EWT104-BT08 User Manual

Bluetooth Test Board



Chengdu Ebyte Electronic Technology Co.,Ltd.

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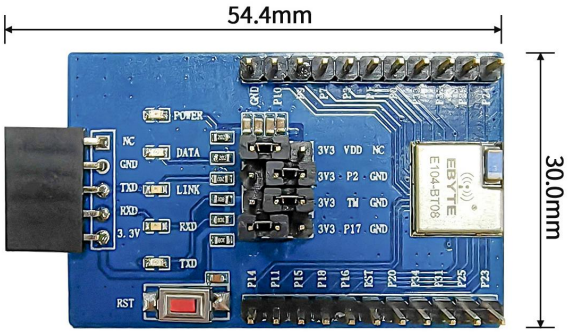
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1 Overview

1.1 Product Introduction

EWT104-BT08 is a Bluetooth test kit based on the E104-BT08 module , which can significantly reduce the user's development cycle. For detailed information about E104-BT08 , please visit the official website to download relevant information about this model.



1.2 Module Features

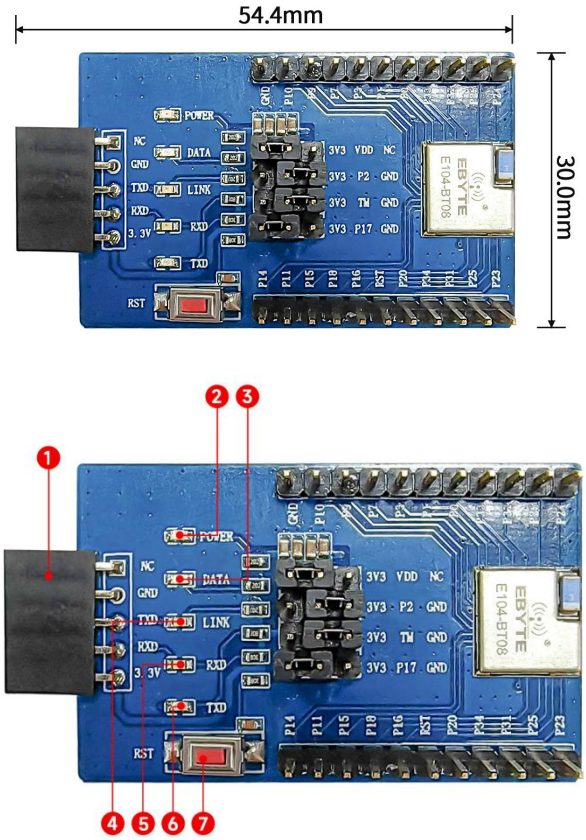
- Support BLE 5.1 ;
- Supports master and slave roles ;
- When acting as a host, it only supports connecting to one slave at most ;
- Low power mode ;
- Switch between normal broadcast and ibeacon broadcast , etc.
- Communication interface: UART.

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2 Hardware Description

2.1 Product size and pin definition

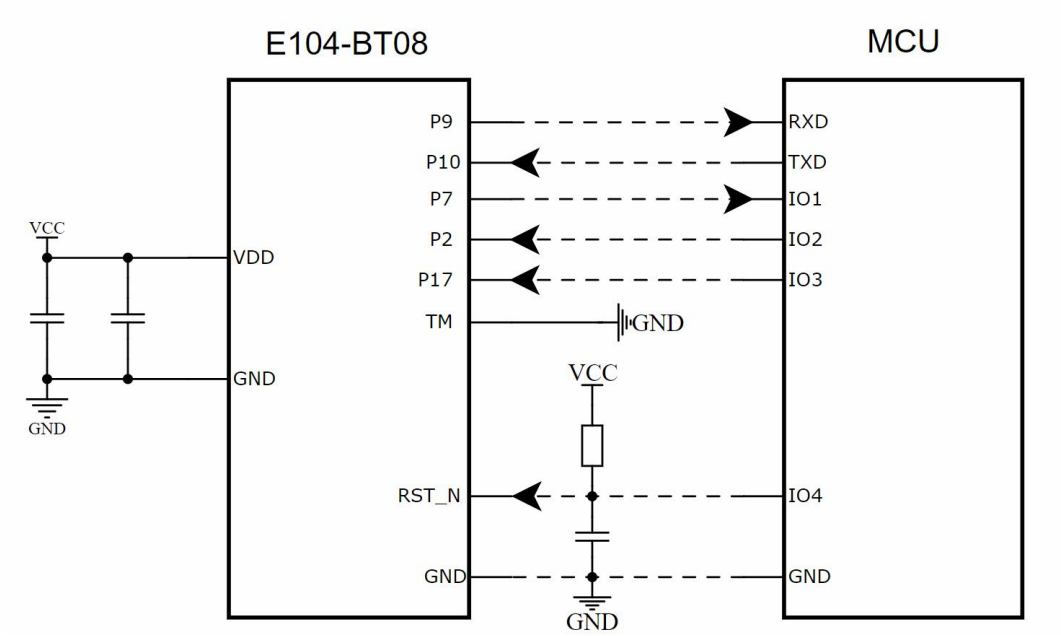


Serial number	Definition	Illustrate	Remark
1	NC	-	2.54mm pitch female header
	GND	Power Ground	
	TXD	Serial port output pin	
	RxD	Serial port input pin	
	3.3V	DC 3.3V input pin	
2	POWER	Power indicator	-
3	DATA	Data sending and receiving indicator light	Connect the module P32 pin
4	LINK	Connection status indicator	-
5	RxD	Serial port receiving indicator	-
6	TXD	Serial port sending indicator	-
7	RST	Reset button	Connect the module P7 pin

