



# SN Tool Introduce

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# Outline

## ■ SN Tool UI

- SN Tool construction
  - SN Tool overview
  - SN Tool menu
  - SN Tool system config panel
  - SN Tool scan data dialog
- SN Tool special setting for different product
- SN Tool Engineer & Operator mode

## ■ SN Tool write S/N code introduce

- Barcode、IMEI、BT Address、Wi-Fi Mac Address、Hdcp & Drm key

## ■ SN Tool write operation procedure

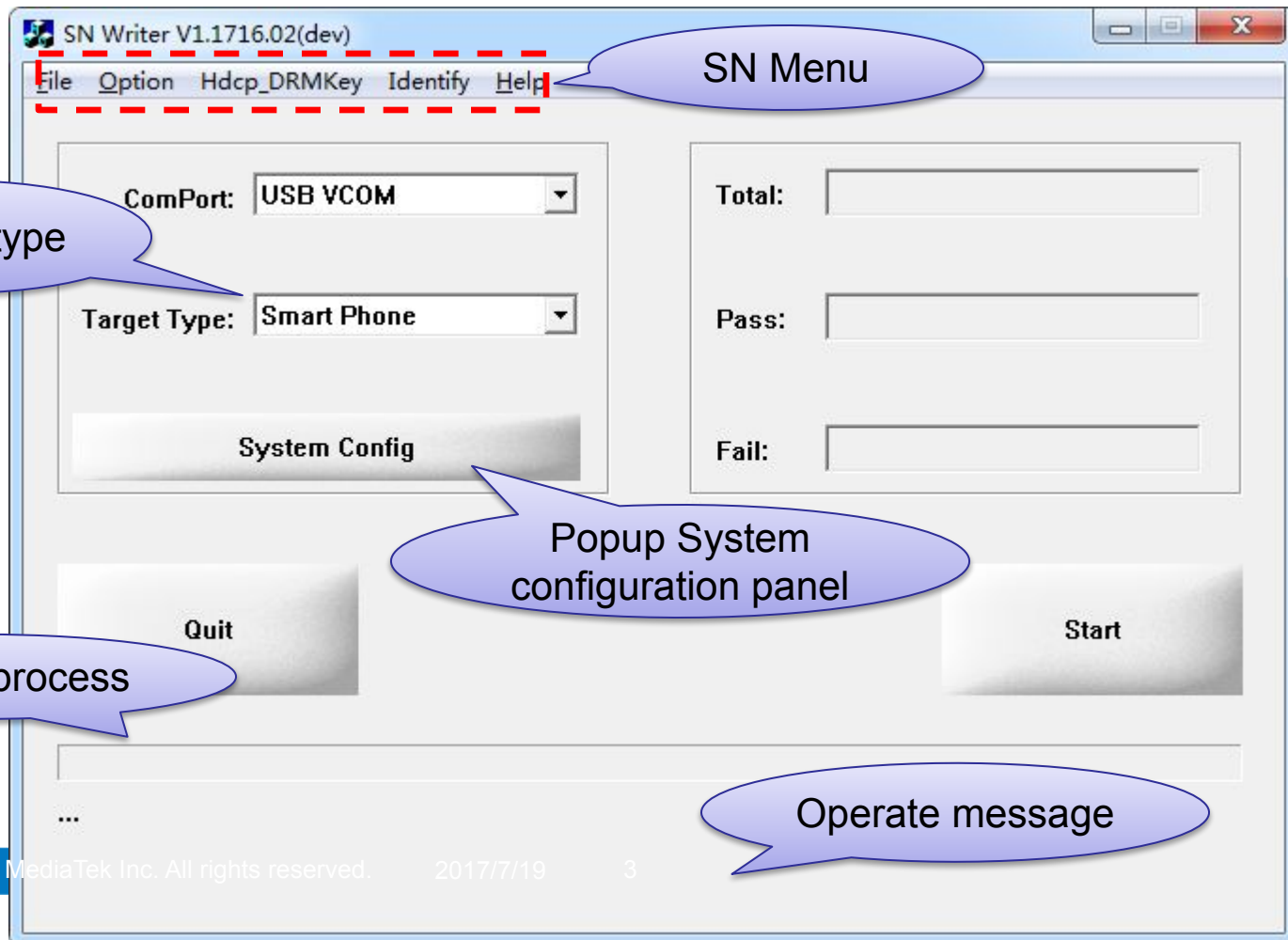
- Preparation
- SN tool setup
- Write examples
  - Feature phone write barcode & imei in meta mode via usb cable
  - Smart phone write barcode、imei、bt、wifi address in meta mode via uart cable
  - Tablet wifi only(without modem) write barcode、wifi address in meta mode via usb
  - Tablet wifi only(without modem) install Hdcp data in meta mode by usb
  - Rndis Dongle write barcode in meta mode via usb



