

RFID reader PC

Demo user manual

C#

Contents

1. Summary	3 -
1.1 Summary of content	3 -
1.2 Open demo software	- 3 -
1.3 Software language	- 4 -
1.3.1 Simplified Chinese	- 4 -
1.3.2 English	- 4 -
2. Connect reader	5 -
2.1 Serial communication connection	5 -
2.2 Network communication connection	7-
2.2.1 TCP Client connection mode	7-
2.2.2 TCP Server connection mode	9 -
2.2.3 Search Device	10 -
2.3 RS485 communi cation connection	16 -
2.4 USB communication connection	17 -
2.5 Disconnect reader	18 -
3. Quick - start guide	19 -
3.1 Read and write function	19 -
3.2 Read tag	21 -
3.2.1 Read EPC	21 -
3.2.2 Read TID	22 -
3.2.3 Stop reading	23 -
3.3 Write tag	23 -
3.3.1 Write EPC	23 -
3.3.2 Write Userdata	24 -
3.4 Information display	26 -
3.5 Restart reader	27 -
3.6 Reader information	27 -
3.7 Baseband information	28 -
3.8 Check connected antenna	28 -
4. Configuration	29 -
4.1 Common configuration	29 -
4.1.1 Antenna power configuration	29 -
4.1.2 Antenna enable	- 30 -
4.1.3 Serial port configuration	- 30 -
4.1.4 Network configuration	31 -
4.1.5 485 configuration	- 32 -
4.1.6 GPI configuration	- 32 -
4.1.7 GPI status query	- 34 -
4.1.8 GPO configuration	- 34 -
4.2 Advanced configuration	- 36 -
4.2.1 TCP server/client mode	- 36 -
4.2.2 Frequency hopping configuration	- 37 -
4.2.3 Tag filter	- 39 -

4.2.4 Automatic idle	- 39 -
4.2.5 Wiegand configuration	- 40 -
4.2.6 Factory data reset	- 42 -
4.2.7 Breakpoint resume	- 42 -
4.2.8 Get cache data	- 43 -
4.2.9 Clear the cache data	- 43 -
4.2.10 EPC baseband configuration	44 -
4.2.11 DHCP configuration	- 48 -
4.2.12 Network self - checking	49 -
4.2.13 Antenna hub configuration	50 -
5. Advanced operation	- 50 -
5.1 Custom read	- 50 -
5.2 Advanced write	- 53 -
5.3 Debug switch	- 55 -
5.4 Sound	- 56 -
5.5 Data export	- 56 -
5.6 Software upgrade	- 58 -
5.6.1 Application software upg rade	- 58 -
5.6.2 Baseband software upgrade	- 59 -
5.7 Relay	- 61 -
5.8 Hub	- 61 -
5.9 WIFI	- 61 -
5.9.1 Set the IP address of WiFi module	- 62 -
5.9.2 Turn on WiFi module	- 63 -
5.9.3 Connect WIFI hotspot	64 -

1.Summary

1.1 Summary of content

This document is prepared for users to understand the normalized operati on of the reader and the basic use of Demo software. The operating environment of the Demo software is .Net Framework2.0 of Windows platform.

All contents of this document, including text and pictures, are original. The company reserves the right to pursue legal liability for unauthorized use in commercial use.

Without authorization, the user shall not add, modify or delete the contents of this document, and shall not disseminate the document by means of network or CD - ROM. In case of violation, the conseque nces shall be borne by oneself.

1.2 Open demo software

 open
 the
 demo
 software
 folder,
 double
 - click
 the
 ClouReaderDemo.exe

 application
 program, as shown in imaged-1

🄰 Hopeland BFID Nanager 2.17.0		
Search Device(S) Connect Device(C)	Configuration(O) Tools(T) Help(H) Language(L) Option	
Type EPC TID UserDate	a ReserveData TotalCount ANTI ANT2 ANT3 ANT4 RSSI ANT3 ANT4 RSSI ANT3 ANT4 RSSI ANT3 ANT4 RSSI ANT3 ANT4 RSSI ANT3 ANT3 ANT17 ANT13 ANT17 ANT12 ANT3 ANT4 ANT3 ANT4 ANT5 ANT4 ANT5 ANT4 ANT5 ANT4 ANT5 ANT4 ANT5 ANT4 ANT5 ANT4 ANT5 ANT5 ANT4 ANT5 ANT6 ANT5 A	ANT2 ANT3 ANT4 ANT6 ANT7 ANT8 ANT16 ANT7 ANT8 ANT10 ANT11 ANT12 ANT10 ANT11 ANT12 ANT14 ANT15 ANT16 ANT18 ANT19 ANT20 ANT22 ANT23 ANT24 ANT22 ANT23 ANT24 ANT12 ANT23 ANT24 ANT12 ANT23 ANT24 ANT12 ANT23 ANT24 ANT12 ANT23 ANT24 CALL CONSECTION OF CONSECTIO

Image1-1

1.3 Software language

1.3.1 Simplified Chinese

Click tool bar Language (L) - Simplified Chinese, the Demo software language can be changed to Chinese, the software will automatically restart and the reader needs to be reconnected, as shown in image^[]-2

5	
▶ BFID读写器管理软件 2.17.0	
搜索设备(S) 连接读写器(C) 配置(O) 测试(D) 工具(T) 帮助(H) 语言(L) 选项	
	法军协制。
Type EPC TID UserData ReserveData TotalCount ANTI ANT2 ANT3 ANT4 RSSI	▼ 天线1 天线2 天线3 天线4
	□ 天线5 □ 天线6 □ 天线7 □ 天线8
	□ 天线9 □ 天线10 □ 天线11 □ 天线12
	_ 天线13 _ 天线14 _ 天线15 _ 天线16
	□ 天线17 🔲 天线18 🔲 天线19 🔲 天线20
土 拉铁司会	□ 天线21 □ 天线22 □ 天线23 □ 天线24
法检查书, 中国法法	全选全不选
ほ疲力式: 串山连接 🗸	读取方式:
注槟参数:	 循环 单次
	持效米利 ,
确定	● 6L 标金 ● 65 标金 ● 65 标金
	实时信息:
	标金忌数: 📙
	读取次数:
	速率(T/S):
	时间(S): 📋
	GP1:
CPO5	

lmage 1 - 2

1.3.2 English

Click tool bar Language (L) - English, the Demo software language can be changed to English, the software will automatically restart and the reader needs to be reconnected, as shown in image^[]-3

	= _ = ×
Nopeland KflD Manager 2.17.U	
Search Device(S) Connect Device(C) Configuration(O) Tools(T) Help(H) Language(L) Option	
Type EPC TID UserData ReserveData TotalCount ANTI ANT2 ANT3 ANT4 ESSI	Control: ANT1 ANT2 ANT3 ANT4 ANT5 ANT6 ANT7 ANT8 ANT9 ANT10 ANT11 ANT12 ANT9 ANT10 ANT11 ANT12 ANT13 ANT14 ANT15 ANT16 ANT17 ANT18 ANT19 ANT20 ANT21 ANT22 ANT23 ANT24 Check All Uncheck All ReadType: • Check All Uncheck All ReadType: • Check Check Check All ReadType: • Check All Check Check All ReadType: • Check All • Check Al
Ċ	PU(%): 0 Cache: 0 NowConnect: ,;;

RFID reader demo user manual C#

lmage1-3

2.Connect reader

Connect the reader and PC through data cable, a fter the power supply is connected, reader ma kes launching sound (except B6A) and enter into initialization state, after initialization is finished, then we can connect to reader through corresponding connection method.

The following table shows the details of the regular reader communication interf	ace
--	-----

Model	RS232 Serial port	TCP/IP	485	USB
C4/C8/C12/C24/	\checkmark			
С9	×			×
B2		\checkmark		×
B7A / B8A	\checkmark			×
B5A	\checkmark		\checkmark	×
B6A		×		×

2.1 Serial communication connection

Click Connect Device(C) -RS232(S) to open the Serial communication connection interface, as shown in image2 -1

RFID	reader	demo	user	manual	C#

Connect Device		
Type:	RS232 ~	
Parameter:	<u> </u>	
		OK



Software will list all the current COM ports of the PC in the drop -down box, the default baud rate of the reader is 115200 bps, after choosing the correct serial port and baud rate, click "OK" to connect the reader, as shown in image2 -2

Connect Device		
Туре:	RS232 ~	
Parameter:	COM5 V 115200 V	
		or
		UK

Image 2 - 2

If the connection is successful, all the icons in the toolbar are illuminated, as shown in image 2 - 3, means the serial communication connection is successful.

関 Hop	eland I	EFID H a	mager 2	. 17. 0								
Searc	h Devic	e(<u>S)</u> (Connect I	Device(<u>C</u>)	Configuration(O)	Tools(<u>T</u>)	Help(<u>H</u>)	Language	e(L) Op	tion		
EPC	Г			EPC	se 🖍	⊞ ∙	C C	%				
	Type	FLC	TID	UserData	ReserveData	TotalCow	at ANTI	ANT2	ANT3	ANT4	ESSI	Control: ANTI ANT2 ANT3 ANT4 ANT3 ANT3 ANT4 ANT3 ANT3 ANT4 ANT3 ANT3 ANT4 ANT3 ANT3 ANT4 ANT3
												Time(S):
												GP1: • • •
										(CPU(%): 0	Cache: 0 NowConnect: COM5:115200 -

Image 2 - 3

If not, check the physical connection of the serial cable.

2.2 Network communication connection

The default IP address and port number of reader is 192.168.1.116:9090, and it defaults as a TCP server, that is, we can connect to the reader through its IP address and port number. In some actual projects, we need use the reader and 4G router together to communicate with the cloud server through mobile network, there is no static public IP address be assigned for the 4G router that connected with reader, it means we cannot connect to the reader through its IP a ddress and port number directly, generally the cloud server has static public IP address, so we can set the reader network communication mode to TCP client, let the reader actively connect to the cloud server.

2.2.1 TCP Client connection mode

If the reader 's network communication mode is TCP server, <u>the demo software</u> should be used as a TCP client to connect to the reader.

Click Connect Device(C) -TCP(T) to open the Network communication connection interface, as shown in image 2 - 4

Connect Device		
Туре:	TCP 🗸	
Parameter:	192.168.1.116:909C	
		07
		UK



Network connect ion used for long distance communication (within 80 m), connect to the Local Area Network through network cable and switch/router, or connected with the PC network directly. The default connection parameter is "IP address:port ",like "192.168.1.116:9090", If the IP address and port of the reader has been changed, the connection parameter need to be filled in manually. Click OK to connect the reader, as shown in image 2 -5



Image 2 - 5

If not success, please check the physical connection cable, or through the Ping command to test whether the reader IP in the host IP network segment, it is important to ensure the port number is correct, you can use Search Device function to connect reader if you don 't know the reader 's IP port.

2.2.2 TCP Server connection mode

If we set the network communication mode of the reader to TCP client, the reader will actively connect the TCP server that be set in the reader beforehand, <u>the demo</u> software should be <u>used as a TCP server</u> to monitor the incoming TCP connection request from the reader.

The IP address and port number is marked as below screenshot is the PC's, which the reader will actively connect to.

