RAK473/476 User Guide
How to Realize Quick Connecting to the Network

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1. Realize Quick Connecting to the Network with Static IP Setting

1.1 General

In this part, it is introduced how to connect the module to the designated router quickly, and the method used is to set the module with a static IP.

1.2 Operating instruction

Tips:

1. When sending the command to control the module through MCU, the command takes "\r\n" as the end mark;
2. When sending the command to control the module through the serial port tool, the command takes pressing the enter key as the end mark;
3. In order to facilitate viewing, the returned information of the sent command is presented in ASCII code value. If there is any non-comprehensive information displaying or gibberish encountered, it is possible that there are special characters, Chinese characters, or other information in the information returned. At this time, please view in hexadecimal system form.

Please bear in mind the points above, which will not be repeated any more.

1.3 Operation steps

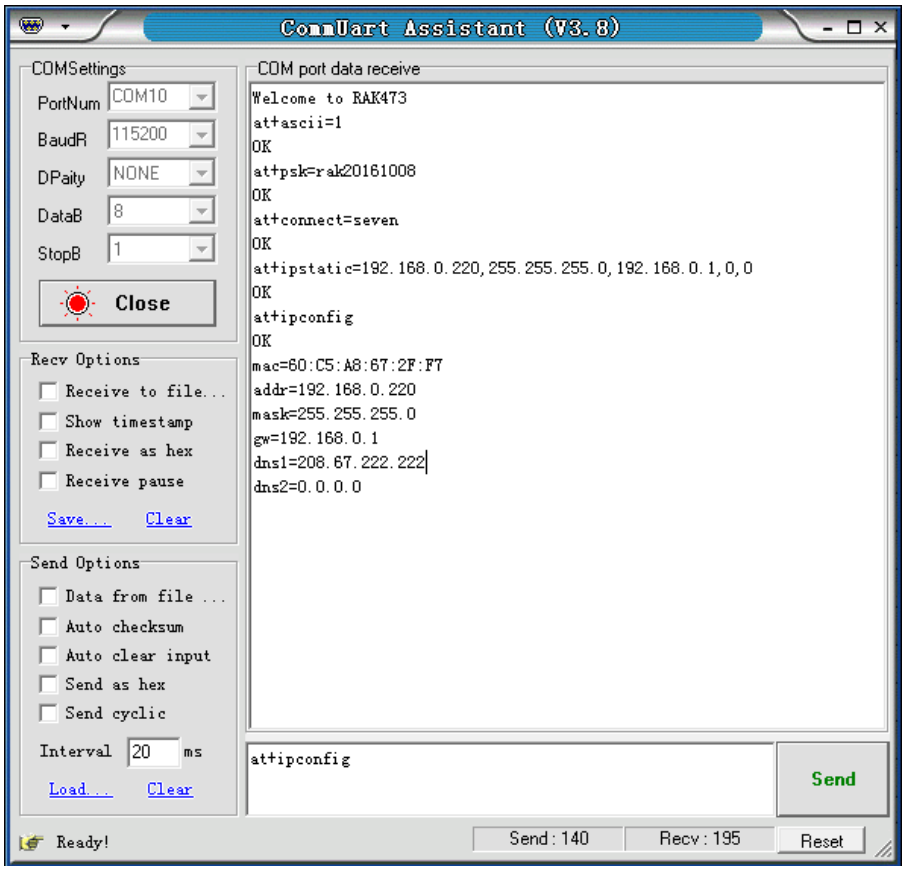
Tips: (Here it is demonstrated taking RAK473 as the example, and the operation steps are similar to that of RAK476)

1. Power up the module. Start up and return to Welcome to RAK473(Welcome to RAK476). The returned information can also be viewed in the hexadecimal system form. (57 65 6C 63 6F 6D 65 20 74 6F 20 52 41 4B 34 37 33(36) 0D 0A)
2. Open the ASCII display of the module.
   Send: at+ascii=1\r\n
   Return: 4F 4B 0D 0A（OK）
3. Send the router password to be connected
   Send: at+psk=rak20161008\r\n
   Return: 4F 4B 0D 0A（OK）
4. Connect the router SSID
   Send: at+connect=seven\r\n
   Return: 4F 4B 0D 0A（OK）
5. Send the command for setting static IP, to set a static IP for the module
   Send: at+ipstatic=192.168.0.220,255.255.255.0,192.168.0.1,0,0\r\n
   Return: 4F 4B 0D 0A（OK）
6. At this time, the module setting has been completed, which can be viewed by sending the instruction to query IP information of the module
   Send: at+ipconfig\r\n
   Return: 4F 4B 0D 0A（OK）
   mac=60:C5:A8:67:2F:F7
   addr=192.168.0.220

mask=255.255.255.0
gw=192.168.0.1
dns1=208.67.222.222
dns2=0.0.0.0

It is as shown in the figure below:

If knowing the channel where the router to be connected, the channel setting command can be sent to set channel module first, which can also increase the speed of the module to be connected to the network.



