

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 including:

- 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

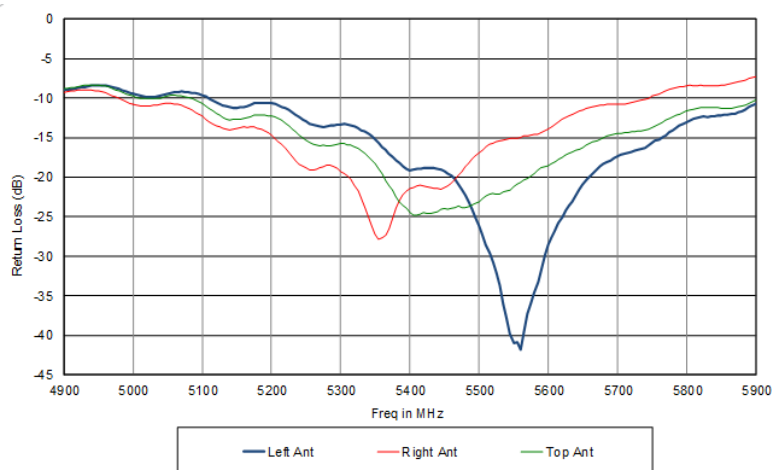
Typical Characteristics
Measurements taken on a
3"x3" ground plane.

	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

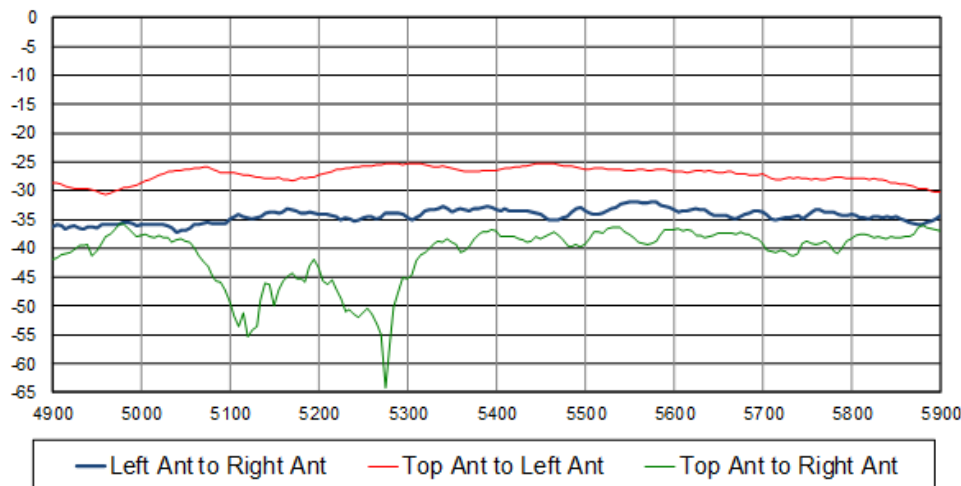
Mechanical Specifications

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 (15x2.9mm2)

