HANGZHOU HIKROBOT TECHNOLOGY CO., LTD.

MV-HR6000M User Manual

Statement

Contents

Chapter 1 Brief Instruction

1.1 Brief Instruction

MV-HR6000M 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 MV-HR6000M, much easier deployment, reduced complexity, decreased maintenance, are the benefits for enterprises.

MV-HR6000M meets industrial level IP65 (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 MV-HR6000M, your business is always &highly efficient on-line.

Meeting industrial standards, designed to support various of mobile solutions. With the build-in high performance Cortex-A7 1GHZ quad core processor technology, the operators need only one device to enjoy a convenient and easy job, MV-HR6000M 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.

MV-HR6000M comes with world wide band 4G technology. Multi channels data and voice communication guarantees the real-time communication and data efficiency, MV-HR6000M 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 Installation Guide

2.1 Appearance

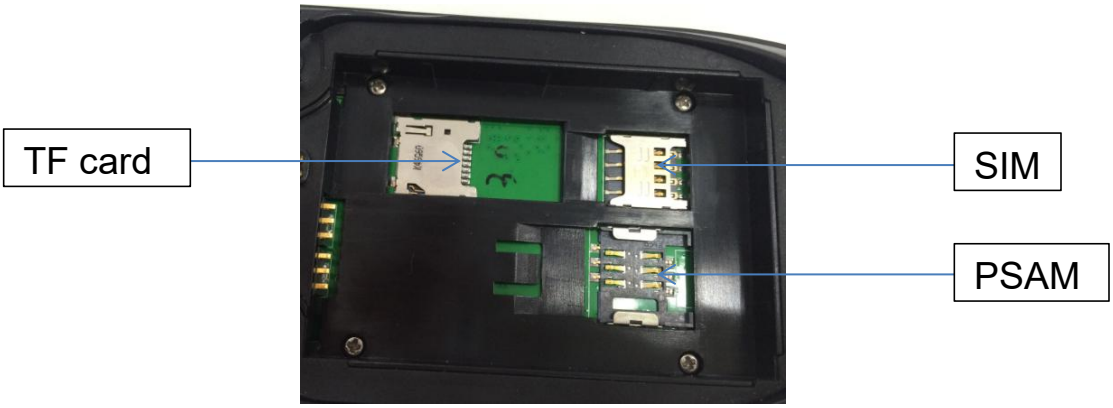
The MV-HR6000M device has black and white appearance optional.

2.2 Buttons

Button	Function
Power Button	Press and hold to turn the device on or off.
Custom Function Button	Customize function by software
SCAN	Scan Button
X	Cancel Button
Num	Switch white keyboard function
Fn	Switch orange keyboard function
Setting Button	Right of the Fn Button
Enter	Enter Button

2.3 Micro SD、SIM、PSAM Card Installation

Detailed installation of Micro SD、SIM、PSAM Card steps are as follows:



2.4 Battery Charging

Use the adapter to charge the battery via the USB connector of the snap-on. Don't use other brands of charger for device.

