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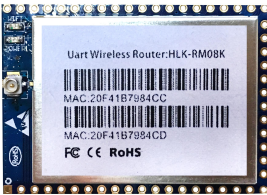
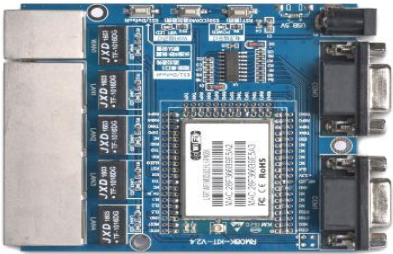



HLK-RM08K USER MANUAL

UART to WIFI application (Client mode)



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Kindly note : The starter kit includes the following items.

	HLK-RM08K module
	HLK-RM08K development board
	2.4G Antenna
	5V 1000mA power adapter
	Net Cable (if needed)

一. Brief introduction

HLK-RM08K is a new low-cost embedded UART-ETH-WIFI module (serial port - Ethernet - Wireless

network) developed by Shenzhen Hi-Link 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-RM08K 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.

二. UART to WIFI (Client mode) configuration

Method 1: UART configuration

1. Restore factory setting. Power on 5V/350MA, and wait for 20s. Pull down ES1 pin more then 6S after setting up. The system will restart automatically. Then the system is on the factory mode.
2. Power on module and wait for 10s until the LED is flashing. Make the connection of two uart ports of DB9 and PC. Or use USB-UART cable connect the HLK-RM08K development board.

Picture for reference :

