
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. Radio Frequency & Channel

1) LTE BAND frequency

① SM-J600F/FN

Equa.	Freq. Range	CH Range
FUL = FUL_low+0.1(NUL-NOFFS-UL)	LB1 : 1920 ~ 1980	18000≤N≤18599
	LB2 : 1850 ~ 1910	18600≤N≤19199
	LB3 : 1710 ~ 1785	19200≤N≤19949
	LB4 : 1710 ~ 1755	19950≤N≤20399
	LB5 : 824 ~ 849	20400≤N≤20649
	LB7 : 2500 ~ 2570	20750≤N≤21449
	LB8 : 880 ~ 915	21450≤N≤21799
	LB12 : 699 ~ 716	23010≤N≤23179
	LB17 : 704 ~ 716	23730≤N≤23849
	LB20 : 832 ~ 862	24150≤N≤24449
	LB38 : 2570 ~ 2620	37750≤N≤38249
	LB40 : 2300 ~ 2400	38650≤N≤39649
	LB66 : 1710 ~ 1780	131972≤N≤132671
FDL = FDL_low+0.1(NDL-NOFFS-DL)	LB1 : 2110 ~ 2170	0≤N≤599
	LB2 : 1930 ~ 1990	600≤N≤1199
	LB3 : 1805 ~ 1880	1200≤N≤1949
	LB4 : 2110 ~ 2155	1950≤N≤2399
	LB5 : 869 ~ 894	2400≤N≤2649
	LB7 : 2620 ~ 2690	2750≤N≤3449
	LB8 : 925 ~ 960	3450≤N≤3799
	LB12 : 729 ~ 746	5010≤N≤5179
	LB17 : 734 ~ 746	5730≤N≤5849
	LB20 : 791 ~ 821	6150≤N≤6449
	LB38 : 2570 ~ 2620	37750≤N≤38249
	LB40 : 2300 ~ 2400	38650≤N≤39649
	LB66 : 2110 ~ 2200	66436≤N≤67335

2. Specification

② SM-J600G/GT

Equa.	Freq. Range	CH Range
FUL = FUL _{low} +0.1(NUL-NOFFS-UL)	LB1 : 1920 ~ 1980	18000≤N≤18599
	LB2 : 1850 ~ 1910	18600≤N≤19199
	LB3 : 1710 ~ 1785	19200≤N≤19949
	LB4 : 1710 ~ 1755	19950≤N≤20399
	LB5 : 824 ~ 849	20400≤N≤20649
	LB7 : 2500 ~ 2570	20750≤N≤21449
	LB8 : 880 ~ 915	21450≤N≤21799
	LB12 : 699 ~ 716	23010≤N≤23179
	LB13 : 777 ~ 787	23180≤N≤23279
	LB17 : 704 ~ 716	23730≤N≤23849
	LB20 : 832 ~ 862	24150≤N≤24449
	LB28 : 703 ~ 748	27210≤N≤27659
	LB38 : 2570 ~ 2620	37750≤N≤38249
	LB40 : 2300 ~ 2400	38650≤N≤39649
FDL = FDL _{low} +0.1(NDL-NOFFS-DL)	LB41 : 2496 ~ 2690	39650≤N≤41589
	LB66 : 1710 ~ 1780	131972≤N≤132671
	LB1 : 2110 ~ 2170	0≤N≤599
	LB2 : 1930 ~ 1990	600≤N≤1199
	LB3 : 1805 ~ 1880	1200≤N≤1949
	LB4 : 2110 ~ 2155	1950≤N≤2399
	LB5 : 869 ~ 894	2400≤N≤2649
	LB7 : 2620 ~ 2690	2750≤N≤3449
	LB8 : 925 ~ 960	3450≤N≤3799
	LB12 : 729 ~ 746	5010≤N≤5179
	LB13 : 746 ~ 756	5180≤N≤5279
	LB17 : 734 ~ 746	5730≤N≤5849
	LB20 : 791 ~ 821	6150≤N≤6449
	LB28 : 758 ~ 803	9210≤N≤9659
	LB38 : 2570 ~ 2620	37750≤N≤38249
	LB40 : 2300 ~ 2400	38650≤N≤39649
	LB41 : 2496 ~ 2690	39650≤N≤41589
	LB66 : 2110 ~ 2200	66436≤N≤67335

2. Specification

2) WCDMA BAND frequency

Equa.	Freq. Range	CH Range
Tx = $N \times 0.2$	WB1 : 1920 ~ 1980	$9612 \leq N \leq 9888$
	WB2 : 1850 ~ 1910	$9262 \leq N \leq 9538$
	WB4 : 1710 ~ 1755	$1312 \leq N \leq 1513$
	WB5 : 824 ~ 849	$4132 \leq N \leq 4233$
	WB8 : 880 ~ 915	$2712 \leq N \leq 2863$
Rx = $N \times 0.2$	WB1 : 2110 ~ 2170	$10562 \leq N \leq 10838$
	WB2 : 1930 ~ 1990	$9662 \leq N \leq 9938$
	WB4 : 2110 ~ 2155	$1537 \leq N \leq 1738$
	WB5 : 869 ~ 894	$4357 \leq N \leq 4458$
	WB8 : 925 ~ 960	$2937 \leq N \leq 3088$

3) GSM BAND frequency

Equa.	Freq. Range	CH Range
Tx = $824.2 + 0.2 \times (N - 128)$	GSM850 : 824 ~ 849	$128 \leq N \leq 251$
Tx = $890 + 0.2 \times (N - 1024)$	GSM900 : 880 ~ 915	$975 \leq N \leq 1023$
Tx = $1710.2 + 0.2 \times (N - 512)$	DCS : 1710 ~ 1785	$512 \leq N \leq 885$
Tx = $1850.2 + 0.2 \times (N - 512)$	PCS : 1850 ~ 1910	$512 \leq N \leq 810$
Rx = $869.2 + 0.2 \times (N - 128)$	GSM850 : 869 ~ 894	$128 \leq N \leq 251$
Rx = $935 + 0.2 \times (N - 1024)$	GSM900 : 925 ~ 960	$975 \leq N \leq 1023$
Rx = $1805.2 + 0.2 \times (N - 512)$	DCS : 1805 ~ 1880	$512 \leq N \leq 885$
Rx = $1930.2 + 0.2 \times (N - 512)$	PCS : 1930 ~ 1990	$512 \leq N \leq 810$

2. Specification

2-2. GSM / WCDMA / LTE General Specification

1) GSM BAND

Item		GSM 850	GSM 900	DCS1800	PCS1900
Freq. Band[MHz] Uplink/Downlink		824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range		128~251	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing		45 MHz	45 MHz	95 MHz	80 MHz
Mod. Bit rate/ Bit Period	GPRS	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us
Time Slot Period/Frame Period		576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.615 ms
Modulation	GPRS	0.3 GMSK	0.3 GMSK	0.3 GMSK	0.3 GMSK
MS Power	GPRS	33 dBm~5 dBm	33 dBm~5 dBm	30 dBm~0 dBm	30 dBm~0 dBm
Power Level	GPRS	5 pcl~19 pcl	5 pcl~19 pcl	0 pcl~15 pcl	0 pcl~15 pcl
Sensitivity		-102 dBm	-102 dBm	-100 dBm	-102 dBm
TDMA Mux		8	8	8	8
Cell Radius		3 Km	3 Km	2 Km	2 Km

2. Specification

2) WCDMA BAND

Item	WCDMA BAND1	WCDMA BAND2	WCDMA BAND4	WCDMA BAND5	WCDMA BAND8
Freq. Band[MHz] Uplink/Downlink	1920~1980 2110~2170	1850~1910 1930~1990	1710~1755 2110~2155	824~849 869~894	880~915 925~960
ARFCN range	9612~9888 10562~10838	9262~9538 9662~9938	1312~1513 1537~1738	781~4233 1006~4458	2712~2863 2937~3088
Tx/Rx spacing	190MHz	80MHz	400MHz	45MHz	45MHz
Mod. Bit rate/ Bit Period	3.84 Mcps/s	3.84 Mcps/s	3.84 Mcps/s	3.84 Mcps/s	3.84 Mcps/s
Time Slot Period/Frame Period	10ms	10ms	10ms	10ms	10ms
Modulation	UL : HQPSK DL : QPSK	UL : HQPSK DL : QPSK	UL : HQPSK DL : QPSK	UL : HQPSK DL : QPSK	UL : HQPSK DL : QPSK
MS Power	Max:23.0dBm (+1~-3)dBm Min:<-50dBm	Max:22.0dBm (+1~-3)dBm Min:<-50dBm	Max:21.5dBm (+1~-3)dBm Min:<-50dBm	Max:23.0dBm (+1~-3)dBm Min:<-50dBm	Max:23.0dBm (+1~-3)dBm Min:<-50dBm
Power Level	Class3	Class3	Class3	Class3	Class3
Sensitivity	-106.7dBm	-104.7dBm	-104.7dBm	-104.7dBm	-104.7dBm

2. Specification

3) LTE BAND

Band	Downlink (MHz)			Bandwidth	Uplink (MHz)			Duplex spacing
	Low	Middle	High	DL/UL (MHz)	Low	Middle	High	(MHz)
	Earfcn				Earfcn			
1	2110	2140	2170	60	1920	1950	1980	190
	0	300	599		18000	18300	18599	
2	1930	1960	1990	60	1850	1880	1910	80
	600	900	1199		18600	18900	19199	
3	1805	1842.5	1880	75	1710	1747.5	1785	95
	1200	1575	1949		19200	19575	19949	
4	2110	2132.5	2155	45	1710	1732.5	1755	400
	1950	2175	2399		19950	20175	20399	
5	869	881.5	894	25	824	836.5	849	45
	2400	2525	2649		20400	20525	20649	
6	875	880	885	10	830	835	840	45
	2650	2700	2749		20650	20700	20749	
7	2620	2655	2690	70	2500	2535	2570	120
	2750	3100	3449		20750	21100	21449	
8	925	942.5	960	35	880	897.5	915	45
	3450	3625	3799		21450	21625	21799	
12	729	737.5	746	17	699	707.5	716	30
	5010	5095	5179		23010	23095	23179	
13	746	751	756	10	777	782	787	-31
	5180	5230	5279		23180	23230	23279	
17	734	740	746	12	704	710	716	30
	5730	5790	5849		23730	23790	23849	
20	791	806	821	30	832	847	862	-41
	6150	6300	6449		24150	24300	24449	
28	758	780.5	803	45	703	725.5	748	55
	9210	9435	9659		27210	27435	27659	
66	2110	2155	2200	90 / 70	1710	1745	1780	400
	66436	66886	67335		131972	132322	132671	
38 (TDD)	2570	2595	2620	50				
	37750	38000	38249					
40 (TDD)	2300	2350	2400	100				
	38650	39150	39649					
41 (TDD)	2496	2593	2690	194				
	39650	40620	41589					

2. Specification

2-3. GSM BAND TX power control level

TX Power control level	GSM850	GSM900	TX Power Control level	DCS1800	TX Power Control level	PCS1900
5	33±2 dBm	33±2 dBm	0	30±2 dBm	0	30±2 dBm
6	31±3 dBm	31±3 dBm	1	28±3 dBm	1	28±3 dBm
7	29±3 dBm	29±3 dBm	2	26±3 dBm	2	26±3 dBm
8	27±3 dBm	27±3 dBm	3	24±3 dBm	3	24±3 dBm
9	25±3 dBm	25±3 dBm	4	22±3 dBm	4	22±3 dBm
10	23±3 dBm	23±3 dBm	5	20±3 dBm	5	20±3 dBm
11	21±3 dBm	21±3 dBm	6	18±3 dBm	6	18±3 dBm
12	19±3 dBm	19±3 dBm	7	16±3 dBm	7	16±3 dBm
13	17±3 dBm	17±3 dBm	8	14±3 dBm	8	14±3 dBm
14	15±3 dBm	15±3 dBm	9	12±4 dBm	9	12±4 dBm
15	13±3 dBm	13±3 dBm	10	10±4 dBm	10	10±4 dBm
16	11±5 dBm	11±5 dBm	11	8±4 dBm	11	8±4 dBm
17	9±5 dBm	9±5 dBm	12	6±4 dBm	12	6±4 dBm
18	7±5 dBm	7±5 dBm	13	4±4 dBm	13	4±4 dBm
19	5±5 dBm	5±5 dBm	14	2±5 dBm	14	2±5 dBm
-	-	-	15	0±5 dBm	15	0±5 dBm

3. Product Function

Main Function

Item	Description
OS	Android V8.0
SM-J600F/FN RF	LTE Cat.4 (150/50Mbps) GSM850 / GSM900 / DCS1800 / PCS1900 CDMA : N/A WCDMA : B1/B2/B4/B5/B8 TDSCDMA : N/A LTE : B1/B2/B3/B4/B5/B7/B8/B12/B17/B20/B38/B40/B66
SM-J600G/GT RF	LTE Cat.4 (150/50Mbps) GSM850 / GSM900 / DCS1800 / PCS1900 CDMA : N/A WCDMA : B1/B2/B4/B5/B8 TDSCDMA : N/A LTE : B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B20/B28/B38/B40/B41/B66
Battery	3,000mAh
Base Band	Exynos7870 1.6GHz (Octa-Core)
SM-J600F/G/GT Other RF	GPS, Glonass, Beidou, BT4.2, USB 2.0, WIFI 802.11 b/g/n 2.4G Only
SM-J600FN Other RF	GPS, Glonass, Beidou, BT4.2, USB 2.0, NFC, WIFI 802.11 b/g/n 2.4G Only
Camera	Front 8M Camera (+Front Flash LED) / Main 13M Camera (+Rear Flash LED)
LCD	5.6" super AMOLED
SM-J600F RAM	2GB RAM + 32GB eMMC / 3GB RAM + 32GB eMMC
SM-J600FN RAM	3GB RAM + 32GB eMMC
SM-J600G RAM	2GB RAM + 32GB eMMC / 3GB RAM + 32GB eMMC / 4GB RAM + 64GB eMMC
SM-J600GT RAM	2GB RAM + 32GB eMMC
Sensor	Accelerometer, Fingerprint, Hall, Proximity Sensor
Accessory	Charger : 5V/1A Data cable : 0.8M USB-A Ear phone : 3.5pi, 4pin Ejection Pin

