6.4 WIFI module as a client

!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 client.

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 client, it can connect to multiple servers and receive data from different servers.

3. Experimental principle

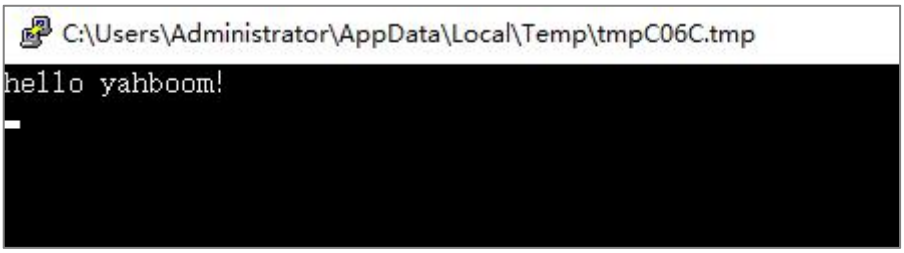
ESP8285 WiFi module can set itself as a TCP/UDP server in the LAN. Then perform TCP/UDP communication. We use TCP communication, and transmit data to the WiFi module through the LAN TCP protocol. WiFi module can convert the data into serial data and transmits it to the K210 chip, then K210 chip transmits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



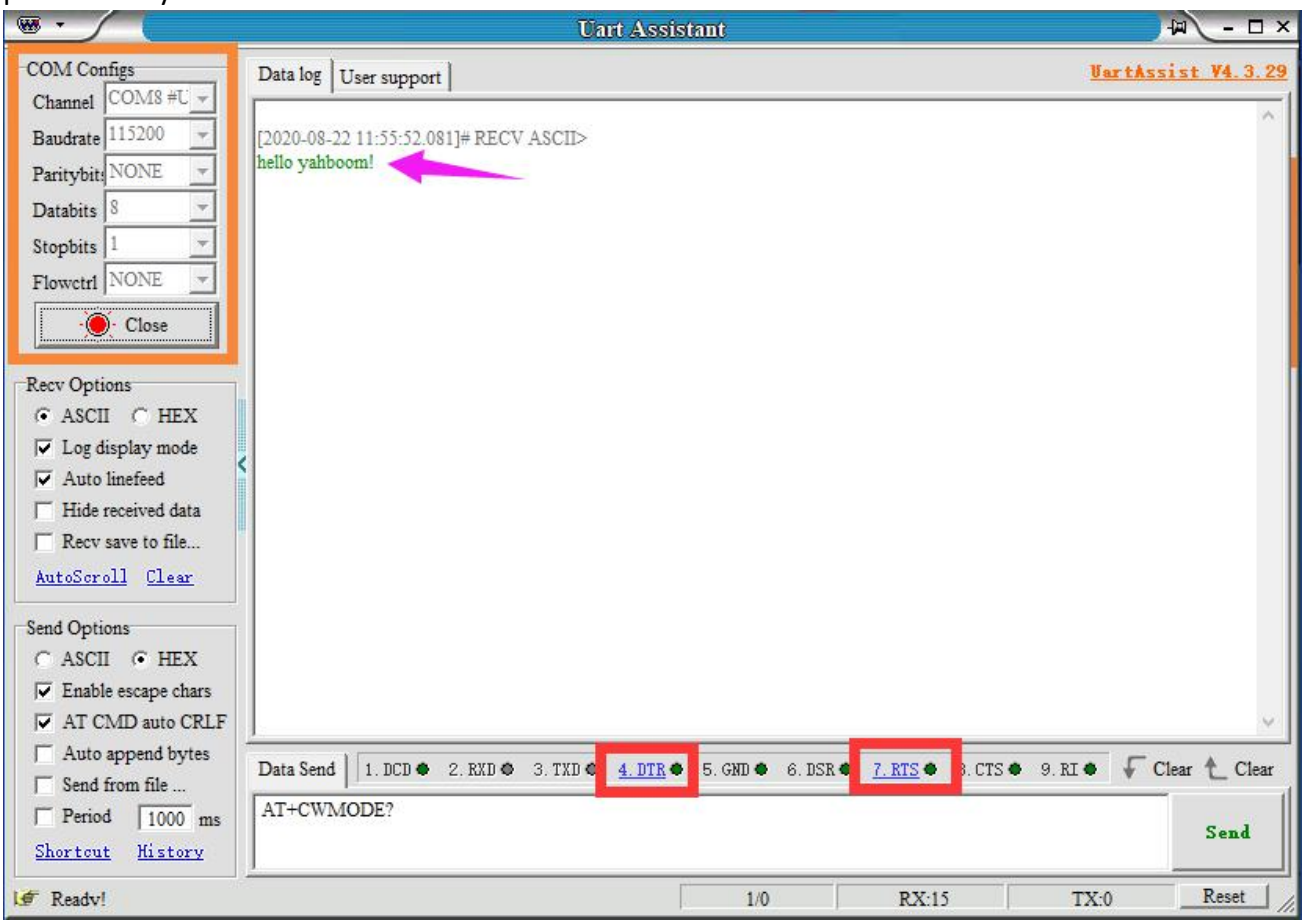
If you can't see terminal interface, please open the serial port assistant of the computer, select the corresponding serial port number of the corresponding K210 development board, set the baud rate to 115200.

