ethertronics

PRODUCT BRIEF: CELLULAR

Part No. P522306, P522307, P522308, P522309, P522310

Prestta™ Standard Penta-Band Cellular Embedded Antenna

850/900/1800/1900/2100 MHz

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:

- M2M
- Automotive
- Automatic Meter Reading
- Healthcare
- Point of Sale
- Tracking

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 2002/95/EC.

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.

ETHERTRONICS
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Example: Ethertronics' Penta-Band Internal (Embedded) Antenna Specifications.

Below are the typical specs for a Penta-Band application (subject to change).

Electrical Specifications

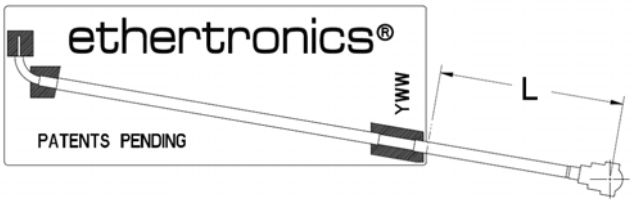
Typical Characteristics

Measurements taken with no ground plane or a 65 x 110 mm ground plane.

Antenna mounted directly on PC + ABS housing material.

Cellular Antenna (MHz)	824-849, 869-894	880-915, 925-960	1710-1785, 1805-1880	1850-1910, 1930-1990	1920- 1980, 2110-2170
Peak Gain (no ground)	-0.2dBi	-0.6dBi	3.4dBi	3.2dBi	1.9dBi
Peak Gain (horizontal ground)	2.5dBi	1.7dBi	1.7dBi	3.2dBi	3.8dBi
Peak Gain (vertical ground	3.0dBi	2.4dBi	2.3dBi	2.7dBi	3.4dBi
Average Efficiency (no ground)	45%	40%	60%	45%	45%
Average Efficiency (horizontal ground)	73%	62%	63%	66%	62%
Average Efficiency (vertical ground)	78%	67%	60%	60%	60%
VSWR Match	3.0:1 max				
Feed Point Impedance	50 ohms unbalanced (other if required)				
Radiation Pattern	Omni-directional				
Power Handling	2 Watt cw				
Polarization	Linear				

Mechanical Specifications

Maximum Dimensions	41.0 0x 15.00x.12 mm (1.25mm high at cable solder connection)
Cable / Connector	Contact Ethertronics for details
Cable Length	**P522306**—Antenna with 200mm cable, EP, U.FL receptacle compatible **P522307**—Antenna with 100mm cable, MMCX Plug, Male Right Angle connector **P522308**—Antenna with 200mm cable, MMCX Plug, Male Right Angle connector **P522309**—Antenna with 100mm cable, EP, U.FL receptacle compatible P522310—Antenna with 18mm cable, EP, U.FL receptacle compatible 

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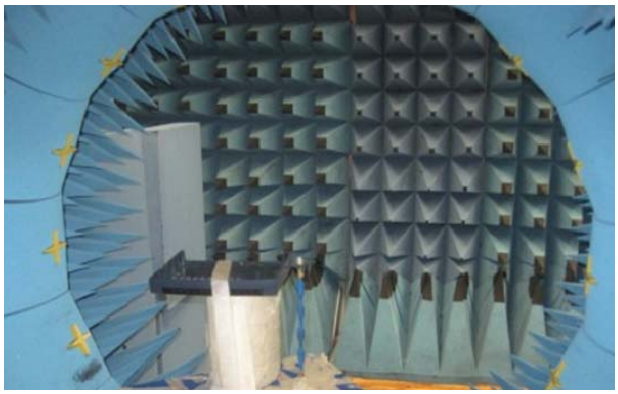
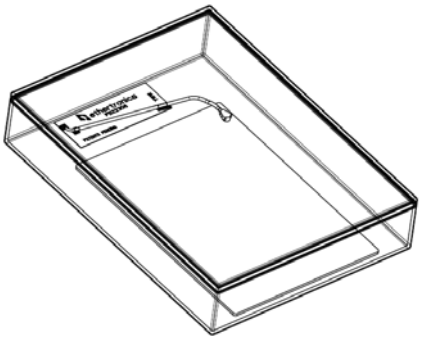
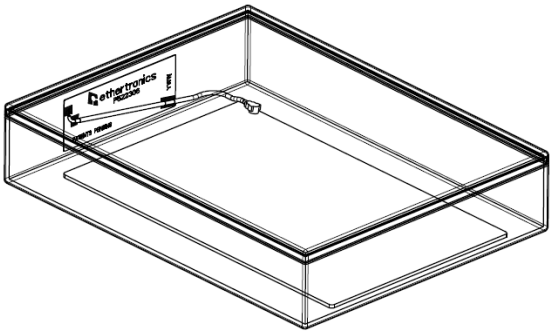
Test Set-up

Antenna mounted directly on PC + ABS housing material.

