

Prestta™ Standard 802.11a 5GHz



Ethertronics' Prestta series of Isolated Magnetic Dipole™ (IMD) embedded antennas address the challenges facing today's product designers. IMD's high performance and isolation characteristics offer better connectivity and minimal interference. Prestta antennas can be used in a variety of applications in-cluding:

- Handsets
- Video Bridges
- Gateway, Access Points
- Tablets
- M2M
- Automatic Meter Reading
- Healthcare
- Point of Sale

TECHNOLOGY ADVANTAGES



Stays in Tune
IMD antenna technology provides superior RF field containment, resulting in less interaction with surrounding components. Ethertronics IMD antennas **resist de-tuning**; providing a robust radio link regardless of the usage position.

Prestta antennas use patented IMD technology in a stamped metal configuration to provide high performance. IMD antennas requires a smaller design keep-out area, carry lower program development risk which yields a quicker time-to-market, without sacrificing RF performance.



KEY BENEFITS

DESIGN ADVANTAGES

Reduced Costs and Time-to-Market

- Standard antenna eliminates design fees and cycle time associated with a custom solution; getting products to market faster.

Greater Flexibility with Unique Form Factors

- Ethertronics' IMD technology helps you deliver more advanced ergonomic designs without adverse impact on product performance.
- SMD mountable design enables faster and lower cost manufacturing.

RoHS Compliant

- Ethertronics' antennas are fully compliant with the European RoHS Directive 2011/65/EU.

END USER ADVANTAGES

Unique Form Factors Support Advanced Industrial Designs

- Smaller, more efficient IMD embedded antennas break through restrictive design rules and provide new freedom in component placement.

Superior Range

- Better antenna function means longer range and greater sensitivity to critically precise signals—delivering greater customer satisfaction while building brand loyalty.

SERVICE AND SUPPORT

Extensive RF Experience

- Our Prestta antennas are supported by documentation, and when needed, by the expertise of RF engineers who have integrated hundreds of antenna designs into wireless devices.

Global Operations & Design Support

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

PRELIMINARY PRODUCT BRIEF: 802.11a Antenna

Ethertronics' 802.11a Internal (Embedded) Antenna Specifications. Below are the typical specs for a 802.11a MiMo 2x2 application.

Electrical Specifications

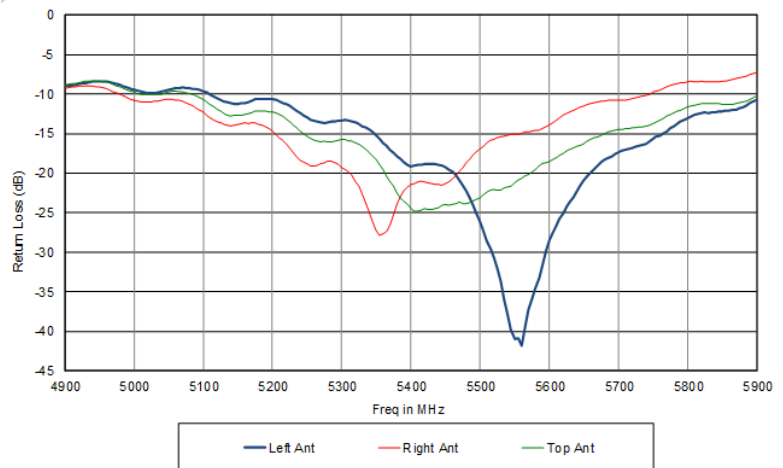
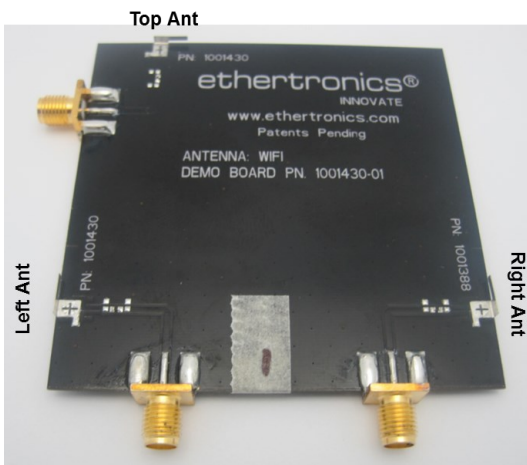
Typical Characteristics
Measurements taken on a
3"x3" ground plane.

