sentrax

BLE (AoA)-based locator and gateway that provides highly precise submeter location accuracy.

| VERSION 2.1 | ZENIX LON-2 Configuration Guide |

Contents

1. Introduction

1.1.   Accessory List

1) 12V - 2A Power Supply
2) Ethernet Cable - Blue/Grey color (POE)
3) Mounting Bracket - Mount product to ceiling/wall

1.2.   Hardware Description

1)   Gateway Status LED
2)   Gateway Power LED
3)   POE Port
4)   USB Power OUT
5)   AOA Power LED
6)   AOA Status LED
7)   Reset Button
8)   DC 12V IN
9)   Wall Mount bracket
10) Serial Sticker

Figure 1 ZENIX LON-2 Front View

Figure 1 ZENIX LON-2 Back View

1.3.   Required Software

Below are the software names with links:

Software Name	Version	Download link
MQTT Fx	Any	MQTT Fx Software
Advance IP Scanner	Any	https://www.advanced-ip-scanner.com/

2. Hardware Network Installation

2.1.   Power using 12 V Adapter

Figure 2 ZENIX LON-2 Wiring using LAN and Power 12V

2.2.   POE Injector

Figure 4 ZENIX LON-2 Wiring using POE Adapter
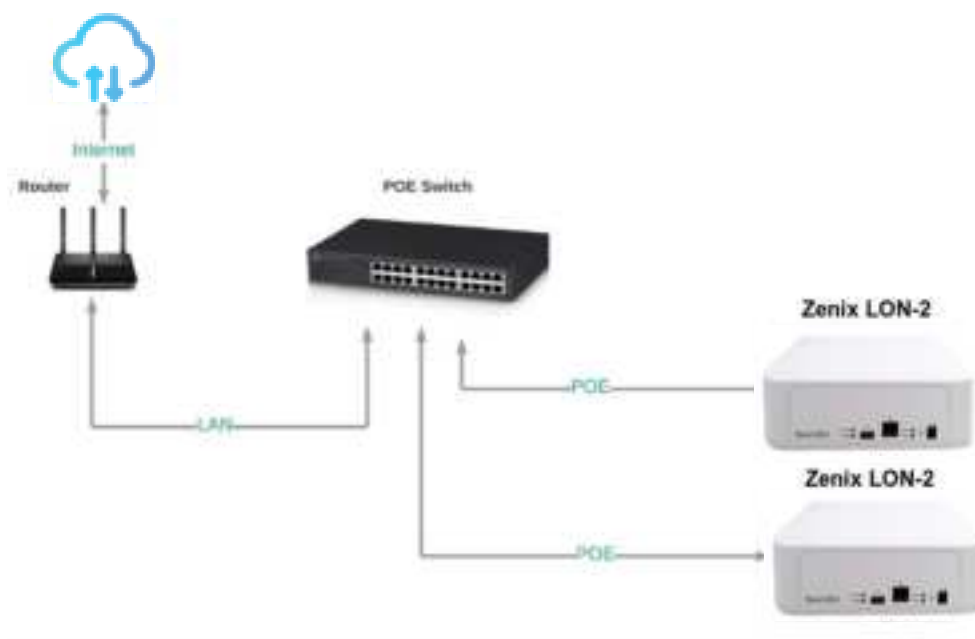
2.3. POE Switch

Figure 5 ZENIX LON-2 Wiring using POE Switch

3. Device Status

After a delay of 2 to 5 seconds, the ZENIX LON-2 Power LED will turn on, signaling the commencement of the device boot-up process. Please be patient for an additional 1 to 2 minutes as the device completes its boot-up sequence.

