

## 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



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## 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



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## 2. Specification

### 2-3. WCDMA General Specification

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

	LTE Band1	LTE Band2	LTE Band3	LTE Band4	LTE Band5	LTE Band7
Freq. Band[MHz]	1920~1980	1850~1910	1710~1785	1710~1755	824~849	2500~2570
Uplink/Downlink	2110~2170	1930~1990	1805~1880	2110~2155	869~894	2620~2690
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	UL:20750~21449 DL:2750~3449
Tx/Rx spacing (MHz)	190	80	95	400	45	120
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	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)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	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	-94.3



## 2. Specification

	LTE Band8	LTE Band12	LTE Band13	LTE Band17	LTE Band18	LTE Band19
Freq. Band[MHz]	880~915	699~716	777~787	704~716	815~830	830~845
Uplink/Downlink	925~960	729~746	746~756	734~746	860~875	875~890
ARFCN range	UL:21450-21799 DL:3450-3799	UL:23010~23179 DL:5010~5179	UL:23180~23279 DL:5180~5279	UL:23730~23849 DL:5730~5849	UL:23850~23999 DL:5850~5999	UL:24000~24149 DL:6000~6149
Tx/Rx spacing (MHz)	45	30	-31	30	45	45
Channel Bandwidth (MHz)	1.4/3/5/10	1.4/3/5/10	1.4/3/5/10	5/10	5/10/15	5/10/15
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)	QPSK,16/64QAM 256QAM(DL only)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity (QPSK, BW 10MHz) (dBm)	-93.3	-93.3	-93.3	-93.3	-96.3	-96.3



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## 2. Specification

	LTE Band20	LTE Band26	LTE Band28	LTE Band38
Freq. Band[MHz] Uplink/Downlink	832~862 791~821	814~849 859~894	703~748 758~803	2570~2620
ARFCN range	UL:24150~24449 DL:6150~6449	UL:26690~27039 DL:8690~9039	UL:27210~27659 DL:9210~9659	UL/DL:37750 ~ 38249
Tx/Rx spacing (MHz)	-41	45	55	0
Channel Bandwidth (MHz)	5/10/15/20	1.4/3/5/10/15	3/5/10/15/20	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	-93.8	-94.8	-96.3



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## 2. Specification

	LTE Band40	LTE Band41	LTE Band66
Freq. Band[MHz] Uplink/Downlink	2300~2400	2496~2690	1710~1780 2110~2200
ARFCN range	UL/DL:38650 ~ 39649	UL/DL:39650 ~ 41589	UL:131972~132671 DL:66436~67335
Tx/Rx spacing (MHz)	0	0	400
Channel Bandwidth (MHz)	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)
MS Power (dBm)	25.7~-39(↓)	25.7~-39(↓)	25.7~-39(↓)
Sensitivity (QPSK, BW 10MHz) (dBm)	-96.3	-94.3	-95.8



## 2. Specification

### 2-5. TDSCDMA General Specification

	TDSCDMA2010(A)	TDSCDMA1880(F)
Chip rate	1.28 Mcps	1.28 Mcps
OBW	1.6 MHz	1.6 MHz
Freq. Band[MHz] Uplink/Downlink	2010~2025	1880~1920
ARFCN range	10054~10121	9404~9596
Tx/Rx spacing (MHz)	0	0
MS Power (dBm)	25.7 ~ -48(↓)	25.7 ~ -48(↓)
Power Class	2(max+24dBm)	2(max+24dBm)
Sensitivity (dBm /1.28 MHz)	-107.3	-107.3





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## 3. Product Function

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### Main Function

Item	Description
OS	Android V7.1
RF	GSM850 / GSM900 / DCS1800 / PCS1900 WCDMA: B1/ B2/ B4/ B5/ B8 LTE: B1/ B2/ B3/ B4/ B5/ B7/ B8/ B12/ B13/ B17/ B18/ B19/ B20/ B26/ B28/ B38/ B40/ B41/ B66
Battery	3000mAh
Base Band	2.2Ghz Quad + 1.6GHz Quad
Other RF	A-GPS, Glonass, BEIDOU, BT5.0, USB 2.0 Type-C, WIFI 802.11 a/b/g/n/ac MIMO, NFC,MST
Camera	Front Dual Camera (16M/8M, F1.9 ), REAR Camera (16MP A/F, F1.7)
LCD	5.6", FHD+, 2220x1080
RAM	4GB
Sensor	Accelerometer, Barometer, Fingerprint Sensor, Gyro Sensor, Geomagnetic Sensor, Hall Sensor, Proximity Sensor, RGB Light Sensor
Accessory	Charger: 5V/2A (AFC: 9V/1.67A) Data cable: 2.8pi, 1.2m(USB Type C) 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.



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# 1. Safety Precautions

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

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

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

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

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

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

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



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## 6. Level 1 Repair

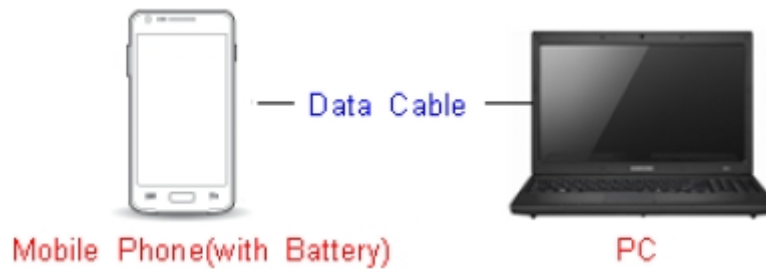
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### 6-1. S/W Download

#### 6-1-1. Prepare for S/W Downloading

- Installation program: Downloader Program ([Odin3 v3.12.10.exe](#))
- Mobile Phone
- Data Cable
- Mobile device specific S/W: Binary files

#### ※ Settings

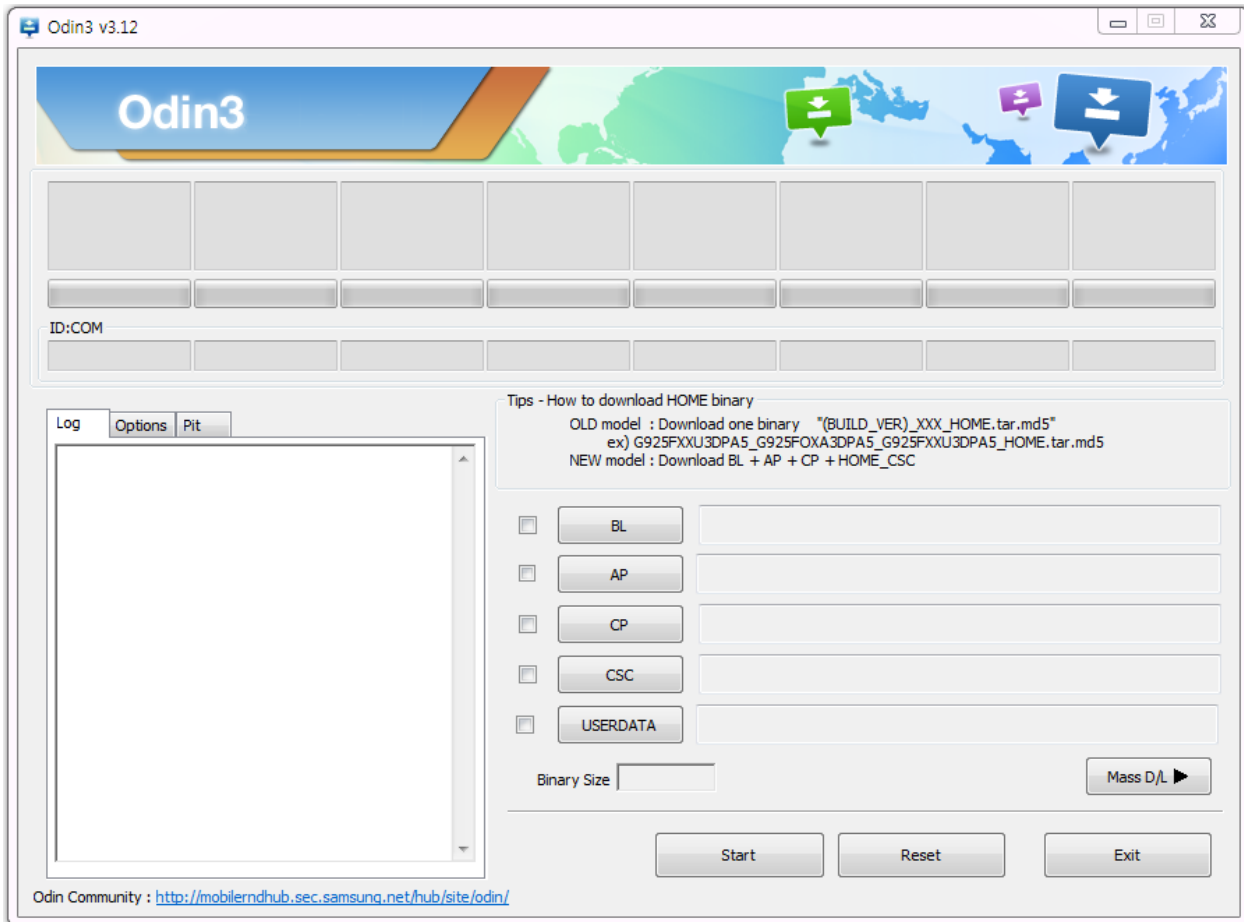


Data Cable : [GH39-01886A](#)

