Slant 45 Antenna for airFiber®

Model: AF-2G24-S45, AF-3G26-S45, AF-5G23-S45, AF-5G30-S45, AF-5G34-S45

Powerful Performance for Long-Range Links

Robust Design and Construction for Outdoor Use

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 for the following frequency bands:

- 2.4 GHz
- 3 GHz
- 4 GHz
- 5 GHz

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 as endpoints in a backhaul link to deliver bandwidth from a WISP network out to a neighborhood tower. From there, an airMAX® Sector antenna with a Rocket® radio delivers bandwidth to the WISP’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.
Hardware Overview

Innovative Mechanical Design

- **Secure Pole-Mounting** Maintains the position of the dish during harsh outdoor conditions.
- **Low-Profile Form Factor of the AF-5G23-S45** Reduces wind-loading.

Weatherproof Design

- **Protective Shroud** Protects the cables and connectors from the elements.
- **Integrated Radome of the AF-5G23-S45** Shields the radio from the environment.

Advanced RF Isolation Design

**Model: AF-5G23-S45**

The innovative industrial design improves RF isolation to significantly reduce interference and deliver superior gain for high-capacity, multipoint networks.

The near-field plot of the AF-5G23-S45 is displayed in watts and uses a linear scale. The strength of the electromagnetic field is color-coded:

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

The airFiber X supports ± 45° slant polarization for improved noise immunity and Signal-to-Noise Ratio (SNR). The compact form factor of the airFiber X allows it to fit into the radio mount of Ubiquiti antennas, so installation requires no special tools.

The airFiber X antennas are purpose-built with 45° slant polarity for seamless integration with the airFiber X.

**airFiber™ X Antenna**

**2.4 GHz Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency</th>
<th>Gain</th>
<th>Radome*</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF-2G24-S45</td>
<td>2.4 GHz</td>
<td>24 dBi</td>
<td>RAD-RD2</td>
</tr>
</tbody>
</table>

The AF-2G24-S45 offers 24 dBi of gain in a 650-mm diameter size.

**airFiber™ X Antenna**

**3 GHz Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency</th>
<th>Gain</th>
<th>Radome*</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF-3G26-S45</td>
<td>3 GHz</td>
<td>26 dBi</td>
<td>RAD-RD2</td>
</tr>
</tbody>
</table>

The AF-3G26-S45 offers 26 dBi of gain in a 650-mm diameter size.
Housed in a compact form factor (378-mm diameter size), 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.

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency</th>
<th>Gain</th>
<th>Radome</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF-5G23-S45</td>
<td>5.1 - 5.9 GHz</td>
<td>23 dBi</td>
<td>Integrated</td>
</tr>
</tbody>
</table>

The AF-5G30-S45 offers up to 30 dBi of gain in a 650-mm diameter size.

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency</th>
<th>Gain</th>
<th>Radome</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF-5G30-S45</td>
<td>4.9 - 5.9 GHz</td>
<td>26 - 30 dBi</td>
<td>ISO-BEAM-620</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency</th>
<th>Gain</th>
<th>Radome</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF-5G34-S45</td>
<td>4.9 - 5.8 GHz</td>
<td>30 - 34 dBi</td>
<td>RAD-RD3</td>
</tr>
</tbody>
</table>

1 Check your local/regional regulations for the maximum antenna gain allowed for your application.

2 A radome is available as an optional accessory.
**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

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**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

