
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 antistatic glove and strape.)
- Do not touch metallic parts or circuits with your bare hands as device(parts, circuits, etc) may be corroded.
- 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

2-1-1. GSM General Specification [SM-A013F]

| Item | | GSM 850 | EGSM 900 | DCS1800 |
|-----------------------------------|---------------|------------------------|------------------------|------------------------|
| Freq. Band[MHz] | | 824~849 | 880~915 | 1710~1785 |
| Uplink/Downlink | | 869~894 | 925~960 | 1805~1880 |
| ARFCN range | | 128~251 | 0~124 & 975~1023 | 512~885 |
| Tx/Rx spacing | | 45MHz | 45MHz | 95MHz |
| Mod. Bit rate/ Bit Period | | 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 |
| Modulation | GSM/ EGPRS | GMSK/ 8PSK | GMSK/ 8PSK | GMSK/ 8PSK |
| MS Power | | 33dBm~5dBm | 33dBm~5dBm | 30dBm~0dBm |
| Power Class | | 4(GMSK) E2(8PSK) | 4(GMSK) E2(8PSK) | 1(GMSK) E2(8PSK) |
| Sensitivity | | -102dBm | -102dBm | -100dBm |
| TDMA Mux | | 8 | 8 | 8 |

2. Specification

2-1-2. GSM General Specification [SM-A013M]

| Item | | GSM 850 | EGSM 900 | DCS1800 | PCS1900 |
|-----------------------------------|---------------|------------------------|------------------------|------------------------|------------------------|
| Freq. Band[MHz] | | 824~849 | 880~915 | 1710~1785 | 1850~1910 |
| Uplink/Downlink | | 869~894 | 925~960 | 1805~1880 | 1930~1990 |
| ARFCN range | | 128~251 | 0~124 & 975~1023 | 512~885 | 512~810 |
| Tx/Rx spacing | | 45MHz | 45MHz | 95MHz | 80MHz |
| Mod. Bit rate/ Bit Period | | 270.833kbps 3.692us | 270.833kbps 3.692us | 270.833kbps 3.692us | 270.833kbps 3.692us |
| Time Slot Period/ Frame Period | | 576.9us 4.615ms | 576.9us 4.615ms | 576.9us 4.615ms | 576.9us 4.615ms |
| Modulation | GSM/ EGPRS | GMSK/ 8PSK | GMSK/ 8PSK | GMSK/ 8PSK | GMSK/ 8PSK |
| MS Power | | 33dBm~5dBm | 33dBm~5dBm | 30dBm~0dBm | 30dBm~0dBm |
| Power Class | | 4(GMSK) E2(8PSK) | 4(GMSK) E2(8PSK) | 1(GMSK) E2(8PSK) | 1(GMSK) E2(8PSK) |
| Sensitivity | | -102dBm | -102dBm | -100dBm | -100dBm |
| TDMA Mux | | 8 | 8 | 8 | 8 |

2. Specification

2-1-3. GSM General Specification [SM-A013G]

| Item | | GSM 850 | EGSM 900 | PCS1900 |
|-----------------------------------|---------------|------------------------|------------------------|------------------------|
| Freq. Band[MHz] | | 824~849 | 880~915 | 1850~1910 |
| Uplink/Downlink | | 869~894 | 925~960 | 1930~1990 |
| ARFCN range | | 128~251 | 0~124 & 975~1023 | 512~810 |
| Tx/Rx spacing | | 45MHz | 45MHz | 80MHz |
| Mod. Bit rate/ Bit Period | | 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 |
| Modulation | GSM/ EGPRS | GMSK/ 8PSK | GMSK/ 8PSK | GMSK/ 8PSK |
| MS Power | | 33dBm~5dBm | 33dBm~5dBm | 30dBm~0dBm |
| Power Class | | 4(GMSK) E2(8PSK) | 4(GMSK) E2(8PSK) | 1(GMSK) E2(8PSK) |
| Sensitivity | | -102dBm | -102dBm | -100dBm |
| TDMA Mux | | 8 | 8 | 8 |

2. Specification

2-2. GSM Tx Power Class

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

2. Specification

2-3-1. WCDMA General Specification [SM-A013F/G]

| Item | WCDMA2100(B1) | WCDMA850(B5) | WCDMA900(B8) |
|------------------------------------|--|--|--|
| Freq. Band[MHz] Uplink/Downlink | 1920~1980 2110~2170 | 824~849 869~894 | 880~915 925~960 |
| ARFCN range | UL: 9612~9888 DL: 10562~10838 | UL: 4132~4233 DL: 4357~4458 | UL: 2712~2868 DL: 2937~3088 |
| Tx/Rx spacing | 190MHz | 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) |
| 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 |
| Modulation | QPSK 16QAM 64QAM | QPSK 16QAM 64QAM | QPSK 16QAM 64QAM |
| MS Power (dBm) | 25.7 ~ -49(↓) | 25.7 ~ -49(↓) | 25.7 ~ -49(↓) |
| Power Class | 3(max+24dBm) | 3(max+24dBm) | 3(max+24dBm) |
| Sensitivity | -106dBm | -104dBm | -103dBm |

2. Specification

2-3-2. WCDMA General Specification [SM-A013M]

| Item | 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

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

[SM-A013F]

| Item | LTE Band20 | LTE Band38 | LTE Band40 | LTE Band41 |
|---------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Freq. Band[MHz] Uplink/Downlink | 832~862 791~821 | 2570~2620 | 2300~2400 | 2496~2690 |
| ARFCN range | UL:24150~24449 DL:6150~6449 | UL/DL:37750 ~ 38249 | UL/DL:38650 ~ 39649 | UL/DL:39650 ~ 41589 |
| Tx/Rx spacing (MHz) | -41 | 0 | 0 | 0 |
| Channel Bandwidth (MHz) | 5/10/15/20 | 5/10/15/20 | 5/10/15/20 | 5/10/15/20 |
| Modulation | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) |
| MS Power (dBm) | 25.7~-39(↓) | 25.7~-39(↓) | 25.7~-39(↓) | 25.7~-39(↓) |
| Sensitivity (QPSK, BW 10MHz) (dBm) | -93.3 | -96.3 | -96.3 | -94.3 |

2. Specification

[SM-A013M]

| Item | LTE Band2 | LTE Band4 | LTE Band28 | LTE Band66 |
|---------------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------------------|
| Freq. Band[MHz] Uplink/Downlink | 1850~1910 1930~1990 | 1710~1755 2110~2155 | 703~748 758~803 | 1710~1780 2110~2200 |
| ARFCN range | UL:18600~19199 DL:600~1199 | UL:19950~20399 DL:1950~2399 | UL:27210~27659 DL:9210~9659 | UL:131972~132671 DL:66436~67335 |
| Tx/Rx spacing (MHz) | 80 | 400 | 55 | 400 |
| Channel Bandwidth (MHz) | 1.4/3/5/10/15/20 | 1.4/3/5/10/15/20 | 3/5/10/15/20 | 1.4/3/5/10/15/20 |
| Modulation | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) |
| MS Power (dBm) | 25.7~-39(↓) | 25.7~-39(↓) | 25.7~-39(↓) | 25.7~-39(↓) |
| Sensitivity (QPSK, BW 10MHz) (dBm) | -94.3 | -96.3 | -94.8 | -95.8 |

[SM-A013G]

| Item | LTE Band20 | LTE Band28 | LTE Band38 | LTE Band40 | LTE Band41 |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Freq. Band[MHz] Uplink/Downlink | 832~862 791~821 | 703~748 758~803 | 2570~2620 | 2300~2400 | 2496~2690 |
| ARFCN range | UL:24150~24449 DL:6150~6449 | UL:27210~27659 DL:9210~9659 | UL/DL:37750 ~ 38249 | UL/DL:38650 ~ 39649 | UL/DL:39650 ~ 41589 |
| Tx/Rx spacing (MHz) | -41 | 55 | 0 | 0 | 0 |
| Channel Bandwidth (MHz) | 5/10/15/20 | 3/5/10/15/20 | 5/10/15/20 | 5/10/15/20 | 5/10/15/20 |
| Modulation | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) | QPSK,16/64QAM 256QAM(DL only) |
| MS Power (dBm) | 25.7~-39(↓) | 25.7~-39(↓) | 25.7~-39(↓) | 25.7~-39(↓) | 25.7~-39(↓) |
| Sensitivity (QPSK, BW 10MHz) (dBm)) | -93.3 | -94.8 | -96.3 | -96.3 | -94.3 |

3. Product Function

Specification

| Item | Description |
|----------------------------|--|
| OS | Android GO V10.0 |
| SM-A013F Network | 2G - GSM : GSM850 / GSM900 / DCS1800 3G - WCDMA : B1 / B5 / B8 4G LTE - FDD : B1 / B3 / B5 / B7 / B8 / B20 - TDD : B38 / B40 / B41 |
| SM-A013M Network | 2G - GSM : GSM850 / GSM900 / DCS1800 / PCS1900 3G - WCDMA : B1 / B2 / B4 / B5 / B8 4G LTE - FDD : B1 / B2 / B3 / B4 / B5 / B7 / B8 / B28 / B66 |
| SM-A013G Network | 2G - GSM : GSM850 / GSM900 / DCS1800 3G - WCDMA : B1 / B5 / B8 4G LTE - FDD : B1 / B3 / B5 / B7 / B8 / B20 / B28 - TDD : B38 / B40 / B41 |
| Battery | 3,000mAh |
| Processor | MT6739WW, 1.5GHz |
| Connectivity | GPS, Glonass, BT V5.0, USB 2.0,WiFi 802.11 b/g/n (2.4GHz) |
| Camera | Rear : 8.0MP, A/F, F2.2 Front : 5.0MP, F2.4 |
| Display | 5.3" HD, 1480 x 720, PLS TFT LCD |
| RAM | 1GB |
| ROM | 16GB |
| Sensor | Accelerometer, Virtual Proximity Sensing |

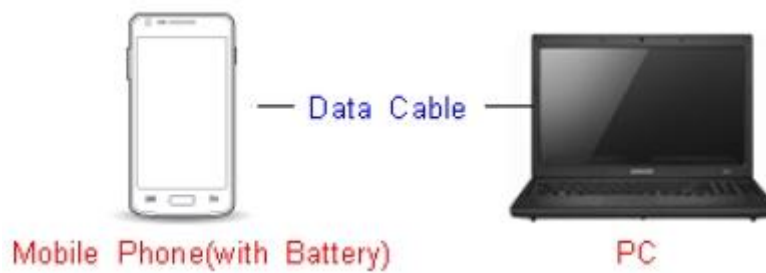
6. Level 1 Repair

6-1. S/W Update

6-1-1. Preparation

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

※ Settings



Data Cable : [GH39-02042B](#)

