ShenZhen Chainway Information Technology Co., Ltd

Mobile Data Terminal

MC51 User Manual

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Chapter 1 Product intro

1.1 Intro

Chainway MC51 is our latest high-performance 5G handheld computer, designed to empower frontline workers with cutting-edge technology. Its powerful processor ensures fast application performance and seamless data processing. The expansive 6-inch HD display delivers crystal-clear visibility for every task, while advanced 5G and Wi-Fi 6E enable fast, reliable data transmission. Built for long-term stability, the MC51 comes with over five years of guaranteed device supply and technical support, making it the ultimate mobile office solution.

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 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℃ to 50℃.

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

Standard version:

UHF versions: (Optional ones):

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

The device is divided into five side buttons on the button. There is a two-dimensional scanning head on the top of the body, a high-definition camera and a flash light on the rear of the body, and an NFC recognition area is below the camera.

Button		Details
Side-buttons	1. Power	Right-side of device,power ON/OFF.
	2.SCAN	Both sides of device,scan function.
	3.VOLUME	Volume +/-
	4.Multi-function	Self-define

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.

3.3 5G Function

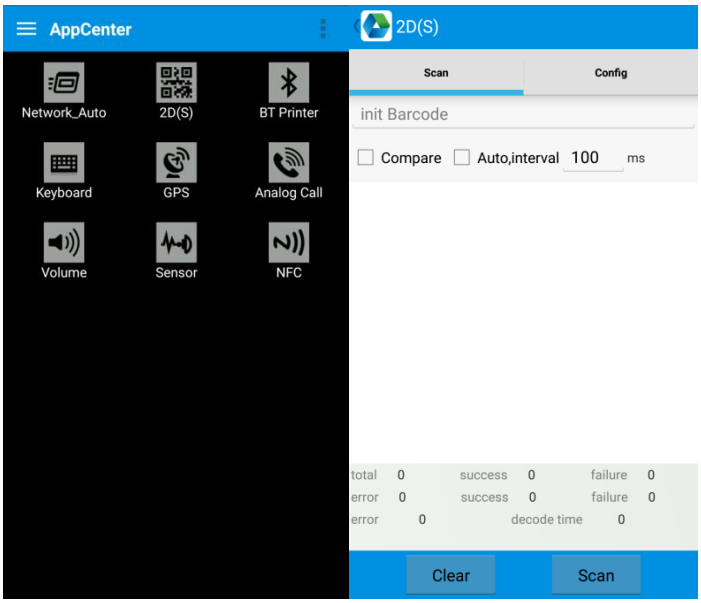
1. Open Settings
2. Select Network and Internet
3. Select SIM card
4. Enable 5G

3.4 SMS and MMS

1. Click  to open message window.
2. Click  to input message receiver and contents.
3. Click  to send out messages.

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.

2D code:

Correct

Incorrect

Max. radiant power: 0.6mW

Wave length: 655nM

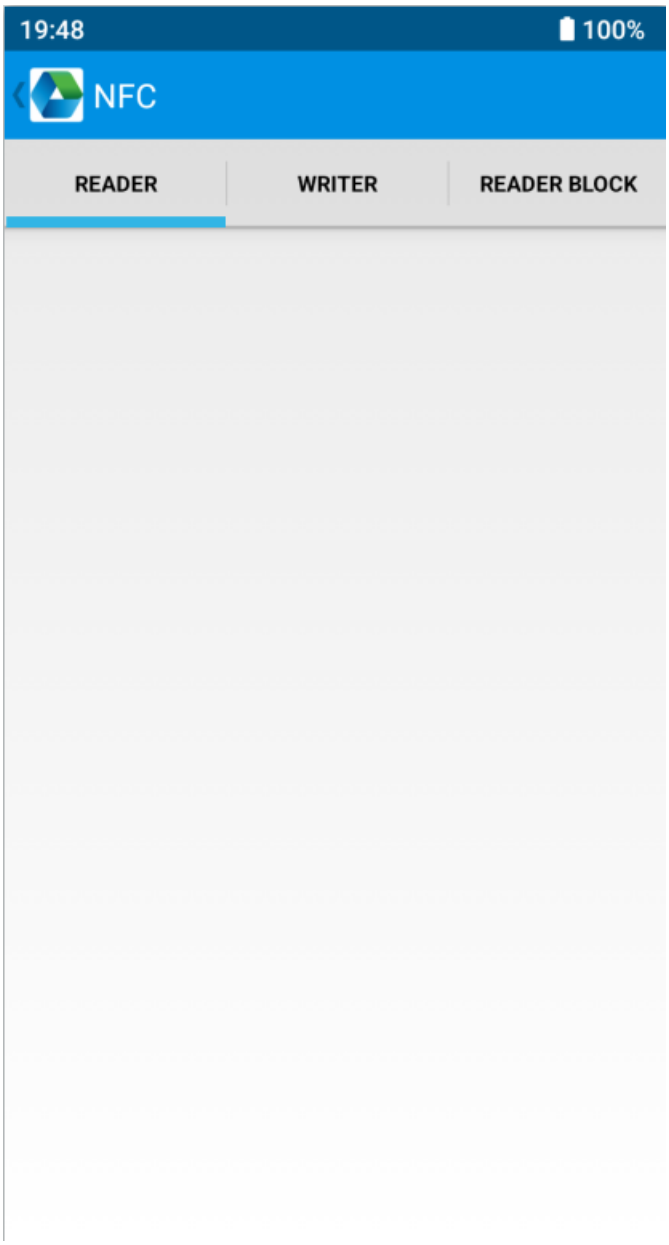
IEC 60825-1 (Ed.2.0).

21CFR 1040.10 and 1040.11 standard.

