

## 2. Specification

### 2-1. GSM General Specification

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

2-2. GSM Tx Power Class

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

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### 3. Operation Instruction and Installation

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#### Main Function

Item	Description
OS	Android V5.1 (Lollipop)
RF	LTE Cat.4 (150/50Mbps)
Battery	2,600mAh
Base Band	1.2GHz Quad
Other RF	A-GPS, Glonass, Beidou, BT4.0, USB 2.0 NFC, WIFI 802.11 b/g/n SISO
Camera	13MP Main CAM 5MP(Front)
LCD	5.0" OCTA HD, 720 x 1280
RAM	8Gb RAM + 12GB eMMC
Sensor	Accelerometer, Proximity
Accessory	Charger: 5V/1A Data cable: 2.7pi, 1.2m Ear phone: 3.5pi, 4pin

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## 9. Reference Abbreviate

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### Reference Abbreviate

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

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## 1. Safety Precautions

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### 1-1. Repair Precaution

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

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

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

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

We recommend 22-gauge twisted copper wire.

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

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

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

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

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

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

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

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

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

## 6. Level 1 Repair

### 6-1. S/W installation

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

- Installation program: Downloader Program (**Odin3 v3.10.6.exe**)
- Mobile Phone
- Data Cable
- Mobile device specific S/W: Binary files

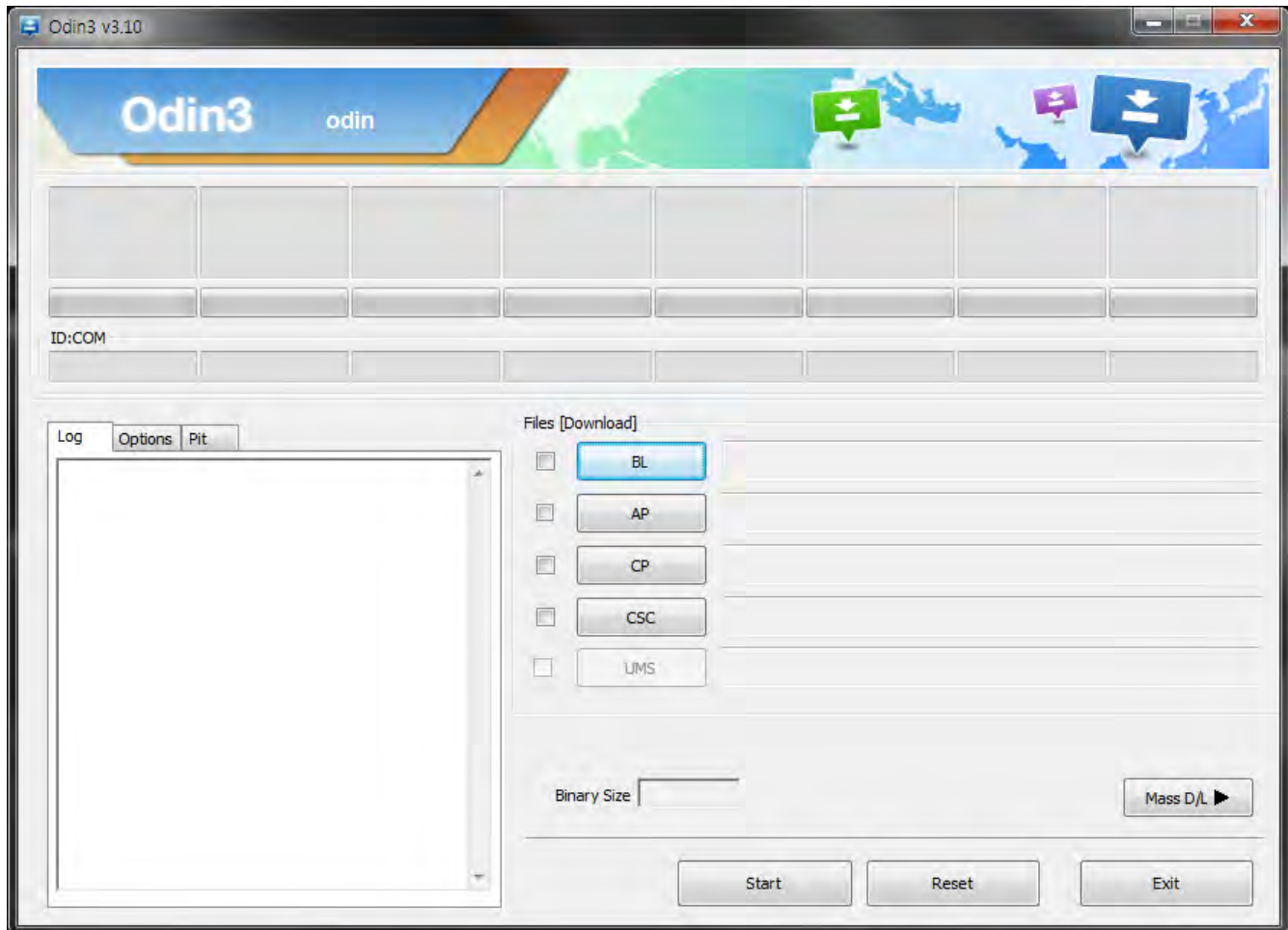
#### ※ Settings



Data Cable : GH39-01710C

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

- Open up the S/W Installation Program by executing the "Odin3 v3.10.6.exe"

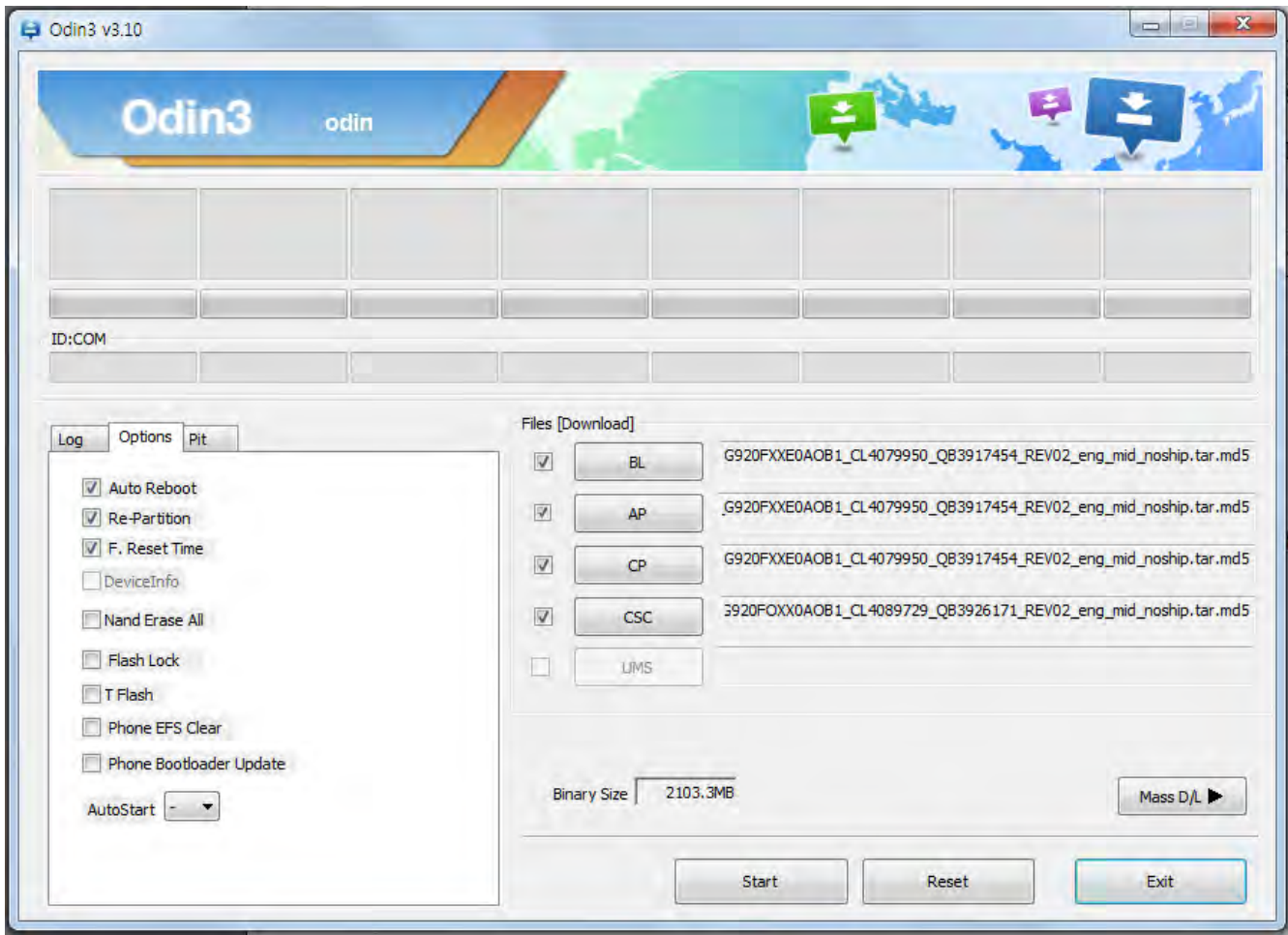




1. Enable the check mark by click on the following options,

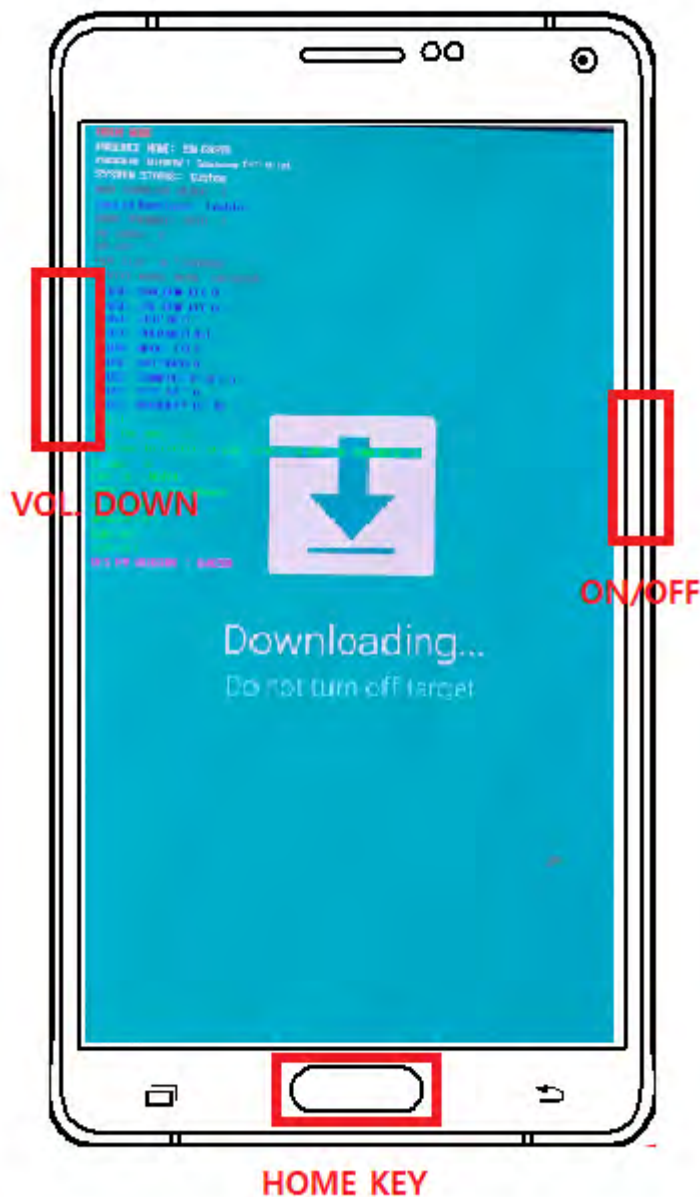
- Check Auto Reboot, Re-Partition, and F. Reset Time
- Check PIT
- Check BOOTLOADER, PDA, PHONE, and CSC Files

\* Note : "Odin v3.10 or above" checks MD5 checksum just after file selection.



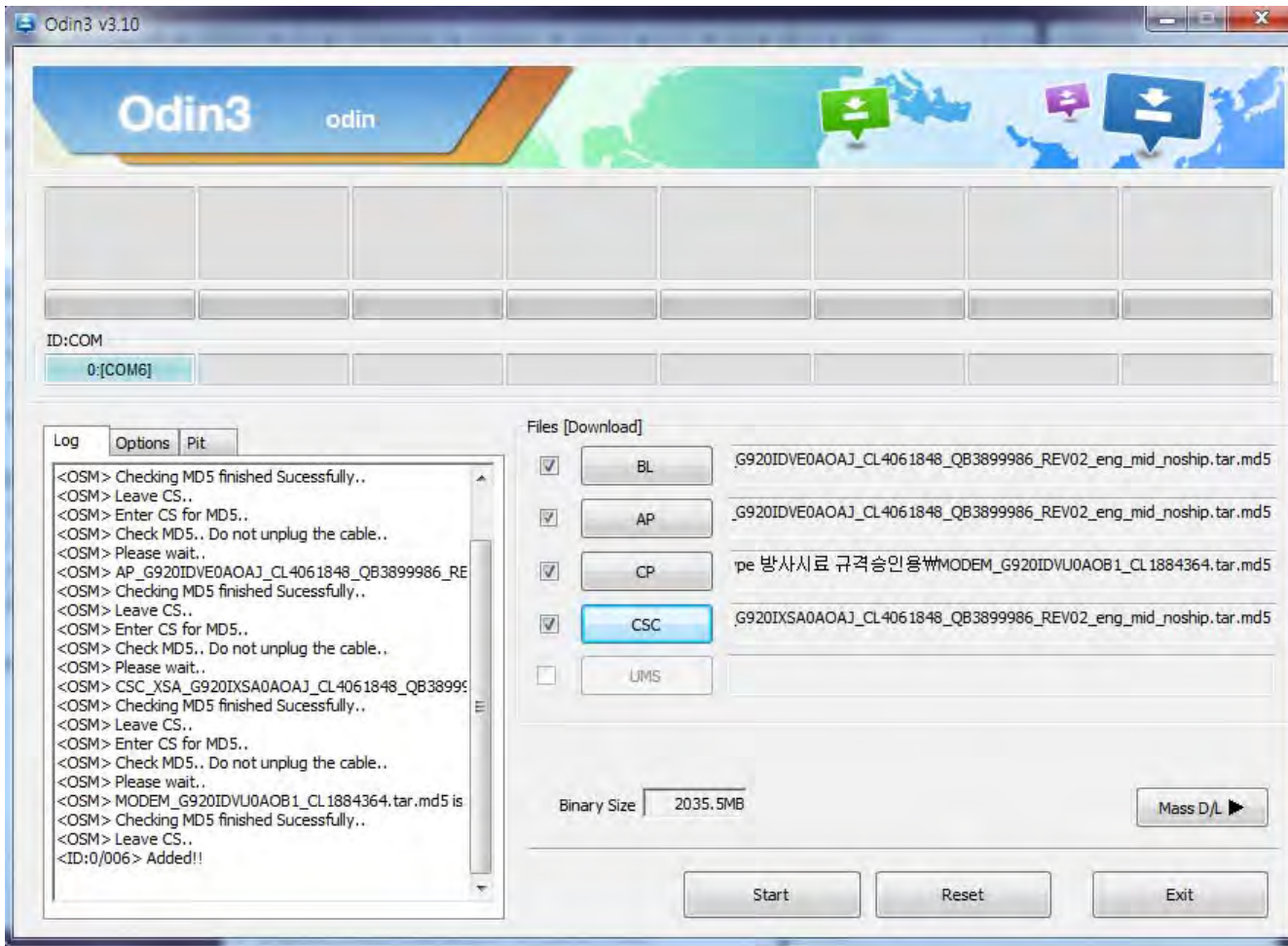
## 2. Enter into Download Mode

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

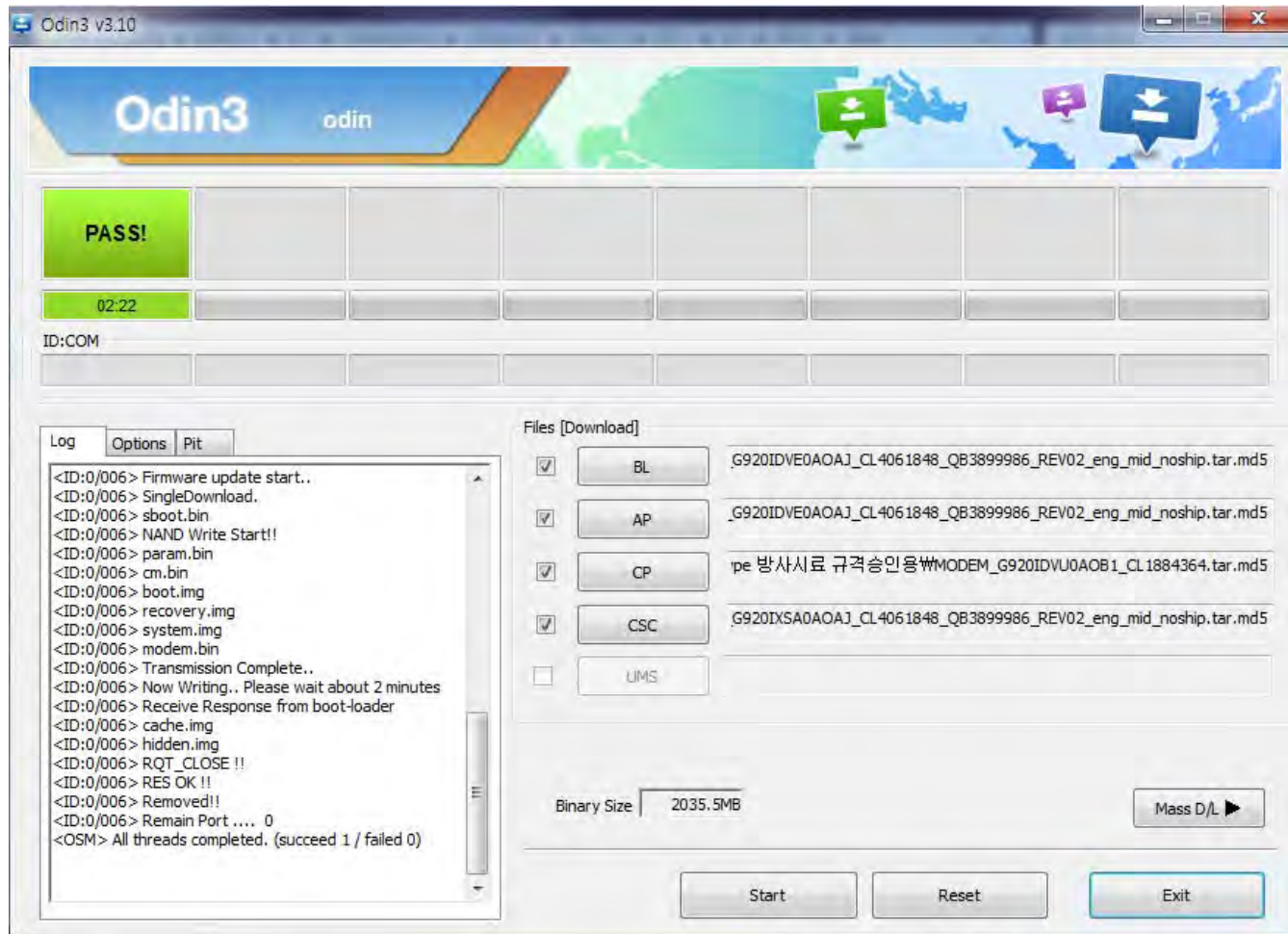


3. Connect the device to PC via Data Cable.

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.



- 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.



- Disconnect the device from the Data cable.
- Once the device boots up, you can check the version of the binary file or name by pressing the following code in sequence;  
\*#1234#

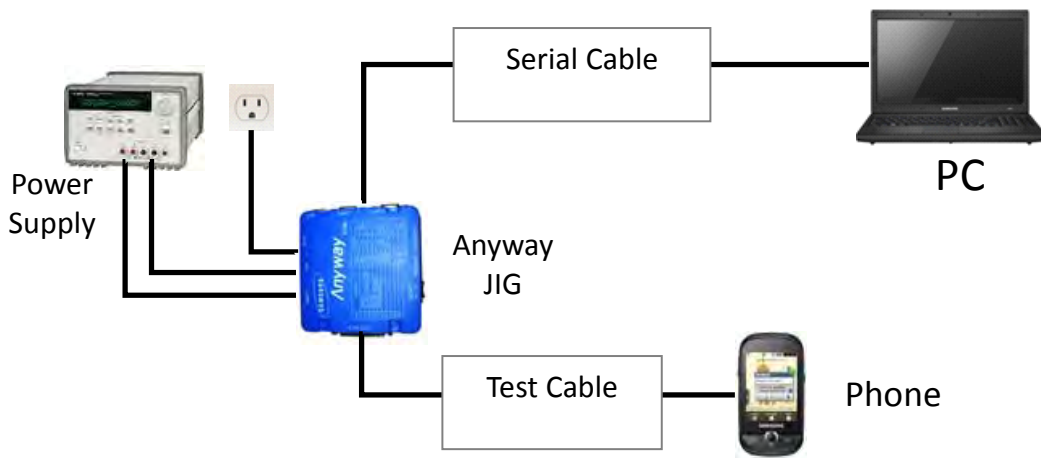
You can perform Factory Reset by Settings → Accounts → Backup and reset

6-2 IMEI writing

6-2-1 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



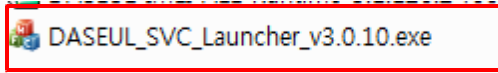
- S/W

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	DASEUL_SVC_Launcher_v3_0_25 or higher -Uploaded on HHPsvc Notice
③ Runtime File	1. DASEUL_Runtime_Ver_3.1.139.0.CAB or higher -Uploaded on HHPsvc Notice 2. Make ‘ModelName’ folder at the same position with launcher & Runtime file.
④ Model File	Copy Model File under the ‘Model Name’ folder

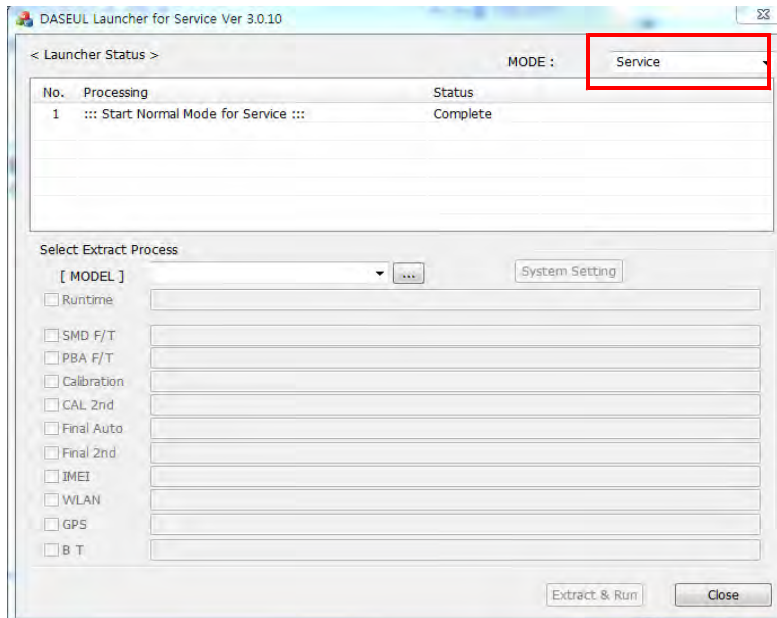


6-2-2 IMEI writing Process

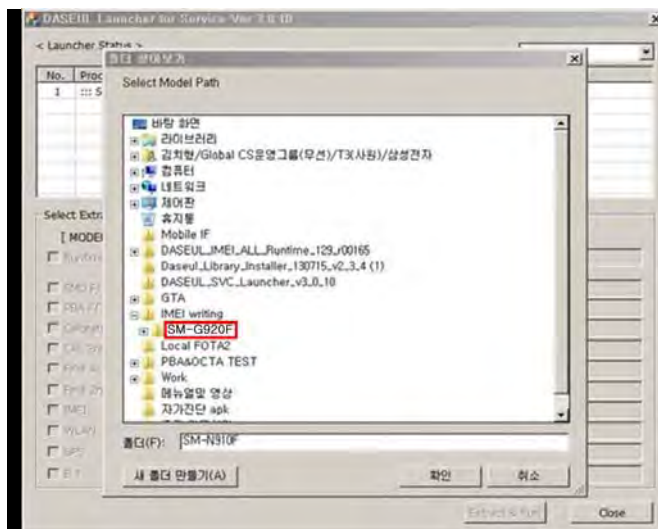
1. Run DASEUL\_SVC\_Launcher\_v3.0.10.exe



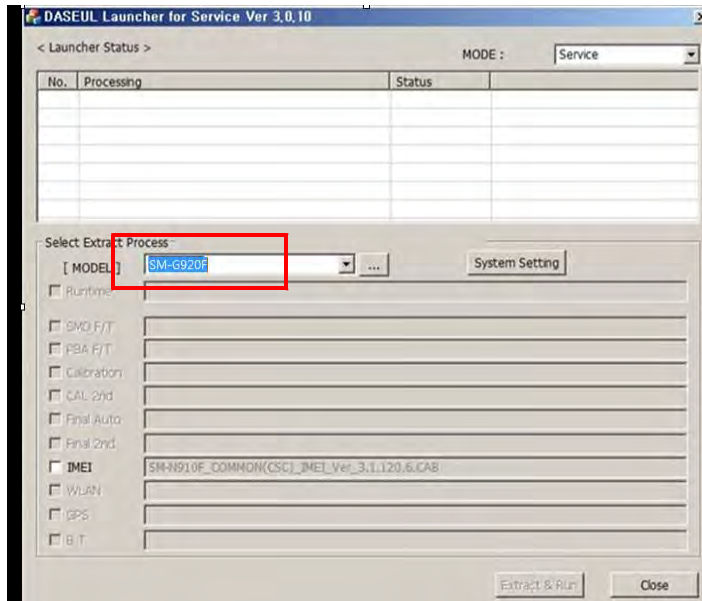
2. Select Service Mode



3. Click  and Select folder where the Launcher exists

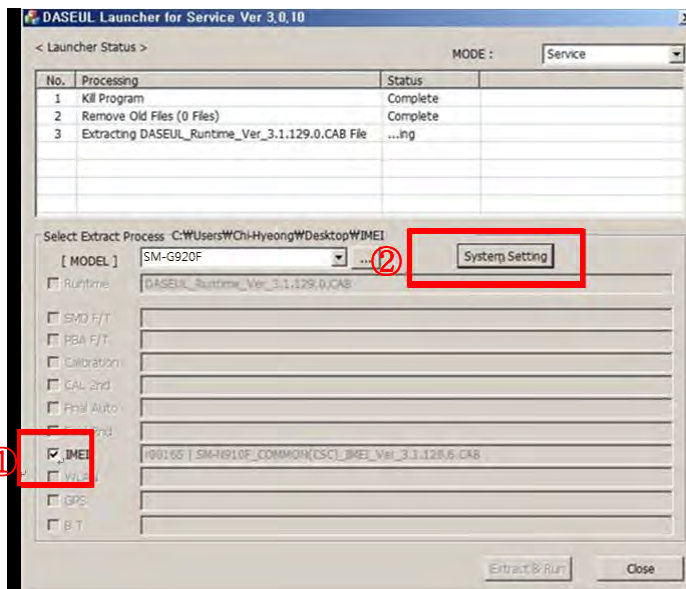


4. Select Model

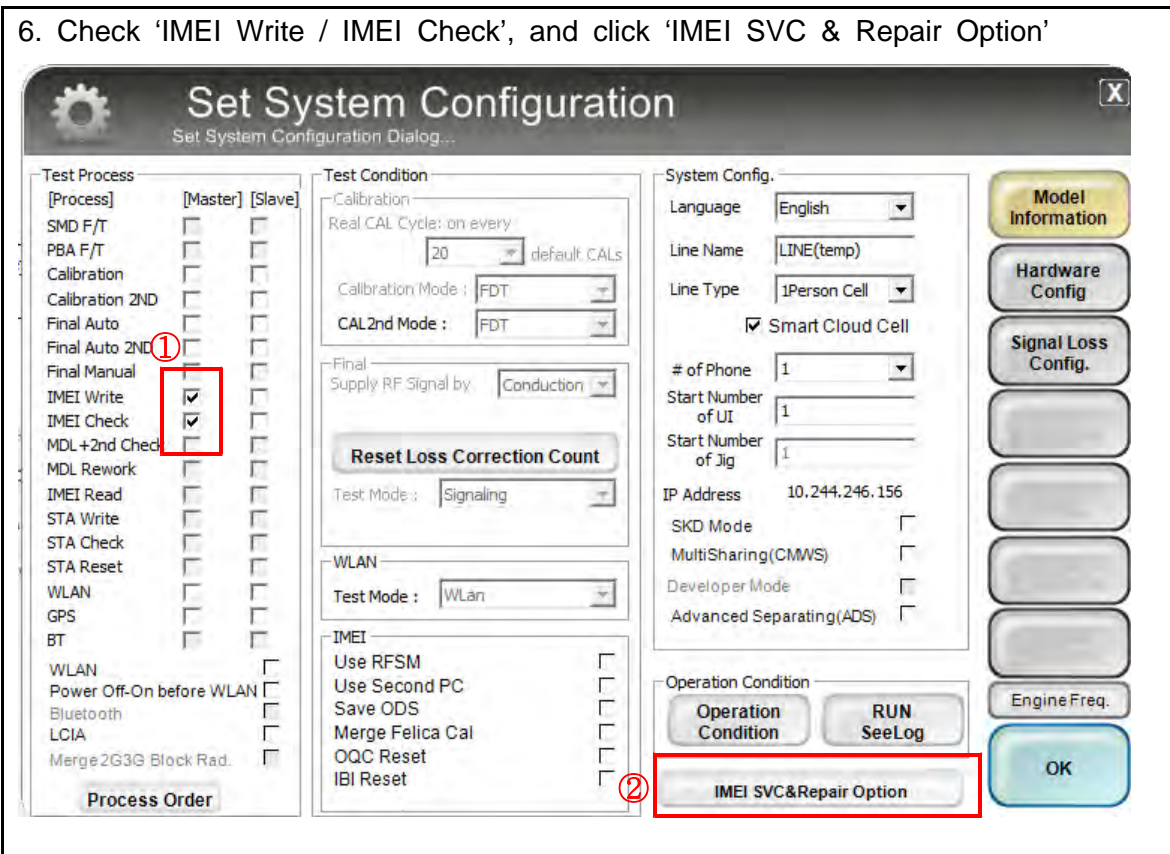


5. Check IMEI and click 'System Setting'

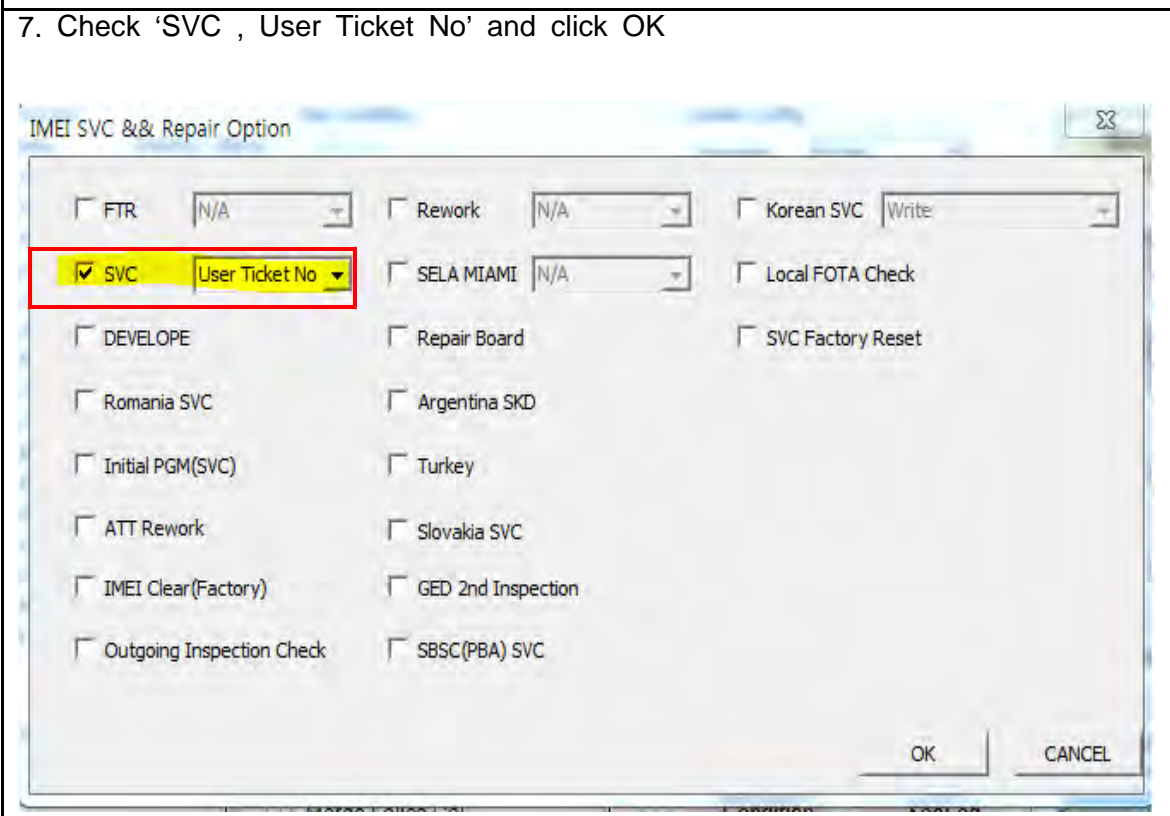
※Once you setup the setting, you don't have to do it again, unless there is change. From second run of the IMEI program, check IMEI and click 'Extract & Run'.



