

1. Safety Precautions

1-1. Repair Precaution

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

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

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

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

We recommend 22-gauge twisted copper wire.

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

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

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

1. Safety Precautions

1-2. ESD(Electrostatically Sensitive Devices) Precaution

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

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

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

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

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

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

2. Specification

2-1. GSM General Specification

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

2. Specification

2-2. GSM Tx Power Class

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

2. Specification

2-3-1. WCDMA General Specification [SM-A305F/FN]

Item	WCDMA2100(B1)	WCDMA1900(B2)	WCDMA850(B5)	WCDMA900(B8)
Freq. Band[MHz] Uplink/Downlink	1920~1980 2110~2170	1850~1910 1930~1990	824~849 869~894	880~915 925~960
ARFCN range	UL: 9612~9888 DL: 10562~10838	UL: 9262~9538 DL: 9662~9938	UL: 4132~4233 DL: 4357~4458	UL: 2712~2868 DL: 2937~3088
Tx/Rx spacing	190MHz	80MHz	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)
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
Modulation	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(↓)
Power Class	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)
Sensitivity	-106dBm	-104dBm	-104dBm	-103dBm

2. Specification

2-3-3. WCDMA General Specification [SM-A305G/GN/GT]

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

2. Specification

2-4-1. LTE General Specification [SM-A305F/FN]

Item	LTE Band1	LTE Band3	LTE Band5	LTE Band7	LTE Band8
Freq. Band[MHz] Uplink/Downlink	1920~1980 2110~2170	1710~1785 1805~1880	824~849 869~894	2500~2570 2620~2690	880~915 925~960
ARFCN range	UL:18000~18599 DL:0~599	UL:19200~19949 DL:1200~1949	UL:20400~20649 DL:2400~2649	UL:20750~21449 DL:2750~3449	UL:21450~21799 DL:3450~3799
Tx/Rx spacing (MHz)	190	95	45	120	45
Channel Bandwidth (MHz)	5/10/15/20	1.4/3/5/10/15/20	1.4/3/5/10	5/10/15/20	1.4/3/5/10
Modulation	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity(QPSK, BW 10MHz) (dBm)	-96.3	-93.3	-94.3	-94.3	-93.3

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

2. Specification

2-4-3. LTE General Specification [SM-A305G/GN/GT]

Item	LTE Band1	LTE Band2	LTE Band3	LTE Band4	LTE Band5
Freq. Band[MHz] Uplink/Downlink	1920~1980 2110~2170	1850~1910 1930~1990	1710~1785 1805~1880	1710~1755 2110~2155	824~849 869~894
ARFCN range	UL:18000~18599 DL:0~599	UL:18600~19199 DL:600~1199	UL:19200~19949 DL:1200~1949	UL:19950~20399 DL:1950~2399	UL:20400~20649 DL:2400~2649
Tx/Rx spacing (MHz)	190	80	95	400	45
Channel Bandwidth (MHz)	5/10/15/20	1.4/3/5/10/15/20	1.4/3/5/10/15/20	1.4/3/5/10/15/20	1.4/3/5/10
Modulation	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity (QPSK, BW 10MHz) (dBm)	-96.3	-94.3	-93.3	-96.3	-94.3

Item	LTE Band7	LTE Band8	LTE Band12	LTE Band13	LTE Band17
Freq. Band[MHz] Uplink/Downlink	2500~2570 2620~2690	880~915 925~960	699~716 729~746	777~787 746~756	704~716 734~746
ARFCN range	UL:20750~21449 DL:2750~3449	UL:21450~21799 DL:3450~3799	UL:23010~23179 DL:5010~5179	UL:23180~23279 DL:5180~5279	UL:23730~23849 DL:5730~5849
Tx/Rx spacing (MHz)	120	45	30	-31	30
Channel Bandwidth (MHz)	5/10/15/20	1.4/3/5/10	1.4/3/5/10	1.4/3/5/10	5/10
Modulation	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity(QPSK, BW 10MHz)(dBm)	-94.3	-93.3	-93.3	-93.3	-93.3

2. Specification

Item	LTE Band28	LTE Band38	LTE Band40	LTE Band41	LTE Band66
Freq. Band[MHz] Uplink/Downlink	703~748 758~803	2570~2620	2300~2400	2496~2690	1710~1780 2110~2200
ARFCN range	UL:27210~27659 DL:9210~9659	UL/DL:37750 ~ 38249	UL/DL:38650 ~ 39649	UL/DL:39650 ~ 41589	UL:131972~132671 DL:66436~67335
Tx/Rx spacing (MHz)	55	0	0	0	400
Channel Bandwidth (MHz)	3/5/10/15/20	5/10/15/20	5/10/15/20	5/10/15/20	1.4/3/5/10/15/20
Modulation	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity (QPSK, BW 10MHz) (dBm)	-94.8	-96.3	-96.3	-94.3	-95.8

3. Product Function

Main Function

Item		Description
OS		Android P OS V9.0
SM-A305F/FN RF		GSM850 / GSM900 / DCS1800 / PCS1900 WCDMA: B1/ B2/ B5/ B8 LTE: (FDD) B1/ B3/ B5/ B7/ B8/ B20 (TDD) B38/ B40/ B41
SM-A305G RF		GSM850 / GSM900 / DCS1800 / PCS1900 WCDMA: B1/ B2/ B4/ B5/ B8 LTE: (FDD) B1/ B2/ B3/ B4/ B5/ B7/ B8/ B12/ B13/ B17/ B28 / B66 (TDD) B38/ B40/ B41
SM-A305GN RF		GSM850 / GSM900 / DCS1800 / PCS1900 WCDMA: B1/ B2/ B4/ B5/ B8 LTE: (FDD) B1/ B2/ B3/ B4/ B5/ B7/ B8/ B12/ B13/ B17/ B28 / B66 (TDD) B38/ B40/ B41
Battery		4,000mAh(Typ) 3,900mAh(Min)
Base Band		Octa core (1.8GHz / 1.6Ghz)
Other RF		GPS, Glonass, Beidou, Galileo, BT5.0, USB 2.0, WIFI 802.11 a/b/g/n/ac 2.4G+5GHz, FM Radio, NFC(SM-A305FN only)
Camera		Rear : 16.0MP+ 5MP, Front : 16.0MP
LCD		6,4" On-Cell Touch AMOLED, 2340 x 1080 (FHD+)
SM-A305F(SWA/SEA)/FN /G/GN	RAM	3GB
	ROM	32GB
SM-A305F(SWA/SEA/MEA) /GT/G/GN	RAM	4GB
	ROM	64GB
Sensor		Accelerometer, Fingerprint Sensor, Gyro Sensor, Gemagnetic Sensor Hall Sensor, Light Sensor, Proximity Sensor
Accessory		Charger: 9V/1.67A and 5V/2.0A AFC charging Data cable: 3.0pi, 0.8m(USB-C) Ear phone: 3.5pi, 4pin

6. Level 1 Repair

6-1. S/W Update

6-1-1. Preparation

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

※ Settings

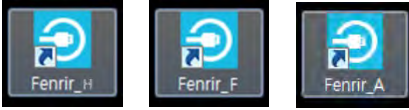


Data Cable : [GH39-01999A](#)

6. Level 1 Repair

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

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



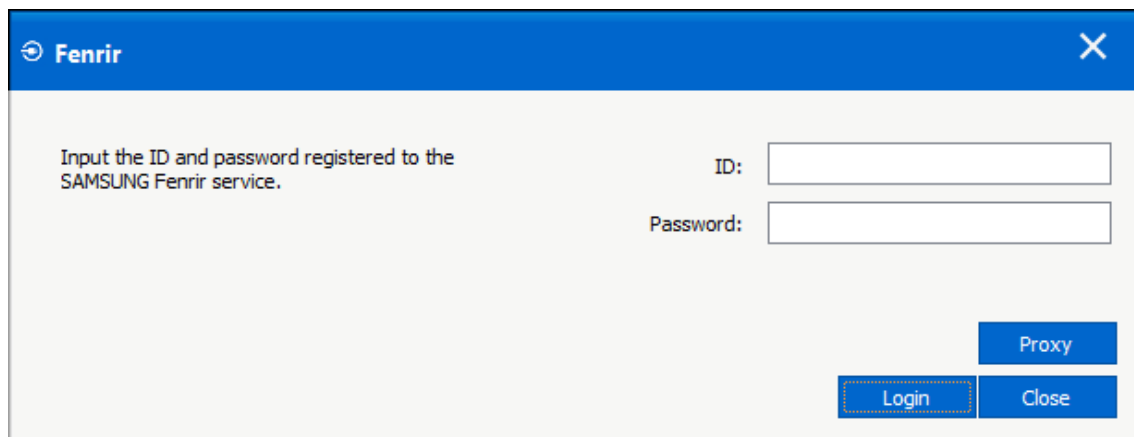
- SVH (Fenrir_Home) : It uses Home binary which does not have user data area in the memory when flashed to a device. (Keep user data)

- 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)

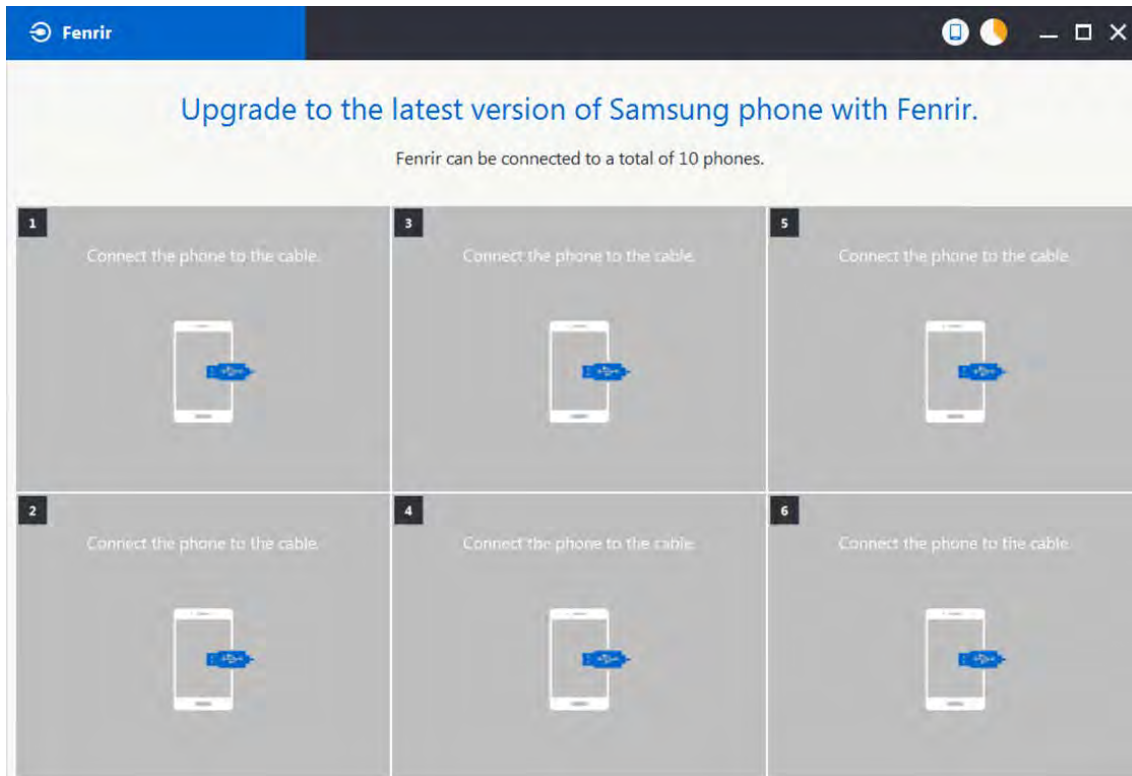
2) Input ID & password

※ You need to reset the ID information in case of PC change and format and repair, hard disk change

A screenshot of the Fenrir software 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: 'ID:' and 'Password:'. Below these fields are three buttons: 'Proxy', 'Login', and 'Close'. The 'Login' button is highlighted with a dashed orange border.

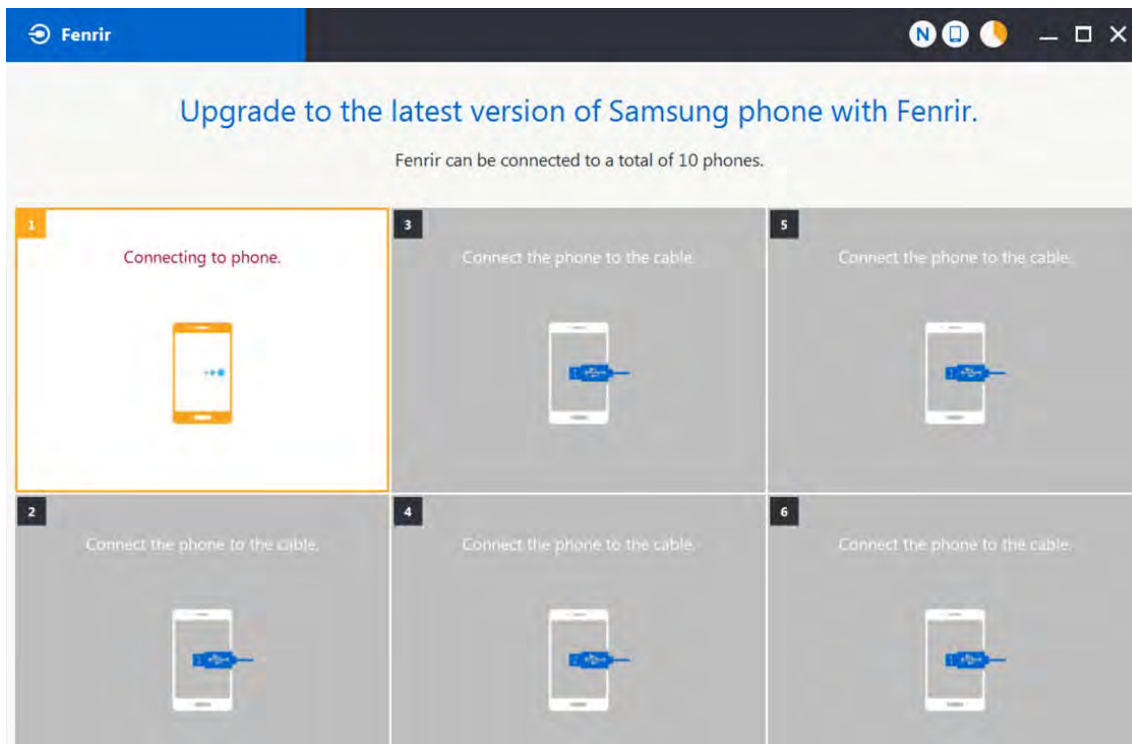
6. Level 1 Repair

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



4) Connect the device to PC via data cable.

