



PowerBeam[®] **AC GEN2**

5 GHz High-Performance
airMAX[®] ac Bridge

Model: PBE-5AC-Gen2

QUICK START GUIDE

Introduction

Thank you for purchasing the Ubiquiti Networks® PowerBeam® AC Gen 2. This Quick Start Guide is designed to guide you through installation and includes warranty terms.

Package Contents



Dish Reflector



Antenna Feed



Rear Housing



Adjustment
Bracket



Mounting
Bracket



Hex Bolts with
Washers (Qty. 4)



Pole
Clamp



Long Carriage
Bolts (Qty. 2)



Flange Nuts
(Qty. 2)



Gigabit PoE
(24V, 0.5A) with
Mounting Bracket



Power Cord



Quick Start
Guide

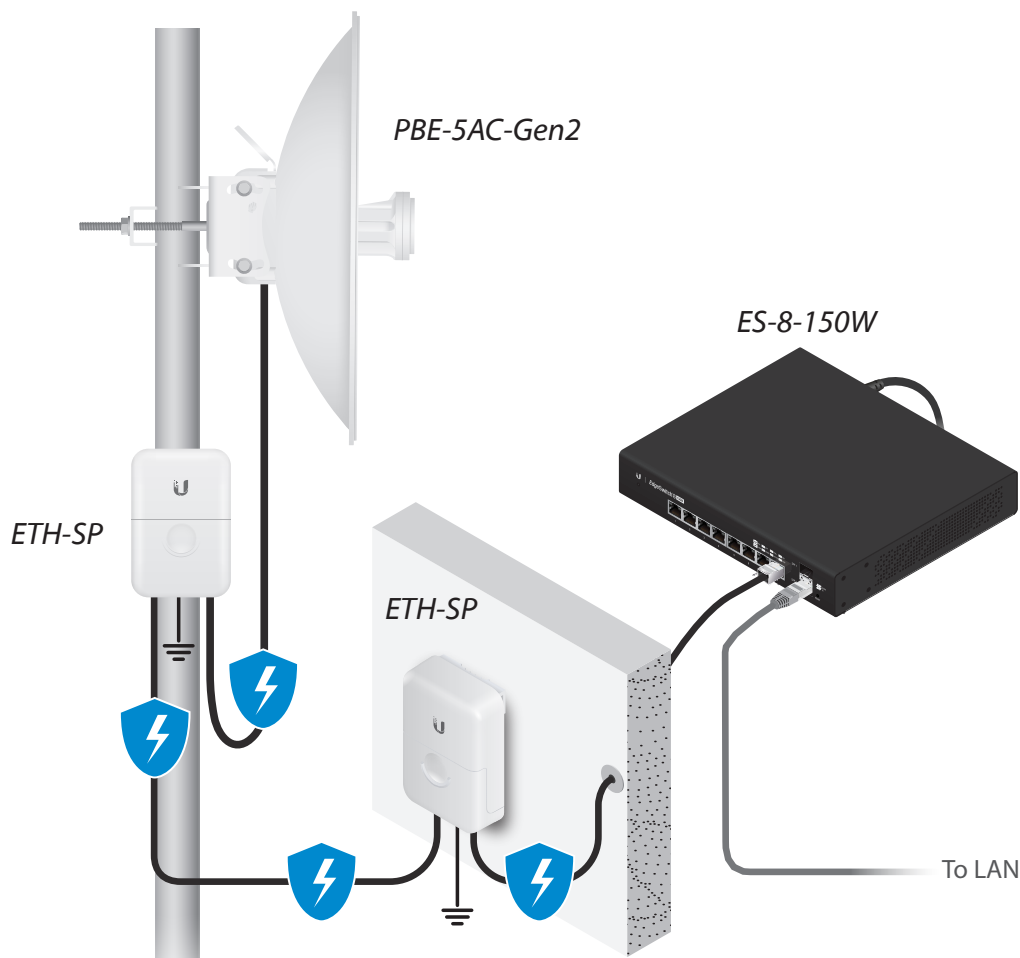
TERMS OF USE: Ubiquiti radio devices must be professionally installed. Shielded Ethernet cable and earth grounding must be used as conditions of product warranty. TOUGHCable™ is designed for outdoor installations. It is the professional installer's responsibility to follow local country regulations, including operation within legal frequency channels, output power, and Dynamic Frequency Selection (DFS) requirements.

Installation Requirements

- 13 mm wrench
- Shielded Category 5 (or above) cabling with drain wire should be used for all wired Ethernet connections and should be grounded through the AC ground of the PoE.

We recommend that you protect your networks from harmful outdoor environments and destructive ESD events with industrial-grade, shielded Ethernet cable from Ubiquiti Networks. For more details, visit **www.ubnt.com/toughcable**

