1. Introduction

This document introduces how to setup applications and use it. Below picture shows the directory hierarchy of SDK. In this SDK, we provide demo applications, drivers, and sample source code for Windows (BCB6, C#, Java, VC++2008), WinCE 5.0 and Linux.

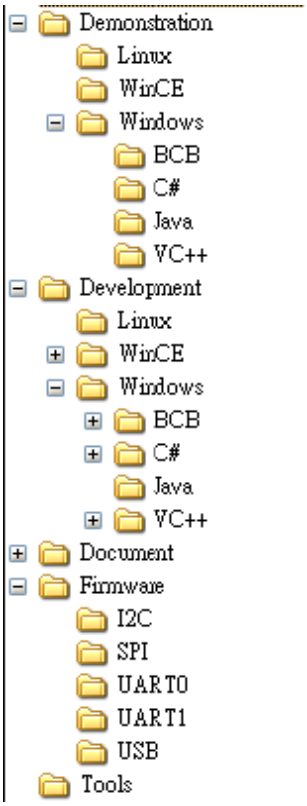


Figure 1 Directory hierarchy

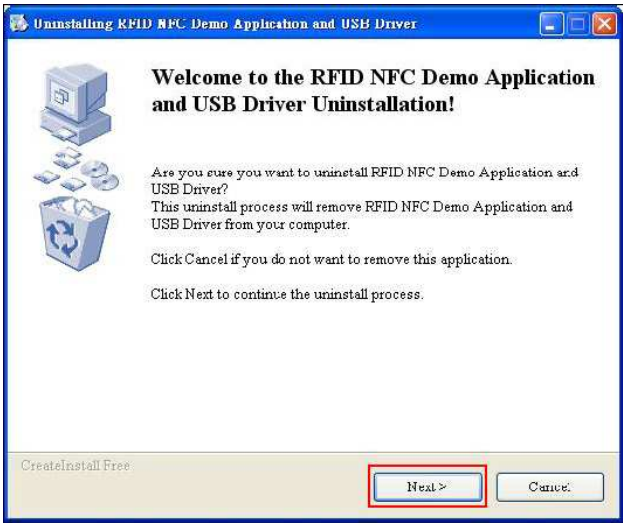
2. Install

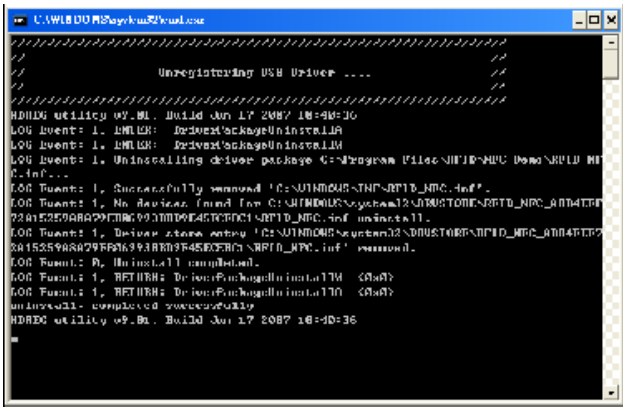
Below sections introduces the steps to setup demo applications and drivers.

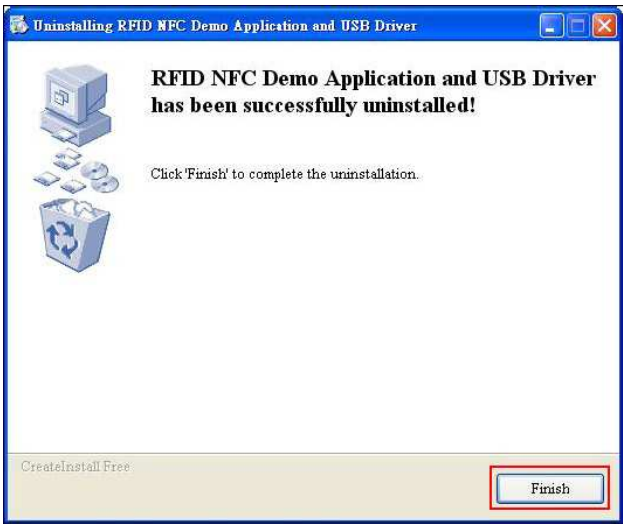
2.1 Windows

Please follow below steps to install demo application.

- ☐ Unplug RFID HF device from USB port.
- ☐ Double-Click “RFID_NFC_Install.exe” under “.\Demonstration\Windows\BCB” path. And follow the steps to complete the installation.
- ☐ If you ever installed RFID HF Demo Application, the uninstall process will be launched first.