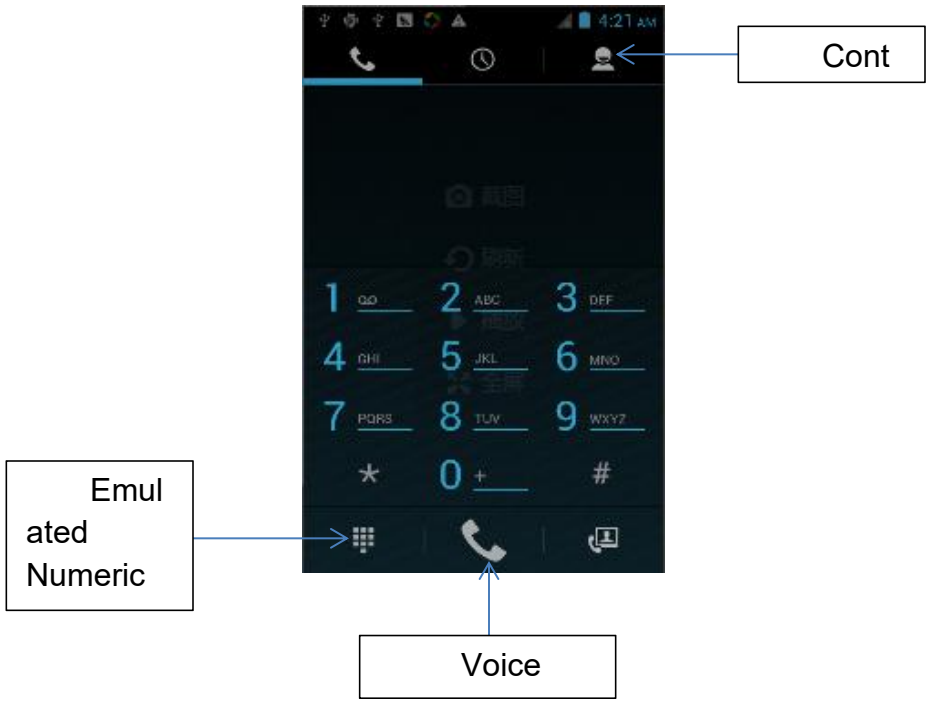
2.5 Device Power on/off

Press the ‘Power’ button on the top about 3s due to power on/off. And press it shortly to wake up.

Chapter 3 Call Function

3.1 Phone

Click this icon  .
Click the number button to input the numbers.
Click the  button to confirm and dial.
Click the  to end the calling.

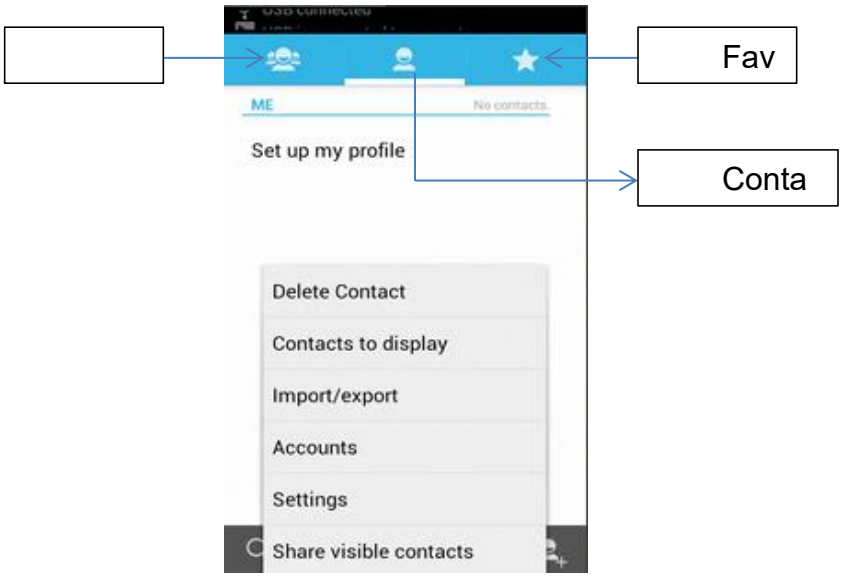


3.2 Contacts

Click ‘Contacts’ to open the contacts list.

Click  to add the new contact.

Click  to import/export or delete the contact list.



3.3 Messaging

Click  to open the message list.

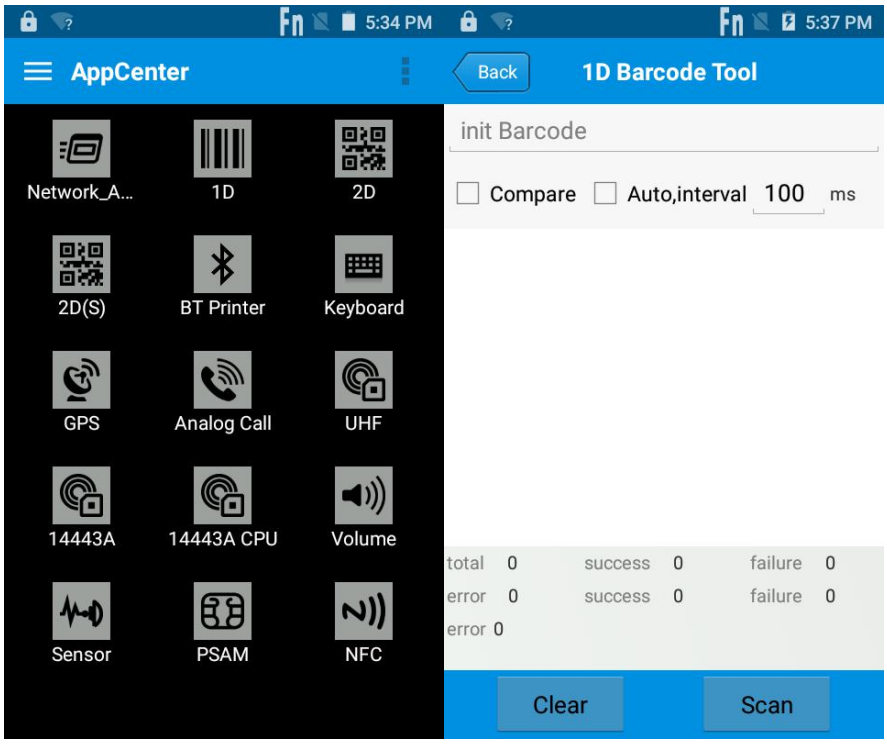
Click  to input the content.

