



**Part No. 1002089**  
**LTE PCB Antenna with SMA Connector**  
700 / 750 / 850 / 900 / 1800 / 1900 / 2100 / 2700 MHz  
Supports: Broadband LTE (OCTA-BAND), LTE CAT-M, NB-IoT, SigFox, LoRa, Cellular LPWA, RPMA, Firstnet



**LTE PCB Antenna with SMA connector**  
Low Band : 698-960 MHz  
High Band: 1710-2700 MHz

**KEY BENEFITS**

**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' technology helps you deliver more advanced ergonomic designs without adverse impact on product performance.

**Reliability**  
Comply with latest RoHS requirements

**APPLICATIONS**

- Medical applications
- Home automation
- Smart metering
- M2M, Industrial devices
- IoT
- Firstnet
- Automotive
- Healthcare
- Point of Sale
- Tracking
- NB-IoT
- Sigfox
- LoRa
- Cellular LPWA
- RPMA
- LTE CAT-M

**Stays in Tune**

Ethertronics' LTE antennas use patented IMD technology in a trace 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.

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

**Electrical Specifications**

Typical characteristics in housing using a 135 x 200 mm ground plane

Frequency	698-960 MHz	1710-2700 MHz
Efficiency	> 50 %	> 50%
VSWR	< 3.0:1	< 3.0:1
Peak Gain	5.1 dBi	4.9 dBi
Polarization	Linear	
Power Handling	2 Watts CW	
Feed Point Impedance	50 ohms unbalanced	

**Mechanical Specifications & Ordering Part Number**

Ordering Part Number	1002089
Dimensions (mm)	45.0 x 43.8 x 8.0
Weight (grams)	5.6
Antenna Assembly on the PCBA	Using SMA (Male) connector



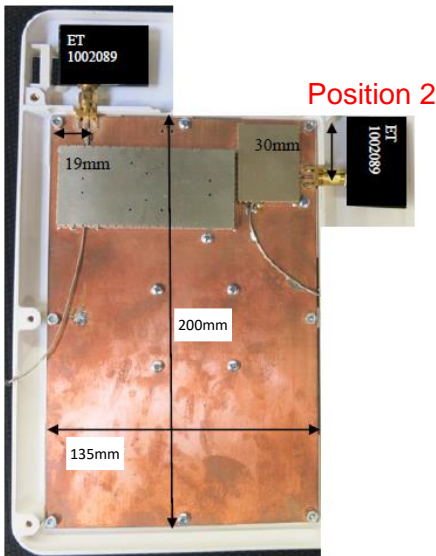
### 1002089 PCB LTE/Cellular performances

Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

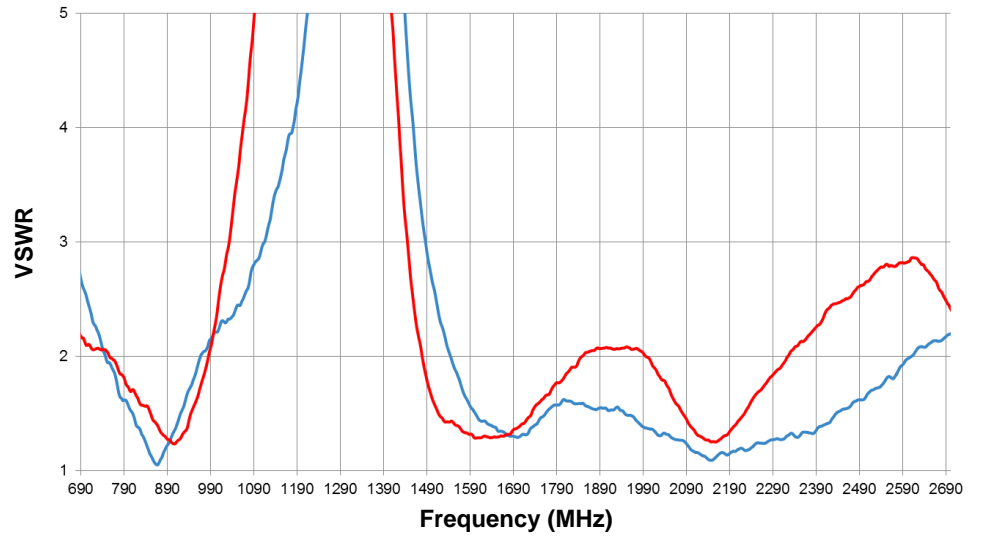
### VSWR and Efficiency Plots

Typical performances on 135 x 200 mm PCB

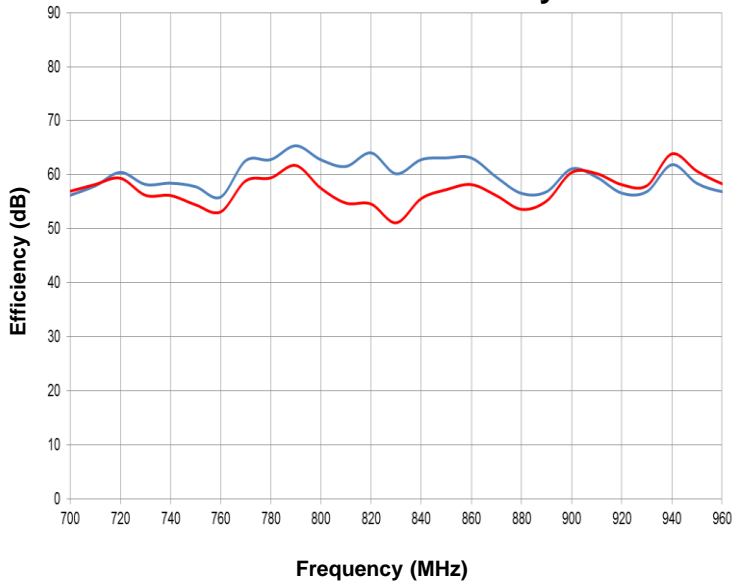
Position 1



