PR9200
UHF RFID Reader
Demo User Manual

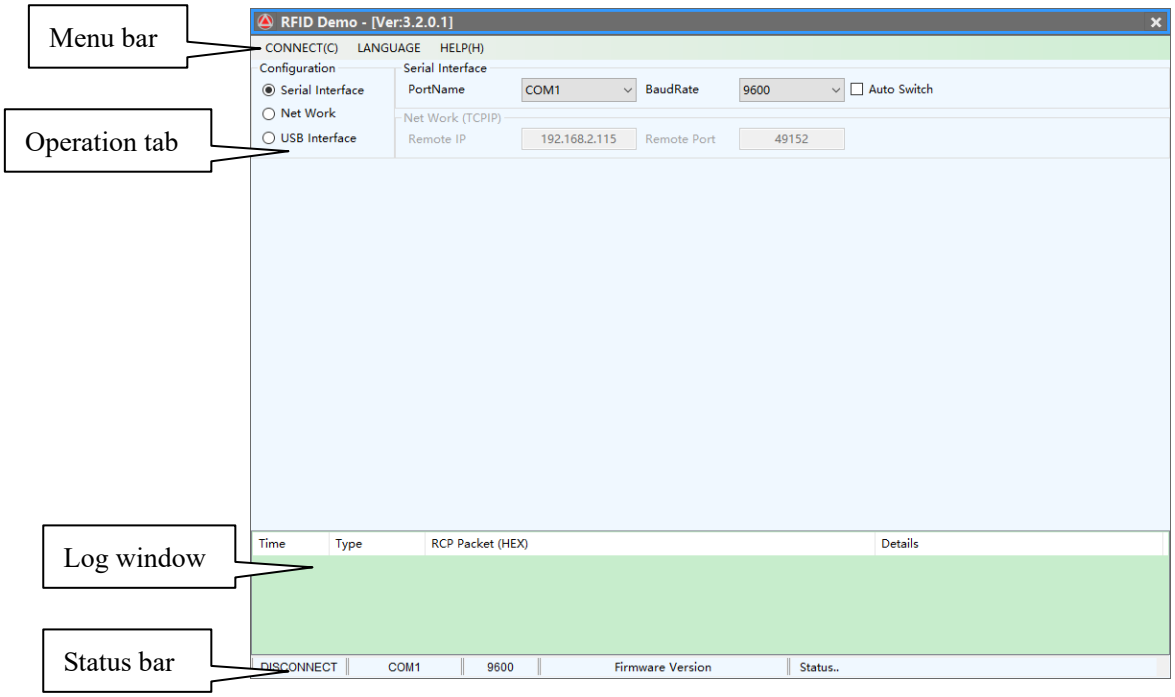
Version control

Change Date	Version	Changes
2015-09-17	V1.0	Initial version

Contents

1. Introduction

This demo is used to read and write the 915MHz EPC(GEN 2) tags;

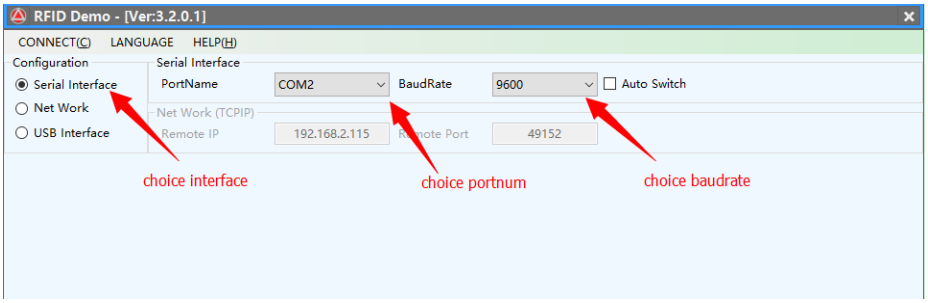


2. Start-up Guide

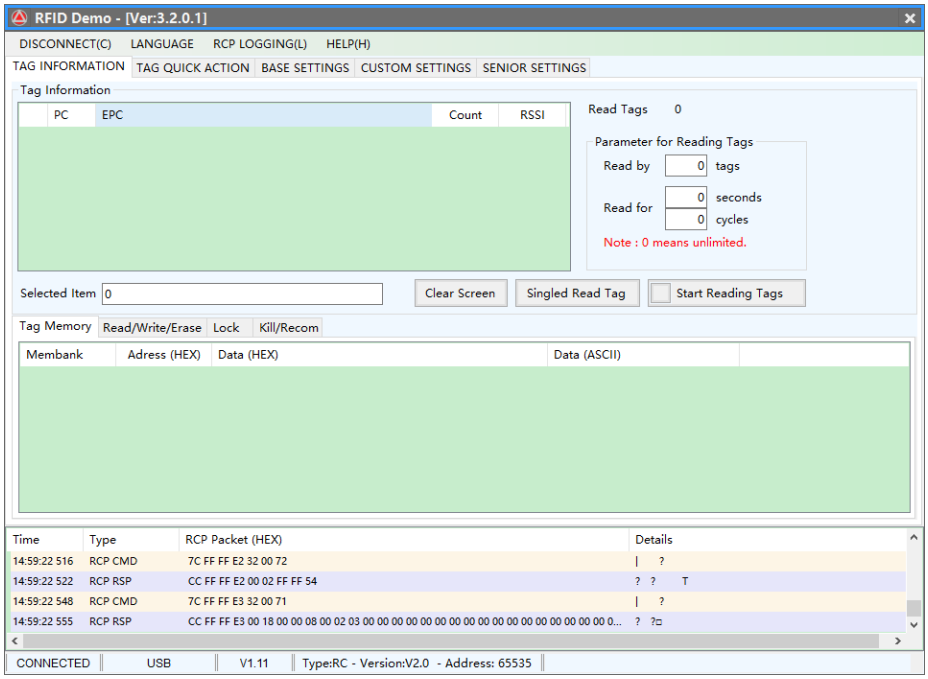
2.1. Serial Interface to connect

2.1.1. Connect reader to the computer with serial port (make sure the right connections, and obtain the computer serial number);

2.1.2. Choice the method of communication to “Serial Interface”, select right port name and baud rate:



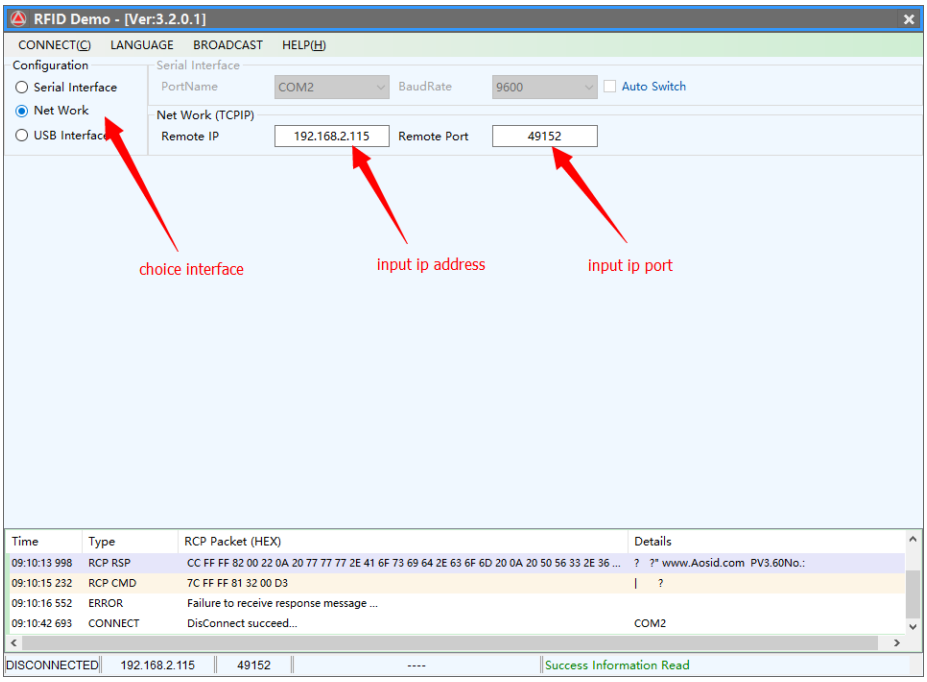
2.1.3. Click “CONNECT”, if be connected then screen is show as follow;



