

Tera

Model: P166
Mobile Data Terminal

User Manual
Ver. 26. 1. 01



About This Manual

An asterisk (*) next to an option indicates the default setting.

Scanners are factory programmed for the most common terminal and communication settings.

If settings need to be changed, you can reprogram by scanning the barcodes in this manual.

Note:

For the correct use of the product, please read this manual carefully and do not scan configuration bar codes at random. Otherwise, some settings will be temporarily unavailable.

The scanner's keyboard layout default is a US keyboard.

Please do not hesitate to contact us if you have any questions.

Important Notice:

Please include your Order Number and Product Model Number in the email.

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<https://www.tera-digital.com>



Chapter 1 About the Terminal Features

1.1 About the Terminal:

P166 is a handheld industrial high-performance data terminal, designed for highly flexible workers in scan intensive workflows who need secure mobile data collection and processing. Built on Android 11 operating system, it features the perfect combination of integrated scanning, powerful processing, intuitive touchscreen interface, and robust connectivity via incorporating a powerful Qualcomm processor.

It's ideal to increase productivity in light duty retail, DSD, pickup and delivery, and field service applications.

1.1.1 Mobile Terminal Features



- | | | |
|-------------------------------|---------------------------|------------------------|
| 1 RGB and Light Sensor | 2 Earphone | 3 Volume+ |
| 4 Volume- | 5 SCAN(LEFT) | 6 Touch-screen |
| 7 MIC | 8 2D module | 9 Camera |
| 10 Flashlight | 11 NFC | 12 Power Button |
| 13 Battery Cap | 14 Function Button | 15 Scan(RIGHT) |
| 16 Battery Cap | 17 Hand sling hold | |

1.1.2 Buttons and Description

There are 6 buttons on the sides and a scan engine on the top. On the back of the terminal is a high-resolution camera and a flash light. Also, the NFC antenna is located near the camera.

Button	Description
Power Button	Press and release the Power Button to turn on/off the terminal screen. Press and hold the button for approximately 3 seconds, and then release to view the options menu. . Power Off . Restart . Emergency
PPT Button	Users can customize the function of the button.
Scan Button	Press the right or left Scan Button to trigger the scanner.
Volume Button	Press the upper Volume Button to raise the speaker volume Press the lower Volume Button to lower the speaker volume.

1.2 About the Battery:

Do not leave batteries unused for extended periods of time, either in the product or in storage. When a battery has been unused for 6 months, check the charge status and charge or dispose of the battery as appropriate.

Expected battery life:

retain up to 80% of its original capacity at 300 complete charge cycles when operating under normal conditions. A charge cycle is the process of charging a rechargeable battery and discharging it as required into a load.

As lithium-ion batteries chemically age, the amount of charge they can hold diminishes, resulting in shorter amounts of time before a device needs to be recharged.

Battery Storage:

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~20°C (41°F~68°F)

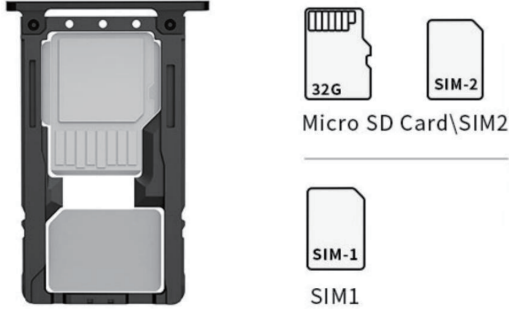
Caution:

Improper battery replacement or incompatible device usage may result in risk of burns, fire, explosion, or other hazard. Dispose of lithium-ion batteries according to local regulations. Risk of fire and burns if improperly handled. Do not open, crush, heat above 60°C (140°F), or incinerate.

Chapter 2 Install Cards & Charge the Terminal

2.1 Install a MicroSD Card/SIM Cards

This model comes with a hybrid dual SIM card tray. You may either use two SIM cards simultaneously or use just one SIM card and a MicroSD card to increase file storage capacity.



2.2 Charge the Terminal

This device is equipped with a USB Type-C port. It is advised to charge the terminal with the original USB cable and power adapter.

1. Connect the USB cable to the power adapter and connect to the terminal.
2. The terminal starts to charge automatically. The LED Indicator indicates the charge status.

(Red and Green: Charging; Solid Green: Charging Complete.)








You may also use the original USB Type-A to USB Type-C cable to charge the terminal from a host device (e.g. laptop or desktop computer). The connected host device must supply a minimum power output of 5V, 0.5 to the terminal.

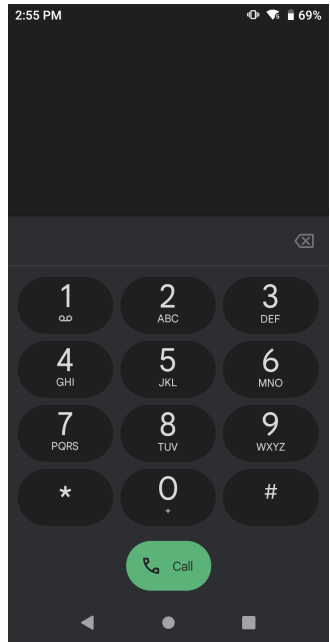
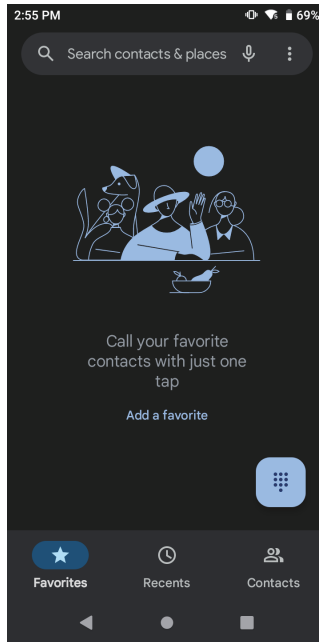
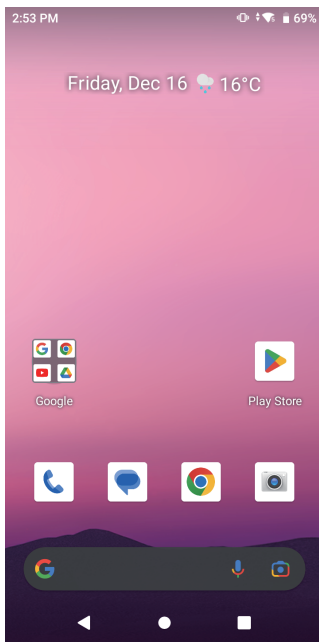
(Note: Do not charge the terminal with a third party cable or adapter)

