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ORCA – 50
Handheld Data Terminal

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1. About ORCA-50

2. Components

3. Functions

4. Advanced Configuration

ORCA-50 data sheet as attached.

1. About ORCA-50

1.1. General Information

ORCA-50, a handheld data terminal, is designed and developed by Shenzhen RodinBell Technology Co.,Ltd. With Android 6.0 operating system applied, aircraft aluminum and super rugged nylon military level material adopted and industrial-class components deployed, ORCA-50 fulfills gather WiFi, Bluetooth, 3G/4G communication, GPS, 1D/2D barcode, UHF RFID together, to attain its stable performance and reliable functions.

ORCA – 50
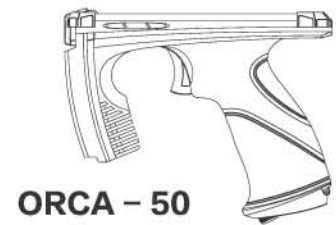
1.2. Features

High Performance Computing Platform

Heavy duty applications such as massive data collection, 3D real-time display can be operated smoothly.

Android 6.0

Android 6.0 system is installed, optimized version is continuously updated.

Top Class Materials

CNC aluminum, nylon(Bayer) and 1.1mm thickness tempered glass offer excellent strength + heat dissipation + electromagnetic shielding. The soft material around the handle offers comfort.

Industrial Grade Components

Industrial and military grade components ensure stability and endurance in harsh environments.

Ultra Long Operating Time

Pistol style hotswapping battery system makes backup battery more convenient to be restored, so that the operating time is unlimited. A standard product package has two 6,000mAh batteries included.

High End UHF RFID Engine

The M-2600 module which is designed by RodinBell is based on Impinj Indy R2000 chip, offers the best performance and excellent multi-tag identification ability in the industry.

Outstanding Industrial Design

The idea was inspired by orca, and each single detail has been well refined.The appearance is compact, elegant and balanced, which makes the product eye-catching and impressive.

Excellent Mechanical Protection

The safety drop height is 2m / 6.56ft., IP64 protection grade can resist dusts and splashes effectively.

1.3. Application

All the fields where UHF RFID devices are required for data colletion.
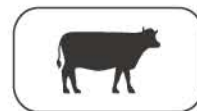
Warehouse Storage **Inventory Monitoring** **Railway Inspection** **Asset Tracking** **Livestock Management** **Logistics**

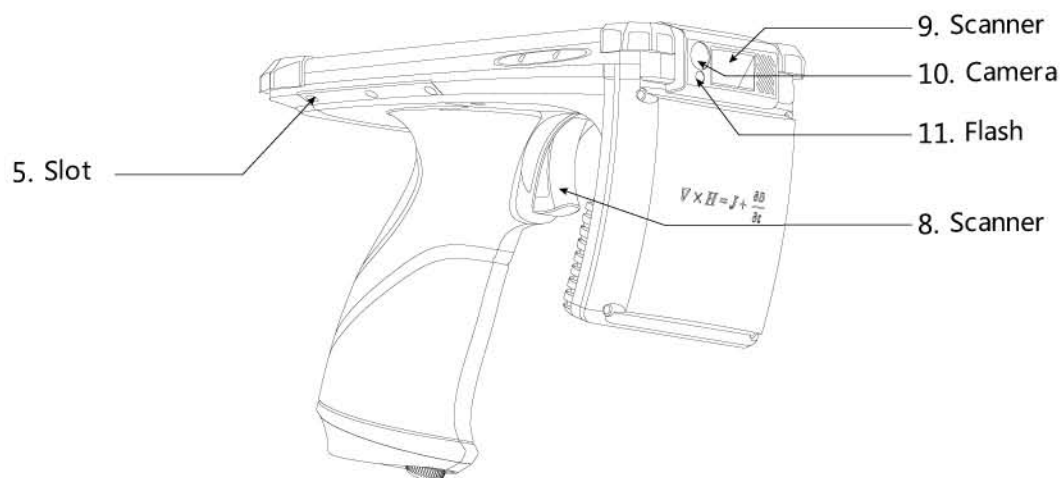# 2. Components

2.1. Parts

① Handheld Data Terminal*1
② Li-polymer Battery*2
③ Charger*1
④ USB Data Cable*1
⑤ Battery Bay*1
⑥ Battery Power*1