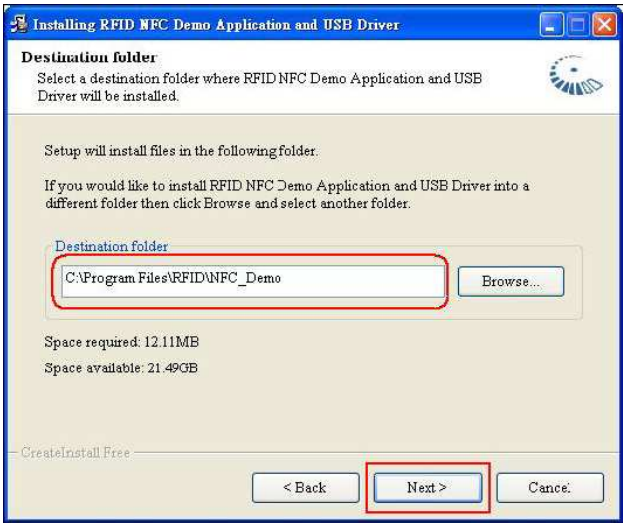


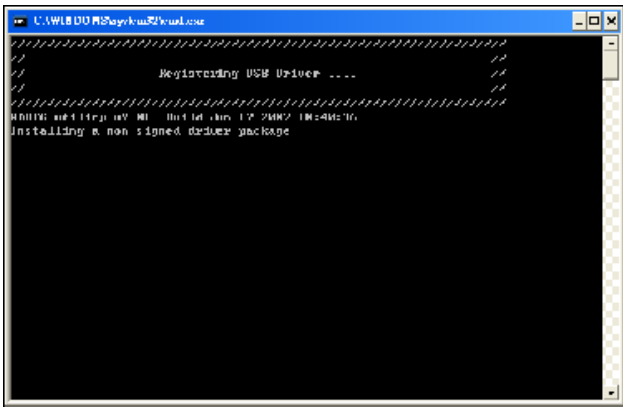




☐ Now, the installation process is launched.

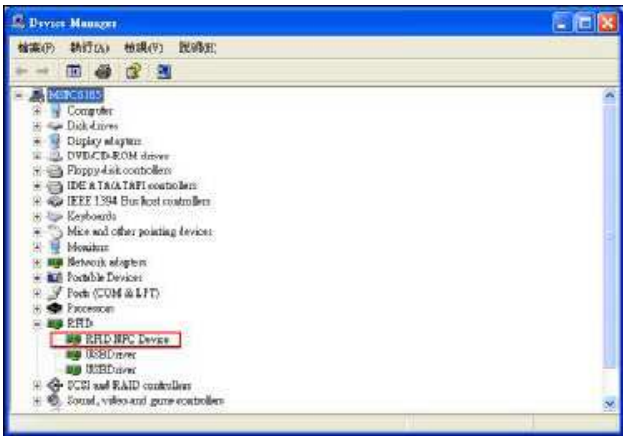
Installing RFID NFC Demo Application and USB Driver
Welcome to the RFID NFC Demo Application and USB Driver Installation!
This setup program will install RFID NFC Demo Application and USB Driver on your computer. Click Cancel if you do not want to install this application. Click Next to continue the installation.
WARNING: This program is protected by international copyright law and treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties and will be prosecuted to the maximum extent of the law.
CreateInstall Free
Next >
Cancel


Installing RFID NFC Demo Application and USB Driver
Destination folder
Select a destination folder where RFID NFC Demo Application and USB Driver will be installed.
Setup will install files in the following folder.
If you would like to install RFID NFC Demo Application and USB Driver into a different folder then click Browse and select another folder.
Destination folder
C:\Program Files\RFID\NFC_Demo
Browse...
Space required: 12.11MB
Space available: 21.49GB
CreateInstall Free
< Back
Next >
Cancel

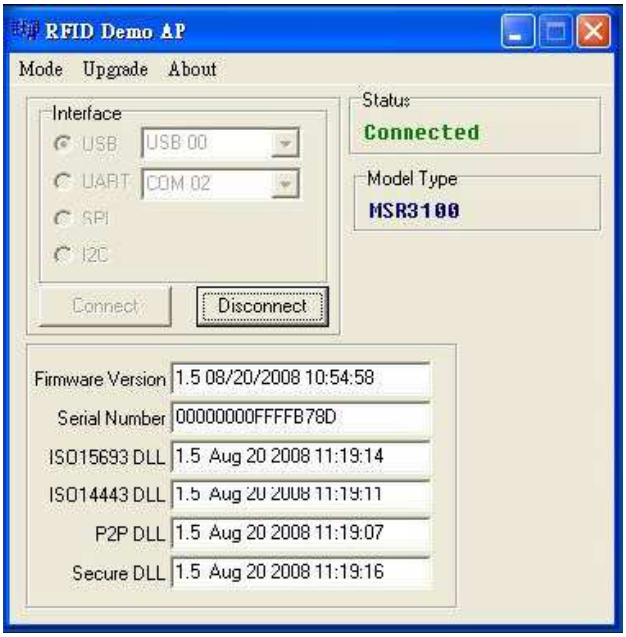

Registering USB Driver ....
Installing a non signed driver package

☐ Plug-in RFID HF device into USB port. Follow the steps to install USB driver.

