

Handheld Mobile Computer

C4000 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-A9 1GHZ dual 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 °C and 20 °C (41 °F and 68 °F).

Chapter 2 About The Device

2.1 Structure:



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

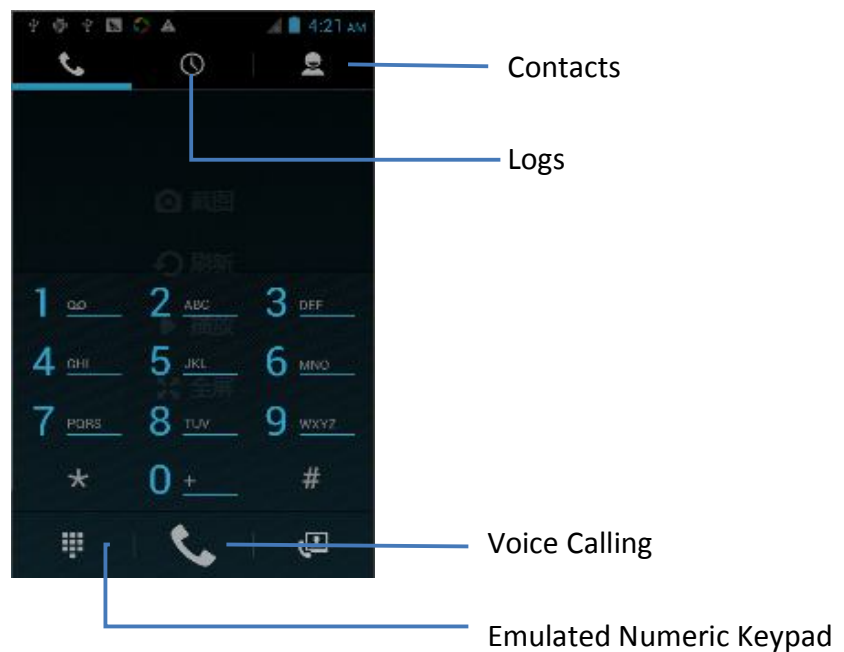


Press the 'Power' button on the side shortly due to turn on/off.

Chapter 3 Call Function

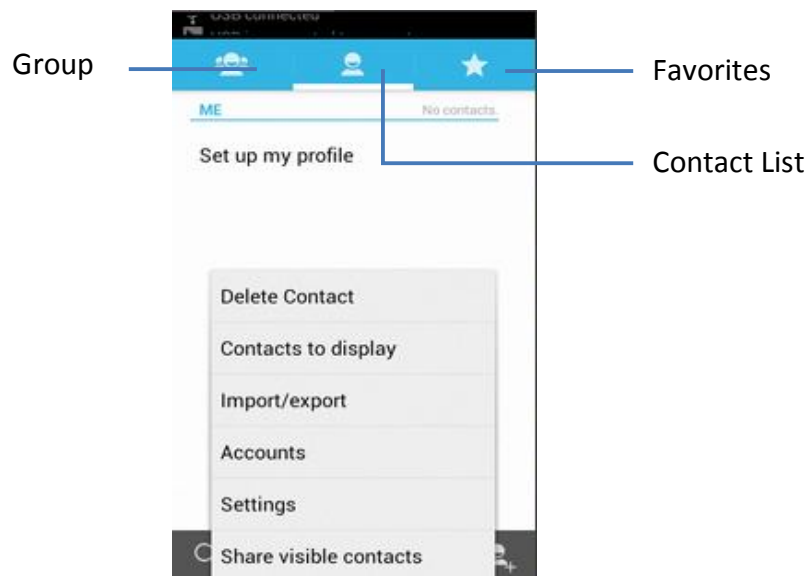
3.1 Phone

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;



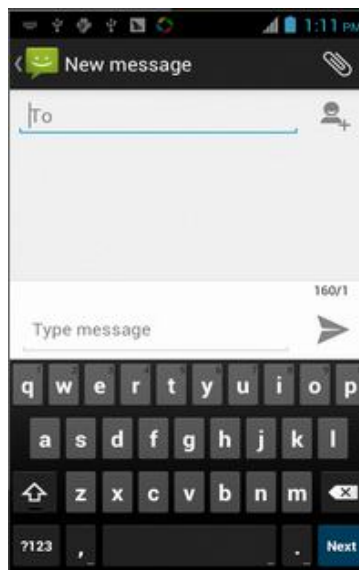
3.2 Contacts

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;