The current status of the ZENIX LON-2 can be determined by observing the status LED as below:

Status LED (Green LED)	Rate	Description
OFF	OFF	System booting Up
Blinking	3s (ON) 3s (OFF)	Connecting to Internet
Blinking	1s (ON) 1s (OFF)	Connecting to USB
ON	ON	Connected

4. ZENIX LON-2 Configuration

4.1. Finding ZENIX LON-2 IP Address

● Note down your ZENIX LON-2 MAC Address. MAC Address of ZENIX LON-2 is written at the back of device

Figure 6 ZENIX LON-2 MAC Address

● Open Advanced IP Scanner Software.
● Enter your Network devices IP pool.
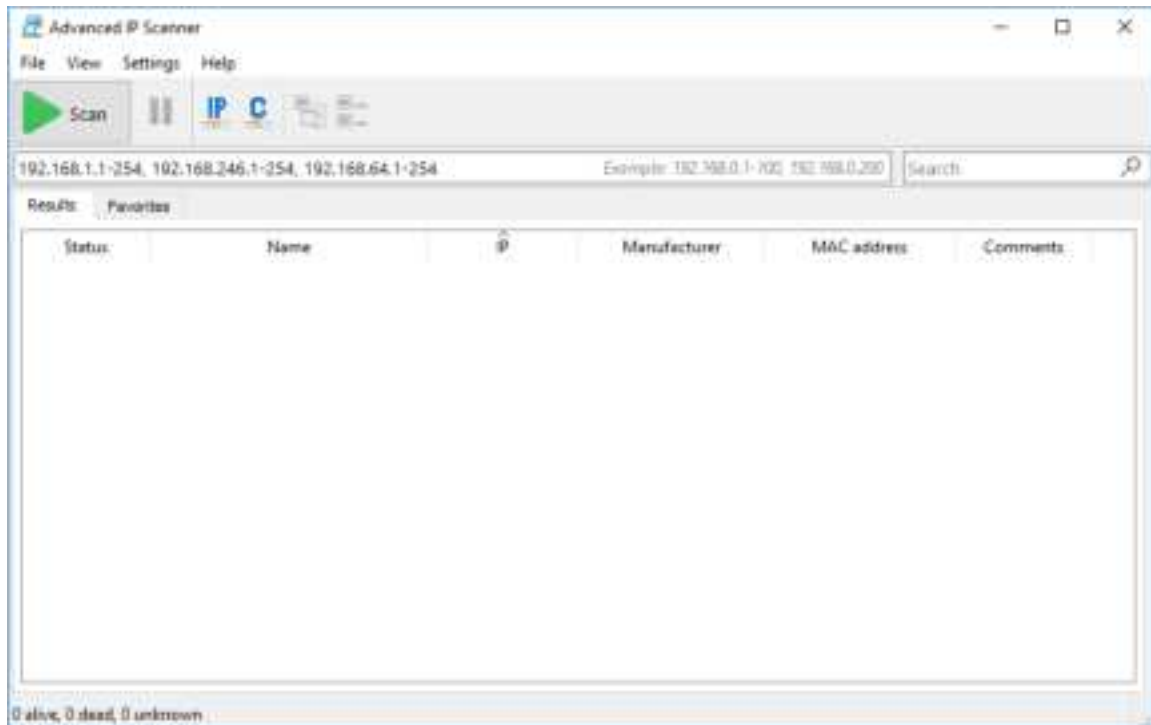● Click on the Scan Button.

Figure 7 Advance IP Scanner Home Screen

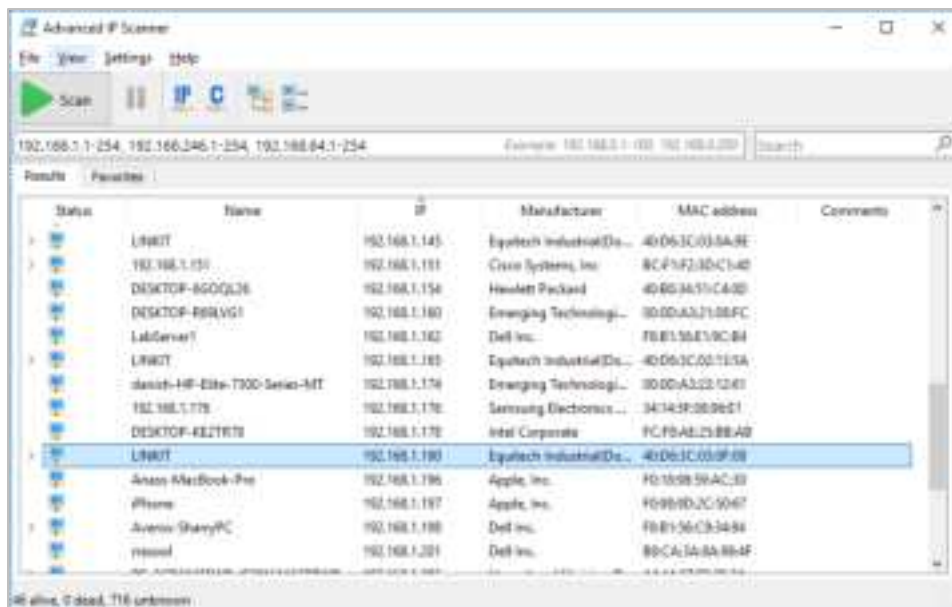- Upon a successful scan, locate your ZENIX LON-2 IP Address corresponding to your MAC Address.

