6.3 WIFI module as a server

!Note:

In this lesson, you need to make computer and WIFI module be connected to the same router as the WiFi, otherwise it will not be able to connect.

1. Experiment purpose

In this lesson, we mainly learn how to make WIFI module of K210 become a server。

2.Experiment preparation

2.1 components

Add the function of setting the WiFi module as a server in [2. WiFi module networking].

When it acts as a server, it can connect to multiple clients and receive data from different clients.

3. Experimental principle

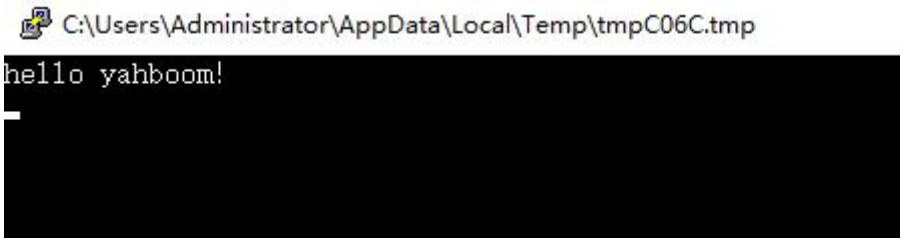
ESP8285 WiFi module can set itself as a TCP/UDP server in the LAN. Then perform TCP/UDP communication. We use TCP communication, and transmit data to the WiFi module through the LAN TCP protocol. WiFi module can convert the data into serial data and transmits it to the K210 chip, then K210 chip transmits it to the computer serial assistant for display.

4. Experiment procedure

Open kflash, select the corresponding device, and then burn the **wifi_AT.bin** file to the K210 development board.

5. Experimental phenomenon

5.1 After the firmware is write, a terminal interface will pop up. The gyroscope's data will be printed out. As shown below.

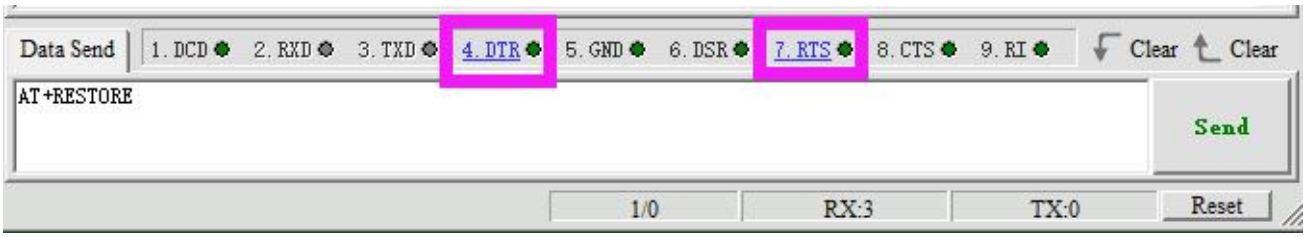


If you can't see terminal interface, please open the serial port assistant of the computer, select the corresponding serial port number of the corresponding K210 development board, set the baud rate to 115200.

