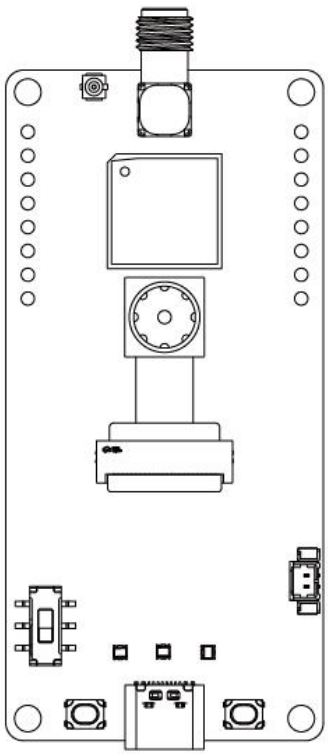
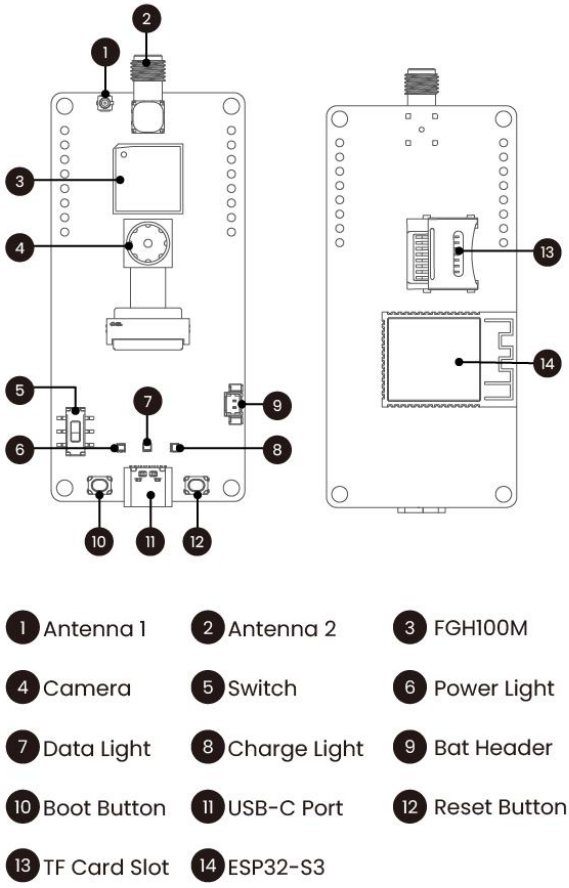
ESP32 WiFi Halow Module



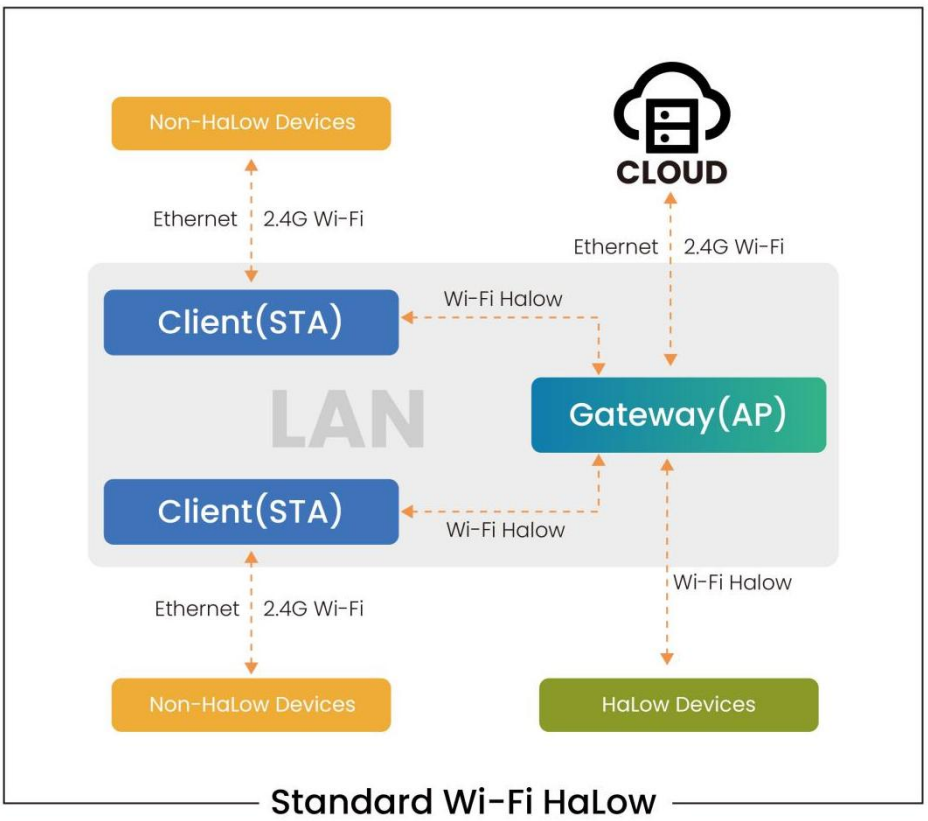
User Manual

Diagram



- Power Light: When powered on, the red light stays on continuously. When powered off, the red light turns off;
- Data Light: Blue light blinks during data transmission. If there is no data transmission, the blue light is off;
- Charge Light: While charging, the red light stays on continuously. When fully charged, the green light stays on continuously;
- Power Switch: Slide up to turn the device on; slide down to turn it off;
- Reset Button: Single-click to restart the device;
- BOOT Button: Single-click to restart the device and enter programming mode;