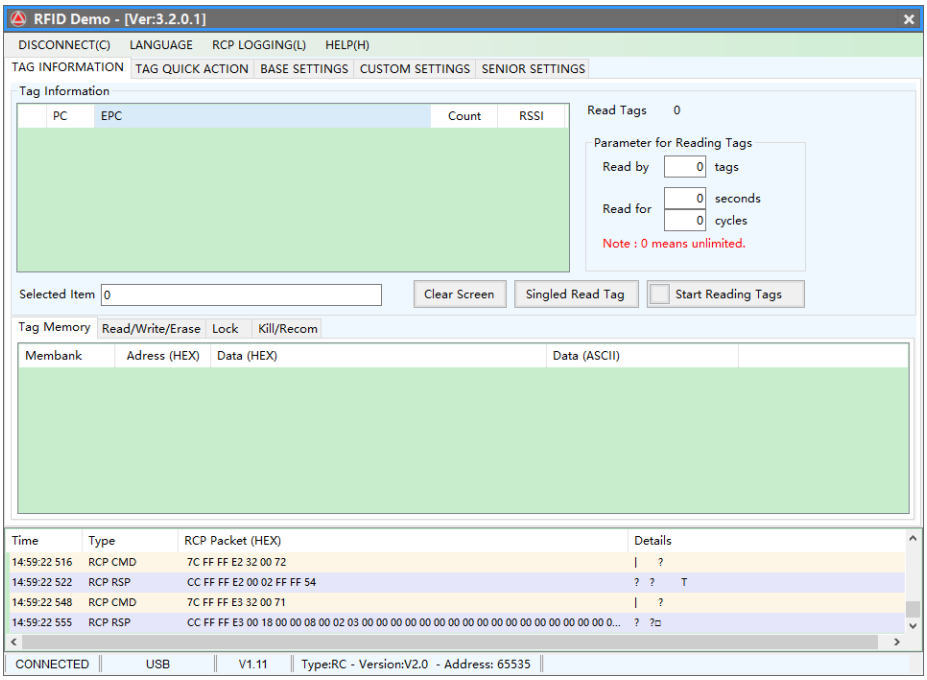
2.2. Net Work to connect

2.2.1. Connect reader to LAN;

2.2.2. Choice the method of communication to “Net Work”, input reader IP Address and IP Port:

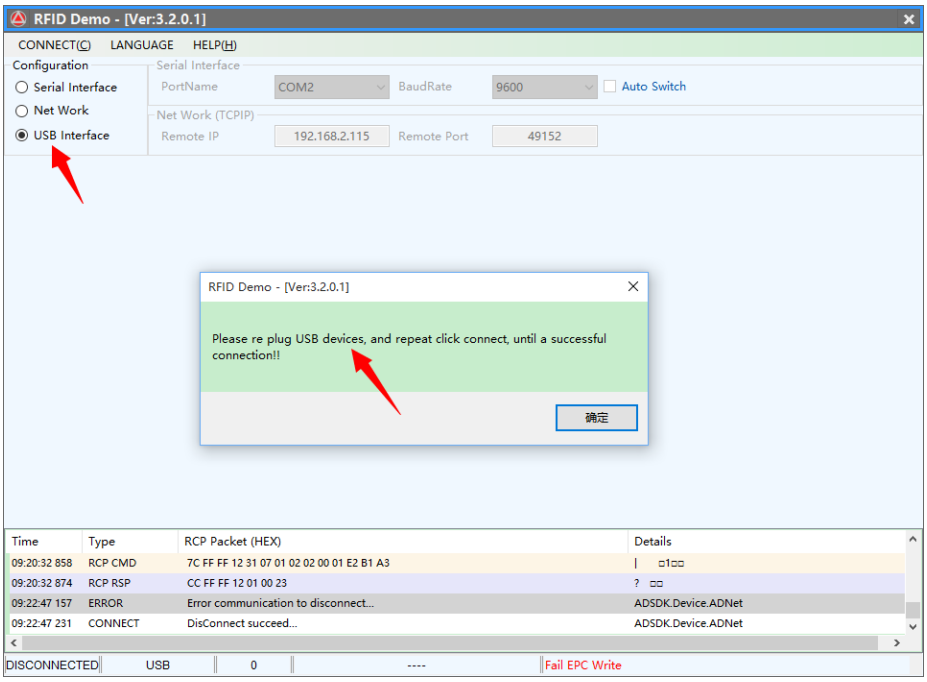


2.2.3. Click “CONNECT”, if be connected then screen is show as follow;

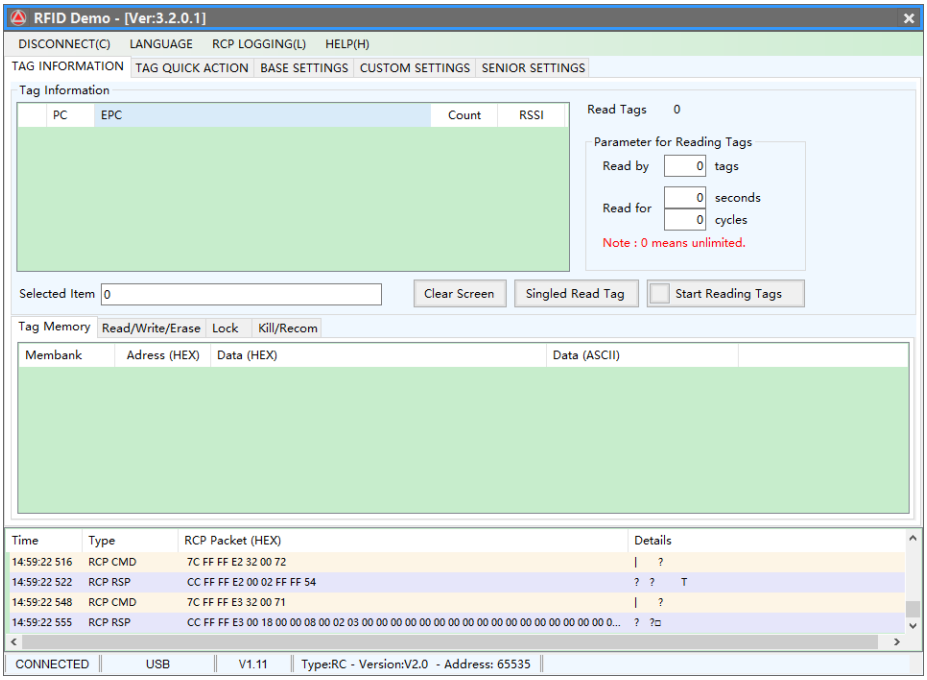


2.3. USB Interface to connect

2.3.1. Choice the method of communication to “USB Interface”;



2.3.2. Click “OK”, and Re plug the USB, than Click “CONNECT” In 5 seconds. Until show follow form;

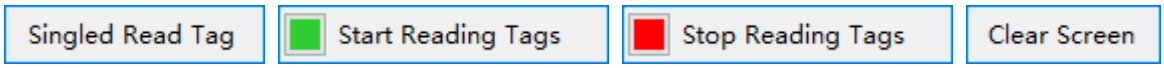


3. Tag Information

3.1. Reading Tags

After selecting operating band, click “Tag information” tab to read tags.
PC&EPC of tags are displayed on below text box.

3.1.1. Tag read operation

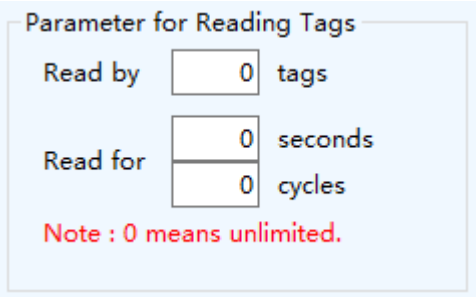


When you click the “Start Reading Tags” button, change to the “Stop Reading” button.

- Singled Read Tag: Read Tags one-time (the work mode of base settings be set command)
- Start Reading Tags: Read Tags infinitely (the work mode of base settings be set command)
- Stop Reading : Stop reading Tags
- Clear Screen : Tag information textbox Clear

When the work mode of base settings be set Active, the reader auto read tag, and show it into the tag information textbox;

3.1.2. Advanced Tag Reading Operation



When the work mode of base settings must be set command, add reading operation parameter.

- Read by XX tags : Number of tag to read(0~100)

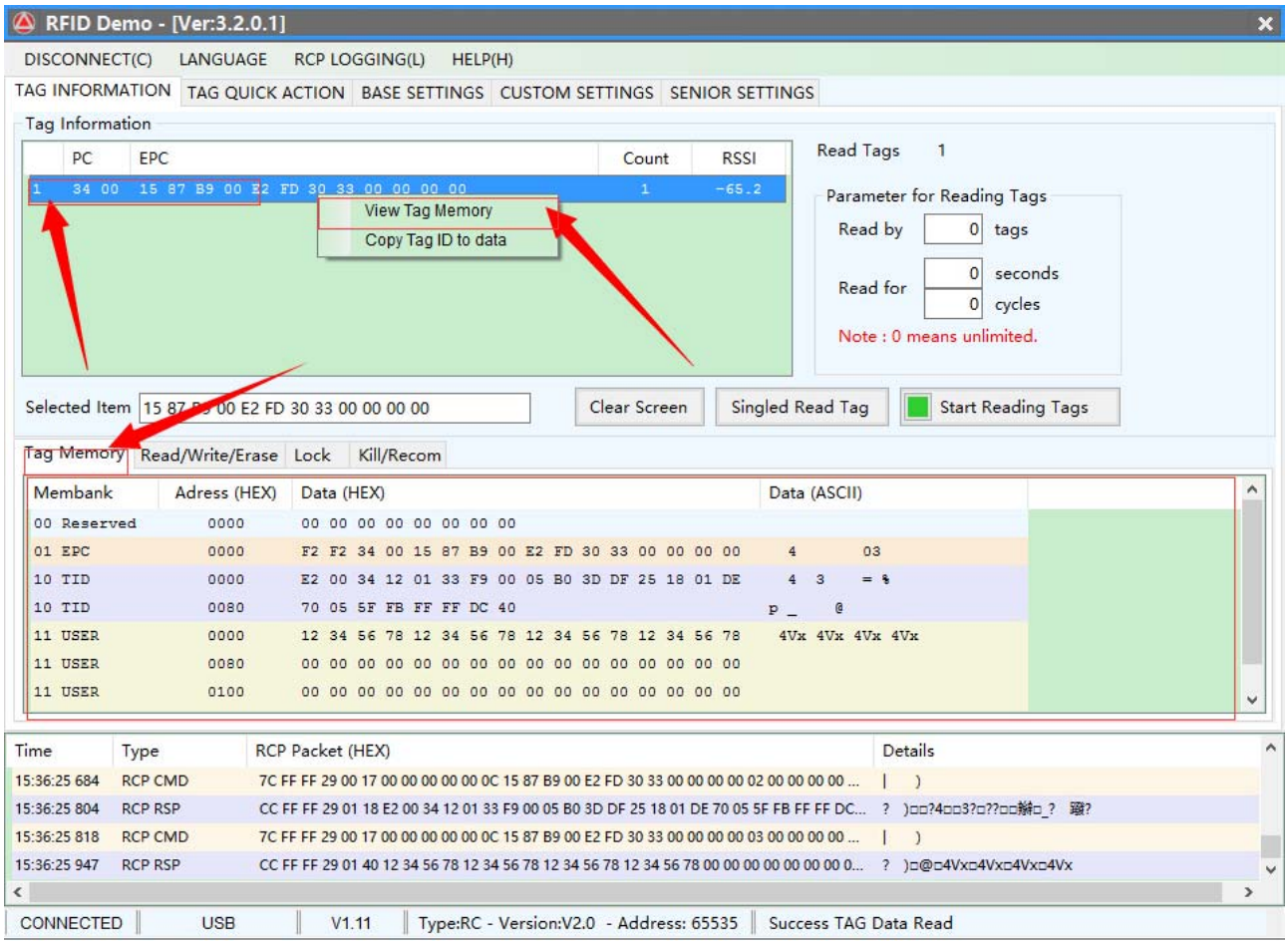
- Read for XX Seconds: Amount of time (sec) for inventory (0~250).
- Read for XX cycles: Number of inventory rounds

3.2. Tag Memory view/modify

3.2.1. Procedure for Tag Memory View

To access tag memory with this software, follow sequence as described below.

- Select target tag in tag list.
- Click the right mouse button, and then click “View Tag Memory”.
- The entire the memory of tag is displayed in the “Tag Memory tab” text box.

