

SHENZHEN CHAINWAY INFORMATION TECHNOLOGY CO.,LTD

Mobile Data Terminal

C70 User Manual



FCC ID:2ATAN-NUSTAR5S

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Statement

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Chapter 1 Product Intro

1.1 Intro

C70 device is a smart mobile PDA that integrated with various features such as wireless communication, data acquisition, wireless transmission and data processing etc. It is configured with Android 6.0 OS and it possesses high reliability and expansibility. With a set of advanced data acquisition options, C70 can be operated in various industries to acquire precise and abundant datum automatically. Meanwhile, the device can match the options with staffs accordingly. The corporation which deployed C70 will realize the deployment work is simple and maintenance work will be remarkably decreased.

C70 is highly rugged, compact and durable. With IP65 water and dust proof capability, the device has met IEC sealing standard. Therefore, it can be operated by staffs such as railway inspector, road toll operator, vehicle inspector, delivery postman, power supply inspector, storage administrator, financial & insurance, police officers, security tracing etc. Wherever your staff' locations are, C70 can remain its connectivity with the system to make sure business in high-effective operating.

C70 mobile data terminal adopted 4G LTE technology to realize multipath communication and calling function for field work, data exchange efficiency has been enhanced simultaneously. Therefore, C70 will bring the largest investment return for enterprises.

1.2 Precaution before using battery

- Do not leave battery unused for long time, no matter it is in device or inventory. If battery has been used for 6 months already, it should be check for charging function or it should be disposed correctly.
- The lifespan of Li-ion battery is around 2 to 3 years, it can be circularly charged for 300 to 500 times. (One full battery charge period means completely charged and completely discharged.)
- When Li-ion battery is not in used, it will continue discharge slowly. Therefore, battery charging status should be checked frequently and take reference of the related battery charging information on the manuals.
- Observe and record the information of a new unused and non-fully charged battery. On the basis of operating time of new battery and compare with a battery that has been used for long time. According to product configuration and application program, the operating time of battery would be different.
- Check battery charging status at regular intervals.
- When battery operating time drops below about 80%, charging time will be increased remarkably.
- 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.
- Store the battery at temperatures between 5 °C and 20 °C (41 °F and 68 °F).

1.3 Charger

The charger type is GME10D-050200FUu, output voltage/current is 5V DC/2A. The plug considered as disconnect device of adapter.

1.4 Notes

Note: Using the incorrect type battery has danger of explosion.
Please dispose the used battery according to instructions.

Note: Due to the used enclosure material, the product shall only be connected to a USBInterface of version 2.0 or higher. The connection to so called power USB is prohibited.

Note:The adapter shall be installed near the equipment and shall be easily accessible.

Note:The suitable temperature for the product and accessories is -20°C to 45°C.

Note:CAUTION RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Note:Charging by adapter specified maximum ambient temperature is 35° C (Declare by manufacturer.)

Chapter 2 Installation instructions

2.1 Appearance

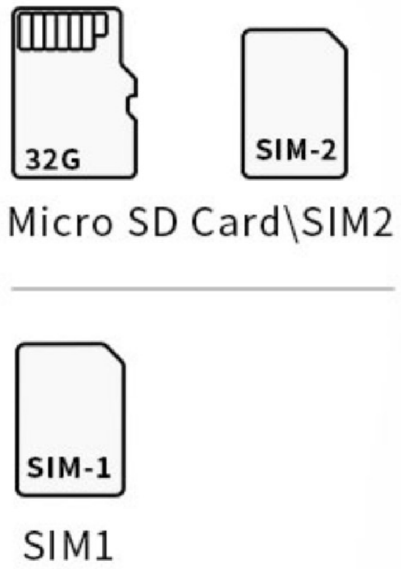
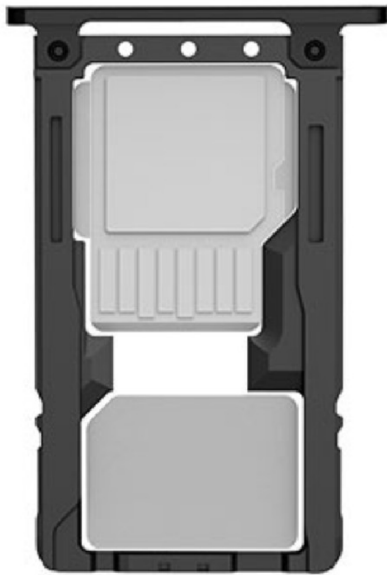


Buttons instruction

Button		Description
Side button	1.Power	Located on left side, press to ON/OFF device.
	2.Function key	Located on left side, its function can be defined by software.
	3.SCAN	Scanning button located on both sides. There are two scanning buttons.
Main button	4.Menu	Display main menu.
	5.Home	Touch it back to main screen.
	6.Enter	Press to confirm current selection.
	7.Backspace	Return to last step to setup.

