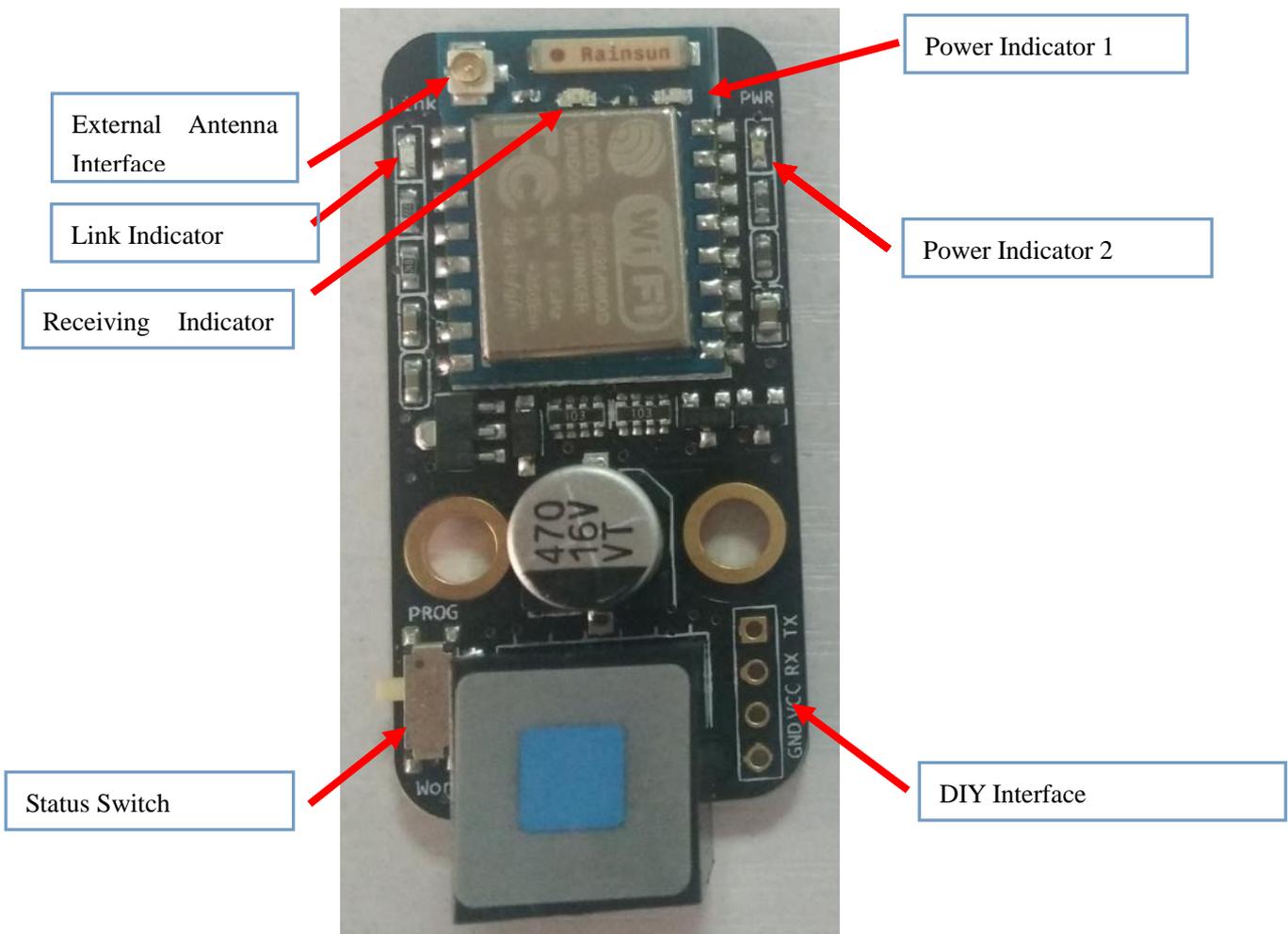


WI-FI User Guide

1. Brief Introduction

Main Chip	ESP8266
Frequency	2.412GHz~2.484GHz
Module Voltage	5V
Working Current	50mA
Peak Current	300mA
Hardware Output	UART Serial Port
Default Baud Rate	9600Bd
Working Mode	STA + AP

2. Hardware Introduction



Indicators

After the Wi-Fi module is connected the main board, the red power indicator 1 and 2 will be on. About 1 second later, the blue link indicator will start flashing, which means the module has started normally (but not connected to any mobile devices)

yet).

