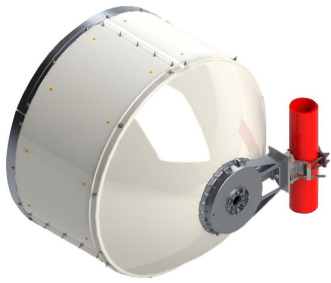


# SHPX3-23/B



0.9m | 3 ft Sentinel™ High Performance Antenna, dual-polarized,  
21.200 – 23.600 GHz

## Product Classification

<b>Product Type</b>	Microwave antenna
<b>Product Brand</b>	Sentinel®

## General Specifications

<b>Antenna Type</b>	SHPX - Sentinel® High Performance Antenna, dual-polarized
<b>Polarization</b>	Dual
<b>Side Struts, Included</b>	0
<b>Side Struts, Optional</b>	1

## Dimensions

<b>Diameter, nominal</b>	0.9 m   3 ft
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## Electrical Specifications

<b>Operating Frequency Band</b>	21.200 – 23.600 GHz
<b>Gain, Low Band</b>	44.5 dBi
<b>Gain, Mid Band</b>	44.8 dBi
<b>Gain, Top Band</b>	45 dBi
<b>Boresite Cross Polarization Discrimination (XPD)</b>	30 dB
<b>Front-to-Back Ratio</b>	75 dB
<b>Beamwidth, Horizontal</b>	1 °
<b>Return Loss</b>	17.7 dB
<b>VSWR</b>	1.3
<b>Radiation Pattern Envelope Reference (RPE)</b>	7302B
<b>Electrical Compliance</b>	Brazil Anatel Class 2   Canada SRSP 321.8 Part A   ETSI 302 217 Class 4   US FCC Part 101A

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**Cross Polarization Discrimination (XPD) Electrical Compliance**

ETSI EN 302217 XPD Category 3

## Mechanical Specifications

**Compatible Mounting Pipe Diameter**

90 mm–120 mm | 3.5 in–4.7 in

**Fine Azimuth Adjustment Range**

±15°

**Fine Elevation Adjustment Range**

±15°

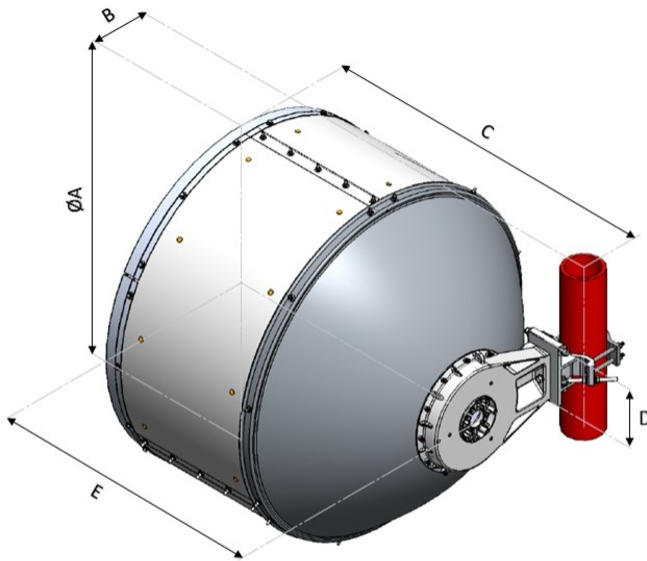
**Wind Speed, operational**

180 km/h | 111.847 mph

**Wind Speed, survival**

250 km/h | 155.343 mph

## Antenna Dimensions and Mounting Information



Dimensions in inches (mm)					
Antenna Size, ft (m)	A	B	C	D	E
3 (0.9)	38.9 (987)	16 (407)	33.7 (855)	7.2 (183)	34.9 (887)

## Wind Forces at Wind Velocity Survival Rating

**Axial Force (FA)**

3353 N | 753.785 lbf

**Angle  $\alpha$  for MT Max**

30°

**Side Force (FS)**

1680 N | 377.679 lbf

**Twisting Moment (MT)**

1605 N-m | 14,205.447 in lb

**Zcg without Ice**

310 mm | 12.205 in

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

388 mm | 15.276 in

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

87 kg | 191.802 lb

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## Wind Forces at Wind Velocity Survival Rating Image



## Packaging and Weights

**Weight, net**

24 kg | 52.911 lb

## Regulatory Compliance/Certifications

**Agency**

ISO 9001:2015

**Classification**

Designed, manufactured and/or distributed under this quality management system



### \* Footnotes

**Operating Frequency Band**

Bands correspond with CCIR recommendations or common

allocations used throughout the world. Other ranges can be accommodated on special order.

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.

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.

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

## **Gain, Mid Band**

## **Boresite Cross Polarization Discrimination (XPD)**

## **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)**

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.