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

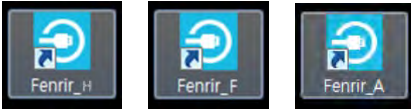


Data Cable : [GH39-01710D](#)

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



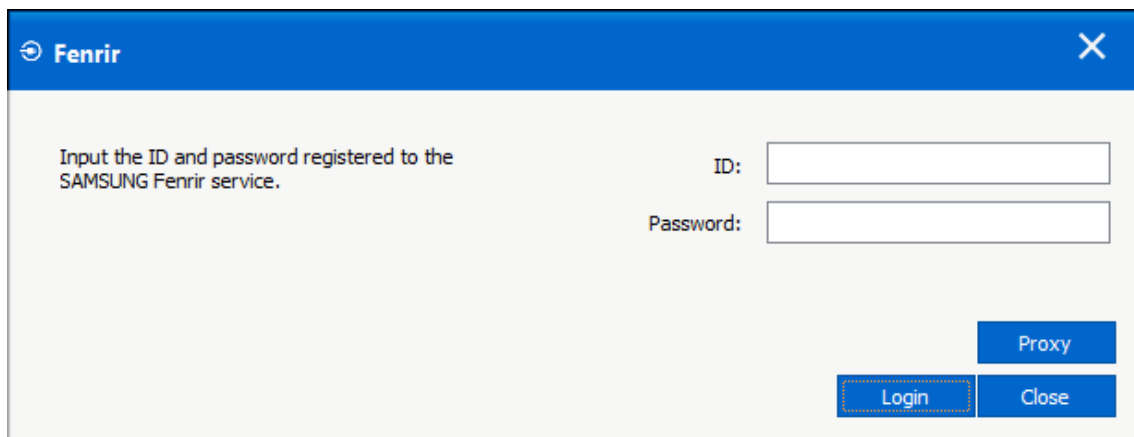
- SVH (Fenrir_Home) : It uses Home binary which does not have user data area in the memory when flashed to a device. (Keep user data)

- 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)

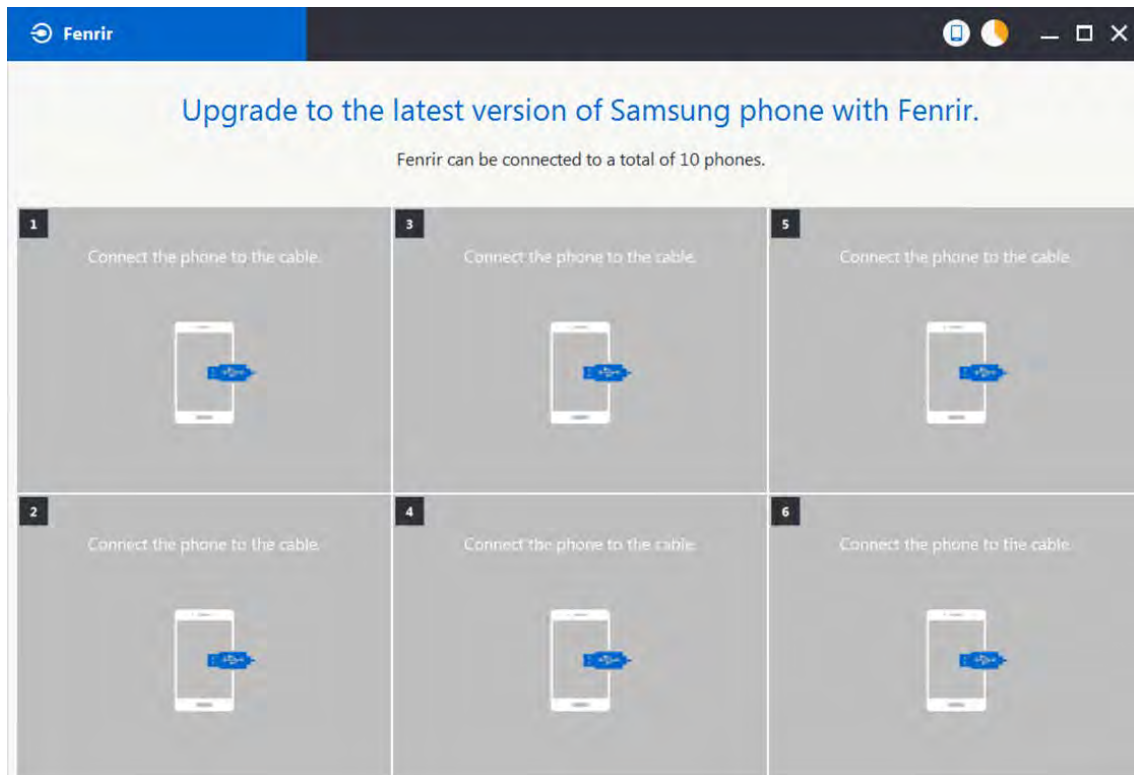
2) Input ID & password

※ 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.

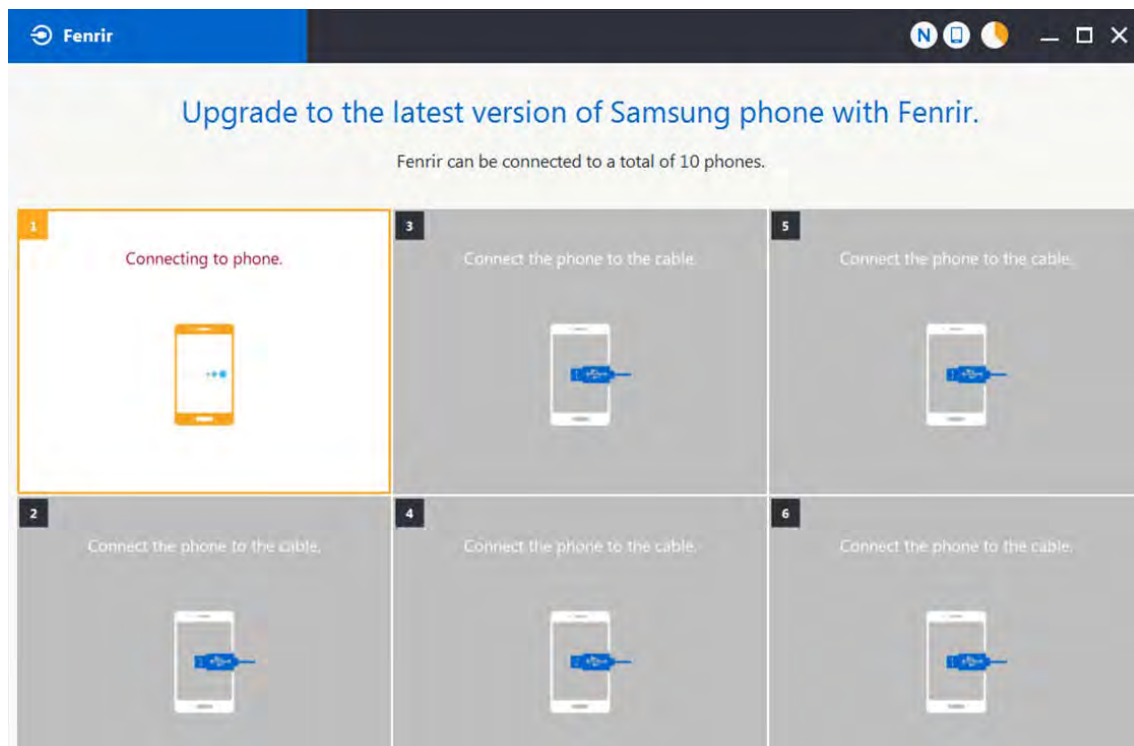
6. Level 1 Repair

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



4) Connect the device to PC via data cable.

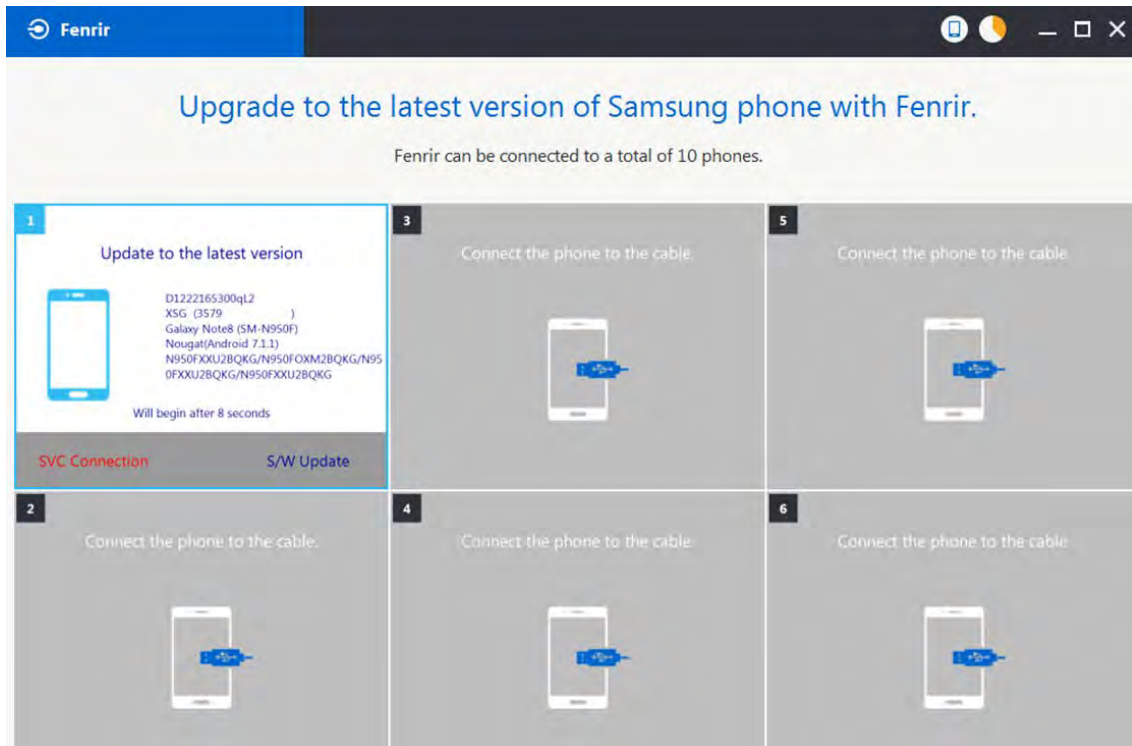
5) Upon USB connection, you will be presented with below screen.



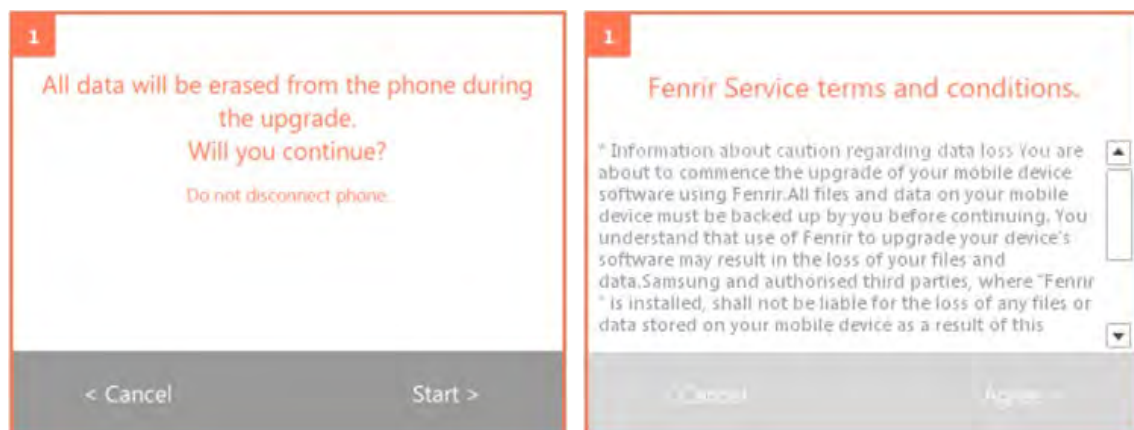
6. Level 1 Repair

=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)

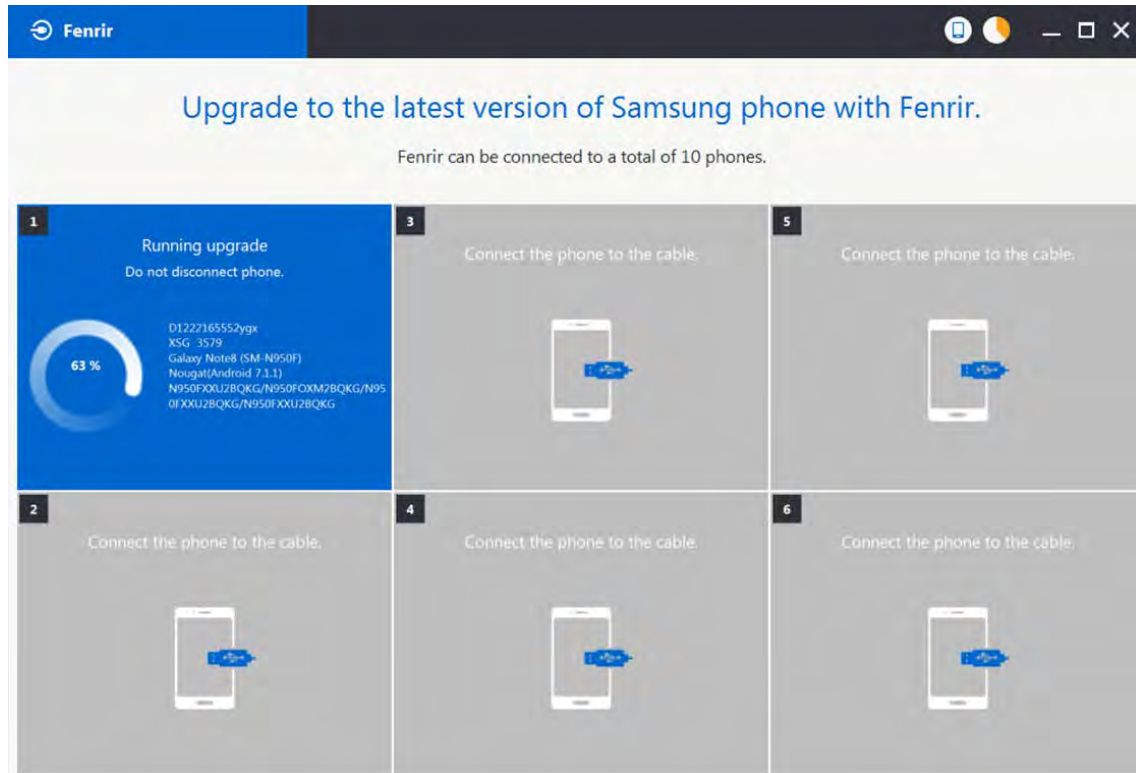


7) Once Fenrir starts, application will display the below screen. And select the Start button & Agree button.