2.2 Install Micro SD and SIM cards

The cards sockets are showing as follows:



2.3 Battery charge




By using USB Type-C contact, the original adaptor should be used for charging the device. Make sure not to use other adaptors to charge the device.

2.4 Buttons and function area display



C70 has 4 side buttons and 4 main buttons, NFC identification area 2D scanning head and Infrared scanning lens locates at front. HD camera, optical fingerprint sensor and flashlight locate at rear.

Chapter 3 Call function





3.1 Calling numbers

1. Click icon .
2. Click number key to input phone numbers.
3. Click icon  to call.
4. Click icon  to end call.

3.2 Contacts

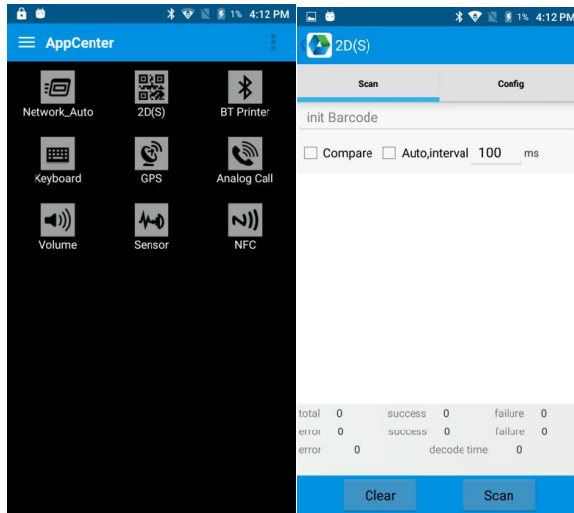
1. Click contacts to open contacts list.
2. Click icon  to add new contacts.
3. Click icon  to import/export contacts.


3.3 SMS and MMS

1. Click  to open message window.
2. Click  to input message receiver and contents.
3. Click  to send out messages.
4. Click  to add attachment pictures and videos.

Chapter 4 Barcode reader-writer

1. In App Center, to open 2D barcode scan test.
2. Press "SCAN" button or click scan key to start scanning, the parameter "Auto interval" can be adjusted.



 Caution: Please scan codes in correct way otherwise the scanning will be failed.

1D barcode:



Correct



Incorrect

2D code:



Correct



Incorrect



黄色磨砂片 字符丝印黑色

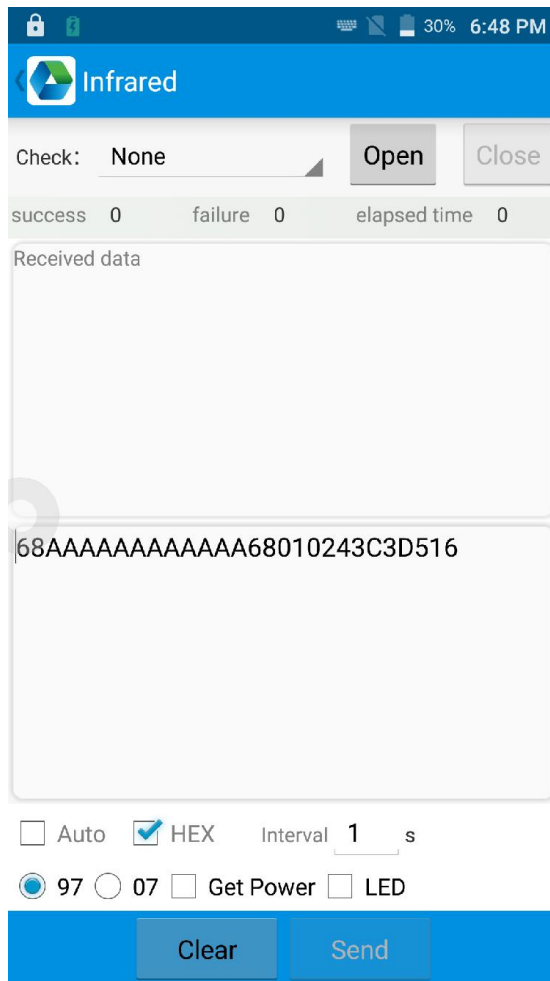
Max. radiant power: 0.6mW

Wave length: 655nm

IEC 62471 (ed.1).

