

Shenzhen Chainway Information Technology Co., Ltd.

# Mobile Data Terminal

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## C71 User Manual



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# Statement

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# Chapter 1 Product Intro

## 1.1 Intro

Chainway C71 with abundant functions is an Android rugged mobile computer. With its powerful processor, stable wireless connections and comprehensive data capture options, you can find this easy-to-deploy device a valuable helper to increase productivity in logistics, warehousing, retail, identity verification, meter reading, IC card reading and etc.

## 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 NA010050020, 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 USB Interface 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 50°C.

**Note:**

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



# Chapter 2 Installation instructions

## 2.1 Appearance

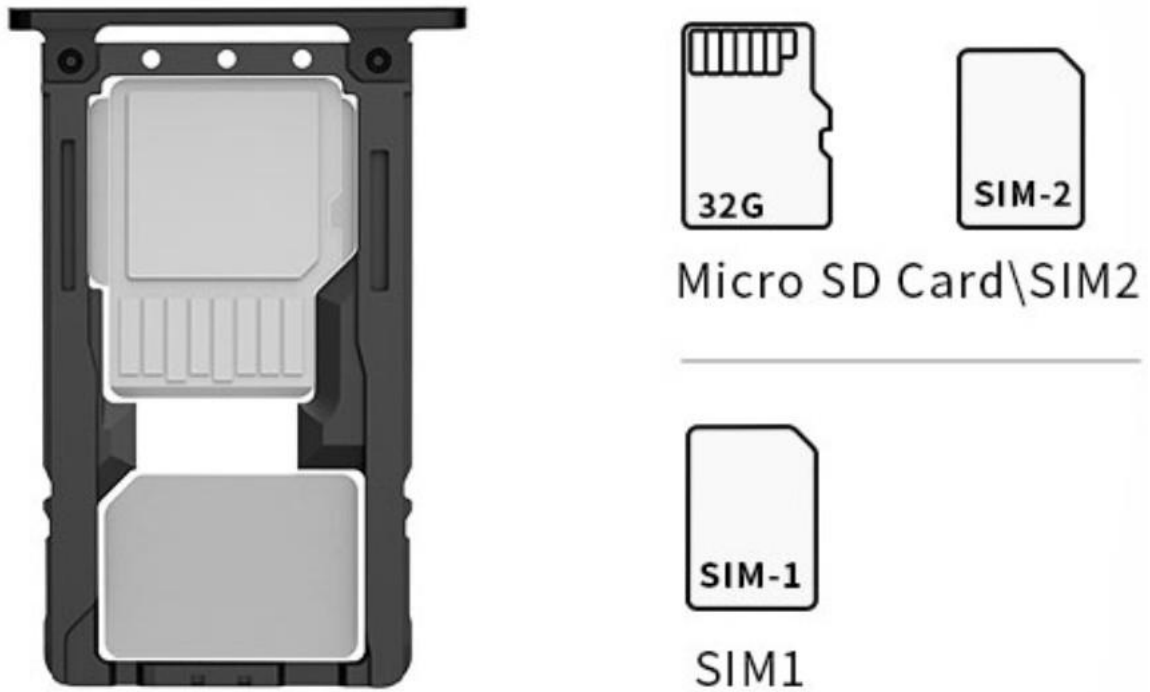


## Buttons instruction

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**



C71 has 4 side buttons and 4 main buttons, NFC identification area 2D scanning module 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

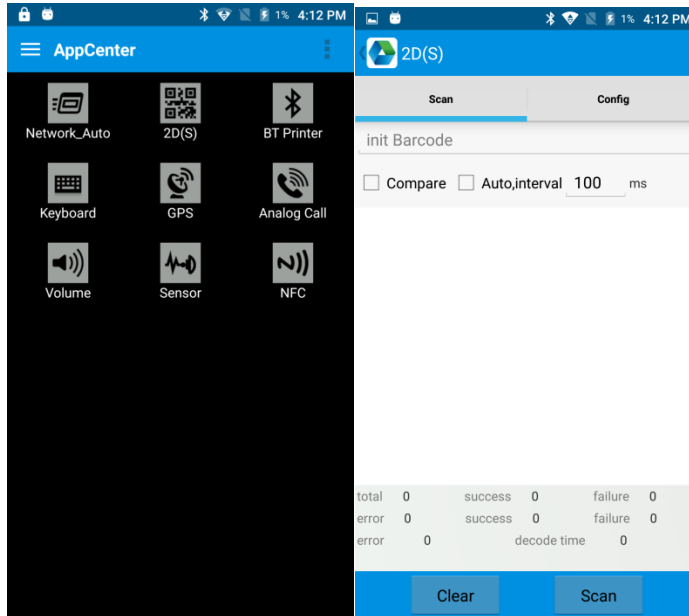
1. Click contacts to open contacts list.
2. Click icon  to add new contacts.
3. Click icon  to import/export contacts.