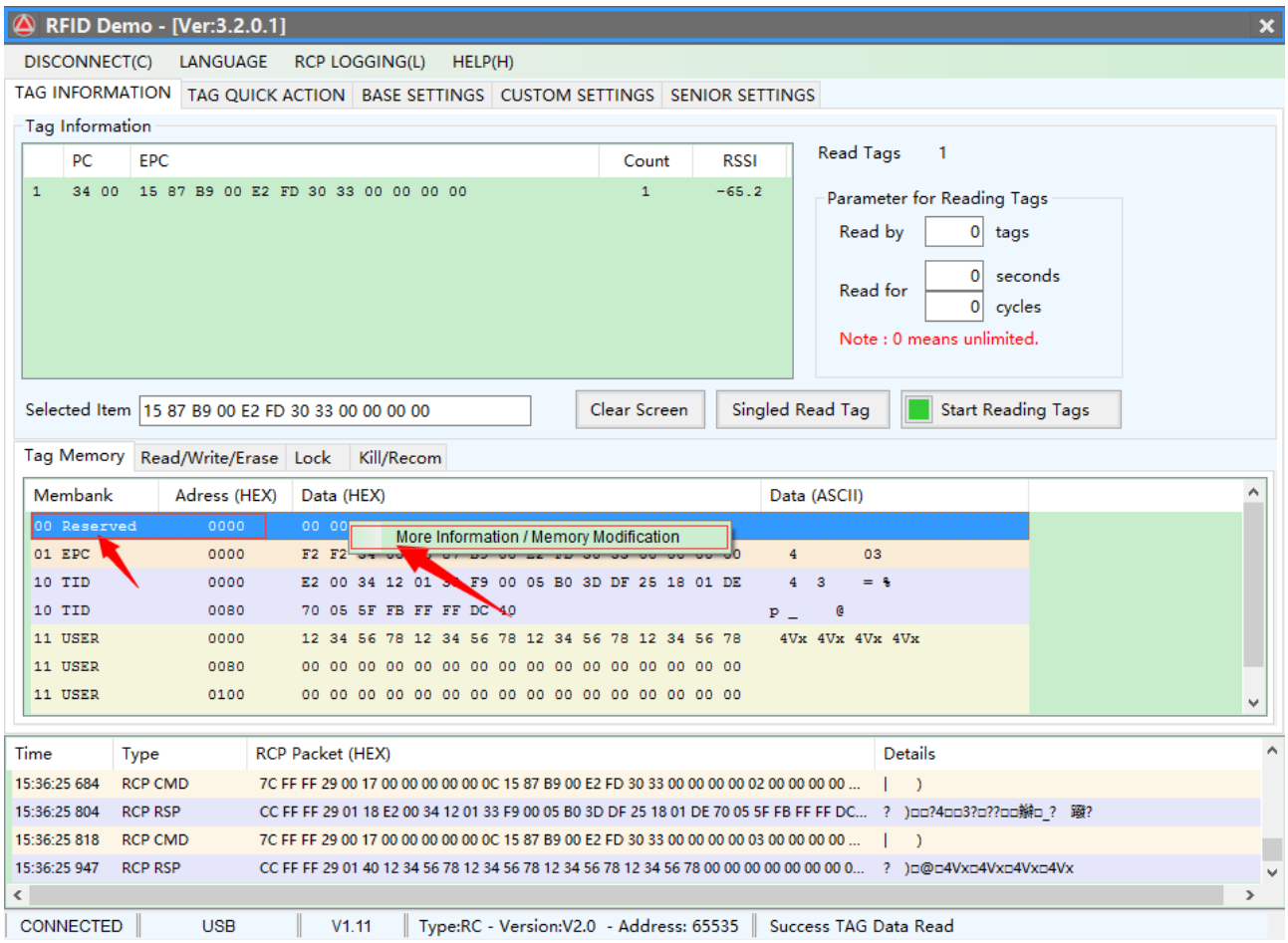


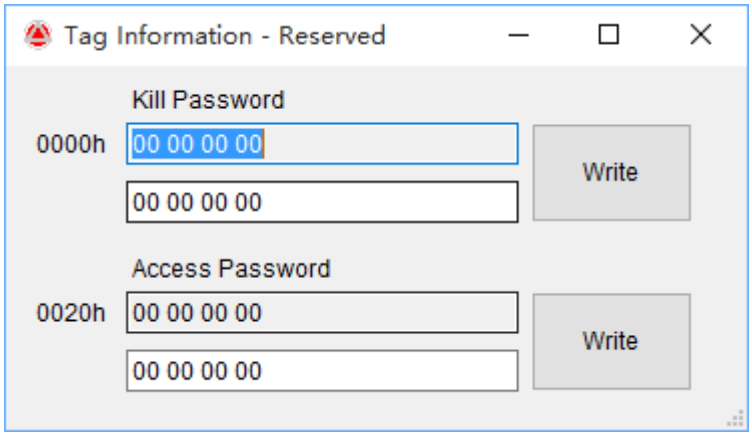
3.2.2. Tag memory information view

Tag Memory is possible to check and modify in the textbox of “Tag Memory” tab.

To check Tag Memory information, follow sequence as described below.

- Select target memory bank in tag memory bank list.
- Click the right mouse button, and then click „More Information / Memory Modification".
- Memory Information of memory bank check



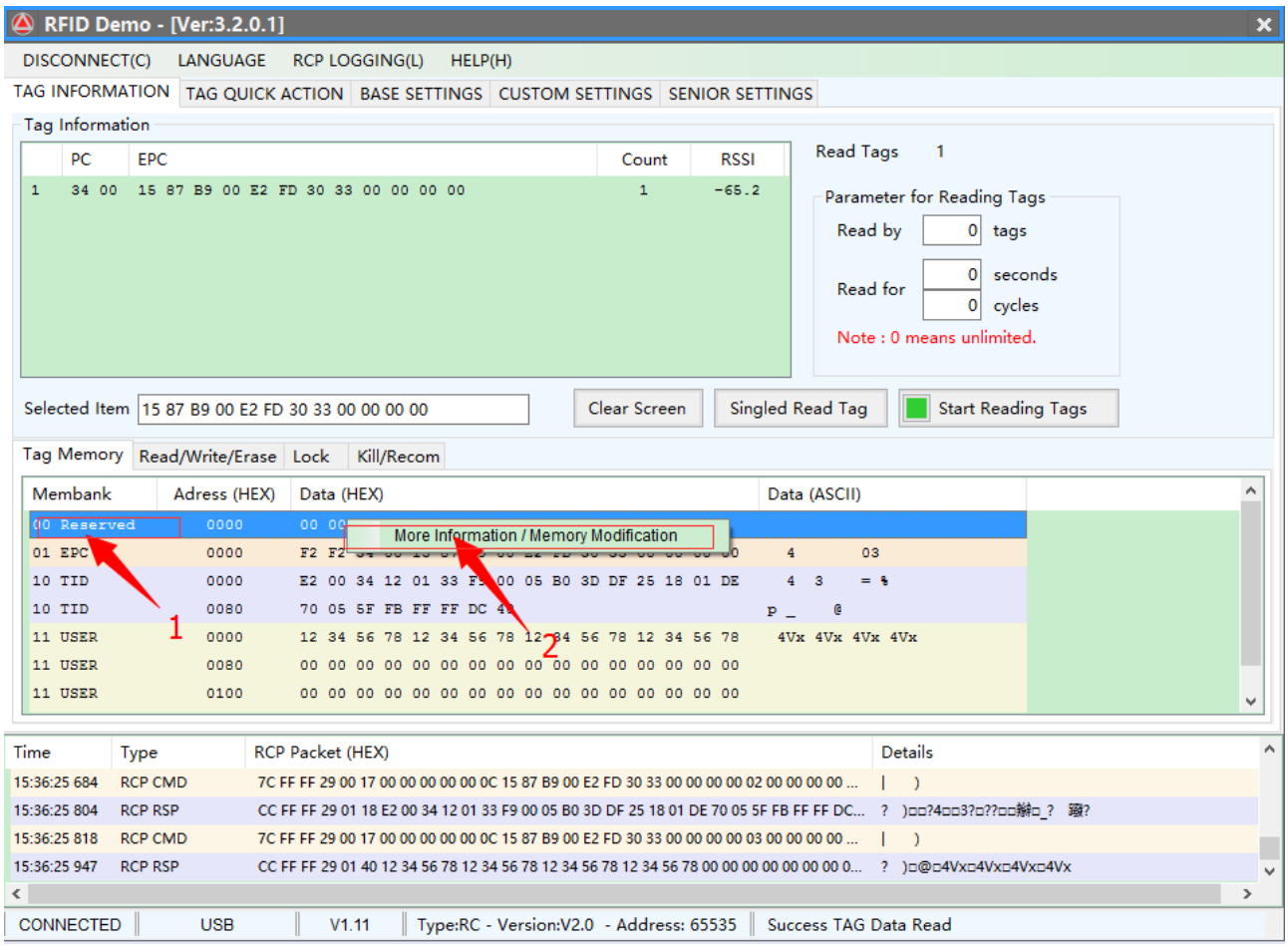


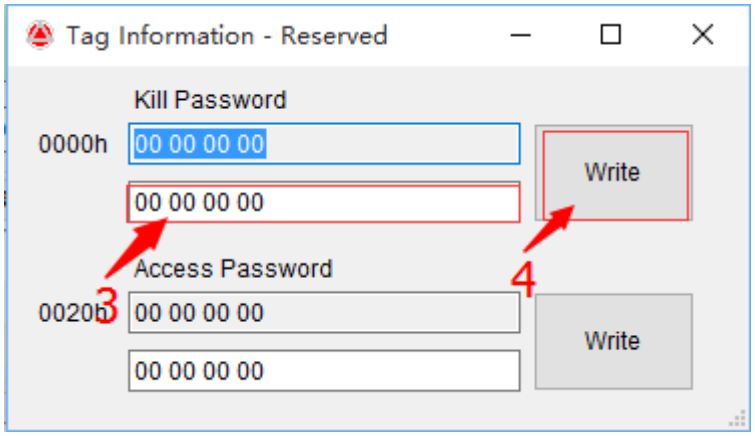
3.2.3.Tag memory modification

Tag memory information can be modified without parameter change.

To amend Tag Memory information, follow sequence as described below.

- Select target memory bank in tag memory bank list.
- Click the right mouse button, and then click „More Information / Memory Modification".
- Give data to write
- Click „Write"





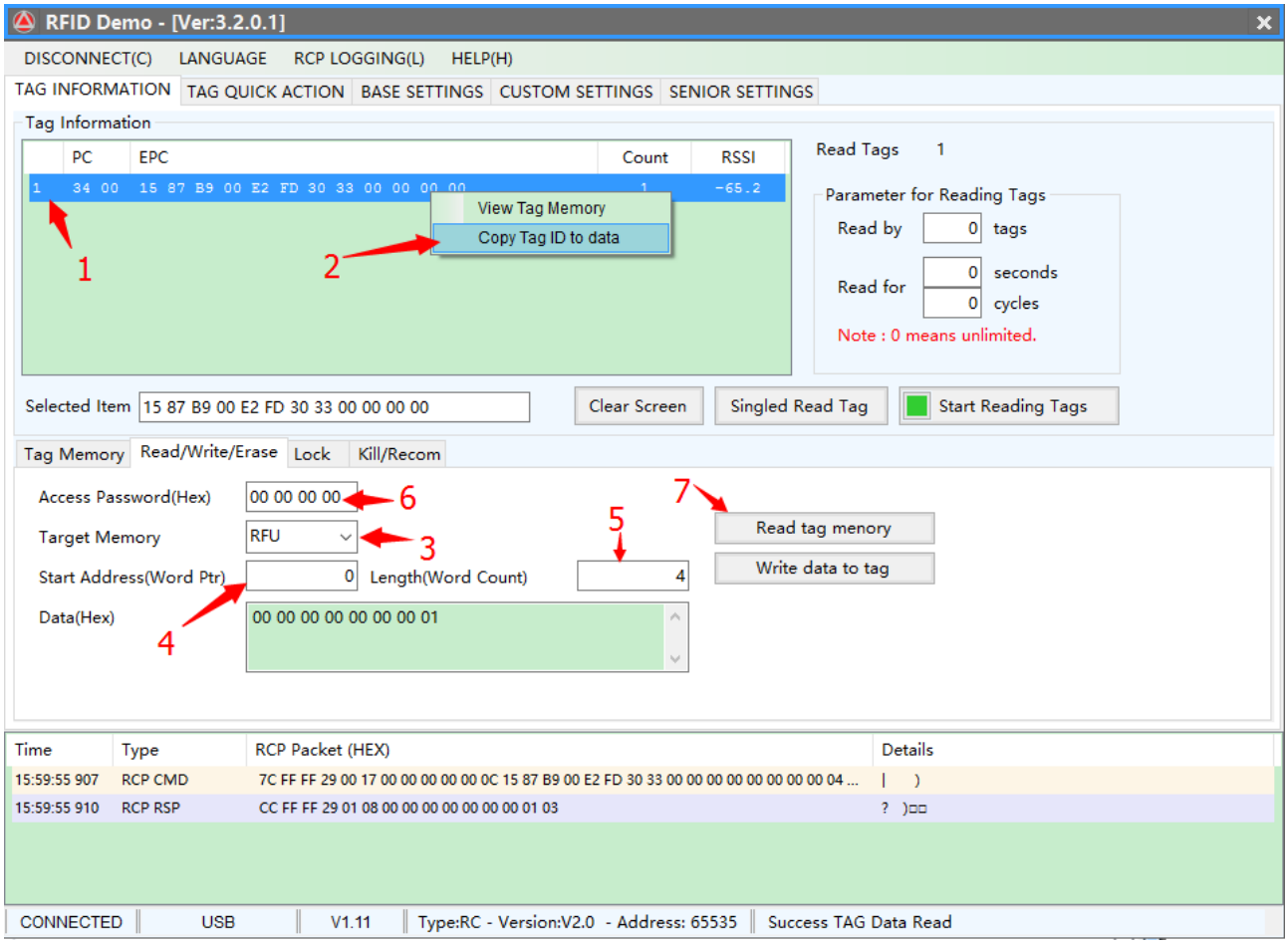
3.3. Procedures for tag memory access

To access tag memory with this software, follow sequence as described below.

