Low profile Compact 2.4 GHz Ceramic Chip Antenna

ACAG0201-2450-T

FEATURES

- Gain of 2.7dBi
- VSWR ≤ 2.0
- Miniature form factor 2.0 x 1.25 x 0.6mm
- Made using LTCC technology (low temperature co-fired ceramic)
- Omni-directional

APPLICATIONS

- IoT and wearable
- Wi-Fi
- Bluetooth/BLE
- ISM band

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre Frequency (After matching)</td>
<td>2450 MHz</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>65 MHz typ</td>
</tr>
<tr>
<td>VSWR</td>
<td>≤2.0</td>
</tr>
<tr>
<td>Impedance</td>
<td>50Ω</td>
</tr>
<tr>
<td>Gain</td>
<td>2.7 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

- Top View
- Bottom View
- Unit mm

- 2.6 ±0.2
- 1.25 ±0.2
- 0.6 ±0.1

Layout Dimensions

- Unit mm
- Clearance Area
- GND VIA
- 50Ω Feeding Line
- Pi Type Matching Network
- GND

REVISED: 06.21.2018
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EVALUATION BOARD AND MATCHING CIRCUITS

ANTENNA RESPONSE – SMITH CHART AND RETURN LOSS S11

ABRACON IS
ISO9001-2015
CERTIFIED

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com
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RADIATION PATTERNS

Coordinates

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>TRP (dBi)</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2450.00</td>
<td>-1.38</td>
<td>72.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peak EIRP (dBm)</th>
<th>Max. Power (dBm)</th>
<th>Directivity (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.7</td>
<td>2.7</td>
<td>4.90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NHPP + 10 dBm</th>
<th>Avg. Power (dBm)</th>
<th>Upper Hem. (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2.41</td>
<td>-1.13</td>
<td>-3.84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-Theta Peak Gain (dB)</th>
<th>Max./Min. Ratio (dB)</th>
<th>Lower Hem. (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.85</td>
<td>35.3</td>
<td>-5.92</td>
</tr>
</tbody>
</table>

XY Plane (+ Z View)  XZ Plane (+ Y View)  XZ Plane (+ Y View)

XY Plane (+ Z View)  YZ Plane (+ X View)  YZ Plane (+ X View)
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REFLOW SOLDERING STANDARD CONDITION

![Graph showing reflow soldering temperature profile]

PACKAGING

Reel (4000 pcs/Reel)

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.

Dimensions: mm

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RoHS/RoHS II Compliant
MSL = 1

2.0 x 1.25 x 0.6mm
2018.06.21

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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.