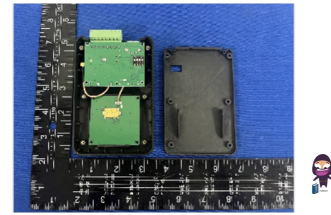


neology
neology Uhf Desktop
Electronic Label Reader
Demo Software



neology Uhf Desktop Electronic Label Reader Demo Software User Guide

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neology Uhf Desktop Electronic Label Reader Demo Software



Product Information

Specifications

- Product Name: UHF Desktop Electronic Label Reader
- Model: Demo Software User's Guide v1.0
- Interface: USB serial port
- Baud Rate: Default 57600
- Memory Display: 16 hexadecimal format
- Tag Memory: EPC and TID areas

Product Usage Instructions

Parameter Interface Operation

Open COM Port

Before using the demo software, install the USB serial port driver and .NET framework. Select the port and baud rate. Ensure the reader address is not set to 0xFF to avoid errors.

Parameter Setting

Configure the reader's address, power settings, band selection, frequency range, and working mode. Save the settings for future use.

The Necessary Knowledge

EPCC1G2 Tag Memory

The tag memory includes EPC areas for storing EPC numbers and TID areas for storing ID numbers provided by the tag production firm.

EPCC1-G2 Test

Perform tests on EPCC1-G2 tags to ensure proper functioning.

Buffer Operation

Manage the buffer operation for reading and writing tag data efficiently.

GPIO Operation

Control the output state pins using the GPIO operations provided.

Beep Setting

Set the beep function to either open or close as per your preference.

Reader's Serial Number

Retrieve the unique serial number of the reader for identification purposes.

EPC/TID Length Configuration

Adjust the length of EPC/TID on buffer tags to suit your requirements.

Restore Default Settings

Reset the reader to default settings using this function.

Reader's Information

Retrieve detailed information about the reader using this function.

Frequently Asked Questions (FAQ)

- **Q: How do I change the baud rate of the reader?**

A: To change the baud rate, use the parameter setting option in the software. The new baud rate will be applied until the reader is powered off.

- **Q: Can I write data to the TID areas of the tag memory?**

A: No, the TID areas are read-only and cannot be written to.

Parameter interface operation

Open COM Port

Before use this demo, please install the USB serial port driver,.net framework.

Select Port Port: 

And baud rate Baud rate:  (default) , click 

If success , can see

```
2014-7-25 14:09:35 Connected COM4@57600bps
```

Parameter Setting

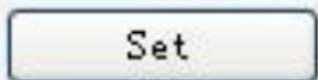
Reader address



1. the new reader address to set.

This address can't be 0xFF. If set 0xFF, reader will return error information.

Power

 dBm 

2. set and save power configuration.
- 3.

Region

☐ Chinese band2
 ☒ US band
 Minfre: 902.75 MHz
 ☐ Single

☐ Korean band
 ☐ EU band
 Maxfre: 927.25 MHz

select the reader's band, different band, the frequency is different.

4.

Minfre: 902.75 MHz Maxfre: 927.25 MHz

Set reader working Min Frequency and Max Frequency. In different places, the radio requires the rule to be different. Users can follow the local situation and choose to read more sensitive frequency range of the card. In single frequency point operation, only need to set two frequencies to the same value. In frequency hopping operation, only need to set two frequencies to the different value.

5.

RS232/485 baud rate

57600bps

demo

software start run, default use the baud rate 57600 to open COM port, reader power on, reader baud rate default is 57600. After change the baud rate, reader use the new baud rate until power off. Close port and open port, the baud rate no change. The demo software will use the new baud rate, until close the demo software.

6. GPIO Operation

GPIO Operation

☐ OUT1
 ☐ OUT2
 ☒ INT1
 ☒ INT2

Select

need pins click

Can control the output state pins Clic

can get output state pins.

7.

Beep

☒ Open
 ☐ Close

Set beep open or close

8.

Reader serial number

click

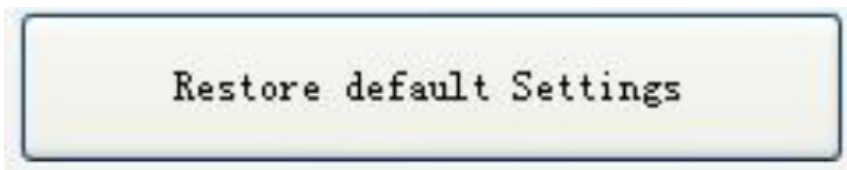
can get reader's serial number.



