

2. Specification

2-1. GSM General Specification

Item		GSM850	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/ GPRS	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power		33dBm ~5dBm	33dBm ~5dBm	30dBm ~0dBm	30dBm ~0dBm
Power Class		5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity		-102dBm	-102dBm	-102dBm	-102dBm
TDMA Mux		8	8	8	8
Cell Radius		35Km	35Km	2Km	2Km

2. Specification

2-2. GSM Tx Power Class

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

2. Specification

2-3. WCDMA General Specification

	WCDMA2100	WCDMA1900	WCDMA850	WCDMA900	WCDMA 1700
Freq. Band[MHz] Uplink/Downlink	1922~1977 2112~2167	1852~1907 1932~1987	824~849 869~894	880~915 925~960	1710~1755 2110 ~ 2155
ARFCN range	UL: 9612~9888 DL: 10562~10838	UL: 9262~9538 DL: 9662~9938	UL: 4132~4233 DL: 4357~4458	UL: 2712~2863 DL: 2937~3088	UL : 1312~1513 DL : 1537~1738
Tx/Rx spacing	190MHz	80MHz	45MHz	45MHz	400MHz
Mod. Bit rate/ Bit Period	3.84 Mcps	3.84 Mcps	3.84 Mcps	3.84 Mcps	3.84Mcps
Time Slot Period /Frame Period	Frame Length: 10ms Slot length: 0.667ms	Frame Length: 10ms Slot length: 0.667ms	Frame Length: 10ms Slot length: 0.667ms	Frame Length: 10ms Slot length: 0.667ms	Frame Length: 10ms Slot length: 0.667ms
Modulation	QPSK/HQPSK	QPSK/HQPSK	QPSK/HQPSK	QPSK/HQPSK	QPSK/HQPSK
MS Power	24dBm~-50dBm	24dBm~-50dBm	24dBm~-50dBm	24dBm~-50dBm	24dBm~-50dBm
Power Class	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)	3(max+24dBm)
Sensitivity	-106.7dBm	-104.7dBm	-104.7dBm	-104.7dBm	106.7dBm
TDMA Mux	8	8	8	8	8
Cell Radius	2Km	2Km	2Km	2Km	2Km

2. Specification

2-4. LTE General Specification

	LTE Band1	LTE Band2	LTE Band3	LTE Band4	LTE Band5	LTE Band7	LTE Band8
Freq. Band[MHz] Uplink/ Downlink	1920~1980 2110~2170	1850~1910 2110~2170	1710~1785 1805~1880	1710~1755 2110~2155	824~849 869~894	2500~2570 1805~1880	2500~2570 1805~1880
ARFCN range	UL: 18000~18599 DL: 0~599	UL: 18600~19199 DL: 600~1199	UL: 19200~19950 DL: 1805~1880	UL: 19950~20399 DL: 1950~2399	UL: 20400~20649 DL: 2400~2649	UL: 20750~21449 DL: 2750~3449	UL: 21450~21799 DL: 3450~3799
Tx/Rx spacing	190MHz	80MHz	95MHz	400MHz	45MHz	120MHz	45MHz
Channel Bandwidth	60 MHz	60 MHz	75 MHz	45 MHz	25 MHz	70 MHz	35 MHz
Modulation	QPSK, 16/64 QAM	QPSK, 16/64 QAM	QPSK, 16/64 QAM	QPSK, 16/64 QAM	QPSK, 16/64 QAM	QPSK, 16/64 QAM	QPSK, 16/64 QAM
MS Power (MPR)	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm	-35~25.7 dBm
Sensitivit (QPSK) (BW 10MHz)	-96.3 dBm	-94.3 dBm	-93.3 dBm	-96.3 dBm	-94.3 dBm	-94.3dBm	-93.3dBm
Cell Radius	>5Km	>5Km	>5Km	>5Km	>5Km	>5Km	>5Km

	LTE Band 17	LTE BAND 20	LTE BAND 28	LTE Band38	LTE Band40	LTE Band41
Freq. Band[MHz] Uplink/ Downlink	704~716 734~746	704~716 734~746	703~748 758~803	2570~2620	2300~2400	2496~2690
ARFCN range	UL: 23703~23849 DL: 5730~5849	UL: 24150~24449 DL: 6150~6449	UL: 27210~27659 DL: 9210~9659	37750~38249	38650~39649	39650~41589
Tx/Rx spacing	30MHz	41MHz	55MHz	-		
Channel Bandwidth	12 MHz	30 MHz	45 MHz	5/10/15/20 MHz	5/10/15/20 MHz	5/10/15/20 MHz
Modulation	QPSK, 16/64QAM	QPSK, 16/64QAM	QPSK, 16/64QAM	QPSK, 16/64QAM	QPSK, 16/64QAM	QPSK, 16/64QAM
MS Power (MPR)	-35~25.7 dBm	-35~25.7 dBm	-35~25.7dBm	-35~25.7 dBm	-35~25.7dBm	-35~25.7 dBm
Sensitivit (QPSK) (BW 10MHz)	-93.3 dBm	-93.3dBm	-94.8 dBm	-96.3 dBm	-96.3dBm	-94.3dBm
Cell Radius	>5Km	>5Km	>5Km	>5Km	>5Km	>5Km

3. Operation Instruction and Installation

Main Function

Item	Description
OS	Android V6.0.1 (Marshmallow)
RF	2G : 850/900/1800/1900 3G : 850/900/1700/1900/2100 LTE : Band 1/2/3/4/5/7/8/17/20/28/38/40/41
Battery	3,000mAh
Base Band	1.9GHz Octa(A53) (Exynos7880)
Other RF	GPS, Glonass, Beidou, BT 4.2, WIFI 802.11 a/b/g/n/ac(2.4+5GHz), NFC, MST, FM Radio
Camera	Main - 16M PDAF, Front - 16M FF MIPI SLSI (with Flash LED)
LCD	5.2" FHD OCTA(SDC), 1920x1280
RAM	3GB LPDDR4 +32GB eMMC
Sensor	Accelerometer, Barometer, Fingerprint, Gyro, Geomagnetic, Hall, Proximity, RGB Light
Accessory	Charger: 5V/2A, 9V/1.67A Data cable:2.8pi, 1.2M, TYPE C, Earphone : 3.5pi, 4Pin

9. Reference Abbreviate

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

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.

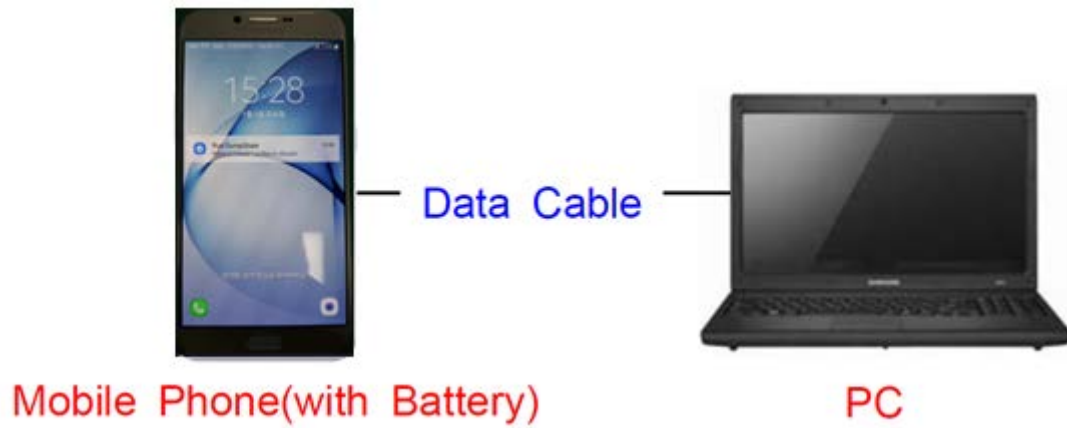
The potential for static electricity discharge may be increased in low humidity environments, such as air-conditioned rooms. Increase the airflow to the working area to decrease the chance of accidental static electricity discharges.

6. Level 1 Repair

6-1. S/W Download

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

- Diagram of connection



6-2-2. How to download S/W

1) Downloading Binary Files

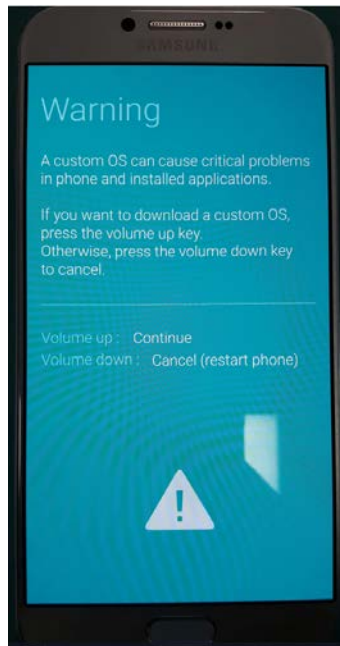
- Binary file for downloading SM-A520F
 - [xxx.pit](#)
 - [AP_XXXX.tar.md5](#)
 - [BL_XXXX.tar.md5](#)
 - [CP_XXXX.tar.md5](#)
 - [CSC_XXXX.tar.md5](#)(file size is about 2.9GB)

2) Prepare for Downloading

- Downloader Program ([Odin3 v3.12.exe](#))
- SM-A520F Mobile Phone
- Data Cable
- Binary files

6. Level 1 Repair

3) Boot the mobile phone by pressing 'Home + Vol Down + Power key at the same time, If you do properly, you can see the following message on the main LCD as the following.



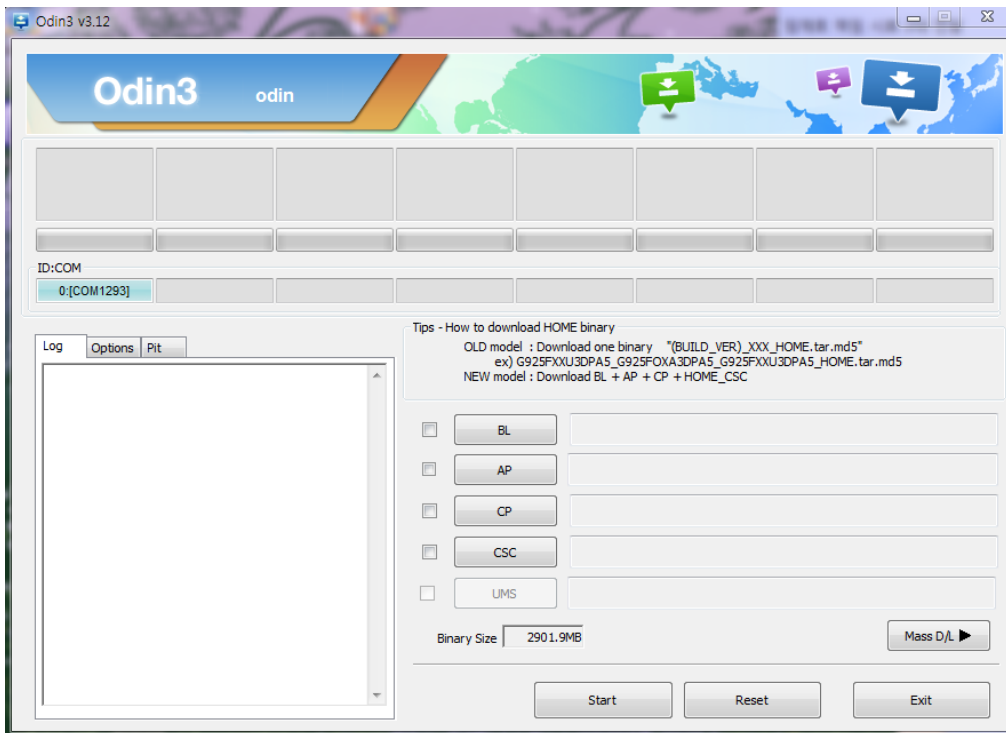
4) Press the Vol Up Key again, and you will see below message on Main LCD.