If it's connected to a device and has successfully accomplished data transfer for one time, the **link indicator** will be solid on. Meanwhile, the blue receiving indicator will keep flashing when the module is receiving data.

Status Switch

By flipping the status switch, you can choose **Work** or **PROG** working mode. **Work** means normal working status (regular status) while **PROG** refers to programming.

3. How to Use

3.1 Configuration Setting

- 1) Connect your computer to the Wi-Fi hotspot.
(Note: no password by default).
- 2) Open your browser and enter 192.168.4.1.

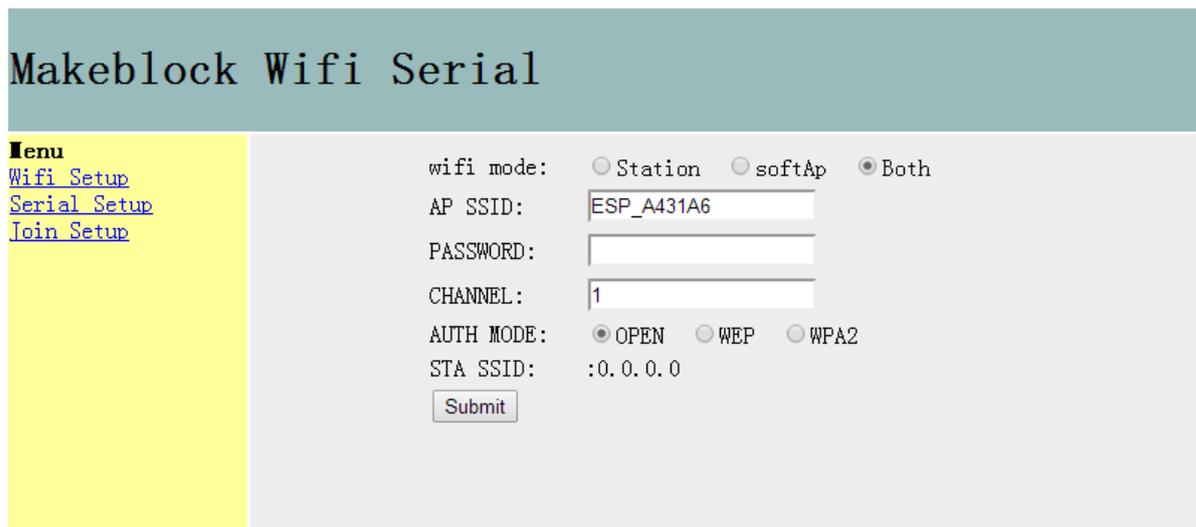
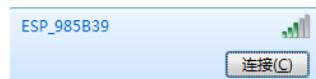
The screenshot shows the 'Makeblock Wifi Serial' web interface. On the left is a yellow menu with links for 'Wifi Setup', 'Serial Setup', and 'Join Setup'. The main area contains configuration fields: 'wifi mode:' with radio buttons for 'Station', 'softAp', and 'Both' (selected); 'AP SSID:' with a text box containing 'ESP_A431A6'; 'PASSWORD:' with an empty text box; 'CHANNEL:' with a text box containing '1'; 'AUTH MODE:' with radio buttons for 'OPEN' (selected), 'WEP', and 'WPA2'; and 'STA SSID:' with a text box containing ':0.0.0.0'. A 'Submit' button is at the bottom.