☐ Open device manager for double checking. In RFID category, RFID NFC Device was installed.



☐ Launch demo application by double click “RFID NFC Demo” shortcut on desktop. In the main screen, the “Status” area informs you the physical link status between PC and MSR310X. The default interface is USB. If no MSR310X been found on USB port, the “interface” area will be unlocked for manual selection.



2.2 WinCE

☐ Using ActiveSync to transfer “RFID_Cab.CAB” file from “.\Demonstration\WinCE” path to WinCE 5.0 based handheld device.
☐ Operate handheld device to find the installed file. And then, double click on it for starting installation.

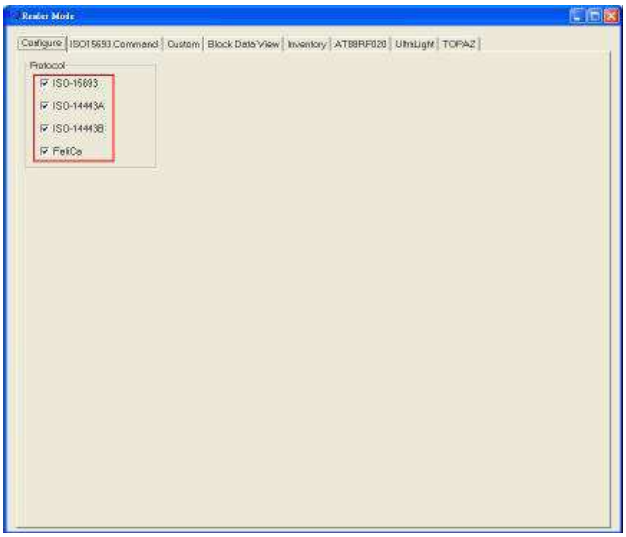
2.3 Linux

We only provide a command line application, TEST_ap, for demonstration.
☐ Copy “antusb.ko” and “TEST_ap” files from “.\ Demonstration\Linux” path to Linux PC.
☐ Open a new terminal on Linux PC.
☐ Install USB driver by typing “insmod antusb.ko”
☐ Add “alias rausb0 antusb” into “/etc/ modules.conf”
☐ Activate USB device by typing “ifconfig rausb0 up”
☐ Run “TEST_ap”

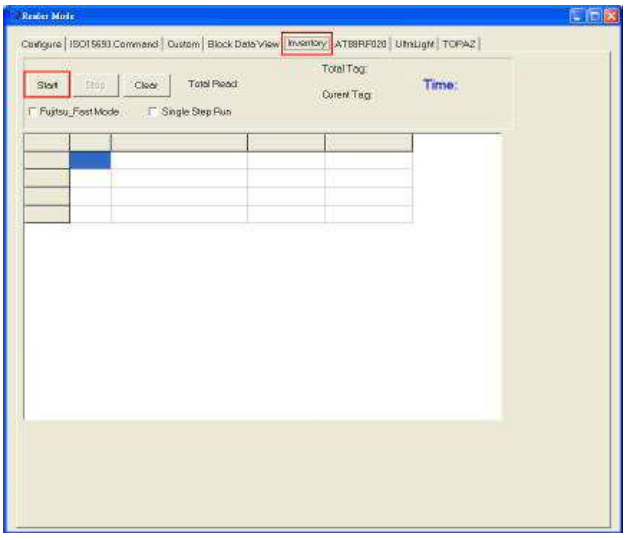
3. Operation

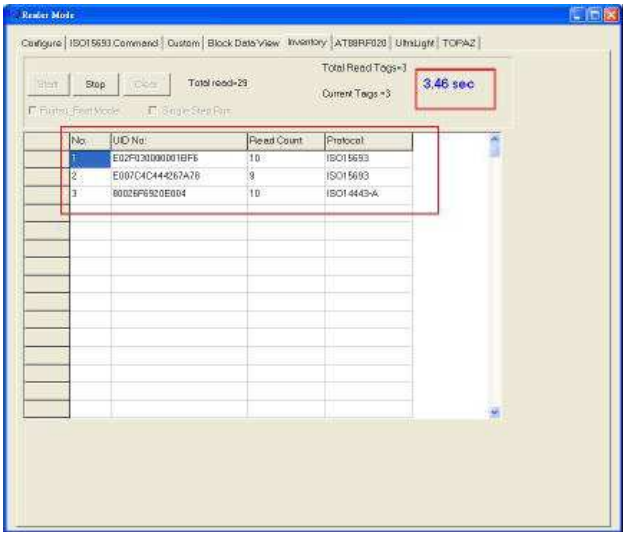
3.1 Read Tags

☐ Launch reader mode demo form by clicking “Mode”->”Reader”. Then the reader mode demo form will be shown as below. The RFID protocol can be selected from “Protocol” area.

