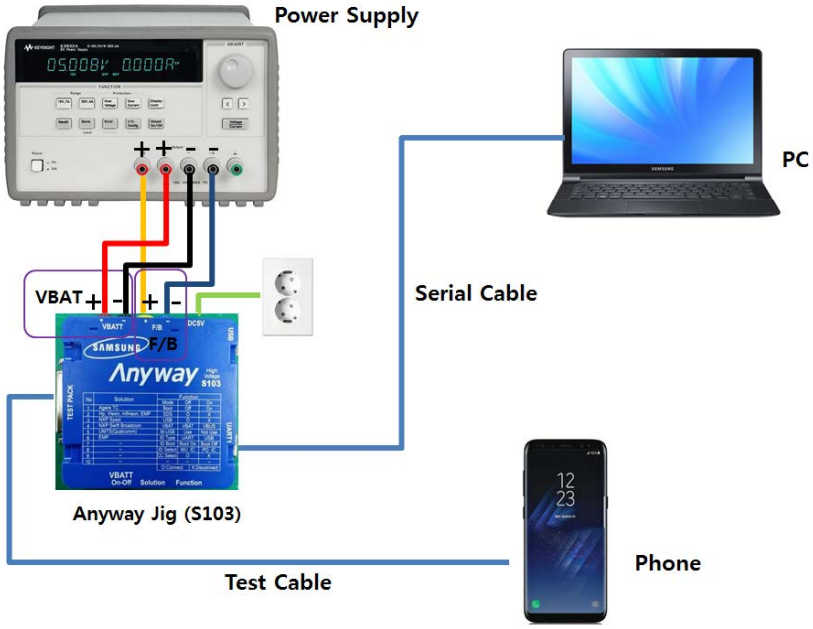
※ Caution. Never disconnect during the S/W downloading.

6-3. IMEI writing

6-3-1. Preparation

- New IMEI writing Program has been released.
- Supported Model : Models which CAB files are uploaded on HHPsvc INI File category, instead of ini file.
- Refer to below IMEI writing procedure.

- H/W

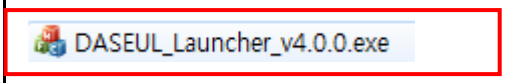


- S/W

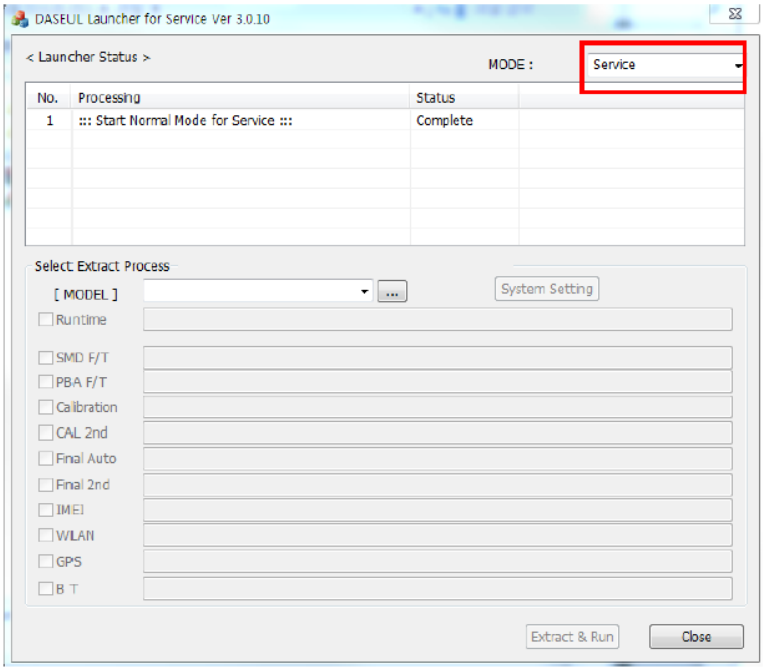
① Library Install	To use Daseul, library files should be installed. Refer to SVC Bulletin "(11-82) Daseul (New IMEI writing Program) Library Install guide_rev1.0"
②Launcher	**DASEUL_Launcher_v4.0.0** or higher -Uploaded on HHPsvc Notice
③ Runtime File	1. **DASEUL_IMEI_ALL_Runtime_3.1.386.0_r00573.CAB** or higher -Uploaded on HHPsvc Notice 2. Make 'ModelName' folder at the same position with launcher & Runtime file. DASEUL_IMEI_ALL_Runtime_3.1.386.0_r00573.CAB DASEUL_Launcher_v4.0.0.exe SM-A920F_128DS(CSC)_IMEI_Ver_3.1.385.1.CAB
④Model File	Copy Model File under the 'SM-A920F' folder

6-3-2. IMEI writing Process

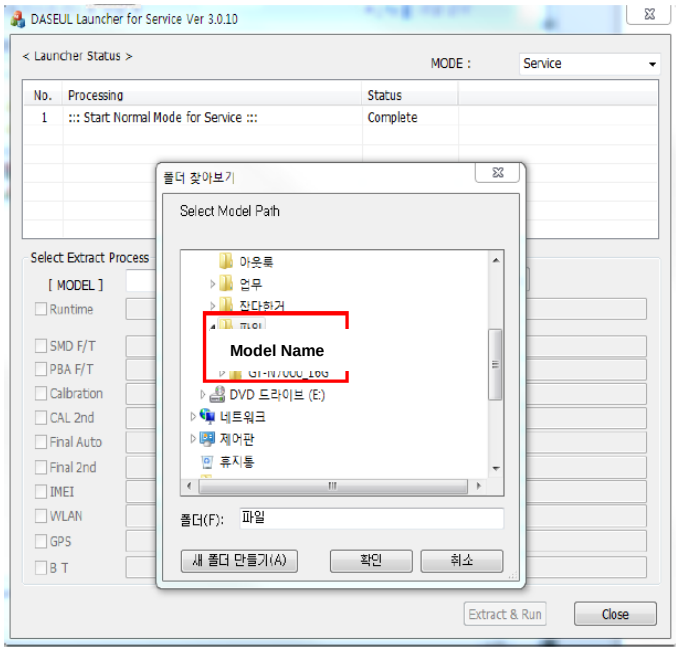
1. Run **DASEUL_Launcher_v4.0.0**



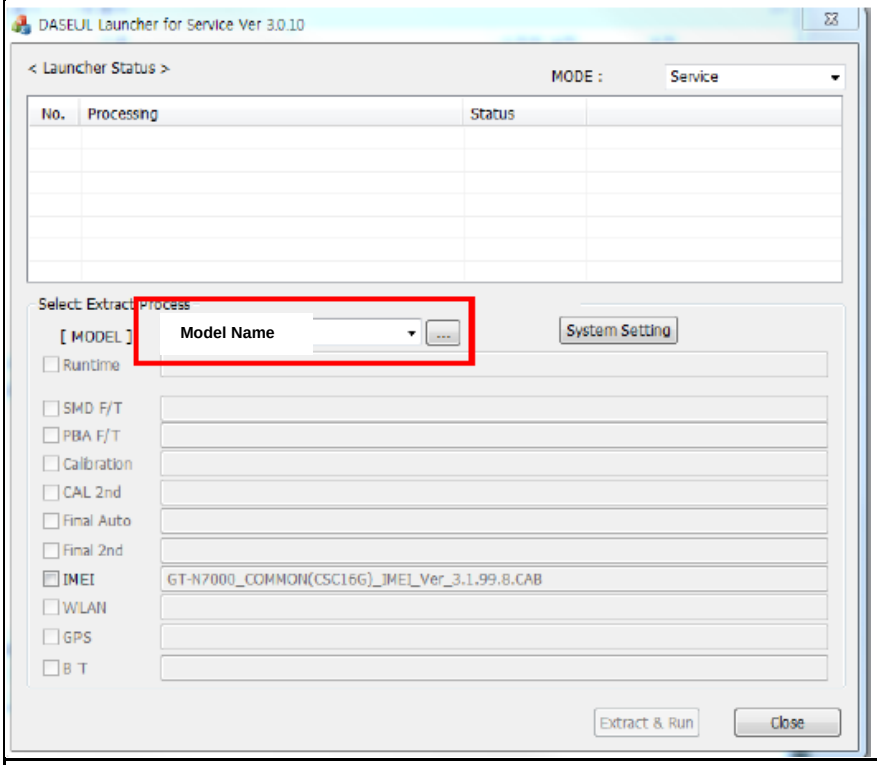
2. Select Service Mode



3. Click ... and Select folder where the Launcher exists

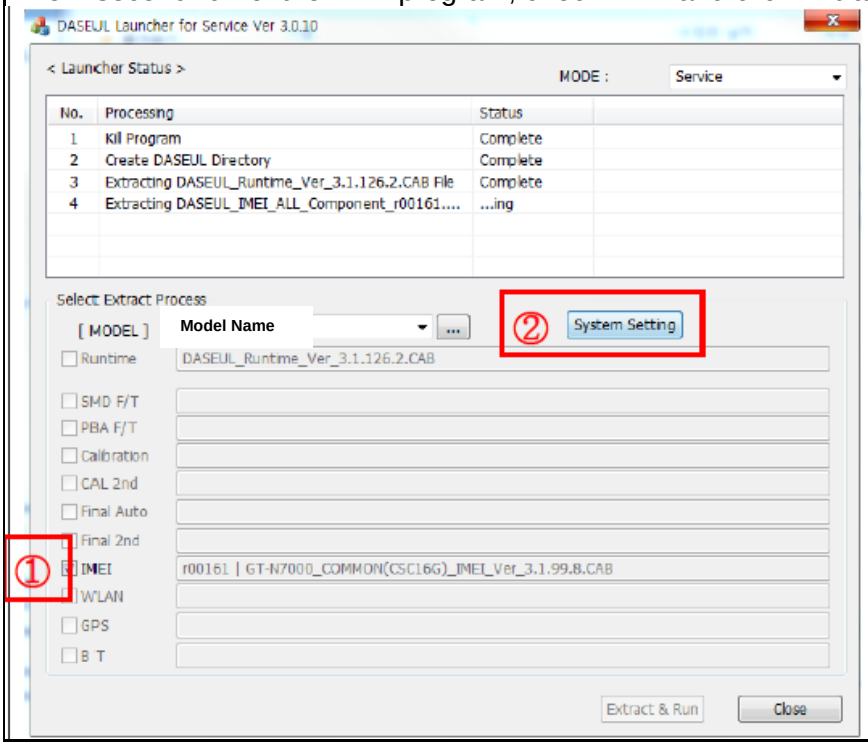


4. Select Model



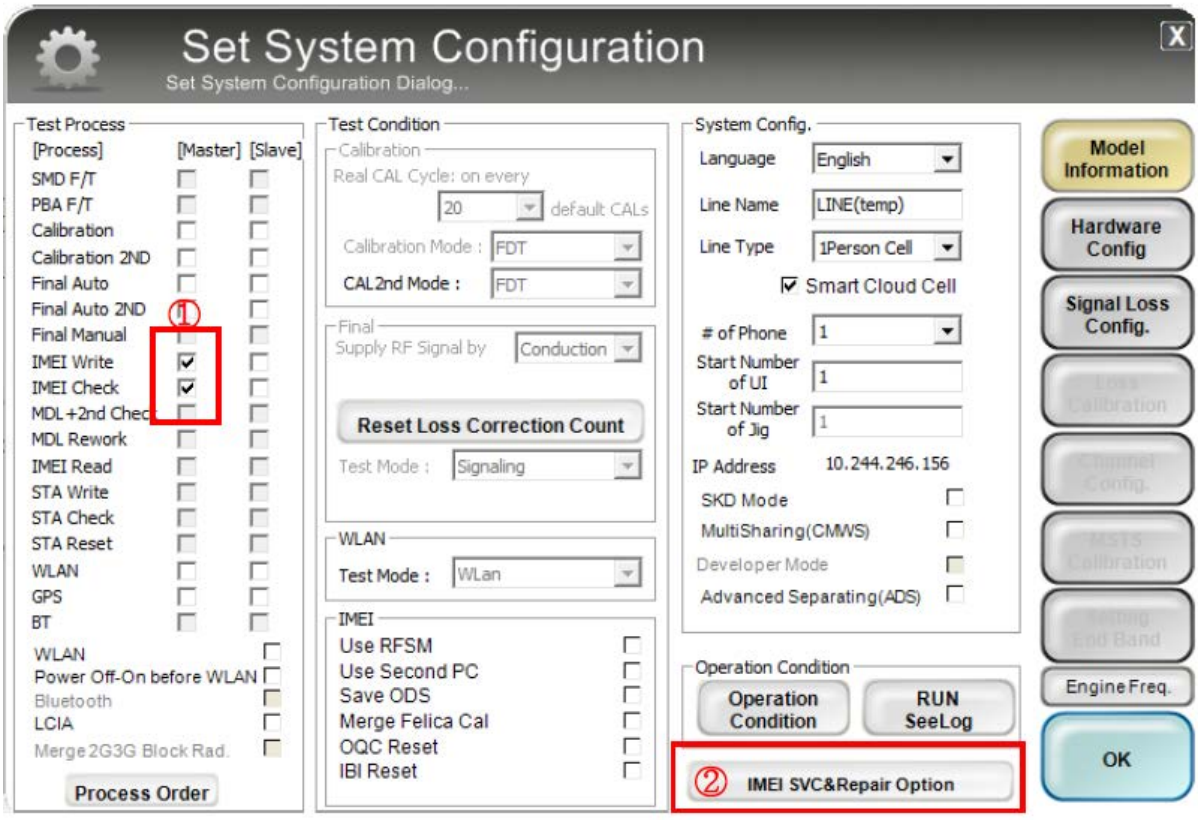
5. Check IMEI and click System Setting

※Once you setup the setting, you don t have to do it again, unless there is change.
From second run of the IMEI program, check IMEI and click Extract & Run.

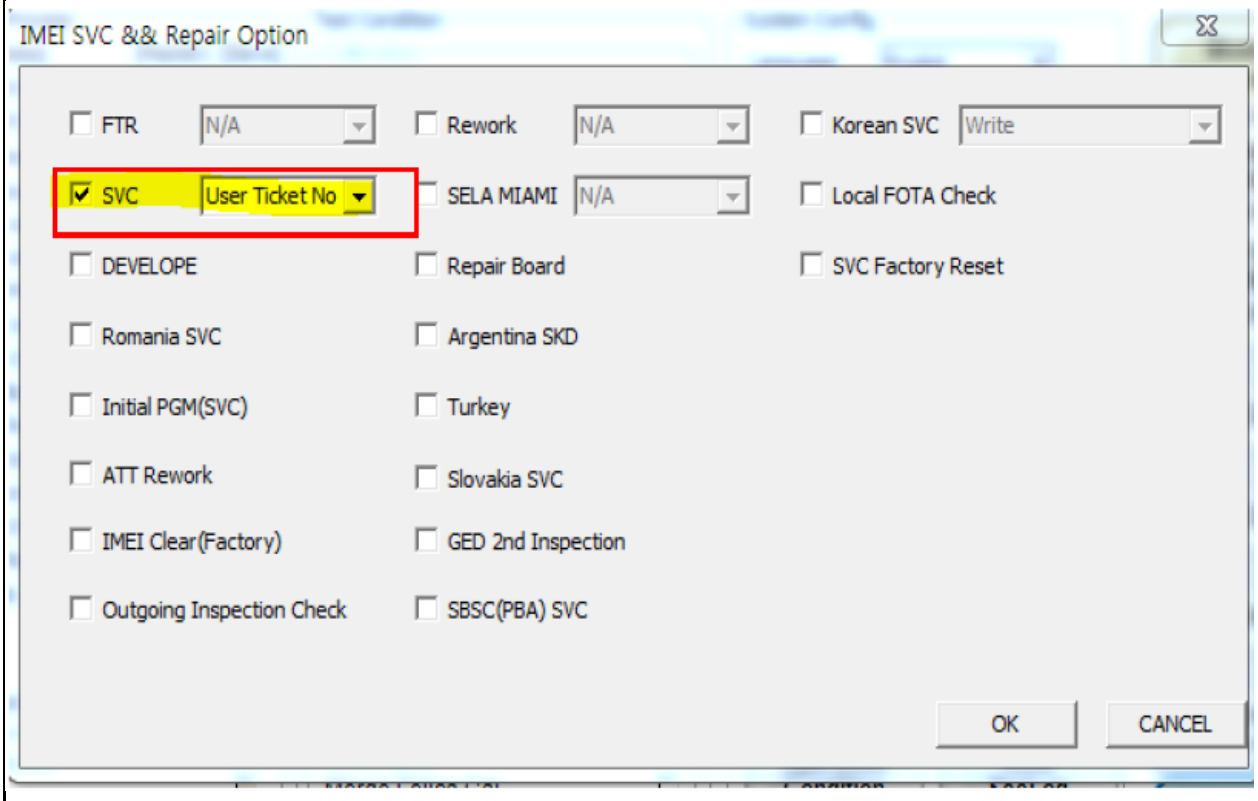


6. Level 1 Repair

6. Check IMEI Write / IMEI Check and click IMEI SVC & Repair Option.

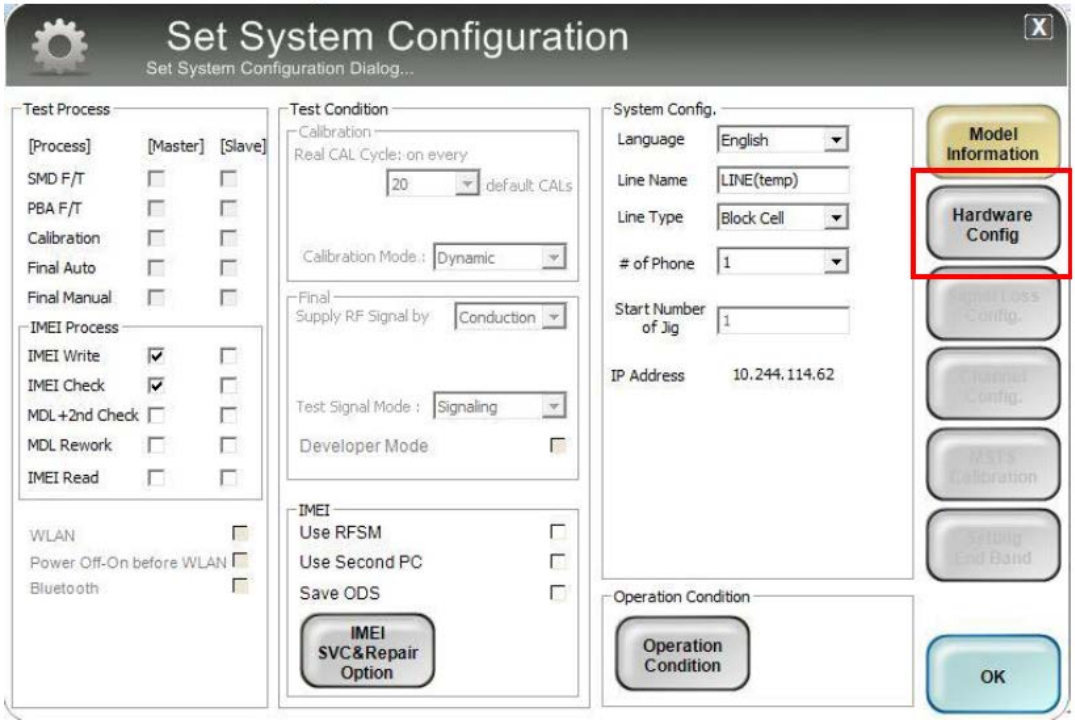


7. Check 'SVC , User Ticket No' and click OK

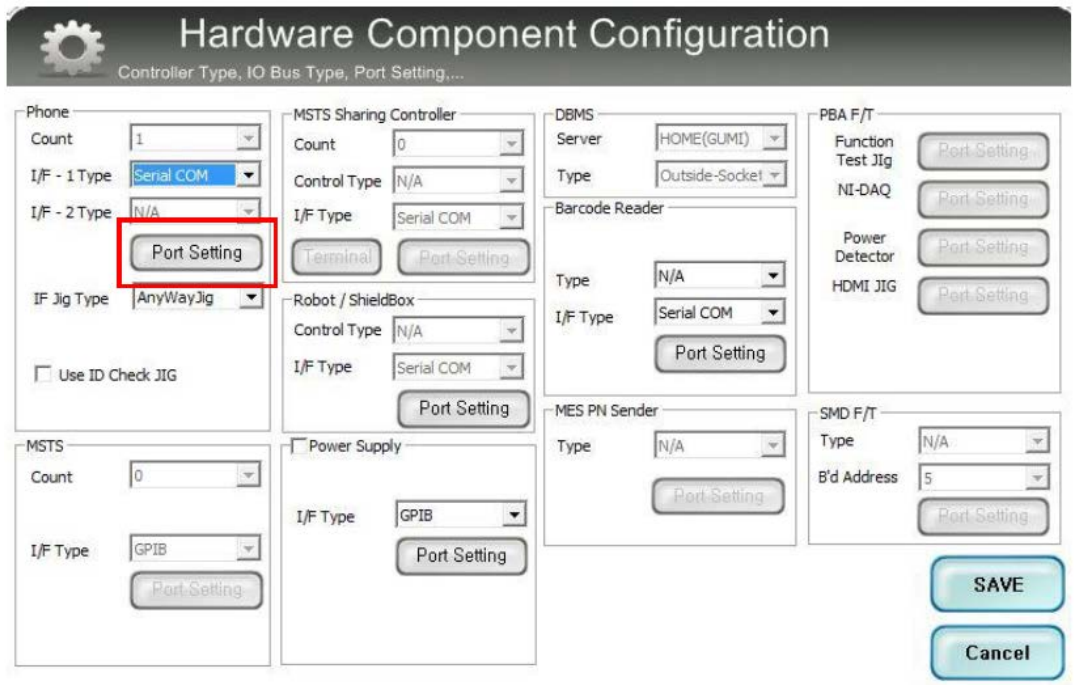


6. Level 1 Repair

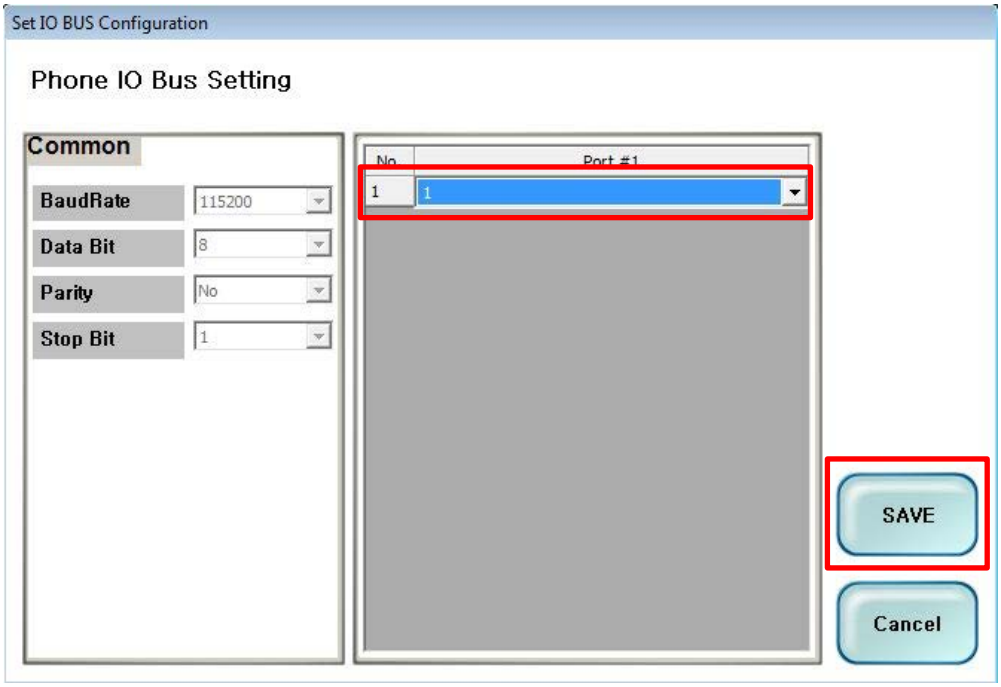
8. Click ‘Hardware Config’



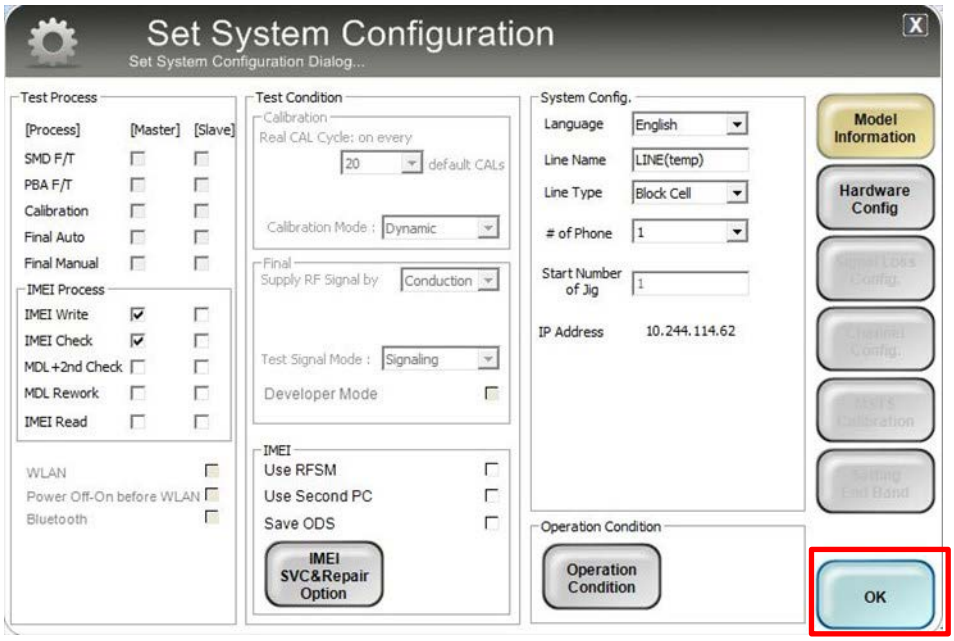
9. Click ‘Port Setting’



10. Select Port Number and SAVE

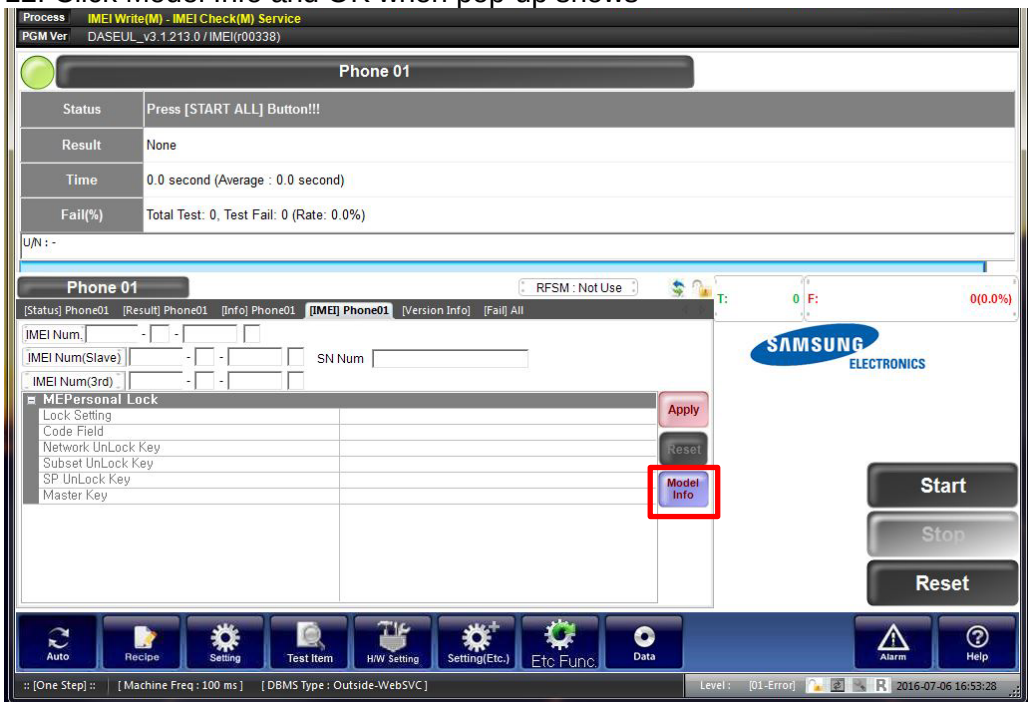


11.Click OK to proceed

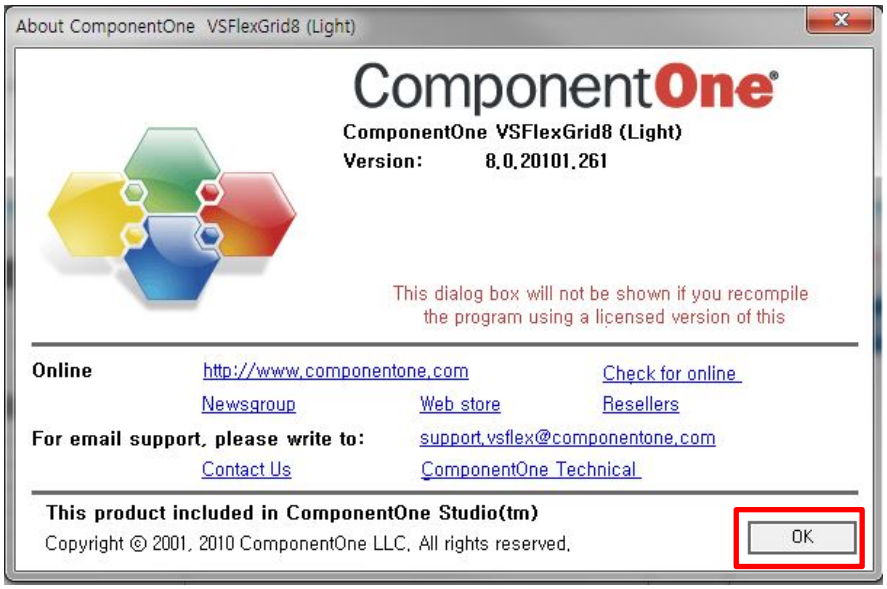


6. Level 1 Repair

12. Click Model Info and OK when pop-up shows

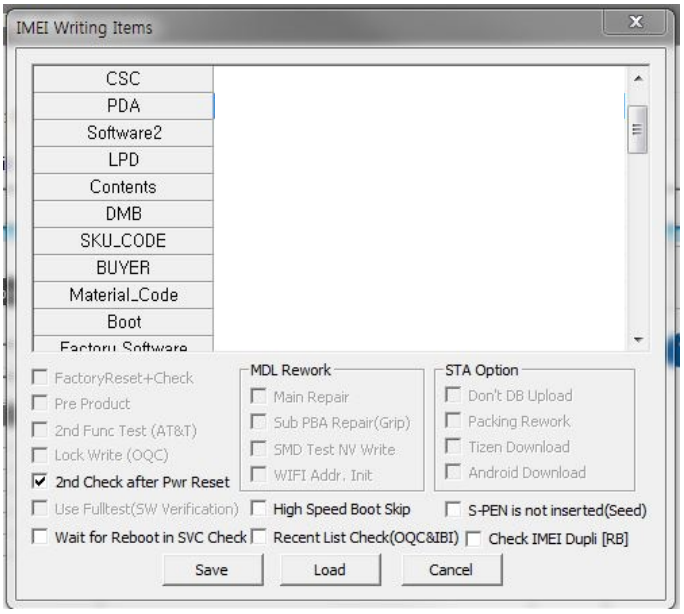


13. Click OK

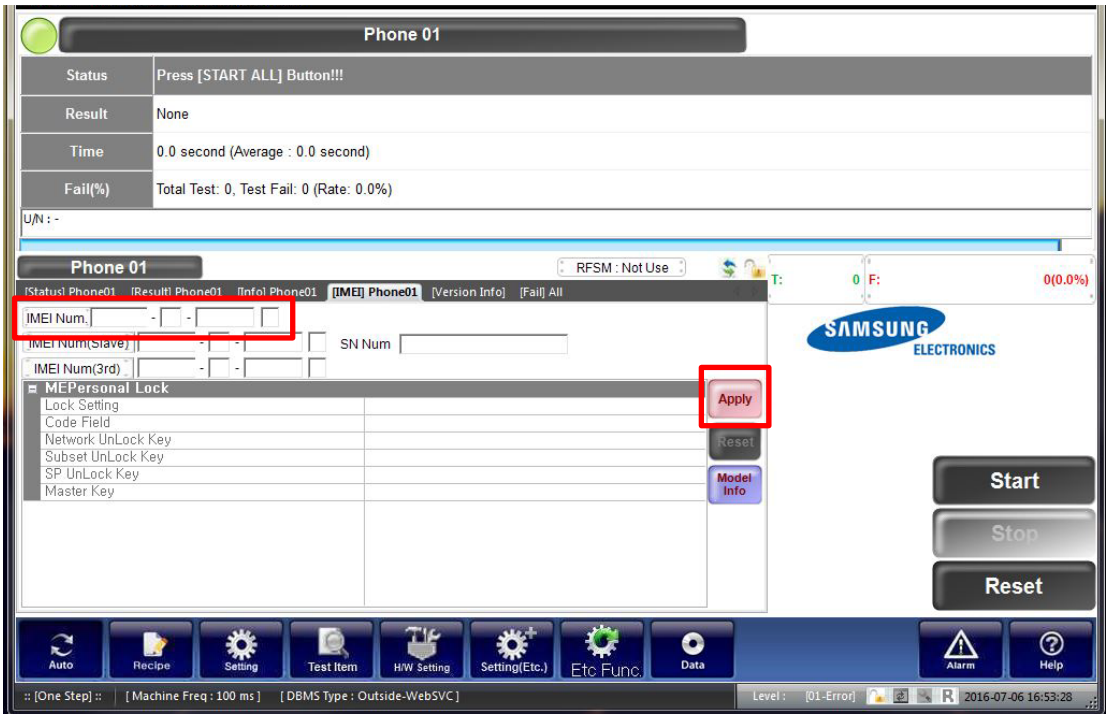


14. Input SKU_CODE and BUYER, then click Save button.

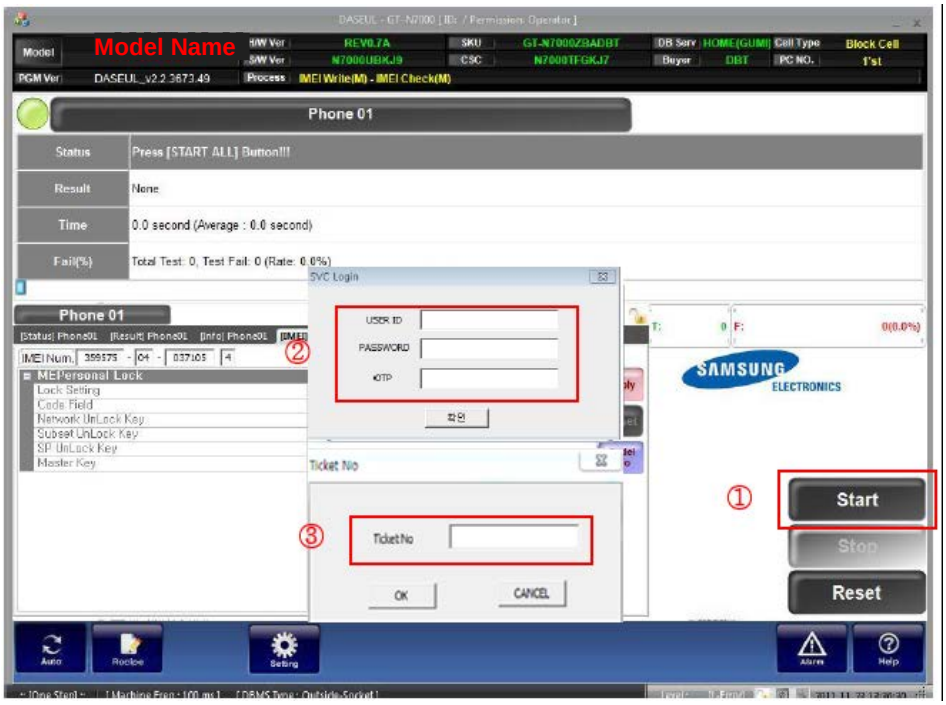
※ Refer to HHPsvc→IMEI Review to check SKU Code and buyer



15. Input IMEI Number and click Apply



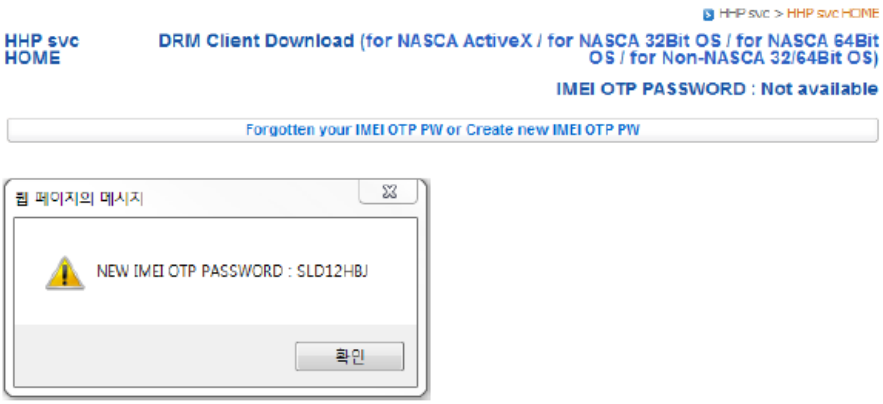
16. ① Click Start → ②Input IMEI writing ID and Password & OTP → ③Input Ticket No



※ OTP(One time Password) : OTP is valid for 6 hours.

After that, you can get new OTP by click the "Forgotten your IMEI OTP PW or Crete new IMEI OTP PW" button.