Chapter 5 Infrared read-write function

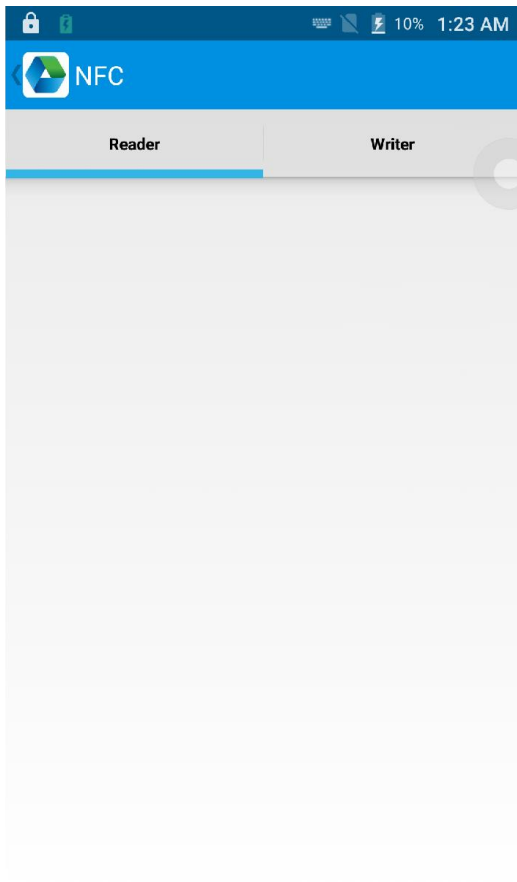
1. Open infrared function in App Center.
2. Click button “Open” to start infrared scanning function. Click “LED” for infrared scanning aim assist. Depending on different application status to compile different commands to realize infrared read and write function.



Chapter 6 RFID reader

6.1 NFC

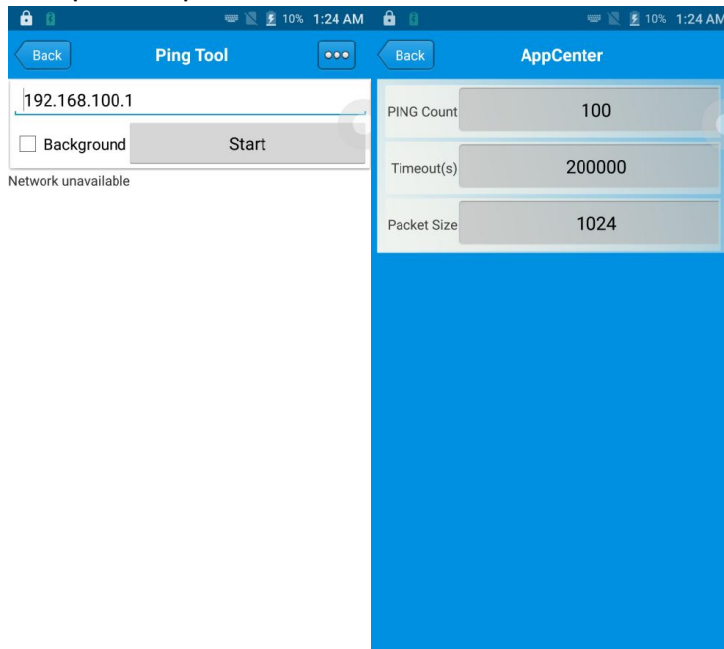
Click App Center, open “NFC” to read and write tag information.