## 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:



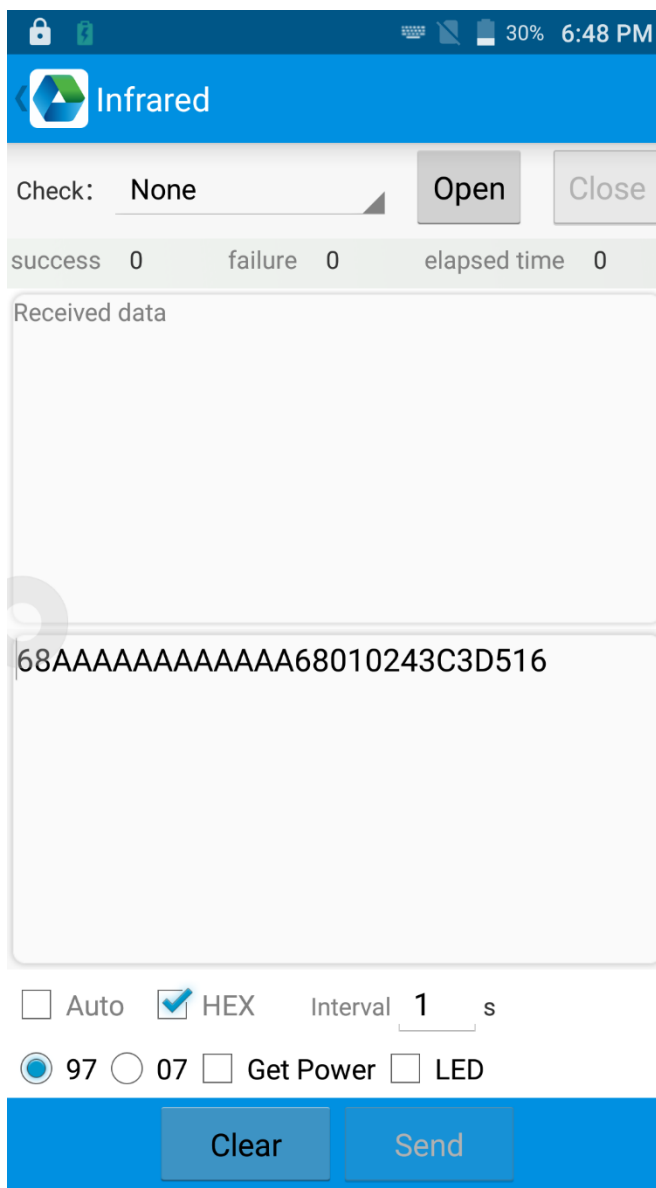
Correct



Incorrect

# Chapter 5 Infrared read-write function (Optional)

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.