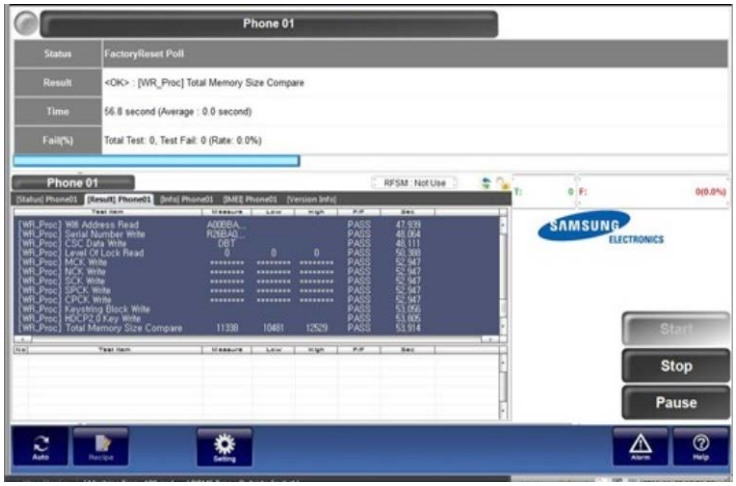
☞ OTP Location : GSPN → Knowledge → HHP svc → Home



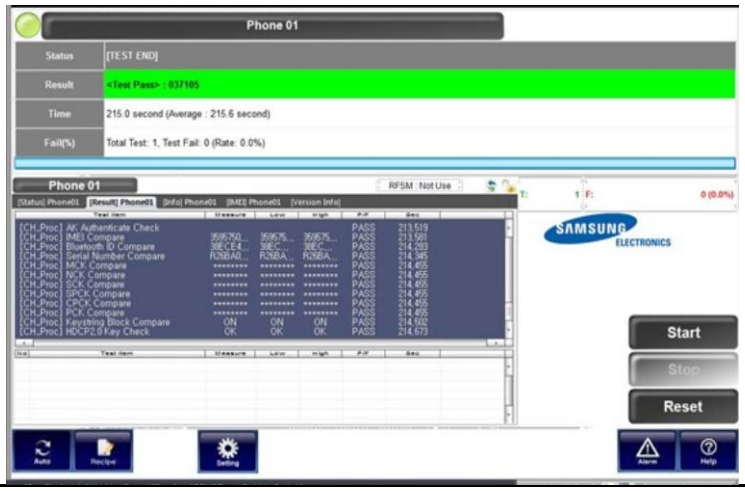
17. Connect the phone to Anyway JIG

※ When you connect the phone, the phone should be turned off.
After connecting the phone, the phone will be booted automatically.

18. IMEI Writing Proceeding



19. IMEI Writing Success



6-4. RF Calibration

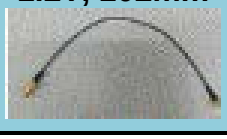
6-4-1. Required items in order to calibrate RF

• Installation program: RF Calibration Program
- Daseul_Launcher_vx.x.xx.exe
- Daseul_CAL_ALL_Runtime_x.x.xxx.x.CAB
- Model File
: Model Name_OPEN_CALIBRATION_Ver_x.x.xxx.x.CAB

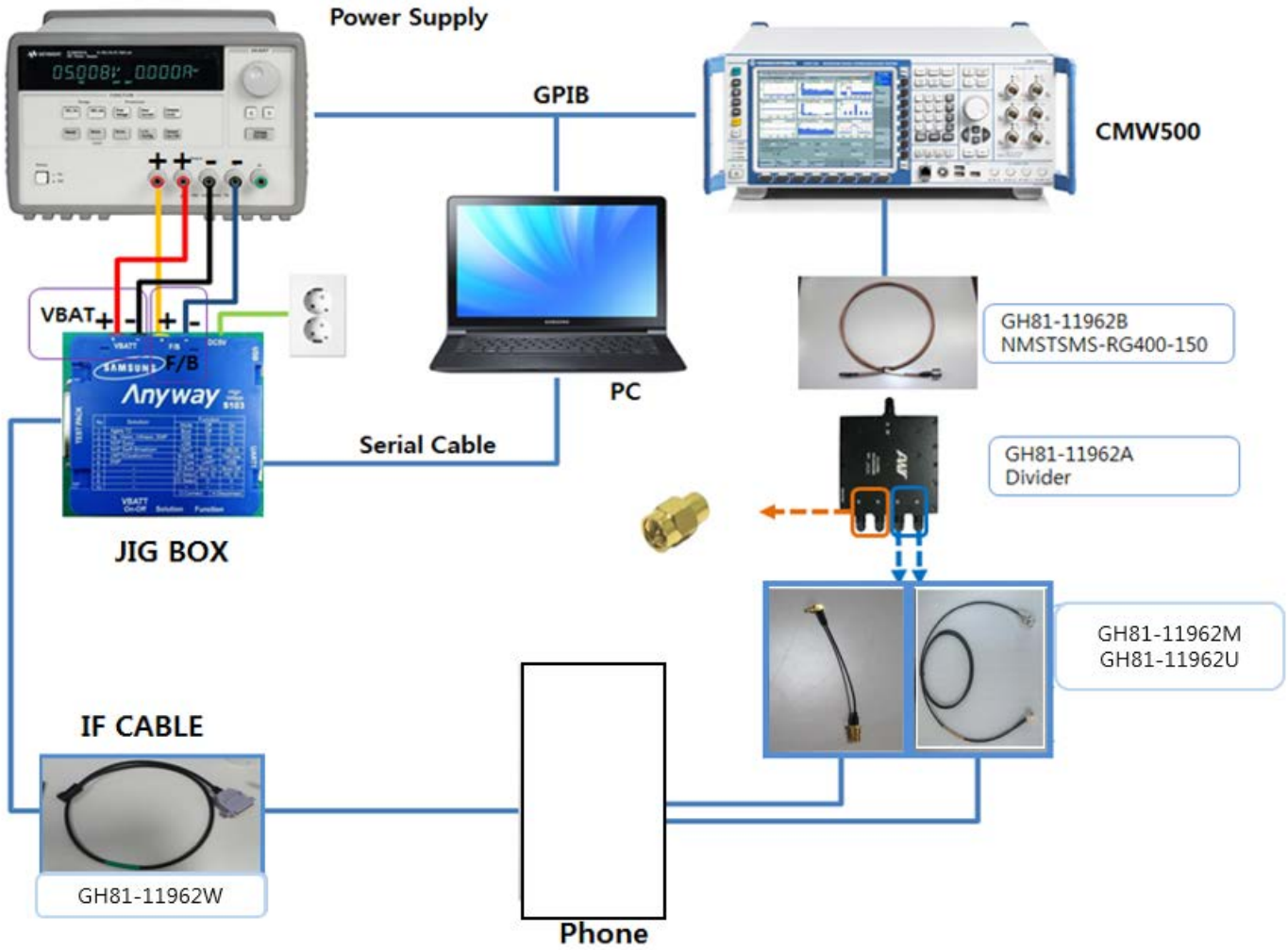
※ It is required to use the latest program.

- Mobile Phone
- R&S CMW500
- E3632A Power Supply
- GPIB Cable (2ea)
- JIG BOX (S103)
- Adapter
- UART Serial Cable
- IF Cable (GH81-11962W)

❖ Table of test cables

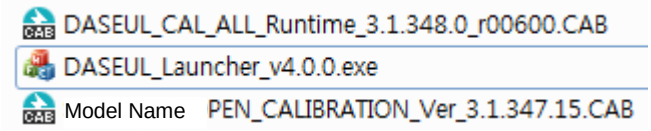
<table>
<tr><td rowspan="2">RF Cable
(Manual)</td><td>GH81-11962M
(2ea)</td><td>GH81-11962U
(2ea)</td><td></td></tr>
<tr><td>1.2T, 102mm
  </td><td>1.2T, 102mm
  </td><td></td></tr>
<tr><td rowspan="2">4 Port Divider</td><td>GH81-11962A</td><td>GH81-11962B</td><td>GH81-11962E</td></tr>
<tr><td>Divider
  </td><td>Divider Cable
  </td><td>50Ω terminator
  </td></tr>
</table>

❖ Setting

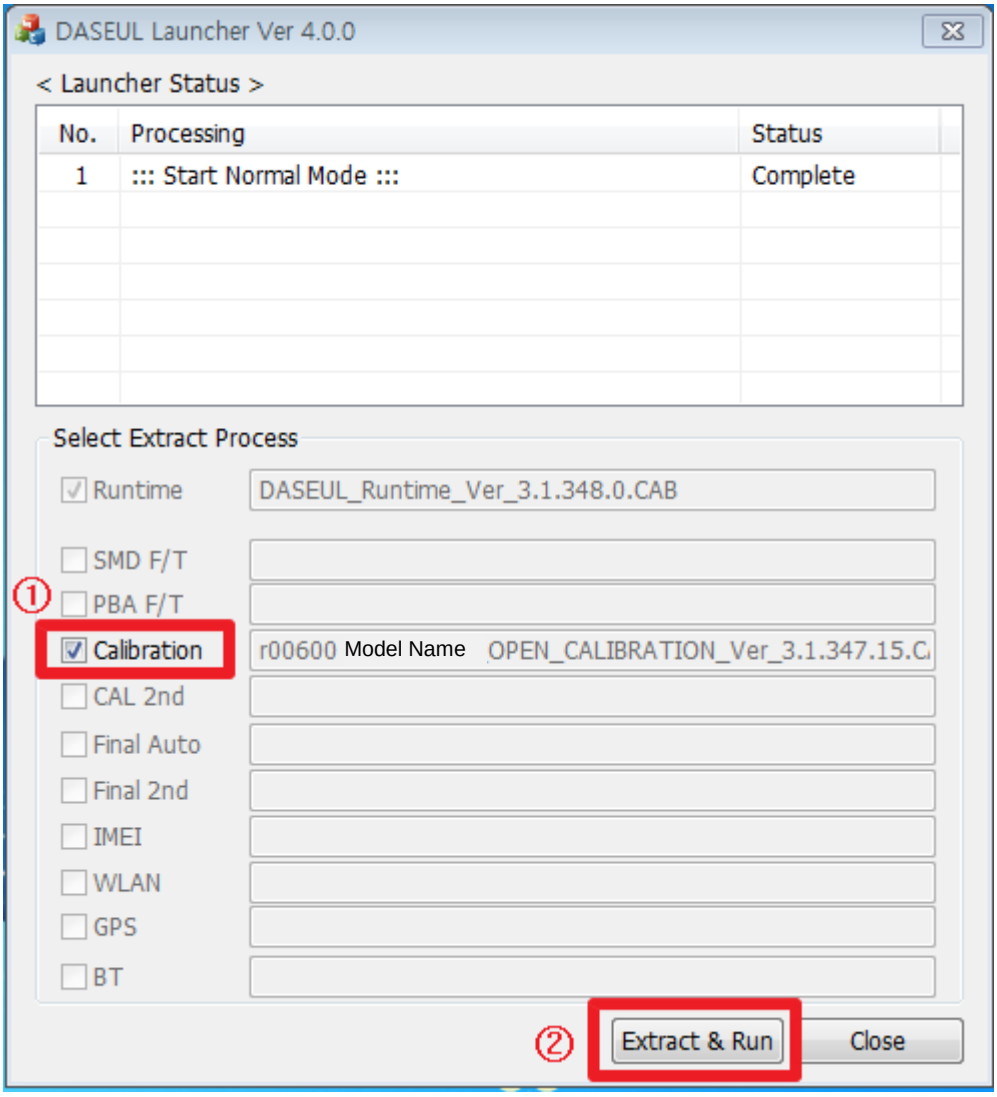


6-4-2. RF Calibration Program

1. Run the RF Calibration Program Launcher, 'DASEUL_Launcher_vx.x.xx.exe'.

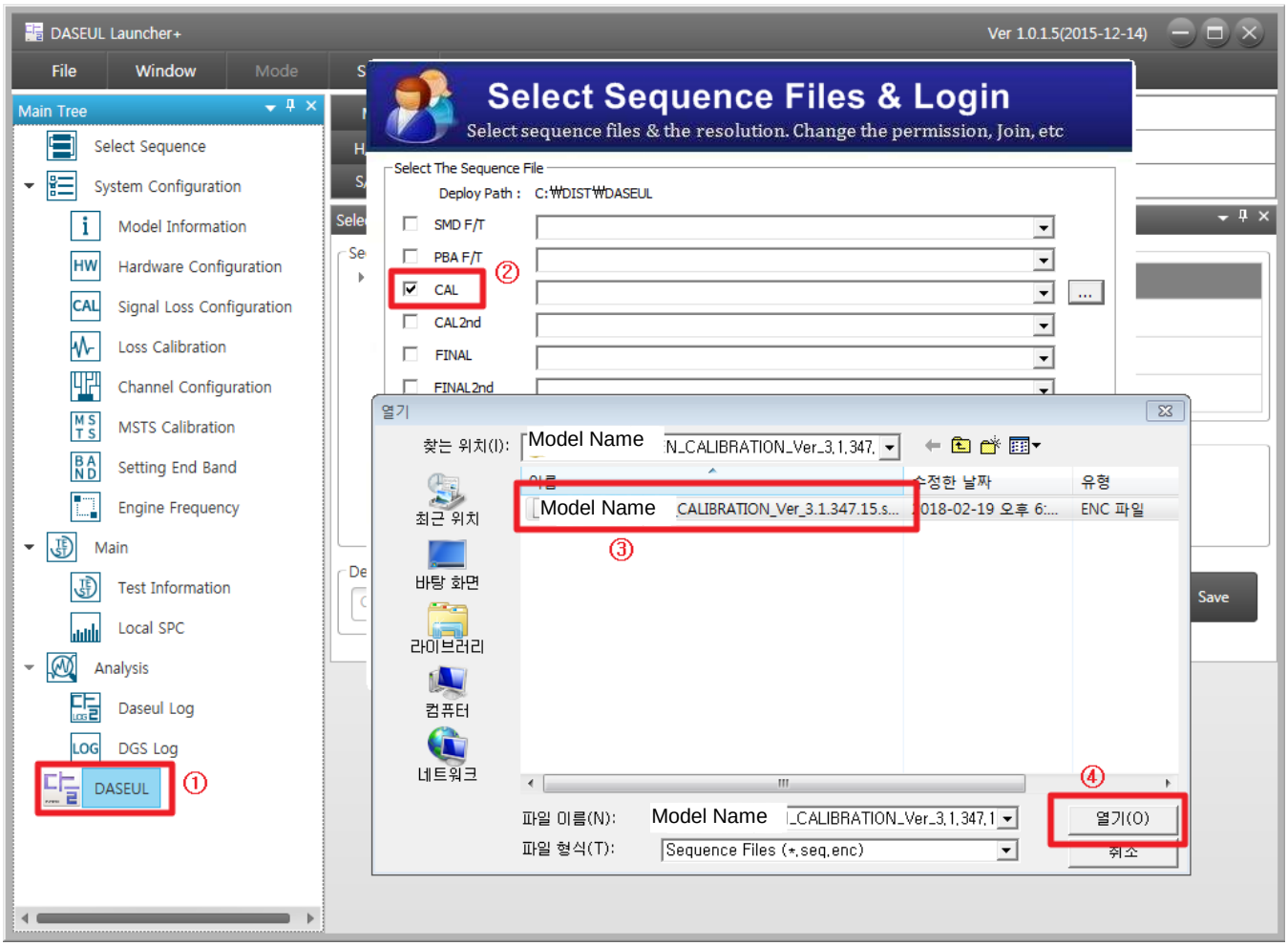


2. Check the 'Calibration' option and Click 'Extract & Run'.

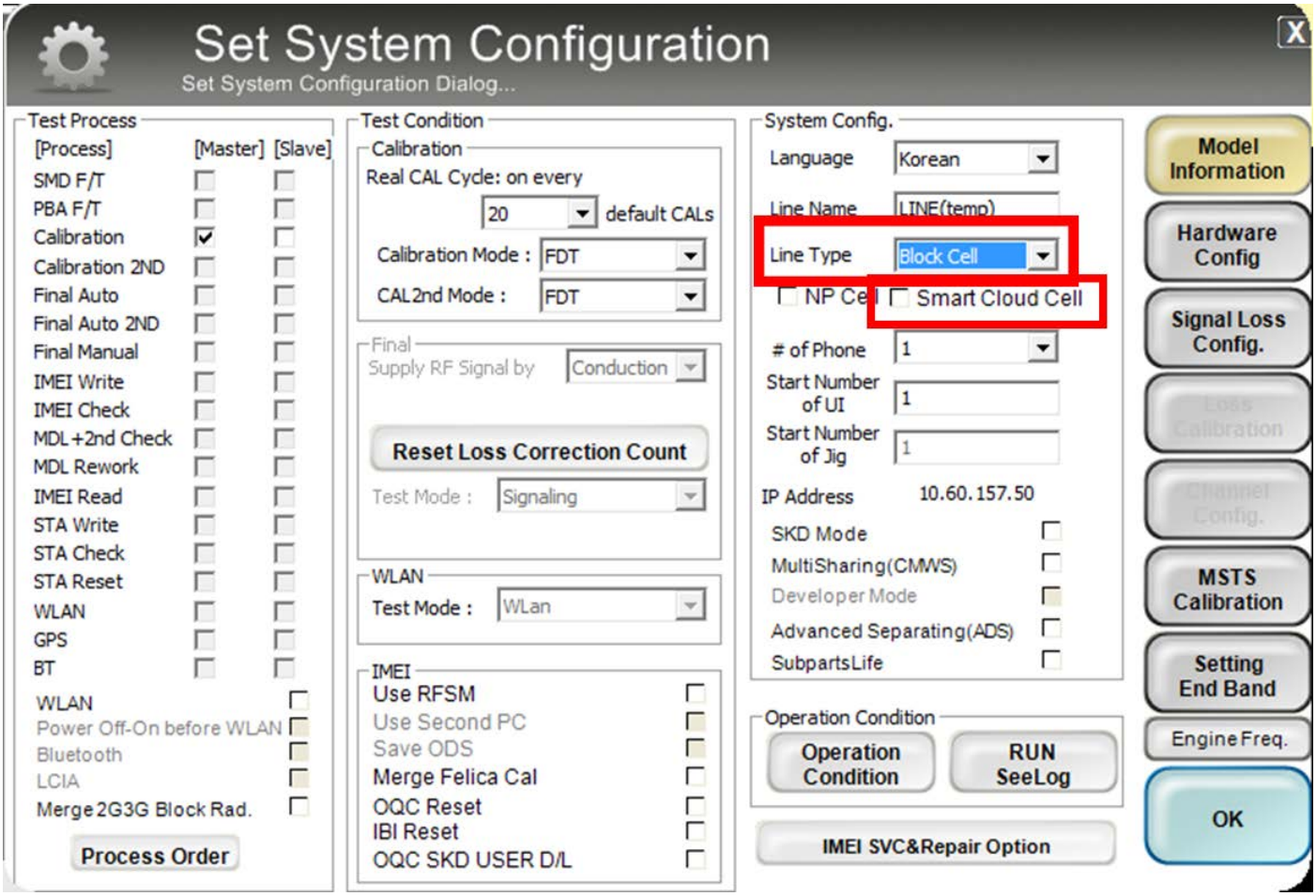


6. Level 1 Repair

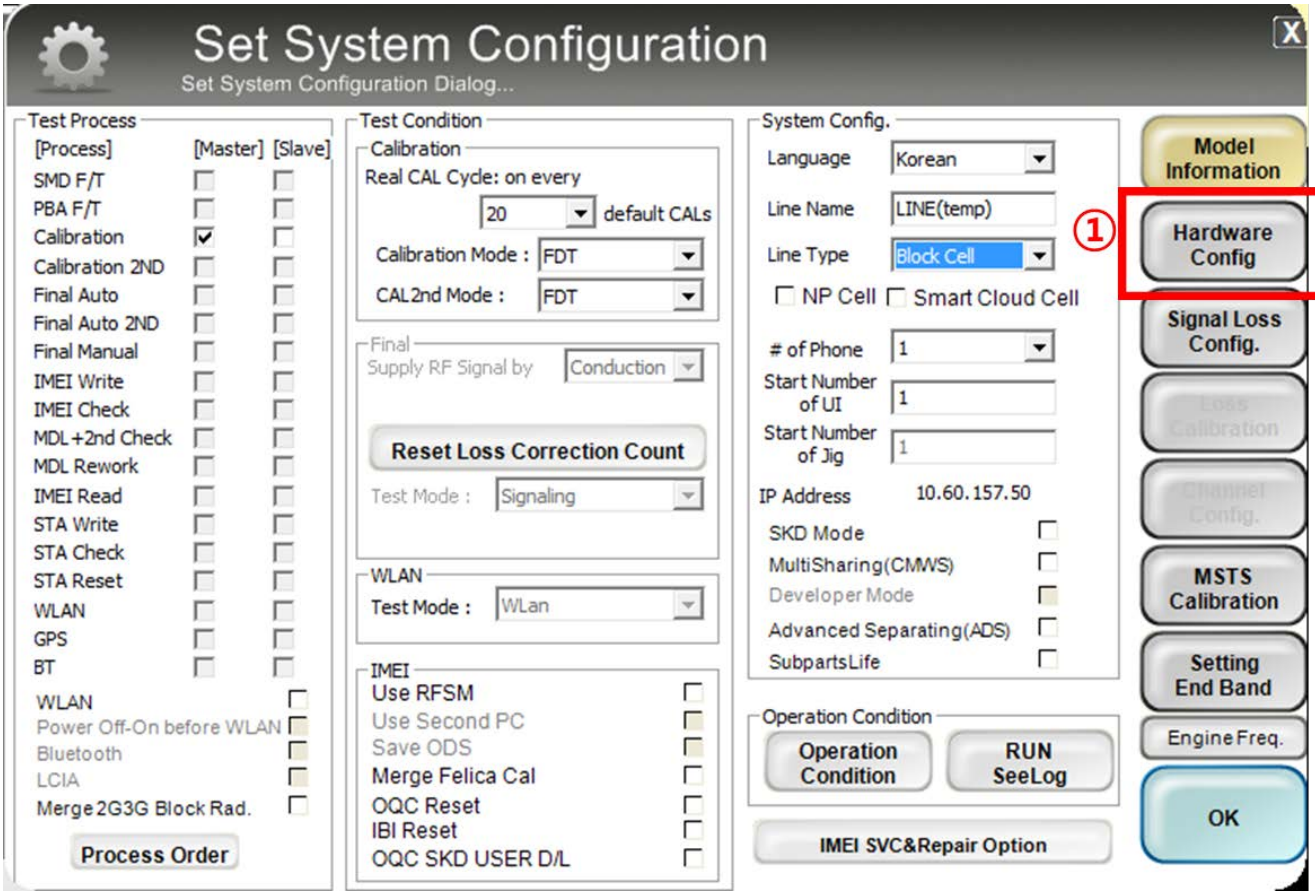
3. Check the 'CAL' and open the model file, then select 'Start' button.

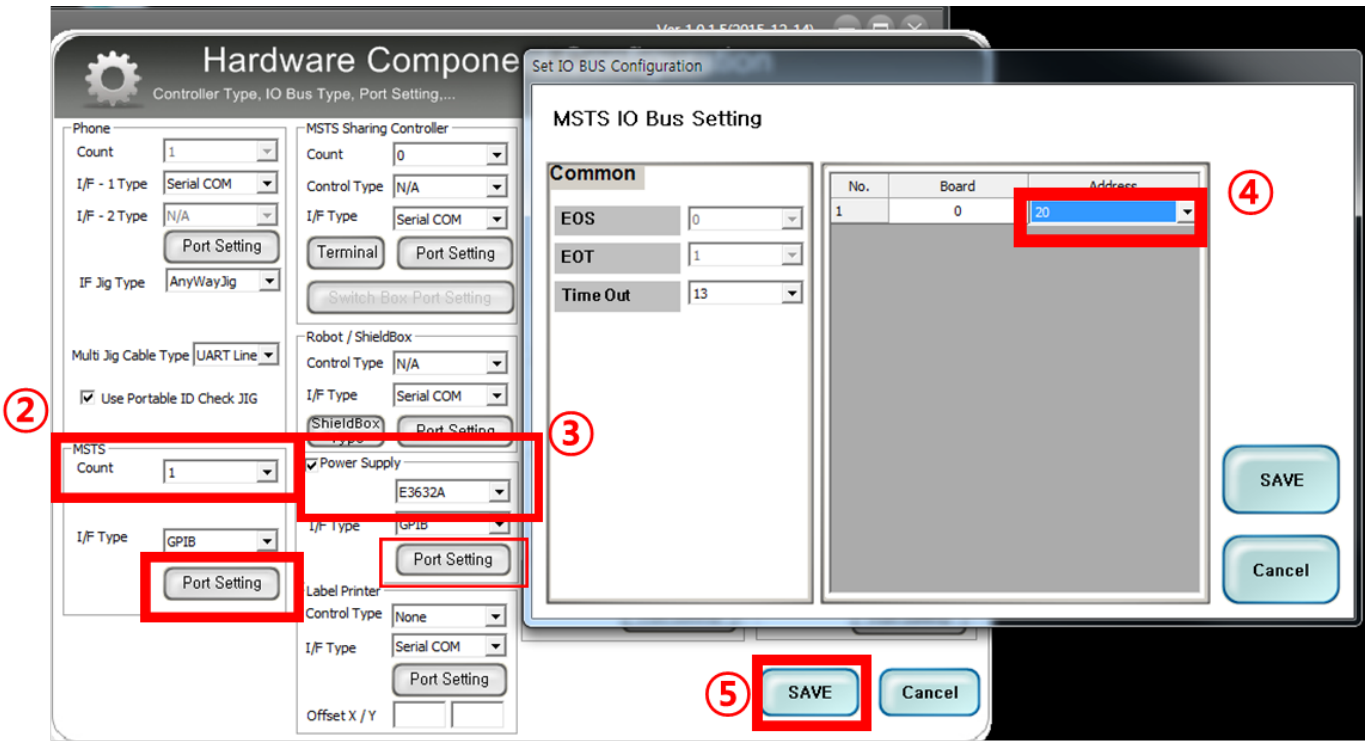


4. Change the Line Type to 'Block Cell' and disable 'Smart Cloud Cell'.



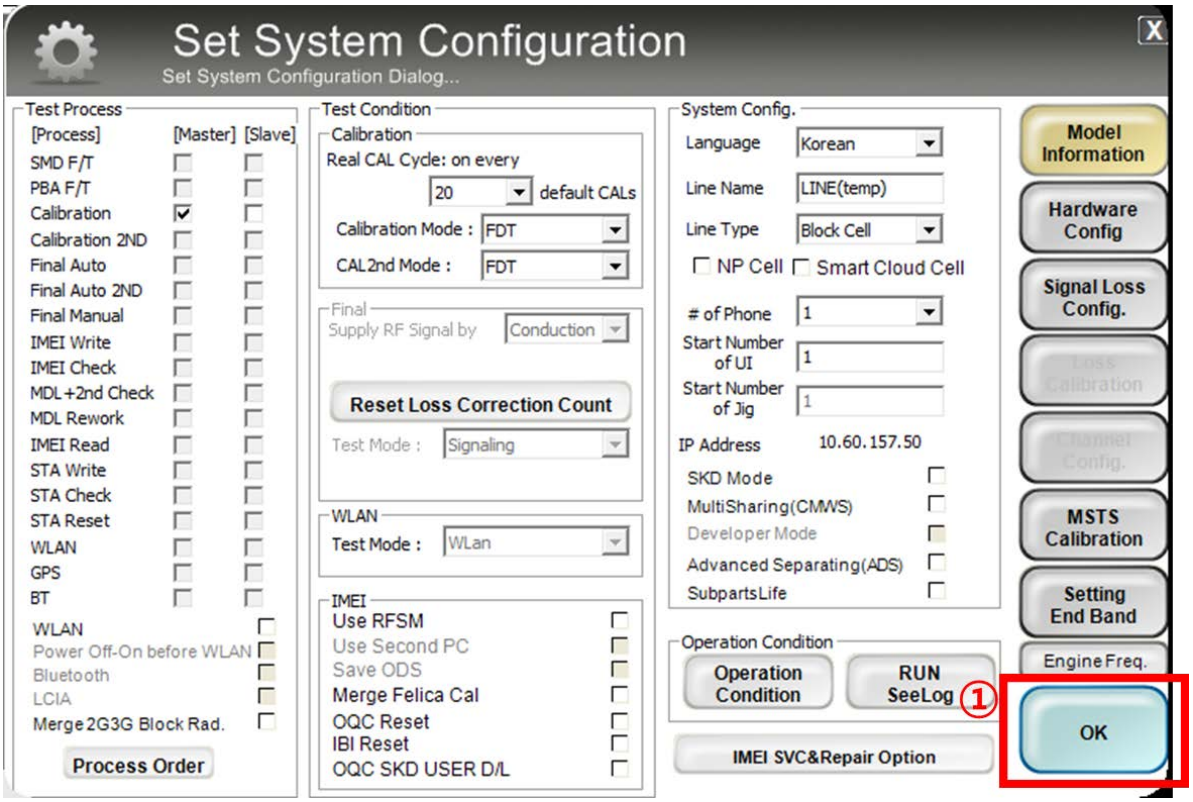
5. Set the GPIB address of MSTS(CMW500) and Power Supply(E3632A) to enter 'Hardware Config' and 'Save'. (Check the GPIB address of equipments in advance)

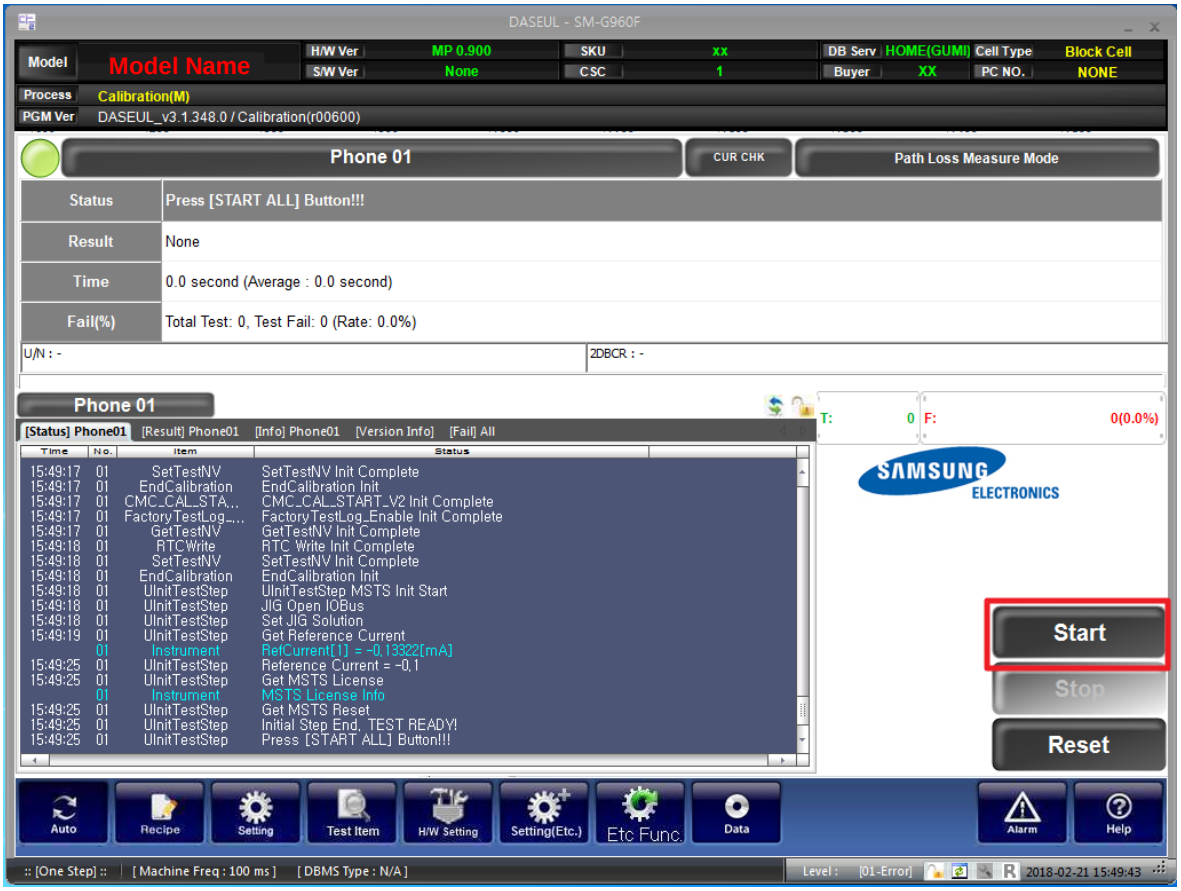




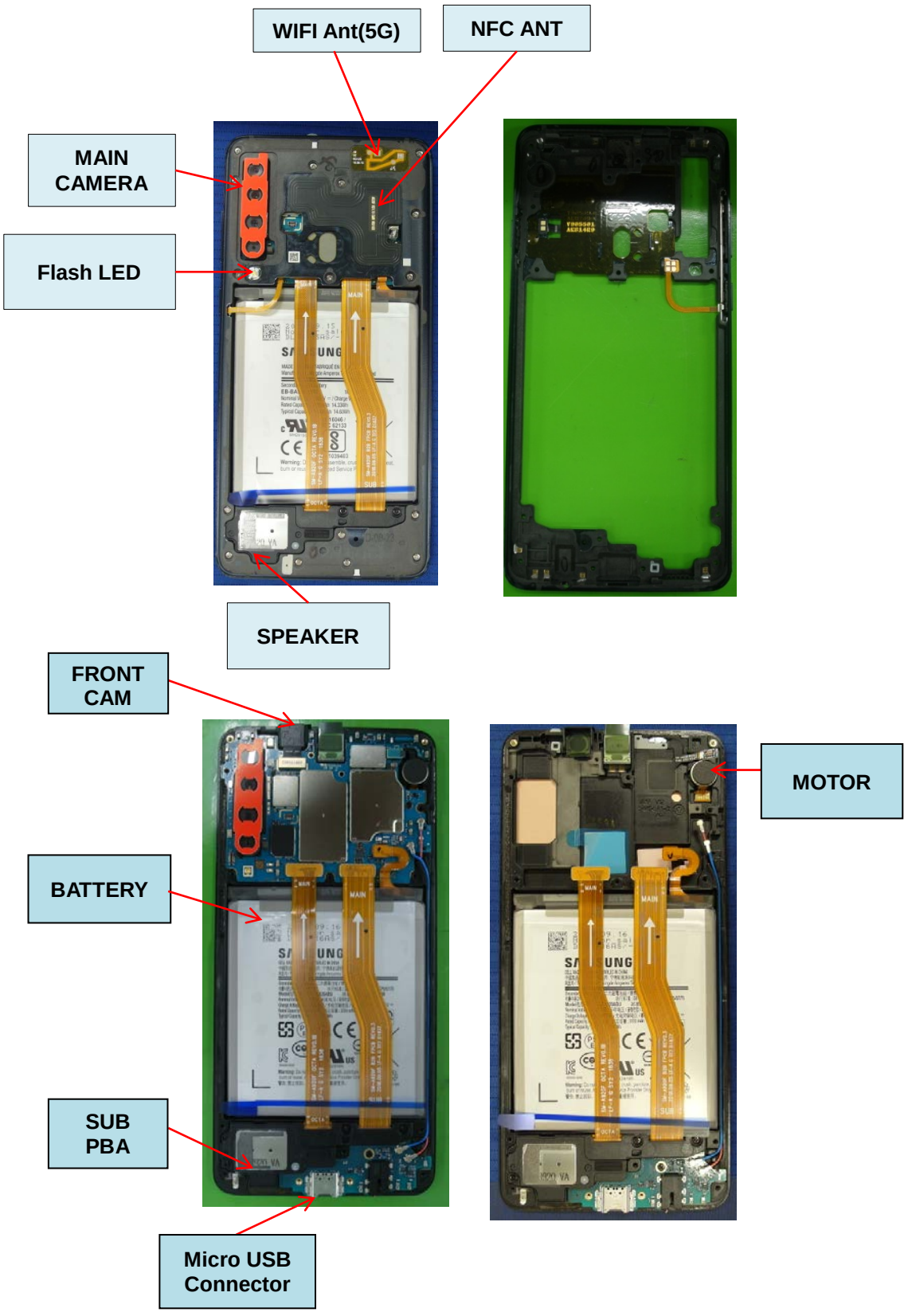
6. Level 1 Repair

6. Press 'OK' to start RF Calibration after completing all settings.





7-1 Components on the Rear/Front Case



7-2. Pre-requisite

	
Tweezers / Disass'y Sticks / Screw Driver	Anti-static Gloves
	
Anti-static Mat	Hot Plate
	
A OCTA Disassembly Holder	OCTA Disassembly Upper
	
Ethyl Alcohol	Cotton Swab

7-3 Parts which must be changed after repair

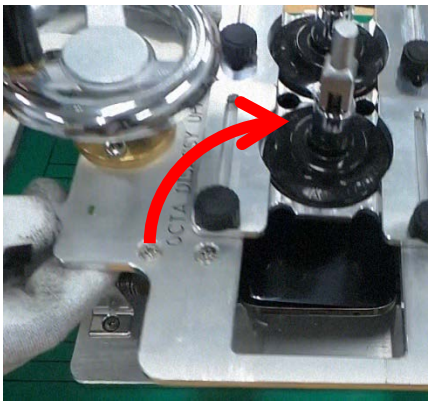
BOM description & part code	Image	Remarks
Backglass Outside Rework Tape [GH81-16332A]		**Whenever the Backglass is disassembled and reassembled**

7-4. Disassembly

1

1) Put the device in the chamber as following below heating condition
- SOC 68%↓: 70℃/10~20 minute
- SOC 68%↑: 70℃/10~20 minute

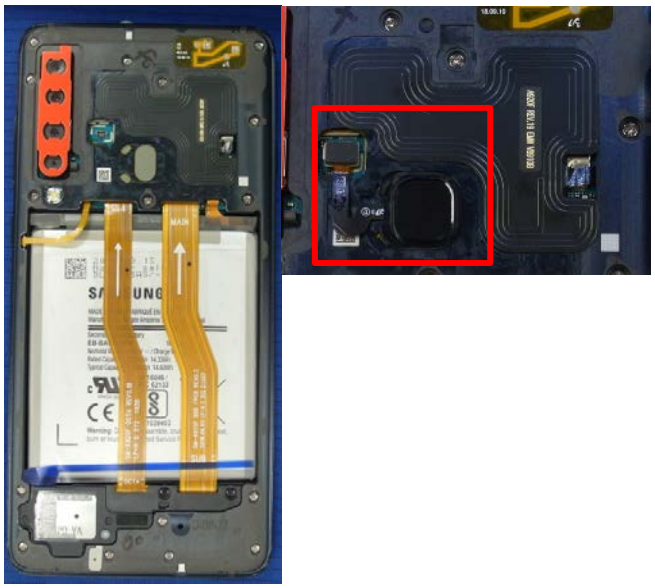
※ Please confirm the heating condition released lastly, and follow it.



