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> [WAVLINK AX3000 Outdoor WiFi 6 Extender \(Model WN588HX3\) Instruction Manual](#)

WAVLINK WN588HX3

WAVLINK AX3000 Outdoor WiFi 6 Extender (Model WN588HX3) Instruction Manual

1. PRODUCT OVERVIEW

The WAVLINK AX3000 Outdoor WiFi 6 Extender (Model WN588HX3) is a high-performance device designed to expand and enhance wireless network coverage in outdoor environments. It supports the latest WiFi 6 (802.11ax) standard, offering dual-band connectivity and robust features for stable and fast internet access.

What's in the Box

- 1 × AX3000 WiFi 6 Outdoor Access Point
- 6 × 7dBi Antennas
- 1 × 54V Power Adapter
- 1 × PoE Converter
- 1 × Ethernet Cable
- 1 × Main Body Holder
- 4 × Plastic Cable Ties
- 1 × Wrench
- Mounting Screws and Plugs (PWM M3×5×6MM Screw - 6 × KA M3×20×5.2MM Screws - 6 × Φ6.5×25MM Screw Plugs)
- 1 × Quick Start Guide



Strong Signal & Wide Coverage

*Coverage may vary based on the actual environment

NOTE: To achieve this distance, the WiFi extender should be installed in an open environment without any obstructions.

Coverage up to
300 Meters

Connect up to
256 Devices

The 2.4G signal cannot reach that distance. Please select the 5G signal.



Image: The complete package contents, including the main unit, antennas, power adapter, PoE converter, cables, mounting hardware, and documentation.

2. KEY FEATURES

- **AX3000 Dual Band Speed:** Provides up to 2402 Mbps on 5GHz and 573 Mbps on 2.4GHz for a combined 3000Mbps.
- **Extended Outdoor Coverage:** Equipped with 6x7dBi omnidirectional antennas and two built-in high-power amplifiers to enhance WiFi coverage and penetration.
- **High Device Capacity:** Supports simultaneous connection of up to 256+ devices.
- **Multiple Operating Modes:** Supports Mesh, AP, Router, Repeater, and AP+Repeater modes.
- **Power over Ethernet (PoE):** Compatible with both 802.3AF/AT active PoE and passive PoE for flexible power options.
- **Robust Outdoor Design:** Features an IP67 waterproof enclosure, 15kV ESD protection, and 6kV lightning protection for reliable operation in harsh weather conditions.

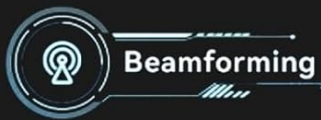
- **MU-MIMO and Beamforming:** Technologies for improved efficiency and targeted signal delivery.

The infographic is divided into several sections. The top-left section features the 'WiFi 6' logo with '802.11 AX3000' below it. The top-right section displays '3000Mbps' in large green and blue text, followed by 'Dual Band Speed' and three rocket icons. The middle-left section shows '6*7dBi High Gain Antennas' with an illustration of six antennas. The middle-right section is titled 'MU-MIMO' and shows a central router icon connected to a game controller, a monitor, and a smartphone. The bottom-left section shows a close-up of the device's rear panel with two callouts: '1 Gigabit WAN/LAN PoE Port' pointing to a port and '2 Reset/Pair Button' pointing to a button. The bottom-right section features '48V PoE' in a rounded box, with 'Support Active & Passive Mode' below it.

Image: An infographic highlighting the main features of the AX3000 extender, including its speed, antenna configuration, MU-MIMO capability, and PoE support.



AX3000 Dual Band Wi-Fi 6 Access Point



Beamforming



MU-MIMO

2402 Mbps
on 5GHz

573 Mbps
on 2.4GHz



Image: The AX3000 access point shown in an outdoor setting, with a breakdown of its 5GHz (2402 Mbps) and 2.4GHz (573 Mbps) speeds, and icons for 4K streaming, security cameras, and email.

3. SETUP

Physical Installation

The WAVLINK AX3000 can be installed using either pole-mounting or wall-mounting methods. Ensure the device is placed in a location with minimal obstructions for optimal signal propagation. It is recommended to install the device 2-3 meters higher than the ground for better performance.



Image: Demonstrates the two primary physical installation options: mounting the device on a pole or directly onto a wall.

Power over Ethernet (PoE) Connection

The device supports both active (802.3AF/AT) and passive PoE. The included PoE converter is not waterproof and should be protected from the elements. For optimal performance, use CAT5E or above Ethernet cable within a 100m/328ft range.

