



# **User Manual of CL7206B RFID Reader**

**Shenzhen Clou IOT Technologies Co., Ltd**

**(Demo software V2.0.2 - V2.0.9)**

Welcome to be user of CLOU RFID products. Thanks for choosing CLOU' s integrated RFID Reader CL7206B. We believe our device will bring convenience for your work.



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# 1. Technical Specification

## 1.1 Feature

CL7206B is a high performance RFID reader which integrating reader module & antenna. It complies with ISO18000-6C/6B protocols, working frequency support international main frequency bands: FCC 902MHz ~928MHz, ESTI 865MHz ~868MHz , RU864~ 867MHz, KC CN 920MHz ~ 925MHz and GB 840MHz ~ 845MHz Export power adjustable. This device is featured by long range, high-speed reading, & high accuracy, high sensitivity, strong anti-interference etc.

## 1.2 Technical

### 1.2.1 Main function

- Protocol: support ISO18000-6C/6B standard
- Built-in LINUX operating system
- Multiple communication port (Ethernet, RS232, RS485, USB), Wi-Fi, Bluetooth prolongable
- Support tag data filtering
- Support RSSI: the intensity of the perceived signal
- Adjustable RF output power
- Optional working mode: constant frequency / frequency hopping
- Supports antenna detection function
- Supports online and remote upgrade
- I/O interface: 2 port opt coupler input, 2 port relay output and Wiegand output

### 1.2.2 Technical parameter

- Working frequency: GB 920MHz ~ 925MHz, GB 840MHz ~ 845MHz,

FCC 902MHz ~ 928MHz, ETSI 865MHz ~ 868MHz

- Output power (port): 33dBm + 1dB (MAX)
- Power adjustment: 1 dB step-by-step
- Reading distance: 0 ~15meters (depending on tags, antennas and environment)
- Channel bandwidth: <200 KHz
- Integrated circular antenna VSWR :  $\leq 1.4:1$
- Integrated circular antenna gain :  $\geq 9\text{dBi}$
- RS232 serial communication rate: 115200bps (default), 19200 bps, 9600bps
- RS485 interface communication rate: 115200bps (default), 19200 bps, 9600bps
- Support: Weigand 26, 34, 66 interfaces
- Power adapter: AC input 100V ~ 50Hz, 240V ~ 60Hz
- DC output: 24V/ $\pm 1.5/2.5\text{A}$
- High protection grade: IP65

### **1.2.3 Operational environment**

- Working environment:  $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- Relative Humidity: 5%RH ~ 90%RH (  $+25^{\circ}\text{C}$  )

## 2. Sketch map

### 2.1 Physical construction

- Physical size: 290mm\*290mm\*115mm(accessories not included)

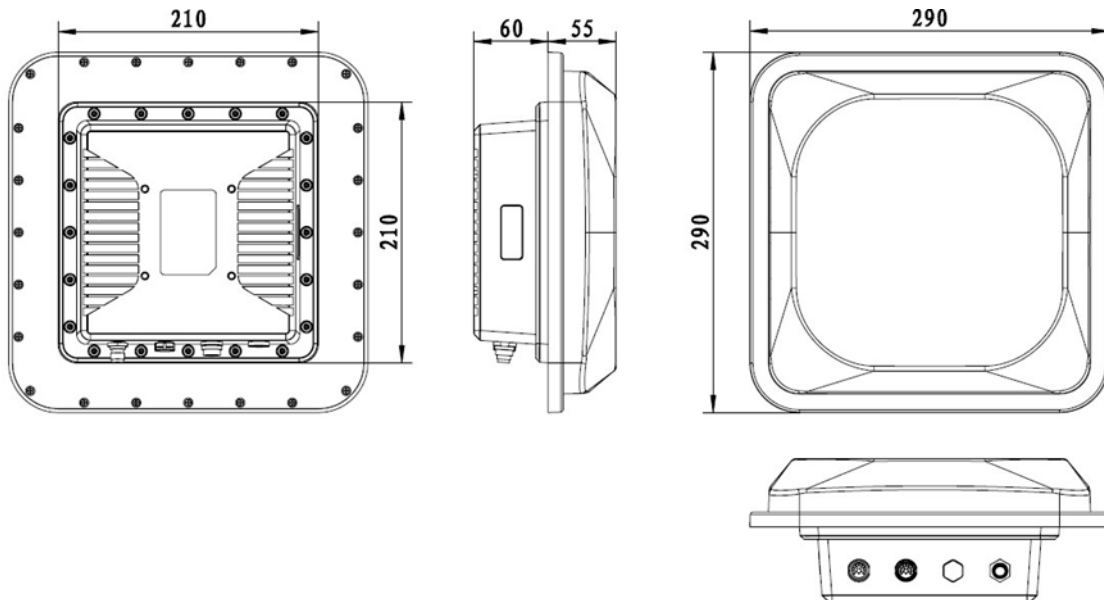


Image 2-1 Structure diagram

### 2.2 Weight

- Main body: 5kg ( accessories excluded )

### 2.3 Interface chart

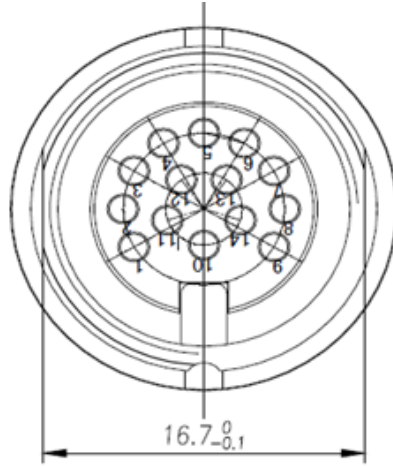


Image2-2 I/O & communication interface

- 1 — power & communication port
- 2 — I/O control interface

- 3 — Ventilation valve
- 4 — external antenna port

### 2.3.1 Interface description



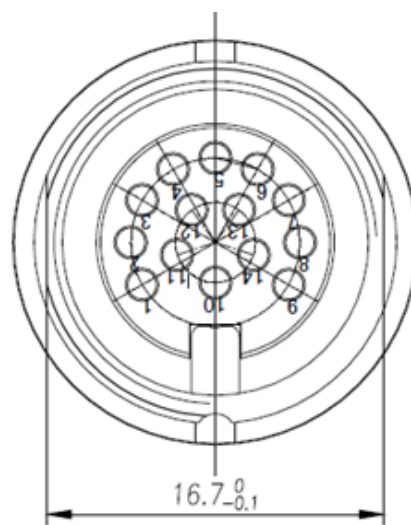
Picture 2-3 Power supply & communication port aviation port number chart

#### Aviation plug signal definitions

Chart 2-1 Power & communication interface signal definition

| PIN | Description        | PIN definition |
|-----|--------------------|----------------|
| 9   | Power supply GND   | PGND           |
| 8   | Power supply GND   | PGND           |
| 7   | 24V power positive | +24V           |
| 6   | 24V power positive | +24V           |
| 5   | NC                 | NC             |
| 4   | NC                 | NC             |
| 3   | NC                 | NC             |
| 2   | Ethernet port      | TD-            |

|    |                     |      |
|----|---------------------|------|
| 1  | Ethernet port       | TD+  |
| 14 | Signal Ground       | PGND |
| 13 | Ethernet port       | RD-  |
| 12 | Ethernet port       | RD+  |
| 11 | RS232 receiving RXD | RX   |
| 10 | RS232 receiving RXD | TX   |



Picture2-4 I/O interface aviation port number chart

### 2.3.2 I/O aviation port chart

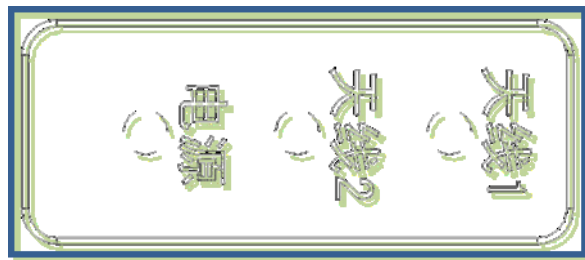
I/O aviation port definition as per in chart 2-2:

Chart 2-2 I/O port signal function definition

| PIN No. | Description         | PIN definition |
|---------|---------------------|----------------|
| 9       | Relay 1 output port | R1             |
| 8       | Relay 1 output port | L1             |

|    |   |      |
|----|---|------|
| 7  | Relay 2 output port                       | R2   |
| 6  | Relay 2 output port                       | L2   |
| 5  | Optocoupler 1 external signal input anode | IN1  |
| 4  | Optocoupler 2 external signal input anode | IN2  |
| 3  | Optocoupler external signal input cathode | IGND |
| 2  | Wiegand output 0                          | WG0  |
| 1  | Wiegand output 1                          | WG1  |
| 14 | GND                                       | AGND |
| 13 | RS485 signal                              | 485+ |
| 12 | RS485 signal                              | 485- |
| 11 | GND                                       | AGND |
| 10 | GND                                       | AGND |

### 2.3.3 LED panel description



Picture 2-5 LED panel chart

LED panel description as per in chart 2-3:

Chart 2-3 LED definition description

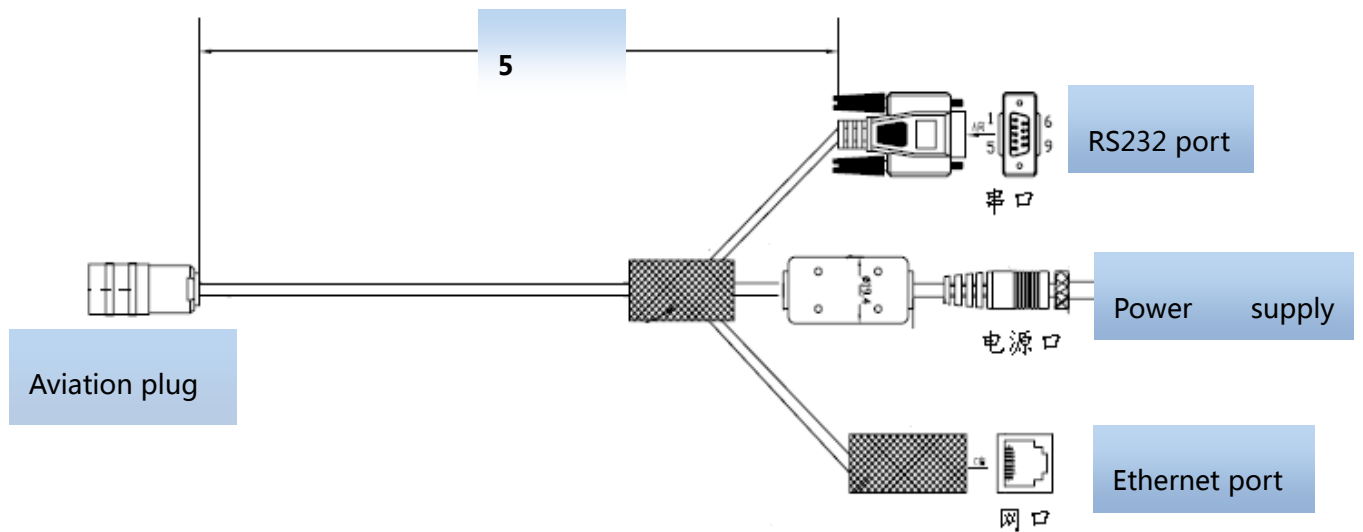
| LED Mark No.  | Description   | Status description                                |
|---------------|---------------|---|
| 天线 1 ( ANT1 ) | Antenna 1 LED | Means external antenna port successfully selected |

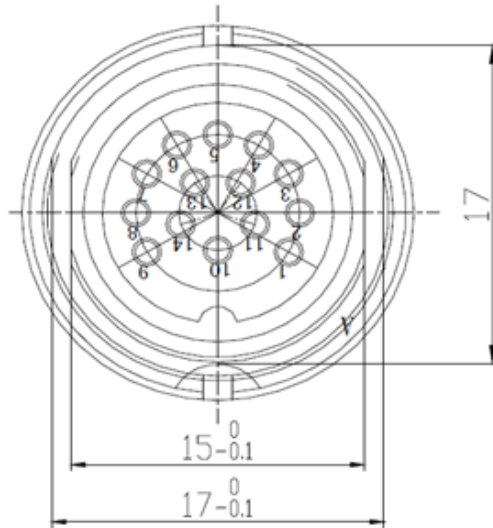
|               |                        |   |
|---------------|------------------------|---|
| 天线 2 ( ANT2 ) | Antenna 2 LED          | Means built-in antenna successfully selected          |
| 电源 ( PWR )    | Read/write card status | Flickering means entering normal card reading status. |

## 2.4 External cable connection description

### 2.4.1 Power supply & communication cable description

Cable Specifications: Black insulated skin with metal screening net, 14 shares inner core, outer diameter 7.8mm, main cable length is 4m, branch cables length are 1m. As shown in below picture, the aviation plug connected with the reader "Power and communication interface," while 14 core lines are for the three different signal path, i.e. "serial cable, DC power cord and network interface cable ", mainly used for power supply and data transmission.





