

SHENZHEN CHAINWAY INFORMATION TECHNOLOGY CO.,LTD

# Wearable BT RFID Reader

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## R5 User Manual



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# Statement

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# Chapter 1 Product intro

## 1.1 Intro

Chainway R5 is a newly-developed wearable UHF reader that enables read distance of 9m. Connected with wristband by magnetic buckle, it features removable battery, performs data transmission via Type C USB, and enables user information interaction via Bluetooth coordinated with APP or SDK. And it also can be paired with Android/IOS device to expand RFID capability. This RFID reader can be suitable for warehousing, power inspection, asset management, retail, etc., which provides users with more flexibility to efficiently finish their tasks at hand.

## 1.2 Precaution before using battery

- Do not leave battery unused for long time, no matter it is in device or inventory. If battery has been used for 6 months already, it should be check for charging function or it should be disposed correctly.
- The lifespan of Li-ion battery is around 2 to 3 years, it can be circularly charged for 300 to 500 times. (One full battery charge period means completely charged and completely discharged.)
- When Li-ion battery is not in used, it will continue discharge slowly. Therefore, battery charging status should be checked frequently and take reference of the related battery charging information on the manuals.
- Observe and record the information of a new unused and non-fully charged battery. On the basis of operating time of new battery and compare with a battery that has been used for long time. According to product configuration and application program, the operating time of battery would be different.
- Check battery charging status at regular intervals.
- When battery operating time drops below about 80%, charging time will be increased remarkably.
- If a battery is stored or otherwise unused for an extended period, be sure to follow the storage instructions in this document. If you do not follow the instructions, and the battery has no charge remaining when you check it, consider it to be damaged. Do not attempt to recharge it or to use it. Replace it with a new battery.
- Store the battery at temperatures between 5 °C and 20 °C (41 °F and 68 °F).

## 1.3 Charger

The charger type is GME10D-050200FGu, output voltage/current is 5V DC/2A. The plug considered as disconnect device of adapter.

## 1.4 Notes

**Note:**

Using the incorrect type battery has danger of explosion.  
Please dispose the used battery according to instructions.

**Note:**

Due to the used enclosure material, the product shall only be connected to a USB Interface of version 2.0 or higher. The connection to so called power USB is prohibited.

**Note:**

The adapter shall be installed near the equipment and shall be easily accessible.

**Note:**

The suitable temperature for the product and accessories is 0-10°C to 50°C.

**Note:**

CAUTION RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

# Chapter 2 Installation instructions

## 2.1 Appearance

R5 appearances are showing as follows:



### Indicating Lamps instruction

Lamps		Description
Indicating Lamps	Power	Red lamp lights up constantly (charging status) Green lamp lights up constantly (battery fully charged) Blue lamp lights up constantly (battery level higher than 20%) Blue lamp flashing (battery level lower than 20%)
	Bluetooth	Constant light up (Bluetooth connected)
	Work	Flash when read UHF tags