- **Active PoE:** Connect the device to a PoE switch using an Ethernet cable.
- **Passive PoE:** Connect the power adapter to the PoE box, then connect the AX3000 device to the PoE port of the PoE box using an Ethernet cable.



Access More Devices

Connect up to **256** devices simultaneously, ideal for large spaces such as factories, communities, streets, and more

Image: A visual guide illustrating how to connect the device using either an Active PoE switch or a Passive PoE setup with the included converter.

Initial Configuration Access

To access the setup page for initial configuration, connect your computer or phone to the device via Ethernet or its default Wi-Fi network. Then, open a web browser and navigate to **192.168.30.1**. The default password for initial login is typically 'ADMIN'.

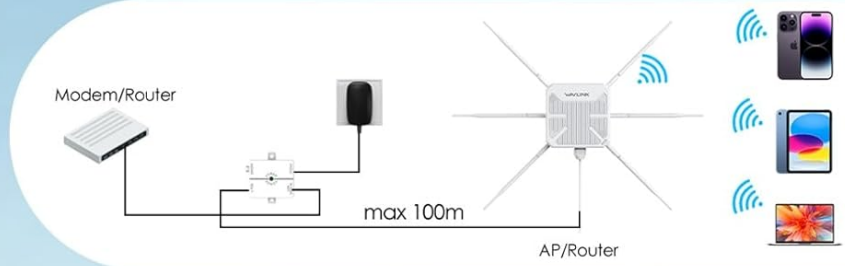
4. OPERATING MODES

The WAVLINK AX3000 supports various operating modes to suit different network requirements:

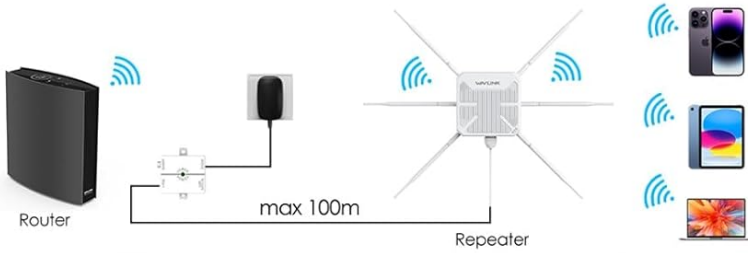
- **AP/Router Mode:** Converts a wired internet connection into a wireless network. Ideal for new network setups or extending an existing wired network wirelessly.
- **Repeater Mode:** Extends the coverage of an existing wireless network by repeating its signal.
- **AP+Repeater Mode:** Combines the functions of an Access Point and a Repeater, allowing for both wired and wireless extension.
- **Mesh Mode:** Creates a seamless Wi-Fi network with a single network name and password, allowing devices to roam freely without losing connection.

Multiple & Optional Working Modes

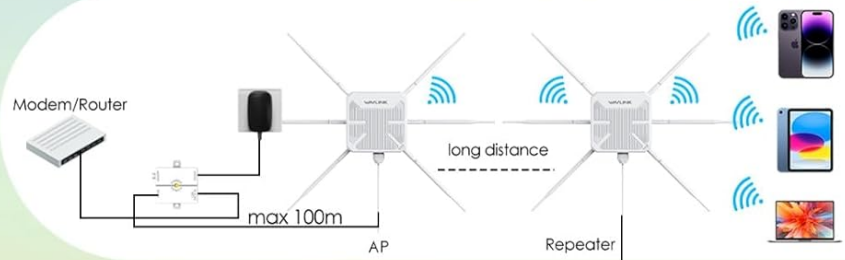
AP/Router Mode



Repeater Mode



AP+Repeater Mode



Mesh Mode

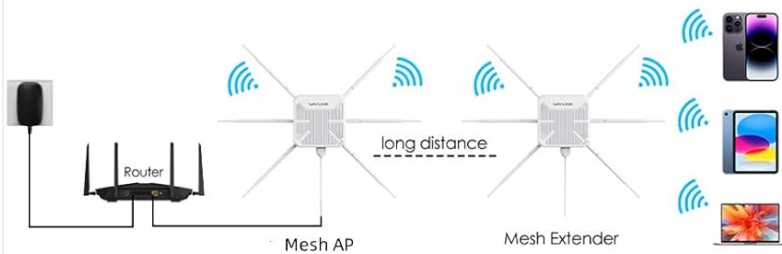


Image: A visual representation of the four main operating modes and how the device integrates into different network configurations.