Click  to send the message.

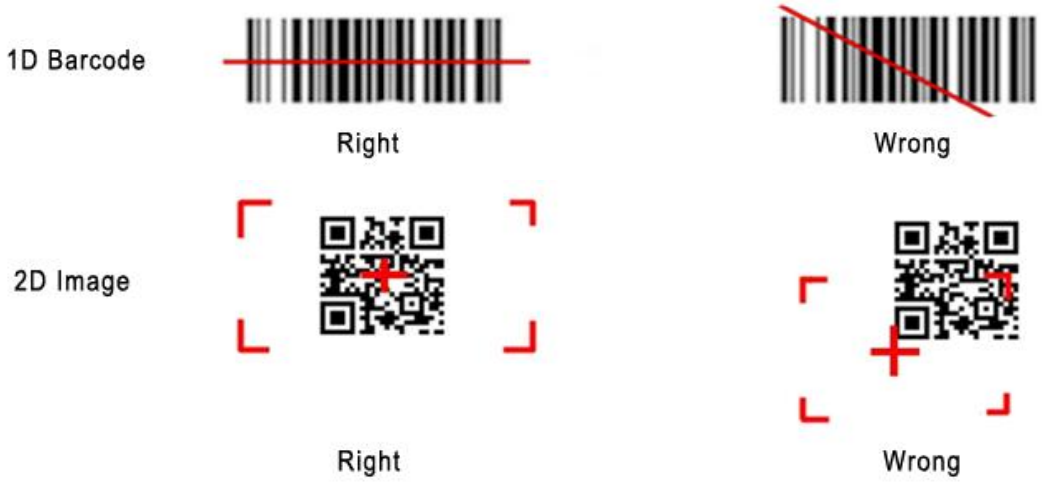
Click  to add photos, videos.

Chapter 4 Barcode Reader

Open the Barcode Demo in APP Center and then press the ‘Scan’ button to start scanning.