# SN write UI

# SN Tool overview

- The mediatek SN Writer tool is used to write S/N code for a target in **META** mode, which list below:
  - Barcode、IMEI、BT Address、Wi-Fi Address、DRM Key、Hdcp Key



# SN Tool menu

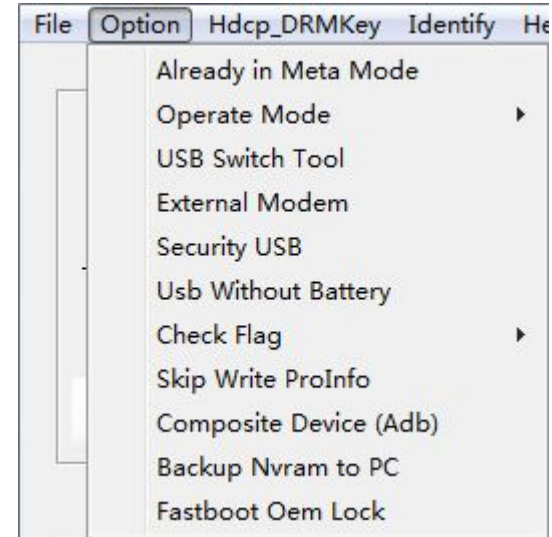
Internal Use

## ■ File

- FP Auth File:
  - feature phone security project auth file
- SP Auth File:
  - smart phone security project auth file

## ■ Option

- Already in Meta Mode
  - device has already in meta mode, would bypass
  - preloader handshake
  - only for smartphone or tablet
- Operate Mode
  - Meta Mode: target enter meta mode set target S/N
  - AT Mode: send AT cmd to set target S/N in normal boot up, current not support yet
- USB Switch Tool
  - For dongle product, enable usb swithtool
- External Modem
  - For dual talk(external modem) project, enable preloader comport switch to single comport
- Security USB
  - For security project

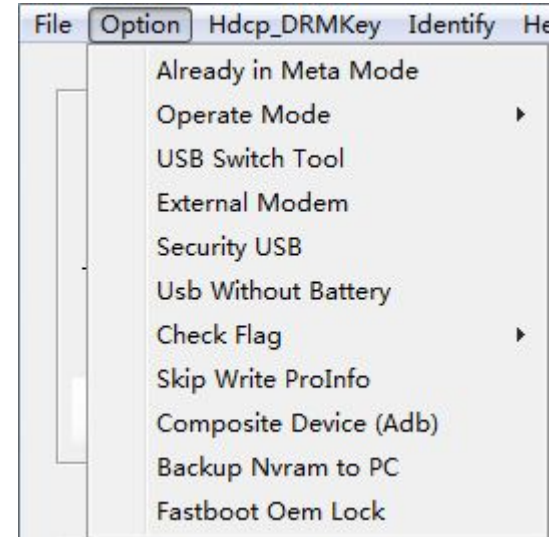


# SN Tool menu

Internal Use

- Option

- Security USB
  - For security project
- USB Without Battery
  - For feature phone product, enable without battery enter meta mode
- Check Flag
  - Check Calibration Flag: enable check calibration flag status
  - Check NSFT Flag: enable check final test flag status



# SN Tool menu

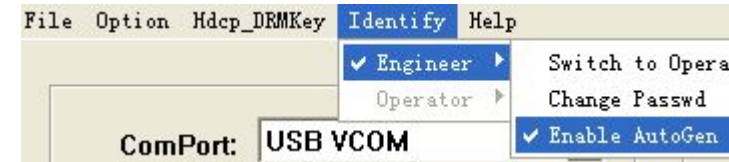
## ■ Hdcp\_DRMKey

- Reference “SN Tool write S/N code introduce” section for detail



## ■ Identify

- Engineer
  - Switch to operator: switch to operator mode , disable UI configuration authority
  - Change Passwd: change engineer mode passwd
  - Enable AutoGen: enable S/N data auto gen feature