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

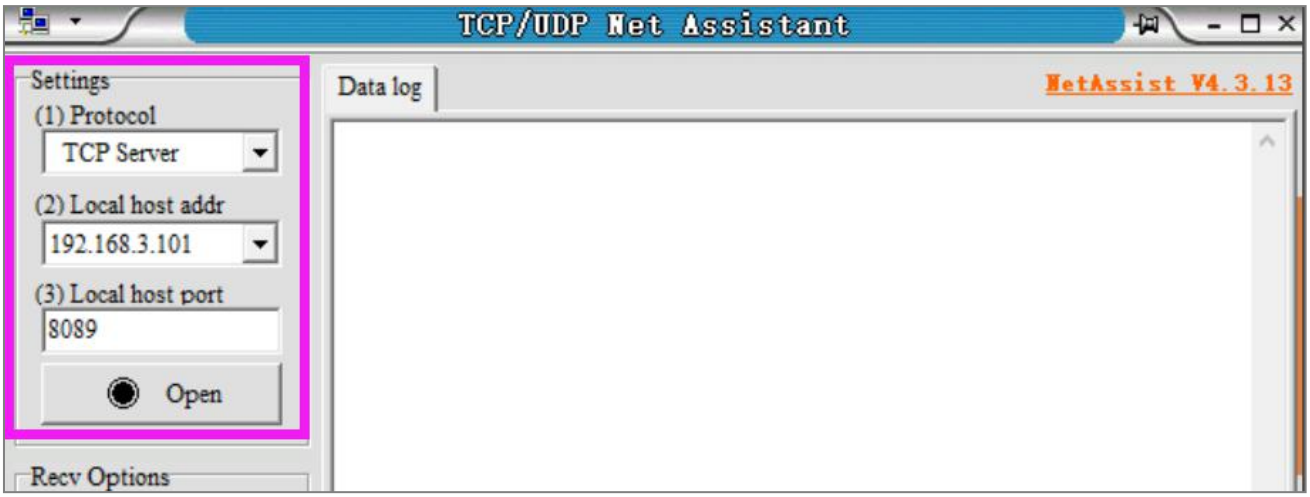
(1) Protocol choose TCP Server.

