SHENZHEN CHAINWAY INFORMATION TECHNOLOGY CO., LTD

C90 User Manual

Statement

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Chapter 1 Brief Instruction

1.1 Brief Instruction

CHAINWAY C90 is our newly-developed rugged handheld computer that exhibits extremely powerful performance. Built with Android™ 10 OS and Qualcomm high-performance processor, it features vigorous system configuration. With rich functionality features like barcode scanning, sturdy WiFi performance, NFC, front and rear cameras, it possesses the best price versus performance ratio. All these make C90 immensely perfect to be implemented in a wide spectrum of industries, including logistics, warehousing, retail, asset tracking etc., and assisting customers to improve operation and management levels significantly.

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 C90 device appearance is as follows.

2.2 Buttons

Button	Function
Power Button	Press and hold to turn the device on or off.
SCAN	2 Scan Buttons (Left&Right)
Volume	Volume +/-

2.3 Micro SD、SIM card Installation

User need to install TF card and SIM card according to the slots of card tray as below. Then insert into slot of SIM/TF.

2.4 Battery Charging

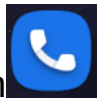
Use the adapter to charge the battery. Don't use other brands of charger for device.

2.5 Device Power on/off

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

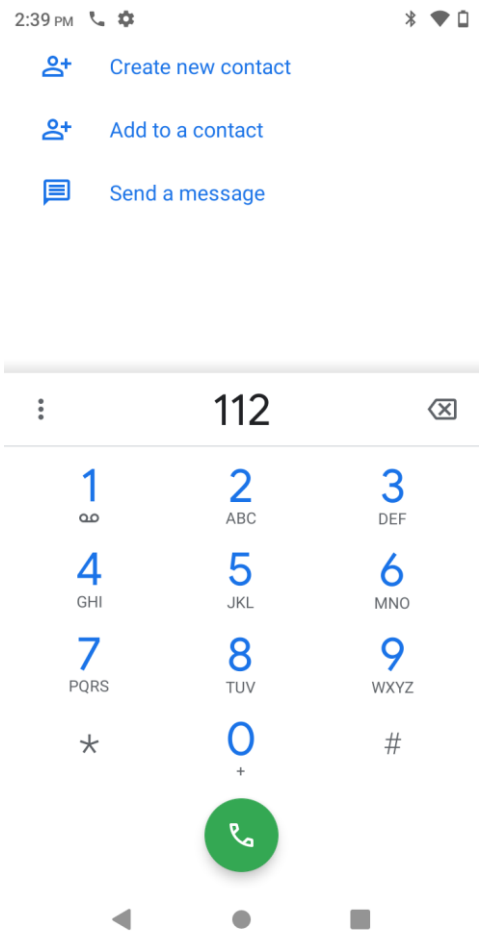
Chapter 3 Call Function

3.1 Phone

Click this icon  .
Click the number button to input the numbers.

Click the button to confirm and dial.