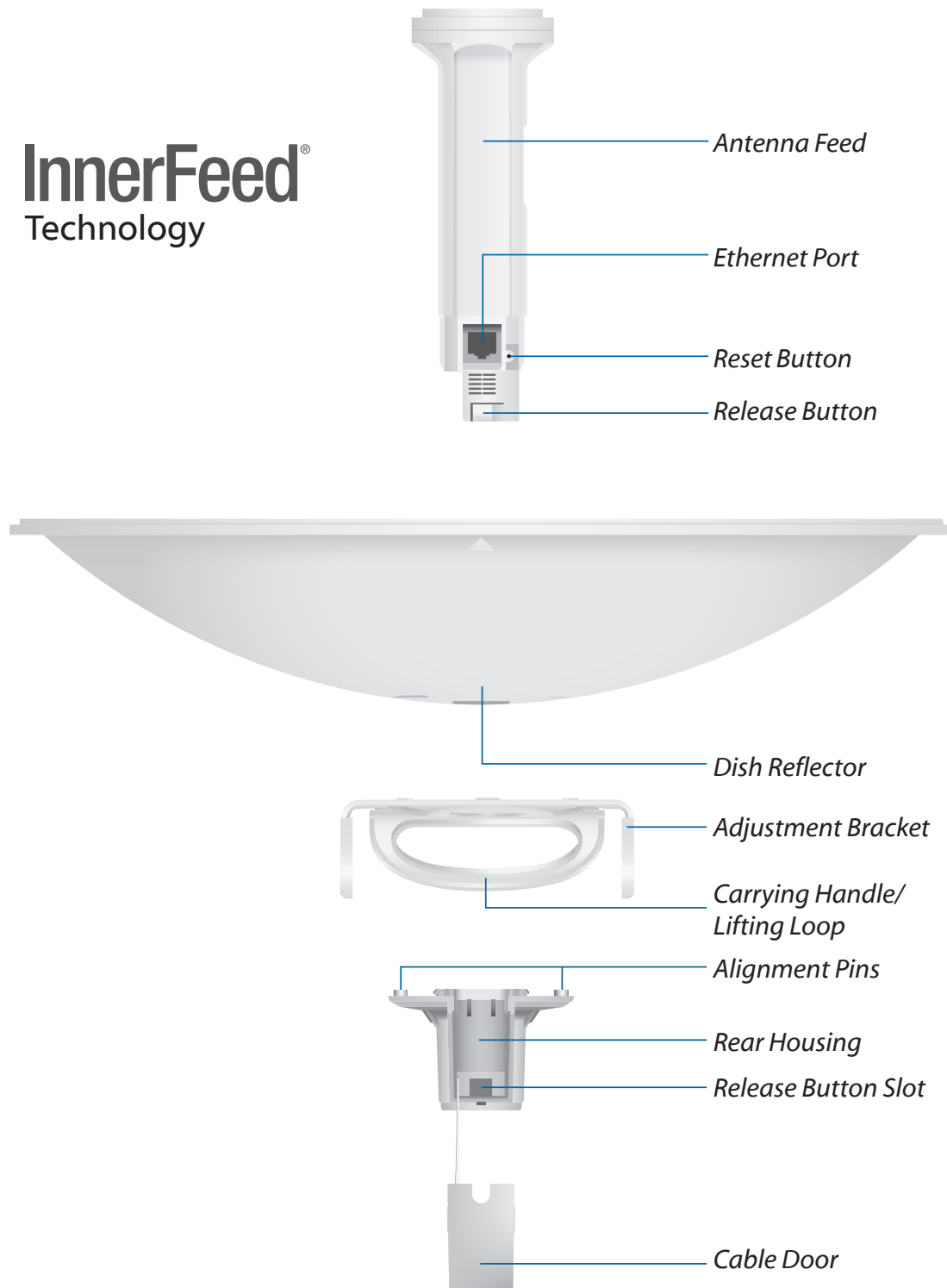
- Surge protection should be used for all outdoor installations. We recommend that you use two Ethernet Surge Protectors, model ETH-SP, one near the PowerBeam and the other at the entry point to the building. The ETH-SP will absorb power surges and safely discharge them into the ground.



Hardware Overview

Bottom View

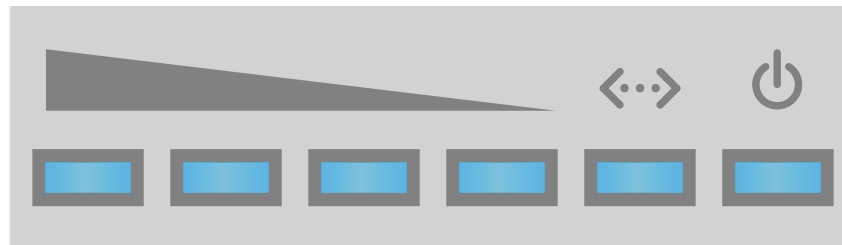
InnerFeed[®]
Technology



Reset Button To reset to factory defaults, press and hold the *Reset* button for more than 10 seconds while the PowerBeam is powered on. Alternatively, the PowerBeam may be reset remotely via a *Reset* button located on the bottom of the *Gigabit PoE Adapter*.

Release Button After you assemble the PowerBeam, check the *Release* button; it should be fully engaged in the *Release Button Slot* of the *Rear Housing*. This ensures that the *Antenna Feed* is locked into place. If you need to remove the *Antenna Feed*, you must depress the *Release* button first.

LEDs



Power The Power LED will light blue when the device is connected to a power source.

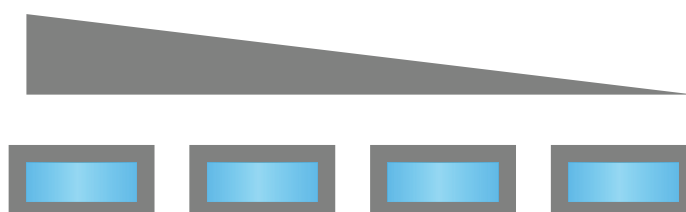


Ethernet The Ethernet LED will light steady blue when an active Ethernet connection is made and flash when there is activity.



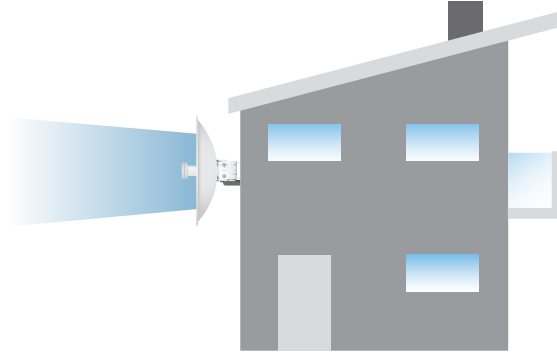
Signal In airOS®, you can modify the threshold value for the wireless signal strength LEDs on the *Wireless* tab under *Signal LED Thresholds*. Each LED will light when the wireless signal strength is equal to or greater than the LED's threshold value. The default threshold values for these LEDs are shown below:

-65 dBm -73 dBm -80 dBm -94 dBm

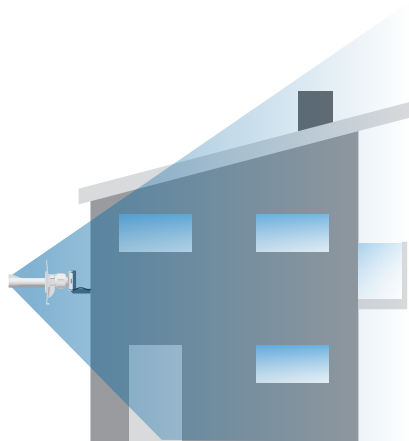


Application Examples

The PowerBeam mounted outdoors with the *Dish Reflector* installed provides directional outdoor coverage (gain is reflector-dependent).