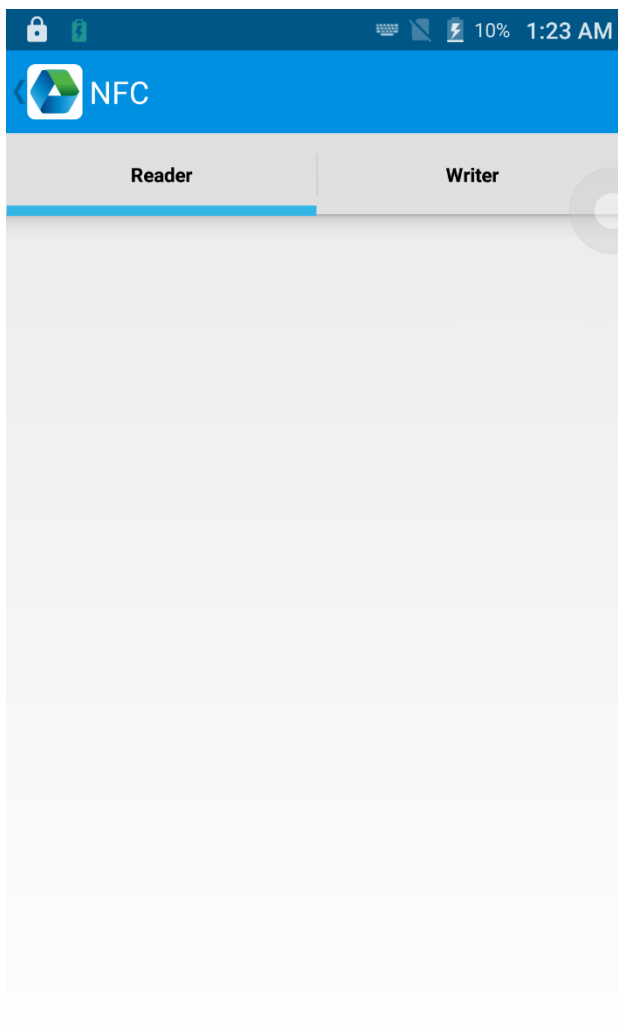




# Chapter 6 RFID reader

## 6.1 NFC

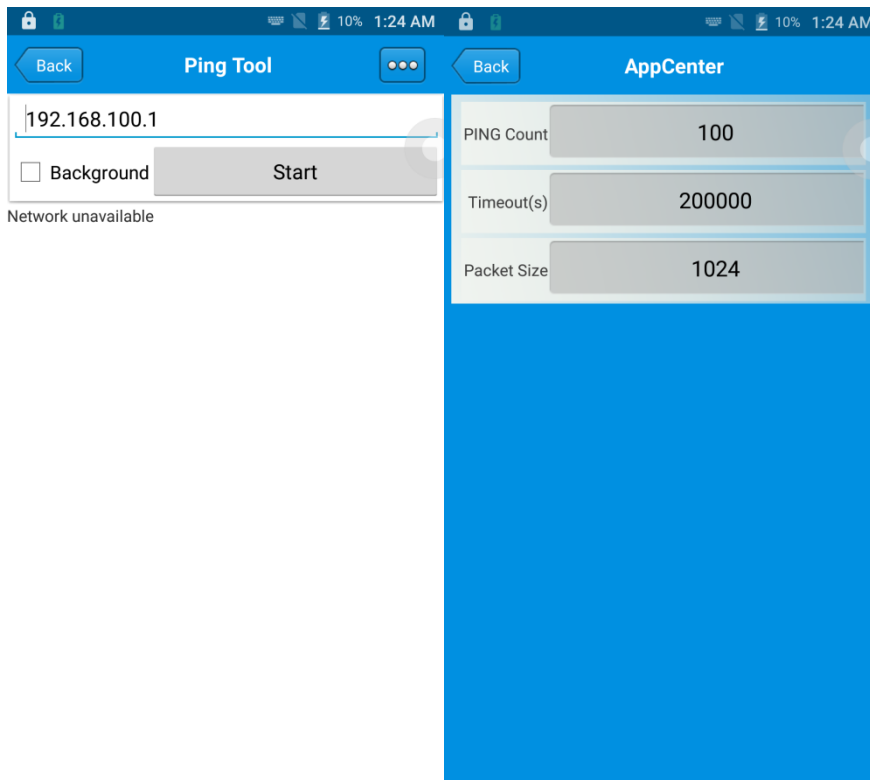
Click App Center, open “NFC” to read and write tag information.



