UHF Demo User Manual - User Operation Guide

V5.3

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful

interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception,

which can be determined by turning the equipment off and on, the user is encouraged to try to correct the

interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which thereceiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

If the FCC identification number is not visible when the module is installed inside another device, then the

outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:

"ContainsTransmitter Module FCC ID: 2AKQD-M-702"

When the module is installed inside another device, the user manual of the host must contain below warning statements;

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1)This device may not cause harmful interference.

(2)This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against

harmful interference in a residential installation. This equipment generates, uses and can radiate radio

frequency energy and, if not installed and used in accordance with the instructions, may cause harmful

interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment

does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described

in the user documentation that comes with the product.

Any company of the host device which install this modular with modular approval should perform the test of

radiated & conducted emission and spurious emission, etc. according to FCC part 15C :

15.247 and 15.209 &

- 15.207 ,15B Class B requirement, Only if the test result comply with FCC part 15C :
- 15.247 and 15.209 &
- 15.207, 15B Class B requirement, then the host can be sold legally.

Antanna Electrical Characteristics

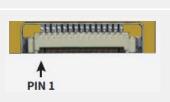
Manufacturer	深圳市百水来智能科技有限公司
Product name	BSL5040A5-915MHZ
Antenna model	4050D(40mm*40mm*5mm)
Frequency Rang	915MHz±2MHz
V.S.W.R	1.5 MAX
Band With@10dB	8MHz MIN @10dB return loss
Gain	1.5dB typ @50mm*50mm groundplane
Impendence	50 Ω
Polarization	RHCP

Note that

FCC certified equipment has FCC band filters inside. If an FCC certified equipment is set to other bands, the module will be restricted by the filter to emit RF signals.(Only 902-928MHz settings can work for FCC certified equipment properly)

Similarly, CE certified equipment is also a filter with CE frequency band, which is set to other frequency bands and also fails to work normally.

Interface

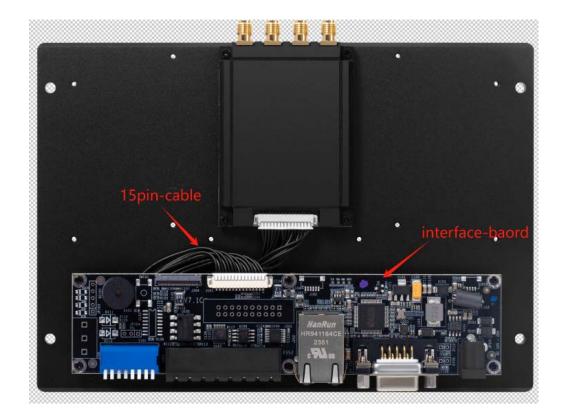


Connector (15Pin, Space between PINs 1.25mm)

PIN	Interface	Instruction
1	GND	
2	GND	Meanwhile grounding
3	4.5V - 5.5V DC	
4	4.5V – 5.5V DC	Meanwhile connect power, Recommended input voltage: 4.6V
5	GPIO 3	Output
6	GPIO 4	Output
7	GPIO 1	Input
8	Beeper	Has driven with > 50mA output current
9	UART_RXD	TTL level
10	UART_TXD	
11	USB_DM	For testing
12	USB_DP	For testing
13	GPIO 2	Input
14	EN	High level enable
15	GPIO 5	RS-485 direction control

How to connect module

We need an 15pin-cable to connect the module to a communication interface board (the interface board is only used for testing, and the module can be connected the FPC flexible cable to the customer's own interface board in actual application). The communication interface board is then connected to the computer to conduct communication tests.



How to connect Antanna

The antenna interface type of this module is SMA-K, so an antenna with SMA-J connector is required.

The module has multiple antenna interfaces, but all antenna interfaces are time-division multiplexed, and users do not necessarily need to connect to all antennas. The general use scenario is that users connect different numbers of antennas according to their own needs, and if the users only need one antenna, then one antenna can be connected.

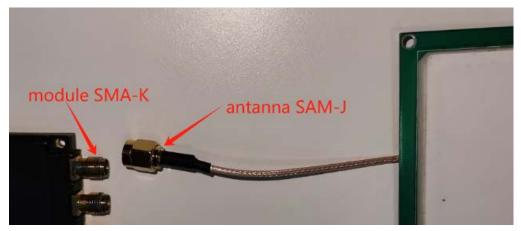


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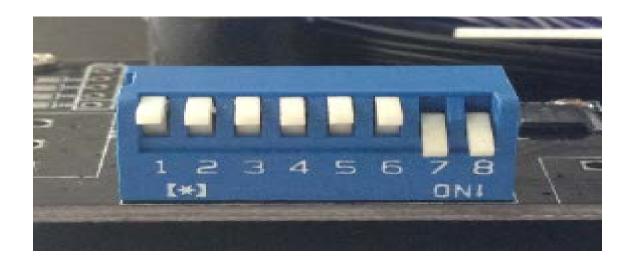
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Chapter 1: Reader setting

1 Basic parameter setting

1.1 Connection method

Туре	Parameter	Flip the switch	Remark
Serial port (RS232)	serial number, baud	Dial 7, 8 face down	The default baud rate is 115200
	rate	(toward the number),	
		others face up	
Network port (TCP/IP)	IP, port	Dial 3 and 4 down,	The default is 192.168.0.178,
		others up	port 4001. The IP of the
			computer must be connected to
			the same LAN as the reader.



; Setup RF Setup TM600 Setup	A				
● R2000 ○ E710	-Fi	irmware Versio	08.05		Get
nnection Connect Type	-Ir	nternal Temper	ature		
Connect Type Connect Connect					Get
Channels Count	-Re	aad/Write GPIO			
\bigcirc 1 ANT \odot 4 ANT \bigcirc 8 ANT \bigcirc 16 ANT		Read GPI0			
	_		GPI01: OHigh	O Low	
-232					
SerialPort: COM4 ~ Refresh			GPIO2: O High	Low	Read
Baudrate: 115200 V					
		-Write GPIO			
dule baud rate			GPIO3: O High	Low	Write GPI03
∨ Set			······ O Mign	0 201	11100 01200
485 Address(HEX)			GPIO4: OHigh	O Low	Write GPIO4
Set					
Jun Theat Con (10 Partice)	-Bu	uzzer Behavior			
ader Identifier(12 Bytes)				\sim	Set
Get	_				
Reset Reader			Factory reset		Refresh
Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup	Function Cor	nfiguration			
	Function Cor	nfiguration			
Setup RF Setup TM600 Setup					
Setup RF Setup TM600 Setup del		a figuration			
Setup RF Setup TM600 Setup			08.05		Get
Setup RF Setup TM600 Setup del	Fi	irmware Versio	08.05		Get
Setup RF Setup TM600 Setup del © R2000 O E710 nnection Connect Type	Fi		08.05		
Setup RF Setup TM600 Setup del R2000 nnection	Fi	irmware Versio	08.05		Get
Setup KF Setup TM600 Setup del © R2000 O E710 nnection Connect Type O RS232 O TCP/IP Connect		irmware Versio nternal Temper	08.05 ature		
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Setup RF Setup TM600 Setup del R2000 E710 nnection Connect Typ RS232 TCP/IP Channels Count		irmware Versio nternal Temper aad/Write GPIO	08.05		
Setup RF Setup TM600 Setup del R2000 E710 nnection Connect Typ R5232 TCP/IF Channels Count INNT ANT BANT I6ANT		irmware Versio nternal Temper aad/Write GPIO	08.05 ature	Low	
Setup RF Setup TM600 Setup del R2000 E710 nnection Connect Typ R5232 TCP/IF Channels Count INNT ANT BANT I6ANT		irmware Versio nternal Temper ead/Write GPIO 	08.05 ature GPI01: O High		Ģet
s Setup RF Setup TM600 Setup del @ R2000		irmware Versio nternal Temper ead/Write GPIO 	08.05	Low Low	
s Setup RF Setup TM600 Setup del @ R2000		irmware Versio nternal Temper ead/Write GPIO Read GPIO	08.05 ature GPI01: O High		Ģet
Setup RF Setup TM600 Setup del @ R2000		irmware Versio nternal Temper ead/Write GPIO 	08.05 ature GPI01: O High GPI02: O High	O Low	Get Read
Stup RF Setup TM600 Setup del Cannet Type Connect Type Connect Type Connect Type Connect Type Connect Type Connect Connect Connect Connect Connect Setup Connect Connect Connect Setup Connect Setup P/IP eader IP Addr: 192, 168, 0, 178 Port: 4001		irmware Versio nternal Temper ead/Write GPIO Read GPIO	08.05 ature GPI01: O High		Ģet
Setup RF Setup TM600 Setup del R2000 F710 nnection Connect Typ RS232 TCP/IP Channels Count IANT AANT BANT I6ANT dule baud rate F/IP eader IP Addr: 192, 168, 0, 178 Port: 4001		irmware Versio nternal Temper ead/Write GPIO Read GPIO	08.05 ature GPI01: O High GPI02: High GPI03: High	C Low	Get Read Write GPIO3
Setup RF Setup TM600 Setup del R2000 E710 nnection Connect Type R5232 TCP/IP Channels Count IANT 4ANT 8ANT 16ANT dule baud rate Set P/IP eeder IP Addr: [192, 168, 0 , 178 Port: 4001 485 Address(NEX)		irmware Versio nternal Temper ead/Write GPIO Read GPIO	08.05 ature GPI01: O High GPI02: O High	O Low	Get Read
Stup RF Setup TM600 Setup del Cannet Type Connect Type Connect Type Connect Type Connect Type Connect Type Connect Connect Connect Connect Connect Setup Connect Connect Connect Setup Connect Setup P/IP eader IP Addr: 192, 168, 0, 178 Port: 4001		irmware Versio nternal Temper ead/Write GPIO Read GPIO	08.05 ature GPI01: O High GPI02: High GPI03: High	C Low	Get Read Write GPIO3
s Setup EF Setup TM600 Setup del R2000 O E710 nneotion Connect Type R5232 TCF/IP Channels Count O IANT @ 4ANT O BANT O IGANT dule baud rate F/IP eader IP Addr: 192, 168, 0, 178 Port: 4001 405 Address(MEX)		irmware Versio nternal Temper ead/Write GPIO Read GPIO Write GPIO	08.05 ature GPI01: O High GPI02: High GPI03: High	C Low	Get Read Write GPIO3
nneetion Connect Type Connect Type Channels Count O 1ANT @ 4ANT O BANT O 16ANT chule baud rate F/IP Reader IP Addr: 192, 168, 0, 178 Port: 4001 405 Address(HEX)		irmware Versio nternal Temper ead/Write GPIO Read GPIO	08.05 ature GPI01: O High GPI02: High GPI03: High	C Low	Get Read Write GPI03 Write GPI04
s Setup RF Setup TM600 Setup del R2000 O E710 nneotion Connect Type O RS232 O TCP/IP Channels Count O IANT O BANT O IGANT dule baud rate Set P/IP eader IP Addr: 192 168 0 178 Port: 4001 405 Address(HEX) Set addr Identifier(12 Bytes)		irmware Versio nternal Temper ead/Write GPIO Read GPIO Write GPIO	08.05 ature GPI01: O High GPI02: High GPI03: High	C Low	Get Read Write GPIO3
Setup RF Setup TM600 Setup del R2000 E710 nnection Connect Type RS232 TCP/IP Channels Count IANT AANT BANT I6ANT dule baud rate Set P/IP eader IP Addr: [192, 168, 0, 178 Port: 4001 405 Address(NEX) Set address(NEX) Set Set Set		irmware Versio nternal Temper ead/Write GPIO Read GPIO Write GPIO	08.05 ature GPI01: O High GPI02: High GPI03: High	C Low	Get Read Write GPI03 Write GPI04
Setup EF Setup TM600 Setup del Connect Typ NEZ200 O E710 INNE TOP/IF Channels Count O 1ANT O 4ANT O SANT O 16ANT dule baud rate Set F/IP eader IP Addr: 192, 168, 0, 178 Port: 4001 485 Address(HEX) Set addr Identifier(12 Bytes) Get		irmware Versio nternal Temper ead/Write GPIO Read GPIO Write GPIO	08.05 ature GPI01: O High GPI02: High GPI03: High	C Low	Get Read Write GPI03 Write GPI04

1.2 Reader Type

Туре	single channel	4 channels	8 channels	16 channels

•l	A Birmure Vertier	
● R2000 ○ E710	Firmware Version 08.05	Get
nection	Internal Temperature	
onnect Type © RS232 O TCP/IP		Get
hannels Count O IANT : O BANT O IGANT	-Read/Write GPIO	
232	GPIO1: O High O Low	
SerialPort: COM4 ~ Refresh	GPIO2: O High O Low	Read
Baudrate: 115200 V	Write GPIO	
ale baud rate	GPIO3: O High O Low	Write GPI03
35 Address(HEX)	GPI04: High Low	Write GPI04
Set		
der Identifier(12 Bytes)	Buzzer Behavior	C 1
Get	· ·	Set
Reset Reader	Factory reset	Refresh
on History: 🔽 Auto Clear		🗌 Activate Serial Port M

1.3 Reader command address (HEX)

Name	Defaults	Meaning			Remark			
reader address	01	Indicates	the	reader	Only one	byte can	be held	d; the
		address, e	ditable		address	appears	with	each
					instructio	n		
Reader Setup 18000-6C Tag Test Se	rial Port Monitor	NetPort Setup Funct	ion Configuratio	a				
Basic Setup RF Setup TM600 Setup								
Model © R2000 ○ E710			 Firmware Ver 	rsion			Get	
Connection			Internal Ter					
Connect Type RS232 O TCP/IP		Disconnect	-internal le	perature			Get	
Channels Count	O 16ANT		-Read/Write -Read GPI					
RS-232				gpi01: 🔘 Hi	gh 🔿 Low			
SerialPort: COM4	\sim	Refresh		GPIO2: 🔾 Hi	gh 🔿 Low		Read	
Baudrate: 115200	\sim		Write GPI	0				
Module baud rate	~	Set		GPIO3: 🔿 Hi	gh 🔿 Low		Write GPI03	
-RS485 Address(HEX)				GPIO4: 🔿 Hi	gh 🔿 Low		Write GPI04	
01		Set						
Reader Identifier(12 Bytes)		Get	Buzzer Beha	/i or	~		Set	
Reset	Reader			Factory 2	reset		Refresh	
Operation History: 🔽 Auto Clear						Activa	te Serial Port 1	Monitor
2023-07-25 01:37:38.022 Connect to :	Reader COM4@115200							

1.4 Reader ID

Name	Default (12 bytes)	Remark	
Reader ID	FF	Distinguish between readers and	
		readers as well as reader addresses	

ieader Setup 18000-6C Tag Test Serial Port Monitor	NetPort Setup Function	Configuration	
Basic Setup RF Setup TM600 Setup			
Connection Connect Type	Disconnect	Firmware Version	Get
● RS232 ○ TCP/IP		Internal Temperature	
Channels Count			Get
RS-232		Read/Write GPIO	
SerialPort: COM4 V	Refresh	Read GPIO GPIO1: O High O Low	
Baudrate: 115200 \checkmark			
Module baud rate		GPIO2: O High O Low	Read
~	Set	Write GPIO	
RS485 Address(HEX)		GPIO3: O High O Low	Write GPI03
	Set	GPIO4: O High O Low	Write GPI04
Reader Identifier(12 Bytes)	Get		
		Buzzer Behavior	Set
	Set 🗸		
Reset Reader		Factory reset	Refresh
Dperation History: 🗹 Auto Clear 2023-07-25 01:40:38.868			Activate Serial Port Monito:

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onnection		Firmware Version	
Connect Type	Disconnect		Get
RS232 TCP/IP	Disconnect		
		Internal Temperature	
Channels Count 1 ANT 4 ANT 8 ANT 16 ANT			Get
		Read/Write GPIO	
IS-232		Read GPI0	
SerialPort: COM4 🗸	Refresh		
		GPIO1: O High O Low	
Baudrate: 115200 V		GPIO2: O High O Low	Read
lodule baud rate			
~	Set	Write GPIO	
S485 Address(HEX)		GPI03: O High O Low	Write GPI03
		GIIGS. O high O Low	Write Grius
	Set	GPIO4: O High O Low	Write GPI04
weader Identifier(12 Bytes)			
FFFFFFFFFFFFFFFFFFFFFFFF	Get		
TITTTTTTTTTTTTTT	Get	Buzzer Behavior	
11 22 33 44 55 66 77 88 99 10 11 12	Set	~	Set
		×	
Reset Reader		Factory reset	Refresh
heset header			
Vezet Vegder			
			📃 Activate Serial Port Mo
neset neader ation History: 🗹 Auto Clear 07-26 10:56:34.306			Activate Serial Fort Mo
ation History: 🔽 Auto Clear			Activate Serial Fort Mo
ation History: 🔽 Auto Clear			Activate Serial Fort Mo

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration Basic Setup RF Setup TM600 Setup

Connection	Firmware Version	
	sconnect	Get
RS232 O TCP/IP	Internal Temperature	
-Channels Count		Get
1 ANT 4 ANT 8 ANT 16 ANT		
R5-232	Read/Write GPIO	
	Read GPIO	
	GPI01: O High O Low	
Baudrate: 115200 \sim		Read
Module baud rate	GPIO2: O High O Low	Kead
~	Set Write GPIO	
RS485 Address(HEX)	GPIO3: O High O Low	Write GPI03
		Write Grius
	Set GPI04: O High O Low	Write GPIO4
Reader Identifier(12 Bytes)		
112233445566778899101112	Get	
	Buzzer Behavior	
11 22 33 44 55 66 77 88 99 10 11 12	Set	Set
	v	
Reset Reader	Factory reset	Refresh
ation History: 🗹 Auto Clear		🗌 Activate Serial Port Moni
-07-26 10:56:34.306 -07-26 10:57:25.122 112233445566778899101112		
-07-26 10:57:25.224 Command succeeded		
-07-26 10:57:27.106		

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1.5 Firmware version

Name	Effect
Firmware	Differentiate between firmware batches
version	

● R2000 ○ E710	Firmware Version 06.01	Get
Connection	Internal Temperature	
Connect Type Disconnect Bisconnect		Get
Channels Count O 1ANT 4ANT 8ANT 16ANT 	Read/Write GPIO Read GPIO	
S-232	GPIO1: O High O Low	
SerialPort: COM4 V Refresh	GPIO2: OHigh OLow	Read
Baudrate: 115200 🗸	Write GPIO	
lodule baud rate	GPIO3: O High O Low	Write GPI03
S485 Address(HEX)	GPIO4: O High O Low	Write GPI04
ieader Identifier(12 Bytes)	Buzzer Behavior	Set
Reset Reader	Factory reset	Refresh
ation History: 🗹 Auto Clear		🗌 Activate Serial Port Mor
07-26 11:34:29.385 GetFirmwareVersion 07-26 11:34:29.389 chip type: E710		
07-26 11:34:29.385 GetFirmwareVersion		🗌 Activate Serial Port D

1.6 Operating temperature

Working temperature monitoring refers to the temperature inside the module. If it is combined into a whole, because there are peripheral circuits or equipment, the external temperature may be slightly higher.

