HLK-RM04 Application manual 1
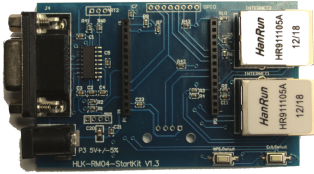
Serial to Ehthernet

Shenzhen Hi-Link ElectronicTechnology co.,Ltd

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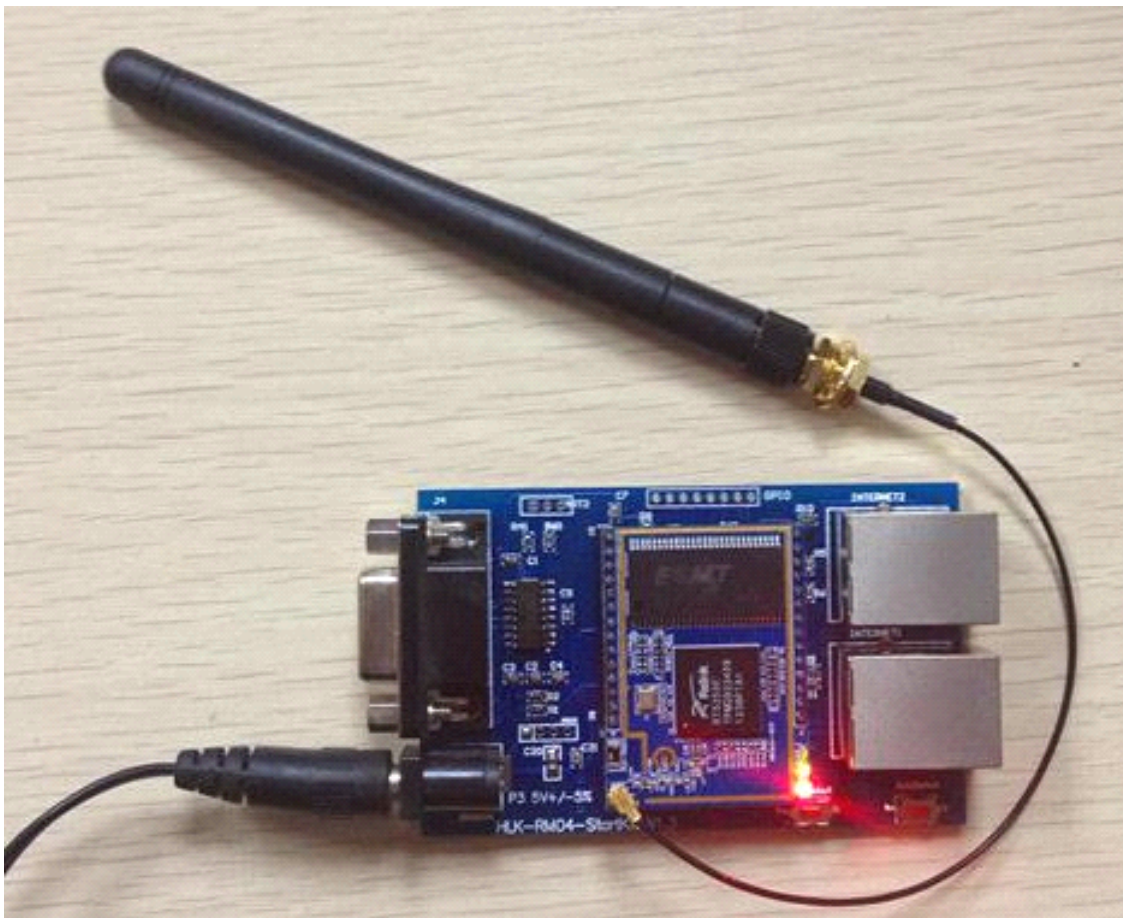
Please note the direction that HLK-RM04 plugged into the backplane!

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 ElectronicTechnology 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.

