



## *airFiber*<sup>®</sup> X Antenna

5 GHz, Slant 45 Antenna for airFiber<sup>®</sup>

Model: AF-5G23-S45, AF-5G30-S45, AF-5G34-S45

Powerful Performance for Long-Range Links

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Robust Design and Construction for Outdoor Use

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Seamless Integration with airFiber Radio

# Overview

Pair an airFiber® X antenna with an airFiber X radio to create the endpoint of a high-performance, Point-to-Point (PtP) bridge or network backhaul (airFiber X radio sold separately).

The airFiber X antenna uses the 5 GHz frequency band and is available as the following models:

- AF-5G23-S45 (gain: 23 dBi)
- AF-5G30-S45 (gain: 30 dBi)
- AF-5G34-S45 (gain: 34 dBi)

Each model is compatible with the airFiber AF-5X, a 5 GHz Carrier Backhaul Radio.

## Powerful Performance

The airFiber X antenna delivers 2x2, dual-polarity performance. On the right is one example of how the airFiber X antenna with an airFiber X radio can be deployed in a backhaul link to deliver bandwidth from an ISP network out to a neighborhood tower. From there, an airMAX® Sector antenna with a Rocket™ radio delivers bandwidth to the ISP's customers.

## Carrier-Class Construction

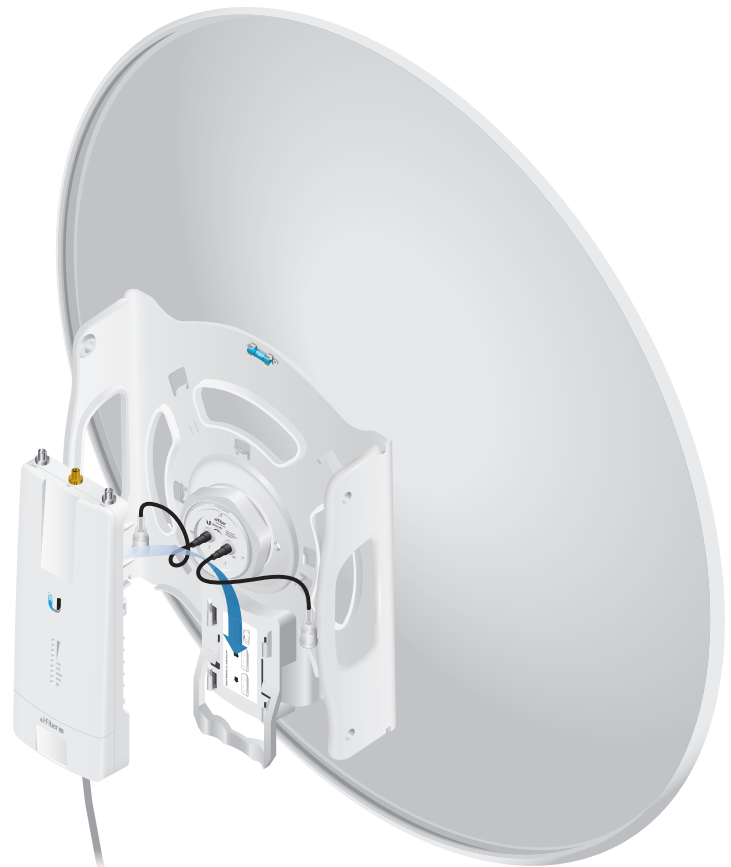
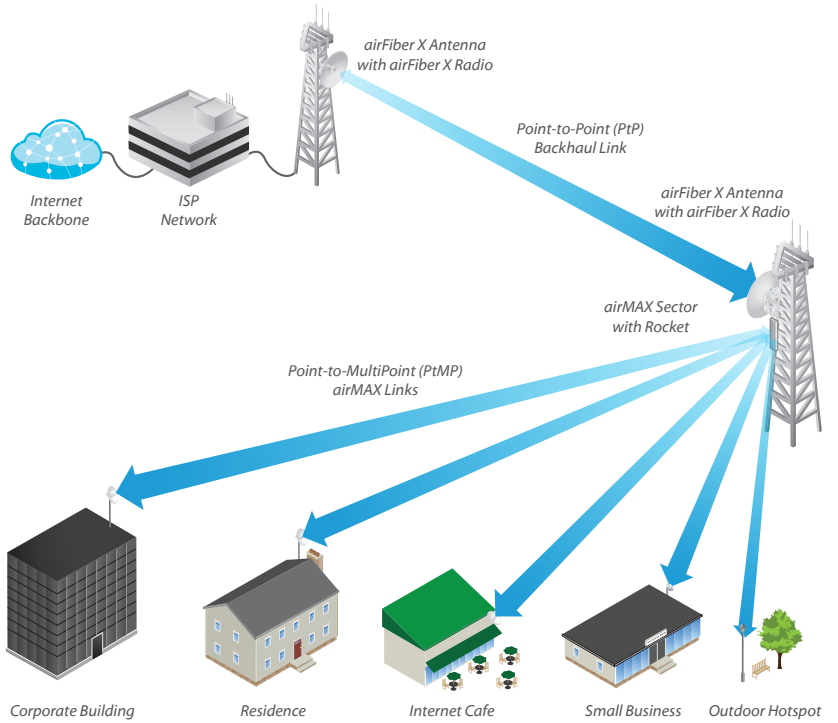
Incorporating a dish reflector design for excellent beam directivity, the airFiber X antennas feature robust mechanical design using industrial-strength hardware for outdoor application use.

