

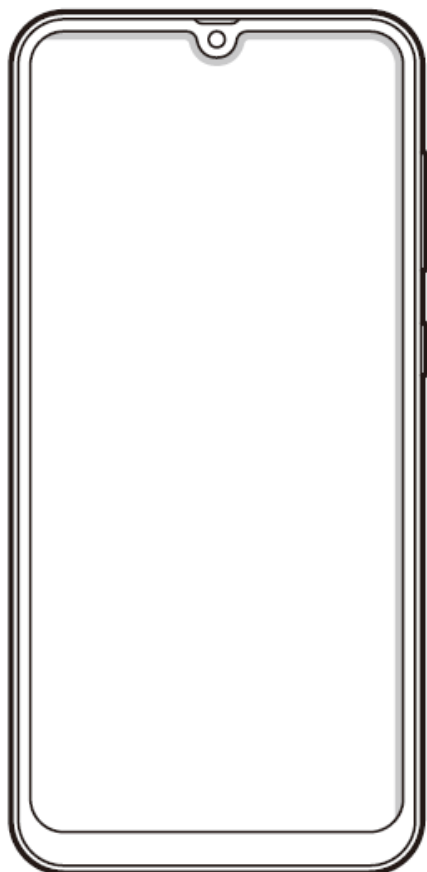
# SAMSUNG

## Mobile Device SM-A202F

# ***SERVICE*** ***Manual***

Mobile Device

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# 1. Safety Precautions

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## 1-1. Repair Precaution

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

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

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

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

We recommend 22-gauge twisted copper wire.

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

Prior to disassembling the battery charger for repair, ensure that the AC power is disconnected.

Always use the replacement parts that are registered in the SEC system. Third-party replacement parts may not function properly.

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# 1. Safety Precautions

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## 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.

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## 2. Specification

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### 2-1. GSM General Specification

Item		GSM 850	EGSM 900	DCS1800	PCS1900
Freq. Band[MHz]		824~849	880~915	1710~1785	1850~1910
Uplink/Downlink		869~894	925~960	1805~1880	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		33dBm~5dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class		4(GMSK) E2(8PSK)	4(GMSK) E2(8PSK)	1(GMSK) E2(8PSK)	1(GMSK) E2(8PSK)
Sensitivity		-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux		8	8	8	8

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## 2. Specification

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### 2-2. GSM Tx Power Class

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

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## 2. Specification

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### 2-3. WCDMA General Specification

Item	WCDMA2100(B1)	WCDMA1900(B2)	WCDMA AWS(B4)	WCDMA850(B5)	WCDMA900(B8)
Freq. Band[MHz]	1920~1980	1850~1910	1710~1755	824~849	880~915
Uplink/Downlink	2110~2170	1930~1990	2110~2155	869~894	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)	25.7 ~ -49(↓)	25.7 ~ -49(↓)	25.7 ~ -49(↓)	25.7 ~ -49(↓)	25.7 ~ -49(↓)
Power Class	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)
Sensitivity	-106dBm	-104dBm	-106dBm	-104dBm	-103dBm

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## 2. Specification

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### 2-4. LTE General Specification

Item	LTE Band1	LTE Band2	LTE Band3	LTE Band4
Freq. Band[MHz] Uplink/Downlink	1920~1980 2110~2170	1850~1910 1930~1990	1710~1785 1805~1880	1710~1755 2110~2155
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
Tx/Rx spacing (MHz)	190	80	95	400
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
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)	-96.3	-94.3	-93.3	-96.3

Item	LTE Band5	LTE Band7	LTE Band8	LTE Band17
Freq. Band[MHz] Uplink/Downlink	824~849 869~894	2500~2570 2620~2690	880~915 925~960	704~716 734~746
ARFCN range	UL:20400~20649 DL:2400~2649	UL:20750~21449 DL:2750~3449	UL:21450~21799 DL:3450~3799	UL:23730~23849 DL:5730~5849
Tx/Rx spacing (MHz)	45	120	45	30
Channel Bandwidth (MHz)	1.4/3/5/10	5/10/15/20	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)	-94.3	-94.3	-93.3	-93.3

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## 2. Specification

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Item	LTE Band20	LTE Band38	LTE Band40	LTE Band41
Freq. Band[MHz] Uplink/Downlink	832~862 791~821	2570~2620	2300~2400	2496~2690
ARFCN range	UL:24150~24449 DL:6150~6449	UL/DL:37750 ~ 38249	UL/DL:38650 ~ 39649	UL/DL:39650 ~ 41589
Tx/Rx spacing (MHz)	-41	0	0	0
Channel Bandwidth (MHz)	5/10/15/20	5/10/15/20	5/10/15/20	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)	-93.3	-96.3	-96.3	-94.3



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## 3. Product Function

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### Main Function

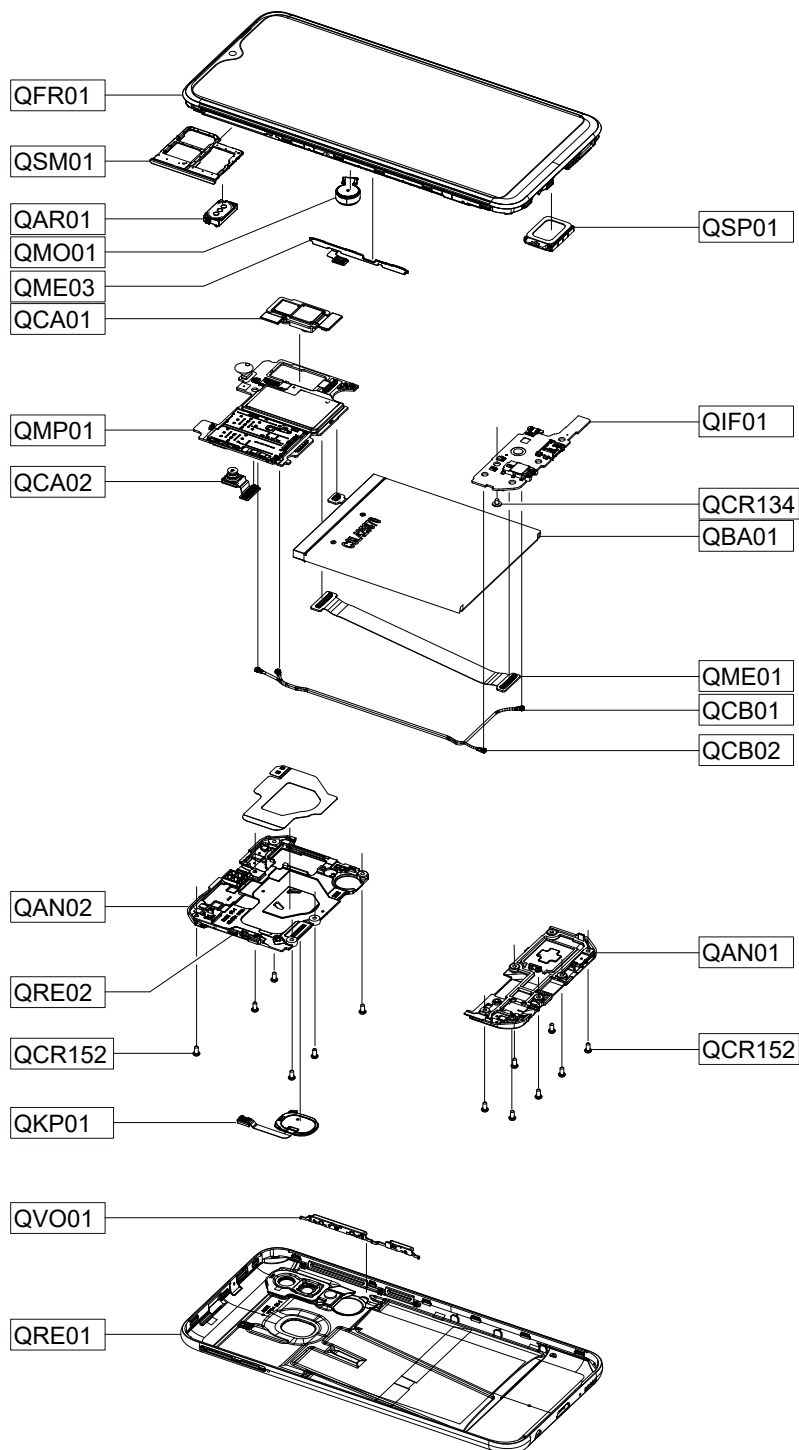
Item	Description
OS	Android P OS V9.0
RF	GSM850 / GSM900 / DCS1800 / PCS1900 WCDMA: B1/ B2/ B5/ B8 LTE : - (FDD) B1/ B2/ B3/ B5/ B7/ B8/ B20 - (TDD) B38/ B40
Battery	3000mAh
Base Band	OCTA core (1.6GHz Dual + 1.35GHz Hexa)
Other RF	GPS, Glonass, Beidou, Galileo, BT5.0, USB 2.0, WIFI 802.11 b/g/n(2.4G), FM Radio
Camera	Rear : Dual Camera ( Wide : 13M Dual A/F, F1.9 & Tele : 5M, F/F, F2.2 ) with LED Flash Front : 8MP CMOS 1/4"
LCD	5.83", HD+, 1560x720
RAM	3GB
Storage	32GB
Sensor	Accelerometer, Gyro Sensor, Geomagnetic Sensor, Hall Sensor, Proximity Sensor
Accessory	Charger: 5V/2A (AFC: 9V/1.67A) Data cable: 3.2pi, 0.8m(Type C/ USB-A) Ear phone: 3.5pi, 4pin

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## 4. Exploded View and Parts List

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### 4-1. Cellular phone Exploded View



※ SVC REPAIR TAPE  
QRT01

## 5. MAIN Electrical Parts List

Parts Code	Design LOC	Description
0401-001110	D6001	DIODE-SWITCHING
0404-001250	U10807	DIODE-SCHOTTKY
0406-001561	ZD5000,ZD5002,ZD5003	DIODE-TVS
0406-001592	ZD5004,ZD5007,ZD5009	DIODE-TVS
0406-001592	ZD5010,ZD5015,ZD5016	DIODE-TVS
0406-001592	ZD5018,ZD5019	DIODE-TVS
0406-001694	D5001	DIODE-TVS
0406-001728	ZD1000	DIODE-TVS
0406-001781	ZD5011,ZD5012	DIODE-TVS
0406-001809	ZD5005,ZD5006	DIODE-TVS
0406-001829	ZD5014	DIODE-TVS
0505-002088	Q7000	FET-SILICON
0505-003618	Q5000	FET-SILICON
0601-003768	U10808	LED
1001-001977	U2007	IC
1001-001997	U1001	IC
1001-002040	U1000	IC
1001-002078	U2004	IC
1003-002802	U2006	IC
1105-002962	UCP400UP	IC-FLASH
1107-002552	UME5000	IC-FLASH
1201-003869	U3008	IC
1201-004109	PAM1001	IC
1201-004135	PAM1000	IC
1201-004228	U6001	IC
1201-004230	U2002	IC
1203-008249	U3007	IC
1203-008251	U6000	IC
1203-008475	U5010	IC
1203-008603	U5001	IC
1203-008693	U2000	IC
1203-008771	U3013	IC
1203-008859	U7003,U7011	IC
1203-008867	U3001,U7001	IC
1203-008870	U7007	IC
1203-008925	U3010	IC
1203-008955	U7006	IC
1203-008989	U7000,U7004,U7005	IC

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## 5. MAIN Electrical Parts List

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1203-009244	U7017	IC
1203-009258	U5002	IC
1203-009269	U5000	IC
1205-005806	U2005	IC
1205-005860	U3004	IC
1205-006088	U3005	IC
1205-006117	UCP400	IC
1209-002413	U3018	IC
1209-002450	U3017	IC
1209-002621	U3002	IC
1404-001724	TH1000,TH4000,VR5000	THERMISTOR
1405-001458	VR7000	VARISTOR
2007-003015	R5028,R5030	R-CHIP
2007-007142	R5029	R-CHIP
2007-007190	R5006,R5032	R-CHIP
2007-007309	R5033	R-CHIP
2007-007310	R3130,R3131	R-CHIP
2007-007741	R3001,R3007,R4015	R-CHIP
2007-007741	R4016,R4049,R5019	R-CHIP
2007-007741	R5020,R5021,R5023	R-CHIP
2007-007741	R7005	R-CHIP
2007-007798	R5027	R-CHIP
2007-007942	R5011	R-CHIP
2007-007946	R5008	R-CHIP
2007-008531	C1070,R5034,R6007	R-CHIP
2007-008531	R7002,R7044,R7045	R-CHIP
2007-008588	C3002,C3003	R-CHIP
2007-008647	R1001,R1008	R-CHIP
2007-008800	R6030	R-CHIP
2007-009111	R3000,R5005	R-CHIP
2007-009157	R1005,R4001,R4002	R-CHIP
2007-009157	R4010,R4047,R5001	R-CHIP
2007-009157	R5010,R5022,R6005	R-CHIP
2007-009157	R6008	R-CHIP
2007-009171	R5007,R5013	R-CHIP
2007-009212	R4003,R4035,R5012	R-CHIP
2007-009212	R5018,R6022	R-CHIP
2007-009315	R6009	R-CHIP
2007-009352	R7011,R7047	R-CHIP

## 5. MAIN Electrical Parts List

2007-009361	R1000,R1003	R-CHIP
2007-009408	R4006,R4008,R4018	R-CHIP
2007-009408	R4022,R4023,R4024	R-CHIP
2007-009408	R4027,R4029,R4030	R-CHIP
2007-009408	R4031,R4032,R4033	R-CHIP
2007-009408	R4041,R4042,R6024	R-CHIP
2007-009408	R7003,R7004,R7042	R-CHIP
2007-009408	R7043	R-CHIP
2007-009410	R6032	R-CHIP
2007-009793	R6031	R-CHIP
2007-009801	R5000	R-CHIP
2007-009805	R1004,R1007,R2006	R-CHIP
2007-009920	R4004,R4005,R7049	R-CHIP
2007-009920	R7050	R-CHIP
2007-009969	R6026	R-CHIP
2007-010202	R5016,R5017	R-CHIP
2007-010685	R6010	R-CHIP
2007-011043	R4050	R-CHIP
2007-011532	R6027	R-CHIP
2007-011648	R6003	R-CHIP
2007-012033	C1002,C1003	R-CHIP
2007-012068	R5009	R-CHIP
2203-000278	C3165	C-CERAMIC,CHIP
2203-000311	C3171	C-CERAMIC,CHIP
2203-000425	C7027	C-CERAMIC,CHIP
2203-000489	C5122,C5123	C-CERAMIC,CHIP
2203-001153	C3166,C3169	C-CERAMIC,CHIP
2203-002709	C3065	C-CERAMIC,CHIP
2203-005344	C5068	C-CERAMIC,CHIP
2203-005682	C1013,C5114,C5115	C-CERAMIC,CHIP
2203-005682	C6020,C6024	C-CERAMIC,CHIP
2203-005729	C6005,C6009,C7006	C-CERAMIC,CHIP
2203-005729	C7037	C-CERAMIC,CHIP
2203-005731	C2075,C6016,C6030	C-CERAMIC,CHIP
2203-005732	C5061	C-CERAMIC,CHIP
2203-005734	C6017,C6022	C-CERAMIC,CHIP
2203-005736	C1001,C1006,C1009	C-CERAMIC,CHIP
2203-005736	C1011,C1012,C1015	C-CERAMIC,CHIP
2203-005736	C1022,C1044,C1046	C-CERAMIC,CHIP

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## 5. MAIN Electrical Parts List

2203-005736	C1048,C1051,C1054	C-CERAMIC,CHIP
2203-005736	C1063,C1066,C1067	C-CERAMIC,CHIP
2203-005736	C1071,C1074,C1079	C-CERAMIC,CHIP
2203-005736	C1081,C1084,C1091	C-CERAMIC,CHIP
2203-005736	C1092,C1098,C1103	C-CERAMIC,CHIP
2203-005736	C1111,C1112,C1115	C-CERAMIC,CHIP
2203-005736	C1128,C1131,C2002	C-CERAMIC,CHIP
2203-005736	C2003,C2009,C2015	C-CERAMIC,CHIP
2203-005736	C2016,C2018,C2020	C-CERAMIC,CHIP
2203-005736	C2023,C2026,C2062	C-CERAMIC,CHIP
2203-005736	C2063,C2067,C2068	C-CERAMIC,CHIP
2203-005736	C2070,C3021,C3027	C-CERAMIC,CHIP
2203-005736	C3034,C3035,C3037	C-CERAMIC,CHIP
2203-005736	C3043,C3046,L1016	C-CERAMIC,CHIP
2203-005736	L1071	C-CERAMIC,CHIP
2203-005777	C1037,C1049,C1050	C-CERAMIC,CHIP
2203-005777	C1056,C1072,C1083	C-CERAMIC,CHIP
2203-005777	C1093,C1099,C1113	C-CERAMIC,CHIP
2203-005777	L1038	C-CERAMIC,CHIP
2203-005789	C1036,C1052,C1055	C-CERAMIC,CHIP
2203-005789	C1064,C1073,C1075	C-CERAMIC,CHIP
2203-005789	C1077,C1089,C1106	C-CERAMIC,CHIP
2203-005789	C1117,L1003,L2010	C-CERAMIC,CHIP
2203-005789	L2013,L2027	C-CERAMIC,CHIP
2203-005792	C1053,C1109,C6002	C-CERAMIC,CHIP
2203-005806	C1005,C1019,C3150	C-CERAMIC,CHIP
2203-006194	C6027	C-CERAMIC,CHIP
2203-006305	C1101,L1052	C-CERAMIC,CHIP
2203-006318	C1029,C6035	C-CERAMIC,CHIP
2203-006379	C5121	C-CERAMIC,CHIP
2203-006400	C2032,C2064,C2065	C-CERAMIC,CHIP
2203-006400	C2083,C3006,C3020	C-CERAMIC,CHIP
2203-006400	C3033,C3164,C3174	C-CERAMIC,CHIP
2203-006400	C6003	C-CERAMIC,CHIP
2203-006410	C1076	C-CERAMIC,CHIP
2203-006423	C2028,C3032,C3050	C-CERAMIC,CHIP
2203-006423	C4005,C6015,C6019	C-CERAMIC,CHIP
2203-006423	C6029,C8178,C8179	C-CERAMIC,CHIP
2203-006426	C6004,C6032	C-CERAMIC,CHIP

## 5. MAIN Electrical Parts List

2203-006556	C5090	C-CERAMIC,CHIP
2203-006648	C6025	C-CERAMIC,CHIP
2203-006668	C4064	C-CERAMIC,CHIP
2203-006839	C4035,C5092,C5167	C-CERAMIC,CHIP
2203-006839	C7031	C-CERAMIC,CHIP
2203-006979	C2042,C2044,C2048	C-CERAMIC,CHIP
2203-006979	C2049,C2052,C2053	C-CERAMIC,CHIP
2203-006979	C2057,C2058,C2076	C-CERAMIC,CHIP
2203-007194	C3044,C3051,C7004	C-CERAMIC,CHIP
2203-007210	C4022,C4046,C4050	C-CERAMIC,CHIP
2203-007210	C4051,C4068,C4088	C-CERAMIC,CHIP
2203-007210	C4089,C4093,C4094	C-CERAMIC,CHIP
2203-007210	C4101,C4102,C5051	C-CERAMIC,CHIP
2203-007210	C5053,C5067,C5078	C-CERAMIC,CHIP
2203-007210	C5117	C-CERAMIC,CHIP
2203-007271	C3148,C5042,C5168	C-CERAMIC,CHIP
2203-007271	C7044	C-CERAMIC,CHIP
2203-007317	C2088,C3058,C3149	C-CERAMIC,CHIP
2203-007317	C3151,C4011,C4023	C-CERAMIC,CHIP
2203-007317	C4024,C4039,C4074	C-CERAMIC,CHIP
2203-007317	C4078,C5032,C5035	C-CERAMIC,CHIP
2203-007317	C5036,C5116,C6000	C-CERAMIC,CHIP
2203-007317	C7148	C-CERAMIC,CHIP
2203-007391	C2005,C2017,C2055	C-CERAMIC,CHIP
2203-007391	C2066	C-CERAMIC,CHIP
2203-007392	C5172	C-CERAMIC,CHIP
2203-007393	C2012,C5072,C5084	C-CERAMIC,CHIP
2203-007393	C5095,C5096,C5097	C-CERAMIC,CHIP
2203-007393	C5099,C5118,C5194	C-CERAMIC,CHIP
2203-007393	C7039,C7133,C7147	C-CERAMIC,CHIP
2203-007393	C8177	C-CERAMIC,CHIP
2203-007456	C5077,C5112	C-CERAMIC,CHIP
2203-007474	C2027,C2029,C2043	C-CERAMIC,CHIP
2203-007474	C2047,C4047,C4049	C-CERAMIC,CHIP
2203-007474	C4069,C5056	C-CERAMIC,CHIP
2203-007796	C1045,C1082,C2011	C-CERAMIC,CHIP
2203-007796	C2041,C2050,C2054	C-CERAMIC,CHIP
2203-007796	C2056,C3000,C3007	C-CERAMIC,CHIP
2203-007796	C3011,C3017,C3019	C-CERAMIC,CHIP

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## 5. MAIN Electrical Parts List

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2203-007796	C3022,C3025,C3047	C-CERAMIC,CHIP
2203-007796	C3057,C3081,C3153	C-CERAMIC,CHIP
2203-007796	C3158,C4002,C4004	C-CERAMIC,CHIP
2203-007796	C4007,C4008,C4009	C-CERAMIC,CHIP
2203-007796	C4010,C4014,C4015	C-CERAMIC,CHIP
2203-007796	C4018,C4019,C4020	C-CERAMIC,CHIP
2203-007796	C4021,C4026,C4029	C-CERAMIC,CHIP
2203-007796	C4030,C4033,C4038	C-CERAMIC,CHIP
2203-007796	C4041,C4045,C4053	C-CERAMIC,CHIP
2203-007796	C4055,C4056,C4062	C-CERAMIC,CHIP
2203-007796	C4063,C4065,C4066	C-CERAMIC,CHIP
2203-007796	C4067,C4072,C4073	C-CERAMIC,CHIP
2203-007796	C4075,C4077,C4079	C-CERAMIC,CHIP
2203-007796	C4080,C4081,C4082	C-CERAMIC,CHIP
2203-007796	C4083,C4090,C4091	C-CERAMIC,CHIP
2203-007796	C4092,C4103,C5008	C-CERAMIC,CHIP
2203-007796	C5009,C5015,C5018	C-CERAMIC,CHIP
2203-007796	C5019,C5020,C5025	C-CERAMIC,CHIP
2203-007796	C5026,C5029,C5073	C-CERAMIC,CHIP
2203-007796	C5085,C5088,C5100	C-CERAMIC,CHIP
2203-007796	C5101,C5102,C5104	C-CERAMIC,CHIP
2203-007796	C5107,C5108,C5120	C-CERAMIC,CHIP
2203-007796	C5178,C6033,C7001	C-CERAMIC,CHIP
2203-007796	C7005,C7007,C7011	C-CERAMIC,CHIP
2203-007796	C7012,C7013,C7014	C-CERAMIC,CHIP
2203-007796	C7018,C7019,C7022	C-CERAMIC,CHIP
2203-007796	C7024,C7033,C7041	C-CERAMIC,CHIP
2203-007796	C7047,C7057,C7062	C-CERAMIC,CHIP
2203-007796	C7145	C-CERAMIC,CHIP
2203-008097	C6042	C-CERAMIC,CHIP
2203-008158	C5153	C-CERAMIC,CHIP
2203-008242	C2089,C3005,C3023	C-CERAMIC,CHIP
2203-008242	C4001,C4003,C4017	C-CERAMIC,CHIP
2203-008242	C4043,C4044,C5000	C-CERAMIC,CHIP
2203-008242	C5002,C5004,C5007	C-CERAMIC,CHIP
2203-008242	C5021,C5022,C5023	C-CERAMIC,CHIP
2203-008242	C5027,C5031,C5125	C-CERAMIC,CHIP
2203-008242	C6008	C-CERAMIC,CHIP
2203-008243	C6010	C-CERAMIC,CHIP



## 5. MAIN Electrical Parts List

2203-008654	C5111	C-CERAMIC,CHIP
2203-008749	C7002	C-CERAMIC,CHIP
2203-008860	C2090,C3012,C3041	C-CERAMIC,CHIP
2203-008860	C3055,C3080,C5119	C-CERAMIC,CHIP
2203-008860	C5174,C6012,C6034	C-CERAMIC,CHIP
2203-008860	C7015,C7016,C7020	C-CERAMIC,CHIP
2203-008860	C7034,C7060	C-CERAMIC,CHIP
2203-008876	C1021,C1023,C1060	C-CERAMIC,CHIP
2203-008876	C1090,C3010,C5075	C-CERAMIC,CHIP
2203-008876	C5124,C5135,C6021	C-CERAMIC,CHIP
2203-008876	C7032	C-CERAMIC,CHIP
2203-009167	C3176,C3177	C-CERAMIC,CHIP
2203-009328	C4060,C4061,C4086	C-CERAMIC,CHIP
2203-009328	C5038,C5039,C5041	C-CERAMIC,CHIP
2203-009328	C5047,C5052,C5063	C-CERAMIC,CHIP
2203-009328	C5074,C5080	C-CERAMIC,CHIP
2203-009537	C5003	C-CERAMIC,CHIP
2203-009618	C5069,C5175,C6006	C-CERAMIC,CHIP
2203-009733	C1041,C2006,C3015	C-CERAMIC,CHIP
2203-009733	C3143,C3147,C5037	C-CERAMIC,CHIP
2203-009733	C5040,C5043,C5048	C-CERAMIC,CHIP
2203-009733	C5049,C5050,C5054	C-CERAMIC,CHIP
2203-009733	C5055,C5059,C5062	C-CERAMIC,CHIP
2203-009733	C5065,C5066,C5071	C-CERAMIC,CHIP
2203-009733	C5076,C5081,C6011	C-CERAMIC,CHIP
2203-009733	C6018,C6031,C7003	C-CERAMIC,CHIP
2203-009733	C7009,C7010,C7026	C-CERAMIC,CHIP
2203-009733	C7029,C7030,C7036	C-CERAMIC,CHIP
2203-009733	C7038	C-CERAMIC,CHIP
2203-010085	C5044,C5070	C-CERAMIC,CHIP
2703-002649	L3001	INDUCTOR-SMD
2703-002900	L6000	INDUCTOR-SMD
2703-002953	L6001	INDUCTOR-SMD
2703-003476	L3000	INDUCTOR-SMD
2703-003970	L1009,L1014,L3015	INDUCTOR-SMD
2703-004001	C1018	INDUCTOR-SMD
2703-004012	C1032	INDUCTOR-SMD
2703-004013	L1015,L1057,L2017	INDUCTOR-SMD
2703-004013	L3006	INDUCTOR-SMD

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## 5. MAIN Electrical Parts List

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2703-004014	C2000,L1010	INDUCTOR-SMD
2703-004018	C2036,C2081,L2021	INDUCTOR-SMD
2703-004032	C2007,L1033,L1036	INDUCTOR-SMD
2703-004032	L1053	INDUCTOR-SMD
2703-004033	L1031	INDUCTOR-SMD
2703-004034	C1058,C1068,C1129	INDUCTOR-SMD
2703-004034	C1140,C2077,C3014	INDUCTOR-SMD
2703-004034	C8182,L1008	INDUCTOR-SMD
2703-004035	C1024,C1062,C1080	INDUCTOR-SMD
2703-004035	C2014,C2021,C2071	INDUCTOR-SMD
2703-004035	C2087,L1002,L1006	INDUCTOR-SMD
2703-004035	L1012,L1029,L1032	INDUCTOR-SMD
2703-004035	L1035,L1043	INDUCTOR-SMD
2703-004036	C1105,L2000,L2019	INDUCTOR-SMD
2703-004037	C1057,L1005,L1056	INDUCTOR-SMD
2703-004038	C1034,C1043,C2022	INDUCTOR-SMD
2703-004038	L2022	INDUCTOR-SMD
2703-004171	L1000,L1039,L2008	INDUCTOR-SMD
2703-004171	L2018	INDUCTOR-SMD
2703-004328	C1040,C1065,C2013	INDUCTOR-SMD
2703-004328	C2019,L1001,L3016	INDUCTOR-SMD
2703-004366	C2004,C2008,C2010	INDUCTOR-SMD
2703-004366	L1046,L3005	INDUCTOR-SMD
2703-004367	C1026,L1007	INDUCTOR-SMD
2703-004368	L2001,L3004	INDUCTOR-SMD
2703-004408	L1020,L1045	INDUCTOR-SMD
2703-004763	L1013	INDUCTOR-SMD
2703-004764	C2001,L1011,L1030	INDUCTOR-SMD
2703-004764	L1034,L2006,L3007	INDUCTOR-SMD
2703-004853	C1020,C1097	INDUCTOR-SMD
2703-004976	L1004	INDUCTOR-SMD
2703-005058	C1108,L1018,L1022	INDUCTOR-SMD
2703-005058	L1025,L1026	INDUCTOR-SMD
2703-005066	L2005	INDUCTOR-SMD
2703-005089	C1144,L2020	INDUCTOR-SMD
2703-005116	L6013,L7006	INDUCTOR-SMD
2703-005118	L7005	INDUCTOR-SMD
2703-005201	L5001,L5003,L5004	INDUCTOR-SMD
2703-005201	L5005,L5010	INDUCTOR-SMD

## 5. MAIN Electrical Parts List

2703-005555	L3143,L3144	INDUCTOR-SMD
2703-005689	L5000,L5006,L5007	INDUCTOR-SMD
2703-005689	L5008,L5009	INDUCTOR-SMD
2801-005264	OSC5000	CRYSTAL-UNIT
2805-001106	OSC2000	OSCILLATOR
2901-001690	C4012,C4027,C4057	FILTER-EMI
2901-001690	C4058,C4059,C4084	FILTER-EMI
2901-001690	C4085	FILTER-EMI
2904-002143	F2004	FILTER-SAW
2904-002198	F2003	FILTER-SAW
2904-002269	F2001	FILTER-SAW
2904-002278	F2005	FILTER-SAW
2904-002280	F2007	FILTER-SAW
2904-002319	F1005	FILTER-SAW
2904-002343	F2000	FILTER-SAW
2904-002344	F2002	FILTER-SAW
2904-002350	F1007	FILTER-SAW
2904-002355	F3001,F3002	FILTER-SAW
2904-002381	F3000	FILTER-SAW
2909-001376	F1008	FILTER-DUPLEXER
2910-000296	F1006	FILTER
2910-000342	F1004	FILTER
2910-000363	F1011	FILTER
2910-000379	F1002	FILTER
2910-000385	F1001	FILTER
2910-000390	F1003	FILTER
2910-000391	F1012	FILTER
3003-001237	MIC6000	MIC-CONDENSOR
3301-001812	L7004	CORE-FERRITE
3301-001901	L7003	CORE-FERRITE
3301-002078	L5012	CORE-FERRITE
3301-002122	L2003,L2004,L5002	CORE-FERRITE
3301-002122	L6010,L6012	CORE-FERRITE
3301-002223	L7000,L7007,L7008	CORE-FERRITE
3301-002223	L7009	CORE-FERRITE
3301-002235	L6004,L6005,L6006	CORE-FERRITE
3301-002235	L6007,L6008,L6011	CORE-FERRITE
3301-002237	L2025,L2026,L7001	CORE-FERRITE
3301-002237	L7002	CORE-FERRITE

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## 5. MAIN Electrical Parts List

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3301-002238	L2014,L2016,L3008	CORE-FERRITE
3301-002305	L6003,L6009	CORE-FERRITE
3301-002331	L5011	CORE-FERRITE
3705-001937	RFS1000,RFS1001	CONNECTOR-COAXIAL
3709-001936	CD6000	CONNECTOR-CARD
3710-003193	SOC7002	CONNECTOR-SOCKET
3710-003985	SOC5000	CONNECTOR-SOCKET
3710-004008	SOC5001	CONNECTOR-SOCKET
3711-007107	HDC7004	CONNECTOR-HEADER
3711-007295	HDC7001	CONNECTOR-HEADER
3711-008511	HDC7002	CONNECTOR-HEADER
3711-008847	HDC5000	CONNECTOR-HEADER
3711-008997	HDC5001	CONNECTOR-HEADER
3712-001604	ANT2000,ANT2001	CONNECTOR
3712-001604	ANT3003,ANT6006	CONNECTOR
3712-001604	ANT6007	CONNECTOR
3712-001633	ANT3001,ANT3002	CONNECTOR
3712-001633	ANT6000,ANT6001	CONNECTOR
3712-001634	ANT6003,ANT6004	CONNECTOR
4709-002351	F3003	RF-MODULE
4709-002412	F1000	RF-MODULE
GH02-18305A	SC6000SP	TAPE
GH62-00048A	GA7000	JSM-TSL-2-2.5-1.8BK
GH63-16268A	SC6008	SC-A750F-TCXO
GH63-17168A	SC6000	SC-A202F-AP
GH63-17169A	SC6002	SC-A202F-PMIC
GH98-44370A	SC6001	SC-A202F-RF

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## 6. Level 1 Repair

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### 6-1. S/W Update

#### 6-1-1. Preparation

- S/W Update program : [Fenrir 5.17.xxxx](#)
- Mobile Phone
- Data Cable

#### ※ Settings



**Data Cable : [GH39-02002A](#)**

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## 6. Level 1 Repair

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### 6-1-2. How to use 'Fenrir' S/W update program.

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



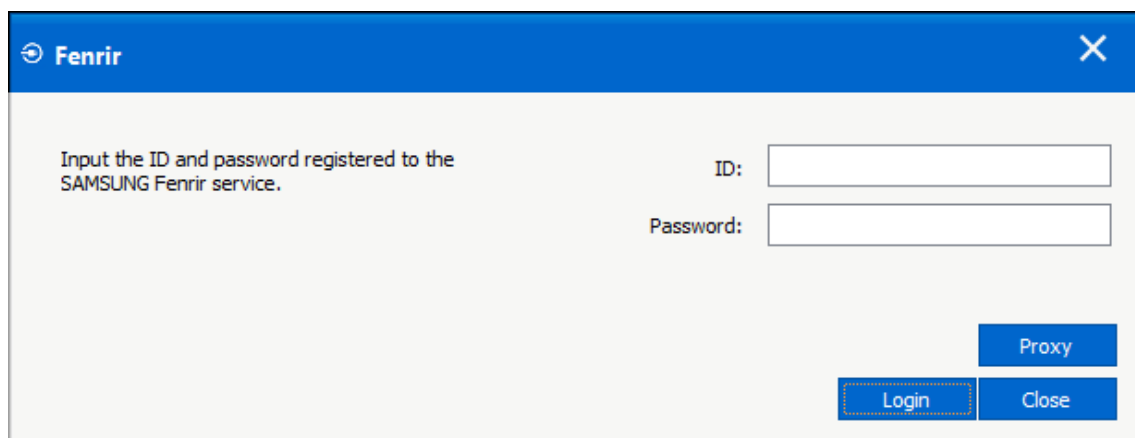
- SVH (Fenrir\_Home) : It uses Home binary which does not have user data area in the memory when flashed to a device. (Keep user data)

- 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

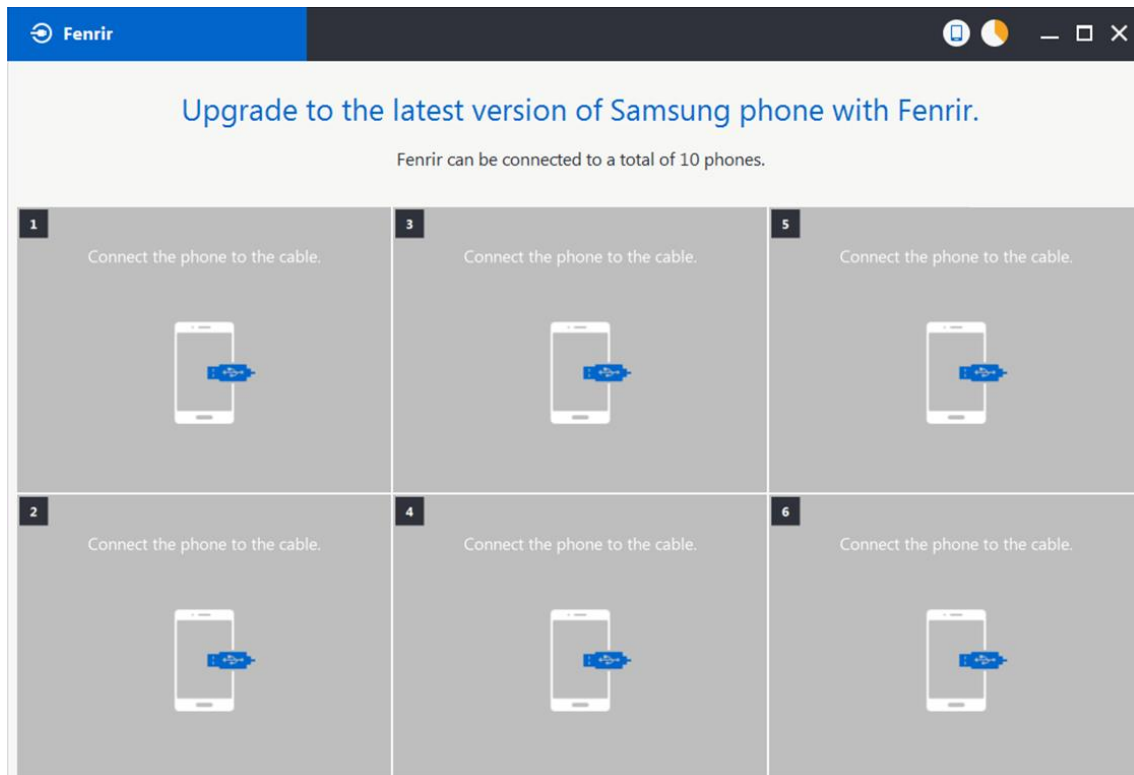
A screenshot of the Fenrir login window. The window has a blue title bar with the 'Fenrir' logo and a close button. The main area is light gray. On the left, it says 'Input the ID and password registered to the SAMSUNG Fenrir service.' On the right, there are two input fields labeled 'ID:' and 'Password:'. Below these fields are three buttons: 'Proxy', 'Login', and 'Close'. The 'Login' button is highlighted with a dashed orange border.

