C4000 Handheld Terminal User Manual

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Chapter 1 Getting Started

1.1 Brief Instruction

Chainway C4000 is a series of Android powered smart terminals, with data capture, data processing, wireless communication. It is with high-reliability & high-expansibility. Auto & Accurate data collection is achieved in various business fields via a complete solution of premium options, the flexible solution among options and operators is suited-up. You will find out with C4000, much easier deployment, reduced complexity, decreased maintenance, are the benefits for enterprises.

C4000 meets industrial level IP64 (IEC sealing), is sufficient to routine applications, eg, railway inspection, road parking toll, vehicle inspection, logistics express, power inspection, warehousing management, chain retail, etc. Whether the mobile operators are working indoor or outdoor, with Chainway C4000, your business is always &highly efficient on-line.

Meeting industrial standards, designed to support a various of mobile solutions. With the build-in high performance Cortex-A7 1.3GHZ quad core processor technology, the operators need only one device to enjoy a convenient and easy job, C4000 will be the ideal choice for key-fact business in mobile solutions, for simplified task flow, enhanced work efficiency, for shortened time to customer response, more satisfied customer care service.

Chainway C4000 comes with world wide band WCDMA technology. Multi channels data and voice communication guarantees the real-time communication and data efficiency, C4000 brings you the best ROI.

1.2 Precaution Before Using Battery

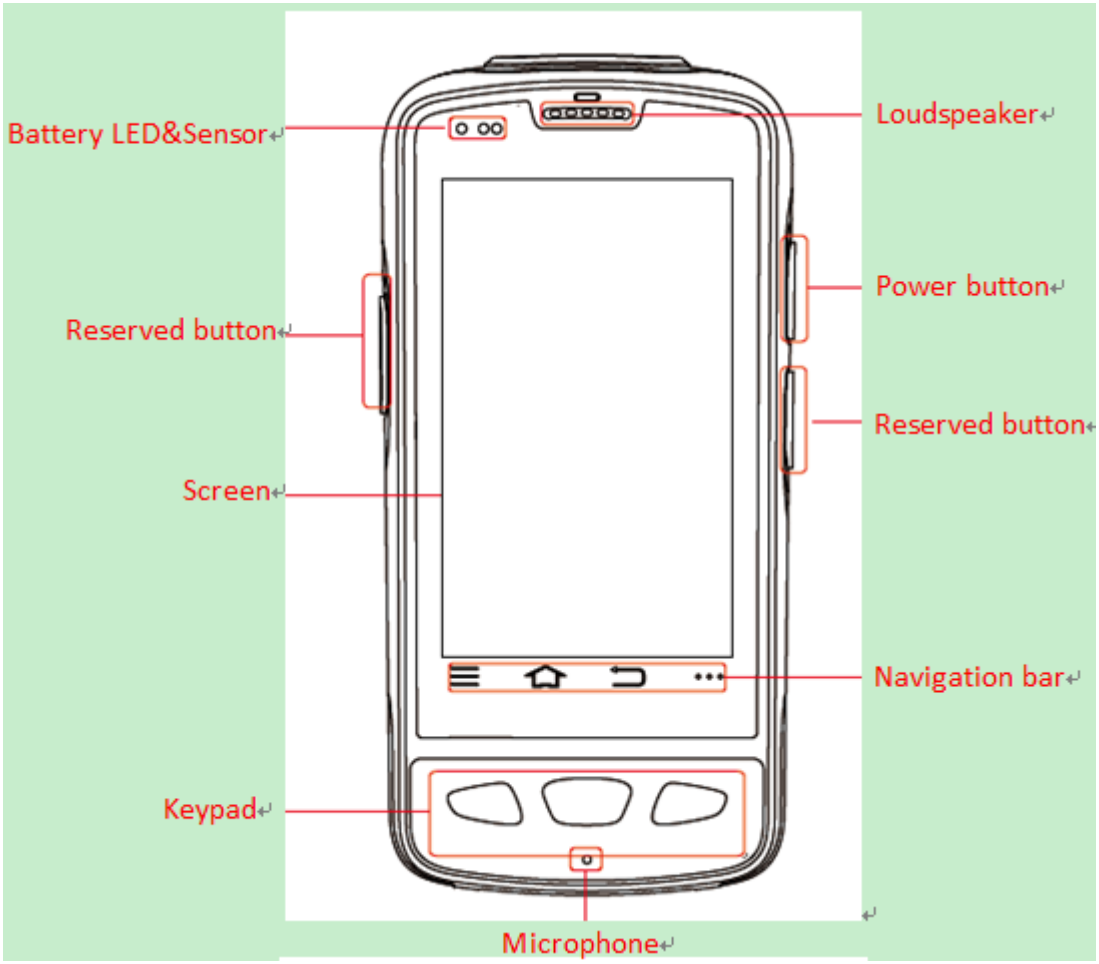
- Do not leave batteries unused for extended periods of time, either in the product or in storage. When the battery has been unused for 6 months, check the charge status and charge or dispose of the battery as appropriate.
- The typical estimated life of a Lithium-Ion battery is about two to three years or 300 to 500 charge cycles, whichever occurs first. One charge cycle is a period of use from fully charged, to fully discharged, and fully recharged again. Use a two to three year life expectancy for batteries that do not run through complete charge cycles.
- Rechargeable Lithium-Ion batteries have a limited life and will gradually lose their capacity to hold a charge. This loss of capacity (aging) is irreversible. As the battery loses capacity, the length of time it will power the product (run time) decreases.
- Lithium-Ion batteries continue to slowly discharge (self-discharge) when not in use or while in storage. Routinely check the battery's charge status. The user manual typically includes information on how to check battery status, as well as battery charging instructions.
- Observe and note the run time that a new fully-charged battery provides for powering your product. Use the new battery run time as a basis to compare run times for older batteries. The run time of your battery will vary depending on the product's configuration and the applications that you run.
- Routinely check the battery's charge status.
- Carefully monitor batteries that are approaching the end of their estimated life.

Consider replacing the battery with a new one if you note either of the following conditions:

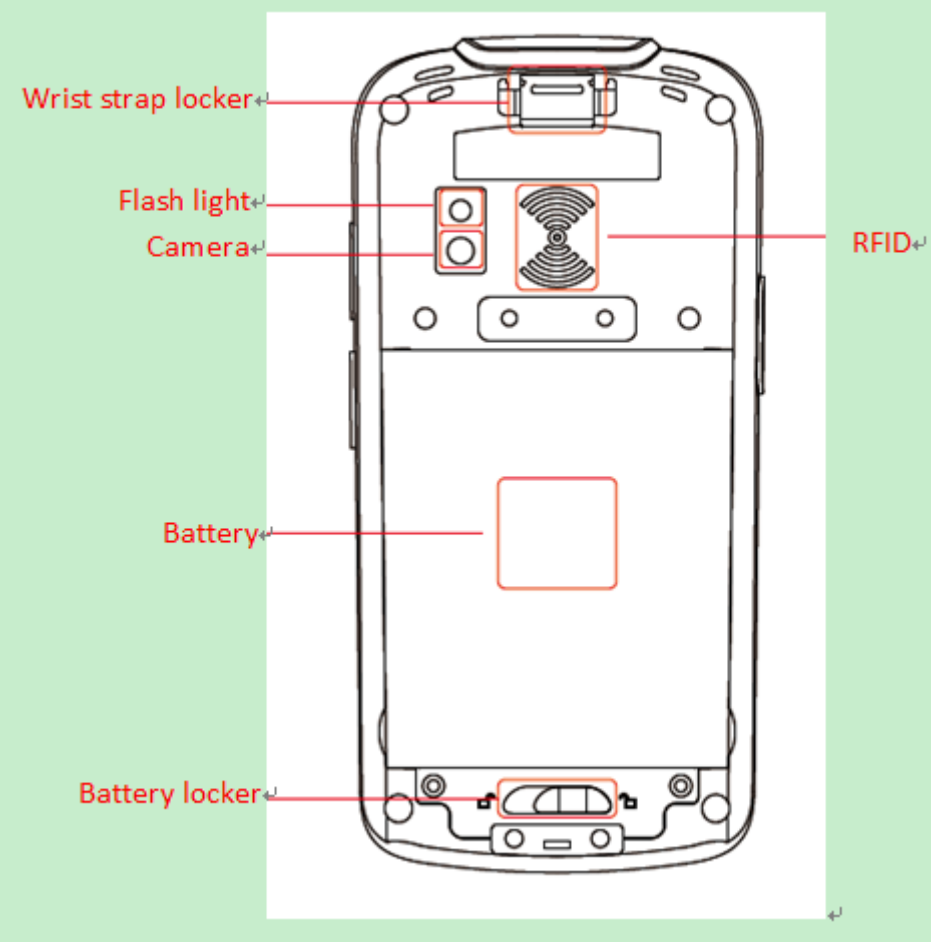
- *The battery run time drops below about 80% of the original run time.*
- *The battery charge time increases significantly.*
- If a battery is stored or otherwise unused for an extended period, be sure to follow the storage instructions in this document. If you do not follow the instructions, and the 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.
- Always follow the charging instructions provided with your product. Refer to your product's user manual and/or online help for detailed information about charging its battery.
- Charge or discharge the battery to approximately 50% of capacity before storage.
- Charge the battery to approximately 50% of capacity at least once every six months.
- Remove the battery and store it separately from the product.
- Store the battery at temperatures between 5 ℃ and 20 ℃ (41 ℉ and 68 ℉).