## Plug and Play Integration

airFiber X antennas and airFiber X radios have been designed to seamlessly work together. Every airFiber X antenna has a built-in airFiber X radio mount, so installation requires no special tools.

Snap the airFiber X radio securely into place and mount the antenna; you then have the optimal combination of airFiber X antenna and airFiber X radio for your PtP application.

## Application Example



Mounting an airFiber X radio on the AF-5G30-S45

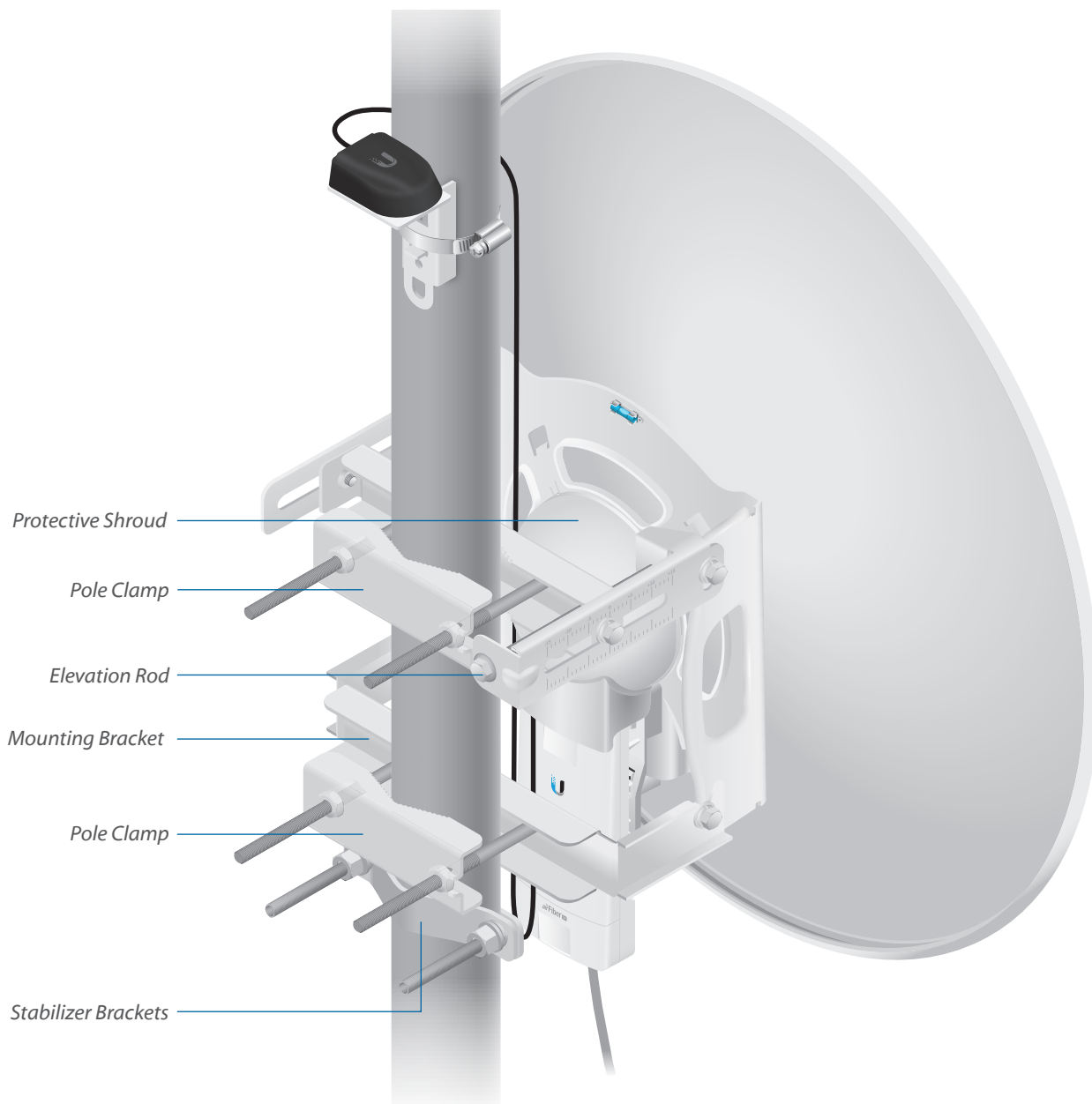
# Hardware Overview

## Innovative Mechanical Design

- **Secure Pole-Mounting** The hardware is designed to securely mount and maintain the position of the dish during harsh outdoor conditions.
- **Convenient Installation** The bubble level allows for easy alignment.
- **Precision Elevation Adjustment of the AF-5G30-S45** Use this new feature to quickly fine-tune and adjust the elevation.

## Weatherproof Design

- **Protective Shroud** The shroud protects the cables and connectors from nature's elements.
- **Mounting Hardware of the AF-5G30-S45** Made of galvanized steel that is powder-coated for superior corrosion resistance.
- **Fasteners of the AF-5G30-S45** GEOMET-coated for improved corrosion resistance when compared with zinc-plated fasteners.



Back View of the Fully Assembled AF-5G30-S45

## Models

The 5 GHz frequency band is free to use, worldwide, offers plentiful spectrum, and works well for long-distance links. However, 5 GHz signals have more difficulty passing through obstacles than lower-frequency signals.



Model	Frequency	Gain
AF-5G23-S45	5 GHz	23 dBi

Housed in a compact form factor, the AF-5G23-S45 offers 23 dBi of gain and features the following advantages:

- Low sidelobes reduce interference from other transmitters in the area.
- High isolation enhances performance for co-location in tower-mounted installations.
- The low-profile design with integrated radome reduces wind-loading.



Model	Frequency	Gain
AF-5G30-S45	5 GHz	30 dBi

The AF-5G30-S45 offers 30 dBi of gain and features the following advantages:

- Lightweight yet robust components lessen the load.
- The extended depth of the dish reflector rejects noise interference in co-location deployments.
- The design of the mounting bracket allows for ease of installation on a pole or tower.



Model	Frequency	Gain
AF-5G34-S45	5 GHz	34 dBi

The AF-5G34-S45 offers 34 dBi of gain in a 1050-mm diameter size.