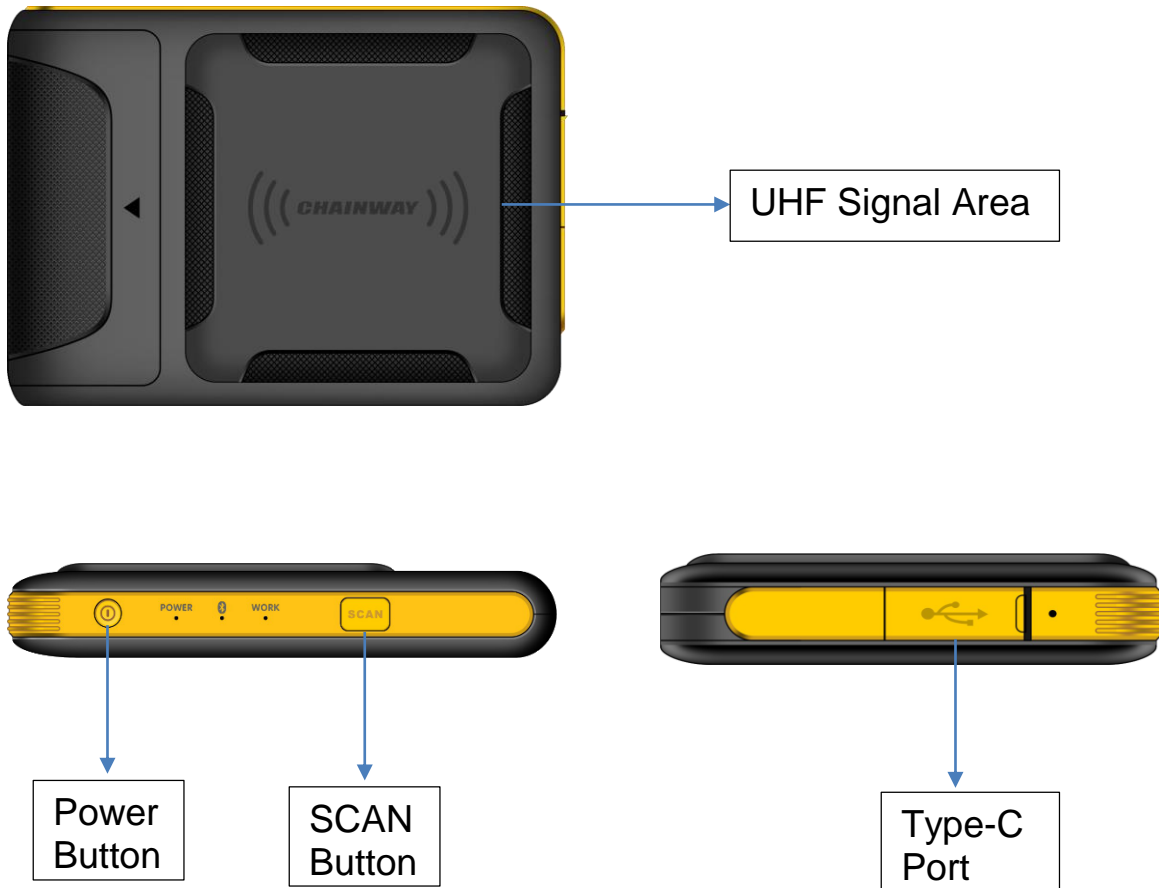


## **2.3 Battery charge**

By using USB contact, the original adaptor should be used for charging the device. Make sure not to use other