AP/Router Mode Diagram

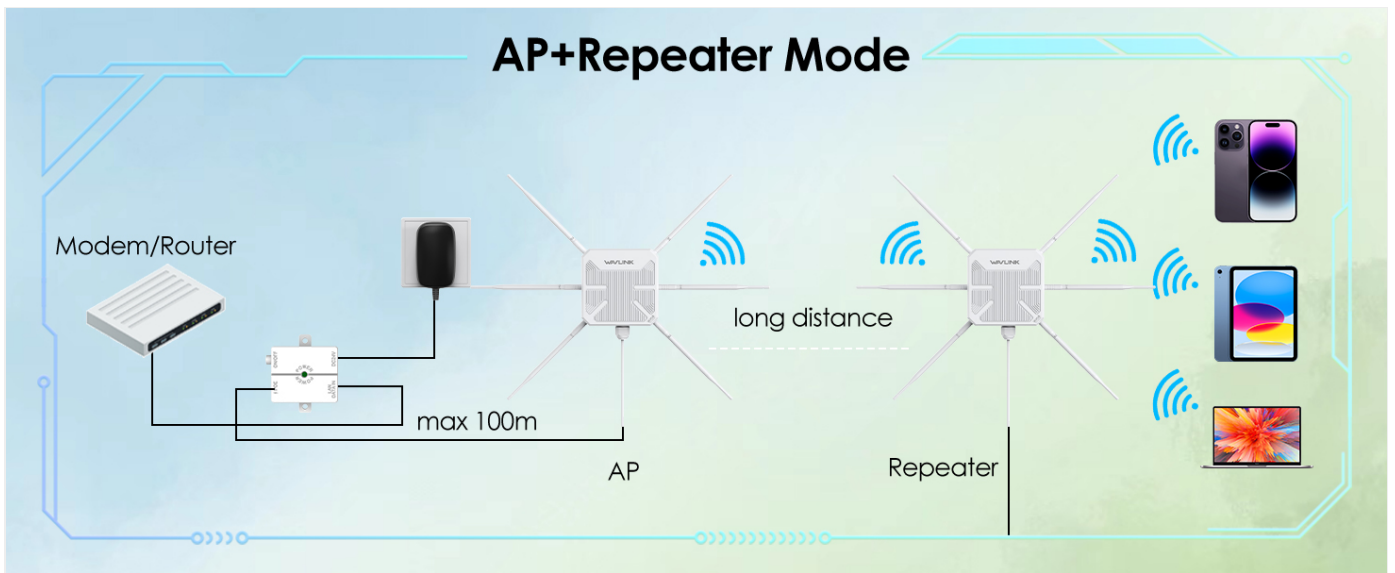


Image: Illustrates the connection for AP/Router mode, where the device connects to a modem/router and provides wireless access to multiple devices.