## 6. Level 1 Repair

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

- Open up the S/W Installation Program by executing the "**Odin3 v3.12.10.exe**"

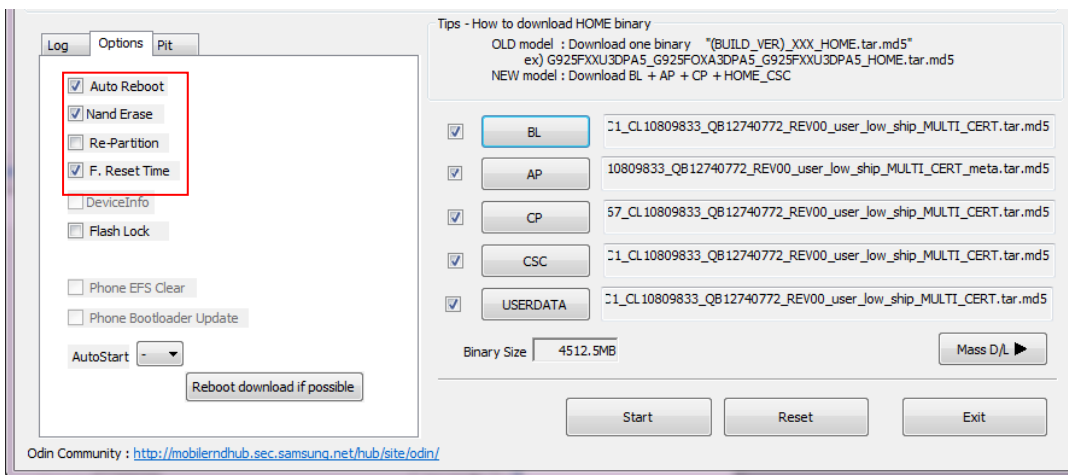
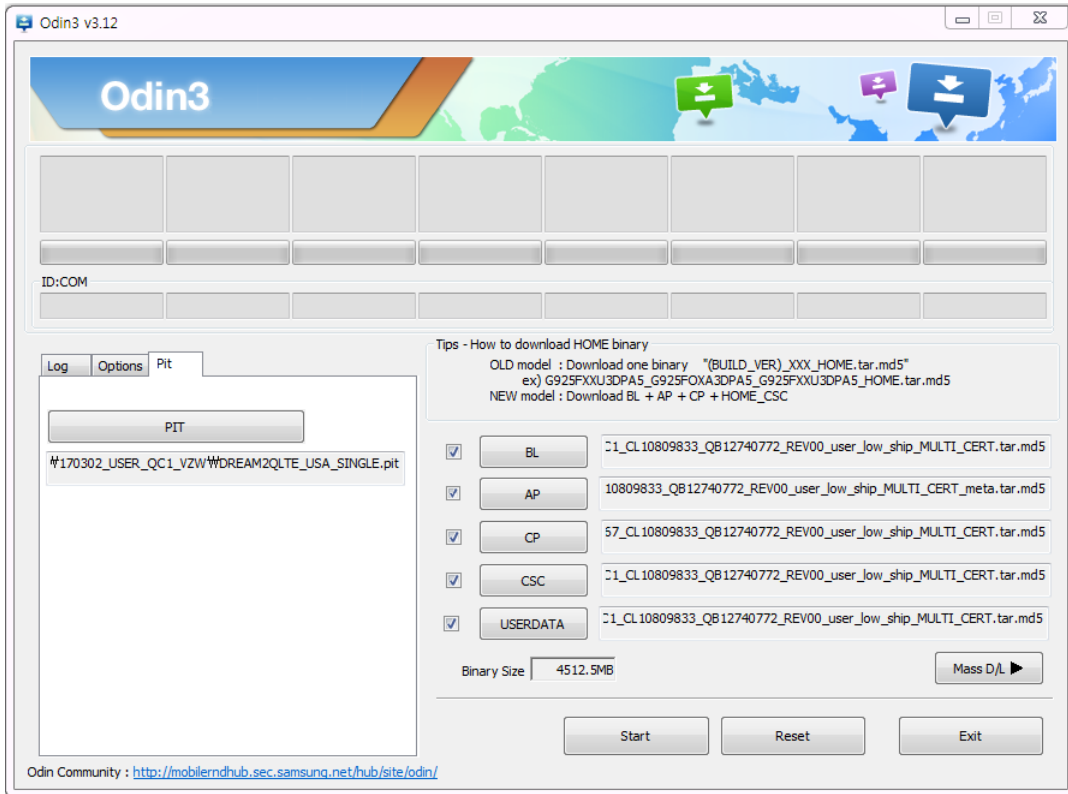


## 6. Level 1 Repair

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

- Check Auto Reboot, F. Reset Time, Nand Erase
- Check PIT
- Check BOOTLOADER, PDA, PHONE, CSC and USERDATA Files

\* Note : "Odin v3.12.10 or above" checks MD5 checksum just after file selection.



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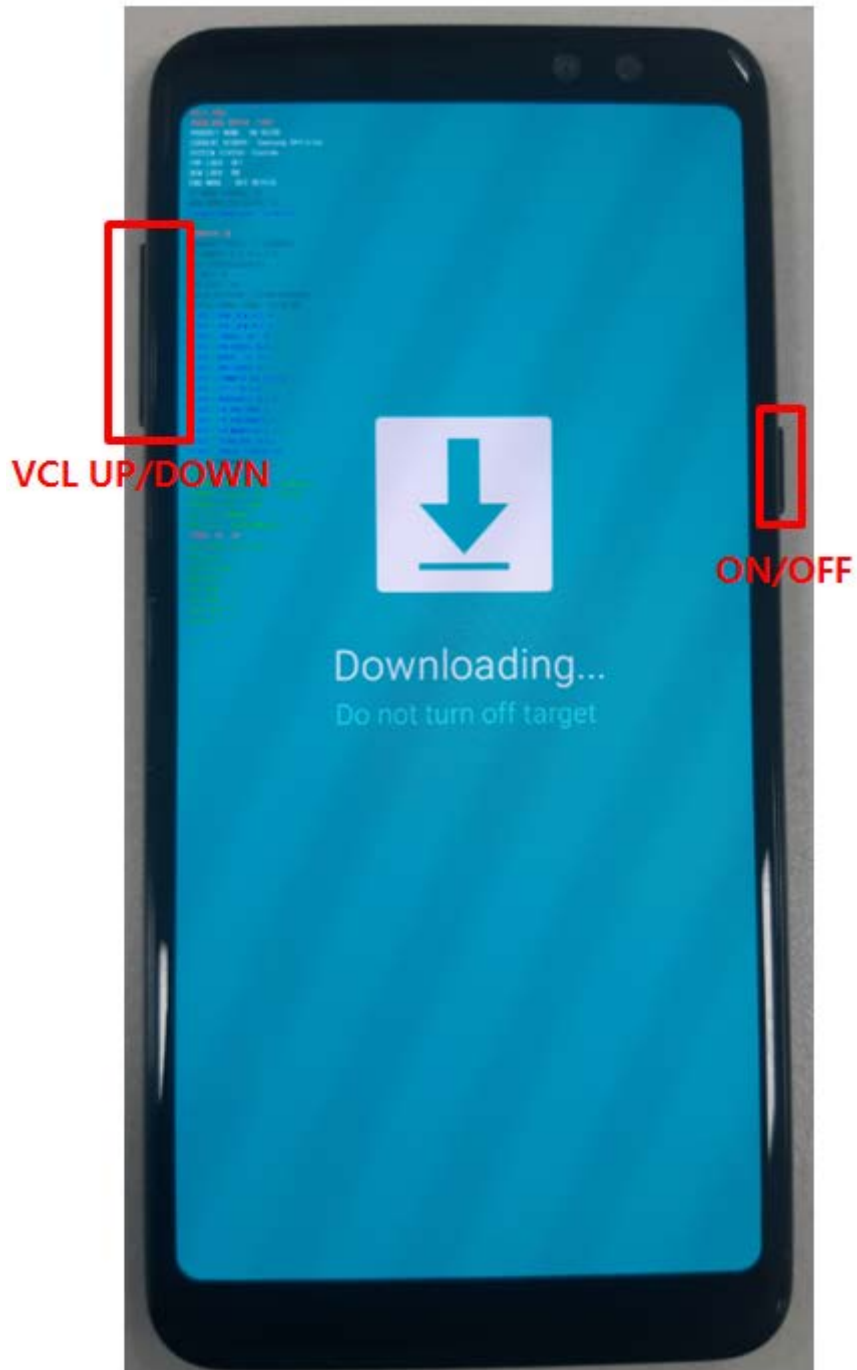
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## 6. Level 1 Repair

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### 2. Enter into Download Mode

