A100 Bluetooth UHF RFID Reader User Manual

1. Product introduction

A100 Bluetooth Handheld UHF RFID Reader with Build-in high performance UHF RFID modules and Linear polarization Antenna, combining with efficient processing algorithms, Realize fast reading and writing electronic tags. Advanced bluetooth connection, Unique ergonomic and industrial design, make it become an ideal choice for RFID applications, such as asset management, inventory counting, product traceability, and anti-counterfeiting systems.

A100 can use USB or Bluetooth for wired/wireless communication with devices such as smartphone, portable devices, and computers to transmit and recognize results.

1.1 Product Features

-Completely independent intellectual property design.

-Wireless interface Bluetooth, provide Most widely connectivity.

-Based on R2000 design, Support Read Tags with EPC CLASS1 G2 perfectly, Excellent multi-label anti-collision function.

-Frequency: 840～960MHz (It can be adjusted according to different countries or regions)

-It can work in Frequency-Hopping Spread Spectrum(FHSS) or fixed frequency.

-Output power up to 30dBm (adjustable).

-Built-in Linear polarization Antenna, typical reading distance is 20

meters.

-Data can be cached locally.

-Tag storage capacity up to 50,000 pcs.

-Ultra low power consumption design with built-in high capacity lithium battery.

-3 sets of LEDs, built-in buzzer, built-in vibrator provide sound and light working status indication.

-Provide SDK and support secondary development.

-Dust-proof and waterproof design, firmware can be upgraded online.

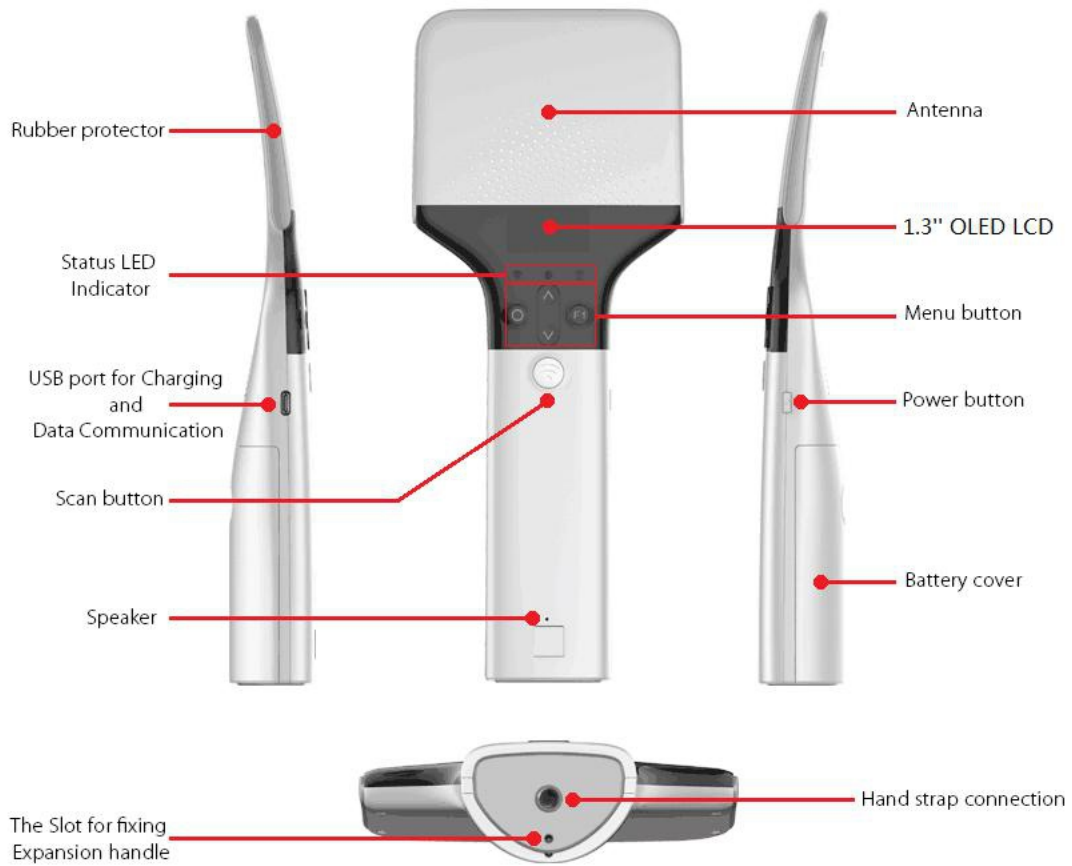*Effective reading distance also depends on label and working environment.

