



SN Tool Introduce

2013/07/17

Presenter (Wenping Liu)
Department (ACS7/ST)

Agenda

- SN write option introduce
 - Barcode、IMEI、BT Address、Wi-Fi Mac Address
 - Hdcp & Drm key
 - SN Tool special setting
- New SN Tool UI
 - SN Tool new main panel
 - New UI Modify Item
 - Add Login Identify : **Engineer & Operator**
 - System config
 - Move some select option to menu
 - New scan data dialog
- SN Tool write procedure example
 - Barcode & IMEI(Meta Mode)
 - Barcode / IMEI / BT / Wi-Fi (Meta Mode)
 - Hdcp & Drm key(Meta Mode)
- How to debug when write fail



SN write option introduce

Barcode、IMEI、BT Address 、Wi-Fi Mac Address

■ Barcode

- Production Serial Number for a PCBA, is usually use to identify PCBA. Each PCBA should have a barcode number to keep the its test item in production line.
- Barcode should be write to PCBA after download and **before ATE calibration**, because in the calibration station, ATE Tool will write Calibration flag and NSFT flag to barcode. If you rewrite use SN Tool, these flags will be cover.
- Support **max 64** characters, composed of letters and numbers.

■ IMEI

- International **M**obile **E**quipment **I**ntity, a unique number to distinguish each mobile phone.
- Must be **15 decimal digits**, 14 decimal digits + 1 checksum digit.

■ BT Address

- Must be **12** characters, composed of letters(a - f or A - F) and numbers.

■ Wi-Fi Mac Address

- Must be **12** characters, composed of letters(a - f or A - F) and numbers.

Hdcp & Drm key

▪ Hdcp key

- High-bandwidth Digital Content Protection, when users of illegal copying, the technology will be interference, reduce duplicated image quality, so as to protect the content.
- the hdcp key bin need purchased by customer.
- Write hdcp key need **Ap database**.

▪ Drm key

- Some Digitized audio programs have Protection of digital programs authorized centers, so must have drm key when Broadcast program
- Write drm key don't need any database

Special setting

▪ SN Tool Menu - Option

✓ Mode select

• META mode

- Target will enter META mode to write Barcode、IMEI、BT、Wi-Fi
- **Need select correct database file**
- Support all Feature Phone、Smart Phone and Datacard product

• AT mode

- Target will **normal bootup** and use AT cmd to write Barcode、IMEI、BT、Wi-Fi
- **Don't need select database file**
- Current **only support** feature phone to write barcode、IMEI

✓ FeaturePhone Option / AT_SDS

- Use AT mode and want to trigger backup data to SDS, need select this option

✓ Datacard

- For Datacard product, enable USBSwitchTool

✓ External Modem

- For DualTalk project, enable preloader comPort switch to single comPort

✓ SP Security USB

- For Smart Phone security chip

Special setting

Internal Use

■ SN Tool Menu - BT&IMEI

✓ Check Sum

- Enable IMEI checksum mechanism, the last IMEI bit will be calculate and replace last bit get from UI. Ex, UI input '1111 1111 1111 111' will be replace by '1111 1111 1111 119', the '9' is the checksum bit.

✓ Lock IMEI

- if check the Lock IMEI, this mean the IMEI can **only write one time** when current operator is successfully. If you want to **rewrite IMEI again, you must Format FAT!!!**

■ If MT6582/MT6592 smart phone

✓ Before 1348.0 SN Write Tool, modify SN_SETUP.txt in installation directory

- World Phone MD Index
 - 1: Enable Modem1 when boot up
 - 2: Enable Modem2 when boot up
- World Phone SW Version
 - 3: WCDMA phone
 - 5: TDD phone

✓ After 1348.0(include 1348.0) SN Write Tool

- World Phone MD Index & SW Version parameters in SN_SETUP.txt don't use any more
- need to select MD_TG(TDD) database, because default boot up TDD MD