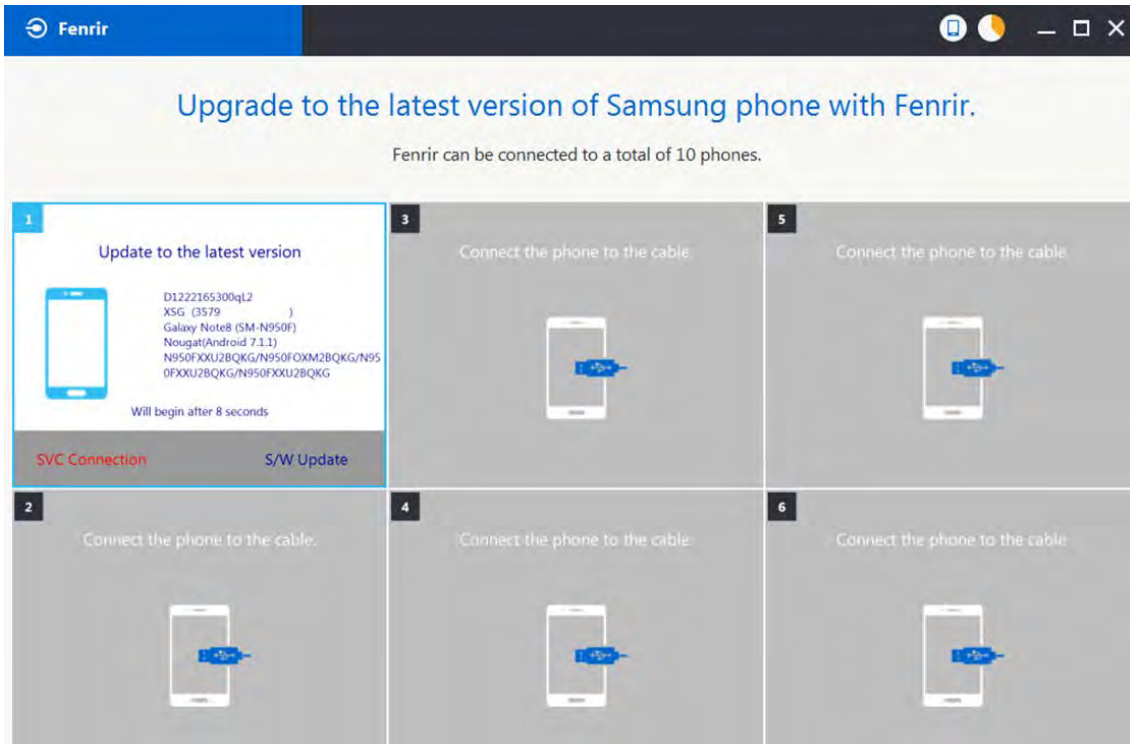
5) Upon USB connection, you will be presented with below screen.



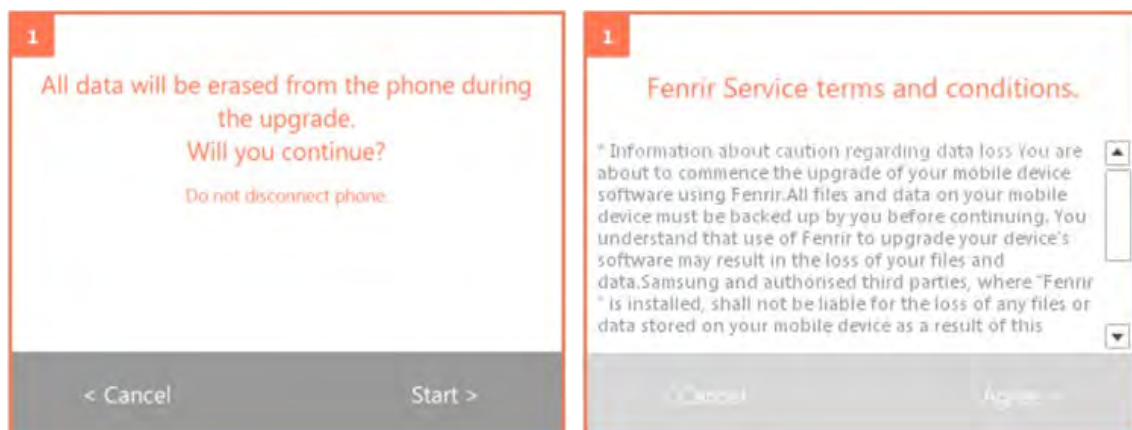
6. Level 1 Repair

=C

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)

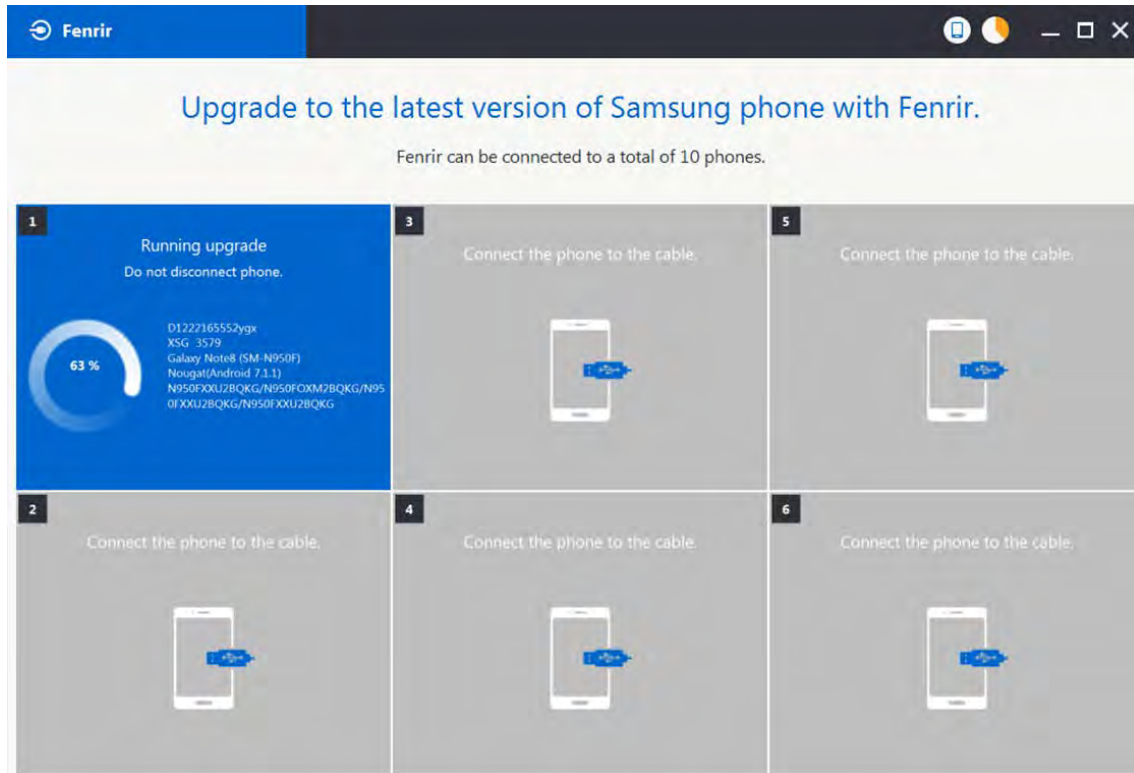


7) Once Fenrir starts, application will display the below screen. And select the Start button & Agree button.

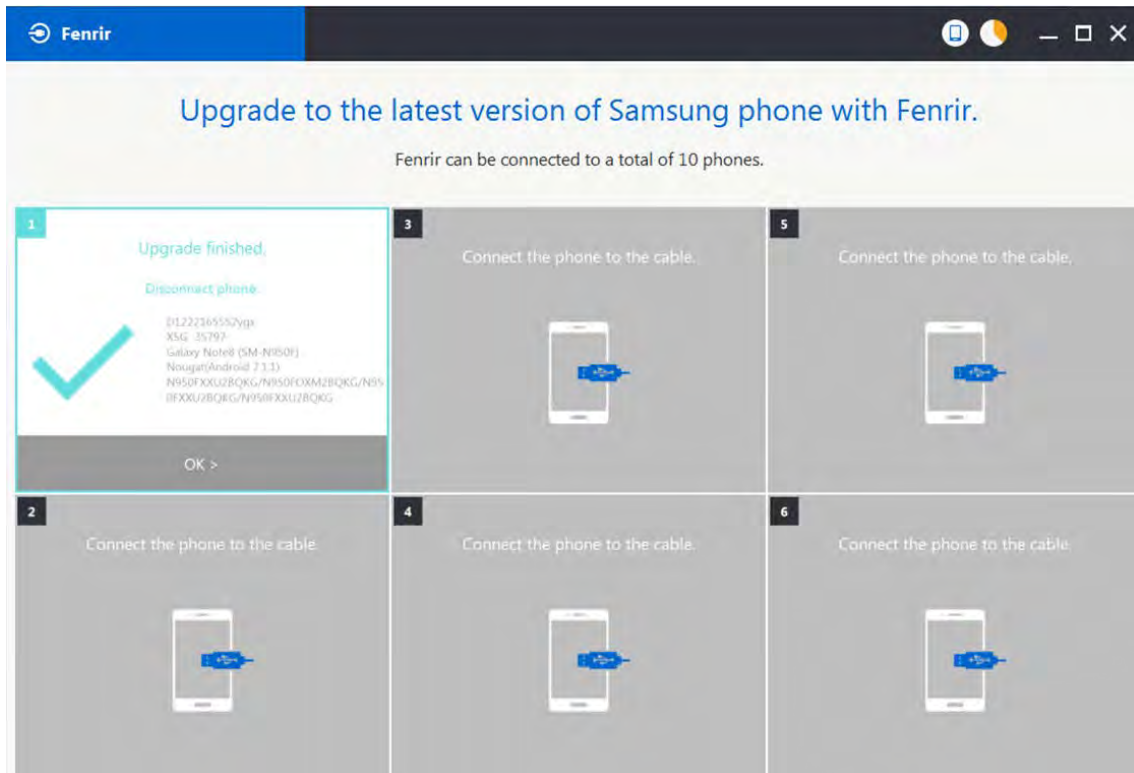


6. Level 1 Repair

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.



6. Level 1 Repair

6-2. How to use 'Odin' program

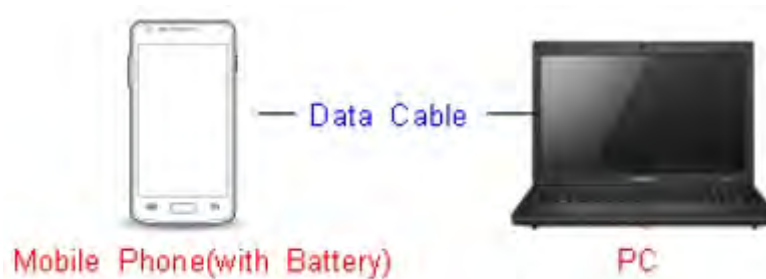
※ S/W Update via Fenrir is mandatory.

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

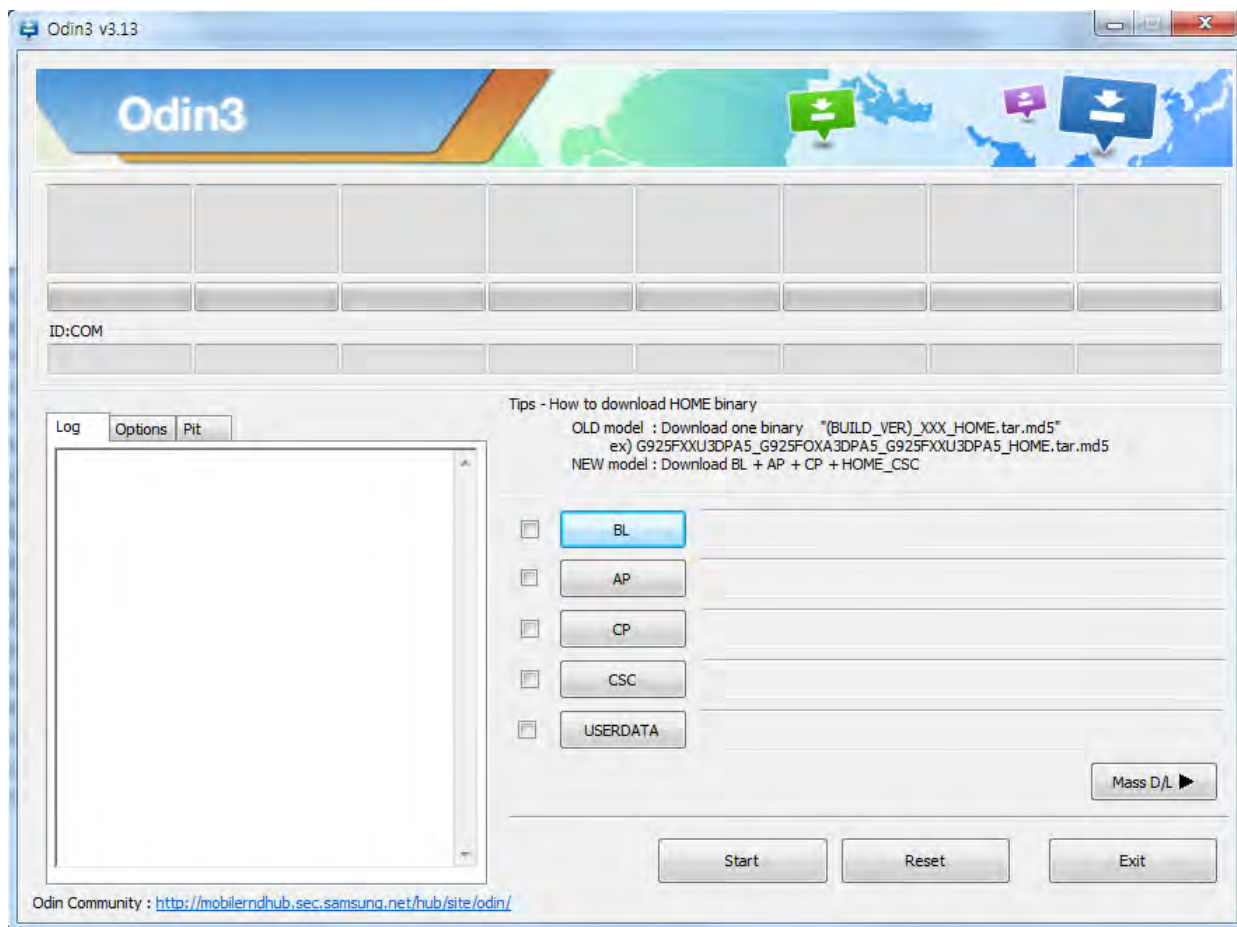


Data Cable : [GH39-01999A](#)

