HLK-RM04 Application manual2

Serial to WIFI (Client mode)

Hi-Link™
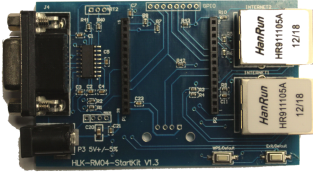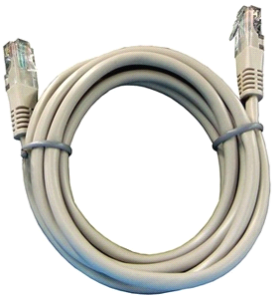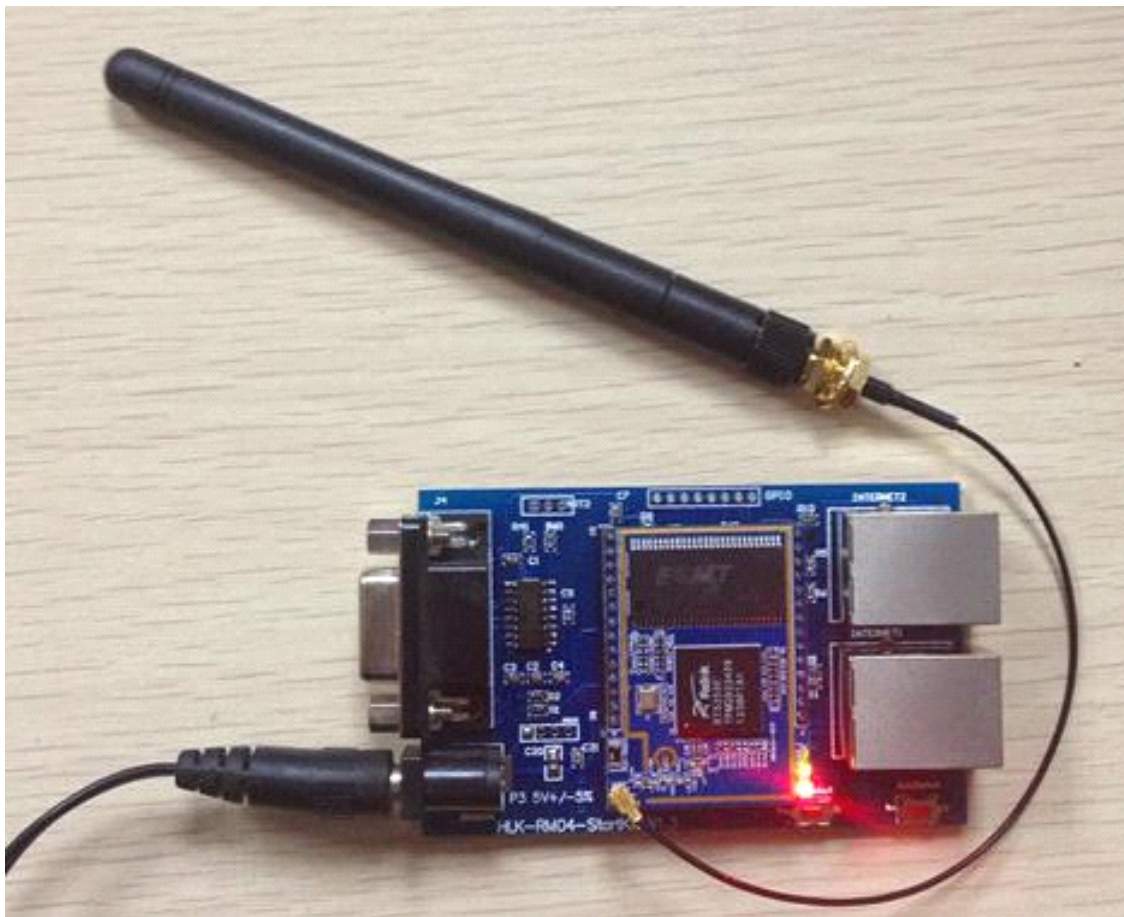
Shenzhen Hi-Link Electronic Technology co.,Ltd

Note: To ensure the normal operation, please make sure you have purchased the HLK-RM04 Development Kit from us.as the following picture:

	HLK-RM04 module
	HLK-RM04 test board
	2.4G rod antenna
	5V 1000mA power supply
	mesh line（optional）

Please contact well as the following way in the picture:

![HLK-RM04 module photo]

Please note the direction that HLK-RM04 plugged into the backplane!