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

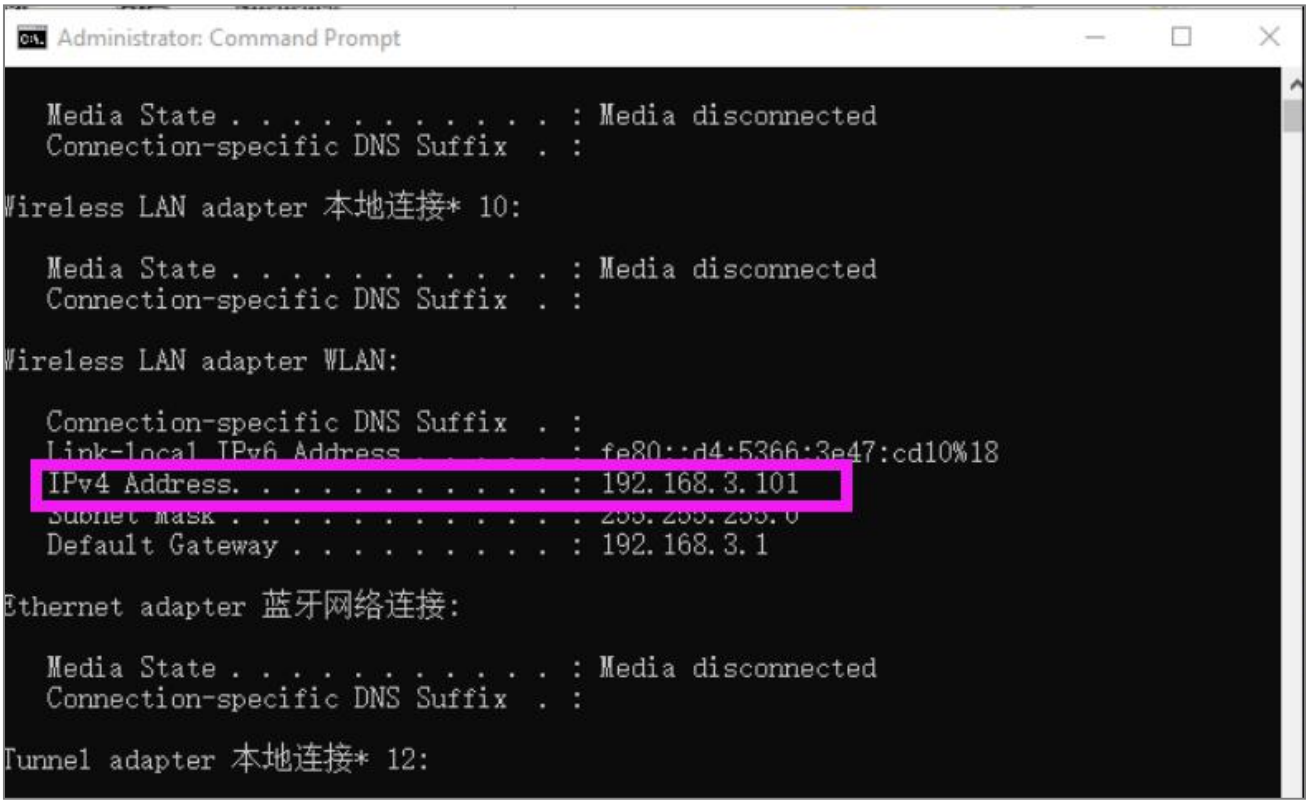
If you forget it, you can enter the AT+CIFSR command to view it.

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

(4) Finally, click Connect.