6. Level 1 Repair

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

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

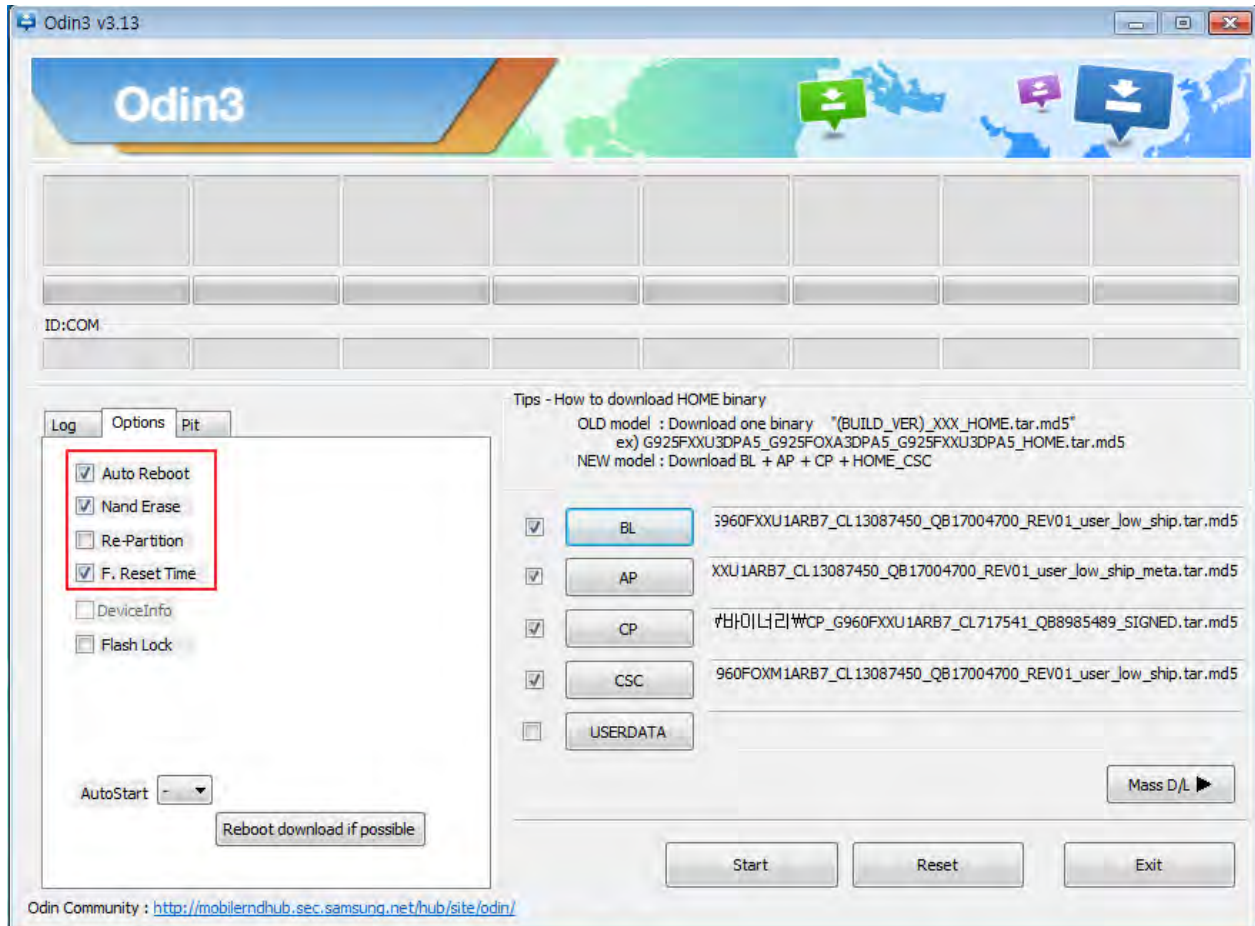


6. Level 1 Repair

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

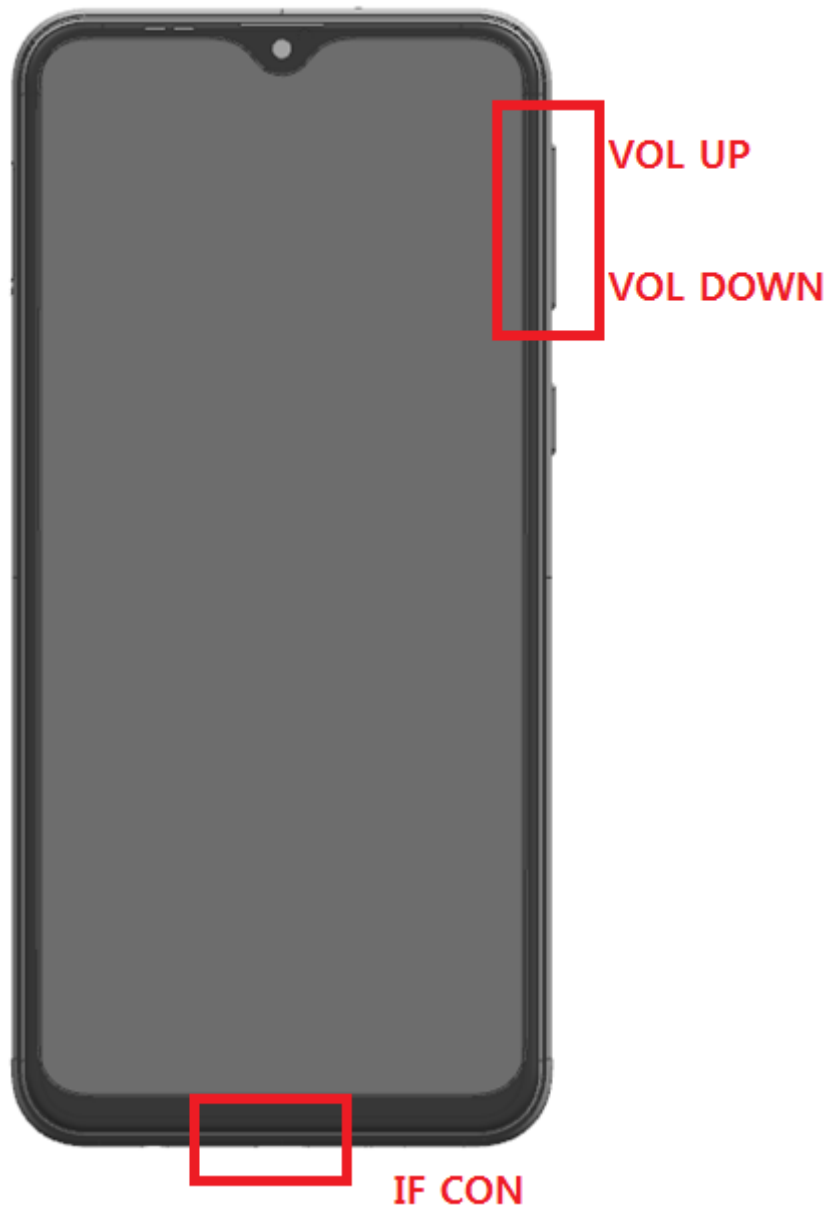
* Note : "Odin v3.13.2 or above" checks MD5 checksum just after file selection.



6. Level 1 Repair

2. Enter into Download Mode

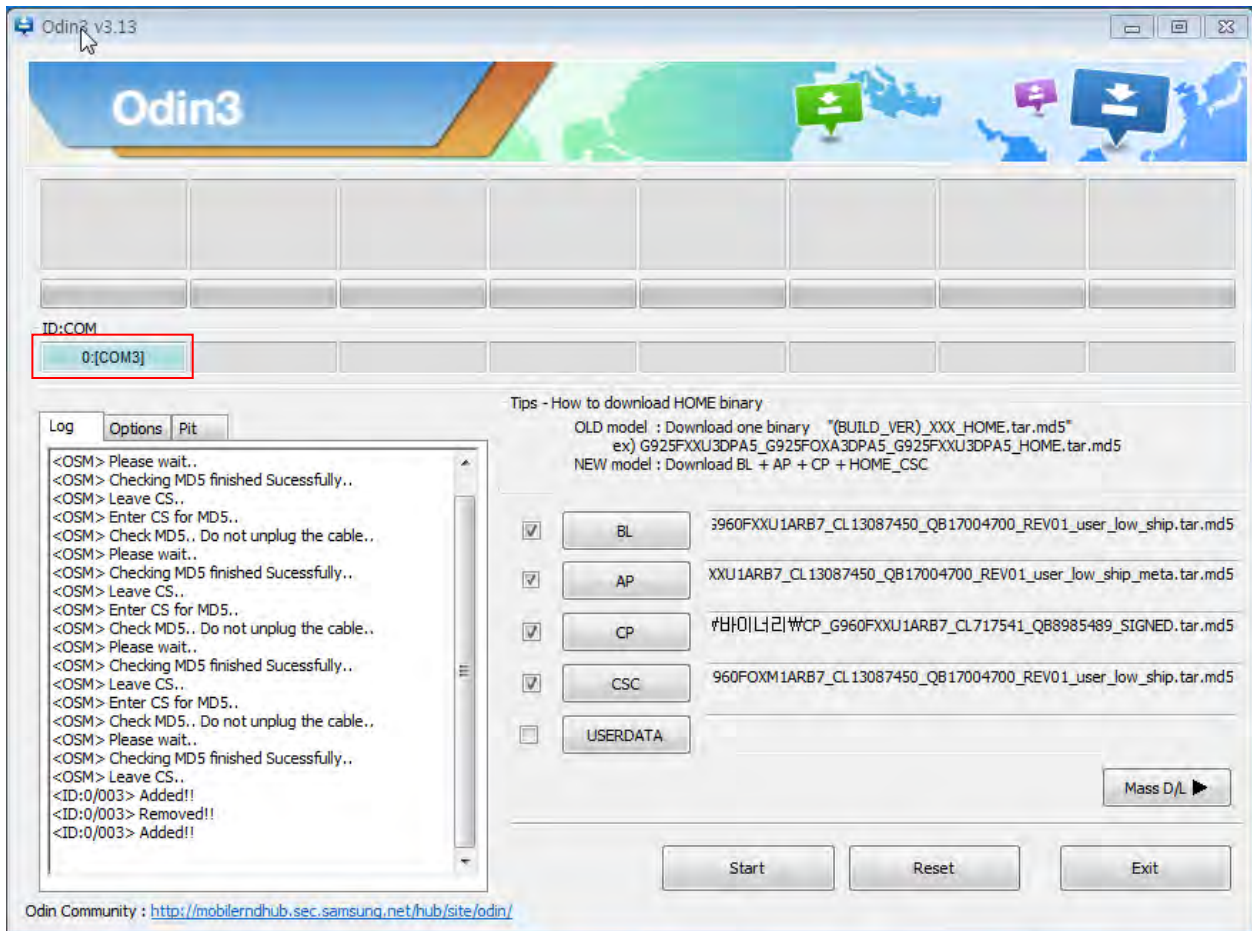
- Enter into Download Mode by pressing Volume Down button, Intelligence button and ON/OFF Button simultaneously followed by pressing Volume up button as a direction of the phone.



6. Level 1 Repair

3. Connect the device to PC via Data Cable.

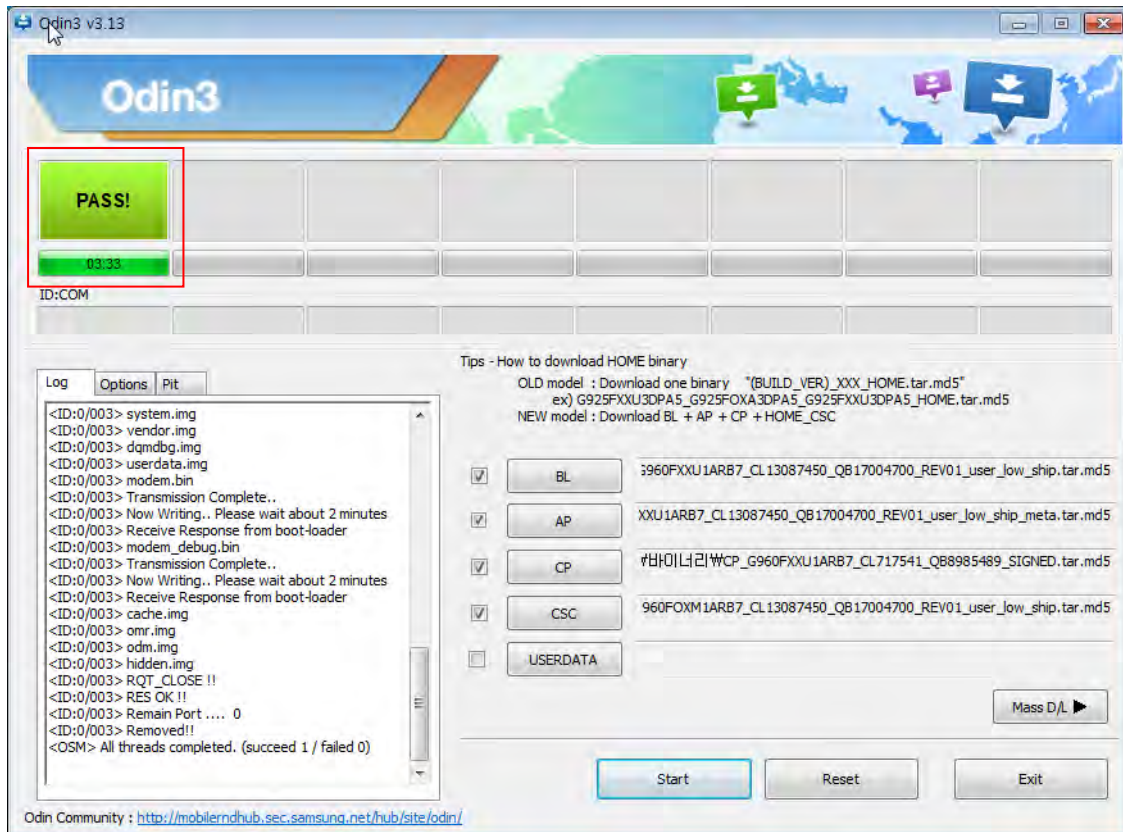
Make sure that the one of communication ports [ID:COM] box is highlighted in sky blue.
The device is now connected with the PC and ready to download the binary files in it.