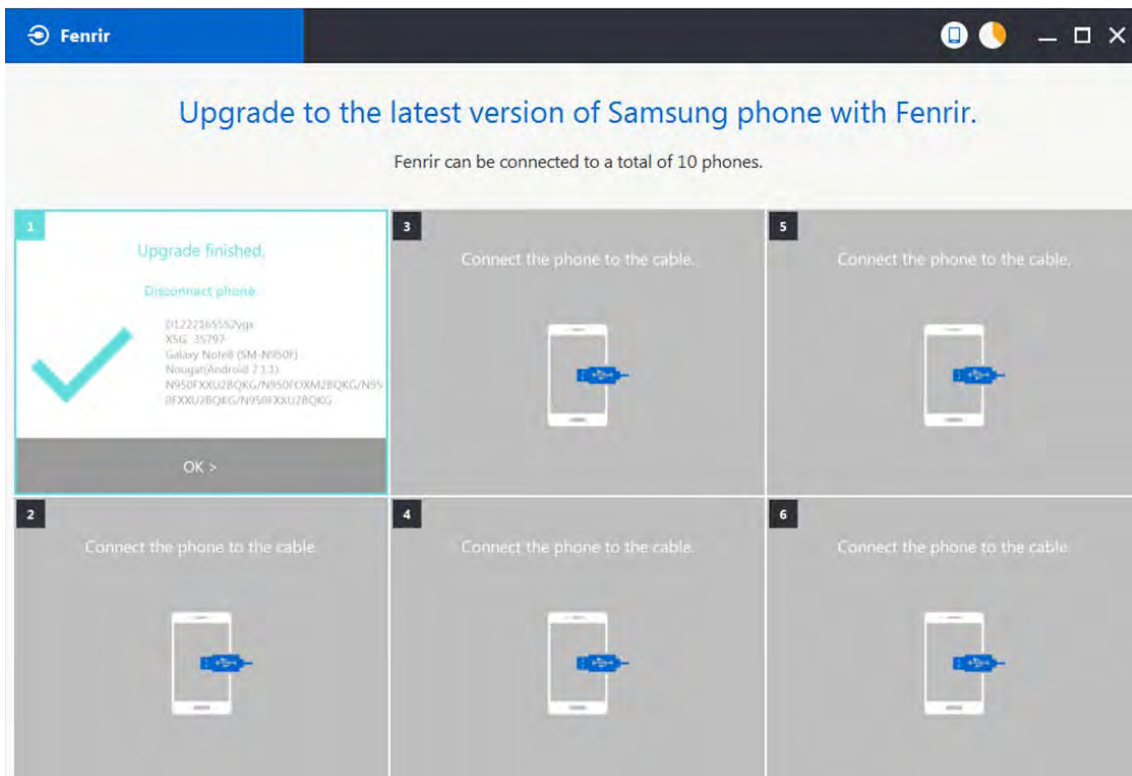


6. Level 1 Repair

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

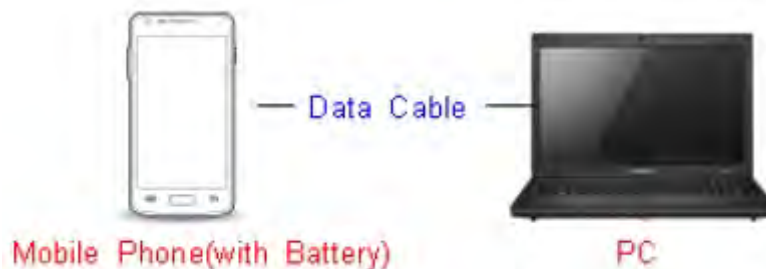
※ S/W Update via Fenrir is mandatory.

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

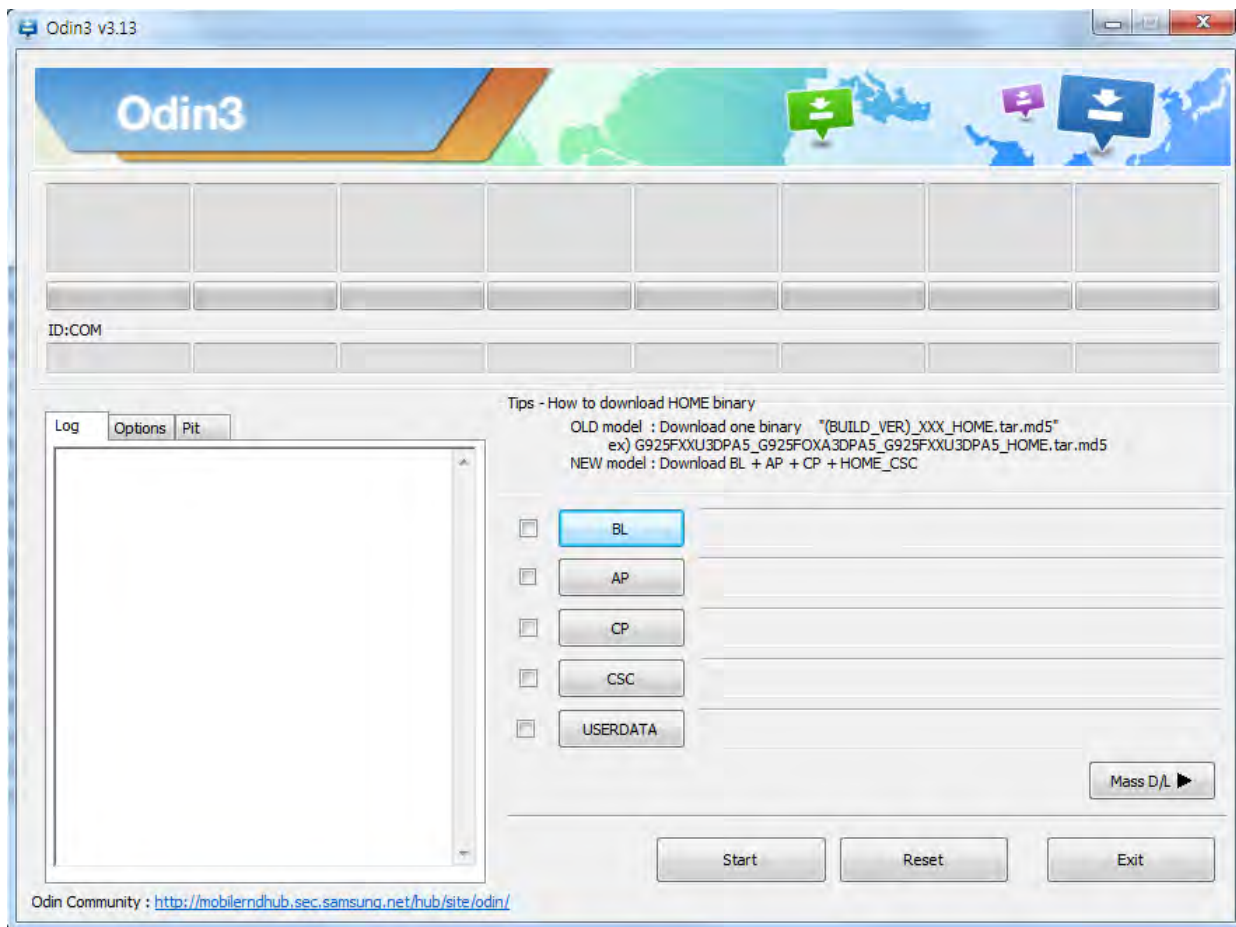


Data Cable : [GH39-01710D](#)

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**"

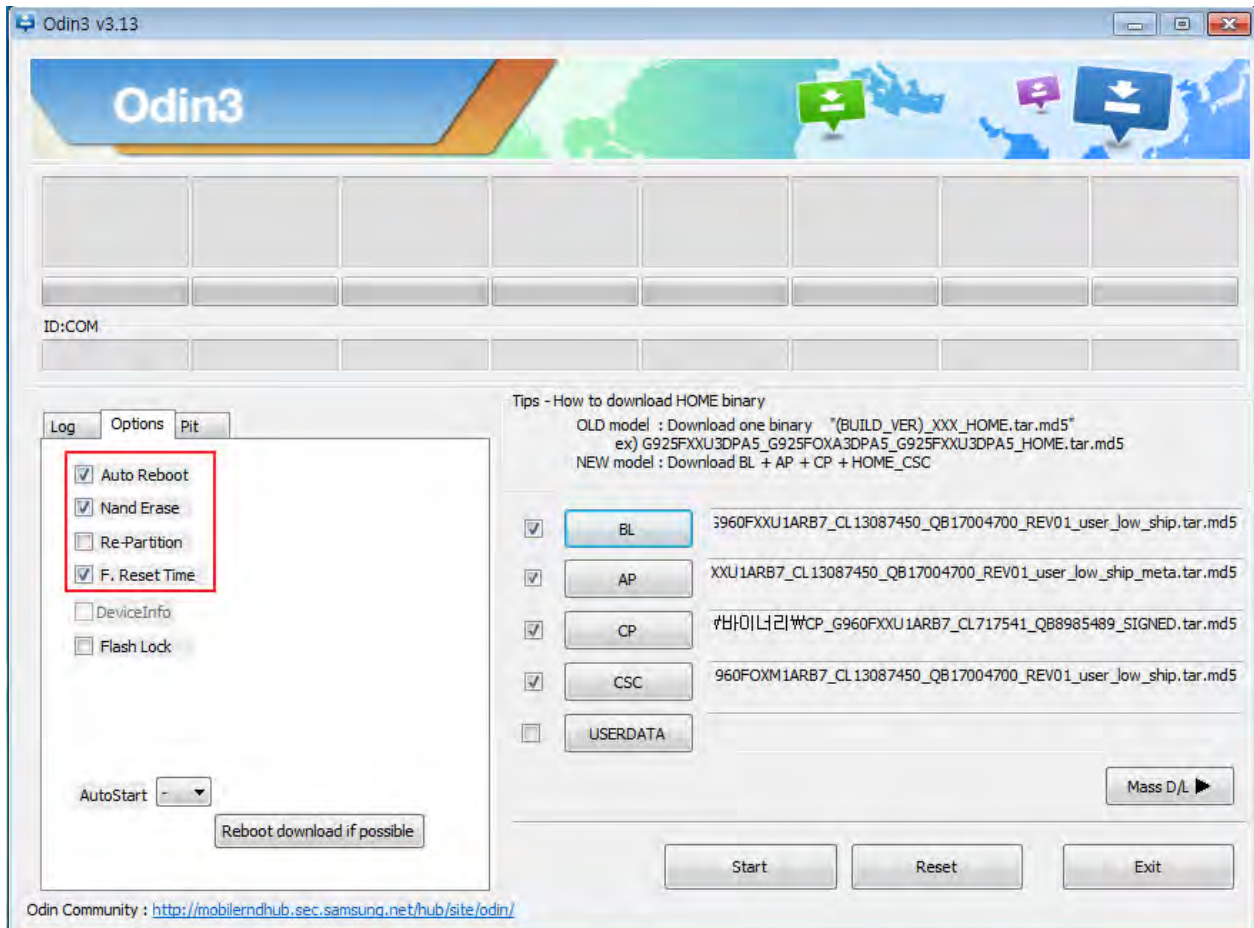


6. Level 1 Repair

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 and UP button together, and then connect USB cable via IF connector.

