Apulsetech

α711F

RFID UHF Reader
User Guide

Ver. 0.1

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Apulsetech
C-1211, 60, Haan-ro,
Gwangmyeong-si,
Gyeonggi-do,
Republic of Korea

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1. About this guide

1.1 Introduction

The α711F (RFID UHF Reader) is a high performance UHF reader connecting to almost any mobile device. WIFI, Bluetooth or BT connections can be chosen in order to link to Android or iPhone device. Optional 2D barcode scanner engine from Zebra is available to capture 1D/2D barcode data and multitask on mobile phone efficiently. Users are able to experience highest working performance with α711F

This guide is designed for helping users to operate α711F effectively. Please read the guide carefully before using α711F.

1.2 Configuration

- This guide provides information of the following configurations including optional features.

Model	Operating System	Radios	Memory	Data Capture Options
α711F	Google Android	860MHz – 960MHz	2GB RAM, 8GB Internal	2D Imager Barcode Scanner

1.3 Related document and Software

α711F Quick Guide

Android SDK User Guide

Android SDK Developer's Guide

Android SDK Release Notes

Barcode Demo app

RFID Demo app

BarcodeRfidDemo app

Remote Manager app

1.4 Service information

If you have problem with the device, visit our web site to analyze the problem or contact our partner in region or HQ.

Contact information is available at our website **http://www.apulsetech.com**

When requesting support, please have following information;

- Serial number of the device (On manufacturing label)
- Firmware version

1.5 Safety information

Symbols

This guide uses the following symbols to indicate hazards and additional information.

Symbol	Name	Description
	Warning	Implies information that could result in serious injury to yourself or others.
	Caution	Implies information that may result in minor or serious product damage.
	Note	Implies information that can help you get more important than surrounding text, such as exceptions or additional information.

Before you use the α711F, please read this chapter of information and keep your child away from the product and aware of this information. For detailed information, please refer to the safety guidelines.

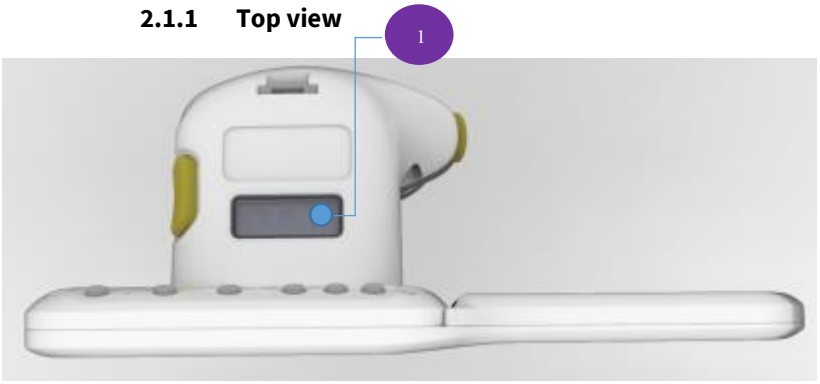
- Do not use α711F during driving for safety.
- In medical sites, please follow the relevant regulations by turning off your α711F when you are in medical sites.
- Please turn off your α711F or turn on planes mode when you are boarding, to avoid wireless signals jamming aircraft control signal.
- Please turn off your α711F near the use of high precision electronic equipment, otherwise it may lead to electronic equipment disability.

- Do not take apart your α711F or accessories without authorizing. Only authorized institutions can repair this α711F.
- Please keep α711F away from magnetic equipment. The radiation of α711F will erase the information of the magnetic storage device.
- Please don’t use α711F under high temperature or in flammable areas (example: gas station).
- Please keep your α711F and accessories away from children without supervising.
- Please obey the relevant laws and regulations when you use your α711F, and respect others lawful rights and privacy.
- Product not available while charging
- Modifying the device’s operating system or installing software from unknown sources may cause device malfunction or data loss. Improper or unauthorized use of the device voids your one-year limited warranty.