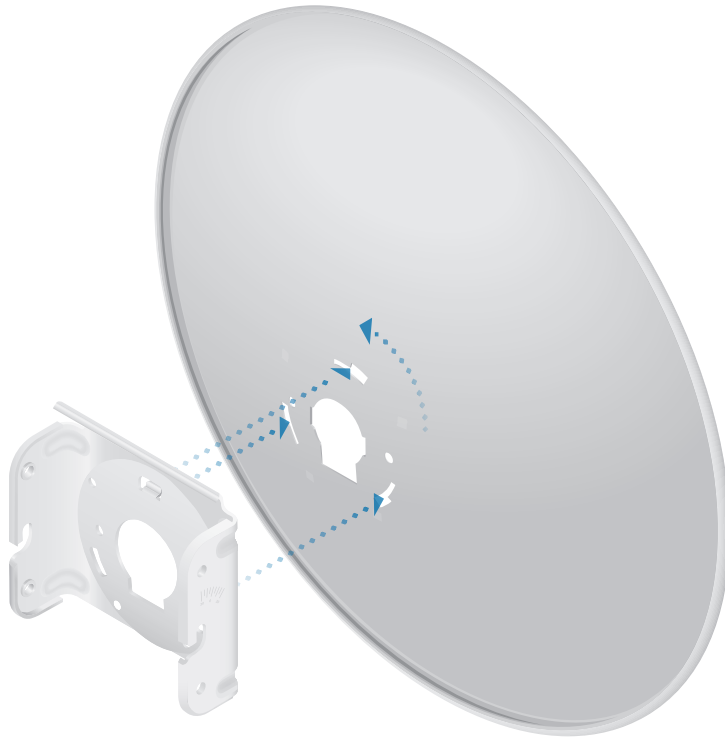


The PowerBeam mounted outdoors without the *Dish Reflector* installed provides outdoor-to-indoor coverage using the 3 dBi *Antenna Feed* only.



Installation

1. Align and insert the tabs of the *Adjustment Bracket* into the slots of the *Dish Reflector*. Rotate the *Adjustment Bracket* counterclockwise until the alignment holes in the dish and bracket align with each other.



2. Remove the *Antenna Feed* from the *Rear Housing*:
 - a. Push in the sides of the *Cable Door* and detach it from the *Rear Housing*. Keep the *Cable Door* detached.
 - b. Press the *Release Button* and slide the *Rear Housing* off of the *Antenna Feed*.



3. Line up the *Alignment Pins* of the *Rear Housing* with the alignment holes of the *Adjustment Bracket*. Push the *Rear Housing* into the *Adjustment Bracket*.



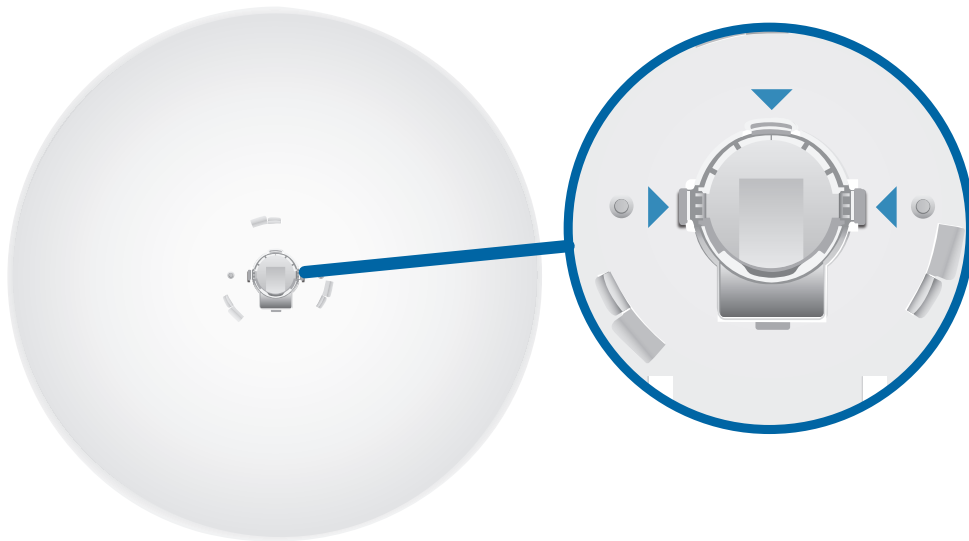
Note: In high-wind environments, you can add support with additional hardware (not included):

1. Using the four holes in the *Adjustment Bracket* as a template, drill four holes into the *Dish Reflector* with a 4.4 mm or 11/64" drill bit.
2. Secure the *Dish Reflector* to the *Adjustment Bracket* using M4 screws, washers, and nuts (not included).



640-00272-07

4. View the *Dish Reflector* from the front. Ensure that the three hooks (indicated below) of the *Rear Housing* are fully engaged with the inner wall of the *Dish Reflector* and locked into place.

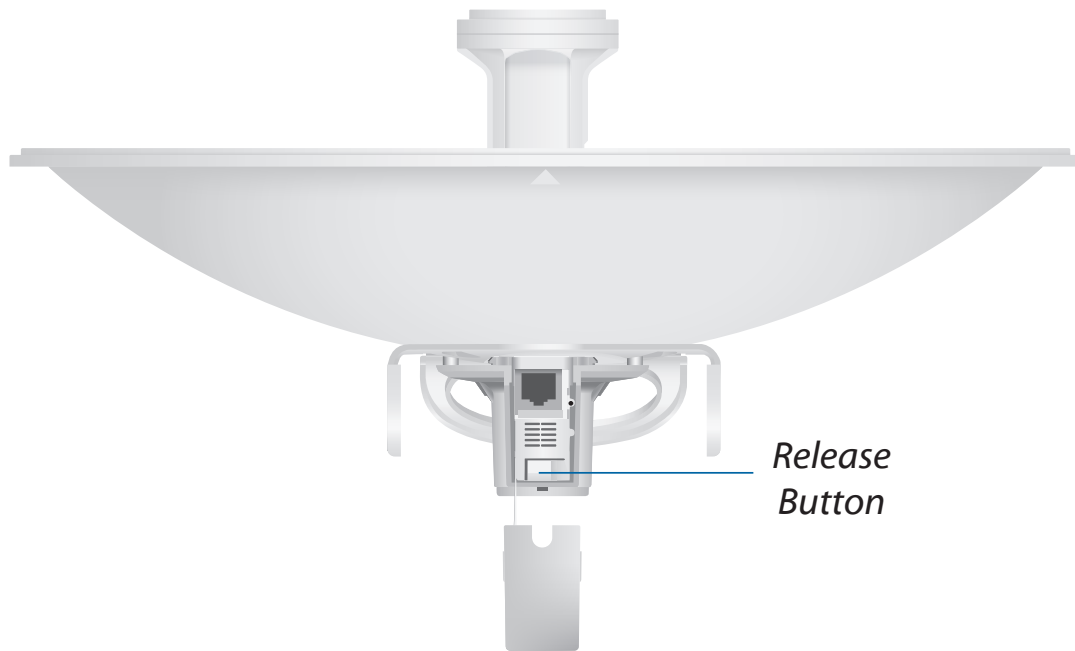


IMPORTANT: Before proceeding, lightly pull the *Rear Housing* to confirm that it is locked into place.

