



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# Part No.1002289

## LTE / Cellular Wide Band FPC Embedded Antenna

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 / Cellular FPC Embedded Antenna

Low Band : 698 - 960 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.

##### RoHS Compliant

Products are the latest RoHS version compliant.

#### 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

Ethertronics LTE cellular embedded antenna 1002289 address the challenges facing today's product designers. Based on a flexible substrate for easier integration, high performance and isolation characteristics, this antenna offers better connectivity. In addition, 1002289 supports all the worldwide cellular bands for LTE with backward compatibility.

#### Electrical Specifications

Typical Characteristics, using 75 x 140 mm ground plane with 25 mm cable Antenna is mounted directly on plastic material

Frequency (MHz)	698 - 960 MHz	1710 - 2690 MHz
Average Efficiency (Longer Edge)	74%	58%
Average Efficiency (Shorter Edge)	67%	63%
VSWR Match	2.5:1 max	
Feed Point Impedance	50 ohms unbalanced	
Polarization	Linear	
Power Handling	2 Watts CW	
Radiation Pattern	Omni-directional	

#### Mechanical Specifications & Ordering Part Number

Ordering Part Number	1002289
Size (mm)	53.6 x 25.1 x 0.2 (1.6 high at cable solder connection)
Weight (grams)	0.86
Connector / Cable (mm)	U.fl compatible connector Length: 25, Cable diameter: 1.13, Color: Black
Mounting	using 3M468 Adhesive

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



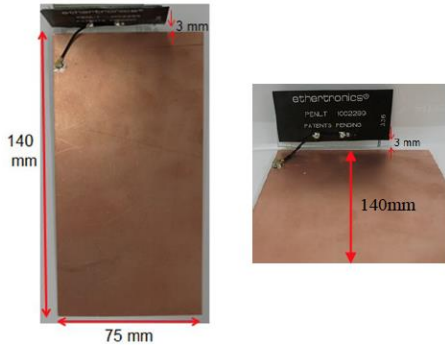
LTE / Cellular Band Ethertronics' Embedded Antenna Specifications.  
Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

**Test Setup**

Typical performance with 25 mm cable

**Antenna Location 1**

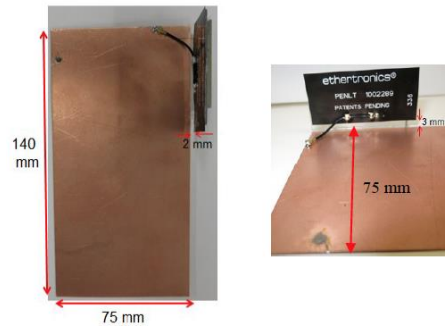
Antenna located at the end of the long edge of the PCB



In this position, the antenna is located 3 mm away from the PCB and 3 mm above the PCB

**Antenna Location 2**

Antenna located at the end of the short edge of the PCB

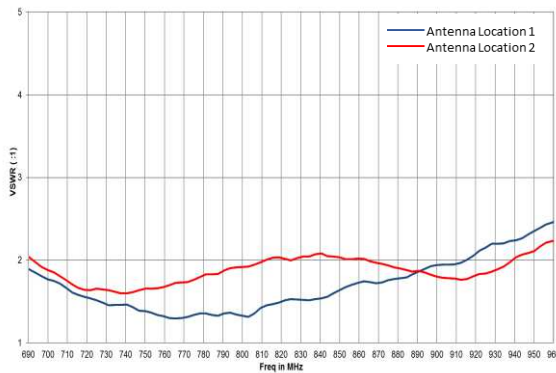


In this position, the antenna is located 2 mm away from the PCB and 3 mm above the PCB

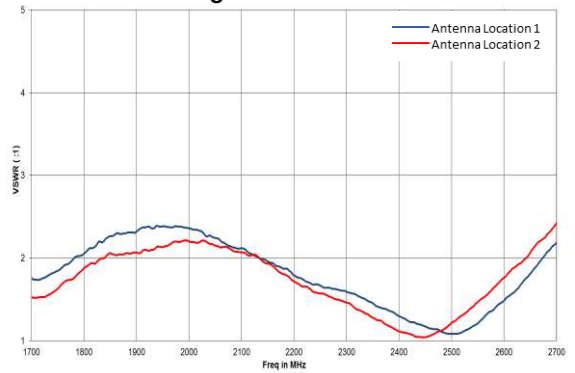
**VSWR and Efficiency Plots**

Typical performance with 25 mm (Location 1 & Location 2)