	Top Antenna P/N 1001430 4900-5900 MHz	Left Antenna P/N 1001430 4900-5900 MHz	Right Antenna P/N 1001388 4900-5900 MHz
Peak Gain	< 7dBi	< 6 dBi	< 5dBi
Average Efficiency	70%	65 %	60 %
Return Loss in dB	-8dB max	-8dB max	-8dB max
Feed Point Impedance	50 ohms unbalanced	50 ohms unbalanced	50 ohms unbalanced
Power Handling	2 Watt CW	2 Watt CW	2 Watt CW
Polarization	Linear	Linear	Linear

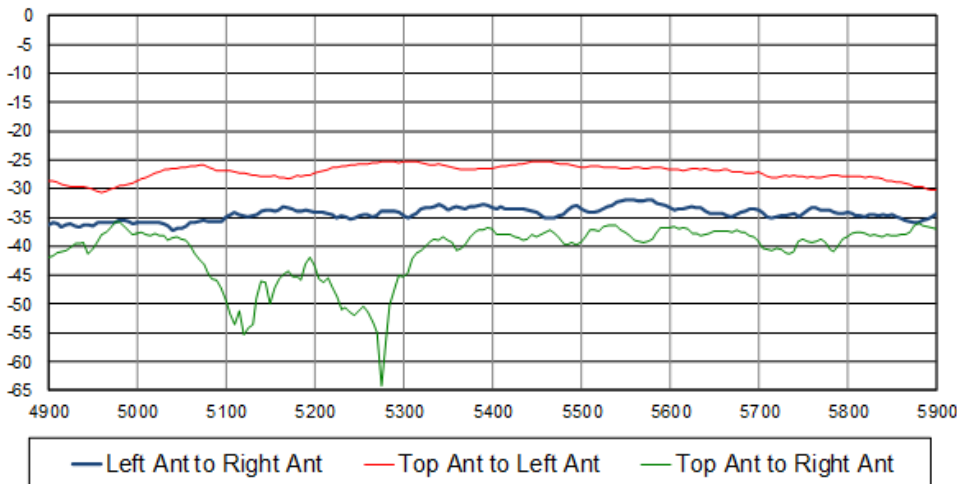
Mechanical Specifications

Maximum Dimensions	9.80mm x 4.2 mm x 2.2 mm
Mechanical Mounting	Antenna Assembly is Surface Mounted onto main PCB.
RF Mounting	RF and Ground feed pads are Surface Mounted onto main PCB. Ground Clearance is required under antenna (15x2.9mm ²)