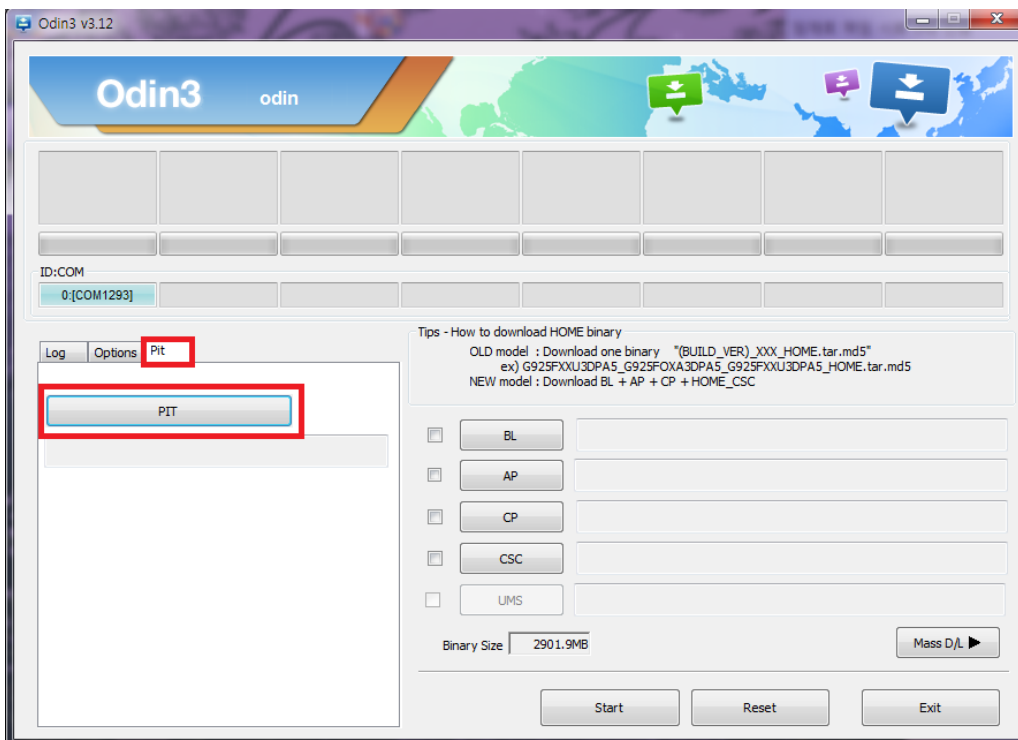
“ Downloading...” ”

6. Level 1 Repair

5) Load the binary download program.

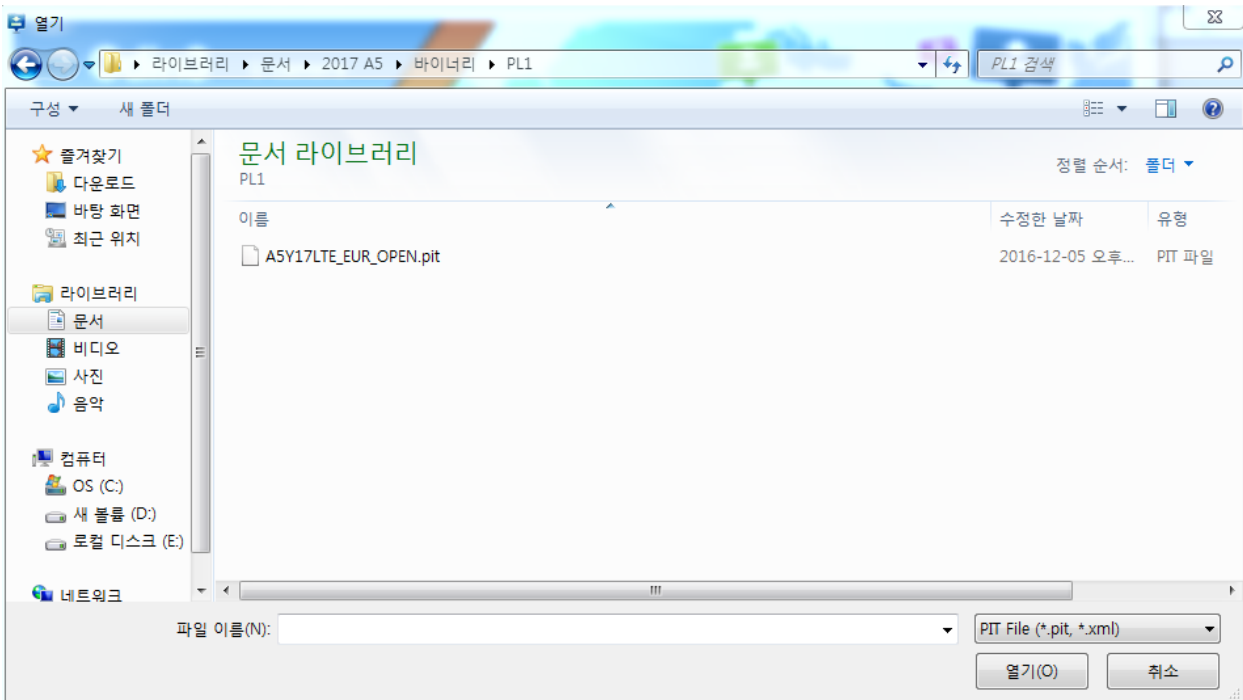


6) Press "PIT" button to open the phone binary. (If you downloaded it once, afterward you don't need to download it again)



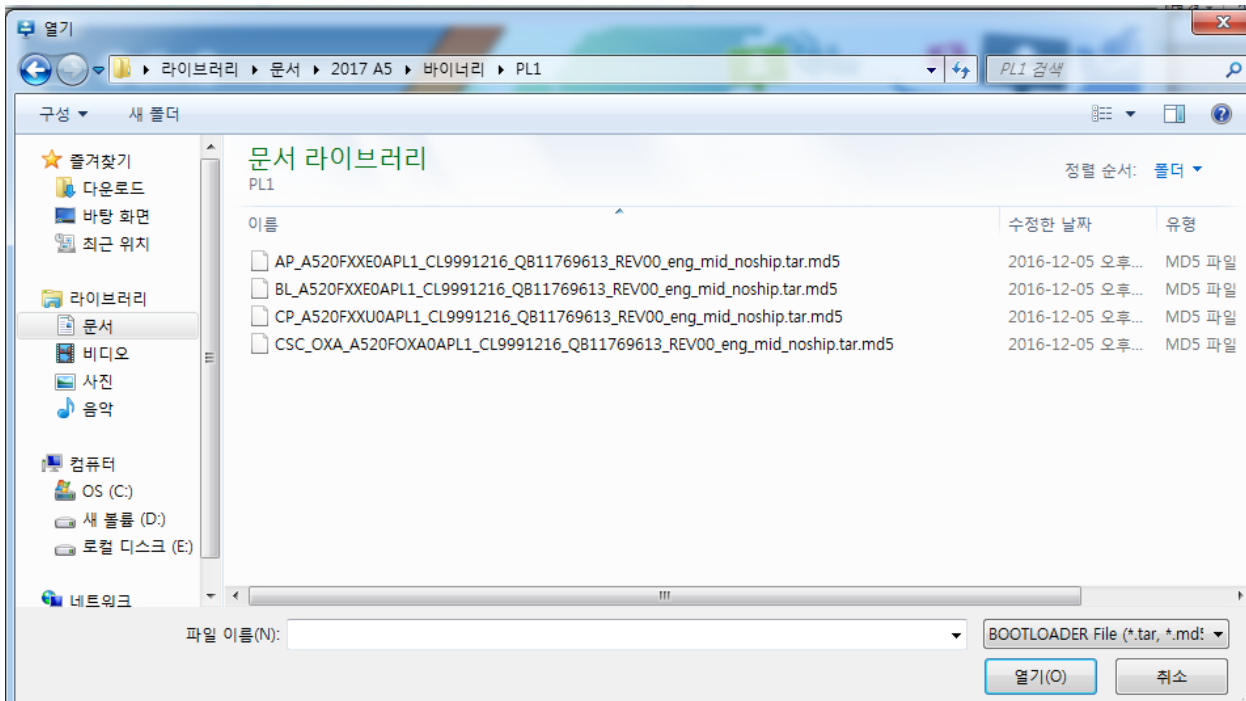
6. Level 1 Repair

7) Select the phone SM-A520F “xxx.pit” binary from the file directory.



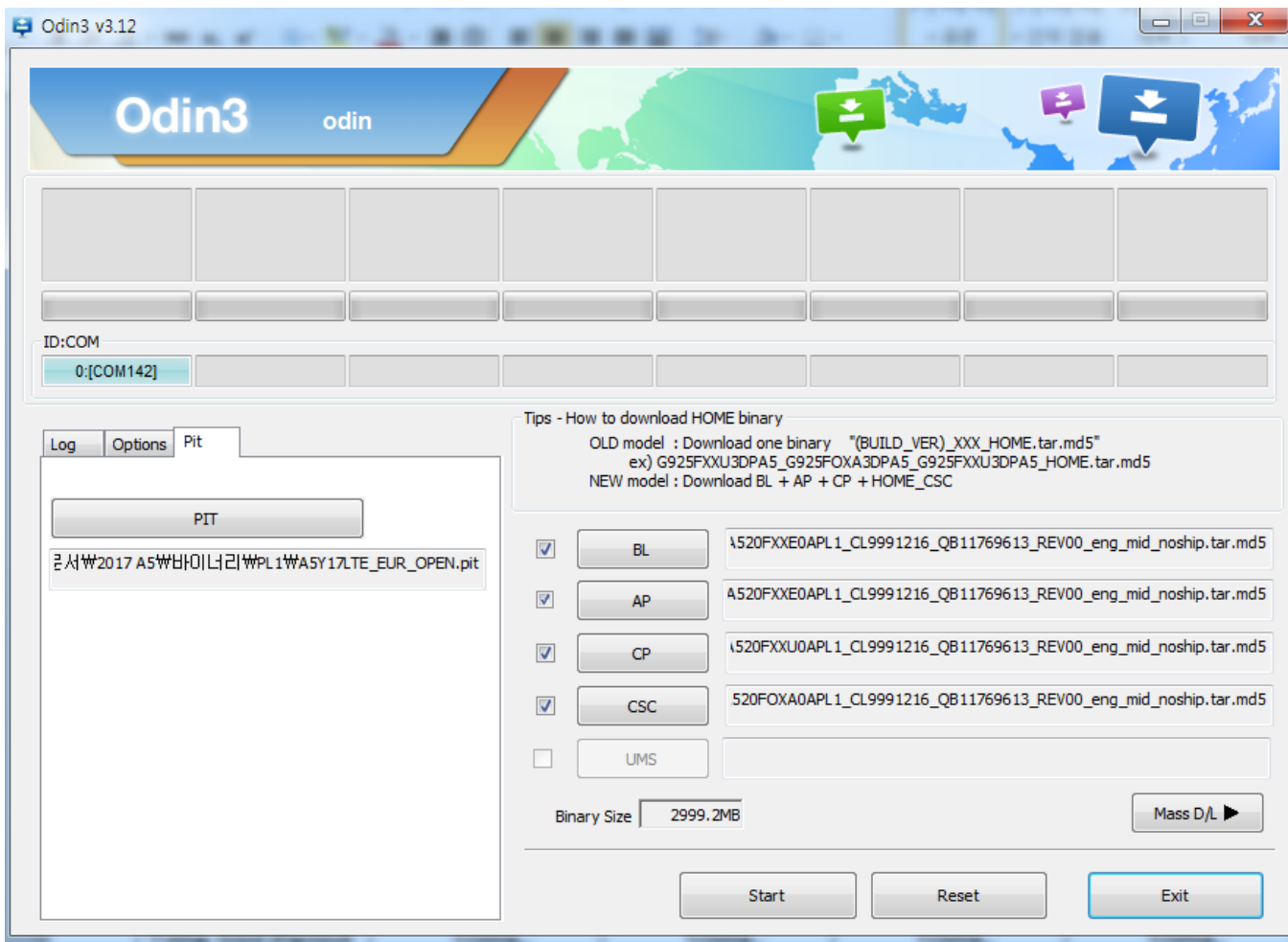
Select the file as above:

- AP_XXXX.tar.md5
- BL_XXXX.tar.md5
- CP_XXXX.tar.md5
- CSC_XXXX.tar.md5



6. Level 1 Repair

8) Connect mobile and computer. The program show as follow.



