MARSON MR17 Fixed UHF Reader User Manual

MR17 Fixed UHF Reader
User Manual

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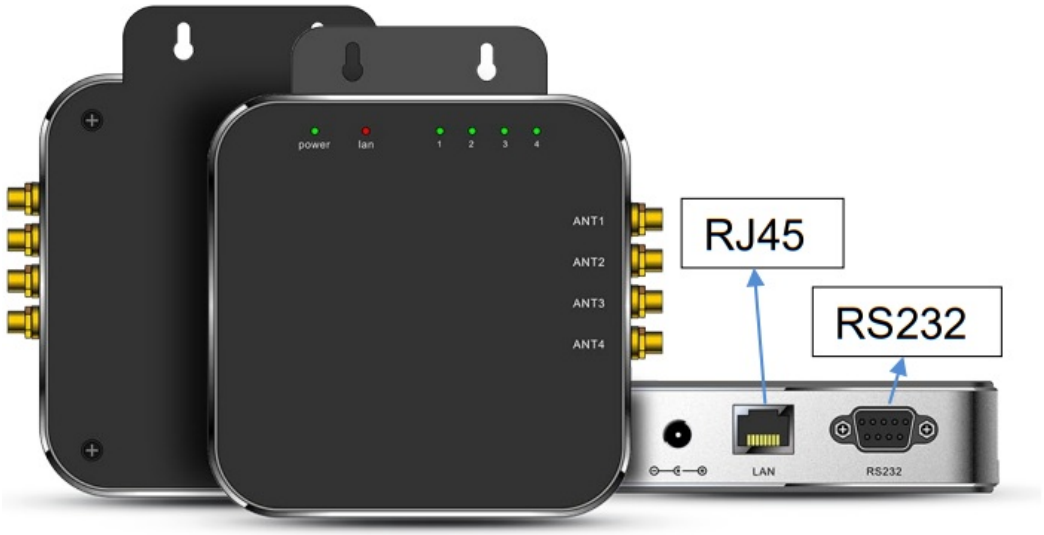
Chapter 1 Product Intro

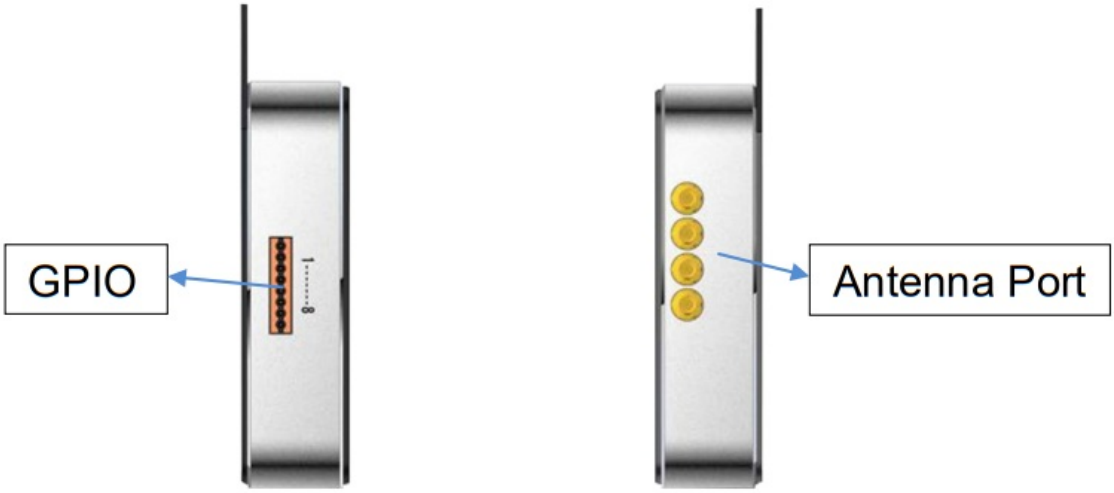
1.1 Intro

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

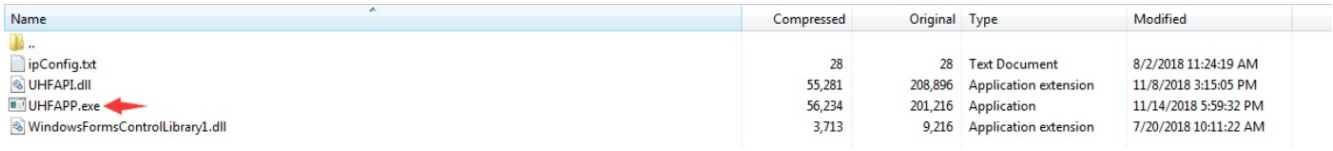
MR17 has adopted DC 12V/5A power supply, it can be equipped with multiple types of antennas with different output power such as 6dBi, 9dBi, and 12dBi.Also, MR17 has adopted the SMA female port, RS232, and RJ45 interfaces, and Windows SDK and demo are provided.





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.

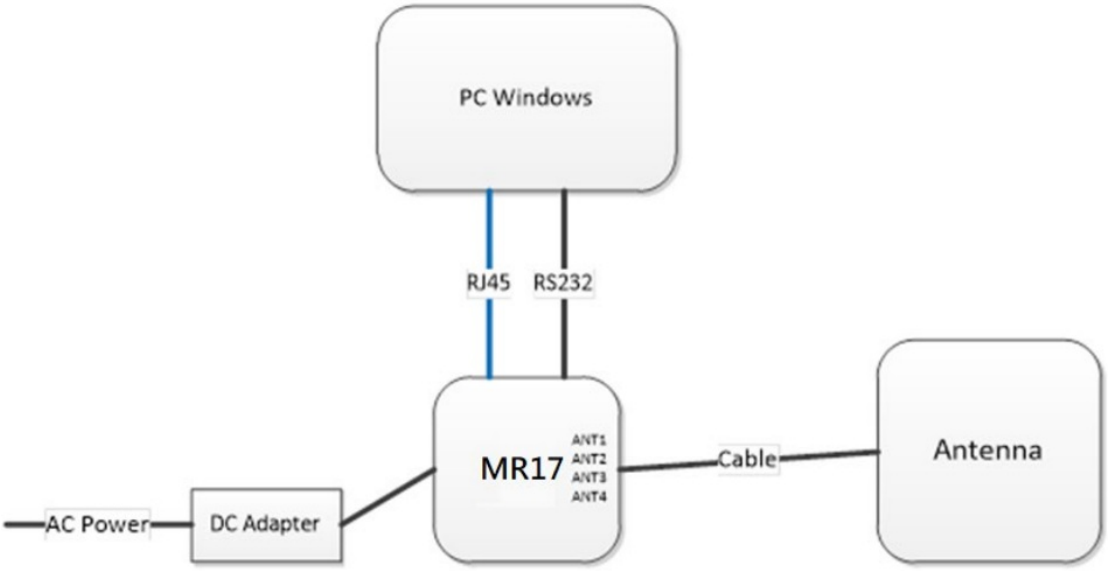


Pic.1

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: Opticall y coupled 1 L ED+	input: Opticall y coupled 1 L ED-	input: Opticall y coupled 2 L ED+	input: Optically cou pled 2 LED-

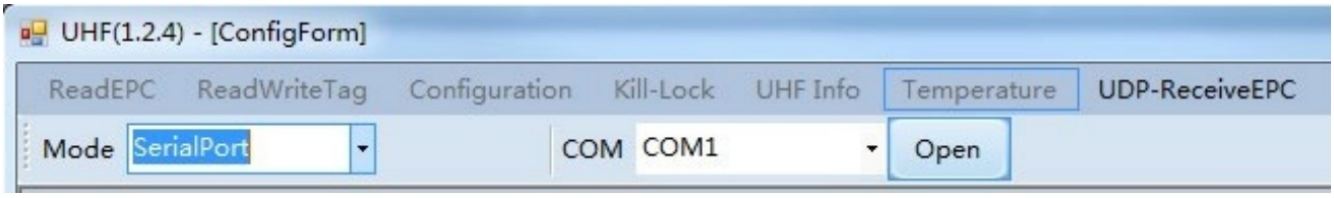
MR17contains a GPIO interface, which is defined as follows:

1. 101-2: NC, unable to connect to any electrical level:
2. 103-4: Controllable by software, the maximum switching voltage of the electric relay is 220Vdc, 250Vac:
3. 105: Optically coupled 1 inputLED+,voltage range between 105 and 106is 3- 5.5V,maximum current is 50mA:
4. 106: Optically coupled 1 inputted-, voltage range between 105 and IO6is 3-5.5V, maximum current is 50mA;
5. 107: Optically coupled 2 inputLED+, voltage range between 107 and IO8is 3-5.5V, maximum current is 50mA;
6. 108: Optically coupled 2 inputted-, voltage range between 107 and IO8is 3-5.5V, maximum current is 50mA;

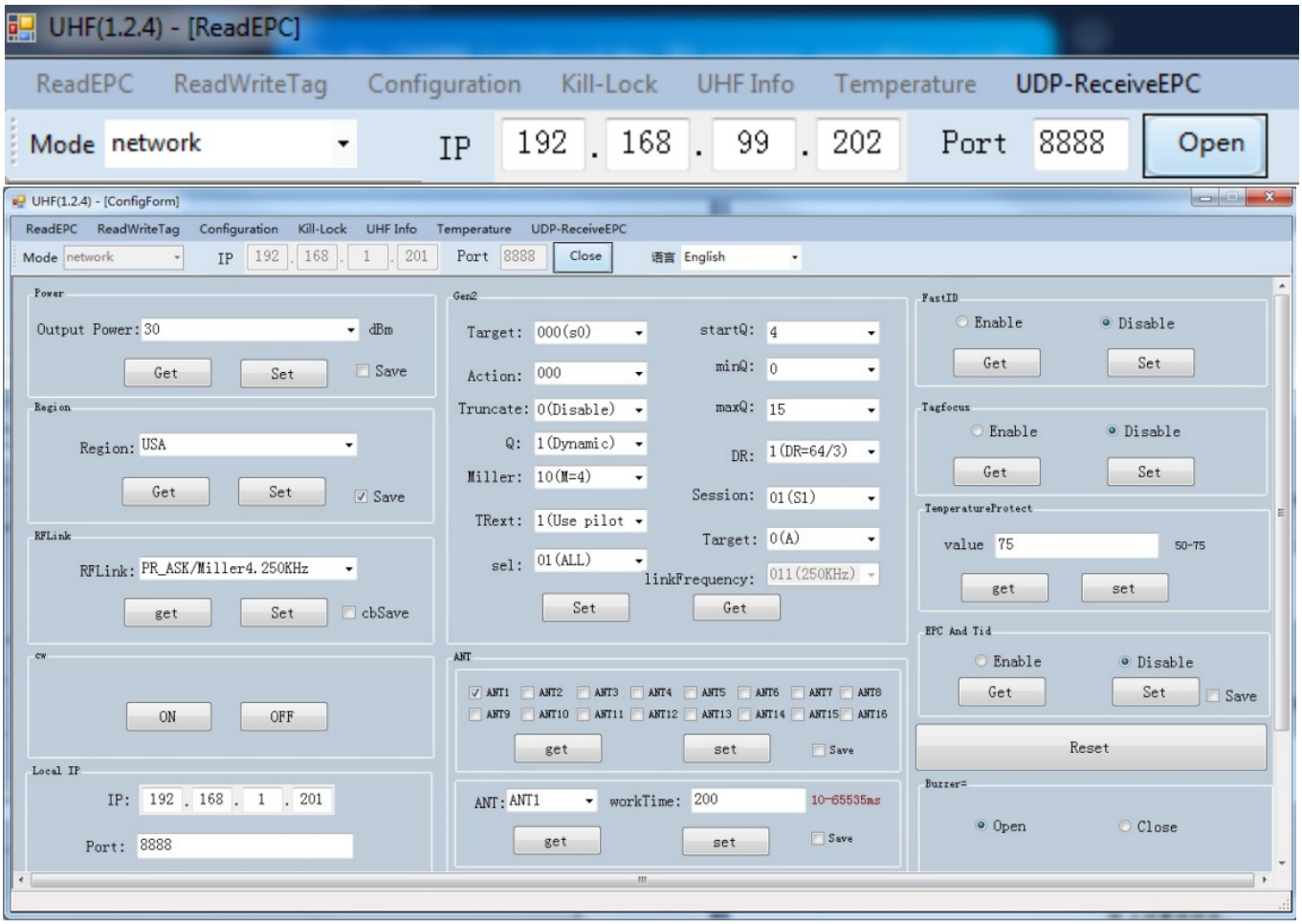
Chapter 2 Installation instructions

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:

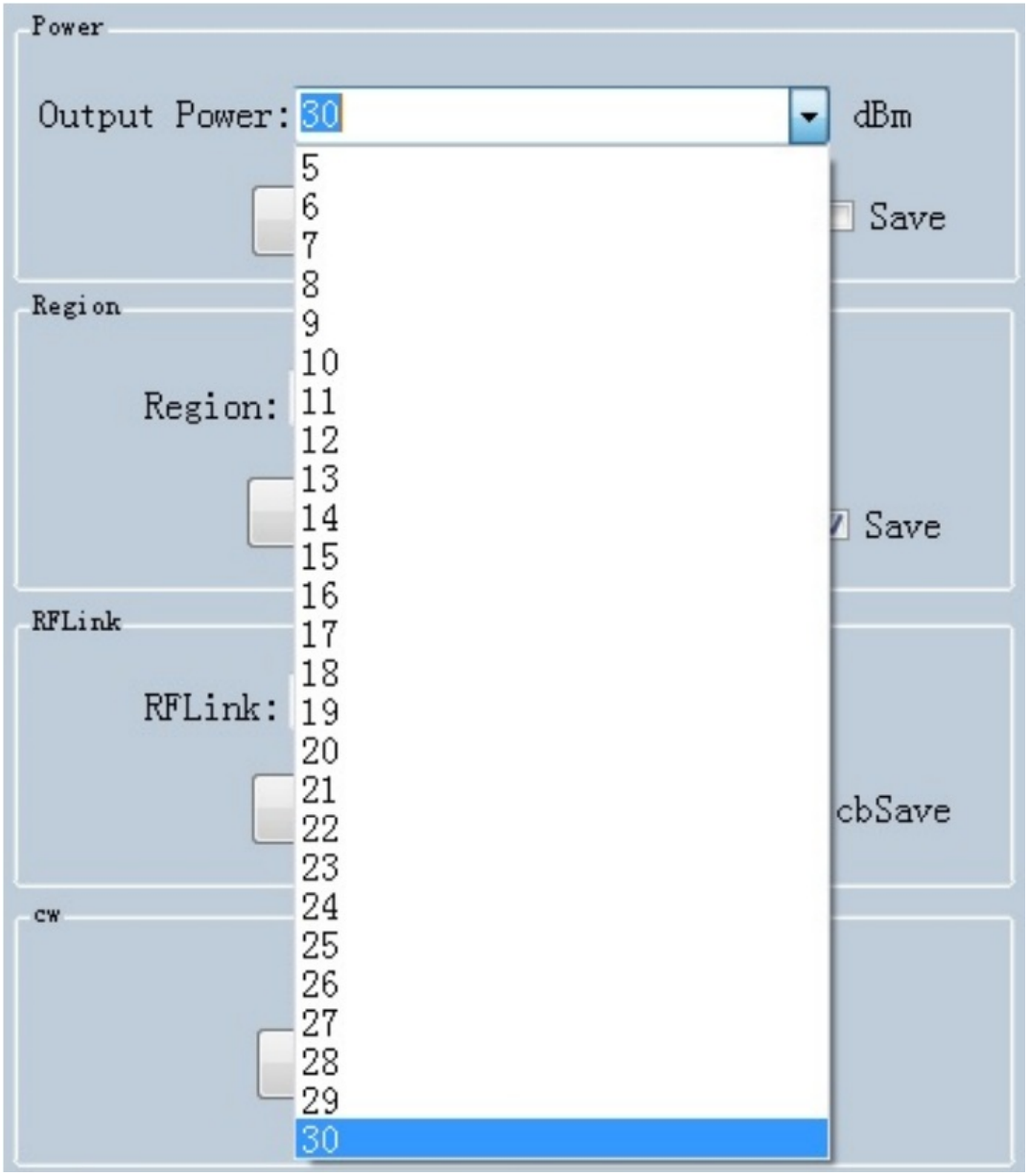


If RJ45 has been used as a connection, communication Mode needs to be selected as “network” and input the IP address and port number (default IP address is 192.168.99.202, Port is 8888.) Then click “Open” to connect the PC and device. After the PC and device have been connected, the status page is as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