1.2 Product Specification

Basic Configuration	Display	1.3" White OLED LCD（128*64）
	Dimensions	262×105×42mm
	Weight	250g（Including Battery）
	Communication	Bluetooth, USB virtual serial port mode
	Interfaces	USB Type C
	Led Indicator	RFID Indicator, Bluetooth Indicator, Charging Indicator.
	Keyboard	Power Button, Scan Button, Up button, Down button, F1 button, option button.
	Battery	18650 lithium-ion 3100mA/h rechargeable battery, 4.2V.
	Adapter	input power (AC 100～240V,50～60Hz), output power (DC5V/2.0A).

	Extension rod	support
	Operation Temp	-10 ～ 55℃
	Storage Temp	-20 ～ 75℃
RFID	Reader chip	Impinj R2000
	Antenna	Built-in Linear Polarization Antenna.
	Protocol	ISO 18000-6C / EPC Global Class1 Gen2
	Frequency	840~960MHz (It can be adjusted according to different countries or regions).
	Power	Maximum+30dBm(1 Watt)(1dbm adjustable)
	Tag ID storage	50,000pcs, 192bit.
	Reading speed	500 pcs/sec
	Operating range	20 meters (Effective reading distance depends on Tags and Working Environment)
Barcode scanner	Type	1D Laser Engine/2D CMOS
	1D Barcode	UPC/EAN, Code128, Code39, Code93, Code11, Interleaved 2 of 5, MSIDiscrete 2 of 5, Chines 2 of 5, Matrix 2of 5, Inverse 1D, Codabar, GSI Databar
	2D Barcode	PDF417, MicroPDF417, Data Matrix(Inverse), Maxicode,QR Code(Inverse), Micro QR, Aztec(Inverse)

1.3 Product Packaging

A100 Device	Rechargeable battery
Adapter	Charging/Data Cable Line

1.4.Part name

Rubber protector

Status LED Indicator

USB port for Charging and Data Communication

Scan button

Speaker

The Slot for fixing Expansion handle

Antenna

1.3" OLED LCD

Menu button

Power button

Battery cover

Hand strap connection

1.5   Battery installation

(1) Remove the battery

① Pull down the battery cover and remove the back cover.

② Remove the battery from the device.

(2) Install the battery.

① Install the battery correctly according to the positive and negative electrodes as shown in the figure.

② Push the battery cover up.

Note: Please pay attention to the positive and negative poles when installing the battery. Do not turn on the power when the positive and negative poles are opposite.

1.6 Status indication LED

The status indicator LED includes an RFID indicator, a Bluetooth indicator, and a charging indicator.

Name	LED Status	Desprition
RFID LED	○ Off	RFID in Standby Status
	🟡 Orange	RFID in Working(Reading/Writing)mode

Bluetooth LED	◐ Scintillation	Bluetooth in Standby Status
	🔵 Blue	Bluetooth connected
Charging LED	⚪ Off	Discharge
	🔴 Red	Charging
	🟢 Green	Full Charge

1.7 Button instruction

Side button	Name	Function
⏻	Power Button	Press and hold for three seconds：ON/OFF
Front button	**Name**	**Function**
⋀	Up	Move menu，Change settings
⋁	Down	Move menu，Change settings
◉	Selection button	Selection button，Select and Confirm settings
F1	F1 Button	A quick press：Back to Home/Query tag A long press ：Clear stored ID/ Return to normal mode from search mode
📶	Scan button	RFID/Start scanning/End

2. Operating instructions

2.1 Power On/Off

（1）Press and hold the power button on the side of the device for 3 seconds，The equipment will be turned on/off.

