DATASHEET

airFiber® X Antenna

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

UBIQUITI®
NETWORKS

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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

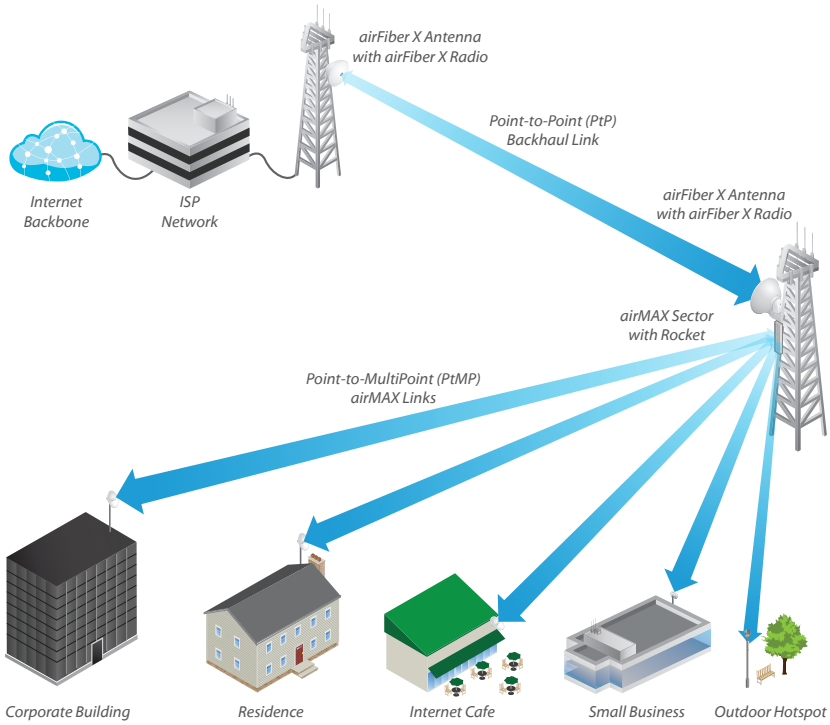
Incorporating a dish reflector design for excellent beam directivity, the airFiber X antennas feature robust mechanical design using industrial-strength hardware for outdoor application use.

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.

Application Example



Mounting the AF-5X on the AF-5G23-S45

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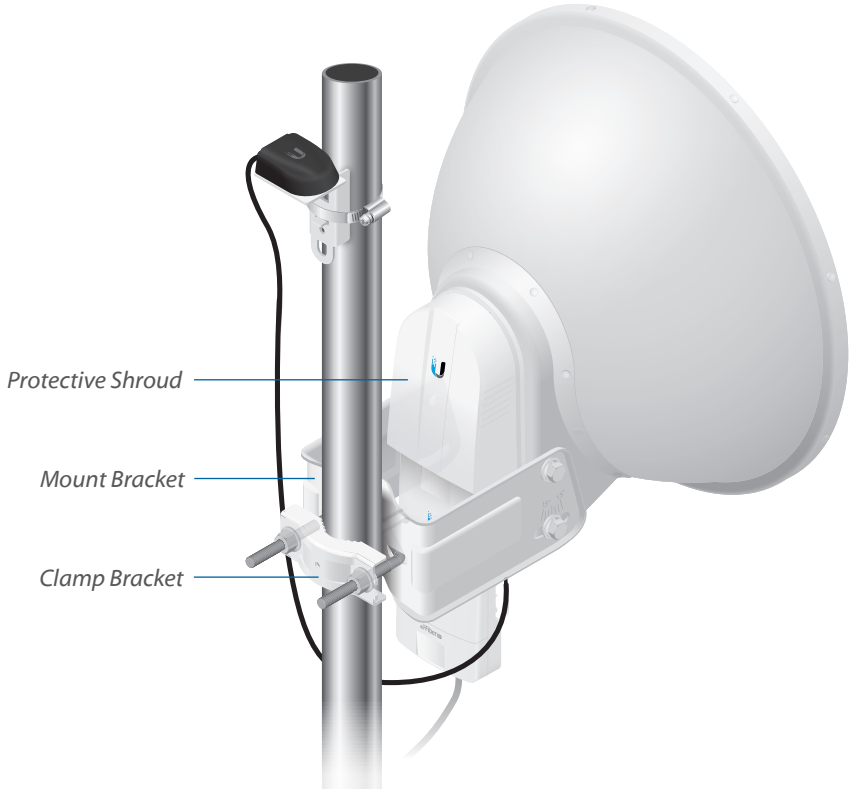
Hardware Overview

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.



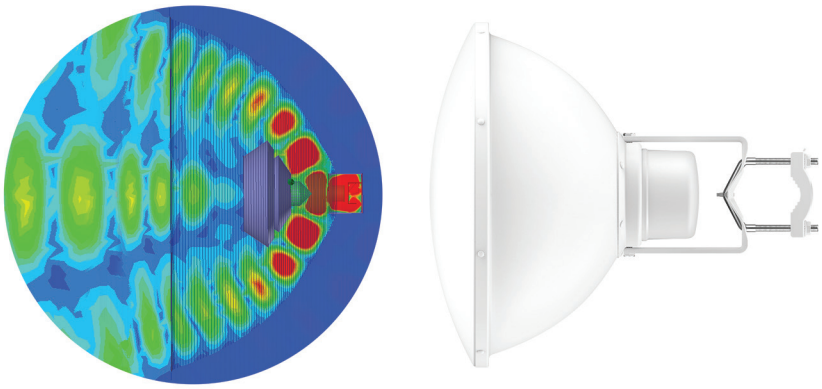
Avanced RF Isolation Design

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



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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

Model	Frequency	Gain	Radome*
AF-2G24-S45	2.4 GHz	24 dBi	RAD-RD2

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

airFiber X Antenna

3 GHz Model

Model	Frequency	Gain	Radome*
AF-3G26-S45	3 GHz	26 dBi	RAD-RD2

The AF-3G26-S45 offers 26 dBi of gain in a 650-mm diameter size.

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5 GHz Models

Model	Frequency	Gain	Radome
AF-5G23-S45	5.1 - 5.9 GHz	23 dBi	Integrated

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.

Model	Frequency	Gain[1]	Radome[2]
AF-5G30-S45	4.9 - 5.9 GHz	26 - 30 dBi	ISO-BEAM-620

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

Model	Frequency	Gain[1]	Radome[2]
AF-5G34-S45	4.9 - 5.8 GHz	30 - 34 dBi	RAD-RD3

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

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

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

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airFiber® X Antenna
AF-5G30-S45 Accessories

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:

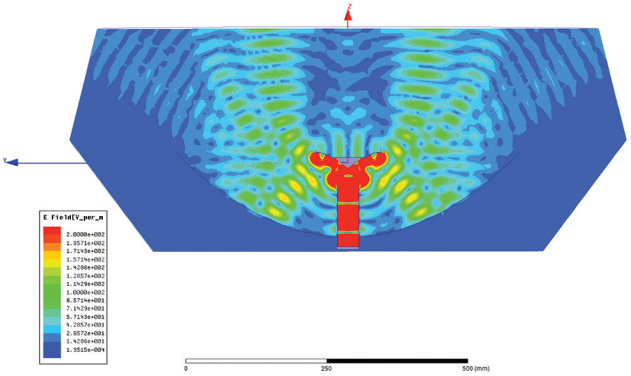
- RocketDish® RD-5G30-LW
- PowerBeam™ PBE-5AC-620
- PowerBeam PBE-M5-620

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.

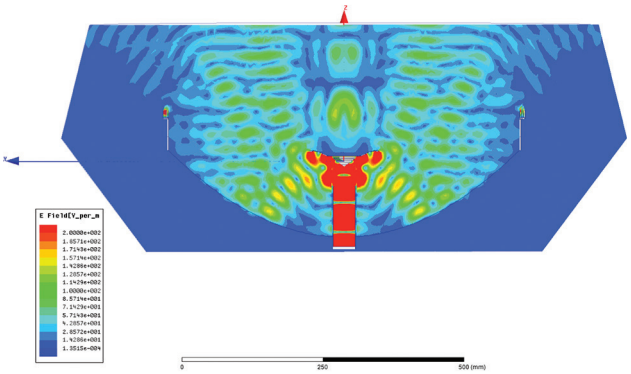
Both near-field plots are displayed in watts and use a linear scale. The strength of the electromagnetic field is color-coded:

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

Without IsoBeam

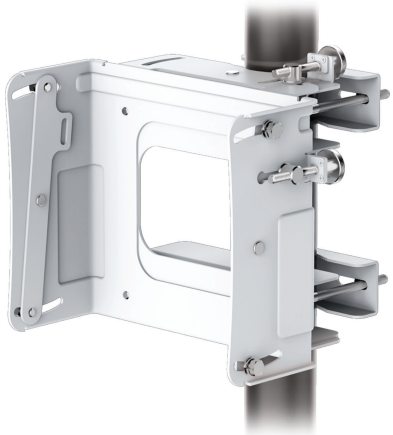


With IsoBeam



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

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Specifications

Antenna Characteristics					
Model	AF-2G24-S45	AF-3G26-S45	AF-5G23-S45	AF-5G30-S45	AF-5G34-S45
Dimensions*	ø 650 x 295 mm (ø 25.59 x 11.61")	ø 650 x 300 mm (ø 25.59 x 11.81")	ø 378 x 290 mm (ø 14.88 x 11.42")	ø 650 x 386 mm (ø 25.59 x 15.20")	ø 1050 x 421 mm (ø 41.34 x 16.57")
Weight**	9.8 kg (21.61 lb)	9.8 kg (21.61 lb)	3.4 kg (7.50 lb)	7.4 kg (16.31 lb)	13.5 kg (29.76 lb)
Frequency Range	2.3 - 2.7 GHz	3.3 - 3.8 GHz	5.1 - 5.9 GHz	4.9 - 5.9 GHz	4.9 - 5.8 GHz
Gain	24 dBi	26 dBi	23 dBi	4.9 GHz: 26 dBi 5 - 5.9 GHz: 30 dBi	4.9 GHz: 30 dBi 5 - 5.8 GHz: 34 dBi
+ 45° Beamwidth	6.6° (3 dB)	7° (3 dB)	10° (3 dB)	5.8° (3 dB)	3° (3 dB)
- 45° Beamwidth	6.8° (3 dB)	7° (3 dB)	10° (3 dB)	5.8° (3 dB)	3° (3 dB)
F/B Ratio	28 dB	33 dB	30 dB	30 dB	42 dB
Max. VSWR	1.6:1	1.4:1	1.5:1	1.6:1	1.4:1
Wind Loading	787 N @ 200 km/h (177 lbf @125 mph)	787 N @ 200 km/h (177 lbf @125 mph)	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)*

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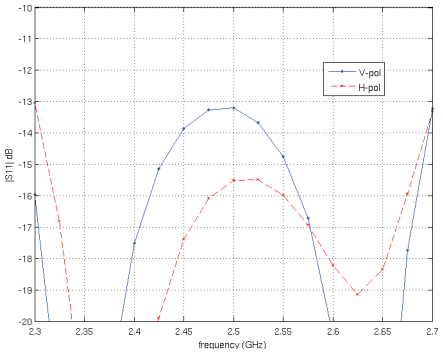
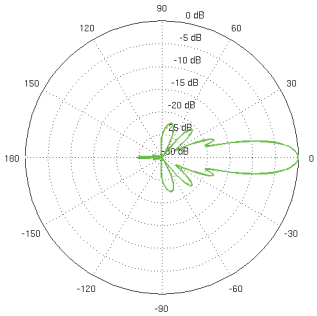
AF-2G24-S45 Antenna Information

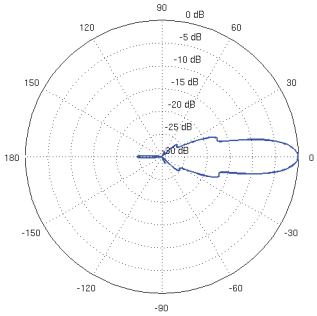
Return Loss



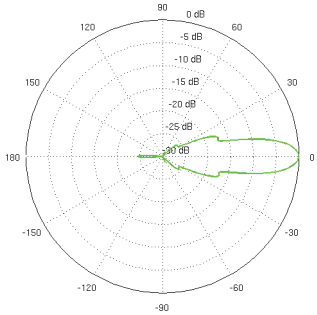
Vertical Azimuth



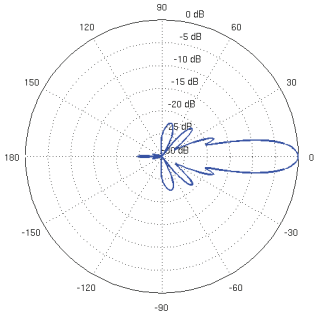
Vertical Elevation



Horizontal Azimuth

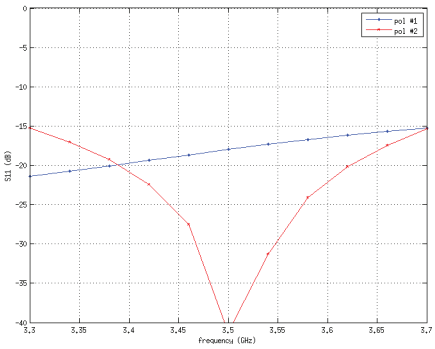


Horizontal Elevation

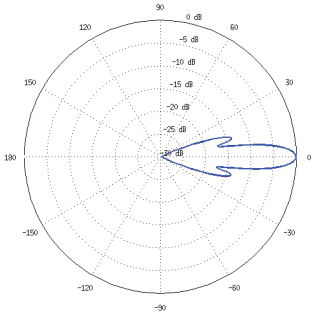


AF-3G26-S45 Antenna Information

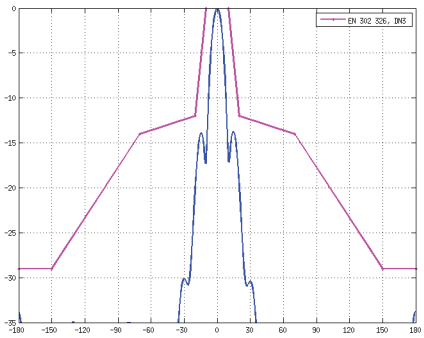
Return Loss



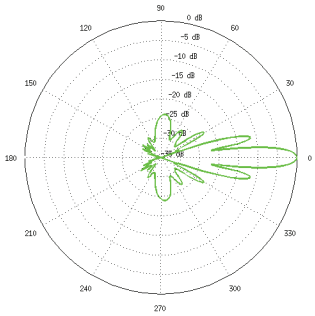
Azimuth, 3550 MHz



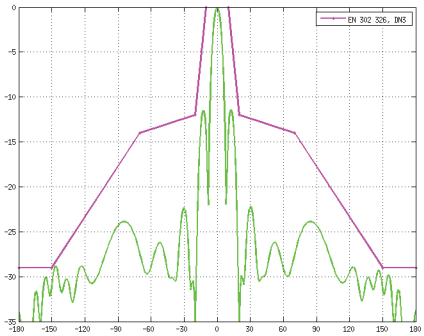
Azimuth Specs



Elevation, 3550 MHz



Elevation Specs



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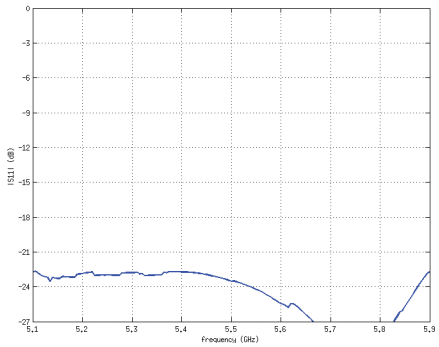
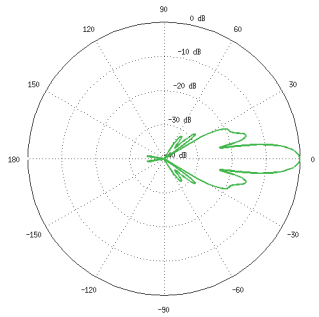
AF-5G23-S45 Antenna Information

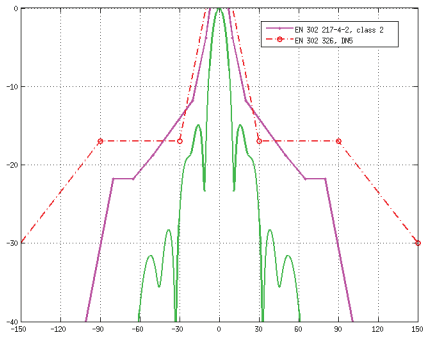
Return Loss



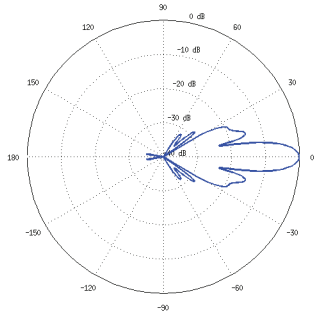
Azimuth, 5500 MHz



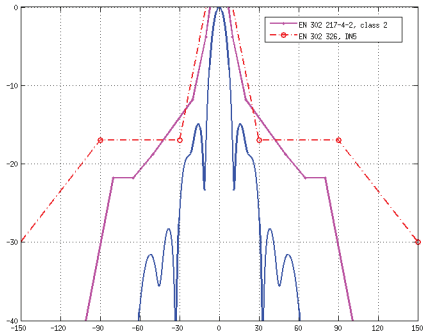
Azimuth Specs



Elevation, 5500 MHz



Elevation Specs



AF-5G30-S45 Antenna Information

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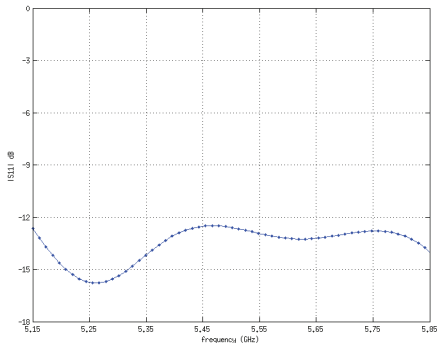
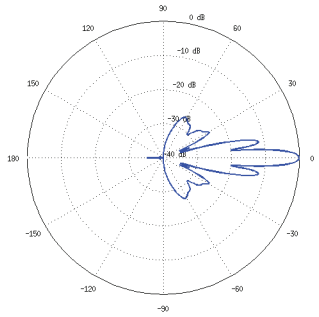
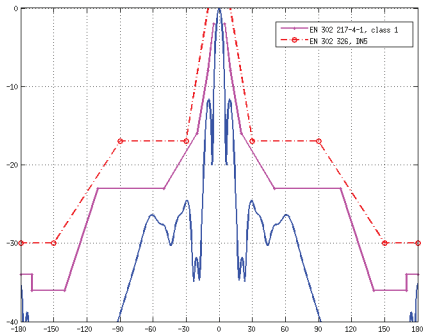


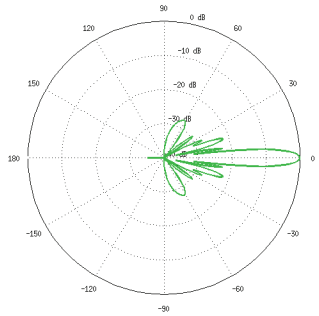
Azimuth, 5500 MHz



Azimuth Specs



Elevation, 5500 MHz



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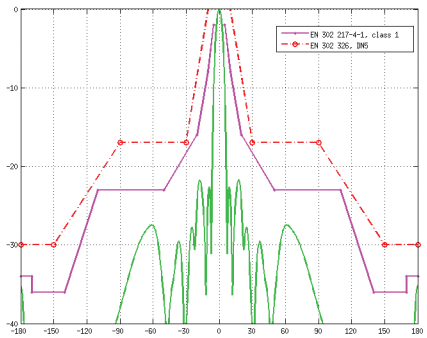

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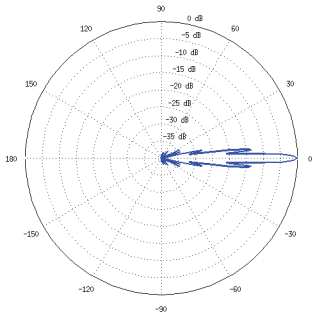
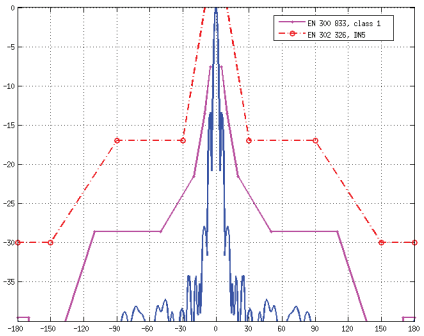
AF-5G34-S45 Antenna Information

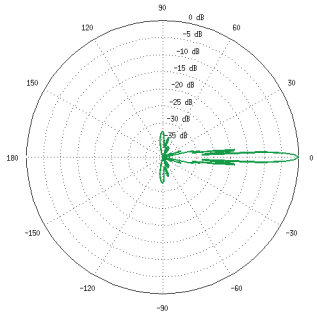
Azimuth, 5500 MHz



Azimuth Specs



Elevation, 5500 MHz



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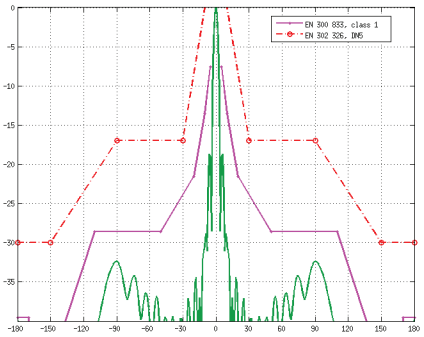

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