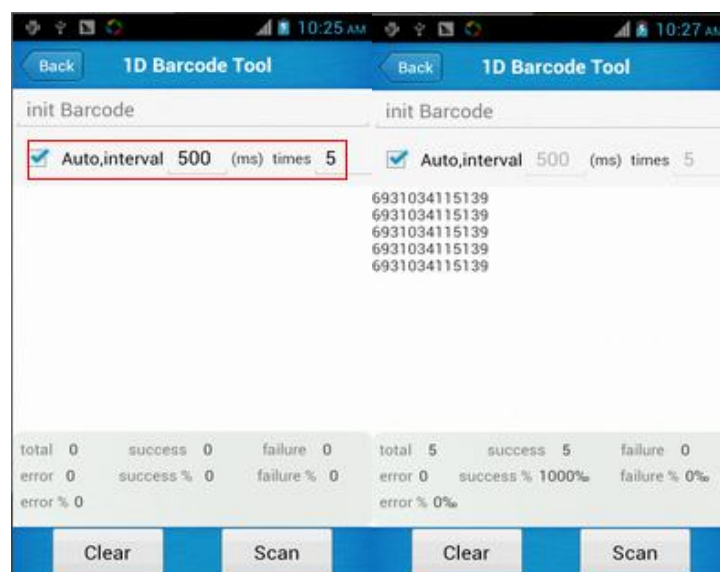
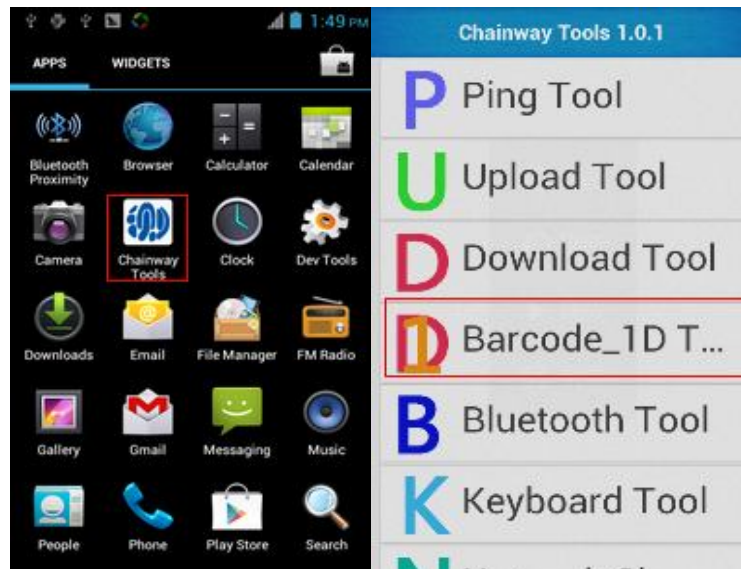
3.3 Messaging

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

1. Open the Barcode Demo within Chainway Tools;
2. Press the 'Scan' button to start scanning, then the auto interval parameters can also be set;



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

1D Barcode



Right



Wrong

2D Image



Right

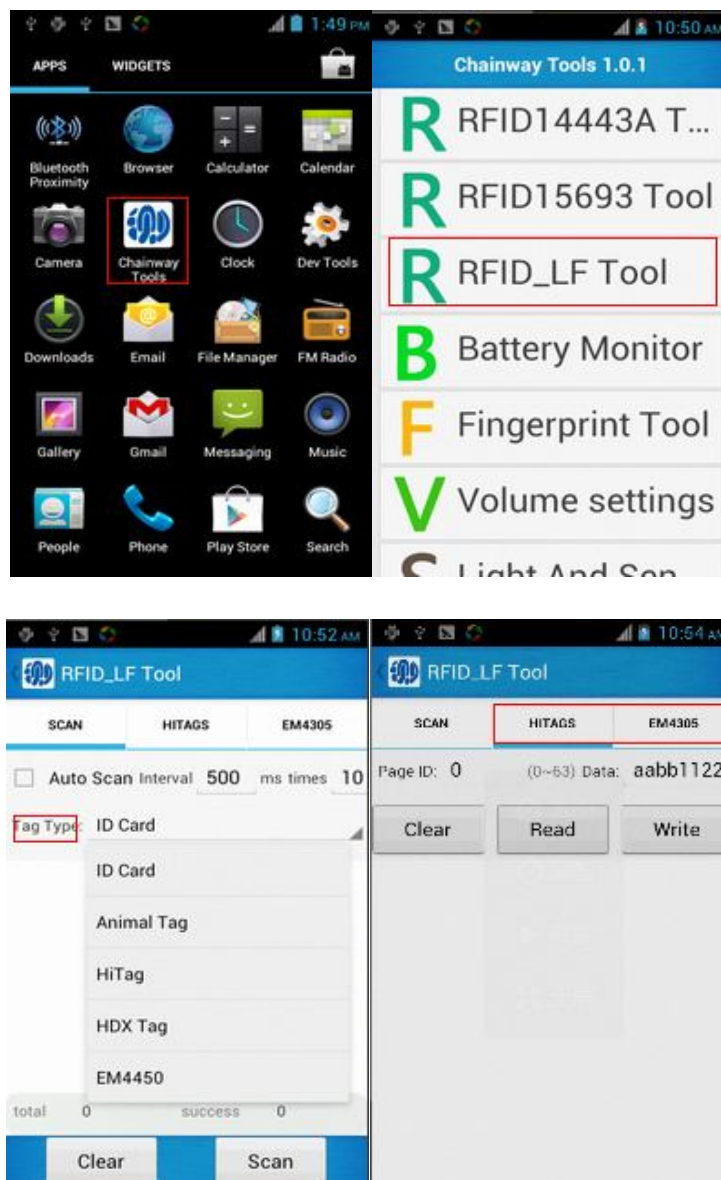


Wrong

Chapter 5 RFID Reader

5.1 Low Frequency

1. Open the RFID_LF Demo within Chainway Tools and then press the 'Scan' button to start scanning;
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;