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

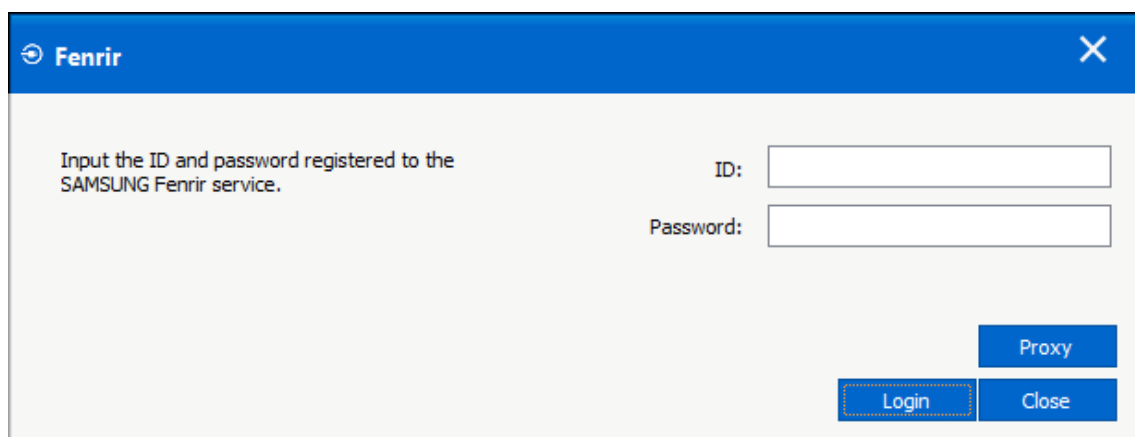
- SVH (Fenrir_Home) : It uses Home binary which does not have user data area in the memory when flashed to a device. (Keep user data)

- 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)

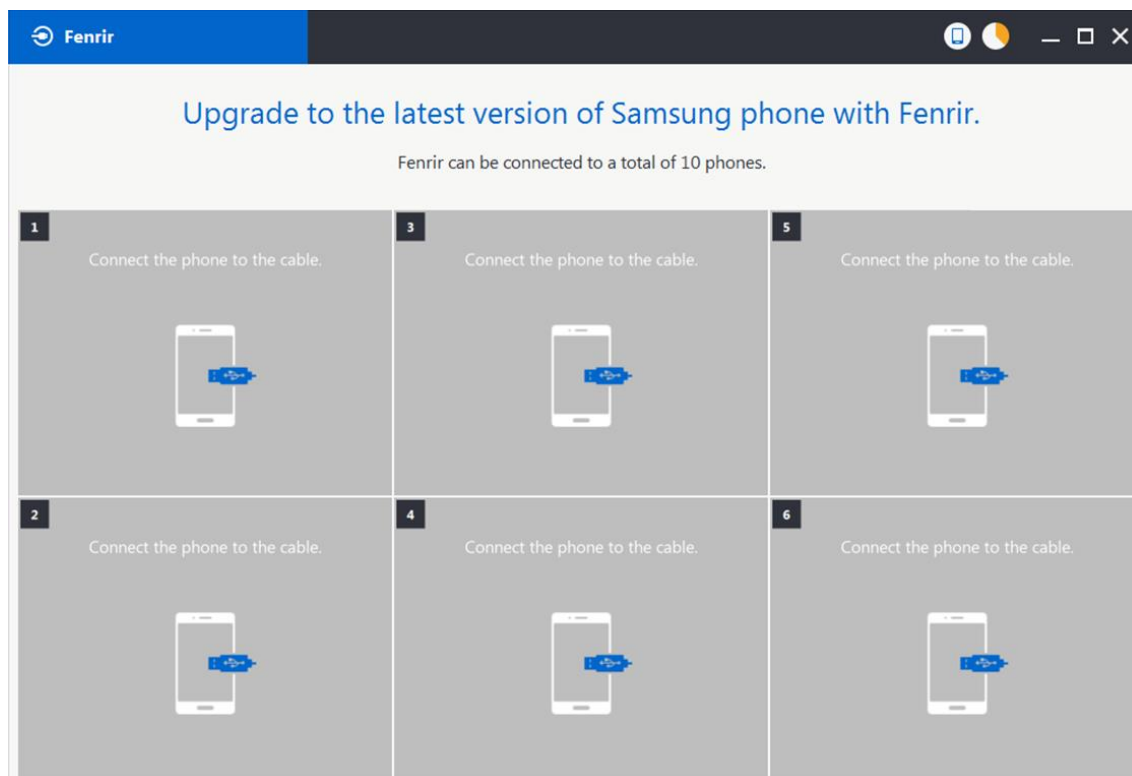
2) Input ID & password

※ 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 border.

6. Level 1 Repair

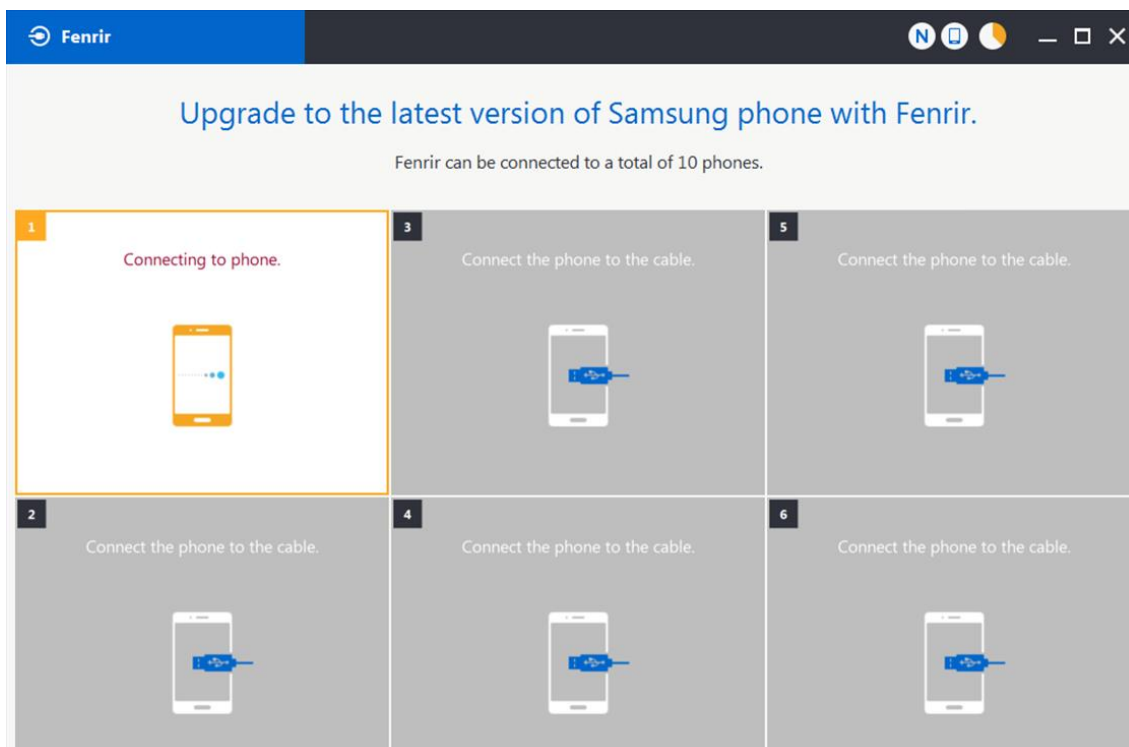
3) Ensure device has sufficient charge (at least 20%) to start firmware update.



4) Connect the device to PC via data cable.

6. Level 1 Repair

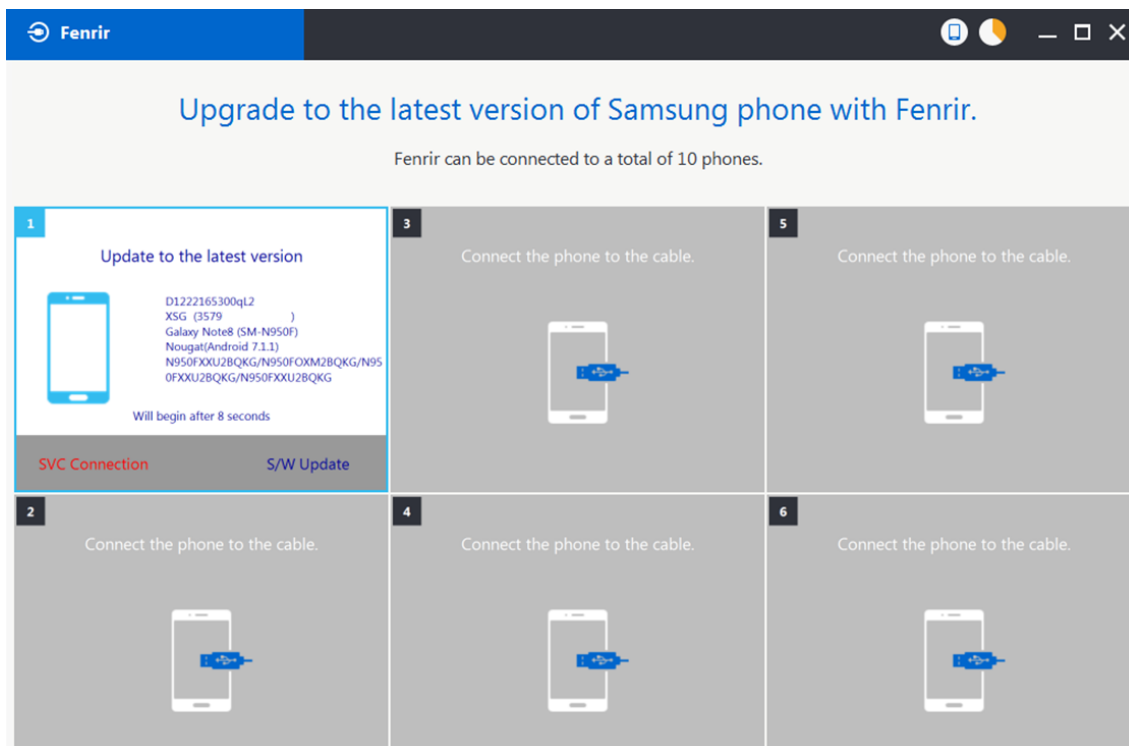
5) Upon USB connection, you will be presented with below screen.



6) Once device is detected, you will be presented with below screen.

