


# TRA9023

## Phantom Antennas 902-928 MHz

The patented Laird Connectivity Phantom® is a tough low-profile antenna for outdoor or indoor applications. Measuring only 2.3" tall, the Phantom 902-928 MHz antenna is designed and performance engineered with vertical polarization components. This antenna provides frequency agility, low visibility, and a low angle radiation pattern that delivers superior performance in challenging application environments.

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

The patented Phantom® antenna technology is beneficial when high performance is desired and extreme ruggedness and low profile is required.

## FEATURES

- Mechanically robust for both indoor and outdoor applications
- NMO mount and vandal resistant permanent mount option
- IP67 rated for dust intrusion and temporary water immersion
- RoHS tested and compliant components

## MARKETS - APPLICATIONS

- Cellular
- GSM and PCS
- Wi-Fi
- 802.11
- Bluetooth wireless applications



Downloaded from Arrow.com.

| ELECTRICAL SPECIFICATIONS | |
|---|---|
| Model Name | TRA9023 |
| Operating Frequency (MHz) | 902-928 |
| VSWR | <2.0:1 |
| Gain (dBi) | 3.0 |
| Nominal Impedance (Ohms) | 50 |
| Max Power - Ambient 25°C (W) | 100 |
| Polarization | Vertical |
| Radiation Pattern | Omnidirectional |
| Vertical Plane 3 dB Beamwidth | 360° |
| Horizontal Plane 3 dB Beamwidth | 78° |

| MECHANICAL SPECIFICATIONS | |
|---|---|
| Dimensions – H x D – mm (inches) | 58.42 x 36.6 (2.3 x 1.44) |
| Weight – g (lbs.) | TRA9023N: 184 (0.405)<br>TRA9023NP: 240 (0.529) |
| Color | Black/Black Chrome or White/Chrome |

| ENVIRONMENTAL SPECIFICATIONS | |
|---|---|
| Operating Environment (Indoor or Outdoor) | Indoor or outdoor |
| Operating Temperature – °C (°F) | -40 to +85°C (-40 to +185°F) |
| Storage Temperature – °C (°F) | -45 to +85°C (-49 to +185°F) |
| Wind Rating – km/hr (mph) | 282 (175) |
| Ingress Protection Rating | IP67 |
| Material Substance Compliance | RoHS |

## CONFIGURATION

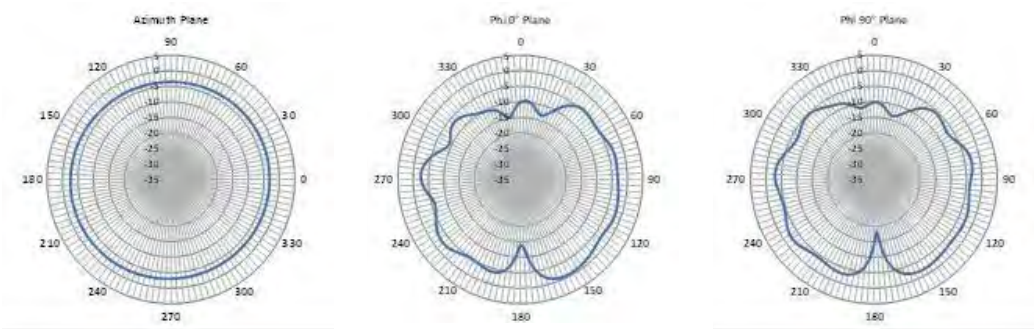
| PART NUMBER | MOUNTING | COMMENTS |
|---|---|---|
| TRA9023 | NMO Mount | - |
| TRA9023P | Permanent Stud Mount | - |
| TRA9023N | NMO Mount | No ground plane required |
| TRA9023NP | Permanent Stud Mount | No ground plane required |



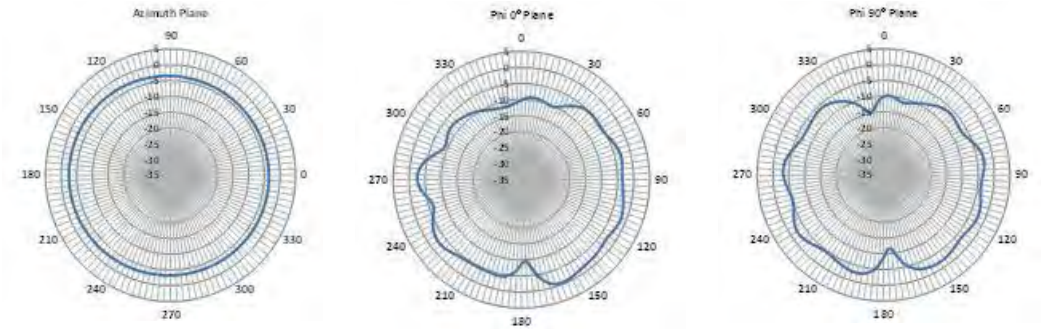
Downloaded from Arrow.com.

## RADIATION PATTERNS

### 902 MHz



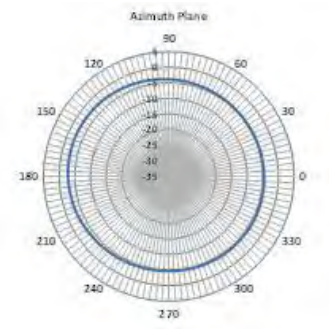

### 910 MHz

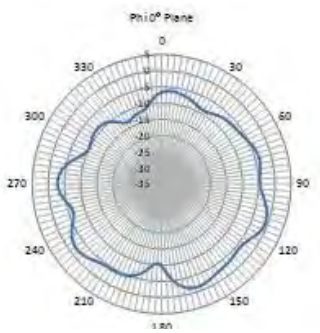


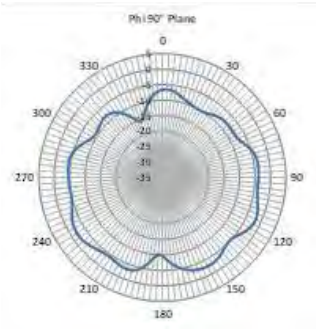



Downloaded from Arrow.com.

## 928 MHz




### TE TECHNICAL SUPPORT CENTER

| | |
|---|---|
| USA: | +1 (800) 522-6752 |
| Canada: | +1 (905) 475-6222 |
| Mexico: | +52 (0) 55-1106-0800 |
| Latin/S. America: | +54 (0) 11-4733-2200 |
| Germany: | +49 (0) 6251-133-1999 |
| UK: | +44 (0) 800-267666 |
| France: | +33 (0) 1-3420-8686 |
| Netherlands: | +31 (0) 73-6246-999 |
| China: | +86 (0) 400-820-6015 |

### te.com

TE Connectivity, TE Connectivity (logo) and Every Connection Counts are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use.
TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

TE warrants to the original end user customer of its products that its products are free from defects in material and workmanship. Subject to conditions and limitations TE will, at its option, either repair or replace any part of its products that prove defective because of improper workmanship or materials. This limited warranty is in force for the useful lifetime of the original end product into which the TE product is installed. Useful lifetime of the original end product may vary but is not to exceed five (5) years from the original date of the end product purchase.

©2021 TE Connectivity. All Rights Reserved.

**11/21 Original**



Laird External Antennas is now part of TE connectivity

Downloaded from Arrow.com.