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

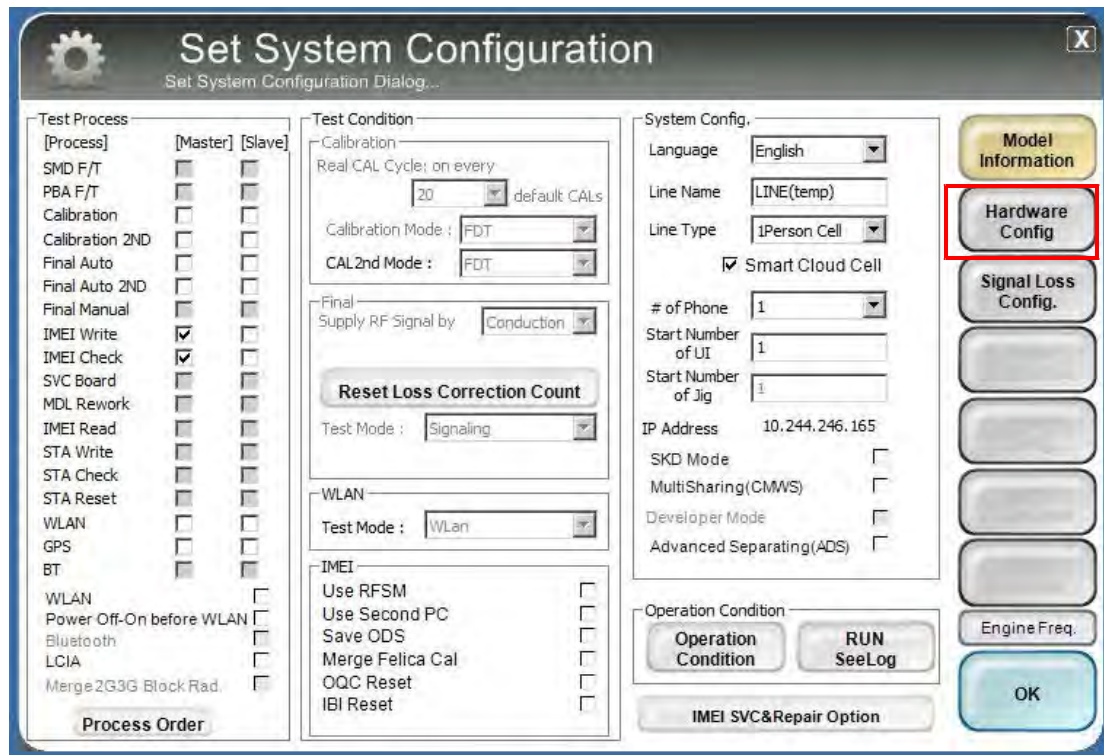


7. Check 'SVC , User Ticket No' and click OK

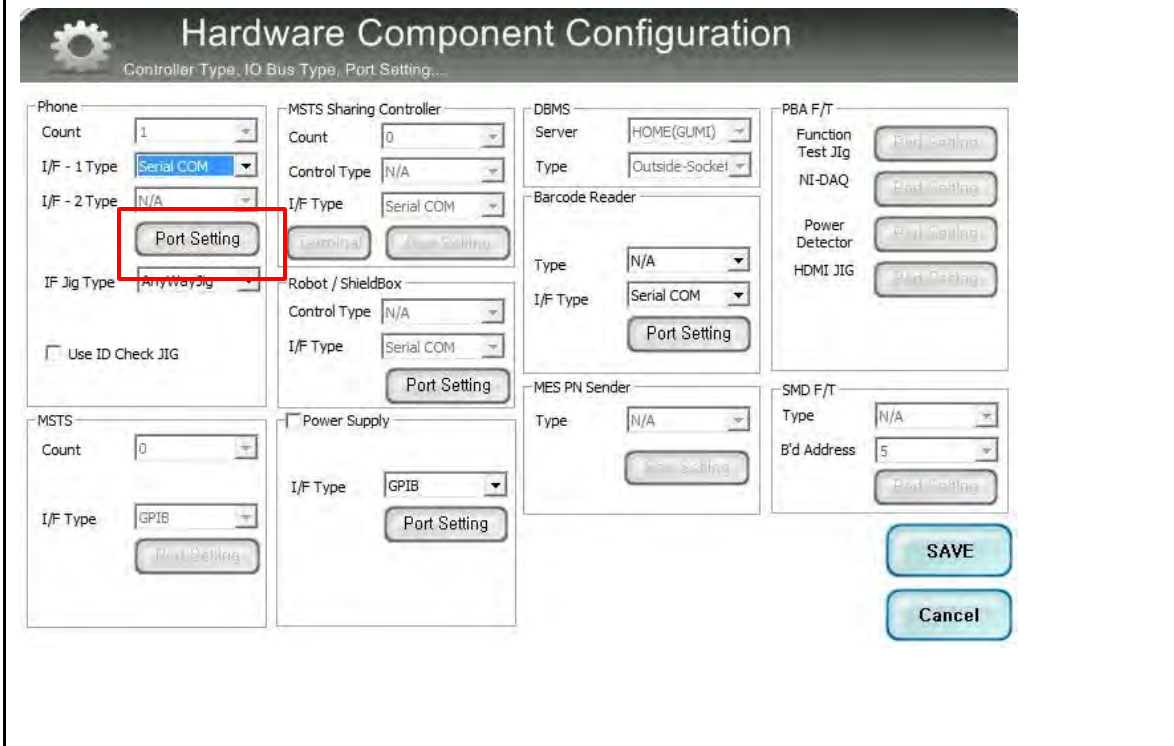




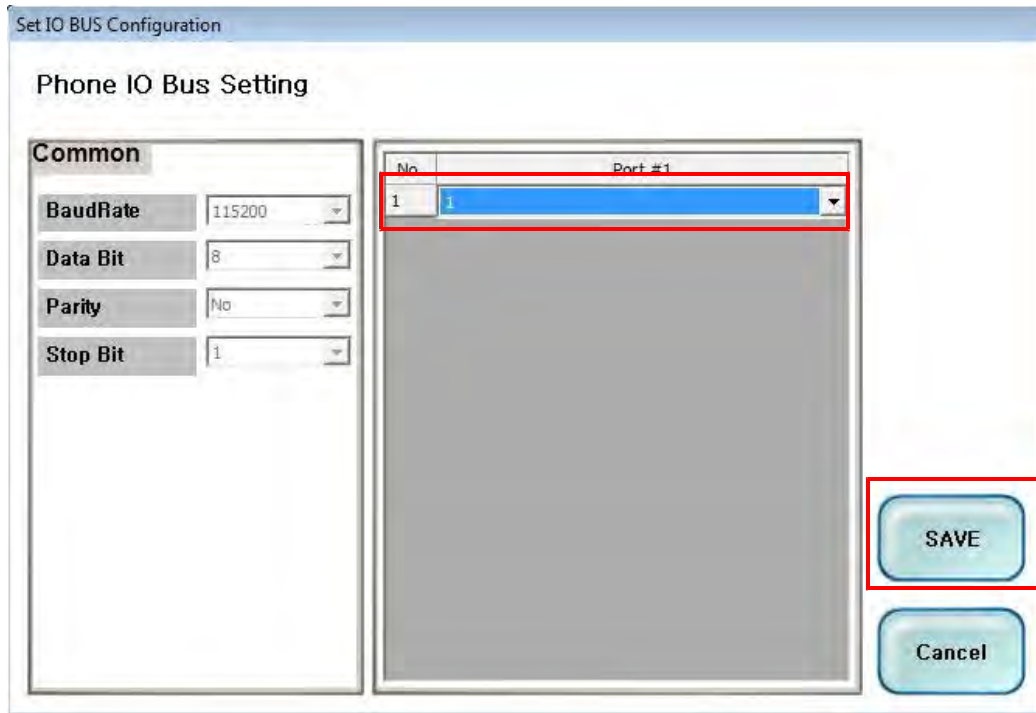
8. Click 'Hardware Config'



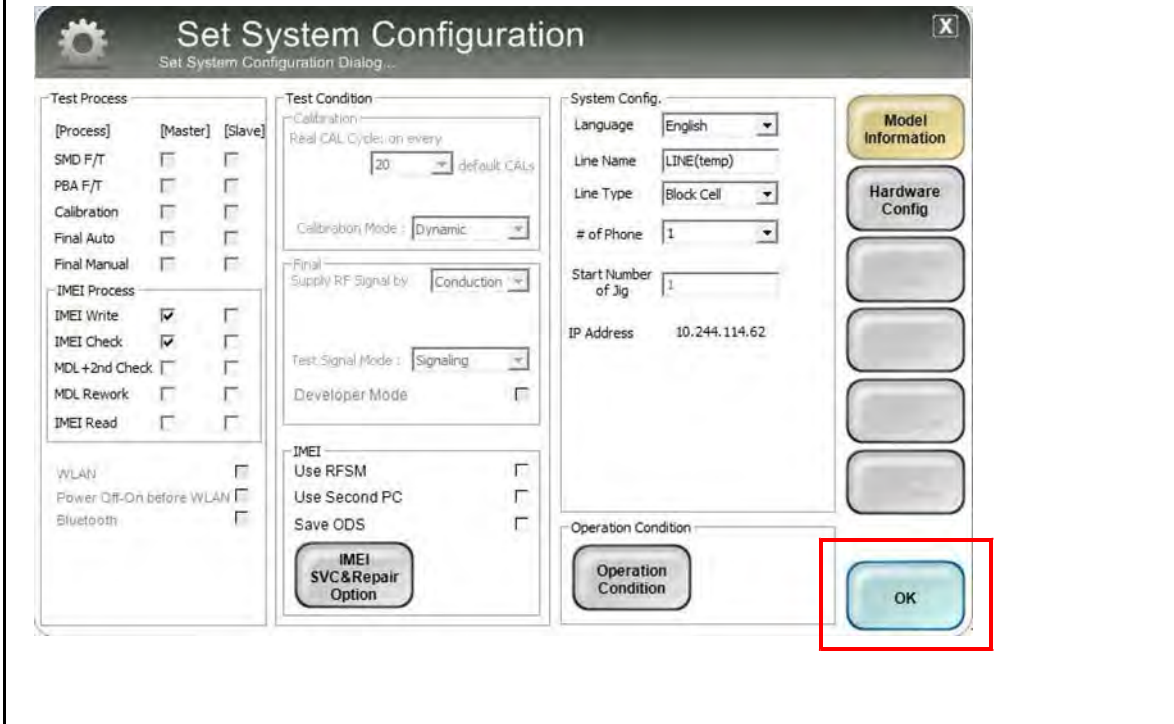
9. Click 'Port Setting'



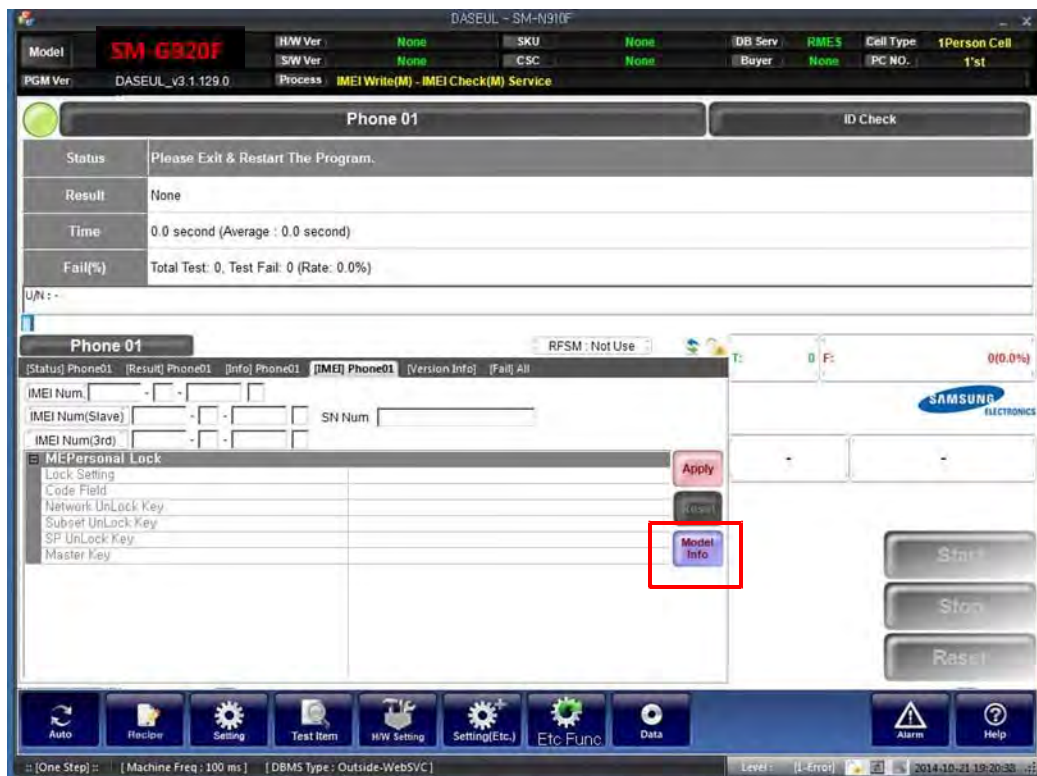
10. Select Port Number and SAVE



11. Click OK to proceed



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



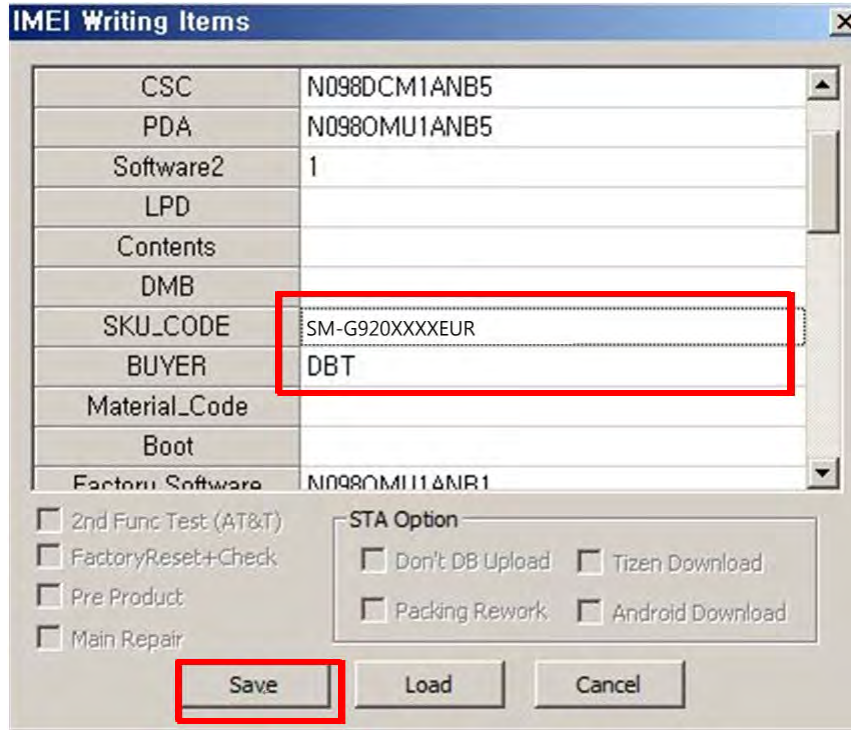
13. Click OK



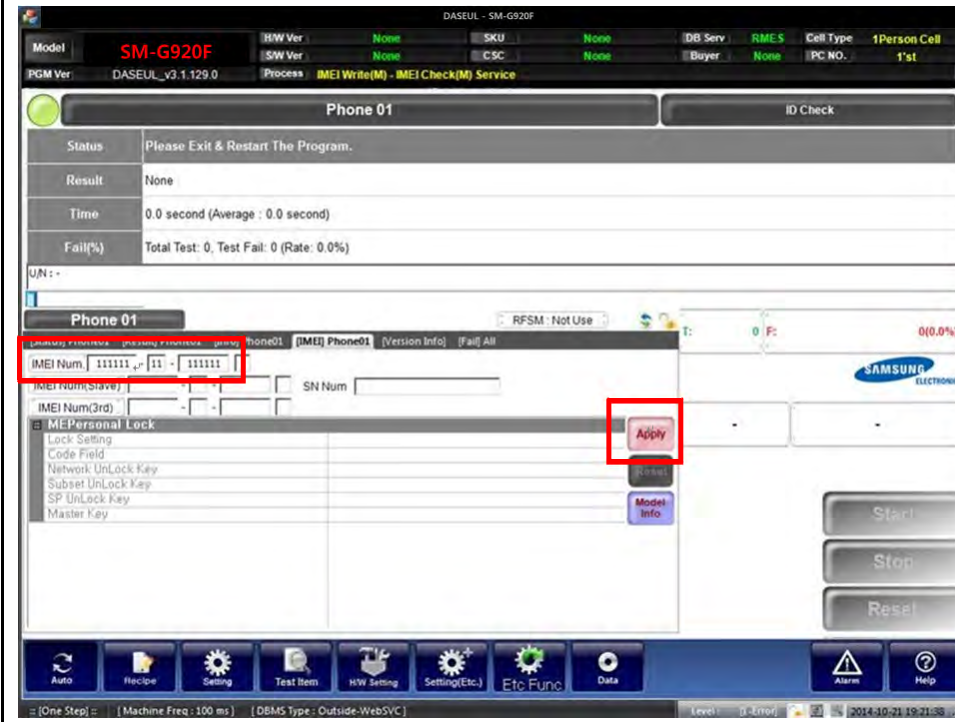


14. Input SKU\_CODE and BUYER, then click Save button.

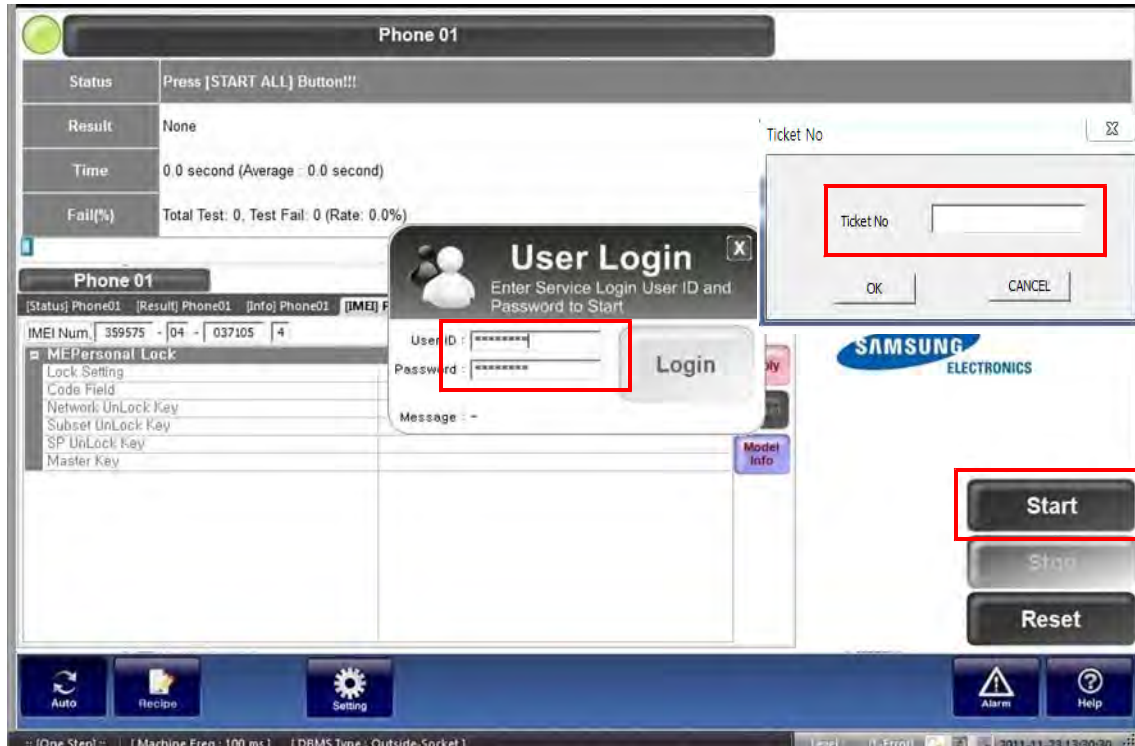
※ Refer to HHPsvc→IMEI Review to check SKU Code and buyer



15. Input IMEI Number and click Apply



16. ① Click Start, and input IMEI writing ID and Password → ② input Ticket No



17. Connect the phone to Anyway JIG

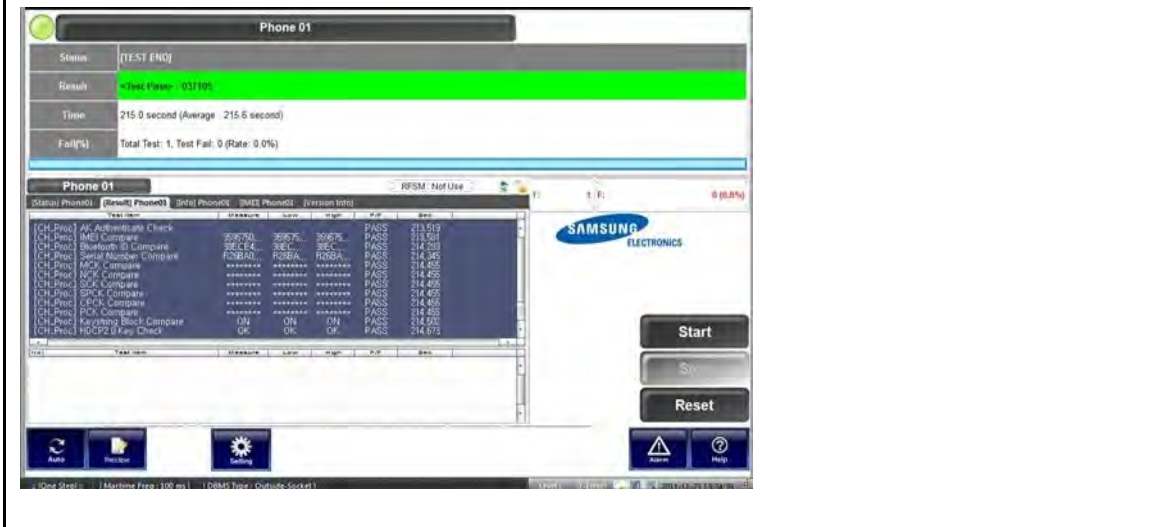
※ When you connect the phone, the phone should be turned off.

After connecting the phone, the phone will be booted automatically.

18. IMEI Writing Proceeding



### 19. IMEI Writing Success



## 6-4. RF Calibration

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

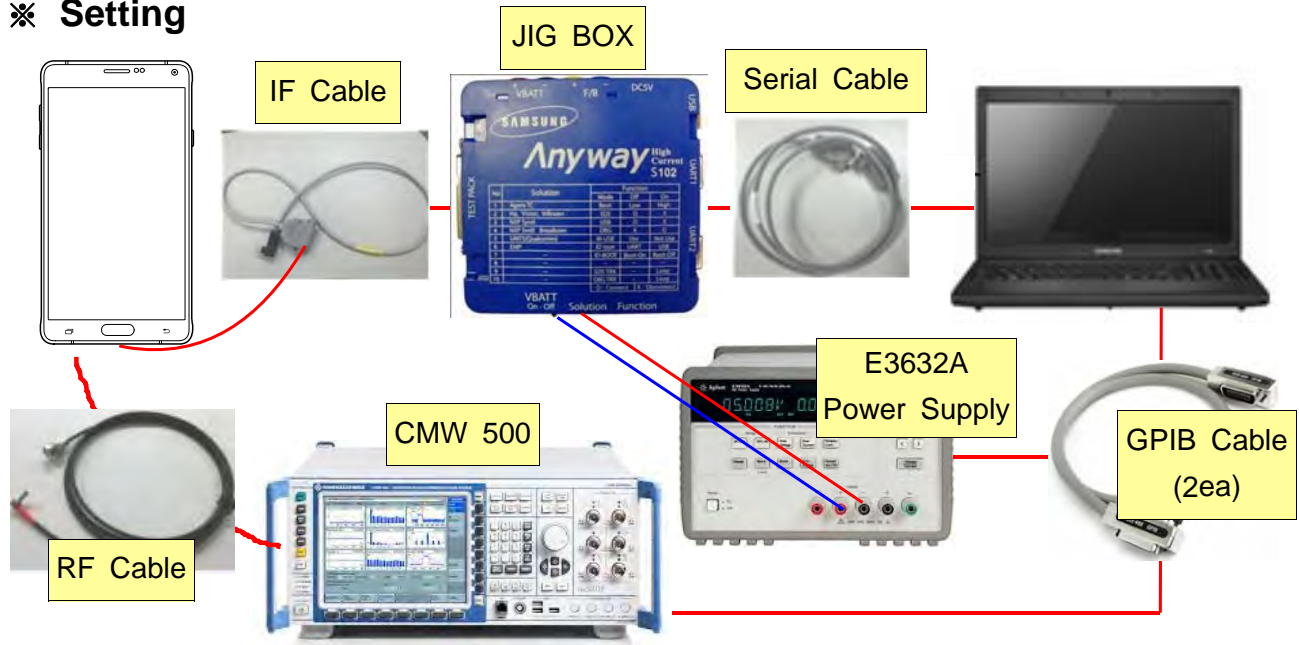
- Installation program: RF Calibration Program
  - Daseul\_Launcher\_vx.x.xx.exe
  - Daseul\_CAL\_ALL\_Runtime\_x.x.xxx.x.CAB
  - Model File (SM-XXXXX\_OPEN\_CALIBRATION\_VER\_x.x.xxx.xx.CAB)

※ It is required to use the latest program.

- Mobile Phone
- E3632A Power Supply
- JIG BOX (GH81-11888A)
- UART Serial Cable
- Table of test cables
- R&S CMW500
- GPIB Cable (2ea)
- Adapter (GH81-11888K)

IF Cable	GH81-10952A
	7 pin, Short
RF Cable	GH81-11962G
	1.35T, Long

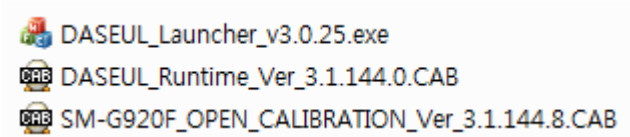
※ Setting



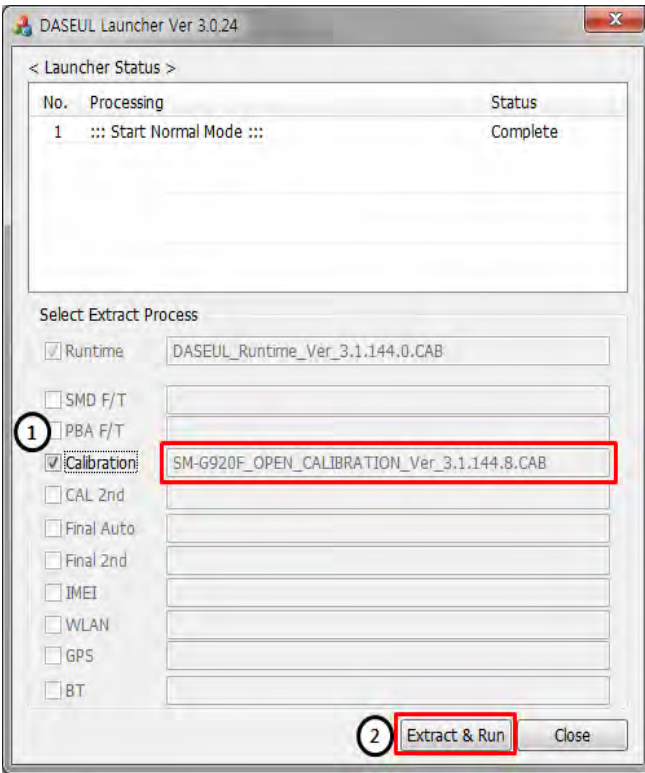


## 6-1-2. RF Calibration Program

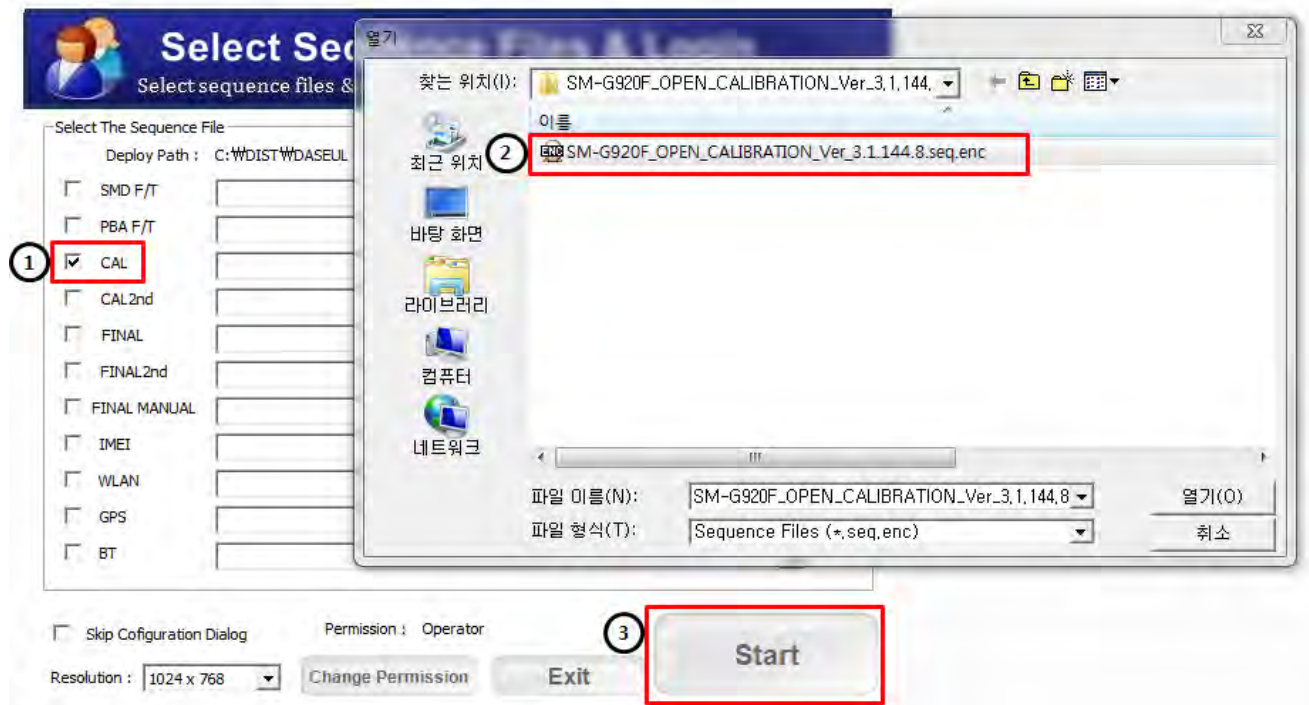
1. Run the RF Calibration Program Launcher, '[DASEUL\\_Launcher\\_vx.x.xx.exe](#)'.