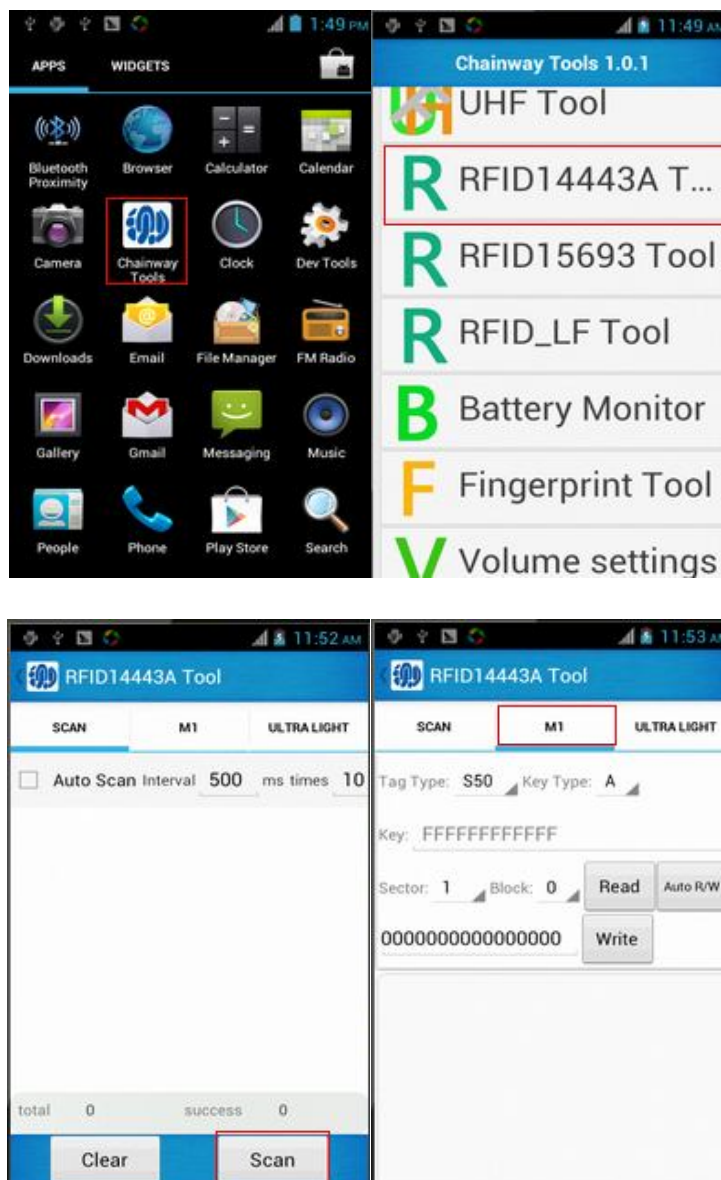
Note: please ensure that the LF module is embedded in the device, also please select the tag type correctly, otherwise the operation might not work. Meanwhile, please pay attention

to the HDX and FDX-B since they are using different hardware due to the different working principles.

5.2 High Frequency

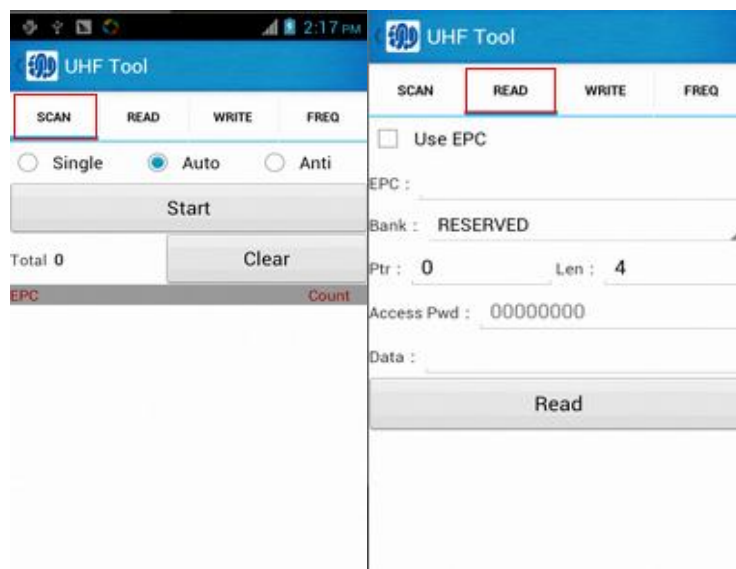
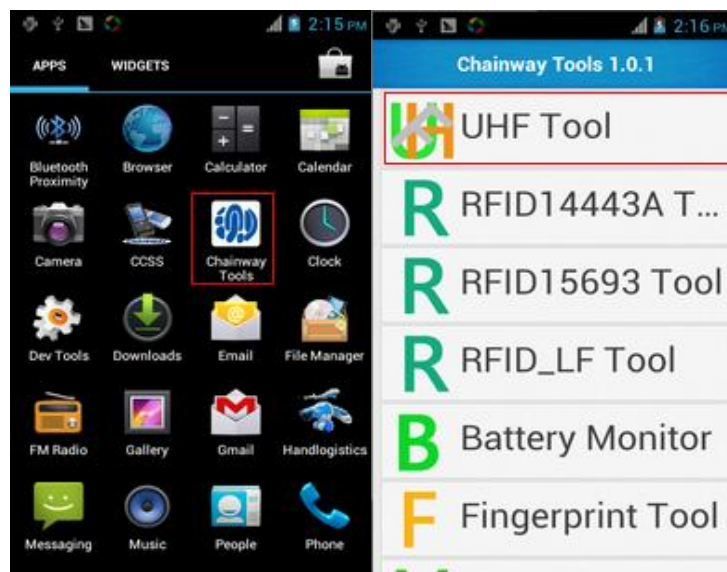
5.2.1 14443A