Chapter 2 About The Device

2.1 Structure



<Front>



<Back>

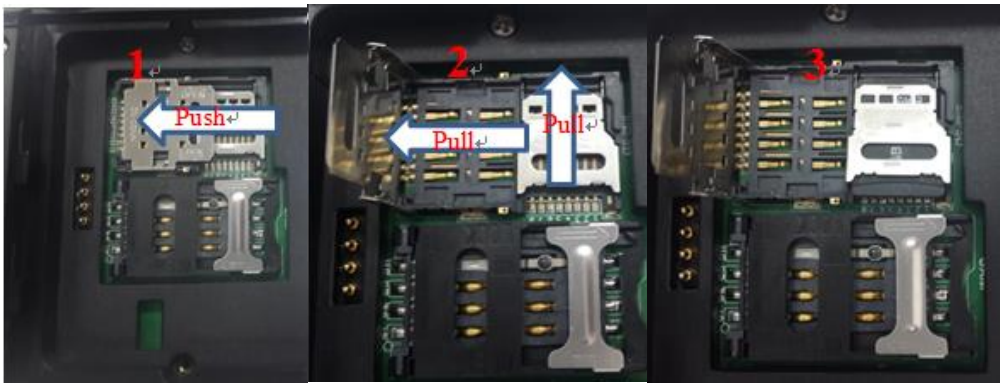
Buttons:

Button	Function
1. Power Button	Press and hold to turn the device on or off
2. App List View Button	View a list of apps running
3. Home Button	Press to return to the home screen
4. Cancel Button	Tap to return to the previous screen

2.2 SD Card Installation

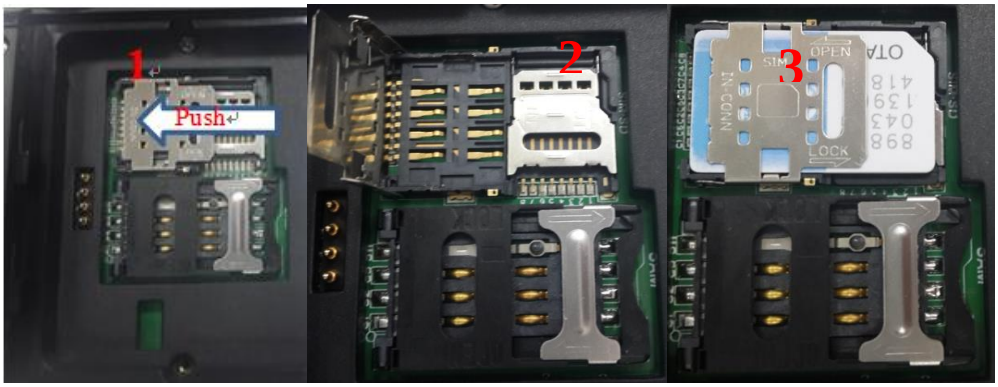
Detailed installation steps are as follows:

1. Open the SIM slot as the direction of 'Open/Lock' labeled;
2. Open the SD slot as the direction of 'Open/Lock' labeled;
3. Install the SD card properly;
4. Lock the SD slot and SIM slot properly;



2.3 SIM Card Installation

1. Open the SIM slot as the direction of 'Open/Lock' labeled;
2. Install the SIM card correctly;
3. Lock the SIM slot properly;



2.4 Battery Installation

1. Push the battery down into the bottom of the battery;
2. Push the battery to the direction of the array;
3. Turn the battery lock;

2.5 Battery Charging

2.5.1 Direct Charging

Use the adapter to charge the battery via the USB connector of the snap-on;.

2.5.2 Cradle Charging

Connect the adapter with the power cable to charge the device.

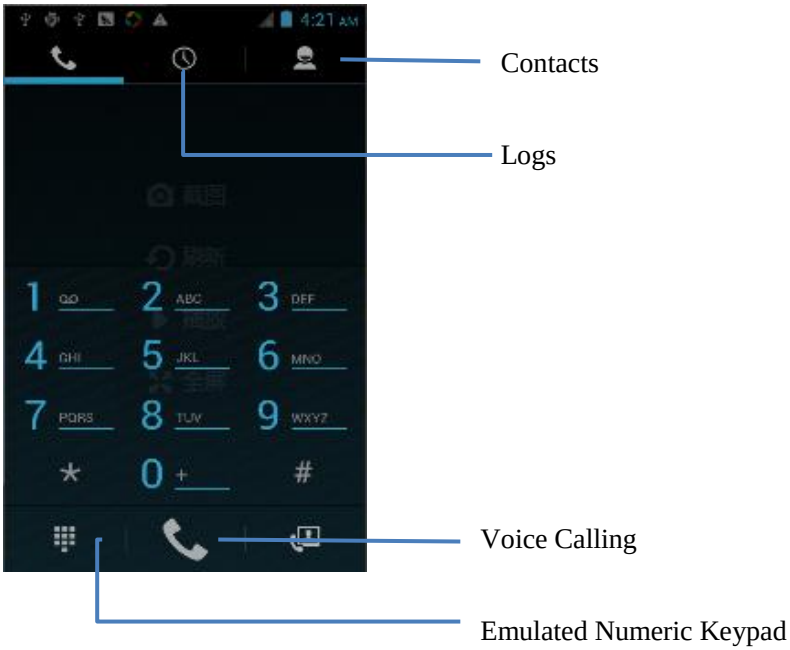
2.6 Device Turning on/off

Press the 'Power' button on the side shortly due to turn on/off.

Chapter 3 Call Function

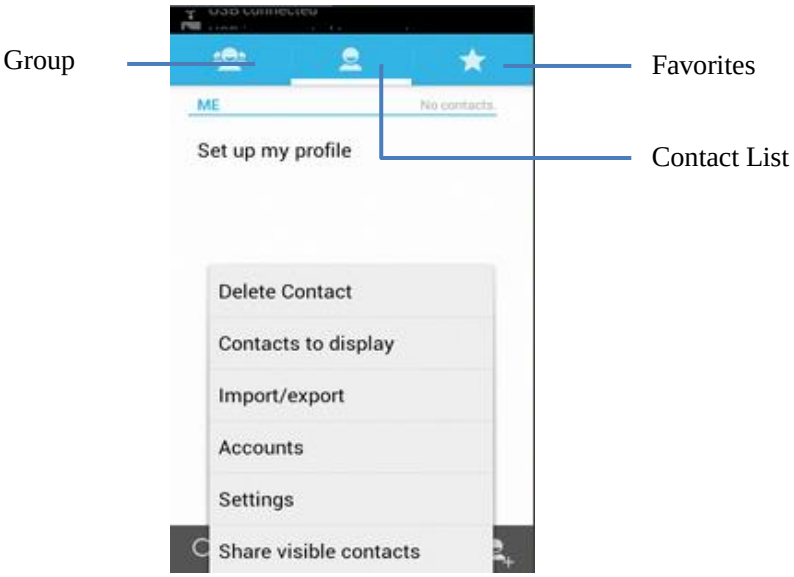
3.1 Phone

1. Click this icon :
2. Click the number button to input the numbers;
3. Click the button to confirm and dial;
4. Click the to end the calling;



