

Ka/Q/V-Band Gateway Antennas

Increase Space Segment Capacity with Higher Capacity Gateways

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

- Increased capacity of feeder/gateway links using Ka/Q/V-band spectrum.
- Completely engineered: feed, reflector, pedestal, integrated hub, and monopulse tracking system.
- Dimensionally stable carbon fiber technology reduces temperature distortions that de-focus metal antennas.



Low-Risk Acquisition & Implementation:

- Pre-engineered for rapid field deployment, single day reflector installation is typical.
- Verified antenna system performance, field measurements available.
- Integrated hub in 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 heating.

Our carbon fiber design achieves a significant reduction in thermal distortion compared to metal - a critical factor at maintaining performance at higher frequencies.



Ka/Q/V-Band Gateway Antenna Specs

Antenna Control System Features:

- Fully integrated without proprietary interfaces.
 - Off the shelf motor drivers.
- DC brushless for low maintenance.
- 3-axis control: azimuth, elevation, polarization.
- Simplified interface via Ethernet, no proprietary displays or controller interface.
- Remote controllable, updateable.
- Multi-user level access system.
- Monopulse tracking, 2 channel.



RF Specifications (10m)	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

General Mechanical Specifications

Item	Specification
Elevation Travel (continuous)	3 – 90 deg
Azimuth travel (continuous)	+/- 225 deg
Avg. Velocity (az or el)	1 deg/sec
Avg. Acceleration (az or el)	0.4 deg/sec ²
Azimuth Drive Configuration	Gear & pinion dual AZ motor drives (internally housed)
Elevation Drive Configuration	Jackscrew single EL motor drive (enclosed, no boot)
Tracking Modes	Program Track, Step Track, Monopulse

To learn more, please contact:

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