

# ANT-ELE-S01-012

## Data Sheet

### Product Description

These low-cost, high-performance elements are designed for use with MAG Series magnetic bases. Together with the base, these elements form a reliable and cost effective solution to a diverse range of applications requiring a semi-permanent antenna. The antennas are designed for durability to resist the effects of outdoor environments since they will commonly be used on vehicles or in other exposed applications.

### Features

- Ideal for both stationary and mobile applications
- Excellent performance
- Low cost
- Omnidirectional performance
- Outstanding VSWR
- Securely attaches to all MAG Series bases
- Fully weatherized construction
- Attractive and durable black finish

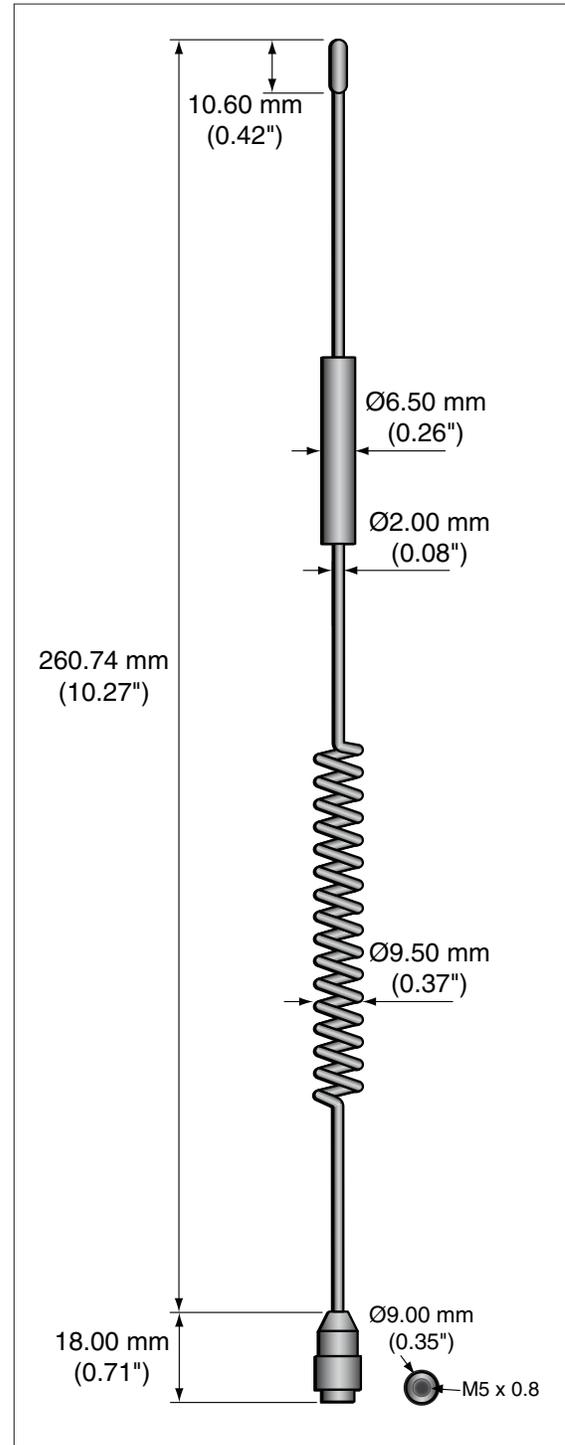
### Electrical Specifications

Freq. Range (Band 1): 824–960MHz  
Freq. Range (Band 2): 1710–1990MHz  
Peak Gain (Band 1): 3.2dBi  
Peak Gain (Band 2): 4.4dBi  
VSWR:  $\leq 2.0$  typ. at center  
Impedance: 50-ohms  
Oper. Temp. Range:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$   
Connection: M5 x 0.8 threaded base  
Electrical specifications and plots measured on ANT-MAG-B50

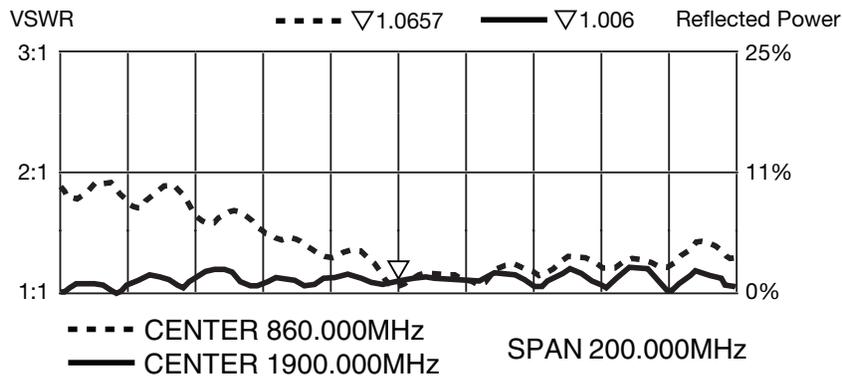
### Ordering Information

ANT-ELE-S01-012

This element requires a MAG1 Series base (sold separately)



## 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.