Chapter 3 Use the Phone


3.1 Create and Save a Contact

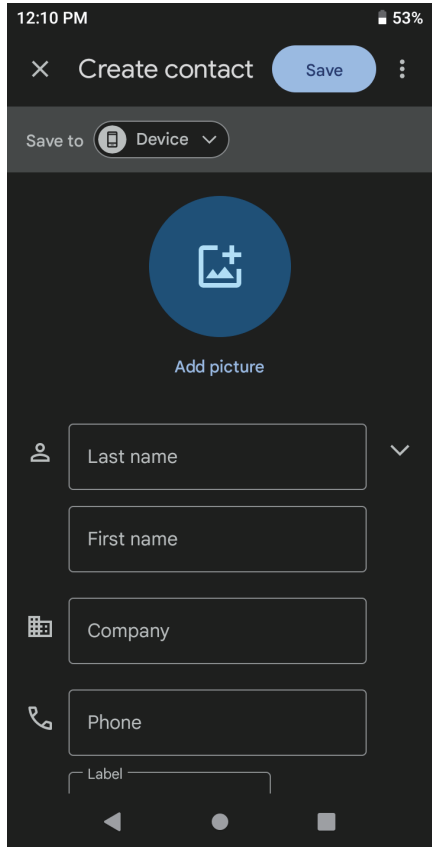
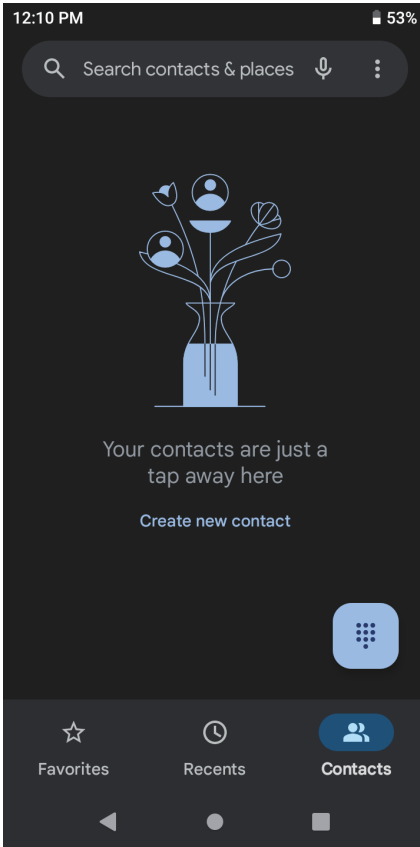
Once the phone is activated, you can make a phone call.

1. Tap  in the favorites tray to open the phone app.
2. Use one of the methods below to enter the telephone number you want to call.
 - . Tap  and use the on-screen dialer.
 - . Select a person on your saved contact list .
 - . Select a favorite on your speed dial list .
 - . Select a number from the recent calls list .
3. Tap call .
4. To end the call, tap .





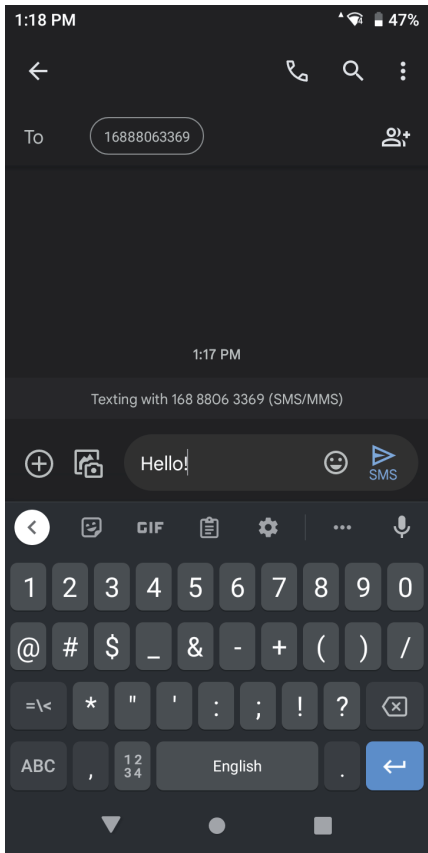
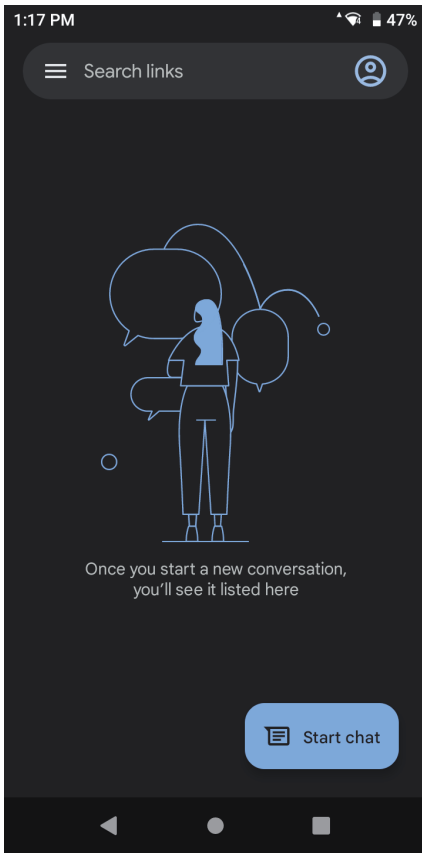
3.1 Make a Phone Call

1. Tap  to create new contact.
2. Tap the lighter text "Create new contact"
3. Choose where to save. You may save the contact to the device or to your Google account.
4. Fill the profile and tap "Save".



3.3 Send a Message

1. Open the Messages app .
2. Tap Start Chat.
3. In "To," enter the names, phone numbers, or email addresses that you'd like to message. You can also pick from your top contacts or your whole contact list.
4. Tap the message box.
5. Enter your message.
6. When you're done, tap Send .



