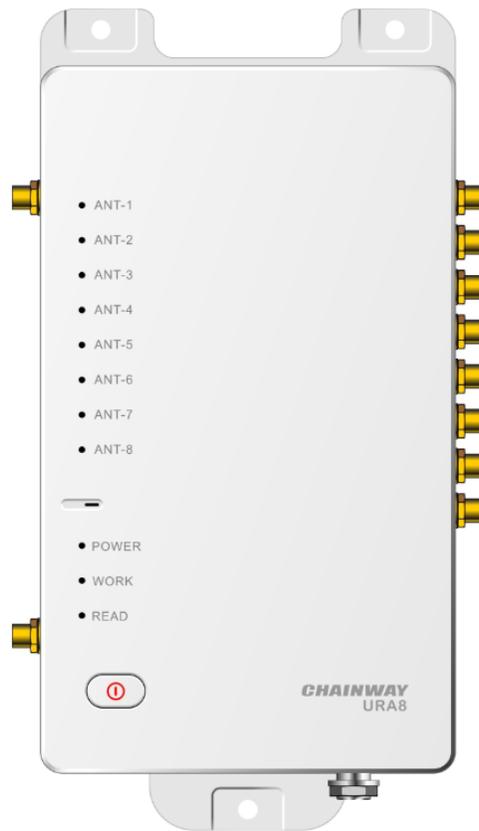


SHENZHEN CHAINWAY INFORMATION TECHNOLOGY CO., LTD

Fixed Android UHF Reader

URA8 User Manual



Statement

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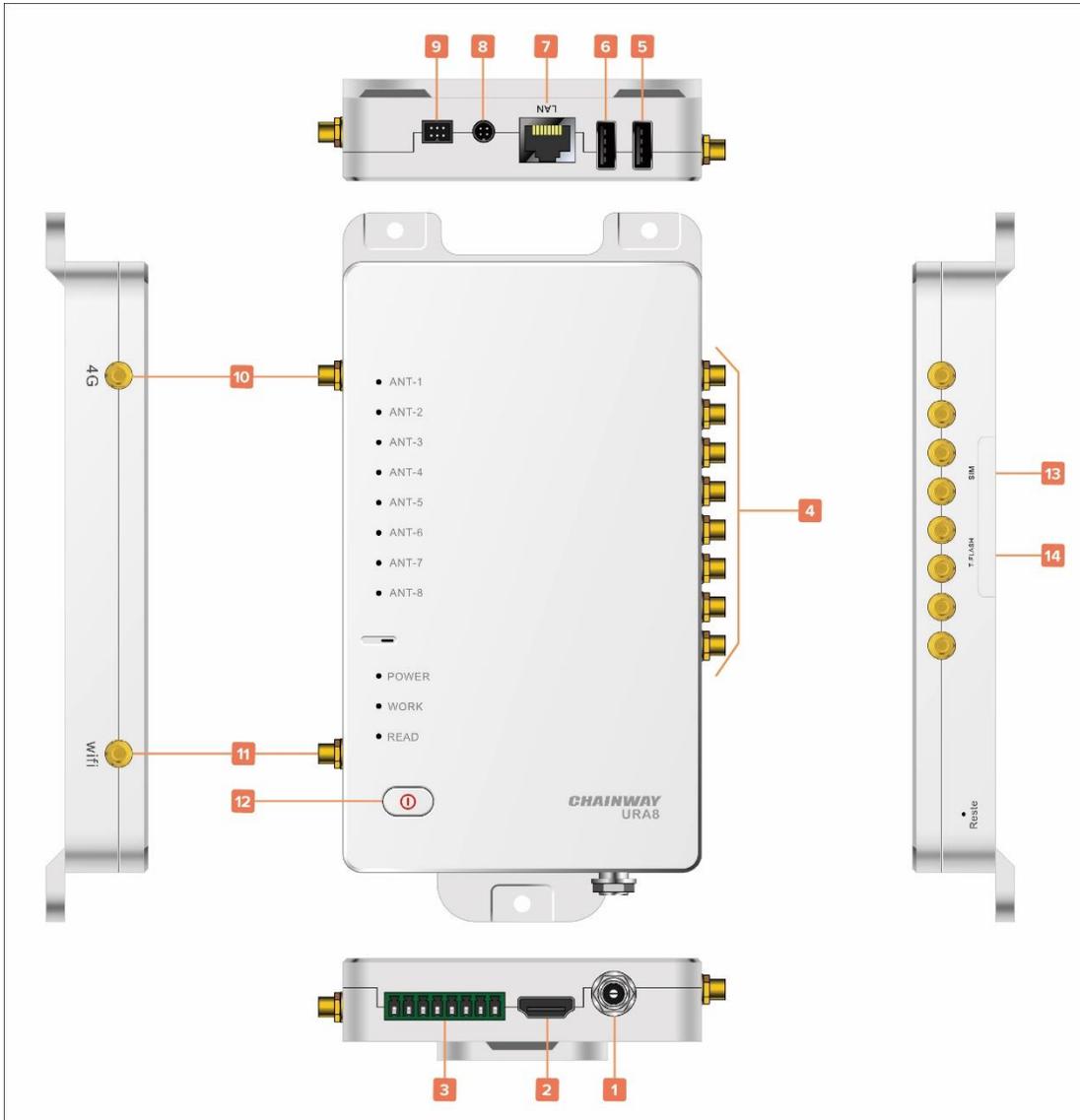
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Chapter 1 Product Intro

1.1 Intro

Chainway URA8 is a high-performance eight-channel fixed UHF reader which adopted Android 5.1 operating system. The core chip adopts Impinj R2000 module with 8 channels and it supports RS232, RJ45 and HDMI ports. With stable and reliable capacity, excellent anti-electromagnetic interference capability and heat dissipation performance, it meets the requirements for installation and application of various indoor and outdoor environments and can be applied in multiple industries with strict RFID application standard 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



