




## MARSON MR17 Fixed UHF Reader User Manual

[Home](#) » [MARSON](#) » MARSON MR17 Fixed UHF Reader User Manual 



### MR17 Fixed UHF Reader User Manual



#### Contents

- [1 Chapter 1 Product Intro](#)
- [2 Chapter 2 Installation instructions](#)
- [3 Chapter 3 Read and Write EPC](#)
- [4 Documents / Resources](#)
- [5 Related Posts](#)

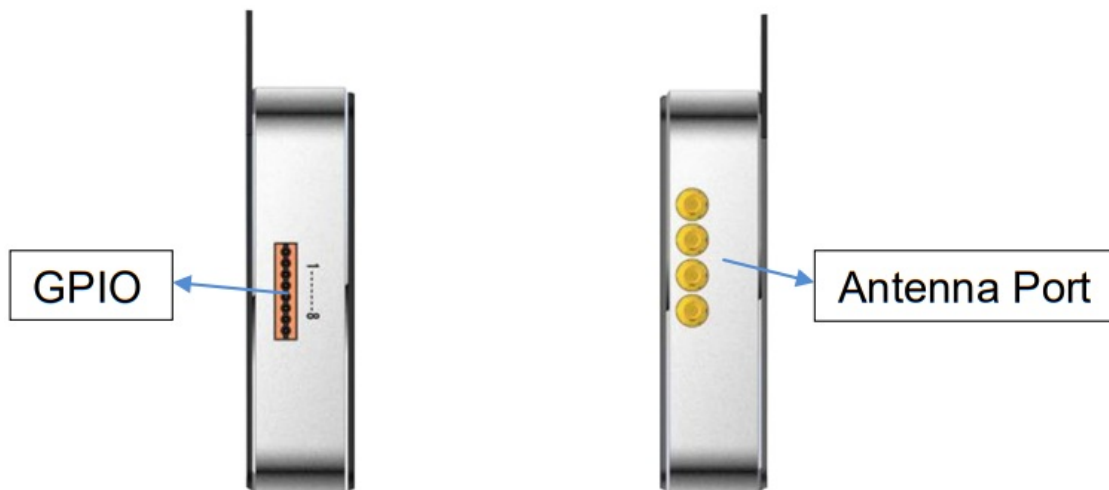
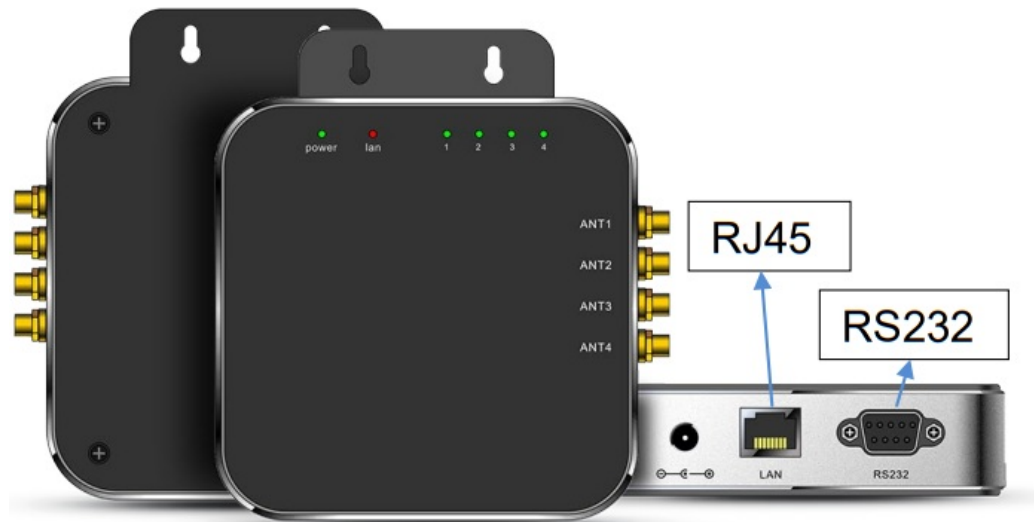
### Chapter 1 Product Intro

## 1.1 Intro

MR17 is a high-performance four-channel fixed UHF reader. The core chip adopts the Impinj R2000 module with high integration and excellent performance. With Stable and reliable capacity, excellent anti-electromagnetic interference capability, and heat dissipation performance, it meets the requirements for installation and application in various indoor and outdoor environments and can be applied in multiple industries with strict RFID application standards such as warehouse management, archives, and library management, bank, clothing and footwear retail, jewelry monitoring, watch industry, laundry, production line management, medical instrument cabinet, and vending machines.

