

Scishine SSUDemo Instruction



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一、 Brief introduction

SSUDemo is a demo software, which is developed for our UHF serial readers by our company. Customers can use the software to connect, configure, read cards, write cards and do other operations on the UHF readers. When design your own application software, you also can refer to the software.

Icon and the open interface of the demo software are shown below:



Figure 1: SSUDemo Software Icon

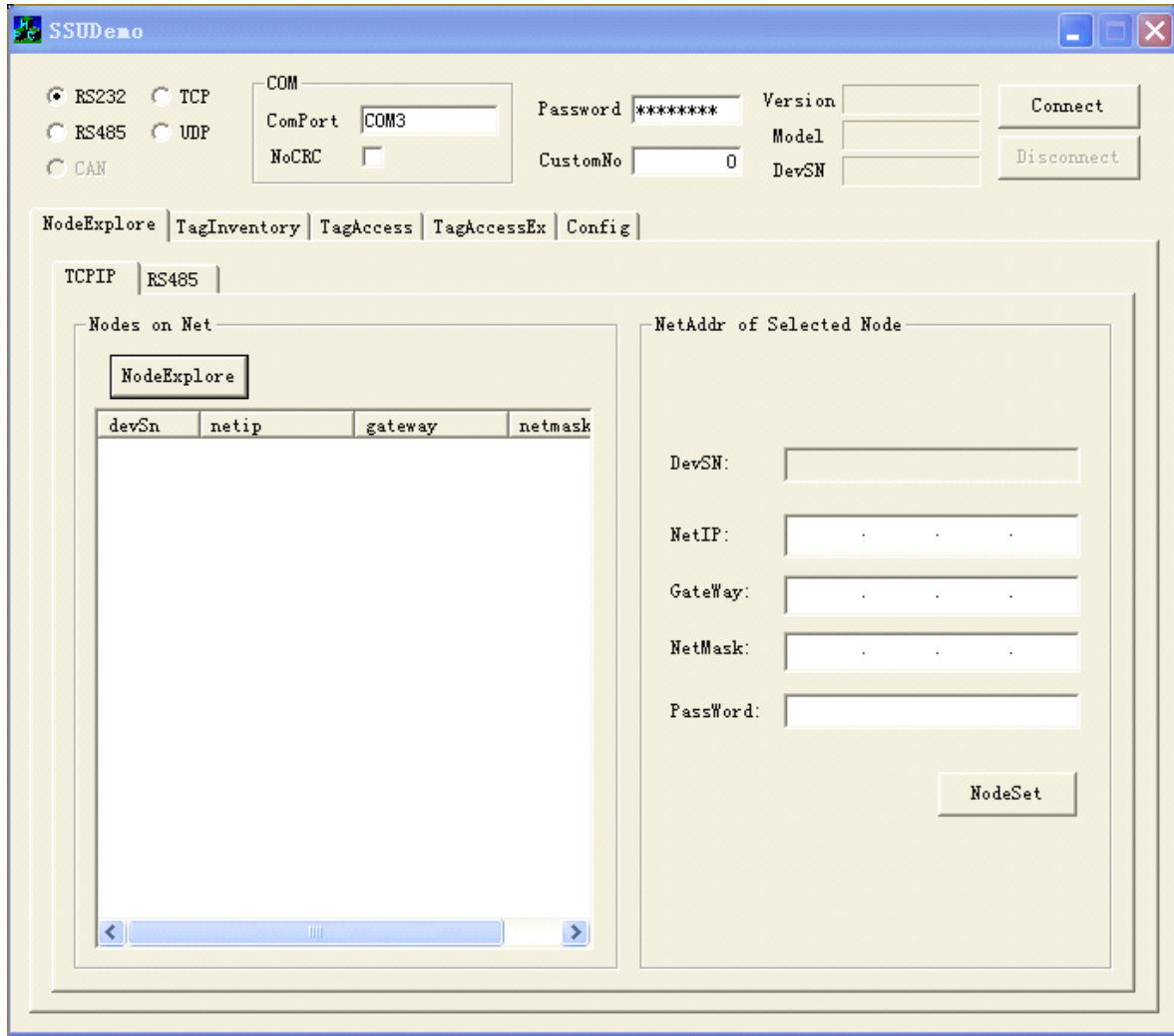


Figure 2: SSUDemo Software Interface

二、 Connection And Setting

2.1 Select Communication Mode

Open the Demo, select communication mode. Please connect the reader to the PC correctly, and then open the power supply. This product provides a variety kinds of standard communication modes, which are shown bellow.

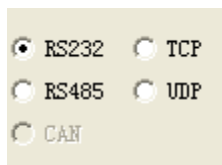
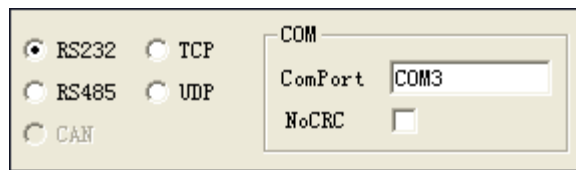


Figure 3: Communication Interface

Different UHF reader maybe has different communication interface. After connect the PC and open the power supply, select the appropriate communication interface to connect PC. If you use the RS232 mode, click the white point setting which is in front of RS232.

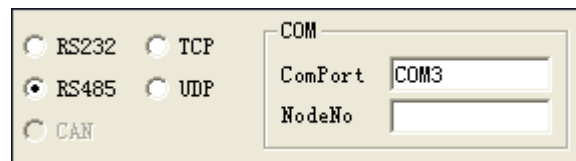
2.2 Open Ports

After select the communication interface, then select the correspond COM port to open the port. In the condition of choosing the RS232 communication interface, we should choose the COM port and NoCRC (having CRC or not) option. The default is NoCRC.