3.2 Contacts

1. Click ‘Contacts’ to open the contacts list;
2. Click ‘ ’ to add the new contact;
3. Click ‘ ’ to import/export or delete the contact list;



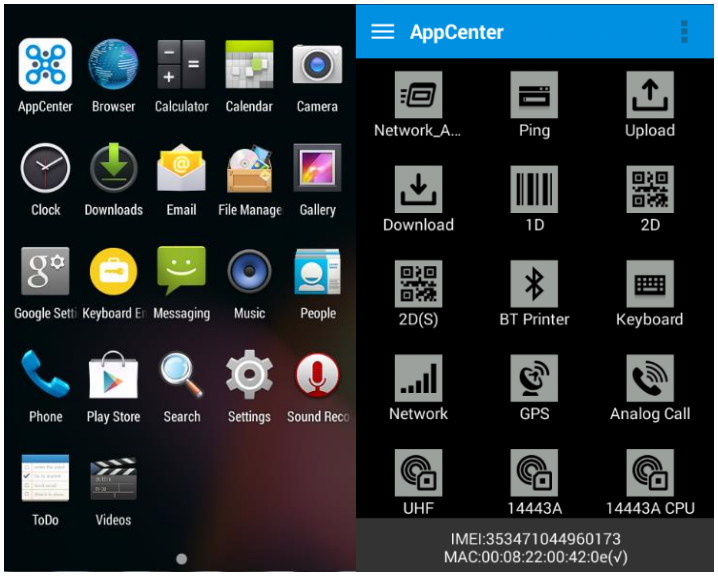
3.3 Messaging

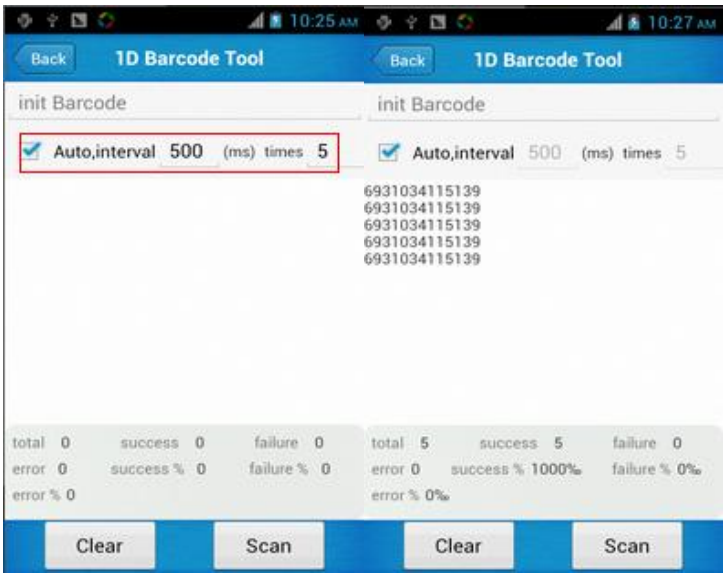
1. Click ‘ ’ to open the message list;
2. Click ‘ ’ to input the content;
3. Click ‘ ’ to send the message;
4. Click ‘ ’ to add photos, videos;

Chapter 4 Barcode Reader

4.1 1D Barcode

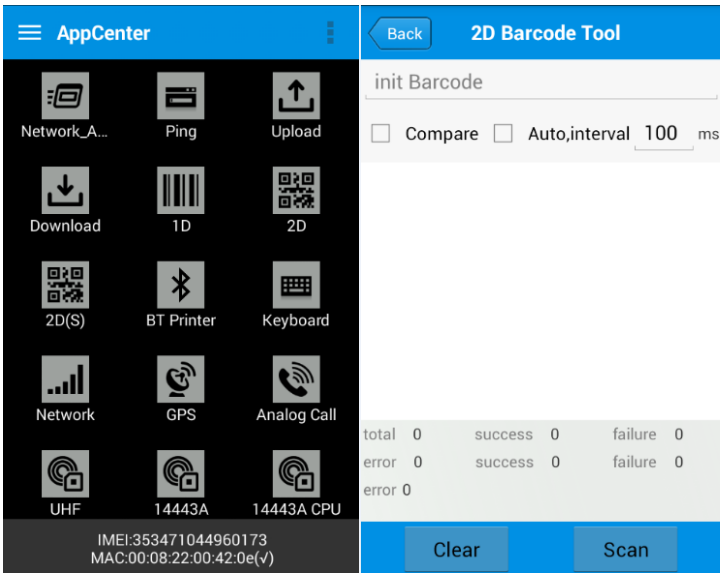
1) Open the 1D Barcode Demo in Appcenter;
2) Press the ‘Scan’ button to start scanning, then the auto interval parameters can also be set;





4.2 2D Barcode

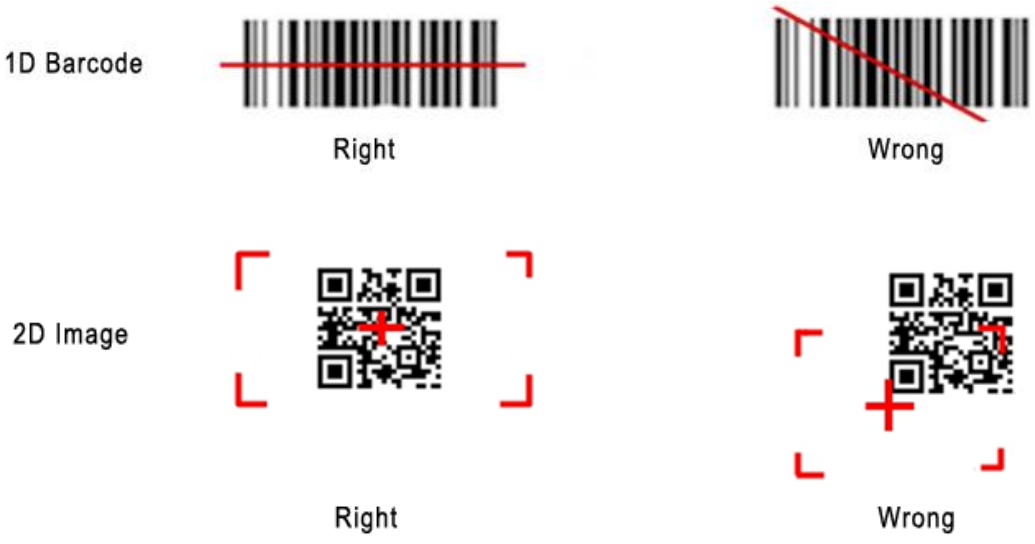
1) Open the 2D Barcode Demo in Appcenter;
2) Press the ‘Scan’ button to start scanning, then the auto interval parameters can also be set;



4.3 2D(S) Barcode

1) Open the 2D(S) Barcode Demo in Appcenter;
2) Press the 'Scan' button to start scanning, then the auto interval parameters can also be set;
3) Also, the barcode types enabling/disabling can also be set;