- Select target tag in tag list.
- Click the right mouse button, and then click “Copy Tag ID to data”.
- Select tag memory
- Give the start address and length. Start address is word pointer (16-bit unit) and length is word length (16-bit unit)
- Give the access password
- Click “Read tag memory”
- RCP flow (log) shows tag memory accessed in RCP format. To learn more about RCP, please refer to

document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 29 01 08 00 00 00 00 00 00 00 01 03 (Gray section is tag memory data)

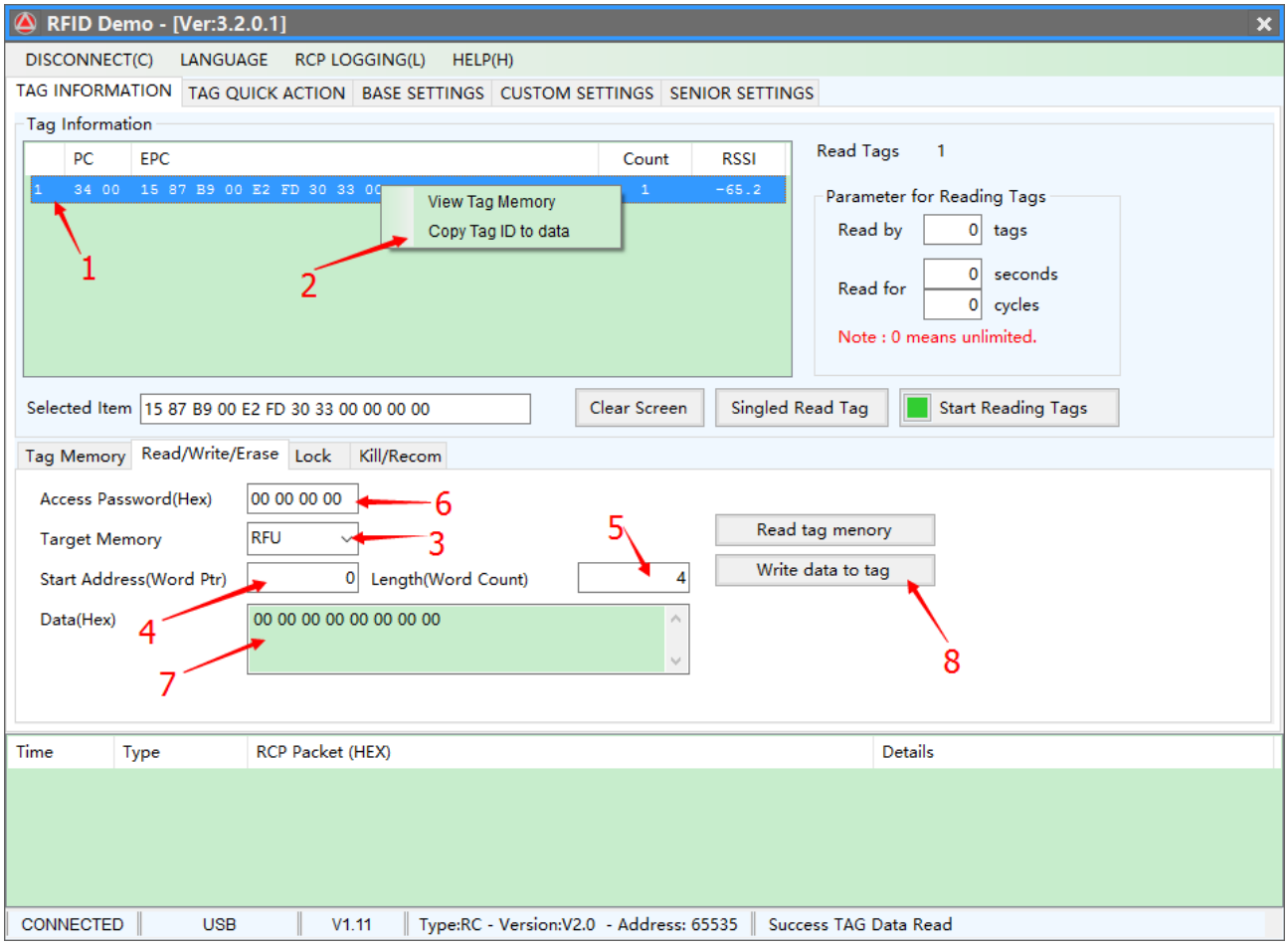


3.4. Procedures for tag memory write

To write data to tag memory with THIS software, follow sequence as described below.

- Select target tag in tag list.
- Click the right mouse button, and then click “Copy Tag ID to data”.
- Select tag memory
- Give the start address and length. Start address is word pointer (16-bit unit) and length is word length (16-bit unit)
- Give the access password.
- Give data to write.
- Click “Write data to tag”
- RCP flow (log) shows the result in RCP format. To learn more about RCP, please refer to document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 46 01 01 00 EE (Write tag process done)

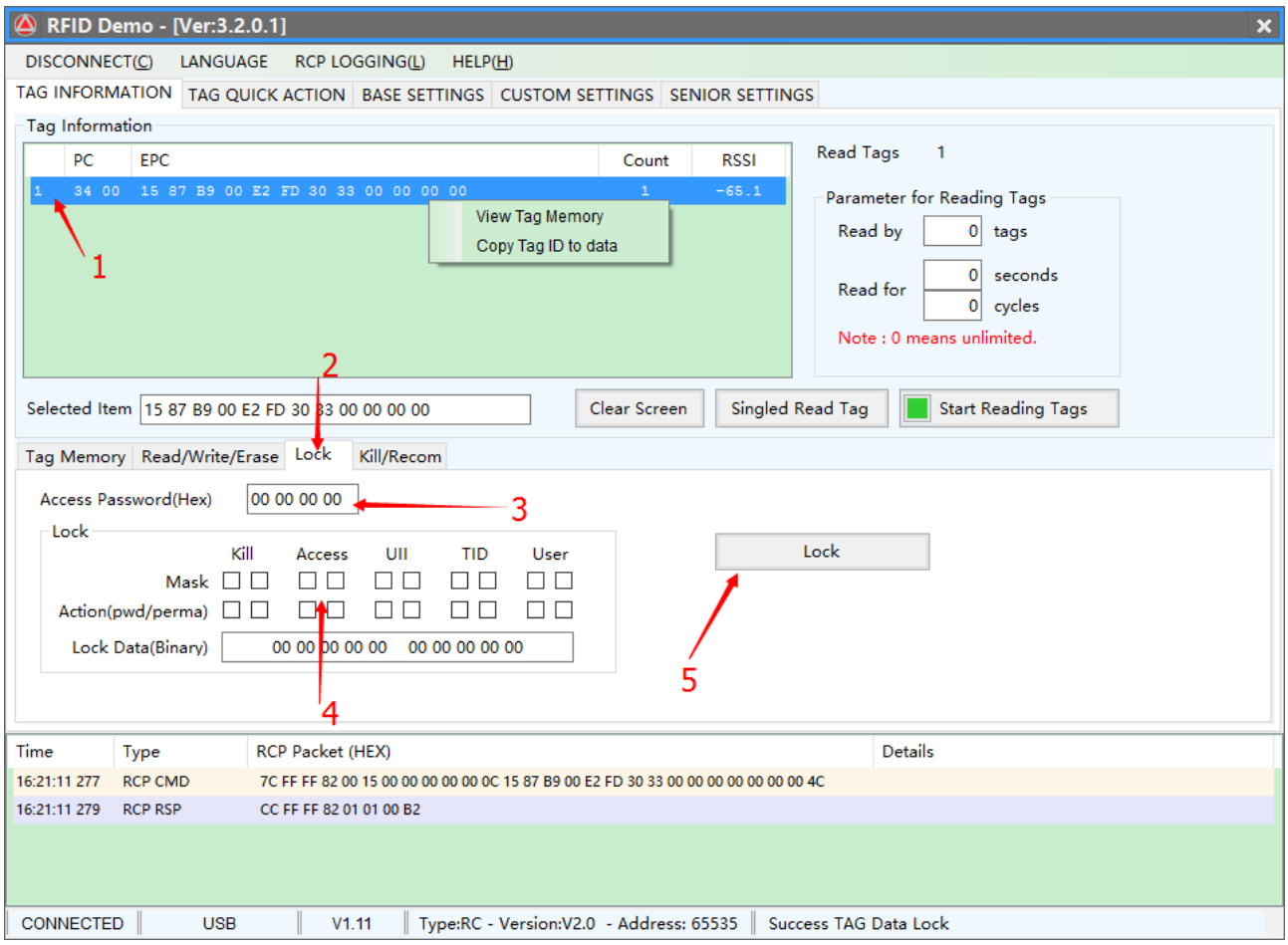


3.5. Procedures for locking tag memory

To lock tag memory with this software, follow sequence as described below.

- Select target tag in tag list.
- Click “Lock” tab
- Give the access password.
- Check Lock bit
- Click “Lock”
- RCP flow (log) shows the result in RCP format. To learn more about RCP, please refer to document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 82 01 01 00 B2 (Write tag process done)

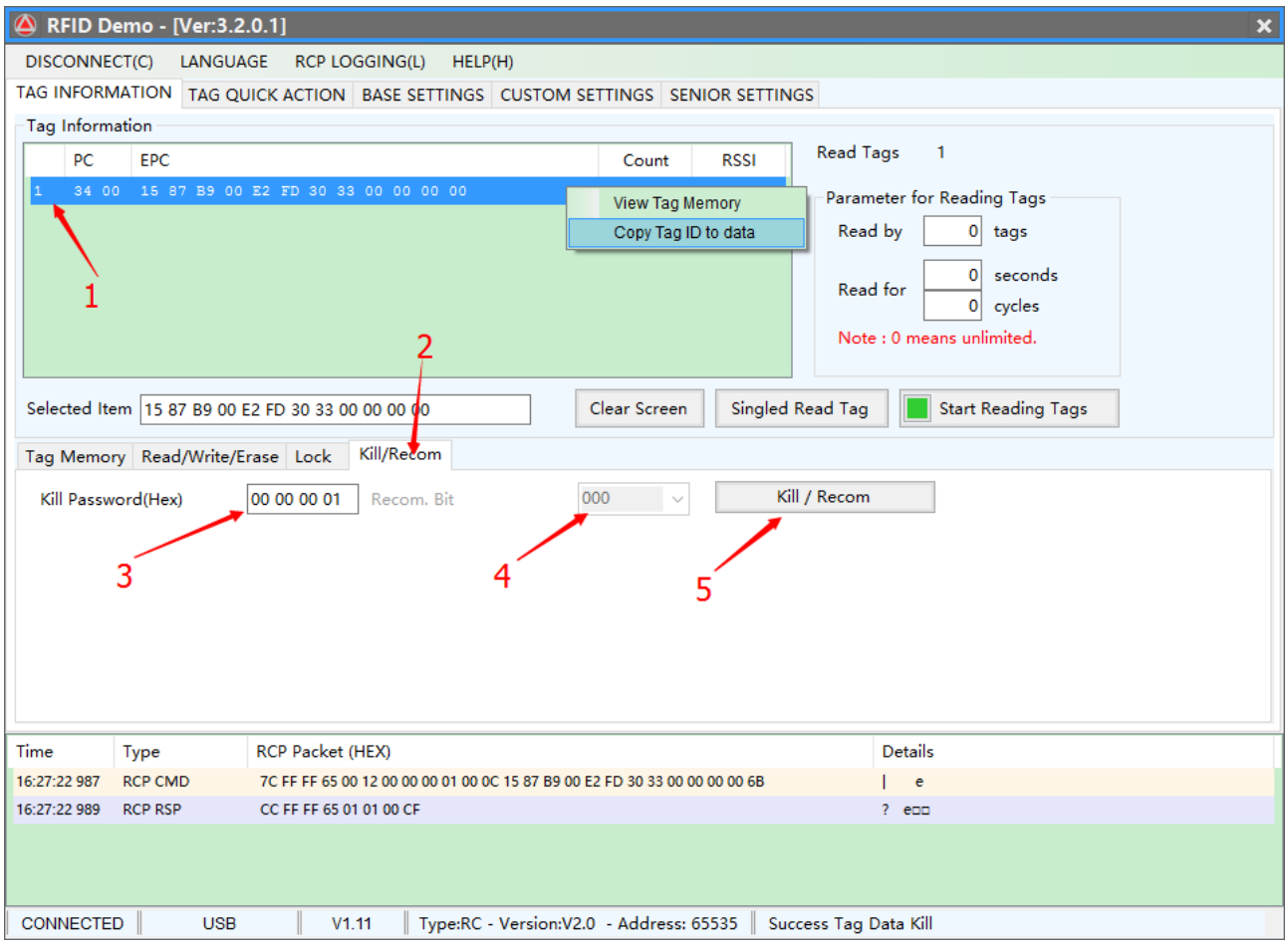


3.6. Procedures for deactivating tag

To deactivate a tag, follow sequence as described below

- Select target tag in tag list.
- Click “Kill/Recom” tab
- Give the kill password.
- Give the Recom bit (not necessary)
- Click “Kill”
- RCP flow (log) shows the result in RCP format. To learn more about RCP, please refer to document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 65 01 01 00 CF (Write tag process done)