6. Level 1 Repair

4. Start downloading the binary files into the device by clicking Start button on the screen.

The green colored "PASS!" sign will appear on the upper-left box if the binary files have been successfully downloaded into the device.



5. Disconnect the device from the Data cable.

6. Once the device boots up, you can check the version of the binary file or name by pressing the following code in sequence; ***#1234#**

You can perform Factory data Reset by Settings → General Management → Reset

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

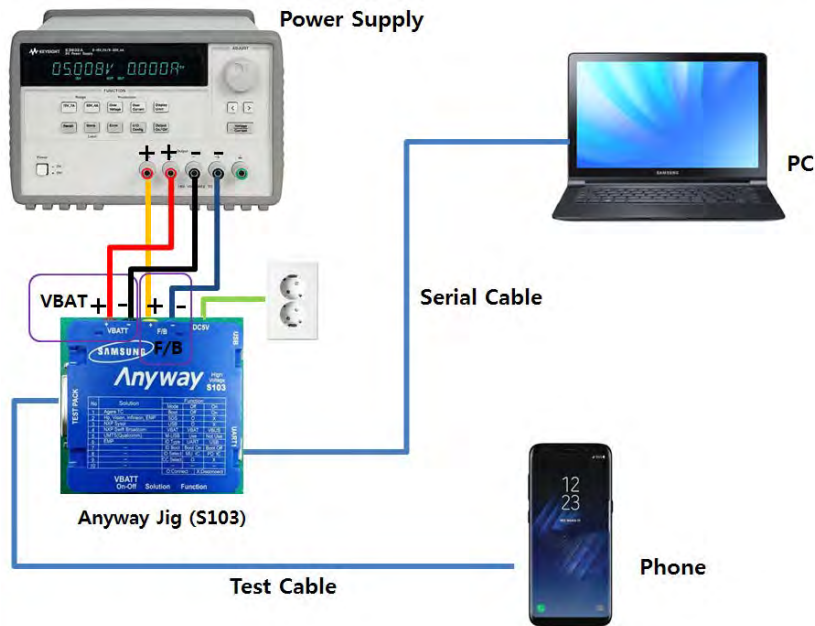
6. Level 1 Repair

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	DASEUL_SVC_Launcher_v3.0.12 or higher -Uploaded on HHPsvc Notice
③ Runtime File	1. DASEUL_IMEI_ALL_Runtime_3.1.348.0_r00519.CAB or higher -Uploaded on HHPsvc Notice 2. Make 'SM-M205F' 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-M205F' folder

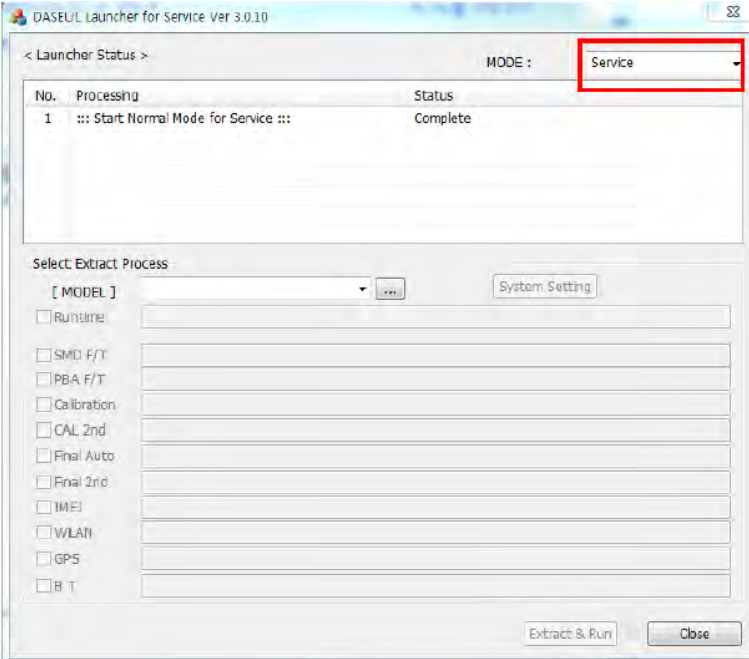
6. Level 1 Repair

6-3-2. IMEI writing Process

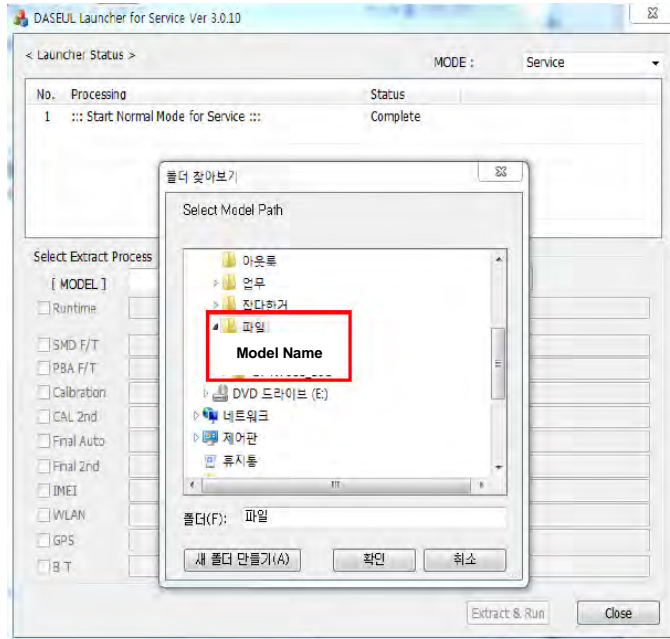
1. Run DASEUL_SVC_Launcher_v3.0.12.exe

 DASEUL_SVC_Launcher_v3.0.12.exe

2. Select Service Mode

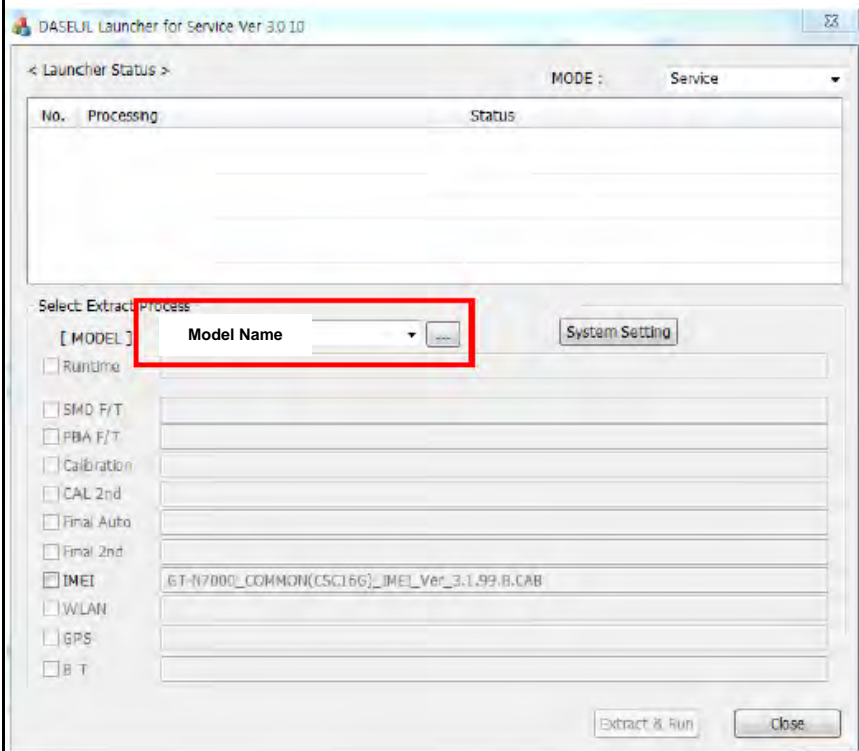


3. Click  and Select folder where the Launcher exists



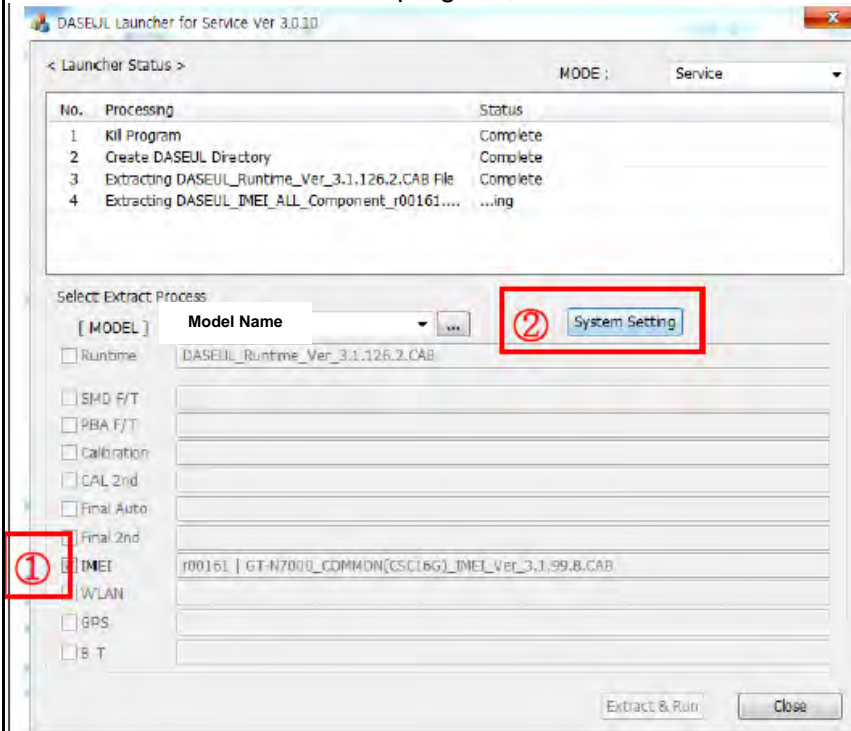
6. Level 1 Repair

4. Select Model



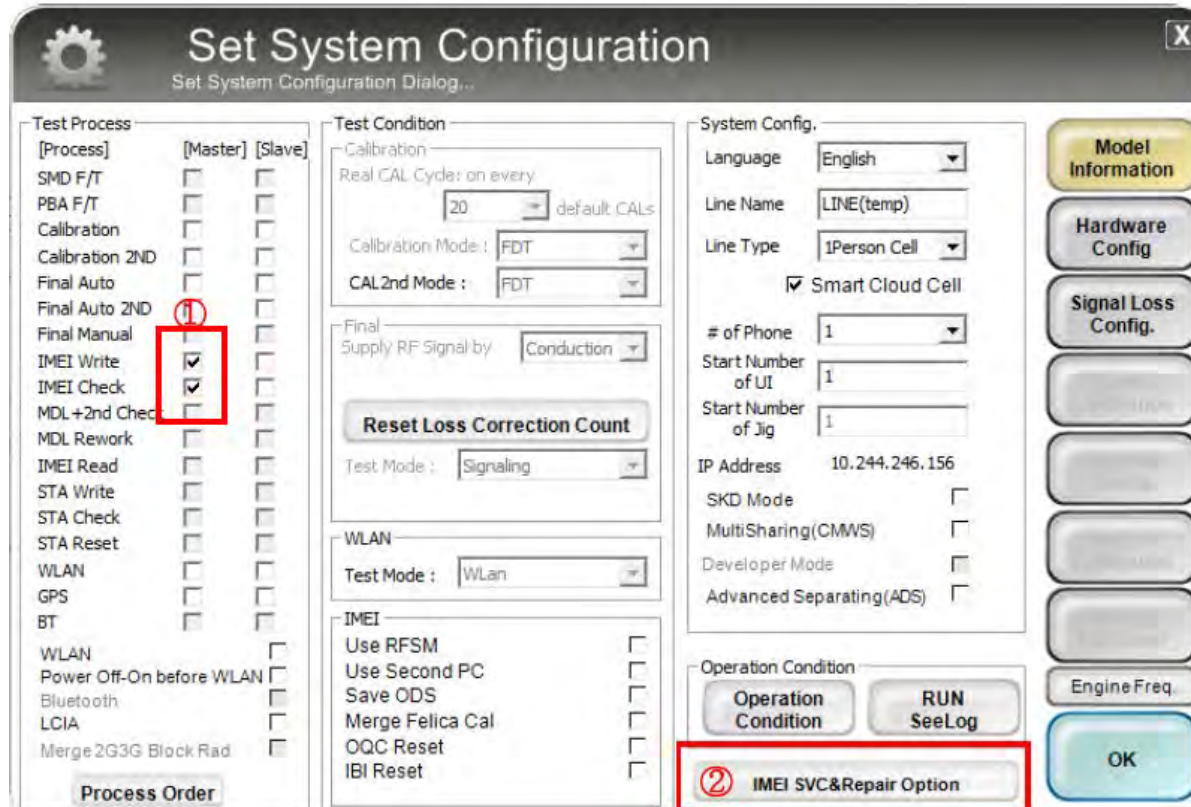
5. Check IMEI and click System Setting

※ 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.



