Ethertronics’ antennas deliver on the key needs of device designers for higher functionality and performance in smaller/thinner designs. These innovative antennas provide compelling advantages for GPS enabled handheld devices, media players and other mobile devices.

**Electrical Specifications**
Typical Characteristics, on 70 x 70 mm ground plane

<table>
<thead>
<tr>
<th>Frequency</th>
<th>1.575 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Frequency $f_o$</td>
<td>$1575 \pm 3.0 \text{ MHz}$</td>
</tr>
<tr>
<td>Return Loss</td>
<td>$&lt;-20 \text{ dB}$</td>
</tr>
<tr>
<td>Gain 0° XZ-Plane</td>
<td>$5.3 \text{ dBi}$</td>
</tr>
<tr>
<td>Polarization</td>
<td>R.H.C.P</td>
</tr>
<tr>
<td>Impedance</td>
<td>$50 \text{ ohm}$</td>
</tr>
<tr>
<td>Axial Ratio</td>
<td>$1.8 \text{ dB}$</td>
</tr>
</tbody>
</table>

**Mechanical Specifications & Ordering Part Number**

<table>
<thead>
<tr>
<th>Ordering Part Number</th>
<th>1001039</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (mm)</td>
<td>$25.0 \times 25.0 \times 4.5$</td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td>Adhesive (Nitto 5000NS 22 x 22 x 0.16) &amp; 1 through-hole Soldered Pin</td>
</tr>
<tr>
<td>Weight (grams)</td>
<td>9.4</td>
</tr>
<tr>
<td>Packaging</td>
<td>Plastic Tray</td>
</tr>
</tbody>
</table>

**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.

**Quicker Time-to-Market**
By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

**Reliability**
Products are the latest RoHS version compliant.

**APPLICATIONS**
- Embedded design
- POS, Headsets, Tablets
- Gateway, Access Point
- Handheld
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid
- OBD-II

Part No. 1001039
GPS Ceramic Patch Antenna
1.575 GHz
Supports: Tracking, Smart Home, Agriculture, Automotive, Healthcare, Digital Signage, Wearables, Industrial Devices

11/15/2018
Proprietary
www.ethertronics.com
1.575 GHz Ethertronics’ Embedded Antenna Specifications. Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

**VSWR and Peak Gain Plots**
Typical performance on 70 x 70 mm PCB

![Return Loss](image1)

**Peak Gain**

![Peak Gain](image2)

**Antenna Radiation Patterns**
Typical performance on 70 x 70 mm PCB
Measured @ 1575 MHz

![Antenna Patterns](image3)
Axial Ratio, RHCP, LHCP Plots
Typical performance on 70 x 70 mm PCB
Measured @ 1575 MHz

Theta (°)

Axial Ratio (dB)

Phi = 0

RHCP

LHCP

Theta (°)
Mechanical Dimensions
Typical antenna dimensions, in mm.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001039</td>
<td>25.0 ± 0.2</td>
<td>25.0 ± 0.2</td>
<td>4.5 ± 0.4</td>
</tr>
</tbody>
</table>

Top View

Bottom View

Side View

Adhesive Liner View (Bottom)