

3M X-Band Antenna Specification

ELECTRICAL SPECIFICATION		
Diameter	3M	
Operating Frequency, GHz	X-Band	
	Receive	Transmit
	7.25~7.75	7.9~8.4
Gain, Mid-band, dBi	$\geq 45.5 + 20\log(f/7.5)$	$\geq 45.9 + 20\log(f/8.15)$
Polarization	Circular	
XPD (on Axis), dB	≥ 35	
XPD across 1dB Beam Width, dB	≥ 33	
Port to Port Isolation, dB		
Isolation, Tx to Rx, dB	80	
VSWR	$\leq 1.5:1$	$\leq 1.3:1$
Axial Ratio (dB)	≤ 0.7	
Tx. Power Capability, KW		5
Feed Interface	BJ-84	BJ-84
Feed Insertion Loss, dB	0.22	0.22
Radiation Pattern:First Sidelobe	CCIR.580-4	
MECHANICAL SPECIFICATION		
Antenna Type	Ring-focus antenna	
Antenna Pedestal Type	Kingpost Pedestal	
Azimuth	0~360°	
Elevation	0°~90°	
Finishes		
Reflector Surface	Aluminum panels with high-diffusing white paint	
Pedestal & Back Structure	Hot-dipped Galvanized	
Surface Accuracy (RMS)	$\leq 0.5\text{mm}$	
Antenna Drive	Manual or Motorized Drive	
ENVIRONMENTAL SPECIFICATION		
Operational Wind	72km/h Gusting to 97km/h	
Survival Wind	200km/h	
Temperature	- 45°C ~ + 60°C	
Relative Humidity	100%	
Seismic (Survival)	0.3g (H), 0.15g (V)	