Figure 8 ZENIX LON-2 IP Address using Advance IP Scanner

- Access the ZENIX LON-2 Configuration page by entering the IP address into your browser. This action will redirect you to the device's Admin login page.

Figure 9 ZENIX LON-2 Admin Page

- Enter the password (SentraxGateway1234) and click "Login". You will be directed to the Home Page as illustrated in the image below.

Figure 10 ZENIX LON-2 Summary Page

4.2.   Firmware Update

Automatic Update:

The main page provides information on the current firmware version installed. Refer to the image below to identify the displayed current firmware version on the main page.

Click on Firmware Update from the Main Menu to navigate to the firmware update page. If a new firmware update is available, the button will be visible as shown in the above image. Click this button to initiate the firmware update.

The update may take between 15 to 20 minutes to complete depending upon the internet speed.

Important note: It is recommended to have a stable internet connection and stable power-supply during the update procedure.

After 15 minutes, refresh the firmware update tab and you will be directed to Login-in page. Re-enter your login credentials and navigate back to the firmware update tab.

After a successful update, the "New firmware is available" button will disappear as shown in the above image. If the page shows problem in loading after refresh, please wait for a few additional minutes and then try again.

Verify the updated firmware version on the home page. Reboot the device by unplugging and re plugging in the power supply (optional).

Manual Update:
To manually update by uploading the firmware file, kindly reach out to sales@sentrax.com to obtain the latest firmware file and a comprehensive guide on the manual firmware upload process.

4.3.   MQTT Configuration

After Login, Click on **Telemetry** from the options on the top to change the following setting as per your requirements:

- **MQTT Server:** Address of MQTT server
- **Client Id:** Device Floor ID.
- **MQTT Username:** Username of MQTT server. If the MQTT server does not have username leave it blank.
- **MQTT Password:** Password of MQTT server. If the MQTT server does not have password leave it blank.
- **MQTT Topic:** Topic on which data will be posted
- **Data Posting Rate:** Interval between two consecutive data
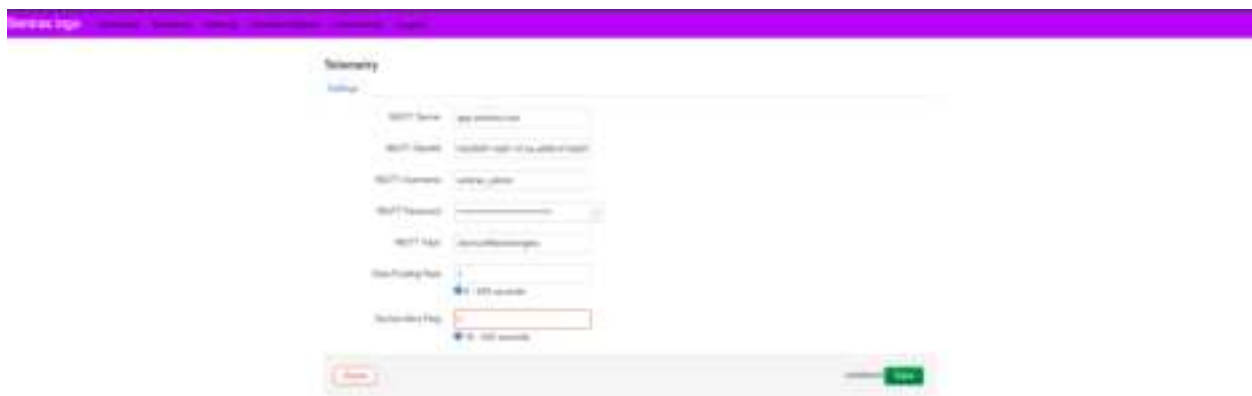- **Data Alive Ping:** Device Alive message rate