Connection		Firmware Version	Get
© RS232 O TCP/IP	Disconnect	Internal Temperature	
Channels Count 1 ANT		27 °C	Get
RS-232		Read/Write GPIO Read GPIO	
SerialPort: COM4 🗸	Refresh	GPI01: Kigh Low	
Baudrate: 115200 ~		GPIO2: O High O Low	Read
~	Set	Write GPIO	
RS485 Address(HEX)		GPIO3: O High O Low	Write GPI03
	Set	GPI04: O High O Low	Write GPI04
Reader Identifier(12 Bytes)	Get		
	Set	-Buzzer Behavior	Set
	Set	~	
Reset Reader		Factory reset	Refresh
ation History: 🔽 Auto Clear			🗌 Activate Serial Port Moni
-07-25 01:44:25.691 GetFirmwareVersion -07-25 01:44:25.701 chip type: R2000 -07-25 01:45:27.901 GetReaderTemperature			

1.7 Read GPIO

GPIOs	Туре	Read	Write	Expand	Remark
GPIO1	enter	Y	N	Can be used as a switch for	Send a command to read the
				active read mode	level status of these 2 GPIOs
GPIO2	enter	Y	N	Can be used with GPIO1 to	at the same time
				judge in and out	
GPIO3	output	Ν	Y	Applicable to alarm lights	separate settings
				and horn scenes	
GPIO4	output	Ν	Y	Applicable to alarm lights	separate settings
				and horn scenes	

		A Rimmon Vania	
Connection		Firmware Version	C +
Connect Type	Disconnect		Get
RS232 TCP/IP		T] T	
Channels Count		Internal Temperature	
○ 1ANT			Get
		Read/Write GPIO	
RS-232		Read GPIO	_
SerialPort: COM4 \sim	Refresh	GPI01: O High O Low	
Baudrate: 115200 🗸		GPIO1: O High 💿 Low	
Daudrate. 115200 V		GPIO2: O High O Low	Read
Module baud rate		OTIOE. O'Argat @ 100	
~	Set	Write GPIO	
RS485 Address(HEX)			
		GPIO3: O High O Low	Write GPI03
	Set	GPIO4: O High O Low	Write GPI04
		oritor. O high O Low	WITE OILD4
Reader Identifier(12 Bytes)			
	Get	Buzzer Behavior	
	-	~	Set
	Set	•	
			Refresh
Reset Reader		Factory reset	heiresh
ation History: 🔽 Auto Clear -07-25 01:44:25.691 GetFirmwareVersion			Activate Serial Port Moni
-07-25 01:44:25.691 GetFirmwareVersion -07-25 01:44:25.701 chip type: R2000			
-07-25 01:45:27.901 GetReaderTemperature			
-07-25 01:46:10.013			
-07-25 01:46:12.221			

1.8 Write to GPIO

GPIOs	Туре	Read	Write	Expand	Remark
GPIO1	enter	Y	N	Can be used as a switch for	Send a command to read the
				active read mode	level status of these 2 GPIOs
GPIO2	enter	Y	N	Can be used with GPIO1 to	at the same time
				judge in and out	
GPIO3	output	Ν	Y	Applicable to alarm lights	separate settings
				and horn scenes	
GPIO4	output	Ν	Y	Applicable to alarm lights	separate settings
				and horn scenes	

-Connect Type	Firmware Version	Get
KS232 OTCP/IP Channels Count IANT 4ANT 8ANT 16ANT	Internal Temperature	Get
S-232	Read/Write GPIO Read GPIO	
SerialPort: COM4 \checkmark Baudrate: 115200 \checkmark	GPI01: O High O Low	
odule baud rate	GPIO2: O High O Low	Read
S405 Address(HEX)	et GPI04: O High O Low	Write GPI03 Write GPI04
	et Buzzer Behavior	Set
Reset Reader	Factory reset	Refresh
tion History: 🖂 Auto Clear		Activate Serial Port Mor

1.9 buzzer status

model	illustrate
Quiet	Inventory to the label, the buzzer does not sound
beep after inventory	Send an inventory command, and read the tag, and it will beep
	when the order is over
beeps every time a tag is read	Like the literal meaning, every time a label is read, it rings once

nnection		Firmware Version	
Connect Type RS232 TCP/IP	Disconnect		Get
		Internal Temperature	
Channels Count O 1ANT 4ANT 8ANT 16ANT 			Get
		Read/Write GPIO	
-232 SerialPort: COM4	Refresh	Read GPIO	
	heiresh	GPI01: OHigh OLow	
Baudrate: 115200 V		GPIO2: O High O Low	Read
dule baud rate	Set	Write GPIO	
485 Address(HEX)			
		GPIO3: O High O Low	Write GPI03
	Set	GPIO4: O High O Low	Write GPI04
ader Identifier(12 Bytes)			
	Get	Buzzer Behavior	
	Set	Quiet 🗸	Set
		÷	
Reset Reader		Factory reset	Refresh
ion History: 🗹 Auto Clear			🗌 Activate Serial Port N

1.10 Restart the reader

The action of restarting the reader is to power on the module again.

ic Setup RF Setup TM600 Setup			
Connection Connect Type	Disconnect	Firmware Version	Get
● RS232 ○ TCP/IP	Discontect	Internal Temperature	
Channels Count			Get
RS-232		Read/Write GPIO Read GPIO	
SerialPort: COM4 ~	Refresh	GPI01: O High O Low	
Baudrate: 115200 🗸		GPIO2: O High O Low	Read
~	Set	Write GPIO	
RS485 Address(HEX)		GFIO3: O High O Low	Write GPI03
	Set	GPIO4: O High O Low	Write GPI04
Reader Identifier(12 Bytes)	Get	Buzzer Behavior	
	Set	Quiet 🗸	Set
Reset Reader		Factory reset	Refresh
ation History: 🗹 Auto Clear			🗌 Activate Serial Port Mor

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2 RF parameter setting

2.1 Read and set the current working antenna

At the same time, only one antenna of the reader is working, so it is necessary to read and write the current working antenna or set the antenna.

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration	
Basic Setup RF Setup IM800 Setup	
Manual Switch Antenna RF Output Power	
Current Ant: Anti v Get Set 1 2 3 4 5 6 7 8 9 10 11 12 13	14 15 16 Ant ID
	dBm
Measurement of antenna port (Return Loss)	
RL: @ 915.00 V MHz Measure Get Set	:
Antenna detection sensitivity	
Note: 1.Reader detects antenna connections by measuring the return loss of RF ports.	
2. Reader stops tag operation if return loss is above the threshold. RetrurnLoss Threshold: 3 dB Get	Set
3. User can turn it off by setting the threshold to 0.	
Impinj Monza FastTID Note: 1. Only a certain number of Impinj Monza tag types support this function.	
2. If this function is not supported by tags, please turn it off.	Set
a if this function is not supported by tegs, press that if oil.	
RF Spectrum Setup	^
System Default Frequencies	
● FCC ○ ETSI ○ CHN Freq Range 902.00 ∨ MHz - 928.00 ∨ MHz	
User Defined Frequencies	Set
User Define Start Frequency: KHz Freq Space: KHz Quantity: quantity	
RF Link Setup	
- THE SECT	
<	>
	Refresh
	Kerresh
Operation History: 📈 Auto Clear	ctivate Serial Port Monitor

2.2 Measuring Antenna Return Loss

serial	introduce
number	
1	Antenna return loss: indicates the test data of a certain antenna at a certain frequency
	point; for example: the data of antenna 1 at a frequency point of 915MHz is 27db;
2	To measure the return loss of the antenna, you need to set the antenna number you
	need to set first; of course, you can also not set it, if you don't set it, you will test the
	current working antenna.
3	When testing, it is necessary to select a certain frequency point within the
	corresponding frequency point range for testing; for example, the module and antenna
	are American standard, so the frequency point range is 915-928, but in order to ensure
	the accuracy and compatibility of the test, the middle value of 915-928 is generally
	selected as 915 for testing.
4	Under normal circumstances, when the matching between the antenna and the

	module is relatively good, it is greater than 7, generally tens, or even twenty; the
	return loss of the antenna indicates to a certain extent whether the antenna and the
	module are suitable for each other.
5	If the American standard module chooses a certain value of the European standard or
	the national standard to test, the return loss may be 0 or very low (assuming that the
	antenna is in good contact), so the corresponding frequency point should be selected
	for testing.
6	When testing, the default is to set the "return loss threshold" to 3, and then test the
	return loss of the antenna. If the return loss of the antenna is 0, it means that the
	antenna is not connected (except in special cases);
7	If the "Return Loss Threshold" is set to 0, the module cannot identify whether the
	antenna is connected;

	Anti ~	Get Th Loss)		Set	RF Output 1 2 33 33	3 4 5	6 7 8	9 10 11	12 13 1	4 15 16 Ant ID	
ntenna detection Note: 1.Reader d 2.Reader s		nnections by mo	ss is above th	return loss of	RF ports. RetrurnLoss T	hreshold: [3 дв	. (Get	Set	
	TID certain number of function is not su				tion. O On		○ Off	(Get	Set	
37 Spectrum Setu	np System Default Fr O FCC	requencies	O CHN F	req Range 902.0	00 v MHz	- 928	00 v MHz				
User Define	-User Defined Freq Start Frequen		KHz Fre	q Space:	KHz Quan	tity:	quant	ity	Get	Set	
WF Link Setup											
										Refresh	>
	Auto Clear								- Acti	vate Serial Port I	loni t

2.3 Antenna detection sensitivity

erial	illustrate
number	
L	The default is to set the "Return Loss Threshold" to 3, and then test the return loss of
	the antenna. If the return loss of the antenna is 0, it means that the antenna is not
	connected (except in special cases);
2	If the "Return Loss Threshold" is set to 0, the module cannot identify whether the
	antenna is connected;
Reader Setup 11	8000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration
	W Setup TM600 Setup
Manual Switch	
Current A	Ant: Get Set 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Ant ID dBm
	of antenna port (Return Loss)
RL:	@ 915.00 ∨ MMz Measure Get Set
-Antenna detect Note: 1. Read	
Note: 1.Read 2.Read	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold. RetrurnLoss Threshold: 3 dB Get Set
Note: 1.Read 2.Read 3.User	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold. RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0.
Note: 1.Read 2.Read 3.User -Impinj Monza J	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FastIDD - a certain number of Impini Monra tag types support this function.
Note: 1. Read 2. Read 3. User Impinj Monza I Note: 1. Only	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold. RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FastTID
Note: 1. Read 2. Read 3. User - Impinj Monza I Note: 1. Only 2. If th	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FastIDD a certain number of Impinj Monra tag types support this function. his function is not supported by tags, please turn it off.
Note: 1. Read 2. Read 3. User Impinj Monza I Note: 1. Only	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FastIDD a certain number of Impinj Monra tag types support this function. his function is not supported by tags, please turn it off.
Note: 1. Read 2. Read 3. User - Impinj Monza I Note: 1. Only 2. If th	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold ReturnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FastIID a certain number of Impinj Monza tag types support this function. his function is not supported by tags, please turn it off. Setup
Note: 1. Read 2. Read 3. User - Impinj Monza I Note: 1. Only 2. If th	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold ReturnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FastIID a certain number of Impinj Monza tag types support this function. a certain number of Impinj Monza tag types support this function. A scente of the turn of
Note: 1. Read 2. Read 3. User - Impinj Monza I Note: 1. Only 2. If th	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FastIID a cortain number of Impinj Monra tag types support this function. his function is not supported by tags, please turn it off. Setup System Default Frequencies OFC OETSI OCHM Freq Range: Morr - Morr User Defined Frequencies User Defined Frequencies
Hote: 1. Read 2. Read 3. User - Impinj Monra 1 Note: 1. Only 2. If th - RF Spectrum 5	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FestIDD a cortain number of Impinj Monra tag types support this function. his function is not supported by tags, please turn it off. Setup System Default Frequencies Viser Defined Frequencies User Defined Frequencies Start Frequency: NHz Freq Space: NHz Quantity: quantity
Note: 1. Read 2. Read 3. User Impinj Monze 1. Only 2. If th RF Spectrum S User Defin -RF Link Setup	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FestIDD a cortain number of Impinj Monra tag types support this function. his function is not supported by tags, please turn it off. Setup System Default Frequencies Viser Defined Frequencies User Defined Frequencies Start Frequency: NHz Freq Space: NHz Quantity: quantity
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Note: 1. Read 2. Read 3. User Impinj Monze 1. Only 2. If th RF Spectrum S User Defin -RF Link Setup	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FastIID a cortain number of Impinj Monza tag types support this function. his function is not supported by tags, please turn it off. Setup System Default Frequencies Viser Defined Frequencies NMr Freq Range: NMr - NMr User Defined Frequencies NMr Freq Space: NMr Quantity: quantity P Refresh
Note: 1. Read 2. Read 3. User Impinj Monra 1 Note: 1. Only 2. If th RF Spectrum S User Defin RF Link Setup Coperation Histo 2023-07-25 02:22	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FestTID • a certain number of Impini Monra tag types support this function. his function is not supported by tags, please turn it off. Setup System Default Prequencies O FCC ○ ETSI ○ CDM Freq Range: ✓ MHz - ✓ MHz User Defined Frequencies Bits Function: Bits Three Space: Bits Wits Quantity: Quantity P Refresh start Frequency: MHz Freq Space: MHz Quantity: Quantity P Mato Clear Activate Serial Port Monitor 8:56.910 @Freq915_000Hz
Note: 1. Read 2. Read 3. User Impinj Monra 1 Note: 1. Only 2. If th RF Spectrum S User Defin RF Link Setup Coperation Histo 2023-07-25 02:22	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB can turn it off by setting the threshold to 0. FestIID - a cortain number of Impinj Monra tag types support this function. his function is not supported by tags, please turn it off. Setup Setup Setup Setup Feed Defuelt Frequencies Viser Defined Frequencies Bfr Preq Space: Mfr - Mfr - Mfr Get Set P Refresh rry: Auto Clear
Note: 1. Read 2. Read 3. User Impinj Monra 1 Note: 1. Only 2. If th RF Spectrum S User Defin RF Link Setup Coperation Histo 2023-07-25 02:22	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FestTID • a certain number of Impini Monra tag types support this function. his function is not supported by tags, please turn it off. Setup System Default Prequencies O FCC ○ ETSI ○ CDM Freq Range: ✓ MHz - ✓ MHz User Defined Frequencies Bits Function: Bits Three Space: Bits Wits Quantity: Quantity P Refresh start Frequency: MHz Freq Space: MHz Quantity: Quantity P Mato Clear Activate Serial Port Monitor 8:56.910 @Freq915_000Hz
Note: 1. Read 2. Read 3. User Impinj Monra 1 Note: 1. Only 2. If th RF Spectrum S User Defin RF Link Setup Coperation Histo 2023-07-25 02:22	er detects antenna connections by measuring the return loss of RF ports. er stops tag operation if return loss is above the threshold RetrurnLoss Threshold: 3 dB Get Set can turn it off by setting the threshold to 0. FestTID • a certain number of Impini Monra tag types support this function. his function is not supported by tags, please turn it off. Setup System Default Frequencies O FCC ○ ETSI ○ CDM Freq Range: ✓ MHz - ✓ MHz User Defined Frequencies Bits Function: Bits Three Space: Bits Wits Quantity: Quantity P Refresh start Frequency: MHz Freq Space: MHz Quantity: Quantity P Mato Clear Activate Serial Port Monitor 8:56.910 @Freq915_000Hz

2.4 Antenna output power

mainly two types	of current	power ranges :
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Module	chip	power range
type		
PR9200		10dBm, 18-26dBm
R2000		0-33dBm

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration

Manual Switch Ar	ntenna	RF Output Power
Current Ant		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Ant ID
		30 30 30 30 30 30 30 30 30 30 30 30 30 3
Measurement of a	antenna port (Return Loss)	
RL:	© 915.00 ∨ MHz Measure	Get Set
ntenna detectio		
	detects antenna connections by measuring the return loss of R	
	stops tag operation if return loss is above the threshold.	RetrurnLoss Threshold: dB Get Set
	n turn it off by setting the threshold to 0.	
mpinj Monza Fas Note: 1.Onlv a	<pre>certain number of Impinj Monza tag types support this functi</pre>	9D.
	function is not supported by tags, please turn it off.	○ 0n ○ 0ff Get Set
RF Spectrum Set	up	
	System Default Frequencies	
	O FCC O ETSI O CHN Freq Range	V MHz — V MHz
	User Defined Frequencies	Get Set
User Define	Start Frequency: KHz Freq Space:	KMz Quantity: quantity
RF Link Setup		
u Link Setup-		
		Refresh
		heirein
ration History	Auto Clear	Activate Serial Port Monit
	5.690 GetOutputPower	

2.5 Quickly read TID

illustration below for details ;

```
-Impinj Monza FastTID
Note: 1. Only a certain number of Impinj Monza tag types support this function.
2. If this function is not supported by tags, please turn it off.
```

(2) After opening, the inventory interface will display both TID and EPC;

The function is turned off, and the display is as shown in the figure below:

UHF Demo User Manual V5.3

Current Ant:	tenna 🗸	Ge	t	Set		RF Output Po 1 2 3		789	10 11 1	2 13 14	15 16 Ant	тр
								ĊŎŎ			dBn	
asurement of a RL:	ntenna port (Retu	urn Loss) 00 v MHz		Measur	e		Get			Set		
tenna detection											-	
ote: 1.Reader - 2.Reader : 3.User car	detects antenna c stops tag operati n turn it off by	on if return	loss is abov	ve the thresho		ts. rurnLoss Thr	eshold:	dB	Get		Set	
	certain number of				function.	() On	() ()	f	Get		Set	
	function is not	supported by	tags, please	e turn it off.				_ ,				
Spectrum Set	up System Default	Frequencies										
	⊖ FCC	\bigcirc etsi	🔾 сни	Freq Range	~	MHz —	-	MHz				
	User Defined Fr	equencies							Get	:	Set	
] Vser Define	Start Freque		KHz	Freq Space:		KHz Quanti	ty:	quantity				
7 Link Setup												
											Refresh	
ation History:	🗹 Auto Clear									Activat	te Serial Po	rt Mon
	0-6C Tag Test Se eration	erial Port Mon	itor NetPon	rt Setup Fund	otion Config	uration						
entory Tag Op	eration Inventor			rt Setup Fund Data Inventoried Q		uration	Speed(Tag/	81		Communicati		8
entory Tag Op peration Invento Exec Times	eration Inventor Single	y Mode e Channel () 0 ms	Multi Ch	Data			Command Dux	81		entory Durat	:i on (mS) :	
entory Tag Op peration Invento Exec Times Reserve .2	eration Ty Nventor Single -1 Interval Tag Fo	y Mode e Channel () 0 ms cus () ReadSe	Multi Ch msorTagE:	Data		uration	Command Dur	81			:i on (mS) :	
entory Tag Op peration Invento Exec Times Reserve 2 SaveLog	eration Inventor Single	y Mode e Channel () 0 ms cus () ReadSe	Multi Ch msorTagE s	Data Inventoried Q Result	uantity:		Command Du	ration(mS):	Total Inve	entory Durat	:i on (mS) :	0 68
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ntory Tag Op peration Invento xec Times Reserve 2 SaveLog fig relect Cfg Customize So	eration Inventor Singl. -1 Interval Tag Fo Cabinet test	y Mode e Channel O ms ous D ReadSe time O	Multi Ch msorTagE:	Data Inventoried Q Result This Round Co	uantity:	Min RS	Command Dur Command Dur SSI: -75 dBm	Max RSSI:	Total Inve -25dBm BE 73 FC FS	entory Durat Refres Ant 3 Ant	i on (mS) :	re Tag
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ntory Tag Op peration Invento xec Times Reserve 2 SaveLog cleot Cfg Customize Sc SL ession	eration Inventor PTY © Singl. -1 Interval Cabinet test ession Phase	y Mode e Channel O ms ous D ReadSe time O	Multi Ch msorTagE:	Data Inventoried Q Result This Round Co # 7 8 9	uantity: uant: 80 ReadCount 1	Min RS PC 34 00 34 00	Command Du Command Du SSI: -75dBm EPC E2 80 11 70 00 E2 80 11 70 00	Max RSSI: 0 00 02 08 0 00 02 0A	Total Inve -25dBm 3E 73 FC FS 0F 68 74 CE 0F 68 6A CE	Refres Ant Ant Ant Ant Ant Ant Ant Ant Ant	i on (mS) : ih Sav Freq (001z) 926.50 926.50	0 50 re Tag
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ntory Tag Op peration Invento xec Times Reserve 2 SaveLog 1 fig celeot Cfg Customize S SL ession S0	erstion Inventor PTY Singl Interval Tag Fo Cabinet test ession Phase S2 S3 Repeat	y Mode e Channel O ms ous D ReadSe time O	Multi Ch msorTagE:	Data Inventoried Q Result This Round Co # 7 8 9 10 11 11 12	uantity: uurt: 80 ReedCount 1 1 1 1 1	Min ES PC 34 00 34 00 34 00 34 00 24 00	Command Du Command Du SSI: -75dBm EPC E2 80 11 70 00 E2 80 11 70 00 E2 80 11 70 00 E2 80 11 70 00 E1 23 12 34 A	A LOO 02 08 0 00 02 08 0 00 02 04 0 00 02 04 0 00 02 08 0 00 00 00 00 0 00 00 00 00 0 00 00 00 000 0	-25dBm -25dBm	Rentory Jurat Refres Anti Anti Anti Anti Anti Anti	tion(mS): th Sweet 926.50 926.50 926.50 926.50	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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entory Tag Op peration Invento Save Times Reserve 2 Salect Cfg Select Cfg Customize S. St Session SO © S1 (Target © A I	eration Inventor PTY © Singl. -1 Interval Cabinet test [] ession] Phase S2 S3 Repeat	y Mode e Channel O ms ous D ReadSe time O	Multi Ch nsorTagE s	Data Inventoried Q Result This Round Co # 7 8 9 10 11 11 12 13 14 15 16 17	unt: 80 ReadCount 1 1 1 1 1 1 1 1 1 1	Nin ES PC 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00	Command Du Command Du SII: -75dBm EPC E2 80 11 70 00 E2 80 11 70 00 E2 80 11 70 00 E1 23 12 34 AJ E1 23 12 34 AJ E2 80 11 70 00 E1 23 12 34 AJ E2 80 11 70 00 E1 23 12 34 AJ	max RSSI	Total Inv:	entory Durat Refres Anti	tion (mS) :	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ntory Tag Op peration Invento Reserve 2 SaveLog	erstion Inventor © Singl. -1 Interval Cabinet test cabinet test ession Phase S2 O S3 Repeat 1	y Mode e Channel O ms ous D ReadSe time O	Multi Ch nsorTagE s	Data Inventoried Q Result This Round Co # 7 8 9 10 11 11 12 13 14 15 16 17	unt: 80 ReadCount 1 1 1 1 1 1 1 1 1 1	Nin ES PC 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00	Command Du Command Du SII: -75dBm EPC E2 80 11 70 00 E2 80 11 70 00 E2 80 11 70 00 E1 23 12 34 AJ E1 23 12 34 AJ E2 80 11 70 00 E1 23 12 34 AJ E2 80 11 70 00 E1 23 12 34 AJ	max RSSI	Total Inv:	Refres Anti Anti Anti Anti Anti Anti Anti Anti	tion (mS) :	
entory Tag Op operation Invento Exec Times Reserve 2 SaveLog SaveLog Customire Sc Select Cfg Customire Sc St Session S0 S1 (Target	eration Inventor PTY Interval Tag Fo Cabinet test ession Phase S2 S3 Repeat 1 V Auto Clear 4.879 Customize T	y Mode e Channel () 0 ms ous [ReadSe time 0] Power Save	Multi Ck	Data Inventoried Q Result This Round Co # 7 8 9 10 11 12 13 14 15 16 17 ≪	unt: 80 ReadCount 1 1 1 1 1 1 1 1 1 1	Nin ES PC 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00	Command Du Command Du SII: -75dBm EPC E2 80 11 70 00 E2 80 11 70 00 E2 80 11 70 00 E1 23 12 34 AJ E1 23 12 34 AJ E2 80 11 70 00 E1 23 12 34 AJ E2 80 11 70 00 E1 23 12 34 AJ	max RSSI	Total Inv:	Refres Anti Anti Anti Anti Anti Anti Anti Anti	tion (mS) :	re Tag
entory Tag Op peration Invento Rece Times Reserve 2 SaveLog Salect Cfg Customize S. St Session SO © S1 (Target © A O H Antenna	eration Inventor PTY Interval Tag Fo Cabinet test ession Phase S2 S3 Repeat 1 V Auto Clear 4.879 Customize T	y Mode e Channel () 0 ms ous [ReadSe time 0] Power Save	Multi Ck	Data Inventoried Q Result This Round Co # 7 8 9 10 11 12 13 14 15 16 17 ≪	unt: 80 ReadCount 1 1 1 1 1 1 1 1 1 1	Nin ES PC 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00 34 00	Command Du Command Du SII: -75dBm EPC E2 80 11 70 00 E2 80 11 70 00 E2 80 11 70 00 E1 23 12 34 AJ E1 23 12 34 AJ E2 80 11 70 00 E1 23 12 34 AJ E2 80 11 70 00 E1 23 12 34 AJ	max RSSI	Total Inv:	Refres Anti Anti Anti Anti Anti Anti Anti Anti	tion (mS) :	re Tag