adaptors to charge the device.

## 2.4 Buttons and function area display

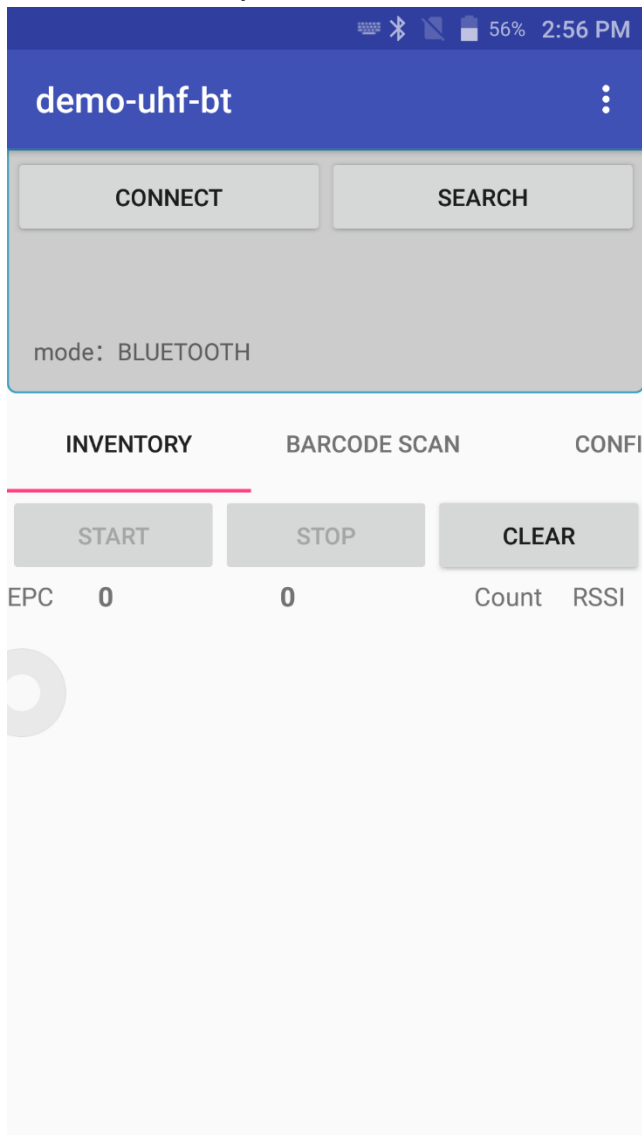
R5 Sled reader has 1 power button and 1 Type-C port, 1 SCAN button.