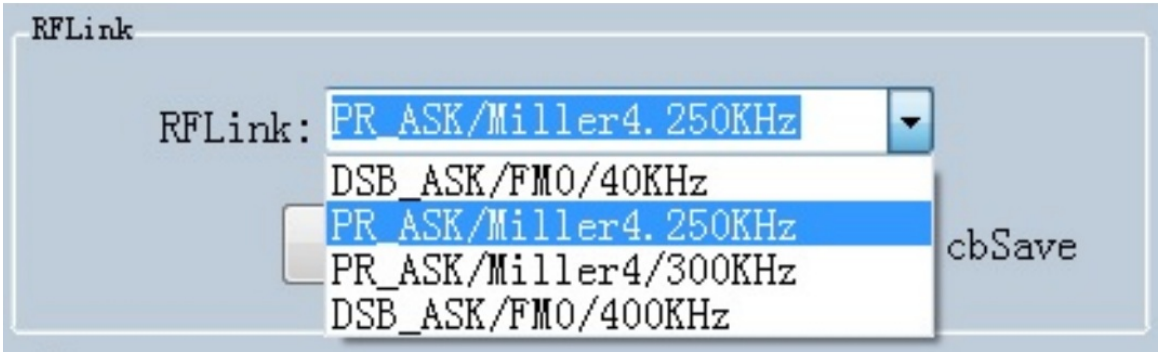
After the device has connected to the PC, the parameters on the interface will be empty. Click “Get” on each option to collect device parameters. Click “Set” on the page, user can adjust necessary parameters, some parameters are default values.

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.

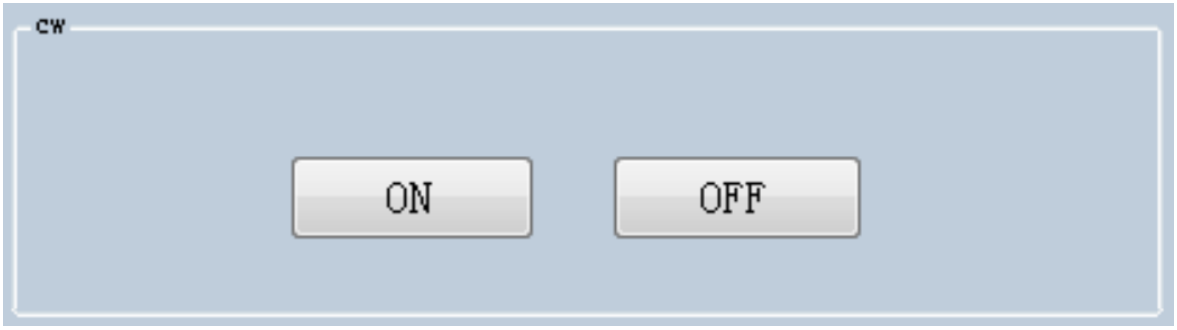


Set regions:

Set RFLink:

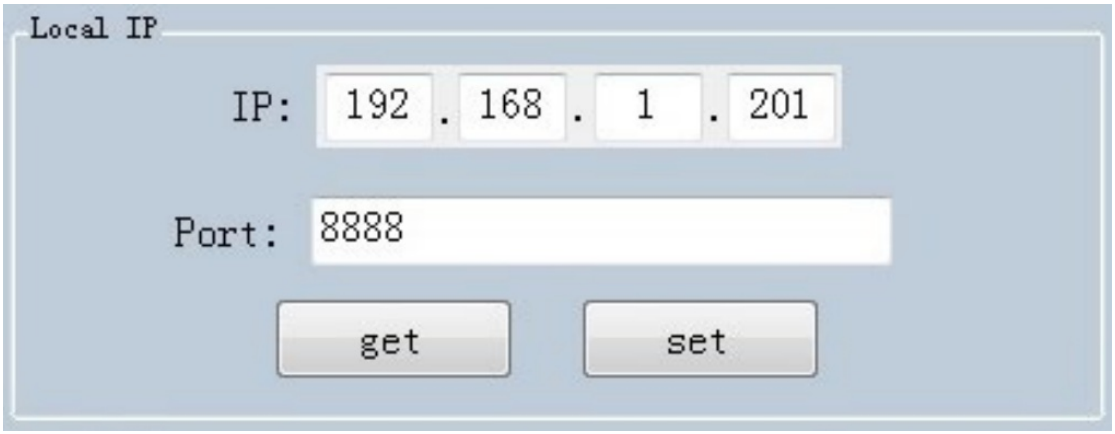


Set continuous wave:

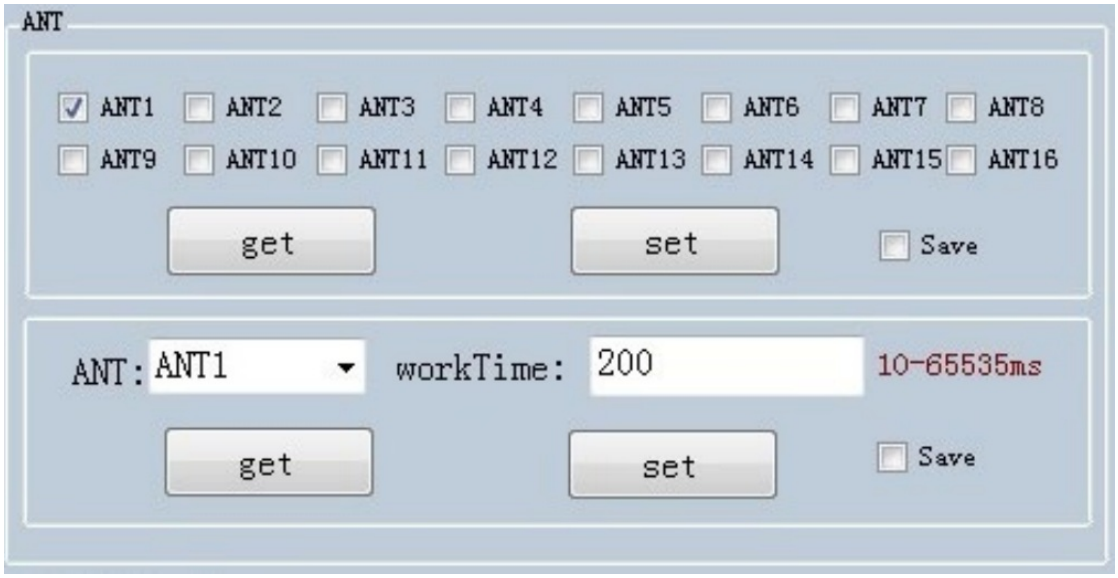


There are two work modes that can be selected, “command mode” and “auto mode”.
Under “command mode”, the user could collect tag data on the “Read EPC” page, click “Start” to send a command to the device on the PC, and click “Stop” to stop collecting tag data.
Under “auto mode”, the user could collect 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.

