



# ANTENNA EXPERTS

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Model # AH-450

430 – 475 MHz.

11 dBic. Gain

## Circular Polarized High Gain High Power Helical Antenna for SATCOM Ground Station Application

**DESIGN FEATURES:** The AH-450 uses extended stubs to provide the greater gain while maintaining the wider beam-width. This high-gain low-profile antennas use Circular Polarization Antenna Technology - which delivers better penetration through obstruction and interference. This commercial grade antenna provides superior performance as compare to significantly larger and more expensive products. Our AH series helical antennas are smaller than conventional yagi antenna. The AH-450 Helical Antenna is supplied with a specially designed mounting arrangement for steering the antenna in both planes, over 360 Degrees in Azimuth and 90 Degrees in Elevation for terrestrial and satellite links. Elevation tracking can be done if antenna is mounted on horizontal mast/pole. Broadband design feature of antenna makes it highly suitable for SATCOM application as SATCOM ground station antenna without having the requirement of multiple antennas.



**CONSTRUCTIONS:** The AH-450, like all our AH series helical antennas, utilizes circular polarization to minimize the effects of multipath interference. Both Right Hand Circular Polarized (RHCP) and Left Hand Circular Polarized (LHCP) helical antenna models are available. The AH-450 Helical Antenna is light weight, broadband and rugged helical antennas, supplied with high strength fiberglass radome to protect the antenna from environment. Cylindrical enclosure is used for low wind loading and for minimal effect of ice formation on the helical antenna operation as well as providing an aesthetically pleasing appearance. The antenna is designed as per MIL-STD-810G standards.

**ARRAY FORMATION:** For higher gain requirement, the Helical antenna can be supplied in DUAL stacked or QUAD stacked arrays formation with suitable power splitter/combiner cable harness. Customized color and customized mounting can also be supplied on request.

### ELECTRICAL SPECIFICATIONS:

Frequency Range	430 -475 MHz.
Gain	11 dBic. Typical
Bandwidth	Entire 430-475 MHz Band
Polarization	Circular - LHCP or RHCP
Input Impedance	50 Ohms.
Radiation Pattern	Directional
Horizontal Beam-width –Half Power Points	55+/-5 Degrees Typical
Vertical Beam-width –Half Power Points	45+/-5 Degrees Typical
Front to Back Ratio	16 dB. Typical
VSWR – Better than	2:1
RF Power Handling Capacity	500 Watts.
Input Termination	N-Female

### MECHANICAL SPECIFICATIONS:

Mounting Hardware	Stainless Steel
Weight	14 Kgs.
Wind Rating	200 Km/Hr.
Overall Length	1300 mm
Shipping Length	1450 mm
Radiating Materials	High Quality Copper
Enclosure Materials	High Strength Fiber Glass
Enclosure diameter	260 mm
Mast Diameter	52 mm
Reflector Materials	6061T6 Aluminum Alloy
Reflector Size	310 x 310 mm

### ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature	(-) 30 to +70 Degrees Celsius
Storage Temperature	(-) 40 to +80 Degrees Celsius
Humidity	0 to 95% RH

Note: All information contained in the datasheet is subject to change without any prior notice.

Please contact us for further technical information like VSWR curves and radiation pattern