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.
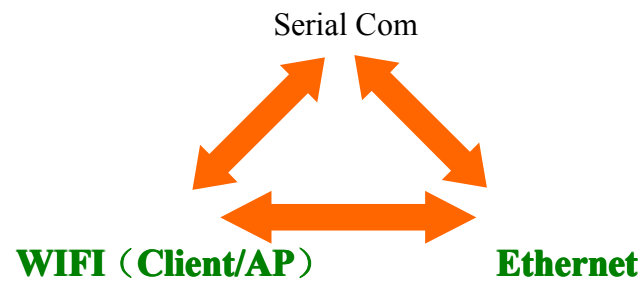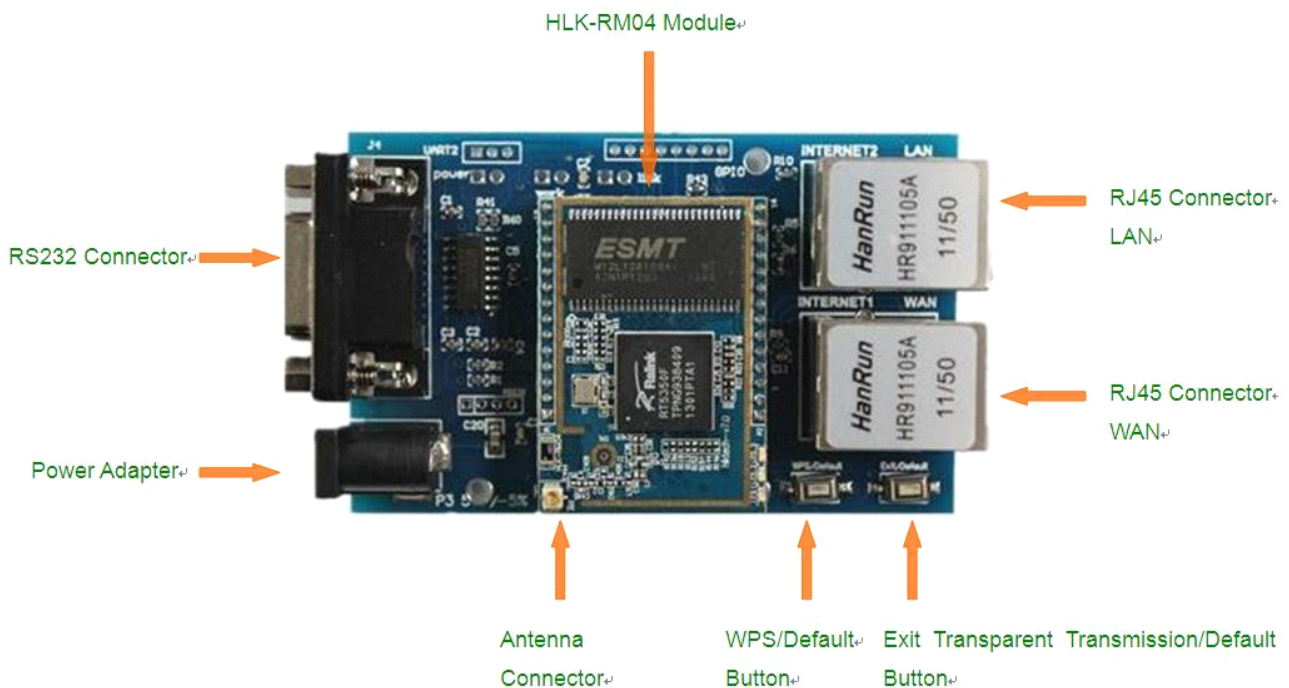
Serial Com

WIFI（Client/AP） Ethernet

Chart 1. F-structure

Every part's function of Test board:

2. Serial to Ethernet configuration method：
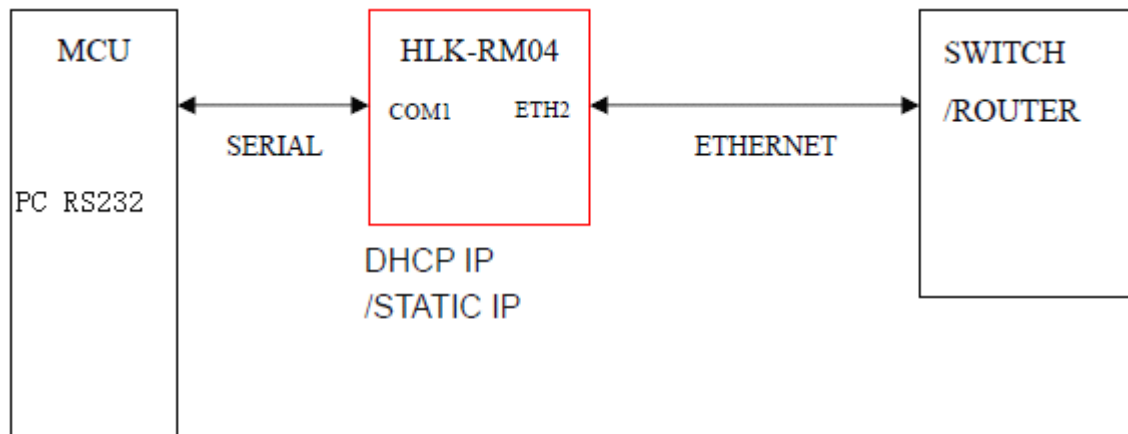
Serial to Ethernet model：

图 3.串口转以太网模型

Method one：Configuration through Serial port

1. Firstly, please ensure that 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:
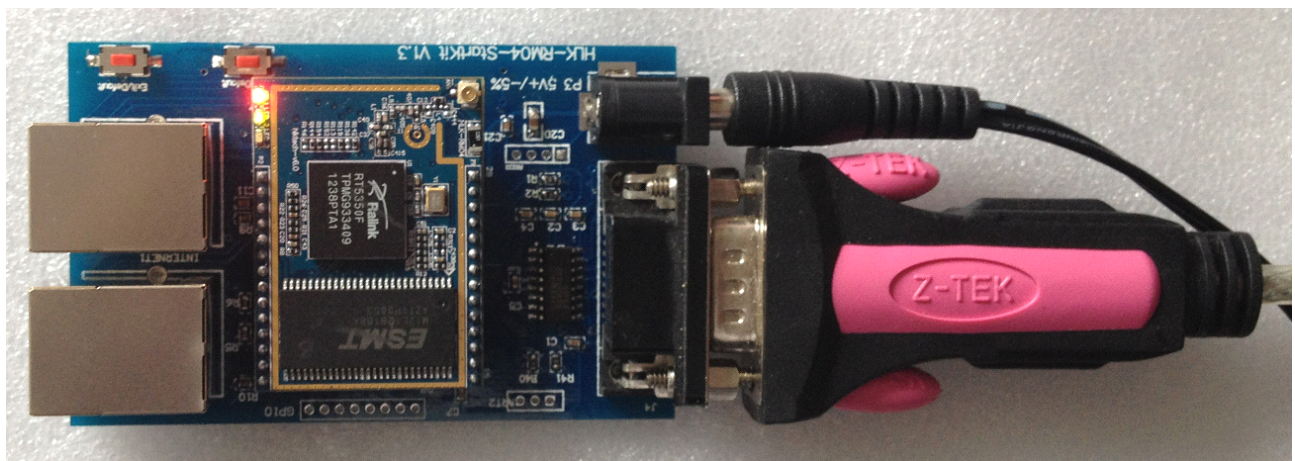
3. Press the "Exit transparent transmission / Preset" button, open the configuration software, select the serial number, click on the search button, If there appears message >: at (: Found Device at COM8 (115200)! In the respose area, it means the module is found.

HLK-RM04_CONFIG By ShenZhen Hi-Link ElectronicTechnology co.,Ltd

Command:
```
at+netmode=1
at+dhcpc=1
at+remoteip=192.168.11.245
at+remoteport=8080
at+remotepro=tcp
at+timeout=0
at+mode=server
at+uart=115200,8,n,1
at+uartpacklen=64
at+uartpacktimeout=10
at+net_commit=1
at+reconn=1
```

Response:

Saved User Parameter: User0 S | User1 S | User2 S | User3 S

COM11 | Search

Operating Mode: ● Ser2Eth

Ser2WIFI: ○ WiFi Client ○ WiFi AP

Network Protocol:
● TCP Server
○ TCP Client
○ UDP Server
○ UDP Client

Remote: 192.168.11.245

Port: 8080

Local port:

WiFi Parameter:
SSID:
Enc Type:
Key:

Serial Parameter:
Baudrat 115200 Data: 8
Parity: NONE Stop 1

☑ DHCP

Network Parameter:
IP:
Mask:
Gatev
DNS

Commit | Query Config | WIFI Scan | Transparent | Reset Default

4 Parameter configuration

Operating mode: Ser2 Eth(serial to Ethernet)

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.