# Chapter 7 Other functions

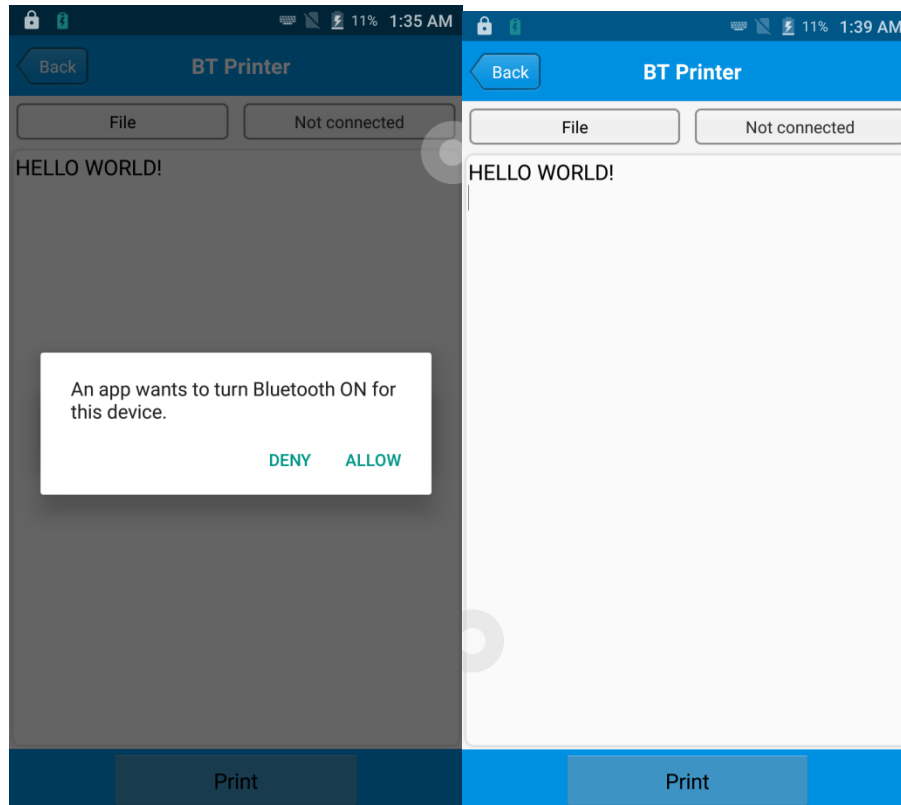
## 7.1 PING tool

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



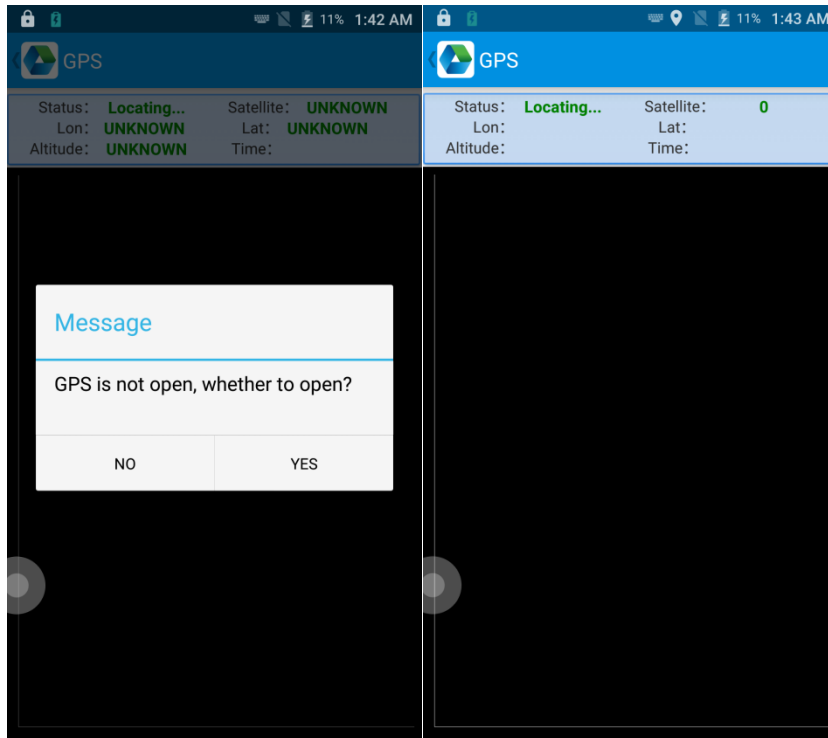
## 7.2 Bluetooth

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.