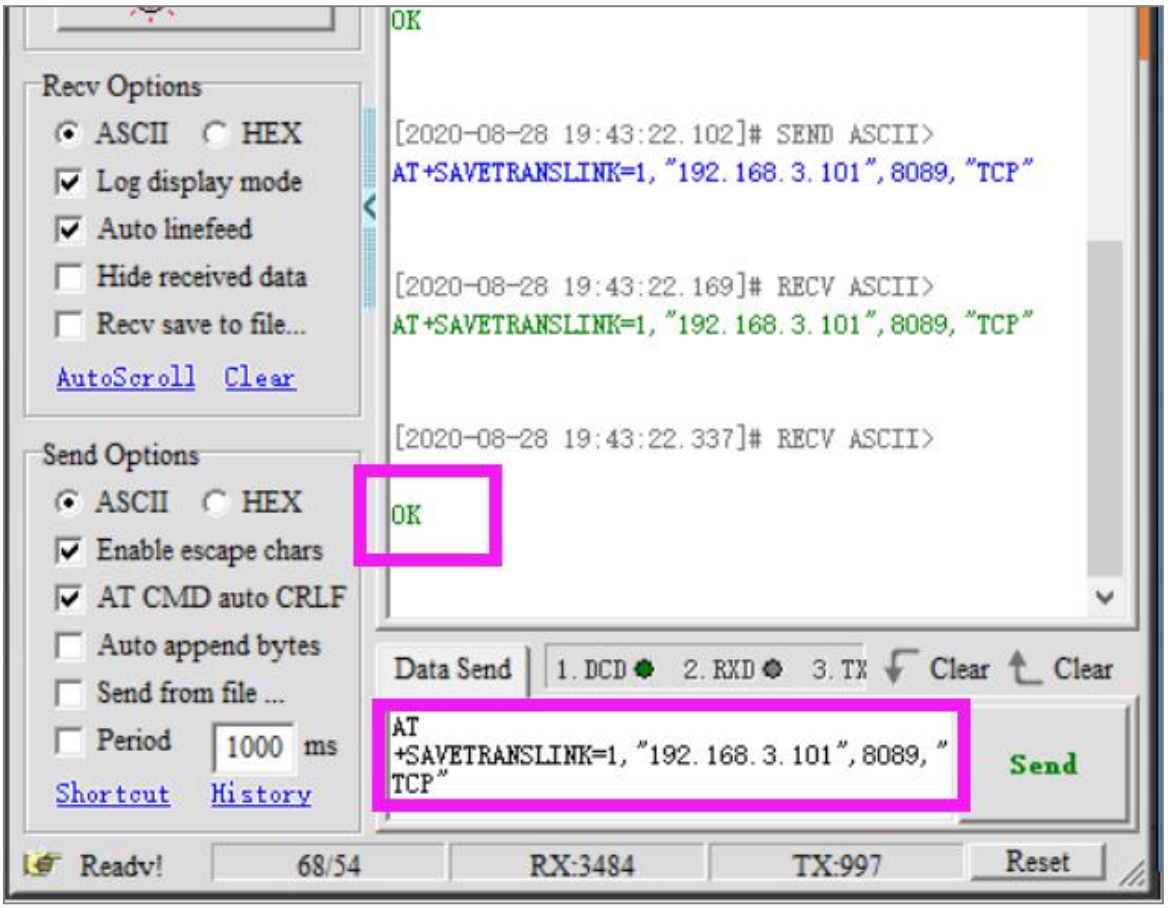


5.5 View your computer IP address.
Press Win+R, input cmd, Then input command ipconfig.



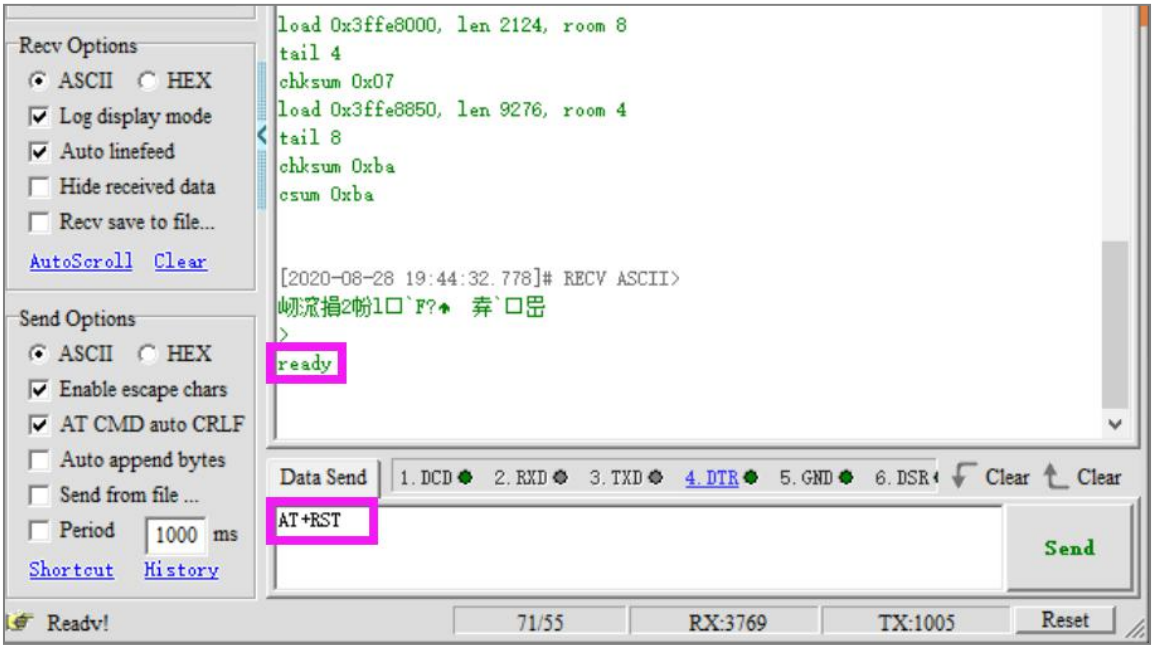
5.6 After the server is turned on, when there is no client connection, the display client is displayed as 0, and a value is automatically increased by 1 for each connection.