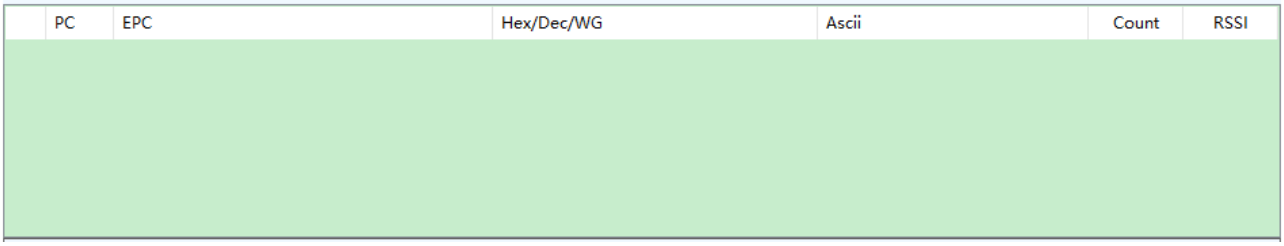

RFID Demo - [Ver:3.2.0.1]
DISCONNECT(C)
LANGUAGE
RCP LOGGING(L)
HELP(H)
TAG INFORMATION
TAG QUICK ACTION
BASE SETTINGS
CUSTOM SETTINGS
SENIOR SETTINGS
Tag Information
PC
EPC
Count
RSSI
1 34 00 15 87 B9 00 E2 FD 30 33 00 00 00 00
View Tag Memory
Copy Tag ID to data
Read Tags 1
Parameter for Reading Tags
Read by 0 tags
Read for 0 seconds
0 cycles
Note : 0 means unlimited.
1
2
Selected Item 15 87 B9 00 E2 FD 30 33 00 00 00 00
Clear Screen
Singled Read Tag
Start Reading Tags
Tag Memory
Read/Write/Erase
Lock
Kill/Recom
Kill Password(Hex) 00 00 00 01
Recom. Bit
000
Kill / Recom
3
4
5
Time
Type
RCP Packet (HEX)
Details
16:27:22 987 RCP CMD 7C FF FF 65 00 12 00 00 00 01 00 0C 15 87 B9 00 E2 FD 30 33 00 00 00 00 6B
16:27:22 989 RCP RSP CC FF FF 65 01 01 00 CF
CONNECTED
USB
V1.11
Type:RC - Version:V2.0 - Address: 65535
Success Tag Data Kill

4. Tag Quick Action

Change the work mode to “Command” in “Base Settings” tab;

4.1. Reading Tag

PC&EPC of tags are displayed on below text box.



4.2. Tag read operation

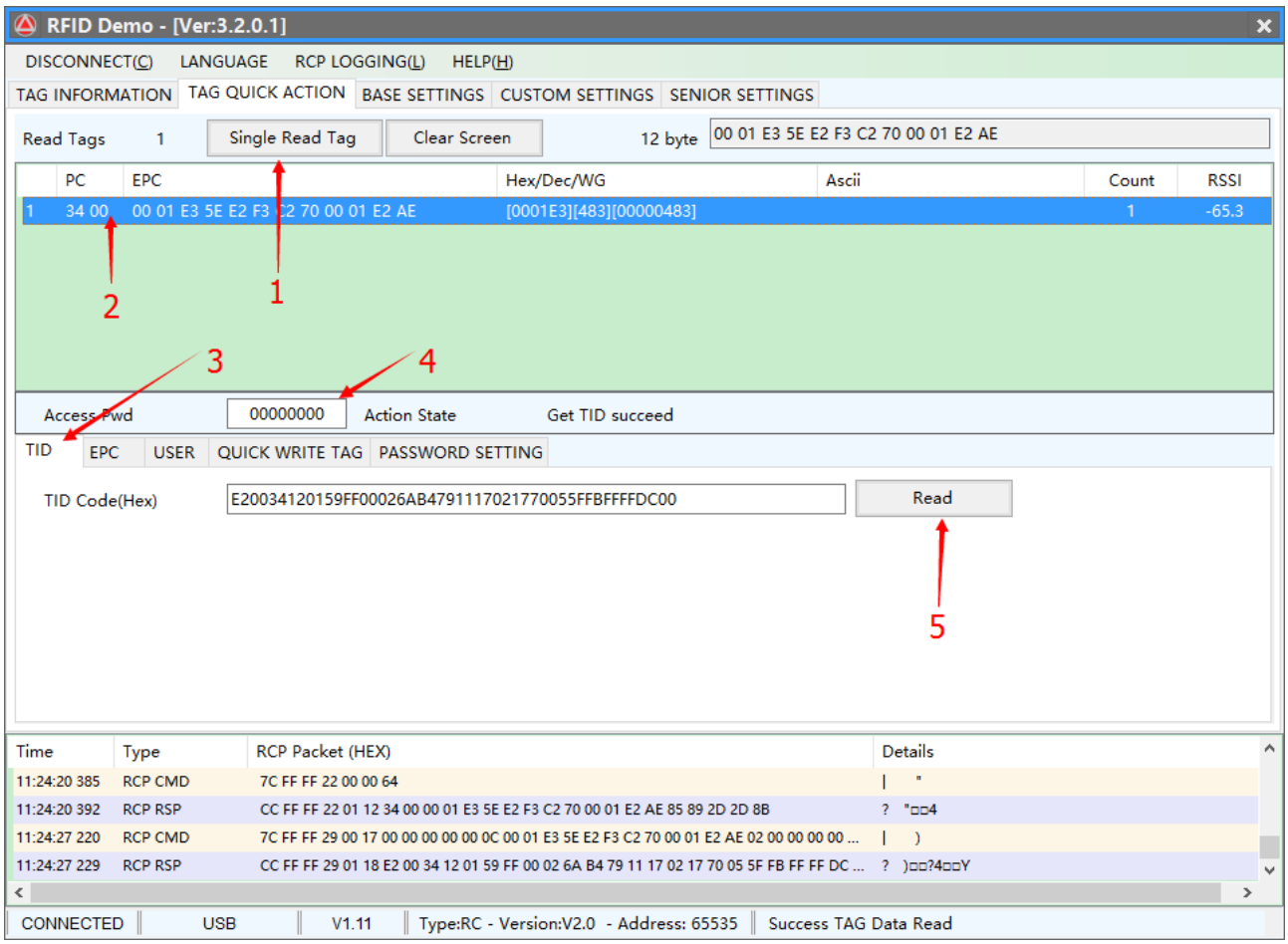
- Singled Read Tag: Read Tags one-time (the work mode of base settings be set command)
- Clear Screen : Tag information textbox Clear

4.3. TID of Tag read operation

To access tag memory TID with this software, follow sequence as described below.

- Select target tag in tag list.
- Select “TID” tab
- Give the access password
- Click “Read”
- RCP flow (log) shows tag memory accessed in RCP format. To learn more about RCP, please refer to document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 29 01 18 E2 00 34 12 01 59 FF 00 02 6A B4 79 11 17 02 17 70 05 5F FB FF FF DC 00 F0 (Read tag process done)



4.4. EPC of Tag Modification

4.4.1. Procedures for EPC write show length

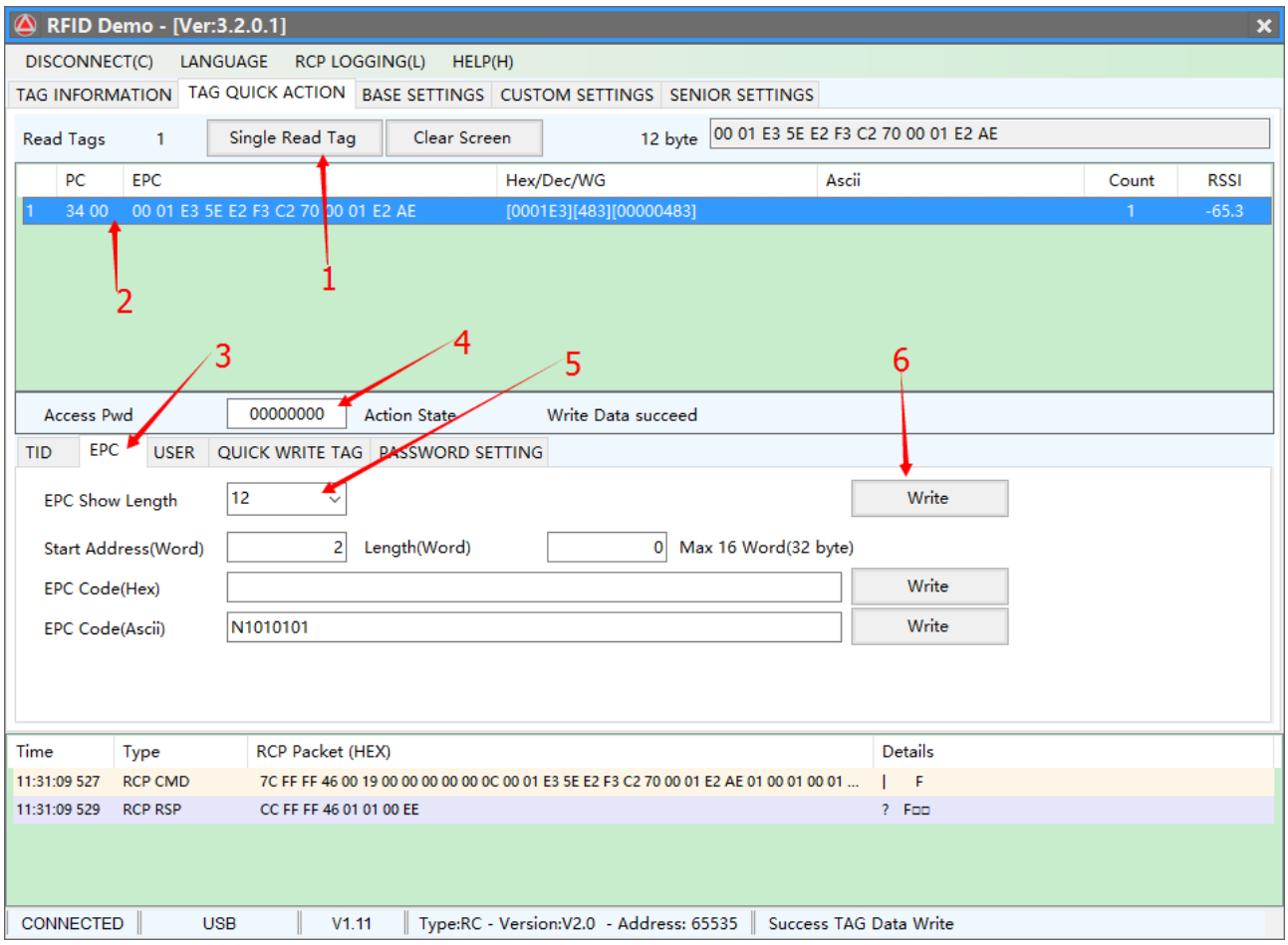
To write data to tag memory EPC with this software, follow sequence as described below.