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## 6. Level 1 Repair

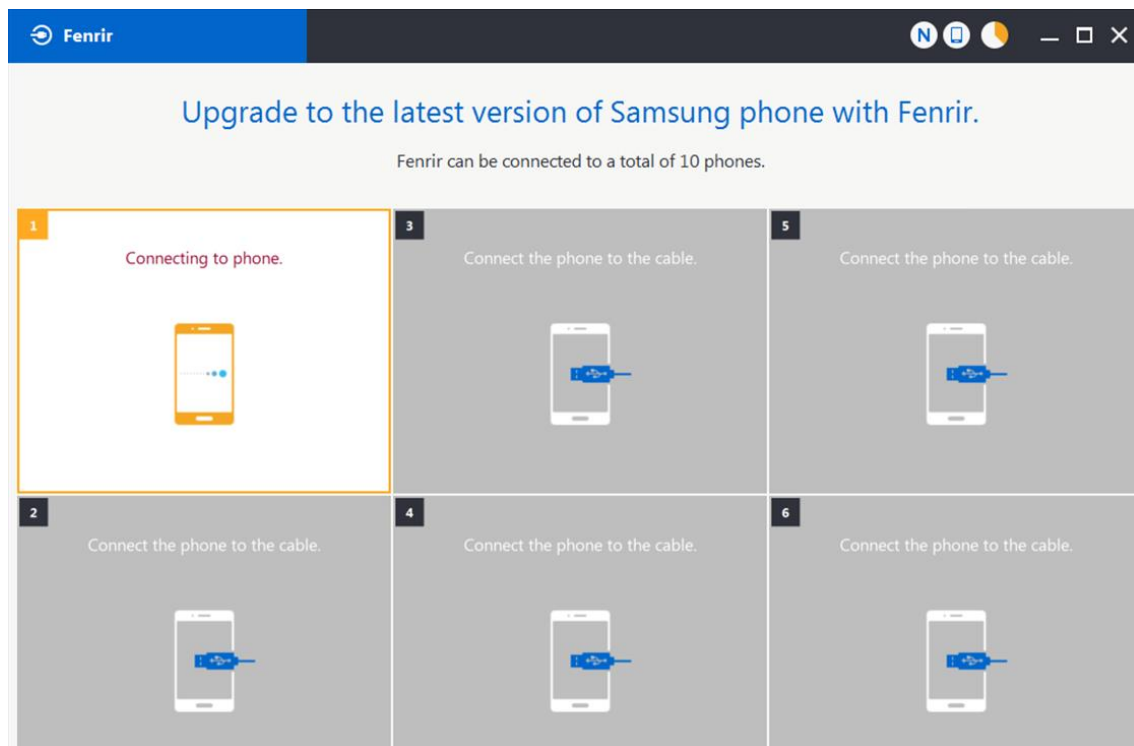
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3) Ensure device has sufficient charge (at least 20%) to start firmware update.



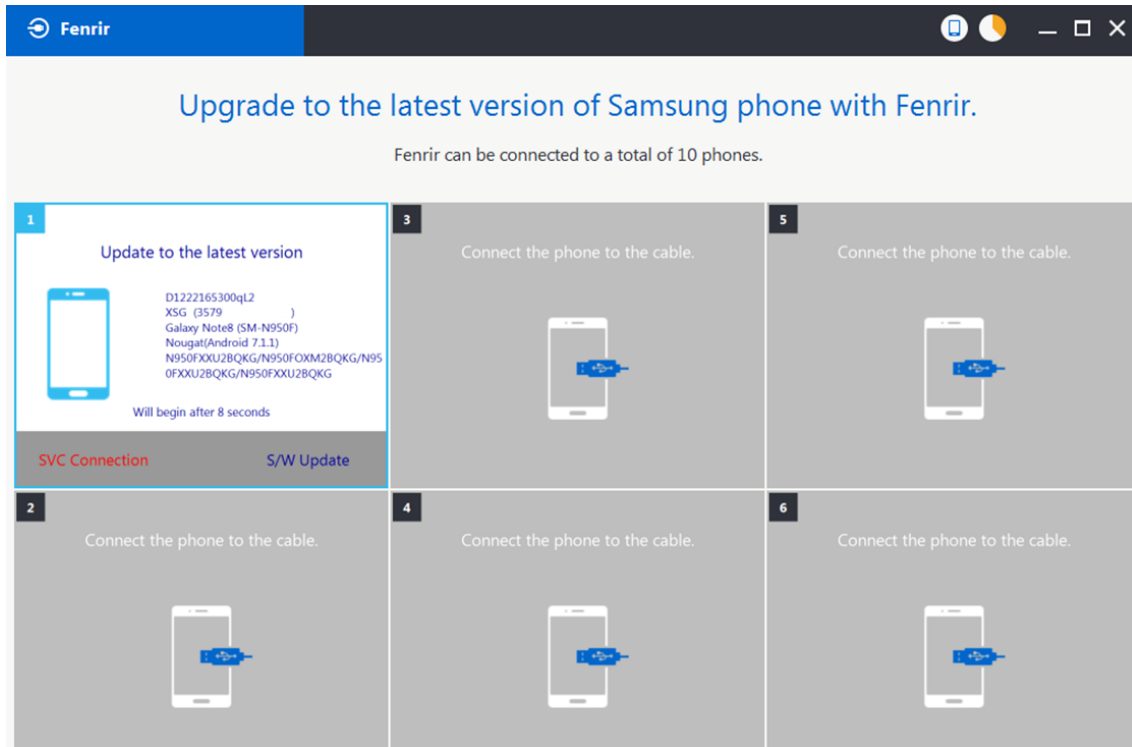
4) Connect the device to PC via data cable.

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

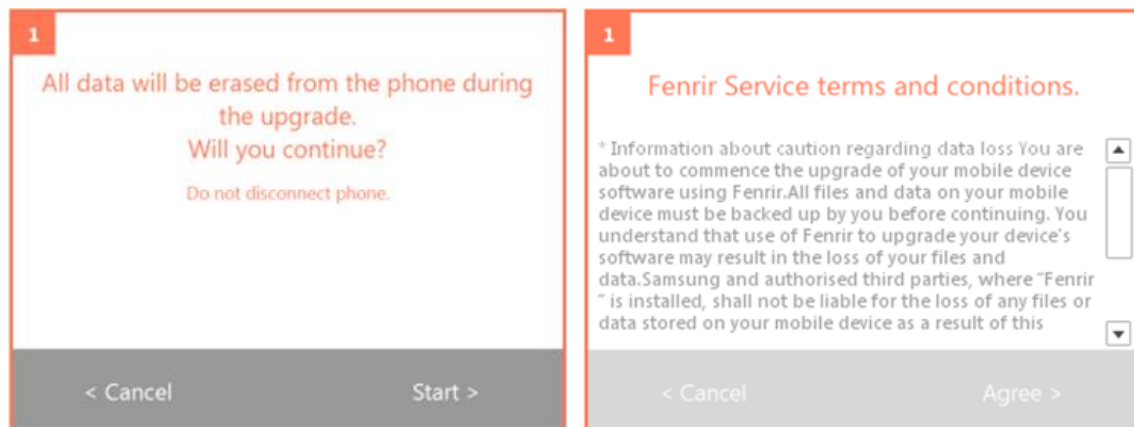


## 6. Level 1 Repair

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)



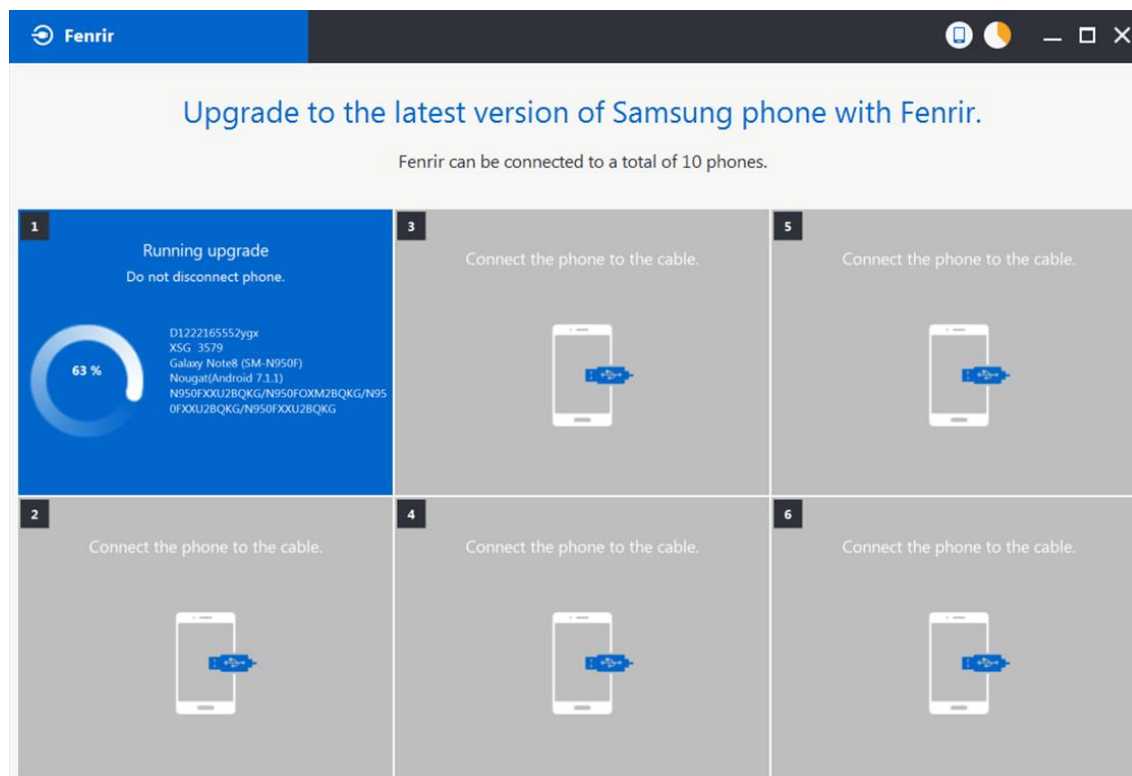
7) Once Fenrir starts, application will display the below screen. And select the Start button & Agree button.



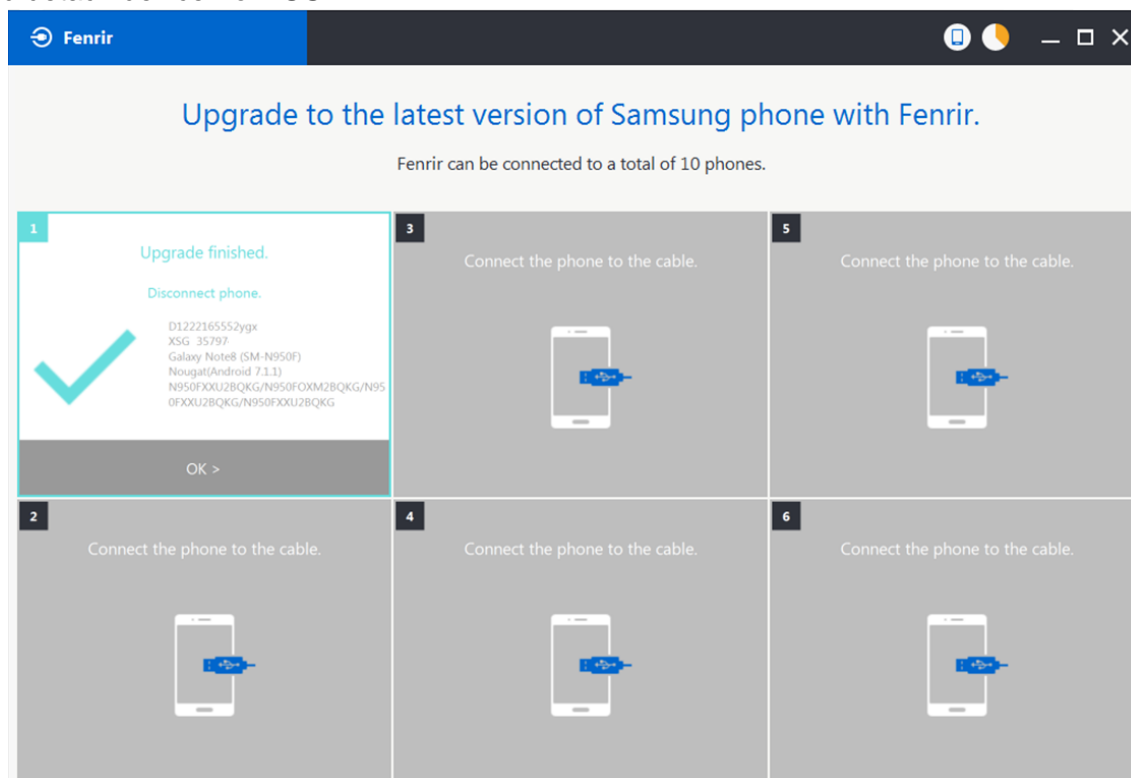


## 6. Level 1 Repair

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.



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## 6. Level 1 Repair

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### 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 : [GH39-02002A](#)**

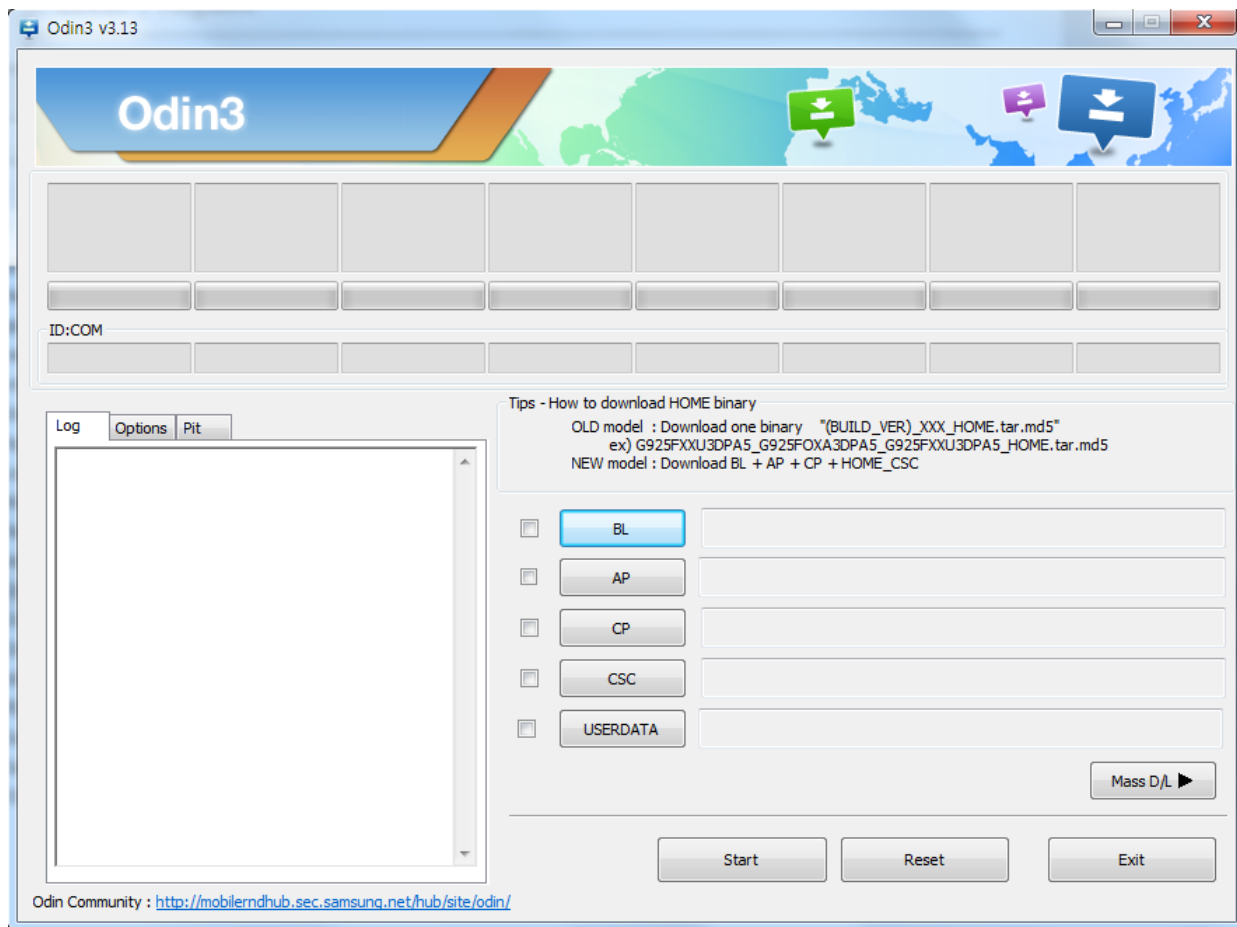
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## 6. Level 1 Repair

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

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

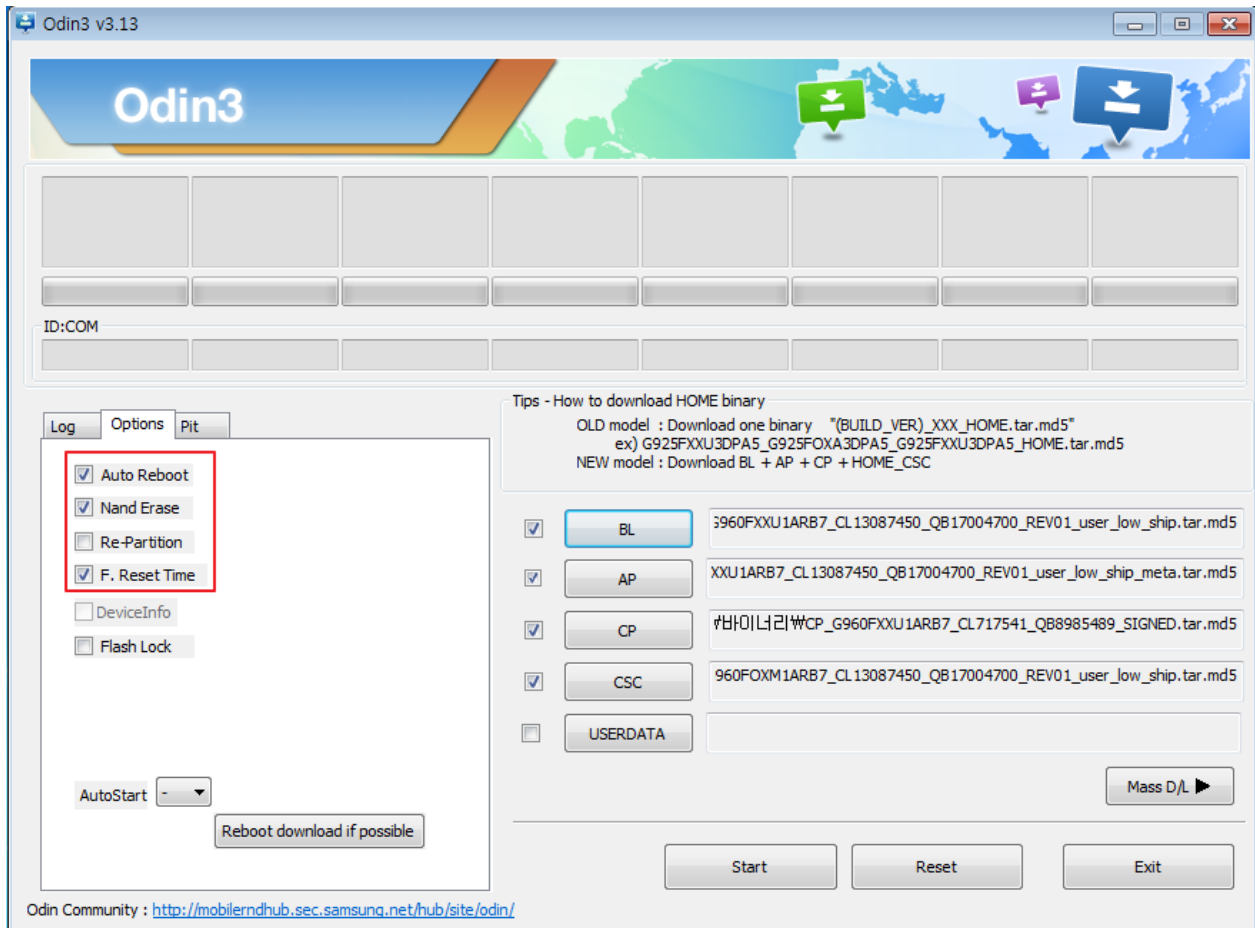


## 6. Level 1 Repair

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.



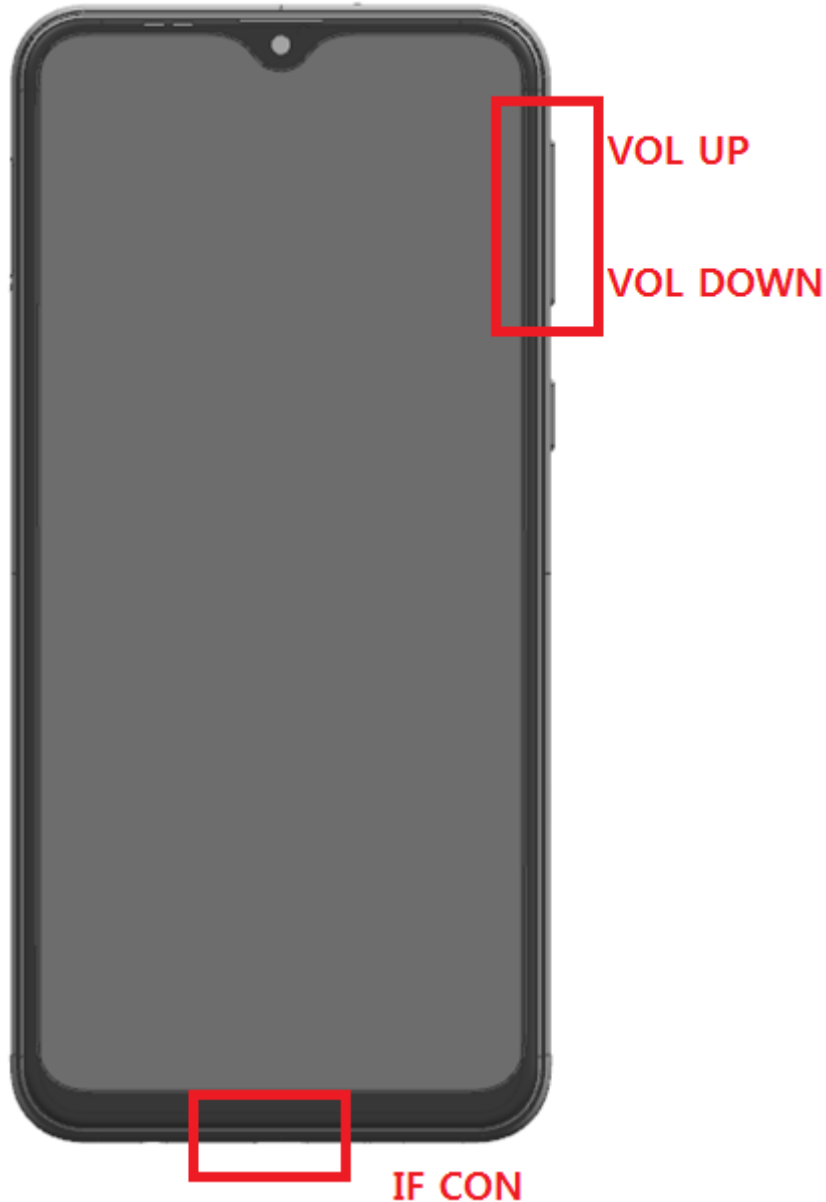
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## 6. Level 1 Repair

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### 2. Enter into Download Mode

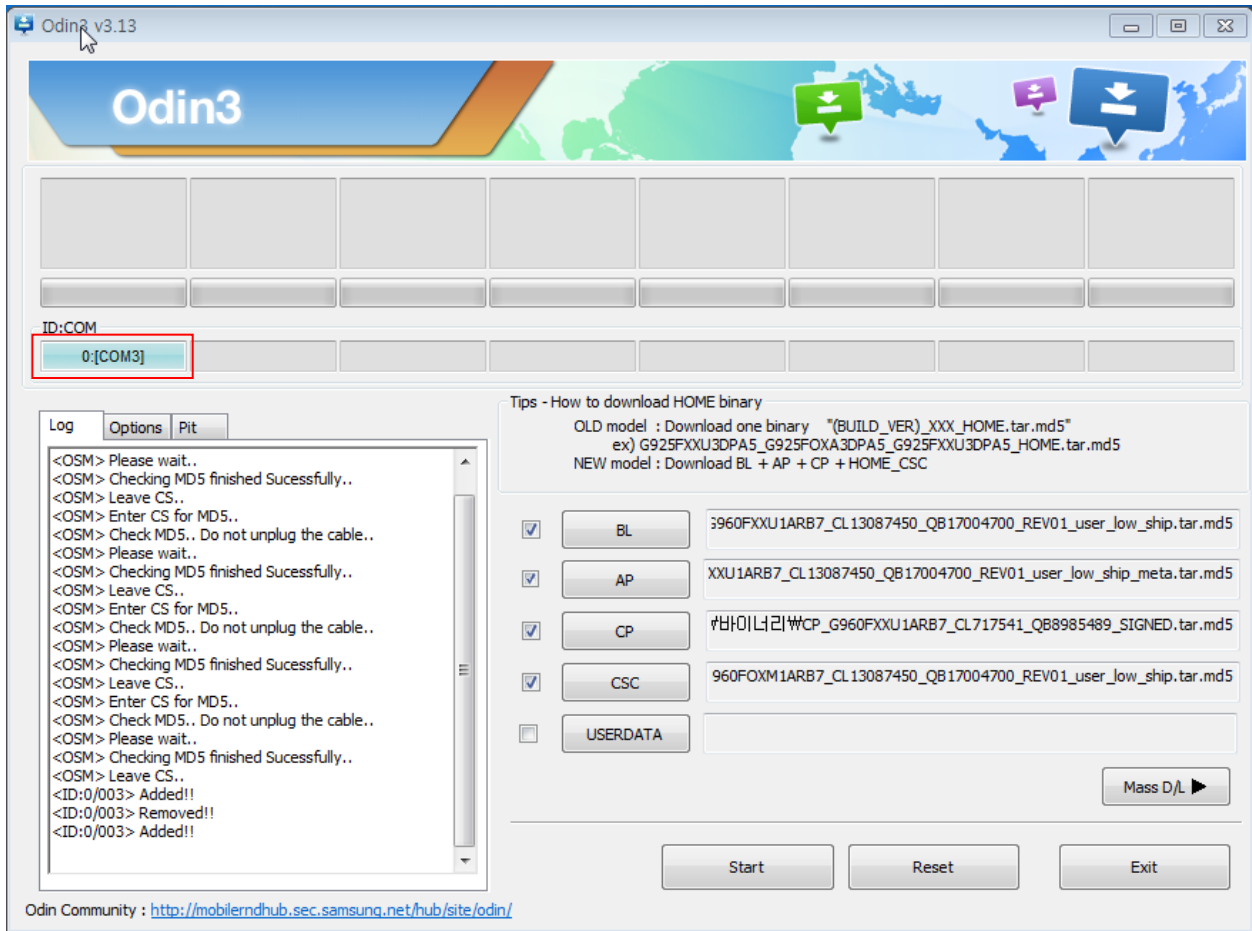
- To enter into Download Mode, insert USB cable into Smart phone and connect to computer And pressing Volume Down + UP button simultaneously followed by pressing Volume up button as a direction of the phone.



## 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.



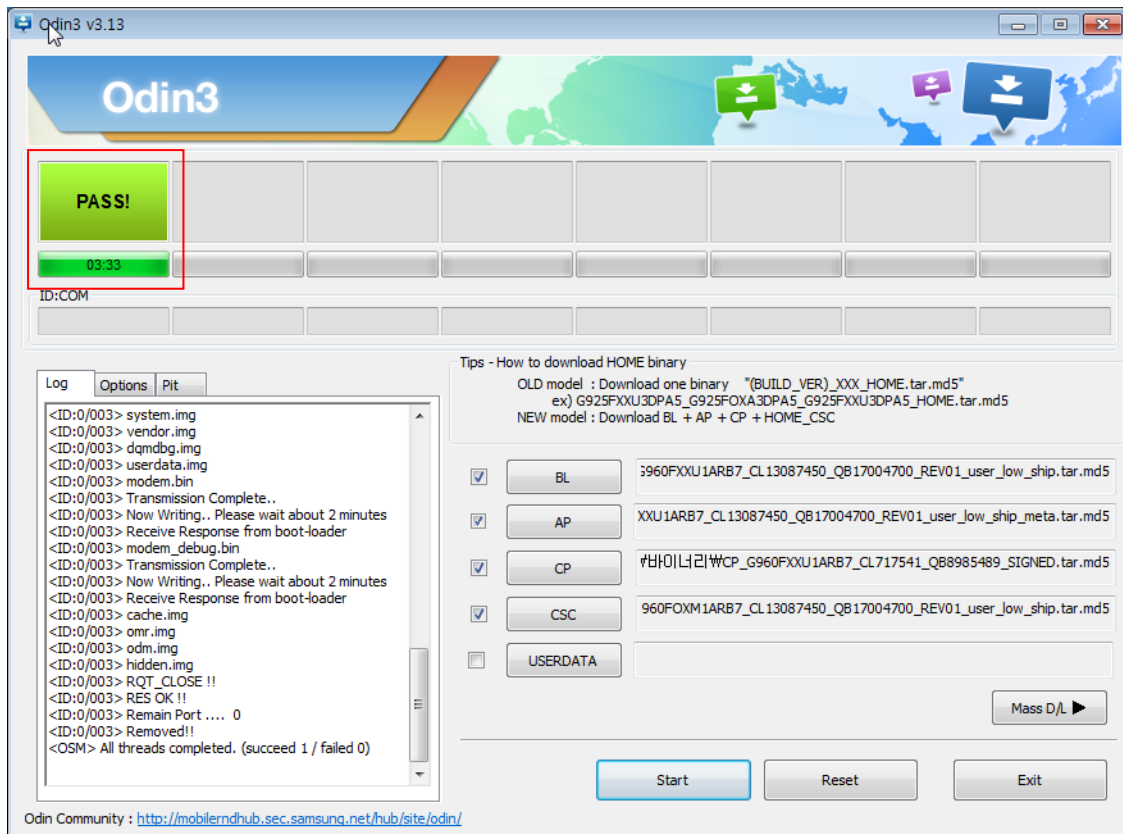
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## 6. Level 1 Repair

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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 data Reset by Settings → General Management → Reset

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

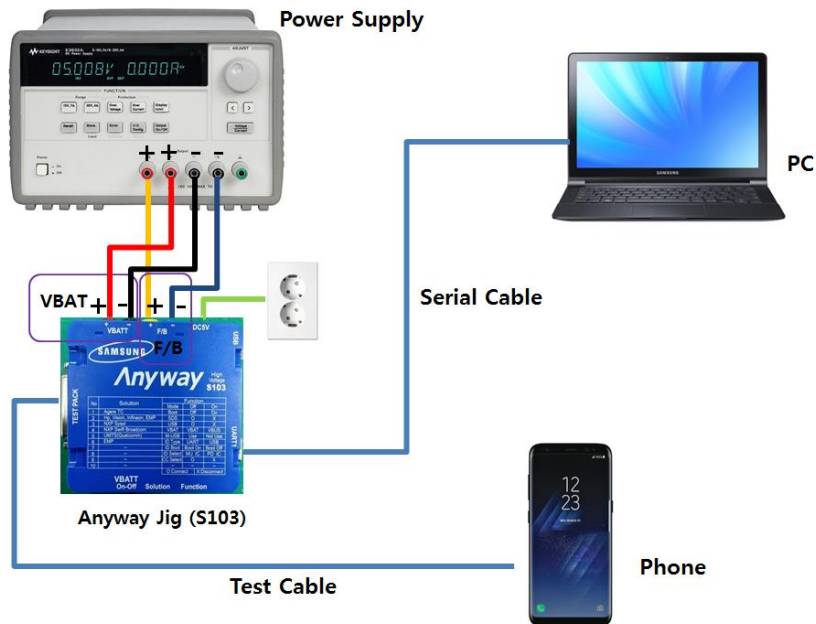
## 6. Level 1 Repair

### 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

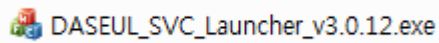
① Library Install	To use Daseul, library files should be installed. Refer to SVC Bulletin “(11-82) Daseul (New IMEI writing Program) Library Install guide_rev1.0”
② Launcher	<b>DASEUL_SVC_Launcher_v3.0.12</b> or higher -Uploaded on HHPsvc Notice
③ Runtime File	1. <b>DASEUL_IMEI_ALL_Runtime_3.1.348.0_r00519.CAB</b> or higher -Uploaded on HHPsvc Notice 2. Make 'SM-A202F' folder at the same position with launcher & Runtime file. <div> DASEUL_IMEI_ALL_Runtime_3.1.348.0_r00519.CAB  DASEUL_Launcher_v4.0.0.exe  SM-G960F_SS(CSC)_IMEI_Ver_3.1.343.10.CAB</div>
④ Model File	Copy Model File under the 'SM-A202F' folder



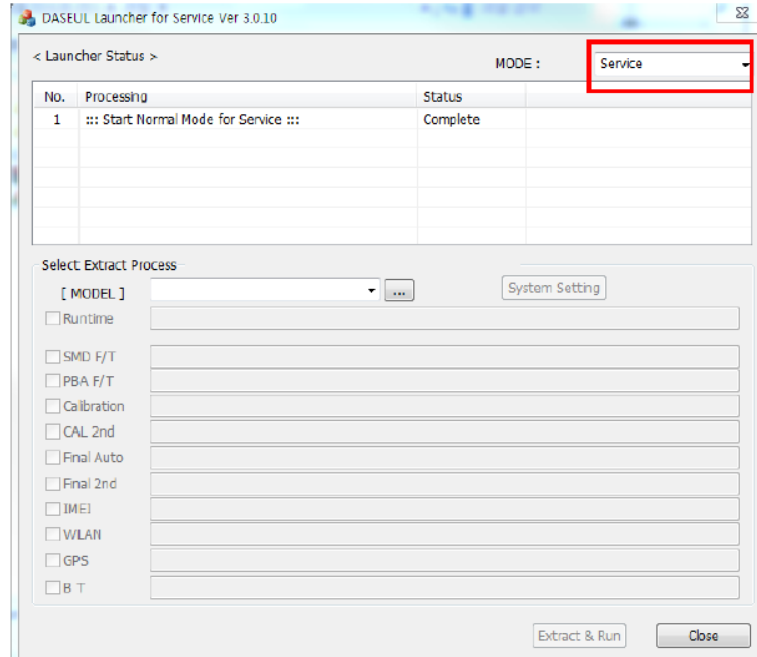
## 6. Level 1 Repair

### 6-3-2. IMEI writing Process

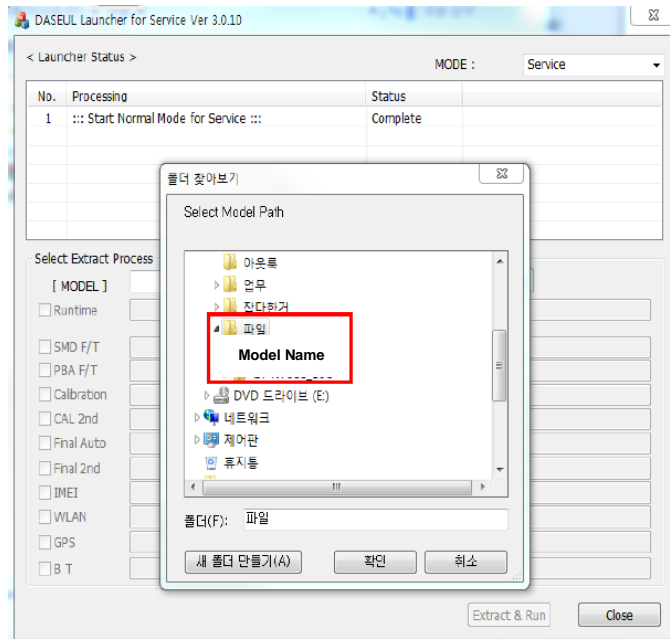
1. Run DASEUL\_SVC\_Launcher\_v3.0.12.exe



2. Select Service Mode

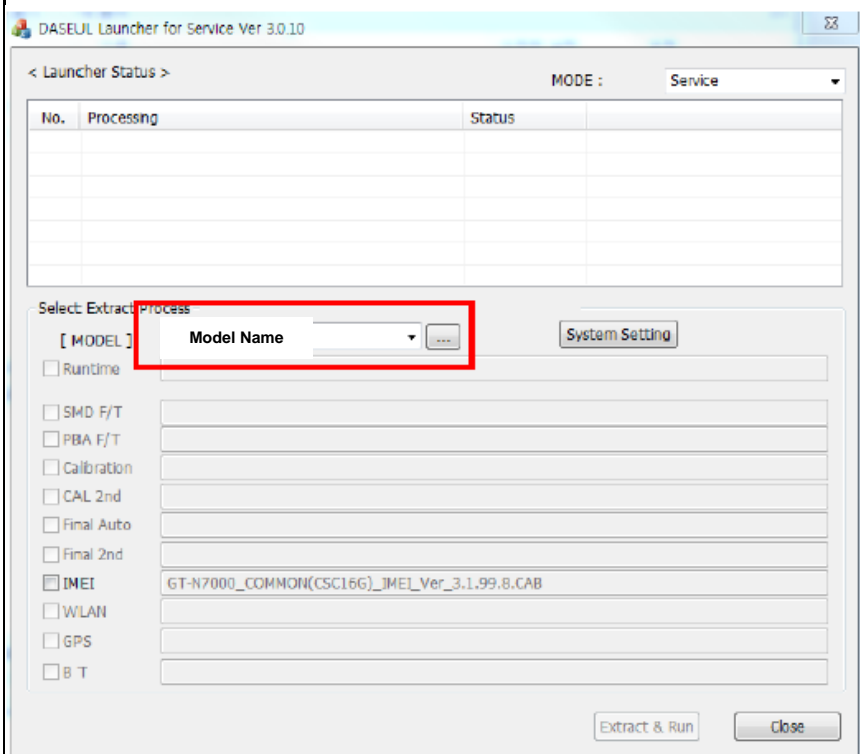


3. Click  and Select folder where the Launcher exists



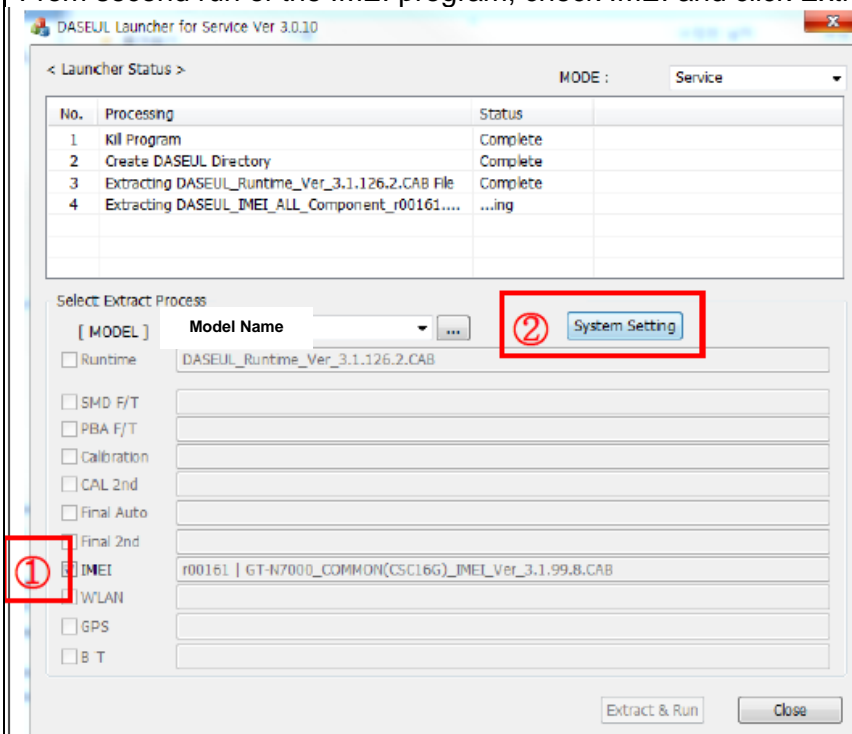
## 6. Level 1 Repair

### 4. Select Model



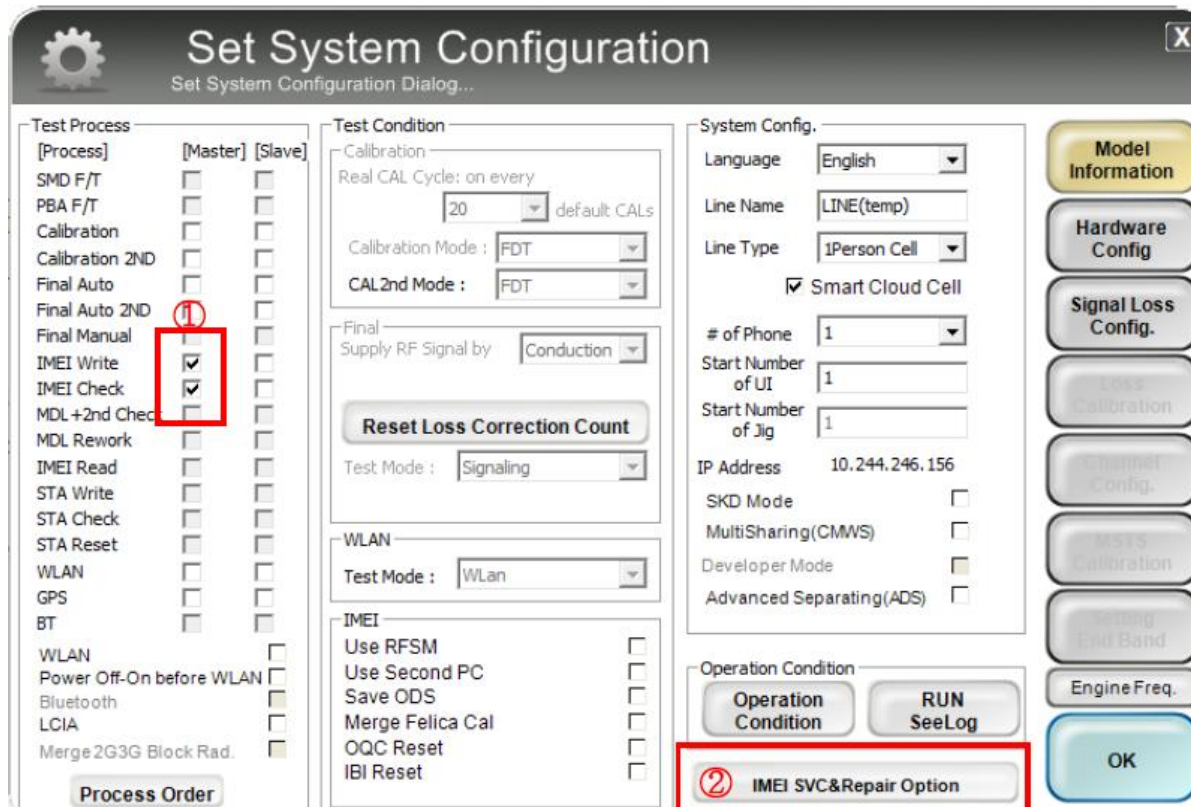
### 5. Check IMEI and click System Setting

※ 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.