※ Caution
1) Be care of scratch

2

Detach the Back Glass. And Finger sensor
1) Detach the left side of Back glass
2) Detach the Finger sensor connector



※ Caution
1) Be care of scratch

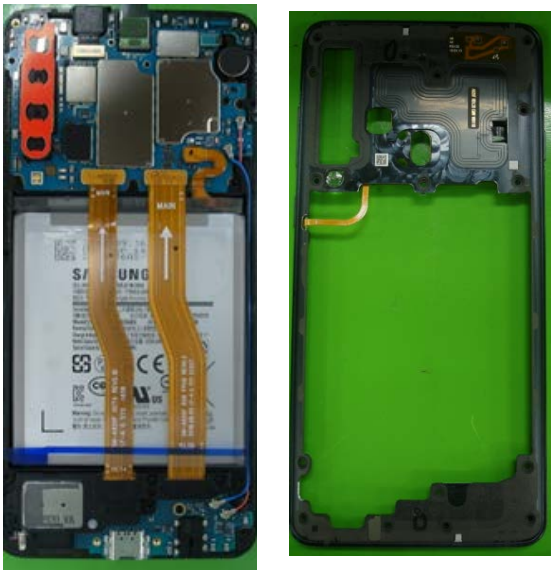
3

Unscrew 16 Point and disassemble SIM Tray from device

※ Caution
1) Be care of Rear damage

4

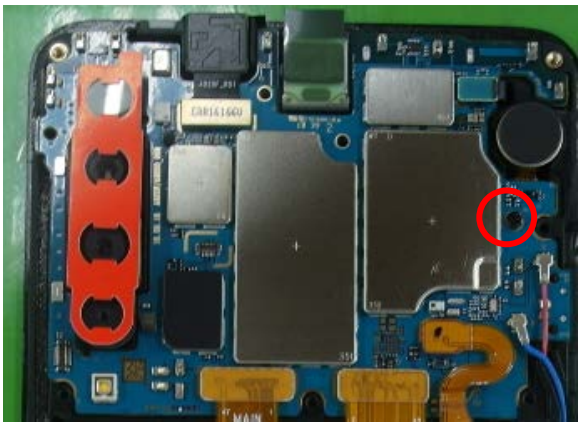
Disassemble Rear.



※ Caution
1) Be care of scratch
2) Be care of Rear and connector damage

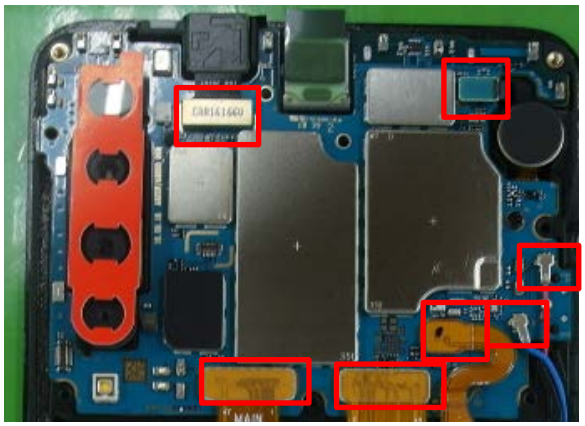
7. Level 2 Repair

5 Unscrew PBA 1points.



※ Caution
1) Be care of scratch
2) Be care of Front and connector damage
3) Be careful not to damage the PBA

6 Detach 2 coaxial cable, Battery connect and the other connectors.

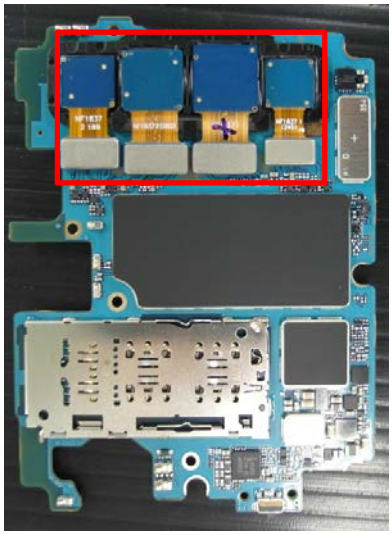


※ Caution
1) Be careful not to damage the PBA

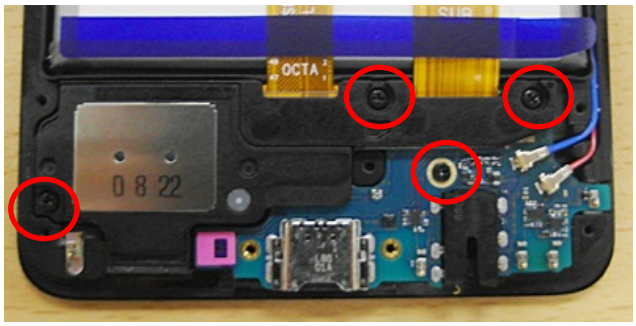
7 1) Disassemble Front CAM
2) Disassemble PBA

※ Caution
1) Be care of scratch
2) Be care of connector/cable damage

8 Detach other components.(Main CAM)



※ Caution
1) Be care of FPCB damage

9 Unscrew SUB PBA and spk 4points 	**10** Detach SPK Detach SUB PBA 
※ Caution 1) Be care of several kinds of damage	※ Caution 1) Be careful not to damage the SUB PBA

7-5. Assembly

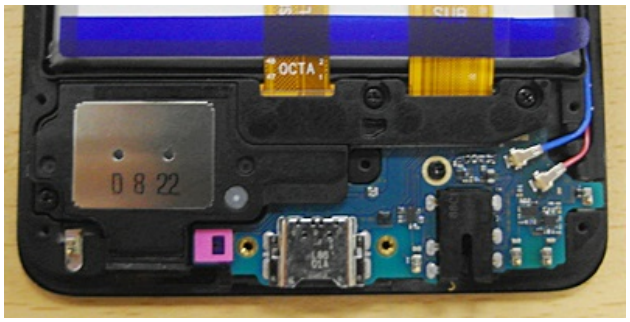
1

1)Attach components on Front.
(RCV module, Sensor FPCB, Motor and SUB PBA)
2)Attach OCTA and SUB PBA Connector

※ Caution
1) Be care of coaxial cable damage

2

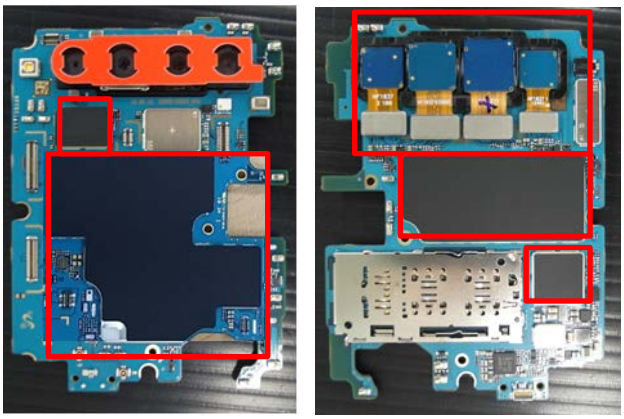
Attach 2 coaxial cable, Screw 4point in SUB PBA.



※ Caution
1) Be care of chip damage nearby screw point.

3

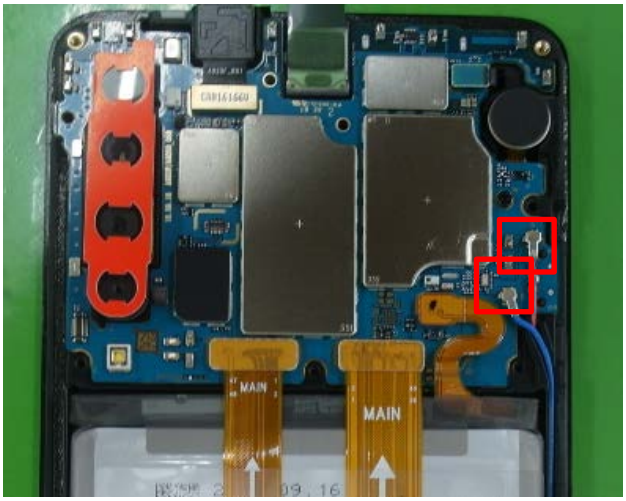
Attach EMI Tape(4), Flooding label and Main CAM in PBA



※ Caution
1) Be care of FPCB damage and tilt
2) Be care of press power/time

4

Assembly the PBA at the front.
And attach 2 coaxial cables.

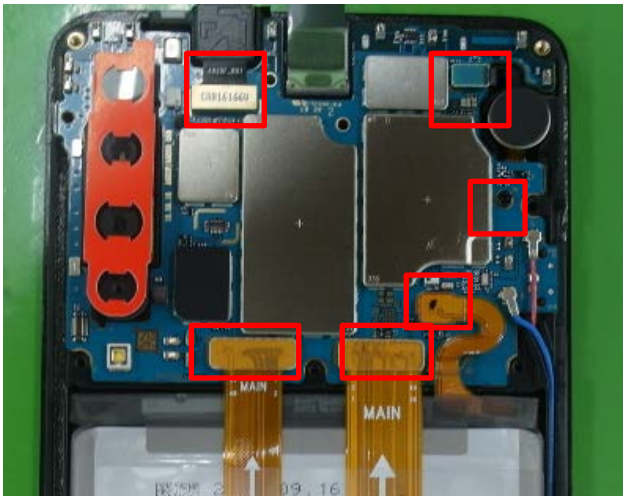


※ Caution
1) Be care of components FPCB.

7. Level 2 Repair

5

1) Attach Battery ,Front CAM, Sensor FPCB, SUB PBA ,OCTA Connector
Screw 1 point in PBA



※ Caution
1) Be care of press power/time

6

Assemble the REAR.

※ Caution
1) Be care of FPCB and Y-OCTA damage

`

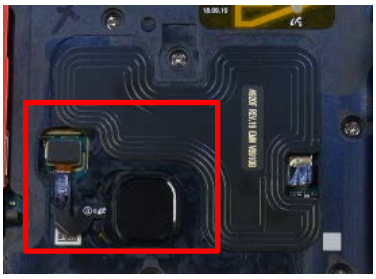
7

Screw 16 Point and assemble SIM Tray.
* Torque value : 1.2 N・m

※ Caution
1) Be care of scratch and REAR damage

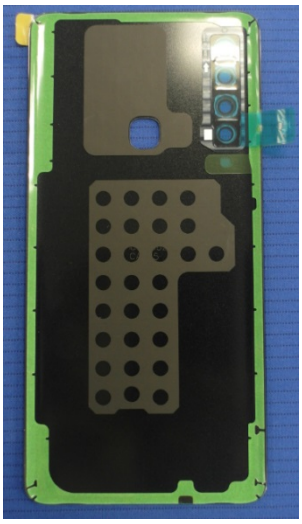
8

Attach the finger sensor on the REAR and Assemble the finger sensor on the PBA



※ Caution
1) Be care of scratch and REAR damage

9 Attach the back glass inner tape on the rear case

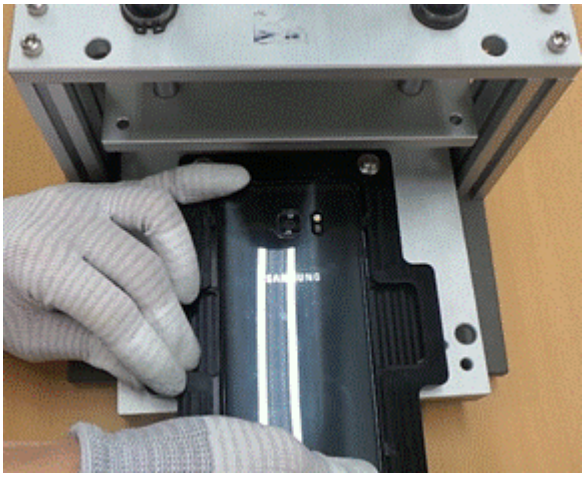


※ Caution
1) Be care of scratch and REAR damage

10 Attach the back glass on the REAR side.

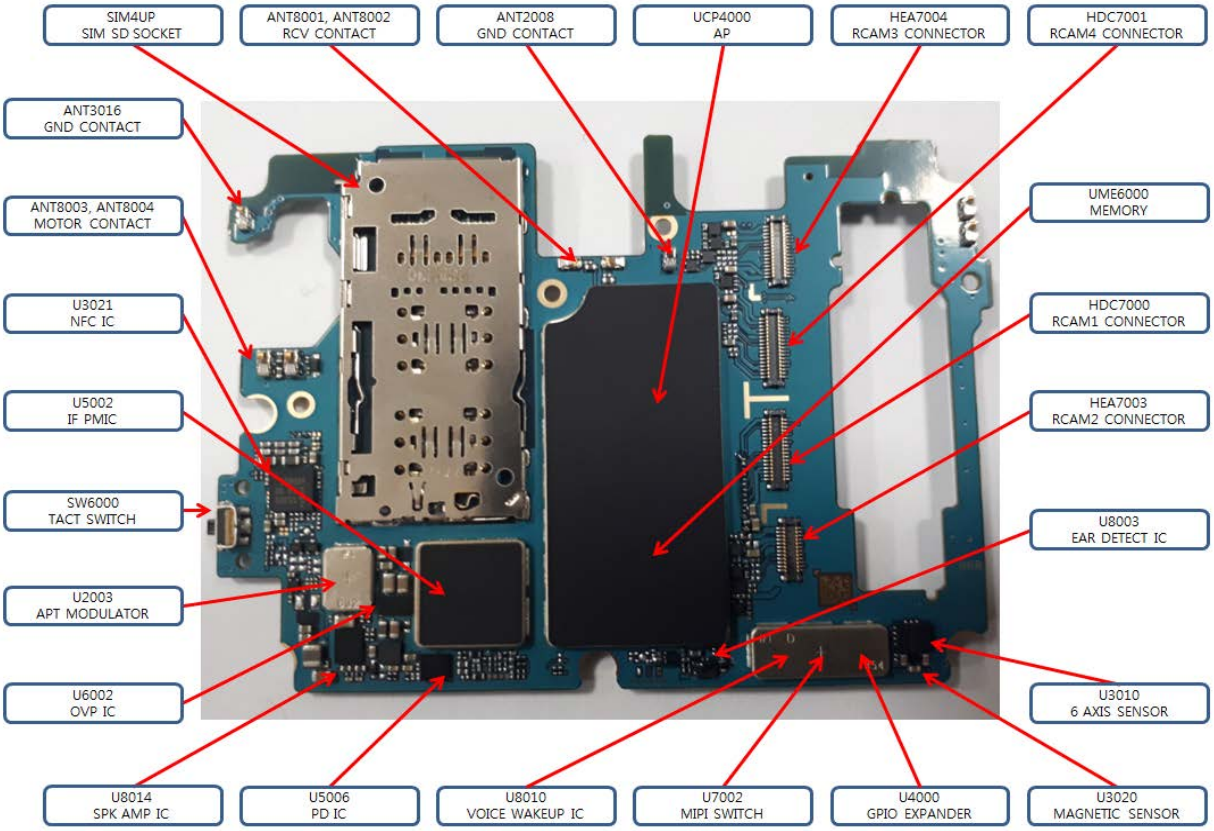
※ Caution
1) Be care of scratch and tilt.

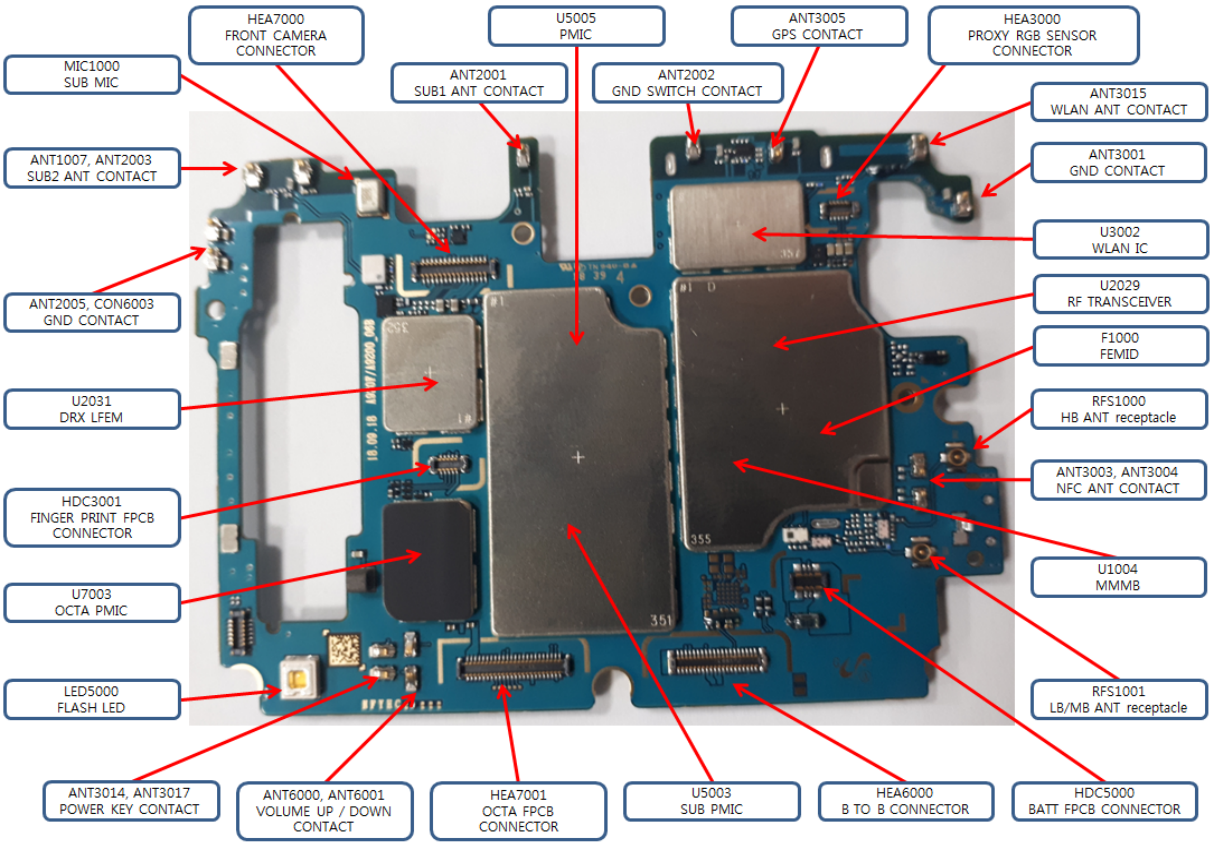
11 Press Back Glass with pressing jig for SVC.
Pressing force : 1N
Pressing time : 1 minute

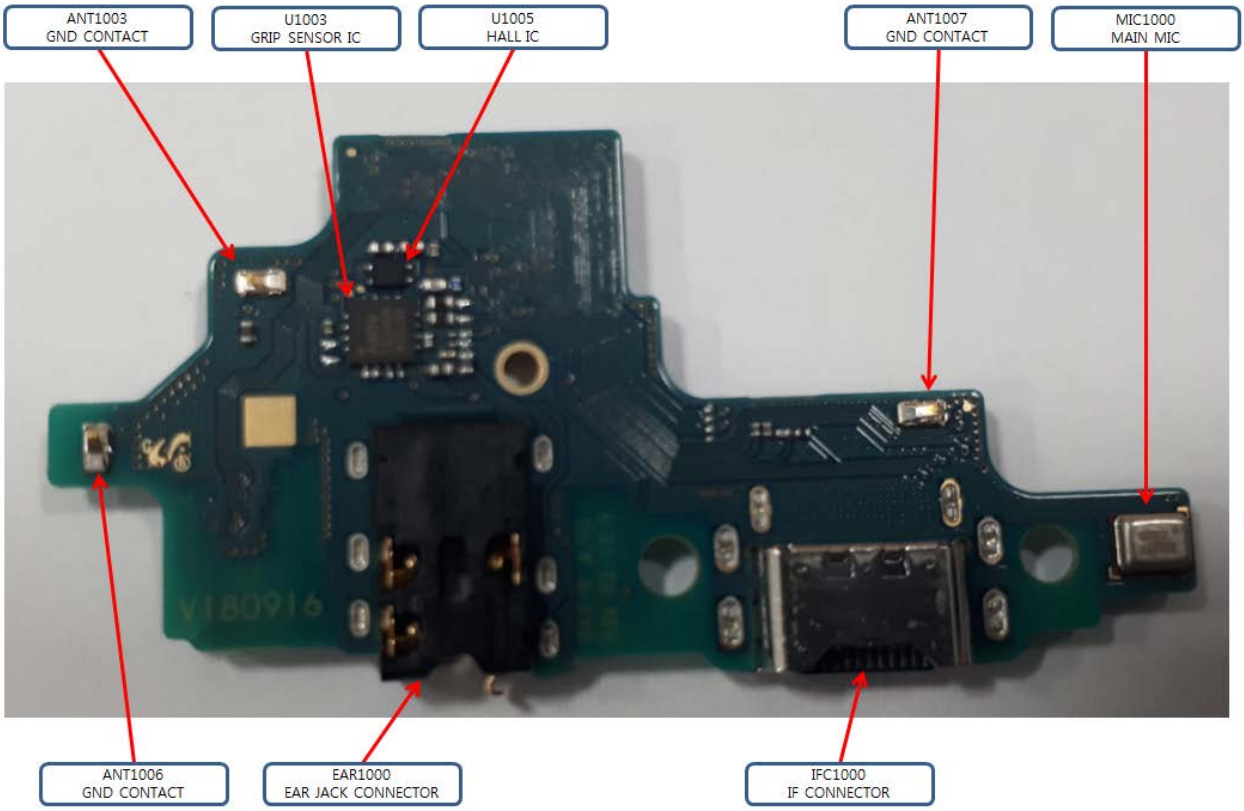


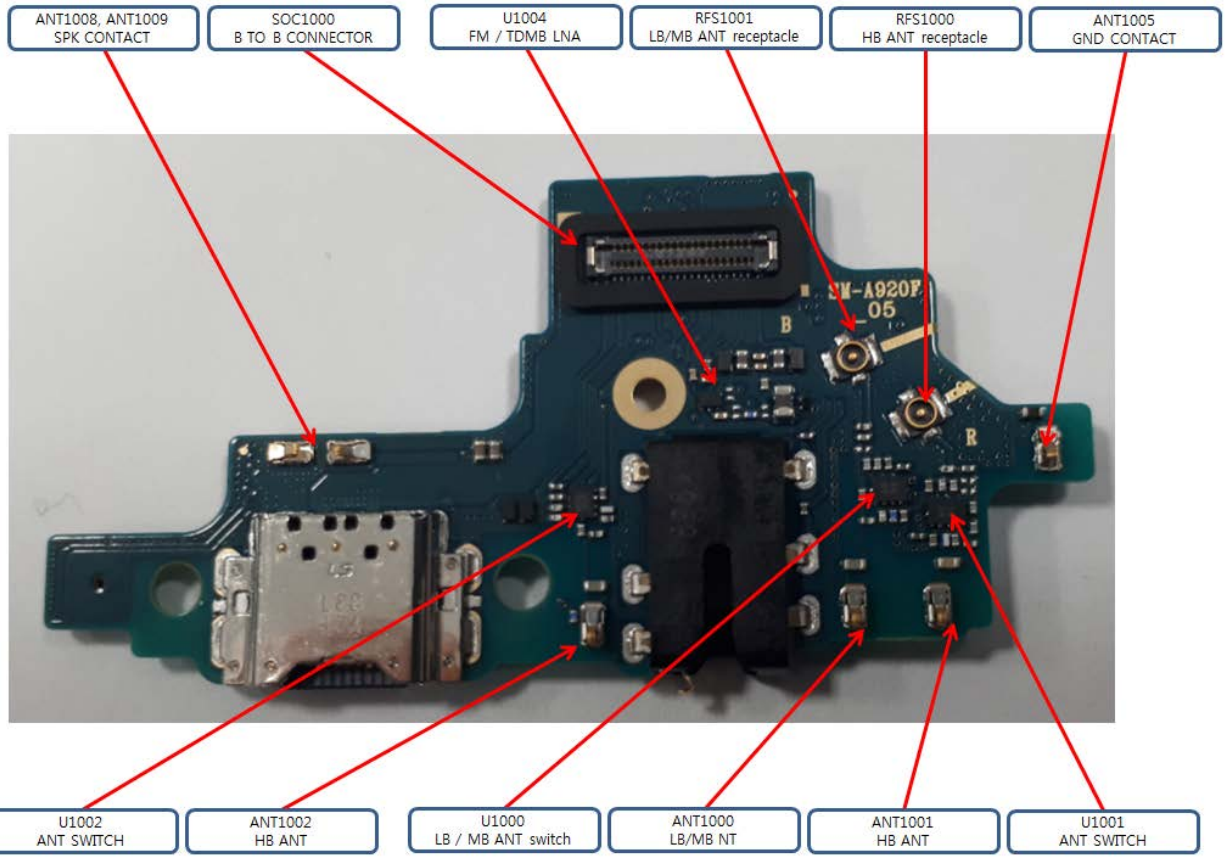
※ Caution
1) Be care of scratch and tilt.

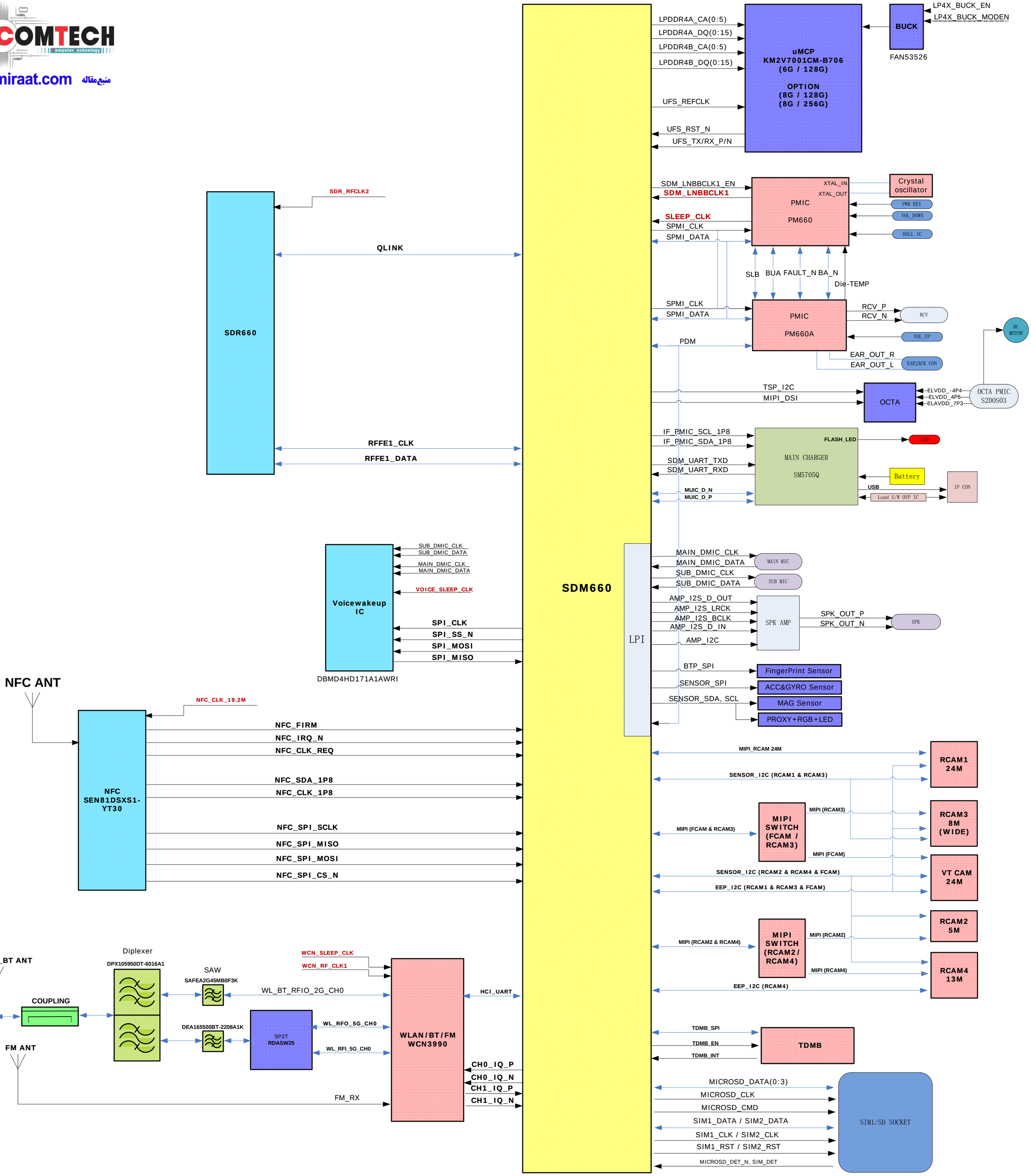
8-1. Components Layout











SM-A920F RF Block Diagram REV00

2018.07.26
H/W R&D Group1
Seungwan Yang

[지원밴드]

- 2G : GSM850 / GSM900 / DCS1800 / PCS1900
- 3G : WB1, 2, 4, 5, 8
- 4G : FDD B1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 20, 26, 28, 66
- TDD B34, 38, 39, 40, 41
- TD-SCDMA : 34, 39
- CDMA : BC0

MAIN_H

Coupler (LDJ18829M28DG014)

MXD8642

51Ω

TRX_B38_41 (B38/41)

TRX_B40 (B40)

TRX_B7

B38/41 : SFDG93AQ902
B40 : B8347

HB PA
SKY77786-11

RXTD1, RXTD2, CMOS Controllers, HBTD2, HBTD1, RFIN_H, VCC_4G, HBFD1

PRX_TR_IN_B38_40_41 (BGS8H2) → PRX_HB4 / PRX_HB3

TX_TR_OUT_B7_38_40_41_CH0 → TX_CH0_HB1

PRX_TR_IN_B7 (BGS8H2, B7 SAFFB2G65AA0F0A) → PRX_HB2

SAYEY2G53BD0F3K

MAIN_LM

Coupler (LDJ18829M28DG014) → Diplexer (DPX202700DT-4062A1)

TX_PA_OUT_B13
TX_PA_OUT_B28

MMMB
SKY77656-11

TX_PA_OUT_B5_26_BC0
TX_PA_OUT_B8
TX_PA_OUT_12_17
TX_PA_OUT_20
TX_PA_OUT_B34_39
TX_PA_OUT_B1
TX_PA_OUT_B3_4
TX_PA_OUT_B66
TX_PA_OUT_B2

3G/4G PA

TX_TR_OUT_B5_8_12_13_17_20_26_28_BC0 → TX_CH0_LB2

TX_TR_OUT_B1_2_3_4_66_34_39 → TX_CH0_MB1

VBATT, VIO, SCLK, SDATA (Basic Circuit Control Circuit with DAC)

VRF_PAM_VCC1, VRF_PAM_VCC1, VPH_PWR, VCC2_3G, VCC1_3G, VCC_GSM

2G PA

TX_PA_OUT_GSMLB → TX_TR_OUT_GSMLB → TX_CH0_LB1

TX_PA_OUT_GSMHB → TX_TR_OUT_GSMHB → TX_CH0_MB2

FEMiD
D5328

PRX_TR_IN_B1_4 (BGS8M2, SAFFB2G14AA0F0A B1, Option 1)

PRX_TR_IN_B4_66

BGSX22GN10 (RF4, RF1, RF3, RF2, Option 2)

PRX_TR_IN_B1_4_66_MB → PRX_MB4

PRX_TR_IN_B1_4_HB → PRX_HB4

PRX_TR_IN_B2_PCS → PRX_MB3

PRX_B3_G1800 (Option, BGS8M2, SAFFB1G84AB0F0A B3) → PRX_TR_IN_G1800_B3 → PRX_MB1

PRX_TR_IN_EGSM_B8 → PRX_LB4

PRX_TR_IN_B20 → PRX_LB3

PRX_TR_IN_B5_26_G850_BC0 → PRX_LB5

PRX_TR_IN_B12_17 → PRX_LB1

MXD8621

TRX_B13 (AUX_LB2) ← TX_PA_OUT_B13 ← PRX_TR_IN_B13

TRX_B66 (AUX_MB2) ← TX_PA_OUT_B66 ← PRX_TR_IN_B66

TRX_B28 (AUX_LB3) ← TX_PA_OUT_B28 ← PRX_TR_IN_B28 → PRX_LB2

AUX_MB1, AUX_LB1: 51Ω, 51Ω

AUX_MB3, AUX_MB4: B34/39 (SFWG00DB002) → PRX_TR_IN_B34_39 → PRX_MB2

Option KOR only: BGSX22GN10 (RF4, RF1, RF3, RF2)

DRX_B5_ASDIV

ASDIV_B5_TX

SUB_L

BGS12PL6 (Option)

B5 (SAFFB876MAA0F0A) + BGS8H2 → DRX_TR_IN_B5_AS (MXD8621) → DRX_MLB4

SUB_MH

DRX LFEM
SFML7E0H001

DRX_ANT_LB

DRX_ANT_MB

DRX_ANT_HB

B28, B8, B20, B12/13, B26 — LB LNA

B1, B3 — MB LNA1/2

B7, B38/41, B40 — HB LNA

DRX_TR_IN_B5_8_13_17_20_26_28_BC0 (Option) → DRX_MLB4

DRX_TR_IN_B1_4_MB (BGS12SN6, Option) → DRX_MB1

DRX_TR_IN_B1_4_HB → DRX_HB1

DRX_TR_IN_B2_3_34_39_66 → DRX_MB3

DRX_TR_IN_B7_38_40_41 → DRX_HB3

GPS_ANT_TEST

SADRM1G56AA0F3K

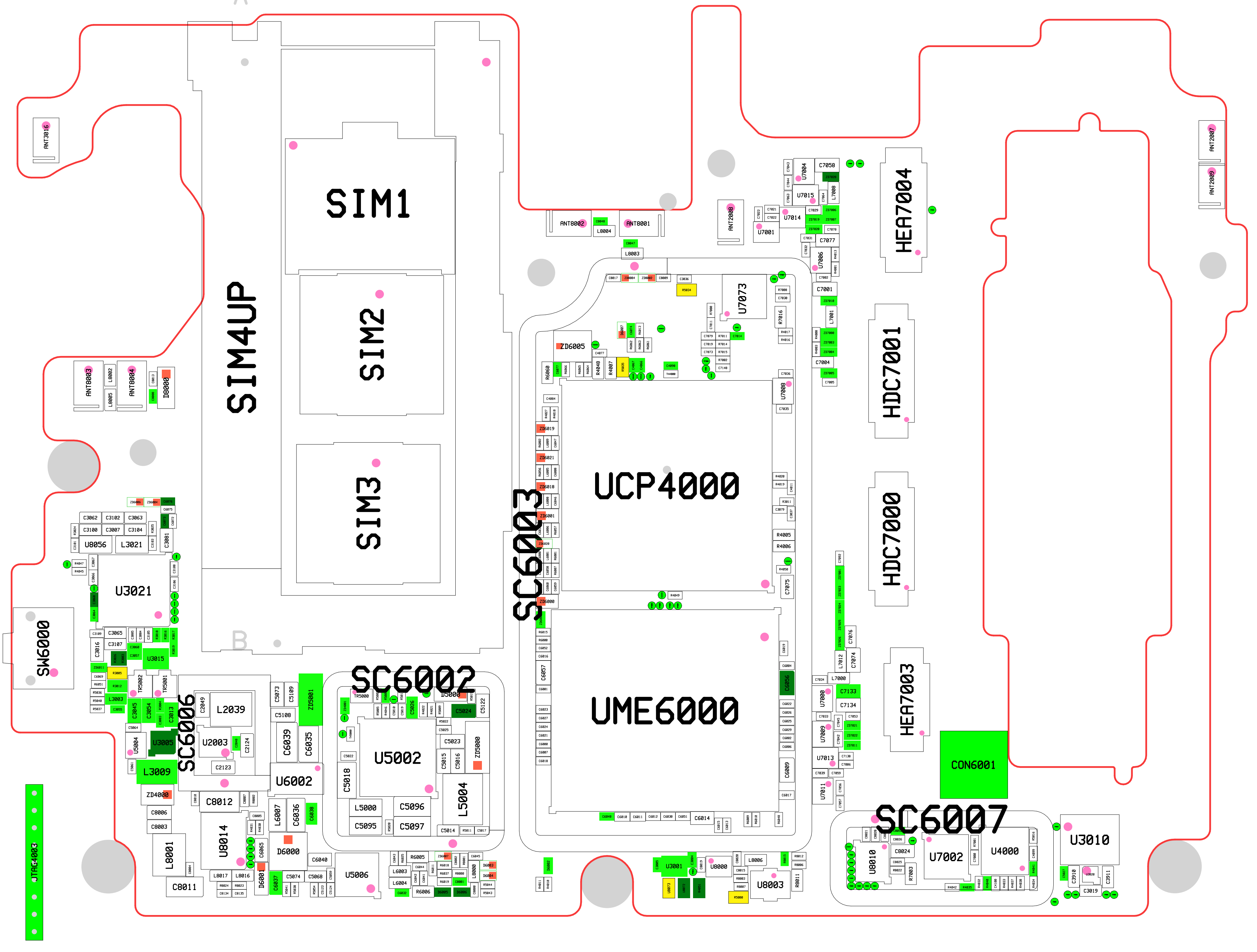
DPX252690DT-5325A1K

AUX — 외부필터 — AUX

B2,B4/66 : SFHG60BA002
B34/39 : SFWG00DB002
B38/41 : SFDG93AQ902
B40 : SAFFB2G35AA0F3K
B28 : SFH780AQ102

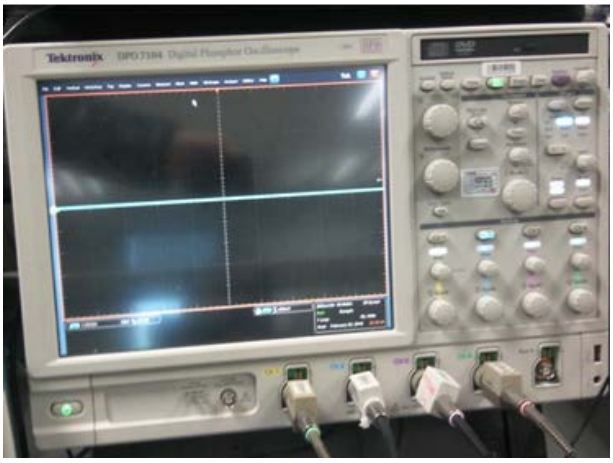
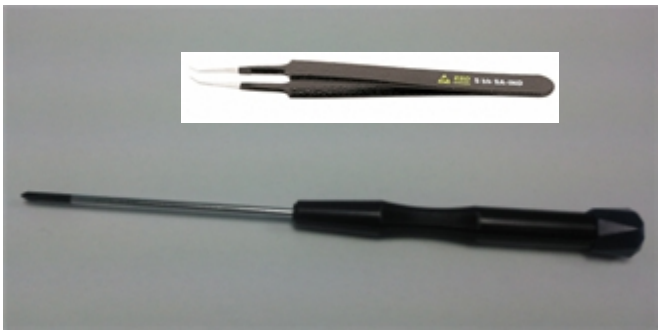
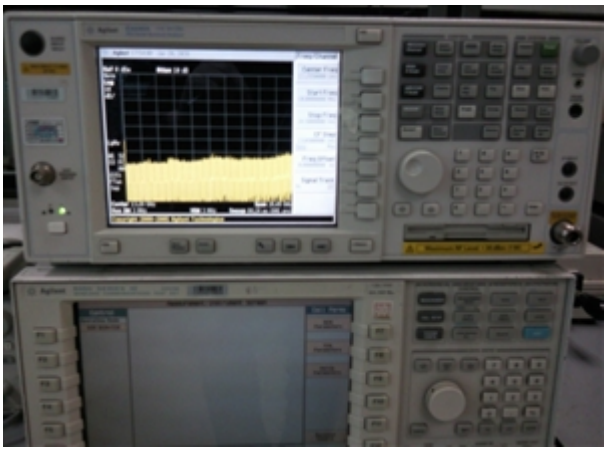
RFIC
SDR660