Repeater Mode Diagram

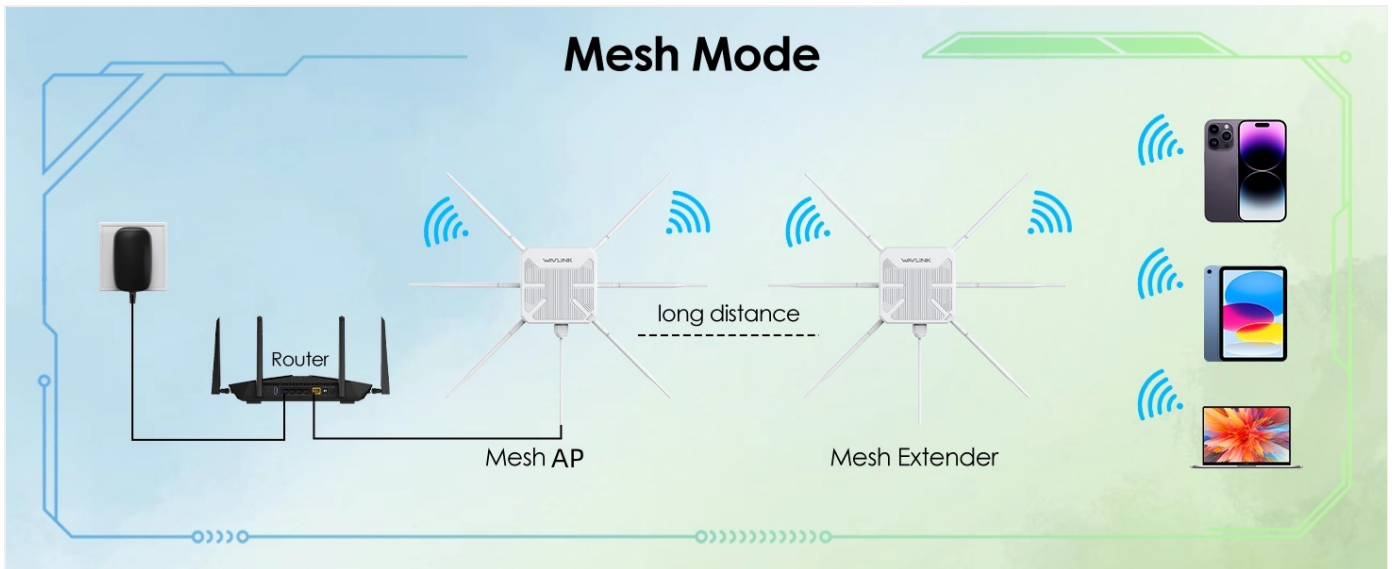


Image: Shows the setup for Repeater mode, where the device extends the signal from an existing router to cover a wider area.

AP+Repeater Mode Diagram

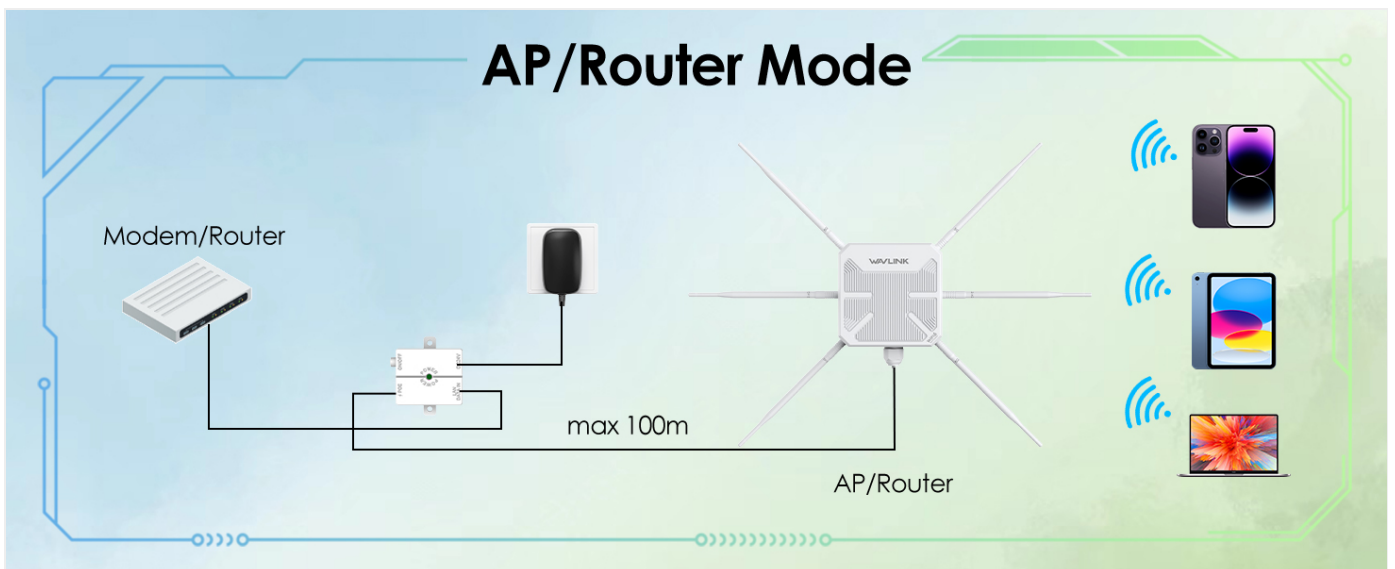


Image: Depicts the AP+Repeater mode, combining an access point with a repeater for extended coverage and connectivity.

