

Antenna Development Corporation
151 S. Walnut Street. Suite B-6, Las Cruces, NM 88001

Medium Gain Helix Antennas

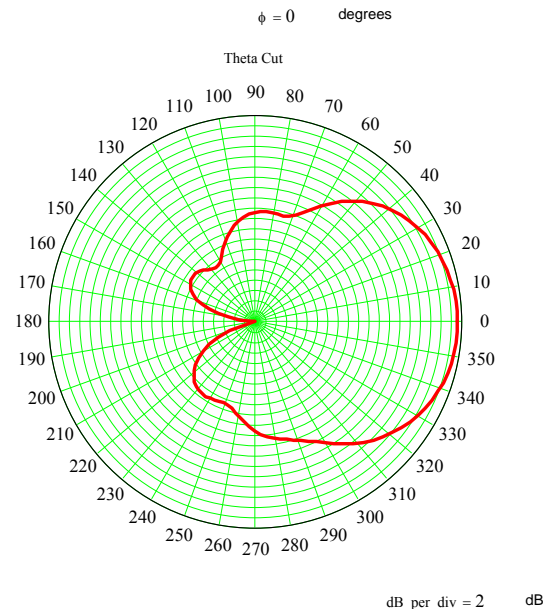
Antenna Development Corporation, Inc. (*AntDevCo*) offers medium gain helix spacecraft antennas. This antenna design has proven flight heritage on the NASA Genesis mission. The antenna is capable of supporting very high data rates and up to an estimated 25 Watts of transmitted power. Left hand and right hand polarized versions are available. The radiation pattern and gain of this antenna was optimized to provide the Genesis mission with a specific performance. Higher gain, narrower beam variants are also available. This unit is about 6 inches tall, the base is 4 inches in diameter and is very light weight and mechanically rugged.

All antennas are supplied with extensive testing data including principal plane radiation pattern plots, gain bounds plots, and coverage statistics. Simulations of the expected performance on your satellite can also be custom developed.



AntDevCo has just completed a number of the model HXSF14R-2238 antennas for a new space mission. Antenna test hats to match these units are also available from AntDevCo.

(These units were designed and developed by AntDevCo personnel while employed at New Mexico State University and are manufactured by AntDevCo with permission from NMSU through our memorandum of understanding with the University.)



Helix Radiation Pattern

Specifications

- Gain: 9 dBic typical
> 4 dBic for $\theta > 36^\circ$
(Dependent on antenna mounting)
- Frequency: 2000 – 2300 MHz.
- Bandwidth: > 300 MHz (2:1 VSWR)
- HPBW: 72° typical
- Impedance: 50 Ohms
- Polarization: RHCP (LHCP on request)
- VSWR: < 2:1 over band
- Axial Ratio: < 4 dB on axis at TX
- Connector: SMA Female
- Dimensions: 4" diameter base, 5.7" tall
- Mass: < 110 grams
- Temperature: -150 C to +95 C
- Power: up to 25 Watts CW
- Vibration: > 11 g's RMS 3 axes
- IR properties Aeroglaze A276 paint covering

AntDevCo is ISO 9001:2000 certified.

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Precision Antennas for Spacecraft, Rockets, and Missiles

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