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



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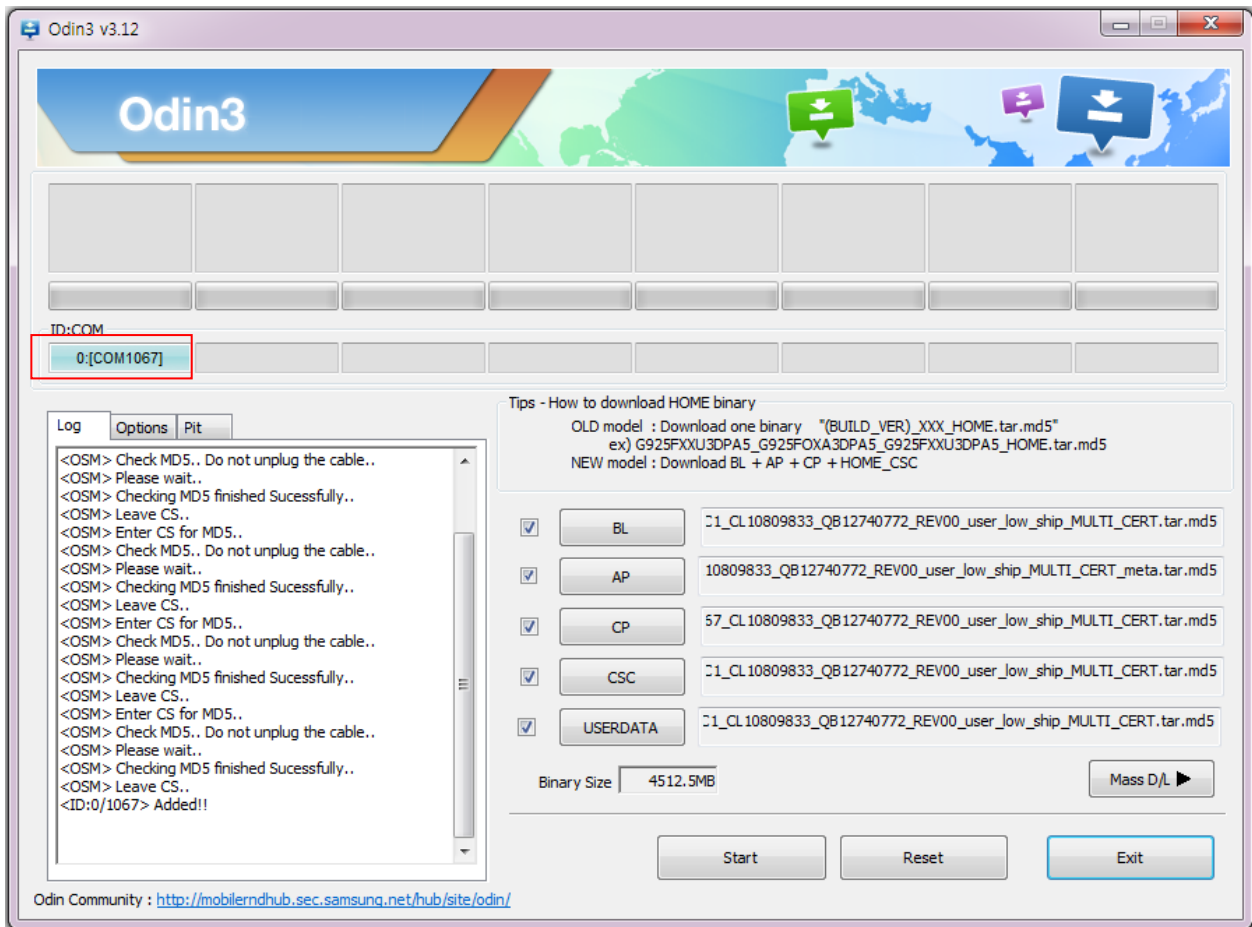
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## 6. Level 1 Repair

3. Connect the device to PC via Data Cable.

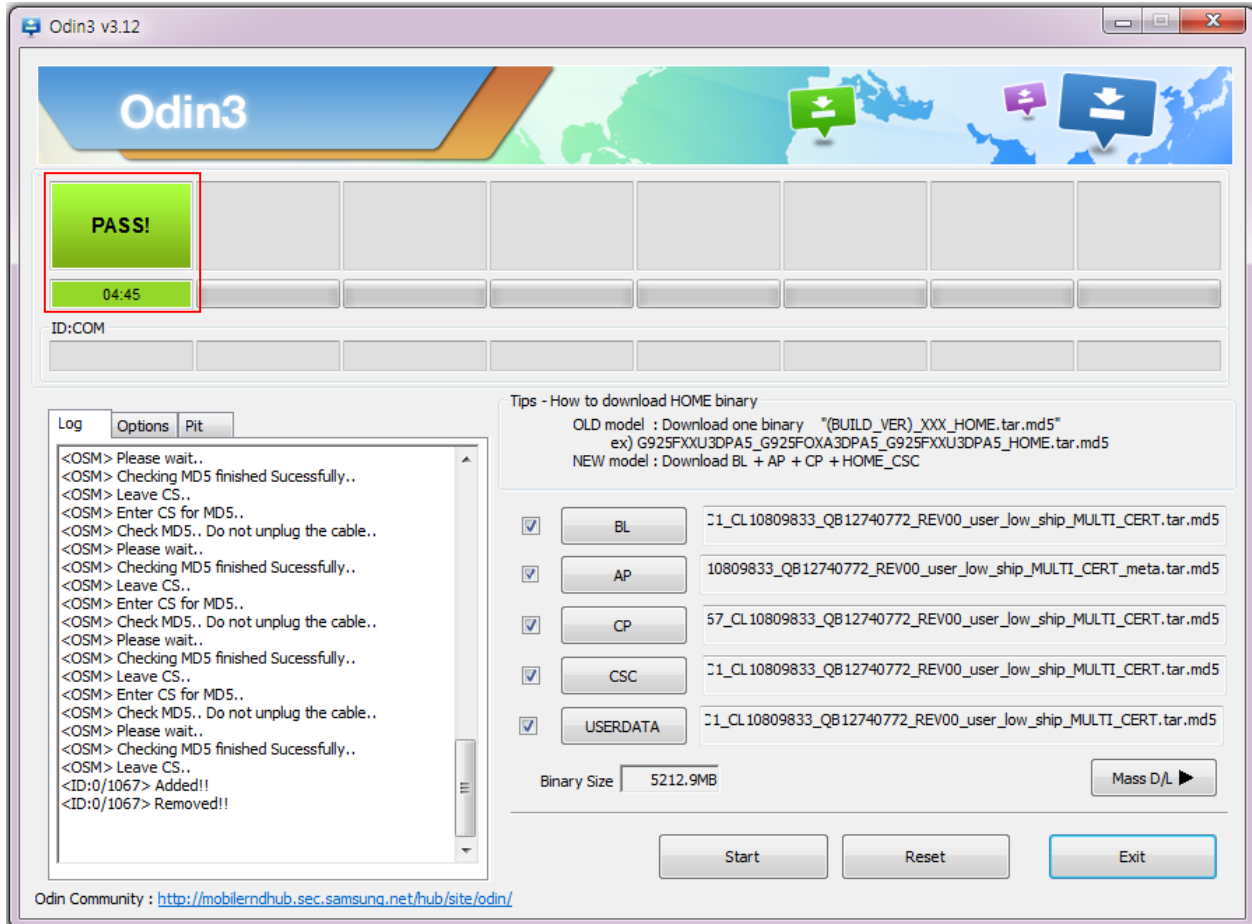
Make sure that the one of communication ports [ID:COM] box is highlighted in sky blue. The device is now connected with the PC and ready to download the binary files in it.



## 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.**



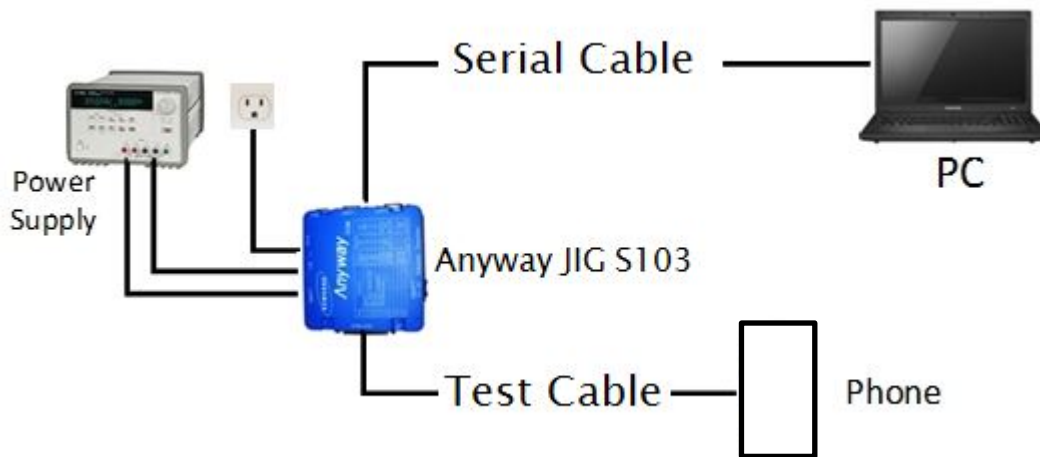
## 6. Level 1 Repair

### 6-2. IMEI writing

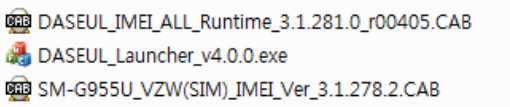
#### 6-2-1. Preparation

- 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



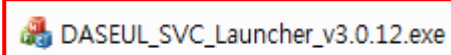
#### - S/W

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	<b>DASEUL_SVC_Launcher_v3.0.12</b> or higher -Uploaded on HHPsvc Notice
③ Runtime File	1. <b>DASEUL_IMEI_ALL_Runtime_3.1.281.0_r00405.CAB</b> 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