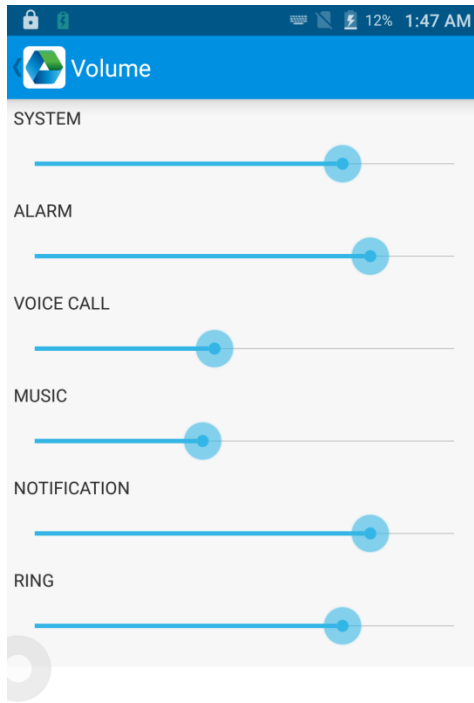
## 7.3 GPS

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



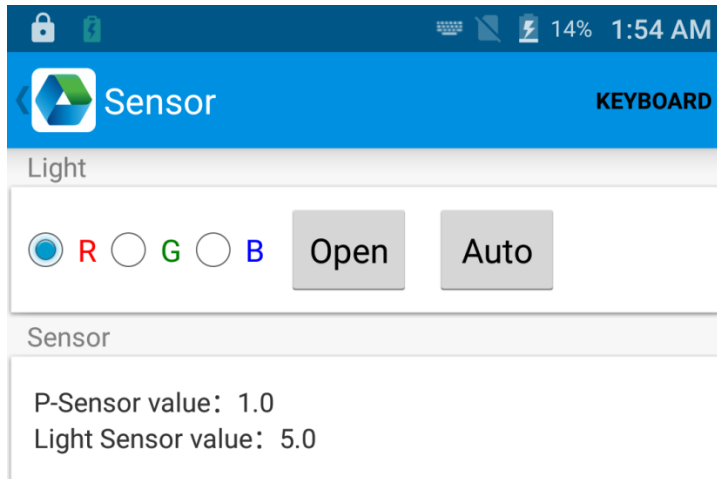
## 7.4 Volume setup

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