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2.2 Module recommended wiring diagram



2.3 Special pin function description

PIN \ Level	Falling edge	Rising edge
LINK(P7)	The SLAVE channel (the channel where the host receives data) is open at a high level	
DATA(P32)	No data interaction output low level	Output high level when there is data interaction
WKP(P2)	Wake up the module from sleep mode	The module enters sleep mode
RESTORE(P17)	Restore the factory pin, power on to maintain 3s low level to restore the factory default Settings, can be suspended	
RST_N	Input low level module reset	Normal operation is high level state

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3 Software Functions

It is recommended to use Xcom serial port debugging assistant for communication testing.

3.1 Common instructions

- Restore factory settings

  Send: AT+RESTORE
  Return: +OK

- Restart your device

  Send: AT+RESET
  Return: +OK

- Open log information

  Send: ATE1
  Return: +OK

- Set the module to host role

  Send: AT+ROLE=1
  Return: +OK

- Start Scanning

  Send: AT+SCAN=1
  Return: +OK

- Add the device mac() that needs to be connected

  Send: AT+BONDMAC=010203040506
  Receive: +OK

- Query the bound mac address

  Send: AT+BONDMAC=?
  Receive: MAC:010203040506
  MAC:303030303030

- Delete the bound specified mac address

Use AT+BONDMAC=010203040507 command to bind a new device to overwrite the previously written MAC . You can write an incorrect
MAC such as 000000000000 to delete the bound device.

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- Set the module to slave role

  Send: AT+ROLE=0
  Return: +OK

- Set the module to enable broadcast function

  Send: AT+ADV=1
  Return: +OK

- Modify the module broadcast name

  Send: AT+NAME=quick_start
  Return: +OK

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4 Quick Use

This chapter introduces how the module acts as a slave to connect and communicate with the mobile phone ; the modules act as a host and a slave to achieve communication between modules .

4.1 Working Mode

The modules are mainly divided into:

1. Configuration mode ;
2. Transfer mode .

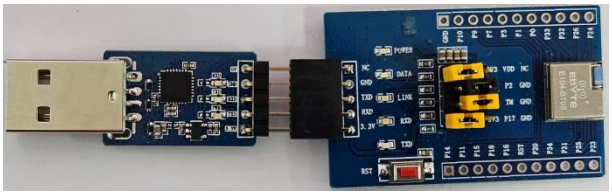
Mode switch:

After the module enters transparent transmission mode, send "+++" to exit transparent transmission mode ;
after the module is in configuration mode, send "AT+EXIT" to exit AT configuration mode .

4.2 The module communicates with the mobile phone nrf connect app as a slave

4.2.1 Preparation

- Prepare 2pcs E WT 104- BT08 kits and 2pcs E15-USB-T3 serial converters and connect them as shown below .



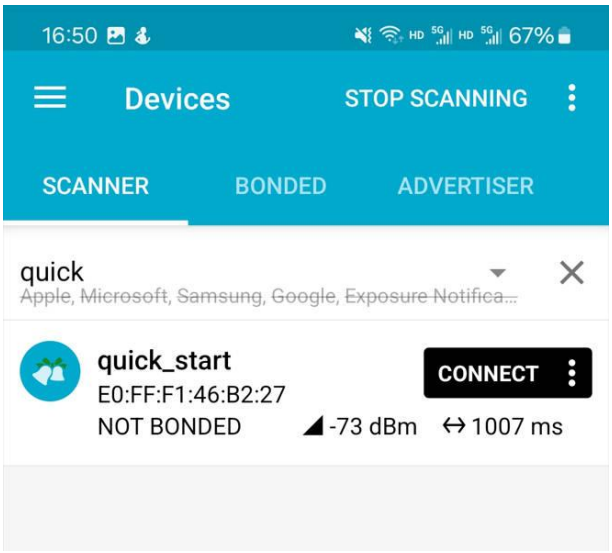
- Open the X com serial port debugging assistant .

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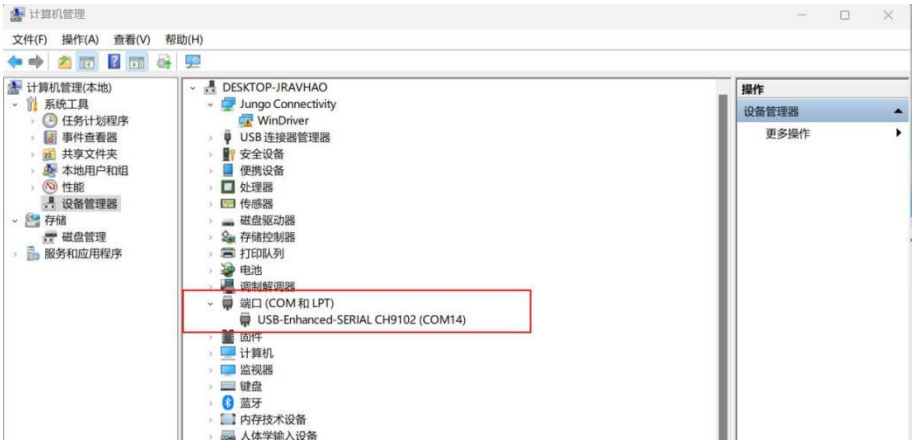
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- Mobile phone and nrf connect app



- After connecting the test kit to the computer, you can see the following ports in the device manager



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- Usually, Windows 10 and above will automatically install the serial port driver, but if no corresponding port appears after the test board is connected to the computer through the USB port, you can try to install the serial port driver first .