RFID Reader GPIO/Wiegand Hub Output format	Restore
RS232 Setting: 115200 bps V Get Set	Reader Time: 2007.01.01 00:04:09.362 Get Set
IP Setting: IP: 192.168.1.116	Server/Client:
Mask: 255.255.255.0 Get Set Gateway: 192.168.1.1	© Client 192.168.1.75 9090 Set
DHCP: Status: Get Set	RS485 ADD: 1 Get Set
MAC Setting: 6C-EC-A1-FE-A3-B7 Get Set	Breakpoint Kesume: Status: DFF V Get Set
Heartbeat Setting:	Self-Checking:
HeartBeat Interval: X100ms Get Heartbeat Detection times: Set	Status: Close Get IP: 192.168.1.116 Set

Image2 - 6 reader parameters

Click "Connect Device(C)" - "TCP server F5" to open the "TCP server" connection

interface, as s hown in image 2 -7.

TCP Server	
LocalIP: 🗸 Port: 9090	Start
Tips: • After device configured to client mode, start the TCP server mode, to device will take the initiative to the IP and port connected to PC	

lmage2 - 7

Select the local IP from the drop - down box of the local IP list and click "start" to listen the incoming connection of the reader, as shown in image 2 -8.

TCP Server				₹ _ □ ×	
LocalIP: Tip:	~ 192.168.1.75 10.8.170.85	Port:	9090	Start	
	mode, start the TC device will take t IP and port connec	P server m he initiat ted to PC	ode, to ive to the		

lmage2 - 8

2.2.3 Search Device

After opening the software, click the "se arch device" on the toolbar to open the search device interface, as shown in image 2 -9.

Search Devi	ce						(▼ − 0	
Search	Debug							
_Searching: -			m' .					
	• •	Clear	- Iips:	Double click on	the option conne	cted devices.		
-Device List:								
MAC		DHCP	IP	Mask	Gateway	ServerPort	RemoteIP	Remot
<								>

lmage2 - 9

If the network connection between reader and PC is fine,, the reader is normally

searched a few seconds later and displayed in the list below, as shown in im age 2 - 10.

Se	ar	r c	h	D	e۳	ic	e																						Ŧ	- 🗆	×	
	Se	ea	ro	h				Deb	ug																							
-2	Searching:						Tip	Tips: Double click on the option connected devices.																								
)ev	ri (ce	L	is	t:																										
[]	M	٩C							DHCP	I	P				Ma	sk			Ga	tewa	y	S	Server	Re	moteIP	Remot	e WorkingMode	Cor	nnectState	Device	
	6	6C	: E	с:	Å1	: F1	3:7	.3 : B	7	OFF	19	2. 1	.68.	1.1	16	255	. 25	5.25	5.0	192	. 168	. 1. 1	9(090	192	2.168.1.1	9090	SERVER	INA	CTIVE	7206C	
	<																														>	

Image2 - 10

If the reader and PC are in same network segment, and the reader communication

mode is TCP server, then we can double - click the row in the list to connect directly to the selected reader. After successful connection, the main interfac e of the software will be opened directly.

It is important to note that the search setting is only used for network connections, the reader's default IP address is 192.168.1.116, and the default port is 9090.The host IP modification can be referred to imag e 2-11.

Internet (TCP/IPv4) Properties											
General											
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.											
O Obtain an IP address automatical	ODbtain an IP address automatically										
• Use the following IP address:		1									
IP address:	192.168.1.75										
S <u>u</u> bnet mask:	255.255.255.0										
Default gateway:											
Obtain DNS server address autor	matically										
• Use the following DNS server add	dresses:	- 1									
Preferred DNS server:	· · ·										
<u>A</u> lternate DNS server:											
Validate settings upon exit Advanced											
	OK Cancel										

lmage2 - 11

Check whether the reader IP and host IP are in the same network segment using the Ping command." Start" - "run" - enter "CMD" - enter, and the command prompt interface

```
pops up, as shown in image 2 - 12.
```



Image2 -12

Enter the ping command, as shown in image 2 - 13.

Administrator: C:\WINDOWS\system32\cmd.exe - - × Packets: Sent = 4, Received = 0, Lost = 4 (100% 1oss), C:\Users' >ping 192.168.1.116 Pinging 192.168.1.116 with 32 bytes of data: Reply from 192.168.1.116: bytes=32 time<1ms TTL=64 Ping statistics for 192.168.1.116: Packets: Sent = 4, Received = 4, Lost = 0 (0% 1oss), Approximate round trip times in milli-seconds: Minimum = 0ms, Maximum = 0ms, Average = 0ms C:\Users



Click the button to delete the devices that are searched in the list. This

operation just clears the list. If the reader is in the same IP network segment as the PC, it

will be searched again and displayed on the list.

Clear

Right-click the device you find in the list and the "setting reader parameter" option pops

up, as shown in image 2 -14.

Search Devi	ce							
Search	Debug							
-Searching: -Device List:	• •	Clea	r Tips:	Double click on	the option conne	ected devices.		
MAC		DHCP	IP	Mask	Gateway	ServerPort	RemoteIP	Remot
▶ 6C : EC	:A1:FE:87:4A	OFF	192. 168. 1. 121	255, 255, 255, 0	Setting Reade	er Parameter	168. 1. 75	9090

lmage2 - 14

Click the "setting reader parameter" option to enter the password input interface, as shown in image 2 - 15.

Login		_		×
Username:				
Password:				
Confi	rm	Ca	ncel)



You n eed to enter the correct account password. If you need the account password, please consult our after -sales department. If the account password is wrong, an error will be prompted, as shown in image 2 - 16.



lmage2 - 16

If the account and password is correct, it will enter the "UDP reader setting" interface, as shown in image 2 - 17.

WP Reader Setting						
Reader MAC:	6C:EC:A1:FE:87:4A					
DHCP:	OFF 🗸					
IP Setting:						
IP:	192.168.1.121					
Mask:	255.255.255.0					
Gateway:	192. 168. 1. 1					
<u>MAC</u> :	6C:EC:A1:FE:87:4A					
Mode:	• Server O Client					
Server Po	rt: 9090					
Host IP:	192.168.1.75					
Host Port	9090					
	Confirm Cancel					



The parameters of the reader can be set in this interface. It is important to note that the Settings must be checked by the check box in front of the parameters before s etting them. Otherwise, no Settings will be set by default. As shown in image 2 - 18.

RFID	reader	demo	user	manual	C#

WDP Reader Setting	s	
Reader MAC:	6C:EC:A1:FE:87:4A	
🗌 риср:	OFF	
🗹 IP Setting:		
IP:	192.168.1.116	
Mask:	255.255.255.0	
Gateway:	192. 168. 1. 1	
MAC :	6C:EC:A1:FE:87:4A	
Mode:	● Server ○ Client	
Server Po	ort: 9090	
Host IP:	192.168.1.75	
Host Port	t: 9090	
	Confirm Cancel	



Click the "Confirm" button to submit and wait for the result prompt. If fail, set it a few more times, as shown in image 2 - 19.

UDP R	eader Setting							
F	eader MAC:	6C:	6C:EC:A1:FE:A3:B7					
	DHCP:	OFF		~				
Ŀ	IP Setting:							
	IP:	192	2.168.1.117]			
	Mask:	255	.255.255.0]			
		×	.168.1.1]			
C	1 Failed		C:A1:FE:A3:	B7]			
[ОК]	Server	🔵 Client				
	Server Po	rt:	9090]			
	Host IP:		192.168.1	.1]			
	Host Port	:	9090]			
		С	onfirm	Cancel				

lmage2 - 19

ſ	WDP Reader Setting
	Reader MAC: 6C:EC:A1:FE:A3:B7
	DHCP: OFF ~
	✓ IP Setting:
	IP: 192.168.1.116
	Mask: 255.255.255.0
	Gateway: X
	□ жас: ojok 7
	Mode:
	Server Port: 9090
	Nost IF: 192.168.1.1
	Host Port: 9090
	Confirm Cancel

Set successfully, ret urn successful prompt, as shown in image 2 - 20.



Wait 2 to 6 seconds and the result will be returned regardless of success or failure

2.3 RS485 communication connection

Click Connect Device(C) -RS485(R) to open the RS485 communication connection interface, as shown in image 2 - 21

Connect Device		▼ - □ ×
Type:	RS485 🗸	
Parameter:	<u> </u>	1
		OK



Software will list all the current COM ports of the PC in the drop - down box, the default baud rate of the reader is 115200 bps, after choosing the correct serial port and baud rate, input 485 address, the defau It 485 address is 1, click "OK" to connect the

shown in image2 - 22				
Connect Device				
Type:	RS485	~		
Parameter:	COM5	✓ 115200	~	
				OK
	Connect Device Type: Parameter:	Connect Device Type: RS485 Parameter: COM5	Connect Device Type: RS485 ~ Parameter: COM5 ~ 115200	Connect Device Type: RS485 ~ Parameter: COM5 ~ 115200 ~



After connecting successfully, as shown in image 2 -23

				EPC	uses 🖍		C	%					
Туре	. 1	EPC	TID	UserData	ReserveData	TotalCount	ANT1	ANT2	ANT3	ANT4	RSSI	Control:	
												ANTS ANTS	
												ANT9 ANT10	ANT11 A
												ANT13 ANT14	ANT15 A
												ANTI ANTIS	ANT19 A
												ABIZI ABIZZ	AU120
												Check All	Uncheck All
												Readlype:	Single
													Uningit
												Tag Type:	0
												OC Tag OB Tag	ag OGBIa
												Real-time:	
												TagCount:	
												ReadCount:	
												Speed (T/S) ·	
												Time(S):	
												GPI ·	



If not, please check the physical connection of 485 cables .

2.4 USB communication connection

Click "Connect Device(C)" - "USB(U)" to open the USB connection interface, as shown in image 2 - 24.

Connect Device	
Туре:	VSB 🗸
Parameter:	UHF READER 1 🗸
	ОК

lmage2 - 24

After successful connection, the interface is shown in image 2 -25

関 Hopeland BFID Manager 2.17.0			
Search Device(<u>S</u>) Connect Device(<u>C</u>)	Configuration(Q) Tools(I) Help(H) Lan	nguage(<u>L</u>) Option	
	🗑 🕗 😑 🖸	8	
Type EPC TID UserData	ReserveData TotalCount ANTI A	NT2 ANT3 ANT4 RSSI Control:	ANT2 ANT3 ANTA
		ANTS	ANTE ANT
		ANT9	
		ANTIS	ANTIA ANTIS ANTIG
		ANT1 7	ANT18 ANT19 ANT20
		ANT21	ANT22 🔲 ANT23 📃 ANT24 .
		Check #	dl Uncheck All
		ReadType:	
		() Ir	wentory 🔵 Single
		Ter Time	
		• 6C Tag	; 🔵 6B Tag 🔵 GB Tag
		Real-time:	
		TagCount	: 8
		ReadCount	: <mark>8</mark>
		Speed (T/S)	:
		Time (S)	. 0
		GP I :	
		CPU(%): 0 Cache: 0 Now	Connect: UHF READER 1 👻 🛒

lmage 2 - 25

If not, please check the USB physical connection. If the reader has 2 USB ports, USB HOST and USB DEVICE, we need connect to USB DEVICE port.

USB HOST is for communicating with external devices, like USB disk, USB WiFi module, etc. USB HOST is communicating with the reader.

2.5 Disconnect reader

Click the

button to disconnec t the current connection, and all the buttons

will not available after it is disconnected. You need to reconnect the reader, as shown in

image 2 - 26.

Search Device(S) Connect Device(C) Configuration(O) Tools[]) Help(H) Language(L) Option	
Type EFC TID UserBata ReserveBata TotalCount ANT1 ANT3 ANT4 ESSI Control: ANT1 ANT5 ANT5 ANT5 ANT5 ANT5 ANT5 ANT5 ANT5 ANT6 ANT7 Grade Grade Grade Grade Grade Grade Control: ANT5 ANT6 ANT7 Grade Grad Grad Grad	ANT4 ANT8 GTIG GTIG GTIG ATTS
lime (S):	
CPU/%): 0 Cache: 0 NowConnet	et: • d

lmage2 - 26

3.Quick - start guide

3.1 Read and write function

The read - write control function is at the top ri ght of the software main interface, as shown in image 3 - 1.