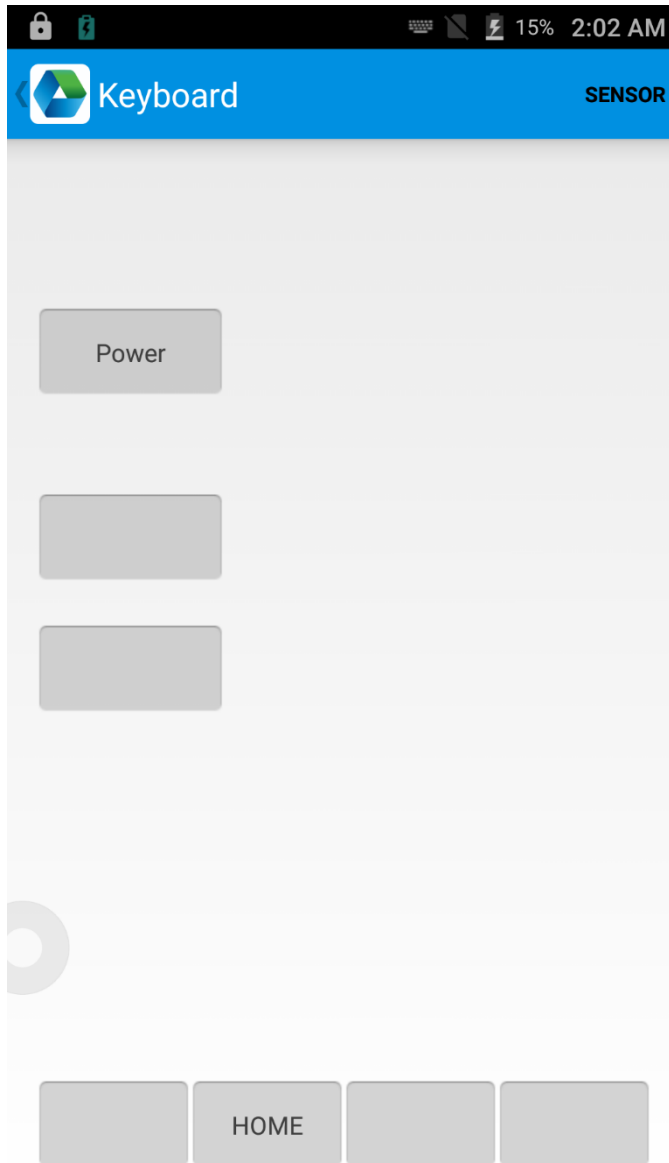
## 7.5 Sensor

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



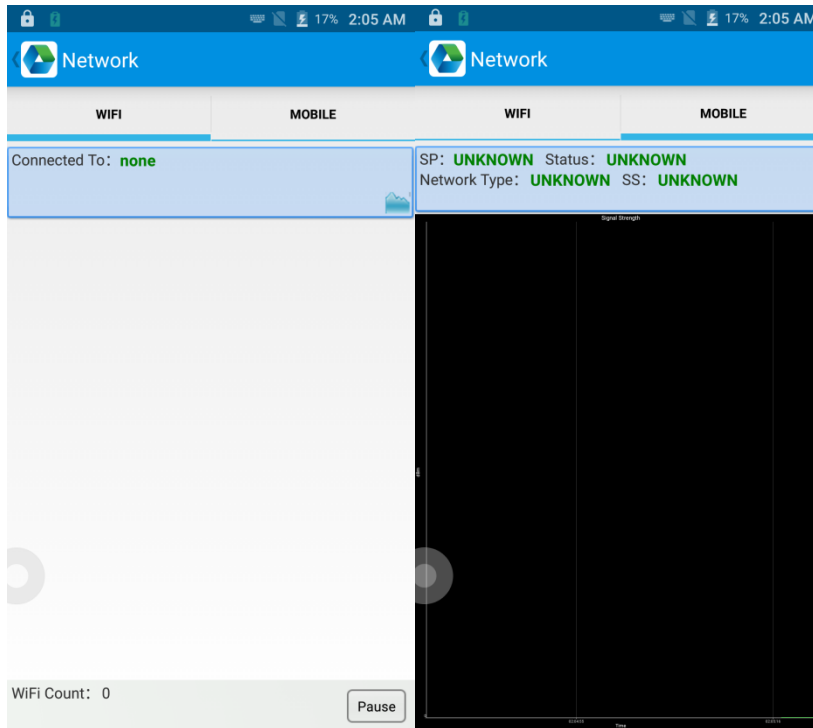
## 7.6 Keyboard

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.