Mesh Mode Diagram

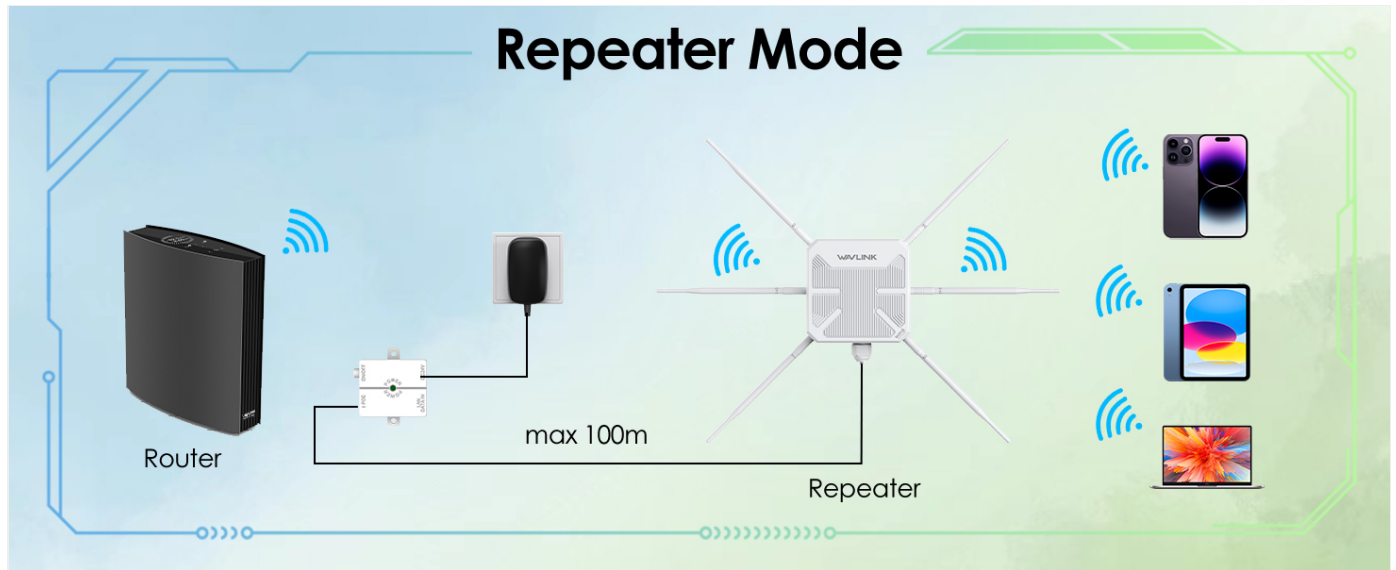


Image: Illustrates the Mesh mode, where multiple devices create a unified, seamless Wi-Fi network.

5. CONNECTIVITY AND COVERAGE

The AX3000 extender is designed to provide extensive wireless coverage and support a large number of connected devices. Without any obstruction, the device offers a coverage range of 1-90 meters at 2.4GHz and 1-200 meters at 5GHz. Note that at a distance of 300 meters, the network speed at 5GHz will be significantly reduced. It can connect up to 256 devices simultaneously.

Access Stable Signal Wherever You Are



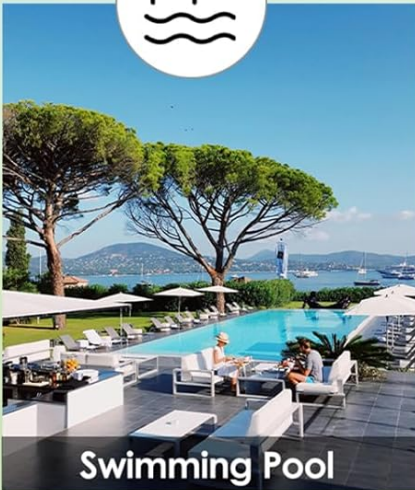
Yard



Park



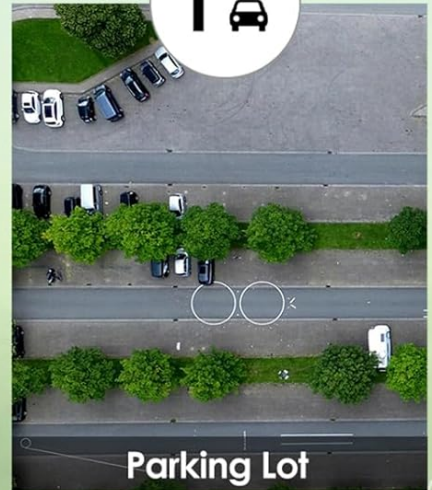
Outdoor Cafe



Swimming Pool



Playground



Parking Lot

Image: Highlights the device's capability for strong signal and wide coverage, indicating a range of up to 300 meters and support for over 256 devices.