Picture2-7 Power supply & communication aviation plug chart

### 2.4.2 I/O control interface cable description

Cable Specifications: Black insulating skin with metal screening net, 14 shares inner core, outer diameter 7.8mm, the main cable length is 2.5m, "aviation plug " is connected with reader "I / O control interface", 14 core lines mainly provides two-way optical coupling input port, two-way relay control ports, two Wiegand output, two-way communication port 485. Mainly used for input trigger reading, peripherals switch control, upload card data, and communication functions,

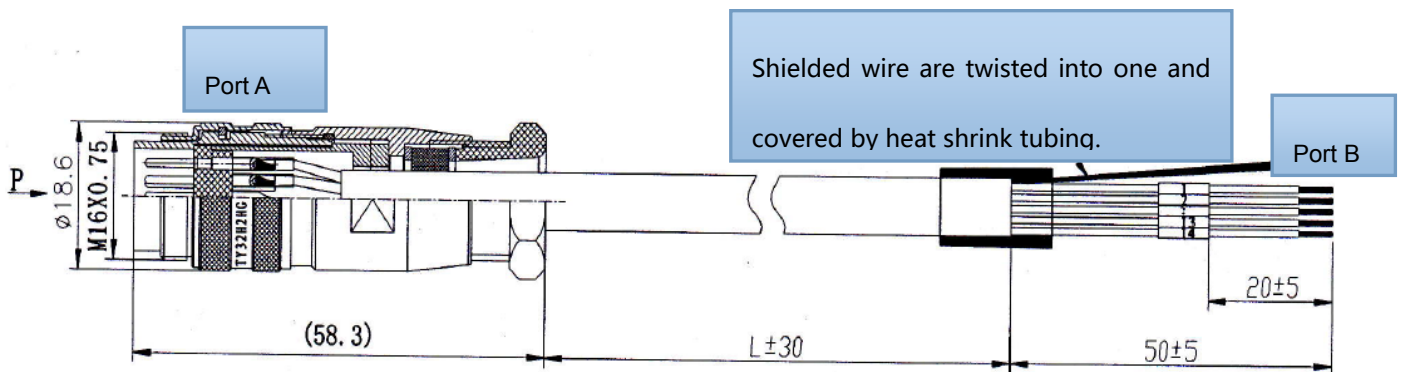
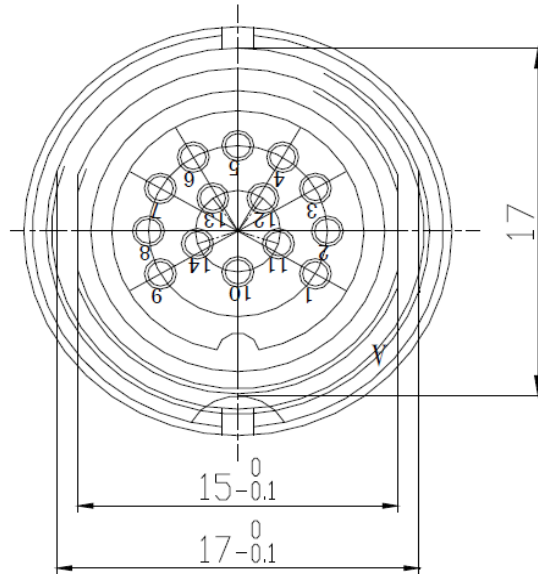


Chart 2-8 I / O control interface cable chart



**Chart 2-9 I/O control aviation seat illustration**

The other end of the cable is bare and tin thread, can distinguish the functions defined by the color of the cable.

**Chart 2-4 I/O control aviation seat definition table**

| <b>PIN description</b>                       | <b>Marking number</b> |
|--|-----------------------|
| Relay 1 output port                          | 9                     |
| Relay 1 output port                          | 8                     |
| Relay 2 output port                          | 7                     |
| Relay 2 output port                          | 6                     |
| Optocoupler 1 external signal input<br>anode | 5                     |
| Optocoupler 2 external signal input<br>anode | 4                     |
| Optocoupler external signal input<br>cathode | 3                     |
| Wiegand output 0                             | 2                     |
| Wiegand output 1                             | 1                     |
| Ground                                       | 10                    |

|               |    |
|---------------|----|
| Ground        | 14 |
| RS485A signal | 13 |
| RS485B signal | 12 |
| Ground        | 11 |

### 2.4.3 External RF cable description



**Picture 2-10 RF cable schematic chart**

The connector between RF cable & reader is TNC male, the connector between RF cable & antenna is SMA male connector (depending on antenna connector as well). Try to keep the cable length within 5 meters, impedance  $50\Omega$ , the insertion loss less than 2dB. Of course, you can choose a high-performance cable, appropriately increase the length, but keep the insertion loss less than 2dB.

Note: Too long RF cable or cable poor connection will cause high signal attenuation & poor reader performance.

### 2.4.4 External antenna description (optional)

This reader has a integrated circular antenna. User can also connect one more external antenna. It is recommended to use the external antenna provided by our company.



**Picture 2-11 Circular antenna****Antenna performance parameters:**

Work frequency: 902~928 or 860~865 MHz

Gain: 9dBic

Maximum VSWR: 1.3:1

Polarization: L Circular Right or left

Input impedance: 50 Ohms

Weight: 2.3lbs

Mechanical size: 10.2" x 10.2" x 1.32"

Antenna Connection: coax pigtail, Rev INC Males

Working temperature: -25°C~70°C

Lightning protection: DC grounded

Environmental rating: IP65

### 2.4.4 Network connection chart

Ethernet connection is used for long range high speed connection (within 80meters). It could connect through router or exchanger or PC Ethernet port. Refer to below picture.

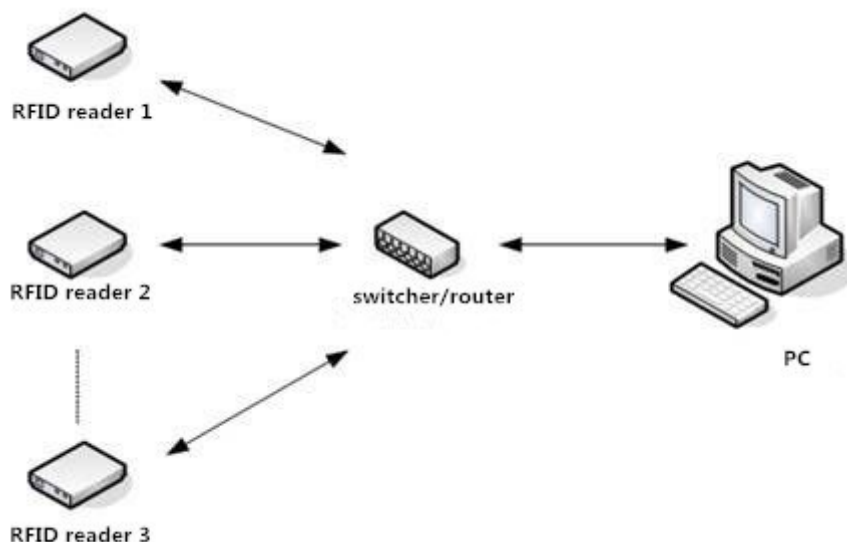


Image 2-12 Network application connection diagram

## 3. Installing

### 3.1 Precautions

In order to ensure normal and stable operation of the equipment and your personal and property safety, before installing CL7206B reader device, please carefully read the following notes.

- 1> Firstly check whether the outlet is connected to earth ground, and check if the local power supply voltage meet reader voltage requirements.
- 2> Check if the device is connected tightly and the metal house of the device is connected with ground.
- 3> pay attention to the network cable and serial cable type selection and length restrictions;
- 4> When installing multiple readers, pay attention to reader antenna display way & the minimum distance between the antennas, avoid the situation that interference may affect the reader's performance;
- 5> please test & ensure the reader can work normally before using it.

### 3.2 Installation conditions

Before installing the reader, please check carefully whether the product is intact, the accessories are complete.

### 3.3 Device connection

#### 3.3.1 Connected to power adapter

- ☆ Connect power adapter to AC power socket, and the other end to reader power support interface.

- ☆ After the circuit is connected, wait for about 20seconds, reader makes two alarming sound and enter into initialization state, after initialization is finished, reader enter into standby mode.

### 3.3.2 Connect an external antenna and RF cable

- ☆ The reader housing has a TNC-type coaxial connector for connecting an external antenna. Please use low-loss RF cable. The connection between the joints should be tightened (for outdoor installation joints please pay attention to water).

- ☆ reader external antenna is usually placed at outdoor. Its beam coverage is the effective reading range (try to avoid other objects occlusion).

- ☆ according to onsite situation, the reader antenna angle should be adjusted to the best condition till when the reading performance reaches its best after testing.

### 3.3.2 Connected with PC

- ☆ RS-232 interface is used for short-range communication (less than 10m), can be connected to a PC via the serial port connector for communication.

- ☆ RJ45 Ethernet port is used for longer range communications (less than 80m), can use extended network cable to connect the PC and RJ45 interface.

## 3.4 How to install the reader

According to field situation, preliminarily confirm the reading range. According to field read/write testing result, adjust antenna (rotation) angle, to make the reading performance reaches its best. Finally, Fixed the device and the tilt (rotation) angle.

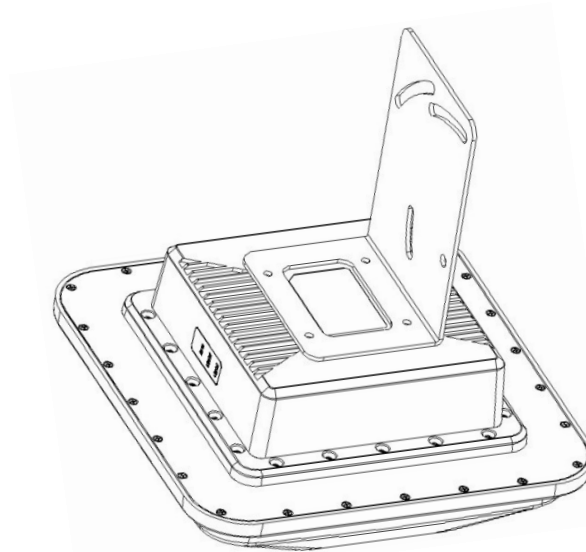
## 3.5 Installation steps

### 3.5.1 Vertical pole installation

- 1> Align the L-shaped mounting bracket against the holes on bottom of reader

housing, use four hexagon socket head cap screws GB70-85 M5 \* 12 for tightening. .

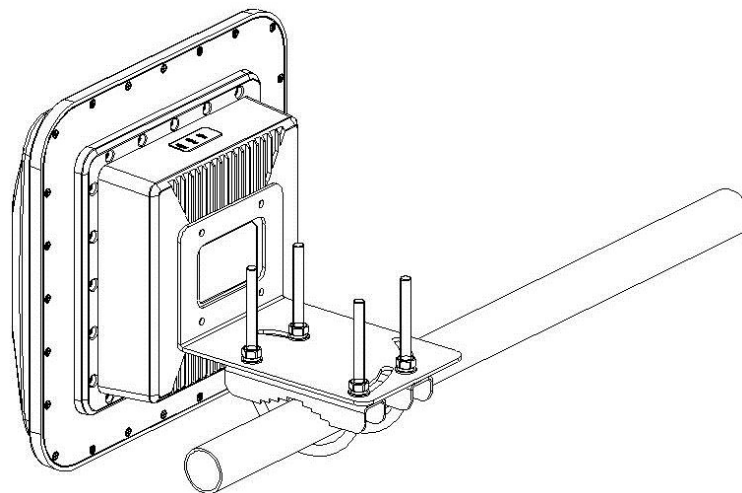
Shown in picture 5-1:



**Picture 3-1 wall installation**

2>Using two U-bolts and two toothed installation bracket to fix the reader on vertical rod through the L-bracket. As per illustrated in picture 5-2.

Note: This installation method is suitable for 50mm ~ 100mm diameter vertical pole.



**Picture 3-2 Vertical pole installation**

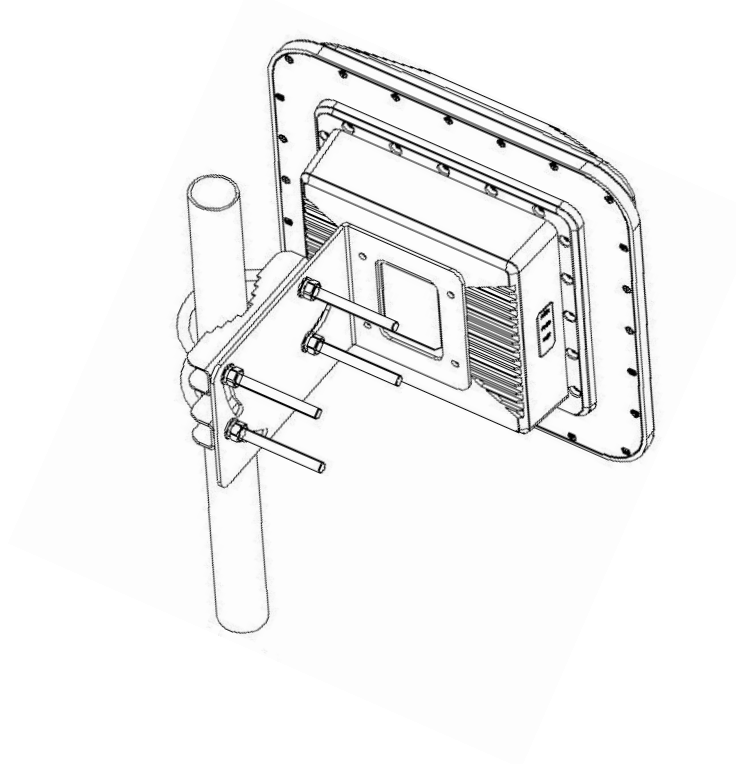
### **3.5.2 Horizontal pole installation**

1>Align the Align L-shaped mounting bracket against the holes on bottom of reader

housing, use four hexagon socket head cap screws GB70-85 M5 \* 12 for tightening. Refer to picture in 5-3:

2> Using two U-bolts and two toothed installation bracket to fix the reader on vertical rod through the L-bracket. As per illustrated in picture 5-3.