2. Brief Description of α711F

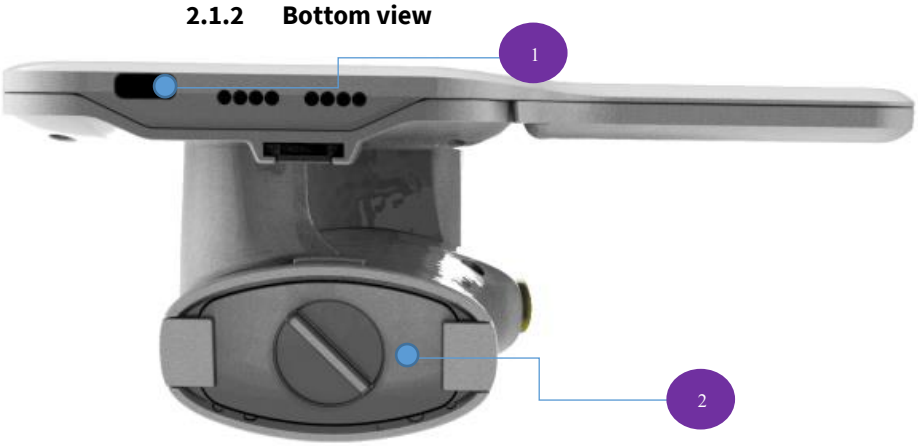
2.1 α711F Overview

2.1.1 Top view



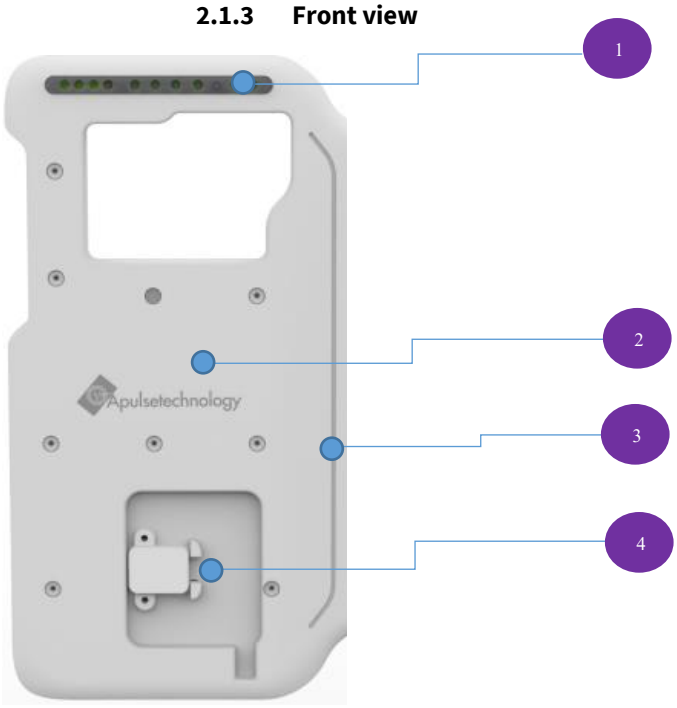
No.	Item	Description
1	2D Imager	Scans barcodes by emitting a red laser when you press the related button.

2.1.2 Bottom view

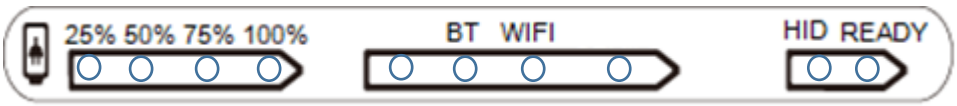


No.	Item	Description
1	BT connector	Allows the device to be connected to PC or other device.
2	Battery cover	Holds battery with locker

2.1.3 Front view



1. Description of LED Status



No.	Item	Description
1	25%, 50%, 75%, 100% Battery Level	All LED is green and does not blink - "25% LED" turns Red color when the battery is charging.
2	BT	When the BT mode is selected, Green lamp blinks
3	WIFI	When the WIFI mode is selected, Blue lamp blinks
4	HID	When the HID mode is selected, Green lamp.
5	READY	In power saving mode, LED color is Green.