9) Now press the button "Start".

10) Now it's time to take a rest and finish the downloading.

11) After finished downloading of phone binary, the mobile phone will restart automatically.

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

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

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

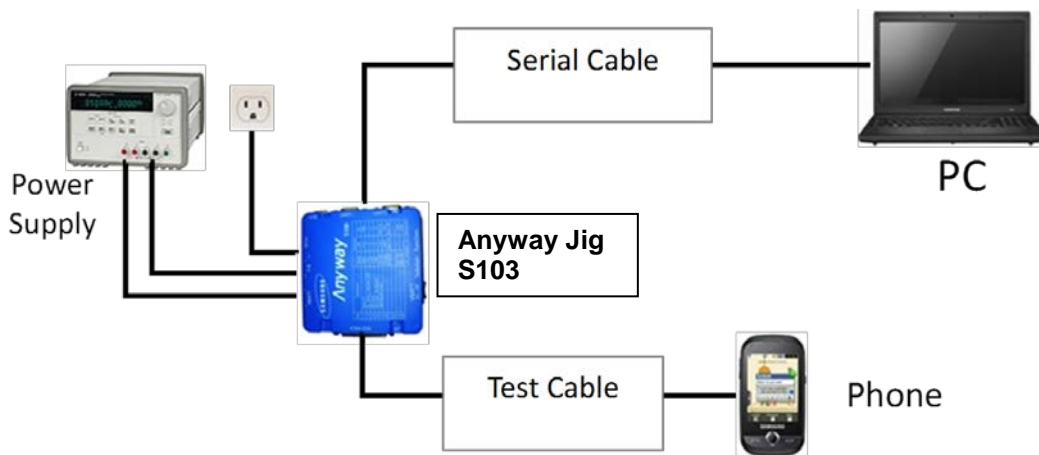
6. Level 1 Repair

6-2 IMEI writing

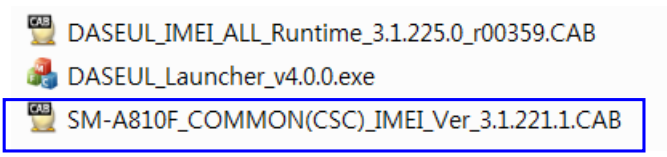
6-2-1 Preparation

- 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	DASEUL_SVC_Launcher_v3_0_25 or higher -Uploaded on HHPsvc Notice
③ Runtime File	1. DASEUL_IMEI_ALL_Runtime_3.1.136_r00183 .CAB or higher -Uploaded on HHPsvc Notice 2. Make 'ModelName' folder at the same position with launcher & Runtime file. 
④ Model File	Copy Model File under the 'Model Name' folder

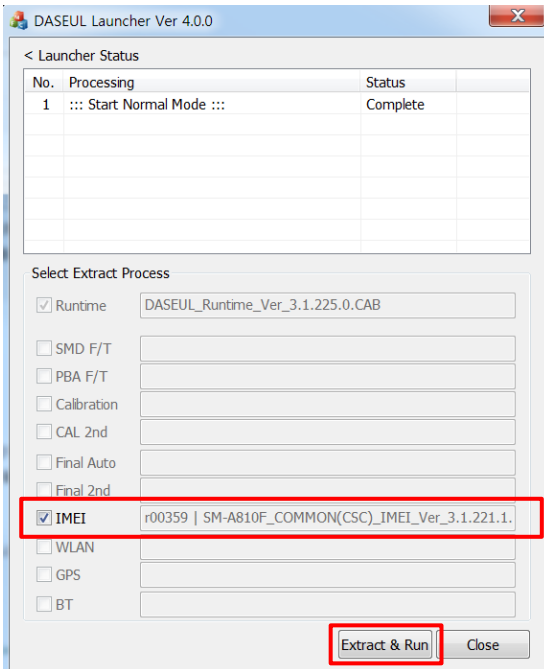
6. Level 1 Repair

6-2-2 IMEI writing Process

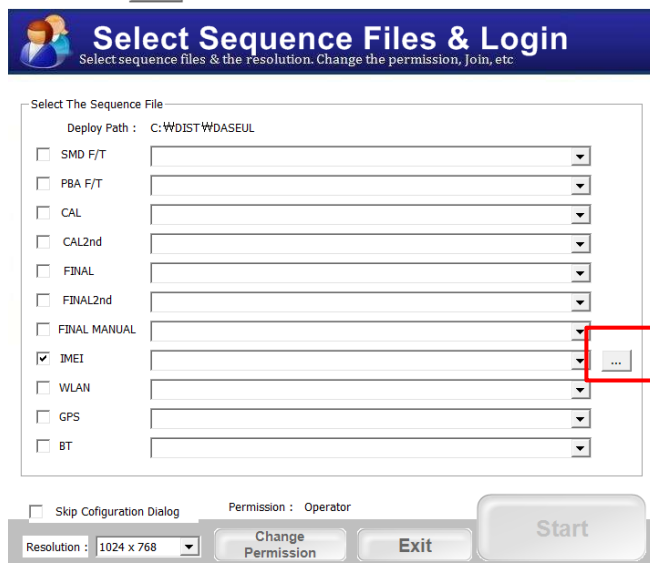
1. Run DASEUL_SVC_Launcher_v3_0_25

- DASEUL_IMEI_ALL_Runtime_3.1.225.0_r00359.CAB
- DASEUL_Launcher_v4.0.0.exe
- SM-A810F_COMMON(CSC)_IMEI_Ver_3.1.221.1.CAB

2. check IMEI and click 'Extract & Run'

