

Model C120M TVSAT Ku-Band Antenna

High Value Mobile Antennas



The Strength to Perform

Description

The VertexRSI ultra lightweight 1.2-meter mobile antenna is a compact design for high-value transmit and receive operation in Ku-band. This transportable antenna consists of a single-piece composite reflector mounted on a cable drive elevation-over-azimuth positioner. This results in a low-weight antenna with superior stiffness and high performance under wind loading conditions.

The antenna system has a small envelope, allowing it to be interfaced in even the smallest location. The lightweight, robust construction requires less support, reducing the total mass of the vehicle.

Features

- Aluminum/Composite construction
 - Light weight
 - Precise surface
 - High stiffness
 - Robust design for vehicle mounting
- High performance
 - Low sidelobes, high E.I.R.P. capability
 - Compliant under operational wind conditions
- Stow/deployment
 - Low profile
 - Stow position on vehicle
 - Precision alignment
- INTELSAT compliant

Options

- GPS or jog controller
- Boom-mounted electronics integration kits

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Technical Specifications

Electrical	Ku-Band 2-Port Linear Polarized		Ku-Band 2-Port LP Compensated	
	Receive	Transmit	Receive	Transmit
Frequency (GHz)	10.700 - 12.750	13.750 - 14.500	10.950 - 12.750	13.750 - 14.500
Antenna Gain at Midband, dBi	41.70	43.00	41.30	42.90
VSWR	1.30:1 (17.7 dB)	1.30:1 (17.7 dB)	1.35:1 (16.5 dB)	1.30:1 (17.7 dB)
Beamwidth (in degrees at midband)				
-3 dB	1.35	1.17	1.41	1.18
-15 dB	2.84	2.46	2.96	2.48
Sidelobe Performance	Meets FCC 25.209 or ITU-RS-580		Meets Eutelsat, FCC 25.209 or ITU-RS-580	
Antenna Noise Temperature				
5° Elevation	71 K		72 K	
10° Elevation	56 K		58 K	
20° Elevation	49 K		50 K	
40° Elevation	48 K		49 K	
Power Handling (total)		1 kW CW		1 kW CW
Cross Polarization Isolation (minimum)				
On Axis	30 dB	30 dB	35 dB	35 dB
Within 1.0 dB Beamwidth	27 dB	27 dB	27 dB	35 dB
Port to Port Isolation (minimum)				
Rx/Tx (Rx frequency)	0 dB	-30 dB	0 dB	-35 dB
Tx/Rx (Tx frequency)	-85 dB	0 dB	-85 dB	0 dB
Rx/Rx, Tx/Tx (same band)			30 dB	30 dB
RF Specification	975-3973		975-3970	

Mechanical	
Antenna Diameter	1.2 meters (3.9 ft)
Antenna Type	Single offset
Reflector Construction	Compression-molded composite
Mount Type	Elevation over azimuth
Antenna Travel	
Elevation	5° - 90° of reflector boresight
Azimuth	±180° continuous, ±200° optional
Stow Height	17 in (44 cm)
Antenna Weight	115 - 125 lbs. (52 - 57 kg) (depending on options)
Stowed Dimensions	70L X 49W X 17H (178cm X 125cm X 44cm)

Environmental	
Wind Performance (depending on vehicle capabilities)	
Pointing Loss of 0.5 dB	20 mph (32 km/h) gusting to 30 mph (48 km/h)
Drive	30 mph (48 km/h) gusting to 45 mph (72 km/h)
Survival	70 mph (112 km/h) any position 100 mph (160 km/h) at stow
Temperature Range	
Operational	+5° to +122° F (-15° to +50° C)
Survival	-22° to +140° F (-30° to +60° C)
Rain	Up to 4 in/h (10 cm/h)
Relative Humidity	0% to 100% with condensation
Solar Radiation	360 BTU/h/ft ² (1000 Kcal/h/m ²)
Radial Ice (survival)	1 in (2.5 cm)
Shock and vibration tolerant to conditions encountered during shipment by airplane, ship or truck. Atmospheric tolerant to conditions encountered in coastal regions and/or heavily industrialized areas.	

GENERAL DYNAMICS

SATCOM Technologies

1104 Energy Drive • Kilgore, TX 75662 USA • Tel: (903) 984-7811 • Fax: (903) 984-7597 • Email: kilgore-sales@gdsatcom.com

Website: www.gdsatcom.com

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