SYRIS TCP/IP & Bluetooth HF RFID Reader

OPERATION MANUAL

V01.00

Model： RD400-H1

Features：

- Compatible to read multi-ISO format HF cards
- Multi communication interface
- Provide protocol to develop.

Specifications：

HF RFID Frequency	13.56 MHz (Multi-Format)
HF Read Range	1cm ~ 5cm
HF Card Types	ISO14443A/B, ISO15693, Mifare block, Desfire UID
Read Card Time	0.1 sec
Interface	Ethernet / Bluetooth / USB
Ethernet	10M/100M Ethernet Port
Bluetooth	Bluetooth 5.0 BLE / SPP
Bluetooth transmission range	up to 20m
Status Indicator	LED& Beeper
Operating Temperature	-10°C ~ 60°C
Power	5V DC
Size(mm)	73 (W) x 71 (H)x 27 (D)mm (No Wire Included)

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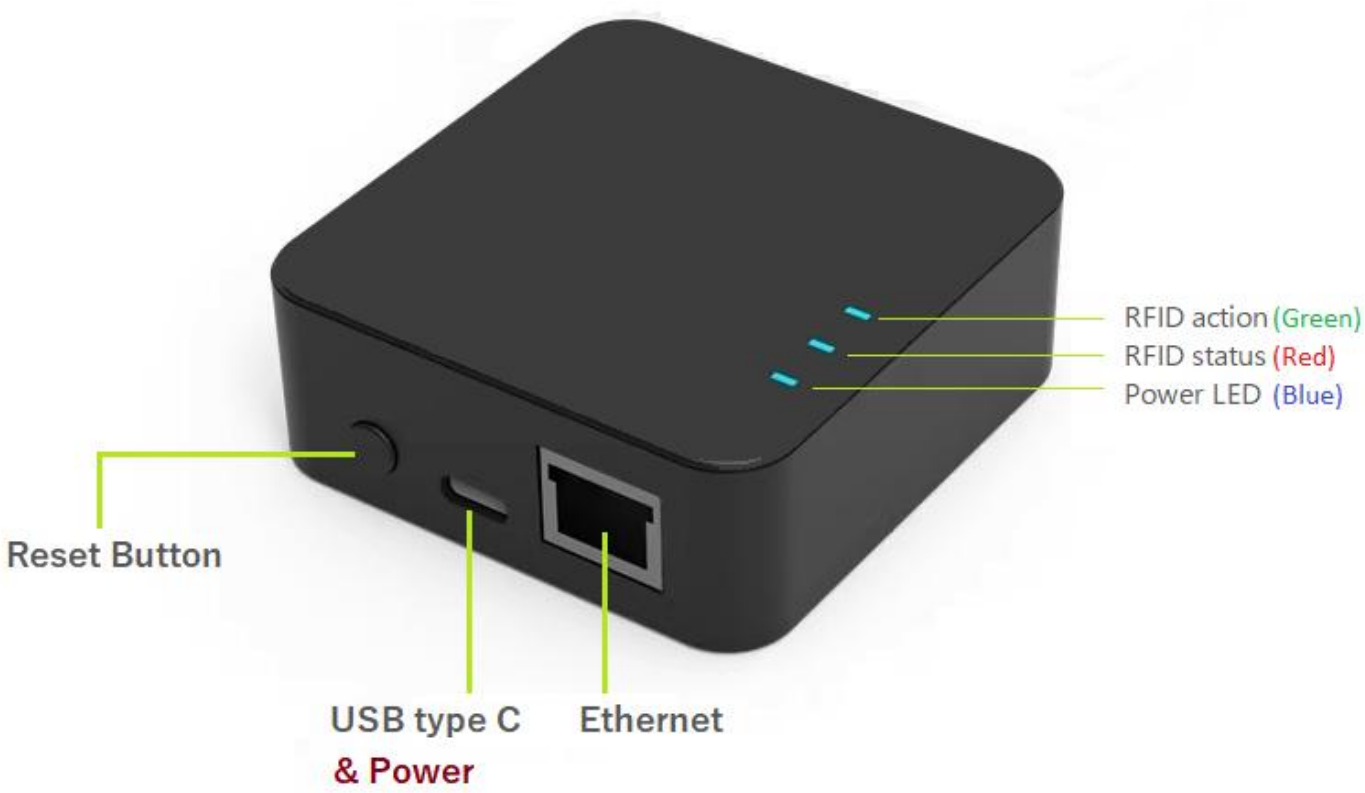
RD400 Hardware Connection



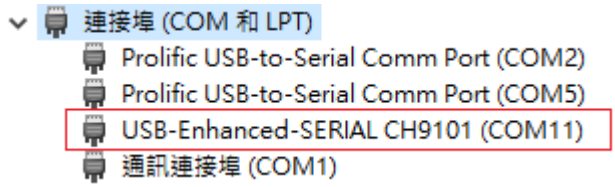
1. Reset Button：
   - Click to reboot reader.
   - Press for 1 second to setup reader's parameters to factory settings.
   - Press for 6 seconds to setup the network to factory settings.