The 'Set System Configuration' dialog box is shown. It has a title bar with a gear icon and a close button. The main area is divided into several sections: 'Test Process' with a table of checkboxes for various tests; 'Test Condition' with settings for calibration and RF signal; 'System Config.' with settings for language, line name, and network; and a right-hand sidebar with buttons for 'Model Information', 'Hardware Config', 'Signal Loss Config.', 'Loss Calibration', 'Channel Config.', 'MMS Calibration', 'Setting End Band', and 'Engine Freq.'. At the bottom, there are buttons for 'Operation Condition', 'RUN SeeLog', and 'IMEI SVC&Repair Option' (which is circled in red and labeled with a circled 2). The 'IMEI Write' and 'IMEI Check' checkboxes in the 'Test Process' section are also checked and circled in red, with a circled 1 next to them.

[Process]	[Master]	[Slave]
SMD F/T	<input type="checkbox"/>	<input type="checkbox"/>
PBA F/T	<input type="checkbox"/>	<input type="checkbox"/>
Calibration	<input type="checkbox"/>	<input type="checkbox"/>
Calibration 2ND	<input type="checkbox"/>	<input type="checkbox"/>
Final Auto	<input type="checkbox"/>	<input type="checkbox"/>
Final Auto 2ND	<input type="checkbox"/>	<input type="checkbox"/>
Final Manual	<input type="checkbox"/>	<input type="checkbox"/>
IMEI Write	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IMEI Check	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MDL+2nd Check	<input type="checkbox"/>	<input type="checkbox"/>
MDL Rework	<input type="checkbox"/>	<input type="checkbox"/>
IMEI Read	<input type="checkbox"/>	<input type="checkbox"/>
STA Write	<input type="checkbox"/>	<input type="checkbox"/>
STA Check	<input type="checkbox"/>	<input type="checkbox"/>
STA Reset	<input type="checkbox"/>	<input type="checkbox"/>
WLAN	<input type="checkbox"/>	<input type="checkbox"/>
GPS	<input type="checkbox"/>	<input type="checkbox"/>
BT	<input type="checkbox"/>	<input type="checkbox"/>
WLAN	<input type="checkbox"/>	<input type="checkbox"/>
Power Off-On before WLAN	<input type="checkbox"/>	<input type="checkbox"/>
Bluetooth	<input type="checkbox"/>	<input type="checkbox"/>
LCIA	<input type="checkbox"/>	<input type="checkbox"/>
Merge 2G3G Block Rad.	<input type="checkbox"/>	<input type="checkbox"/>

Test Condition

Calibration

Real CAL Cycle: on every 20 default CALs

Calibration Mode: FDT

CAL2nd Mode: FDT

Final

Supply RF Signal by: Conduction

Reset Loss Correction Count

Test Mode: Signaling

WLAN

Test Mode: WLAN

IMEI

Use RFSM ☐

Use Second PC ☐

Save ODS ☐

Merge Felica Cal ☐

OQC Reset ☐

IBI Reset ☐

System Config.

Language: English

Line Name: LINE(temp)

Line Type: 1Person Cell

☒ Smart Cloud Cell

# of Phone: 1

Start Number of UI: 1

Start Number of Jlg: 1

IP Address: 10.244.246.156

SKD Mode ☐

MultiSharing(CMWS) ☐

Developer Mode ☐

Advanced Separating(ADS) ☐

Operation Condition

Operation Condition

IMEI SVC&Repair Option

Model Information

Hardware Config

Signal Loss Config.

Loss Calibration

Channel Config.

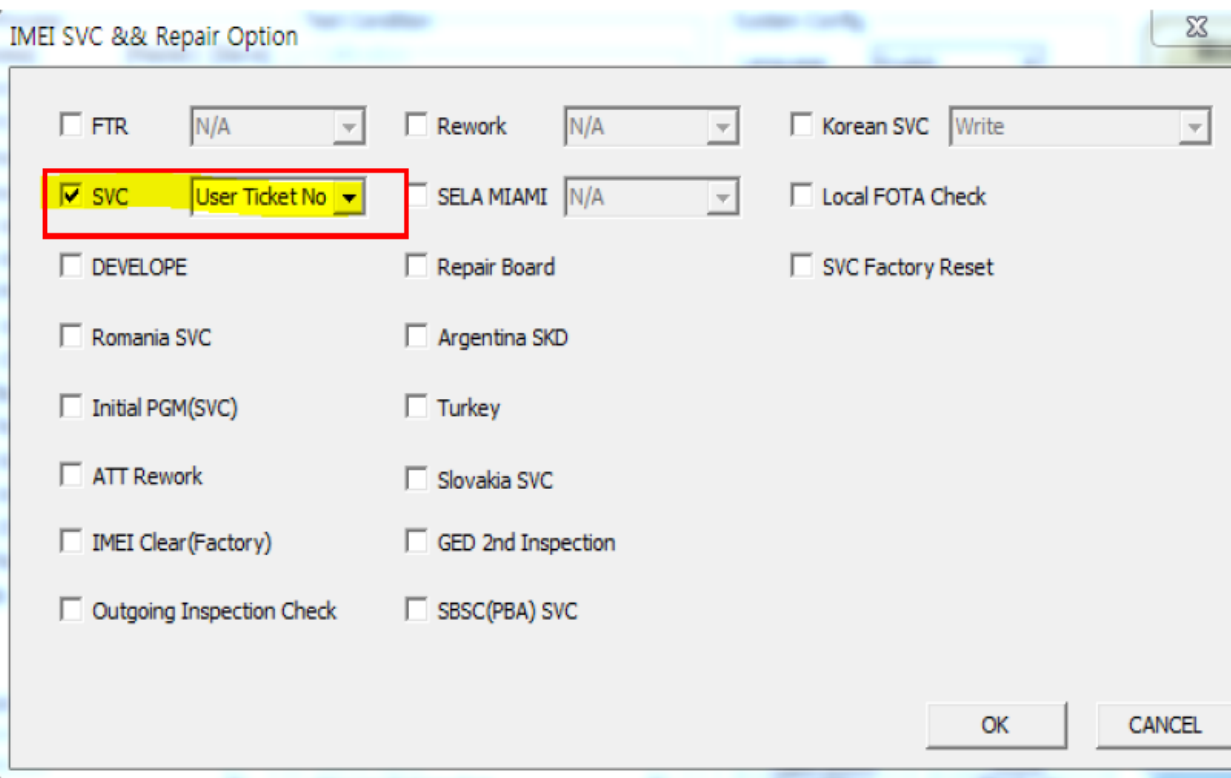
MMS Calibration

Setting End Band

Engine Freq.

OK

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



The 'IMEI SVC && Repair Option' dialog box is shown. It has a title bar with a close button. The main area contains several checkboxes and dropdown menus for various service options. The 'SVC' checkbox is checked, and the 'User Ticket No' dropdown is selected. The 'OK' and 'CANCEL' buttons are at the bottom right.

IMEI SVC && Repair Option

☐ FTR N/A ☐ Rework N/A ☐ Korean SVC Write

☒ SVC User Ticket No ☐ SELA MIAMI N/A ☐ Local FOTA Check

☐ DEVELOPE ☐ Repair Board ☐ SVC Factory Reset

☐ Romania SVC ☐ Argentina SKD

☐ Initial PGM(SVC) ☐ Turkey

☐ ATT Rework ☐ Slovakia SVC

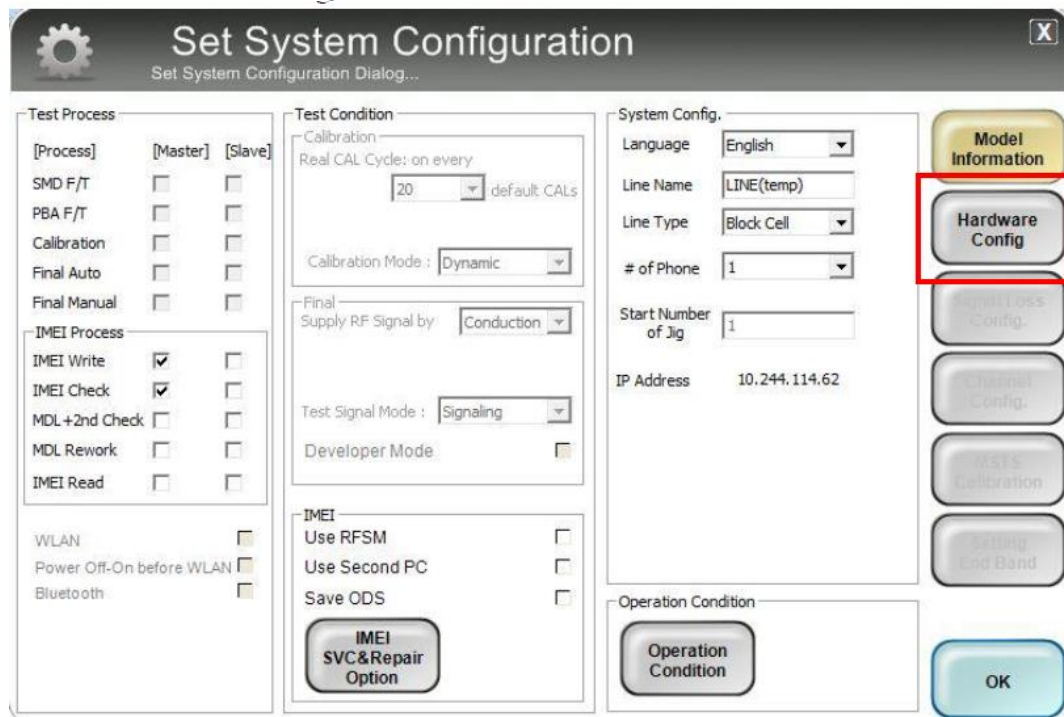
☐ IMEI Clear(Factory) ☐ GED 2nd Inspection

☐ Outgoing Inspection Check ☐ SBSC(PBA) SVC

OK CANCEL

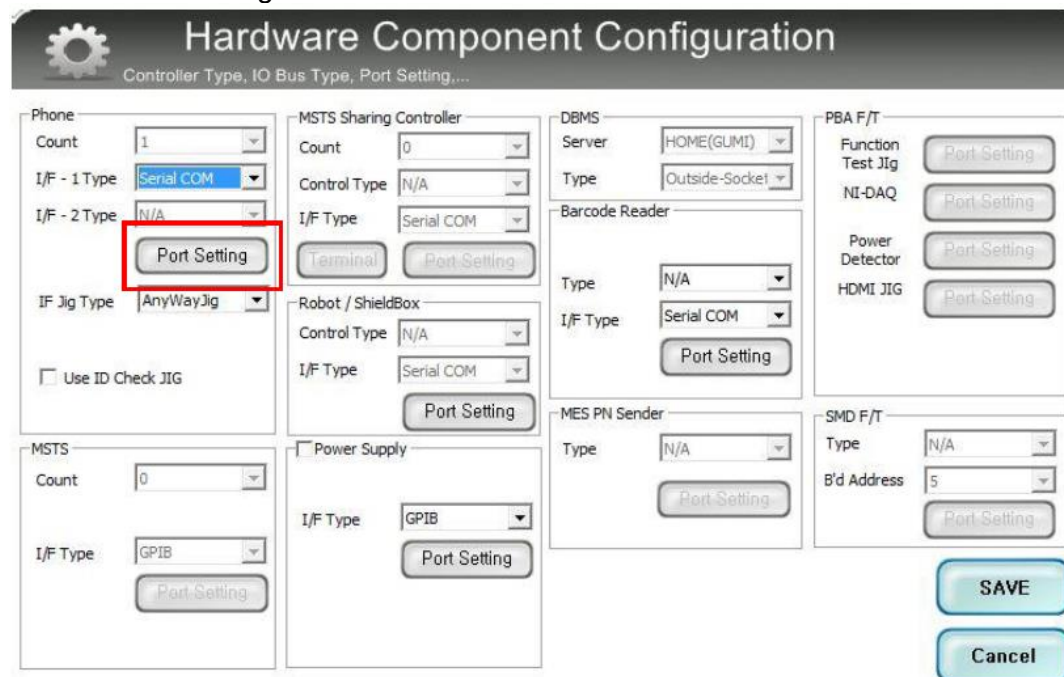
## 6. Level 1 Repair

### 8. Click 'Hardware Config'



The 'Set System Configuration' dialog box is shown with the 'Hardware Config' button highlighted in a red box. The dialog is divided into several sections: 'Test Process' with checkboxes for SMD F/T, PBA F/T, Calibration, Final Auto, Final Manual, and IMEI Process (IMEI Write, IMEI Check, MDL +2nd Check, MDL Rework, IMEI Read); 'Test Condition' with fields for Calibration (Real CAL Cycle: on every 20, default CALs), Calibration Mode (Dynamic), Final Supply RF Signal by (Conduction), Test Signal Mode (Signaling), and Developer Mode; 'System Config.' with fields for Language (English), Line Name (LINE(temp)), Line Type (Block Cell), # of Phone (1), Start Number of Jig (1), and IP Address (10.244.114.62); and 'Operation Condition' with a button labeled 'Operation Condition'. On the right side, there is a vertical stack of buttons: 'Model Information', 'Hardware Config' (highlighted), 'Signal Loss Config.', 'Channel Config.', 'MSTS Calibration', 'Setting End Band', and 'OK'.

### 9. Click 'Port Setting'



The 'Hardware Component Configuration' dialog box is shown with the 'Port Setting' button highlighted in a red box. The dialog is divided into several sections: 'Phone' with fields for Count (1), I/F - 1 Type (Serial COM), I/F - 2 Type (N/A), and IF Jig Type (AnyWayJig); 'MSTS Sharing Controller' with fields for Count (0), Control Type (N/A), and I/F Type (Serial COM); 'DBMS' with fields for Server (HOME(GUMI)) and Type (Outside-Socket); 'Barcode Reader' with fields for Type (N/A) and I/F Type (Serial COM); 'MES PN Sender' with fields for Type (N/A); 'PBA F/T' with fields for Function Test Jig, NI-DAQ, Power Detector, and HDMI JIG; 'MSTS' with fields for Count (0) and I/F Type (GPIB); 'Robot / ShieldBox' with fields for Control Type (N/A) and I/F Type (Serial COM); 'Power Supply' with fields for I/F Type (GPIB); and 'SMD F/T' with fields for Type (N/A) and B'd Address (5). Each section has a 'Port Setting' button. At the bottom right, there are 'SAVE' and 'Cancel' buttons.

## 6. Level 1 Repair

### 10. Select Port Number and SAVE

Set IO BUS Configuration

Phone IO Bus Setting

**Common**

BaudRate: 115200  
Data Bit: 8  
Parity: No  
Stop Bit: 1

No.	Port #1
1	1

SAVE

Cancel

### 11. Click OK to proceed

Set System Configuration

Set System Configuration Dialog...

**Test Process**

[Process] [Master] [Slave]

SMD F/T ☐ ☐  
PBA F/T ☐ ☐  
Calibration ☐ ☐  
Final Auto ☐ ☐  
Final Manual ☐ ☐  
IMEI Process  
IMEI Write ☒ ☐  
IMEI Check ☒ ☐  
MDL+2nd Check ☐ ☐  
MDL Rework ☐ ☐  
IMEI Read ☐ ☐  
WLAN ☐  
Power Off-On before WLAN ☐  
Bluetooth ☐

**Test Condition**

Calibration  
Real CAL Cycle: on every 20 default: CALs  
Calibration Mode: Dynamic  
Final Supply RF Signal by: Conduction  
Test Signal Mode: Signaling  
Developer Mode ☐  
IMEI  
Use RFSM ☐  
Use Second PC ☐  
Save ODS ☐  
IMEI SVC&Repair Option

**System Config.**

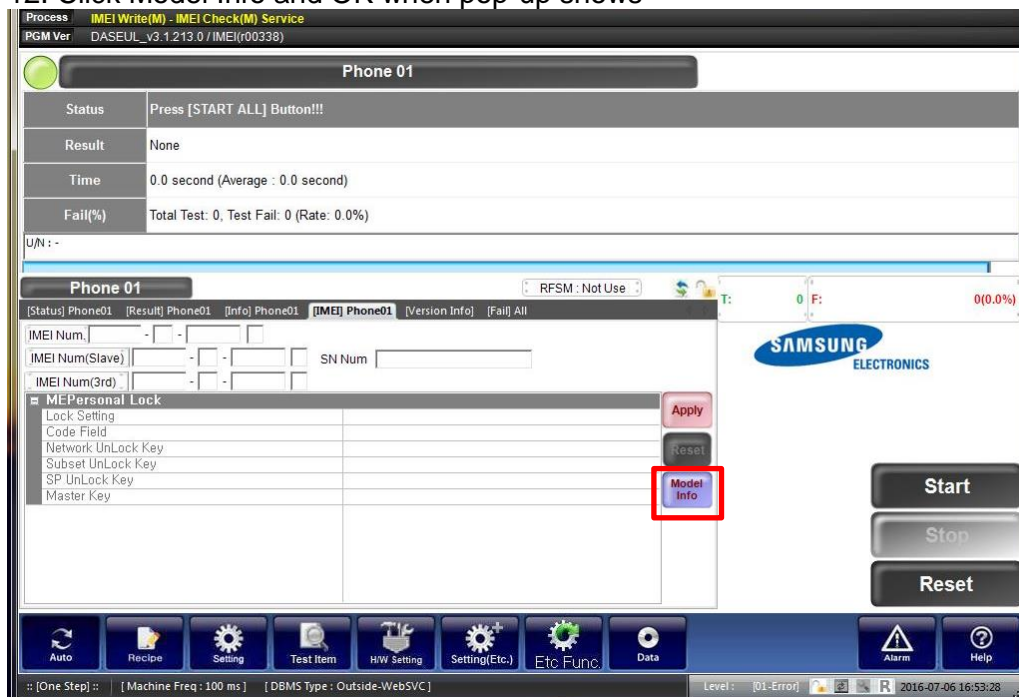
Language: English  
Line Name: LINE(temp)  
Line Type: Block Cell  
# of Phone: 1  
Start Number of Jig: 1  
IP Address: 10.244.114.62  
Operation Condition

Model Information  
Hardware Config  
Signal Loss Config.  
Channel Config.  
WPS Calibration  
Setting and Band

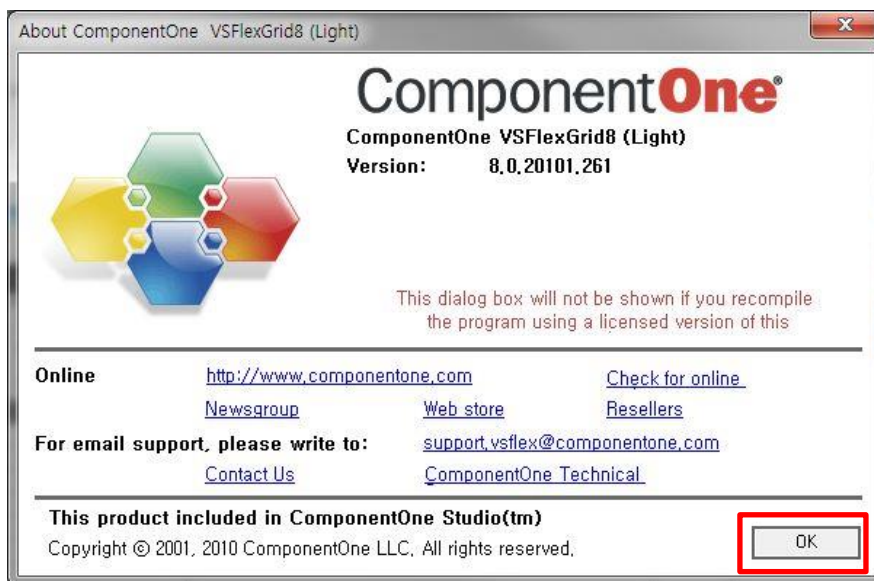
OK

## 6. Level 1 Repair

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



### 13. Click OK

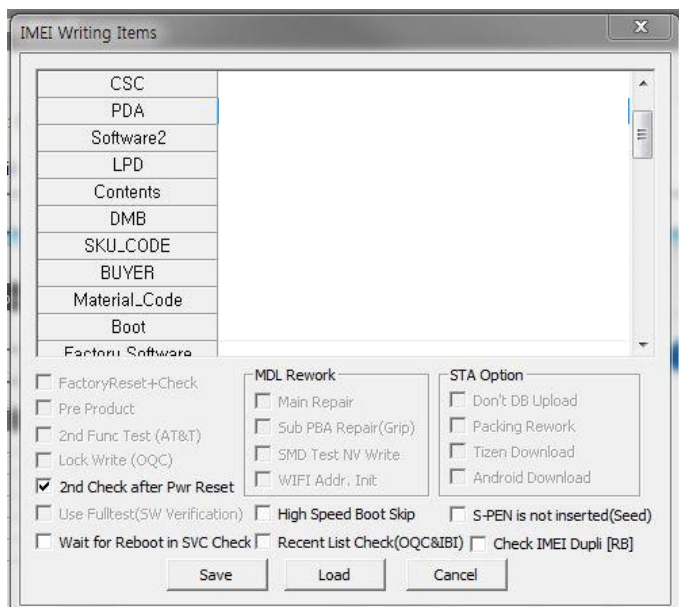




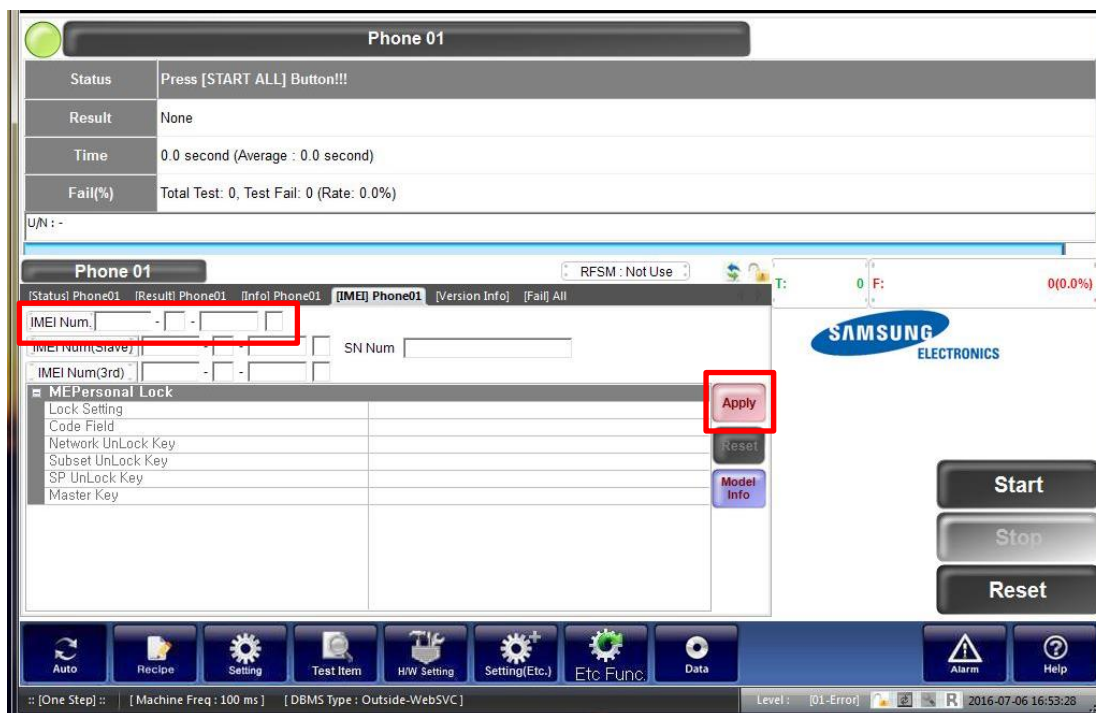
## 6. Level 1 Repair

14. Input SKU\_CODE and BUYER, then click Save button.

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

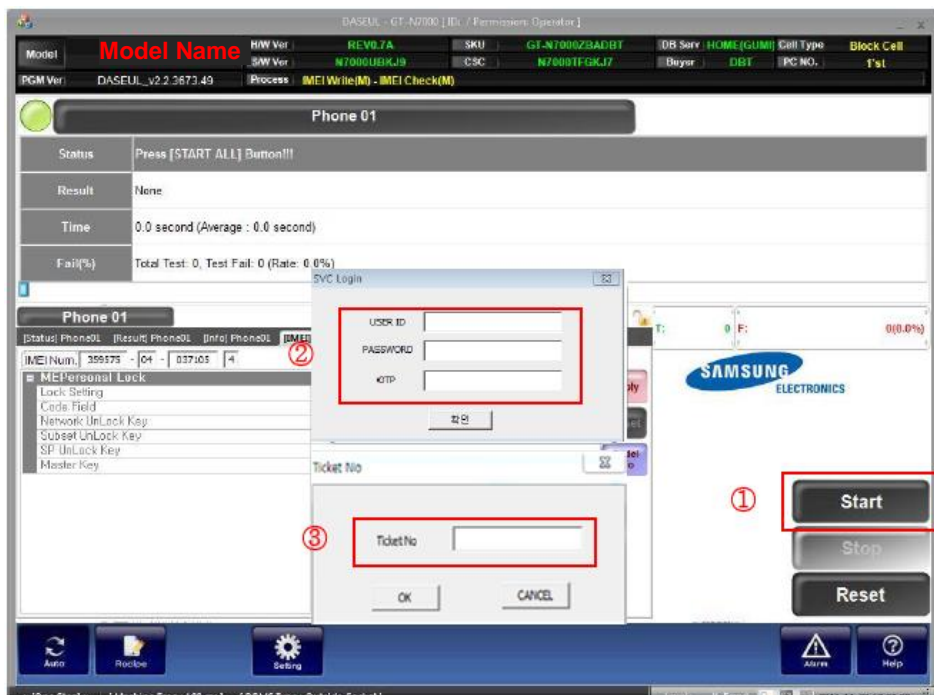


15. Input IMEI Number and click Apply



## 6. Level 1 Repair

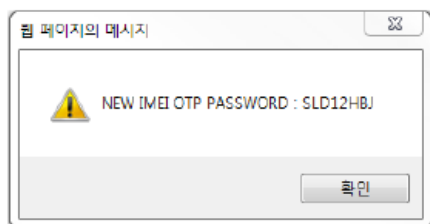
16. ① Click Start → ② Input IMEI writing ID and Password & OTP → ③ Input Ticket No



※ 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 Create new IMEI OTP PW” button.

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



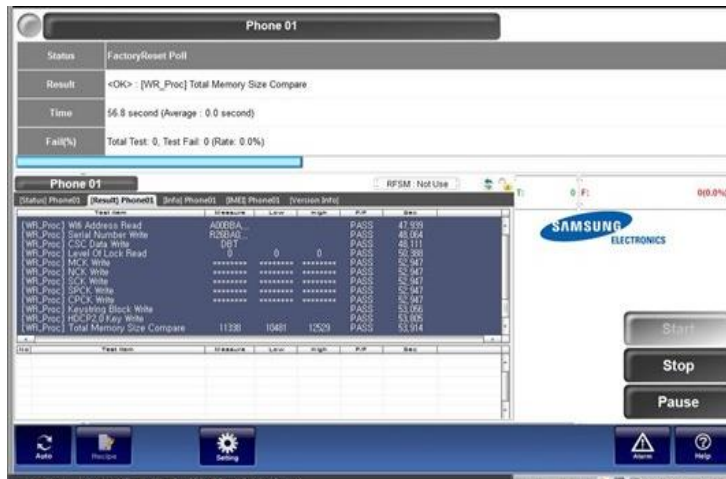


## 6. Level 1 Repair

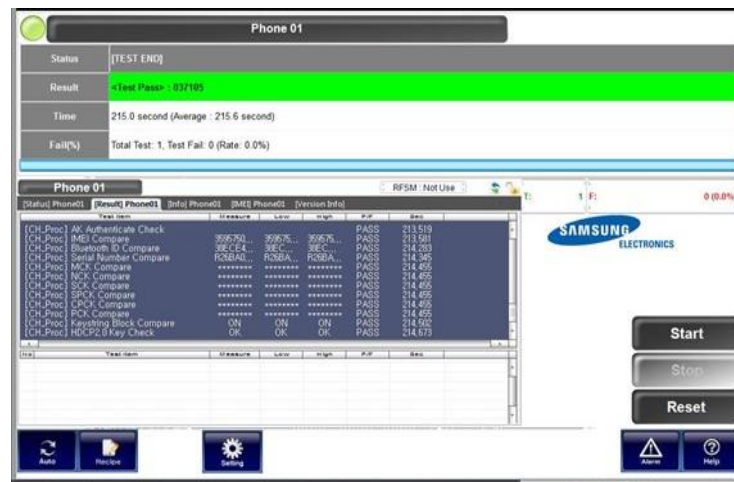
### 17. Connect the phone to Anyway JIG

- ※ 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



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## 7. Level 2 Repair

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### 7-1. Components on the Rear Case



## 7. Level 2 Repair

### 7-2. Pre-requisite


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

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## 7. Level 2 Repair

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### 7-3. Parts which must be changed after repair

BOM Description & part code	Image	Remarks
<b>Fingerprint Tape</b> <b>[GH02-16815A]</b>		<b>Whenever re-assemble Fingerprint. Remove old tape and use new tape</b>

## 7. Level 2 Repair

### 7-4. Disassembly

1

Disassemble Rear Cover from Front Assy



2

- 1) Attach Camera Protective vinyl on Camera
- 2) Disattach Fringer Print Sensor Connector.
- 3) Remove 13point Screw
- 4) Remove Sub ANT, Mid Rear.

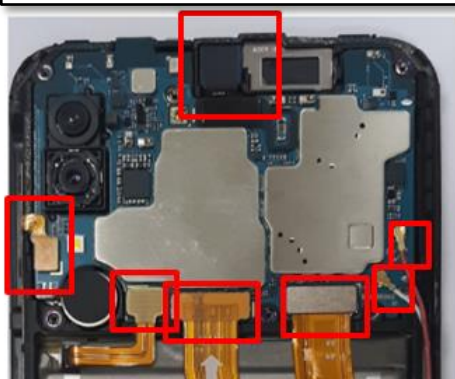


※ Caution  
Be care of scratch.

※ Caution  
Be care of scratch.  
Be care of Rear and Finger print damage.

3

- 1) Disassemble Connector  
(LCD FPCB, SUB PBA FPCB, Battery FPCB,  
Side KEY FPCB)
- 2) Disassemble Coaxial Cable
- 3) Remove Front Camera



※ Caution  
Be care of scratch.

4

Remove PBA from Front Assy

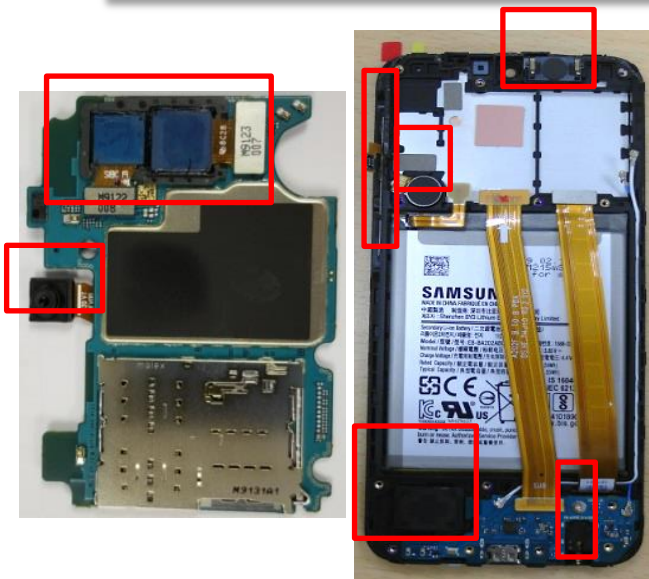


※ Caution  
Be care of PBA damage.

## 7. Level 2 Repair

5

Check Material status. (Speaker, Motor, RCV, Earjack, Rear Camera, Front Camera, Side key)



※ Caution

Be careful not to damage the PBA.

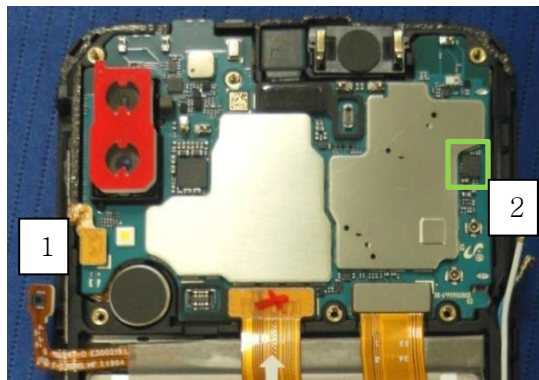


## 7. Level 2 Repair

### 7-5. Assembly

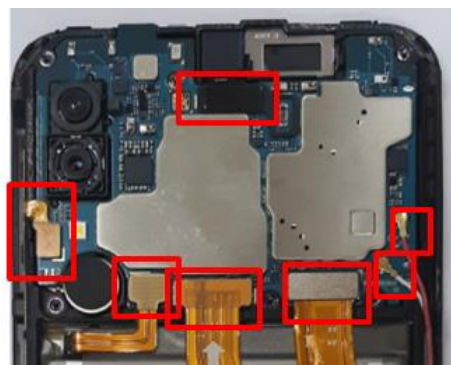
1

Assemble PBA to Front  
Sequence 1→2



2

1) Assemble Connector (Side key, Battery, Front cam, Sub FPCB, LCD FPCB)  
2) Assemble 2ea Coaxial cable



※ Caution

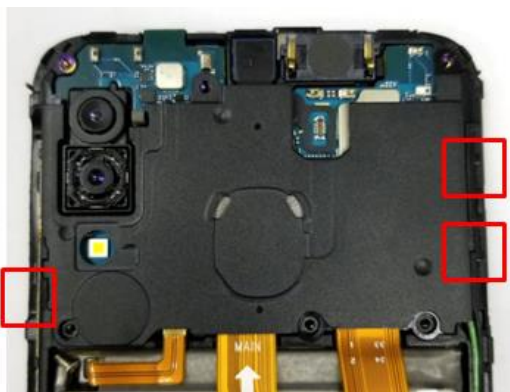
Do not push the sensor in green box.

※ Caution

Be care of PBA & Connector damage.

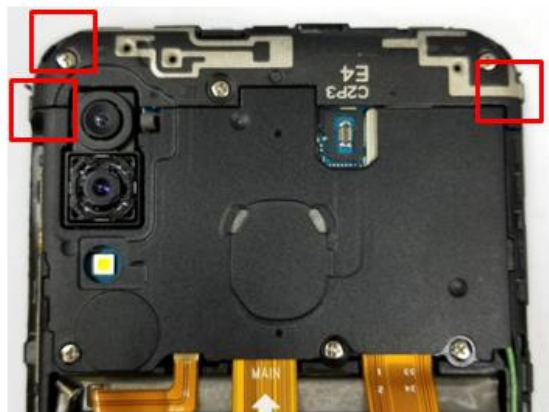
3

Assemble Mid Rear



4

Assemble Sub Ant



※ Caution

Check 3 hook point.

※ Caution

Check 3 hook point.

## 7. Level 2 Repair

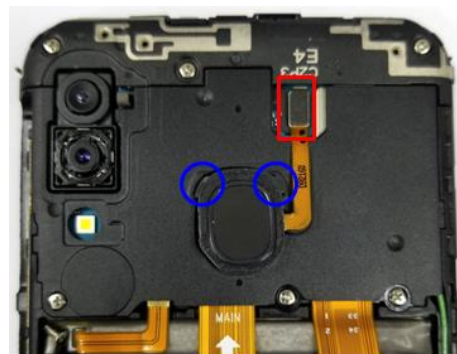
5

Assemble 6 point screw  
- Torque Value : 1.15Kgf · cm  
- Size : 1.4 \* 3 (6001-003226, silver)



6

1) Assemble Finger print sensor  
2) Assemble Connector



※ Caution

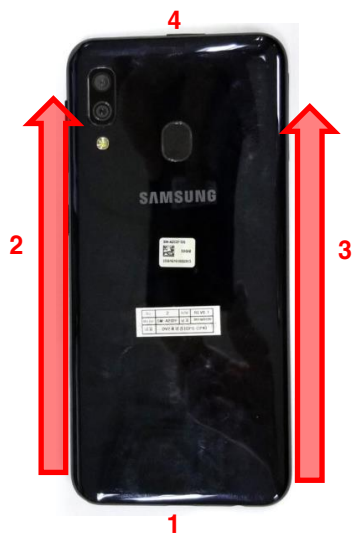
Check for each connector connection.

※ Caution

Check 2 hook point.

7

Assemble Rear Cover with Front Assy  
Sequence 1→2→3→4



※ Caution

Be care of Scratch.