Diagram1

In **Wi-Fi Setup** page, you can set the SSID, password, etc.

- **AP SSID:** Set the name you want to use for this Wi-Fi Module
- **Password:** set a password you want or leave it blank.

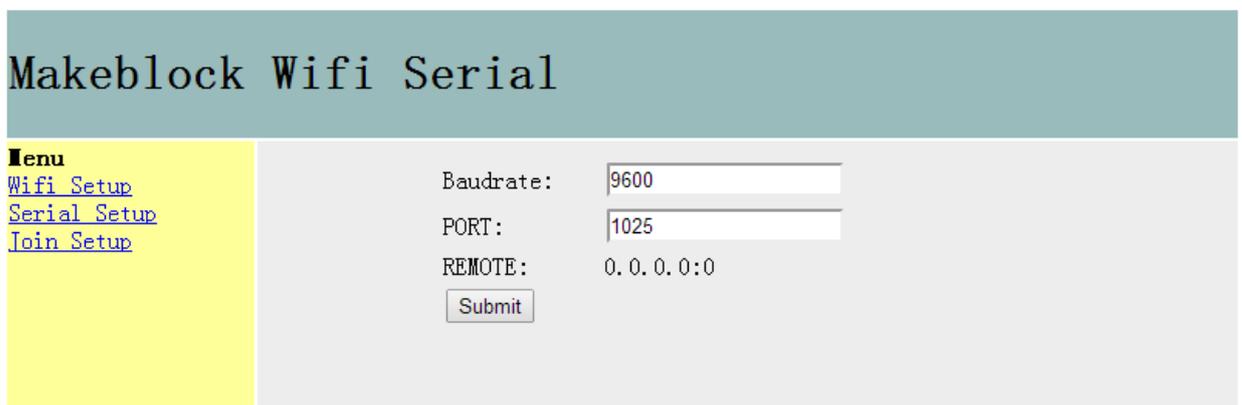
The screenshot shows the 'Makeblock Wifi Serial' web interface for serial port configuration. On the left is a yellow menu with links for 'Wifi Setup', 'Serial Setup', and 'Join Setup'. The main area contains configuration fields: 'Baudrate:' with a text box containing '9600'; 'PORT:' with a text box containing '1025'; and 'REMOTE:' with a text box containing '0.0.0.0:0'. A 'Submit' button is at the bottom.

Diagram 2

In **Serial Setup** page, you can set the baud rate and port number.

Baudrate: the serial baud rate for communicating with the main control board.

Port: Set the port number. (It's not recommended setting the port number as 333 since it's the broadcast number).