🄰 Нор	eland I	FID H a	nager 2	. 17. 0												= -	
Searc	h Devic	e(<u>S)</u> (Connect	Device(<u>C</u>)	Configurat	tion(<u>O</u>)	Tools(]) Hel	lp(<u>H</u>)	Languag	e(L) Op	otion					
EPC				EPC	yser (•	0	C	%							
	Туре	EPC	TID	VserData	Reserved	Data	TotalCo	unt	ANTI	ANT2	ANT3	ANT4	RSSI	Control: Control: ANTI ANTI ANTI Chu Read Chu Read Chu Read Chu Read Chu Read Chu Read Chu Read Chu Read Chu Read Chu Chu Read Chu Chu Read Chu Chu Chu Read Chu Chu Chu Chu Chu Read Chu Chu Chu Chu Chu Chu Chu Chu	ANT2 ANT6 ANT6 ANT6 Sype: Invento Sype: Tag Invento Sype: Tag (S) : (S) : (S) :	ANT3 ANT7 ANT7 ANT7 ANT9 ANT93 Unchec Cry Si: 6B Tag C	ANT4 ANT8 ANT8 Gors Gors Arts Agle GB Tag
												CPU(%): 0 Ca	che: 0 Now	Connect:	192.168.1	.116:9090 +

lmage3 - 1

Checking the check box before the antenna number indicates that the reader will use the checked antenna for reading. You can select more than one antenna depending on the actual situatio n, if we use the antenna port which checked but not connected with antenna, it may cause the antenna port to be damaged.





In the read mode operation, the Inventory indicates that the reader will always read the tags until the STOP instruction is received, and the real - time information in the lower right will be updated according to the read tag data before the stop reading command is received. Listed data will be updated. as shown in image 3 - 3.

🚺 Hoj	peland H	FID H ar	ager 2.	17.0								
Sea	ch Devic	e(<u>S</u>) C	onnect [Device(<u>C</u>)	Configuration(O)	Tools(<u>T</u>) He	elp(<u>H</u>) I	Language	(L) Opt	ion		
ЕРС				EPC	user 🖍	₿ 🕄	C	%				
	Туре	EPC	TID	UserData	ReserveData	TotalCount	ANT 1	ANT2	ANT3	ANT4	RSSI	Control:
	6C	E200	E200			10	10	0	0	0	53	ANTS ANTS ANTS ANTS
	6C	1234	E200			12	12	0	0	0	55	ANT9 ANT10 ANT11 ANT12
	6C	BEFA	E200			13	13	0	0	0	50	
												ANT17 ANT18 ANT19 ANT20
												🗖 ANT21 📄 ANT22 📄 ANT23 📑 ANT24
												Check All Uncheck All
												ReadType:
												Inventory Osingle
												Tee Treet
												Tag Type.
												● 6U Tag ─ 6B Tag ─ GB Tag
												Real-time:
												T
												TagCount: _
												ReadCount:
												1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
												Speed(T/S):
												lime(S):
												GP1: • • •
L									CP	U(%): 3	36.21% Cach	ne: 0 NowConnect: 192.168.1.116:9090:

Image3 - 3

A single read that the reader read all the tags only read once, after reading once, the information is no longer updated, as shown in image 3 -4.

Si	iopeland arch Devi	RFID I a :e(<u>S</u>) (nager 2.17.0 Connect Device(<u>C</u>) Conf	guration(<u>O</u>)	Tools(<u>T</u>) He	p(<u>H)</u> Languag	ge(<u>L)</u> O	ption			□ X
					🖽 · 🔁	C 🛞					
	Туре	EPC	TID	UserData	ReserveData	TotalCount	ANT 1	ANT2	ANT3 AI	Control:	ANT3 ANT4
	6C	1234	E20034120128FD00092BDF00			1	1	0	0 0	ANT5 ANT6	ANT7 ANT8
	6C	BEFA	E20034120175FA000AD8AE59			1	1	0	0 0		
										ANT13 ANT14	ANT15 ANT16
										ANT17 ANT16	ANT19 ANT20
										ANT21 📃 ANT22	ANT23 📃 ANT24
										Check All	Uncheck All
										ReadType:	
										 Inventor 	ry 💿 Single
										Teg Time!	
										Tag Type.	0. m m
										🖲 bL lag 🔵	op lag 🔵 op lag
										Real-time:	
										TagCount)
										Tagoount:	
										ReadCount:)
										Speed (T/S) :	j –
										Time (S) .	1
											1
<									>	GPI:	
Ľ							C	CPU(%):	21.65% Cac	he: 0 NowConnect:	192.168.1.116:9090

RFID reader demo user manual C#

lmage3 - 4

The tag type represents the tag type that is set to read by the reader. Currently,

Demo software supports 6C tag, 6B tag and Chinese national tag, cannot be multi-select.

3.2 Read tag

Once the read/write control is set up, the read/write operation can be carried out.

3.2.1 Read EPC

Click the button to read EPC. Tag data will be displayed in the middle list.

Real-time information will also be up dated in the lower right corner, as shown in image

3-5.

Se	opeland I arch Devic	EFID Manager 2.17.0 e(S) Connect Device(C)	Configuration(<u>O</u>) To	ols(]) Help	(<u>H)</u> Language	L) Option		(₹ _ □ X
					C 🛞			
	Туре	EPC	TID	UserData	ReserveData	TotalCount	ANT1 AN	Control:
•	6C	E2005139700A02801610712C				6	6 0	ANTS ANTS ANTS ANTS
	6C	BEFA				6	6 0	
	6C	1234				6	6 0	ANTIS ANTIA ANTIS ANTIS
								ANT17 ANT18 ANT19 ANT20
								🗖 ANT21 📄 ANT22 📄 ANT23 📄 ANT24
								Check All Incheck All
								ReadType:
								 Inventory Single
								Tag Type:
								● 6C Tag ─ 6B Tag ─ GB Tag
								Pulation
								Near time.
								TagCount: 🧻
								ReadCount .
								Speed (T/S) :
								<u> </u>
								Time(S):
								GPI:
<						CDI1(%)	/9.03% Cad	he: 0 NowConnect: 1921681116:9090 -
						0(70).	49.00% Caci	152.100.1.110.5050 • ,;;

RFID reader demo user manual C#

lmage3 - 5

3.2.2 Read TID

Click the

button to read the TID. The information of TID and EPC will be

displayed in the list, as shown in image 3 -6.

Hop Searc	eland I ch Devic	RFID H an: :e(<u>S</u>) Cc	ager 2.17.0	Configuration(<u>O</u>) To	ols(]) Help	(<u>H</u>) Language	(L) Option		(= _ = ×
EPC	ТІВ			yser 💽 📒		C 🛞			
	Туре 6С 6С 6С	EPC BEFA 1234 E2005139	700A02801610712C	TID E20034120175FA000AD8AE59 E20034120128FD00092BDF0C E2003412012EF8000BC4712C	VserData	ReserveData	TotalCount 2 2 2	ANT1 ANT 2 0 2 0 2 0 2 0	Control: ANT1 ANT2 ANT3 ANT4 ANT5 ANT6 ANT7 ANT8 ANT5 CONT0 ANT10 ANT10 ANT10 ANT10 ANT10 ANT10 ANT10 ANT10 ANT10 ANT10 ANT10
									Check All Uncheck All ReadType: Inventory Single Tag Type:
									O GE Tag O GB Tag GB Tag GB Tag
									ReadCount: Speed(T/S): Time(S):
							CDU/W)	>	GPI:

lmage3 - 6

3.2.3 Stop reading

When reader is reading tags, you can click stop button to stop the reader reading, and the information list and real time information will all stop updating, as shown in image 3 - 7

IIIIc	ige 5	-/.						
🔰 н	opeland H	BFID Manager 2.17.0						
Sea	arch Devic	e(S) Connect Device(C)	Configuration(O) Too	ols(<u>T</u>) Help	(<u>H</u>) Language(L) Option		
	C RID			• 🖸	C 🛞			
	Type	EPC	TID	UserData	ReserveData	TotalCount	ANT1 AN	Control:
	6C	BEFA	E20034120175FA000AD8AE59			12	12 0	
	6C	1234	E20034120128FD00092BDF0C			12	12 0	
	6C	E2005139700A02801610712C	E2003412012EF8000BC4712C			8	8 0	ANTIS ANTIA ANTIS ANTIG
								ANT21 ANT22 ANT23 ANT24
								Check All Uncheck All
								ReadType:
								Inventory Osingle
								Tag Type:
								● 6C Tag 🔵 6B Tag 🔵 GB Tag
								Real-time.
								TagCount: 🧻
								ReadCount: 🔀
								Speed (T/S) : 🧧
								Time(S):
<							>	GP1: • • • •
						CPU(%):	40.01% Cach	ne: 0 NowConnect: 192.168.1.116:9090 - ,;;

Image3 - 7

3.3 Write tag

At the same power, there are differences in the applicable distance betwee n reading and writing the tags. It is recommended to write the tag as close as possible to the antenna. Before you write the tag, you should read the tag by reading TID.

3.3.1 Write EPC

After stop reading, select a tag that need to be modified in the list, click to

open the Write EPC Interface, as shown in image 3 -8.

Trite EPC				
Select Tag:				
EPC(Hex):	1234			
TID(Hex):	E20034120128	SFD00092BDF0C		
	Access PWD:	000000	Length(Word): 0	
Data(Hex):	OFOF			
			Confrim	



When you input the EPC data(Hex) to below Data(Hex) input box, pay attention to ensure the digits are hexadecimal numbers, if the tag is set with password, you also need to input ac cess password in Access PWD input box, then click Confirm, it will return the result of writing EPC, as shown in image 3 -9.

Trite EPC		
Select Tag:		
EPC(Hex):	1234	
TID(Hex):	E20034120128FD0	0092BDF0C
	Access PWD: 0	Length(Word): 3
Data(Hex):	201806190001	Write OK!
		OK

lmage3 - 9

If the prompt shows failure, determine the next step based on the failure prompt.

3.3.2 Write Userdata

After stop readin g, select a tag that need to be modified in the list, click



Trite UserData	L		= -	
Select Tag:				
EPC(Hex):	201806190001			
TID(Hex):	E20034120128	D00092BDF0C		
	5 DUD -	000000	r	
	Access FWD:	000000	Length(Word):	0
Data(Hex):	OFOF			
			Co	nfrim

open the Write Userdata Interface, as shown in image 3 - 10.



When you input the User data(Hex) to below Data(Hex) input box, pay attention to ensure the digits are hexadecimal number s, if the tag is set with password, you also need to input access password in Access PWD input box , then click Confirm, it will return the result of writing User data, as shown in image 3 -11.

Trite UserData	L		
Select Tag:			
EPC(Hex):	201806190001		
TID(Hex):	E20034120128FD	00092BDF0C	
	Access PWD:	000000 Len.	gth(Word): 2
Data(Hex):	22223333	Nite OKI	
		ОК	Confrim

lmage3 - 11

If the prompt shows failure, determine the next st ep based on the failure prompt.

3.4 Information display

Click , and you can select and display options in the list, as shown in image

3-12.

