3 dBi Tunable Poly Spring Vehicular Antenna
420-470 MHz NMO Mount Connector

## HG423PS-NMO

### Features

- NMO mount, Black Chrome Finish
- Flexible Black Polymer Alloy Spring
- Broad Band, Field Tuneable
- 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 UHF 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 standard TAD/NMO Motorola-type mobile base.

### Configuration

| | |
|---|---|
| Design | Vehicular |
| Application Band | UHF |
| Band Type | Single |
| Radiation Pattern | Omni Directional |
| Polarization | Linear, Vertical |
| Ground Plane | Required |
| Connector Type | NMO Mount |

### Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Frequency Range (Tunable Range) | 420 | | 470 | MHz |
| Input VSWR | | | 1.5:1 | |
| Impedance | | 50 | | Ohms |
| Gain | | 3 | | dBi |
| Horizontal (Azimuth) Beam Width | | Omnidirectional | | |
| Vertical (Elevation) Beam Width | | 50 | | Degrees |
| Input Power | | | 150 | Watts |

### Mechanical Specifications

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications:
3 dBi Tunable Poly Spring Vehicular Antenna 420-470 MHz NMO Mount Connector HG423PS-NMO

3 dBi Tunable Poly Spring Vehicular Antenna
420-470 MHz NMO Mount Connector

## HG423PS-NMO

| | |
|---|---|
| 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** | |
| Length | 14.37 in [365 mm] |

3 dBi Tunable Poly Spring Vehicular Antenna
420-470 MHz NMO Mount Connector

## HG423PS-NMO

### Installation Instructions

**HG423PS-NMO**
**3 dB UHF ROOF MOUNT ANTENNA**
**(420-470 MHz)**

*Congratulations on your selection of another quality antenna product from L-COM.*
*L-COM 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 Coil Adapter
   D. O-Ring
2. **Tools/Materials Required:**
   A. Tool for cutting stainless steel whip
   B. Hex Wrench (3-32")
   C. **Note:** Special tools are not required to install 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. The HG423PS-NMO is designed for installation to a standard NMO mount.
   B. Ensure O-ring is properly seated within O-ring groove as shown in Figure 2.
   C. **Important:** Verify proper operational frequency is stamped on the base of the coil as shown in Figure 2.
   D. Read and follow all Whip Cutting Instructions supplied for this model.
4. **Tuning and Installation (Figure 3):**
   A. Verify contact spring is completely extended. If necessary, adjust by pulling the contact outward. (Figure 3)
   B. Thread NMO Base Coil Adapter onto the vehicle NMO mount. Tighten by hand until O-Ring is completely seated.
   C. Thread Spring onto NMO Base Coil Adapter. Firmly torque by hand.
   D. Refer to whip cutting instructions. Cut whip to length according to desired frequency of operation.
   E. Verify VSWR. Apply firm torque to whip adapter set screws (2 ea.).

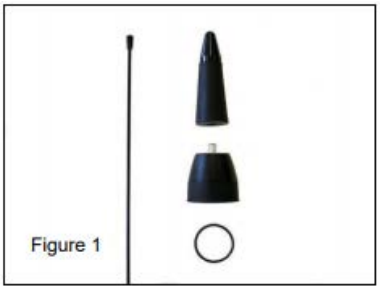


Figure 1

Figure 2

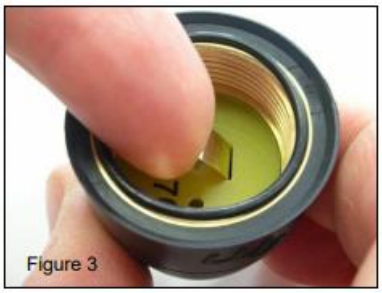


Figure 3

3 dBi Tunable Poly Spring Vehicular Antenna
420-470 MHz NMO Mount Connector

## HG423PS-NMO

### WHIP CUTTING INSTRUCTIONS

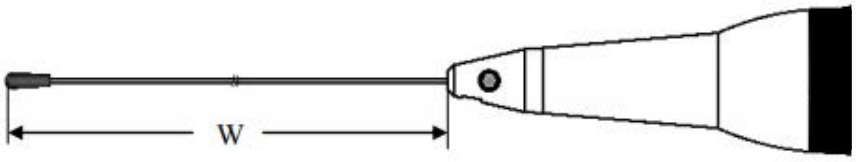
**FOR TUNNING HG423PS-NMO**
**(420-470 MHz)**
**PLEASE CAREFULLY READ ALL INSTRUCTIONS BEFORE CUTTING THE WHIP.**

1. **IMPORTATN: Before Cutting.**
   It is recommended to cut the whip longer than the required dimension to verify actual performance. Then trim the whip I n1/16" (1.5mm) increments to fine tune the desired VSWR response.
   **CUTTING NOTE:** The whip can be cut using a grinding wheel or shearing tool designed for this purpose.