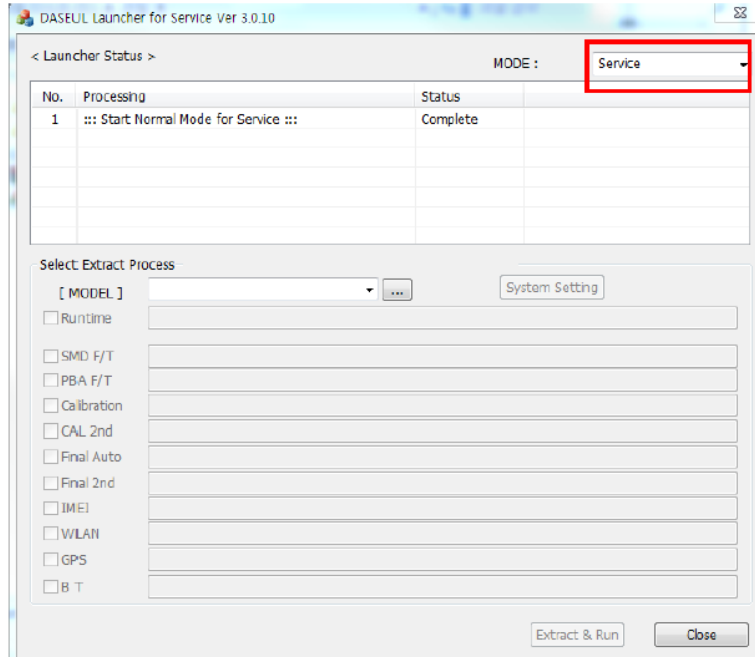
## 6. Level 1 Repair


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

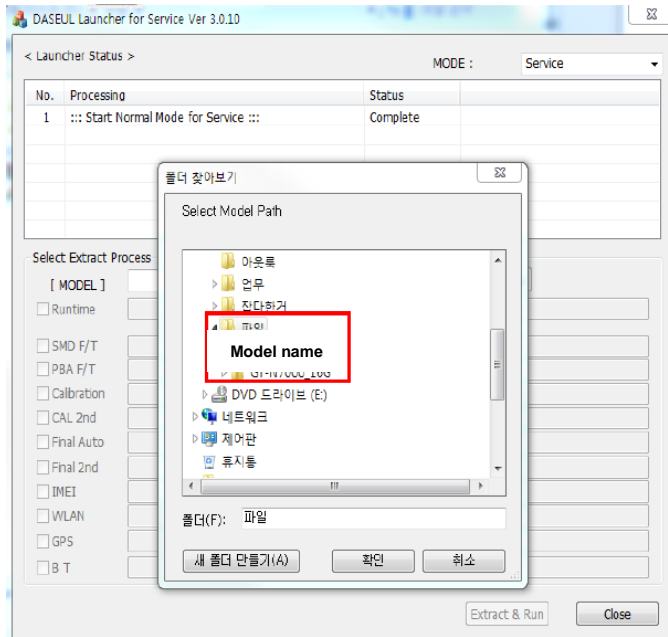
1. Run DASEUL\_SVC\_Launcher\_v3.0.12.exe



2. Select Service Mode

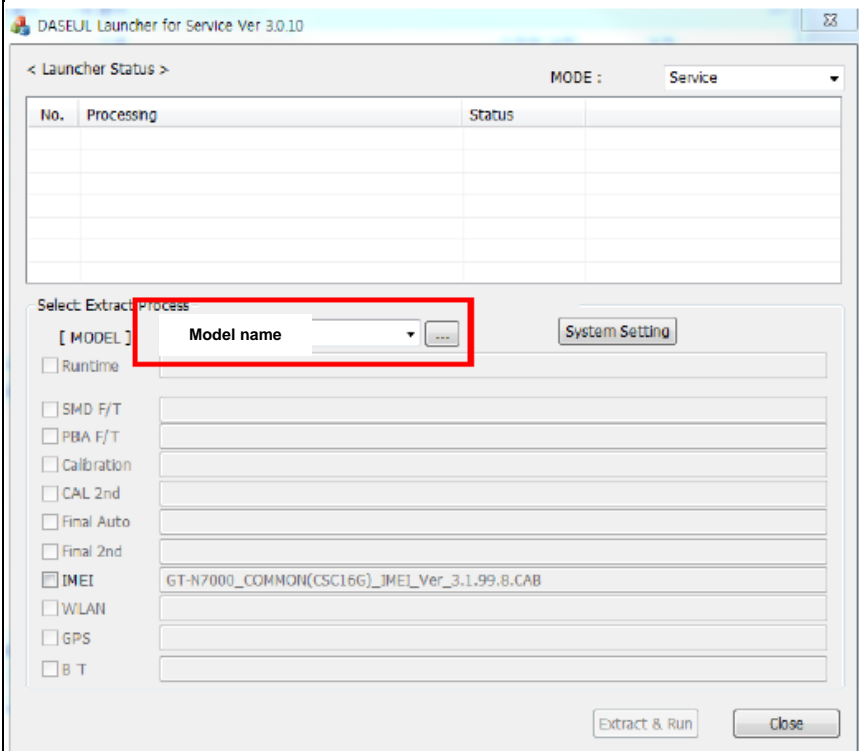


3. Click  and Select folder where the Launcher exists



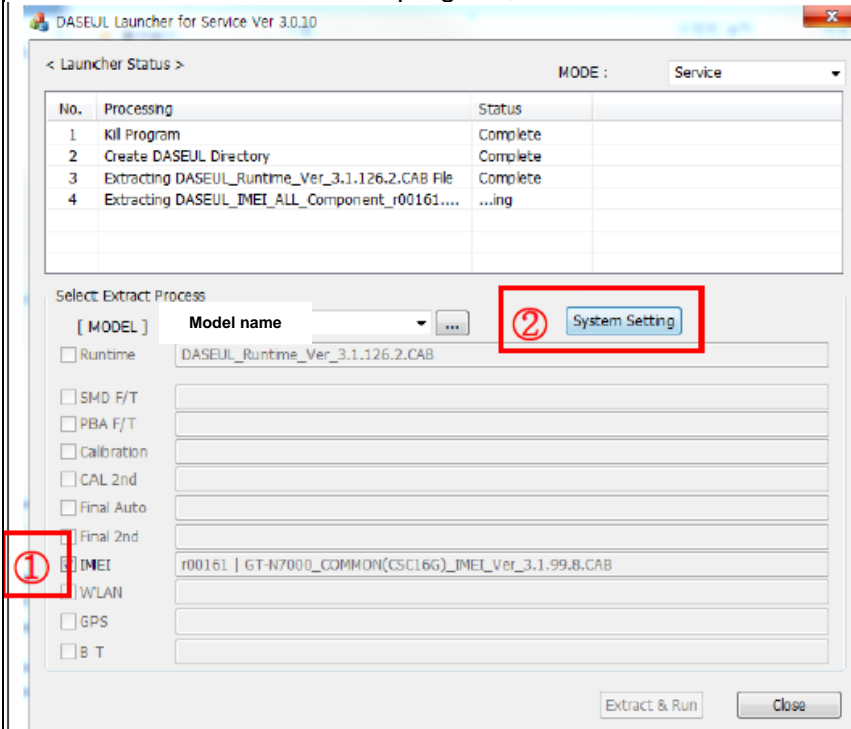
## 6. Level 1 Repair

### 4. Select Model



### 5. Check IMEI and click System Setting

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



## 6. Level 1 Repair

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

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

**Test Condition**

Calibration  
Real CAL Cycle: on every 20 default CALs  
Calibration Mode: FDT  
CAL2nd Mode: FDT

Final  
Supply RF Signal by: Conduction

**Reset Loss Correction Count**

Test Mode: Signaling

WLAN  
Test Mode: WLAN

IMEI  
Use RFSM   
Use Second PC   
Save ODS   
Merge Felica Cal   
OQC Reset   
IBI Reset

**System Config.**

Language: English  
Line Name: LINE(temp)  
Line Type: 1Person Cell  
 Smart Cloud Cell  
# of Phone: 1  
Start Number of UI: 1  
Start Number of Jig: 1  
IP Address: 10.244.246.156  
SKD Mode   
MultiSharing(CMWS)   
Developer Mode   
Advanced Separating(ADS)

**Operation Condition**

Operation Condition

**IMEI SVC&Repair Option**

**Model Information**  
**Hardware Config**  
**Signal Loss Config.**  
Loss Calibration  
Signal Config.  
MMS Calibration  
Setting End Band  
Engine Freq.  
**OK**

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

**IMEI SVC && Repair Option**

FTR N/A  Rework N/A  Korean SVC Write

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

DEVELOPE  Repair Board  SVC Factory Reset

Romania SVC  Argentina SKD

Initial PGM(SVC)  Turkey

ATT Rework  Slovakia SVC

IMEI Clear(Factory)  GED 2nd Inspection

Outgoing Inspection Check  SBSC(PBA) SVC

**OK** **CANCEL**

## 6. Level 1 Repair

### 8. Click 'Hardware Config'

**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

**IMEI SVC&Repair Option**

**System Config.**

Language:

Line Name:

Line Type:

# of Phone:

Start Number of Jig:

IP Address: 10.244.114.62

**Operation Condition**

**Model Information**

**Hardware Config**

Signal Loss Config.