Note: This installation method is suitable for 50mm ~ 100mm diameter horizontal pole.



**Picture 3-3 Horizontal pole installation**

## 3.6 Acceptance

### 3.6.1 Check physical installation

- 1> Check & ensure the reader is fixed safely;
- 2> Check & ensure cables are connected securely.
- 3> Check & ensure screws are screwed firmly.

### 3.6.2 Check reader performance

- ☆ check & confirm the reader is working normally ;
- ☆ check & confirm the reading range is set properly.

## 4. Software operating

### 4.1 Demo software

The demo software mainly carries on system control, communication mode selection, parameter setting and searching, read and write tags and data presentation and so on.

Before using the demon software, please check if the connection of the reader hardware is completed, mainly ensure the following tips:

- 1, If the reader and computer serial port (network or RS485) is connected correctly
- 2, If the antenna ports have been connected to the antenna (ANT1, ANT2 is built-in antenna)
- 3, If the reader and writer start up (hear "drop" buzzer sound).

### 4.2 Application environment

- ◆ The software environment

Windows 2000 Service Pack 3、 Windows Server 2003、 Windows XP Service Pack 2、 Windows 7 system

- ◆ The hardware environment

P4/1.7GHz above PC, 512M or more memory, 40GB hard drive

### 4.3 Software version

- ◆ V2.0.2 – V2.0.10 supportable

### 4.4 Installation

1. Copy the software to the PC, open the software installation package, double click "setup" application, and follow the installation guide.
2. Click the next step, and select the installation path, click next, and the software will begin to install.
3. Click the "Install", and software installation progress takes about 1mins.


4. After the progress of the software is finished, click the "finish" button to complete the installation.

## 4.5 Operation

### 4.5.1 Device connection

All functions can be operated only after successful connection.

#### 4.5.1.1 Serial communication connection

Double click the icon  to start the Demo software, the main interface of the toolbar icons are gray means reader is not connected, in the 'connecting reader' option list select communication mode 'serial connection', 'connection parameters' select 'COM?' (choose PC serial number), communication baud rate select 115200 (default), click "OK " button, as shown in image 4-6.

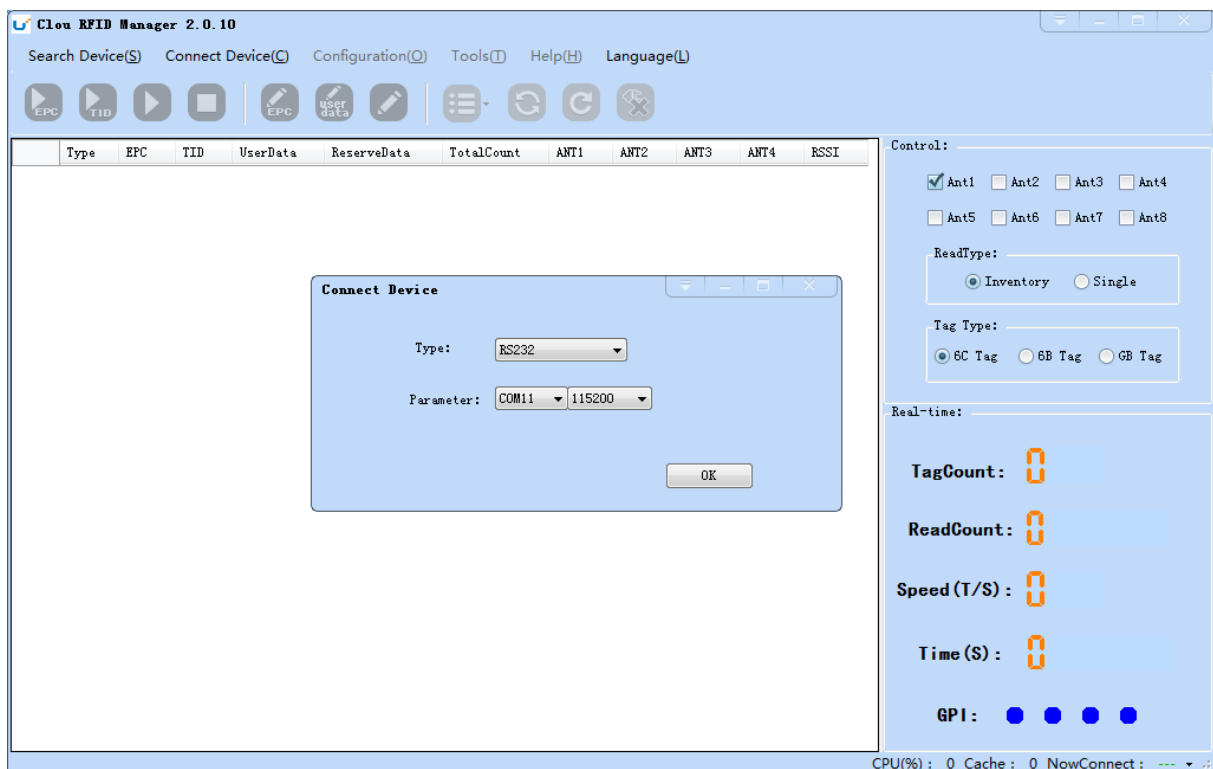
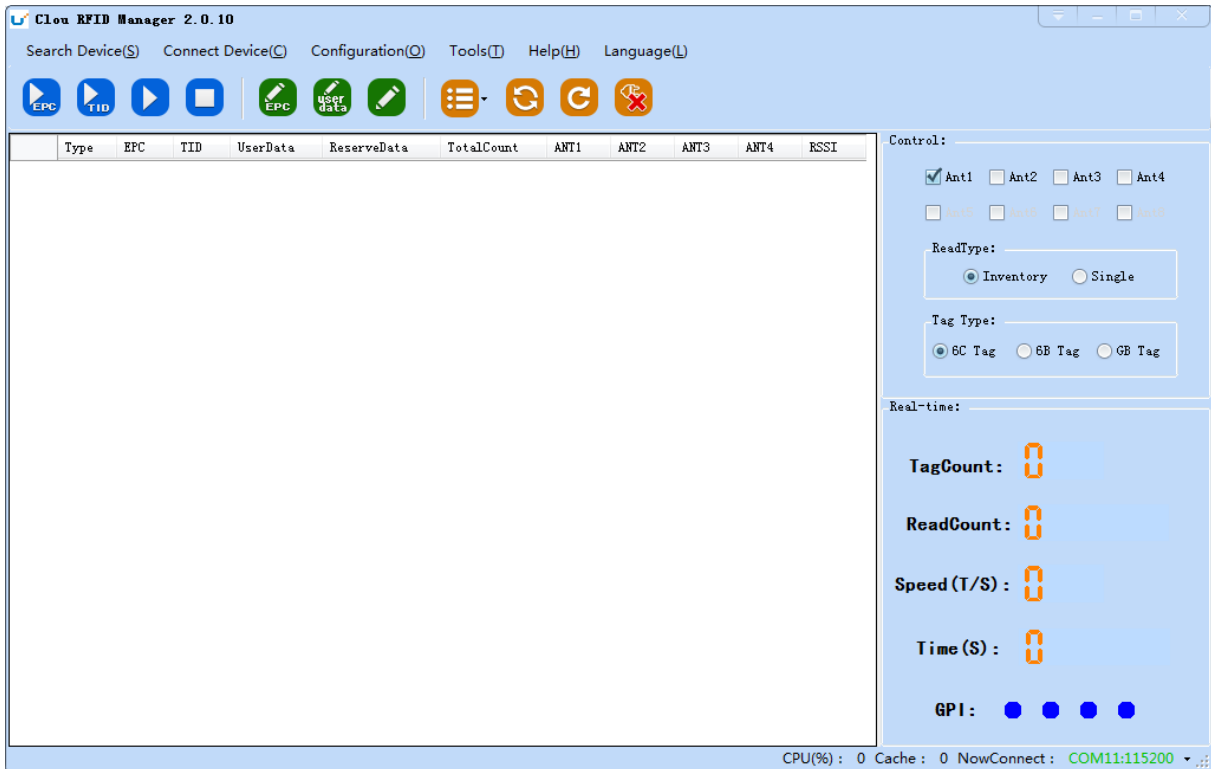


Image 4-6 Serial communication connection

If the connection is successful, all the icons in the toolbar are illuminated, as shown in

image 4-7, means the serial communication connection is successful.



Imag4-7 serial port communication connect successful

#### 4.5.1.2 Network port communication connection

Network port used for long distance connection (within 80 m), connect to the router through cable and switcher, router, or connected with the PC network port directly. Select the communication mode "TCP connection" in the "connect reader" option list, "connect parameter" input reader IP (default 192.168.1.116), enter the communication port number (default 9090), and click OK button, as shown in image 4-8

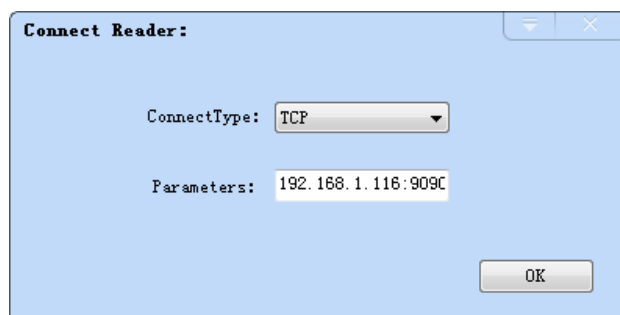


Image 4-8 Network port communication connection

The device has been written IP address 192.168.1.116 as default. If you forget or need to

modify, using serial connection "connection" after connect successfully, then you can found the current IP address through select "settings" > "senior" > "configuration", set up the IP address in "Network port settings" when "configuration" dialog pops up. See image 4-9

**Note:** The IP address of the reader can't be repeated. Use the Ping command to test whether the network is connected on PC.

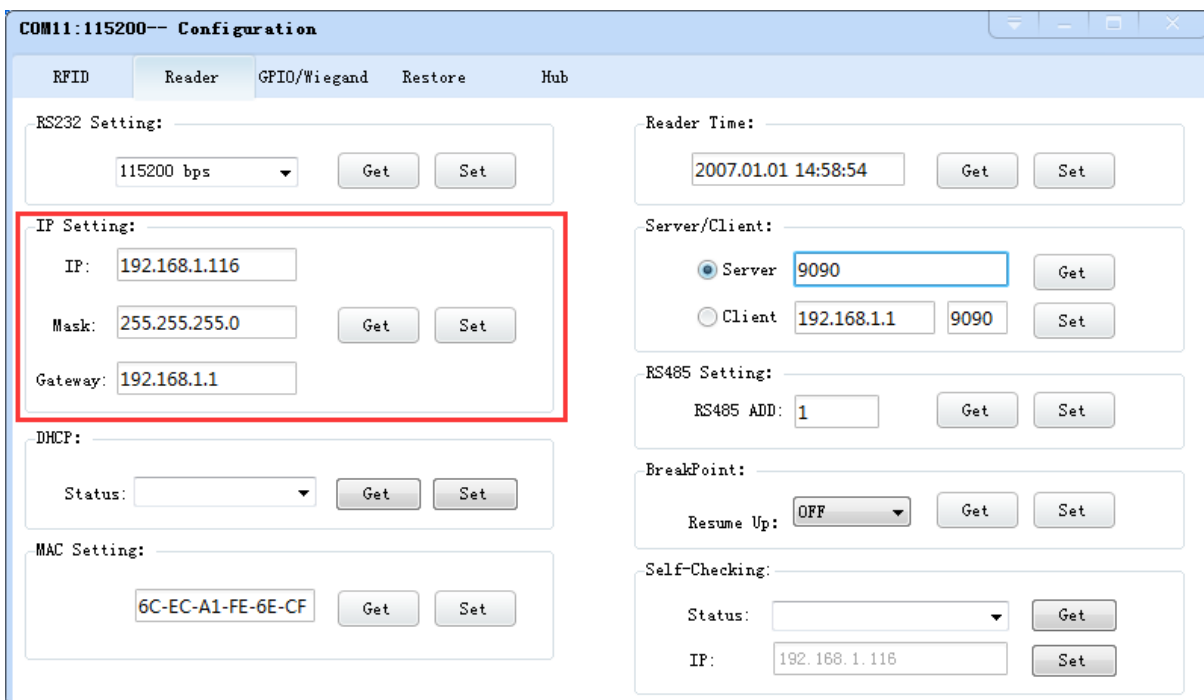


image 4-9 reader configuration

### 4.5.1.3 RS485 communication connection

Select the communication mode in the "connect to the reader" option "485 connection (serial port)", "connect parameter" select "COM?" (select PC serial number), communication rate select "115200", enter the RS485 address, then click OK, as shown in image 4-10.

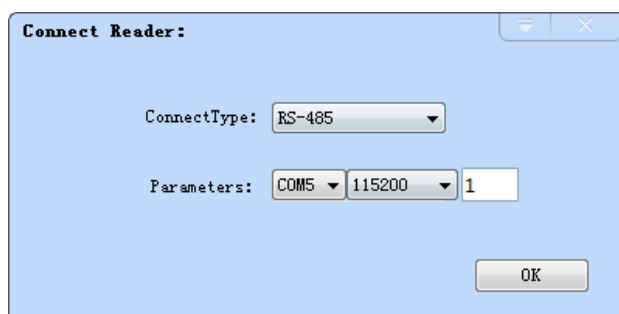


Image 4-10 485 communication connection

RS485 address defaults to 1

RS485 address range 1~255

**Note:** Click the button  after changing the configuration

#### 4.5.1.4 USB communication connection

Select the communication mode "serial port" in the "connect reader" option list, "connect parameter" select "COM?" (the USB serial number detected by PC), the communication rate is selected "115200" (the default value), and click OK button, as shown in image 4-11.