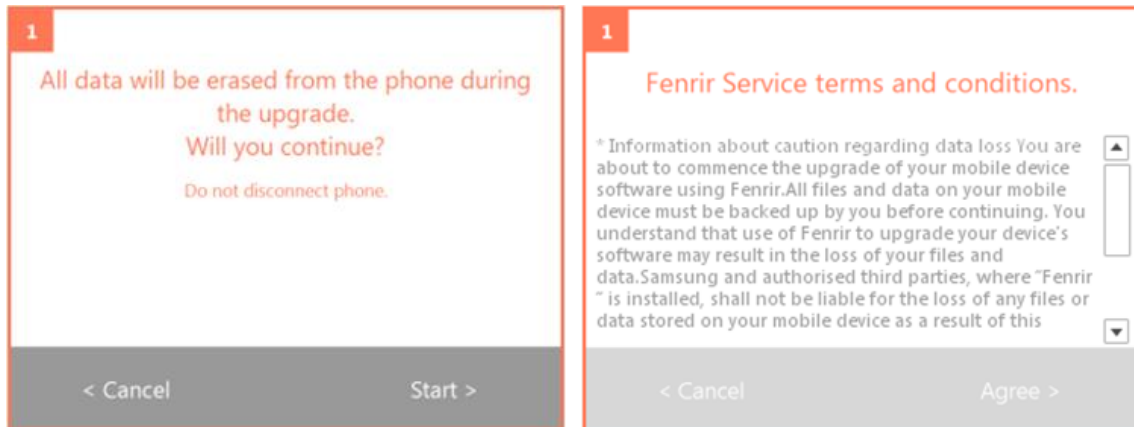
To update S/W, select "S/W Update" or to exit select "SVC Connection".

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)

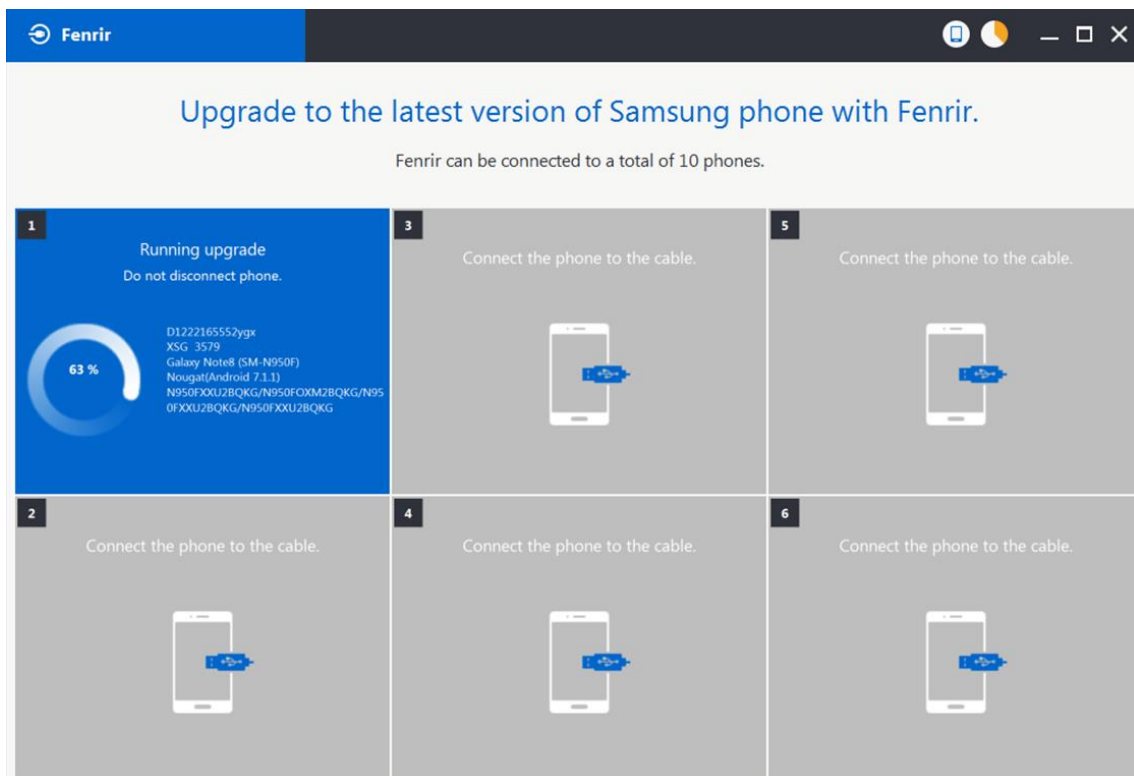


6. Level 1 Repair

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

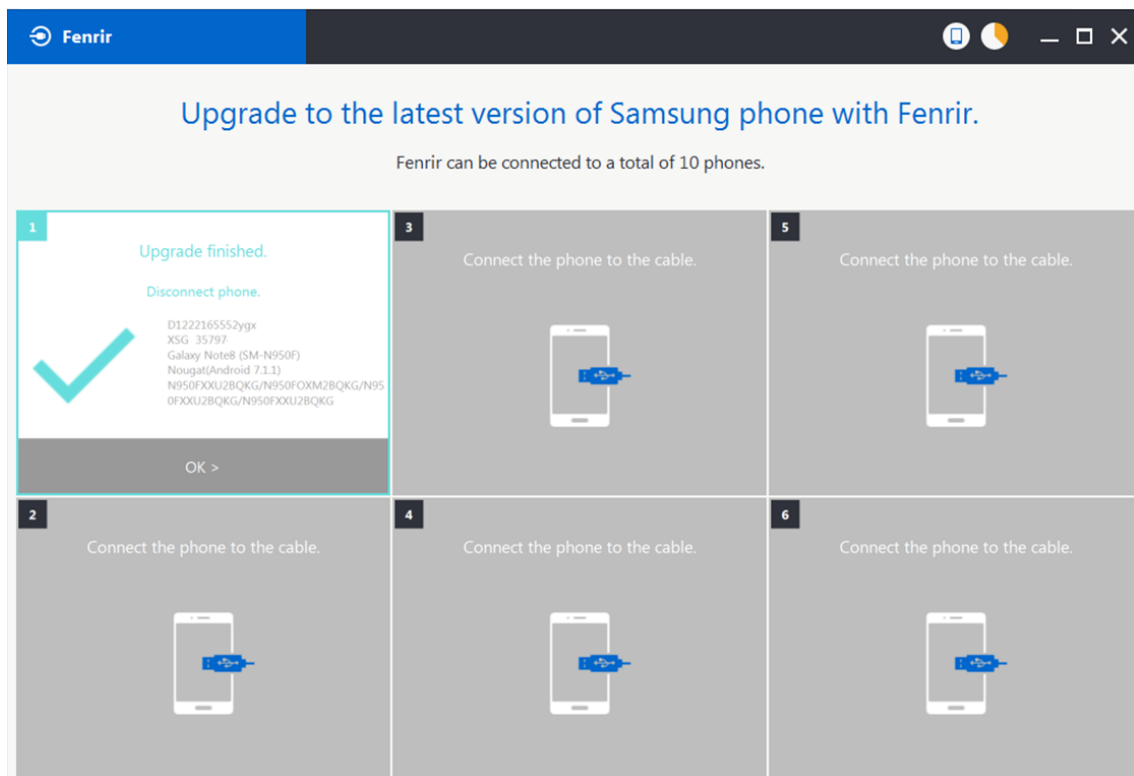


8) The status circle increases as the update installs.
The update process takes approximately 5-10 minutes to complete.
Do not disconnect the device from USB during processing.



6. Level 1 Repair

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 v3.12.10.exe**
- Mobile Phone
- Data Cable
- S/W Binary files (downloaded from GSPN)