2. USB type C：5V USB power input and USB virtual COM port

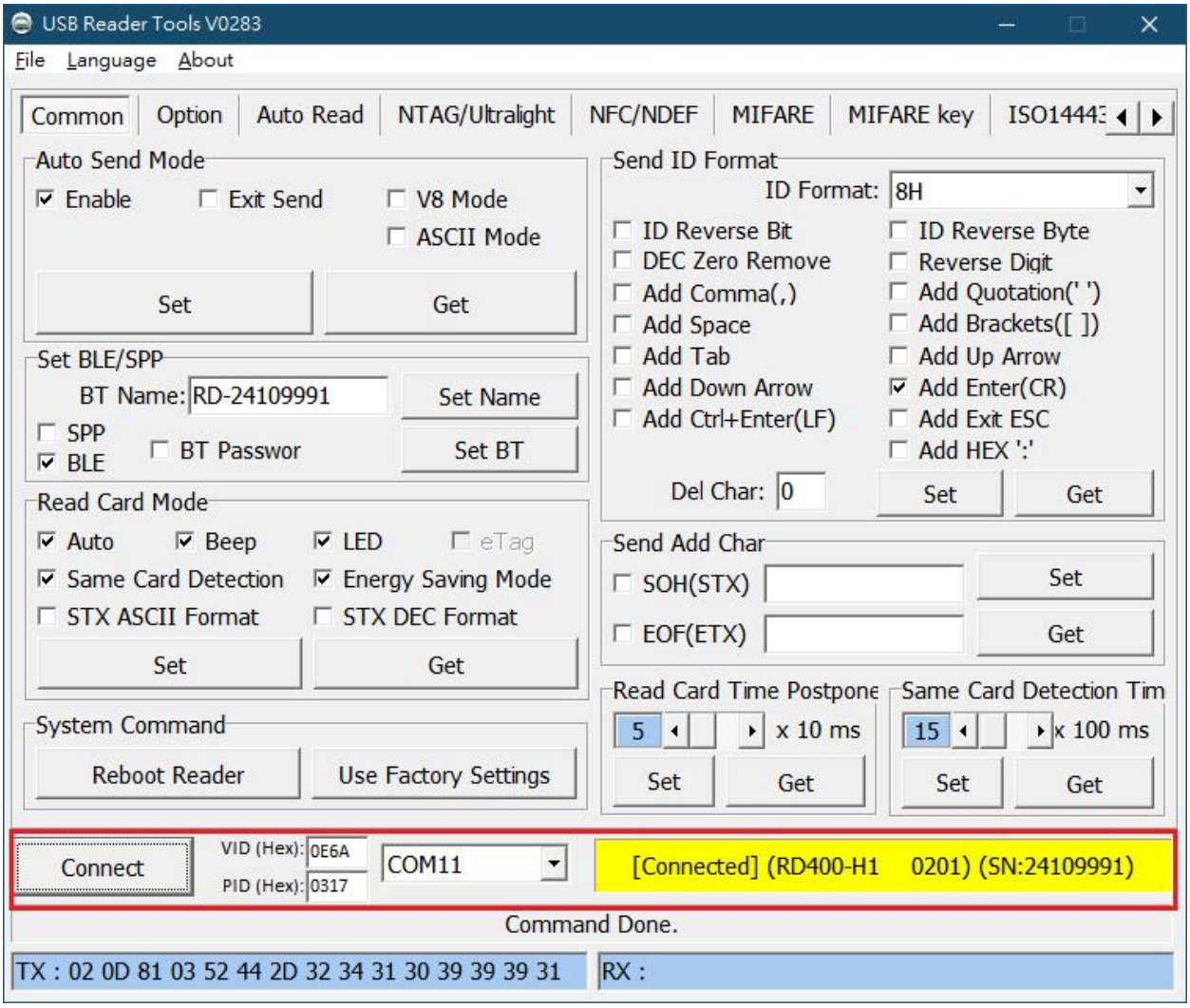
3. Ethernet：TCP server, TCP client, UDP server and UDP client

USB virtual COM port

1. Connect USB Type C to computer and windows device manager will create a COM port number.



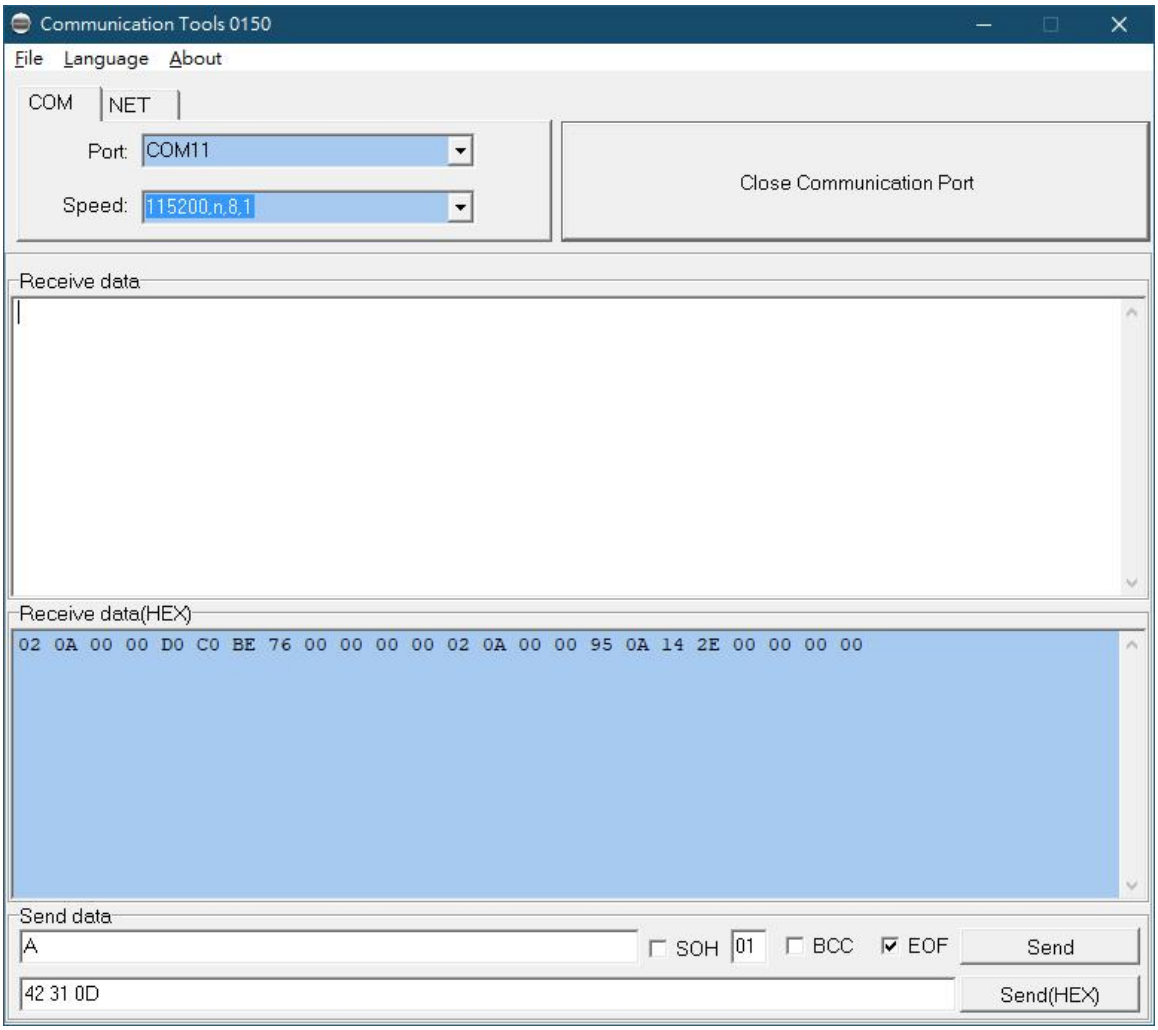
2. Connect reader tool with virtual COM port to setup parameters.