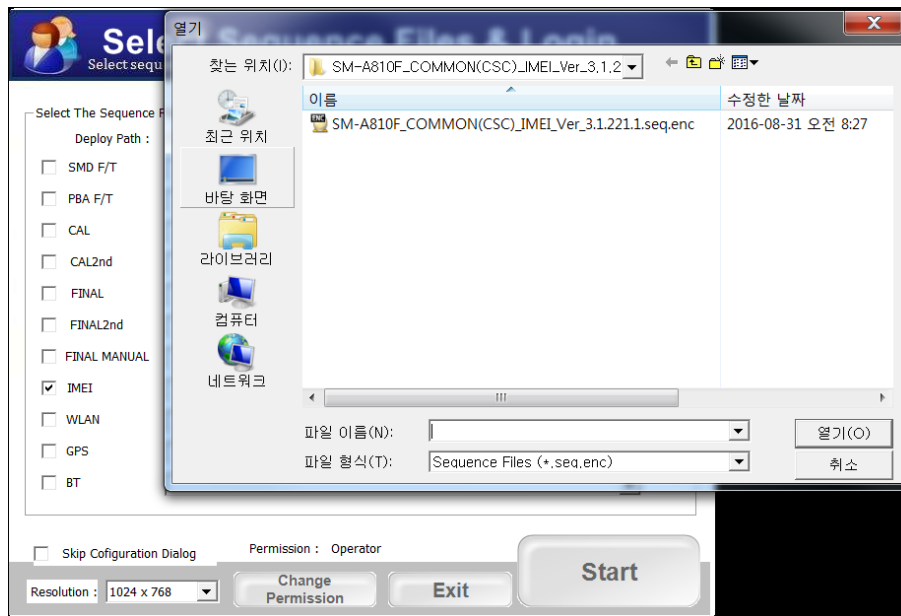


3. Click ...



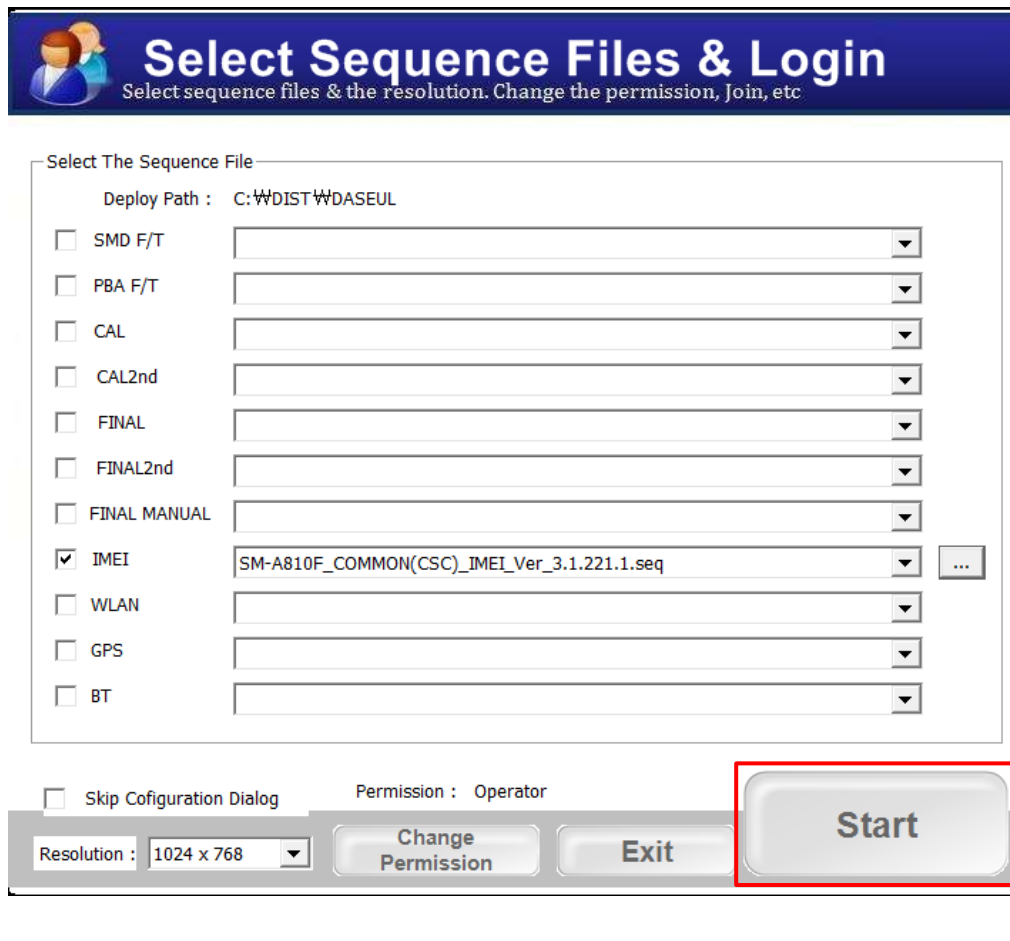
6. Level 1 Repair

4. Select folder where the Launcher exists



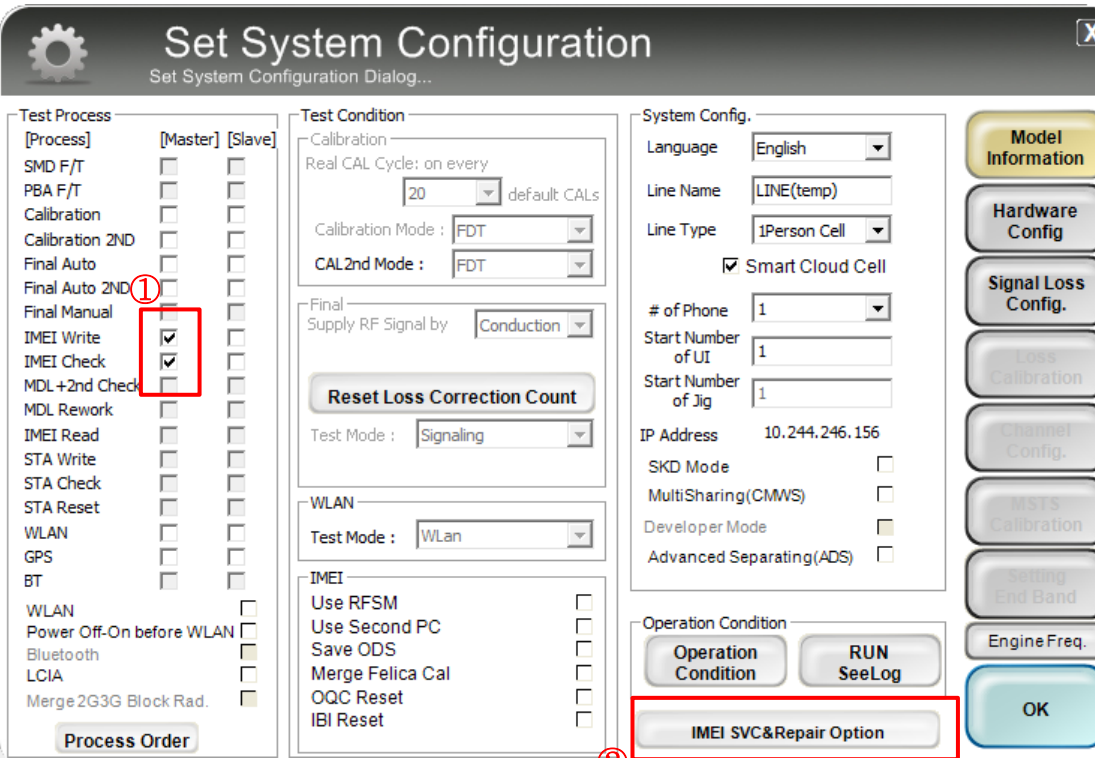
5. Check IMEI and click 'Start'

※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 checked="" 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

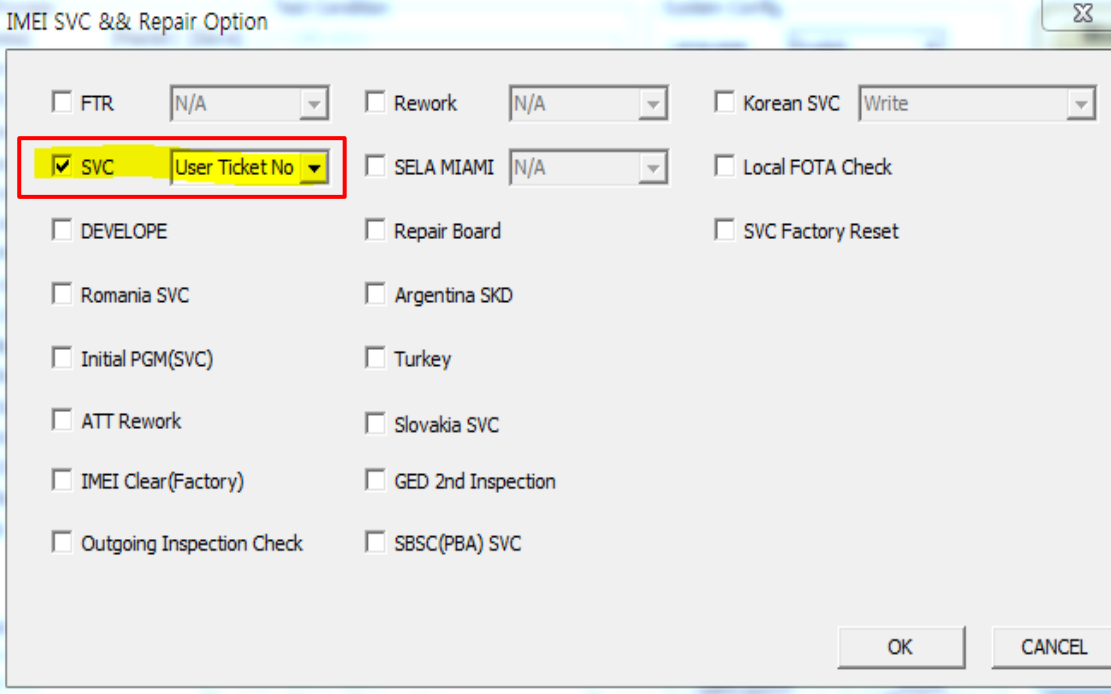
System Config.

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

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

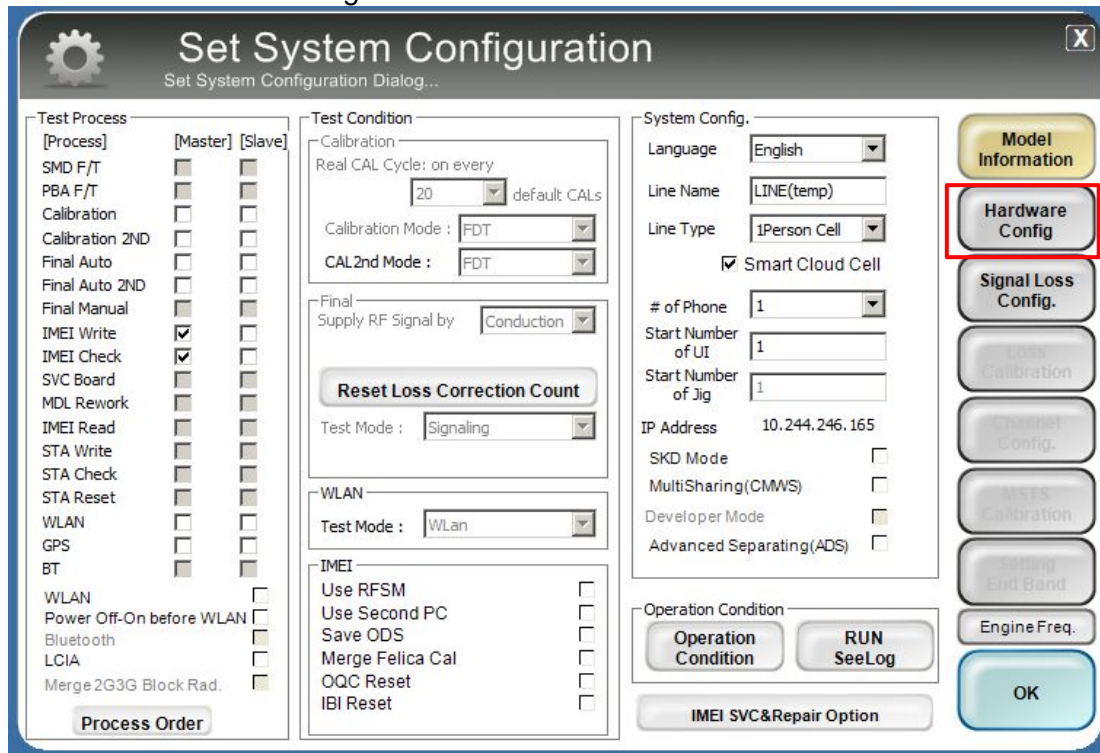


IMEI SVC && Repair Option

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

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"/>
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"/>
SVC Board	<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 : 10.244.246.165
SKD Mode
MultiSharing(CMWS)
Developer Mode
Advanced Separating(ADS)

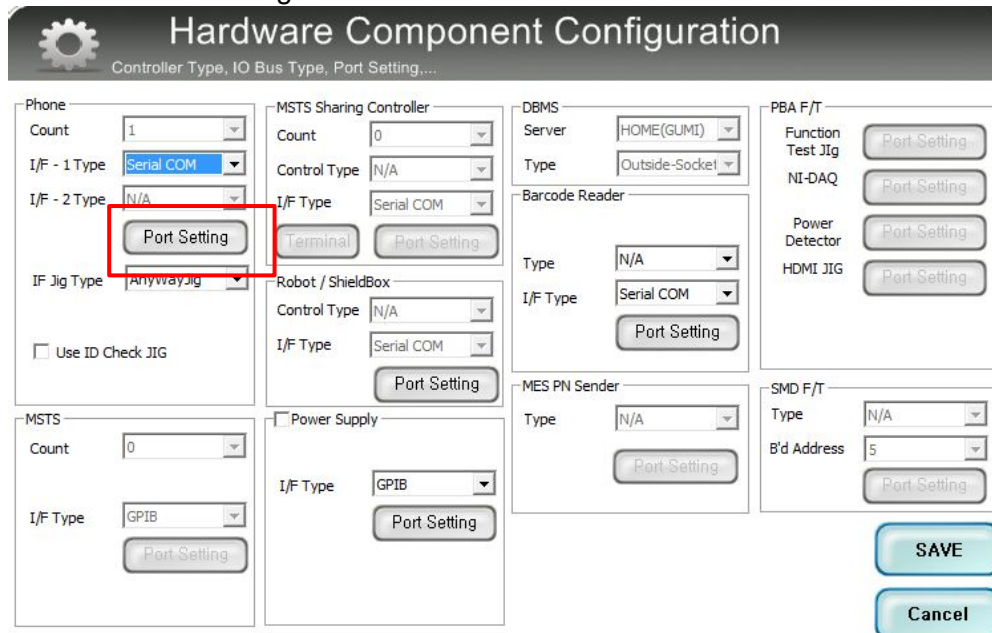
Operation Condition

Operation Condition

IMEI SVC&Repair Option

Model Information
Hardware Config
Signal Loss Config.
Loss Calibration
Channel Config.
MSTS Calibration
Setting End Band
Engine Freq.
OK

9. Click 'Port Setting'



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

Phone
Count : 1
I/F - 1 Type : Serial COM
I/F - 2 Type : N/A
IF Jig Type : AnywayJig
 Use ID Check JIG

MSTS Sharing Controller
Count : 0
Control Type : N/A
I/F Type : Serial COM
Terminal