The function is enabled, and the display is as shown in the following figure:

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ader Setup 180	000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration
asic Setup RF	Setup TM600 Setup
Manual Switch A	Antenna RF Output Power
Current Ant	At: Cet Set 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Ant ID
Measurement of	antenna port (Return Loss)
RL:	@ 915.00 ∨ MHz Measure Get Set
	ion sensitivity
	r detects antenna connections by measuring the return loss of RF ports. r stops tag operation if return loss is above the threshold. RetrurnLoss Threshold: dB Get Set
	can turn it off by setting the threshold to 0.
Empinj Monza Fas	
	a certain number of Impini Monza tag types support this function
	is function is not supported by tags, please turn it off.
RF Spectrum Set	etup
	System Default Frequencies
	● FCC ○ ETSI ○ CHN Freq Range 902.00 ∨ MHz − 928.00 ∨ MHz
	User Defined Frequencies Get Set
🗌 User Define	Start Frequency: IN/2 Freq Space: IN/2 Quantity: quantity
RF Link Setup	
:	
	Refresh
eration History	y: 🔽 Auto Clear 🗌 Activate Serial Fort Moni
3-07-25 02:48:3	:34.879 Customize Target And Session Inventory
3-07-25 02:48:3	
	:14.565 SetMonraStatus True :14.568 Command succeeded
	14.570 Command succeeded
23-07-25 02:50:1	:16.807 GetMonzaStatus

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration

Operation	Data				Speed(Tag/Sec): Total Tag Com	muni coti	on '	
Inventory Mode		ntoried	Quantity:			muncari		
Inventory Single Channel Multi Cl			1 T					88
Exec Times -1 Interval 0 ms					Command Duration(mS): Total Invento	ry Durat	ion(mS):	
Reserve 2 Tag Focus ReadSensorTag	2:					Ш.	0.00	
SaveLog Cabinet test time 0 s								
	Resul							
onfig Select Cfg	This	Round	Count: 29	Min H	RSSI: -78 dBm Max RSSI: -21 dBm	Refres	h Save	Tags
Customize Session Phase Power Save		#	ReadCount	PC	EPC	Ånt	Freq(MHz)	R
Customire Session inase iower Save	•	1	1	30 00	56 77 AA BB AA BB 33 44 AA BB 00 14	Ant1	909.00	-2
SL SL		2	1	64 00	E2 80 11 70 00 00 02 08 8E 74 30 49	. Ant1	909.00	-3
Session		3	1	64 00	E2 80 11 70 00 00 02 08 8E 73 C8 F9	. Ant1	909.00	-4
○ S0		4	1	64 00	E2 80 11 70 00 00 02 0A OF 69 68 CE	. Ant1	909.00	-6
Target Repeat		5	1	64 00	80 80 11 70 00 00 02 0A OF 68 AO CE	. E2 80 1	1 70 00 00 02 04	4 OF 69
• A O B 1		6	1	64 00	E2 80 11 70 00 00 02 08 8E 73 FC F9	. Ant1	909.00	-4
Antenna		7	1	64 00	E2 80 11 70 00 00 02 08 8E 73 C8 59	. Ant1	909.00	-3
	·	8	1	64 00	01 01 01 01 00 00 02 0A OF 68 CC CE	. Antl	909.00	-4
		9	1	64 00	E2 80 11 70 00 00 02 0A OF 68 AO BE	. Ant1	909.00	-4
		10	1	64 00	E2 80 11 70 00 00 02 0A OF 69 34 CE	. Ant1	909.00	-6
		11	1	64 00	E2 80 11 70 00 00 02 08 8E 74 30 E9	. Ant1	909.00	-6
			-			J _		>
ar Mask								-
ration History: 🗹 Auto Clear						Activat	e Serial Port	Moni
3-07-25 02:48:35.480 Stop								
3-07-25 02:50:14.565 SetMonzaStatus True 3-07-25 02:50:14.568 Command succeeded								
3-07-25 02:50:14.550 Command succeeded 3-07-25 02:50:14.570 Command succeeded								
3-07-25 02:50:16.807 GetMonzaStatus								
3-07-25 02:51:19.692 Customize Target And Session Inv 3-07-25 02:51:20.355 Stop	entory							

2.6 Radio Frequency Spectrum

Introduction to RF Spectrum

type	scope
FCC (American Standard)	902.00-928.00MHz
ETSI (European Standard)	865.00-868.00MHz
CHN (national standard)	920.00-925.00MHz

(1) System default frequency

Reasonable settings can be made according to the actual type of RFID module. For example, the module can be set to American standard, or the original frequency range can be narrowed down, or even fixed to a certain frequency point;

Manual Switch Antenna Get Set Current Ant: Get Set Measurement of antenna port (Return Loss) I 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Ant ID Measurement of antenna port (Return Loss) It Get Set Get Set Note: 1 Reader stops tag operation if return loss is above the threshold. ReturnLoss Threshold: dB Get Set Juser on turn it off by setting the threshold to 0. Impinj Monra fag types support this function. On Onf Get Set Note: 1.0 Nuk a certain number of Impinj Monra tag types support this function. On Onf Get Set RF Spectrum Setup System Defoult Frequencies Get Set Set User Defined Frequencies User Defined Frequencies EM FM Set Set It link Setup KH Link Setup KH Link Setup EM Freq Space: EM EM Set Set	eader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration	
Current Ant:	Basic Setup RF Setup TM600 Setup	
Measurement of antenna port (Return Loss) RL: @ @ 915.00 MHz Measure Get Set Get Set Antenna detection sensitivity Rote: 1. Render detects antenna connections by measuring the return loss of RF ports. 2. Render stopt tag operation if return loss is above the threshold RetrurnLoss Threshold: dB Get Set 3. User can turn it off by setting the threshold to 0. Lapinj Monze FastTID Rote: 1. Only a certain number of Impinj Monze tag types support this function. 2. If this function is not supported by tags, please turn it off. RF Spectrum Setup User Defined Frequencies User Defined Frequencies RF Link Setup RF Link Setup RF Link Setup Refresh		
Measurement of antenna port (Return Loss) RL: • @ @15.00 WH: Measure Get Set Antenna detection sensitivity Note: 1. Reader detects antenna connections by seasuring the return loss of RF ports. 2. Reader stops teg operation if return loss is above the threshold ReturnLoss Threshold: dB Get Set 3. User can turn it off by setting the threshold to 0. Lapinj Manza PastTID Fote: 1. Only a certain number of Lapinj Manza tag types support this function. 2. If this function is not supported by tags, please turn it off RF Spectrum Setup User Defined Frequencies User Defined Frequencies User Defined Frequencies RF Link Setup RF Link Setup RF Link Setup RF Link Setup	Current Ant: V Get Set 1 2 3 4 5 6	
RI: @ 915.00 MHz Measure Get Set Antenna detection sensitivity Rot: 1. Reader datexts antenna connections by seasuring the return loss of NF ports. 2. Reader stops tag operation if return loss is above the threshold RetrurnLoss Threshold: dB Get Set JUser can turn it off by setting the threshold to 0. Isting the setting the threshold to 0. Isting the setting the threshold to 0. Isting the setting the setting the support this function. 2. If this function is not supported by tags, please turn it off. On Opf Get Set RF Spectrum Setup	Measurement of antenna nort (Return Loss)	dDm
Note: 1. Reader detects antenna connections by measuring the return loss of NF ports. 2. Reader stoys tag operation if return loss is above the threshold. RetrurnLoss Threshold: dB Get Set 3. User can turn it off by setting the threshold to 0. Impini Monra FastIID Note: 1. Only a certain number of Impini Monra tag types support this function. 2. If this function is not supported by tags, please turn it off. RF Spectrum Setup User Defined Frequencies User Defined Frequencies RF Link Setup KF Link Setup KF Link Setup		t
Note: 1. Reader detects antenna connections by measuring the return loss of NF ports. 2. Reader stoys tag operation if return loss is above the threshold. RetrurnLoss Threshold: dB Get Set 3. User can turn it off by setting the threshold to 0. Impini Monra FastIID Note: 1. Only a certain number of Impini Monra tag types support this function. 2. If this function is not supported by tags, please turn it off. RF Spectrum Setup User Defined Frequencies User Defined Frequencies RF Link Setup KF Link Setup KF Link Setup		
2. Reader stops tag operation if return loss is above the threshold. RetrurnLoss Threshold: dB Get Set 3. User oan turn it off by setting the threshold to 0. Lapping Monra FastIID Note: 1. Only a certain number of Laping Monra tag types support this function. 2. If this function is not supported by tags, please turn it off. RF Spectrum Setup System Default Frequencies User Defined Frequencies User Defined Frequencies User Defined Frequencies RF Link Setup KF Link Setup KF Link Setup KF Link Setup		
Impinj Monra FastIID Note: 1. Only a certain number of Impinj Monra tag types support this function. 2. If this function is not supported by tags, please turn it off. RF Spectrum Setup System Default Frequencies User Defined Frequencies User Defined Frequencies User Define Start Frequency: Nfz Freq Space: Nfz Quantity: RF Link Setup Kf Link Setup Kf Link Setup		dB Get Set
Note: 1.0nly a certain number of Inpinj Monra tag types support this function. 0 0n 0 0ff Get Set 2. If this function is not supported by tags, please turn it off. 0 n 0 0ff Get Set RF Spectrum Setup System Default Frequencies Image: System Default Frequencies Get Set User Defined Frequencies User Trequency: EME Freq Space: EME Quantity: quantity RF Link Setup Image: Start Frequency: EME Freq Space: EME Quantity: Quantity Refresh Image: Start Frequency:	3. User can turn it off by setting the threshold to 0.	
2. If this function is not supported by tags, please turn it off. RF Spectrum Setup System Default Frequencies User Define Frequencies User Define Start Frequency: 101z Preq Space: 101z Quantity: quantity RF Link Setup KF Link Setup KF Link Setup	Impinj Monza FastTID	
RF Spectrum Setup Image: System Default Frequencies Image: System Define User Define Start Frequency: Image: Space: Image: Start Frequency: Image: Space: Image	() 0n	Off Get Set
System Default Frequencies PCC O ETSI O CHN Freq Range 902.00 V MHz - 928.00 V MHz User Defined Frequencies Start Frequency: DHz Freq Space: KHz Quantity: quantity EF Link Setup KHz Setup KHz Setup KHz Setup KHz Setup	2. If this function is not supported by tags, please turn it off.	
Kefresh	Image: Start Frequency: Image: Start Frequency:	Get Set
Refresh	an aran over	
	<	>
eration History: 🗹 Auto Clear 🗌 Activate Serial Port Monito		Refresh
eration History: 🗹 Auto Clear 🗌 Activate Serial Port Monito		
	peration History: 🗹 Auto Clear	Activate Serial Port Monitor

Note that

FCC certified equipment has FCC band filters inside. If an FCC certified equipment is set to other bands, the module will be restricted by the filter to emit RF signals.(Only 902-928MHz settings can work for FCC certified equipment properly)

Similarly, CE certified equipment is also a filter with CE frequency band, which is set to other frequency bands and also fails to work normally.

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peration	Data			Speed(Tag/Sec):	Total Tag Com			
Inventory Mode	Inventor	ed Quantity	r:		TOTAL TAS COM	municari		17 F
Inventory Single Channel Multi Ch			0.07	1				655
Exec Times -1 Interval 0 ms				Command Duration(mS)		-		
Reserve 2 Tag Focus ReadSensorTagE:				, võv	ΠĤ.		-82-6	
SaveLog Cabinet test time 0 s	Result							
nfig		nd Count: 4	3 Min I	RSSI: -67dBm Max RSSI:	-28 dBm	Refres	h Sav	e Tags
Select Cfg ^				EPC		Ant	Freq(MHz)	R
🗸 Customize Session 🔲 Phase 🔄 Power Save	▶ 1	2	34 00	E2 80 11 70 00 00 02 08	8E 73 FC 49	Ant1	927.00	-4
SL	2	1	34 00	E2 80 11 70 00 00 02 08		Ant1	912.00	-4
ession	3	1	30 00	77 88 AA BB 33 33 44 44		Ant1	912.00	-5
S0 • S1 S2 S3	4	2	34 00	E2 80 11 70 00 00 02 0A		Ant1	927.00	-3
arget Repeat	5	1	34 00	E2 80 11 70 00 00 02 0A	OF 69 00 BE	Ànt1	912.00	-5
	6	2	34 00	11 11 11 11 11 11 11 00	OF 68 AO 1E	Ånt1	927.00	-4
	7	2	34 00	80 80 11 70 00 00 02 0A	OF 68 C2 1E	Ånt1	927.00	-4
Antenna V	8	1	30 00	12 34 56 78 00 00 00 BC	DE 00 06 00	Ant1	912.00	-4
	9	1	34 00	E2 80 11 70 00 00 02 08	8E 73 EA 49	Ant1	912.00	-4
	10) 2	34 00	E2 80 11 70 00 00 02 0A	OF 69 22 CE	Ant1	927.00	-4
	1	2	34 00	E2 80 11 70 00 00 02 08	8E 73 C8 59	Ant1	927.00	-3
	<							_ +-, '
<u>g Mask</u>								
ation History: 🔽 Auto Clear					Г	Activat	te Serial Por	t Monit
-07-25 03:28:19.006 Customize Target And Session Inven	tory							
-07-25 03:28:20.732 Stop								

$(\mathbf{2}) \text{ user-defined frequency}$

It can be set according to the user's own needs, such as the following figure:

Reader Setup 18000-	-6C Tag Test Serial	Port Monitor Net	Port Setup Function	n Configuration			
Basic Setup RF Se	tup TM600 Setup						
Manual Switch Ant	enna			RF Output Power			
Current Ant:	~	Get	Set	1 2 3 4		9 10 11 12 13	
	/=	×.		30 30 30 3	0		dBm
	tenna port (Return L		-		Get	Se	.+
RL:	@ 915.00	✓ MHz	Measure				
-Antenna detection							
	tects antenna connec						
	ops tag operation if turn it off by setti			RetrurnLoss Threshol	ld: dB	Get	Set
-Impinj Monza Fastl		ng the threshold i					
	rtain number of Imp	inj Monza tag type	es support this func	tion.	0		
2. If this f	function is not suppo	rted by tags, plea	ase turn it off.	\bigcirc 0n	○ off	Get	Set
-RF Spectrum Setup	,						
	System Default Frequ	lenci es					
	O FCC O	ETSI CHN	Freq Range	∨ MHz —	∨ MHz		
	User Defined Frequen	cies				Get	Set
🗹 User Define	Start Frequency:	903000 KHz	Freq Space: 1	1000 KHz Quantity:	10 quant:	ity	
RF Link Setup							
<							>
							Refresh
							helfesh
Operation History:	Auto Clear						Activate Serial Port Monit
	006 Customize Target	And Session Inver	atory				
2023-07-25 03:28:20.							
	961 SetFrequencyRegi 053 Command succeede		=1000, quantity=10, [9	03000 - 913000]			
2023 01 23 03.29.03.	ooo command succeede	u					

2.7 RF communication link

There are four links, default and recommended: configuration 1

Reader Setup 1800	10-6C Tag Test Serial Port Monitor NetFort Setup Function Configuration
Basic Setup RF S	TM600 Setup
Manual Switch Ar	RF Output Power
Current Ant:	
	30 30 30 30 dBm
	e gi5 ng y 107 Massure Get Set
RL:	@ 915.00 ∨ MHz Measure Get Set
Antenna detectio	
	detects antenna connections by measuring the return loss of RF ports.
	stops tag operation if return loss is above the threshold. RetrurnLoss Threshold: dB Get Set
	m turn it off by setting the threshold to 0.
-Impinj Monza Fas Note: 1.0nlv a	certain number of Impini Monza tas types support this function
	: function is not supported by tags, please turn it off.
	C FCC C ETSI C CHN Freq Range Mbrz - Mbrz
	Get Set
	User Defined Frequencies Vet Set
🗹 User Define	Start Frequency: 903000 KHz Freq Space: 1000 KHz Quantity: 10 quantity
-RF Link Setup-	
RF L	Link Setup Profile1 (Recommended and Default) Tari 25uS; Mill. ~ Get Set
	ب ب
<	>
	Refresh
peration History:	: 🗹 Auto Clear 🗌 Activate Serial Port Monitor

Chapter 2: 18000-6C label test

1 inventory label

Inventory	illustrate	Remark
method		
single	The single-antenna inventory in 4.3demo	If you need to use the 8B
antenna	corresponds to the 8B command of the previous	command with multiple
inventory	version of [Real-time Inventory], and [Real-time	antennas, please implement
	Inventory] has two commands: [Real-time Inventory	the code . For details, please
	(custom)] = 8B command, [Real-time Inventory	refer to 3.9 demo.
	(automatic)] = 89 command, which is not	
	recommended, so the demo interface of this version	
	is no longer displayed. If you are not familiar with the	
	command, please check the communication	
	protocol !	
Multi-antenna	Multi-antenna inventory corresponds to [Fast	Although 8A is also working
inventory	multi-antenna inventory] of version 3.9 demo, and	with a single antenna at the
	the command corresponds to 8A	same time, the switching of
		the antenna is automatically
		switched by the module .
Cache Mode	Corresponding to the [cache mode] of the demo	A single antenna works at the
Inventory	version 3.9	same time, and switching
		antennas requires code
		switching.