Press and hold for three seconds

（2）After the power is turned on, the device will perform a self-test and will beep and vibrate after the startup.

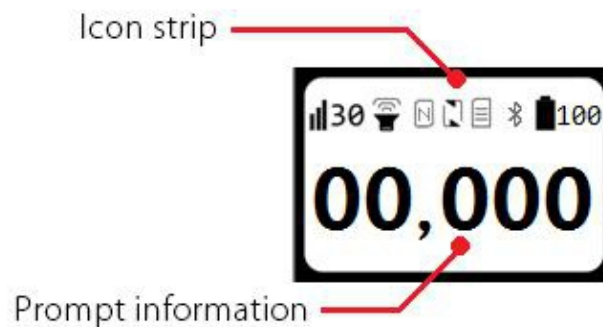| 30 📶 🔦 N N 目 ✳ ___ |

↓

| 30 📶 🔦 N N 目 ✳ 100 |
BID Confirmed
Bluetooth Confirmed
RFID(R2K) Confirmed

（Functioning normally）

| 30 📶 🔦 N N 目 ✳ 100 |
BID Unonfirmed
Bluetooth Confirmed
RFID Unconfirmed

（Some functions are abnormal）

↓

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00,000 ♫♫♫♫

2.2 Introduction for Basic interface

The LCD display interface consists of an icon and a Prompt Bar, as shown in the following figure:

(1)   Icons can be set and changed on both the device and the software。

icon		Description
ıl30	ıl30	RFID Power: 30dBm
	ıl 16	RFID Power:16dBm
	ı 09	RFID Power：9dBm
	Scan	In Barcode Scanning Mode
	(max volume icon)	Maximum Volume for Prompt
(volume icon)	(standard volume icon)	Standard Volume for Prompt
	(min volume icon)	Minimum Volume for Prompt
	(X icon)	No sound, no vibration
	(vibration icon)	Vibration
(N icon)	(N icon)	A beep is sounded and data is uploaded only when a new tag is recognized.
	(A icon)	When All tags (including recurring tags)are recognized,

		the device will beep and data will be uploaded
		Read the tags continuously.
		Read the tag a single time.

（2）An icon can only be queried on the device but can be changed by software.

| icon		Desprition
		Normal inquiry： Perform basic RFID identification to identify the EPC number of all tags.
		EPC+Data inquiry： Identify the EPC number and data in Data area of the tag at the same time.
		Single tag search： Search for a single tag specified by the PC software。 Can be used to find the location of the item where the tag is located.
		Multi tags search： Search for multiple tags specified by the PC software. Can be used for acceptance of containers.
		Wildcard search： Search for tags that are specified and filtered by the PC software。 Can be used to search for tags whose tag EPC number meets specific rules.

（3）Icon that can only be queried.

|		
		Bluetooth standby status
		Bluetooth connected

	100	100%
100	50	50%

2.3 The Introduction for Menu

✓ Use the Up and Down Buttons to move the menu on the basic interface to query or change the status of the device.。

✓ Press the F1 Button to return to the basic interface.

✓ After standby more than 10 seconds, it will automatically return to the basic interface.