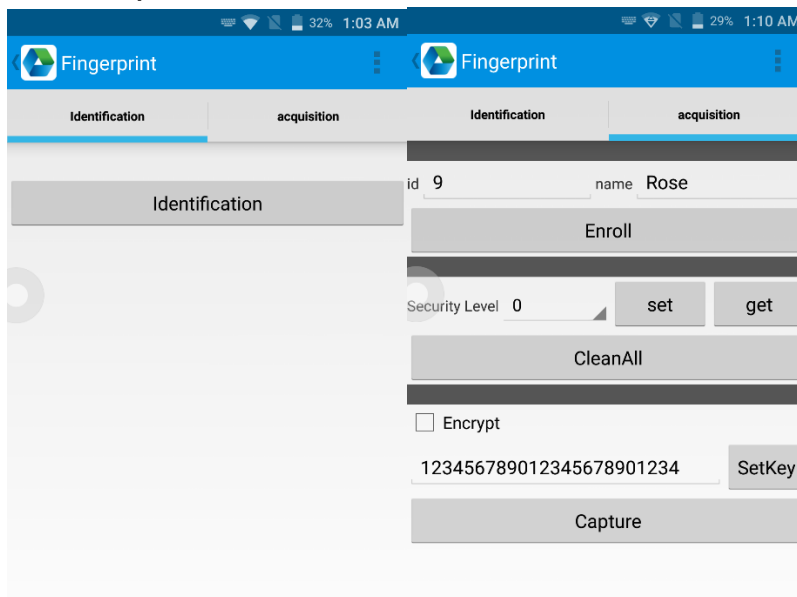
## 7.8 Keyboard emulator

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.**

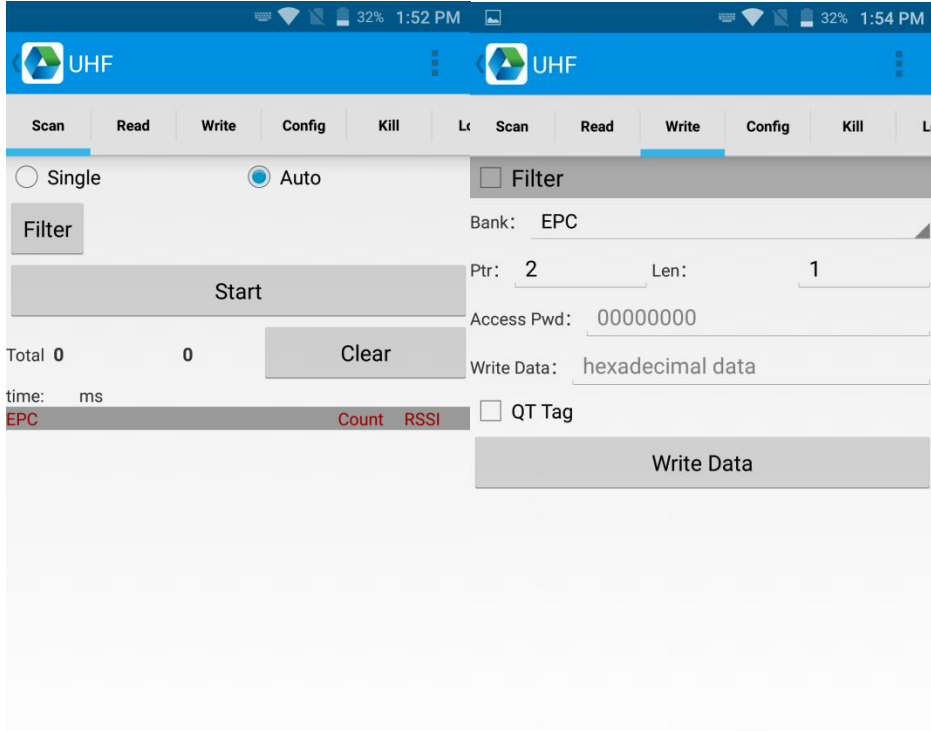
## 7.9 Fingerprint Module

1. Click “Fingerprint(morpho)” in Appcenter.
2. Click “acquisition” after module has initiated successfully and click “CleanAll”.
3. Select “Security Level” to 0 and click “set” and “get”.
4. Click “Enroll” and put your finger on captor and follow the tips to start capture fingerprint.
5. After capture succeeded, click “Identification” to identify.



## 7.10 Internal UHF

Click App Center, open “UHF” to scan, read and write tag information, also kill and lock tags.



UHF 32% 1:54 PM UHF 32% 1:54 PM

an Read Write Config Kill Lock an Read Write Config Kill Lock

Use EPC  Filter

EPC: \_\_\_\_\_ Access Pwd: Can't use the default password

Access Pwd: Can't use the default password Lock Code: \_\_\_\_\_

Kill Lock

Tips: After permanent lock, unable to unlock;After permanent unlock, not locked

# Chapter 8 Device characteristic

## Physical characteristics

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

## Performance

<b>CPU</b>	2.3 GHz Octa-core
<b>OS</b>	Android 11
<b>RAM</b>	3 GB
<b>Communication Interface</b>	USB2.0, Type-C, OTG
<b>ROM</b>	32GB
<b>Max.expansion</b>	Supports up to 128 GB Micro SD card

## User environment

<b>Operating temp.</b>	-20°C to 50°C
<b>Charging Temp</b>	-20 to 40°C
<b>Storage Temp.</b>	-20°C to 70°C
<b>Humidity</b>	5%RH - 95%RH non condensing
<b>Sealing</b>	IP67, IEC sealing standard
<b>Drop specification</b>	Multiple 1.8 m / 5.91 ft. drops (at least 20 times) to the concrete across the operating temperature range

## Communication

<b>WWAN</b>	2G: GSM850/GSM900/DCS1800/PCS1900 3G: WCDMA: B1/B2/B4/B5/B8 CDMA2000 EVDO: BC0 TD-SCDMA: A/F 4G: B1/B2/B3/B4/B5/B7/B8/B12/B17/B20/B28A/B28B/B38/B39/B40/B41
<b>WLAN</b>	IEEE802.11 a/b/g/n/ac, 2.4G/5G dual-band, internal antenna
<b>Bluetooth</b>	Bluetooth 5.0, BR+EDR+LE, Supports 1M and 2M

