



2.4M Series 3244 Ka-Band Antenna

PARAMETERS

Electrical Performance	Ka-Band Circular	Ka-Band Circular	Ka-Band Linear
Antenna Size	2.4M	2.4M	2.4M
Frequency (GHz)	Rx 19.4 – 21.2 GHz Tx 29.2 – 31 GHz	Rx 20.2 – 21.2 GHz Tx 30 – 31 GHz	Rx 18.7 – 21.2 GHz Tx 27 – 31 GHz
Antenna Gain at Midband (± .2dB)	Rx 51.5 dBi Tx 54.3 dBi	Rx 51.6 dBi Tx 54.4 dBi	Rx 51.4 dBi Tx 54.3 dBi
VSWR	1.3:1 Max	1.25:1 Max	1.5:1 Max Rx 1.3:1 Max Tx
Pattern Beamwidth (in degrees at midband)			
-3 dB	Rx: 0.42° Tx: 0.29°	Rx: 0.42° Tx: 0.28°	Rx: 0.42° Tx: 0.28°
-15 dB	Rx: 0.95° Tx: 0.64°	Rx: 0.95° Tx: 0.63°	Rx: 0.95° Tx: 0.63°
Sidelobe Performance			
Mainbeam	29 - 25 Log θ dBi		
$< \theta < 7^\circ$	+8 dBi		
$7^\circ < \theta < 9.2^\circ$	32 - 35 Log θ dBi		
$9.2^\circ < \theta < 48^\circ$	-10 dBi		
$48^\circ < \theta < 180^\circ$			
Antenna Noise Temperature			
5° Elevation	154 K	154 K	158 K
10° Elevation	128 K	128 K	131 K
20° Elevation	108 K	108 K	103 K
40° Elevation	97 K	97 K	100 K
Power Handling	100 W	100 W	100 W
Cross Polarization Isolation			
On Axis	Rx: 17.7 dB Tx: 21.3 dB	24.8 dB	Rx: 30 dB Tx: 35 dB
Within 1.0 dB Beamwidth	Rx: 17.7 dB Tx: 21.3 dB	24.8 dB	26 dB
Output Waveguide Interface Flange			
RF Specification			
Mechanical Performance			
Reflector Material	Glass Fiber Reinforced Polyester SMC, Ka-Band Formulation		
Antenna Optics	4-piece Offset, Prime Focus		
Mast Pipe Size	6" SCH 80 Pipe (6.62" OD) 16.8 CM		
Elevation Adjustment Range	5° to 90°, Continuous Fine Adjustment		
Azimuth Adjustment Range	360° Continuous Coarse Adjustment, ±45° Fine Adjustment		
Shipping Specifications			
Approximate Net Weight	545 pounds (248 kg)		
Approximate Packaged Weight	885 pounds (402 kg)		
Environmental Performance			
Wind Loading			
Operational	50 mph (80 km/h)		
Survival	125 mph (201 km/h)		
Temperature Range (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		
Relative Humidity	0 to 100% with Condensation		
Solar Radiation	360 BTU/h/ft²		

GENERAL DYNAMICS
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