Typical Board Setup and Return Loss in dB

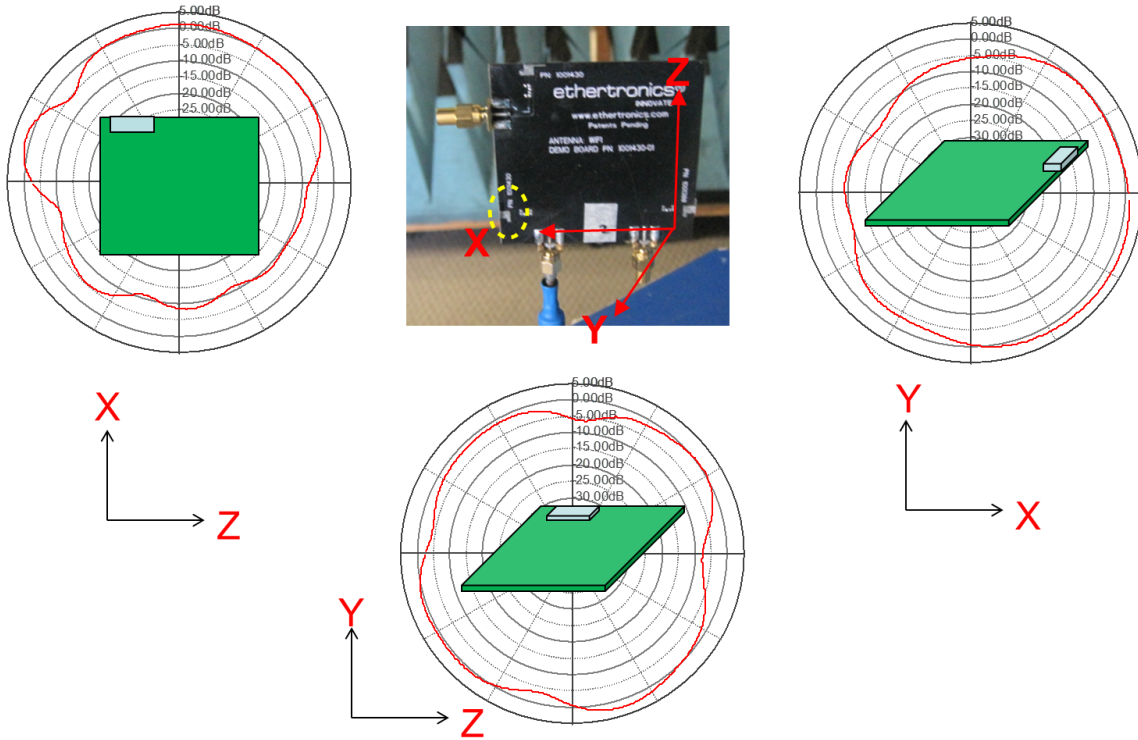


Typical Isolation in dB between each antenna

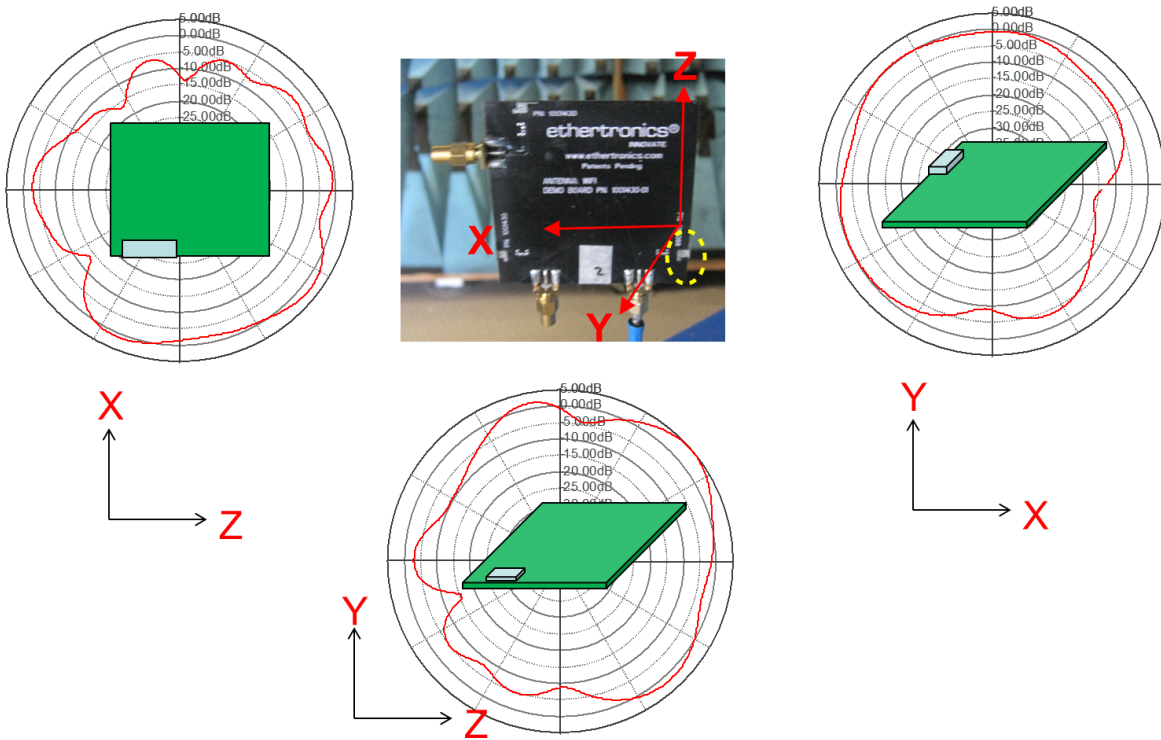


Isolation between each of the three antennas is below -25dB.