🔰 Ho	peland H	SFID Manager 2.17.0						
Sea	rch Devic	e(S) Connect Device(C)	Configuration(O) To	ools(T) Help(H) I	Language(L)	Option		
			s 🖉 🚺	- <mark>C</mark> C	8			
•	Type 6C 6	EPC 201906190001 E2005139700A02801610712C EEFA E200309806180251192050F4 30083382DDD901400000000	TID - E20034120128FD000 - E20034120175FA000 - E20034120183FA000 - E200110520007453 -	EPC TID UserData ReserveData ANT1 ANT2 ANT3 ANT4 ANT5 ANT5 ANT5 ANT5 ANT7 ANT8 ANT7 ANT8 ANT9 ANT10 ANT11 ANT11 ANT11 ANT13 ANT14 ANT15 ANT16 ANT17 ANT16 ANT17 ANT18	erveData	TotalCount 24 5 19 10 1	AHT1 24 5 19 10 10 1	Control: ANTI ANTZ ANT3 ANT4 ANT5 ANT6 ANT7 ANT8 ANT5 ANT6 ANT7 ANT8
<				ANT19 ANT20 ANT21		CPU(%): 1	> 6.82% Cac	GPI: • • • • •

lmage3 -12

You select an option, or cancel the option to change whether it will be displayed in

the list.

Click to clear tag information in the current list, as shown in image 3 -13.

関 Hop	eland BFI	D H ana	ger 2.1	7.0										- i	
Searc	h Device(S) Co	nnect Dev	vice(C)	Configu	uration(O)	Tools(T) Hel	р(H)	Language(L)	Option				
EPC				EPC	yser		⊞ ∙	0	C	8					
<	Type E	PC			TID			UserDat	a .	ReserveData	TotalCount	ANTI	Control: ANT1 ANT2 ANT5 ANT6	ANT3 ANT7 ANT7 ANT1 ANT15 ANT15 ANT15 Uncheck A Cry Single 6B Tag GB	ANT4 ANT8 ANT19 ANT10 ANT10 ANT10 Tag
											CPU(%):	16.82% Cac	the: 7 NowConnect:	192.168.1.116	5:9090 ÷.,;

lmage3 - 13

3.5 Restart reader

Click to restart the reader. After click, you will hear the reader 'beep' (except B6A), which indicates that the reader has restarted successfully. Then reconnect.

3.6 Reader information

Click on the Toolbar "help" - "Reader Info" to query information from the connected reader. The information includes reader application version, reader name, and the time that the reader has been running after powering on, as shown in image 3 - 14.



lmage3 - 14

3.7 Baseband information

Click on the Toolbar "Help" - "Baseband Version" to query the baseband information of the connected reader, as shown in image 3 -15.

SearchResult:		-	_ □	×
Baseband	software	version:	V 3. 2. 1	1

lmage3 -15

3.8 Check connected antenna

Click "Option " – "Check Connected Antenna " on the menu bar to cancel or check the option "Check Connected Antenna ", if checked, the demo software will detect whether the antenna port of reader connected antenna, the background of the antenna number on demo software which normall y connected antenna will be green, the background of the antenna number which doesn 't connect antenna will be mauve, as shown in image3 - 16, the antenna port connection status is for reference only.



	RFID	reader	demo	user	manual	C#
--	------	--------	------	------	--------	----

<i>.</i> .	1.			
Contr	01:			
\checkmark	ANT1	ANT2	ANT3	ANT4
		ANT6	ANT 7	ANT8
	ANT9	ANT10		ANT12
		- ANT14	ANT15	ANT16
	ANT17	ANT 18	ANT19	ANT20
	ANT21	ANT22	ANT23	ANT24
	Chec	k All	Uncheck	All
	ReadTy	pe:		
	۲) Inventory	🔿 🔘 Sing	le
	Tag Ty	pe:		
	● 6C	Iag 🔵 61	B Tag 😑 🤆	GB Tag

lmage3 - 16

4. Configuration

4.1 Common configuration

4.1.1 Antenna power configuration

The position of Antenna power configuration is shown in image 4 -1.

192.168.1.116:9090- Configuration	
RFID Reader GPIO/Wiegand Restore Hub	
Baseband Setting: EPC Speed: 255 AUTO Session: 1 V QV: 4 Multi V Search Type: 2 Flag AMB V Get	Frequency Range: GB, 920 [°] 925MHz Working Frequency: auto: Auto
Ant Power:	921.875,92 Get Set Auto Free Setting: 0 ×10ms Get
ANT7 30 ANT8 30 ANT9 30 Get ANT10 30 ANT11 30 ANT12 30 Set	ANT Enable:
ANT13 30 V ANT14 30 V ANT15 30 V ANT16 30 V ANT17 30 ANT18 30 V ANT19 30 V ANT20 30 V ANT21 30 V Uncheck	✓ ANT5 ✓ ANT6 ✓ ANT7 ✓ ANT8 ANT9 ANT10 ANT11 ANT12 Set ANT13 ANT14 ANT15 ANT16 ANT13
ANT22 30 ANT23 30 ANT24 30 ANT24 30 Filter Setting: RepeatTime: 0 × 10ms RSSI Max: 0 Get Set	Lheok All ANT17 ANT18 ANT19 ANT20 ANT21 ANT22 ANT23 ANT24

Image4 - 1

Note that the power can be changed by the drop - down box, then you must select the ANT No. before click the Set button, or the power set on the antenn a is not successful. Multiple choices is available

4.1.2 Antenna enable

The Position of Antenna Enable is shown in image 4 -2.

192.168.1.116:9090	— Configuration			×
RFID Reade	r GPIO/Wiegand	Restore	Ниь	
Baseband Setting: - EPC Speed: Session: Search Type:	255 AUTO 1 ~ QV: 2 Flag AMB	~ 4 Multi √ √	Set Get	Frequency Range: GB, 920 [°] 925MMz Working Frequency: auto: Auto
Ant Power:	_			Frq List: 921.875, 92 ~ Get Set
ANT1 30 ~	ANT2 30 ~	ANT3 30	Power33	Auto Free Setting:
🗌 ANT7 30 🗸	ANT8 30 V	🗌 ANT9 🛛 🔨		ANT Enable:
ANT10 30 V	ANT11 30 V	ANT12 30		ANT1 VANT2 ANT3 ANT4 Get
ANT16 30 V	🗌 ANT17 30 🗸	ANT18 30	All	ANT9 ANT10 ANT11 ANT12 Set
ANT19 30 V	ANT20 30 V	ANT21 30	Uncheck All	ANTI3 ANTI4 ANTI5 ANTI6 Check All
-Filter Setting:	■ AN125 3U V	AN124 30 🔨		ANT17 ANT18 ANT19 ANT20
RepeatTime: 0	×10ms RSSI Max:) Get	Set	ANT21 ANT22 ANT23 ANT24



Enable the antenna by checking the check box beside the antenna number, click the "Get" button to query which antenna has been checked. Please note the difference of "Antenna enable " and "Antenna power ", the "Antenna enable " indicates whether the antenna is available while the "Antenna power "indicates the range of antenna power. If the "Antenna enable " does not turn on, i t is not available even the antenna power setting is large.

4.1.3 Serial port configuration

Click the toolbar "Configuration" - "Reader" - "RS232" to enter the interface of serial port setting, as shown in image 4 - 3.

Serial Port Setting:		
BaudRate:	115200 bps 🗸	
	Get	Set

Image4 - 3

Click the "Get" button to get the current serial baud rate, through the drop - down box to change the baud rate and then click the "Set" button to submit, Setting up success or failure will be prompted.

Note : If the reader is connected through serial port, baud rate changed, you need t o use the new baud rate to re - connect, and otherwise the reader cannot continue to operate.

4.1.4 Network configuration

Click the toolbar "Configuration" - "Reader" - "RJ45" to enter the interface of network adapter setting, as shown in image 4 -4.

Network Adapter Setting	ş:	=	_ □	×
тр.	102 100 1 110			
Ir:	192.108.1.110			
mask:	255.255.255.0			
gateway:	192.168.1.1			
				_
	Get		Set	

Image4 - 4

Click the "Get" button to get the current network setting information. You can set the parameters by manually changing the IP, Mask, Gateway, then clicking the "Set" button to submit, Setting up success and failure will be prompted .

Note : After the set up succeeded, if the reader is connected through network , you need to use the new IP to reconnect when IP address changed, otherwise the reader cannot continue to operate.

4.1.5 485 configuration

Click the toolbar "Configuration" - "Reader" - "RS485" to en ter the 485 setup interface, as shown in image 4 - 5.

485 Setting		
RS485 ADD:	1	
Baud Rate:	115200 bps 🗸	
	Get	Set



Click the "Get" button to get the current 485 setting, you can set the 485 serial address and Baud Rate by manually change the parameters, then click the "Set" button to submit. Setting up succe ss and failure will be prompted.

Note : After the setup succeeded, if the reader is connected through RS485 , you need to use the new address and BaudRate to reconnect when 485 address and BaudRate changed ,otherwise the reader cannot continue to operate . Add ress range of 485 is 1-254.

4.1.6 GPI configuration

The following table shows the details of the regular reader GPI configuration:

Model	GPI	GPO
C4/C8/C12/C24/C9	4 inputs , optically isolated	4 relay outputs
B2	2 inputs, optically isolated	2 relay outputs
B7A B8A	1 input, optically isolated	1 relay outputs
B5A / B6A	1 input, optically isolated	1 pair 5V output or wiegand output

GPI : Optocoupler input, DC 0~24V, higher than 1V is high level, lower than 1V is low level

Click the toolbar "Configuration" - "GPI/O" - "GPI" to enter the GPI configuration interface, as shown in image 4 -6.

GPI Setting
GPI Setting:
Port: 📴 🗸 Trigger Start: High level trigg 🗸
Trigger CMD: Four ANT Read TII 🗸 🥖
Trigger Stop: Low level trigger 🗸
Get Set

lmage4 - 6

Click the "Get" button to get the GPI setting, you can set the GPI by manually change the parameters, then click the "Set" button to submit . Setting up success and failure will be prompted.

A sample usage scenario of GPI:

Infrared sensor model selection : Select PNP NO type, this type indicates that the sensor is at low level under normal conditions. When the object is detected, the signal wire will output a positiv e voltage signal .

GPI settings of reader:

Port: GPI1

Trigger Start: High level

Trigger Command: Single ANT Read EPC

- Trigger Stop: Low level
- Connection diagram:



4.1.7 GPI status query

Click the toolbar "Configuration" - "GPI/O" - "GPI state" to enter the GPI status query interface, as shown in image 4 - 7.

GPI State							i 🔤
	GPI State:						
		1	2	з	4		
	Level:						
	rad as th	va hish	امتعا	հերո	ar the	low level	
	ieu as ti		Tever	, DIGE	as the	ION LEVEL.	
						Get	

lmage4 - 7

Click the "Get" button to get the Status of GPI , red means "High level", gray means "Low level".

4.1.8 GPO configuration

The following table shows the details of the regular reader GP	O configura tion:
--	-------------------

Model	GPI	GPO
C4/C8/C12/C24/C9	4 inputs	4 relay outputs
B2	2 inputs	2 relay outputs
B7A B8A	1 input	1 relay outputs
B5A / B6A	1 input	1 pair 5V output or wiegand output

Click the toolbar "Configuration" - "GPI/O" - "GPO" to enter the GPO configuration interface, as shown in image 4 -8.

GPO Setting:	–	_ □	
GPO Setting:			
2 🗸 🚽 🗸			
		S. 4	
		Det	

lmage4 - 8

You can set the GPO by manually change the parameters, then click the "Set"button to submit. Setting up success and failure will be prompted.