## 1.2 Interface

MR17 has adopted DC 12V/5A power supply, it can be equipped with multiple types of antennas with different output power such as 6dBi, 9dBi, and 12dBi. Also, MR17 has adopted the SMA female port, RS232, and RJ45 interfaces, and Windows SDK and demo are provided.



## 1.3 Accessory List

1. MR17 fixed reader, 12V/5A power adaptor.
2. UHF antennas: 6dBi, 9dBi, 12dBi etc.
3. Feeder line that has adopted with SMA male port, the port on other side needs to be equipped with an antenna.
4. RJ45 Ethernet cable.
5. Serial port cable.
6. Demo software includes 4 necessary files, and UHFAPP.exe has executed the program as pic. 1.

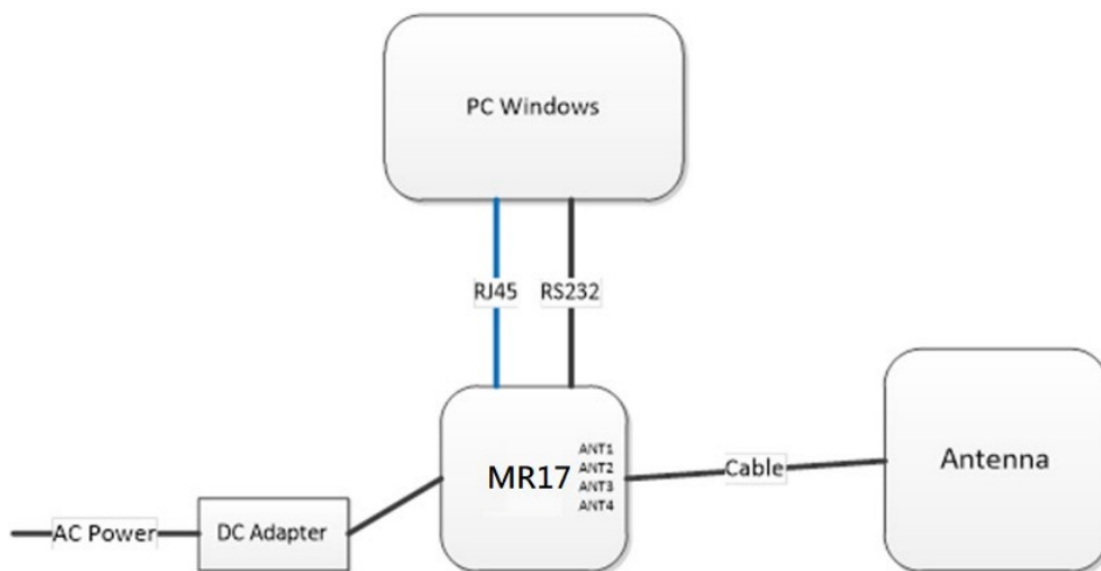
Name	Compressed	Original	Type	Modified
..				
tpConfig.txt	28	28	Text Document	8/2/2018 11:24:19 AM
UHFAPL.dll	55,281	208,896	Application extension	11/8/2018 3:15:05 PM
UHFAPP.exe	56,234	201,216	Application	11/14/2018 5:59:32 PM
WindowsFormsControlLibrary1.dll	3,713	9,216	Application extension	7/20/2018 10:11:22 AM

Pic.1

#### 1.4 Device installation

MR17 can be connected as Pic.2. PC can connect with the device by serial port cable (communication velocity is 115200bps). Also, it can be connected by Ethernet cable through an RJ45 port. (Default IP address of MR17 is 192.168.99.202, Port is 8888).

PC needs to be set with MR17 in the same network segment and PC could connect with multiple MR17 devices through a switchboard or similar. One MR17 can be connected with 4 antennas at maximum.



Pic.2

#### 1.5 GPIO

1	2	3	4	5	6	7	8
NC	NC	output: Relay pin 1	output: Relay pin 2	input: Optically coupled 1 LED+	input: Optically coupled 1 LED-	input: Optically coupled 2 LED+	input: Optically coupled 2 LED-

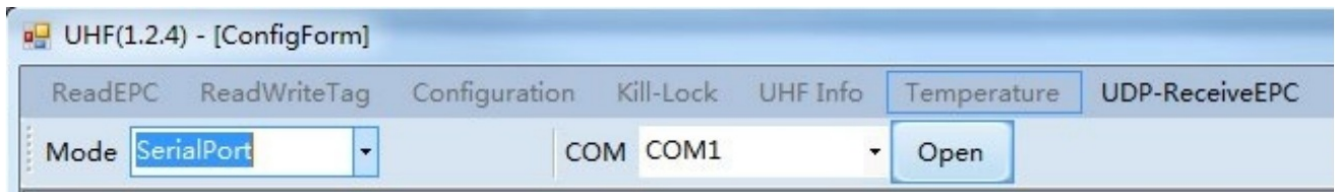
MR17 contains a GPIO interface, which is defined as follows:

- 101-2: NC, unable to connect to any electrical level:
- 103-4: Controllable by software, the maximum switching voltage of the electric relay is 220Vdc, 250Vac:
- 105: Optically coupled 1 inputLED+, voltage range between 105 and 106 is 3- 5.5V, maximum current is 50mA:
- 106: Optically coupled 1 inputted-, voltage range between 105 and 106 is 3-5.5V, maximum current is 50mA;
- 107: Optically coupled 2 inputLED+, voltage range between 107 and 108 is 3-5.5V, maximum current is 50mA;
- 108: Optically coupled 2 inputted-, voltage range between 107 and 108 is 3-5.5V, maximum current is 50mA;

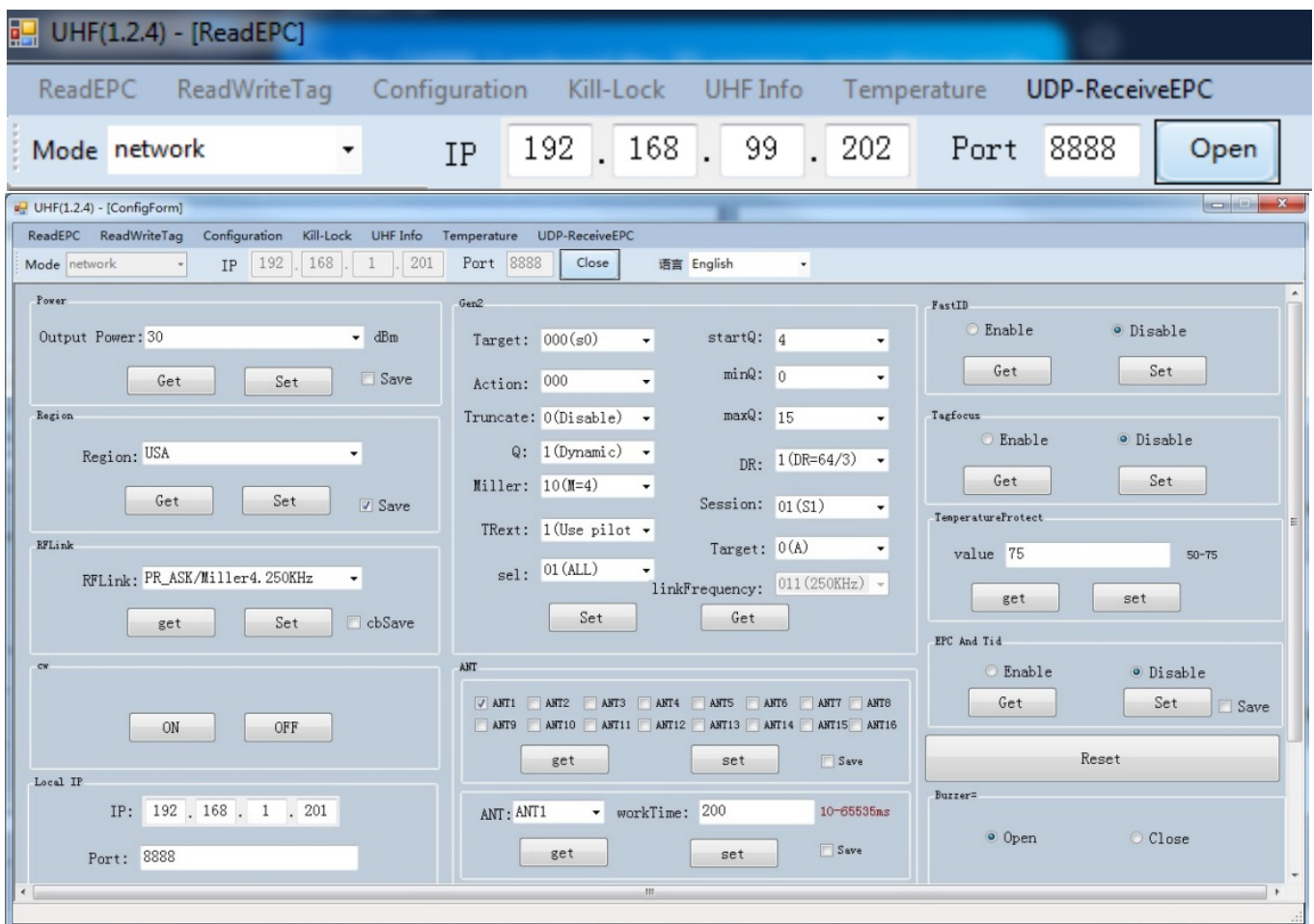
## Chapter 2 Installation instructions

### 2.1 Parameter Setup

Double-click UHFAPP.exe to enter the software, and connect with the device through the serial port line. Select Mode to “SerialPort”, and select COM to accord serial port on PC. Click “Open” to connect with the device, The initiation page is as follows:



If RJ45 has been used as a connection, communication Mode needs to be selected as “network” and input the IP address and port number (default IP address is 192.168.99.202, Port is 8888.) Then click “Open” to connect the PC and device. After the PC and device have been connected, the status page is as follows:



After the device has connected to the PC, the parameters on the interface will be empty. Click “Get” on each option to collect device parameters. Click “Set” on the page, user can adjust necessary parameters, some parameters are default values.

Output power can be set in the range of 5 dBm to 30 dBm as following picture, after selecting the value, click the “Set” button. If “Save” has been selected, current parameters will be saved after powering off the device.

Power

Output Power: 30 dBm

Region

Region: 30

RFLink

RFLink: 30

cbSave

Save

Save

Save

Set regions:

Region

Region: USA

China1

China2

Europe

USA

Korea

Japan

Save

Set RFLink:

RFLink

RFLink:    
☐

**Set continuous wave:**

CW

There are two work modes that can be selected, "command mode" and "auto mode".

Under "command mode", the user could collect tag data on the "Read EPC" page, click "Start" to send a command to the device on the PC, and click "Stop" to stop collecting tag data.

Under "auto mode", the user could collect tag data on the "UDP-ReceiveEPC" page, click "Start" to receive data, and click "Stop" to stop receiving data. After selecting "auto mode", the device needs to be restarted.

work mode

Mode:

Set IP address and make sure PC and device have been used in the same segment. For example, if the IP address of the PC is 192.168.1.109, the mask is 255.255.255.0, the device IP address can be set to 192.168.1.201, and the port number doesn't need to be changed.

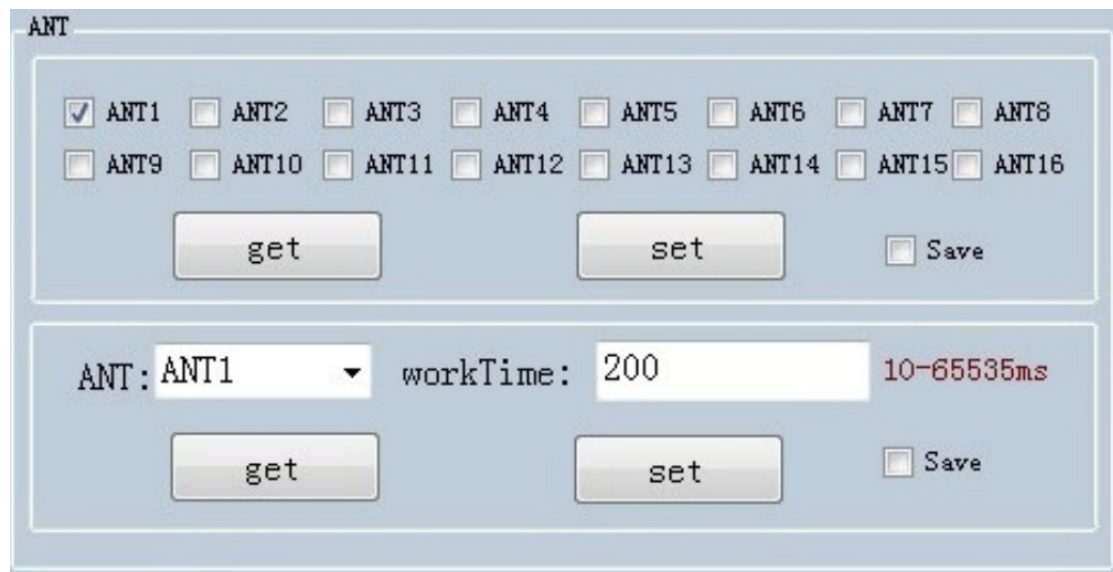
Local IP

IP:  .  .  .