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

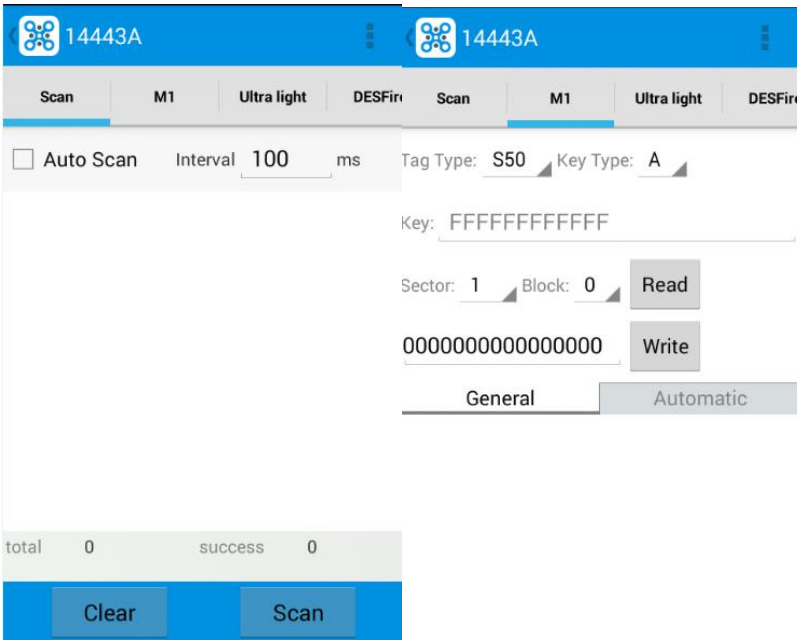


Chapter 5 RFID Reader

5.1 High Frequency

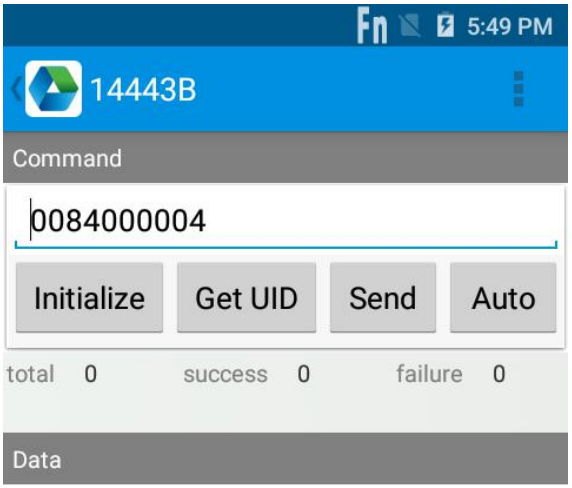
5.1.1 14443A

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



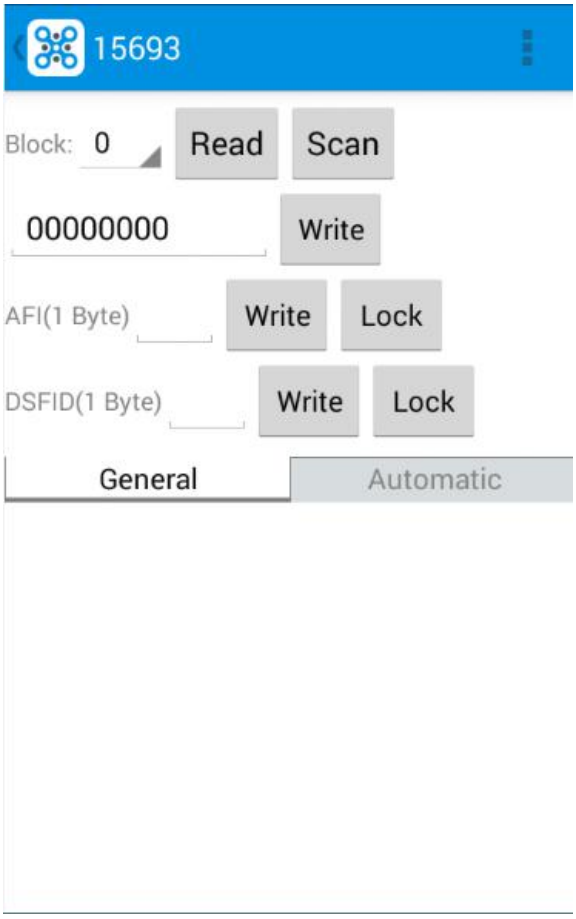
5.1.2 14443B

Open the 14443B demo within Appcenter, and gain UID of the card.