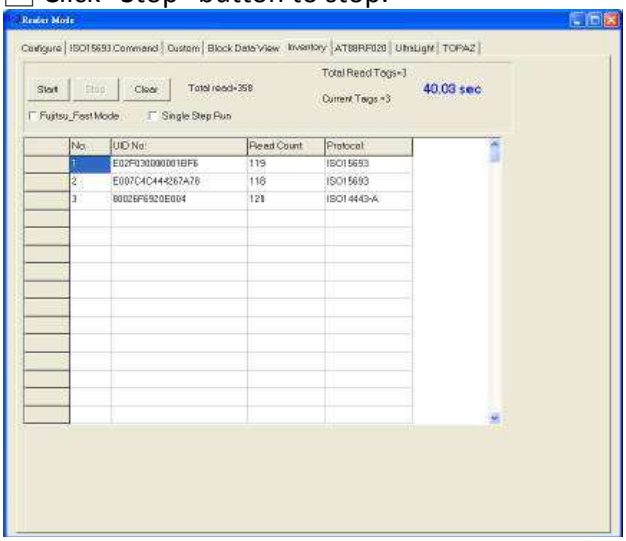


☐ Choose “Inventory” page and put tags near MSR310X. Click “Start” button to finding tags continuously.

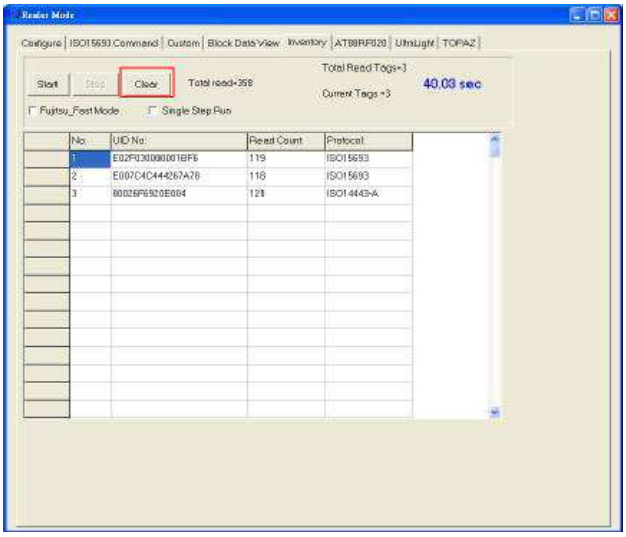


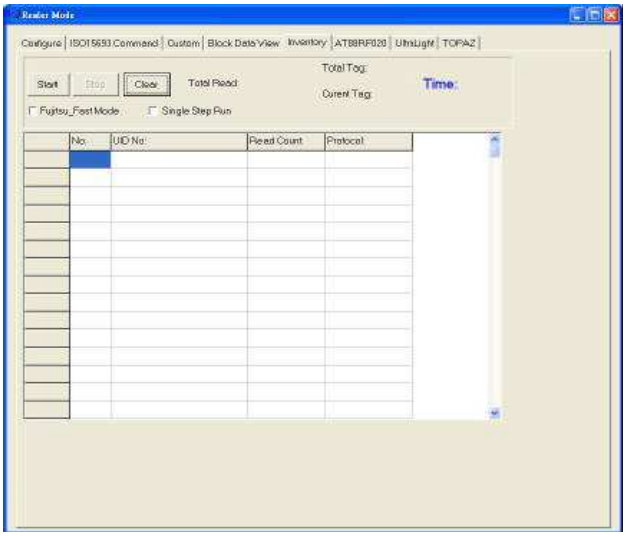


☐ Click “Stop” button to stop.



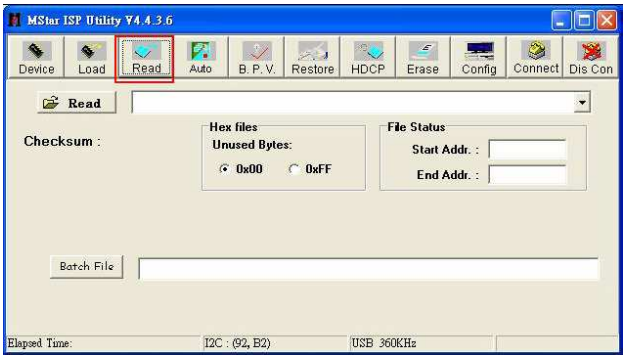
☐ Click “Clear” button to clear tag information.