2. Flourish LAMA

- Smartphone holder free stick

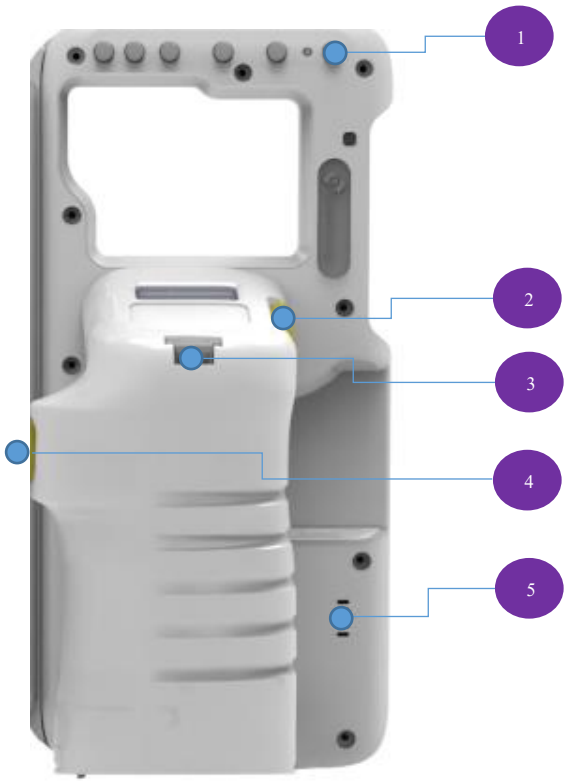
3. Antenna for RFID

- Role of sending and receiving tag data

4. BT Cable

- Charging

2.1.4 Back view



No.	Item		Description
1	Power key		Press and hold to boot α711F when it's completely turn off.
	Reset Key		When α711F is stuck and no physical buttons are not working, use small objects and press RESET button shortly, then device will force to shut down. Recommend not using the RESET key while α711F is working normally. It may damage the system and data loss.
	Mode key	M	Selection button for communication mode
	FNC Key	F	RFID Single reading mode and Multi reading mode selection button.
	WPS Key	W	Button to attempt to connect a711 to a WIFI AP
	UP		Volume UP or RFID power level UP button Default is volume UP