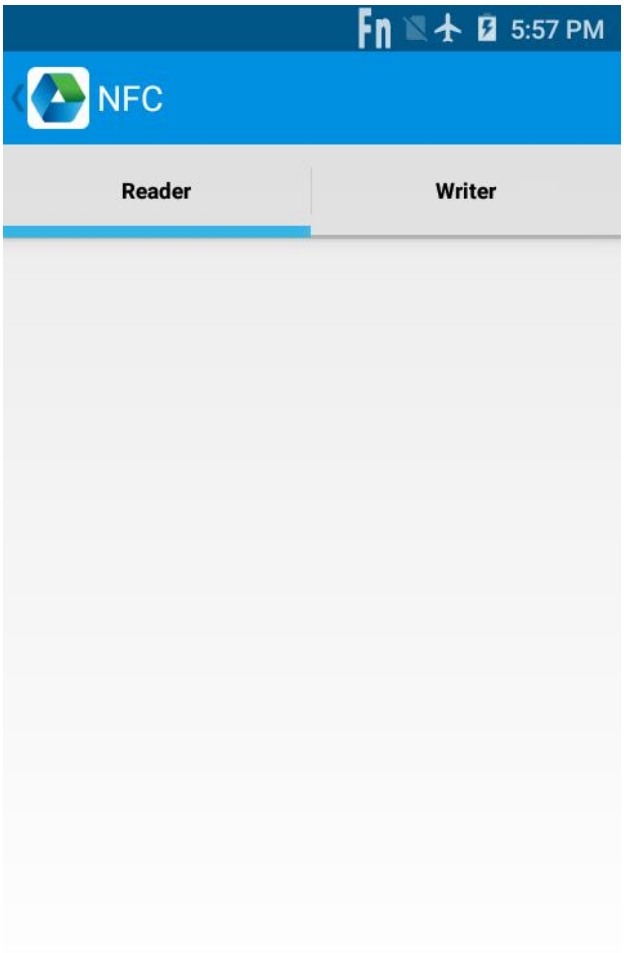
5.1.3 15693

Open the “15693” demo within Appcenter, and then reading and writing information of the tag.



5.2 NFC

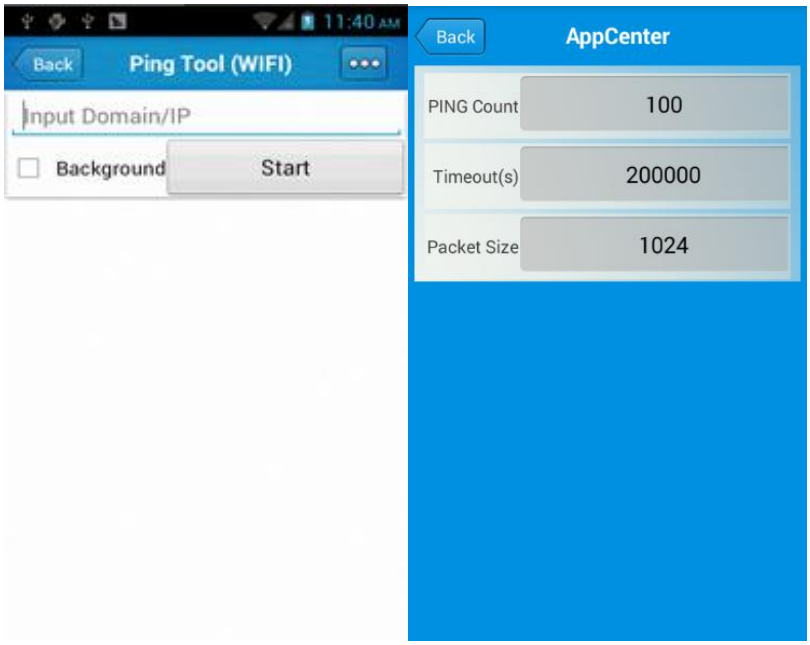
Open the “NFC” demo within Appcenter, and then reading and writing information of the tag.