1.1 Single antenna inventory (8B instruction)

Data Inven	toried	Quantity:		Speed(Tag/Sec): Total Tag Com			
					muncari	on:	
				7 888854 8888			R
			-11-	Command Duration(mS): Total Invent	ory Durat	ion(mS):	
				266 00		-02-3	34
Resul	t						
Thi s	Round	Count: 41	Min H	RSSI: -76dBm Max RSSI: -26dBm	Refres	h Save	Tags
	#	ReadCount	PC	EPC	Ant	Freg(MHz)	R
•	1	2	30 00	E2 80 11 60 60 00 02 0A 93 6D E8 5F	Ant1	926.50	-6
	2	2	18 00	88 88 88 88 00 00	Ånt1	924.50	-6
	3	2	34 00	88 88 99 99 44 55 11 22 00 00 11 30	Ånt1	926.50	-6
	4	2	20 4F	12 34 AA BB FF FB B1 11	Ånt1	923.00	-7
	5	1	10 00	10 00 10 01	Ant1	926.00	-5
	6	4	20 00	AA BB 12 33 12 33 44 44	Ant1	927.50	-6
	7	1	30 00	33 33 33 33 33 33 33 33 60 1C 30 79 4A	Ånt1	926.00	-4
	8	1	30 00	E2 80 69 95 20 00 40 07 F9 A6 D4 81	Ånt1	926.00	-6
	9	2	34 00	E2 80 11 70 00 00 02 0A OF 69 68 BE	Ånt1	926.50	-3
	10	2	24 4F	12 34 12 34 12 34 12 34	Ånt1	926.50	-6
	11	2	30 00	11 22 33 44 55 66 77 88 99 00 11 22	Ant1	926.00	-3
<							~
	This	# 2 3 4 5 6 7 8 9 10 11	# ReadCount: 41 # ReadCount # 2 2 2 3 2 4 2 5 1 6 4 7 1 8 1 9 2 10 2 11 2	# ReadCount: 41 Min J # ReadCount PC 2 2 30 00 2 2 18 00 3 2 34 00 4 2 20 4F 5 1 10 00 6 4 20 00 7 1 30 00 8 1 30 00 9 2 34 00 10 2 24 4F 11 2 30 00	# ReadCount: 41 Min RSSI: -76dBm Max RSSI: -26dBm # ReadCount: 41 Min RSSI: -76dBm Max RSSI: -26dBm # ReadCount PC EPC E E 2 20 00 E2 80 11 60 60 00 02 0A 93 6D E8 5F 2 2 18 00 88 88 88 80 00 3 2 34 00 88 88 89 99 94 44 55 11 22 00 00 11 30 4 2 20 4F 12 34 AA BB FF FB B1 11 5 1 10 00 10 00 100 10 6 4 20 00 AA BB 12 33 12 33 44 44 7 1 30 00 33 33 33 33 33 33 33 33 33 33 30 60 1C 30 79 4A 8 1 30 00 E2 80 69 96 20 00 40 07 F9 A6 D4 81 9 2 34 00 E2 80 11 70 00 00 20 A0 F69 68 BE 10 2 24 4F 12 34 12 34 12 34 12 34 12 41 11 2 30 00 11 22 33 44 55 66 77 68 99 00 11 22	# ReadCount: 41 Min RSSI: -76dBm Max RSSI: -26dBm Refress # ReadCount: 41 Min RSSI: -76dBm Max RSSI: -26dBm Refress # ReadCount PC EPC Ant 2 2 18 00 68 88 88 80 00 02 0A 93 6D E8 5F Ant1 3 2 14 00 68 88 89 99 94 455 11 22 00 00 11 30 Ant1 3 2 34 00 88 88 99 99 44 55 11 22 00 00 11 30 Ant1 5 1 10 00 10 00 10 10 Ant1 5 1 10 00 10 00 10 Ant1 6 4 20 00 AA BE 12 33 12 33 44 44 Ant1 7 1 30 00 33 33 33 33 33 33 33 33 33 33 33 60 1C 30 79 4A Ant1 8 1 30 00 E2 80 69 96 20 00 40 07 F9 A6 D4 81 Ant1 9 2 34 00 E2 80 11 70 00 00 20 A0 F 69 68 BE Ant1 10 2 24 4F 12 34 12 34 12 34 12 34 Ant1 <t< td=""><td># Result # ReadCount: 41 Min RSSI: -76 dBm Max RSSI: -26 dBm Refresh Save # ReadCount: PC FPC Ant FreqOU(r) Ant PreqOU(r) 1 2 30 00 E2 80 11 60 60 00 20 A 93 6D E3 5F Ant1 926 50 2 2 18 00 88 88 88 00 00 Ant1 924 50 3 2 34 00 88 88 99 99 44 55 11 22 00 00 11 30 Ant1 926 50 4 2 20 4F 12 34 AA B8 FF B1 11 Ant1 926 00 5 1 10 00 10 00 10 01 Ant1 926 00 6 4 20 00 AA B8 12 33 12 33 44 44 Ant1 926 00 6 4 20 00 AA B8 12 33 13 33 33 33 33 33 33 33 33 33 33 33</td></t<>	# Result # ReadCount: 41 Min RSSI: -76 dBm Max RSSI: -26 dBm Refresh Save # ReadCount: PC FPC Ant FreqOU(r) Ant PreqOU(r) 1 2 30 00 E2 80 11 60 60 00 20 A 93 6D E3 5F Ant1 926 50 2 2 18 00 88 88 88 00 00 Ant1 924 50 3 2 34 00 88 88 99 99 44 55 11 22 00 00 11 30 Ant1 926 50 4 2 20 4F 12 34 AA B8 FF B1 11 Ant1 926 00 5 1 10 00 10 00 10 01 Ant1 926 00 6 4 20 00 AA B8 12 33 12 33 44 44 Ant1 926 00 6 4 20 00 AA B8 12 33 13 33 33 33 33 33 33 33 33 33 33 33

Software	illustrate
instruction	
parameter	
Number of runs	Enter -1 to keep inventorying; input a positive number, send as many instructions as
	the value is, and then stop inventorying.
time interval	The time interval of inventory command time, the default is 0ms.
Reverse AB	The state of the tag is switched back and forth between state A and state B. The
	default is state A, so the command is generally Session+A. Reversing AB means that
	after reading the label, send an instruction to return the label from state B to state A.
Tag Focus	Indicates that the 8D8C function has been started to improve the reading speed, and
	it is generally used with S1.
Phase	Tick to enable the phase
Power save	If checked, it means that the power saving mode is turned on, and the essence is to
	set the command interval time (firmware layer processing)
SL	00, 01, 02, 03
session	S0, S1, S2, S3, it is recommended to use S0 and S1
target	A and B respectively represent the A side and B side of the label, or the A state and
	the B state, and the default is A
Antenna	You can choose the antenna you need for inventory
number	

Software Interface	illustrate
Parameters	
The total number of tags	the total number of all labels of one or more instructions after deduplication
that have been inventoried	
recognition speed	The speed of identifying labels is generally around 200
Cumulative return data	This data is the total number of labels for one or more instructions

1.2 Multi-antenna inventory (8A instruction)

Operation Inventory Mode	Data	lata Inventoried Quantity:			Speed(Tag/Sec):	Total Tag Com	municati	ication:		
Inventory O Single Channel Multi (ntorie		111	1 111123	8				
Exec Times -1 Interval 0 ms					Command Duration	n(mS): Total Invento				
Tag Focus ReadSensorTag	gE:				- UQ	5 10		-82-8		
SaveLog Cabinet test time 0 s	Resu									
Config			Count: 116	Min RS	SI: -74dBm Max 1	RSSI: -25dBm	Refres	h Save	Tags	
Select Cfg		#	ReadCount	PC	EPC		Ant	Freq(MHz)	R	
Customize Session		1	4	34 00	80 80 11 70 00 00 0	12 08 8E 74 BC 1A	Ant1	926.50	-5	
		2	3	30 00	E2 80 69 95 20 00 4	0 07 F9 A7 58 81	Ant1	926.50	-5	
Interval (mS) Repeat		3	3	34 00	E2 80 11 70 00 00 0	12 08 8E 73 EA 49	Ant1	926.50	-4	
		4	11	20 00	AA BB 12 33 12 33 4	4 44	Ant1	926.50	-4	
		5	2	30 4F	12 34 AB CD 12 34 0	0 00 EE EE 00 40	Ant1	902.00	-4	
Antenna Cfg		6	3	18 00	AB CD EE EE 16 64		Ant1	926.50	-6	
]		7	4	34 00	01 01 01 01 01 01 01 0	12 08 8E 73 00 F9	Ant1	926.50	-5	
Ant/Stay (1-8)		8	3	14 00	88 88 88 88		Ant1	926.50	-5	
		9	2	34 00	80 80 11 70 00 00 0	12 OA OF 68 AO CE	Ant1	902.00	-3	
		10	4	34 00	55 66 11 70 00 00 0	12 08 8 E 73 82 E 9	Ant1	926.50	-5	
		11	6	20 00	AB CD EF 12 34 56 7	890	Ant1	926.50	-4	
	<				1				>	

Software instruction parameter	illustrate
Number of runs	Input -1 to keep inventorying, input a positive number, send as many
	instructions as the value is, and then stop inventorying.
time interval	The time interval of inventory command time, the default is 0ms.
Delay between antennas	Spacing time between antennas (firmware controlled, not software
	controlled)
Phase	phase
temporary power	Not save when power off
optimization	is not equal to the number of tags in the last inventory, it will be
	inventoried again (cancelled)
Cycles	Send a single instruction, the number of executions

Software Interface Parameters	illustrate
The total number of tags that	the total number of all labels of one or more instructions after
have been inventoried	deduplication
recognition speed	The speed of identifying labels is generally around 200
Cumulative return data	This data is the total number of labels for one or more instructions

1.2.1 How many instructions need to be sent to test read

In some scenarios, it is necessary to read all tag data, but one command may not be read completely, so this software has a test function in this case, which is convenient for customers to test. The specific parameters are as follows: (data are just examples, for reference only)

(1) Enter a positive number for the number of runs , generally not too large, just to solve the problem of incomplete reading of an instruction

In this way, the user can see the total number of tags read by the 5 instructions (data accumulated between each instruction)

peration	Data				- 1(- (-)				
Inventory Mode	- Inventorieu qua				Speed(Tag/Sec):	Total Tag Com	nunicatio		
Inventory O Single Channel Multi Ch				111	אווא ד			5	32
Exec Times 5 Interval 0 ms			et ker k		Command Duration(mS)				
Tag Focus ReadSensorTag	6				000		Ш.	010.0	JU.
SaveLog Cabinet test time 0 s									00
	Resul								
nfig	This	Round	Count: 104	Min RSS.	I: -62dBm Max RSSI:	-27dBm	Refresh	. Save	Tags
Interval (mS) Repeat		#	ReadCount	PC	EPC		Ant	Freq(MHz)	R ^
	►	1	2	30 00	E2 80 11 60 60 00 02 0A	93 6E F4 73	Ant1	903.00	-6
0 1		2	5	34 00	E2 80 11 70 00 00 02 08	8E 74 BC 59	Ant1	908.00	-3
Antenna Cfg		3	5	30 00	56 77 AA BB AA BB 33 44	AA BB 00 14	Ant1	908.00	-4
All		4	5	34 00	80 80 11 70 00 00 02 OA	OF 68 A0 CE	Ant1	908.00	-3
nt/Stay (1-8)		5	5	30 4F	AA BB 11 00 12 12 33 00	44 56 00 02	Ant1	908.00	-4
1 2 3 4		6	5	34 00	01 01 01 01 00 00 02 08	8E 73 60 59	Ant1	908.00	-4
		7	5	20 00	12 22 00 01 00 02 00 24		Ant1	908.00	-6
	-	8	4	28 00	AA BB 12 33 12 33 44 44	55 55	Ant1	908.00	-6
		9	5	30 00	77 88 AA BB 33 33 44 44	55 78 78 99	Ant1	908.00	-6
		10	3	14 00	11 11 11 11		Ant1	907.00	-6
		11	5	30 00	56 77 23 14 AA BB AA BB	11 22 11 01	Ant1	908.00	-5
			-	00 00	30 11 23 14 AK DD AK DD	11 22 11 01	Alter	500.00	×
	<								>

1.2.2 Test the configuration of the read-full rate parameters in

the cabinet-like scenario

Using this function, the scenario is generally that all tags can be read with one command. In the current case, retail and smart medical cabinets can read all 300 tags in about 3 seconds (the data in this case is for reference only, see the test environment for details);

When the user needs to test the read rate of RFID tags, for example, a smart medical cabinet needs to test the read rate, assuming that the cabinet has a total of 300 tags, it needs to be tested 10,000 times as a reference base, and through the statistics of the read rate of 300 tags, you can choose to check [Save Log] at this **time**.

In the case of [number of runs = positive number] and the time interval is greater than 1ms and [freezer test] is checked, there will be two important observation areas:

(1) The data on the right will be refreshed every time a command is executed, which is convenient for users to observe the number of tags read each time. If there are too many missed readings, the inventory can be stopped in time, and the parameters can be adjusted before testing to avoid unnecessary delays in testing time.

Reader Setup 18000-6C Tag Test Serial Fort Monitor NetP	ort Setup Function Configuration		
Inventory Tag Operation			
Operation Inventory Mode Single Channel Multi Ch Exec Times 10000 Tag Foous ReadSensorTagE:	Data Inventoried Quantity:	Speed(Tag/Sec):	Total Tag Communication:
SaveLog Cabinet test time 0 s Config Select Cfg ^ Customize Session ^	Result This Round Count: () Min RSS # ReadCount FC	: 0 Max RSSI: EPC	
Interval(mS) 0 1 Antenna Cfg All Ant/Stay (1-6)	<		
Tag Mask			
Operation History: 🗹 Auto Clear			Activate Serial Port Monitor

(2) The record file is automatically generated in the directory of the same level as the demo, so that it is convenient to clearly view **the reading time, test time, and running times, and can calculate the reading rate.**

	InventoryTesting-log.txt												
1	RFID API ver1.dll												
	WHFDemo.exe												
	Uni Demolexe												
	Invento	oryTest	ting-l	og.txt	- Note	epad							
Fil	e <u>E</u> dit	·		-		·							
_	_	_		_			00001,	time consuming 5596 ms,[antenna group1], TotalReads: 0133, TotalTags:128					
								time consuming 5596 ms,[antenna group1], TotalReads: 0130, TotalTags:125					
								time consuming 5595 ms,[antenna group1], TotalReads: 0128 TotalTags:123					
								time consuming 5599 ms,[antenna group1], TotalReads: 0130 TotalTags:123					
								time consuming 5594 ms,[antenna group1], TotalReads: 0129 TotalTags:125					
[0]	7/25/2	023	03:5	5:41	837	pm]	00006,	time consuming 5598 ms,[antenna group1], TotalReads: 0134, TotalTags:130					
								time consuming 5595 ms,[antenna group1], TotalReads: 0131, TotalTags:126					
[0]	7/25/2	023	03:5	5:53	.147	pm]	00008,	time consuming 5596 ms,[antenna group1], TotalReads: 0130, TotalTags:125					
[0]	7/25/2	023	03:5	5:58	.979	pm	00009	time consuming 5596 ms,[antenna group1], TotalReads: 0136 TotalTags:131					
[0]	7/25/2	023	03:5	6:04	.670	pm	00010,	time consuming 5596 ms,[antenna group1], TotalReads: 0130, TotalTags:122					
								ime consuming 5597 ms,[antenna group1], TotalReads: 0132, TotalTags:126					
								time consuming 5596 ms,[antenna group1], TotalReads: 0133, TotalTags:127					
								time consuming 5594 ms,[antenna group1], TotalReads: 0132, TotalTags:125					
								time consuming 5596 ms,[antenna group1], TotalReads: 0130, TotalTags:124					
[0]	7/25/2	023	03:5	6:33	.614	pm]	00015,	time consuming 5594 ms,[antenna group1], TotalReads: 0129, TotalTags:124					
		000	0.0.0	· c. > 0	200	-	00016	time consuming 5596 ms,[antenna group1], TotalReads: 0130, TotalTags:125					

Note : This screenshot is just a simple demonstration, so the data looks very messy. In the actual application process, the total number of tags should tend to a certain number, and it will not be so messy.

(3) When [Save Log] is checked, every time you click [Start Inventory], the log will be cleared, and then new data will be recorded. If you need to save the previous data, you can change the name of the log first, and it will not be replaced.

2 access tags

2.1 Obtain and set the working antenna

Reader Setup 18000-6C Tag Te:	t Serial Port Monitor	r NetPort Setup Functi	ion Configuration	
Inventory Tag Operation				
Tag Operation Manual Switch Antenna	A co	essPwd (HEX) —		
Ant1 V Get		00 00 00		
-Tag Selection				
Get		Cano	el Tag List:	✓ Set
Read/Write Single Bank				
🔿 Reserved 🖲 EPC 🛛 🔿 TID	🔿 USER 🛛 🗸	StartAddr(WORD): 2	StartLen(WORD): 2	MultiAnt ReadMultiBankEn Read
Write Tag				
WriteData(HEX):				● BlockWrite ○ Write Write
Read MultiBank Reserved 0 Len(word) O Tid O	Len(word) 0	User 0 Len(word) 0	Session 50 V Target A V ReadMode MultiT V
Lock Tag				
Lock Area O Access Pwd O Kill Pw	d 🔿 EPC 🔿 TID	🔿 USER	LockType O Unlock O Lock	O Permanent UnloO Permanent Lo
	SensorType			Kill Tag
Clear ReadSenso	rTagEn 💿 JH1	Start	Save Tags	Kill Pwd(HEX): Kill
# PC	CRC EPO	:	Data	DataLen Ant ReadCount Fr
<				>
Operation History: 🗹 Auto C	Lear			🗌 Activate Serial Port Monitor
Operation History: 🗹 Auto C	lear			Activate Serial Port Monitor
Operation History: 🗹 Auto C	lear			Activate Serial Port Monitor
Operation History: 🔽 Auto C	lear			Activate Serial Port Monitor
Operation Mistory: 🗹 Auto C	lear			Activate Serial Port Monitor
Operation Mistory: 🗹 Auto C	lear			Activate Serial Port Monitor

2.2 Selected tabs

Users can inventory tags in the inventory interface now, confirm that the tags they need are in the tag list, stop the inventory, and then they can pull down on the tag interface of the [Access Tags] interface, select the tags they need, and finally click the selected tag.

The function of the selected label is to operate on a certain label, and the nearby labels will not be affected.

Notice:

(1) The selected label will not be saved when the power is turned off.

eader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function	n Configuration
Inventory Tag Operation Tag Operation	
Manual Switch Antenna AccessPwd (HEX)	
Ant1 v Get Set 00 00 00 00	
Tag Selection Cancel	Tag List: Set
Read/Write Single Bank	E2 80 11 70 00 00 02 08 8E 73 C8 59
○ Reserved ● EFC ○ TID ○ USER	11 22 33 44 55 66 77 88 99 00 11 22 StartLen(WORD E2 80 11 70 00 00 02 08 8E 73 60 F9 Read
Write Tag	12 32 23 22 00 01 12 22 00 01 00 02 00 24 12 28 00 6F 12 00 00 00 02 1F 90 02 15
WriteData(HEX):	12 34 BB BB 00 01 00 02 00 02 1 471te
Read MultiBank Reserved 0 Len(word) 0 Tid 0 Len(word) 0	E2 80 11 70 00 00 02 0A 0F 69 68 CE User 0 L, AA BB 12 33 12 33 44 44 12 34 56 78 00 00 00 BC DE 00 06 00
Lock Tag	E2 80 11 70 00 00 02 0A 0F 69 68 BE
Lock Area O Access Pwd () Kill Pwd () EPC () TID () USER	Locklype 56 77 AA BB AA BB 33 44 AA BD 043 Unlock E2 80 11 70 00 02 0A 0F 68 74 2E Lock
SanauTuna	E2 80 11 70 00 00 02 08 8E 73 2C 59 E2 80 11 70 00 00 208 8E 73 22 59 80 80 11 70 00 00 02 08 8E 73 00 59
Clear ReadSensorTagEn Start Start	Sav AA BB 11 00 12 12 33 00 44 55 12 34 56 78 12 34 56 78 12 34 56 78 12 14 56 Kill
# PC CRC EPC	00 00 00 00 00 00 00 23 33 33 00 11 Date 88 88 88 80 00 00 E2 80 11 70 00 00 02 0A 0F 68 A0 BE ReadCount Fr
	00 00 00 00 00 00 00 00 00 00 00 00 00
	AA AA 00 00 00 00 00 00 00 00 00 01 11 AA AA 00 00 00 00 00 00 00 00 00 01
	E2 80 11 70 00 00 02 0A 0F 69 00 2E E2 80 11 70 00 00 02 08 8E 74 64 49
<	>
	Activate Serial Port Monitor
peration History: 🔽 Auto Clear	WothVate Serial fort monitor
eader Setup 18000-6C Tag Test Serial Fort Monitor NetFort Setup Function	n Canfi mustion
ander Setup 1996 66 1ag 1431 Serial fort monitor Metfort Setup Function Inventory Tag Operation	n contrañon arron
Tag Operation Manual Switch Antenna AccessFwd (HEX)	
Ant1 V Get Set 00 00 00	
Tag Selection	
Get E2 80 11 70 00 00 02 08 8E 73 C8 59 Cancel	. Tag List: E2 80 11 70 00 00 02 08 8E 73 C8 59 V Set
Read/Write Single Bank	Stunter (MDDD) · 2 MultiAnt ReadMultiBankEn Read
○ Reserved ● EPC ○ TID ○ USER	StartLen(WORD): 2
Write Tag WriteData(HEX):	● BlockWrite ○ Write Write
Read MultiBank	
	User 0 Len(word) 0 Session SO V Target A V ReadMode MultiIV
Lock Tag Lock Area	LockType
○ Access Fwd ○ Kill Fwd ○ EFC ○ TID ○ USER	O Unlock O Lock O Permanent UnloO Permanent Lo
SensorType	Kill Tag
Clear ReadSensorTagEn JH1 Start	Save Tags Kill Pwd(HEX): Kill
# PC CRC EPC	Data DataLen Ant ReadCount Fr
<	>
peration History: ☑ Auto Clear 023-07-25 04:11:18.183 SetAccessEpoMatch	Activate Serial Port Monitor
023-07-25 04:11:18.188 Command succeeded	

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2.3 Get selected tags

You can click the [Get] button to get the tag selected by the user. If there is a selected tag, the tag information can be displayed. If not, it will not be displayed.

eader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Funct	tion Configuration	
Inventory Tag Operation Tag Operation Manual Switch Antenna AccessPwd (HEX) Ant Cet Sat 00.00.00.00		
Get E2 80 11 70 00 00 02 08 8E 73 C8 59 Can	cel Tag List: E2 80 11 70 00 00	02 08 8E 73 C8 59 v Set
Read/Write Single Bank O Reserved® EFC O TID O USER V StartAddr(WORD): 2	StartLen(WORD): 2	MultiAnt ReadMultiBankEn Read
WriteData(HEX):		● BlockWrite ○ Write Write
Read MultiBank Reserved 0 Len(word) 0 Tid 0 Len(word) 0	User 0 Len(word) 0	Session SO V Target A V ReadMode MultiTV
Lock Tag Lock Area O Access Fwd O Kill Fwd O EFC O TID O USER	LockType O Unlock O Lock O P	ermanent UnloO Permanent Lo
Clear ReadSensorTagEn SensorType Start		Kill Tag Kill Pwd(HEX): Kill
# PC CRC EPC	Data	DataLen Ant ReadCount Fr
<		>
peration History: 🔽 Auto Clear		Activate Serial Port Monitor
023-07-25 04:11:18.183 SetAccessEpdMatch 023-07-25 04:11:18.188 Command succeeded 023-07-25 04:13:13.452 GetAccessEpdMatch 023-07-25 04:13:13.457 (12)E2 80 11 70 00 00 02 08 8E 73 C8 59		

2.4 clear(label)

After clearing the label, the previously set selected label will become invalid.