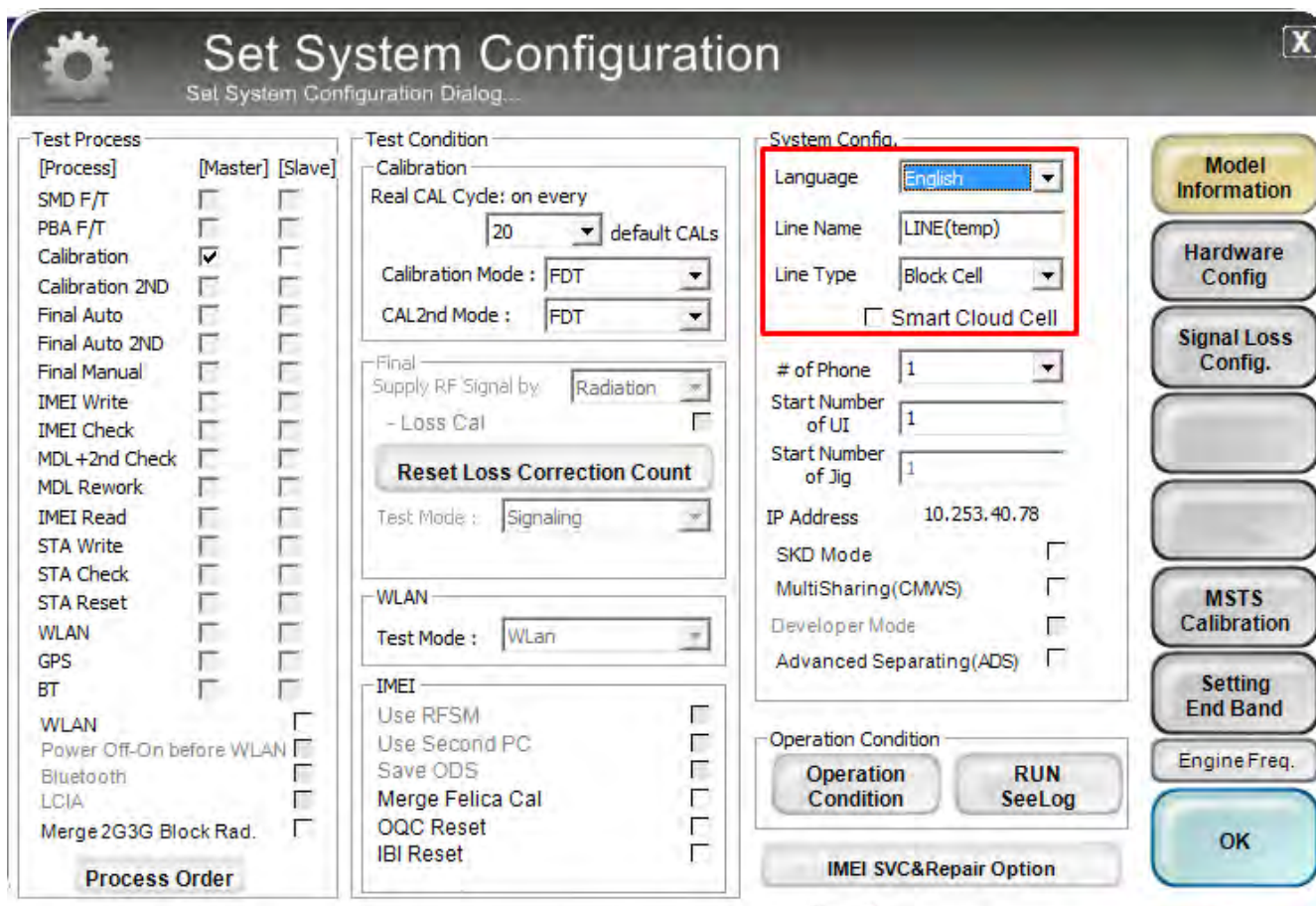
2. Check the '[Calibration](#)' menu, and select '[Extract & Run](#)'.



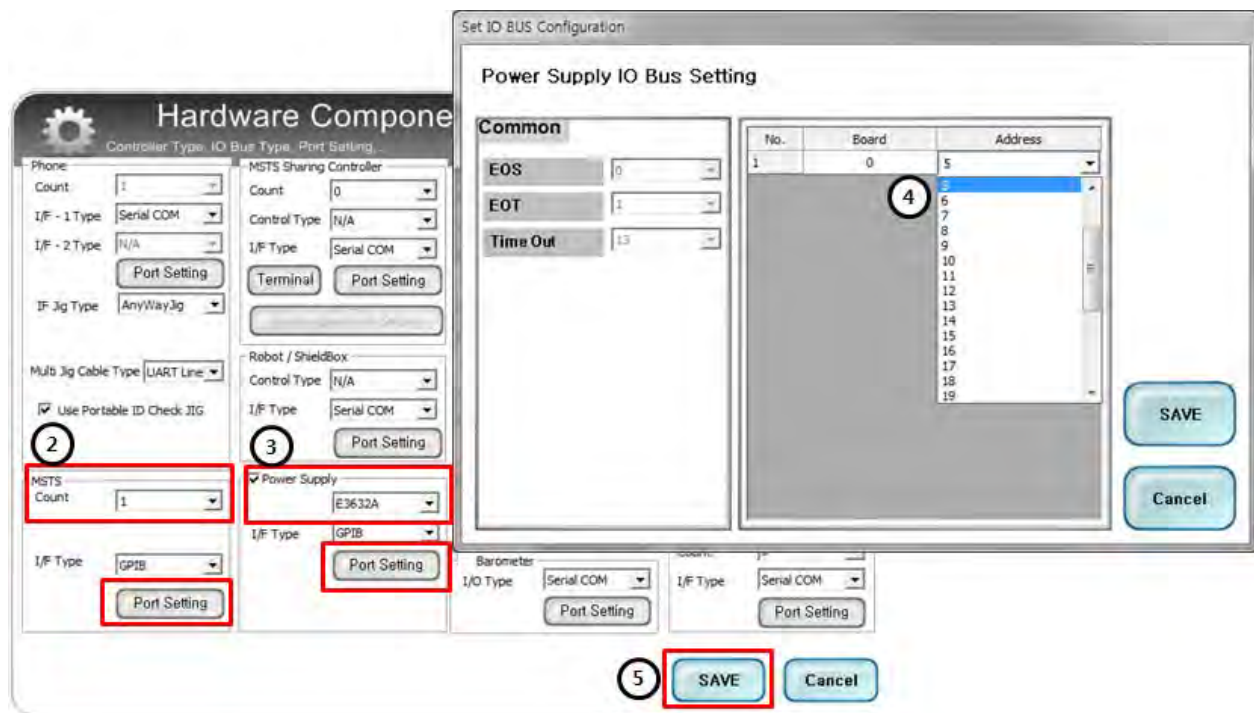
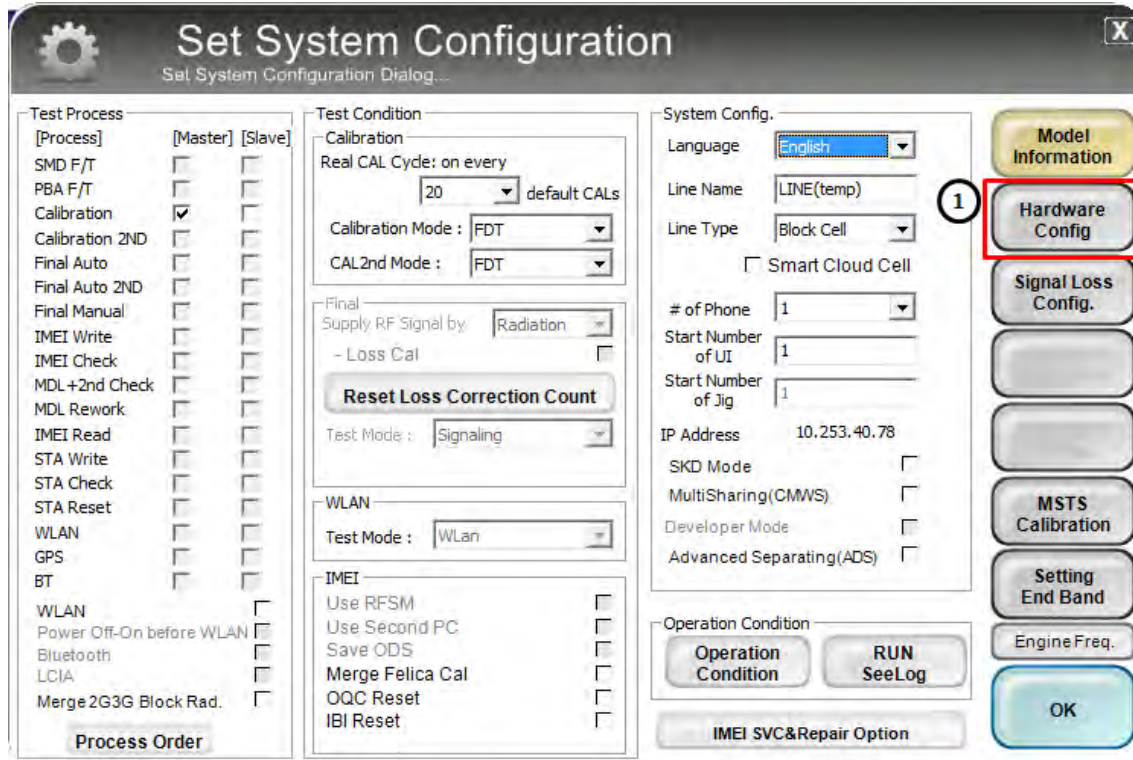
3. Check the 'CAL' and open the [model file](#), then select 'Start' button.



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

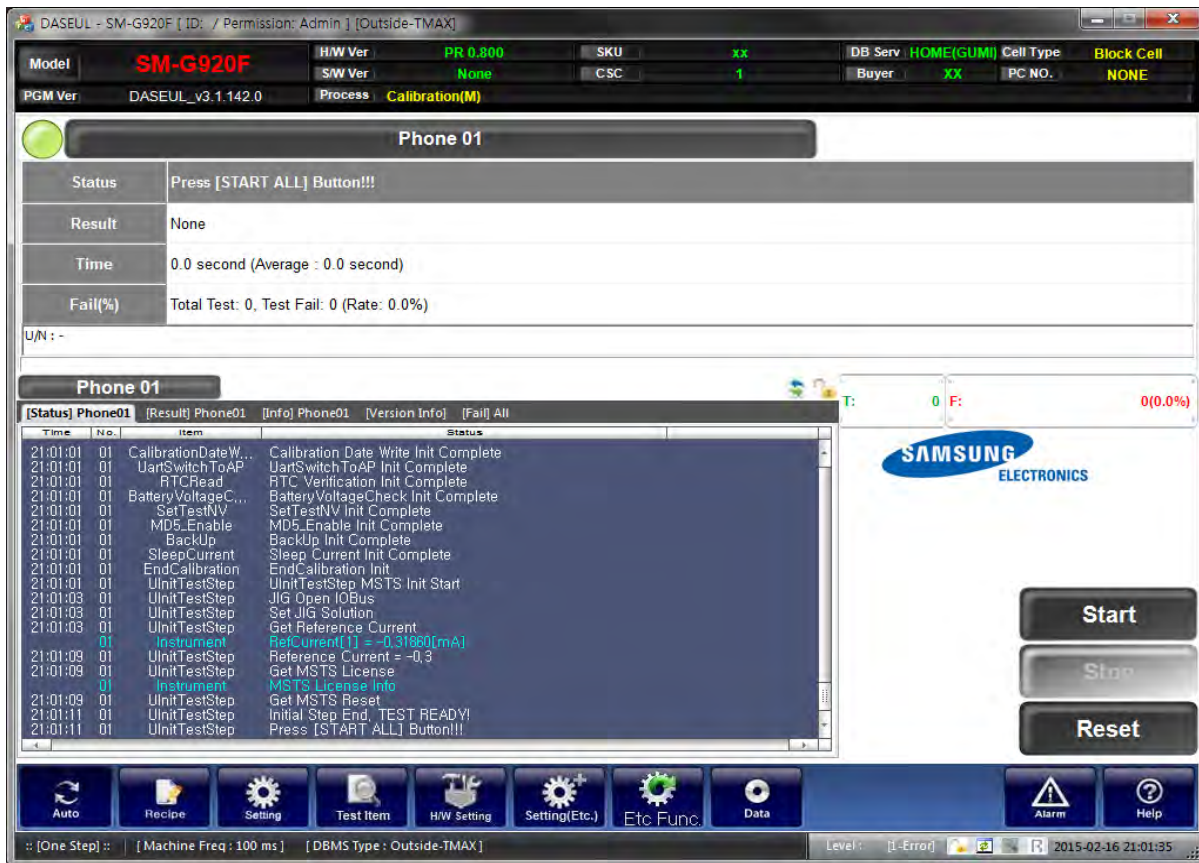
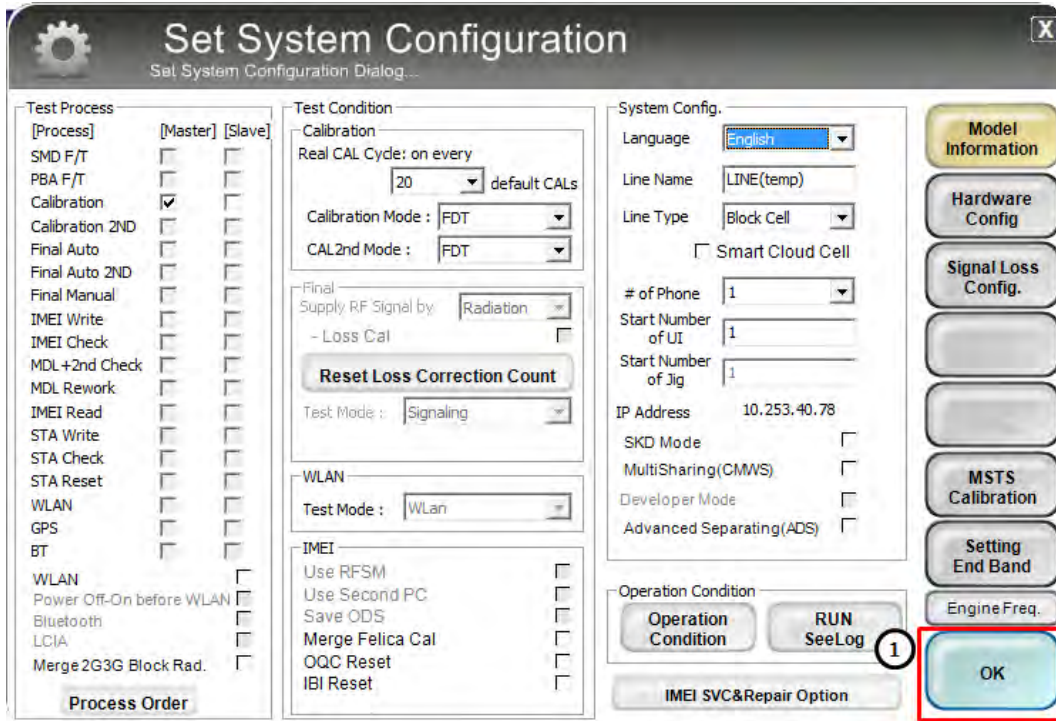


- Set the GPIB address of MSTS(CMW500) and Power Supply(E3632A) to enter 'Hardware Config' and 'Save'. (Check the GPIB address of equipments in advance)





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



## 5. MAIN Electrical Parts List

SEC CODE	Design LOC	Description
0401-001110	D500	DIODE-SWITCHING
0406-001223	ZD5001,ZD5002,ZD5003	DIODE-TVS
0406-001223	ZD5004,ZD5009	DIODE-TVS
0406-001413	ZD5010	DIODE-TVS
0406-001459	ZD5000,ZD5006,ZD5007	DIODE-TVS
0406-001459	ZD5008,ZD5012	DIODE-TVS
0406-001542	ZD6001	DIODE-TVS
0406-001625	ZD5011	DIODE-TVS
0406-001675	ZD4000	DIODE-TVS
0407-001055	ZD4001	DIODE-ARRAY
0505-002388	Q2000	FET-SILICON
0601-003511	LED4000	LED
0601-003547	LED6000	LED
1001-001870	U1006	IC
1001-001912	U1000	IC
1001-001968	U5000	IC
1009-001066	U6005	IC
1108-000594	UME5000	MEMORY
1201-003832	PAM1001	IC
1201-003853	U2002	IC
1201-003899	PA1000	IC
1203-007000	U5017	IC
1203-007030	U5015	IC
1203-007196	U5001	IC
1203-007324	U6061	IC
1203-007884	U6007	IC
1203-008250	U2011,U4005,U6000	IC
1203-008288	U2009	IC
1203-008295	U6001	IC
1203-008324	U4000	IC
1203-008490	U6003	IC
1203-008539	U4004	IC
1205-004981	U2006	IC
1205-005162	UCP3000	IC
1205-005214	U1010	IC
1205-005301	U2001	IC

Main Electrical Parts List

1205-005315	U4002	IC
1209-002065	U5016	IC
1209-002275	U6004	IC
1404-001724	TH1000,TH3000,TH4000	THERMISTOR
2007-001284	R4010	R-CHIP
2007-007156	R5026	R-CHIP
2007-007315	R3000	R-CHIP
2007-007798	R4023	R-CHIP
2007-008052	R3020,R3023,R3024	R-CHIP
2007-008052	R3026,R3028,R5421	R-CHIP
2007-008055	R4026,R5016,R5017	R-CHIP
2007-008137	R6046	R-CHIP
2007-008210	R1020,R3017	R-CHIP
2007-008312	R5004	R-CHIP
2007-008419	R4025,R4028	R-CHIP
2007-008477	R2007,R2013	R-CHIP
2007-008486	R4013,R4018	R-CHIP
2007-008516	R5003,R5011,R5013	R-CHIP
2007-008516	R6021,R6023,R6045	R-CHIP
2007-008582	R1021,R1022	R-CHIP
2007-008588	R2008,R2009,R3002	R-CHIP
2007-008588	R3003,R3004,R3005	R-CHIP
2007-008588	R3007,R3008,R3009	R-CHIP
2007-008588	R3010,R3011,R3012	R-CHIP
2007-008588	R3013,R3014,R6000	R-CHIP
2007-008588	R6001,R6002,R6003	R-CHIP
2007-008774	R4021,R4022	R-CHIP
2007-008788	R3016	R-CHIP
2007-008806	R1000	R-CHIP
2007-008816	R5025	R-CHIP
2007-009084	R2003,R3018,R6020	R-CHIP
2007-009155	R5002,R6026	R-CHIP
2007-009157	R1007,R3021,R4003	R-CHIP
2007-009157	R4006	R-CHIP
2007-009158	R5018	R-CHIP
2007-009223	R5008	R-CHIP
2007-009766	R5014,R5015	R-CHIP

2007-009793	R5012	R-CHIP
2007-009801	R2015	R-CHIP
2007-009920	R3006,R5007	R-CHIP
2007-010856	R4024	R-CHIP
2007-011043	R3001	R-CHIP
2007-011648	R4016	R-CHIP
2203-000233	C2037	C-CERAMIC,CHIP
2203-000438	C4070	C-CERAMIC,CHIP
2203-001072	C2034,C2036	C-CERAMIC,CHIP
2203-001153	C4088	C-CERAMIC,CHIP
2203-001239	C2038	C-CERAMIC,CHIP
2203-005344	C4066	C-CERAMIC,CHIP
2203-005682	C1001,C1008,C1016	C-CERAMIC,CHIP
2203-005682	C1021,C1023,C1034	C-CERAMIC,CHIP
2203-005682	C1048,C1071,C1167	C-CERAMIC,CHIP
2203-005682	C1171,C1271,C1306	C-CERAMIC,CHIP
2203-005682	C2005,C2009,C2010	C-CERAMIC,CHIP
2203-005682	C5028,C5033,C5042	C-CERAMIC,CHIP
2203-005682	C6037	C-CERAMIC,CHIP
2203-005683	C1074	C-CERAMIC,CHIP
2203-005717	C1012,C1015,C1032	C-CERAMIC,CHIP
2203-005717	C1068,C1069,C1168	C-CERAMIC,CHIP
2203-005717	C1176,C1272,C1278	C-CERAMIC,CHIP
2203-005725	C1003,C1286,L2007	C-CERAMIC,CHIP
2203-005726	C6033,L1066	C-CERAMIC,CHIP
2203-005727	C6000,C6011	C-CERAMIC,CHIP
2203-005729	C5057,C5059,C5060	C-CERAMIC,CHIP
2203-005731	C5056	C-CERAMIC,CHIP
2203-005732	C4035,C4036,C5035	C-CERAMIC,CHIP
2203-005732	C5036	C-CERAMIC,CHIP
2203-005734	C2002,C4057	C-CERAMIC,CHIP
2203-005736	C1004,C1010,C1026	C-CERAMIC,CHIP
2203-005736	C1040,C1063,C1066	C-CERAMIC,CHIP
2203-005736	C1078,C1079,C1100	C-CERAMIC,CHIP
2203-005736	C1103,C1107,C1108	C-CERAMIC,CHIP
2203-005736	C1177,C1186,C1257	C-CERAMIC,CHIP
2203-005736	C1275,C1284,C1307	C-CERAMIC,CHIP



Main Electrical Parts List

2203-005736	C1308,C1309,C1310	C-CERAMIC,CHIP
2203-005736	C2004,C2008,C2011	C-CERAMIC,CHIP
2203-005736	C2014,C2020,C2022	C-CERAMIC,CHIP
2203-005736	C2064,C2065,C5045	C-CERAMIC,CHIP
2203-005777	C1039,C2050	C-CERAMIC,CHIP
2203-005789	C1005,C1006,C1007	C-CERAMIC,CHIP
2203-005789	C1037,C1178,C1313	C-CERAMIC,CHIP
2203-005806	C2028,C3023,C4007	C-CERAMIC,CHIP
2203-005806	C4029	C-CERAMIC,CHIP
2203-006048	C5072	C-CERAMIC,CHIP
2203-006187	C1030,C1072	C-CERAMIC,CHIP
2203-006194	C2016,C2017,C2019	C-CERAMIC,CHIP
2203-006194	C2024,C3028	C-CERAMIC,CHIP
2203-006208	C2061,C2063	C-CERAMIC,CHIP
2203-006305	C1314	C-CERAMIC,CHIP
2203-006318	C2066	C-CERAMIC,CHIP
2203-006379	C3036,C3041	C-CERAMIC,CHIP
2203-006399	C4063,C5003,C5068	C-CERAMIC,CHIP
2203-006399	C5069,C6029,C6030	C-CERAMIC,CHIP
2203-006399	C6032	C-CERAMIC,CHIP
2203-006400	C2030,C2031,C3042	C-CERAMIC,CHIP
2203-006400	C3048,C3050	C-CERAMIC,CHIP
2203-006423	C1011,C1014,C1028	C-CERAMIC,CHIP
2203-006423	C1049,C1091,C1092	C-CERAMIC,CHIP
2203-006423	C1101,C1109,C1250	C-CERAMIC,CHIP
2203-006423	C2026,C3000,C3001	C-CERAMIC,CHIP
2203-006423	C3003,C3004,C3005	C-CERAMIC,CHIP
2203-006423	C3006,C3007,C3008	C-CERAMIC,CHIP
2203-006423	C3009,C3010,C3012	C-CERAMIC,CHIP
2203-006423	C3016,C3024,C3025	C-CERAMIC,CHIP
2203-006423	C3026,C3029,C3030	C-CERAMIC,CHIP
2203-006423	C3031,C3032,C3033	C-CERAMIC,CHIP
2203-006423	C3034,C3035,C3063	C-CERAMIC,CHIP
2203-006423	C3064,C4000,C4002	C-CERAMIC,CHIP
2203-006423	C4024,C4028,C4049	C-CERAMIC,CHIP
2203-006423	C5008,C5016,C5026	C-CERAMIC,CHIP
2203-006423	C5027,C5034,C5055	C-CERAMIC,CHIP

2203-006423	C5067,C5070,C6031	C-CERAMIC,CHIP
2203-006426	C2033,C2035	C-CERAMIC,CHIP
2203-006556	C4067,C4068,C5043	C-CERAMIC,CHIP
2203-006562	C4060	C-CERAMIC,CHIP
2203-006611	L2015	C-CERAMIC,CHIP
2203-006642	C4037,C4038,C4101	C-CERAMIC,CHIP
2203-006648	C2027	C-CERAMIC,CHIP
2203-006668	C3039	C-CERAMIC,CHIP
2203-006707	C2006	C-CERAMIC,CHIP
2203-006815	C3027,C3054	C-CERAMIC,CHIP
2203-006824	C3057	C-CERAMIC,CHIP
2203-006838	C4071	C-CERAMIC,CHIP
2203-006839	C5074,C6038	C-CERAMIC,CHIP
2203-006841	C1102,C1105,C4059	C-CERAMIC,CHIP
2203-006844	C2041	C-CERAMIC,CHIP
2203-006872	C4005,C6046	C-CERAMIC,CHIP
2203-006890	C2032,C4074,C4075	C-CERAMIC,CHIP
2203-007133	C2000	C-CERAMIC,CHIP
2203-007143	C6028	C-CERAMIC,CHIP
2203-007194	C1189,C2012	C-CERAMIC,CHIP
2203-007210	C5001,C5019,C5021	C-CERAMIC,CHIP
2203-007240	C4039,C4040,C4041	C-CERAMIC,CHIP
2203-007240	C4042,C4044,C4045	C-CERAMIC,CHIP
2203-007240	C4047,C4048,C4051	C-CERAMIC,CHIP
2203-007240	C4052	C-CERAMIC,CHIP
2203-007271	C1251,C1252,C3002	C-CERAMIC,CHIP
2203-007271	C4003,C4006,C4031	C-CERAMIC,CHIP
2203-007271	C4033,C4053,C4054	C-CERAMIC,CHIP
2203-007271	C4083,C5000,C5002	C-CERAMIC,CHIP
2203-007271	C5007,C6002,C6049	C-CERAMIC,CHIP
2203-007279	BAT4000,C2057,C6045	C-CERAMIC,CHIP
2203-007317	C1018,C2040,C4011	C-CERAMIC,CHIP
2203-007317	C4012,C4013,C4022	C-CERAMIC,CHIP
2203-007317	C4026,C4058,C4085	C-CERAMIC,CHIP
2203-007317	C5020,C5022,C5063	C-CERAMIC,CHIP
2203-007317	C6013,C6036	C-CERAMIC,CHIP
2203-007369	C1022,C1093,C4020	C-CERAMIC,CHIP

Main Electrical Parts List

2203-007369	C4078,C4079,C4082	C-CERAMIC,CHIP
2203-007369	C4102,C4103,C5075	C-CERAMIC,CHIP
2203-007369	C6047	C-CERAMIC,CHIP
2203-007391	C1086,C2018,C2021	C-CERAMIC,CHIP
2203-007391	C5015,C6034	C-CERAMIC,CHIP
2203-007393	C2001	C-CERAMIC,CHIP
2203-007403	C1266	C-CERAMIC,CHIP
2203-007449	C1085,C3011,C3018	C-CERAMIC,CHIP
2203-007449	C3021,C3022,C3038	C-CERAMIC,CHIP
2203-007449	C3044,C3045,C3046	C-CERAMIC,CHIP
2203-007449	C3047,C3052,C3059	C-CERAMIC,CHIP
2203-007449	C3060,C3061,C3062	C-CERAMIC,CHIP
2203-007449	C3065,C3066,C4004	C-CERAMIC,CHIP
2203-007449	C4009,C4010,C4018	C-CERAMIC,CHIP
2203-007449	C4019,C4023,C4025	C-CERAMIC,CHIP
2203-007449	C4027,C4050,C4062	C-CERAMIC,CHIP
2203-007449	C4100,C5009,C6001	C-CERAMIC,CHIP
2203-007449	C6003,C6005,C6006	C-CERAMIC,CHIP
2203-007449	C6012,C6014,C6015	C-CERAMIC,CHIP
2203-007450	C5046,C5047	C-CERAMIC,CHIP
2203-007474	C1013,C2003	C-CERAMIC,CHIP
2203-007781	C6054,C6055,C6057	C-CERAMIC,CHIP
2203-007781	C6058,C6059	C-CERAMIC,CHIP
2203-007795	C4064,C4069,C6053	C-CERAMIC,CHIP
2203-007796	C2029,C2044,C2045	C-CERAMIC,CHIP
2203-007796	C2052,C2053,C4073	C-CERAMIC,CHIP
2203-007796	C4081,C4084,C5064	C-CERAMIC,CHIP
2203-007796	C6017,C6018,C6050	C-CERAMIC,CHIP
2203-007796	C6051,C6052	C-CERAMIC,CHIP
2203-008097	C2042,C2043	C-CERAMIC,CHIP
2203-008470	C5066	C-CERAMIC,CHIP
2203-008654	C4086,C4087,C4104	C-CERAMIC,CHIP
2203-008876	C4055,C4056,C5058	C-CERAMIC,CHIP
2203-008876	C5076,C6016	C-CERAMIC,CHIP
2703-001231	L4008	INDUCTOR-SMD
2703-002201	L5015,L5016	INDUCTOR-SMD
2703-002309	L5014	INDUCTOR-SMD

2703-002313	L5018	INDUCTOR-SMD
2703-002901	C1318	INDUCTOR-SMD
2703-002903	L2017	INDUCTOR-SMD
2703-002953	C1316,C1317	INDUCTOR-SMD
2703-002958	C2067	INDUCTOR-SMD
2703-002959	L1013	INDUCTOR-SMD
2703-003121	L2011,L2012	INDUCTOR-SMD
2703-003686	L3000,L4011	INDUCTOR-SMD
2703-003878	L5005	INDUCTOR-SMD
2703-004012	C1311,L1018,L1146	INDUCTOR-SMD
2703-004012	L1147	INDUCTOR-SMD
2703-004013	L1127,L1143,L2018	INDUCTOR-SMD
2703-004014	L1039	INDUCTOR-SMD
2703-004018	L1011,L1135,L1142	INDUCTOR-SMD
2703-004030	L1130	INDUCTOR-SMD
2703-004032	L1002,L1038,L2016	INDUCTOR-SMD
2703-004034	L1004,L1037,L1047	INDUCTOR-SMD
2703-004034	L1107,L1148	INDUCTOR-SMD
2703-004035	L1021	INDUCTOR-SMD
2703-004036	L1051,L2002	INDUCTOR-SMD
2703-004037	L1009,L1024,L1115	INDUCTOR-SMD
2703-004037	L1151	INDUCTOR-SMD
2703-004038	L1000,L1049,L1152	INDUCTOR-SMD
2703-004297	L6011	INDUCTOR-SMD
2703-004299	L1034,L1105	INDUCTOR-SMD
2703-004328	L1153,L1154,L1155	INDUCTOR-SMD
2703-004328	L2009	INDUCTOR-SMD
2703-004364	L1140	INDUCTOR-SMD
2703-004408	L1015,L1137,L1156	INDUCTOR-SMD
2703-004764	L1029,L1030	INDUCTOR-SMD
2703-005102	L4000	INDUCTOR-SMD
2703-005106	L2013	INDUCTOR-SMD
2703-005117	L6017,L6018	INDUCTOR-SMD
2703-005118	L6014	INDUCTOR-SMD
2703-005339	L4002,L4003	INDUCTOR-SMD
2703-005340	L4001,L4009	INDUCTOR-SMD
2801-005300	OSC4000	CRYSTAL-UNIT

Main Electrical Parts List

2904-002168	F2002	FILTER-SAW
2904-002314	F2001	FILTER-SAW
2910-000253	F1006	FILTER
2911-000352	U1001	FILTER
2911-000377	U1003	FILTER
3003-001212	MIC5000	MIC-CONDENSOR
3301-001534	L2001,L6012	CORE-FERRITE BEAD
3301-001729	L5013	CORE-FERRITE BEAD
3301-001789	L6013,L6015,L6016	CORE-FERRITE BEAD
3301-001812	L6003,L6004	CORE-FERRITE BEAD
3301-001885	L5001,L5003,L5017	CORE-FERRITE BEAD
3301-001885	L5020,L5021,U5014	CORE-FERRITE BEAD
3301-001914	L4007	CORE-FERRITE BEAD
3301-002078	L5002,L5004,L5019	CORE-FERRITE BEAD
3301-002179	L5009,L5010	CORE-FERRITE BEAD
3301-002236	L4004,L4005,L4006	CORE-FERRITE BEAD
3301-002236	L5006	CORE-FERRITE BEAD
3301-002238	R6004,R6008	CORE-FERRITE BEAD
3301-002248	L2000	CORE-FERRITE BEAD
3301-002254	L4010	CORE-FERRITE BEAD
3404-001547	TAC5000,TAC5001	SWITCH-TACT
3404-001547	TAC5002	SWITCH-TACT
3705-001708	RFS1000	CONNECTOR-COAXIAL
3709-001863	SIM6001	CONNECTOR-CARD EDGE
3711-007295	HDC6002	CONNECTOR-HEADER
3711-007617	HDC6001	CONNECTOR-HEADER
3711-008151	HEA5000	CONNECTOR-HEADER
3711-008511	HDC6000	CONNECTOR-HEADER
3711-008737	BTC4000	CONNECTOR-HEADER
3712-001621	ANT1000,ANT1001	CONNECTOR
3712-001621	ANT1003,ANT1004	CONNECTOR
3712-001621	ANT2000,ANT2001	CONNECTOR
3712-001621	ANT5002,ANT5003	CONNECTOR
3712-001621	ANT5004,ANT5005	CONNECTOR
3712-001626	ANT5000,ANT5001	CONNECTOR
3722-003954	IFC400	JACK-PHONE
4709-002193	F1000	RF-MODULE