4.2.2 Connection steps

1. Connect the test kit to the computer via the USB port. After the test is connected to the computer, you can see the corresponding port number in "My Computer->Properties->Device Management->Port"
2. Open the xcom assistant, select the corresponding port number , select the serial port parameters, and click to open the serial port .

   Baud rate: 115200

   Stop bit: 1 bit

   Data bits: 8 bits

   Check digit: NONE
3. Configure the module according to the steps below .

   ① Test instructions, check if the instruction functions properly

   ② Factory reset

   ③ Restart module

   ④ Set the module to work in slave mode

   ⑤ Enable functional information output

   ⑥ Open the normal broadcast function of the slave device

   ⑦ Modify the name of the slave broadcast

   ⑧ Restart module

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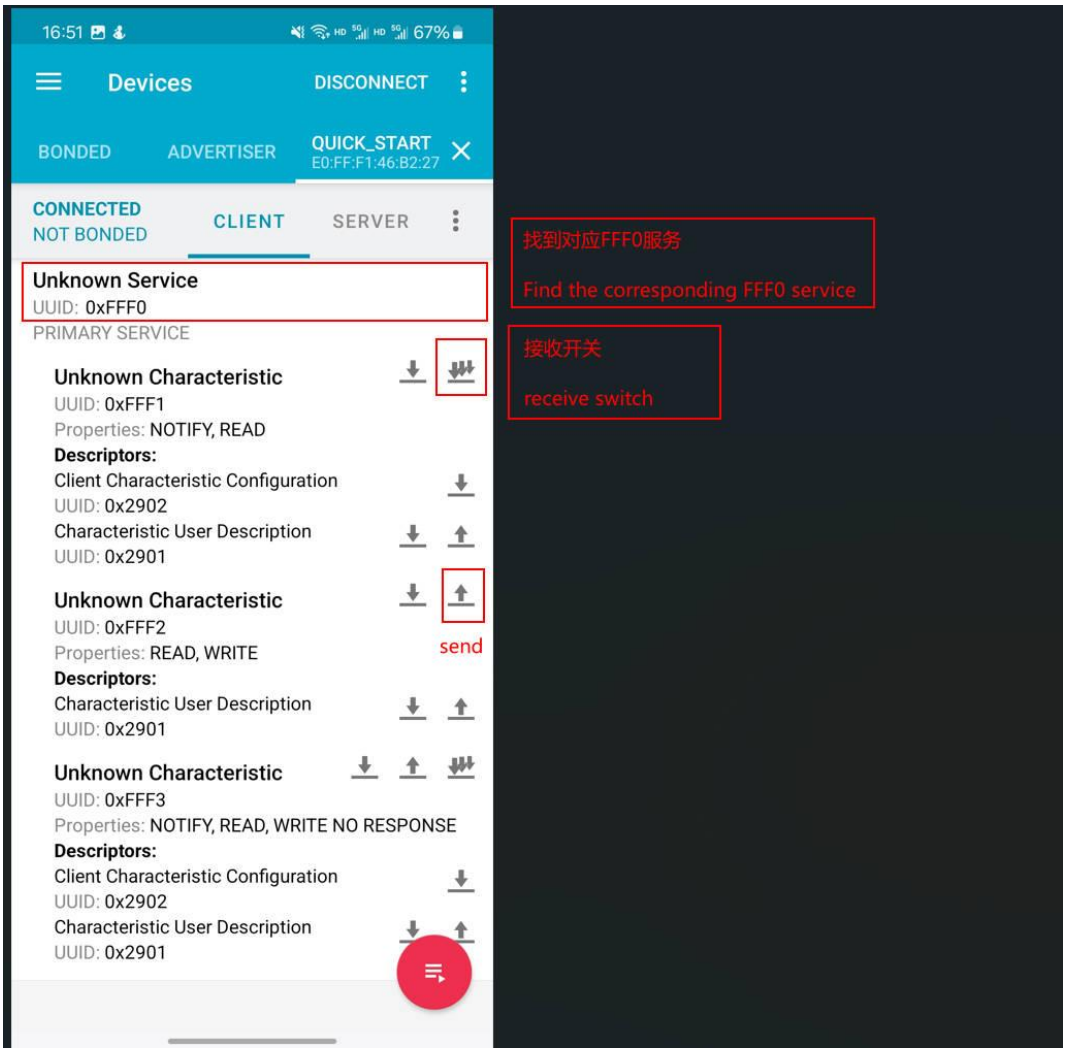
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4. Open the "nrf connect" app on your phone .
5. Find the corresponding Bluetooth module and click the "connect" button to connect the module.
6. Find the corresponding service , turn on the corresponding receiving switch , and click "send" .