Pic.1-1

| | |
|----|--|
| 1 | 12V Power Supply |
| 2 | HDMI |
| 3 | GPIO (Support 2 path input photocoupler and 2 path output photocoupler with isolation.) |
| 4 | UHF antenna port, SMA female*8 |
| 5 | USB port, used to connect mouse and others, touch-screen function supported. Dial *##555666##* to enter engineer mode. |
| 6 | USB port, used to connect mouse and others, touch-screen function supported. |
| 7 | RJ45 EtherCAT port, POE power supply supported |
| 8 | Serial port |
| 9 | Extended port |
| 10 | 4G antenna port, SMA port |
| 11 | WIFI antenna port, SMA port |
| 12 | Power button (Long-press 3 seconds to ON/OFF) |
| 13 | SIM card slot |
| 14 | TF card slot |

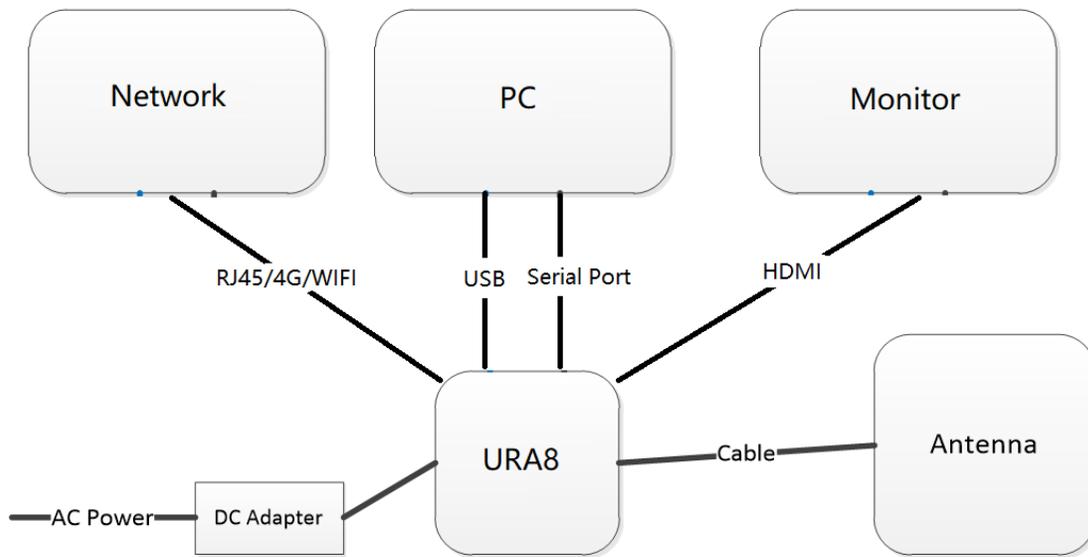
1.3 Device List

| | |
|---|--|
| 1 | URA8 reader, 12V power adaptor |
| 2 | UHF antenna, 6dBi, 9dBi, 12dBi etc. |
| 3 | Feeder line, SMA male side connects with device, interface on other side needs match with antenna. |
| 4 | RJ45 Ethernet cable |
| 5 | HDMI cable |
| 6 | 4G external antenna |
| 7 | WIFI external antenna |

1.4 Device installation

URA8 reader adopts Android operating system, it can be connected with Internet through RJ45, WIFI and 4G etc. And connect with monitor through HDMI cable.

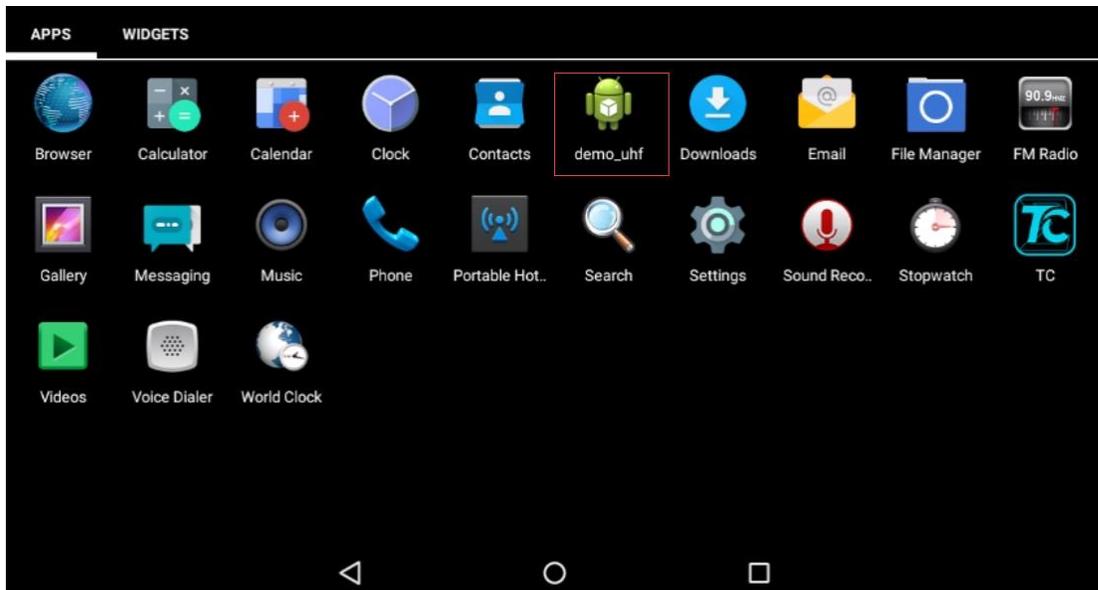
Developer could use USB cable to connect device with PC for developing application, device could also be connected with PC through serial port cable.



