

# 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 < $\theta$ < 7° 7° < $\theta$ < 9.2° 9.2° < $\theta$ < 48° 48° < $\theta$ < 180°		29 - 25 Log $\theta$ dBi +8 dBi 32 - 25 Log $\theta$ dBi -10 dBi (averaged)	29 - 25 Log $\theta$ dBi +8 dBi 32 - 25 Log $\theta$ dBi -10 dBi (averaged)	29 - 25 Log $\theta$ dBi +8 dBi 32 - 25 Log $\theta$ 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 Survival
	45 mph (72 km/h) 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/ft <sup>2</sup>

## GENERAL DYNAMICS SATCOM Technologies

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