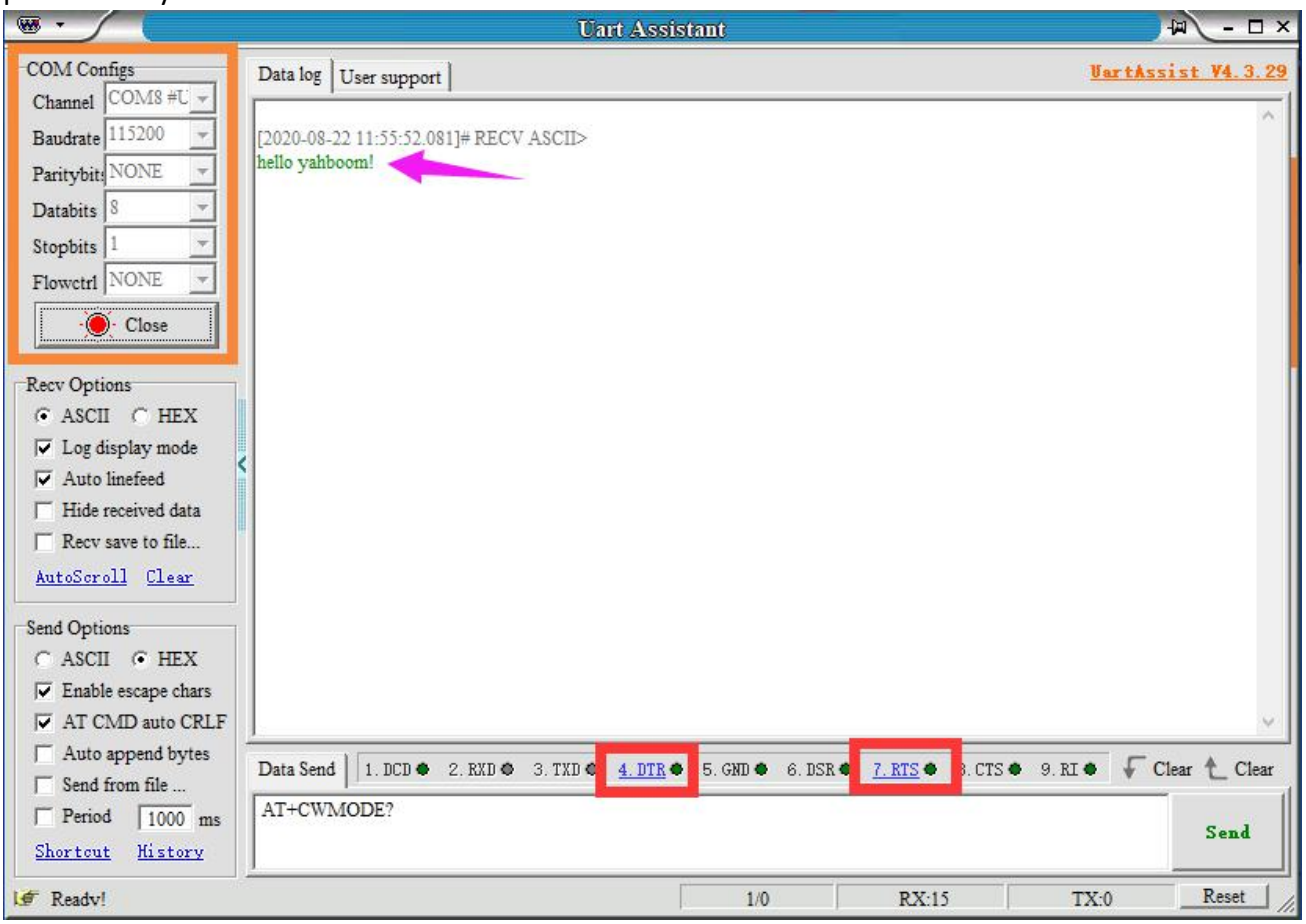
5.2 Then, click to open the serial port assistant.

!Note: you also need to set the DTR and RTS of the serial port assistant.

Click 4.DTR and 7.RTS to set them to green.

