RAK473/476 Use Guidance
Local Area Network
Broadcast and Multicast

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1. UDP Broadcast and Multicast

1.1 Overview

In this part, it is introduced how to use broadcast and multicast functions of the module in STA mode. (Here RAK473 is taken as an example, which is similar to RAK476)

1.2 Operating instruction

Tips:

1. When the command control module is sent via MCU, the characters "\r\n" are as the ending characters for the command;
2. When the command control module is sent via the serial port tool, press the Enter key as the ending character for the command;
3. The information returned following the command can be presented in ASCII code for easy viewing. If the information display is not comprehensive or garbled, there may be special characters, Chinese characters and so on in the returned information, so please view in the hexadecimal form.

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

1.3 Steps of UDP broadcast operation

1.Power up the module. Start up and return 57 65 6C 63 6F 6D 65 20 74 6F 20 52 41 4B 34 37 33 0D 0A

2.Configure the module to the designated router, and for operation methods, WPS configuration, easyconfig configuration, etc., can be used.

3.Create the broadcast with the destination IP of 192.168.1.255, destination port of 25001 and local port of 25000

Send: at+udp=192.168.1.255,25001,25000

Return: 4F 4B 00 0D 0A

4.Broadcast four-byte data "ABCD" to UDP connections with local port of 25001, and all UDP connections with local port of 25001 within LAN can receive the four-byte data "ABCD"