Chapter 5 RFID reader

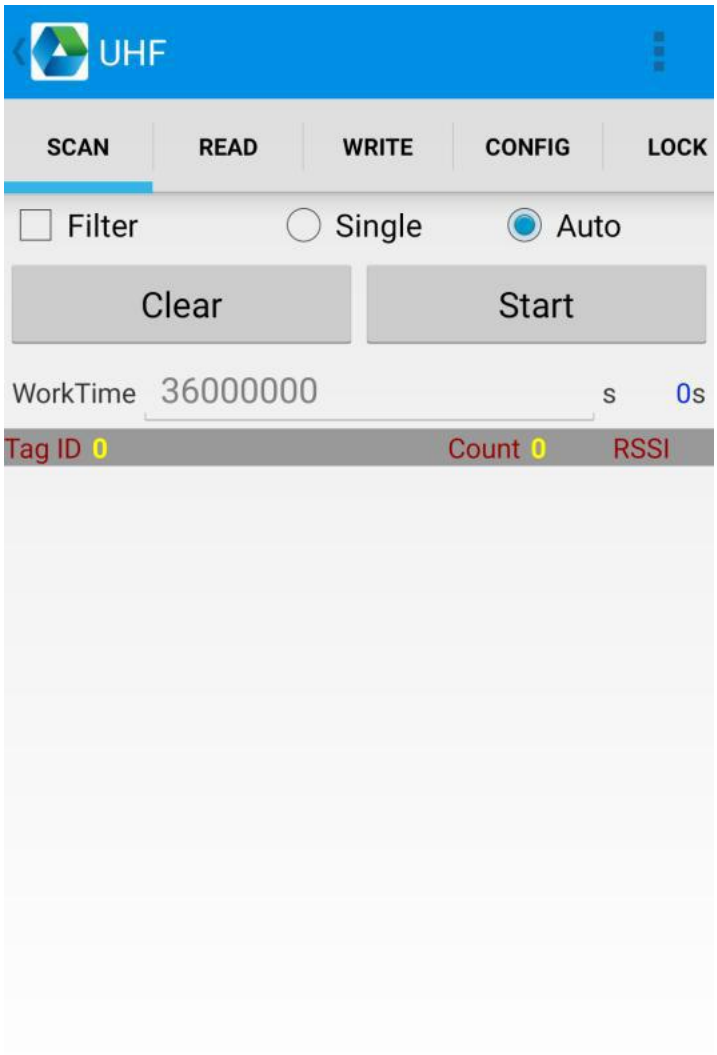
5.1 NFC

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



5.2 UHF (Optional)

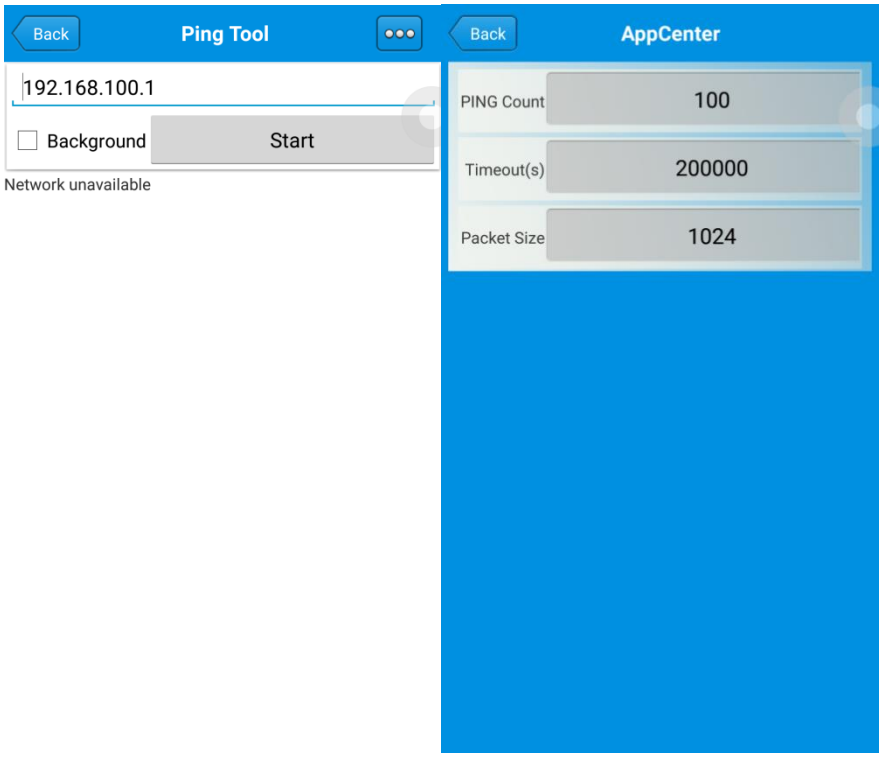
Click App Center, open “UHF” to read and write tag information.



Chapter 6 Other functions

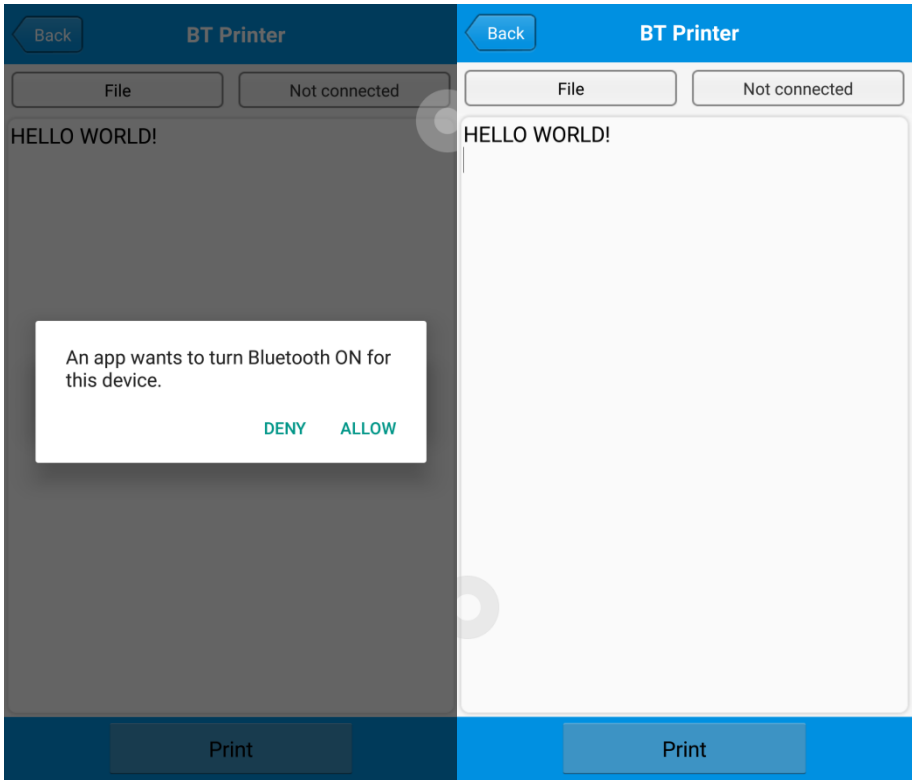
6.1 PING tool

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


Back
Ping Tool
192.168.100.1
Background
Start
Network unavailable
Back
AppCenter
PING Count
100
Timeout(s)
200000
Packet Size
1024