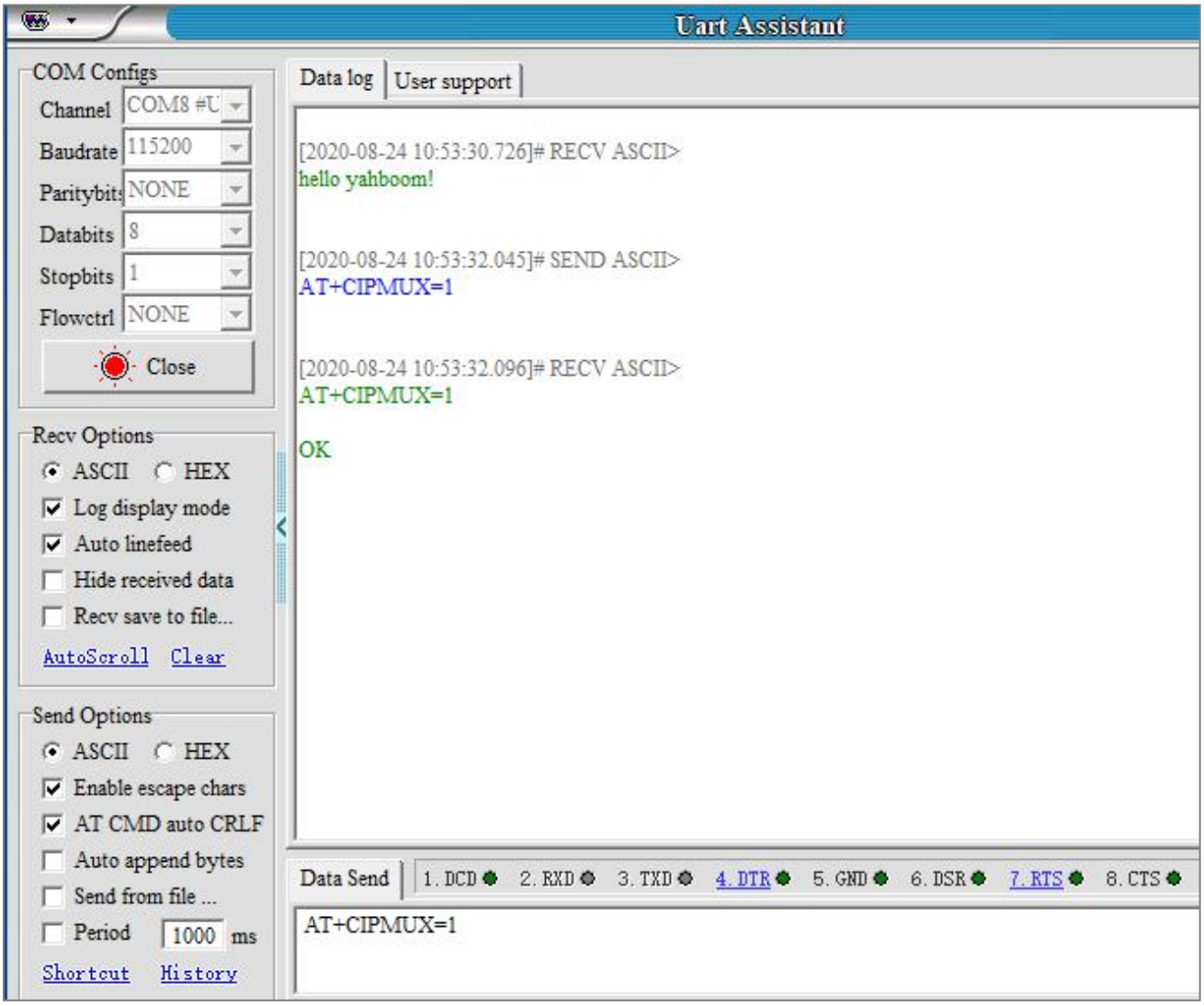


5.3 Press the **Reset button** on the K210 development board, and the serial debugging assistant will print “hello yahboom!”.