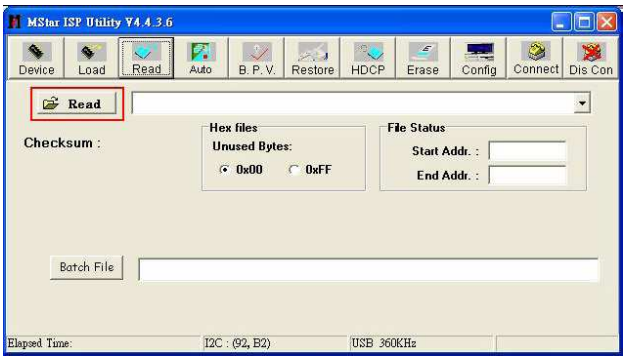


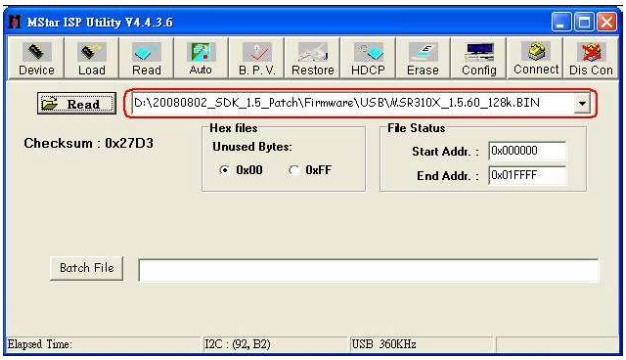
3.2 Upgrade firmware by ISP tool

☐ Execute “ISP_Tool.exe” under “. \Tool” path. Click “Read” as shown below.

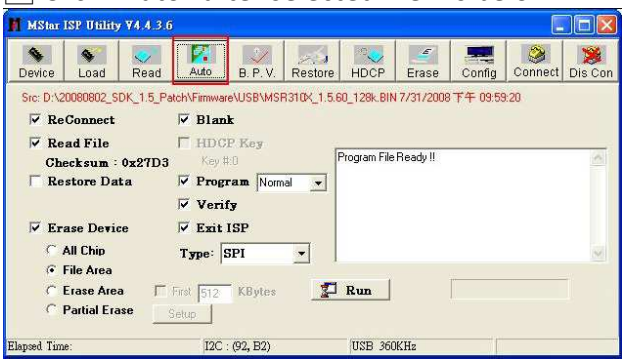


☐ Click “Read” button to select MSR310X firmware under “. \Firmware” path. Select file with 128 kB file size.

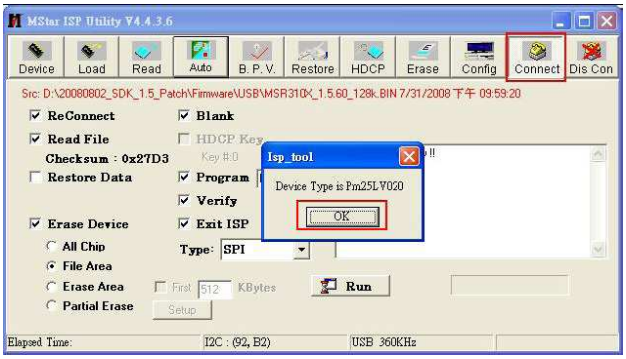




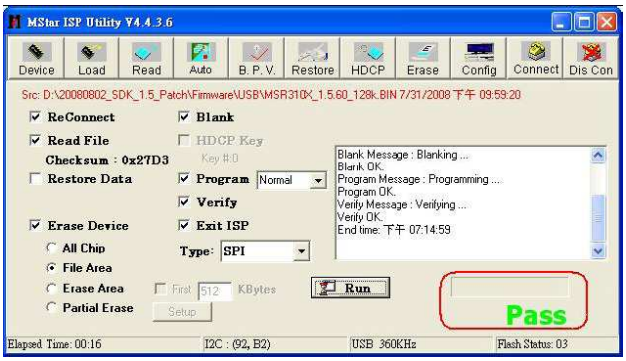
☐ Click “Auto” after selected file. As below.



☐ Click “Connect” to link with MSR310X. If success, flash type will be displayed.

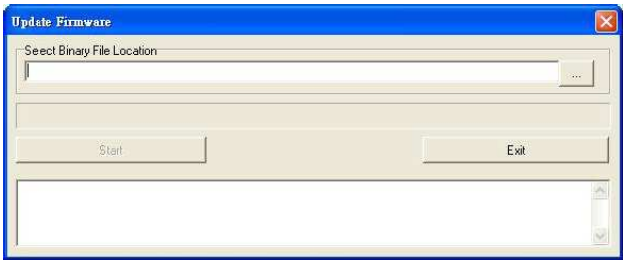


☐ Click “Run” button to start downloading. You will see PASS if succeeded.