IsoBeam™

Model: ISO-BEAM-620



The IsoBeam™ is an isolator radome that is available as an optional accessory for the AF-5G30-S45 and other dish antenna models:

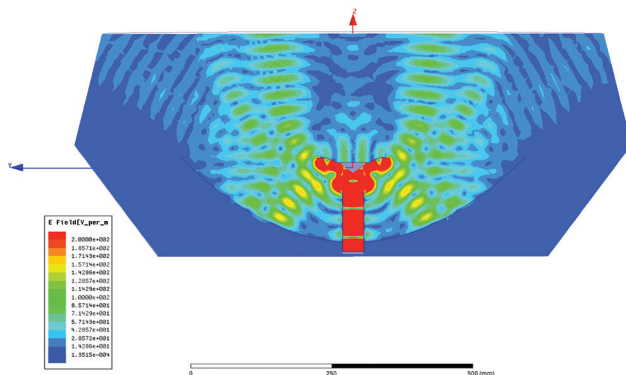
- RocketDish® RD-5G30-LW
- PowerBeam™ PBE-5AC-620
- PowerBeam PBE-M5-620

The innovative RF-choke perimeter of the IsoBeam delivers superior noise immunity in co-location deployments; its perimeter corrugation provides enhanced RF shielding. Compare the two near-field plots below, and note the breakthrough isolation performance of the IsoBeam.

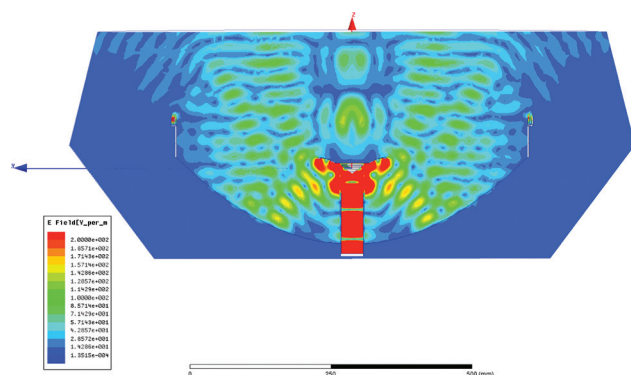
Both near-field plots are displayed in watts and use a linear scale. The strength of the electromagnetic field is color-coded:

- Red: Highest strength
- Green: Medium strength
- Indigo: Lowest strength

Without IsoBeam

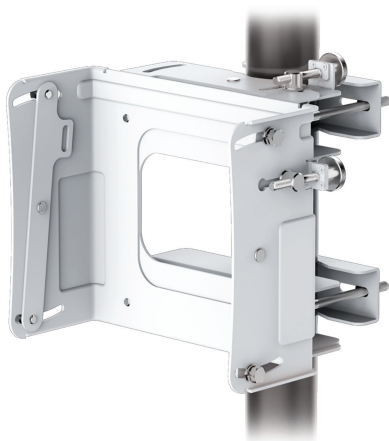


With IsoBeam



Precision Alignment Kit

Model: PAK-620



The Precision Alignment Kit is available as an optional accessory for the AF-5G30-S45. It features 15° of azimuth adjustment and 15° of elevation adjustment to enable extremely accurate aiming for optimal PtP link performance.

The Precision Alignment Kit is also compatible with other dish antenna models:

- RocketDish RD-5G30-LW
- PowerBeam PBE-5AC-620
- PowerBeam PBE-M5-620

# Specifications

Antenna Characteristics			
Model	AF-5G23-S45	AF-5G30-S45	AF-5G34-S45
Dimensions*	378 x 378 x 290 mm (14.88 x 14.88 x 11.42")	650 x 650 x 386 mm (25.6 x 25.6 x 15.2")	1050 x 1050 x 421 mm (41.34 x 41.34 x 16.57")
Weight**	3.4 kg (7.5 lb)	7.4 kg (16.31 lb)	13.5 kg (29.76 lb)
Frequency Range	5.1 - 5.9 GHz	5.1 - 5.9 GHz	5.1 - 5.8 GHz
Gain	23 dBi	30 dBi	34 dBi
+ 45° Beamwidth	10° (3 dB)	5.8° (3 dB)	3° (3 dB)
- 45° Beamwidth	10° (3 dB)	5.8° (3 dB)	3° (6 dB)
F/B Ratio	30 dB	30 dB	42 dB
Max. VSWR	1.5:1	1.6:1	1.4:1
Wind Loading	190 N @ 200 km/h (43 lbf @ 125 mph)	790 N @ 200 km/h (178 lbf @ 125 mph)	1,779 N @ 200 km/h (400 lbf @ 125 mph)
Wind Survivability	200 km/h (125 mph)		
Polarization	Dual-Linear		
Cross-pol Isolation	35 dB Min.		
ETSI Specification	EN 302 326 DN2		
Mounting	Universal Pole Mount, airFiber X Radio Bracket, and Weatherproof RF Connectors Included		

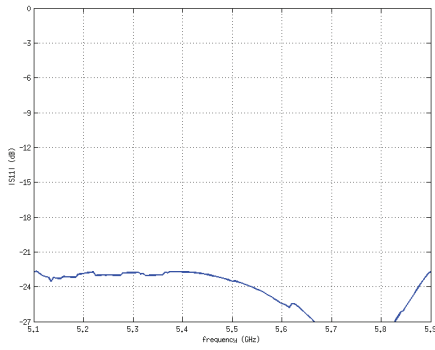
\* Dimensions exclude pole mount and airFiber X radio (airFiber X radio sold separately)

\*\* Weight includes pole mount and excludes airFiber X radio (airFiber X radio sold separately)

