

"High Frequency Ceramic Solutions"

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

Page 1 of 5

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

General Specifications

| | | | |
|-------------------|----------------------|--|---|
| Part Number | 2450AT43B100 | Input Power | 2W max. (CW) |
| Frequency Range | 2400 - 2500 Mhz | Reel Quantity | 1,000 |
| Peak Gain | 1.3 dBi typ. (XZ-V) | Operating Temperature | -40 to +105°C |
| Average Gain | -0.5 dBi typ. (XZ-V) | Storage Temperature | -40 to +105°C |
| Return Loss | 9.5 dB min. | Recommended Storage Conditions (for unused product on T&R) | +5 to +35°C, Humidity: 45-75%RH, 18 months max. |
| Radiation Pattern | Omnidirectional | | |

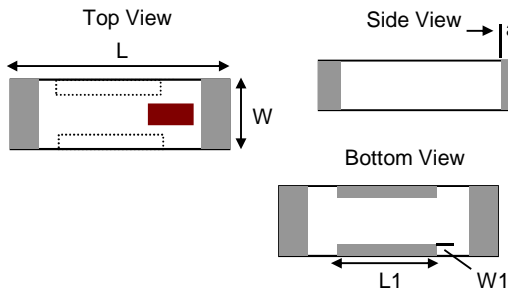
Would you like us to tune the antenna to your PCB? Contact us at:
www.johansontechnology.com/ask-a-question

Part Number Explanation

| | | | | |
|------------|-------------------|--|---------------|--------------------------|
| P/N Suffix | Packaging Style | Bulk | Suffix = S | Eg. 2450AT43B100S |
| | | T & R | Suffix = E | Eg. 2450AT43B100E |
| | Termination Style | 100% Tin | Suffix = None | Eg. 2450AT43B100(E or S) |
| | Evaluation Board | 2450AT43B100-EB1SMA (comes pre-tuned with SMA connector) | | |

Mechanical Dimensions

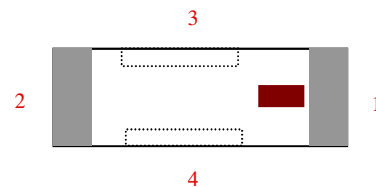
| L | In | mm |
|----|--------------------|----------------|
| | 0.276 ± 0.008 | 7.00 ± 0.20 |
| W | 0.079 ± 0.008 | 2.00 ± 0.20 |
| L1 | 0.102 ± 0.008 | 2.60 ± 0.20 |
| W1 | 0.020 ± 0.008 | 0.50 ± 0.20 |
| T | 0.079 +.004/-0.008 | 2.00 +0.1/-0.2 |
| a | 0.020 ± 0.012 | 0.50 ± 0.30 |



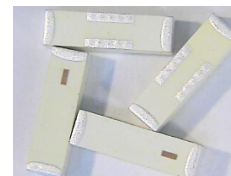
Want the layout file? Request it at:
www.johansontechnology.com/ask-a-question

Terminal Configuration

| No. | Function |
|-----|------------|
| 1 | Feed Point |
| 2 | NC |
| 3 | NC |
| 4 | NC |



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



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Ver 2.1

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Page 2 of 5

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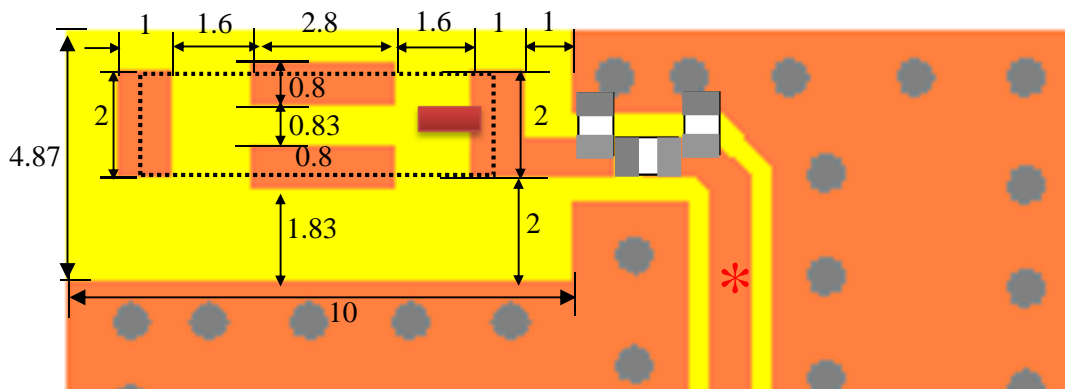
Mounting and Layout Guidelines:

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 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

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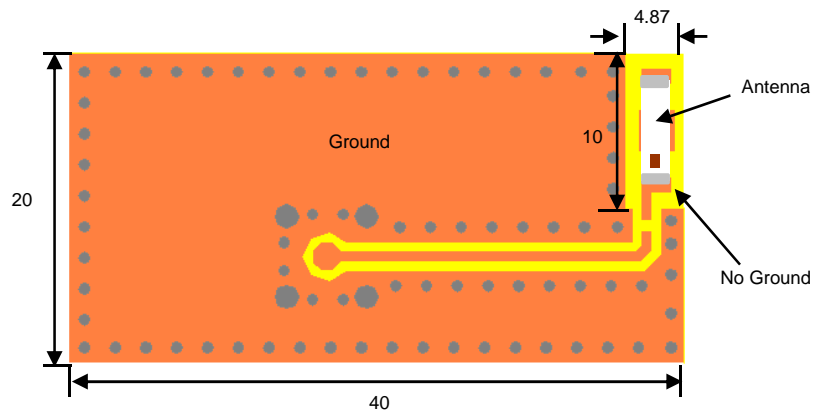
Page 3 of 5

Detail Specification: 11/14/2016

EVB used to characterize the antenna

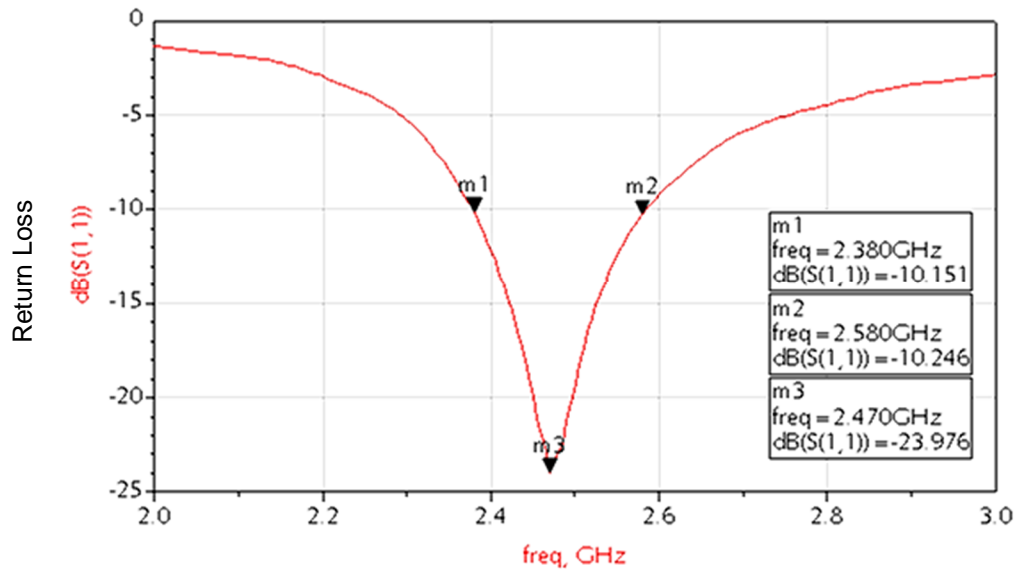
Would you like to order this pre-tuned EVB? Click on:

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



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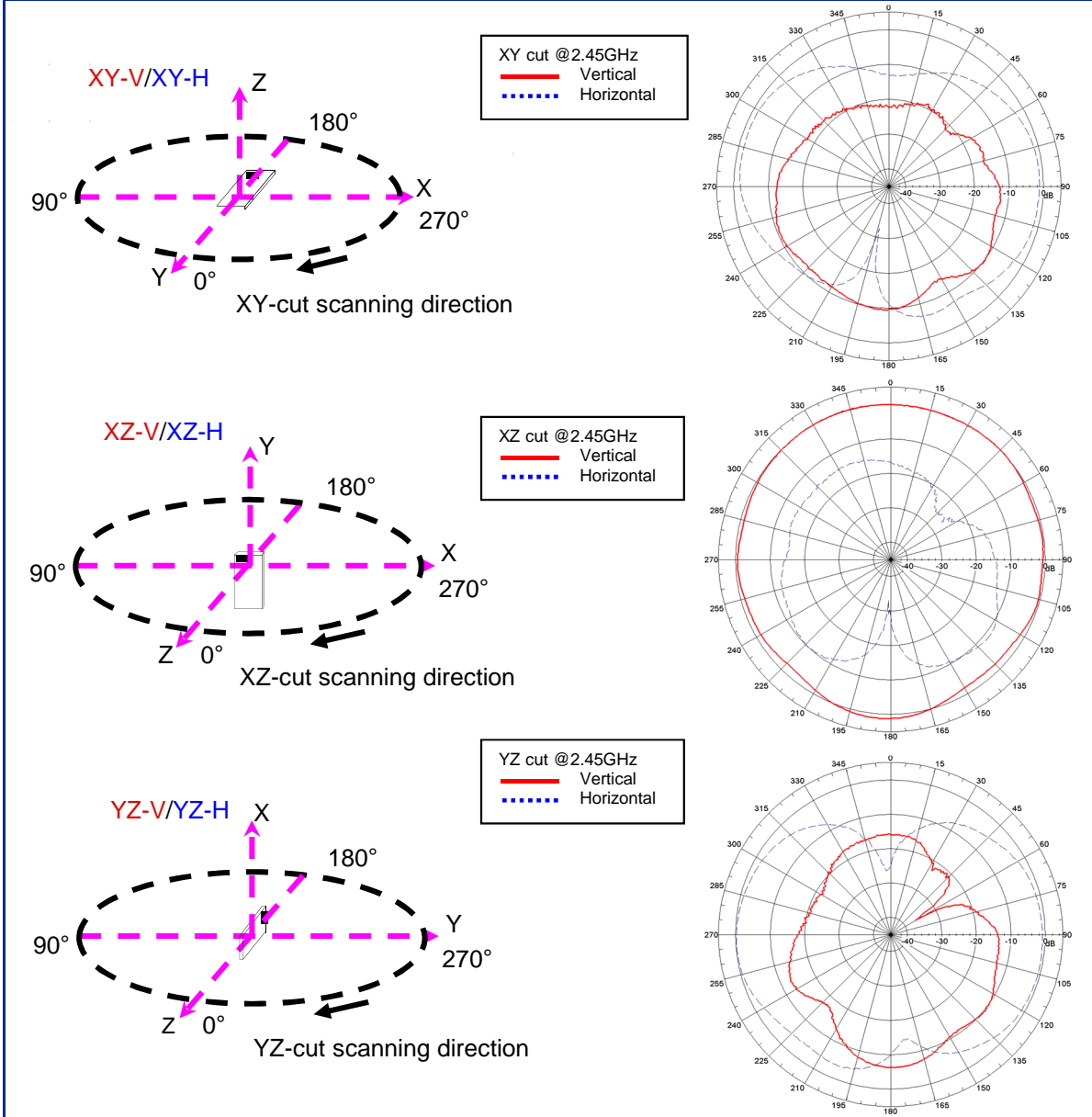
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Page 4 of 5

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



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Page 5 of 5

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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/ipcsoldering-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

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Technical Author: Manuel Carmona



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