※ Settings

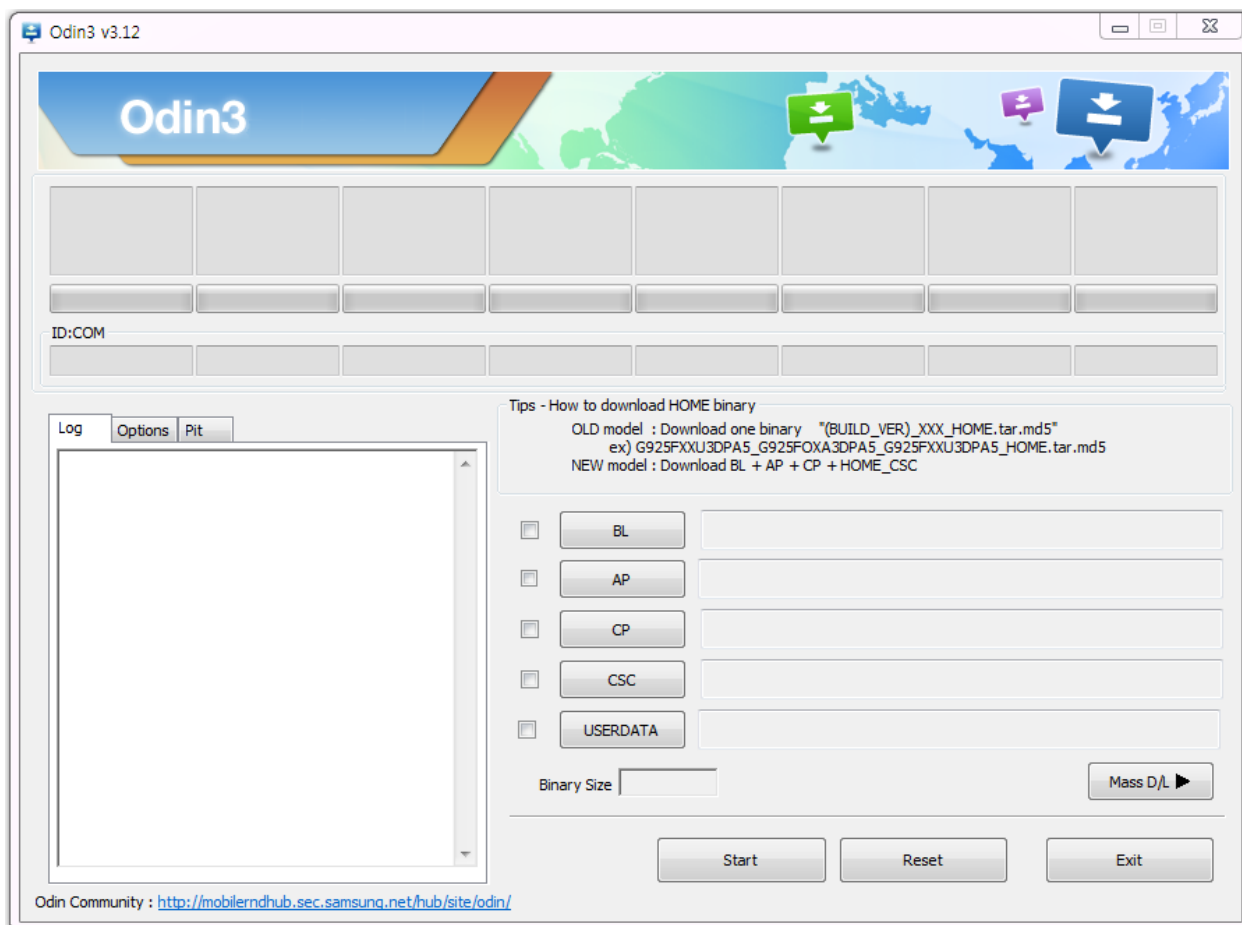


Data Cable : GH39-02042B

6. Level 1 Repair

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

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

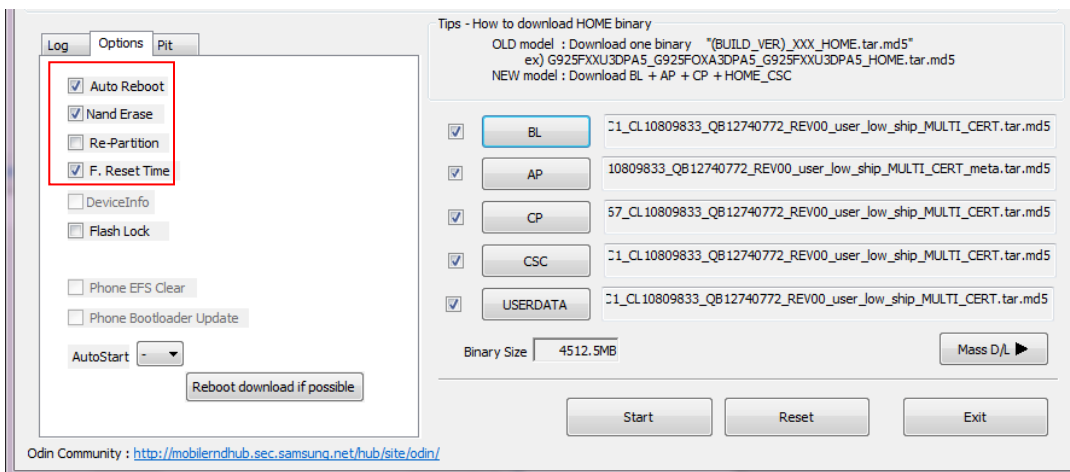
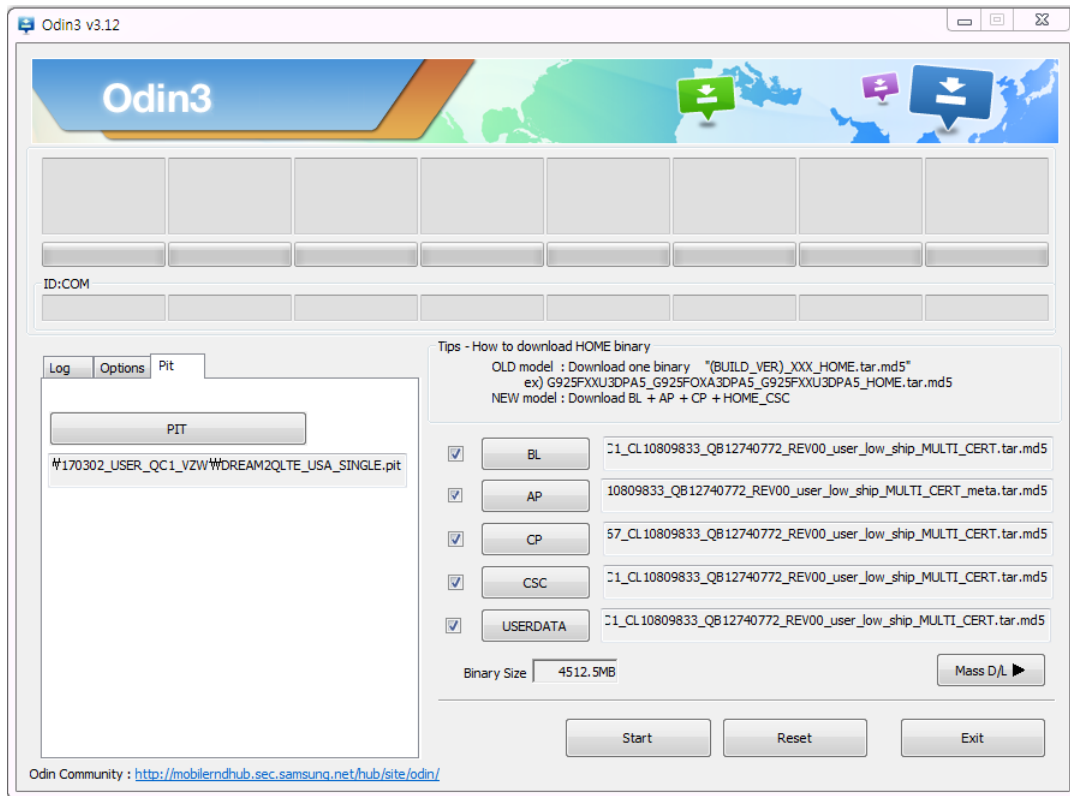


6. Level 1 Repair

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.



6. Level 1 Repair

2. Enter into Download Mode

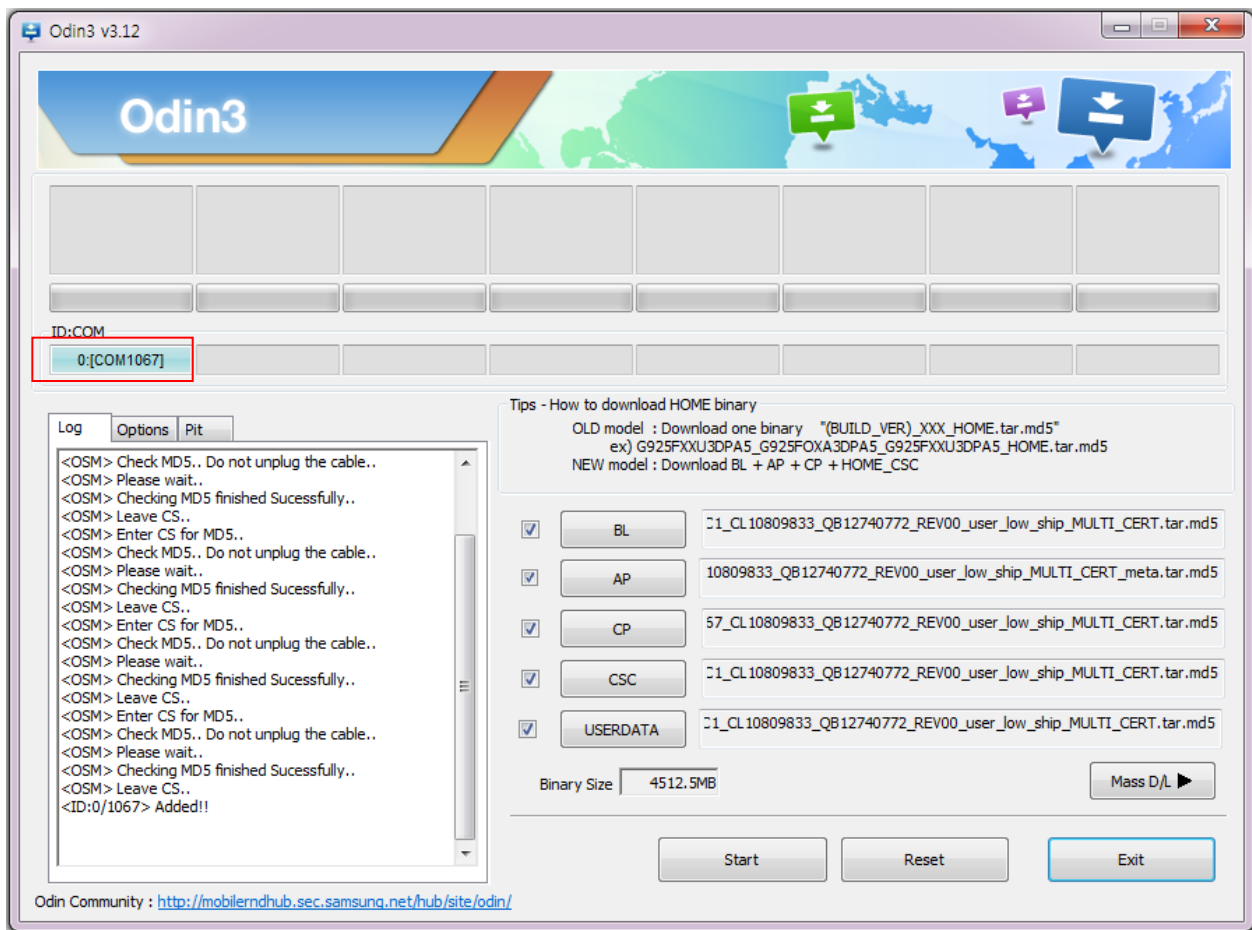
- Enter into Download Mode by inserting data cable while pressing Volume Down button simultaneously followed by pressing Volume up button as a direction of the phone.