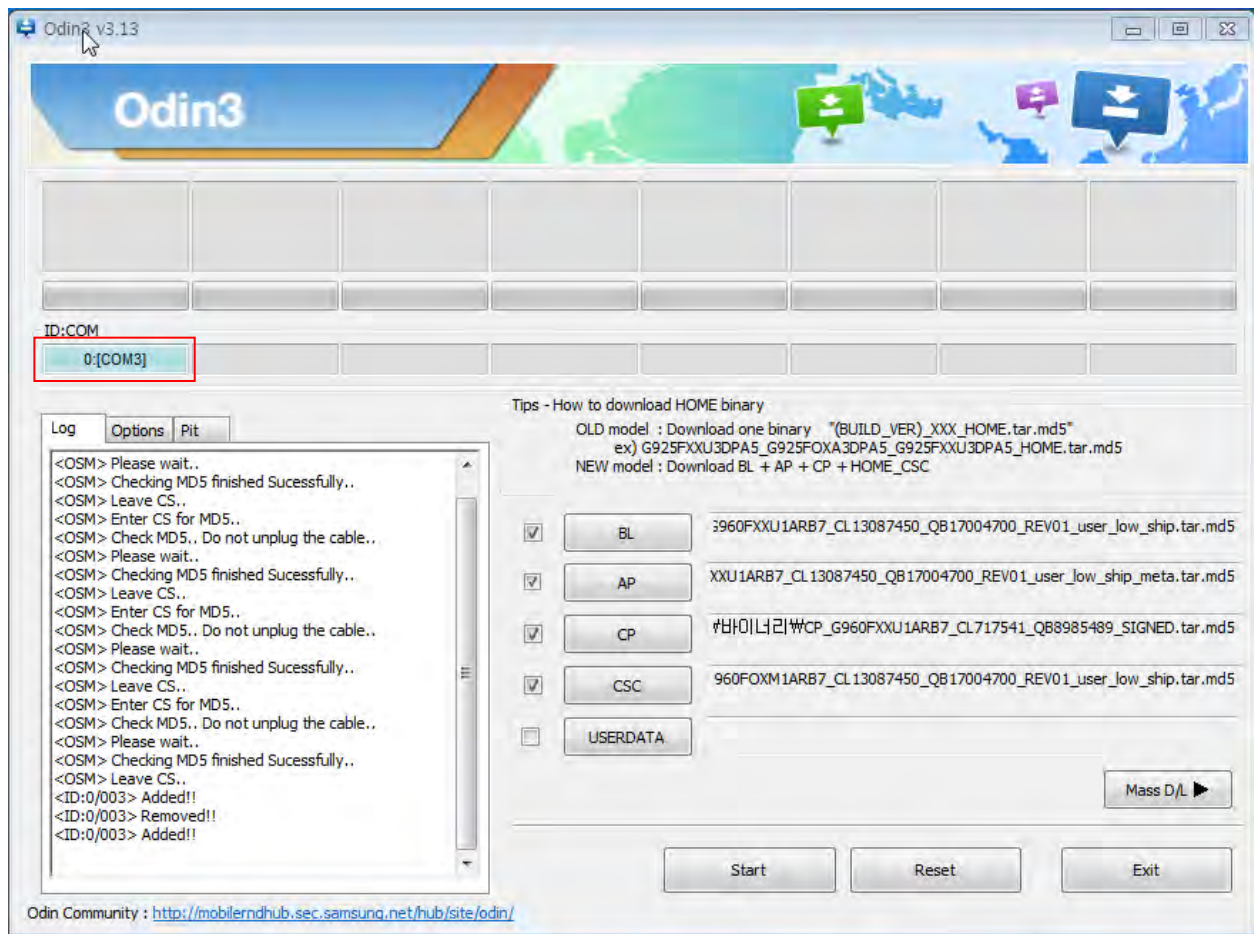


6. Level 1 Repair

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.

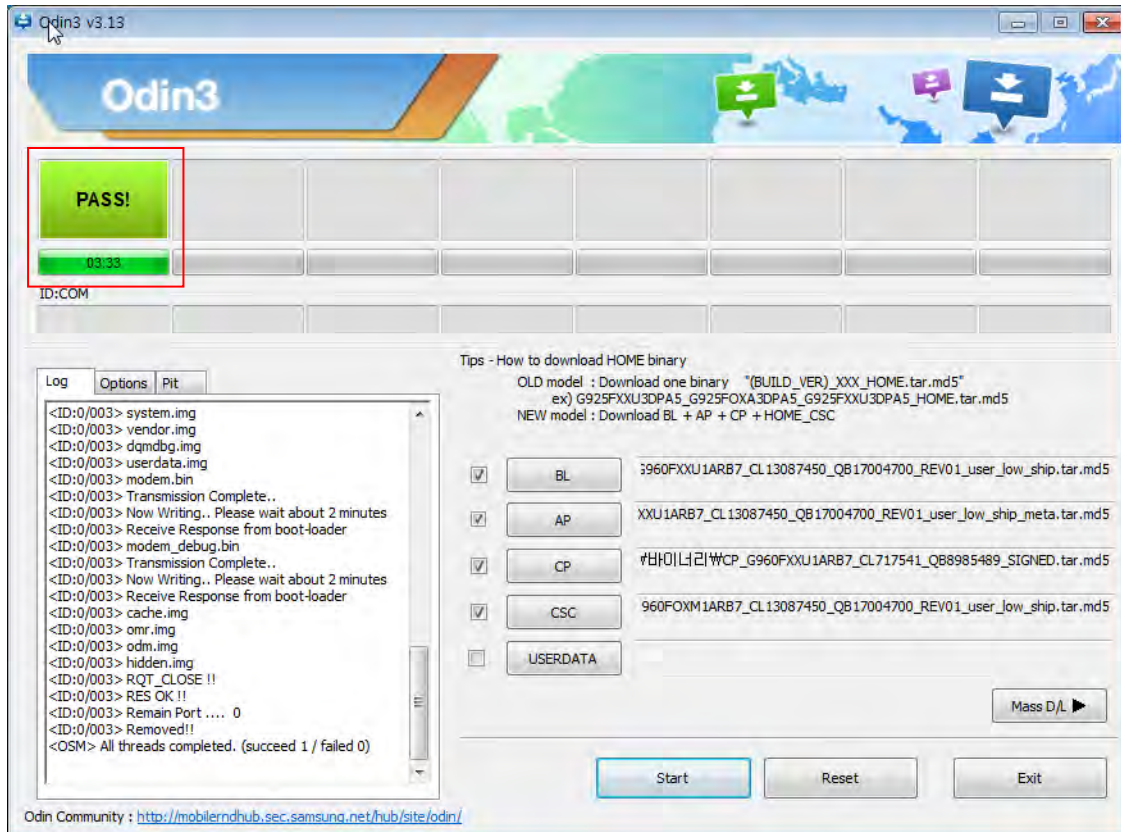
The device is now connected with the PC and ready to download the binary files in it.



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.**

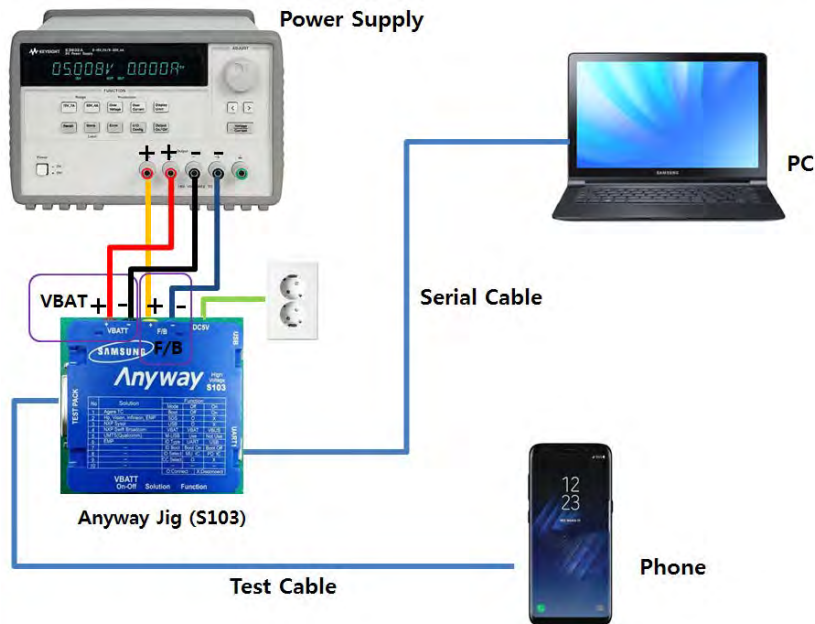
6. Level 1 Repair

6-3. IMEI writing

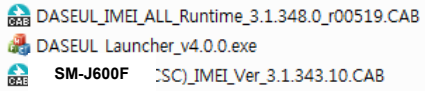
6-3-1. Preparation

- 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 'ModelName' folder at the same position with launcher & Runtime file. 
④ Model File	Copy Model File under the 'SM-J600F' folder