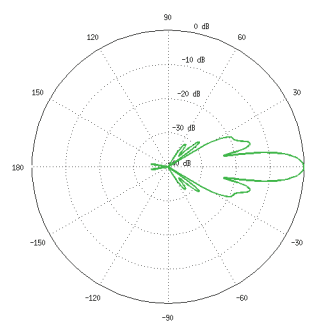


## AF-5G23-S45 Antenna Information

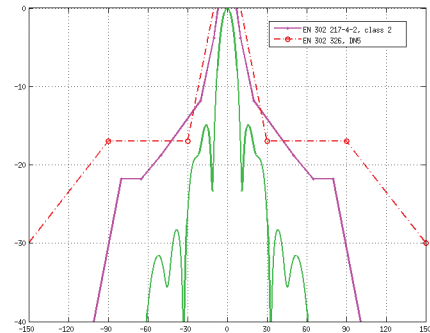
Return Loss



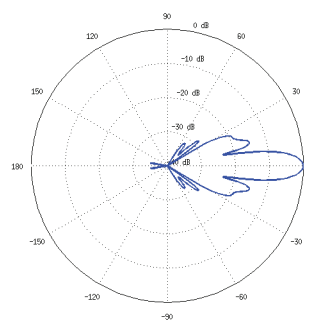
E-Plane, 5500 MHz



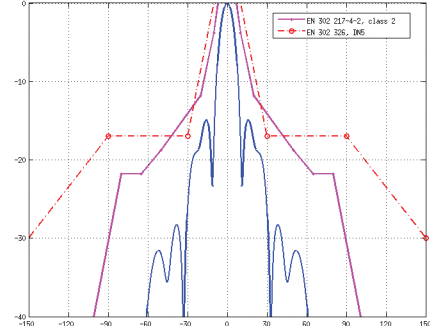
E-Plane Specs



H-Plane, 5500 MHz

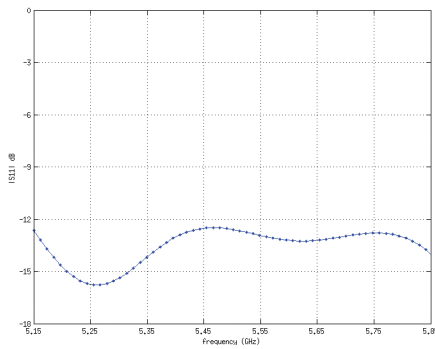


H-Plane Specs

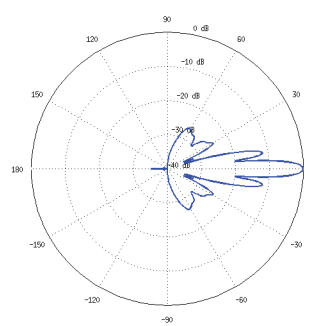


## AF-5G30-S45 Antenna Information

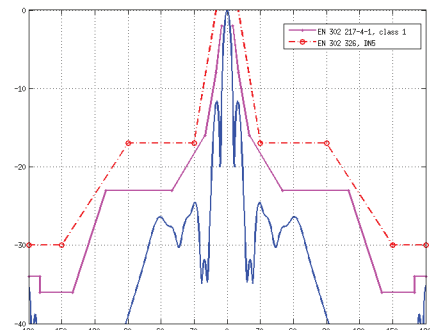
Return Loss