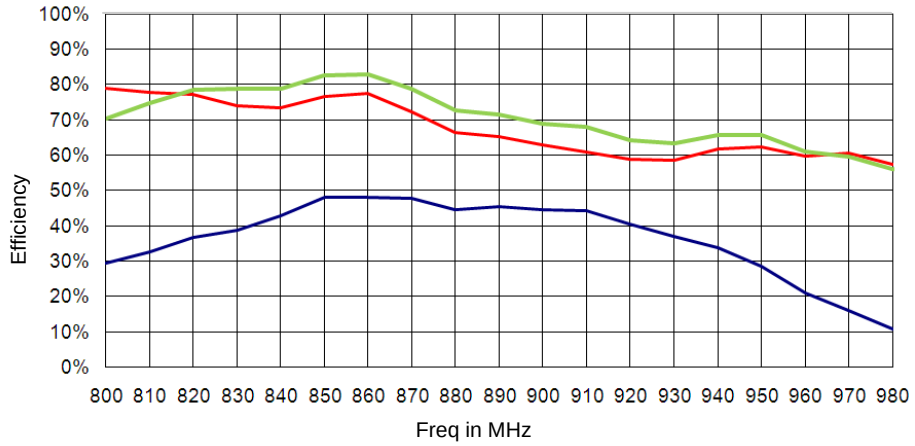


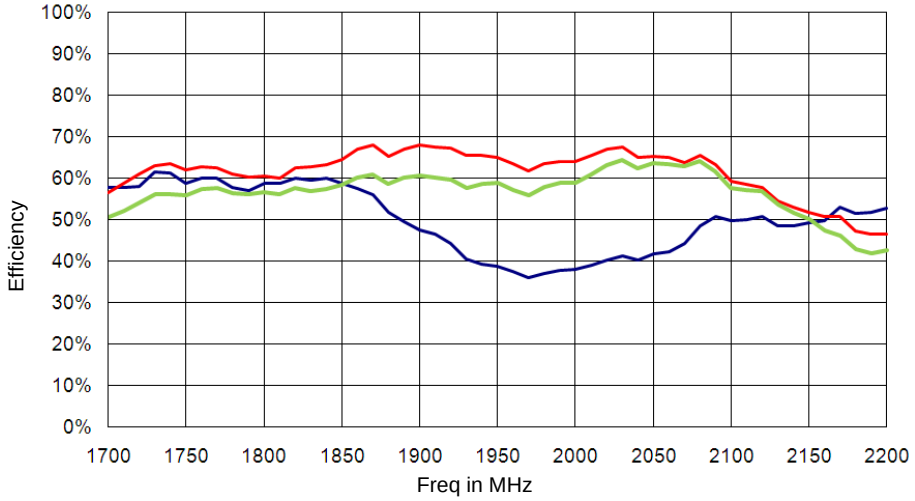




No Ground Horizontal Ground Vertical Ground

Typical Efficiency