MD DB_1



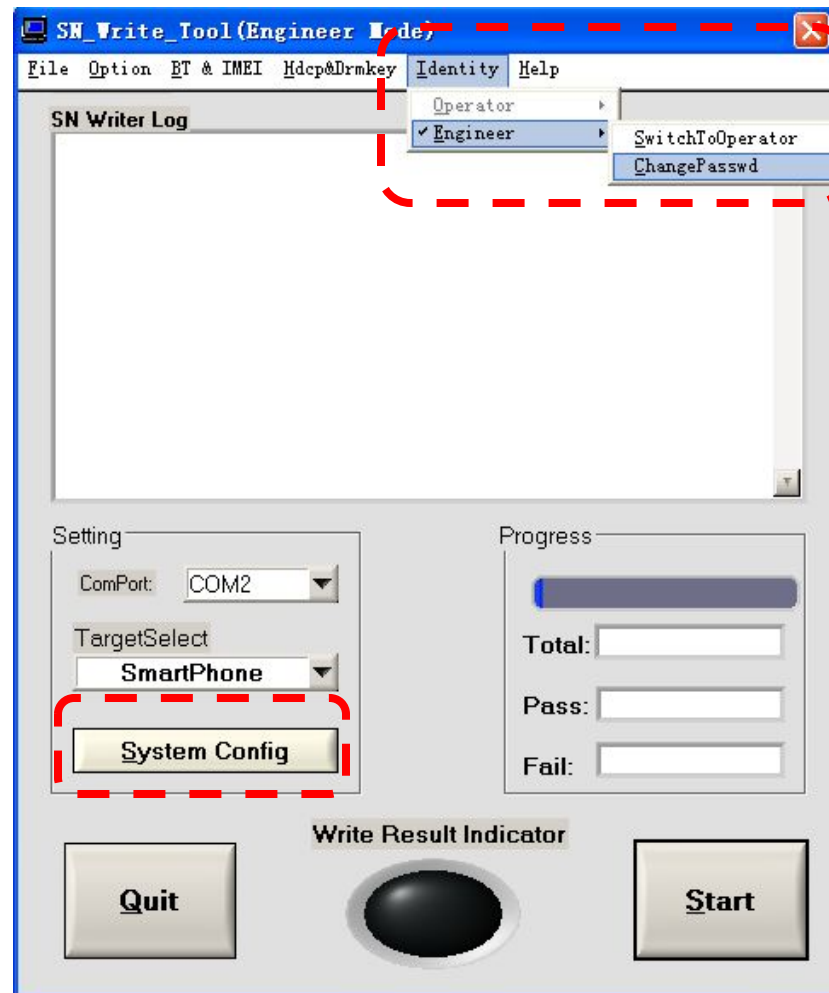
New SN Tool UI

SN Tool new main panel



New UI Modify Item

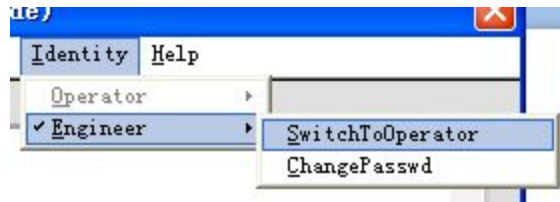
- Add menu – “Identify”
 - ✓ **Engineer** : Login in engineer mode
 - Can Modify UI configuration
 - Switch To operator don't need password
 - ✓ **Operator** : Login in operator mode
 - No authority modify UI configuration
 - Switch to engineer mode need password
- Add button – “System Config”
 - Setup write barcode、IMEI、BT、Wi-Fi option
 - Setup the database files
- Move some select option to menu
 - AT or Meta mode select ‘Option’
 - HdcP、DRMKey file select ‘HdcP&Drmkey’
 - Datacard、External Modem、SP Security USB ‘Option’



Engineer Mode

- Engineer Mode

- ✓ Engineer mode use for setup all write option, such as select database file, setup head check string. The mode is the default login mode, The **default password is '0000'**.
- ✓ Use the Menu – 'Identity->Engineer->SwitchToOperator' to switch to operator mode, don't password.

