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

[Antenna Dimensions Diagram]

Layout

[Layout Diagram]
1575MHz GPS Ceramic Chip Antenna

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

EVALUATION BOARD AND MATCHING CIRCUITS

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

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

RADIATION PATTERNS

Coordinates

X-Z Plane

X-Y Plane

Y-Z Plane
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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

Temp( °C )

250 °C ± 10 °C

220 °C

180 °C

0 °C

80~120 sec

5sec (Peak 265 °C)

30~40 sec

Time(s)
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PACKAGING

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

Tape Dimensions: mm

Reel Dimensions: 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.