6. Level 1 Repair

3. Connect the device to PC via Data Cable.

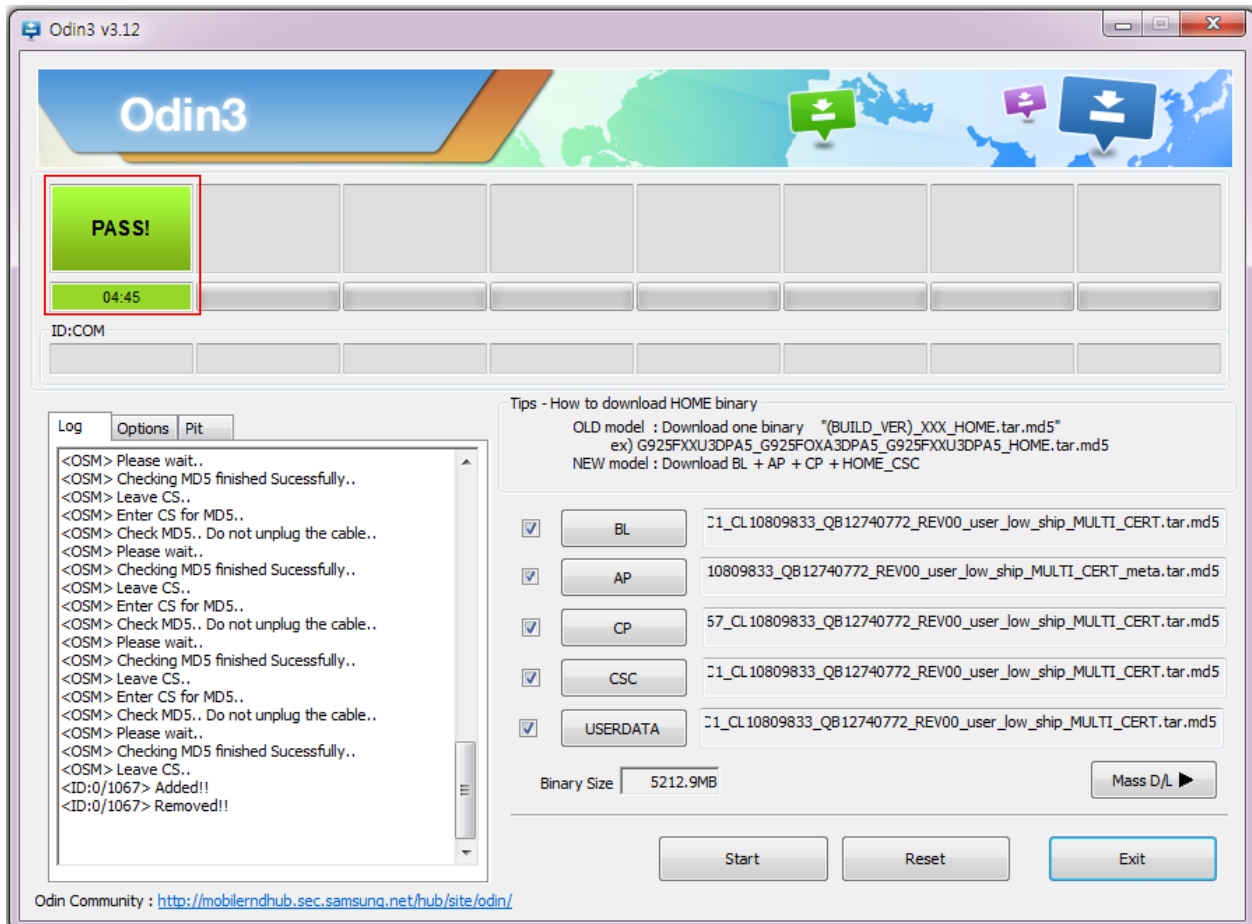
Make sure that the one of communication ports [ID:COM] box is highlighted in sky blue.
The device is now connected with the PC and ready to download the binary files in it.



6. Level 1 Repair

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

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



5. Disconnect the device from the Data cable.

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

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

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

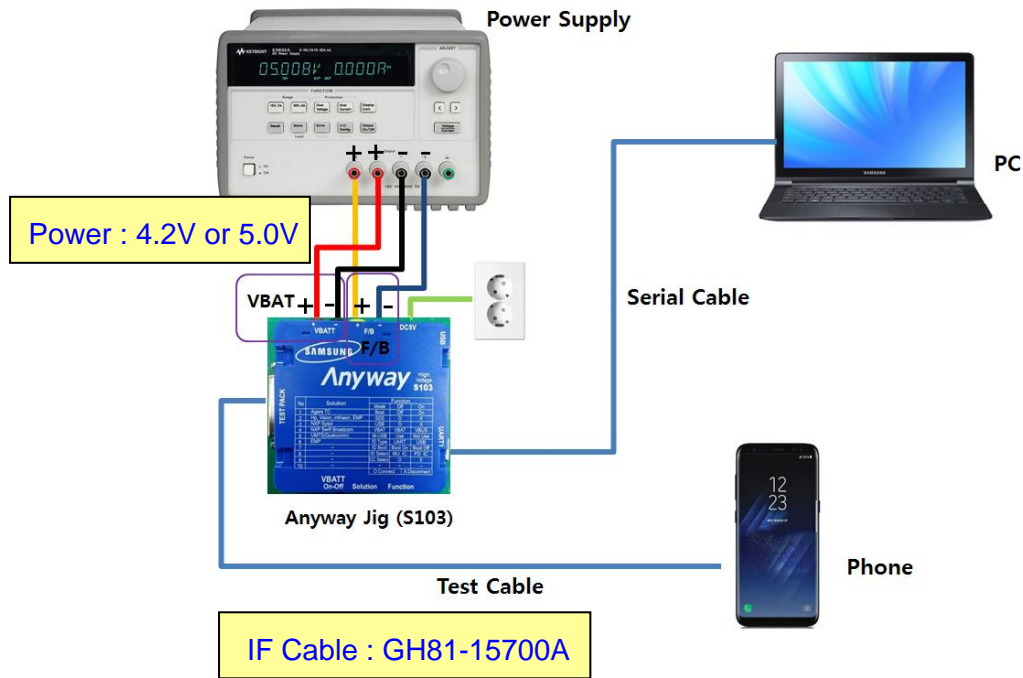
6. Level 1 Repair

6-3. IMEI writing

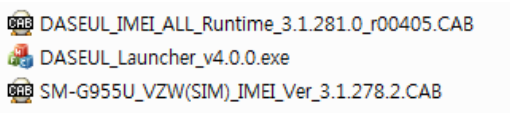
6-3-1. Preparation

- New IMEI writing Program has been released.
- Supported Model : Models which CAB files are uploaded on HHPsvc INI File category, instead of ini file.
- Refer to below IMEI writing procedure.

- H/W



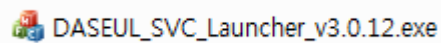
- S/W

| | |
|-------------------|--|
| ① Library Install | To use Daseul, library files should be installed. Refer to SVC Bulletin “(11-82) Daseul (New IMEI writing Program) Library Install guide_rev1.0” |
| ② Launcher | DASEUL_SVC_Launcher_v3.0.12 or higher -Uploaded on HHPsvc Notice |
| ③ Runtime File | 1. DASEUL_IMEI_ALL_Runtime_3.1.281.0_r00405.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 |

