

Innovative **Technology** for a **Connected** World

Phantom® Antennas





PHANTOM® UHF ANTENNA OUTPERFORMS CONVENTIONAL **MOBILE ANTENNAS IN MANY APPLICATIONS**

Laird Technologies' unique patented Phantom® is a tough antenna for outdoor or indoor applications. Measuring only 3.5" tall, the Phantom® UHF antenna's revolutionary design features field diversity with both vertical and horizontal polarization components. This gives the antenna diversity, frequency agility, low visibility, wide bandwidth and a low angle radiation pattern that is superior to traditional gain antennas in most applications.

The industry standard NMO mounting socket mates with all of Laird Technologies' magnetic, trunk lid, and hole mounts. A threaded permanent stud mount model is also available for vandal resistant mounting on brackets, panels, ceilings or any other kind of housing.

The Phantom's patented technology is beneficial when high performance is desired along with extreme ruggedness and a low profile.

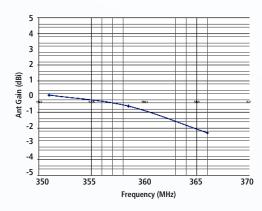
FEATURES **FROHS**

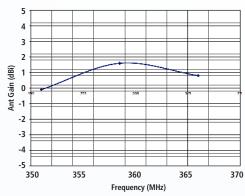
- Cross polarization design ensures uninterrupted transmissions in urban canyons and rural drop off areas
- Rugged design is IP-67 rated
- U.S. Patent Nos. 5,977,931 6,292,156 and 7,209,096

MARKETS

- Public safety
- Transportation
- Utility
- Military mobile
- Fixed radio applications.

ANTENNA PATTERNS





Elevation Antenna Gain Response

Azimuth Antenna Gain Response

global solutions: local support ™

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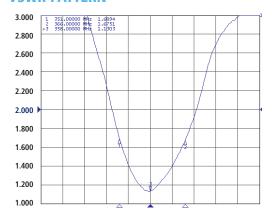
www.lairdtech.com



Phantom[®] Antennas TRA3513

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VSWR PATTERN



SPECIFICATIONS

ELECTRICAL	
Frequency Range	351-366 MHz
VSWR	≤ 2:1
Gain	1.6 dBi peak
Maxmium Power	100 W
Nominal Impedance	50 Ω
Polarization	Vertical
Pattern	Omnidirectional
Half-Power Beamwidth (Elevation° x Azimuth°)	110° x 360°
Coaxial Cable Length & Type (For Vertical Polarization)	None
Terminations	N-Female Connector
Lightning Protection	Lightning Arrestor P/N: LABH350NN (sold separately)

MECHANICAL	
Height (Initially)	3½" (88.96 mm)
Diameter	1.438" (36.5 mm)
Rated Wind Velocity	125 mph (210 kph)
Rated Wind Velocity (with 0.5" radial ice)	85 mph (137 kph)
Lateral Thrust @ 125 mph Wind Velocity	57 lbs. (26 kg)
Wind Resistance in Sq. Feet	0.0356 Sq. ft.
Mounting Information	Optional Mounting Kit P/N: FM2SP
IP Rating	IP-67

MODEL AND ORDERING INFORMATION

MODEL	DESCRIPTION
TRA3513	351-366 MHz 1.6 dBi Phantom® ¾ NMO, White Radome
TRAB3513	351-366 MHz 1.6 dBi Phantom® ¾ NMO, Black Radome

Permanent Mounting Option:

Please order by antenna model and insert letter "P" to indicate permanent mounting option (TRA3513P).

ANT-DS-TRA3513 0711

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