①

②

③

④

⑤

⑥

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2.2. Illustrations

2. Charge Indicator

6. F1--F3 (Reserved)

3. ON/OFF

4. Volume +/-

1. Touch Panel

7. Data Transmission Port
(Direct Charging Port)

12. Reset

13. Speaker

14. Heat Slot

15. Bottom Screw

16. Battery Cover

9. Scanner

10. Camera

11. Flash

5. Slot

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8. Scanner
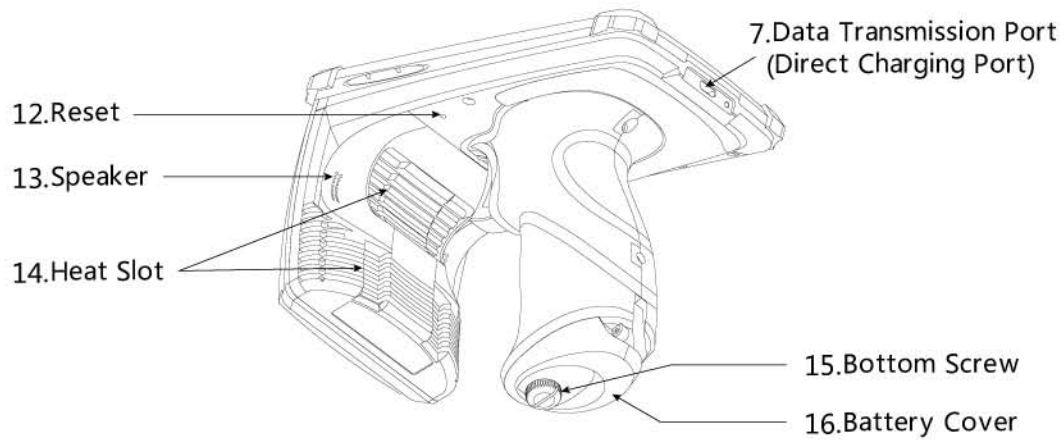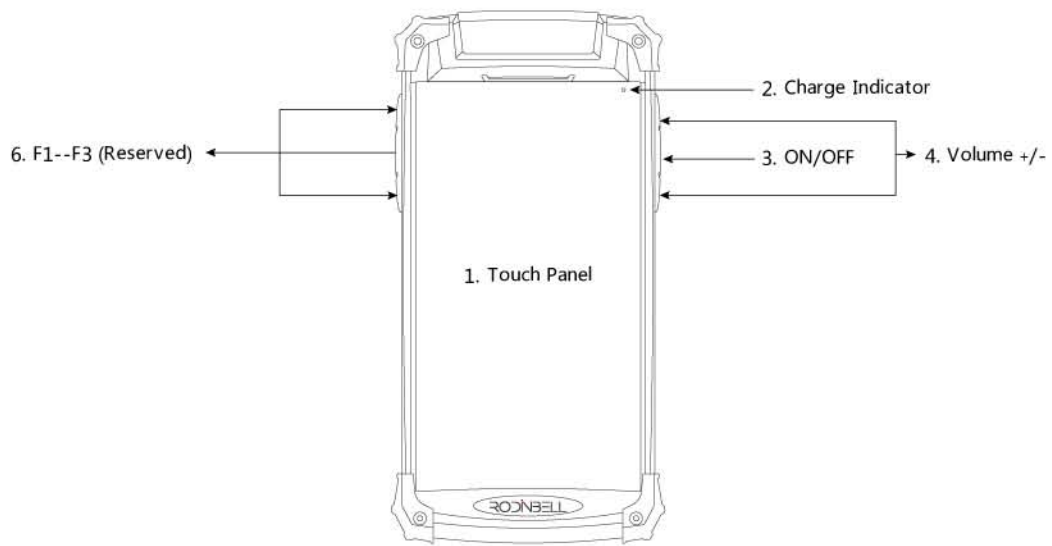
3. Functions

3.1. Power & Battery

3.1.1. Power On & Power Off

Press and hold the power button when the device starts vibrating and the system indicator is on, then release the button; device boots. When the device is not being used, please turn off the power for saving the battery. Long press the power button for 3 seconds, the device will be shutdown, in this condition, all the cache which hasn't been stored will be lost.