- Operator
  - Switch to engineer: switch to engineer mode, enable UI configuration authority

## ■ Help

- SN Writer tool version information

# SN Tool system config panel (1/2)

Internal Use

## Write Option

✓ 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

✓ If 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
- ✓ The number of IMEI was the number of SIM Card Slots

System Config

**Write Option**

- Barcode
- IMEI
- BT Address
- Wifi Address
- Ethernet Mac Address
- DRMkey MCID
- MEID
- ESN

**Header Option**

Barc Header:   On/Off

BT Header:   On/Off

Wifi Header:   On/Off

IMEI\_1 Header:   On/Off

IMEI\_2 Header:   On/Off

IMEI\_3 Header:   On/Off

IMEI\_4 Header:   On/Off

Serial Header:   On/Off

Ethernet Header:   On/Off

MCID Header:   On/Off

MEID:   On/Off

MSN:   On/Off

**IMEI Option**

- IMEI CheckSum
- Dual IMEI
  - DualIMEI Same
- Three IMEI
- Four IMEI
- CurTemperature
  - 20.3 °C

**DataBase File**  Load Modem DB from DUT

E:\load\k57v1\_64\_op01\_lwctg\_alps-mp-m1.mp3-V2.15\_eng\MDDB\_M MD1\_DB

MD2\_DB

E:\load\k57v1\_64\_op01\_lwctg\_alps-mp-m1.mp3-V2.15\_eng\APDB\_M AP\_DB

Log Dir C:\SNWriter\_LOG\ ...

Save



# SN Tool system config panel (2/2)

Internal Use

## DataBase File

- ✓ Select ap & modem database files
- ✓ If "Load Modem DB from DUT" was checked, tool will try to get mddb file from devices; If try failed, tool will use the db file configed in this UI.

## Log Dir

- ✓ Select the directory where all the log will be placed in, and has a sub-directory named by starting date-time.
- ✓ Default dir was "C:\SNWriter\_LOG"

System Config

**Write Option**

- Barcode
- IMEI
- BT Address
- Wifi Address
- Ethernet Mac Address
- DRMkey MCID
- MEID
- ESN

**Header Option**

- Barc Header:   On/Off
- BT Header:   On/Off
- Wifi Header:   On/Off
- IMEI\_1 Header:   On/Off
- IMEI\_2 Header:   On/Off
- IMEI\_3 Header:   On/Off
- IMEI\_4 Header:   On/Off
- Serial Header:   On/Off
- Ethernet Header:   On/Off
- MCID Header:   On/Off
- MEID:   On/Off
- MSN:   On/Off

**IMEI Option**

- IMEI CheckSum
- Dual IMEI
  - DualIMEI Same
- Three IMEI
- Four IMEI
- CurTemperature
  - 20.3 °C

**DataBase File**  Load Modem DB from DUT

- MD1\_DB
- MD2\_DB
- AP\_DB

**Log Dir**  C:\SNWriter\_LOG\ ...

Save

# SN Tool 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 empty**.
  - ✓ When finish one write flow, this panel will be show again.

Scan Data

Data:	Header:
Barcode: <input type="text"/>	1234
IMEI_1: <input type="text"/>	
IMEI_2: <input type="text"/>	
BT Addr: <input type="text"/>	
Wifi Addr: <input type="text"/>	
MEID: <input type="text"/>	

Barcode = "" length must be [1,64]

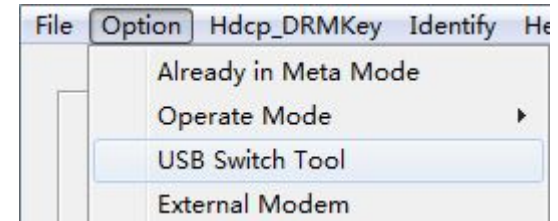
Cancel OK

# Special setting for different product

Internal Use

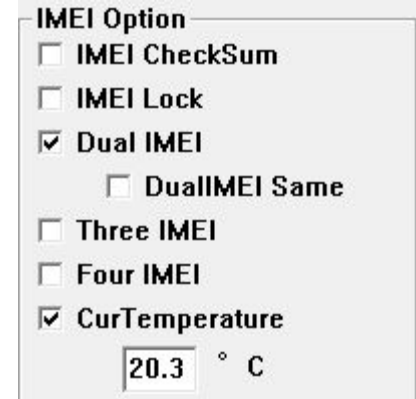
## Menu – Option

- USB SwitchTool
  - For dongle product, enable usb switchtool
- External Modem
  - For dual talk(external modem) project, enable preloader comport switch to single comport
  - Ex, MT8135(AP) + MT6280(Modem) project
- Security USB
  - For security project
- Usb Without Battery
  - For feature phone, enable without battery enter meta mode