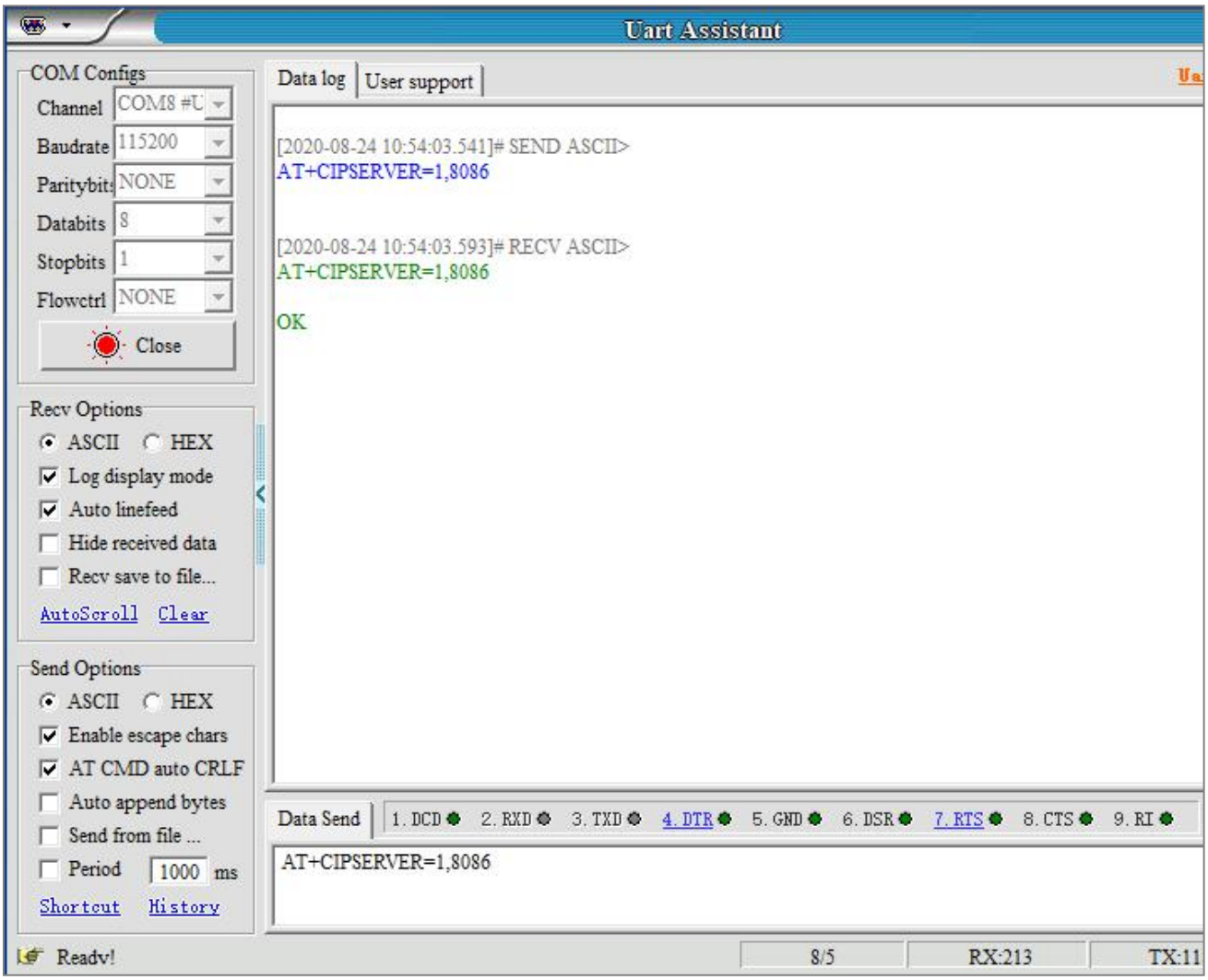


5.4 Send following AT command to open multi-terminal connection.

AT+CIPMUX=1



5.5 Send following AT command to open the server and set the port to 8086.
If it return OK, the server function has been opened.
AT+CIPSERVER=1,8086



5.6 Open the network debugging assistant netassist, set the parameters of the network debugging assistant in the upper left corner.