Typical Board Setup and Return Loss in dB



Typical Isolation in dB between each antenna

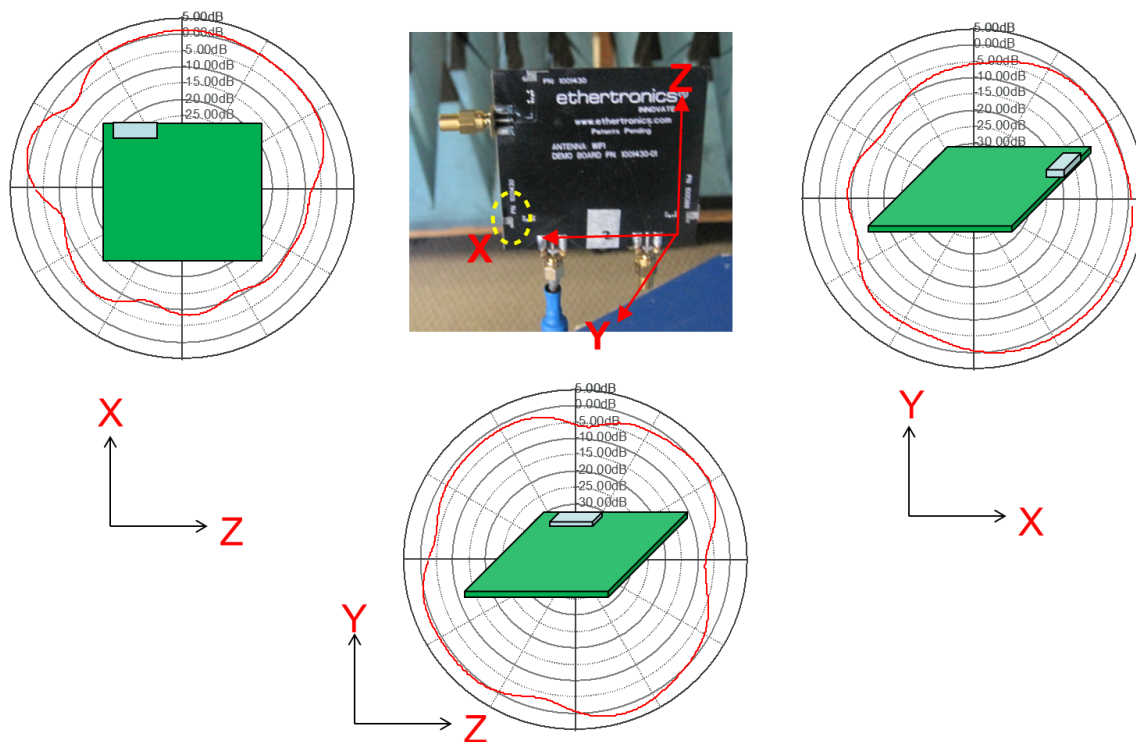


Isolation between each of the three antennas is below -25dB.