✓ When Identify the RFID, It will automatically return to the basic interface.
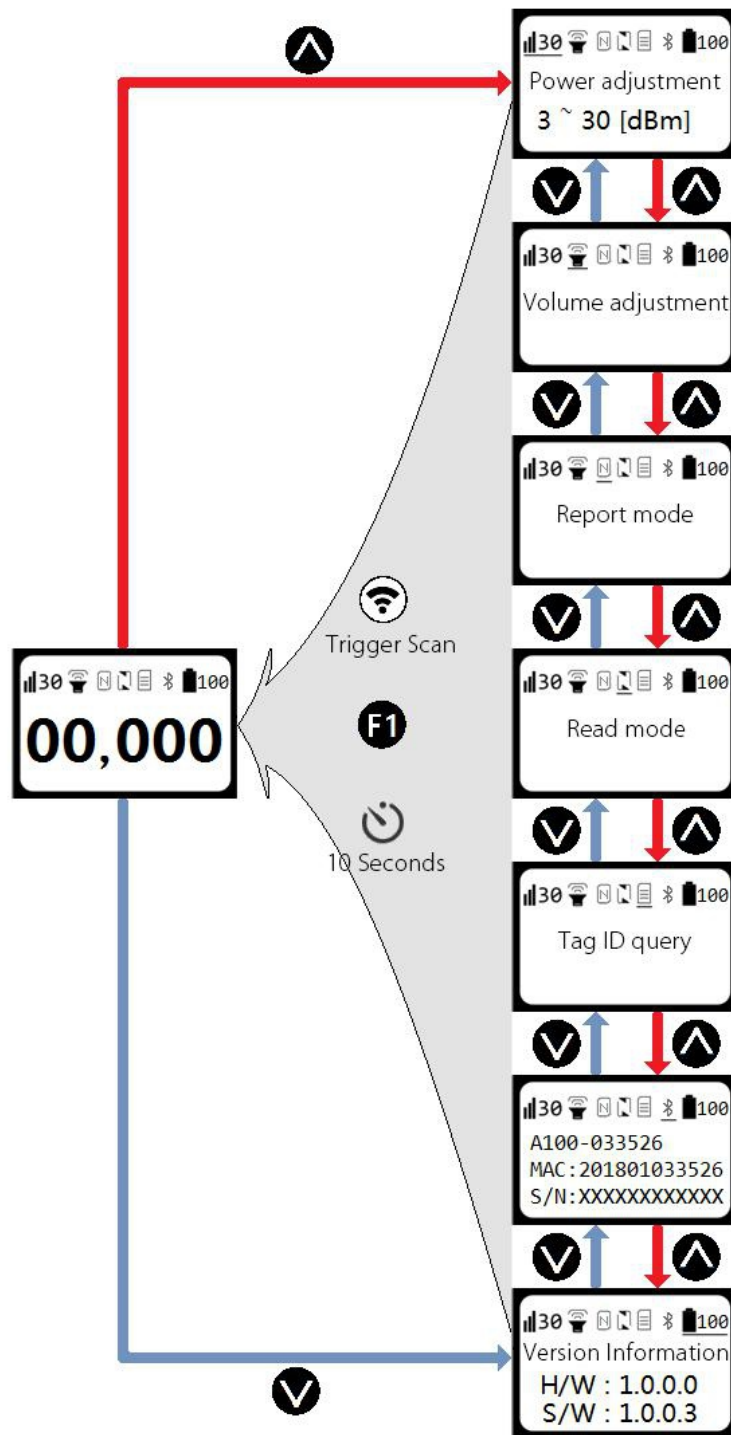
2.3.1 RFID Power adjustment