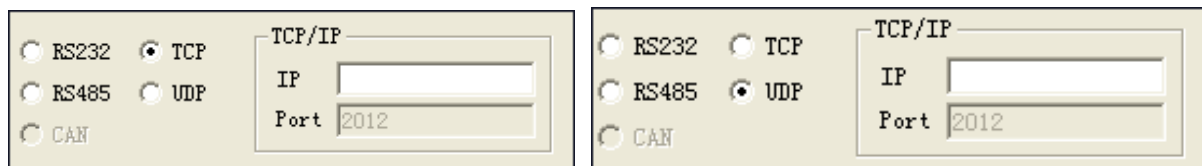
The screenshot shows a settings window for RS232 communication. On the left, there are radio buttons for RS232 (selected), RS485, CAN, TCP, and UDP. On the right, under the 'COM' section, there is a 'ComPort' dropdown menu set to 'COM3' and a 'NoCRC' checkbox which is checked.

In the condition of choosing the RS485 communication interface, we should choose the COM port and NodeNO(node number).



The screenshot shows a settings window for RS485 communication. On the left, there are radio buttons for RS232, RS485 (selected), CAN, TCP, and UDP. On the right, under the 'COM' section, there is a 'ComPort' dropdown menu set to 'COM3' and a 'NodeNo' text input field.

The TCP and UDP communication mode need to input the IP address, and the default port number is 2012.



Two side-by-side screenshots of settings windows for TCP and UDP communication. The left window shows the 'TCP/IP' section with radio buttons for RS232, RS485, CAN, TCP (selected), and UDP. It has an 'IP' text input field and a 'Port' dropdown menu set to '2012'. The right window shows the 'TCP/IP' section with radio buttons for RS232, RS485, CAN, TCP, and UDP (selected). It also has an 'IP' text input field and a 'Port' dropdown menu set to '2012'.

After the completion of the above steps, you can confirm the connection.