Attention please ⚠️

DHCP: when the DHCP started, Modules need to obtain an IP from the router, so you should log on the roter and find the IP of the module first in order to communicate. At this time, Cable and PC Direct Connect is no way to communicate.

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

Please set the IP parameters according to your own router. This time,the module can connect to the router through the network cable, can also connected with the computer,If it directly connected with the computer, the computer's IP should manually configured to 192.168.11.xxx; 255.255.255.0
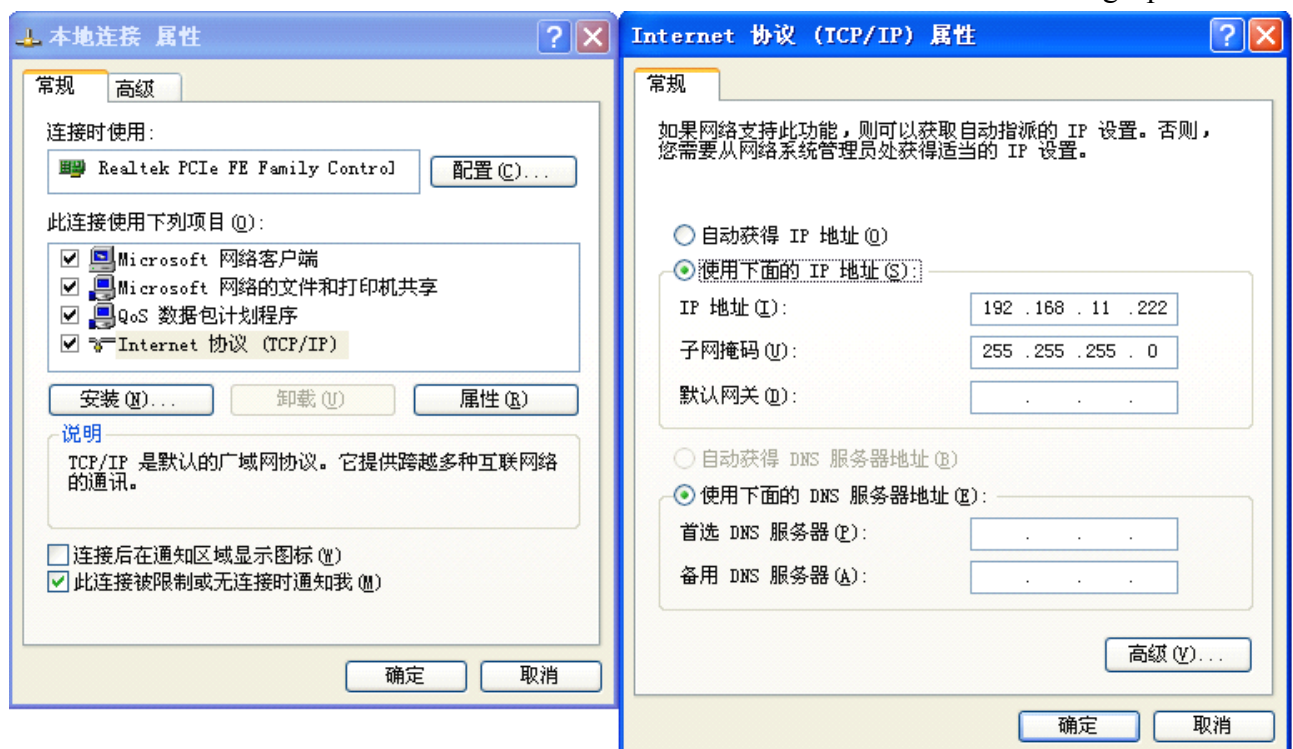
Paremrter can cofigurate as the following picture:

We demonstrated here is not enabled DHCP, static IP configured.