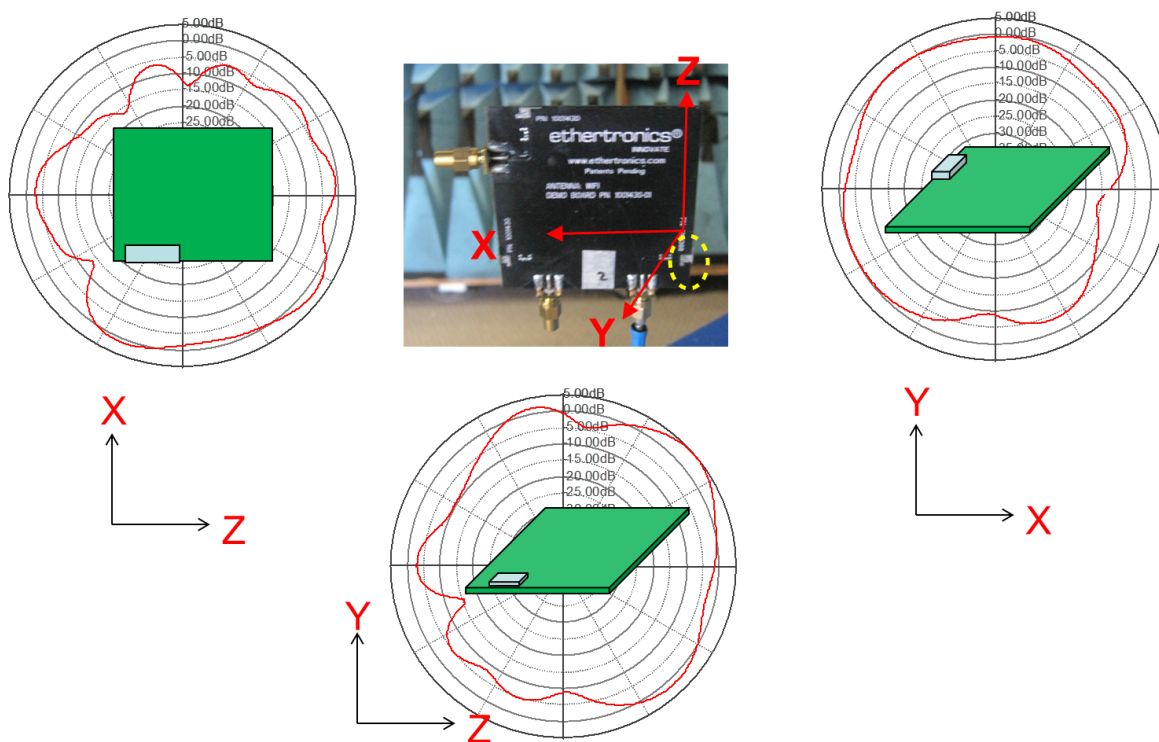
ETHERTRONICS

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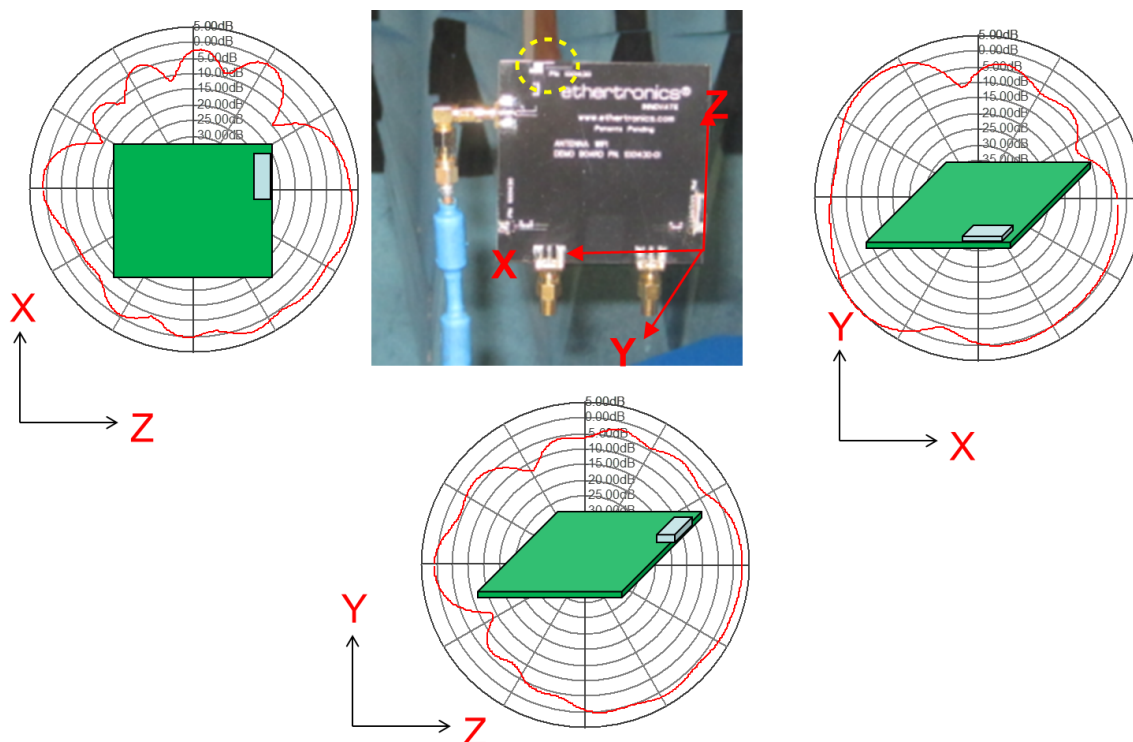
LEFT Antenna Radiation Patterns @ 5250MHz, Demo board PCB size is 3" x 3"