# Chapter 3 Demo Test

## 3.1 Install demo-uhf-bt (1.0.8)

1. Copy demo-uhf-bt (1.0.8) into internal storage of smart phone or C7x device.
2. Click to install.
3. Click icon to open demo.



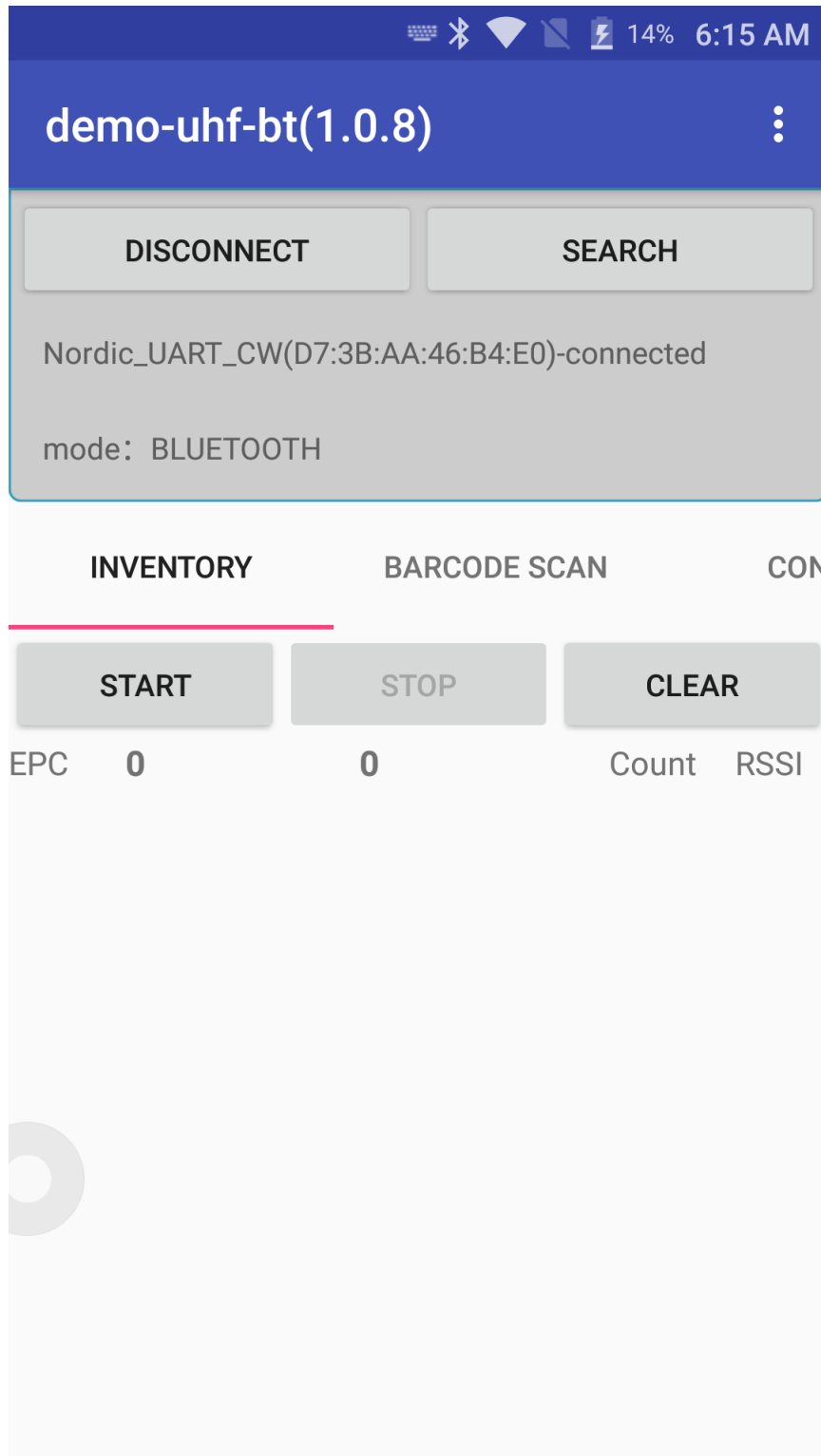
## 3.2 Pairing Device

1. Switch on Bluetooth function of smartphone or C7x device.
2. Power on R6.
3. Click BLUETOOTH in the demo.
4. Click SEARCH to search for Nordic\_UART\_CW.



5. Click Nordic\_UART\_CW to connect.

6. After connecting successfully, user could click 3 dots on top right to check UHF version, battery percentage and UHF module temperature.