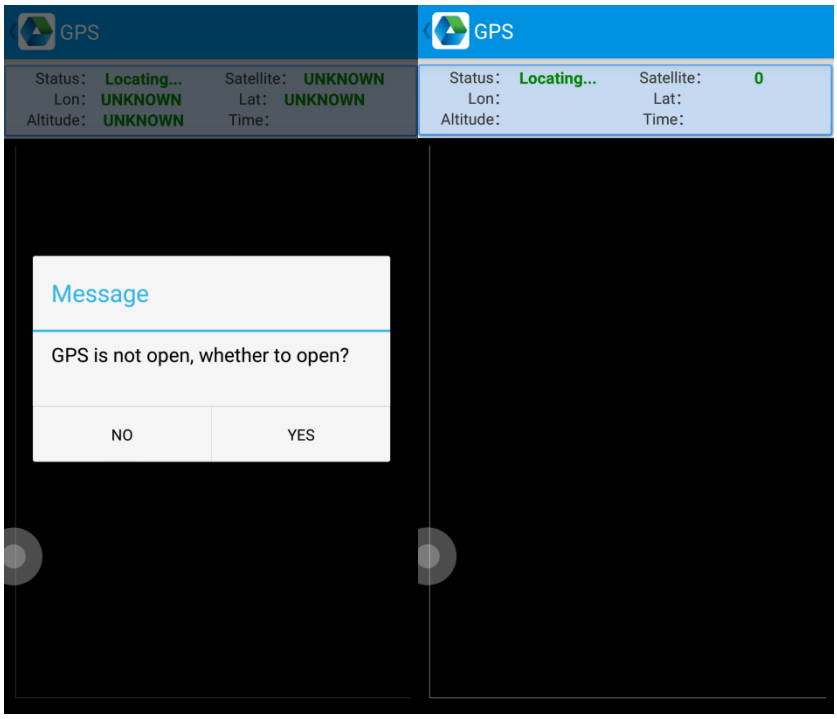
6.2 Bluetooth

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.