3. Read RFID tag with virtual COM port.

Disconnect Reader tools and execute “CommunicationTools_V0150.exe”

Device response data when received protocol command, and the data will be queued in device buffer.

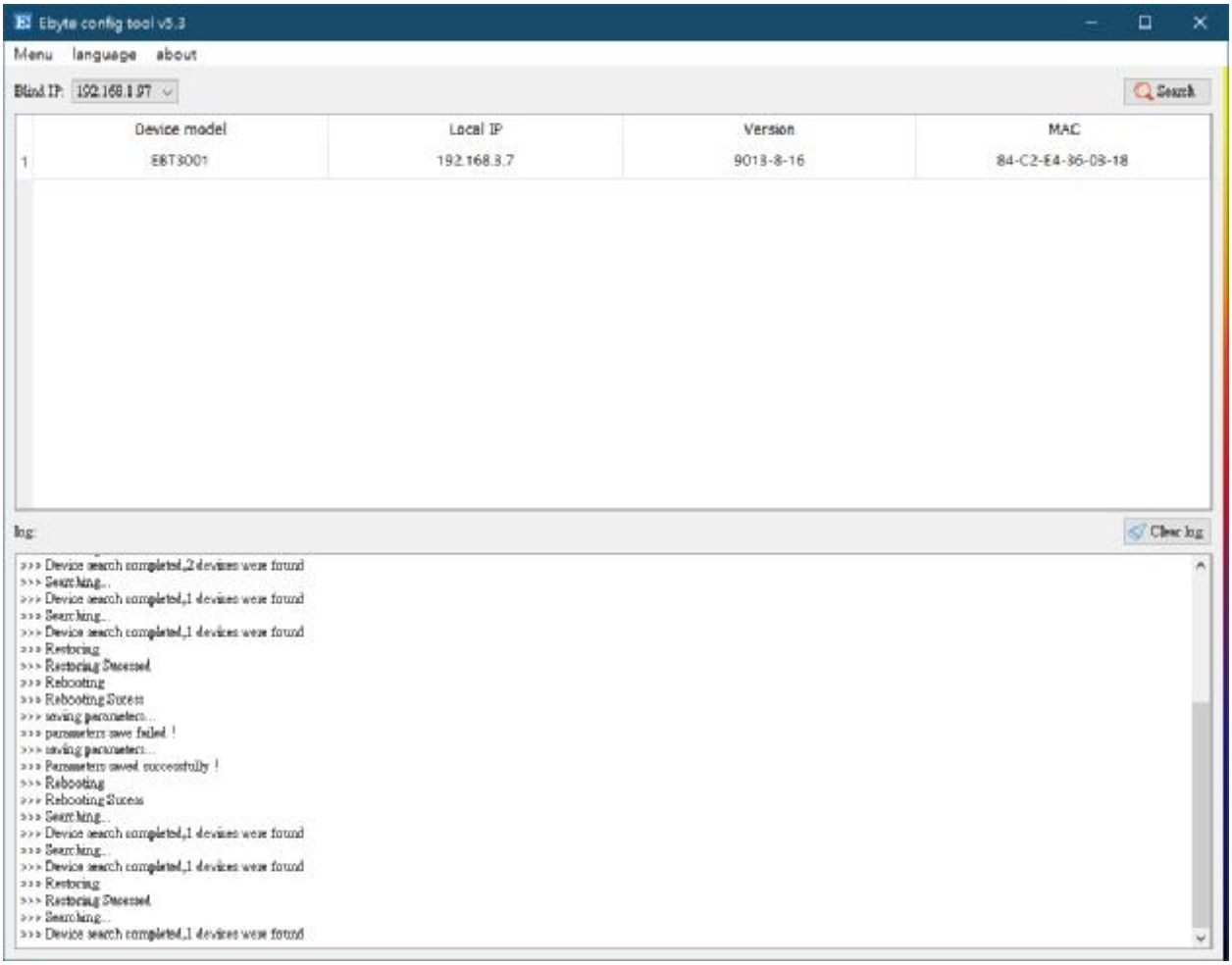


For example. (STD mode)

```
Read tag (D0 C0 BE 76) will receive : 02 0A 00 00 D0 C0 BE 76 00 00 00 00
Read tag (95 0A 14 2E) will receive : 02 0A 00 00 95 0A 14 2E 00 00 00 00
```