Working principle

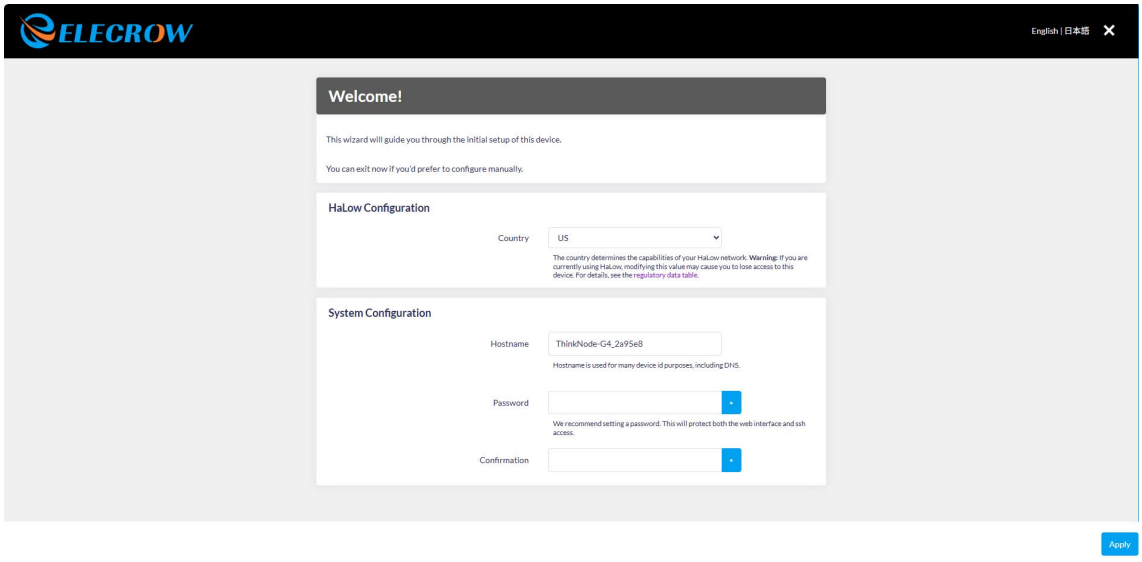


Thinknode G4 Gateway configuration

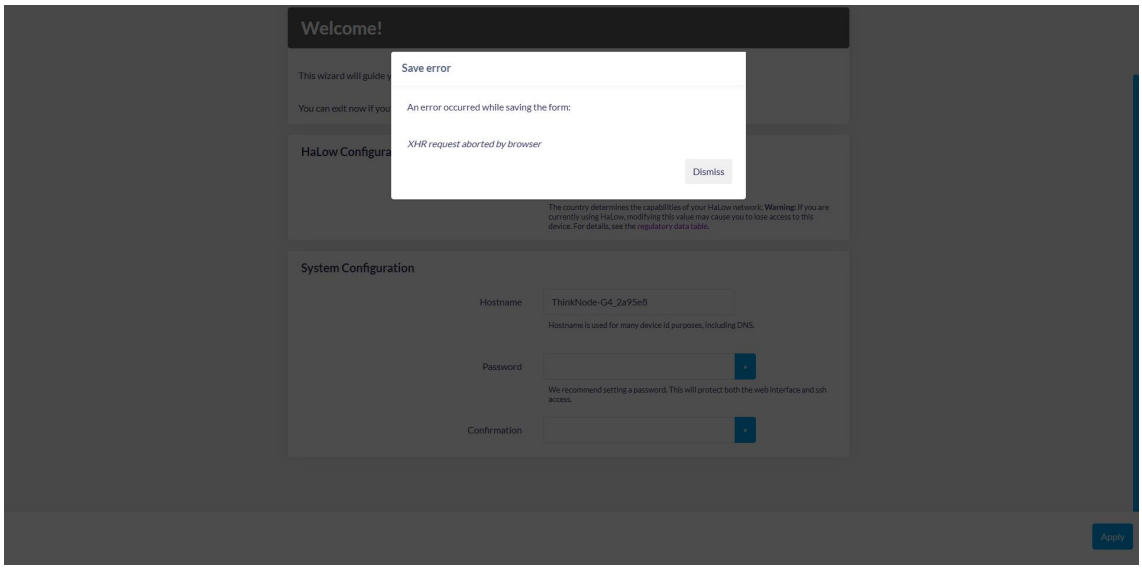
1. Connect the USB-C power cable, the red light will turn on. Wait 2~3 minutes until the green light is flashing/steady, then you can start.
2. Press and hold the CFG button for 3 seconds to enter configuration mode (NOTE: press and hold the CFG button for 10 seconds to restore factory settings).
3. Open the Wi- Fi list on your phone/computer and connect to **ThinkNode-G4_XXXX**, Default password: **elecrow.com**

4. In your browser, enter: **10.42.0.1** to open the gateway configuration page. Enter the password you want; If you don’ t want to set a password, you can click **“Log in”** directly.