5. Attach the *Antenna Feed*.
 - a. Insert the *Antenna Feed* into the *Rear Housing*, and push until it locks into place with a click.



- b. Lightly pull the *Antenna Feed* to ensure that it is locked into place and the *Release Button* is fully engaged.

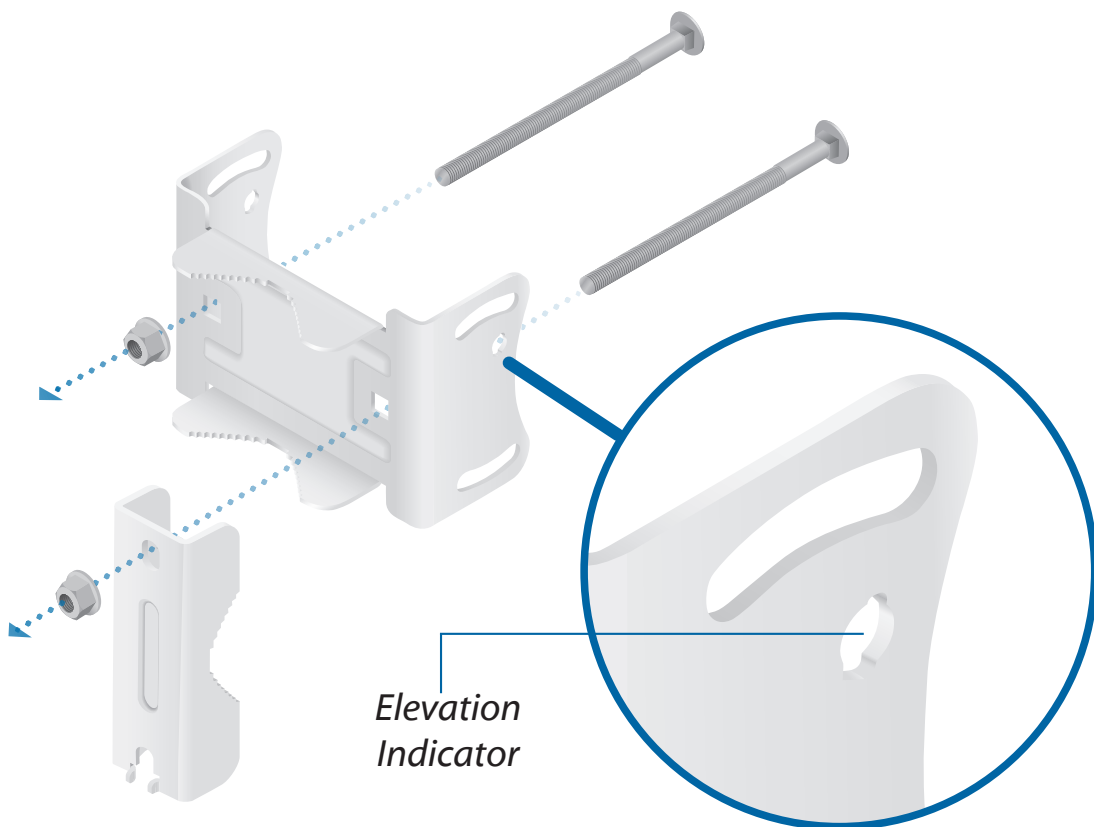


Bottom View

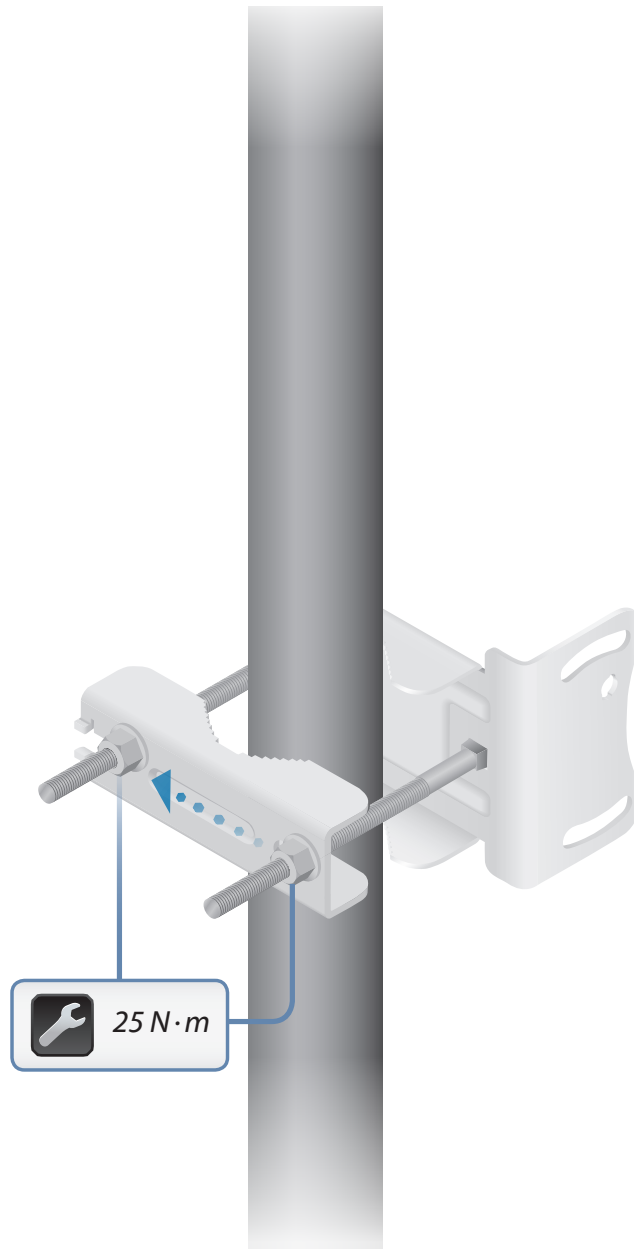
6. Connect an Ethernet cable to the *Ethernet Port* of the *Antenna Feed*. Then re-attach the *Cable Door* to the *Rear Housing*.