PRX_HB4, PRX_HB3, TX_CH0_HB1, PRX_HB2, TX_CH0_LB2, TX_CH0_MB1, TX_CH0_LB1, TX_CH0_MB2, PRX_MB4, PRX_HB4, PRX_MB3, PRX_MB1, PRX_LB4, PRX_LB3, PRX_LB5, PRX_LB1, PRX_LB2, PRX_MB2, DRX_MLB4, DRX_MB1, DRX_HB1, DRX_MB3, DRX_HB3

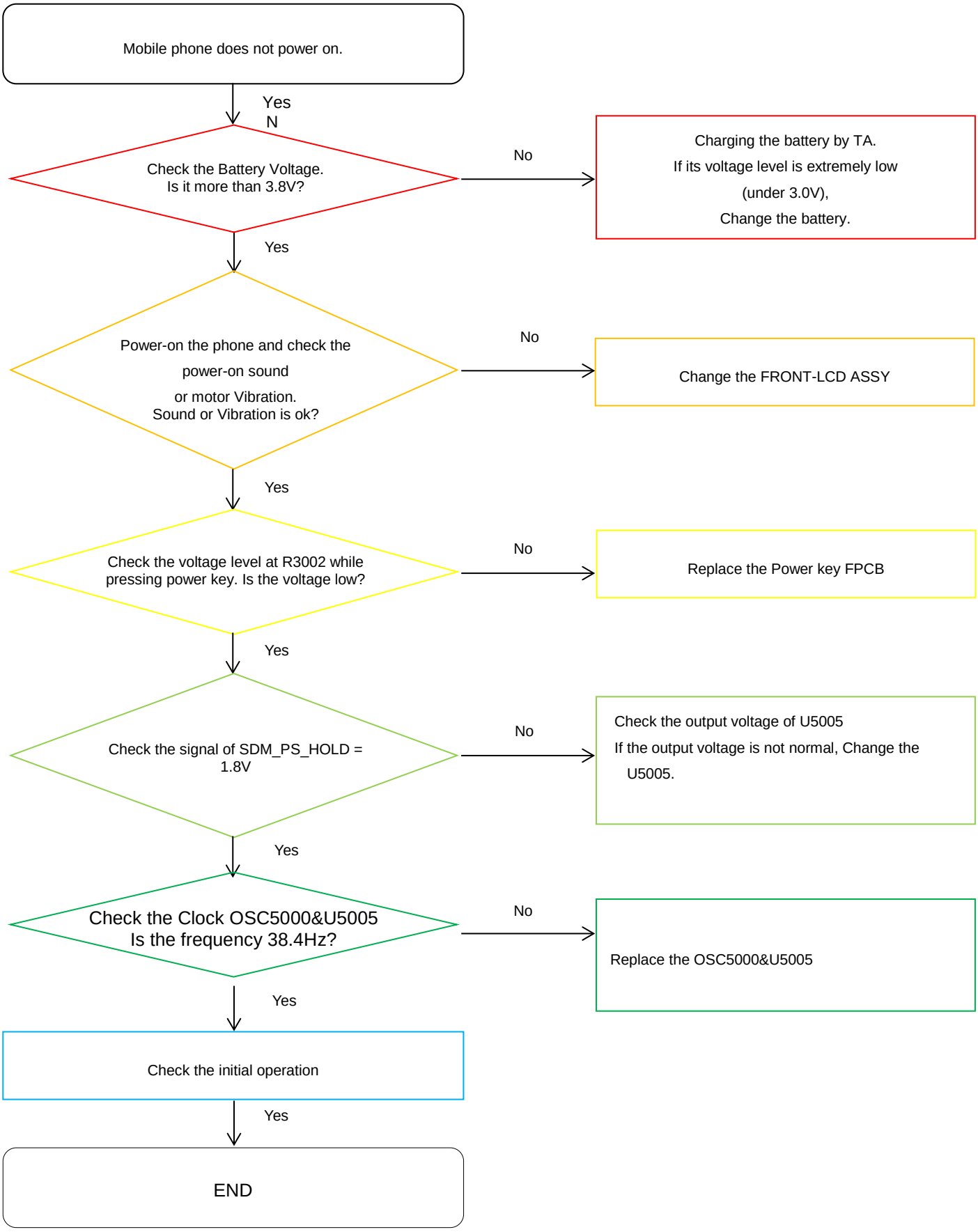

SIM1
SIM2
SIM3
SIM4UP
UCP4000
UME6000
SC6003
SC6002
SC6006
SC6007
CON6001
HEA7004
HEA7003
HDC7001
HDC7000
SW6000
JTAG4003
U3021
U5002
U6002
U3010
U4000
U7002
U8003
U8014
U7073
L2039
L3009
L5004
D6000
ANT3016
ANT2007
ANT2009
ANT8001
ANT8002
ANT8003
ANT8004
ANT2008

ANT2003
ANT1007
ANT2001
ANT2002
ANT3005
ANT3015
ANT2005
ANT3001
MIC1000
CON6003
SC6000
U3002
U3003
U3004
F3005
F3004
F3006
F3000
HEA3000
BH6005
U8008
U2002
HEA7000
BH6010
F2004
U6001
C3907
C3908
C6068
SC6005
U2031
OSC5000
F2006
F2002
F2001
F2000
U5005
L5012
C5055
L5013
L5014
L5008
L5009
L5011
C5057
C4018
C4005
C4020
C4019
C4056
C4057
C4030
C4031
C4058
C4999
U6000
C6066
SUS6001
HDC3001
SC6001
L5006
L5005
L5003
L6002
C5008
C4003
C6033
C5038
L5001
U5003
L5002
L5007
C5103
C5101
C5003
C6020
C5028
C5029
SC6004
U2029
C5093
C5077
C5078
C2111
C2120
C2099
C2115
C2102
U2024
F3003
U1005
F1006
U1002
F1002
U2025
U2000
F2008
U8069
F1004
U1008
U8001
U3000
F1005
F1009
U1009
U1004
F1000
PAM2000
U2033
U2032
F2007
F2010
F2003
U1001
C1076
ZD1000
F1010
F1007
F1003
U1003
F1001
BH6011
BH6002
RFS1000
ANT3004
ANT3003
ZD3001
ZD3000
CON6004
RFS1001
HDC5000
R5049
OSC8000
U8013
L8015
R6016
R6014
SUS6000
VR6010
CON6000
SC6008
L7004
L7005
C7009
C7010
C7008
C7007
U7003
C7026
L7003
L7002
C7013
C7027
L7016
C7012
L7017
U7007
U7010
U3017
F7014
F7013
F7012
F7011
F7010
C5102
C5002
C5100
C5001
C5004
C5005
C5034
HDC4000
LED5000
CON6002
ANT3017
ANT3014
ANT6001
ANT6000
HEA7001
HEA6000
BH6000
BH6008
BH6001
R4004

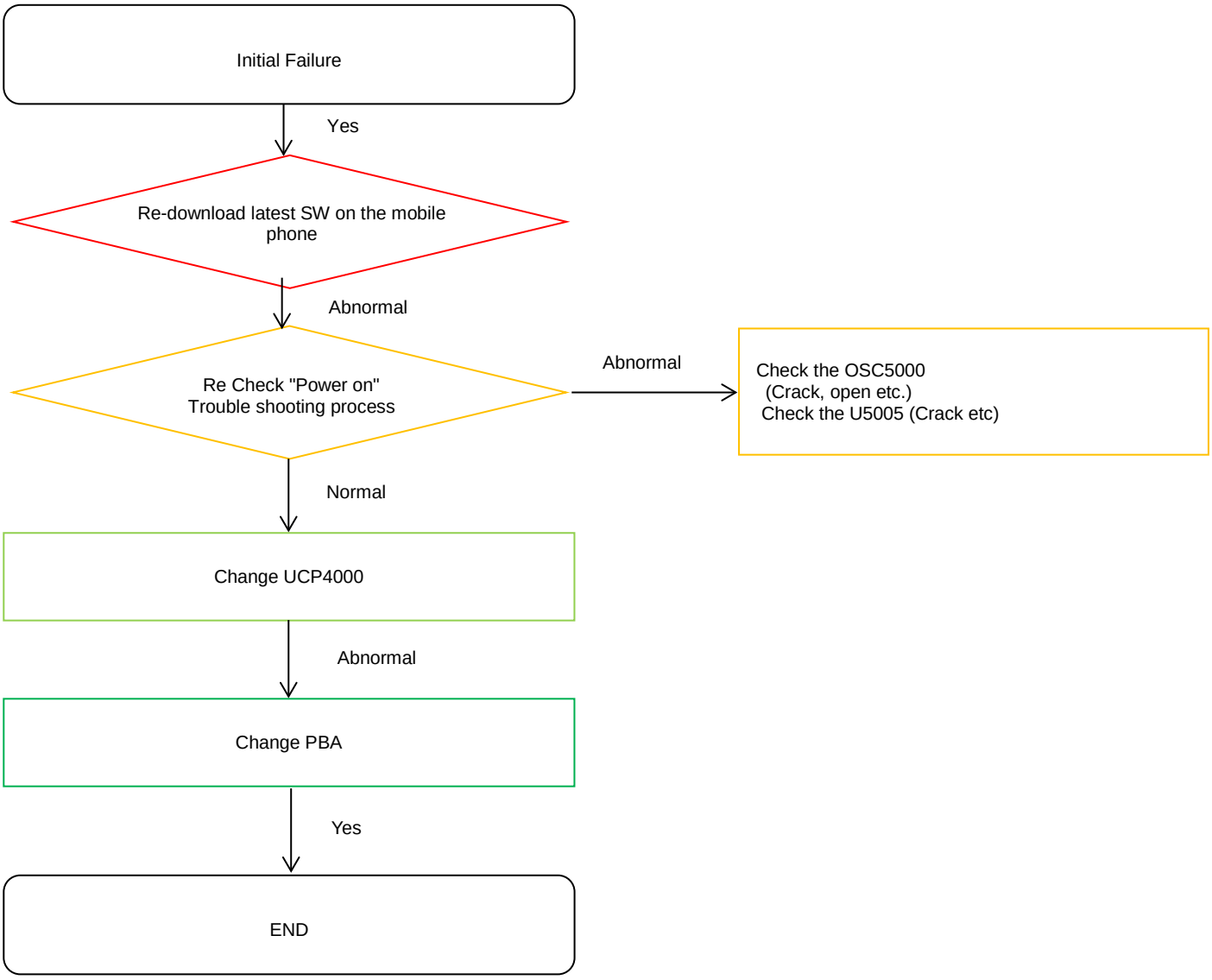
8-3. Flow chart of Troubleshooting.

	
Oscilloscope	**Digital Multimeter**
	
Power Supply	**+ driver, ESD Safe Tweezer**
	
8960 & Spectrum Analyzer	**Soldering iron**

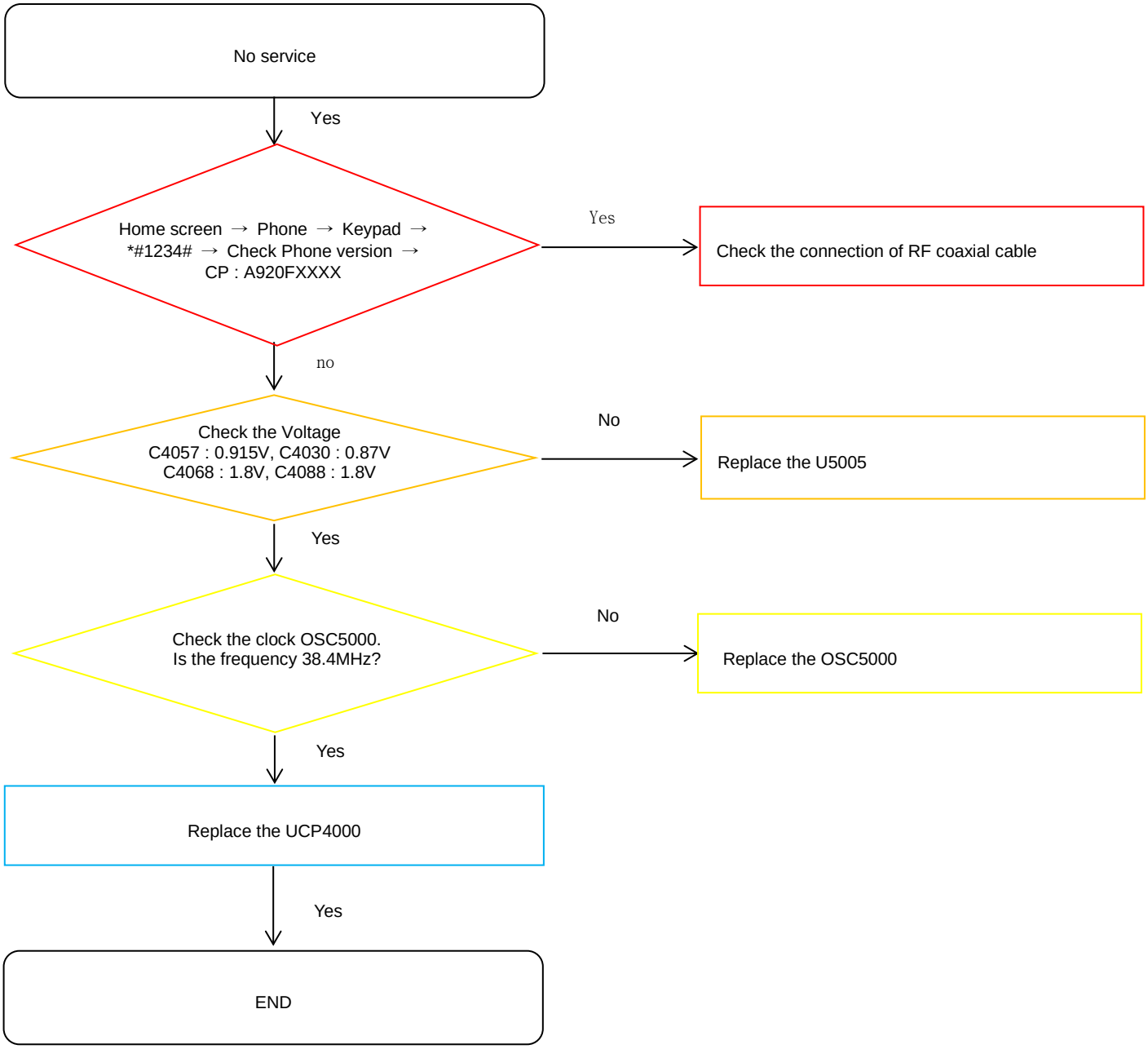
8-4-1. Power On



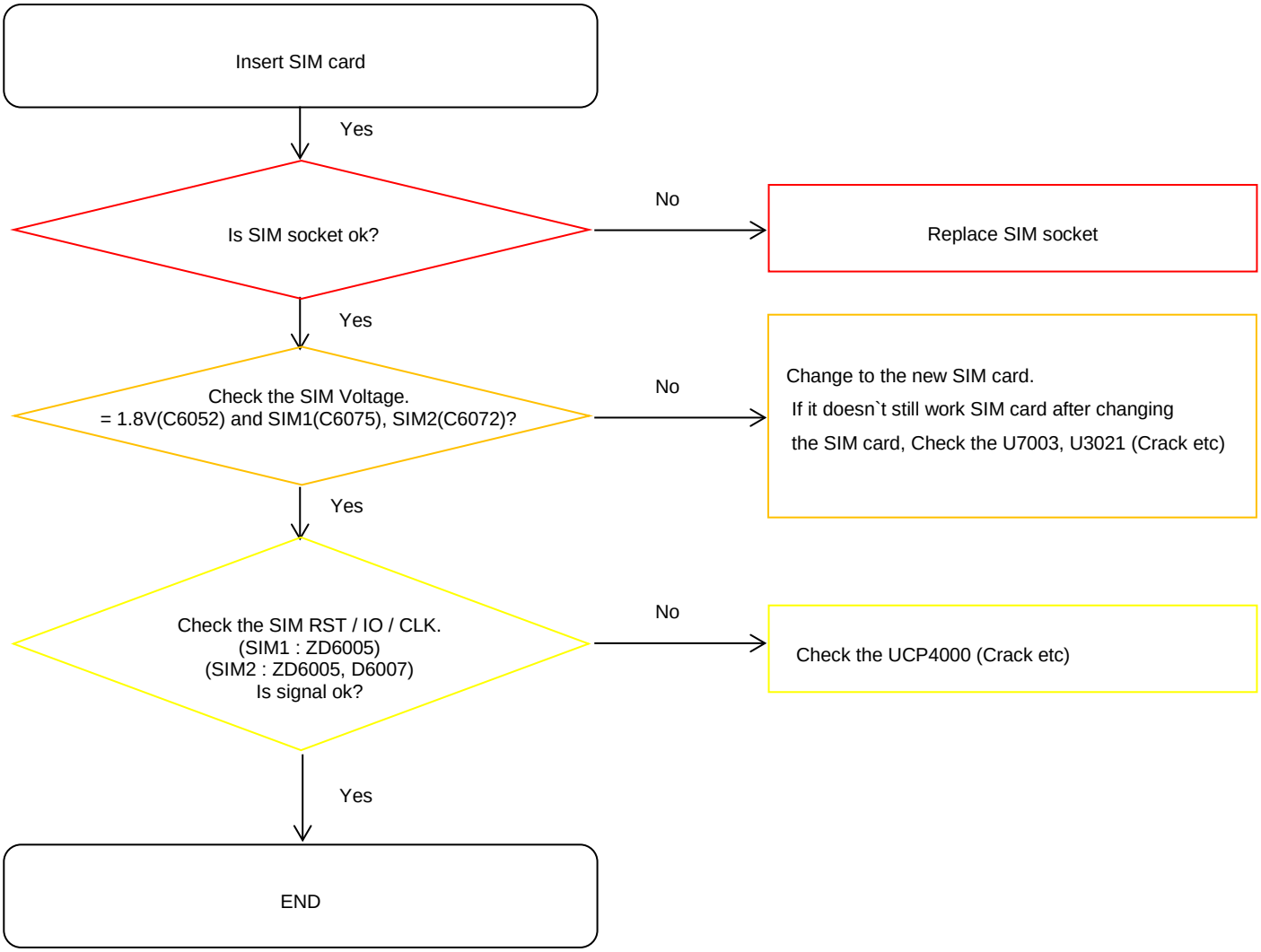
8-4-2. Initial



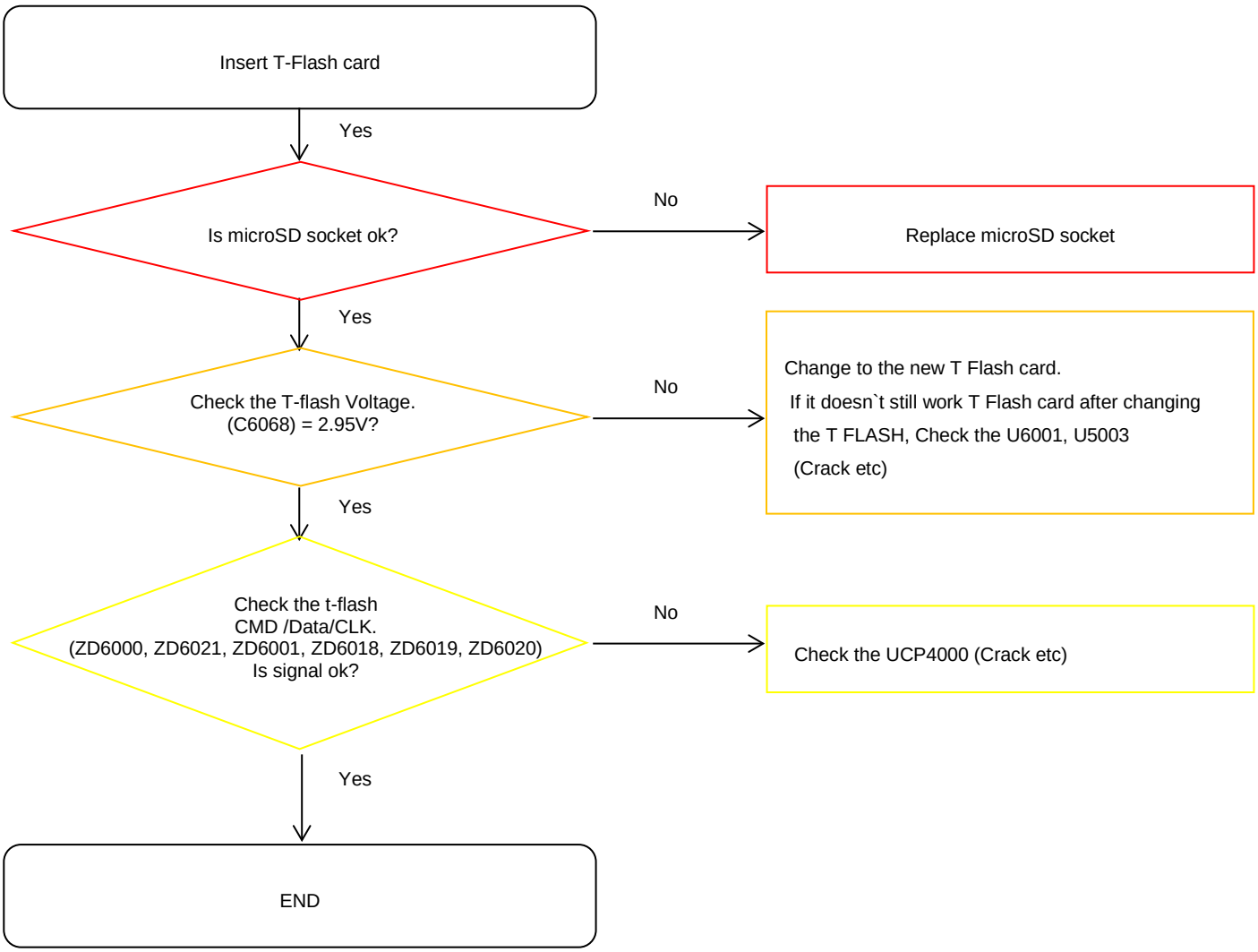
8-4-3. No Service



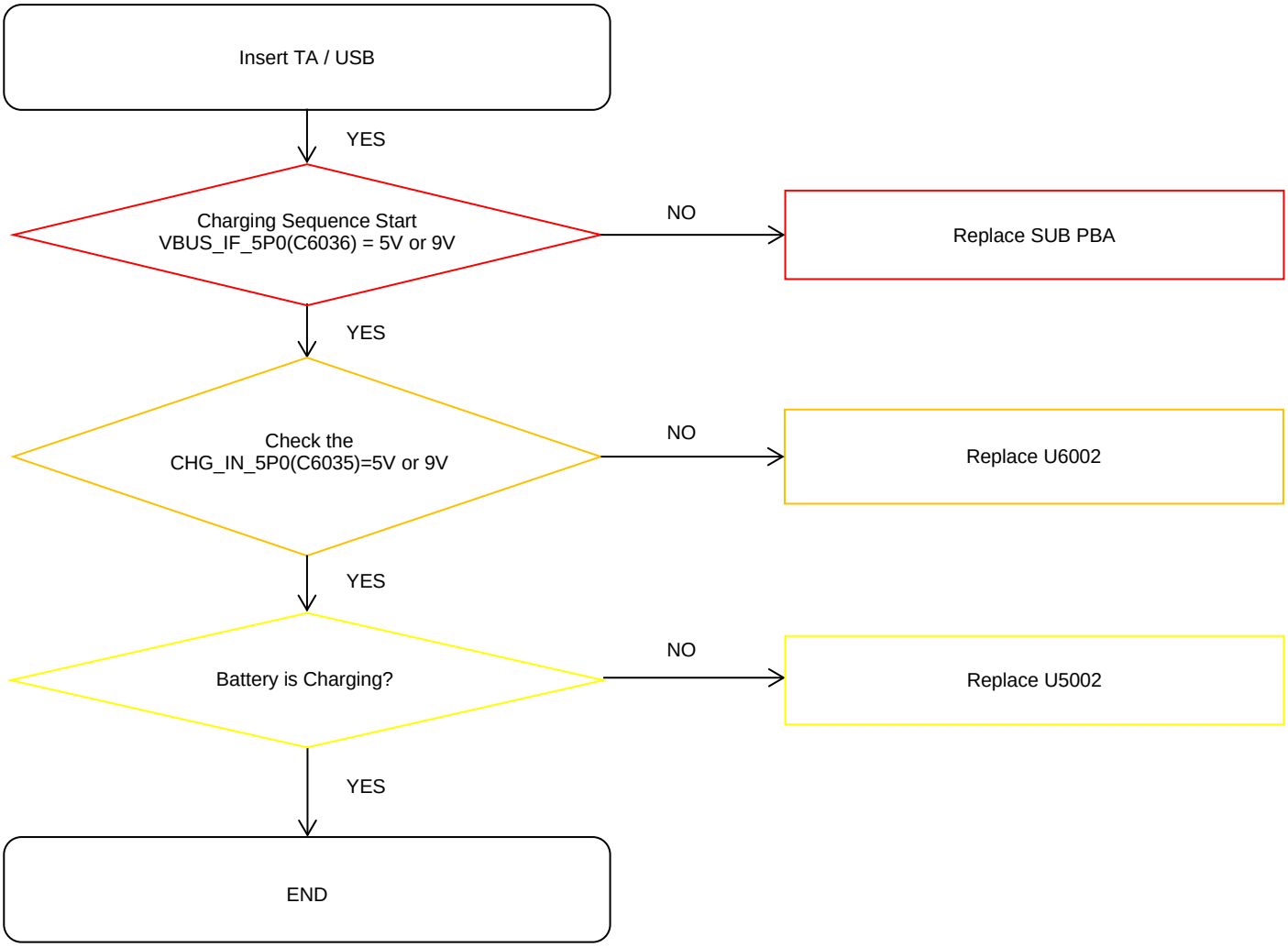
8-4-4. SIM Part



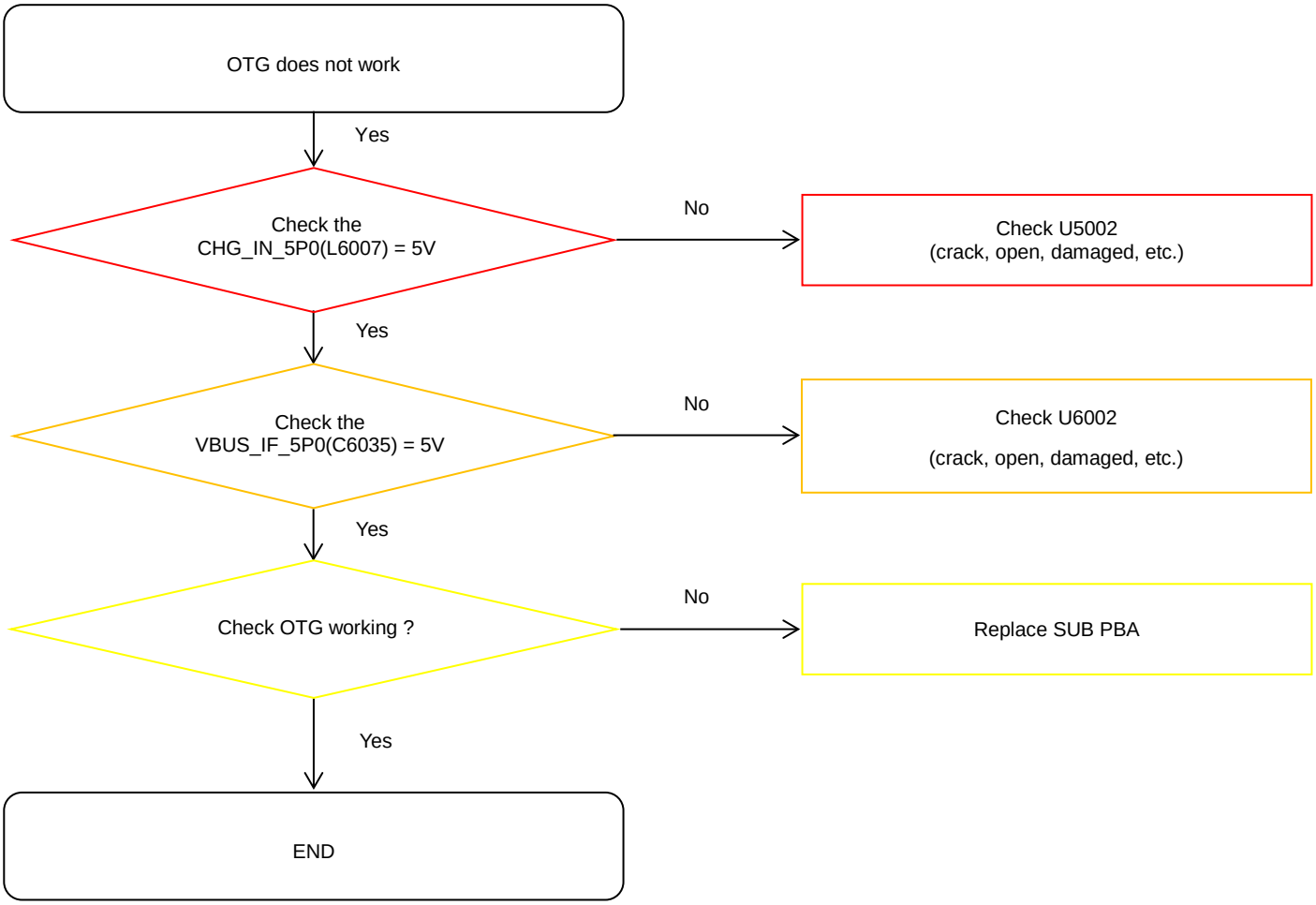
8-4-5. T-Flash Part



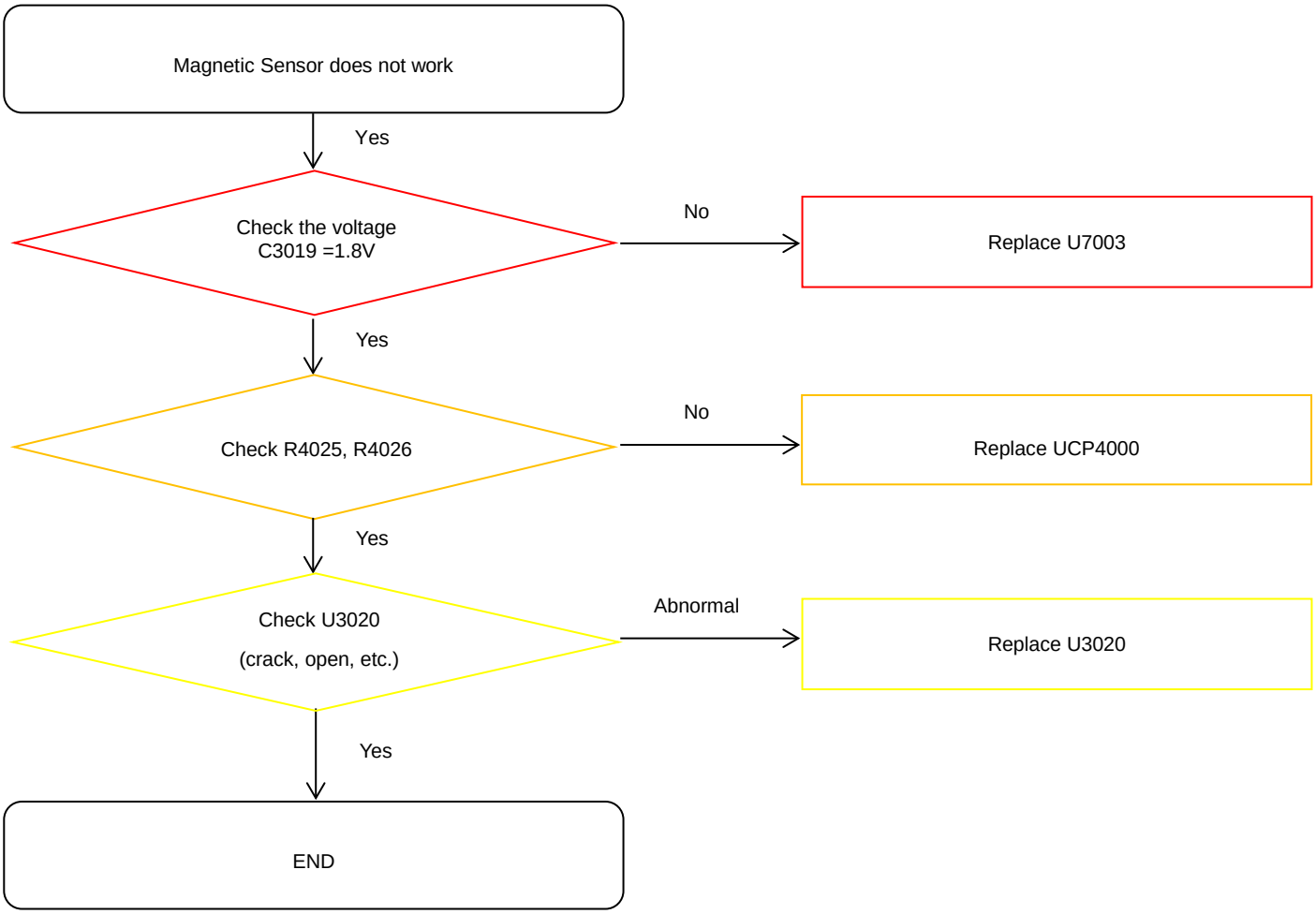
8-4-6. Cable Charging Part (Normal/Fast)



