

Designed for the latest high capacity Ka-band satellites, the 9.1 meter antenna system offers exceptional broadband support to deliver high-speed Wi-Fi connections for residential, commercial and government services.



Viasat's 9.1 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 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 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 adaptive step tracking or monopulse autotracking for unparalleled tracking performance. For quick access and service the control system is conveniently located on the pedestal.

9.1 METER AT-A-GLANCE

- » Antenna patterns compliant with FCC, ITU, ANATEL and Eutelsat regulations
- » High efficiency shaped Cassegrain optics
- » 2-port and 4-port circularly and linearly polarized feeds available
- » Precision structural steel mount
- » Easily accessible hub for electronics packages with large door access
- » Standard accessories include large work platform and stairs, foundation template and anchor bolts, lightning protection kit, rain blower
- » 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

9.1 Meter Ka-band Broadband Gateway Earth Station Antenna

SPECIFICATIONS

ELECTRICAL

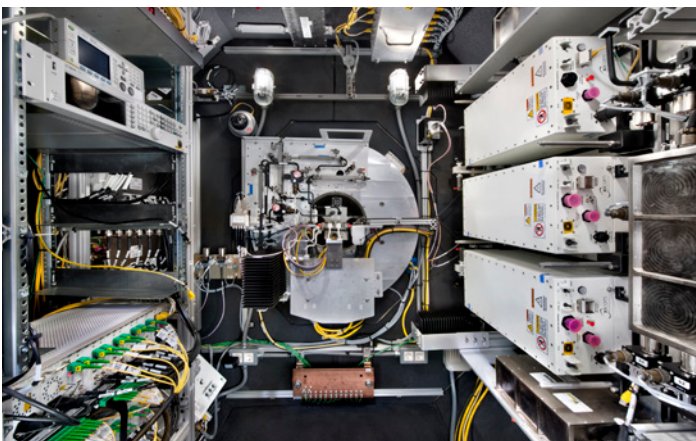
| | |
|----------------------------------------------|---------------------------------------------------------------------------------------------------|
| Operating Frequency¹ (GHz) | |
| » Receive | 17.7 to 20.2 |
| » Transmit | 27.5 to 30.0 |
| Gain | |
| » Receive | 63.8+20 Log (F/20.2) dBi (ref to feed receive port output) |
| » Transmit | 66.7+15 Log (F/30) dBi (ref to feed transmit port input) |
| G/T (30° elevation, clear sky) | 39.7+20 Log (F/20.2) dBi/K (including 1:2 redundant 120 K LNA plate and feed to LNA waveguide) |
| Beamwidth (3 dB) | |
| » Receive | 0.11° nominal |
| » Transmit | 0.07° nominal |
| Feed System² | |
| » 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 | |
| Transmit and Receive VSWR | 1.25:1 |
| Polarization³ | |
| » 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) | 0.0055° RMS BRE, 45 mph gusting to 60 mph winds |

MECHANICAL

| | |
|-----------------------|-------------------------------------------|
| Optics | Dual shaped cassegrain, axis-symmetric |
| Reflector | |
| » Diameter | 9.1 meter; 30.0 ft |
| » Panels | 48, precision aluminum, 2 tiers |
| Mount Type | Elevation over azimuth |
| Axis Drives | |
| » Elevation | Jackscrew, 0.20%/s |
| » Azimuth | Dual drive, 0.5%/s |
| Antenna Travel | |
| » Elevation | 0° to 90° continuous |
| » Azimuth | ±90° continuous |
| Hub Enclosure | |
| » Width | 82 in.; 208 cm |
| » Height | 82 in.; 208 cm |
| » Depth | 44 in.; 121 cm |

ENVIRONMENTAL

| | |
|---------------------------|--------------------------------------------------------------------------------------------------------|
| Temperature | |
| » Operational | -30° to +55° C |
| » Optional Range | -40° to +55° C |
| Wind | |
| » Operational | 45 mph gusting to 60 mph; 72 km/h gusting to 97 km/h |
| » Drive to Stow | 80 mph; 129 km/h |
| » Survival | 90 mph any position, 125 mph stowed; 145 km/h any position, 200 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 | Resistive heaters |
| » Feed | Resistive heaters |



LARGE HUB FOR EASY ACCESS TO ALL RF ELECTRONICS

CONTACT

SALES

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