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function (Configuration		
Inventory Tag Operation			
Tag Operation Manual Switch Antenna AccessPwd (HEX)			
Anti V Get Set 00 00 00			
Tag Selection		00 02 08 8E 73 C8 59	
Get	Tag List: E2 80 11 70 00	00 02 08 88 73 68 59	∨ Set
Read/Write Single Bank			
○ Reserved EFC ○ TID ○ USER	StartLen(WORD): 2	🗌 MultiAnt 📃 ReadMultiBa	nkEn Read
Write Tag			
WriteData(HEX):		BlockWrite O Wr	ite Write
-Read MultiBank Reserved 0 Len(word) 0 Tid 0 Len(word) 0 Us	ser 0 Len(word) 0	Session SO V Target A V	ReadMode Multil 🗸
Lock Tag			
	LockType O Unlock O Lock () Permanent Unlo() Permanent Lo	Lock
SensorType		Kill Tag	
Clear ReadSensorTagEn Start	Save Tags	Kill Pwd(HEX):	Kill
# PC CRC EPC	Data	DataLen Ant	: ReadCount Fr
<			>
			-
Operation History: 🗹 Auto Clear		Activa	te Serial Port Monitor
2023-07-25 04:11:18.183 SetAccessEpcMatch			
2023-07-25 04:11:18.188 Command succeeded			
2023-07-25 04:11:18.188 Command succeeded 2023-07-25 04:13:13.452 GetAccessEpollatch 2023-07-25 04:13:13.457 (12)E2 80 11 70 00 00 02 06 6E 73 C8 59 2023-07-25 04:14:34.661			
2023-07-25 04:11:18.188 Command succeeded 2023-07-25 04:13:13.452 GetAccessEpollatch 2023-07-25 04:13:13.457 (12)E2 80 11 70 00 00 02 08 8E 73 C8 59			

2.5 Read tags

label area	initial	length	Remark
	address		
password	00	04 (Adjusted according	Password area = destroy password +
area		to actual needs)	access password
EPC area	02	06 (Adjusted according	00-02 in the EPC area is PC+CRC
		to actual needs)	
TID area	00	04 (Adjusted according	not writable, readable
		to actual needs)	
UER area	00	04 (Adjusted according	user area
		to actual needs)	

password area	destroy password	access code
start address-length	Start address: 00 Length: 02	Start address: 02 Length: 02

The first two bytes of the EPC	PC	CRC
start address-length	0-1 word	1-1 word

The principle of reading the four areas of the label is the same. The following is a simple screenshot explanation for the password area and EPC:

	-		est Serial Port Mo	onitor NetPort Setup Funct	ion Configur	ation					
		ag Operation									
)peratio	n ch Antenna		-AccessPwd (HEX)							
Ant		∨ Get	Set	00 00 00 00							
Tag	Selecti	on									
	Get			Can	cel Tag I	List: E2 80 11 70	00 00 02 08 8E 73 C8	59	~	Set	
Read	/Write :	Single Bank					-				_
~	eserved) EPC () TI	D 🔿 USER	✓ StartAddr(WORD): 0	StartLe	n(WORD): 4	MultiA	nt 🗌 ReadMu	LtiBankE	n Read	
	e Tag Data(HE	IX):						BlockWrite () Write	Write	
p., J	MultiB										
	erved 0		d) 0 Tid	0 Len(word) 0	Vser 0	Len(word) 0	Session SO	- Target A	∨ Rea	dMode Multil	~
Lock	Tag ock Area				LockType						
		s Pwd ⊖Kill P	wd 🔿 EPC 🔿	TID 🔿 USER	O Unlock	c 🔿 Lock	O Permanent Unlo) Permanent L	D	Lock	
							Kill Tag				
	Clear	🗌 ReadSens	orTagEn SensorT	Start		Save Tags	Kill Pwd(HEX):			Kill	
	#	PC	CRC	EPC		Data		DataLen	Ant	ReadCount	^
•	1	34 00	EF 23	01 01 01 01 00 00 02 0A OF	68 CC CE	00 00 00 00 00 00	00 00	8	Ånt1	1	
	2	34 00	53 18	00 00 11 70 00 00 02 0A OF	68 AO 2E	00 00 00 00 00 00	00 00	8	Ånt1	1	
	3	34 00	EE 6D	E2 80 11 70 00 00 02 0A OF	69 68 BE	00 00 00 00 00 00	00 00	8	Ånt1	1	
	4	34 00	99 D7	80 80 11 70 00 00 02 08 8E	74 BC 1A	00 00 00 00 00 00	0 00 00	8	Ånt1	1	
	5	34 00	AS AB	11 11 11 11 11 11 11 10 OF	68 AO 1E	00 00 00 00 00 00	0 00 00	8	Ant1	1	~
<	1	1							1	1	>
-		tory: 🗹 Auto						A []	ctivate	Serial Port M	Moni tor
		:16:50,751 Comme :16:50,754 Comme									^
		:16:50.762 Comma									
		:16:50.768 Comme									
		:16:50,771 Comma :16:50,773 Comma									
		16:50.776 Comme									
											~

	peratio al Swit	ch Antenna V Get	Set	AccessPwd (HEX) 00 00 00 00			
ag S	Selecti	on					
	Get			Cancel	Tag List:		∼ Set
		Single Bank EPC O T	D O USER	<pre>StartAddr(WORD): 0</pre>	StartLen(WORD): 8	🗌 MultiAnt 🗌 ReadM	ultiBankEn Read
	e Tag Data(HI	EX):		•		BlockWrite	🔿 Write 🛛 Write
	MultiB erved 0		d) 0 Tid	0 Len(word) 0 1	User 0 Len(word) 0	Session SO 🗸 Target A	∨ ReadMode Multil ∨
Lo	Tag ock Are) Acces	a s Pwd ○ Kill	ewd Oepc O) TID 🔿 USER	LockType O Unlock O Lock	○ Permanent Unlo○ Permanent	Lo Lock
	Clear	ReadSen	sorTagEn Sensor	Type Start	Save Tags	Kill Tag Kill Pwd(HEX):	Kill
	#	PC	CRC	EPC	Data	DataLen	Ant ReadCount
	1	30 00	89 6B	E2 80 11 60 60 00 02 11 8E 32			Ant1 1
	2	34 00	76 A6	88 88 99 99 66 66 12 33 12 33		9 99 66 66 12 3 89 6B 30 00 E2 80	
	3	34 00	68 9C	01 01 01 01 00 00 02 08 8E 72		1 01 00 00 02 08 16	Anti 1
	4	30 00	D1 6C 47 A6	11 22 33 44 55 66 77 88 99 00 56 77 AA BB AA BB 33 44 AA BB		3 44 55 66 77 88 16 A BB AA BB 33 44 16	Ant1 1 Ant1 1
	5	30 00	41 80	50 TT KK DD KK DD 55 44 KK DL	00 24 41 X0 30 00 50 11 X	K DD AK DD 33 44 10	
_							>
		tory: 🔽 Auto	Clear				Activate Serial Port Mon
at	ion His	nory. Mato					
rat	ion His	iory. V Auto					
at	ion His	itory. V Alto					

Remarks: If you need to operate on a certain tag, you can select the tag first, then read or write the tag.

Since the reading and writing tags under the [Access Interface] are more difficult than

inventory, the power should be set higher. If the selected label is not within the recognition range, an error will be reported, as shown in the figure below, in this case:

- (1) can try a few more times
- (2) Turn up the power
- $(\mathbf{3})$ The tag is closer to the reader

Reserved@ EPC TID USER StartAddr (WORD): 0 StartLen (WORD): 8 MultiAnt ReadMultiBankEn Read Write Tag ** </th <th></th> <th></th> <th>Setup Function Configuration</th> <th></th> <th></th>			Setup Function Configuration		
Kanad Switch Antenne AccessPed (HEX) Get Set Get Get Get Cancel Tag List: Set Set Kand/Write Single Bank Reserved@ EFC O TID O USER StartAddr(WOED): 0 StartLen(WOED): 8 MultiAnt ReadMultiBankEn Read FriteTag FriteTag FriteTag FriteTag Cancel Tag DelockFrite O Write Write Write SetartMultiGank Reserved 0 Len(vord) 0 Tid 0 Len(vord) 0 User 0 Len(vord) 0 Session SO Target & SeatMode MultiGank Reserved 0 Len(vord) 0 Tid 0 Len(vord) 0 User 0 Len(vord) 0 Session SO Target & ReadMode MultiGank Reserved 0 Len(vord) 0 Fid 0 Len(vord) 0 User 0 Len(vord) 0 Session SO Target & ReadMode MultiGank Reserved 0 Len(vord) 0 Fid 0 Len(vord) 0 User 0 Len(vord) 0 Session SO Target & ReadMode MultiGank Reserved 0 Len(vord) 0 Fid 0 Len(vord) 0 User 0 Len(vord) 0 Session SO Target & ReadMode MultiGank Reserved 0 Len(vord) 0 Fid 0 Len(vord) 0 User 0 Len(vord) 0 Session SO Target & ReadMode MultiGank Reserved 0 Len(vord) 0 Fid 0 Len(vord) 0 User 0 Len(vord) 0 Session SO Target & Mill Fid (MEX): Lock Area DelockFrig LockType Under Start Save Tags Kill Fag NultiAnt ReadCount Source Nistery: Ante Clear Pata Batalan Ant ReadCount Source 11:46:23.205 There is no tag to be operated Source 11:46:23.205 There is no tag to be operated Source 11:46:23.205 There is no tag to be operated Source 11:46:25.206 Read Tag Source 11:46:25.208 Read Tag Source 11:					
Get Set 00 00 00 00 Fag Salection Get Cancel Tag List: Set BeadWrite Single Bank StartAddr (WORD): 0 StartLen(WORD): 8 MultiAnt ResedBultiBankEn Read Reserved@ EPC TID USER StartAddr (WORD): 0 StartLen(WORD): 8 MultiAnt ReadBultiBankEn Read Reserved@ Loc TID USER StartAddr (WORD): 0 StartLen(WORD): 8 MultiAnt ReadBultiBankEn Read Read MultiBank ReadBultiBankEn Each 0 Len(word) 0 Start Len(Word) 0 Len(Word) 1		Assess Purd (MR	(V)		
Ter Selection Get Cancel Ter Selection Get Read/Write Single Bank Reserved@ EPC TID USER StartLan(WDED): @ BlockWrite Write Tag Trite Tag Trite Tag Trite Tag Trite Tag Deck Area BlockWrite Write Write Read/Write O User D Lock Area Lock Tag Dick Area			**		
Get Cancel Tag List: Sat Bead/Write Single Baak MultiAnt BeadMultiBankEn Read Reserved@ FPC OTD USER StartAddr (WORD): StartLan(WORD): MultiAnt BeadMultiBankEn Read Frite Tag @ ElockWrite Write Write Write Write Read Read MultiBank ReadMode (MultiTo Cancel Tag @ ElockWrite Write Write Lock Tag User O Len(word) O Session SO Target A ReadMode (MultiTo Cances Fred O Kill Pred OES): LockType Lock Tag User O Len(word) O Session SO Target A ReadMode (MultiTo Cances Fred O Kill Pred OES): LockType Clear ReadSensorTagEn Opti Start Save Tags Clear ReadSensorTagEn Opti Start Save Tags # PC CRC EPC Data DataLen Ant ReadCount # PC CRC EPC Data DataLen Ant ReadCount 2007-20 11.46123 125 Three is no tag to be operated 2007-20 11.46123 025 Bere is no tag to be operated 2007-20 11.46123 203 Start Iso tag to be operated 2007-20 11.46123 025 Mere is no tag to be operated 2007-20 11.46125 201 Read Tag Save Tags Activate Serial Fort Mon 2007-20 11.46123 125 Mere is no tag to be operated 2007-20 11.46123 025 Mere is no tag to be operated 2007-20 11.46123 203 Start Tag Save Tag Save Tag 2007-20 11.46123 123 Med Tag Save Tag					
Read/Write Single Bank Reserved © FTC TID USER StartAddr (WOED): © StartLen(WOED): © MultiAnt ReadMultiBankEn Read Write Tag Write Tag Clear Clear C TID USER User C Lock Personent UnloC Personent Lo Lock Tag Lock Tag Lock Tag Clear ReadSensorTagEn © PH Start Save Tags Kill Tag Kill Fag Kill F	-				
Reserved@ EPC TID USER StartAddr (WORD): 0 StartLen(WORD): 8 MultiAnt ReadMultiBankEn Read Write Tag itibata(HEE):	Get		Cancel Tag List:	~	Set
<pre> Activate Serial Port Mon Activate Serial Port Mon Start Mar (NOAD). Start Mar (NOAD).</pre>	Read/Write Single Bank				
itieData(HEX): ItieData(HEX): ItieData(HE	Reserved EPC OTID	🔿 USER 🛛 🗸 StartAddı	r(WORD): 0 StartLen(WORD): 8	🗌 MultiAnt 🗌 ReadMultiBankE	in Read
Reserved 0 Len(word) 0 Tid 0 Len(word) 0 User 0 Len(word) 0 Session 50 Target A ReadMode Multil iook Tag Look Tag Look Tag Look Area Access Prd Kill Prd EFC TID USER LookType O Unlook Look Permanent Vals Permanent Lo Look Kill Tag Kill Frd Kill Tag Kill Frd Kill Frd H FC CRC EFC Date Date DataLen Ant ReadCount # FC CRC EFC Date Date Ant ReadCount Solver 146:23 125 There is no tag to be operated 3:07-26 11:46:23 125 There is no tag to be operated 3:07-26 11:46:23 125 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:23 05 There is no tag to be operated 3:07-26 11:46:25 01:46:25 01 Read Tag				💿 BlockWrite 🔿 Write	Write
Lock Permanent Unlo Permanent Lo Access Pwd Kill Pwd EFC TID USER Clear ReadSensorTagEn SensorType JH Start Save Tags Kill Tag Kill Tag Kill Pwd(HEX): Kill # PC CEC EFC Data DataLen Ant ReadCount * * * * * * * * * * * * * * * * * * *) 0 Tid 0 Len(wo	ord) 0 User 0 Len(word) 0	Session SO V Target A V Rea	dMode Multil V
Clear ReadSensorTagEn It Start Save Tags Kill Ped(HEX): Kill # PC CBC EPC Data DataLen Ant ReadCount	Lock Area	d 🔿 EPC 🔿 TID 🔿 USER		O Permanent UnloO Permanent Lo	Look
# PC CRC EFC Data DataLen Ant ReadCount	Clear ReadSenso		Start Save Tags		Kill
Activate Serial Port Mon 23-07-26 11:46:23.125 There is no tag to be operated 23-07-26 11:46:23.273 Read Tag 23-07-26 11:46:23.305 There is no tag to be operated 23-07-26 11:46:23.201 Read Tag 23-07-26 11:46:25.201 Read Tag 23-07-26 11:46:25.200 Command succeeded 23-07-26 11:46:25.200 Command succeeded 23-07-26 11:46:25.201 Read Tag	# DC				ReadCount Fr
eration History: Auto Clear Activate Serial Port Mon 23-07-26 11:46:23.125 There is no tag to be operated 23-07-26 11:46:23.305 There is no tag to be operated 23-07-26 11:46:25.001 Read Tag 23-07-26 11:46:25.001 Command Succeeded 23-07-26 11:46:25.001 Command Succeeded 23-07-26 11:46:25.001 Command Succeeded	# rt	URL EFC	Data	DataLen Ant	KeadLount Fr
23-07-26 11:46:23.125 There is no tag to be operated 23-07-26 11:46:23.273 Read Tag 23-07-26 11:46:23.305 There is no tag to be operated 23-07-26 11:46:25.201 Read Tag 23-07-26 11:46:25.308 Command succeeded 23-07-26 11:47:23.314 Read Tag					
23-07-26 11:46:23.273 Read Tag 23-07-26 11:46:23.365 There is no tag to be operated 23-07-26 11:46:25.201 Read Tag 23-07-26 11:46:25.308 Command succeeded 23-07-26 11:47:23.314 Read Tag	<				>
		lear		Activate	
13-07-26 11:47:23.404 There is no tag to be operated	eration History: Auto C 23-07-26 11:46:23.273 Read T 23-07-26 11:46:23.273 Read T 23-07-26 11:46:23.365 There 33-07-26 11:46:25.201 Read T	is no tag to be operated ag is no tag to be operated ag		Activate	
	eration History: Auto C. 23-07-26 11:46:23.125 There 23-07-26 11:46:23.273 Read 73-07-26 11:46:23.305 There 23-07-26 11:46:25.308 Comman 23-07-26 11:46:25.308 Comman 3-07-26 11:47:23.314 Read	is no tag to be operated ag is no tag to be operated ag d succeeded ag		Activate	

2.6 Write tags

label area	initial address	length	Remark
password	00	04 (Adjusted according	Password area = destroy password +
area		to actual needs)	access password
EPC area	02	06 (Adjusted according	00-02 in the EPC area is PC+CRC
		to actual needs)	
TID area	00	04 (Adjusted according	not writable, readable
		to actual needs)	
UER area	00	04 (Adjusted according	user area
		to actual needs)	

password area	destroy password	access code
start address-length	Start address: 00 Length: 02	Start address: 02 Length: 02

The first two bytes of the EPC	PC	CRC
start address-length	0-1 word	1-1 word

The four areas for writing labels have the same principle. In addition, [Write Label] has two commands, corresponding to two buttons. The following is a simple screenshot description for the password area and EPC:

	•		onitor Metrort Setup Tanot	ion Configuration						
	ag Operation									
-Tag Operatio -Manual Swit			AccessPwd (HEX)							
Mattal Dire	✓ Get	Set	00 00 00 00							
-Tag Selecti										
Get		0 00 40 07 F9 A7	08 81 Can	el Tag List:	E2 80 69 95 2	0 00 40 07 F 9 A7 08	81	~	Set	
	Single Bank									
Reserved	O EPC O TID	🔿 USER	StartAddr(WORD): 0	StartLen(WOR	D): 2	MultiAnt	t 🗌 ReadMu	ltiBankE	n Read	
Write Tag										
WriteData(HD	X):					• B	LockWrite	🔾 Write	Write	
-Read MultiB										
Reserved) Len(word) 0 Tid	0 Len(word) 0	User 0	.en(word) 0	Session SO V	Target A	∨ Rea	dMode Multil	<u> </u>
Lock Tag Lock Are				LockType						
	s Pwd ○Kill Pw	d 🔿 EPC 🔿	TID 🔿 USER	O Unlock	🔾 Lock	O Permanent UnloO	Permanent L	0	Lock	
Clear	ReadSenso	rTagEn SensorT	ype Start	Sa	ve Tags	Kill Tag Kill Pwd(HEX):			Kill	
		- Ju			_	MIII Iwu(MEA7.			MILL	
#	PC	CRC	EPC	Dat			DataLen	Ant	ReadCount	Fr
▶ 1	30 00	44 AF	E2 80 69 95 20 00 40 07 F9	A7 08 81 00 0	0 00 00		4	Ant1	1	921
<										>
Operation His	tory: 🔽 Auto C						Å	otivate :	Serial Port M	
Operation His 2023-07-26 11	tory: 🔽 Auto C :49:17.329 Read 1 :49:17.438 Commar	lag					Å	ctivate :	Serial Port M	
Operation His 2023-07-26 11	:49:17.329 Read 1	lag					Å	.ctivate :	Serial Port M	
Operation His 2023-07-26 11	:49:17.329 Read 1	lag					A	.ctivate :	Serial Port M	
Operation His 2023-07-26 11	:49:17.329 Read 1	lag					A	otivate :	Serial Port M	
Operation His 2023-07-26 11	:49:17.329 Read 1	lag					A	.ctivate :	Serial Port M.	