✓RFID can be adjusted between 3~30dBm

✓ The minimum is adjusted in units of 1dBm.
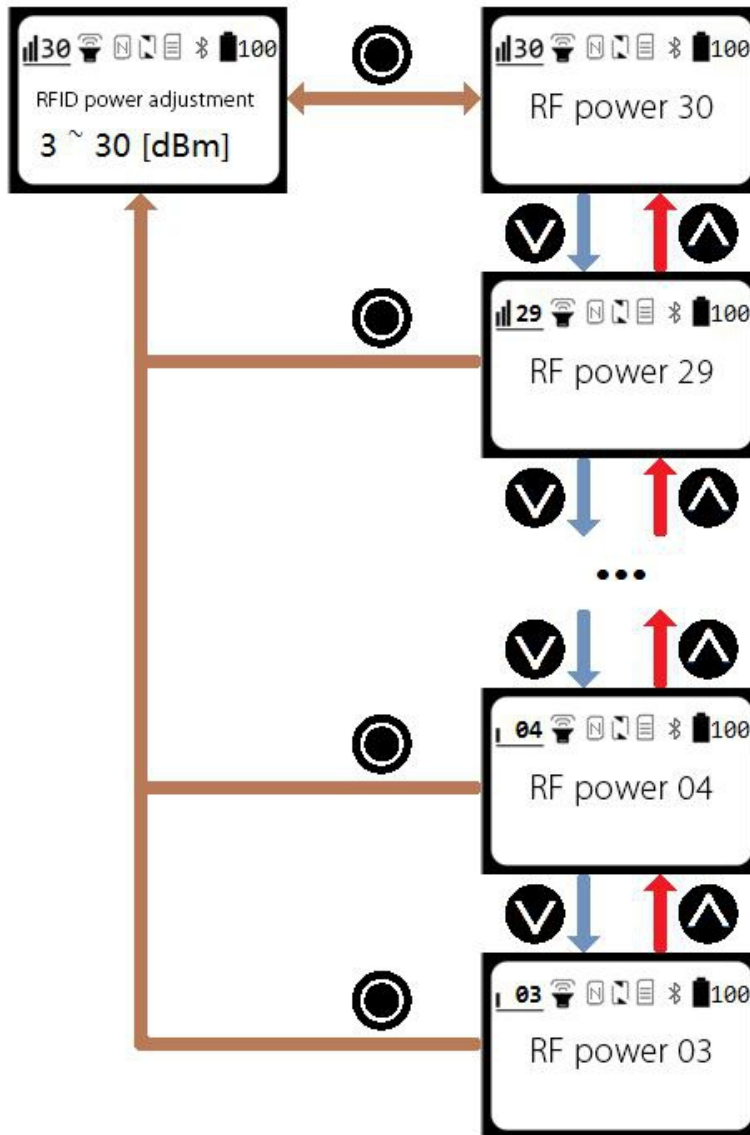
2.3.2   Prompt Tone adjustment

✓The prompt tone is the sound for notification, which emitted by the reader when the tag is recognized.

✓   Five options: Maximum, standard, minimum, mute, and vibration.
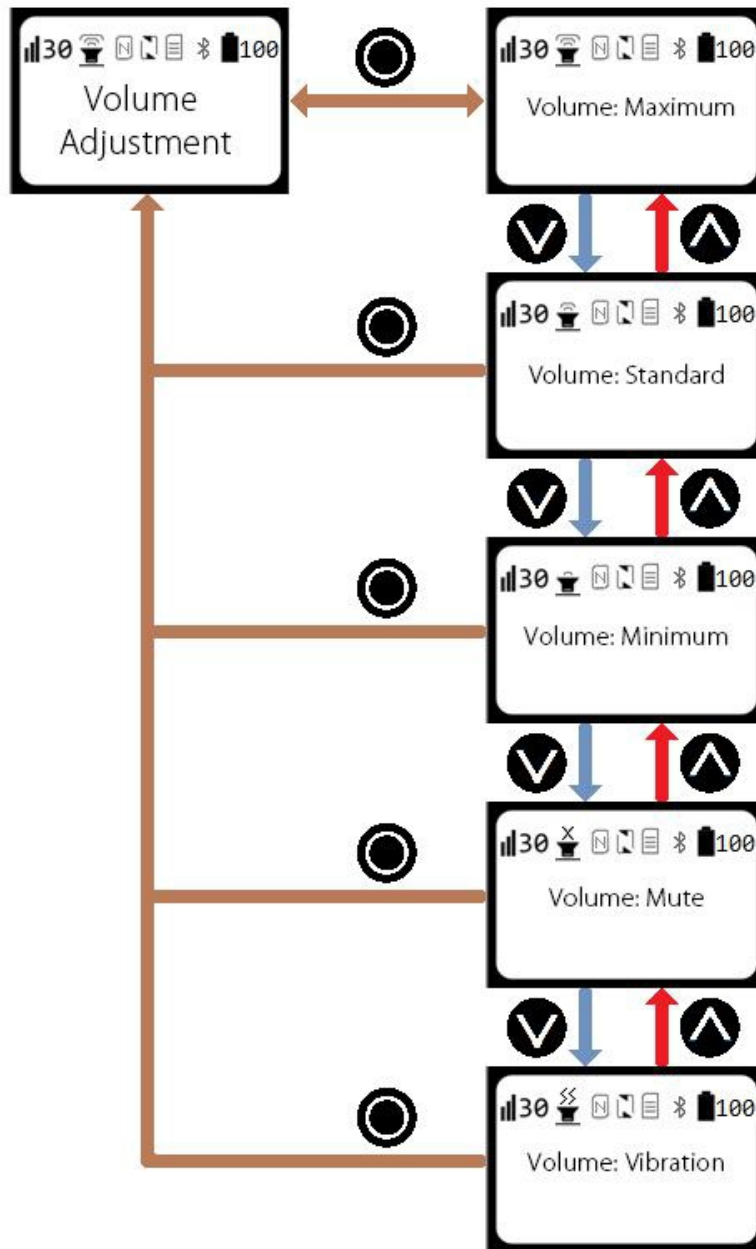
2.3.3 Setting Report mode