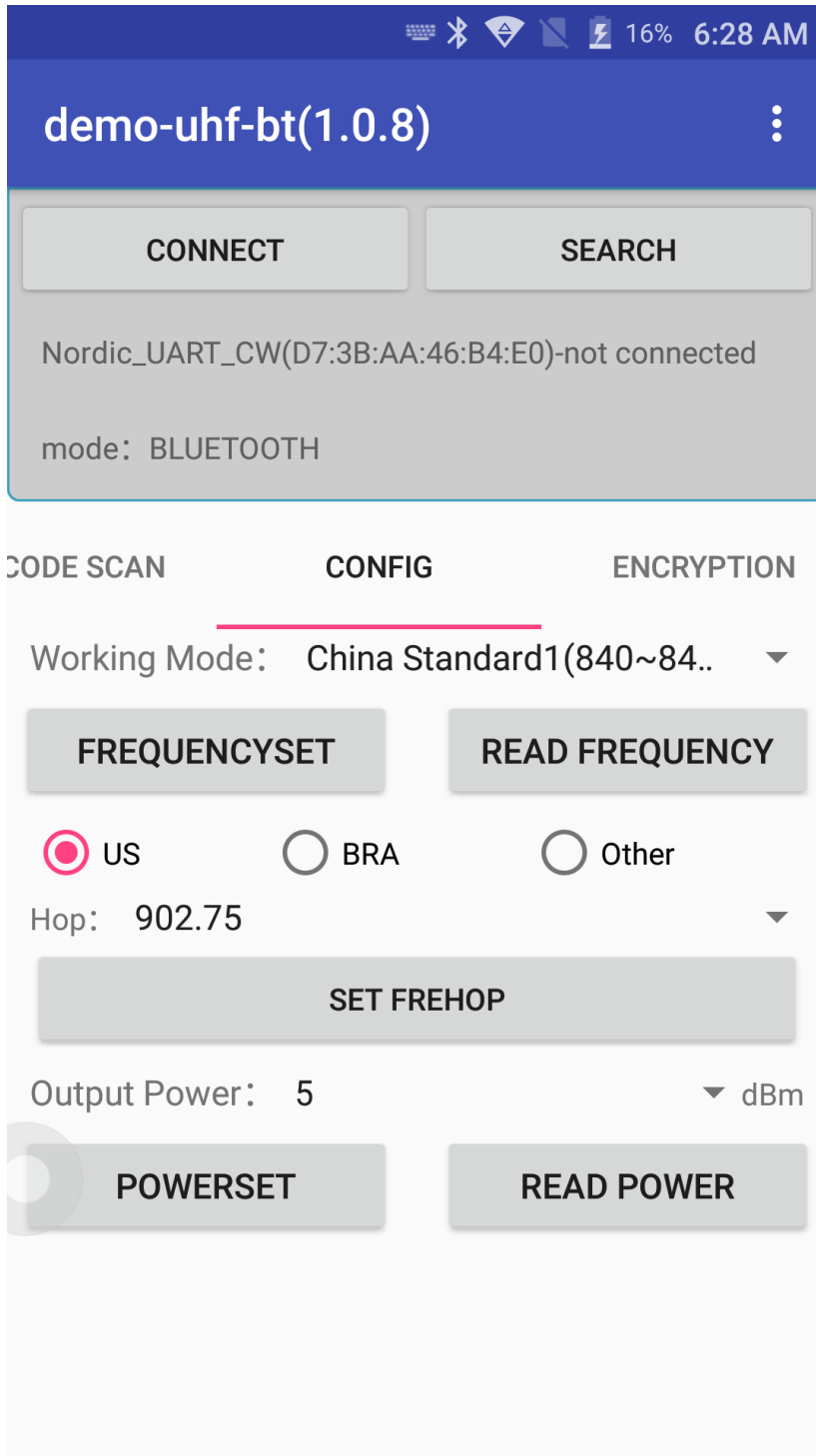
### 3.3 UHF Scan Function

1. Click START in demo or pull the trigger on R6, the UHF tags could be read.
2. Click STOP in demo to stop reading of UHF tags.
3. Click CLEAR to clean all EPC information.

EPC	Count	RSSI
EPC:300ED89F3350007FE25EAE85	2	N/A
EPC:12348602021900850800C4DA000000 000000000000000000000000000000000000 000000000000000000000000000000000000 000000000000000000000000000000000000	1	N/A
EPC:300ED89F3350007FE25EADC2	2	N/A
EPC:E2008602021900850660D3C4000000 000000000000000000000000000000000000 000000000000000000000000000000000000 000000000000000000000000000000000000	2	N/A
EPC:E20040007806007915707535	2	N/A
EPC:34566008130401430900BBD1	1	N/A
EPC:E2004000780600801570752E	2	N/A