Figure 11 ZENIX LON-2 MQTT Configurations

4.4.   AoA Filtering Configuration

Click on **Filtering** from the options on the top to change the following setting as per your requirements:

- **Moving Average Window:** A fixed interval of time when the angles stream is processed to calculate average outputs.

Figure 12 ZENIX LON-2 Filtering Configuration

4.5. Wi-Fi Connectivity - Preparation Steps

Power the ZENIX LON-2 using the provided 12V power adapter. Please wait until the LON-2 access point is visible. The format of this access point will be 'LON2_' followed by the last 6 digits of the MAC address. For more clarity, refer to Figure-13.

Figure-13

Before performing Wi-Fi configuration, we need to determine the MAC address of the WLAN connection. Enable the 'Mobile hotspot' feature on your Windows laptop. Refer to Figure-14 for further clarity.
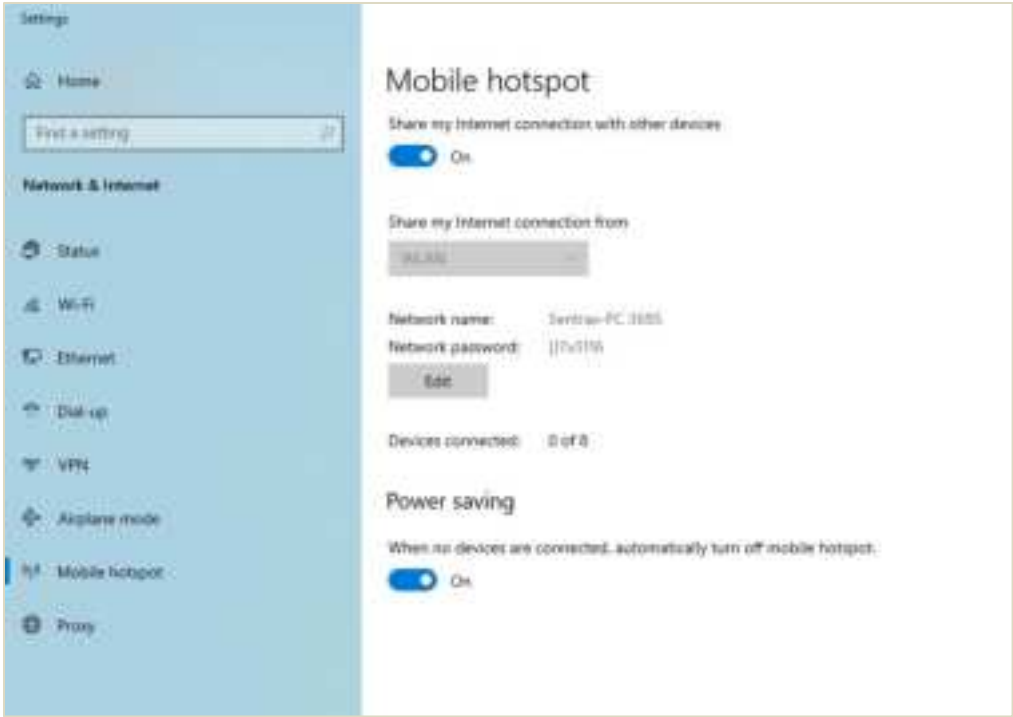
Figure-14

Connect your Windows laptop to the LON2 access point using the following password:

Password: 12345678

After a successful connection, enter '192.168.1.1' in the web browser. Use the default login credentials to access the configuration page. Navigate to the 'Connectivity' option; refer to Figure-15 for further clarity.
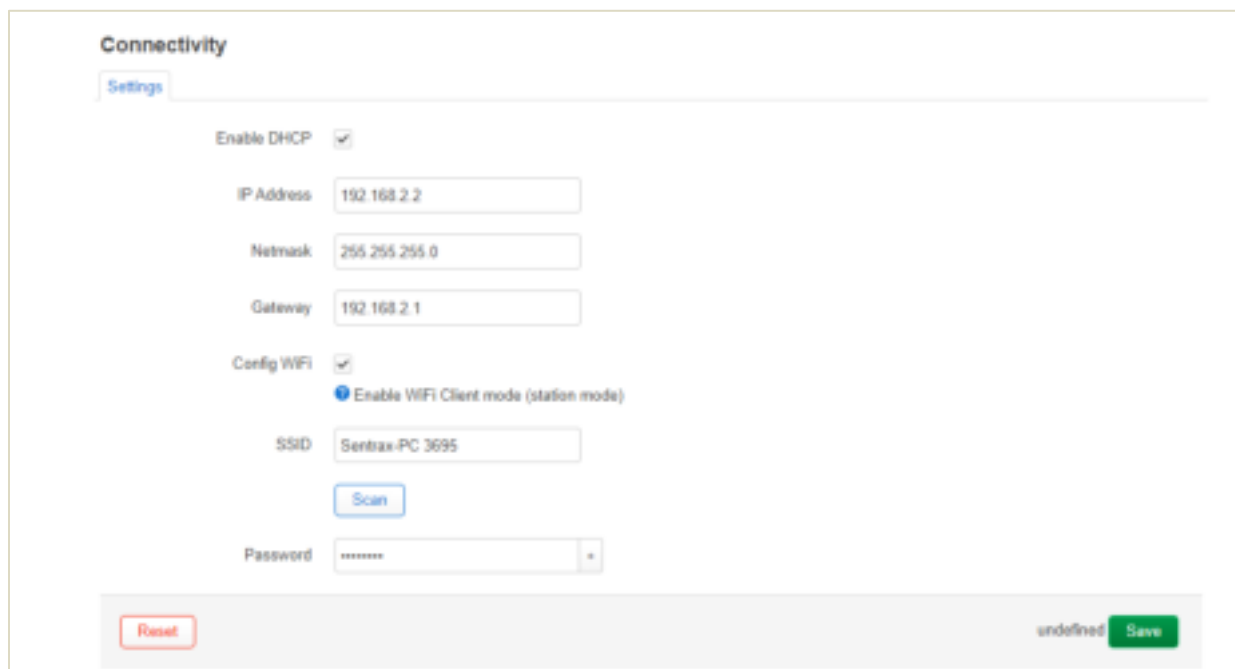

Figure-15

The configuration screen for connectivity will be displayed; refer to Figure-16 for additional clarity.

Figure-16

First, enable the 'Config WiFi' checkbox, and then perform a 'Scan' for available networks. Connect to the SSID of the 'Mobile hotspot' on your Windows laptop, enter its password, and then 'Save' the configuration settings. For further clarity, refer to Figure-17

Figure-17

Now, navigate back to 'Mobile hotspot' settings. On this screen, you will find the LON2 MAC address along with its assigned IP address. Since this MAC address will be used in the upcoming steps, it is crucial to save it for later use. Refer to Figure-18 for further clarity.
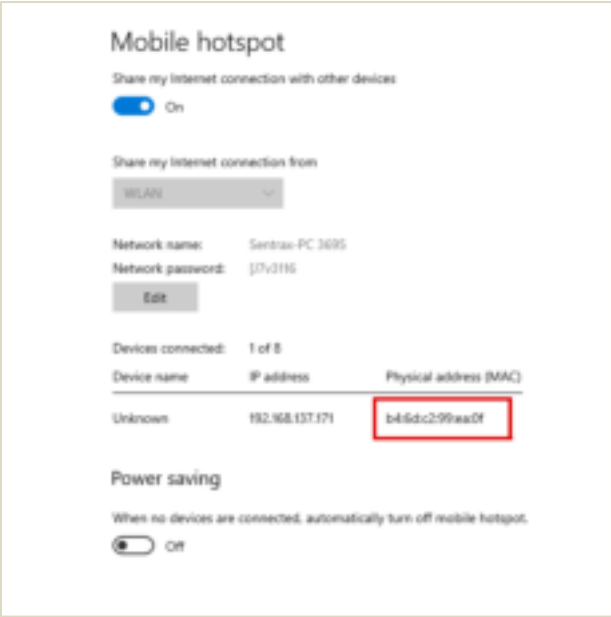

