USB-TO-TTL-FT232

Overview

Introduction

The USB-TO-TTL-FT232 is a UART serial module that converts a USB interface to TTL level. With this converter, a computer or other device with a USB interface can connect to TTL logic level devices, such as microcontrollers, sensors, and more, enabling data communication.

Features

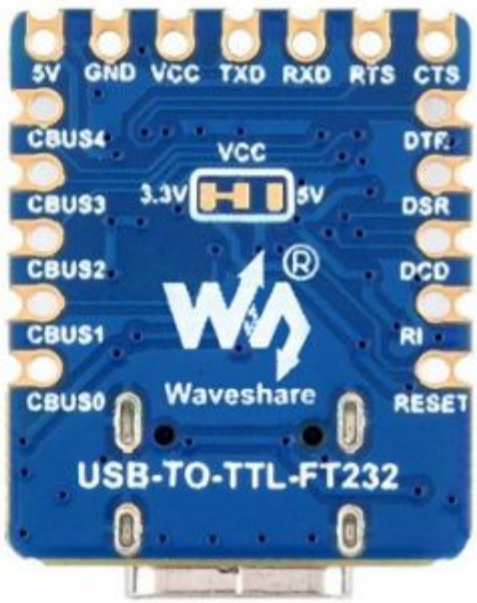
- Onboard original FT232RNL chip, fast communication, stable and reliable, better compatibility.
- Castellated holes design, compact size, easy to integrate into the device by soldering.
- UART communication baudrate: 300bps~3Mbps.
- Onboard self-recovery fuse and ESD diode, provides over-current/over-voltage protection, stable and safe operation.
- Onboard TXD and RXD indicators for monitoring transceiver status.
- Reserved VCC switching pads on the back, using 3.3V TTL by default, allows switching to 5V by re-soldering.
- Adapting all function pins of the chip, more convenient for secondary development and integration.
- Onboard USB Type-C port, smoothly plug & pull, solid and reliable.

Parameters

Items	Parameters
Model	USB to UART TTL
Power Supply	5V
Serial Port (TTL Level)	3.3V/5V
Baud Rate	300bps ~ 3Mbps
Operating System	Support Win7/8/8.1/10/11, Mac, Linux, Android, WinCE...

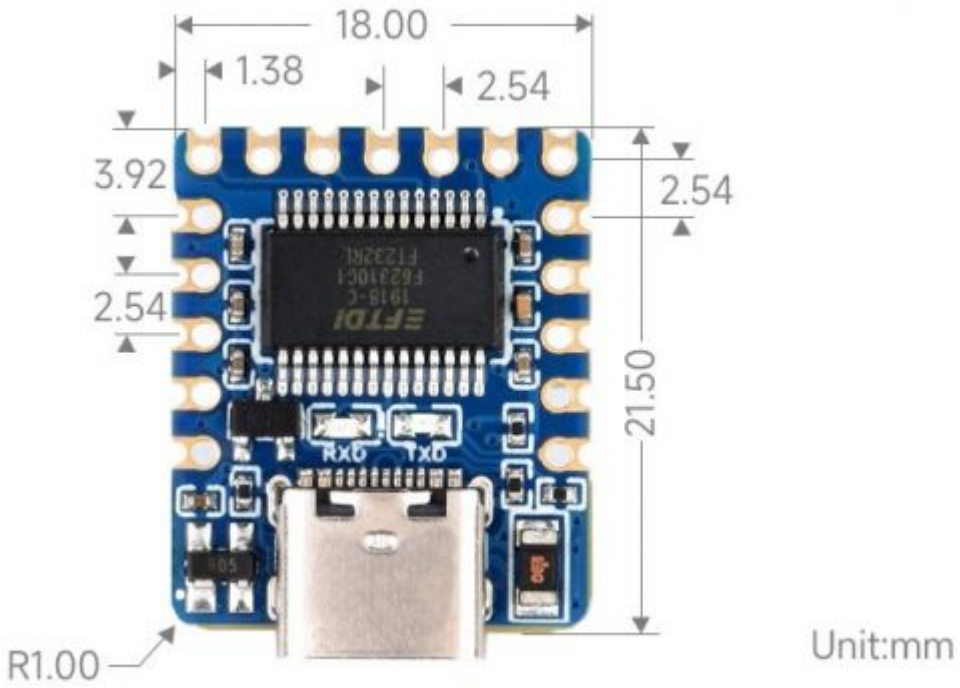
Onboard Interface





Pin	Function	Input/Output
5V	Provide 5V to external devices	-
GND	Ground	-
VCC	Provide 5V or 3.3 to external devices (By selecting the output voltage via the solder pads on the back.)	-
TXD	Serial Data Transmitting pin, connect to MCU.RX	Output
RXD	Serial Data Receiving pin, connect to MCU.TX	Input
RTS	Send requests, connect to MCU.CTS	Output
CTS	Clean requests, connect to MCU.RTS	Input
DTR#	Data terminal ready, for control external devices, low active	Output
DSR#	Data set ready, detect whether the external device is ready, low active	Input
DCD#	Data carrier detection, low active	Input
RI#	Ring indicator, detect whether the external device rings, low active	Input
RESET#	FT232 reset pin, low active (pull low RESET pin, FT232 reset)	Input
CBUS0-CBUS4	Configurable function pin	Output/Input

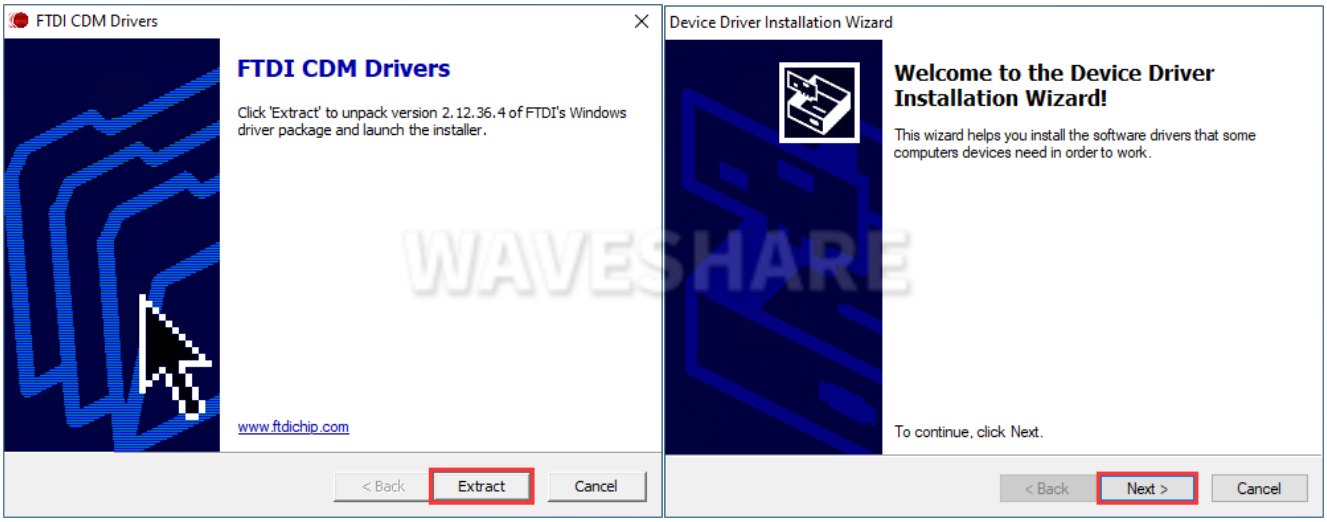
Dimensions



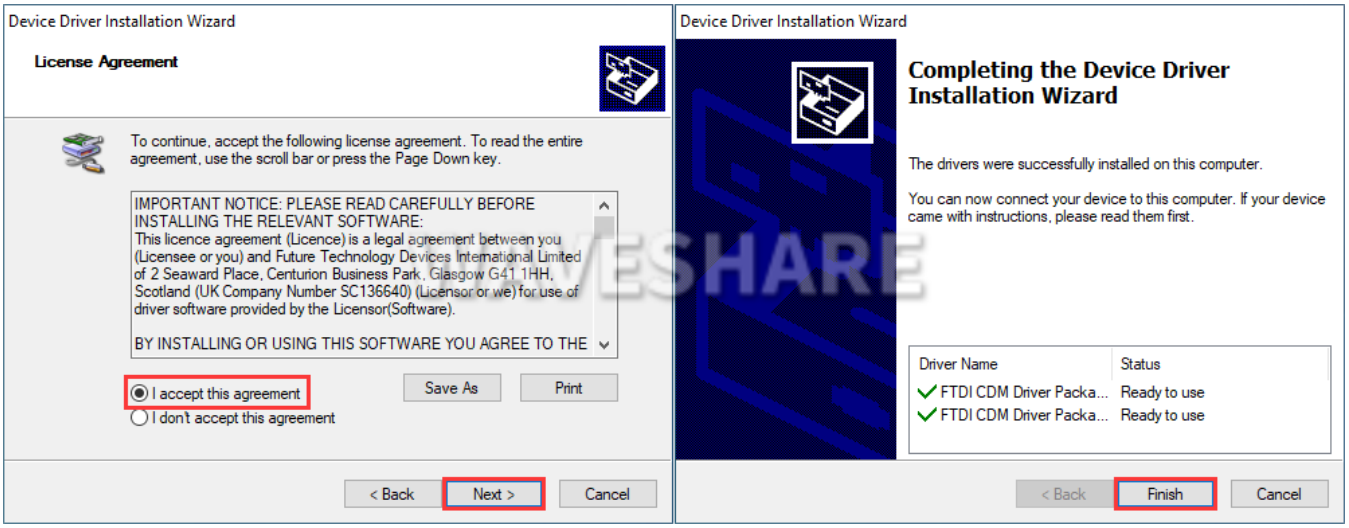
How to Use

Driver Installation

- Download the driver file VCP Driver
- Double click on **CDM212364_Setup.exe** and install it.
- Click on **Extract**, and then "NEXT".



- Click on **I accept this agreement**, and then click on "NEXT", and click on "Finish".



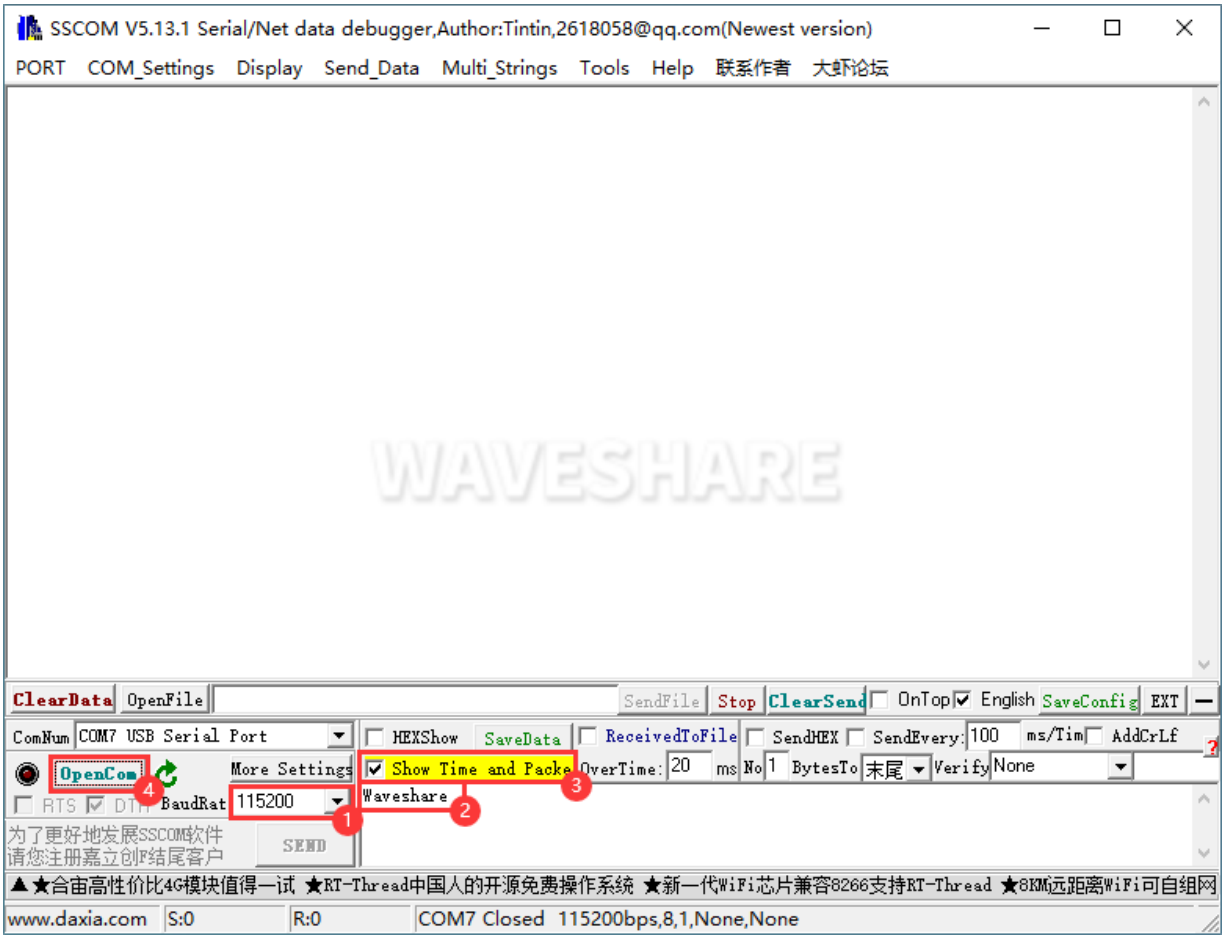
- After connecting the PC, you can see the usable COM port number in the device manager.



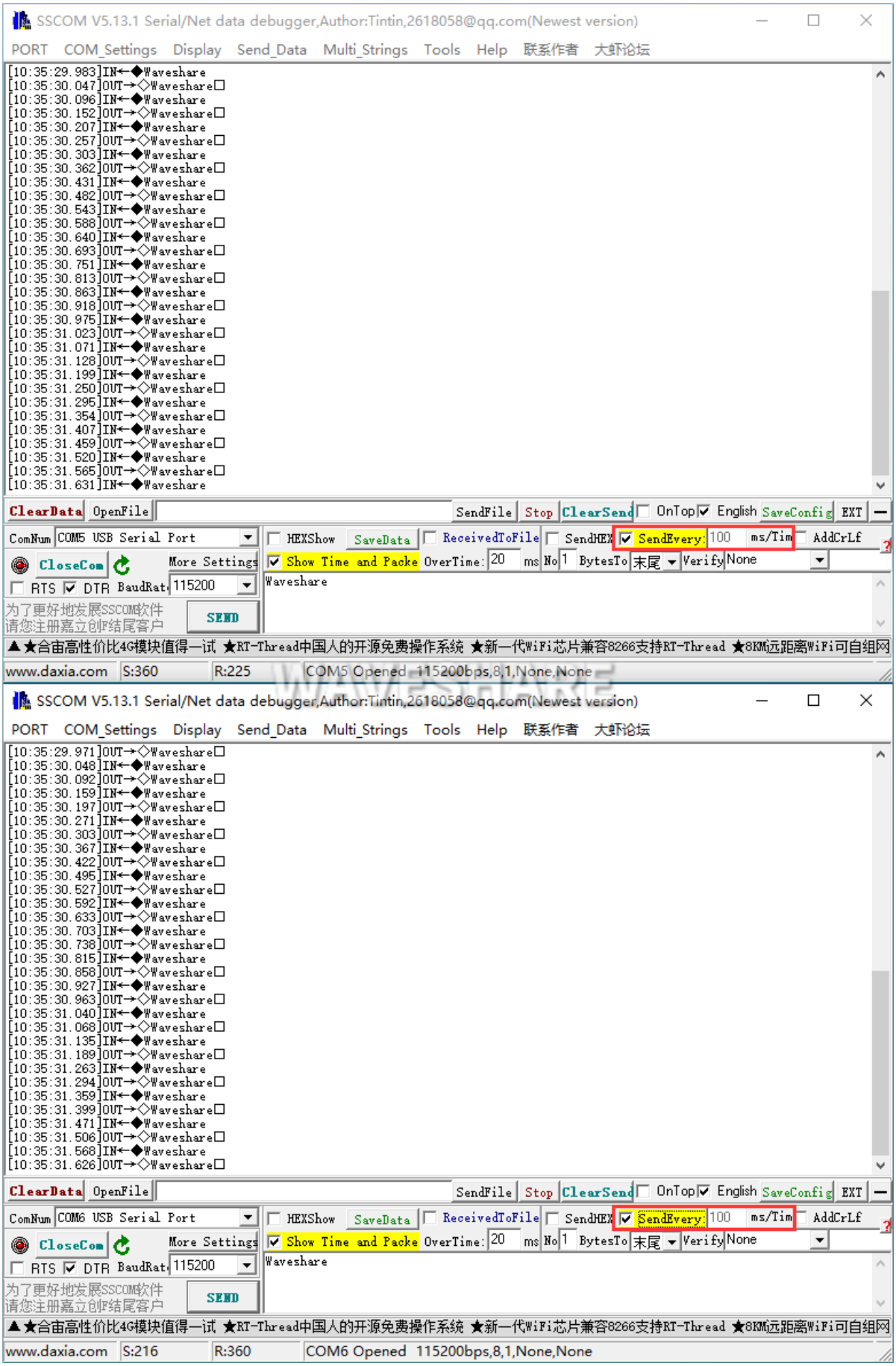
Device

SSCOM Usage

- Connect the TXD and RXD pins of the device.
- Open SSCOM, input "waveshare", select "Show Time and Packet", set the baudrate and then click on "Open COM".



- Select **Send Every 100ms**, and you can see the device sends and receives data:



Linux

Take RPI as an example, use the default driver, connect the device, and query the serial device name through the following command:

```
lsusb
ls /dev/ttyUSB*
```

```
hhhhhh@hhhhhh:~ $ lsusb
Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 004: ID 0484:5750 Specialix 7H Custom Human interface
Bus 001 Device 005: ID 0403:6001 Future Technology Devices International, Ltd FT232 Serial (UART) IC
Bus 001 Device 002: ID 2109:3431 VIA Labs, Inc. Hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
hhhhhh@hhhhhh:~ $ ls /dev/ttyUSB*
/dev/ttyUSB0
```

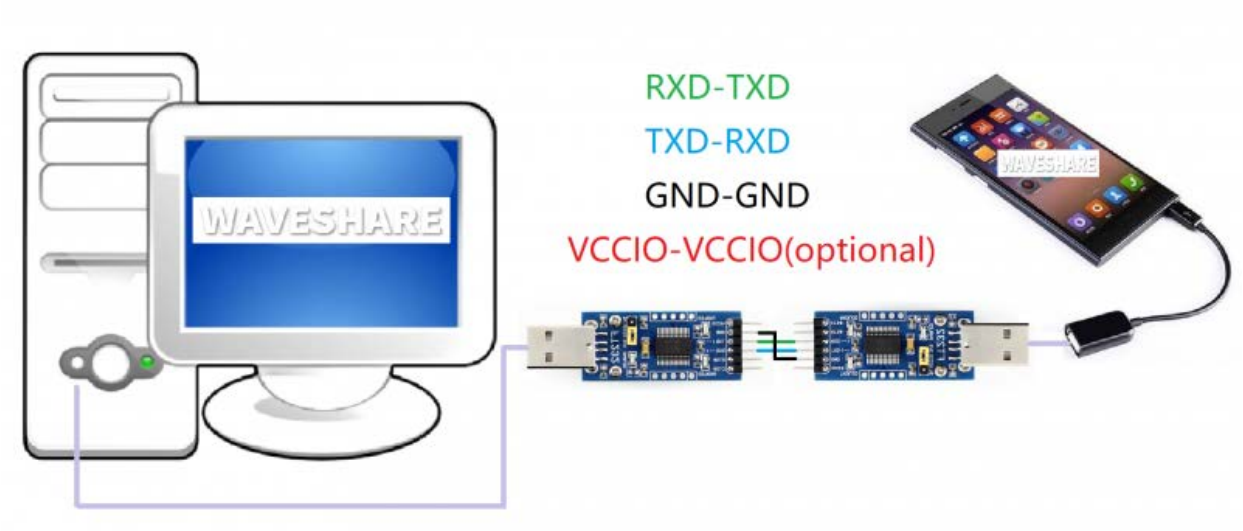
For example, use minicom to open UART0, input the following command line:

```
sudo minicom -D /dev/ttyUSB0
```

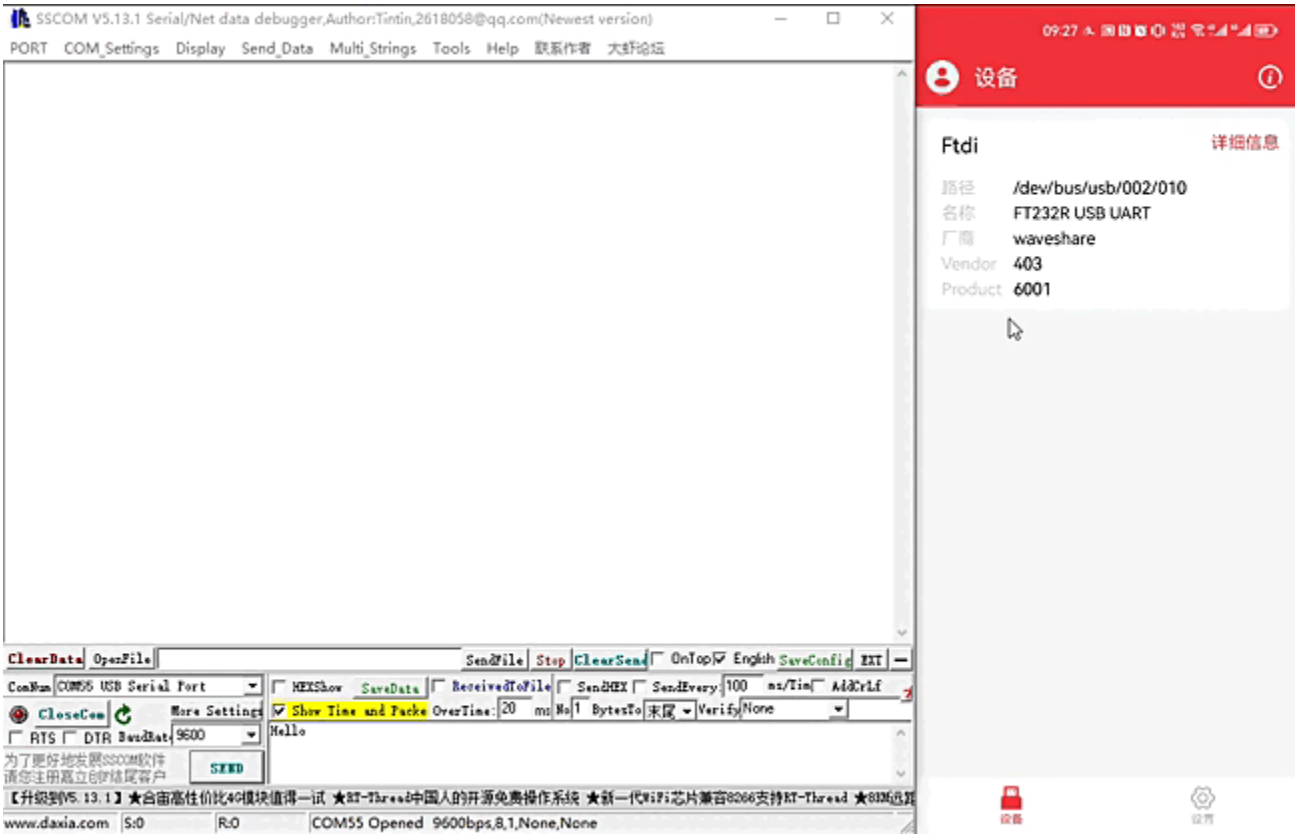
The mainstream Linux systems, such as Raspbian, Ubuntu, and CentOS, generally come with FT232 drivers and can be connected to use. You can also install Linxu drivers to some Linux systems lacking FT232.

Android

- Download SerialTool_Android.
- FT232 driver is included in the above APP, there are no external drivers required.
- Connect USB-TO-TTL-FT232 to your Android phone with an OTG cable, and then connect them to another USB-TO-TTL-FT232 and your PC.



- It will prompt: Whether to allow the APP to visit the USB device, please click "OK".
- Input the string to be sent in the Android serial tool, the computer can receive the corresponding on the sscom, and vice versa.



MacOS

- First, click to download and install the driver.
- Driver installation tutorial: click here to view.

After installation, open the serial port assistant and run it (you can download the serial port assistant online for your MAC).

Resource

Driver

- Click the links below to download or download from FTDI official website:
- Windows — VCP Driver
- MacOS — VCP Driver
- Linux supports FTD devices, so no driver is required.

Software

- Serial Tool Windows
- Serial Tool Android

- Putty

Datasheet

- FT232RNL