Sample usage of GPO :

<u>Relay type GPO:</u> This type GPO is like a switch, low level means open, high level means close, the default status is open. We can connect alarm, led etc. to the GPO.





<u>5V GPO that shared with wiegand:</u> In this case, the GPO is not a switch . When the GPO is set to 1, the GPO will output a high level of 5V and the electric current is 10mA Each GPO needs to work with GND.

No.	Color	Definition
1	Black	GND
2	Brown	GND
3	Red	24V
4	Orange	GPO2/wiegand 1
5	Yellow	GPO1/ wiegand 0
6	Green	GPI

We can use this GPO to trigger the external relay to work together with the reader.



4.2 Advanced configuration

4.2.1 TC P server/client mode

Click the toolbar "Configuration" - "Reader" - "TCP client/server" to enter the TCP server/client mode setup interface, as shown in image 4 -9.

Reader Server/Client Sett	ing:	
Server:	9090	
🔾 Client:	192.168.1.75 9090	
	Get	Set

Image4 - 9

Click the "Get" button to get the current TCP server / client mode setting inform ation, manually changing the reader's service mode, IP address and port, then click the "Set" button to submit, Setting up success and failure will be prompted Server mode means host search reader for connection. Client mode means reader actively search h ost for connection.

4.2.2 Frequency hopping configuration

Click the toolbar "Configuration" - "RFID" - "Frequency Hopping" to enter the frequency hopping management setting interface, as shown in image 4 - 10.

Frequency Ho	pping Setting:
Frequency:	GB,920~925MHz V Set Hopping: Auto V
	Point List:
920. 625 920. 875 921. 125 921. 375 921. 625 921. 875 922. 125 922. 125 922. 625 922. 625 922. 875 923. 125	 922. 625, 923. 125, 922. 375, 923. 375, 922. 125, 9 >> >>
	Set

Image4 - 10

You can change the working frequency range of the reader in the drop - down box of Frequency and clicking "Set" to confirm, as shown in image 4 - 11.

Frequency Ho	pping Setting:
Frequency:	GB,920 [°] 925MHz Set Hopping: Auto V
000.005	GB, 840 [°] 845MHz GB, 840 [°] 845MHz GB, 840 [°] 845MHz&920 [°] 925MHz
920.625 920.875 921.125	ETSI, 866 868MHz 21. 875, 928, 875 JP, 916, 8 920, 4MHz
921.375 921.625 921.875	TW, 922.25 927.75MHz ID, 923.125 [°] 925.125MHz RUS, 866.6 [°] 867.4MHz
922.125 922.375	GBT, 920 ⁻⁹² 5MHz Korea, 917. 1 ⁻⁹ 23, 3MHz
922, 825 922, 875 923, 125	✓
	Set

lmage4 - 11

Modify the range by the middle three buttons to add or delete the frequency points,

as shown in image 4 - 12.

Frequency: GB, 920 ⁹²⁵ MHz Set Hopping: Auto 920.625 Image: Set Hopping: Auto Image: Set 920.625 Image: Set Image: Set Hopping: Auto Image: Set 920.625 Image: Set Image: Set	Frequency Ho	pping Setting:	X
Point List: 920.625 921.875 921.125 921.625 922.125 922.125 922.875 922.625 922.875 923.125 923.125	Frequency:	GB, 920~925MHz 🗸	Set Hopping: Auto 🗸
	920. 625 920. 875 921. 125 921. 375 921. 625 921. 875 922. 125 922. 375 922. 625 922. 875 922. 875 923. 125	Point List:	: 923. 125, 922. 375, 923. 375, 922. 125, 9 921. 875, 923. 875
Set			Set



After the modi fication is complete, click on the "Set" button below to confirm the frequency range of the connected reader, Setting up success and failure will be prompted

4.2.3 Tag filter

Click the toolbar "Configuration"	- "RFID" - "Tag Filter" to enter the tag filter	setting
interface, as shown in image 4 - 13.		

Tag Filter:				₹	_	
	Time: 0 Tooltip: Time:Rep:	×10ms eat filtering f	RSSI Max: in the speci	0 fied		
	period of upload or RSSI Max threshold discarded	f time the sam dy once RSSI value is 1 label data w: 1	e label cont lower than ill not uplo	ent to the ad and		
			Get		Set]

Image4 - 13

Click the "Get" to get the current tag filter setting information, change the filter time and signal threshold parameters, then click "Set" to confirm, Setting up success and failure will be prompted. The filter time range is 0 -65535 and the RSSI threshold is 0 -255.

4.2.4 Automatic idle

Click the toolbar "Configuration" - "RFID" - "Auto Free" to enter the automatic idle setting interface, as shown in image 4 - 14.

Auto free	
on-off: OFF V Freetime: O	×10ms
Reader for reading labels on the successive rounds of no identification tag Reader automatically entered into a period of idle state to save power consumption, free time after a timeout, automatic back into the reading card Reader.	e e
Get	Set

Image4 - 14

Click the "Get" button to get the current automatic idle setting information, manually change the automatically idle switch and idle time parameters, then click Set to confirm, Setting up success and failure will be prompted.

4.2.5 Wiegand configuration

Click the toolbar "Configurati on" - "GPI/O" - "Wiegand" to enter the wiegand configuration interface, as shown in image 4 - 15.

Tiegand Setting:	X
Parameter Setting:	
on-off: OFF 🗸 Format:	gand26 🗸 Wilegand26
TransferContent: end of the EPC	Wiegand34 Wiegand66
Get	Set



Click the "Get" button to get the current Wiegand configuration information, change the Wiegand configuration information, then click the "Set" button to confirm, Setting up success and failure will be prompted

The general steps to use the reader to work together with the wiegand controller as below:

- a) Connect with PC via RJ45, USB or RS232. Enter setting: Configuration
 Advanced RFID
 - 1. QV (Q value), s et to 0|single,
 - Filter setting, reduce the repetitive tag data , set RepeatTime to 100 x 10ms, means the same tag be read several times in 1 second, but the reader only send 1 time to the controller.
 - 3. Auto idle setting, set ON, time 10*10ms, means if we turn on the function and set the time to 10*10ms, when the reader doesn 't detect any tag in 3 round inventories (about 20ms), it will rest 10*10=100ms, then back to read tag again.

RFID Reade	r GPIO/Wiegand	Hub Output	format R	estore
-Baseband Setting: - EPC Speed: Session:	1 Dense	○ Singl ← ∨	Set Get	Frequency Range: FCC, 902 ⁹ 28MHz Working Frequency: Freq hopping: Auto
Search Type: Ant Power:	Z FIag A005	~		Freq list: 915.750, 916.
ANT1 29 \sim	ANT2 30 \sim	ANT3 30 \sim	Power33	-Auto idle setting:
ANT4 30 \sim	ANT5 🗸 🗸	ANT6 🗸	Get	ON V Time: 10 ×10ms Get Set
ANT 7 🗸 🗸	ANT8 🗸 🗸	🗖 ANT9 🗸 🗸		M ANT1 M ANT2 M ANT3 M ANT4
ANT10 🗸	🗌 ANT11 🗸 🗸	🗖 ANT12 🔽 🗸	Set	ANT5 ANT6 ANT7 ANT8
ANT13 🗸	ANT14 🗸	🗖 ANT 15 🔷 🗸	Check	ANT9 ANT10 ANT11 ANT12 Set
ANT16	🗌 ANT17 🔷 🗸	🗖 ANT18 🔷 🗸	All	ANT13 ANT14 ANT15 ANT16 Check All
🗖 ANT19 🗸 🗸	ANT20 🗸	🗖 ANT21 🔽 🗸	Uncheck	ANTI ANTI ANTI ANTI ANTI ANTI
🔲 ANT22 🗸 🗸	🗖 ANT23 🔍 🗸	🗖 ANT24 🗸 🗸	All	Antenna port standing wave detection:
-Filter Setting:				ANT: 1 V Frequency: 902.750 V
RepeatTime: 100	×10ms RSSI Max: () Get	Set	Detection Transmitting carrier

b) Set the GPI to implement the auto read when power on, low level is a spe cial design for the trigger start option to implement auto read when power on without any external sensor.

- 1. Port: GPI1
- 2. Triggerstart: Low level
- 3. Trigger code: 021000020101 (Assign antenna 1 to read EPC). Or 021000050101020006 (Assign antenna 1 to read EPC and TID).
- 4. Triggerstop: OFF
- 5. Upload: OFF
- c) Wiegand setting
 - 1. ON OFF: ON
 - 2. Format: Wiegand26 or 34 or 66. (Wiegand format should be same as Controller)
 - 3. Details: end of EPC data or end of TID data (Same as GPI setting)

уре	EPC :	ID Use	rData Re	serveData	TotalCount	ANT1	ANT2	ANT3	ANT4	RSSI	Control:
	RFID	Reader	GPIO/Wi	egand Re:	store Hub						
	-GPI Setti: Port:	ag: GPI1 √	TriggerSt	art: Low]	Level 🗸		-GPO Sett	ting:			
	Trigger	Code: 0101020006						2	~	4	~
				I, I,	077				_		Set
	Irigger.	stop: Orr	~	oproad:	urr 🗸	l	-Wiegand	Setting:	_	. .	
				Get	Set		UN-UFF:	UN	~	Format:	Wiegan 🗸
	-GPI State	1	2 3	4			Details	: e	nd of th	e TID data	~

d). Connect reader Wiegand0 with controller Wiegand0, connect reader Wiegand1 with controller Wiegand1, connect the reader ground to the controller ground.

4.2.6 Factory data reset

Click the toolbar "Configuration "- "Restore Factory" will pop up a prompt box to determine whether to restore the reader, as shown in image 4 -16.





The restore setting means that all other configurations are changed to factory settings except that the reader's MAC remains unchanged.

4.2.7 Breakpoint resume

Click the toolbar "configure" - "advanced" to open the configuration main panel.

115 Nub 232 Setting: 115200 bps V Get Set 115200 bps V Get Set 2007.01.01 09:57:49.721 Get Set Setting: 2007.01.01 09:57:49.721 Get Set IP: 192.168.1.116 Mask: 255.255.255.0 Get Set Set teway: 255.255.255.0 Get Set Set CP: Status: Status: V Get Set Setting: Set Get Set Set Status: V Get Set Setting: Set Setting: Set Status: V Get Set Set Set	PRTD	Reador	GPTO /Wingood Rost	ara Hub	
115200 bps Get Set 'Setting: IP: 192.168.1.116 IP: 192.168.1.116 Image: Set Mask: 255.255.255.0 Get Setting: Set Status: Get Setting: Get Status: Get Get Set Get Set Status: Get Get Set Get Set Status: Get Get Set Status: Get Get Set Status: Get Get Set	232 Set	ting:	or toy a regard Restr		Reader Time:
IP: 192.168.1.116 Mask: 255.255.255.0 Get Set CP: Status: Status: Get Setting: Set 6C-EC-A1-FE-87-4A Get Set Set Status: Client 6C-EC-A1-FE-87-4A Get	Settin	115200 bps g:	Get	Set	2007.01.01 09:57:49.721 Get Set
Atternation Get Set K1 Status: Set K1 Status: Set K1 Set Set Set	IP: [Mask [.]	192.168.1.116	Get	Set	 Server 9090 Client 192.168.1.75 9090 Set
CP: Status: Get Set C Setting: 6C-EC-A1-FE-87-4A Get Se	teway: [255.255.255.0			RS485 Setting: RS485 ADD: 1 Get Set
C Setting: 6C-EC-A1-FE-87-4A Get Set Status: Close V Get	CP: Status	:	∨ Get	Set	BreakFoint: Resume Up: OFF V Get Set
	C Setti:	6C-EC-A1-FE	-87-4A Get	Set	Self-Checking: Status: Close V Get

The position of breakpoint setting is shown in image 4 - 21.