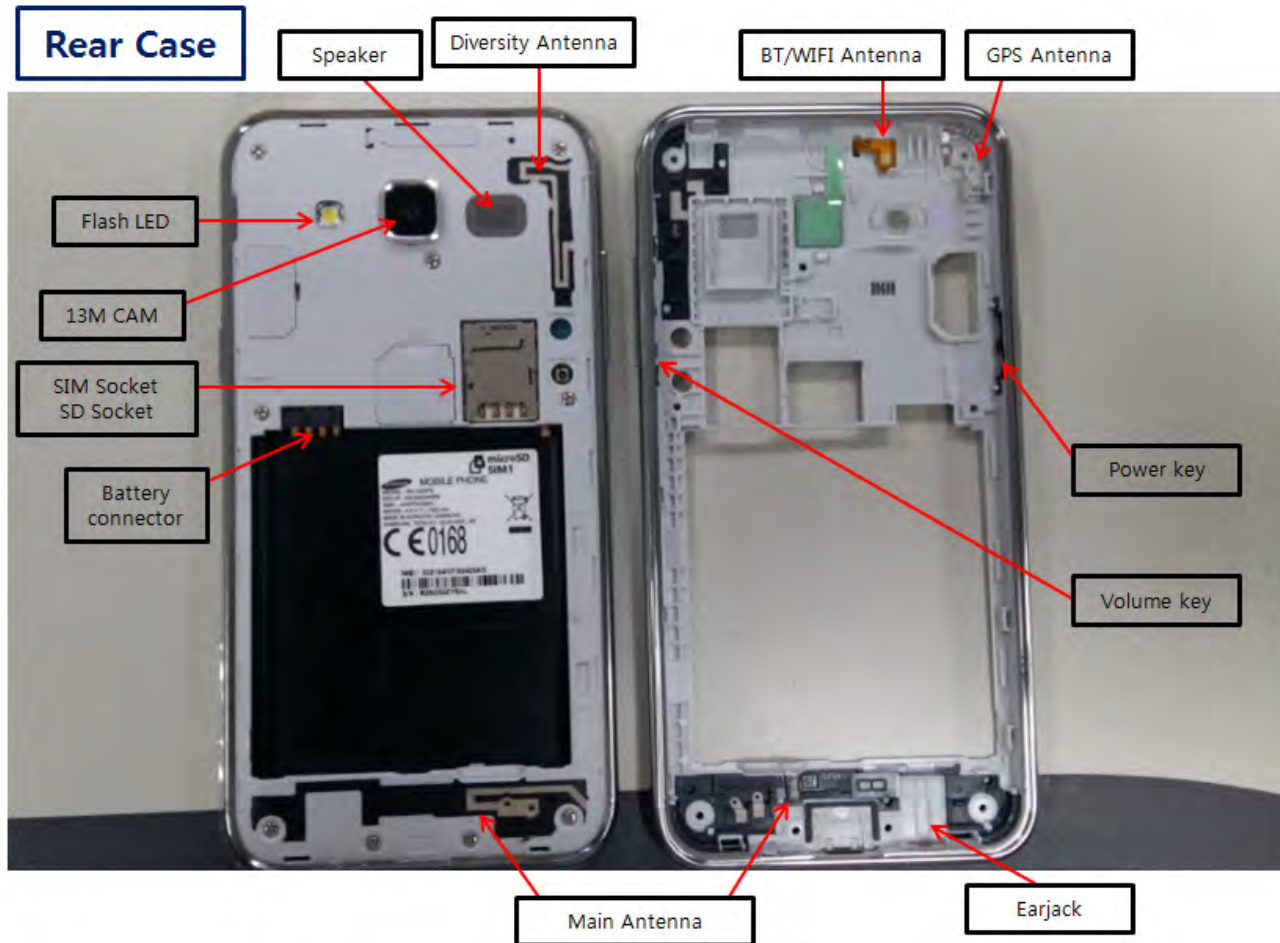
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GH61-04482A	SUS1002,SUS1003	SUS
GH61-04483A	SUS1000	SUS
GH61-04484A	SUS1001	SUS
GH62-00047A	GA1000,GA1001,GA1002	JSM
GH62-00047A	GA1003,GA1004,GA1005	JSM
GH62-00047A	GA1006,GA1007,GA1008	JSM
GH98-37578A	SC200	SHIELD-CAN
GH98-37579A	SC202	SHIELD-CAN
GH98-37595A	SC201	SHIELD-CAN

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

## 7. Level 2 Repair

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



7-2. Pre-requisite

	
<p>Tweezers / Disass'y Stick / Screw Driver / Dissolution jig.</p>	<p>Anti-static Gloves</p>
	
<p>OCTA Disassembly Holder</p>	<p>Anti-static Mat</p>
	
<p>Acryl Jig Rework Form</p>	<p>Glass Absorbers (2ea)</p>
	
<p>Tape Rework Form</p>	<p>Mobile Dryer</p>



7-3. Parts which must be changed after repair

<p>OCTA Form Tape (GH02-10627A)</p>	
<p>OCTA Cu Tape (GH02-10889A)</p>	

7-4. Disassembly

1) Remove the LCD connector and CAP



1) Unscrew red point



**※ Caution**  
 1) Be Careful not to Damage of PBA  
 2) It uses the Dissolution jig.

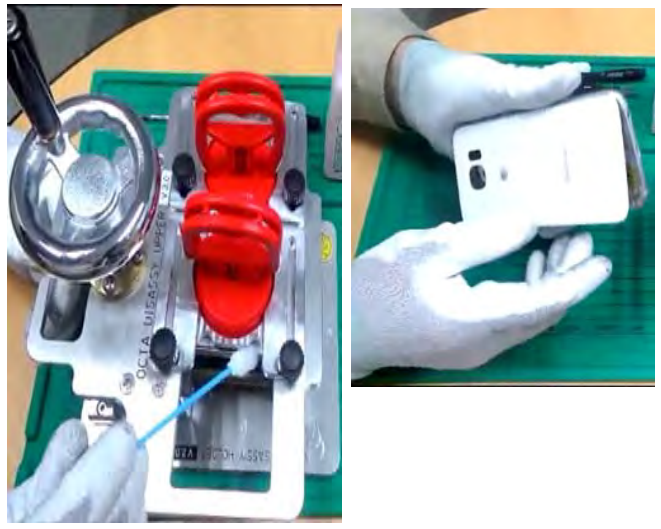
**※ Caution**

1) Detach the 11 point hooks in order.  
 2) Disassemble the bracket.



**※ Pull down the bracket.**

1) Disassemble the Back glass using Ethyl alcohol with Disassembly Jig.



**※ Caution**  
 1) Be care of scratch.

**※ Caution**  
 1) Be Careful not to Damage of PBA  
 (Must remove the 6th hook.)

5

1) Disassemble the PBA Assy.



※ Caution

1) Be careful not to damage.

7-5. assembly

**1** 1) Attach Bracket Assy

**2** 1) Attach the Bracket Assy

**\* Caution**  
1) Be care of tilting.

**\* Caution**  
1) Be care of tilting.

**3** 1) Assemble PBA to the Bracket

**4** 1) Assemble Rear

**\* Caution**  
1) Be careful not to Damage.

**\* Caution**  
1) Be careful not to Damage.  
2) Be careful not to Damage SPK FPCB

**5** 1) Assemble Rear Assy & PBA Assy

**6** 1) Assemble Rear Assy & PBA Assy (2)

**※ Caution**

**※ Caution**  
1) Be careful not to Damage.

**7** 1) Screw 9 powints in order.

**8** 1) Assemble OCTA and Rear Assy

**※ Caution**  
Torque : 1.1 Kgf/cm<sup>2</sup>  
Screw : 1.4 \* 3.5 (6001-003227)

**※ Caution**  
1) Must Check Home key assembled.



9

- 1) Assemble the LCD Conn..
- 2) Assemble the LCD Conn. cap.



※ Caution

10

- 1) Press the set using pressure JIG.

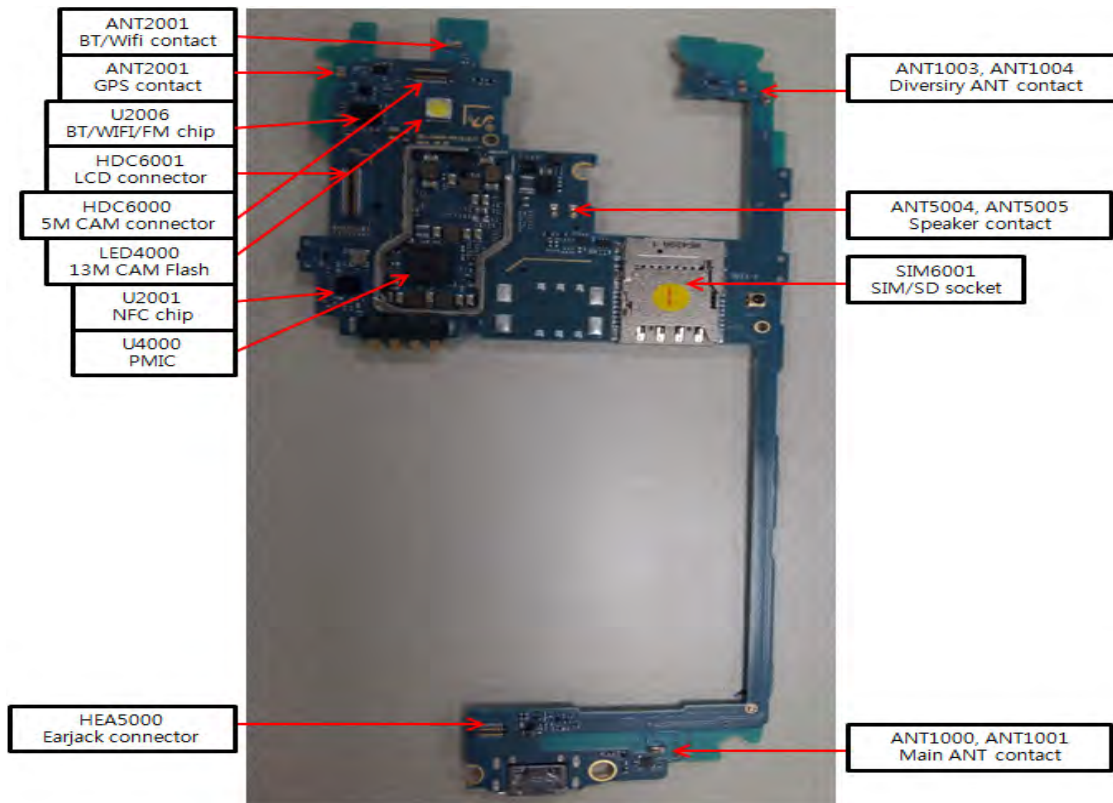
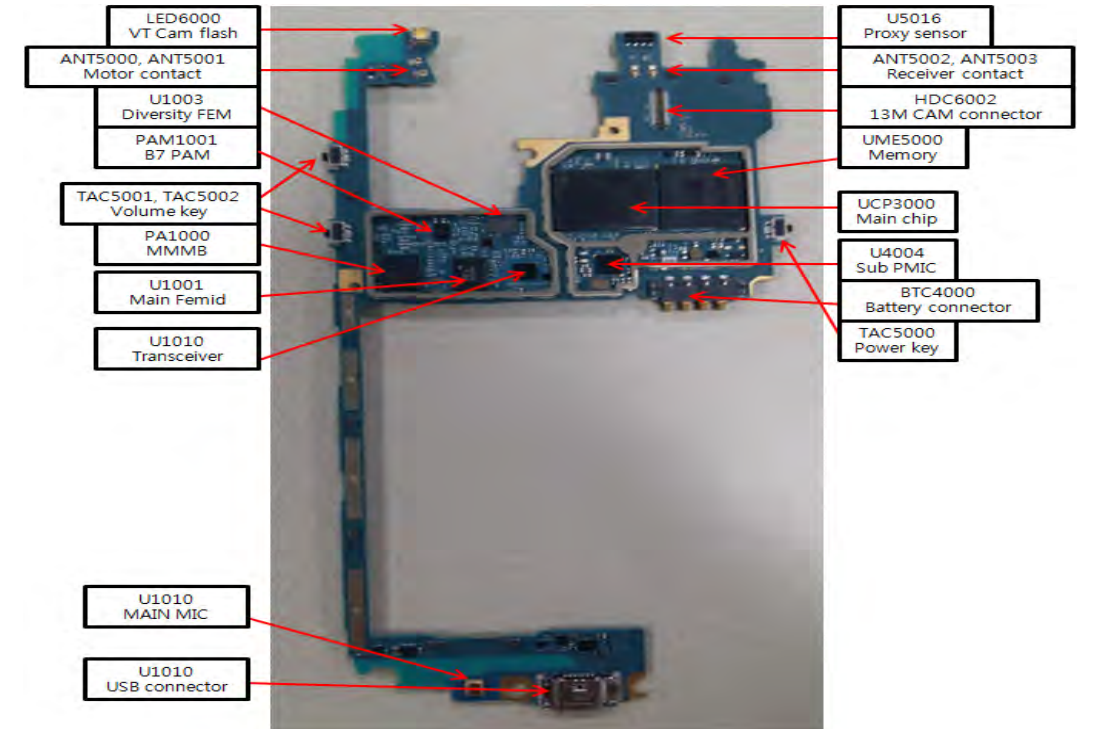


※ Caution  
- Press time : 14.7 sec

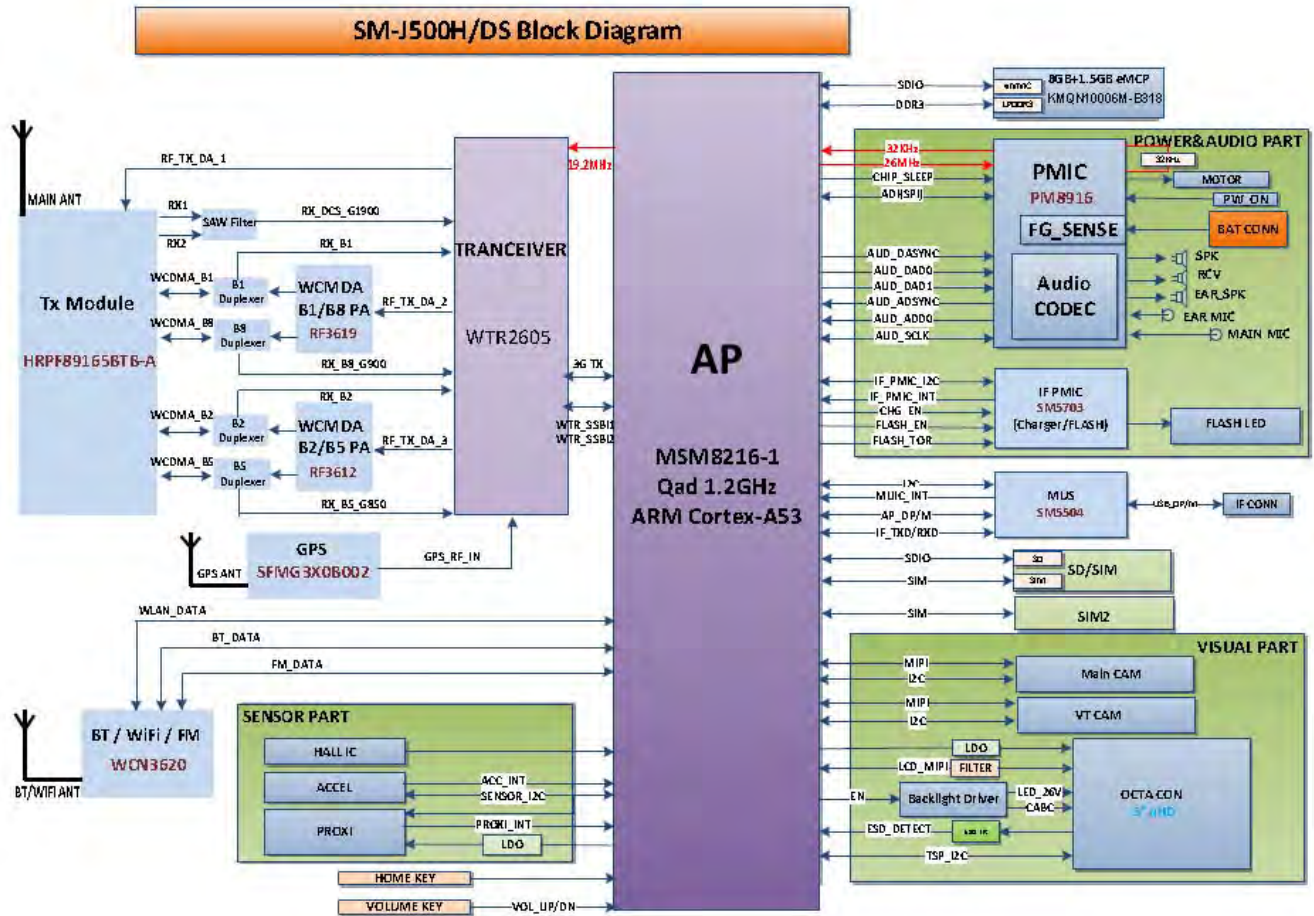


## 8. Level 3 Repair

### 8-1. Components Layout

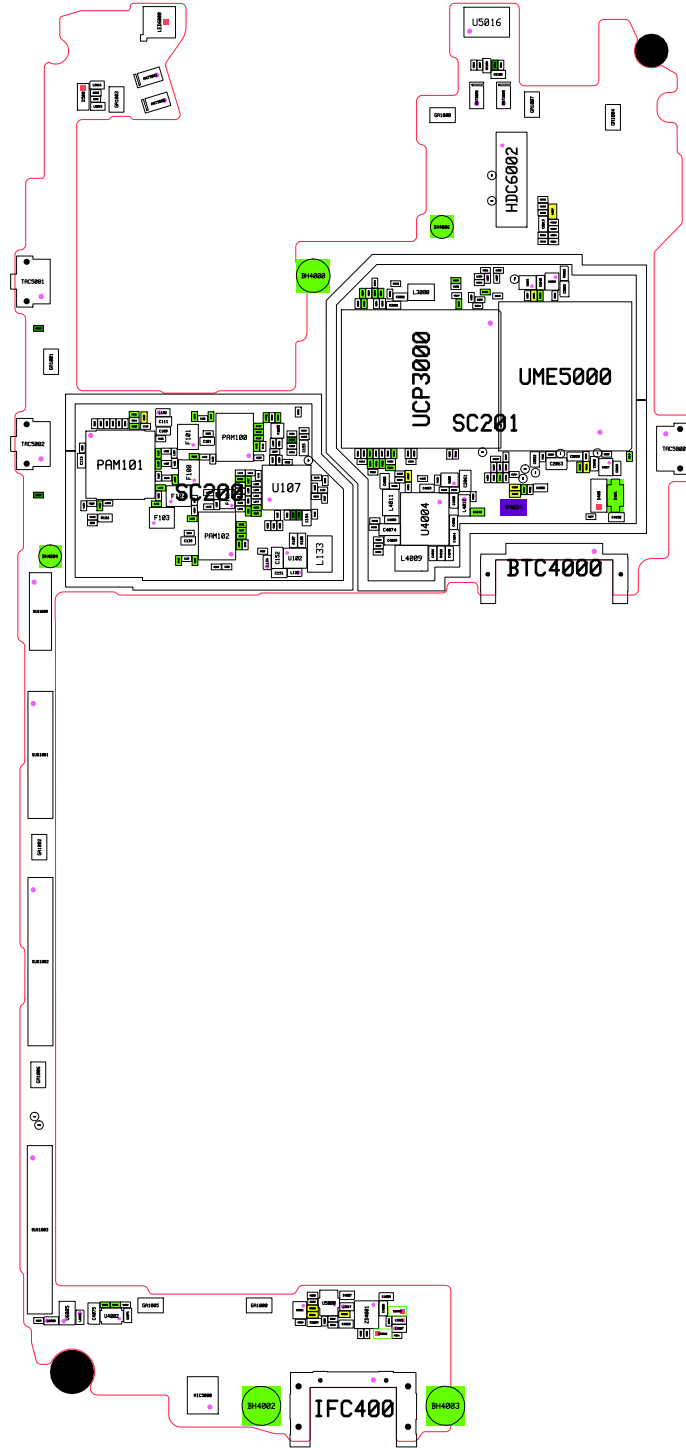


8-2. Block Diagram

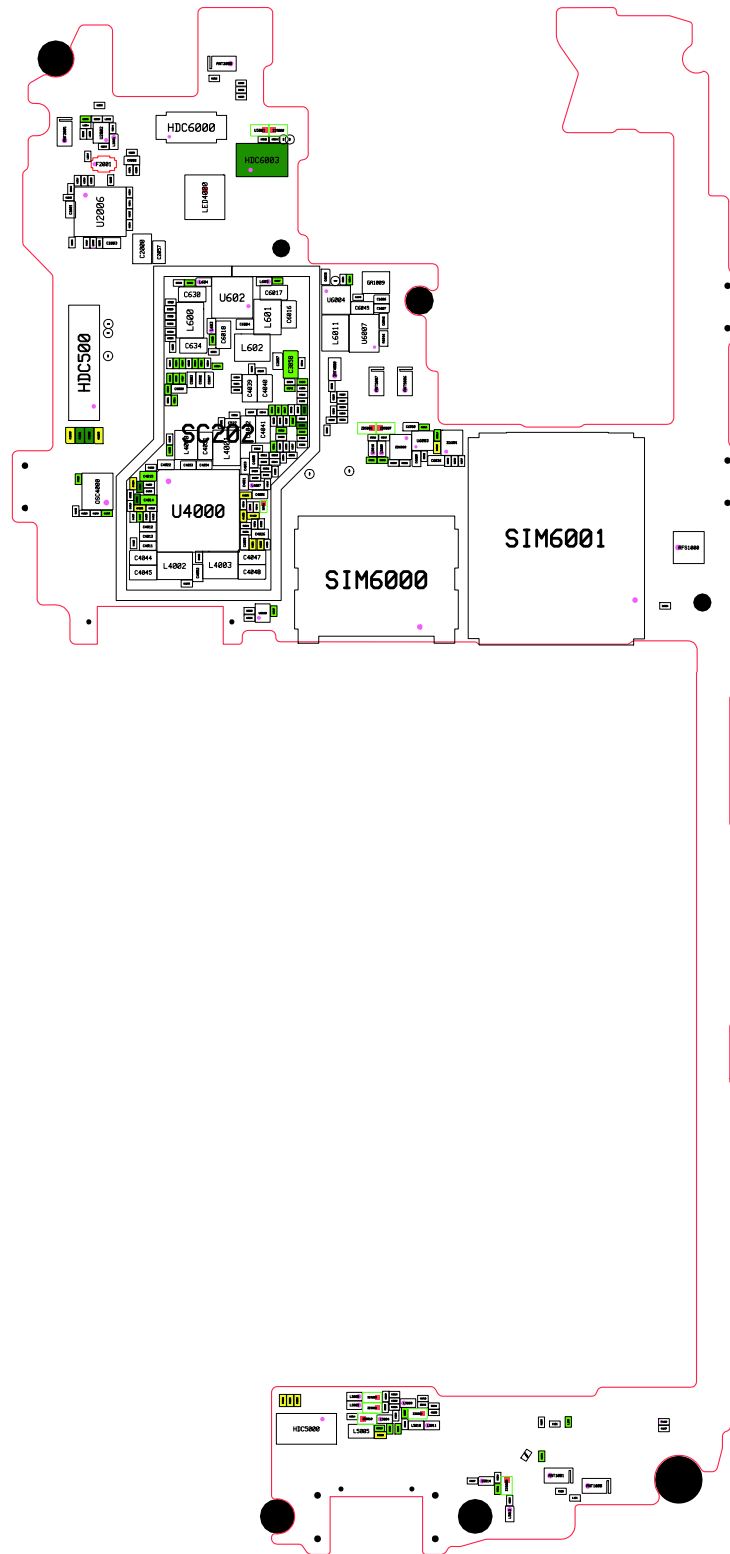


8-3. PCB Diagrams

8-3-1. Top



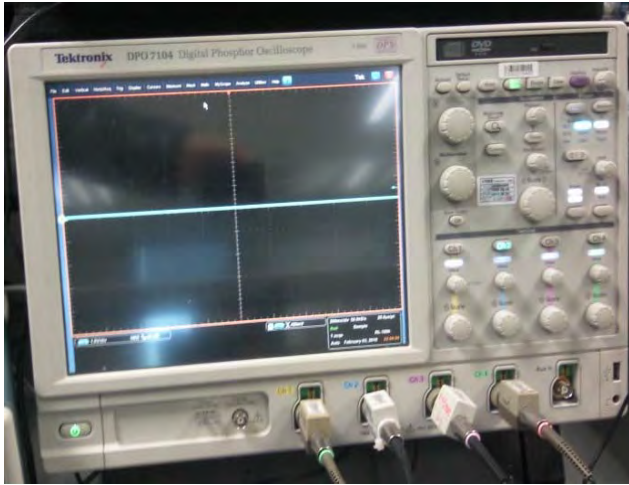
8-3-2. Bottom





8-4. Flow Chart of Troubleshooting

Equipments



↑ Oscilloscope



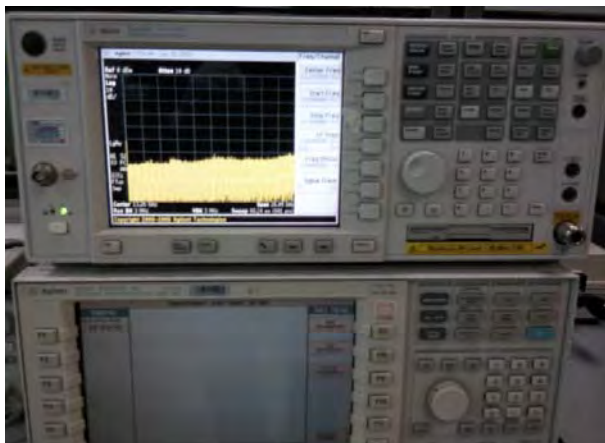
↑ Digital Multimeter



↑ Power Supply



↑ + driver, ESD Safe Tweezer

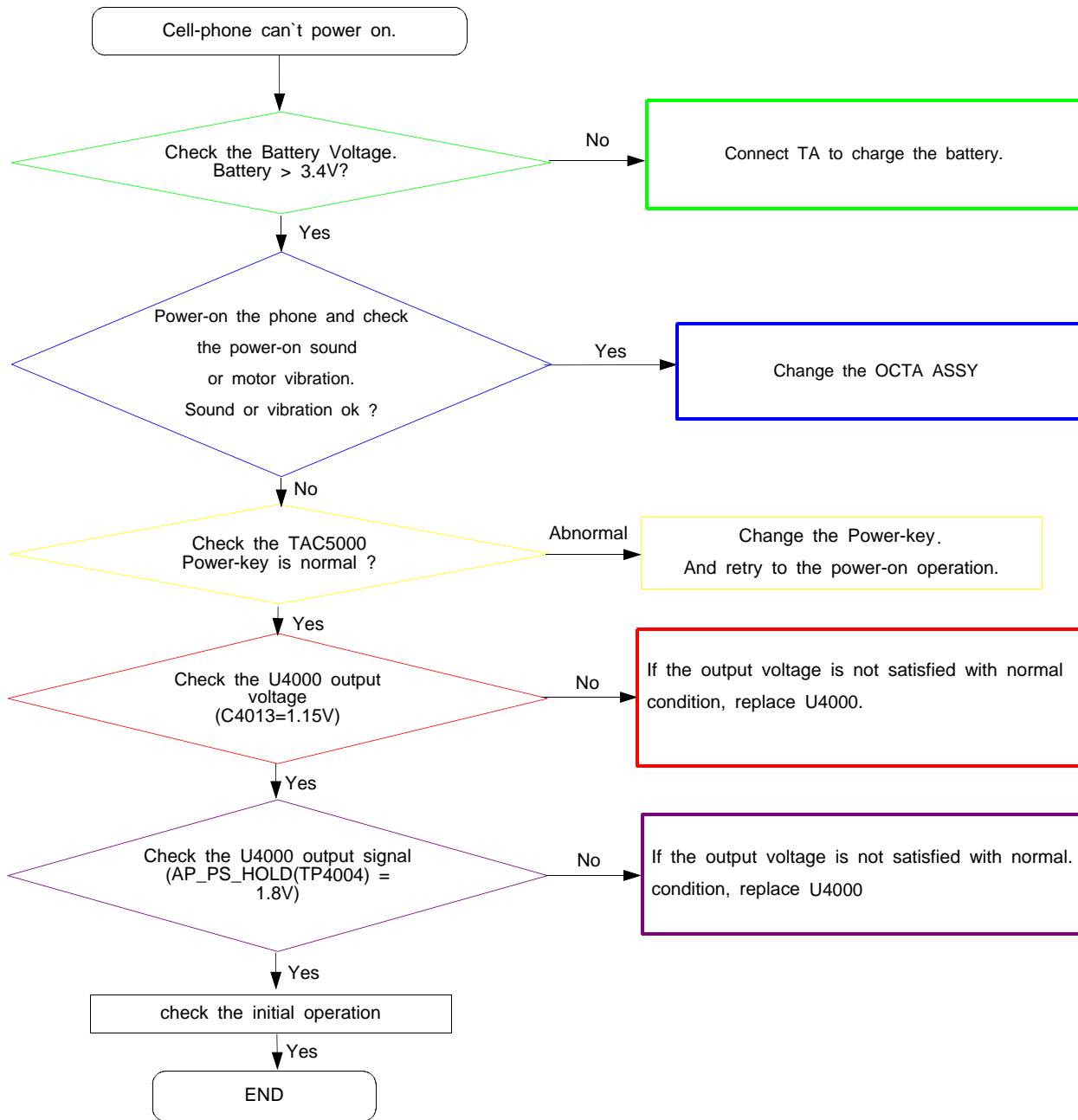


↑ 8960 & Spectrum Analyzer

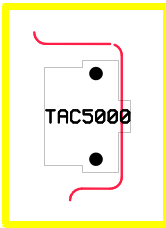
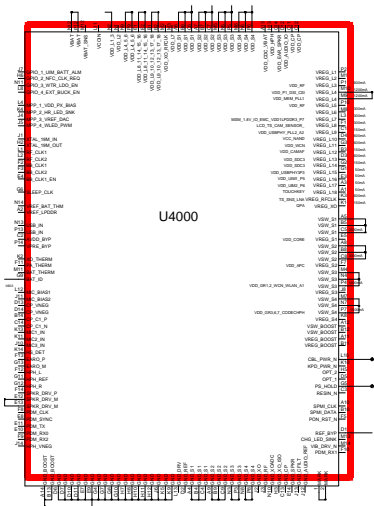
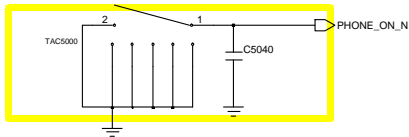


↑ Soldering iron

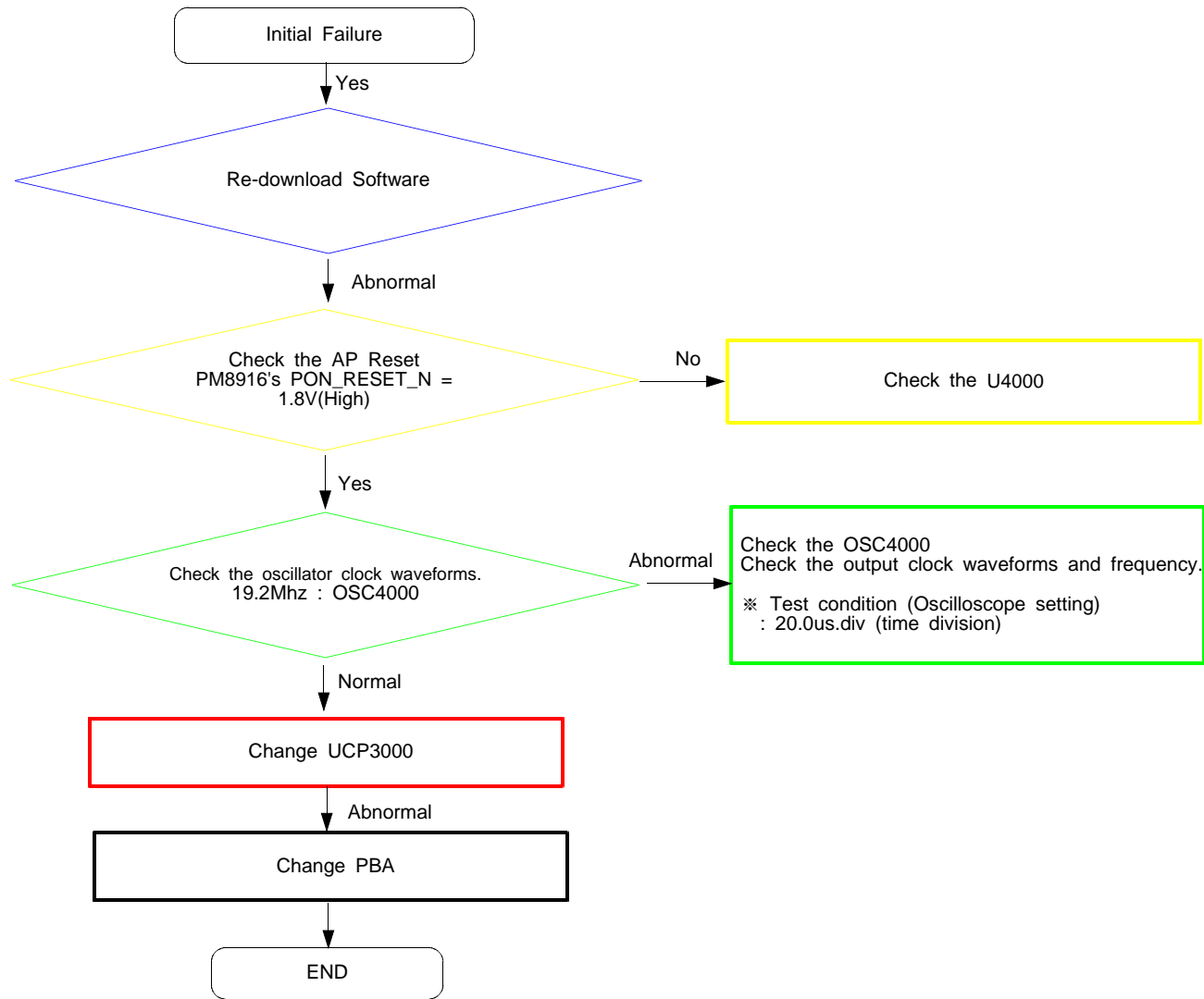
8-4-1. Power On

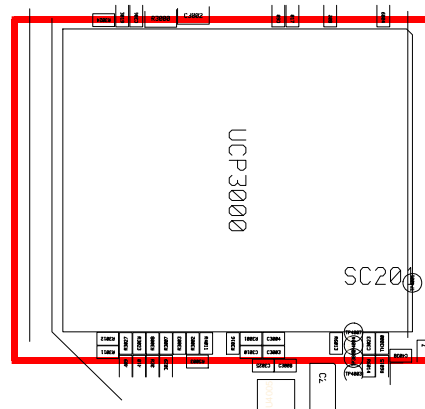
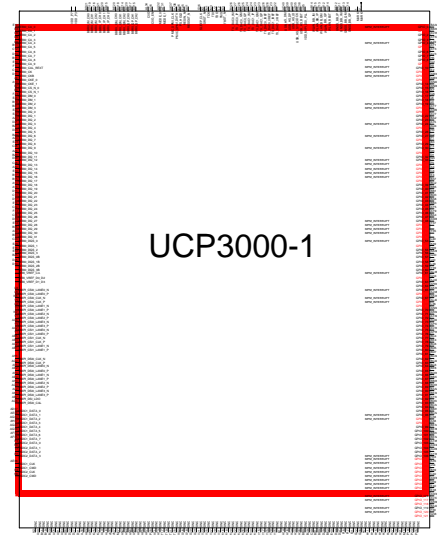
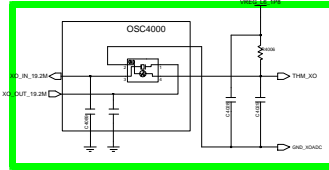
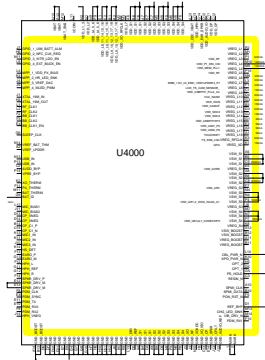