Chapter 4 AppCenter (A Hardware Diagnostic Tool)

4.1 Scan Engine Test

A. Swipe up from the bottom of the Home screen to access all apps.

B. Tap AppCenter> Barcode2D>SCAN

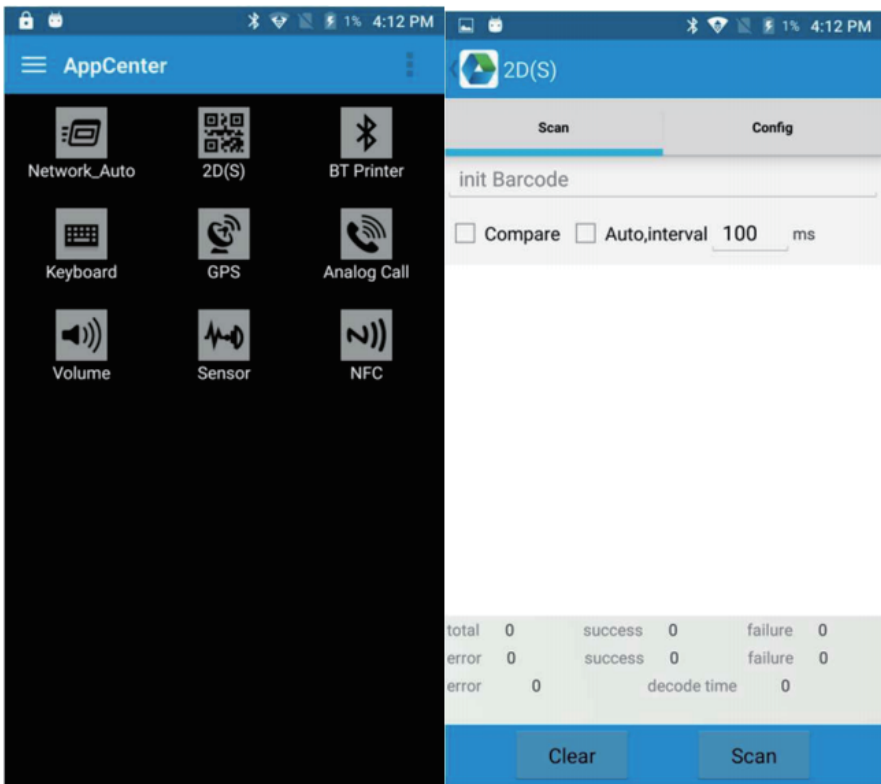
C. Choose one of the options:

Compare:

When set into compare, the scanner scans until a barcode is read or until the trigger is released.

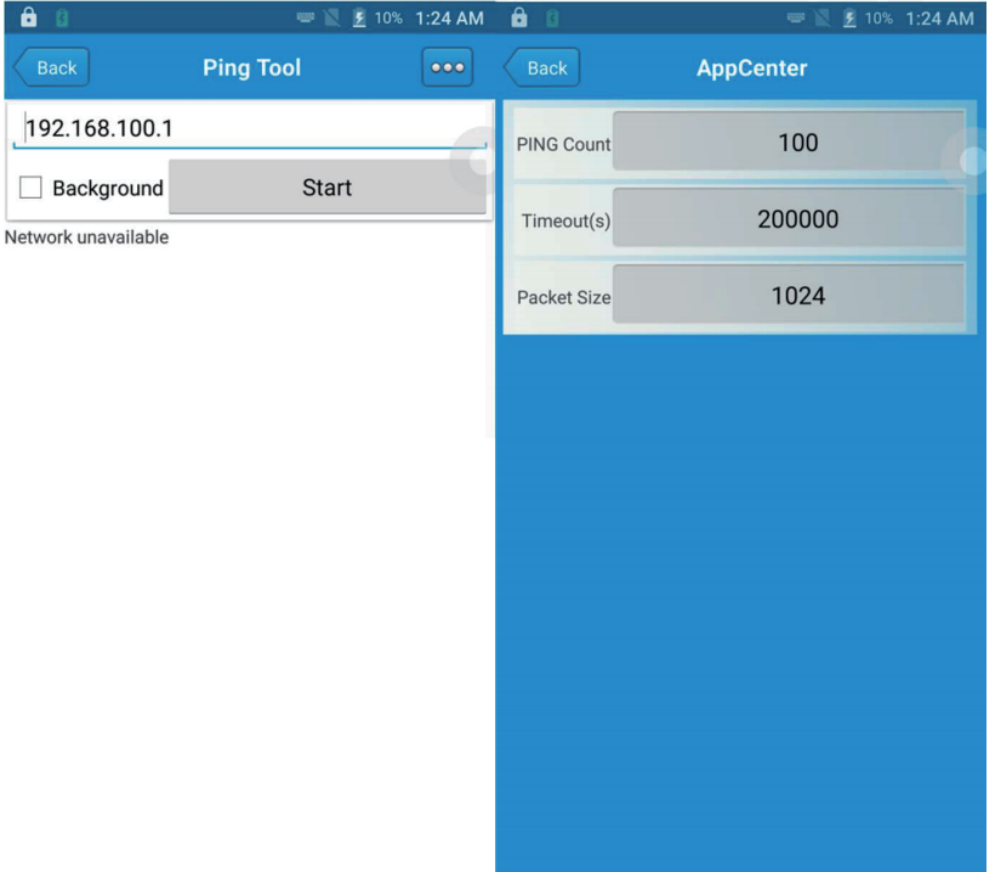
Auto:

When the scanner is set into Auto, the scan engine remains on all the time to continuously scan barcodes.



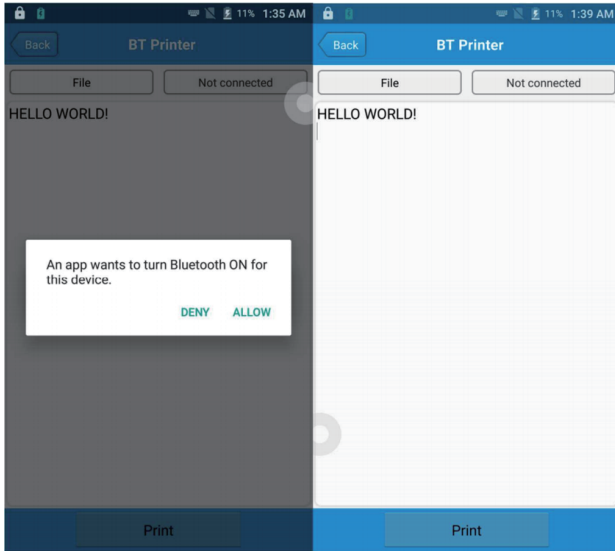
4.2 Ping Network Test

- A. Swipe up from the bottom of the Home screen to access all apps.
- B. Tap AppCenter> Network_Auto
- C. Type the IP address you'd like to ping and tap start.