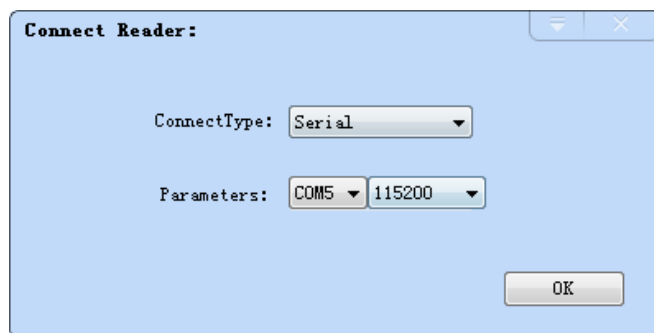



Image 4-11 USB communication connection

#### 4.5.2 Data display area

Click the button , the data display area will show as image 4-12

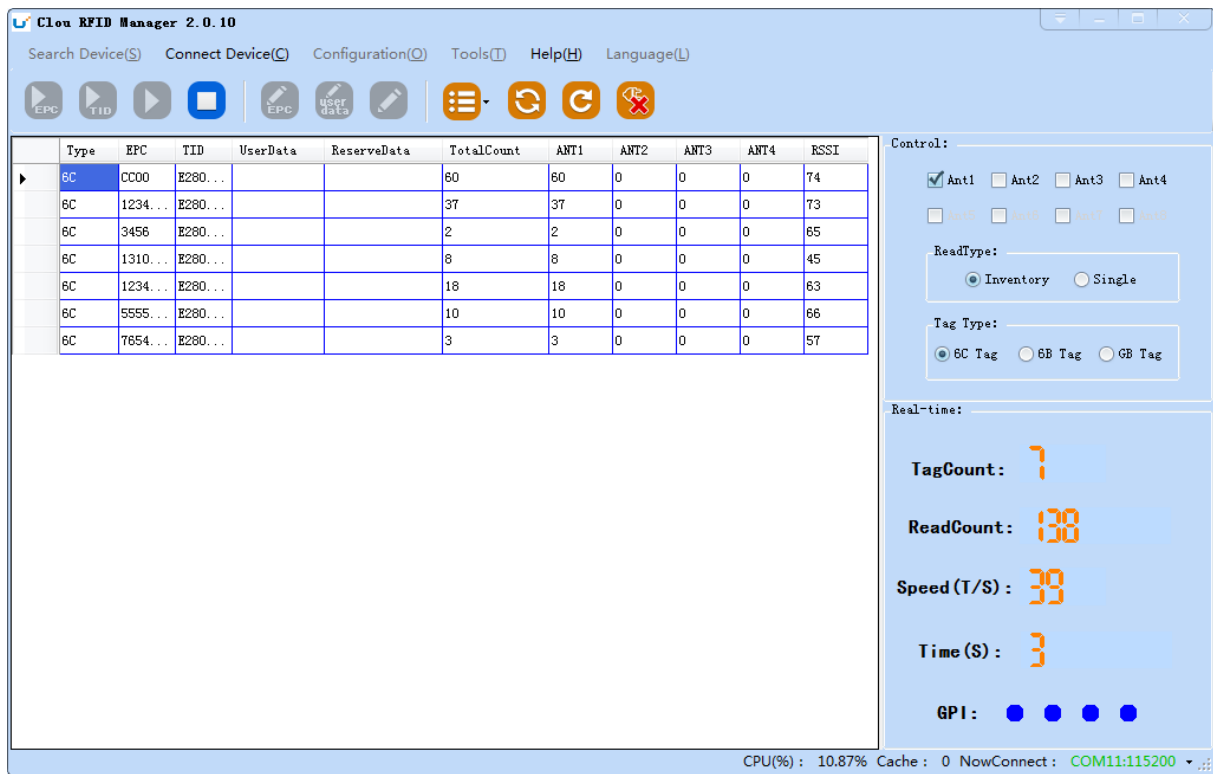


Image 4-12 data display area parameter meanings

Type: label type: 6C, 6B two types

EPC: EPC data of tags, can be read and written.

TID: the TID data of the label, the only logo, read only

User Data: user data area, can be read and written.

Reserve Data: reserved area data, store the password data, etc.


Total Count: total number of tags

ANT1: the reading times of external antenna

ANT2: the reading times of built-in antenna

RSSI : Signal Intensity


### 4.5.2.1 Read EPC

Click the button , the data display area will display the current read EPC data

EPC display as hexadecimal character string, use the word as length unit (1 word = 2 bytes = 4 hexadecimal character)

If you want to read the EPC data of the custom length, please refer to chapter 4.5.2.3 custom read

### 4.5.2.2 Read TID

Click the button , the data display area will display the current read EPC and TID data

TID data display as hexadecimal character string, use the word as length unit (1 word = 2 bytes = 4 hexadecimal character).

TID length, the default is 6 words.

If you want to read the TID data of the custom length, please refer to chapter 4.5.2.3 custom read

### 4.5.2.3 Custom read

Click the button , pop-up dialog box, as shown in Image 4-13

Select "6C tag configuration"

Matching read, you can matching read through known EPC data or TID data of tags.

Read TID, select to read the tag TID data, the read mode default as "adaptation", use the word as length unit.

Read the user area, select to read the tag user area data, use the word as the starting address and read length unit

Read the reserved area, select to read the tag retains data, use the word as the starting address and read length unit

**Custom Read**

6C Tag    6B Tag    GB Tag

**Matching**    Model:  Start:

Content (Hex):

**TID**    Model:  Length:

**UserData**    Start:  Length:

**Reserved**    Start:  Length:

**Password**    AccessPWD (Hex):

**QT PEEK**     **RFMICRON SensorData**     **EM SensorData**

**Confirm**

Image 4-13 6C Tag custom configurations

Select the 6B tag configuration, and pop up dialog box as shown in image 4-14

Can choose to read TID data or user data

Can matching read TID data.

Tip: Customer who not familiar with the label agreement, please ignore this feature

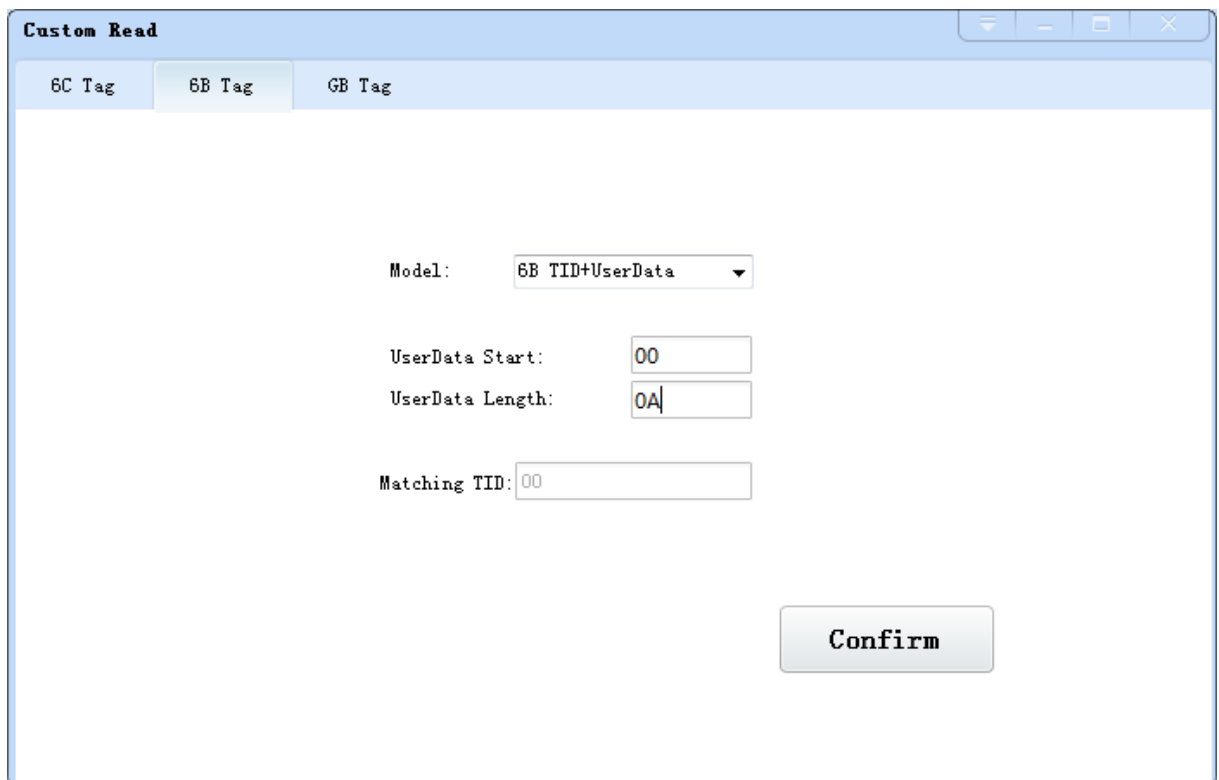



Image 4-14 6B Tag custom configurations

#### 4.5.2.4 Stop read

Click button  stop all read and write operations.

### 4.5.3 Write data

#### 4.5.3.1 Write EPC data

Click button  and pop up dialog box as shown in image 4-15:

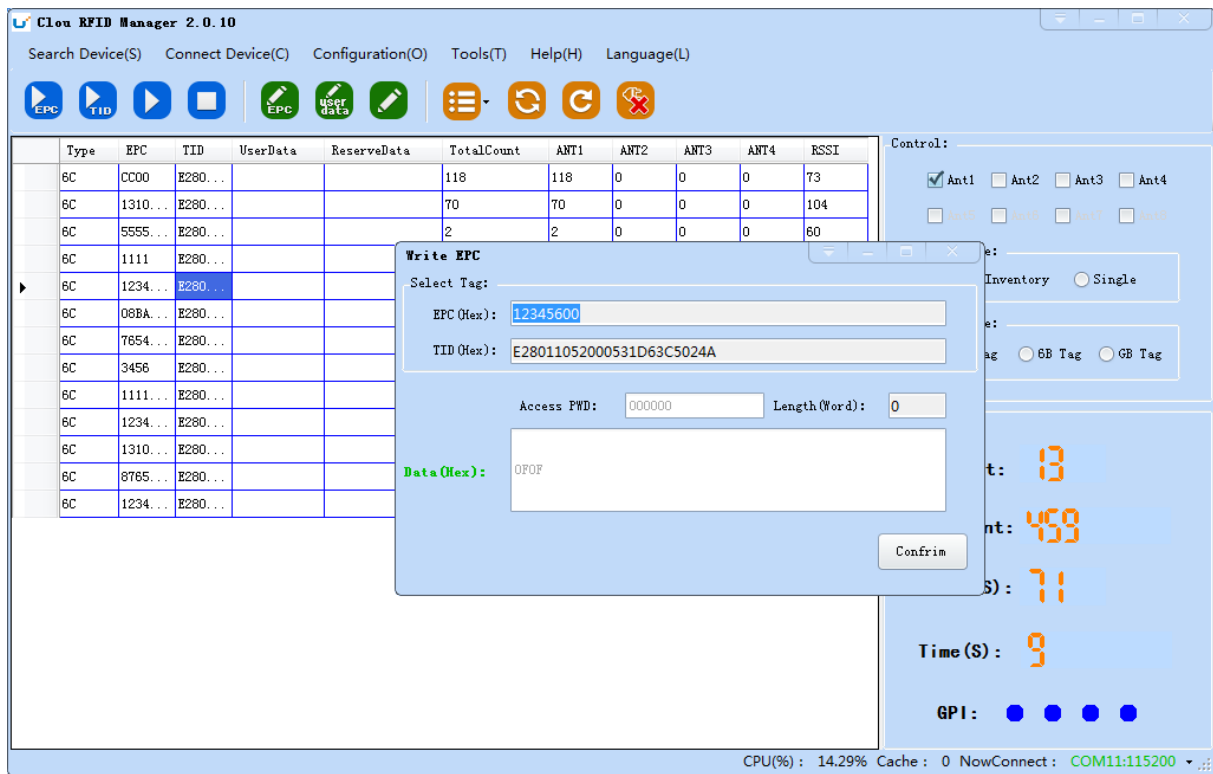



Image 4-15 write EPC data

Select a label data (contains TID information) has been read, fill in the EPC data (16 hex string), click "OK".