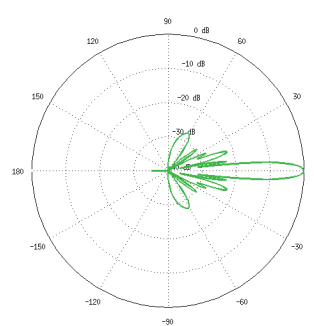
E-Plane, 5500 MHz



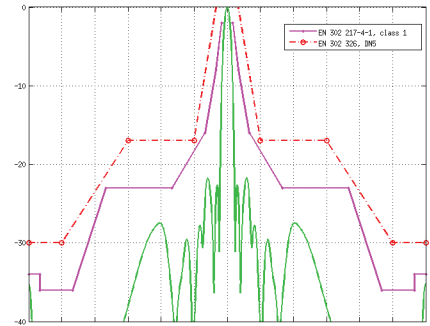
E-Plane Specs



H-Plane, 5500 MHz

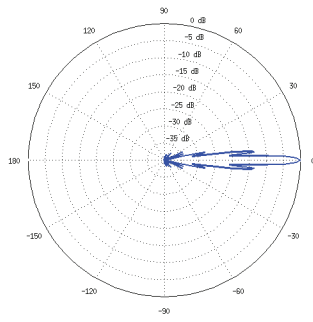


H-Plane Specs

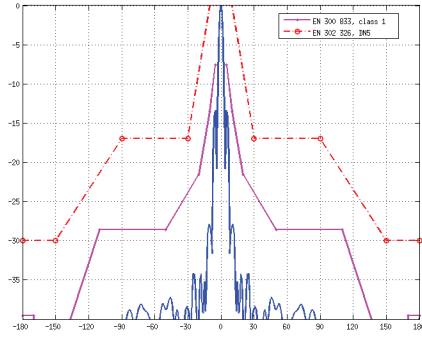


# AF-5G34-S45 Antenna Information

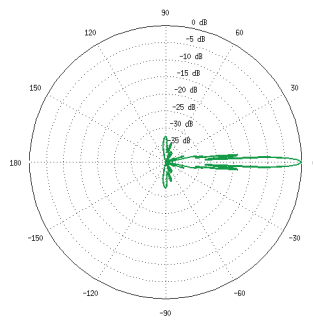
E-Plane, 5500 MHz



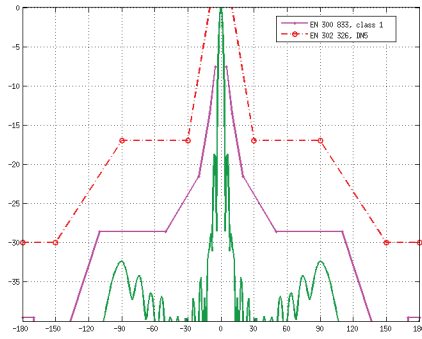
E-Plane Specs



H-Plane, 5500 MHz



H-Plane Specs



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