Robot / ShieldBox
Control Type : N/A
I/F Type : Serial COM

DBMS
Server : HOME(GUMI)
Type : Outside-Socket
Barcode Reader
Type : N/A
I/F Type : Serial COM

MES PN Sender
Type : N/A

PBA F/T
Function Test Jig
NI-DAQ
Power Detector
HDMI JIG

MSTS
Count : 0
I/F Type : GPIB

Power Supply
 Power Supply
I/F Type : GPIB

SMD F/T
Type : N/A
B'd Address : 5

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

Model Information

Hardware Config

Signal Links Config

IMEI Config

IMEI Calibration

Setting End Band

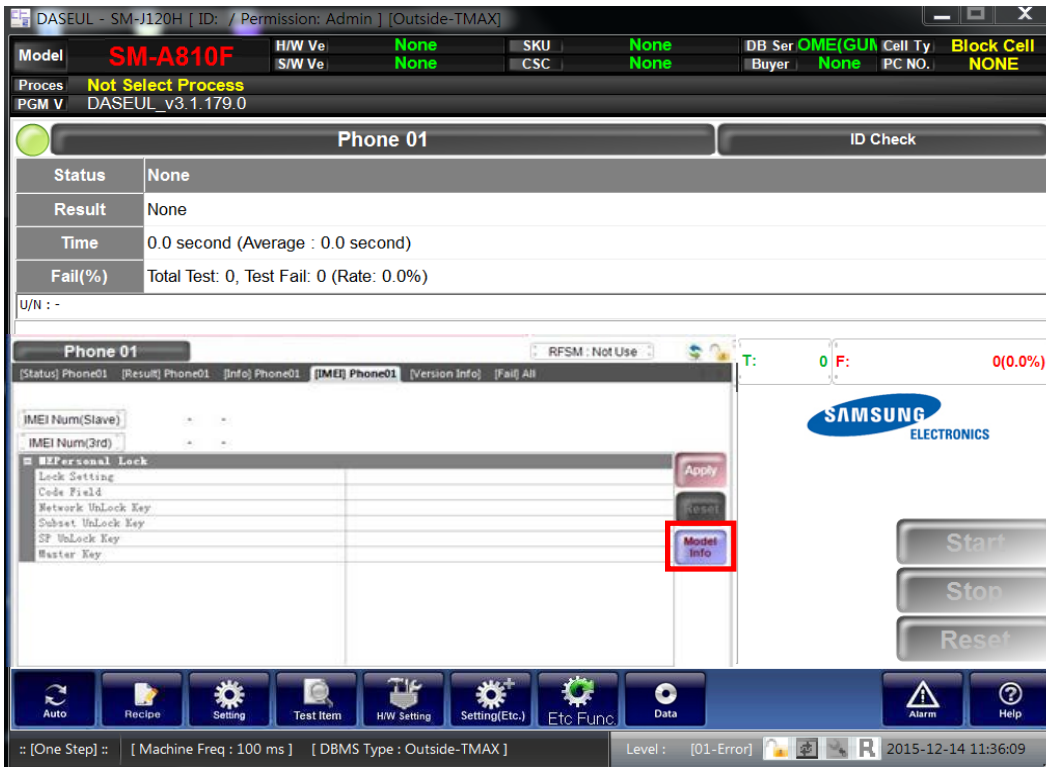
Operation Condition

Operation Condition

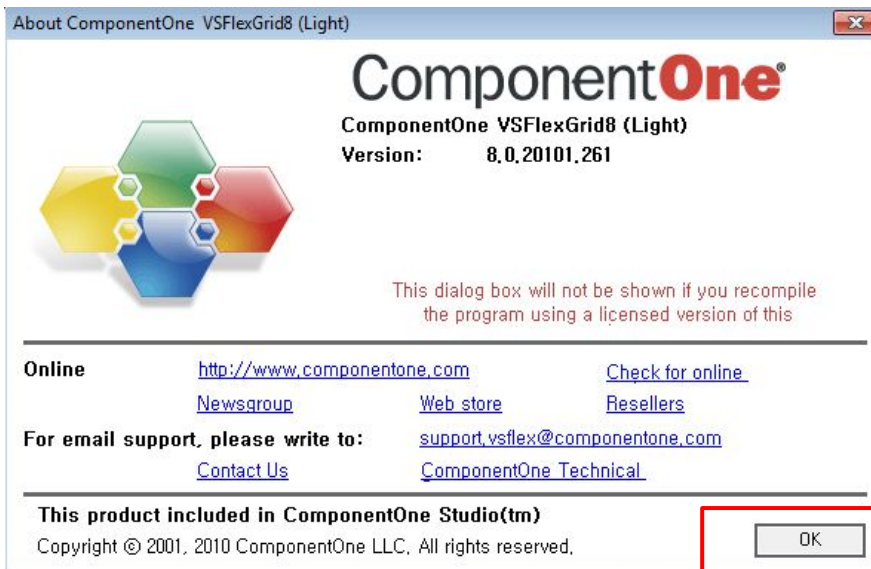
OK

6. Level 1 Repair

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



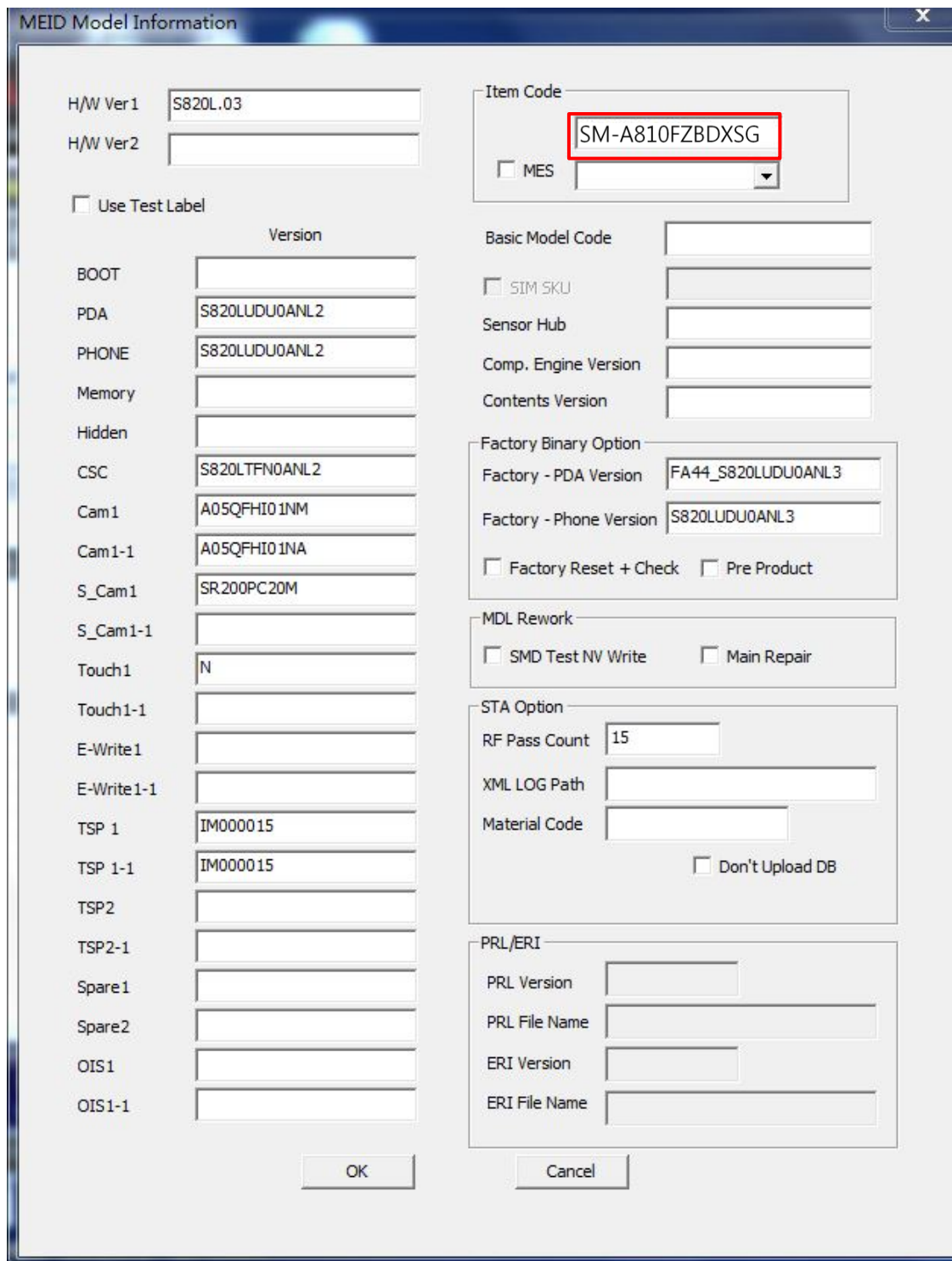
13. Click OK



6. Level 1 Repair

14. Input SKU_CODE, then click OK button.

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



MEID Model Information

H/W Ver1: S820L.03
H/W Ver2:

Use Test Label

	Version
BOOT	<input type="text"/>
PDA	S820LUDU0ANL2
PHONE	S820LUDU0ANL2
Memory	<input type="text"/>
Hidden	<input type="text"/>
CSC	S820LTFN0ANL2
Cam1	A05QFHI01NM
Cam1-1	A05QFHI01NA
S_Cam1	SR200PC20M
S_Cam1-1	<input type="text"/>
Touch1	N
Touch1-1	<input type="text"/>
E-Write1	<input type="text"/>
E-Write1-1	<input type="text"/>
TSP 1	IM000015
TSP 1-1	IM000015
TSP2	<input type="text"/>
TSP2-1	<input type="text"/>
Spare1	<input type="text"/>
Spare2	<input type="text"/>
OIS1	<input type="text"/>
OIS1-1	<input type="text"/>

Item Code: **SM-A810FZBDXSG**
 MES

Basic Model Code:

SIM SKU

Sensor Hub:

Comp. Engine Version:

Contents Version:

Factory Binary Option

Factory - PDA Version: FA44_S820LUDU0ANL3
Factory - Phone Version: S820LUDU0ANL3

Factory Reset + Check Pre Product

MDL Rework

SMD Test NV Write Main Repair

STA Option

RF Pass Count: 15
XML LOG Path:
Material Code:
 Don't Upload DB

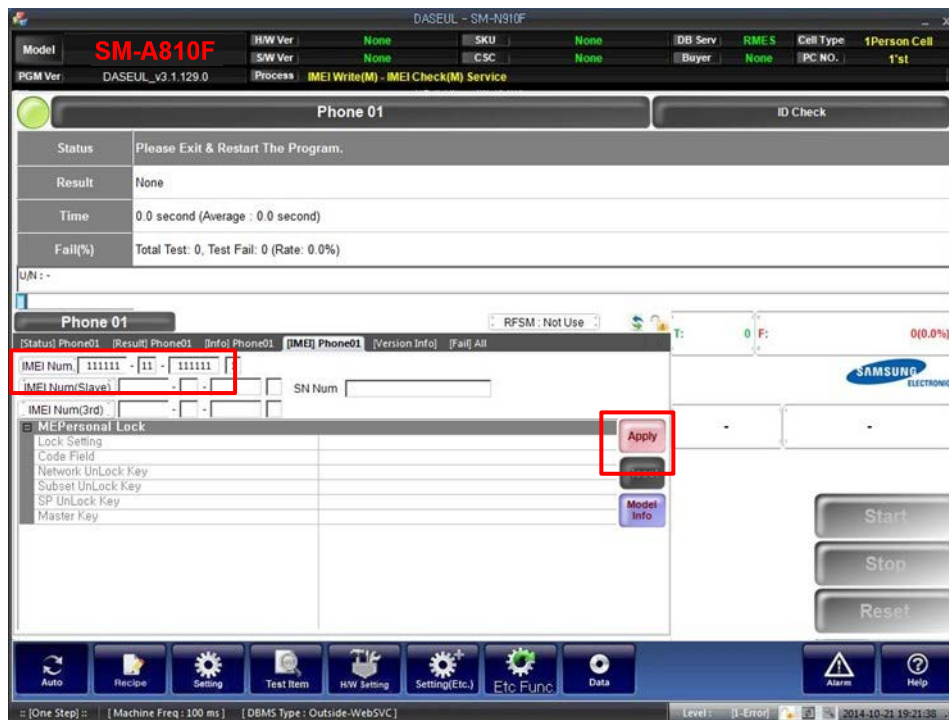
PRL/ERI

PRL Version:
PRL File Name:
ERI Version:
ERI File Name:

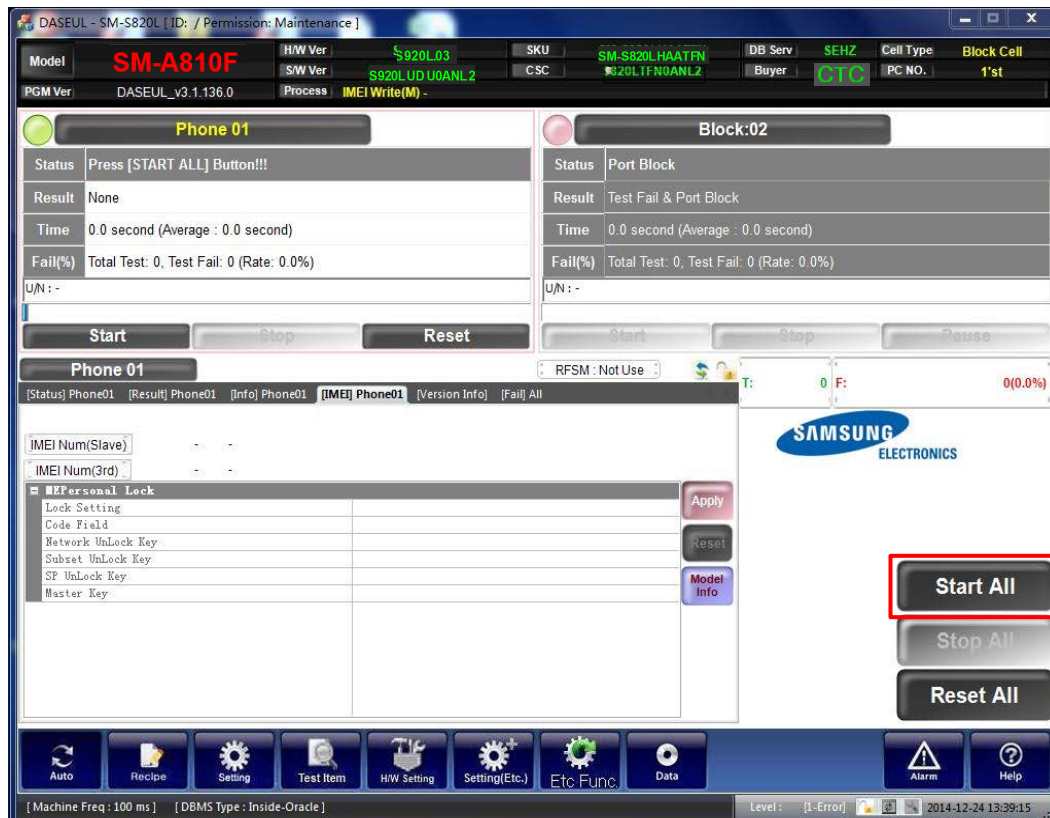
OK Cancel

6. Level 1 Repair

15. Input IMEI Number and click Apply



16. Click Start ALL



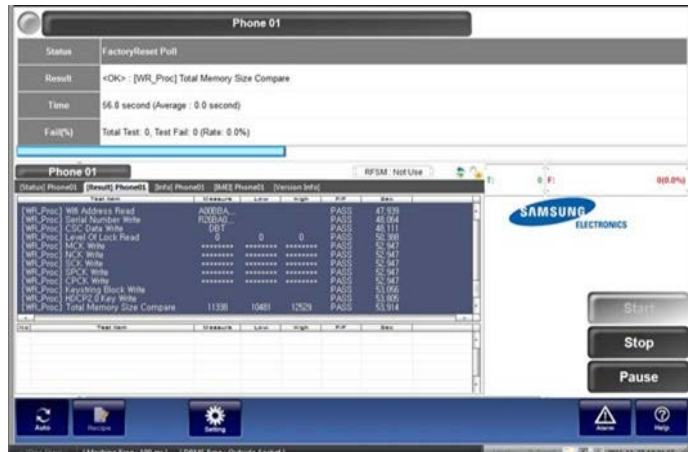
6. Level 1 Repair

17. Connect the phone to Anyway JIG

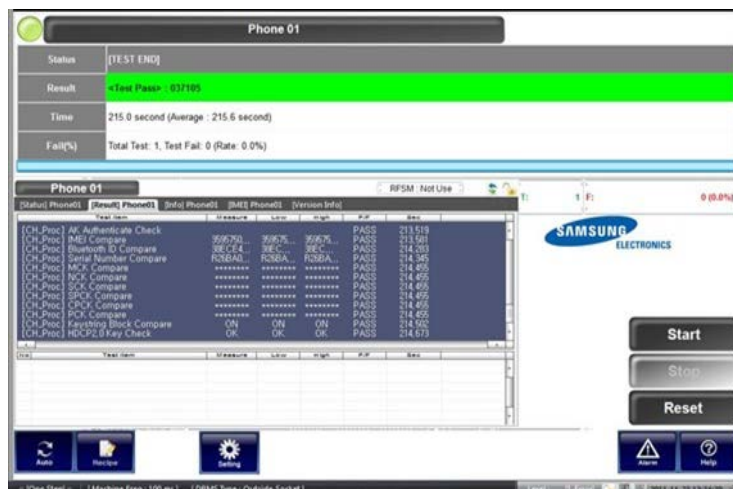
✧ When you connect the phone, the phone should be turned off.

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 ([SM-A520F_OPEN_CALIBRATION_Ver_3.1.221.0t3000.CAB](#))

※ It is required to use the latest program.

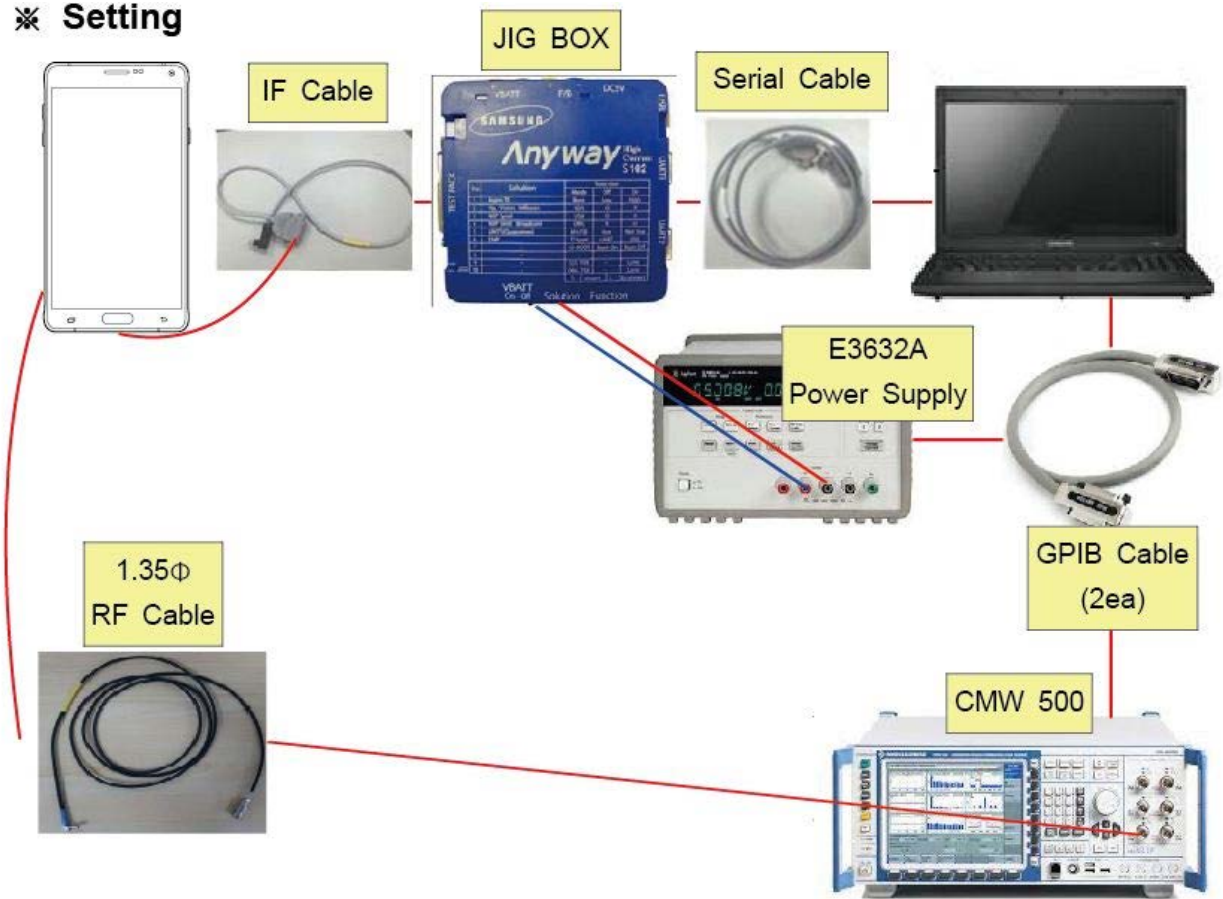
- [SM-A520F](#) Mobile Phone
- E3632A Power Supply
- JIG BOX (IMK code : 1122429700(GH81-12520B))
- Type-C IFCable (IMK code : 1128242500(GH81-11962W))
- UART Serial Cable
- 1.35Φ RF Cable (GH81-11962G 1ea)
- R&S CMW500
- GPIB Cable (2ea)
- Adapter (GH81-11888K)

- Table of test cables

IF Cable	GH81-10631A	GH81-11962W	GH81-11171A	
	11 pin	USB C Type	7 pin (Old)	
RF Cable (Manual)	GH81-11962D	GH81-11962G	GH81-11962C	GH81-11962F
	1.35T, Short SMAP 	1.35T, Long BNCP 	1.6T, Short SMAP 	1.6T, Long BNCP 
4 Port Divider	GH81-11962A	GH81-11962B	GH81-11962E	
	Use / No use 	Divider Cable 	50Ω terminator 	