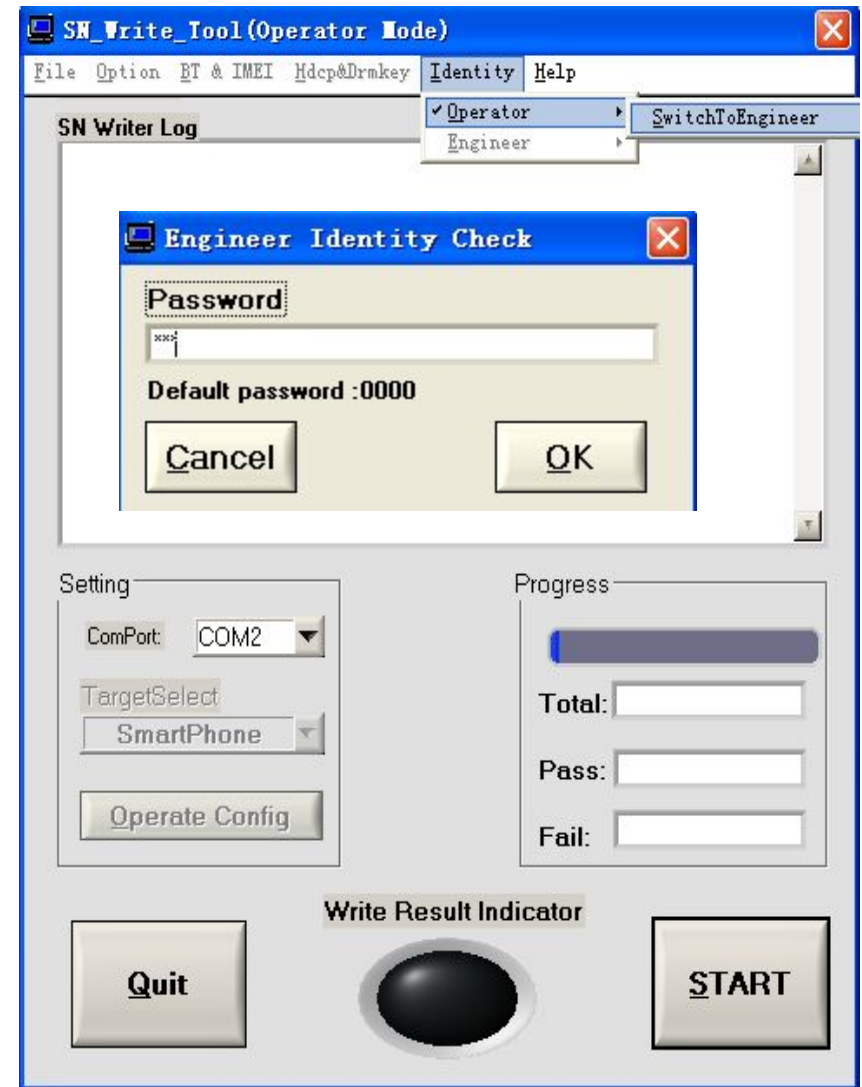


- ✓ Use the Menu – 'Identity-> Engineer-> ChangePasswd' to modify the engineer password.

A 'Change Password' dialog box with a blue title bar and a close button. It contains three text input fields: 'Old Password(Default:0000)', 'New Password', and 'Confirm Password'. At the bottom, there are 'Cancel' and 'OK' buttons.

Operator Mode

- Operator Mode
 - ✓ Operator mode have no authority modify UI configuration.
 - ✓ This mode only have select comPort num、click Quit and Start button authority.
 - ✓ 'Identify->Operator->SwitchToEngineer'
Switch to engineer mode, need input the correct engineer password.



System config

Internal Use

Function Select

✓ The option is about which type data will be write to target at one time. Ex, if select IMEI&BT, you can write IMEI and BT address to target at one time.

