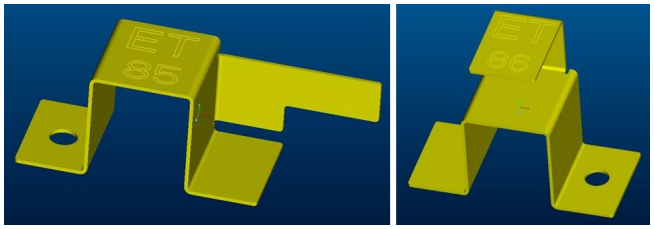
ethertronics INNOVATE

PRODUCT BRIEF: High Performance SMT Antenna

Part No. 1002685 1002686

Prestta™ Embedded 802.11a

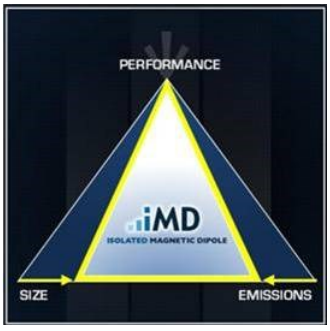
5GHz



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 loy-alty.

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
5501 Oberlin Drive, Suite 100, San Diego, CA. 92121, USA www.ethertronics.com
Tel +(1) 858.550.3820 | fax +(1) 858.550.3821 | contact: info@ethertronics.com

PRODUCT: High Performance Embedded 5GHz Antenna - P/N 1002685 - 1002686

Ethertronics' 802.11a Internal (Embedded) Antenna Specifications.

Below are the typical specs.

Electrical Specifications

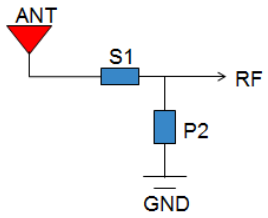
Typical Characteristics
Measurements taken on a Custom Ground Plane.

	P/N 1002686 #1 5150-5850 MHz	P/N 1002686 #2 5150-5850 MHz	P/N 1002685 #3 5150-5850 MHz
Peak Gain	< 6 dBi	< 6 dBi	< 6 dBi
Average Efficiency	68 %	75 %	76 %
Return Loss in dB	< -10 dB	< -12 dB	< -10 dB
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

