

SHPX4-15-2WH



1.2 m | 4 ft Sentinel® High Performance Antenna, dual-polarized, 14.400–15.350 GHz, PBR140, white antenna, flexible woven polymer grey radome without flash, standard pack—one-piece reflector

Product Classification

Product Type	Microwave antenna
Product Brand	Sentinel®

General Specifications

Antenna Type	SHPX - Sentinel® High Performance Antenna, dual-polarized
Polarization	Dual
Antenna Input	PBR140
Antenna Color	White
Reflector Construction	One-piece reflector
Radome Color	Gray
Radome Material	Polymer
Flash Included	No
Side Struts, Included	1 inboard
Side Struts, Optional	1 inboard

Dimensions

Diameter, nominal	1.2 m 4 ft
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Electrical Specifications

Operating Frequency Band	14.400 – 15.350 GHz
Gain, Low Band	42.9 dBi
Gain, Mid Band	43.2 dBi
Gain, Top Band	43.3 dBi
Boresite Cross Polarization Discrimination (XPD)	36 dB
Front-to-Back Ratio	75 dB
Beamwidth, Horizontal	1.2 °

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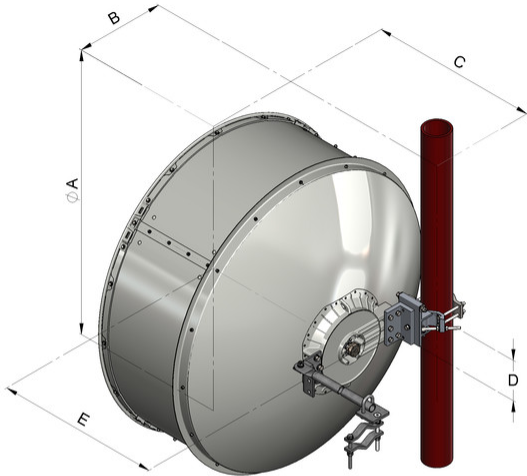
Beamwidth, Vertical	1.2 °
Return Loss	23.1 dB
VSWR	1.15
Radiation Pattern Envelope Reference (RPE)	7406
Electrical Compliance	ACMA FX03_15a ETSI 302 217 Class 4 IC 3145C
Cross Polarization Discrimination (XPD) Electrical Compliance	ETSI EN 302217 XPD Category 3

Mechanical Specifications

Compatible Mounting Pipe Diameter	115 mm 4.5 in
Fine Azimuth Adjustment Range	±15°
Fine Elevation Adjustment Range	±15°
Wind Speed, operational	200 km/h 124.274 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

Height, packed	1520 mm 59.843 in
Width, packed	380 mm 14.961 in
Length, packed	1360 mm 53.543 in
Packaging Type	Standard pack
Volume	0.8 m ³ 28.252 ft ³
Weight, gross	59 kg 130.073 lb
Weight, net	32 kg 70.548 lb

* Footnotes

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

Front-to-Back Ratio

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.

Return Loss

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

VSWR

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

Radiation Pattern Envelope Reference (RPE)

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

Cross Polarization Discrimination (XPD) Electrical Compliance

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.

Wind Speed, operational

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.

Wind Speed, survival

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.

Axial Force (FA)

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.

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Side Force (FS)

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.

Twisting Moment (MT)

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.

Packaging Type

Andrew standard packing is suitable for export. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing options.