

# 90cm RxTx Class I Antenna System



## RF Performance

MODEL#	90158 Ka Band	90138 Ku Band
Effective Aperture . . . . .	.90cm (34.57 x 35.71in)	
Operating Frequency . . . . .	Tx . . . . . 28.00-30.00 GHz . . . . .	.13.75-14.50 GHz
	Rx . . . . . 18.10-20.20 GHz . . . . .	.10.70-12.75 GHz
Polarization . . . . .	Circular RH or LH . . . . . Linear, Orthogonal	
Gain (± 0.2 dB) . . . . .	Tx . . . . . 47.0 dBi @ 30.00 GHz . . . . .	41.0 dBi @ 14.50 GHz
	Rx . . . . . 43.7 dBi @ 20.20 GHz . . . . .	39.8 dBi @ 12.75 GHz
3dB Beamwidth . . . . .	Tx . . . . . 0.76° @ 30.00 GHz . . . . .	0.71° @ 14.50 GHz
	Rx . . . . . 1.09° @ 20.20 GHz . . . . .	1.06° @ 12.75 GHz
Sidelobe Envelope (Tx, Co-Pol dB)		
	100 λ/D < Θ < 20° . . . . .	.29 - 25 Log Θ dB
	20° < Θ < 26.3° . . . . .	-3.5 dB
	26.3° < Θ < 48° . . . . .	32-25 Log Θ dB
	48° < Θ < 180° . . . . .	-10 dB (averaged)
Antenna Cross-Polarization (within 1 dB B/W)		
	Tx . . . circular . . . . .	.25 dB . . . . . 30 dB
	Rx . . . circular . . . . .	.22 dB . . . . . 30 dB
Antenna Noise Temperature*		
	30° El. . . . .	44K . . . . . 53K
VSWR . . . . .	.1.3:1 Max . . . . . 1.3:1 Max	
Isolation (Port to Port) . . . . .	Tx . . . . .	.90dB . . . . . 90dB
	Rx . . . . .	.80dB . . . . . 40dB
Feed Interface . . . . .	Tx . . . . .	WR28 . . . . . WR75
	Rx . . . . .	WR42 . . . . . WR75



## 90cm Antenna Product Specification

- Fine azimuth and elevation adjustment features
- ISO 9001:2008 Certificate of Registration
- Available 4' x 4' Non Pen Mount
- Meets or exceeds regulatory agency requirements
- Anatel Certificate No. 06644-17-06307



## Mechanical Performance

Antenna Optics . . . . .	One-Piece Offset Feed Prime Focus
Mount Type . . . . .	Elevation over Azimuth
Maximum Radio Weight . . . . .	4lb for RF Electronics
Elevation Adjustment Range . . . . .	5° - 90° Continuous Fine Adjustment
Azimuth Adjustment Range . . . . .	360° Continuous, ± 5° Fine
Mast Pipe Interface . . . . .	60.3mm (2.38 in) Diameter O.D.
Wind Loading . . . . .	Operational . . . . . 72 km/h (45 mph)
	Survival . . . . . 241 km/h (150 mph)
Temperature . . . . .	-50°C to 60°C
Humidity . . . . .	0 to 100% (Condensing)
Rain . . . . .	1/2" Per Hour
Atmosphere . . . . .	Standard Hardware Meets 720 Hour Salt Spray Test Requirements (ASTM B-117)
Solar Radiation . . . . .	360 BTU/h/ft2
Shock and Vibration . . . . .	.As Encountered During Shipping and Handling

\*Gain and Noise Temperature at Feed Horn Flange  
(All Specifications Typical)

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