1575MHz GPS Ceramic Chip Antenna
ACAG0301-1575-T

FEATURES

- High gain of 4.18dBi
- Made using LTCC (low temperature co-fired ceramic) technology
- VSWR ≤ 2.0
- Compact form factor and low profile 3.2 x 1.6 x 0.6mm
- Omni-directional

APPLICATIONS

- GPS/Glonass devices
- IoT and wearables with embedded GPS systems
- Tablets and mobile devices
- Navigation devices
- GPS accessories: USB dongle, SDIO cards, PCMCIA card

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency (No matching)</td>
<td>1590 MHz</td>
</tr>
<tr>
<td>Frequency (after matching)</td>
<td>1575 MHz</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>40 MHz typ</td>
</tr>
<tr>
<td>VSWR</td>
<td>≤2.0</td>
</tr>
<tr>
<td>Impedance</td>
<td>50 Ω</td>
</tr>
<tr>
<td>Peak Gain</td>
<td>4.18 dBi</td>
</tr>
<tr>
<td>Azimuth</td>
<td>Omni-directional</td>
</tr>
<tr>
<td>Polarization</td>
<td>Linear</td>
</tr>
<tr>
<td>Operating Temperature range</td>
<td>-40°C ~+ 85°C</td>
</tr>
</tbody>
</table>

MECHANICAL DIMENSIONS (mm)

Antenna Dimensions

<table>
<thead>
<tr>
<th>Top</th>
<th>Btm</th>
<th>Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.64 x 0.2</td>
<td>1.64 x 0.2</td>
<td>3.2 x 0.2</td>
</tr>
<tr>
<td>2.74 x 0.2</td>
<td>2.74 x 0.2</td>
<td>1.5</td>
</tr>
<tr>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Layout

- Clearance Area
- 50Ω Feeding Line
- Type Matching Network

ABRACON IS
ISO9001-2015
CERTIFIED
1575MHz GPS Ceramic Chip Antenna

ACAG0301-1575-T

EVALUATION BOARD AND MATCHING CIRCUITS

ANTENNA RESPONSE | SMITH CHART AND RETURN LOSS S11
1575MHz GPS Ceramic Chip Antenna

ACAG0301-1575-T

RADIATION PATTERNS

Coordinates

X-Z Plane

X-Y Plane

Y-Z Plane

3.2 x 1.6 x 0.6mm
RoHS/RoHS II Compliant
MSL = 1

For terms and conditions of sales, please visit:
www.abracon.com
1575MHz GPS Ceramic Chip Antenna
ACAG0301-1575-T

3D PATTERNS

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>1565</th>
<th>1575</th>
<th>1585</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Gain (dBi)</td>
<td>-1.26</td>
<td>-0.56</td>
<td>-1.58</td>
</tr>
<tr>
<td>Peak Gain (dBi)</td>
<td>3.96</td>
<td>4.18</td>
<td>4.05</td>
</tr>
<tr>
<td>Efficiency (%)</td>
<td>73</td>
<td>79</td>
<td>81</td>
</tr>
</tbody>
</table>

REFLOW SOLDERING STANDARD CONDITION

![Soldering Standard Condition Graph](image-url)
PACKAGING

Reel (3000 pcs/Reel)
Size of the carton: 330 x 210 x 210 mm

Storage Temperature Range: <30 degree C, Humidity: <60%RH
MSL-1
Oxidizable, 12 months in a vacuum sealed bag.
Once opened, please repack the unused items within 168 hours by re-seal package treatment.
CAUTIONS

1. Static voltage
Static voltage between signal & ground may cause deterioration & destruction of the component. Please avoid static voltage.

2. Ultrasonic cleaning
Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning.

3. Soldering
Only leads of the component may be soldered. Please avoid soldering to any other part of the component, such as on the patterns as this will change the performance of the antenna.