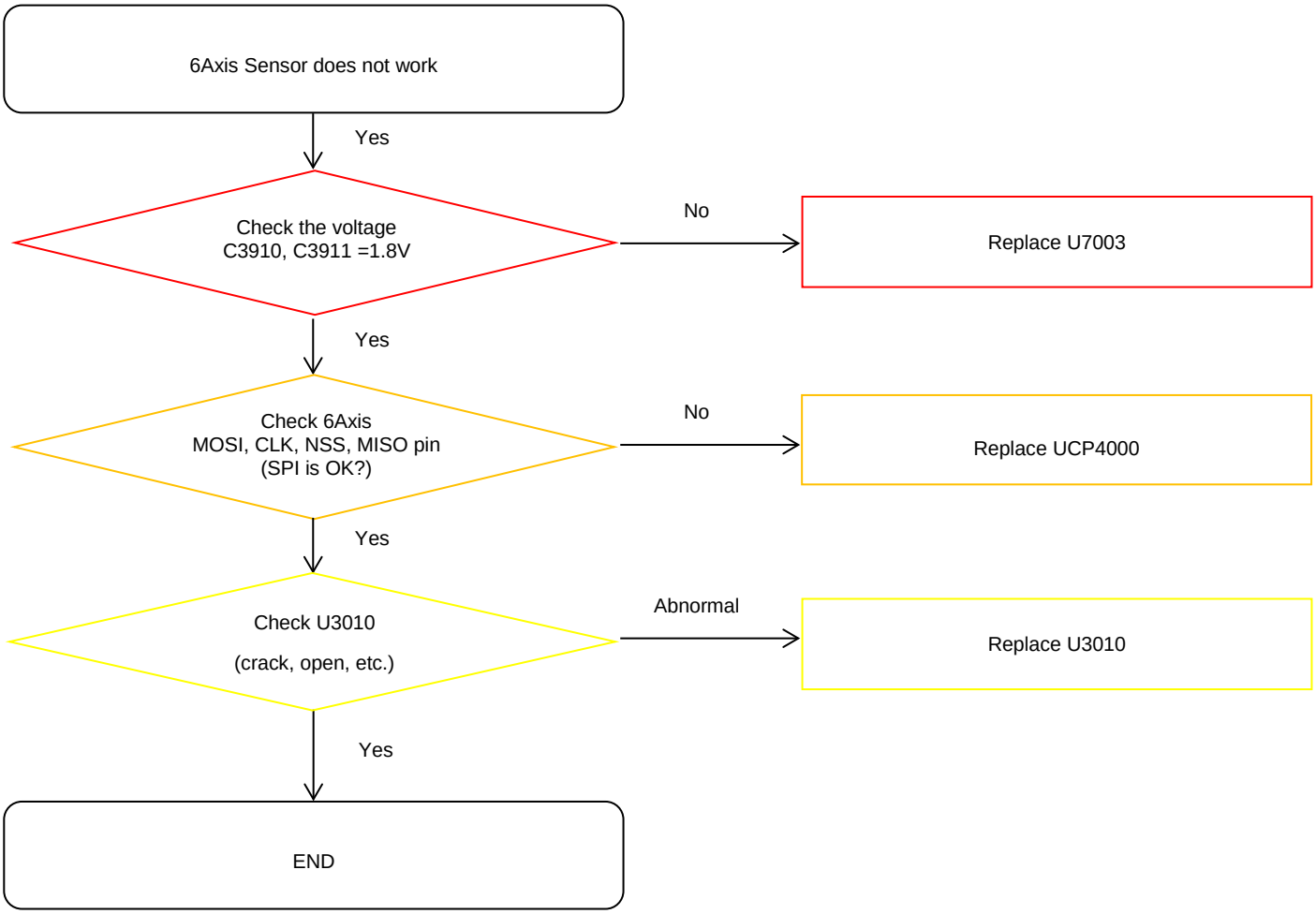
8-4-7. OTG



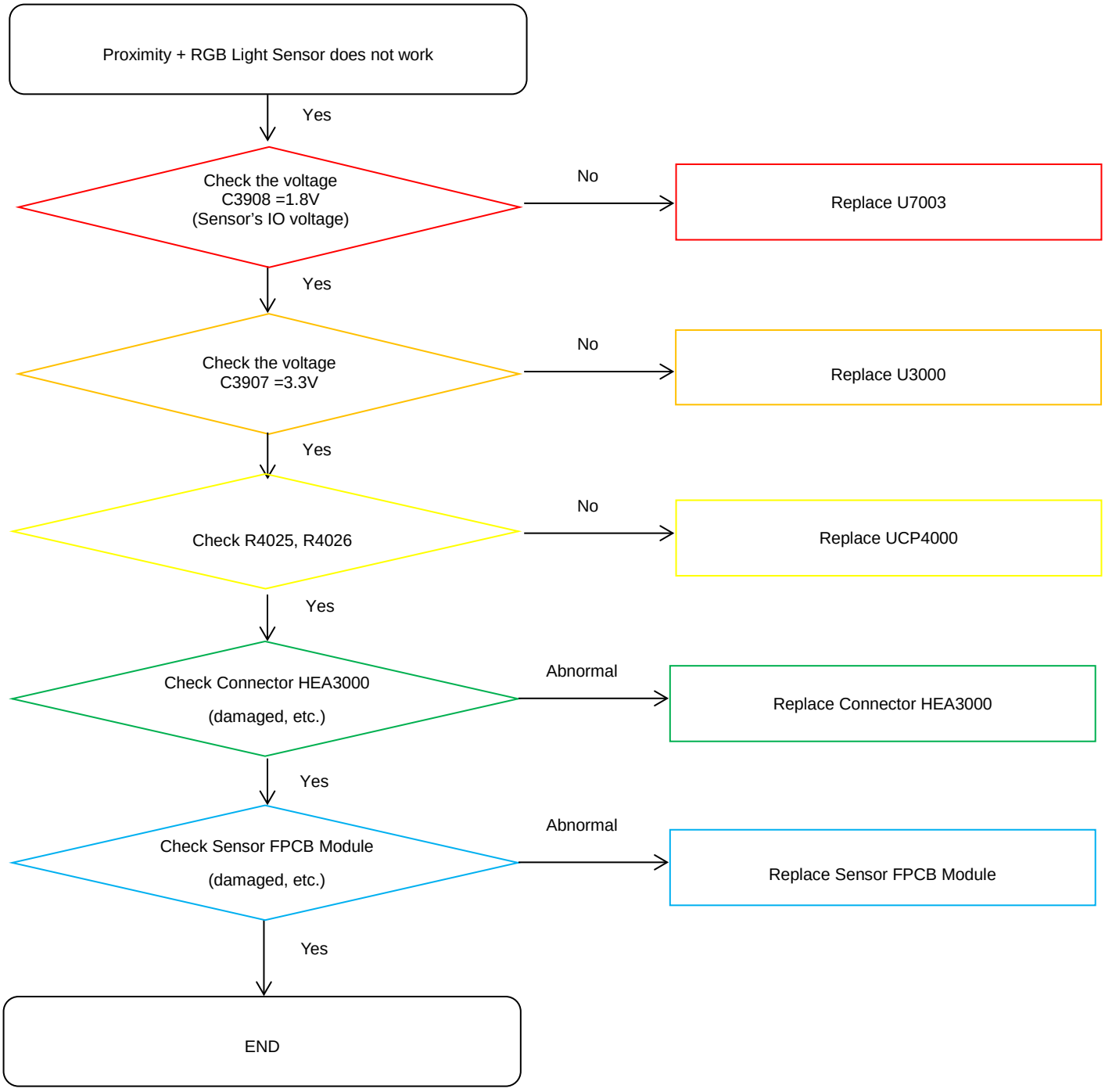
8-4-8-1. Magnetic Sensor



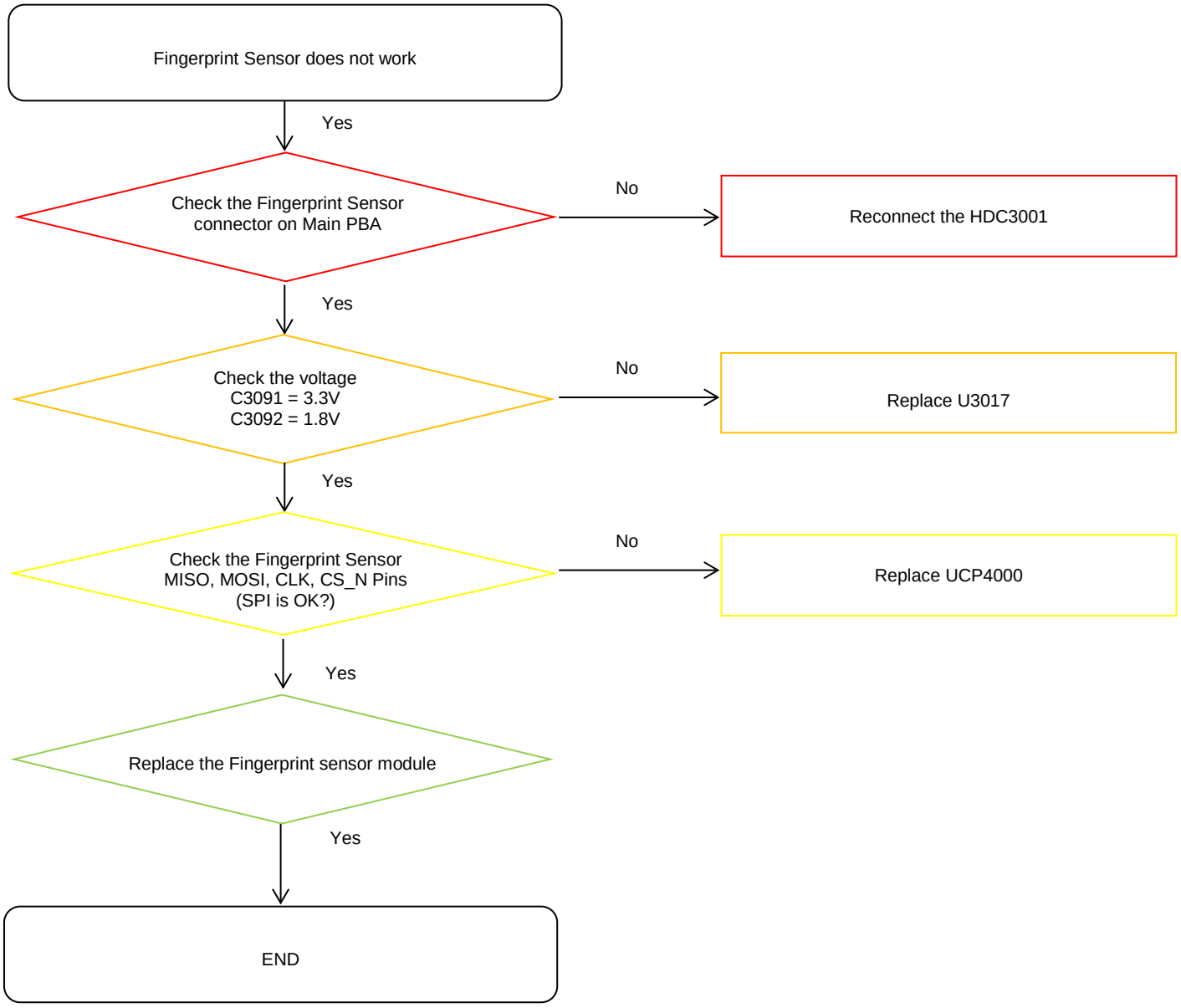
8-4-8-2. 6Axis Sensor



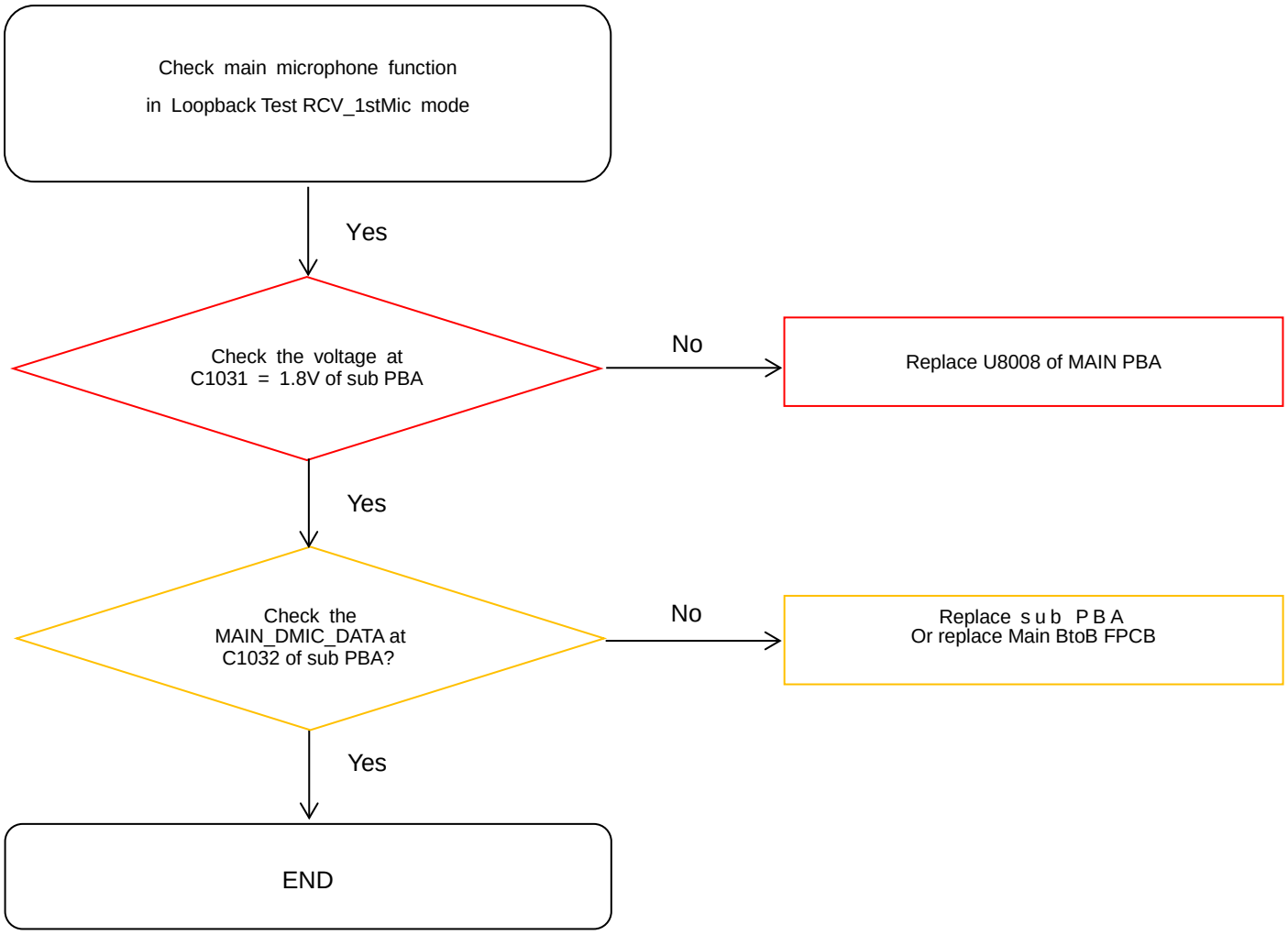
8-4-8-3. Proximity + RGB Light sensor



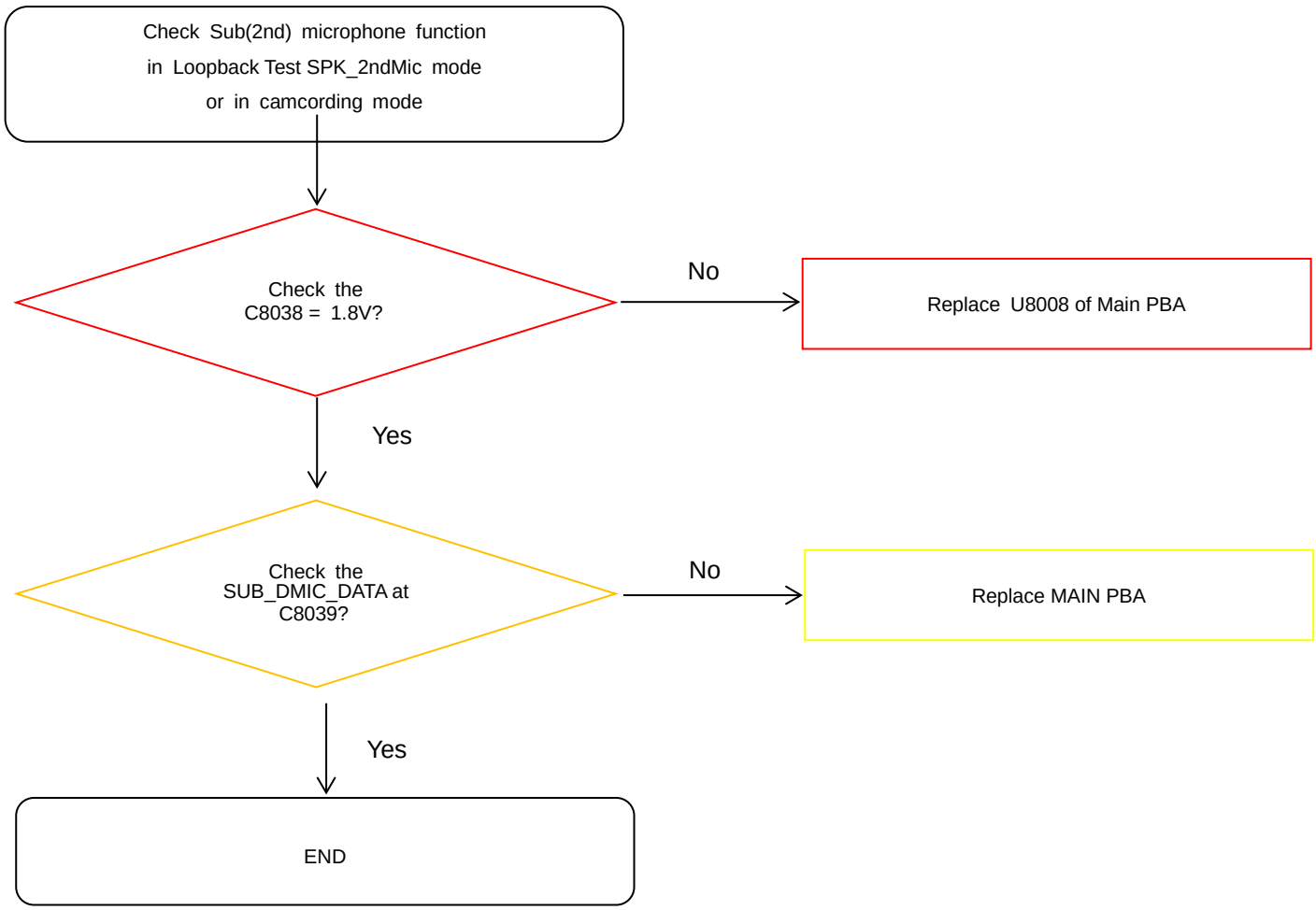
8-4-8-4. Fingerprint Sensor



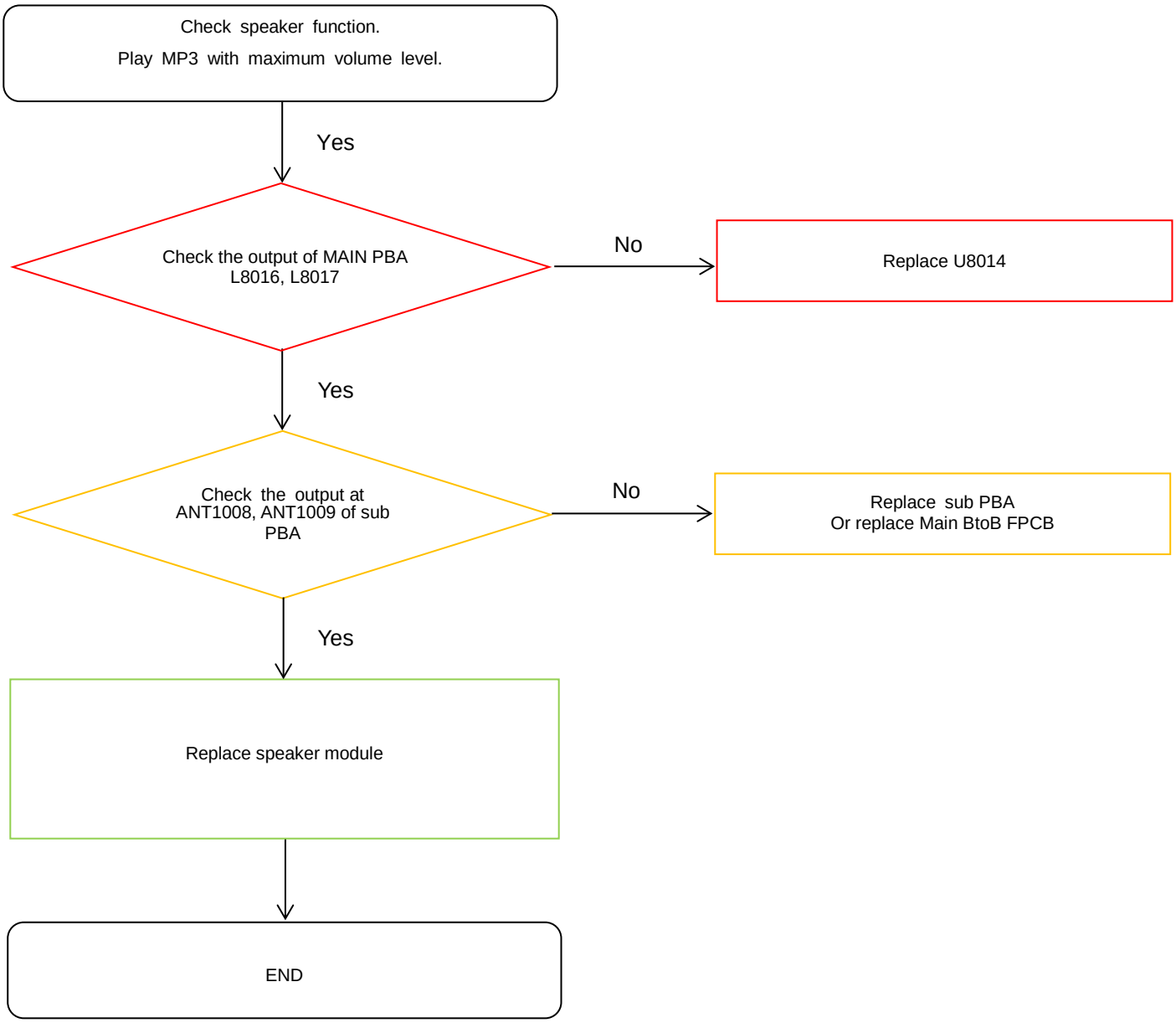
8-4-9-1. Microphone Part - Main MIC



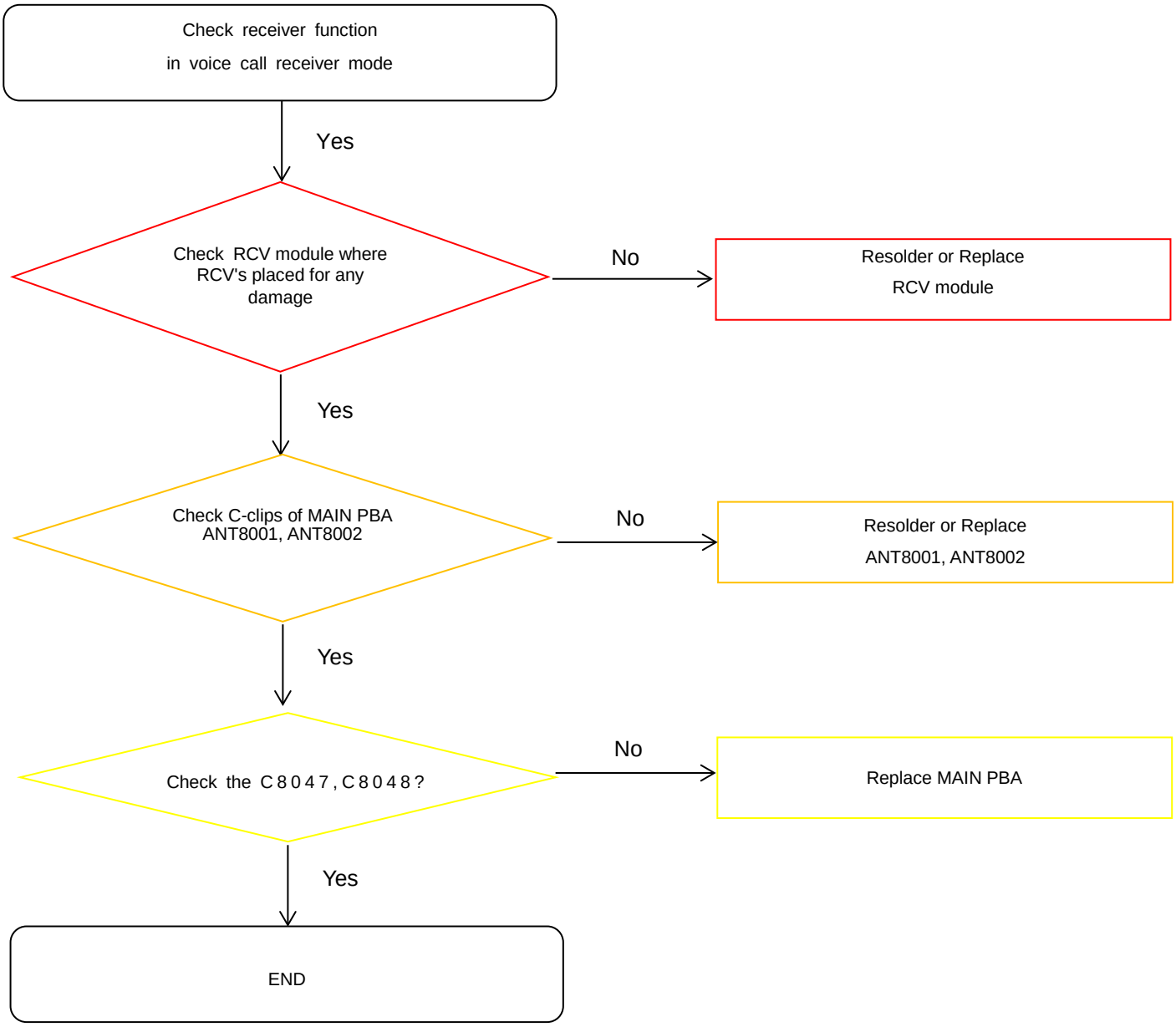
8-4-9-2. Microphone Part - Sub(2nd) MIC



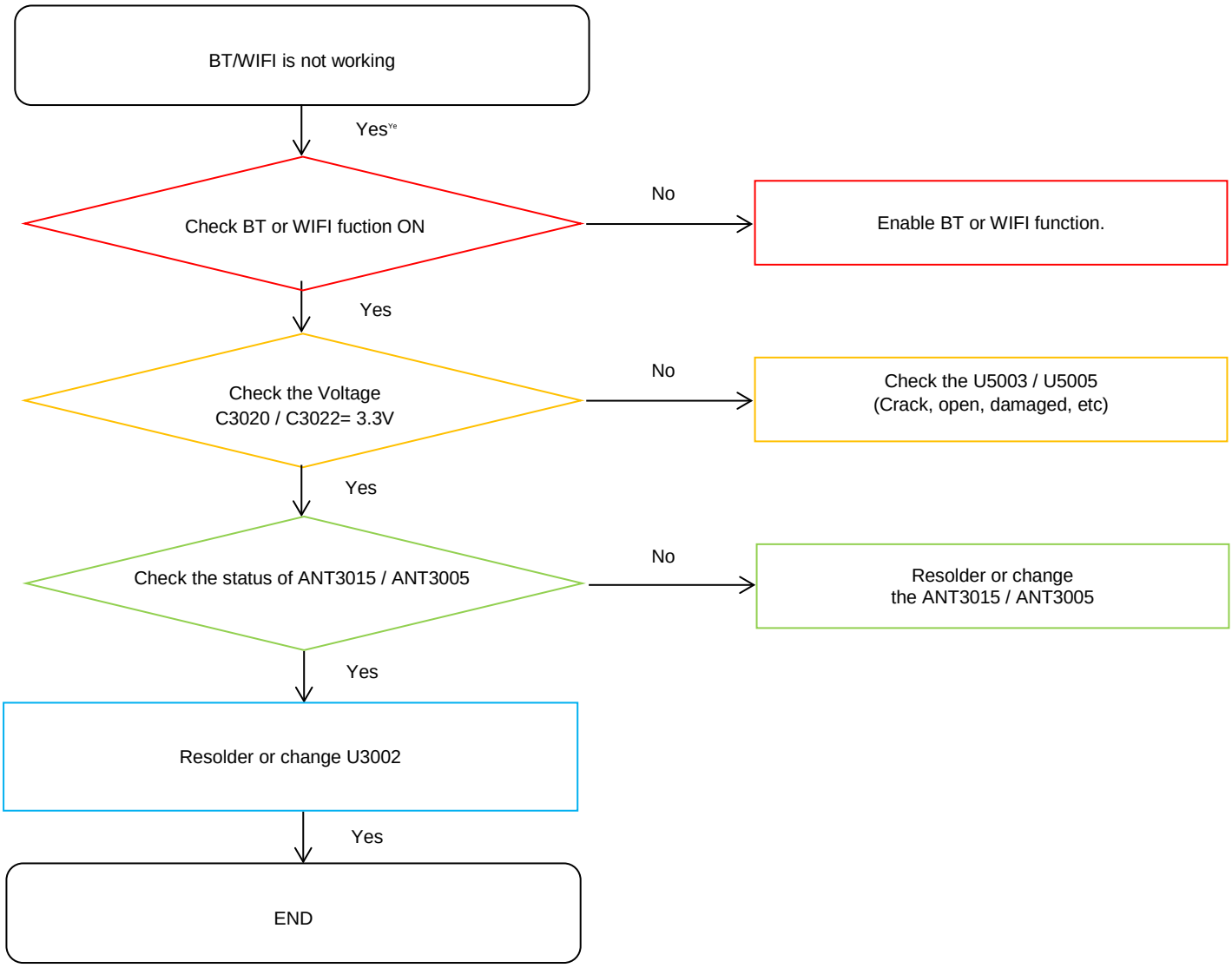
8-4-10. Speaker Part



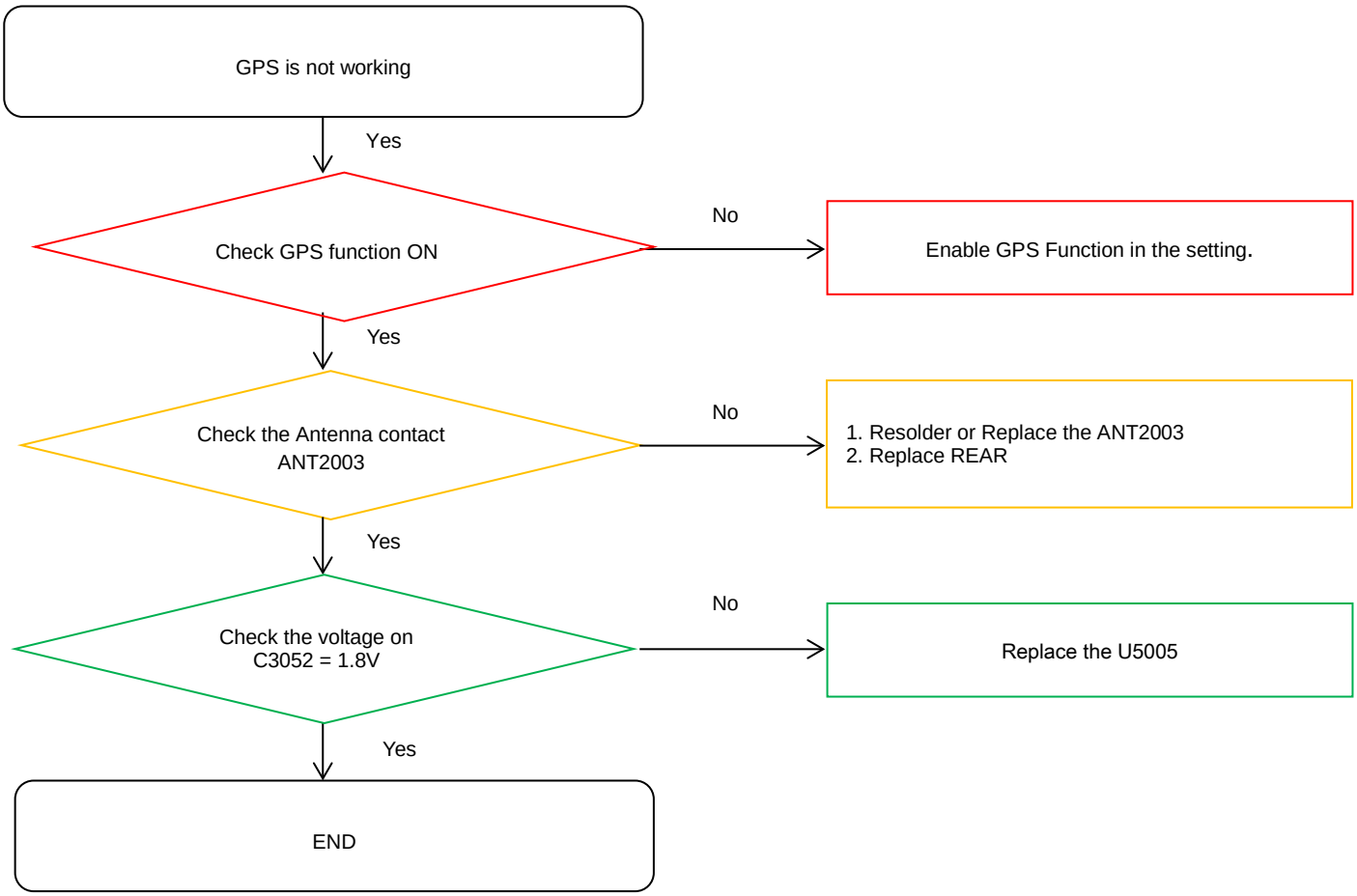
8-4-11. Receiver Part



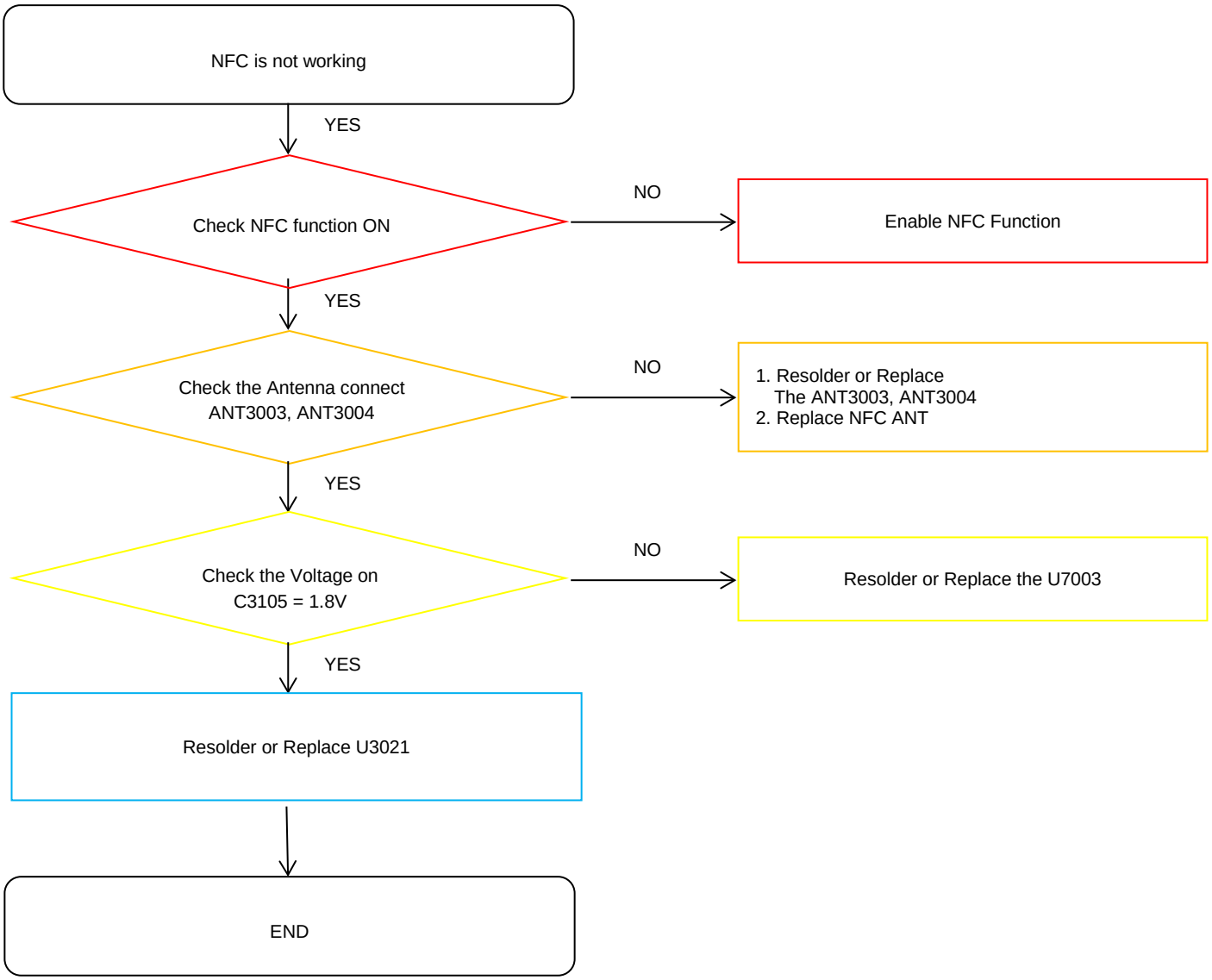
8-4-12. BT/WIFI



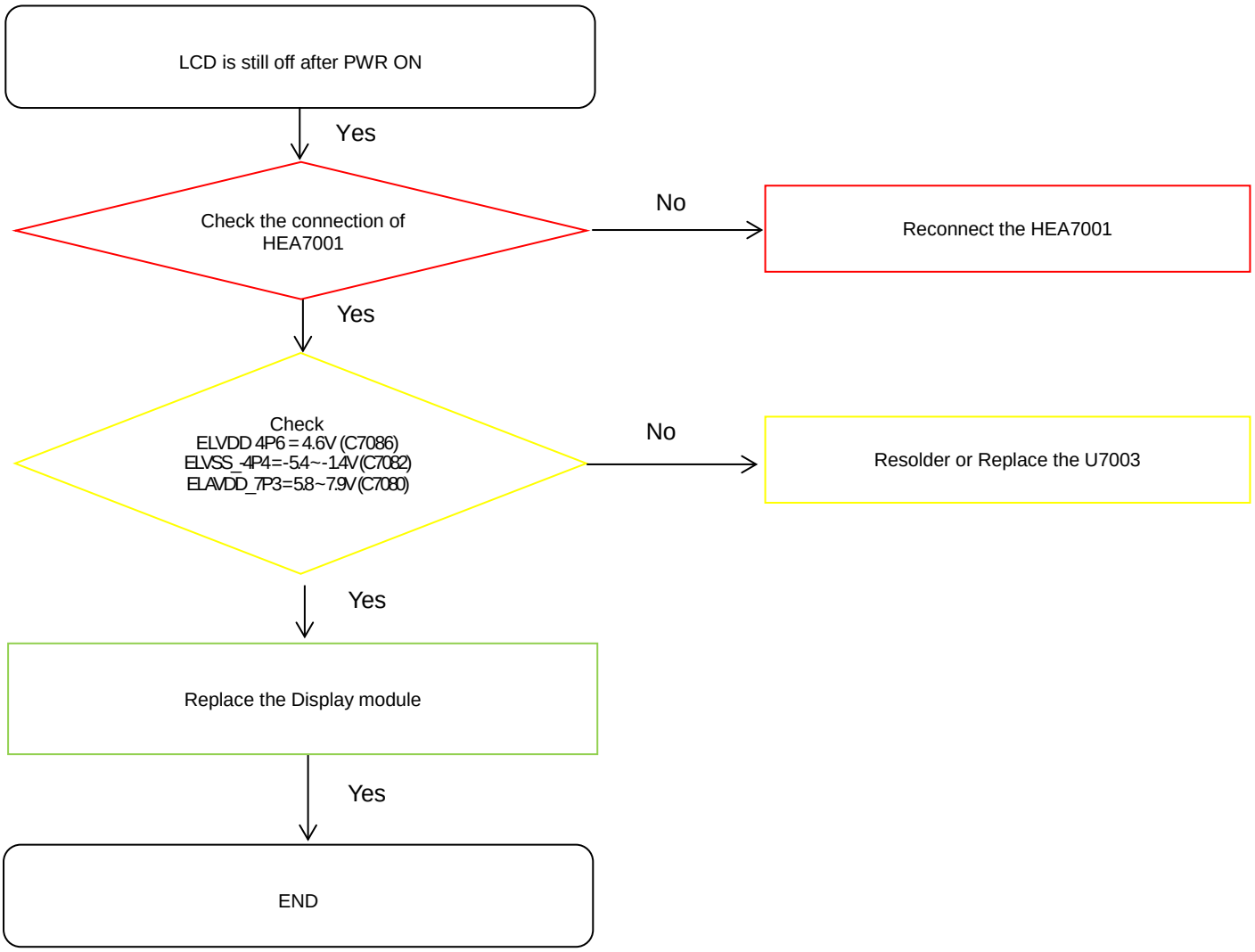
