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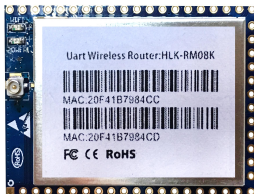
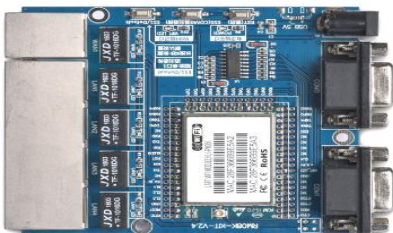



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**SHENZHEN HI- LINK ELECTRONIC CO.,LTD**

## **HLK-RM08K USER MANUAL**

UART to WIFI Application(AP mode)

**Note :** The complete starter kit includes following items.

	HLK-RM08K module
	HLK-RM08K development board
	2.4G 2DB antenna
	5V 1000mA power adapters
	Network cable (If needed)

## 1. Brief introduction

HLK-RM08K is a new low-cost embedded UART-ETH-WIFI module (serial port - Ethernet - Wireless network) developed by Shenzhen Hi-Link (HK) co., Ltd.

The product is a low power consumption WIFI module,supports IEEE802.11b/g/n wireless protocol with small size and smart use,fully transparent transmission UART module, built-in TCP / IP protocol stack, enabling users short development cycle. It just needs host computer,WEB browser or APP to set up parameters, making the connection between UART and network.

HLK-RM08K has stable performance and flexible use, meeting kinds of requirements of users. and strong technical supports could be provided. Also, it could be customized,such as WEB interface ,mobile phone app and so on.

Note : WIFI and Ethernet are default on with high power consumption.It could be configured by following methods if it is just serial to WIFI (AP mode).