7. Attach the *Pole Clamp* to the *Mounting Bracket*.
- Hold the *Mounting Bracket* with its clamps facing you and the *Elevation Indicators* towards the top.
 - Insert the two *Long Carriage Bolts* through the holes of the *Mounting Bracket*.
 - Slide the hole of the *Pole Clamp* over one bolt of the *Mounting Bracket*.
 - Place one *Flange Nut* on each bolt.

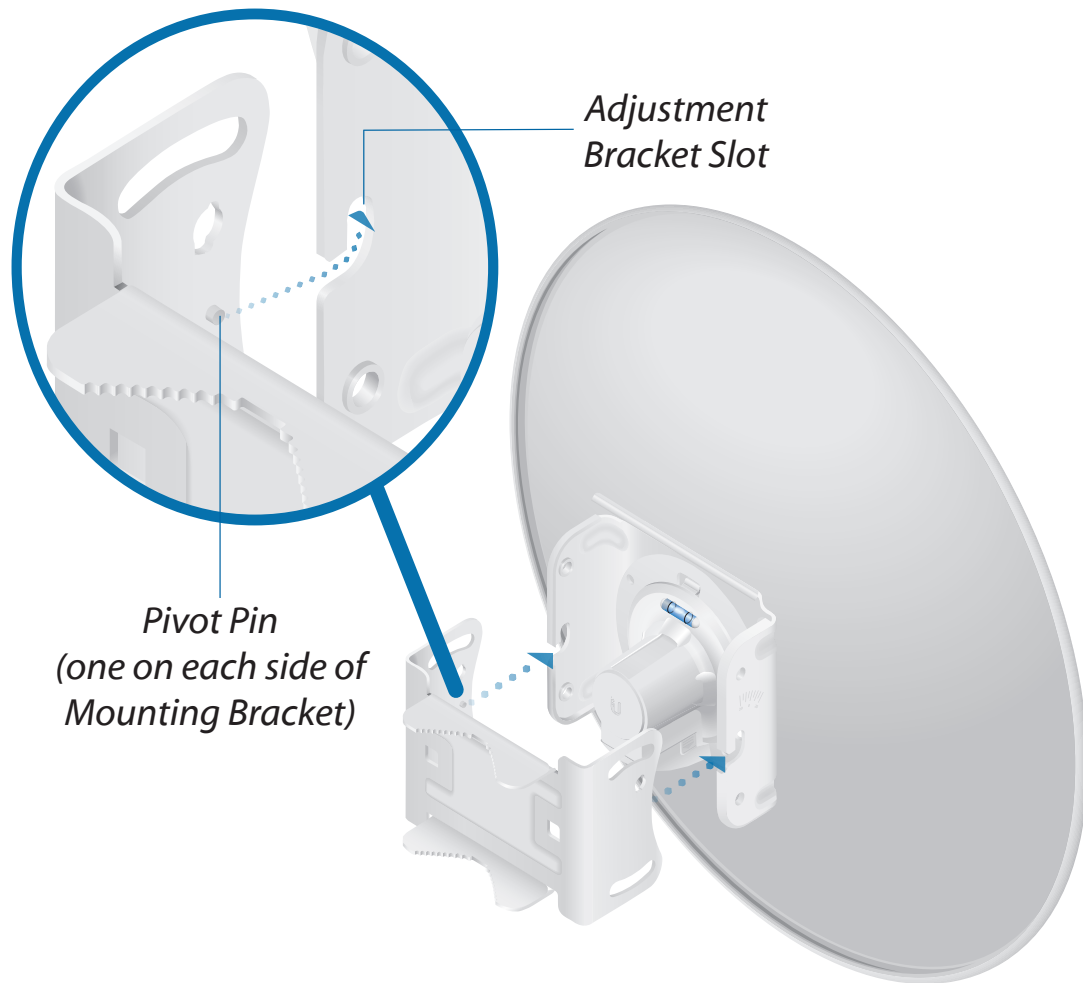


8. Mount the *Mounting Bracket* on the pole and secure it.
 - a. Place the *Mounting Bracket* against the pole.
 - b. Slide the slot of the *Pole Clamp* over the adjacent *Carriage Bolt*.
 - c. Tighten the *Flange Nuts* of the bolts to 25 N·m to secure the *Mounting Bracket* to the pole.