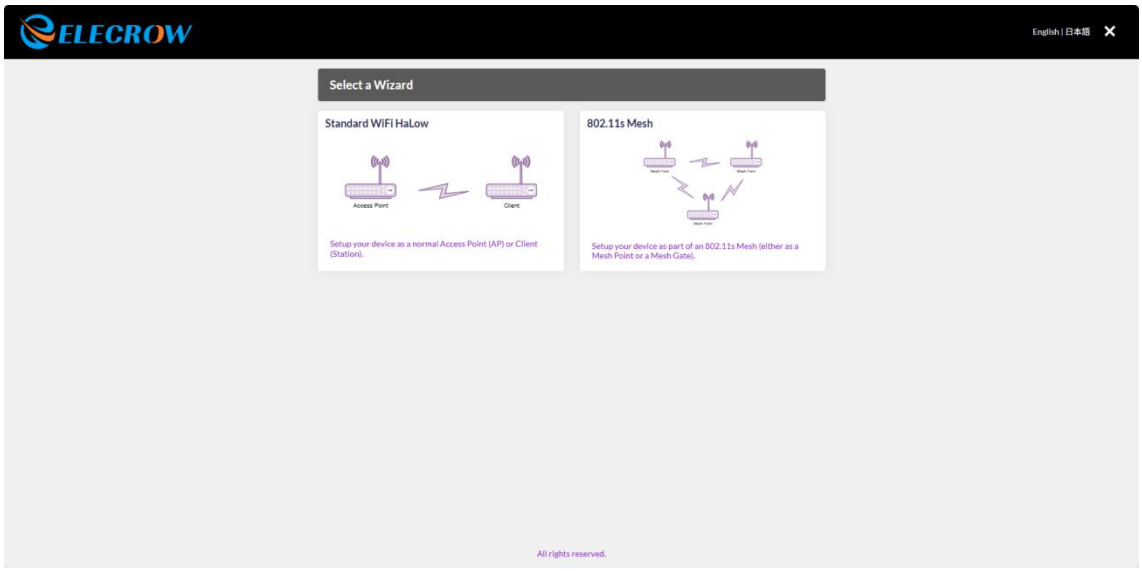
5. Set the **“Country”** and **“Hostname”**, then enter the password you want again, if you don’ t want to set a password, you can click **“Apply”** directly.



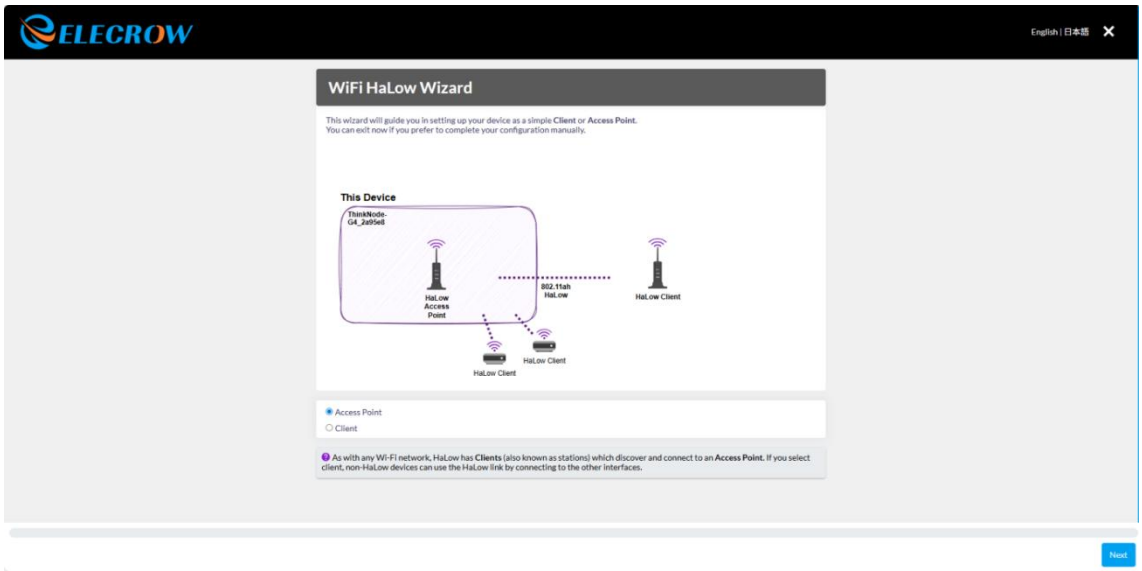
Note: If this happens, it means the connection to ThinkNode-G4_XXXX was lost. You need to reconnect to the Wi- Fi—automatic connection is recommended.