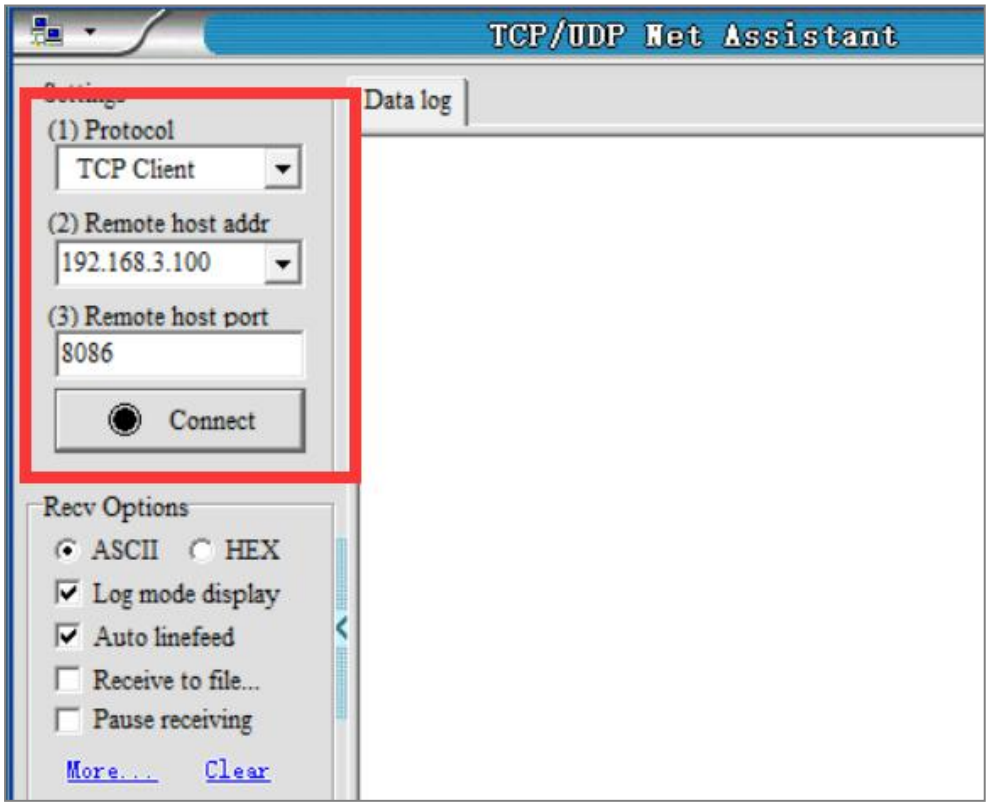
(1) Protocol choose TCP Client.

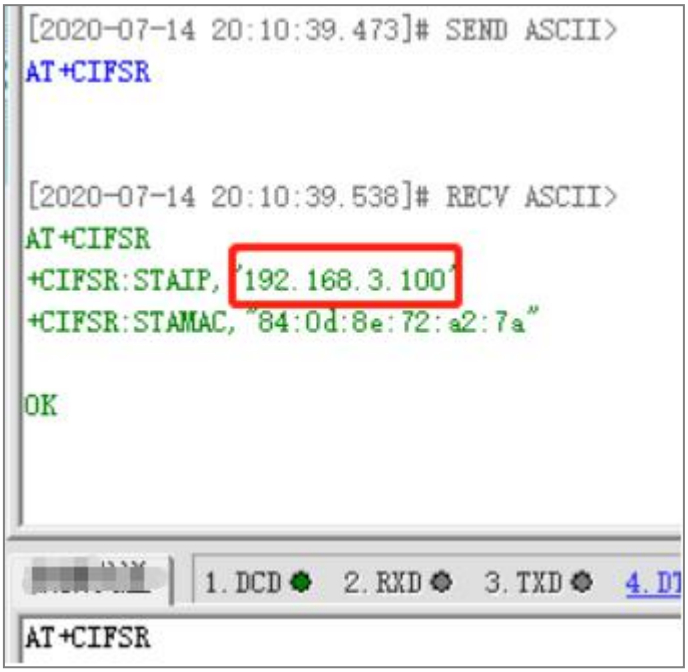
(2) Remote host address: Enter the address of the WiFi module.

If you forget it, you can enter the AT+CIFSR command to view it.

(3) Remote host port: 8086, which corresponds to the port in the previous step.

