

4m to 13.2m Ka/Q/V-Band GEO Gateway antennas

Increase space segment capacity with higher capacity gateways

Calian offers medium to large aperture composite carbon fiber and metal reflector antennas with exceptional performance for the most demanding applications. Competitively priced ten meter antennas are now available, with plans to roll out additional sizes in the future.

- Increase capacity of feeder/gateway links using Ka/Q/V-band spectrum
- Complete antenna system: feed, reflector, pedestal, integrated hub monopulse tracking system
- Dimensionally stable carbon fiber and metal reflector construction to reduce temperature distortions

Low-Risk Deployment:

- Engineered for rapid field deployment
- Verified antenna system performance, field measurements available
- Integrated hub reflector and optional larger pedestal housing electronics, mitigating the need for additional shelters
- All electric de-ice system simplifies site acquisition and reduces cost, eliminates the need for gas supply

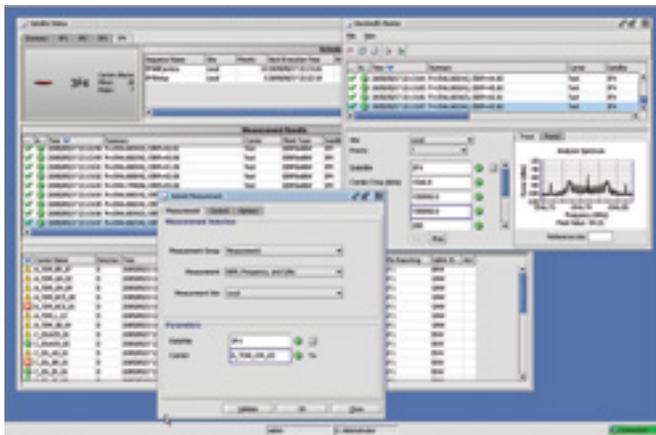
Our antenna design delivers exceptional thermal stability — a critical factor in maintaining performance at higher frequencies.



Ka/Q/V-Band Gateway Antenna Specs

Antenna Control System Features

- Interfaces with Mon-A-Co and other M&C systems
- Utilizes off the shelf motor drivers
- Brushless servo motors
- Simplified interface via Ethernet
- Remote controllable, field upgradeable
- Multi-tier access system
- Monopulse tracking, 2 channels
- Pointing correction, 9 term pointing model
- Comprehensive web GUI application



General Mechanical Specifications

Elevation Travel (continuous)	• 3 - 90 deg
Azimuth travel (continuous)	• +/- 225 deg
Avg. Velocity (az or el)	• 1 deg/sec
Avg. Acceleration (az or el)	• 0.5 deg/sec ²
Azimuth Drive Configuration	• Gear & pinion dual AZ motor drives
Elevation Drive Configuration	• Jackscrew single EL motor drive
Tracking Modes	• Program Track, TLE, Step Track, Monopulse

Example 10m RF Specification

	Q-Rx	V-Tx	Ka-Tx
Frequency (GHz)	37.5 - 42.5	47.2 - 51.4	27.5 - 31.0
Antenna Gain (dBi) (0.25 dB margin)	69.2 @40.0 GHz	71.4 @50. GHz	66.9@30.0 GHz
Antenna Noise Temp (K) (30° EI)	130K @40.0 GHz		
G/T (dB/K): 30° EI, 230K LNA, including input losses (coupler, etc)	42.8 @40.0 GHz		
Polarization (Transmit & Receive)	Dual circular	Dual circular	Dual circular
Crosspol (Axial Ratio)	30.0 dB (0.5)	30.0 dB (0.5)	30.0 dB (0.5)
VSWR (Return Loss)	1.25:1 (19 dB)	1.25:1 (19 dB)	1.25:1 (19 dB)
Sidelobe Performance (Tx/Rx)	FCC CRF-47 §25.209	FCC CRF-47 §25.209	FCC CRF-47 §25.209