Breakpoint resume indicates that during the reading tags period, if suddenly disconnected, whether it will automatically save the data into reader 's cache. After re-connecting reader, we could get the data through 4.2.8 (Get cache data) to recover the cache data, only limited to internet port.

4.2.8 Get cache data

When the reader is reading tags, if the connection suddenly disconnect but the antenna indicator light is still flashing , the tag data was read(after the con nection is disconnected) will be stored in the reader 's memory. After reconnecting the reader, click on the toolbar "Configuration" - "Get Cache". The data read from reader when the connection is disconnected will be updated to the list.

4.2.9 Clear the ca che data

Click the toolbar "Configuration" - "clear cache data" to clear the current reader cache.

4.2.10 EPC baseband configuration

Click the toolbar "Configuration ""-"Advanced " to open the configuration panel, the

192.168.1.116:909)— Configuration		×
RFID Read	er GPIO/Wiegand Restore	Нив	
-Baseband Setting: EPC Speed: Session: Search Type:	255 AUTO ~ 1 ~ QV: 4 Multi 2 Flag A&B ~	Set Get	Frequency Range: GB, 920 ⁷⁹ 925MHz Working Frequency: auto: Auto
Ant Power:	ANT2 30 V ANT3 30	✓ Power33	Frq List: 921.875, 92 Auto Free Setting:
ANT4 30 ~	ANT5 30 V ANT6 30	Get	OFF V Time: 0 ×10ms Get Set
ANT10 30 V	ANTI1 30 V ANTI2 30	✓ Set	ANT Enable:
ANT13 30 V ANT16 30 V	ANT14 30 V ANT15 30	~ Check All	ANT5 ANT6 ANT7 ANT8
ANT19 30 ~	ANT20 30 V ANT21 30 V	Vncheck All	ANTI3 ANTI4 ANTI5 ANTI6 Check All
Filter Setting: RepeatTime: 0	×10ms RSSI Max: 0 Get	: Set	Uncheck All

position of baseband setting is shown in image 4 - 17.

lmage4 - 17

EPC baseband rate refers to the modulation, Encoding, and Data Rates between Reader - Tag Physical and Link Layers.

Generally, we suggest using dense mode or auto mode, other baseband rates can be used according to project condition s.

Q value setting should be associated with the field tag quantity, it is approximately equal to $2 \land Q$. Q values range from 0 to 15

0 for single tag read $2^0 = 1$

4 for multi tag read $2^4 = 16$

The default setting is:

```
EPC Speed: 255|AUTO
```

Session:1

QV:4|Mult i

Search Type: 2|Flag A&B

The session and tag search type be explained as follows:

Session Inventory Flags



Each EPC GEN 2 complia nt tag has two states: X and 'B'. The X state is default when the tag powers up (or after 'B' state times out – more on that later).

Sessions

The EPC GEN 2 standard allows for up to four sessions; these sessions serve two purposes:

Determines how of ten a tag will respond to a query from the reader Allows for multiple readers to conduct independent inventories

The RFID reader will select which session is to be used, each session's inventory flag can be independently set to 'A' or 'B' as shown below.

Session 0	A	В
Session 1	A	В
Session 2	A	В
Session 3	A	В

Persistence



Once the RFID reader inventories the tag, the flag state is changed from 'A' to 'B' – how long the tag stays in the 'B' state bef ore reverting back to the 'A' state is called "persistence". It is important to realize that exact persistence times cannot be set by the user; they can only be approximated according to the Search Mode and Session – more on this later.

Next let's look at Search Modes and how they work with the Session setting to establish the persistence. Search Modes

There are three search modes available on the Impinj Revolution reader: Dual Target, Single Target and Single Target with Suppression. "Target" in this case is referring to whether the reader will singulate (select) only tags that are in the 'A' state (Single Target) or if it will singulate tags in both 'A' and 'B' state (Dual Target).



Dual Target

In Dual Target, the reader reads all 'A' tags then moves all 'A' tags into 'B'. Reader then reads all 'B' tags then moves all 'B' tags into 'A' and so on.... Additionally, in Dual Target, session has no influenc e as the reader will immediately 'push' tags back into 'A' state.

This search mode generates many reads and is good for small populations or static environments (i.e.smart shelf).



Single Target with Suppression

In Single Target, the reader reads all 'A' tags then moves all 'A' tags into 'B' and allows tags to stay quiet once they are inventoried. This mode is good for high population, dynamic environments (i.e. dock door portal).

Putting It All Together

So far we've discussed Sessions, Persistence and Search Modes; now let's put it all together to see the effect these settings have.



The image above illustrates what happens when a tag enters the read field according to the Search Mode and Session.

In Dual Target, the tag will be read continuously regardless of tag state 'A' or 'B'; the Session s etting has no influence.

In Single Target with Session set to '1' the tag will be read and then moved to the 'B' state. After some period of time (TS1) it will revert back to the 'A' state and be read again. This TS1 value is defined in the EPC GEN 2 stan dard as being between 500ms and 5 seconds; again it cannot be expressly set, only approximated. The TS1 value will vary depending tag IC manufacturer and even specific tag IC model. For example, the Impinj Monza 3 S1 persistence is approximately 1 second w hereas the Monza 4 is closer to 500ms. So, if we set the reader for Single Target, Session 1, we will see a Monza 3 tag being read about every second.

If the reader Search Mode is set to Single Target and the Session to either '2' or '3' then the tag will read once then switch to 'B' state and remain quiet the entire time it is in the read field.

be

Once the tag leaves the read field, it will have a persistence (stay in the 'B' state) for a time period of TS2/3. This persistence time is only required by t he EPC GEN 2 standard to be a minimum of 2 seconds with no maximum defined; it tends to be around 60 seconds but can be on the order of hundreds of seconds. Remember that during this time, the tag will not respond to a query from any reader using Single Ta rget and the same Session.

Using Single Target with Suppression provides the advantage of Sessions 2 and 3 in that it will remain quiet while in the read field once inventoried thus allowing other tags which may be "quieter" (not reflecting as much power) to be read. It also provides the advantage of Session 1 in that it will revert almost immediately back to the \varkappa state and be available for a reader query upon leaving the read field.





Scenario 1: There are a number of tagged items being continuously inventoried on a RFID - enabled "smart shelf". Selecting Dual Target for the search m ode will allow for the fastest update of tag status and be able to provide an update alert should a tagged item be put on, or taken off, the shelf.

Scenario 2: A fixed reader portal is performing an inventory on incoming items as they come off the deliver y truck using Single Target, Session 2. Now, let's say you want to do a quick inventory sweep with a handheld reader (perhaps to encode the storage location). If the handheld reader uses the same session, it might miss some of the tags, or have a slow tag read rate, due to the fact that the tags were 'pushed' into the 'B' state by the fixed reader and have not yet flipped back to the 'A' state. Setting the handheld reader to a different Search Mode (i.e. Dual Target or Single Target w/ Suppression) or to Session 3, will allow the tagged items to be inventoried.

Another option would be to use Single Target with Suppression (assuming use of Impini Monza tags) so that the large population of tags can be quickly inventoried with high probability of 100% count a nd still allow the tags to be re - inventoried almost immediately after leaving the portal read zone.

Scenario 3: Two readers want to simultaneously inventory a population of tags and then confirm they have the same count as a way of reducing missed tags. I n this case, setting one reader to Single Target, Session 2 and the other to Single Target, Session 3 will allow this to happen.

4.2.11 DHCP configuration

Click the toolbar "configure" - "advanced" to open the configuration main panel. The position of DHCP setting is shown in image 4 - 18.

192.168.1.116:9090- Configuration	
RFID Reader GPIO/Wiegand Restore Hub	
RS232 Setting: 115200 bps v Get Set	Reader Time: 2007.01.01 08:31:46.687 Get Set
IP Setting: IP: 192.168.1.116 Mask: 255.255.255.0 Get Set	Server/Client: 9090 Get Olient 192.168.1.75 9090 Set
Gateway: 192.168.1.1 -DHCP: Status: Close V Get Set	RS485 Setting: RS485 ADD: 1 Get Set BreakPoint:
MAC Setting: 6C-EC-A1-FE-87-4A Get Set	Resume Up: OFF Get Set Self-Checking: Status: Get IP: 192.168.1.116 Set

Image4 - 18

DHCP configuration indicates that the reader is gaining the IP address from router or not, if DHCP configuration closed, then IP setting is available, if DHCP configuration is open, then the IP setting is not av ailable. As below image 4 - 19, this function needs reader to support.

192.168.1.116:9090— Configuration	
RFID Reader GPIO/Wiegand Restore	Hub
RS232 Setting:	-Reader Time:
115200 bps 🗸 Get Set	2007.01.01 08:31:46.687 Get Set
-IP Setting:	_Server/Client:
IP: 192.168.1.116	Server 9090 Get
Mask: 255.255.255.0 Get Set	Tip X ent 192.168.1.75 9090 Set
Gateway: 192.168.1.1	0 ОК уз:
DHCP:	ADD: 1 Get Set
Status: Open V Get Set	OK Resume Up: OFF V Get Set
MAC Setting:	Self-Checking:
6C-EC-A1-FE-87-4A Get Set	Status: 🗸 Get
	IP: 192.168.1.116 Set

lmage4 - 19

4.2.12 Network self - checking

Click the toolbar "configure" - "advanced" to open the configuration main panel. The position of network self - checking is shown in image 4 - 20.

192.168.1.116:9090— Configuration	□ ×
RFID Reader GPIO/Wiegand Restore Hub	
RS232 Setting: 115200 bps v Get Set	Reader Time: 2007.01.01 09:57:49.721 Get Set
IP Setting: IP: 192.168.1.116 Mask: 255.255.255.0 Get Set	Server/Client:
Gateway: 255.255.255.0	RS485 Setting: RS485 ADD: 1 Get Set
Status: V Get Set	BreakPoint: Resume Up: OFF V Get Set
6C-EC-A1-FE-87-4A Get Set	Self-Checking: Status: Close



Self-checking indicates that whether to turn on the network connection status checking function, if it's open it will send the heart beat package to specific IP address to confirm connection status, only limited to network connection, and this fu nction requires reader including this function.

4.2.13 Antenna hub configuration

Click "configure" - "advanced" in the toolbar to open the configuration main panel. The position of the antenna hub configuration is shown in image 4 - 22.

192.168.1.116:9090- Configuration	
RFID Reader GPIO/Wiegand Restore Hub	
RFID Reader GFIO/Wiegand Restore Hub Select Ant: ANT1 Sub Ant Power:	

Image4 - 22

Select antenna of the reader firstly, then configure the hub 's sub antennas, each sub antenna 's output RF power and enable status can be separately setting up. This function requires the reader works with antenna hub.

5. Advanced operation

5.1 Custom read

If you n eed to read the user data or reserved data, then you need the advanced

operation. It could control the reading area freely, click this button



advanced reading interface, as shown in image 5 -1.

Custom Read	I						×
6C Tag	6B Tag	GB Tag					
	Tatching	Model: Content(Hex):	Match TID ~	Start: 128012E093F	0		
	TID	Model:	Auto 🗸	Length:	6]	
	🗌 UserData	Start:	0	Length:	6		
	Reserved	Start:	0	Length:	4		
	🗌 Password	AccessPWD(}	(ex): 00000000				
	QT PEEK	RFTICRO	I SensorData		EI SensorD	ata	
					Ca	onfirm	

RFID reader demo user manual C#

lmage5 - 1

You need to check the front check box of each tag area to decide which area to read, fill in and select the read parameters, length unit is word, and content is hex data, click confirm, reader will read according to the configuration, if there is any tag match the configuration, the interface will update real time.