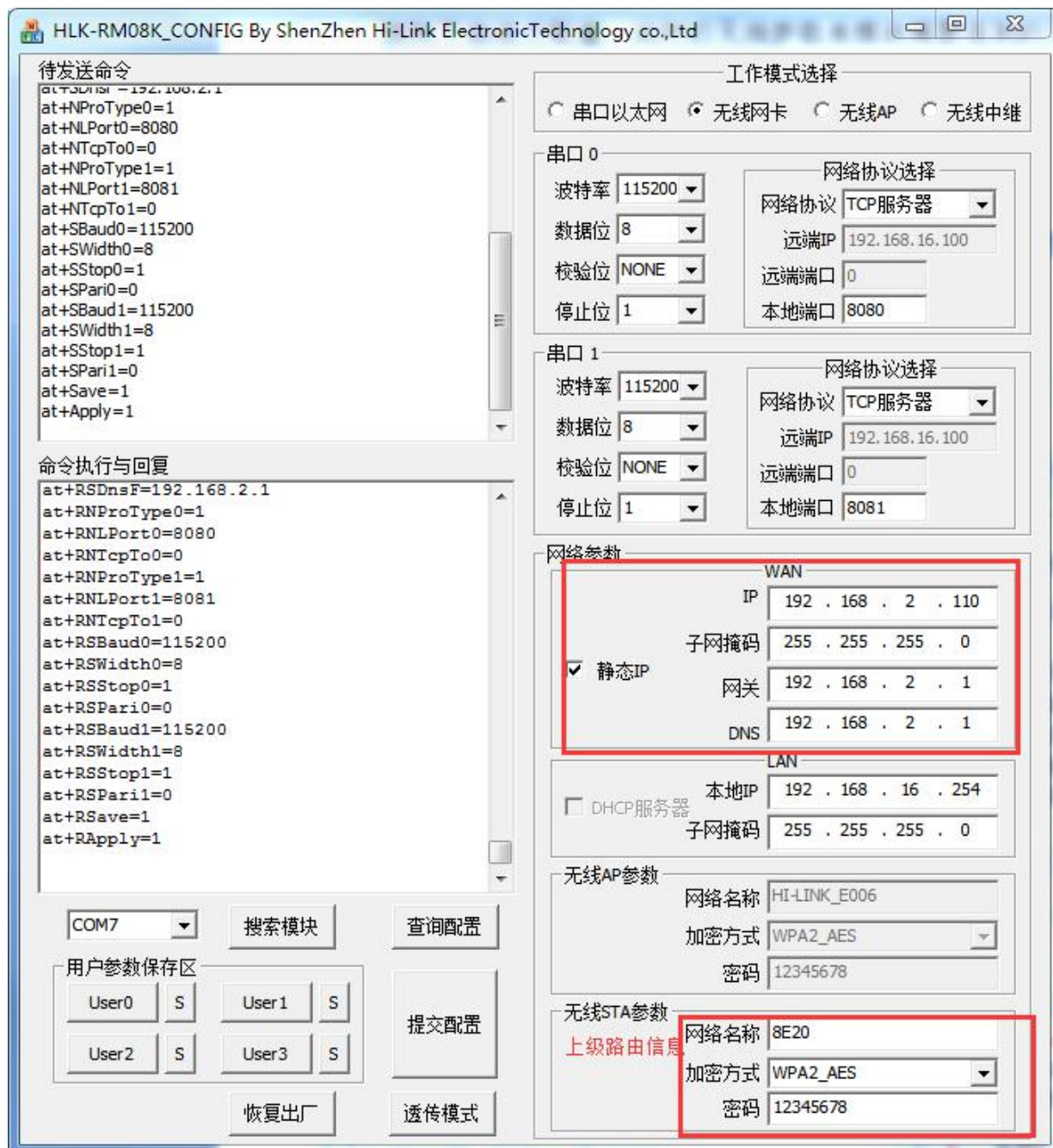


3. Short press **ESO** button, start the configuration tool, choose the uart number then click **search module**. It will return at (:Found Device at COM7(115200))! in the text box. Click inquiry configuration to read the current parameters.



4. Configuration parameters
- Working mode select: Client mode
 - Network protocol select: TCP server
 - Network IP: The remote IP doesn't work as a server
 - Port :TCP server set monitoring port.
 - UART parameter: Change it as wish

Configure it as the following picture. The wireless parameter is the one of wireless router which module need to connect.



The screenshot shows the HLK-RM08K_CONFIG software interface. The '工作模式选择' (Work Mode Selection) section has '无线网卡' (Wireless Network Card) selected. The '网络参数' (Network Parameters) section is highlighted with a red box, showing the 'WAN' configuration with '静态IP' (Static IP) checked. The '无线STA参数' (Wireless STA Parameters) section is also highlighted with a red box, showing the '网络名称' (Network Name) as '8E20'.

待发送命令 (Commands to be sent):

```
at+SDNS=192.168.2.1
at+NProType0=1
at+NPort0=8080
at+NTcpTo0=0
at+NProType1=1
at+NPort1=8081
at+NTcpTo1=0
at+SBaud0=115200
at+SWidth0=8
at+SStop0=1
at+SPari0=0
at+SBaud1=115200
at+SWidth1=8
at+SStop1=1
at+SPari1=0
at+Save=1
at+Apply=1
```

命令执行与回复 (Command execution and response):

```
at+RSDnsF=192.168.2.1
at+RNPType0=1
at+RNPort0=8080
at+RNTcpTo0=0
at+RNPType1=1
at+RNPort1=8081
at+RNTcpTo1=0
at+RSBaud0=115200
at+RWidth0=8
at+RStop0=1
at+RSPari0=0
at+RSBaud1=115200
at+RWidth1=8
at+RStop1=1
at+RSPari1=0
at+RSave=1
at+RApply=1
```

网络参数 (Network Parameters):

- WAN:** IP: 192.168.2.110, 子网掩码: 255.255.255.0, 静态IP: ☒, 网关: 192.168.2.1, DNS: 192.168.2.1
- LAN:** DHCP服务器: ☐, 本地IP: 192.168.16.254, 子网掩码: 255.255.255.0
- 无线AP参数 (Wireless AP Parameters):** 网络名称: HI-LINK_E006, 加密方式: WPA2_AES, 密码: 12345678
- 无线STA参数 (Wireless STA Parameters):** 网络名称: 8E20, 加密方式: WPA2_AES, 密码: 12345678