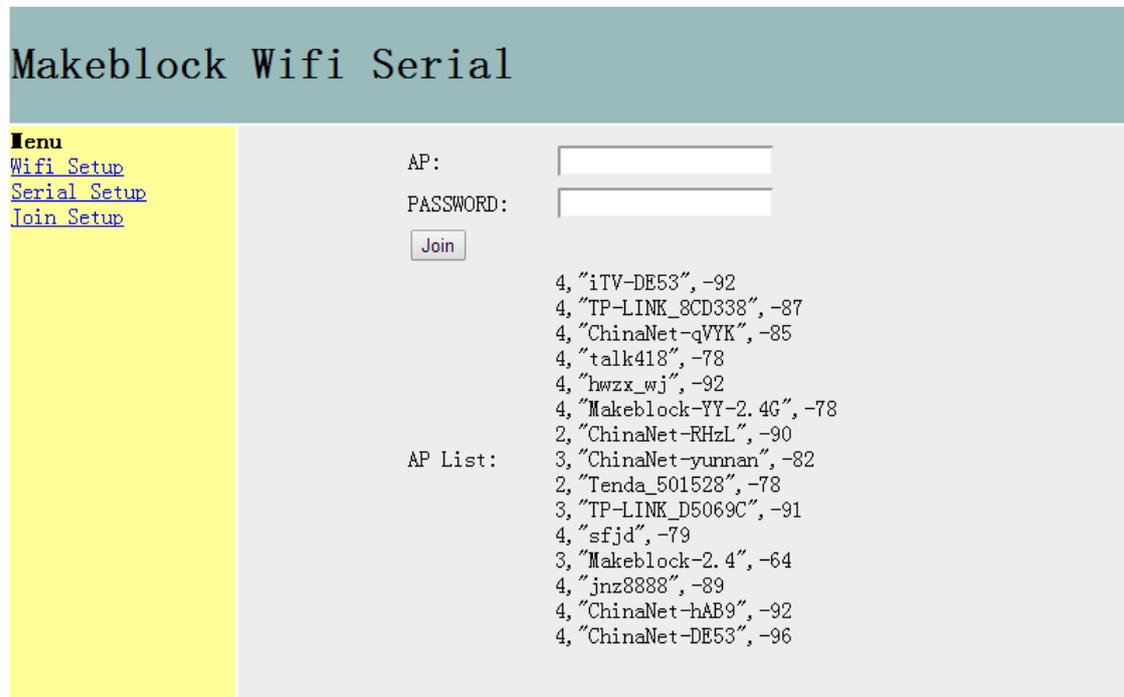


Diagram 3

In **Join Setup** page, you can select the network you want, then enter the name and its password.

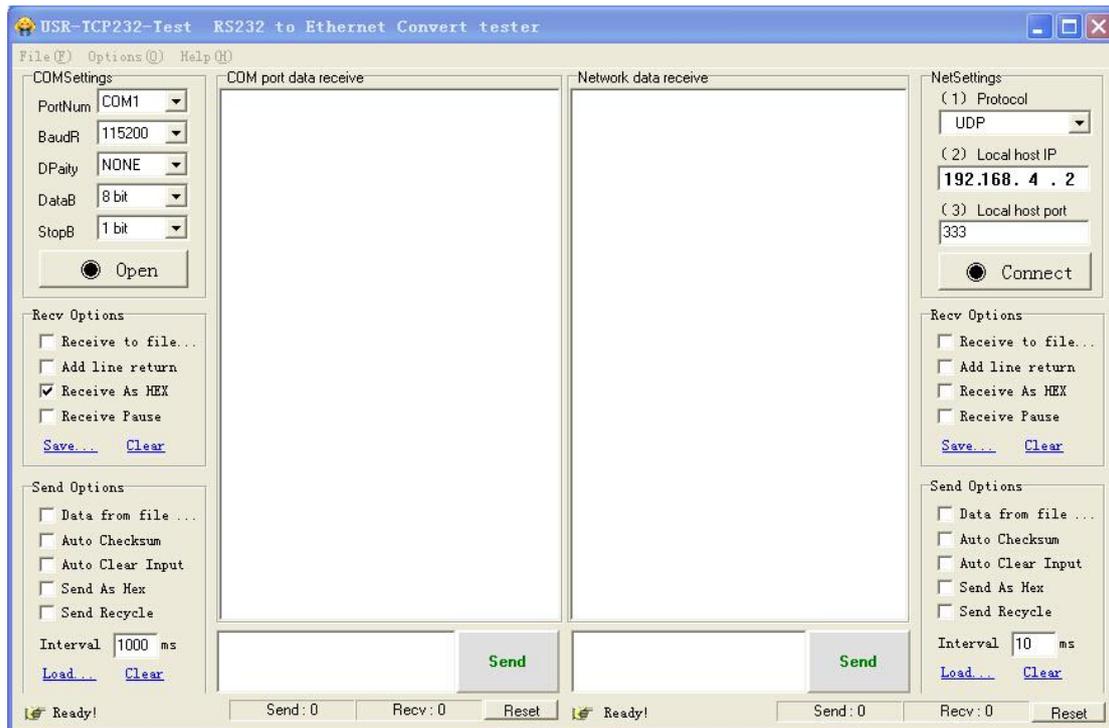
AP: Copy/enter the name of the network you want to connect to. (You can see all the Wi-Fi names the Wi-Fi module has found in the AP list)

Password: Enter the password of the network you choose.