Figure-18

4.6.   WiFi Configuration on Windows

Once again, navigate to 'Mobile hotspot' settings on the Windows laptop and use the IP assigned to LON2. Enter the IP in the web browser. As the network is provided through the Windows laptop, in this configuration, LON2 will always have an IP from the 192.168.137.XXX pool. Refer to Figure-19 for additional clarity.
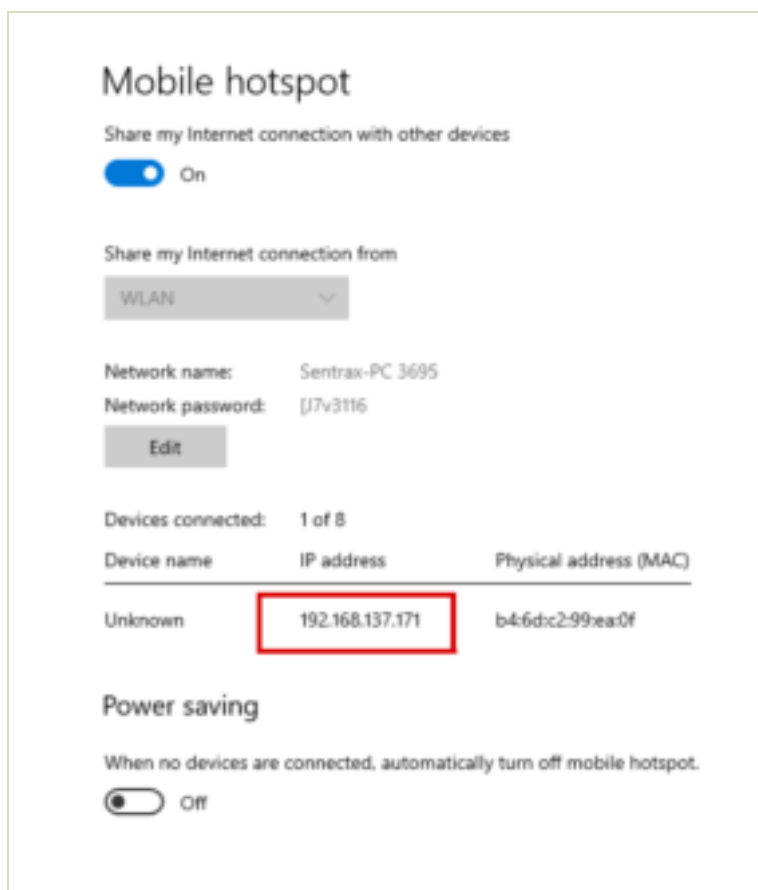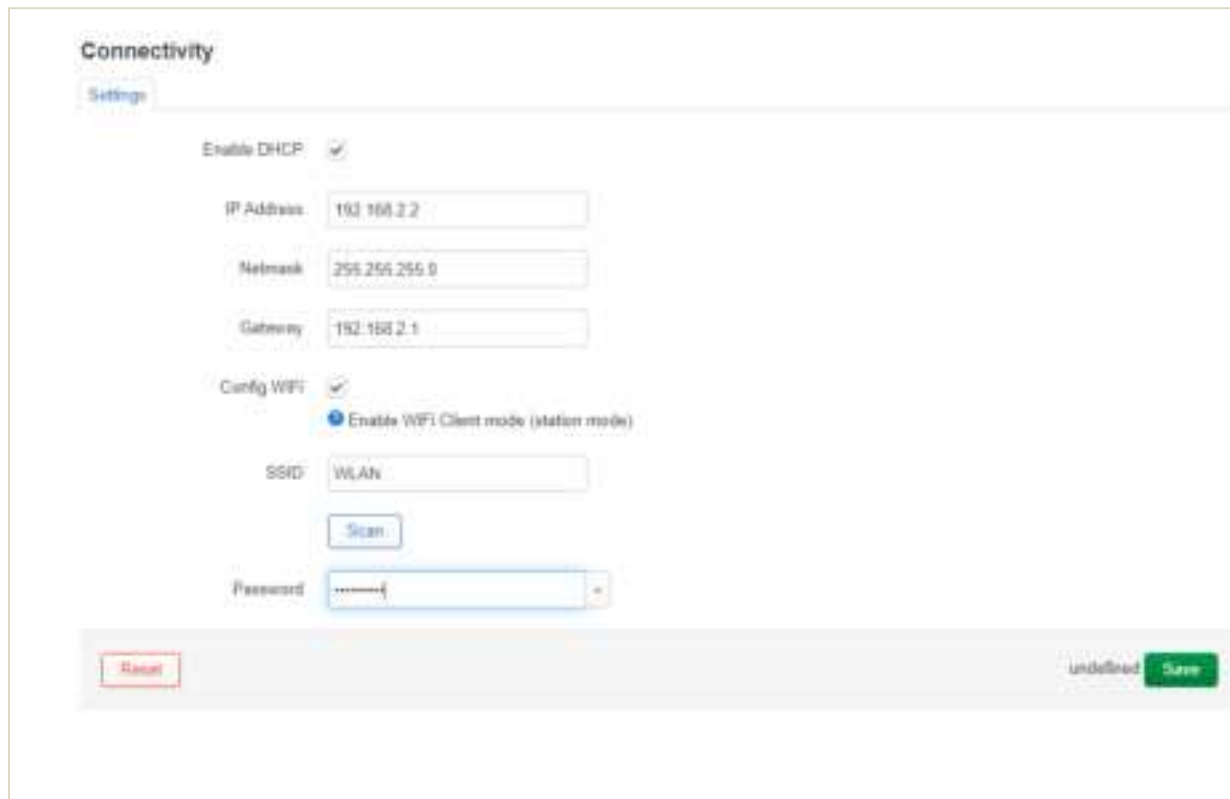
Figure-19