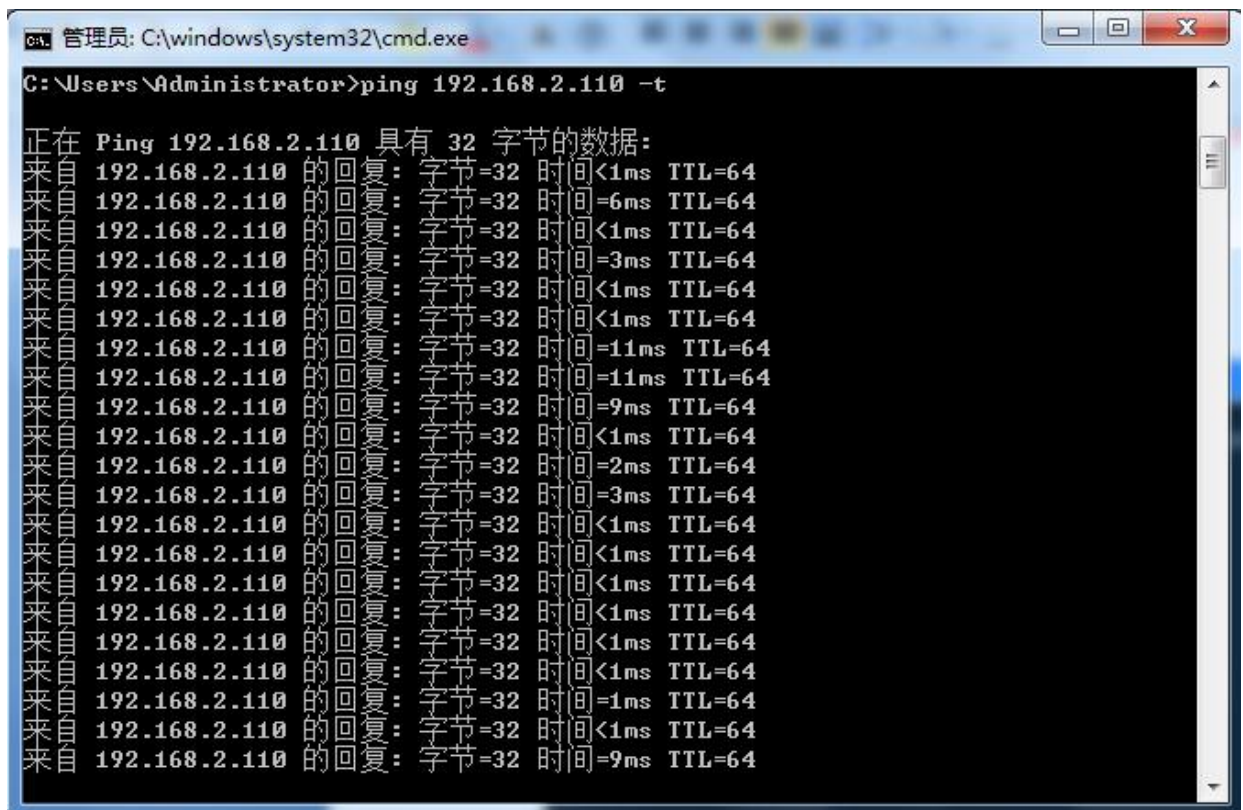
Kindly note



Disable static IP : Enable DHCP, module gets IP from router. It needs to log in router to find the module IP.

Static IP : 192.168.2.1 Input the IP address and you need to know the IP address rule of router. For examples: Our router IP segment : 192.168.2.xxx; 255.255.255.0, 192.168.2.1 ;