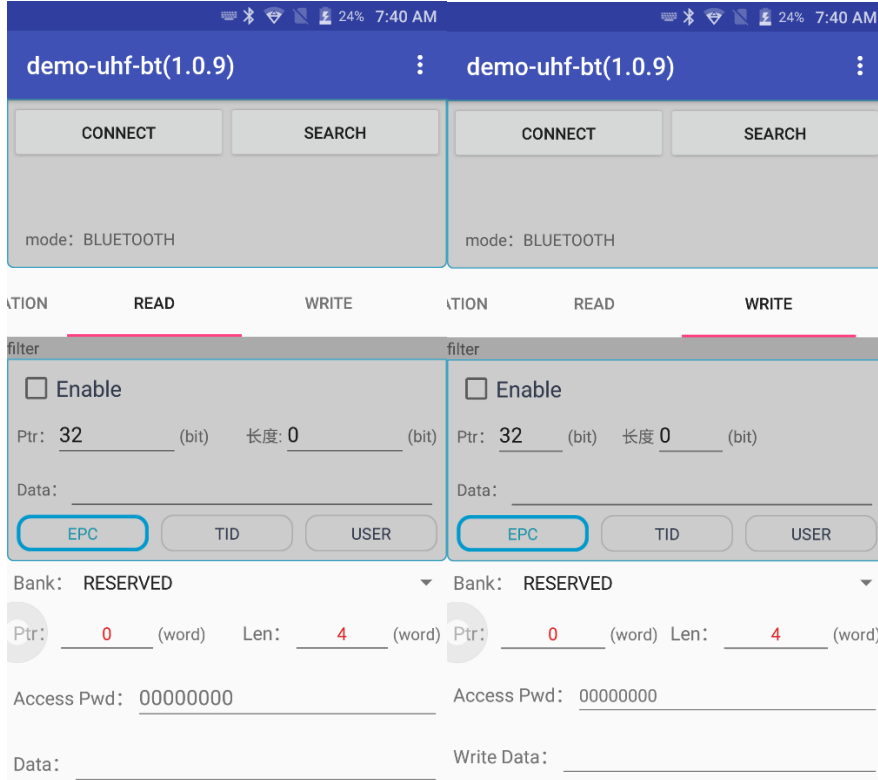
### 3.4 UHF Configuration

1. Click CONFIG in demo to adjust working mode and output power.



## 3.5 UHF Tag Reading and Writing

1. The storage of one tag has 4 zones: RESERVED, EPC, TID and USER. Normally, the default password is 00000000. And TID zone can only be read, other zones can be read and written.





## 3.6 UHF Tag Lock and Kill

### 1. Lock Function:

For example. User could try to lock down EPC zone.

The screenshot shows the 'demo-uhf-bt' application interface. At the top, there is a status bar with a battery icon, signal strength, Bluetooth, and 56% battery at 3:04 PM. Below the status bar is a blue header with the text 'demo-uhf-bt' and a three-dot menu icon. The main content area has a light gray background and contains two buttons: 'DISCONNECT' and 'SEARCH'. Below these buttons, the text 'Nordic\_BT\_CW\_20181212(C1:21:31:CD:34:AB)-connected' and 'mode: BLUETOOTH' is displayed. A horizontal menu below the main content area has three options: 'WRITE', 'LOCK', and 'KILL'. The 'LOCK' option is selected and highlighted with a red underline. Below the menu is a 'filter' section with a gray background. It contains an 'Enable' checkbox, which is currently unchecked. Below the checkbox are two input fields: 'Ptr: 32 (bit)' and 'Len: 0 (bit)'. Below these fields is a 'Data:' label followed by a text input field. At the bottom of the filter section are three buttons: 'EPC', 'TID', and 'USER'. The 'EPC' button is highlighted with a blue border. Below the filter section are two text input fields: 'Access Pwd: Can't use the default password' and 'Lock Code:'. At the bottom of the screen is a large teal button labeled 'LOCK'.

## 2. Kill Function:

Kill function can be used to kill the tag permanently. Input the correct access password and click kill.

demo-uhf-bt

CONNECT SEARCH

(C1:21:31:CD:34:AB)-not connected

mode: BLUETOOTH

LOCK KILL MODIFY BTNAM

filter

Enable

Ptr: 32 (bit) Len: 0 (bit)

