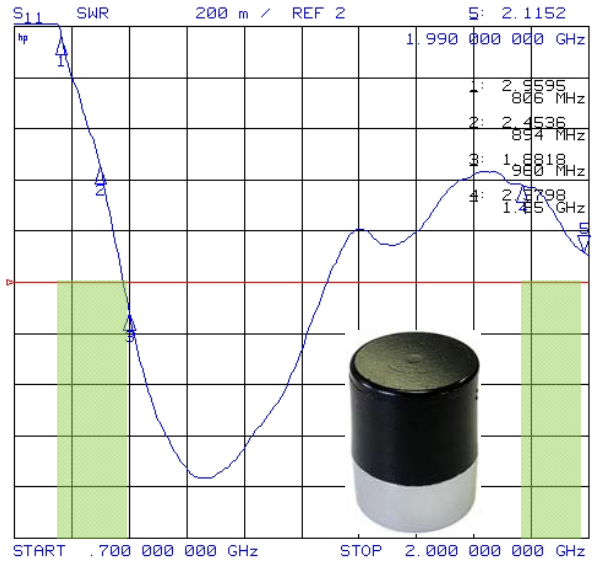
EM-M20005
The Wireless Industry's Highest Performance Broad Band Dual Band Lo Pro Antenna 800/1900 MHz

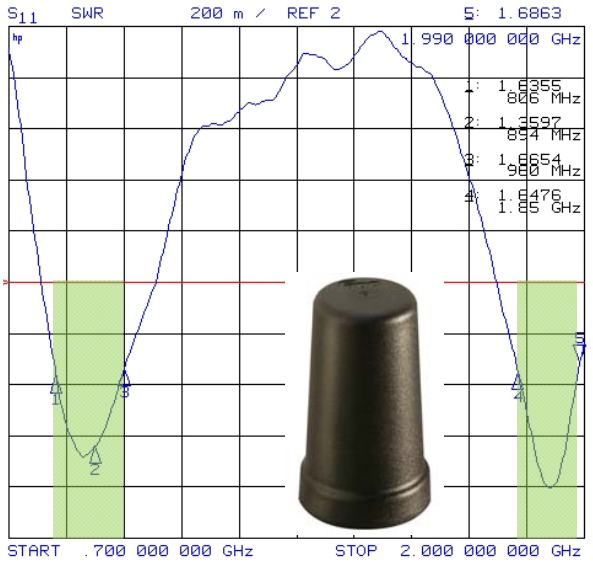
E/M Wave's low profile dual band antenna continues to provide "*more antenna value"* through its uniquely designed antenna architecture specifically designed for traditional NMO antenna mounts commonly used in Land Mobile Radio systems. The antenna structure is designed using a patent pending radiating element that provides self resonant impedance matching for both the Cellular 800 and PCS 1900 MHz bands.

Extended bandwidth is available beyond the 800 MHz range, providing naturally resonant top loaded monopole characteristics for the entire 806-960 MHz band. Exceptional half-wave radiation characteristics for the PCS 1900 MHz band are accomplished with the specially designed radiator, providing optimized half-wave resonance, independent of the mounted ground plane. Additionally, the structure incorporates a contiguous and high conductivity radiating surface that exceeds the requirements of higher power mobile/vehicular radios.

Key benefits to the design include the use of a traditional silver plated, phosphor bronze contact spring that maintains noise free, reliable RF continuity, in addition to the most efficient radiation transmission and highest power rating of any competitive device in its class. The design reliability is well known in the industry by its broad band sibling, the EM-M11002 (746-960 MHz), which has provided a unique design platform for the creation of the broad band/dual band EM-M20005. These unique RF characteristics using the NMO mount combined with the rugged mechanical reliability of the Xenoy™ radome, make the EM-M20005 the "best in class" choice for all existing and newly emerging multi-banded Public Safety wireless systems.



COMPETITOR'S VSWR MATCH, TYPICAL



EM-M20005 VSWR MATCH, TYPICAL

TRADITIONAL NMO MOUNT INSTALLATION

SHADED REGIONS: <2:1 VSWR, 800/900 and 1900 MHz BANDS

ELECTRO-MAGWAVE, INC.
7630 Hub Parkway, Valley View, Ohio 44125
Ph: (216) 453 1160 Fax: (216) 447 8828

EM-M20005 – High Performance Dual Band Design Features

- Patent Pending Dual Band Resonant Structure designed specifically to match with traditional Land Mobile Radio NMO mounts.
- Antenna structure that provides highly efficient broadband monopole radiation performance for 800/900 MHz bands, while simultaneously offering true half-wave ground-plane independent performance for the 1900 MHz band.
- Highly conductive solid brass structure for all radiating components.
- 100 Watt power handling capability.
- 100% Xenoy™ Radome housing maximizes environmental resistance and cold temperature impact while providing long term UV resistance and color retention.
- Provides broader bandwidth performance for 800/900 MHz bands.
- Silver Plated Phosphor Bronze Spring Contact for optimal contact retention.

Competitive Designs – Failures in Acceptable Performance Standards

- Impedance match is not optimized for use with common, traditional NMO mounts. See VSWR comparison data above.
- Incorporate discrete element circuit components (capacitors) to achieve VSWR match for both bands.
- Low Voltage Ceramic Capacitors significantly reduce power handling capacity and are prone to premature failure.
- Capacitive circuit reduces 800 MHz band performance by decreasing the physical height of the radiator and lowering the antenna's efficiency.
- Environmentally exposed top load radiators can detune under wet snow/ice load conditions.
- PCB versions are power handling limited (typically less than 30 Watts) and provide lower efficiency due to glass filled epoxy resins and dielectric losses.
- Incorporate Plunger Pin contacts, bare brass, susceptible to corrosion and intermittent open circuit conditions. Bare brass components, and non-plated plunger pin construction exposes critical RF contact points to long term corrosion.