Buffer EPC/TID length

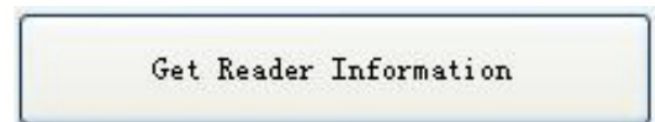
☒ 128bit ☐ 496bit

9. this function is used to get or set EPC/TID length on buffer tag.



Restore default Settings

10. this function is used to restore default setting of reader.



Get Reader Information

11. this function is used to get reader's information.

The Necessary Knowledge

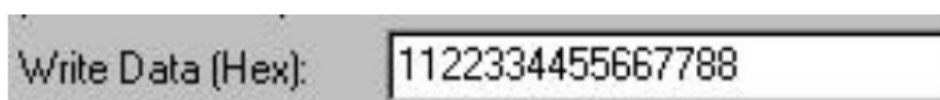
EPCC1G2 tag memory

Tag memory divided into four storage areas, each storage area can be made up of one or more memory words. The four storage areas:

EPC areas (EPC): Store the area of EPC number, this module stipulates it can store 15 word EPC number. Can read and can write.

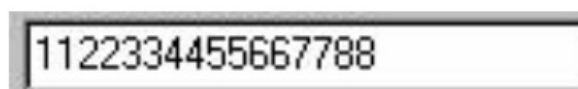
- TID areas (TID): Store ID number established by the tag production firm. There are 4 words and 8 words two kinds of ID numbers at present. Can read and not can write.
- User areas (User): This area of different manufacturers is different. There is no user area in G2 tag of Inpinj Company. There are 28 words in Philips Company. Can read and can write.
- Password areas (Password): The first two words is kill password, the last two words is access password. Can read and can write.
- Can write protect in four storage areas. It means this area is never writeable or not writeable under the non-safe state; only password area can set unreadable.

Data display (tag ID, passwords, memory data is display in 16 hexadecimal)



Write Data (Hex):

Display in Hex, then 11 is first byte, 22 is second byte, and 1122 is first word.



1122334455667788

Total 8 bytes, in other words, total 4 words.

EPCC1-G2 Test

Query Tag EPC

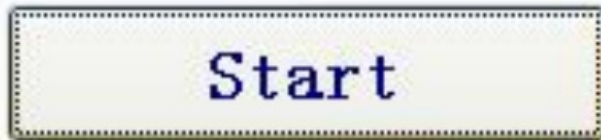


1. Select EPC or TID to read, like

Select other **condition**

Q: Session: Max-ScanTime:
Target: ☒ Read times no tag. then A/B conversion

Note: about Q, S choice, a single tag or less number must be S0, a lot of tag queries using S1 or S2, S3. 2Q equal tag number is better. If it is a single query effect must use S0



2. Click

Tag list (No Repeat)

NO.	EPC	Times	RSSI
1	E211210100120000000001BA	2	138
2	E220000000000000000001368	2	132
3	F700000000000000000000AFB	2	146
4	E201205100000000000000176	2	136
5	C2000000000000000000000013	1	139
6	E87000000000000000000000153	2	138
7	E20120510000000000000001AC	2	145
8	E1030000000000000000000014D6	2	134
9	201210091812000000000001F	2	145
10	E103000000000000000000001700	2	140
11	E10300000000000000000000AC6	1	138
12	F700000000000000000000006AF	1	136
13	201210091812000000000000017	1	134
14	F400000000000000000000000071	2	136
15	E201205100000000000000000C3	1	132
16	20121009181200000000000002F	2	134
17	E102000000000000000000000885	1	133
18	E10300000000000000000000031E	2	138
19	F700000000000000000000000A49	2	132

Tag Number: 88

Speed: 82 cmd time(ms): 625

Total tag number: 89

Total-cmd-time(ms): 1437

Read Data, Write Data, Block Erase

Read Data / Write Data / Block Erase

Start address (Hex): Read/Write data (Hex):

Length (Dec): ☐ Auto Compute and add PC

Password (Hex): ☐ Password ☒ EPC ☐ TID ☐ User

<1> Select one tag

E211210100120000000001BA
E211210100120000000001BA
E220000000000000000001368
F700000000000000000000AFB
E201205100000000000000176
C200000000000000000000013
E8700000000000000000000153
E2012051000000000000001AC
E103000000000000000000014D6

then

Select

click ,check

☒ Selected tag: E211210100120000000001BA

Select memory

☐ Password
 ☐ EPC
 ☐ TID
 ☒ User

to be

operation

1. Read data operation

Start address: (Hex): 0000

Length (Dec): 4

Password: (Hex): 00000000

<1> Input data like

Start address: 0x00 stand in start to read data from first word in the designated storage area, 0x01 stand in start to read data from second word in the designated storage area, and so on.