## System Config – IMEI Option

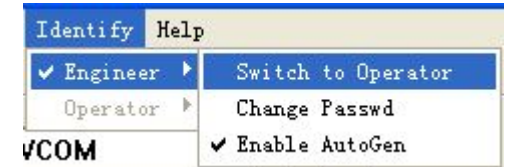
- IMEI CheckSum
  - Enable IMEI checksum mechanism, the last IMEI bit will be calculate and replace last bit get from UI
- IMEI Lock
  - Lock IMEI, mean the IMEI can **only write one time**
- DualIMEI Same
  - The second imei the same with first imei, don`t need scan imei two times



# SN Tool Engineer & Operator mode

## ■ Engineer

- Have authority to modify UI configuration
- Login in Engineer mode need verify password
- The password default is '0000', use 'Change Passwd' to modify engineer password.
- Switch to Operator mode don't need password



## ■ Operator

- Have no authority to modify UI configuration
- Switch to Engineer mode need to verify password



# SN Tool write S/N code 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.
- 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

- **8389+8193 Hdcp Key**
  - For MT8389+8193 project writing hdcp key only .
  - Since Writing to nvram , need ap database.
- **MTK HDCP\_DRM Key**
  - For MTK solution to write hdcp or drm key
- **Install Hdcp Data**
  - For vendor to install hdcp data
  -  this file size must be 572Bytes
  -  this file size must be 16Bytes



# SN write operation procedure



# Preparation

- To use the mediatek SN Writer Tool, the following should be preparation:
  - a) Mediatek product that already download MAUI、Moly or APLS software
  - b) UART or USB cable
  - c) S/N code scanner
  - d) Corresponding ap & modem database files
  - e) Make sure the product be **power off** status

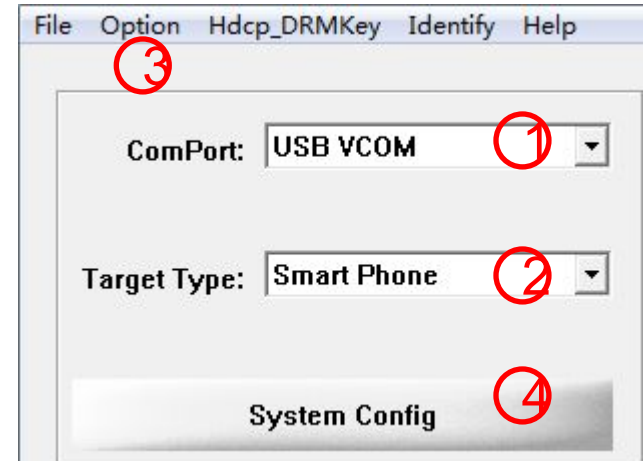
# SN tool setup

## 1. Select comPort

- If use uart cable, you should be insert your uart cable before launch SN tool, otherwise SN tool can't show the corresponding comport number in the 'comPort' ComboBox

## 2. Select Target Type

- Feature Phone, Smart Phone, SP DualModem, Tablet Wifi Only(without modem), Rndis Dongle
- MT6276M, MT6280 traditional dongle should be select feature phone
- Dual Talk(external modem, ex. MT8135+MT6280) project, write modem side barcode, imei should be select feature phone, write AP side bt, wifi address should be select Smart Phone