### **Method 1 : UART port 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 selection: AP mode

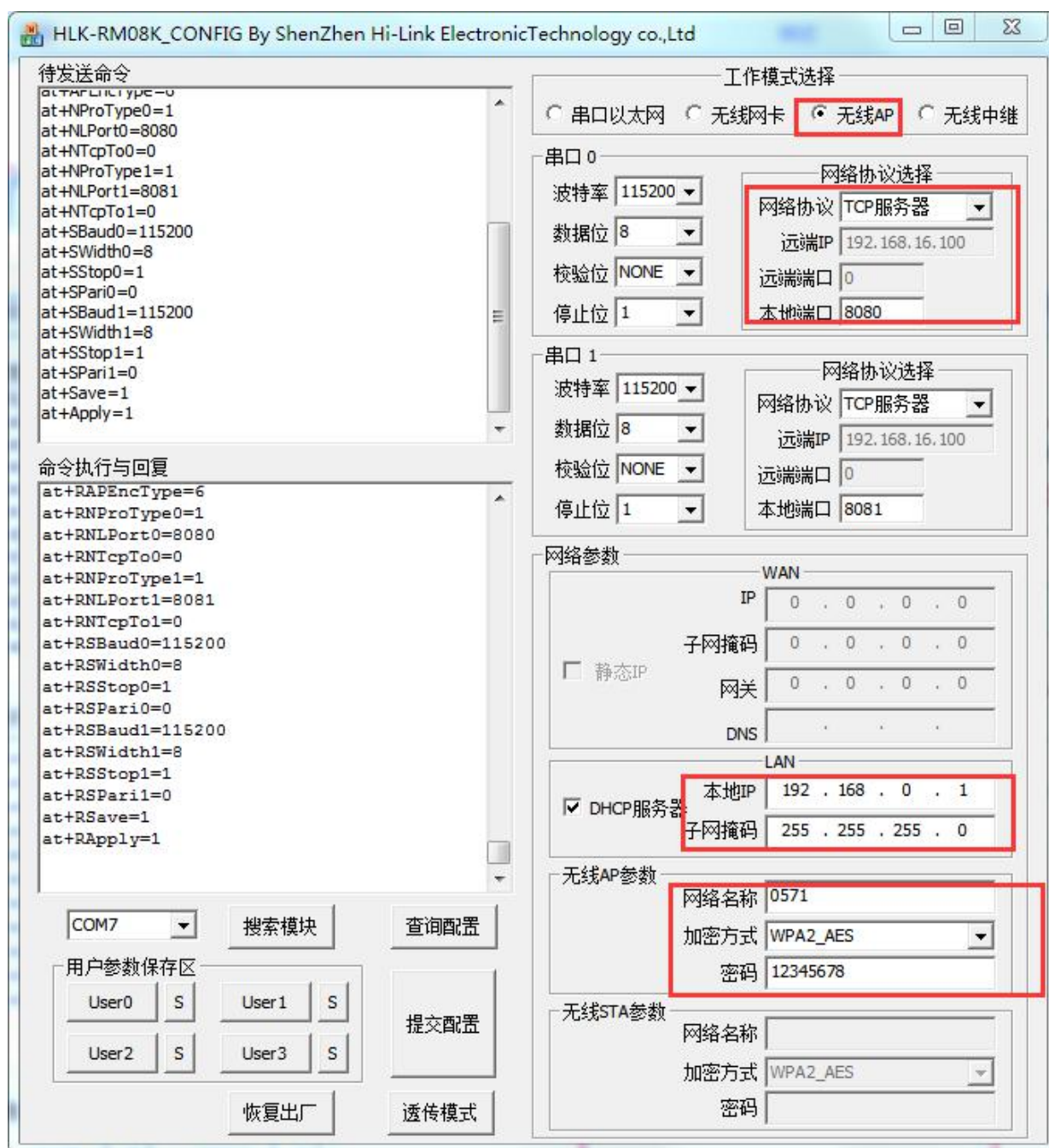
Network protocol select: TCP server

Network IP: The remote IP doesn't work as a server

Port :TCP server set monitoring port.

UART parameter: Change it as required

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 window title is "HLK-RM08K\_CONFIG By ShenZhen Hi-Link ElectronicTechnology co.,Ltd".