Chapter 6 Other Functions

6.1 PING

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

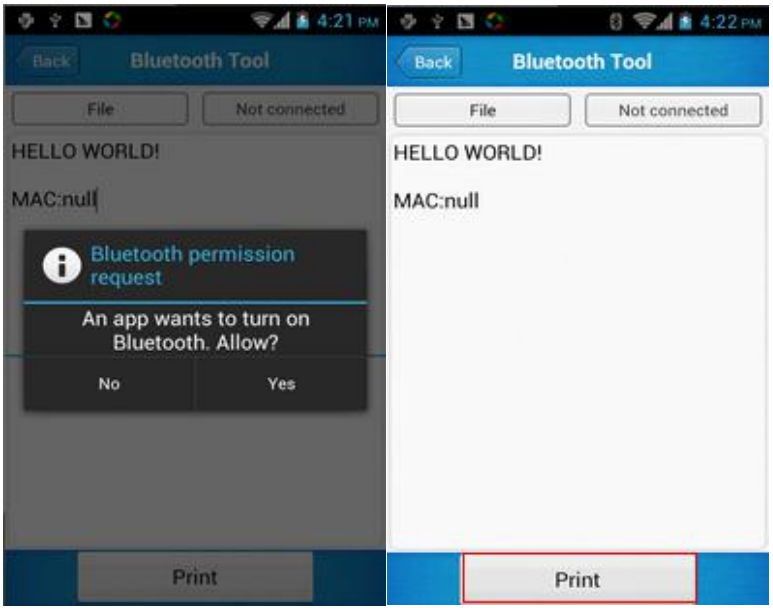


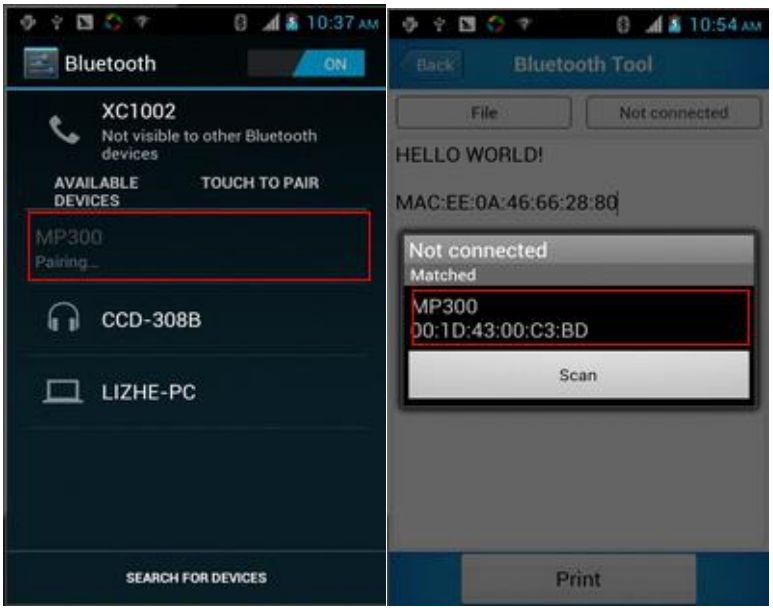
6.2 Bluetooth

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.