Read the length: Number of the word to be read. It read 120 words at most. Can not set 0 or 120, otherwise, return the parameter error information.

Access password: From left to right it is the former high-word, low word in the access password. If operation don't need access password, it can be the arbitrary value, but can't lack.

<2> Click Read can see 2014-7-26 14:42:08 Read data success

Read/Write data (Hex) 6666000000000000

Ext Read

is used to read large memory of tag.

2. Write data operation

<1> Input Write data word address

Start address: (Hex):

and Password

Password: (Hex):

Start address: 0x00, the first word of data (from left) is written in address 0x00 of the designated storage area, and so on.

<2> Input data what you want to write like

Read/Write data (Hex)

<3> Click can see

2014-7-26 14:45:10 Write data success

Note: write data can be used to change the EPC number.

(the method is as follows)

<1> Choose memory

☐ Password ☒ EPC ☐ TID ☐ User

☒ Auto Compute and add PC

,and select

<3> Write EPC number

Read/Write data (Hex)

EPC memory Address of tag is 2

<4> Click can see

2014-7-26 14:45:10 Write data success

Then query tag EPC, can see

Tag list (No Repeat)			
NO.	EPC	Times	RSSI
1	111122223333444455556666	3	132

is used to Write large memory of tag.

3. Input erase data address and length

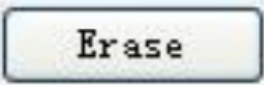
Start address: (Hex):

Length (Dec):

Password: (Hex):

Start address: 0x00, the first word of data (from left) is written in address 0x00 of the designated storage area, and so on.

The difference from write operation: Needn't fill in the data.

<4> Click  can see

```
2014-7-29 12:07:56 Block erase success
```

then the data will be set to 0

Write block operation

<1> Input Write data word address

Start address: (Hex):

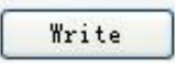
Password: (Hex):

and Password

Start address: 0x00, the first word of data (from left) is written in address 0x00 of the designated storage area, and so on.

<2> Input data what you want to write like

Read/Write data (Hex)

<3> Click  can see

```
-----
2014-7-26 14:45:10 Write data success
```

Revise the password

1. Select one tag

☒ Selected tag:

Select memory ☒ Password ☐ EPC ☐ TID ☐ User

to be operation

2. Write access password

Password: (Hex):

Access password: default is 00000000, if you have change to others, you should input right values.

3. Revise the access password 12345678: Write

Start address: (Hex):

Read/Write data(Hex)

Click .

4. Revise the kill password 12345678: Write

Start address: (Hex):

Read/Write data(Hex)

Click

5. If succeed, we can see

2014-7-29 14:10:31 Write data success

Write EPC

Write EPC

EPC:

Password: (Hex)

1. Write access password (If EPC area of the tag has not set password protection, we can write 8 data arbitrarily)
2. Write EPC.

3. Click (Random write one tag in the effective range of antenna)

When there are many or EPC pieces of tag in the effective range of antenna, and the access password of one

tag is the same as you entered, or EPC area of tag set no password protection, click at a time, random write EPC number of one tag in the effective range of antenna.

Lock Operation

Set Protect For Reading Or Writing

☐ Kill Password
 ☒ Access Password
 ☐ EPC
 ☐ TID
 ☐ User

☒ UnLock
 ☐ Lock
 ☐ Unlock forever
 ☐ Lock forever

Password: (Hex)

1. Select one tag

☒ Selected tag:

2. select memory

☐ Kill Password
 ☒ Access Password
 ☐ EPC
 ☐ TID
 ☐ User

to be operation

3. select protect type

☒ UnLock
 ☐ Lock
 ☐ Unlock forever
 ☐ Lock forever

4. Input access password Any storage area in no password protection status still must write the correct access password.(password can not be zero).

5. Click then, the option is over.

Read Protection

Read Protection

Password: (Hex)

Select one tag

☒ Selected tag:

1. Set Single Tag Read Protection

According to EPC number of the tag, setting read protection, make tag unable to be read and written by any

order, even if query the tag, it is unable to get EPC number of the tag. Only NXP UCODE EPC G2X tags valid.

2. Set Single Tag Read Protection without EPC

Set Privacy Without EPC

can set tag read protection in the effective range of antenna

Set Privacy By EPC

The difference from : When there are several tag in the effective range of antenna, reader don't know the tag which the order operate.