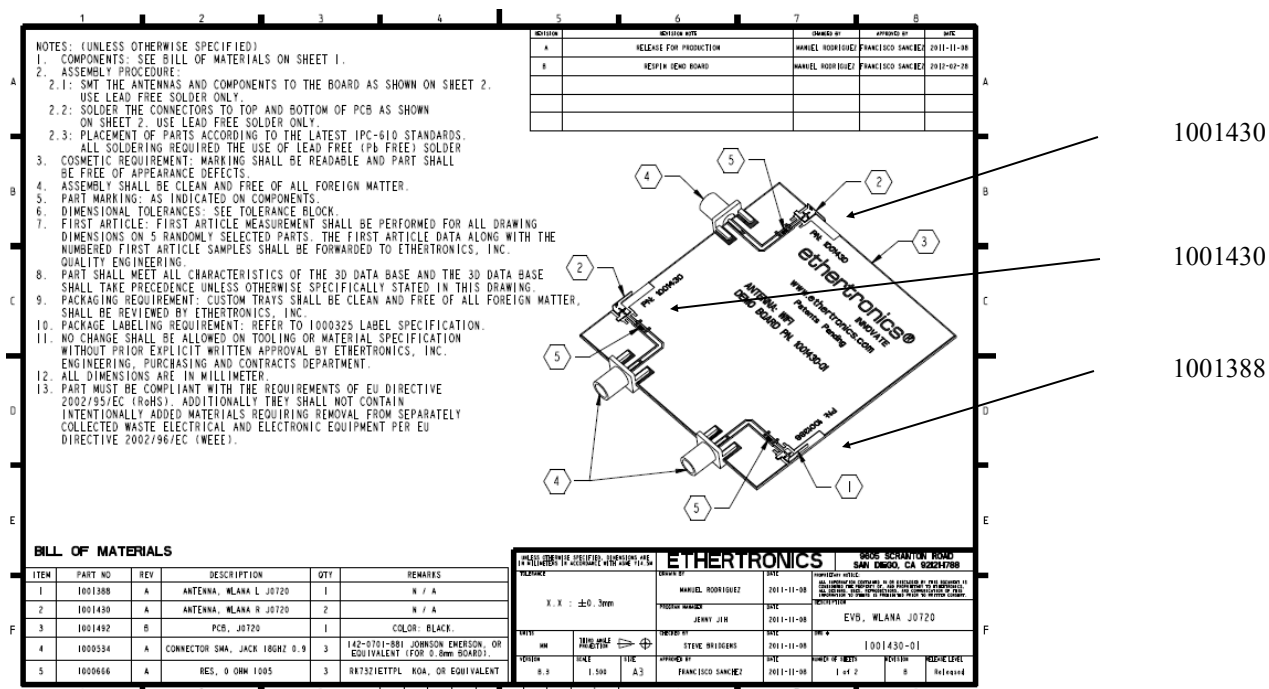
RIGHT Antenna Radiation Patterns @ 5250MHz, Demo board PCB size is 3" x 3"