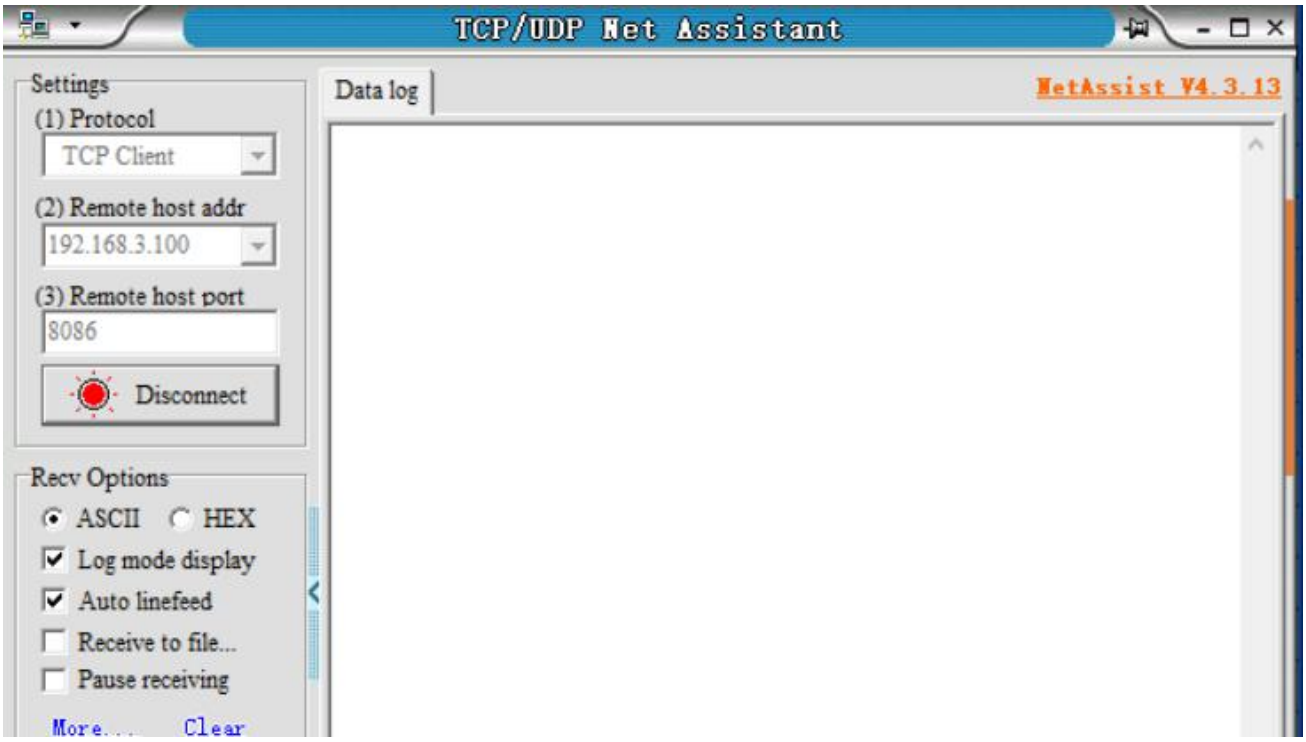
(4) Finally, click Connect.

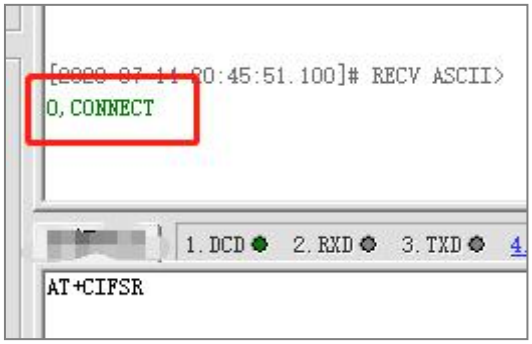




5.7 After the connection is successful, the original "connected" will become "disconnected" and the color will also change to red.