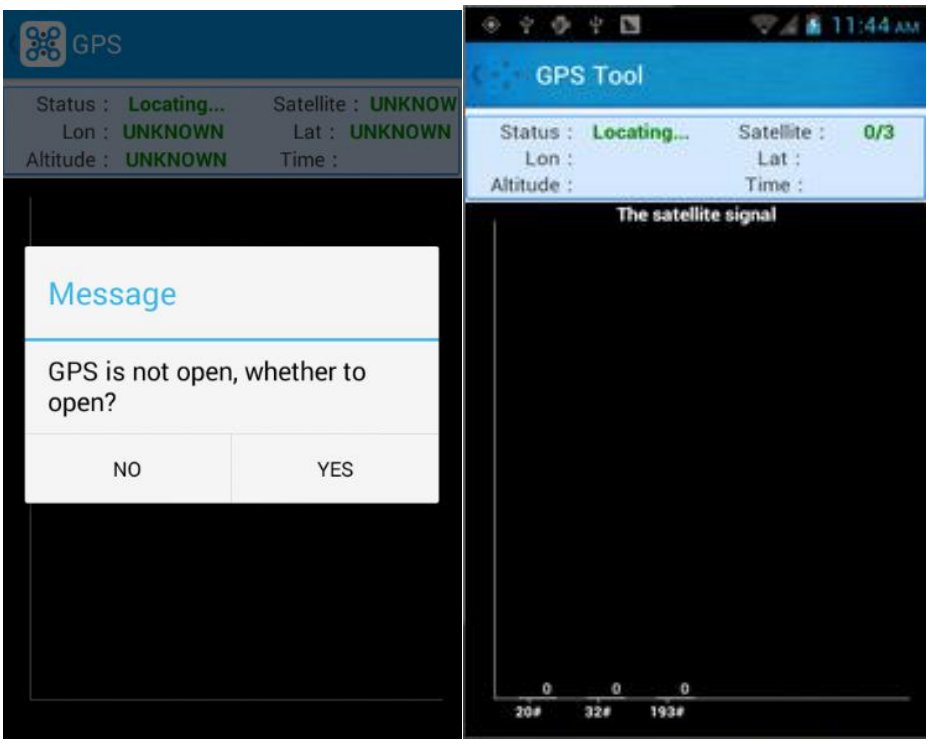




6.3 GPS

1. Open the GPS demo in Appcenter and turn on GPS module.

2. Set the GPS parameters and get the GPS data information.

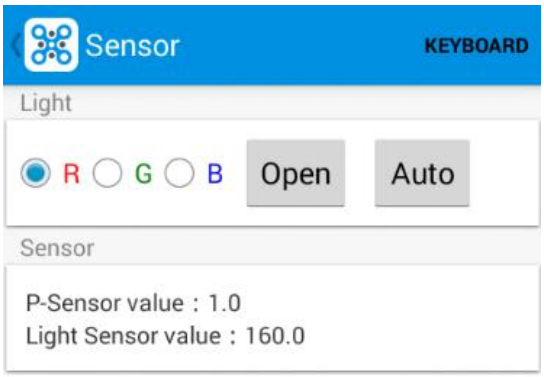


6.4 Volume Settings

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

6.5 Sensor

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

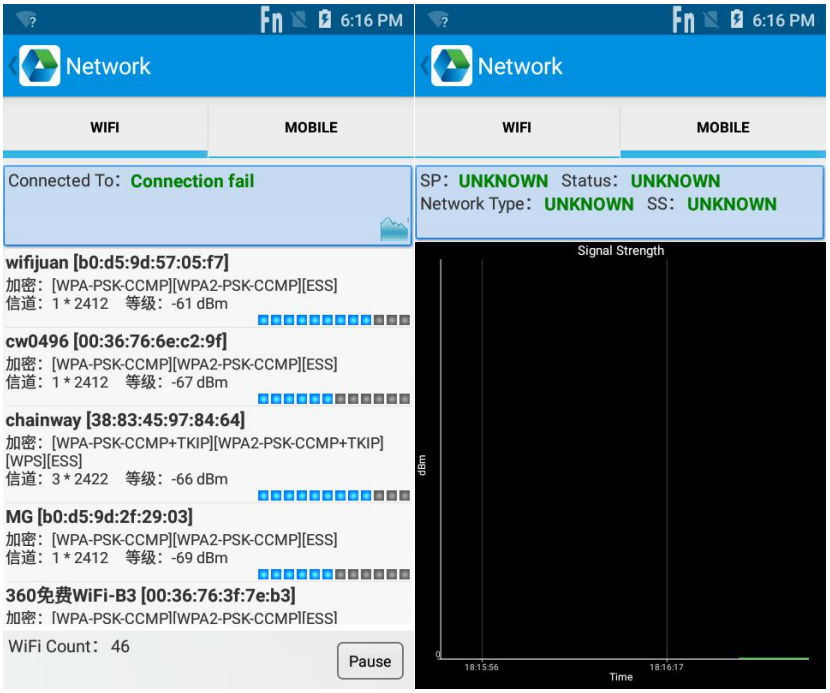


6.6 Keyboard

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

6.7 Network

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



Chapter 7 Device Specifications

Physical Parameters

Dimensions	157.6mm*73.7mm*29mm
Weight	297g (includes main battery)
Screen	4in.WVGA (480*800) TFT-LCD, capacitive dual touch
Keyboard	numeric keypad, 3 side buttons
Battery	Main bat. (rechargeable li-ion polymer, 3.7V, 4000 mAh)
Expansion Slot	MicroSD/TF, maximum capacity of 32G
SIM Slot	1 PSAM, 1 SIM, 1 MicroSD
Audio	0.5W wat
Camera	OV 8M pixels, auto focus (optional)

Performance Parameters

CPU	Qualcomm 8909 1.3GHz quad core
OS	Android 5.1
Memory	1GB RAM, Build-in 8GB Flash
Interface	USB Micro-B,
Storage Card Type	TF card
Maximum Expansion Storage	32GB

Environmental Parameters

Operating Temperature	-20℃ to 50℃
Storage Temperature	-40℃ to 70℃
Humidity	5%RH-95%RH (non-condensing)
Dropping Survive	1.5m/3.9ft. drop, 6 sides, concrete floor under operating temp.
Sealing	IP65, IEC compliance