2.3 Confirm Connection

After complete the first and second step of setting correctly, click the “Connect” button to confirm connection.

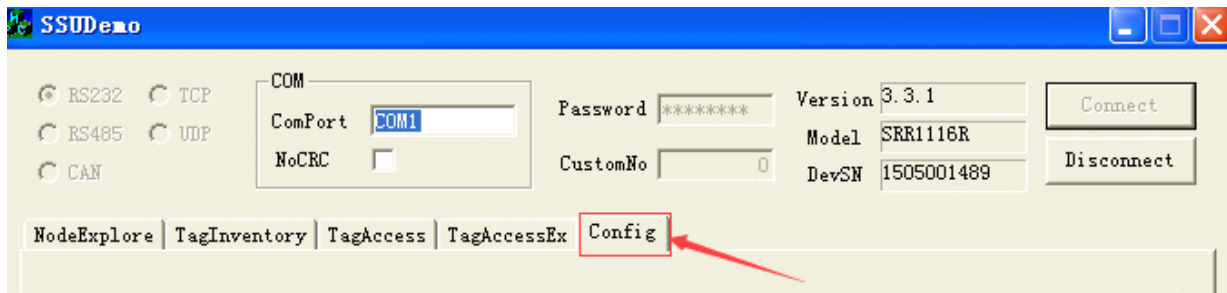
Version	<input type="text"/>	Connect
Model	<input type="text"/>	
DevSN	<input type="text"/>	
		Disconnect

If the setup fails, no response when clicked, while the reader buzzer did not tone; If the setup successes, the reader buzzer will have a short beep, the “Connect” button will turn gray, the “Disconnect” button will turn into force, the interface will be like the picture, which means the connection is succeed.

Version	3.3.1	Connect
Model	SRR1116R	
DevSN	1505001489	
		Disconnect

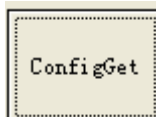
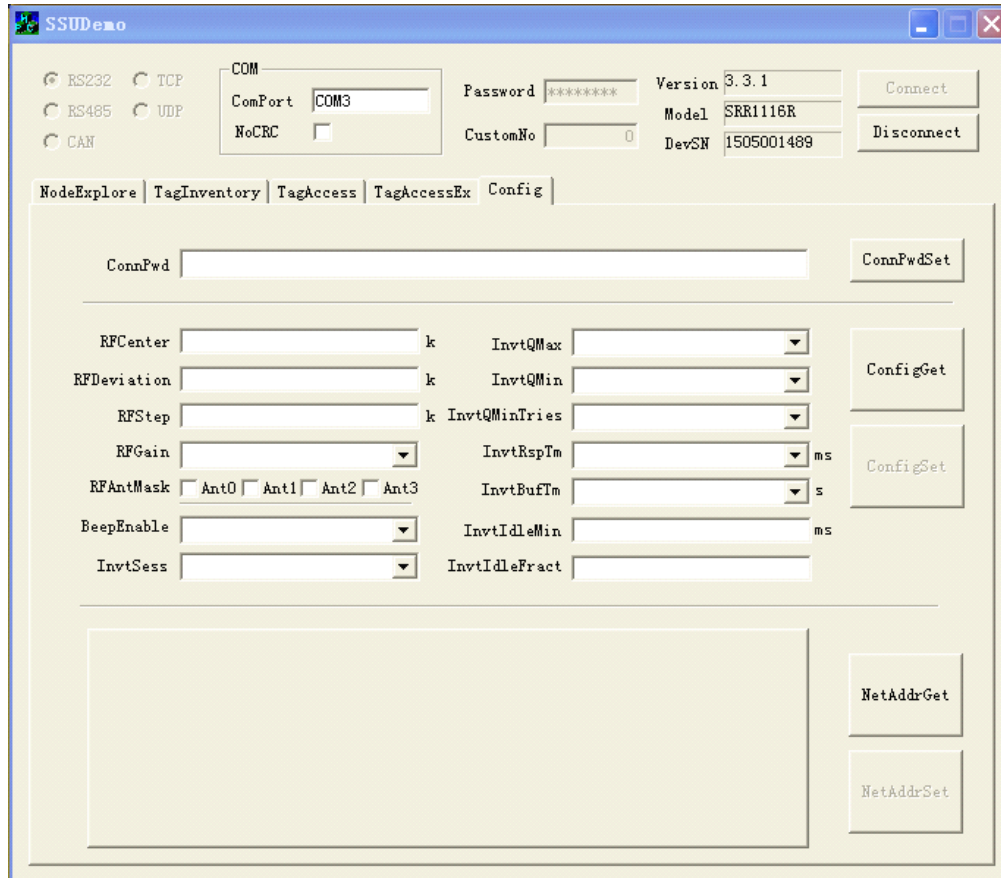
三、 Reader Configuration And Parameter Settings