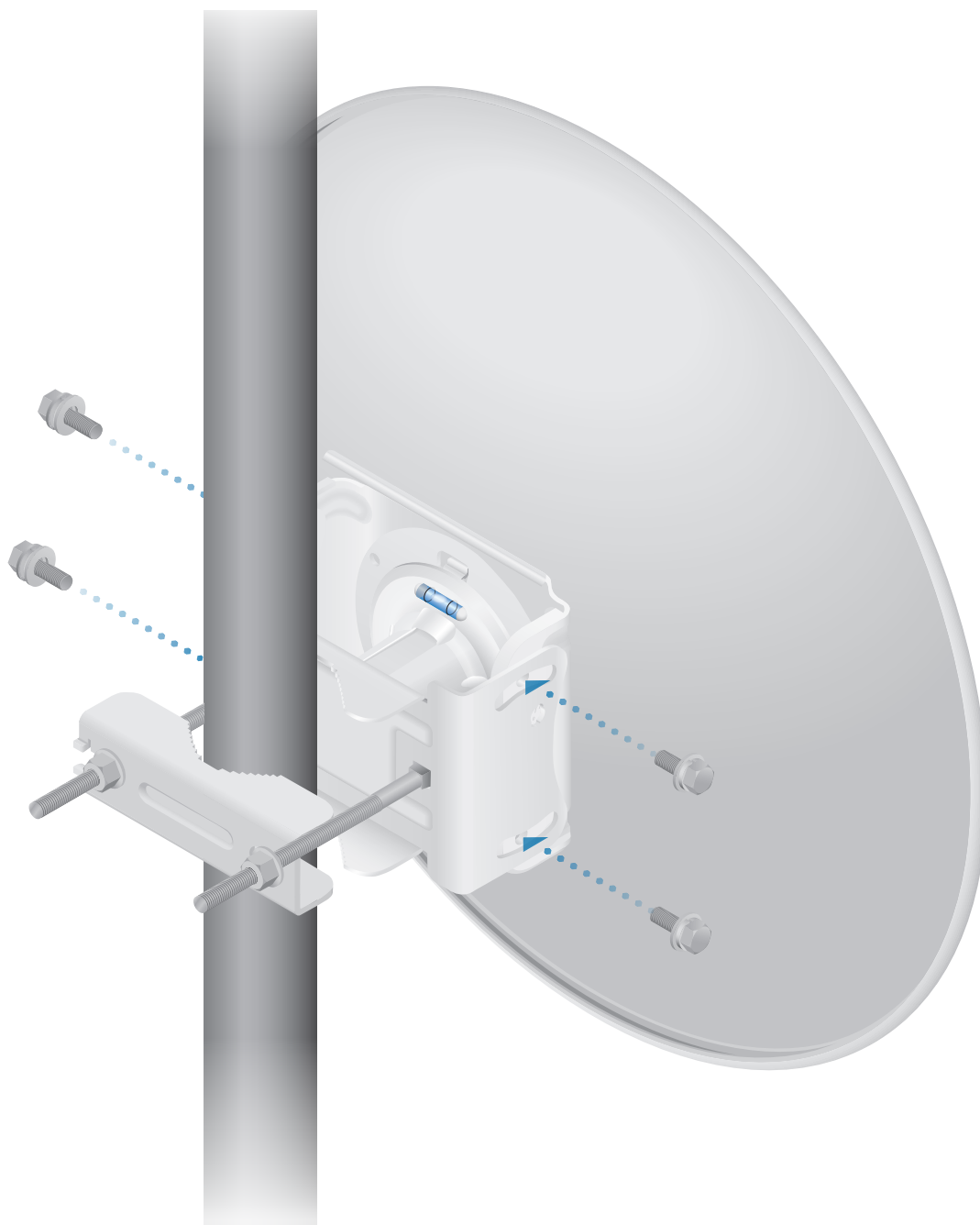


Note: The mounting assembly can accommodate a Ø 40 - 80 mm pole.

9. Locate the two slots on the *Adjustment Bracket* and the two pivot pins on the *Mounting Bracket*. Place the *Reflector Dish* with the attached *Mounting Bracket* onto the pivot pins, ensuring that they fit securely inside of the slots.

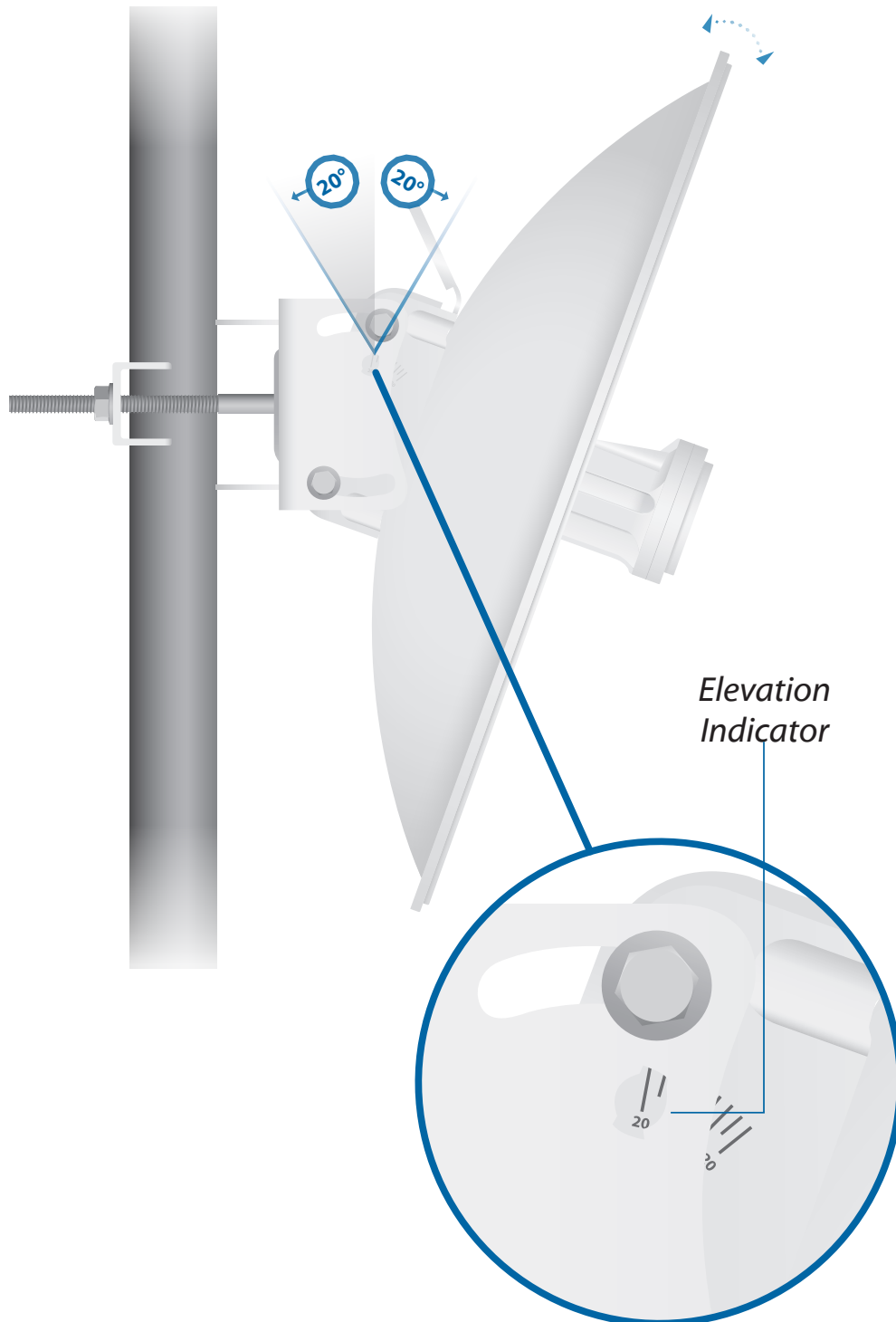


10. Install the four *Hex Bolts with Washers* into the *Mounting Bracket*. Do not tighten the four *Hex Bolts* completely.