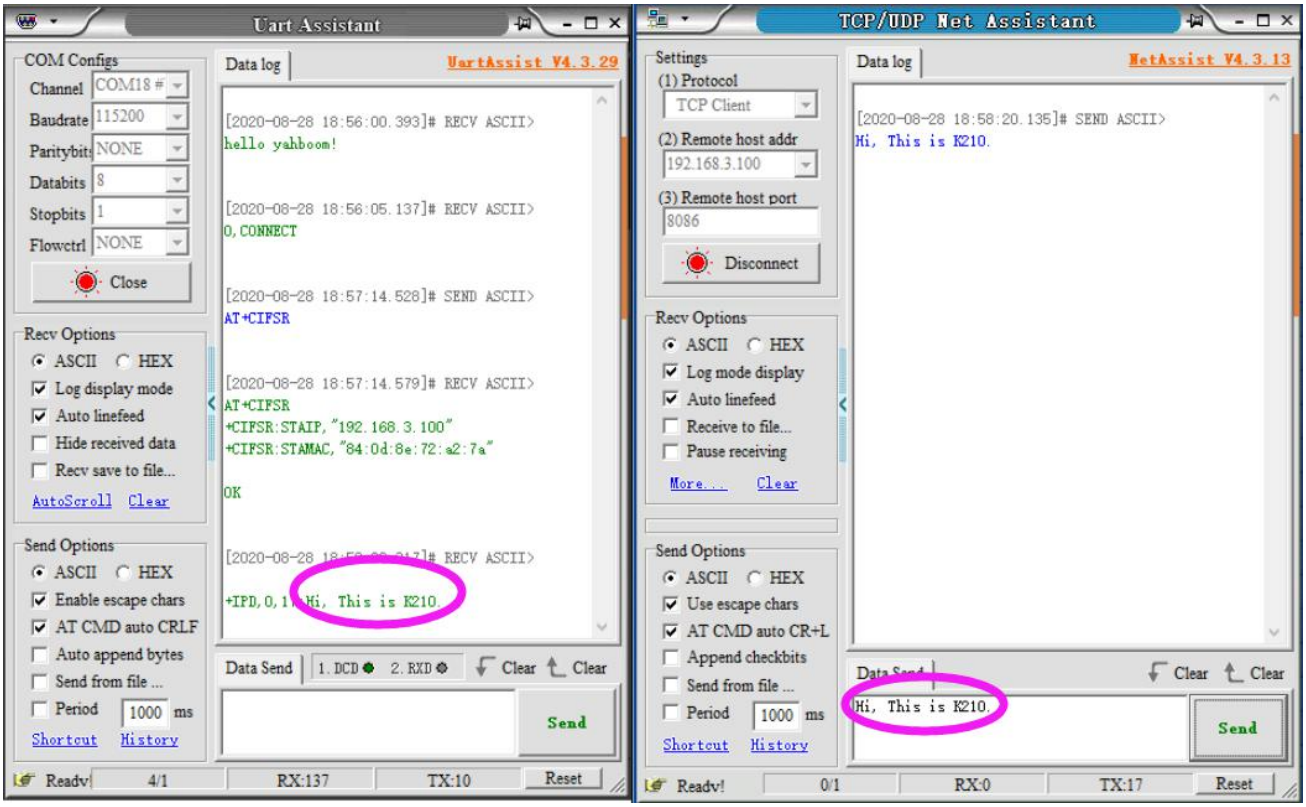
On the serial port assistant on the K210 side, an x, CONNECT will be displayed. Since it is the first connection, the number is 0, and the second connection is number 1, and so on, multiple devices can be connected.





5.8 When we send data in the network debugging assistant, the data will be displayed on the serial assistant.

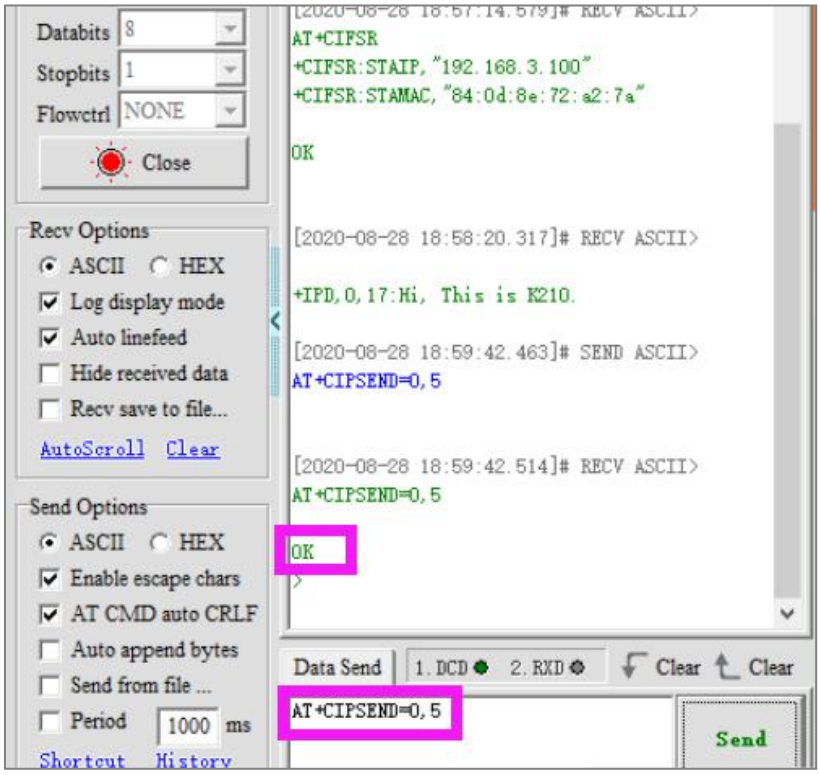
Principle: The network debugging assistant transmits data to the WiFi module through the TCP protocol, and the WiFi module transmits to the K210 chip. The K210 through the serial port and then displays the data on the serial debugging assistant.