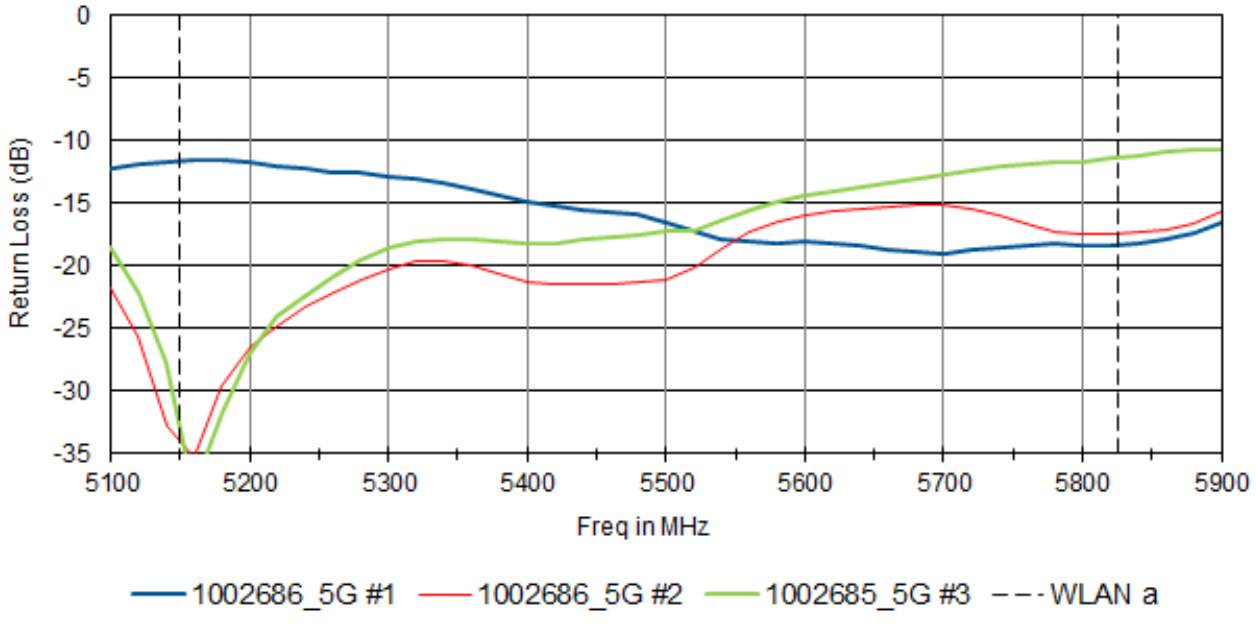
Mechanical Specifications

Maximum Dimensions	P/N 1002685: 18.00±0.1 mm x 6.00±0.1 mm x 6.00±0.1 mm P/N 1002686: 13.0±0.1 mm x 6.0±0.1 mm x 10.0±0.08 mm
Mechanical Mounting	Antenna Assembly is Surface Mounted onto main PCB.
RF Mounting	RF and Ground feed pads are Surface Mounted onto main PCB.