If operate several tags, then the access password of the tag had better be the same. Only NXP UCODE EPC G2X tags valid.

3. Reset Single Tag Read Protection without EPC

Reset Privacy

Use for reset the tag read protection.

Only put a tag in the effective range of antenna. Only NXP UCODE EPC G2X tags valid.

Comments: If tag does not support the read protection setting, it must be unprotected.

4. Detect Single Tag Read Protection without EPC

Detect Privacy

<1> Click

Can't detect tag whether it support read protection order, can only detect single tag whether it is protected. If tag does not support the read protection setting, it must be unprotected.

Make sure that there is single tag in the effective range of antenna. Only NXP UCODE EPC G2X tags valid.

EAS Alarm

EAS Alarm

Password (Hex)

☒ Alarm ☐ No Alarm

Select one tag

☒ Selected tag:

(1) Alarm setting

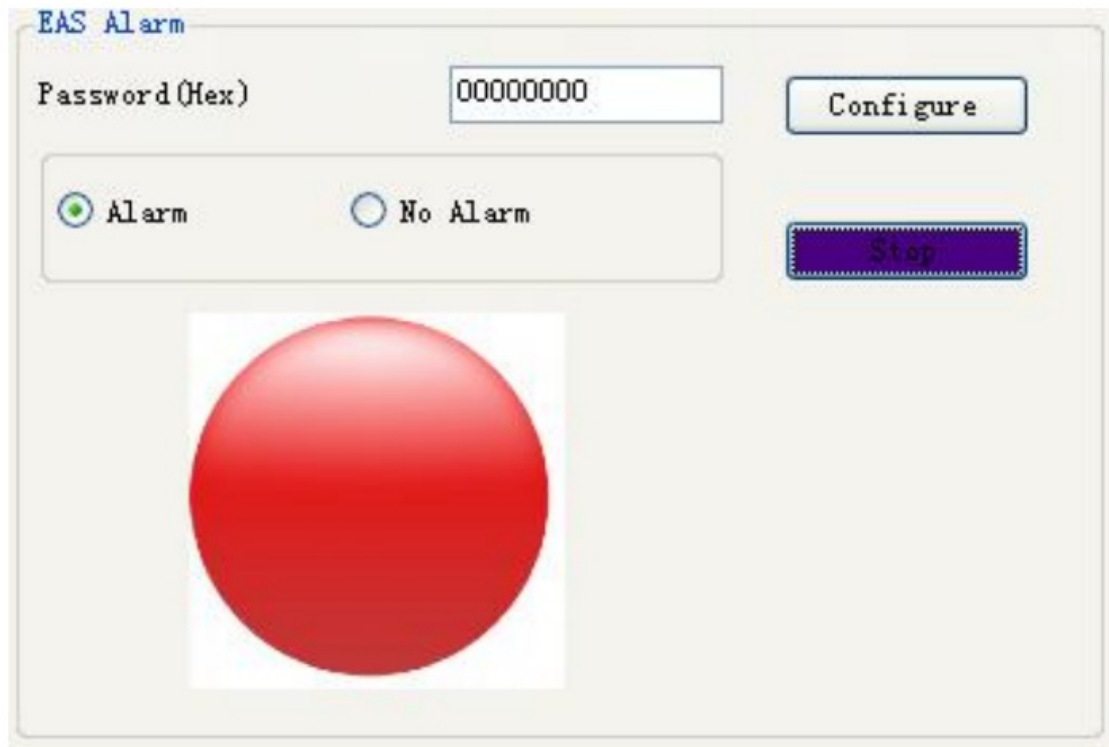
☒ Alarm ☐ No Alarm

<3> Choose alarm

Set or reset the EAS status bit of tag. Only NXP UCODE EPC G2X tags valid.

(2) Check alarm without EPC and access password

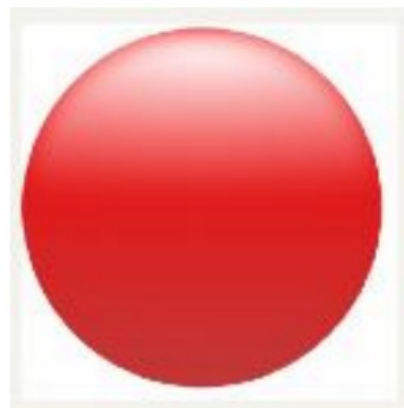
<1> Click check alarm



Check the EAS alarm of tag. Only NXP UCODE EPC G2X tags valid.

