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

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

**Mechanical Specifications & Ordering Part Number**

<table>
<thead>
<tr>
<th>Ordering Part #</th>
<th>1002289</th>
<th>1002289FO-AA10L0100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (mm)</td>
<td>53.6 x 25.1 x 0.2 (1.6 high at cable solder connection)</td>
<td></td>
</tr>
<tr>
<td>Weight (grams)</td>
<td>0.86</td>
<td>1.1</td>
</tr>
<tr>
<td>Connector / Cable (mm)</td>
<td>U.FL compatible connector Length: 25, Cable diameter: 1.13, Color: Black</td>
<td>U.FL compatible connector Length: 100, Cable diameter: 1.13, Color: Black</td>
</tr>
<tr>
<td>Mounting</td>
<td>using 3M468 Adhesive</td>
<td></td>
</tr>
</tbody>
</table>

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

**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
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)
Radiation Patterns
Typical performance with 25 mm cable

Antenna Location 1

Antenna Location 2
**Mechanical Dimensions**

Typical antenna dimensions (mm)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>E (mm)</th>
<th>F (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1002289</td>
<td>53.6 ± 0.3</td>
<td>25.1 ± 0.3</td>
<td>0.2 ± 10%</td>
<td>7.6 ± 3.0</td>
<td>1.6 (max)</td>
<td>25 ± 3.0</td>
</tr>
<tr>
<td>1002289F0-AA10L0100</td>
<td>53.6 ± 0.3</td>
<td>25.1 ± 0.3</td>
<td>0.2 ± 10%</td>
<td>100.0 ± 3.5</td>
<td>1.6 (max)</td>
<td>117.4 ± 3.0</td>
</tr>
</tbody>
</table>

*Total Height of 1.6 mm includes the cable solder connection

*Height “C” of 0.2 mm includes FPC + adhesive thicknesses