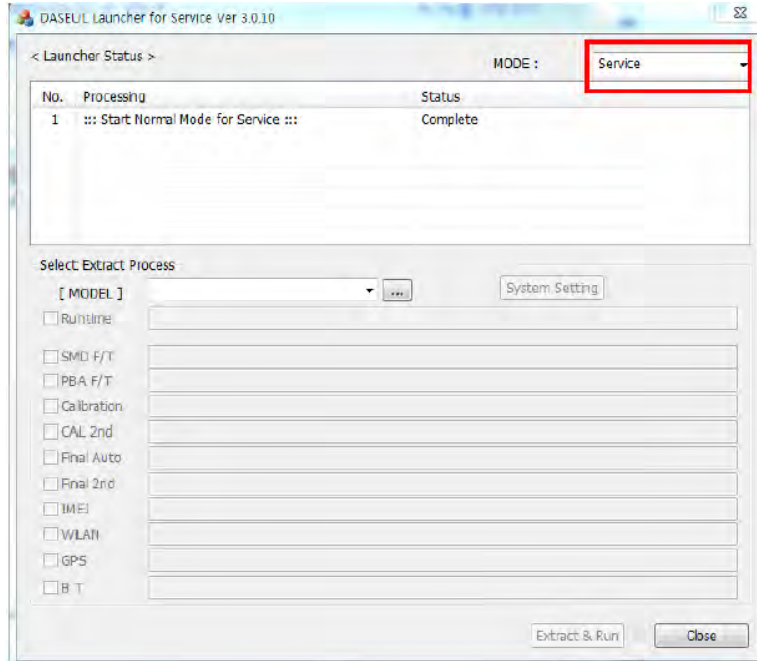
6. Level 1 Repair


6-3-2. IMEI writing Process

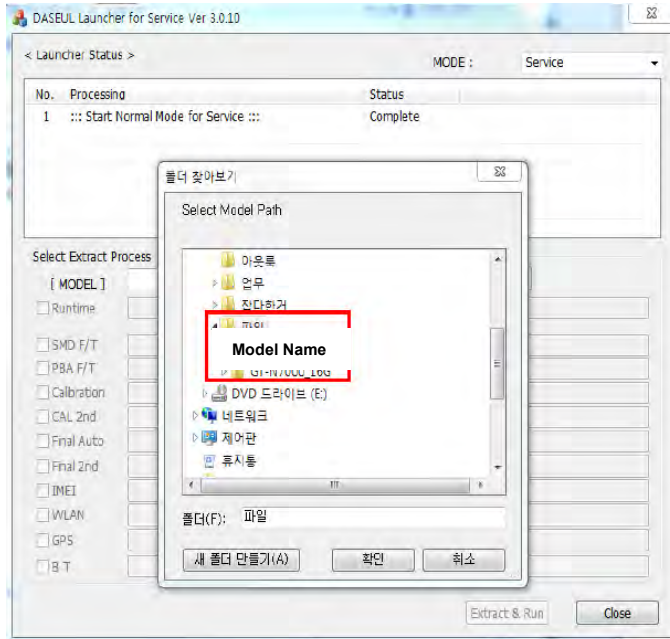
1. Run DASEUL_SVC_Launcher_v3.0.12.exe

 DASEUL_SVC_Launcher_v3.0.12.exe

2. Select Service Mode

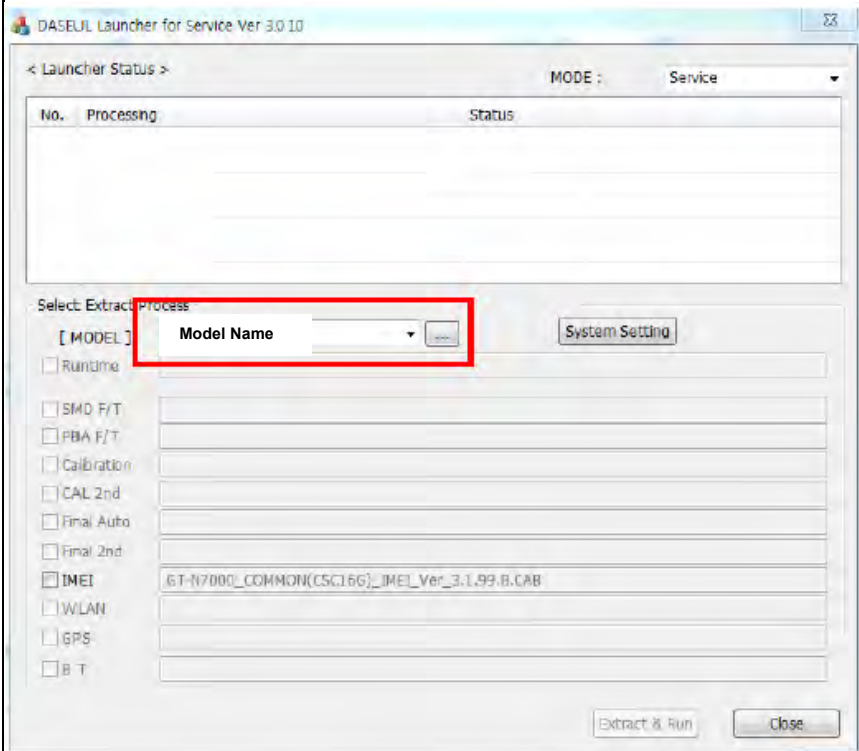


3. Click  and Select folder where the Launcher exists



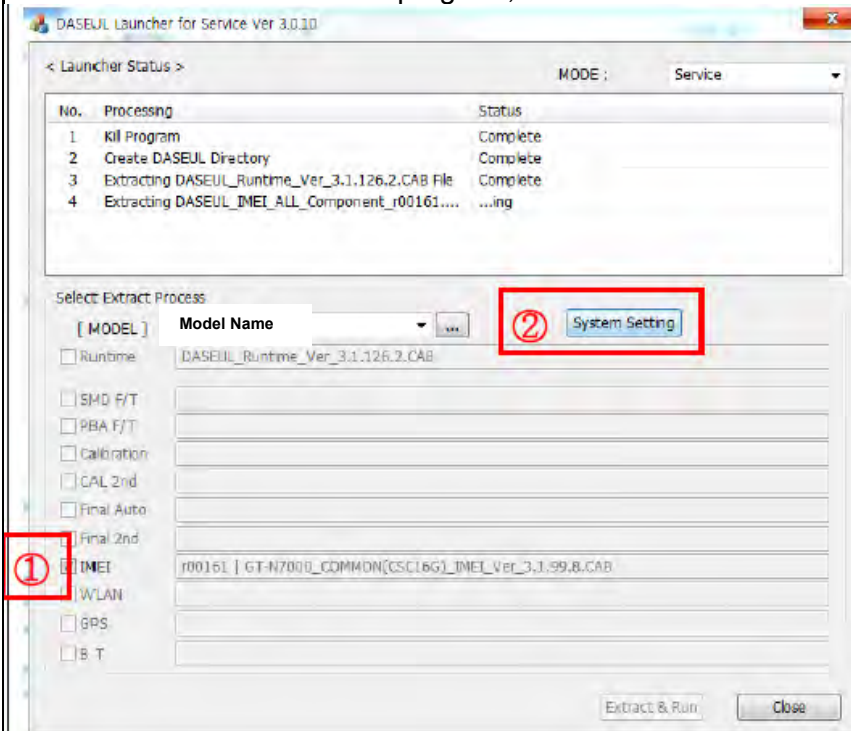
6. Level 1 Repair

4. Select Model



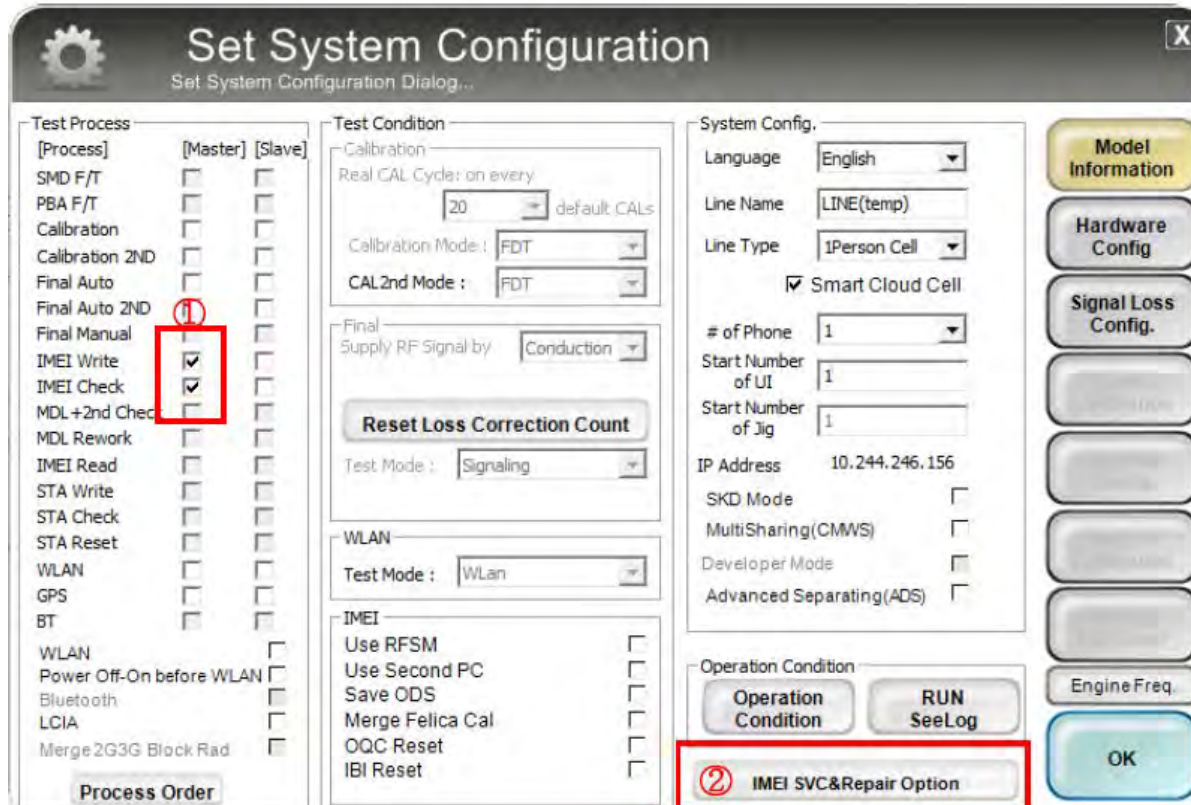
5. Check IMEI and click System Setting

※ 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.



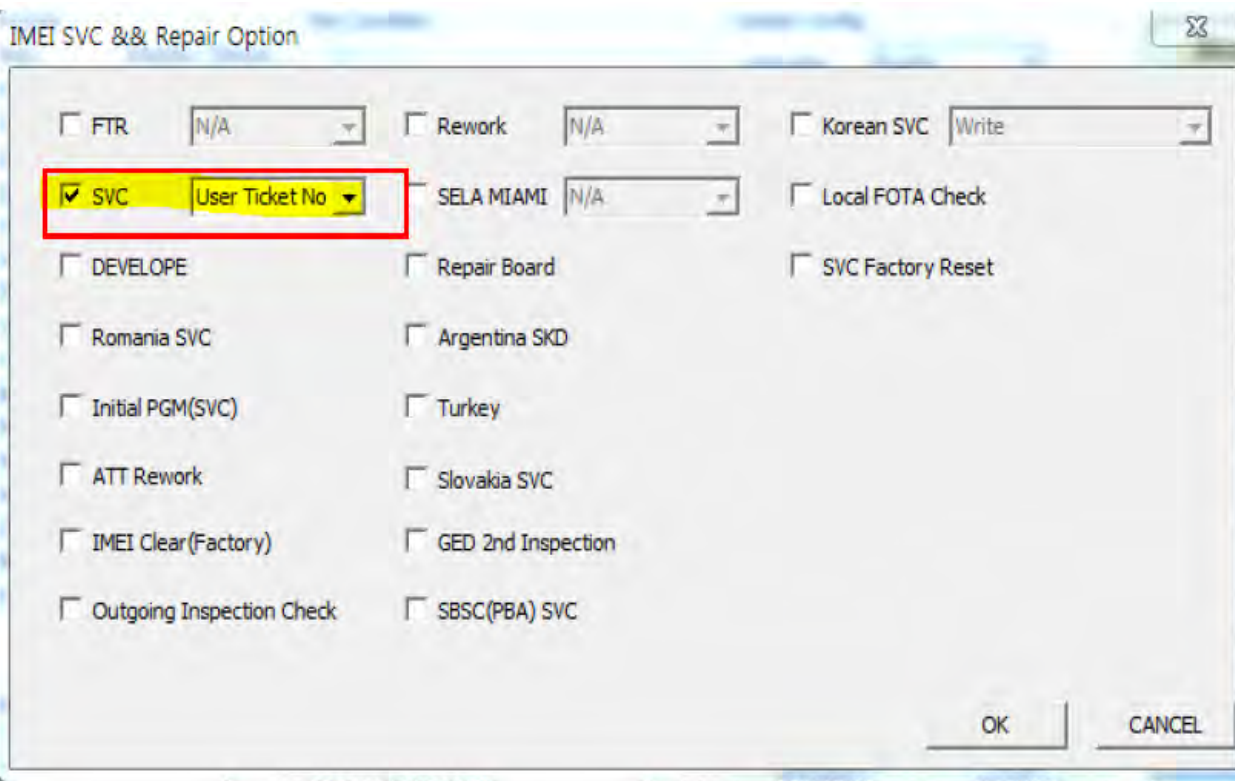
6. Level 1 Repair

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'. The 'Test Process' tab is active, showing a list of test items with checkboxes for 'Master' and 'Slave' columns. The 'Test Condition' tab is also visible, showing 'Calibration' and 'WLAN' settings. The 'System Config.' tab shows 'Language' set to 'English', 'Line Name' as 'LINE(temp)', and 'Line Type' as '1Person Cell'. The 'Model Information' tab shows 'Hardware Config.', 'Signal Loss Config.', and 'Engine Freq.'. A red box highlights the 'IMEI Write' and 'IMEI Check' checkboxes in the 'Test Process' tab. Another red box highlights the 'IMEI SVC&Repair Option' button at the bottom right of the dialog.

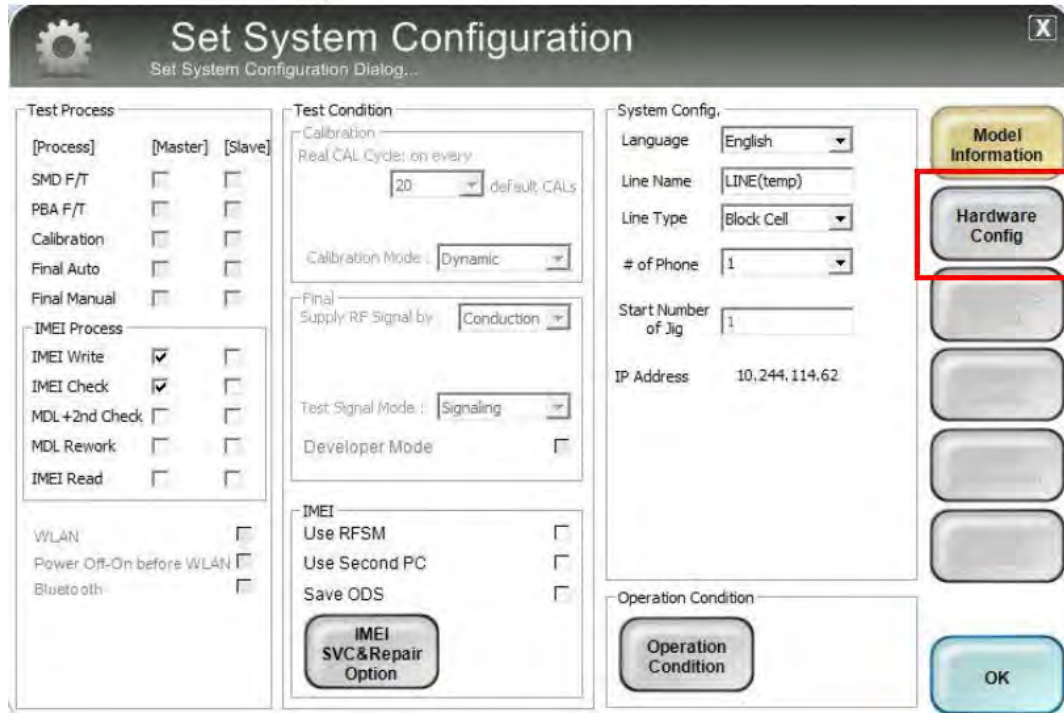
7. Check 'SVC , User Ticket No' and click OK



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 the 'User Ticket No' dropdown is selected. 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 ☐

System Config.

Language:

Line Name:

Line Type:

of Phone:

Start Number of Jig:

IP Address: 10.244.114.62

Operation Condition

IMEI SVC&Repair Option ☐

Use RFSM ☐

Use Second PC ☐

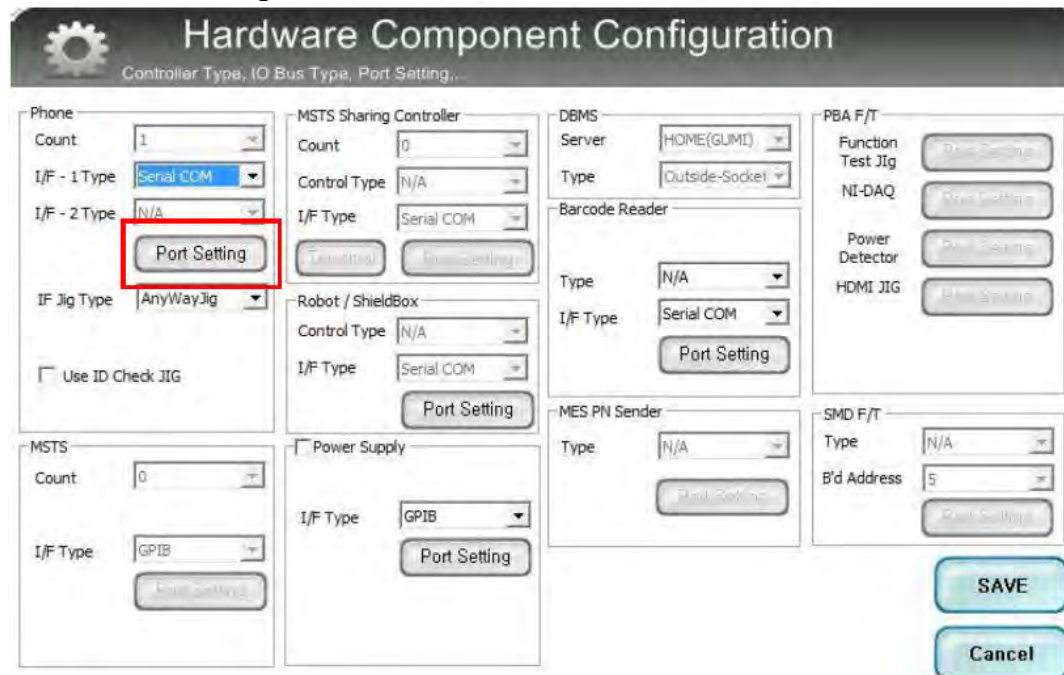
Save ODS ☐

Model Information

Hardware Config

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 Cycle: on every 20 default CALs

Calibration Mode: Dynamic

Final

Supply RF Signal by: Conduction

Test Signal Mode: Signaling

Developer Mode ☐

IMEI

Use RFSM ☐

Use Second PC ☐

Save ODS ☐

IMEI SVC&Repair Option

System Config.