Port:

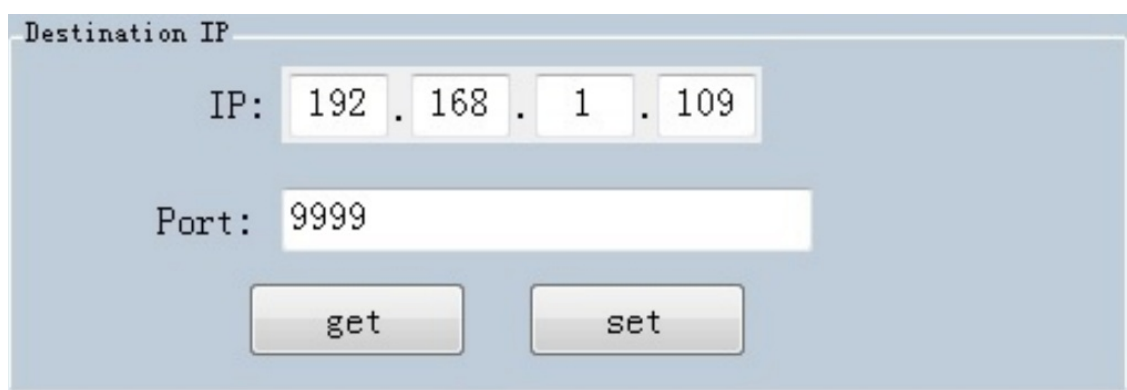


Set antenna connection, there are 4 I/O ports on the device and have been marked as ANT1, ANT2, ANT3, and ANT4. The user needs to select the antenna which has been connected and click “set”.



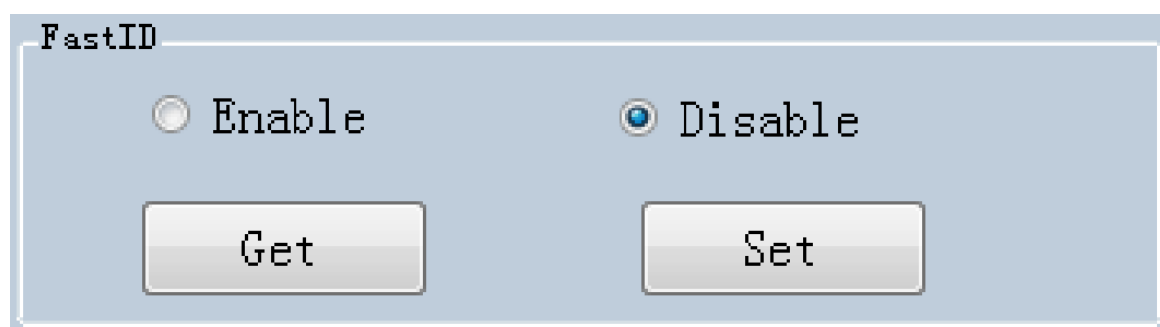
The ANT configuration interface is divided into two sections. The top section, titled "ANT", contains a grid of 16 checkboxes labeled ANT1 through ANT16. ANT1 is checked. Below the grid are "get", "set", and "Save" buttons. The bottom section contains a dropdown menu labeled "ANT:" with "ANT1" selected, a text input field for "workTime:" containing "200", and a red text label "10-65535ms". Below these are "get", "set", and "Save" buttons.

Set the destination IP address and port number, destination IP address is the IP address used for reading tag data under “auto mode”.



The Destination IP configuration interface has a title "Destination IP". It features an IP address input field showing "192 . 168 . 1 . 109" and a Port input field showing "9999". Below the input fields are "get" and "set" buttons.

**Set FastID:**



The FastID configuration interface has a title "FastID". It contains two radio buttons: "Enable" and "Disable". The "Disable" radio button is selected. Below the radio buttons are "Get" and "Set" buttons.

**Set TagFocus:**

Tagfocus

☐ Enable ☒ Disable

Get Set

Set protective temp. It means to set up the highest operating temperature of the UHF module:

TemperatureProtect

value 75 50-75

get set

Set EPC and TID:

EPC And Tid

☐ Enable ☒ Disable

Get Set ☐ Save

Reset, click the "Reset" button to restore the device to the default value. After resetting, the user needs to click "Close" and "Open" to reconnect the device.

Reset

Set Buzzer, click "Open" to switch on the buzzer function, and the device will play a notification sound when reading tags.



Buzzer=

☒ Open ☐ Close

get set

Set Gen2, this parameter needs to be adjusted by actual requirements.