<table>
<thead>
<tr>
<th>Antenna Characteristics</th>
<th>Model</th>
<th>AF-2G24-S4S</th>
<th>AF-3G26-S4S</th>
<th>AF-5G23-S45</th>
<th>AF-5G30-S45</th>
<th>AF-5G34-S45</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td></td>
<td>AF-2G24-S4S</td>
<td>AF-3G26-S4S</td>
<td>AF-5G23-S45</td>
<td>AF-5G30-S45</td>
<td>AF-5G34-S45</td>
</tr>
<tr>
<td>Dimensions*</td>
<td>ø 650 x 295 mm</td>
<td>ø 650 x 300 mm</td>
<td>ø 378 x 290 mm</td>
<td>ø 650 x 386 mm</td>
<td>ø 1050 x 421 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ø 25.59 x 11.61&quot;)</td>
<td>(ø 25.59 x 11.81&quot;)</td>
<td>(ø 14.88 x 11.42&quot;)</td>
<td>(ø 25.59 x 15.20&quot;)</td>
<td>(ø 41.34 x 16.57&quot;)</td>
<td></td>
</tr>
<tr>
<td>Weight**</td>
<td>9.8 kg (21.61 lb)</td>
<td>9.8 kg (21.61 lb)</td>
<td>3.4 kg (7.50 lb)</td>
<td>7.4 kg (16.31 lb)</td>
<td>13.5 kg (29.76 lb)</td>
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</tr>
<tr>
<td>Frequency Range</td>
<td>2.3 - 2.7 GHz</td>
<td>3.3 - 3.8 GHz</td>
<td>5.1 - 5.9 GHz</td>
<td>4.9 - 5.9 GHz</td>
<td>4.9 - 5.8 GHz</td>
<td></td>
</tr>
<tr>
<td>Gain</td>
<td>24 dBi</td>
<td>26 dBi</td>
<td>23 dBi</td>
<td>24.9 GHz: 26 dBi</td>
<td>4.9 GHz: 30 dBi</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 - 5.9 GHz: 30 dBi</td>
<td>5 - 5.8 GHz: 34 dBi</td>
<td></td>
</tr>
<tr>
<td>+ 45° Beamwidth</td>
<td>6.6° (3 dB)</td>
<td>7° (3 dB)</td>
<td>10° (3 dB)</td>
<td>5.8° (3 dB)</td>
<td>3° (3 dB)</td>
<td></td>
</tr>
<tr>
<td>- 45° Beamwidth</td>
<td>6.8° (3 dB)</td>
<td>7° (3 dB)</td>
<td>10° (3 dB)</td>
<td>5.8° (3 dB)</td>
<td>3° (3 dB)</td>
<td></td>
</tr>
<tr>
<td>Max. VSWR</td>
<td>1.6:1</td>
<td>1.4:1</td>
<td>1.5:1</td>
<td>1.6:1</td>
<td>1.4:1</td>
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</tr>
<tr>
<td>Wind Loading</td>
<td>878 N @ 200 km/h (177 lbf @ 125 mph)</td>
<td>878 N @ 200 km/h (177 lbf @ 125 mph)</td>
<td>190 N @ 200 km/h (43 lbf @ 125 mph)</td>
<td>790 N @ 200 km/h (178 lbf @ 125 mph)</td>
<td>1,779 N @ 200 km/h (400 lbf @ 125 mph)</td>
<td></td>
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<tr>
<td>Wind Survivability</td>
<td>200 km/h (125 mph)</td>
<td></td>
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<tr>
<td>Cross-pol Isolation</td>
<td>35 dB Min.</td>
<td></td>
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<td>ETSI Specification</td>
<td>EN 302 326 DN2</td>
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<tr>
<td>Mounting</td>
<td>Universal Pole Mount, airFiber X Radio Bracket, and Weatherproof RF Connectors Included</td>
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</tbody>
</table>

* 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)
Datasheet

AF-2G24-S45 Antenna Information

**Return Loss**

**Vertical Azimuth**

**Vertical Elevation**

**Horizontal Azimuth**

**Horizontal Elevation**

AF-3G26-S45 Antenna Information

**Return Loss**

**Azimuth, 3550 MHz**

**Azimuth Specs**

**Elevation, 3550 MHz**

**Elevation Specs**
AF-5G23-S45 Antenna Information

Return Loss

Azimuth, 5500 MHz

Azimuth Specs

Elevation, 5500 MHz

Elevation Specs

AF-5G30-S45 Antenna Information

Return Loss

Azimuth, 5500 MHz

Azimuth Specs

Elevation, 5500 MHz

Elevation Specs
AF-5G34-S45 Antenna Information

Azimuth, 5500 MHz

Elevation, 5500 MHz

Azimuth Specs

Elevation Specs