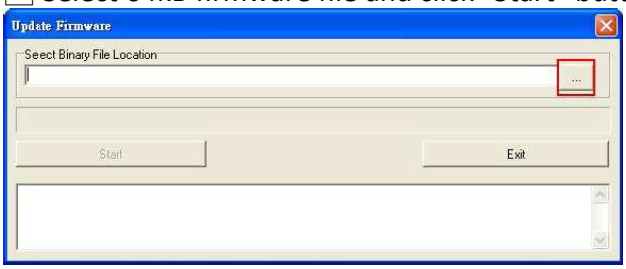


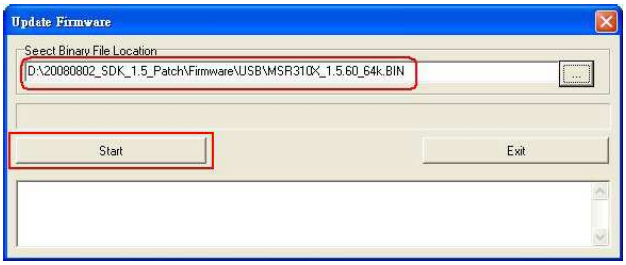
3.3 Upgrade firmware by DemoAP

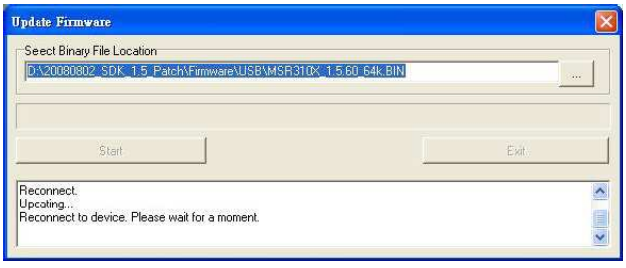
☐ Launch reader mode demo form by clicking “Upgrade”

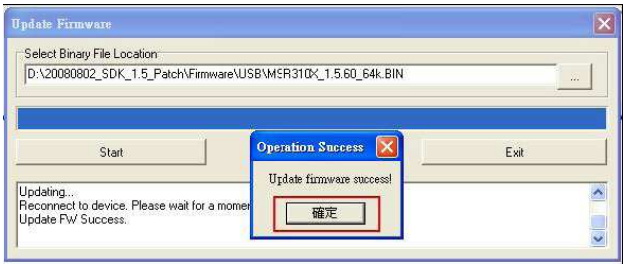


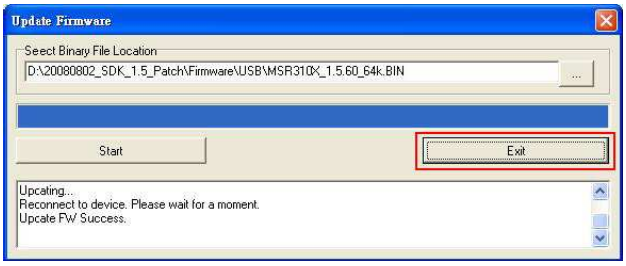
☐ Select 64kB firmware file and click “Start” button to upgrade.





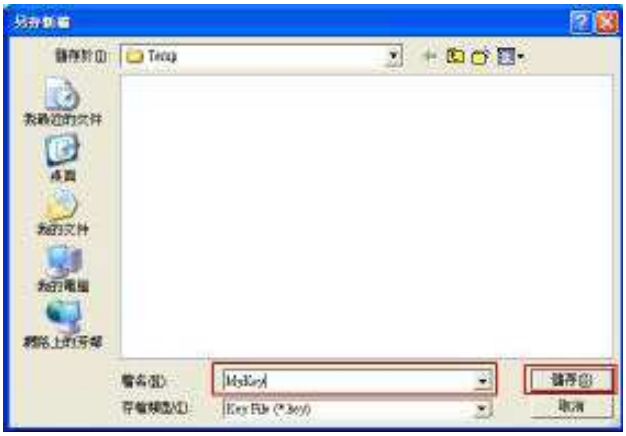




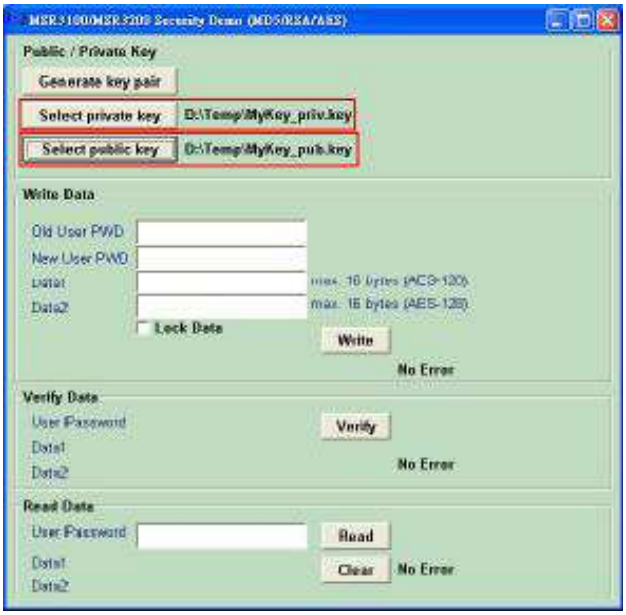


3.4 Secure Demo

☐ Launch secure demo form by clicking “Mode”->”Secure Demo”. Then the secure demo form will be shown as below. The secure demo needs a pair of private key (for writing data) and public key (for verifying/reading data). The key pair can be generated by clicking “generate key pair” button.