After the reader connection is successful, the reader can be configured.

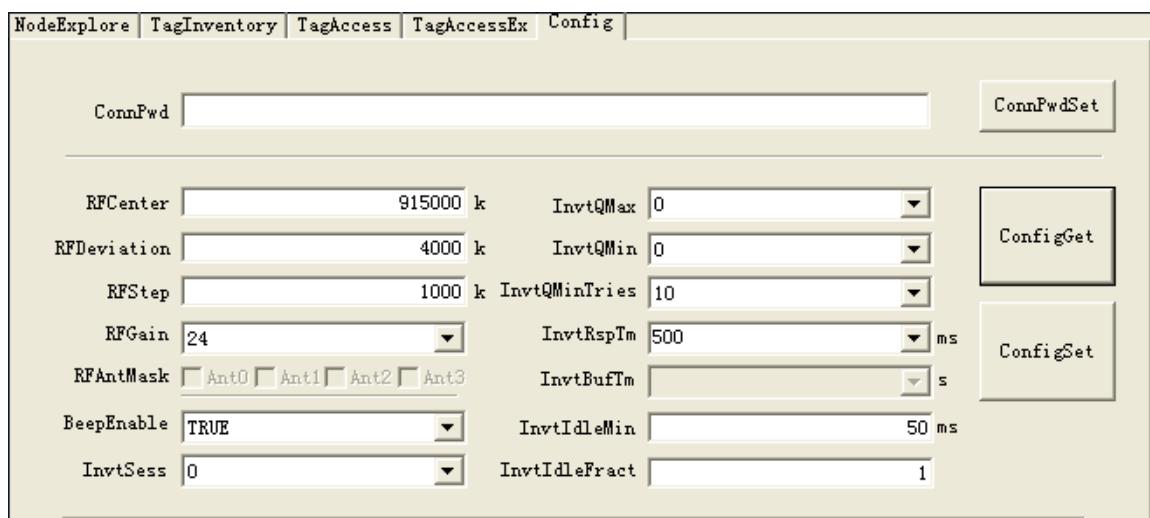














The screenshot shows the SSUDemo application window. On the left, there are radio buttons for RS232, TCP, RS485, UDP, and CAN. In the center, there's a COM configuration section with a dropdown for ComPort (set to COM1) and a checkbox for NoCRC. To the right, there are input fields for Password (masked with asterisks) and CustomNo (set to 0). On the far right, there's a status section showing Version (3.3.1), Model (SRR1116R), and DevSN (1505001489), along with Connect and Disconnect buttons. At the bottom, there's a tabbed interface with tabs for NodeExplore, TagInventory, TagAccess, TagAccessEx, and Config. A red arrow points to the Config tab.