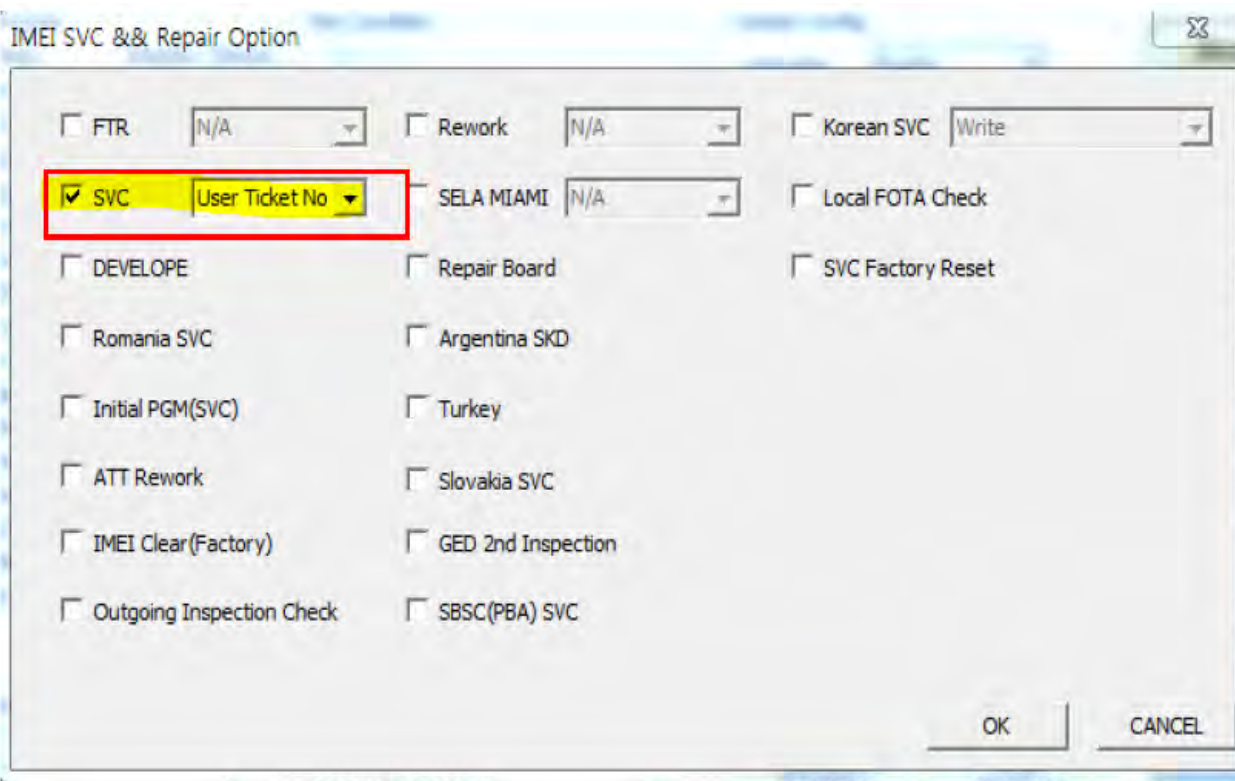
6. Level 1 Repair

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



The image shows the 'Set System Configuration' dialog box. It has several tabs: 'Test Process', 'Test Condition', 'System Config.', and 'Model Information'. In the 'Test Process' tab, the 'IMEI Write' and 'IMEI Check' checkboxes are checked and highlighted with a red box. In the 'Test Condition' tab, the 'Reset Loss Correction Count' button is visible. In the 'System Config.' tab, the 'IMEI SVC&Repair Option' button is highlighted with a red box and a red circle with the number 2. The 'Model Information' tab contains buttons for 'Model Information', 'Hardware Config', 'Signal Loss Config.', 'Engine Freq.', and 'OK'.

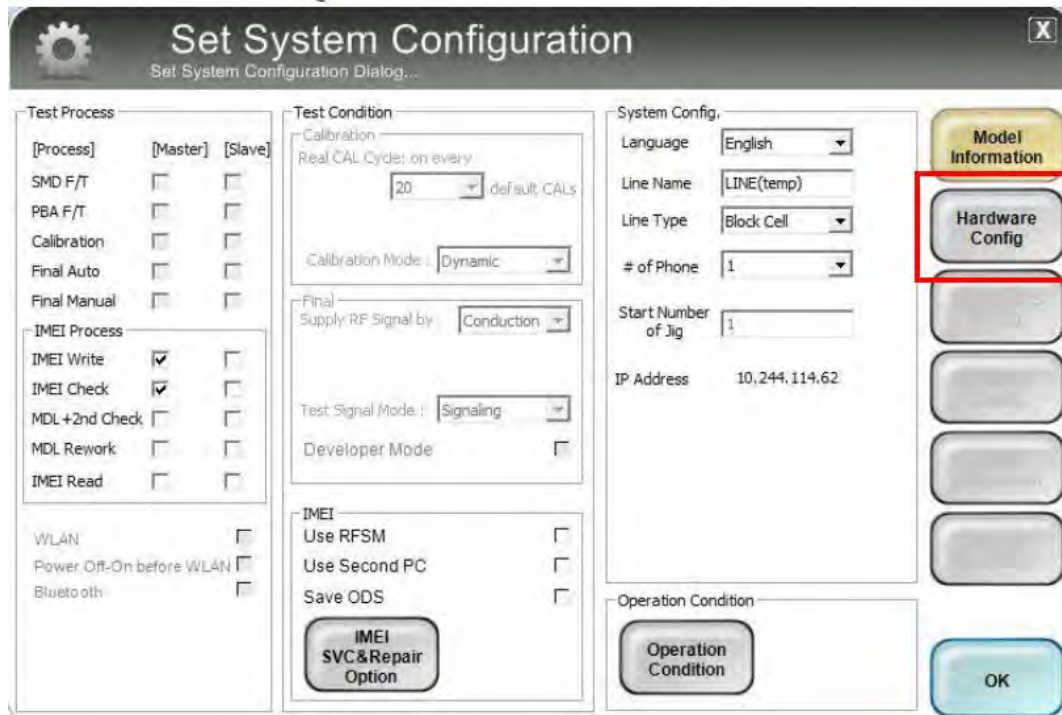
7. Check 'SVC , User Ticket No' and click OK



The image shows the 'IMEI SVC & Repair Option' dialog box. It has a title bar with a close button. The dialog contains several checkboxes and dropdown menus. The 'SVC' checkbox is checked and highlighted with a red box, and the 'User Ticket No' dropdown menu is also highlighted with a red box. Other options include 'FTR', 'Rework', 'Korean SVC', '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', and 'SBSC(PBA) SVC'. The 'OK' and 'CANCEL' buttons are at the bottom right.

6. Level 1 Repair

8. Click 'Hardware Config'



Set System Configuration
Set System Configuration Dialog...

Test Process

[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"/>
Final Auto	<input type="checkbox"/>	<input type="checkbox"/>
Final Manual	<input type="checkbox"/>	<input type="checkbox"/>

IMEI Process

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"/>

WLAN ☐
Power Off-On before WLAN ☐
Bluetooth ☐

Test Condition

Calibration
Real CAL Cycle: on every default: CALs

Calibration Mode:

Final
Supply RF Signal by:

Test Signal Mode:

Developer Mode ☐

IMEI
Use RFSM ☐
Use Second PC ☐
Save ODS ☐

System Config.

Language:

Line Name:

Line Type:

of Phone:

Start Number of Jig:

IP Address:

Model Information

Hardware Config

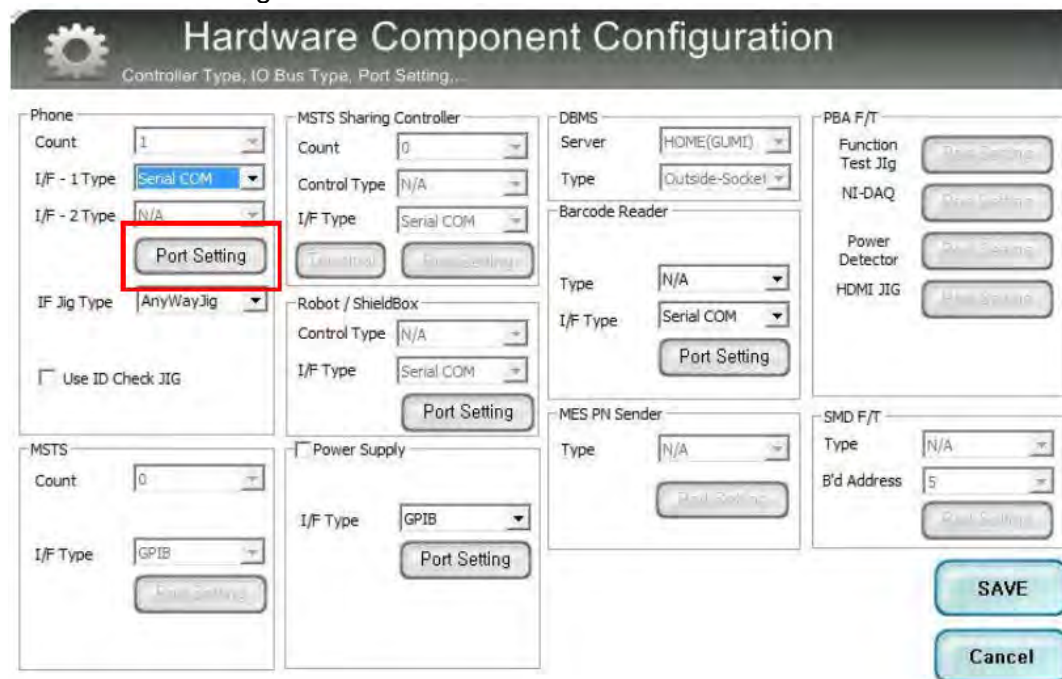
Operation Condition

IMEI SVC&Repair Option

Operation Condition

OK

9. Click 'Port Setting'



Hardware Component Configuration
Controller Type, IO Bus Type, Port Setting,...

Phone

Count:

I/F - 1 Type:

I/F - 2 Type:

Port Setting

I/F Jig Type:

☐ Use ID Check JIG

MSTS

Count:

I/F Type:

MSTS Sharing Controller

Count:

Control Type:

I/F Type:

Robot / ShieldBox

Control Type:

I/F Type:

Power Supply

I/F Type:

DBMS

Server:

Type:

Barcode Reader

Type:

I/F Type:

MES PN Sender

Type:

PBA F/T

Function Test Jig:

NI-DAQ:

Power Detector:

HDMI JIG:

SMD F/T

Type:

B'd Address:

SAVE

Cancel

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 Cycles 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