Pic.3-1

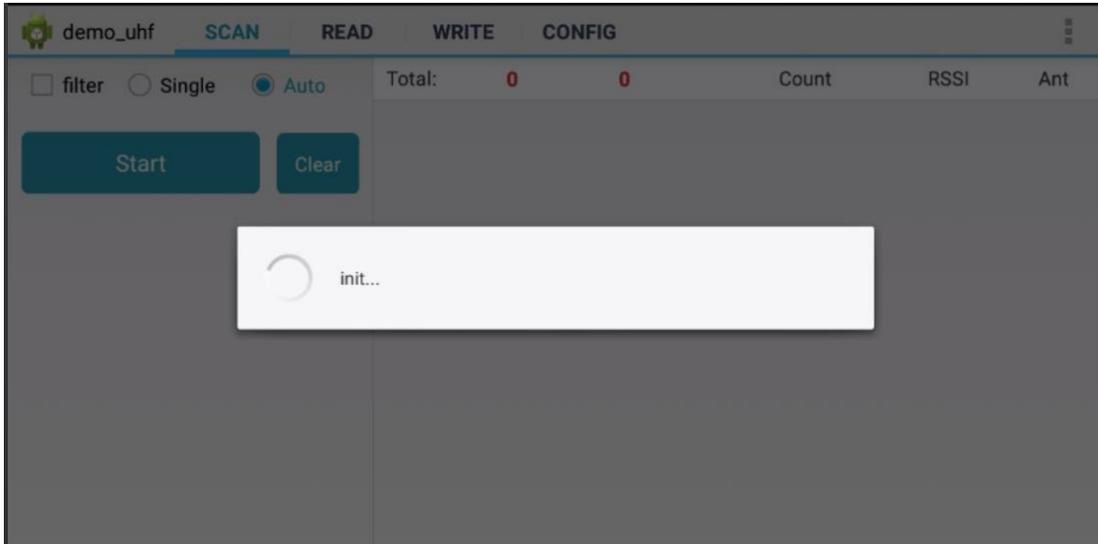
Chapter 2 UHF demo

2.1 Operating Interface



Pic.4-1

Connect monitor through HDMI cable and long-press power button for 3 seconds to switch on device. Click demo_uhf icon to enter demo as Pic.4-1, UHF module will initiate as Pic.4-2, if there is no error messages show up, then initiation process has been successfully finished. “init. fail” means UHF module failed to initiate, need to exit application and repeat operation. If initiation cannot successfully finished, need to contact tech support for further.



Pic.4-2

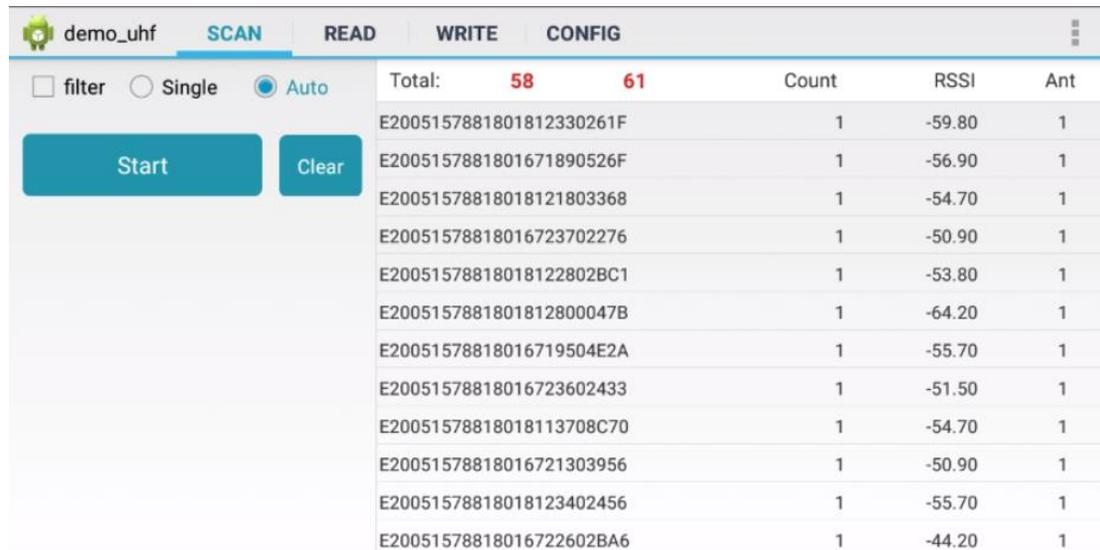
Chapter 3 UHF tag scanning

Click SCAN on top of navigation bar to enter tags reading page.

3.1 Auto Scanning

Select “Auto”, then click “Start” button to start tags scanning circularly, the information such as EPC or TID, Count, RSSI and Ant. number. As Pic.5-1.

“filter” button can be used to setup tag which has been filtered, user could setup address, data length to filter tags. EPC, TID and USER areas can be selected, setup data length to 0 and clear EPC list, then click “Setup” to confirm in Pic.5-2.



| Total: | 58 | 61 | Count | RSSI | Ant |
|--------------------------|----|--------|-------|------|-----|
| E2005157881801812330261F | 1 | -59.80 | 1 | | |
| E2005157881801671890526F | 1 | -56.90 | 1 | | |
| E20051578818018121803368 | 1 | -54.70 | 1 | | |
| E20051578818016723702276 | 1 | -50.90 | 1 | | |
| E20051578818018122802BC1 | 1 | -53.80 | 1 | | |
| E2005157881801812800047B | 1 | -64.20 | 1 | | |
| E20051578818016719504E2A | 1 | -55.70 | 1 | | |
| E20051578818016723602433 | 1 | -51.50 | 1 | | |
| E20051578818018113708C70 | 1 | -54.70 | 1 | | |
| E20051578818016721303956 | 1 | -50.90 | 1 | | |
| E20051578818018123402456 | 1 | -55.70 | 1 | | |
| E20051578818016722602BA6 | 1 | -44.20 | 1 | | |

Pic.5-1

demo_uhf **SCAN** READ WRITE CONFIG

filter Single Auto

Ptr : (bit) Len (bit)

Data :