## 3. Select operation mode

- Menu->Option->Operate Mode->Meta mode

## 4. Click System Config to setup write operation

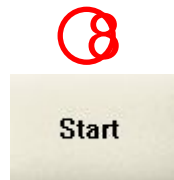
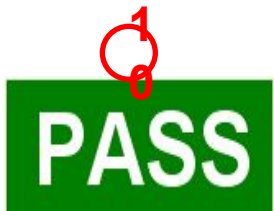
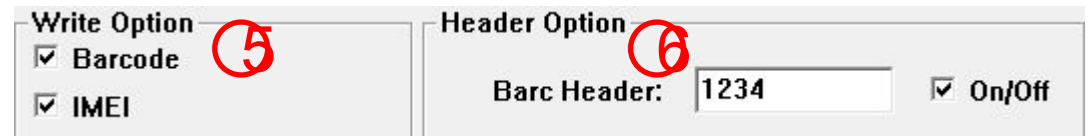
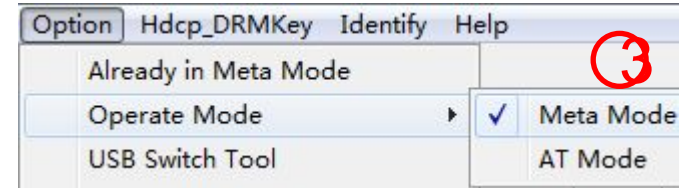
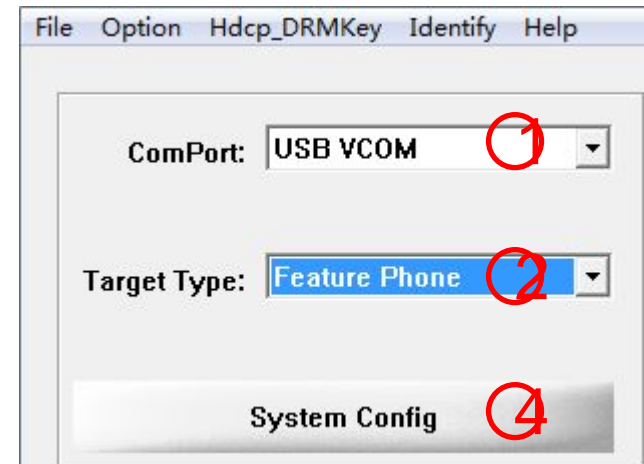
- Setup write option, select corresponding ap & modem database files



## 5. Click Start button to scan S/N code and write to target

# Feature phone barcode & imei

- 1、 select **ComPort** – USB VCOM
- 2、 select **Target Type** – Feature Phone
- 3、 select **write mode** – MEAT mode
- 4、 click ‘**System Config**’ button
- 5、 **Write Option** – choose Barcode & IMEI
- 6、 **Header Option** – if check data, turn it on
- 7、 select correct **modem database** files
- 8、 Click ‘**Start**’ to scan data
- 9、 Insert usb cable make target enter meta mode
- 10、 If **Write Result Indicator** turn
  - **Green** mean write **success**
  - **Red** mean write **fail**



# Smart Phone

barcode, imei, bt, wifi and MEID

- 1、 select **ComPort** – COM16(UART Cable)  
USB VCOM for USB Cable
- 2、 select **Target Type** –Smart Phone
- 3、 click ‘**System Config**’ button
- 4、 **Write Option** – choose Barc/IMEI/BT/Wi-Fi/MEID
- 5、 **Header option** – if check data, turn it on
- 6、 select correct **ap & modem database** files
- 7、 Click ‘**Start**’ to scan data
- 8、 **Press power key** make target enter meta mode
- 9、 If **Write Result Indicator** turn
  - **Green** mean write **success**
  - **Red** mean write **fail**

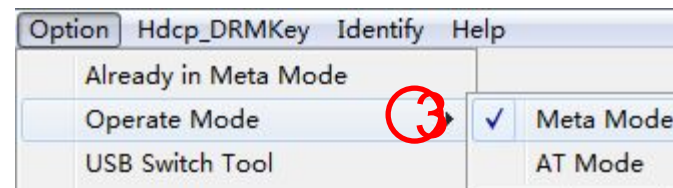
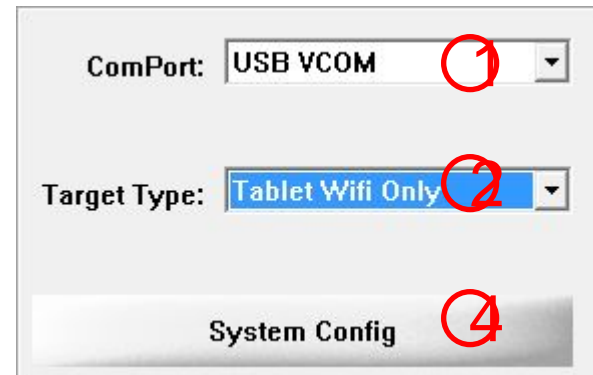
9  
**FAIL**