## Data collection


<b>Barcode scanning</b>	Zebra: SE4710
<b>RFID</b>	NFC 13.56Mhz

## Developing Environment

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

# Appendix

## 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(NI)

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

## **Simplified EU declaration of conformity**

Hereby, Shenzhen Chainway Information Technology Co., Ltd. declares that the radio equipment type C71 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.chainway.net](http://www.chainway.net)



## **SAR Information**

The SAR limit of Europe is 2.0 W/kg. Device types C71 has also been tested against this SAR limit. The maximum SAR value was 0.2 W/kg for the head, 1.344 W/kg for the body, 2.919 W/kg for the limbs. 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.

For CE:

Frequency bands and power

	Bands	Operation Frequency	Max.Power
GSM	900	880-915MHz	33.5 dBm
	1800	1710-1785MHz	31.5 dBm
WCDMA	1	1920-1980MHz	21.5 dBm
	8	880-915MHz	24 dBm
LTE	1	1920-1980MHz	21 dBm
	3	1710-1785MHz	25 dBm
	7	2500-2570MHz	21 dBm
	8	880-915MHz	24.5 dBm
	20	832-862MHz	24.5 dBm
	28	703-748MHz	24.5 dBm
	38	2570-	25 dBm

		2620MHz	
	40	2300-2400MHz	21 dBm
Bluetooth	2.4GHz	2402-2480 MHz	EIRP 9.60 dBm
Wi-Fi	2.4GHz	2412-2472MHz	EIRP 17.96 dBm
	5GHz	5180-5240MHz	EIRP 15.42 dBm
		5260-5320MHz	EIRP 13.31 dBm
		5500-5700MHz	EIRP 17.35 dBm
		5745-5825MHz	EIRP 13.79 dBm
RFID		865.7-867.5MHz	ERP 19.787 dBm
GNSS		1559-1610MHz	-
NFC		13.56MHz	-16.07 dB $\mu$ A/m at 10m

**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.

The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types C71(FCC ID: 2AC6AC71P) has also been tested against this SAR limit.

The exposure standard for wireless mobile hotspots employs a unit of measurement known as

the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. Tests for SAR are

conducted using standard operating (10 mm) positions accepted by the FCC with the mobile

hotspot transmitting at its highest certified power level in all tested frequency bands. The SAR

guideline includes a considerable safety margin designed to assure the safety of all persons

regardless of age and health.

The FCC has granted an Equipment Authorization for this model mobile hotspot with all reported

SAR levels evaluated as in compliance with the FCC RF exposure guidelines.

The device for operation in the band 5150 – 5350 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

**IC statements:**

This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

this device may not cause interference, and

this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS exemptes de licence standard(s).

Son fonctionnement est soumis aux deux conditions suivantes:

(1) cet appareil ne peut pas provoquer d'interférences, et

(2) cet appareil doit accepter toute interférence, y compris celles pouvant causer un mauvais fonctionnement de l'appareil.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

This device has been tested for compliance with IC SAR values at a typical operating near the body. To ensure that RF exposure levels below the levels tested, use accessories with this equipment to maintain a minimum separation distance of 10 mm between the body of the user and the device. These accessories should not contain metallic components. It is possible that the accessories used close to the body that do not meet these requirements are not consistent with the SAR limits and it is advisable to avoid using them.

Ce dispositif a été testé pour la conformité avec les valeurs SAR à un fonctionnement typique près du corps . Pour assurer que les niveaux d'exposition aux radiofréquences en deçà des niveaux testés , utiliser des accessoires avec cet équipement pour maintenir

une distance de séparation minimale de 10 mm entre le corps de l'utilisateur et l'appareil. Ces accessoires ne doivent pas contenir des composants métalliques. Il est possible que les accessoires utilisés près du corps qui ne répondent pas à ces exigences ne sont pas compatibles avec les limites SAR et il est conseillé d'éviter de les utiliser.

The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

5150 à 5250 MHz Pour usage intérieur seulement.