The red arrow -- “Config” contains the reader's configuration information. After click the “Config” button, the interface is as shown below:



1. Clicking the “ConfigGet” button can obtain the default configuration of the reader. After obtain the default configuration successfully, the detailed configuration data will be displayed. We can adjust the configuration according to the actual situation of the settings. As shown below:

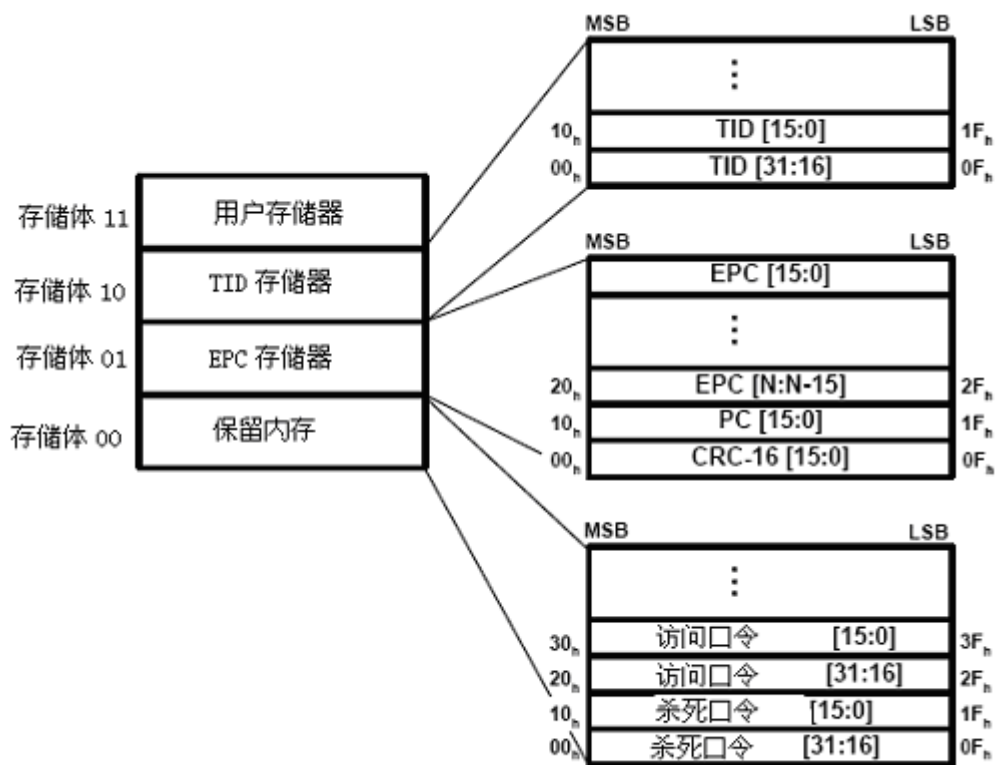


2.  Default center frequency point of the reader is 915M. For different places, the center frequency is different.
3.  Default center frequency offset value, the default is 4MHz.
4.  Step size when the reader is hopping, the default is 1MHz.
5.  The output gain power, the range is 0-31dBm, default is 24dBm.
6.  The reader buzzer switch, default is turned on.
7.  Tag air communication session, commonly used 0. 3 and 4 are used as a large number of tags. Users generally do not need to set.
8.  Inventory Q limits, the code limits up to 8.
9.  When the number of tags is small, we commonly use Qmin value, usually is 4. If read single card ,we can set 0.
10.  The number of retries InvstQMin value recognition, mainly in order to try to prevent leakage reading. Users generally do not need setting.
11.  The response time of the tag identification command. Users generally do not need to set .
12.  Under the mode of Automatic identification, the minimum interval between two inventory, mainly for setting the RF gap, reducing power consumption and temperature PA. Users generally do not need to set.
13.  Inventory interval number. If the inventory actual use of time t(PA opening time), the actual PA closed rest time is the maximum of t/InvstIdleFract and InvstIdleMin value. Users generally do not need to set.

After modify the reader setting, we need to click “ConfigSet” button to confirm the setting.
Then the set can be to take effect.