8  
Enter  
Meta  
mode

7  
**Start**

# Tablet wifi only(without modem) write barc、wifi address

- 1、选择 端口类型 – USB VCOM
- 2、选择 手机类型 – Tablet Wifi Only
- 3、选择 写号模式 – MEAT mode
- 4、点击‘系统配置’按钮
- 5、写号类型选项 – 选择写 Barcode & Wifi Address
- 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AP Database文件
- 8、点击‘开始’按钮输入或扫描正确的数据
- 9、插入USB数据线即可, 让平板进入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



手机开机  
进META  
模式



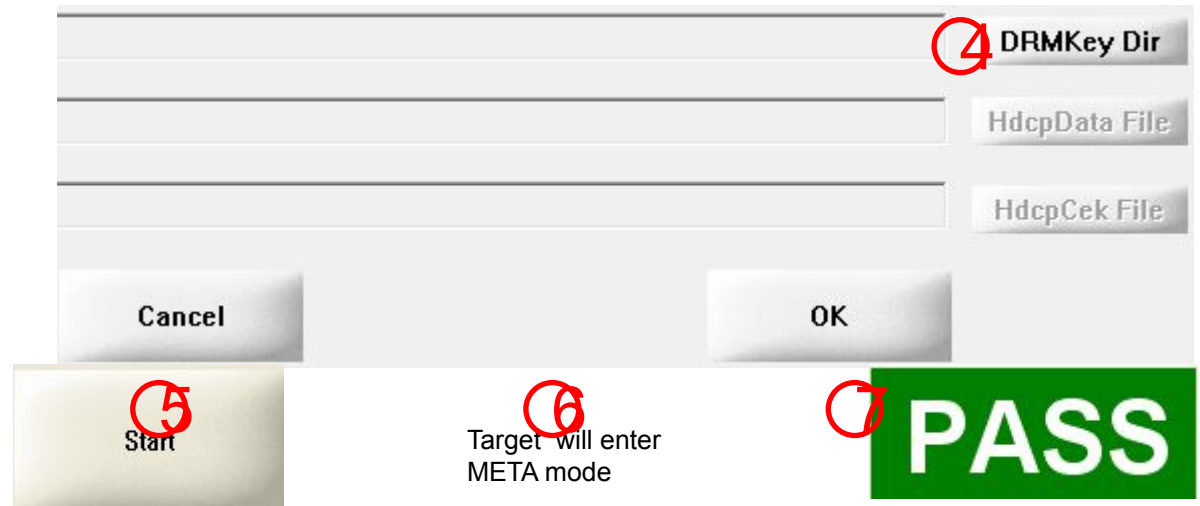
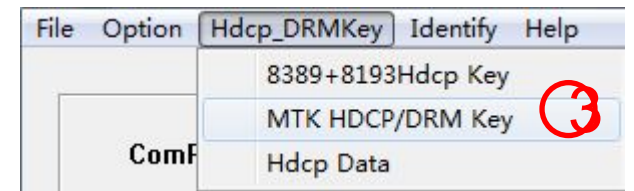
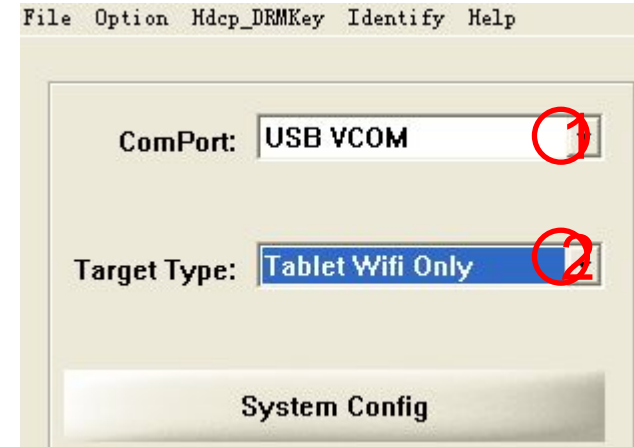
# Tablet wifi only(without modem) install DRM Key