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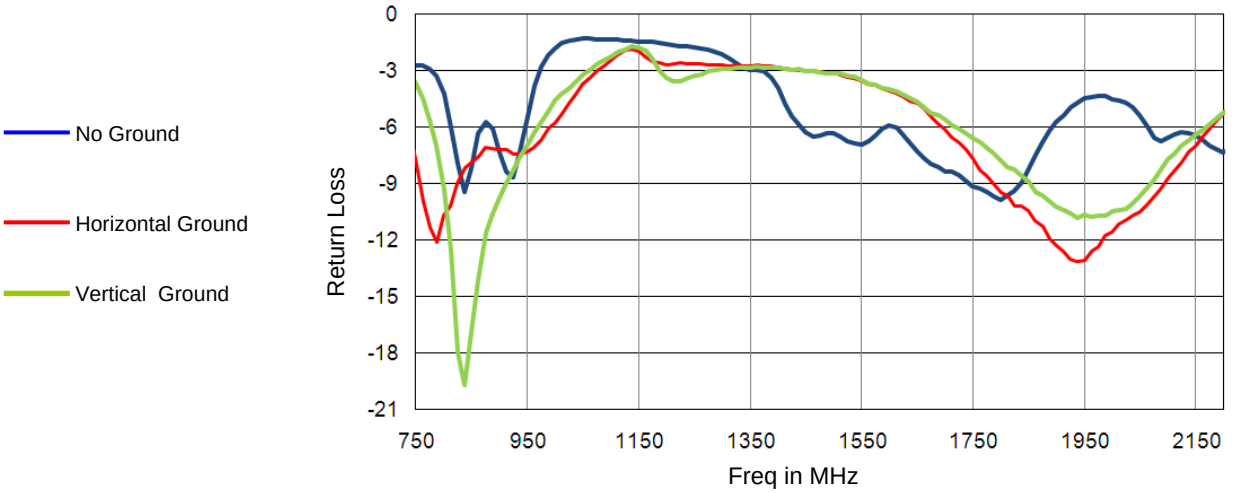
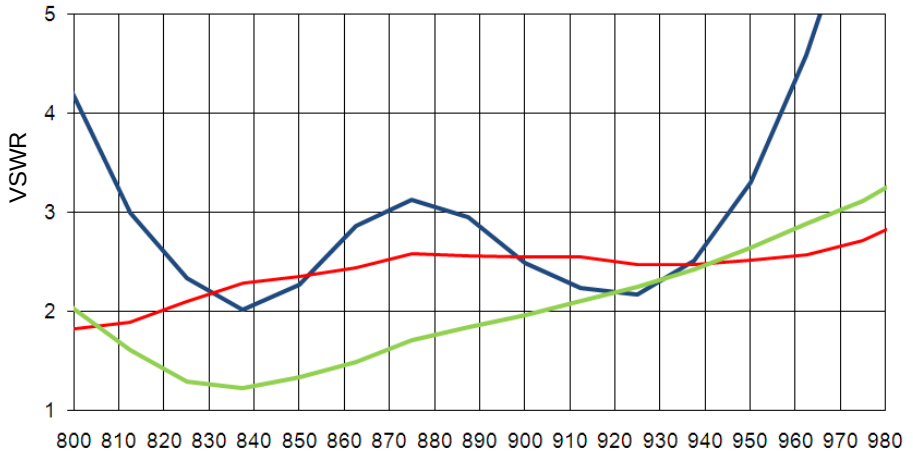
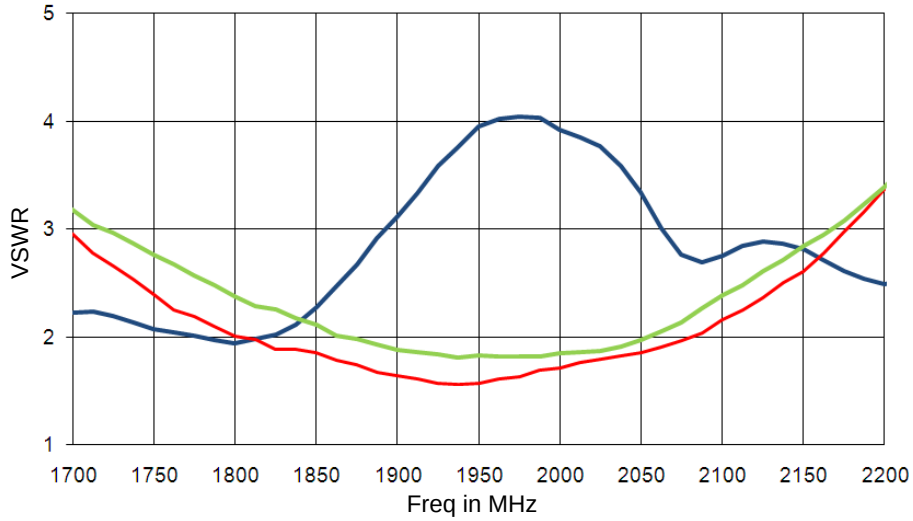
Typical Return Loss