1 **1.** Brief Introduction

HLK-RM04 is a new low-cost embedded UART-ETH-WIFI module (serial port - Ethernet - Wireless network) developed by Shenzhen Hi-Link Electronic Technology co., Ltd

This product is an embedded module based on the universal serial interface network standard, built-in TCP / IP protocol stack, enabling the user serial port, Ethernet, wireless network (wifi) interface between the conversions.

Serial Com
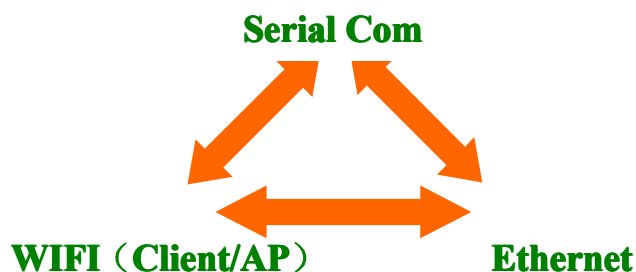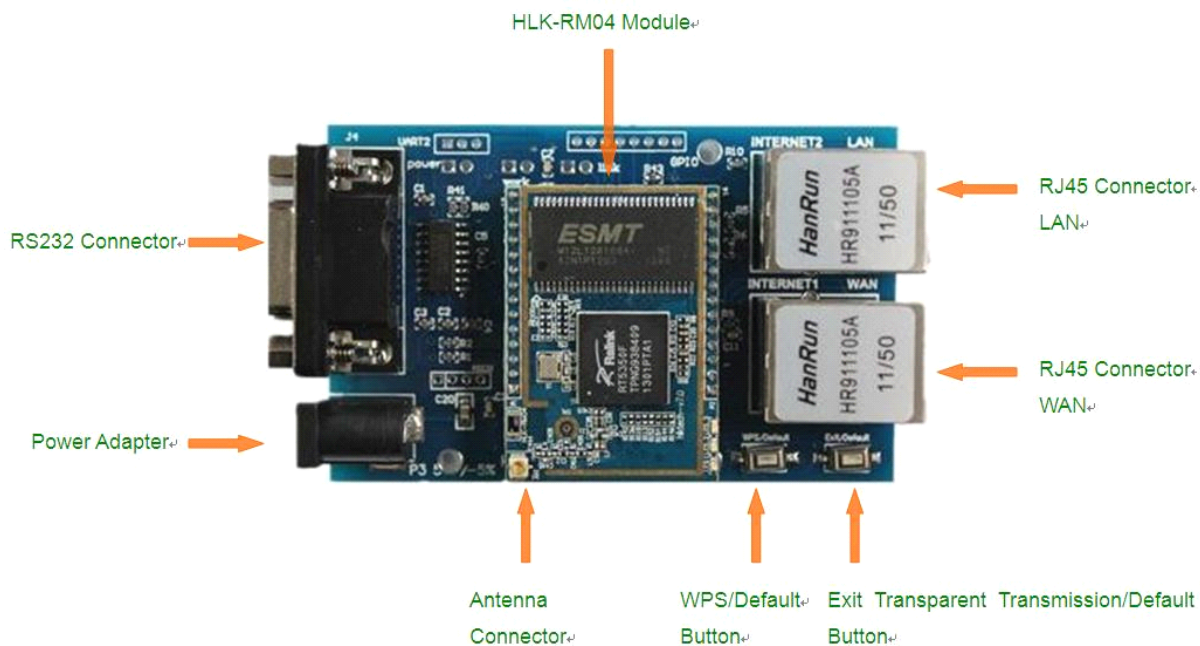
WIFI（Client/AP）   **Ethernet**

Chart 1. F-structure

Through the HLK-RM04 module, the traditional serial devices do not need to change any configuration; data can be transmitted through the Internet network. Provide a quick solution for the user's serial devices to transfer data via Ethernet.

