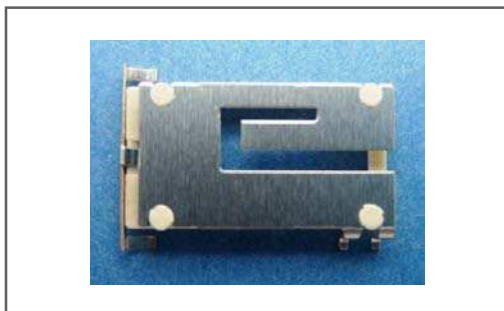


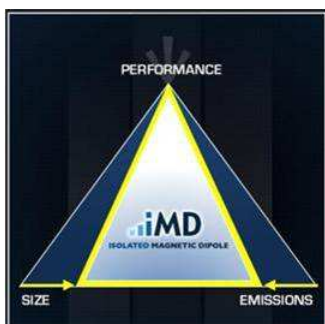
Presta™ Bluetooth® Embedded Antennas

2.4 GHz



Ethertronics' Presta series of Isolated Magnetic Dipole™(IMD) stamped metal antennas include an embedded Bluetooth design that delivers on the key needs of today's wireless product designers: **miniaturized design, superior signal sensitivity and high isolation properties** that virtually **eliminate de-tuning**. Together, these features provide compelling advantages for IMD-enabled cell phones, handsets headphones, laptops and other wireless devices that utilize Bluetooth technology.

TECHNOLOGY ADVANTAGES



Stays in Tune

The form factor of IMD antenna technology provides superior RF field containment, resulting in less interaction with surrounding components. Ethertronics IMD antennas **resist de-tuning**, which impairs the end-user experience.

Protecting Your Brand Name

With consumer expectations high and competition formidable, you can't afford end-user disappointment. The high isolation characteristics of IMD antennas offer you performance stability you can rely on, while their radically smaller volume and higher operating efficiencies provide you with the design freedom needed to create mobile and wireless products that set your brand apart from the competition.



KEY BENEFITS

DESIGN ADVANTAGES

Quicker Time-to-Market

- By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

Greater Flexibility

- IMD technology helps you achieve more advanced product designs coupled with superior performance and a wider range of antenna placement options.

RoHS Compliant

- Ethertronics' antennas are fully compliant with the European RoHS Directive 2002/ 95/ EC.

END USER ADVANTAGES

Excels in Real-Life Conditions

- IMD embedded Bluetooth antennas deliver better end-user performance in situations where consumers have high expectations of exceptional service.
- Meets the ever-growing demand for smaller, thinner product designs by eliminating whip and stub antennas.

Superior Network Coverage

- Better network coverage means more reliable wireless connections for mobile phones, laptops, stereo headsets, cars, media players, audio systems and more.

Faster Data Rates

- Improved performance also means faster data rates for downloading e-mail, surfing the internet and watching mobile video.

SERVICE AND SUPPORT

Extensive RF Experience

- Our design teams are composed of RF PhDs, project managers and a complete engineering team to support every project —from initial prototyping to TIS and TRP performance testing.

Global Operations & Design Support

- Ethertronics' global operations supports an integrated network of design centers that can take projects from concept to production.

PRODUCT: Bluetooth

Example: Ethertronics' Prestta™ Bluetooth Embedded Antenna Specifications.
 Ethertronics produces a wide variety of standard and custom stamped metal antennas to meet user needs. Below are the typical specs for a Bluetooth application.

Electrical Specifications

Typical Characteristics
 (inside an enclosure)

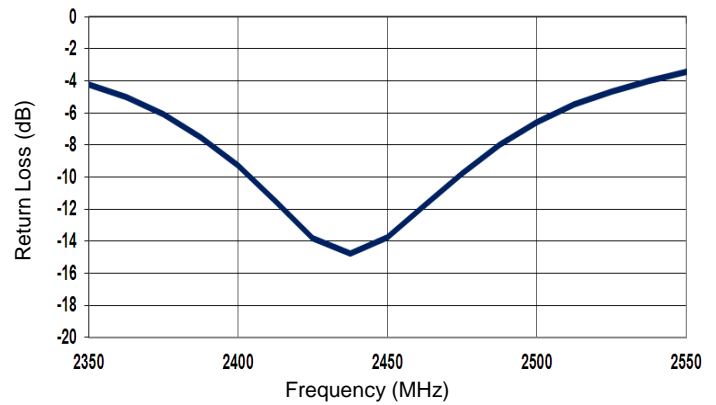
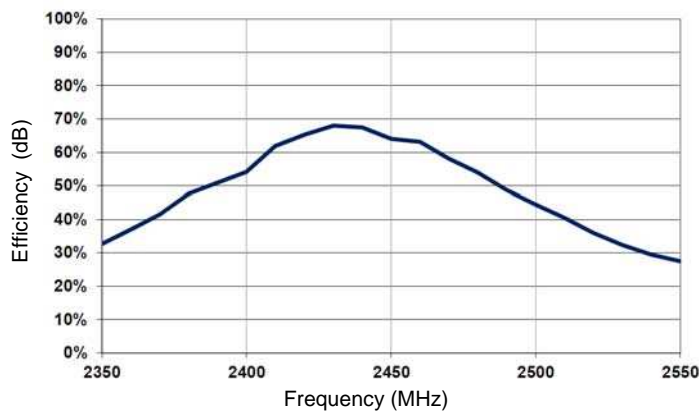
Bluetooth Antenna (GHz)	2.390-2.490
Peak Gain	1 dBi
Efficiency	65%
VSWR Match	2.1 : 1
Feed Point Impedance	50 ohms unbalanced (other if required)
Power Handling	2 Watt cw
Polarization	Linear

Mechanical Specifications

Dimensions	15x10x3mm
Mechanical Mounting	Metal on plastic carrier. Antenna Assembly is SMD attached to main PCB.
RF Mounting	RF and Ground feed pads are SMD attached to main PCB.

Typical Efficiency, Return Loss

— For demo board on edge 1.5nH_1.5pF_Board 1 (80x50)



Antenna Radiation Patterns

Typical Performance

2.390-2.490 GHz Band