There is two kinds of report mode.

✓When reading a new tag: A beep is sounded and the data is uploaded only when a new tag is recognized.

✓ When reading all tags: All tags (including recurring tags), once they are recognized, The device will beep and the data will be uploaded. The report contains buzzer prompts information and communication information with the host computer
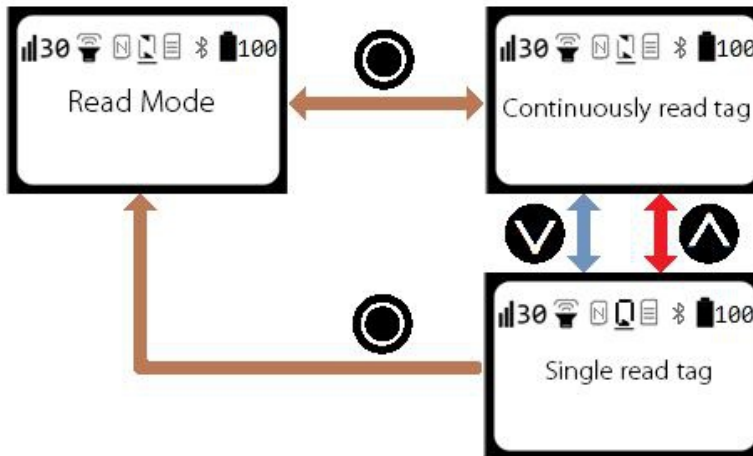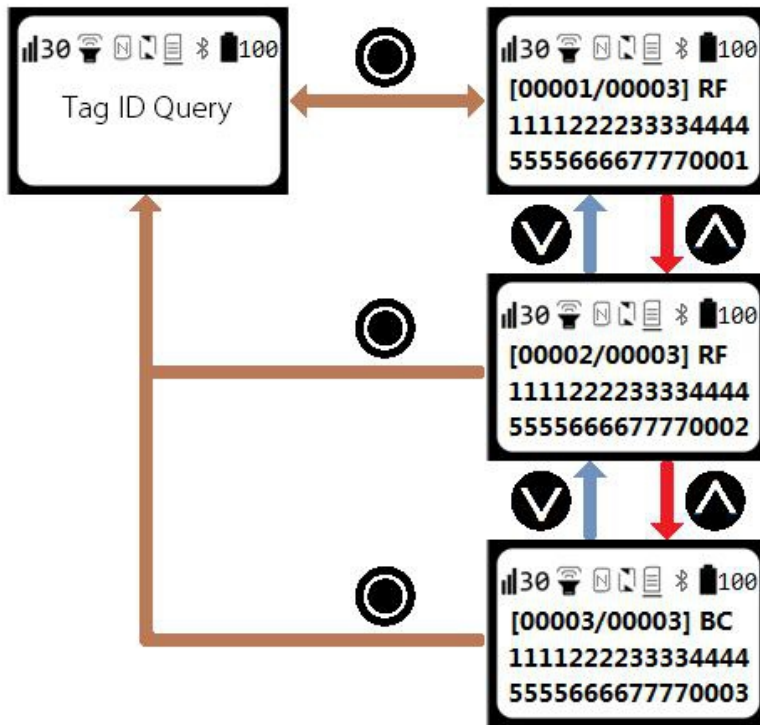
software.
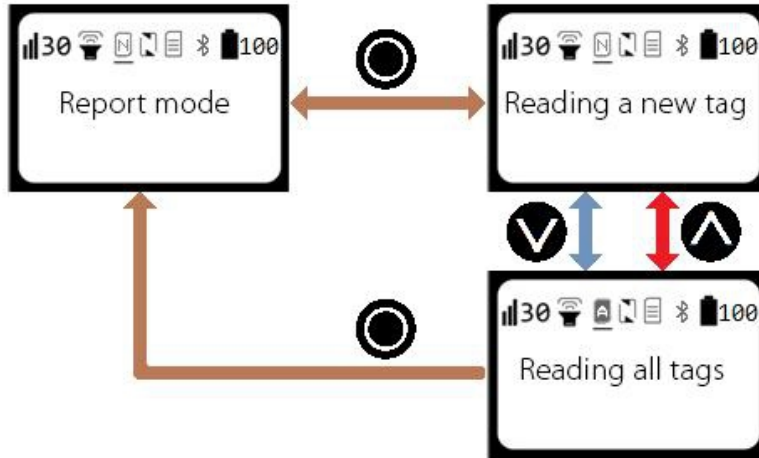
2.3.4 Setting Read mode