3.1.2. Battery Replacement

Loosen the screw at the bottom, then hold the bulge part of the battery and pull out. Replace with a new battery and tighten the screw.

3.1.3. How to charge

3.1.3.1. Direct Charge

Connect the cable with the adapter, and connect it to the device; plug the adapter into the socket, then the device starts charging. In the duration of charge, the LED indicates red, and electricity value will appeal in a digital way on the screen.When the power indicator turns green, the device is fully charged, please disconnect the cable with the device.

3.1.3.2. Stand Charge

Put the battery into charging dock with the right polarity, and plug it into the socket. In the duration of charge, the LED indicates red, and electricity value will appeal in a digital way on the screen.When the power indicator turns green, the device is fully charged, please disconnect the battery with the charging dock.

3.2. System Reset

In the duration of use, if the device runs slower than usual, or if there is something wrong during operation, restarting the device is necessary in this case. When system affects the operation, pressing the power bottom to restart the device does not work, then we will need to reset. In this condition, the program will end and the storage area will be removed, but the installed programs and data will not be affected. By long pressing the reset button at the back of the device for 3 seconds, the device will restart.

3.3. Installation of SIM card and PSAM card

Put the PSAM card and SIM card to the corresponding place according to the instruction. If there are 2 PSAM cards to be placed, please mark them to slot 1 and slot 2 separatly; if there is only one PSAM card, just put it in any one of the PSAM slots.
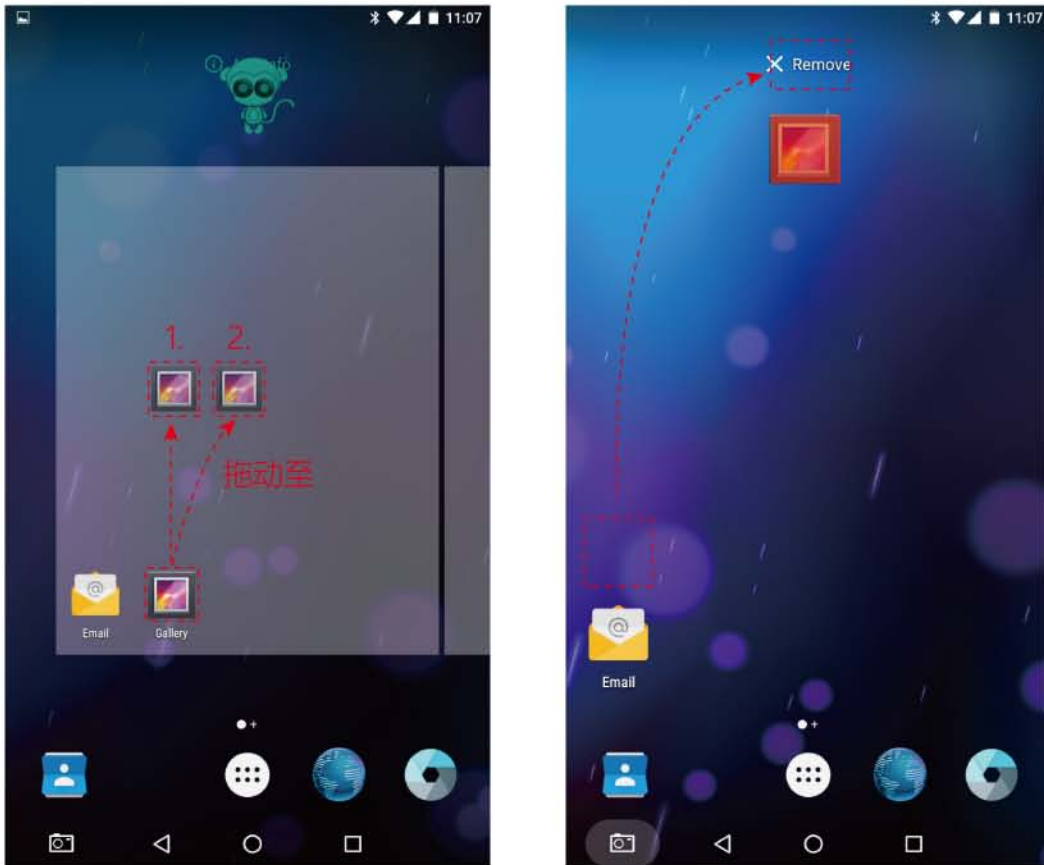
3.4. Settings
3.4.1. Add, Move or Delete Applications
3.4.1.1. Add Applications