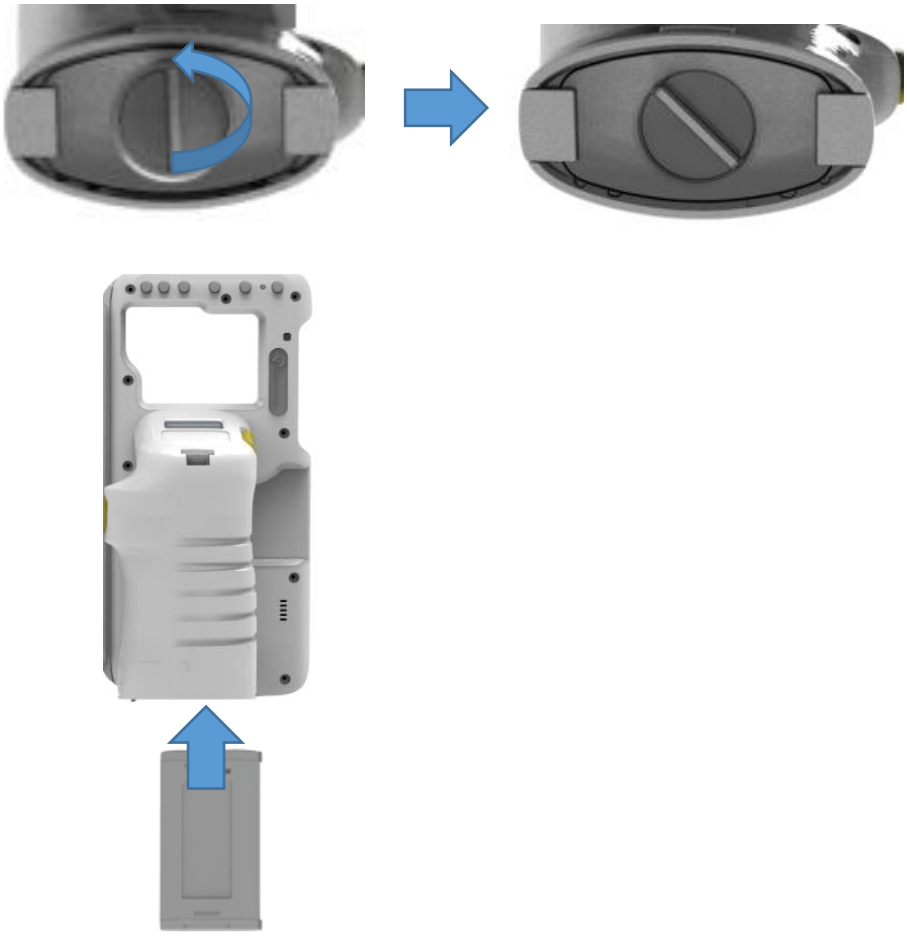
	DOWN		Volume DOWN or RFID power level DOWN button Default is volume DOWN
2	Scan Trigger		Scanning Barcode
3	Hand Strap Holder		Place for attaching Hand Strap (optional)
4	RFID Trigger		RFID reader
5	Speaker		For sound alert

3. Getting Started

3.1 Installing and Replacing the Battery

α711F uses Lithium-ion rechargeable battery.

그림 교체



1. Turn the battery lock latch 45 degree to the left(Unlock side)and lift the battery cover.
2. Insert the battery into the battery slot, make sure the gold contacts are aligned.
3. Place the cover and turn the lock latch 45 degree to the right (lock side).

Before removing the battery, turn off the power. Failure to do so it may cause damage to the device.

When removing the battery cover, press the cover firmly and slide the latch unlock side, be careful not to damage your fingernail.

3.2 Charging the Battery

When charging only a711 body with DC Adapter

3.3 Battery Management

To charge α711F uses BT cable or a docking cradle with the appropriate power supply. You can also charge the battery by connecting it to computer with BT cable.

Before using the α711F for the first time, charge the battery until the green Charging/Notification light emitting diode (LED) remains lit.

3.4 Reset

- Press reset button to reset the device.
- Reset button is hardware key, it works while a711 powers on.

It will shut down device and running application, you may lose data which made on the running application, please back-up important data frequently and use the reset function carefully.

4. Android Connections

4.1 Compatible Product Models

It is recommended to use of the mobile device with Android OS version 5.0 or later.

4.2 Demo Apps

- ***Installing Demo Apps.***

Install the application on the PC and Mobile device to connect to a711 and refer to Android SDK User Guide.

α711F provides Demo Apps for function test and customer application development.

Demo Apps may update or change without any notice.

For latest demo apps or support, please contact your regional partner or visit our website.

www.apulsetech.com.

Or you can download and install the related apk from Google Play Store by searching Apulsetech.

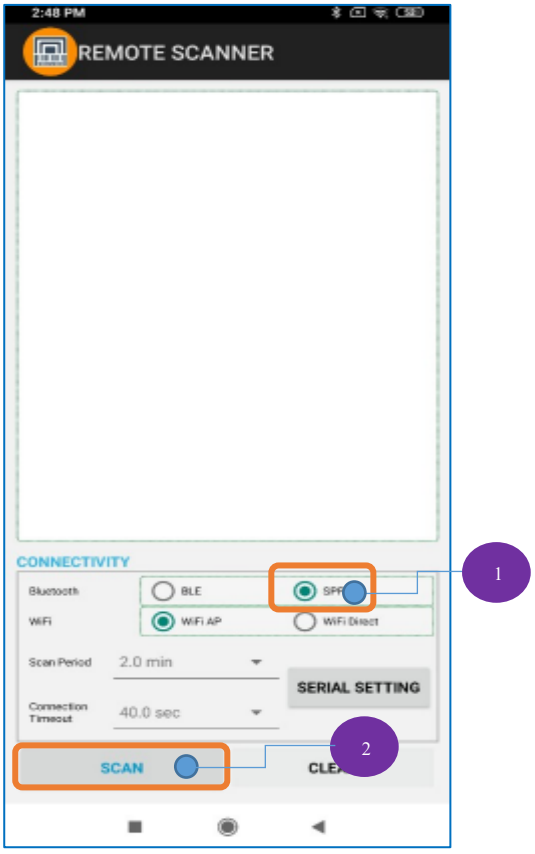
4.3 Bluetooth Connection

4.3.1 Setup

- Select Bluetooth mode by pressing BT button on a711 and check if the BT LED is blinking.

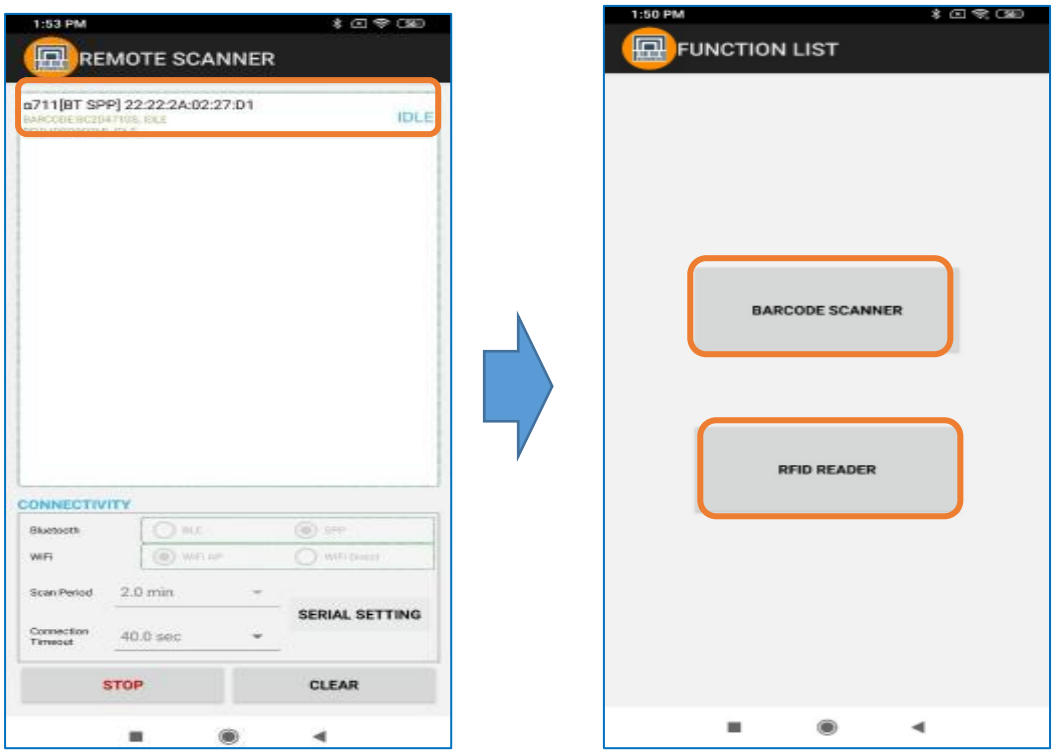
4.3.2 Make a Connection

- - Run “RFID/Barcode demo app” on your mobile device.



Run Demo app on the mobile device. → 1. Select SPP mode from Bluetooth section.

2. Press Search button on the screen.



Select a searched device. → Control RFID or barcode scanner while BT in connected

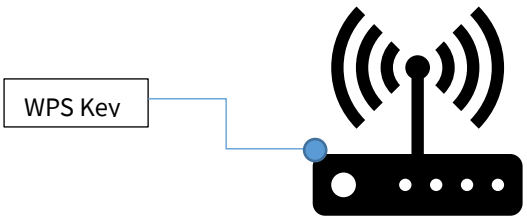
4.4 Wi-Fi Connection

4.4.1 Setup

- Select WIFI mode by pressing WIFI button on a711 and check if the WIFI LED is blinking.

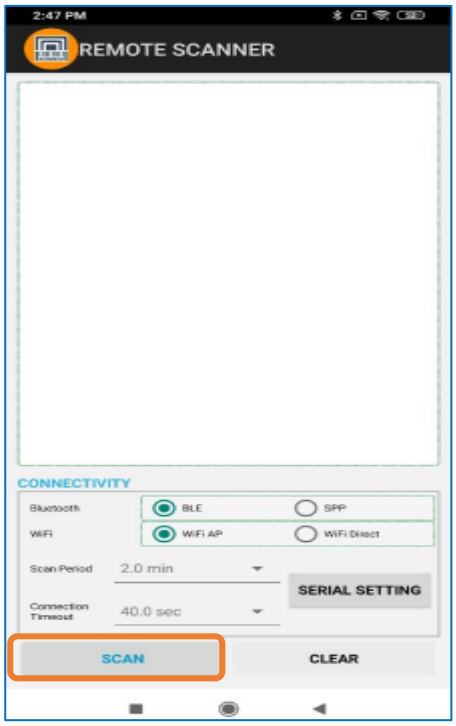
4.4.2 Make a Connection

- Try to make a connection by pressing WPS key on the AP while pressing WPS key on a711

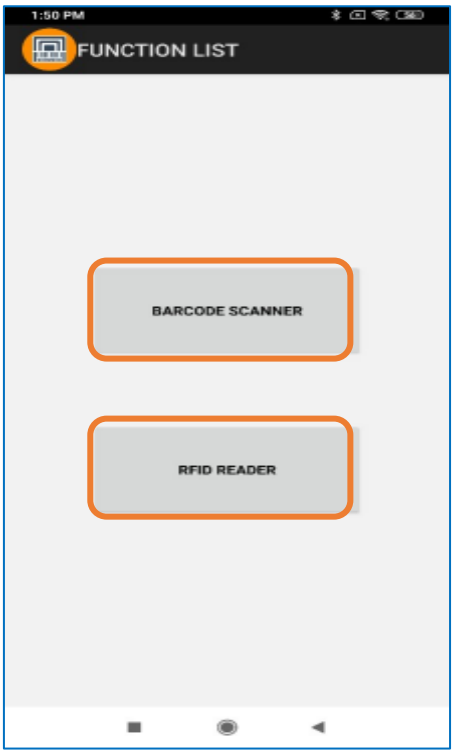


Wireless Lan AP

Run Demo app on the mobile device. →



Press Search button on the screen.



Select a searched device. → Control RFID or barcode scanner while WIFI in connected

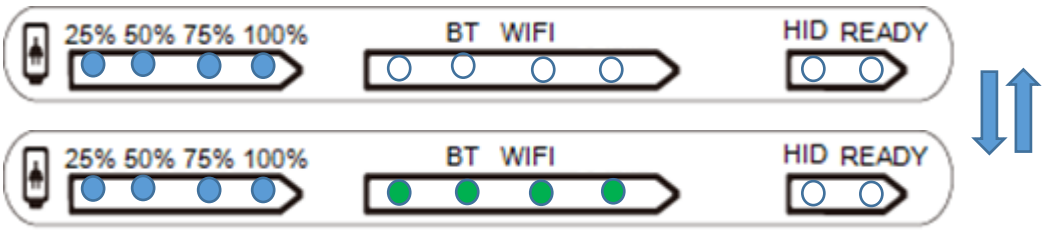
5. iOS Connections

Currently not available, coming soon.

iOS Connection will be available by the end of 2020. It will be updated once it is ready.

6. LED Indications

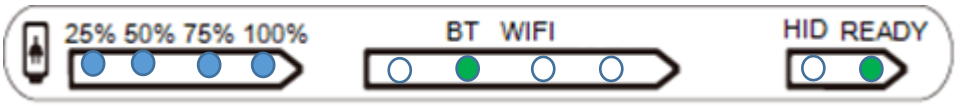
6.1 α711F Booting & Battery Level status



6.2 BT Mode

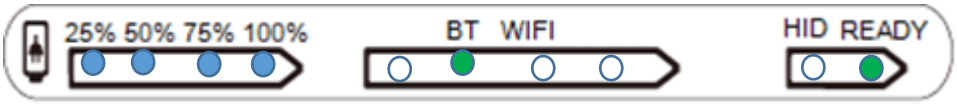
6.2.1 α711F BT Ready

BT mode standby : GREEN LED Blinks



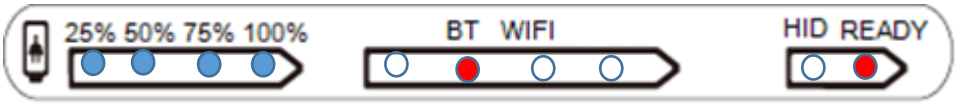
6.2.2 α711F BT Connection

BT mode Connection : GREEN LED ON



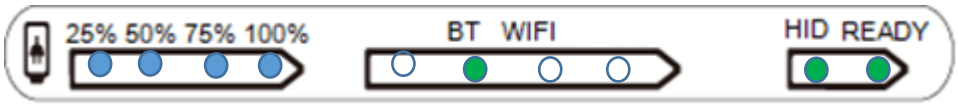
6.2.3 α711F BT Sleep

(Sleep when BT mode) : RED LED ON



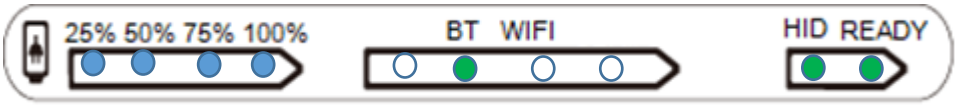
6.2.4 α711F BT HID Ready

(BT mode standby) :



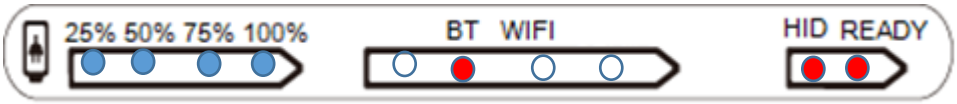
6.2.5 α711F BT HID Connection

(BT HID mode Connection)



6.2.6 α711F BT HID Sleep

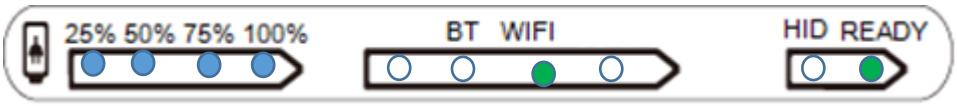
(BT HID mode Sleep)



6.3 WIFI Mode

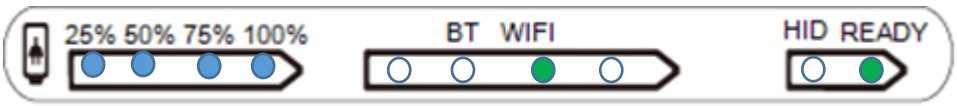
6.3.1 α711F WIFI Ready

WIFI mode standby : GREEN LED Blinks



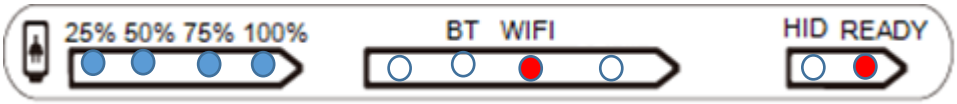
6.3.2 α711F WIFI Connection

WIFI mode Connection : GREEN LED ON



6.3.3 α711F WIFI Sleep

(Sleep when WIFI mode) : RED LED ON



7. Follow Demo APK

This chapter provides information to use α711F for the first time. For more specific information about settings of Demo apk and details, please refer to Android SDK User guide.

7.1 UHF Reading

- Check the voice status when UHF Single reading and Multi reading.
- Button on the handle can be assign as UHF Tag Scanning button.

- Able to save read Tag information.
- α711F will be into SLEEP mode after no Tag for a time as setting.

Please contact with distributor or reseller you purchase if you have a problem on LED indicator.

LED status should be checked by pressing power button if it is necessary.

7.2 Barcode Scanning

- Button on the handle can be assign as Barcode Scanning button.
- Able to save read Barcode information.
- A711 will be into SLEEP mode after no Barcode scan for a time as setting.

Use UHF Reading and Barcode Scan button selectively on your needs.

LED status should be checked by pressing power button if it is necessary.

8. OS & Firmware Update

α711F is provided with most recently released firmware however if it's necessary to update the OS, you can use **OS update** app tool which provided as default app.

Backup all the data and information from your device before OS update. Your data, such as ringtones, texts, and voice messages, may be erased during the update.

Check the battery fully charged or at least 90% charged before update, low battery may cause improper update or device malfunction.

8.1 OS Update

Please refer to OS update guide from our website.

8.2 RFID F/W Update

Please refer to Firmware update guide from our website.

9. Specifications

Performance Characteristics

Processor	Octa core 2.0GHz
Operating System	Android 6.0.1
Memory	LPDDR 32GB RAM, eMMC 8GB Internal
RFID Engine	Custom module with embedded Impinj R2000
Operating Temp.	-20°C～+70°C
Storage Temp.	-30°C～+80°C
Humidity	95% non-condensing

Physical Characteristics

Audio	Speaker
Standard I/O Port	1Port BT 2.0 Client
Notification	14 EA LED Indicator, Vibrator
Key	Power Key, Reset Key, Function Key 7 EA
Weight	525g
Dimensions (L x W x H)	168mm x 84mm x 15mm

Power Supply

Main Battery	6800 mAh (Rechargeable)
Power Adapter	5V 2A Micro BT Adpater

Network Characteristics

WLAN	IEEE 802.11 ac/a/b/g/n
Bluetooth	Bluetooth V4.1+EDR

Data Capture Device

Barcode Engine	SE-4710 2D Imager Barcode Scanner from Zebra (Optional)

UHF Reader/Writer

Frequency	860MHz – 960MHz
Reading Range	0M ~ 40M (Depending on Tag & Environment)
Writing Range	0M ~ 10M (Depending on Tag & Environment)
RF output	1W ~ 4W EIRP
Protocol	Gen2, ISO/IEC 18000-6C
Special function	Anti-Collision

Accessories

Cradle	BT Host, Ethernet, UART (RS-232 with 3.3V & 5V Power Supply)
Leather case	Yes (optional)

10. Troubleshooting

Trouble shooting guide is available on saparated document, you can refer to FAQ or download document from our website, **www.apulsetech.com**

11. FCC Warning Statement

FCC Part 15.19

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Part 15.21

Any changes or modifications (including the antennas) to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue. The highest SAR value reported under this standard during product certification for use when properly worn on the body

* Cell phone couldn't be physical attached on the device.