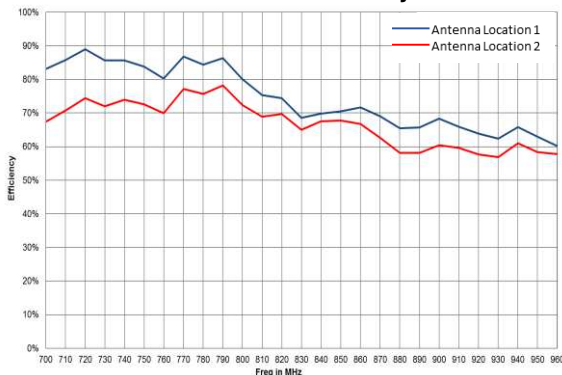
**Low Band VSWR**



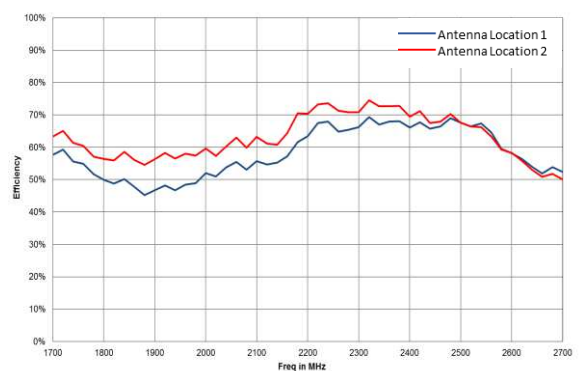
**High Band VSWR**



**Low Band Efficiency**



**High Band Efficiency**



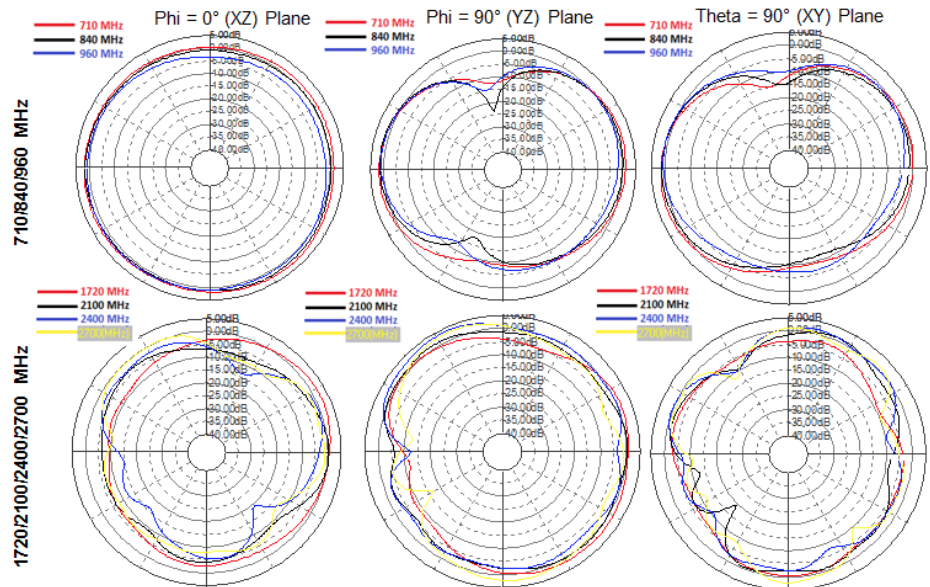
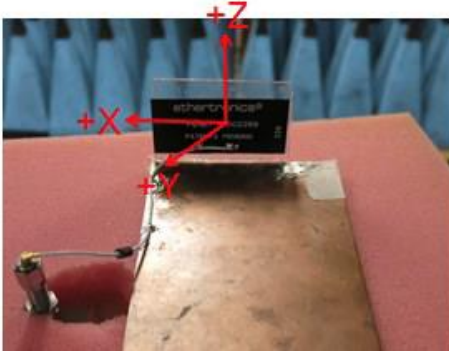


LTE / Cellular Band Ethertronics' Embedded Antenna Specifications.  
Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