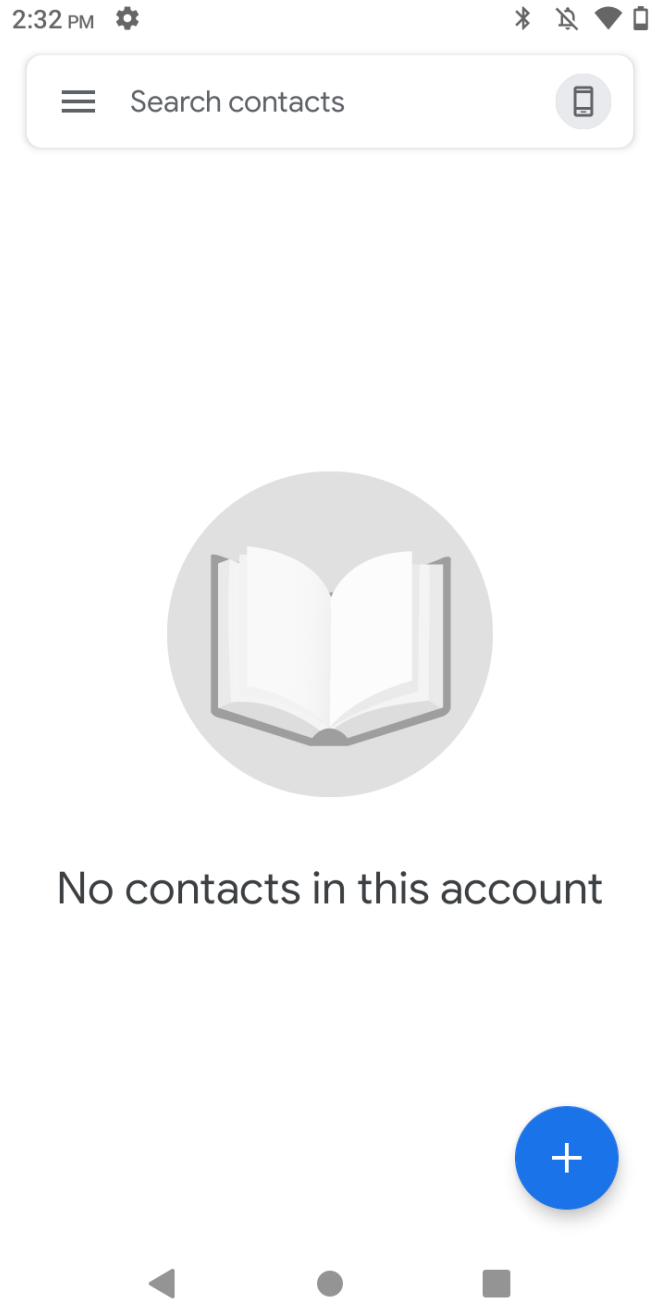
Click the to end the calling.



3.2 Contacts

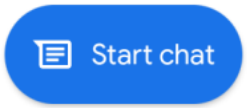
Click ‘Contacts’ to open the contacts list.

Click to add the new contact.



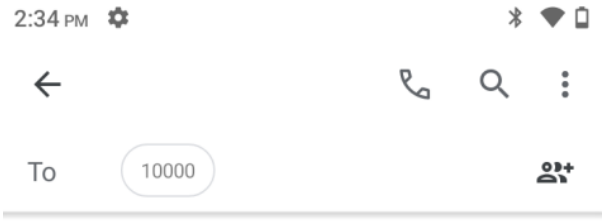
3.3 Messaging

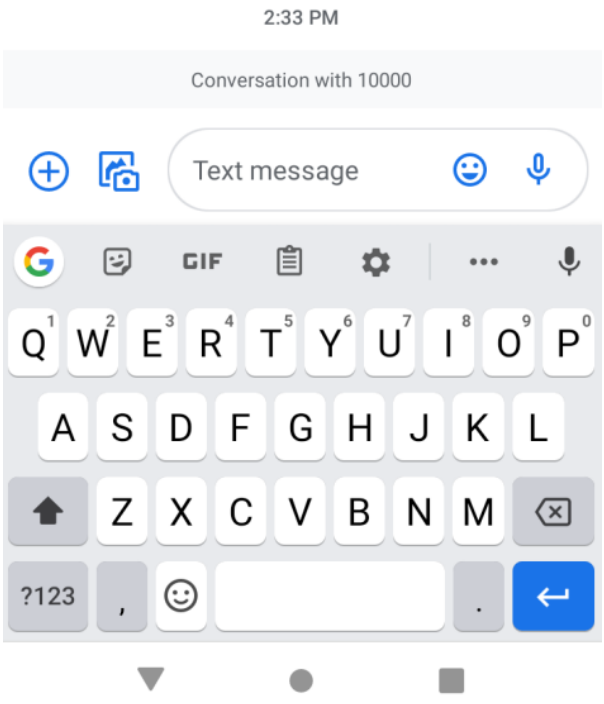
Click to open the message list.

Click 

to type text message to input the content.

