



2 dBi WideBand Poly Spring Vehicular Antenna 144-174 MHz NMO Mount Connector

Antennas Technical Data Sheet

PE51MP1003

Features

- Wide band performance; no tuning required
- NMO mount, Black Chrome Finish
- Flexible Black Polymer Alloy Spring
- O-ring seal for waterproof construction
- Durable Xenoy™ base with TPV over mold dust seal and grip ring

Applications

- Service Vehicles
- Public safety
- Public Transportation
- Mining & Construction

Description

This wide band VHF mobile omnidirectional antenna is ideally suited for multipoint mobile applications including service vehicles, public transportation, public safety, mining and construction vehicles, as well numerous other commercial and industrial applications where mobility and wide coverage is desired. This antenna features a flexible Poly Spring base. Unlike the traditional metal spring base, the Poly Spring will not corrode and does not generate electrical noise when flexed during use. It has a standard TAD/NMO Motorola-type mobile base.

Configuration

| | |
|-------------------|------------------|
| Design | Vehicular |
| Application Band | VHF |
| Band Type | Wide |
| Radiation Pattern | Omni Directional |
| Wavelength | Quarter Wave |
| Polarization | Linear, Vertical |
| Ground Plane | Required |
| Connector Type | NMO Mount |

Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---------------------------------|---------|-----------------|---------|---------|
| Frequency Range | 144 | | 174 | MHz |
| Operational Bandwidth | | 30 | | MHz |
| Input VSWR | | 1.8:1 | 2:1 | |
| Impedance | | 50 | | Ohms |
| Gain | | 2 | | dBi |
| Horizontal (Azimuth) Beam Width | | Omnidirectional | | |
| Vertical (Elevation) Beam Width | | 70 | | Degrees |
| Input Power | | | 150 | Watts |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [2 dBi WideBand Poly Spring Vehicular Antenna 144-174 MHz NMO Mount Connector PE51MP1003](#)



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Mechanical Specifications

| | |
|----------------------|-----------------------------|
| Base Material | Xenoy™ w/TPV over mold grip |
| Whip Material | 17-7 SS |
| Whip Finish | Black Chrome |
| Mounting Application | ¾ inch thru-hole NMO Mount |
| Spring Material | Black Molded Polymer Alloy |

Size

| | |
|----------------|----------------------|
| Overall Length | 19.33 in [490.98 mm] |
|----------------|----------------------|

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Installation Instructions

**PE51MP1003 (144-174 MHz) 2 dBi
VHF WIDE BAND ANTENNA**

*Congratulations on your selection of another quality antenna product from Pasternack.
Pasternack is committed to continually provide the greatest antenna VALUE for your wireless applications.*

1. Parts (Figure 1):

Verify all parts are included with the Antenna as shown in Figure 1.

- A. Antenna Whip
- B. e/m-Flex™ Poly Spring Assembly
- C. NMO Base Adapter
- D. O-Ring

2. Tools/Materials Required:

- A. **Antenna is factory tuned for 144-174 MHz.**
Special tools are **not required** to install or adjust the frequency of the antenna. The antenna is intended to be installed using a firm hand torque until the sealing O-ring is completely compressed against the installation surface.

3. Pre-Installation (Figure 2):

- A. **Ground Plane:** The antenna requires a conductive metallic ground-plane surface to achieve operational performance. Always mount antenna to the appropriate NMO Mount within the center of the ground-plane surface.
- B. Ground-plane surface should be a minimum of 40 inches square (1m).
- C. Ensure O-ring is properly seated within O-ring groove as shown in Figure 2.
- D. **Important:** Verify proper operational Frequency, as labeled. (Figure2).

4. Installation (Figure 3):

- A. Verify contact spring is completely extended.
- B. Thread NMO Base Adapter onto the NMO mount. Tighten by hand until O-Ring is completely seated.
- C. Thread Spring onto NMO Base Coil Adapter. Firmly torque by hand.
- D. Verify VSWR.
- E. **Note:** Antenna is factory pre-tuned for the specified bandwidth. **Do not apply adjustments to whip length**

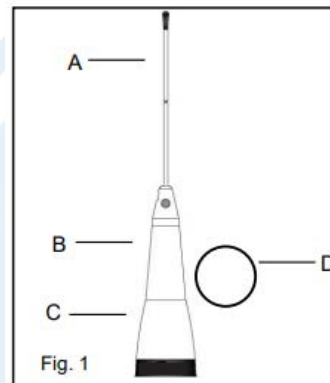


Fig. 1

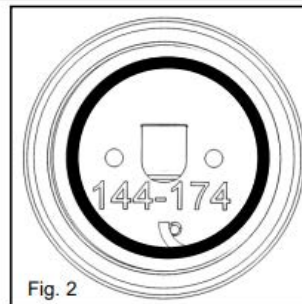


Fig. 2

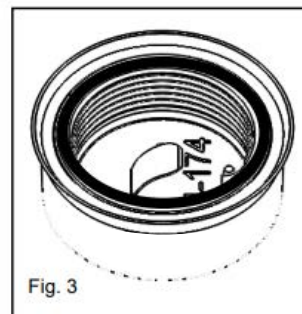


Fig. 3

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Environmental Specifications