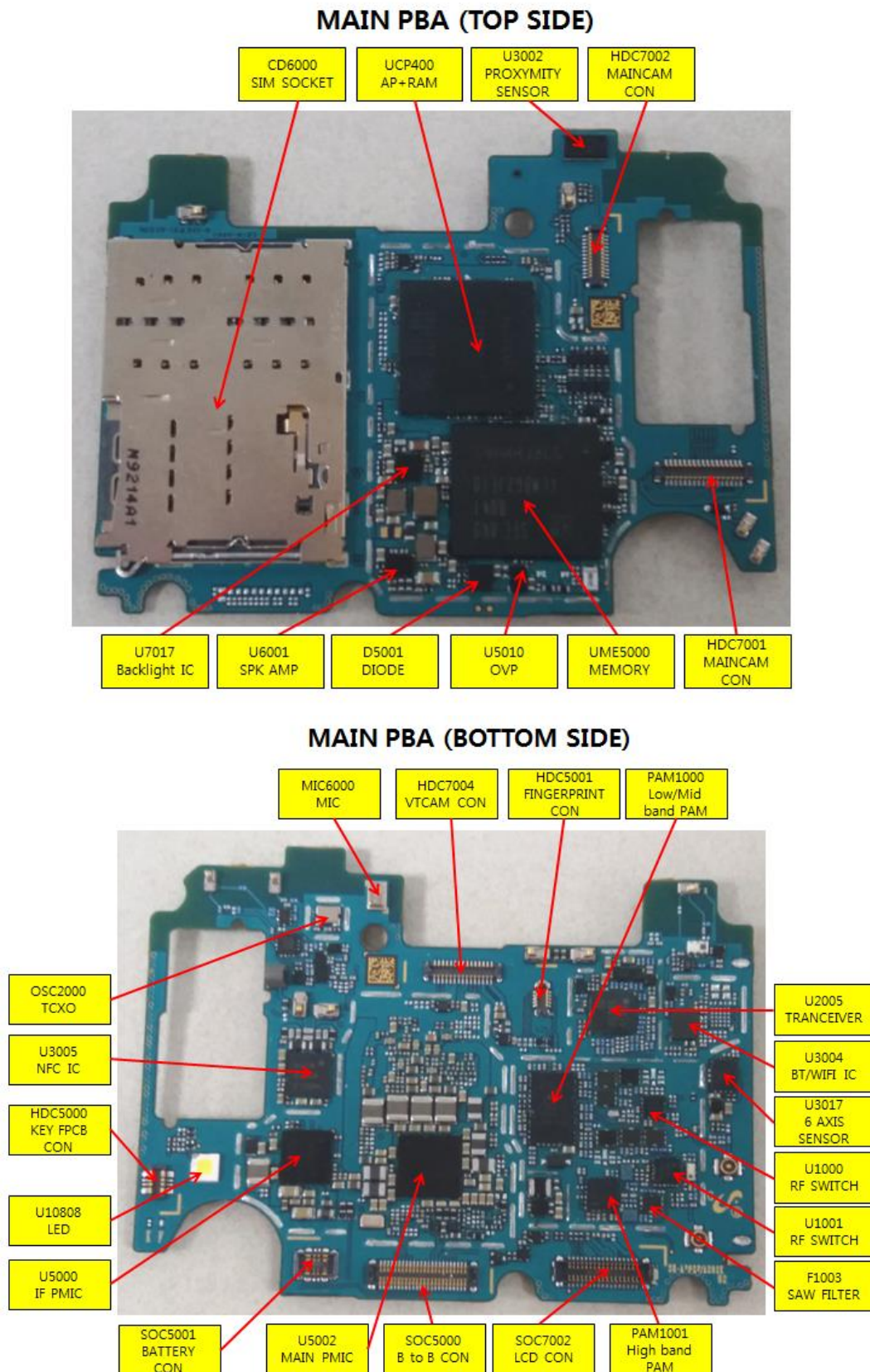


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## 8. Level 3 Repair

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### 8-1. Components Layout

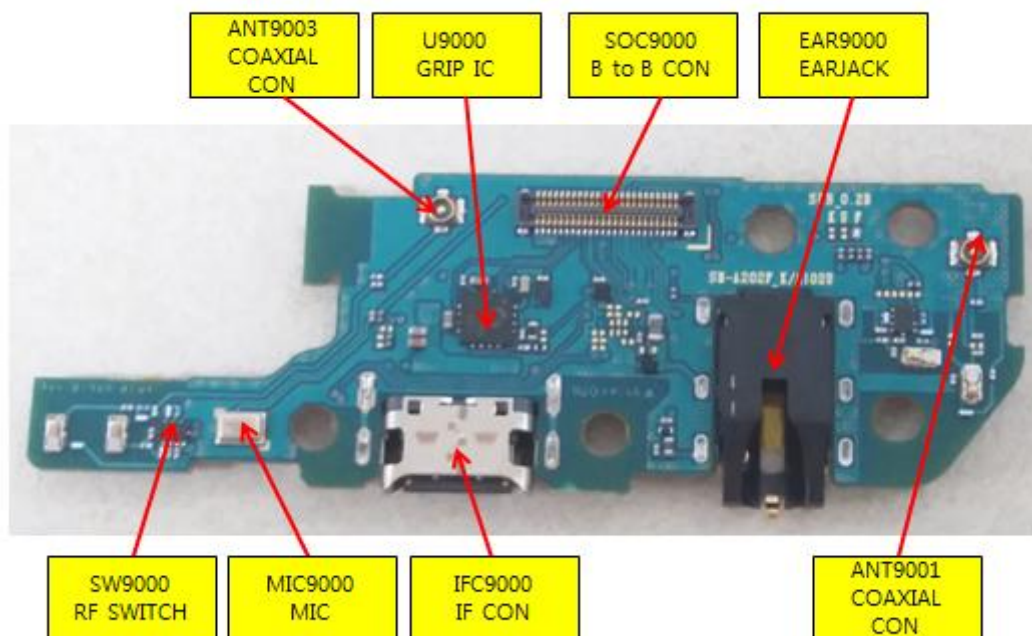


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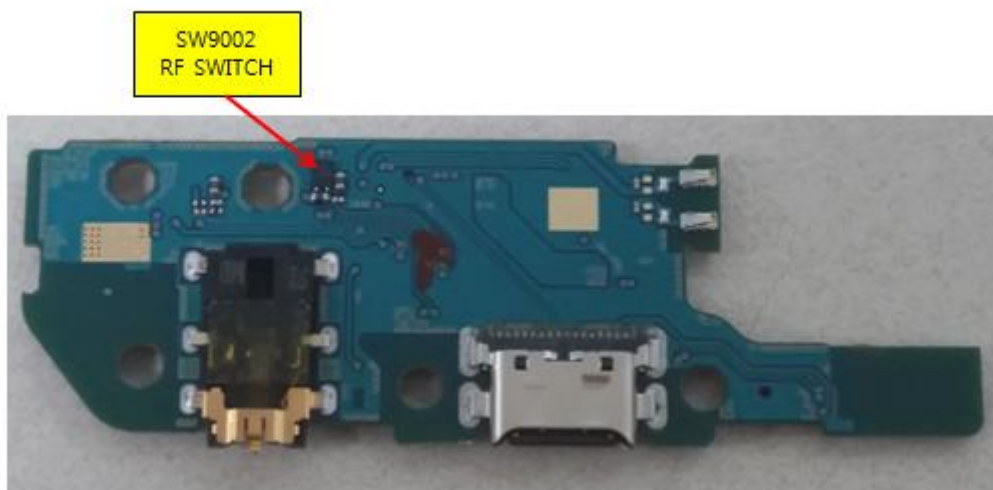
## 8. Level 3 Repair

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### SUB PBA (TOP SIDE)

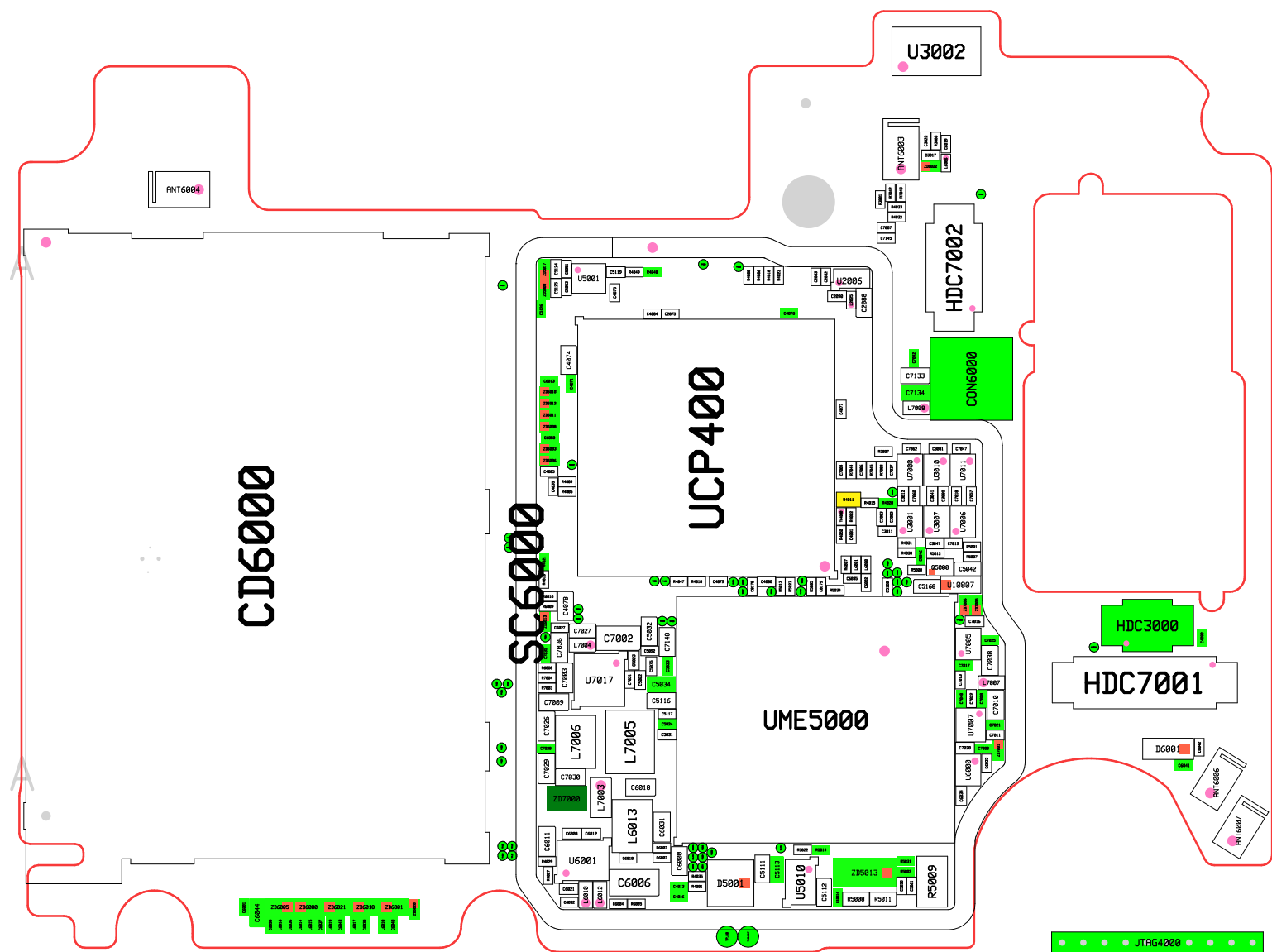


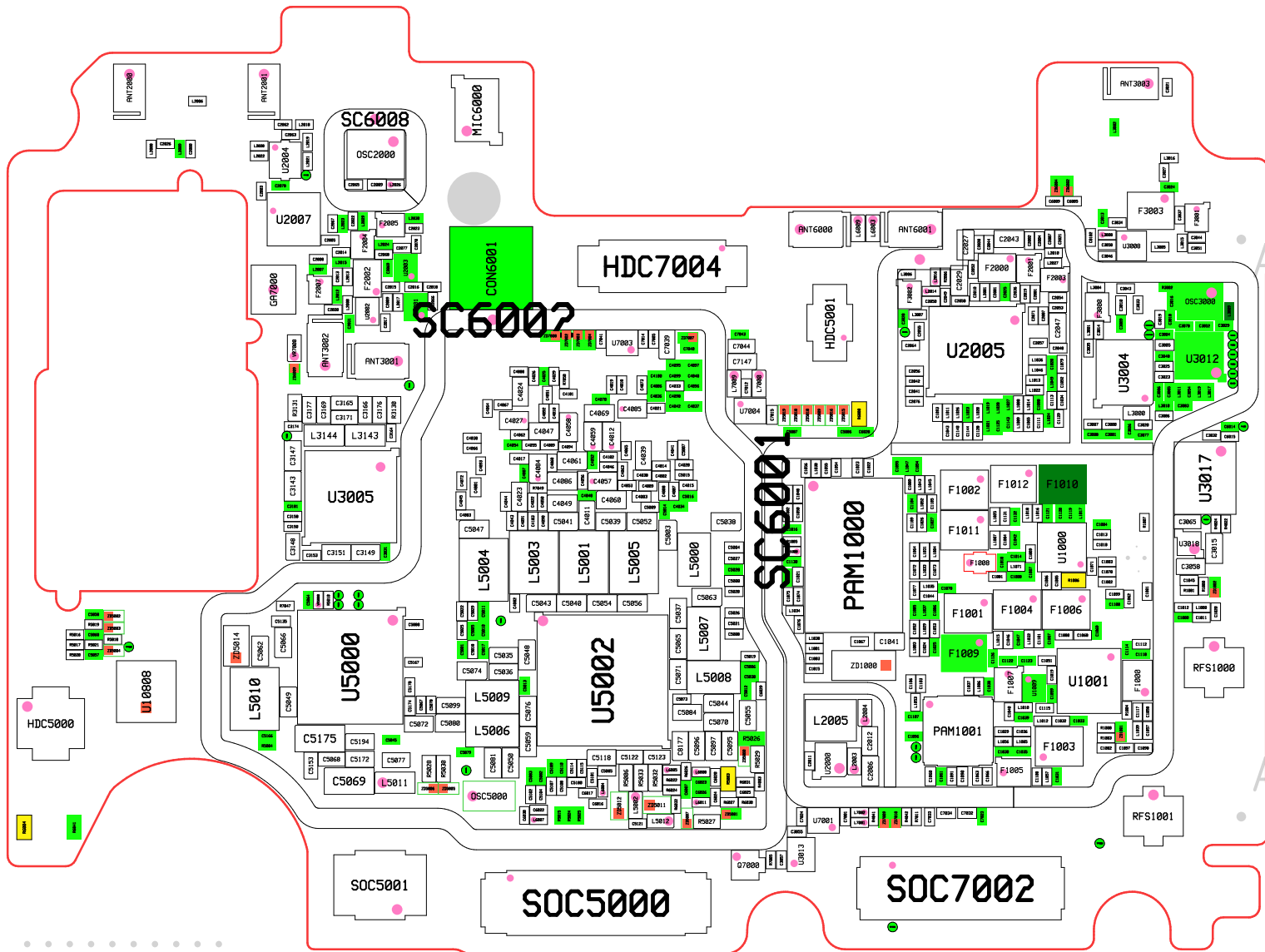
### SUB PBA (BOTTOM SIDE)



## A20e Block Diagram



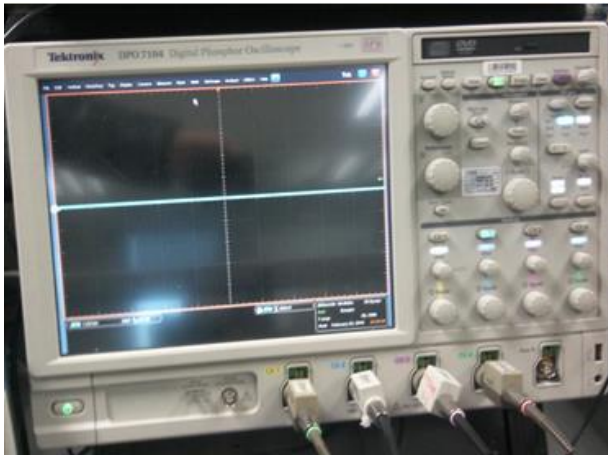






## 8. Level 3 Repair

### 8-3. Flow chart of Troubleshooting.



**Oscilloscope**



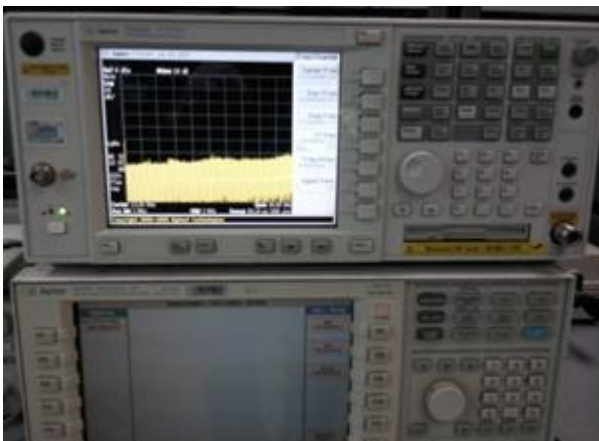
**Digital Multimeter**



**Power Supply**



**+ driver, ESD Safe Tweezer**



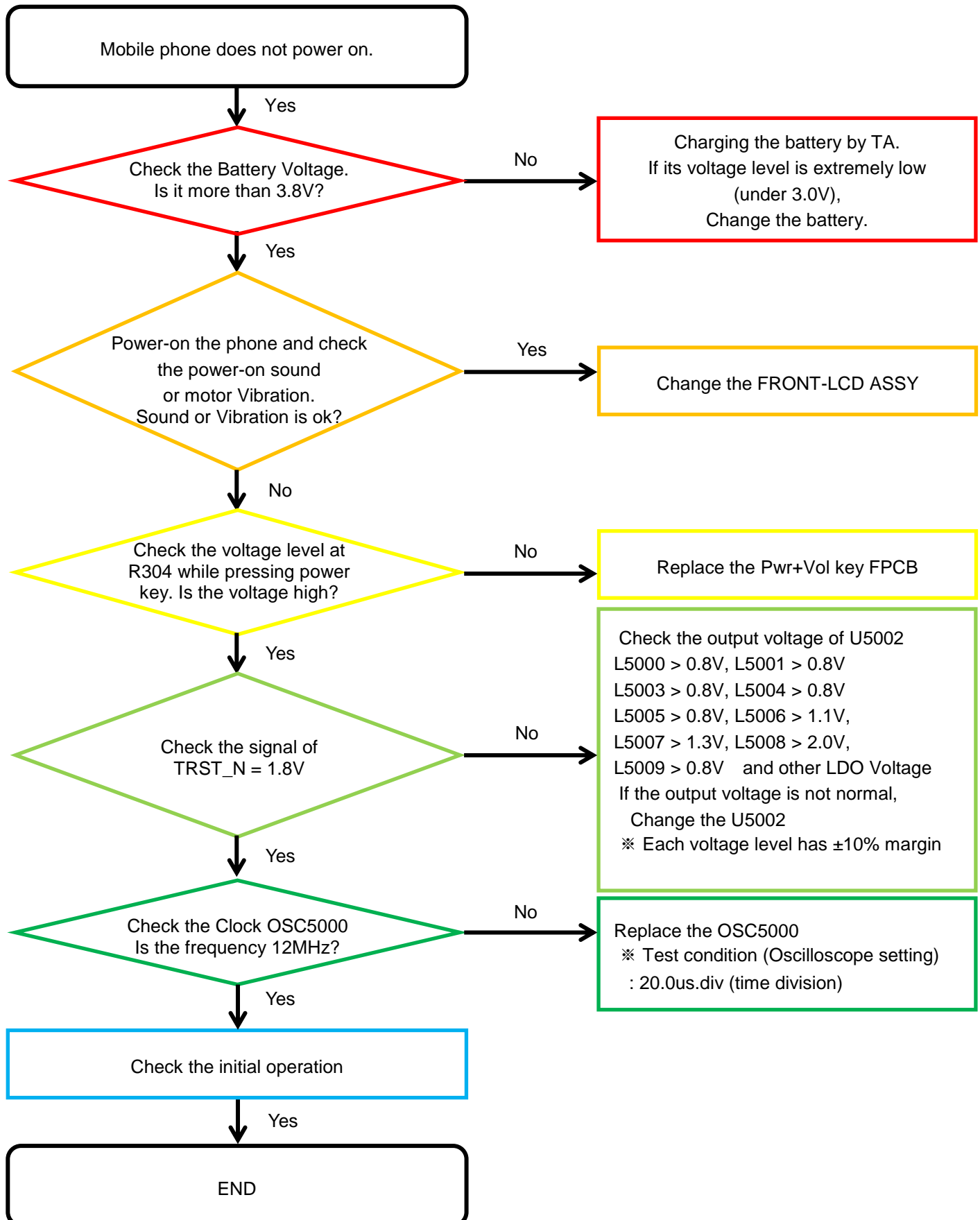
**8960 & Spectrum Analyzer**



**Soldering iron**

## 8. Level 3 Repair

### 8-4-1. Power On

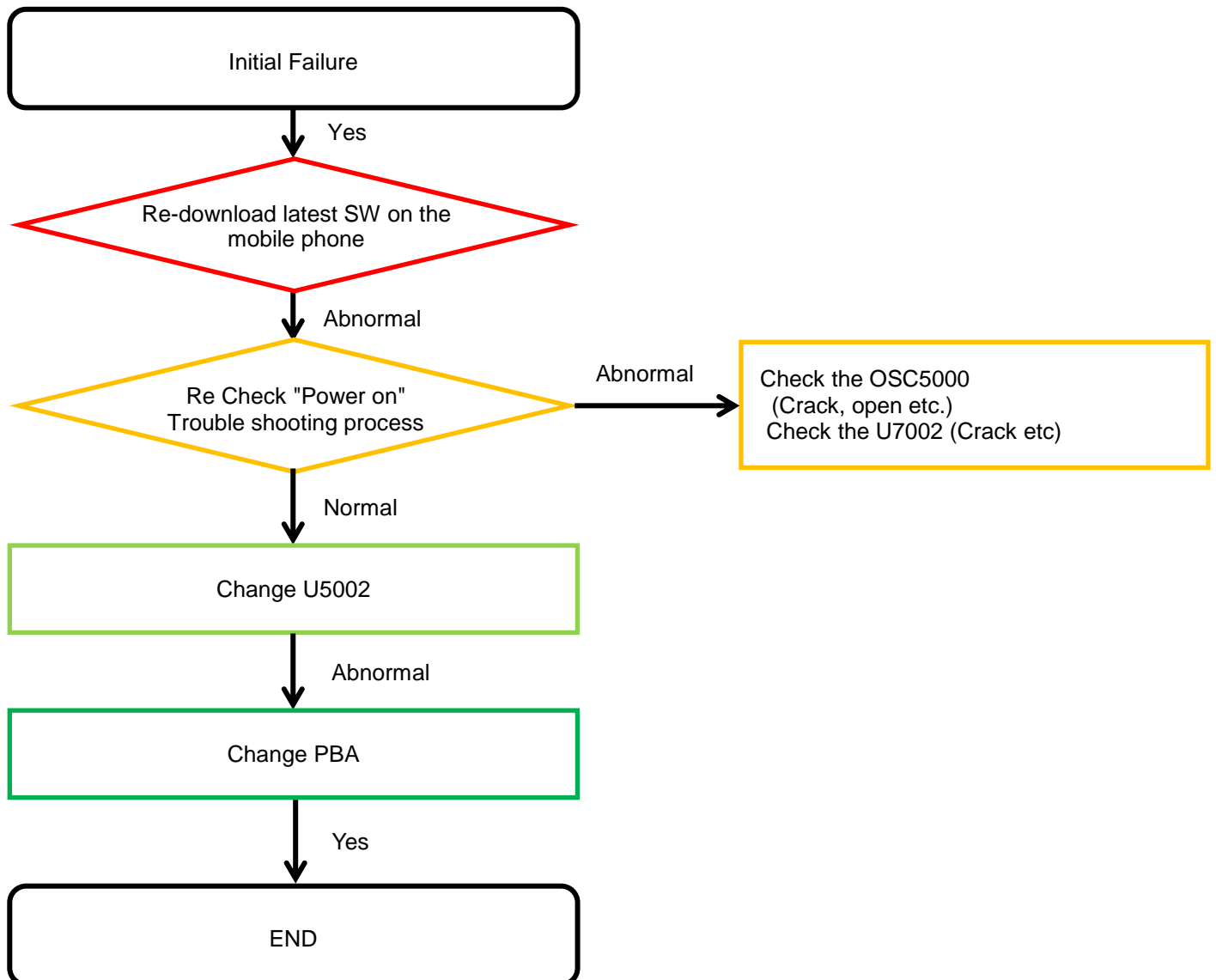


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## 8. Level 3 Repair

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### 8-4-2. Initial



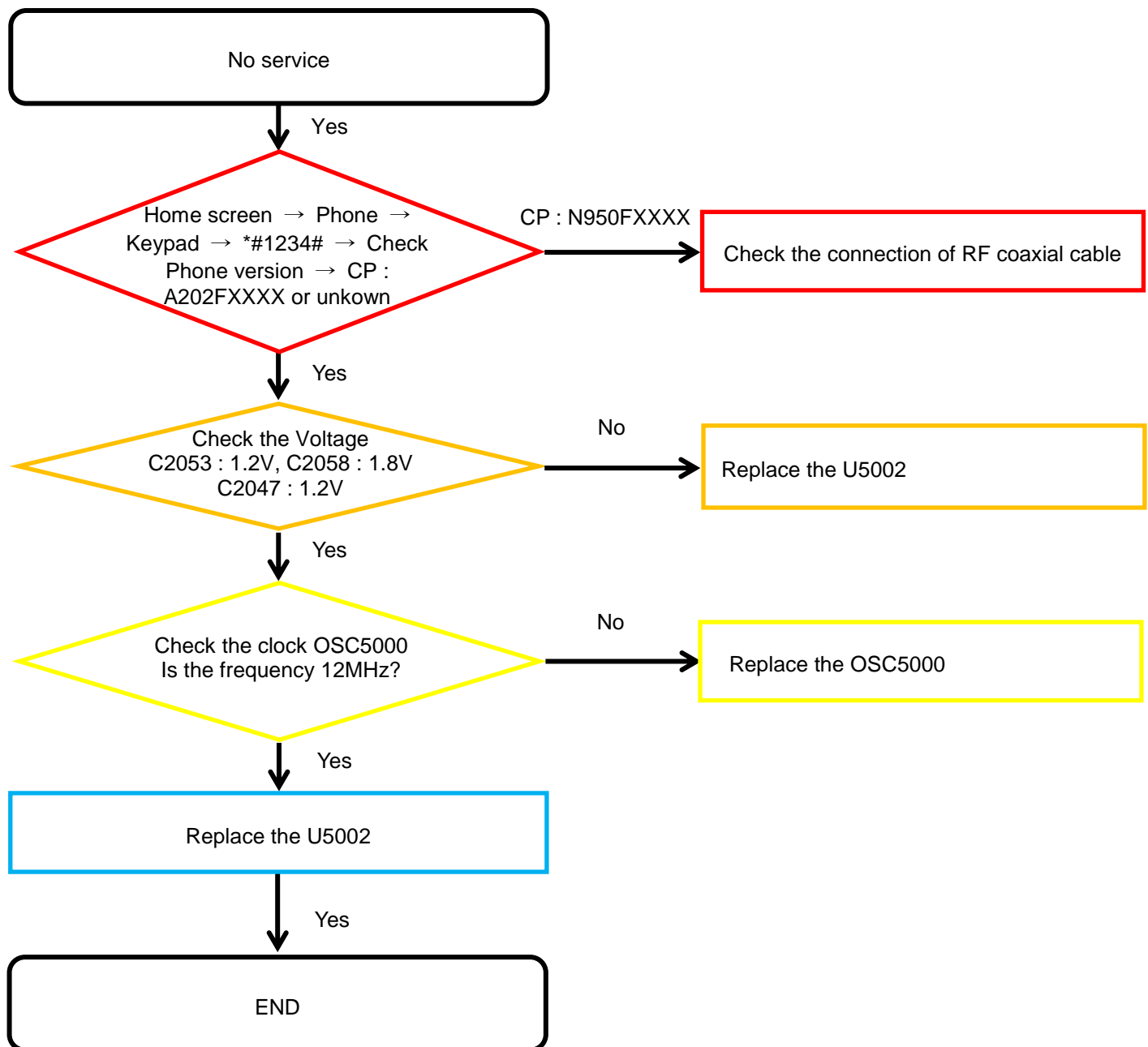


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## 8. Level 3 Repair

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### 8-4-3. No Service

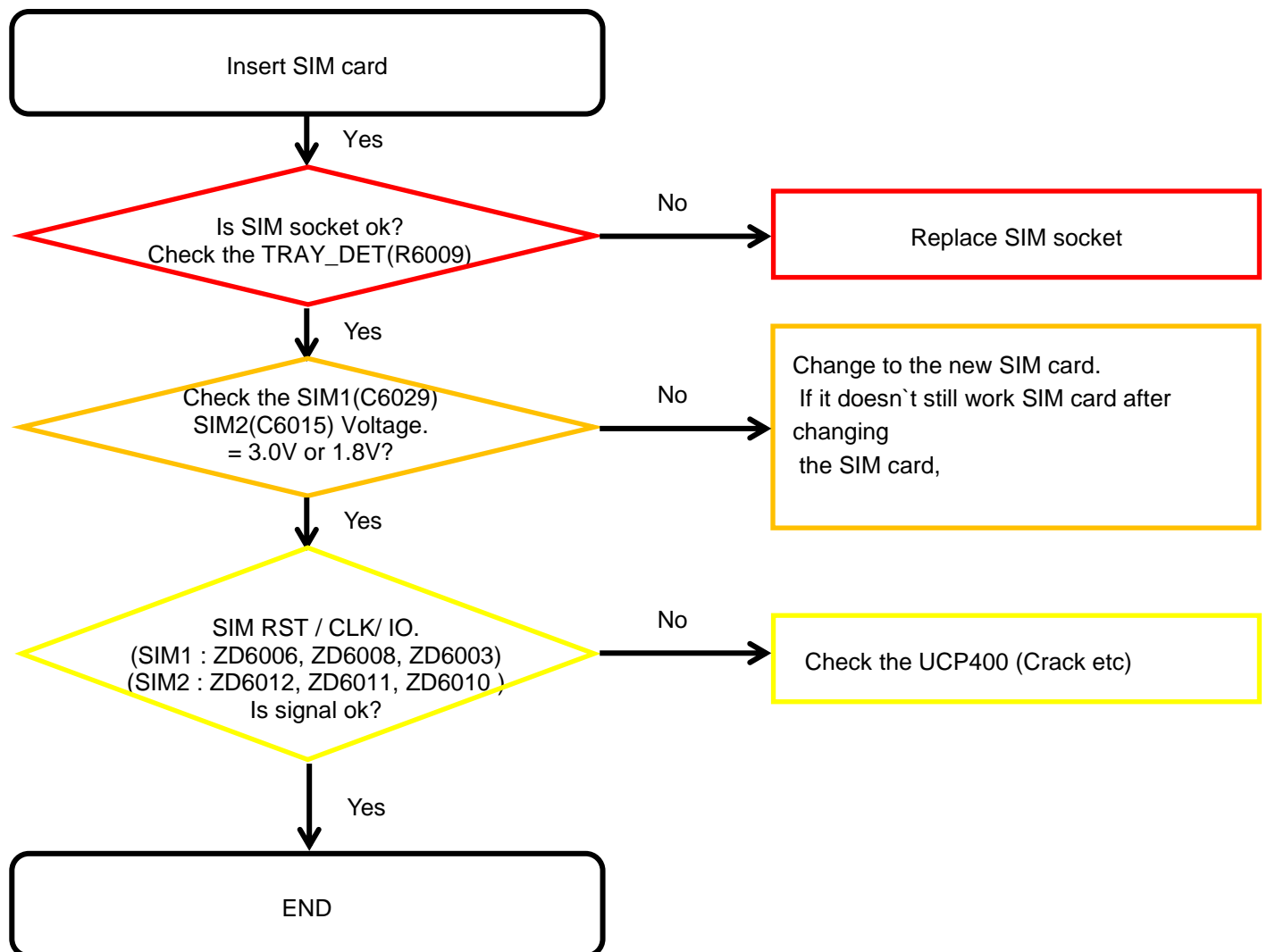


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## 8. Level 3 Repair

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### 8-4-4. SIM Part

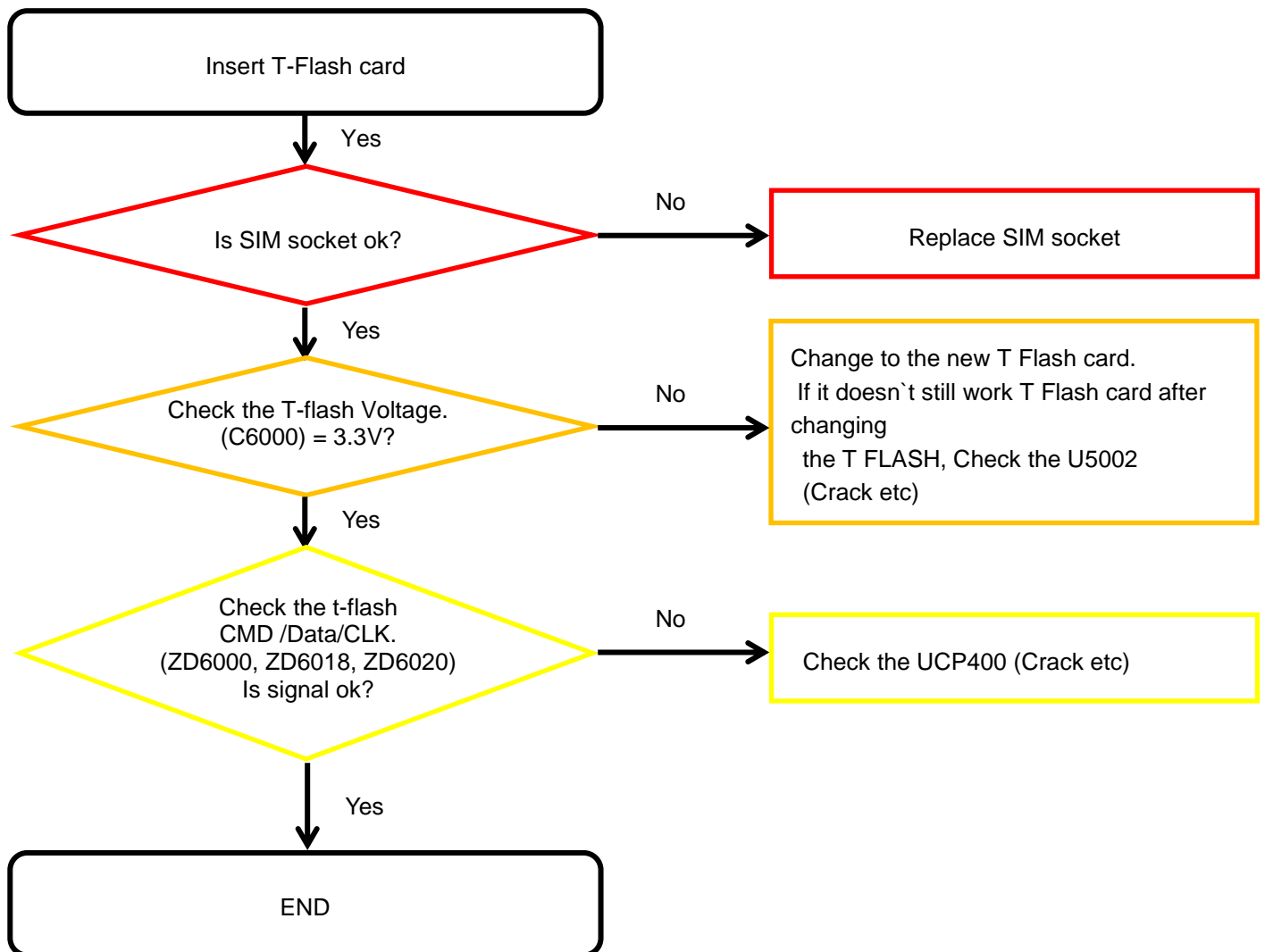


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## 8. Level 3 Repair

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### 8-4-5. T-Flash Part

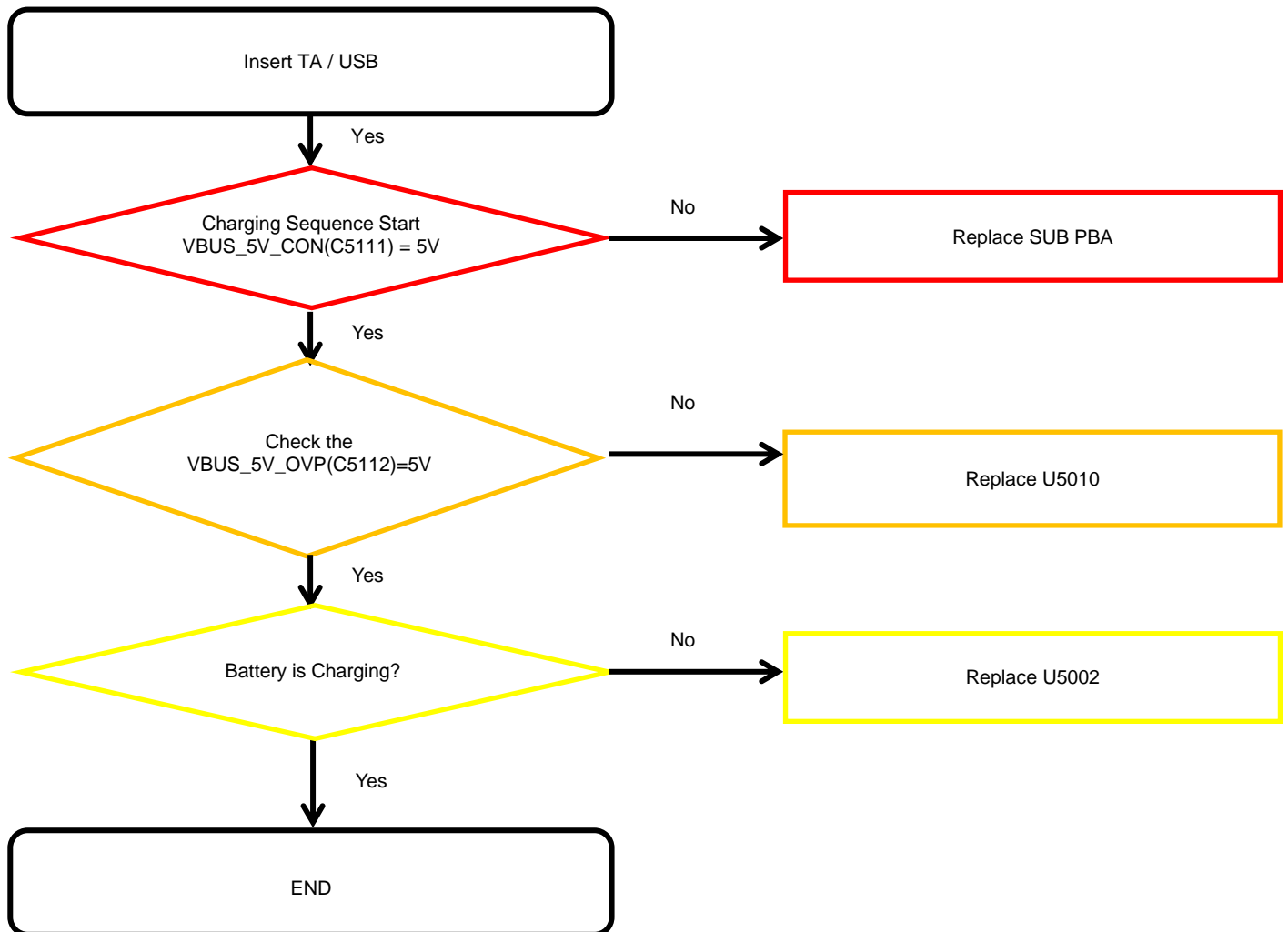


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## 8. Level 3 Repair

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### 8-4-6. Cable Charging Part (Normal)

