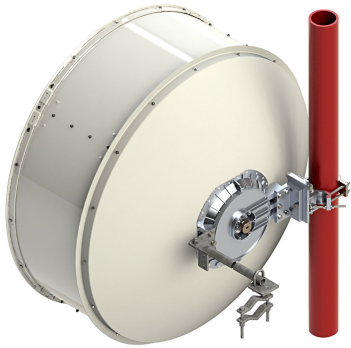


SHPX4-13W



1.2 m | 4 ft Sentinel® High Performance Antenna, dual-polarized, 12.200–13.250 GHz

Product Classification

Product Type Microwave antenna

General Specifications

Antenna Type SHPX - Sentinel® High Performance Antenna, dual-polarized

Polarization Dual

Side Struts, Included 1 inboard

Side Struts, Optional 1 inboard

Dimensions

Diameter, nominal 1.2 m | 4 ft

Electrical Specifications

Operating Frequency Band 12.200 – 13.250 GHz

Gain, Low Band 41.6 dBi

Gain, Mid Band 41.9 dBi

Gain, Top Band 42.2 dBi

Boresite Cross Polarization Discrimination (XPD) 40 dB

Front-to-Back Ratio 76 dB

Beamwidth, Horizontal 1.4 °

Beamwidth, Vertical 1.4 °

Return Loss 23.1 dB

VSWR 1.15

Radiation Pattern Envelope Reference (RPE) 7408

Electrical Compliance ACMA FX03_13a | ETSI 302 217 Class 4 | US

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FCC Part 101A

ETSI EN 302217 XPD Category 3

Cross Polarization Discrimination (XPD) Electrical Compliance

Mechanical Specifications

Compatible Mounting Pipe Diameter

115 mm | 4.5 in

Fine Azimuth Adjustment Range

±15°

Fine Elevation Adjustment Range

±15°

Wind Speed, operational

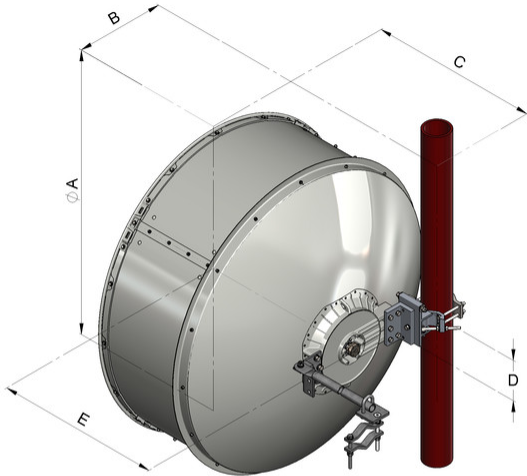
201 km/h | 124.896 mph

Wind Speed, survival

250 km/h | 155.343 mph

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Antenna Dimensions and Mounting Information



Dimensions in inches (mm)					
Antenna size, ft (m)	A	B	C	D	E
4 (1.2)	50.8 (1291)	16 (407)	30.2 (767)	7.2 (183)	29.5 (748)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA)

5326 N | 1,197.333 lbf

Side Force (FS)

2638 N | 593.046 lbf

Twisting Moment (MT)

2162 N-m | 19,135.312 in lb

Force on Inboard Strut Side

2862 N | 643.403 lbf

Zcg without Ice

43 mm | 1.693 in

Zcg with 1/2 in (12 mm) Radial Ice

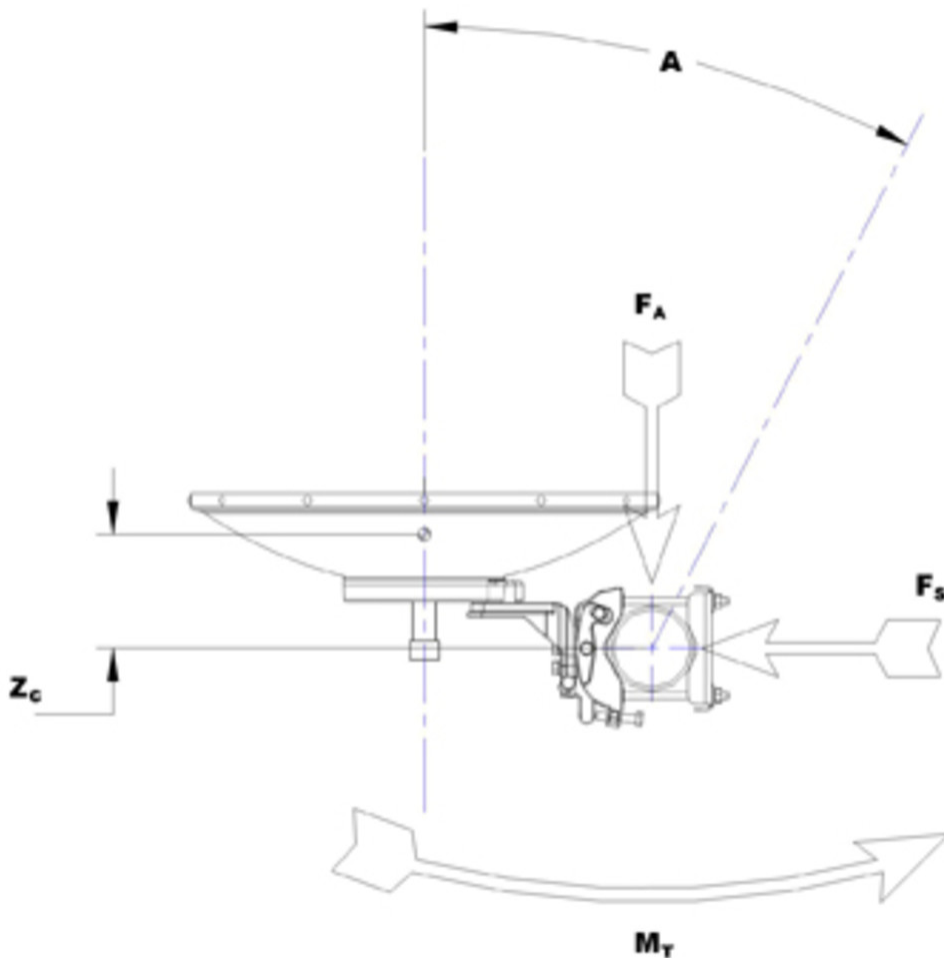
284 mm | 11.181 in

Weight with 1/2 in (12 mm) Radial Ice

74 kg | 163.142 lb

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Wind Forces at Wind Velocity Survival Rating Image



Packaging and Weights

Weight, net

32 kg | 70.548 lb

* Footnotes

Operating Frequency Band

Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.

Gain, Mid Band

For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.

Boresite Cross Polarization Discrimination (XPD)

The difference between the peak of the co-polarized main

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beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.

Denotes highest radiation relative to the main beam, at $180^\circ \pm 40^\circ$, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise.

The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.

Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.

Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of $\pm 1^\circ$ throughout

The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.

For VHLP(X), SHP(X), HX and USX antennas, the wind speed where the maximum antenna deflection is 0.3 x the 3 dB beam width of the antenna. For other antennas, it is defined as a deflection is equal to or less than 0.1 degrees.

The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice.

Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this

Front-to-Back Ratio

Return Loss

VSWR

Radiation Pattern Envelope Reference (RPE)

Cross Polarization Discrimination (XPD) Electrical Compliance

Wind Speed, operational

Wind Speed, survival

Axial Force (FA)

Side Force (FS)

Twisting Moment (MT)

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parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.