Gen2

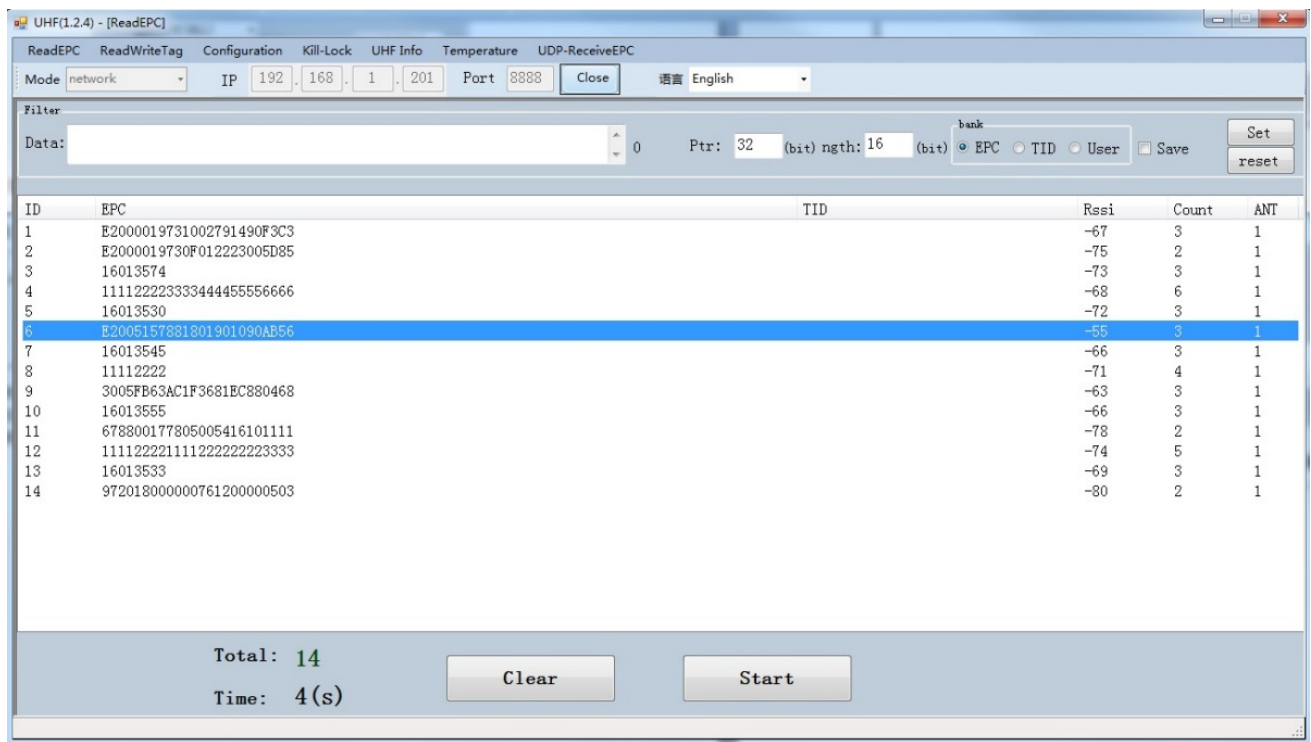
Target: 000(s0) ▼	startQ: 4 ▼
Action: 000 ▼	minQ: 0 ▼
Truncate: 0(Disable) ▼	maxQ: 15 ▼
Q: 1(Dynamic) ▼	DR: 1(DR=64/3) ▼
Miller: 10(M=4) ▼	Session: 01(S1) ▼
TRext: 1(Use pilot) ▼	Target: 0(A) ▼
sel: 01(ALL) ▼	linkFrequency: 011(250KHz) ▼