Every part's function of Test board:

2. Serial to WIFI(client mode) configuration method

Serial to WIFI model
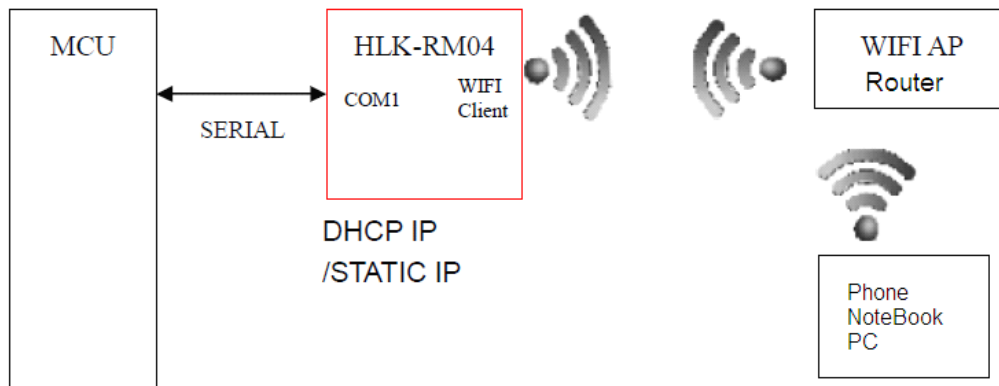
Method one: through the serial port

1. **First please ensure the module is in default mode.** The method of restoring the factory settings: power-on the module, wait 35 seconds. Then press one of the buttons on the test board and hold on more than 6 seconds.