4.3 Bluetooth Printing Test

- A. Swipe up from the bottom of the Home screen to access all apps.
- B. Tap AppCenter> BT Printer
- C. Tap Not Connected.
- D. Tap Scan to pair new device.
- E. Enable Bluetooth on your Bluetooth-enabled Printer and set it to be discoverable.
- F. Tap the Printer that appears in the available devices list.
- G. Return back to the original interface and tap Print.

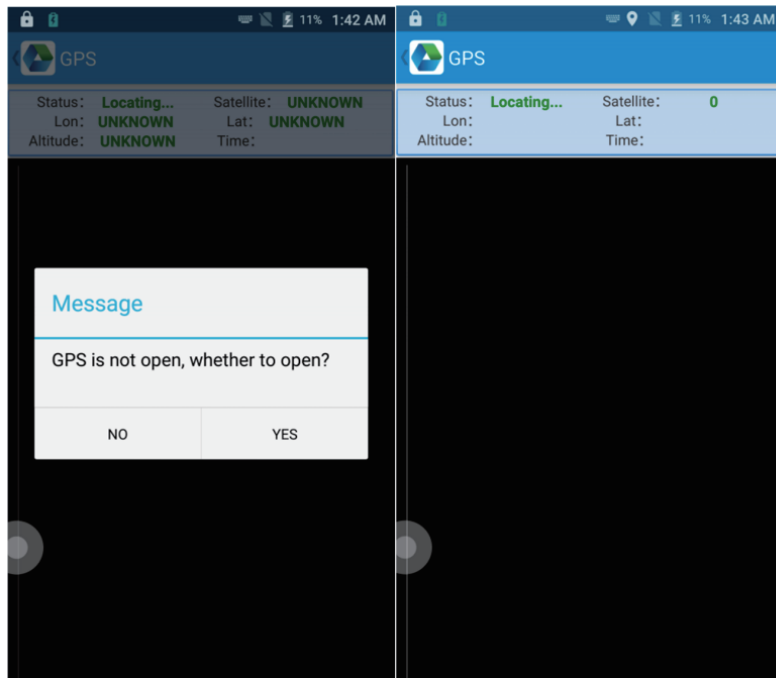


4.4 GPS Test

A. Swipe up from the bottom of the Home screen to access all apps.

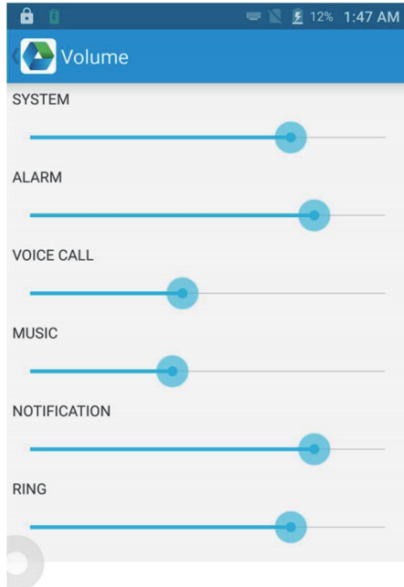
B. Tap AppCenter> GPS (If the GPS is disabled, you should enable it first)

NOTE: GPS accuracy varies depending on the number of visible GPS satellites. Locating all visible satellites can take several minutes, with accuracy gradually increasing over time.



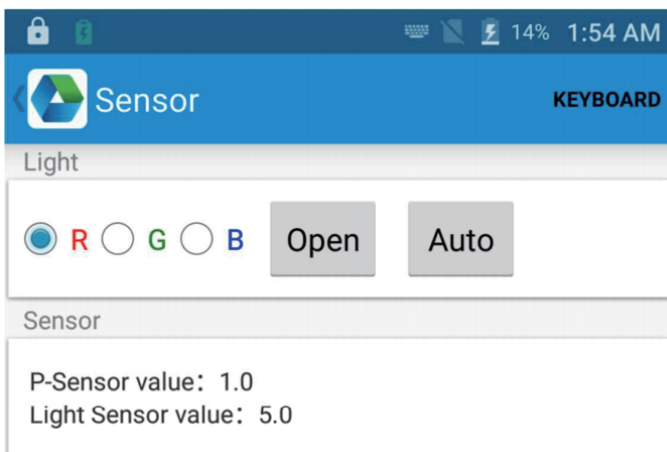
4.5 Speaker Test

- Swipe up from the bottom of the Home screen to access all apps.
- Tap AppCenter> Volume
- Manipulate the sliders left or right to specify how loud of these features.



4.6 Sensors Test

- Swipe up from the bottom of the Home screen to access all apps.
- Tap AppCenter> Sensor
- Select Auto to test the charge status LED indicator.



4.7 Keyboard Test

- A. Swipe up from the bottom of the Home screen to access all apps.
- B. Tap AppCenter> Keyboard
- C. Press the buttons on both sides except the power button.