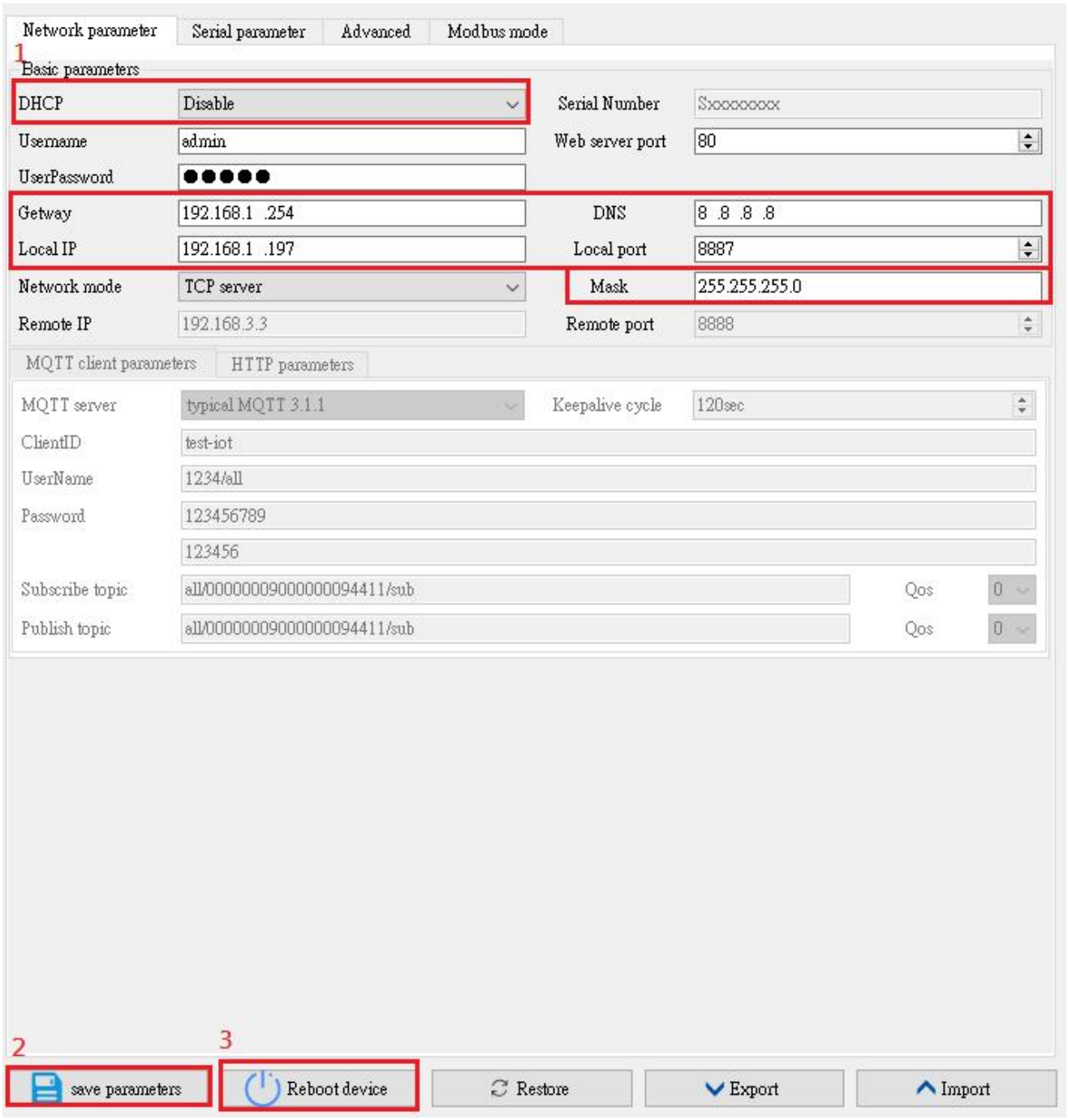
Ethernet network connection

1. Execute “NET_config_tool_v5.3.exe” and press “Search” to search reader in LAN.

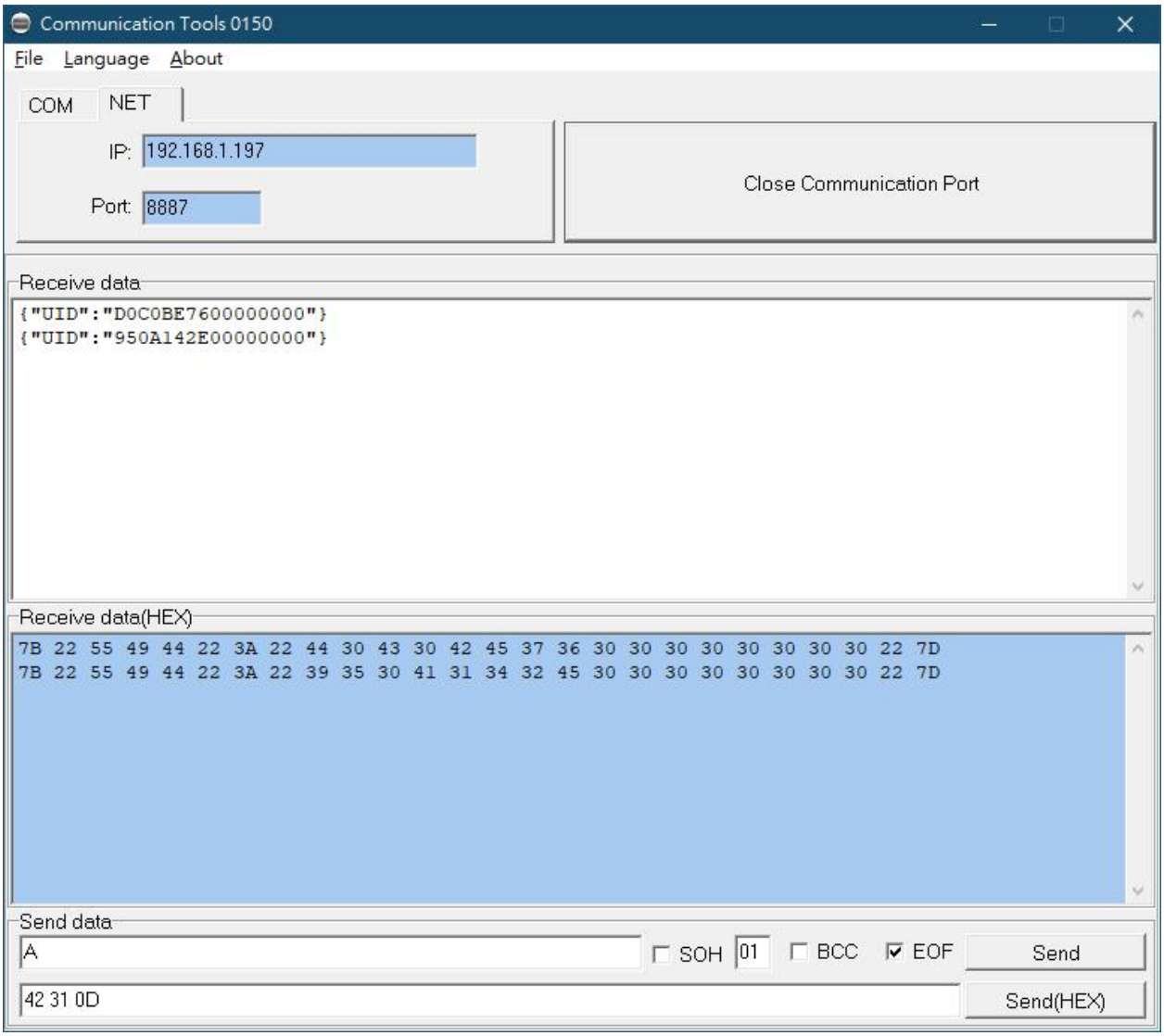


2. Factory default IP is “192.168.3.7”. User can check the MAC address from product sticker with IP to confirm the device.

