

0.67M Ka-Band Antenna

Series 3670

Technical Specifications

Electrical		Ka-Band Circular	Ka-Band Circular	Ka-Band Linear
Antenna Size		0.67 M	0.67 M	0.67 M
Operating Frequency (GHz)	Receive	20.20 - 21.20 GHz	19.40 - 21.20 GHz	18.70 - 21.20 GHz
	Transmit	30.00 - 31.00 GHz	29.20 - 31.00 GHz	27.00 - 31.00 GHz
Midband Gain (+/- .2dB)	Receive	40.80 dBi	40.70 dBi	40.60 dBi
	Transmit	44.10 dBi	43.90 dBi	43.90 dBi
VSWR		1.25:1 max	1.3:1 max	Rx: 1.5:1 max Tx: 1.3:1 max
Pattern Beamwidth (in degrees at midband)	-3 dB	Rx: 1.51° Tx: 1.03°	Rx: 1.54° Tx: 1.04°	Rx: 1.53° Tx: 1.06°
	-15 dB	Rx: 3.39° Tx: 2.30°	Rx: 3.45° Tx: 2.33°	Rx: 3.43° Tx: 2.38°
Sidelobe Envelope, Mainbeam < θ < 7° 7° < θ < 9.2° 9.2° < θ < 48° 48° < θ < 180°		29 - 25 Log θ dBi +8 dBi 32 - 25 Log θ dBi -10 dBi (averaged)	29 - 25 Log θ dBi +8 dBi 32 - 25 Log θ dBi -10 dBi (averaged)	29 - 25 Log θ dBi +8 dBi 32 - 25 Log θ dBi -10 dBi (averaged)
Antenna Noise Temperature				
5° Elevation		193 K	193 K	195 K
10° Elevation		143 K	143 K	146 K
20° Elevation		107 K	107 K	110 K
40° Elevation		85 K	85 K	88 K
Power Handling		100 W	100 W	100 W
Cross Polarization Isolation				
On Axis		24.80 dB	Rx: 17.70 dB Tx: 21.30 dB	Rx: 30.00 dB Tx: 35.00 dB
Within 1.0 dB Beamwidth		24.80 dB	Rx: 17.70 dB Tx: 21.30 dB	26 dB
Output Waveguide Interface Flange		Rx: WR42 Tx: WR28	Rx: WR42 Tx: WR28	Rx: WR42 Tx: WR28
Mechanical				
Reflector Material		Glass Fiber Reinforced Polyester SMC, Ka-Band Formulation		
Antenna Optics		1-piece Offset, Prime Focus		
Mast Pipe Size		2.5" SCH 40 Pipe (2.88" OD) 73.2 mm		
Elevation Adjustment Range		5°to 90°, Continuous Fine Adjustment		
Azimuth Adjustment Range		360°Continuous Coarse Adjustment, 10°Fine Adjustment		
Environmental Performance				
Wind Loading	Operational	45 mph (72 km/h)		
	Survival	125 mph (201 km/h)		
Temperature (operational)		- 40°to 140°F (- 40°to 60°C)		
Rain (operational)		½" / hr		
Atmospheric Conditions		Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas		
Relative Humidity		0 to 100% with Condensation		
Solar Radiation		360 BTU/h/ft2		

GENERAL DYNAMICS SATCOM Technologies

1500 Prodelin Drive • Newton, NC 28658 USA • Telephone: +1-828-464-4141 • Fax: +1-828-464-4147
Email: vsat@gdsatcom.com • Web Site: www.gdsatcom.com

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