6. Select "**Standard WiFi HaLow**";

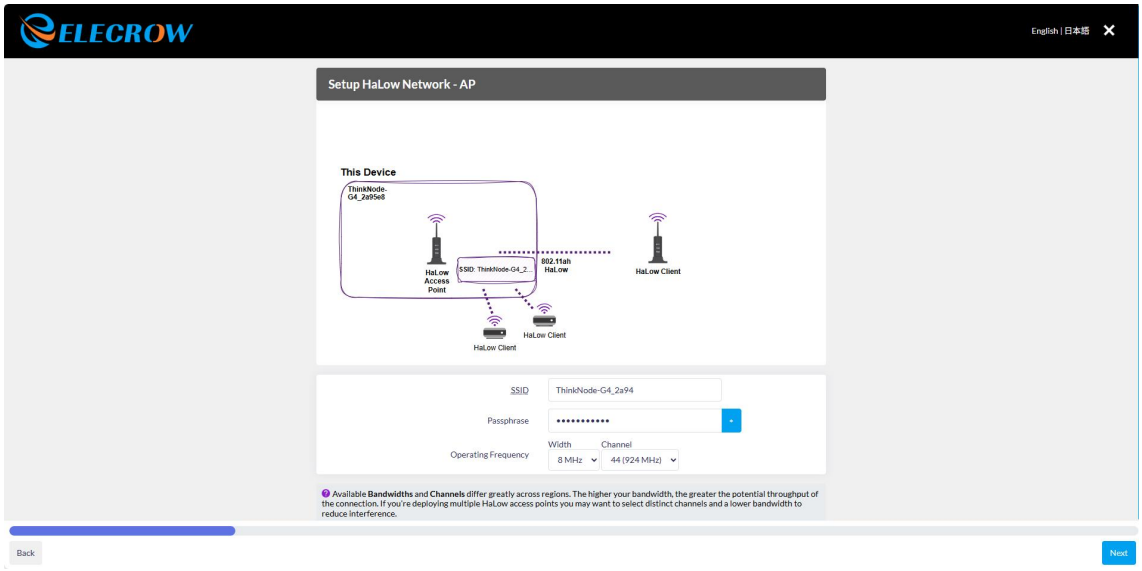


7. Select "**Access Point**" and click "**Next**".



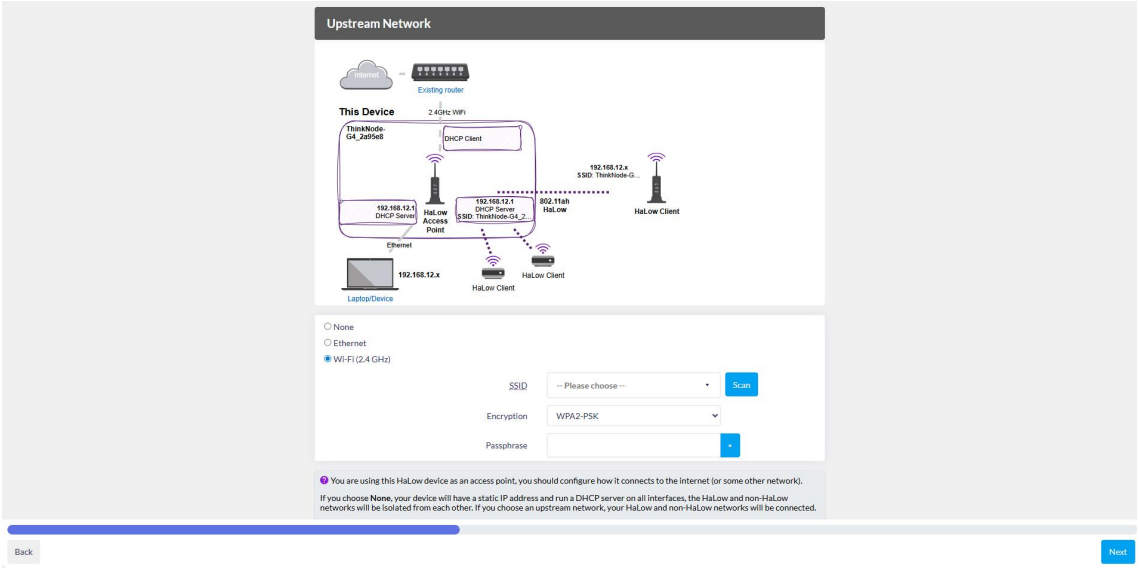
8. Setup HaLow Network - AP, parameter descriptions:

- SSID: The Wi- Fi HaLow gateway (AP) hotspot name;
- Password: The Wi- Fi HaLow gateway (AP) hotspot password, Default: elecrow.com;
- Width: Higher bandwidth gives faster data rates but shorter range and higher power consumption;
- Channel: Each bandwidth has specific frequencies used as channels. When other Wi- Fi HaLow devices are nearby, you can set different channels to reduce interference.

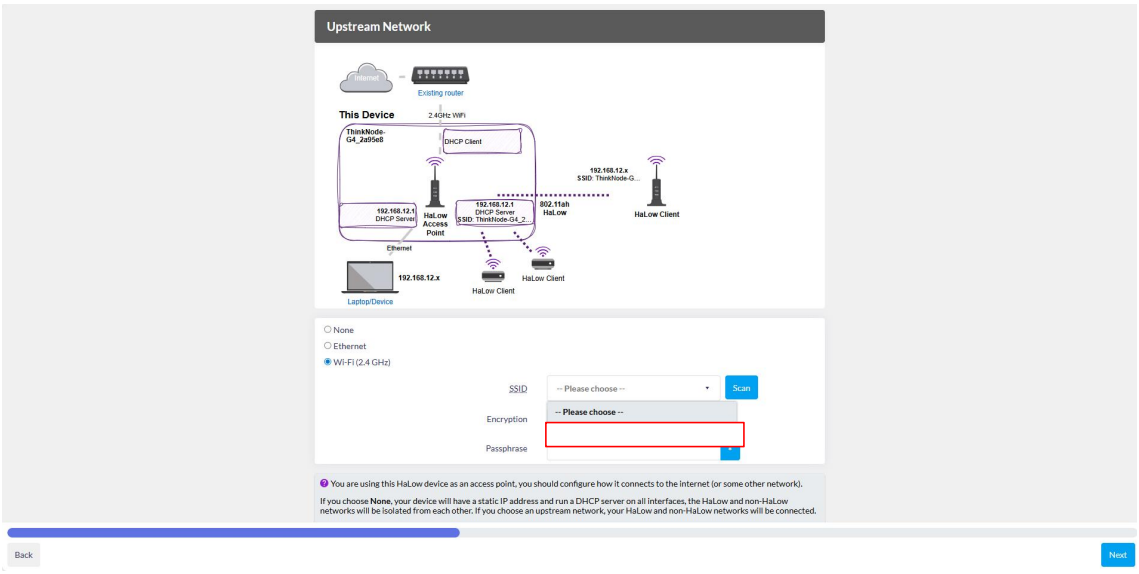


9. Choose an “Upstream Network” connection type. This determines how the Access Point (AP) connects to the network. Parameter descriptions:

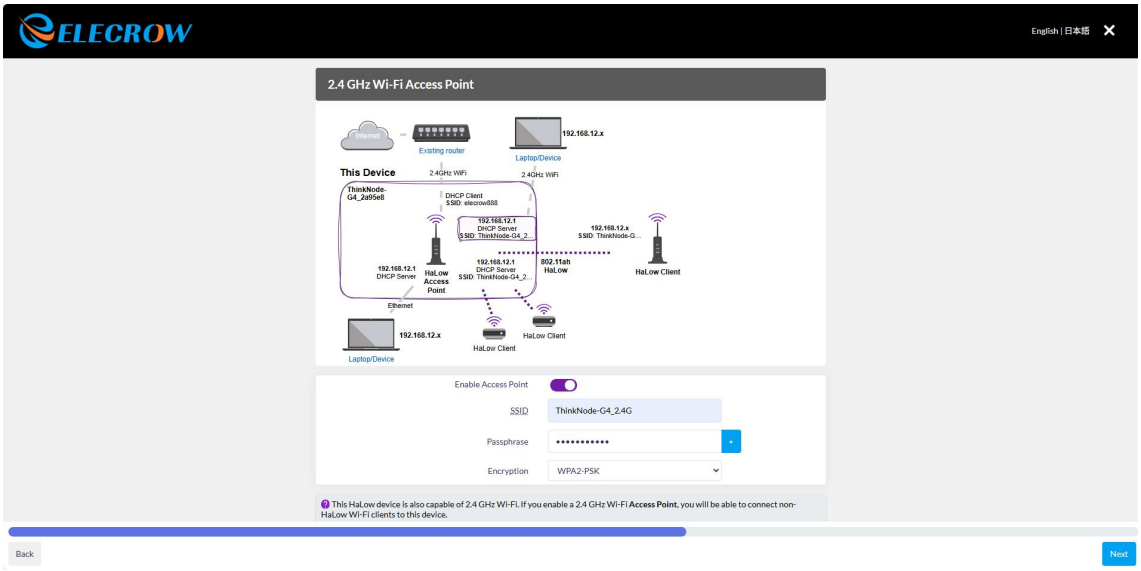
- None: Your device will have a static IP address and run a DHCP server on all interfaces. The HaLow and non-HaLow networks will be isolated from each other.
- Ethernet-Bridge: Your device and HaLow-connected devices obtain IP addresses from your current upstream network.
- Ethernet-Router: HaLow-connected devices obtain IP addresses from the DHCP server on this device, and this device uses NAT to forward IP traffic.
- Wi- Fi (2.4 GHz): HaLow-connected devices obtain IP addresses from the DHCP server on this device, and this device uses NAT to forward IP traffic.



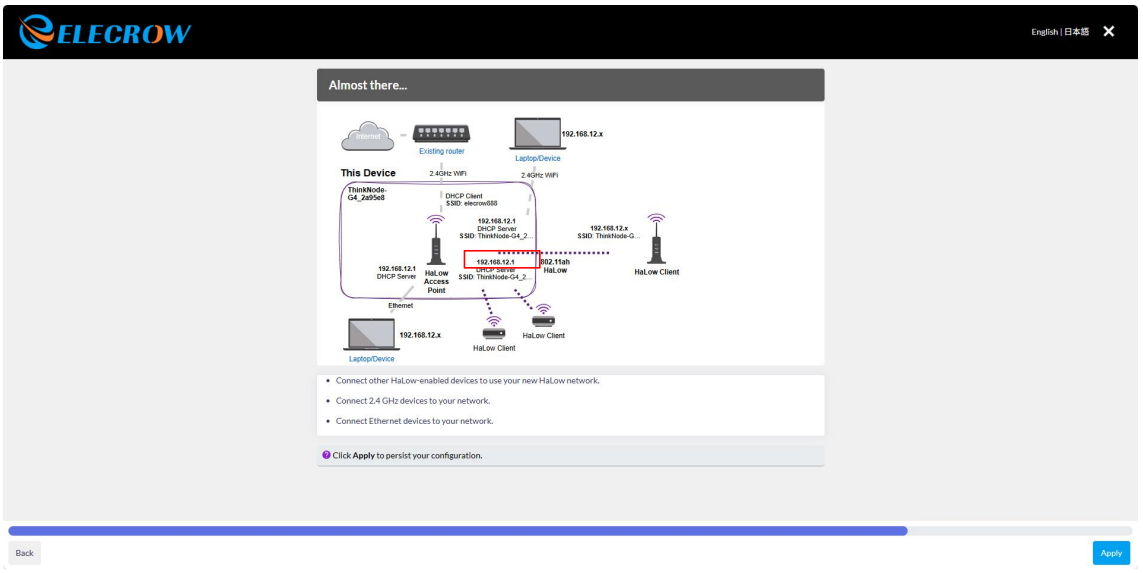
Note: If you choose the "**Wi- Fi (2.4GHz)**" mode, you can click "**Scan**" or enter the available Wi- Fi name and password in the fields;

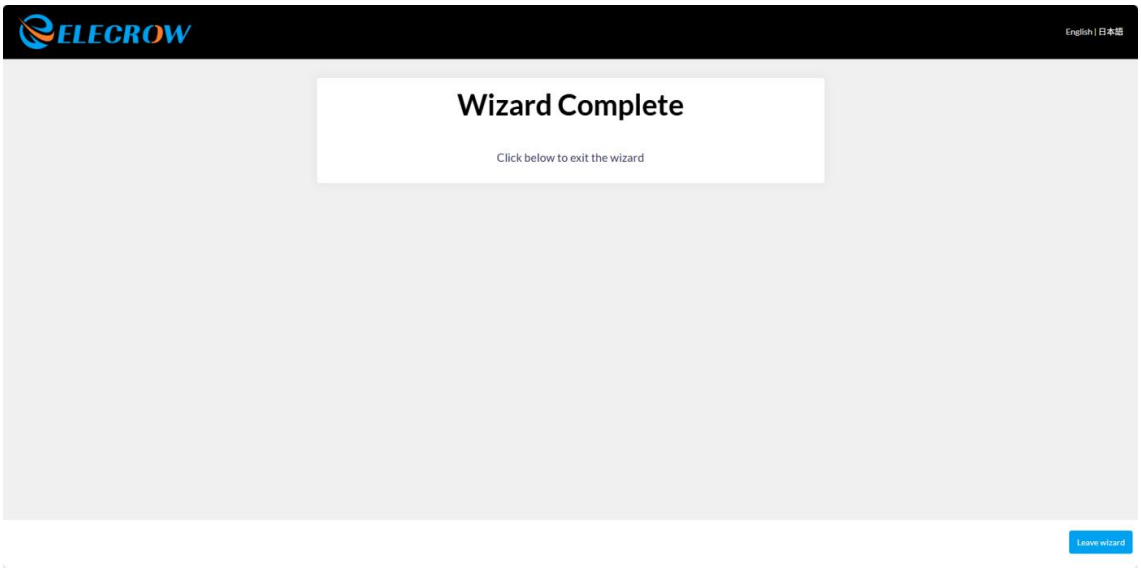


10. Turn on "**Enable Access Point**". This access point provides a HaLow hotspot as well as a standard 2.4 GHz Wi- Fi hotspot. Set your 2.4 GHz Wi- Fi hotspot name and password, and make sure it is not the same as the AP hotspot name from step 8.