VSWR





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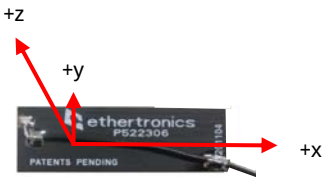
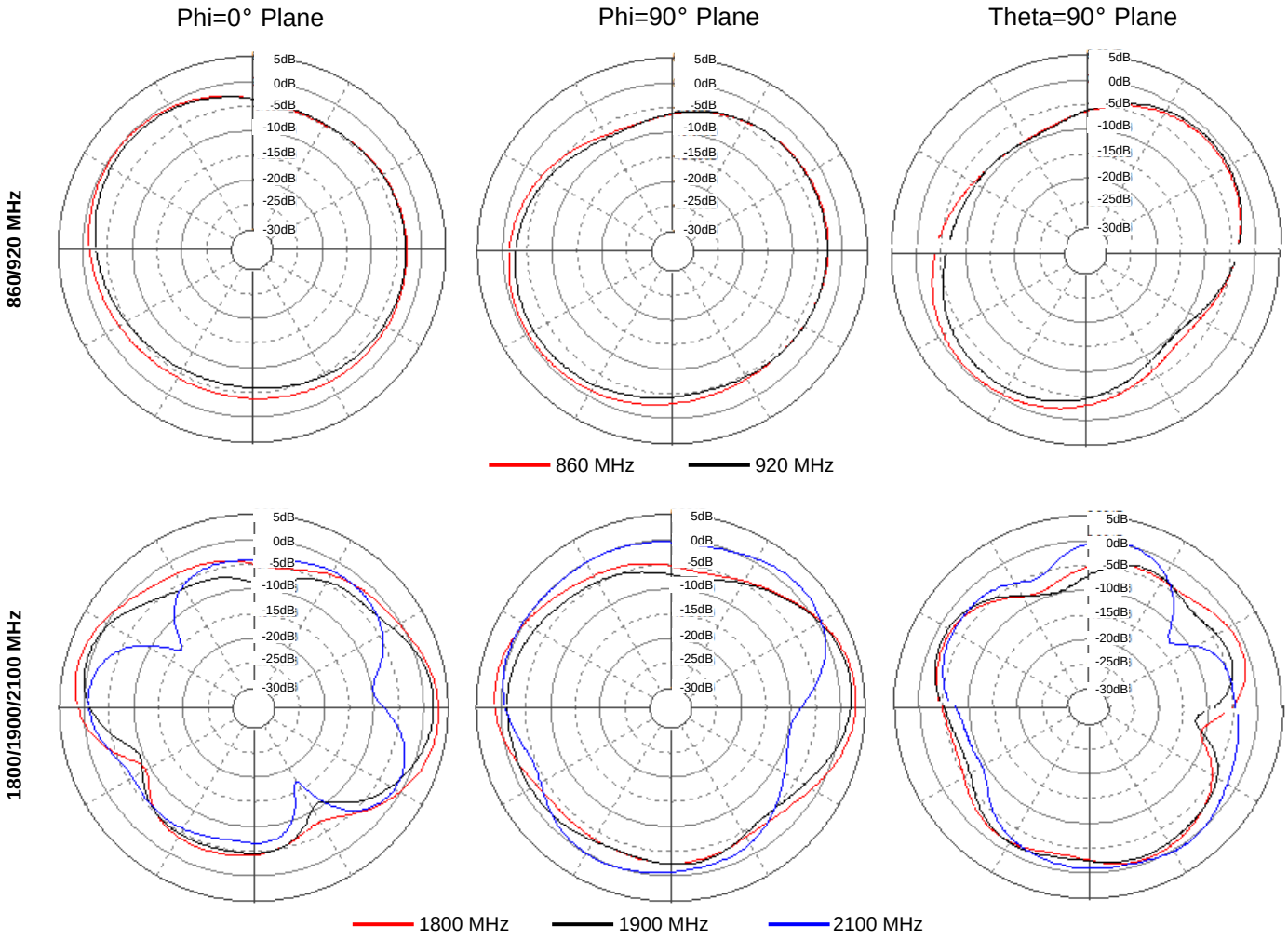
Antenna Radiation Patterns