3. Click IP address to Setup IP address.



4. Read RFID tag with TCP connection.

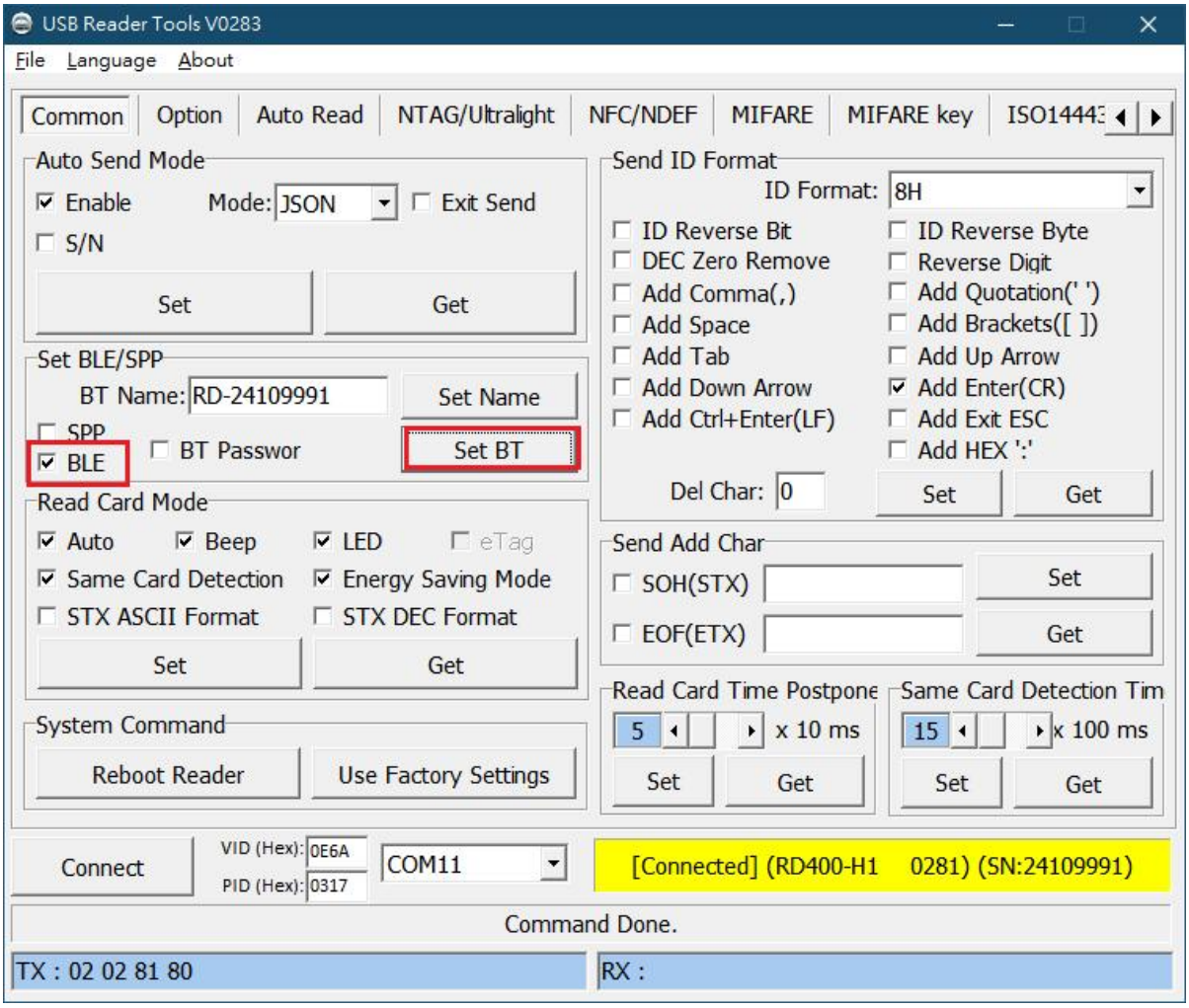


For example. (JSON mode)

```
Read tag (D0 C0 BE 76) will receive : {"UID":"D0C0BE7600000000"}
Read tag (95 0A 14 2E) will receive : {"UID":"950A142E00000000"}
```