As can be seen from the figure, the current tag's **destruction password** is the default 8 Os. Now demonstrate [Write Tag], just fill in the content you need to modify:

entory Tag Operation g Operation meal Switch Antenna Mareal Switch Antenna Get Set 00 00 00 00 ag Selection Get E2 80 69 95 20 00 40 07 F9 A7 08 81 Cancel Tag List: E2 80 69 95 20 00 40 07 F9 A7 08 81 Set red/Prite Single Bank Reserved FFC TID USER StartAddr (WORD): 0 StartLen(WORD): 2 MultiAnt ResdMultiBankIn Read Reserved FFC TID USER StartAddr (WORD): 0 StartLen(WORD): 2 MultiAnt ResdMultiBankIn Read rite Tag iteData(MEX) [11 11 22 22 @ BlockWrite Write Write served 0 Len(word) 0 Tid 0 Len(word) 0 User 0 Len(word) 0 Session S0 Target A ReadMode MultiT ok Area O Len(word) 0 Tid 0 Len(word) 0 User 0 Len(word) 0 Session S0 Target A ReadMode MultiT Lock Area Access Fed Kill Fed CEC TID USER Start Save Tags Kill Tag Kill Tag Fill Fed(MEX): Kill # PC CEC EPC Data Data Ant ReadCount Fr 1 30 00 44 AF E2 80 69 95 20 00 40 07 F9 A7 08 81 null 0 Anti 1 921
AccessFvd (HEX) Get Set 000000 g Salection Get E2 80 69 95 20 00 40 07 F9 A7 08 81 Cancel Tag List: E2 80 69 95 20 00 40 07 F9 A7 08 81 Set addWrite Single Bank D Reserved EFC TID USER StartAddr(WORD): 0 StartLen(WORD): 2 MultiAnt ReadMultiBankEn Read ite Tag ite Tag ite Tag ite Tag ite Data MultiAnt Permanent Lo Lock MultiAnt Permanent Lo Lock MultiT Sance Clear ReadSensorTagEn O JH Start Save Tags Kill Fag Clear CEC EFC Data DataLen Ant ReadCount Fr
Get Set 00 00 00 00 ag Selection Get E2 80 69 95 20 00 40 07 F9 A7 08 81 Cancel Tag List: E2 80 69 95 20 00 40 07 F9 A7 08 81 Set ad/Write Single Bank SarthAddr(WORD): 0 StartLen(WORD): 2 MultiAnt ReadMultiBankEn Read Reserved EFC TID USER StartAddr(WORD): 0 StartLen(WORD): 2 MultiAnt ReadMultiBankEn Read rite Tag iteData(HEEX) II 11 22 22 III 11 20 22 IIII 11 20 22 III 11 20 22
ag Selection Get E2 80 69 95 20 00 40 07 F9 A7 08 81 Cancel Tag List: E2 80 69 95 20 00 40 07 F9 A7 08 81 Set ead/Frite Single Bank Reserved EFC TID USER StartAddr(WORD): 0 StartLen(WORD): 2 MultiAnt ReadMultiBankEn Read File Tag File Tag File Tag File Tag Cancel Tag List: E2 80 69 95 20 00 40 07 F9 A7 08 81 Set MultiAnt ReadMultiBankEn Read MultiAnt ReadMultiBankEn Read MultiAnt ReadMultiBankEn Read MultiAnt ReadMultiBankEn Read MultiAnt ReadMultiBankEn Read MultiAnt ReadMultiBankEn Read File Tag File Tag LockWrite Write Write Clear ReadSensorTagEn O JH Start Save Tags Kill Tag Kill Fed (MEX): Kill Fed FC CEC EFC Data Data Ant ReadCount Fr
Get E2 80 69 95 20 00 40 07 F9 A7 08 81 Cancel Tag List: E2 80 69 95 20 00 40 07 F9 A7 08 81 Set ead/Brite Single Bank
ead/Write Single Bank Beserved Berc O TID O USER V StartAddr (WORD): O StartLen (WORD): 2 MultiAnt ReadMultiBankEn Read File Tag iteData(UEX) 11 11 22 22 © BlockWrite O Write Write Write Secured O Len(word) O Tid O Len(word) O User O Len(word) O Secure Sov Target & ReadMode MultiTv ook Tag LockType Access Fwd O Kill Fwd O EFC O TID O USER Clear ReadSensorTagEn SensorType O Jul * PC CKC EFC Data Datalen Ant ReadCount Fr
D Reservel FFC TID USER StartAddr(WORD): 0 StartLen(WORD): 2 MultiAnt ReadMultiBankEn Read rite Tag iteData(HEEX) II 11 22 22
Beservel EPC TID USER StartAddr (WORD): 0 StartLen(WORD): 2 MultiAnt ReadMultiBanken Read rite Tag iteData(HEE) II 11 22 22 II 11 20 22 II 10 20 22
iteData(HEX) II 11 22 22 BlockWrite Write Write sad MultiBank eserved Lan(word) User Lan(word) Session Solv Target A < ReadMode MultiI ook Target LockType Unlook Look Permanent Unlow Permanent Lo Look SensorType JHI Start Save Tags Kill Tag Kill Fr FPC CKC EPC Data DataLen Ant ReadCount Fr
and MultiBank eserved O Len(word) O Tid O Len(word) O User O Len(word) O Session SO V Target & ReadMode MultiT v ook Tag Look Area Access Fwd O Kill Fwd O EPC O TID O USER Clear ReadSensorTagEn SensorType Ø Jul Start Save Tags Kill Tag Kill Tag Kill Fwd (HEX): Kill # PC CKC EPC Data DataLen Ant ReadCount Fr
eserved O Len(word) O Tid O Len(word) O User O Len(word) O Session SO Target A ReadMode Waltif book Tag Look Area Access Fwd O Kill Fwd O EFC O TID O USER Clear ReadSensorTagEn SensorType 0 Jul Start Save Tags Kill Tag Kill Tag Kill Fwd (HEX): Kill * PC CKC EFC Data DataLen Ant ReadCount Fr
book Tag Look Area LookType UockType
Look Årese Access Pwd O Kill Pwd O EPC O TID O USER Clear ReadSensorTagEn SensorType # PC CRC EPC Data Datalen Ant ReadCount Fr
Access Fwd (Kill Fwd) EFC TID (USER) Unlock Lock Permanent Unloc) Permanent Lo Lock Clear ReadSensorTagEn JHI Start Save Tags Kill Fwd (HEX): Kill # PC CRC EPC Data DataLen Ant ReadCount Fr
Clear ReadSensorTagEn SensorType Ø HI Start Save Tags Kill Tag Kill Fwd(HEX): Kill # PC CRC EPC
Clear ReadSensorTagEn JHI Start Save Tags Kill Fwd(HEX): Kill # PC CRC EPC Data DataLen Ant ReadCount Fr
PC CEC EPC Data DataLen Ant ReadCount Fr
1 30 00 44 AF E2 80 69 95 20 00 40 07 F9 A7 08 81 null 0 Anti 1 92
ration History: 🗹 Auto Clear 🗌 Activate Serial Port Monitor
H-07-26 11:49:17.329 Read Tag H-07-26 11:49:17.438 Command succeeded
⊢07-26 11:52:19.606 Command succeeded

After the prompt modification is successful, click Read again to see the new data.

Inventory Tag Operation Tag Operation Manual Switch Antenna Get Tag Selection Get E2 80 69 95 20 Read/Write Single Bank © Reserved EPC O TID Write Tag WriteData(MEX): [11 11 22 22 Read MultiBank	Set 00 40 07 F9 A7 0 O USER	AccessPwd (HEX) 00 00 00 00 18 81 C StartAddr(WORD): 0	ancel Tag Lis	t: E2 80 69 95	5 20 00 40 07 F9 A7 08 F	81	~	Set	
Get E2 80 69 95 20 Read/Write Single Bank Image: Single Bank Image: Single Bank				t: E2 80 69 95	5 20 00 40 07 F9 A7 08 :	81	~	Set	
Reserved EPC TID Write Tag WriteData(HEX): 11 11 22 22	O USER	✓ StartAddr(WORD): 0							
WriteData(HEX): 11 11 22 22			StartLen(W	ORD): 2	MultiAnt	ReadMul	tiBankEr	1 Read	
n					I BI	.ockWrite ()Write	Write	
Reserved 0 Len(word)	0 Tid	0 Len(word) 0	Vser O	Len(word) 0	Session SO 🗸	Target A	✓ Read	Mode Multil	~
Lock Tag Lock Area O Access Pwd O Kill Pwd	L O EPC O	TID 🔿 USER	LockType O Unlock	🔿 Lock) Permanent Unlo	Permanent Lo		Lock	
Clear ReadSensor	TagEn SensorTy	Start		Save Tags	Kill Tag Kill Pwd(HEX):			Kill	
# PC	CRC	EPC	1)ata		DataLen	Ånt	ReadCount	Fr
1 30 00	44 AF	E2 80 69 95 20 00 40 07	F9 A7 08 81 1	1 11 22 22		4	Ant1	1	904
<									
eration History: 🗹 Auto Cl						Ac	tivate S	Serial Port M	onito:
123-07-26 11:49:17.329 Read Te 123-07-26 11:49:17.438 Command 123-07-26 11:52:19.508 WriteTe 123-07-26 11:52:19.506 Command 123-07-26 11:57:34.361 Read Te 123-07-26 11:57:34.466 Command	l succeeded ag l succeeded ag								

Note: If **the selected tag is used** and **the modification is in the EPC area**, after the writing is successful, it is necessary to cancel the selected tag first and then read the tag to find the tag

modified by the user, because the EPC value of the originally selected tag has changed:

Inventory Tag Operation									
Tag Operation									
Manual Switch Antenna		AccessPwd (HEX)							
∨ Get	Set	00 00 00 00							
Tag Selection									
Get 56 77 AA BB A	A BB 33 44 AA BB	00 14 Ca	ancel Tag Lis	st: 56 77 AA	BB AA BB 33 44 AA BB	00 14	~	Set	
Read/Write Single Bank						_			_
🔾 Reserved 🖲 EPC 🛛 🔿 TID	🔿 USER	✓ StartAddr(WORD): 2	StartLen(WORD): 1	Mult	iAnt 🗌 ReadMu	ltiBankE	n Read	
Write Tag riteData(HEX):						BlockWrite	🔿 Write	Write	
Read MultiBank Reserved 0 Len(word) O Tid	0 Len(word) 0	Vser O	Len(word)	0 Session SO	∨ Target Å	∨ Rea	dMode Multil	~
Lock Tag Lock Area O Access Pwd O Kill Pw	-d () EPC ()	TID 🔿 USER	LockType O Unlock) Lock	🔿 Permanent Un	Lo⊖ Permanent L	.0	Lock	
	SensorT	ype			Kill Tag				
Clear ReadSenso	orTagEn SensorT	Start		Sav Tags	Kill Tag Kill Pwd(HE	x):		Kill	
Clear ReadSenso				Sav Tags Data	-	X): DataLen	Ant	Kill	Fr
	orTagEn 💿 JH1	Start			-		Ant Ant1		
# PC ▶ 1 30 00	ORC	Start EPC		Data	-	DataLen	-	ReadCount	Fr 925
# PC	CRC 71 F5	Start EPC		Data	-	DataLen 2	Ant1	ReadCount	925

Example: Modify the value of 5677 of the following label to 1122:

Enter a value corresponding to the length:

Reader Setup 18000-6C Tag Tes	t Serial Port Me	onitor NetPort Setup Function	n Configura	tion					
Inventory Tag Operation Tag Operation									
Manual Switch Antenna		AccessPwd (HEX)							
✓ Get	Set	00 00 00 00							
Get 56 77 AA BB AA	A BB 33 44 AA BB	00 14 Cancel	. Tag L	ist: 56 77 AA BB .	AA BB 33 44 AA BB 00	14	~	Set	
Read/Write Single Bank O Reserved EPC O TID	() USER	✓ StartAddr(WORD): 2	StartLes	n(WORD): 1	🗌 MultiAn	t 🗌 ReadMu	ltiBankE	n Read	
Write Tag WriteData(HEX): 11 22					• F	lockWrite (🔾 Write	Write	
Read MultiBank Reserved 0 Len(word)) D Tid	0 Len(word) 0	Vser O	Len(word) 0	Session SO V	Target A	∨ Rea	Mode Multil	~
Lock Tag Lock Area O Access Pwd O Kill Pw	d () epc ()	TID 🔿 USER	LockType O Unlock	O Lock	O Permanent Unlo) Permanent L	0	Lock	
	SensorT				Kill Tag				
Clear ReadSenso	rTagEn 💿 JH1	Start		Save Tags	Kill Pwd(HEX):			Kill	
# PC	CRC	EPC		Data		DataLen	Ant	ReadCount	Fr
1 30 00	71 F5	56 77 AA BB AA BB 33 44 AA BI	B 00 14	null		0	Ant1	1	926
٢									>
Operation History: 🔽 Auto C.	Lear					A []	ctivate	Serial Port M	lonitor
2023-07-26 01:18:01.006 WriteT 2023-07-26 01:18:01.115 Comman									

Prompt success, do not cancel the selection, read directly, it will prompt:

nventory Tag Operation				
Fag Operation Manual Switch Antenna	AccessPwd (HEX	D —		
∽ Get	Set 00 00 00 00			
Tag Selection				
·	A BB 33 44 AA BB 00 14	Cancel Tag List: 56 77 AA BB	AA BB 33 44 AA BB 00 14	∼ Set
Read/Write Single Bank				
○ Reserved	🔿 USER 🛛 🗸 StartAddr	(WORD): 2 StartLen(WORD): 1	🗌 MultiAnt 📃 ReadMult	iBankEn Read
Write Tag WriteData(HEX): 11 22			● BlockWrite ⊂)Write Write
Read MultiBank Reserved 0 Len(word) 0 Tid 0 Len(woo	rd) 0 User 0 Len(word) 0	Session SO 🗸 Target A	∨ ReadMode Multiī ∨
Lock Tag Lock Area O Access Pwd O Kill Pw	d OEPC OTID OUSER	LockType O Unlock O Lock	○ Permanent Unlo○ Permanent Lo	Lock
Clear ReadSenso	rTagEn SensorType	Start Save Tags	Kill Tag Kill Pwd(HEX):	Kill
# PC	CRC EPC	Data		
# 10	CRL EFC	Data	DataLen	Ant ReadCount F
< .		Data	DataLen	Ant ReadCount F
<		Data		>
	lear	Dara		
	lear 'ag id succeeded	Jara		>
<pre>eration History: Auto C 23-07-26 01:18:01.006 WriteI 23-07-26 01:18:01.115 Comar 23-07-26 01:19:26.478 Read T</pre>	lear ag ag	Jara		>
<pre>eration History: Auto C 23-07-26 01:18:01.006 WriteI 23-07-26 01:18:01.115 Comar 23-07-26 01:19:26.478 Read T</pre>	lear ag ag			>
	lear ag ag	Jara		>

After deselecting, click Read, you can see that the data has been modified successfully:

nventory T Cag Operatio	ag Operation							
Manual Swit			AccessPwd (HEX)					
	√ Get	Set	00 00 00 00					
- Tag Selecti								
Get			Cancel Ta	ag List: 56 77 AA BB AA BB 33 44 A	A BB 00 14	~	Set	
Read/Write	Single Bank				-			_
🔿 Reserved	l EPC 🔿 TID	O USER	StartAddr(WORD): 2 Star	tLen(WORD): 1	MultiAnt 🗌 ReadMu	⊥tiBankH	n Read	
Write Tag VriteData(HD	mr), 11.00				BlockWrite	O #= 1 +	Write	
					BlockWrite	O write	Write	
Read MultiB Reserved		0 Tid	0 Len(word) 0 User 0	Len(word) 0 Session	. SO 🗸 Target A	∨ Res	dMode Multil	~
Lock Tag								
Lock Are	a s Pwd ○ Kill Pw	a 🔿 epc 🔿	TID OUSER		t Unlo) Permanent I	-0	Lock	
		SensorT		Kill Ta	-			
Clear	ReadSenso		Start	Save Tags Kill Pw	-		Kill	
#	PC	CRC	EPC	Data	DataLen	Ant	ReadCount	^
28	30 4F	5A 04	AA BB 12 33 12 33 44 44 55 55 00 09	AA BB	2	Ant1	1	
					-			
29	30 00	3C 18	11 22 AA BB AA BB 33 44 AA BB 00 14	11 22	2	Ant1	1	-
29 30	30 00 30 00	3C 18 01 C2	11 22 AA BB AA BB 33 44 AA BB 00 14 E2 80 69 95 20 00 40 07 F9 A7 04 81			Ant1 Ant1	1	
				E2 80	2	-	-	_
30	30 00	01 C2	E2 80 69 95 20 00 40 07 F9 A7 04 81 E2 80 69 95 20 00 50 07 F9 A7 00 81	E2 80 E2 80	2 2 2	Ånt1	1	
30 31 32	30 00 30 00	01 C2 D7 82	E2 80 69 95 20 00 40 07 F9 A7 04 81	E2 80 E2 80	2	Ant1 Ant1	1 1 1	•
30 31	30 00 30 00	01 C2 D7 82	E2 80 69 95 20 00 40 07 F9 A7 04 81 E2 80 69 95 20 00 50 07 F9 A7 00 81	E2 80 E2 80	2 2 2	Ant1 Ant1	1 1 1	>
30 31 32 «	30 00	01 C2 D7 82 80 EA	E2 80 69 95 20 00 40 07 F9 A7 04 81 E2 80 69 95 20 00 50 07 F9 A7 00 81	E2 80 E2 80	2 2 2 2	Ant1 Ant1 Ant1	1 1 1	>

Operation History: ▲ Auto Clear 2023-07-26 02:07:36.876 Command succeeded 2023-07-26 02:07:36.877 Command succeeded 2023-07-26 02:07:36.878 Command succeeded 2023-07-26 02:07:36.879 Command succeeded

Quantity:		Speed(Tag Command D	/Sec): Total Tag Com wration(mS): Total Invento		i on (mS) :	44 48
	10	Command D				1070
E 1				-	0.000.0	Q
	Min RSSI	: -67dBm	Max RSSI: -27dBm	Refresh	h Save	Toge
						_
ReadCount	PC 30.00	EPC #2 80 69 95	20 00 40 07 89 47 04 91	Ant Ant	Freq(MHz)	R ^
						-4
						-4
						-3
						-5
		,				-2
						-4
						-4
						-3
						-5
						-4
14	30 00	AA DD 12 33	12 33 44 44 55 55 00 13	Anti	919.50	+
						>
	Avendo Junio 14 14 14 14 14 14 14 14 14 14 14 14 14	14 30 00 14 30 4F 14 20 00 14 18 00 14 34 00 14 30 00 14 20 00 14 30 00 14 30 00 14 30 00 14 30 00 14 30 00 14 30 00 14 30 00	14 30 00 E2 80 95 5 14 30 4F AA BB 12 3 14 20 00 10 00 AB 12 3 14 18 00 AA BB 12 3 14 18 00 E2 80 11 70 14 30 00 E2 80 11 70 14 30 00 E2 80 69 5 14 30 00 E2 80 69 5 14 30 00 E2 80 69 5 14 30 00 AA BB 12 33 14 20 00 12 22 00 12	14 30 00 E2 80 69 95 20 04 07 P9 A7 04 81 14 30 4F AA BB 12 31 12 33 30 04 56 00 03 14 20 00 10 00 AB 12 34 56 80 01 14 18 00 AA BB 12 34 56 80 1 14 34 00 E2 80 11 70 00 02 68 82 72 CA 18 14 30 00 11 22 AA BA AB 30 44 AA BB 00 14 14 20 00 AB C0 10 02 03 04 07 P4 7 08 61 14 30 00 AA	14 30 00 E2 80 99 52 00 40 79 A7 04 81 14 30 4F AA BB 12 33 12 33 30 04 50 00 Antl 14 20 00 10 00 AB 12 34 56 00 14 50 00 Antl 14 18 00 AA BB 12 34 56 00 14 Antl 14 18 00 AA BB 12 31 23 3 Antl 14 34 00 E2 80 11 70 00 00 28 8E 72 CA 18 14 20 00 AB CO 10 00 40 7 44 AB Antl 14 30 00 E2 80 95 20	14 30 00 E2 80 99 52 00 40 07 F9 A7 04 81 Ant1 919.50 14 30 4F AA BB 12 33 12 33 30 44 50 00 Ant1 919.50 14 20 00 10 00 AB 12 34 56 60 01 Ant1 919.50 14 18 00 AB 12 31 23 30 04 56 00 34 61 919.50 14 18 00 AA BB 12 31 23 44 AA BB 01 919.50 14 30 00 E2 80 69 95 20 00 40 Ant1 919.50 14 30 00 AA BB 12 31 33 44 44 59 <