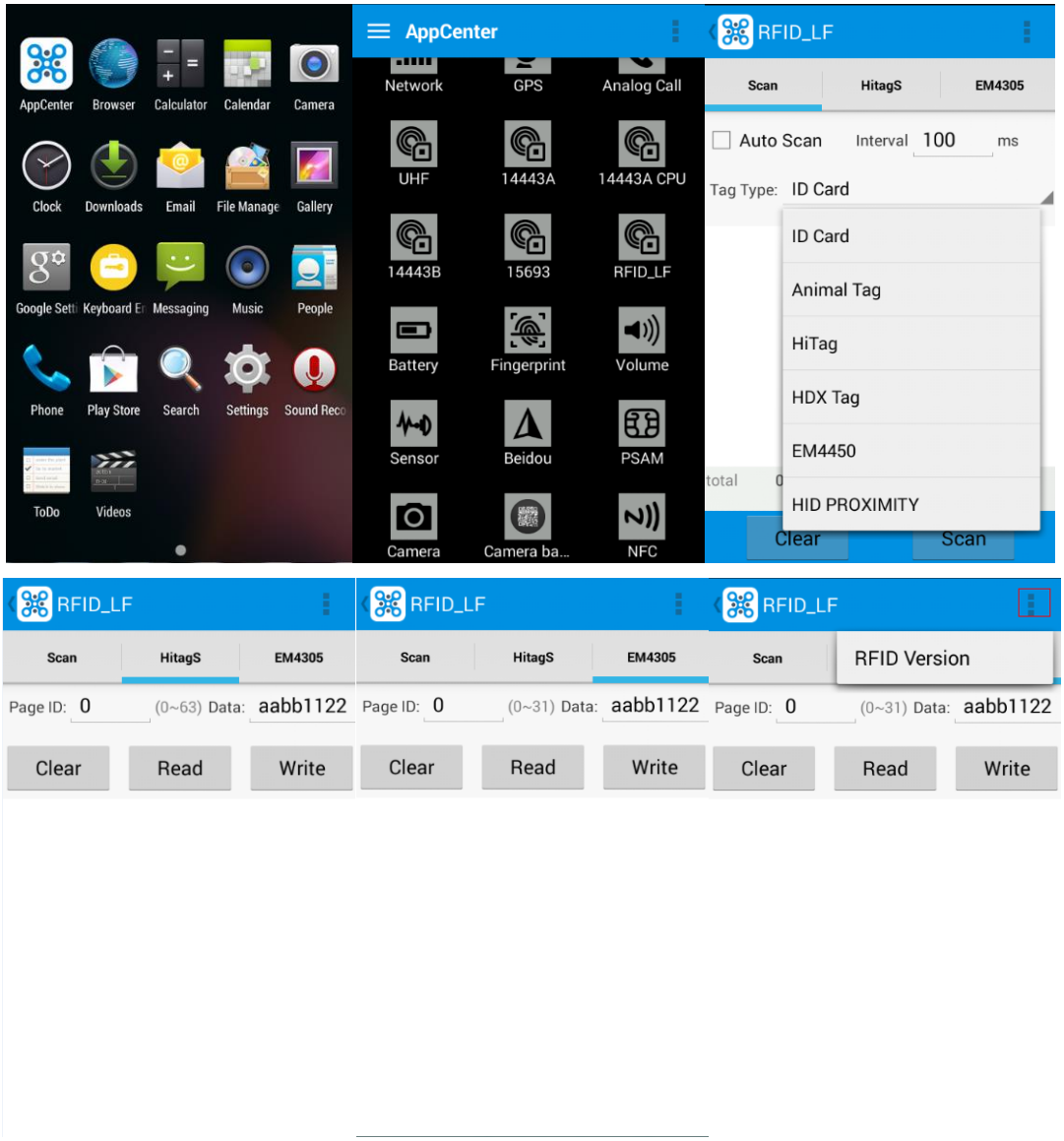
Note: Please scan the barcode correctly, otherwise the scanning might be failed;



Chapter 5 RFID Reader

5.1 Low Frequency

1. Open the RFID_LF Demo within Appcenter and then press the ‘Scan’ button to start reading;
2. Tag types including ID Card/Animal Tag/Hitag/HDX Tag/EM4450 can be also selected, and Hitag-S and EM4305 reading/writing are already supported by the device;



Note: please ensure that the LF module is embedded in the device, also please select the tag type correctly, otherwise the operation might not work. Meanwhile, please pay attention to the HDX and FDX-B since they are using different hardware due to the different working principles.

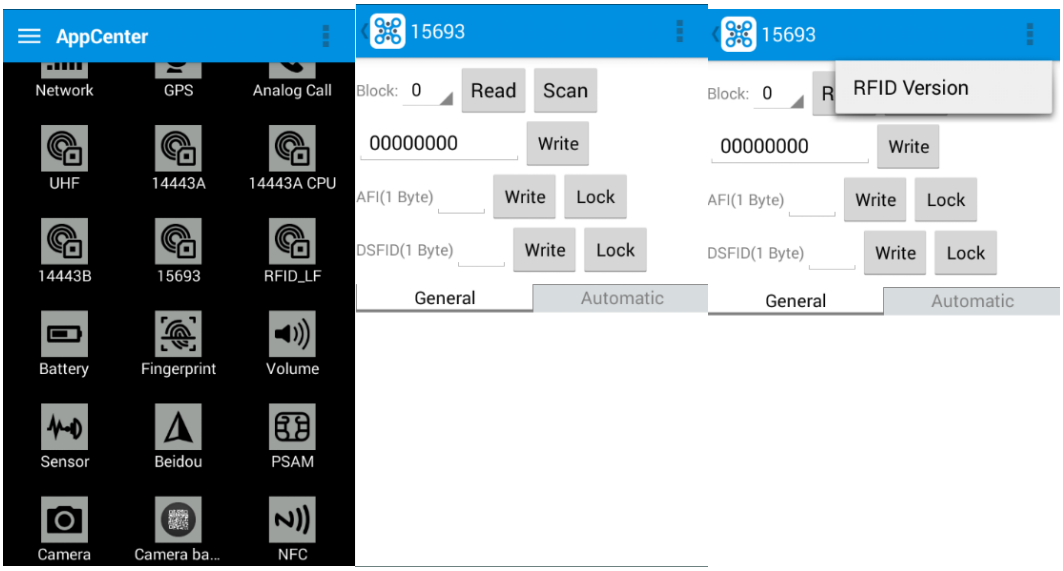
5.2 High Frequency

5.2.1 14443A

1. Open the 14443A demo within Appcenter, and press the ‘Scan’ button to start reading;
2. Mifare and Ultra Light reading/writing are also supported;

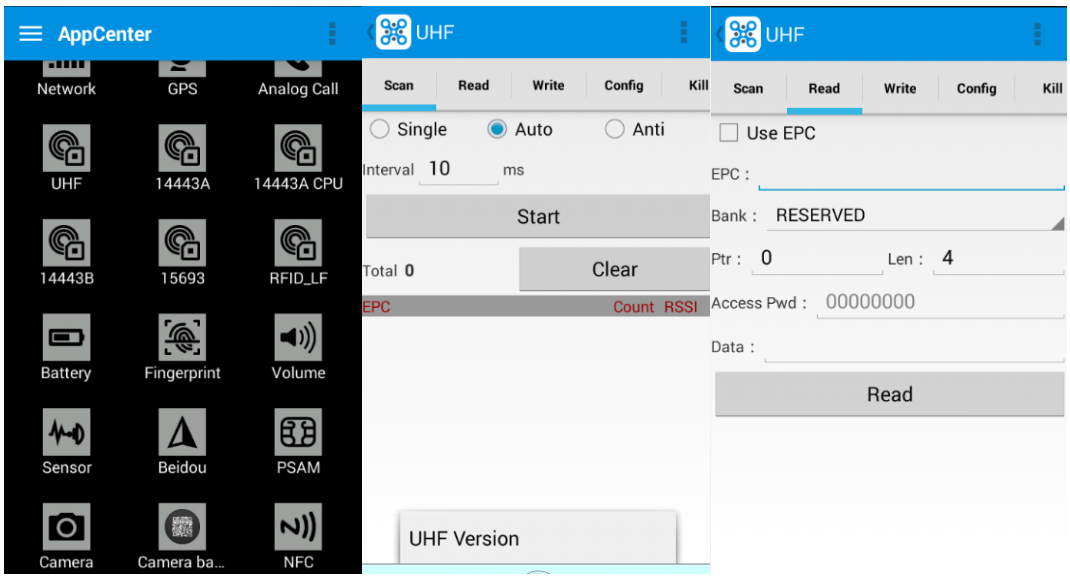
5.2.2 15693

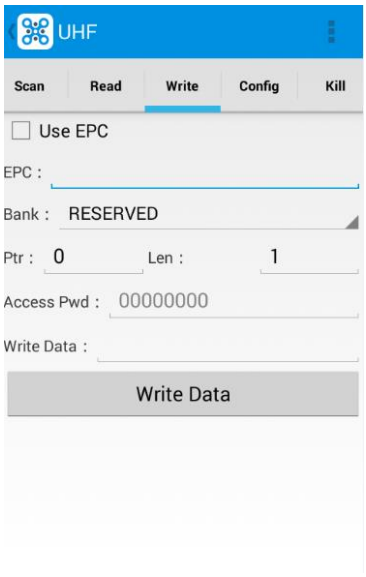
1. Open the RFID_15693 demo within Appcenter, and press the ‘Scan’ button to start scanning;
2. 15693 writing are also supported;