There is two kinds of read mode.

✓ Continuously read tag: RFID identification is performed until the user stops.

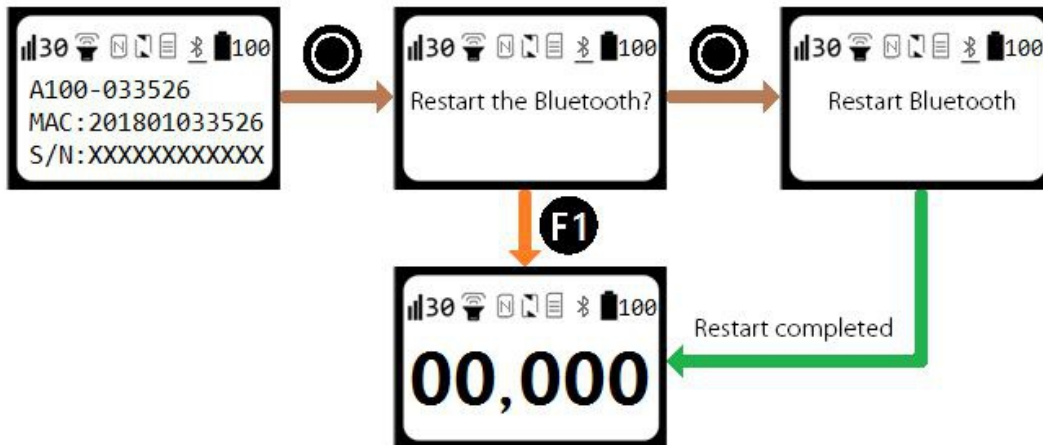✓ Single read tag: Only perform RFID identification once。

2.3.5 Tag ID query

✓ The tag ID query is used to check the label number or barcode number of the identified RFID tag.