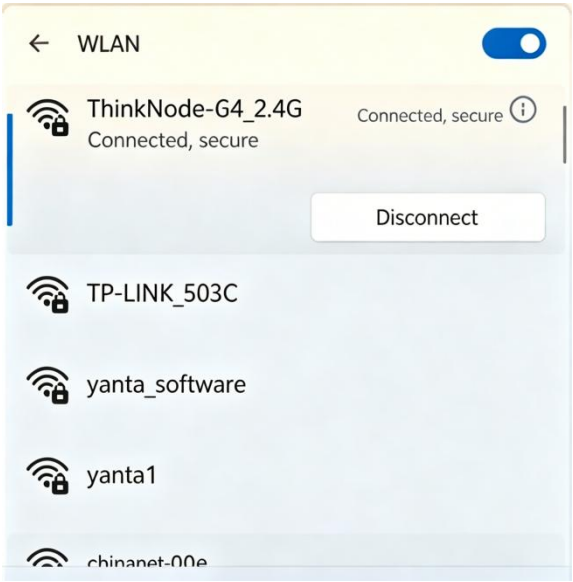


11. Remember your AP gateway **“IP address”**, then click "**Apply**" to complete the configuration.



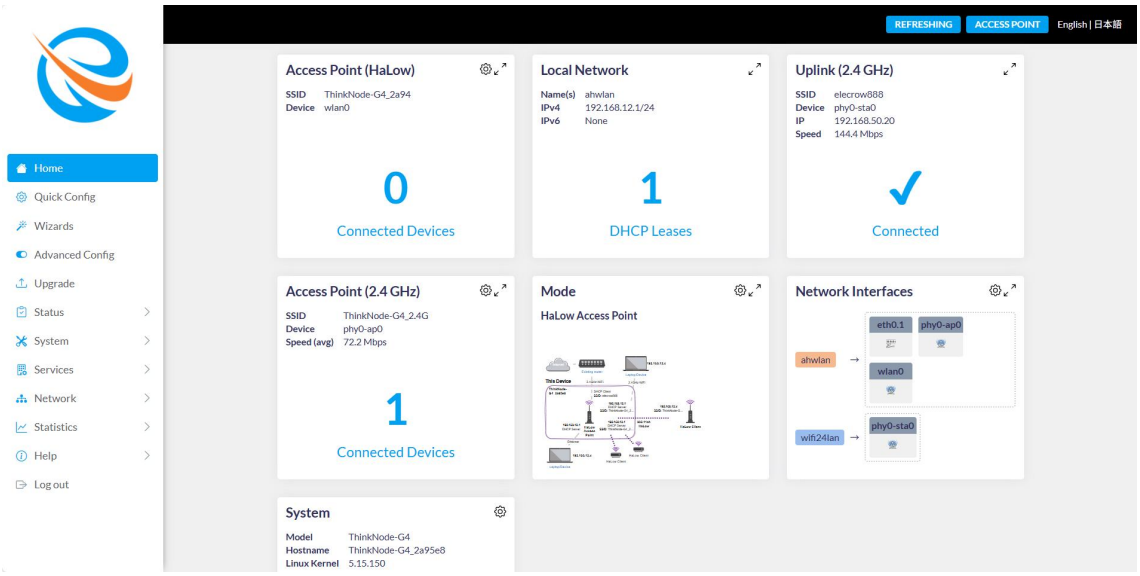


12. Open the Wi- Fi list on your computer/phone and connect to the 2.4 GHz Wi- Fi hotspot you set in **step 10 of " Thinknode G4 Gateway configuration"** ;

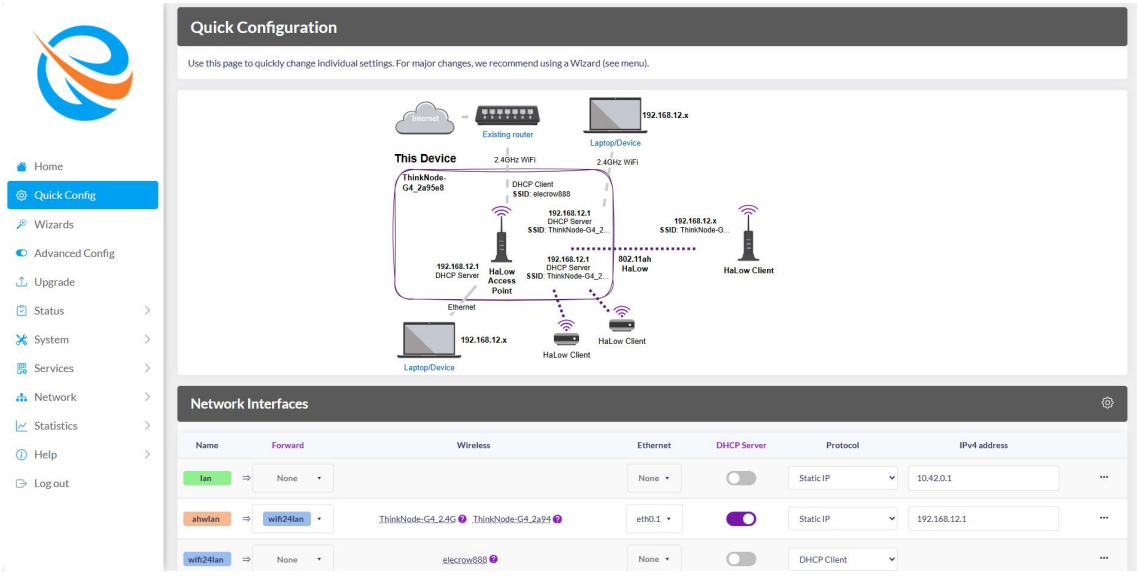


13. In your browser, enter the AP gateway **"IP address"** from **step 11 of" Thinknode G4 Gateway configuration"** and enter the password from **step 4 of " Thinknode G4 Gateway configuration"** , if there is no password, you can click **"Log in"** directly;

