

# 2421 Agilis

## 2.4 Meter Carbon Fiber Flyaway Antenna



- **Intelsat / Eutelsat Compliant (with Appropriate Feed)**
- **Multi-Band C, X, Ku, and Ka band Frequencies**
- **Integrated Feedboom**
- **Compact Packaging**
- **Superior Stability in Wind**
- **Excellent Reliability**
- **Minimal Maintenance**
- **Less than 15 min Assembly Time**
- **Captive Hardware**

The Sat-Lite Technologies Model 2421 Agilis Carbon Fiber Flyaway Antenna offers superior performance in a lightweight, portable package. This antenna features a 9 piece carbon fiber segmented reflector designed to provide high gain and low cross pol characteristics. The standard antenna is designed for extremely rugged use and packs 6 high performance all weather cases. Optional package configurations are available. The tripod features a user friendly interface to allow for easy positioning and peaking on a satellite. In addition, the antenna components are modular in design which provide simple options for motorization and tracking requirements. The antenna can be assembled by a single person in 15 minutes or less.

The antenna is designed to meet international performance specifications for commercial / off-the-shelf applications and is readily available in C, X, Ku, and Ka band frequencies. Multiple integration packages are available with a quick change / quick pack configuration of the feedboom. The integrated boom assembly with BUC and LNB packs in a single case for easy and quick installation or packing.



<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 Low Axial Ratio Circular		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
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	10.95 - 12.75	13.75 - 14.5	20.2 - 21.2	30 - 31
Gain (midband, dBi)	37.6	41.8	37.9	42.0	43.0	43.7	47.1	49.1	51.7	54.9
Noise Temperature (K)										
10 deg El	48		53		78		64		160	
20 deg El	44		50		74		60		120	
40 deg El	33		47		69		56		105	
Typical G/T (20 deg El)										
35 deg LNA	18.4 db/K		18.2 db/K							
55 deg LNA					21.4 db/K					
70 deg LNA							25.7 db/K			
110 deg LNA									28 db/K	
Cross Pol										
On Axis	-30 dB	-30 dB	-20 dB	-27 dB	-30 dB	-30 dB	-35 dB	-35 dB	-21.3 dB	-24.8 dB
in 1 dB BW	-28 dB	-28 dB	-20 dB	-27 dB	-30 dB	-30 dB	-25 dB	-35 dB	-21.3 dB	-24.8 dB
Axial Ratio			1.6 dB	0.75 dB	0.5 dB	0.5 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, Eutelsat		Meets 188-164	
VSWR	1.40:1	1.30:1	1.35:1	1.30:1	1.30:1	1.30:1	1.4:1	1.30:1	1.30:1	1.30:1
Isolation										
Tx/Rx	-85 dB	0 dBm input	-85 dB	0 dBm input	-110 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	-35 dB	0 dBm input	-70 dB
Max Power Handling (Continuous)		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	WR42	WR28

<i>Mechanical / Environmental Specifications</i>	
Reflector	2.4 meters (96 in) Carbon Fiber
Reflector Configuration	Parabolic Single Offset, 0.8 F/D (9 piece)
Antenna Travel	
Azimuth	360° with fine adjustment
Elevation	5 - 90° of reflector bore sight
Polarization	± 90°
Antenna Packaging (Std 6 Cases +RF)	Packed Weight Including Cases
Pedestal Hub Case	56 Kg (124 lbs) 26 x 26 x 23 in
Pedestal Backbeam Case	54 Kg (120 lbs) 45 x 25 x 17 in
Pedestal Leg / El Strut Case	65 Kg (142 lbs) 45 x 25 x 17 in
Reflector Cases (3), Rotomolded With Wheels / Handles	36 Kg (80 lbs) Ea. - 39 x 36 x 12 in
Integrated Feed and Boom Packages with Amps	Per Band - Typical 36 Kg (80 lbs) 45 x 25 x 17 in
Temperature	
Operational	-30 to 60°C (-22 to 140°F)
Survival	-40 to 70°C (-40 to 158°F)
Pointing Loss (operational winds)	2 dB peak (Ku-band Rx)
Winds	
Operational	30 Gusting to 45 mph (48 kph G 72 kph) with ballast or anchors
Survival	60 mph (96 kph) with tie downs / any position
Rain	
Operational	2 in/h (5 cm/h)
Survival	4 in/h (10 cm/h)
Relative Humidity	0 - 100% (condensing)
Solar Radiation	360 btu/h/ft <sup>2</sup> (1000 Kcal/h/m <sup>2</sup> )
Radial Ice (survival)	1/2 in (12.7 mm)
Corrosive Atmosphere	As encountered in coastal and/or industrial areas

Performance dependent on proper installation and ballast/anchors  
 Feedboom Mounted Integration Dependent on position of weight  
 Note: Specifications subject to change without notice