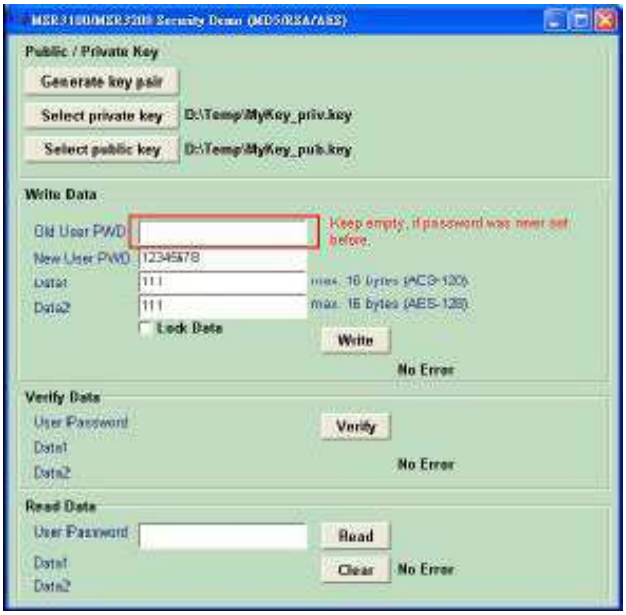


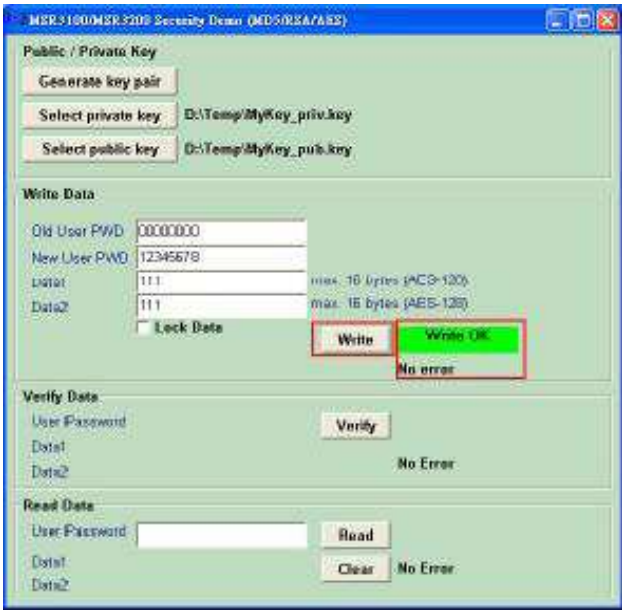
☐ Select key pair by clicking “Select private key” and “Select public key” buttons.



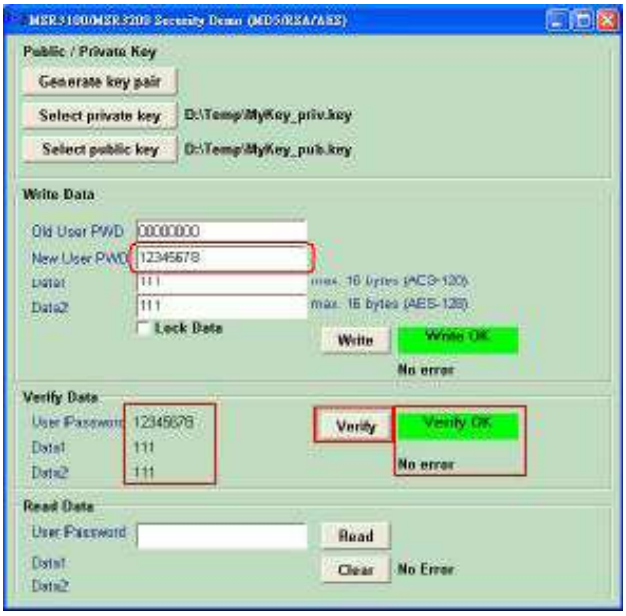
☐ Enter “Old User Password” (If the tag was never set password before, let this filed empty.), “New User Password”, “Data1”, “Data2” and then click “Write” button. A green text box “Write OK” means data is successfully written to MSR3200 tag. The MSR3200 tag will be locked if the “Lock Data” check box is checked. It is noted that the tag will no longer support write operation.

