

Part No. 1002292

LTE / Cellular FPC Embedded Antenna

700 / 750 / 850 / 1800 / 1900 / 2100 / 2700 MHz

Supports: Broadband LTE (OCTA-BAND), LTE CAT-M, NB-IoT, SigFox, LoRa, Cellular LPWA, RPMA, Firstnet



LTE Cellular FPC Embedded Antenna

Low Band : 698-894 MHz
High Band: 1710-2690 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 applications
- Healthcare Point of Sale
- Tracking
- NB-IoT
- Sigfox
- LoRa
- Cellular LPWA
- RPMA
- LTE CAT-M

Ethertronics' 1002292 Balanced LTE/Cellular embedded antenna addresses the challenges facing today's product designers. Designed to increase the independence between the cellular antenna and the ground plane; 1002292 also supports the LTE frequency bands.

Electrical Specifications

Typical Performance on 105 x 110 mm PCB using 86 mm cable on PC-ABS

Frequency	698 - 894 MHz	1710 - 2690 MHz
Efficiency	50%	64%
VSWR	3.0:1 max	2.8:1 max
Peak Gain	1.2 dBi	5.0 dBi
Polarization	Linear	
Power Handling	2 Watts CW	
Radiation Pattern	Omni-directional	
Feed Point Impedance	50 ohms unbalanced	

Mechanical Specifications & Ordering Part Number

Ordering Part #	1002292	1002292F0-AA10L0086
Dimensions (mm)	85.2 x 42.1 x 0.2 (1.6 high at cable solder connection)	
Connector / Cable (mm)	Connector: U.FL compatible Length: 28.5, Cable diameter: 1.13, Color: Black	Connector: U.FL compatible Length: 86.0, Cable diameter: 1.13, Color: Black
Weight (grams)	1.8	2.2
Mounting	using 3M468 Adhesive	
Packaging	PE bags 1,800 units/box	

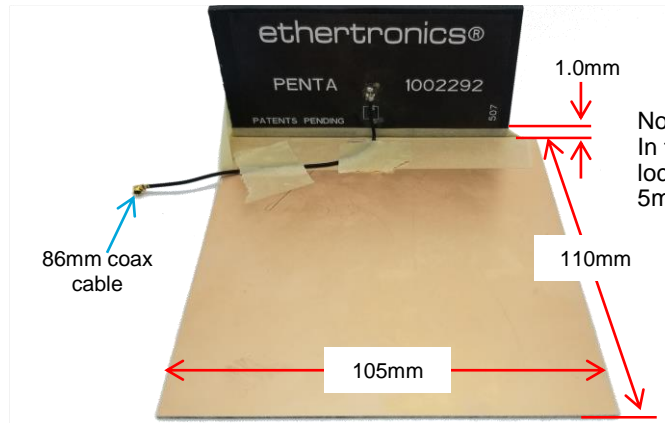
*Additional variations with different cable lengths, colors and connectors are available.



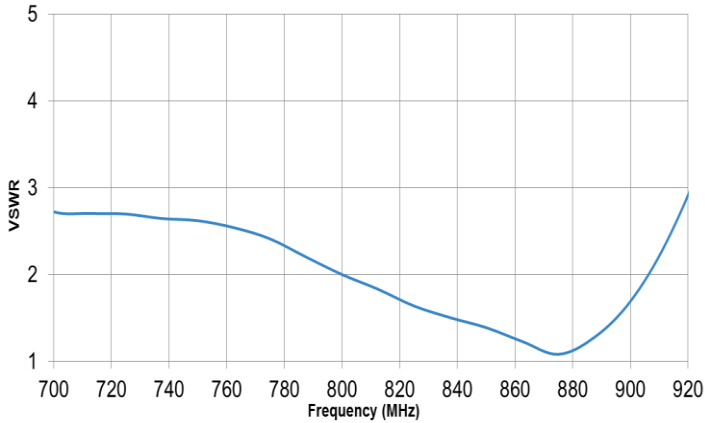
LTE / Cellular FPC Ethertronics' Embedded Antenna Specifications.
Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

VSWR and Efficiency Plots (Off-Ground)