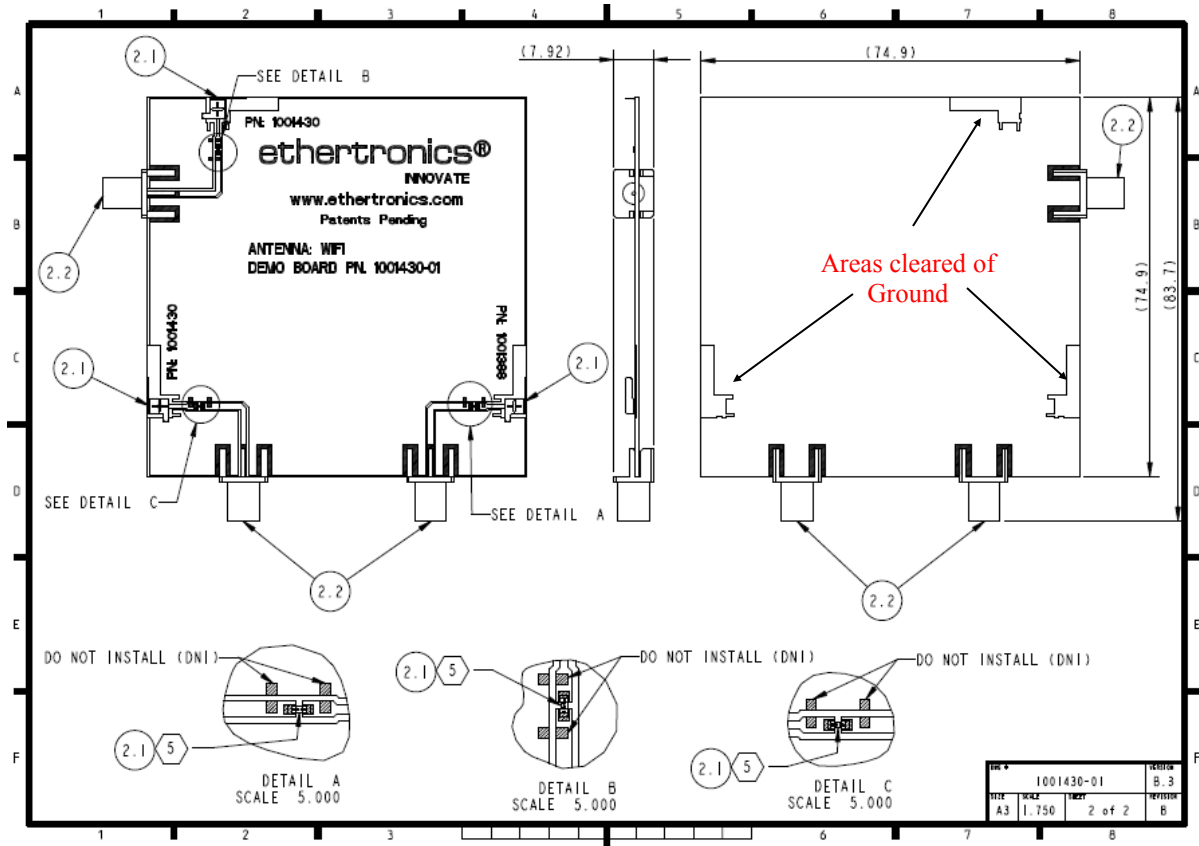
TOP Antenna Radiation Patterns @ 5250MHz, Demo board PCB size is 3" x 3"