EU Wireless Communication

WWAN	2G： 900/1800MHz; max. power 32.6dBm 3G： 900/2100MHz; max. power 22.94dBm 4G： B1/B3/B7/B8/B20/B40; max. powe24.675dBm
WLAN	IEEE802.11a/b/g/n, embedded antenna, 5 Gigabit WIFI (5G wifi isn't support hotspot) Wifi 2.4G; max. power 18.97 dBm Wifi 5G-Band1: max. power 13.26 dBm Wifi 5G -Band2: max. power 12.45 dBm SRD5.8G: max. power 13.51 dBm
WPAN	Bluetooth 4.0: max. power 5.34 dBm

US Wireless Communication

WWAN	2G: 850/1900MHz 3G: 850/1700/1900MHz 4G: B2, B4, B7, B12, B17
WLAN	IEEE802.11a/b/g/n, embedded antenna
WPAN	Bluetooth v4.0

Data Collection

1D Barcode Scan Engine	1D barcode (Symbol SE955, laser, hardware decoding): UPC/EAN, Code128, Code39, Code93, Code11, Interleaved 2 of 5, Discrete 2 of 5, Chinese 2 of 5, Codabar, MSI, RSS, etc. 2D barcode (Symbol SE4500，COMS, software decoding)： Data Matrix, QR Code, Aztec Code, PDF417, US Planet, UK Postal, etc.
2D Barcode Scan Engine	2D CMOS laser scanner: Symbol SE4500 Sensor resolution: 750 (horizontal) * 480 (perpendicular) pixel (gray level) Roll tolerance: 360º Pitch tolerance: ±60º Skew tolerance: ±60º Ambient light: 9000ft.candles/96900 lux (lightless) Aiming LED (VLD): 655nm ± 10nm Illumination element: 650nm ± 5nm Field of view: 40º horizontal，25º perpendicular Barcode type: PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode; Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal Dutch Postal (KIX),etc. Decode ranges: SR Focus Near Far 5 mil Code 39: 2.1 in./53 mm. 7.5 in./191 mm. 100% UPC/ENA: 1.6 in./41 mm. 15.5 in./394 mm. 6.7 mil PDF417: 3.4 in./86 mm. 7.1 in./180 mm.
RFID	HF 13.56MHz, ISO14443A/ISO15693 (optional). 40.46 dB μ V/m (3m) -34.84 dB μ V/m (10m)

Developing Environment

SDK	HIKROBOT SDK
Programming Language	Java
Developing Tool	Eclipse/Android Studio

CE

Restrictions:

						
AT	BE	BG	HR	CY	CZ	DK
EE	FI	FR	DE	GR	HU	IE
IT	LV	LT	LU	MT	NL	PL
PT	RO	SK	SI	ES	SE	UK

This device is restricted to indoor use where operated in the European Community using frequency in 5150MHz-5350MHz to reduce the potential for interference.

SAR Information

The SAR limit of Europe is 2.0 W/kg. Device types C6000 has also been tested against this SAR limit. The highest SAR value reported under this standard during product certification for use at the ear is 0.285W/kg and when properly worn on the body is 1.451 W/kg. This device was tested for typical body-worn operations with the back of the handset kept 0.5cm from the body. To maintain compliance with RF exposure requirements, use accessories that maintain a 0.5cm separation distance between the user's body and the back of the handset. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with RF exposure requirements, and should be avoided.

Simplified EU declaration of conformity

Hereby, Hangzhou Hikrobot Technology Co., Ltd. declares that the radio equipment type MV-HR6000M is in compliance with Directive

2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.xxxxxxx.net

FCC

FCC statements:

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. NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes 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.

During SAR testing, this device is set to transmit at its highest certified power level in all tested frequency bands, and placed in positions that simulate RF exposure in usage near the body with the separation of 10 mm.
Although the SAR is determined at the highest certified power level, the actual SAR level of the while operating can be well below the maximum value.
This is because the device is designed to operate at multiple power levels so as to use only 29 the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

FCC Radiation Exposure Statement

This device was tested for typical body - worn operations with the back of the handset kept 10mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain a 10 mm separation distance between the user's body and the back of the handset. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

RF Exposure Information(SAR)

The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue.
Device
Types MV-HR6000M (FCC ID: 2AVXLMV-HR6000M) has also been tested against this SAR limit.

The highest SAR value reported under this standard during product certification for use when properly worn on the body is 0.322 W/kg and for head is 0.320 W/kg.