Utilize the default credentials to access the web page settings once again.

Figure-20

Navigate back to the 'Connectivity' tab, then simply press the 'Scan' button. A list of all available networks will be displayed. 'Connect' to the desired wireless network, and then 'save' the configuration settings. Refer to Figure-21 for further guidance.

Figure-21

Before proceeding with further steps, please ensure that the network configured for LON2 is the same as the one to which the Windows laptop is connected. Utilize the 'Advanced IP Scanner' software to find out the IP assigned to the LON2 device. Press the 'Scan' button and wait for the scanning period to elapse. Refer to Figure-22 for additional clarity.
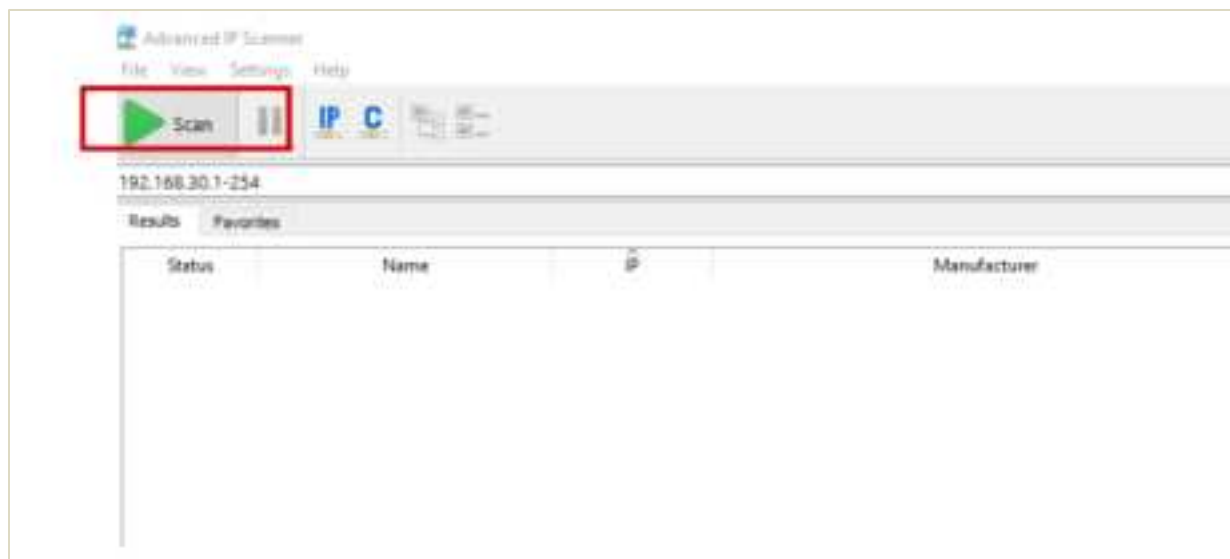
Figure-22