This form press “F8” 5 times to show;

When the tags support change length can be change show length;

- Select target tag in tag list.
- Select EPC tab
- Give the access password.
- Give data of show length to write.
- Click “Write”
- RCP flow (log) shows the result in RCP format. To learn more about RCP, please refer to document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 46 01 01 00 EE (Write tag process done)

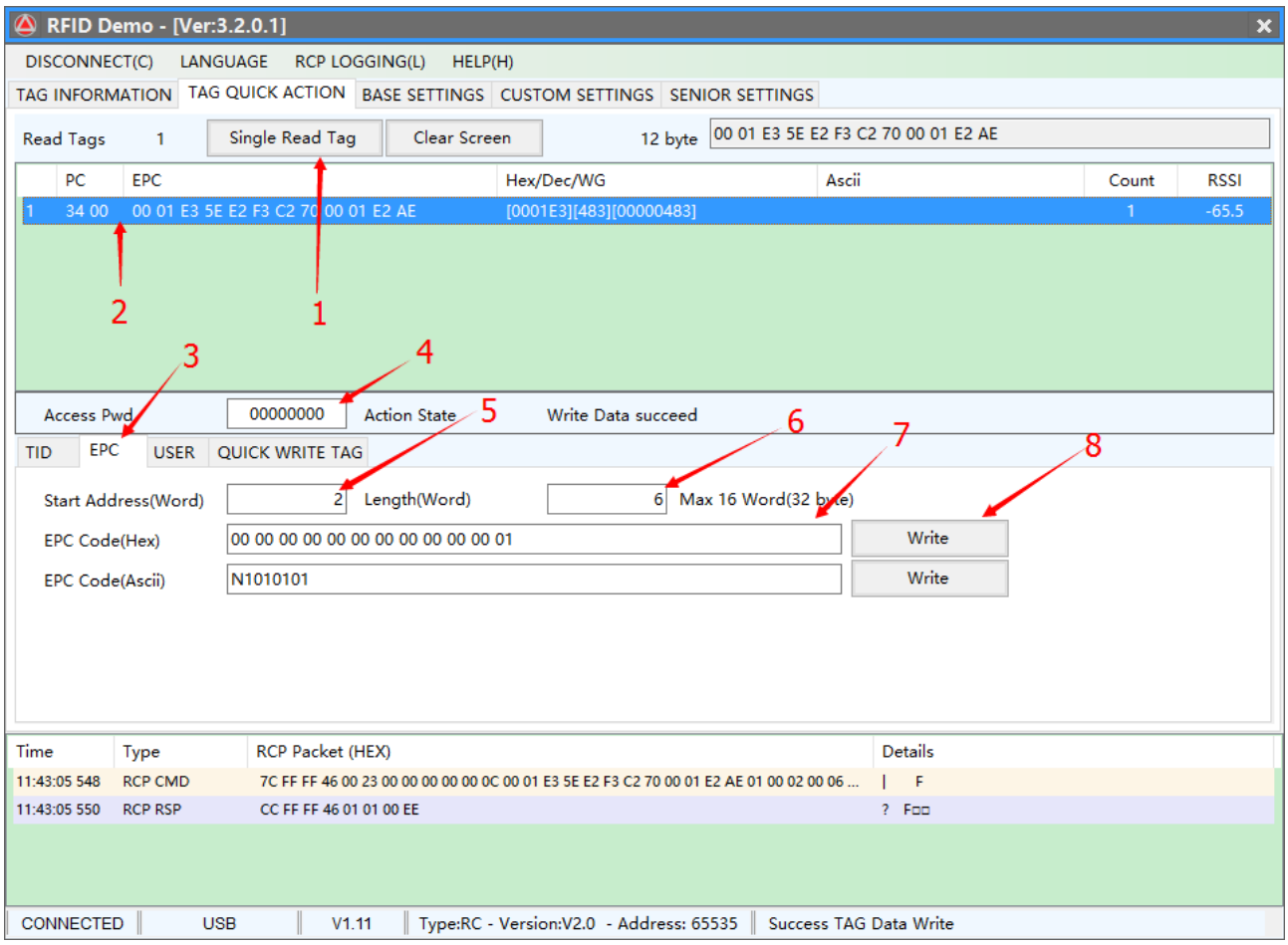


4.4.2.Procedures for EPC write data

To write data to tag memory EPC with this software, follow sequence as described below.

- Select target tag in tag list.
- Select EPC tab
- Give the access password.
- Give the start address and length. Start address is word pointer (16-bit unit) and length is word length (16-bit unit)
- Give data to write.
- Click “Write”
- RCP flow (log) shows the result in RCP format. To learn more about RCP, please refer to document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 46 01 01 00 EE (Write tag process done)



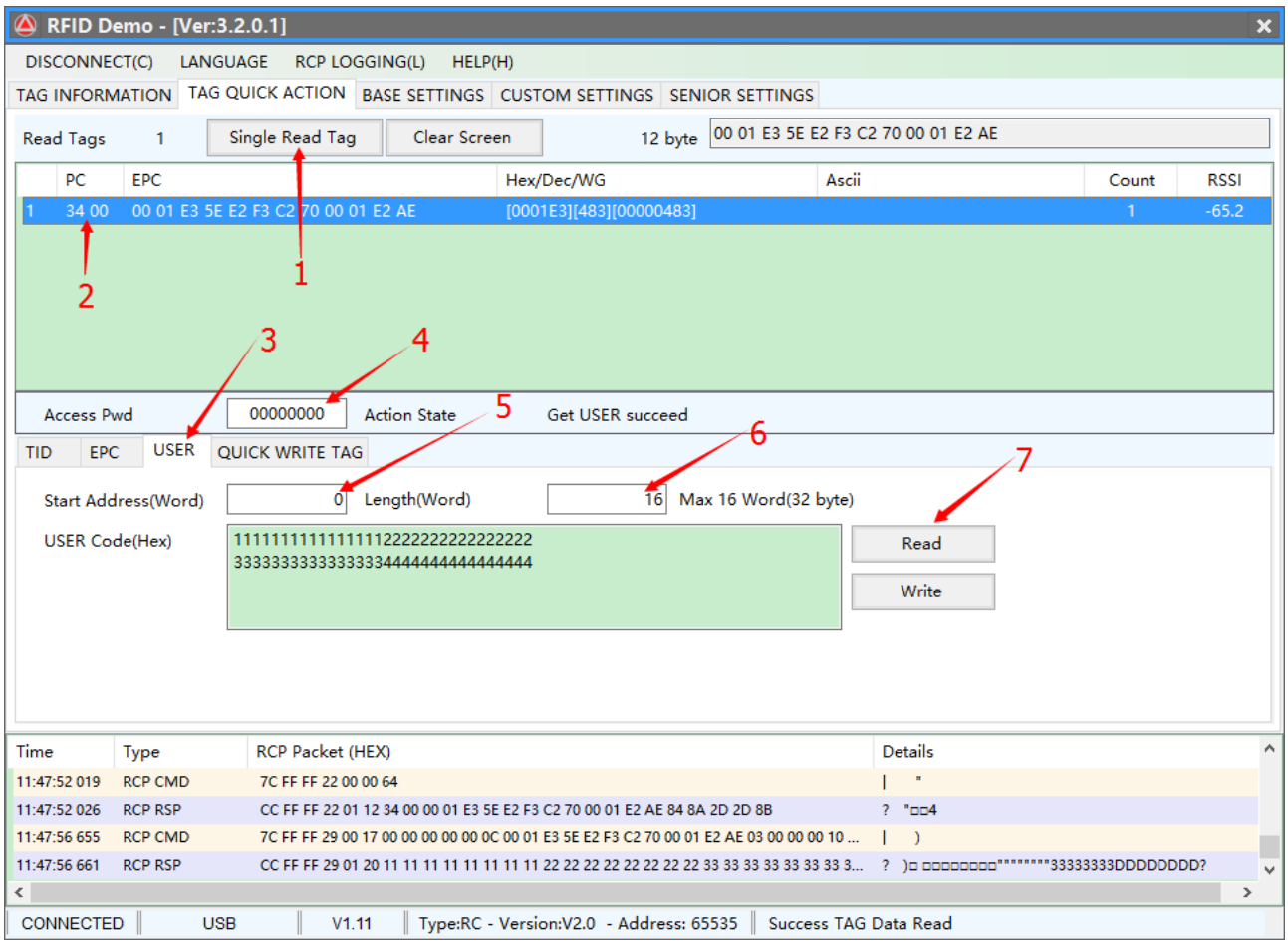
4.5. USER of Tag Modification

4.5.1. Procedures for USER read data

To access tag memory USER with this software, follow sequence as described below.

- Select target tag in tag list.
- Select “USER” tab
- Give the access password
- Give the start address and length. Start address is word pointer (16-bit unit) and length is word length (16-bit unit)
- Click “Read”
- RCP flow (log) shows tag memory accessed in RCP format. To learn more about RCP, please refer to document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 29 01 20 11 11 11 11 11 11 11 11 22 22 22 22 22 22 22 22 33 33 33 33 33 33 33 33 33 44 44 44 44 44 44 44 44 9C (Read tag process done)