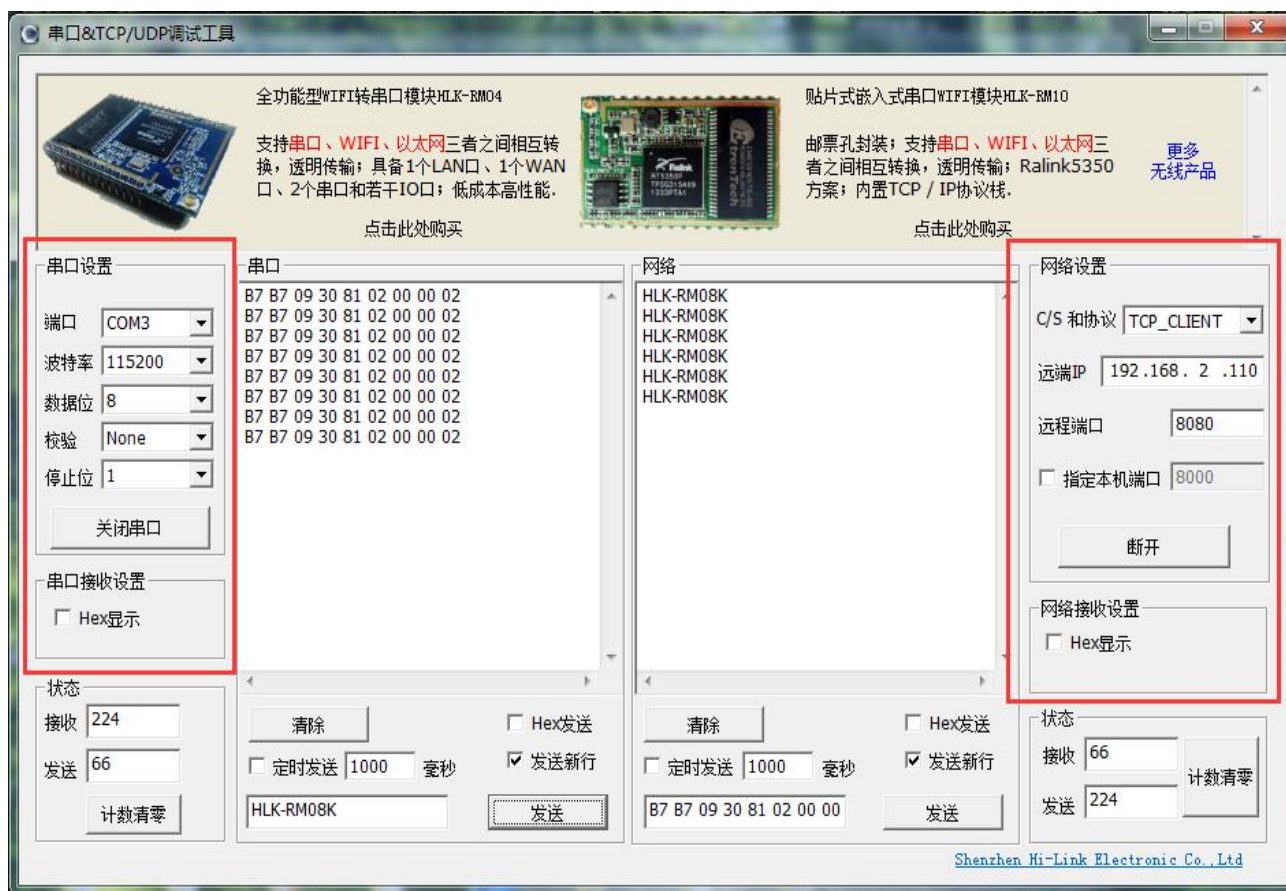
5. Restart module
Module will connect named 8E20 router. Then it is working and communicated.
6. PC in Same LAN network segment: ping 192.168.2.110



```
C:\Users\Administrator>ping 192.168.2.110 -t

正在 Ping 192.168.2.110 具有 32 字节的数据:
来自 192.168.2.110 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间=6ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间=3ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间=11ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间=11ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间=9ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间=2ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间=3ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间<1ms TTL=64
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来自 192.168.2.110 的回复: 字节=32 时间=1ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.2.110 的回复: 字节=32 时间=9ms TTL=64
```

Then HLK-RM08K module is connected to the wireless router and could do the testing.



It could send and receive data between serial port and PC. Serial port 0 configuration is same as serial port 1.