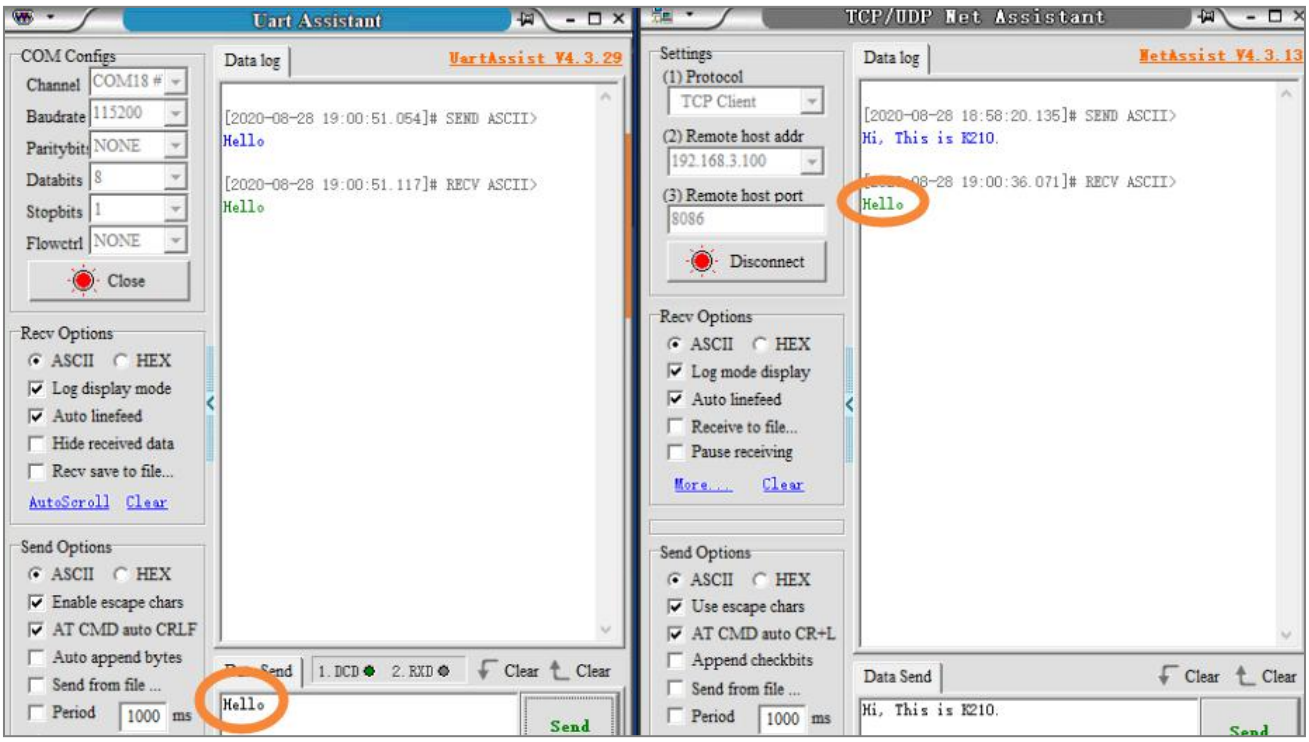


5.9 At this time, we can only send data from the client to the server, and the data sent by the server cannot be received by the client.

If you need to send data from the server to the client, you can enter the following command AT+CIPSEND=client number, data volume

For example, send a hello to client 0.





6. Experiment summary

6.1 The WiFi module can be set to server mode.

6.2 Clients of other network assistants can also connect to the server of the WiFi module, but they must be in the same local area network and input the correct parameters.