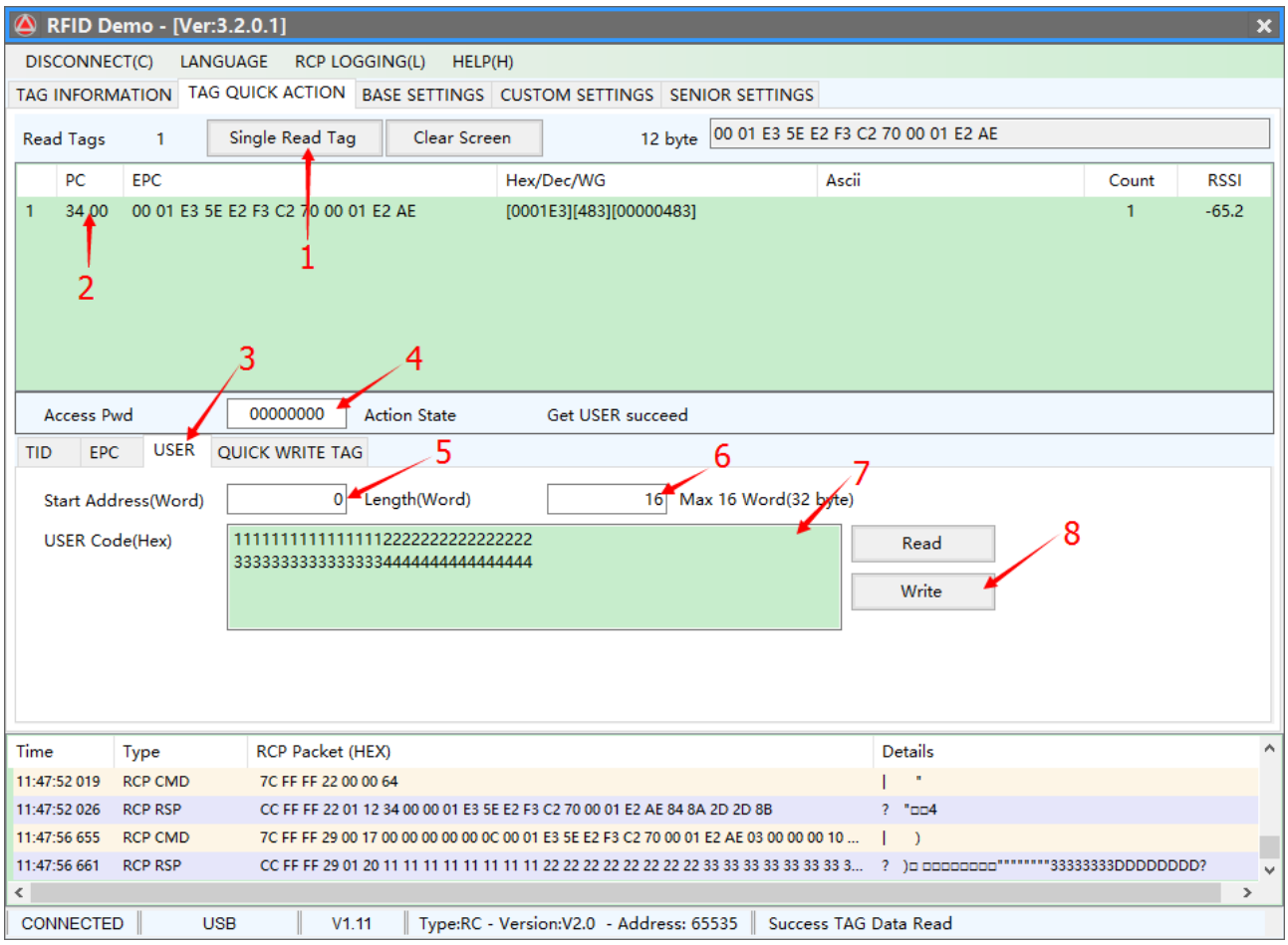


4.5.2. Procedures for USER write data

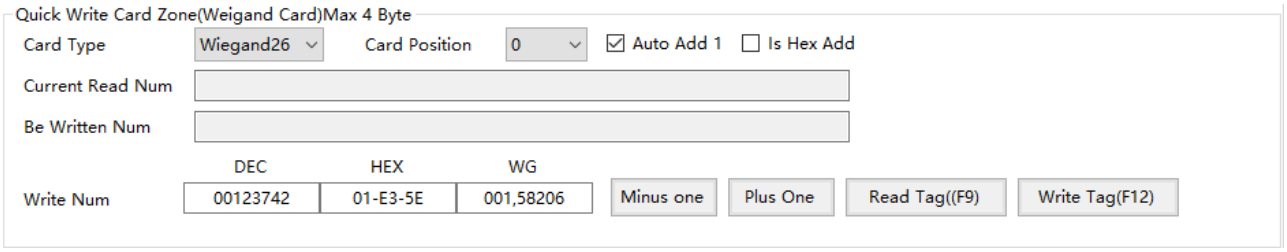
To write data to tag memory USER with this software, follow sequence as described below.

- Select target tag in tag list.
- Select USER tab
- Give the access password.
- Give the start address and length. Start address is word pointer (16-bit unit) and length is word length (16-bit unit)
- Give data to write.
- Click “Write”
- RCP flow (log) shows the result in RCP format. To learn more about RCP, please refer to document 915MHz PR9200 Protocol.

Example) RCP RSP CC FF FF 46 01 01 00 EE (Write tag process done)



4.6. Quick Write Tag



Card Type: standby to write data type (length)

Card Position: standby to write data position in EPC of tag

Auto Add 1: when the write tag succeed the write num auto add 1

Is Hex Add: when hex of write num just input digital without “A~F”

Current Read Num: when the read tag, it show current num

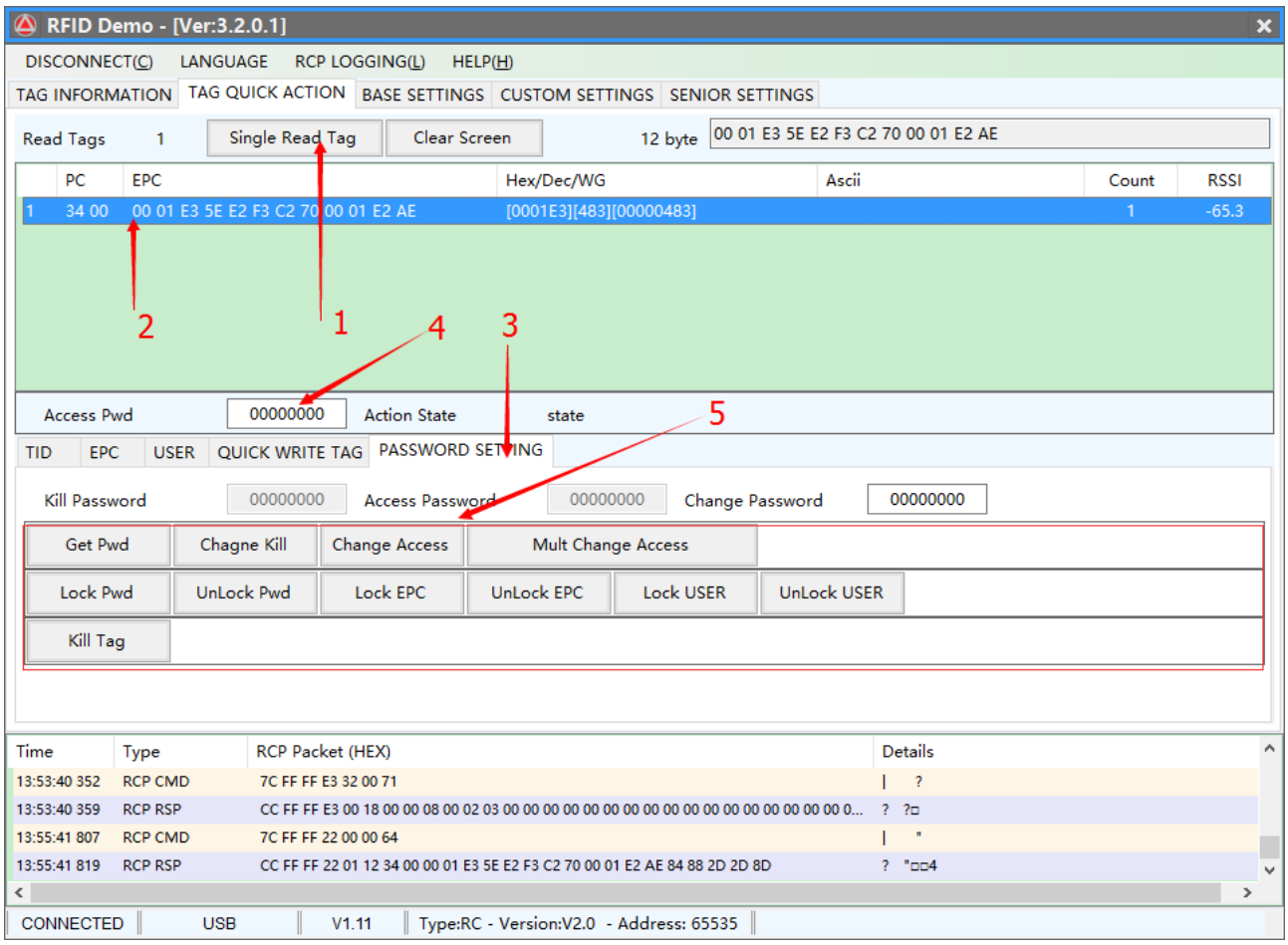
Be Written Num: when write tag succeed, it show be written num

Write Num: standby to write data, it can be change

4.7. Password Settings

Use carefully to action this table;

To access tag with this software about password, follow sequence as described below.



Get Pwd: get the kill password and access password;
Change Kill: change the kill password of tag;
Change Access: change the access password of tag;
Multi Change Access: quick change the access password of tag (if the password area of tag not be locked)

Lock Pwd: Lock the password area of tag
Unlock Pwd: Unlock the password area of tag

Lock EPC: Lock the EPC area of tag (only read and access write)
Unlock EPC: Unlock EPC password area of tag (can be read and be written)

Lock USER: Lock the USER area of tag (only read and access write)
Unlock USER: Unlock the USER area of tag (can be read and be written)

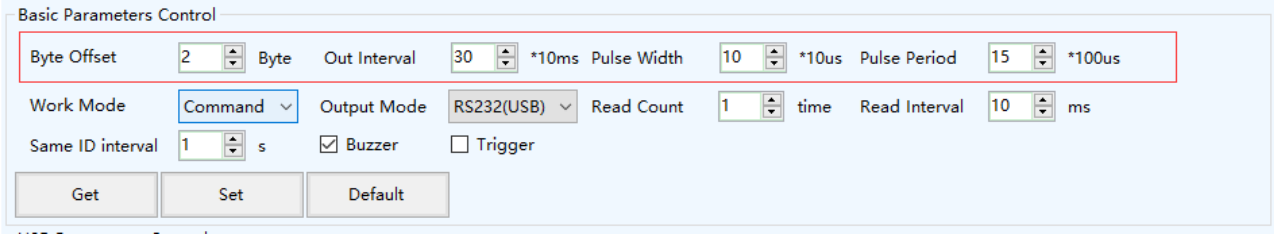
Kill Tag: Destroy the tag;

5. Base Settings

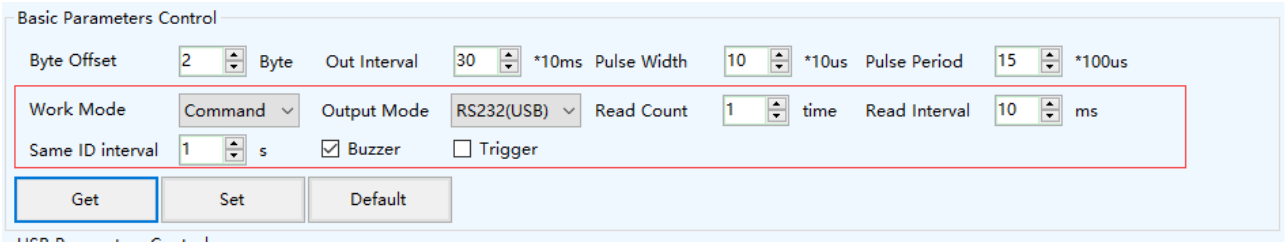
5.1. Base Parameters Control

5.1.1. Wiegand Parameters

When you set the output mode to “Wiegand”, you can change the “Byte Offset”, “Out Interval”, “Pulse Width” and “Pulse Period” value to adapt the Wiegand controller;



5.1.2. Communication Parameters



Work Mode: Include Command, Active;

1. **Command**: Reader do not work, when PC send command to Reader then it work once, and response PC;
2. **Active**: Reader work, and if read the tag then auto send data to PC;

Output Mode: Include RS232(USB)、RS485(WIFI)、TCPIP、Syris、Wiegand26 and Wiegand34；

1. **RS232(USB):** Serial Interface, main to connect PC, one serial interface just can be connect one reader;
2. **RS485(WIFI):** Serial Interface, main to connect PC, one serial interface just can be connect MULT reader(MAX 32);
3. **TCPIP:** Net Work，Through LAN or WAN for communication with PC;
4. **Syris:** Taiwan Syris controller protocol;
5. **Wiegand26:** Wiegand controller protocol;
6. **Wiegand34:** Wiegand controller protocol;

Data: Wiegand http：//baike.baidu.com/view/557637.html
RS485 http：//baike.baidu.com/view/196467.htm
RS232 http：//baike.baidu.com/view/196461.htm

TCPIP	http：//baike.baidu.com/view/7649.htm
CANBUS	http：//baike.baidu.com/view/985423.htm

Read Count: in read interval to read count；

Note: Usually more than 1 time, default 1 or 2;.