No Ground



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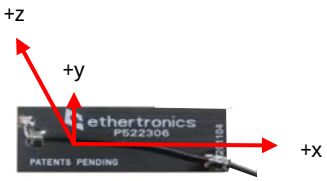
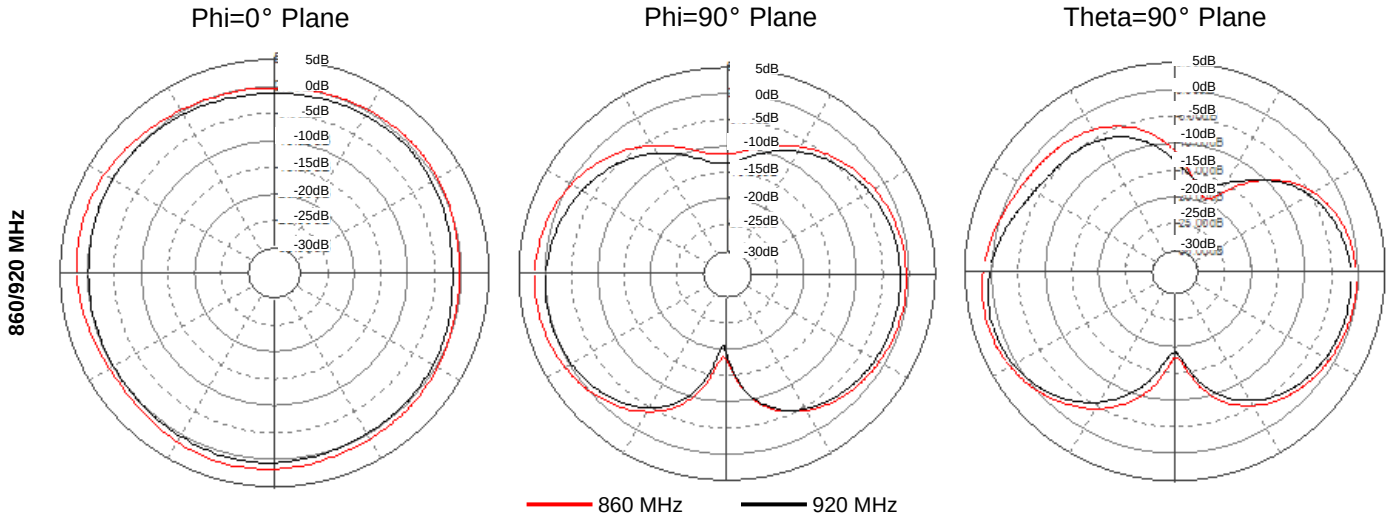
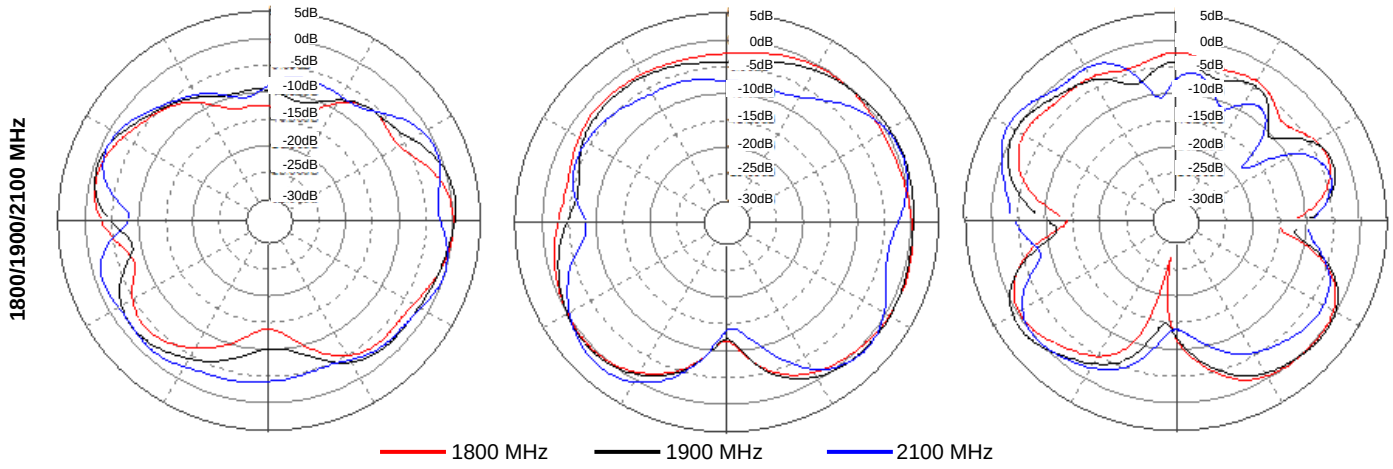


Horizontal Ground





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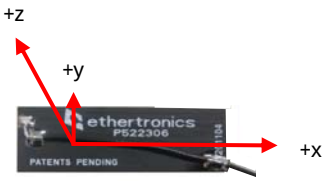
Antenna Radiation Patterns



Vertical Ground