If an App is required during use, please install an App market(i.e. :Google

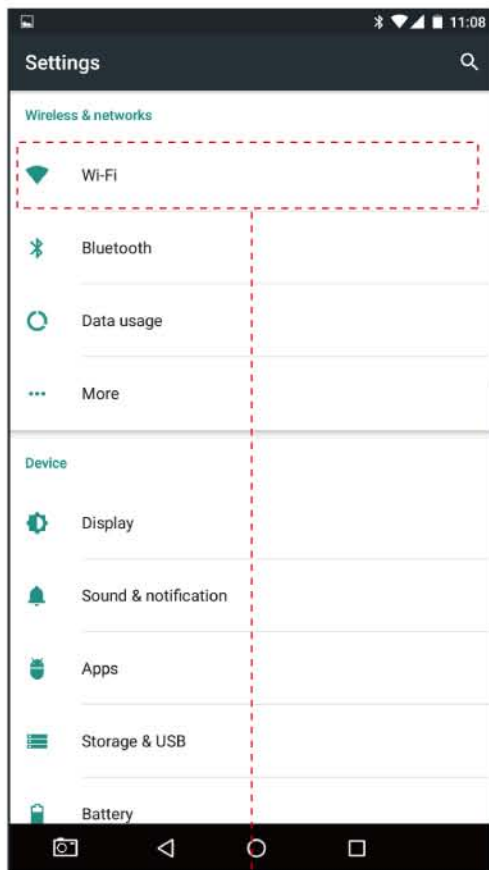Play) and download the APPs you need from it.

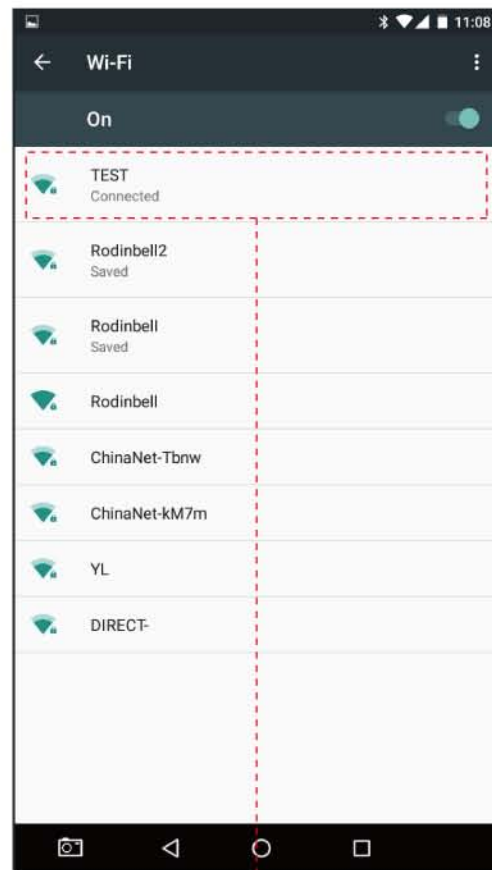### 3.4.1.2. Move or Delete Applications

Hold the APP you would like to move, and drag it to anywhere on the screen you want; then the APP is moved successfully. Drag the APP to the top of the screen, and release it when the icon turns red; then the APP is deleted successfully.