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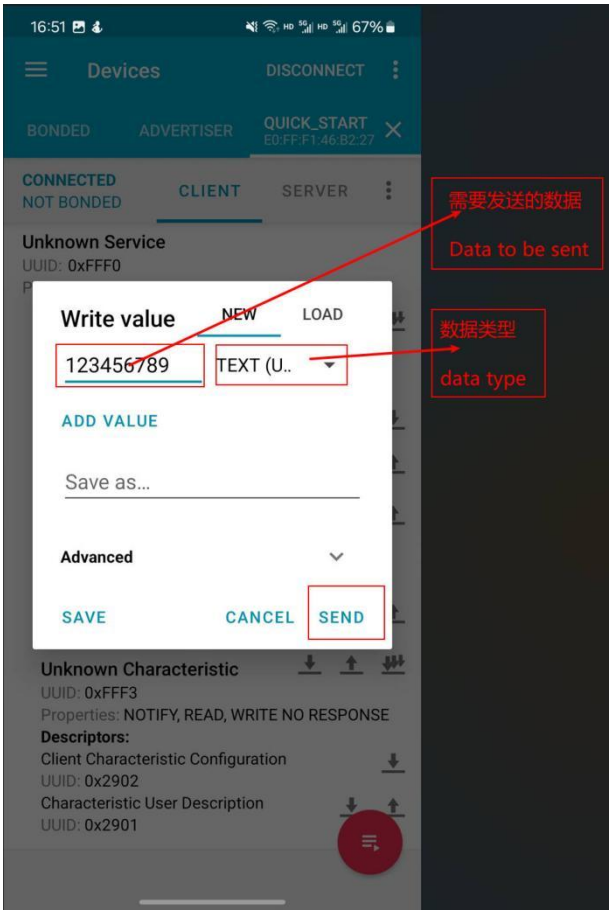
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7. Enter the data 123456789, select the data type, and click the Send button

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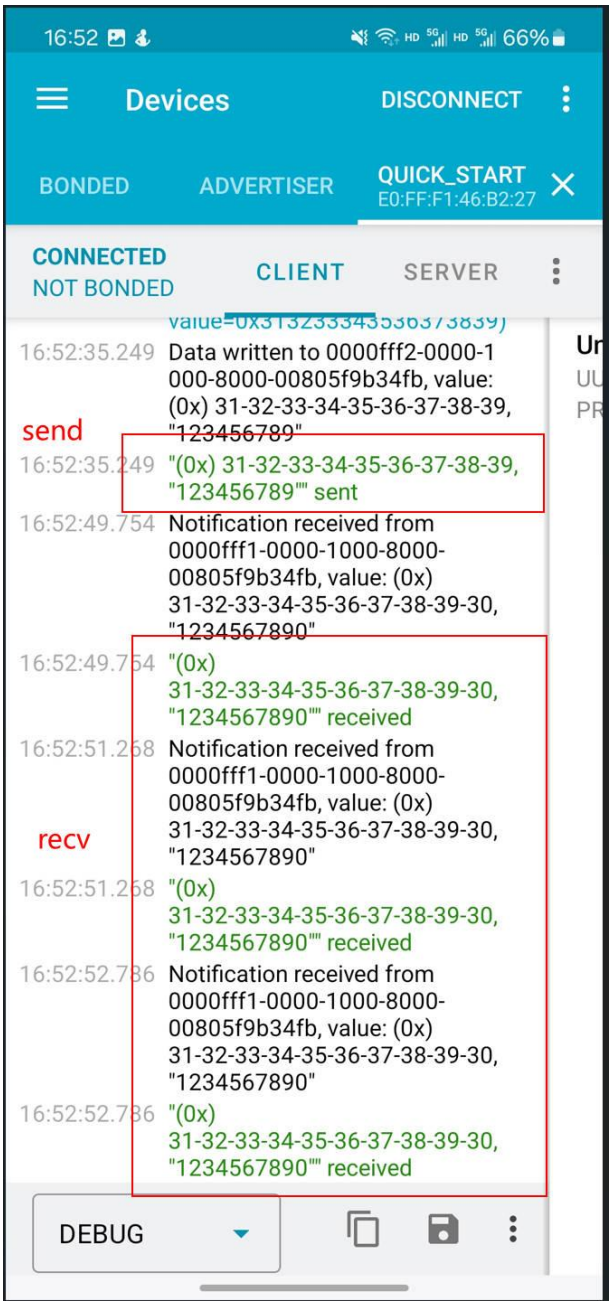
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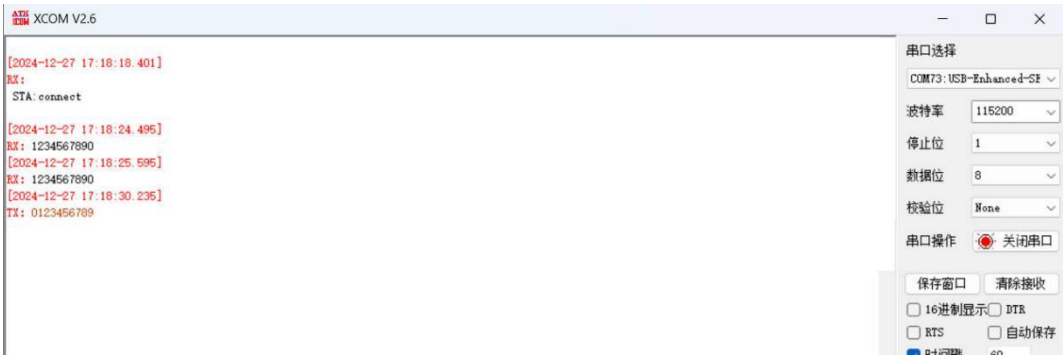
8. Swipe right on the interface to enter the log interface .

