ViaSat 13.5m Ka-band antenna is ideally suited for the latest high capacity Ka-band satellites. The antenna system offers exceptional broadband support to deliver high-speed WiFi connections for residential, commercial and government services.

ViaSat’s 13.5 meter Ka-band antenna is ideally suited for high-performance geostationary Ka-band gateway applications. With decades of experience going into the design, its performance, reliability and maintainability are unmatched.

The shaped Cassegrain antenna with precision machined subreflector provides superior gain and sidelobe performance at Ka-band frequencies. Improved high-precision, stretch formed panels are supported by stiff steel radial trusses attached to a large central hub. The reflector back structure and spars are designed to exacting Ka-band rigidity requirements to provide optimum performance under a wide range of environmental conditions. All aluminum reflector panels, coated with a solar diffusive white paint, minimize thermal effects at Ka-band.

The oversized hub is specifically designed to support multiple redundant suites of HPAs, BUCs and receive chain configurations. The extra-large doorway allows easy access from the large extended work platform for convenient maintenance of all the electronics. The redundant HVAC system maximizes the electronics Mean Time Before Failures (MTBF) and service availability.

The rugged steel mount delivers Ka-band pointing accuracy in adverse wind conditions. The pedestal design features a precision azimuth bearing with dual drivers for very low backlash.

ViaSat’s proven antenna control system offers full DC servo performance with monopulse autotracking for unparalleled tracking performance. For quick access and service the control system is conveniently located on the work platform.

13.5 METER AT-A-GLANCE

» Antenna patterns compliant with FCC, ITU, ANATEL, and Eutelsat regulations
» High efficiency shaped Cassegrain optics
» Both 2-port and 4-port circular and linear polarized feeds available
» Precision structural steel mount
» Easily accessible hub for electronics packages with hinged door access (accommodates up to 8 HPAs)
» Standard accessories include large work platform and stairs, foundation template and anchor bolts, lightning protection kit, rain blocker
» CE compliant
» Low maintenance with auto lubrication and damage resistant feed window

Options

» Hot air de-icing
» HPA/LNA/converter mounting
» Environmentally controlled hub
» Alternate Frequency Band
» Work platform ladder
» Equipment hoist
» Elevation counterweights
» Defrost (feed and subreflector)
» TT&C capabilities
» Radome
» Installation and maintenance services
**SPECIFICATIONS**

**ELECTRICAL**

**Operating Frequency**

- **Receive**: 17.7 to 20.2 GHz
- **Transmit**: 27.0 to 30.0 GHz

**Gain**

- **Receive**: \(67.2 + 20 \log(F/20.2)\) dBi
  (Ref to Feed RX port output)
- **Transmit**: \(70.2 + 15 \log(F/30)\) dBi
  (Ref to Feed TX port input)

**G/T (30° elevation, clear sky)**

- **Receive**: \(43.0 + 20 \log(F/20.2)\) dBi/K
  (including 1:2 redundant 120 K LNA plate and feed to LNA waveguide)
- **Transmit**: \(46.2 + 15 \log(F/30)\) dBi/K
  (including 1:2 redundant 120 K LNA plate and feed to LNA waveguide)

**Beamwidth (3 dB)**

- **Receive**: 0.07° nominal
- **Transmit**: 0.05° nominal

**Feed System**

- 4-port TX/RX circular polarization
- TE21 tracking coupler
- WR34 TX ports/WR42 RX ports
- 600 W CW transmit power per port
- 85 dB TX/RX isolation
- 18 dB TX/TX and RX/RX isolation

**TX and RX VSWR**: 1.25:1

**Polarization**

- **Sense**: Simultaneous RHC & LHC
- **Axial Ratio**: 1.06:1 (0.50 dB)

**Pattern Envelope**: Compliant to ITU 580-5, FCC 25.209, ANATEL

**Tracking Accuracy (Monopulse)**

- 0.0034° RMS BRE, 45 mph gusting to 60 mph winds

**MECHANICAL**

**Optics**

- Dual shaped cassegrain, axis-symmetric

**Reflector**

- **Diameter**: 44.5 ft; 13.56 m
- **Panels**: 36, precision aluminum, 2 tiers

**Mount Type**

- Elevation over Azimuth

**Axis Drives**

- **Elevation**: Jackscrew, 0.20°/s
- **Azimuth**: Geared Bearing Dual Drive, 0.5°/s

**Antenna Travel**

- **Elevation**: 0° to 90° continuous
- **Azimuth**: ±100° continuous
  Option for ±270° continuous

**Hub Enclosure**

- **Width**: 80.5 in.; 205 cm
- **Height**: 75.5 in; 192 cm
- **Depth**: 48 in.; 121 cm

**ENVIRONMENTAL**

**Temperature**

- **Operational**: -30° to +55° C
- **Optional Range**: -40° to +55° C

**Wind**

- **Operational**: 45 mph (72 km/h) gusting to 60 mph (97 km/h)
- **Drive to Stow**: 80 mph (129 km/h)
- **Survival**: 90 mph (145 km/h) any position, 150 mph (240 km/h) stowed

**Atmospheric Conditions**

- Salt, pollutants, and corrosive contaminants as conditions found in coastal and industrial areas

**Deicing (Optional)**

- **Main Reflector**: Hot air
- **Subreflector**: Resitive heaters
- **Feed**: Resitive heaters

**NOTES**

1. Other frequency bands within 17.7 to 21.2 GHz and 27.0 to 31.0 GHz bands available
2. Other feed configurations available
3. Linear and linear/circular switchable feeds available

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**CONTACT**

**SALES**

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