

RAK475/477 Use Guidance Configuration Tool Instructions

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1. Configuration Tool Overview

This document describes mainly how to use the mobile version of the RAK47X ScanConfig tool which wirelessly configures the module via a socket connection. To download and install this app, please go to the official website of our company.

1.1 Operating instructions

Tips:

1. This demo is done on the RAK475 development board.
2. The module in this demo is under factory settings.
3. When sending command to control the module via MCU, enter “\r\n” to complete the command;
4. When sending command to control the module via the serial port tool, press Enter to complete the command;
5. For ease of viewing, the information returned by the send command is presented in ASCII value. Special characters or Chinese characters in the returned information might result in the information being partially displayed or unreadable. In these cases, please view the returned information in hexadecimal form.

Please keep in mind the abovementioned points, for they will not be mentioned later.

2. Instructions for the ScanConfig Tool on Android platform

- 1) Power on the RAK475 development board and go to the wireless networks scanning page on the phone. Scan and connect the phone to the wireless network created by the module. The name of the wireless network is: RAK_AP_XXXXXX

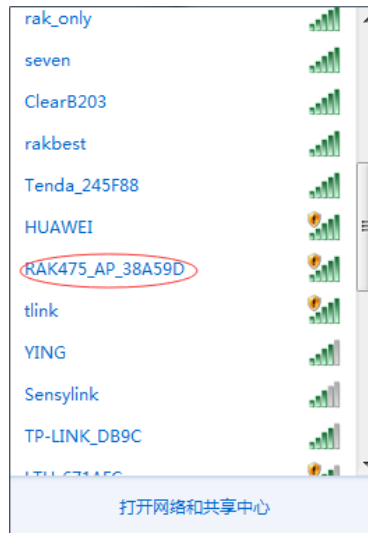


Figure 2-1

- 2) Open the installed RAK47XScanConfig tool. You will be prompted to choose a language the first time you launch the app (Figure 2-2); here in the demo we choose **English**. And then drag down the screen to scan for the RAK475 module that is on the same network as the phone, as shown in Figure 2-3. Now we are able to see the MAC address and IP address of the module.