#### 4.5.3.2 Write user data

Click button  and pop up dialog box as shown in image 4-16:

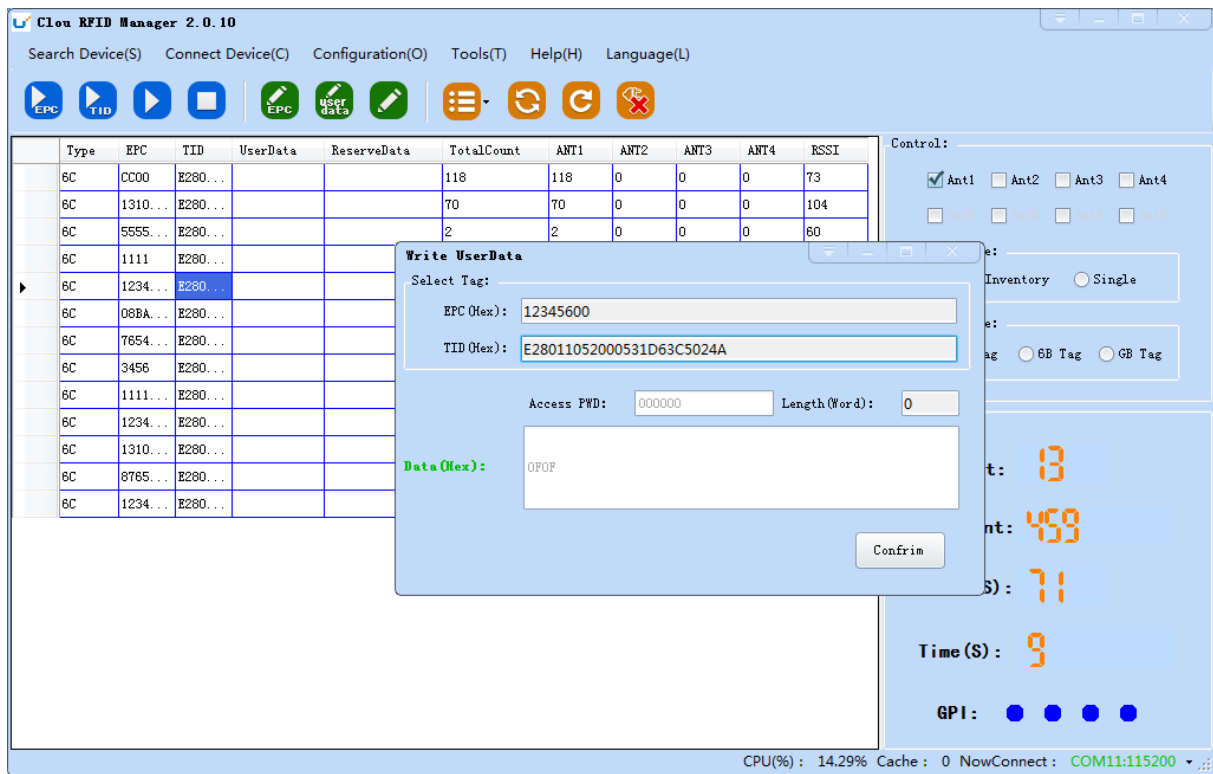



Image 4-16 write user data

Select a label data (contains TID information) has been read, fill in the user data (16 hex string), click "OK".

### 4.5.3.3 Custom tag action

Click button  and pop up dialog box as shown in image 4-17:

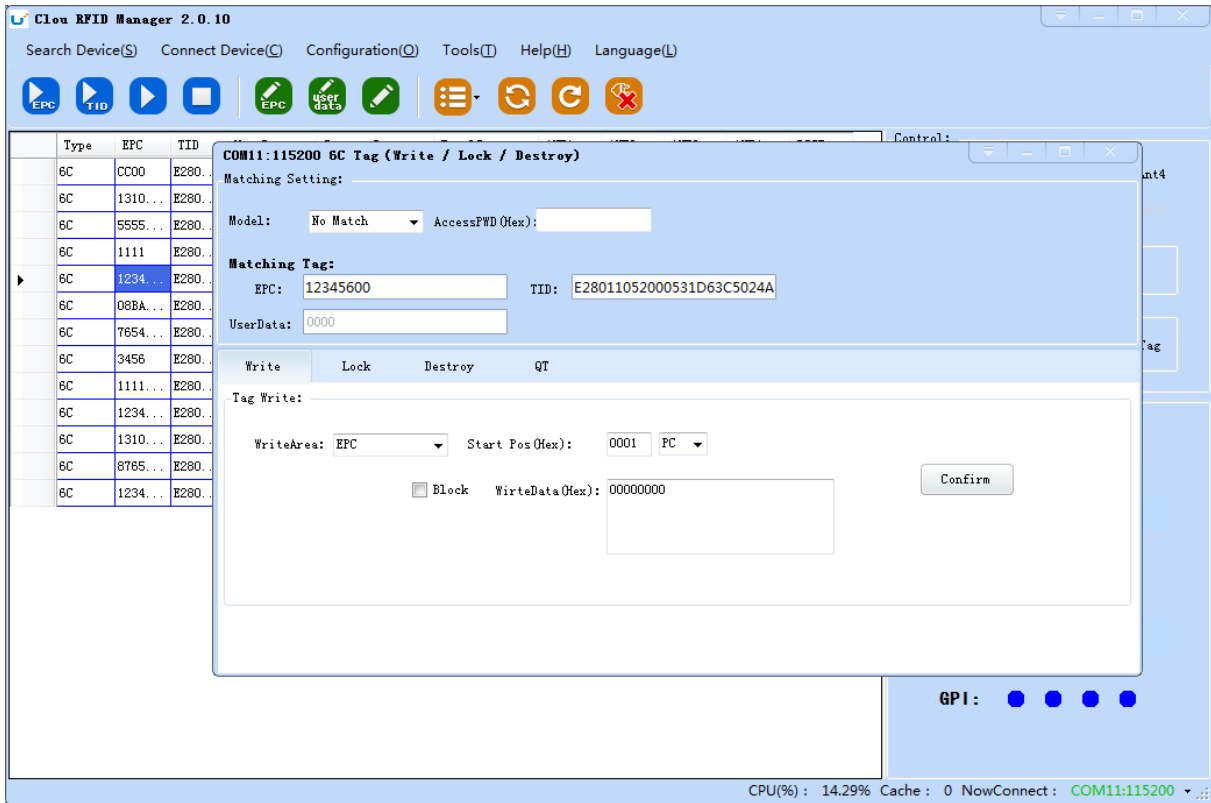


Image 4-17 Custom tag action

1. Select a tag data that has been read;
2. Click the "custom operation" button;
3. Take detailed action to write / lock / destroy tag according to the reader protocol

#### 4.5.4 TCP server / client mode

Select configuration on the main demo interface > "read and write configuration >" TCP server / client mode ", pop-up dialog box, as shown in Image 4-18:

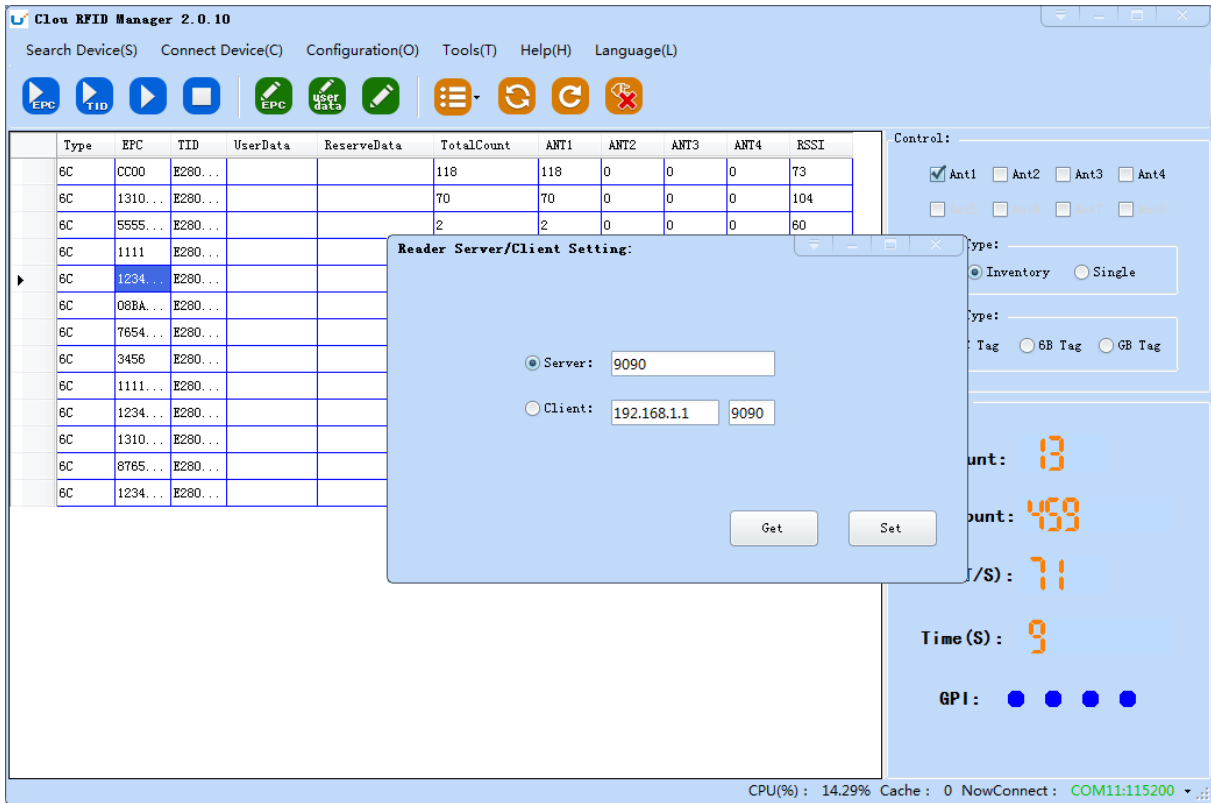


Image 4-18 Mode setting

When the reader is configured as a "server" mode, the connection is initiated by PC; when the reader set as a "client" mode, it will connect to the PC side automatically.

### 4.5.5 Antenna configuration

Select "configuration" on the DEMO main interface-->"senior"-->"reader configuration", then pop-up dialog box, as shown in image 4-19.

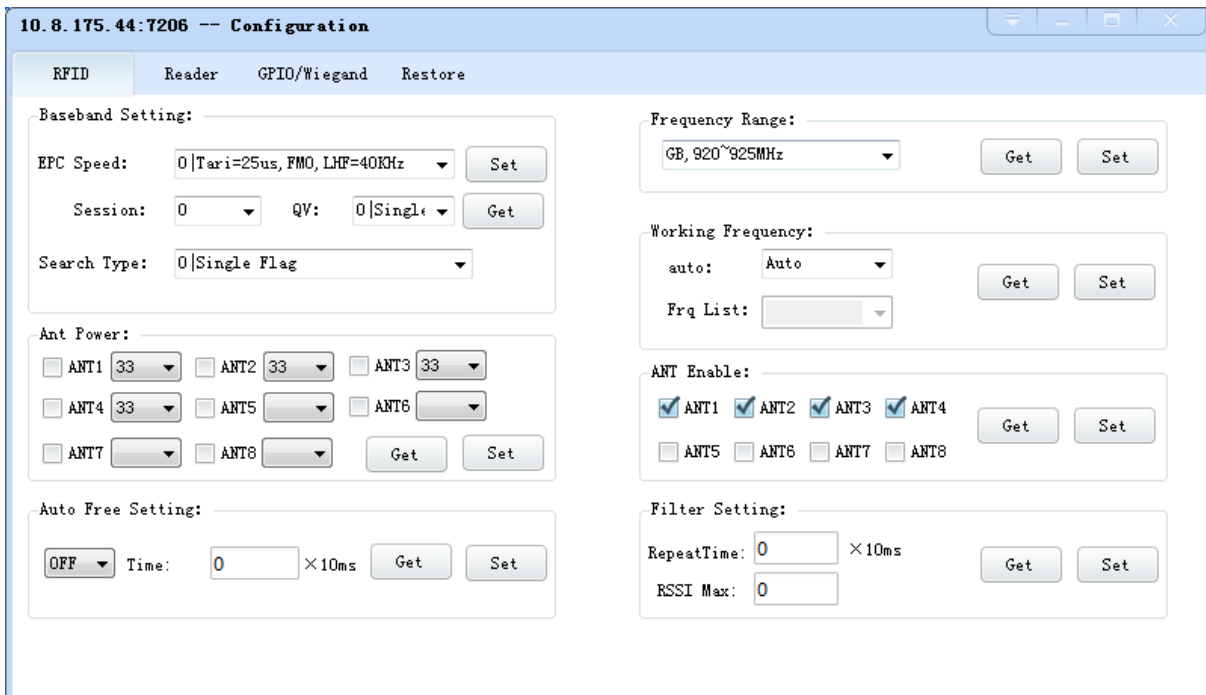


Image 4-19 Antenna enable configuration

Select all antenna enable configuration, click the "configuration", pop up dialog box, click "OK" means configure succeeds. If the antenna enable is not selected, when select the corresponding reader on the DEMO main interface, will pop up dialogue box as shown in image 4-20.

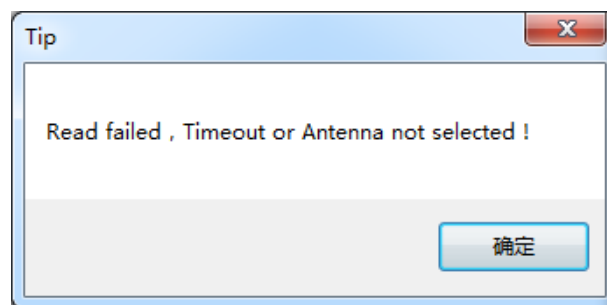


Image 4-20 Antenna selection

## 4.5.6 Base band parameter configuration

Select "configuration" on the DEMO main interface --> "senior" --> "reader", then pop-up dialog box, as shown in image 4-21.