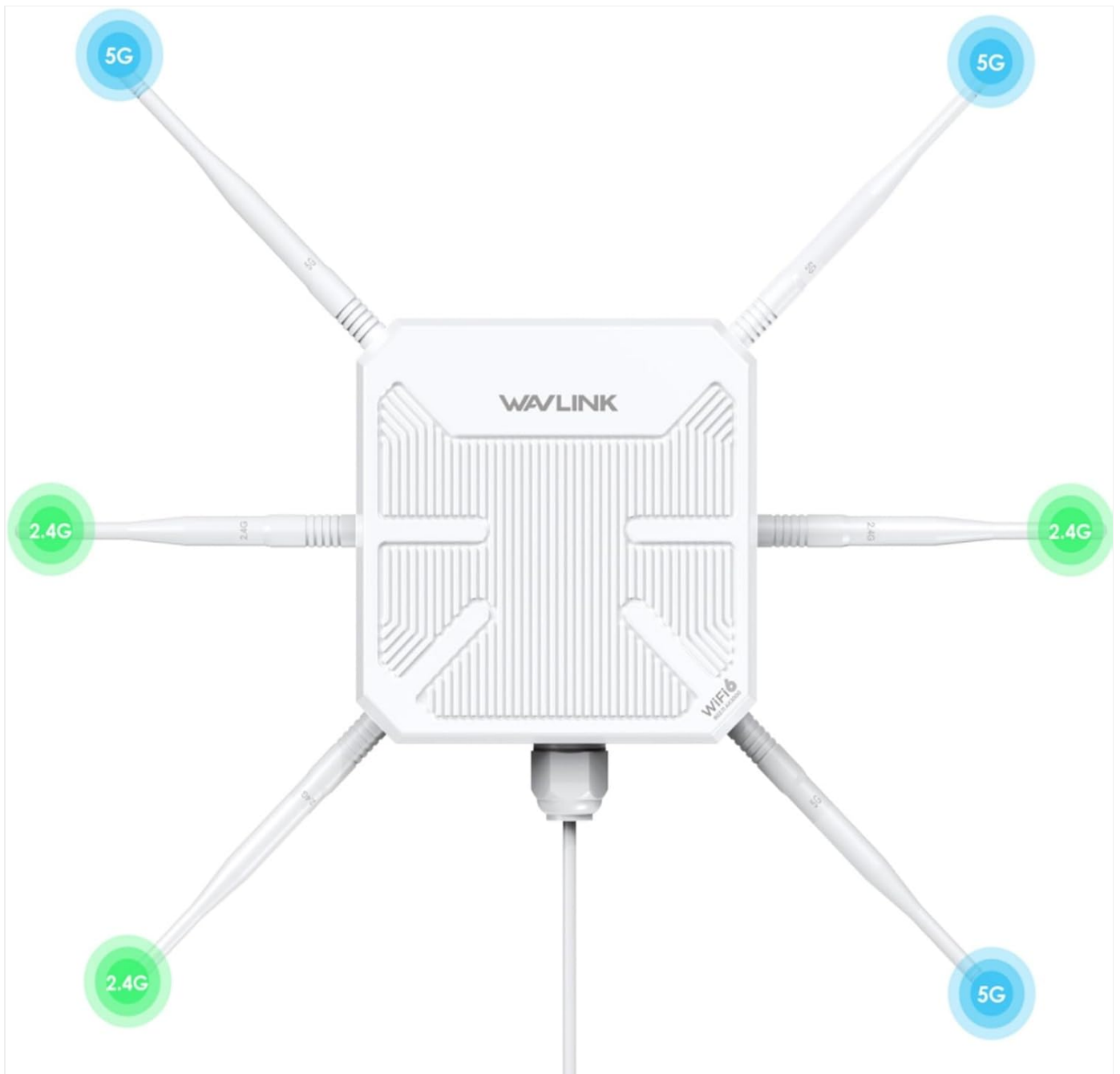


Image: A top-down view of the extender, clearly showing its six antennas and their respective 2.4G and 5G band designations.

6. ENVIRONMENTAL DURABILITY

The WAVLINK AX3000 is built to withstand various outdoor conditions, ensuring reliable performance year-round. Its robust design includes:

- **IP67 Waterproof Enclosure:** Protects against dust ingress and water immersion.
- **Operating Temperature:** -20–50 °C (-4–122 °F)
- **Storage Temperature:** -30–70 °C (-22–158 °F)
- **15kV ESD Protection:** Guards against electrostatic discharge.
- **6kV Lightning Protection:** Provides defense against lightning strikes.

It is recommended to install a ground wire to prevent static electricity or lightning from damaging the device.

Fit with Any Outdoor Environments

Note: The PoE part of the router is not waterproof



-10°C~70°C
(14°F~158°F)



15KV ESD & 6KV
Lightning Protection



IP67 Waterproof
Enclosure



No Ingress of Dust

Image: The extender is depicted in different outdoor settings, emphasizing its ability to function reliably across a range of temperatures and its protection against environmental hazards.

