

WF288 Mesh Gateway Application Note

Amp'ed RF Technology, Inc.

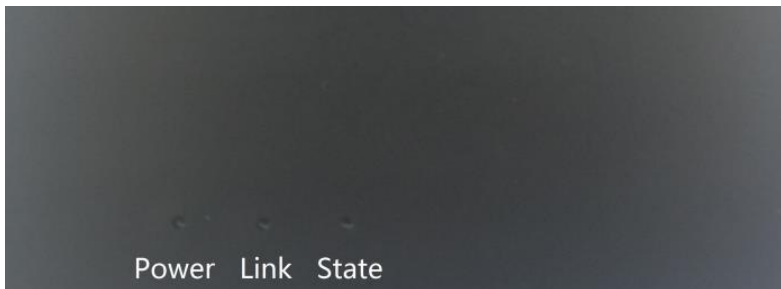
WF288 Mesh Gateway Application Note

1. Overview

WF288 MG is an enclosed gateway product for Wi-Fi Mesh network. This product implements the gateway functionality of a Wi-Fi mesh network and serves as a WAN bridge.

2. Product Introduction

2.1. Layout:



- Power: When powered on, this indicator light will light up.
- Link: When the system is fully started, this indicator light will light up.
- State: Indicates Wi-Fi Mesh network connection status.



- Reset: Reset button.
- Power: Power input.
- LAN: Ethernet socket.

2.2. Key Features:

- Supports IPV6
- 802.11 a/b/g/n, dual band
- Mesh networking with WF88
- Supports Mesh Gateway
- WPA3 security enabled
- DC5V/1A Input

3. Cable Connections

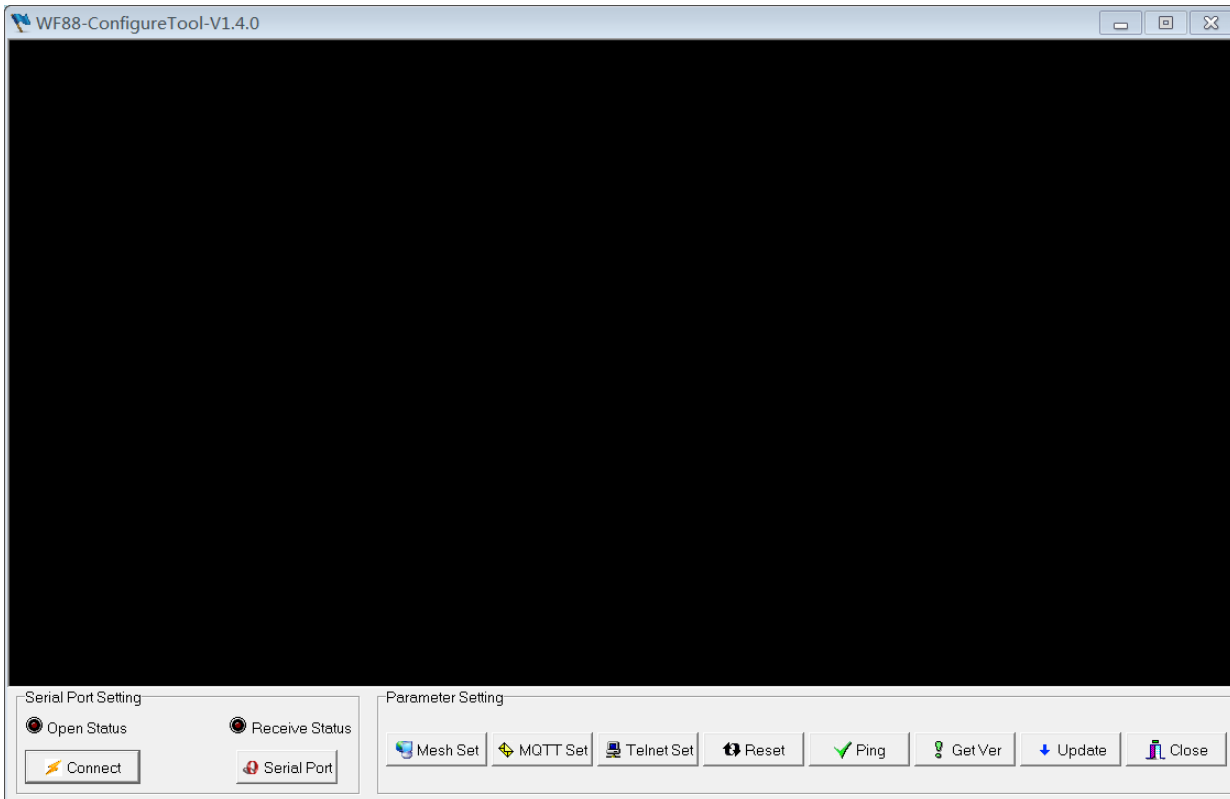
A USB to Type-C data cable provides the voltage input connection. Insert the Type-C connector of the data cable into the Type-C power interface of WF288 MG, and the other end into the DC5V/1A adapter. The “Power” indicator light of WF288 MG is on. Insert the Ethernet cable into the LAN interface of WF288 MG, and the other end into devices such as switches or routers. The yellow and green indicator lights on the Ethernet socket of WF288 MG indicate the network status.