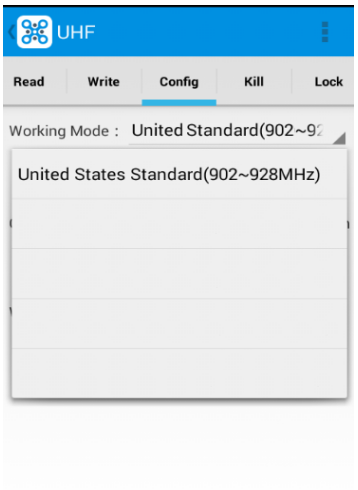


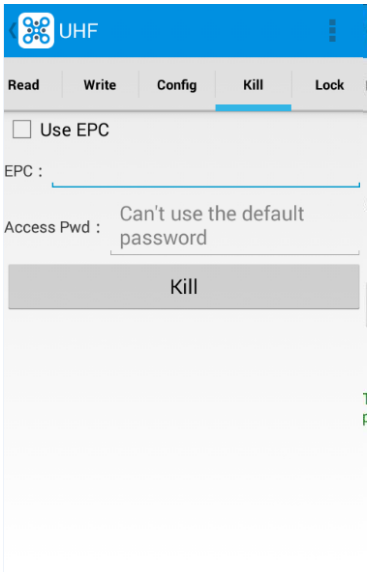
5.3 Ultra High Frequency

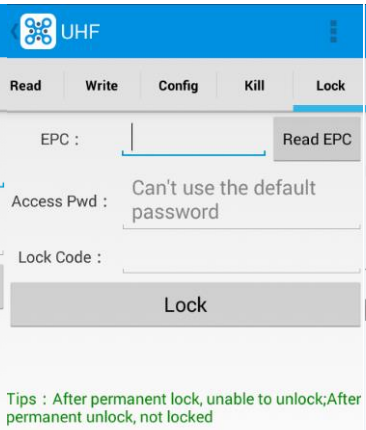
1. Open the UHF demo within Appcenter, and press the ‘Start’ button to start scanning;
2. Multiple tags reading and single tag reading/writing are also supported;

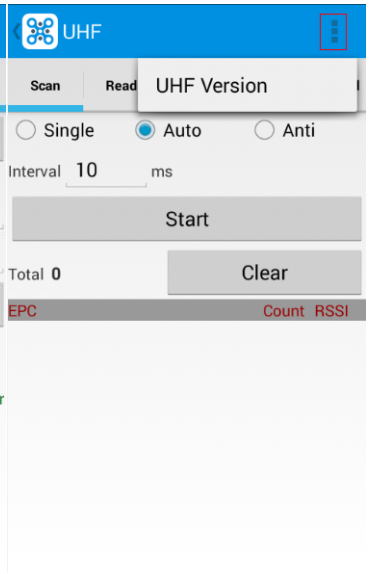



UHF
Scan
Read
Write
Config
Kill
Use EPC
EPC :
Bank : RESERVED
Ptr : 0
Len : 1
Access Pwd : 00000000
Write Data :
Write Data


UHF
Read
Write
Config
Kill
Lock
Working Mode : United Standard(902~9
United States Standard(902~928MHz)

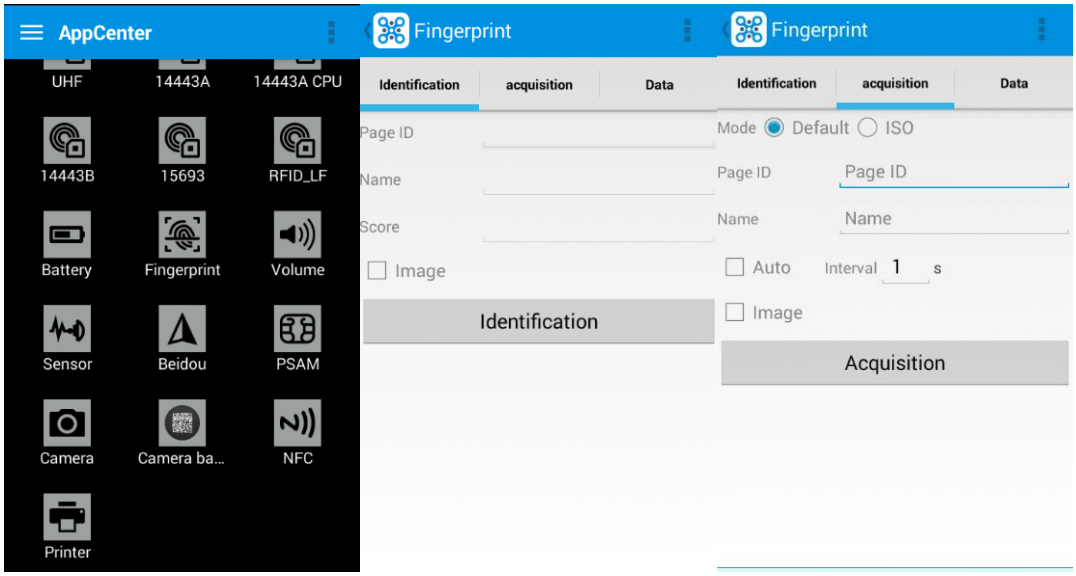

UHF
Read
Write
Config
Kill
Lock
Use EPC
EPC :
Access Pwd : Can't use the default password
Kill

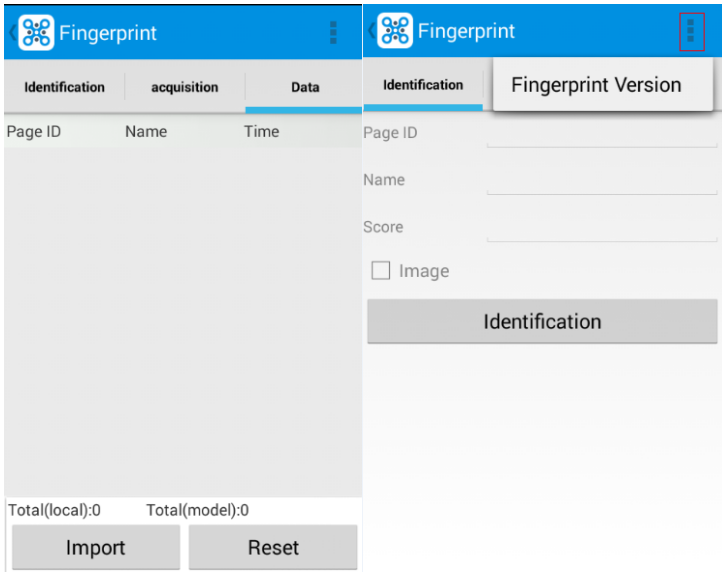

UHF
Read
Write
Config
Kill
Lock
EPC :
Read EPC
Access Pwd : Can't use the default password
Lock Code :
Lock
Tips : After permanent lock, unable to unlock;After permanent unlock, not locked


UHF
Scan
Read
UHF Version
Single
Auto
Anti
Interval 10 ms
Start
Total 0
Clear
EPC
Count
RSSI

Chapter 6 Fingerprint Reader

1. Open the Fingerprint Demo in Appcenter;
2. Put the finger to the fingerprint module and set the ID/name of the template under ‘ACQUISITION’;
3. Put the finger to the fingerprint module properly and identify by ID/Name/Score under ‘IDENTIFICATION’;
4. The local templates can also be checked under ‘Data’;