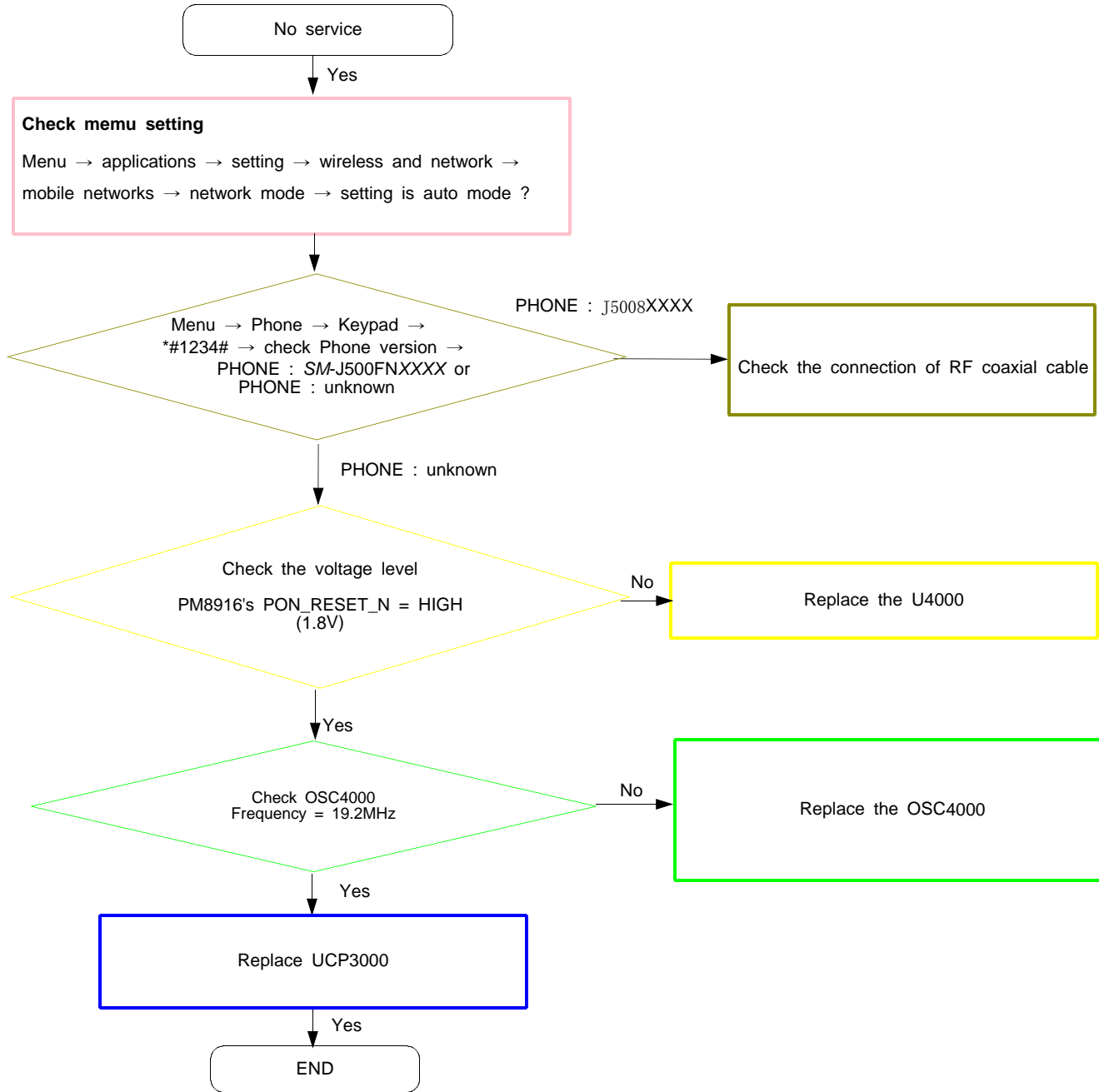


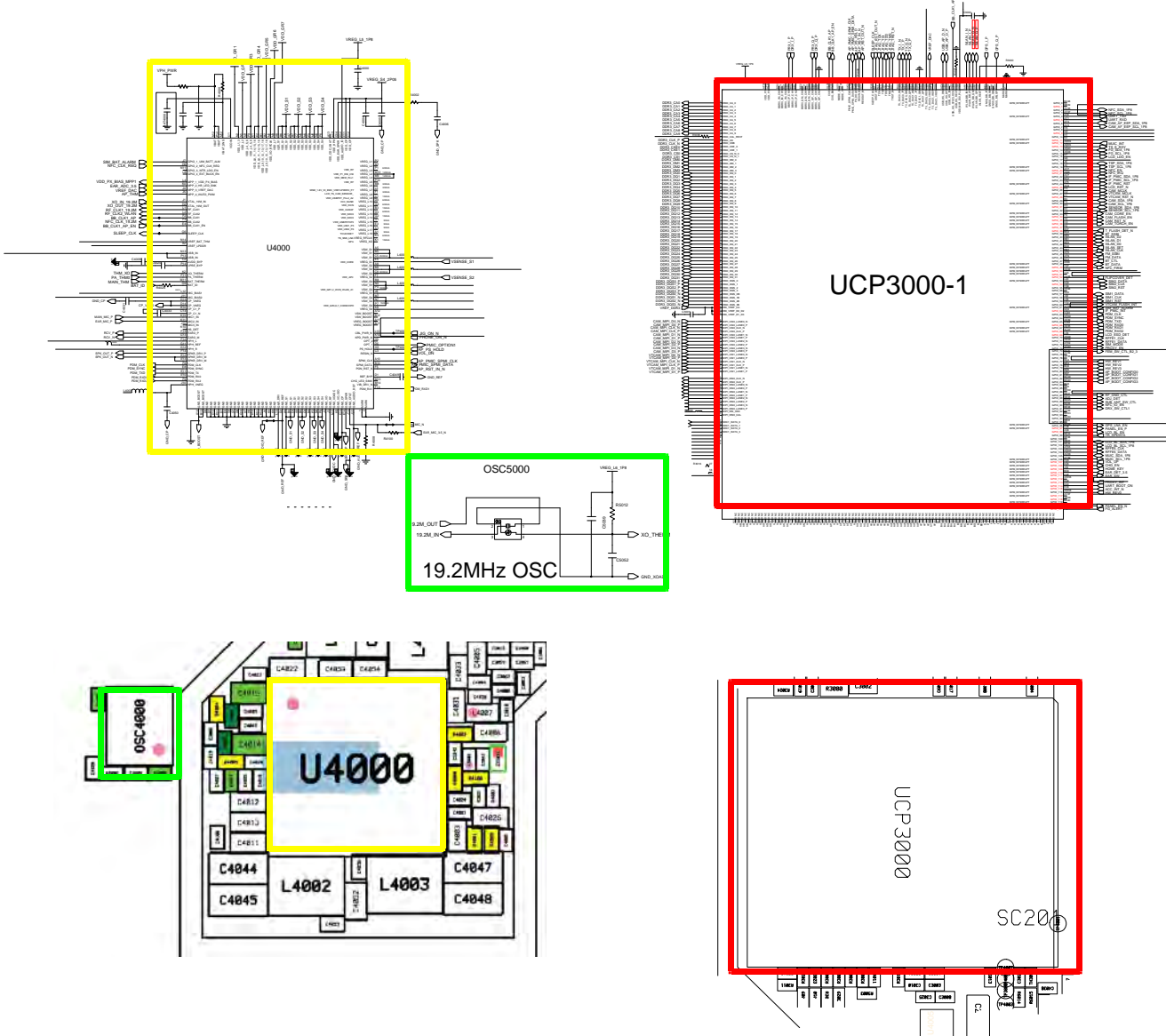
8-4-2. Initial



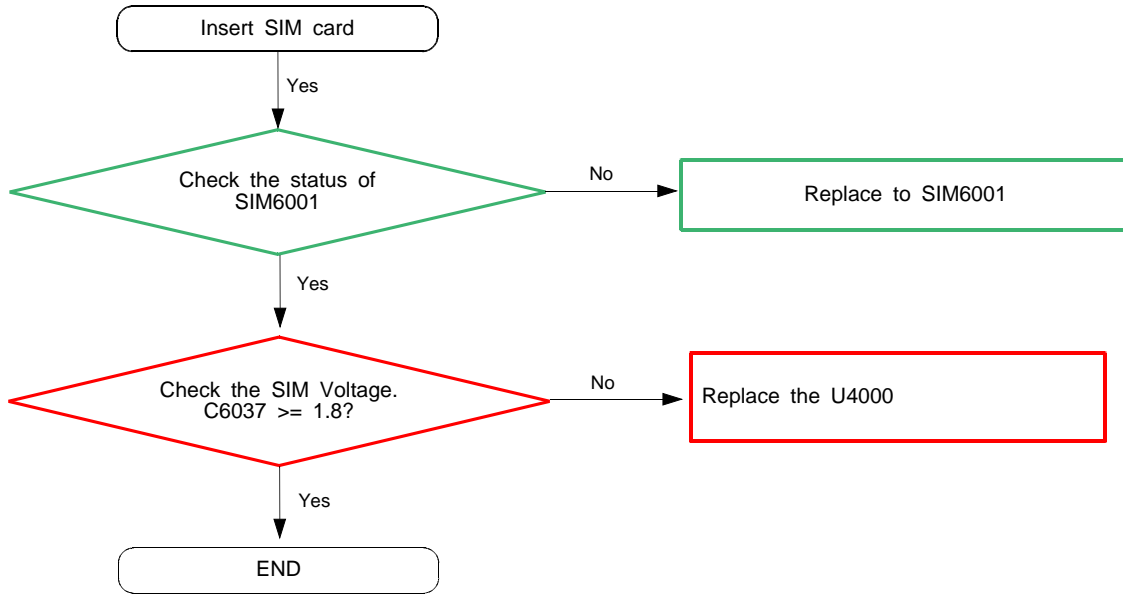


8-4-3. No Service

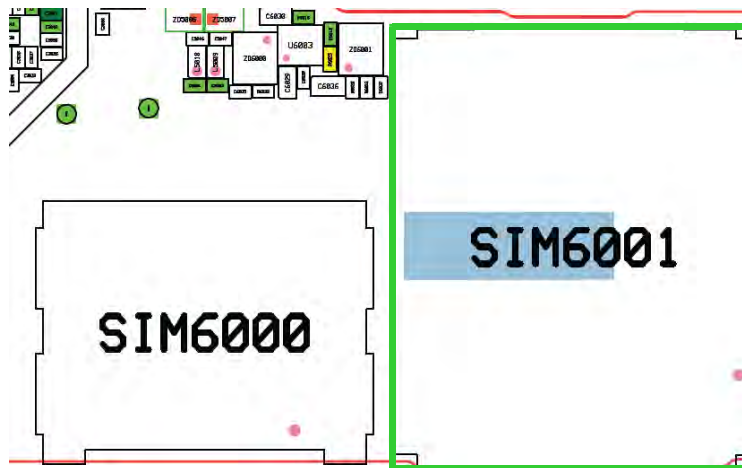
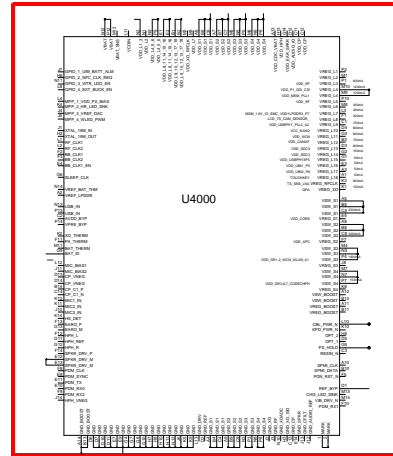
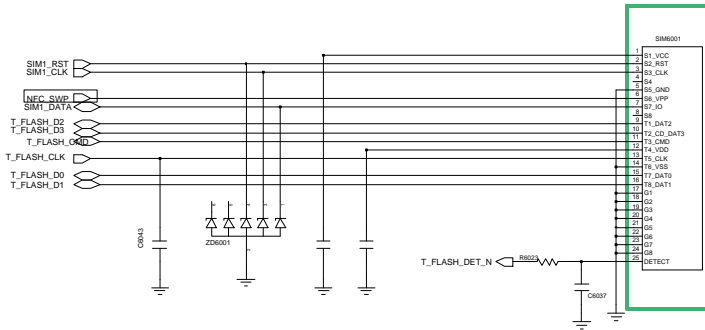




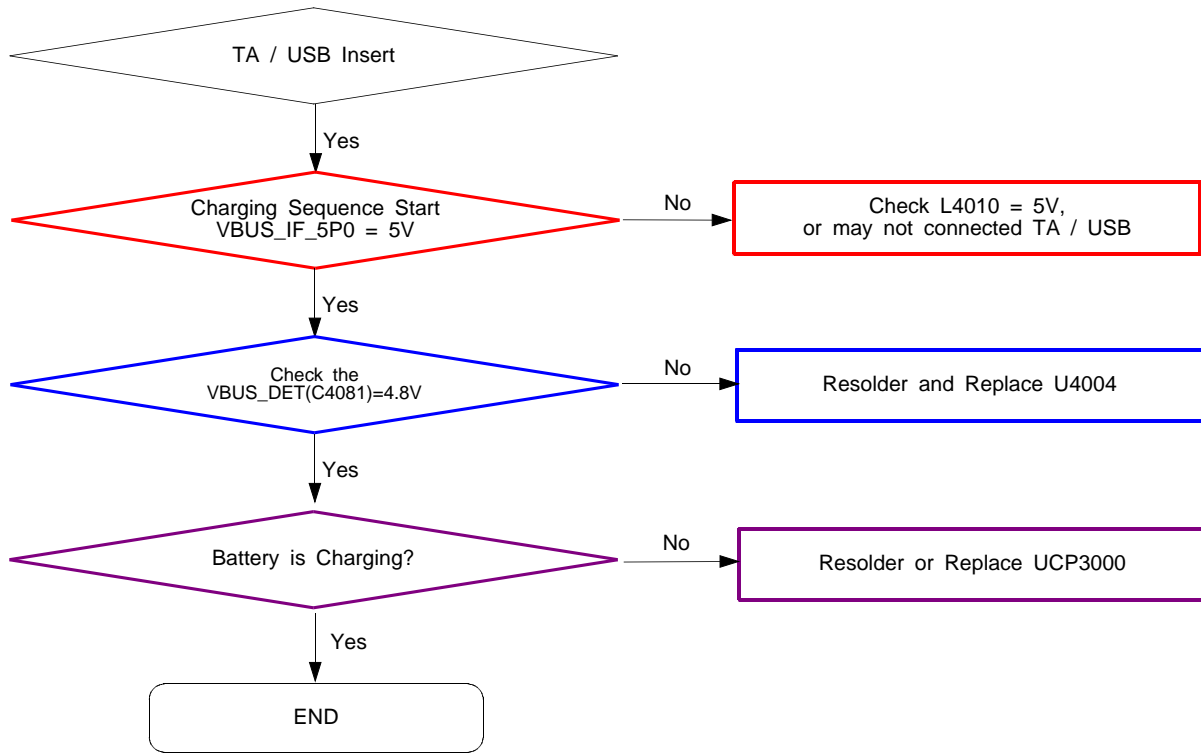
8-4-4. Sim Part - Sim Card

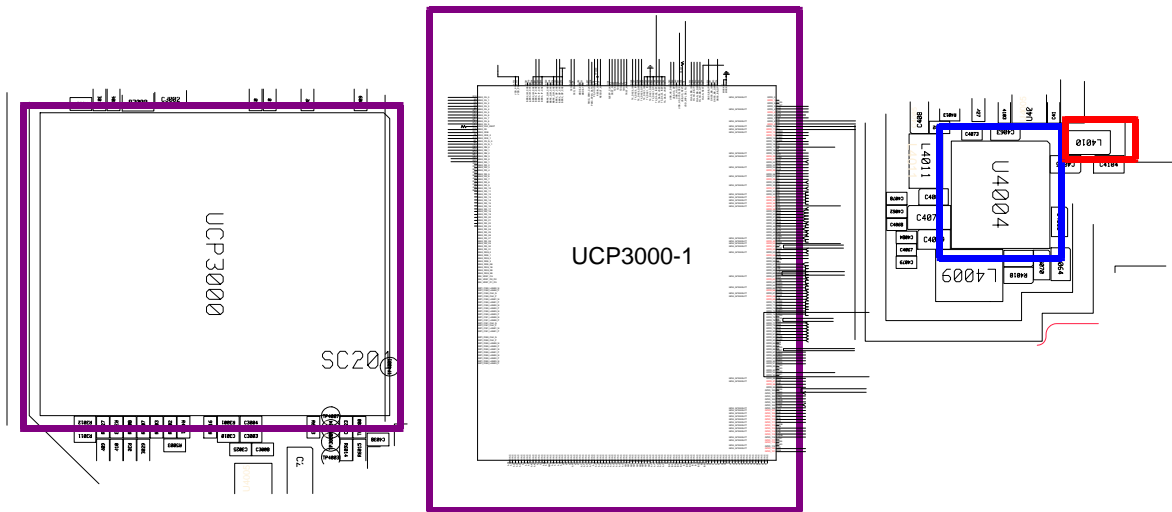
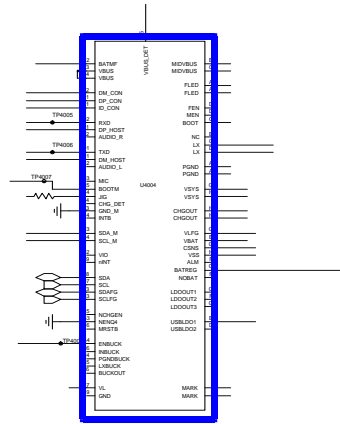
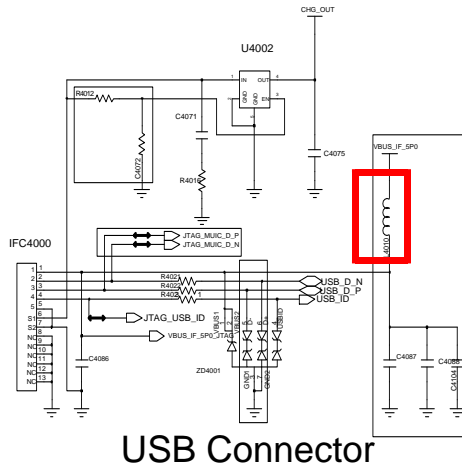




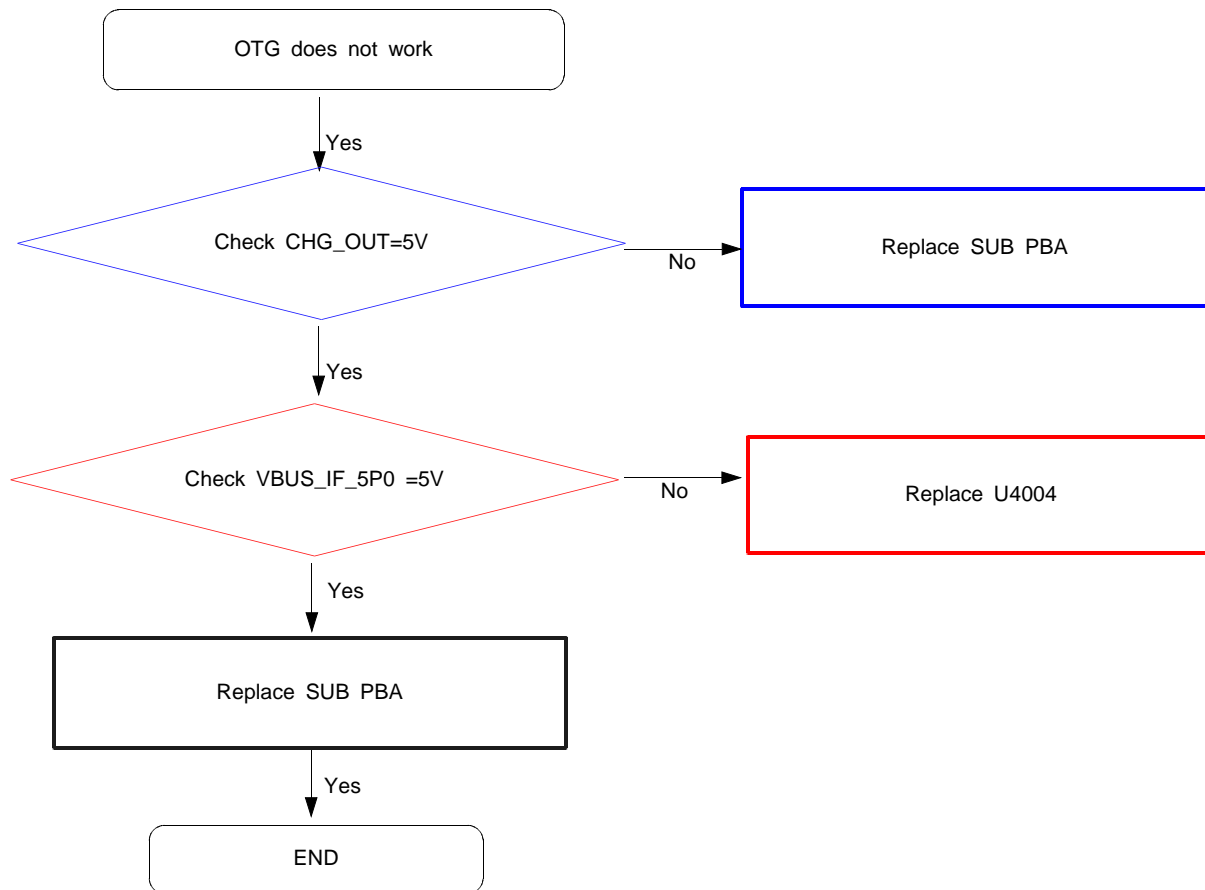


8-4-5. Charging Part

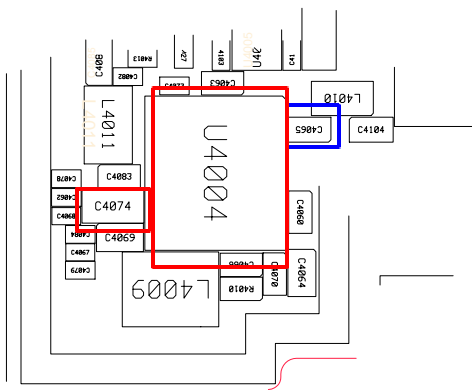
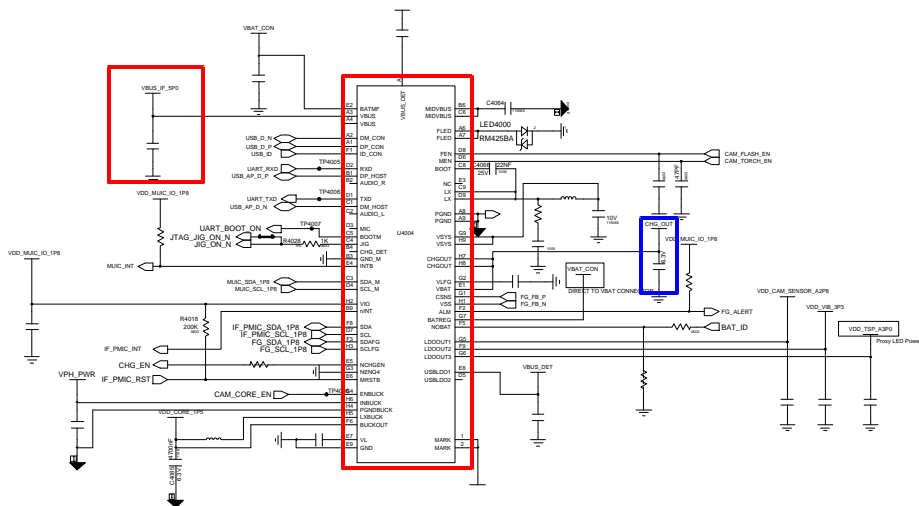




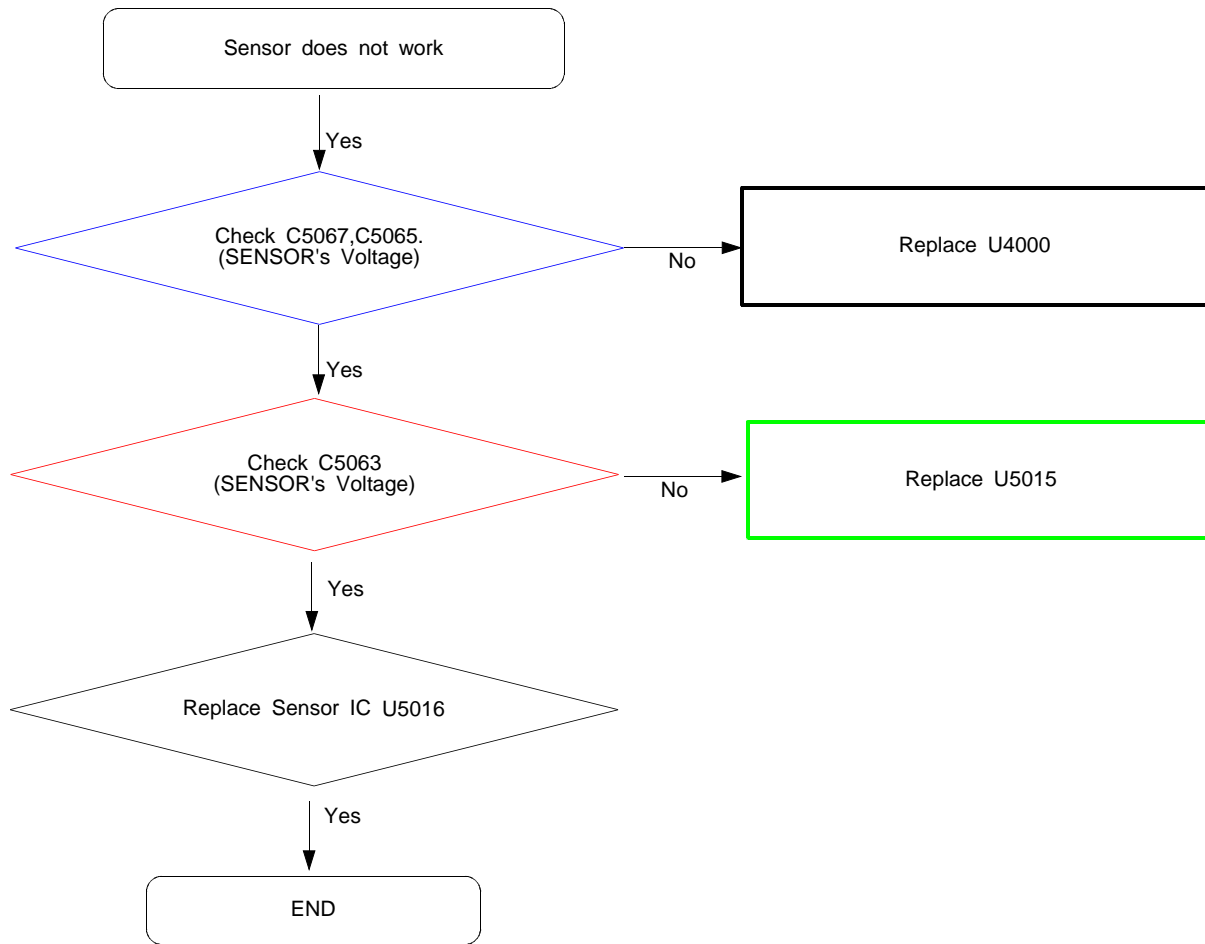
8-4-6. OTG



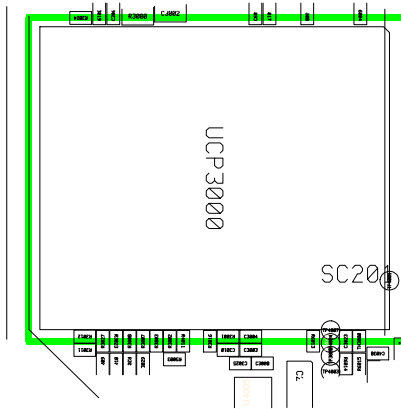
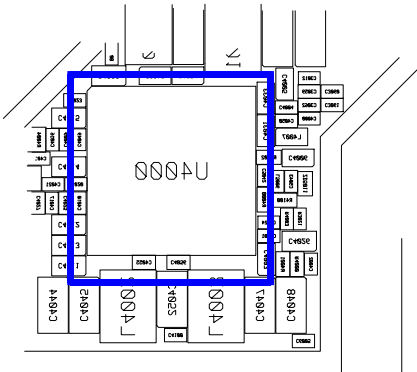
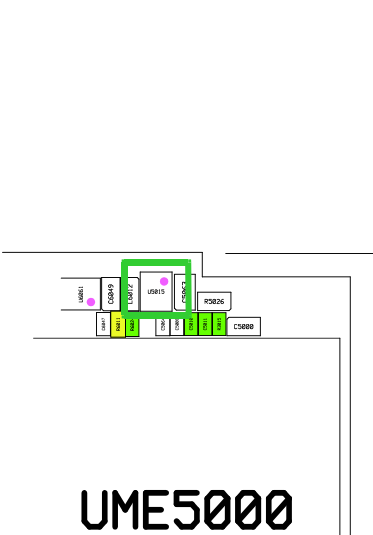
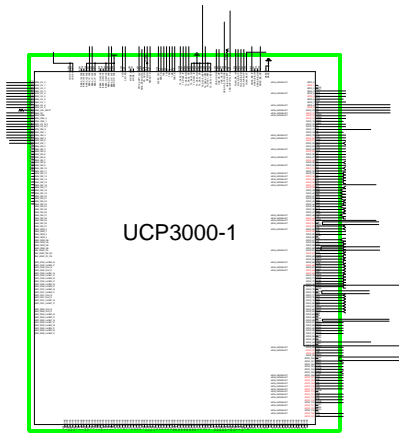
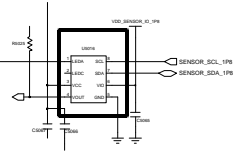
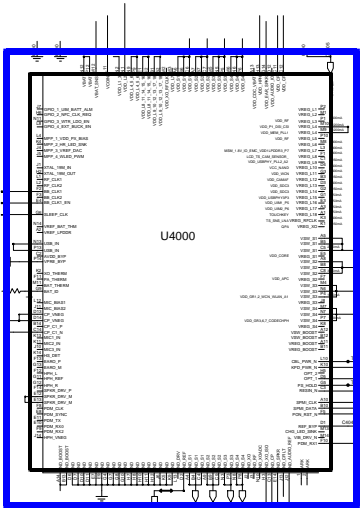
Level 3 Repair