PS: The maximum length of password is eight characters (64 bits).

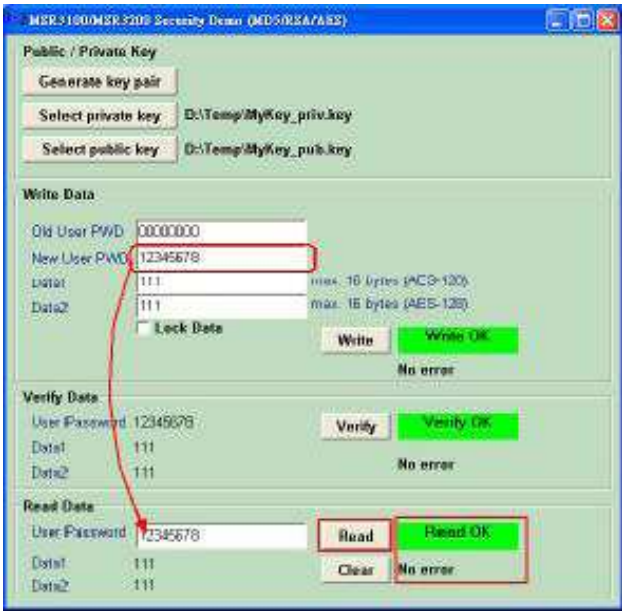




☐ In order to compare the data written to tag and the data read from tag, keep “New User Password”, “Data1” and “Data2” the same as in previous step. Trigger data reading and verification by clicking “Verify” button. A green text box “Verify OK” means data is successfully read from MSR3200 tag and the data is the same as written before.



☐ Read data operation also enables data reading from MSR3200 tag but the data is manually verified by user. The “User Password” should be entered by user before clicking “Read” button. A green text box “Read OK” means data is successfully read from MSR3200 tag. The “Clear” button will clear “User Password”.



Compliance

Federal Communication Commission Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device is intended only for OEM integrators under the following conditions:

The antenna must be installed such that 20 cm is maintained between the antenna and users, and
The transmitter module may not be co-located with any other transmitter or antenna.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling
This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains FCC ID: EHA-INRD01H”. The grantee's

FCC ID can be used only when all FCC compliance requirements are met.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

Industry Canada statement:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

This device is intended only for OEM integrators under the following conditions:
1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
2) The transmitter module may not be co-located with any other transmitter or antenna.
As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes:
1) L'antenne doit être installée de telle sorte qu'une distance de 20 cm est respectée entre l'antenne et les utilisateurs, et
2) Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou antenne.
Tant que les 2 conditions ci-dessus sont remplies, des essais supplémentaires sur l'émetteur ne seront pas nécessaires. Toutefois, l'intégrateur OEM est toujours responsable des essais sur son produit final pour toutes exigences de conformité supplémentaires requis pour ce module installé.

IMPORTANT NOTE:
In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the Canada authorization is no longer considered valid and the IC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate Canada authorization.

NOTE IMPORTANTE:
Dans le cas où ces conditions ne peuvent être satisfaites (par exemple pour certaines configurations d'ordinateur portable ou de certaines co-localisation avec un autre émetteur), l'autorisation du Canada n'est plus considéré comme valide et l'ID IC ne peut pas être utilisé sur le produit final. Dans ces circonstances, l'intégrateur OEM sera chargé de réévaluer le produit final (y compris l'émetteur) et l'obtention d'une autorisation distincte au Canada.

End Product Labeling
This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains IC: 1223A-INRD01H”.
Plaque signalétique du produit final

Ce module émetteur est autorisé uniquement pour une utilisation dans un dispositif où l'antenne peut être installée de telle sorte qu'une distance de 20cm peut être maintenue entre l'antenne et les utilisateurs. Le produit final doit être étiqueté dans un endroit visible avec l'inscription suivante: "Contient des IC: 1223A-INRD01H".

Manual Information To the End User
The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.
The end user manual shall include all required regulatory information/warning as show in this manual.
Manuel d'information à l'utilisateur final
L'intégrateur OEM doit être conscient de ne pas fournir des informations à l'utilisateur final quant à la façon d'installer ou de supprimer ce module RF dans le manuel de l'utilisateur du produit final qui intègre ce module.
Le manuel de l'utilisateur final doit inclure toutes les informations réglementaires requises et avertissements comme indiqué dans ce manuel.

EMC and RF Information for all Other Regions

Intermec Technologies Corporation declares that this device is in compliance with the essential requirements and other relevant provisions of
R&TTE Directive (1999/5/EC).

- EN 300 330-1/-2
- EN 302 291-1/ -2
- ETSI EN 301 489-1/-3
- EN 60950-1
- EN 50371

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.