Language: English

Line Name: LINE(temp)

Line Type: Block Cell

of Phone: 1

Start Number of Jig: 1

IP Address: 10.244.114.62

Operation Condition

Operation Condition

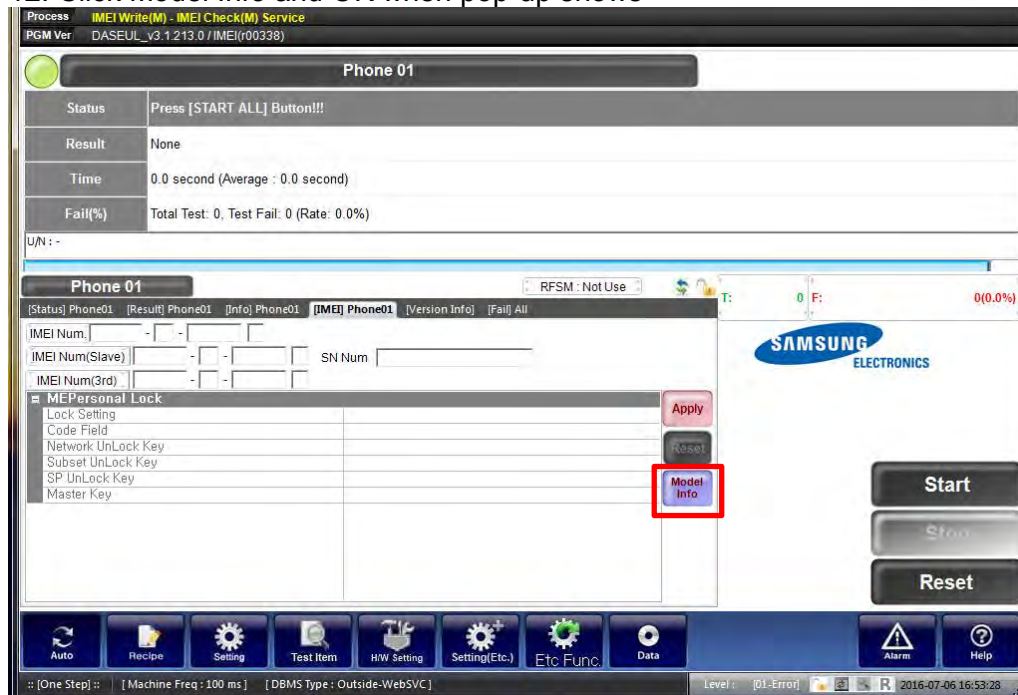
Model Information

Hardware Config

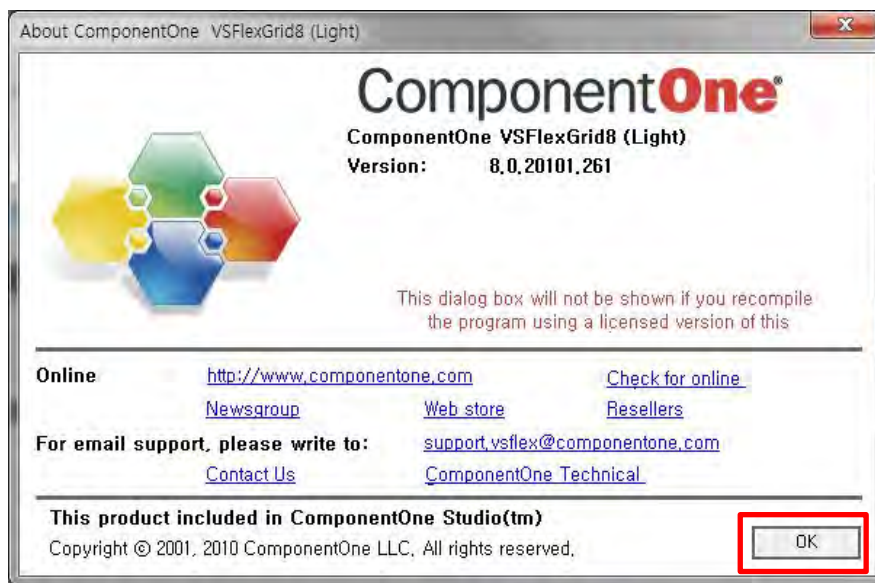
OK

6. Level 1 Repair

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



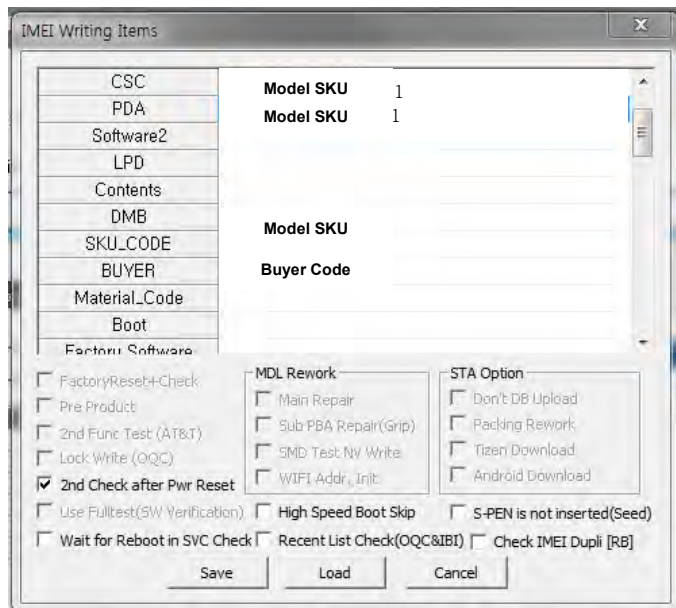
13. Click OK



6. Level 1 Repair

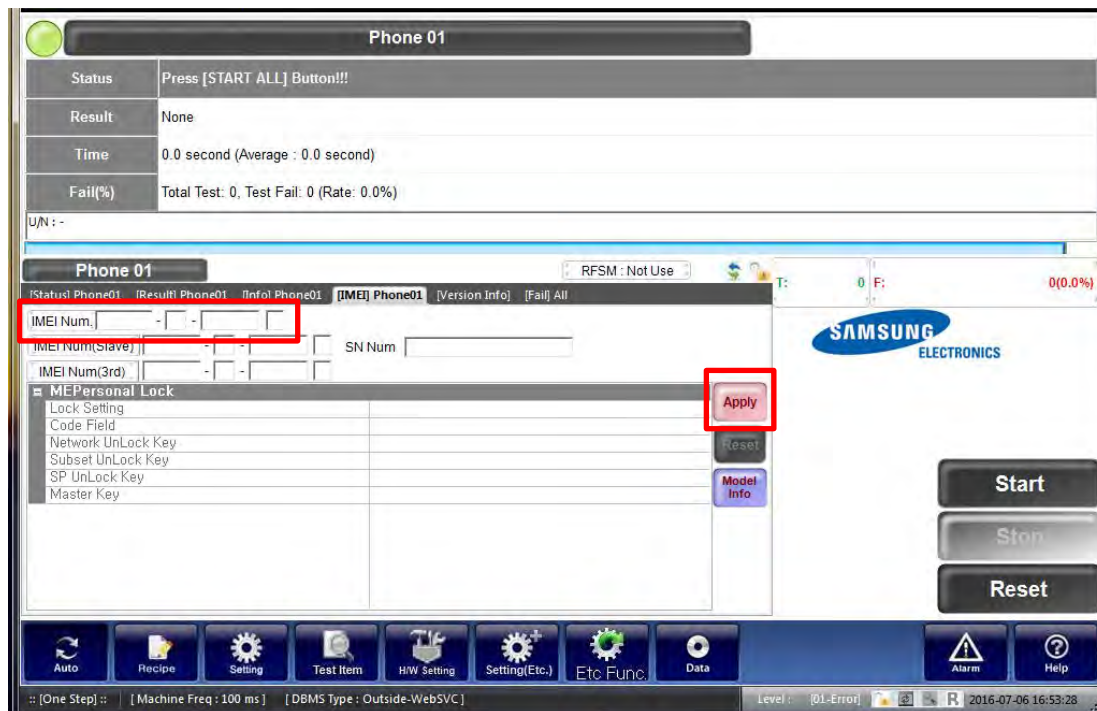
14. Input SKU_CODE and BUYER, then click Save button.

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



The dialog box titled "IMEI Writing Items" contains a list of items on the left and input fields on the right. The items listed are CSC, PDA, Software2, LPD, Contents, DMB, SKU_CODE, BUYER, Material_Code, and Boot. The input fields on the right are for Model SKU (with a value of 1), Buyer Code, and a section for Factory Software. The Factory Software section includes checkboxes for FactoryReset+Check, Pre Product, 2nd Func. Test (AT&T), Lock Write (OQC), 2nd Check after Pwr Reset (checked), 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&IBI), and Check IMEI Dupli [RB]. At the bottom are Save, Load, and Cancel buttons.

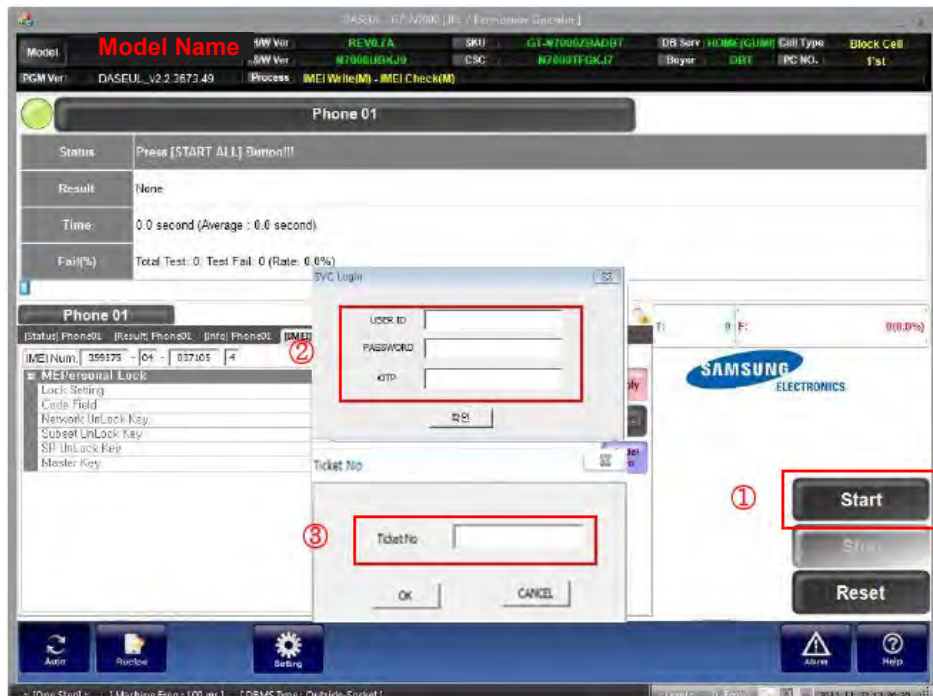
15. Input IMEI Number and click Apply



The interface shows a "Phone 01" window with a status bar at the top. Below the status bar, there are fields for Status, Result, Time, and Fail(%). The main area contains a table with columns for IMEI Num., IMEI Num(Slave), IMEI Num(3rd), and SN Num. The IMEI Num. field is highlighted with a red box. To the right of the table, there is an "Apply" button, also highlighted with a red box. The bottom of the window features 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 the level, error type, and date/time.

6. Level 1 Repair

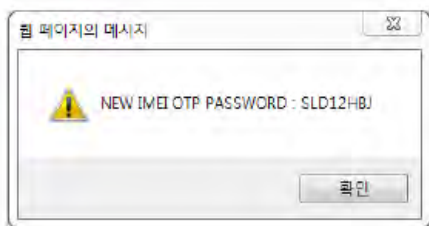
16. ① Click Start → ② Input IMEI writing ID and Password & OTP → ③ Input Ticket No



※ 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
- : **Model Name_OPEN_CALIBRATION_Ver_x.x.xxx.x.CAB**

※ It is required to use the latest program.

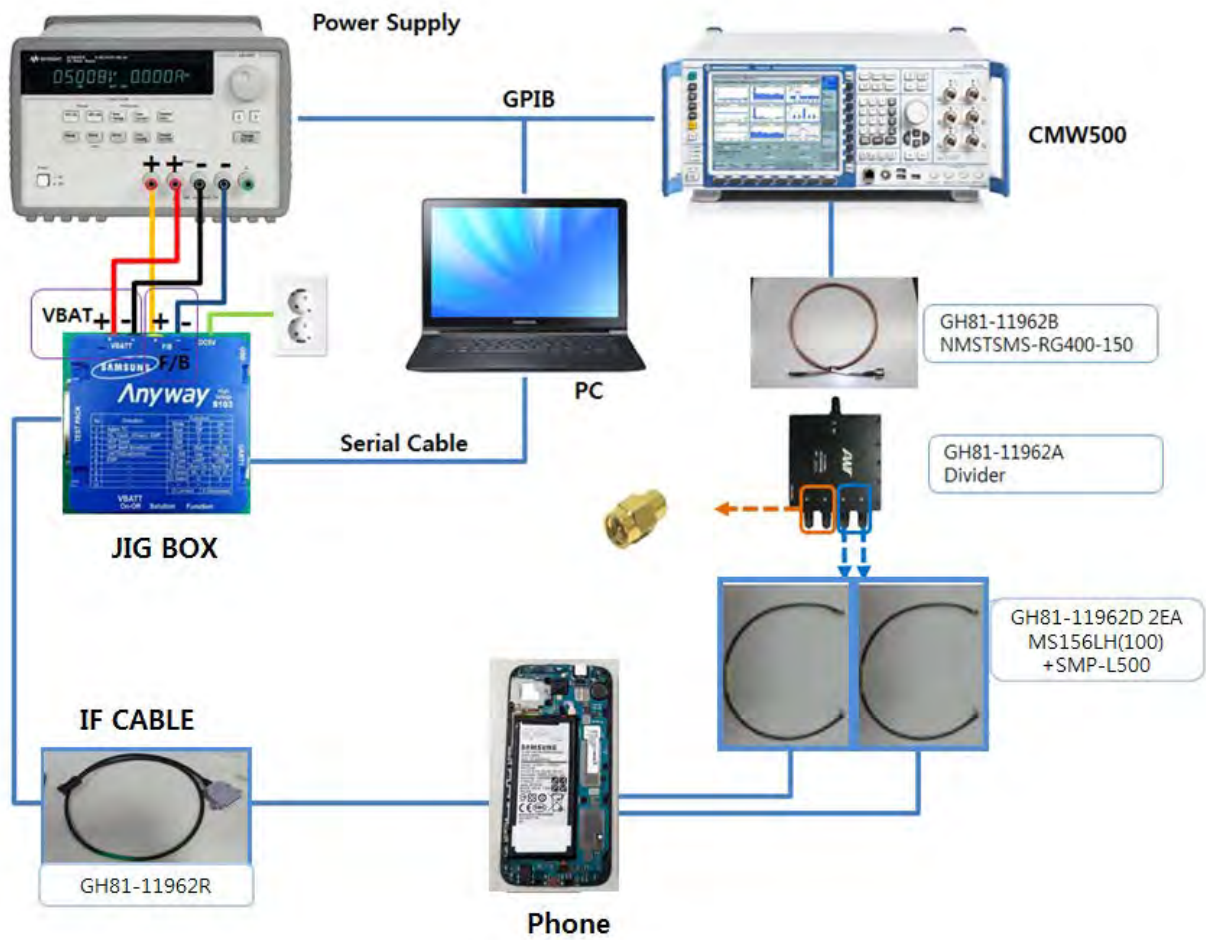
- Mobile Phone
- R&S CMW500
- E3632A Power Supply
- GPIB Cable (2ea)
- JIG BOX (S103)
- Adapter
- UART Serial Cable
- IF Cable (GH81-11962D)

