1.2M Ka-Band Antenna

Series 3122

Technical Specifications

Electrical		Ka-Band - Circular	Ka-Band - Circular	Ka-Band - Linear
Antenna Size		1.2 M	1.2 M	1.2 M
Operating Frequency (GHz)	Receive Transmit	20.20 - 21.20 GHz 30.00 - 31.00 GHz	18.30 - 21.20 GHz 29.20 - 31.00 GHz	18.70 - 21.20 GHz 27.00 - 31.00 GHz
Midband (± 0.5dB)	Receive Transmit	46.30 dBi 49.50 dBi	45.80 dBi 49.40 dBi	46.10 dBi 49.20 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 -15 dB	Rx: 0.83° Tx: 0.56° Rx: 1.86° Tx: 1.26°	Rx: 0.85° Tx: 0.57° Rx: 1.90° Tx: 1.28°	Rx: 0.84° Tx: 0.54° Rx: 1.88° Tx: 1.30°
Sidelobe Envelope, Co-Pol (dBi) $100\lambda / D < \theta \leq 20°$ $20° < \theta \leq 26.3°$ $26.3° < \theta \leq 48°$ $\theta > 48°$		 29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)	 29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)	 29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)
Antenna Noise Temperature 5° Elevation 10° Elevation 20° Elevation 40° Elevation		 178 K 137 K 107 K 89 K	 178 K 137 K 107 K 89 K	 181 K 140 K 110 K 92 K
Power Handling		100 W	100 W	100 W
Cross Polarization Isolation On Axis Within 1.0 dB Beamwidth		 17.70 dB 17.70 dB	 Rx: 17.70 dB Tx: 21.30 dB Rx: 17.70 dB Tx: 21.30 dB	 Rx: 30.00 dB Tx: 35.00 dB 26.00 dB
Output Waveguide Interface Flange		Rx: WR42 Tx: WR28	Rx: WR42 Tx: WR28	RRx: WR42 Tx: WR28
Maximum Feed Support Weight		8 lbs. (3.5 kg.)	8 lbs. (3.5 kg.)	8 lbs. (3.5 kg.)

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	± 10°Fine Adjustment, 360°Continuous
Shipping Specifications	80 lbs. (36 kg.)

Environmental Performance		
Wind Loading	Operational Survival	45 mph (72 km/h) *0.5 dB Loss @ 30.00 GHz 125 mph (201 km/h)
Temperature (operational)		- 40°to 140°F (- 40°to 60°C)
Rain (operational)		½" / hr
Ice (operational)		----------
Atmospheric Conditions		Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas
Solar Radiation		360 BTU/h/ft2

GENERAL DYNAMICS
SATCOM Technologies

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