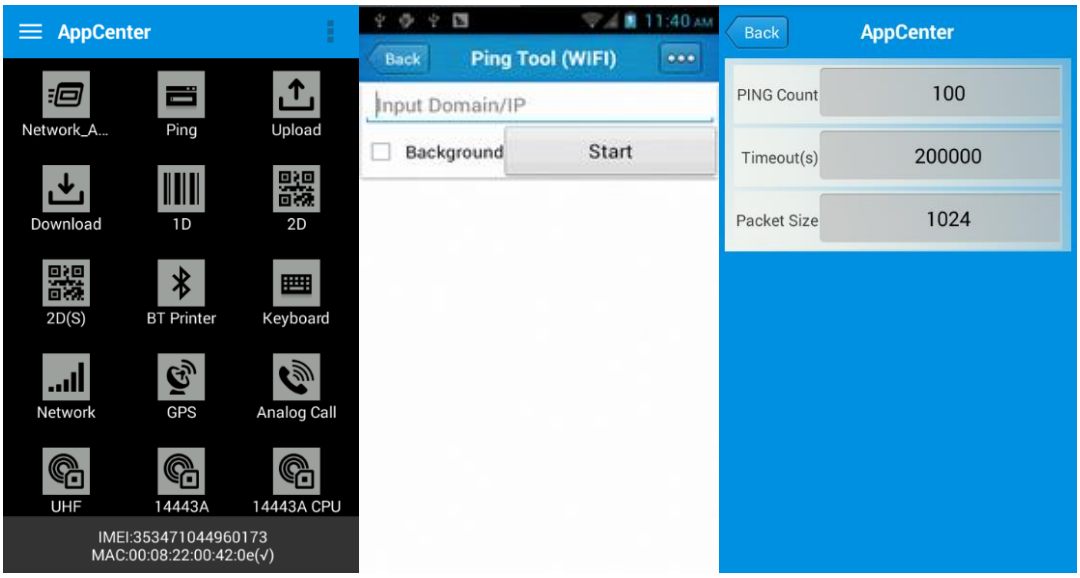


Note: Please be aware that ISO standards are only supported by devices with ISO fingerprint hardware modules.

Chapter 7 The Other Functions

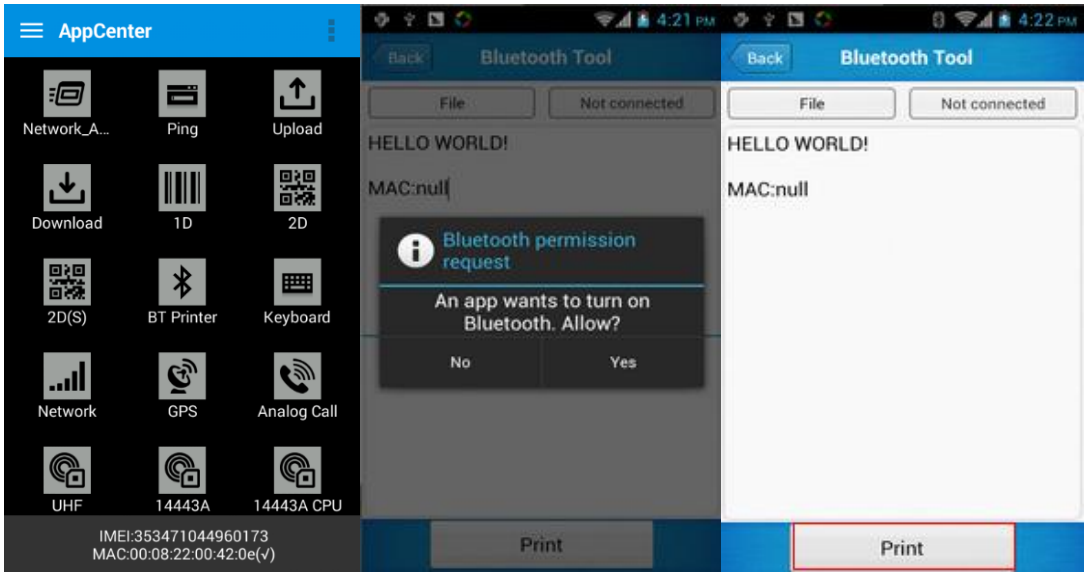
7.1 PING

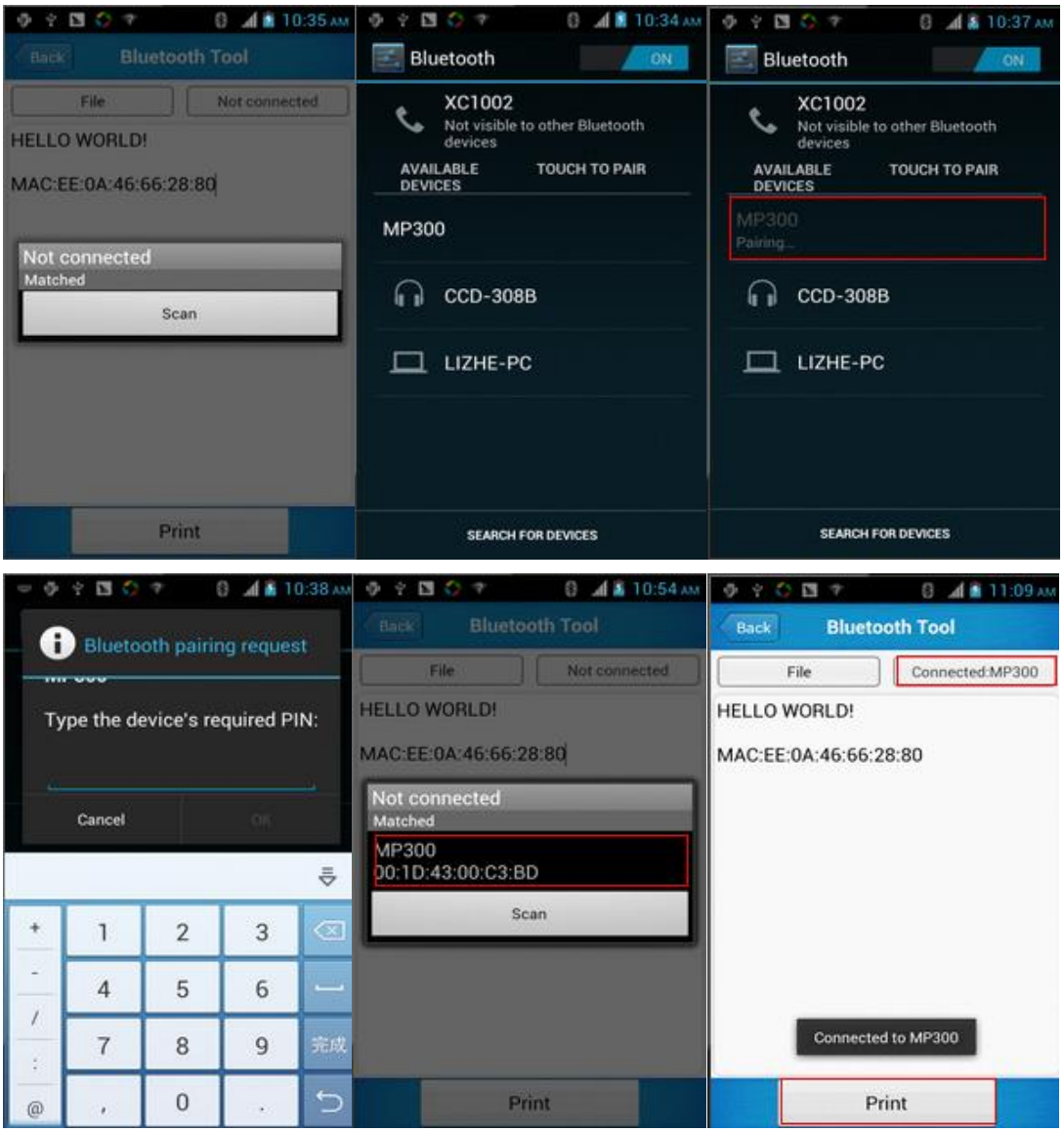
1. Open the Ping in Appcenter;
2. Set the Ping parameters and select the internal/external addresses;