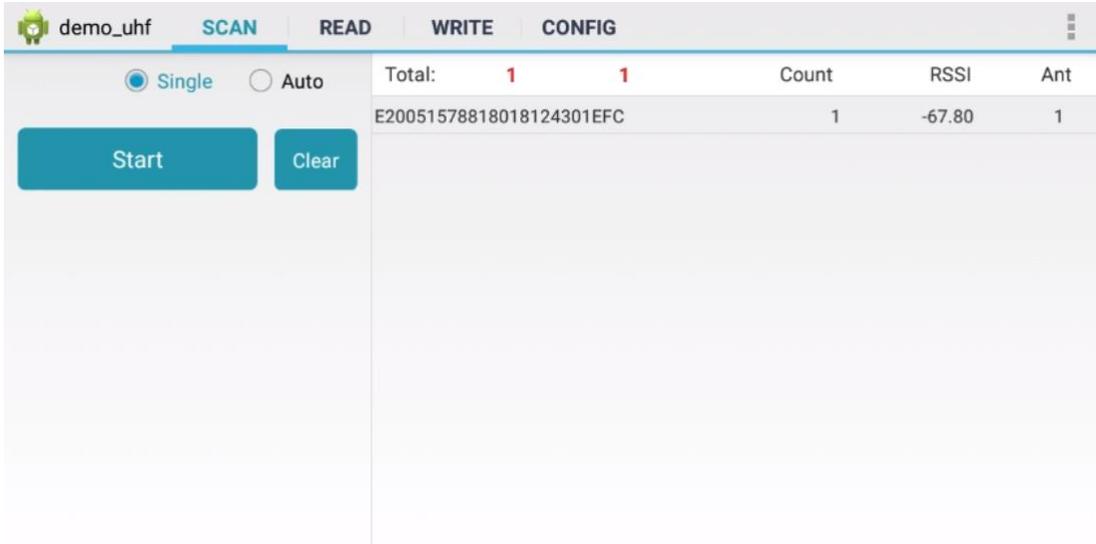
R2000 module only

| Total: | 57 | 57 | Count | RSSI | Ant |
|--------------------------|----|--------|-------|------|-----|
| E20051578818016724301EE9 | 1 | -55.70 | 1 | | |
| E20051578818018114708374 | 1 | -50.30 | 1 | | |
| E20051578818018113708C70 | 1 | -55.70 | 1 | | |
| E20051578818018124201D57 | 1 | -52.90 | 1 | | |
| E20051578818018122802BC1 | 1 | -50.90 | 1 | | |
| E200515788180181252016B4 | 1 | -55.70 | 1 | | |
| E20051578818016721303956 | 1 | -48.70 | 1 | | |
| E20051578818016722602BA6 | 1 | -39.50 | 1 | | |
| E2005157881801671890526F | 1 | -57.50 | 1 | | |
| E20051578818016723702276 | 1 | -47.80 | 1 | | |
| E20051578818018115507A74 | 1 | -65.00 | 1 | | |
| E20051578818018121803368 | 1 | -52.90 | 1 | | |

Pic.5-2

3.2 Single Scanning

Select “Single” button and click “Start” to start scanning tag, EPC or TID, Count, RSSI and Ant.number will display on right side, as Pic.5-3.



Pic.5-3

3.3 Read UHF Tag

Click “READ” on top of navigation bar to enter page of tag reading.

User could read data of 4 areas, RESERVED, EPC, TID and USER, setup address and data length, default password is “00000000”, click “Read” to read tags in Pic.6-1.

The screenshot shows a web interface for UHF tag reading. At the top, there is a navigation bar with tabs: "demo_uhf", "SCAN", "READ" (selected), "WRITE", and "CONFIG". Below the navigation bar, there are two main sections. The first section has a "Ptr" field set to "32" (bit) and a "长度" (length) field set to "0" (bit). Below these fields is a "Data" input field. The second section has three buttons: "EPC" (selected), "TID", and "USER". Below the buttons, there is a "Bank" dropdown menu set to "RESERVED". The "Ptr" field is set to "0" (word) and the "Len" field is set to "4" (word). Below these fields is an "Access Pwd" field set to "00000000". At the bottom of the interface is a large teal "Read" button.

Pic.6-1

Comment: user could filter tags by setup address, data length and data in EPC, TID and USER areas, select “Enable” button to switch on filter function in Pic.6-2.

demo_uhf SCAN **READ** WRITE CONFIG

filter

Enable

Ptr : 32 (bit) 长度: 0 (bit)

Data :

EPC TID USER

Bank : RESERVED

Ptr : 0 (word) Len : 4 (word)

Access Pwd : 00000000

Data :

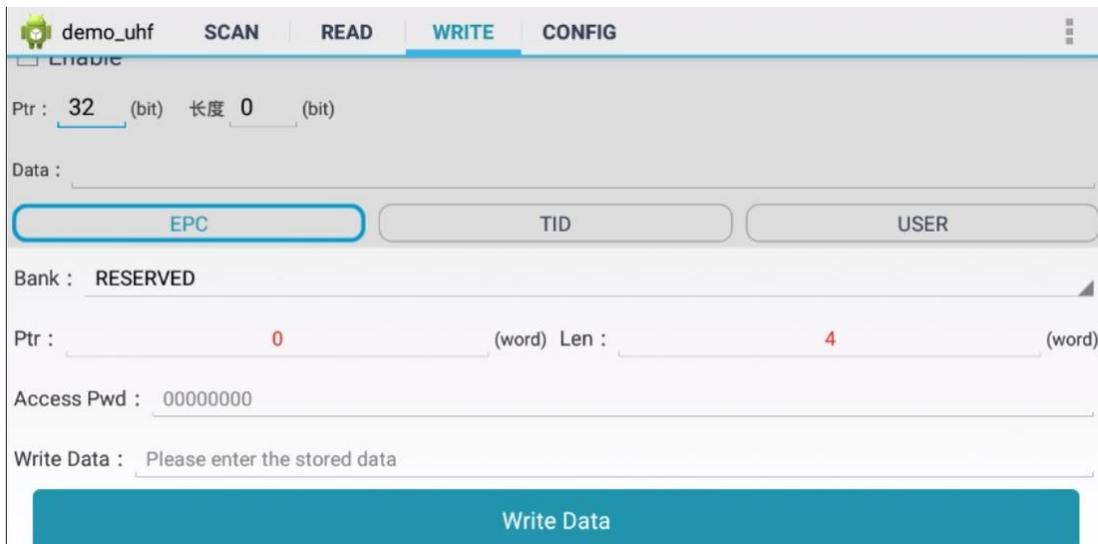
Pic.6-2

3.4 Write Tag

Click “WRITE” on top of navigation bar to enter tag writing page.