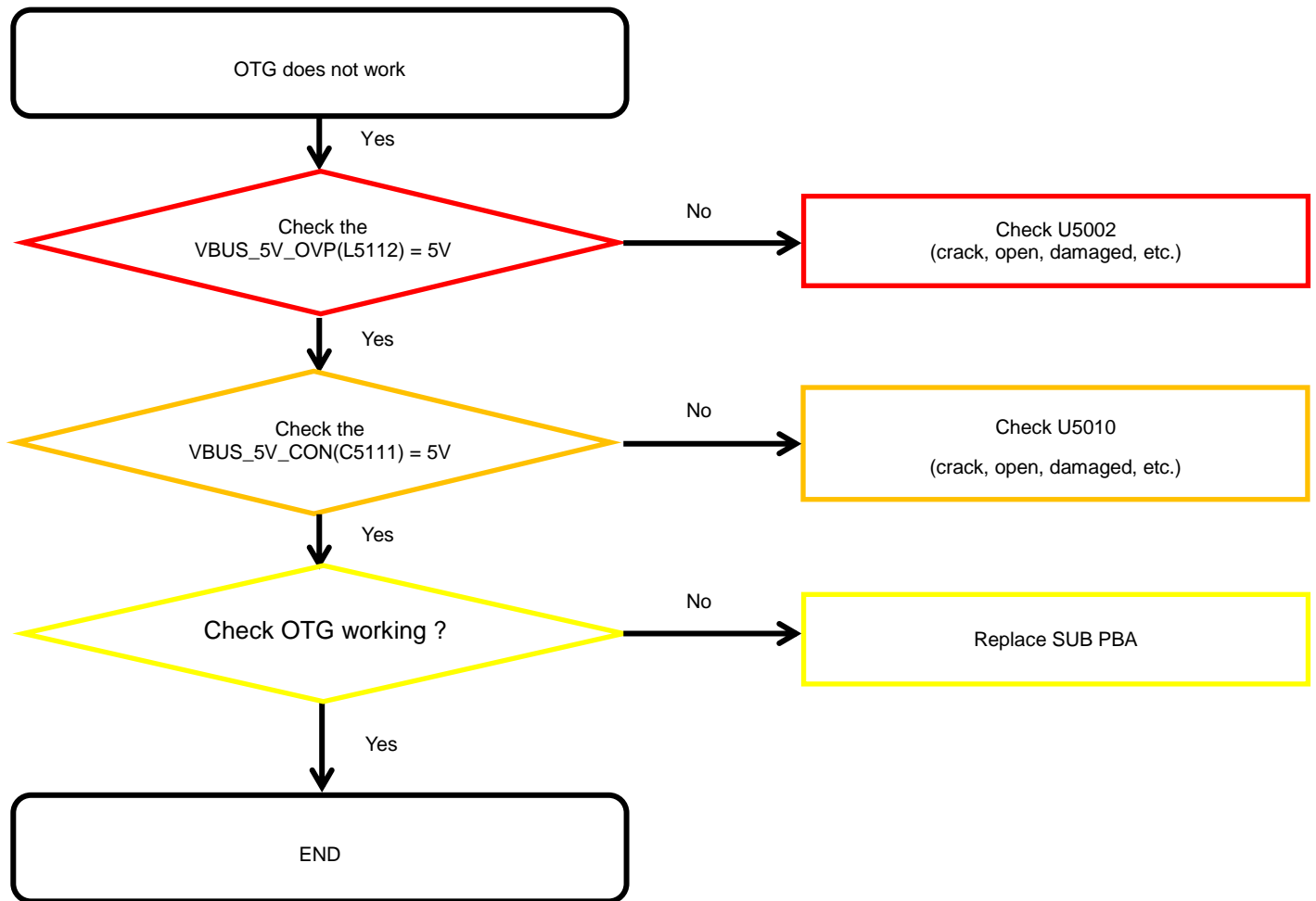


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## 8. Level 3 Repair

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### 8-4-7. OTG

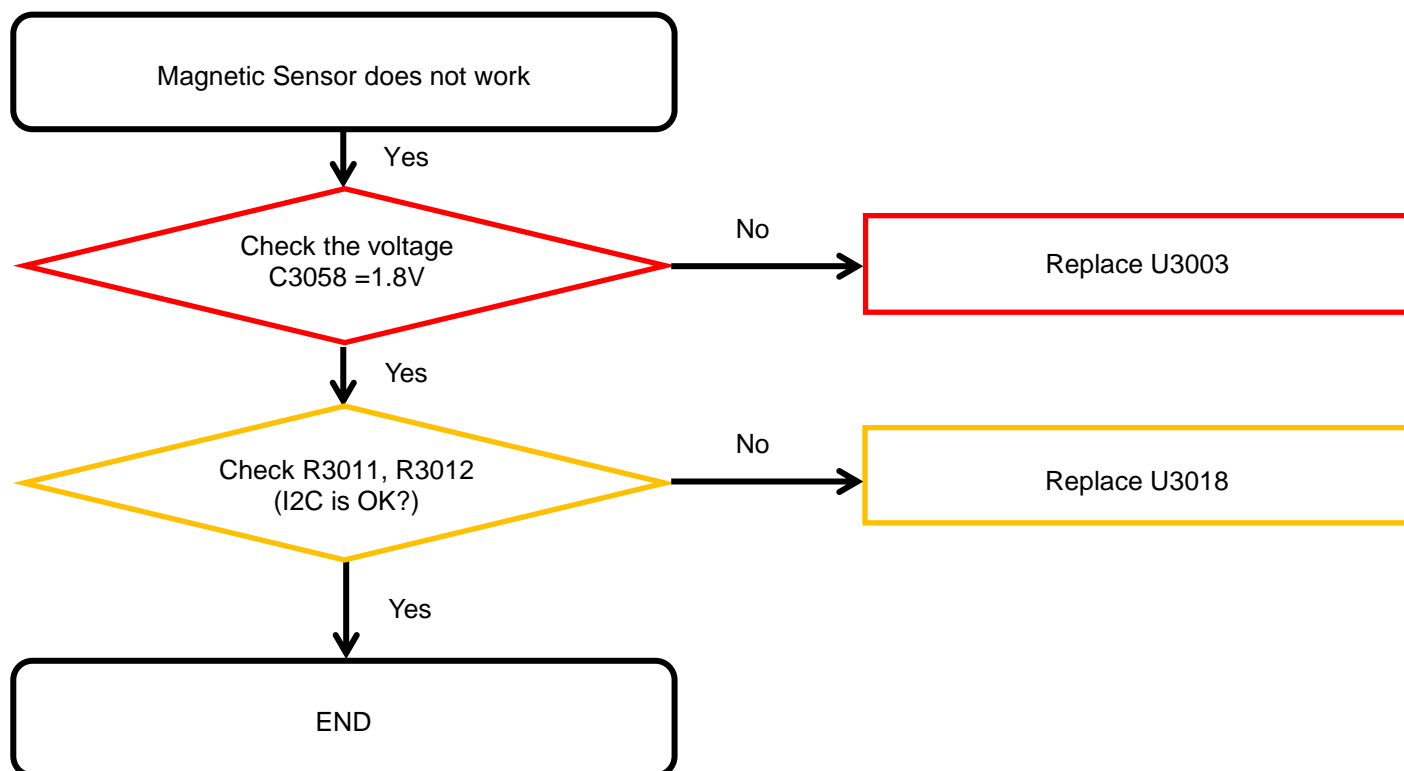


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## 8. Level 3 Repair

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### 8-4-8-1. Magnetic Sensor

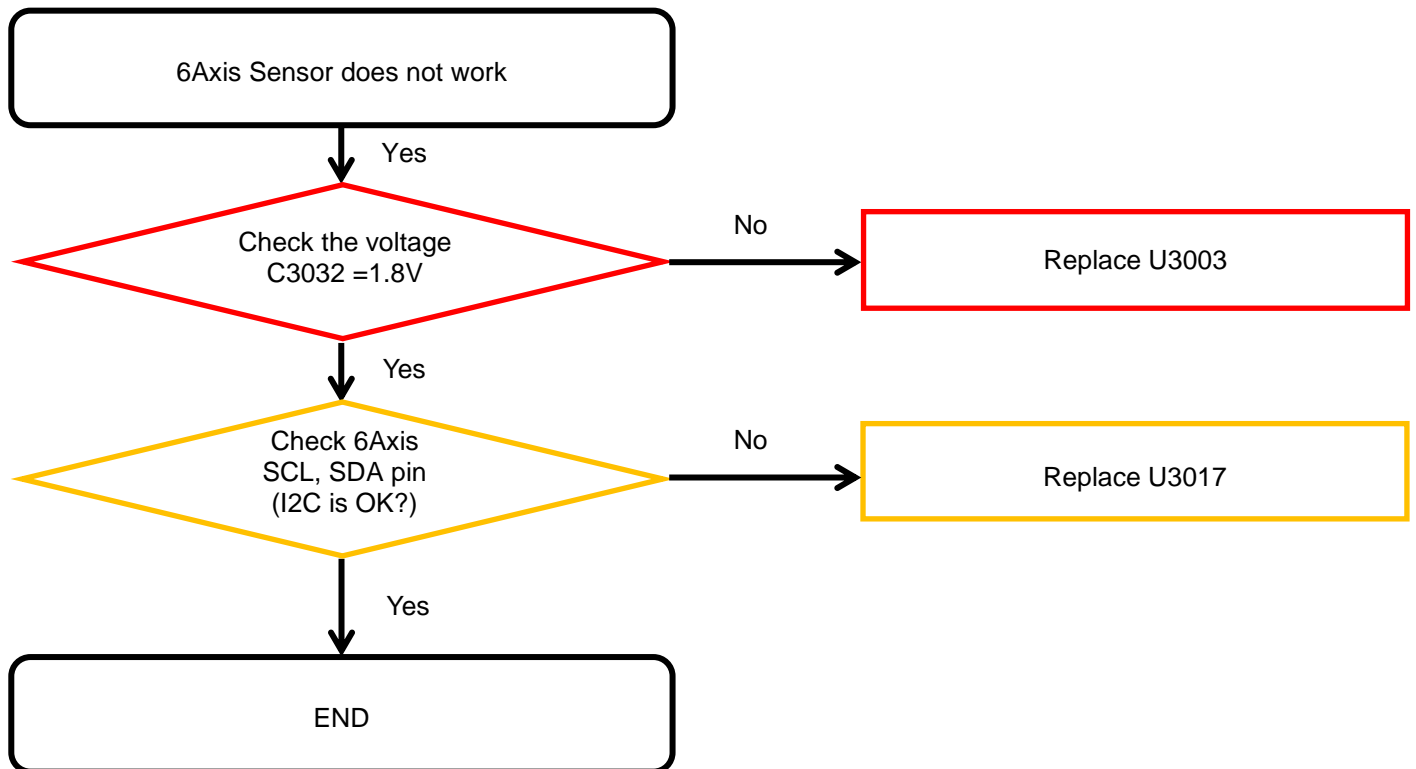


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## 8. Level 3 Repair

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### 8-4-8-2. 6Axis Sensor

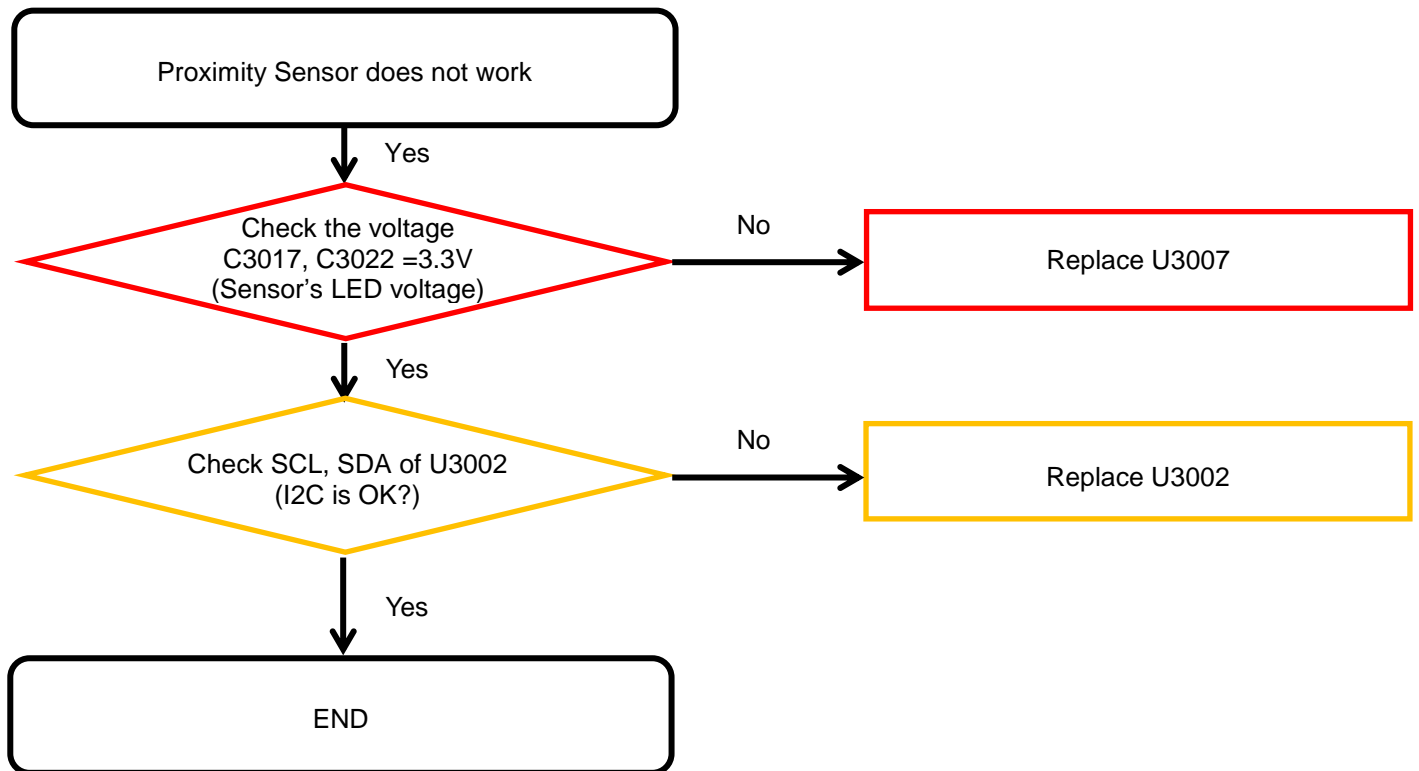


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## 8. Level 3 Repair

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### 8-4-8-3. Proximity sensor



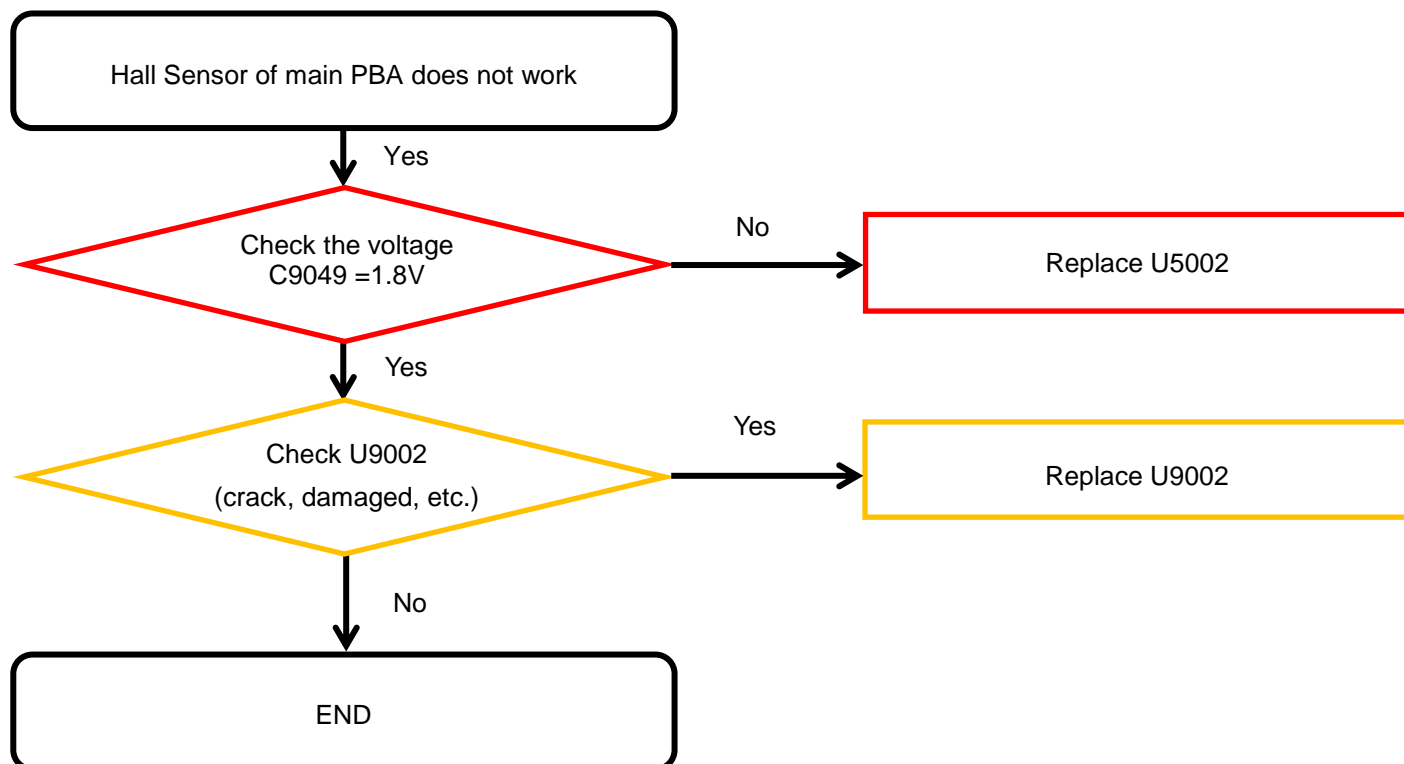


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## 8. Level 3 Repair

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### 8-4-8-4. Hall Sensor

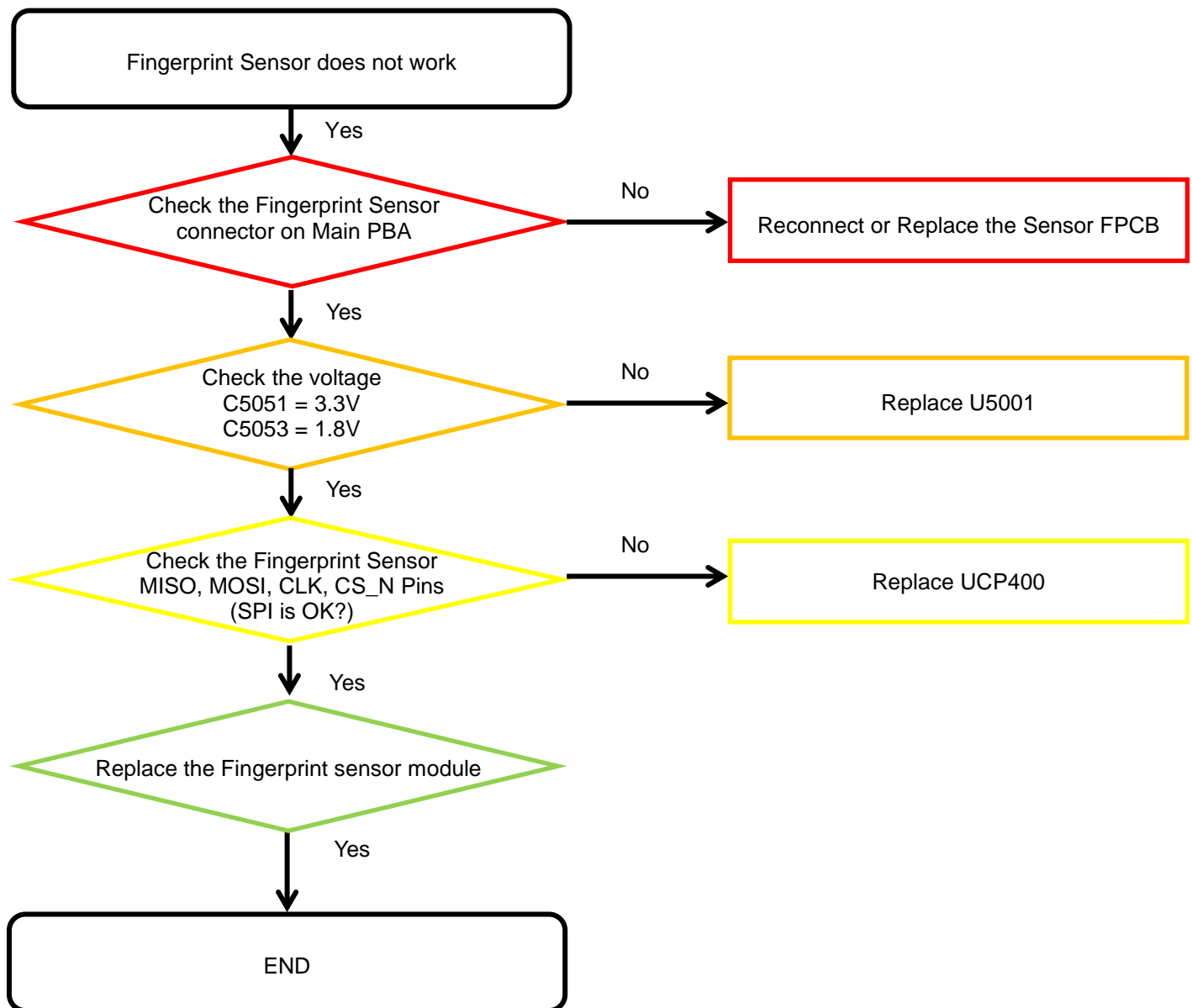


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## 8. Level 3 Repair

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### 8-4-8-5. Fingerprint Sensor

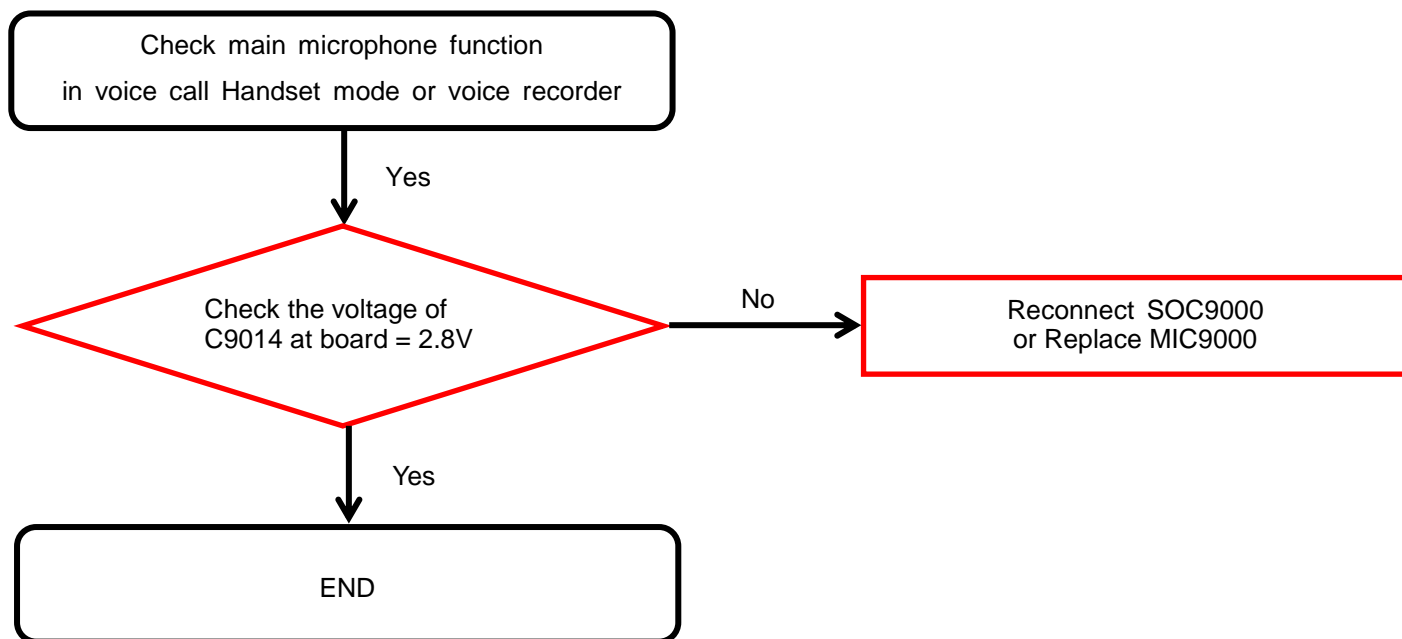


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## 8. Level 3 Repair

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

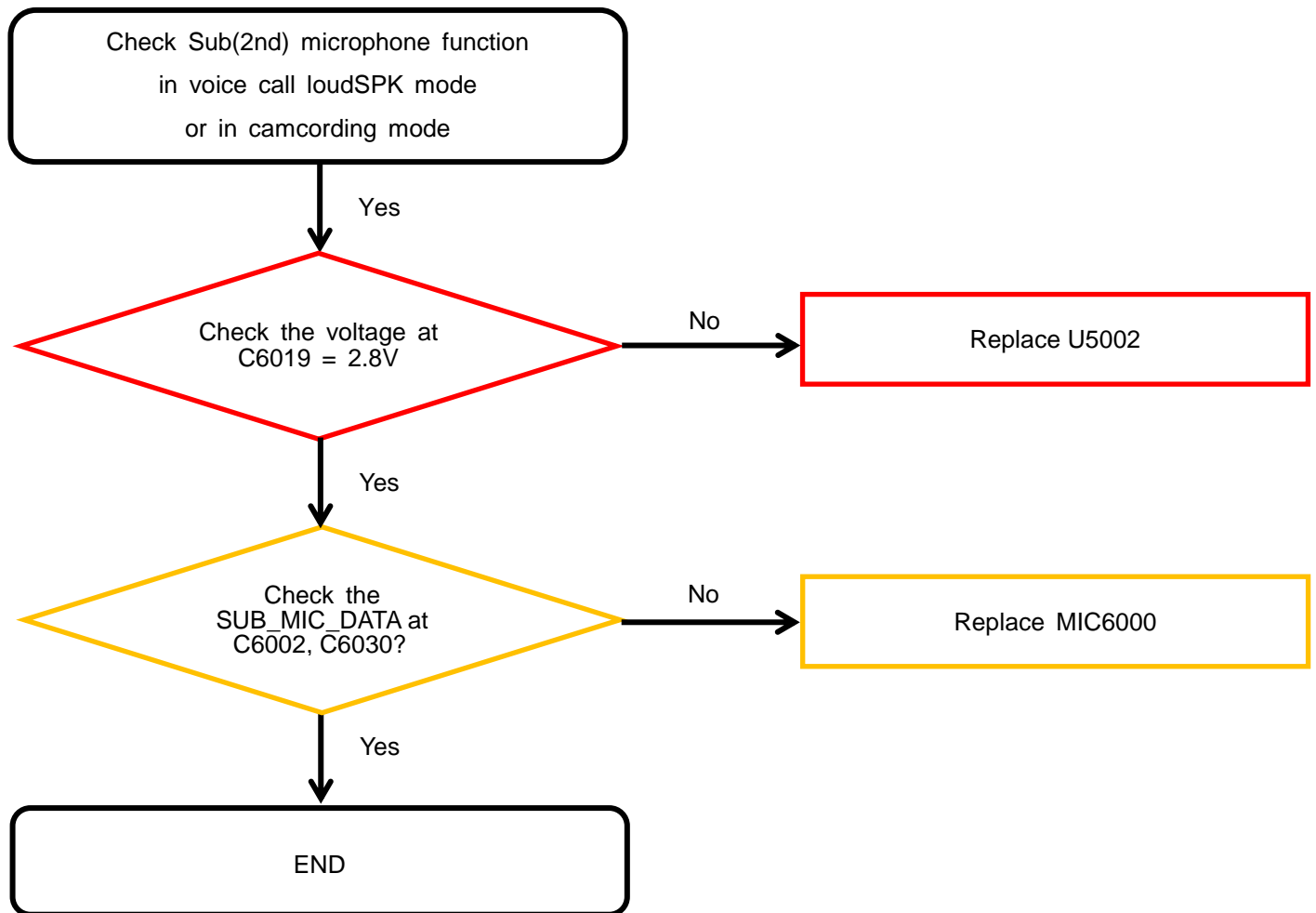


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## 8. Level 3 Repair

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

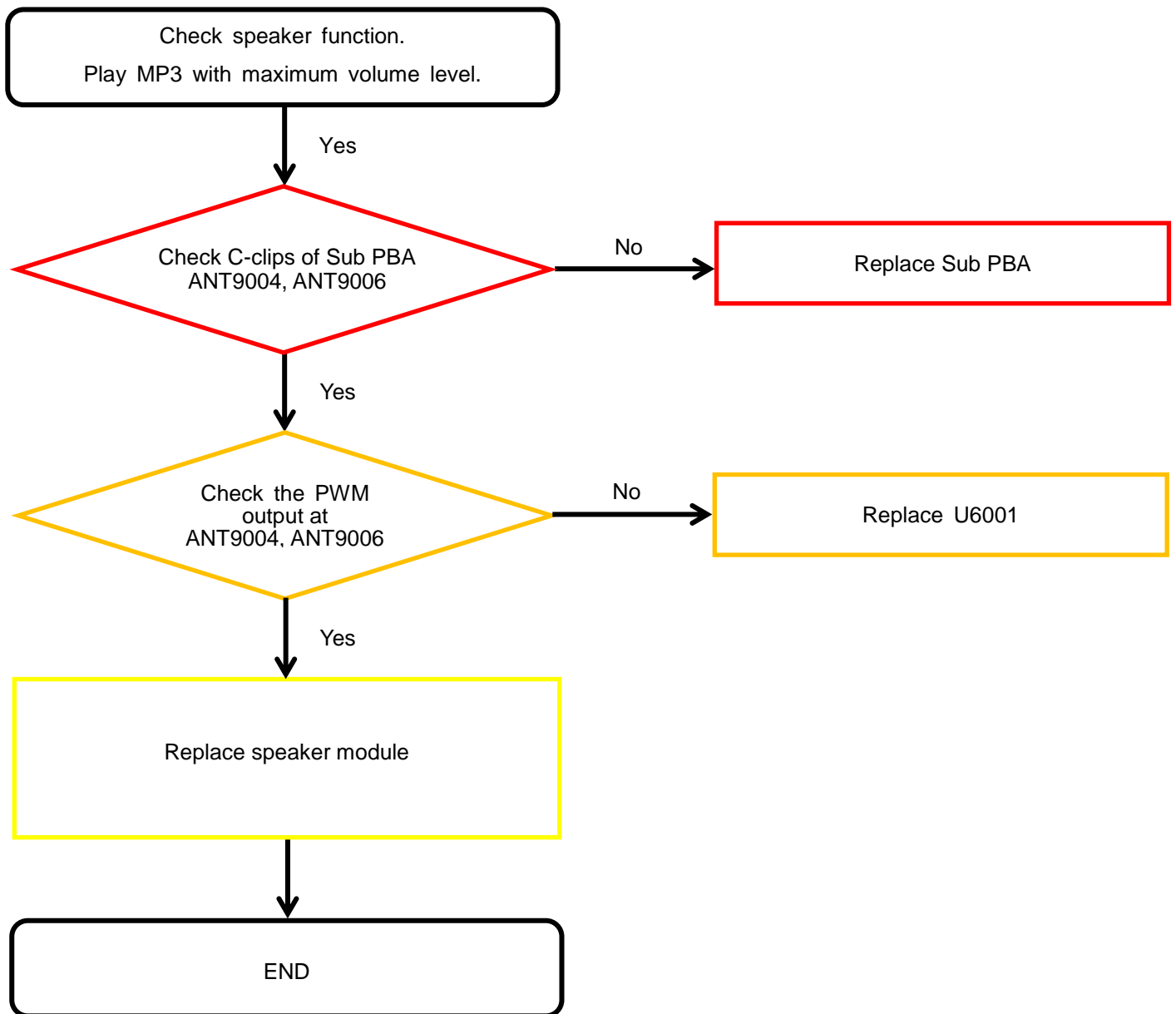


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## 8. Level 3 Repair

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### 8-4-10. Speaker Part

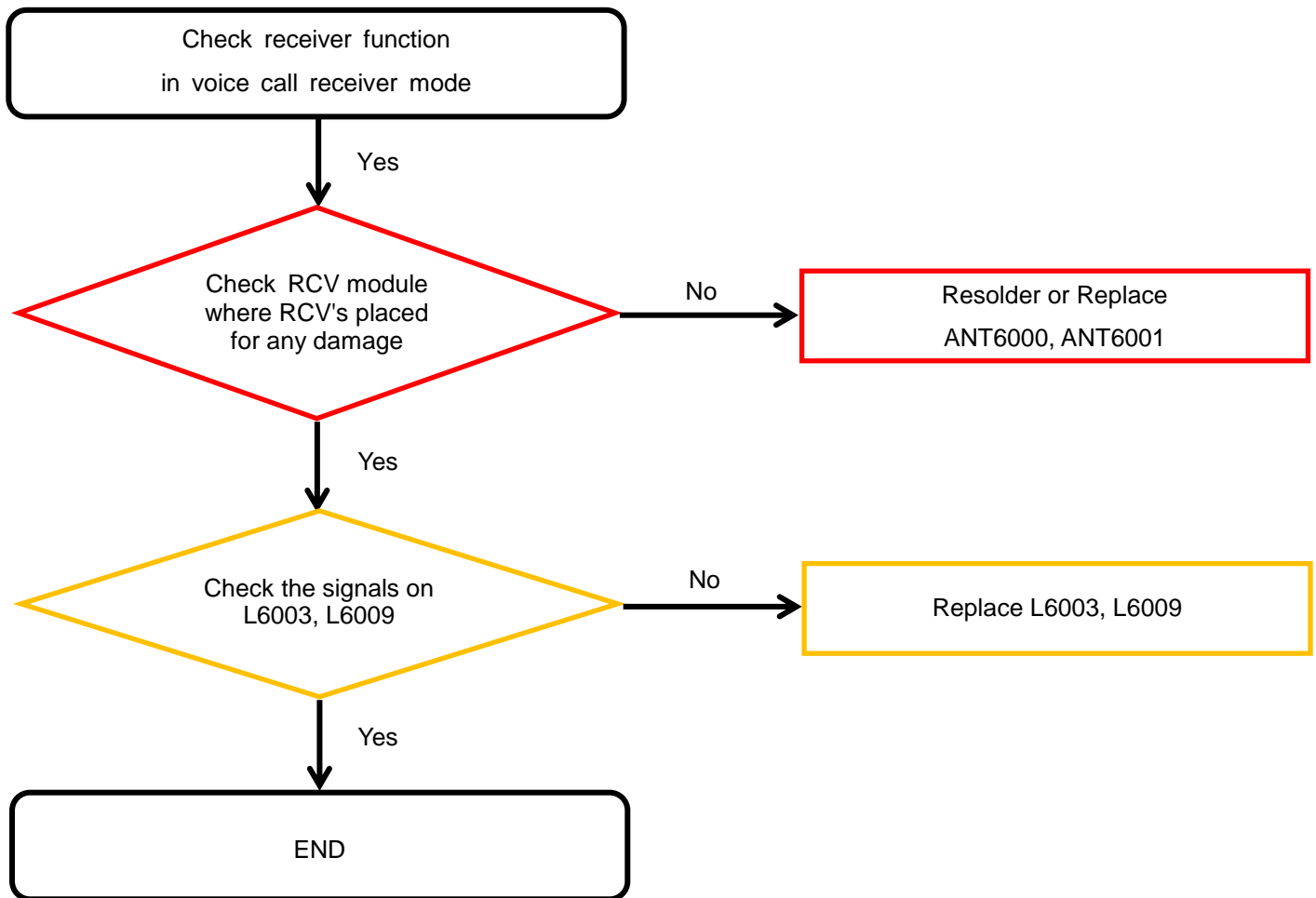


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## 8. Level 3 Repair

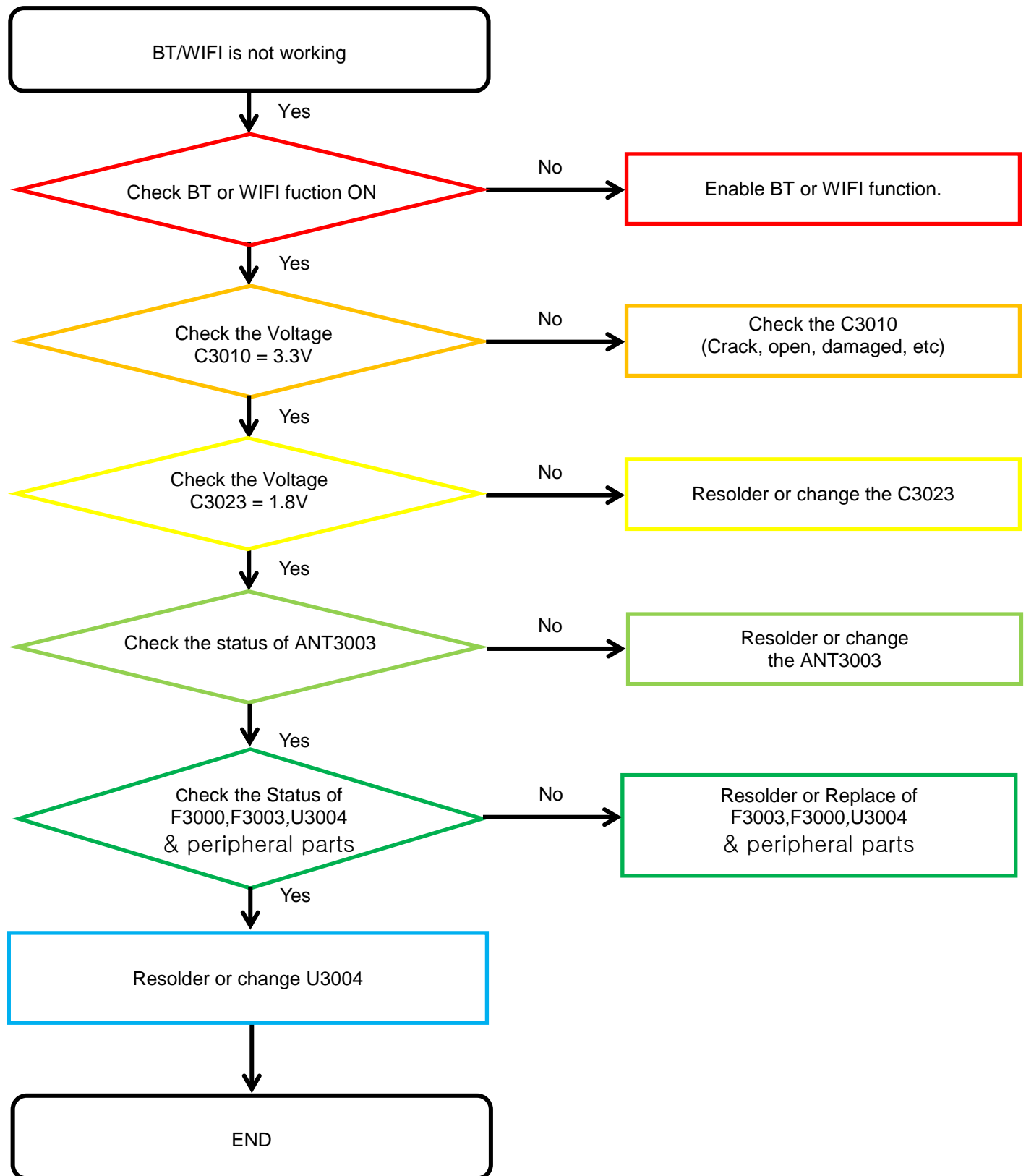
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### 8-4-11. Receiver Part