Antenna Set Configuration

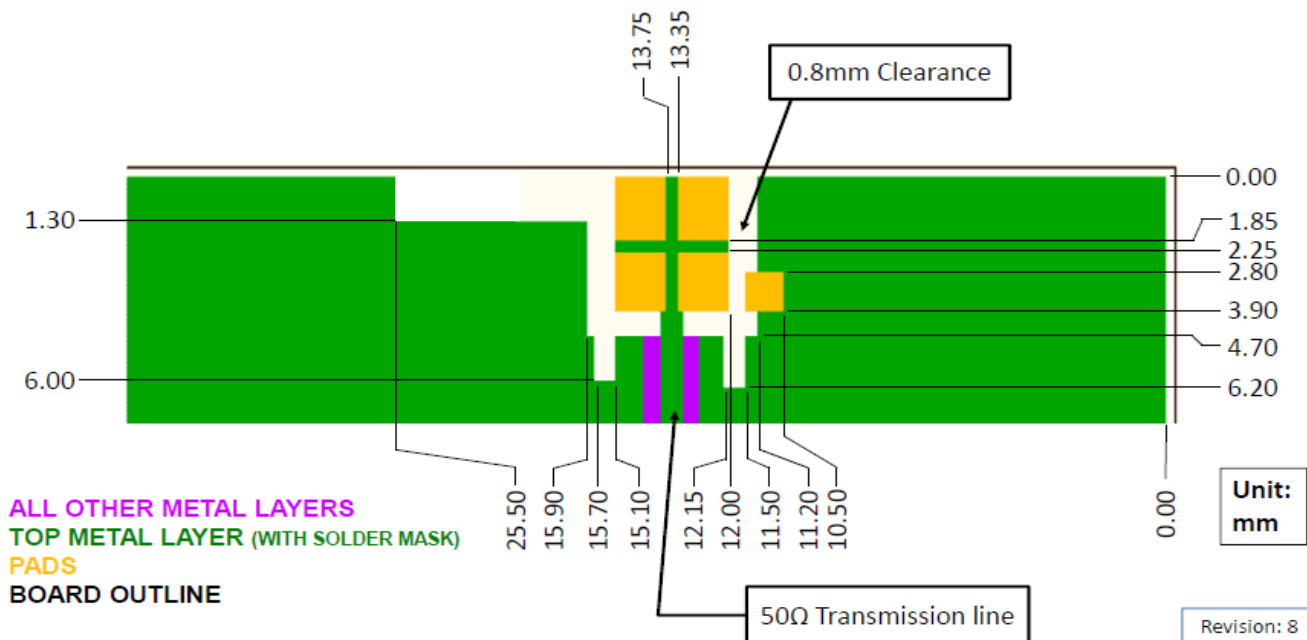


Dimensions on the Demo Board and Clearance areas



PCB Layout Dimensions

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

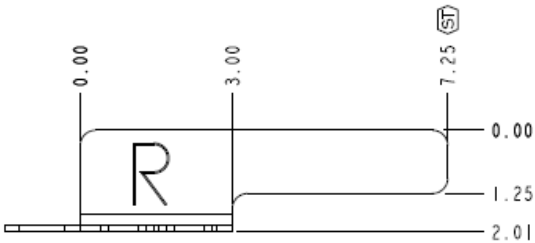
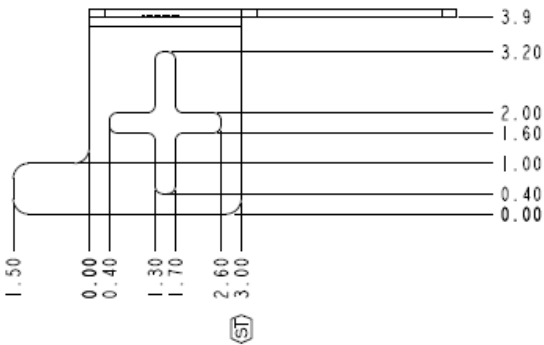
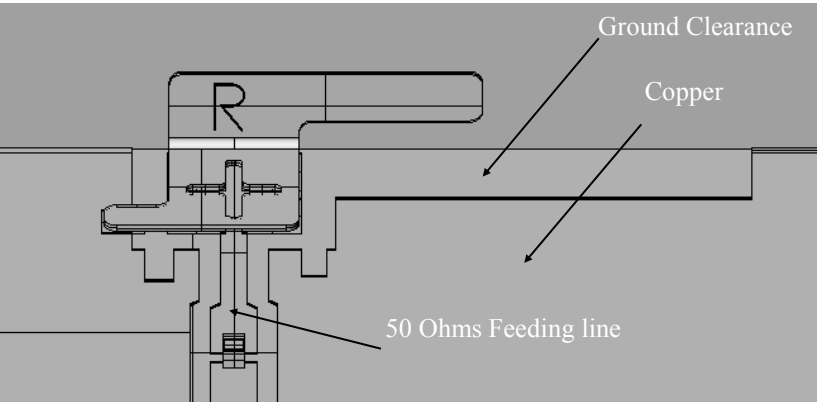
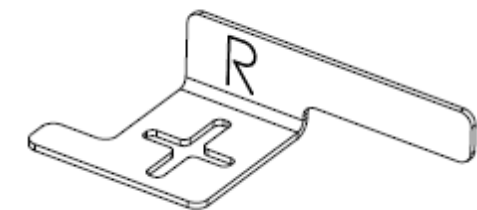