User could write data in RESERVED, EPC, TID and USER areas, setup start address and data length, input access password and data(hex), click “Write Data” to write data in Pic.7-1.

Comment: user could filter tags by setup address, data length and data in EPC, TID and USER areas, select “Enable” button to switch on filter function.



Pic.7-1

3.5 Lock Tag

Click “LOCK” on top of navigation bar to enter tag locking page.

Input access password(DONOT input default password.), then click column of “Lock Code”, it will display window for selecting different methods of locking, click “OK” to generate lock code automatically, then click “Lock” to lock tags in Pic.8-1 and Pic.8-2.

Comment: user could filter tags by setup address, data length and data in EPC, TID and USER areas, select “Enable” button to switch on filter function.

NOTE: If permanent mask has been locked, then it cannot be unlocked. Vice versa.

demo_uhf SCAN READ WRITE CONFIG LOCK

filter

Enable

Ptr : 32 (bit) Len 0 (bit)

Data :

EPC TID USER

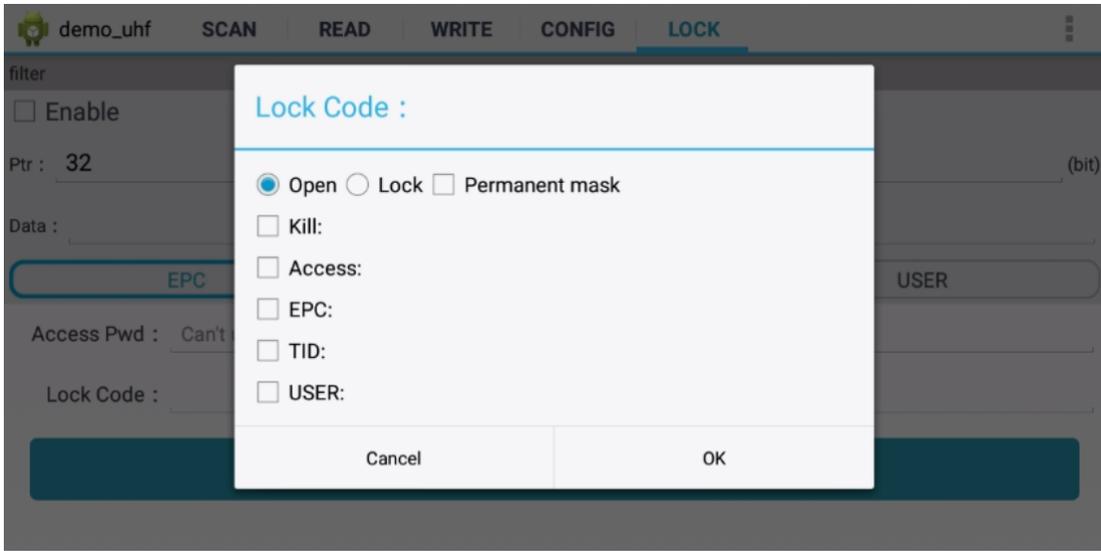
Access Pwd : Can't use the default password

Lock Code :

Lock

Tips : After permanent lock, unable to unlock;After permanent unlock, not locked

Pic. 8-1



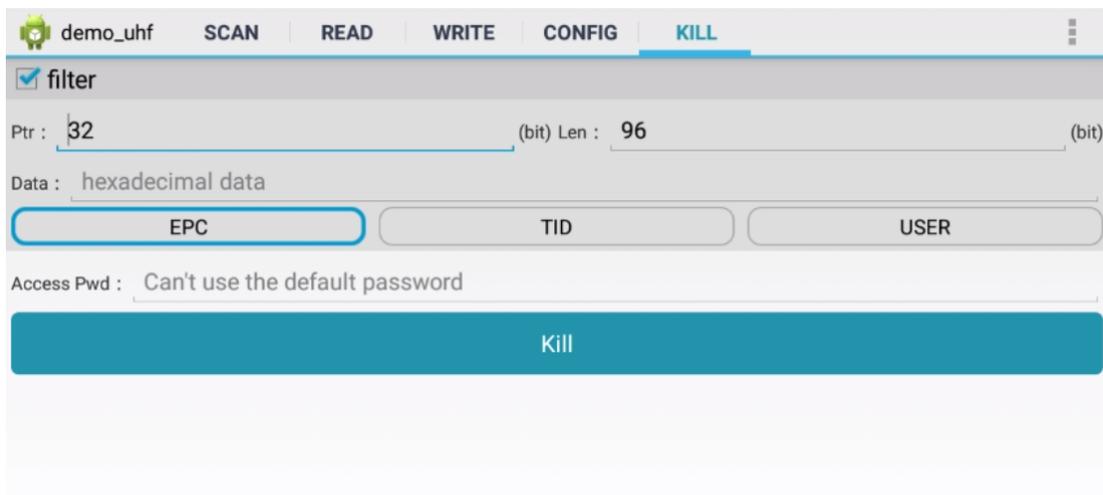
Pic.8-2

3.6 Kill Tag

Click “KILL” on top of navigation bar to enter operating page.

Input access password (DONOT input default password.), click “Kill” button to destroy tags in Pic.9-1.