## 8. Level 3 Repair

### 8-4-12. BT/WIFI

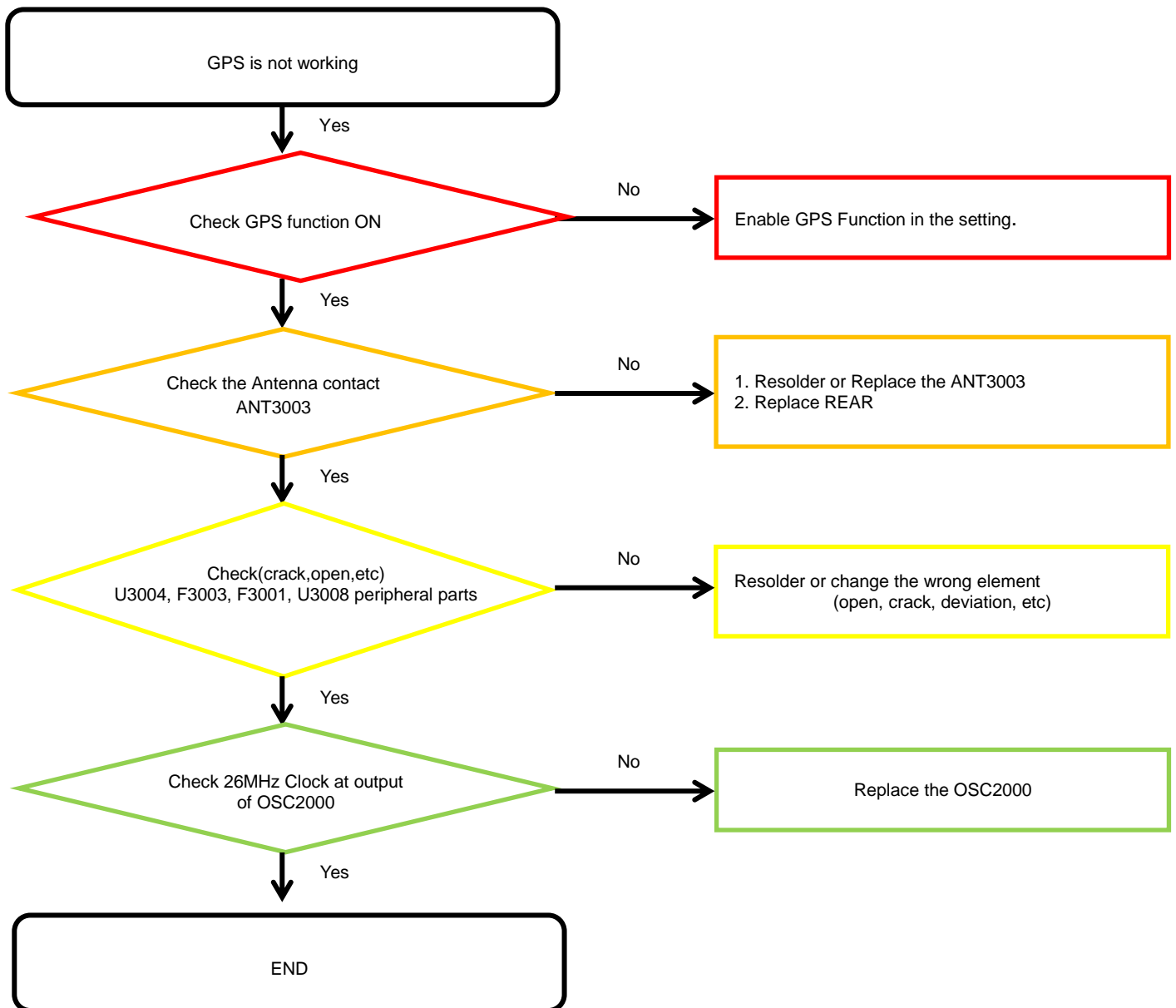


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## 8. Level 3 Repair

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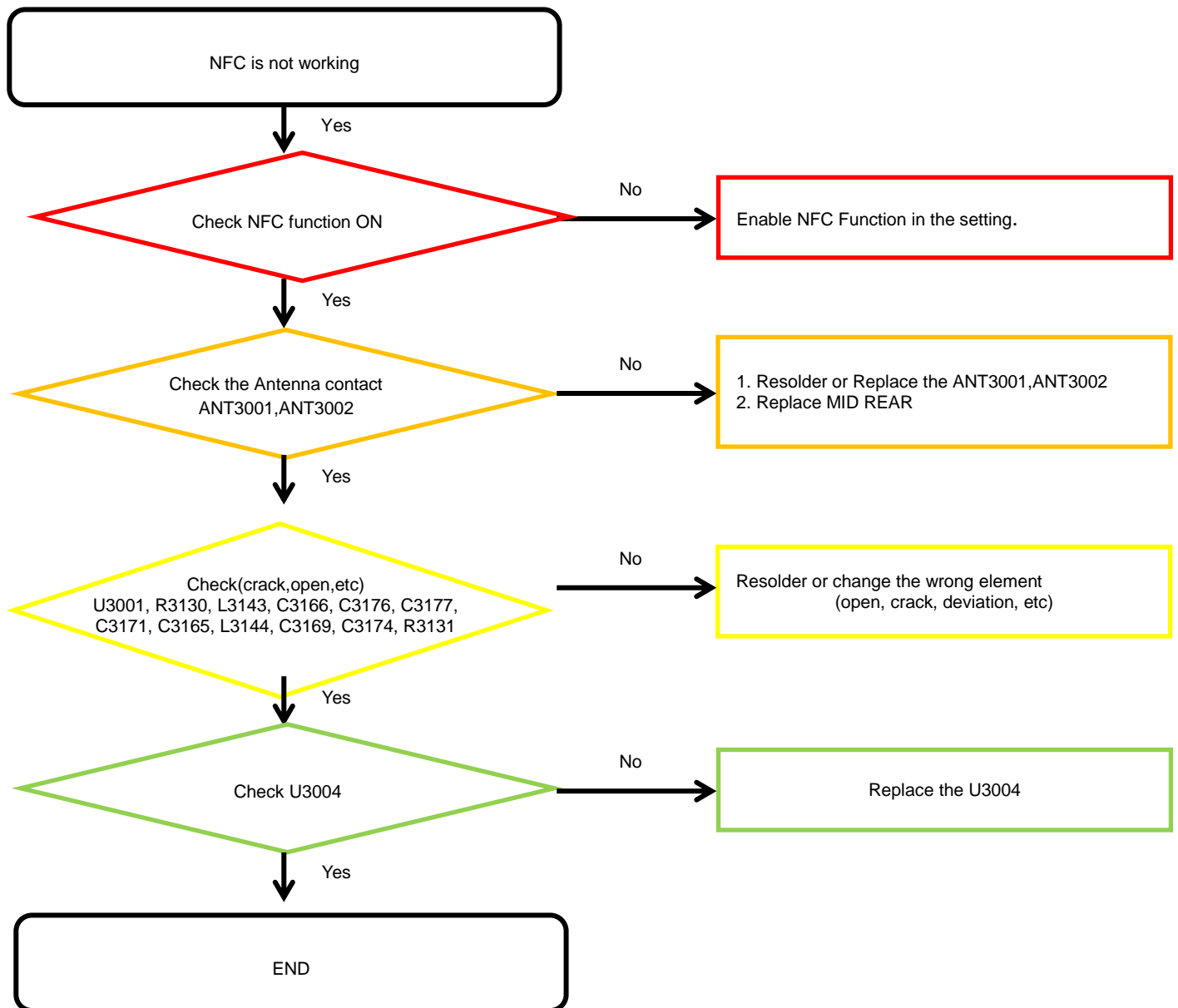
### 8-4-13. GPS





## 8. Level 3 Repair

### 8-4-14. NFC

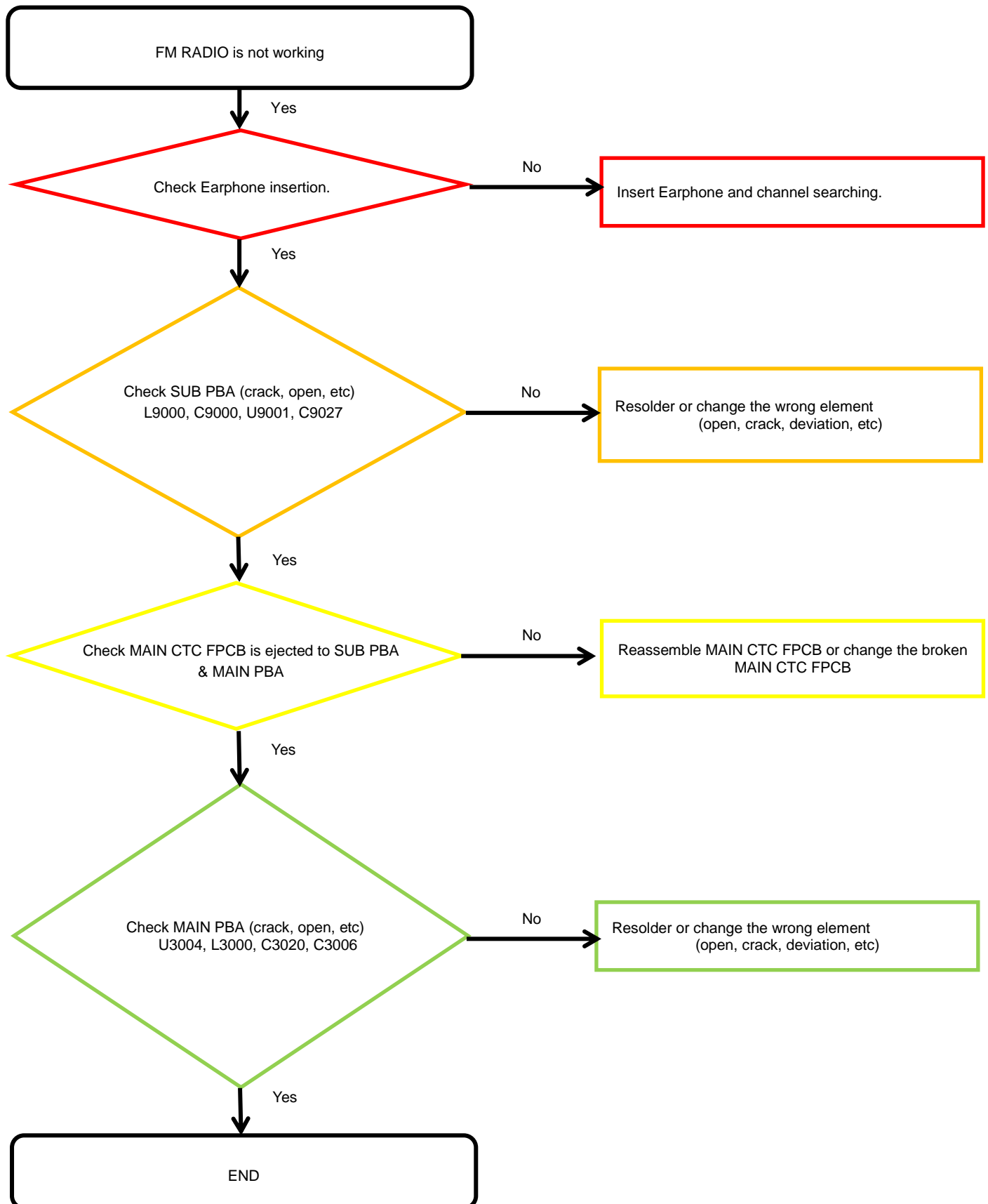


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## 8. Level 3 Repair

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### 8-4-15. FM RADIO

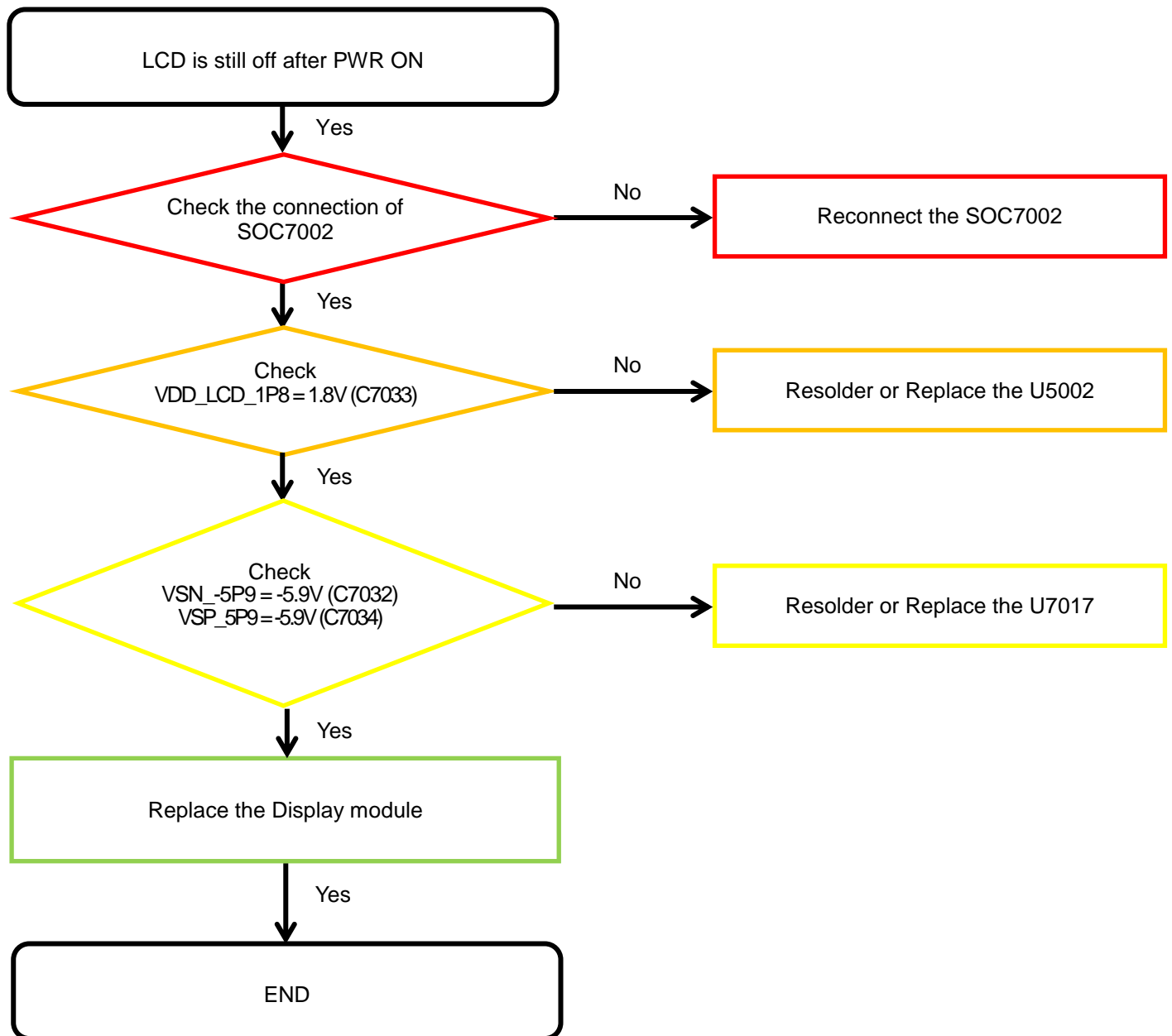


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## 8. Level 3 Repair

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### 8-4-16. Display

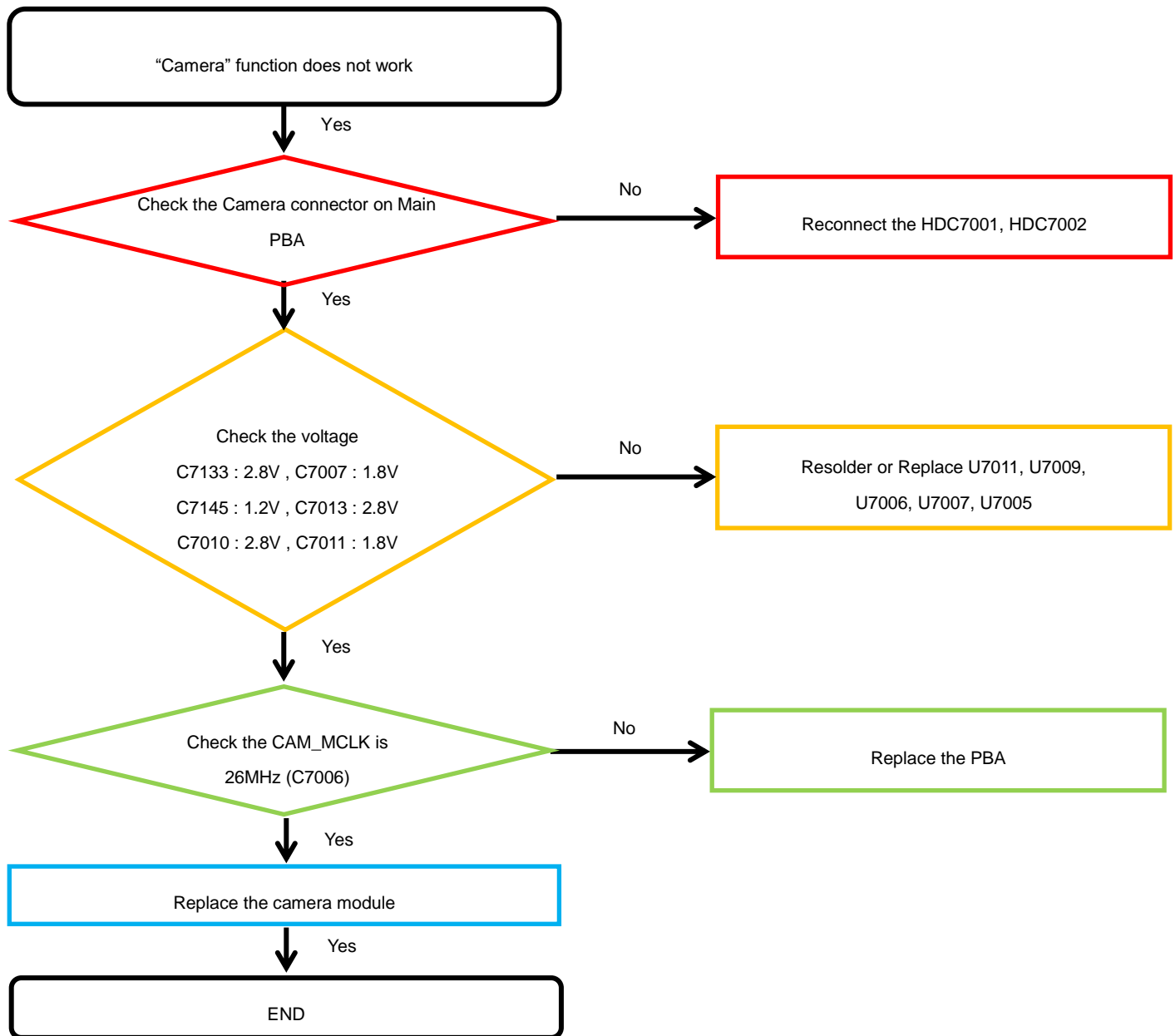


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## 8. Level 3 Repair

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### 8-4-17. 13M+5M REAR CAMERA

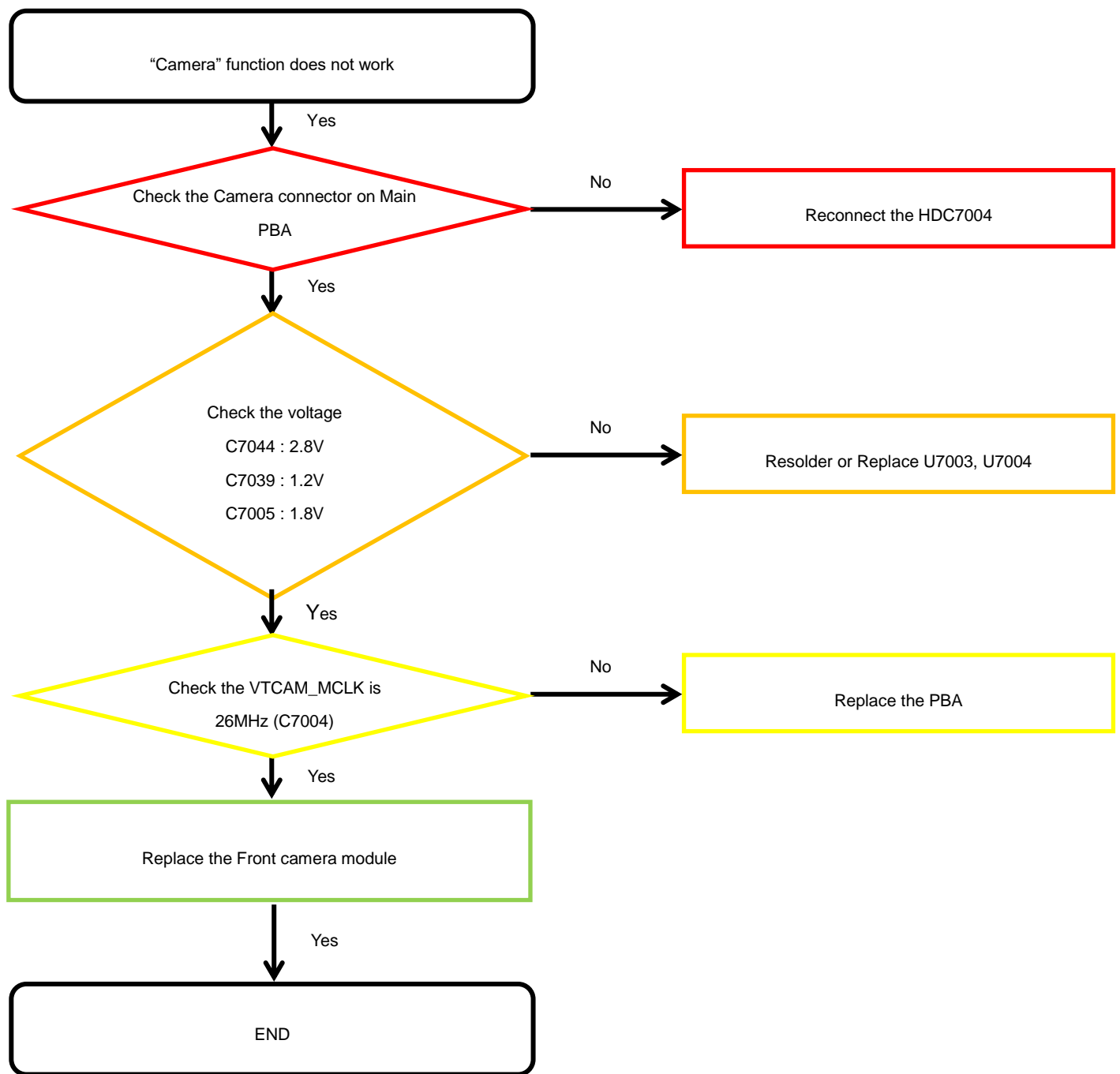


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## 8. Level 3 Repair

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### 8-4-18. 8M FRONT CAMERA

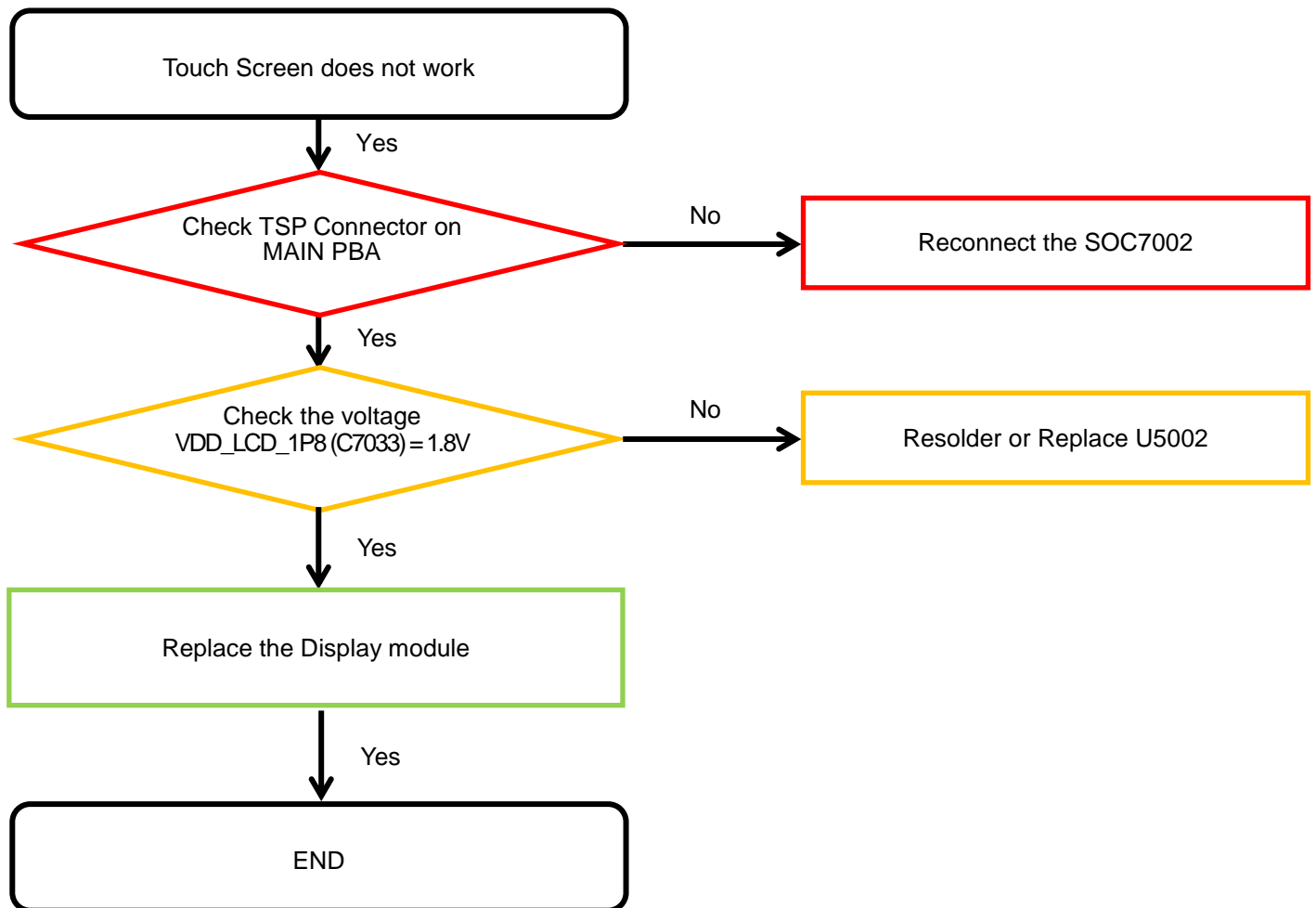


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## 8. Level 3 Repair

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### 8-4-19. TSP

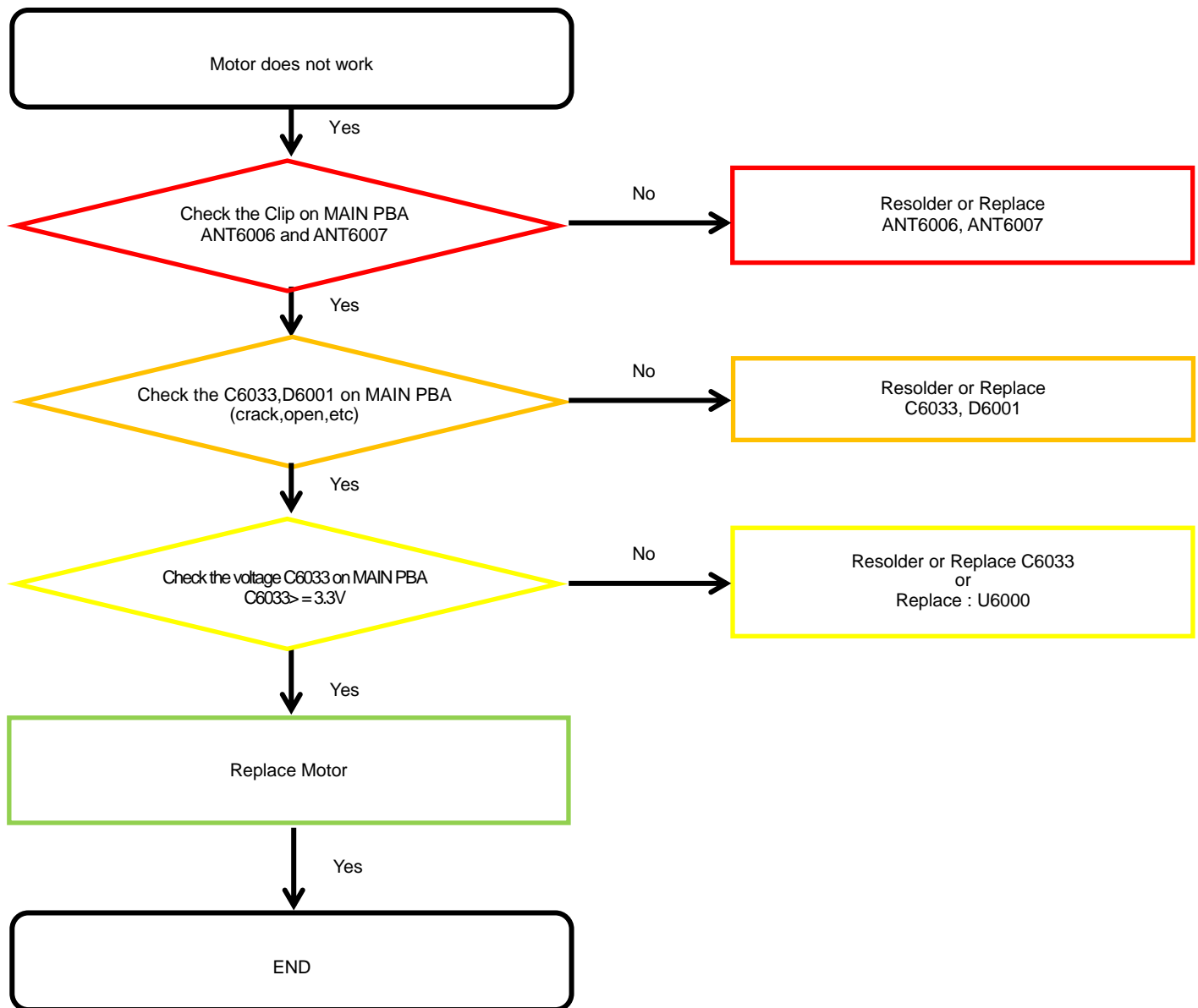


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## 8. Level 3 Repair

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### 8-4-20. Motor

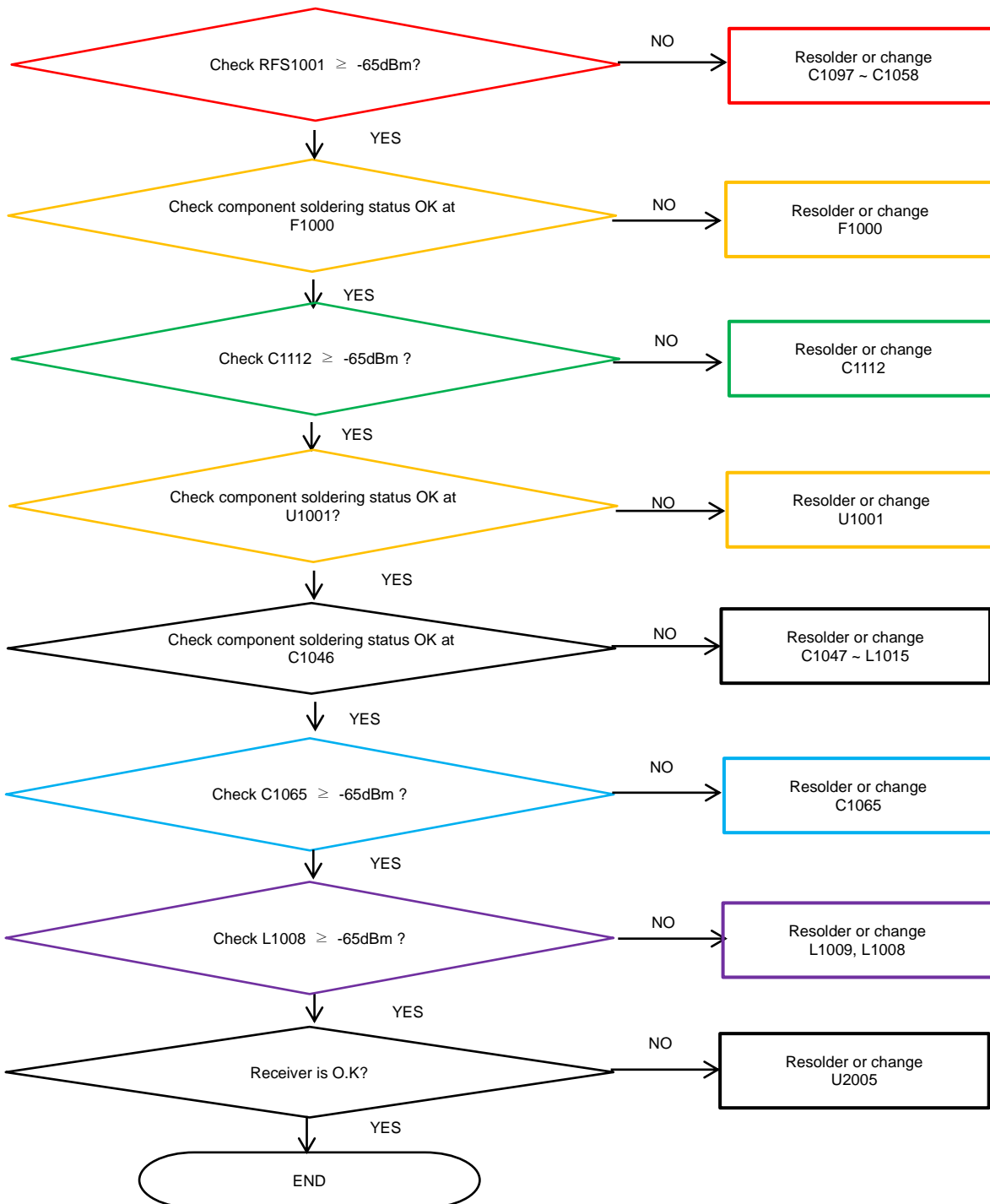


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## 8. Level 3 Repair

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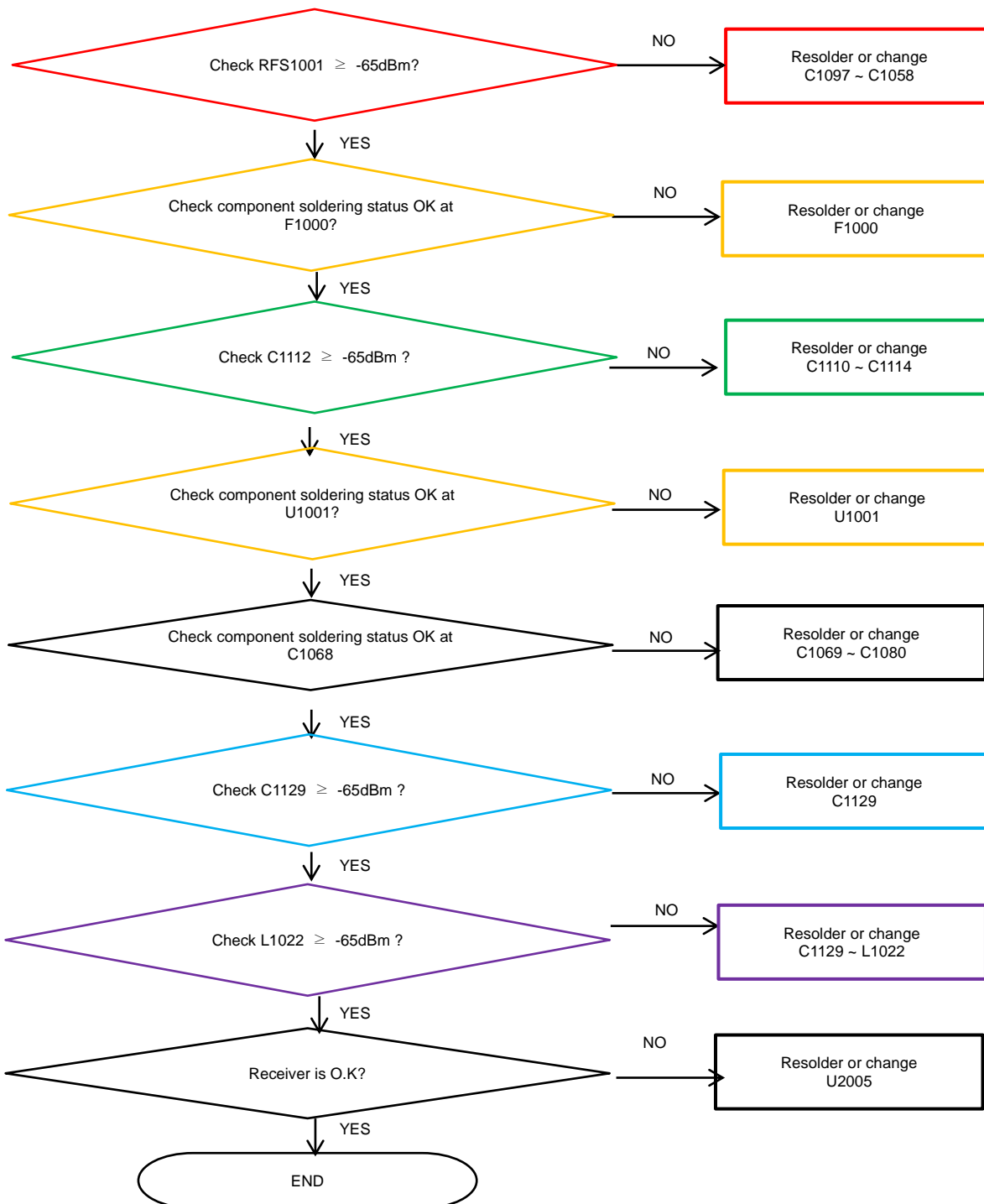
### 8-4-21. WCDMA B1 / LTE B1 Rx





