Part No. 1004322
GPS/GLONASS/Beidou/Galileo Patch Antenna
1.561, 1.575, 1.603 GHz
Supports: Tracking, Smart Home, Agriculture, Automotive, Healthcare, Digital Signage, Wearables, Industrial Devices

GPS / GLONASS / Beidou / Galileo Patch Antenna
1.559 – 1.610 GHz

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 a GNSS enabled handheld devices, media players and other mobile devices.

Electrical Specifications
Typical characteristics measured on a 70 x 70 mm PCB ground plane.

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>1.559 – 1.563</th>
<th>1.575</th>
<th>1.559 – 1.591</th>
<th>1.593 – 1.610</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNSS Bands</td>
<td>Beidou</td>
<td>GPS</td>
<td>Galileo</td>
<td>Glonass</td>
</tr>
<tr>
<td>Peak Gain (dBi)</td>
<td>3.89</td>
<td>3.12</td>
<td>4.06</td>
<td>3.92</td>
</tr>
<tr>
<td>Center Frequency f₀ (GHz)</td>
<td>1.561</td>
<td>1.575</td>
<td>1.575</td>
<td>1.603</td>
</tr>
<tr>
<td>Average Efficiency</td>
<td>54%</td>
<td>58%</td>
<td>51%</td>
<td>59%</td>
</tr>
<tr>
<td>Average VSWR</td>
<td>1:3.5</td>
<td>1:2.8</td>
<td>1:3.8</td>
<td>1:2.2</td>
</tr>
<tr>
<td>Feed Point Impedance</td>
<td>50 Ω unbalanced</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mechanical Specifications & Ordering Part Number

<table>
<thead>
<tr>
<th>Ordering Part Number</th>
<th>1004322</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (mm)</td>
<td>18.0 x 18.0 x 4.7</td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td>Adhesive (Nitto 5000NS 15 x 15 x 0.16) &amp; 1 through-hole Solder Pin</td>
</tr>
<tr>
<td>Packaging</td>
<td>Plastic Tray</td>
</tr>
<tr>
<td>Weight (grams)</td>
<td>6.2</td>
</tr>
</tbody>
</table>

KEY BENEFITS
Reduced Costs & Time-to-Market
Standard antennas eliminate design fees, redesign cycle time and minimize risk associated with customer solution. Quicker time to market.

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
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid
- OBD-II

10/22/2019
Proprietary
www.ethertronics.com
GPS / GLONASS / Galileo / Beidou Patch Ethertronics’ Embedded Antenna Specifications
Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

**VSWR and Efficiency Plots**
Typical performance on 70 x 70 mm PCB

![VSWR Graph](image1)

![Efficiency Graph](image2)

**Radiation Patterns**
Typical performance on 70 x 70 mm PCB measured @ 1.560, 1.575, 1.605 GHz

![Radiation Patterns](image3)
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>
</tr>
</thead>
<tbody>
<tr>
<td>1004322</td>
<td>18.0 ± 0.2</td>
<td>18.0 ± 0.2</td>
<td>4.7 (+0.2/-0.4)</td>
</tr>
</tbody>
</table>

Top View

Bottom View

Side View

Adhesive Liner View (Bottom)