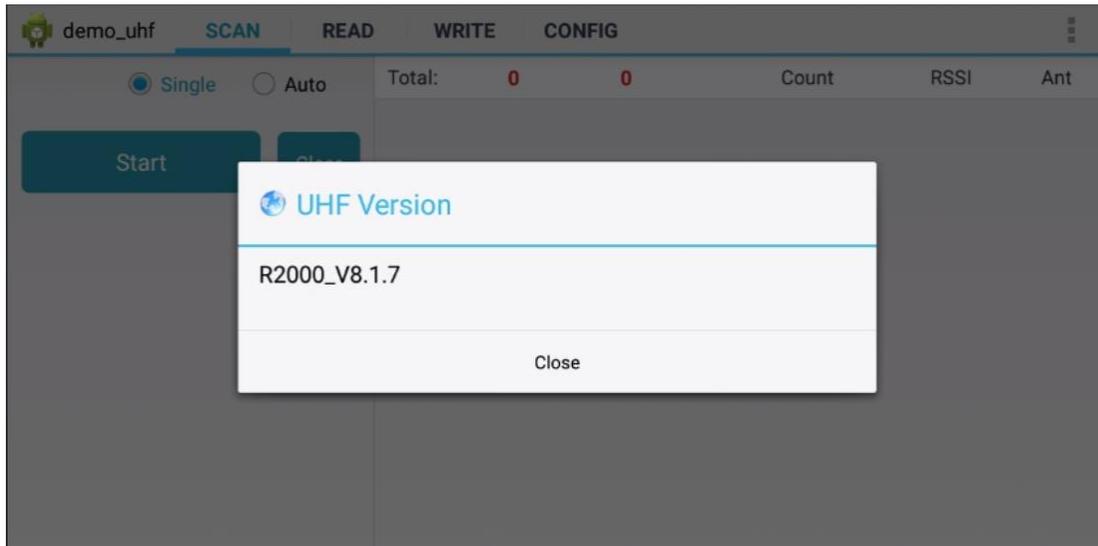
Comment: user could filter tag by setup address, data length and data for selecting EPC, TID or USER area.



Pic.9-1

3.7 UHF Module Version

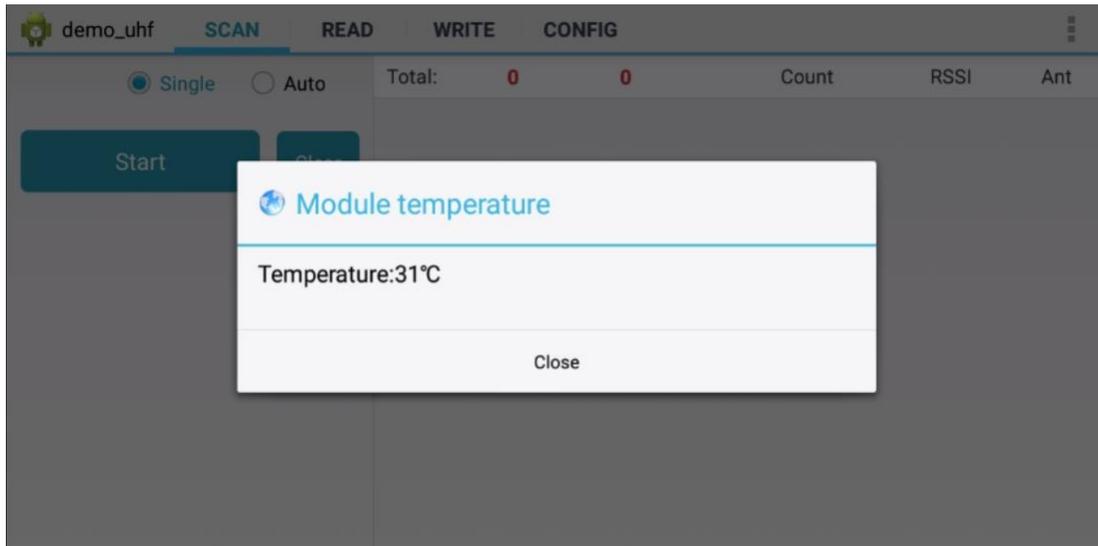
Click 3 dots on top right of application and click “About” in list to check version of UHF module in Pic.10-1.



Pic.10-1

3.8 Module Temperature

Click 3 dots on top right of application, click “Module temperature” in list to check UHF module temperature in Pic.11-1.



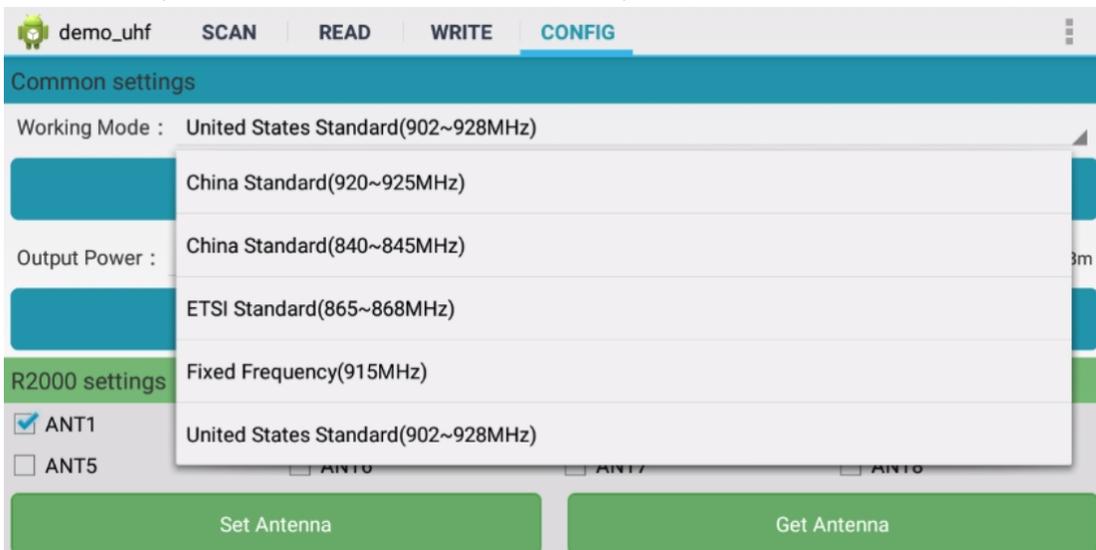
Pic.11-1

Chapter 4 Config

Click “CONFIG” on top of navigation bar to enter setup page.