四、 Necessary Knowledge

4.1 EPC C1 G2 Tag Memory



The tag memory is divided into four storage areas, every storage area consists of one or more memories. These four storage areas are:

EPC area(EPC): Contain in the 00h to the 1Fh storage location, the EPC number of the region, the reader can store 15 word EPC. Read and write

TID area(TID): Contain in the 00h to the 07h storage location, the ID number set by the label manufacturers, currently has 4 word and two word ID number 8. Read and don't write.

User area(User): Contain in the 00h to 07h storage location, different manufacturers of the region is not the same. The G2 tag of Inpinj company has no user area. Philips company has 28 words. Read and write.

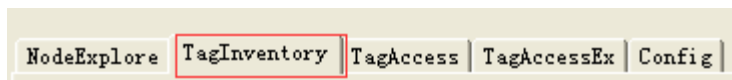
Reserve area(Reserve): Contain an inactivated and access password. The first two words are destroyed (kill) password, and the last two words are access (access) password. Read and write.

Four storage areas can be written protection. Write protection means that the area will never be written or in an unsecure state not to write. Read protection means only password area can be set to read protection, that is not readable.

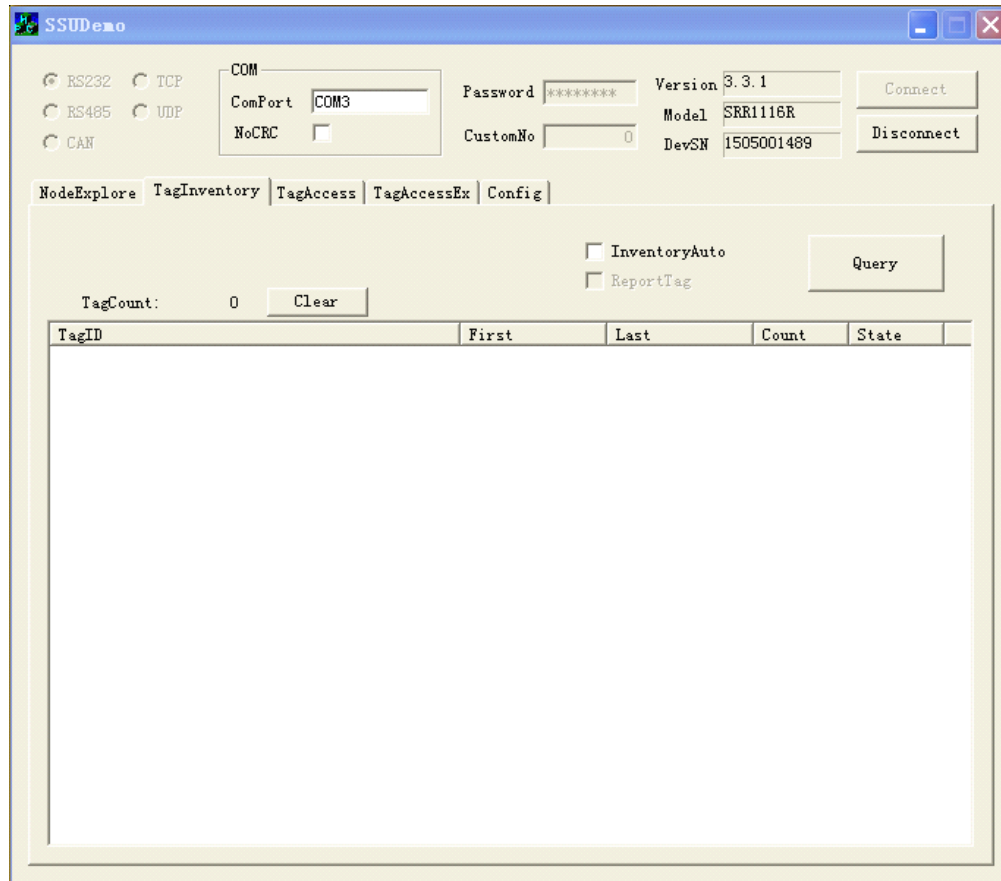
4.2 Data Display

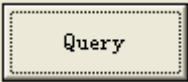
EPC number, UID number, password, storage data are displayed by 16 binary.