Set Get

## Chapter 3 Read and Write EPC

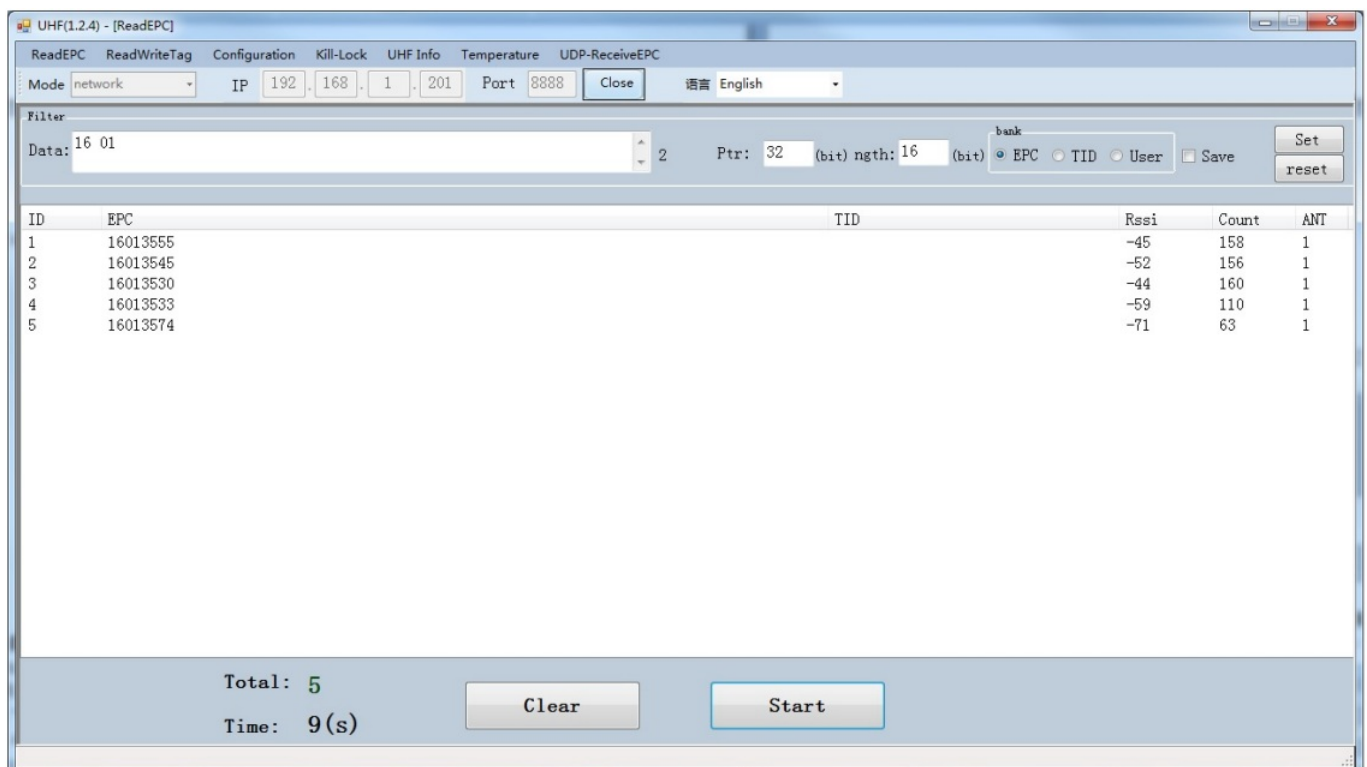
### 3.1 Read EPC

Click "ReadEPC" in the menu to enter the EPC page, click "Start" to read tags, and click "Stop" to stop reading. The EPC, RSSI, Count number, and ANT number (antenna channel) will be recorded in the window as following pic:



The user could enter data in “Filter” to filter the EPC of special tags, the maximum filter DL is 96 bits. The user needs to set up data, initial address, and data length and click “Set”. After filtered data has been set, the device will read and search for the tag which has been filtered.

For example: enter 16 01 in “Data”, the initial address data length is 32(bit), length is 16(bit), select EPC in “bank”, click “Set” and click “Start” to start scanning tags which the address start at 16 01:



### 3.2 Read & Write Tags

Click “ReadWriteTag” to enter its page, TID area can be read-only, and RESERVED, EPC, and USER areas can be read and written.

UHF(1.2.4) - [ReadWriteTagForm]

ReadEPC ReadWriteTag Configuration Kill-Lock UHF Info Temperature UDP-ReceiveEPC

Mode: network IP: 192.168.1.201 Port: 8888 Close 语言: English

filter  
Data: E2 00 51 57 88 18 01 90 10 90 AB 56 12

Read-write  
Bank: EPC  
Prt: 2  
Length: 6 (word)  
Access Pwd: 00000000  
Data: E2 00 51 57 88 18 01 90 10 90 AB 56 12  
Read Write

BlockWrite  
Bank: EPC  
Prt: 2  
Length: 6 (word)  
Access Pwd: 00000000  
Data: 0  
Erase Write

Set QT  
QT: Not reduces range private Memory map  
Get Set

filter  
Data: E2 00 51 57 88 18 01 90 10 90 AB 56 12

Read-write  
Bank: EPC  
Prt: RESERVED  
Length: EPC (word)  
Access Pwd: 00000000  
Data: 0  
Read Write

Click one option in the "Read-write" window to enter tag reading mode, EPC will be automatically copied into the "Data" block in the filter, the default option is EPC reading, click "Read" to read 12 bytes of EPC area.

filter

Data: E2 00 51 57 88 18 01 90 10 90 AB 56 12

Read-write

Bank: EPC

Prt: 2

Length: 6 (word)