4. Parameter Setup

4.1. COM Port

Plug the USB to Type-C data cable into the computer's USB interface. The Ethernet cable does not need to be plugged in. In the Windows operating system, under Control Panel -> Administrative Tools -> Computer Management -> Device Manager -> Ports (COM and LPT), find the “Silicon Labs CP210x USB to UART Bridge (COMx) “ device.

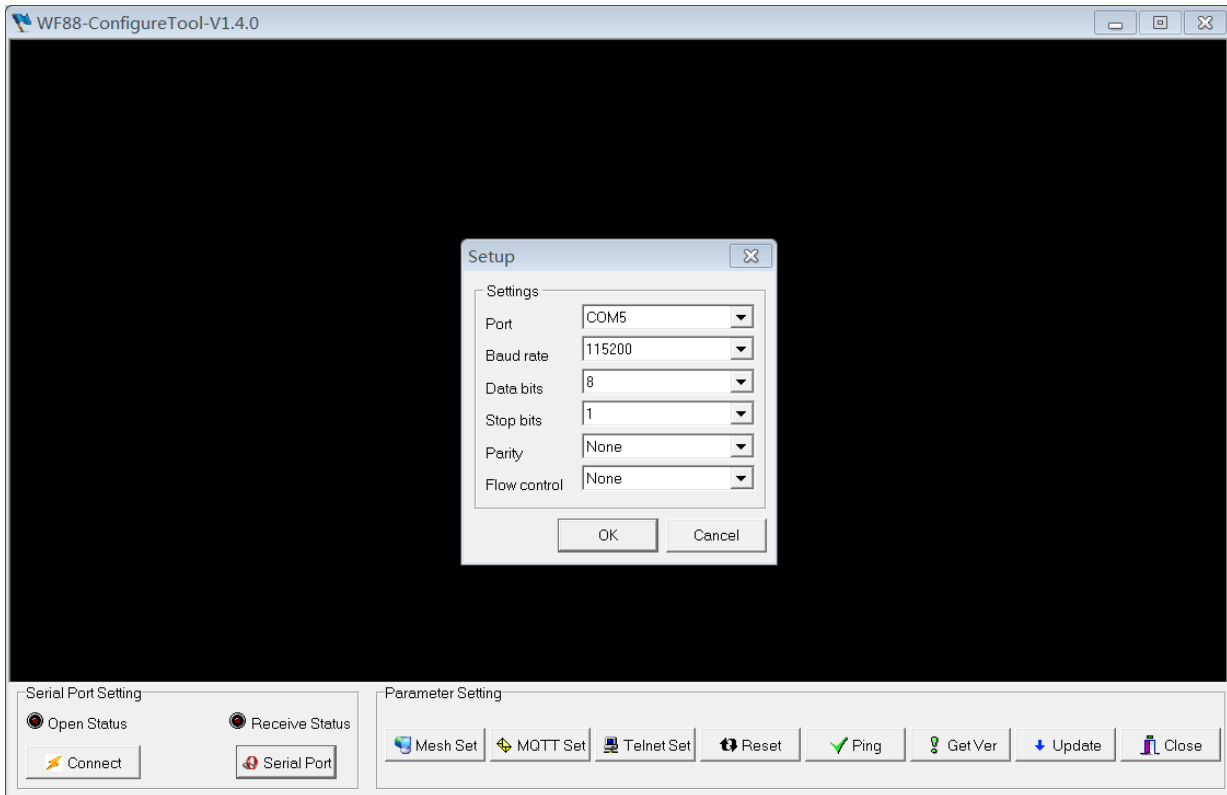
4.2. Run “WF88-ConfigureToolPro-Vx.x.x.exe” configuration tool software, as shown below:



Configuration tool software main window

4.3. Port Setup

click the "Serial Port" button, and a serial port settings dialog box will pop up, as shown below:

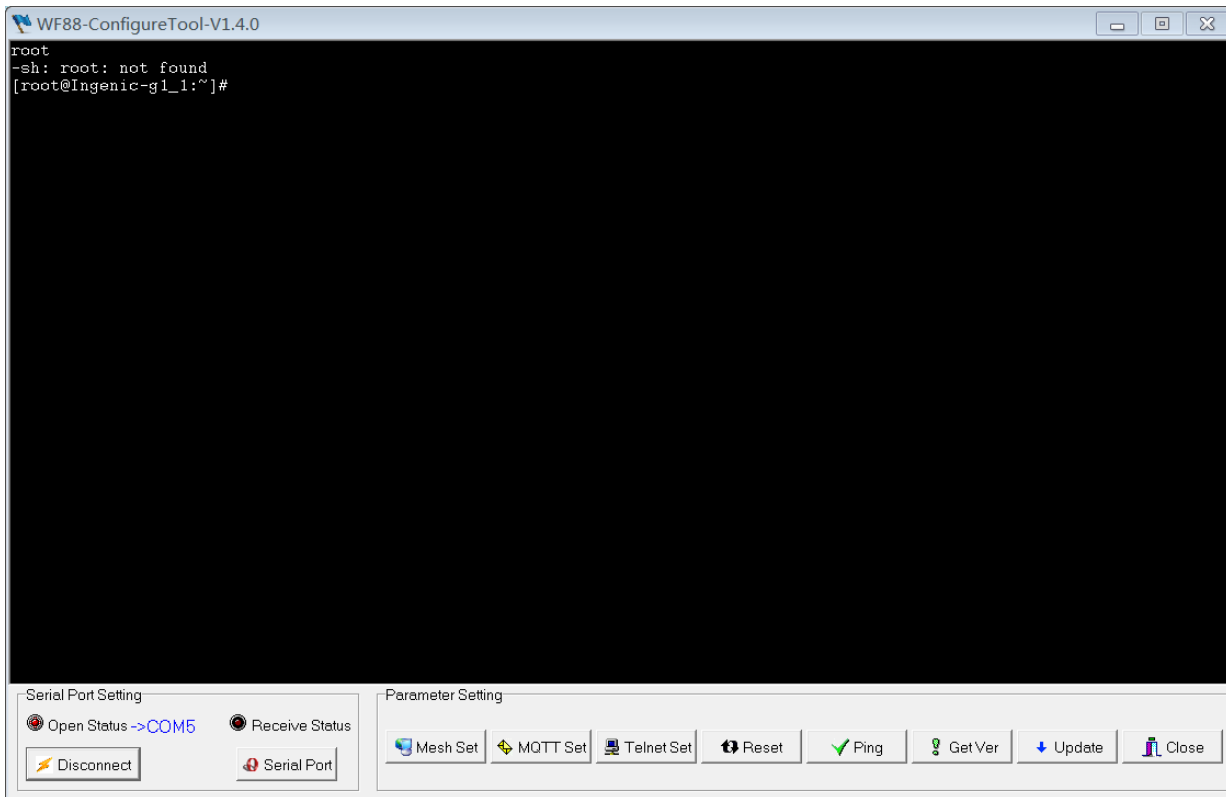


Serial port settings dialog box

In the serial port settings dialog box, Select the corresponding COMx port from the Port dropdown list box, where the COMx port number is consistent with the serial port number recognized in the Device Manager above. Then, click the “OK” button.

4.4. Connect

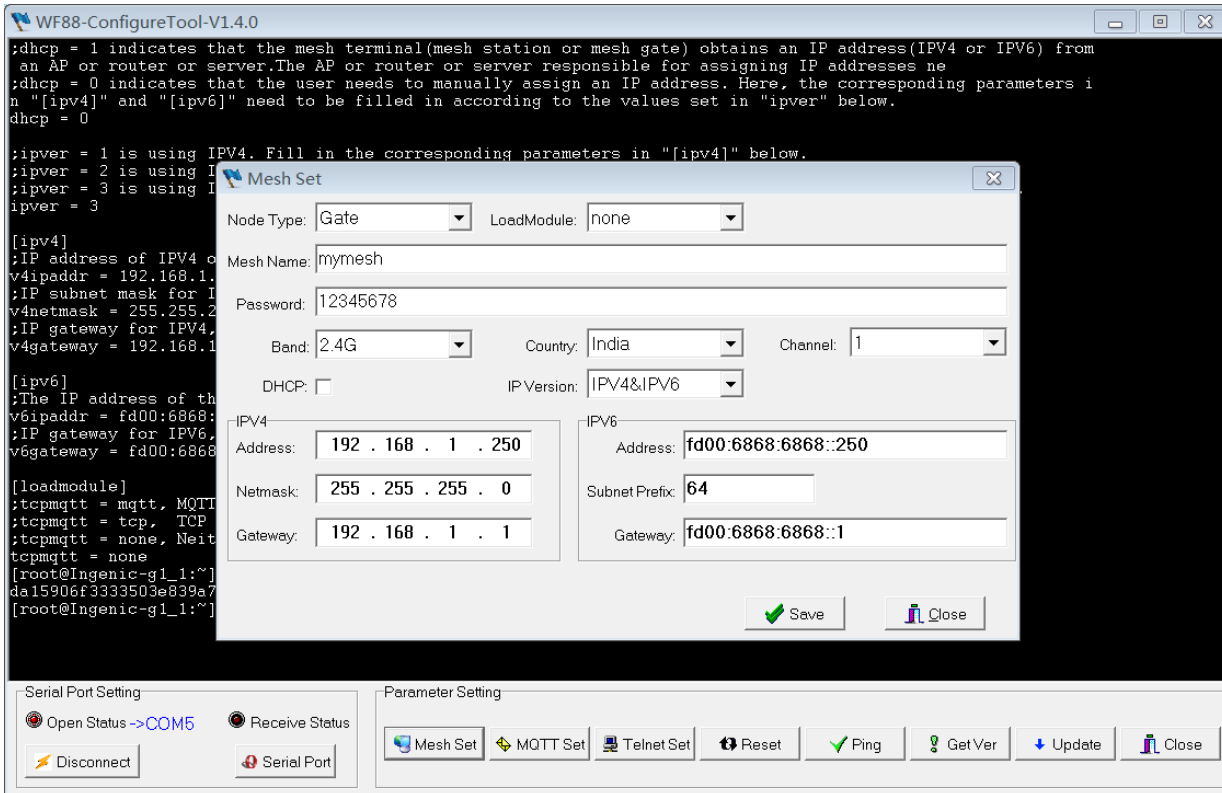
In the main window, click the “Connect” button to open the serial port.