<2> EAS alarm:

2014-7-29 14:27:37 EAS Alarm

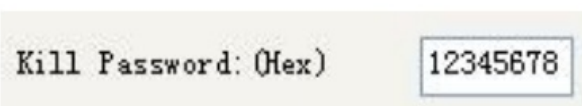
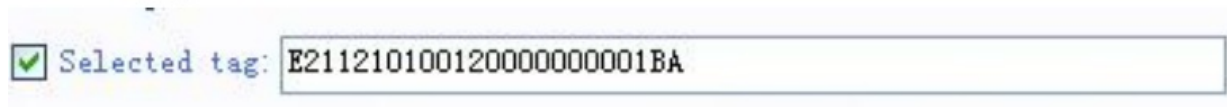


No EAS alarm:

2014-7-29 14:28:26 No EAS Alarm

Kill Tag Permanently Kill

1. Select one tag



2. Write

Kill password can not be the whole 0. Otherwise, the tag can not be killed, and the tag return response with parameter error.

Kill tag

3. Click ,if success, the tag is killed.

Mask conditions

Mask

Mask Start Bit Address(Hex): 0000

Mask Bit Length(Hex): 00

Mask Data(Hex): 00

☒ EPC ☐ TID ☐ User ☐ Enable

check enable

Mask

Mask Start Bit Address(Hex): 0000

Mask Bit Length(Hex): 00

Mask Data(Hex): 00

☒ EPC ☐ TID ☐ User ☒ Enable

Only check enable can do mask operation

For example, EPC mask

Choose EPC area

☒ EPC ☐ TID ☐ User

Mask Start Bit Address(Hex): 0020

Mask Bit Length(Hex): 08

Mask Data(Hex): DA

Only the first byte of tag's EPC is DA could response.

For example, TID mask

Start

☐ EPC ☒ TID

<1>Query TID

Can see TID

NO.	EPC	Times	RSSI
1	E20034120141F1000DF52E26	8	133

<Mask condition>

Mask

Mask Start Bit Address(Hex): 0020

Mask Bit Length(Hex): 40

Mask Data(Hex): 0141F1000DF52E26

☐ EPC ☒ TID ☐ User ☒ Enable

For example change EPC : <2> select

☐ Password ☒ EPC ☐ TID ☐ User

and

☒ Auto Compute and add PC

Start address: (Hex): 0002
Length(Dec): 4
Password: (Hex): 00000000

<3> Write (EPC memory Address of tag Is 2)

Read/Write data(Hex) E0550141F1000DF52E261234

Write

<4> Click can see

2014-7-29 14:39:20 Write data success

Buffer operation

1. Select EPC/TID query. For example: EPC

Start ☒ EPC ☐ TID

This demo is used Q=4,S=1,Target A to inventory tag, if there are some tag

Tag Number: 000027 speed: 44 Total number: 27
cmd time(ms): 312 Total time(ms): 890
Read Buffer

2. is used to read tag in the buffer, if there are tag

Tag Number:

00000000

27

speed:

00000000

0

Total number:

00000000

0

cmd time(ms):

00000000

0

Total time(ms):

00000000

0

Tag List:

No.	EPC/TID	Length	Antenna	RSSI	Times
1	201210091812000000000019	12	0001	141	1
2	E201205100000000000001D6	12	0001	152	1
3	E103000000000000000001700	12	0001	135	1
4	201210091812000000000027	12	0001	146	1
5	E102000000000000000001628	12	0001	139	1
6	20121009181200000000000D	12	0001	143	1
7	201210091812000000000008	12	0001	140	1
8	E10200000000000000000170A	12	0001	136	1
9	20121009181200000000000B	12	0001	146	1
10	20121009181200000000001E	12	0001	155	1

Clear Buffer

3. is used to clear tag information in the buffer.

Read and Clear Buffer

4. is used to read out tag and clear tag in the buffer.

Get Buffer Tag Number

5. is used to get

Documents / Resources

<div> <div>UHF Desktop Electronic Label Reader Demo Software</div> <div> <div>1. Product introduction</div> <div>2. Installation</div> <div>3. Operation</div> <div>4. Troubleshooting</div> <div>5. Appendix</div> </div> </div>	<div> neology Uhf Desktop Electronic Label Reader Demo Software [pdf] User Guide IOT9816, 2BMG6-IOT9816, 2BMG6IOT9816, Uhf Desktop Electronic Label Reader Demo Software, Desktop Electronic Label Reader Demo Software, Electronic Label Reader Demo Software, Label Reader Demo Software, Reader Demo Software, Demo Software, Software </div>
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References

- [User Manual](#)

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