

# 1.8M C & Ku-Band Rx/Tx

## Series 1183

### Technical Specifications

Electrical		C-Band Linear	C-Band Circular	Ku-Band Linear
Antenna Size		1.8 M (71 in.)	1.8 M (71 in.)	1.8 M (71 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
Midband Gain ( +/- .2dB)	Receive	35.50 dBi	35.30 dBi	44.80 dBi
	Transmit	39.50 dBi	39.30 dBi	46.80 dBi
Antenna Noise Temperature				
10° Elevation		45 K	45 K	69 K
20° Elevation		41 K	41 K	64 K
30° Elevation		41 K	41 K	63 K
40° Elevation		40 K	40 K	62 K
Sidelobe Envelope, Co-Pol (dBi)				
100λ / D ≤ θ ≤ 20°		29 - 25 Logθ dBi	29 - 25 Logθ dBi	29 - 25 Logθ dBi
20° < θ ≤ 26.3°		-3.5 dBi	-3.5 dBi	-3.5 dBi
26.3° < θ ≤ 48°		32 - 25	32 - 25	32 - 25
θ > 48°		-10 dBi (averaged)	-10 dBi (averaged)	-10 dBi (averaged)
Cross Polarization Isolation	On Axis	30 dB	17.7 dB Tx 15.5 dB Rx	30 dB
	With 1.0 dB Beamwidth	26 dB	17.7 dB Tx 15.5 dB Rx	26 dB
VSWR		1.3:1 Max.	1.3:1 Max.	1.3:1 Max. Tx 1.5:1 Max. Rx
Output Waveguide Interface Flange		WR137 or N Tx WR229 Rx	WR137 or N Tx WR229 Rx	WR75 WR229 Rx
Power Handling		1 kW	1 kW	100 W

Mechanical			
Reflector Material		Glass Fiber Reinforced Polyester SMC	
Antenna Optics		Prime Focus, One-Piece Offset Feed	
Mount Type		Elevation over Azimuth	
Mast Pipe Size		3.5" SCH 40 Pipe (4.00" OD) 10.16 cm.	
Elevation Adjustment Range		5° to 90°, Continuous Fine Adjustment	
Azimuth Adjustment Range		360° Continuous	
Shipping Specifications (Approx. Net Weight)		180 lbs. (82kg.)	170 lbs. (78kg.)

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	1/2" (13 mm)/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/ft <sup>2</sup>	

**GENERAL DYNAMICS**  
SATCOM Technologies

1000-013 Rev. 02/12