8-4-13. GPS



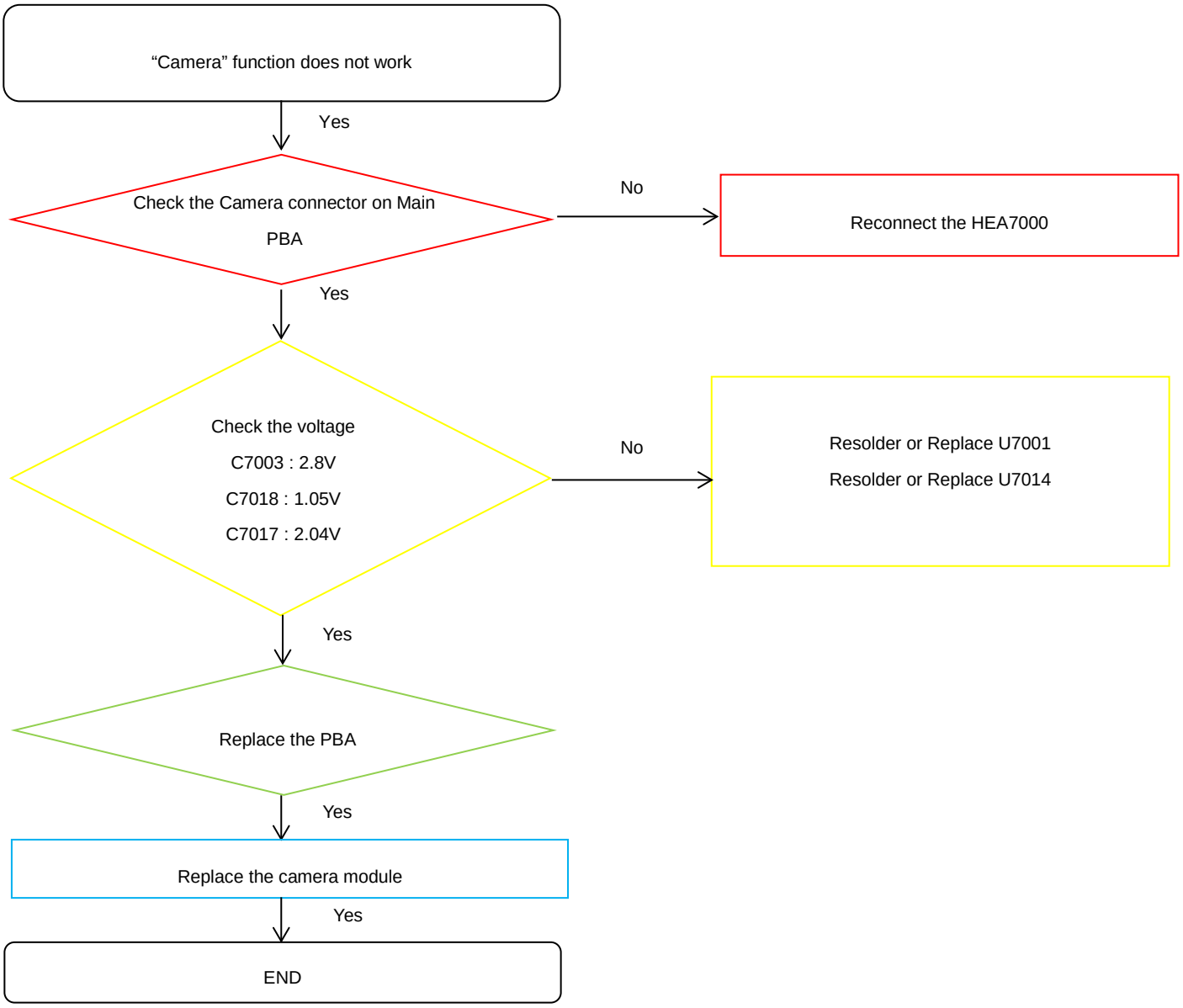
8-4-14. NFC



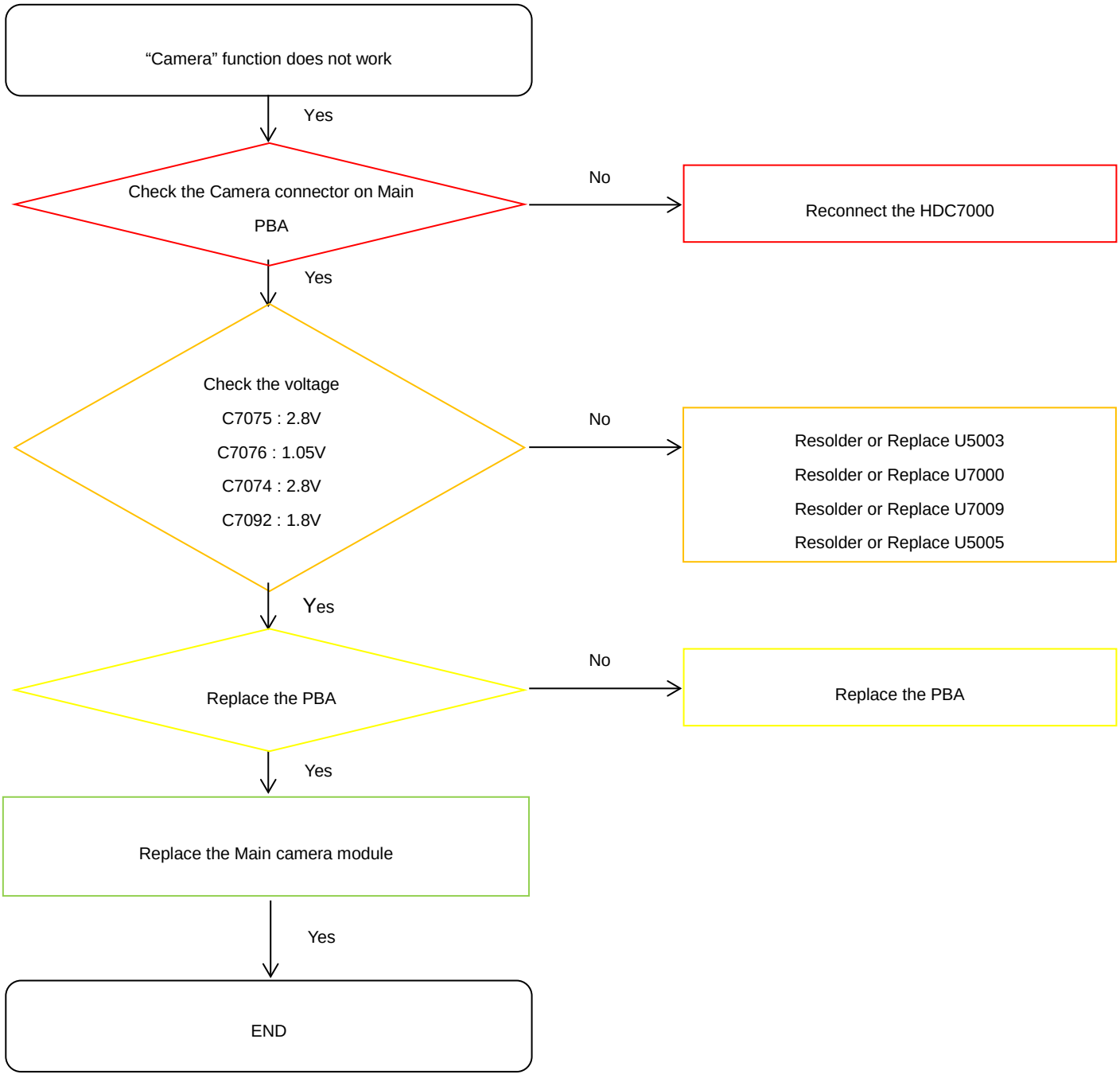
8-4-15. Display



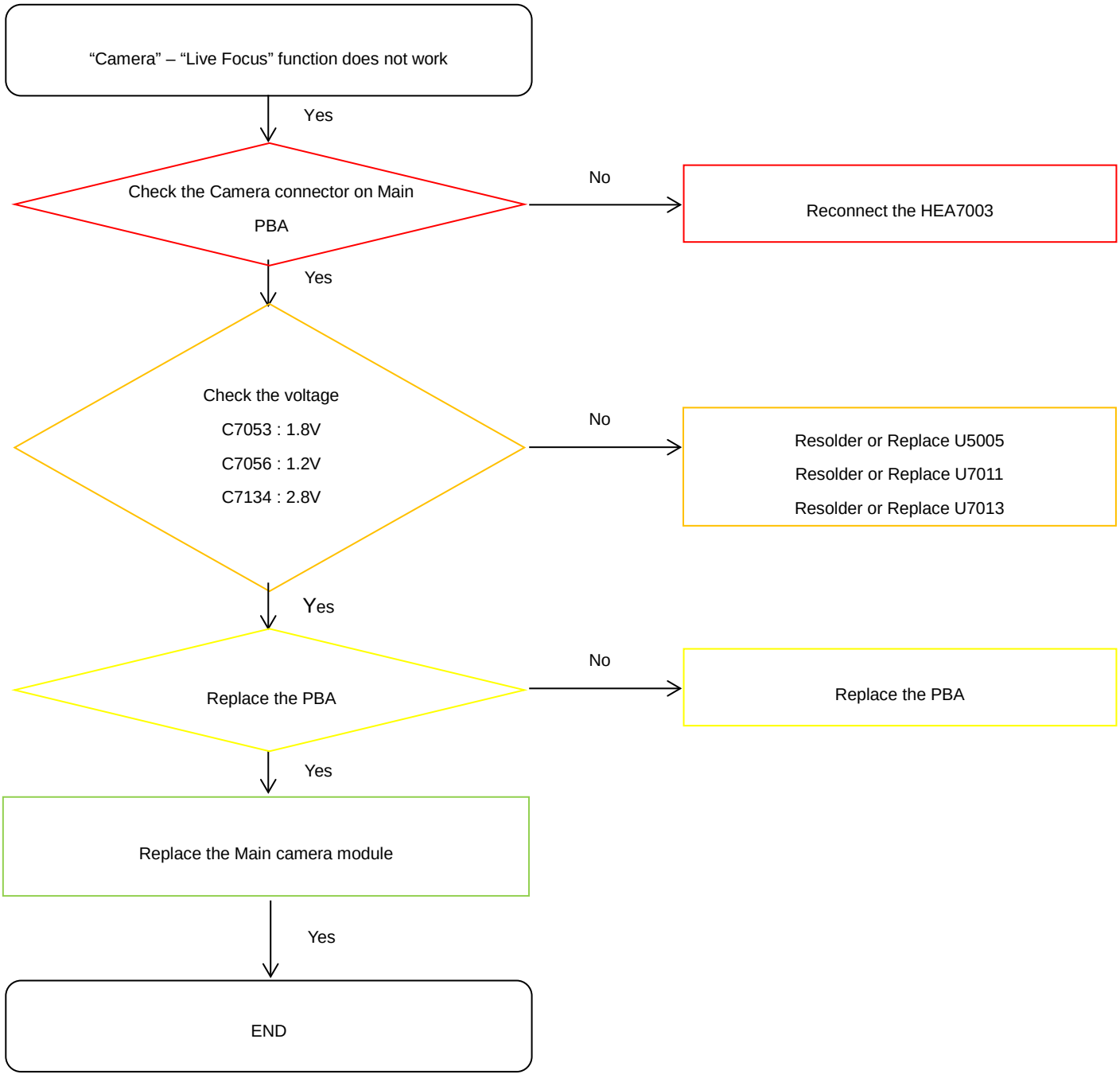
8-4-16. 24M CAMERA(FRONT CAMERA)



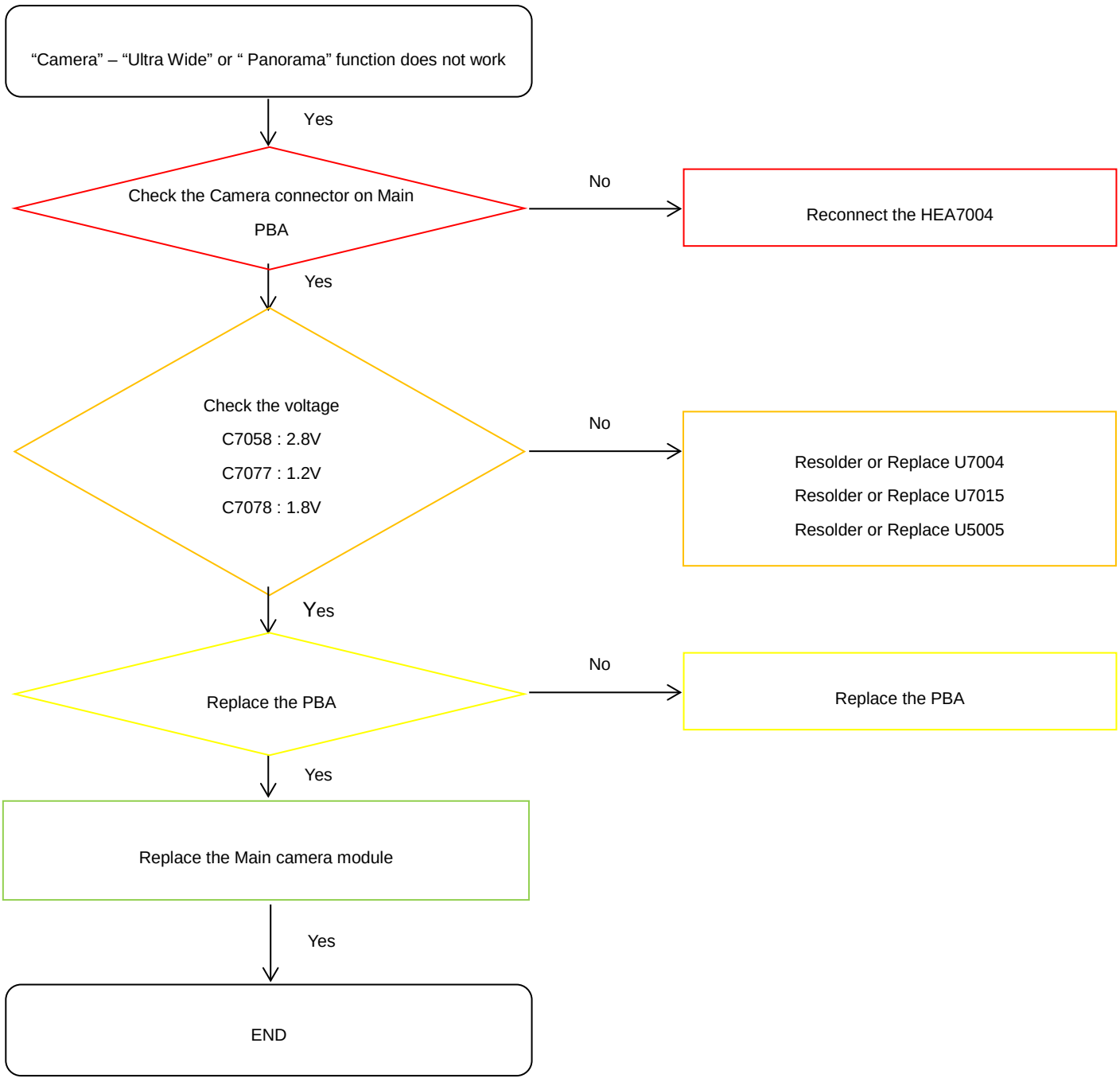
8-4-17-1. QUAD CAMERA(REAR CAMERA, 24M, WIDE)



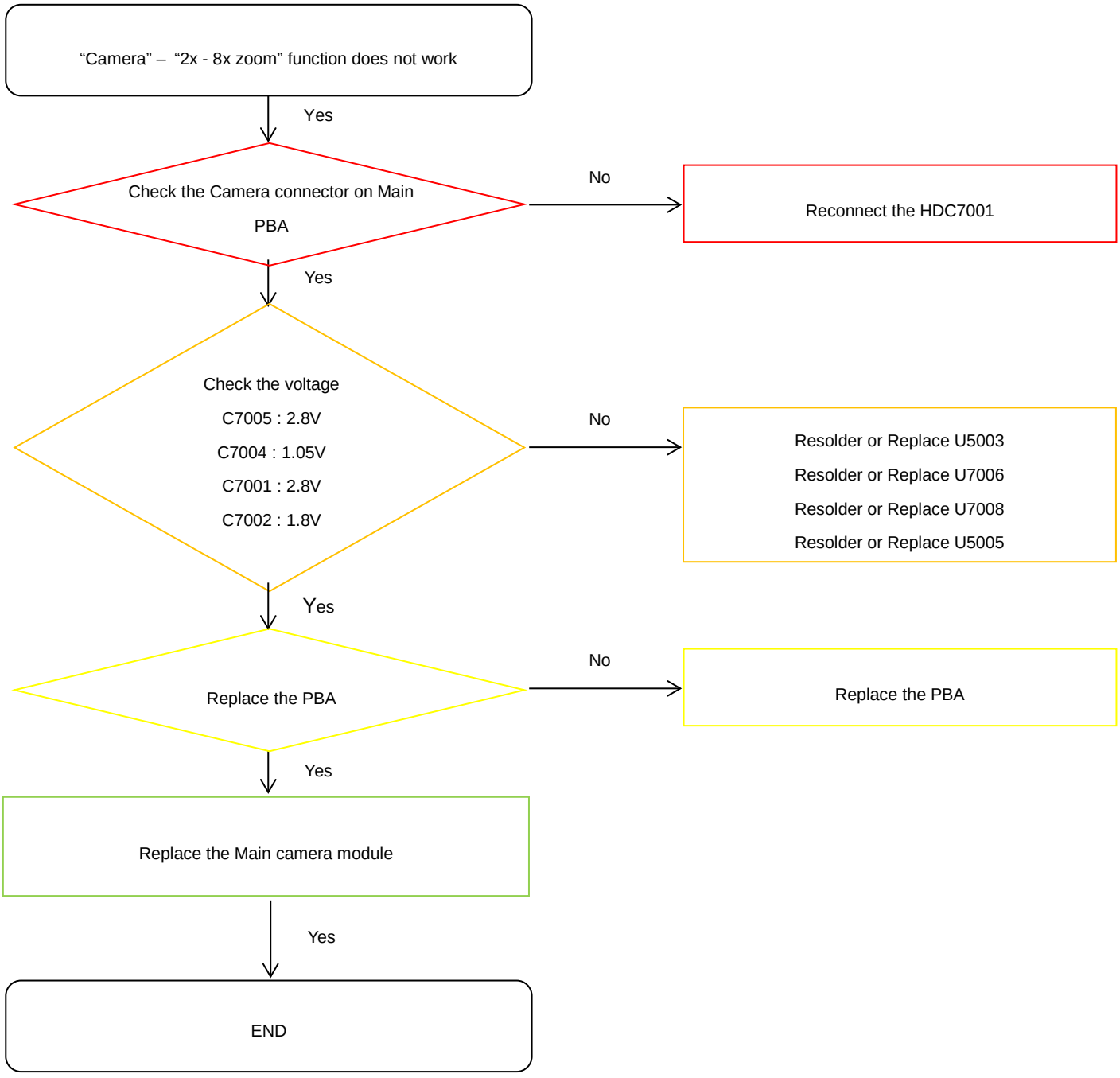
8-4-17-2. QUAD CAMERA(REAR CAMERA, 5M, DEPTH)



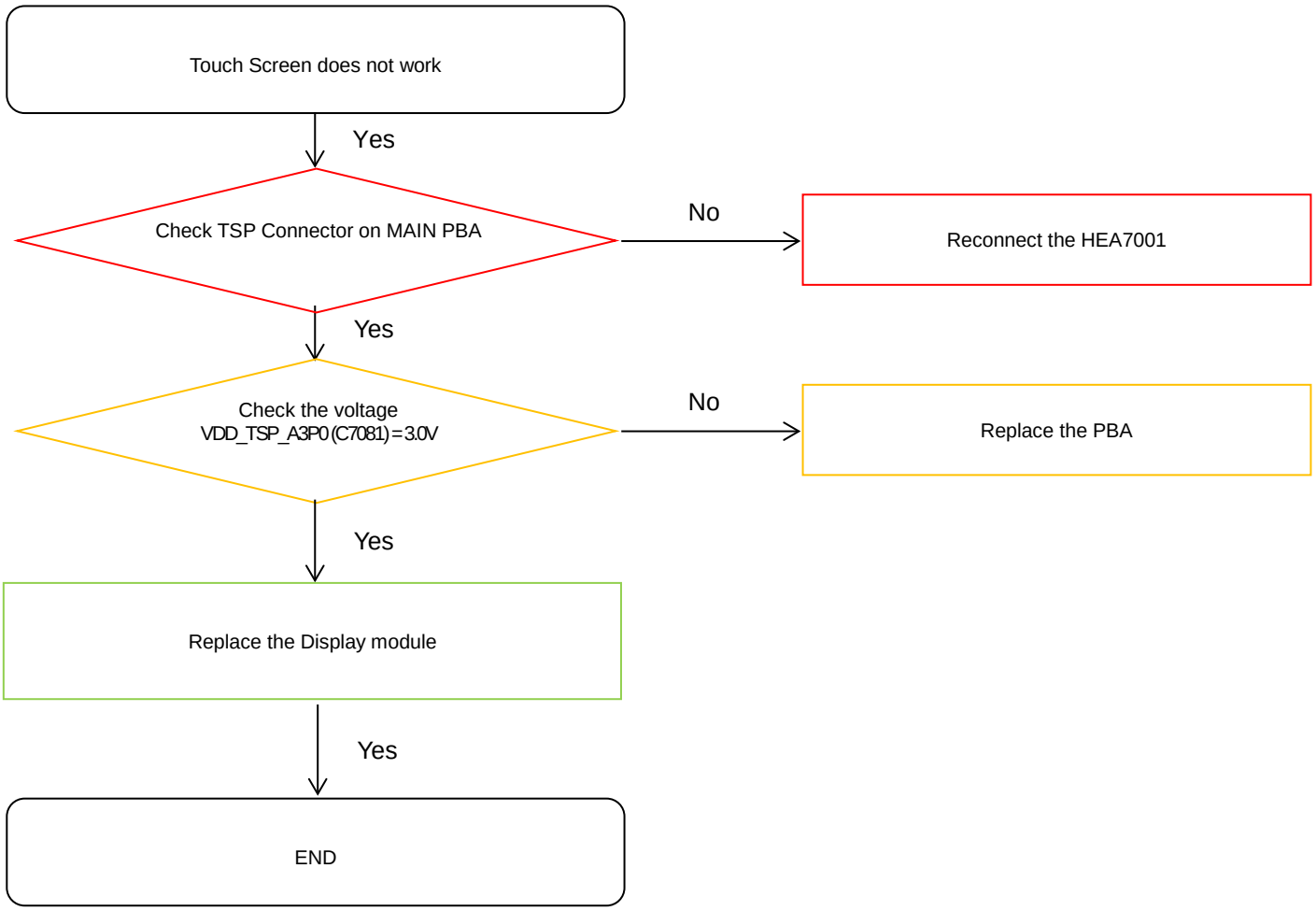
8-4-17-3. QUAD CAMERA(REAR CAMERA, 8M, ULTRA WIDE)



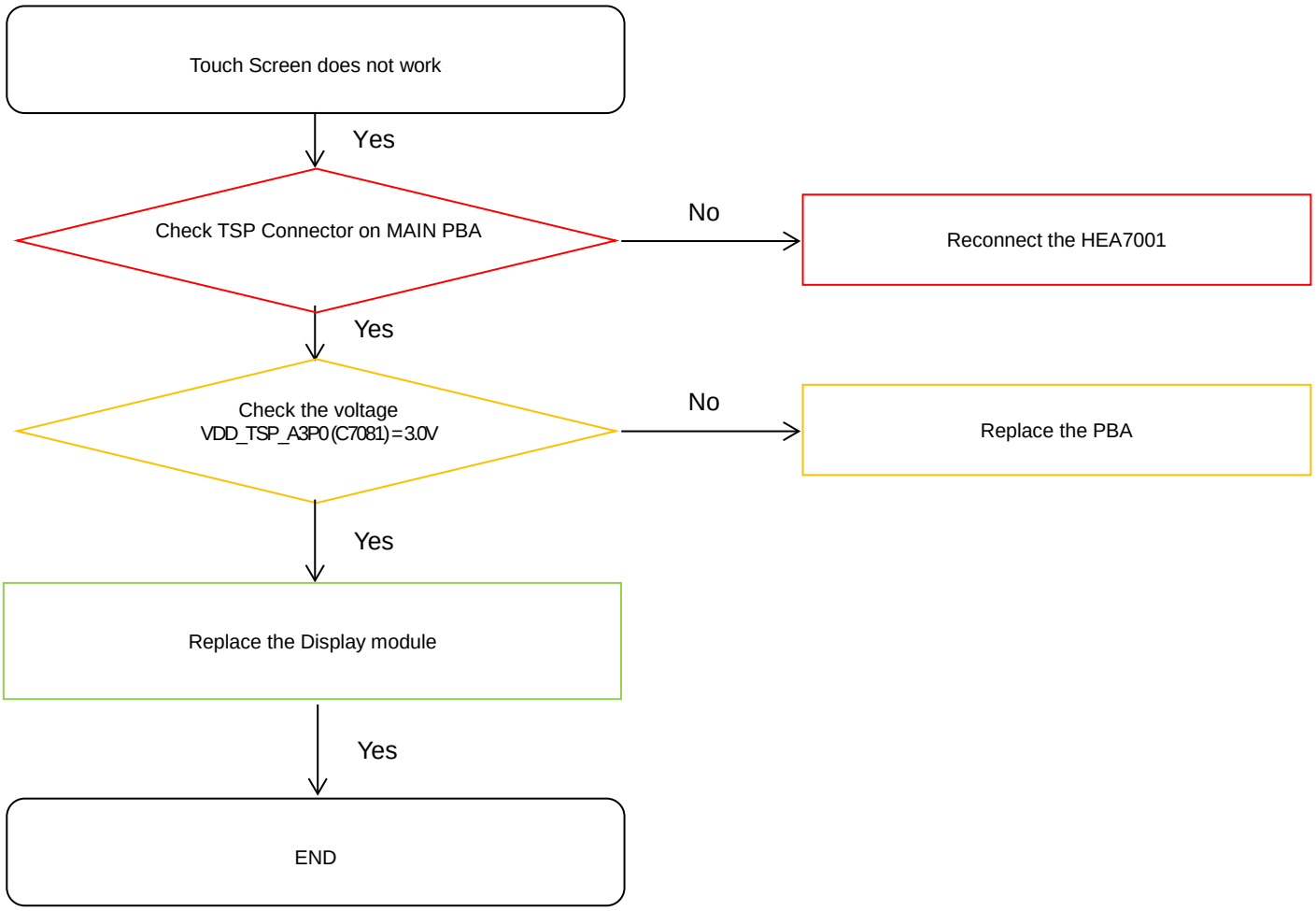
8-4-17-4. QUAD CAMERA(REAR CAMERA, 10M, TELE)



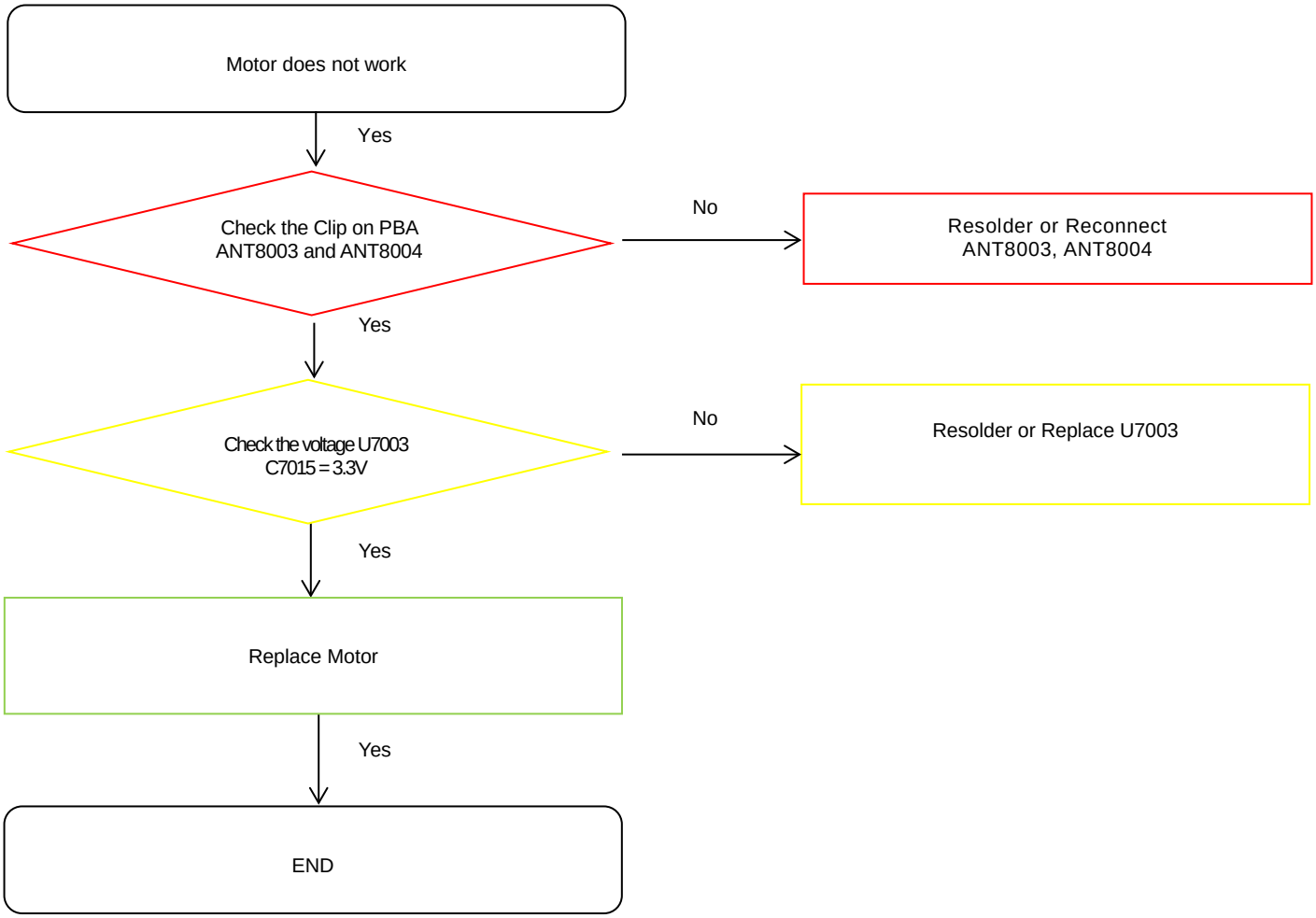
8-4-18. TSP



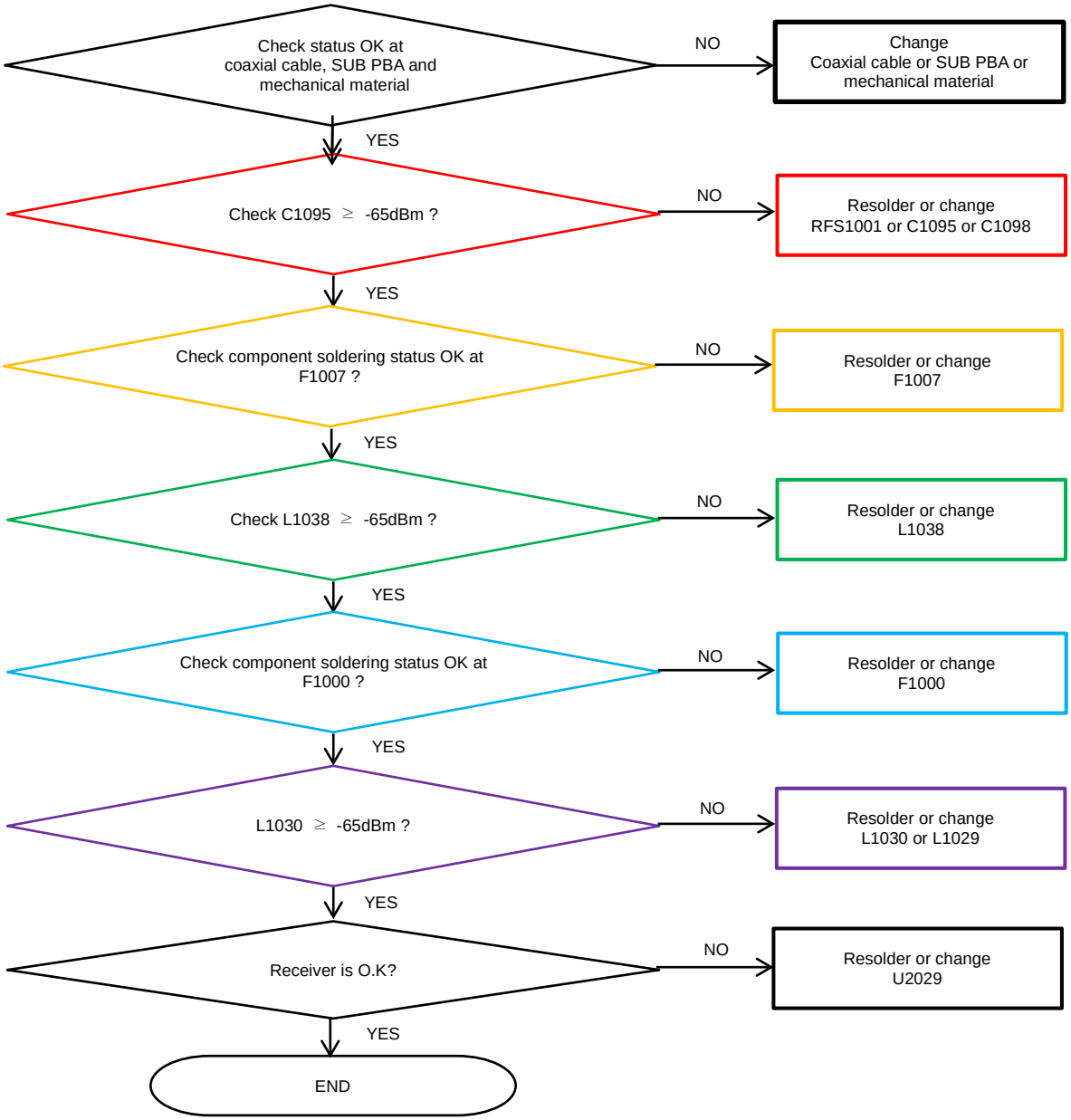
8-4-19. Pressure Touch (Home Button function)