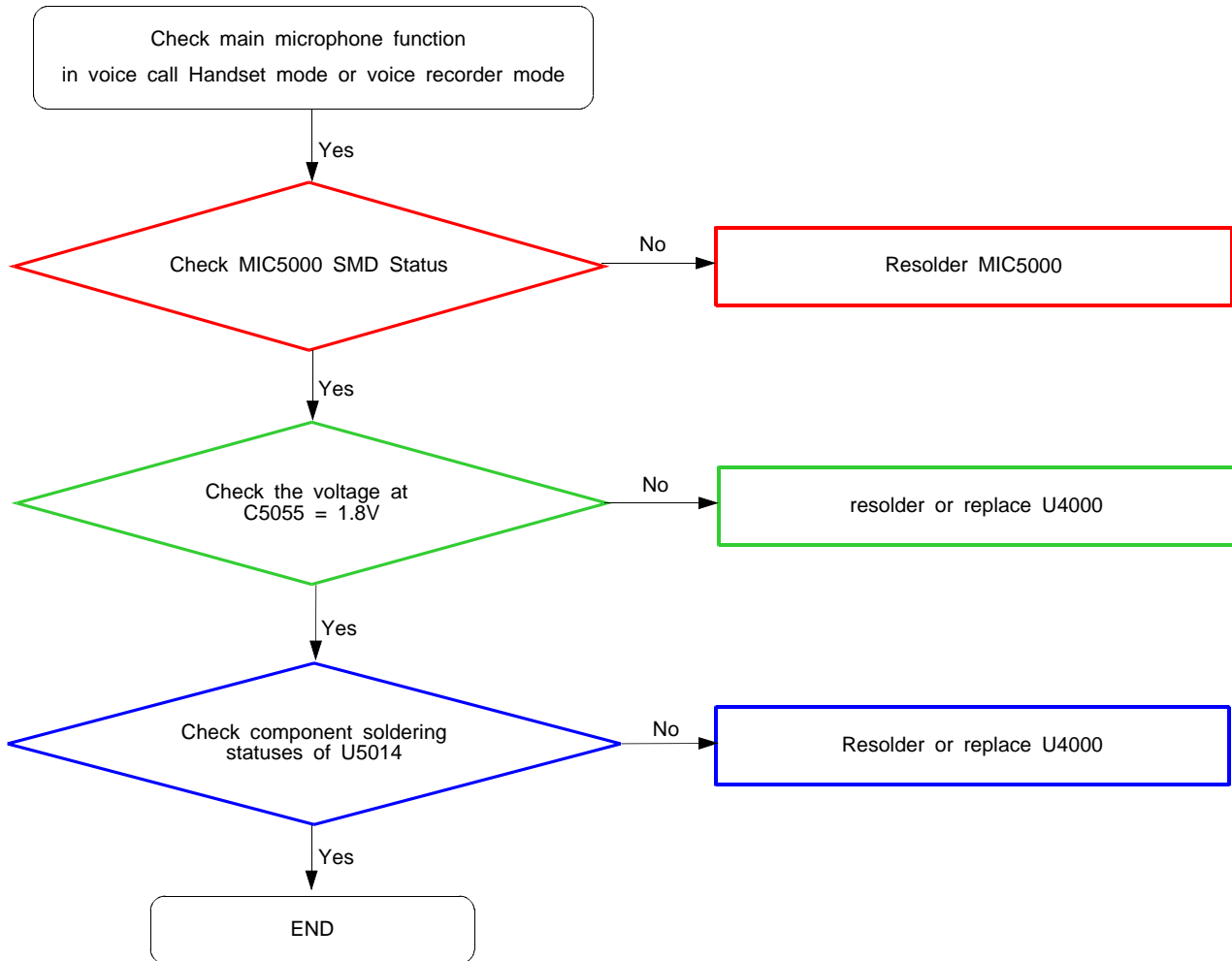
8-4-7. Proxy Sensor

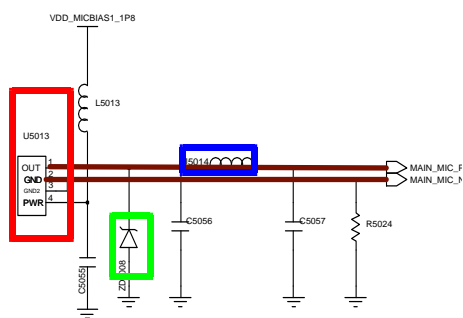




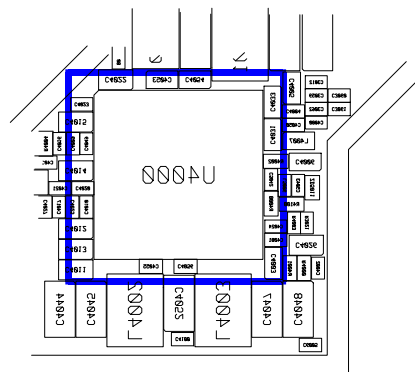
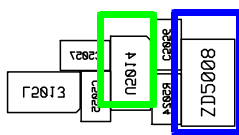
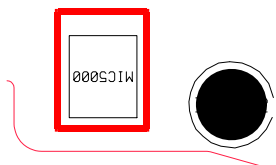
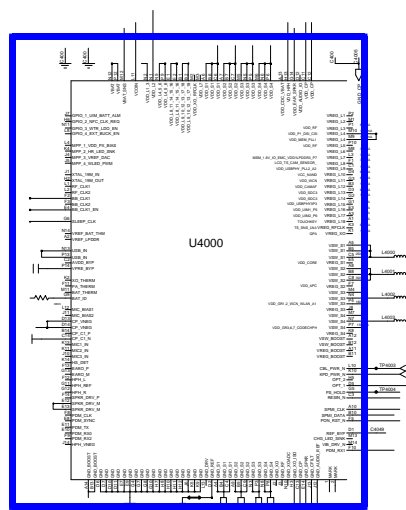


8-4-8 Microphone Part - Main MIC

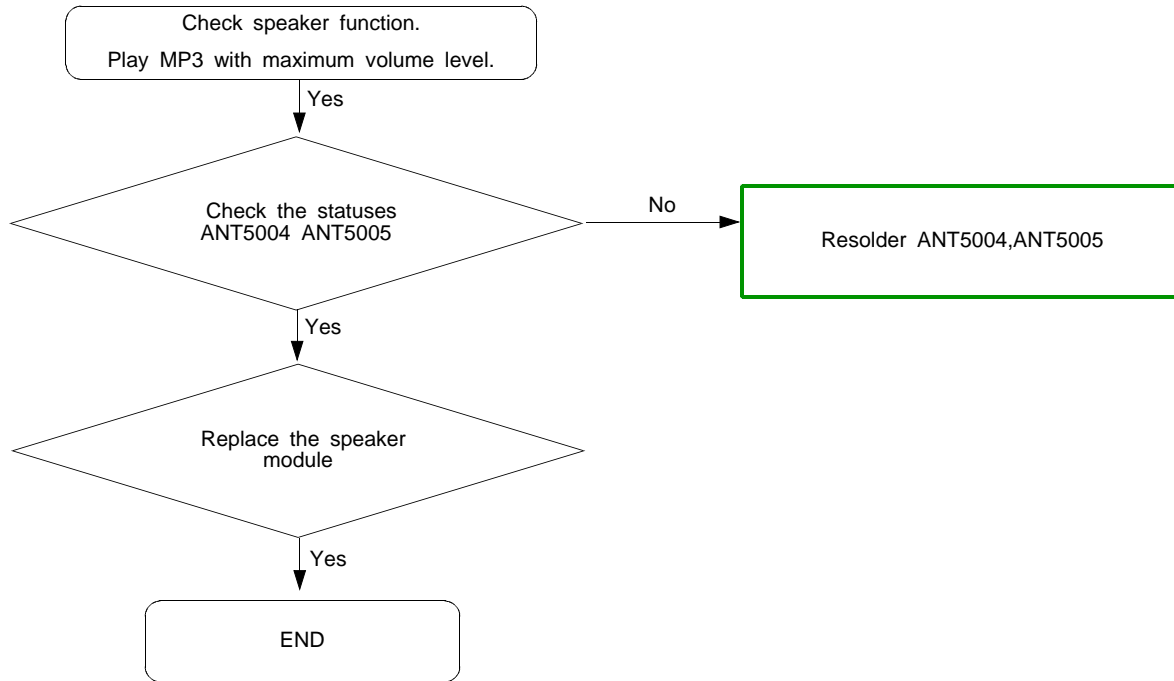


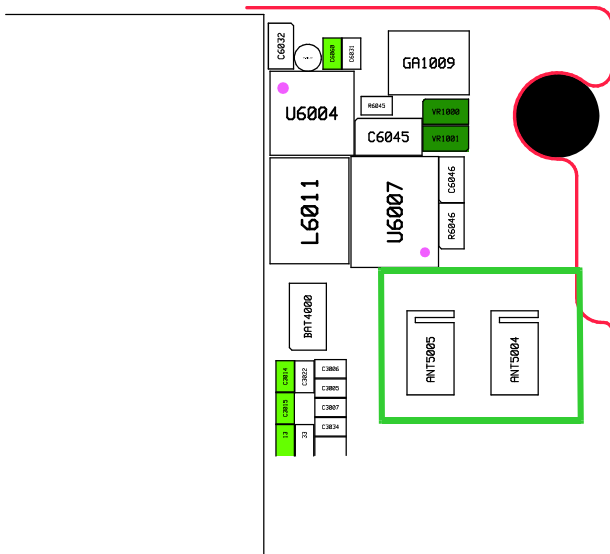
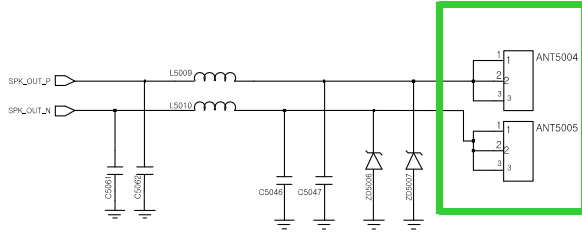


Main MIC

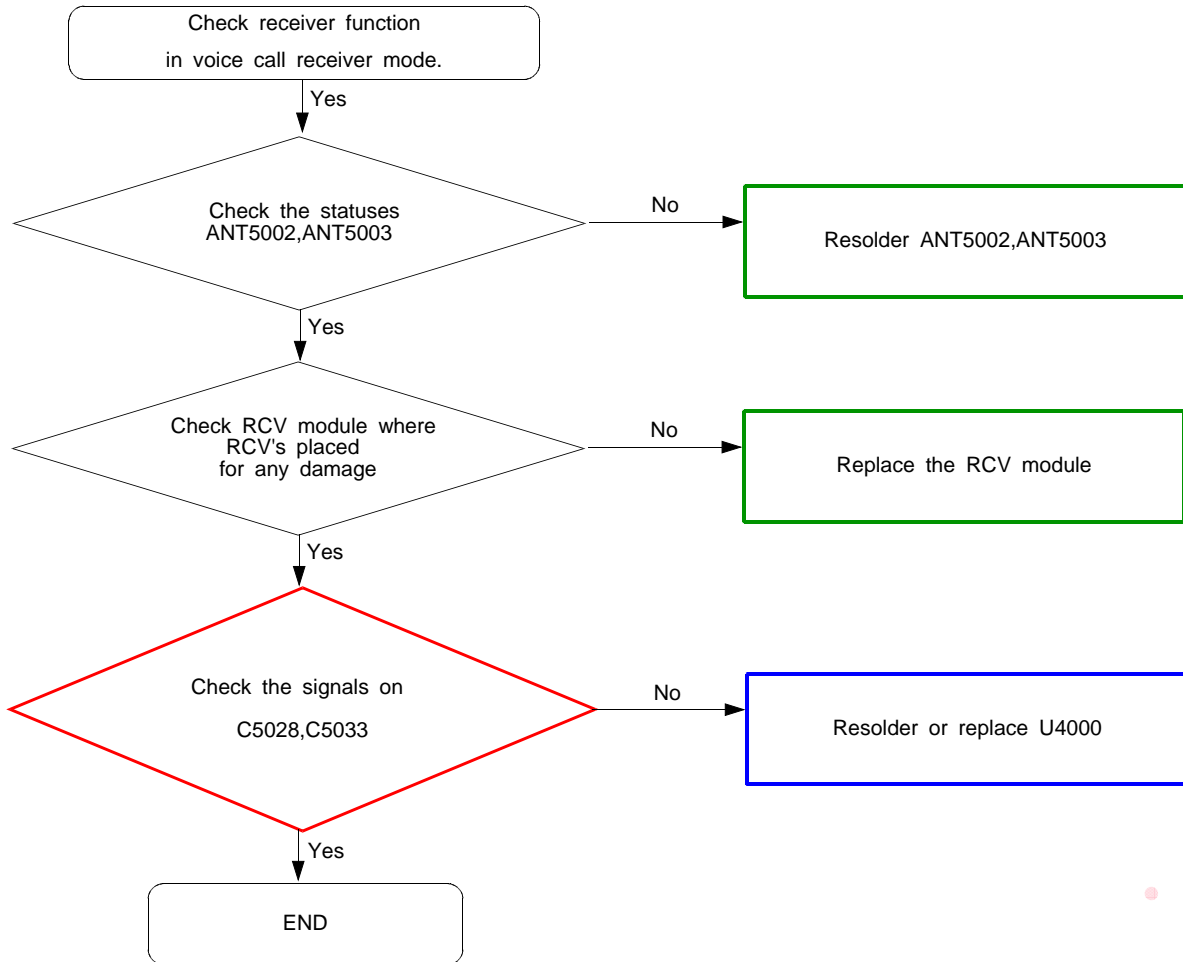


8-4-9. Speaker Part

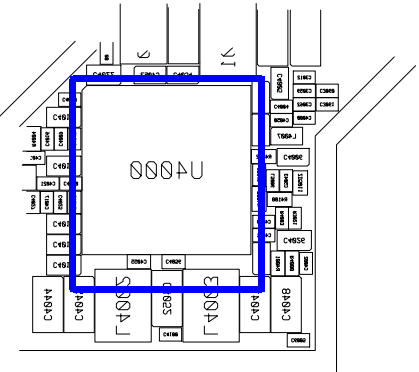
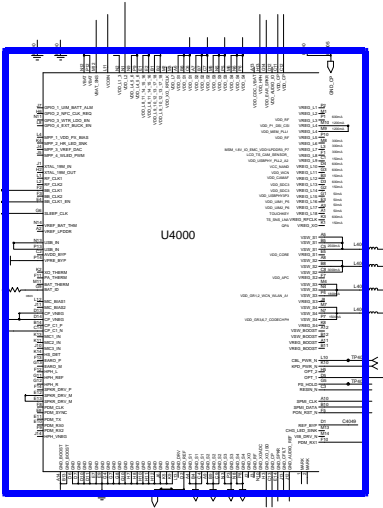
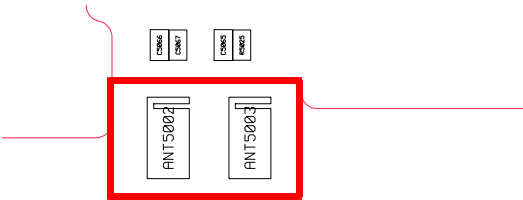
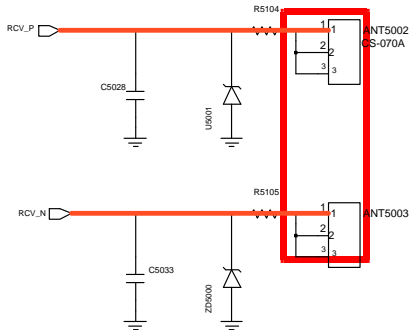




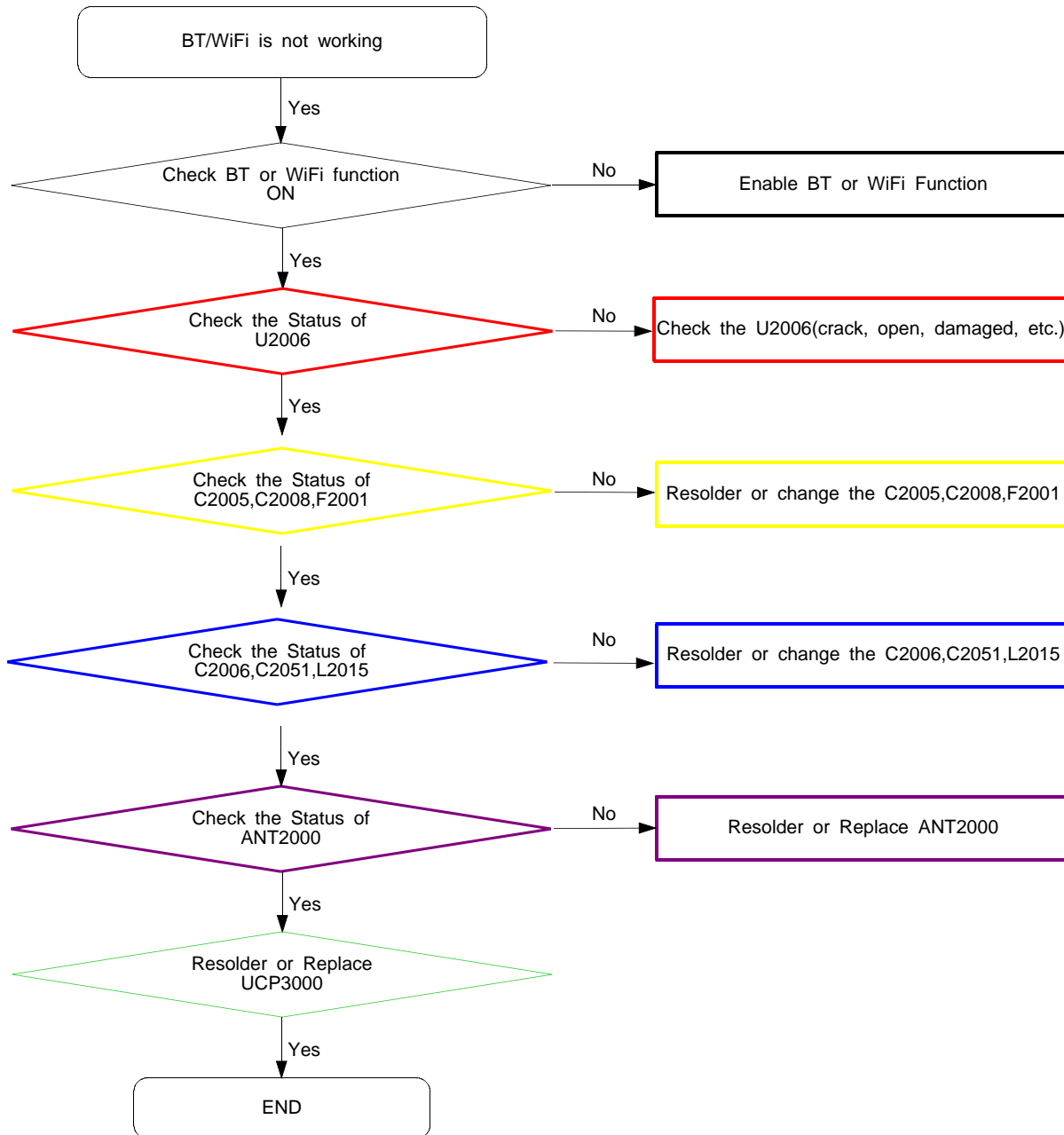
8-4-10. Receiver Part

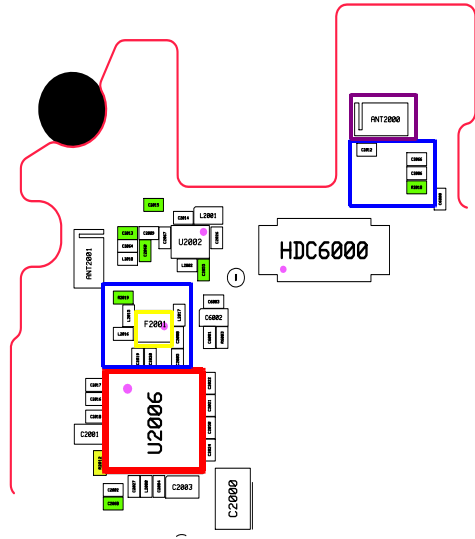
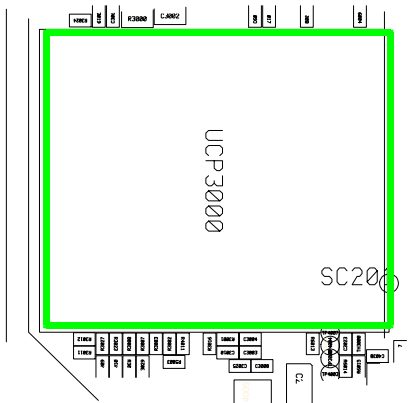
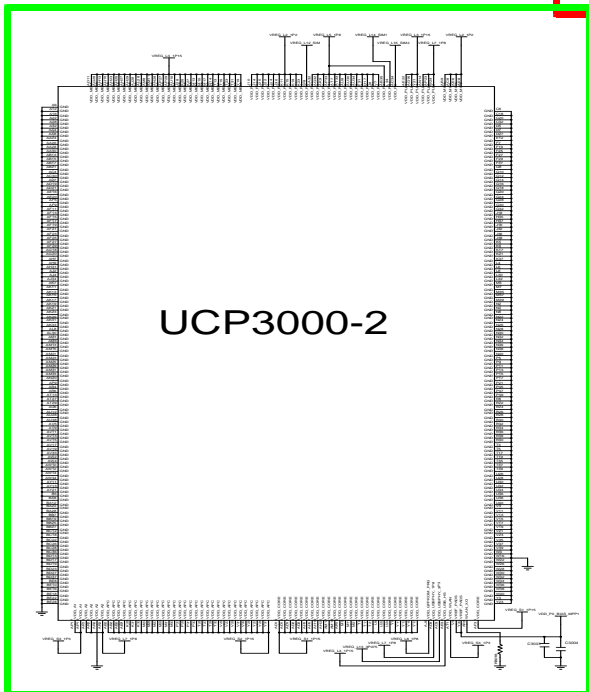
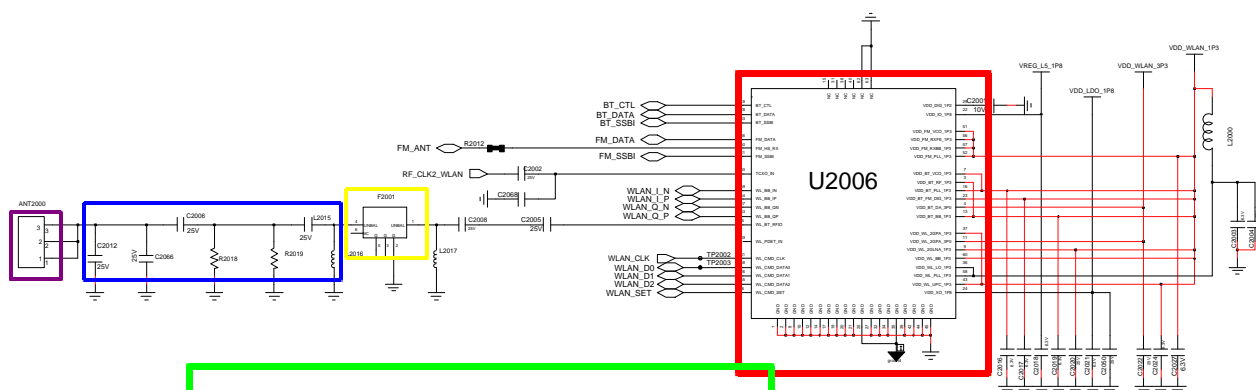




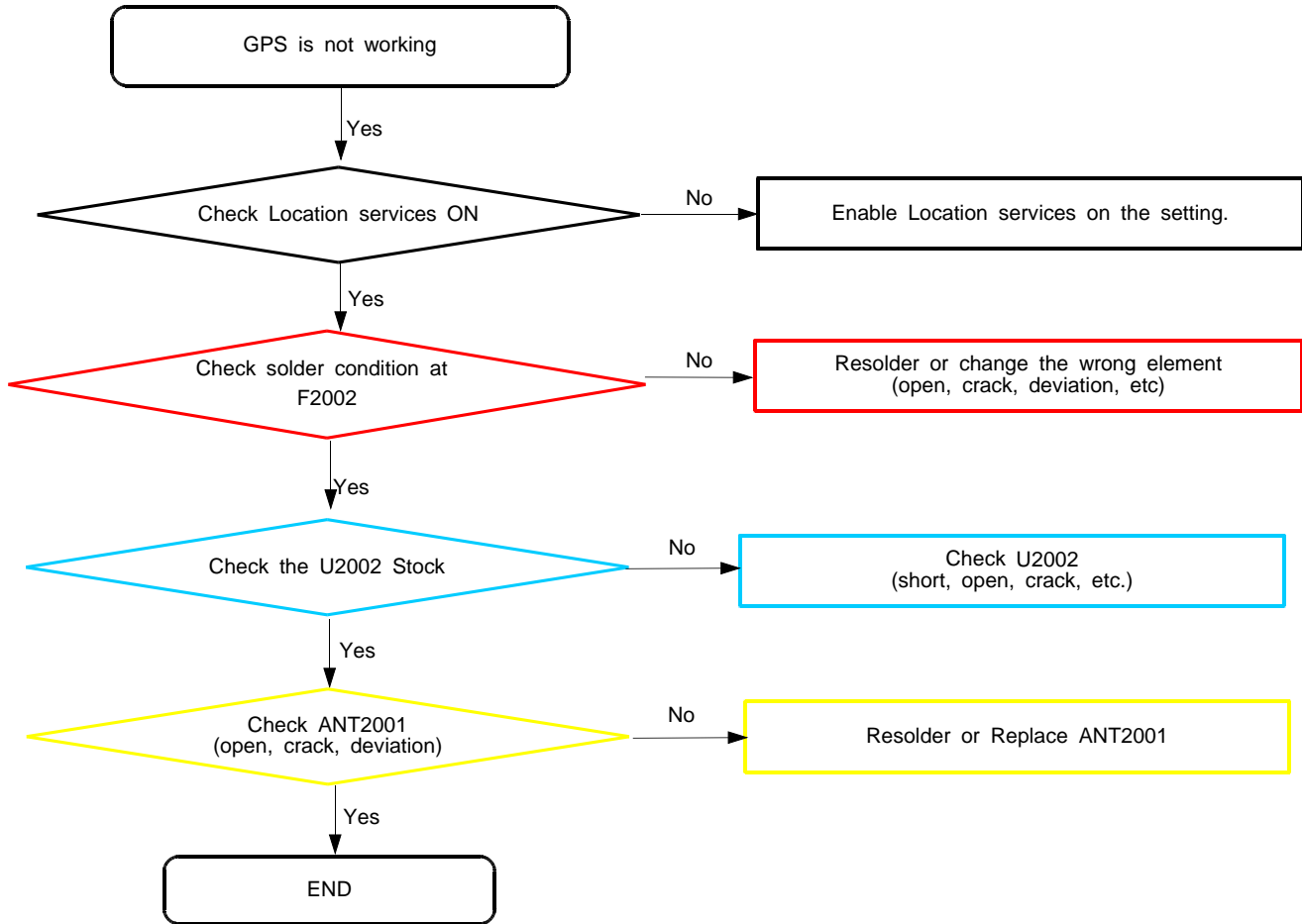


8-4-11. BT/WIFI

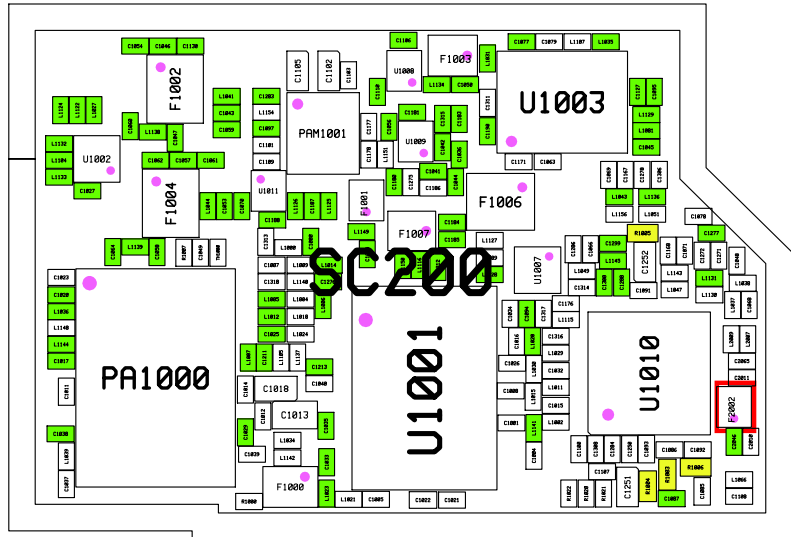
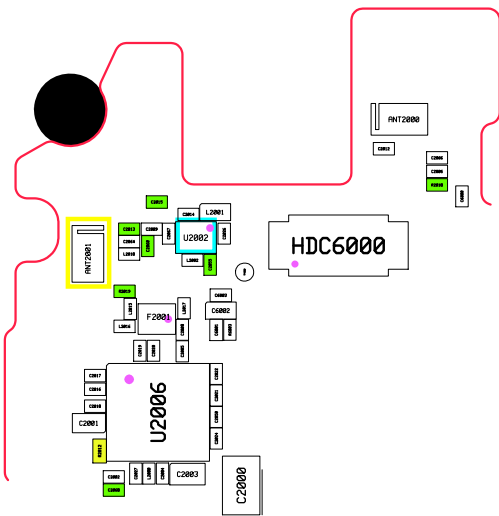
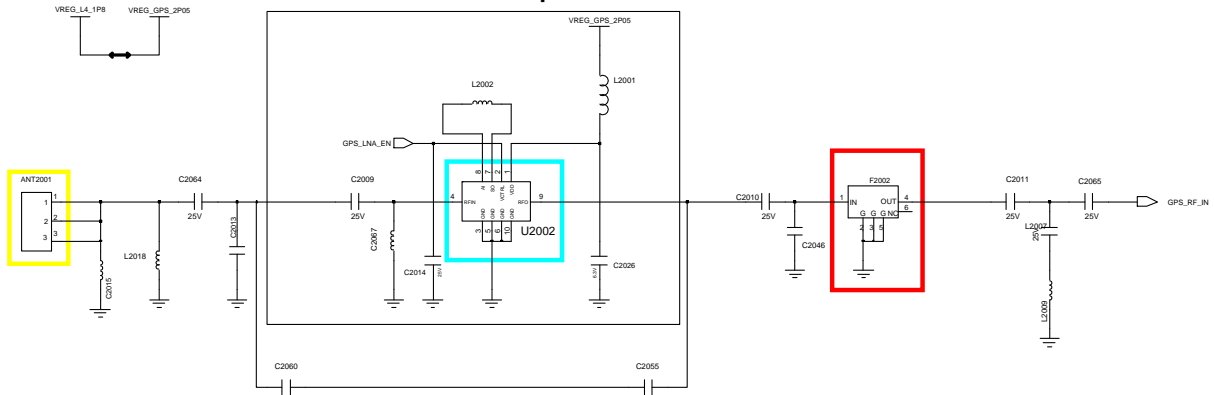