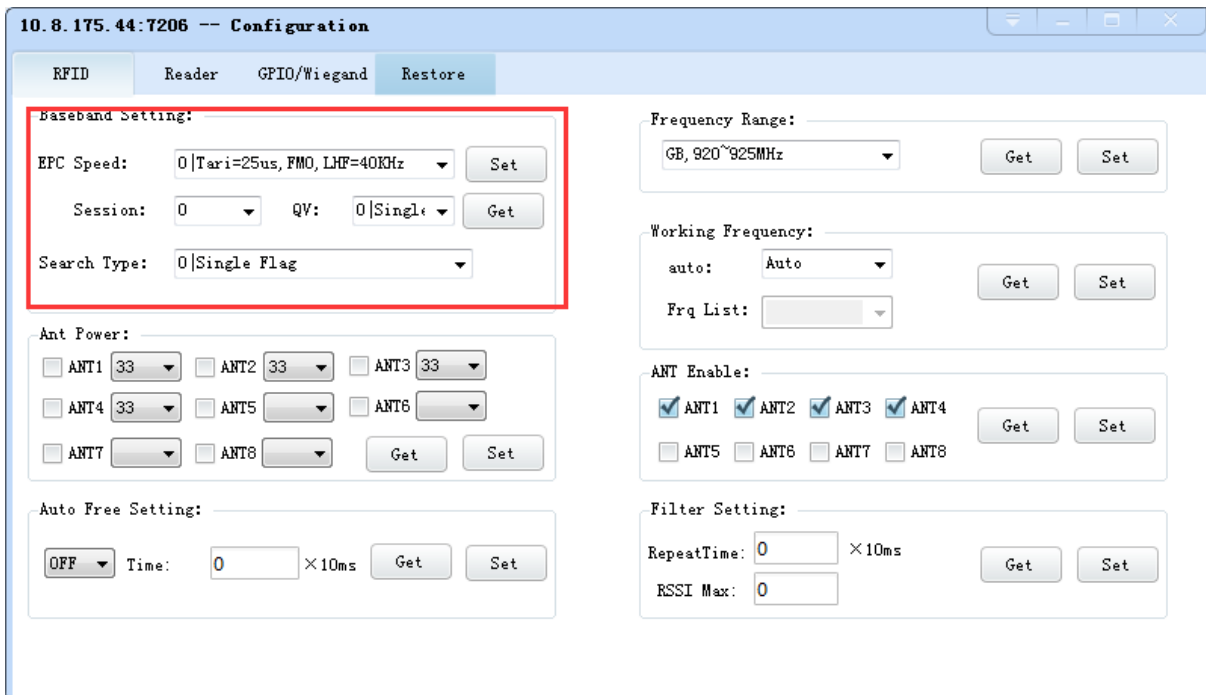


Image 4-21 Base band parameter configuration

Changing the base band parameter configuration can change the actual effect of the read and write (can be reasonably configured according to the application scenarios, but it needs to be operated under the guidance of our engineers).

EPC base band rate provides five options:  $T_{air}=25\mu s$ , FM0, LHF=40KHz, dense reading mode;

$T_{air}=25\mu s$ , Miller4, LHF=300KHz; fast reading mode; 255/OUTO.

Session four choices: 0; 1; 2; 3.

Q values provide sixteen options: 0/ single label; 1; 2; 3; 4/ multi label; 5; 6; 7; 8; 9; 10; 14; 11; 12; 13; 15.

There are three options for searching tags: one side search; inventory only with Flag B; double search.

### 4.5.7 Antenna port power setting

Select "configuration" on the DEMO main interface --> "senior" --> "reader", pop-up dialog box, as shown in image 4-22.

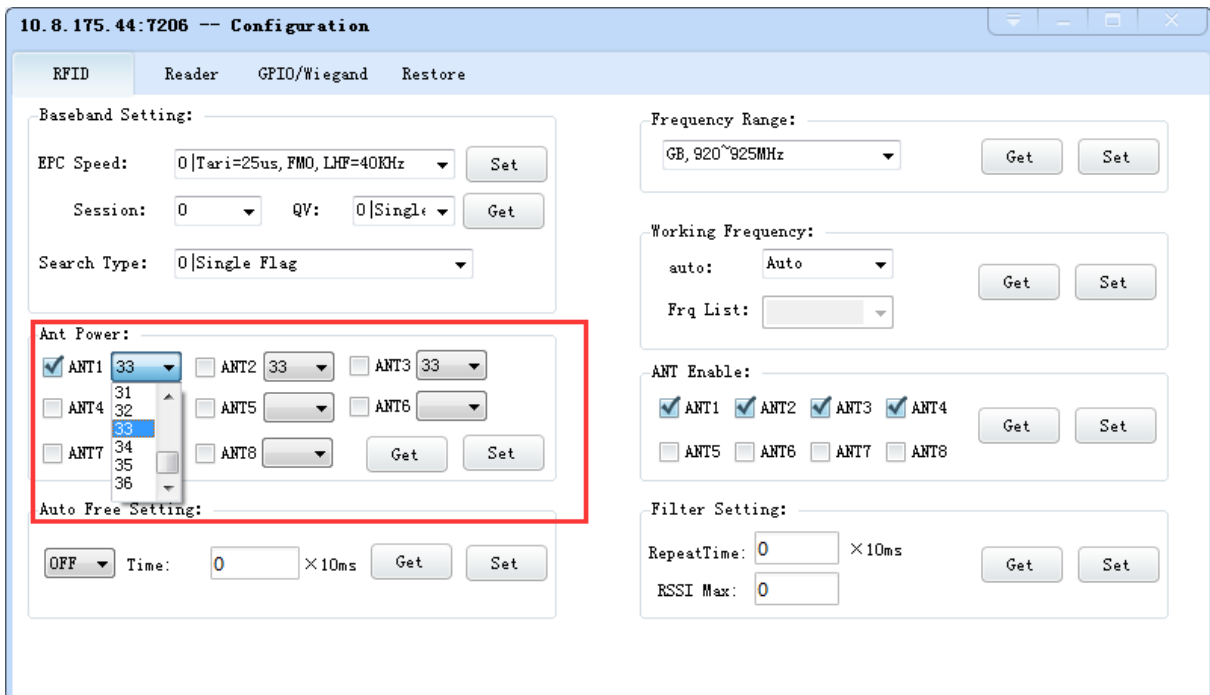


Image 4-22 Antenna port power setting

Select the corresponding antenna port (external antenna connected), select the appropriate power values from the power list, click Configure, pop up the configuration of the success of the dialog box, click OK to complete power configuration.

## 4.5.8 Clock setting

Select "configuration" on the DEMO main interface --> "senior" --> "reader configuration", then pop-up dialog box, as shown in image 4-23. The current time of the reader can be check in the area of the "reader time" . If you need to modify the reader time, modify the "reader time" then click "configuration" button, pop-up dialog box then click OK.

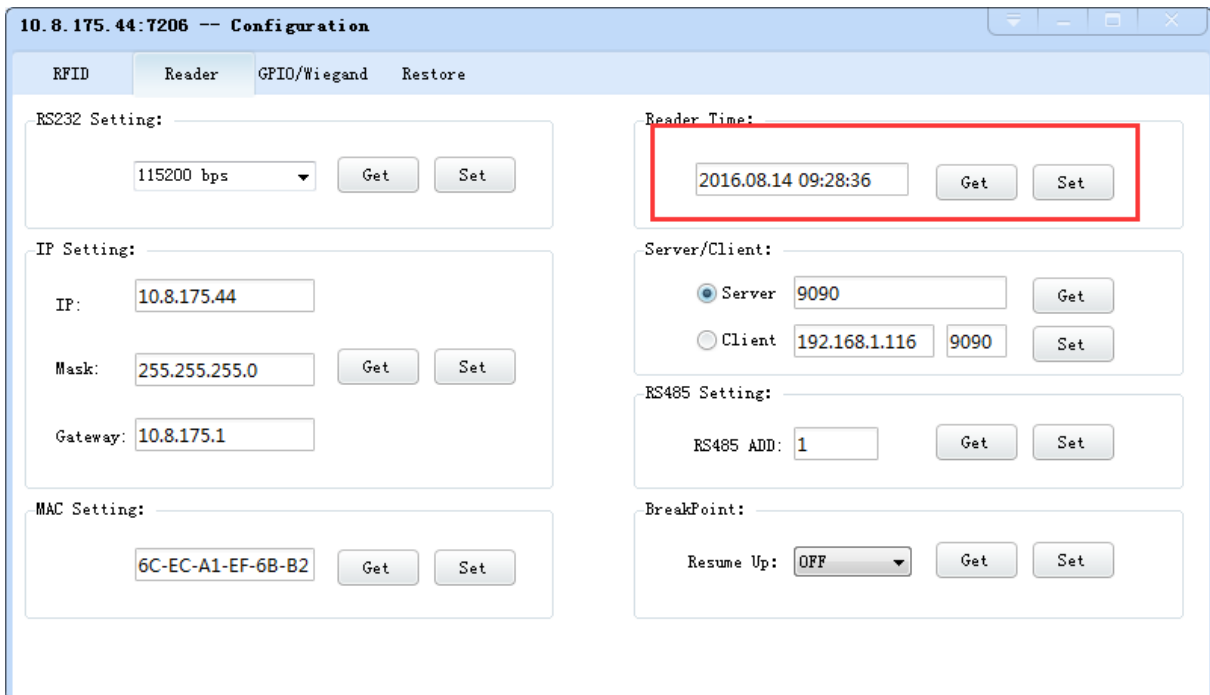


Image 4-23 Clock display setting

## 4.5.9 Frequency Hopping

Click "configuration" on the main interface > RFID configuration > "hopping management", pop-up frequency hopping management dialog box, as shown in image 4-24

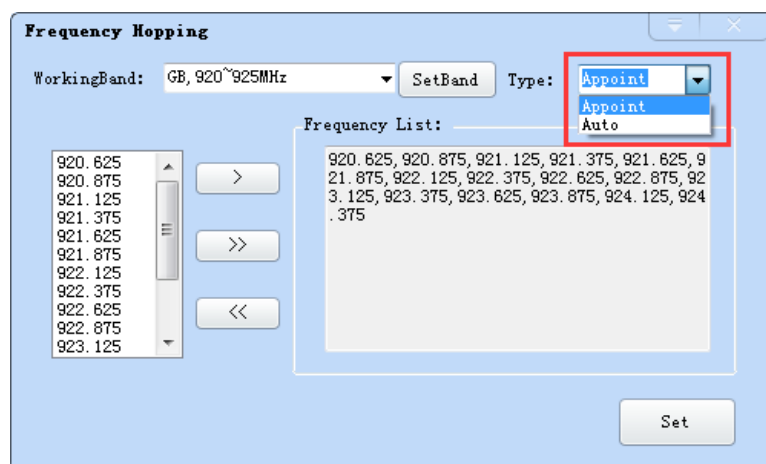




Image 4-24 Frequency Hopping management

Select "CMII, 920-925MHz" (see Image 4-25) in the "working band" drop-down list, click the "Settings", select single frequency points from the left frequency list box (see Image 4-24) then click the ">" button, right into the list box, and then click the "configuration" to confirm; If

you want to select the full band frequency hopping just click  all the frequency points will show on the right side of the list box, click the "configuration" to confirm. If you click , all frequency points on the right side of the list box will be cleared.

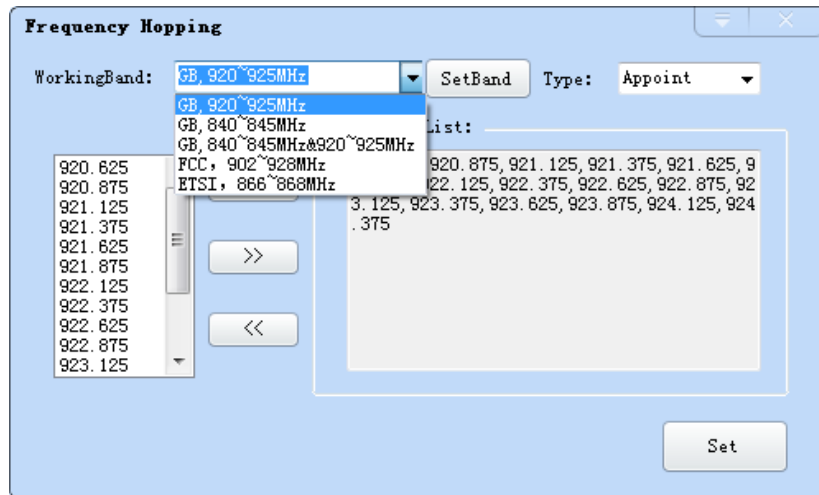


Image 4-25 Frequency Band selection

**Note:** The purpose of setting up the "automatic" is to avoid the interference of the external signal and select the fast frequency hopping. The default configuration for general application is automatically (as shown red mark dropdown list in image 4-24).

### 4.5.10 Label filtering

Select "configuration" on the main interface > "RFID configuration" > "label filter", then pop-up dialog box, as shown in image 4-26:

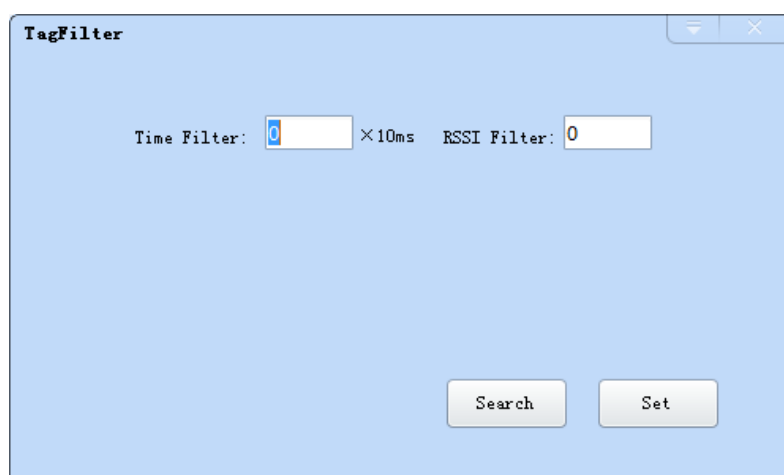


Image 4-26 label filtering

Filtering time: indicates that the same label content within a specified period of time within a read card instruction is only uploaded once, 0~65535, and time units: 10ms.