Bluetooth BLE connection

1. Enable Bluetooth BLE with USB Reader tools.



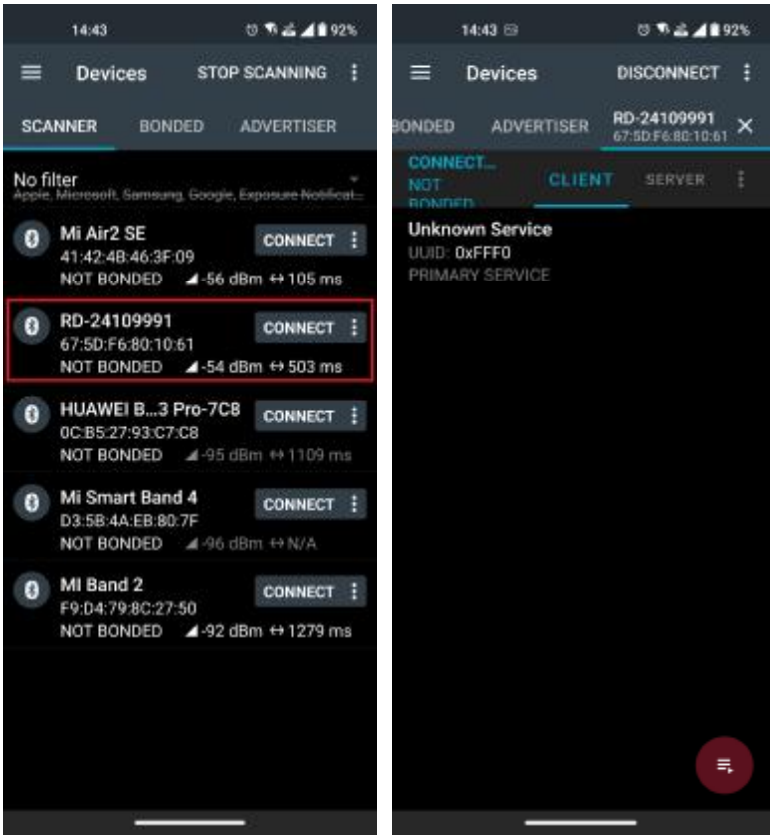
2. Execute Bluetooth BLE APP

   ex.

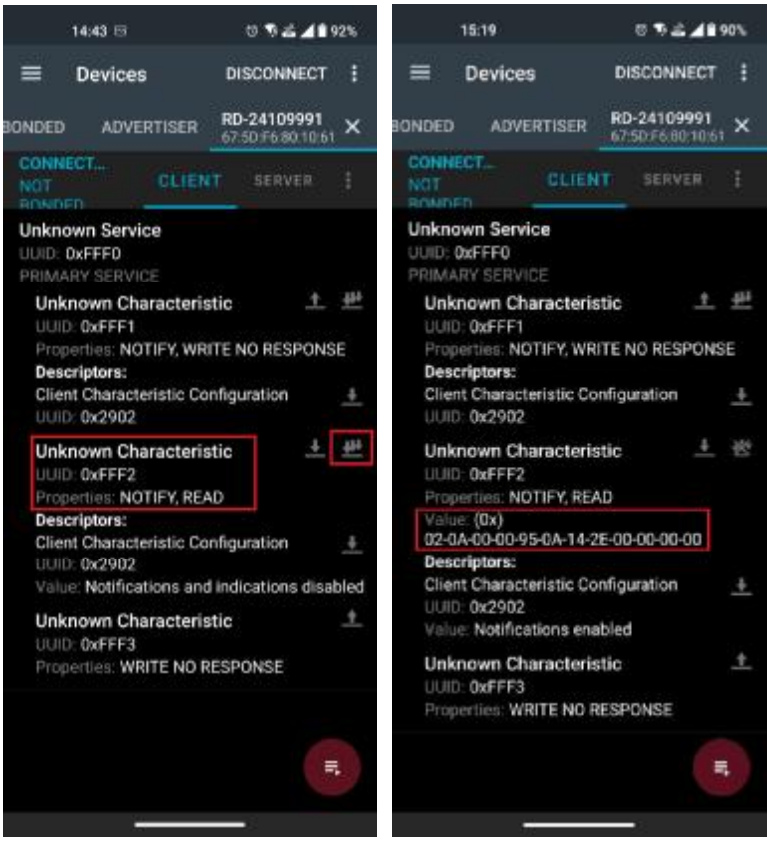
   iOS : https://apps.apple.com/us/app/bluetoothassistant/id1536579599

   Android : https://play.google.com/store/apps/details?id=no.nordicsemi.android.mcp