5.7 Send the following command to set the WiFi module as a client to connect to the server.
AT+SAVETRANSLINK=1, "Server IP", remote port, "TCP"
For example, AT+SAVETRANSLINK=1, "192.168.3.101", 8089, "TCP"

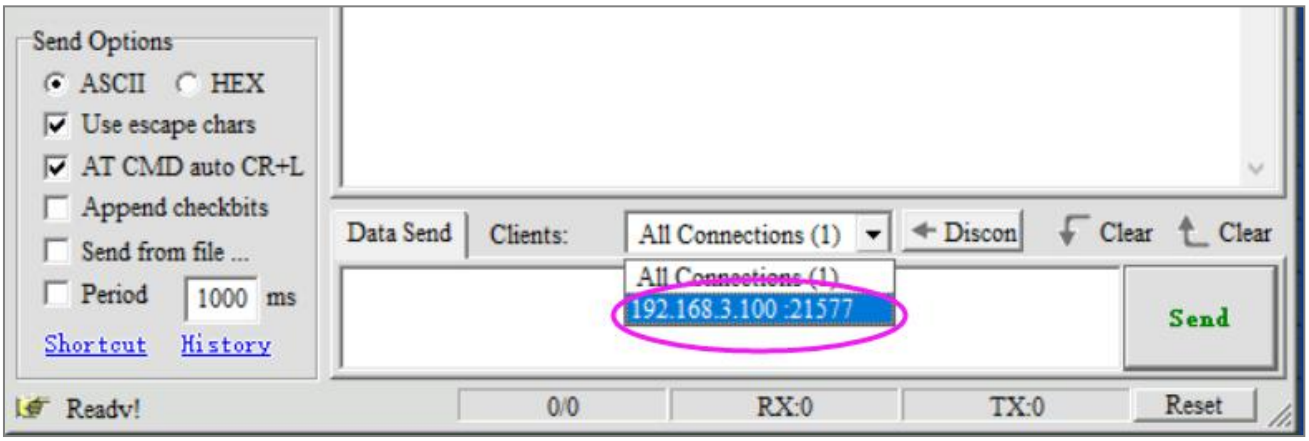


If OK is received, it means that the data has been written in.