2.7 Locked area

Locking the area refers to performing related operations on certain areas of the label, as follows:

name	introduce
open	Tags are open by default, readable and writable (EPC area of general tags),
	except for special tags.
locking	The default access password cannot be written, and a new access password is
	required to write.
permanently	After operation, the label cannot be locked.
open	
permanently	After the operation, the tab cannot be opened.
locked	

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration	
Inventory Tag Operation	
Tag Operation	
Manual Switch Antenna AccessPwd (MEX) Get Set 00 00 00 00	
Tag Selection	
Get Cancel Tag List: 56 77 AA BB AA BB 33 44 AA BB 00 14 V Se	t
Read/Write Single Bank	
🔿 Reserved 🖲 EPC 🔿 TID 🔷 USER 🔍 StartAddr(WORD): 2 StartLen(WORD): 1 🗌 MultiAnt 🗌 ReadMultiBankEn Rei	d
Write Tag	
WriteData(HEX): 11 22 💿 BlockWrite 🔿 Write 🗰 Wri	te
Read MultiBank	
Reserved 0 Len(word) 0 Tid 0 Len(word) 0 User 0 Len(word) 0 Session SO V Target A V ReadMode Mal	iī ~
Lock Tag Lock Area	
Ocor Area Ocoress Fwd O Kill Pwd O EPC O TID O USER Ownlock O Permanent UnloO Permanent Lo Lo	k
SensorType Kill Tag	
Clear ReadSensorTagEn JH1 Start Save Tags Kill Pwd(HEX): Ki	11
# FC CRC EFC Data DataLen Ant ReadCou	t Fr
<	>
Operation History: 🛛 Auto Clear 🗌 Activate Serial Por	
Operation History: 📝 Auto Clear 🔹 Activate Serial Por 2023-07-26 02:07:36.876 Command succeeded	
Operation History: ☑ Auto Clear	
Operation History: 📝 Auto Clear 🔹 Activate Serial Por 2023-07-26 02:07:36.876 Command succeeded	
Operation History:	
Operation History: ✓ Auto Clear Description Activate Serial Por 2023-07-26 02:07:36.876 Command succeeded 2023-07-26 02:07:36.877 Command succeeded 2023-07-26 02:07:36.878 Command succeeded 2023-07-26 02:07:36.878 Command succeeded	

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2.8 Kill tags

To destroy the label, you need to modify the default destruction password first. For specific modification steps, please refer to the tutorial of **writing the password area (kill password)**. After the label is destroyed, the label becomes invalid and cannot be used, read, or written. The specific operation is as follows:

Inventory Tag Operation		NetPort Setup Function Co	nriguration			
Tag Operation						
Manual Switch Antenna		sPwd (HEX)				
∨ Get	Set 00 00	00 00				
Tag Selection						
Get		Cancel	Tag List: 56 77 AA BB AA	BB 33 44 AA BB 00 14	\sim	Set
Read/Write Single Bank						
🔿 Reserved 🖲 EPC 🛛 🔿 TII	d 🔿 USER 🔽 S	StartAddr(WORD): 2 S	StartLen(WORD): 1	🗌 MultiAnt 🗌 Rea	adMultiBankEn	Read
Write Tag						
WriteData(HEX): 11 22				SlockWrite	e 🔘 Write	Write
Read MultiBank Reserved 0 Len(wor	d) O Tid O	Len(word) O User	r 0 Len(word) 0	Session SO 🗸 Target	A 🗸 Read	Mode Multil V
Lock Tag						
Lock Area			ckType			
🖲 Access Pwd 🔘 Kill P	wd 🔾 EPC 🔾 TID	○ USER ○) Unlock Lock () Permanent Unlo() Permaner	nt Lo	Lock
				C		
Clear ReadSens	SensorType	Start	Save Tags	-Kill Tag		
	JH1	o con c		Kill Pwd(HEX):		Kill
# PC	CRC EPC		Data	DataLe	n Ant	ReadCount Fr
٢						>
	lear				Activate S	> erial Port Monitor
peration History: ☑ Auto (023-07-26 02:07:36.876 Comms	and succeeded				Activate S	erial Port Monitor
peration History: ☑ Auto 023-07-26 02:07:36.876 Comma 023-07-26 02:07:36.877 Comma	and succeeded and succeeded				_ Activate S	> erial Port Monitor
lperation History: ☑ Auto (023-07-26 02:07:36.876 Comme 023-07-26 02:07:36.877 Comme 023-07-26 02:07:36.878 Comme	and succeeded and succeeded and succeeded				Activate S	>
peration History: ✓ Auto (023-07-26 02:07:36.876 Comms 023-07-26 02:07:36.877 Comme 023-07-26 02:07:36.878 Comms 023-07-26 02:07:36.879 Comme	and succeeded and succeeded and succeeded and succeeded				Activate S	<pre>> erial Fort Monitor</pre>
Departion History: ✓ Auto (023-07-26 02:07:36.876 Comma 023-07-26 02:07:36.877 Comma 023-07-26 02:07:36.878 Comma 023-07-26 02:07:36.878 Comma 023-07-26 02:18:59.524 FastS	and succeeded and succeeded and succeeded and succeeded				_ Activate S	> erial Port Monitor
▲ Operation Mistory: Auto 0 Operation Mistory: Auto 0 023-07-26 02:07:36.876 Comma 023-07-26 02:07:36.877 Comma 023-07-26 02:07:36.879 Comma 023-07-26 02:18:59.524 Fast5 023-07-26 02:18:59.524 Fast5 023-07-26 02:19:03.713 Stop	and succeeded and succeeded and succeeded and succeeded				_ Activate S	erial Port Monitor

3 Tag filtering

3.1 Set filter

Reader Setup 18000-6C Tag Test Serial Port Monitor NetH	Port Setup Function Configuration
Inventory Tag Operation Operation Inventory Mode Inventory Osingle Channel Multi Ch Exec Times I Interval Tag Focus ReadSensorTagE SaveLog Config Select Cfg Customize Session	Result This Round Count: () Min ESSI: O Max ESSI: O Refresh Save Tags
Interval (mS) Repeat 0 1 Antenna Cfg 1 Ant/Stay (1-8) v Tax Mask A	
Mask ID: Mask No. 1 Session ID: SO Action: 00 Membank: EPC Start Address(D bit	¢
Operation History: 🗹 Auto Clear	🗌 Activate Serial Port Monit

filtering	illustrate
behavior	
00	For [Access Tag]
04	For [Inventory Label]

Filter ID	illustrate
No.1	Default and commonly used, others are not commonly used

session	illustrate
S0, S1, S2	Choose according to the inventory method you use, but you need to correspond.
	For example, if you set the filter to use SO, use the SO mode to inventory the tags
	you need.

filter area	illustrate
EPC	The default and commonly used EPC, the software inventory refers to the EPC
	area

3.1.1 Filtering of inventory tags

filtering behavior	illustrate
04	For [Inventory Label]

Since the EPC common data of the label starts from 02word, the corresponding starting address is: 32bit, and the length is filled in according to the length of the content you need to find, for example: use S0 mode to find the label starting with 1122

wentory Tag Operation									
Operation Inventory Mode	Data Inventoried Quant	ity:	SI	eed(Tag/Sec)): :	fotal Tag Comm	unication	1 :	
Inventory O Single Channel Multi Ch		- -	1						8
Exec Times -1 Interval 0 ms			Co	mmand Durati	ion(mS): 1	fotal Inventor	y Duratio		
Tag Focus ReadSensorTagE:		AA			Ш.				
SaveLog Cabinet test time 0 s	Result								
Config Tag Mask	This Round Count:	0	n RSSI: 0	Maz	x RSSI: [D	Refresh		e Tags
Set Mask	# Rea	dCount PC	EPC				Ånt	Freq(MHz)	Rs
Mask ID: Mask No.1 V Session ID: SO V									
Action: 04 V Membank: EPC V									
Start Address(D bit 32									
Mask Length (D bit) 16									
Mask Value: 11 22									
	٢								:
Mask Value: 11 22	< Mask No	Session_ID	Action	Mem Bank	Start_	Addr (Hex) (bi t) Mas	k_Len(Hex)	
Mask Value: 11 22		Session_ID	Action 04	MemBank EPC	Start_ 20	Addr (Hex) (bit)) Mas	k_Len(Hex)	
Mask Value: 11 22	Mask_No		-			Addr (Hex) (bit)		k_Len(Hex)	
Mask Value: 11 22 Set Mask Clear Mask Mask ID: Mask ALL V Clear Mask	Mask_No		-			Addr (Hex) (bit)		k_Len(Hex)	
Mask Value: 11 22 Set Mask Clear Mask Mask ID: Mask ALL V Clear Mask Get Mask	Mask_No		-			Addr (Hex) (bit,		k_Len(Hex)	
Mask Value: 11 22 Set Mask Clear Mask Mask ID: Mask ALL V Clear Mask Get Mask	Mask_No		-			Addr (Hex) (bit,		k_Len(Hex)	
Mask Value: 11 22 SetMask Clear Mask Mask ID: Mask ALL V Clear Mask Get Mask Get Mask	Mask_No		-				10	k_Len(Hex); Serial Pos	(bit)
Mask Value: 11 22 Set Mask Clear Mask Mask ID: Mask ALL Clear Mask Get Mask	Mask_No		-				10		(bit)
Mask Value: Set Mask Clear Mask Mask ID: Mask ALL Clear Mask Get Mask	Mask_No		-				10		(bit)
Mask Value: 11 22 SetMask Clear Mask Mask ID: Mask ALL Clear Mask Get Ma	Mask_No		-				10		(bit)
Mask Value: 11 22 Set Mask Clear Mask Mask ID: Mask ALL Clear Mask Get Mask	Mask_No		-				10		(bit)

ader Setup 18000-6C Tag Test Serial Port Monitor NetP nventory Tag Operation		diotron cont.	Saration						
Operation Inventory Mode Osingle Channel O Multi Ch	Data Inventorie	d Quantity:		SI	peed(Tag/Sec):	Total Tag Com	municatio	n: ^^^^	35
Exec Times -1 Interval 0 ms				Ca		n(mS): Total Invento	ary Durati	.on(mS):	UQ.
Reserve 2 Tag Focus ReadSensorTagE:					888	9 88			
SaveLog Cabinet test time 0 s	Result								
Config	This Round	Count: 3	Min	RSSI: 4	16 dBm Max	RSSI: -26dBm	Refresh	u Save	e Tags
Temp Power use Optimize	#	ReadCount		EPC	1		Ant	Freq(MHz)	Rssi
	▶ <u>1</u> 2	50 25	30 00	_		77 88 99 00 11 22 33 44 AA BB 00 14	Ant1 Ant1	903.00	-43 -29
Interval (mS) Reserve	2	25	30 00	11 22	AK DD AK DD	55 44 AK BB 00 14	AILT	903.00	-25
Session Sol S1 S2 S3									
Target Repeat	۲.								>
Tag Mask Set Mask	Ma	sk_No Ses	sion_ID	Action	MemBank	Start_Addr(Hex)(bi	t) Ma	sk_Len(Hex)(bit)
Mask ID: Mask No.1 \checkmark Session ID: S0 \checkmark	▶ 1	SO		04	EPC	20	10		
Action: 04 V Membank: EPC V									
Start Address(D bit 32									
Mask Length (D hit) 16 Y	۲)
eration History: 🔽 Auto Clear							Activat	e Serial Por	t Monito
23-07-26 02:32:54.109 As will be options									
23-07-26 02:32:54.112 Command succeeded									
23-01/28 02:32:36:112									

3.1.2 Filtering of access tags

filtering behavior	illustrate
00	For [Access Tag]

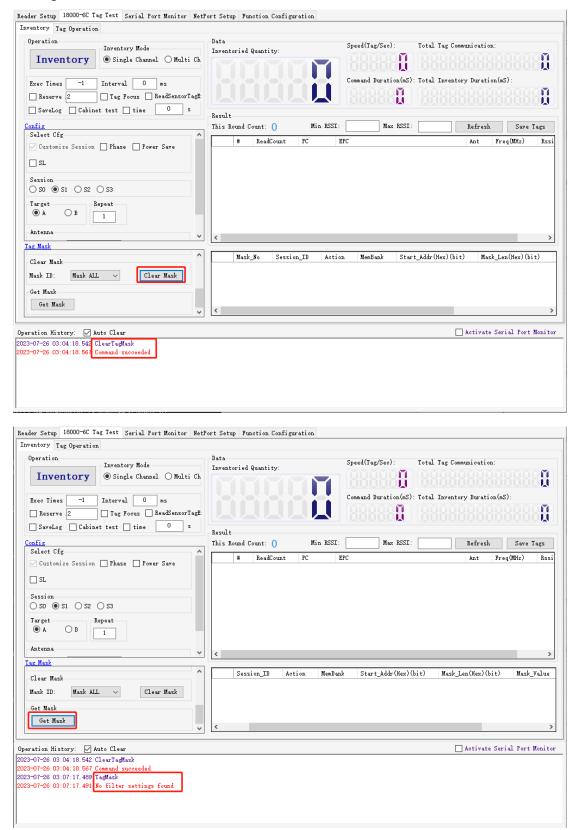
Inventory Tag Operation				
Operation Inventory Mode Inventory OSingle Channel Multi Ch Exec Times Interval Tag Focus Reserve 2 Tag Focus ReadSensorTagE		Speed(Tag/Sec):	Total Tag Communicati): Total Inventory Durat	
SaveLog Cabinet test time 0 5 Config Tag Mask	Result This Round Count: () Min RS	SI: 0 Max RSSI		
Set Mask Mask ID: Mask No.1 V Session ID: SO V	# ReadCount FC	EPC	Ånt	Freq(MHz) Rs
Action: 00 V Membank: EPC V Start Address(D bit 32				
Mask Length (D bit) 16				
Mask Value: 11 22	<			_
Clear Mask				
Mask ID: Mask ALL V Clear Mask	Mask_No Session_ID Ac	tion MemBank Star EPC 20	rt_Addr(Hex)(bit) Me 10	ask_Len(Hex)(bit)
Get Mask Get Mask				
	<			
eration History: 🗹 Auto Clear			Activat	e Serial Port Monit
223-07-26 03:00:19:203 TagMask				

After setting, on the [Access Tags] interface, every time you click Read Tags, the returned tag information is returned according to the set rules. For example, the filter rule set this time is: only display tags starting with **1122**

Inventory Ta		st Serial Port M	Monitor NetPort Setup Function	on Configura	ation					
	n 9h Antenna V Get	Set	AccessPwd (HEX)							
Tag Selection Get	n		Cance	el Tag L	.ist:			~	Set	
Read/Write S ◯ Reserved@	-	D 🔿 USER 🗌	✓ StartAddr(WORD): 2	StartLer	n(WORD): 2	🗌 MultiAn	t 🗌 ReadM	ultiBankE	n Read	
Write Tag WriteData(HEX	x):					• B	lockWrite	🔿 Write	Write	
Read MultiBa Reserved 0		d) O Tid	0 Len(word) 0	Vser O	Len(word) 0	Session SO 🗸	Target A	∨ Rea	dMode Multil	~
	Pwd ○Kill Py	SensorI		LockType O Unlock) Permanent Unlo Kill Tag	Permanent 1	Lo	Look	
Clear	ReadSens	- JAI	Start		Save Tags	Kill Pwd(HEX):			Kill	
#	PC 30 00	CRC 3C 18	EPC 11 22 AA BB AA BB 33 44 AA B	RR 00 14	Data 11 22 AA BB		DataLen 4	Ant Ant1	ReadCount	Fr 909
	00 00	00 10	11 LL AR DD AR DD 00 44 AR D							000
▶ 1 2	30 00	D1 6C	11 22 33 44 55 66 77 88 99 0	DO 11 22	11 22 33 44		4	Ant1	2	909
 1 2 	30 00	D1 6C	11 22 33 44 55 66 77 88 99 (00 11 22			-			909
<	30 00 tory: 🔽 Auto (11 22 33 44 55 66 77 88 99 0	00 11 22			4	Ant1		>

3.2 Clear filter

To clear the filter ID, you can choose to clear only a certain pattern, or choose to clear all filtering rules.



Chapter 3: Special function configuration

	Function configuration list			
function	Function	GPIO1 status	Note 1	Note 2
number				
0x00	standard mode	none		
0x04	automatic tag reading 4- antenna	GPIO1 active high		
	polling cruise available .			
0x08	Automatic aging.	GPIO1 active low		
0x09	automatic tag reading 4 antenna	GPIO1 active high	M 500	
	polling, Wiegand 26 output (in - phase).		automatically reads	
			tags, serial port	
			output, GPIO1	
			active high	
0x0F	automatic tag reading 4- antenna	GPIO1 active low		
	polling cruise available .			
0x11	automatic tag reading 4-antenna polling			
	cruise , automatic reading reader			
	identification			
0x12	automatic tag reading 4- antenna	GPIO1 active	Change the trigger	
	polling cruise, triggering GPI03	high	time by setting the	
	output (high) every time a tag is read		delay between	
			antennas	
			Note unit: 20	
			milliseconds	
0x13	Single tag low power consumption	GPIO1 low level	Handheld devices	
	(single antenna inventory)	automatic reading		
0x15	Automatically return to GPIO status	none		
	when reading tags			
0x18	Automatic tag reading, 8-antenna	GPIO 1 active high	Note : Only for	
	polling cruise		8-channel	
			modules	
0x19	Automatically read tags and	GPI01 active high		
	automatically return to GPIO status			
0x20	Automatically report when input GPIO	none		2 020 - 09 - 30 _
	status changes			
0x23	Automatic tag reading can be polled by	GPIO 1 active low	Conversational	2018-9-30
	single antenna		Mode S1	
0x24	Automatic tag reading can be polled by	GPIO 1 active low	session mode S O	2 020-04-30
	single antenna			_
0x25	Automatic tag reading can be polled by	GPIO 1 active low	Conversational	2 020-04-30
	single antenna		Mode S1	_

0x31	Automatic tag reading,	4-antenna	GPIO 1 active high	Conversational	
	polling navigation			Mode S1	
0x32	Automatic tag reading,	4-antenna	GPIO 1 active high	Conversational	
	polling navigation			Mode S2	

Note : 8-channel reader/writer 0x 18 mode configuration , please refer to 1.2->manual sending command setting

When the reader is in automatic working mode, please do not send other commands to the reader frequently.

1 Special function configuration

1.1 Configuration via software

Set Get ence Set Get Nound B Round N 1 Ant2 1 Round F Round 1 Ant6 1	Ant3 V 1	D Round Ant4 V 1 H Round Ant8 V 1	THEOO Switch Interval (mS)	series is not supported
Set Get Round B Round Ant2 V 1 Round F Round	Ant3 v 1 d G Round	Ant4 V 1		
Round B Round 1 Ant2 1 Round F Round	Ant3 v 1 d G Round	Ant4 V 1		
V 1 Ant2 V 1 Round F Round	Ant3 v 1 d G Round	Ant4 V 1		
				Refresh
Auto Clear			□ Å	ctivate Serial Port Mon
Au	to Clear	to Clear	to Clear	to Clear

Connect the reader, select the corresponding working mode, and click Settings :

Reader Setup 1	18000-6C Tag Test Serial	Port Monitor NetPort	Setup Function Con	figuration			
Set function	ID						
							function with caution
	Set	Get	Function ID(HEX):	00 ~		<u>TM600 ser</u> :	ies is not supported
				00			
Antenna Sw	ritch Sequence			01 02 03			
	Set	Get					
				05 06 07			
	A Round	B Round	C Round	07	1	Switch Interval (mS)	
	Ant1 v 1	Ant2 ~ 1	Ant3 \sim 1	- 08 09 0A 0B 0C - 0D 0E 0F		0	
				OB	l.		
	E Round Ant5 V 1	F Round	G Round	- OD	1		
	Ant5 \vee 1	Ant6 \vee 1	Ant7 \sim 1	OE			
				10			
				12 13			
				14			
				15 16			
				17			
				18 19 1A 1B			
				1B			
				ic iD v			
					·		
							Refresh
							Ketresh
							ate Serial Port Monitor
Uperation Histo	ory: 🗹 Auto Clear					Activ	ate Serial fort Monitor

After setting the configuration function successfully, the software returns the data interface as follows:

	Set	Get	Function ID(HEX): 00 ~	Note:Use this function with cau TM600 series is not support
Antenna S	witch Sequence		4 - 23	
	Set	Get		
	A Round Anti V 1	B Round Ant2 V 1	C Round D Round Ant3 V 1 Ant4 V 1	Switch Interval (mS)
	E Round Ant5 V 1	F Round Ant6 V 1	G Round H Round Ant7 V 1 Ant8 V 1	
				Refresh
	tory: ☑ Auto Clear			Refresh
07-26 03:	tory: ☑ Auto Clear 09:09.941 Function ID 09:10.043 <mark>Command succ</mark>			

At this point, the special function configuration is successful, and the reader has started to

work in this mode.