Read Interval: the frequency of reader read tag；

Note: Usually more than 10 ms, too small will shorten the service life of the reader.

Same id Interval: The same tag data is transmitted only once in the set time;

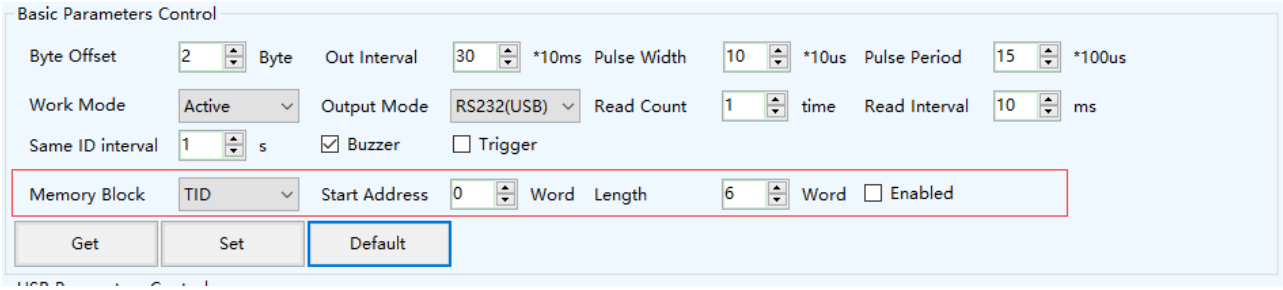
Buzzer: enabled the buzzer;

Trigger: Include Close and Low Trigger

1. ***Unselect:*** Close trigger to read tag;
2. ***Select:*** Trigger level lead connected to the low level effective;

5.1.3. Additional Data Parameters

Active of Work Mode and select enabled be effective.



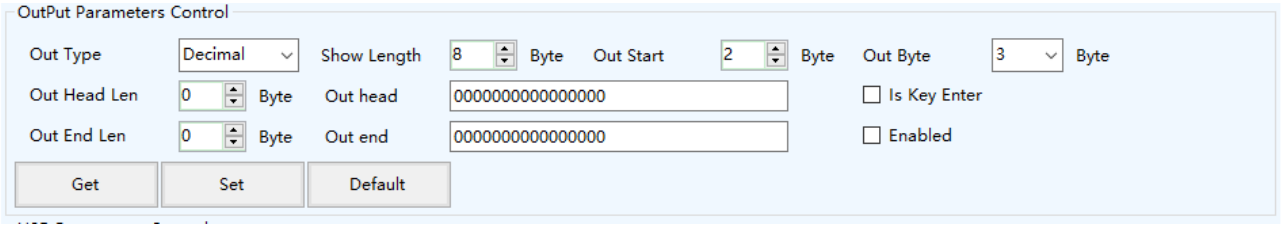
Memory Block: Additional data for other memory;

Start Address: Additional data to start address;

Length: Additional data length;

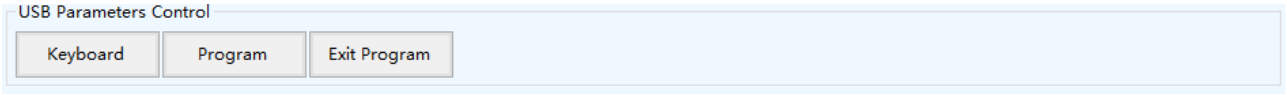
5.2. Output Parameters Control

Active of Work Mode and RS232(USB) of Output Mode be effective. In this form press “F8” 5 time can be show;



5.3. USB Parameters Control

Just the reader of USB be effective.



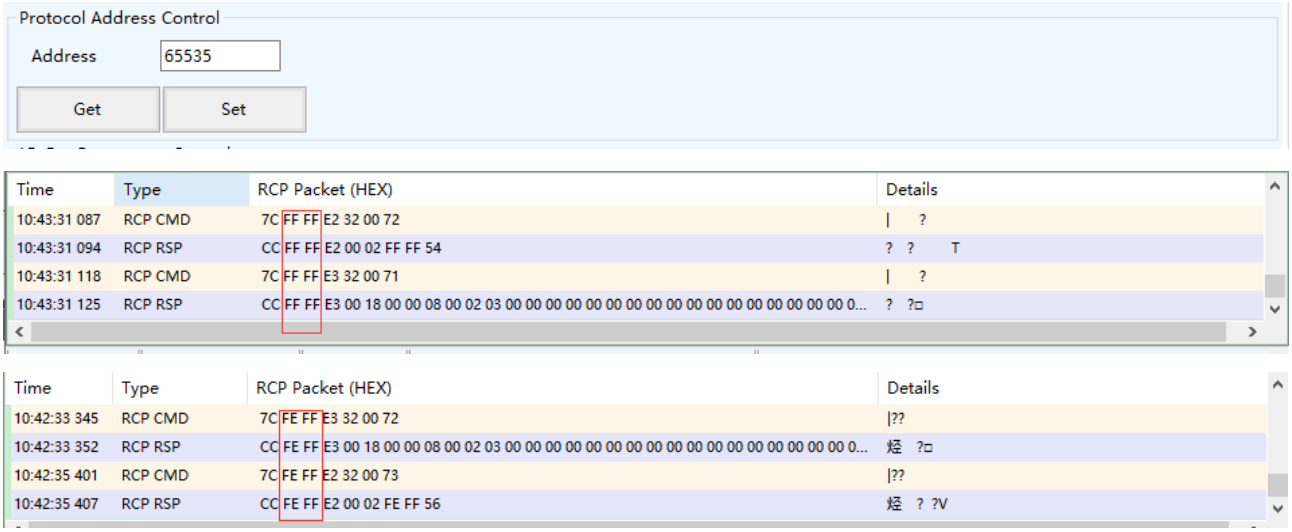
Keyboard: plug the usb 5 sec, the reader enter virtual keyboard mode.

Program: plug the usb, the reader just enter program mode. Can use the software;

6. Custom Settings

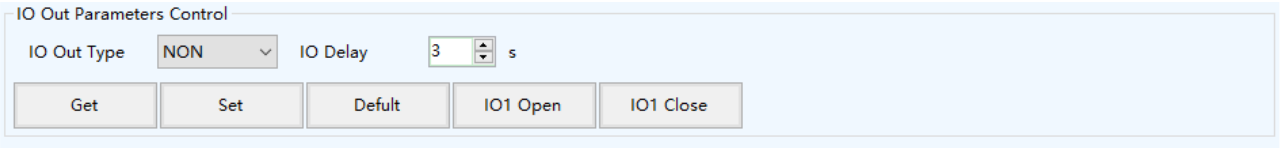
6.1. Protocol Address Control

To set the Reader communication protocol address, change the address box value and click Set button.



6.2. IO Out Parameters Control

To control the Led or Relay when the reader is matching.

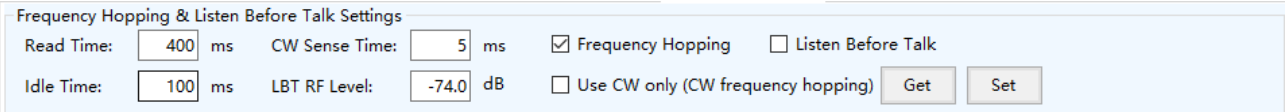


IO Out Type: the IO out initial state;
IO Delay: the IO operation and recovery interval

7. Senior Settings

To control hardware, click “Senior Settings” Tab.

7.1. Frequency Hopping & Listen before Talk Settings



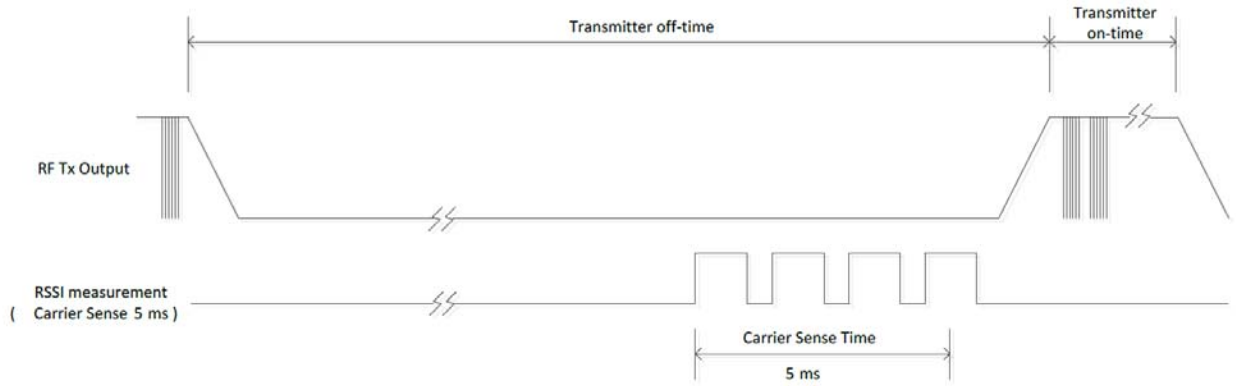
7.1.1. Frequency Hopping

To enable frequency hopping, check „Frequency Hopping“ check box and click Set button.

7.1.2. Listen Before Talk

To set LBT parameters, follow sequence as described below.

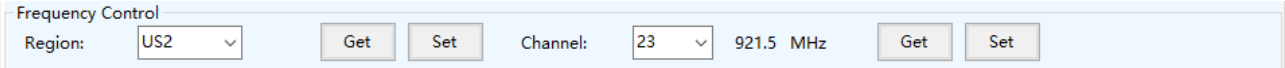
- Select LBT
- Give the Read time, Idle time, CW sense time and LBT RF level.
- Click “Set”.



- Read Time (Transmitter on-time) is the duration of the reading process (1 = 1ms)
- Idle Time (Transmitter off-time) is the duration of the non-transmission interval. (1 = 1ms)
- During CST (Carrier Sense Time), RSSI measurement process is done. (1 = 1ms)
- RF start / stop time (ramp up / down) and processing delay require 0.5ms.

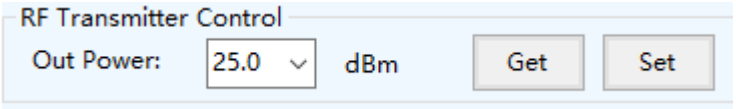
7.2. Frequency Control

To select operating band, band setting should be required. Select band in combo box and click Set button to set operating band in group box “Frequency Control”.



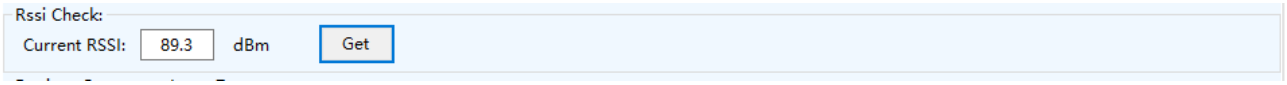
7.3. RF Transmitter Control

To set the Reader output power, select the Out Power combo box and click Set button.



7.4. Get Current RSSI

To get RSSI of current channel, click “Get” button. RSSI is displayed as blow.



7.5. Registry Manager

Registry Manager provides functions to get or set current registry items.

- Erase: erase all registry items.
- Update: update all items to new value. Registry is used as default setting when Reader start-up. If registry is changed as wrong value, PR9200 can operate abnormally. Use carefully “Update” function.