11. Adjust the elevation angle.

- a. Pivot the antenna until the *Elevation Indicator* shows the desired elevation angle.
- b. Tighten the four *Hex Bolts* completely.



Connect the power using one of the following options:

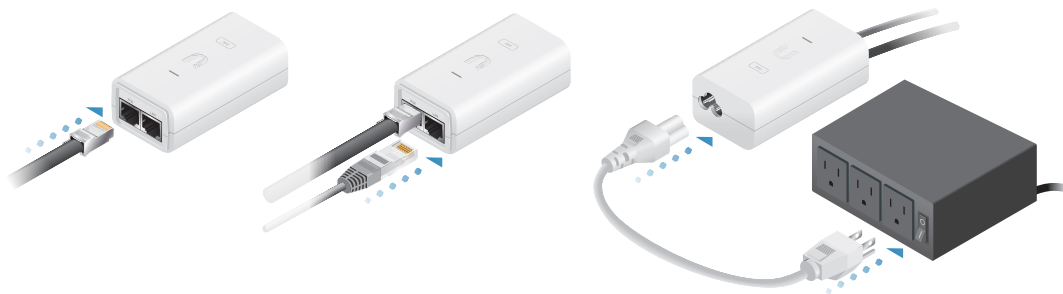
- Using the included *Gigabit PoE Adapter*: Go to *Connecting to the PoE Adapter*.
- Using a separate PoE switch: Connect the Ethernet cable from the PowerBeam's *Ethernet* port to a PoE-enabled Ethernet port on the switch.



WARNING: The switch port must comply with the power specifications listed in the *Specifications* section of this Quick Start Guide.

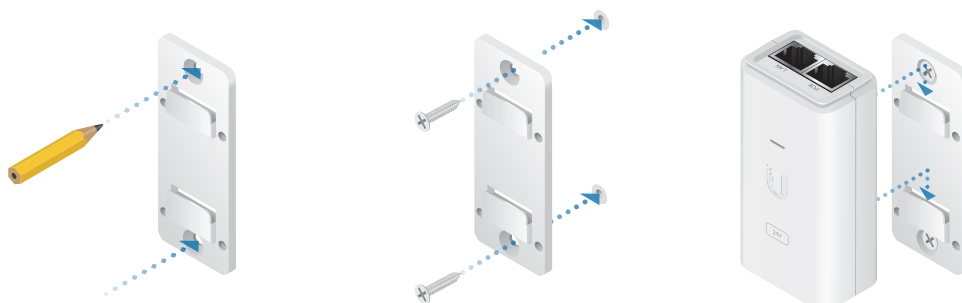
Connecting to the PoE Adapter

1. Connect the Ethernet cable from the PowerBeam's *Ethernet* port to the **POE** port of the *Gigabit PoE* adapter.
2. Connect an Ethernet cable from your LAN to the adapter's **LAN** port.
3. Connect the *Power Cord* to the adapter's power port. Connect the other end of the *Power Cord* to a power outlet.



Mounting the PoE Adapter (Optional)

1. Remove the *PoE Mounting Bracket* from the adapter, place the bracket at the desired location, and mark the two holes.
2. Pre-drill the holes if necessary, and secure the bracket using two fasteners (not included).
3. Align the adapter's slots with the tabs of the *PoE Mounting Bracket*, and then slide the adapter down.



Accessing airOS via Wi-Fi

Verify connectivity in the airOS Configuration Interface. There are two methods, the UNMS™ app and Web Portal. Both are available for 15 minutes immediately after you power on the PowerBeam. If necessary, you can power cycle the PowerBeam to re-enable its Wi-Fi.

Proceed to the appropriate instructions:

UNMS App

1. Download the UNMS app from the App Store (iOS) or Google Play™ (Android).

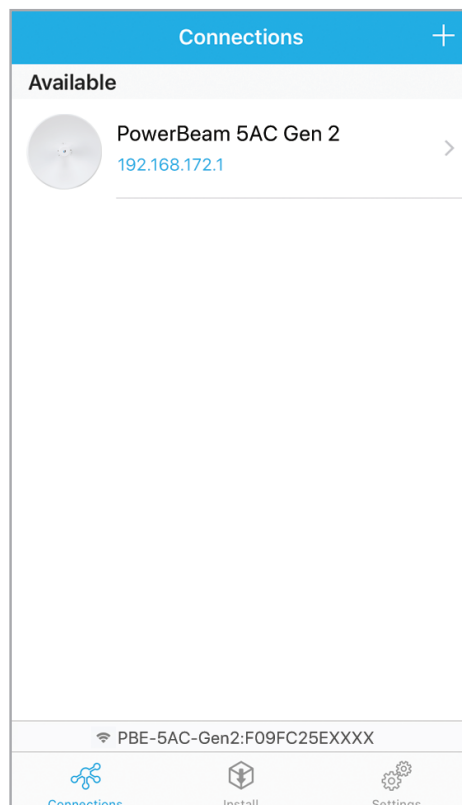


2. Connect your device's Wi-Fi to the PowerBeam SSID named: **PBE-5AC-Gen2:<MAC Address>**



Note: Ensure that DHCP is enabled on your Wi-Fi adapter.

3. Launch the app.
4. Tap the PowerBeam on the *Connections* screen.



5. Tap **Connect** on the *Login* screen.

← Login Connect

Name PowerBeam 5AC Gen 2

CONNECTION

Address 192.168.172.1

Port 443

Require HTTPS ☒

CREDENTIALS

Username ubnt

Password ••••

📶 PBE-5AC-Gen2-F09FC25EXXX

6. Select your *Country* and tap **Done**.

← Select Country

SELECTED COUNTRY

United Kingdom ✓

COUNTRIES

Argentina

Armenia

Aruba

Australia

Austria

Azerbaijan

Bahrain

Barbados

Belarus

Belgium

7. Customize your settings as needed.

Backup PowerBeam 5AC Gen 2 Apply

Wireless Network System

Wireless Mode Station PtP

WIRELESS

SSID www.ubnt.com

Select SSID...