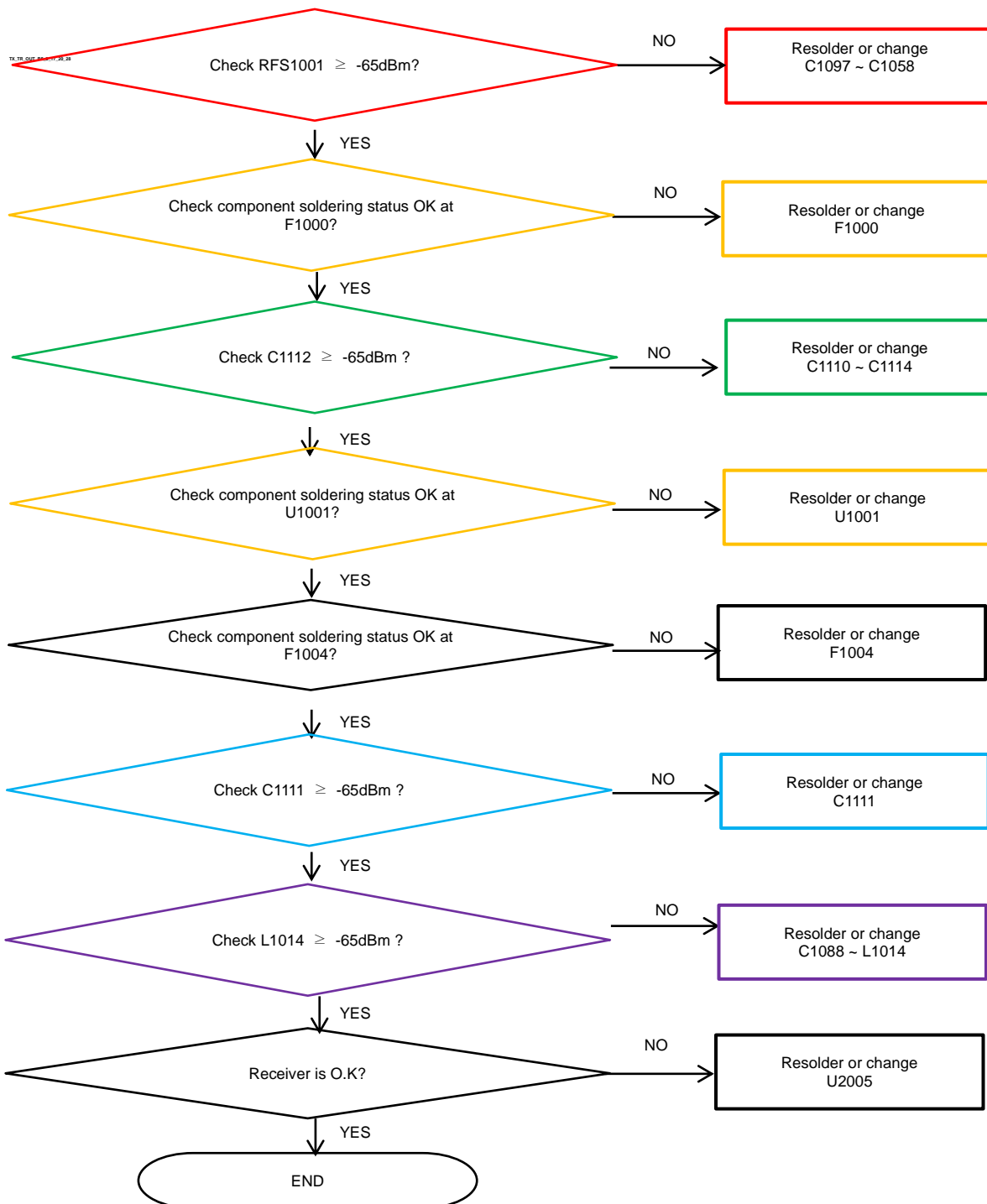
## 8. Level 3 Repair

### 8-4-22. PCS / WCDMA B2 / LTE B2 RX



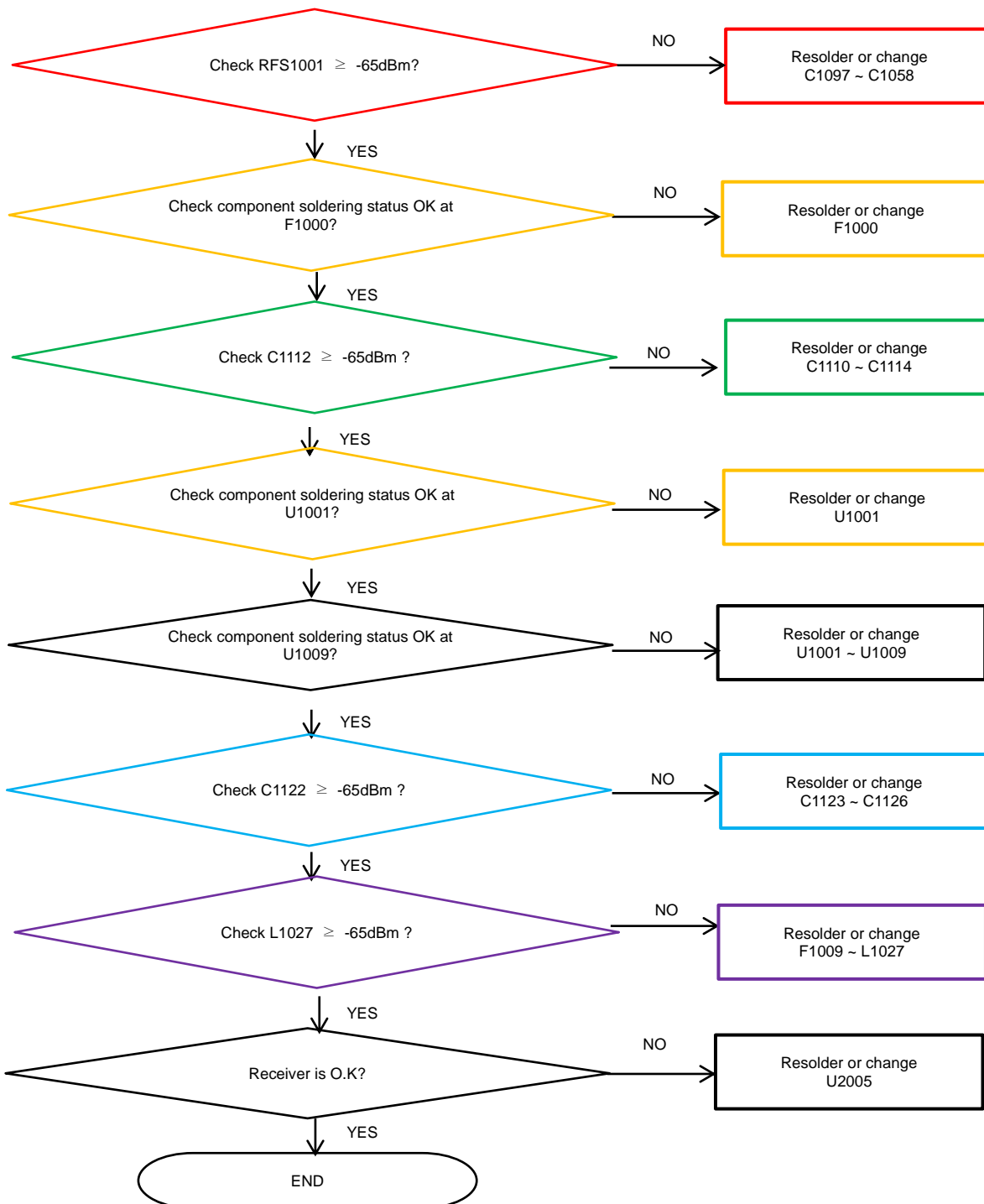
## 8. Level 3 Repair

### 8-4-23. LTE B3 / DCS RX



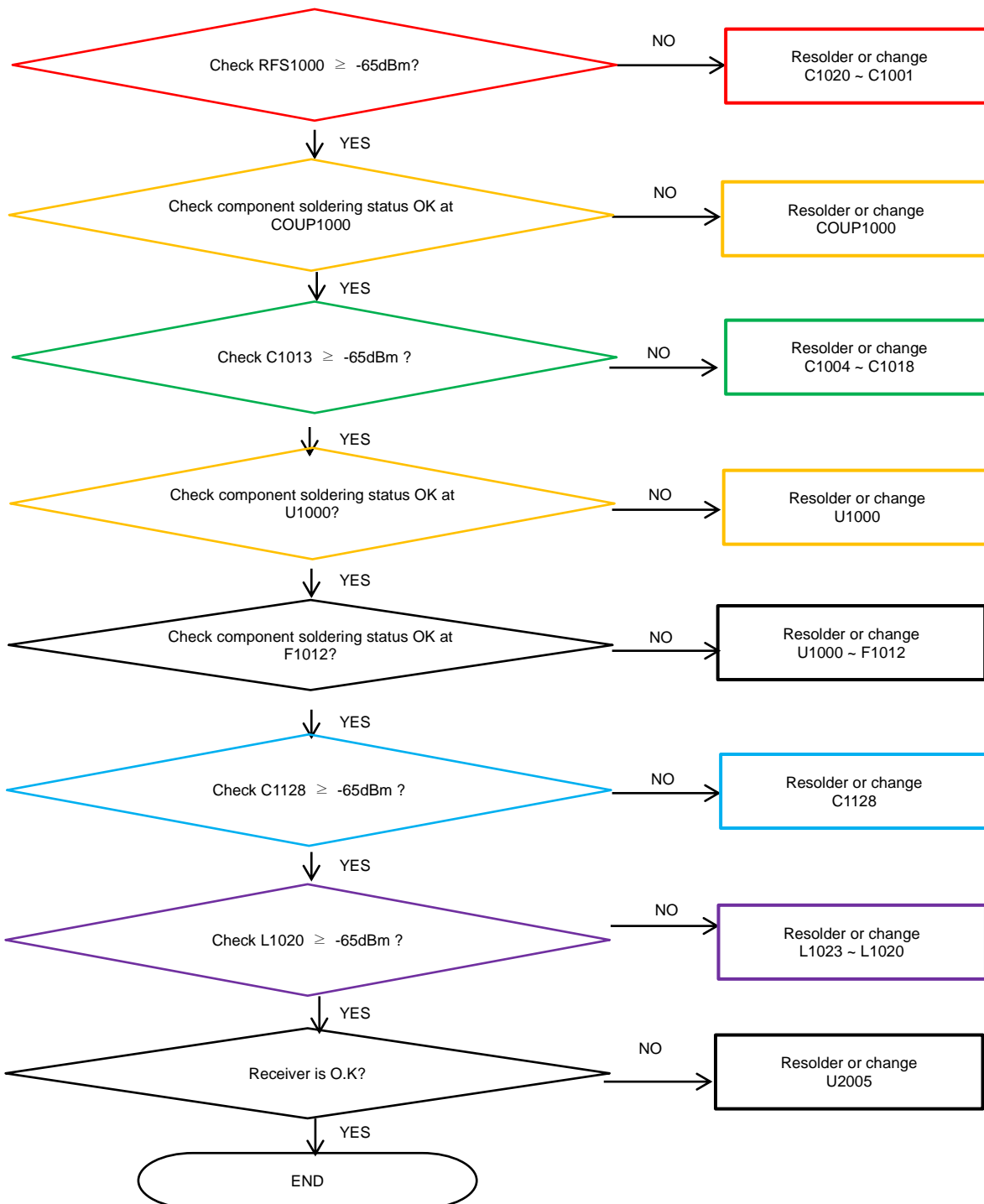
## 8. Level 3 Repair

### 8-4-24. LTE B4(B66) / WCDMA B4 RX



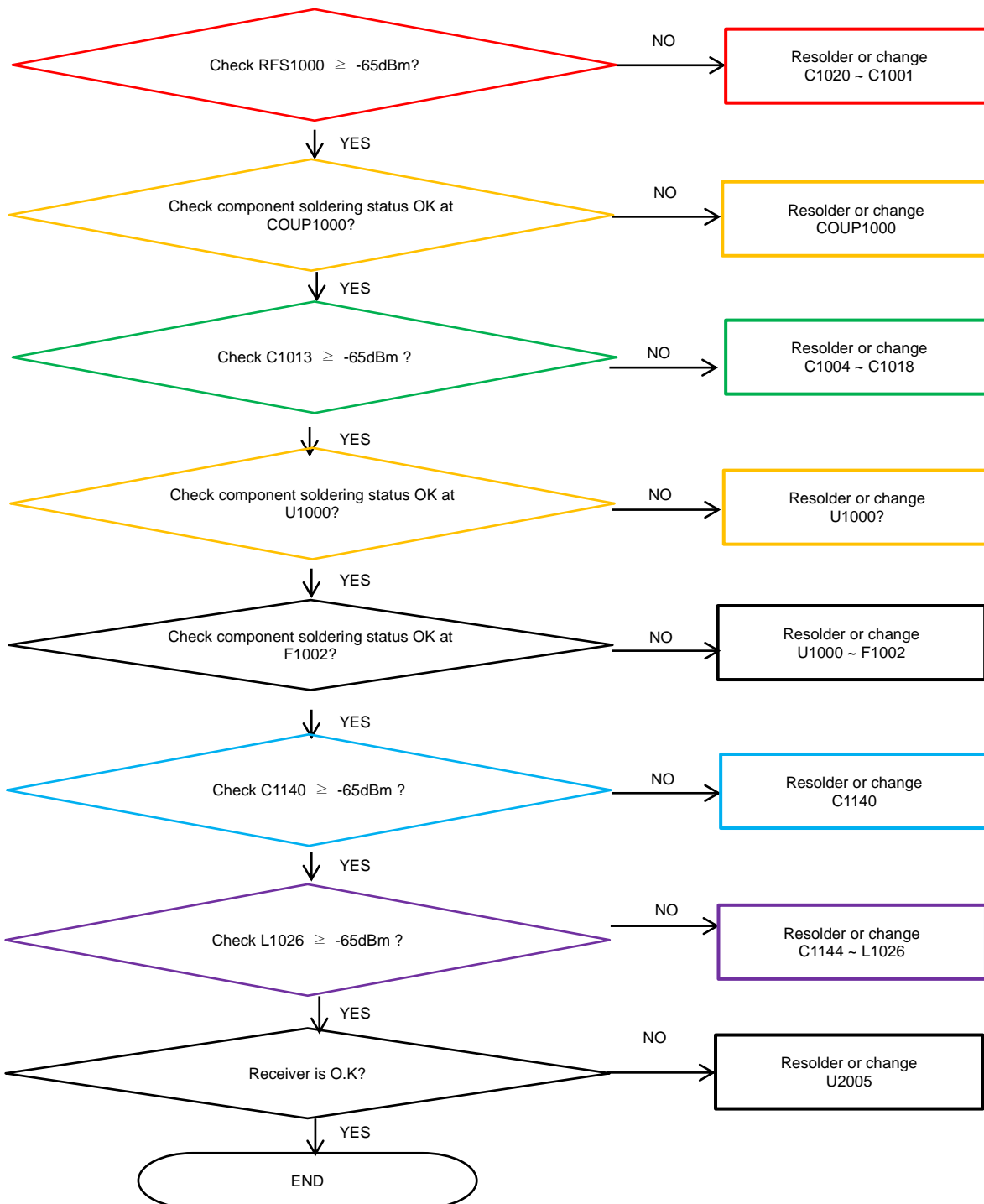
## 8. Level 3 Repair

### 8-4-25. LTE, WCDMA B5 / GSM850 RX



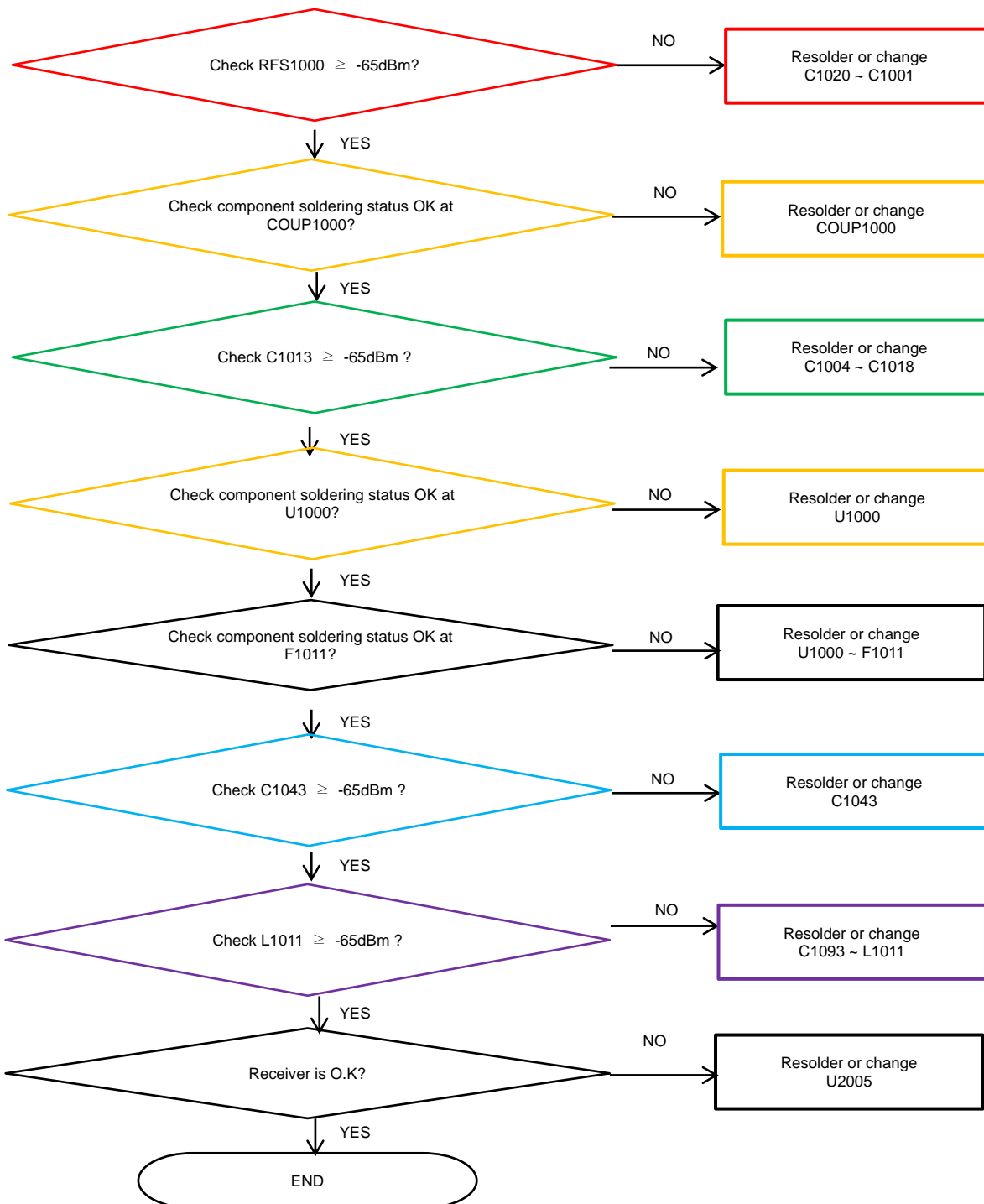
## 8. Level 3 Repair

### 8-4-26. LTE B8, WCDMA B8 / EGSM RX



## 8. Level 3 Repair

### 8-4-27. LTE B20 RX

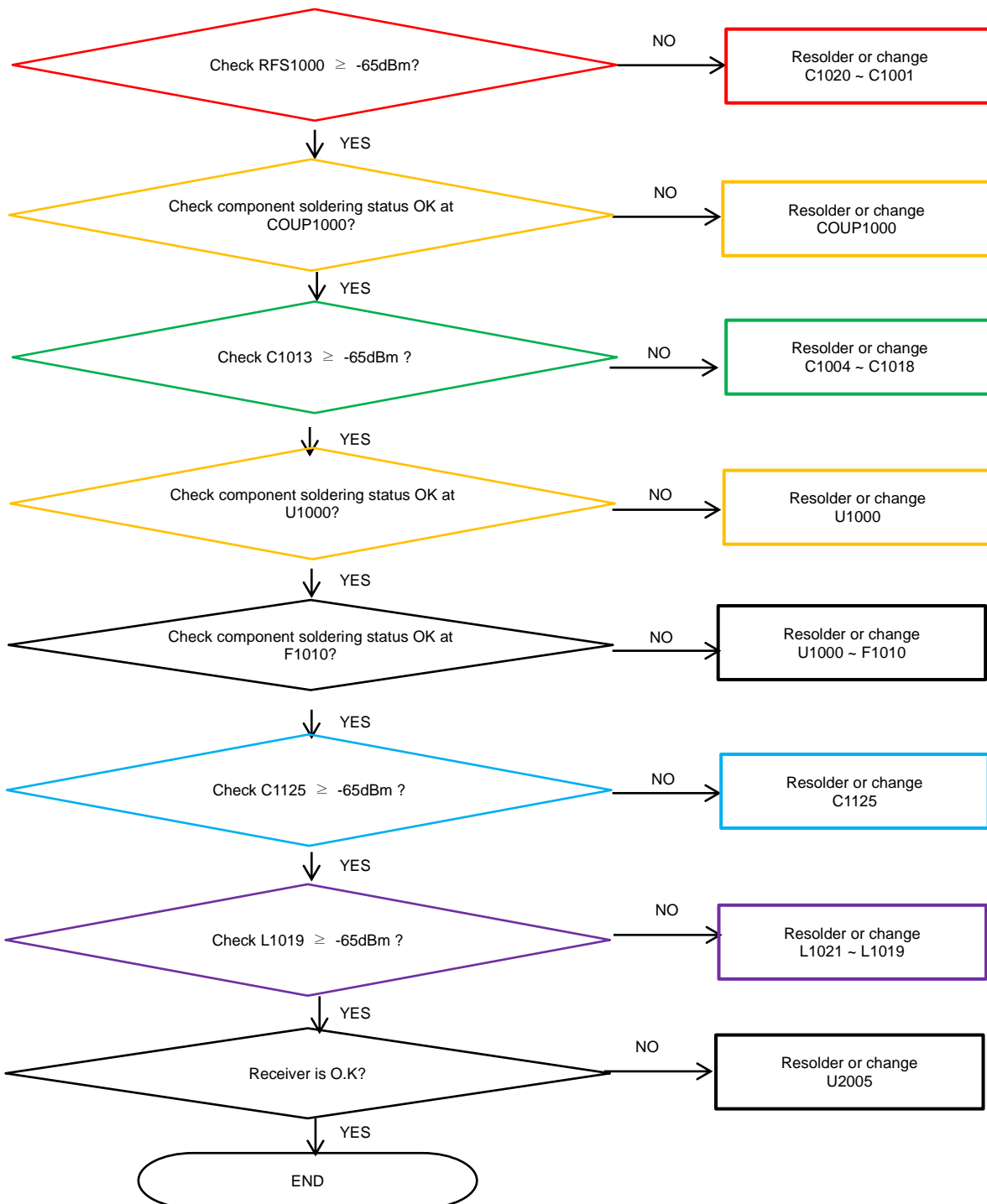


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## 8. Level 3 Repair

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### 8-4-28. LTE B17 RX

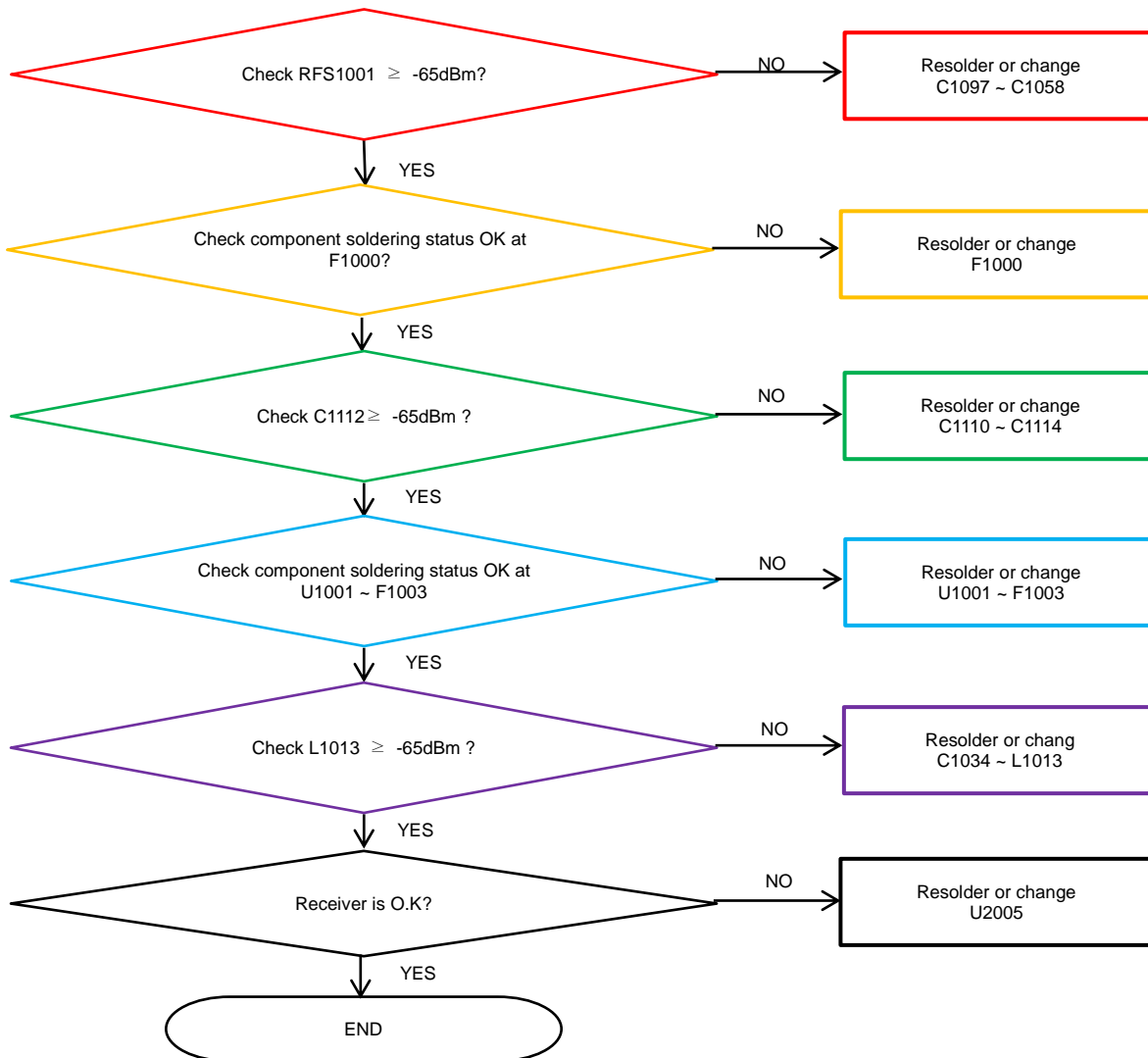


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## 8. Level 3 Repair

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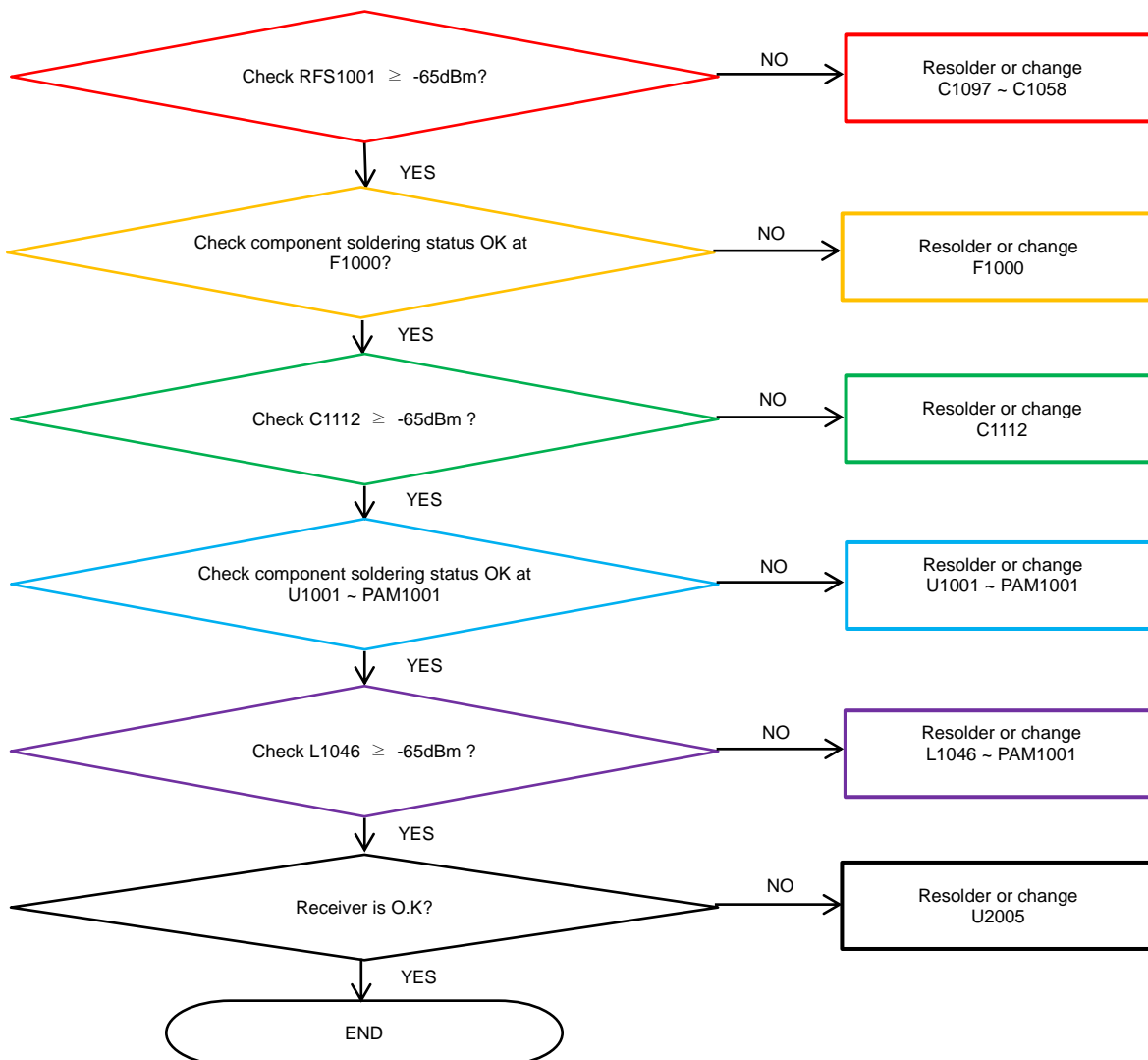
### 8-4-29. LTE B7 RX