Terminal Config.

W/S Calibration

Setting End Band

**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**

IF Jig Type:

Use ID Check JIG

**MSTS Sharing Controller**

Count:

Control Type:

I/F Type:

**Terminal** **Port Setting**

**Robot / ShieldBox**

Control Type:

I/F Type:

**Port Setting**

**Power Supply**

I/F Type:

**Port Setting**

**DBMS**

Server:

Type:

**Barcode Reader**

Type:

I/F Type:

**Port Setting**

**MES PN Sender**

Type:

**Port Setting**

**PBA F/T**

Function Test Jig **Port Setting**

NI-DAQ **Port Setting**

Power Detector **Port Setting**

HDMI JIG **Port Setting**

**SMD F/T**

Type:

B'd Address:

**Port Setting**

**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  
Signal Loss Config  
Channel Config  
RF Calibration  
Setting End Band

OK



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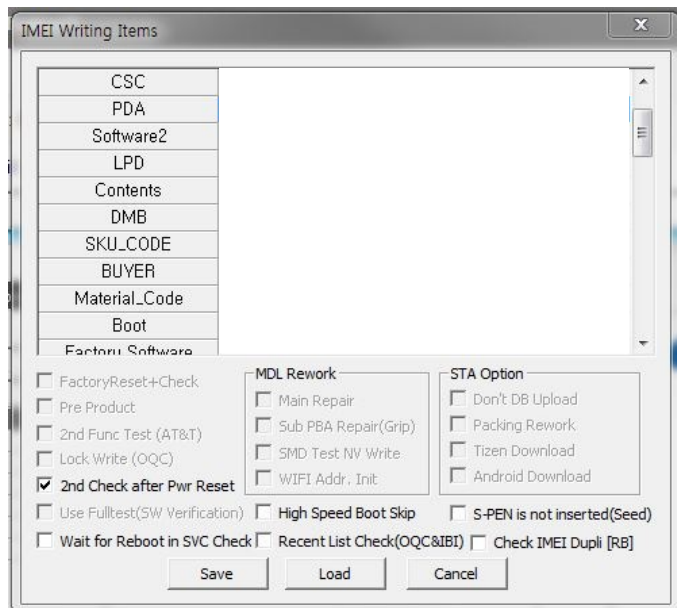




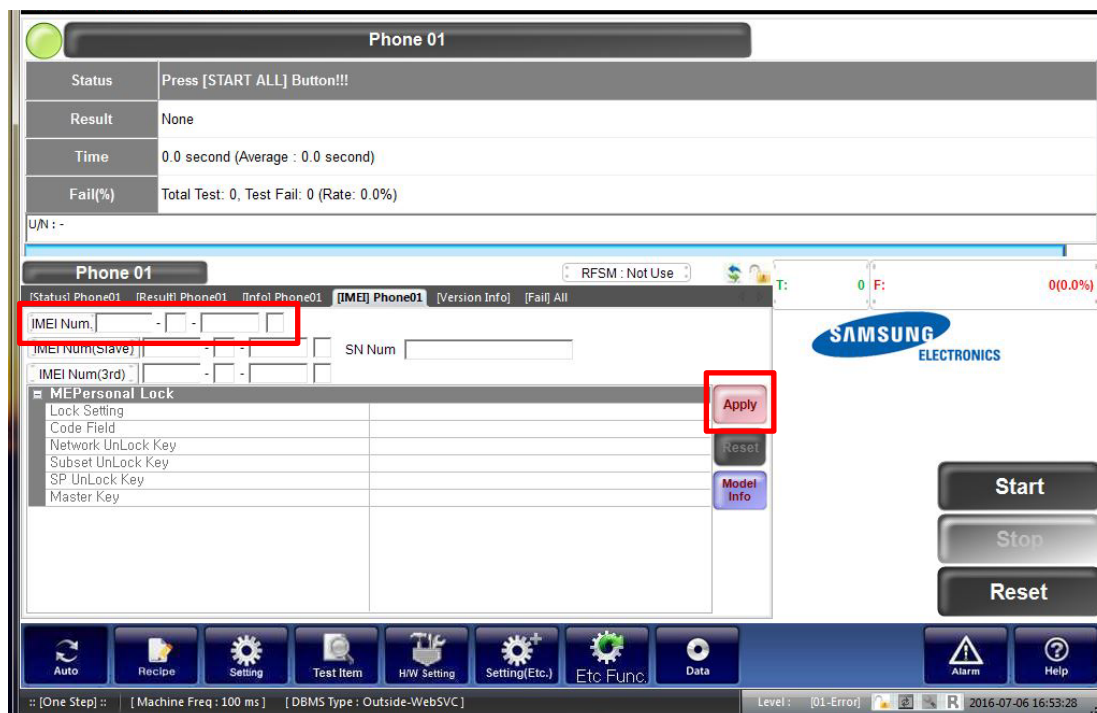
## 6. Level 1 Repair

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

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

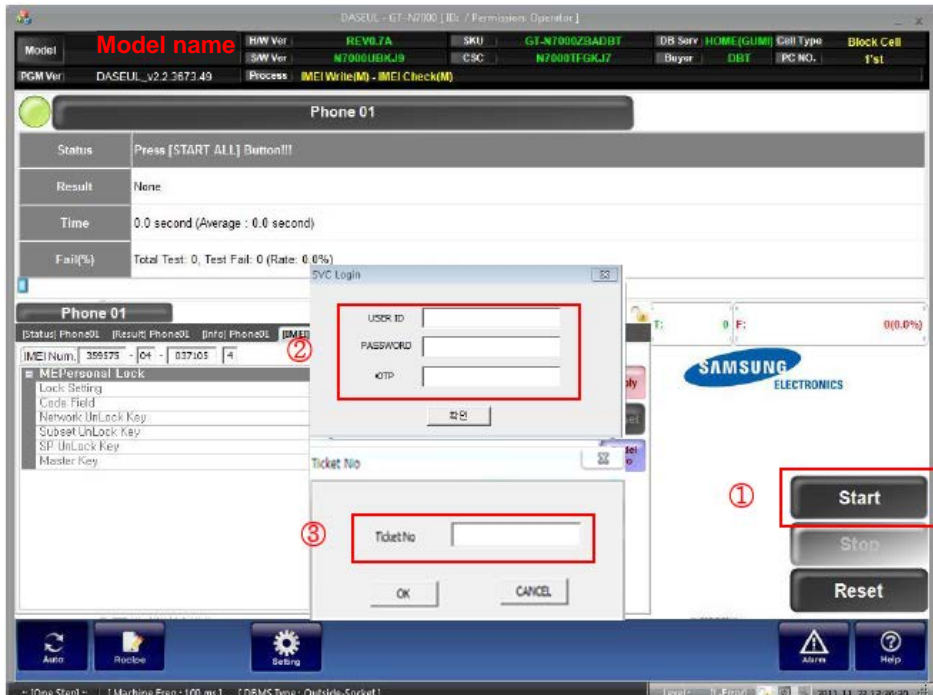


15. Input IMEI Number and click Apply



## 6. Level 1 Repair

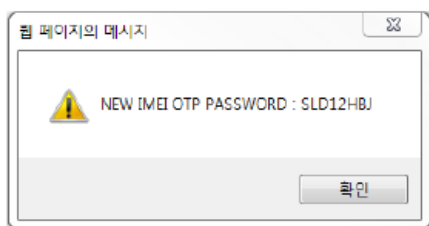
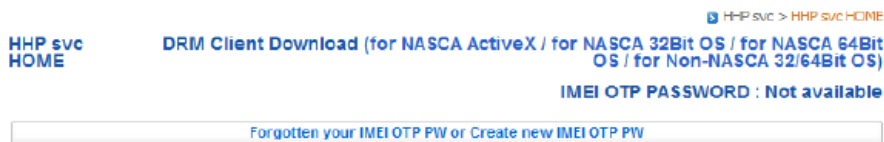
16. ① Click Start → ② Input IMEI writing ID and Password & OTP → ③ Input Ticket No



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

After that, you can get new OTP by click the “Forgotten your IMEI OTP PW or Create new IMEI OTP PW” button.