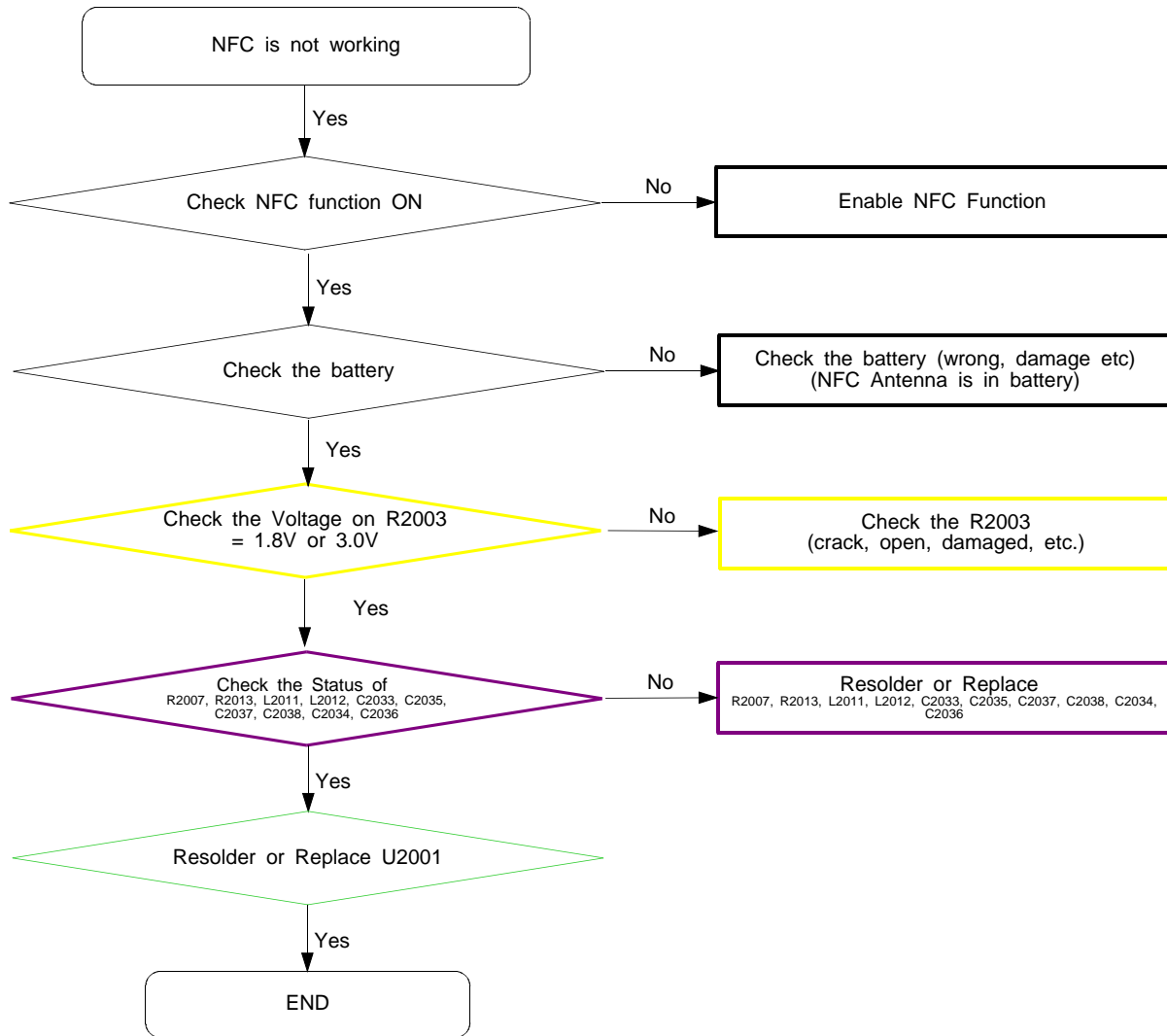
8-4-12. GPS



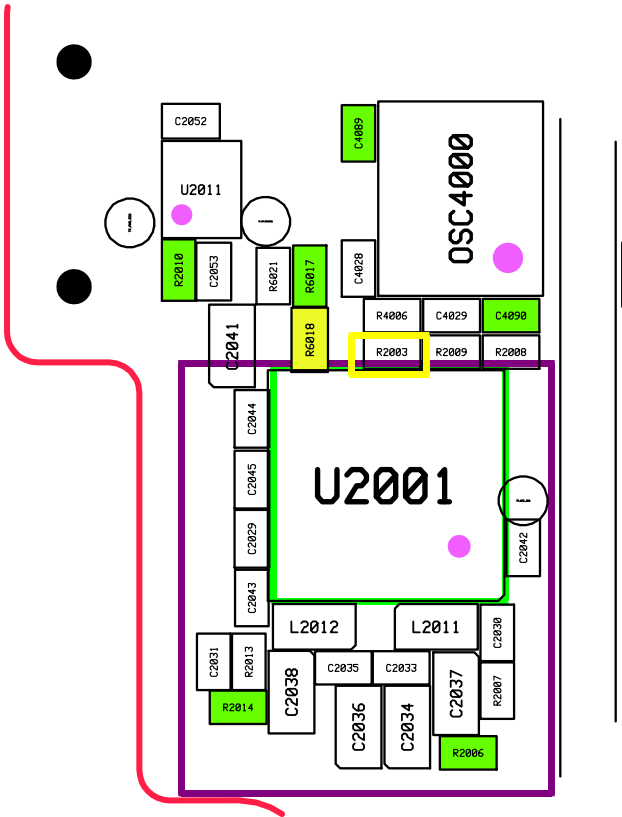
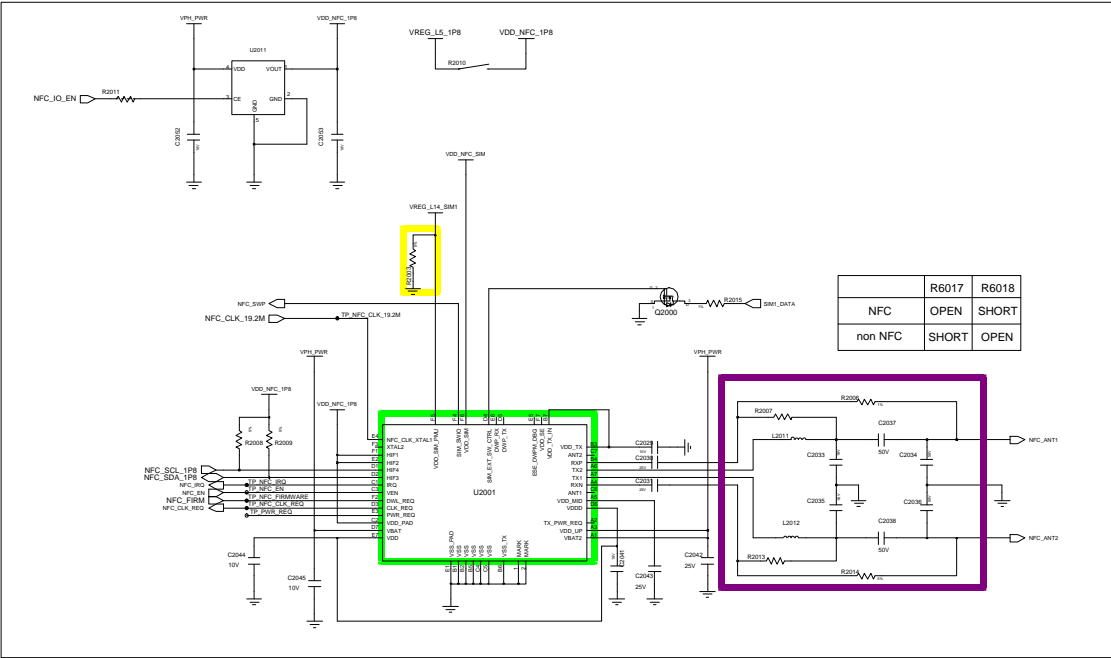
### GPS LNA Option



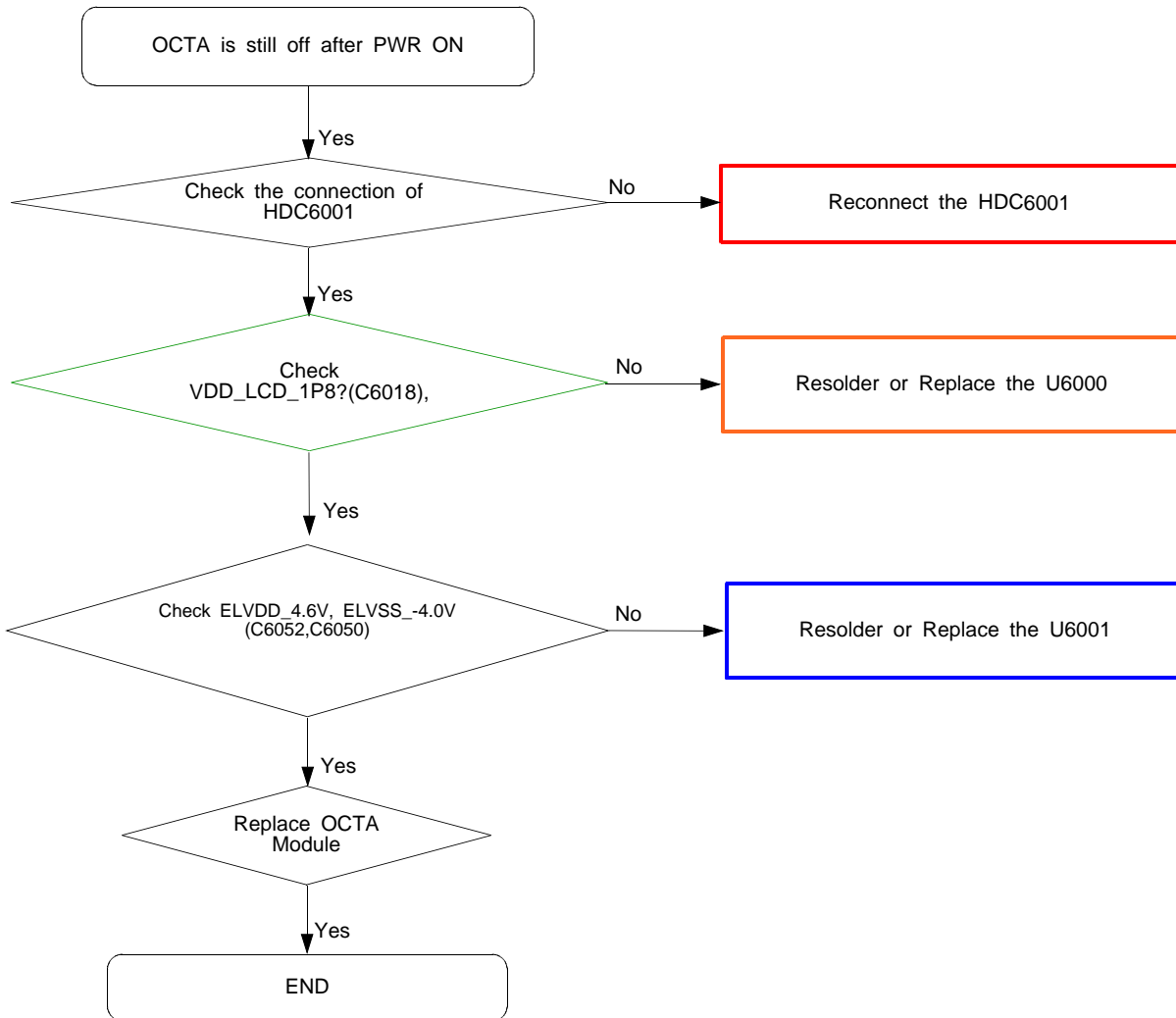
8-4-13. NFC



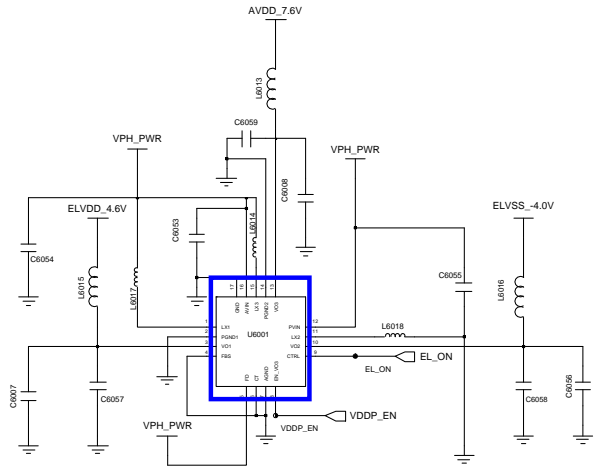
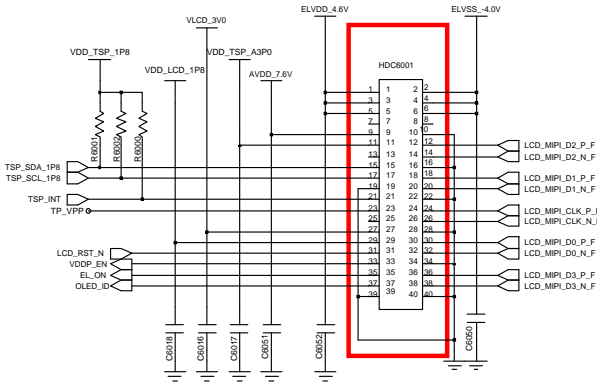




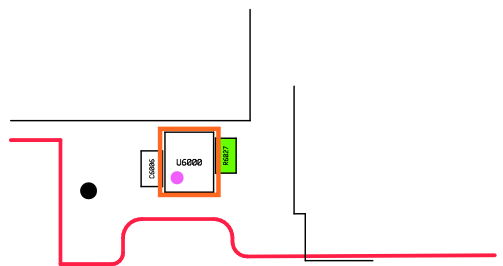
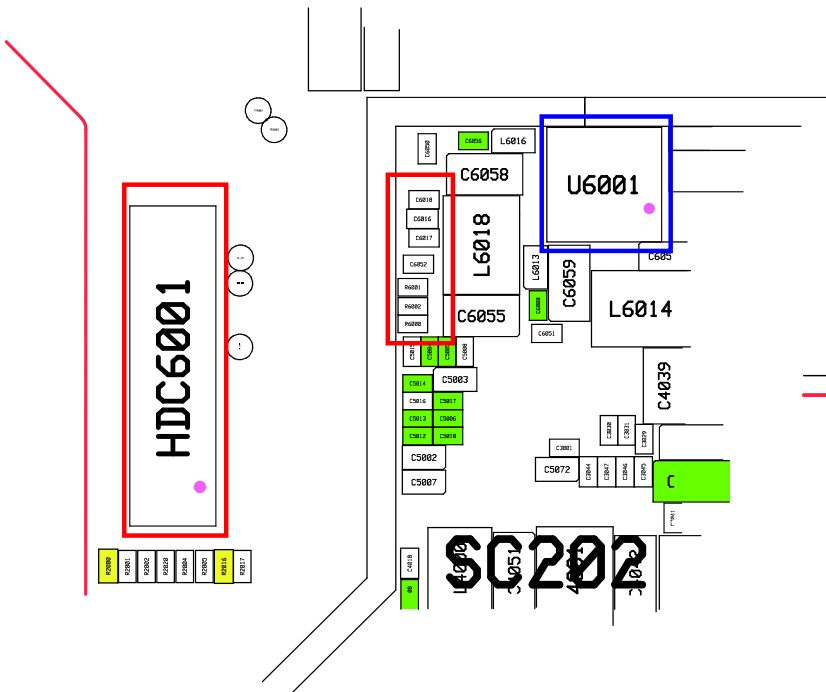
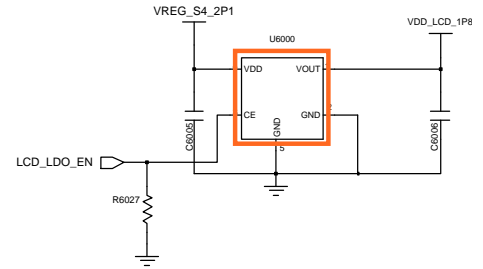
8-4-14. OCTA



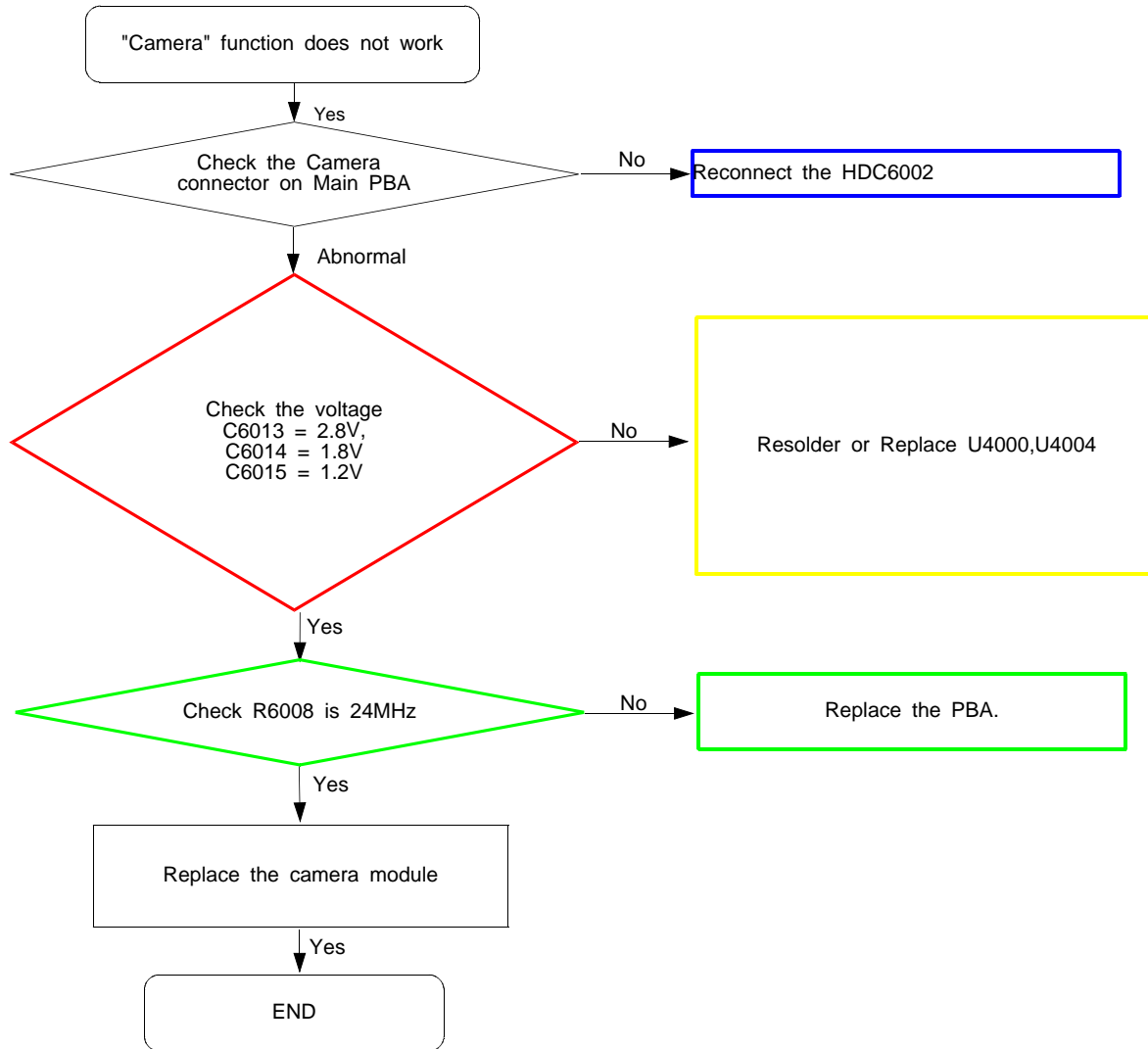
# DISPLAY PART

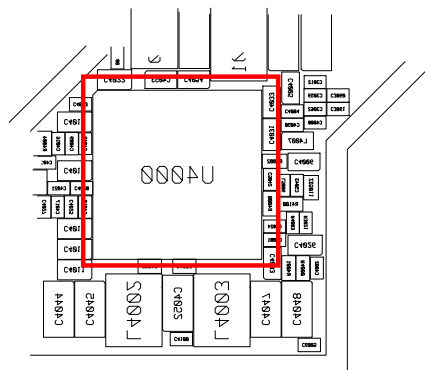
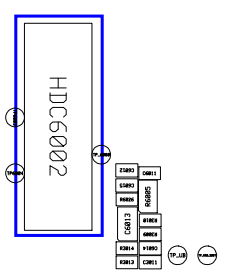
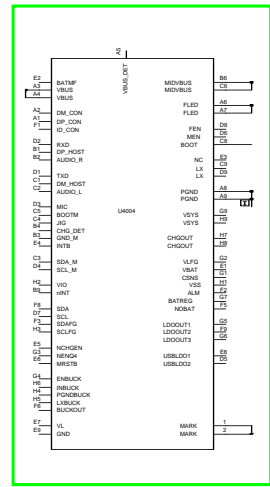
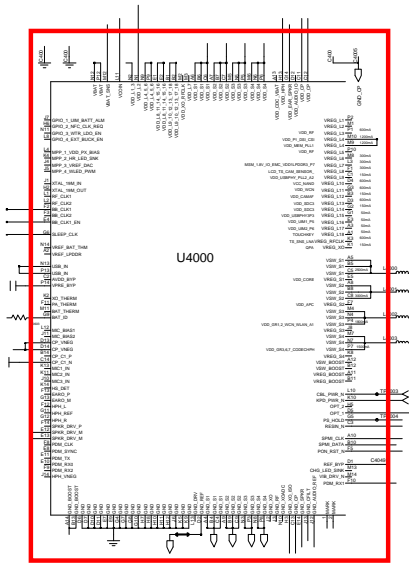
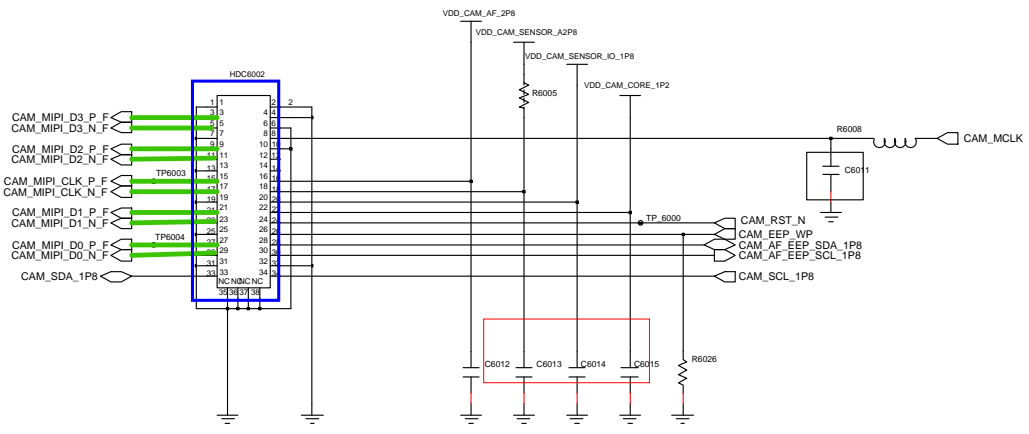


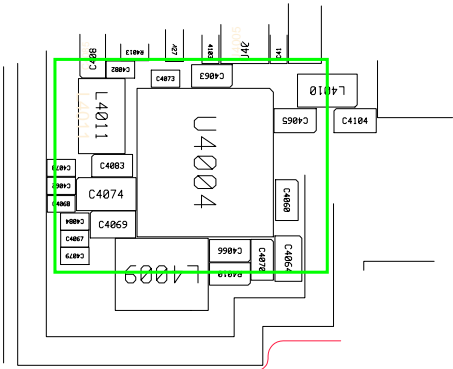
## OCTA DCDC



8-4-15. 13M CAM

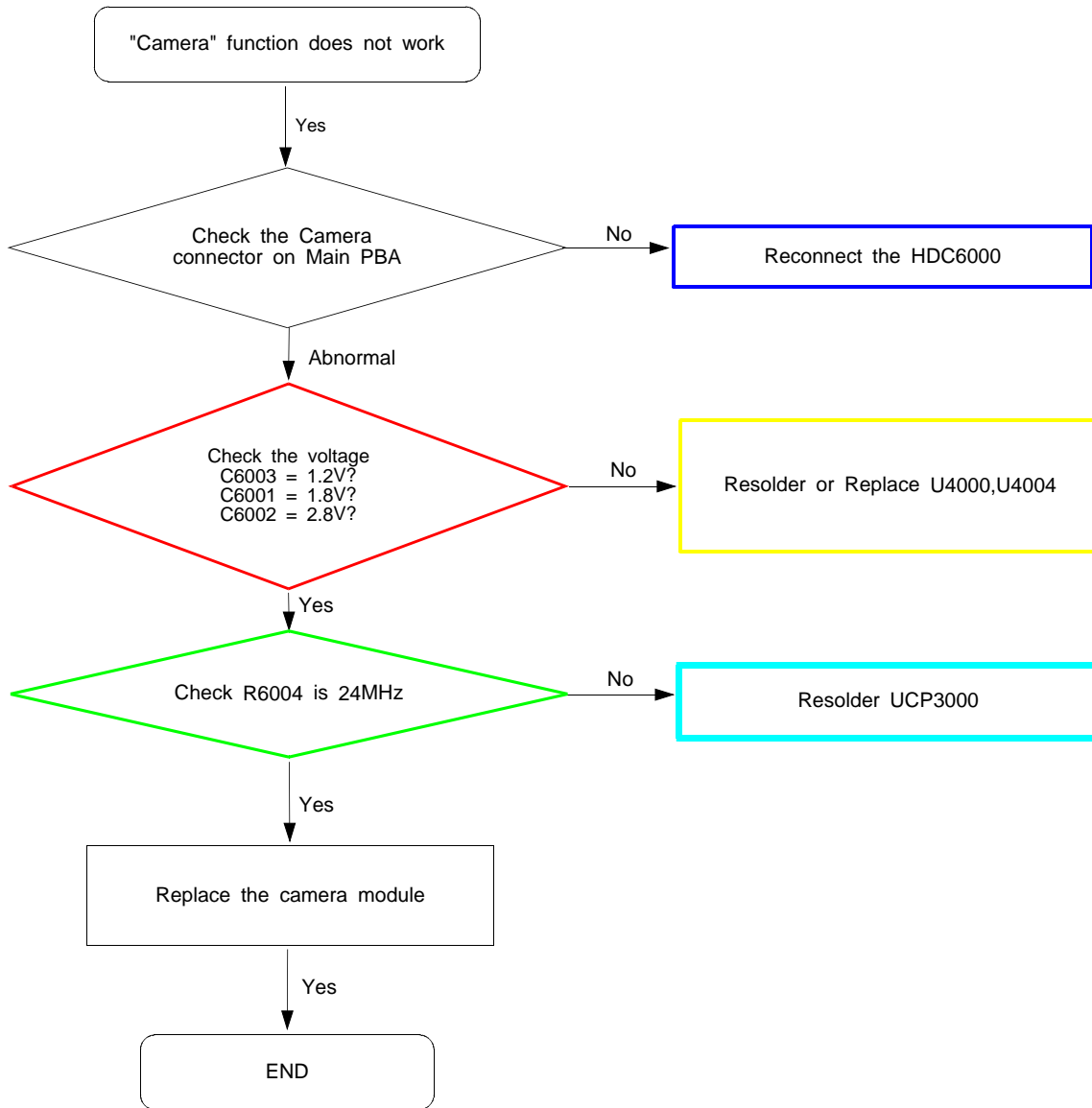








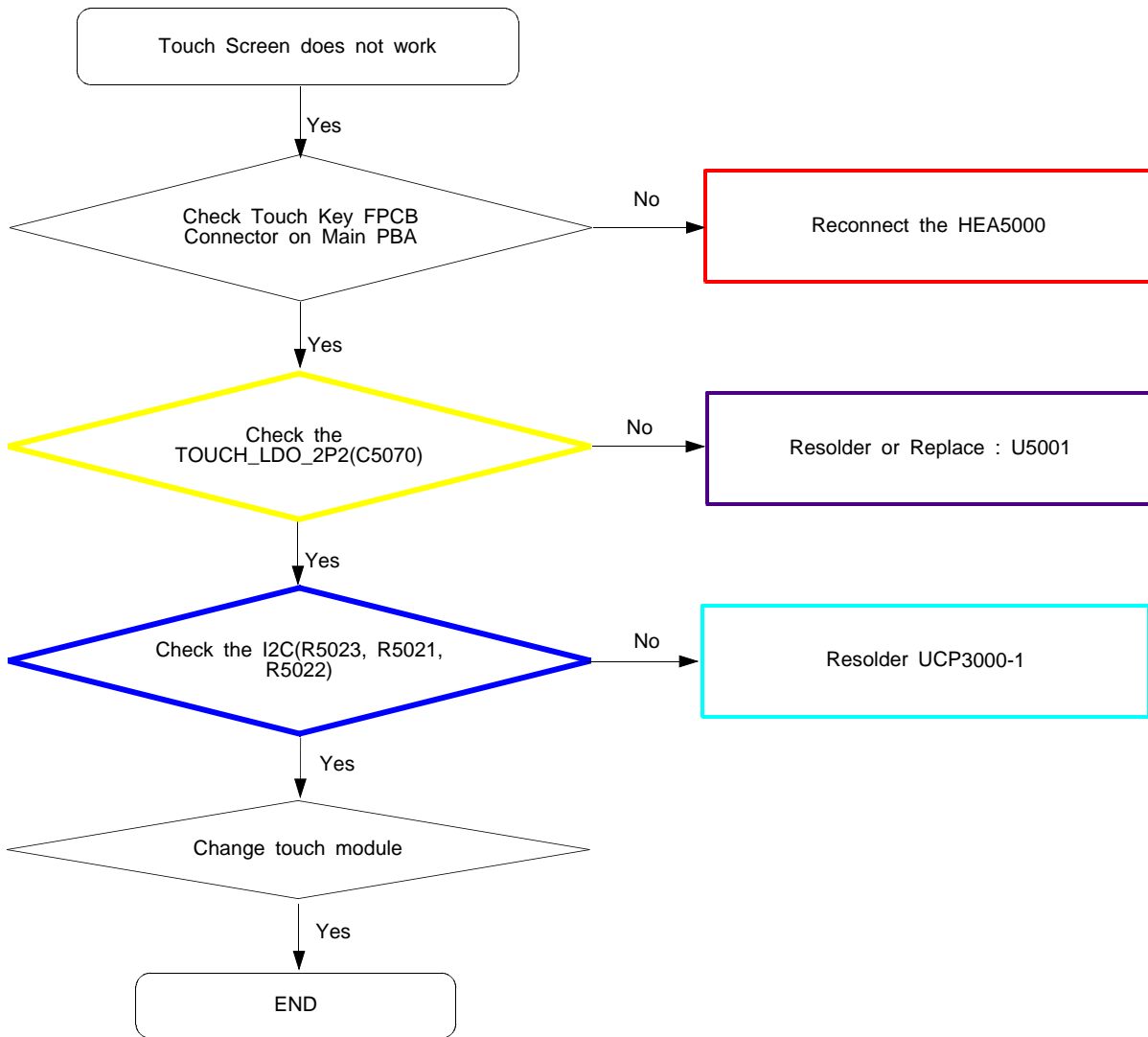
8-4-16. VT CAM

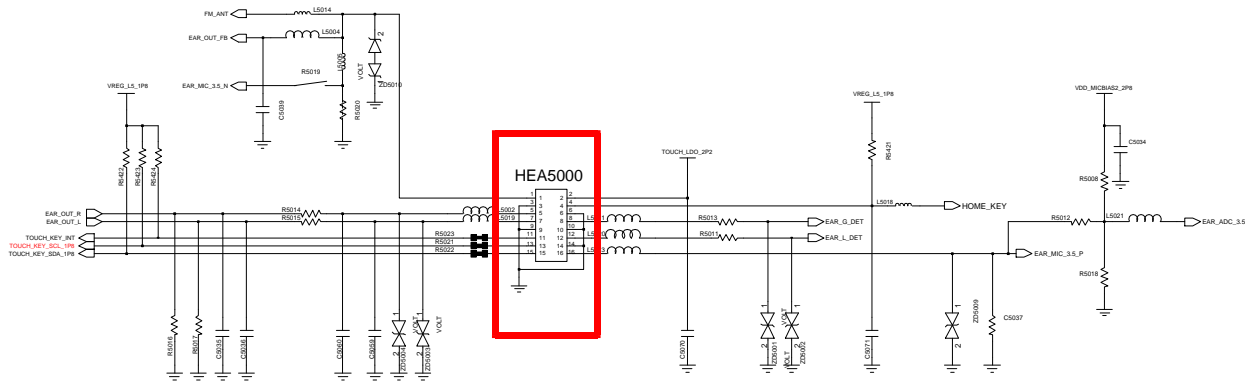




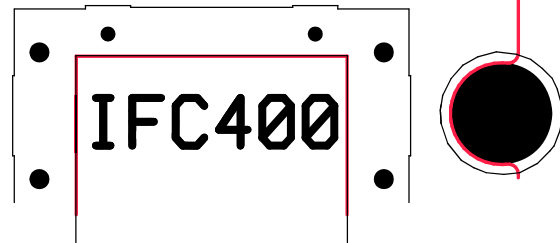
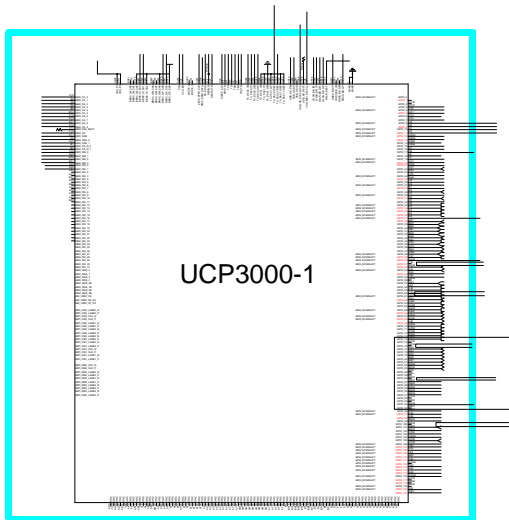
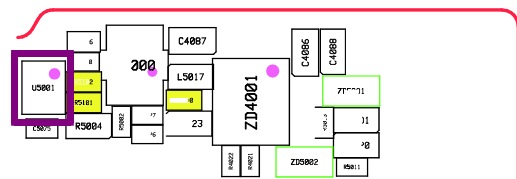
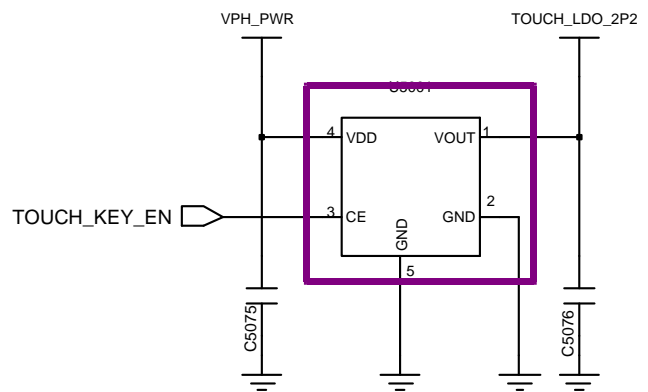
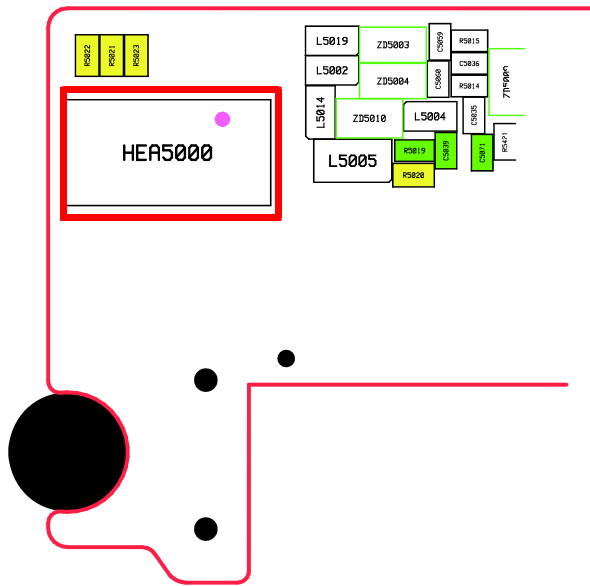


