

2.4m | 8ft Sentinel® Ultra High Performance, Super High XPD Antenna, dual-polarized, 14.400 – 15.350 GHz, grey, PBR140 flange

Product Classification	
Product Type	Microwave antenna
Product Brand	Sentinel®
General Specifications	
Antenna Type	USX - Sentinel® Ultra High Performance, Super High XPD Antenna, dual-polarized
Polarization	Dual
Antenna Input	PBR140
Antenna Color Gray	
Reflector Construction One-piece reflector	
adome Color Gray	
adome Material Fabric	
ash Included Yes	
Side Struts, Included	1
Side Struts, Optional	4
Dimensions	
Diameter, nominal	2.4 m 8 ft
Electrical Specifications	
Operating Frequency Band	14.400 – 15.350 GHz
Gain, Low Band	48.5 dBi
Gain, Mid Band	48.8 dBi
Gain, Top Band	49.1 dBi
Boresite Cross Polarization Discrimination (XPD)	40 dB
Front-to-Back Ratio	80 dB
Beamwidth, Horizontal	0.6 °

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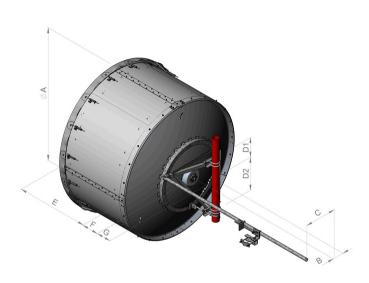
Beamwidth, Vertical	0.6 °
Return Loss	26 dB
VSWR	1.1
Radiation Pattern Envelope Reference (RPE)	7404
Electrical Compliance	ACMA FX03_15a ETSI 302 217 Class 3 IC 3145C
Cross Polarization Discrimination (XPD) Electrical Compliance	ETSI EN 302217 XPD Category 3
Mechanical Specifications	
Compatible Mounting Pipe Diameter	115 mm 4.5 in
Fine Azimuth Adjustment Range	±5°
Fine Elevation Adjustment Range	±5°
Wind Speed, operational	180 km/h 111.847 mph
Wind Speed, survival	200 km/h 124.274 mph





Antenna Dimensions and Mounting Information

USX8



		Dime	nsions ir	inches	(mm)			
Antenna size, ft (m)	А	в	с	D1	D2	Е	F	G
8 (2.4)	95.1 (2416)	8.0 (203)	22.5 (572)	14.1 (357)	23.6 (600)	51.1 (1298)	12.1 (306)	10.3 (262)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA)	10599 N 2,382.751 lbf
Angle α for MT Max	-140 °
Side Force (FS)	6268 N 1,409.103 lbf
Twisting Moment (MT)	-7647 N-m -67,681.656 in lb
Force on Inboard Strut Side	11263 N 2,532.024 lbf
Zcg without Ice	624 mm 24.567 in
Zcg with 1/2 in (12 mm) Radial Ice	765 mm 30.118 in
Weight with 1/2 in (12 mm) Radial Ice	364 kg 802.482 lb

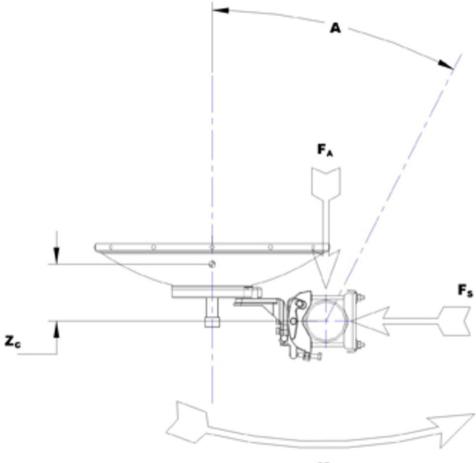
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Wind Forces at Wind Velocity Survival Rating Image



MT

Packaging and Weights 2250 mm | 88 583 in Height, packed Width, packed Length, packed Packaging Type Volume Weight, gross Weight, net

Regulatory Compliance/Certifications

2250 mm	88.583 11	
1130 mm	44.488 in	
2380 mm	93.701 in	
Standard pack		
6.1 m³ 21	5.42 ft ³	
329 kg 72	25.32 lb	
196 kg 43	32.106 lb	

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Classification

Agency

ISO 9001:2015

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.
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° ±40°, 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 +/-1° 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 $0.3 \times 10^{-3} \text{ dB}$ 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.

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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.
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.