Internal Use

- 1、 Select **ComPort** – USB VCOM
- 2、 Select **Target Type** – Tablet Wifi Only
- 3、 Click menu item **MTK HDCP\_DRM Key**
- 4、 Click **DRMKey\_File**, select a key folder
- 5、 Click '**Start**' to write key
- 6、 Insert USB cable, make tablet enter meta mode
- 7、 If **Write Result Indicator** turn
  - **Green** mean write **success**
  - **Red** mean write **fail**

## ■ Note

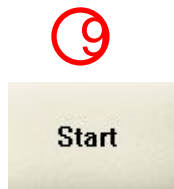
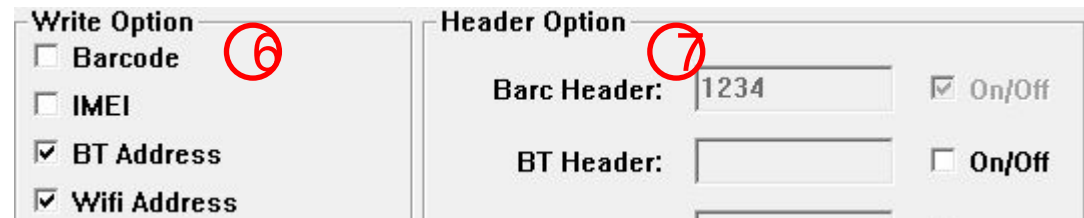
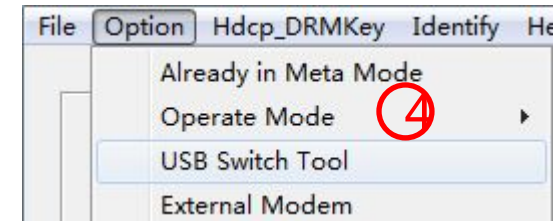
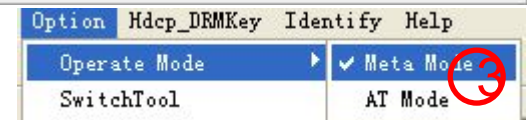
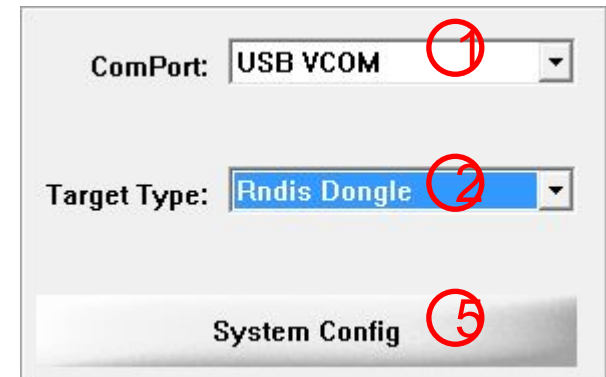
If exist a "Recycle" folder in the key folder, the key file have been used will be moved to "Recycle" folder.





# Rndis Dongle write barcode

- 1、 select ComPort – USB VCOM
- 2、 select Target Type – Rndis Dongle
- 3、 select write mode – MEAT mode
- 4、 select USB SwitchTool to enable USBSwitchTool
- 5、 click 'System Config' button
- 6、 Write Option – choose Barcode
- 7、 Header option – if check data, turn it on
- 8、 select correct ap & modem database files
- 9、 Click 'Start' to scan data
- 10、 Press power key make target enter meta mode
- 11、 If Write Result Indicator turn
  - Green mean write success
  - Red mean write fail



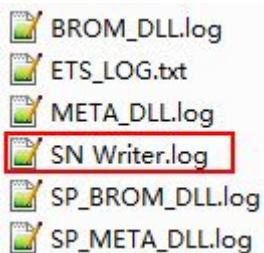


# How to debug when write fail



## 1、How to debug when the operator fail?

-- All operator log information record in "Log Dir" configed in "System Config" Dialog



## 2、Modem Log

-- begin support on version > v1.1648.00

-- setup step

1. close sn writer, open "SN\_Setup.ini" in the exe folder
2. modify config item "ModemLog" value to "True", save and close "SN\_Setup.ini"
3. put filter file "\*.bin" in the exe folder. **note:** should only one \*.bin file in the folder
4. open sn writer, repeate the issue, modem log will be located in subdirectory of "Log Dir"

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

-- As the No.1 refer , you can provide all the files in subdirectory of "Log Dir".