五、 Continuous Read Card

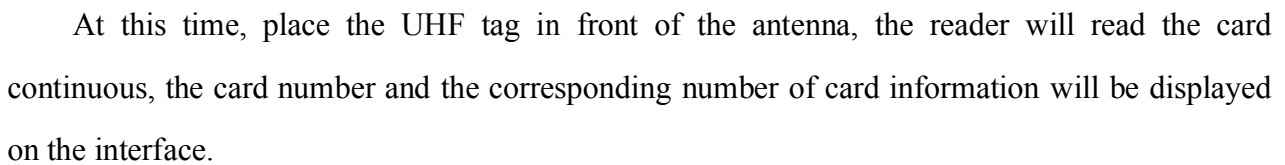


After the reader is connected successful, the tag can be read continuously. Click the “TagInventory” button, and you can enter the interface of read card. Operation interface is as shown in the following figure:



Click the “Query” button , the reader enters the continued reading card status.

At the same time, the button turns to ”Stop” . As shown below:



As the reader is set to open the buzzer, if read cards successful, the buzzer will sound and the status will be displayed:

☐ InventoryAuto
☐ ReportTag

Stop

TagCount: 2

Clear

TagID	First	Last	Count	State
3000F0000000004000000000000002	1432174924	1432175038	204	0
30000000000000000000000001C3F6	1432175040	1432175051	129	0

If you read more than one tag, there are more than one tag of data records.

The position of “TagCount” TagCount: shows how many cards be read. Click the “Clear”

button Clear, we can clear the data.

TagID

3000F0000000004000000000000002

30000000000000000000000001C3F6

The position of “TagID ” shows the ID number.

First	Last
1432174924	1432175038
1432175040	1432175051

The “First Last” Bar shows the starting and ending time of

read the tag.