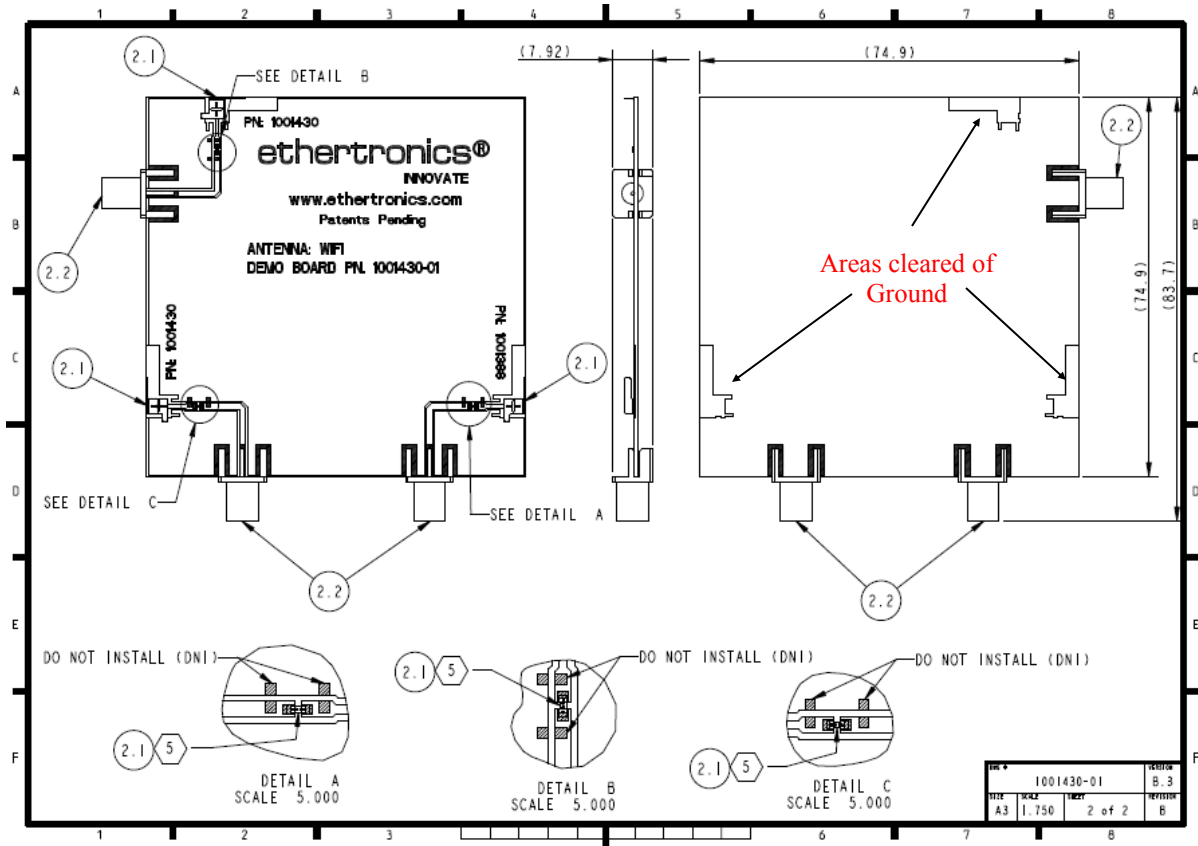
LEFT Antenna Radiation Patterns @ 5250MHz, Demo board PCB size is 3" x 3"



RIGHT Antenna Radiation Patterns @ 5250MHz, Demo board PCB size is 3" x 3"