Typical Matching Circuit and Return Loss in dB



	S1	P2
1002686_5G #1	0.8nH	0.6pF
1002686_5G #2	0.8nH	0.5pF
1002685_5G #3	0.6nH	0.5pF



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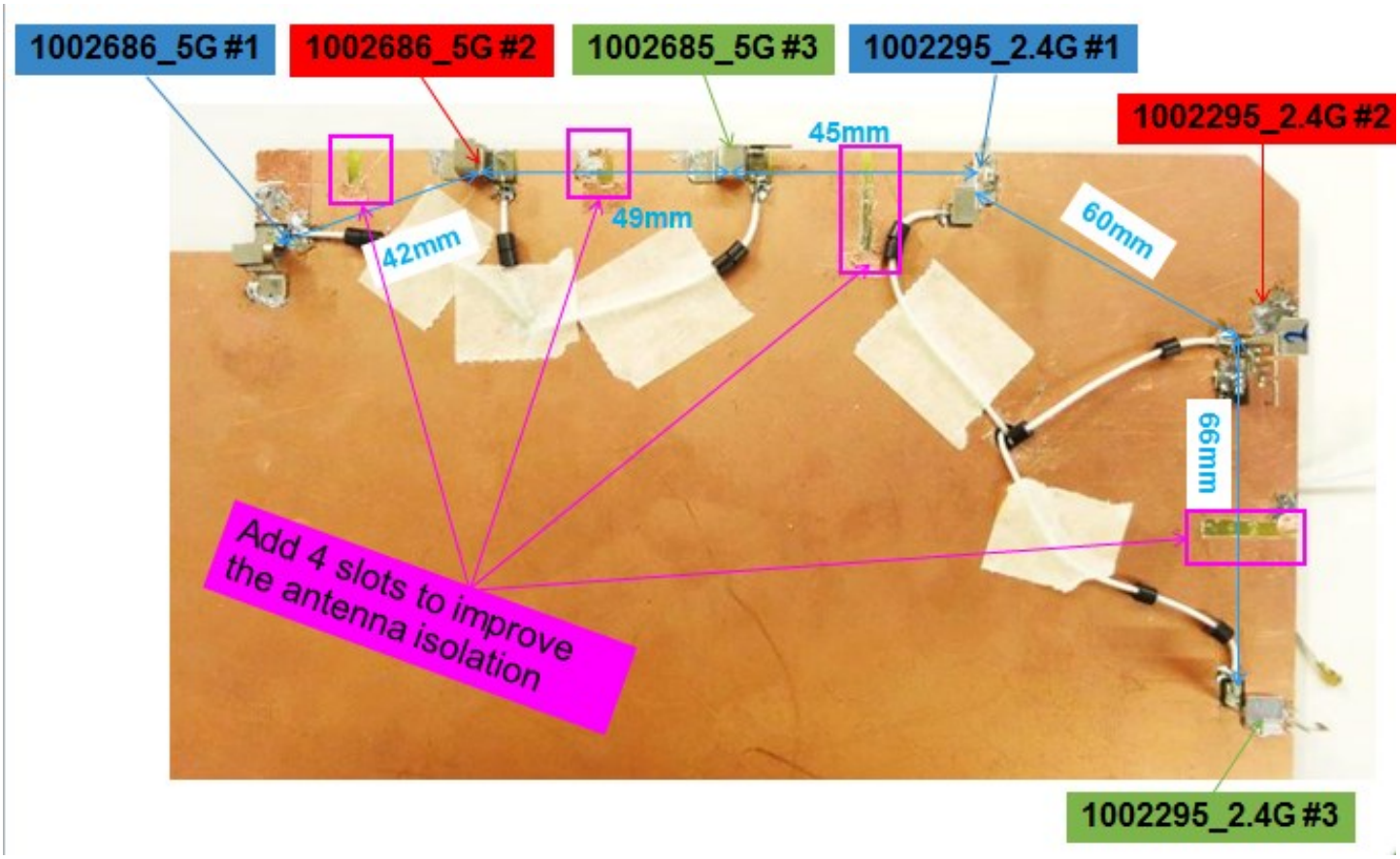
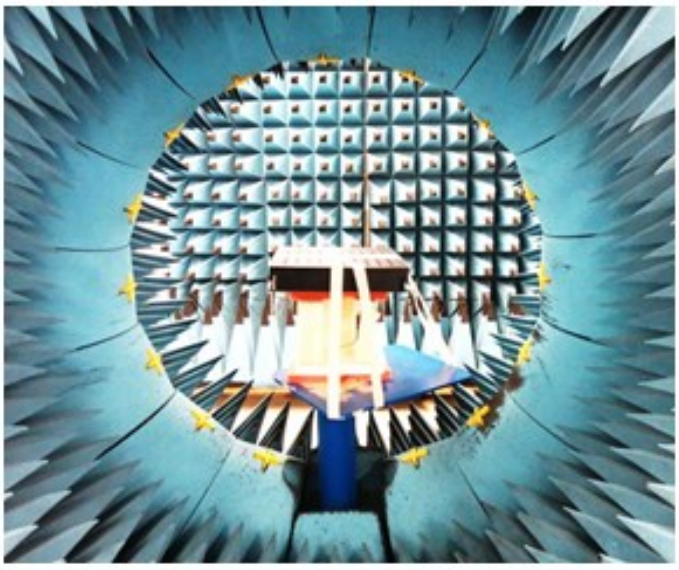
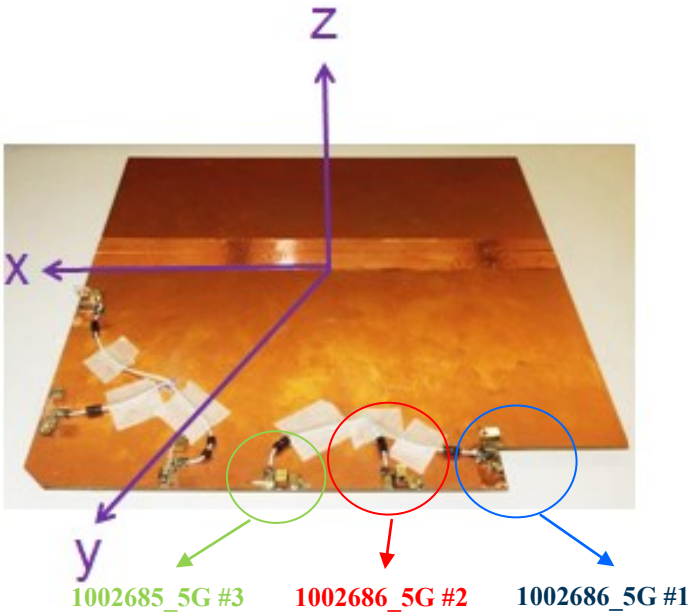
Configuration Setup