Operation Condition

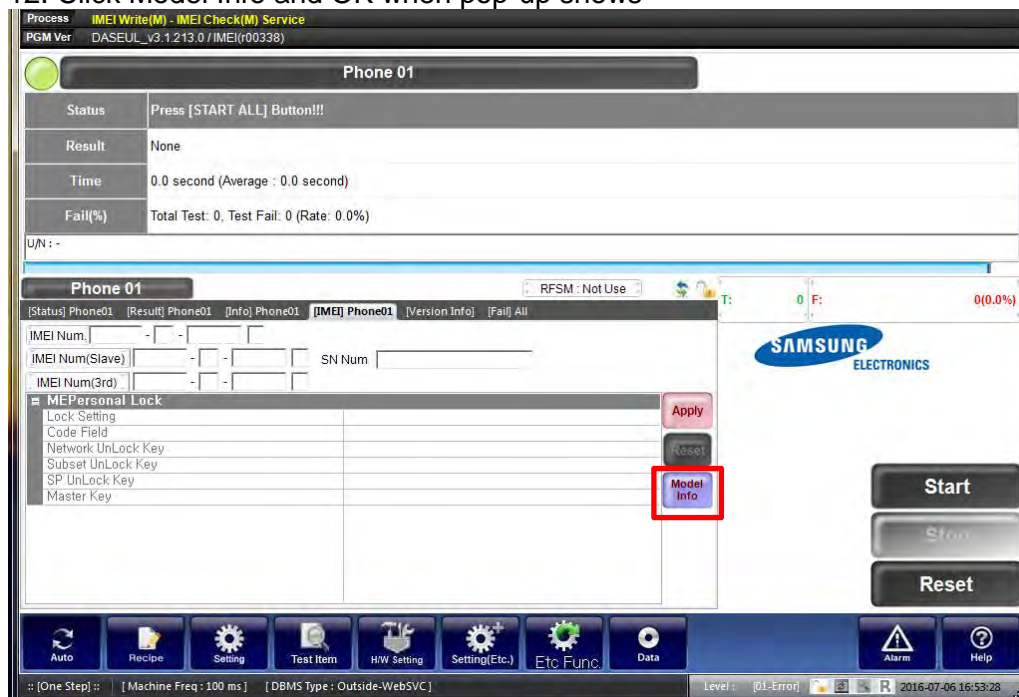
Model Information

Hardware Config

OK

6. Level 1 Repair

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



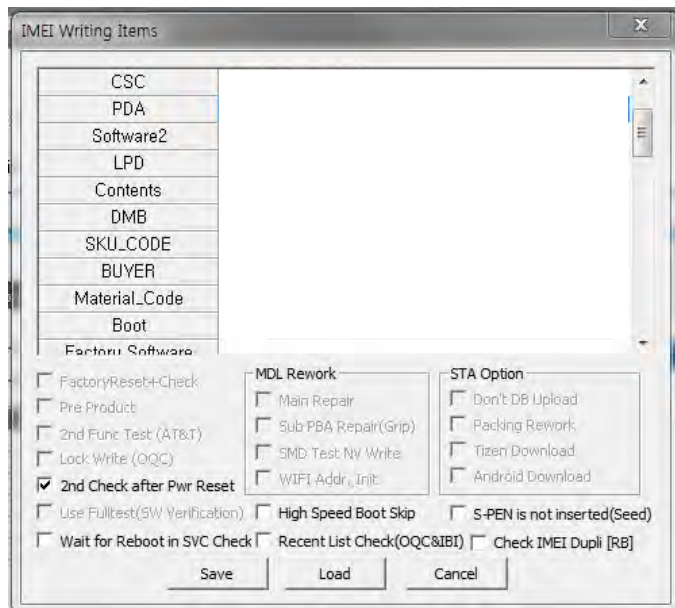
13. Click OK



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

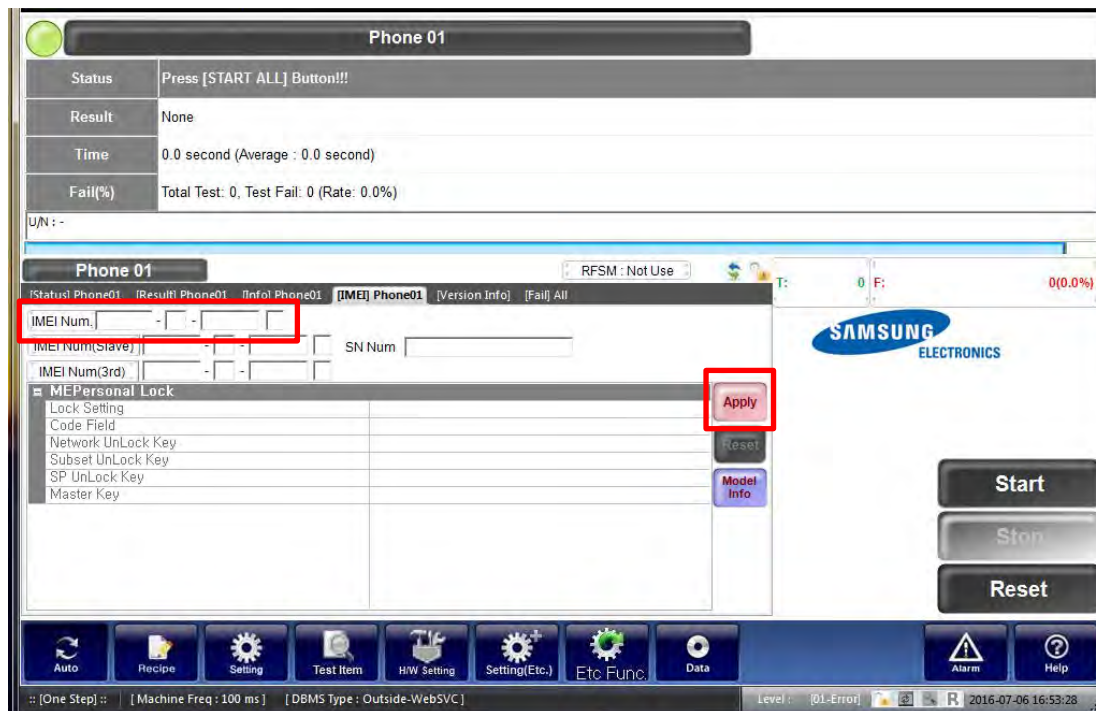


The 'IMEI Writing Items' dialog box contains a list of items to be written to the device. The items are: CSC, PDA, Software2, LPD, Contents, DMB, SKU_CODE, BUYER, Material_Code, and Boot. Below the list, there are several checkboxes for additional options:

- ☐ Factory Reset+Check
- ☐ Pre Product
- ☐ 2nd Func Test (AT&T)
- ☐ Lock Write (OQC)
- ☒ 2nd Check after Pwr Reset
- ☐ Use Fulltest(SW Verification)
- ☐ Wait for Reboot in SVC Check
- ☐ MDL Rework
 - ☐ Main Repair
 - ☐ Sub-PBA Repair(Grip)
 - ☐ SMD Test Nv Write
 - ☐ WIFI Addr. Init
- ☐ STA Option
 - ☐ Don't DB Upload
 - ☐ Packing Rework
 - ☐ Tizen Download
 - ☐ Android Download
- ☐ High Speed Boot Skip
- ☐ S-PEN is not inserted(Seed)
- ☐ Recent List Check(OQC&IBT)
- ☐ Check IMEI Dupli [RB]

At the bottom, there are three buttons: Save, Load, and Cancel.

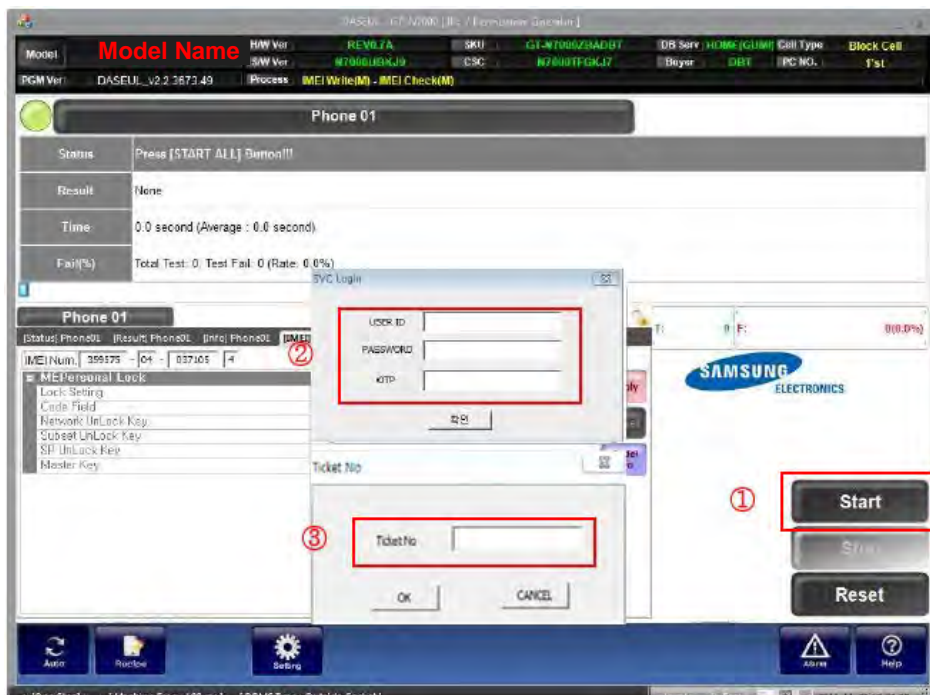
15. Input IMEI Number and click Apply



The 'Phone 01' interface shows various status and test results. The 'Status' section indicates 'Press [START ALL] Button!!!'. The 'Result' is 'None'. The 'Time' is '0.0 second (Average : 0.0 second)'. The 'Fail(%)' is 'Total Test: 0, Test Fail: 0 (Rate: 0.0%)'. Below this, there is a section for 'Phone 01' with tabs for 'Status', 'Result', 'Info', 'IMEI', 'Version Info', and 'Fail All'. The 'IMEI' tab is selected, showing fields for 'IMEI Num.', 'IMEI Num(Slave)', and 'IMEI Num(3rd)'. The 'IMEI Num.' field is highlighted with a red box. To the right of these fields is a 'SN Num' field. Below the IMEI fields, there is a 'ME Personal Lock' section with a list of lock settings: Lock Setting, Code Field, Network UnLock Key, Subset UnLock Key, SP UnLock Key, and Master Key. To the right of this list is an 'Apply' button, which is highlighted with a red box. Below the 'Apply' button are 'Reset' and 'Model Info' buttons. On the right side of the interface, there is a 'SAMSUNG ELECTRONICS' logo and a 'Start' button. Below the 'Start' button are 'Stop' and 'Reset' buttons. At the bottom, there is a toolbar with icons for 'Auto', 'Recipe', 'Setting', 'Test Item', 'HW Setting', 'Setting(Etc.)', 'Etc Func.', and 'Data'. The status bar at the very bottom shows 'Level : [01-Error]', 'R', and the date '2016-07-06 16:53:28'.

6. Level 1 Repair

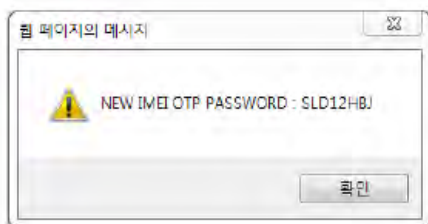
16. ① Click Start → ② Input IMEI writing ID and Password & OTP → ③ Input Ticket No



※ 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

6-4. RF Calibration






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

- Installation program: RF Calibration Program
 - Daseul_Launcher_vx.x.xx.exe
 - Daseul_CAL_ALL_Runtime_x.x.xxx.x.CAB
 - Model File
- : [SM-xxxx_OPEN_CALIBRATION_Ver_x.x.xxx.x.CAB](#)

※ It is required to use the latest program.

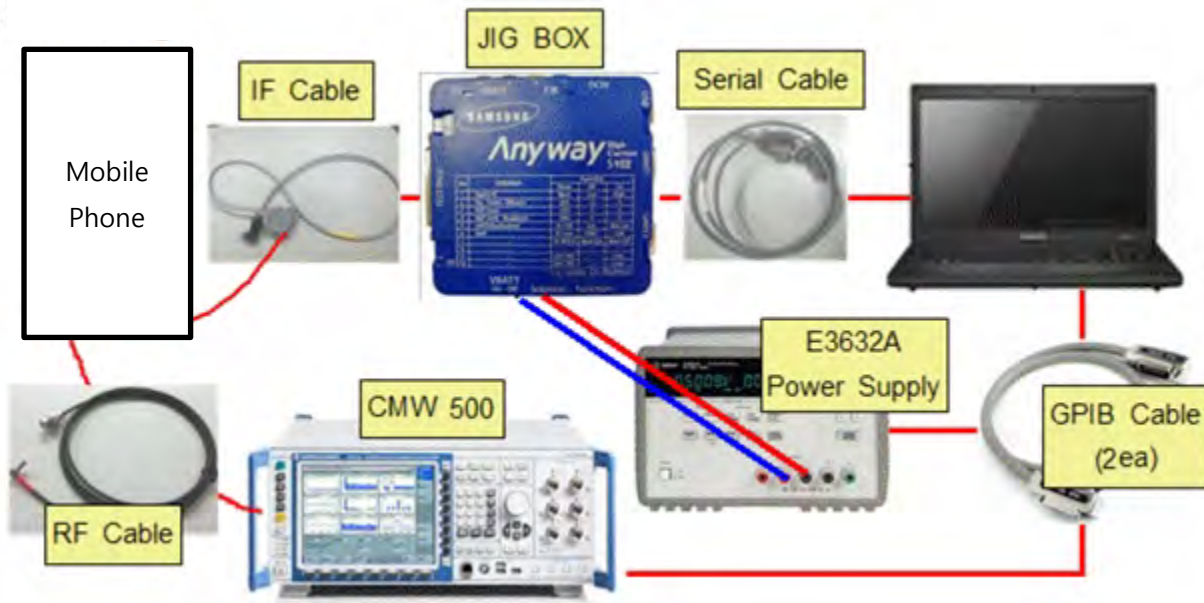
- Mobile Phone
- R&S CMW500
- E3632A Power Supply
- GPIB Cable (2ea)
- JIG BOX (S103)
- Adapter
- UART Serial Cable
- IF Cable (GH81-13320A)

❖ Table of test cables

RF Cable (Manual)	GH81-11962M (2ea)	GH81-11962U (2ea)	
	1.2T, 102mm 	1.2T, 102mm 	
4 Port Divider	GH81-11962A	GH81-11962B	GH81-11962E
	Divider 	Divider Cable 	50Ω terminator 