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9. Kit receiving and sending display .



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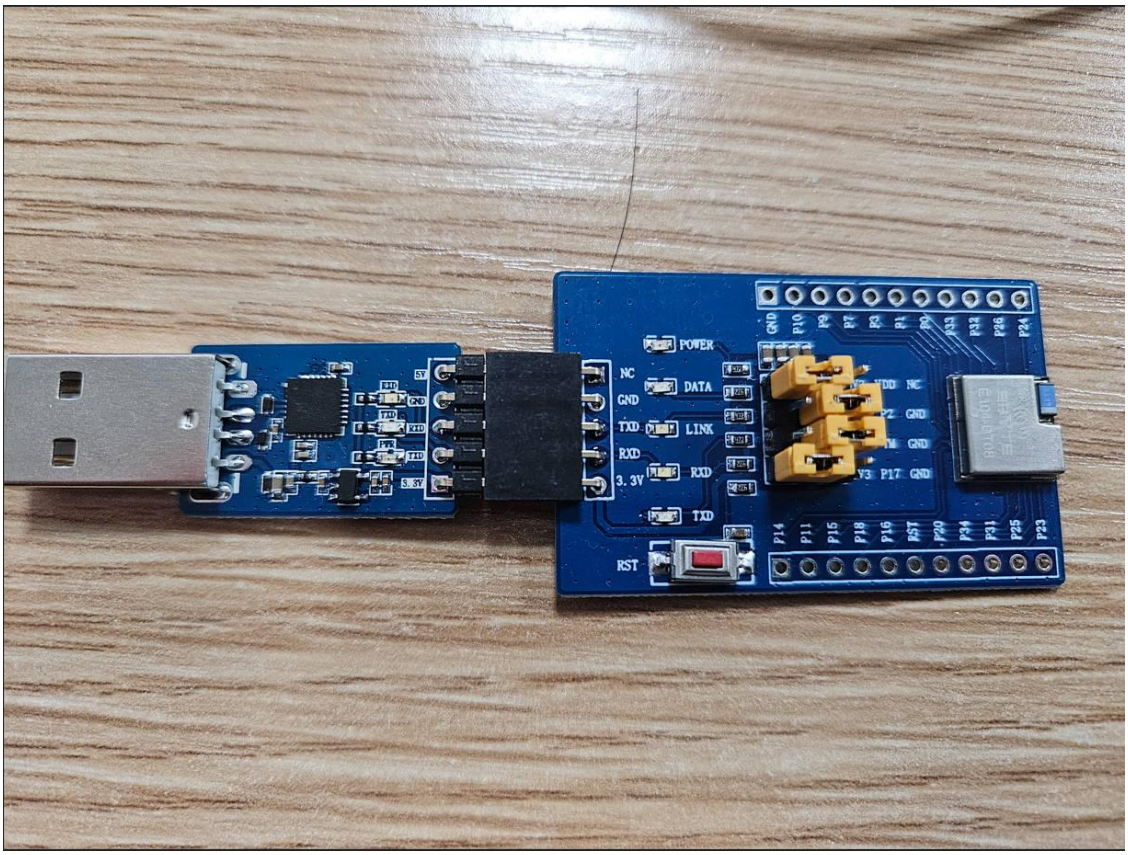
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4.3 Transparent transmission demonstration

The modules are configured as the host and slave roles respectively to complete the data transmission between modules. The following describes the process of connection and communication between modules.

4.3.1 Preparation

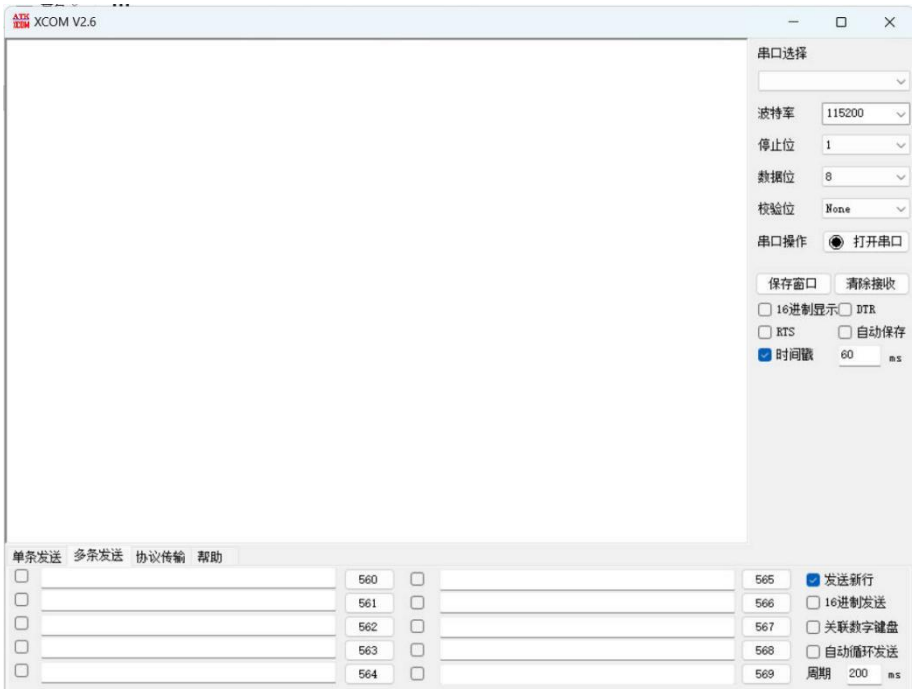
- Prepare 2pcs E104- BT08 test kits and 2pcs E15-USB-T3 , and connect them as shown below .