3. Scanning Bluetooth with APP.



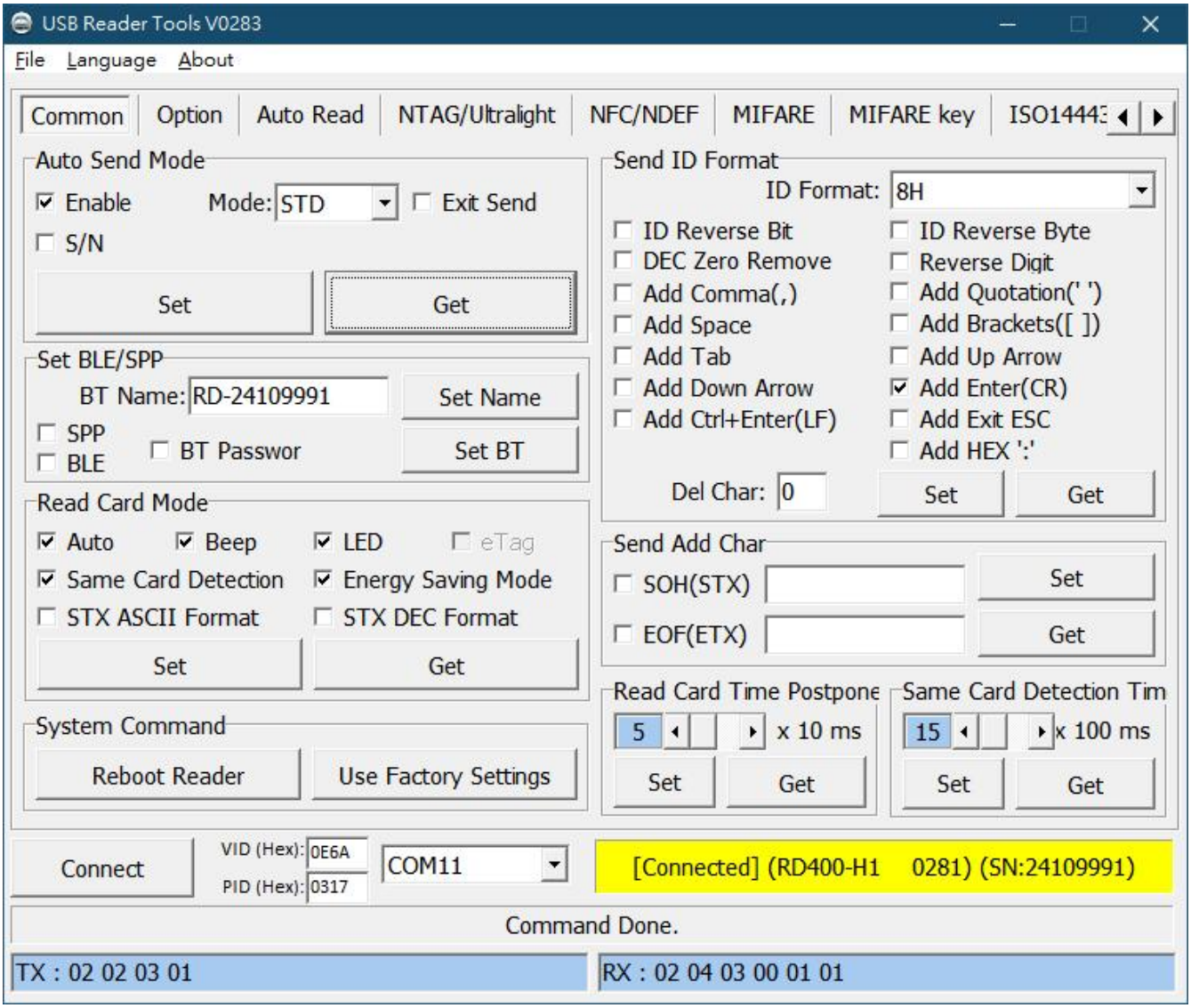
4. Read tag with Bluetooth BLE connection.



For example. (STD mode)

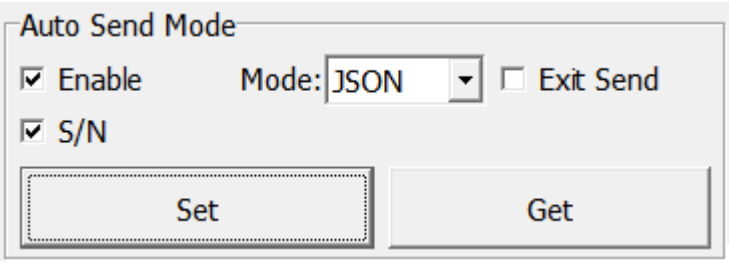
`Read tag (95 0A 14 2E) will receive : 02 0A 00 00 95 0A 14 2E 00 00 00 00`

Common Setting



1. **Auto send mode：**

Enable: The device will send UID to host terminal after read card.



Mode : UID output format.

Mode	Example output
STD	02 0A 00 00 D0 C0 BE 76 00 00 00 00
V8	06 00 1A 04 01 01 00 24 10 99 91 02 01 00 00 00 00 00 00 D0 C0 BE 76 00 00 00 00 1C 1C
ASCII	D0C0BE7600000000
JSON (default)	{"UID":"D0C0BE7600000000"}

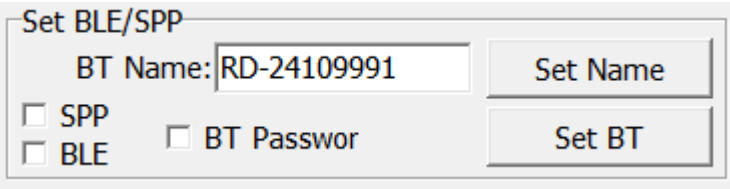
Exit send: Remove reading card will send “0”.

Ex. {"UID":"D0C0BE7600000000"} {"UID":"0000000000000000"}

S/N: The device will send reader’s serial number + tag’s UID.