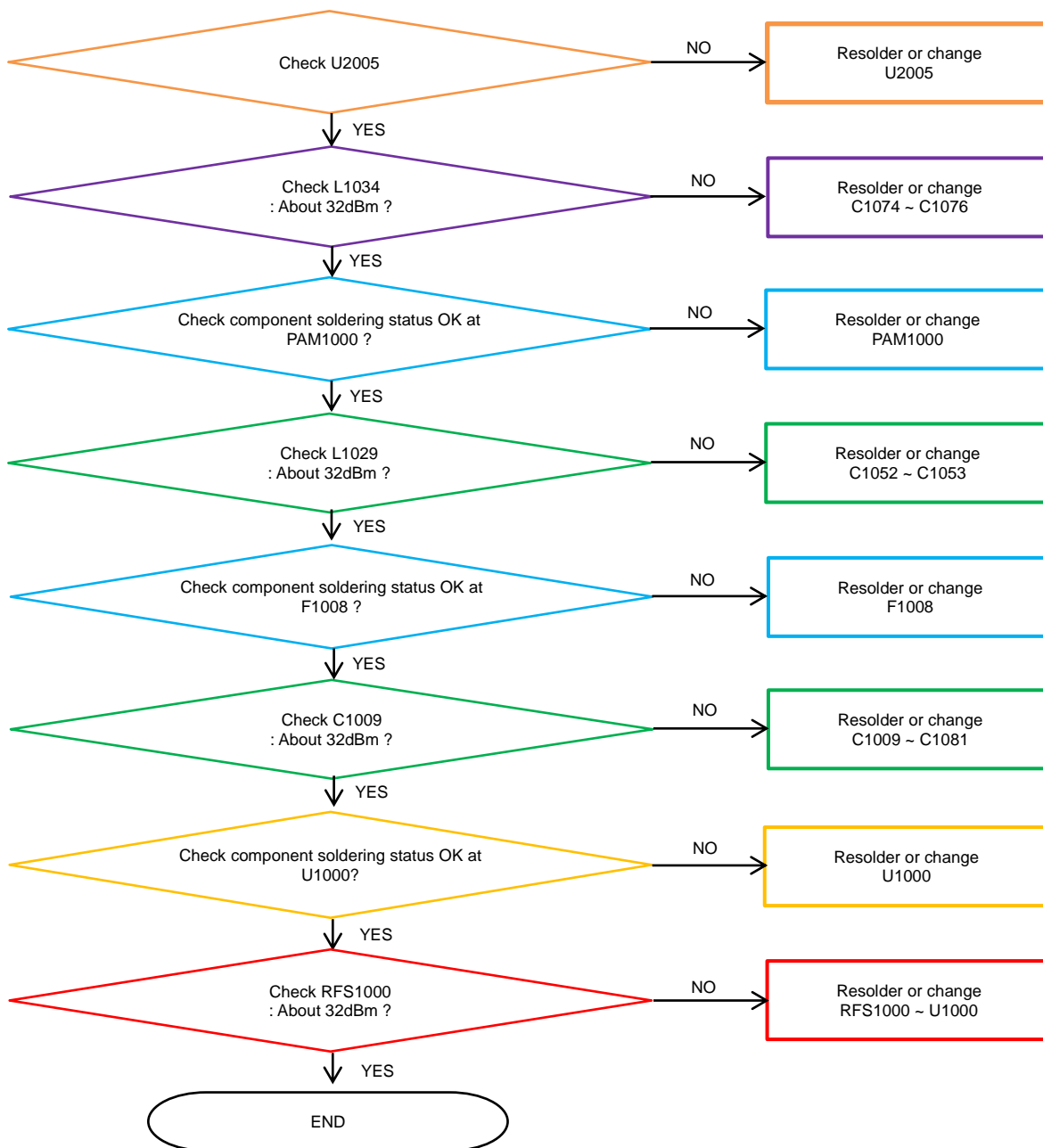
## 8. Level 3 Repair

### 8-4-30. LTE B40 RX



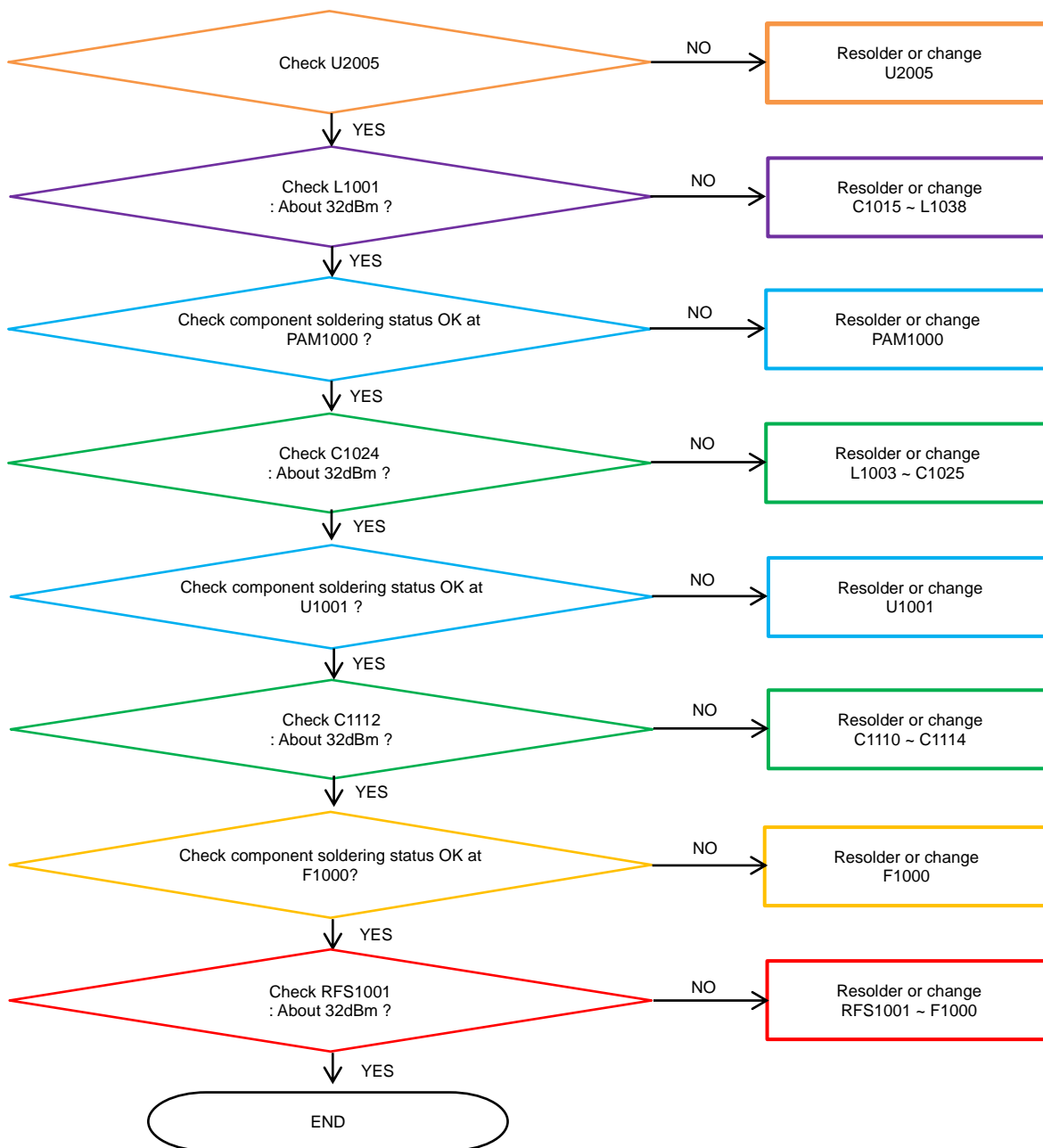
## 8. Level 3 Repair

### 8-4-31. GSM 850 / GSM900 TX



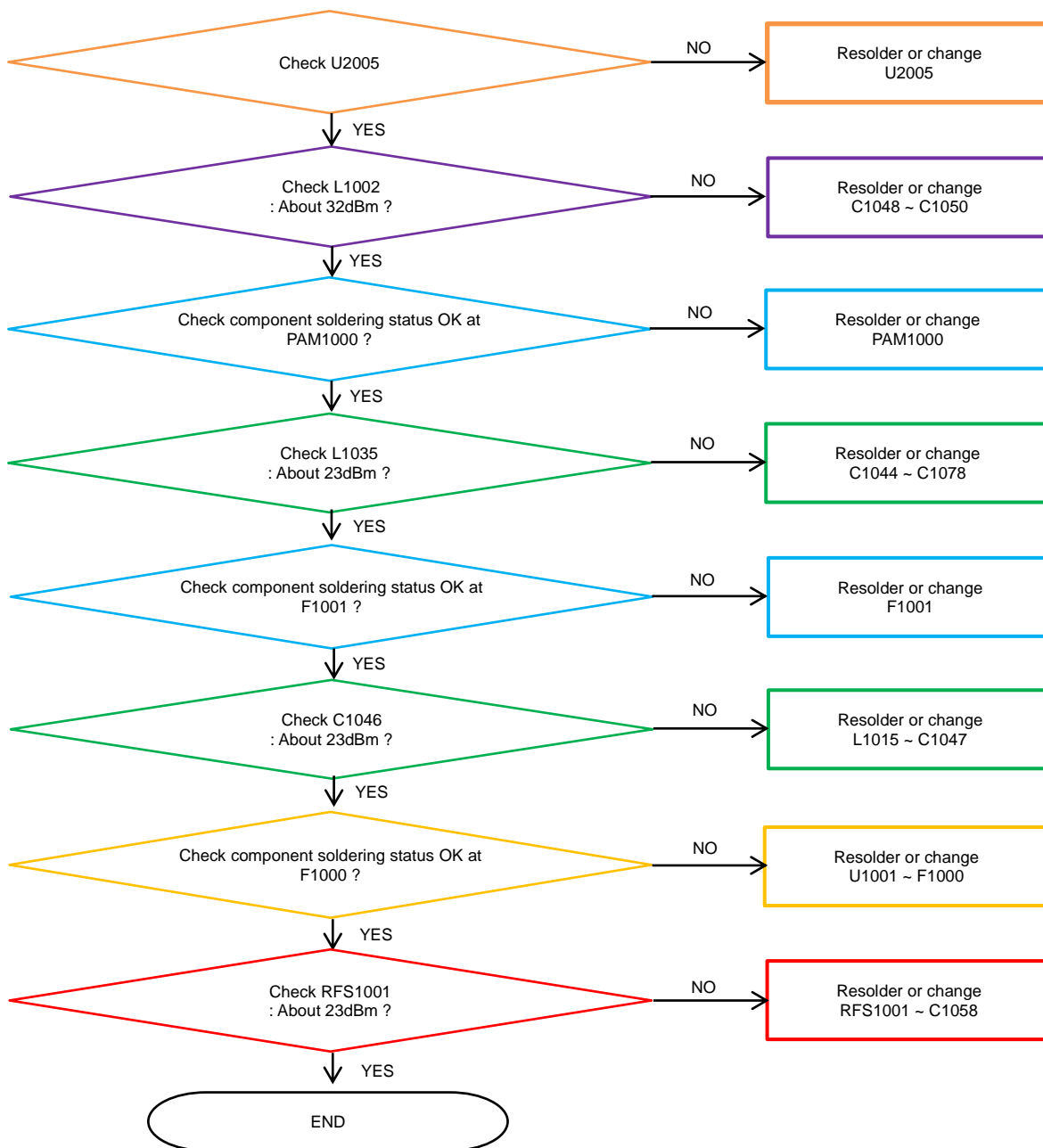
## 8. Level 3 Repair

### 8-4-32. GSM1800/ GSM1900 TX



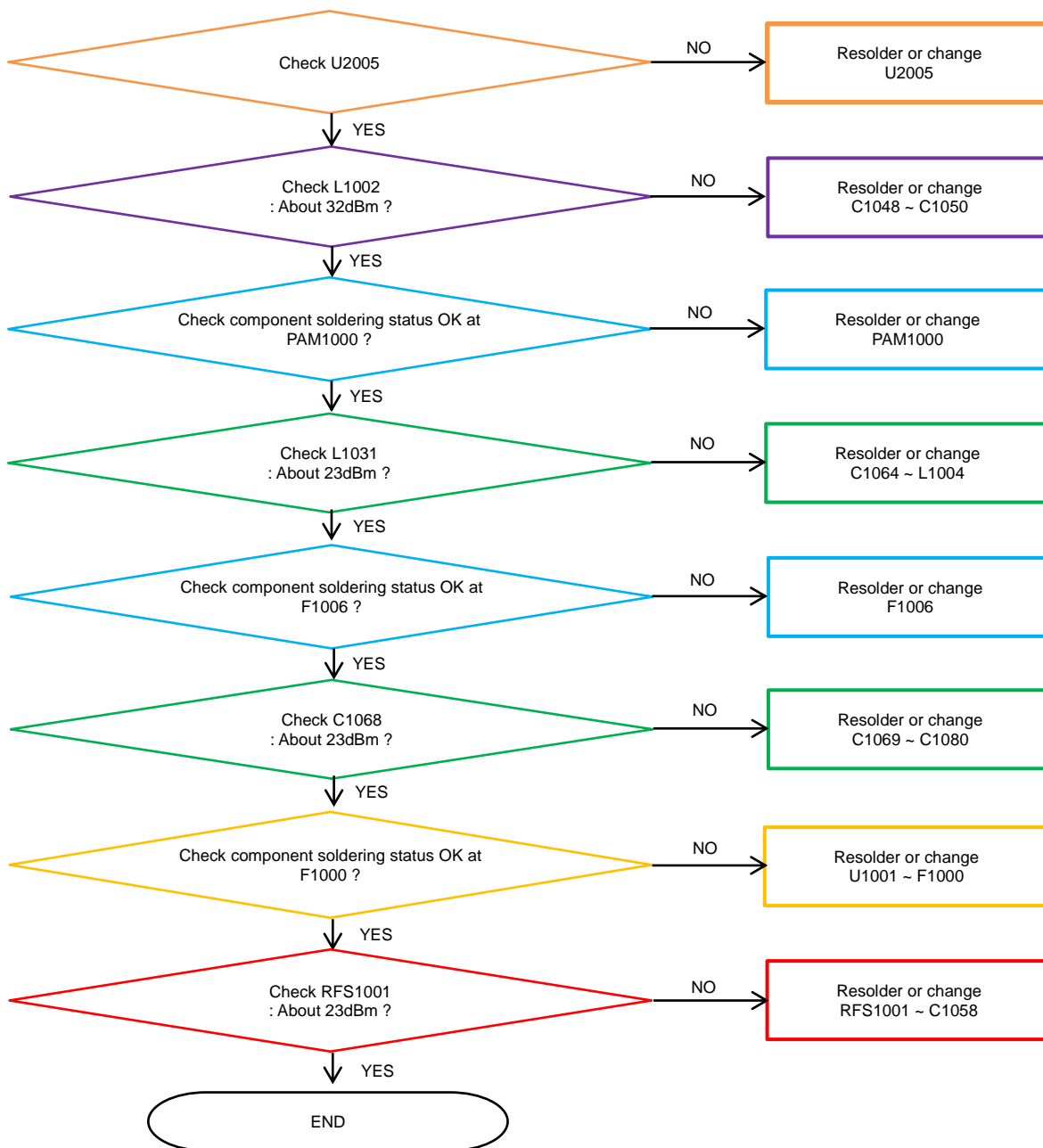
## 8. Level 3 Repair

### 8-4-33. LTE, WCDMA B1 TX



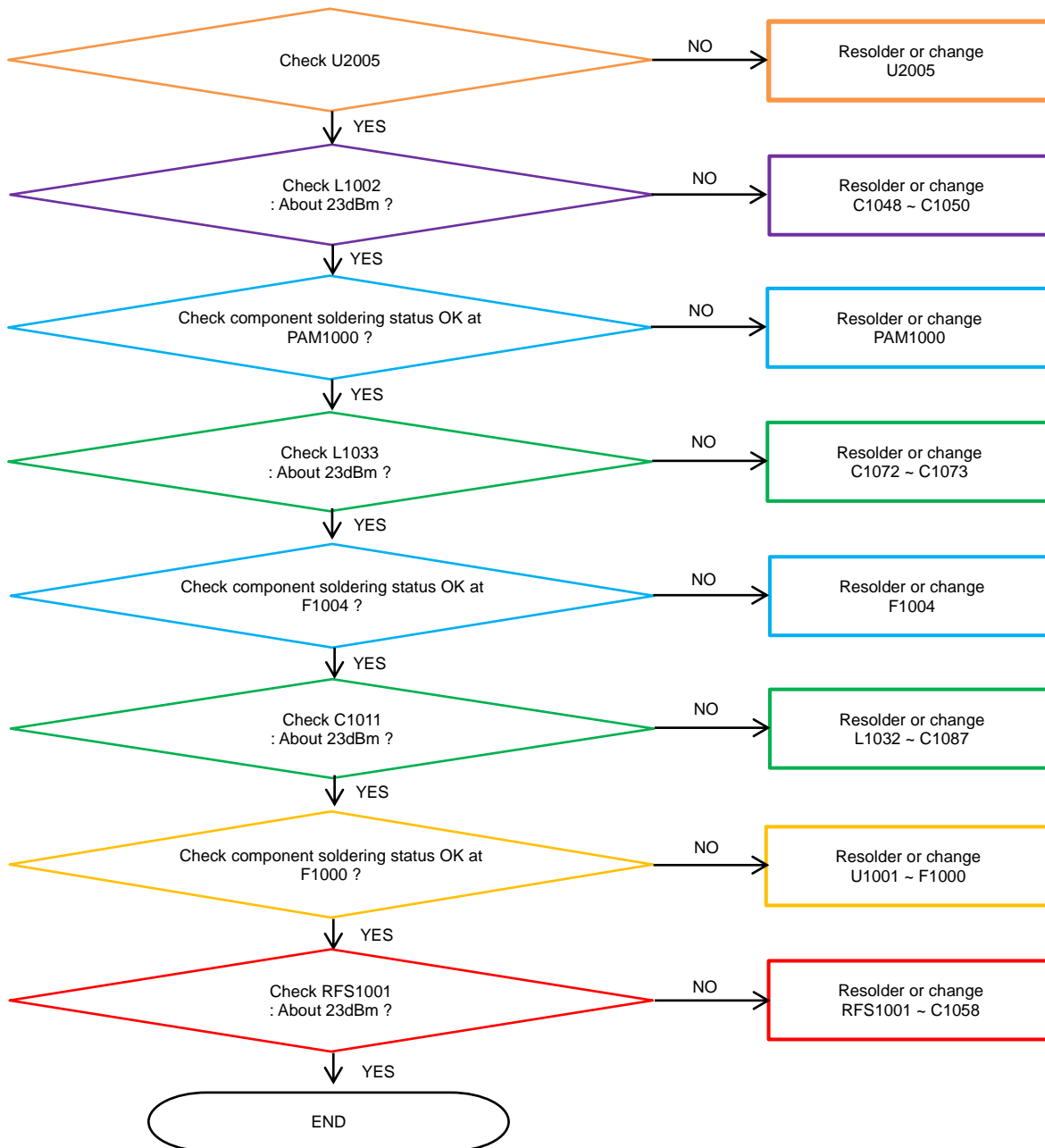
## 8. Level 3 Repair

### 8-4-34. WCDMA B2 TX, LTE B2



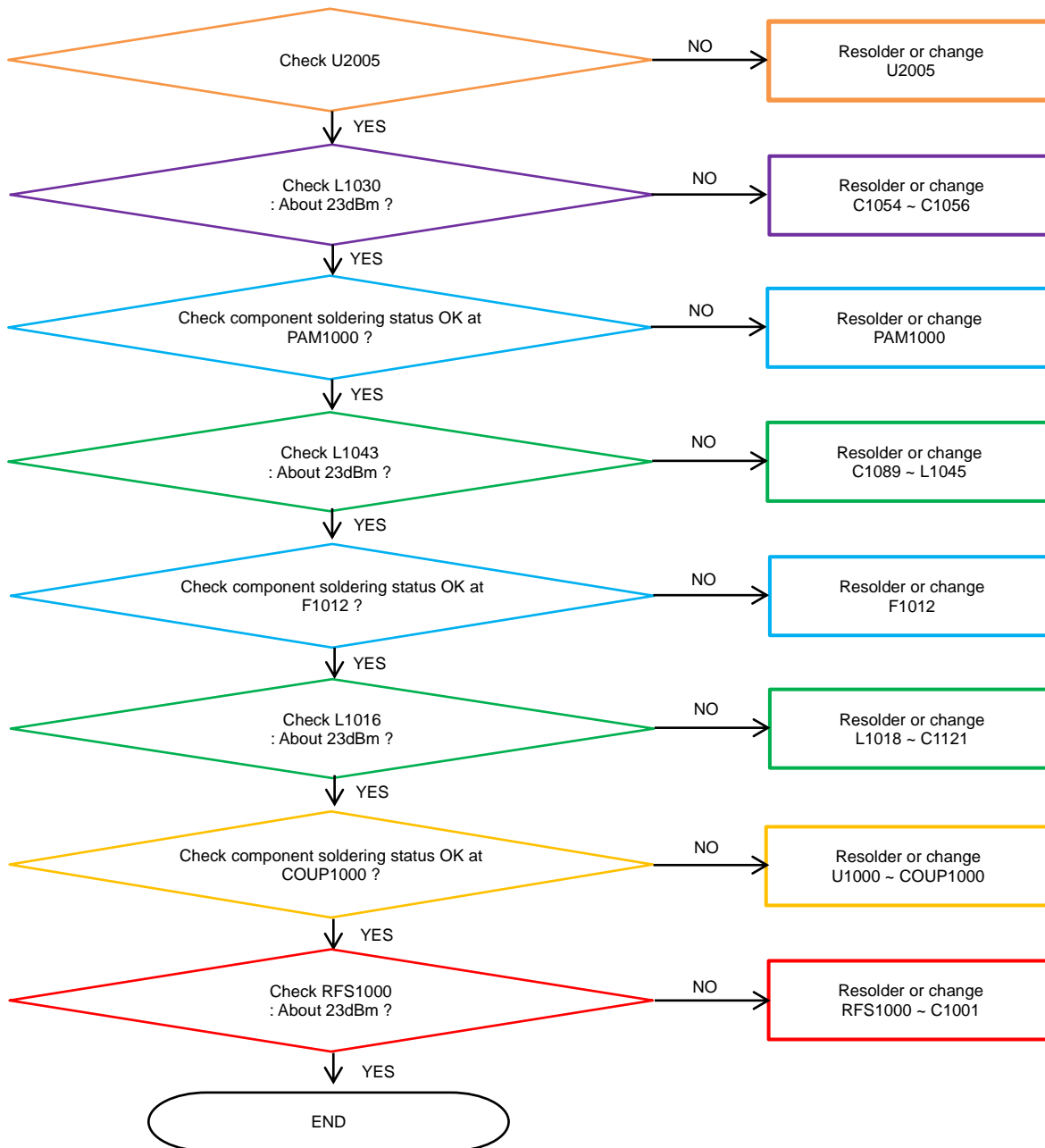
## 8. Level 3 Repair

### 8-4-35. LTE B3 TX



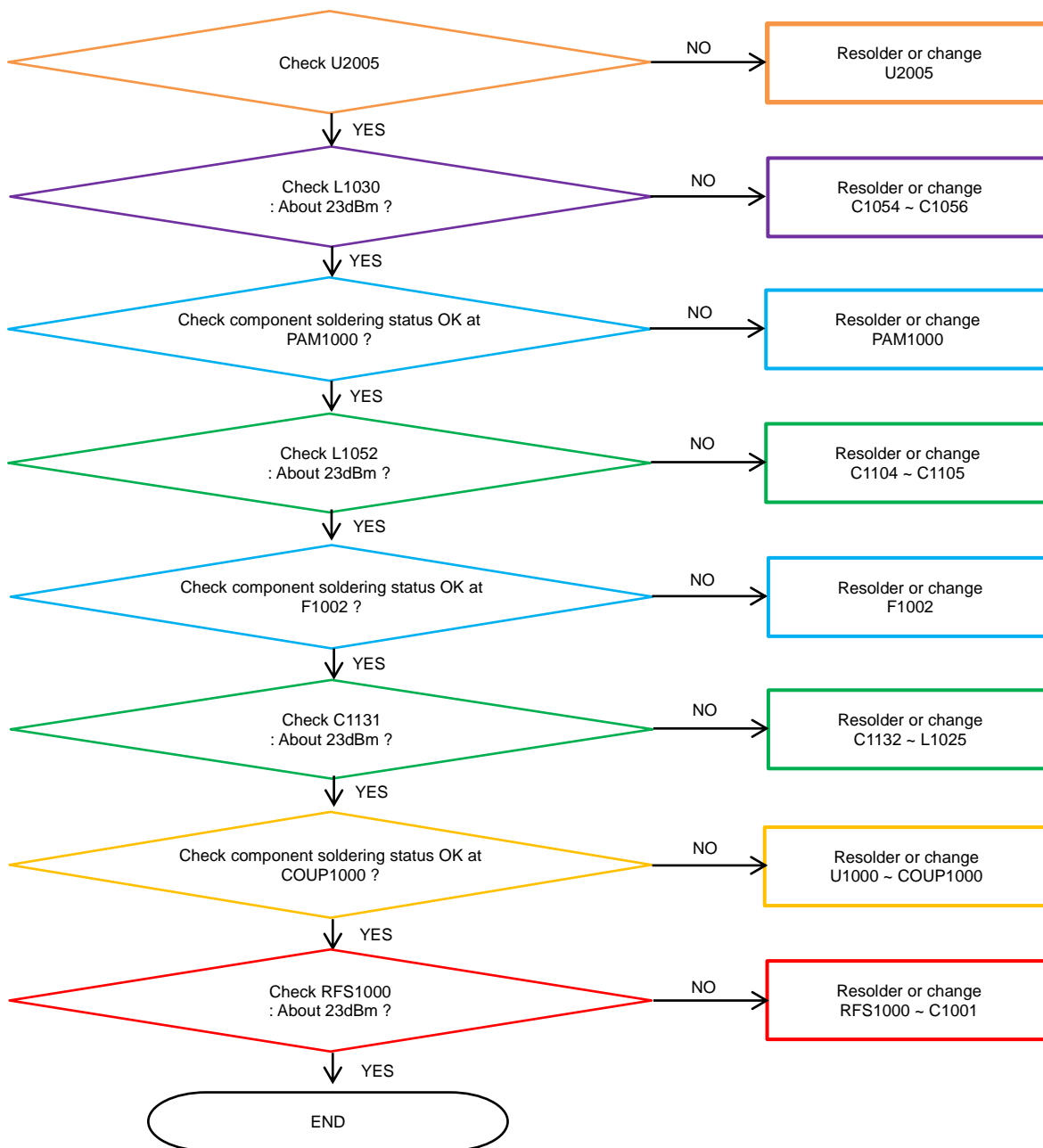
## 8. Level 3 Repair

### 8-4-36. LTE B5, WCDMA B5 TX



## 8. Level 3 Repair

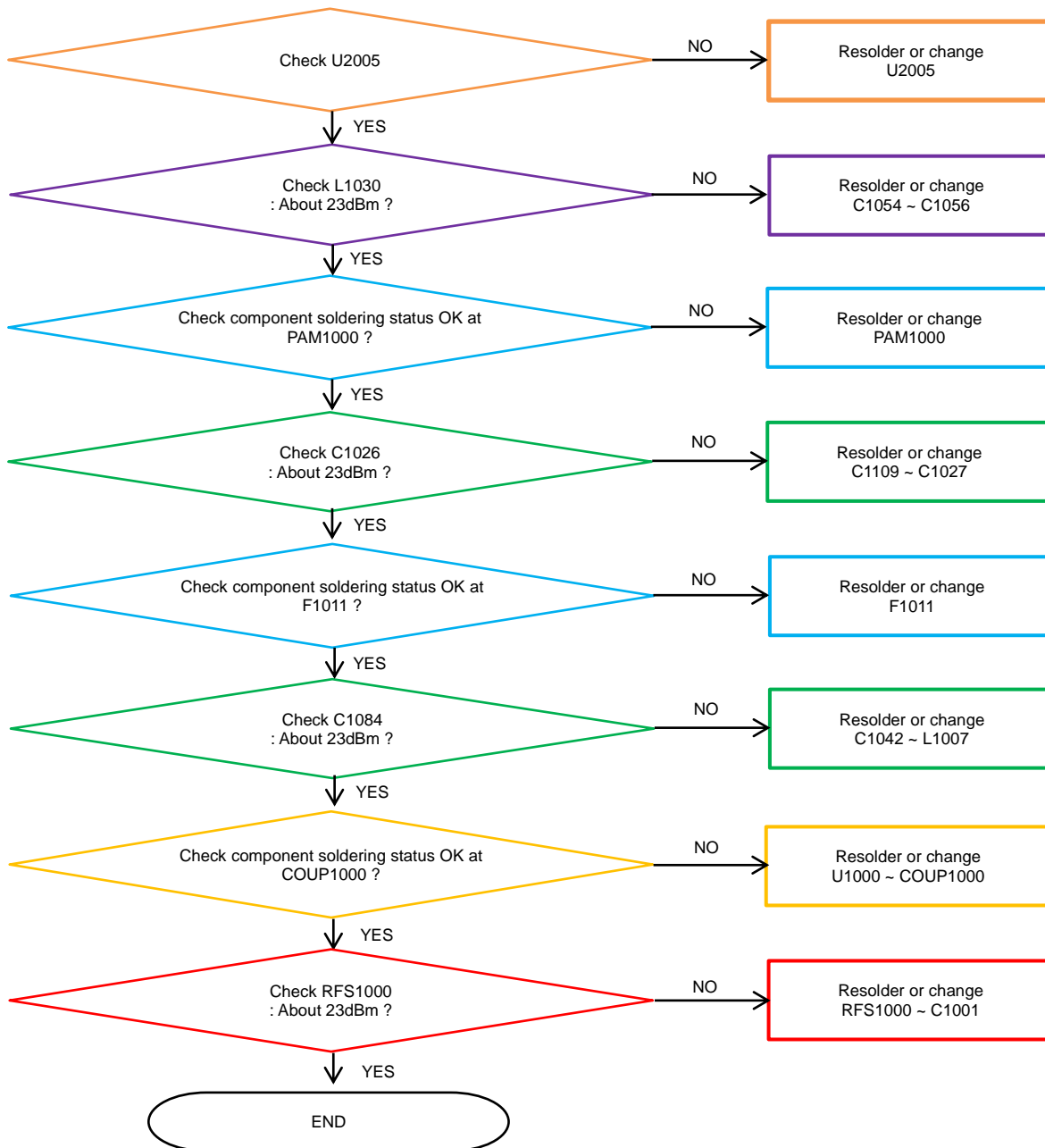
### 8-4-37. LTE, WCDMA B8 TX





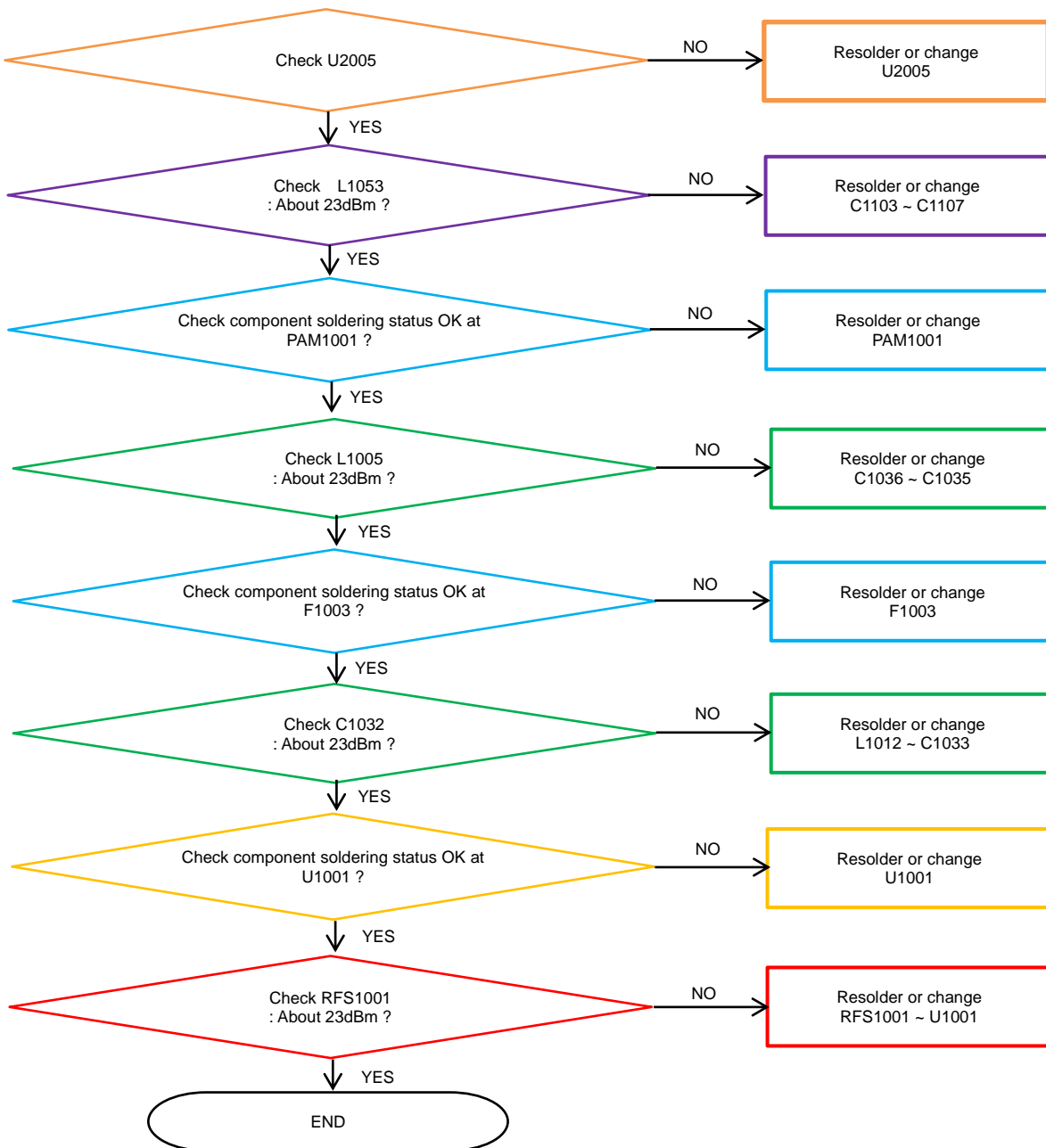
## 8. Level 3 Repair

### 8-4-38. LTE B20 TX



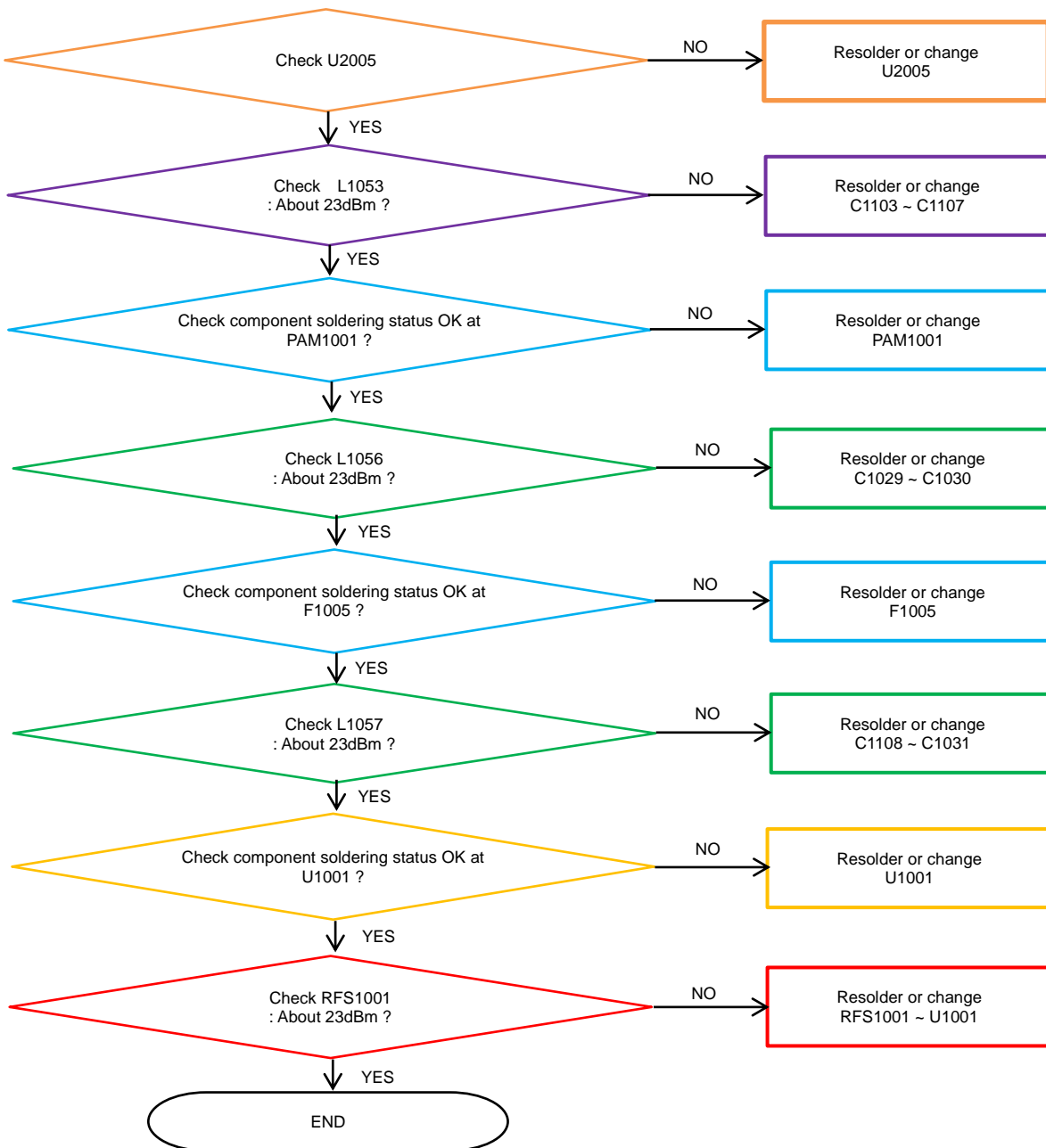
## 8. Level 3 Repair

### 8-4-39. LTE B7 TX



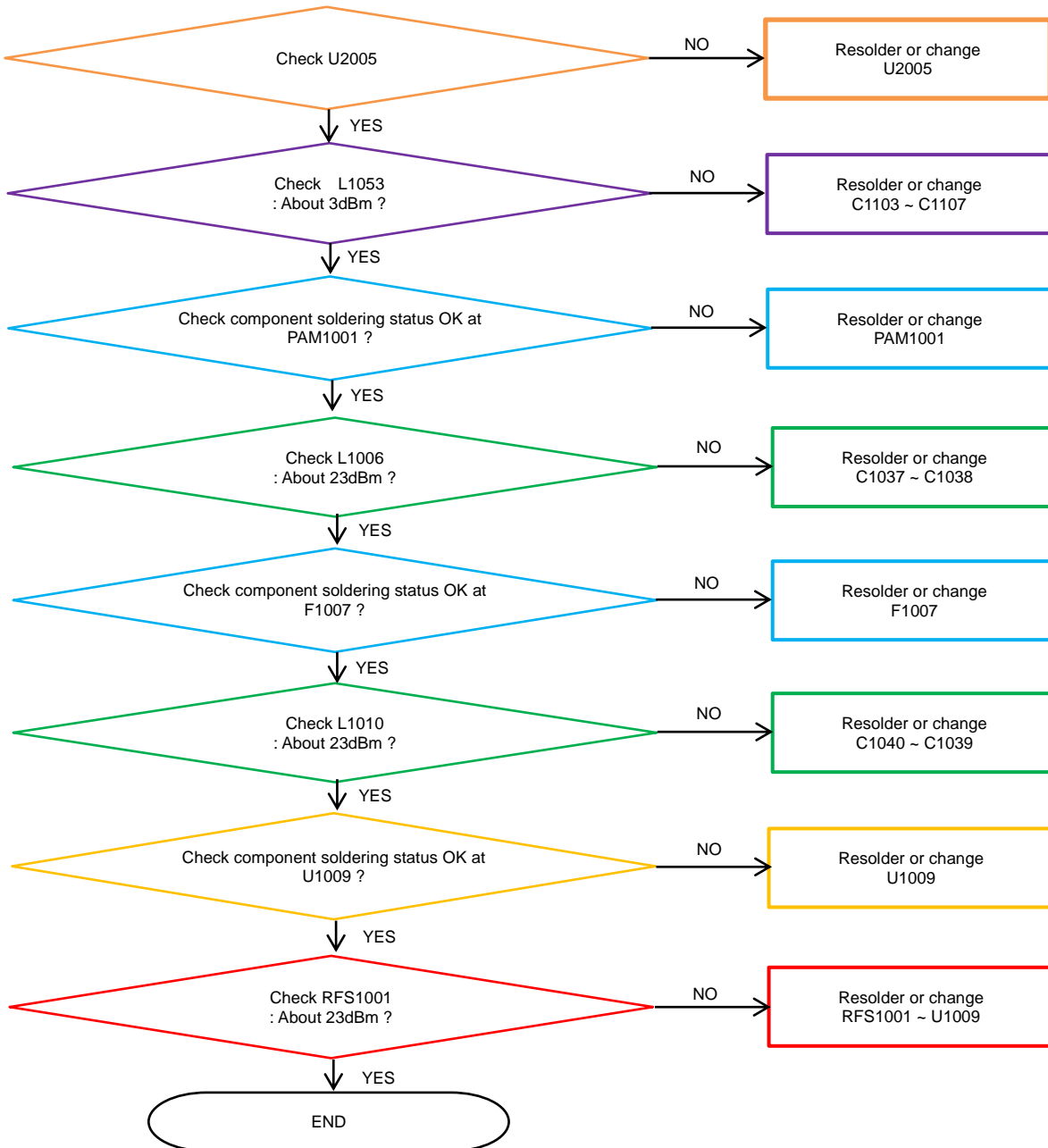
## 8. Level 3 Repair

### 8-4-40. LTE B38, 41 TX



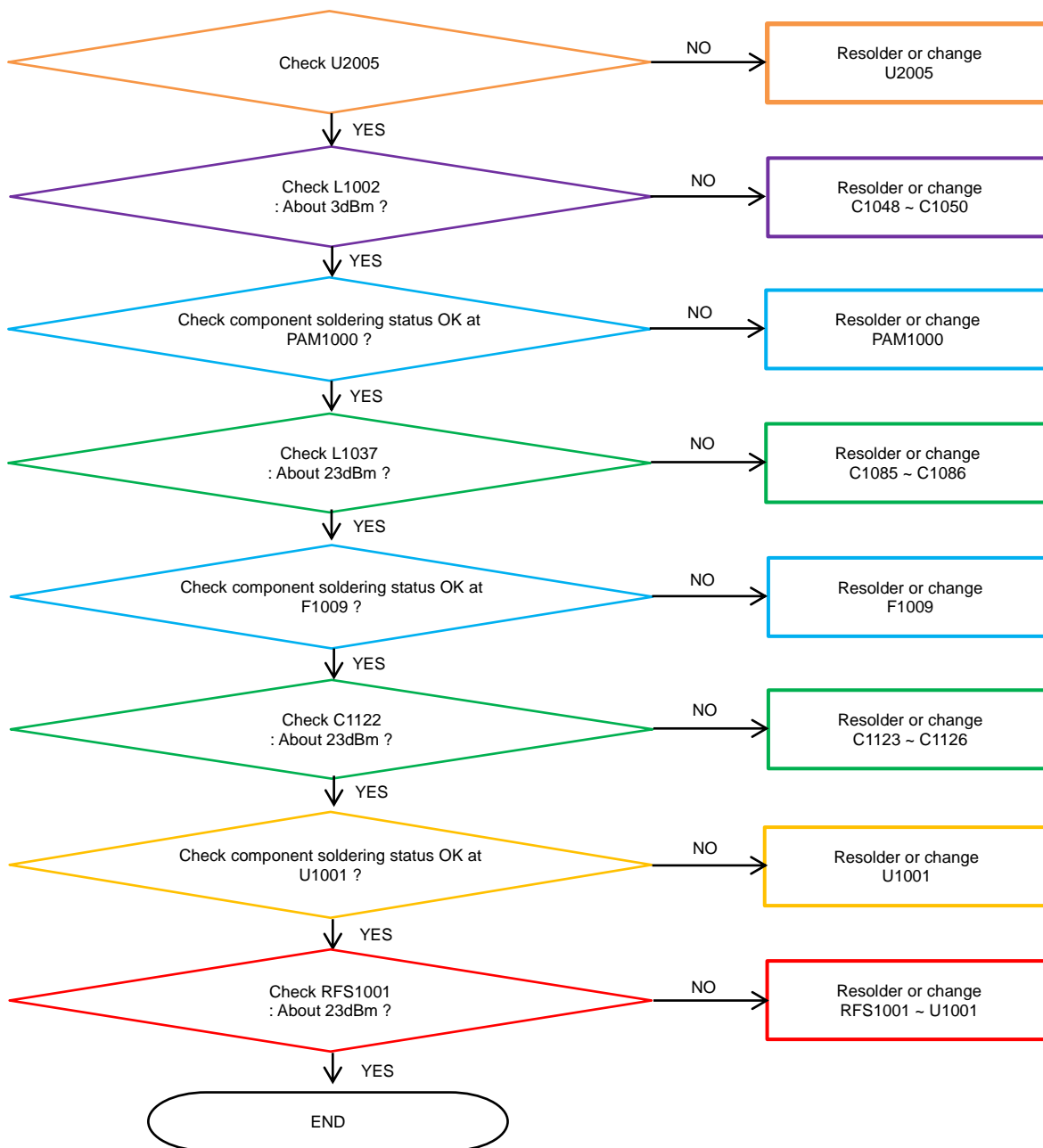
## 8. Level 3 Repair

### 8-4-41. LTE B40 TX



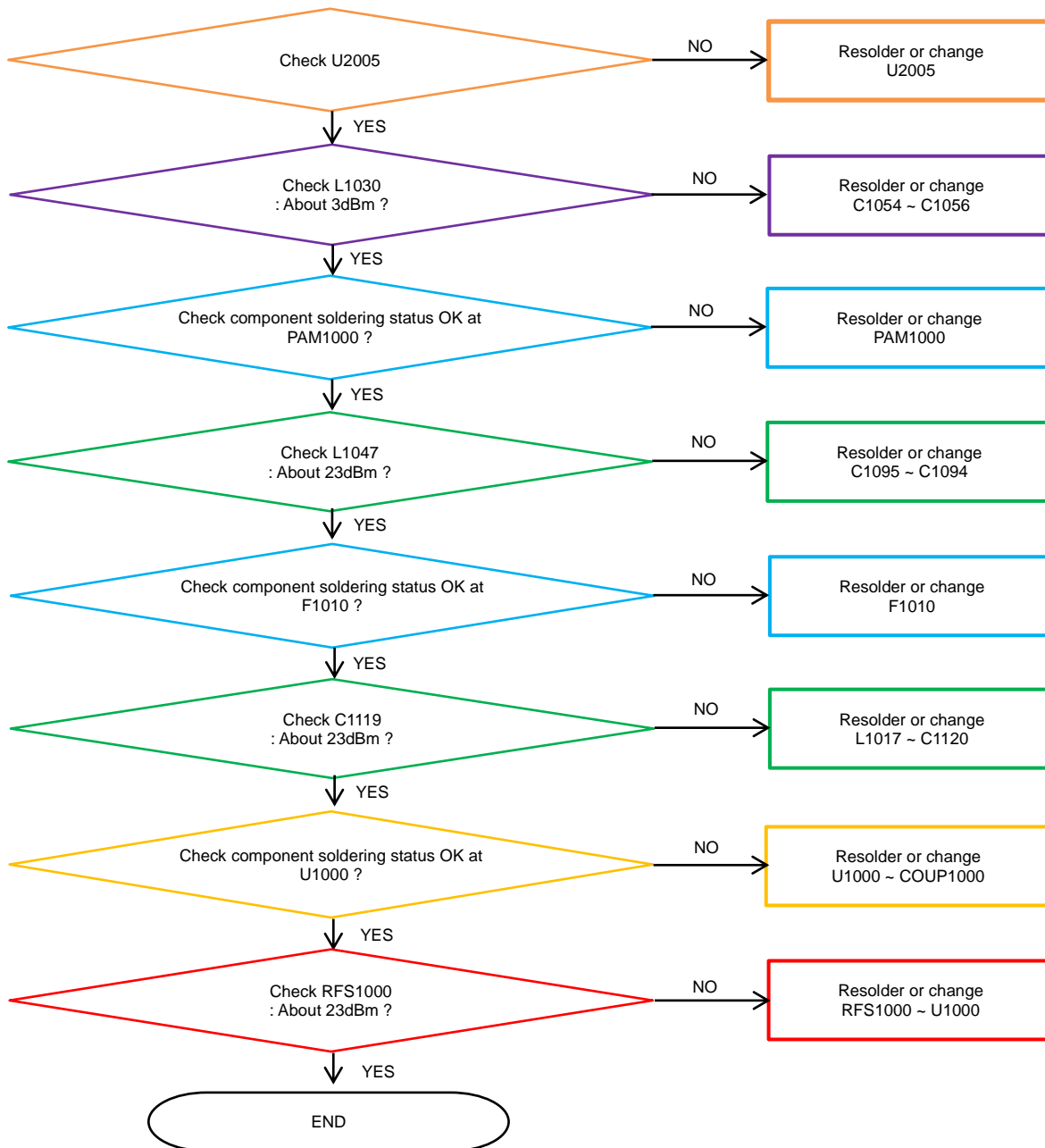
## 8. Level 3 Repair

### 8-4-42. WCDMA B4, LTE B4/B66 TX



## 8. Level 3 Repair

### 8-4-43. LTE B17 TX



### 8-5. Service Schematics

#### - NC Point(Top View)

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## 9. Reference Abbreviation

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### 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



# SAMSUNG