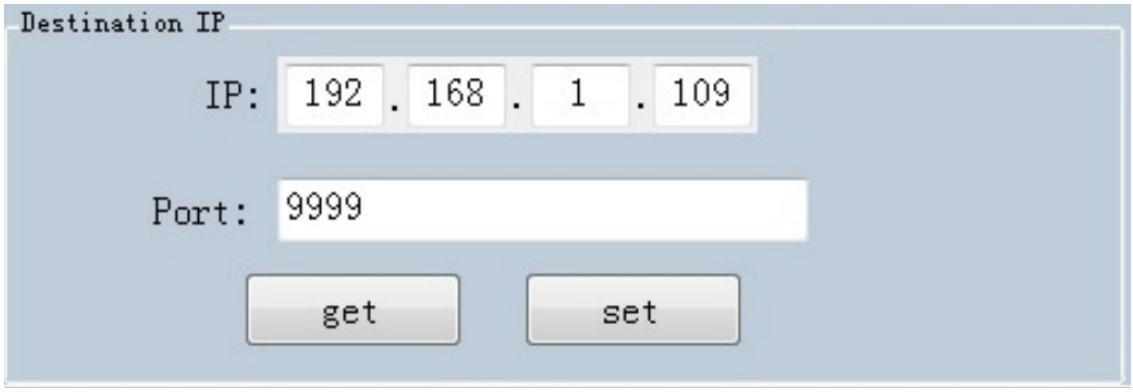
Set IP address and make sure PC and device have been used in the same segment. For example, if the IP address of the PC is 192.168.1.109, the mask is 255.255.255.0, the device IP address can be set to 192.168.1.201, and the port number doesn’t need to be changed.



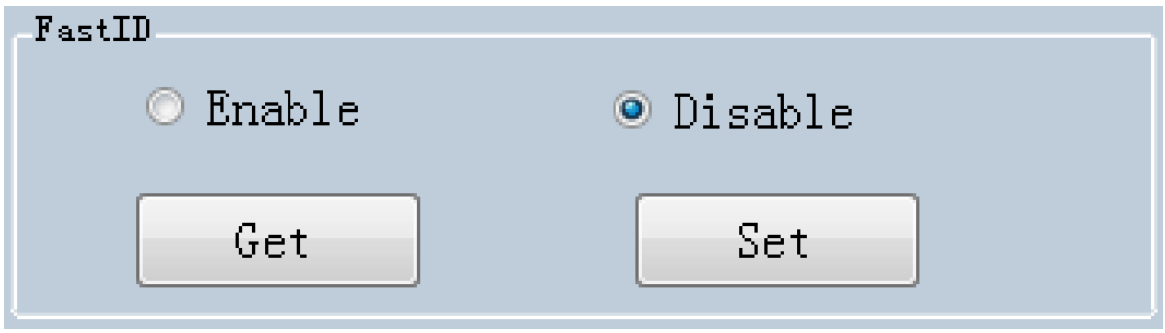
Set antenna connection, there are 4 I/O ports on the device and have been marked as ANT1, ANT2, ANT3, and ANT4. The user needs to select the antenna which has been connected and click “set”.



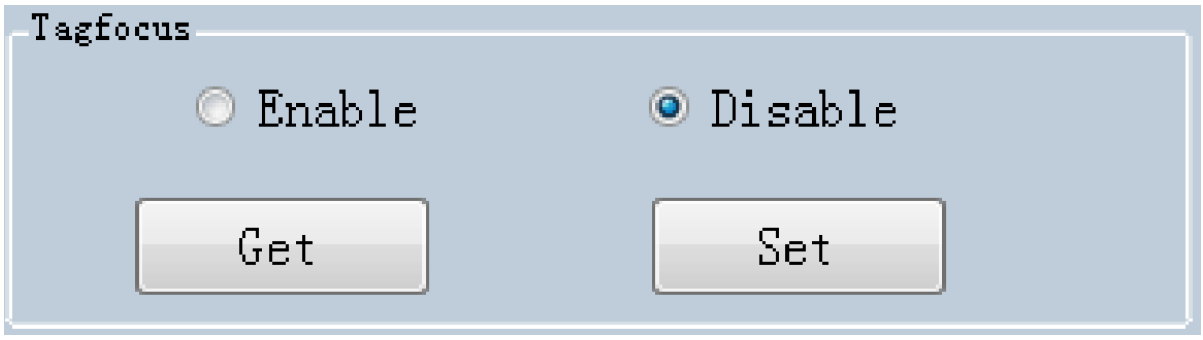
Set the destination IP address and port number, destination IP address is the IP address used for reading tag data under “auto mode”.



Set FastID:



Set TagFocus:



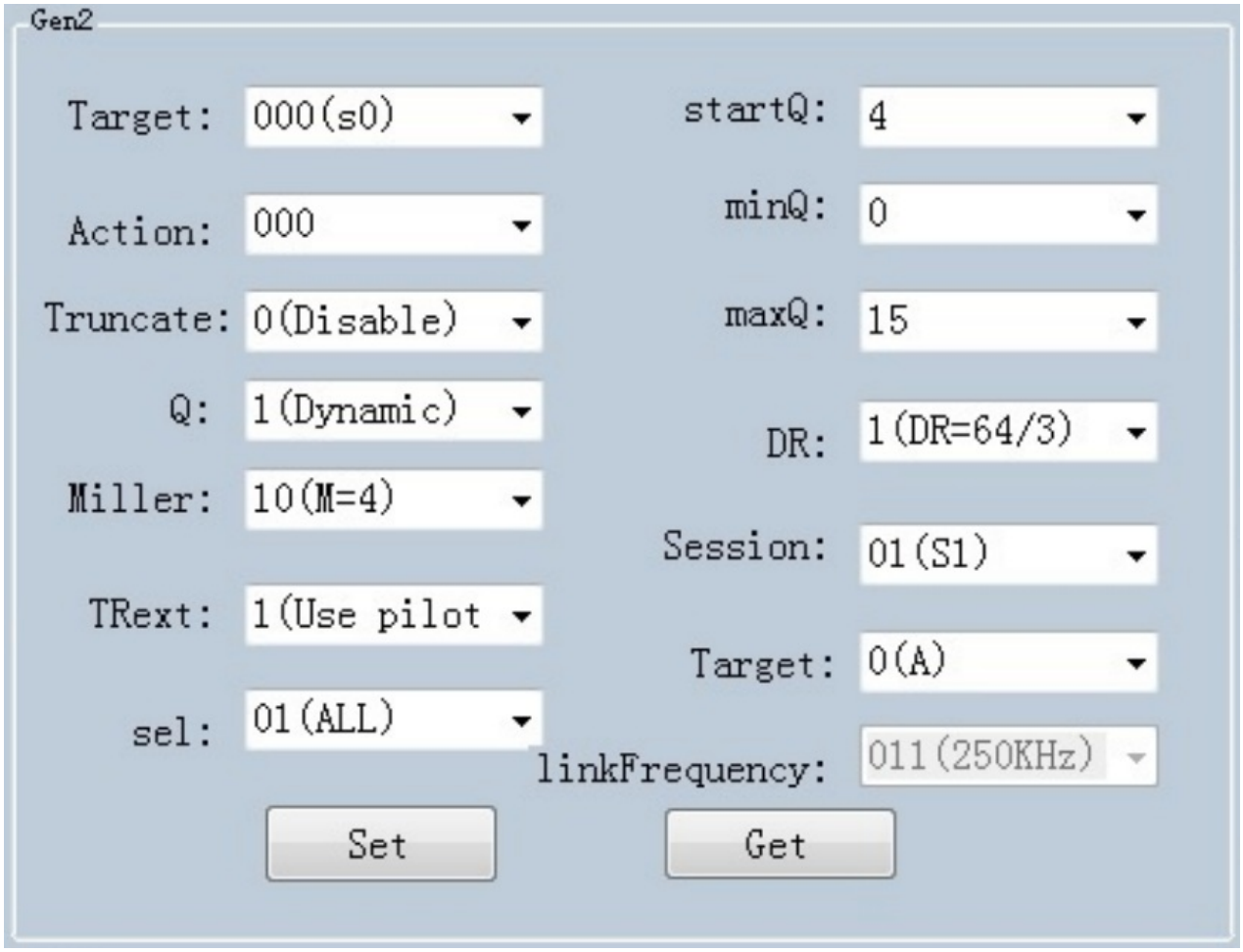
Set protective temp. It means to set up the highest operating temperature of the UHF module:

Set EPC and TID:

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.