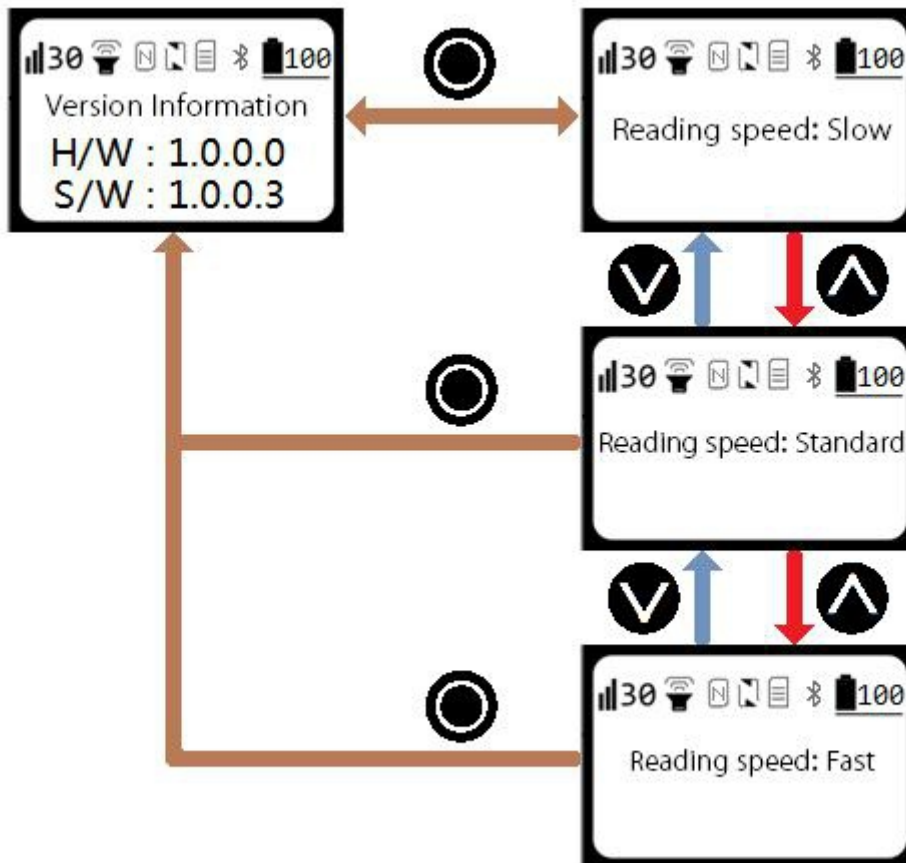✓ RF indicates the RFID tag number, and BC indicates the barcode number.

2.3.6 Bluetooth information query and restart

✓ Check device name, Bluetooth MAC address and S/N serial number

✓Restart Bluetooth

2.3.7 Version information and Reading Speed

✓ **Check** the battery power.

✓ Check hardware version and software version.

✓ Reading speed: slow, standard, and fast.

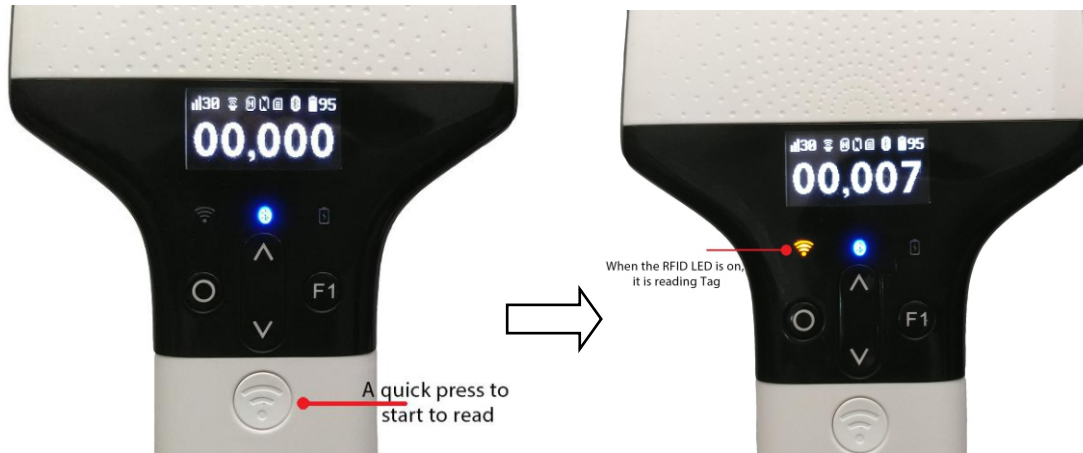# 2.4 Instruction of RFID Identification

✓ Use the scan button to start/Stop RFID identification.

✓ Use the PC software to control start/stop RFID identification.

✓ The identified RFID tags are stored in the device and the number of tags is displayed in the LCD.

✓ The identified tag catalog and quantity will always be stored in the device even power off, until it is manually cleared.

✓ The identified tag catalog and quantity can be transferred to a computer/Android device via USB or Bluetooth.

✓ RFID Identification begin

A quick press to start to read

When the RFID LED is on, it is reading Tag

✓ RFID Identification stop

Quick press to stop the reading

When the RFID LED is off, the reading is stopped

RFID Identification Stop

✓ Clearing tag cache

Press and hold for 3 seconds

Cache is Cleared