Count

204

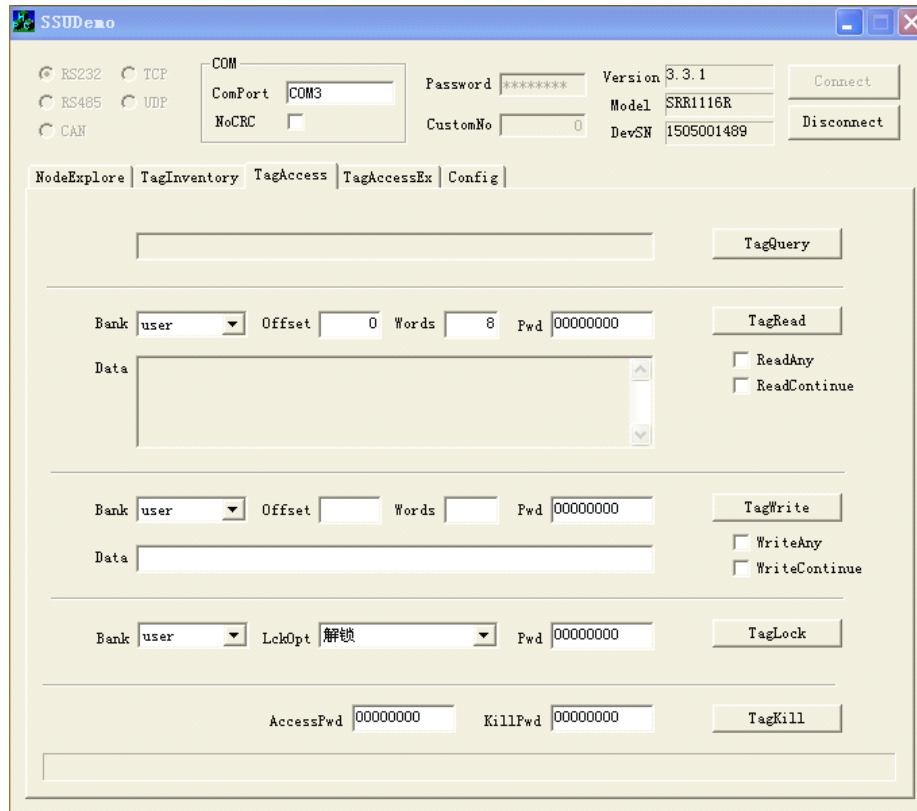
202


The “Count” Bar shows the times of reading the tag.

六、 Read And Write Single Tag

NodeExplore
TagInventory
TagAccess
TagAccessEx
Config

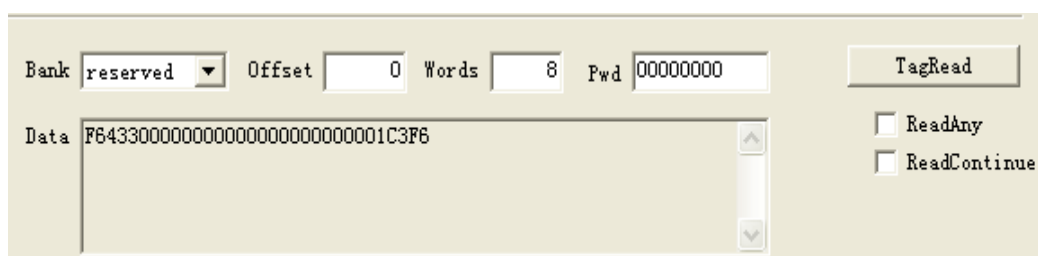
After connect the reader successfully, click the “TagAccess” button TagAccess to enter the interface of operate a single card . As shown below:



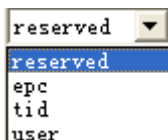
Click the “TagQuery” button  can read the ID number of the tag.




6.1 Read Different Regions' Data Of Tag



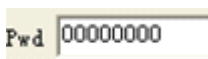
The Bar is the label plate of reading tag.



1)  Click the triangle arrow, we can select the four readable regions.



“Words” can be used to select and set the number of bytes of data .



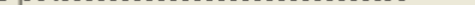
“Pwd” is reading password. Only the correct password can access to its different

regions, the data are 16 - band display. ☐ **ReadAny** “ReadAny” is used to set to read more than one tag or not. ☐ **ReadContinue** “ReadContinue” is used to set to read continuously or not.

2)  Click the “TagRead” button to read the tag.

[illegible]

Such as the picture shows the reader reads the tag EPC area successfully. “Data” shows the data.



The screenshot shows a software interface with a label 'Data' on the left and a text box on the right. The text box contains the hexadecimal string 'F64330000000000000000000000001C3F6'.

3) Other areas have the same reading methods. We can read the data in different storage area.

6.2 Write Tag Data


Bank Offset Words Pwd

Data


☐ WriteAny
☐ WriteContinue


The Bar is the label plate of writing tag.

reserved
reserved
epc
tid
user

1)  Click the triangle arrow, we can select the four writable regions.

Pwd 00000000

“Pwd” is reading password. Only the correct password can access to its different regions, the data are 16 - band display.  “WriteAny” is used to set to write random tag.

 WriteContinue “WriteContinue” is used to set to write continuously or not.

2) After select the storage area, we need to input the data behind the “Data”

Bank Offset

Data

. For example:

. Then click the “TagWrite” button

to confirm the writing operation.

6.3 Status Tips

At the bottom of the software box, there is a station label, which is used to mark the success or failure station or other return value. If your operation is fail, you will be prompted for the failure of the operation. As shown below:

According to the different error code displayed, you can know the error type.

七、Contact Us

Products Services Support: iservice@scishine.com