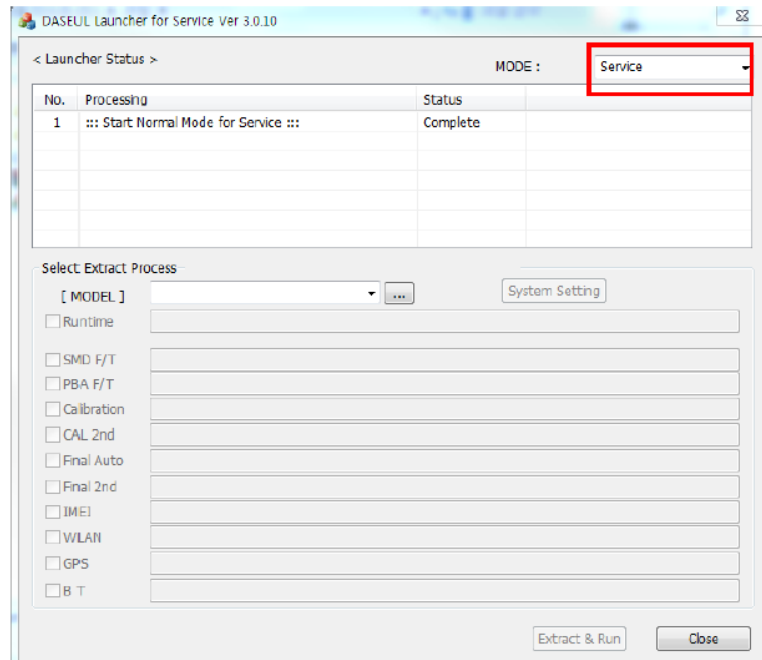
6. Level 1 Repair

6-3-2. IMEI writing Process

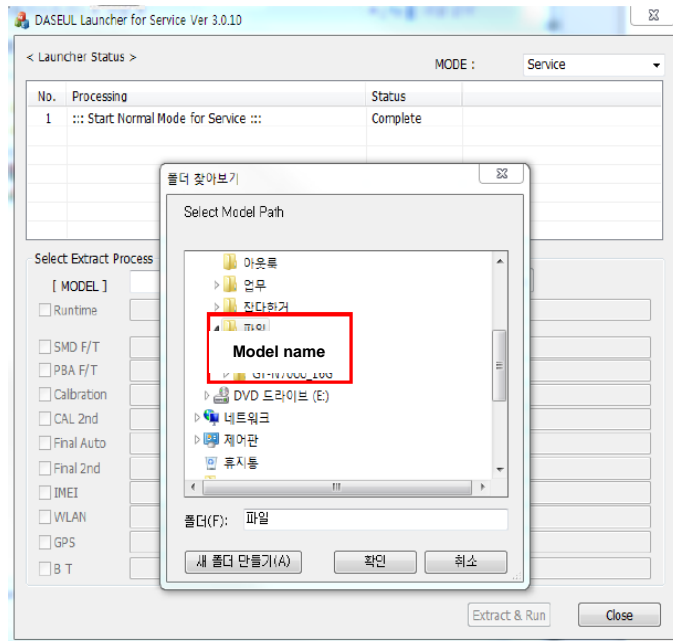
1. Run DASEUL_SVC_Launcher_v3.0.12.exe



2. Select Service Mode

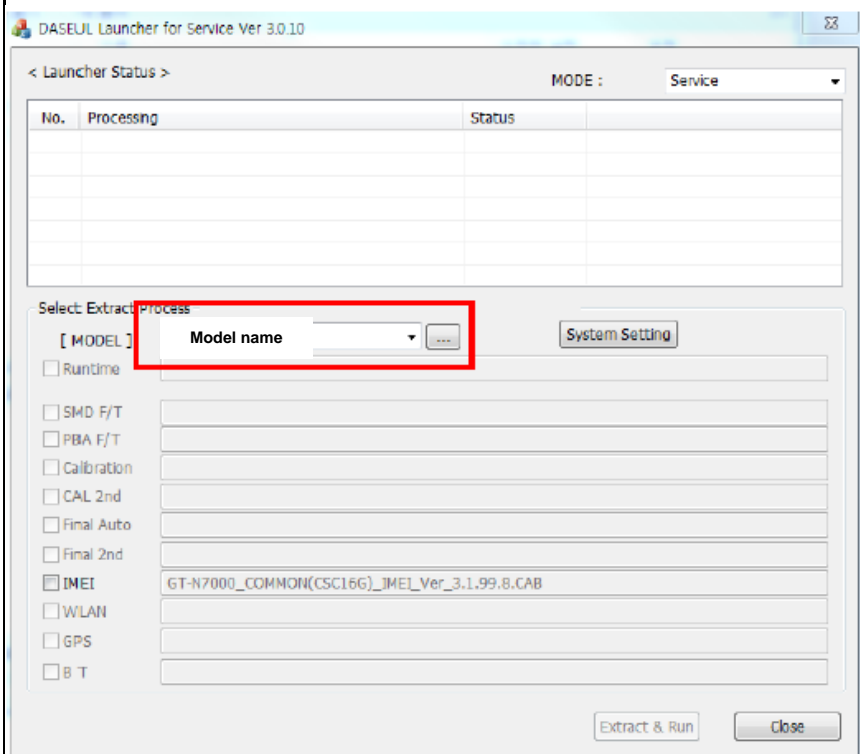


3. Click  and Select folder where the Launcher exists



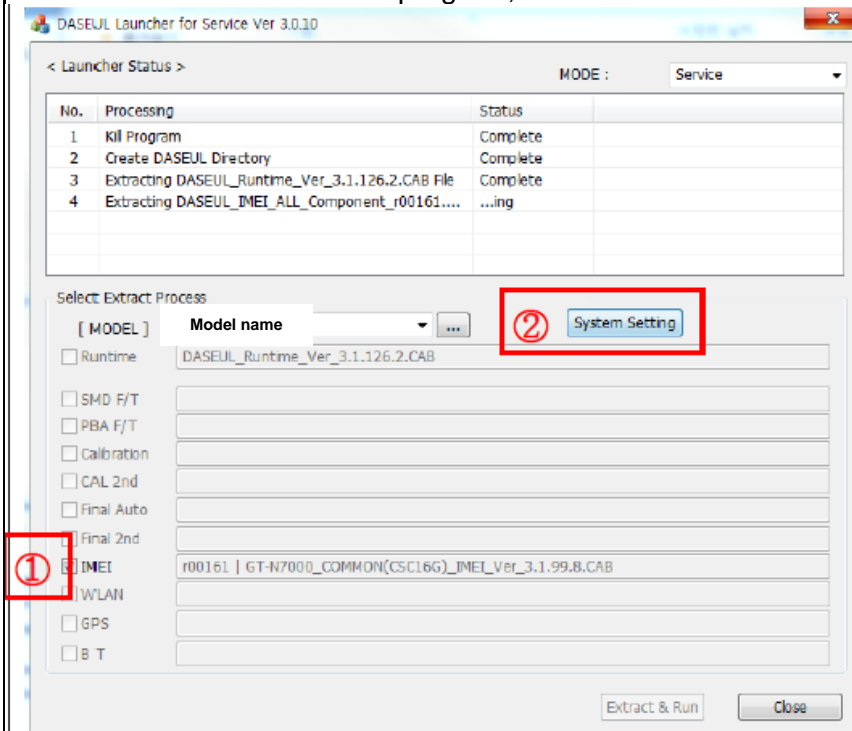
6. Level 1 Repair

4. Select Model



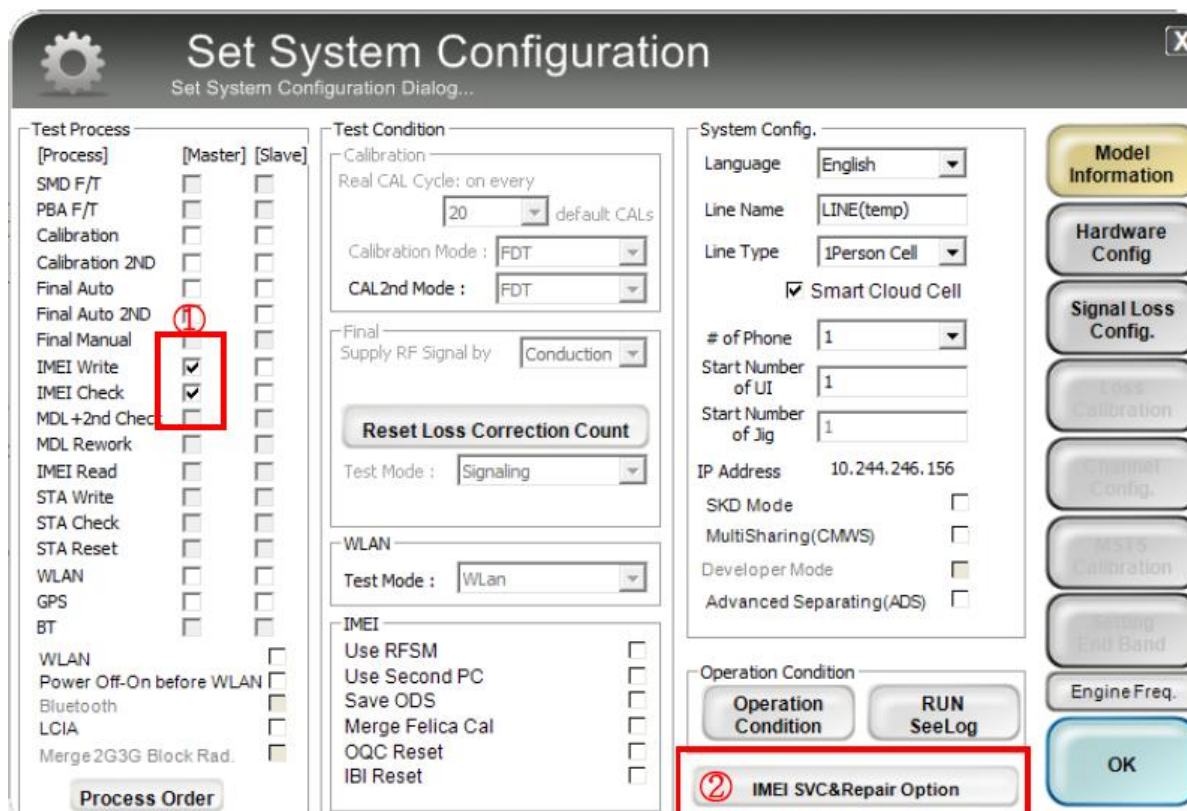
5. Check IMEI and click System Setting

※ 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.



The 'Set System Configuration' dialog box is shown. It has a title bar with a gear icon and a close button. The main area is divided into several sections: 'Test Process' with a table of checkboxes for various tests; 'Test Condition' with settings for calibration and RF signal; 'System Config.' with settings for language, line name, and network; and a right-hand sidebar with buttons for 'Model Information', 'Hardware Config', 'Signal Loss Config.', 'Loss Calibration', 'Channel Config.', 'MMS Calibration', 'Setting End Band', and 'Engine Freq.'. At the bottom, there are buttons for 'Operation Condition', 'RUN SeeLog', and 'IMEI SVC&Repair Option' (which is circled in red and labeled with a circled 2). The 'IMEI Write' and 'IMEI Check' checkboxes in the 'Test Process' section are checked and circled in red, with a circled 1 next to them.

| [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 Jlg: 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

Channel Config.

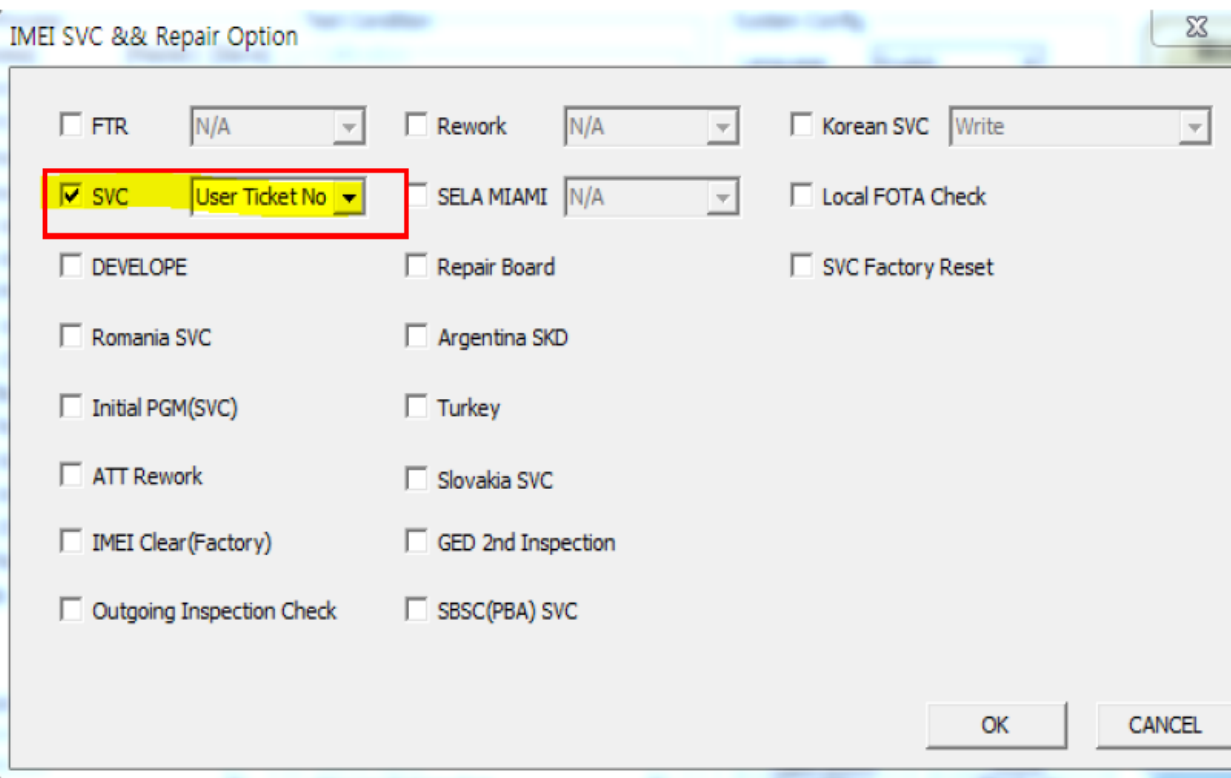
MMS Calibration

Setting End Band

Engine Freq.

OK

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



The 'IMEI SVC & Repair Option' dialog box is shown. It has a title bar with a close button. The main area contains several checkboxes and dropdown menus. The 'SVC' checkbox is checked, and the 'User Ticket No' dropdown menu is selected. The 'FTR' dropdown menu is set to 'N/A'. The 'Rework' dropdown menu is set to 'N/A'. The 'Korean SVC' dropdown menu is set to 'Write'. The 'SELA MIAMI' dropdown menu is set to 'N/A'. The 'Local FOTA Check' checkbox is unchecked. The 'DEVELOPE' checkbox is unchecked. The 'Repair Board' checkbox is unchecked. The 'SVC Factory Reset' checkbox is unchecked. The 'Romania SVC' checkbox is unchecked. The 'Argentina SKD' checkbox is unchecked. The 'Initial PGM(SVC)' checkbox is unchecked. The 'Turkey' checkbox is unchecked. The 'ATT Rework' checkbox is unchecked. The 'Slovakia SVC' checkbox is unchecked. The 'IMEI Clear(Factory)' checkbox is unchecked. The 'GED 2nd Inspection' checkbox is unchecked. The 'Outgoing Inspection Check' checkbox is unchecked. The 'SBSC(PBA) SVC' checkbox is unchecked. At the bottom, there are buttons for 'OK' and 'CANCEL'.