2. Send the Command for Networking Automatically to Realize Quick Connecting to the Network

2.1 General

In this part, the command to connect to the network automatically (at+auto_connect) will be introduced; when using this command, the module must save the network parameters first.

2.2 操作须知

Tips:

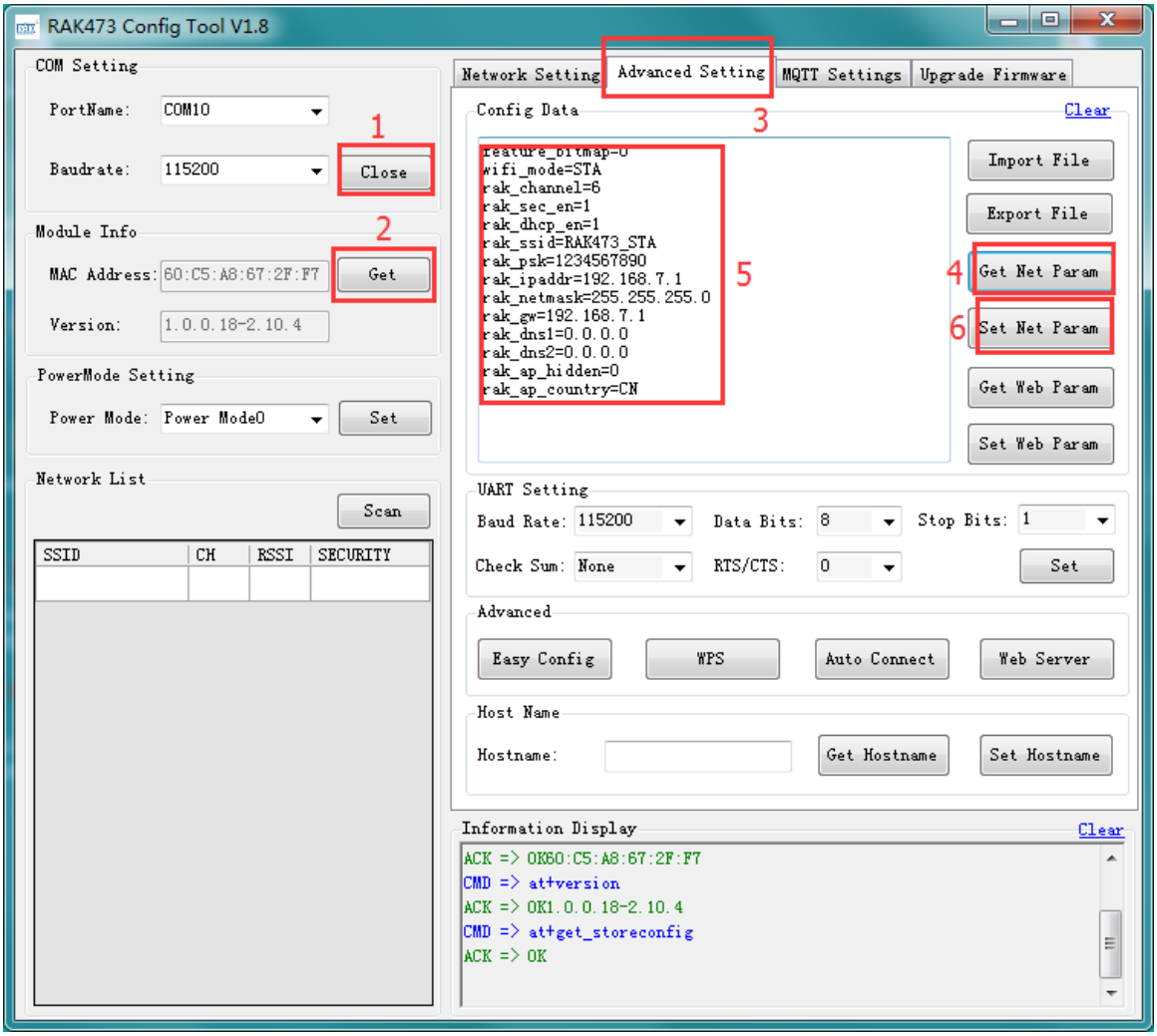
2. When sending the command to control the module through MCU, the command takes "\r\n" as the end mark;