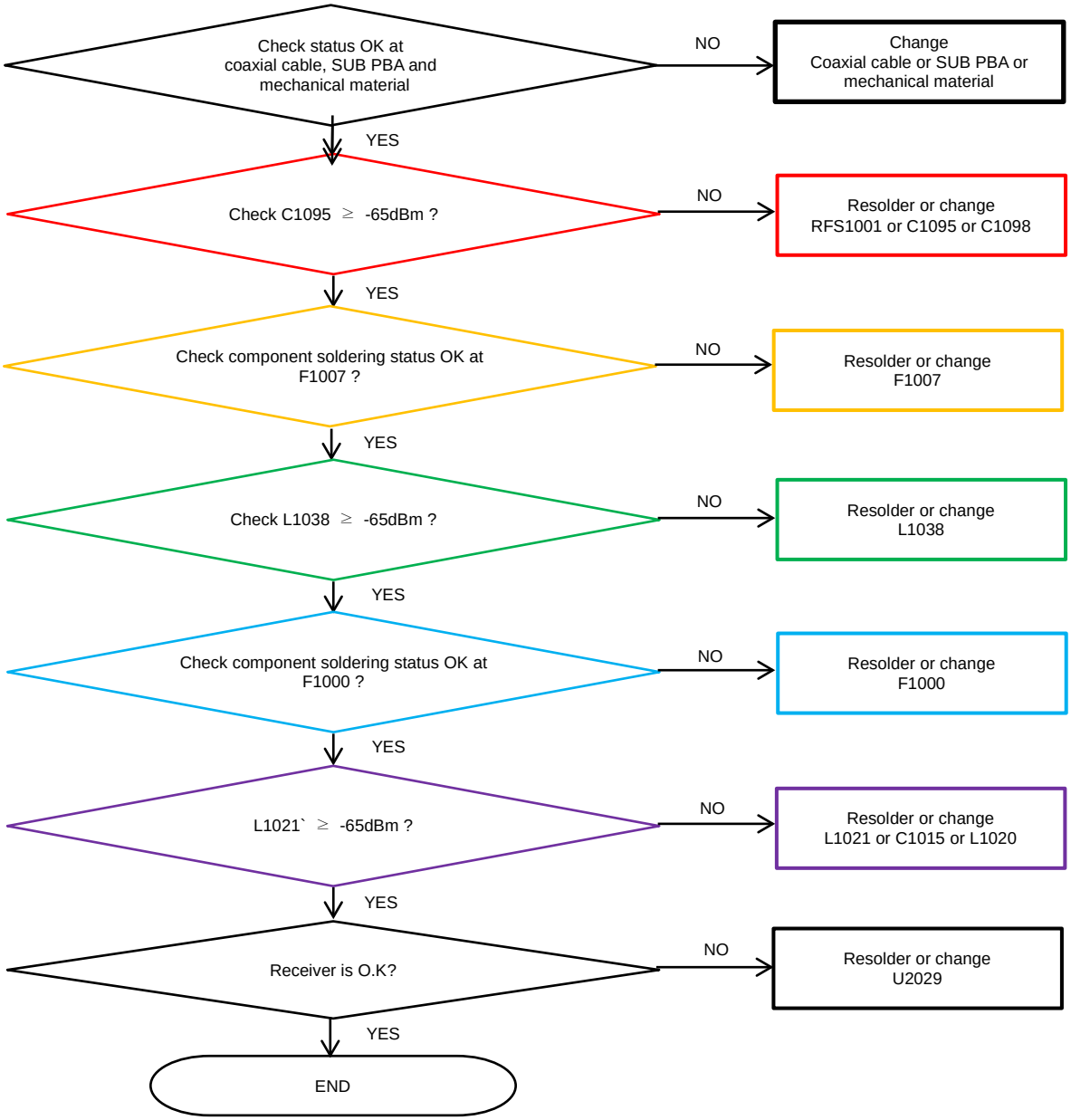
8-4-20. Motor



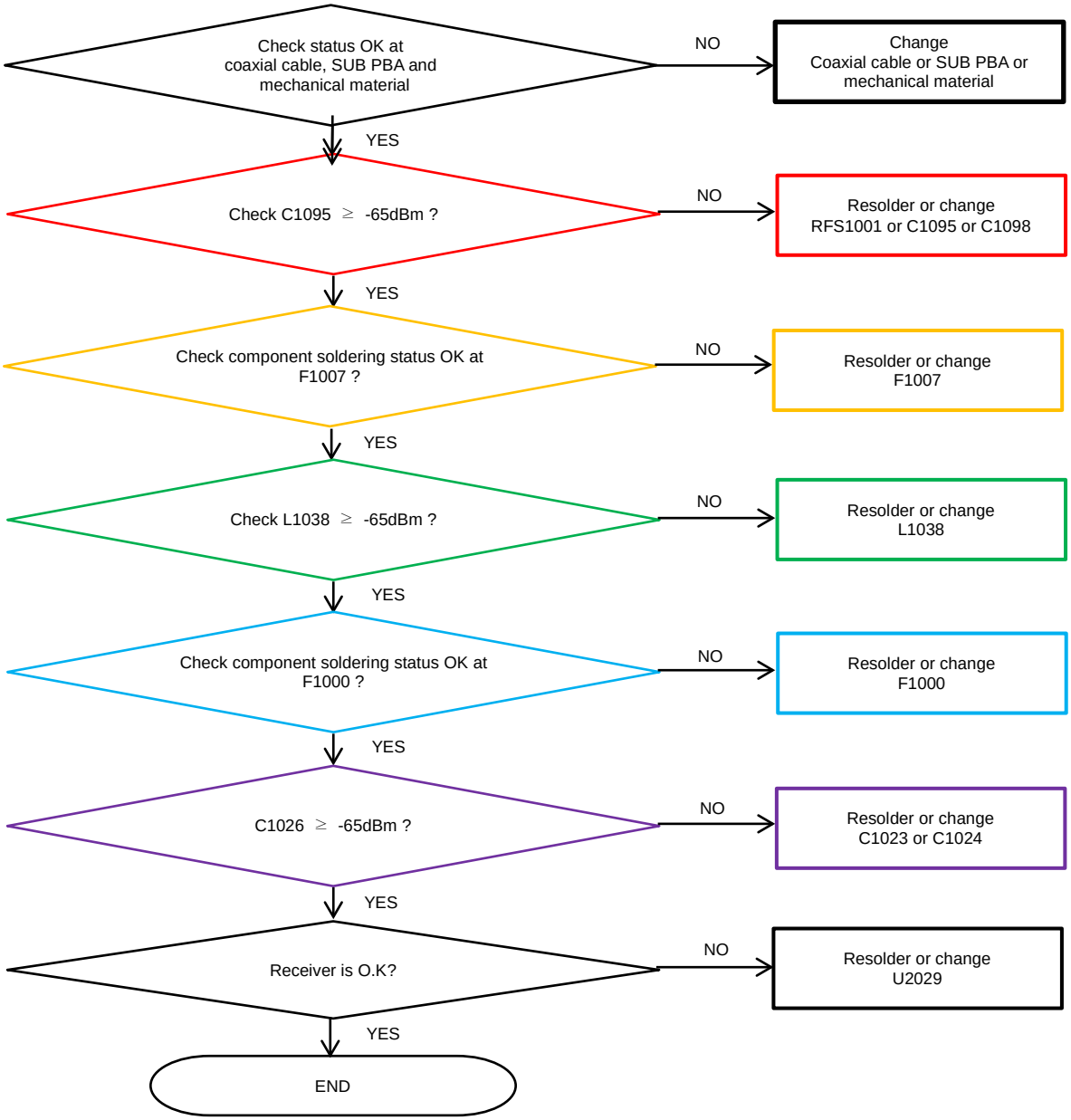
8-4-21. GSM 850, WCDMA B5, LTE B5/26 Rx



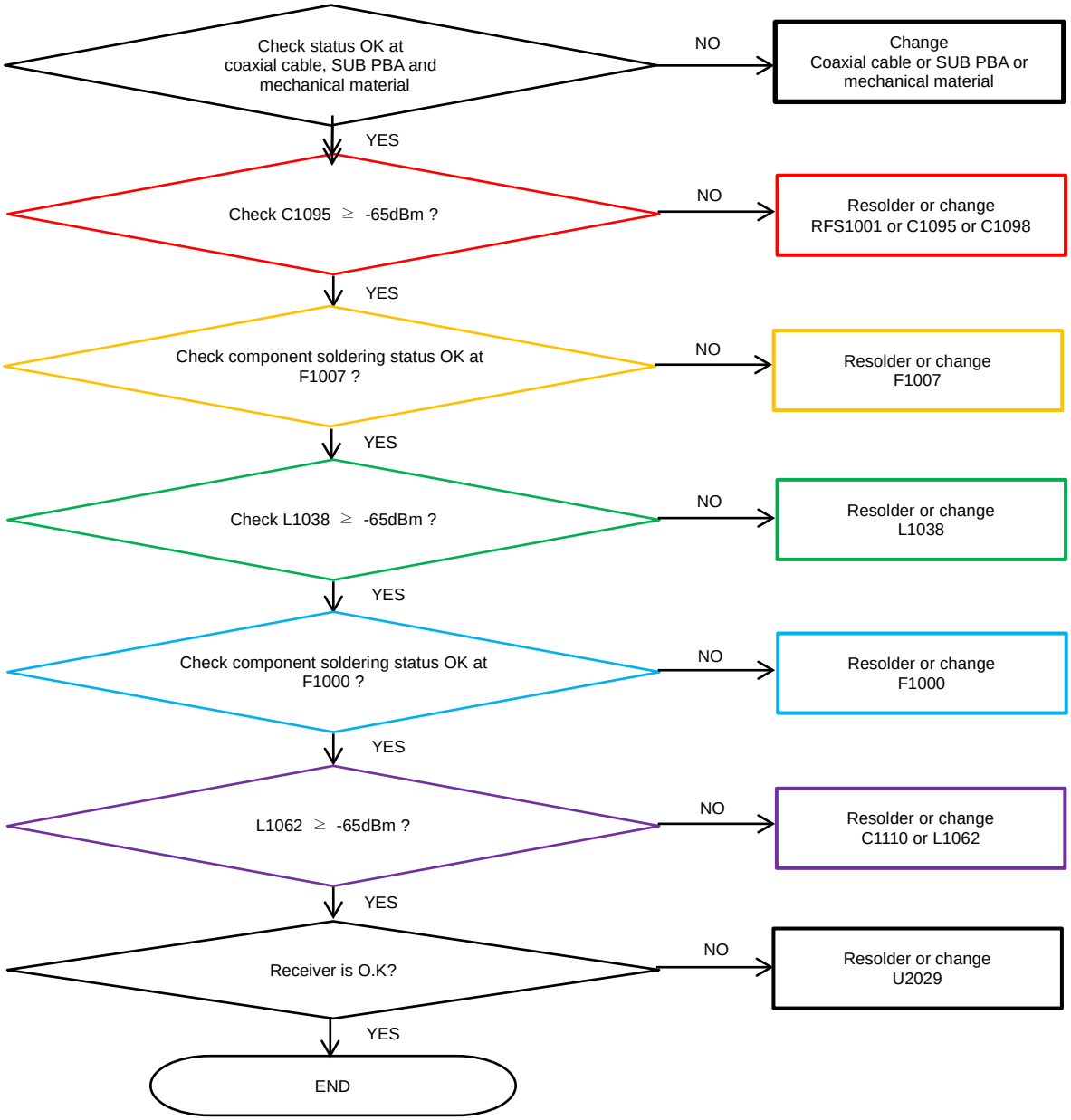
8-4-22. LTE B12/17 Rx



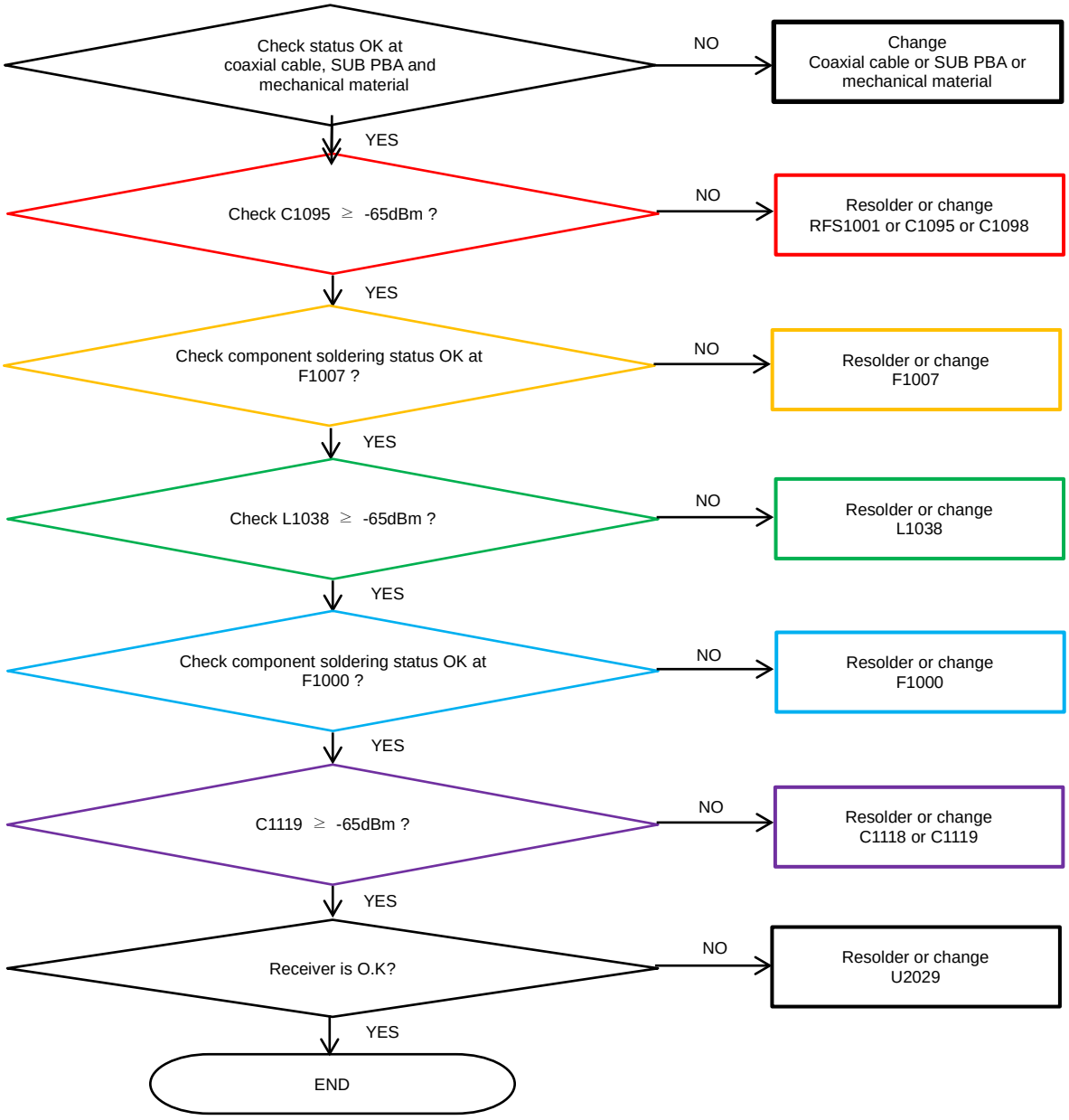
8-4-23. LTE 20 Rx



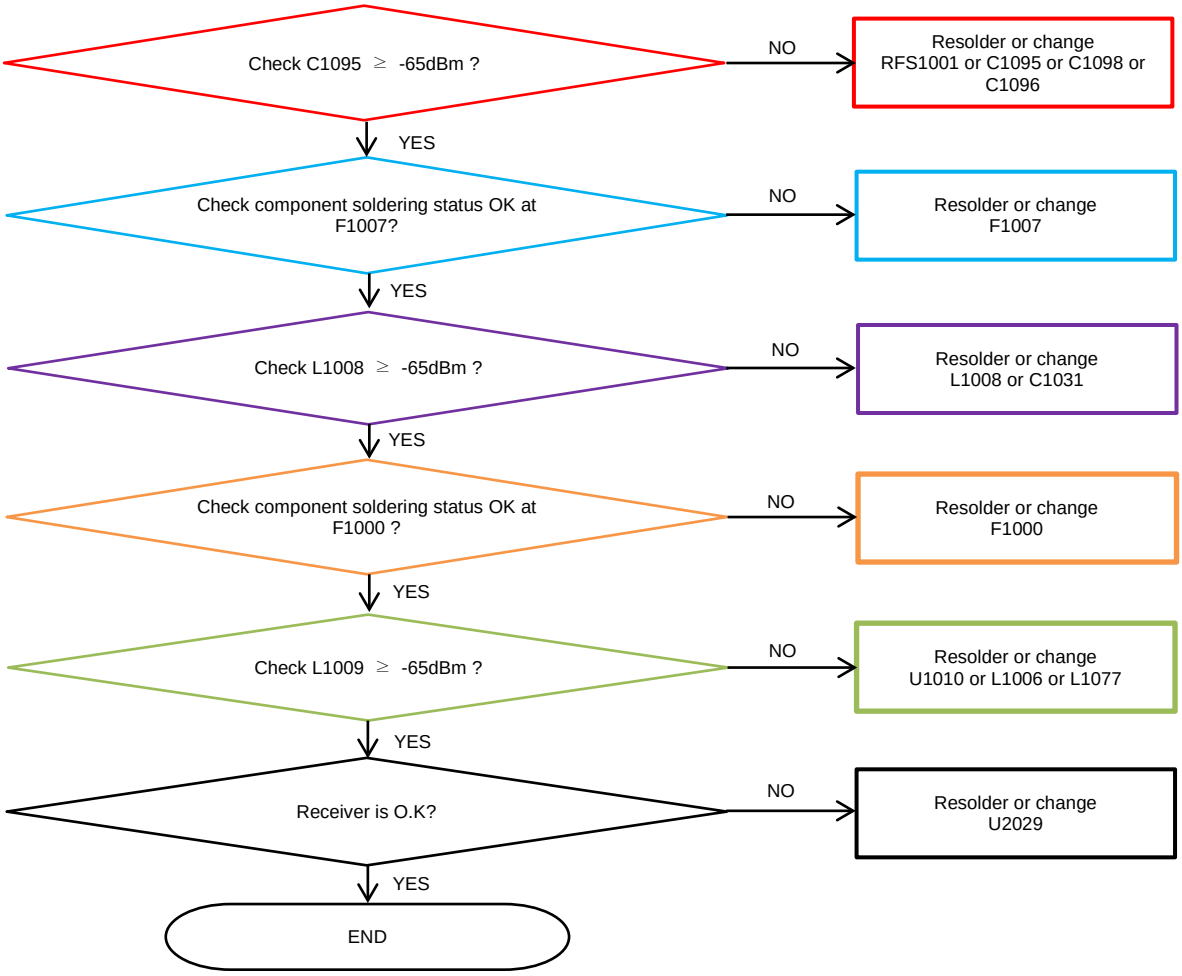
8-4-24. LTE 13 Rx



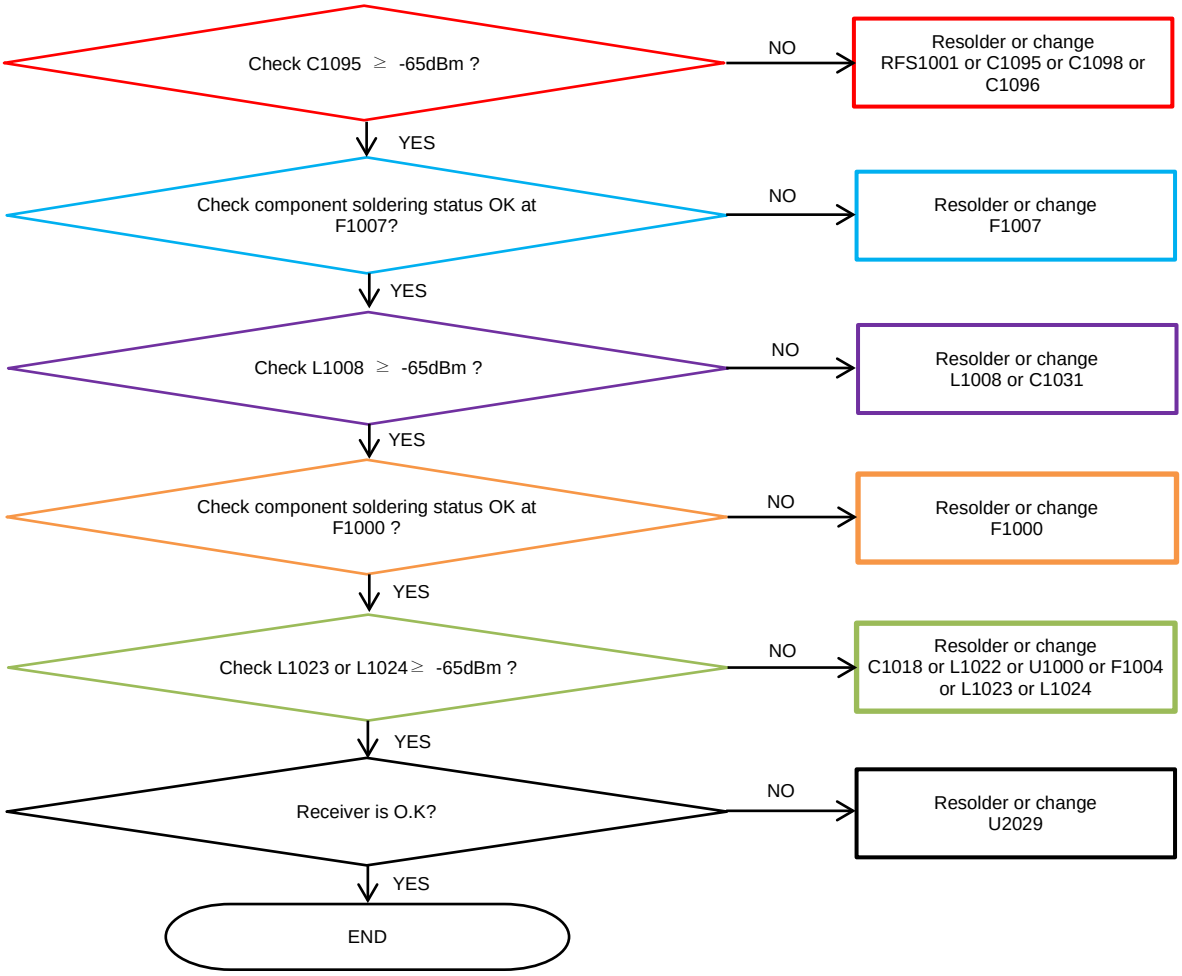
8-4-25. LTE 28 Rx



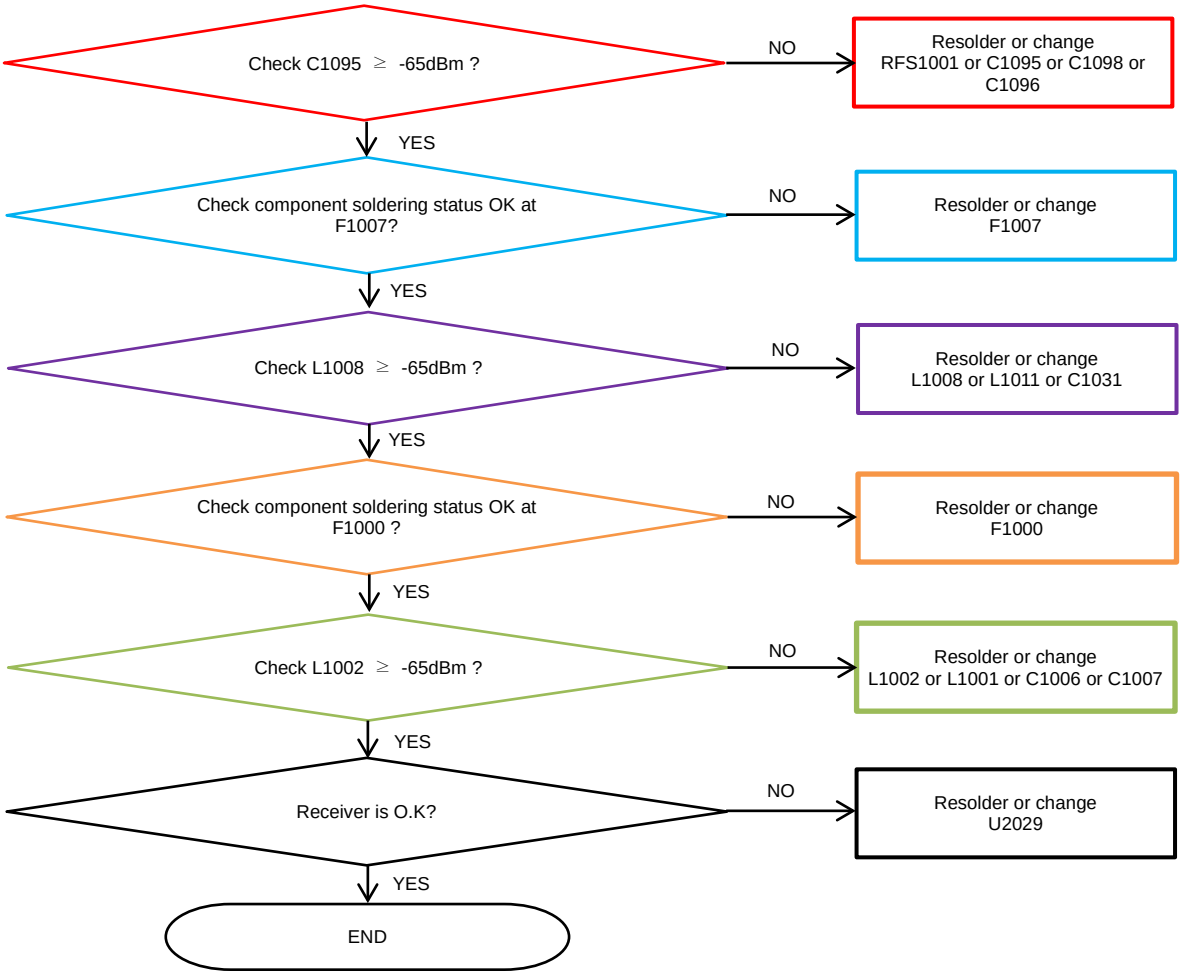
8-4-26. WCDMA B1, LTE B1/4/66 Rx



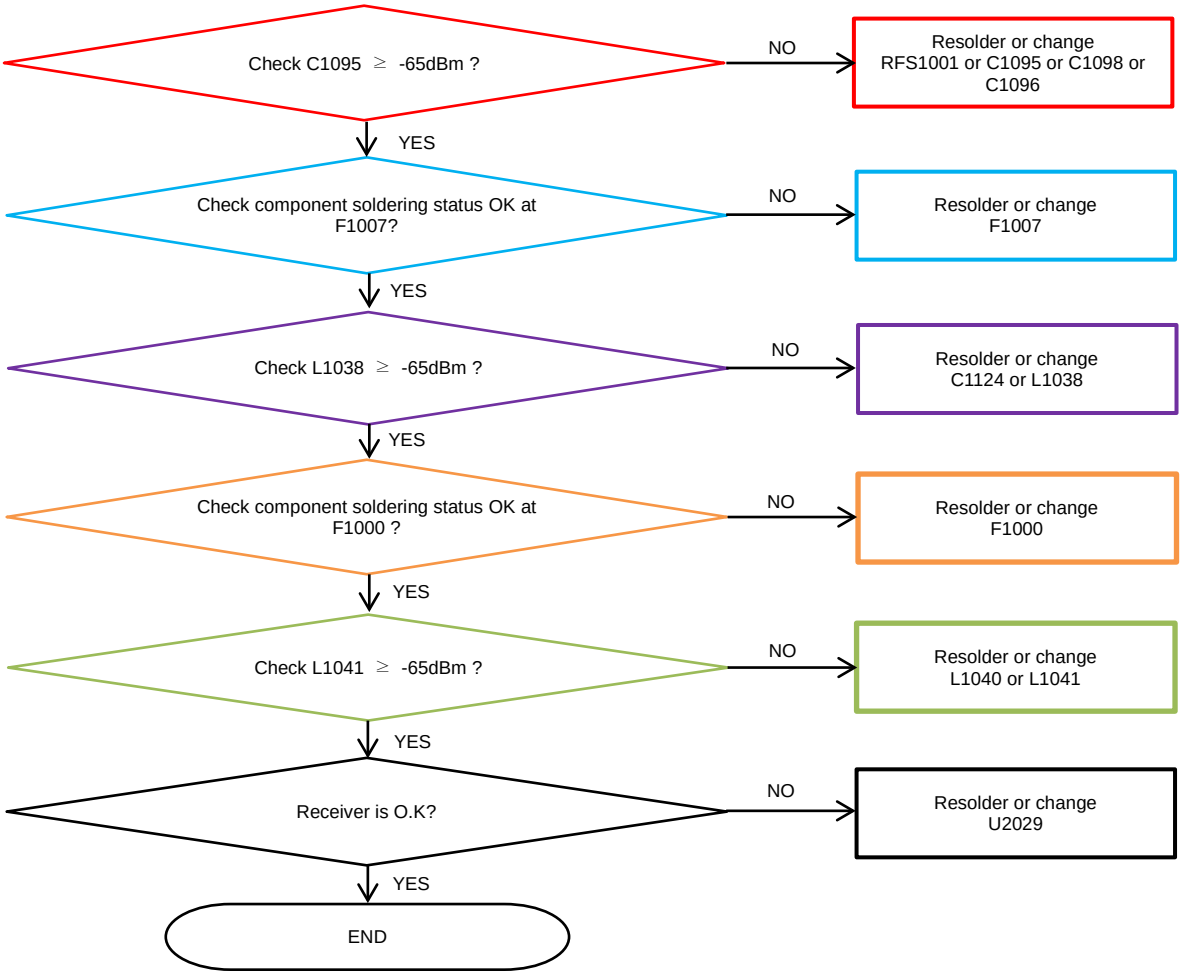
8-4-27. DCS1800, LTE B3 Rx



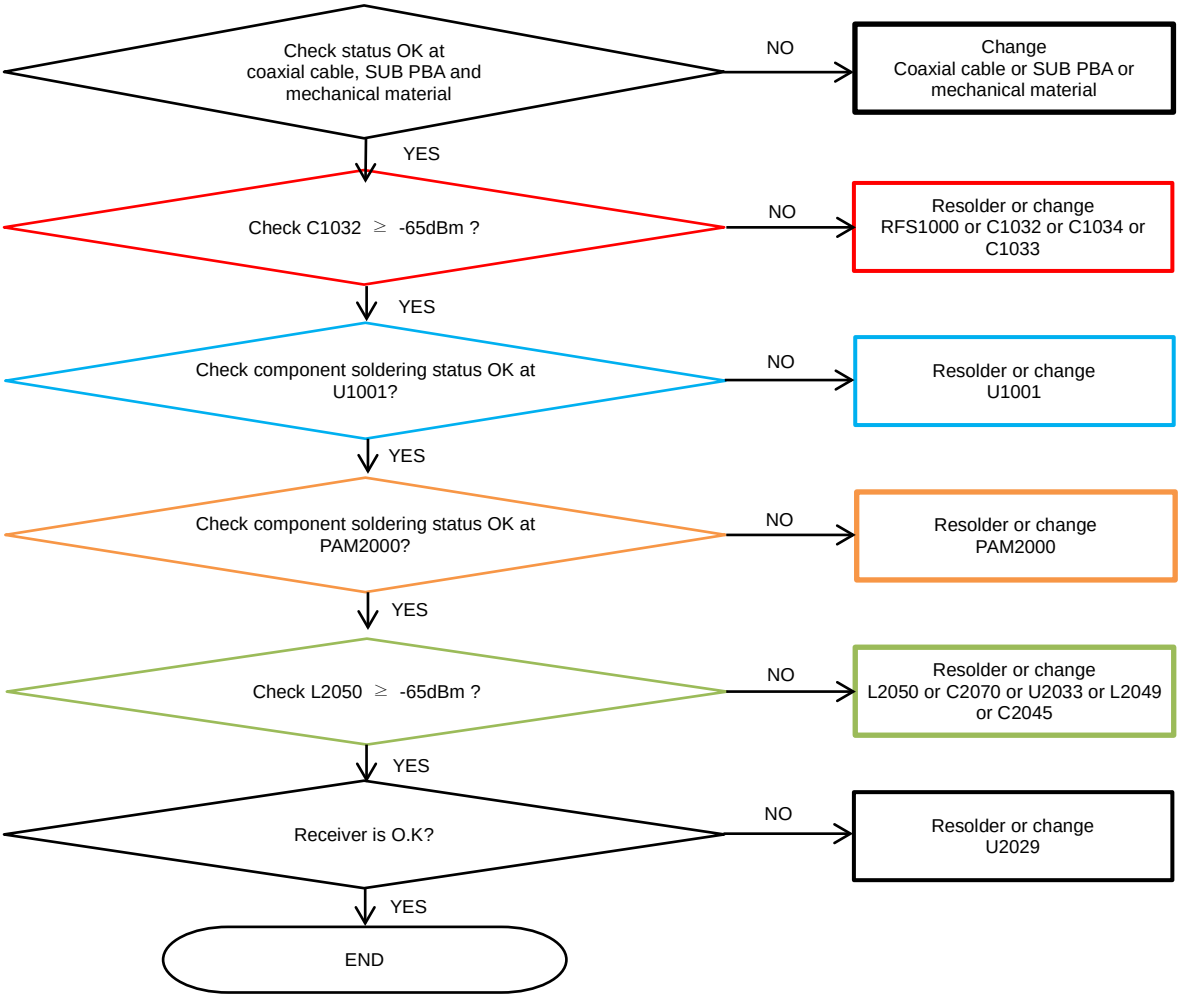
8-4-28. PCS1900, WCDMA B2, LTE B2 Rx



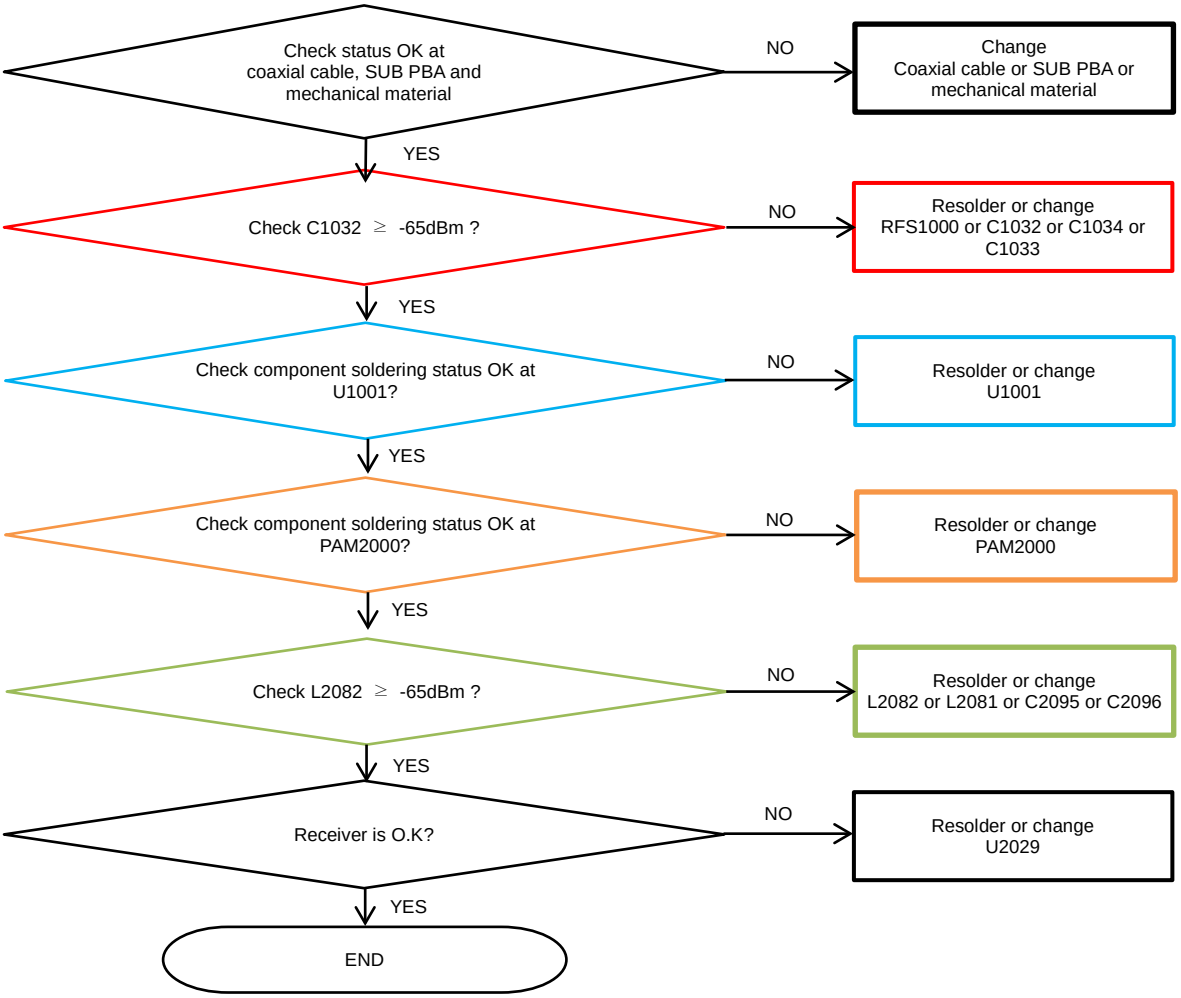
8-4-29. GSM900, WCDMA B8, LTE B8 Rx



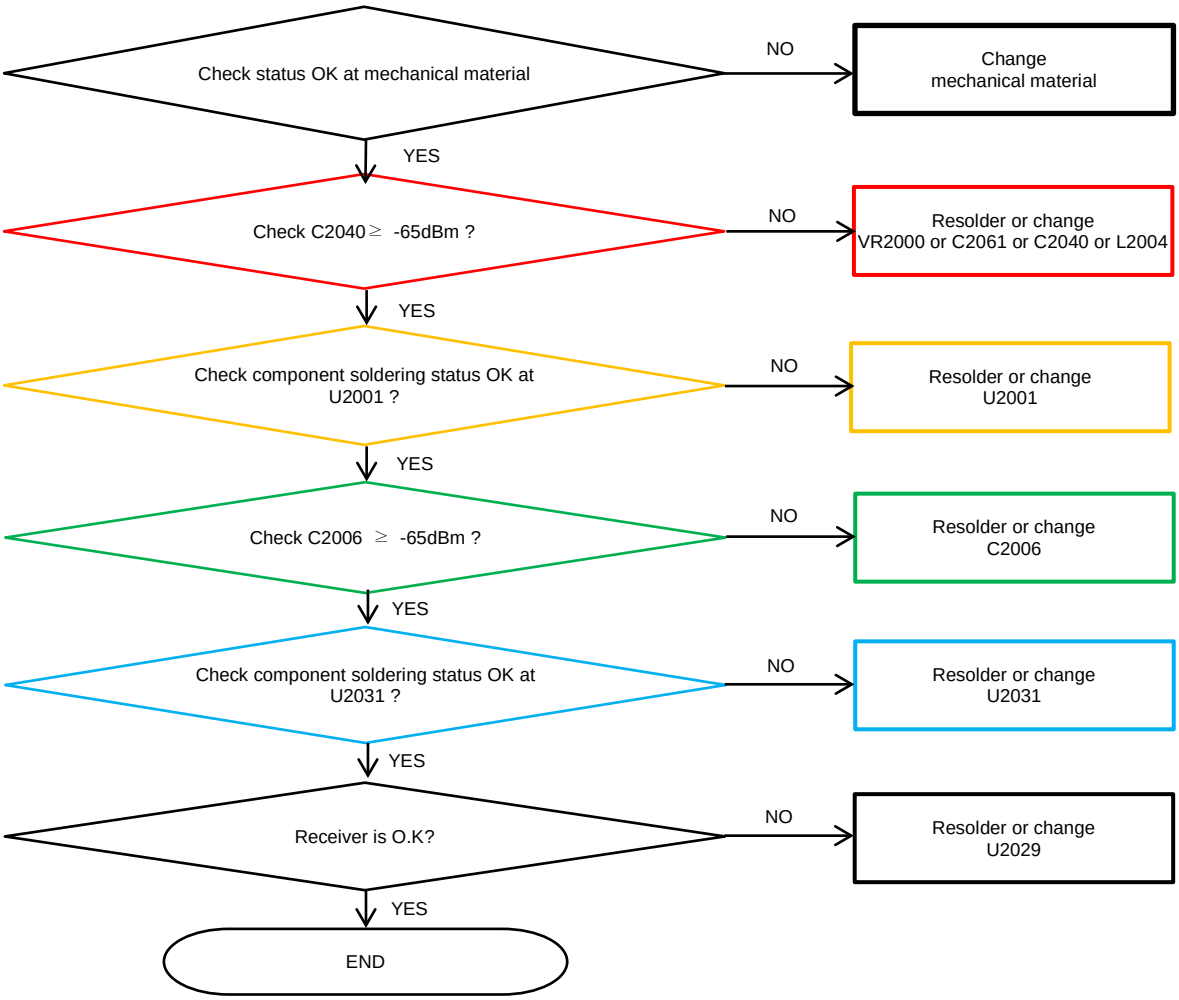
8-4-30. LTE B38/40/41 Rx



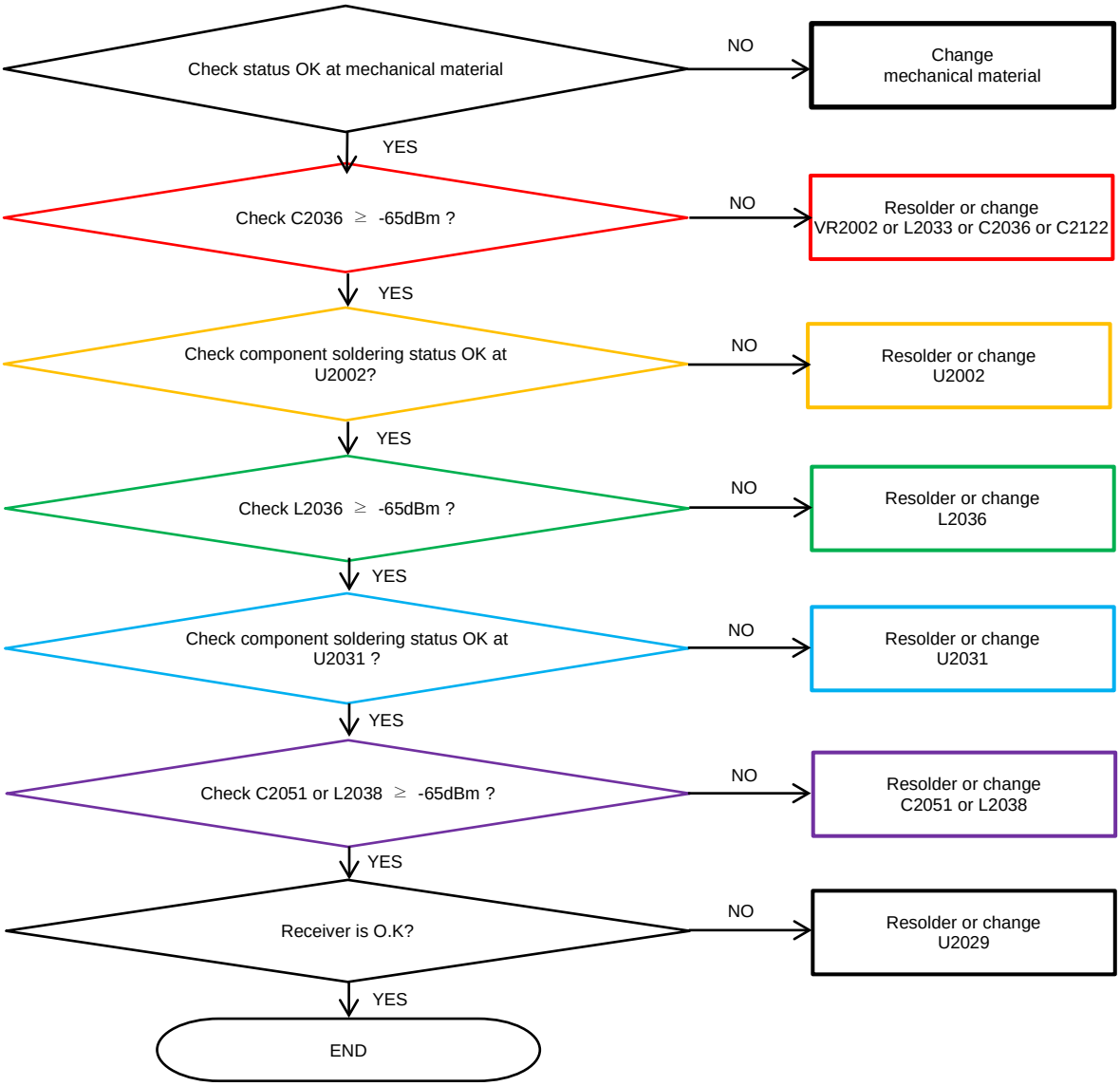
8-4-31. LTE B7 Rx



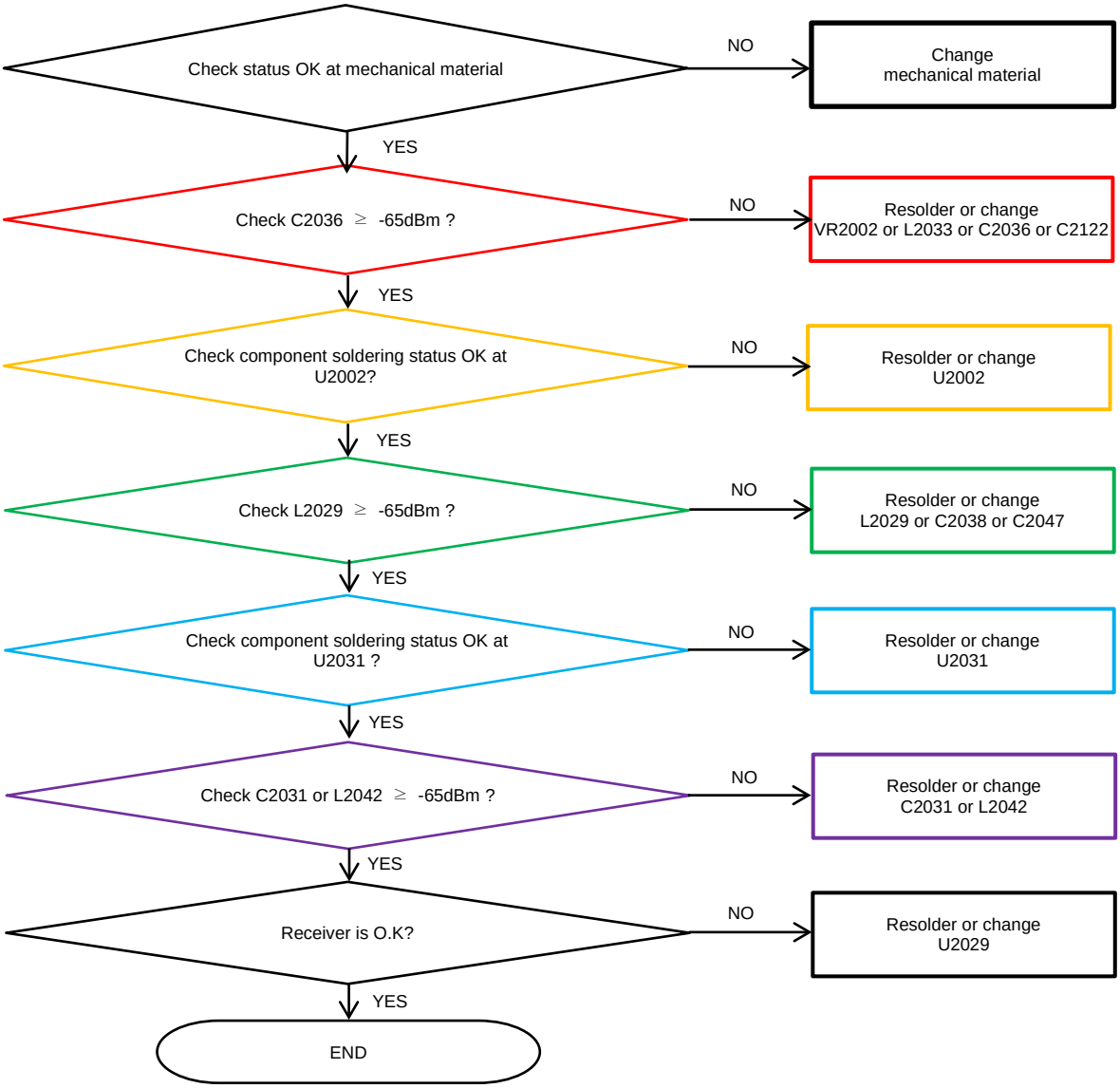
8-4-32. LTE B5/8/12/13/17/20/26/28, WCDMA B5/8 DRx