Open the serial port

4.5. Mesh Settings

Click the “Mesh Set” button to open the Mesh Set dialog box:



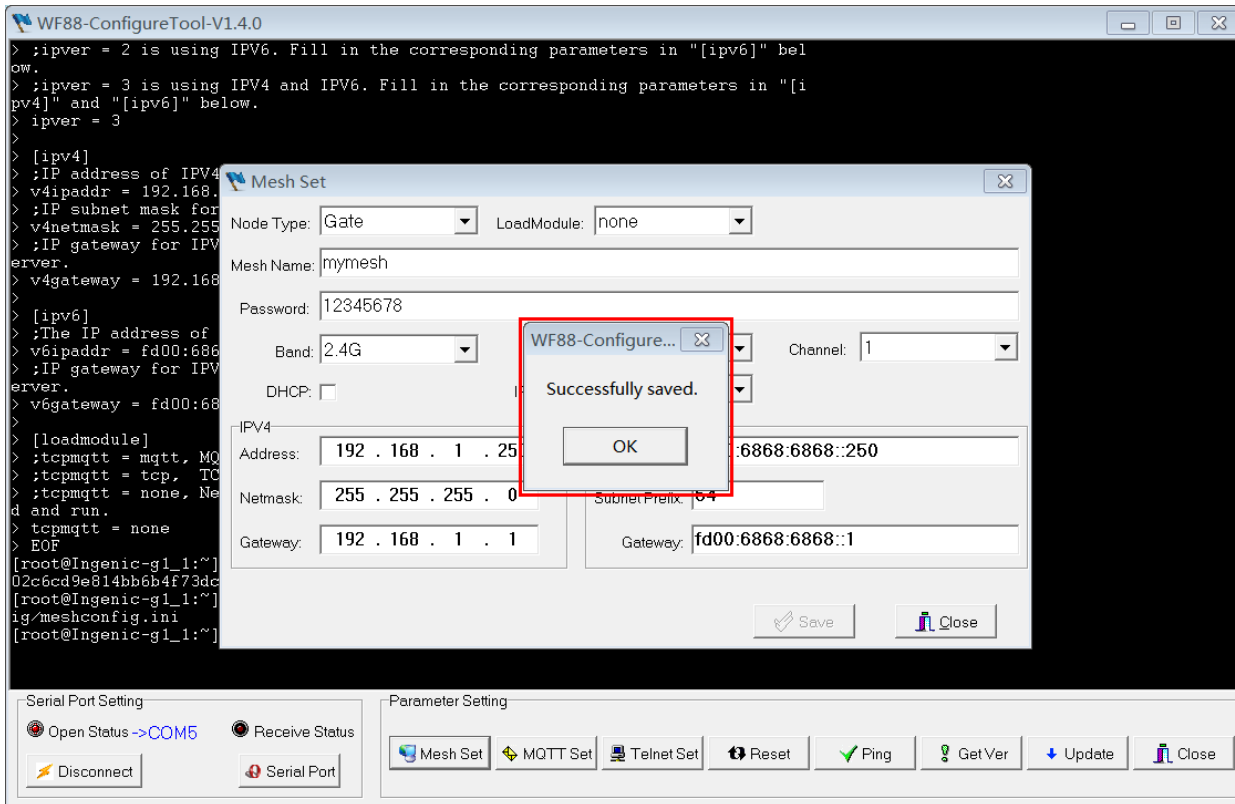
Mesh Set dialog box

For WF288 MG typical settings are:

- Node Type: must select “Gate”,
- LoadModule: must select “none”
- DHCP: optional, does not need to be selected

Other parameters should be filled in according to the actual situation. In general, in a physical Wi-Fi Mesh network, only one WF288 MG device is needed as the Gate. “Mesh Name”, “Password”, “Band”, “Country”, “Channel”, “IP Version” must be the same for all station and gateway nodes in the same network. The IP address cannot be duplicated, but it must be set to the same network segment.

After completion, click the "Save" button to save the settings. The "Successfully saved" dialog box will pop up, as shown below:



In the "Successfully saved" dialog box, click "OK" button, complete parameter settings.