Matching read function includes 3 arguments:

1. The bank of tag memory need to be matched

2. The start address of bank of tag memory that need to be matched, unit is

bit, one hexadecimal number takes up 4bits. EPC bank data takes 32 as t he starting address and TID bank data takes 0 as the starting address .

3. Data to be matched.

For example, there is tag, EPC is 11112222 3333 444455556666, and TID is E20034120132 FA000093C04F

If the reader is allowed to read only the tags that match the rule, the rule is defined in accordance with the EPC bank of the tag memory. The four digits starting from the 9th

digit of the EPC, 3333, will be read. Otherwise, does not be read.

Then the arguments should be filled as:

- 1. Bank: EPC
- 2. Staring address: 32 + 8*4 = 64
- 3. Data: 3333

If the reader is allowed to read only the tags that match the rule, the rule is defined in accordance with the TID bank of the tag memory. The 12 digits starting from the 13th digit of the TID, FA000093C04F, will be read. Otherwise, does not be read.

Then the arguments should be filled as:

1. Bank: TID

l

- 2. Staring address: 12*4 = 48
- 3. Data: FA000093C04F

For example, there are 3 tags, the length of each tag 's EPC is 96bits, that is 24 hexadecimal numbers.

<u>Take EPC as the matching condition</u>, if we want the reader only to read the tags whose EPC with 0A22 as the last 4 digits

Sear	ch Device	(S) Connect Device(C)	Configura	ation(O)	Tools(T) H	elp(H) Lang	uage(L) O	ption			
EPC			yser		B .	<mark>ව </mark>	8				
	Туре	EPC	TID	UserData	ReserveD	ata Tota	lCount J	ANT 1	ANT2	ANT3	A
•	6C	102813DD1173960246455443				17	1	7	0	0	0
	6C	E20000165510019327200A22				21	2	1	0	0	0
	6C	180823DE000000014B505169				15	1	5	0	0	0

In the custom read interface, check Matching, select Match EPC for model option, inputs 112 to the start textbox, inputs 02AA to the Content (Hex) textbox

Remark: The unit of Start address is bit, one hexadecimal number takes up 4 bits, there are 20 hexadecimal numbers on the left side of the data that to be matched, add the 32bits content at the front of EPC bank that we cannot read, so start address is 32 + 4*20 = 112

6C Tag	6B Tag	GB Tag			
	🗹 Natching	Model: Content(Hex):	Match EPC v	Start:	112
	TID	Model:	Auto ~	Length:	6

The cus tom read result is shown as below screenshot

EPC			user data			C 🛞	
	Туре	EPC	TID	UserData	ReserveData	TotalCount	ANT1
•	6C	E20000165510019327200A22				26	26

<u>Take TID as the matching condition</u>, if we want the reader only to read the tags whose TID with 82A2 as the last 4 digits

EPC				. 🖸	C 🛞			
	Туре	EPC	TID	UserData	ReserveData	TotalCount	ANT1	AN.
•	6C	102813DD1173960246455443	E20034120132FA000093C04F			14	14	0
	6C	180823DE000000014B505169	E20034120138FA000D868B46			12	12	0
	6C	E20000165510019327200A22	E200341201391700045F82A2			10	10	0

In the custom read interface, check Matching, select Match TID for model option,

inputs 80 to the start textbox, inputs 82A2 to the Content (Hex) textbox

Remark: There are 20 hexadecimal numbers on the left side of the data that to be

matched, so start address is 4 *20 = 80 Custom Read 6C Tag 6B Tag GB Tag 🗹 🛙 🖬 🗹 Model: Match TID 🗸 Start: 80 Content(Hex): 82A2 Auto V Length: Model: 6 🗹 ТТР 0 📃 UserData Start: Length: 6

The custom read result is as below screenshot

EPC			user 🖍 🚺	. 🖸	C 🛞		
	Туре	EPC	TID	UserData	ReserveData	TotalCount	ANT:
•	6C	E20000165510019327200A22	E200341201391700045F82A2			7	7

5.2 Advanced wr ite

After stop reading TID tag, chose the tag for modify in the list, click the



to open advanced writing interface, as shown in image 5 -2.

192. 168. 1	.116:9090 6C Tag (Write / Lock / Destroy)	
Matching S		
Model:	No Match V AccessFWD (Hex):	
Tatching	Tag:	
EPC:	201806190001 TID: E20034120128FD00092BDF0C	
UserData:	0000	
Write	Lock Destroy QT	
-Tag Write		
WriteA	rea: EPC	
		firm
	Diock WirteData(Hex): UUUUUUUU	

lmage5 - 2

Under the advanced write interface, you can choose to write, lock, and destroy the

selected tag, a s shown in image 5 - 3, image 5 - 4, and image 5 - 5.

192.168.1.116:9090 6C Tag (Write / Lock / Destroy)	
Matching Setting:	
Model: No Match V AccessPWD(Hex)	
Matching Tag:	
EPC: 201806190001 TID: E20034120128FD00092BDFC	
Vserlata: 0000	
Write Lock Destroy QT	
Tag Write:	
WriteArea: EPC V Start Pos: 0001 PC V	
Block WirteData(Hex): 00000000	Confirm

lmage5 - 3

RFID	reader	demo	user	manual	C#
------	--------	------	------	--------	----

192.168.1 . Matching Se	116:9090 6C Tag (Write / Lock / tting:	/ Destroy)	(₹ _ □ ×)
Model:	No Match V AccessPWD(Hex)		
Watching EPC:	Tag: 201806190001 TID	D: E20034120128FD00092BDF0C	
UserData:			
Write -Tag Lock:	Lock Destroy QT		
]	Lock Area: Destroy Passm 🗸 Loc	ock Type: Unlock v Confirm	



192.168.1 Matching S	.116:9090 6C	Tag(¶rite /	Lock /	Destroy)			Ē	- 0	
Model:	No Match	✓ AccessPWD	(Hex):						
Tatching	Tag:								
EPC:	20180619000	1	TID:	E20034120128FD	00092BDF0C				
UserData:	0000								
Write	Lock	Destroy	QT						
		DestroyF	WD (H) :		Confirm				



The address length unit is word, and the content is hexadecimal data. After modifying the setting option, click the confirm button on the right side for operation, and the nex t operation can be carried out according to the prompt.

5.3 Debug switch

Click the toolbar "Tools" - "Debug" to turn on or off the reader debug information, mainly showing hexadecimal instructions sent and received by the reader, as shown in

i	mag	ge 5	-6.											
ľ	🛃 Iyi	ame RFJ	[] H ana	ger 2.0	. 10									×
	Searc	h Devic	e(S) C	Connect [Device(C)	Configuration(O)) Tools(T) I	Help(H)	Languag	e(L)				
	EPC			0	EPC	yser 🖍		C	*					
		Туре	EPC	TID	UserData	ReserveData	TotalCount	ANT 1	ANT2	ANT3	ANT4	RSSI	Control:	
	•	6C	2018	E200			36	36	0	0	0	88	🗹 Anti 📄 Ant2 📄 Ant3 📄 Ant4	
		6C	E200	E200			19	19	0	0	0	52	Ant5 Ant6 Ant7 Ant8	
		6C	E200	E200			8	8	0	0	0	49	ReadType:	
													Inventory Osingle	
													lag lype:	
													Clag Ob lag Ob lag	
													_	
													TagCount:	
													ReadCount:	
													Speed (T/S) :	
													Time(S):	
	Reader: Reader:	192.168 192.168	3.1.116:9 3.1.116:9	9090—201 9090—Rov	180619-16:57 / Heartbeats	:07:184 Recive: : 00000177	AA01120000956B							^
	Reader : Reader :	192.168 192.168	3.1.116:9 3.1.116:9	9090—201 9090—Ser	180619-16:57 nd Heartbeat	:07:186 Send: A	A01120004000001	7705F4						
		_	_							~	011(0().	29.159/ 0-	-hay 0 NaurCannast, 1021601116.000	×
ļ										C	·U(70):	20.13% Ca	che: 0 Nowconnect: 192.108.1.110:909	• • .::

lmage5 - 6

5.4 Sound

Click "Tools" - "Sound" in the toolbar to set the operation sound of the reader, as shown in image 5 - 7.

Kopeland R	FID I	lanager 2	. 17. 0											
earch Device	e(S)	Connect [Device(C)	Configuration(O)	То	ols(T)	Help(H)	L	angu	iage(L) C	Option			
						Debug	g(D)		75					
PC TID			EPC	ušer data	ui(3)	Sound	ł	•		Buzzer				
					-	Expor	t	•		Speaker		_		_
Туре	EPC	TID	UserData	ReserveData		Soft U	Jpdate	×	~	Off		T4	RSSI	
						Relay			-					
						Hub								
					.	WIFI								
					_									
	arch Device	arch Device(S) PC TID T Type EPC	arch Device(S) Connect I PC TID Connect I Type EPC TID	Topeland RFID Hanager 2.17.0 arch Device(S) Connect Device(C) PC TID Image: Connect Device(C) Type EPC IID	iopeland RFID Tanager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) PC Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D) Image: Configuration (D)	iopeland RFID Hanager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) PC Image: Construction of the second s	iopeland RFID Manager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) PC TID PC Image: Configuration(C) Type EPC TID VserData ReserveData Type EPC TID VserData ReserveData	iopeland RFID Tanager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) PC Image: Construction (C) Tools(T) Help(H) PC Image: Construction (C) Image: Construction (C) Image: Construction (C) PC Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) PC Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) PC Image: Construction (C) PC Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Construction (C) Image: Constre (C) Image: Construction (C)	iopeland RFID Manager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) PC Image: Configuration (C) Tools(T) Help(H) L PC Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) PC Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) PC Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) PC Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) PC Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configur	iopeland RFID Hanager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) PC Image: Connect Device(C) Configuration(O) Image: Connect Device(C) Configuration(O) Image: Connect Device(C) PC Image: Connect Device(C) Configuration(O) Image: Connect Device(C) PC Image: Connect Device(C) Configuration(O) Image: Connect Device(C) PC Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) PC Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) PC Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) PC Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Type EPC Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Type EPC IIID UserData ReserveData Export Image: Connect Device(C) Type EPC IIID UserData ReserveData Image: Connect Device(C) Image: Connect Device(C)	iopeland RFID Tanager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) Pc Image: Configuration (C) True Image: Configuration (C) Tools(T) Help(H) Language(L) Configuration (C) Pc Image: Configuration (C) Image: Configuration (C) True Image: Configuration (C) Image: Configuration (C) Type EPC TID Image: Configuration (C) Type EPC TID Image: Configuration (C) Type EPC TID Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Type EPC TID Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Type EPC TID Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Type EPC TID Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C) Image: Configuration (C)	iopeland RFID Tanager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) Pc Image: Construction (C) Tools(T) Help(H) Language(L) Option Pc Image: Construction (C) Image: Con	iopeland RFID Eanager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) Pc Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) <	iopeland RFID Tanager 2.17.0 arch Device(S) Connect Device(C) Configuration(O) Pc Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Device(C) Image: Connect Devi



You can set whether the buzzer is ringing or the speaker is ringing or you can turn it off. It's not the voice of the reade r, it's the voice of the PC.