2. **Note:** The Tuned Length "W" is determined by measuring the distance between the top of the whip adapter and the top of the whip. SEE FIGURE 4. Cut length dimension will be approximately 1" (25mm) longer than Tuned Length "W".
3. Identify the desired center frequency of operation in the left column of TABLE 1. Imperial and Metric units are given for convenience.
4. **TUNING NOTE:** For frequencies not listed in TABLE 1, interpolation of Tuned Length "W" is permitted. When interpolating intermediate frequencies, the antenna frequency response increases by approximately 1 MHz for every 0.04" (1 mm) of cut length.
5. Cut the whip as required to establish the specified Tuned Length "W" as shown in Figure 4.
6. Verify VSWR. Secure set screws (2 ea.).

| FREQUENCY | TUNED WHIP LENGTH "W" | |
|---|---|---|
| (MHz) | (inches) | (mm) |
| 420 | 10-5/8 | 268 |
| 423 | 10-7/16 | 264 |
| 426 | 10-1/4 | 260 |
| 429 | 10-1/8 | 256 |
| 432 | 9-15/16 | 252 |
| 435 | 9-13/16 | 248 |
| 438 | 9-9/16 | 243 |
| 441 | 9-3/8 | 238 |
| 445 | 9-3/16 | 232 |
| 448 | 8-15/16 | 227 |
| 451 | 8-3/4 | 222 |
| 454 | 8-9/16 | 217 |
| 457 | 8-3/8 | 212 |
| 460 | 8-3/16 | 208 |
| 463 | 8-1/8 | 205 |
| 466 | 8 | 203 |
| 469 | 7-15/16 | 201 |
| 470 | 7-7/8 | 199 |

Table 1




[**Note:** Add 1" (25mm) to Tuned Length "W" when cutting whip.]

Figure 4

3 dBi Tunable Poly Spring Vehicular Antenna
420-470 MHz NMO Mount Connector

## HG423PS-NMO

### Environmental Specifications

**Temperature**

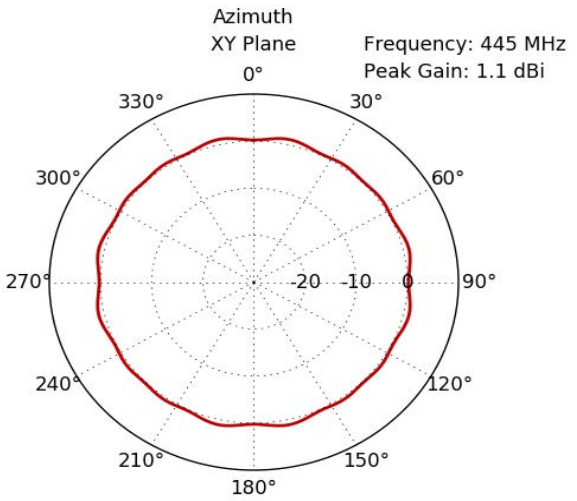
| | |
|---|---|
| Operating Range | -40 to +85 deg C |
| Humidity | 95% |

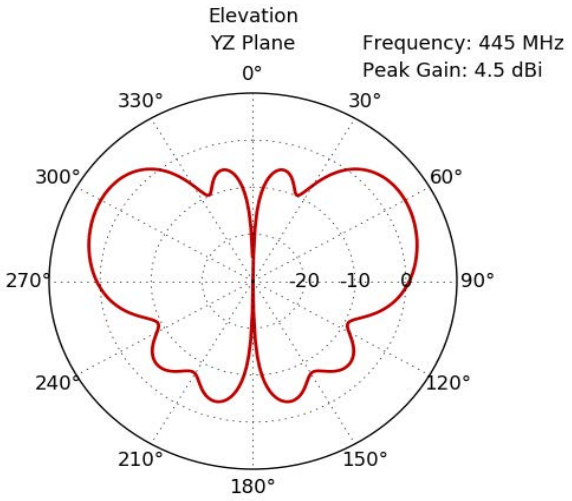
### Compliance Certifications (see product page for current document)

### Plotted and Other Data

Notes:

#### Typical Radiation Pattern




3 dBi Tunable Poly Spring Vehicular Antenna 420-470 MHz NMO Mount Connector from L-com has same day shipment for domestic and International orders. Our portfolio includes coaxial cable assemblies, connectors, adapters and custom products as well as lightning and surge protectors, NEMA rated enclosures, and an RF product line which includes antennas, amplifiers, passive, and active components.

## L-com CAD Drawing