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

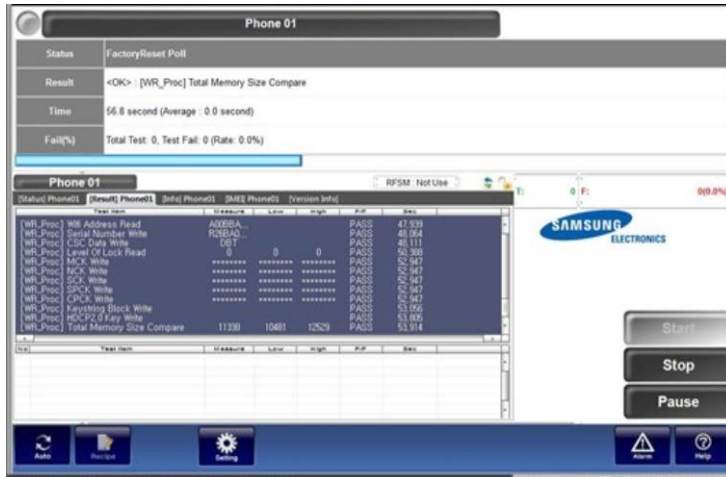


## 6. Level 1 Repair

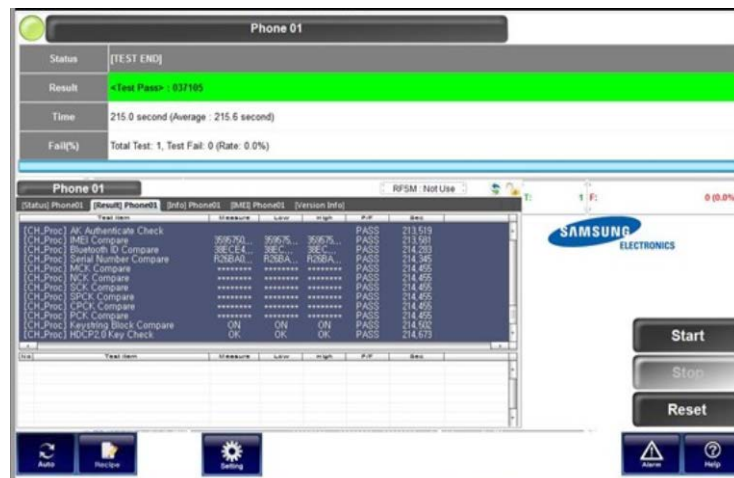
### 17. Connect the phone to Anyway JIG

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

### 18. IMEI Writing Proceeding



### 19. IMEI Writing Success



## 6. Level 1 Repair

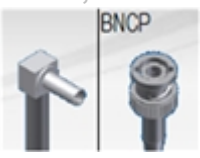



### 6-3. RF Calibration

#### 6-3-1. 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\_3.1.316.6.CAB**
- ※ **It is required to use the latest program.**

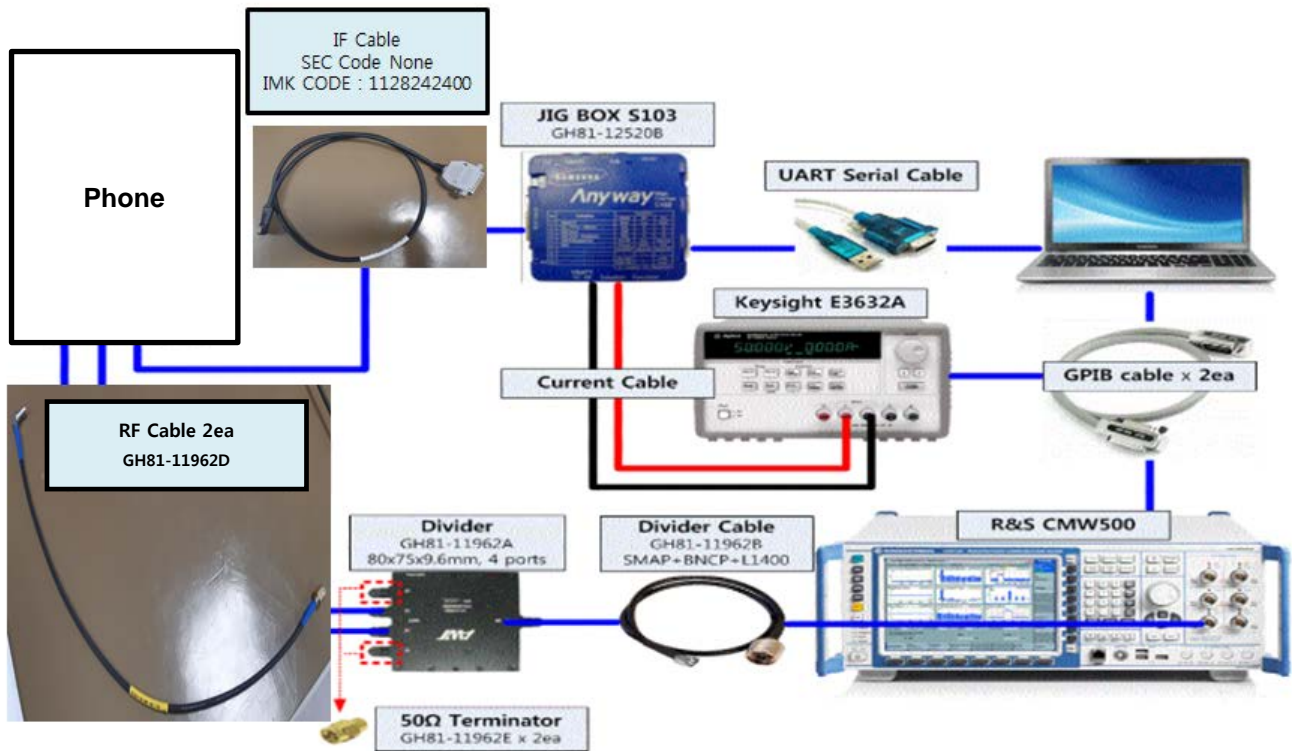
- Mobile Phone
- R&S CMW500
- E3632A Power Supply
- GPIB Cable (2ea)
- JIG BOX (S103)
- Adapter
- UART Serial Cable
- Adapter
- IF Cable (GH81-11962W)

#### • Table of test cables

IF Cable	GH81-10631A	GH81-11962W	GH81-11171A	
	11 pin	7 pin (New)	7 pin (Old)	
RF Cable (Manual)	GH81-11962D	GH81-11962D	GH81-11962C	GH81-11962F
	1.35T, LONG BNCP 	1.35T, short (2EA) SMAP 	1.6T, Short SMAP 	1.6T, Long BNCP 
4 Port Divider	GH81-11962A	GH81-11962B	GH81-11962E	
	Use 	Divider Cable 	50Ω terminator (2EA) 	

## 6. Level 1 Repair

### ❖ Setting



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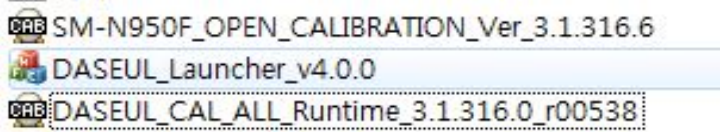
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## 6. Level 1 Repair

