



# Alignsat 4.5m Earth Station Antenna

Alignsat 4.5m antenna delivers exceptional high performance for transmit/receive application in C, Ku, and other Multi-band in Tx/Rx 2ports, 4 ports or Rx2 ports with high gain, low noise and low microwave interference.

Alignsat 4.5m antenna offers a fine reflector design with a stretch formed double contoured panels, strong back struts and hub for ease of field alignment. The standard designed azimuth over elevation pedestal provides a cost-effective solution for ground or roof installation with high stiffness and stability, full orbital arc coverage and fine drive performance, and ensures the pointing and tracking accuracy.

The electrical performance is compliant with FCC and ITU-RS-580 sidelobe specifications and Intelsat, Eutelsat, INMARSAT, ASIASAT, APT and CHINASAT, etc. requirement.



## PERFORMANCE STRENGTH

- C, Ku, and Multi Band available, meeting or exceeding FCC and ITU-RS-580 requirements.
- High quality aluminum reflector panels and galvanized steel backup structure.
- Self-aligning aluminum antenna reflector-no field alignment.
- Galvanized steel elevation over azimuth pedestal.
- Field changeable feed system, switchable circular to linear C-band.
- Fixed foundation and Non penetrating foundation optional for wider choice.
- Survives 125 mph winds in any position and High wind configuration optional.

## ELECTRICAL SPECIFICATION (1/2)

	AT45C		AT45K	
	C-Band		Ku-Band	
Operating Frequency, GHz	Receive 3.4-4.2	Transmit 5.85-6.65	Receive 10.95-12.75	Transmit 13.75-14.5
Gain, Mid-band, dBi	44	47.3	53.2	54.3
Polarization	Linear / Circular		Linear	
XPD (on Axis), dB	35		35	
XPD across 1dB Beam Width, dB	33		33	
Axial Ratio (Circular-Polarized)				
2-Port Feed	1.30	1.09		
4-Port Feed	1.06	1.06		
VSWR	1.25		1.25	





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## ELECTRICAL SPECIFICATION (2/2)

	AT45C		AT45K	
Antenna Noise Temperature 2-port feed				
10° Elevation	34°K		52°K	
30° Elevation	24°K		41°K	
50° Elevation	21°K		37°K	
Typical G/T ( EI 10°)	25.9dB/K° (30°LNA)		32.3dB/K° (70°LNA)	
-3dB Beam Width, Mid-band	1.12°	0.72°	0.37°	0.33°
Tx. Power Capability, KW		5		2
Feed Interface	CPR-229G	CPR-137G	WR-75	WR-75
Feed Insertion Loss, dB	0.2	0.2	0.25	0.2
Isolation, Tx to Rx, dB		90		85
First Side lobe 90% Peaks under Following Envelop		-14 29-25log (1°≤0<20°)		-14 29-25log (1°≤0<20°)

## MECHANICAL SPECIFICATION

Antenna Diameter	4.5m
Antenna Type	Ring Focus
Surface Accuracy (RMS)	≤0.5mm
Antenna Pointing Range	
Azimuth	±85° 3 sections
Elevation	0°-90°(Continuous)
Polarization	180°(Continuous)
Drive Mode	Manual or Motorized
Motor Drive System	
Azimuth Travel Rate	0.11°/S(0.03°/S)
Elevation Travel Rate	0.17°/S(0.04°/S)
Antenna Reflector Material	Aluminum Alloy
Finish of steel parts	Hot dipped Zinc

## ENVIRONMENTAL SPECIFICATION

Operational Wind	72km/h gusting to 97km/h
Survival Wind	216km/h
Temperature	-40°-+60°
Relative Humidity	100%
Solar Radiation	1135Kcal/h/m <sup>2</sup>
Seismic (Survival)	0.3g(H), 0.15g(V)
Ice Loading	13mm Operational ; 25mm Survival

