

# 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*



<i>Electrical Specifications</i>	2 Port Cross-Pol C Band Extended Linear Feed		2 Port Cross-Pol C Band Low Axial Ratio Circular		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)	38.0	41.8	37.9	42.0	43.4	43.8	47.2	49.1	47.1	49.1	51.7	54.9	
Noise Temperature (K)													
	10 deg El	46		53		72		62		64		160.0	
	20 deg El	42		50		66		58		60		120.0	
	40 deg El	36		47		64		57		56		105.0	
Typical GT (20 deg El)													
	35 deg LNA	18.4 dB/K		18.2 dB/K									
	55 deg LNA					21.9 dB/K							
	70 deg LNA							25.7 dB/K		25.5 dB/K			
	110 deg LNA											28 dB/K	
Cross Pol													
On Axis		-30 dB	-30 dB	-20 dB	-27 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	-20 dB	-27 dB	-21.3 dB	-21.3 dB	-27 dB	-27 dB	-25 dB	-35 dB	-21.3 dB	-24.8 dB
Axial Ratio				1.6 dB	0.75 dB	1.5 dB	1.5 dB					< 1.5 dB	< 1.0 dB
Sideloobe Compliances		Meets ITU 580 Beyond Mainbeam		Meets ITU 580 Beyond Mainbeam		Meets Mil-Std 188-164		Meets ITU, FCC 25.209		Meets ITU, FCC 25.209, Eutelsat		Meets ITU 580	
VSWR		1.40:1	1.30:1	1.35:1	1.30:1	1.30:1	1.30:1	1.35:1	1.30:1	1.40:1	1.30:1	1.30:1	1.30:1
Isolation													
Tx/Rx		-85 dB	0 dB input	-85 dB	0 dB input	-110 dB	0 dB input	-85 dB	0 dB input	-85 dB	0 dB input	-85 dB	0 dB input
Rx/Tx		0 dB input	-30 dB	0 dB input	-30 dB	0 dB input	-110 dB	0 dB input	-35 dB	0 dB input	-35 dB	0 dB 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/ft <sup>2</sup> (1000 Kcal/h/m <sup>2</sup> )
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°.