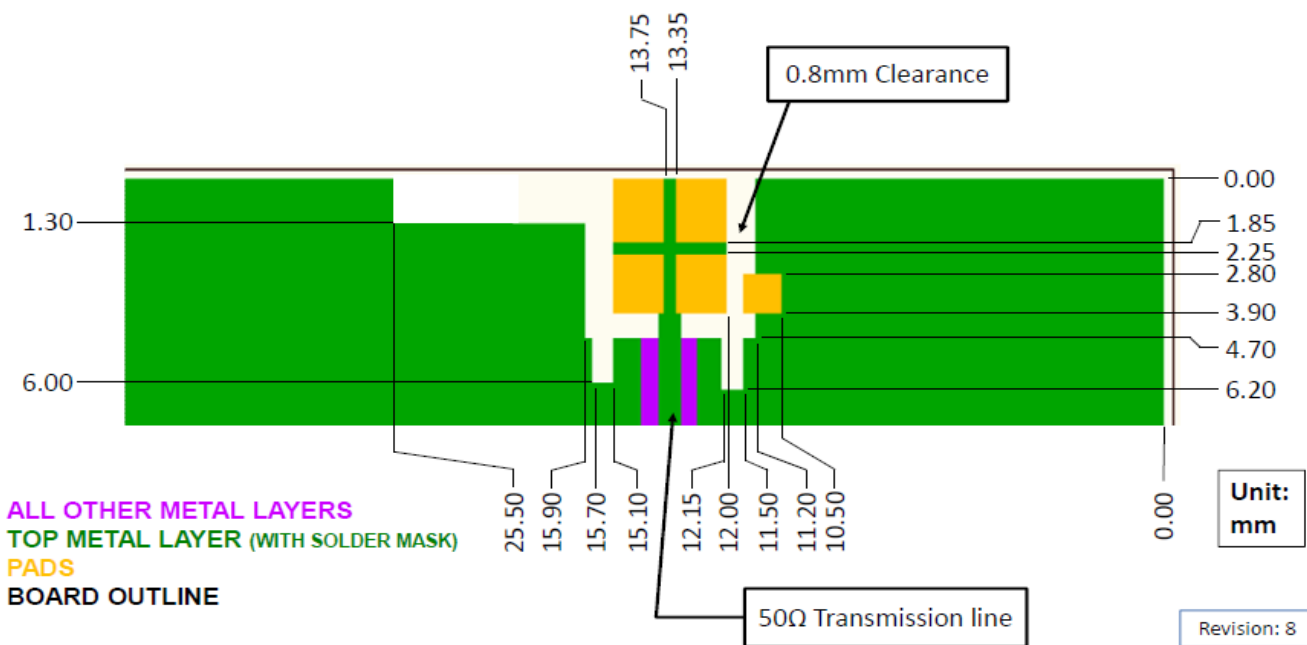


Dimensions on the Demo Board and Clearance areas



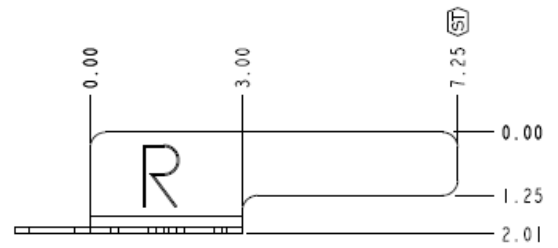
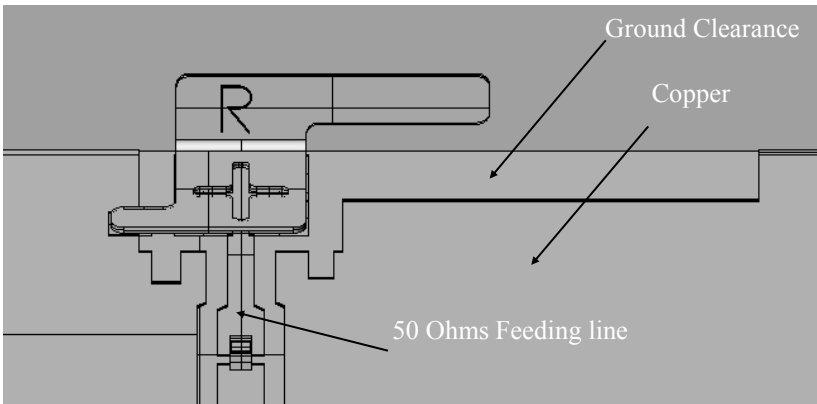
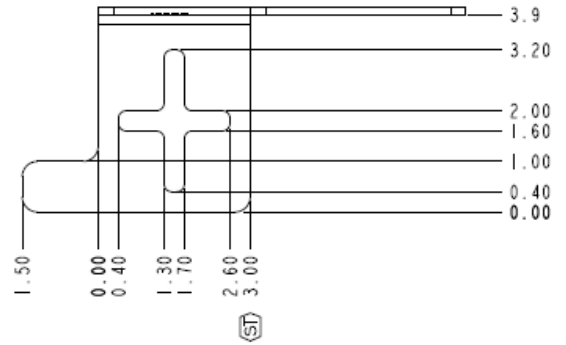
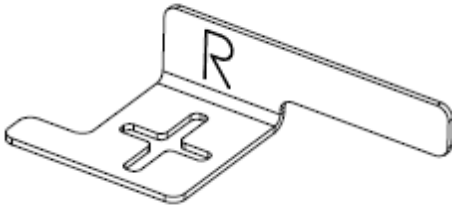
PCB Layout Dimensions

PCB Layout for PN 1001388 (Mirror image apply for PN 1001430)