RSSI threshold: When label RSSI value small than the threshold value, the label data will not be uploaded and discarded.

### 4.5.11 Buffer and breakpoint resume

For make sure the reader 's complete collection of rfid tags' data, CL7206C4 support tag data-caching mechanism and breakpoint resume, in case that the tag' s data loss because of the communication interrupted or PC application error exit, the tag data by caching mechanism could be saved without power.

Data caching mechanism mode' s start:

Main manu' s setting → Advanced → Reader setting → Breakpoint, choose "ON" then it will validate the function of tag' s caching mechanism. As image 4-27 shows.

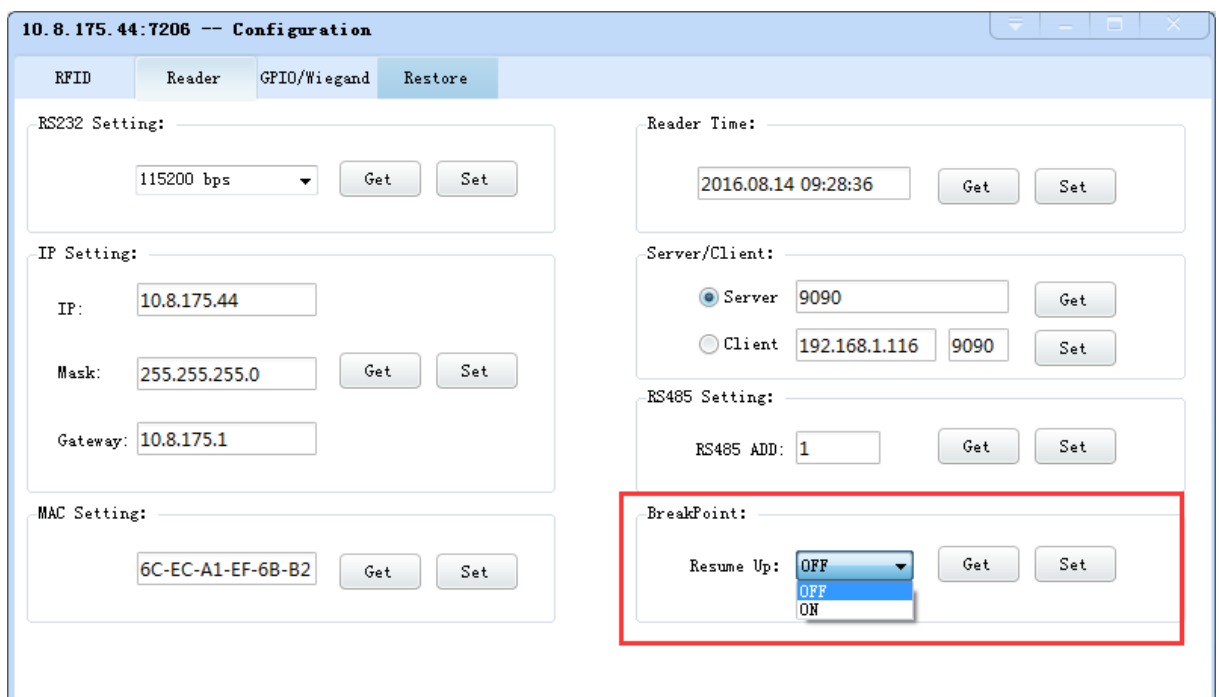


Image 4-27 tag filter

After the validate the breakpoint resume function, the PC will reply each data of tags

uploading, reader will automatically save the tag's data which are not uploaded. PC could operate the saved data through setting → Obtain saved data or setting → clear saved data. As below image 4-28.

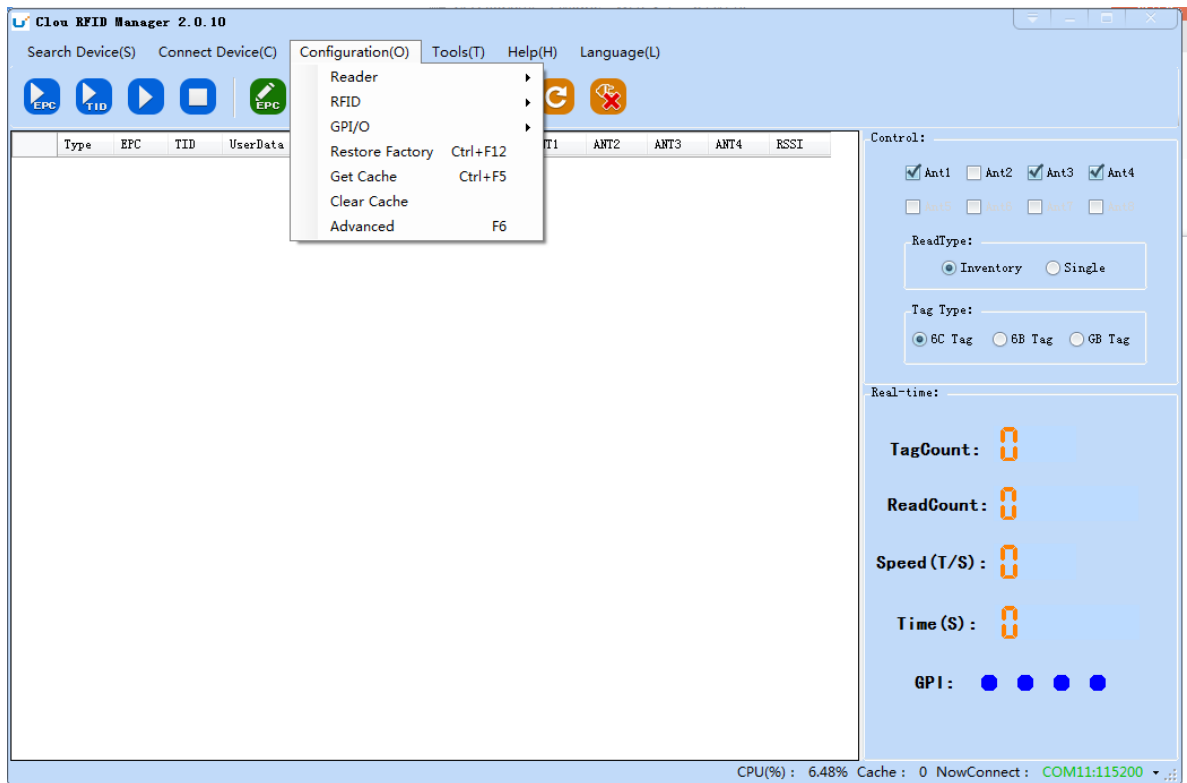


Image 4-28 tag buffer data operation

As under the breakpoint resume mode, PC will confirm to each tag data from reader, under mass quantity of

tag data will reduce the communication efficiency, increase the system load, **we suggest:**

**When start the breakpoint upload functions, according to your application, can set up suitable "tag filter parameter" → "filter time" to reduce the extra data uploading.**

### 4.5.12 Auto idle set up

Select "configuration" on the main interface > "RFID configuration" > "auto idle ", then pop-up dialog box, as shown in image 4-29:

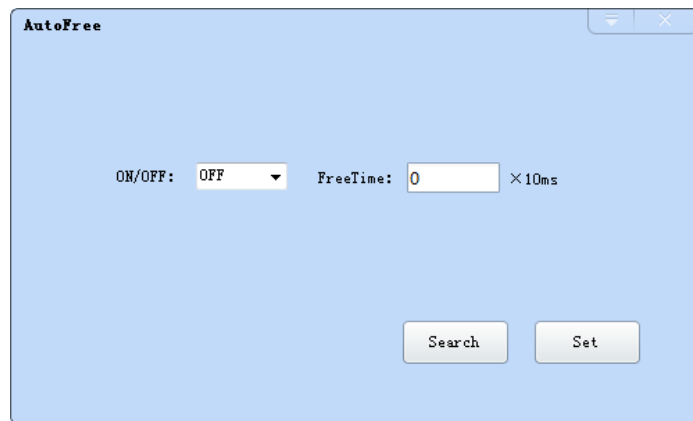


Image 4-29 Auto idle configuration

Auto idle mode means when the reader continuous reading tags, all using antenna didn' t identify the tags for three times continuously ,then the reader automatically enter a period of idle state to save power consumption, the reader re-enter the card reader automatically after idle time.

### 4.5.13 GPI/O configuration

GPI/O control is to provide the query and set up the I/O port state, control the function of the I/O device.

#### GPI configuration

Select "configuration "on the main interface --> "GPI/O configuration" --> "GPI configuration "then pop-up dialog box, as shown in image 4-30:

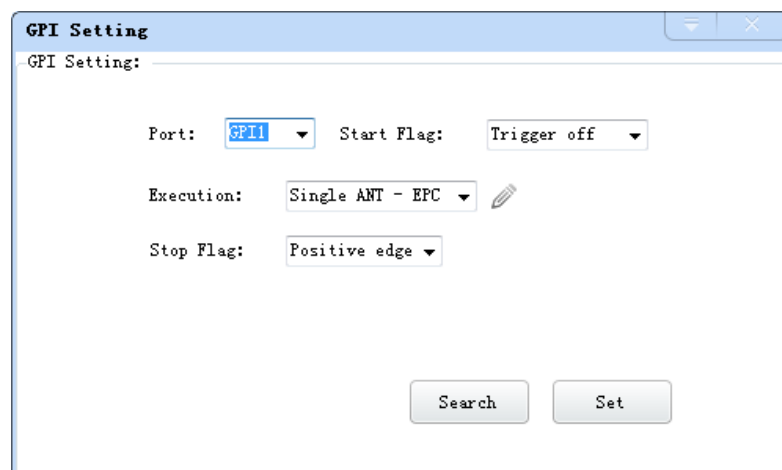


Image 4-30 GPI configuration

- Check: check the various port trigger parameters
- Configuration: select the port need to set, click button to execute the settings after modify
- Trigger start condition: select the mode from the drop-down list
- Trigger execution instruction: select the mode from the drop-down list
- Trigger stop condition: select the mode from the drop-down list
- Description: when the start condition is satisfied, the reader will perform the configuration of the reader/ writer command.

### GPO configuration

Select "configuration" on the main interface > "GPI/O configuration" > "GPO configuration" then pop-up dialog box, as shown in image 4-3:

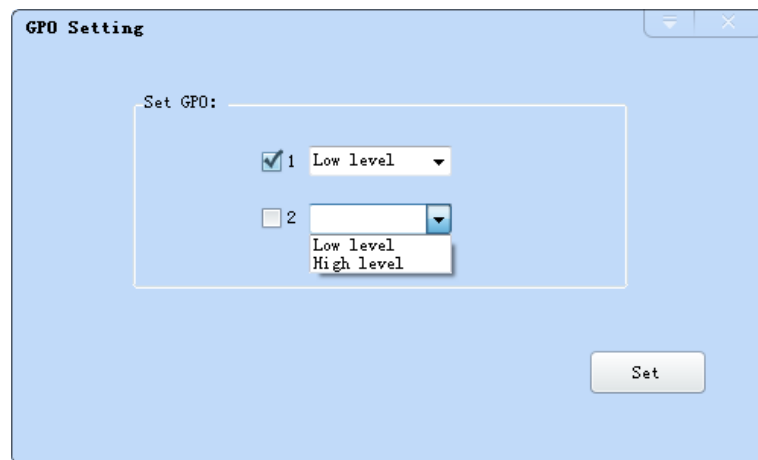


Image 4-3 GPO configuration

CL7206B reader only supports four GPO outputs, that is "1" "2" ,.

Select the high / low level, click this configuration to execute settings after modify.

## 4.5.14 Others

### Wigand configuration

Select "configuration" on the main interface --> "GPI/O configuration" --> "Wigand" then pop-up dialog box, as shown in image 4-30:

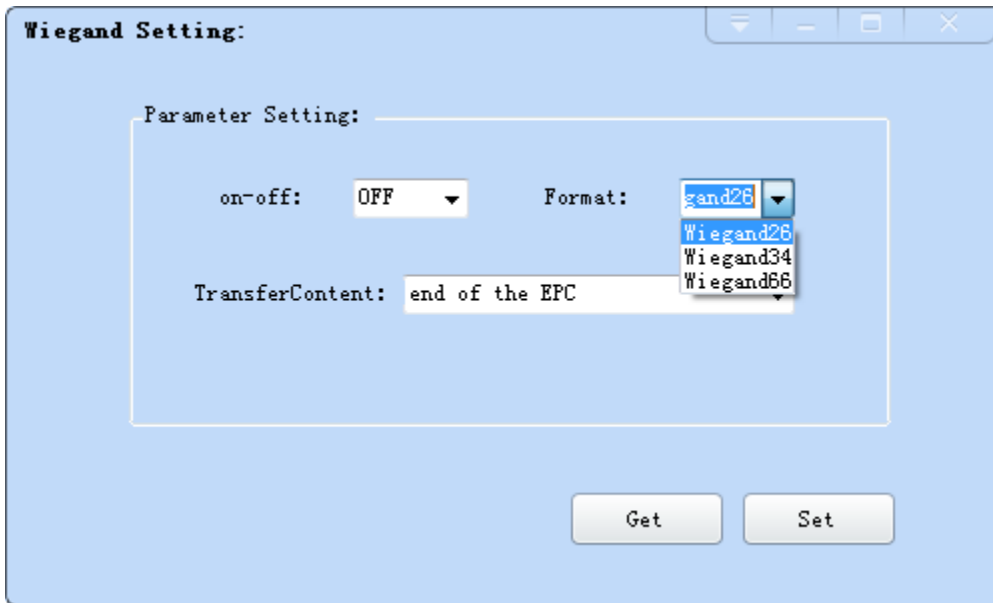


Image 4-30 Weigand configuration

In the Weigand parameter settings area, set up the "communication switch" for the "open" state, and select the corresponding "communication format" and "transmission data content", click on the "configuration" to determine.