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

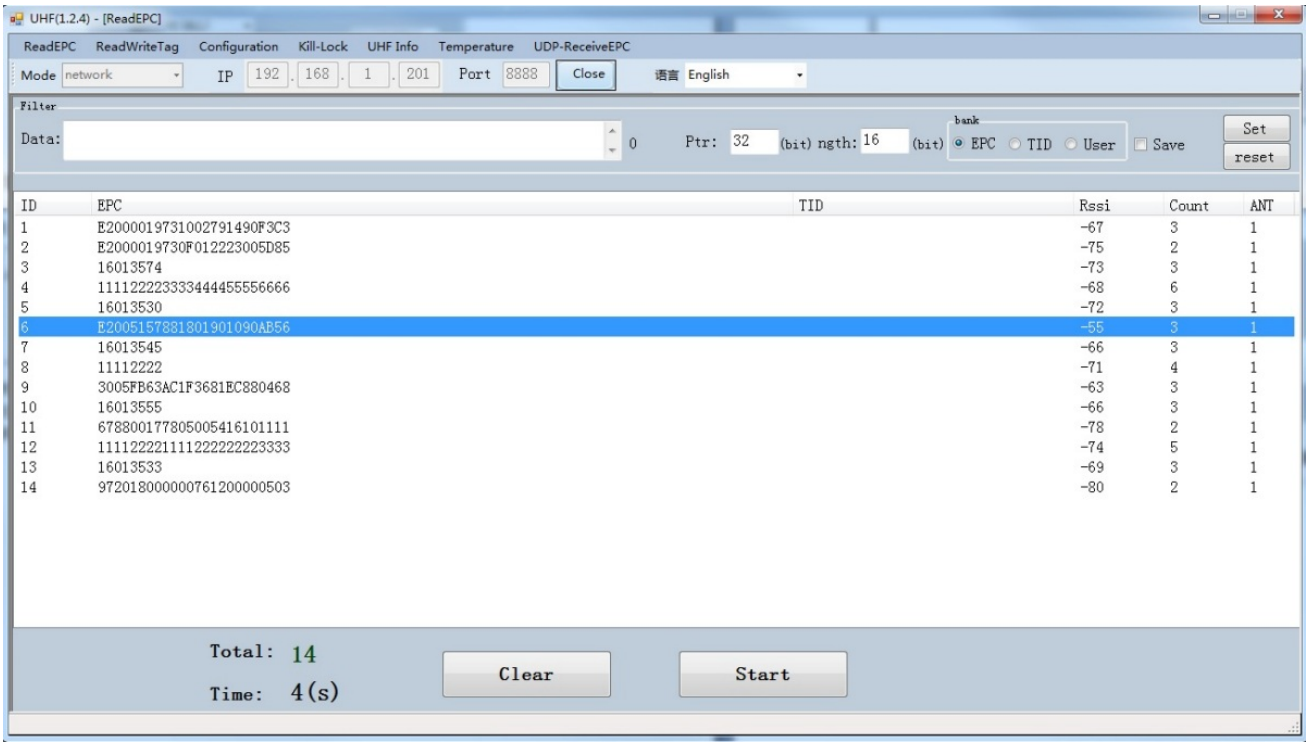
Set Gen2, this parameter needs to be adjusted by actual requirements.



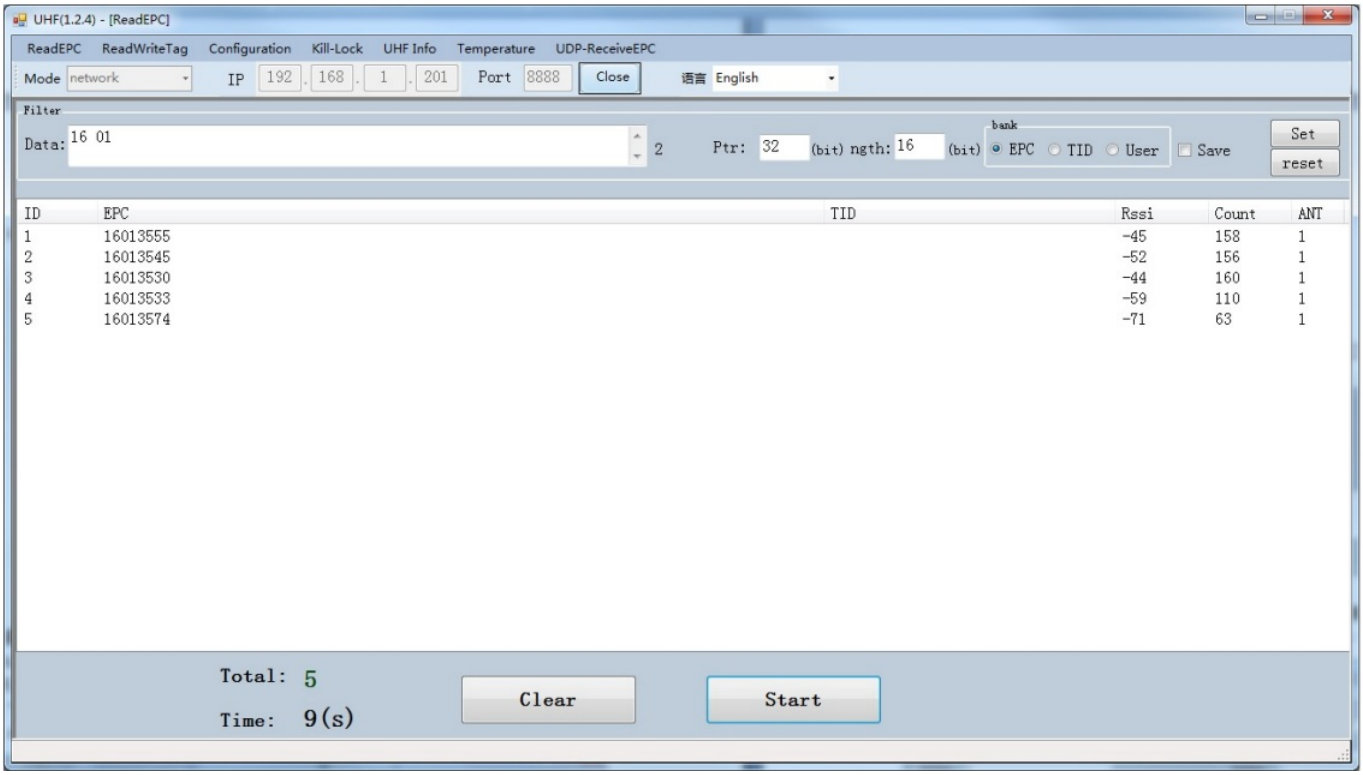
Chapter 3 Read and Write EPC

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:

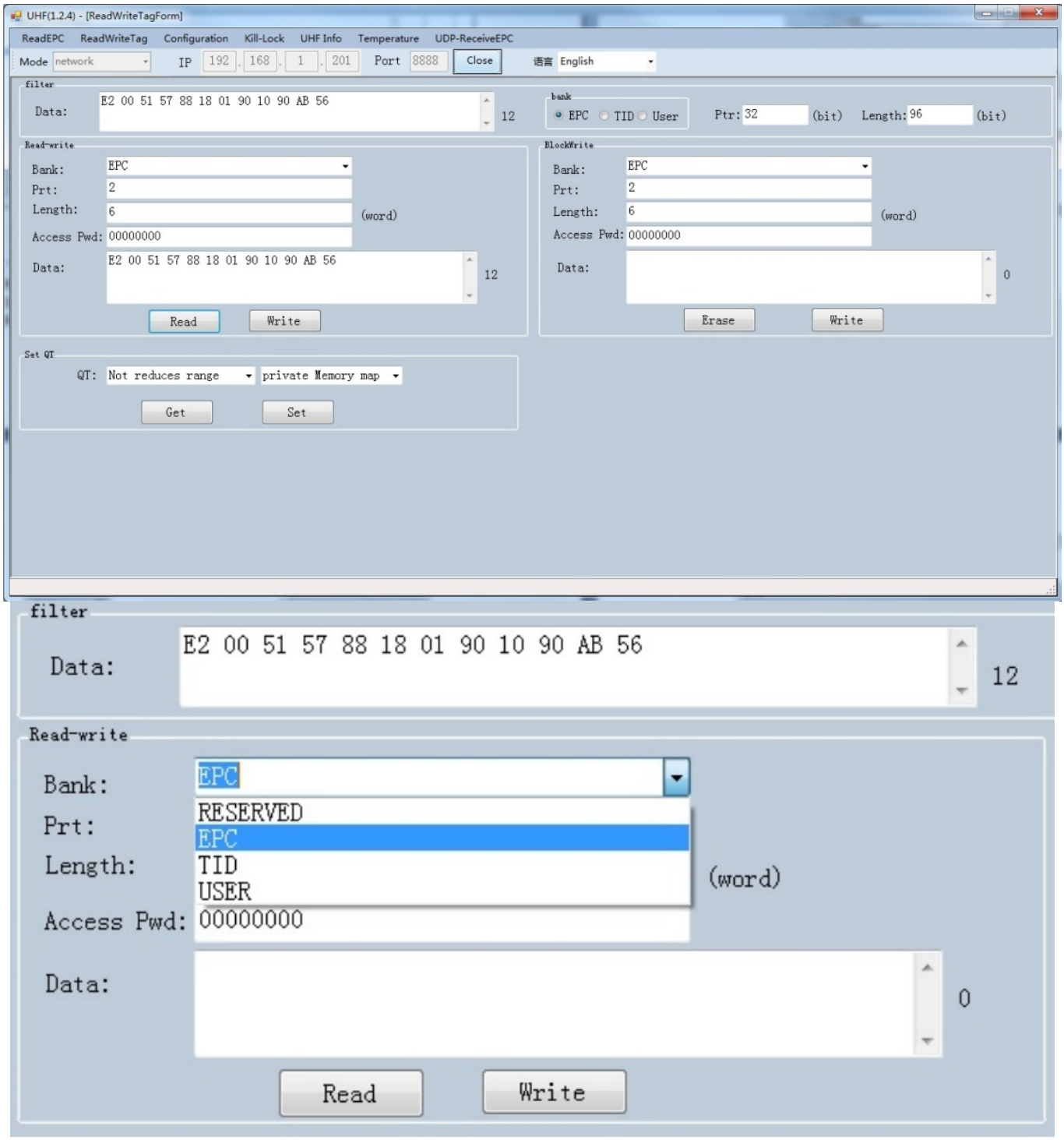


The user could enter data in “Filter” to filter the EPC of special tags, the maximum filter DL is 96 bits. The user needs to set up data, initial address, and data length and click “Set”. After filtered data has been set, the device will read and search for the tag which has been filtered.
For example: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