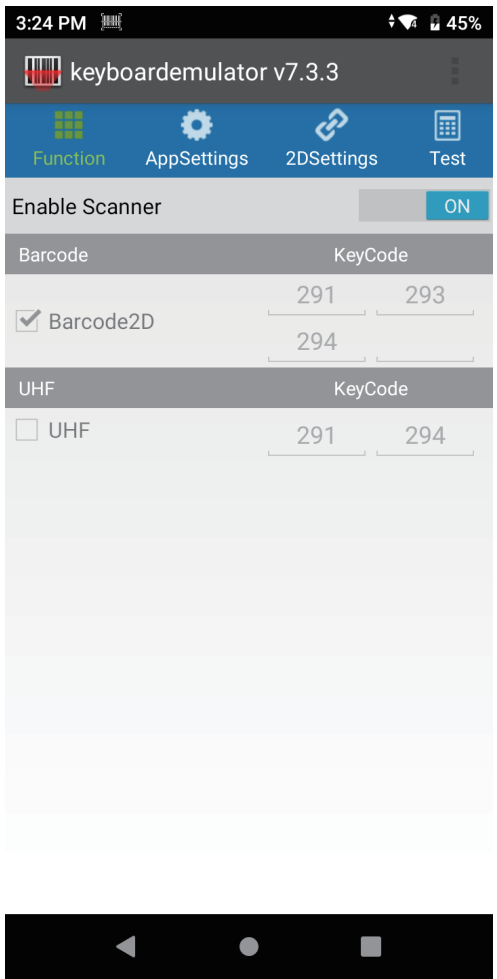
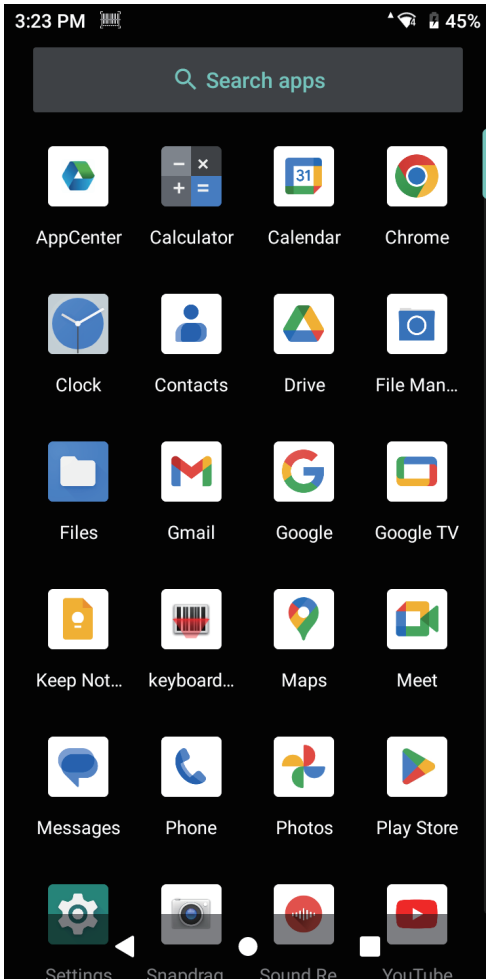


Chapter 5 Change the Scanner Settings.

To change the settings of the barcode scanner, you need to launch the Keyboardemulator application. There are four tabs in the keyboardemulator app and several hidden features.

5.1 Function Tab

1. Tap the checkbox in front of Barcode2D option.
2. Toggle the Enable Scanner Switch to On position.
3. Press the trigger on the handle or side buttons to scan.

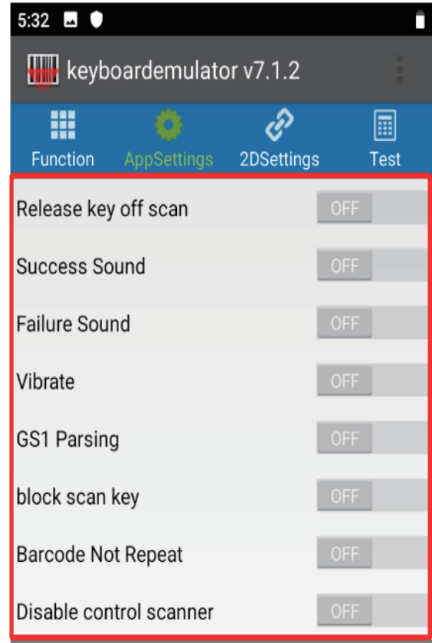
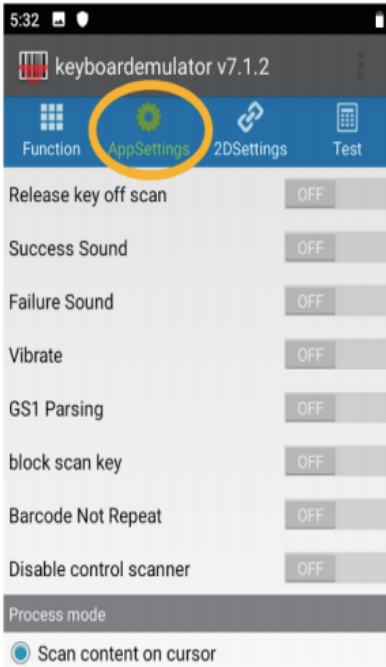


5.2 APPSettings Tab

There are 9 basic settings in this section. You may enable or disable them in accordance with your needs.

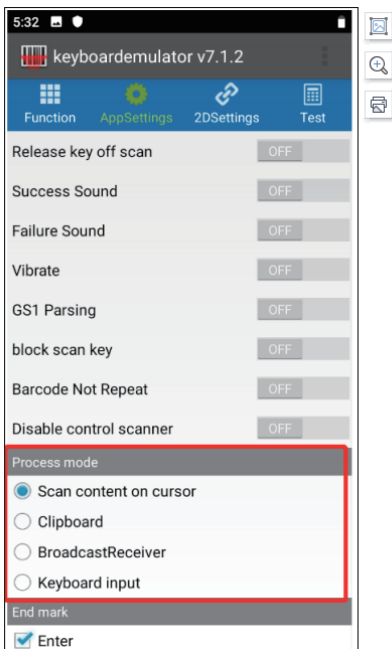
5.2.1 Scan Modes, Sound, Vibration and Parsing

Tap the ON/OFF switch to enable/disable the options.



5.2.2 Process mode

To apply the option to the scanner, tap the round checkbox in front of the option.



Scan content on cursor: the scanned data will be transmitted where the cursor is.
Clipboard: the scanned data will be transmitted to clipboard and you can paste it anywhere you need.

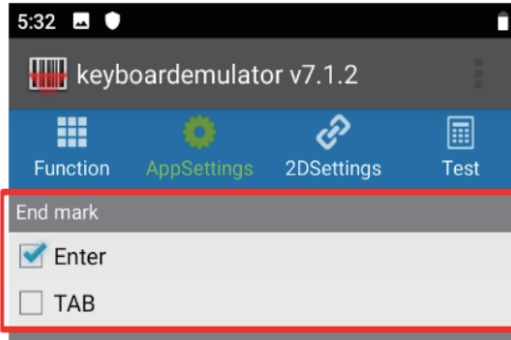
BroadcastReceiver: the scanned data will be transmitted via broadcast intent.