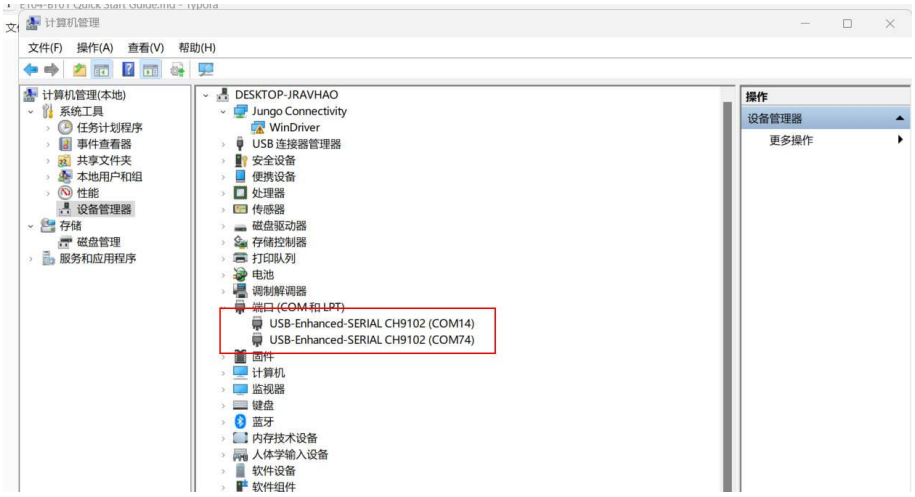
- Open Xcom serial port debugging assistant

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- After connecting the test kit to the computer, you can see the following ports in the device manager



- Usually, Windows 10 and above will automatically install the serial port driver, but if the test kit is connected to the computer through the USB port and no corresponding port appears, you can try to install the serial port driver first.

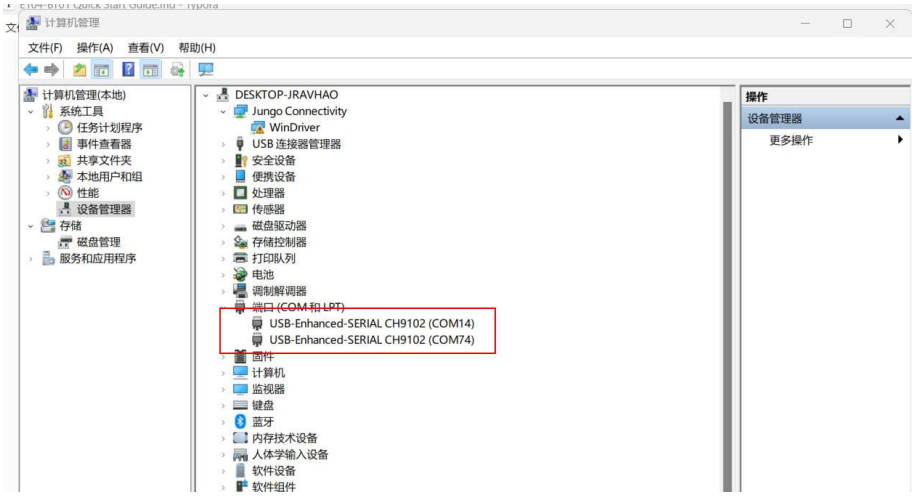
- Communication between modules does not require the participation of a mobile phone .

4.3.2 Connection steps

1. the test board to the computer via the USB port. After the test board is connected to the computer, you can see the corresponding port number in "My Computer->Properties->Device Management->Port". Here, connect test board A and test board B to the computer and you can see two ports .

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2. Open two XCOM serial port debugging assistant software, select two corresponding serial port numbers respectively, select serial port parameters , and click to open the serial port.

   Baud rate: 115200

   Stop bit: 1 bit

   Data bits: 8 bits

   Check digit: NONE

3. Follow the steps in the figure below to configure test board B as a slave .

   ① Test instructions, check if the instruction functions properly

   ② Factory reset

   ③ Restart module

   ④ Set the module to work in slave mode

   ⑤ Enable functional information output

   ⑥ Open the normal broadcast function of the slave device

   ⑦ Modify the name of the slave broadcast

   ⑧ Restart module

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4. Follow these steps to configure Test board A as the master role .