8-4-17. Touch Key FPCB

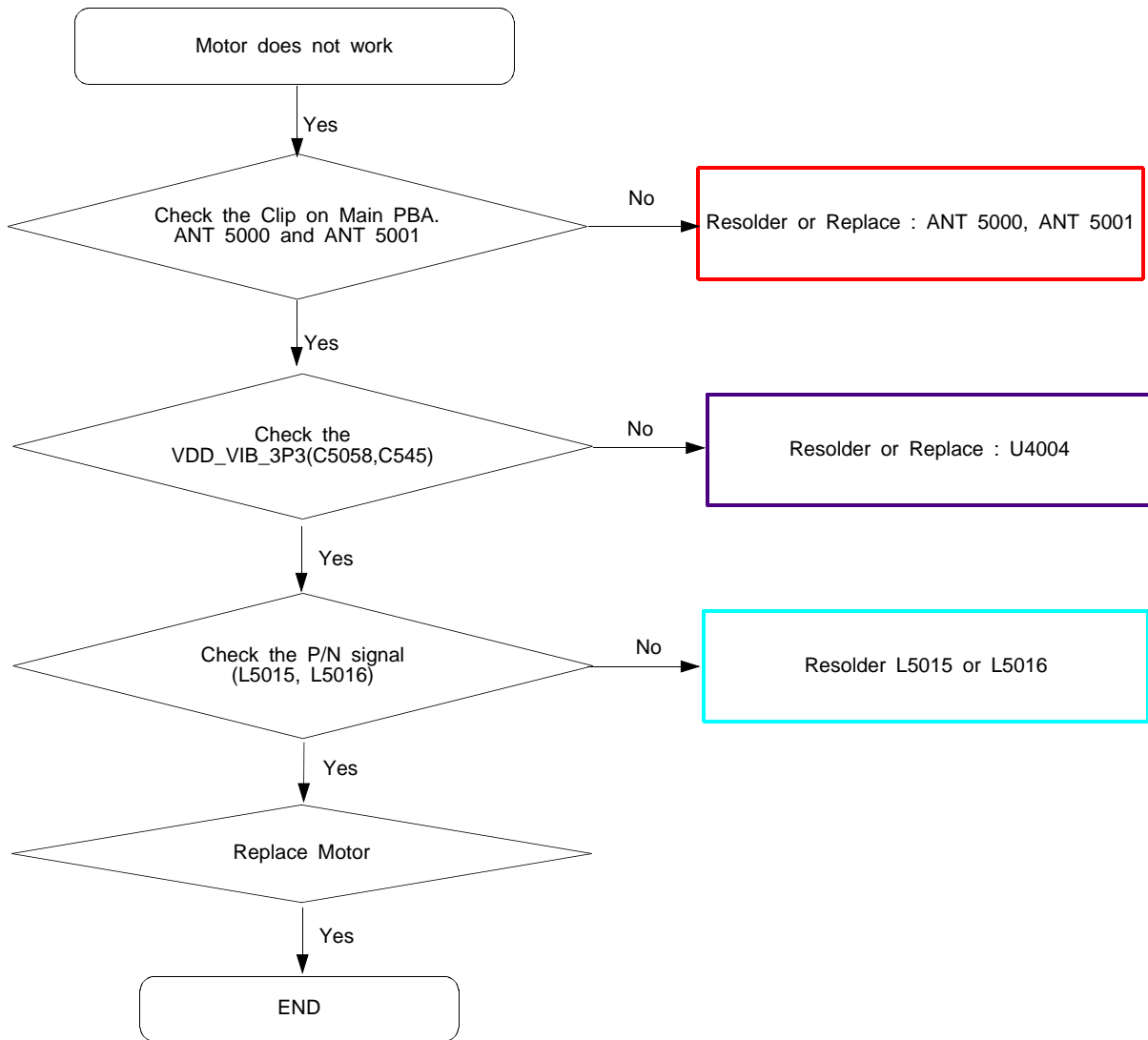




EARJACK + HOME KEY + TOUCH KEY



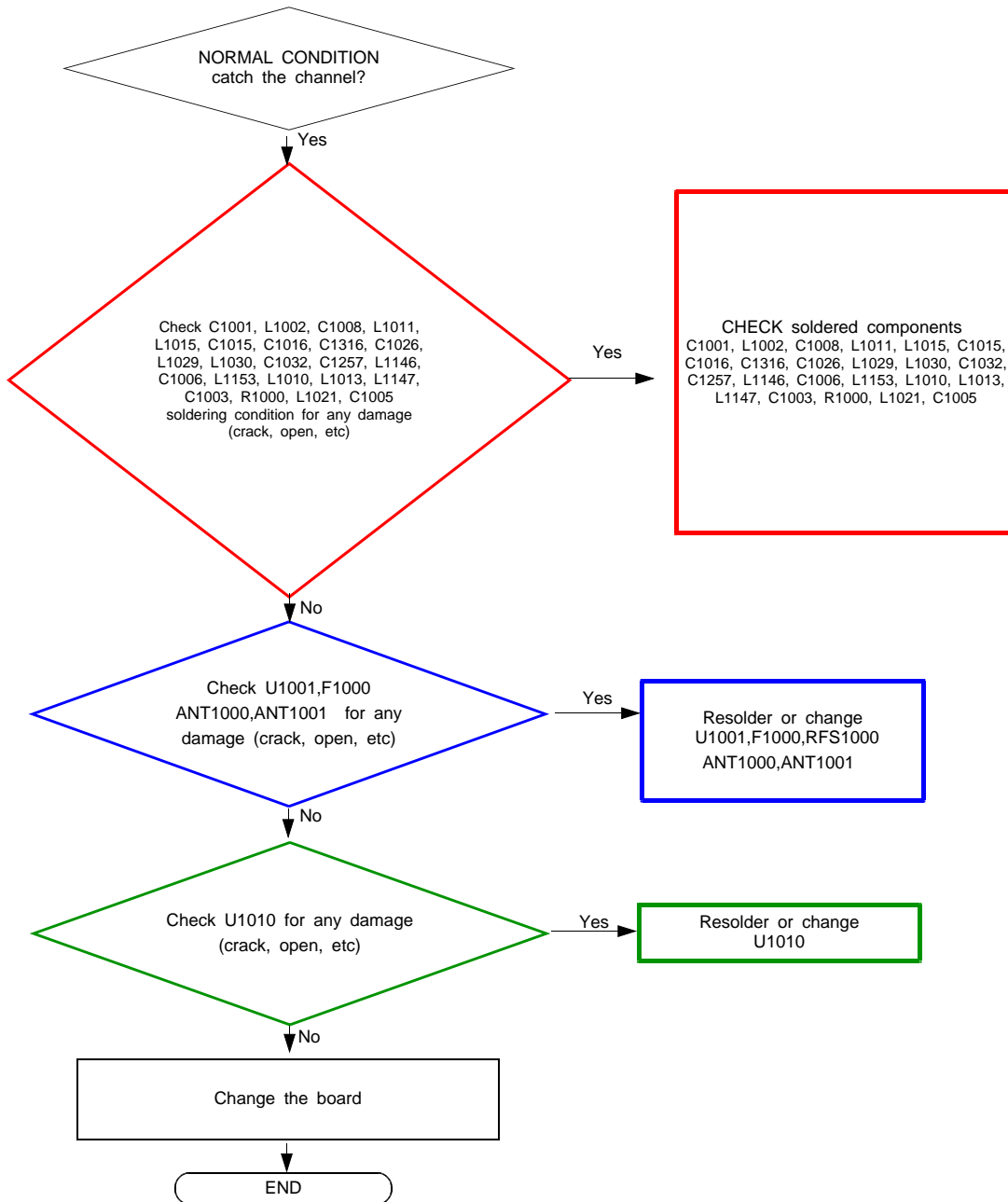
8-4-18. Motor

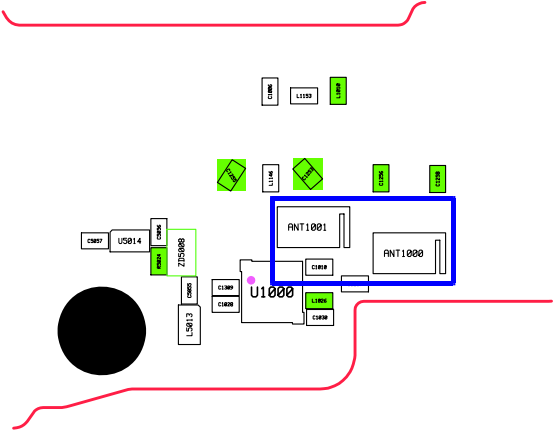
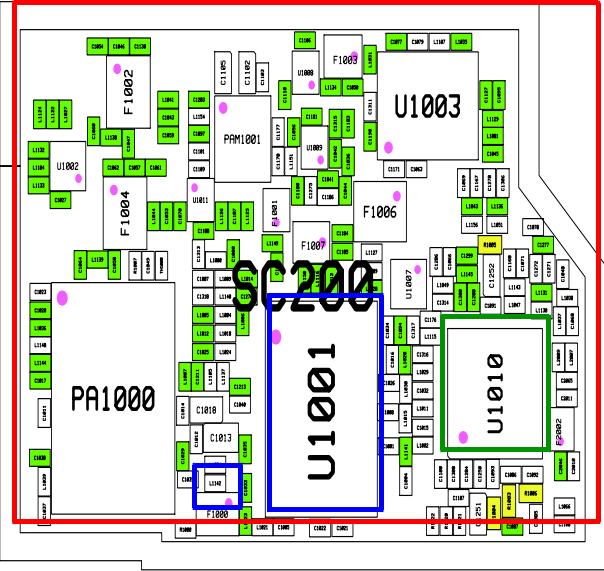
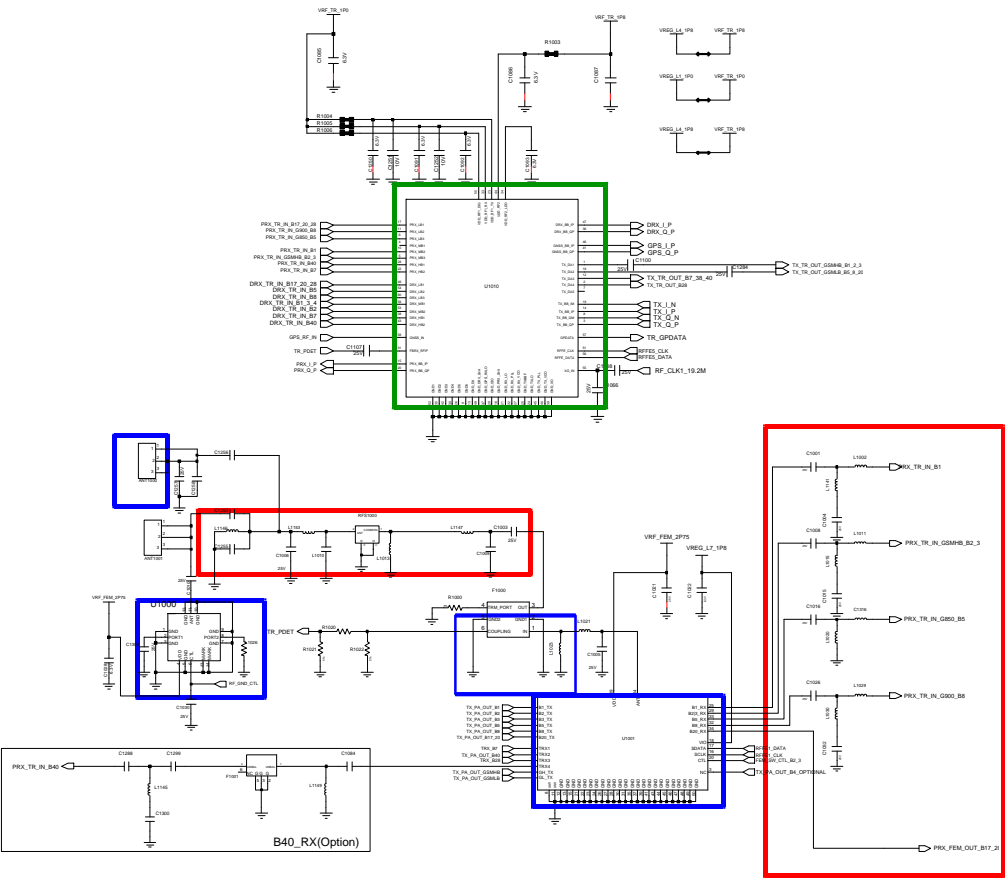




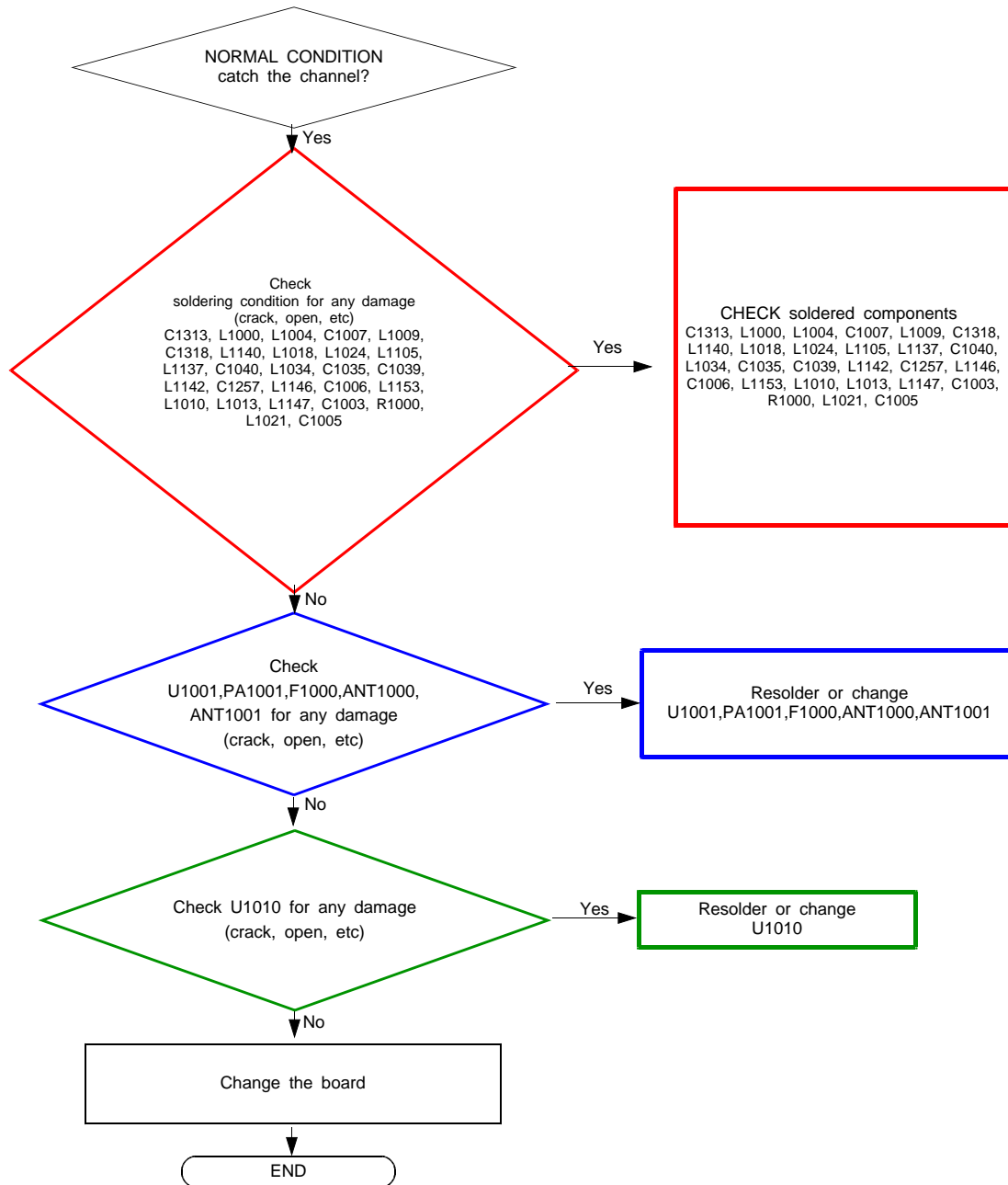


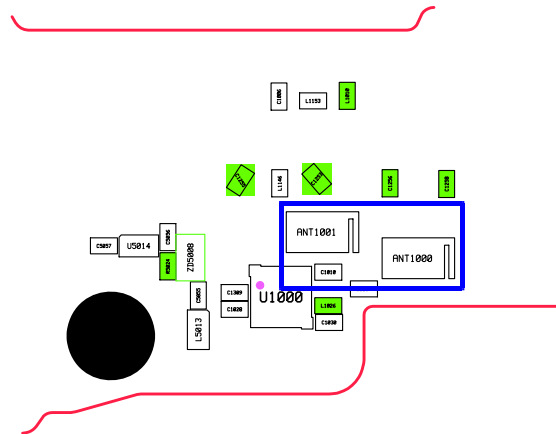
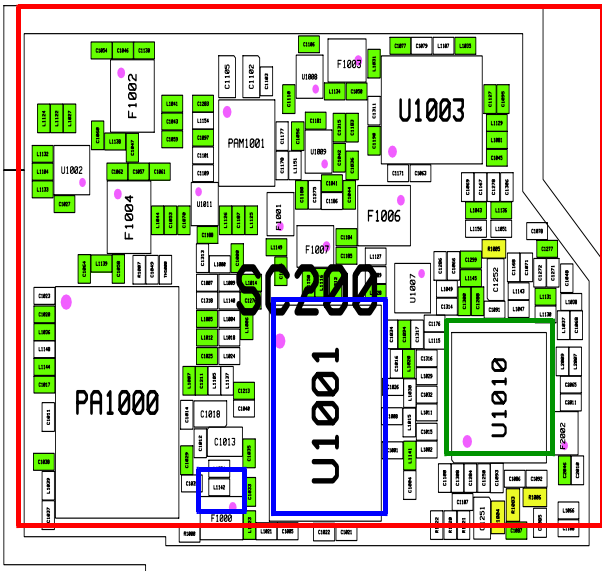
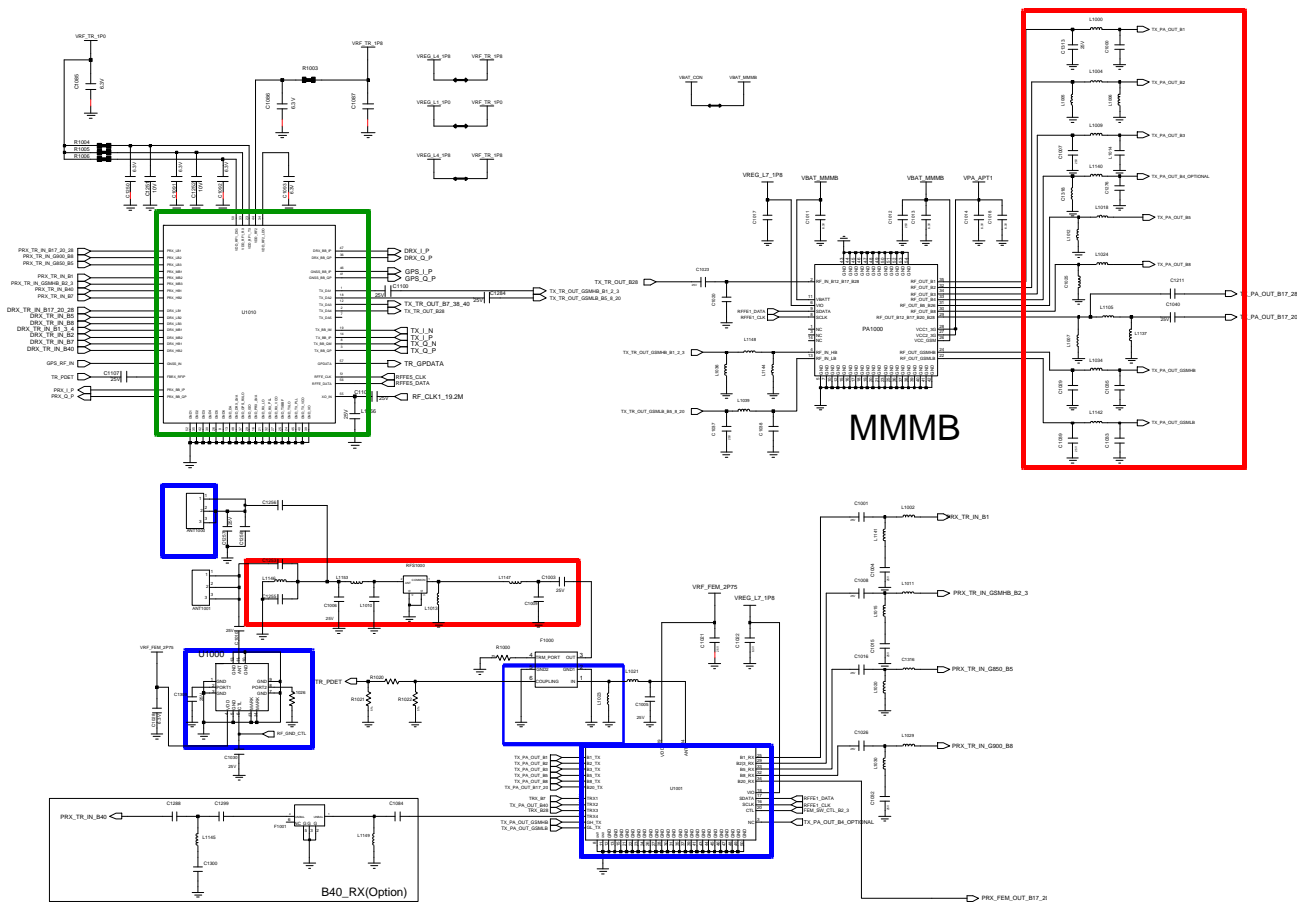
8-4-19. GSM 850,900,1800,1900 / LTE FDD BAND 1,3,7 / LTE TDD BAND 38,39,40,41 / TD-SCDMA B34/B39 RX



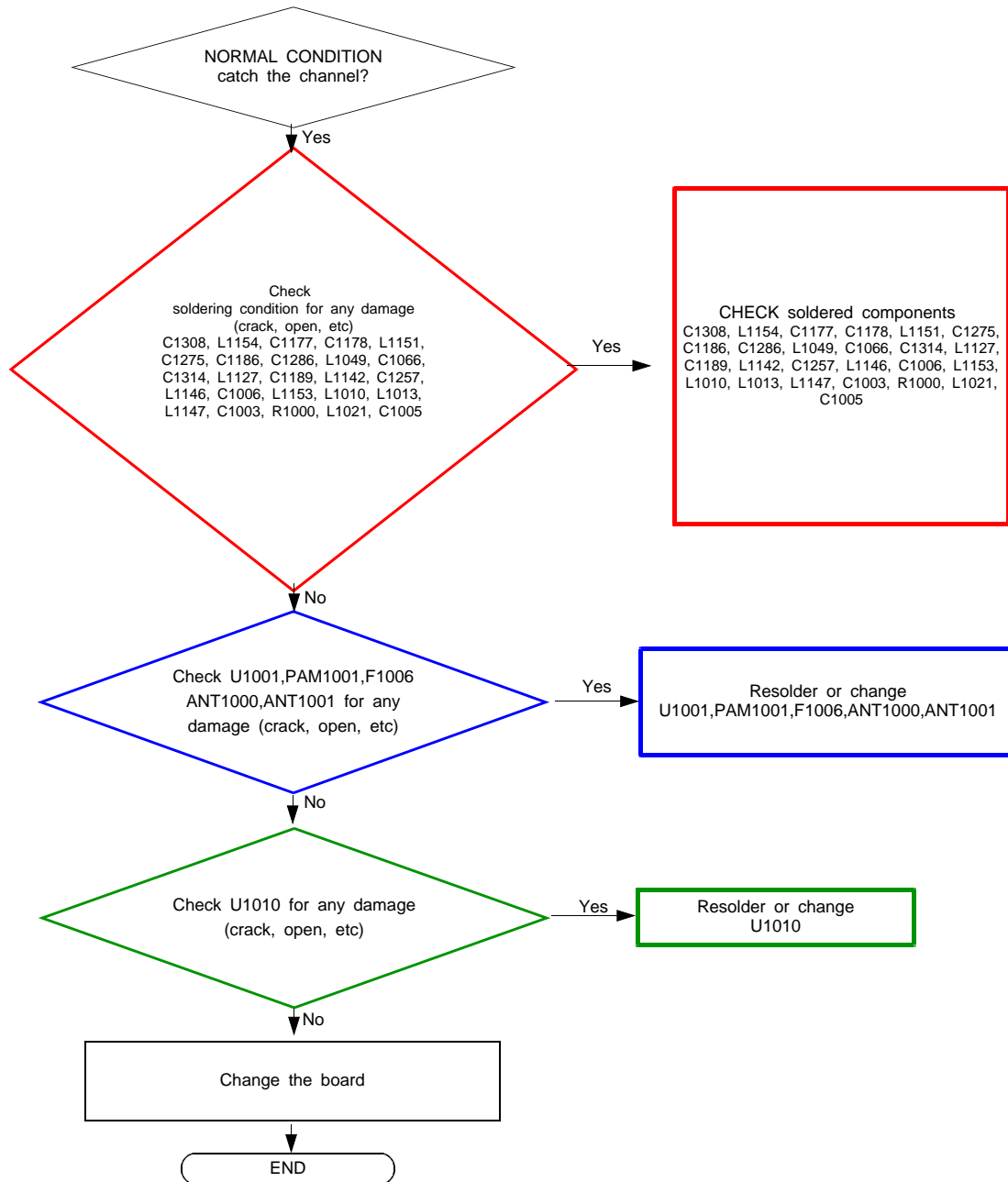


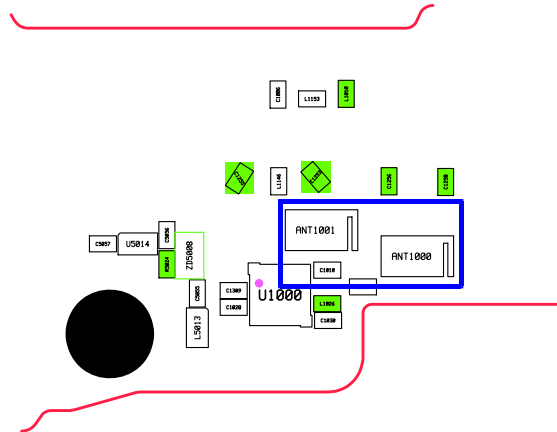
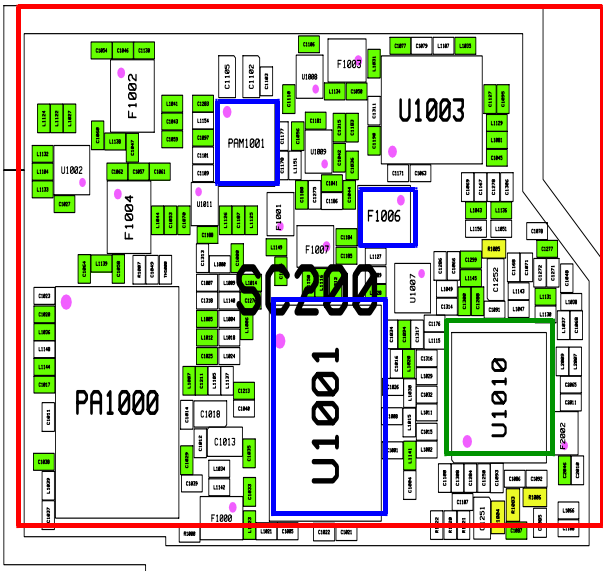
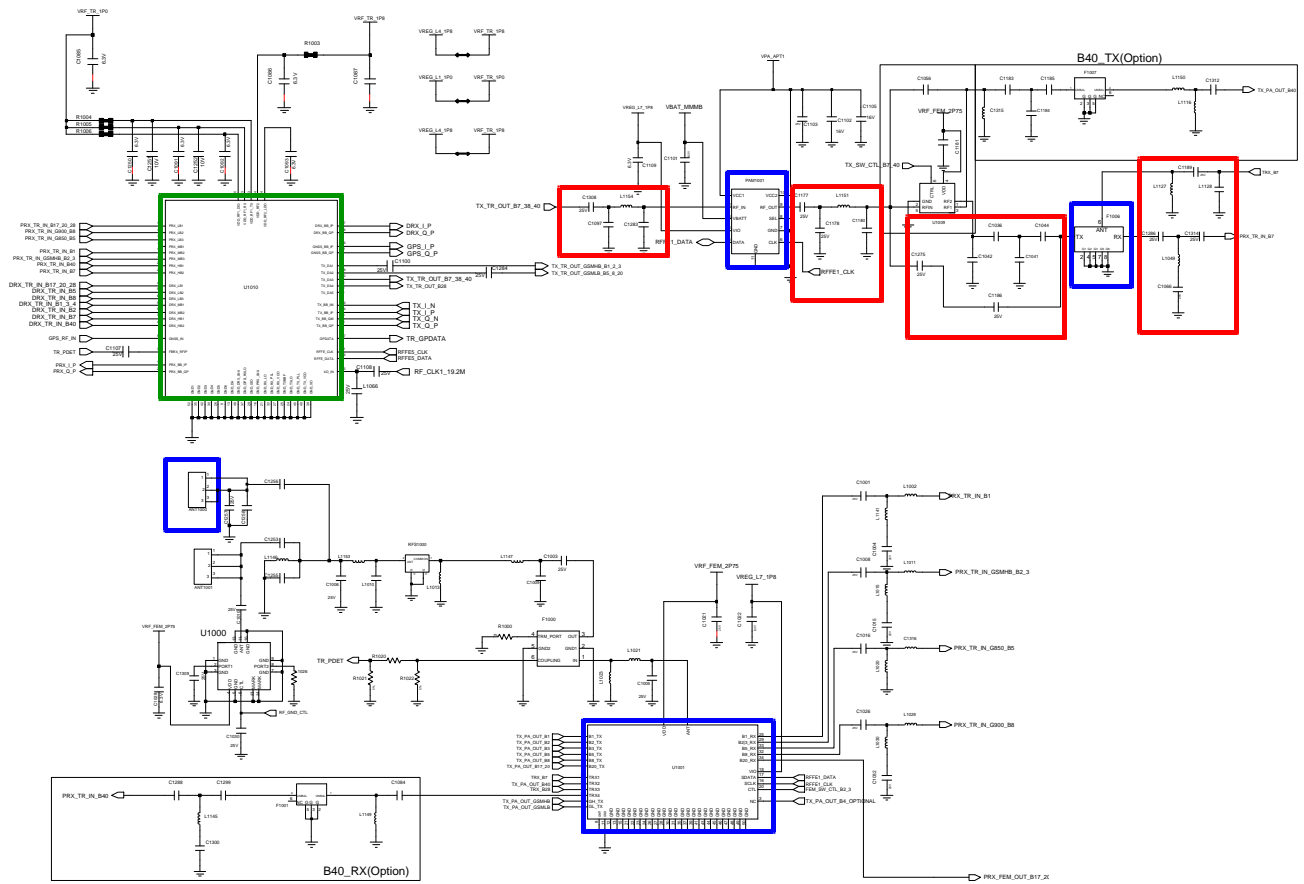
8-4-20. GSM 850,900,1800,1900 / LTE FDD BAND 1,3,7 / LTE TDD BAND 38,39,40,41 / TD-SCDMA B34/B39 TX





8-4-21. LTE B7 TRX





8-5. Service Schematics

- NC point(Top view)

UCP3000(AP)