Send: at+send_data=0,25001,192.168.1.255,ABCD\r\n

Reture: 4F 4B 0D 0A

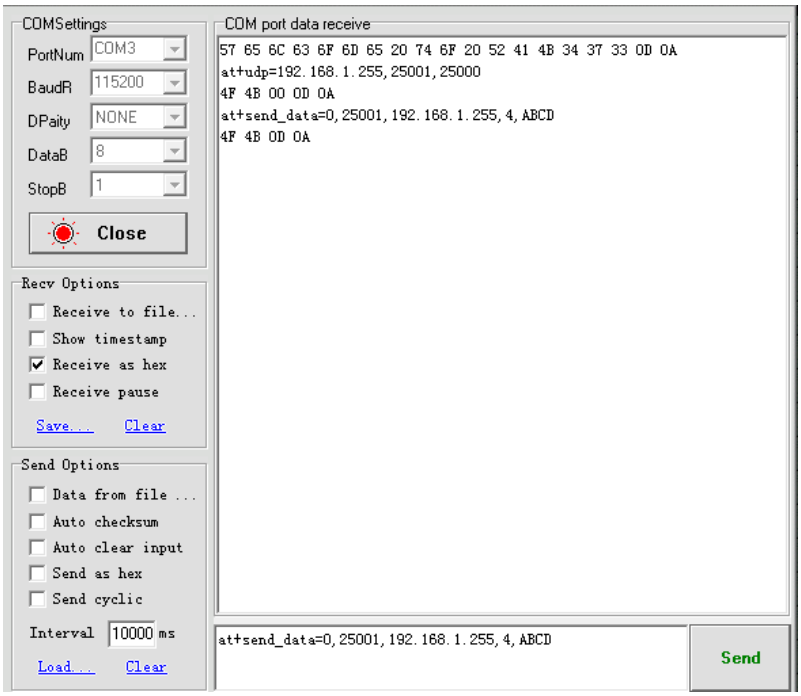

Figure 1-1 Schematic of the serial port to send the command

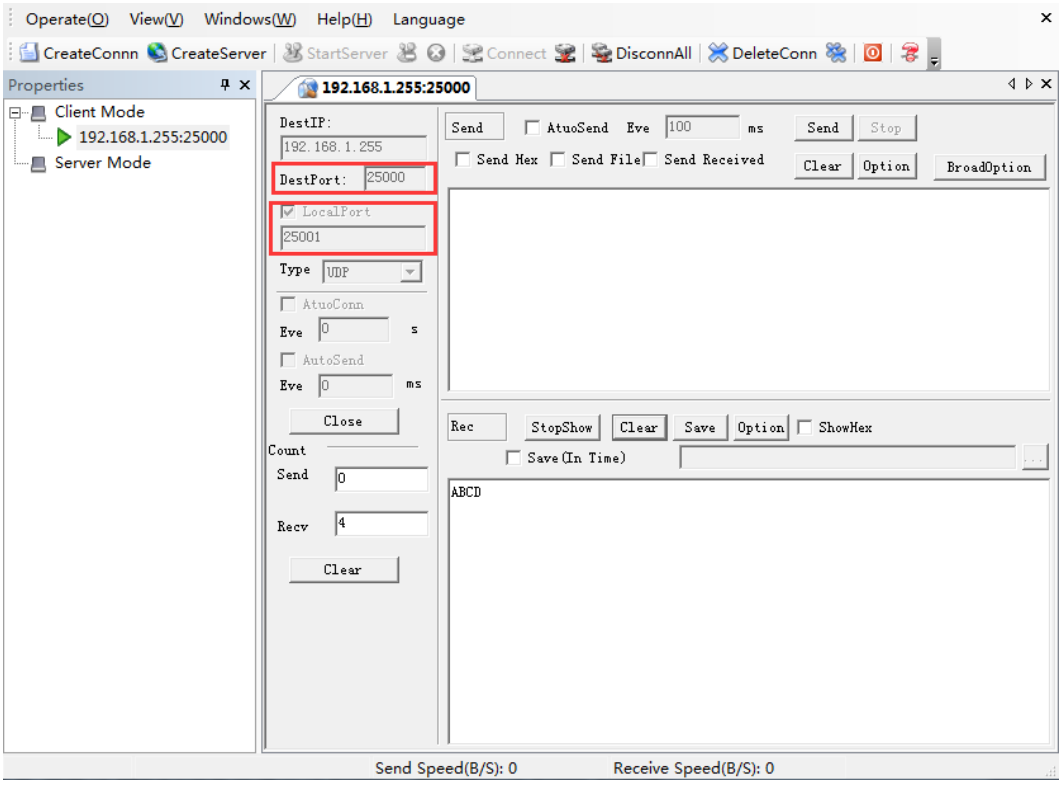

Figure 1-2 Transmit and receive data with TCP/UDP test tool

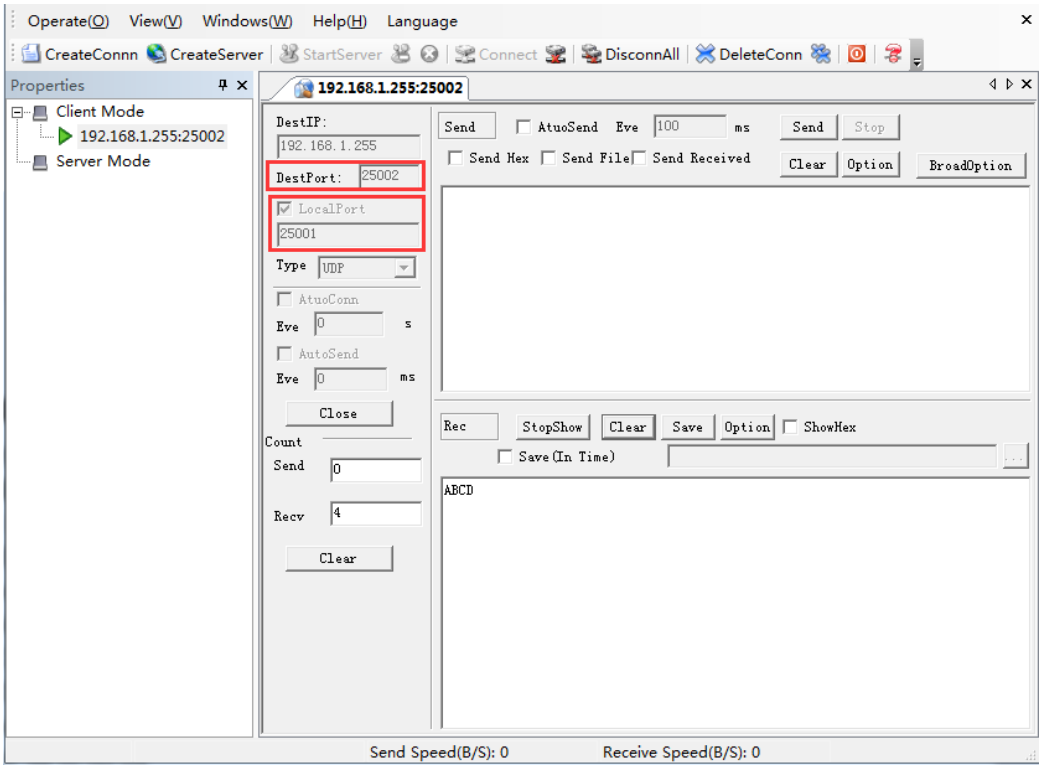

Figure 1-3 Transmit and receive data with TCP/UDP test tool

1.4 Steps of UDP multicast operation

1.Power up the module. Start up and return 57 65 6C 63 6F 6D 65 20 74 6F 20 52 41 4B 34 37 33 0D 0A

2.Configure the module to the designated router, and for operation methods, WPS configuration, easyconfig configuration, etc., can be used.

3.Create the multicast with the destination multicast IP address of 224.4.5.6, destination port of 25001 and local port of 25000.

Send: at+multicast=224.4.5.6,25001,25000,0\r\n

Return: 4F 4B 00 0D 0A

4.Send four-byte data "ABCD" to the multicast with local port of 25001, and all multicasts with local port "25001" can receive the four-byte data "ABCD"