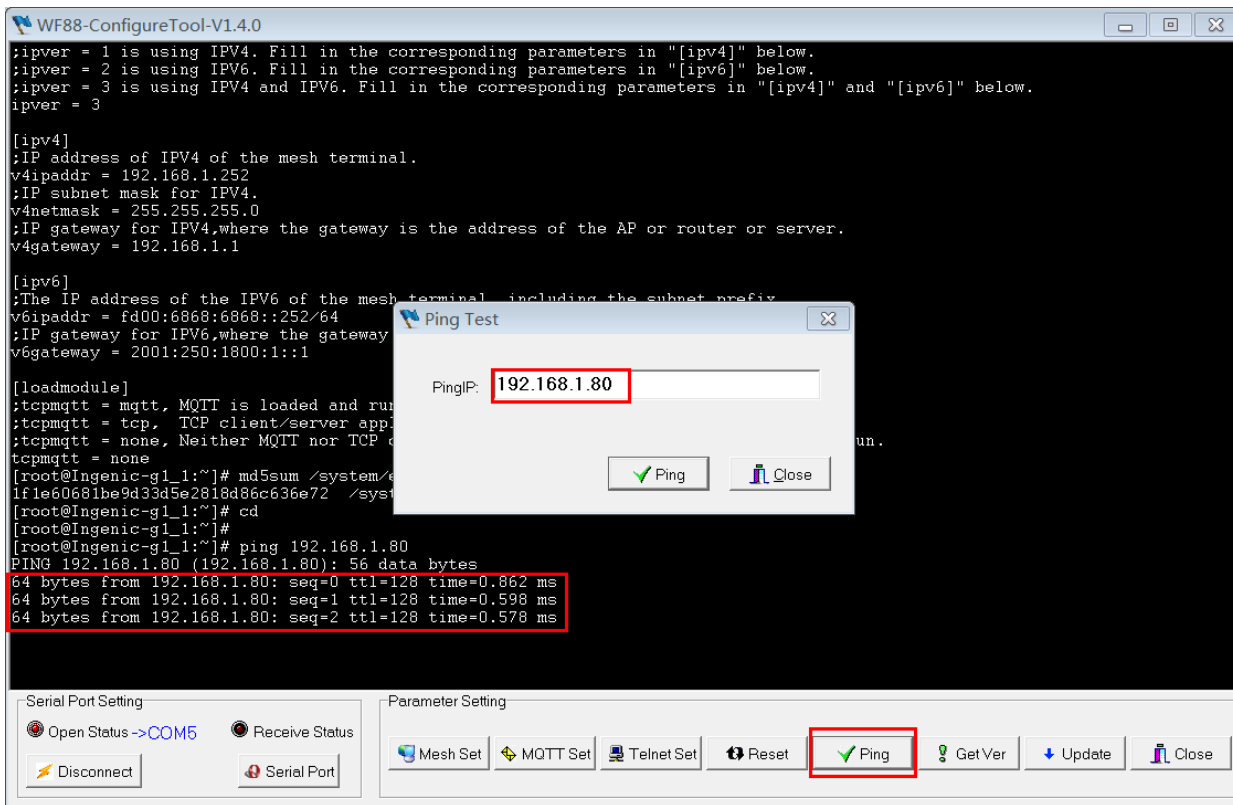
Note: In the main window, click the "Reset" button to restart WF288 MG for the settings to take effect.

5. Update Firmware

In WF288 MG firmware versions later than V1.3.0_20231028, the kernel version of Linux is "3.10.14__isvp_swan_1.0 (gcc version 4.7.2 (Ingenic r2.3.3 2016.12)) #58 PREEMPT Wed Oct 25 11:24:14 CST 2023", and the firmware update of the application partition is supported.

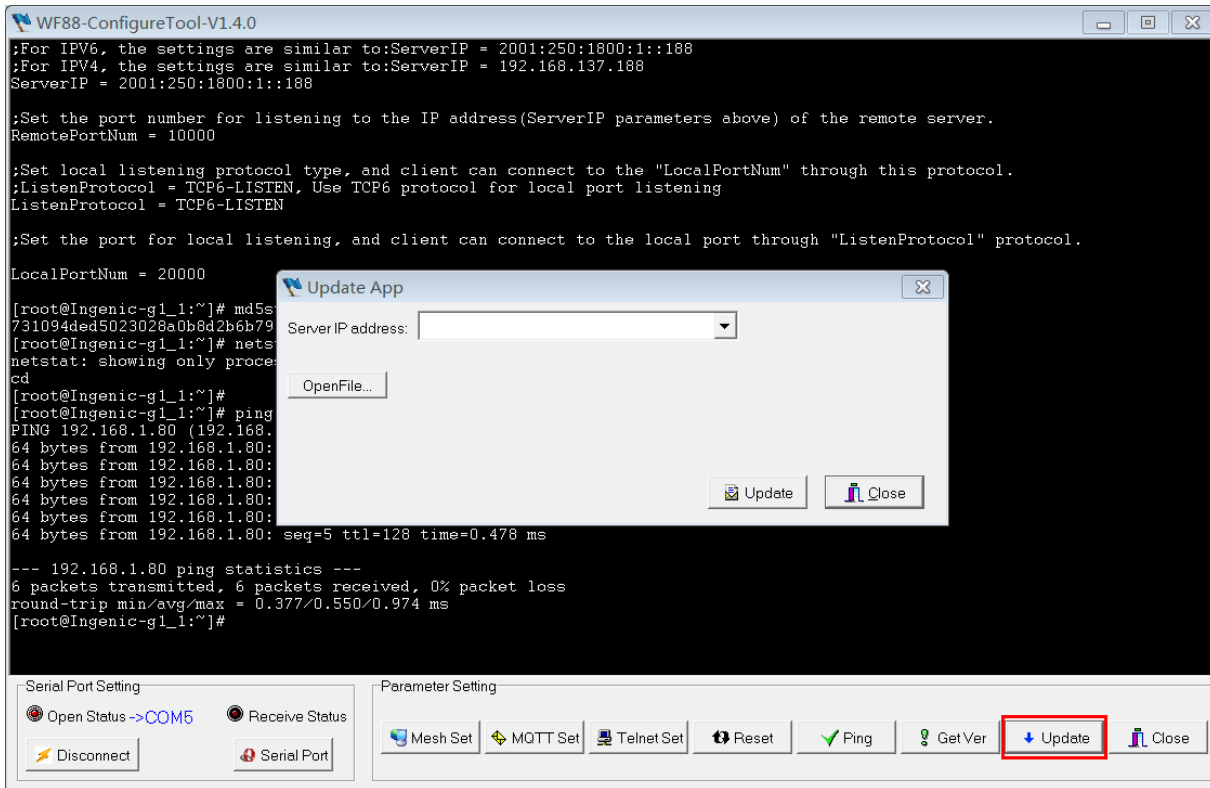
Using a network cable to connect the WF288 MG to the computer used to update the firmware. The cable can be connected directly or through a switch.