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

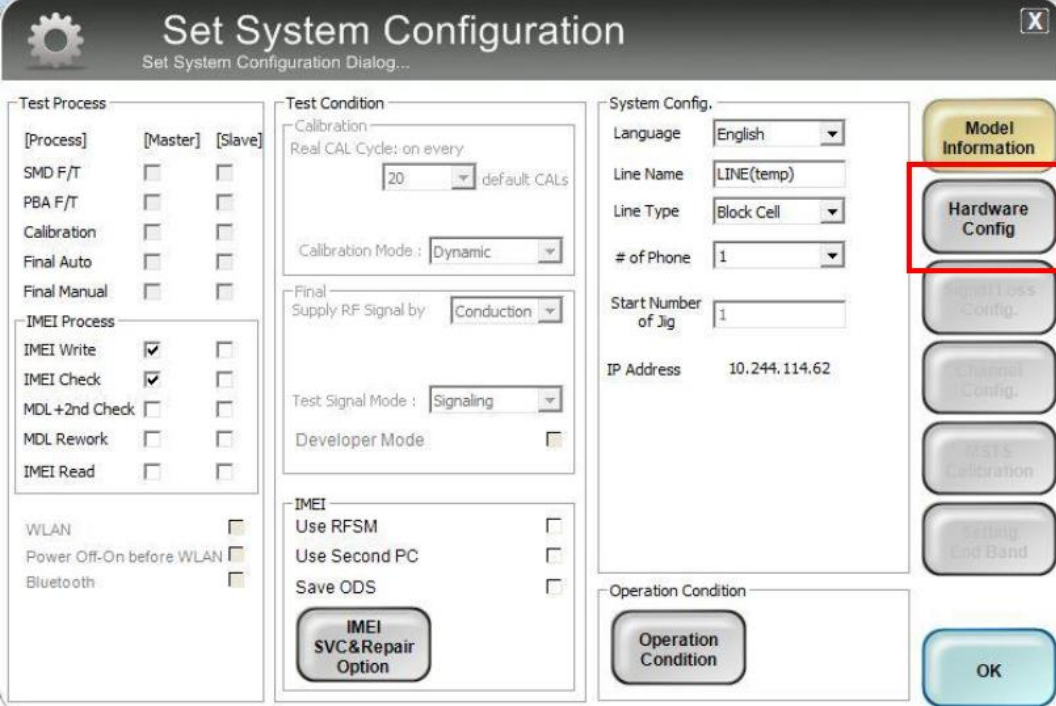
☐ IMEI Clear(Factory) ☐ GED 2nd Inspection

☐ Outgoing Inspection Check ☐ SBSC(PBA) SVC

OK CANCEL

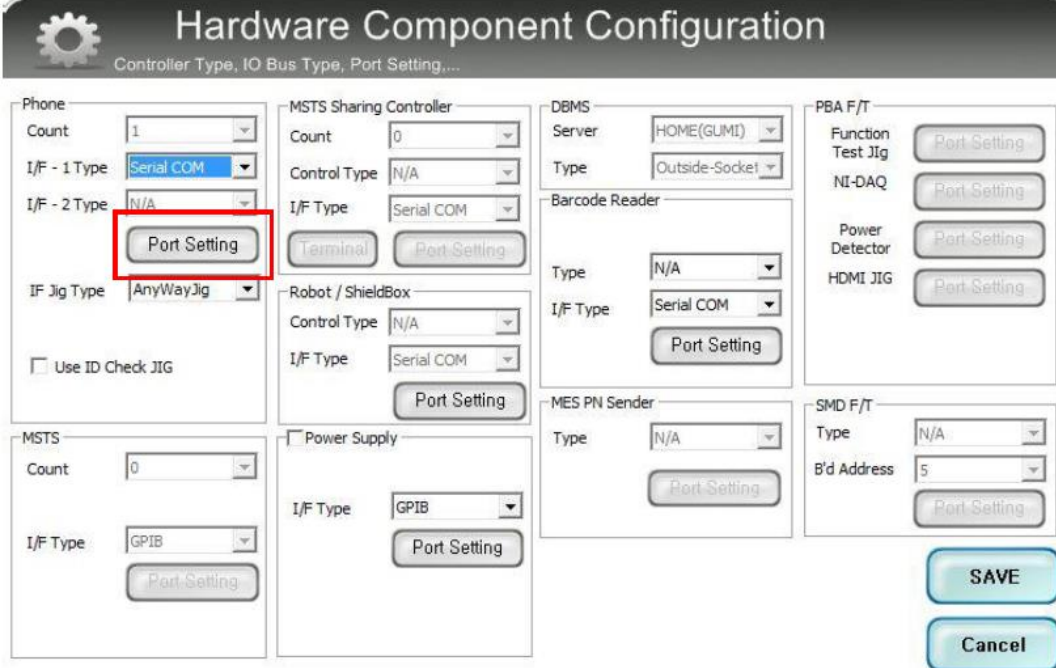
6. Level 1 Repair

8. Click 'Hardware Config'



The 'Set System Configuration' dialog box is shown. It has a title bar with a gear icon and a close button. The main area is divided into several sections: 'Test Process' with checkboxes for [Process], [Master], and [Slave]; 'Test Condition' with a 'Calibration' section (Real CAL Cycle: on every 20 default CALs, Calibration Mode: Dynamic) and a 'Final' section (Supply RF Signal by: Conduction, Test Signal Mode: Signaling, Developer Mode); 'System Config.' with fields for Language (English), Line Name (LINE(temp)), Line Type (Block Cell), # of Phone (1), Start Number of Jig (1), and IP Address (10.244.114.62); and 'Operation Condition'. On the right side, there is a vertical stack of buttons: 'Model Information', 'Hardware Config' (highlighted with a red box), 'Signal Loss Config.', 'Channel Config.', 'WATS Calibration', 'Setting End Band', and 'OK'. At the bottom, there are buttons for 'IMEI SVC&Repair Option' and 'Operation Condition'.

9. Click 'Port Setting'



The 'Hardware Component Configuration' dialog box is shown. It has a title bar with a gear icon and a subtitle 'Controller Type, IO Bus Type, Port Setting,...'. The main area is divided into several sections: 'Phone' with fields for Count (1), I/F - 1 Type (Serial COM), I/F - 2 Type (N/A), and IF Jig Type (AnyWayJig); 'MSTS Sharing Controller' with fields for Count (0), Control Type (N/A), and I/F Type (Serial COM); 'DBMS' with fields for Server (HOME(GUMI)) and Type (Outside-Socket); 'Barcode Reader' with fields for Type (N/A) and I/F Type (Serial COM); 'MES PN Sender' with fields for Type (N/A) and I/F Type (Serial COM); 'MSTS' with fields for Count (0) and I/F Type (GPIO); 'Power Supply' with fields for I/F Type (GPIO); 'PBA F/T' with fields for Function Test Jig, NI-DAQ, Power Detector, and HDMI JIG; and 'SMD F/T' with fields for Type (N/A) and B'd Address (5). Each section has a 'Port Setting' button. At the bottom, there are 'SAVE' and 'Cancel' buttons.

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 | <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 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

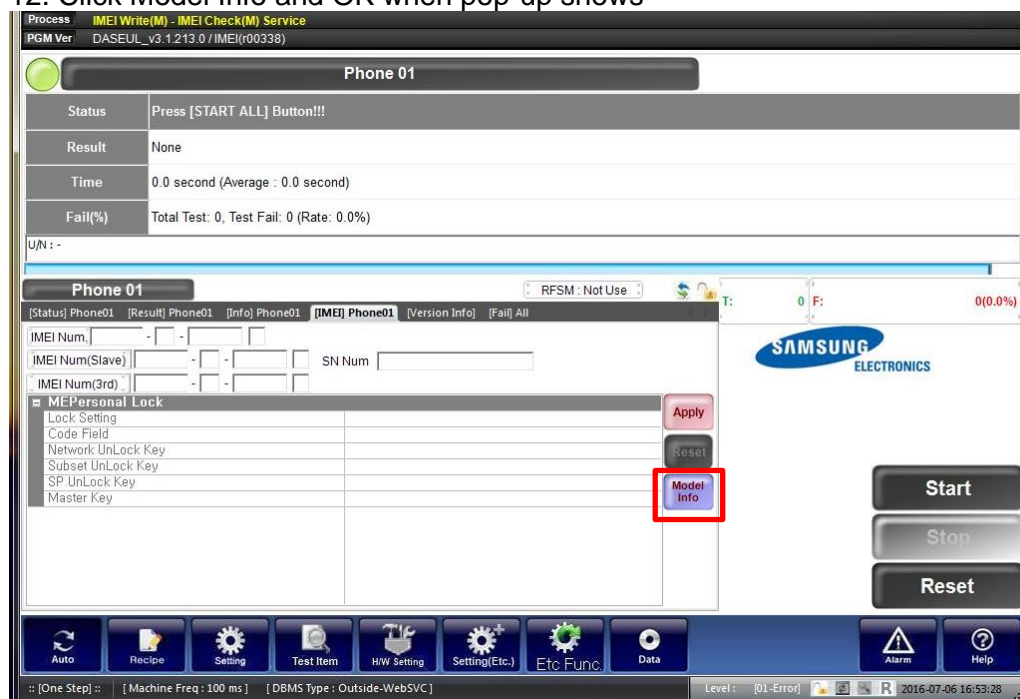
Operation Condition

Model Information
Hardware Config
Signal Loss Config.
Channel Config.
Auto Calibration
Setting End Band

