2.4 GHz WLAN, Home RF, Bluetooth, 802.11 b/g, Antenna

P/N 2450AT43B100

With Ground Clearance Requirements Minimized

Tip: This antenna “loves” to be mounted on PCB corners for optimum performance

General Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>2450AT43B100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power</td>
<td>2W max. (CW)</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>2400 - 2500 Mhz</td>
</tr>
<tr>
<td>Peak Gain</td>
<td>1.3 dBi typ. (XZ-V)</td>
</tr>
<tr>
<td>Average Gain</td>
<td>-0.5 dBi typ. (XZ-V)</td>
</tr>
<tr>
<td>Return Loss</td>
<td>9.5 dB min.</td>
</tr>
<tr>
<td>Radiation Pattern</td>
<td>Omnidirectional</td>
</tr>
<tr>
<td>P/N Suffix</td>
<td>S, E</td>
</tr>
<tr>
<td>Packaging Style</td>
<td>Bulk, T &amp; R</td>
</tr>
<tr>
<td>Termination Style</td>
<td>100% Tin, None</td>
</tr>
<tr>
<td>Evaluation Board</td>
<td>2450AT43B100-EB1SMA (comes pre-tuned with SMA connector)</td>
</tr>
</tbody>
</table>

Part Number Explanation

<table>
<thead>
<tr>
<th>P/N Suffix</th>
<th>Packaging Style</th>
<th>Suffix</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Bulk</td>
<td>None</td>
<td>Eg. 2450AT43B100S</td>
</tr>
<tr>
<td>E</td>
<td>T &amp; R</td>
<td>None</td>
<td>Eg. 2450AT43B100E</td>
</tr>
<tr>
<td></td>
<td>Termination Style</td>
<td>None</td>
<td>Eg. 2450AT43B100(E or S)</td>
</tr>
<tr>
<td></td>
<td>Evaluation Board</td>
<td></td>
<td>2450AT43B100-EB1SMA (comes pre-tuned with SMA connector)</td>
</tr>
</tbody>
</table>

Mechanical Dimensions

<table>
<thead>
<tr>
<th>L</th>
<th>W</th>
<th>L1</th>
<th>W1</th>
<th>T</th>
<th>a</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.276 ± 0.008</td>
<td>0.079 ± 0.008</td>
<td>0.102 ± 0.008</td>
<td>0.020 ± 0.008</td>
<td>0.079 +0.004/-0.008</td>
<td>0.020 ± 0.012</td>
</tr>
<tr>
<td>7.00 ± 0.20</td>
<td>2.00 ± 0.20</td>
<td>2.60 ± 0.20</td>
<td>0.50 ± 0.20</td>
<td>2.00 +0.1/-0.2</td>
<td>0.50 ± 0.30</td>
</tr>
</tbody>
</table>

Terminal Configuration

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feed Point</td>
</tr>
<tr>
<td>2</td>
<td>NC</td>
</tr>
<tr>
<td>3</td>
<td>NC</td>
</tr>
<tr>
<td>4</td>
<td>NC</td>
</tr>
</tbody>
</table>

NOTE: Pins 2, 3 & 4, although “NC”, must be soldered to their corresponding PCB pads for proper electrical operation.

Would you like us to tune the antenna to your PCB? Contact us at: www.johansontechnology.com/ask-a-question

Mechanical Dimensions Diagram

Top View Side View Bottom View

Want the layout file? Request it at: www.johansontechnology.com/ask-a-question

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Mounting and Layout Guidelines:

Mount these devices with red mark facing up. Units: mm

Need help designing the antenna in? Use our antenna design services!
www.johansontechnology.com/ipc-antenna-services
We provide 2 Free layout reviews and if you need us to tune and characterize the antenna on your design (anechoic chamber) we can do that too (lab fee may apply for the latter).

IMPORTANT! Matching circuit and component values will be different on your PCB, this will depend on PCB layout and shape, encasement, etc

*Antenna feed line width should be designed to provide 50 Ω impedance otherwise improper operation

Note 1: Pins 2, 3 & 4, although "NC", must be soldered to their corresponding PCB pads for proper electrical operation

Note 2: It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different. Go to: www.johansontechnology.com/tuning and see how to obtain the new values. If you need need us to tune it for you or would like the layout files, please contact our RF Applications Eng Team at: www.johansontechnology.com/ask-a-question
2.4 GHz WLAN, Home RF, Bluetooth, 802.11 b/g, Antenna

P/N 2450AT43B100

With Ground Clearance Requirements Minimized

Detail Specification: 11/14/2016

EVB used to characterize the antenna

Would you like to order this pre-tuned EVB? Click on:
www.johansontechnology.com/request-a-sample and please reference p/n: 2450AT43B100-EB1SMA (comes with SMA connector)

Typical Electrical Characteristics (T=25°C)

With Proper Matching Circuit

![Diagram showing typical electrical characteristics](image)

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"High Frequency Ceramic Solutions"

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Detail Specification: 11/14/2016

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Typical Electrical Characteristics/Radiation Patterns (T=25°C)

XY cut @2.45GHz
- Vertical
- Horizontal

XZ cut @2.45GHz
- Vertical
- Horizontal

YZ cut @2.45GHz
- Vertical
- Horizontal

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Antenna layout review, tuning, and characterization services
www.johansontechnology.com/ipc-antenna-services

More SMD Chip Antennas at:
www.johansontechnology.com/antennas

Soldering Information
www.johansontechnology.com/ipc-soldering-profile

Antenna layout and tuning techniques (How to obtain the new antenna matching values)
www.johansontechnology.com/tuning

Packaging information
http://www.johansontechnology.com/tape-reel-packaging

RoHS2 (6/6) full compliance
www.johansontechnology.com/rohs-compliance

MSL Info
www.johansontechnology.com/msl-rating

P/N Explanation and Breakdown
www.johansontechnology.com/ipc-pn-explained

Recommended Storage Conditions of uninstalled product still on T&R
-40 ~ +85 °C, Humidity 45~75%RH, 18 mos. Max