5.5 Data export

Click "Tools" - "Export" in the toolbar to export the label information in the list to the file, which can be saved as.csv file and.xls file, as shown in image 5 -8, image 5 -9 and

image	5 -	10.
-------	-----	-----

ы 🚺	lopeland	RFID Manager 2.17.0								
Se	arch Devi	ce(S) Connect Device(C)	Configuration(O)	То	ols(T) Help(H)	I	Languag	je(L) Option		
					Debug(D)					
	PC TID		user 🖍		Sound	۲	8			
			,	1	Export	×	D T	ext (*.csv)	-	
	Туре	EPC	TID		Soft Update	۲	X	xcel (*.xls)	ANT1	AN.
•	6C	201806190001	E20034120128FD00092B		Relay		_	32	32	0
	6C	E2005139700A02801610712C	E2003412012EF8000BC4		Hub			8	8	0
	6C	E200309806180251192050F4	E20034120183FA00024A	6	WIFI			2	2	0
				_		-				



Save As			×
← → • ↑ 🖺	> This PC > Documents	✓ O Search Documents	م
Organize 🔻 Ne	ew folder	Ē	= • ?
🗸 💻 This PC	Name	Date modified Type	s ^
> 🧊 3D Objects	Tencent	4/16/2018 2:49 PM File folder	r
> 📃 Desktop	Tencent Files	5/6/2019 8:33 AM File folder	r i i i
> 📮 document (10	0.8. Videos	11/6/2018 5:55 PM File folder	r i i i
> 🛱 Documents	Visual Studio 2008	3/26/2019 2:24 PM File folder	
> L Downloads	Visual Studio 2013	4/30/2019 11:06 AM File folder	·
> bowinouus	WeChat Files	5/6/2019 8:32 AM File folder	·
> J) Music	exportTags.xls	11/12/2018 3:04 PM Microsoft	Excel 97 🗸
> 📰 Pictures	✓ <		>
File <u>n</u> ame:	clou-exportTags.xls		~
Save as <u>t</u> ype:	Excel File (*.xls)		~
∧ Hide Folders		<u>S</u> ave	Cancel

lmage5 - 9

> 🖻	1 🔁 🖶 🛛	0.0	🔹 🔻 💟 🖾 clou-exportTags.xls 🛛 🕹 +									
	A1	Ŧ	©, fx									
4	A	В	C	D	E	F	G	H	I	J	K	
1		Type	EPC	TID	UserData	ReserveData	TotalCount	ANT1	ANT2	ANT3	ANT4	
2		6C	13102010136500362325390000000000	E28011052000535C63C5024A			10	10	0	0	0	
3		6C	13102010136500362325770000000000	E28011052000531E63C7024A			10	10	0	0	0	
4		6C	CC00	E28011052000530963C6024A			10	10	0	0	0	
5		6C	111111111111	E28011052000531C63C5024A			10	10	0	0	0	
6		6C	87654000	E28011052000535363C5024A			10	10	0	0	0	
7		6C	78787800	E28011052000530E63C6024A			10	10	0	0	0	
8		6C	12345600	E28011052000531D63C5024A			10	10	0	0	0	
9		6C	12345670	E28011052000535B63C7024A			10	10	0	0	0	
10		6C	222222222220	E28011052000535263C5024A			10	10	0	0	0	
11		6C	12345000	E28011052000535363C7024A			10	10	0	0	0	
12		6C	3456	E28011052000535B63C5024A			10	10	0	0	0	
13		6C	E2000015280D0176290000F6	E2003412012AFD00063A00F6			2	2	0	0	0	
14		6C	08BA3C45F9FDE2597AE81CE0	E28011052000534563C6024A			10	10	0	0	0	_

lmage5 - 10

5.6 Software upgrade

5.6.1 Application software upgrade

Click the toolbar "Tools" - "Soft Update" - "Application" to enter the application software upgrade interface, as shown in image 5 -11.

Applicati	on softwa	re upgrade				
	file:	l		••	Start	
			0%			

lmage5 - 11

Click pop - up the selection file dialog, select the application upgrade software, as

shown	in	image !	5 -12.
-------	----	---------	--------

🚸 Open				×
\leftarrow \rightarrow \checkmark \uparrow \square « LENOV	O (D:) > embedded application	✓ Ö Search em	bedded application	٩
Organize 🔻 New folder				0
🔮 10.8.175.98 ^ N	ame	Date modified	Туре	Size
Desktop	CL7206C2_APP_1.0.21.bin	11/7/2018 10:18 AM	BIN File	
🚽 document (10.8.				
Documents				
🕂 Downloads				
👌 Music				
E Pictures				
Videos				
:: Mindana (CA) ∀ ≮				>
File <u>n</u> ame:	CL7206C2_APP_1.0.21.bin	 ✓ bin files (' 	*.bin)	~
		<u>O</u> per	Cancel	

lmage5 -12

Click on "Open" - "Start" to perform the upgrade, as shown in image 5 - 13.

RFID	reader	demo	user	manual	C#

Application soft	rare upgrade		
file:	on\CL7206C2_APP_1.0.21.bin	Start	
- - -			
	8 %		

lmage5 - 13

Tips after success	s upgrade, as shown in image 5	-14.
	Tip	

upgrade success! now Retart Reader?	×
OK Cancel]



Click "OK" to restart the re ader for the setting to take effect. if tips failure, Please follow the failure prompt for the next step to upgrade again.

5.6.2 Baseband software upgrade

Click the toolbar "Tools" - "Soft Update" - "Baseband" to enter the baseband software upgrade interfa ce, as shown in image 5 - 15.

Baseband software	up gr a de	(₹ ×)
file:	Start]
	0%	
	070	
		j

lmage5 -15

Click pop - up the selection file dialog, select the baseband upgrade software, , as

shown in image 5 - 16.

🐠 Open					×
\leftarrow \rightarrow \checkmark \uparrow \square « LENOV	O (D:) > embedded baseband	~ Ō	Search em	bedded baseband	م
Organize 🔻 New folder				III 🔹 💶	•
🚽 document (10.8. ^ 🛛 N	Jame	Date mod	dified	Туре	Size
 Documents Downloads Music Pictures Videos Windows (C:)] R2000_C4_4S4B_3.2.17.bin	6/8/2018	4:57 PM	BIN File	
LENOVO (D:) ✓ <					>
File <u>n</u> ame:	R2000_C4_4S4B_3.2.17.bin	~	bin files (* <u>O</u> per	.bin) Canc	~ :el

RFID reader demo user manual C#

lmage5 - 16

Click on "Open"	- "Start" to perform	the upgrade, a	is shown in image 5	- 17.

Baseband software	e upgrade	
file:	d\R2000_C4_4S4B_3.2.17.bin Start	
	16 %	

lmage5 - 17

Tips after suc cess upgrade, as shown in image 5 -18.

Тір		Х
?	upgrade success! now Retart Reader?	
	OK Cancel	



Click "confirm" to restart the reader for the setting to take effect. if tips failure,Please follow the failure prompt for the next step to upgrade again.

5.7 Relay

Relay configuration is similar to GPO, re fer to image 4.1.8.

5.8 Hub

Click "Tools" - "Hub" in the toolbar to open the hub reading interface, as shown in

image 5 - 19.

Nub .		
Type EPC TID UserData ReserveData	EPC ANT2 ANT3 ANT4 ANT5 AN	Control:
	TID	ANT1 🗹 ANT2 🛛 ANT3 🔹 ANT4
· · · · · · · · · · · · · · · · · · ·	UserData	
	ReserveData	ANIS ANIS ANI
×	ANT1	ReadType:
	ANT2	Inventory Osingle
	ANT3	TagType:
	AN14	GE Ter GE Ter GE Ter
		Constant Constant Constant
		Pood-Time.
	ANTS	Nead Time.
×	ANT9	n
×	ANT10	TagGount: 📋
· · · · · · · · · · · · · · · · · · ·	ANT11	0
×	ANT12	ReadConut: 📋
×	ANT13	
×	ANT14	Speed (T/S) :
✓	ANT15	
✓	ANT16	Time(S):
	RSSI	•
	Frequency	CPL.
	Phase	
	ReadTime	
<	>	

Image5 - 19

Hub reading interface is similar to the main interface, only difference is there are 16 ANT numbers from ANT1 TO ANT16, which means the sub antenna number expanded from the hub. The other operation are all the same as the main interface, refer to the Quick Use Section.

5.9 WIFI

Note: WIFI function requires reader support.

First connect the DEMO to the reader, and click the toolbar "Tools" - "WIFI" to open the WIFI interface, e.g. image 5 - 20. The WIFI module is turned off by default.



Image5 - 20

5.9.1 Set the IP address of WiFi module

Firstly need set the WIFI module IP to the same network segment of the pending access WiFi hotspot. Click "detailed "of the WIFI interface to set the WIFI module IP, as shown in image 5 - 21.

RFID	reader	demo	user	manual	C#

Detailed info	rmation	₹	_ X_]
ESSID:	Wifi name		
IP Setting	:	Tip X	1
IP:	192.168.1.88		
Mask:	255.255.255.0	Success!	
Gateway:	192.168.1.1	-	
		ОК	-
	Get	Set	

lmage5 - 21

5.9.2 Turn on WiFi module

Click at the WIFI interface to open the WIFI module. After opened,

WIFI module will search the connectable hotspot automatically, as shown in image 5 -22

and 5 - 23



lmage5 - 22

Tifi	
Open WIFI	0 N
Currently connected to:	
*	detailed
	Refresh
 Wireless network connection 	[6/6]
hw1602 Address: 20:6B:E7:A7:50:	3D
🛜 Kenv iPhone Address: 3A:CA:DA:3	A:5E:16
Paul_iPhone Address: 22:CD:FE:6	F:3A:F9
TC:15:1F NUAWEI-W5LHMD Address: 1C:15:1F	:C3:AF:BC
🛜 clou Address: 74:25:8A:8B:18:F0	
🛜 clou Address: 74:25:8A:8B:19:10	

lmage5 - 23

5.9.3 Connect WIFI hotspot

In the WIFI interface hotspot list, find the WIFI hotspot to be accessed, double - click, if no password, will be directly connected; if need a password, open the interface to input security key. Input the password, confirm, then connected to the hotspot. See image 5-24, 5-25.

Co	nnect to net	w ork			=	
	Key:	12345678]
			Confirm	Cance	1	

lmage5 - 24

Tifi	(₹ ×)						
Open WIFI	0 N						
Currently connected to:							
<u> </u>	detailed						
	Refresh						
➡ Wireless network connection	[6/6]						
hw1602 Address: 20:6B:E7:A7:50:3D							
Kenv iPhone Address: 3A:CA:DA:3A:5E:16							
Paul_iPhone Address: 22:CD:FE:6F:3A:F9							
HUAWEI-W5LHMD (Quality:100/100 Key:on) Address: 1C:15:1F:C3:AF:BC							
Tip	×						
Connecting wifi hotspots to success							
	Ж						



After the hotspot is successfully connected, the "Currently conne cted to:" will display the currently connected WIFI hotspot name, See image 5 - 26

Note: After connected WiFi successfully, the original RJ45 network port of the reader will be disabled , that is, only one network card can work at the same time.

Tifi							
Open WIFI	0 N						
Currently connected to:							
HVAWEI-W5LHMD	detailed						
	Refresh						
👻 Wireless network connection	[7/7]						
hw1602 Address: 20:6B:E7:A7:50:3D							
Kenv iPhone Address: 3A:CA:DA:3A:5E:16							
TO:15:1F:C3:AF:BC							
🛜 Redmi Not Address: 38:A4:ED:6F:EE:EB							
Paul_iPhone Address: 22:CD:FE:6F:3A:F9							
🛜 clou Address: 74:25:8A:8B:18:F0							
clou Address: 74:25:8A:8B:19:10							

lmage5 - 26