2. **Power-on the module again, wait 35 seconds until the light on the module blinking**, and then connect the DB9 serial port with the computer's serial port in a straight line. Or connect the test board directly with a USB to serial cable as the following picture:
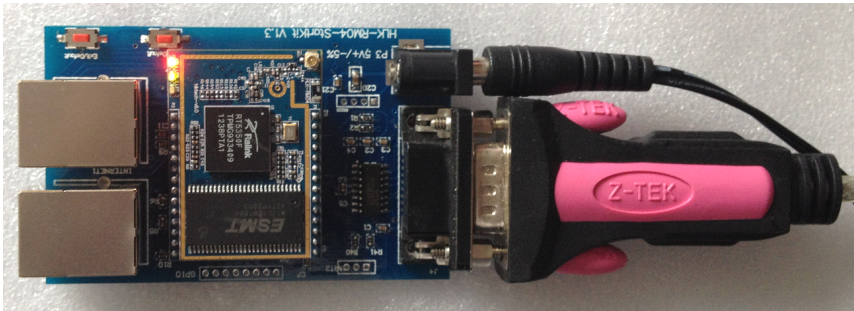
3. **Press the "Exit transparent transmission / Preset" button, open the configuration software**, select the serial number, click on the search button, If there appears message >: at (: Found Device at COM8 (115200)! In the response area, it means the module is found.
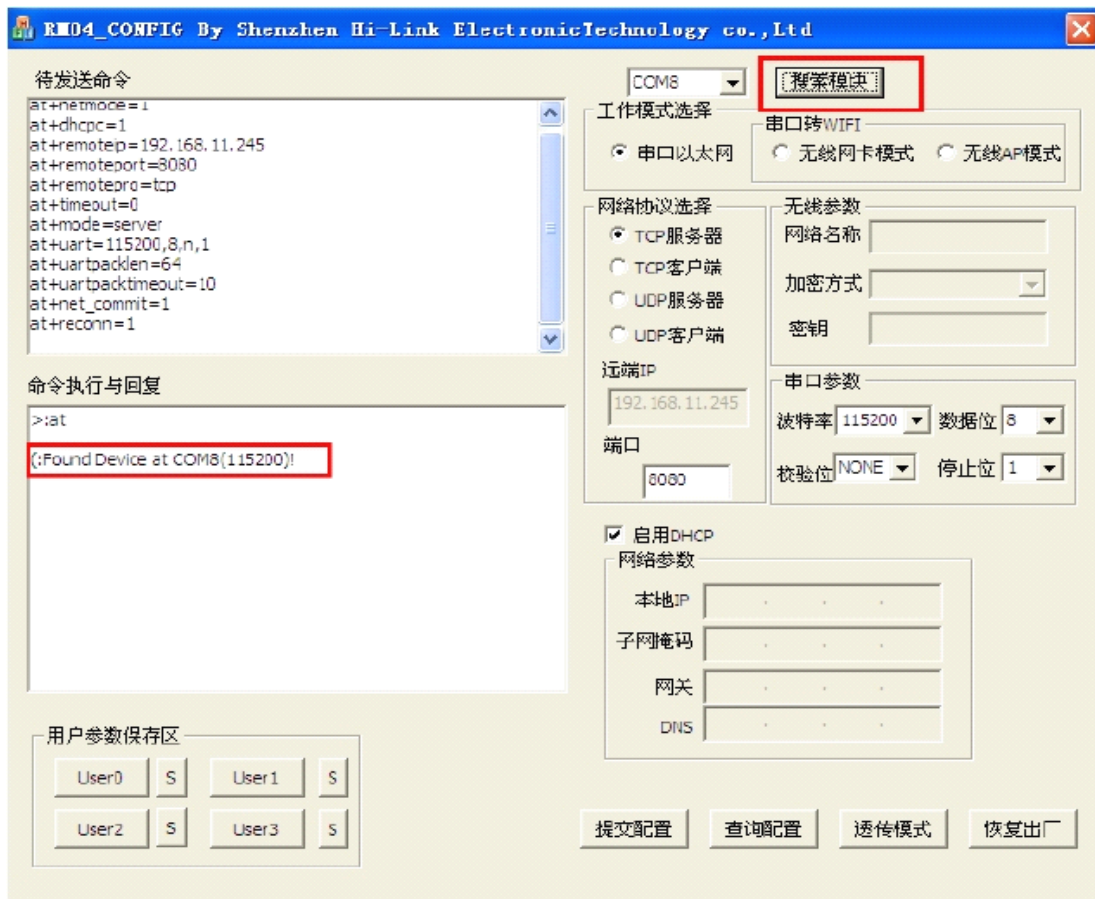
4. Parameter configuration
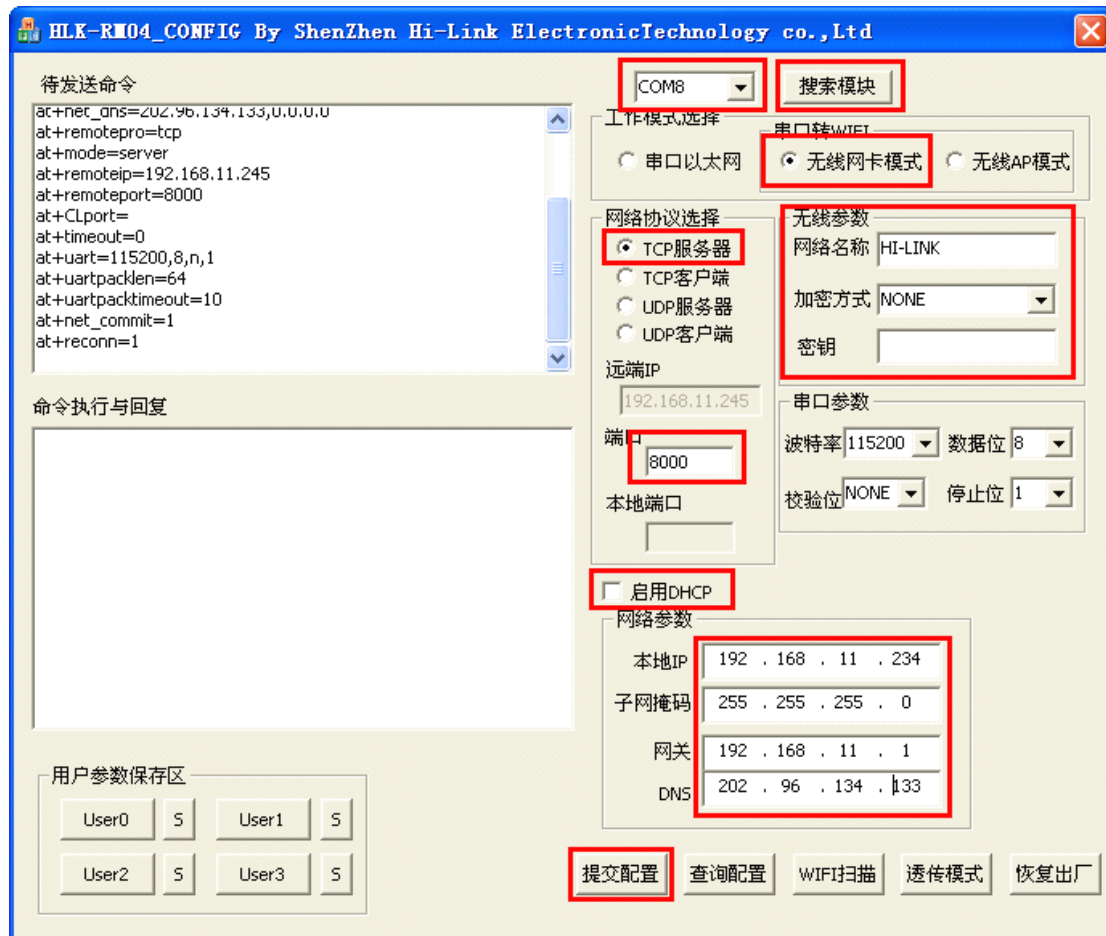
Operating mode: WIFI client.