6. Level 1 Repair




❖ Setting



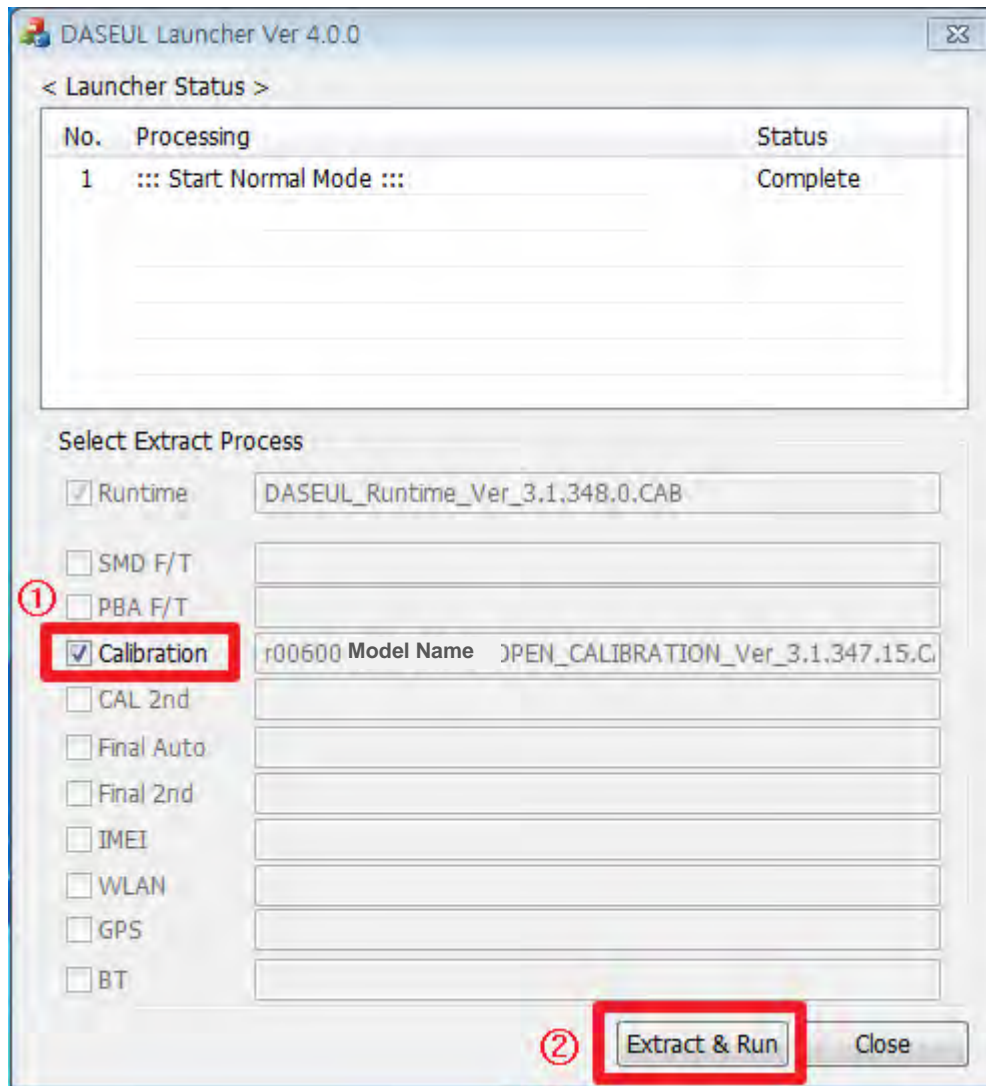
6. Level 1 Repair

6-4-2. RF Calibration Program

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

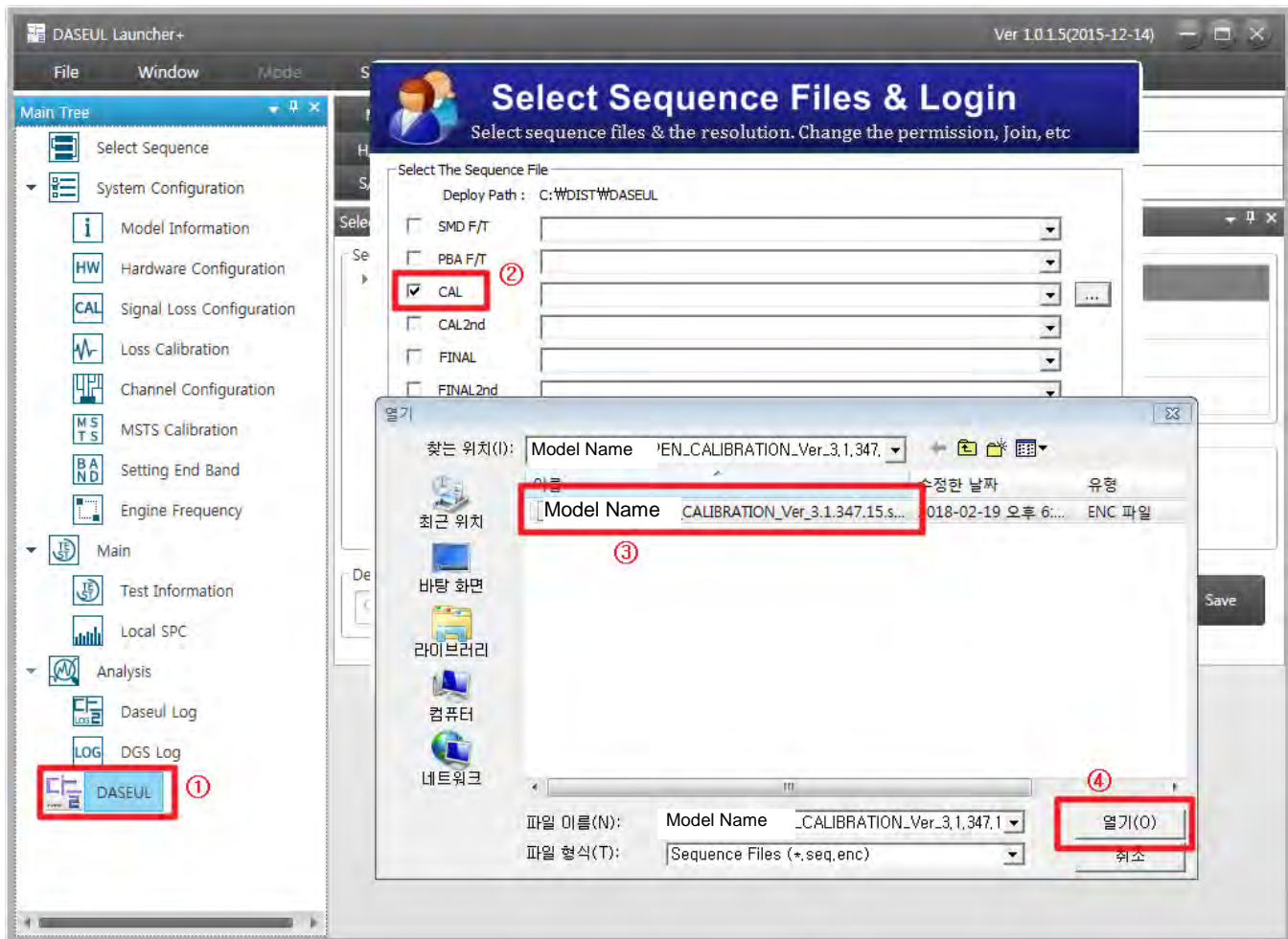
 DASEUL_CAL_ALL_Runtime_3.1.348.0_r00600.CAB
 DASEUL_Launcher_v4.0.0.exe
 SM-J410F OPEN_CALIBRATION_Ver_3.1.347.15.CAB

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



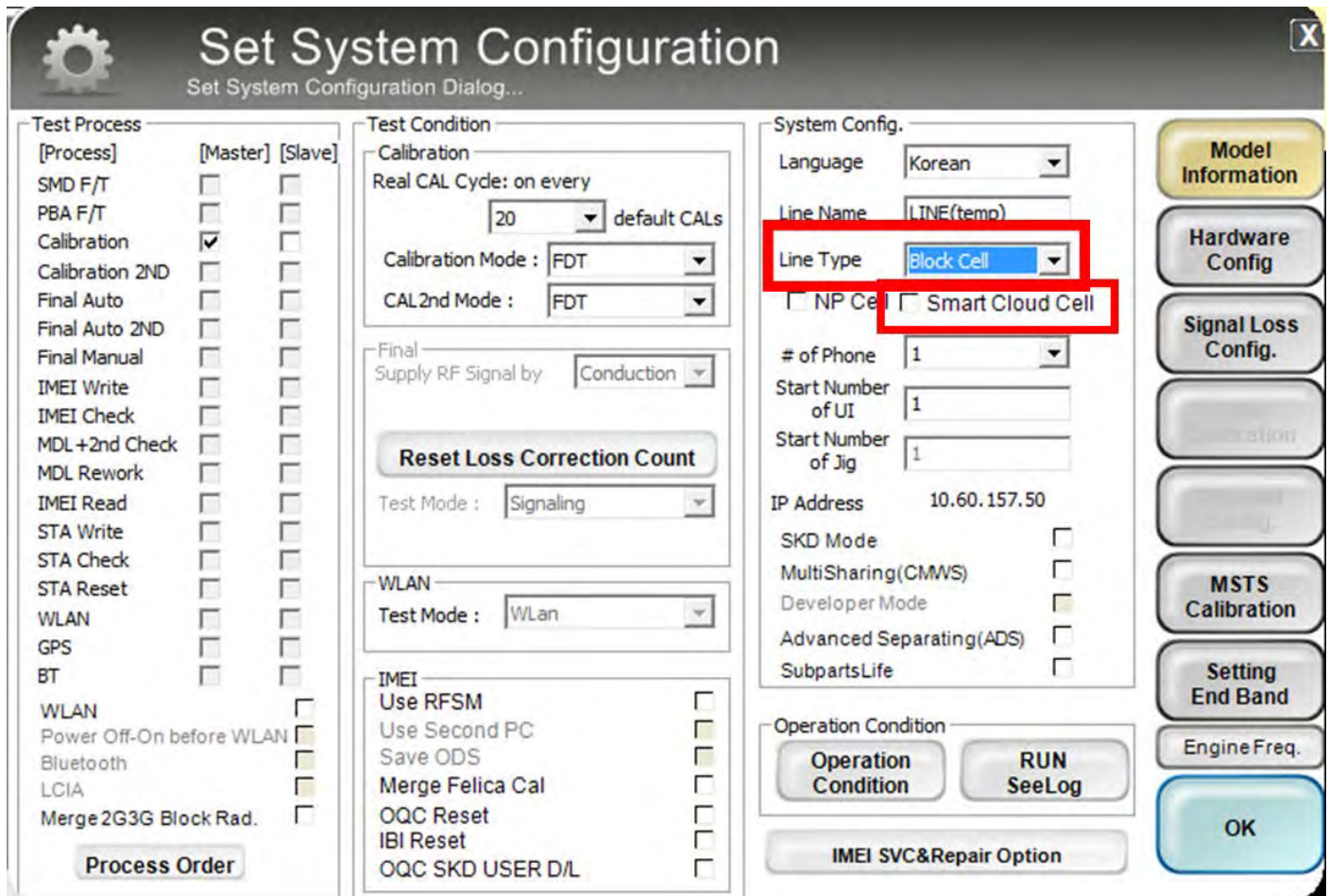
6. Level 1 Repair

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



6. Level 1 Repair

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



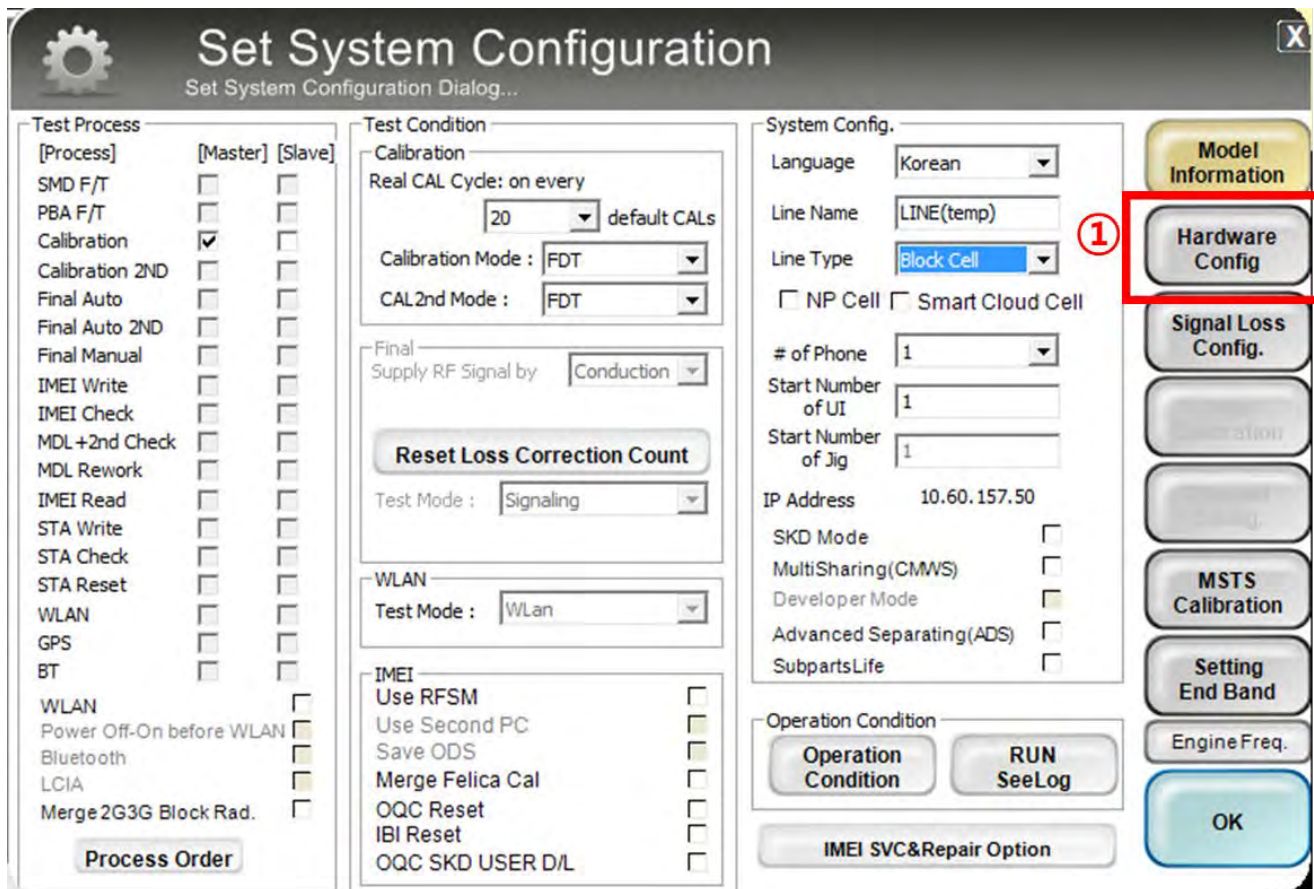
The image shows a 'Set System Configuration' dialog box with the following sections:

- Test Process:** A list of test items with checkboxes for [Process], [Master], and [Slave].
 - SMD F/T
 - PBA F/T
 - Calibration
 - Calibration 2ND
 - Final Auto
 - Final Auto 2ND
 - Final Manual
 - IMEI Write
 - IMEI Check
 - MDL+2nd Check
 - MDL Rework
 - IMEI Read
 - STA Write
 - STA Check
 - STA Reset
 - WLAN
 - GPS
 - BT
 - WLAN
 - Power Off-On before WLAN
 - Bluetooth
 - LCIA
 - Merge 2G3G Block Rad.
- 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, OQC SKD USER D/L.
- System Config.:**
 - Language: Korean
 - Line Name: LINE(temp)
 - Line Type: Block Cell (highlighted with a red box)
 - NP Cell, Smart Cloud Cell (disabled)
 - # of Phone: 1
 - Start Number of UI: 1
 - Start Number of Jig: 1
 - IP Address: 10.60.157.50
 - SKD Mode, MultiSharing(CMWS), Developer Mode, Advanced Separating(ADS), SubpartsLife (all disabled)
- Operation Condition:** Operation Condition, RUN SeeLog, IMEI SVC&Repair Option.

On the right side, there is a vertical stack of buttons: Model Information, Hardware Config, Signal Loss Config., Generation, Down Arrow, MSTS Calibration, Setting End Band, Engine Freq., and OK.

6. Level 1 Repair

- 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)



Set System Configuration
Set System Configuration Dialog...

Test Process

[Process]	[Master]	[Slave]
SMD F/T	<input type="checkbox"/>	<input type="checkbox"/>
PBA F/T	<input type="checkbox"/>	<input type="checkbox"/>
Calibration	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>
IMEI Check	<input 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 default CALs

Calibration Mode :

CAL2nd Mode :

Final
Supply RF Signal by :

Reset Loss Correction Count

Test Mode :

WLAN
Test Mode :

IMEI
Use RFSM ☐
Use Second PC ☐
Save ODS ☐
Merge Felica Cal ☐
OQC Reset ☐
IBI Reset ☐
OQC SKD USER D/L ☐

System Config.