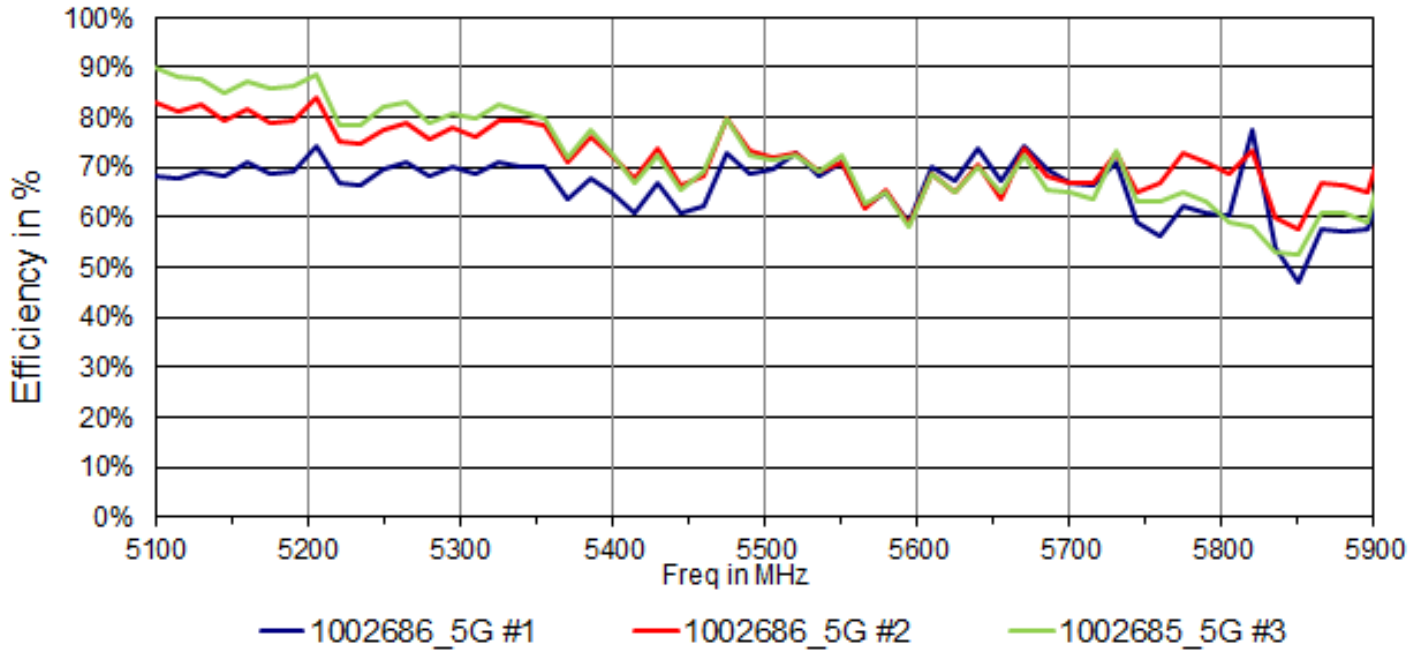


Configuration Setup / Axis for Radiation Patterns

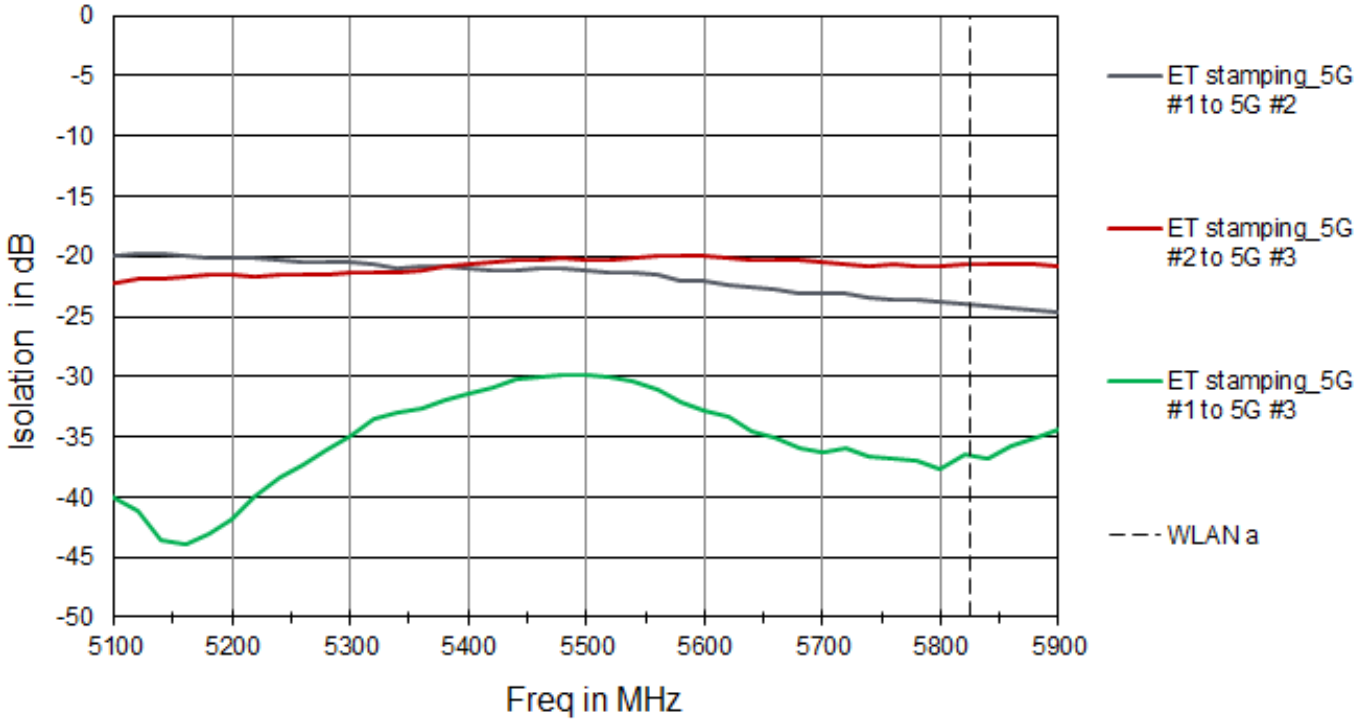