Ensure that the IP address of WF288 MG and the IP address of the computer are in the same network segment. It can be tested through ping, as shown below:



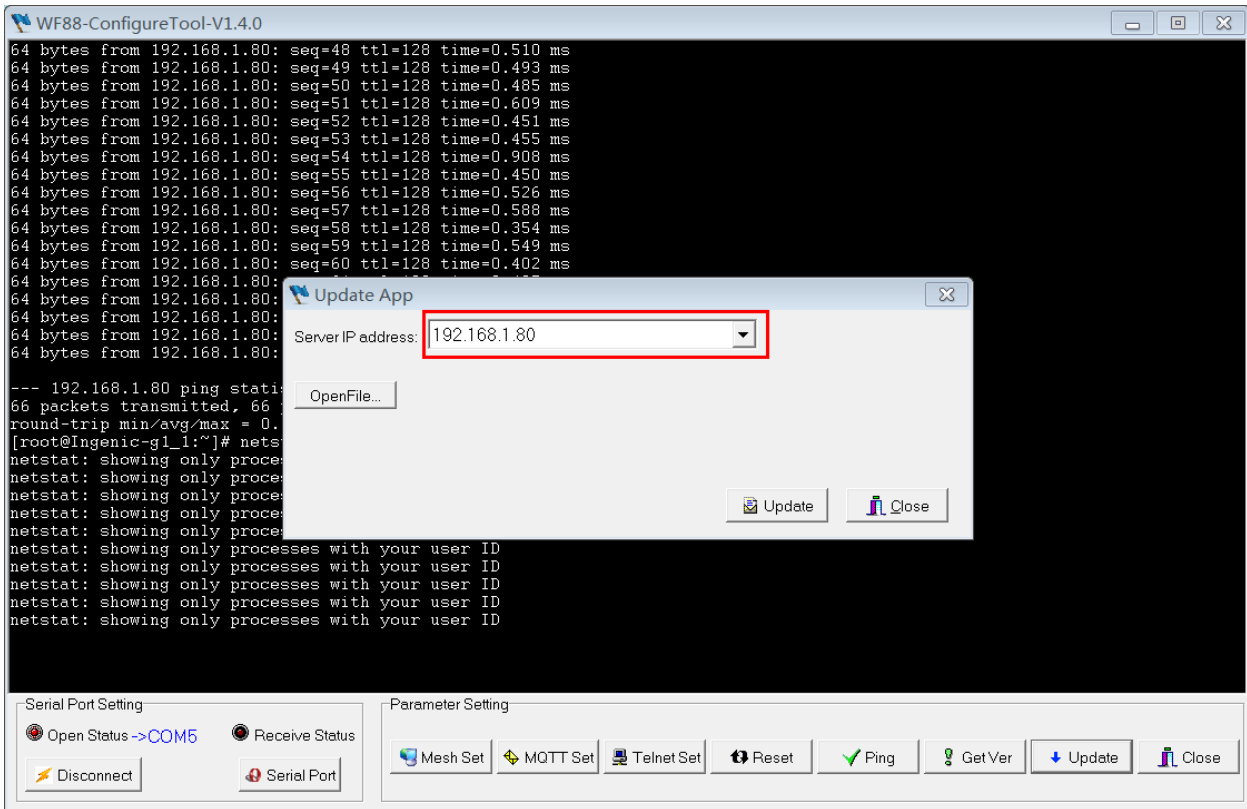
Ping dialog box

Click the "Update" button, and the "Update App" dialog box will pop up, as shown below:



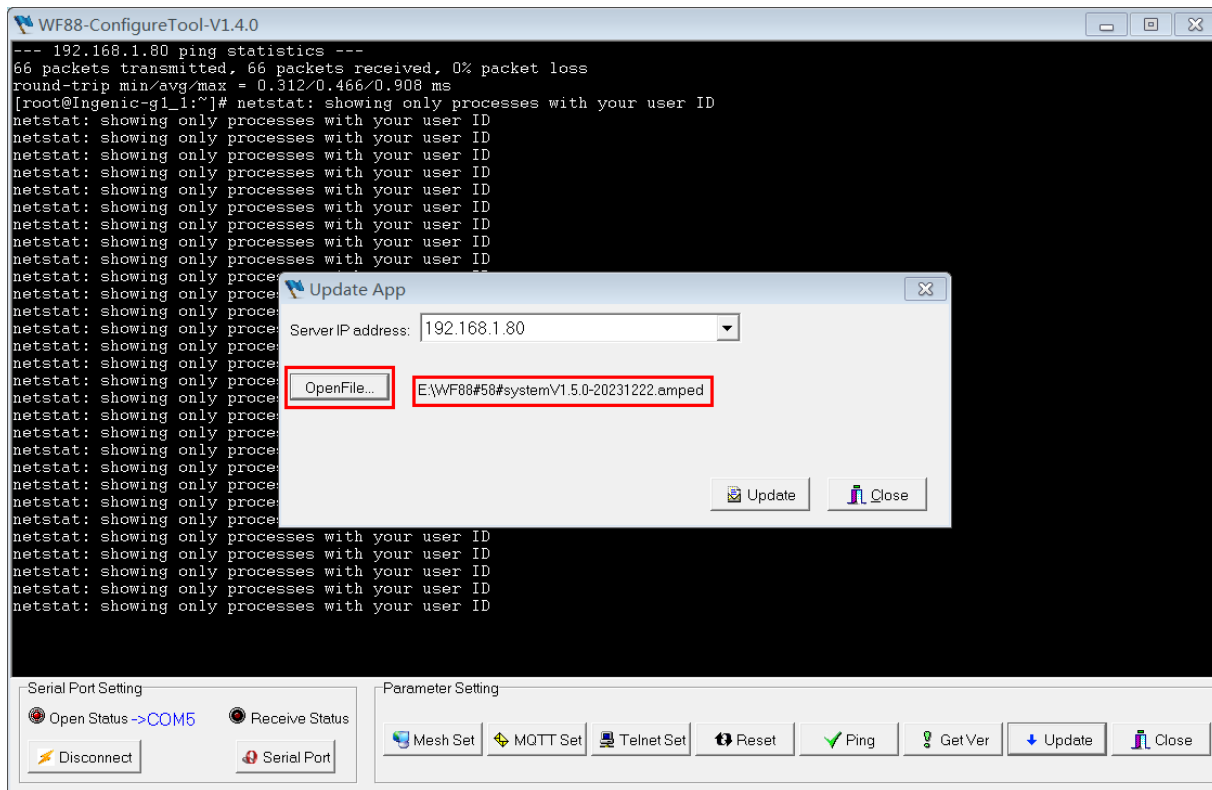
Update App dialog box

Click on the "Server IP address" dropdown list box and select the IP address of the computer that successfully tested communication, as shown below:



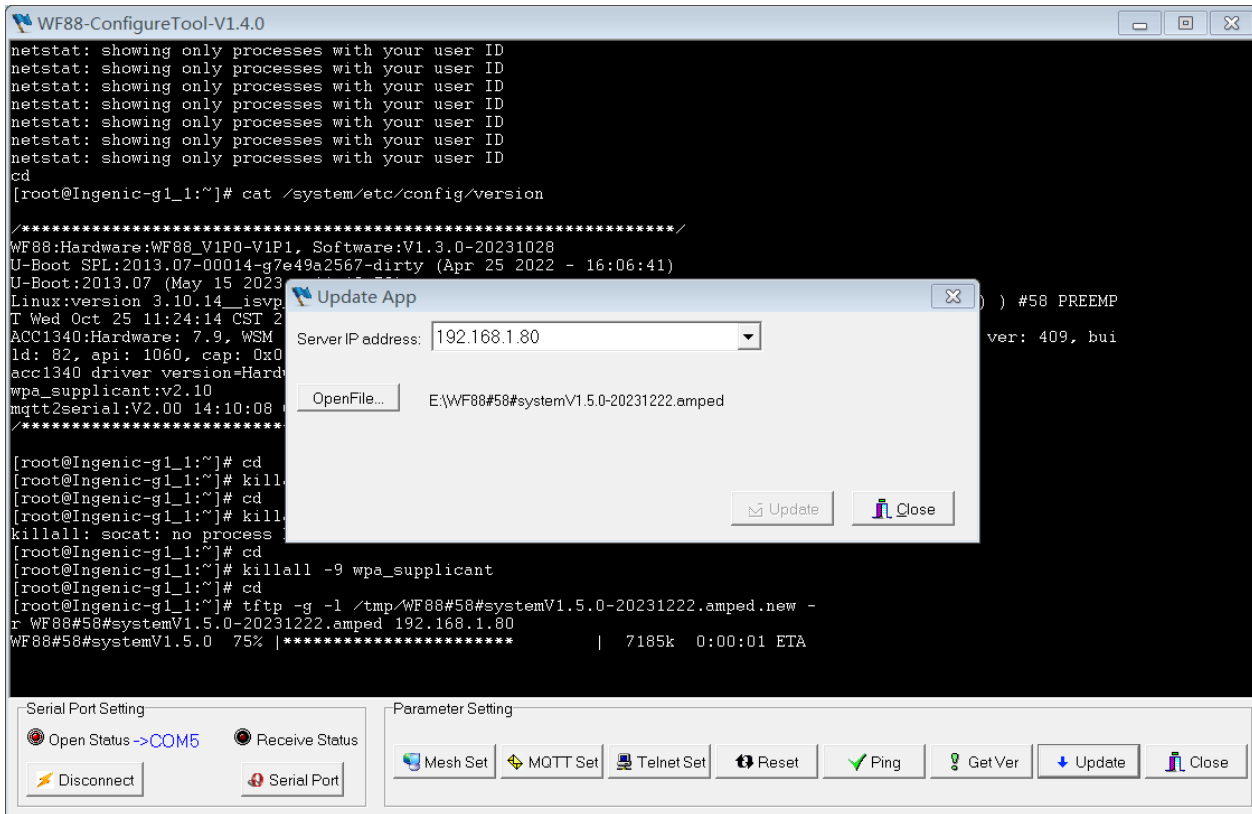
Select Server IP address

Click the "OpenFile" button to open the file selection dialog box and select the firmware with the ".amped" extension that needs to be upgraded, as shown below:



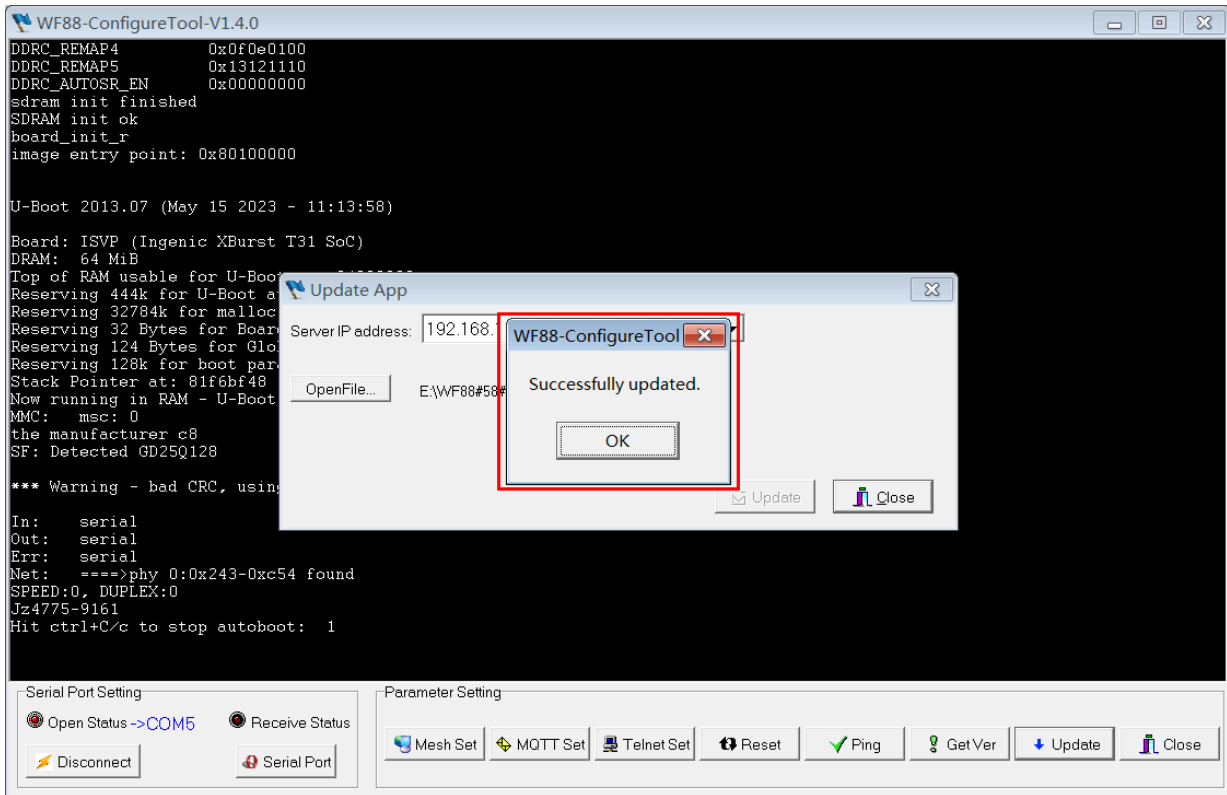
Firmware selection

Click the "Update" button in the Update App dialog box to start downloading the firmware, as shown below:



Download the firmware

Finally, complete the firmware update, the device will automatically restart, as shown below:



Successfully updated

6. Ordering Information

Part Name	Description
WF288-MG	Wi-Fi mesh gateway
WF288-LB	Wi-Fi and BLE gateway