6. Level 1 Repair




※ Setting



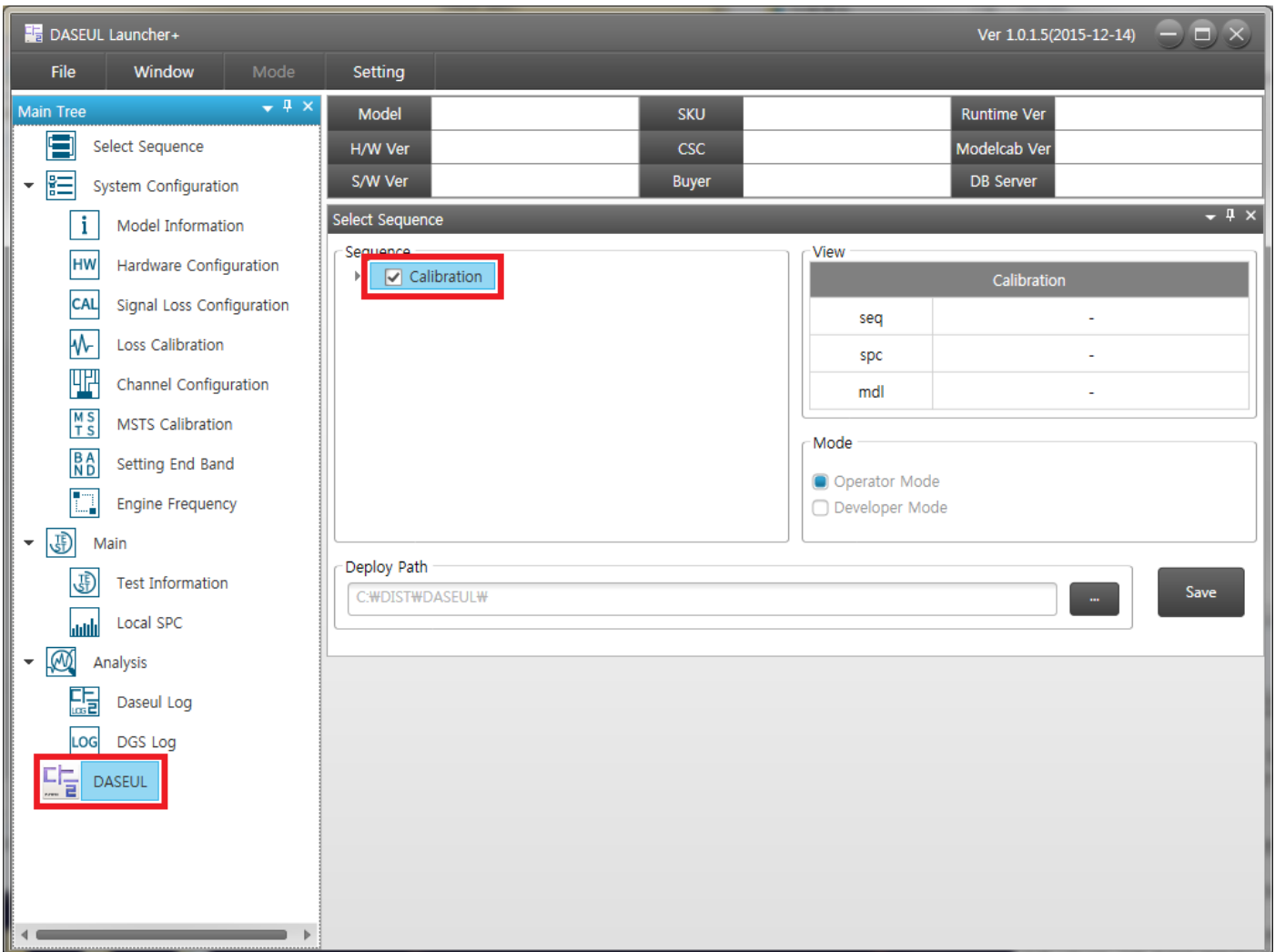
6. Level 1 Repair

6-3-2. RF Calibration Program

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

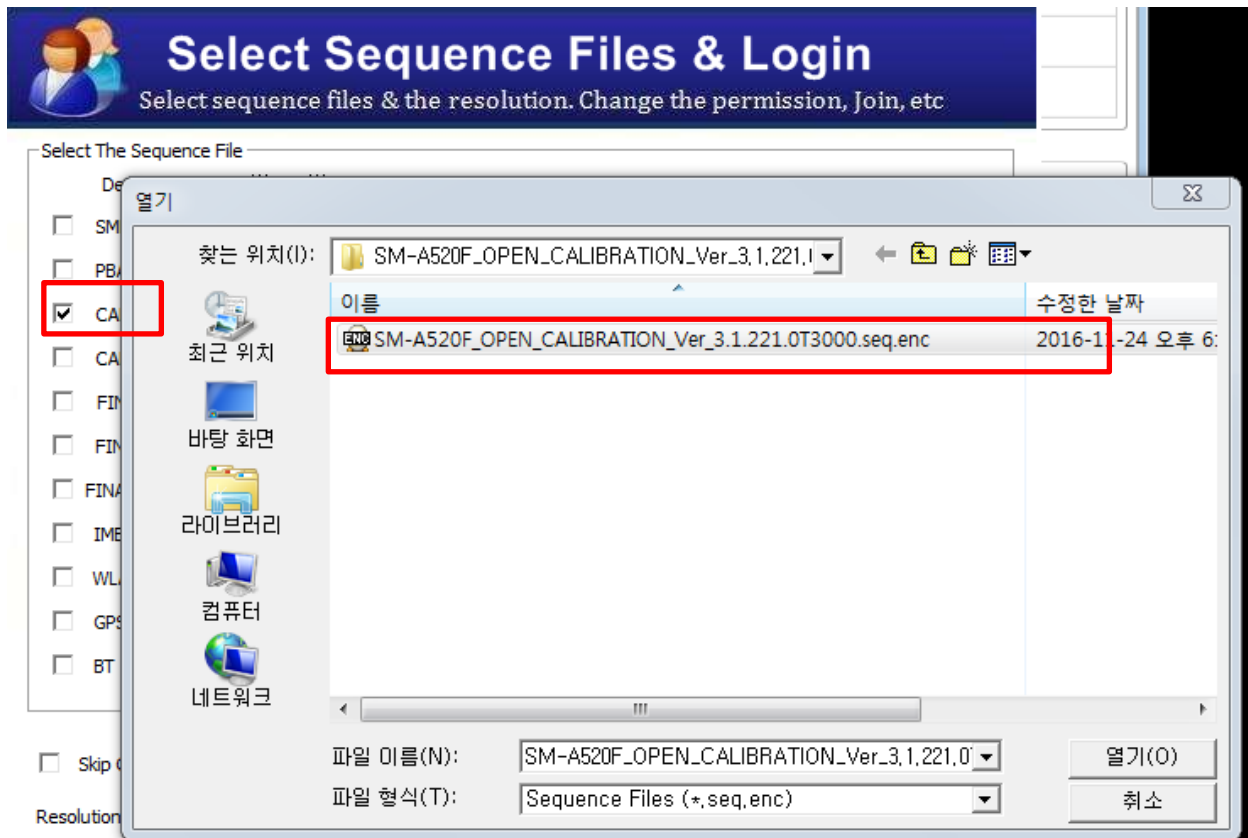
-  DASEUL_CAL_ALL_Component_r00414.CAB
-  DASEUL_Launcher_v4.0.0.exe
-  DASEUL_Runtime_Ver_3.1.222.0.CAB

2. Check the 'Calibration' option and Click 'DASEUL' Icon on your left side.



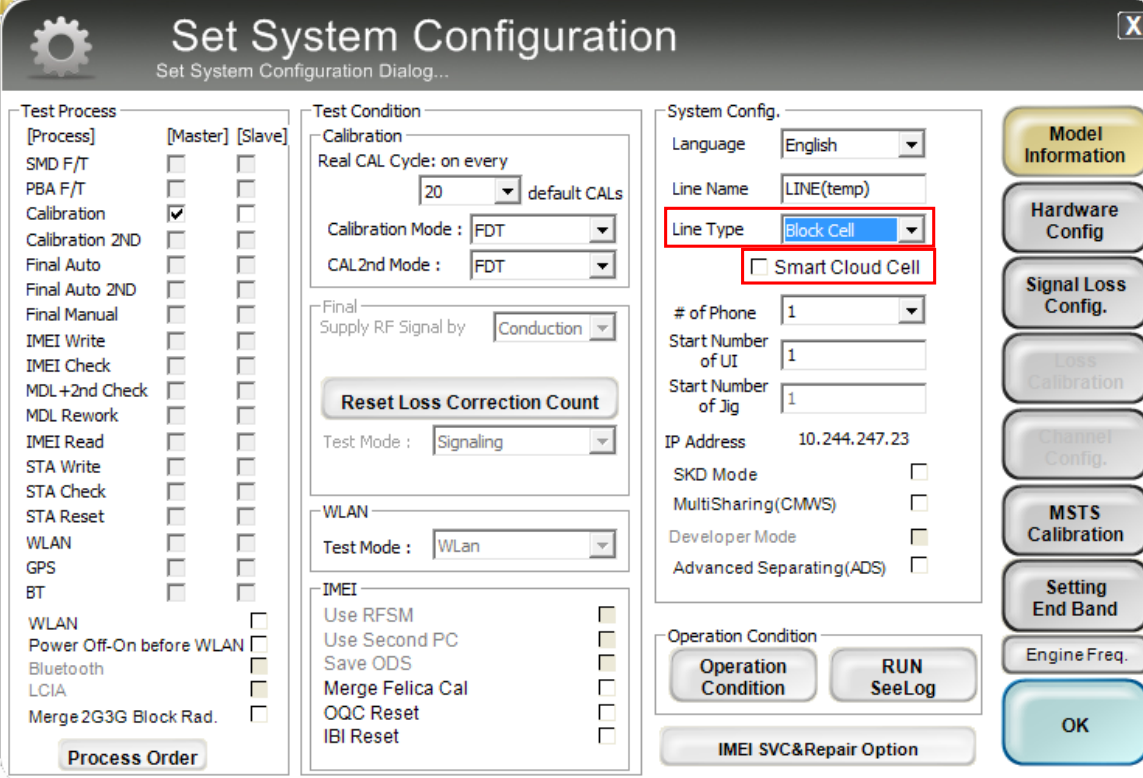
6. Level 1 Repair

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'.



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	<input type="checkbox"/>
Use Second PC	<input type="checkbox"/>
Save ODS	<input type="checkbox"/>
Merge Felica Cal	<input type="checkbox"/>
OQC Reset	<input type="checkbox"/>
IBI Reset	<input type="checkbox"/>

System Config.