Temperature

Operating Range

-40 to +85 deg C

Humidity

95%

Corrosion

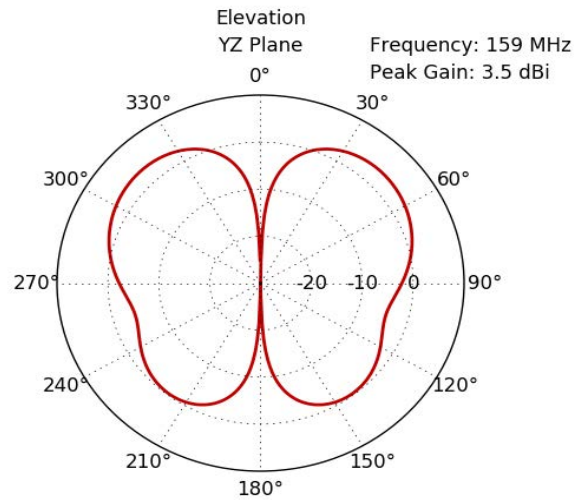
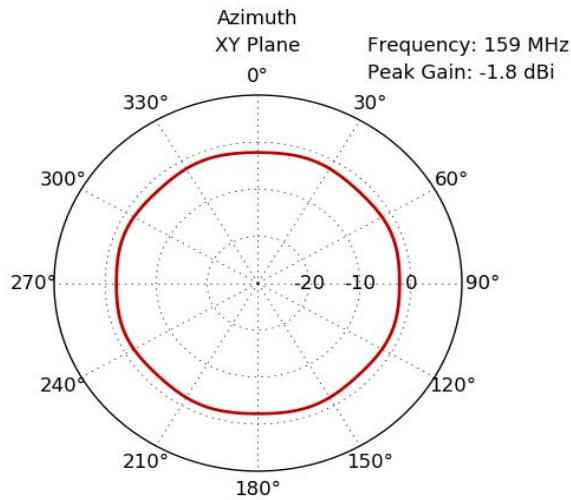
Salt Fog

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Radiation Pattern



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2 dBi WideBand Poly Spring Vehicular Antenna 144-174 MHz NMO Mount Connector from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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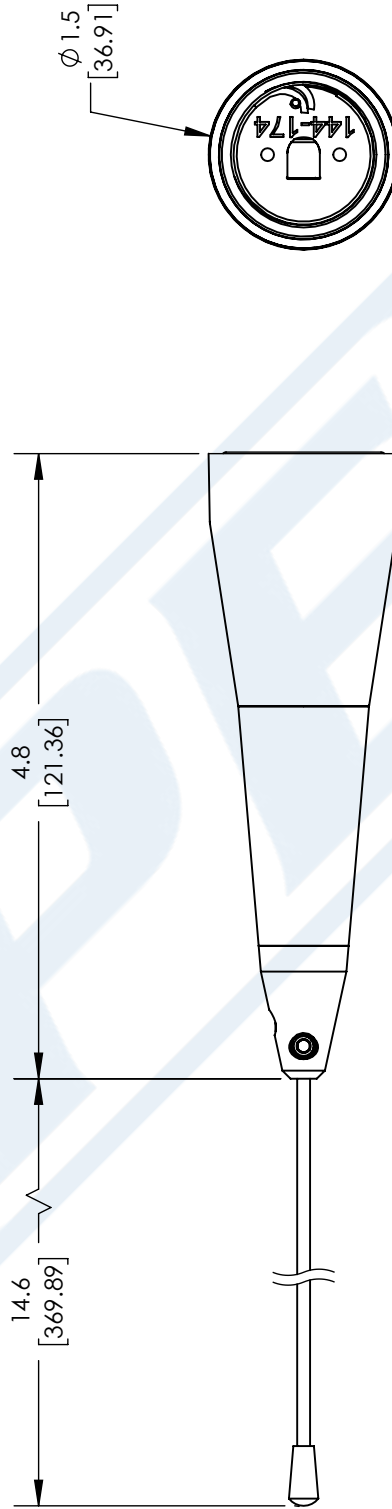
URL: <https://www.pasternack.com/wide-antenna-144-174-mhz-2-dbi-gain-nmo-mount-pe51mp1003-p.aspx>

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PE51MP1003 CAD Drawing

2 dBi WideBand Poly Spring Vehicular Antenna 144-174 MHz NMO Mount Connector

| REVISIONS | | |
|-----------|-----------------|------------|
| REV. | DESCRIPTION | DATE |
| A | INITIAL RELEASE | 07/17/2019 |
| | | APPROVED |
| | | MMILLER |



| | |
|--|-------------|
| UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS | |
| TOLERANCES: | FRACTIONS |
| X±.2 [5.08] | +1/32 |
| XX±.01 [.25] | ANGLES ± 1° |
| XXX±.005 [.13] | |
| ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY. | |
| THIRD-ANGLE PROJECTION | |

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CAGE CODE: 53919
DRAWN BY: BPUCHASKI
PART NUMBER: PE51MP1003

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| SHEET 1 | OF 1 |
| SCALE | N/A |
| REV | A |

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