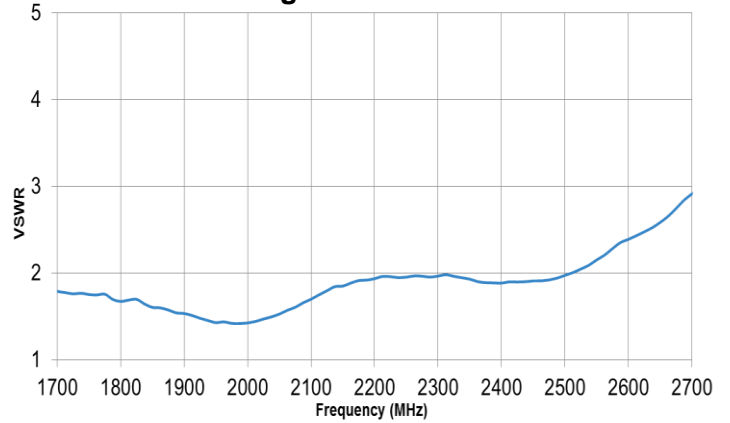
Typical Performance on 105 x 110 mm PCB using 86 mm cable, tested on PC-ABS



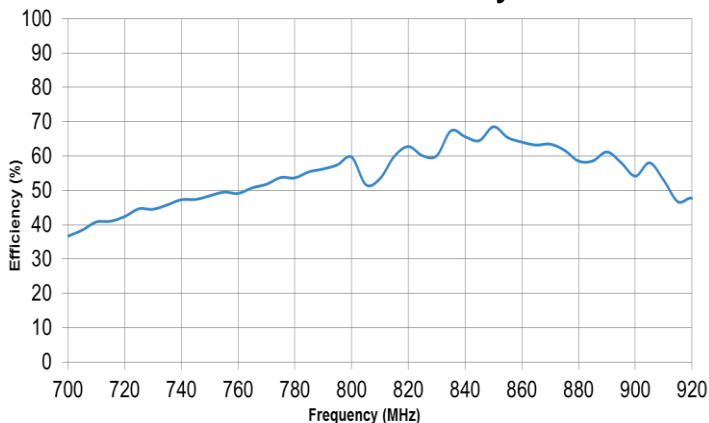
Low Band VSWR



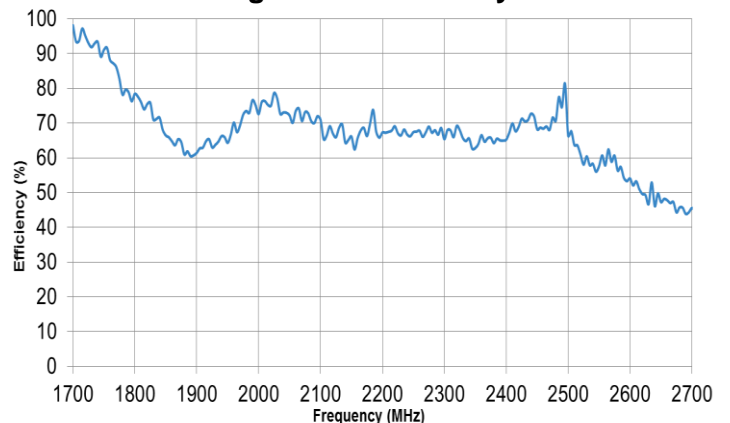
High Band VSWR



Low Band Efficiency



High Band Efficiency





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Antenna Radiation Patterns

Typical Performance on 105 x 110 mm PCB using 86 mm cable, tested on PC-ABS
Measured @ 850, 1850, 2550 MHz

