

# 2.4M C & Ku-Band Rx/Tx Antenna

## Series 1241

### Technical Specifications

Electrical		C-Band Linear	C-Band Circular	Ku-Band
Antenna Size		2.4M (96 in.)	2.4M (96 in.)	2.4M (96 in.)
Operating Frequency (GHz)	Receive	3.625 - 4.20 GHz	3.625 - 4.20 GHz	10.70 - 12.75 GHz
	Transmit	5.85 - 6.425 GHz	5.85 - 6.425 GHz	13.75 - 14.50 GHz
Antenna Gain at Midband, dBi ( $\pm .2$ dB)	Receive	38.20 dBi	38.00 dBi	47.40 dBi
	Transmit	42.20 dBi	42.00 dBi	49.20 dBi
VSWR		1.3:1 Max	1.3:1 Max	Rx: 1.5:1 Max Tx: 1.3:1 Max
Pattern Beamwidth (in degrees at midband)	-3 dB	Rx: 2.20° Tx: 1.40°	Rx: 2.20° Tx: 1.40°	Rx: 0.70° Tx: 0.60°
	-15 dB	Rx: 4.90° Tx: 3.10°	Rx: 4.90° Tx: 3.10°	Rx: 1.60° Tx: 1.40°
Sidelobe Envelope, Co-Pol (dBi) 100 $\lambda$ / D < $\theta \leq 20^\circ$ 20° < $\theta \leq 26.3^\circ$ 26.3° < $\theta \leq 48^\circ$ $\theta > 48^\circ$		29 - 25 Log $\theta$ dBi -3.5 dBi 32 - 25 Log $\theta$ dBi -10 dBi (averaged)	29 - 25 Log $\theta$ dBi -3.5 dBi 32 - 25 Log $\theta$ dBi -10 dBi (averaged)	29 - 25 Log $\theta$ dBi -3.5 dBi 32 - 25 Log $\theta$ dBi -10 dBi (averaged)
Antenna Noise Temperature				
10° Elevation		52 K	57 K	56 K
20° Elevation		46 K	49 K	51 K
30° Elevation		45 K	45 K	48 K
40° Elevation		44 K	44 K	41 K
Cross Polarization Isolation (Linear) On Axis	Receive	>30 dB	N/A	>30 dB
	Transmit	>30 dB	N/A	>35 dB
Axial Ratio (Circular)	Receive	N/A	1.4 VAR (2.95 dB)	N/A
	Transmit	N/A	1.3 VAR (2.28 dB)	N/A
Feed Interface	Receive	CPR 229F	CPR 229F	WR 75 or Direct Radio
	Transmit	CPR 137 or Type N	CPR 137 or Type N	Mounting
Maximum Radio Weight (Optional Feed Stabilizer available for higher radio weight)		20 Lbs. (9 Kg.)	20 Lbs. (9 Kg.)	12 Lbs. (5.5 Kg.)

### Mechanical

Reflector Material	Glass Fiber Reinforced Polyester SMC
Antenna Optics	Prime Focus, Offset Feed, Four-piece
Mast Pipe Size	6" SCH 40 Pipe (6.63" OD) 16.83 cm.
Elevation Adjustment Range	5° to 90° Continuous Fine Adjustment
Azimuth Adjustment Range	360° Continuous, +/- 10° Fine Adjustment
Mount Type	Elevation over Azimuth
Shipping Specifications	
Shipping Weight (Total):	545 lbs. (248 kg.)
Install (Net) Weight:	365 lbs. (166 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)	1/2" (13mm) / 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

1500 Prodelin Drive • Newton, NC 28658 USA

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