



Features

- Intelsat and 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 – Lightweight and Stiff
- Low Profile and Space-Optimizing Stow Position
- Cable Drive Positioning System
- Superior Stability in Wind
- Excellent Reliability
- Minimal Maintenance

Overview

The Advantech Wireless Vehicle-Mount 2.4m antenna offers the most robust and light-weight antenna of its type and size available. This antenna features a carbon fiber composite reflector and backbeam structure designed to provide exceptional performance in a lightweight package. The custom-designed elevation-over-azimuth cable drive pedestal provides superior stiffness over existing products on the market.

In addition, the antenna is designed to meet international performance specifications for commercial or military applications and is readily available in C, X, Ku and/or Ka band frequencies. Multiple feed configurations are available. The antenna is available with multiple controller configurations that include manual jog control, autolocate with peaking options, and full tracking capabilities with beacon receiver.

PRODUCT FEATURES & SPECIFICATIONS

Technical Specifications

Electrical specifications												
	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 St 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)												
10 deg El	48		48		57		62		60		130.0	
20 deg El	44		46		54		58		56		110.0	
Typical G/T (20 deg El)												
35 deg LNA	18.4 db/K		18.5 db/K									
45 deg LNA												
55 deg LNA					23.1 db/K							
70 deg LNA							25.9 db/K		25.8 db/K			
120 deg LNA											28.3 db/K	
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	-35 dB	-21.3 dB	-24.8 dB
Axial Ratio			3.0 dB	2.3 dB	1.5 dB	1.5 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

Mechanical / Environmental Specifications	
Reflector	2.4 meters (95 3/4 in) Carbon Fiber
Reflector Offset angle (deg)	16
Antenna Travel	
Azimuth	± 200° continuous
Elevation	0 - 90° of reflector boresight
Polarization	± 90°
Antenna Drive Rate	
Azimuth	0.4°/sec
Elevation	0.8°/sec
Polarization	2°/sec
Temperature	
Operational	-30 to 60°C (-22 – 140°F)
Survival	-40 to 70°C (-40 – 158°F)
Pointing Loss (operational winds)	2dB peak (Ku-band Rx)
Winds ¹	
Operational	45 mph Gusting to 60 mph (72 kph G 96 kph)
Survival	75 mph (128 kph) any position
	90 mph (145 kph) stowed
Antenna Stowed Dimensions	Length: 119 5/8" (2773mm) Width: 95 3/4" (2431mm) Height: 23 7/16 in (595 mm)
Weight	550 lb (250 kg) - without feed/integration
Integration	
Feedboom Mounted	150 lbs (68 kgs)
Positioner Mounted	325 lbs (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 ² (1000 Kcal/h/m ²)
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 waveguide runs, standard travel is ±150°.

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