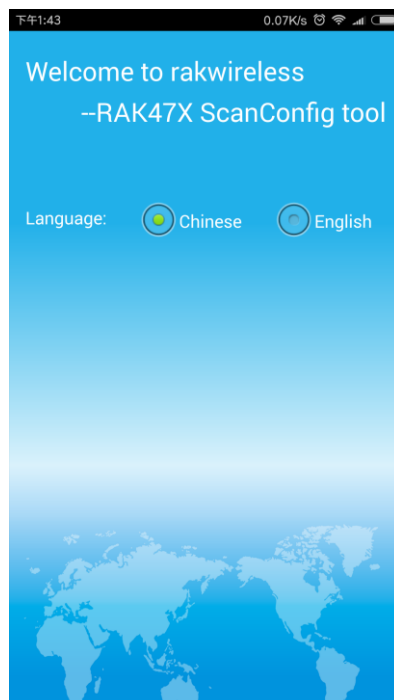


Figure 2-2 Language Setup

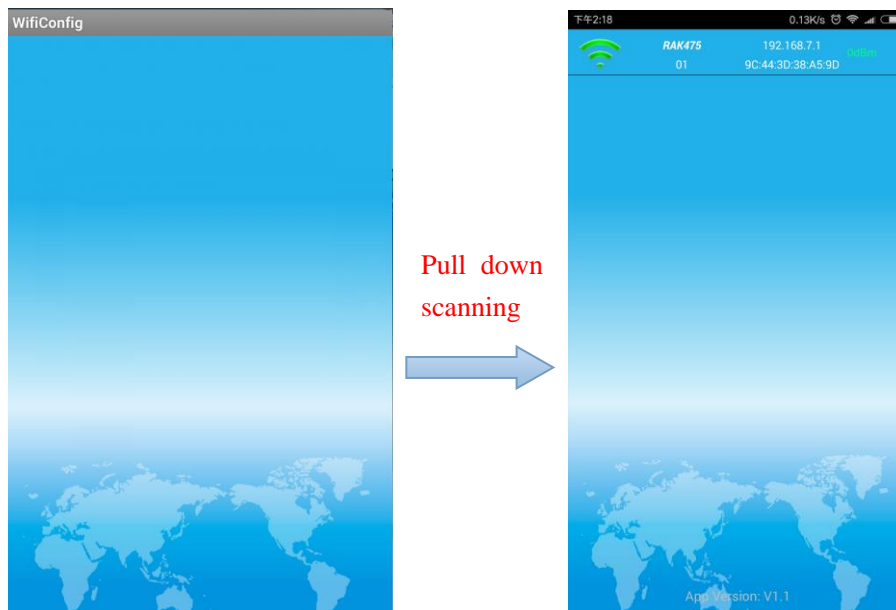


Figure 2-3 Scan for Module

- 3) Tap on the discovered RAK475 module and enter the default user name and password – both are **admin** – in the pop-up verification window, then tap the **OK** button directly to verify the module. If the verification is successful, you will enter the configuration interface. Otherwise, reverification is required. See Figure 2-4

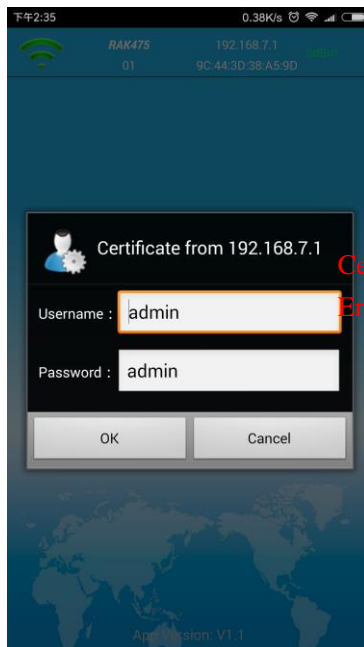


Figure 2-4 Module Verification

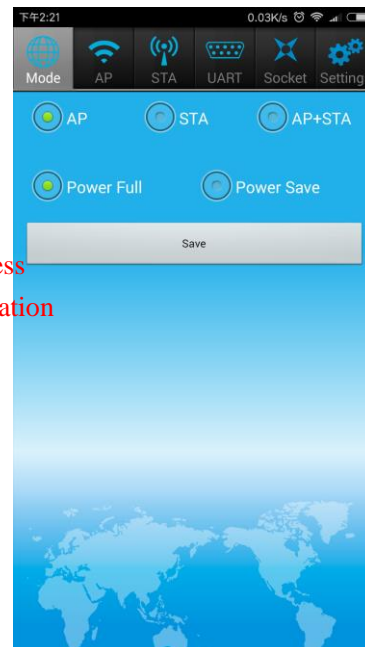


Figure 2-5 Module Configuration

- 4) Figure 2-5: Module Configuration. The configuration mainly includes **Mode Setting, AP Setting, STA Setting, Serial Port Setting, Socket Setting and Advanced Settings**. We will introduce these settings one by

one.

*Note: Please tap the **Save** button for each setting you modified to save the configuration parameters, and it requires a module reboot for the modified parameters to take effect.*

● **Mode Setting**

You can set the working mode and power consumption mode of the module here. The working mode of the module includes: AP Mode, STA Mode and AT + STA Mode; the power consumption mode includes: Power Full Mode and Power Save Mode.

Tap the **Save** button after modifying the configuration, as shown in Figure 2-5.

● **AP Parameters Configuration**

Tap the **Save** button after modifying the basic parameters of the AP, as shown in Figure 2-6. The descriptions of the steps 1 - 7 are as follows:



Figure 2-6 AP Parameters Configuration Interface

Step 1 Set the name of the wireless network created by the Wi-Fi module

Step 2 Set the broadcast mode of the wireless network;

Step 3 Set the encryption mode. You can choose to not encrypt the network with **OPEN** or encrypt it with **WPA2-PSK**;

Step 4 Set a password for the wireless network. You can skip this step if you selected **OPEN** in **Step 3** as no password would be needed here; if you selected **WPA2-PSK**, a password is required here;

Step 5 Set the maximum number of external connections for the module. The number cannot be greater than 3;

Step 6 Set the channel of the wireless network;


Step 7 Set the IP address of the Wi-Fi module.