Chapter 7 Other functions

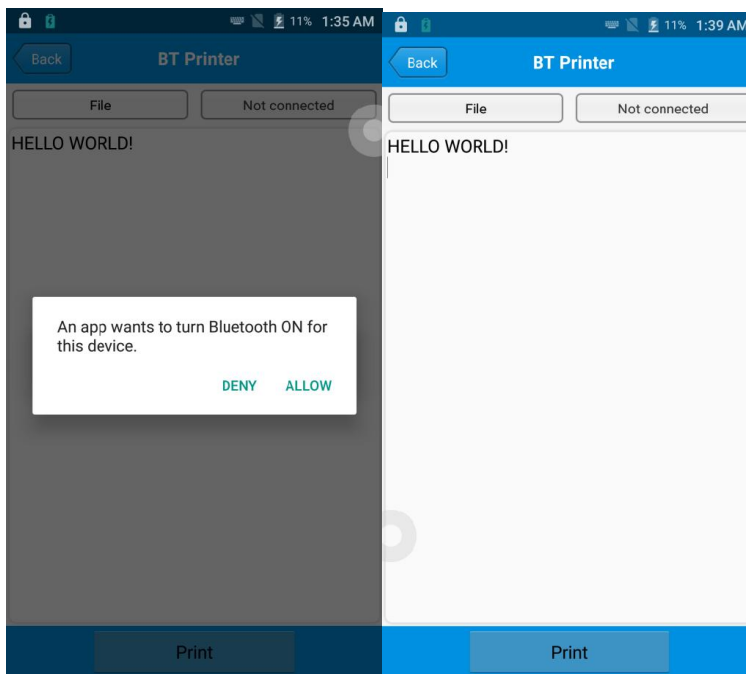
7.1 PING tool

1. Open "PING" in App Center.
2. Setup PING parameter and select external/internal address.



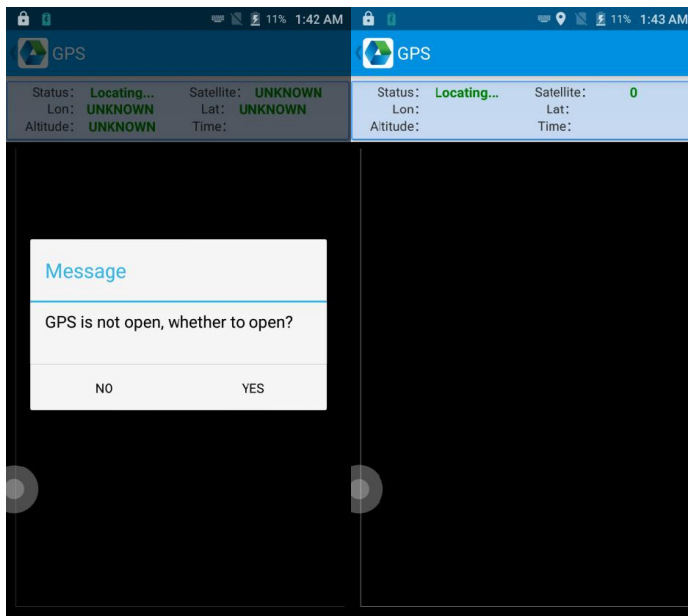
7.2 Bluetooth

1. Open “BT Printer” in App Center.
2. In the list of detected devices, click the device that you want to pair.
3. Select printer and click “Print” to start printing contents.