❖ Table of test cables

RF Cable (Manual)	GH81-11962D 2EA		
	1.35T Short 		
4 Port Divider	GH81-11962A Divider 	GH81-11962B Divider Cable 	GH81-11962E 2EA 50Ω terminator 

6. Level 1 Repair

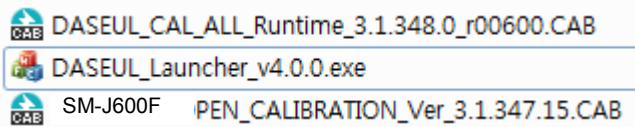
❖ Setting



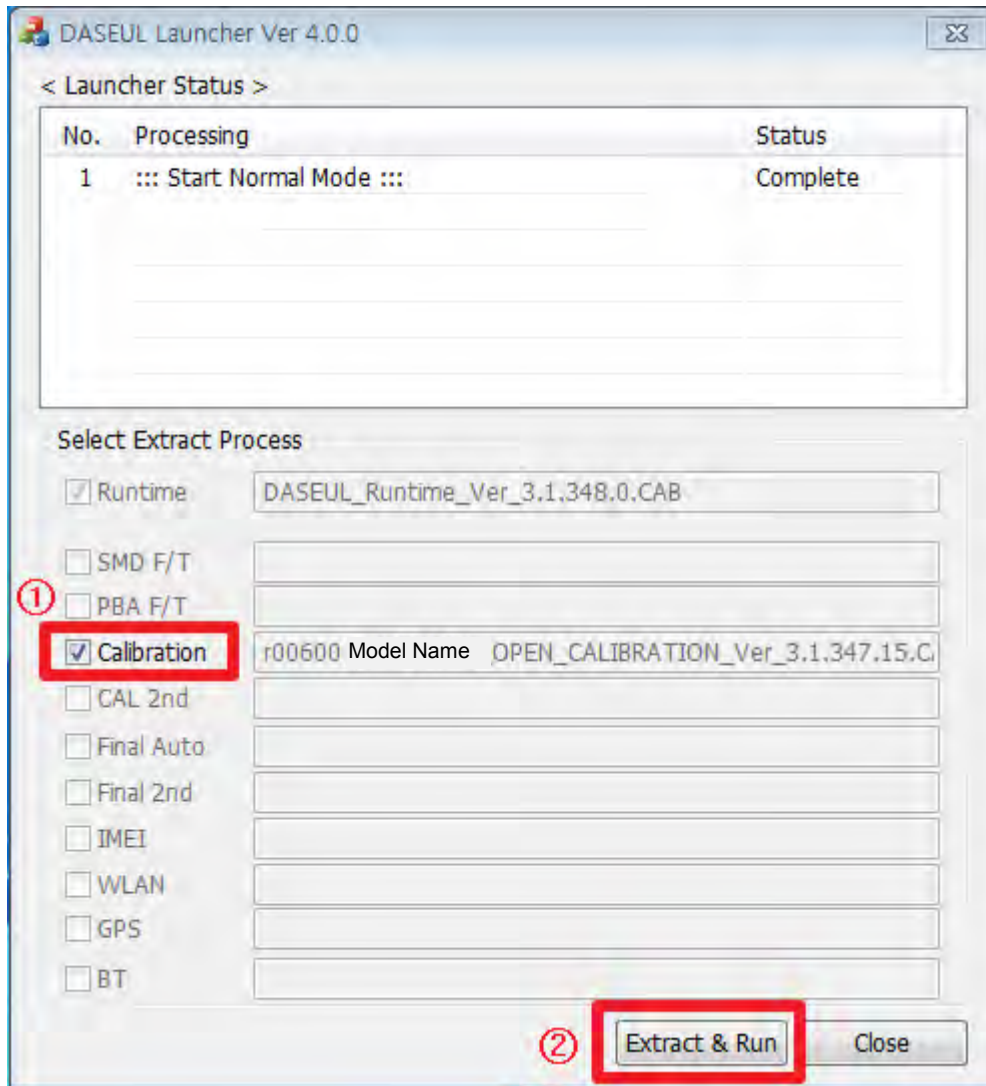
6. Level 1 Repair

6-4-2. RF Calibration Program

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

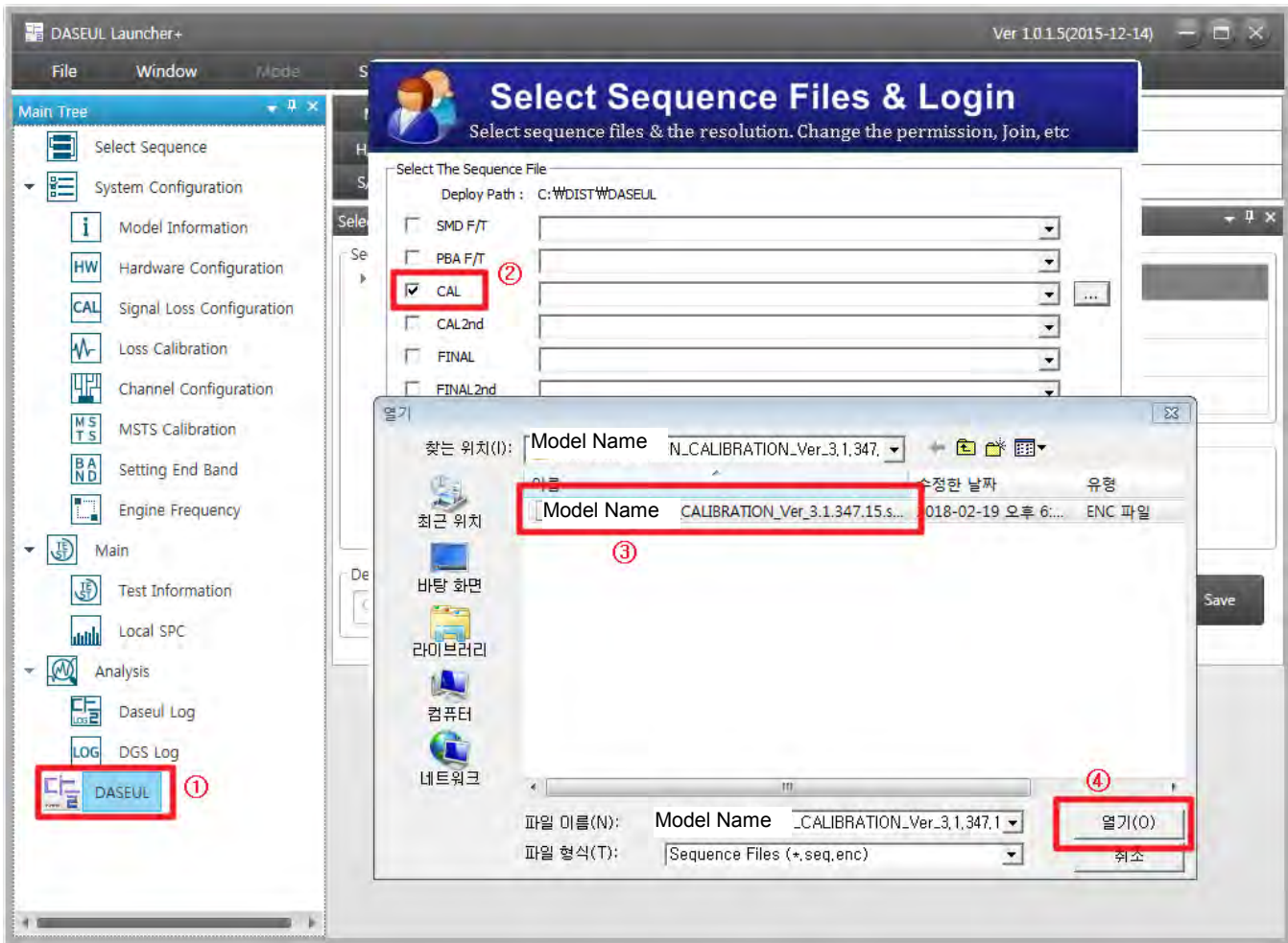


2. Check the 'Calibration' option and Click 'Extract & Run'.



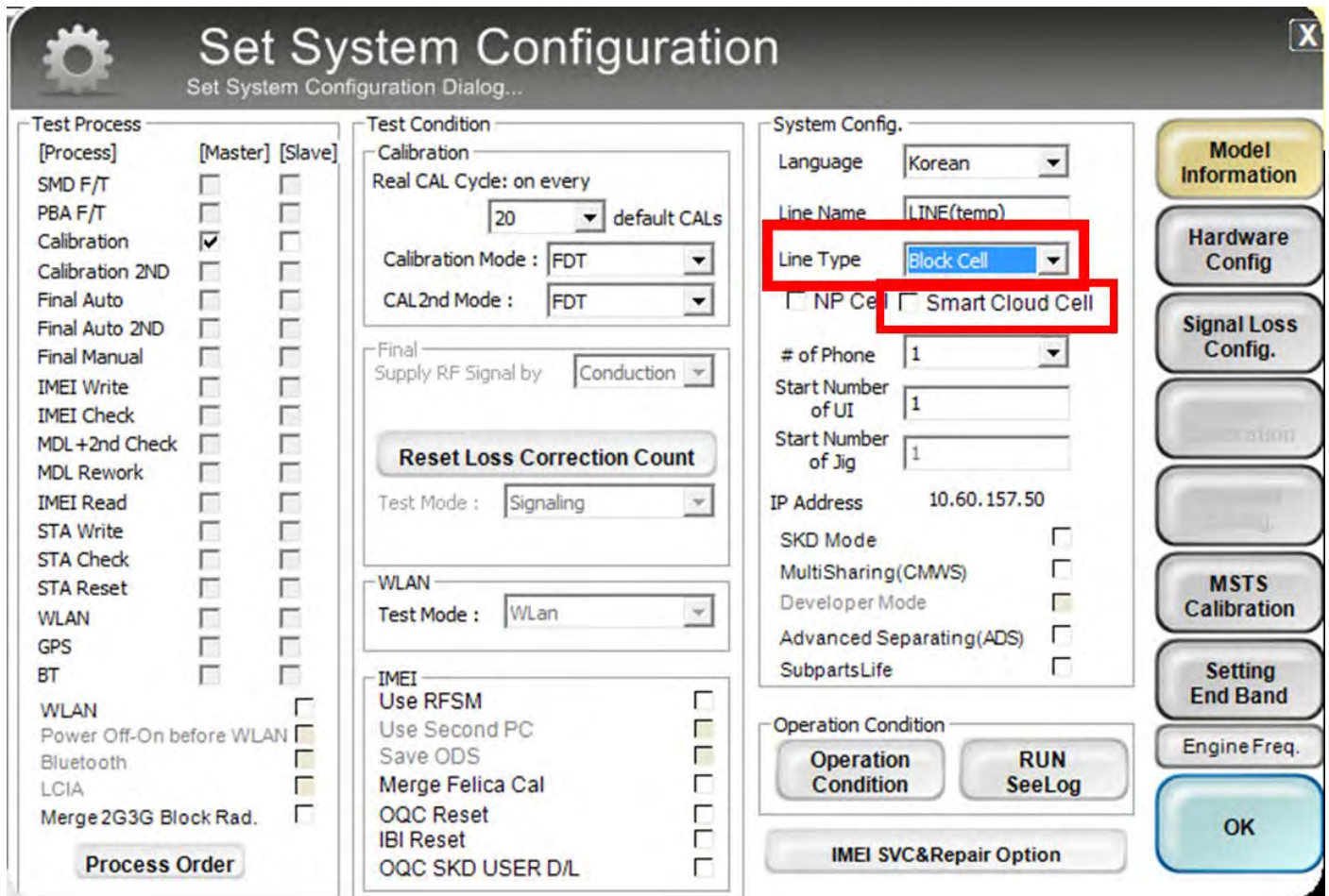
6. Level 1 Repair

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'.