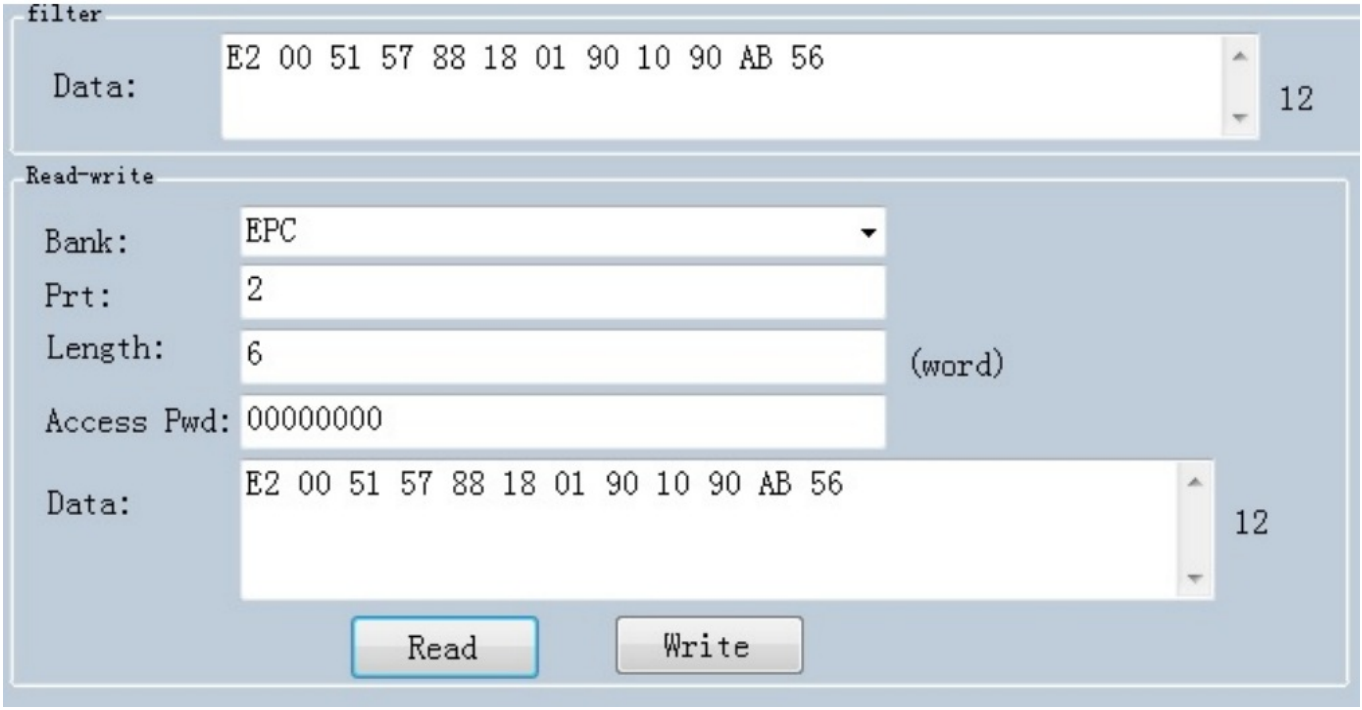


3.2 Read & Write Tags

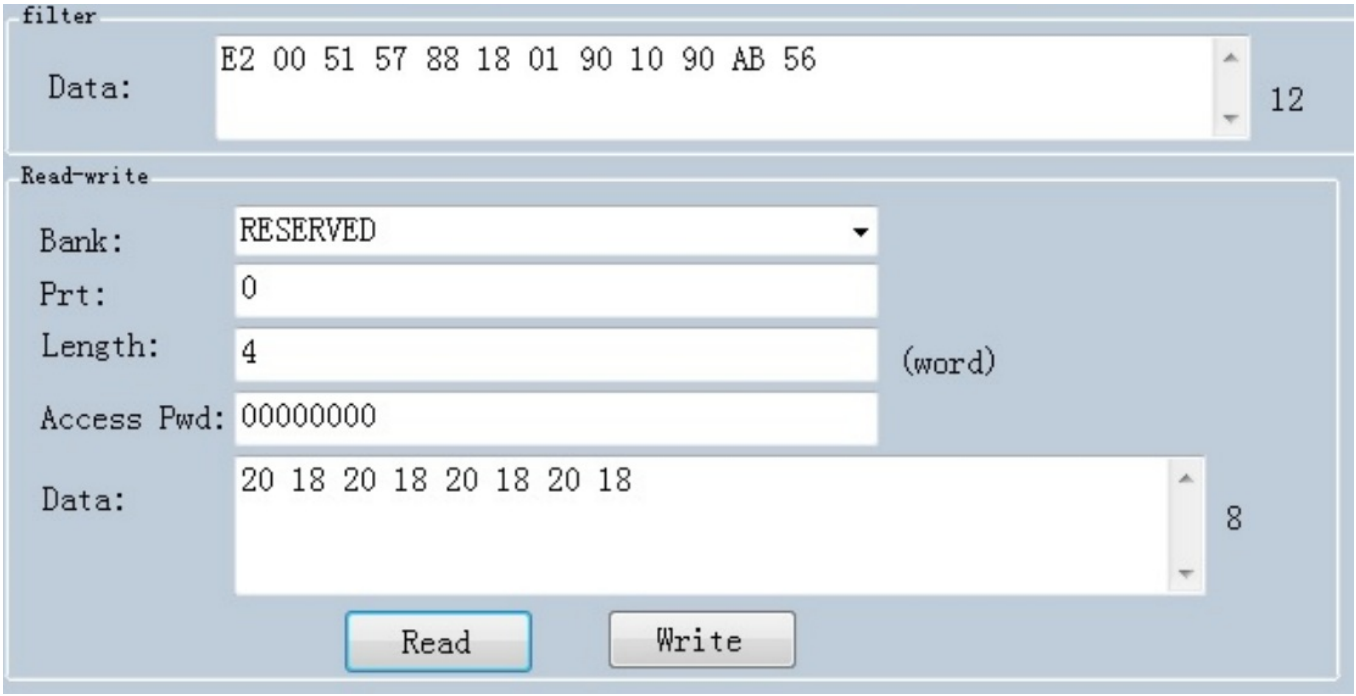
Click “ReadWriteTag” to enter its page, TID area can be read-only, and RESERVED, EPC, and USER areas can be read and written.



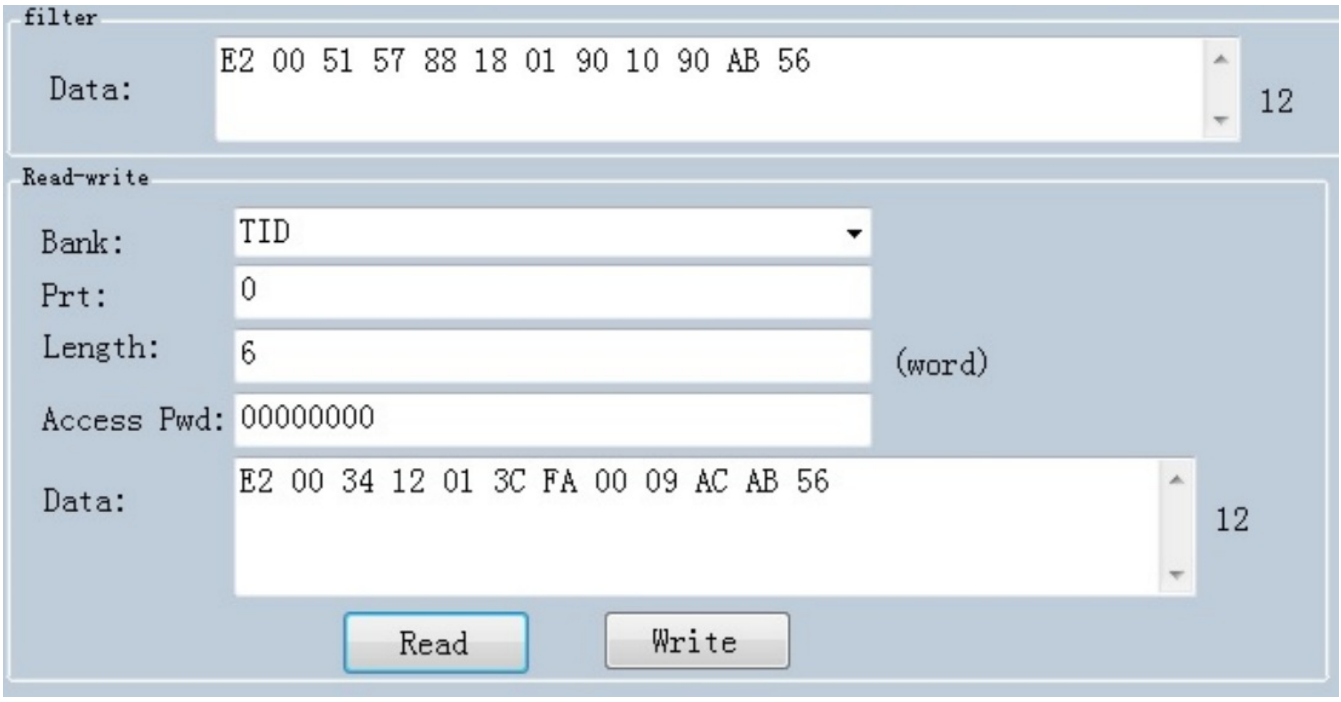
Click one option in the “Read-write” window to enter tag reading mode, EPC will be automatically copied into the “Data” block in the filter, the default option is EPC reading, click “Read” to read 12 bytes of EPC area.



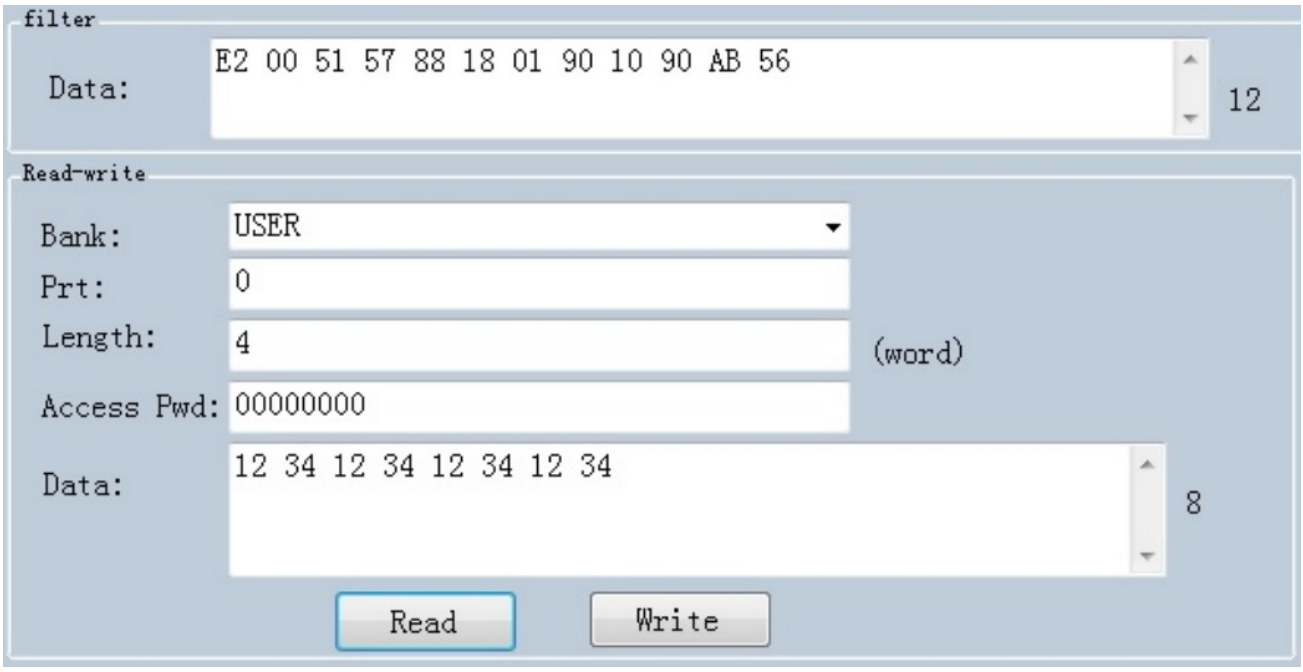
For the “RESERVED” area, the user could read 4 words at maximum, The previous 2 words are passwords of the KILL function, last 2 words are access passwords:



Read TID area:



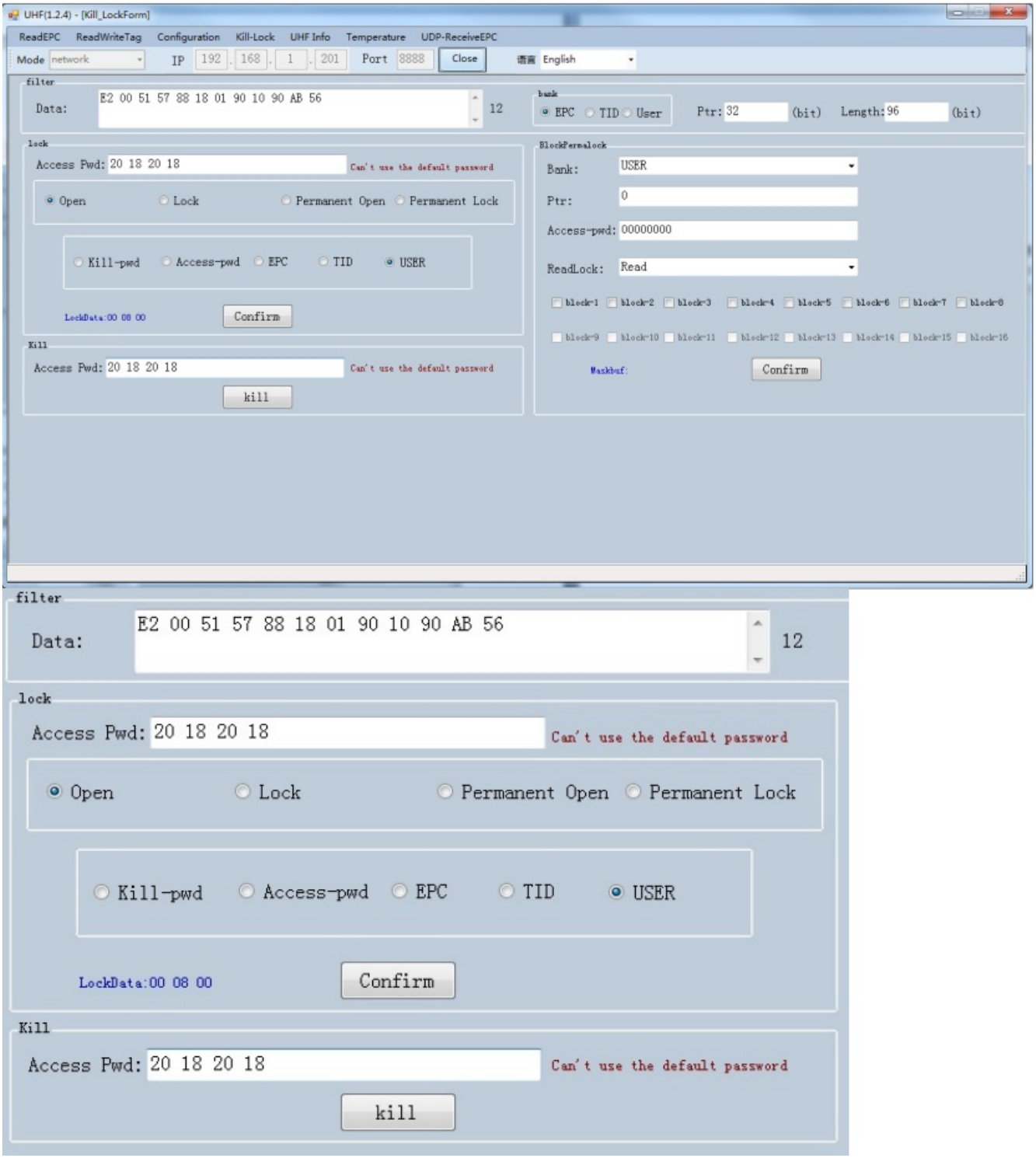
Read USER area:



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.

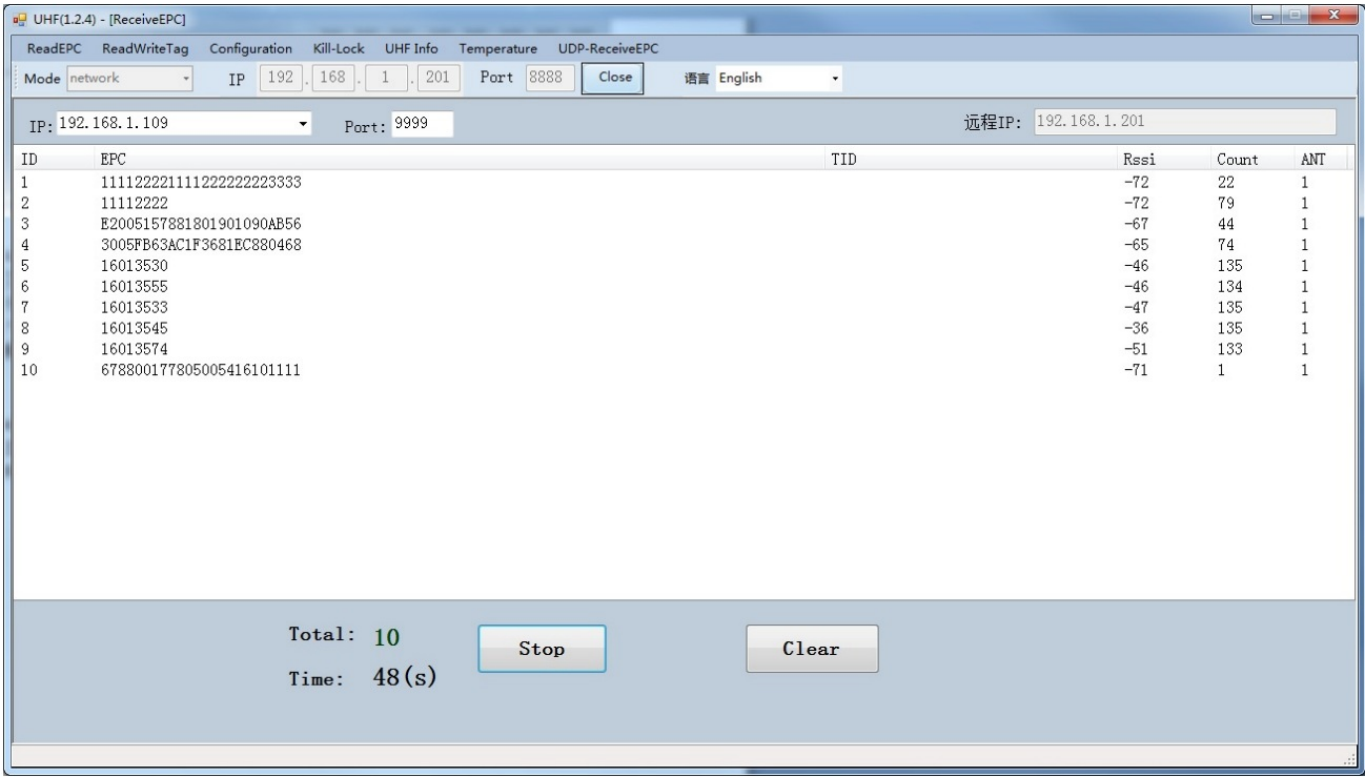
3.3 Lock UHF Tag

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.



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.



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 MR17, Fixed UHF Reader, MR17 Fixed UHF Reader