Header Option

✓ For you **want to check the scan data is valid or not**, turn on the header check. Ex, if barcode previous 4bits must “1234”, turn on check barcode header, and configuration the barcode header string is “1234”.

IMEI Option

✓ IMEI special option

Data Base

✓ Select database files

The screenshot shows the 'Operate Config' window with the following settings:

- Function Select:**
 - BarCode
 - IMEI
 - BT
 - WIFI Mac adr
 - Wifi EEPROM Copy
- Header Option:**
 - Barcode Header:** 1234, On/Off
 - BT Addr Header:** 33, On/Off
 - Wifi Addr Header:** 123456, On/Off
 - IMEI_1 Header:** 123, On/Off
 - IMEI_2 Header:** 123, On/Off
 - IMEI_3 Header:** 123, On/Off
 - IMEI_4 Header:** 213, On/Off
- IMEI Option:**
 - IMEI Check Sum
 - Dual IMEI
 - Dual IMEI Same
 - Three IMEI
 - Four IMEI
- Data Base:**
 - MD DB_1: c:\Documents and Settings\mtk71596\Desktop\hdc&drmkey\hdc\mt6589_phone_qhd\BP1
 - MD DB_2: d:\bin\eagle75v1_2_ALPS.GB2.FDD.p90_eng_youlan\BPLGUInfoCustomApp_MT6575_S01
 - AP DB: d:\bin\eagle75\eagle75v1_2_ALPS.GB2.FDD.p90_eng_youlan\APDB_MT6575_S01_ALPS.I

OK

New scan data dialog

Scan Data

- ✓ Enable the edit control option base on what do you select in the configuration panel. If **Header check is turn on**, the corresponding header string will show on edit control tail.
- ✓ The current scan data will be highlight.
- ✓ The edit control don't need scan again when **scan data finish and header check pass**.
- ✓ When finish scan all data and click 'OK', tool will check all data is valid or not. **If the data is invalid, corresponding edit control will be highlight**.
- ✓ When finish one write flow, this panel will be show again.

The screenshot shows a dialog box titled "Please scan code" with a close button in the top right corner. The dialog contains the following fields and values:

Field	Value
BarCode:	12345678
Header string:	1234
IMEI_1:	1236666666666666
IMEI_2:	
IMEI_3:	
IMEI_4:	
BT:	
WIFI:	

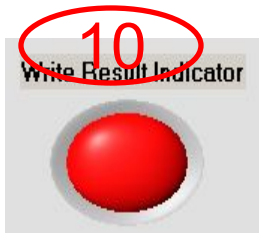
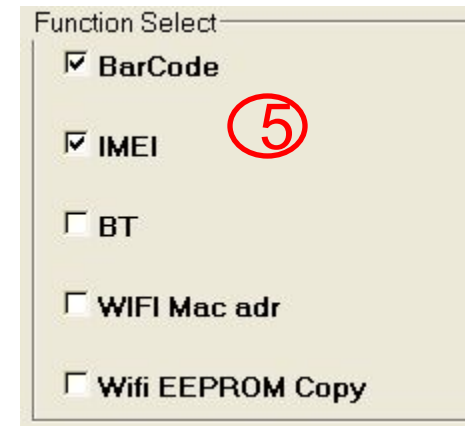
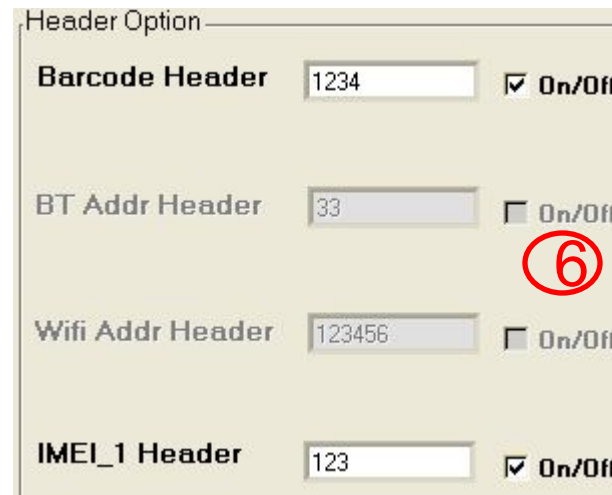
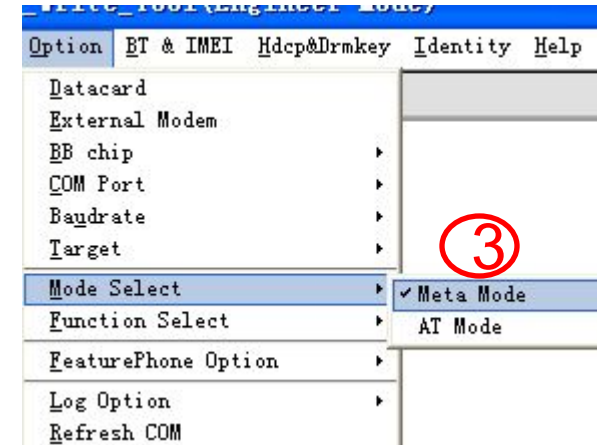
At the bottom of the dialog, there are two buttons: "Cancel" and "OK".