Network Protocol: TCP server

Remote IP: Remote IP is not working as a sever

Port: The monitoring port of the starting TCP server

Serial Parameter: Change the parameters according to your requirement.

Configure the module as the following picture. At this moment, the parameters you need are the one that the module connected with the router.

Attention

Start using DHCP: when the DHCP starts, the module need to obtain an IP from the router, if the module works as TCP Server, you need to log on the router to find the module's IP.

If you do not start DHCP, you need to know the IP address specification of your router and fill in IP address youeself.
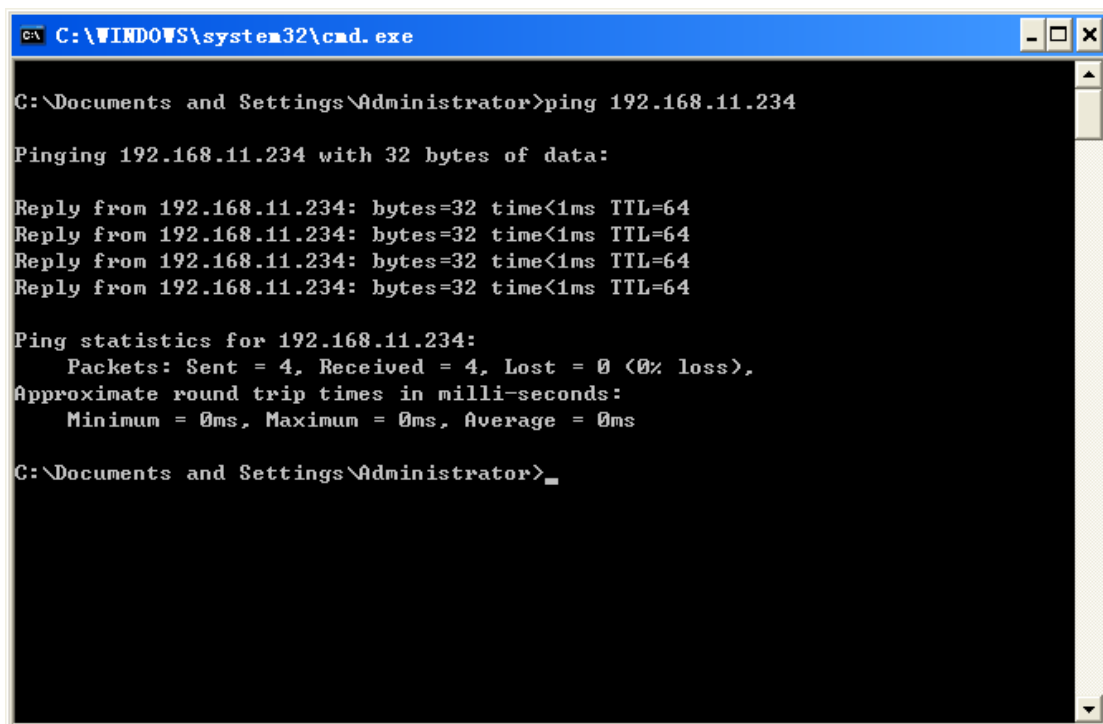
For example: Our IP specification is 192.168.11.xxx.；255.255.255.0；192.168.11.1

5. Re-start the module

The module will automatically connect to the wireless router named HI-LINK. You can do the work of the communication now. **Explanation:**

a. The parameters here is our router's parameters, if you use RM04 module, you should change them to your own router's parameters.

b. Close the DHCP in order that you can find the module easily through the IP address.

c. Local IP refer to the module's IP, This IP must be in the same network segment with your router. The IP can not be an IP address conflict with any of the machines within the LAN communication, otherwise it will fail.

d. All the Network parameters are set according to our network environment, users do not copy.

6. Execute with the PC in the same LAN：ping 192.168.11.234

This shows the module HLK-RM04 has connected with the wireless router.

7. We can do the communication test.

The serial and PC can send data to each other now.