Antenna Efficiency in %

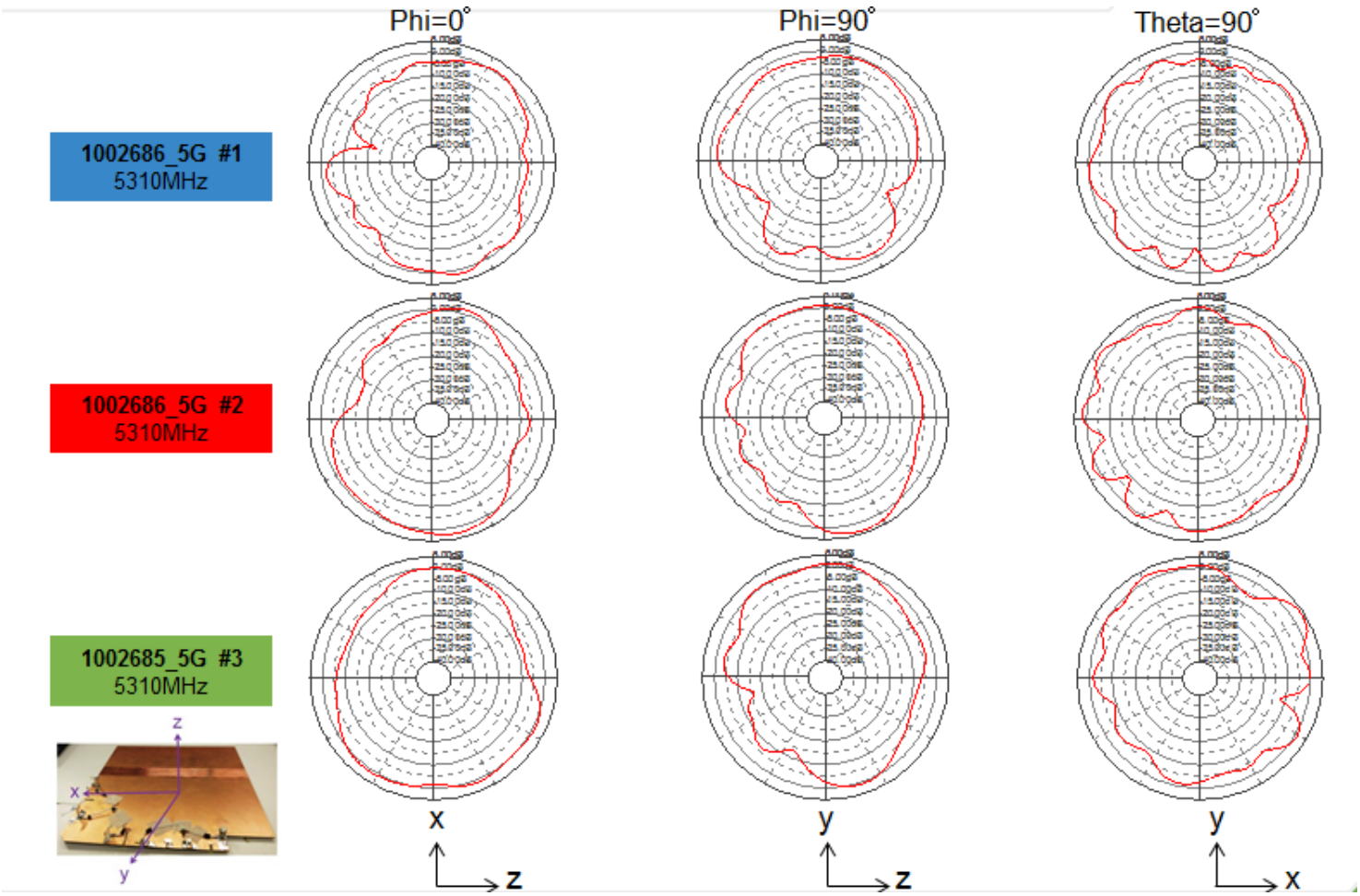


Antenna Isolation in dB



Isolation between each of the three antennas is below -20dB.