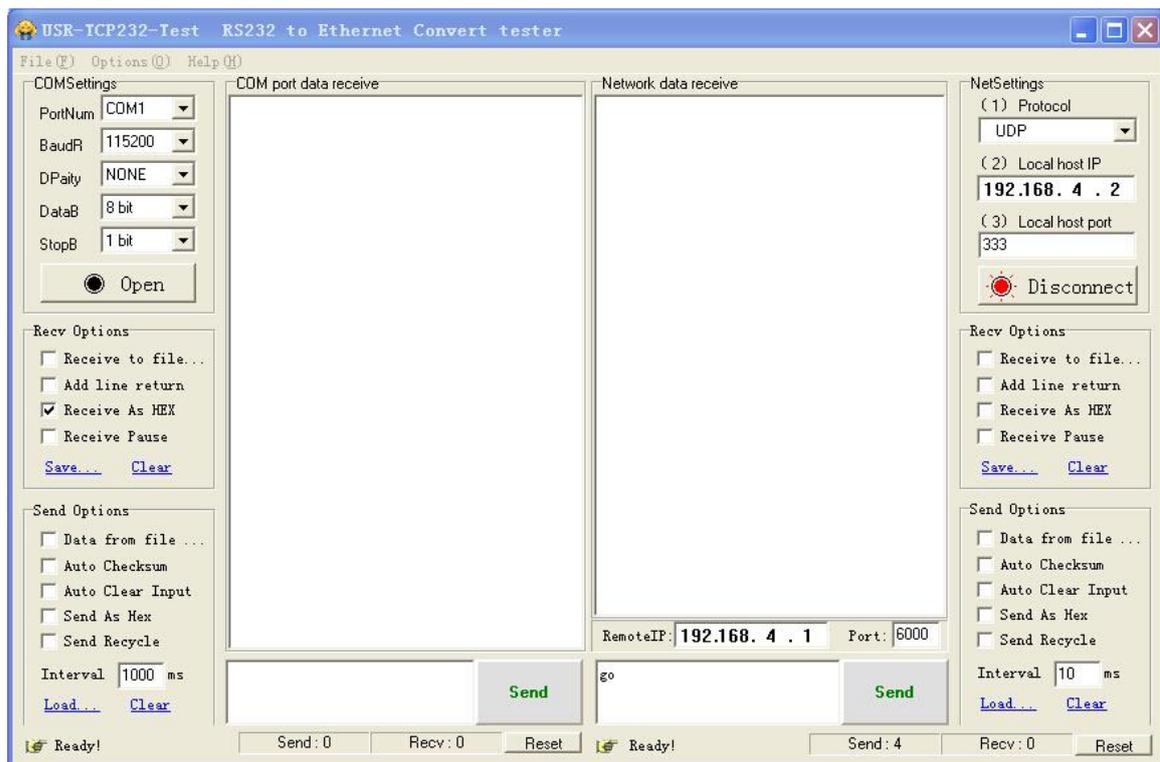
3.2 Connect PC to Wi-Fi Module

AP mode refers to hotspot mode which requires no router connection.

Open software USB-TCP232-Test, and make sure your computer has already connected to the Wi-Fi generated by the Wi-Fi module before opening the software.