Keyboard input: the scanner will input the scanned data as if it were typed.

5.2.3 End mark

An end mark is equivalent to a terminator/ a termination suffix.

Tab the checkbox in front of an option to apply it as an End mark.



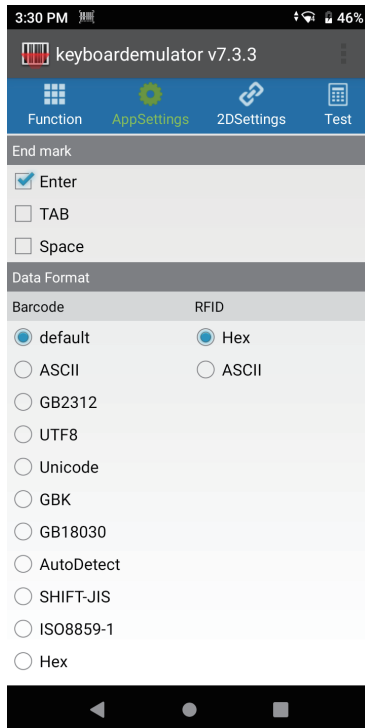
Enter: If Enter is selected, the application will add an Enter after each scan.

TAB: If TAB is selected, the application will add a tabulator after each scan..

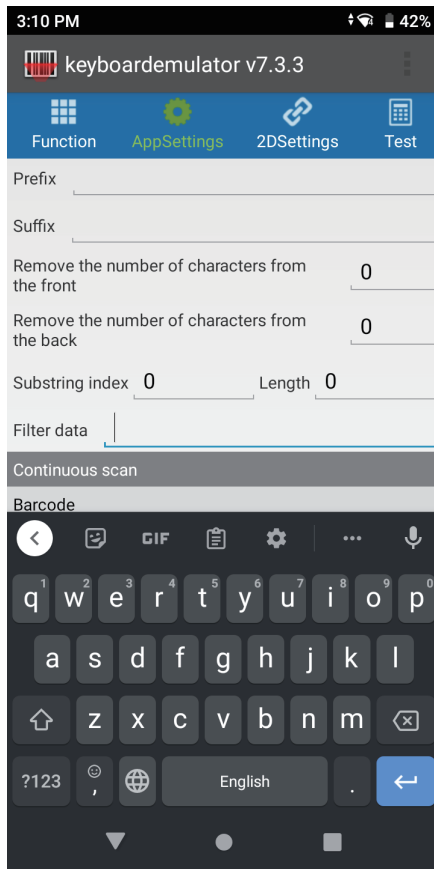
Space: If SPCE is selected, the application will add a space after each scan.

5.2.4 Data format

For the barcode scanner to scan barcodes correctly, the data format option on the barcode scanner must match the encoding type of the barcodes.



5.2.5 Data Editing



- A. To add a prefix, just type the desired characters in the empty text field behind the option.
For example, to program a ^ sign as a prefix, just type the ^ sign in the empty test field.
- B. To add a suffix, just type the desired characters in the empty text field behind the option.
For example, to program a ^ sign as a suffix, just type the ^ sign in the empty text field.
- C. To remove characters from the start of a barcode, just type the desired digit in the empty text field behind the option.
For example, if you need to drop the first 2 digits of a barcode, just type 2 in the text field behind the Remove the front number of characters option.
- D. To remove characters from the end of a barcode, just type the desired digit in the empty text field behind the option.
For example, if you need to drop the last 7 digits of a barcode, just type 7 in the text field behind the Remove the back number of characters option.

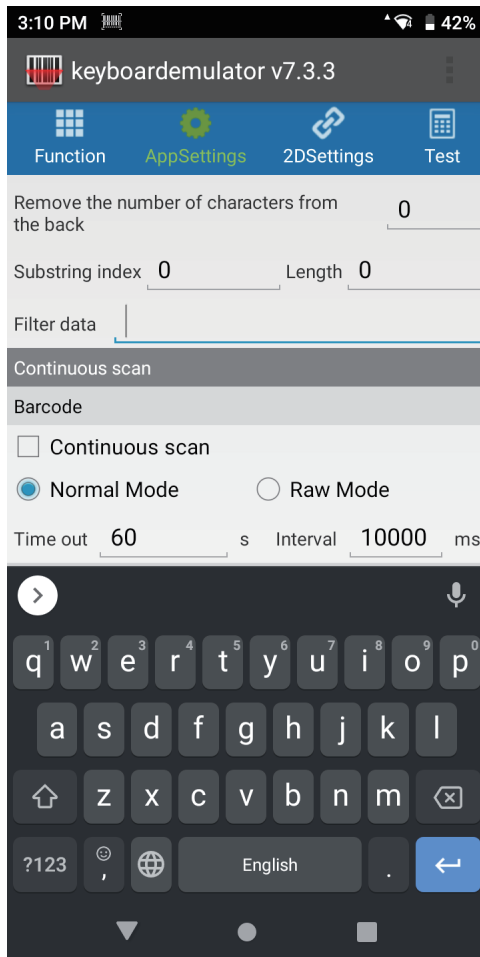
E. To send only the defined characters from the data in a barcode, you should select the number of characters in accordance with the length of the bar code which has to be amended. First, type the position from which the scanner retain the reset characters; second, type the desired length in the empt text filed behind the Length option.

For example, if you have the following barcode: "6970479745174", and you just want the middle part of the code, say, 70479, you should type 2 into the Substring Index field, then type 5 into the Length field. The letter 2 and 5 tell the program to remove the first 2 characters of a barcode and retian the next 5 characters. If you type 5 in the index field and 6 in the length field, the output will be 797451.

F. To remove specified character(s), just type the character(s) into the empty text field behind the Filter data option.

(For example, if you have the following barcode: "6970479745174" , you can make the output "67047745174" by typing the numeric letter 9 into the text field or make the output " 60479745174" by typing the numeric letters 97 into the text fiendl.

5.2.6 Continuous scan



When the checkbox in front of Continuous Scan text is selected, the scanner will work continuously. (Please note that this option will only work when the scanner is set up to Scan on Release Mode.)

In this section, there are two options available.

Normal Mode : In this mode, you can change both timeout and interval periods.

Raw Mode: In this mode, the interval duration is fixed and cannot be adjusted.