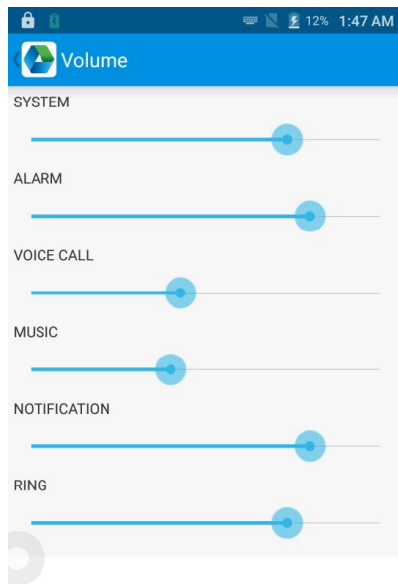
7.3 GPS

1. Click “GPS” in App Center to open GPS test.
2. Setup GPS parameters to access GPS information.



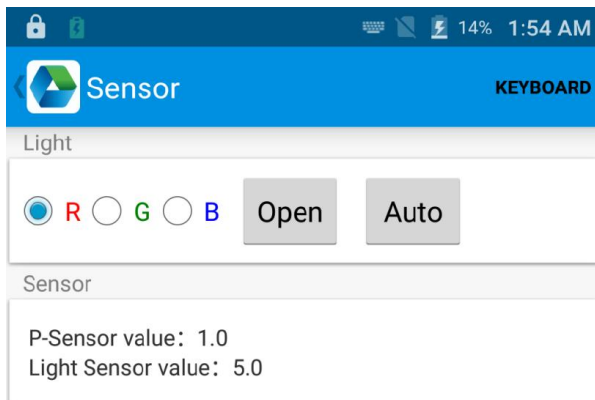
7.4 Volume setup

1. Click “Volume” in App Center.
2. Setup volume by requirements.



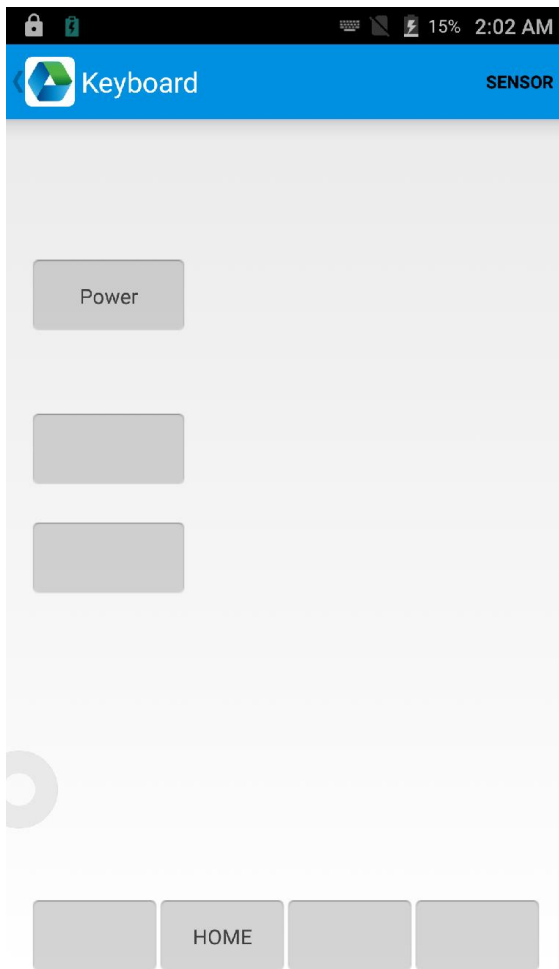
7.5 Sensor

1. Click “Sensor” in App Center.
2. Setup the sensor by requirements.



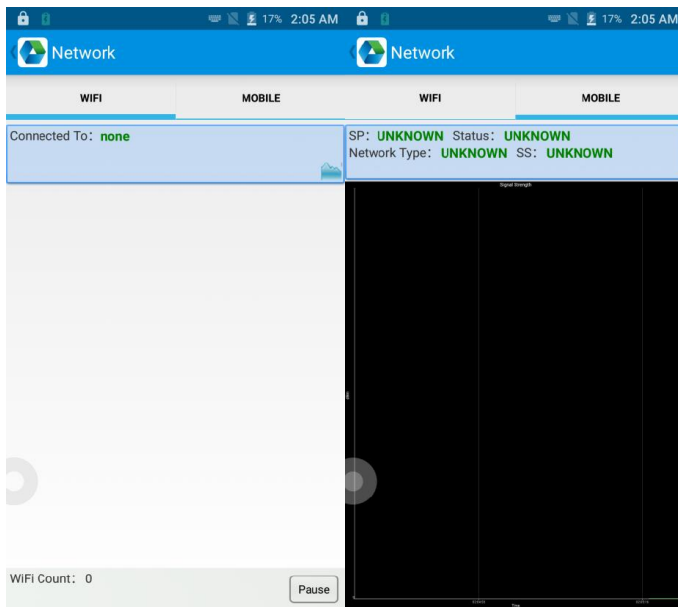
7.6 Keyboard

1. Click “Keyboard” in App Center.
2. Setup and test the main value of the device.



7.7 Network

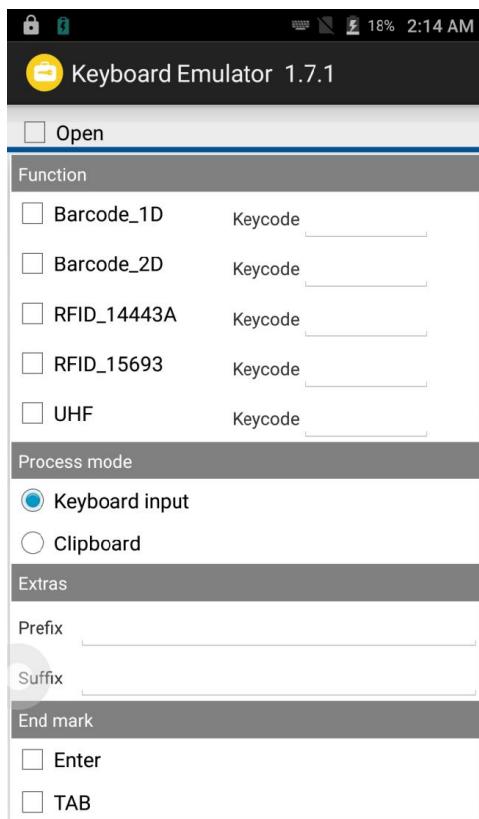
1. Click “Network” in App Center.
2. Test WIFI/Mobile signal by requirements.



7.8 Keyboard emulator

The keyboard emulator can be used in multiple operating background and output formats directly. And it includes Prefix/Suffix/Enter/TAB.

Please check Keyboard emulator manual for more details.



The screenshot shows the 'Keyboard Emulator 1.7.1' application interface. At the top, there is a status bar with a lock icon, signal strength, Wi-Fi, battery level at 18%, and the time 2:14 AM. Below the status bar is the app title bar with a yellow icon and the text 'Keyboard Emulator 1.7.1'. The main interface is divided into several sections:

- Open:** A checkbox labeled 'Open'.
- Function:** A section with a grey header containing five items, each with a checkbox and a 'Keypcode' label followed by a text input field:
 - Barcode_1D Keypcode _____
 - Barcode_2D Keypcode _____
 - RFID_14443A Keypcode _____
 - RFID_15693 Keypcode _____
 - UHF Keypcode _____
- Process mode:** A section with a grey header containing two radio button options:
 - Keyboard input
 - Clipboard
- Extras:** A section with a grey header containing two text input fields:
 - Prefix _____
 - Suffix _____
- End mark:** A section with a grey header containing two checkbox options:
 - Enter
 - TAB

Chapter 8 Device characteristic

Physical characteristics

Size	164.2mm*78.8mm*17mm
Weight	<260g(battery included)