Security None >

RADIO

Country United Kingdom

Channel Width Auto - 20/40/80 MHz

Control Frequency List Off >

ANTENNA

Antenna Built-In - 25 dBi

Status Configuration Tools Actions

Web Portal

1. Connect your device's Wi-Fi to the PowerBeam SSID named: **PBE-5AC-Gen2:<MAC Address>**



Note: Ensure that your Wi-Fi connection has DHCP enabled.

2. Launch a web browser and go to: **<http://setup.ubnt.com>**



3. Enter **ubnt** in the *Username* and *Password* fields. Select your *Country* and *Language*. You must agree to the *Terms of Use* to use the product. Click **Login**.

PowerBeam 5AC Gen2

Login

Please login to manage your wireless device.

Username
Username

Password
Password

Country
Select Your Country

Language
English

TERMS OF USE

This Ubiquiti Networks, Inc. radio device must be professionally installed. Properly installed shielded Ethernet cable and earth grounding must be used as conditions of product warranty. It is the installer's responsibility to follow local country regulations including operation within legal frequency channels, output power, and Dynamic Frequency Selection (DFS) requirements. You are responsible for keeping the unit working according to these rules. You must also read and agree to the terms of the UBIQUITI FIRMWARE LICENSE AGREEMENT in the link below before you can download or install or use the Ubiquiti aiOS™ Firmware.

[UBIQUITI FIRMWARE LICENSE AGREEMENT](#)

☐ I agree to these TERMS OF USE and the UBIQUITI FIRMWARE LICENSE AGREEMENT

LOGIN



Note: The *Country* setting for U.S. product versions is restricted to a choice of Canada, Puerto Rico, or the U.S. to ensure compliance with FCC/IC regulations.

The aiOS Configuration Interface will appear, allowing you to customize your settings as needed. For additional details on the aiOS Configuration Interface, refer to the User Guide available at **www.ubnt.com/download/airmax**

Installer Compliance Responsibility

Devices must be professionally installed and it is the professional installer's responsibility to make sure the device is operated within local country regulatory requirements.

The screenshot displays the Ubiquiti airOS 8 configuration interface for a POWERBEAM 5AC G2M2. The 'WIRELESS' tab is selected, showing various settings for the wireless network. The 'Basic Wireless Settings' section includes fields for WIRELESSMODE (Station PIP), SSID (ubnt), LOCK TO AP MAC, COUNTRY (United States), CHANNEL WIDTH (Auto 20/40/80 MHz), and CONTROL FREQUENCY SCAN LIST (OFF). The 'ANTENNA' dropdown is set to 'Feed only -3 dBi' and the 'OUTPUT POWER' slider is set to '24 dBm'. The 'Wireless Security' section shows SECURITY set to 'None'. The 'Signal LED Thresholds' section shows thresholds for LED0 (94), LED1 (80), LED2 (73), and LED3 (65). The 'Advanced' section shows AGGREGATION FRAMES set to 32 and SENSITIVITY THRESHOLD set to OFF. A 'SAVE CHANGES' button is located at the bottom right of the interface.

Since Ubiquiti Networks equipment can be paired with a variety of antennas and cables, the *Antenna* and *Output Power* fields are provided to the professional installer to assist in meeting regulatory requirements.

Specifications

PBE-5AC-Gen2	
Dimensions	420 x 420 x 230 mm (16.54 x 16.54 x 9.06")
Weight	2.22 kg (4.89 lb)
Gain	25 dBi
Networking Interface	(1) 10/100/1000 Ethernet Port
Processor	MIPS 74Kc
Enclosure Characteristics Antenna Feed Dish Reflector	Outdoor UV Stabilized Plastic Powder-Coated SPCC
Max. Power Consumption	8.5W
Max. TX Power	24 dBm
Power Supply	24V, 0.5A Gigabit PoE Adapter (Included)
Power Method	Passive PoE (Pairs 4, 5+; 7, 8 Return)
Supported Voltage Range	20 to 26VDC
Wind Loading	380 N @ 200 km/h (85.4 lbf @ 125 mph)
Wind Survivability	200 km/h (125 mph)
Mounting	Pole Mounting Kit Included
Operating Temperature	-40 to 70° C (-40 to 158° F)
Operating Humidity	5 to 95% Noncondensing
Shock and Vibrations	ETSI300-019-1.4
Certifications	CE, FCC, IC

Operating Frequency (MHz)				
Worldwide	5150 - 5875			
USA	U-NII-1: 5150 - 5250	U-NII-2A: 5250 - 5350	U-NII-2C: 5470 - 5725	U-NII-3: 5725 - 5850

Management Radio (MHz)	
Worldwide	2412 - 2472
USA	2412 - 2462

Safety Notices

1. Read, follow, and keep these instructions.
2. Heed all warnings.
3. Only use attachments/accessories specified by the manufacturer.



WARNING: Do not use this product in a location that can be submerged by water.



WARNING: Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.

Electrical Safety Information

1. Compliance is required with respect to voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source than those specified may result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.
2. There are no operator serviceable parts inside this equipment. Service should be provided only by a qualified service technician.
3. This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.
 - a. Do not substitute the power cord with one that is not the provided approved type. Never use an adapter plug to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.
 - b. The equipment requires the use of the ground wire as a part of the safety certification, modification or misuse can provide a shock hazard that can result in serious injury or death.
 - c. Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment.
 - d. Protective earthing is provided by Listed AC adapter. Building installation shall provide appropriate short-circuit backup protection.
 - e. Protective bonding must be installed in accordance with local national wiring rules and regulations.

CE Marking

CE marking on this product represents the product is in compliance with all directives that are applicable to it.



Country List



AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU
IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SE	SI	SK	UK

BFWA (Broadband Fixed Wireless Access) members noted in blue



Note: This device meets Max. TX power limit per ETSI regulations.

The following apply to products that operate in the 5 GHz frequency range:



Note: This device is restricted to indoor use only when operating in the 5150 - 5350 MHz frequency range within all member states.



Note: All countries listed may operate at 30 dBm. BFWA member states may operate at 36 dBm.



Note: Operation in the 5.8 GHz frequency band is prohibited in BFWA member states. Other countries listed may use the 5.8 GHz frequency band.