SN Tool write procedure example

Barcode & IMEI(Meta Mode)

- 1、 select **comPort** – UART or USB VCOM
- 2、 select **target type** – FP/SP/Rndis Dongle/...
- 3、 select **write mode** – MEAT mode /AT mode
- 4、 click 'System Config' button
- 5、 Function select – choose Barcode & IMEI
- 6、 Header option – if check data, turn it on
- 7、 select correct **database** files
- 8、 Click 'Start' to scan data
- 9、 Insert cable make phone enter 'META mode'
- 10、 If **Write Result Indicator** turn
 - **Green** mean write **success**
 - **Red** mead write **fail**



9

Enter
Meta
mode

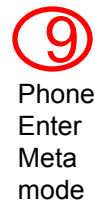
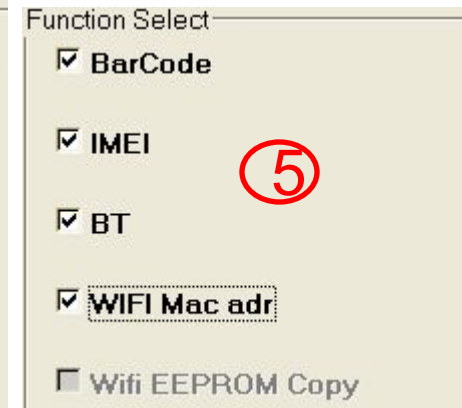
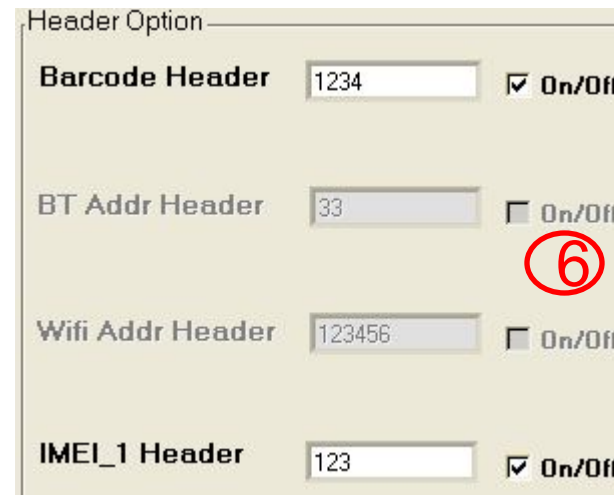
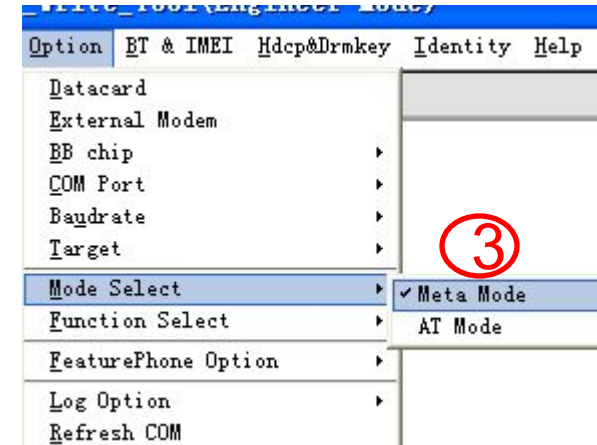