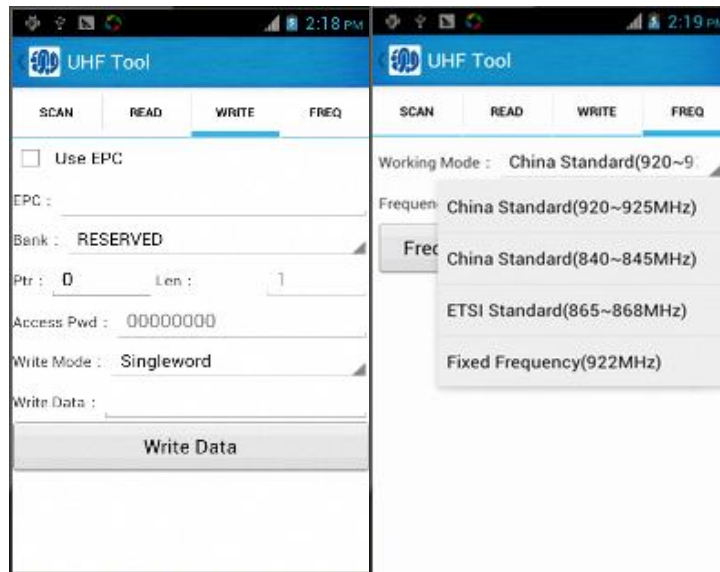
1. Open the RFID_14443A demo within Chainway Tool, and press the 'Scan' button to start scanning;
2. Mifare and Ultra Light reading/writing are also supported;



5.3 Ultra High Frequency

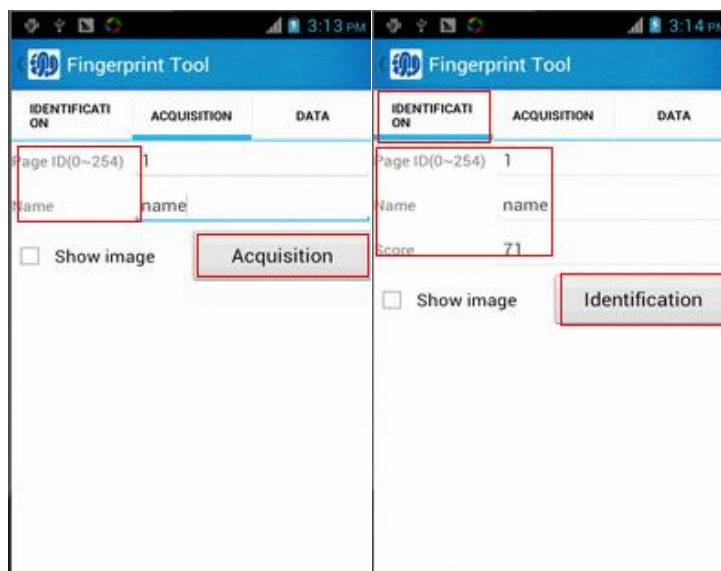
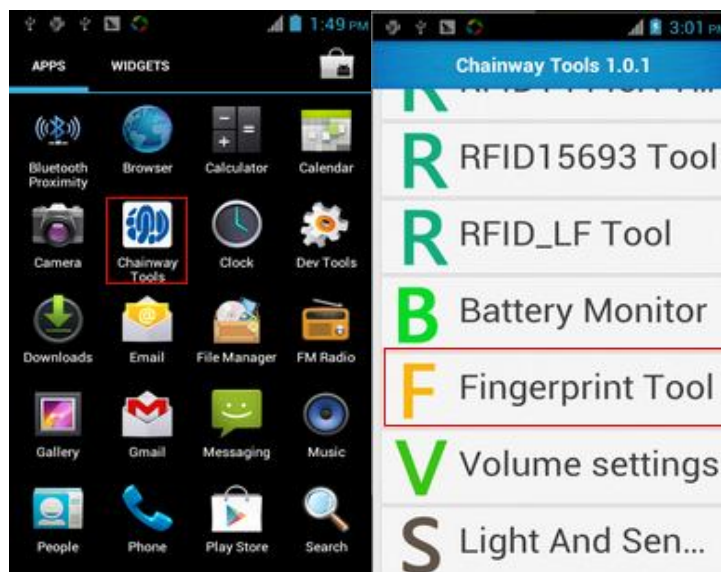
1. Open the UHF demo within Chainway Tool, and press the 'Scan' button to start scanning;
2. Multiple tags reading and single tag reading/writing are also supported;





Chapter 6 Fingerprint Reader

1. Open the Fingerprint Demo in Chainway Tool and then press the 'Scan' button to start scanning;
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';