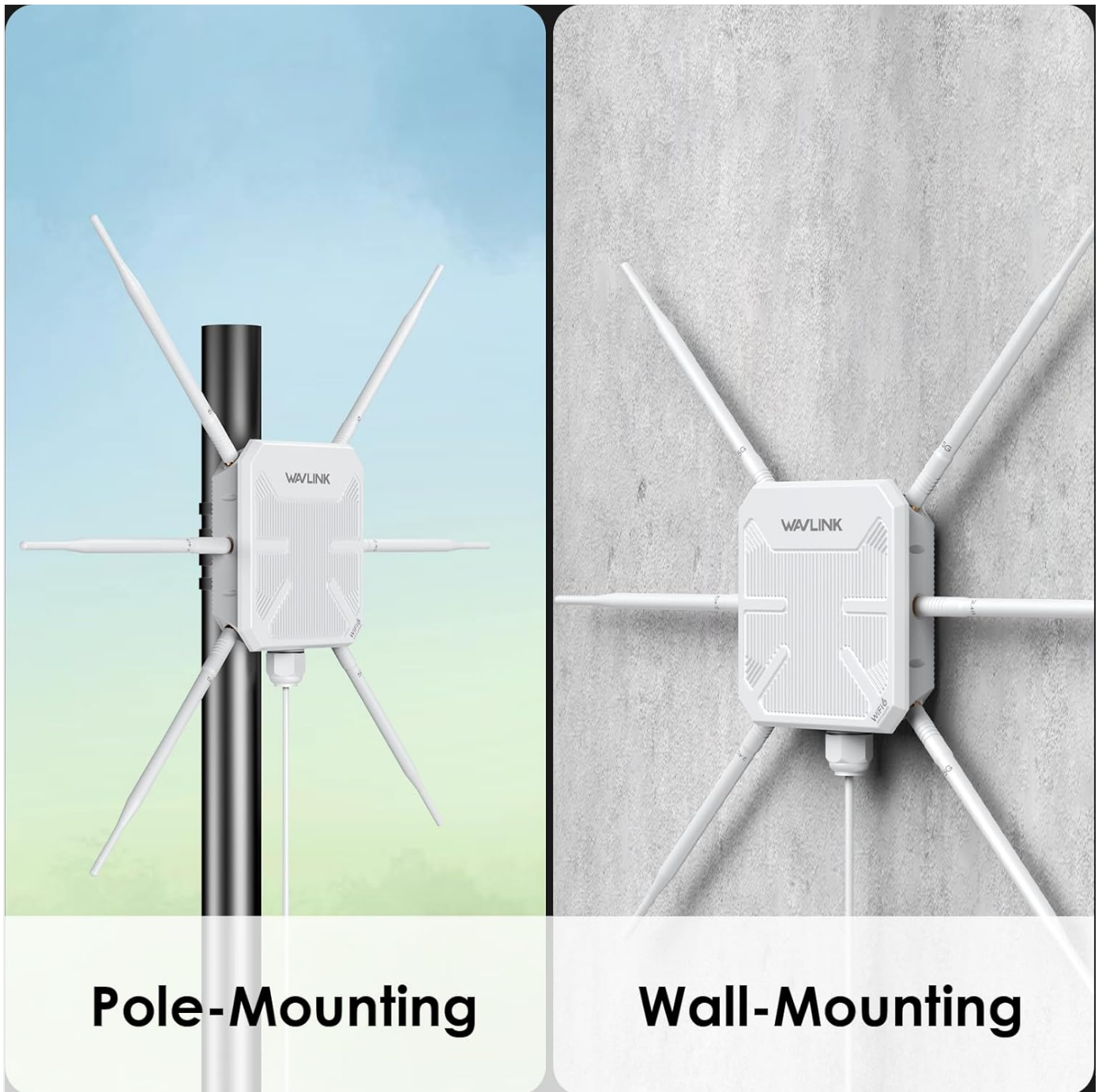


Image: The device is shown mounted on a pole during rainfall, demonstrating its waterproof capabilities in adverse weather.

7. TECHNICAL SPECIFICATIONS

| Specification | Detail |
|--------------------|--|
| Model Number | WN588HX3 |
| Product Dimensions | 2.36 x 9.45 x 12.6 inches |
| Item Weight | 2.2 pounds |
| Wireless Standard | WiFi 6 (802.11ax) |
| Frequency Bands | Dual Band (2.4GHz & 5GHz) |
| Max Data Rate | 3000Mbps (573Mbps on 2.4GHz, 2402Mbps on 5GHz) |

| Specification | Detail |
|--------------------------|---|
| Antennas | 6 x 7dBi Omnidirectional |
| PoE Support | Active (802.3AF/AT) & Passive PoE |
| Environmental Protection | IP67 Waterproof, 15kV ESD, 6kV Lightning Protection |
| Operating Temperature | -20–50 °C (-4–122 °F) |

8. TROUBLESHOOTING COMMON ISSUES

This section addresses frequently asked questions and common issues users may encounter with the WN588HX3.