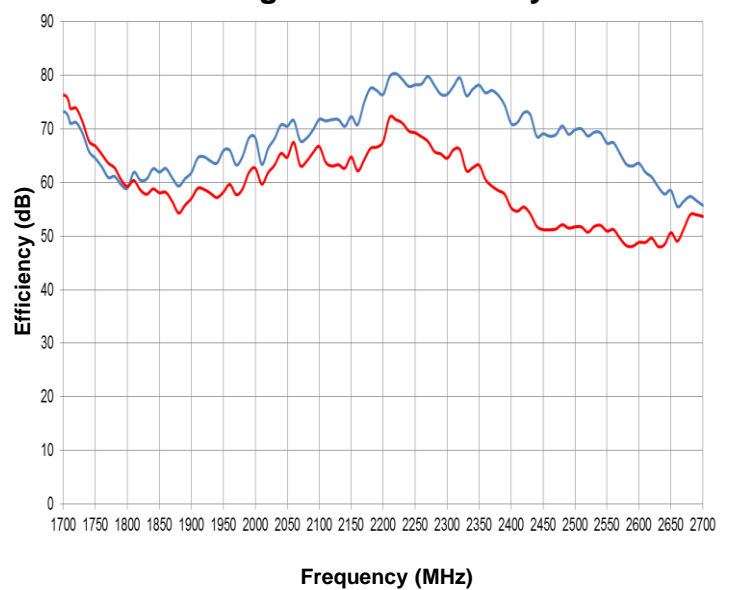
VSWR



Low Band Efficiency



High Band Efficiency





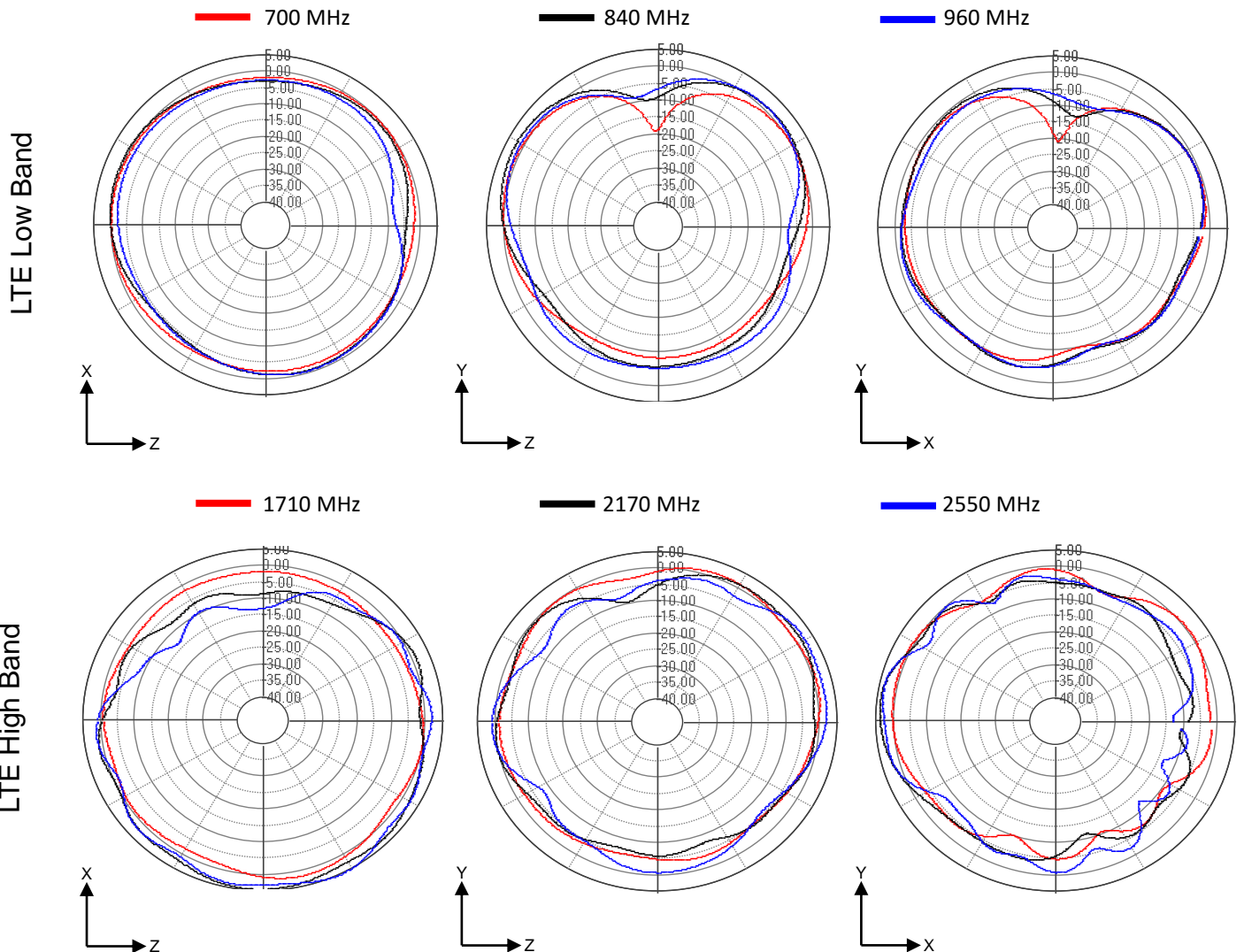
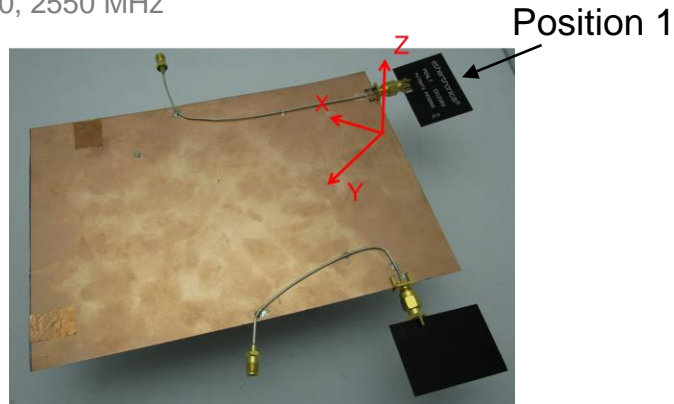
**1002089 PCB LTE/Cellular performances**

Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

**Antenna Radiation Patterns (Position 1)**

Typical performances measured on 135 x 200 mm PCB

Measured @ 700, 840, 960, 1710, 2170, 2550 MHz





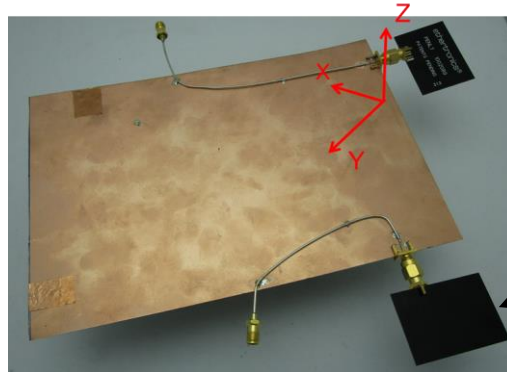
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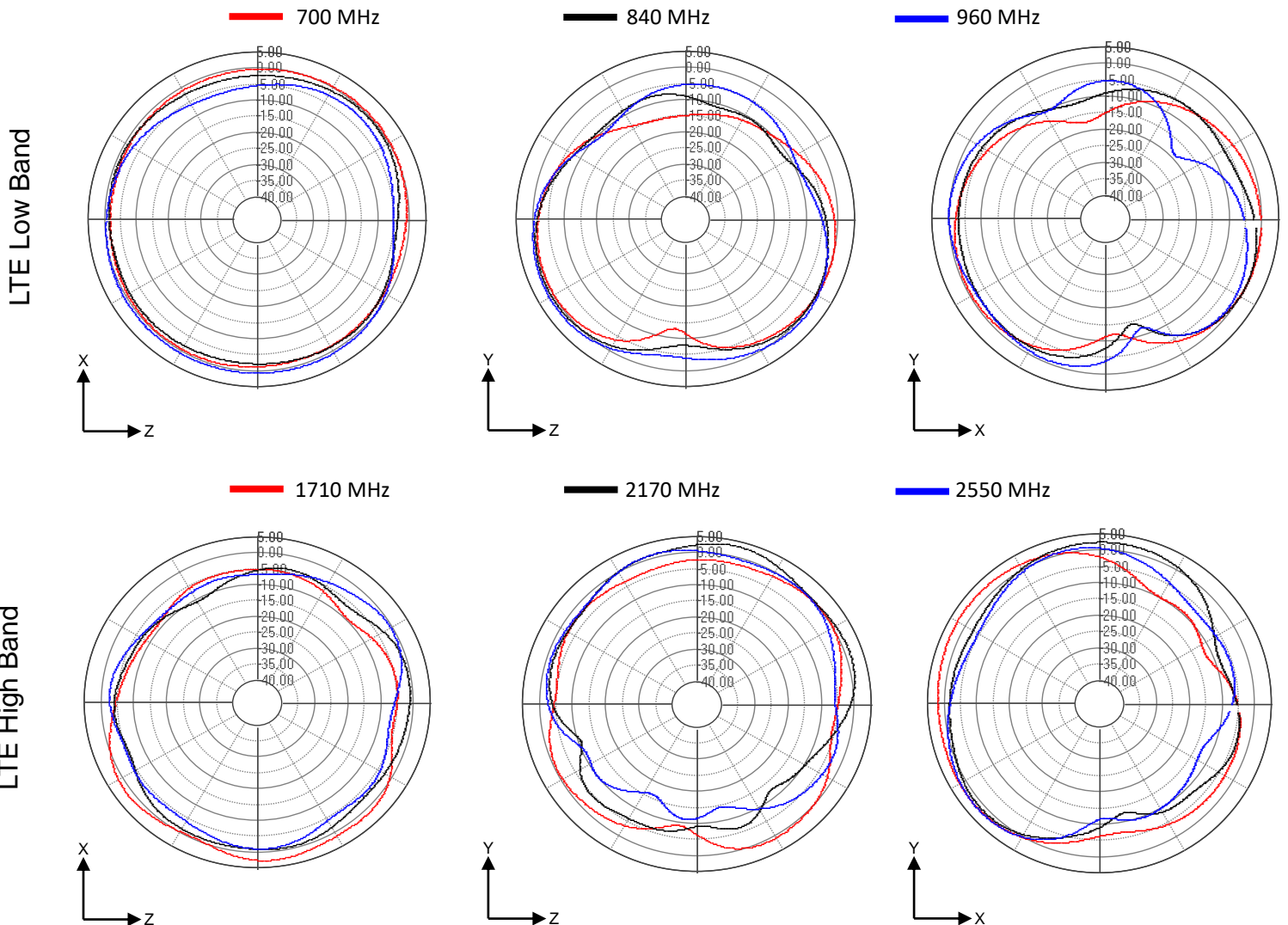
Antenna Radiation Patterns (Position 2)

Typical performances measured on 135 x 200 mm PCB

Measured @ 700, 840, 960, 1710, 2170, 2550 MHz



Position 2





1002089 PCB LTE/Cellular performances

Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

Mechanical Dimensions

Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)	Connector
1002089	45.0 ± 0.3	43.8 ± 0.8	8.0 ± 0.3	SMA (Male)