Language :

Line Name :

Line Type :

☐ NP Cell ☐ Smart Cloud Cell

of Phone :

Start Number of UI :

Start Number of Jig :

IP Address : 10.60.157.50

SKD Mode ☐

MultiSharing(CMWS) ☐

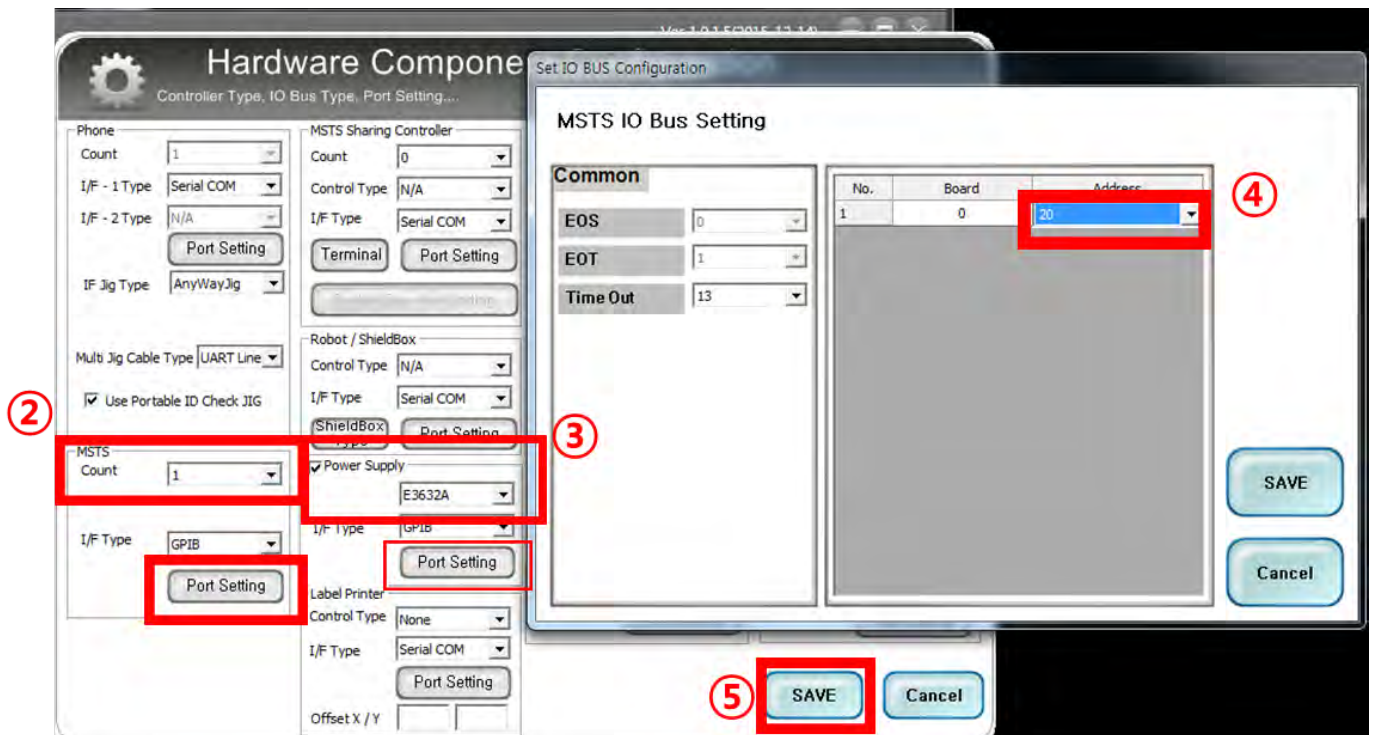
Developer Mode ☐

Advanced Separating(ADS) ☐

SubpartsLife ☐

Operation Condition

Model Information



Hardware Component
Controller Type, IO Bus Type, Port Setting...

Phone
Count :
I/F - 1 Type :
I/F - 2 Type :
IF Jig Type :
Multi Jig Cable Type :
☒ Use Portable ID Check JIG

MSTS Sharing Controller
Count :
Control Type :
I/F Type :
Terminal

Robot / ShieldBox
Control Type :
I/F Type :
ShieldBox

☒ Power Supply
I/F Type :

Label Printer
Control Type :
I/F Type :

Offset X / Y :

MSTS IO Bus Setting

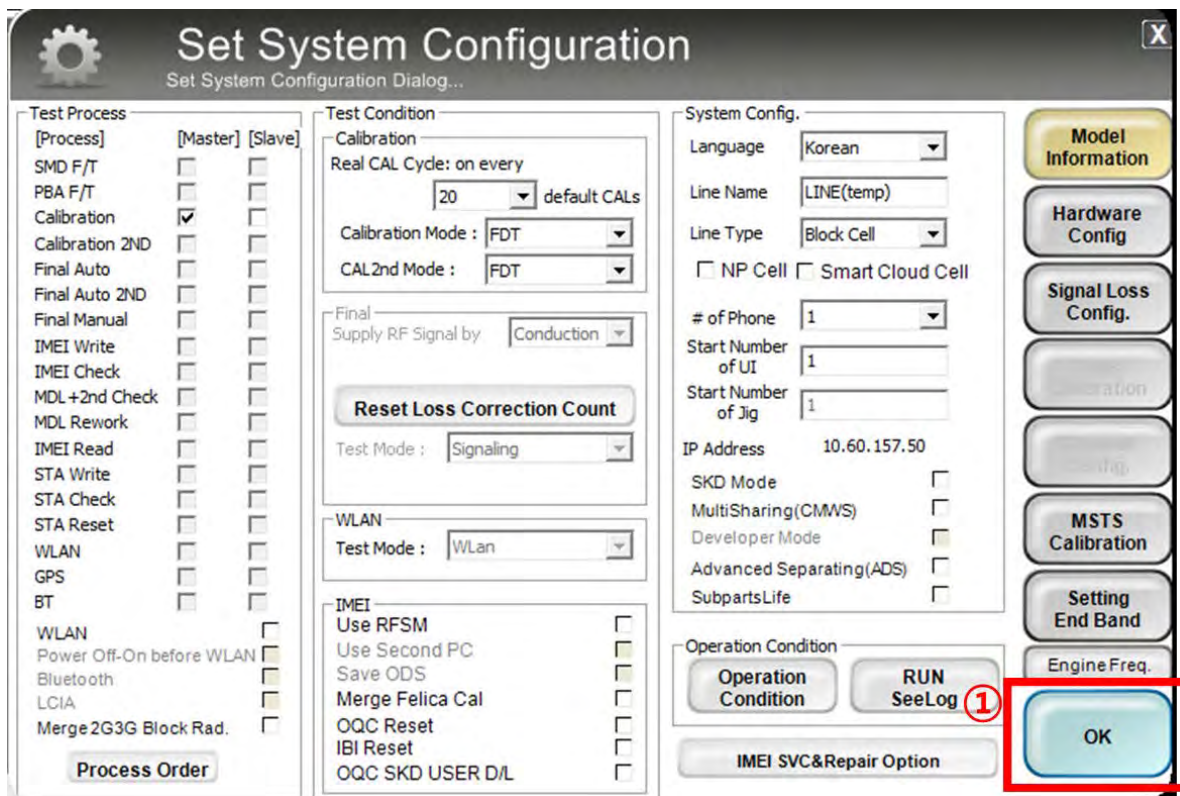
Common

EOS :
EOT :
Time Out :

No.	Board	Address
1	0	<input type="text" value="20"/>

6. Level 1 Repair

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



Set System Configuration
Set System Configuration Dialog...

Test Process

[Process]	[Master]	[Slave]
SMD F/T	<input type="checkbox"/>	<input type="checkbox"/>
PBA F/T	<input type="checkbox"/>	<input type="checkbox"/>
Calibration	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>
IMEI Check	<input 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 default CALs

Calibration Mode :

CAL2nd Mode :

Final
Supply RF Signal by :

Reset Loss Correction Count

Test Mode :

WLAN
Test Mode :

IMEI
Use RFSM ☐
Use Second PC ☐
Save ODS ☐
Merge Felica Cal ☐
OQC Reset ☐
IBI Reset ☐
OQC SKD USER D/L ☐

System Config.

Language :

Line Name :

Line Type :

☐ NP Cell ☐ Smart Cloud Cell

of Phone :

Start Number of UI :

Start Number of Jig :

IP Address : 10.60.157.50

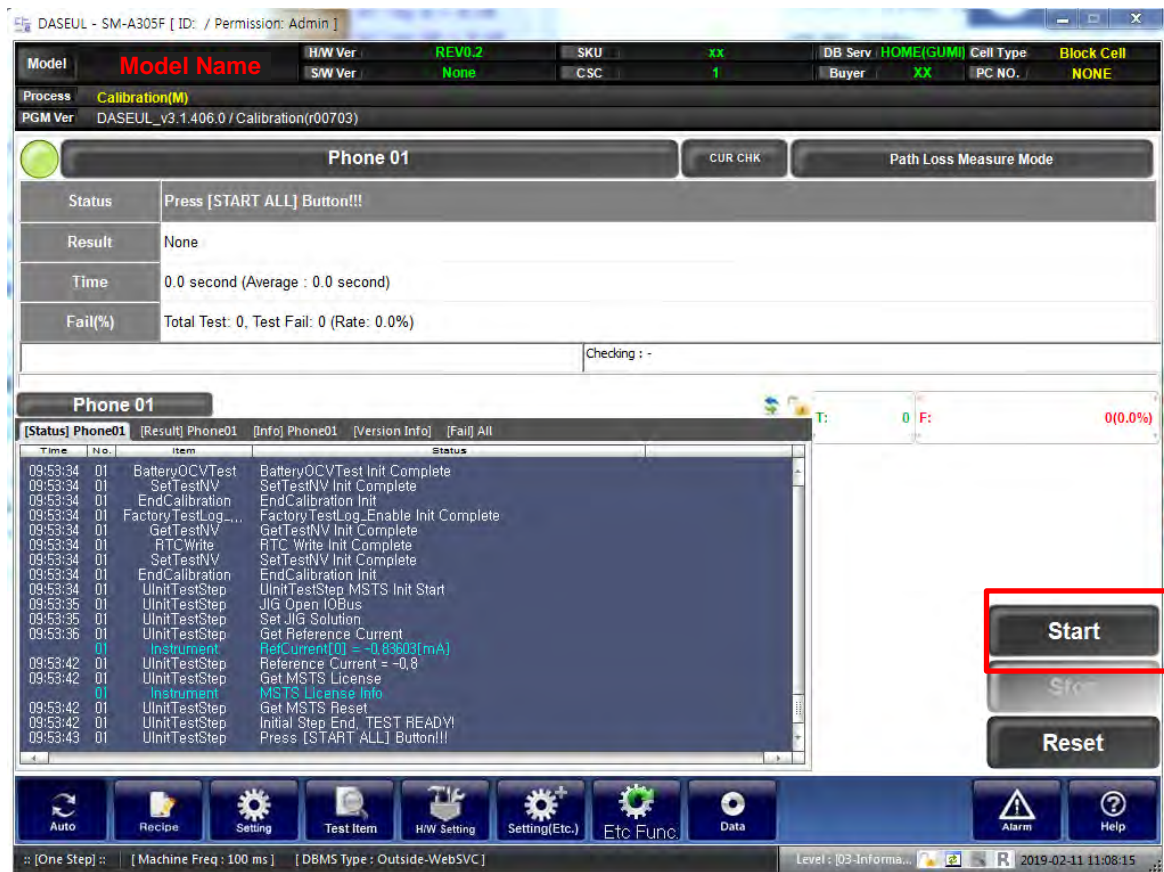
SKD Mode ☐
MultiSharing(CMWS) ☐
Developer Mode ☐
Advanced Separating(ADS) ☐
SubpartsLife ☐

Operation Condition

IMEI SVC&Repair Option

Model Information

MSTS Calibration



DASEUL - SM-A305F [ID : / Permission: Admin]

Model	Model Name	H/W Ver	REV0.2	SKU	xx	DB Serv	HOME(GUMI)	Cell Type	Block Cell
Process	Calibration(M)	SW Ver	None	CSC	1	Buyer	XX	PC NO.	NONE

PGM Ver DASEUL_v3.1.406.0 / Calibration(r00703)

Phone 01

Status Press [START ALL] Button!!!

Result None

Time 0.0 second (Average : 0.0 second)

Fail(%) Total Test: 0, Test Fail: 0 (Rate: 0.0%)

Checking : -

Phone 01

[Status] Phone01 [Result] Phone01 [Info] Phone01 [Version Info] [Fail] All

Time	No.	Item	Status
09:53:34	01	BatteryOCVTest	BatteryOCVTest Init Complete
09:53:34	01	SetTestNV	SetTestNV Init Complete
09:53:34	01	EndCalibration	EndCalibration Init
09:53:34	01	FactoryTestLog....	FactoryTestLog_Enable Init Complete
09:53:34	01	GetTestNV	GetTestNV Init Complete
09:53:34	01	RTCWrite	RTC Write Init Complete
09:53:34	01	SetTestNV	SetTestNV Init Complete
09:53:34	01	EndCalibration	EndCalibration Init
09:53:34	01	UnitTestStep	UnitTestStep MSTS Init Start
09:53:35	01	UnitTestStep	JIG Open IOBus
09:53:35	01	UnitTestStep	Set JIG Solution
09:53:36	01	UnitTestStep	Get Reference Current
09:53:42	01	Instrument	RefCurrent[0] = -0.83603[mA]
09:53:42	01	UnitTestStep	Reference Current = -0.8
09:53:42	01	UnitTestStep	Get MSTS License
09:53:42	01	Instrument	MSTS License Info
09:53:42	01	UnitTestStep	Get MSTS Reset
09:53:42	01	UnitTestStep	Initial Step End, TEST READY!
09:53:43	01	UnitTestStep	Press [START ALL] Button!!!

Auto Recipe Setting Test Item H/W Setting Setting(Etc.) Etc Func Data Alarm Help

[One Step] [Machine Freq : 100 ms] [DBMS Type : Outside-WebSVC] Level : [03-Infoma... 2019-02-11 11:08:15

9. Reference Abbreviation

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