Send: at+send_data=0,25001,224.4.5.6,4,ABCD\r\n

Return: 4F 4B 0D 0A

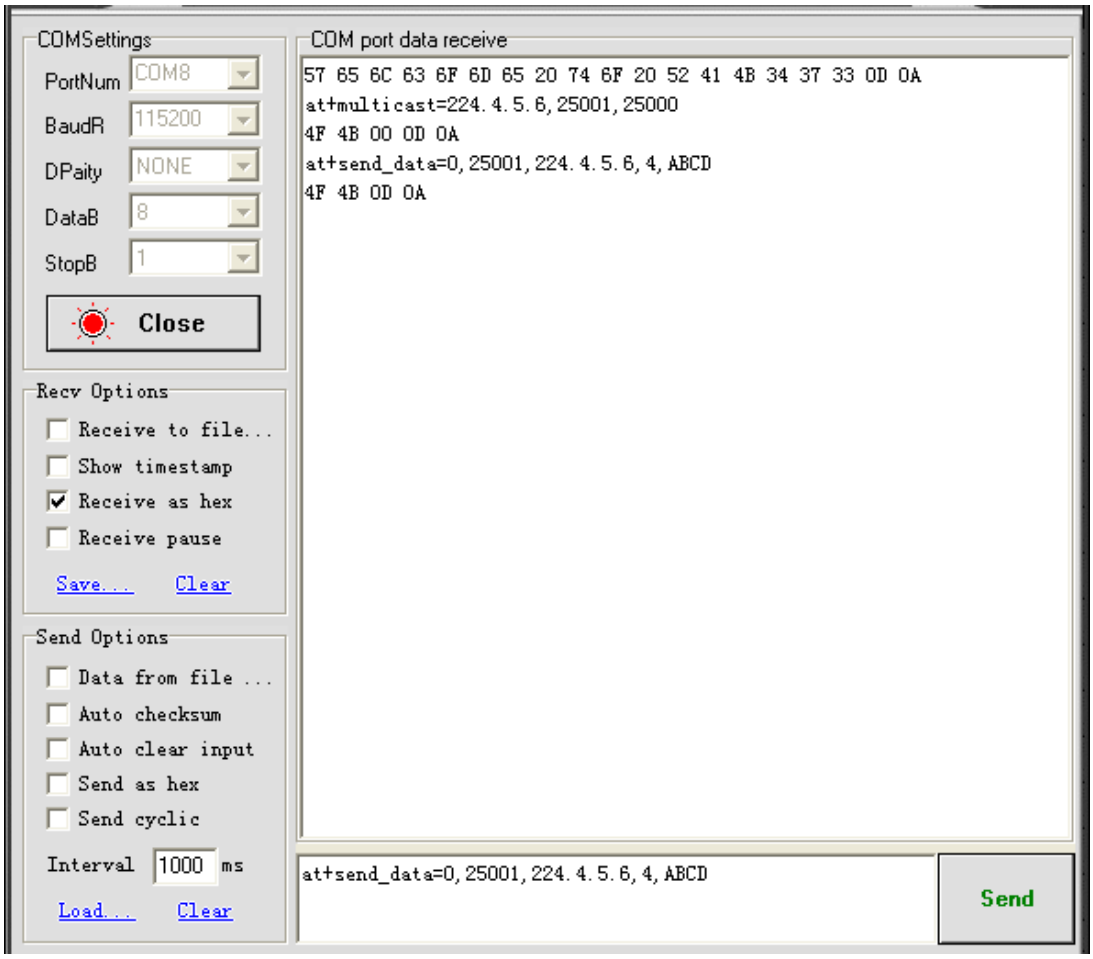

Figure 1- 4 Schematic of the serial port to send the command

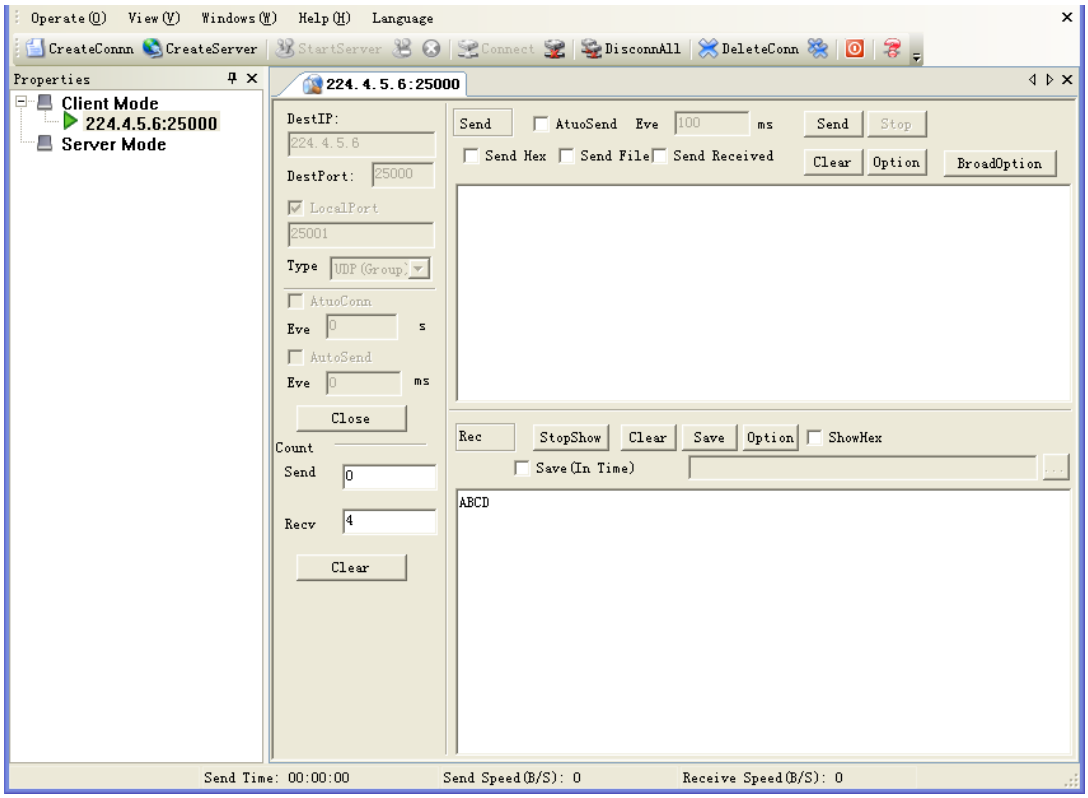

Figure 1-5 Transmit and receive data with TCP/UDP test tool