14. You can view various parameter information in the admin interface;

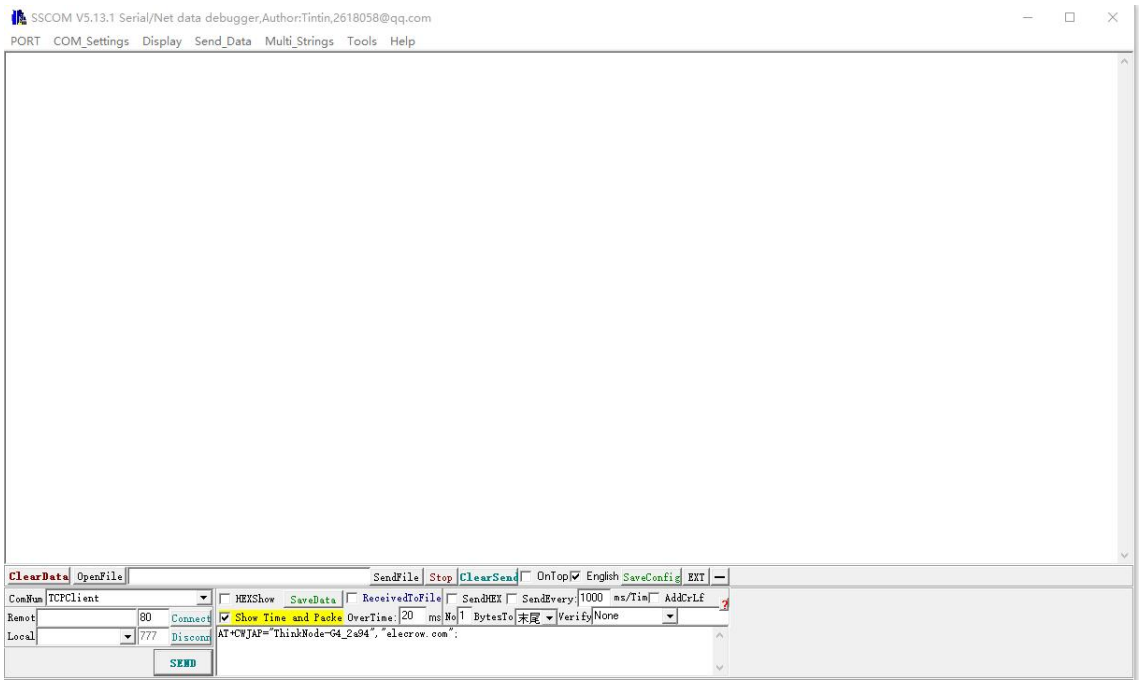


15. Click **"Quick Config"** to quickly modify the configuration you just made;

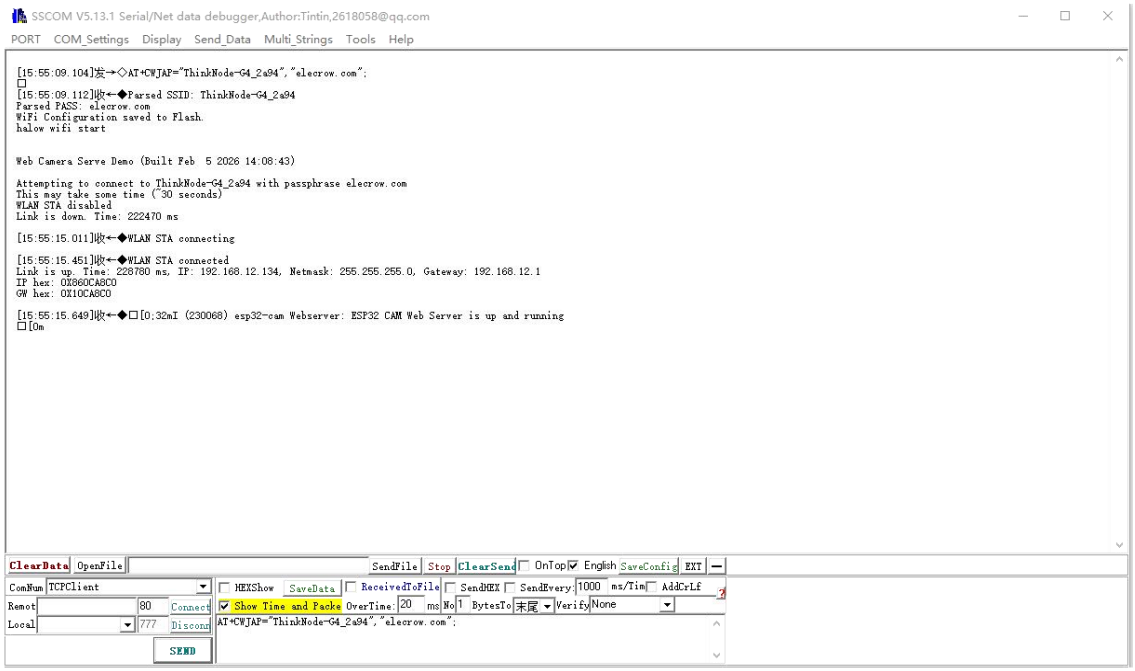


ESP32 WiFi Halow module configuration

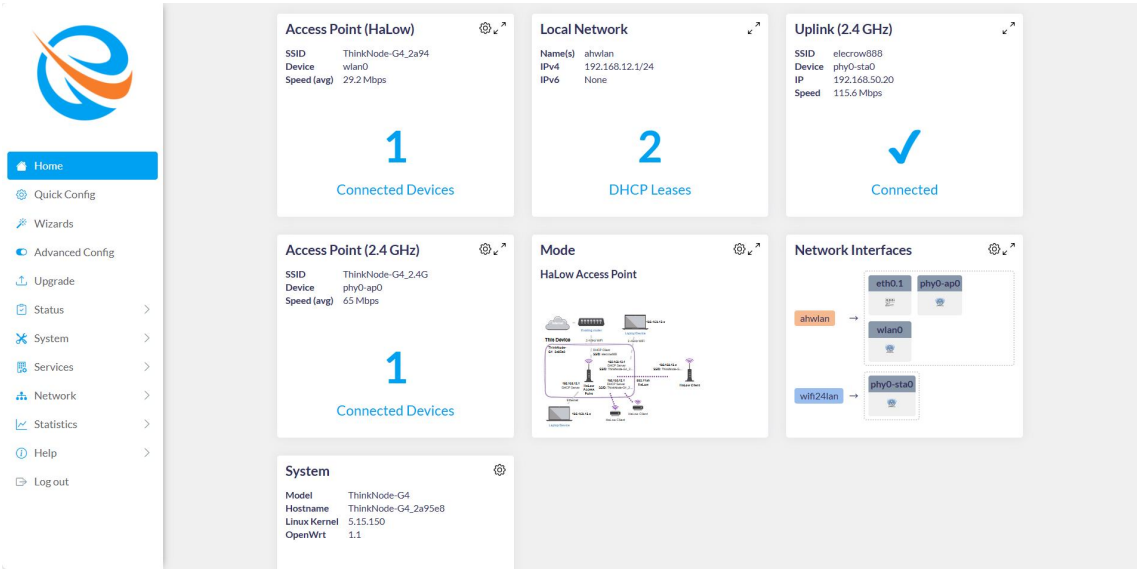
1. Open a serial terminal tool (any serial tool works), select the **corresponding port**, and set the baud rate to **115200.**
2. Send: **AT+CWJAP="AP-SSID","Passphrase";** — where AP-SSID and Passphrase are the Wi- Fi HaLow gateway account and password. Refer to **Step 8 of "Thinknode G4 Gateway configuration"** . For example: AT+CWJAP="ThinkNode-G4_2a94","elecrow.com";

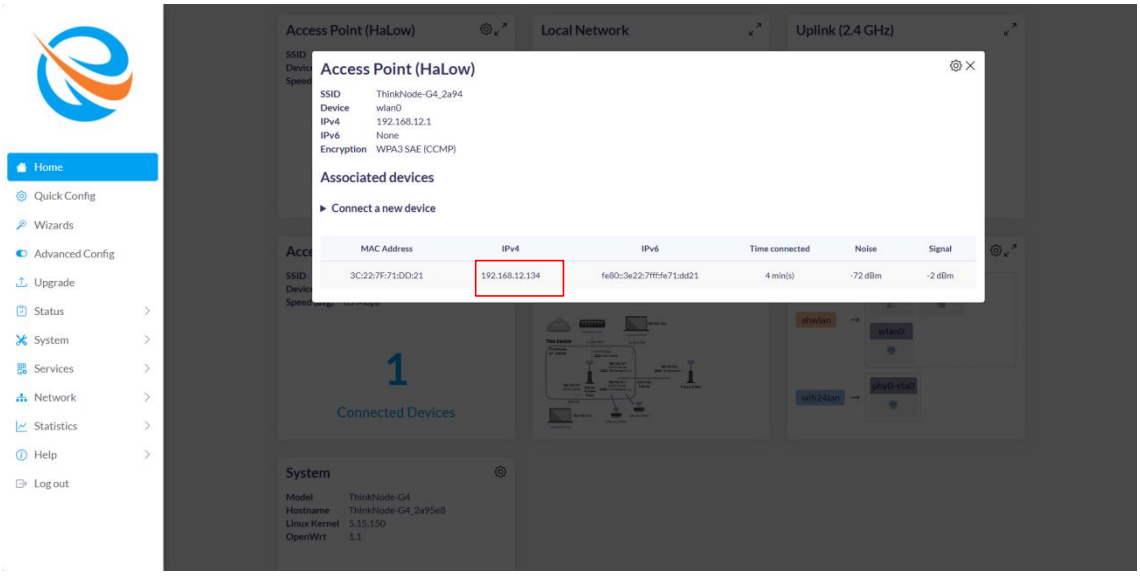


3. After sending, you will see the ESP32 Wi- Fi HaLow Module attempt to connect to the Wi- Fi HaLow gateway. When the connection is successful, you will receive the reply: "WLAN STA connected".



4. Open the Wi- Fi HaLow gateway web portal, click **"Connected Devices"**. IPv4 is the **"IP address"** of the ESP32 Wi- Fi HaLow Module.





5. Open a browser and enter the ESP32 Wi- Fi HaLow Module **"IP address "**to use the ESP32 Wi- Fi HaLow Module.

Main Specifications

Product Name	ESP32 Wifi Halow Module
Main Controller	ESP32-S3
Flash	16 MB
Communication Chip	FGH100M
Camera	2 MP, DVP Port
TF Card slot	Support up to 32 GB
Input	5V/2A
Dimensions	84*36*14 mm
Operating Temperature	-30~65°C

Part List

- ESP32 WiFi Halow Module x1
- Antenna x1
- USB-A to USB-C Cable x1
- User Manual x1