Users can also confirm whether the configuration is successful through the query button:

t function	10					
	Set	Get	Function ID(HEX): 00			function with caution
	Set	Get	Function ID(REA): 00	~		
Antenna Sw	vitch Sequence					
	Set	Get]			
	Set	Get				
	A Round	B Round	C Round	D Round	Switch Interval (mS)	
	Ant1 v 1	Ant2 \vee 1	Ant3 v 1	Ant4 v 1	0	
	E Round	F Round	G Round	H Round		
	Ant5 ~ 1	Ant6 \vee 1	Ant7 v 1	Ant8 v 1		
						Refresh
	ory: 🔽 Auto Clear				Acti	
-07-26 03:0	09:09.941 Function ID :				Acti	
-07-26 03:0	09:09.941 Function ID : 09:10.043 Command succe	eeded			Acti	
-07-26 03:0	09:09.941 Function ID :	eeded			Acti	Refresh vate Serial Port Monit
-07-26 03:0	09:09.941 Function ID : 09:10.043 Command succe	eeded			Acti	

1.2 Manual send command settings

Command : A0 04 FF A0 **(Cmd No.) **(Check) For example: standard mode: **A0 04 FF A0 00 BD**

Reader Setup	18000-6C Tag Test	Serial Port Monitor	NetPort Setup	Function Configuration		
	3:11:37.926 Send: AO					
2023-07-26 03	3:11:38.029 Recv: AO	04 01 AO 10 AB 🔨				
Save L	og To					
Input Comman	al: a0 04 ff a0 00				CheckSum: BD	Send Clear
						Activate Serial Port Monitor
	story: 🔽 Auto Clea :11:38.031 Command :					Activate Serial Fort Mohitor
2023 01 20 03	. II. SS. SSI Command .	succeeded				

Note: For the calculation method of the check digit, please refer to the communication protocol user manual

After the command is sent successfully, the reader enters the corresponding working mode.

2 Set the switching order of the four antennas

Take antenna 1 as an example in working mode 04:. The first step: set 04 working mode:

		ial Port Monitor NetPort	Setup Function Config	puration		
-Set function 1	ID				Note:Use this func	tion with caution
	Set	Get	Function ID(HEX): 04	٤ · · ·		s not supported
-Antenna Sw	itch Sequence					
	Set	Get				
	A Round Ant1 V 1	B Round Ant2 V 1	C Round Ant3 V 1	D Round Ant4 V 1	Switch Interval (mS)	
	E Round Ant5 V 1	F Round Ant6 V 1	G Round Ant7 V 1	H Round Ant8 V 1		
						Refresh
	ory: 🔽 Auto Clear				🗸 Activate	Serial Port Monitor
2023-07-26 03:1:	1:38.031 Command succe 2:59.793 Function ID s	set				^
	2:59.993 Command succe 3:00.569 2Antenna Disc					
	3:00.571 3Antenna Disc 3:00.571 4Antenna Disc					
2023-07-26 03:1	3:00.711 2Antenna Diso 3:00.712 3Antenna Diso	connect				~

The second step is to change the rotation times of antenna 2, 3, and 4 to 0, and click Settings:

18000-6C Tag Test Seri ID	al Port Monitor NetPor	t Setup Function Configu	ration		
Set	Get	Function ID(HEX): 04	~		unction with caution as is not supported
vitch Sequence					
Set	Get				
A Round Ant1 V 1	B Round Ant2 V 0	C Round Ant3 V 0	D Round Ant4 V 0	Switch Interval (mS)	
E Round Ant5 ~ 1	F Round Ant6 ~ 1	G Round Ant7 V 1	H Round Ant8 V 1		
					Refresh
ory: 🗹 Auto Clear				Active	te Serial Port Moni
·	ID Set itch Sequence Set Anti 1 E Round Ant5 1	ID Set Get itch Sequence Set Get Anti Get Round B Round Ant2 0 E Round F Round Ant5 1 Ant6 1	ID Set Get Function ID(HEX): 04 itch Sequence Set Get A Round B Round C Round Ant1 0 1 Ant2 0 Ant3 0 E Round F Round G Round Ant5 1 Ant6 1 Ant7 1	Set Get Function ID(HEX): 04 itch Sequence Set A Ant1 1 Ant2 0 Ant3 0 Ant4 0 E Round Ant5 1 Ant6	ID Set Get Function ID(HEX): 04 THEOD series itch Sequence Set Get Anti 0 Ant2 0 Ant3 0 Ant4 0 0 E Round F Round G Round H Round Ant5 1 Ant6 1 Ant7 1 Ant8 1 Set Get C Round H Round Ant5 1 Ant6 1 Ant7 1 Ant8 1

Then you can click the query button to confirm whether the setting is successful:

ader Setup J	18000-6C Tag Test Seria	l Port Monitor NetPor	rt Setup Function Configuration	
et function 3	ID			
				Note: Use this function with caution
	Set	Get	Function ID(HEX): 04 ~	TM600 series is not supported
Antonno Sw	vitch Sequence			
-Aittenna Sw	viten sequence			
	Set	Get		
	A Round	B Round	C Round D Round	Switch Interval (mS)
	Ant1 V 1	Ant2 V 0	Ant3 \checkmark 0 Ant4 \checkmark 0	
	E Round	F Round	G Round H Round	
	Ant5 \sim 1	Ant6 \sim 1	Ant7 \sim 1 Ant8 \sim 1	
				Refresh
				_
	ory: 🔽 Auto Clear			🗹 Activate Serial Port Monito
	15:00.573 Antenna switch 15:00.576 Ant 1 inventor:			
3-07-26 03:1	15:00.577 Ant 2 inventor;	y O round		
	15:00.578 Ant 3 inventor;			
	15:00.578 Ant 4 inventory 15:00.579 Ant delay time:			
.5 01 26 05.1	10.00.015 Mit delay time:	5.0 m5		

8 Antenna switching sequence is the same.

Chapter 4: Serial port monitoring

1 serial monitor

Serial port monitoring is used to view instruction set data, if you need to view it, check [Serial port monitoring]

F	eader	Setup	18000-6C Ta	ag Test	Serial Po	rt Monitor	NetPort Setup	Function Conf	iguration			
		Save L	og To									
	Input	Comman	d:							CheckSum:	Send	Clear
C	perat	ion His	tory: 🗹 A	uto Clea	r						🗸 Activate Ser	ial Port Monitor
Γ												
L										 		

2 Operation records

If you check the [Auto Clear] of the operation record, the serial port monitoring interface will automatically refresh after displaying all the data:

Reader Setup 18000-6C Tag Test Serial Fort Monitor NetPort Setup Function Configuration	
2023-07-26 03:16:00.797 Recv: A0 13 01 8A CO 30 00 12 34 56 78 12 34 56 78 12 34 56 78 55 41	^
2023-07-26 03:16:00.798 Recv: A0 13 01 8A CO 34 00 80 80 11 70 00 00 02 08 8E 72 D4 49 43 E3	
2023-07-26 03:16:00.810 Recv: A0 13 01 8A CO 30 00 E2 80 69 95 20 00 50 07 F9 A7 5C 81 59 25	
2023-07-26 03:16:00.813 Recv: A0 13 01 8A CO 30 00 11 22 33 44 55 66 77 88 99 00 11 22 5B 47	
2023-07-26 03:16:00.814 Recv: AD 11 01 8A CD 28 0D AA BB 12 33 12 33 44 44 55 55 54 67	
2023-07-26 03:16:00.816 Reov: AO OF 01 8A CO 20 00 AB CO 01 00 20 03 00 40 52 C5	
2023-07-26 03:16:00.817 Recv: AO 07 01 8A CO 01 01 4F BD	
2023-07-26 03:16:00.826 Recv: A0 13 01 8A CO 34 00 12 34 56 70 11 00 77 88 99 00 11 22 40 A6	
2023-07-26 03:16:00.826 Recv: A0 0D 01 8A CO 18 00 AB CD EE EE 00 02 5F 3B	
2023-07-26 03:16:00.830 Recv: A0 13 01 8A CO 30 00 E2 80 69 95 20 00 40 07 F9 A6 FC 81 40 AF	
2023-07-26 03:16:00.831 Reov: A0 0D 01 8A CO 18 00 AB CD HE EE 00 01 58 43	
2023-07-26 03:16:00.832 Recv: A0 0B 01 8A C0 10 00 A1 B2 C3 D4 44 CC	
2023-07-26 03:16:00.838 Recv: A0 13 01 8A CO 34 00 E2 80 11 70 00 00 02 08 8E 74 52 49 47 FD 2023-07-26 03:16:00.840 Recv: A0 13 01 8A CO 30 00 56 77 AA BB AA BB 33 44 AA BB 00 45 45 D5	
2023-07-26 03:16:00.842 Recv: A0 0F 01 8A C0 24 4F 12 34 12 34 12 34 AB CD 53 F6	
2023-07-26 03:16:00.844 Reov: A0 13 01 8A C0 34 00 80 80 11 70 00 00 02 08 8E 72 D4 E9 47 3F	
2023-07-26 03:16:00.848 Reov: A0 0F 01 8A C0 20 00 12 22 00 01 00 02 00 21 46 48	
2023-07-26 03:16:00.852 Recv: A0 13 01 8A CO 30 00 33 33 33 33 33 33 60 1C 30 79 4A 45 B9	
2023-07-26 03:16:00.860 Recv: A0 13 01 8A CO 34 00 K2 80 11 70 00 00 02 08 8E 73 FC 49 45 56	
2023-07-26 03:16:00.862 Recv: A0 13 01 8A C0 34 00 E2 80 11 70 00 00 02 08 8E 72 D4 38 45 90	
2023-07-26 03:16:00.864 Reov: A0 13 01 8A CO 34 00 E2 80 11 70 00 00 02 0A OF 68 6A CE 4C E4	
2023-07-26 03:16:00.867 Recv: A0 0D 01 8A CO 18 00 AB CD EE EE 00 03 61 38	
2023-07-26 03:16:00.875 Recv: A0 13 01 8A CO 34 00 E2 80 11 70 00 00 02 0A OF 68 74 2E 4D 79	
2023-07-26 03:16:00.877 Recv: A0 13 01 8A CO 30 00 AA BB 12 33 12 33 44 44 F9 A7 38 81 5D A5	
2023-07-26 03:16:00.880 Recv: AD OF 01 8A CO 20 00 AA BB 12 33 12 33 44 44 48 27	
2023-07-26 03:16:00.885 Reov: A0 13 01 8A CO 30 4F AA BB 12 33 12 33 44 44 55 55 00 08 51 09	
2023-07-26 03:16:00.892 Recv: A0 13 01 8A CO 30 00 FD 20 22 09 01 11 14 13 88 34 39 16 42 04	
2023-07-26 03:16:00.894 Recv: A0 13 01 8A C0 34 00 E2 80 11 70 00 00 02 08 8E 72 CA 18 4E B1	
2023-07-26 03:16:00.907 Recv: AO OD 01 8A CO 18 00 AA BB 34 11 00 11 42 F3	
	*
Save Log To	
Input Command:	CheckSum: Send Clear
Input command.	CheckSum. Send Clear
Operation History: 📈 Auto Clear	Activate Serial Port Monitor

If you do not check the automatic clearing, the data does not need to be refreshed, and more serial port monitoring data can be retained.

Notice:

1、 For short-term observation, you can open the serial port monitoring or not clear the serial port monitoring

2. If you want to run the demo for a long time, it is recommended not to enable serial port monitoring. If you need to enable serial port monitoring, it is recommended to clear it automatically. Otherwise, the amount of data is large, which will cause the refresh of the demo interface to freeze or increase the software burden.

Chapter 5: Network configuration guide

1 serial port connection reader/kit

- (1) First, make sure that the DIP switch of the reader/kit is set correctly. To connect to the network port, you need to turn down the DIP switch 7-8 (towards the number), and then enter the corresponding serial port number and baud rate to connect to the reader/kit.
- (2) This software automatically obtains the serial port number, but if the software has already been opened, the serial port cable is inserted, and the serial port number can be automatically recognized only by clicking the refresh button (the demo version below 4.1 requires a drop-down box to select the serial port number, and the corresponding serial port number can be viewed at: Computer (right click)--Management--Device Manager--Port);
- (3) The default baud rate is: 115200.

2 Ethernet to connect to the reader/kit

Firstly, make sure that the DIP switch of the reader/kit is set correctly. To connect to the network port, you need to turn down the DIP switch 3-4 (towards the number), and then enter the corresponding IP and port to connect to the reader/kit.

3 Network parameter configuration

This function integrates the configuration function of the new version of the network port on the basis of the version 3.9 demo, so the devices with the old network port cannot be searched or configured with this software. If you have any questions, please consult the salesperson or technical support.

Time : Around July 2020, readers and kits will gradually use the new network port.

3.1 Refresh/select network card

First select the network card corresponding to the reader. For example, the network card of a notebook may have a wired network card and a wireless network card. If a virtual machine is installed, there is also a network card of the virtual machine, so the corresponding network card must be selected first. If there is no network card, you can click the refresh button.

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configurati	ion	
	Basic Setting	Port_1 Heartbeat Detect port1_En NetMode: TCP_SERVER
Current NetCard ip:172.16.11.56, mask: 255.255.255.0, mac: 00:E0:40:02:AE:D2	Device Mac: DevName(2 dhopEn: Ip: Gateway: com negotiation: omCfgEn Get Save Default Reset Load Store	LocalFort: randEn 0 DomainEn DES IP/Fort BaudRate: B300 DataSire: Bits5 StopBits: Hone Parity: Odd PhyLost: CloseSocketEn RxLen: ((=1024)
Note		RxTimeout: (10ms) ResetCtrl: ClearBufferEn [] ReconnectCnt:
 If you need to configure Client, please use a private network tool The old Neport interface cannot be searched for the moment. 		DNS host:
Operation History: 🗹 Auto Clear		🗹 Activate Serial Port Monitor

3.2 Search device

Click Search Device, if there is a device, it will be displayed first, and you can see the IP and other information of the reader/kit device, as shown in the figure below:

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration	
Refresh NetCard: Realtak PCIe FE Family Controller \lor	Port_1 Heartbeat Detect
Searching The total number of devices: 1 Clear Basic Setting	port1_En
Current NetCard Device Mac	NetMode: TCF_SERVER ~
ip:172.16.11.56, mask: 255.255.255.0, mac: 00:E0:4C:02:AE:D2	LocalPort: randEn 0
# DeviceHame DeviceIp DeviceMac ChipVer PcMac DevName(2	DomainEn
▶ 1 NoWetFort 192.168.0.178 38:3B:26:44:29:EE 0 00:00:00:00:0 dhopEn:	DNS domain
Ip:	
Mask:	Des IP/Port
Gateway	
com negotiation: omCfgEn	BaudRate: B300 🗸
	DataSize: Bits5 🗸
	StopBits: None 🗸
Get Save Default	Parity: Odd ~
Reset Load Store	PhyLost: CloseSocketEn
	RxLen: (<=1024)
	RxTimeout: (10ms)
< >>	
Note	ResetCtrl: ClearBufferEn 🗌
(1) If you need to configure Client, please use a private network tool	ReconnectCnt:
(2) The old Neport interface cannot be searched for the moment. <u>Old tool link</u>	DNS host:
	DNS port:
	Activate Serial Port Monitor
Operation History: 🗹 Auto Clear	Activate Serial Fort Monitor

3.3 Load/View Device Details

After searching out the device, you can double-click the corresponding device list to view the detailed configuration information

Refresh NetCard: Realtek PCIe FE Family Con	atroller	~			rtbeat Detect	
Search The total number of devices: 1 Clear			Basic Setting	port1_En NetMode: TCP_SERVER		
urrent NetCard p:172.16.11.56, mask: 255.255.255.0, mac: 00:	E0:4C:02:AE:D2		Device Mac:		randEn 🗌 0	
# DeviceName DeviceIp DeviceMac	ChipVer	PcMac	DevName (21	DomainEn 🗌]	
RoNetPort 192.168.0.178 38:38:26:44	:29:BE 0	00:00:00:00		-DNS domain		
			Ip:			
			Mask:	Des IP/Por	t	
			Gateward			
	GetCfg Suces	sful	on: omCfgEn	BaudRate:	B300	
	Cate the Net	Port configuration	an sussessfully	DataSize:	Bits5	
	Gets the Net	Fort configuration	successions	StopBits:	None	
			Save Default	Parity:	Odd	
			Load Store	PhyLost:	CloseSocketEn 🗌	
				RxLen:	(<=10	
				RxTimeout:	(10ms	
			>	ResetCtrl:		
te					ClearBufferEn 🗌	
) If you need to configure Client, please use a	private network	tool		ReconnectCr	nt:	
2) The old Neport interface cannot be searched f	or the moment.	<u>01d tool 1</u>	ink	DNS host:		
				DNS port:		
ion History: 🔽 Auto Clear				🖂 Acti	vate Serial Port Mor	

Reader Setup 18000-6C Tag Test Serial Port Monitor NetPort Setup Function Configuration

Refresh NetCard: Realtek PCIe FE Family Controller V	Port_1 Heartbeat Detect
Search The total number of devices: 1 Clear Basic Setting Current NetCard ip:172.16.11.56, mask: 255.255.255.0, mac: 00:E0:4C:02:AE:D2 Device Maci38:3B:26:44:29:BE	porti_En ☑ NetMode: <u>TCP_SERVER</u> ✓ LocalPort: randEn 4001
# DeviceName DeviceIp DeviceMac ChipVer PcMac DevName(21RoNetFort	DomainEn
Koll Roll Roll <th< th=""><th>DNS domain</th></th<>	DNS domain
Ip: 192.168.0.178	
Mask: 255, 255, 255, 0 Gateway 192, 168, 0, 1	Des IP/Port 192.168.0.200 1000
com negotiation: omCfgEn 🗌	BaudRate: B115200 🗸
	DataSize: Bits8 🗸
	StopBits: One 🗸
Get Save Default	Parity: None 🗸
Reset Load Store	PhyLost: CloseSocketEn
	RxLen: 1024 (<=1024)
	RxTimeout: 0 (10ms)
٢	ResetCtrl: ClearBufferEn 🗌
Note (1) If you need to configure Client, please use a private network tool	ReconnectCnt: 0
(2) The old Neport interface cannot be searched for the moment. <u>Old tool link</u>	DNS host: 0.0.0.0
	DNS port: 0
Operation History: 🖂 Auto Clear	🖂 Activate Serial Port Monitor

some parameters	Parameter Description
DevName device name	Users can modify it to distinguish devices
DHCP	Not enabled by default
IP	The current IP of the reader

NetModel network	The default is to use Server mode, which can be set to Client mode,
model	but this software does not support it, you need to use the network
	port debugging assistant to test
LocalPort local port	The default is 4001, which is not recommended: the port number is
	randomly generated.
Baudrate serial port	Baud rate, the default is 115200
baud rate	
Phylost network	If it is not checked, it means that the disconnection reconnection
disconnected	mechanism of the network port is enabled

3.4 Server mode

Pull down **the network mode**, select the server mode TCP_SERVER, set the parameters, and then click [Save Configuration]. This software does not support client mode operation.

Refresh NetCard: Realtek PCIe FE Family Controller V Search The total number of devices: 1 Clear Current NetCard The total number of devices: 1 Clear					Port_1 Heart	tbeat Detec	t	
			Basic Setting Device Mac(38:3B:26:44:29:BE		port1_En 🗹 NetMode: TCP_SERVER			
								ip:172.16.11.56, mask: 255.255.255.0, mac: 00:E0:4C:02:AE:D2
# DeviceName DeviceIp DeviceMac ChipVer PcMac			DevName (21 RoNetPort			DomainEn		
✓ RoNetFort 192,168.0.178 38:38:26:44:29:88 0	00:00:00:00:00:0	dhepEn:			-DNS domain-			
		Ip:	192.168.0.17	8	-DRS domain-			
		Mask:	255.255.255.)	Des IP/Port		1000	
		Gatewa	ay 192. 168.0.1		102.100.0.2		1000	
		com negot	iation: omCfgE:	n 🗌	BaudRate:	B115200		
					DataSize:	Bits8		
					StopBits:	One		
		Get	Save	Default	Parity:	None		
					2012/06/2012	The first		
		Reset	Load	Store	PhyLost:	CloseSoc	ketEn [
					RxLen:	1024	(<=10	
					RxTimeout:	0	(10ms	
	>				ResetCtrl:	ClearBuf		
lote					ReconnectCni	-		
(1) If you need to configure Client, please use a private network	tool							
(2) The old Neport interface cannot be searched for the moment.	Old tool link				DNS host:	0.0.0.0		
					DNS port:	U		
tion History: 🔽 Auto Clear						ate Serial	Post Hor	
tion mistory. M Auto clear					M Retiv	are perial	TOLC WO	

Note: Although the search device, the reader and the computer are directly connected, the IP of the two devices may not be in the same network segment, and the IP of the computer can also be searched; but if the software of the computer needs to be able to connect to the reader, it is best to let the IP of the reader and the IP of the computer be in the same **network segment**.