● **STA Setting**

Set the basic parameters of the STA. Tap the **Search** button to find available wireless networks nearby. Tap the **Save** button after modifying the configuration, as shown in Figure 2-7 and Figure 2-8. The descriptions of the steps 1 - 4 are as follows:



Figure 2-7 STA Parameters Configuration Figure 2-8 List of Networks Discovered

Step 1 Select the wireless network the module needs to connect to. Tap on the  and a list of found networks scanned by the module will show up, and just tap on the required network;

Step 2 Select the encryption mode of the wireless network. Select **OPEN** if the network is not encrypted, and **Step 3** can be skipped in this case; otherwise, select **Encrypt** and fill in the password for the wireless network in **Step 3**

Step 3 Set the password for the wireless network; leave it blank if no password is required

Step 4 Set the IP address assignment method

● **Serial Port Parameter Setting**

Set the basic parameters of the serial port. Tap the **Save** button after modifying the configuration, as shown below:



Figure 2-9 Serial Port Configuration

The descriptions of the steps 1 - 7 are as follows:

- Set the serial port baud rate. Tap the **Down Arrow** button to select;
- Set Data bit;
- Set Check bit;
- Set Stop bit;
- Set Timeout;
- Set the byte length of the sending packet;
- Set Flow control mode;

● **Socket Setting**

Set the basic parameters of the **Socket**. The setting supports **Single** and **Dual Socket**, and tap the **Save** button after modifying the configuration, as shown in Figure 2-10:



Figure 2-10 Serial Port Configuration

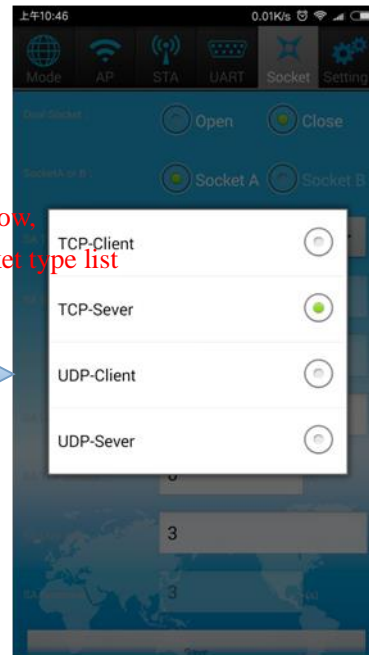



Figure 2-11 Socket Type Selection

The descriptions of the steps 1 - 8 are as follows:

Step 1 Set Single or Dual Socket. The Socket is set to Dual when you select **OPEN**, and it is set to Single by default when you select **Close**;

Step 2 Set Socket Parameters. If you select **OPEN** in **Step 1**, you can set the parameters of **Socket A** and **Socket B** here; if you select **Close**, then you can only set the parameters of **Socket A** here;

Note: Tap Socket A or Socket B to make the corresponding settings.

Step 3 Set the type of Socket A. Tap the  button and you will see the Socket type selection interface as shown in Figure 2-11 where you can choose one of the four types including TCP-Client, TCP-Server, UDP-Client, and UDP-Server.

Step 4 Set the target IP address of Socket A. You can skip this step if the module acts as the Server; if it performs as the Client, then you need to set the IP address here;

Step 5 Set the target port number of Socket A (in the valid range 00000~65535). You can skip this step if the module acts as the Server; if it performs as the Client, then you need to set the port number here.

Step 6 Set the local port number of Socket A (in the valid range 00000~65535).

Step 7 Set the timeout of Socket A;

Step 8 Set the maximum number of client connections;

● Advanced Settings

There are three parts in **Advanced Settings**: modify the user name and password of the module (i.e. the authentication information), modify the module name and group name, and reset the module and restore the factory settings. Tap the **Reset** button to put the new configuration into effect. As shown below:

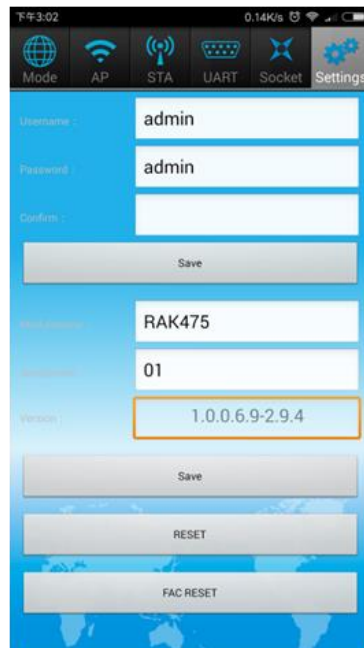


Figure 2-12 Advanced Configuration

Version

Version	Author	Date	Content modification
V1.0	RAK	2016/11/25	Create a document