Barcode / IMEI / BT / Wi-Fi(Meta Mode) Internal Use

- 1、 select **comPort** – UART or USB VCOM
- 2、 select **target type** – FP/SP/Rndis Dongle/...
- 3、 select **write mode** – MEAT mode /AT mode
- 4、 click 'System Config' button
- 5、 Function select – choose Barc/IMEI/BT/Wi-Fi
- 6、 Header option – if check data, turn it on
- 7、 select correct **database** files
- 8、 Click 'Start' to scan data
- 9、 Insert cable make phone enter 'META mode'
- 10、 If **Write Result Indicator** turn

- **Green** mean write **success**

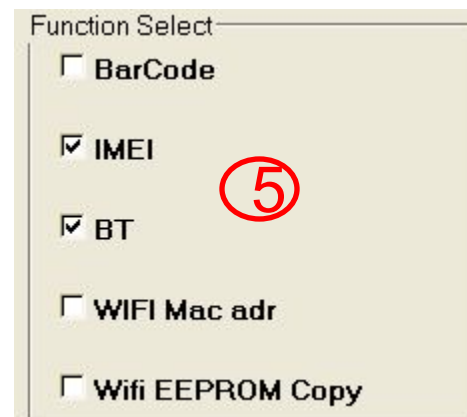
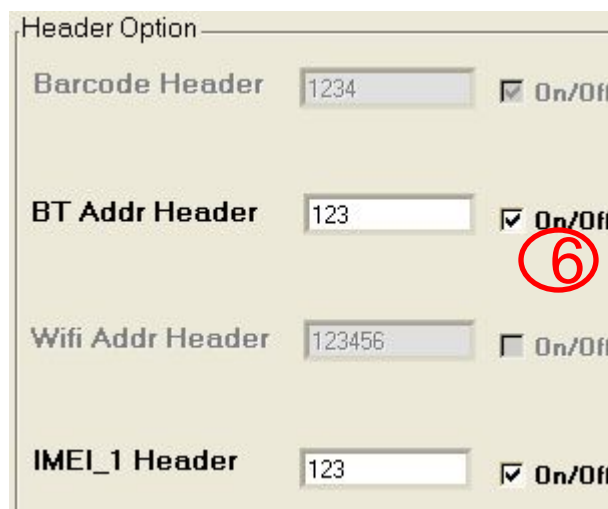
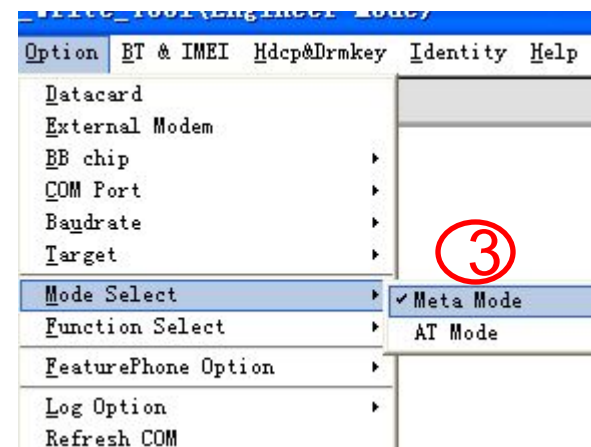
- **Red** mead write **fail**



IMEI / BT(Meta Mode)

