

1831 Agilis

1.8 Meter Motorized Carbon Fiber Flyaway Antenna



- **Intelsat & Eutelsat Compliant (using Appropriate Feed)**
- **Multi-Band C, X, Ku, DBS and Ka Band Frequencies**
- **Integrated Feedboom Assembly Option**
- **Ships in 4 Ruggedized All-Weather Cases**
- **Superior Stability in Wind**
- **Excellent Reliability**
- **Minimal Maintenance**
- **Less than 15 min Assembly Time**
- **3-Axis Motorization with full featured control system**
- **Autolocate features with GPS, Compass, DVB-S2 Receiver, Beacon Receiver, and Spectrum Analyzer Options.**

The Sat-Lite Technologies Model 1831 Agilis motorized carbon fiber flyaway antenna offers superior performance in a lightweight, portable package. This antenna features a 7 piece carbon fiber segmented reflector designed to provide high gain and low cross pol characteristics. The motorization package includes a ruggedized outdoor mounted controller with pre-connectorized cables allowing for quick assembly and disassembly. The custom-designed elevation-over-azimuth tripod pedestal provides high stiffness with minimal weight. The antenna components are modular in design which also reduces assembly time and provides an improved packaging scheme requiring less time and effort to pack or unpack the antenna. The molded cases are included.

The antenna is designed to meet international performance specifications for commercial or off-the-shelf military applications and is readily available in C, X, Ku and Ka band frequencies. Multiple feed and integration configurations are available.



TECHNICAL SPECIFICATIONS



<i>Electrical Specifications</i>	2 Port Cross-Pol C Band Extended Linear Feed		2 Port Cross-Pol C Band Circular Feed		2 Port X Band Circular Polarization		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)	3.40 - 4.20	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
Gain (Midband, dBi)	35.2	39.5	35.4	39.7	41.0	41.6	45.0	47.1	49.3	52.7
Noise Temperature (°K)										
10 deg E	48		55		68		54		145	
20 deg E	43		50		64		48		125	
Cross Pol										
On Axis	-30 dB	-30 dB	-15.3 dB	-17.7 dB	-21.3 dB	-21.3 dB	-35 dB	-35 dB	-21.3 dB	-24.8 dB
in 1 dB BW	-26 dB	-26 dB	-15.3 dB	-17.7 dB	-21.3 dB	-21.3 dB	-25 dB	-35 dB	-21.3 dB	-24.8 dB
Axial Ratio			3 dB	2.3 dB	1.5 dB	1.5 dB			1.5 dB	1 dB
Sidelobe Compliances	Meets ITU 580 Beyond Mainbeam		Meets ITU 580 Beyond Mainbeam		Meets DSCS		Meets ITU, FCC 25.209,		MI-Std 188-164A	
VSWR	1.40:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.4:1	1.30:1	1.35:1	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
Rx/Tx	0 dBm input	-35 dB	0 dBm input	-35 dB	0 dBm input	-110 dB	0 dBm input	-30 dB	0 dBm input	-30 dB

<i>Mechanical / Environmental Specifications</i>	
Reflector	1.8 meters (70.87 in) Carbon Fiber
Reflector Configuration	Parabolic Single Offset, 0.8 F/D (7 pieces)
Antenna Travel	
Azimuth	+/- 180° continuous
Elevation	5 - 90° of reflector bore sight
Polarization	± 90°
Motorized Antenna Packaging (Tri-Band Configuration**)	
Case 1 - Pedestal Legs / Backbeam	44.9" x 25.3" x 16.5" (100 lbs)
Case 2 - Az Hub / Foot Pads / El Actuator / CTRLR	37.5" x 27.5" x 14.5" (120 lbs)
Case 3 & 4 - (7 piece reflector)	42" x 13" x 34.5" (76 lbs ea.)
Integrated Feedboom / BUC Case (Per Band)	(Depending on Band and BUC size)
Total Weight (less RF options)	372 lbs (169 kg)
Temperature	
Operational	-30 to 60°C (-4 to 140°F)
Survival	-40 to 70°C (-48 to 158°F)
Pointing Loss (operational winds)***	2dB peak (Ku-band Rx)
Winds	
Operational	30 Gusting to 45 mph (40 kph G 72 kph) with ballast or anchors
Survival	60 mph (96 kph) with tie downs / any position
Feedboom Mounted Integration****	40 lbs (18 kg)
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 ² (1000 Kcal/h/m ²)
Radial Ice (survival)	1/2 in (12.7 mm)
Corrosive Atmosphere	As encountered in coastal and/or industrial areas

* Feed packaged separately dependent on options ordered
 ** Performance dependent on proper installation and ballast/anchors
 *** Dependent on position of weight. Consult Engineering for details
 Note: Specifications subject to change without notice