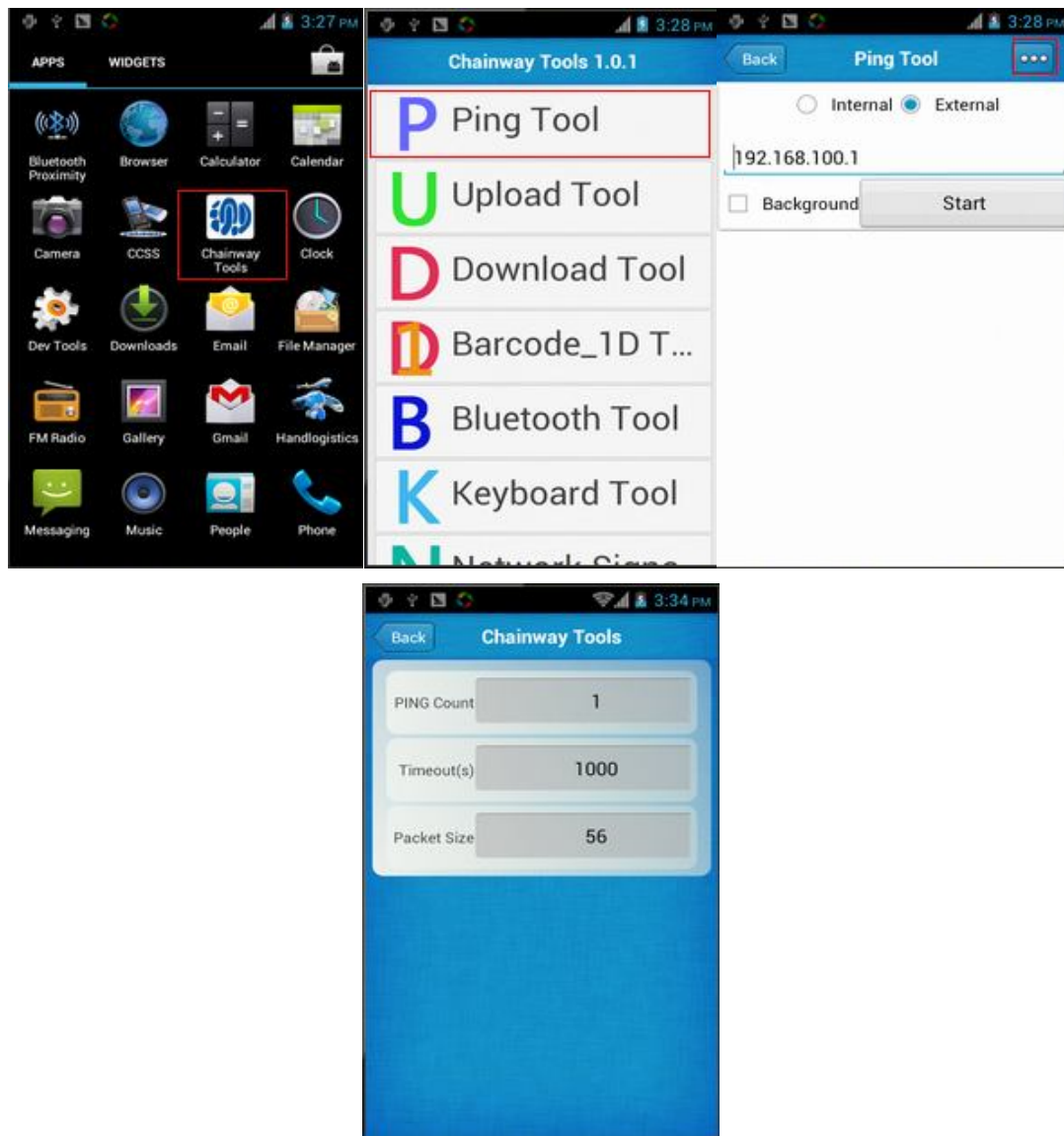


Fingerprint Tool		
IDENTIFICATION	ACQUISITION	DATA
Page ID	Name	Time
1	name	2014 06 04 15:13:04
Total(local):1 Total(model):7		
Import		Reset