7.2 Bluetooth

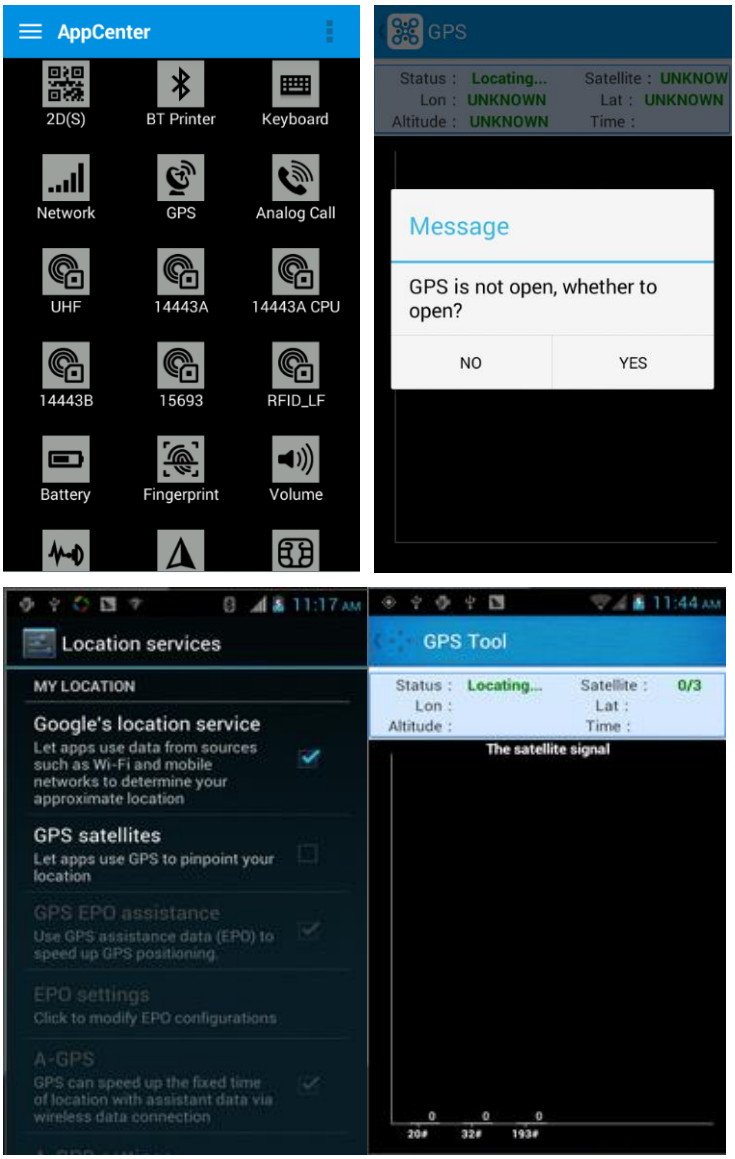
1. Open the Bluetooth demo in Appcenter and turn on the Bluetooth;
2. Input the content or select the file, then scan the nearby Bluetooth printer and pair them;
3. Select the printer and click ‘Print’ to print the content;