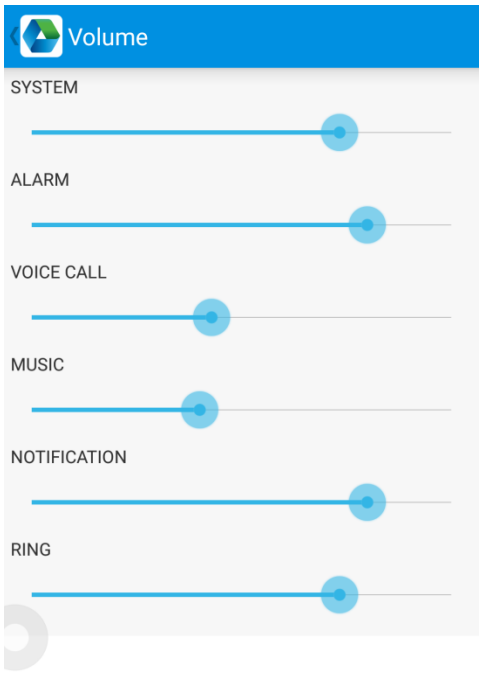
6.3 GPS

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



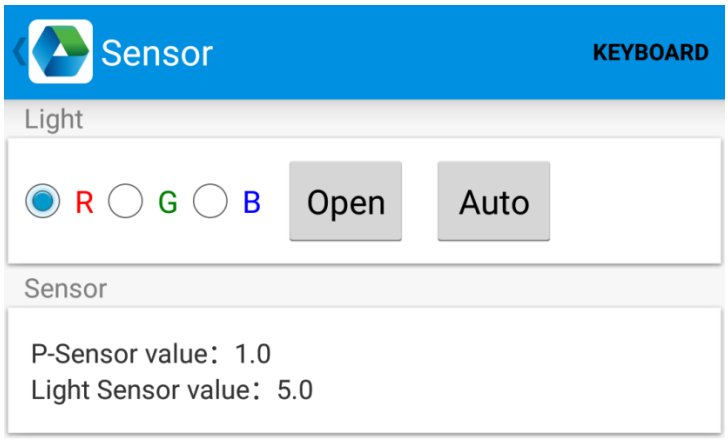
6.4 Volume setup

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



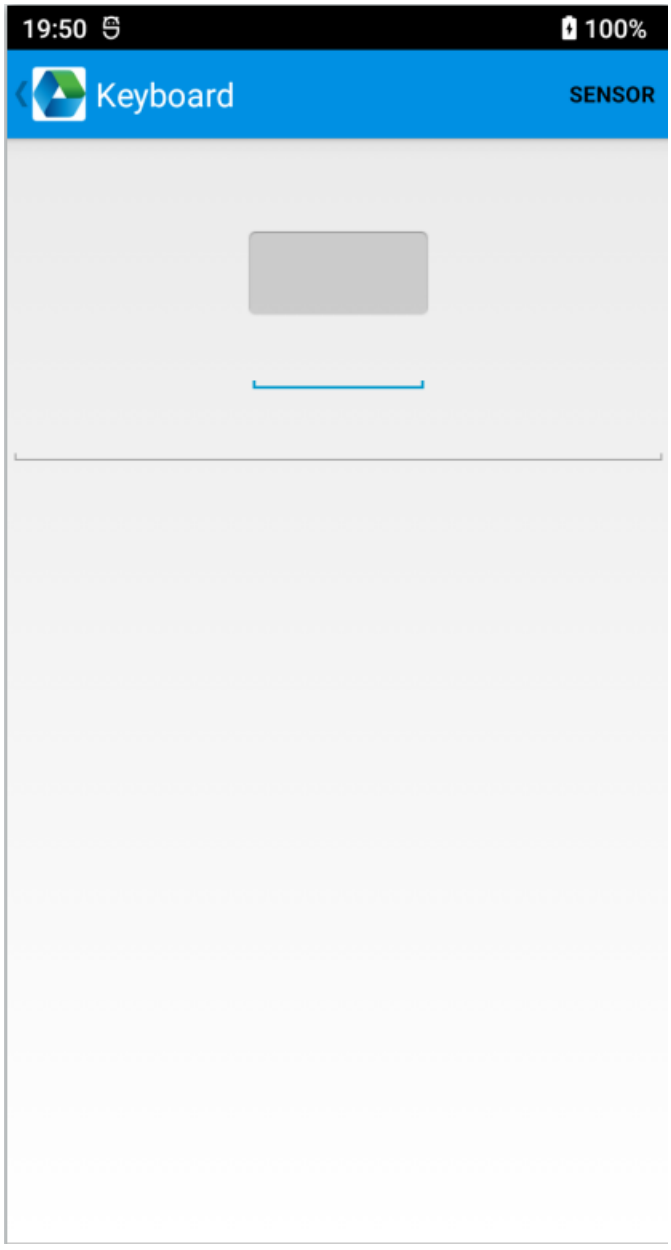
6.5 Sensor

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



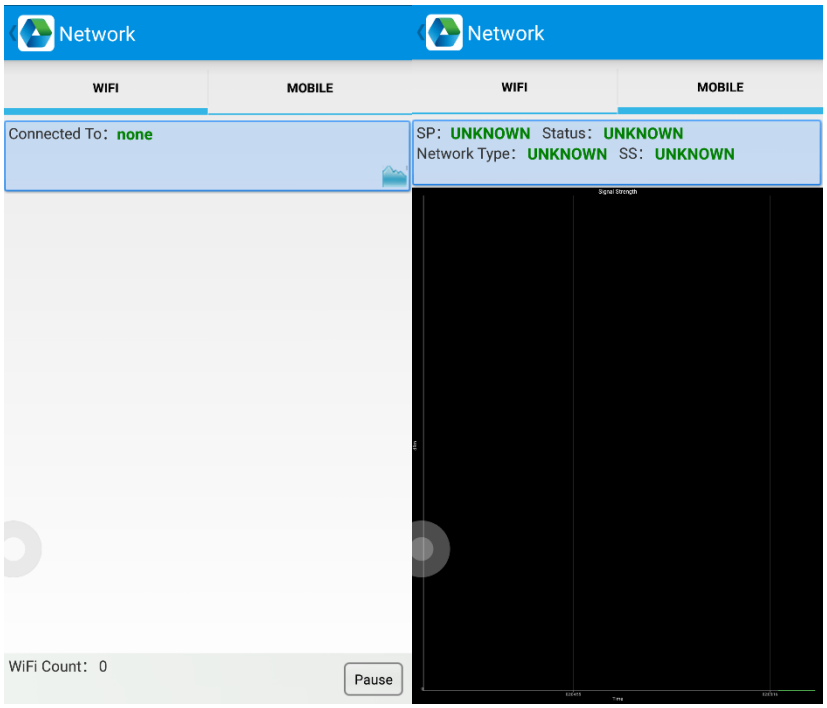
6.6 Keyboard

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



6.8 Network

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



6.8 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.

Note: For each model, keycode of side button would be different, user needs to use keyboard in appcenter to check keycode and bind in Barcode2D.


19:52
100%
keyboardemulator v7.4.0.6
Function
AppSettings
2DSettings
Test
Enable Scanner
ON
Barcode
KeyCode
Barcode2D
291
293
294
296
UHF
KeyCode
UHF
291
294

Chapter 7 Device characteristic

Physical characteristics

Size	161.0 x 77.8 x 15.5mm / 6.34 x 3.06 x 0.61in.
Weight	297g / 10.48oz. (device with battery)
Keypad	Power key, 2 scan keys, volume (+/-) keys
Display	6-inch high definition display (18:9), 1440 x 720
Touch panel	Corning Gorilla Glass, multi-touch panel, gloves and wet hands supported
Sensor	2 microphones, 1 for noise cancellation; 1 speaker; 1 receiver,G_sensor, proximity sensor, light sensor, geomagnetic sensor, gyroscope
Battery	5000mAh removable main battery, support QC3.0 and RTC
Notification	Sound, LED indicator, vibrator
Expansion Slot	1 for SIM card, 1 for SIM or TF card
Interfaces	USB Type-C, USB 3.1, OTG

Performance

CPU	Qualcomm Snapdragon™ 480 Octa-core, 2.0GHz
OS	Android 12
RAM	4GB
Communication Interface	USB3.1,Type-C,OTG
ROM	64GB
Max. expansion	Supports up to 256 GB Micro SD card

User environment

Operating temp.	-20℃ to 50℃
Storage Temp.	-40℃ to 70℃
Humidity	5%RH - 95%RH non condensing
Sealing	IP65, IEC sealing standard
Drop specification	Multiple 1.5m / 4.92ft. drops (at least 28 times) to the concrete across the operating temperature range
Tumble Specification	1000 x 0.5m / 1.64ft. falls at room temperature
Sealing	IP67 per IEC sealing specifications
ESD	±15 KV air discharge, ±8 KV conductive discharge

Communication

WAN	2G: 850/900/1800/1900 MHz 3G: 850/900/1900/2100MHz 4G:B1/B2/B3/B5/B7/B8/B20/B28A/B28B/B34/B38/B39/B40/ B41 5G: N1/N3/N8/N28/N41/N78/N79
Vo-LTE	Support Vo-LTE HD video voice call
WLAN	Support 802.11 a/b/g/n/ac/ax-ready, 2.4G/5G dual-band, IPV4, IPV6, 5G PA; Fast roaming: PMKID caching, 802.11r, OKC Operating Channels: 2.4G (channel 1~13), 5G (channel 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 157, 161, 165), Depends on local regulations. Security and Encryption: WEP, WPA/WPA2-PSK(TKIP and AES), WAPI-PSK—EAP-TTLS, EAP-TLS, PEAP-MSCHAPv2, PEAP-LTS,PEAP-GTC, WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3-Personal, etc.

Bluetooth	Bluetooth 5.1

Data collection

Barcode scanning	Zebra: SE4710; Honeywell: N6603
Camera	Rear: 16MP Autofocus with flash Front: 5MP
RFID	NFC 13.56Mhz

Developing Environment

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