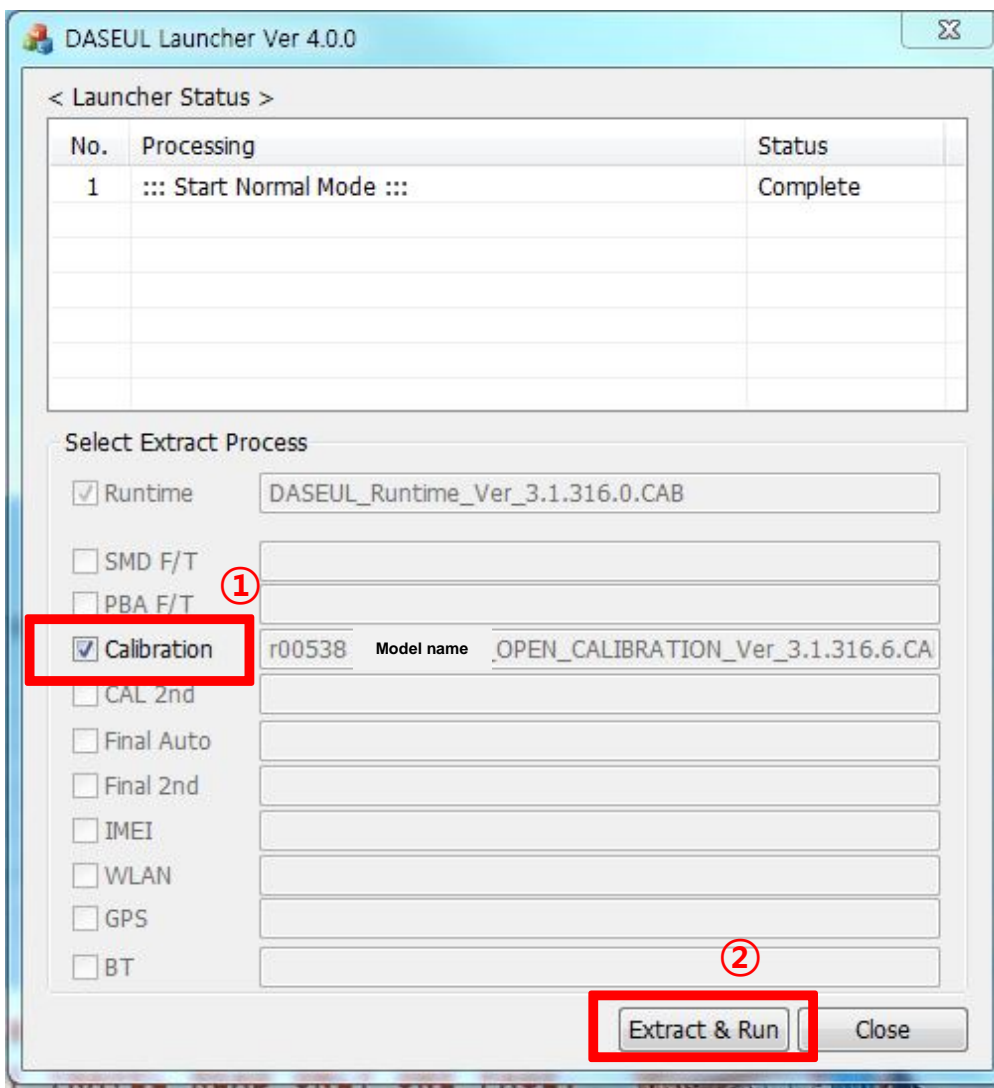
---

### 6-3-2. RF Calibration Program

1. Run the RF Calibration Program Launcher, 'DASEUL\_Launcher\_vx.x.xx.exe'.

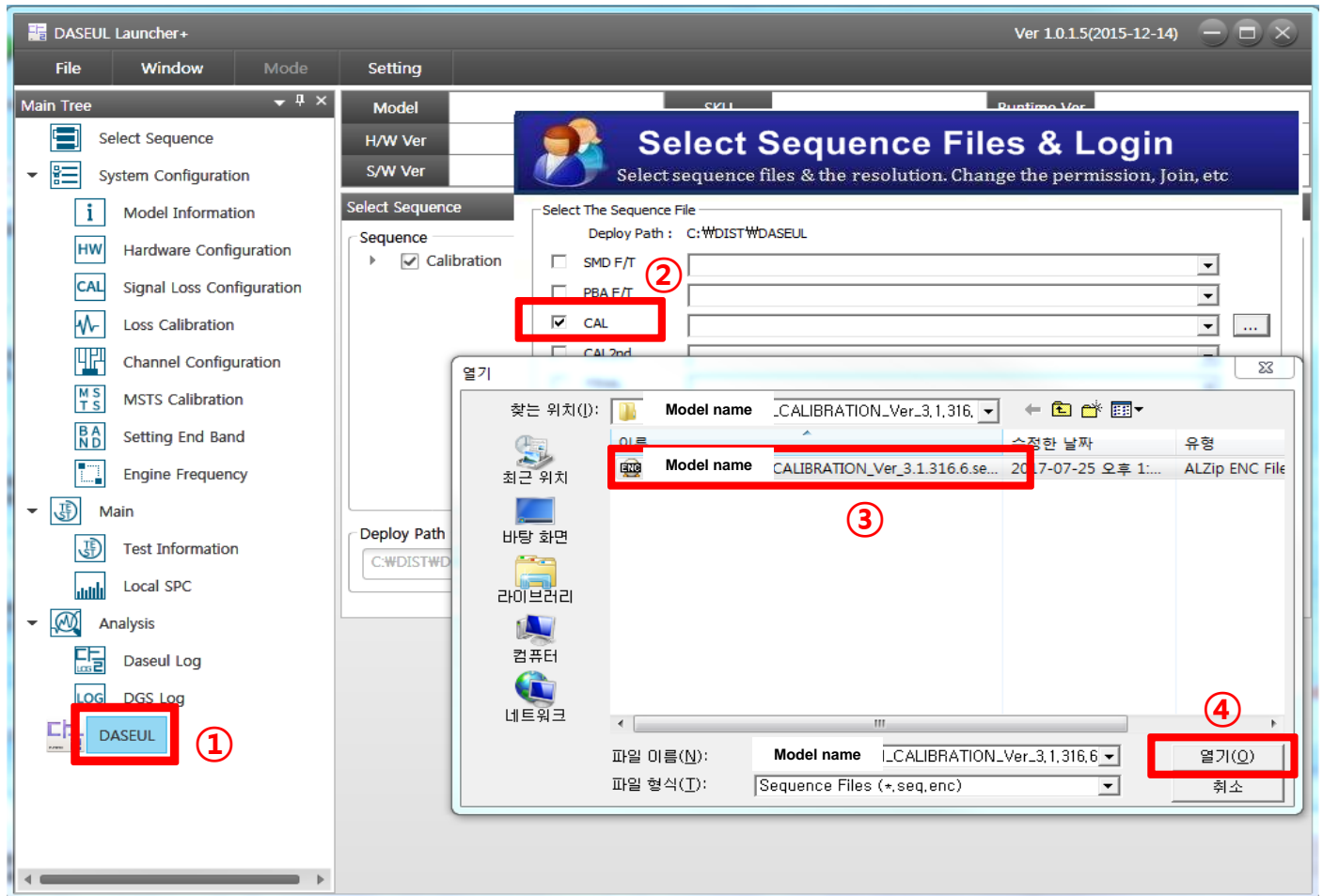


2. Check the 'Calibration' option and Click 'Extract & Run'.



## 6. Level 1 Repair

3. Check the 'CAL' and open the [model file](#), then select 'Start' button. [SM-N950F]





## 6. Level 1 Repair

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

**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

**System Config.**

Language

Line Name

Line Type

Smart Cloud Cell

# of Phone

Start Number of UI

Start Number of Jig

IP Address

SKD Mode

MultiSharing(CMWS)

Developer Mode

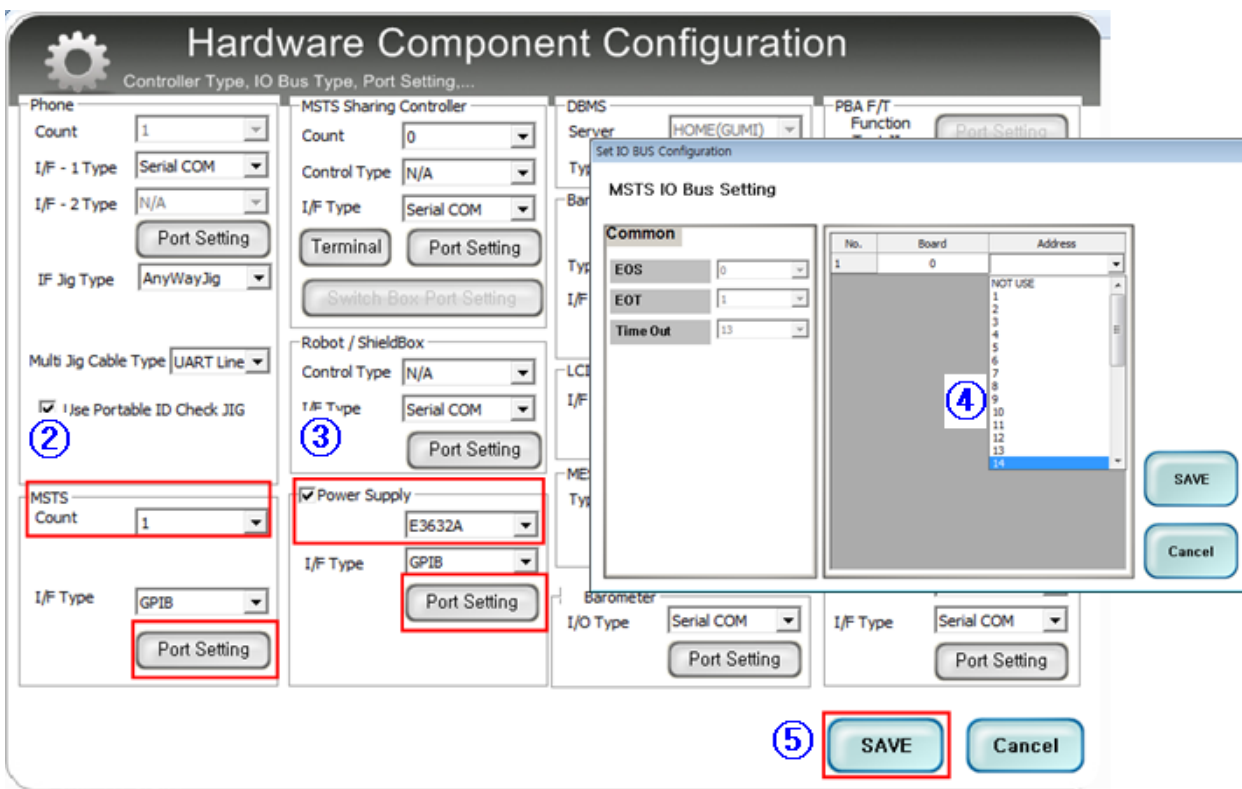
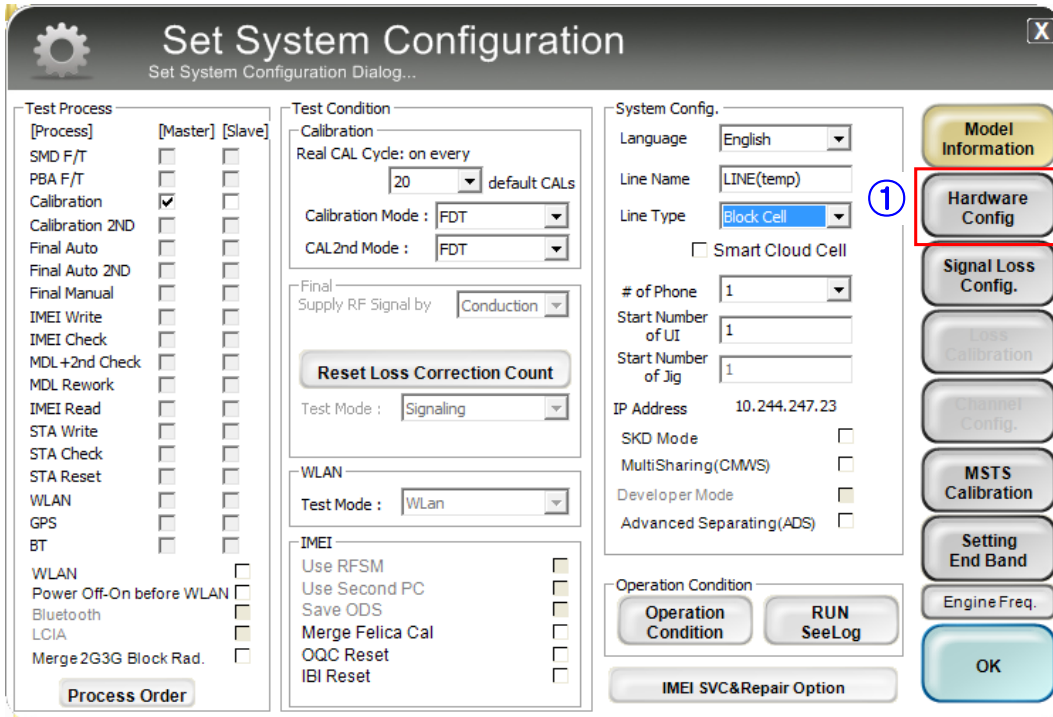
Advanced Separating(ADS)