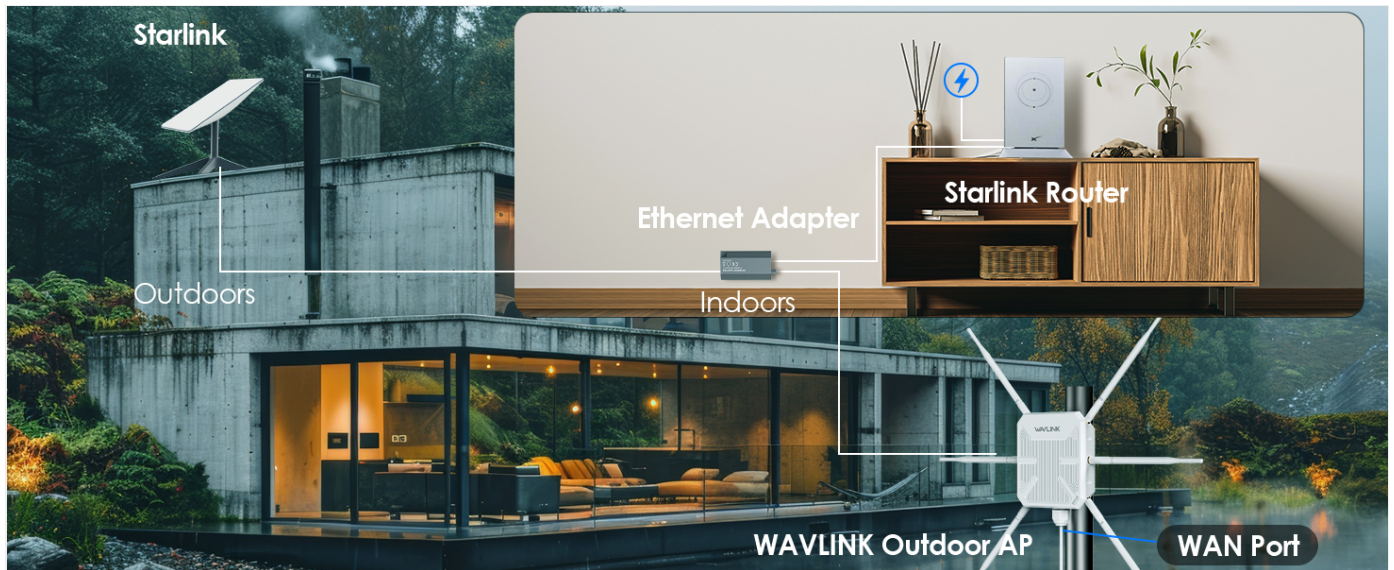


Image: A detailed Q&A section providing solutions for issues such as advertised distance not being reached, inability to repeat existing WiFi, and PoE compatibility.

Why the WiFi signal does not reach the advertised distance?

- Ensure there are no obstructions between the WAVLINK device and the target area. Obstacles can significantly limit performance.
- Install the WAVLINK device 2-3 meters higher than the ground for better performance.
- Confirm that the 2.4G antennas are installed on the 2.4G connectors and 5G antennas on the 5G connectors.

Why the device cannot repeat the existing WiFi signal?

- If your phone connects to the device but redirects to a webpage (Captive Portal), it means the WiFi signal is coming from a Captive Portal network, which cannot be repeated directly.
- When attempting to repeat an existing WiFi signal, ensure you enter the correct WiFi password.
- For 5G signal repetition, try to reduce wireless interference on the 5G channel.
- Ensure the MAC filter of the host router is disabled and DHCP is enabled.

9. SUPPORT AND WARRANTY INFORMATION

Customer Support

For any questions or technical assistance, please contact WAVLINK support:

- **Phone Support:** +18889730883 (UTC-5) Mon - Fri 9 AM - 6 PM
- **Email Support:** Contact@wavlink.com
- **Website:** www.wavlink.com

Solutions are typically provided within 8 hours, with lifelong technical support available. If special characters are needed for firmware, search for '588HX3' in Firmware on the Wavlink website to upgrade to the latest firmware.

Warranty

All WAVLINK products include a 90-day free return and refund service, and a 12-month warranty.