- 1、选择 端口类型 – UART 或者 USB VCOM
- 2、选择 手机类型 – FP/SP/Rndis Dongle/...
- 3、选择 写号模式 – MEAT mode /AT mode
- 4、点击‘系统配置’按钮
- 5、写号类型选项 – 选择写 IMEI & BT
- 6、头部检测功能选项 – 需要检测数据正确性, 勾选‘On/Off’按钮
- 7、选择正确的Database文件
- 8、点击‘开始’按钮输入或扫描正确的数据
- 9、插入USB或UART数据线, 让手机进入META模式
- 10、如果写操作结果指示器变成

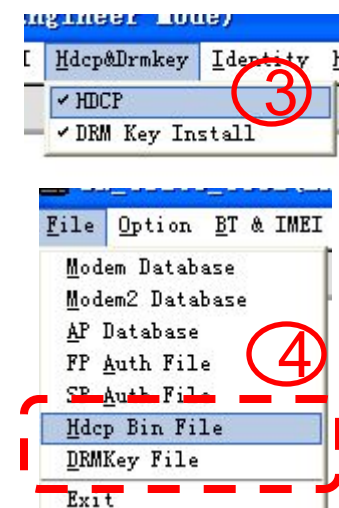
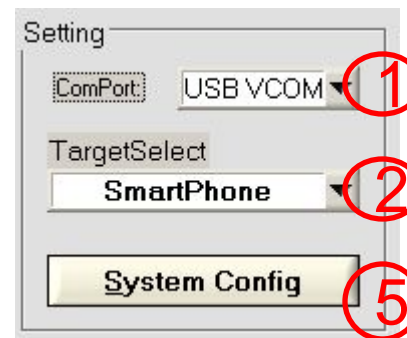
- 绿色表示写操作成功
- 红色表示写操作失败



Hdcp & Drm key(Meta Mode)

Internal Use

- 1、 select **comPort** – UART or USB VCOM
- 2、 select **target type** – FP/SP/Rndis Dongle/...
- 3、 select **write HDCP & DRM Key Install**
- 4、 select **Hdcp Bin File & DRMKey File**
- 5、 click ‘**System Config**’ button
- 6、 select correct **AP database** file for write Hdcp
- 7、 Click ‘**Start**’ to write data
- 8、 Insert UART/USB cable make phone enter ‘**META mode**’
- 9、 If **Write Result Indicator** turn
 - **Green** mean write **success**
 - **Red** mead write **fail**

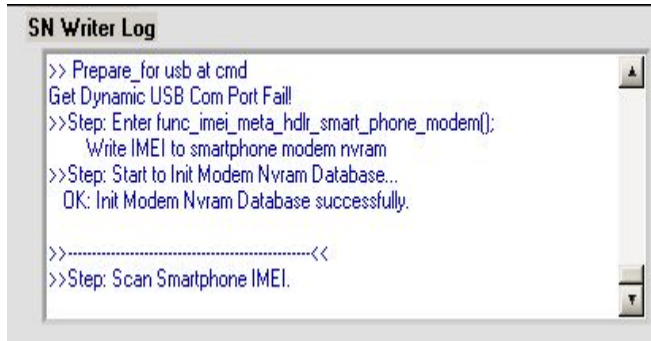




How to debug when write fail

1、How to debug when the operator fail?

-- Actually all operator log information display on the main UI



```
SN Writer Log
>> Prepare_for usb at cmd
Get Dynamic USB Com Port Fail
>>Step: Enter func_imei_meta_hdlr_smart_phone_modem();
    Write IMEI to smartphone modem nvram
>>Step: Start to Init Modem Nvram Database...
    OK: Init Modem Nvram Database successfully.

>>.....<<
>>Step: Scan Smartphone IMEI.
```

2、If you want to get help from MTK, what information should I provide?

- As the No.1 refer , you can provide the UI Log and the META_DLL.log file, and the META_DLL.log file path default is "C:\\"
- If Smart Phone, SP_META_DLL.log also need.