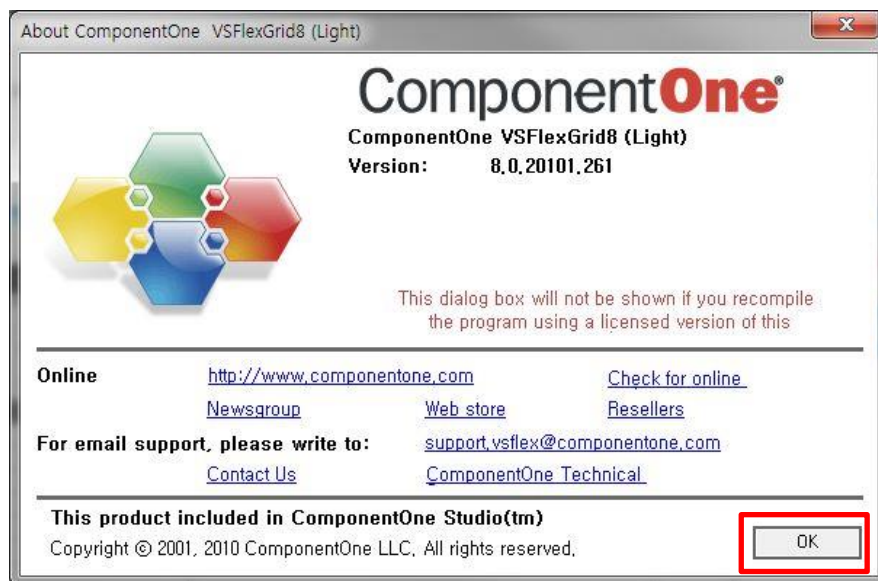
OK

6. Level 1 Repair

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



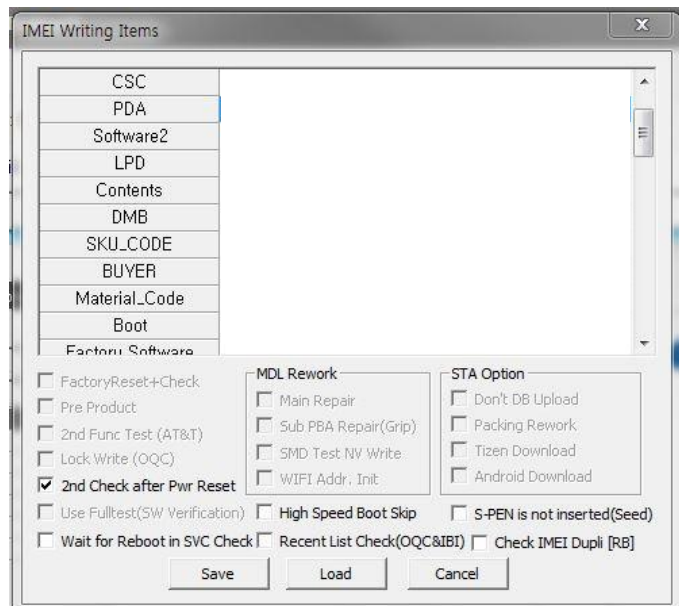
13. Click OK



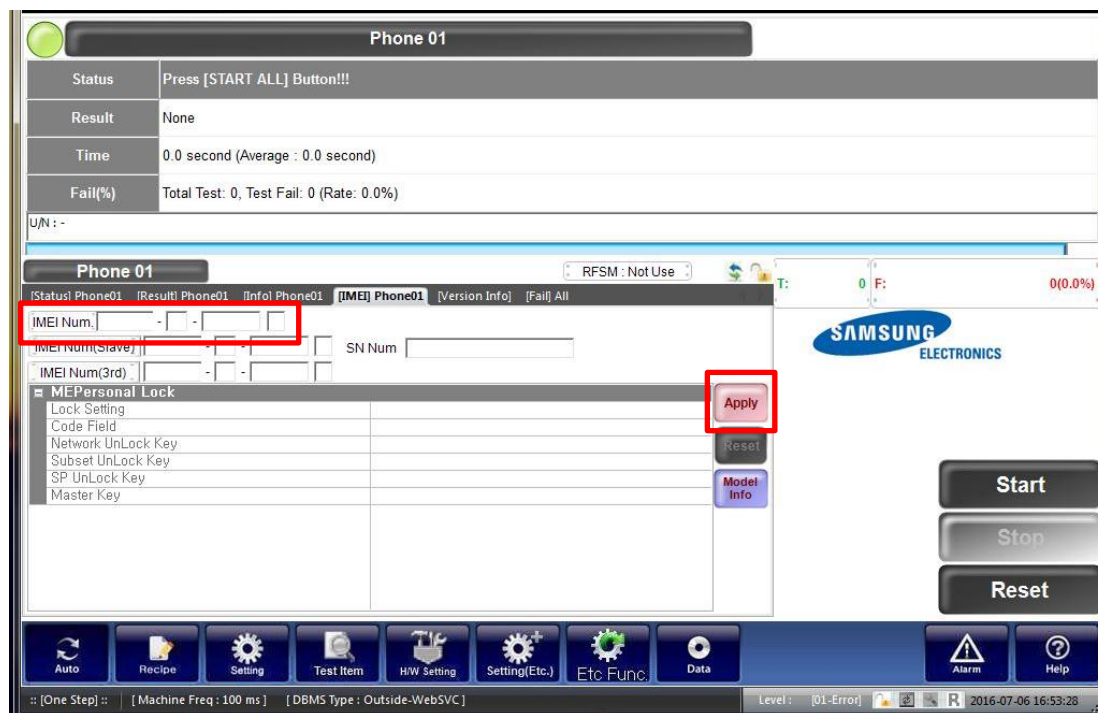
6. Level 1 Repair

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

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

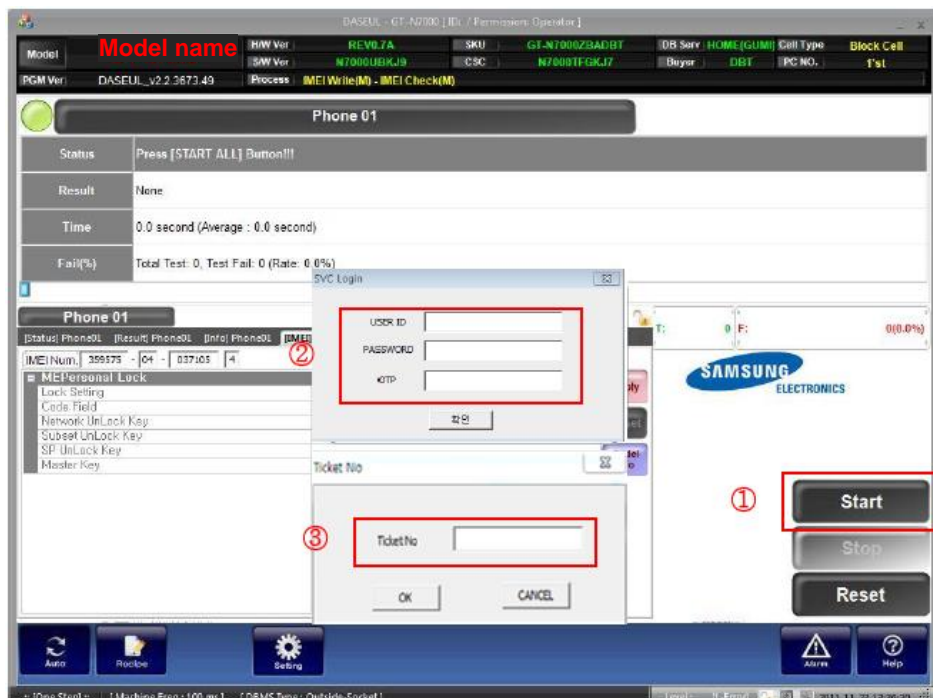


15. Input IMEI Number and click Apply



6. Level 1 Repair

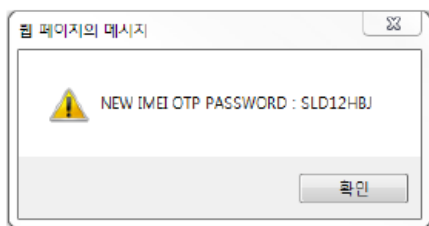
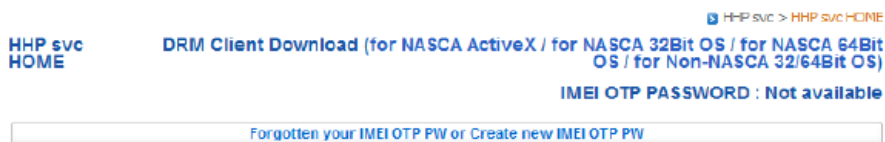
16. ① Click Start → ② Input IMEI writing ID and Password & OTP → ③ Input Ticket No



※ 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

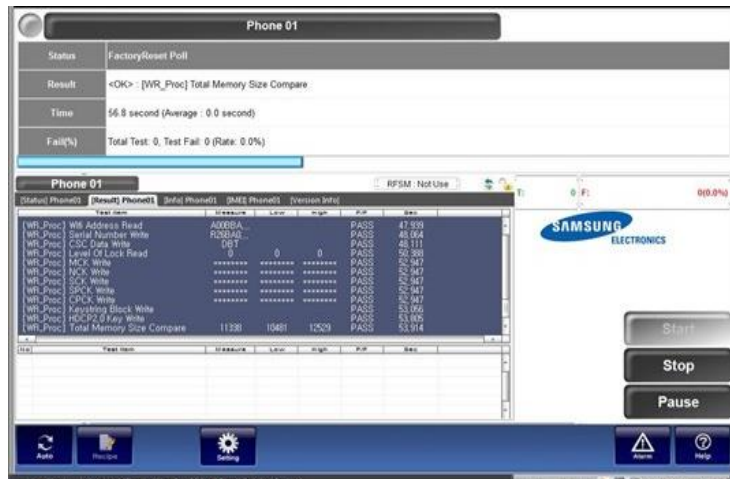


6. Level 1 Repair

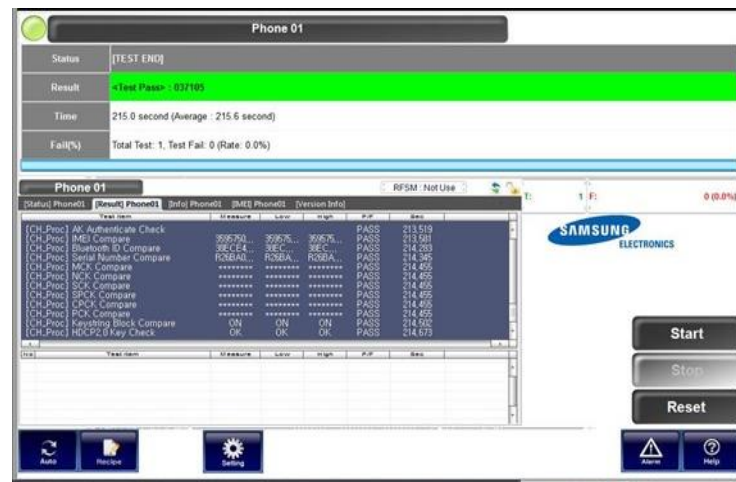
17. Connect the phone to Anyway JIG

- ※ 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



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