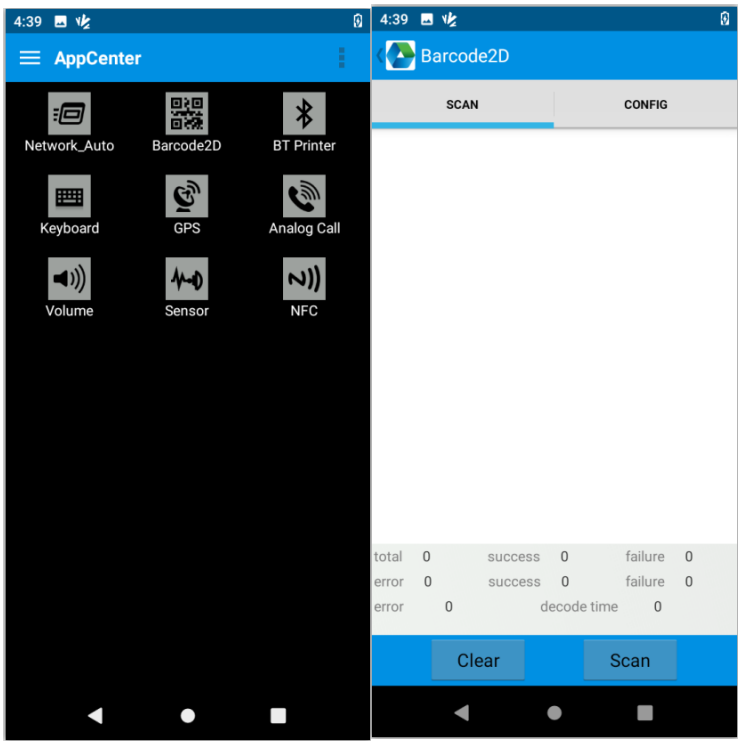
Click to add photos, videos.



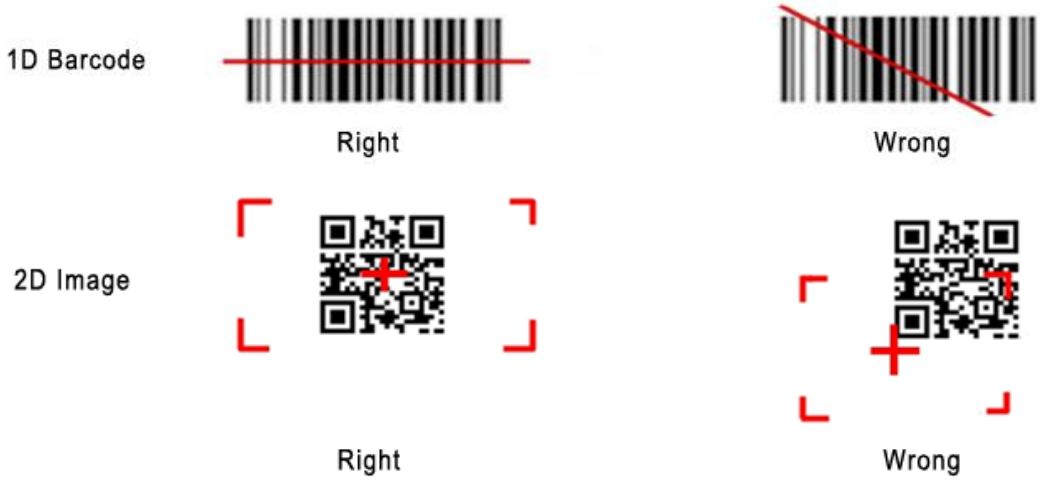


Chapter 4 Barcode Reader

Open the Barcode2D Demo in APP Center and then press the ‘Scan’ button to start scanning.