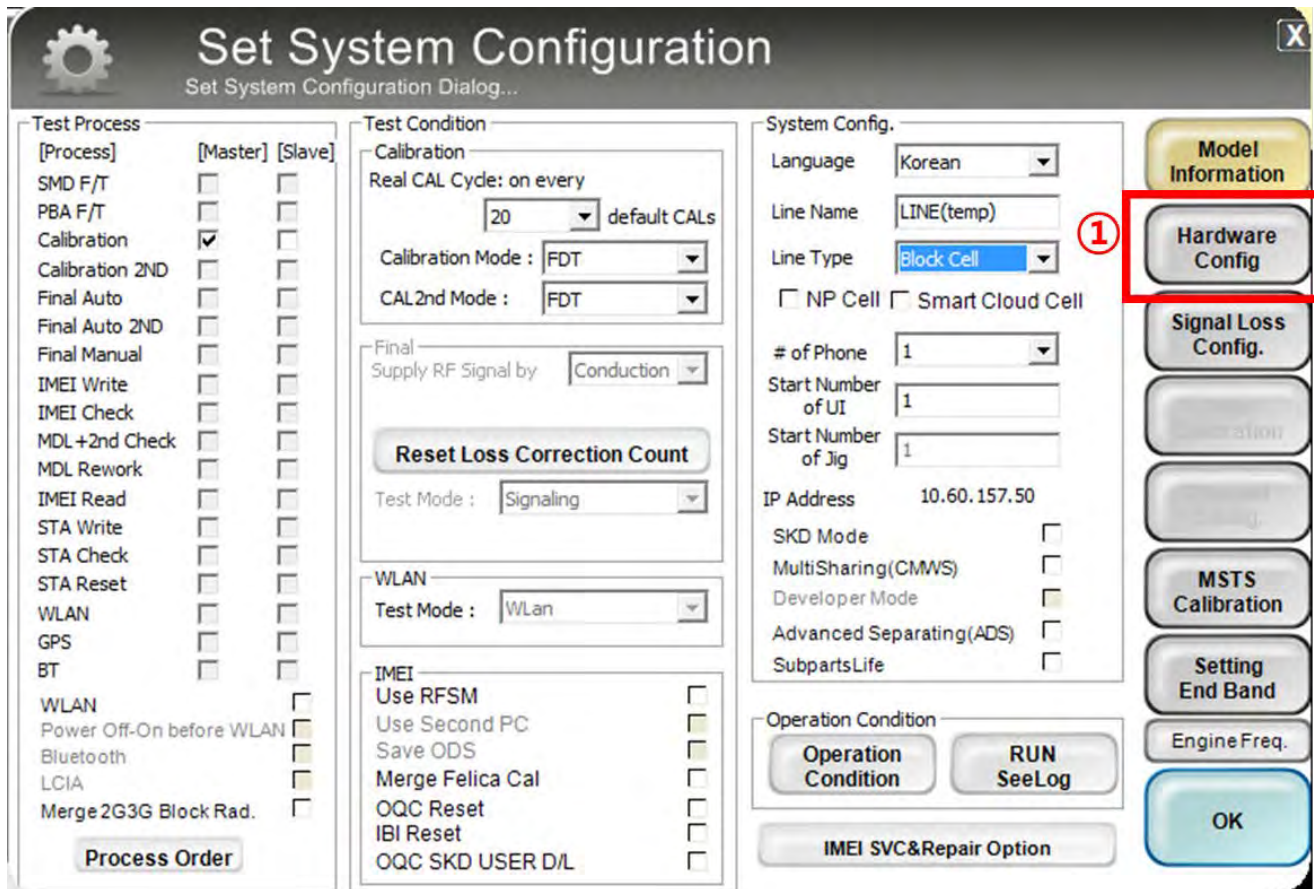
The image shows the 'Set System Configuration' dialog box, which is used for configuring various system settings. The dialog is divided into several sections:

- Test Process:** A list of test processes with checkboxes for [Process], [Master], and [Slave]. The 'Calibration' process is checked under [Master].
- Test Condition:** A section for configuring test conditions, including 'Calibration' (Real CAL Cycle: on every 20 default CALs, Calibration Mode: FDT, CAL2nd Mode: FDT) and 'Final' (Supply RF Signal by: Conduction, Test Mode: Signaling).
- System Config.:** A section for system configuration, including 'Language' (Korean), 'Line Name' (LINE(temp)), 'Line Type' (Block Cell), 'NP Cell' (unchecked), 'Smart Cloud Cell' (unchecked), '# of Phone' (1), 'Start Number of UI' (1), 'Start Number of Jig' (1), 'IP Address' (10.60.157.50), 'SKD Mode' (unchecked), 'MultiSharing(CMWS)' (unchecked), 'Developer Mode' (unchecked), 'Advanced Separating(ADS)' (unchecked), and 'SubpartsLife' (unchecked).
- Operation Condition:** A section for operation conditions, including 'Operation Condition' (unchecked) and 'RUN SeeLog' (checked).
- IMEI SVC&Repair Option:** A section for IMEI service and repair options, including 'Use RFSM' (unchecked), 'Use Second PC' (unchecked), 'Save ODS' (unchecked), 'Merge Felica Cal' (unchecked), 'OQC Reset' (unchecked), 'IBI Reset' (unchecked), and 'OQC SKD USER D/L' (unchecked).

The 'Line Type' dropdown menu is highlighted with a red box, and the 'Smart Cloud Cell' checkbox is also highlighted with a red box. The 'Block Cell' option is selected in the dropdown.

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 :

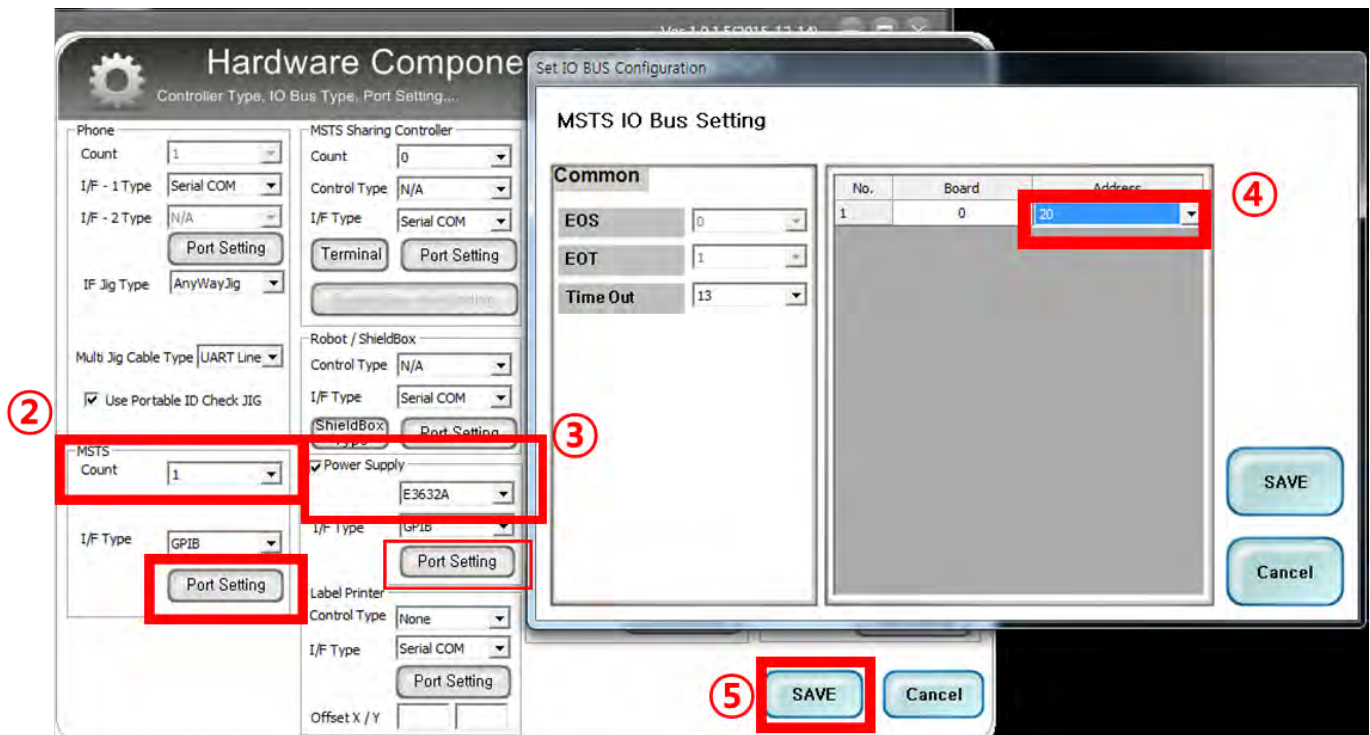
Start Number of Jig :

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
Count :
I/F Type :

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

Robot / ShieldBox
Control Type :
I/F Type :

Power Supply
☒ Power Supply

Label Printer
Control Type :
I/F Type :

Offset X / Y :

MSTS IO Bus Setting

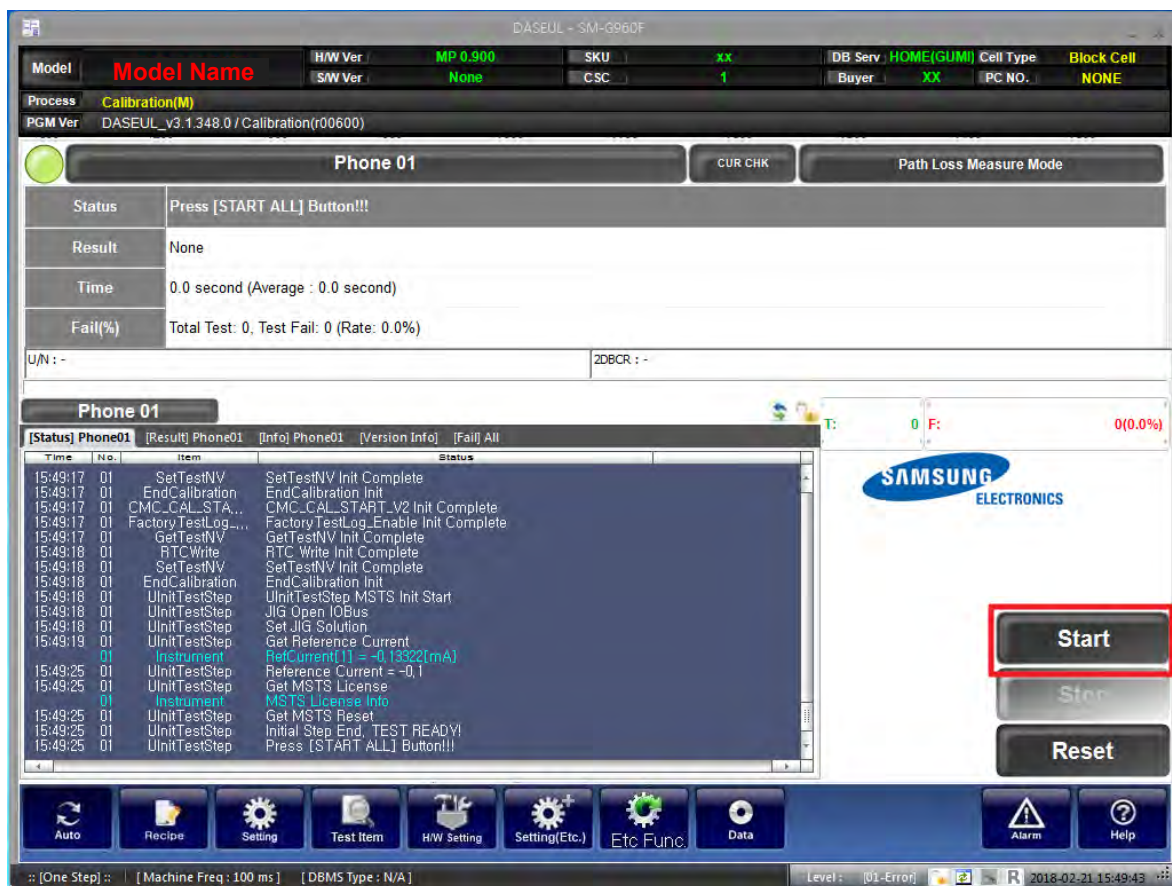
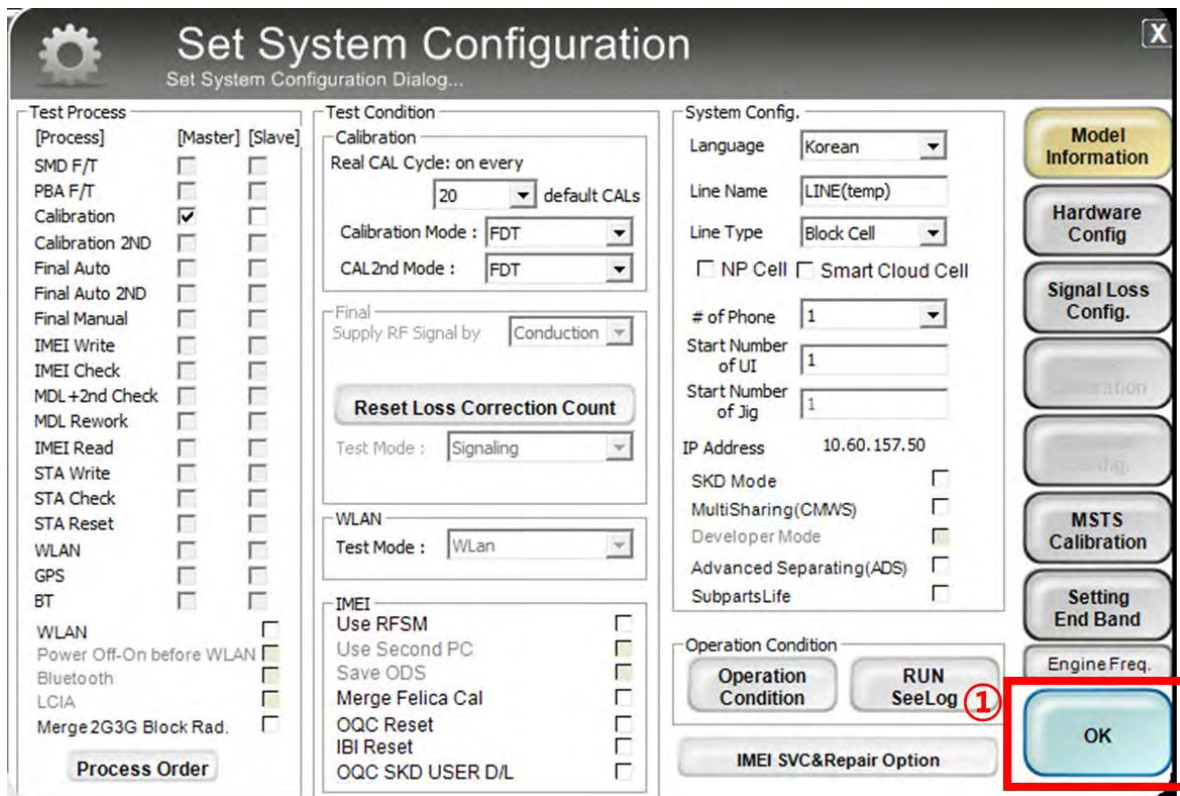
Common

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.



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