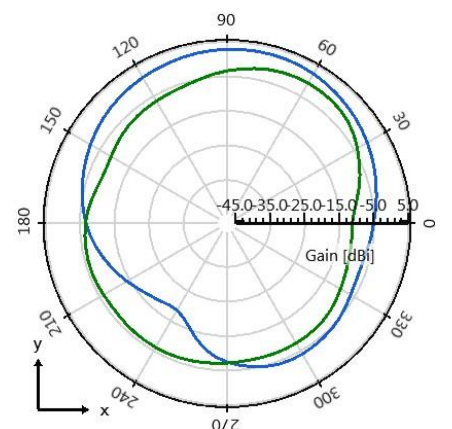
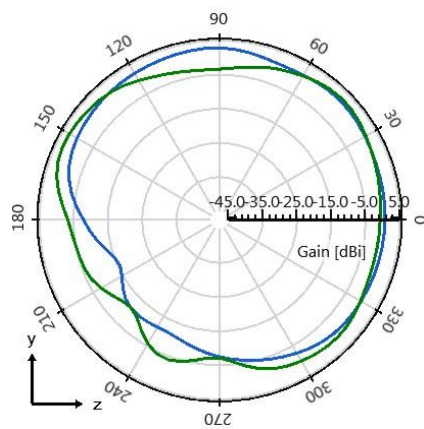
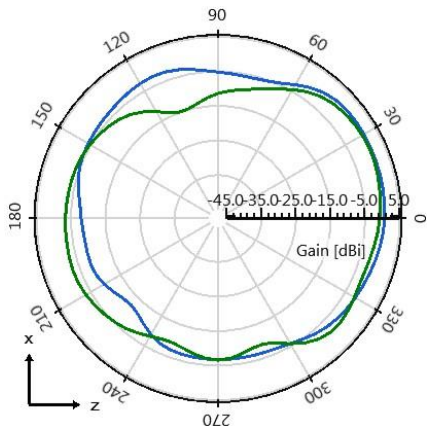
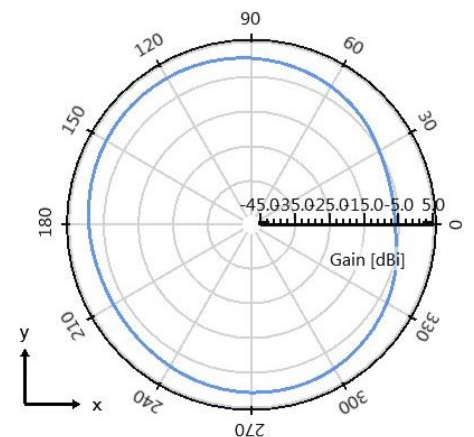
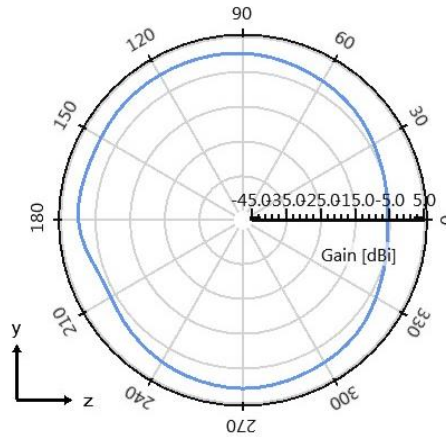
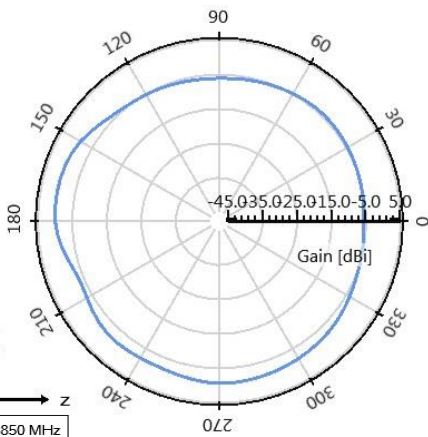


Measured at 850 MHz

850 MHz

Measured at 1850, 2550 GHz

1850 MHz
2550 MHz





LTE / Cellular FPC Ethertronics' Embedded Antenna Specifications.
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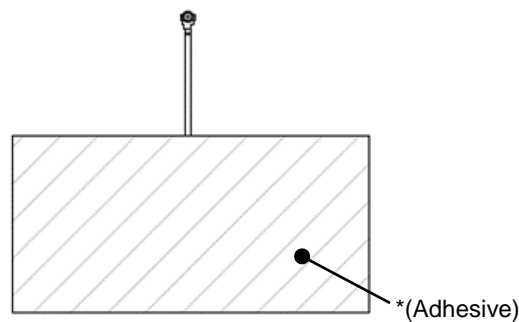
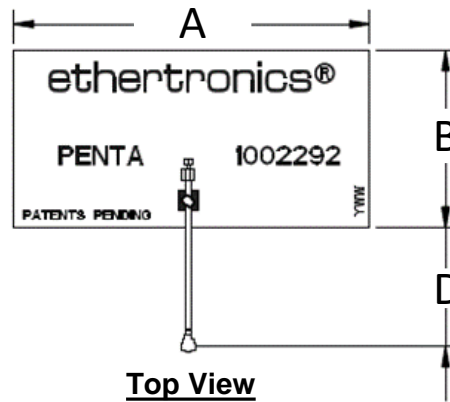
Mechanical Dimensions

Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)	D (mm)
1002292	85.2 ± 0.3	42.1 ± 0.3	1.6 (max)	28.5 ± 3.0
1002292F0-AA10L0086	85.2 ± 0.3	42.1 ± 0.3	1.6 (max)	86.0 ± 3.0
1002292F0-AA10L0100	85.2 ± 0.3	42.1 ± 0.3	1.6 (max)	100.0 ± 3.0

*Total Height of 1.6 mm includes the cable solder connection

*Height "C" of 0.2 mm includes FPC + adhesive thicknesses



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