Timeout : The amount of time in milliseconds that the scanner will stop scanning if a readable barcode is not found.

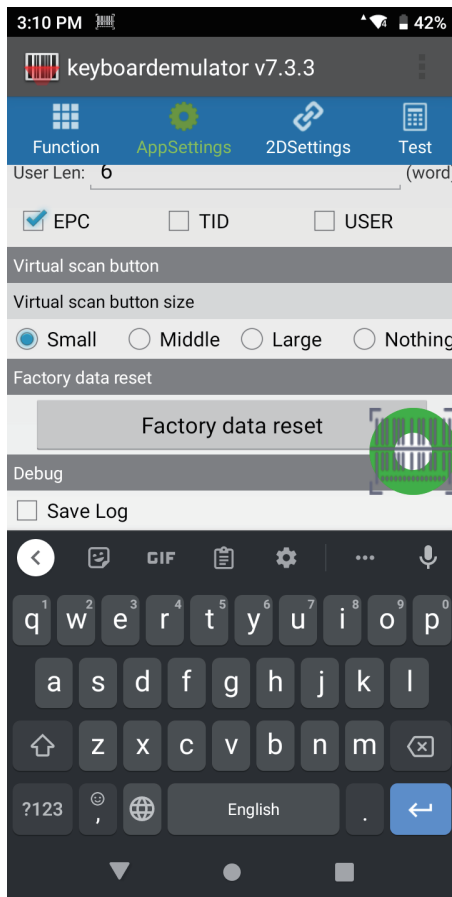
Interval:

The time period in milliseconds before the scanner can read the next barcode.

(Please note that these two parameters are only valid when the scanner is Continuous Scan Mode.)

To stop the scanner from scanning continuously, tap the checkbox in front of Continuous Scan text.

5.2.7 Virtual scan button



To enable the virtual scan button, select Small, Middle or Large. If Nothing is selected, the virtual scan button will be disabled.

5.2.8 Factory data reset

If you wish to reset the keyboardemulator application settings, please tap the Factory data reset button.

5.2.9 Save log

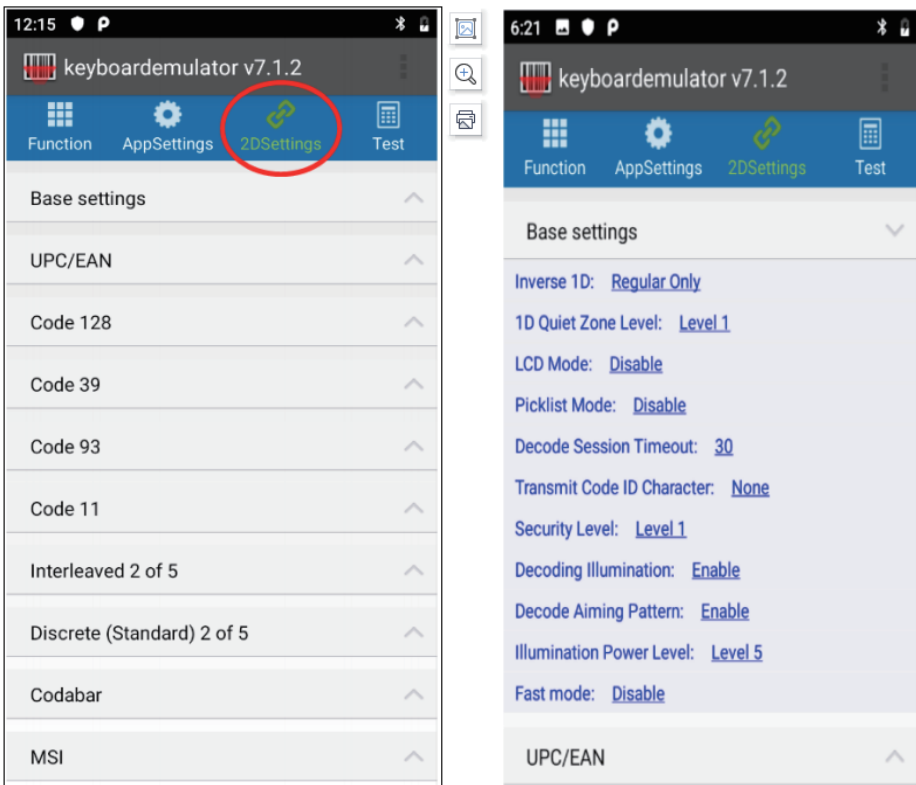
If you select Save Log, all the events that have occurred within the keyboardemulator will be saved as a file. You can find the file by locating the File Manager>Scanner>Data.

5.3 2Dsettings Tab

Barcode Input options within the 2DSettings section specify the device hardware to use for scanning and the decoders to be applied on the acquired data before sending it for processing.

5.3.1 Base settings

There are a load of settings available in this section.



Inverse 1D: This parameter sets the 1D inverse decoder settings.

Options are:

Regular Only - the digital scanner decodes regular 1D barcodes only.

Inverse Only - the digital scanner decodes inverse 1D barcodes only.

Inverse Autodetect - the digital scanner decodes both regular and inverse 1D barcodes.

1D Quiet Zone Level: This feature sets the level of aggressiveness in decoding barcodes with a reduced quiet zone (the area in front of and at the end of a barcode), and applies to symbologies enabled by a Reduced Quiet Zone parameter.

Options are:

Level 0 - The decoder will perform margin decoding as usual.

Level 1 - The decoder will perform more aggressively.

Level 2 - The decoder requires only one side end of barcode.

Level 3 - The scanner decodes anything in terms of quiet zone or end of barcode.

LCD Mode: This feature enhances the ability of the scanner to read barcodes from LCD displays such as cellphones (applies to Scan Module only). Use of LCD mode might lead to performance degradation and a blinking reticle prior to decoding.

Picklist Mode: This mode enables the digital scanner to only decode barcodes aligned under the LED aiming dot. It allows users to easily select and scan a single barcode from a field of barcodes.


Decode Session Timeout: This parameter sets the maximum time decode processing continues during a scan attempt.