Unit:
mm

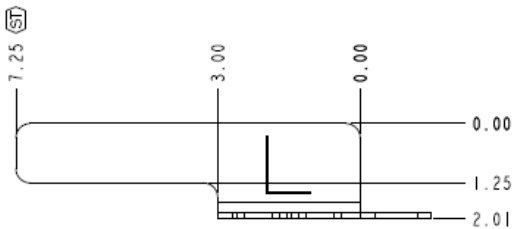
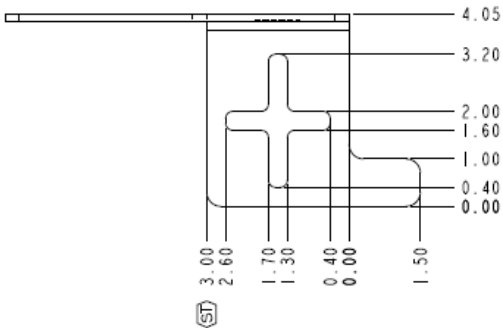
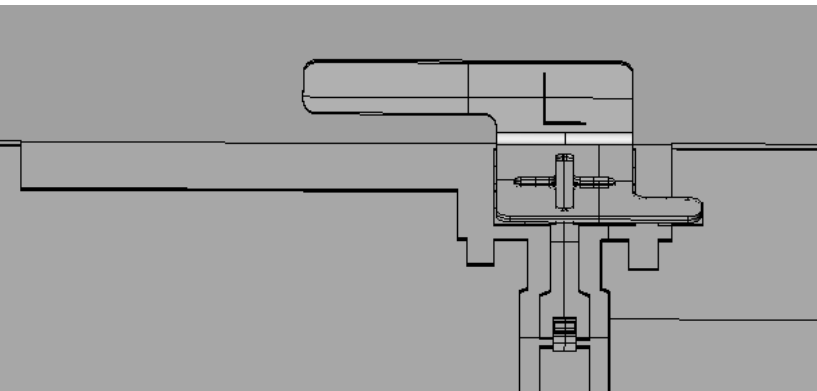
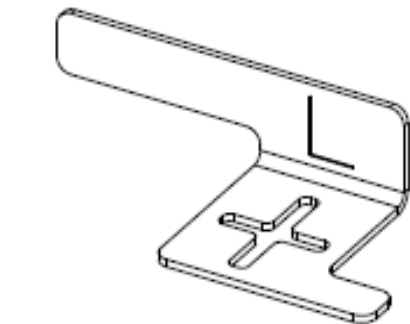
Revision: 8

Antenna Dimensions

1001430



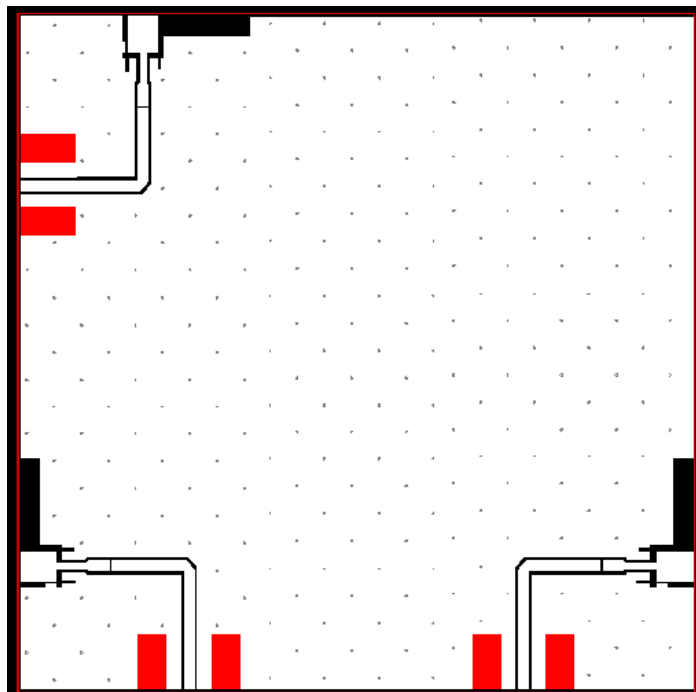
1001388



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