4.1 Working mode

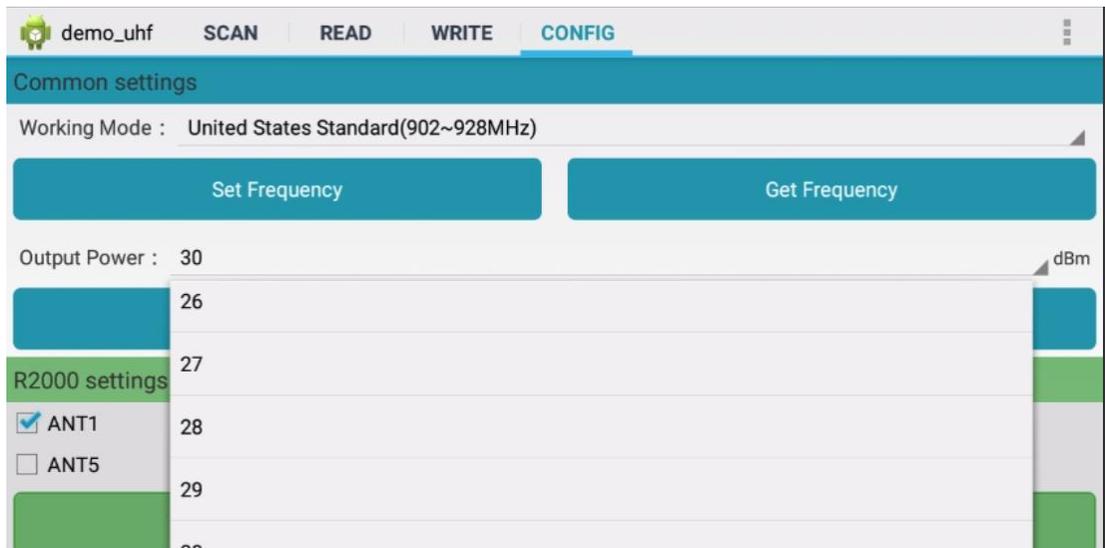
User could setup different frequency band for different countries, as Pic.12-1, click “Set Frequency” to confirm frequency band. Click “Get Frequency” to check current frequency band.



Pic.12-1

4.2 Output Power

User could select different output power from 5 to 30dBm in Pic.12-2, click “Set Power” to confirm setup. Click “Get Power” to get current output power.

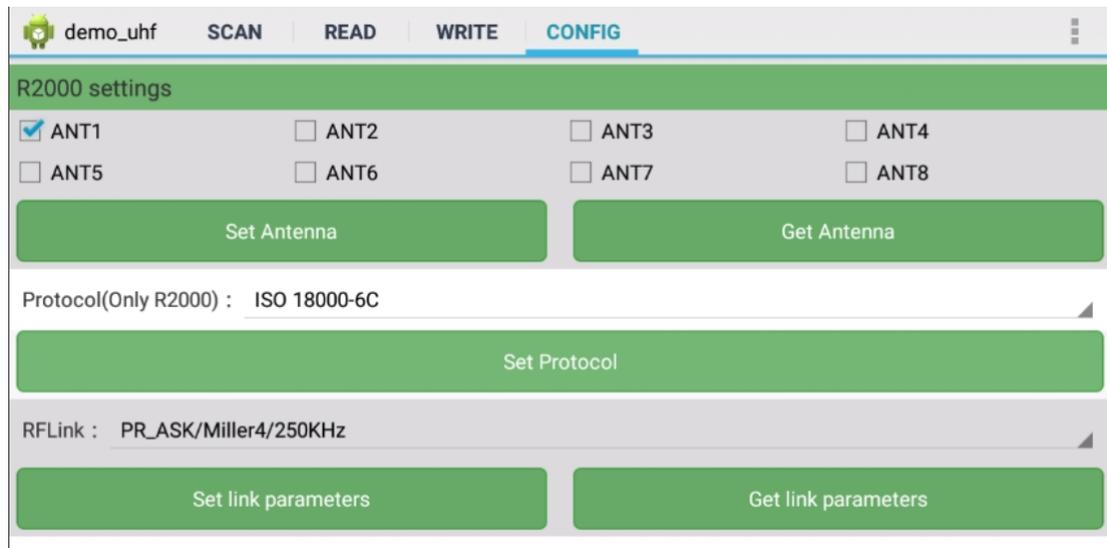


Pic.12-2

4.3 R2000 settings

Select ANT1-ANT8 to setup antenna, selected antenna will start functioning, unselected antenna will in OFF in Pic.12-3.