**待发送命令 (Commands to be sent):**

```
at+RFPinType=0
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 reply):**

```
at+RAPEncType=6
at+RNProType0=1
at+RNPort0=8080
at+RNTcpTo0=0
at+RNProType1=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
```

**工作模式选择 (Working mode selection):**

- ☐ 串口以太网
- ☐ 无线网卡
- ☒ 无线AP
- ☐ 无线中继

**串口 0 (Serial port 0):**

- 波特率: 115200
- 数据位: 8
- 校验位: NONE
- 停止位: 1

**网络协议选择 (Network protocol selection):**

- 网络协议: TCP服务器
- 远端IP: 192.168.16.100
- 远端端口: 0
- 本地端口: 8080

**串口 1 (Serial port 1):**

- 波特率: 115200
- 数据位: 8
- 校验位: NONE
- 停止位: 1

**网络协议选择 (Network protocol selection):**

- 网络协议: TCP服务器
- 远端IP: 192.168.16.100
- 远端端口: 0
- 本地端口: 8081

**网络参数 (Network parameters):**

**WAN:**

- IP: 0 . 0 . 0 . 0
- 子网掩码: 0 . 0 . 0 . 0
- 网关: 0 . 0 . 0 . 0
- DNS: . . . .

☐ 静态IP

**LAN:**

- ☒ DHCP服务器
- 本地IP: 192 . 168 . 0 . 1
- 子网掩码: 255 . 255 . 255 . 0

**无线AP参数 (Wireless AP parameters):**

- 网络名称: 0571
- 加密方式: WPA2\_AES
- 密码: 12345678

**无线STA参数 (Wireless STA parameters):**

- 网络名称:
- 加密方式: WPA2\_AES
- 密码:

**用户参数保存区 (User parameter save area):**

User0	S	User1	S
User2	S	User3	S

**Buttons:**

- COM7 (dropdown)
- 搜索模块 (Search module)
- 查询配置 (Query configuration)
- 提交配置 (Submit configuration)
- 恢复出厂 (Restore factory)
- 透传模式 (Transparent mode)

Choose all the parameters then apply the configuration.

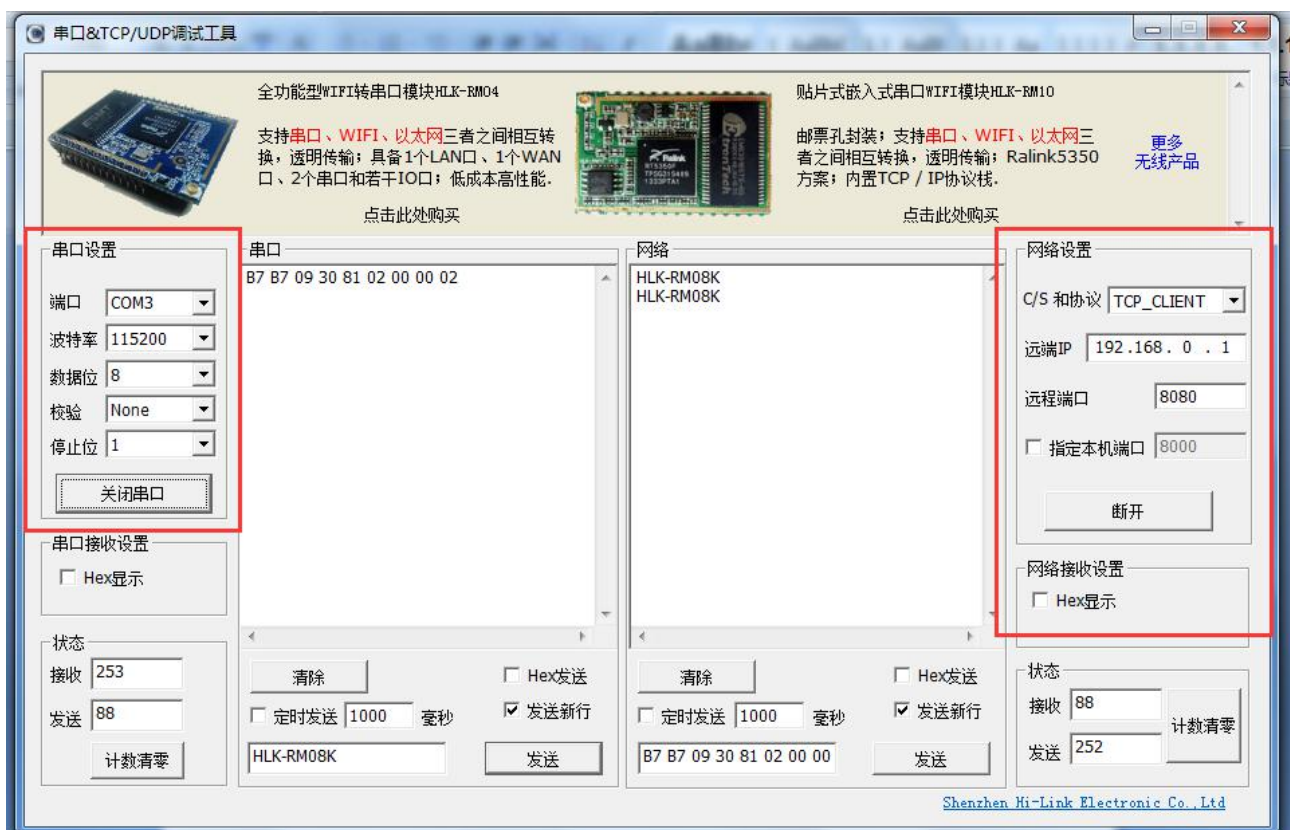
5. PC scan the WIFI around named 0571.