Chapter 7 The Other Functions

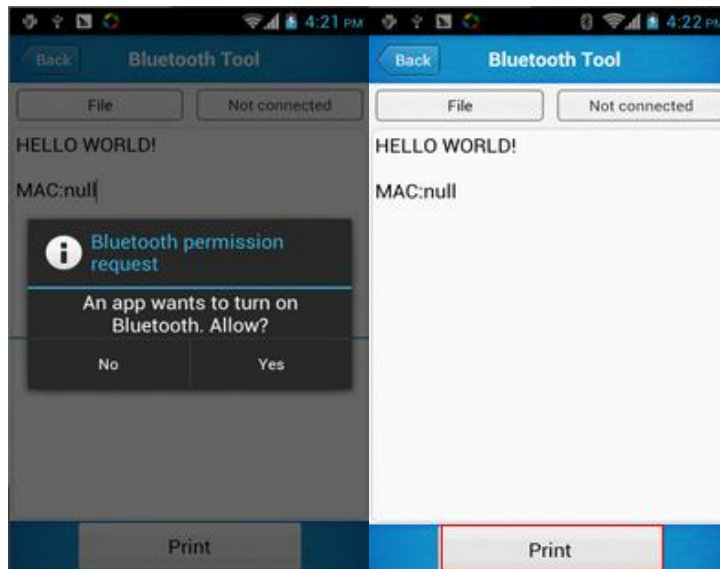
7.1 PING Tool

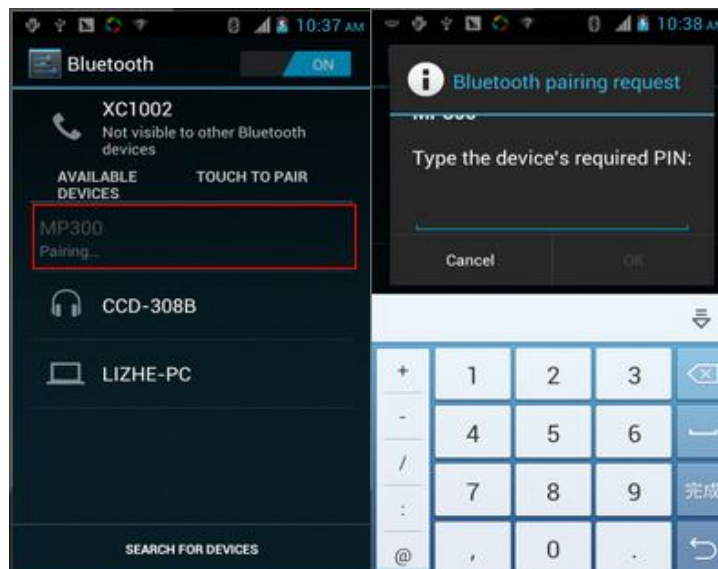
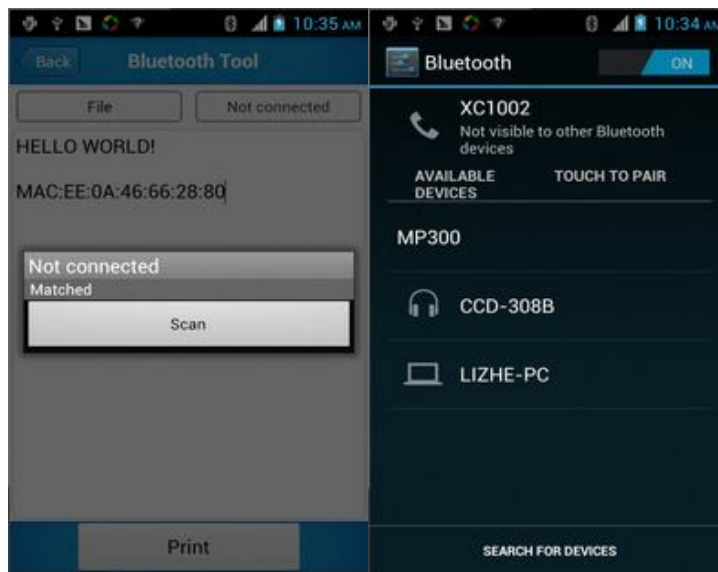
1. Open the Ping Tool in Chainway Tool;
2. Set the Ping parameters and select the internal/external addresses;

