



# VT-10 Pro

10 Inch Rugged Android Vehicle Display Terminal

## User Manual

Version 1.0.1



## Revision History

Version	Release Time	Description
1.0	202012	Initial Release
1.0.1	20220218	Modify

## Copyright

Copyright © 3Rtablet Corp. All Rights Reserved.

This document contains proprietary information protected by copyright. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

## Disclaimer

The information in this document is subject to change without prior notice in order to improve the reliability, design and function. It does not represent a commitment on the part of the manufacturer.

Under no circumstances will the manufacturer be liable for any direct, indirect, special, incidental, or consequential damages arising from the use or inability to use the product or documentation, even if advised of the possibility of such damages.

## About This Manual

This user's manual provides the general information and installation instructions for the product. The manual is meant for the experienced users and integrators with hardware knowledge of personal computers. If you are not sure about any description in this manual, consult your vendor before further handling.

We recommend that you keep one copy of this manual for the quick reference for any necessary maintenance in the future. Thank you for choosing 3Rtablet products.

# CONTENT

Chapter 1 Introduction.....	1
1.1 Product Highlights.....	1
1.2 Parts of the Device.....	1
1.3 Extended Cable Definition.....	2
1.3.1 Docking Station.....	2
1.3.2 All in one cable.....	3
1.4 Specifications.....	4
1.5 System icon description.....	6
Chapter 2 Getting Started.....	7
2.1 Power On/Off and Sleep/Wake.....	7
2.1.1 Power on the Device.....	7
2.1.2 Power off the Device.....	7
2.1.3 Sleep and Wake the Device.....	7
2.2 Changing the Battery.....	8
2.2.1 Charging with the Power Adapter.....	10
2.2.2 Checking the Battery Level.....	10
2.3 Optimizing Battery Life.....	10
2.4 Installing Micro SD and SIM Card.....	11
Chapter 3 Using VT-10 Pro Hardware Interface.....	12
3.1 Transferring Files between Computer and the Device.....	12
3.1.1 Connection.....	12
3.2 Using Serial Port Demo App.....	13
3.3 Using ACC.....	14
3.3.1 ACC Connection Instruction.....	14
3.3.2 ACC Functions.....	14
3.3.3 ACC Settings Path.....	15
3.3.4 ACC Settings.....	15
3.4 Using GPIO.....	18
3.4.1 GPIO Tail Lines Instruction.....	18
3.4.2 GPIO Specification.....	18
3.4.3 GPIO_DEMO Instruction.....	18
3.5 Using NFC Function.....	21
3.5.1 NFC Activation Method.....	21
3.5.2 NFC Usage Demo.....	22
3.6 System Root Switch Usage Guide.....	23
Chapter 4 Docking Station Using Instruction.....	25
4.1 Docking Station Install Steps.....	25
Chapter 5 Accessories.....	30

## Declaration of Conformity

### CE

The CE symbol on your product indicates that it is in compliance with the directives of the Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables.

### FCC Class B

This device complies with Part 15 of the FCC Rules. Any changes or modifications not expressly approved by the guarantee of this device could void the user's authority to operate the equipment.

### RoHS

3Rtablet Corp. certifies that all components in its products are in compliance and conform to the European Union's Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2002/95/EC.

## Safety Symbols



This symbol of "CAUTION" indicates that there is a danger of injury to the user or a risk of damage to the product, should warning notices be disregarded.



Battery Recycle



This symbol indicates electrical warning.

## Important Safety Instructions

Read these safety instructions carefully:

- ▶ Read all cautions and warnings on the equipment.
- ▶ Place this equipment on a reliable surface when installing. Dropping it or letting it fall may cause damage.
- ▶ Make sure the correct voltage is connected to the equipment.
- ▶ For pluggable equipment, the socket outlet should be near the equipment and should be easily accessible.
- ▶ Keep this equipment away from humidity.
- ▶ Disconnect this equipment from the A/C outlet before cleaning it. Use a moist cloth. Do not use liquid or sprayed detergent for cleaning.
- ▶ Do not scratch or rub the screen with a hard object.
- ▶ Never use any of the solvents, such as Thinner Spray-type cleaner, Wax, Benzene, Abrasive cleaner, Acid or Alkaline solvent, on the display. Harsh chemicals may cause damage to the cabinet and the touch sensor.

- ▶ Remove the dirt with a lightly moistened cloth and a mild solvent detergent. Then wipe the cabinet with a soft dry cloth.
- ▶ If the equipment will not be used for a long time, disconnect it from the power source to avoid damage by transient over voltage.
- ▶ Never pour any liquid into openings. This may cause fire or electrical shock.
- ▶ If one of the following situations arises, get the equipment checked by service personnel:
  - a. The power cord or plug is damaged.
  - b. Liquid has penetrated into the equipment.
  - c. The equipment has been exposed to moisture.
  - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
  - e. The equipment has been dropped or damaged.
  - f. The equipment has obvious signs of breakage.

## **Rechargeable Battery Pack Safety**

With very little care, you can optimize the battery life and maximize the lifespan of the battery. Most importantly, use only the equipment in its ideal operating temperature (as described in 1.4 Specifications) – do not leave it in a hot trunk during the summer.

- Using the Equipment for the First Time  
Be sure to fully charge (approx. 4 hours) the equipment when charging the equipment for the first time.
- Long-Term Storage & Maintenance  
If you are putting away the battery for more than three months, it is recommended that the battery should be stored separately and fully charged, and get recharged every three months. If you store an uncharged battery, it could fall into a deep worn-out state which would render it incapable of holding any charge. Be sure to store the equipment and battery at the proper temperature (as described in 1.5 Specifications).

## **Additional Information & Technical Support**

You can check more products and get more information on our website. If you encounter related technical problems, you can leave a message on the website or send an email to contact us.

Website: [www.3Rtablet.com](http://www.3Rtablet.com)

Email address: [sales@3Rtablet.com](mailto:sales@3Rtablet.com)

## **Warranty**

This product is warranted to be in good working order during the warranty period. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it according to 3Rtablet after-sale-service terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or

inability to use this product. Vendor will not be liable for any claim made by any other related party.

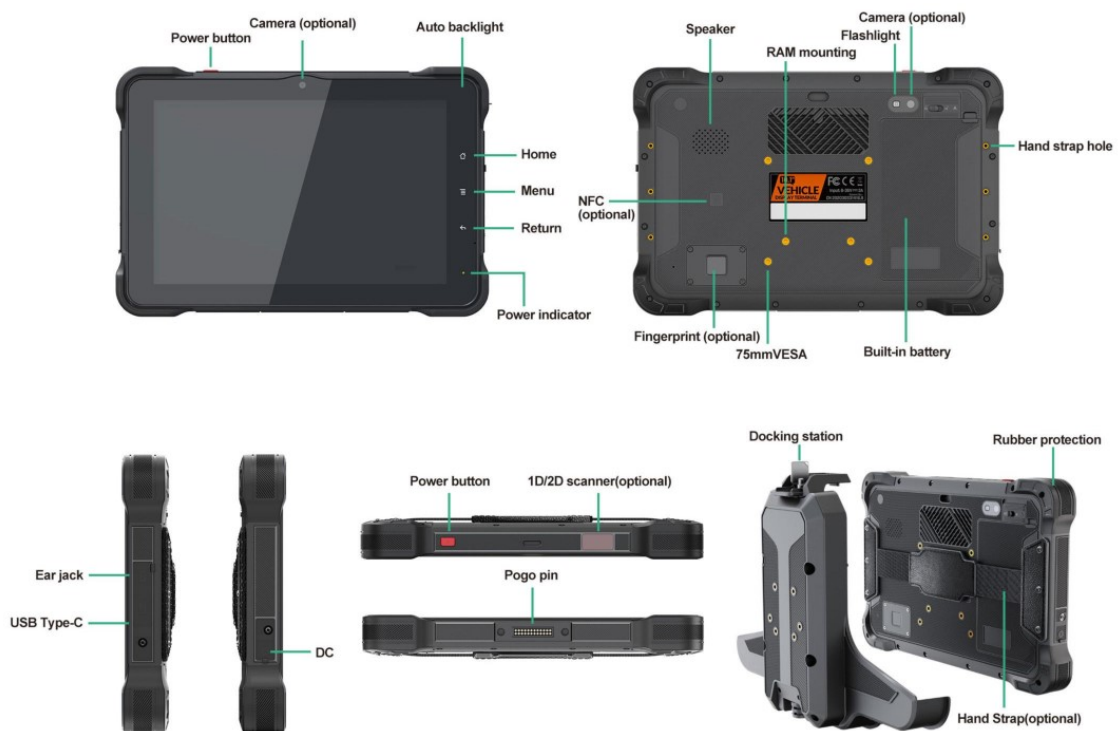
Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or emailing the account representative from vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

# Chapter 1 Introduction

## 1.1 Product Highlights

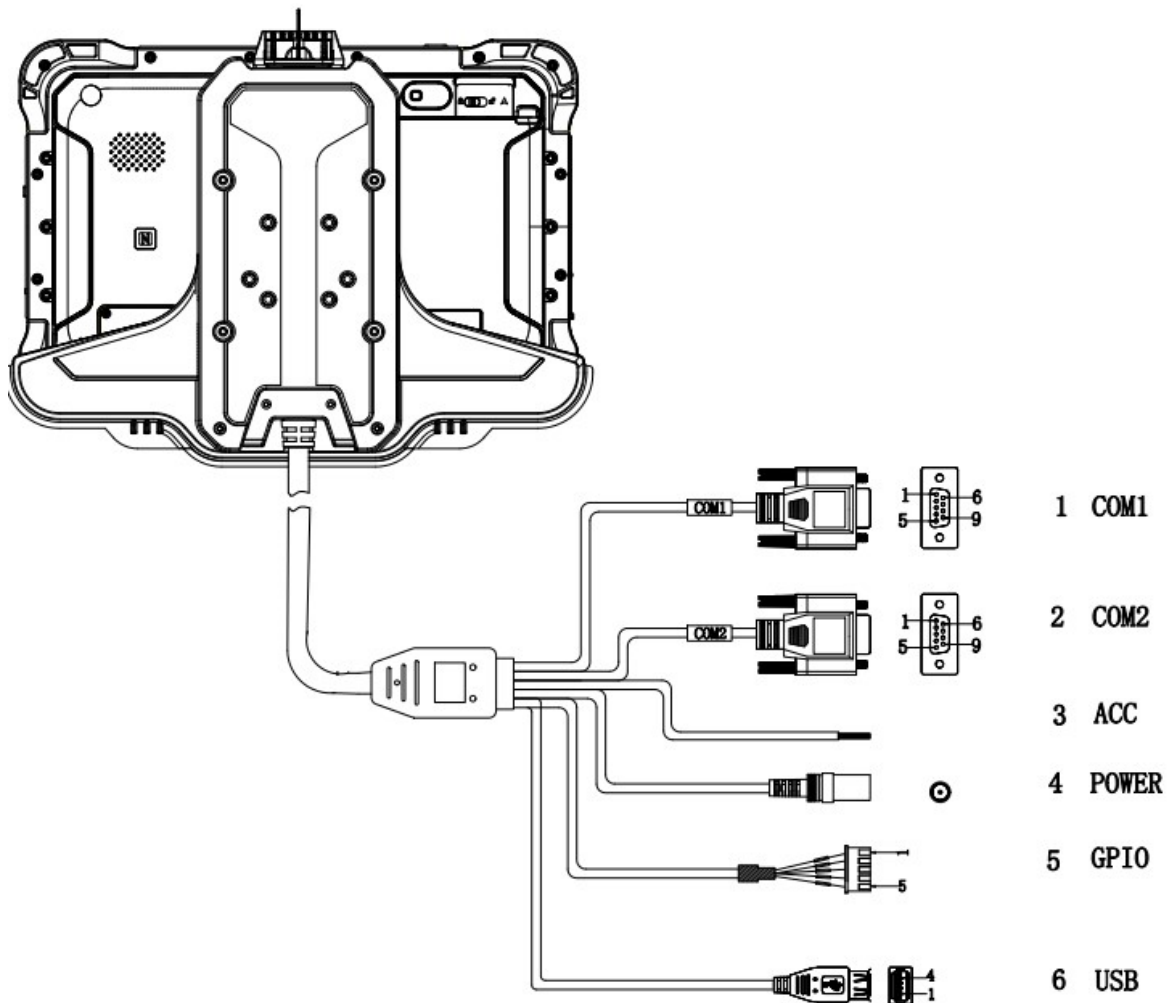
- Qualcomm Cortex-A53 64-bit Octa-core processor 1.8 GHz
- Android 9.0 Operation System
- Comply with IP67 rating
- WIFI, Bluetooth, LTE, GNSS and 8000 mAh rechargeable battery supported
- 10 Inch IPS Display, physical 1280x800 resolution, 1000 cd/m<sup>2</sup>, multi-point capacitive touch
- Portable with Docking Station
- Comply with IP67 rating
- Comply with MIL-STD-810G
- Fingerprint
- 1D/2D scanner