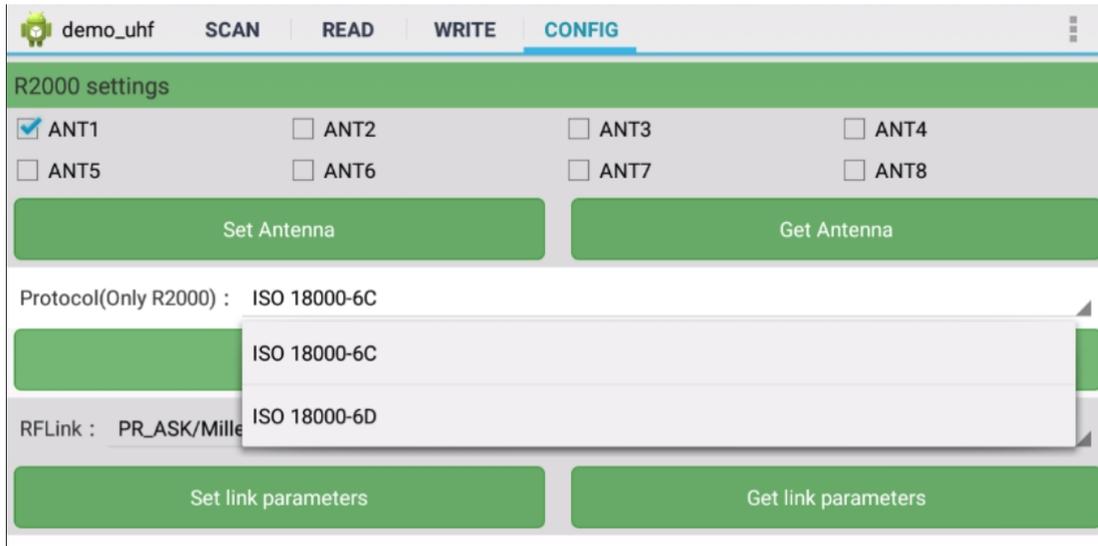
Click “Set Antenna” to confirm setup, “Get Antenna” to check current antenna status.



Pic.12-3

4.4 Protocol

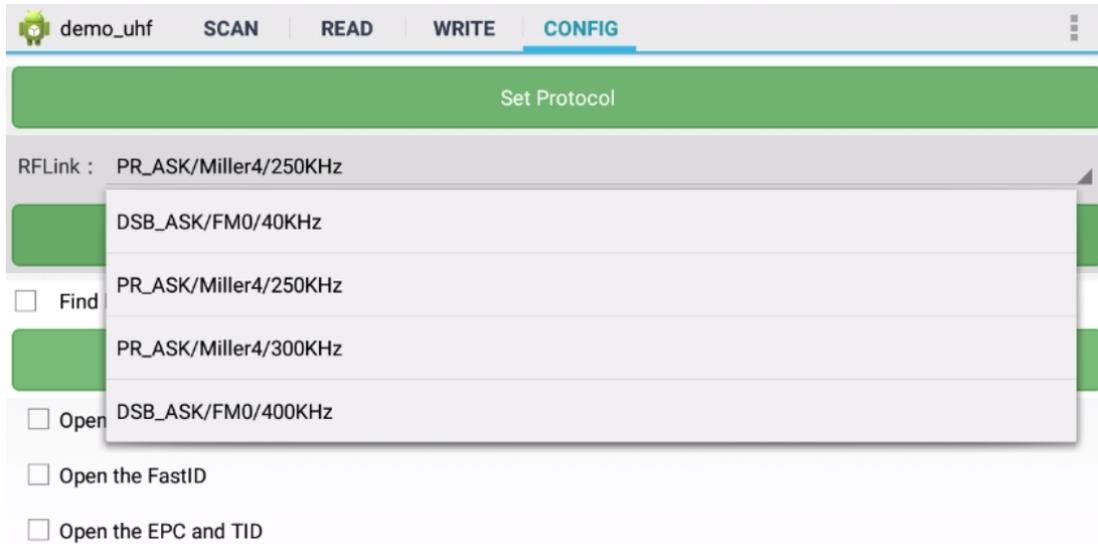
There are two protocols can be selected in Pic.12-4, click “Set Protocol” to confirm.



Pic.12-4

4.5 RF link

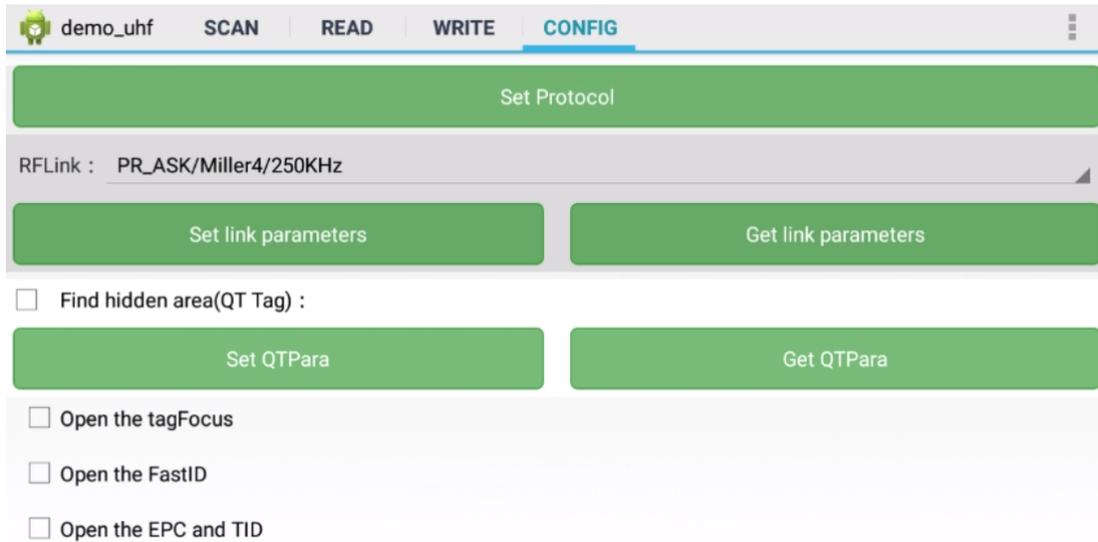
There are four parameters can be selected in this parameter, as Pic.12-5. Click “Set link parameter” to confirm, click “Get link parameters” to check current RF link parameters.



Pic.12-5

4.6 QT Tag

Select “Set QTPara” to switch ON and OFF hidden areas of QT tag, click “Get QTPara” to check current status.



Pic.12-6

4.7 Open tagFocus

Select ON/OFF of tagFocus in Pic.12-6.

4.8 Open FastID

Select ON/OFF of “Open the EPC and TID” in Pic.12-6.

4.9 Open EPC and TID

Select ON/OFF of “Open the EPC and TID” in Pic.12-6.