## 6 Realization of TCP to serial port data transmission.

Open TCP tool and serial tool, set up TCP client connection. Remote terminal IP :192.168.0.1, port : 8080



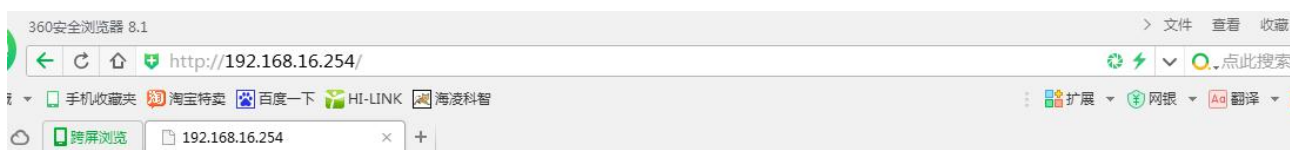
Serial port to the network to send and receive normal, indicating the successful establishment of serial transmission to the network;

7. serial port 1 configuration method is the same as serial port 0 configuration above mentioned.

## Method 2: WIFI webpage configuration

1. Restore factory setting. Power on the module. PC scan the near WIFI signal. Connect the WFII , enter the password 12345678.
2. Enter the website 192.168.16.254, and it will need to input the user name and password both admin.





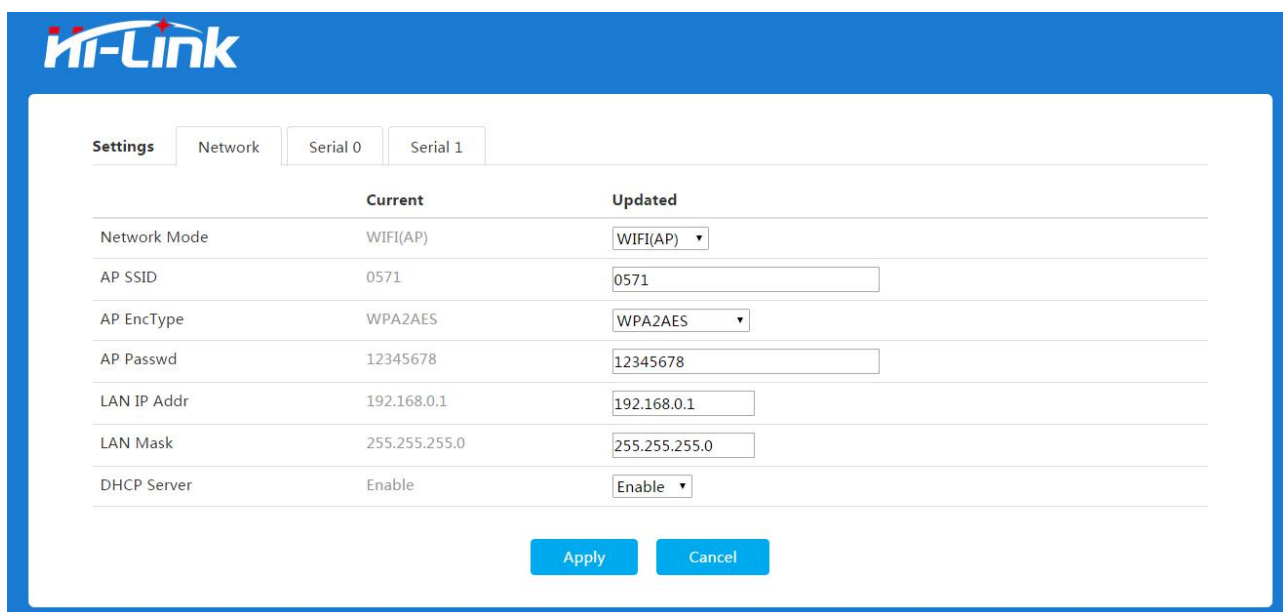
需要进行身份验证

服务器 http://192.168.16.254:80 要求用户输入用户名和密码。服务器提示: HLK-RM08K。

用户名:

密码:

3. Enter the page, choose WIFI(AP)- SERIAL mode. IP set 192.168.0.1.



	Current	Updated
Network Mode	WIFI(AP)	WIFI(AP) ▼
AP SSID	0571	<input type="text" value="0571"/>
AP EncType	WPA2AES	WPA2AES ▼
AP Passwd	12345678	<input type="text" value="12345678"/>
LAN IP Addr	192.168.0.1	<input type="text" value="192.168.0.1"/>
LAN Mask	255.255.255.0	<input type="text" value="255.255.255.0"/>
DHCP Server	Enable	Enable ▼

After finish these parameters then click Apply button to save the configurations.

4. Please turn to the point 5 of the method 1 to do the pc settings.