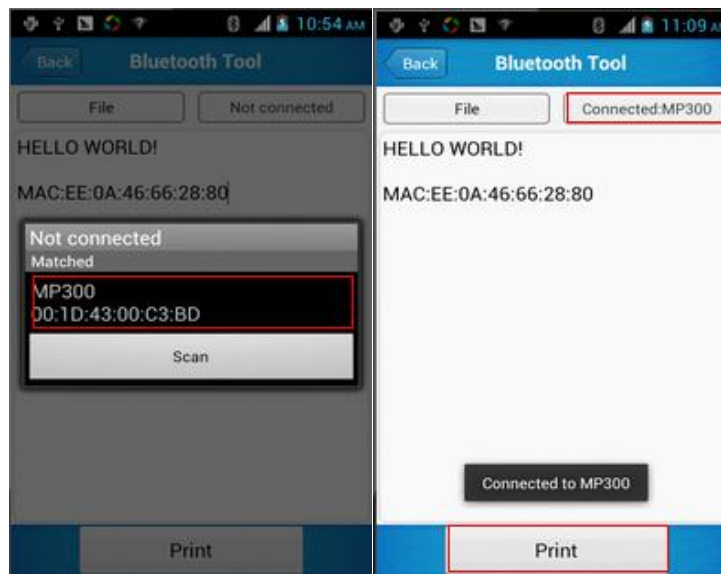


7.2 Bluetooth

1. Open the Bluetooth demo in Chainway Tool 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;

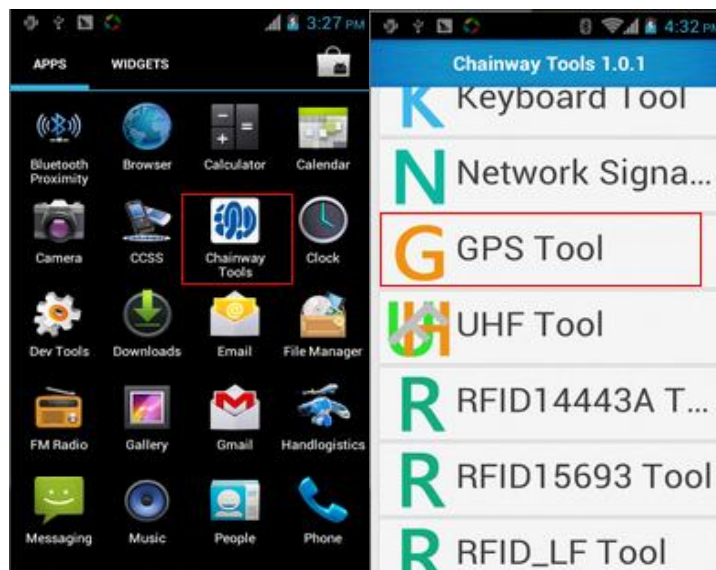


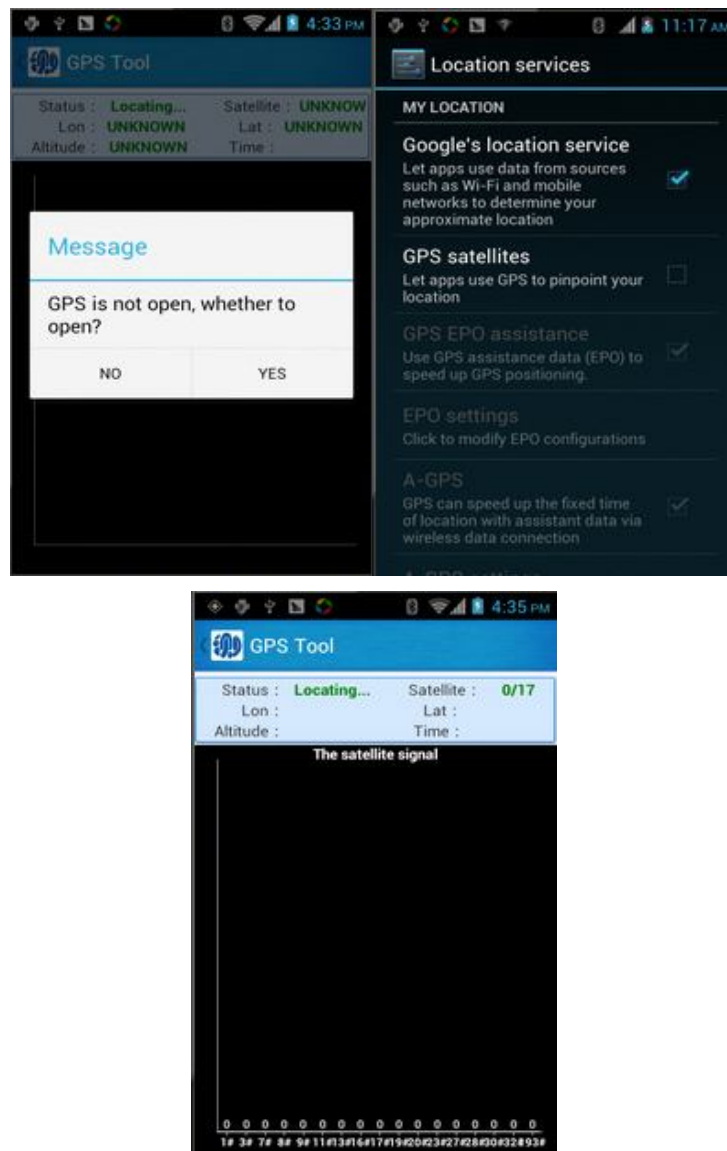




7.3 GPS

1. Open the GPS demo in Chainway Tool 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 Chainway Tool;
2. Set the volumes based on the requirements;