① Test instructions, check if the instruction functions properly

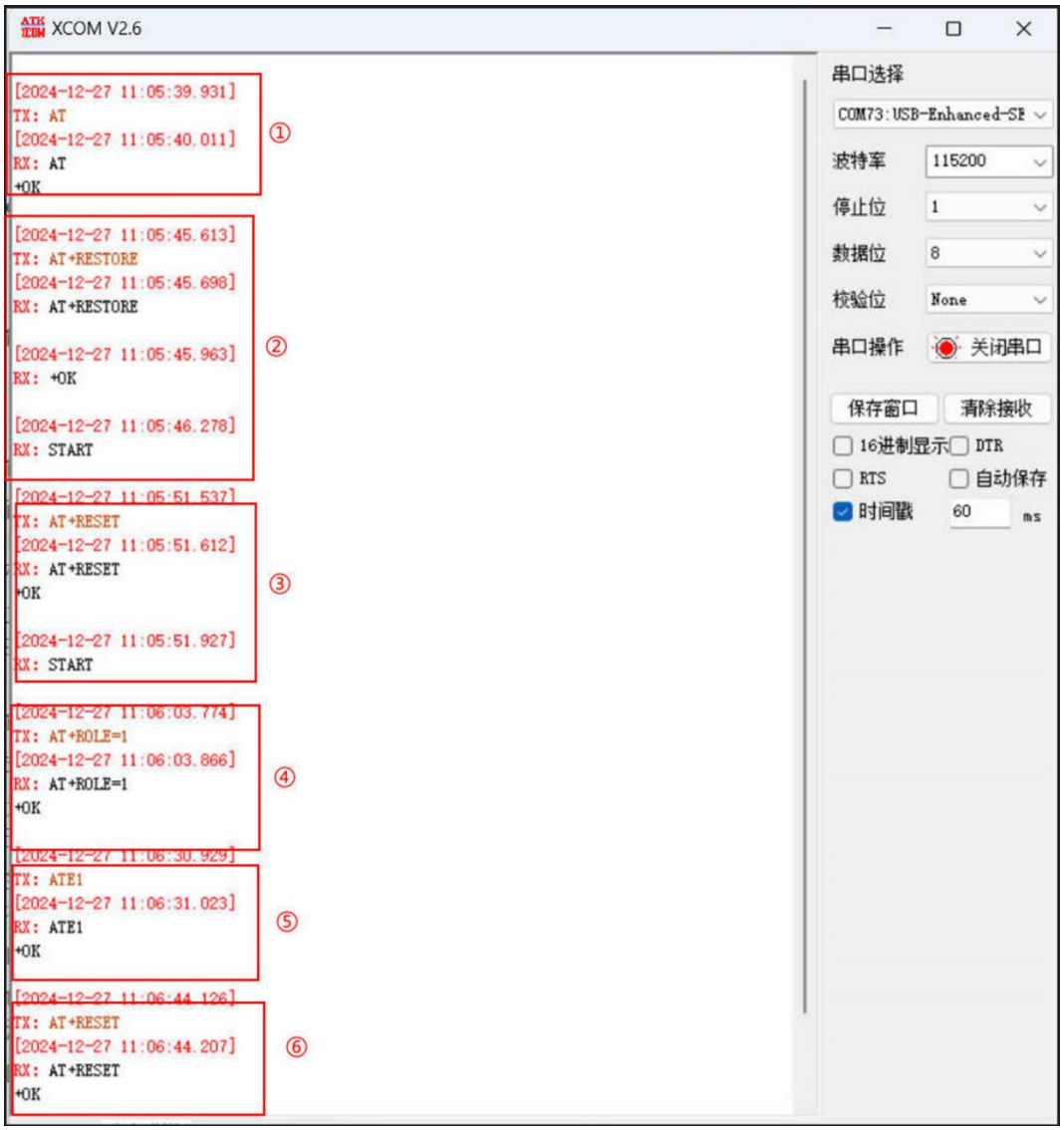
② Factory reset

③ Restart module

④ Set the module to work in the host role

⑤ Enable functional information output

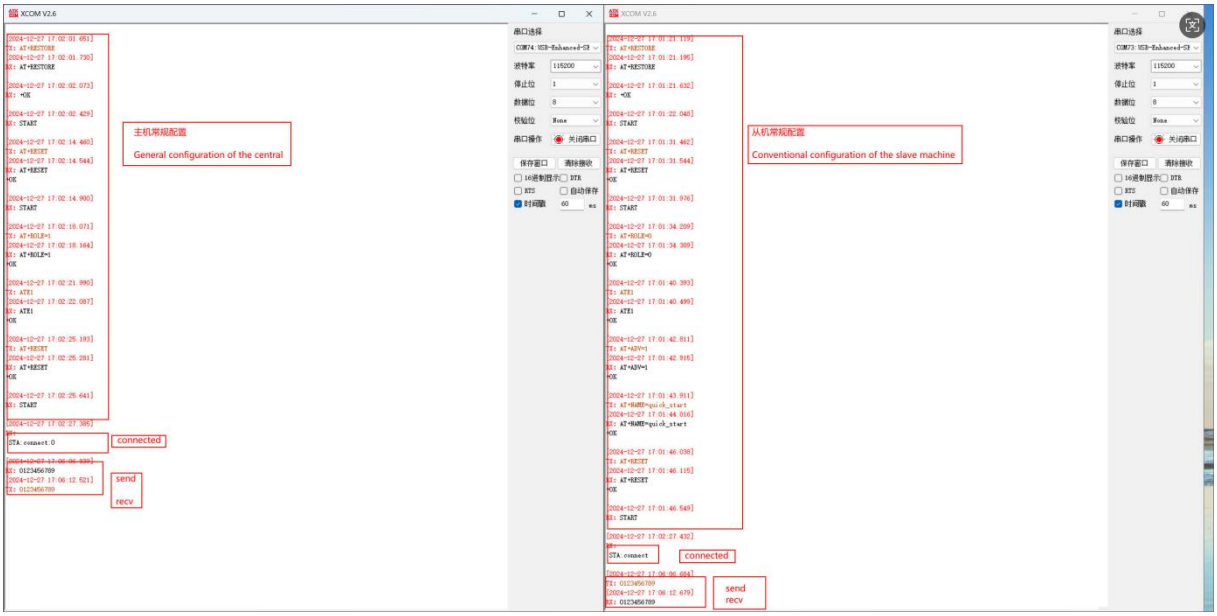
⑥ Restart module



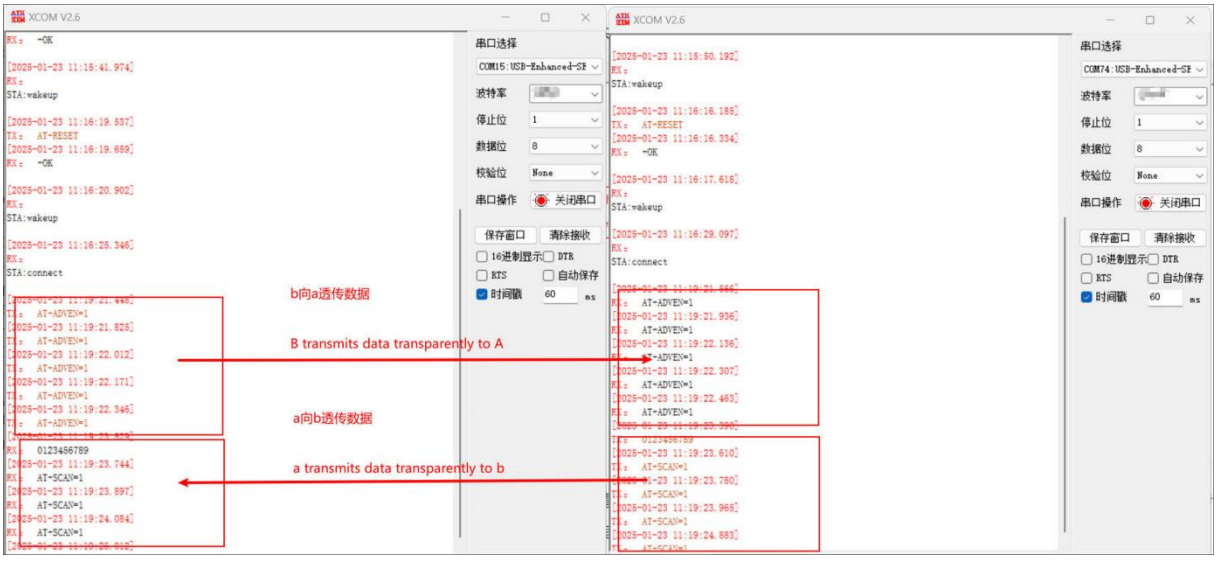
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5. After configuration is complete, wait for the module to automatically connect .

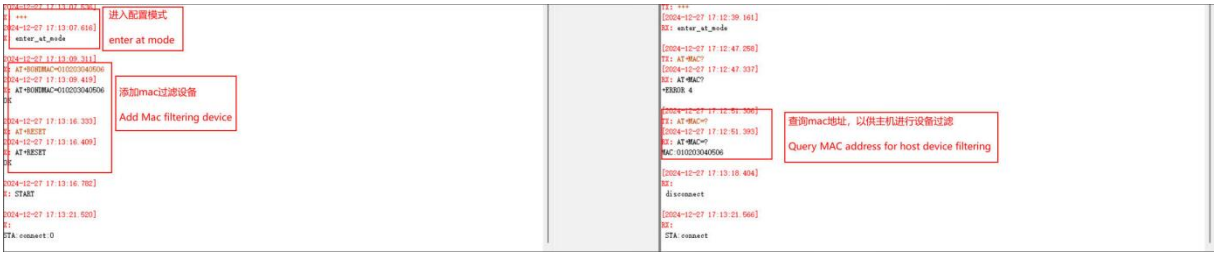


6. Data transmission test.



4.4 Host bond function, use MAC address to filter slaves

on Section 4.3 , host A enables the binding function , as shown in the figure :



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Display: STA: connect style output

5 Frequently Asked Questions

- Serial port baud rate of the E104-BT08 module is 115200 ;
- When the command displays an ERR prompt, you can refer to the E104- BT08 user manual. If you use other serial port assistants for debugging, please check the string length ;
- Note that this module only supports one host when acting as a host ;
- Note that there are no other symbols at the end of the command (some serial port assistants, or the user has checked the send new line function, which will cause the software to automatically add special symbols to the end of the command) .

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Revision History

Version	Revision Date	Revision Notes	Maintainer
1.0	2025-03-26	Initial release	Bin

About us

Sales hotline: 4000-330-990

Technical support: support@cdebyte.com

Official website: https://www.cdebyte.com

Address: Building B2, Mould Industrial Park, 199# Xiqu Ave, High-tech Zone, Chengdu, 611731, Sichuan, China

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