Display	5.2 inch, IPS FHD 1920*1080P
Touch panel	4 main keyboards, 1 power button, 2 scan buttons, 1 multi-function button
Battery	Li-ion, rechargeable, 5000mAh
Expansion	Supports up to 32 GB Micro SD card
Expansion Slot	1 slot for SIM card, 1 slot for SIM or TF card
Audio	speaker, 2 microphones, voice call
Camera	13MP autofocus camera with flashlight

Performance

CPU	Cortex-A53 1.3GHz Quadcore
OS	Andriod 6.0
RAM	2GB RAM
Communication Interface	USB2.0,Type-C,OTG
ROM	16GB
Max.expansion	Supports up to 32 GB Micro SD card

User environment

Operating temp.	-20°C to 45°C
Storage Temp.	-20°C to 70°C
Humidity	5%RH - 95%RH non condensing
Sealing	IP65, IEC sealing standard
Drop specification	Multiple 1.8m/4.0ft drops to the concrete

Communication

WAN	EU: 2G: 850/900/1800/1900MHz, max. power 33.69dBm 3G: 850/900/1900/2100 MHz, max. power 23.52dBm 4G: B1/B3 /B5/B7/B8/B20/B40, max. powe 23.359dBm US: 2G: 850/900/1800/1900MHz, 3G: 850/900/1700/1900MHz, 4G: B2, B4, B7, B12, B17.
WLAN	IEEE802.11a/b/g/n, embedded antenna, 5 Gigabit WIFI(hotspot is not supported.)
WPAN	Bluetooth 4.0 single mode

批注 [Leo1]: 功率需确认

Data collection

Barcode scanning	2D CMOS scanning engine (Honeywell N6603/ Zebra SE4710)
RFID	NFC 13.56MHz

Developing Environment

SDK	Chainway software develop kit
Language	Java
Develop	Eclipse/Android Studio

Appendix

Federal Communications Commission (FCC) Interference Statement

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 generate, 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 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.

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

The SAR limit adopted by USA is 1.6 watts/kilogram (W/kg) averaged over one gram of tissue. The highest SAR value reported to the Federal Communications Commission (FCC) for this device type when it use at the ear is 0.142 W/kg and when properly worn on the body is 0.787 W/kg.

RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.