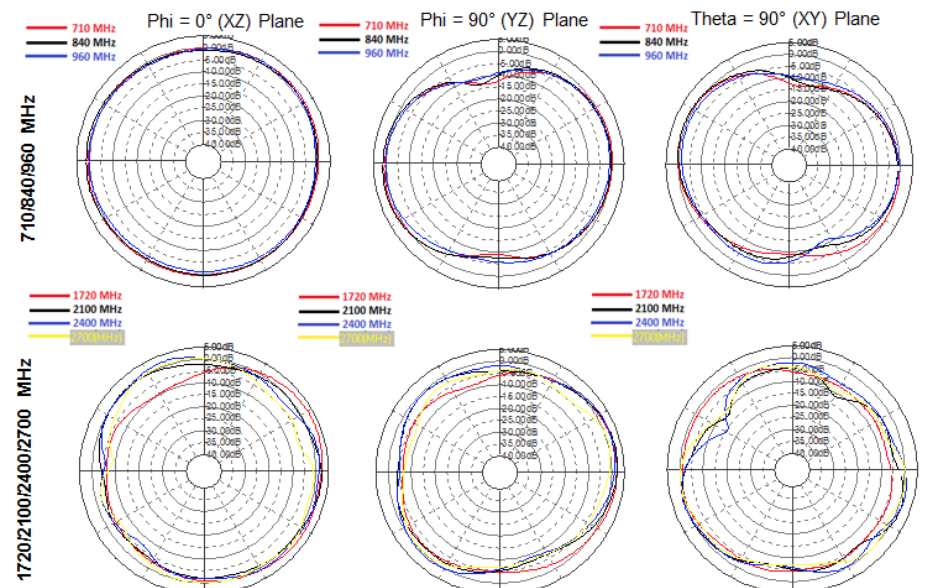
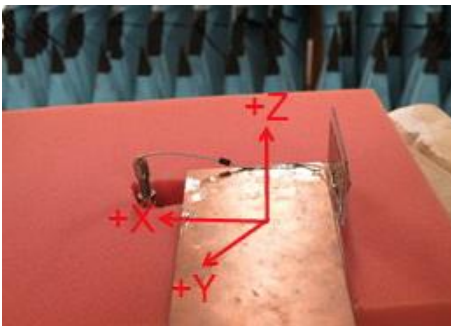
### Radiation Patterns

Typical performance with 25 mm cable

#### Antenna Location 1



#### Antenna Location 2





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

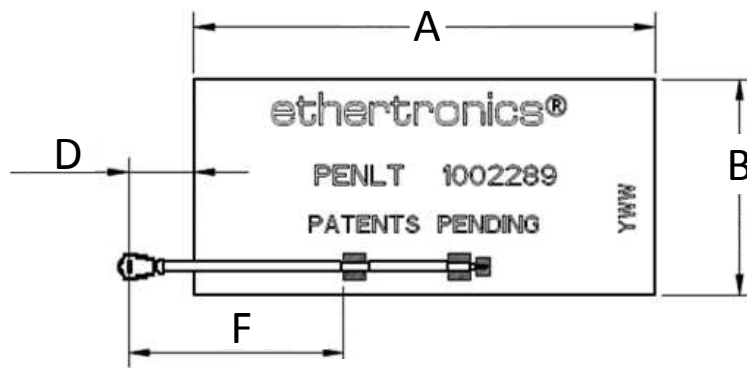
### Mechanical Dimensions

Typical antenna dimensions (mm)

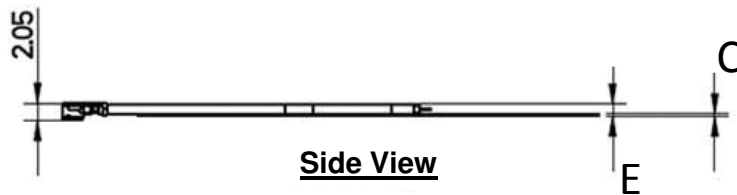
Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
1002289	53.6 ± 0.3	25.1 ± 0.3	0.2 ± 10%	7.6 ± 3.0	1.6 (max)	25 ± 3.0

\*Total Height of 1.6 mm includes the cable solder connection

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



**Top View**



**Side View**



**Bottom View**