After committing the configuration, the WIFI of the module will turn off and the LAN port will be shut down

5 TCP to serial data transfer

Submit your parameters, the module will restart, you can also re-power to the module, when the module starts, connect the computer network port and the network port 1 of HLK-RM04 with the network cable. Please close other network card. Configurate Fixed IP to the computer that connect to the the HLK-RM04 module as shown in the following picture:

Check if the ping 192.168.11.254 is ok: start ----run----cmd
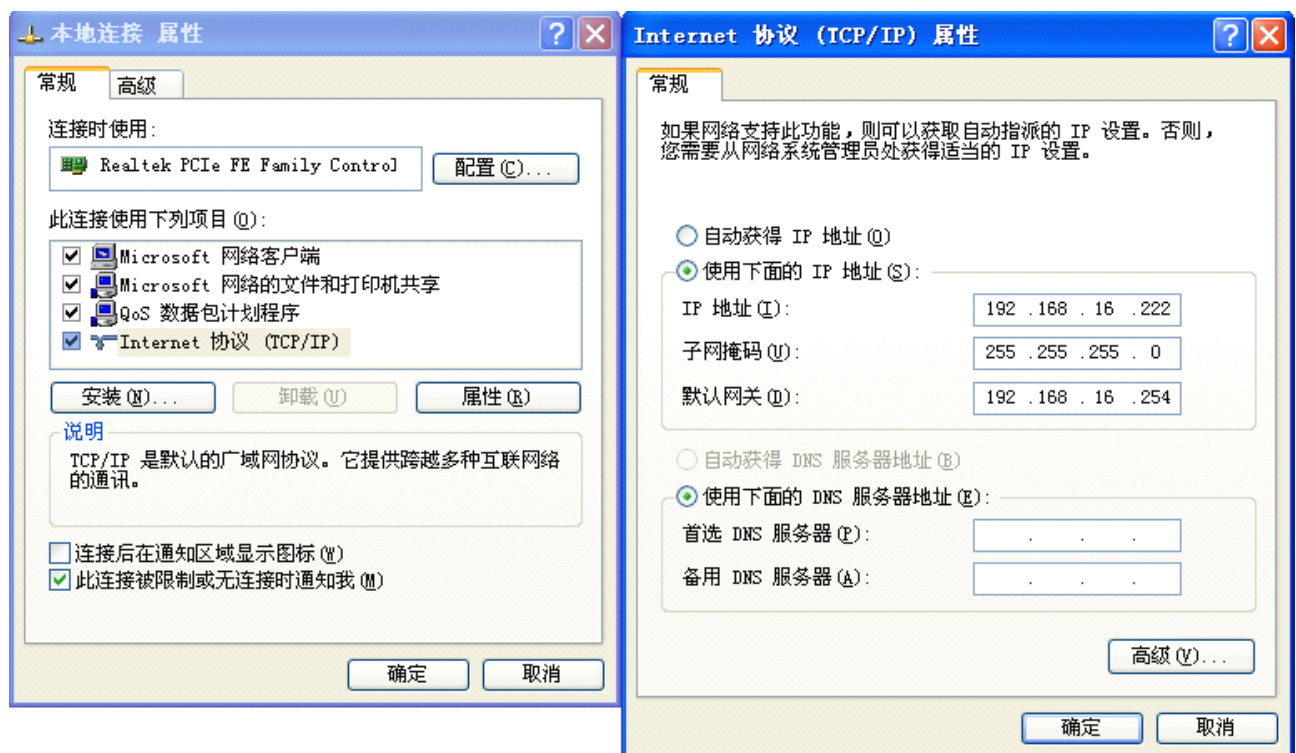
Open the serial debugging tools and network debugging tools, do send data test:

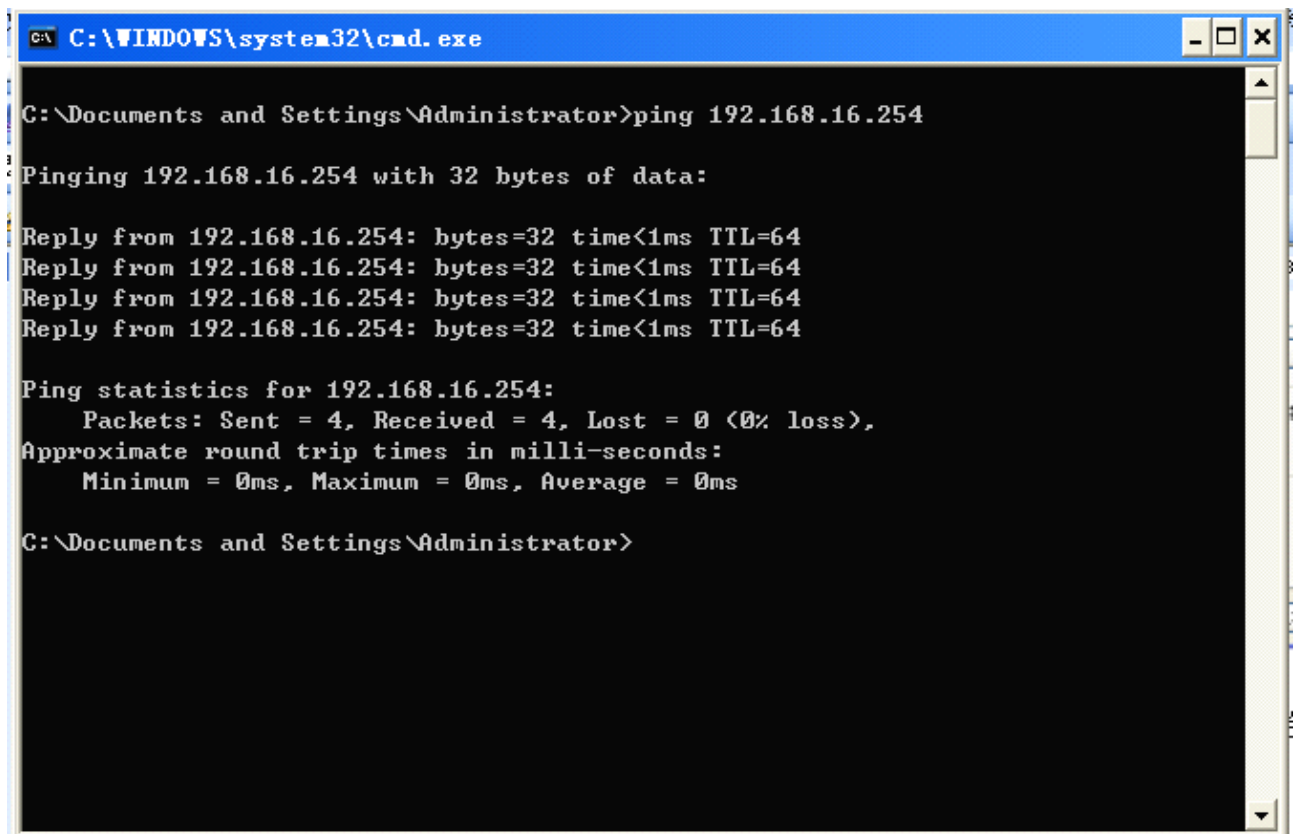The serial and Ethernet can send data to each other now.

Method two: configuration through network port

1. First restore the factory setting. Then start the module, connect the network port 2 of HLK-RM04 test board and the computer's Network port with network cable .And then set the computer's IPas follows:

Check if ping 192.168.16.254 is all right: start----run----cmd

Note: not 192.168.11.254

2. Input 192.168.16.254/ser2net.asp in the browser, it will pop-up a dialog box, enter the user name and password. Both of the username and password are admin.

As Static IP and DHCP, please reference to the method 1.After configuration, click on the button 'Apply' to wait for the module restarting.

3. Waiting for the module to restart, unplug the network cable of the HLK-RM04 network port 2 and plugged it into the Ethernet port 1. Next Steps please reference to fifth step in the method one.