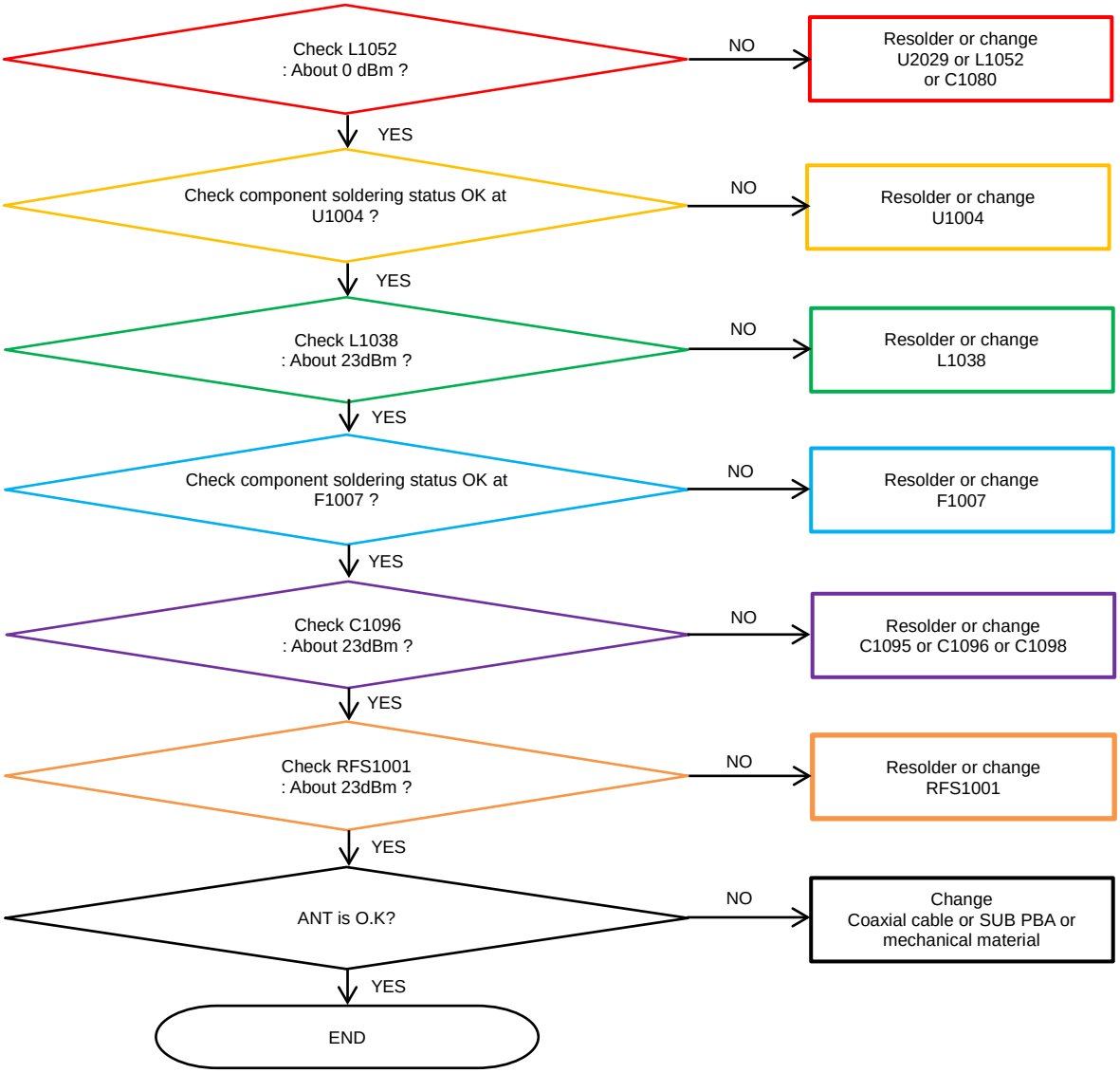
8-4-33. LTE B7/38/40/41 , DRx



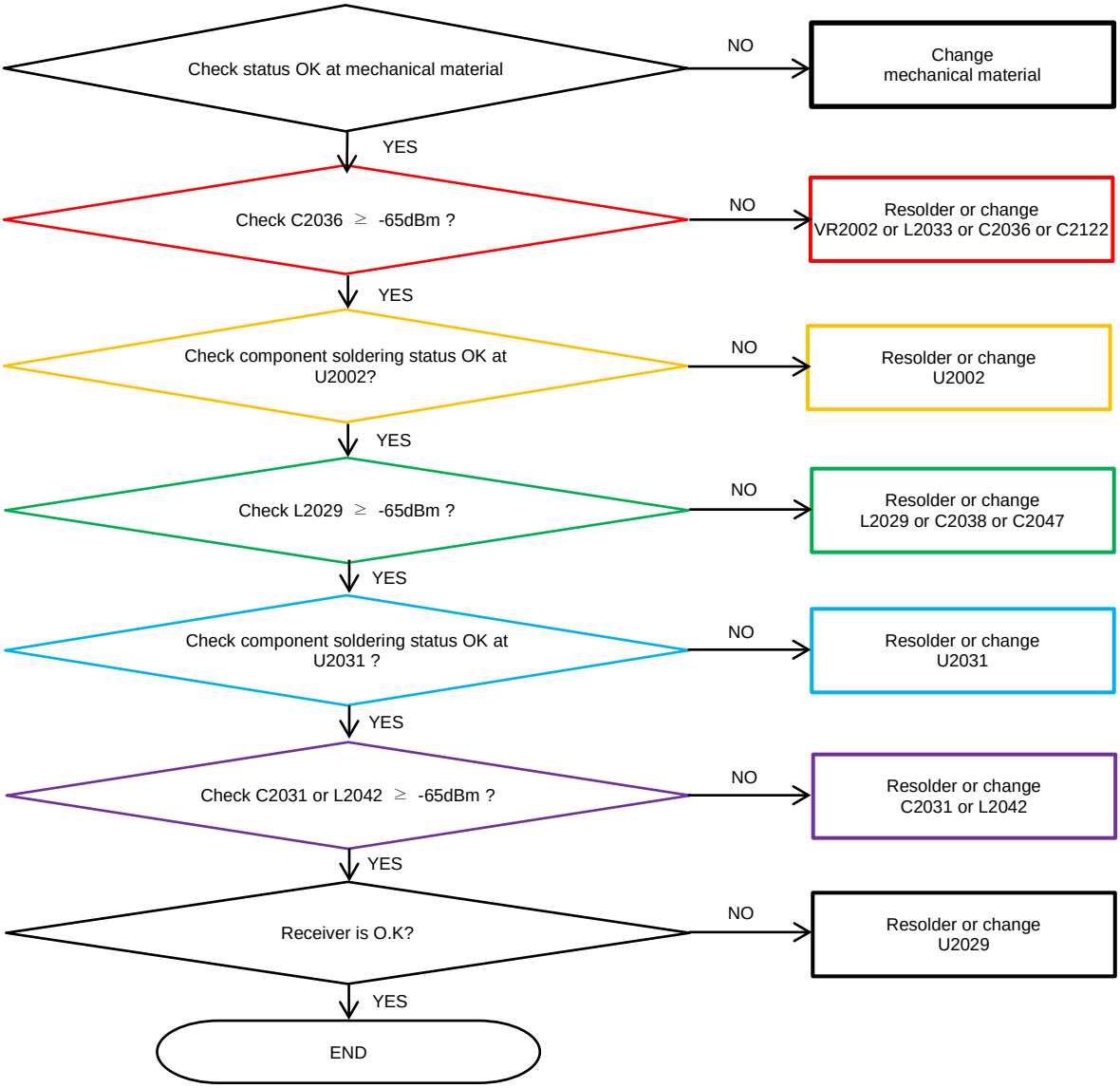
8-4-34. LTE B1/4 , WCDMA B1/B4 DRx



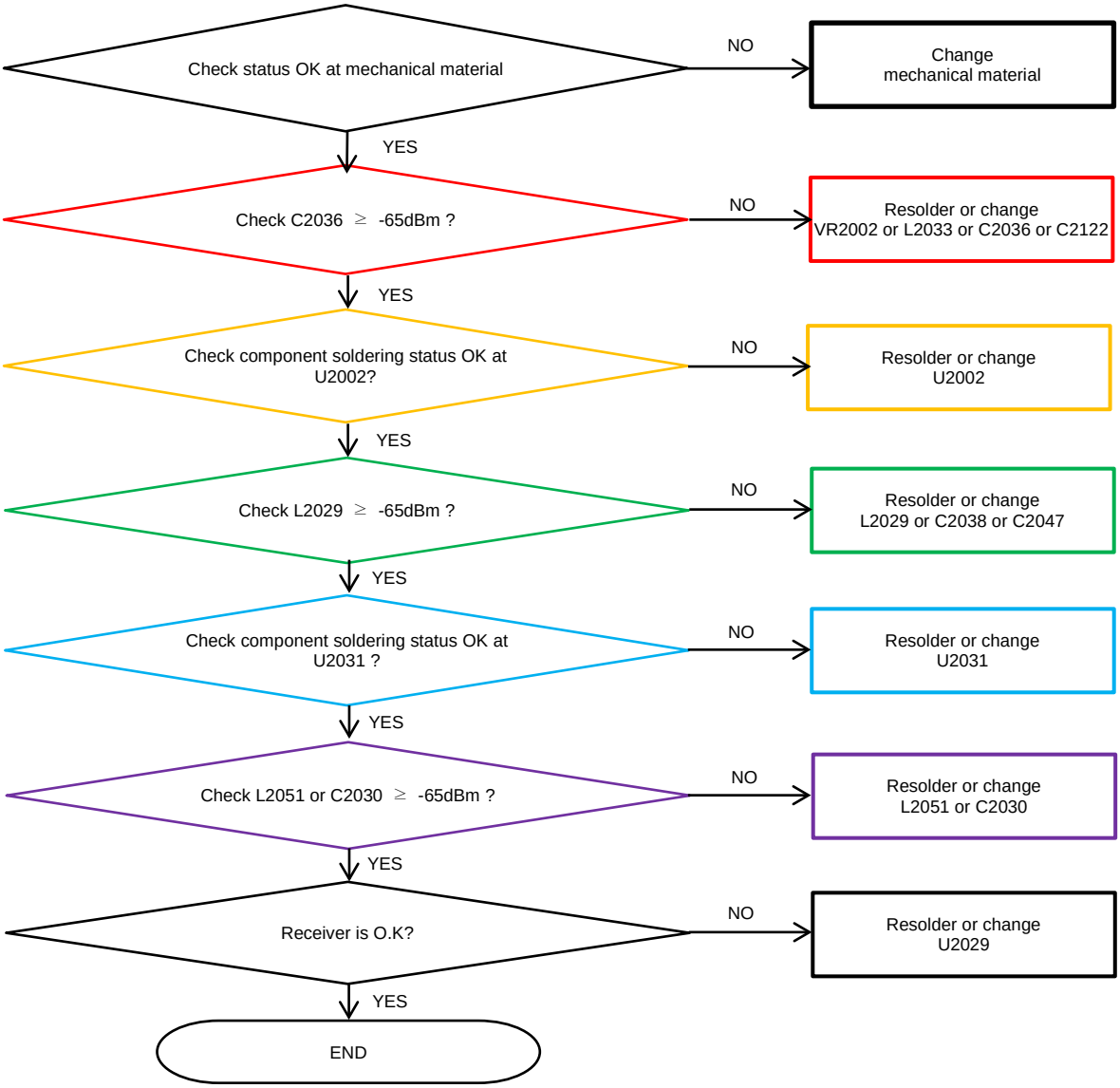
8-4-35. WCDMA B5/8, LTE B5/8 Tx



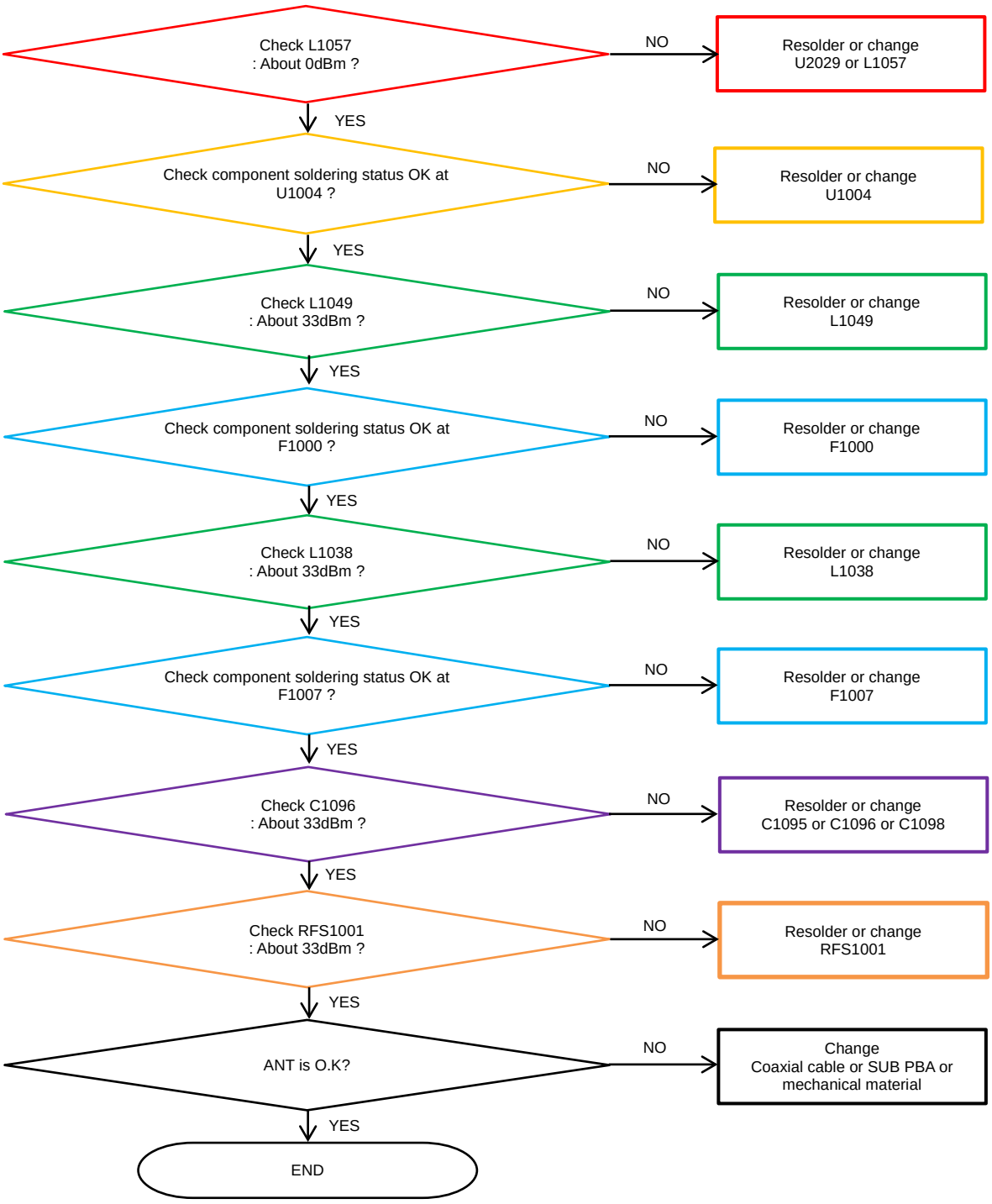
8-4-36. LTE B1/4 , WCDMA B1/B4 DRx



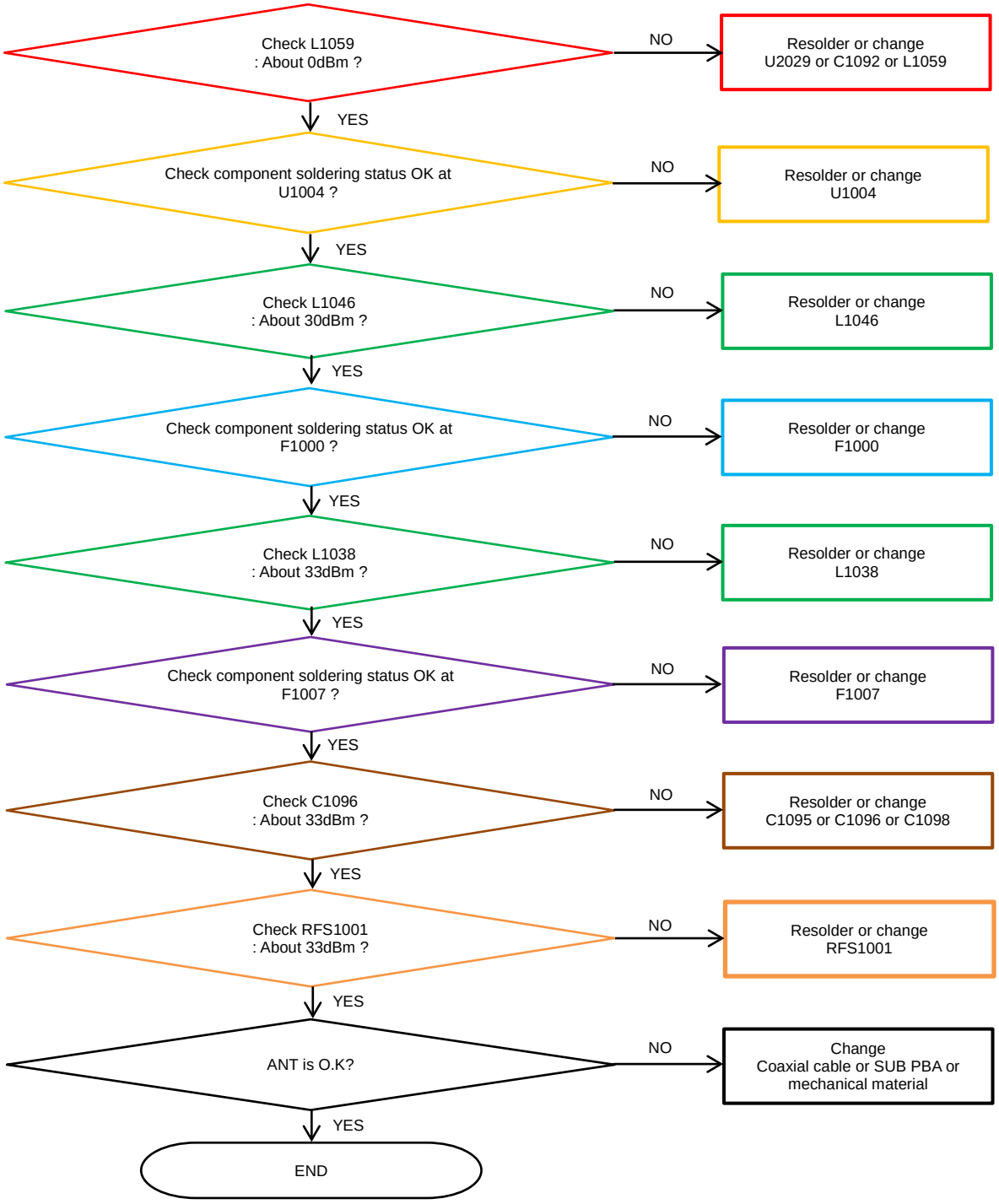
8-4-37. LTE B2/3/66 , WCDMA B2 DRx



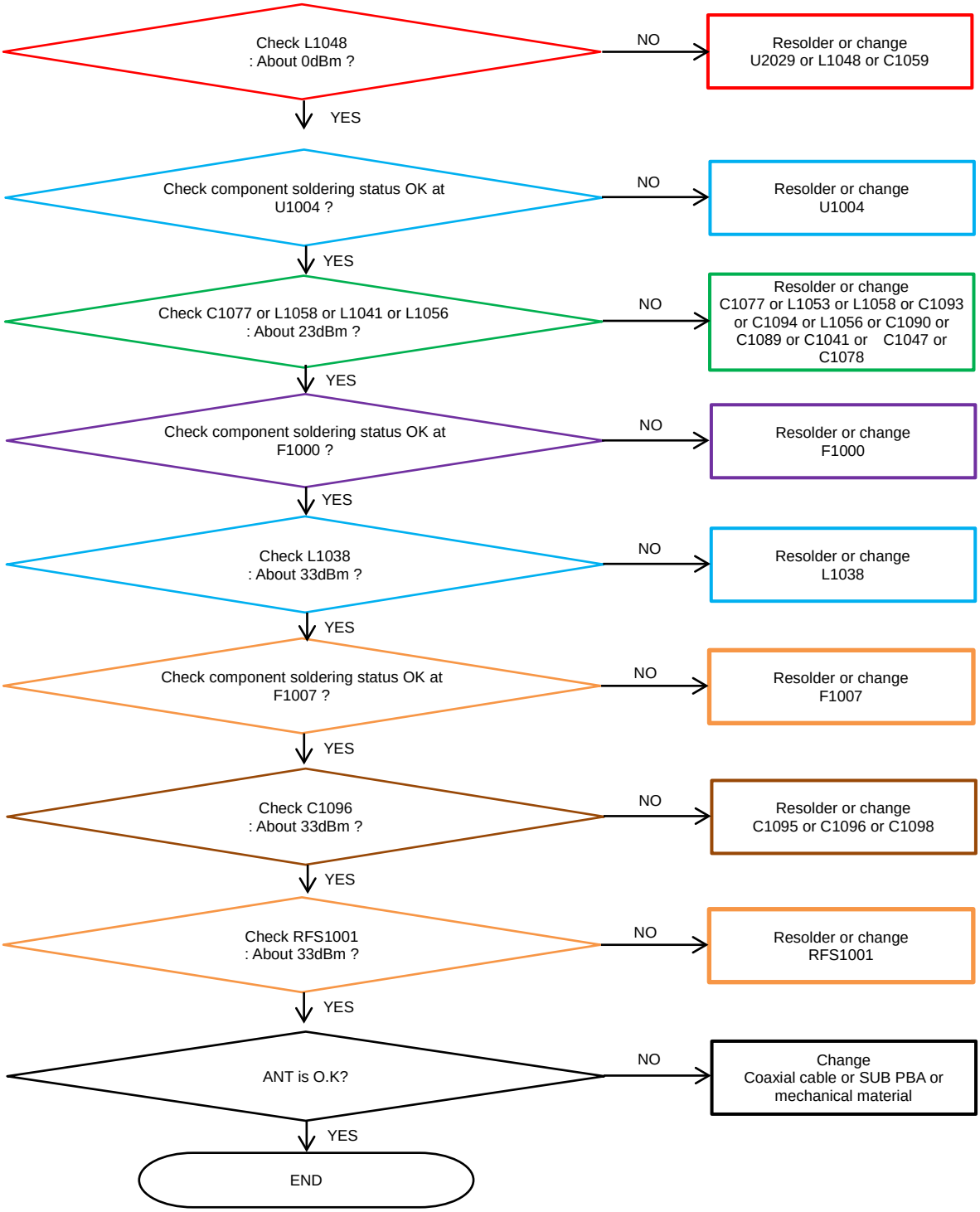
8-4-38. GSM 850/900 Tx



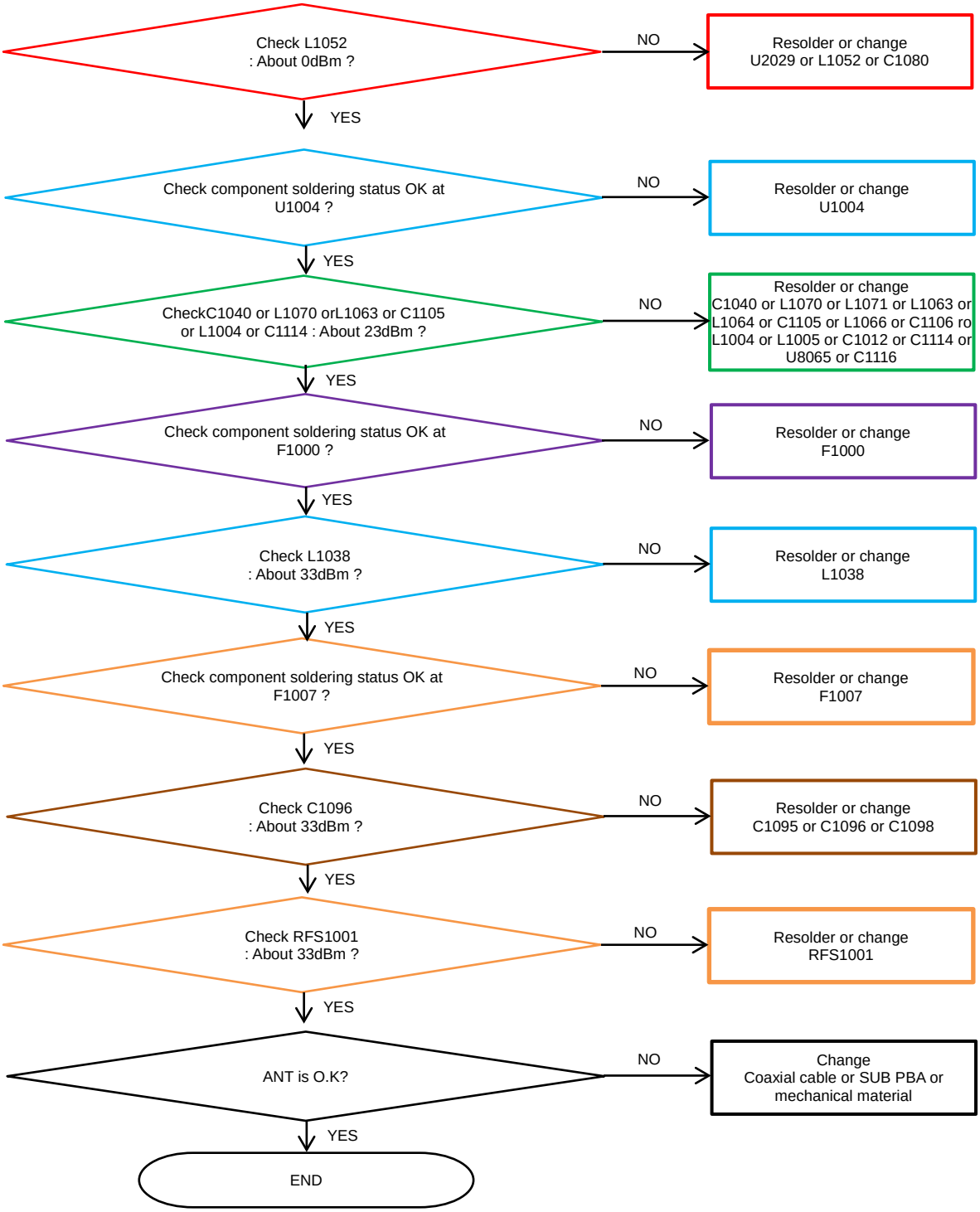
8-4-39. GSM 1800/1900 Tx



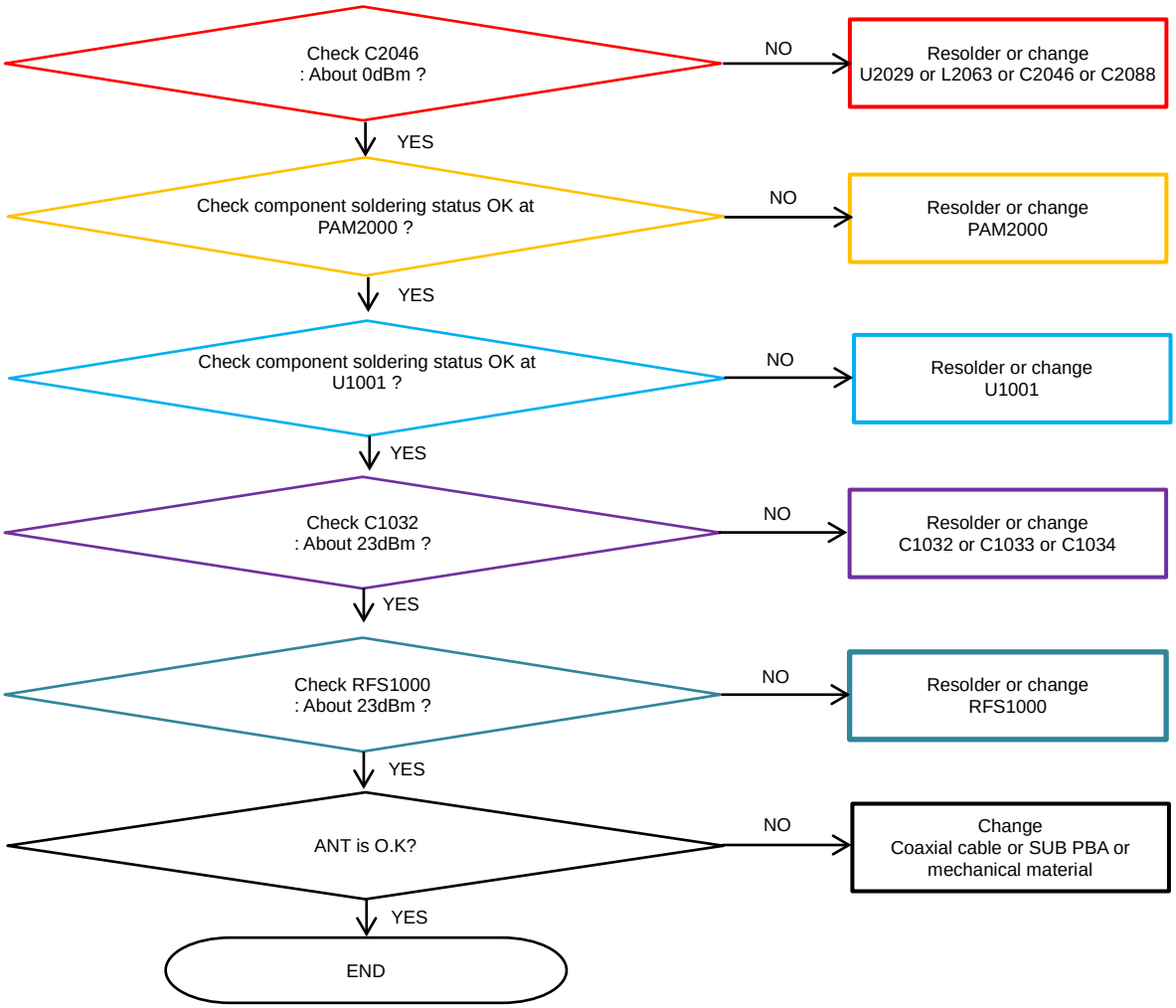
8-4-40. WCDMA B1/2/4, LTE B1/2/3/4/66 Tx



8-4-41. WCDMA B5/8, LTE B5/8/12/13/17/20/26/28 Tx

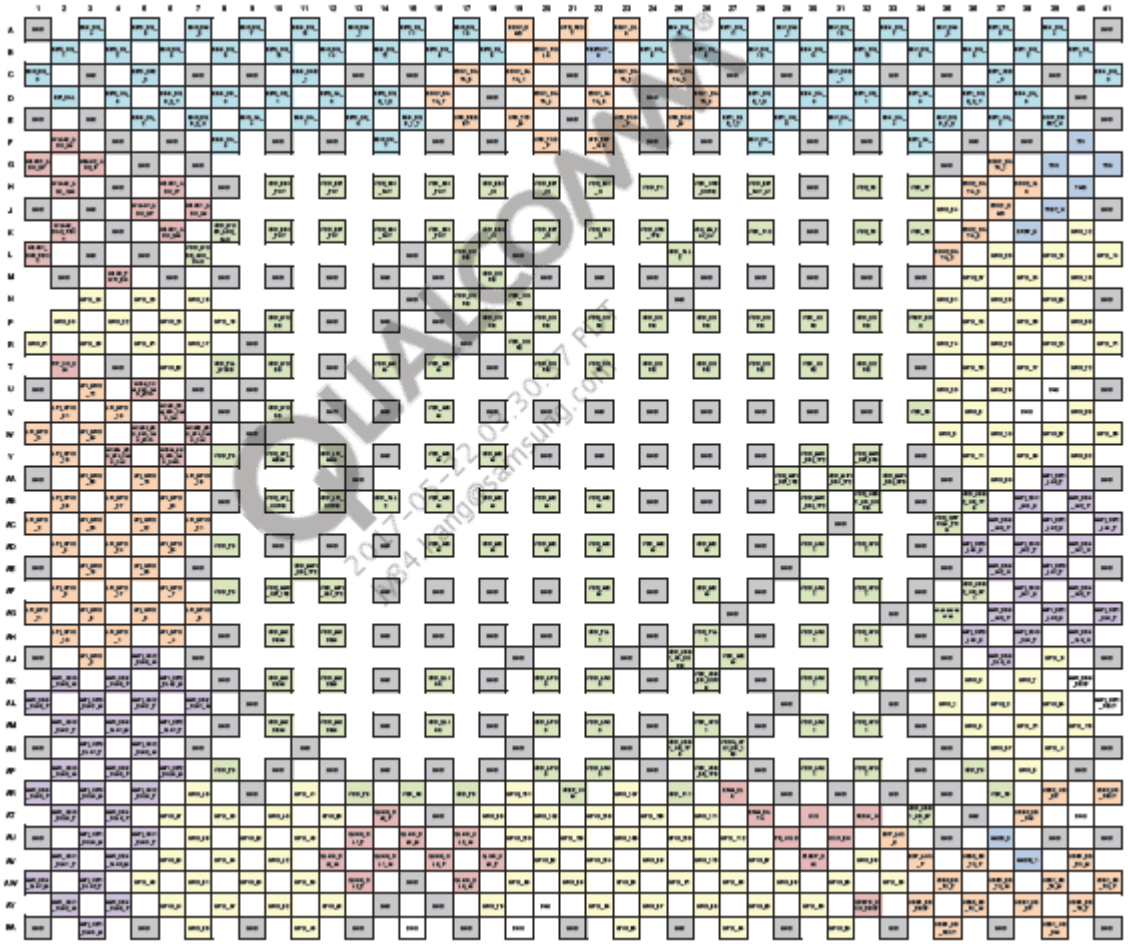


8-4-42. LTE B7/38/40/41 Tx



8-5. Service Schematics

- NC Point(Top View)



Reference Abbreviation

— **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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