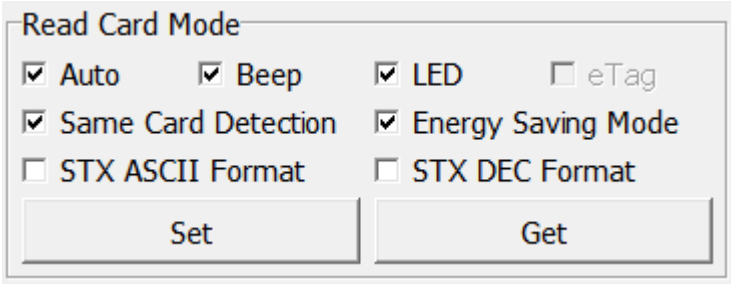
Ex. {"SN":24109991,"UID":"D0C0BE7600000000"}

2. **Bluetooth connection** (default is disable.)



RD400 support Bluetooth BLE and Bluetooth SPP connection, select SPP or BLE to enable.

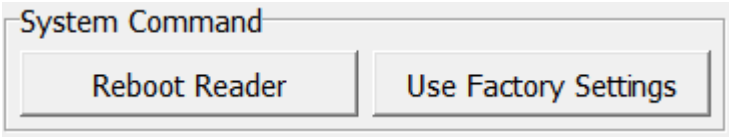
3. **Read Card Mode**



In this mode, program provided different options for user to choose, after ticked the options, just click Set to finish the setting procedure, or click Get Current Setting to read current setting from the reader.

Options	Descriptions
Auto	Automatically read card
Beep	Prompt the beep sound or not.
LED	Flash the LED when read the card.
Same Card Detection	If continuously read the same card, user has to wait around 1.5 sec then could read again.
Energy Saving Mode	Provide more energy saving method. (It is not recommend to use in writing card blocks or several cards)
STX ASCII format	Send ID format with ASCII.
STX DEC format	Send ID format with decimal.

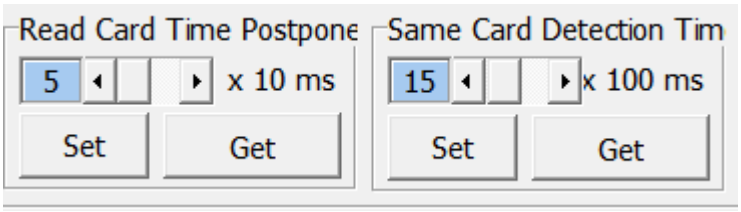
4. **System Command**



This tool provides two system commands; user can use Reboot Reader to reboot the RD200 reader. The other command is Use Factory Default Settings which can restore the reader settings to initial settings.

5. **Send ID Format** (Only for RD200/300 keyboard emulation mode)

6. **Read Card Time Postponement / Same Card Detection Time**

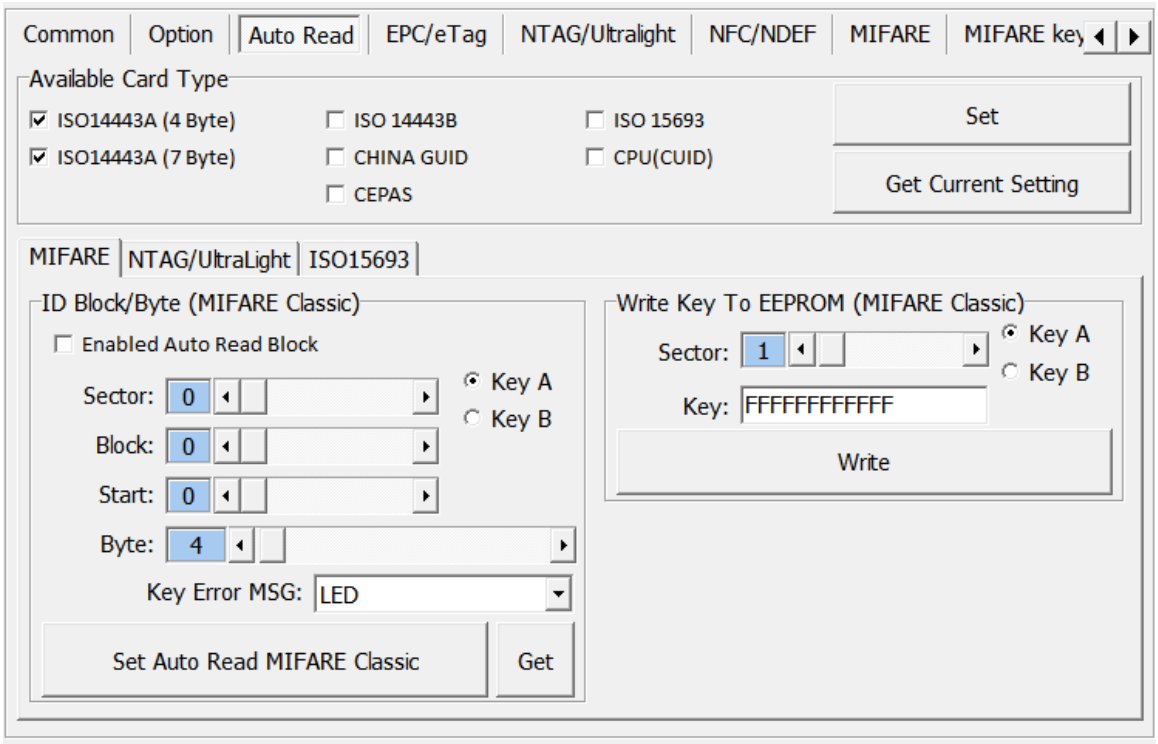


Read Card Time Postponement: The intermission time of card reading.

Same Card Detection Time: The intermission time of same card detection.

After adjusted the time then click Set to finish the setting procedure, or click Get Current Setting to read current setting from the reader.

Auto Read



- Available card type: Setup read card type.
- Set auto read Mifare block in this tab to read specific block automatically.
    1. Enable and select correct block.
    2. Click set auto read.
    3. Reader will always read selected block automatically.

- Write Key to EEPROM: Save Mifare block key to reader.