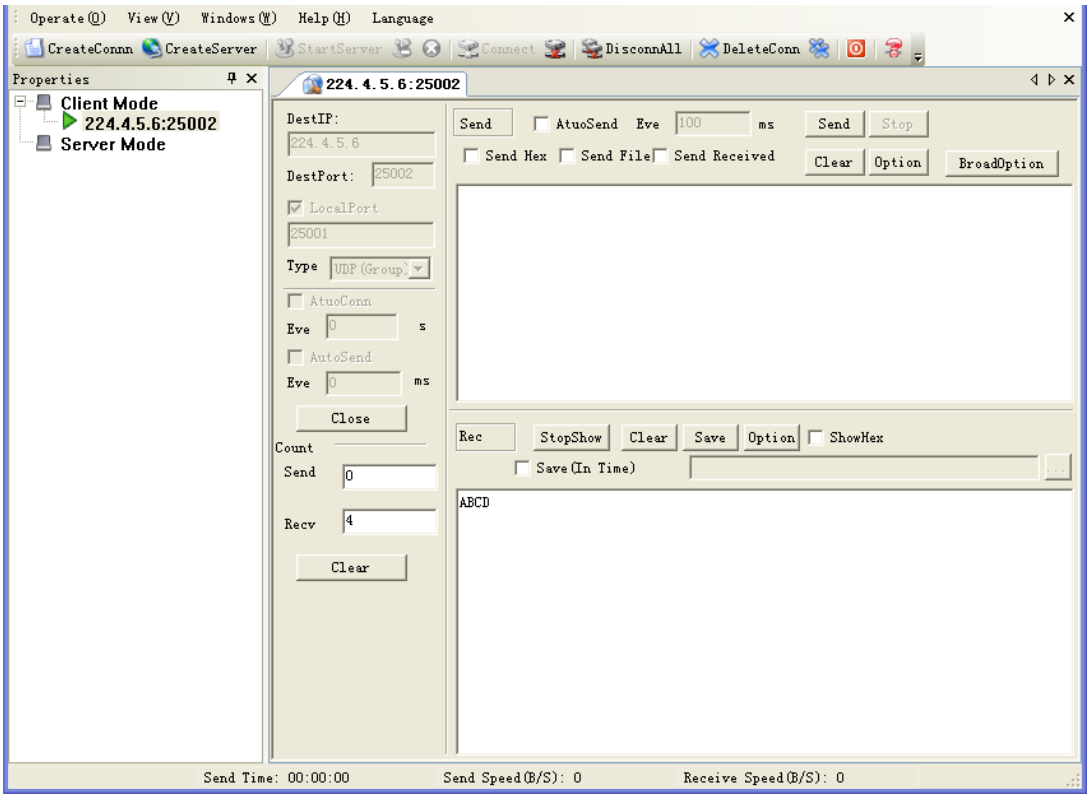

Figure 1-6 Transmit and receive data with TCP/UDP test tool

Version

Version	Author	Date	Content modification
V1.0	Lianbo Wang	2016/02/02	Create a document
V1.1	Xiaocheng Cao	2016/11/15	Modify some of the details