3.4.2. Network Setting
3.4.2.1. WiFi

Enter the network setting, and then choose the Wi-Fi and click it.

Choose an account and enter the right password, then successfully connect to the Wi-Fi.

3.4.2.2. GPRS

Enter the network setting, and turn on the GPRS buttom. Please adjust the 3G or 4G according to the network type you purchased or preferred.
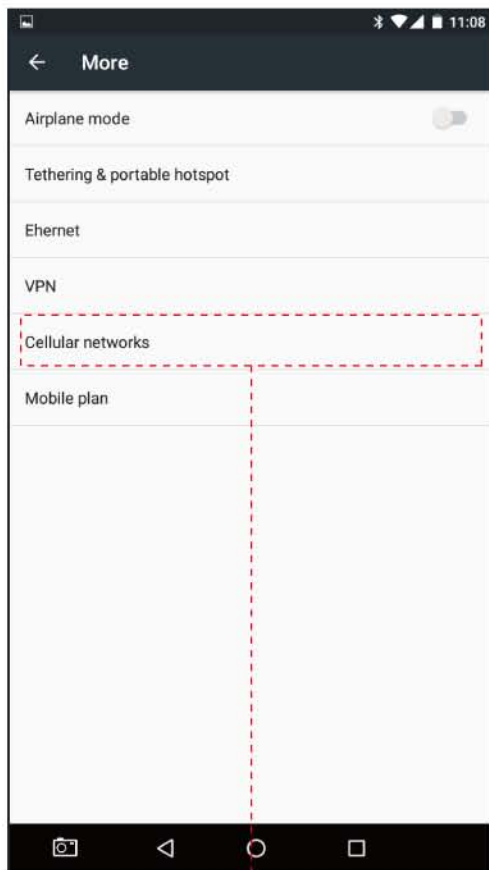
Enter the network setting, and turn on the GPRS button.

Please adjust the 3G or 4G according to the network type you purchased.

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4. Advanced Configuration
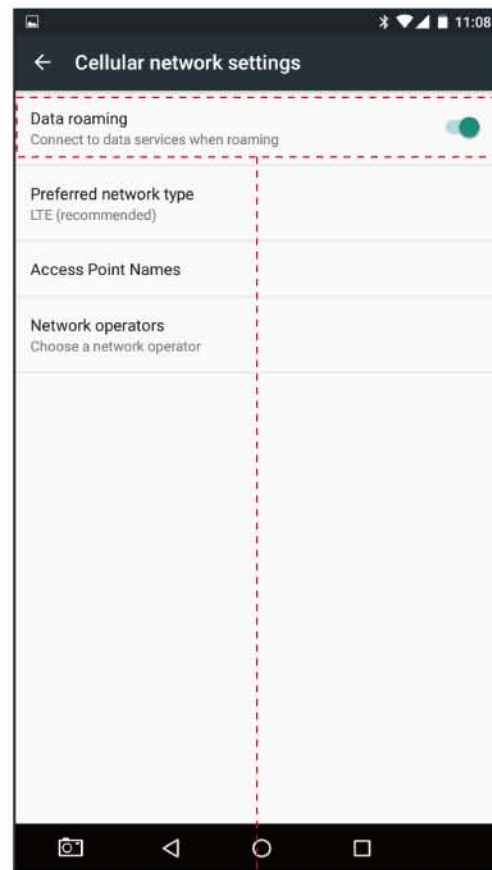
4.1. Data Collection
4.1.1. UHF RFID

Unlock the device, and click the UHF Demo, then acess to UHF RFID function, and choose the ttyS1 serial number.

Click to connect, and you will see the inventory interface; click inventory to start label indetification and data collection.

4.1.2 1D & 2D条码采集功能

Unlock the device, and access to settings, choose scan and click it.
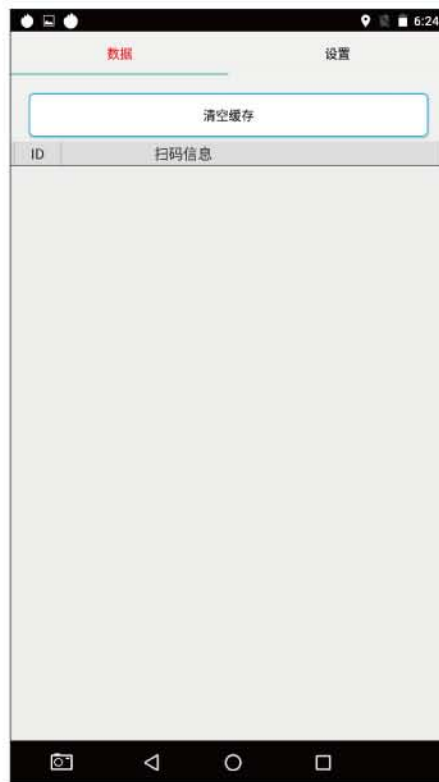
Then choose the ttyS3 serial number and click the Connect to start the application.

Change to the Setting interface, you could reset the scanner or find more scanner information.

TIPS:

Please enable the scanning laser towards the middle of the barcode during reading, You might need to adjust the distance between the device and the barcode to ensure a better reading performance. If the reading fails, please try again to adjust the angle and distance.

① Please ensure to remove the protective pellicula on the scanning eye before scanning;

② It shows a thick red straight line in the recognition of barcodes;

③ Please make sure that the scanning laser must be horizontal across the barcode, any partial scanning will cause failing.

1D Barcode Scanning :

2D Barcode Scanning:

4.2. Bluetooth

Access to settings, and turn on the bluetooth.
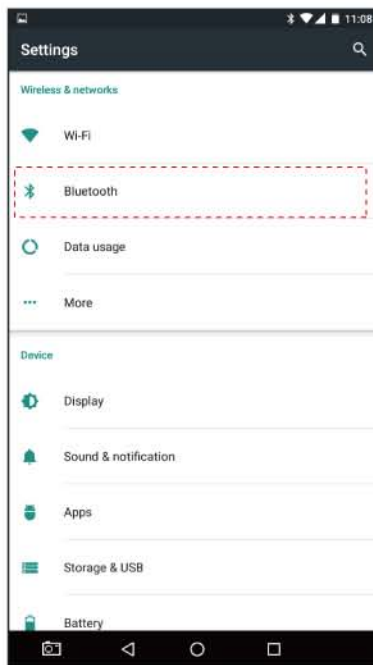
Access to settings, and turn on the bluetooth.
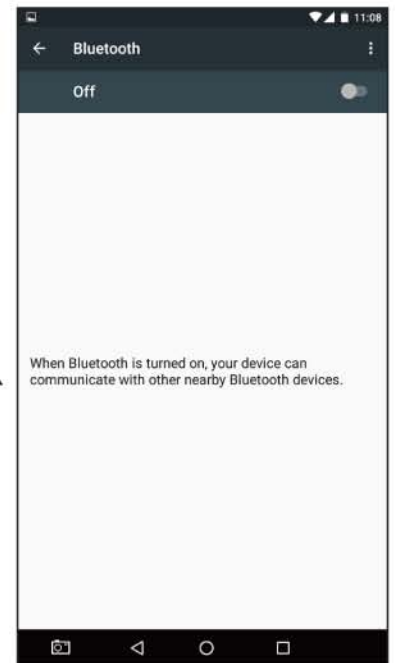
When the bluetooth is turned on, the device will automatically search for the bluetooth devices that can be detected.
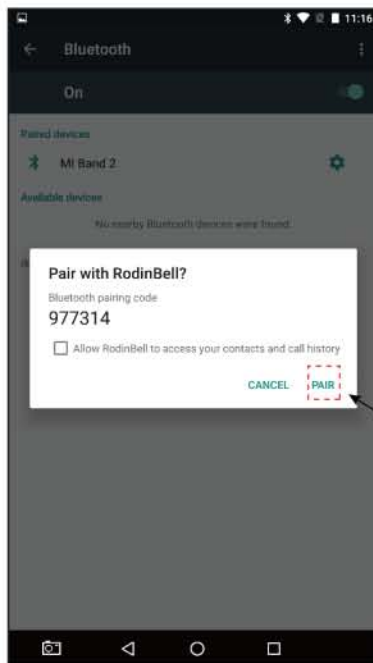
After finding the bluetooth device you want to connect, a piece of tip will be shown on the screen to inform you if you would like to connect, please click "yes"

4.2. Bluetooth

Access to settings, and turn on the bluetooth.
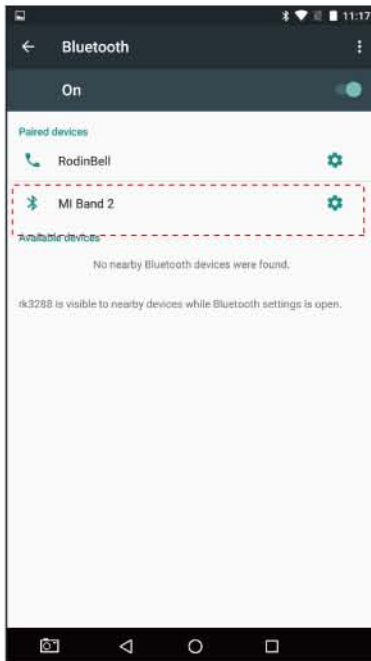
after the other device you searched agrees with a "yes", the two devices paired successfully.

For the devices you have paired successfully, you can click the icon to alter its name and purposes.

Tips:

1) When the bluetooth cannot be found, please try again to re-search;

2) It is a different code each time when the device starts connecting.

4.3 Photo Collection

Unlock the device, and click "camera" on the homepage.
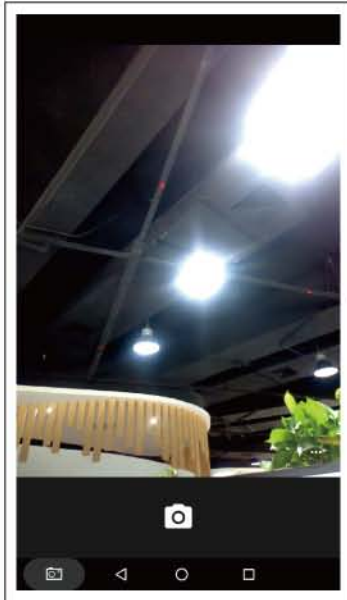
When the camera is activated, please hold the device and start acquiring images.

Click the camera icon at the screen bottom, and image will be collected successfully. Slide from left to right, and choose PHOTO or VIDEO accordingly; Slide from right to left for checking the gallery.

If you would like to check more functions, please click "..." for image acquisition with countdown, grid and flash.

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Mechanical Parameters

Materials	CNC aluminum + nylon(Bayer)
Dimensions	Profile 160*82*129mm
	Grip 111*38*47mm
Weight	640g(Include battery / Standard version)

System Characteristics

Operating System	Android 6.0
CPU	Quad-core Cortex-A17/ 1.8 GHz
GPU	ARM Mali-T764 / High performance 3D engine
RAM	2G LPDDR3
	4G LPDDR3 (Optional)
ROM	32G EMMC 5.0
	64G EMMC 5.0 (Optional)
LCD	5.0 inches / 1280*720 / IPS / 180° view angle
Touch Screen	1.1mm thickness tempered glass / 10-dot touch / Can be operated with glove
Hotswapping Battery	Pistol style hotswapping battery system
PSAM	PSAM*2 / TI TCA5013 (Optional)
Buttons	
Power / Volume*2	3 ALPS buttons / Operating force 2.2N / Operating life 600,000 cycles
Function Keys	3 ALPS buttons / Operating force 2.2N / Operating life 600,000 cycles
Scan Trigger	OMRON button / Operating force 1.27N / Operating life 10,000,000 cycles
Power	6,000mAh chargeable li-polymer battery
Card Slots	Micro SIM card slot / PSAM card slot*2
USB Interface	Micro USB / MOLEX connector / Operating life 10,000 cycles
Audio	Large speaker stereo system
Vibrator	Button style / 10mm diameter
Charge Indicator	Tri-color LED

Wireless Communications

WIFI	IEEE802.11b/g/n
Bluetooth	Bluetooth 4.0
4G	Huawei ME 532D/Vehicle grade (Optional)

Application Environment

Operating Temp	-20°- +60°
Storage Temp	-40°- +70°
Humidity	5%RH - 95%RH (Non condensing)
Protection Grade	IP64
Safety Drop Height	2m / 6.56ft.

Data Collections

1D Bar Code (Optional)

Engine	Motorola EM1350
Support	UPC/EA Symbol SE955N / Code128 / Code39 / Code93 / Code11 / Interleaved 2 of 5 / Discrete 2 of 5 / Chinese 2 of 5 / Codabar/ MSI/RSS. etc.

2D Bar Code (Optional)

Engine	Honeywell N3680
Support	Data matrix / QR Code /PDF417 / US Planet / UK Postal, etc.

UHF RFID

Engine	Rodinbell M-2600 module based on Impinj Indy R2000 chip
Buzzer	Ø 12*9.5mm / 2300±300Hz
Protocol	EPC Global UHF Class 1 Gen 2 / ISO 18000-6C / ISO 18000-6B
Work Frequency	902-928MHz
Output Power	0-30dBm
Peak Inventory Speed	> 500 tags/s
UHF Antenna	3dBi circularly polarized antenna
Read Distance	6~7m(Tested tag: Impinj E41b)
Supported Regions	US, Canada and other regions following U.S. FCC
	Europe and other regions following ETSI EN 302 208
	China
	Japan
	Korea
	Malaysia

Camera (Optional)	13 megapixels / automatic focus / flashlight

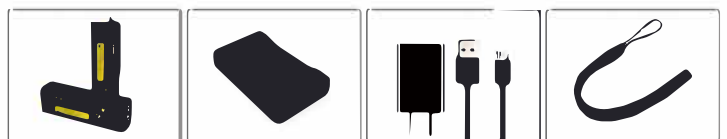|	
Global positioning system	GPS&GLONASS

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.

(2) This device must accept any interference received, including interference that maycause undesired operation.

Accessories

Two Batteries	Battery Bay	Charger&USB Data Cable	Hanging lace

FCC Statement

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

SAR Information Statement

Your wireless ORCA-50 Handheld Data Terminal is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radiofrequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The exposure standard for wireless ORCA-50 Handheld Data Terminals employs a unit of measurement known as the Specific Absorption Rate, or SAR. The extremity SAR limit. set by the FCC is 4.0W/kg.* Tests for SAR are conducted with the ORCA-50 Handheld Data Terminal transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the ORCA-50 Handheld Data Terminal while operating can be well below the maximum value. This is because the ORCA-50 Handheld Data Terminal is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output. Before a ORCA-50 Handheld Data Terminal model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit

established by the government adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model ORCA-50 Handheld Data Terminal when tested for use at the Extremity is 1.671W/Kg. While there may be differences between the SAR levels of various ORCA-50 Handheld Data Terminals and at various positions, they all meet the government requirement for safe exposure. The FCC has granted an Equipment Authorization for this model ORCA-50 Handheld Data Terminal with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model ORCA-50 Handheld Data Terminal is on file with the FCC and can be found under the Display Grant section of http://www.fcc.gov/ oet/fccid after searching on

FCC ID: 2AKQD-ORCA-50 Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Asso-ciation (CTIA) web-site at http://www.wow-com.com. * In the United States and Canada, the SAR limit for ORCA-50 Handheld Data Terminals used by the public is 4.0 watts/kg (W/kg) averaged over 10 gram of tissue. The standard incorporates a sub-stantial margin of safety to give additional protection for the public and to account for any variations in measurements.