Antenna Radiation Patterns @ 5310MHz



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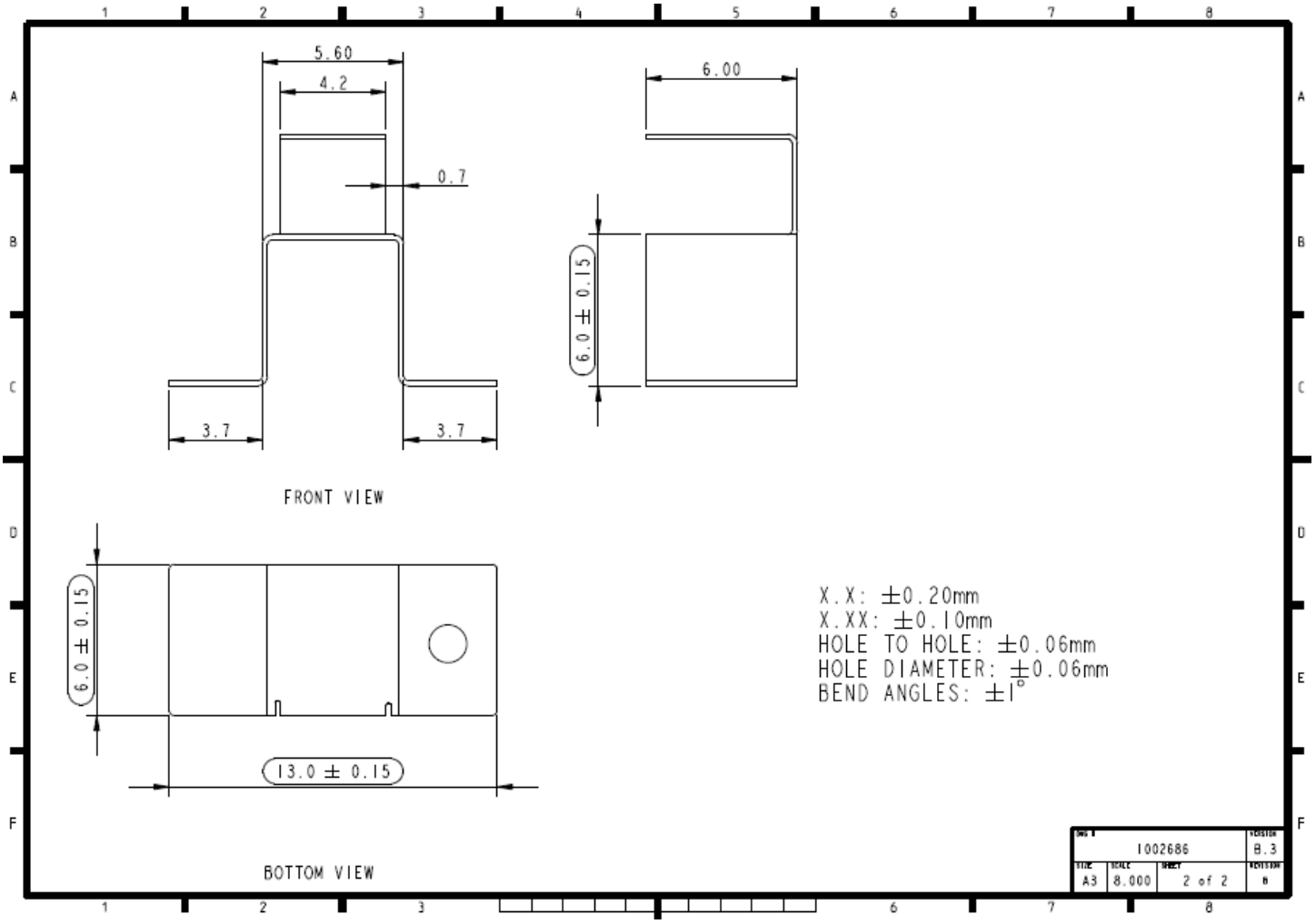
Antenna Dimensions of the P/N 1002686



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Antenna Dimensions of the P/N 1002685