We need to restart the WiFi module. Enter the AT+RST command to restart the WiFi module, and if ready is received, it means that the connection has been successful.

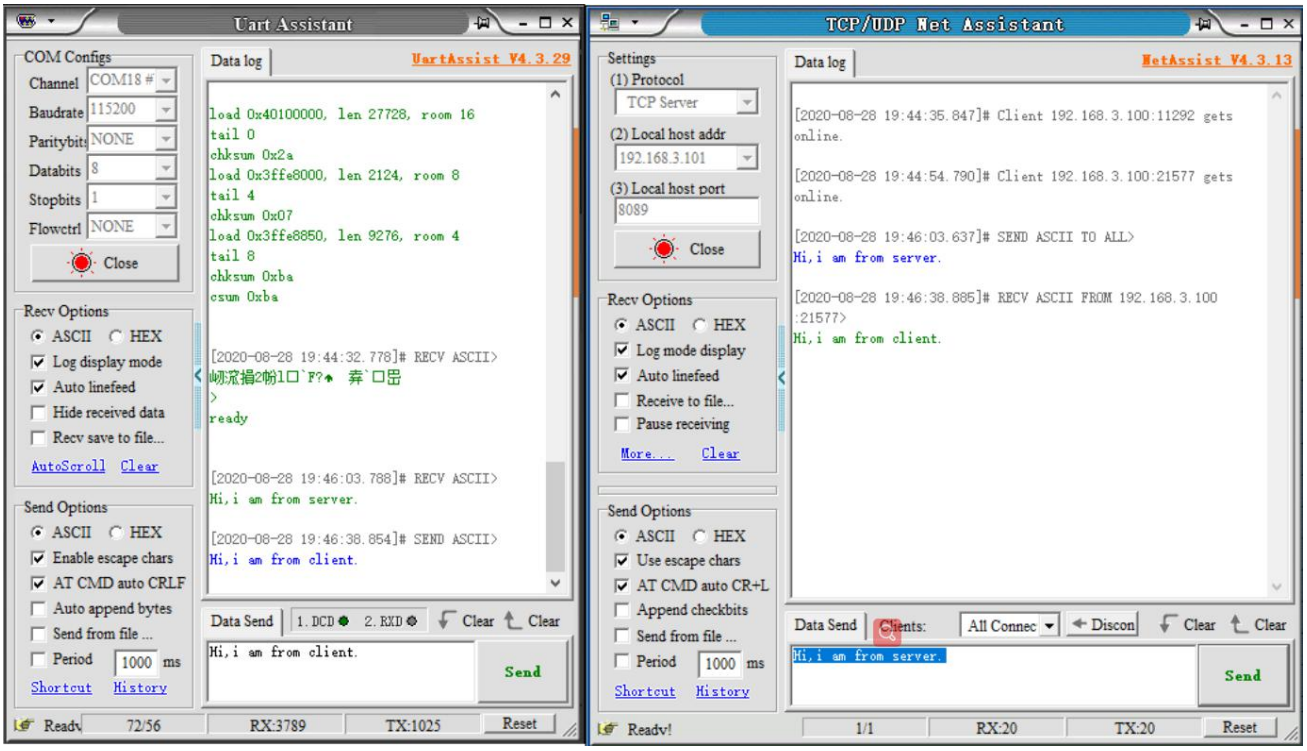


5.8 At this time, server will display a connected device. As shown below.



5.9 At this time, data is sent from the server to the client, and the client can display the received data.

Send data from the client to the server, and the server can also receive and display the data. This is how the transparent transmission mode works.



6. Experiment summary

6.1 The WiFi module can be set to client mode.

6.2 After the WiFi module uses the AT+SAVETRANSLINK command to connect to the server, you need to restart the WiFi module to connect to the server, and it will enter the transparent transmission mode after booting.

6.3 Send the '+++' command without auto CR+L to exit the transparent transmission mode.