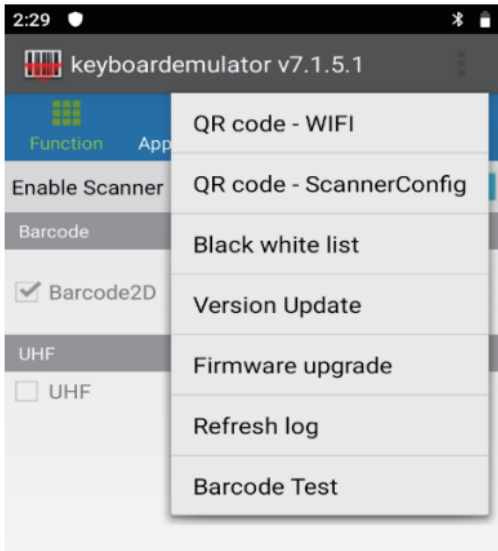
Code ID: A Code ID character identifies the code type of a scanned barcode.

5.4 TEST Tab

This section contains a text field for the scanned data to be inputted in. To check the scanned data, please switch the keyboard emulator interface into Test.

5.5 More Settings

Tap  to access QR code – WIFI, QR code – ScannerConfig, Black white list, Refresh log and Barcode Test.



5.5.1 QR code-WIFI

This options allows users to share the Wif-Fi network by creating a QR code using the SSID and password that have just been entered.

This function is for customer to connect wifi by scanning the QR code via using KeyboardEmulator. After input wifi password, a QR CODE for wifi will be generated.



5.5.2 QR code-ScannerConfig

This option generates a QR code that contains all the settings of the keyboardemulator. If you have another data terminator and you wish to copy the keyboardemulator settings, you may scan the QR code to get it done quickly.



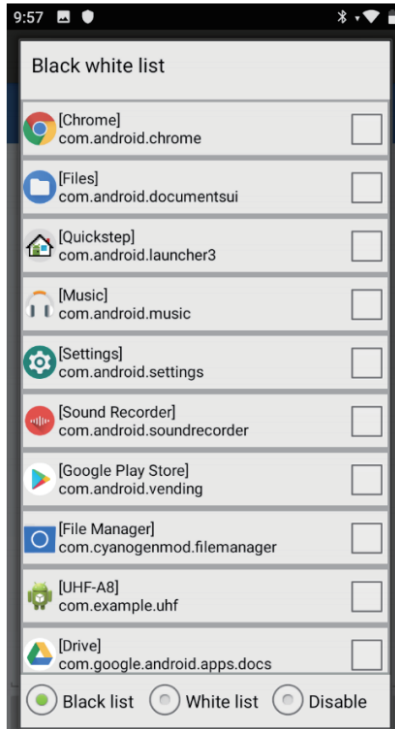
5.5.3 Blacklist & Whitelist

Blacklist: When you select blacklist, there will be a list of applications where the scanner can work. For instance, if you add Chrome into the blacklist by tapping the checkbox behind the Chrome icon, the scanner will not transmit scanned barcodes into Chrome.

Whitelist: Similar to blacklist, when you select Whitelist, there will be dialogue box showing the applications relevant to keyboard emulator, if you add Chrome into the Whitelist by tapping the checkbox behind the Chrome icon, the scanner will be able to transmit scanned data into Chrome.

Disable:

If you don't need to enable either Blacklist or Whitelist, please select Disable.



5.5.4 Version Update

This feature is not available at the moment.

5.5.5 Firmware upgrade

This feature is not available at the moment.

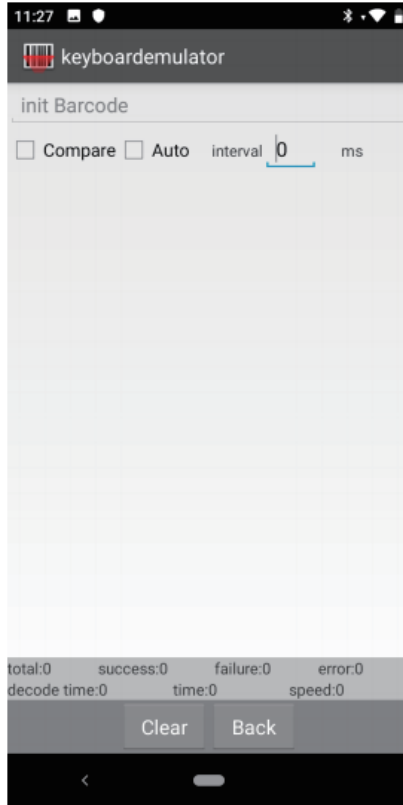
5.5.6 Refresh log

Tap to refresh the event log.

5.5.7 Barcode Test

Compare: When set into compare, the scanner scans until a barcode is read or until the trigger is released.

Auto: When the scanner is set into Auto, the scan engine remains on all the time to continuously scan barcodes.



Appendix: Specifications

Mechanical
Dimensions: 160x76x15.5mm
Weight: 287g (Battery included)
Display Size: 5.45-inch
Resolution: 1440*720 High Definition
Buttons: Volume Up/Down Button, 2 Scan Buttons, Power Button and PPT button
Battery: 4200mAh removeable, QC3.0 Supported
SIM Card Tray: 2 SIM Card Slots/1 SIM Card Slot and 1 microSD Slot
Audio: 2 Speakers; one on the front and the other on the back for noise cancellation
Camera: 13-megapixel camera, auto-focus(flash light)

System Architecture
CPU: Qualcomm Snapdragon Octa-core 2.0GHz/1.8GHz Processor
Operating System: Android 11
Memory: 3GB RAM; 32GB Flash
Interfaces: USB Type-C
Storage Expansion: MicroSD (Up to 128GB)

Environmental
Operating Temperature: -20°C to 50 °C
Storage Temperature: -40°C to 70 °C
Humidity: 5%RH-95% (Non-condensing)
Drop: Operational after 20 drops to concrete at room temperature from 1.5m
Environmental Sealing: IP65

Wireless Connectivity	
WAN	2G: 850/900/1800/1900MHz 3G: CDMA EVDO: BC0 WCDMA: 850/900/1900/2100MHz TD-SCDMA:A/F(B34/B39) 4G: B1, B3, B5, B7, B8, B20, B38, B39, B40, B41
WLAN	IEEE 802.11 a/b/g/n/ac
WPAN	Bluetooth 4.2/4.1+HS/4.0/3.0+HS/2.1+EDR

Data Collection	
Scan Engine	2D CMOS Imager
RFID	Integrated Near Field Communication 13.56MHz