## 1.2 Parts of the Device



## 1.3 Extended Cable Definition

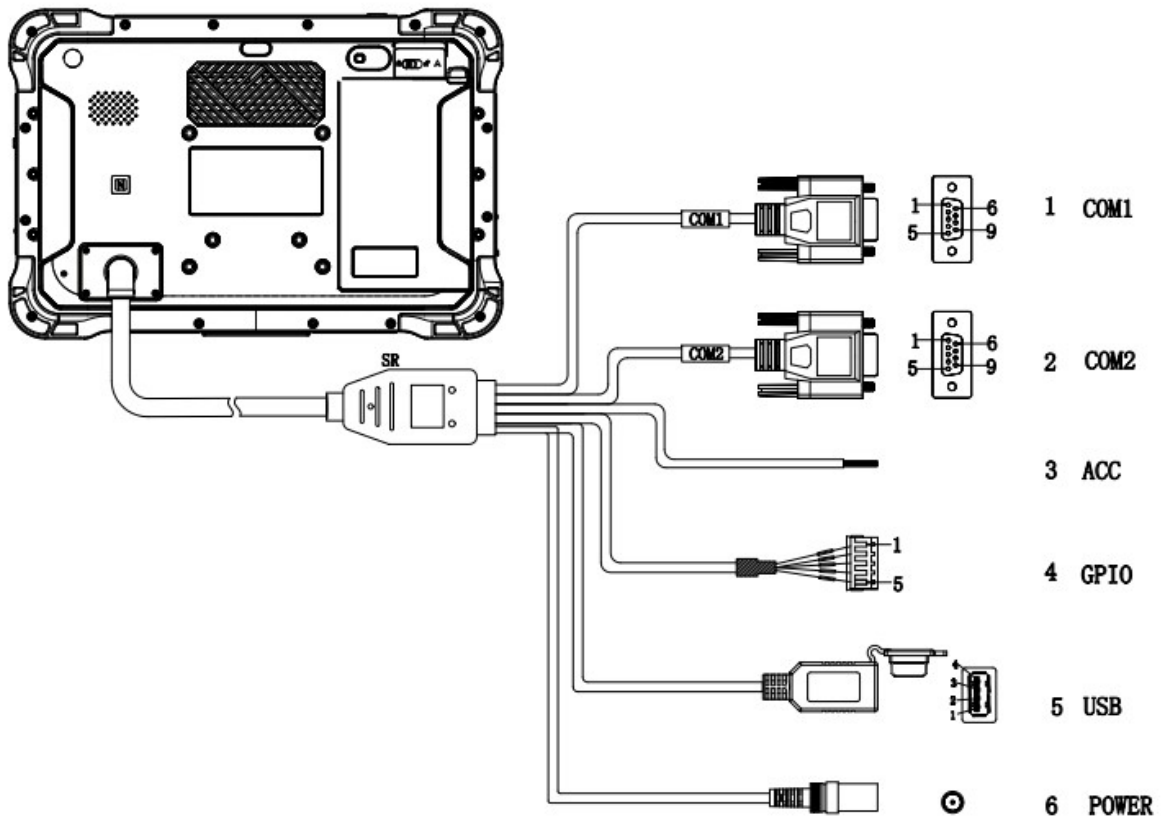
### 1.3.1 Docking Station



NO.	Item	Definition										
1	COM 1	RS232 /dev/ttyHSL0.										
2	COM 2	RS232 /dev/ttyHSL1.										
3	ACC Input	Connect with vehicle ACC power. Voltage range: 0-30 V. Note: With ACC function, the device is requested to connect the power source via DC adaptor simultaneously to power on after ignition. please refer to 3.3 for the DEMO and source code of ACC.										
4	Power	DC input Voltage: DC 8-36 V (ISO 7637-2 compliant)										
5	GPIO	<table border="1"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Input 1</td> <td>Input 2</td> <td>Output 1</td> <td>Output 2</td> <td>GND</td> </tr> </tbody> </table>	1	2	3	4	5	Input 1	Input 2	Output 1	Output 2	GND
1	2	3	4	5								
Input 1	Input 2	Output 1	Output 2	GND								
6	USB	USB Type-A (can't be used simultaneously with USB Type-C on the device)										



### 1.3.2 All in one cable



NO.	Item	Definition										
1	COM 1	RS232 /dev/ttyHSL0.										
2	COM 2	RS232 /dev/ttyHSL1.										
3	ACC	Connect with vehicle ACC power. Voltage range: 0-30 V. Note: With ACC function, the device is requested to connect the power source via DC adaptor simultaneously to power on after ignition. please refer to 3.3 for the DEMO and source code of ACC.										
4	GPIO	<table border="1"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Input 1</td> <td>Input 2</td> <td>Output 1</td> <td>Output 2</td> <td>GND</td> </tr> </tbody> </table>	1	2	3	4	5	Input 1	Input 2	Output 1	Output 2	GND
1	2	3	4	5								
Input 1	Input 2	Output 1	Output 2	GND								
5	USB	USB Type-A (can't be used simultaneously with USB Type-C on the device)										
6	Power	DC input Voltage: DC 8-36 V (ISO 7637-2 compliant)										











## 1.4 Specifications

Specifications		
<b>CPU</b>	Qualcomm Cortex-A53 64-bit Octa-core processor 1.8 GHz	
<b>GPU</b>	Adreno 506	
<b>Operating System</b>	Android 9.0	
<b>RAM</b>	2GB LPDDR3(Default)/4GB(Optional)	
<b>Storage</b>	16GB eMMC (Default)/64GB(Optional)	
<b>Storage Expansion</b>	Micro SD Card 128G	
<b>LCD</b>	10 Inch Digital IPS Panel ( 1280 x 800 ) 1000 cd/m <sup>2</sup>	
<b>Touchscreen</b>	Multi touch capacitive touchscreen supporting glove and rain mode	
<b>Audio</b>	Integrated microphone	
	Integrated speaker 2W	
	3.5 mm stereo headphone jack	
<b>Camera (optional)</b>	Front: 5.0megapixel camera	
	Rear: 16.0megapixel camera	
<b>Bluetooth</b>	2402 MHz~2480 MHz	
	Integrated Bluetooth 4.2 LE + EDR class 2, with HID, A2DP, AVRCP, BIP, BPP, FTP, HFP, HSP, OPP, SPP supported	
<b>WLAN</b>	802.11 a/b/g/n/ac	
	2.4 GHz&5 GHz	
	Support Wake-on-WLAN (WoWLAN)	
	Support ad hoc mode	
	Support WAPI SMS4 hardware encryption	
	Support AP mode	
	Support Wi-Fi Direct	
Support MCS 0-7 for HT20 and HT40		
<b>WWAN</b>	US Version North America	LTE FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/ B26/B66/B71 LTE TDD: B41 WCDMA: B2/B4/B5
	EU Version EMEA/Korea/Thailand	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B20/B28 LTE TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B8 GSM: 850/900/1800/1900MHz
<b>Data Transmission</b>	LTE	Cat 6 FDD: Max 300 Mbps (DL)/Max 50Mbps (UL) Cat 6 TDD: Max 265 Mbps (DL)/Max 35Mbps (UL)
	UMTS	DC-USDPA: Max 42 Mbps (DL)

		DC-HSUPA: Max 11.2 Mbps (UL) WCDMA: Max 384 Kbps (DL/UL)
<b>GNSS</b>	GPS	1575.42 MHz±1.023 MHz
	GLONASS	1597.5 MHz~1605.8 MHz
	BeiDou	1561.098 MHz±2.046 MHz
<b>NFC (optional)</b>	Read/ write Made: ISO/IEC 14443 A&B up to 848 Kbit/s, Felica at 212&424 Kbit/s	
	MIFARE 1K, 4K, NFC Forum type 1, 2, 3, 4, 5 tags. ISO/IEC 15693 All peer-to-peer modes	
	Card Emulation Mode (from host): NFC Forum T4T (ISO/IEC 14443 A&B) at 106 Kbit/s; T3T Felica	
<b>Sound</b>	Build-in speak 2W, 85 dB	
<b>Interfaces</b>	Type-C, Compliant with USB 3.0 (For data transfer support OTG )	
	Docking connector x1 (pogo pin ×24)	
	3.5 mm headphone jack	
<b>1D/2D scanner (optional)</b>	All major 1D barcodes; PDF417、QR Code M1/M2/Micro and Data Matrix etc.	
<b>Fingerprint (optional)</b>	Capacitive, area sensor	
<b>Sensor</b>	Acceleration sensors, Ambient light sensor, Gyroscope, Compass	
<b>Power</b>	DC 8-36 V (ISO 7637-II compliant)	
	Battery 3.7V, 8000 mAh Li-ion (Replaceable)	
	Battery Operating time about 4 hours (typical)	
	Battery charging time about 6 hours	
<b>Physical Dimensions</b>	277×185×31.6 mm	
<b>Weight</b>	1357 g	
<b>Environment</b>	Gravity drop resistance test: 150 cm	
	Vibration test: MIL-STD-810G	
	Dust resistance test: IP6×	
	Water resistance test: IP×7	
	Operating temperature: -10°C~65°C / 0°C~55°C(charging)	
	Storage temperature:-20°C~70°C	
	<b>Docking Station</b>	<b>All in one Cable</b>
<b>USB2.0(type-A)</b>	×1	×1
<b>RS232</b>	×2	×2
<b>Docking Station Status</b>	×1	×1
<b>ACC</b>	×1	×1
<b>power</b>	×1	×1
<b>CANBUS</b>	CAN 2.0 b (optional)	CAN 2.0 b (optional)
	J1939(optional)	J1939(optional)

	OBD-II (optional)	OBD-II (optional)
<b>GPIO (Positive Trigger input)</b>	Input ×2, Output ×2 (Default) GPIO ×6 (optional)	Input ×2, Output ×2 (Default) GPIO ×6 (optional)
<b>Analog Inputs</b>	× 3(optional)	× 3(optional)
<b>1-wire</b>	optional	optional
<b>RJ45</b>	optional	optional
<b>RS485</b>	optional	optional
<b>RS422</b>	optional	optional
<b>Video in</b>	optional	optional
<b>Mounting (optional)</b>		
<b>RAM Mount</b>	1.912 Inch RAM mount compatible (AMPS holes)	
<b>VESA Bracket</b>	VESA 75 mm Folder Bracket	

## 1.5 System icon description

Name	Icon	Description
WLAN		Long press to enter the setting interface to select a network that can be connected and connect. The number of display signal bars indicates the connection signal and the signal strength.
Bluetooth		Long press to open the display Bluetooth settings, select the Bluetooth name of the device you want to transfer to connect, after the connection is successful, you can send and transfer files.
Do not disturb		Turn it on and enter Do Not Disturb mode. The product is in a silent state, no notification is displayed, and no notification sound is emitted.
Automatic rotation		Choose whether the device is a fixed interface or an auto-rotating interface.
Power saving mode		Power saving mode can only be turned on when using battery power
Cellular Data		No SIM card status.
		Mobile signal connection status.
Flight mode		When the airplane mode is on, you cannot use phones, the Internet, and Bluetooth devices.
position		GPS is currently working
Hot spot		Start the Wi-Fi hotspot and it can be used as a WIFI transmitter.

flashlight		Can turn on the flashlight function
------------	---	-------------------------------------

## Chapter 2 Getting Started

### 2.1 Power On/Off and Sleep/Wake

This Chapter is describing how to power on/off the device, put the device into sleep mode (screen saver) and force restart.

Proper operation of power on/off the device will be beneficial to ensure the stability of the system. The device status indicated by the color of the indicator is as described in the following table for the standard VT-10 Pro. We provide customized service if the customer has other requirements regarding the operation of switch.

Indicator color	Device Status	
	Charging and Discharging	Power On/Off
Green light on	Uncharged or Full charged	Power on
Red light on	Charging	Power off or Power on
Red or Green light blinking	The device is abnormal, please cut off the external power supply immediately and return it back to the factory for repair.	

#### 2.1.1 Power on the Device

1. Power on by pressing the button:  
Long press the power button for more than 2 seconds until the boot screen displayed. It needs around 25 seconds to start the system. The indicator is on when VT-10 Pro activate normally.
2. Power on by connecting ACC, see the details in Chapter “3.3 Using ACC”.
3. Power consumption during operation: 9.6W(typical)

#### 2.1.2 Power off the Device

1. Power off by pressing the button: In the status of working on the device desktop, long press the power button for more than 2 seconds until the shutdown prompt pop-up then click the “POWER OFF” option.
2. Power off by ACC, see the details in the Chapter “3.3 Using ACC”.
3. Remark: In order to reduce the standby power consumption, the red light is on in charging status when power on. And the light will go off if full charged.
4. The consumption during power off :0 W

#### 2.1.3 Sleep and Wake the Device

- a. Auto sleep, the sleep time can be set up in the settings.




- b. Short press button to sleep.
- c. Sleep by ACC, see the details in Chapter “3.3 Using ACC”
- d. Short press to wake
- e. Wake by ACC, see the details in Chapter “3.3 Using ACC”
- f. The average of power consumption in sleep status: 1W

## 2.2 Changing the Battery

The tablet battery is installed in a removable way, which greatly facilitates the user's use of disassembly and installation.

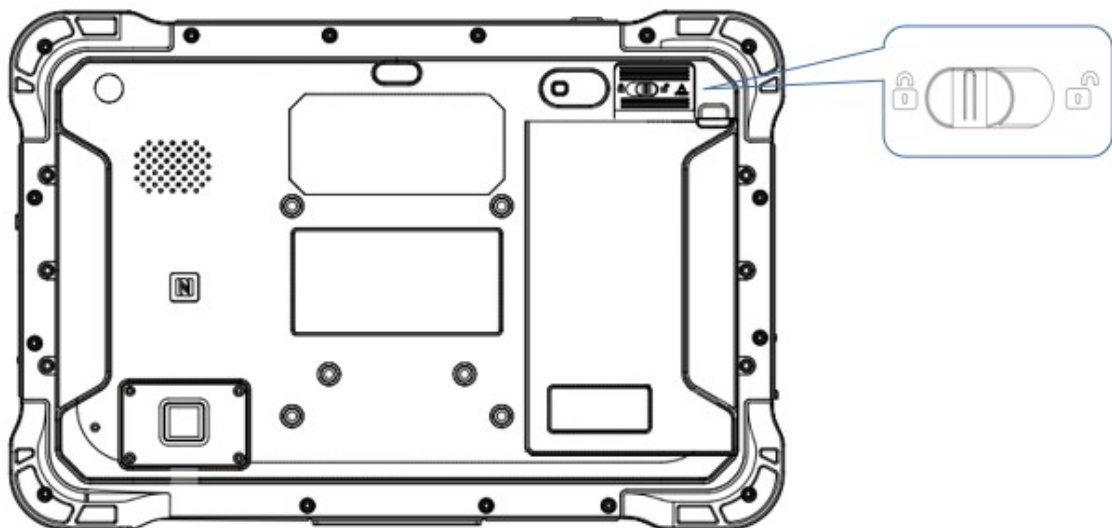
(Note: Please shut down before removing the battery.)

Icon introduction:

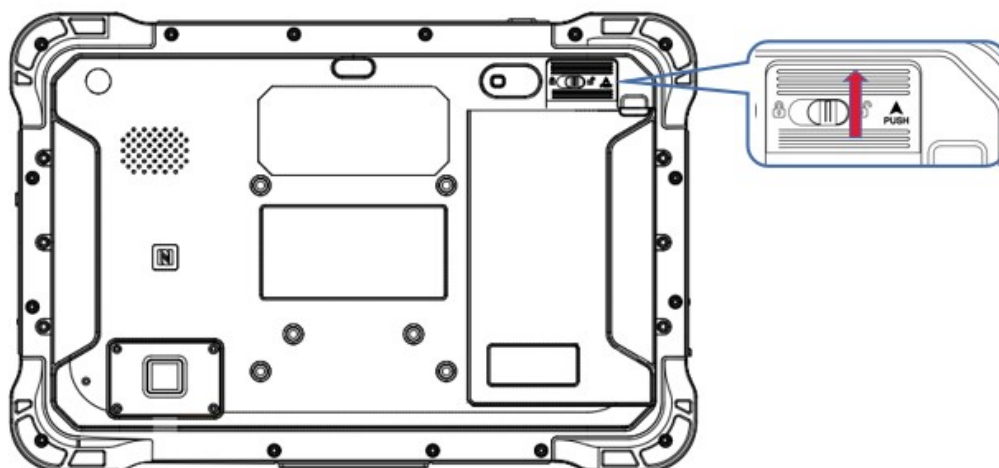
- ① : The switch is on the left, lock the machine state, lock the battery
- ② : The switch is on the right to unlock the machine status, and the battery can be removed
- ③ : In the direction of the arrow, push the indicated skateboard up

The specific operation methods of installation and removal are as follows:

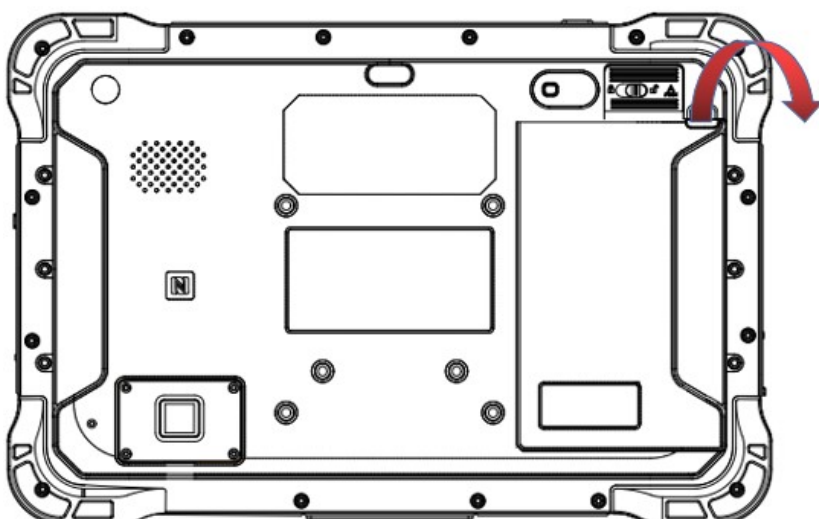
- ① To lock the battery status switch, turn it to the left. When you want to remove the battery, you need to turn the switch to the right.



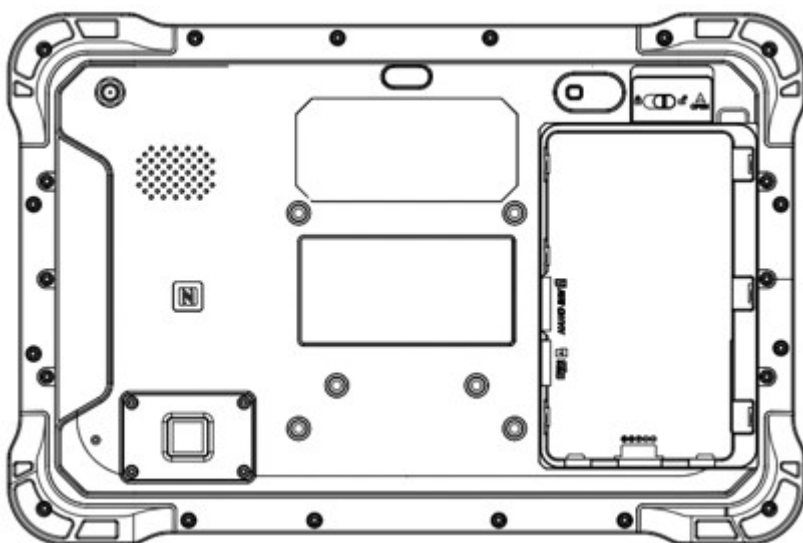
- ② Slide the control battery back plate up along the groove. After completion, the slide plate is on the top, as shown in the figure below.



③ Pull out the fixed battery groove (located on the upper right of the battery).



④ After completing the above operations, as shown in the figure below.



In order to ensure the life and performance of the battery, if your tablet has been stored in the warehouse for more than three months, it is recommended to charge the battery every three months.

### 2.2.1 Charging with the Power Adapter

A. Use a 12V power adapter to directly connect the charging port on the tablet to charge.

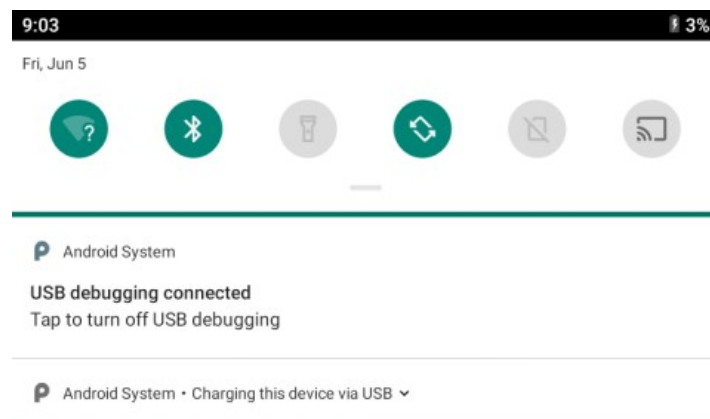
B. The machine with a docking station or integrated cable can also be charged through the power input on the tail cable. Detailed reference ( 1.3 Extended Cable Definition )

Warning:

Please ensure that the input voltage of the DC interface is within the range of 8V-36V, or use the 12V adapter coming with device. If the input voltage of the DC is outside this range, the VT-10 Pro may be unable to charge or damaged. It may cause the warranty invalid.

### 2.2.2 Checking the Battery Level

a. When the charging is in process, a battery indicator will appear in the status bar showing the charging percentage. To view the charge percentage, swipe down the Status Bar and you will see the charging percentage.



b. When the battery is fully charged, you can disconnect the DC input. If available, please keep the device in charging by DC power supply. See the details in “2.3 Charging the Battery”.

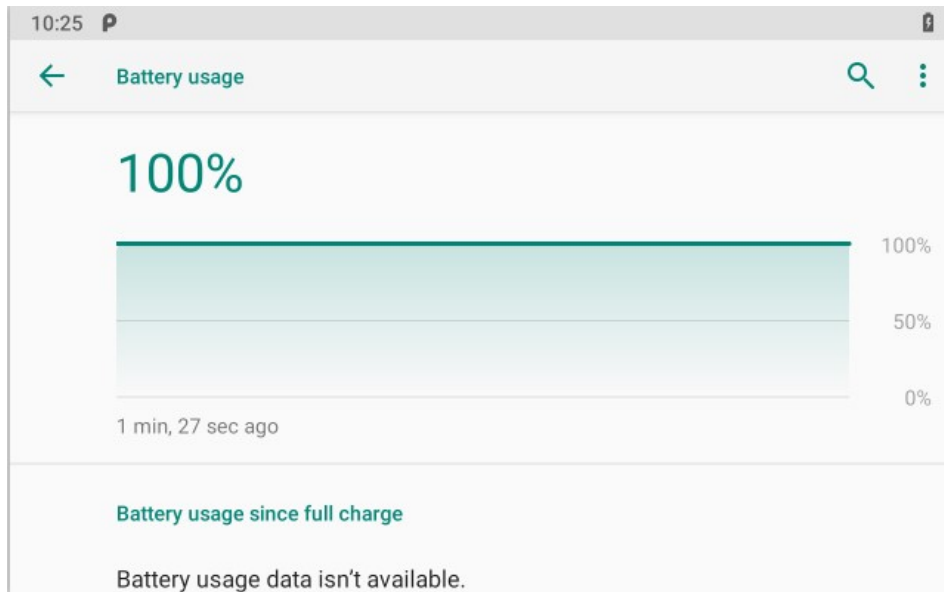
## 2.3 Optimizing Battery Life

If the VT-10 Pro is unable to keep charging by DC power supply, to optimize the operating time of the battery, it is recommended that you do the following:

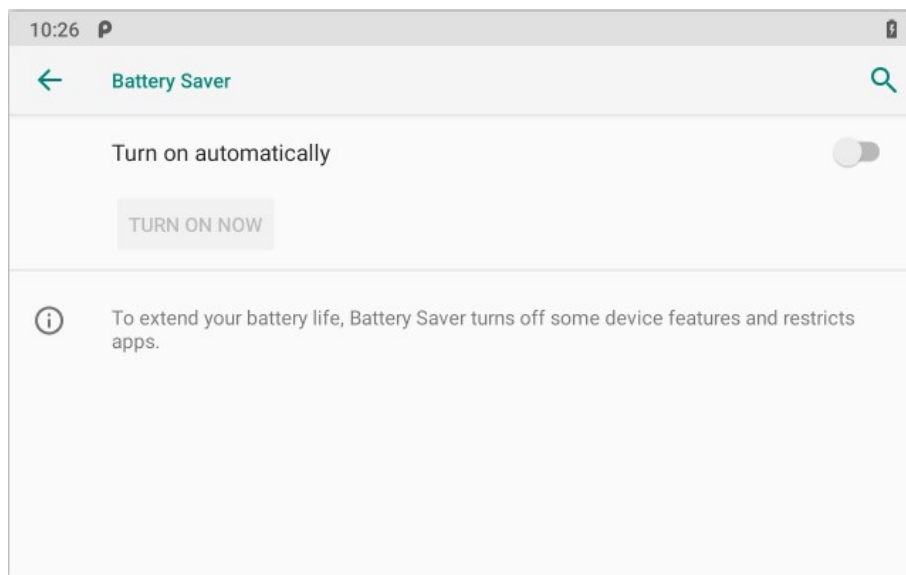
- Decrease the LCD display brightness.
- Set a shorter timeout of inactivity to allow the screen enter sleep mode.
- Turn off the display if you are not using it.
- Turn off Wi-Fi, Bluetooth or GPS function if you are not using it.
- Turn off the App that heavily drains the battery if you are not using it. To view



the battery usage by individual App, swipe down the Status Bar in the upper right corner and tap and hold the Battery icon.

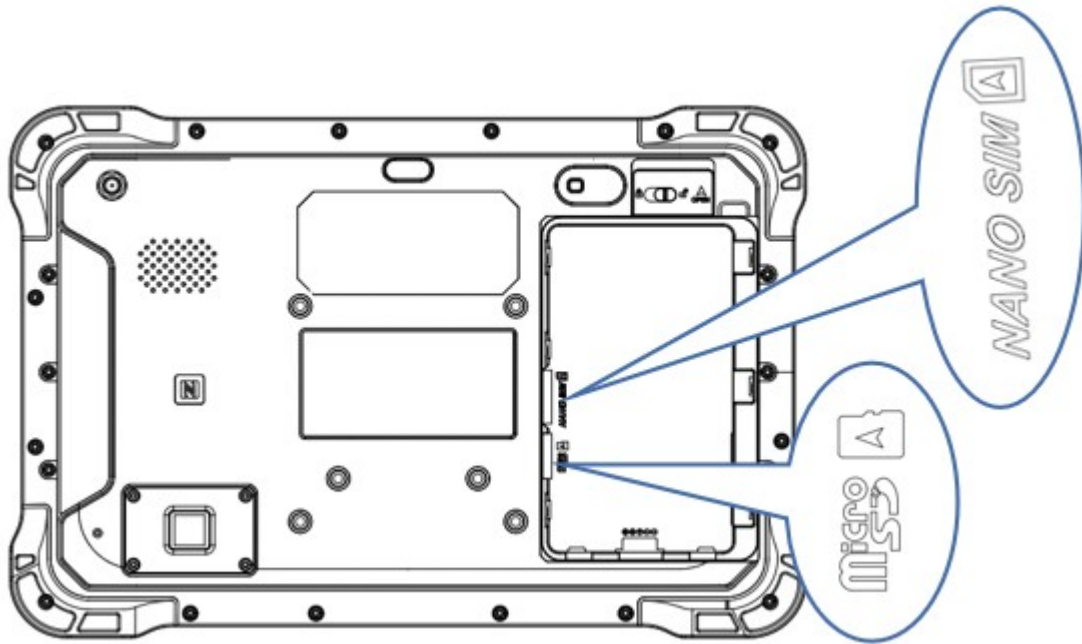


- Enable CPU power saving mode on battery settings page to limit the maximum CPU performance to conserve battery life and lower device temperature.  
To access the battery settings page, swipe down the Status Bar in the upper right corner and then tap and hold the Battery icon.



## 2.4 Installing Micro SD and SIM Card

Before installing the SIM card and TF, you need to remove the tablet battery. After disassembly, please insert the required card into the machine in the direction indicated in the figure below. Finally, load the battery and press the power button to start the machine.



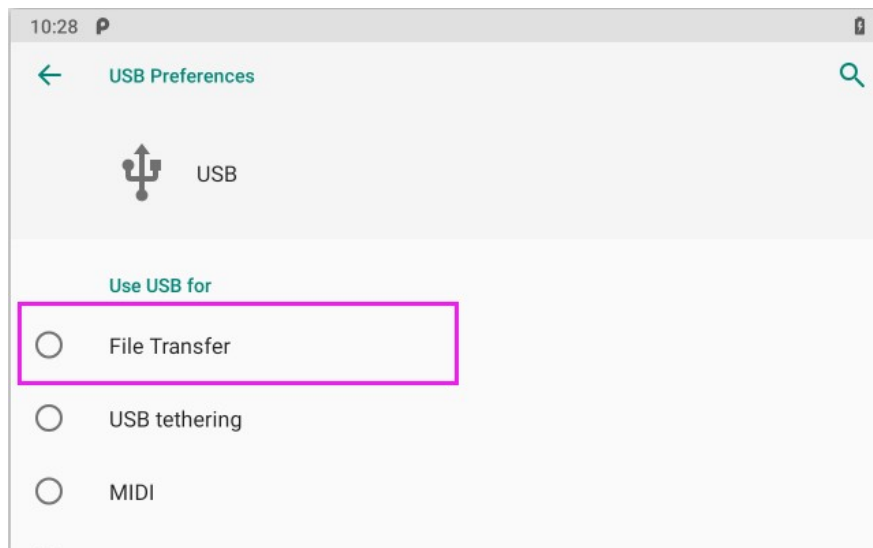
## Chapter 3 Using VT-10 Pro Hardware Interface

### 3.1 Transferring Files between Computer and the Device

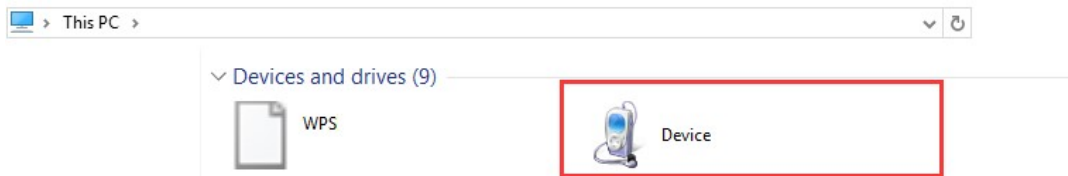
You can transfer files, such as pictures or audio files, between your computer and your device using the provided USB cable.

#### 3.1.1 Connection

Connect the device to the computer by using the USB type-c cable, and open the prompt message of the device. Select “File Transfer”.



Find out the “Device” in “This PC”.



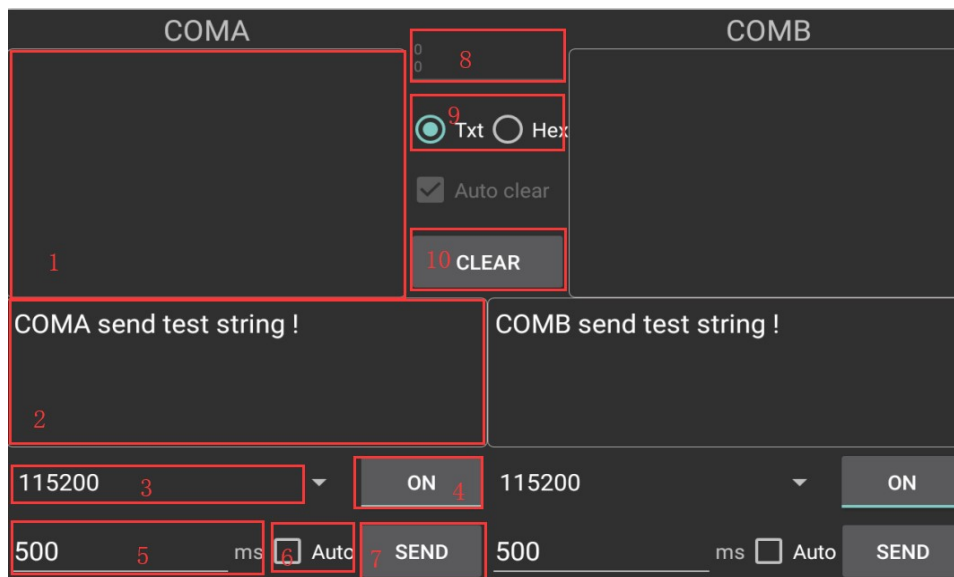
### 3.2 Using Serial Port Demo App

Serial Port ID: COM1, COM2

Correspondence between RS232 tail line and device node.

COM1=/dev/ttyHSL0.

COM2=/dev/ttyHSL1.



1. The boxes in red means the text box for the COM port information received, to display information received by corresponding COM port.
2. The boxes in red means the text input box for the COM port information sent, to edit information sent by corresponding COM port.
3. The left box in red means Baud rate Drop-down selection box, to select corresponding COM port Baud rate.
4. The right box in red means COM port switch, to switch on/off corresponding COM port.
5. The boxes in red means auto send interval time setting.
6. The boxes in red means auto send mode selection, and COM port info. sending button.
7. COM port info. sending button.
8. The boxes in red means text rows counting in the information receiving text box, the above numbers corresponding to the COM port information receiving box on the left, the following numbers corresponding to the one on the right.
9. The boxes in red means send/receive information codec format option button, select “Txt” to send info. with String code, select Hex to send info. with Hexadecimal format code.

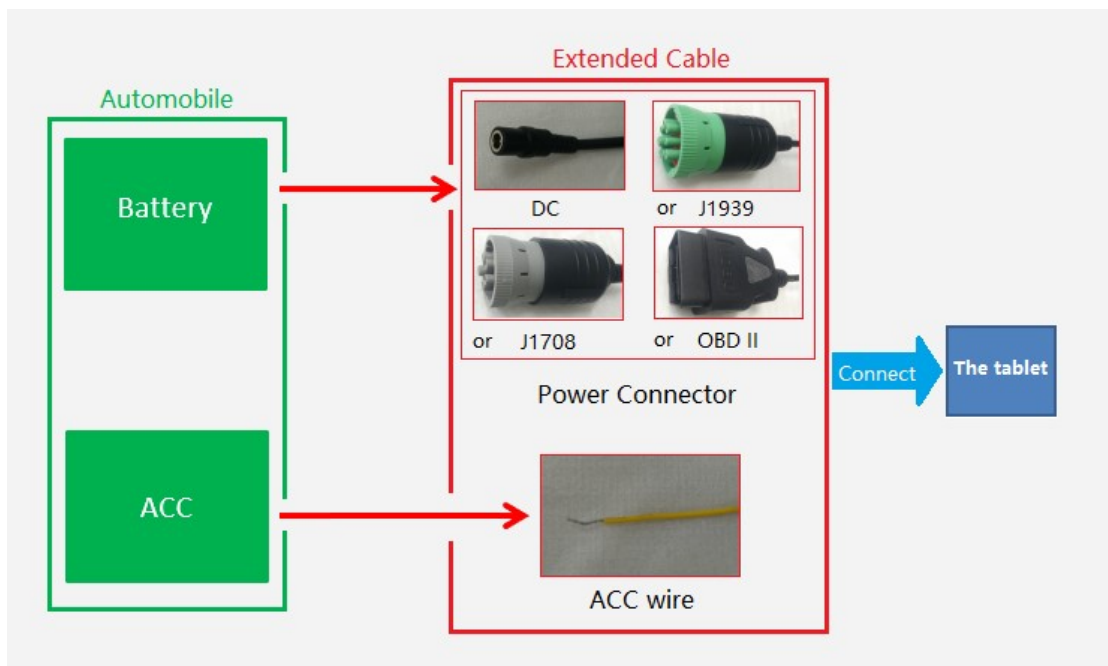
10. The boxes in red means manual clear button, click to clear both info. in the COM port info. receiving boxes.

### 3.3 Using ACC

Please see “1.3 Extended cable definition” for ACC Interface details.

#### 3.3.1 ACC Connection Instruction

Figure, connecting the tablet with vehicle power supply through extended cable or docking station, and connecting ACC wire on extended cable of the tablet with ACC of vehicle.



#### 3.3.2 ACC Functions

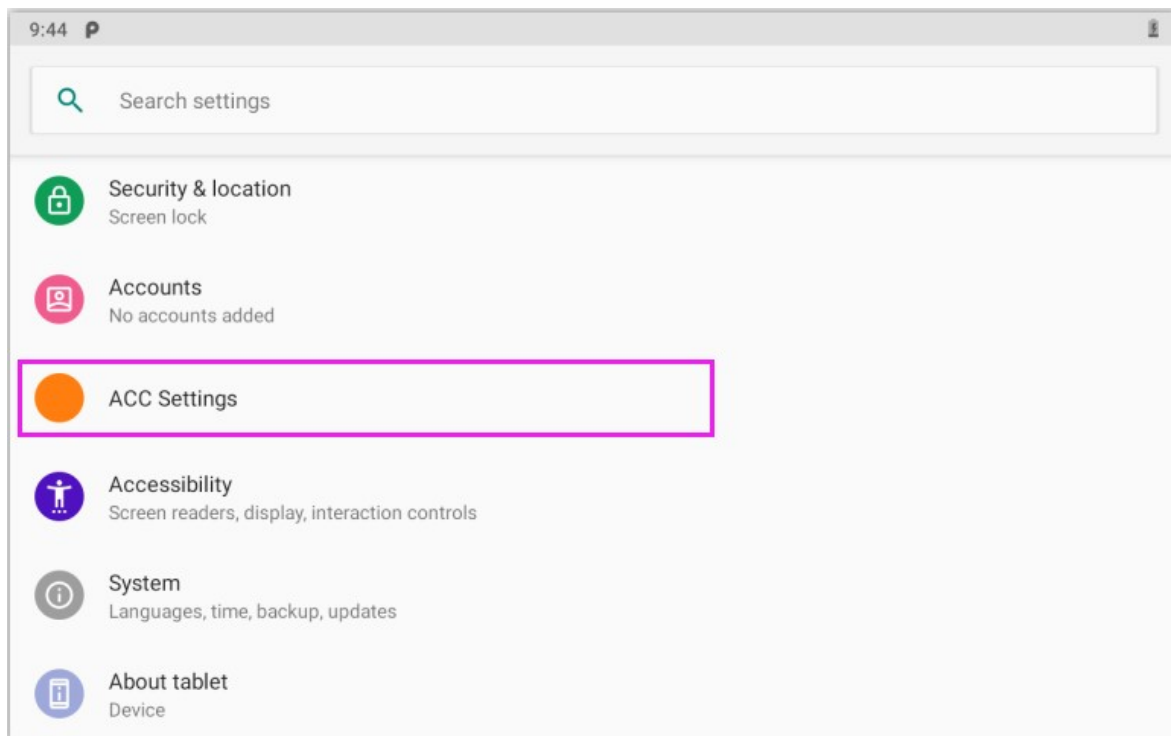
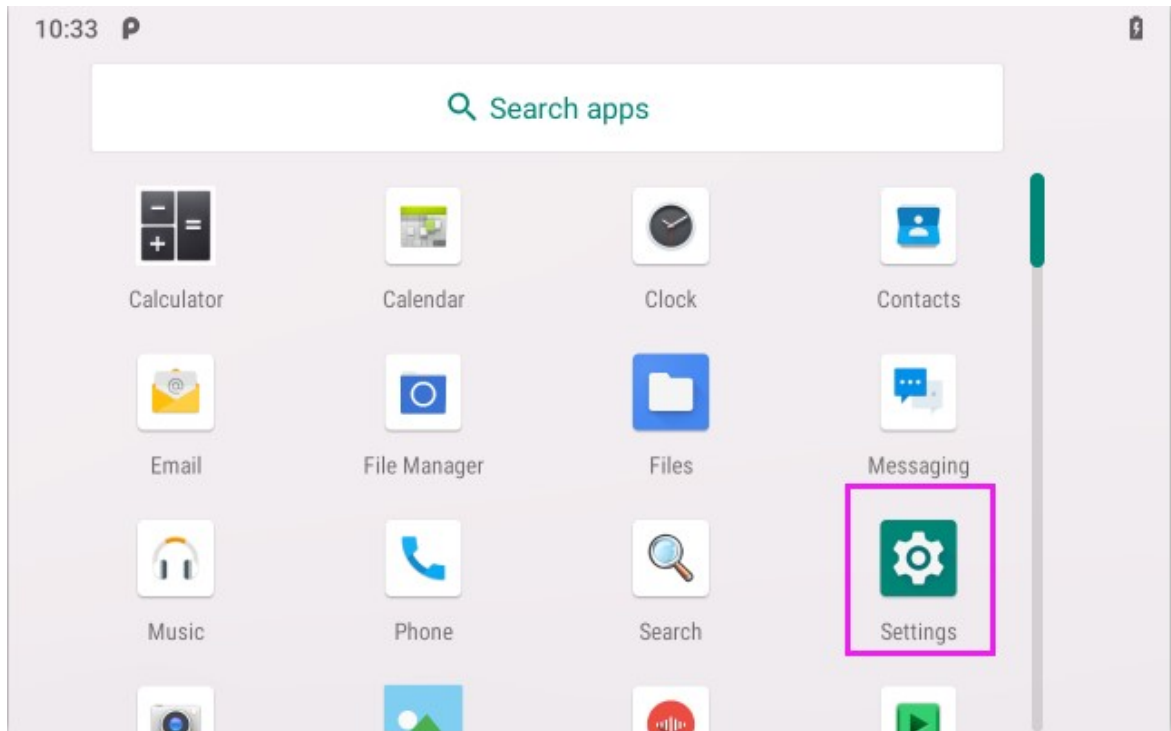
- I. Power on the tablet by ACC.
- II. Light up the screen by ACC.
- III. To turn off the screen by ACC trigger based upon the setting delayed time.
- IV. To shut down the tablet by ACC trigger based upon the setting delayed time.

**Note:**

- a) The ACC is triggered by the electric level.
- b) Function of “Power on the tablet by ACC” can’t be modified from the system.
- c) It takes about 10 seconds to completely shut down the system after ACC is started. Please do not try to use boot-triggered actions during this process.

### 3.3.3 ACC Settings Path

Find ACC Settings from Settings as the Figures shown:

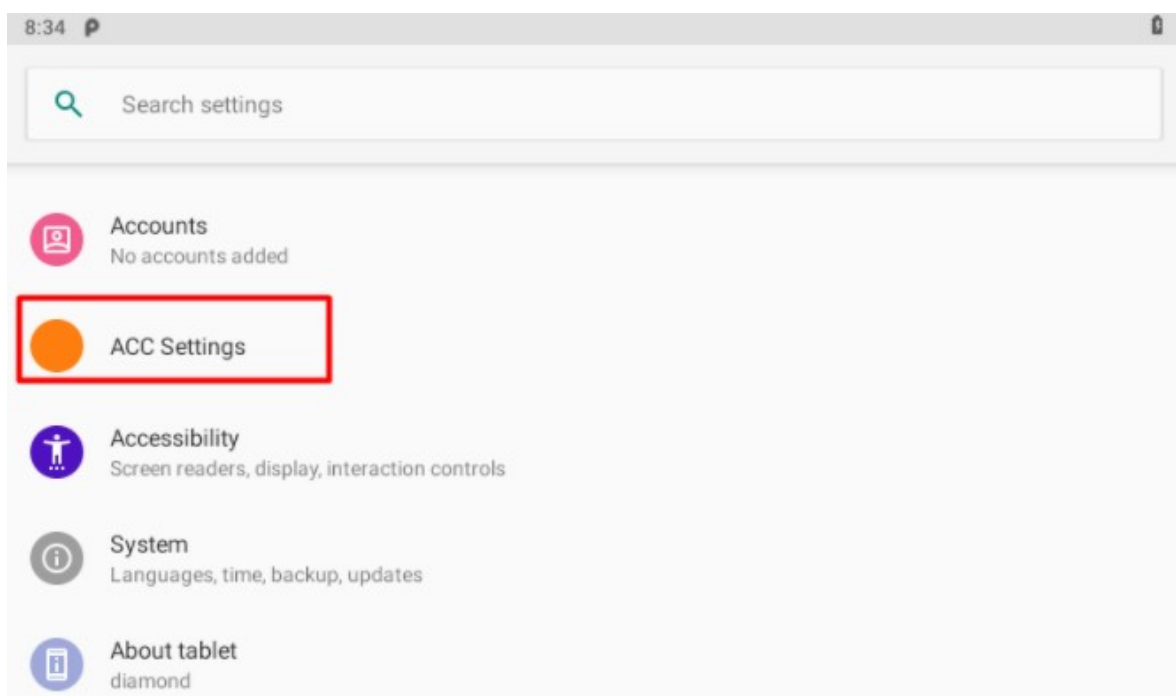
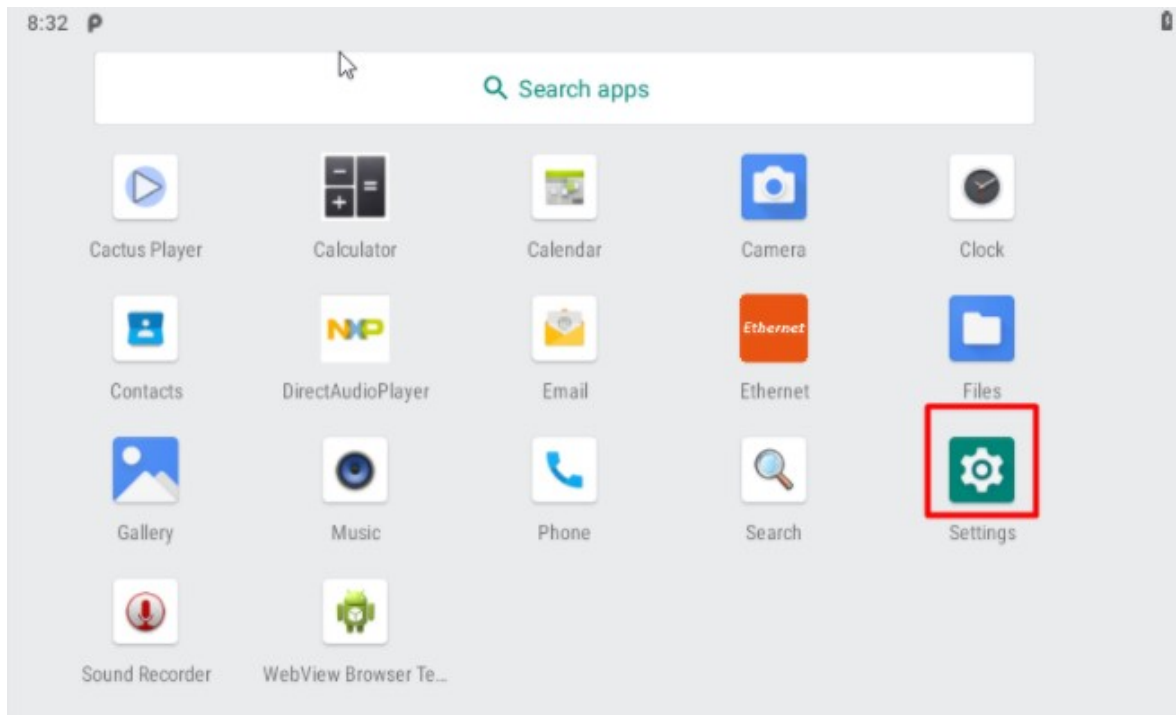


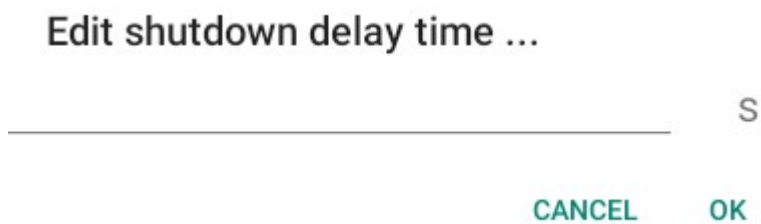
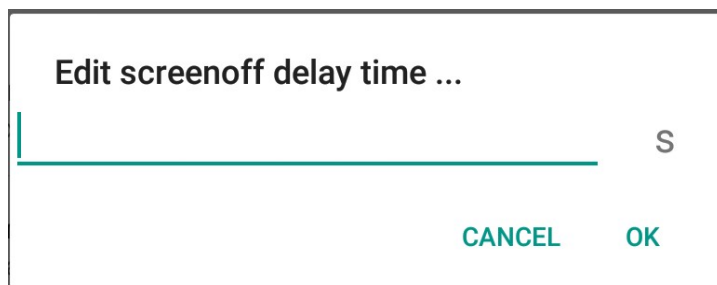
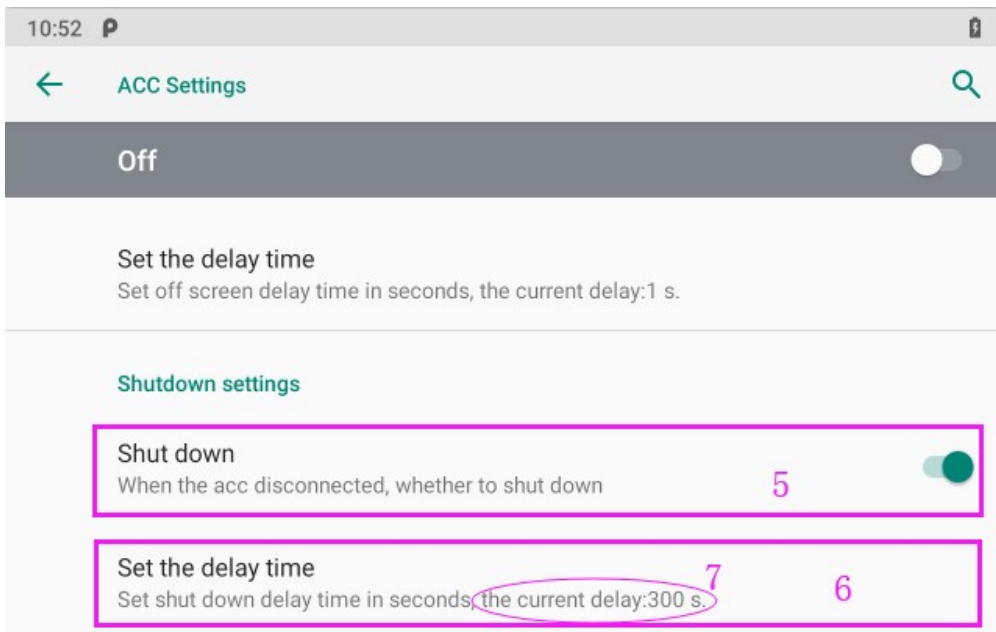
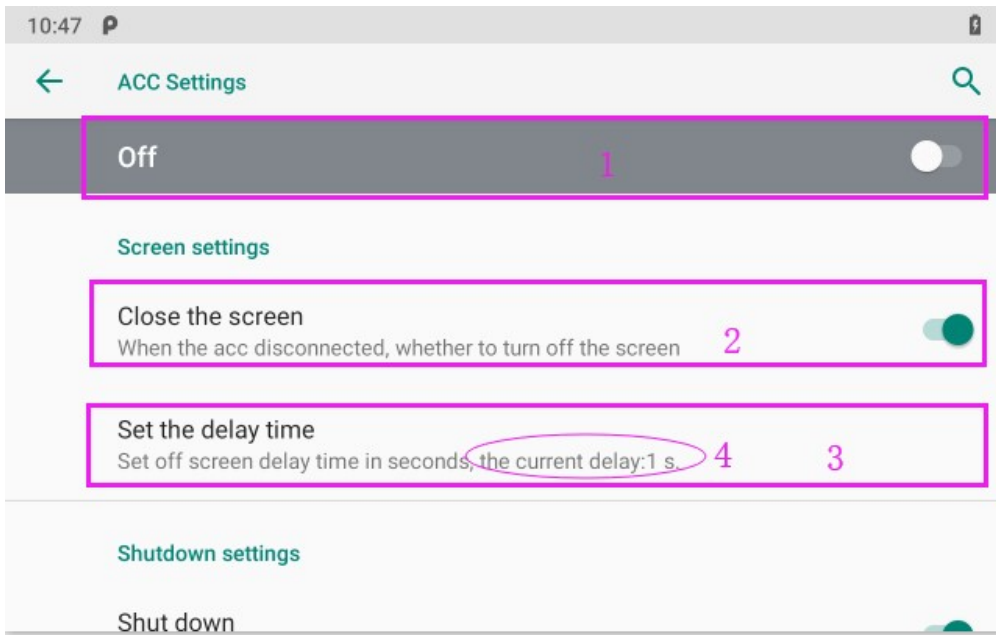
### 3.3.4 ACC Settings

ACC Settings Path: Settings-->ACC Settings

Note: The following text description corresponds to the red number in the figure.

1. ACC controls the switch of the three functions of turning on the screen, turning off the screen and turning off the power;
2. ACC controls switch to turn off the screen function;
3. Click to pop up the dialog box in Figure to set the delay time to turn off the screen display after ACC is disconnected;
4. Display current delay time;
5. ACC controls switch to turn off the tablet;
6. After clicking, the dialog box shown in Figure to set the delay time for shutdown after ACC is disconnected.
7. Display current delay time;





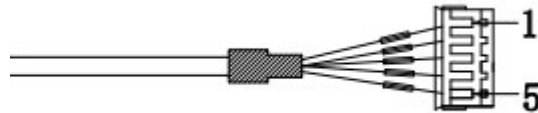
## 3.4 Using GPIO

### 3.4.1 GPIO Tail Lines Instruction

Regarding the definition diagram of GPIO interface, please see the details in Chapter “1.3 Extended cable definition”.

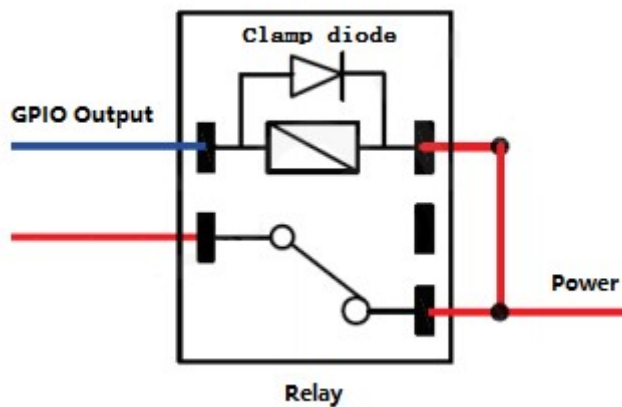
### 3.4.2 GPIO Specification

The GPIO interface instruction diagram is as follows:



	1	2	3	4	5
GPIO	Input 1	Input 2	Output 1	Output 2	GND
	GPIO36	GPIO42	GPIO3	GPIO24	-----
	Digital input, positive active		Open drain output, 150 mA current		Digital GND

In case of inductive load of motor, relay, and so on, be sure to use the clamp diode externally.



Typical relay connection

### 3.3.3 GPIO\_DEMO Instruction

#### a) Introduction

This software is only used for developing GPIO functions of device, and it isn't suitable for factory's standard software.

#### b) GPIO\_DEMO Main Interface



12:07 GPIO_DEMO		
Name	Direction	State
GPIO36	IN	LOW
GPIO42	IN	LOW
GPIO3	OUT	HIGH
GPIO24	OUT	HIGH
READ_IN		SET_OUT_LOW

c) Introduction of Main Components

The part marked with a red box in Figure.

1. Name: means the port names of GPIO.
2. Direction: means the input or output direction of the ports.
3. State: means the current level state of the GPIO ports.

12:07 GPIO_DEMO		
Name	Direction	State
GPIO36	IN	LOW
GPIO42	IN	LOW
GPIO3	OUT	HIGH
GPIO24	OUT	HIGH
READ_IN		SET_OUT_LOW

The button marked with a red box shown in Figure. It can read the value at once, when GPIO is set as the input direction.

12:07 GPIO_DEMO		
Name	Direction	State
GPIO36	IN	LOW
GPIO42	IN	LOW
GPIO3	OUT	HIGH
GPIO24	OUT	HIGH
READ_IN		SET_OUT_LOW

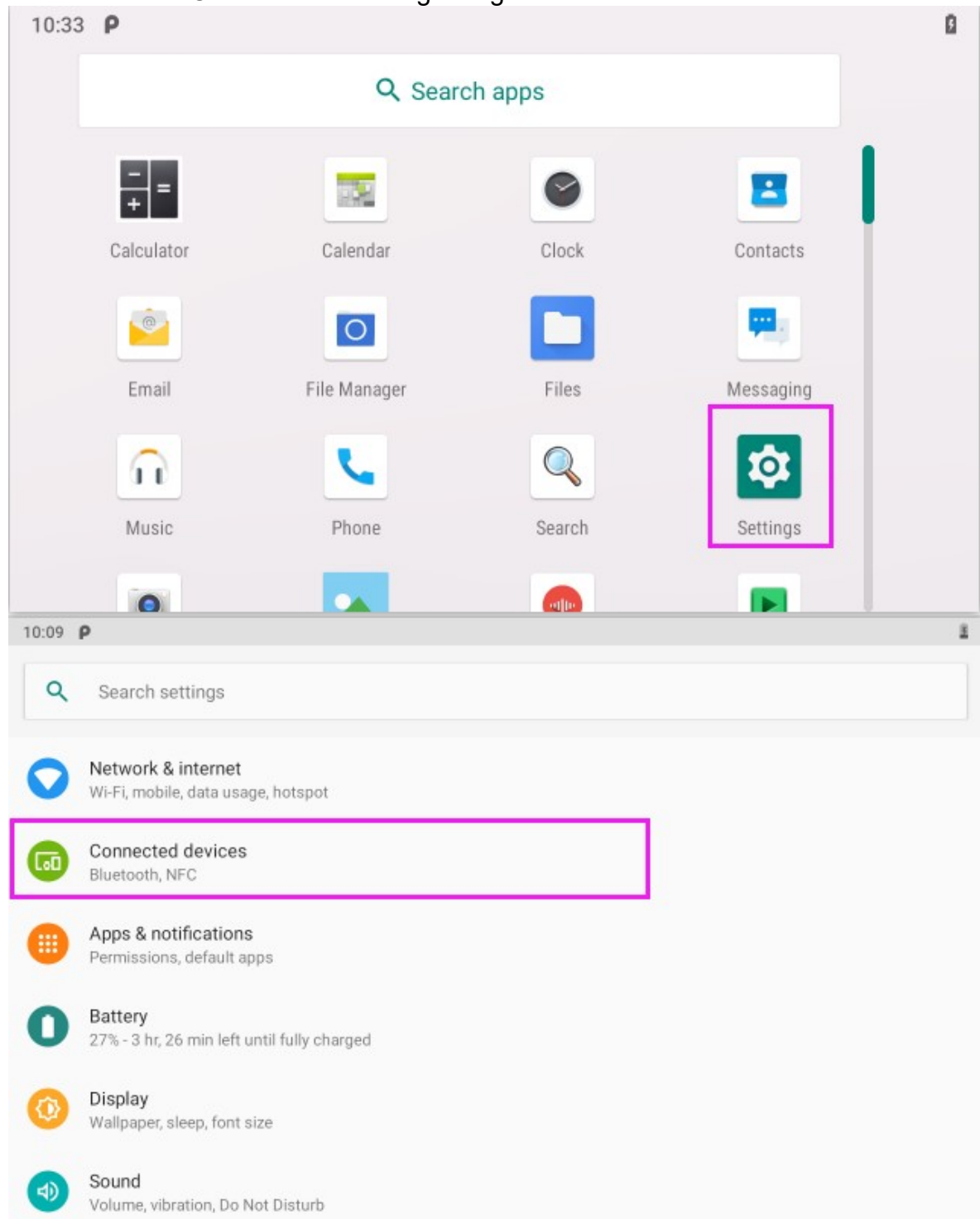
The button marked with a red box shown in Figure used to set the high or low of GPIO output at once.

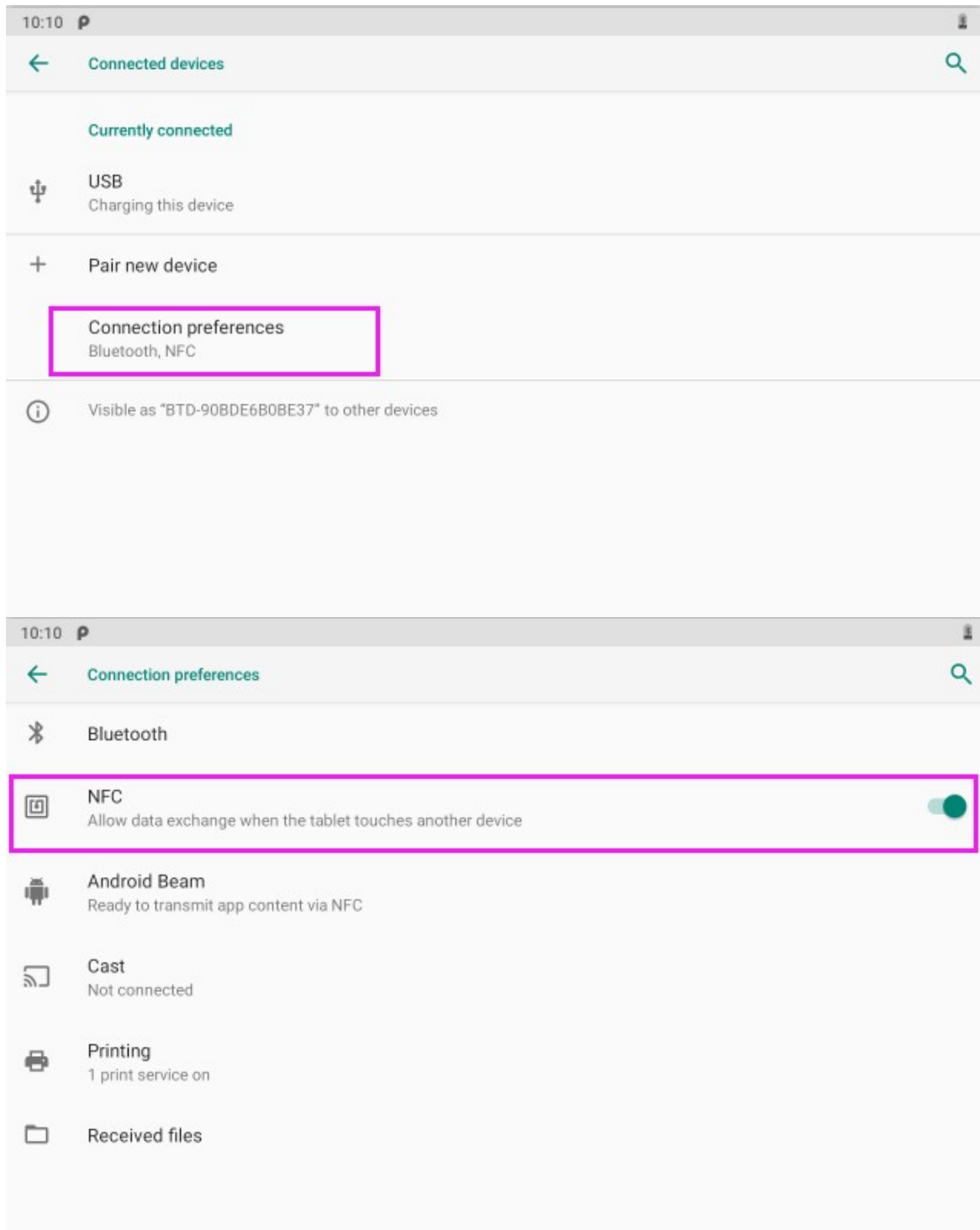
12:07 GPIO_DEMO		
Name	Direction	State
GPIO36	IN	LOW
GPIO42	IN	LOW
GPIO3	OUT	HIGH
GPIO24	OUT	HIGH
READ_IN		SET_OUT_LOW

## 3.5 Using NFC Function

### 3.5.1 NFC Activation Method

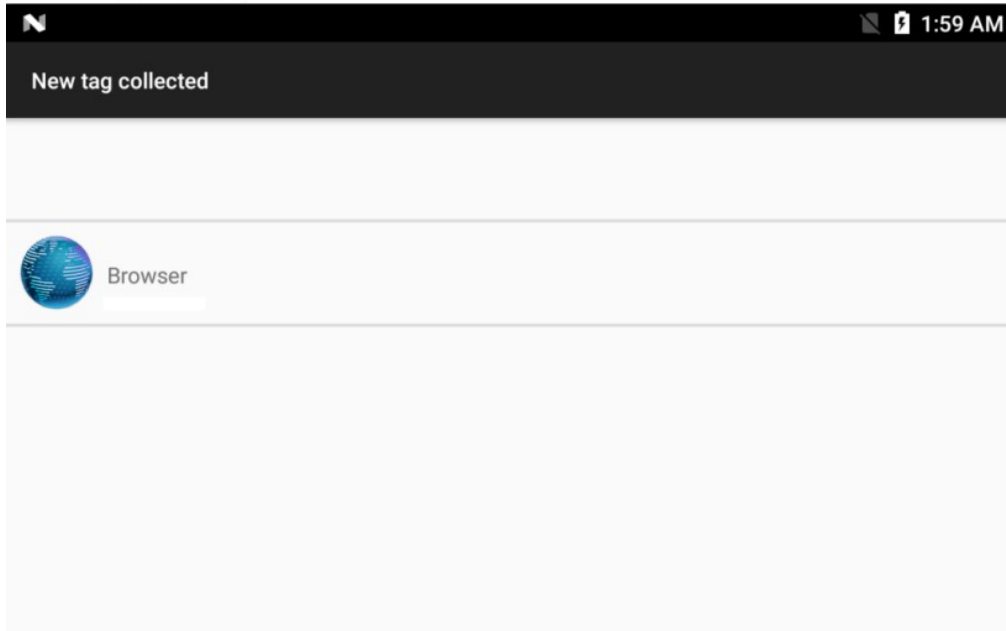
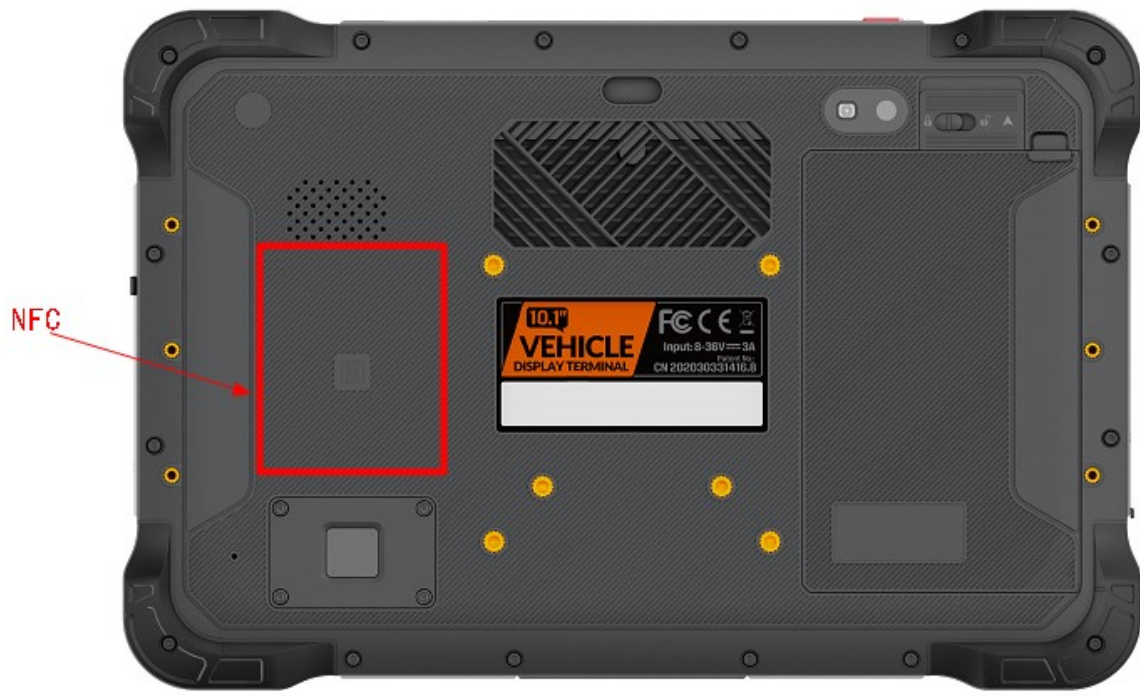
Activate the NFC function according to Figure.





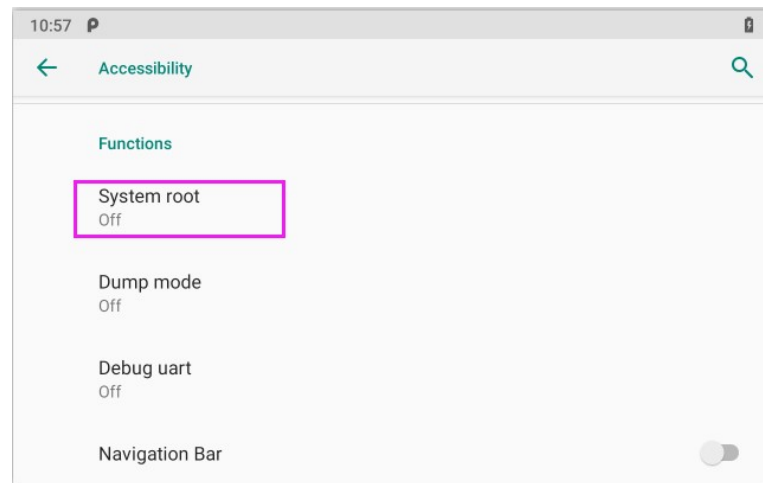
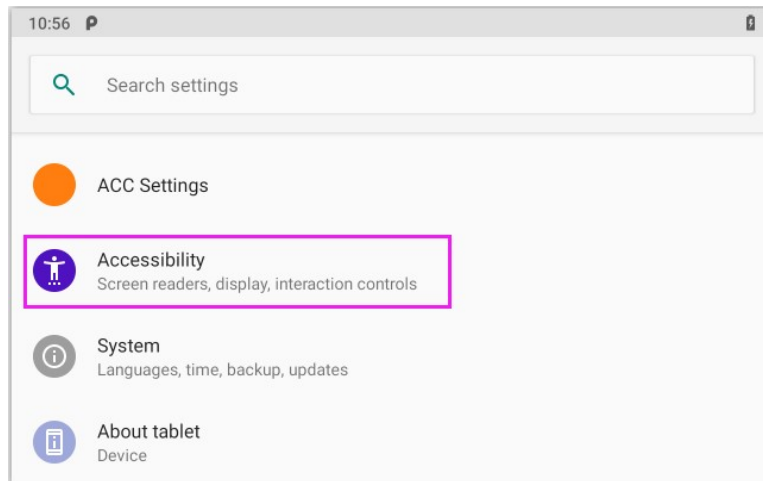
### 3.5.2 NFC Usage Demo

After activating NFC function, place the NFC card close to the induction area. A prompt tone would be heard if the card is successfully identified. If the card contains some information (such as manufacturer's information), there will be an interface popped up as shown in figure. (Note: If the card has been identified, it does not always pop up an interface, but there must be a prompt tone.)

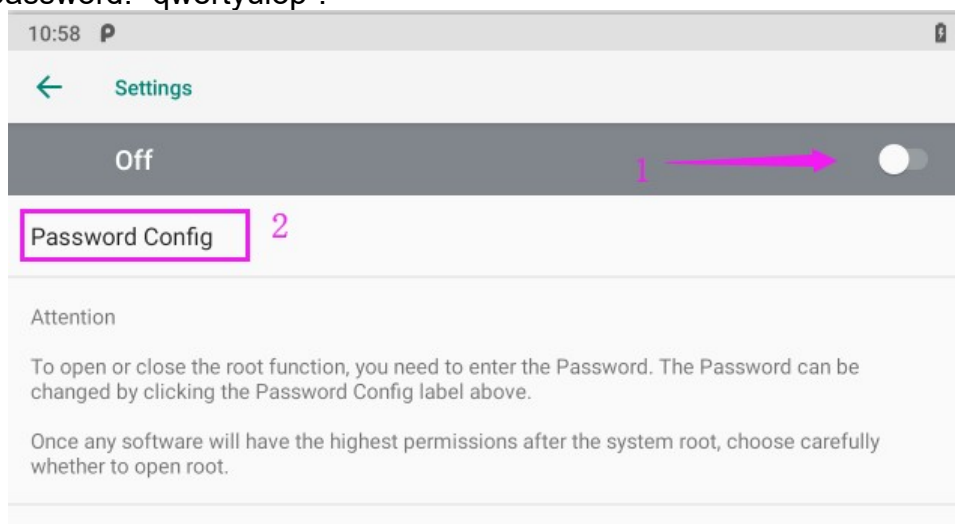


### 3.6 System Root Switch Usage Guide

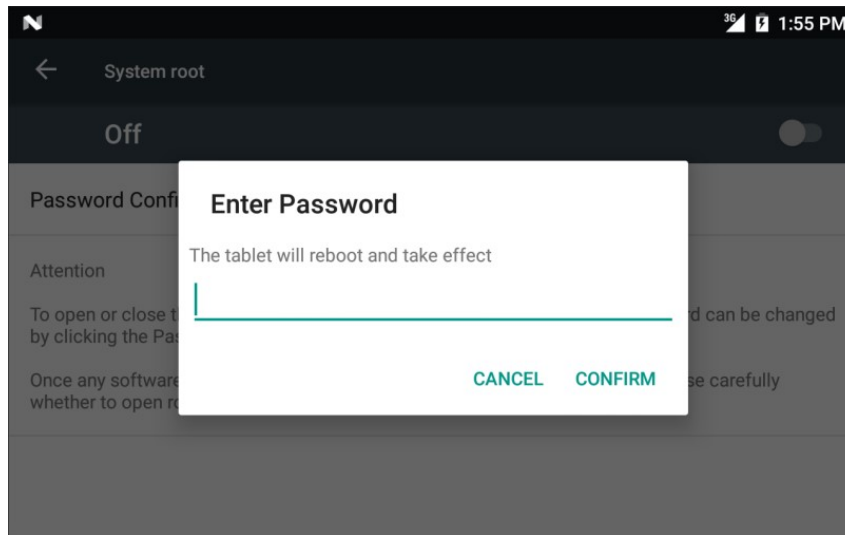
1 Refer to the following figure to enter the Root privilege (on/off) function setting interface.



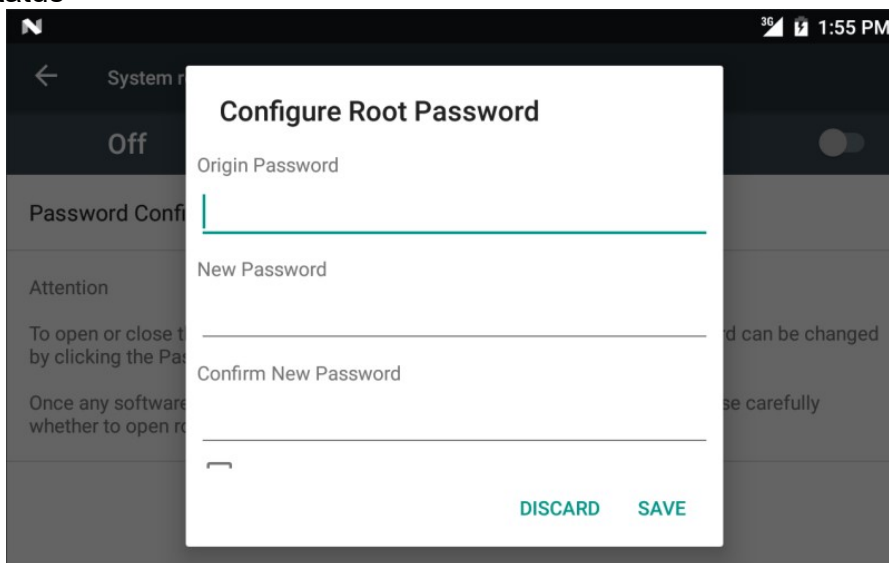
2 The root switch setting interface is as follows. In the figure, “1” is the Root permission (on/off) switcher. “2” to modify the password. Initial password: “qwertyuiop”.



3 The dialog box to set the Root Permissions (on/off)



4 The dialog box for modifying the password required for the root permission (on/off) status



**Note:**

If restore the factory settings, the root switch state will be reset to OFF, and the password is restored to the initial.

## Chapter 4 Docking Station Using Instruction

### 4.1 Docking Station Install Steps

1. Insert the key and turn it 90 degrees to the right to unlock the key to unlock the telescopic buckle as Fig 4-1 shown.

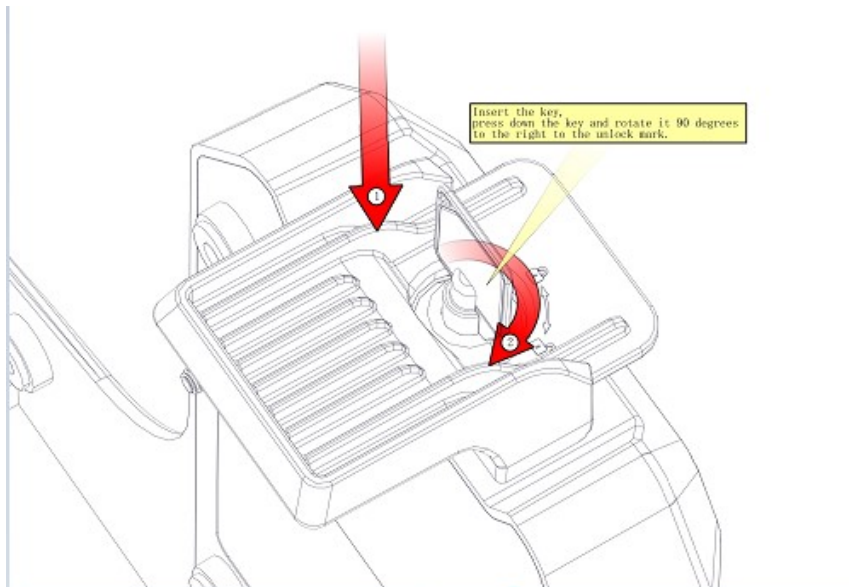


Fig. 4-1

2. Align the VT-10 Pro to the limit slot of docking station as Fig 4-2 shown.

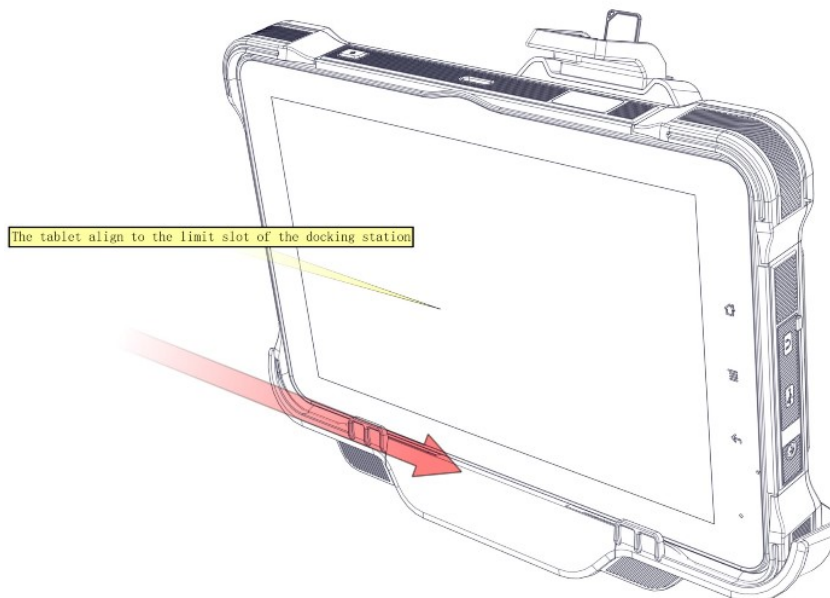


Fig. 4-2

3.the buckle up as the Fig.4-3 shown.



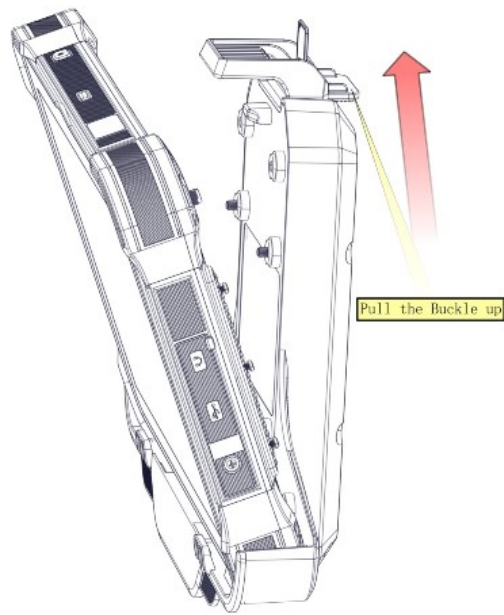


Fig. 4-3

4. Push VT-10 Pro to make it attached the docking via snap joint, as Fig. 4-4 shown.

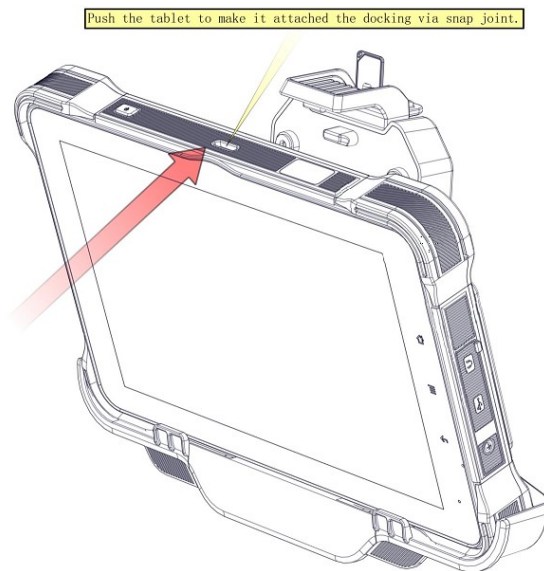


Fig. 4-4

5. Release and finish the installation as Fig.4-5 shown.

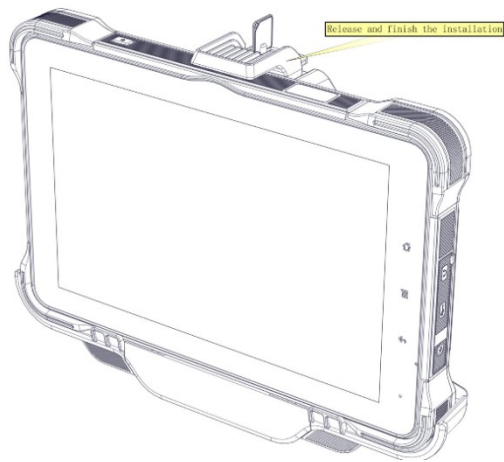


Fig 4-5

## 4.2 Docking Station Disassemble Steps

1. Stretch upwards the buckle to release it from the device, as Fig 4-6 shown.

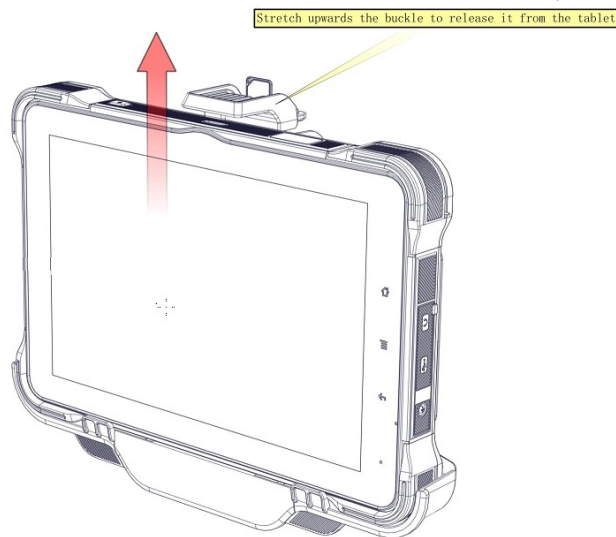


Fig. 4-6

2. Take out the device as Fig.4-7 shown.

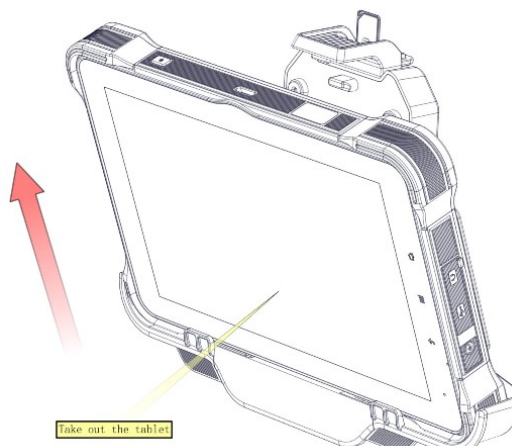


Fig. 4-7

3. Hold down the key and rotate 90 degrees to the locked sign, pull out the key to

lock the telescopic buckle as shown in Fig.4-8.

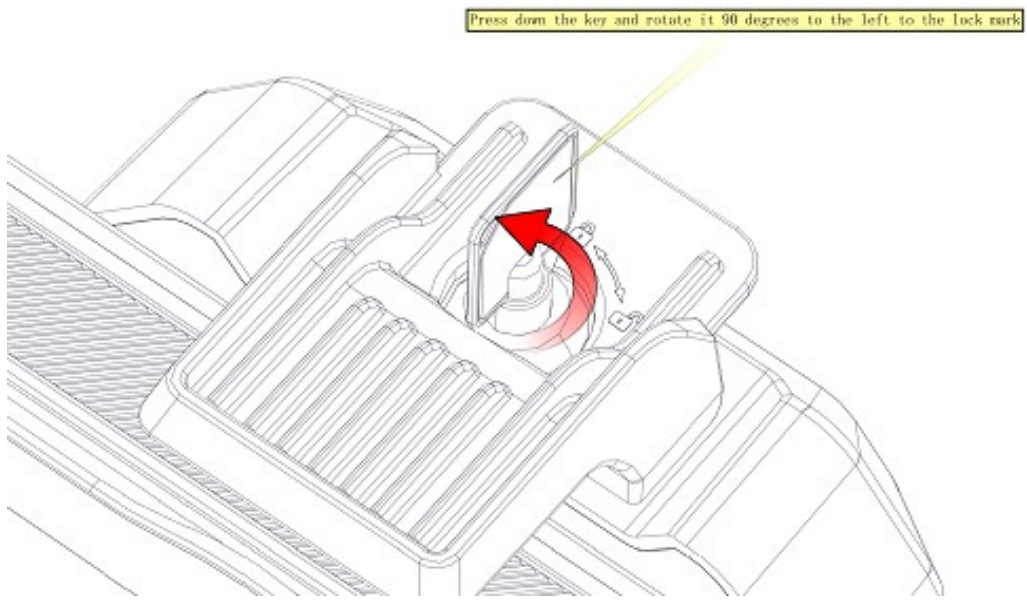


Fig. 4-8

# Chapter 5 Accessories

## 5.1 Accessories



Allen Wrench

1pc

Screws for RAM

4pc

USB to Type-C cable

1pc

DC (12V)

1pc

battery cover crowbar

1pc

## 5.2 Optional accessories



1. J1939 female to open cable

1 pc

2. OBD-II female to open cable

1 pc

3. RAM -101U

1 pc