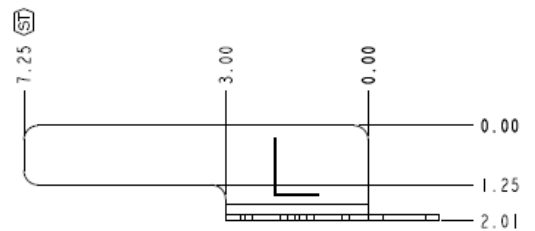
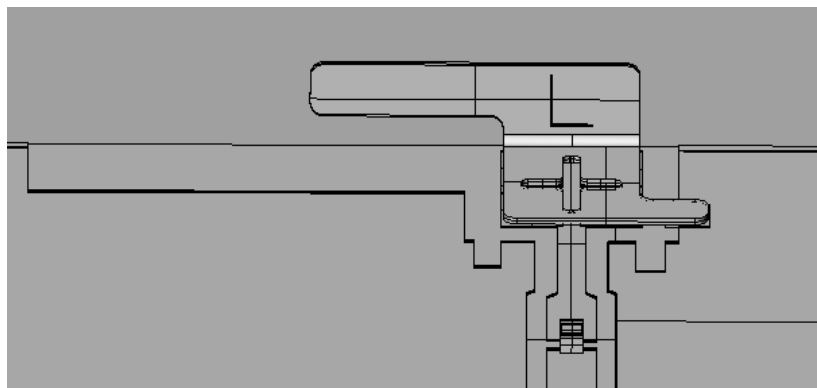
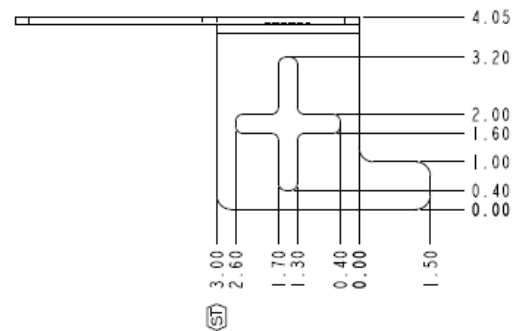
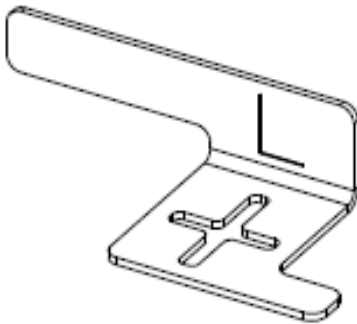


Antenna Dimensions

1001430



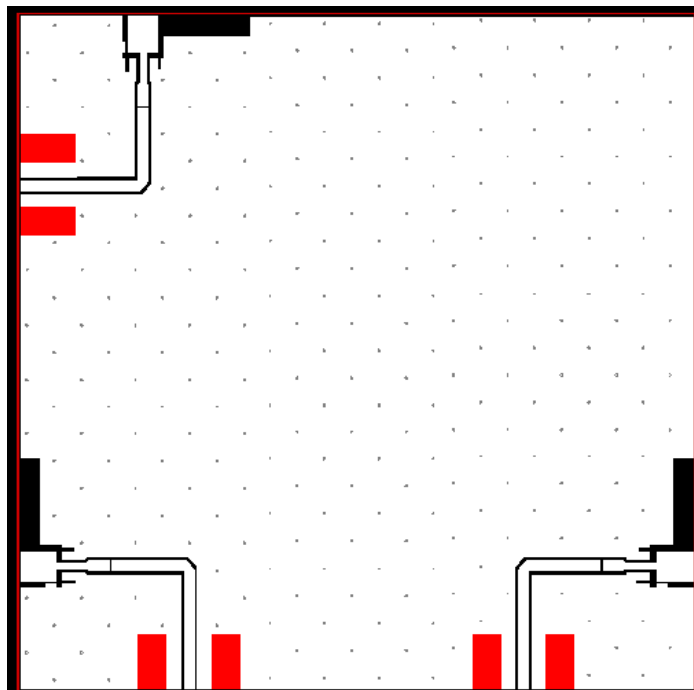
1001388



PRODUCT: 802.11a Antenna

To optimize designs using Ethertronics' Prestta™ Application antenna, the PCB should use the recommended land pattern shown in the Figures below. The land patterns are composed of a 50 ohm line connected to each antenna feed point (1 feed, 1 ground). The feed line can either be connected to a 50 ohm transmission line or a 50 ohm coaxial cable. Ground clearance around and under the antenna, as shown in the PCB layout below, is recommended in order

TOP Metallic Layer Layout



BOTTOM Metallic Layer Layout