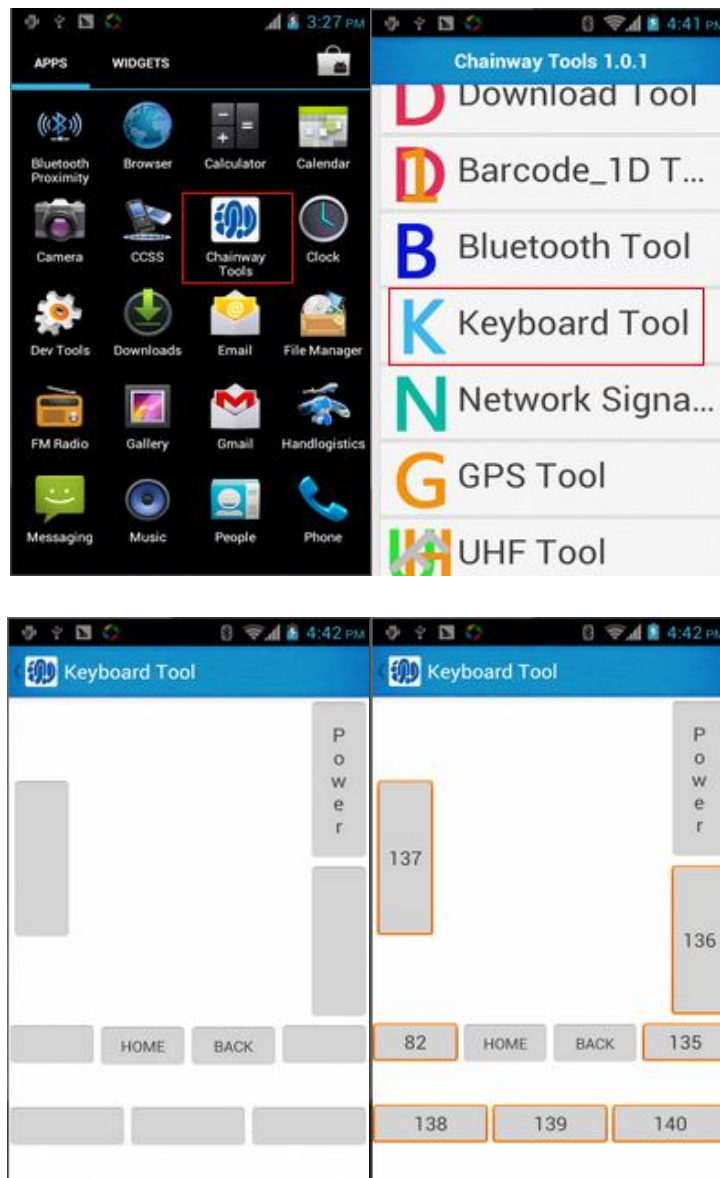
7.5 Light And Sensor

1. Open the Light And Sensor demo in Chainway Tool;
2. Test the lights and sensor based on the requirements;



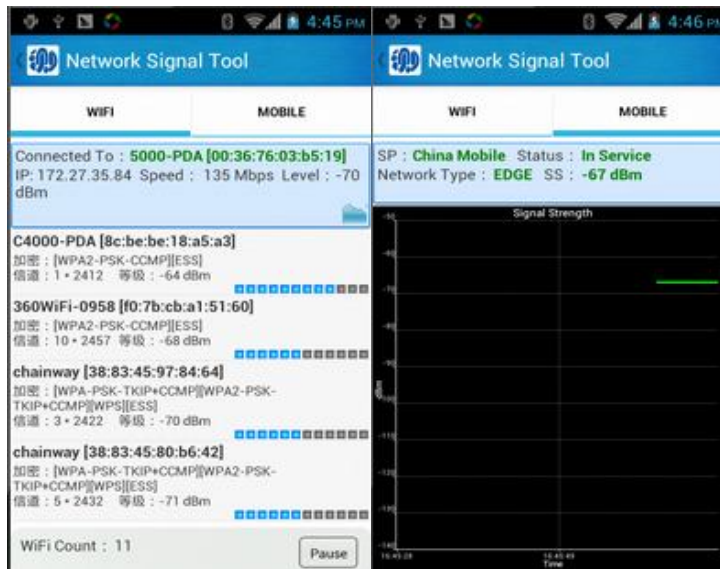
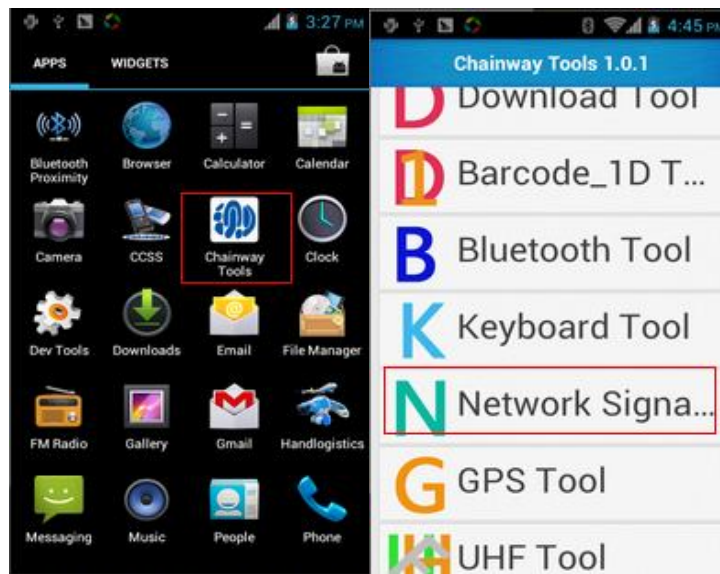
7.6 Keyboard Tool

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



7.7 Network Signal

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



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 5M pixels, auto focus (optional)
Performance Characteristics	
CPU	Cortex-A9 1GHz dual core
OS	Android 4.0.4
Memory	512MB RAM/1GB RAM (Optional) , Build-in 4GB Flash
Interface	USB Micro-B, serial port RS-232(TTL)
Storage Card Type	MicroSD card
Maximum Expansion	32GB
User Environmental Characteristics	
Operating Temperature	-10℃ to 50℃
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 (850/2100MHz),
WLAN	IEEE802.11b/g/n, internal antenna
WPAN	Bluetooth v2.1+EDR
Data Collection	
Barcode Scan Engine	1D barcode (Symbol SE955, laser, hardware decoding) :
	2D CMOS laser scanner: Symbol SE4500

RFID	
	HF 13.56MHz, ISO14443A/ISO15693
Developing Environment	
SDK	Chainway SDK
Programming Language	Java
Developing Tool	Eclipse

Federal Communications Commission (FCC) Interference Statement

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.

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.

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

This mobile device meets guidelines for exposure to radio waves. Your mobile device is a radio transmitter and receiver. It is designed not to exceed

the limits for exposure to radio waves recommended by international guidelines.

The SAR limit adopted by USA and Canada is 1.6 watts/kilogram (W/kg) averaged over one gram of tissue. The highest SAR value reported to the Federal Communications

Commission (FCC) and the Industry Canada (IC) for this device type when it is tested for use at the ear is 0.183 W/kg, and that when it is properly worn on the body is 1.48 W/kg.

The device complies with the RF specifications when the device is used near your ear or at a distance of 0 cm from your body. Ensure that the device accessories such as a device case and a device holster are not composed of metal components. Keep your device 0 cm away from your body to meet the requirement earlier mentioned.