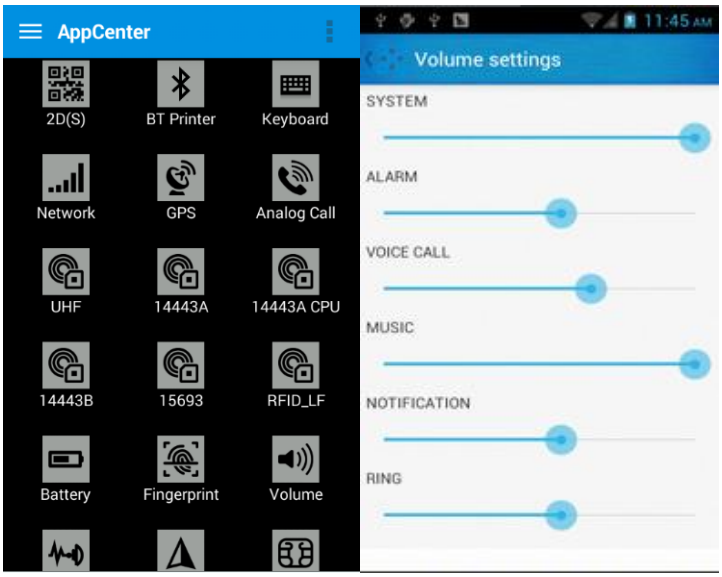
7.3 GPS

1. Open the GPS demo in Appcenter and turn on GPS module;
2. Set the GPS parameters and get the GPS data information;



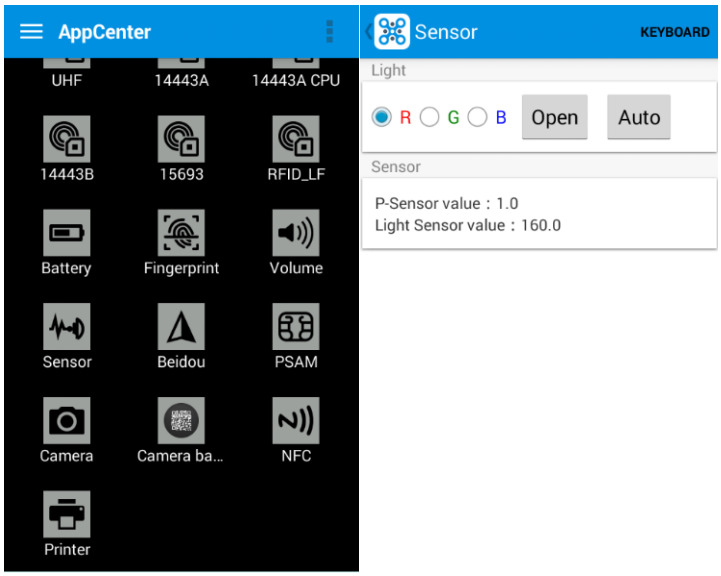
7.4 Volume Settings

1. Open the Volume Setting demo in Appcenter;
2. Set the volumes based on the requirements;



7.5 Sensor

1. Open the Sensor demo in Appcenter;
2. Test the sensor based on the requirements;

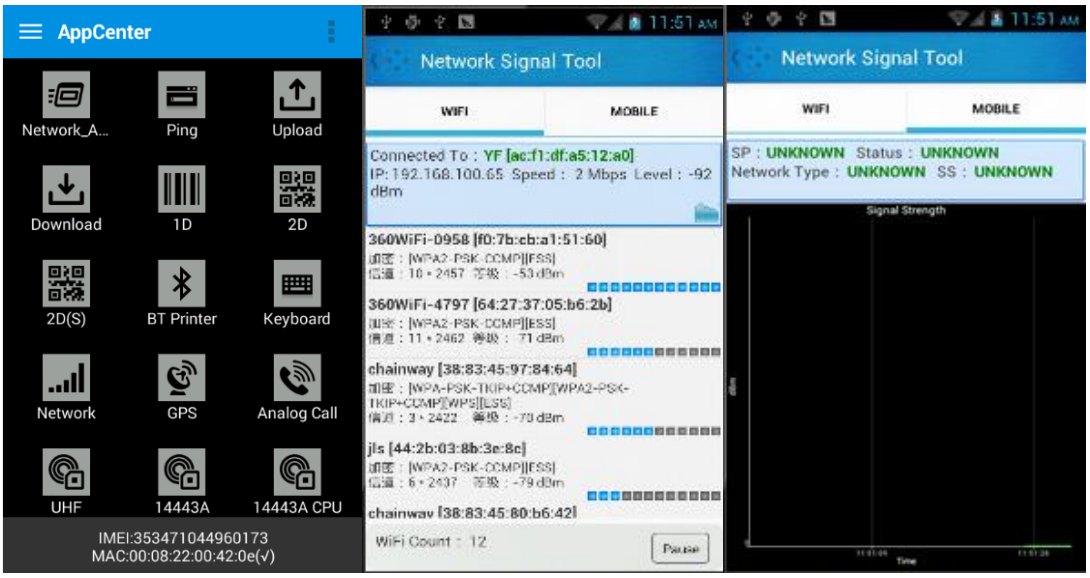


7.6 Keyboard

1. Open the Keyboard demo in Handset Appcenter;
2. Set and test the key values of the device;

7.7 Network

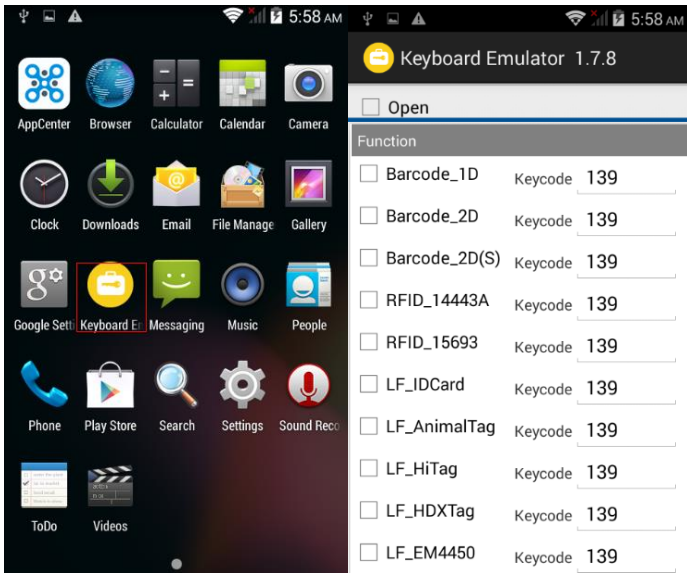
1. Open the Network demo in Appcenter;
2. Test the WIFI/Mobile signal based on the requirements;



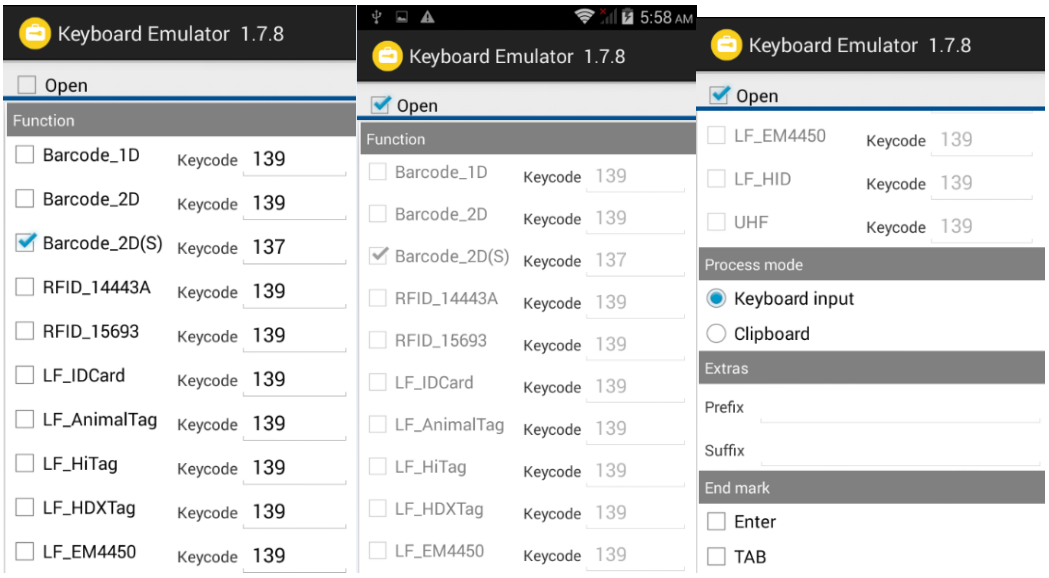
7.8 KeyboardEmulator

Keyboard Emulator can be used directly for multiple using environments and the output formats can including prefix/suffix/enter/tap can also be defined, please define the options properly based on the features of the device.

1) Open the KeyboardEmulator which is preinstalled in the device;



2) Click the options correctly based on the features of the device hardware, please also press the physical button to define the scan button, then please define the output formats based on the requirements, finally click ‘Open’ to save and enable it ;



Chapter 8 Device Specifications

Physical Characteristics	
Dimensions	153mm*75mm*29mm/6.02*2.95*1.14in.
Weight	286g/10.09oz. (includes main battery)
Screen	4in.WVGA (480*800) TFT-LCD, capacitive dual touch
Keyboard	3 function keys, 3 side buttons
Battery	Main bat. (rechargeable li-ion polymer, 3.7V, 3200 mAh)
Expansion Slot	MicroSD/TF, maximum capacity of 32G
SIM Slot	1 PSAM, 1 SIM, 1 MicroSD
Audio	0.5W
Camera	OV 8M pixels, auto focus with LED flash
Performance Characteristics	
CPU	Cortex-A7 1.3GHz quad core
OS	Android 4.4.2
Memory	1GB RAM, Build-in 4GB Flash
Interface	USB Micro-B, serial port RS-232(TTL)
Storage Card Type	MicroSD card
Maximum Expansion Storage	32GB
User Environmental Characteristics	
Operating Temperature	-10℃ to 45℃
Storage Temperature	-40℃ to 70℃
Humidity	5%RH-95%RH（non-condensing）
Dropping Survive	1.2m/3.9ft. drop, 6 sides (concrete floor under operating temp.)
Sealing	IP64, IEC compliance
Wireless Communication	
WAN	WCDMA/HSDPA/HSPA+ (850/1900/2100MHz)
WLAN	IEEE802.11b/g/n, internal antenna
WPAN	Bluetooth v4.0 Low Energy
Data Collection	
Barcode Scan Engine	1D barcode（Symbol SE955, laser）

	2D CMOS laser scanner: Symbol SE4750
RFID	LF 125KHz
	HF 13.56MHz
	UHF 860-
Developing Environment	
SDK	Chainway SDK
Programming Language	Java
Developing Tool	Eclipse

Regulatory Conformance Hereby, ShenZhen Chainway Information Technology Co.,Ltd. declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. CE0700

Safety Information and Notices

Failure to comply with the following precautions may be dangerous or illegal.

Never attempt to disassemble your phone. You alone are responsible for how you use your phone and any consequences of its use.

As a general rule, always switch off your phone wherever the use of a phone is prohibited. Use of your phone is subject to safety measures designed to protect users and their environment.

Do not use your phone in damp areas (bathroom, swimming pool…). Protect it from liquids and other moisture.

The max. Recommended temperature is -10~45°C.

Do not leave your phone within the reach of small children (certain removable parts may be accidentally ingested). Please carefully read and observe the terms below:

Distance of operation

This phone model has been tested and meets radio frequency exposure guidelines when used as follows:

• Against the ear: Place or receive a phone call and hold the phone as you would a wire line telephone.

• Body worn: When transmitting, place the phone in a carry accessory that contains no metal and positions the phone a minimum of 1.0 cm form your body. Use of other accessories may not ensure compliance with radiofrequency exposure guidelines. If you do not use a body worn accessory and are not holding the phone at the ear, position the phone a minimum of 1.0 cm from your body,

• Data operation: When using a data feature, position the phone a minimum of 1.0 cm from your body for the whole duration of the data transmission.

Adapter

Adapter shall be installed near the equipment and shall be easily accessible.

Caution

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Proper use

As described in this manual, your mobile phone can be used only in right location. If possible, please do not touch the antenna area on your phone.

FCC Caution

§ 15.19 Labeling requirements.

The 15.19 statement is used. They should have used the one for Licensed devices: “This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.”

§ 15.21 Information to user.

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

§ 15.105 Information to the user.

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.

Body Operation

This device was tested for typical body-Support operations. To comply with RF exposure requirements, a minimum separation distance of 1.0 cm must be maintained between the user’s body and the device, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not

comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.

FCC RF exposure information (SAR). This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. The exposure standard for wireless devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg.