

2411-HW PELORIS

2.4 Meter Motorized High Wind Vehicle-Mount Antenna



3 Piece Reflector Option - Stowed

The Sat-Lite Technologies Model 2411-HW vehicle-mount antenna is strategically designed to offer high wind performance in a compact design. This antenna features a carbon fiber composite reflector and backbeam structure along with a custom-designed compact elevation-over-azimuth cable drive pedestal to reduce vehicle mounting space. The mechanical design features of this antenna offer exceptional performance even using lower cost open loop control systems.

The antenna is designed to meet international performance specifications for commercial or military applications and is available in C, X, Ku and/or Ka band frequencies. The antenna is offered with multiple controller configurations that include manual jog control, autolocate with peaking options, GPS / Dual GPS, compass, and full tracking capabilities using beacon receiver for modulated beacons.

- **High Wind Applications**
- **Intelsat / Eutelsat Compliant**
- **Multi-Band C, X, Ku or Ka band Frequencies**
- **Multiple Integration Options**
- **Integrated Controller with Tracking Options Available**
- **Carbon Fiber Reinforced Polymer Structure – Reflector and Backbeam**
- **Low Profile and Space-Optimizing Stow Position**
- **Cable Drive Positioning System for Azimuth and Elevation**
- **Single or 3 Piece Reflector Option**
- **Harsh Environmental Options**



TECHNICAL SPECIFICATIONS



<i>Electrical Specifications</i>	2 Port Cross-Pol C Band Extended Linear Feed		2 Port Cross-Pol C Band Std. Circular Feed		2 Port X Band Circular Polarization		2 Port Cross-Pol Ku Band Linear Std Feed		2 Port Cross-Pol Ku Band Linear / Mode Matched Feed		2 Port Ka Band Circular Polarization	
	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx
Frequency (GHz)	3.4 - 4.2	5.85 - 6.725	3.625 - 4.2	5.85 - 6.425	7.25-7.75	7.9-8.4	10.70 - 12.75	13.75 - 14.5	10.95 - 12.75	13.75 - 14.5	20.2 - 21.2	30 - 31
Gain (midband, dBi)	37.6	41.8	38.1	42.0	43.5	43.6	47.3	49.3	47.3	49.3	52.2	55.2
Noise Temperature (°K)												
5 deg EI	45		50		65		66		64		138.0	
10 deg EI	48		48		57		62		60		130.0	
20 deg EI	44		46		54		58		56		110.0	
40 deg EI	33		45		53		57		56		99.0	
Typical G/T (20 deg EI)	35 deg LNA 18.4 db°K		18.5 db°K		23.1 db°K		25.9 db°K		25.8 db°K		28.3 db°K	
45 deg LNA												
55 deg LNA												
70 deg LNA												
120 deg LNA												
Cross Pol												
On Axis	-30 dB	-30 dB	-15.2 dB	-17.5 dB	-21.3 dB	-21.3 dB	-35 dB	-35 dB	-35 dB	-35 dB	-21.3 dB	-24.8 dB
in 1 dB BW	-28 dB	-28 dB	-15.2 dB	-17.5 dB	-21.3 dB	-21.3 dB	-27 dB	-27 dB	-25 dB	-25 dB	-21.3 dB	-24.8 dB
Axial Ratio			3.0 dB	2.3 dB	1.5 dB	1.5 dB					< 1.5 dB	< 1.0 dB
Sidelobe Compliances	Meets ITU 580 Beyond Mainbeam		Meets ITU 580 Beyond Mainbeam		Meets DSCS		Meets ITU, FCC 25.209		Meets ITU, FCC 25.209, Eutelsat		Meets DSCS	
VSWR	1.40:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.35:1	1.30:1	1.35:1	1.30:1	1.25:1	1.30:1
Isolation												
Tx/Rx	-85 dB	0 dBm input	-70 dB	0 dBm input	-110 dB	0 dBm input	-85 dB	0 dBm input	-85 dB	0 dBm input	-85 dB	0 dBm input
Rx/Tx	0 dBm input	-30 dB	0 dBm input	-30 dB	0 dBm input	-110 dB	0 dBm input	-30 dB	0 dBm input	-45 dB	0 dBm input	-70 dB
Max Power Handling (Continuous)	1.0 kW		1.0 kW		1.0 kW		1.0 kW		1.0 kW		200 W	
WG Interface	CPR-229	CPRG-137	CPR-229	CPRG-137	WR112 UBR84	WR112 UBR84	WR75-Cover	WR75-Cover	WR75-Cover	WR75-Cover	WR42	WR28

<i>Mechanical/Environmental Specifications</i>	
Reflector	2.4 meters (95.75in) - Carbon Fiber
Reflector Offset Angle (deg)	16
Antenna Travel	
Azimuth	± 200° continuous
Elevation	0 - 90° of reflector boresight
Polarization	±- 90°
Antenna Drive Rate	
Azimuth	1°/sec
Elevation	1°/sec
Polarization	2°/sec
Temperature	
Operational	-30 to 60°C (-22 - 140°F)
Survival	-40 to 70°C (-40 - 158°F)
Wind Performance	
Pointing Loss Ku Band Receive - 2 dB Peak	60 mph Gusting to 75 mph (96 kph G 120 kph)
Pointing Loss Ka Band Receive - 2 dB Peak	45 mph Gusting to 60 mph (72 kph G 96 kph)
Survival	100 mph (160 kph) any position 125 mph (200 kph) stowed
Antenna Stowed Dimensions	Length: 112" (2845mm) Width: 95 3/4" (2432mm) Height: 28 in (711 mm)
Weight	740 lb (336 kg) - without feed/integration/controller
Integration	
Feedboom Mounted	150 lbs (68 kg)
Positioner Mounted	325lbs (147 kg)
Rain	
Operational	4 in/h (10 cm/h)
Survival	6 in/h (15 cm/h)
Relative Humidity	0 - 100%
Solar Radiation	360 btu/h/ft² (1000 Kcal/h/m²)
Radial Ice (survival)	1 in (25.4 mm)
Corrosive Atmosphere	As encountered in coastal and/or industrial areas

- 1 Dependent on vehicle capabilities
- 2 Dependent on mounting position relative to elevation axis
3. For dual azimuth waveguide runs, standard travel is ±150°.

850-0050-A

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