Weigand port Parameter configuration: includes "Weigand 26", "Weigand 34" and "Weigand 66" models.

Weigand 26: TID or EPC data reported from the end of the Weigand port is valid for 3 bytes.

Weigand 34: TID or EPC data reported from the end of the Weigand port is valid for 4 bytes.

Weigand 66: TID data reported from the end of the Weigand port is valid for 8 bytes.

### Restore factory settings

Select "configuration" on the main interface > "restore factory settings" then pop-up dialog box, as shown in image 4-31:

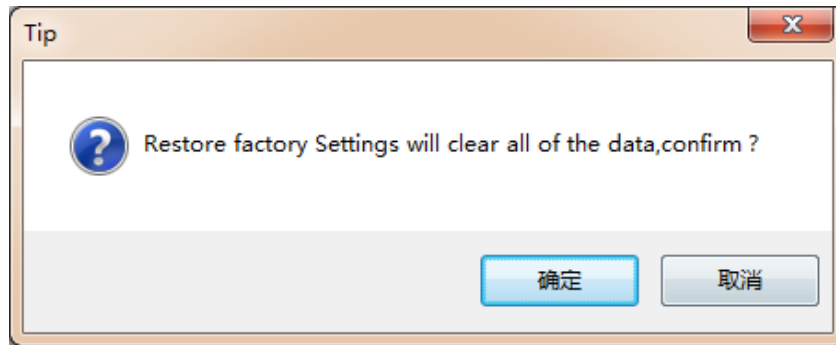


Image 4-31 restore factory settings

When connected to the reader in any form, click OK button, and all settings of the reader will be restored to the factory setting.

## 4.5.15 Tools

### Data export

Select "tools" on the main interface > "data export" > "form (\*. XLS), in the pop-up dialog box, as shown in image 4-32, select the required export file save path.

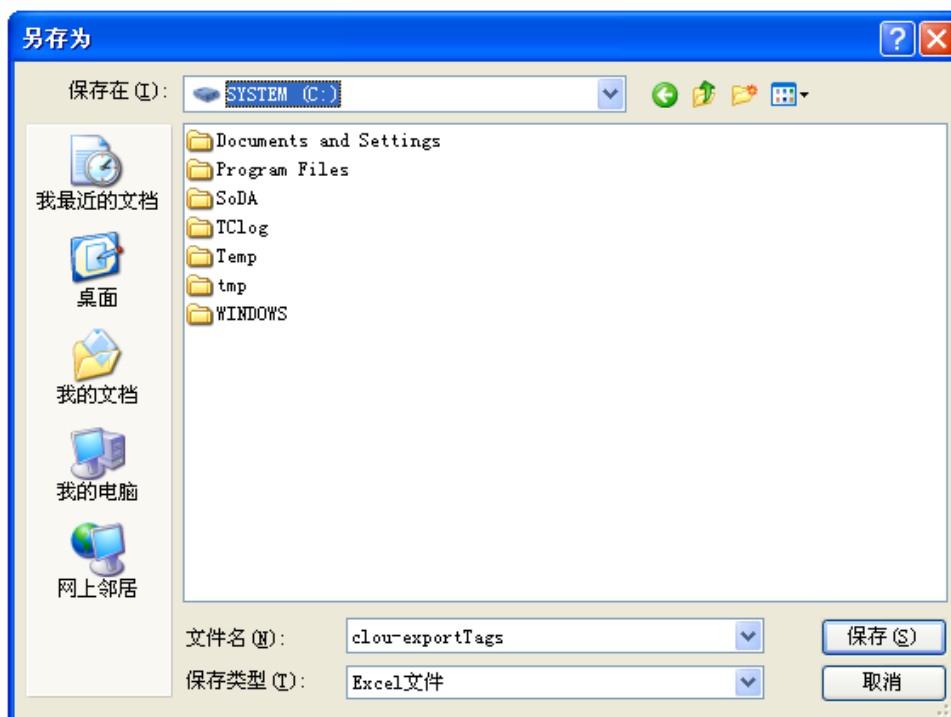


Image 4-32 Data export

Read the tag data to support data export, export format can be.csv (comma file) and.Xls (Excel).

## Software upgrade

The reader support for online upgrade, software upgrades support the baseband software upgrade (the underlying software) and application software upgrades (system software applications). Select "tools" on the main interface > "software upgrade" > "software", the pop-up dialog box, as shown in image 4-33:

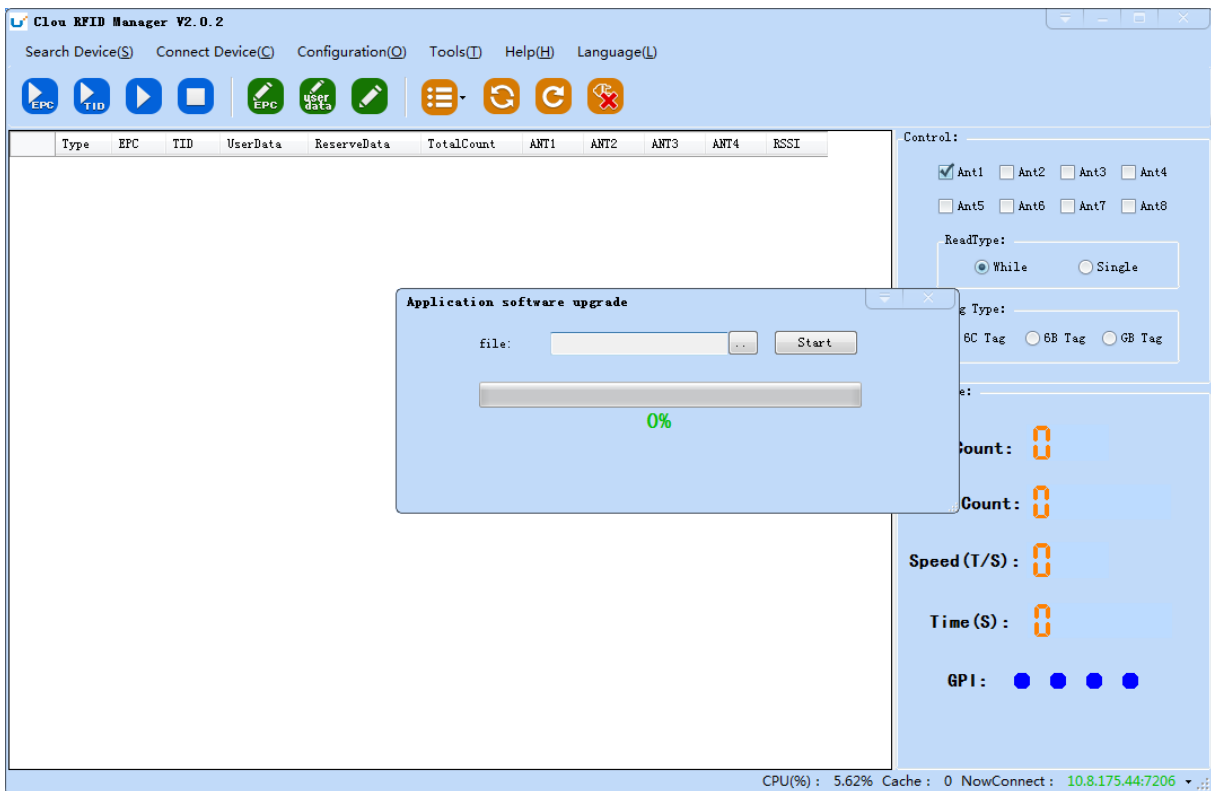

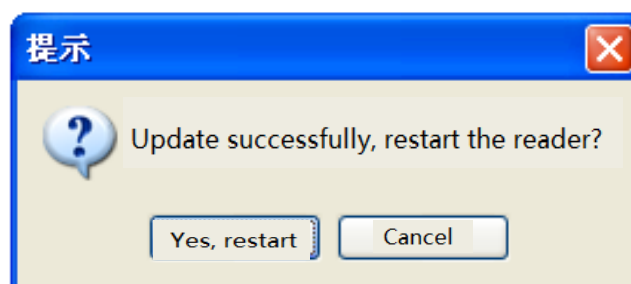


Image 4-33 Application software upgrade

To find the Bin upgrade file path in the upgrade file drop-down list, click  the upgrade progress bar shows 100% that means the application software upgrade successfully, pop-up upgrade prompted success dialog box, click OK to restart the reader, as shown in image 4-34.



#### Image 4-34 Software upgrade successfully

The process of the application of the base band software is the same as that of the application software.

## 5. Common failures

### 5.1 Daily maintenance

The routine maintenance of CL7206B usage:

- ☆To check whether the tightening of RF connector
- ☆To check if the screw fixed reader and antenna is loose
- ☆To check whether the RF cable joints appear outsourcing breaking the shielding layer
- ☆To check if the reader power line connection is reliable

### 5.2 Common failure analysis and solution

#### **Power supply system failures:**

Check whether the power adapter is normal, and the AC supply voltage is between 100V ~ 240V.

#### **The panel indicator light failed when power on:**

Check whether the communication is normal; please contact customer service if it' s not normal.

#### **The serial port unable to connect:**

Check if the serial cable is not connected or connected unstable.

Check if the serial port connect baud rate of the reader is correct

Check if the selected COM port is right.

#### **The network port cannot connect:**

Factory set the default IP address: 192.168.1.116 when CL7206B reader device ex-factory, ensure the IP address of the PC and reader in the same network segment, such as "192.168.1.XXX" then you can connect to the reader, if you forget the IP address of the device, you can reset the reader' s IP address through the serial port.

**The reader can't read the tag**

Check if the setting of antenna number is correct

Check if the label is damaged

Check if the label is placed in the reader's valid reading and writing range.

Check if the electromagnetic interference between the reader and the other device.

For the problem users cannot be solved, please contact customer service.

## 6. Package

### 6.1 Package



Imag6-1 Carton box size

**Carton box size: 48x37x14cm**

### 6.2 Accessories

In order to facilitate the storage and transportation in near future, the packing box and the packing material should be kept properly after unpack.

Besides of the device in the box, accessories equipped with the reader are also included in, please check the product packing list to confirm whether the product and accessories are complete, if any discrepancies or damage, please contact with the after-sale service in time.

The specific list of accessories as shown in table 6-1

**Table 6-1 Packing Accessories list**

| NO. | Name   | Material Code  | Qty | Unit | Remark   |
|-----|--|----------------|-----|------|----------|
| 1   | Customized aviation cable (one for three)    | 20351000000552 | 1   | Set  | Included |
| 2   | Customized aviation external IO cable.       | 20351000000551 | 1   | Pcs  | Included |
| 3   | Power adapter 24V/2.5A                       | 20109000000324 | 1   | Pcs  | Included |
| 4   | AC power cable                               | 20350000000195 | 1   | Pcs  | Included |
| 5   | Network cable                                | 20350000000188 | 1   | Pcs  | Included |
| 6   | RS232 connection cable 1800mm                | 20351000000478 | 1   | Pcs  | Included |
| 7   | hexagon socket cahead screwsGB70-85<br>M5*12 | 20400000000519 | 4   | Pcs  | Optional |
| 8   | L shape installation bracket                 | 20411000013135 | 1   | Pcs  | Optional |
| 9   | hardware kits U shape bracket                | 20411000013136 | 2   | Pcs  | Included |
| 10  | 9dBi antenna                                 | 20351000000035 | 1   | Pcs  | Optional |
| 11  | Antenna feeder line SMA-K--TNC-J             | 20351000000038 | 1   | Pcs  | Optional |

## 6.3 Storage environment

CL7206B fixed reader should be stored in below conditions:

☆ Environment temperature : -40°C ~ +85°C

☆ Relative humidity : 5% RH ~ 95%RH

## 7. After-sale service

### Letter to Customers

Since our aim is to continuously improve our products for better user experience, we may modify the product characteristics, composition and design of circuits without given notifications. Thus the real product may be not in accordance with this manual. Generally, we will provide timely amendments to this manual. If it' s not provided timely, please consult our service department.

Shenzhen Clou IOT Technologies Co., Ltd.

Email: [RFIDoverseas@szclou.com](mailto:RFIDoverseas@szclou.com)

Website: [www.clouiotech.com](http://www.clouiotech.com)

### Guarantee card

|                         |  |             |  |
|-------------------------|--|-------------|--|
| Product Name            |  | Model No.   |  |
| Product Code            |  | Level       |  |
| Description of troubles |  |             |  |
| User' s name            |  | Postcode    |  |
| Contact person          |  | Contact no. |  |

**Warranty Description:** In order to offer users better service, our company provide warranty card with each device, please keep it to enjoy the service.

1, Products can replace free under conditions within one month after sale, in the precondition of normal operation without repairing.

2, Free maintenance won' t be given under the following circumstance:

- ① The damage of the terminal caused by high voltage of the power grid.
- ② The damage caused by misuse or operated improperly.
- ③ The damage caused by excessive vibration when user delivering.

3, The software of this product can be upgraded freely, users can be training in our company for free.

4, Will be charge appropriately if the user don' t have a warranty card.

5, Users will need to fill out the warranty card for repair service, and sent back to CLOU IOT