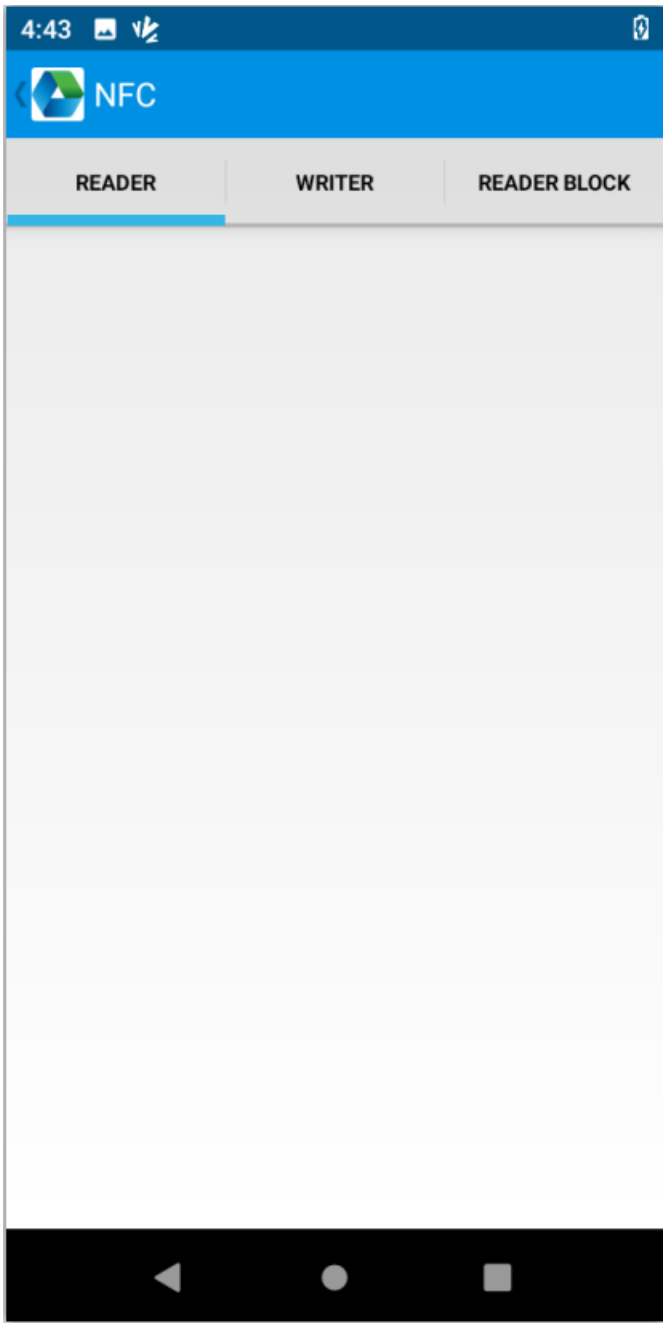
Note: Please scan the barcode correctly, otherwise the scanning might be failed.



Chapter 5 RFID Reader(optional)

5.1 NFC

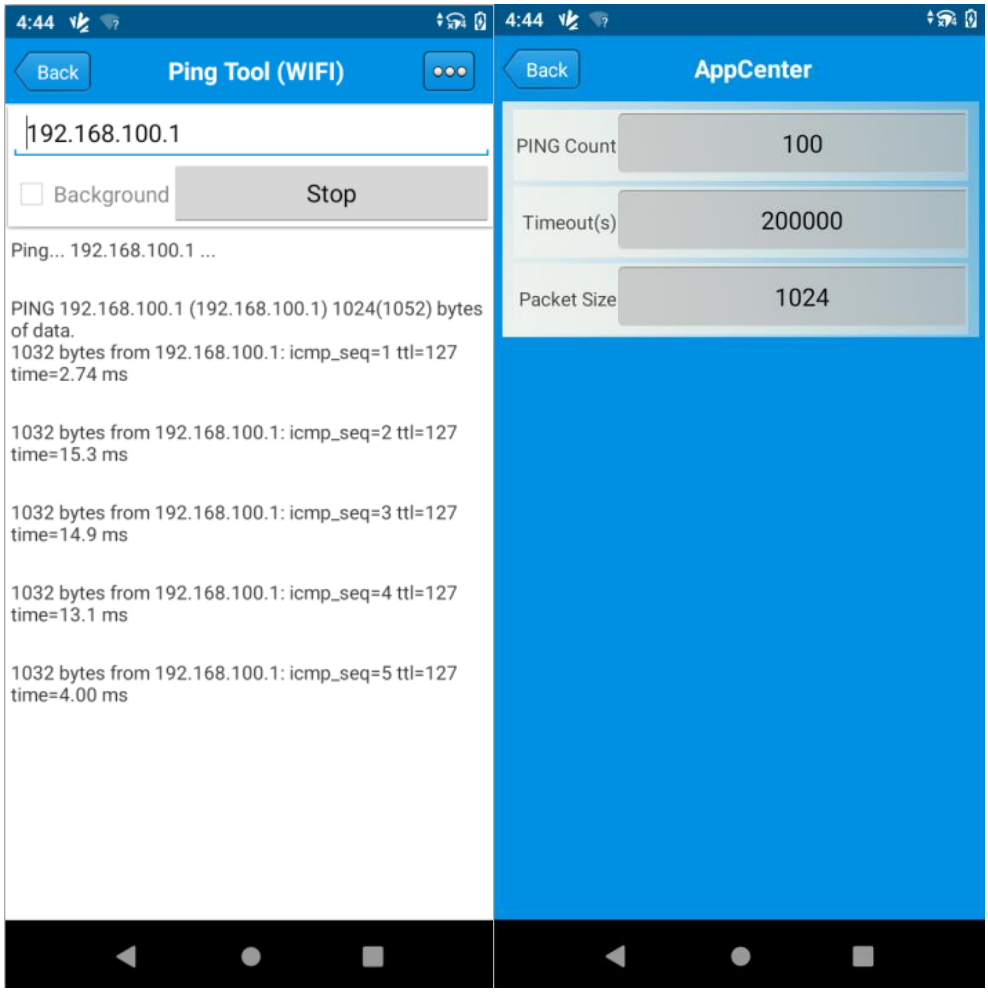
Open the “NFC” demo within Appcenter, and then reading and writing information of the tag.