**Operation Condition**

**Model Information**

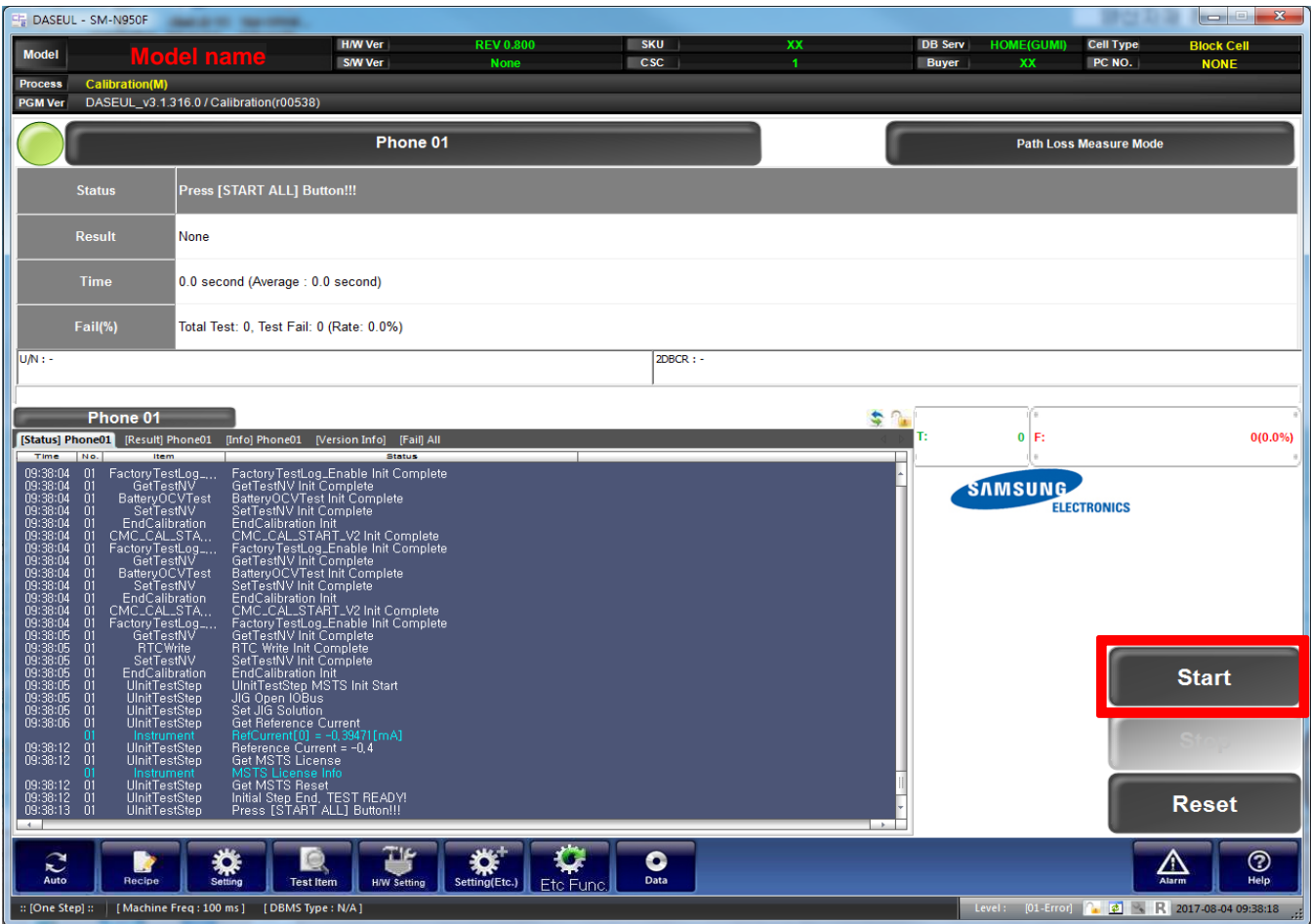
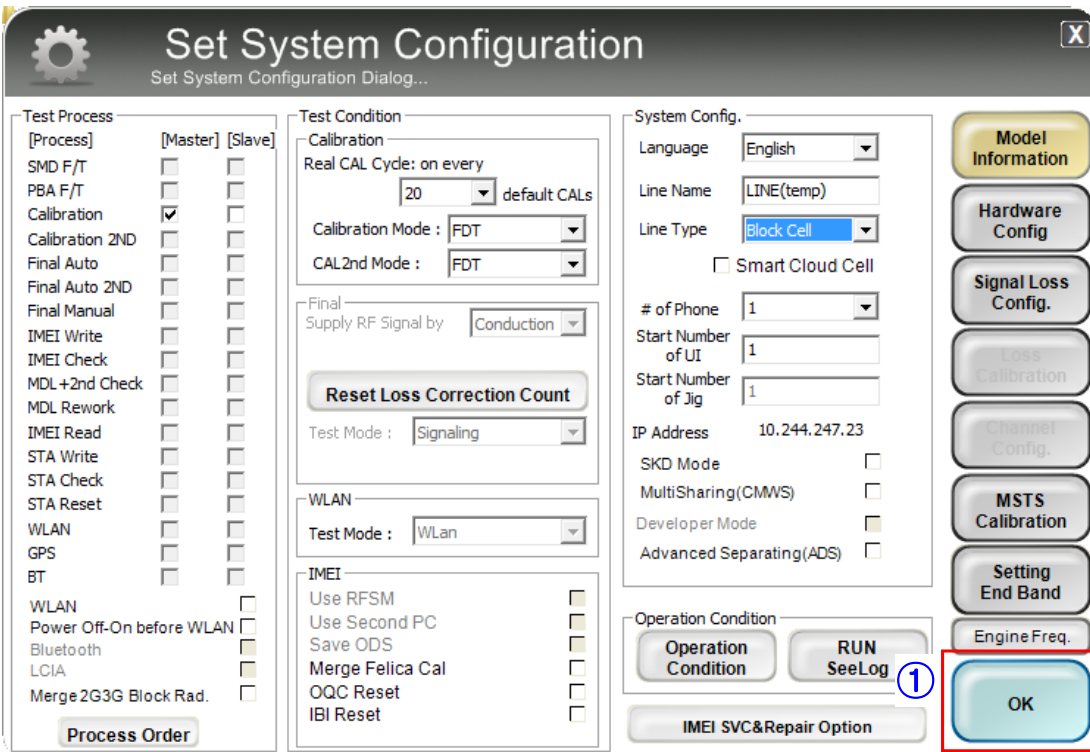
## 6. Level 1 Repair

- 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)



## 6. Level 1 Repair

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



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