After the scanning period has elapsed, use the search bar on the top right-hand side. Enter the MAC address, which was explored in the 3rd heading of this document (Preparation Steps), into the search bar to find the IP assigned to LON2. Refer to Figure-23 for further clarity.

Figure-23

Enter the obtained IP in the web browser to confirm the configuration. Upon successful configuration, you will also be able to view the web page of LON2.

Note: *The priority network for LON2 will always be Ethernet. In the absence of Ethernet availability, if the device Wi-Fi settings were configured, LON2 will automatically switch to Wi-Fi.*

5. FCC Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipme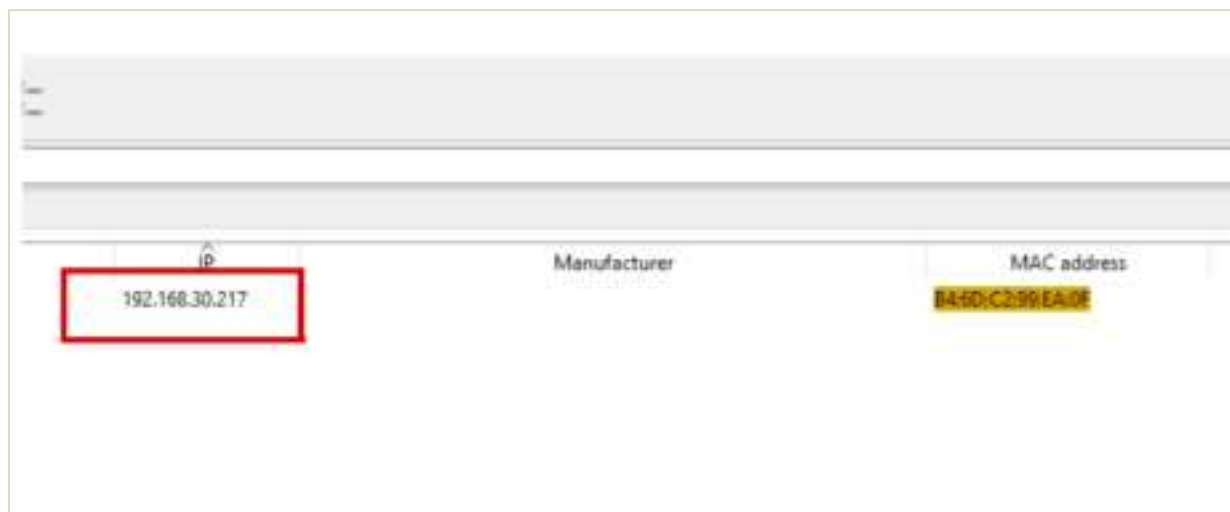nt. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body.

Disclaimer:

This guide is intended for informational purposes only. If in doubt at any stage of the installation or operation of the locator/gateway always consult Sentrax's authorized dealer, distributor, or get in touch directly with Sentrax GmbH.

Given that Sentrax will continuously improve and develop the product, changes may be made to the information in this manual at any time without any obligation to notify any person of any such revisions or changes. Sentrax will make all possible efforts to secure the accuracy and integrity of this manual.

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