Choose **"UDP"** in **Protocol** at the to-right corner, and then **Connect**



Enter 192.168.4.1 for **RemoteIP**;

Enter the port number you set in **Serial Setup page** (Diagram 2) for **Port**

In the meantime, write the following program in Arduino

```
#include <Makeblock.h>
#include <Arduino.h>
```

```

#include <SoftwareSerial.h>
#include <Wire.h>

MeWifi Wifi(PORT_4);

void setup()
{
  Serial.begin(9600);
  Wifi.begin(9600);
  Serial.println("Bluetooth Start!");
}

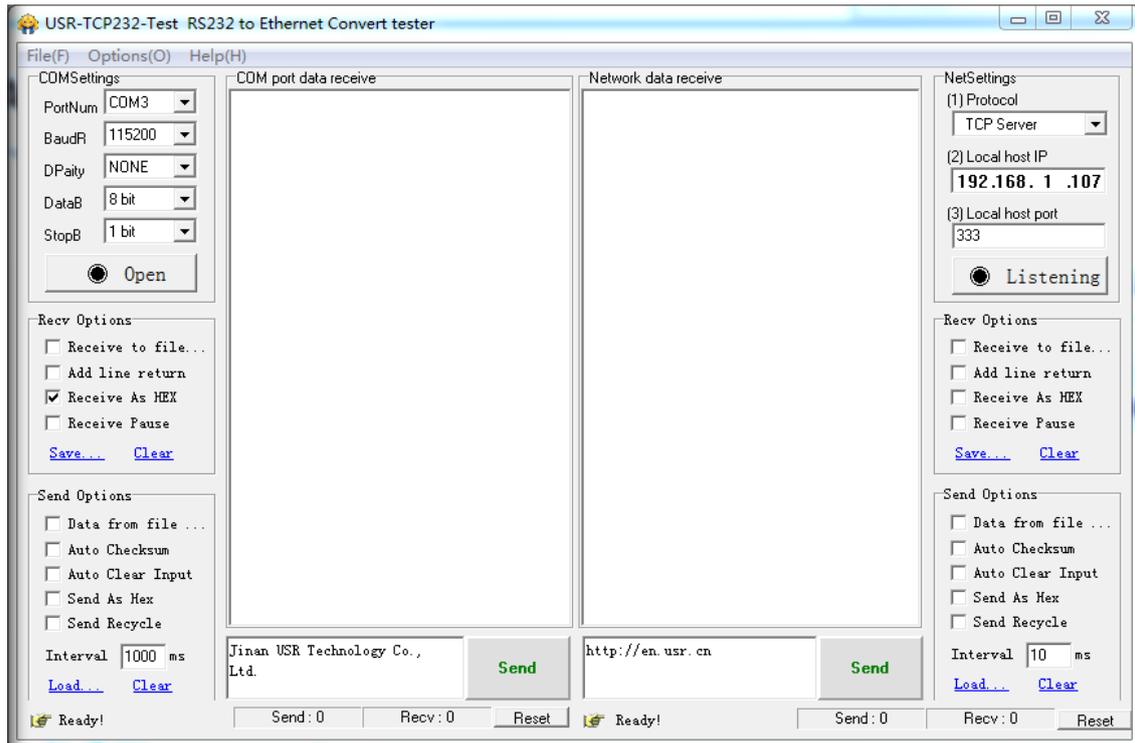
void loop()
{
  char inDat;
  char outDat;
  if(Wifi.available())
  {
    char c = Wifi.read();
    Serial.print(c);

  }
  if(Serial.available())
  {
    outDat = Serial.read();
    Wifi.write(outDat);
  }
}

```

Open the Arduino serial port to realize Wi-Fi passthrough, hence to receive and send data.

In STA mode, the Wi-Fi module needs to be mounted to a nearby router (as shown in Diagram 3). After successful connection of the Wi-Fi module and the router, the router will assign IP address automatically. (Check the IP address in **STA SSID** from **Wi-Fi Setup page** as shown in Diagram 1)



Set the proper serial port and then configure the network. Choose **"TCP Client"** in the **Local host IP** at the up-right corner; enter the assigned IP in **Server IP**; enter "333" as the **Server Port**.

To realize receiving and sending data, click **Open** the serial port on the left side of USR-TCP232-test and the **Connect** on the right side.

4. FAQ

The module will get slightly warm while working, it's completely normal.

5. Schematic Diagram