Language :

Line Name :

Line Type :

Smart Cloud Cell

of Phone :

Start Number of UI :

Start Number of Jig :

IP Address : 10.244.247.23

SKD Mode

MultiSharing(CMWS)

Developer Mode

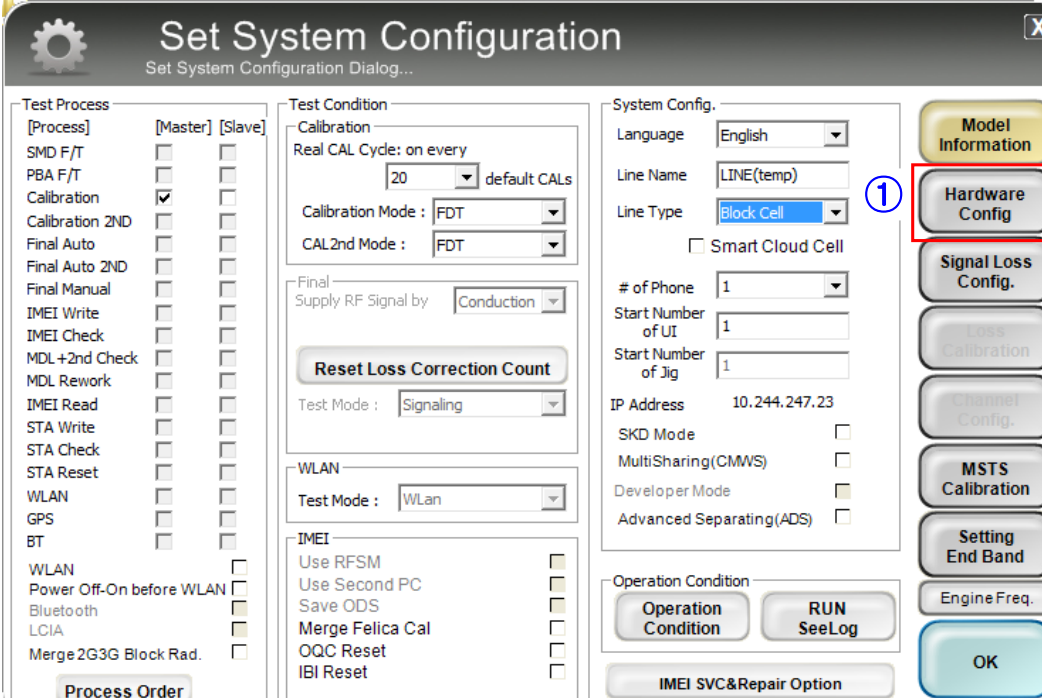
Advanced Separating(ADS)

Operation Condition

Model Information

6. Level 1 Repair

5. 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

System Config.

Language :

Line Name : ①

Line Type :

Smart Cloud Cell

of Phone :

Start Number of UI :

Start Number of Jig :

IP Address : 10.244.247.23

SKD Mode

MultiSharing(CMWS)

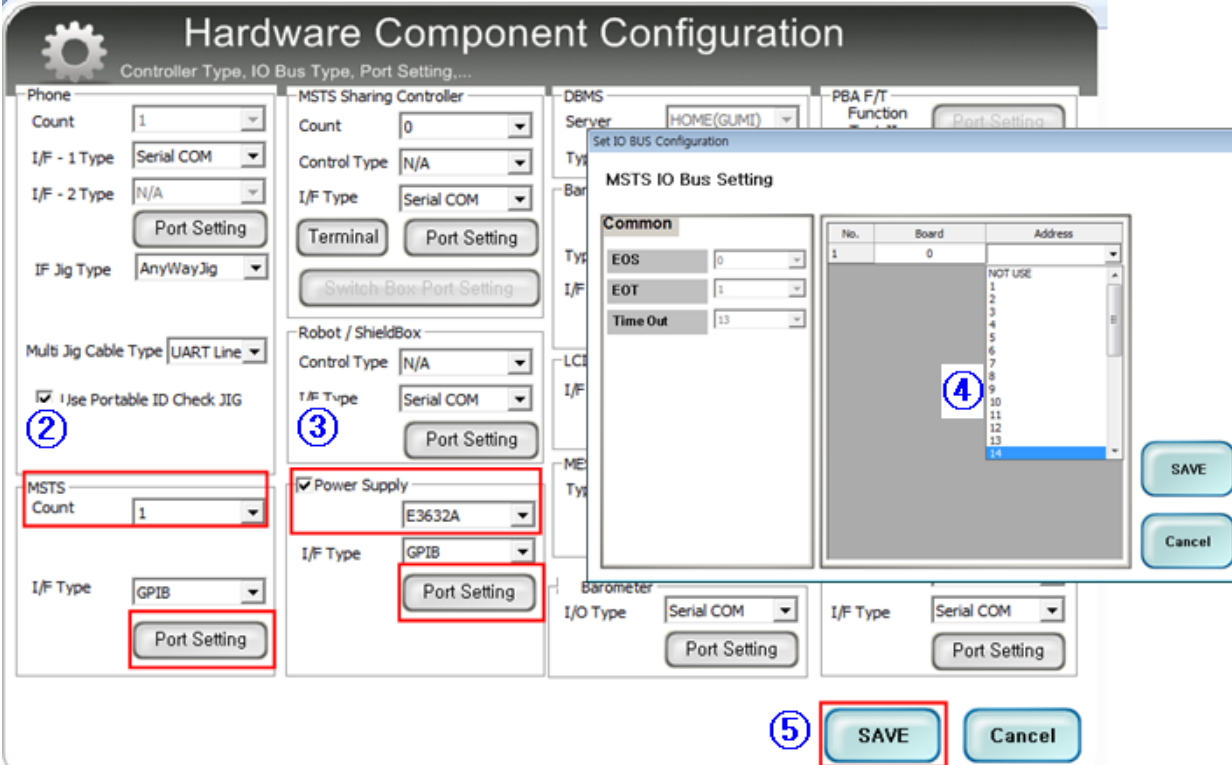
Developer Mode

Advanced Separating(ADS)

Operation Condition

Model Information

①



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

Phone

Count :

I/F - 1 Type :

I/F - 2 Type :

I/F Jig Type :

Multi Jig Cable Type :

Use Portable ID Check JIG ②

MSTS

Count : ②

I/F Type : ②

MSTS Sharing Controller

Count :

Control Type :

I/F Type :

Robot / ShieldBox

Control Type :

I/F Type : ③

Power Supply

③

I/F Type : ③

DBMS

Server :

PBA F/T

Function :

Set IO BUS Configuration

MSTS IO Bus Setting

Common

EOS :

EOT :

Time Out :

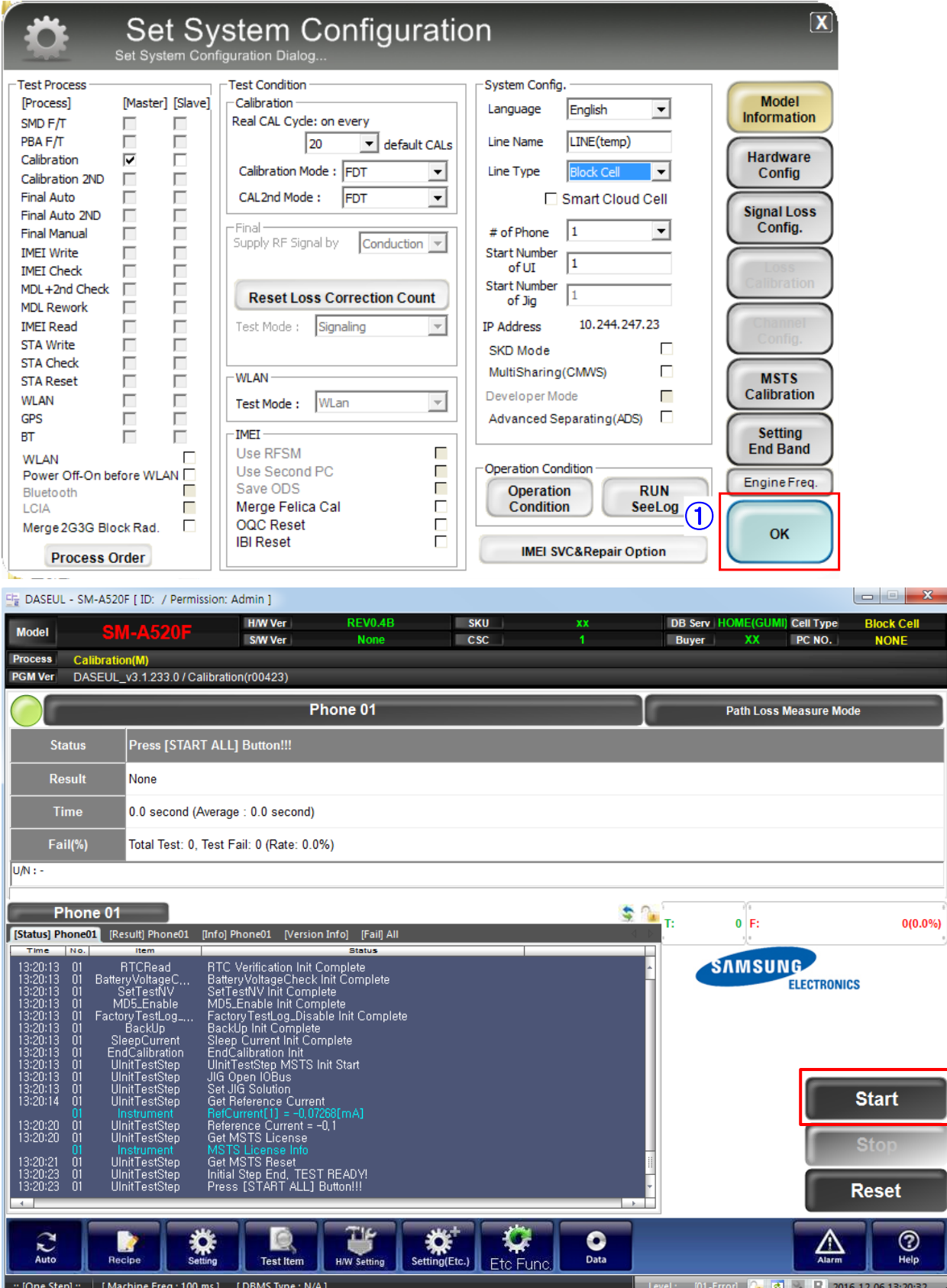
No.	Board	Address
1	0	NOT USE
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

④

⑤

6. Level 1 Repair

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



The image shows two screenshots from a Samsung service tool. The top screenshot is the 'Set System Configuration' dialog box. The 'Test Process' section has 'Calibration' checked. The 'Test Condition' section has 'Real CAL Cycle: on every 20', 'Calibration Mode: FDT', and 'CAL2nd Mode: FDT'. The 'System Config.' section has 'Language: English', 'Line Name: LINE(temp)', and 'Line Type: Block Cell'. The 'OK' button is highlighted with a red box and a circled '1'.

The bottom screenshot is the main test interface for 'Phone 01'. The 'Status' section shows '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%)'. The 'Start' button is highlighted with a red box.

Time	No.	Item	Status
13:20:13	01	RTCRead	RTC Verification Init Complete
13:20:13	01	BatteryVoltageC...	BatteryVoltageCheck Init Complete
13:20:13	01	SetTestNV	SetTestNV Init Complete
13:20:13	01	MD5_Enable	MD5_Enable Init Complete
13:20:13	01	FactoryTestLog....	FactoryTestLog_Disable Init Complete
13:20:13	01	BackUp	BackUp Init Complete
13:20:13	01	SleepCurrent	Sleep Current Init Complete
13:20:13	01	EndCalibration	EndCalibration Init
13:20:13	01	UlnitTestStep	UlnitTestStep MSTs Init Start
13:20:13	01	UlnitTestStep	JIG Open IOBus
13:20:13	01	UlnitTestStep	Set JIG Solution
13:20:14	01	UlnitTestStep	Get Reference Current
13:20:20	01	Instrument	RetCurrent[1] = -0.07268[mA]
13:20:20	01	UlnitTestStep	Reference Current = -0.1
13:20:20	01	Instrument	Get MSTs License
13:20:21	01	UlnitTestStep	MSTs License Info
13:20:21	01	UlnitTestStep	Get MSTs Reset
13:20:23	01	UlnitTestStep	Initial Step End. TEST READY!
13:20:23	01	UlnitTestStep	Press [START ALL] Button!!!