Chapter 6 Other Functions

6.1 PING

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

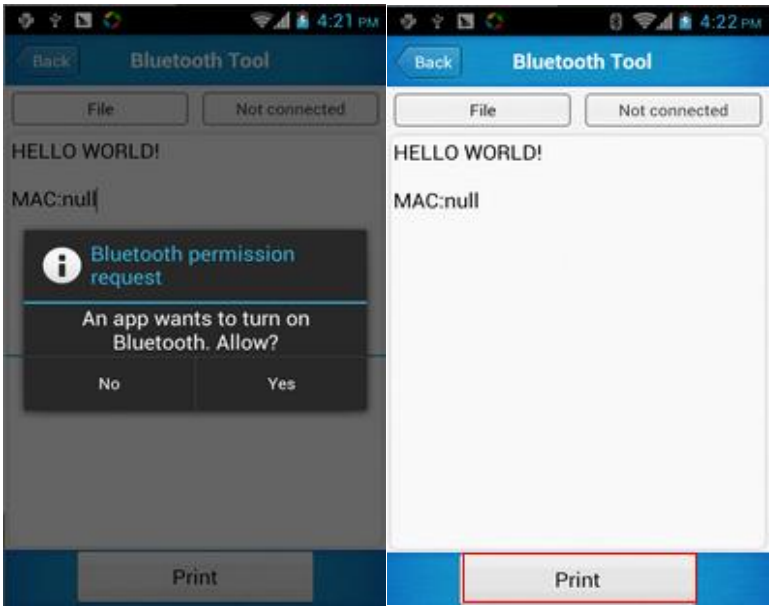


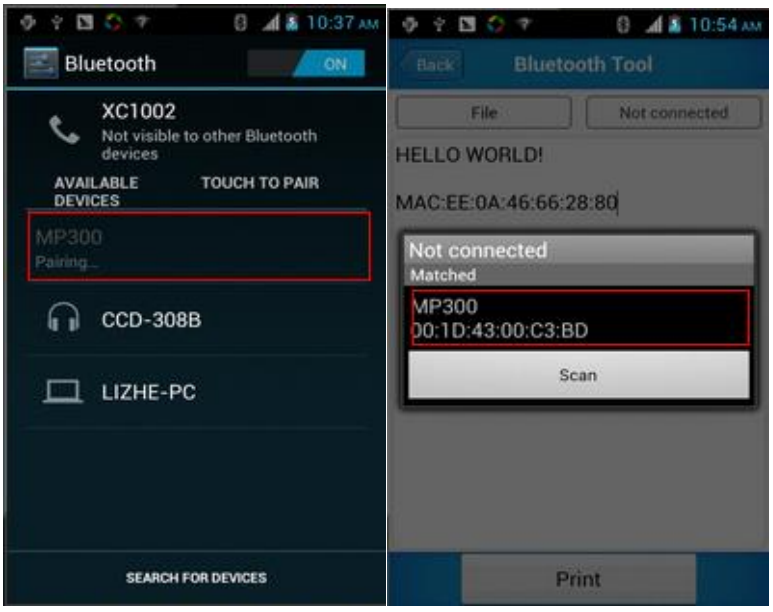
6.2 Bluetooth

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.

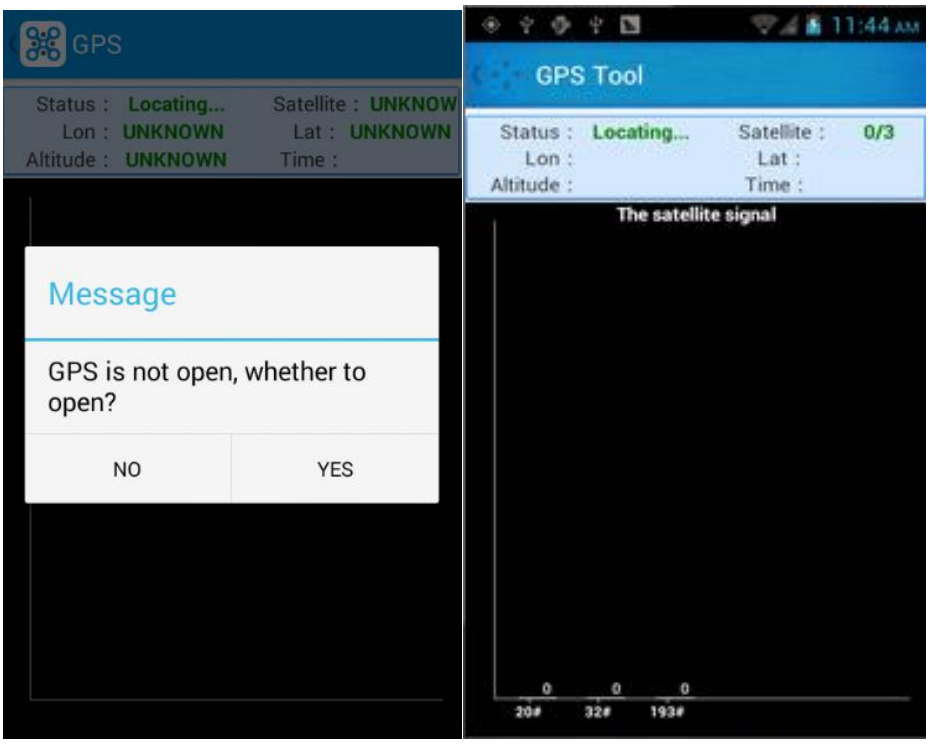




6.3 GPS

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

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

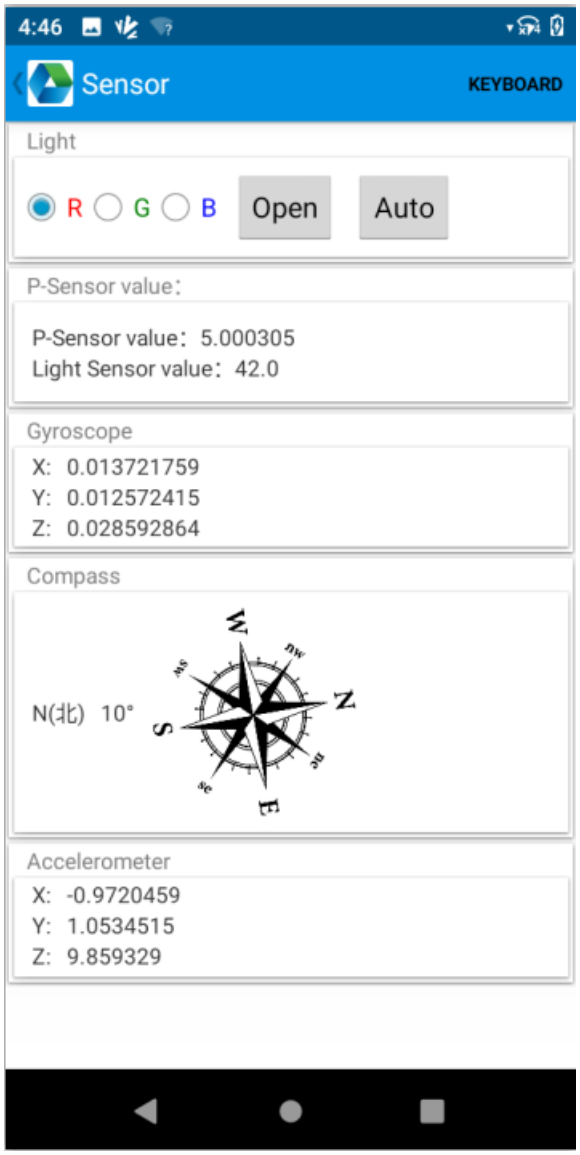


6.4 Volume Settings

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

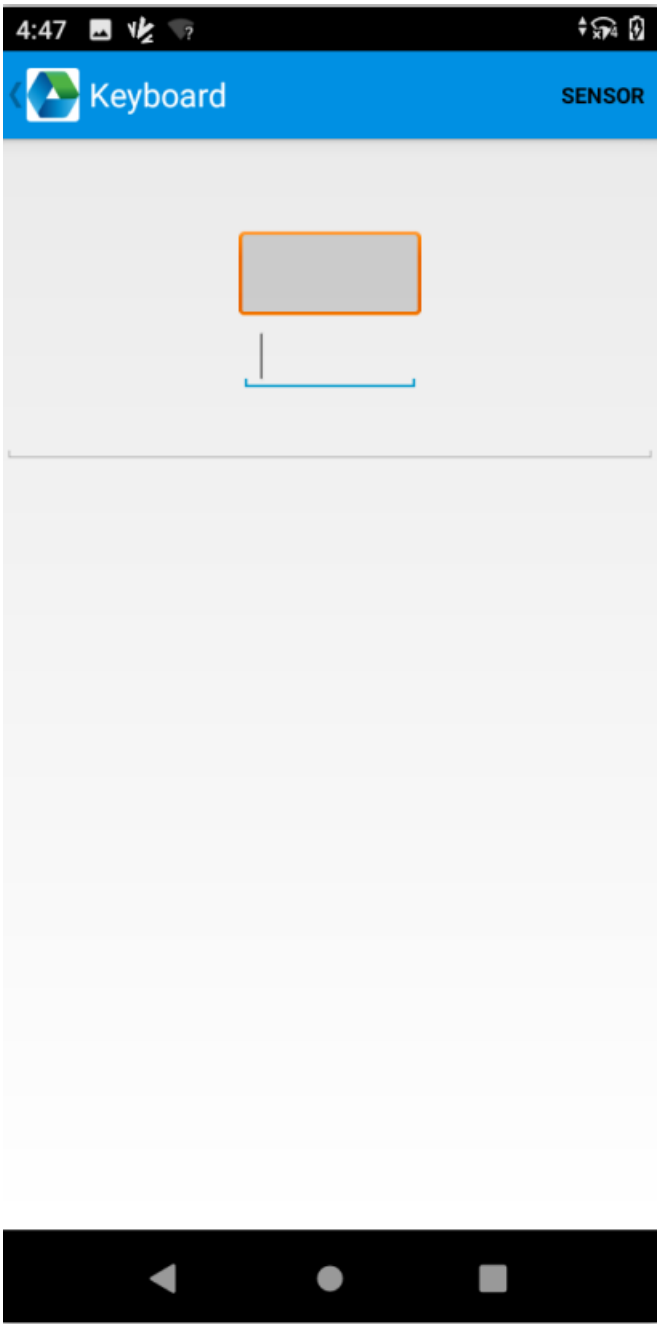
6.5 Sensor

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



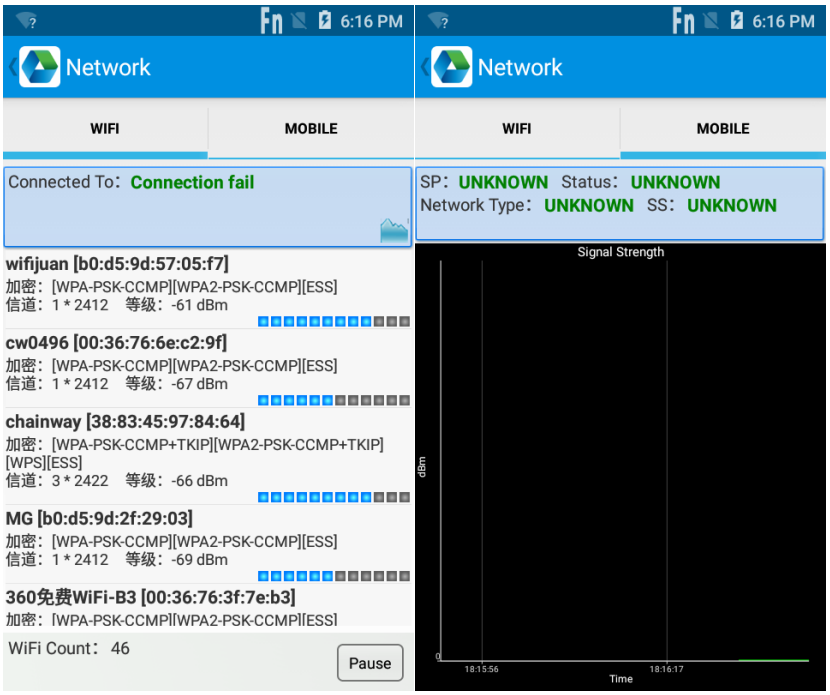
6.6 Keyboard

1. Open the Keyboard demo in 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	158.5 x 76.0 x 13.1 mm / 6.24 x 2.99 x 0.52 in.
Weight	230g / 8.11 oz. (device with battery)
Screen	5.7-inch (18:9), IPS LTPS 1440 x 720
Touch Panel	Corning Gorilla Glass, multi-touch panel, gloves and wet hands supported
Battery	Main battery: built-in 5000 mAh Standby: up to 490 hours (only main battery ; WiFi: up to 470h; 4G: up to 440h) Continuous use: over 12 hours (depending on user environment) Charging time: 2.5 hours (charge device by standard adaptor and USB cable)
Expansion Slot	1 slot for Nano SIM card, 1 slot for Nano SIM or TF card
SIM Slot	1 slot for nano SIM card, 1 slot for nano SIM or TF card
Camera	Front Camera 8MP Rear Camera Rear 16MP Autofocus with flash

Performance Parameters

CPU	Cortex-A53 2.0 GHz Octa-core
OS	Android™ 10
Memory	3GB + 32GB 4GB + 64GB (optional)

Interface	USB2.0, Type-C, OTG
Storage Card Type	TF card
Maximum Expansion Storage	128GB

Environmental Parameters

Operating Temperature	-20 ℃~+50 ℃
Storage Temperature	-40 ℃~+70 ℃
Humidity	5%RH-95%RH (non-condensing)
Dropping Survive	Multiple 2.0 m / 6.56 ft. drops to the concrete across the operating temperature range
Sealing	IP67, IEC compliance
Tumble Specification	1000 x 0.5 m/1.64 ft falls at room temperature

Wireless Communication

WWAN	EU/APAC: 2G:GSM850/GSM900/DCS1800/PCS1900 3G: CDMA EVDO: BC0 WCDMA:B1/B2/B4/B5/B8 TD-SCDMA: A/F(B34/B39) 4G:B1/B2/B3/B4/B5/B7/B8/B20/B34/B38/B39/B40/ B41 US: 2G: GSM850/GSM900/DCS1800/PCS1900 3G: CDMA EVDO: BC0/BC1 WCDMA: B2/B4/B5/B8 4G: B2/B4/B5/B7/B8/B12/B17/B28A/B28B/B38

WLAN	Support IEEE802.11 a/b/g/n/ac/d/e/h/i/k/r/v/w, 2.4G/5G dual-band, IPV4, IPV6; Support 5G PA Fast roaming: PMKID caching, 802.11r, OKC Operating Channels: 2.4G(channel 1~13), 5G(channel 36,38,40,42,44,46,48,52,56,60,64,100,104,108,112, 116,120,124,128,132,136,140,149,153,157,161,165), 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, etc.
Blueto oth	V2.1+EDR,3.0+HS and V4.1+HS, BT5.0
GNSS	GPS/AGPS, GLONASS, BeiDou,Galileo,internal antenna

Data Collection

2D Barcode Scan Engine	Zebra: SE4710; Honeywell: N6603; DS7000, IA166S, IA171S	
	1D Symbologies	UPC/EAN, Code128, Code39, Code93, Code11, Interleaved 2 of 5, Discrete 2 of 5, Chinese 2 of 5, Codabar, MSI, RSS, etc.
	2D Symbologies	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.
RFID	NFC

Developing Environment

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

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