Data: \_\_\_\_\_

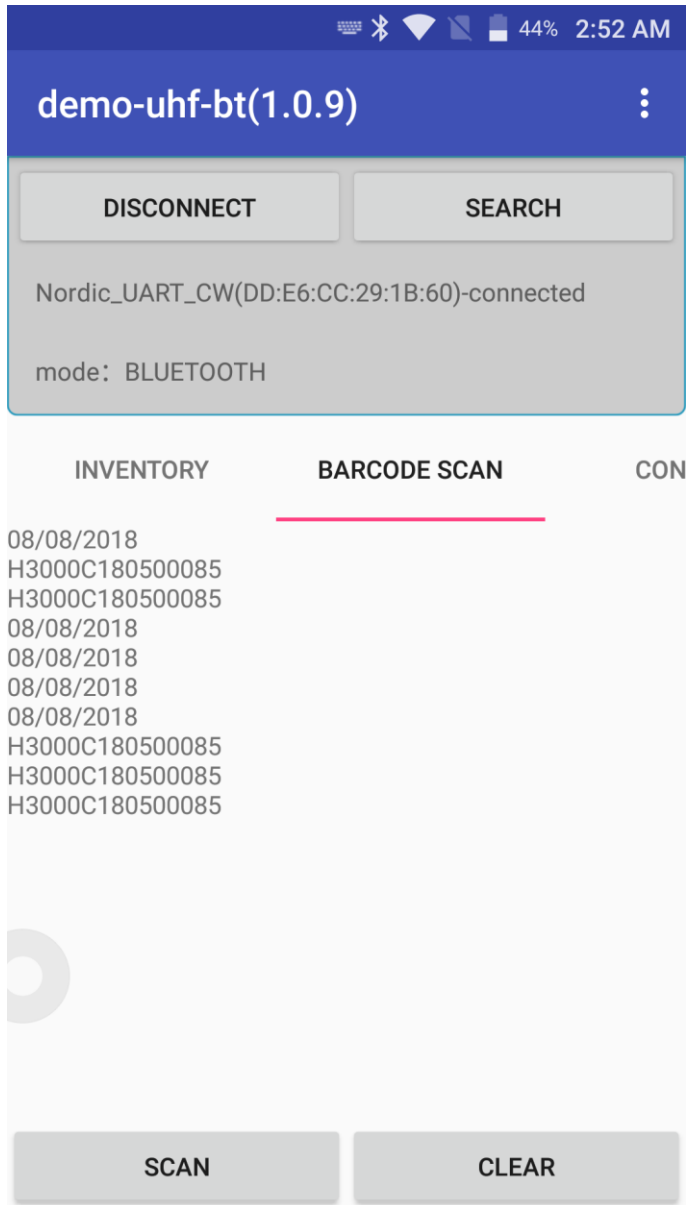
EPC TID USER

Access Pwd: Can't use the default password

KILL

### 3.7 Barcode Scan Test

Select BARCODE SCAN in the demo and click SCAN button on the screen to scan barcodes.



# Chapter 4 Device characteristic

## Physical characteristics

<b>Size</b>	108 mm × 78 mm × 18 mm
<b>Weight</b>	200 g / 7.05 oz.
<b>Color</b>	Black
<b>Appearance material</b>	Plastic
<b>Product material</b>	Plastic
<b>Battery specification</b>	2000 mAh (removable)
<b>Indicator LED</b>	Power, Work, Bluetooth
<b>Buzzer</b>	NULL
<b>Interfaces</b>	Type-C

## User environment

<b>Operating temp.</b>	-20°C to 50°C
<b>Storage Temp.</b>	-40°C to 70°C
<b>Humidity</b>	5%RH - 95%RH non condensing

## UHF

<b>Antenna</b>	Circular Polarized Antenna (3dBic)
<b>Frequency</b>	920-925MHz/902-928MHz/865-868MHz
<b>Protocol</b>	EPC C1 GEN2 / ISO18000-6C
<b>Module power</b>	1W (30dBm, support +5~+30dBm adjustable) 2W Optional (33dBm, for Lati America, etc.)
<b>R/W range</b>	> 9 m (open outdoors, Impinj MR6 tag)
<b>Reading rate</b>	>200tags/s * Ranges and rates depend on tags and environment

## **Declaration**

The simplified EU declaration of conformity referred to in Article 10(9) shall be provided as follows: Hereby, Shenzhen Chainway Information Technology Co.,Ltd. declares that the radio equipment type UHF Sled Reader is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following.