2. When sending the command to control the module through the serial port tool, the command takes pressing the enter key as the end mark;

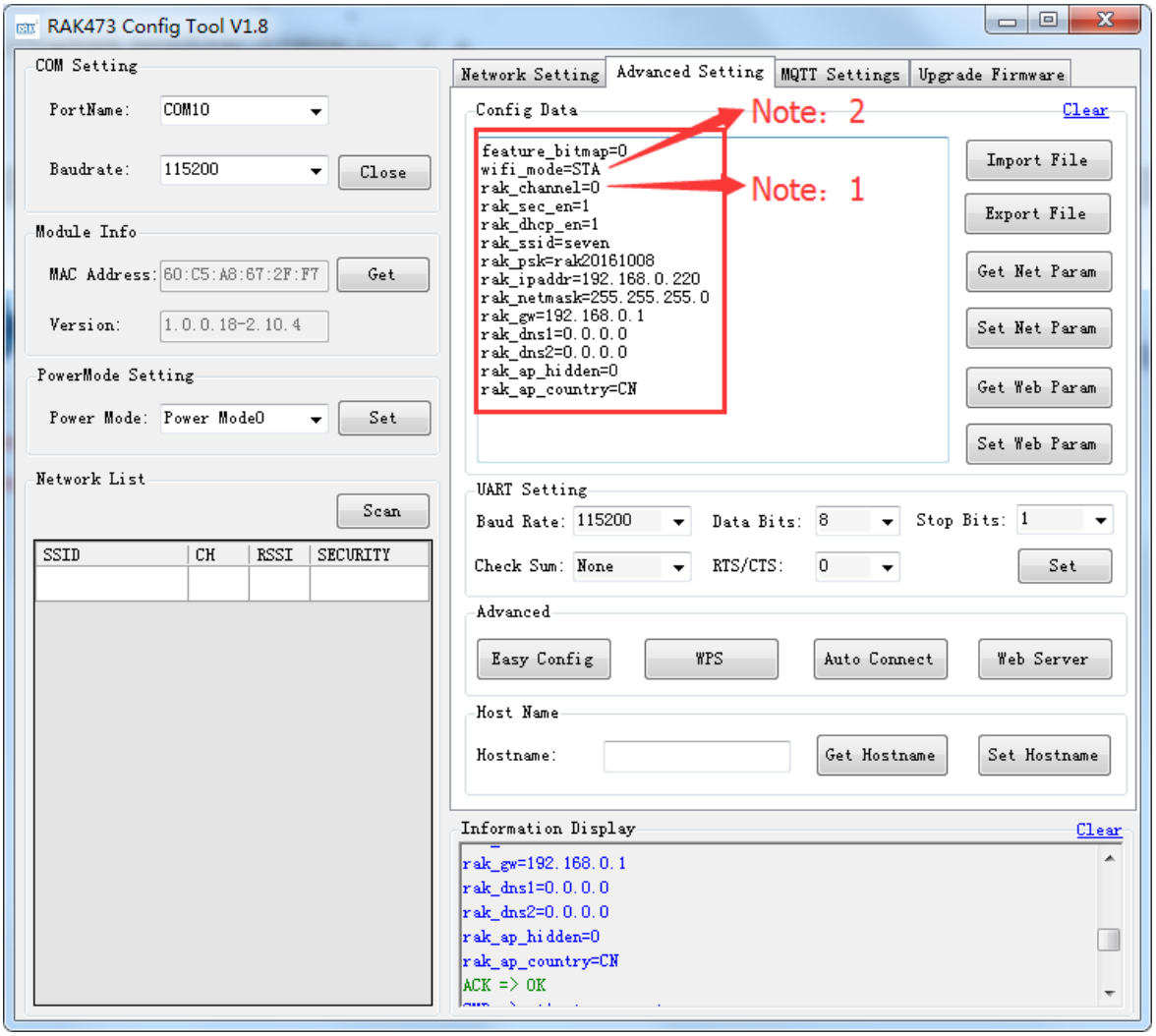
3. In order to facilitate viewing, the returned information of the sent command is presented in ASCII code value. If there is any non-comprehensive information displaying or gibberish encountered, it is possible that there are special characters, Chinese characters, or other information in the information returned. At this time, please view in hexadecimal system form.

