

ANT-418-MHW-xxx-x

Data Sheet

Product Description

MHW Series dipole antennas feature a durable, unobtrusive housing that sticks permanently with integral adhesive to flat, non-conductive surfaces such as windows, drywall, ceiling tiles, plastic, etc. The antennas are well suited to low-power devices, but are capable of operation at levels to 10 watts. The MHW is supplied with either 79" [2m] or 180" [4.6m] of RG-174 cable and attaches via a standard SMA or Part 15 compliant RP-SMA connector. Custom cable lengths and connectors are available for volume OEM customers.

Features

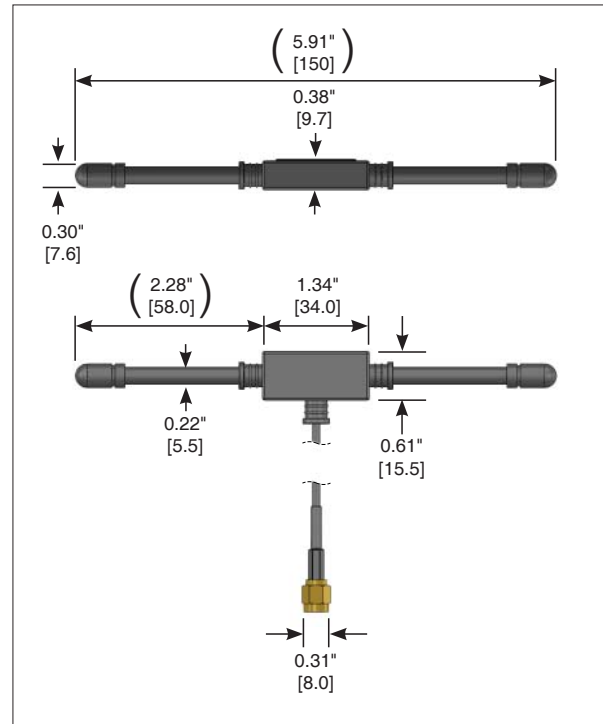
- Compact & unobtrusive
- Adhesive for flat surfaces
- Excellent performance
- Omni-directional pattern
- Very low VSWR
- Two flexible radiating elements
- Rugged & damage-resistant
- Standard SMA or Part 15 compliant RP-SMA connector

Electrical Specifications

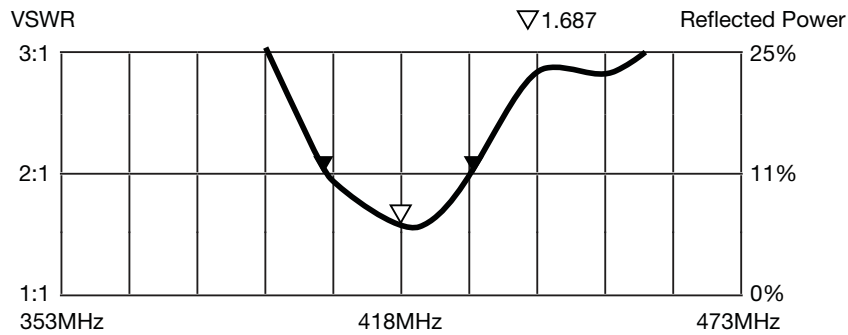
Center frequency:	418MHz
Recommended Oper. Freq:	408–428MHz
Wavelength:	1/2-wave
VSWR:	≤ 1.9 typical at center
Peak Gain:	2.1 dBi
Impedance:	50-ohms
Connection:	SMA or RP-SMA
Cable:	79" or 180" RG-174 coax

Ordering Information

- ANT-418-MHW-RPS-L (RP-SMA connector, 180" [4.6m] coax)
- ANT-418-MHW-RPS-S (RP-SMA connector, 79" [2m] coax)
- ANT-418-MHW-SMA-L (SMA connector, 180" [4.6m] coax)
- ANT-418-MHW-SMA-S (SMA connector, 79" [2m] coax)



VSWR Graph



What is VSWR?

The Voltage Standing Wave Ratio (VSWR) is a measurement of how well an antenna is matched to a source impedance, typically 50-ohms. It is calculated by measuring the voltage wave that is headed toward the load versus the voltage wave that is reflected back from the load. A perfect match will have a VSWR of 1:1. The higher the first number, the worse the match, and the more inefficient the system. Since a perfect match cannot ever be obtained, some benchmark for performance needs to be set. In the case of antenna VSWR, this is usually 2:1. At this point, 88.9% of the energy sent to the antenna by the transmitter is radiated into free space and 11.1% is either reflected back into the source or lost as heat on the structure of the antenna. In the other direction, 88.9% of the energy recovered by the antenna is transferred into the receiver. As a side note, since the “:1” is always implied, many data sheets will remove it and just display the first number.

How to Read a VSWR Graph

VSWR is usually displayed graphically versus frequency. The lowest point on the graph is the antenna’s operational center frequency. In most cases, this will be different than the designed center frequency due to fabrication tolerances. The VSWR at that point denotes how close to 50-ohms the antenna gets. Linx specifies the recommended bandwidth as the range where the typical antenna VSWR is less than 2:1.