Access Pwd: 00000000

Data: E2 00 51 57 88 18 01 90 10 90 AB 56 12

Read Write

For the "RESERVED" area, the user could read 4 words at maximum, The previous 2 words are passwords of the KILL function, last 2 words are access passwords:

filter

Data: E2 00 51 57 88 18 01 90 10 90 AB 56 12

Read-write

Bank: RESERVED

Prt: 0

Length: 4 (word)

Access Pwd: 00000000

Data: 20 18 20 18 20 18 20 18 8

Read Write

**Read TID area:**

filter

Data:
E2 00 51 57 88 18 01 90 10 90 AB 56
12

Read-write

Bank:
TID
Prt:
0
Length:
6
(word)
Access Pwd:
00000000
Data:
E2 00 34 12 01 3C FA 00 09 AC AB 56
12

Read
Write

#### Read USER area:

filter

Data:
E2 00 51 57 88 18 01 90 10 90 AB 56
12

Read-write

Bank:
USER
Prt:
0
Length:
4
(word)
Access Pwd:
00000000
Data:
12 34 12 34 12 34 12 34
8

Read
Write

Data could be written in EPC, RESERVED, and USER areas, select according to areas and input initial address, and length, input data into the “Data” window and click “Write” to write data according to areas.

### 3.3 Lock UHF Tag

Click “Kill-Lock” in the main menu to enter the Tag locking function. For this function, the user could execute “Lock”, “Kill”, “Open”, “Permanent Open” and “Permanent Lock”, to execute the “Lock” function, the password is needed. If the user wants to kill the UHF tag, needs to enter the password and the tag will be wasted permanently.

UHF(1.2.4) - [Kill\_LockForm]

ReadEPC ReadWriteTag Configuration Kill-Lock UHF Info Temperature UDP-ReceiveEPC

Mode: network IP: 192.168.1.201 Port: 8888 Close 语言 English

filter  
Data: E2 00 51 57 88 18 01 90 10 90 AB 56 12

lock  
Access Pwd: 20 18 20 18 Can't use the default password  
☒ Open ☐ Lock ☐ Permanent Open ☐ Permanent Lock  
☐ Kill-pwd ☐ Access-pwd ☐ EPC ☐ TID ☒ USER  
 LockData:00 08 00 Confirm

kill  
Access Pwd: 20 18 20 18 Can't use the default password  
kill

BlockPermalock  
 Bank: USER  
 Ptr: 0  
 Access-pwd: 00000000  
 ReadLock: Read  
☐ block-1 ☐ block-2 ☐ block-3 ☐ block-4 ☐ block-5 ☐ block-6 ☐ block-7 ☐ block-8  
☐ block-9 ☐ block-10 ☐ block-11 ☐ block-12 ☐ block-13 ☐ block-14 ☐ block-15 ☐ block-16  
 Washbuf: Confirm

filter  
Data: E2 00 51 57 88 18 01 90 10 90 AB 56 12

lock  
Access Pwd: 20 18 20 18 Can't use the default password  
☒ Open ☐ Lock ☐ Permanent Open ☐ Permanent Lock  
☐ Kill-pwd ☐ Access-pwd ☐ EPC ☐ TID ☒ USER  
 LockData:00 08 00 Confirm

kill  
Access Pwd: 20 18 20 18 Can't use the default password  
kill

### 3.4 UDP-ReceiveEPC

After auto mode has been selected, restart the device and select UDPReceiveEPC, click "Open" to connect the device and select the IP address of the PC in the address column, click "Stop" to stop receiving UHF tag data. If the user needs to escape auto work mode, "command mode" needs to be selected in work mode.

UHF(1.2.4) - [ReceiveEPC]

ReadEPC

ReadWriteTag

Configuration

Kill-Lock

UHF Info

Temperature

UDP-ReceiveEPC

Mode

network

IP

192

.

168

.

1

.

201

Port

8888

Close

语言

English

IP: 192.168.1.109

Port: 9999

远程IP: 192.168.1.201

ID	EPC	TID	Rssi	Count	ANT
1	11112222111122222223333		-72	22	1
2	11112222		-72	79	1
3	E2005157881801901090AB56		-67	44	1
4	3005FB63AC1F3681EC880468		-65	74	1
5	16013530		-46	135	1
6	16013555		-46	134	1
7	16013533		-47	135	1
8	16013545		-36	135	1
9	16013574		-51	133	1
10	678800177805005416101111		-71	1	1

Total: 10

Time: 48(s)


Stop

Clear

3.5 Others

Click “UHF information” in the main menu to read the hardware version and firmware version, and click “Temperature” to read the current temperature value of the UHF module.

Documents / Resources



[MARSON MR17 Fixed UHF Reader \[pdf\] User Manual](#)

MAR17, Fixed UHF Reader, MR17 Fixed UHF Reader