2.3 Operation steps

Here, for the convenience of demonstrating functions, PC tools, RAK473 Config Tool.exe, will be used for the module to set network parameters and save network parameters.



1. Open the serial port of the module corresponding to the connection
2. Obtain module basis information
3. Access the setting page
4. Obtain network parameter information of the module
5. Set network parameter information of the module
6. Save the information of the network parameter module



Note 1 If you do not know the number of the router's channel, please set it as 0.

Note 2 The module's mode must be set as STA mode; and if the router connected has any encryption, please set rak_sec_en as 1.

Connect the serial port to send the command for automatically connecting the network. (Note that if the module network parameters have been set, after the module is reset, network parameters are still kept.)

Send: at+auto_connect\r\n

Reture: OK

mac=60:C5:A8:67:2F:F7

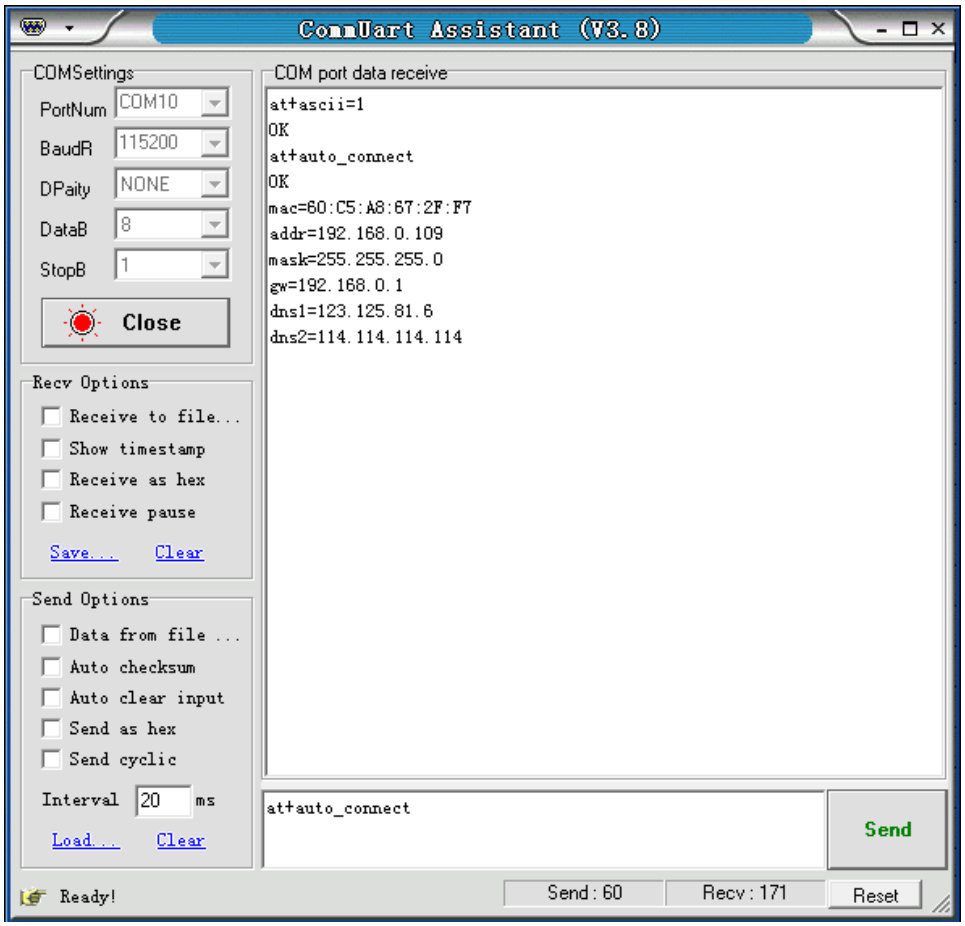
addr=192.168.0.109

mask=255.255.255.0

gw=192.168.0.1

dns1=123.125.81.6

dns2=114.114.114.114



2.Version

Version	Author	Date	Content modification
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V1.1	Xiaocheng Cao	2016/11/18	Modify some of the details