

# High Frequency Ceramic Solutions

AEC-Q200 Qualification Available

## 2.4GHz Chip Antenna, SMD

P/N 2450AT43B100

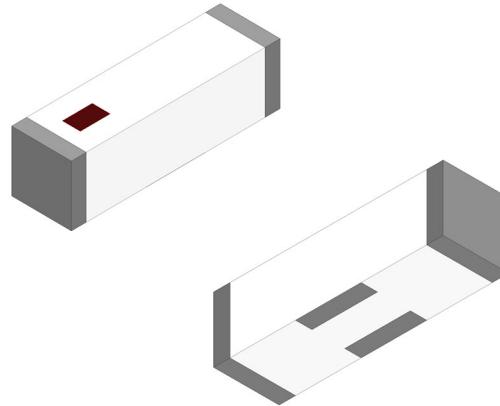
Detail Specification: 6/29/2021

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Let us help you with the antenna design, optimization, and tuning!

### General Specifications

|                                                                  |                                                       |
|------------------------------------------------------------------|-------------------------------------------------------|
| Part Number                                                      | 2450AT43B100                                          |
| Frequency (GHz)                                                  | 2.4 - 2.5                                             |
| Peak Gain (dBi)                                                  | 1.3 typ.                                              |
| Average Gain (dBi)                                               | -0.5 typ.                                             |
| Return Loss (dB)                                                 | 9.5 min.                                              |
| Impedance ( $\Omega$ )                                           | 50                                                    |
| Input Power (W)                                                  | 2 max. (CW)                                           |
| Operating Temperature                                            | -40 to +85°C                                          |
| Recommended Storage Conditions and Period for unused T&R Product | +5 to +35°C<br>Humidity 45 - 75% RH<br>18 months max. |
| Reel Quantity (pcs/reel)                                         | 1000                                                  |

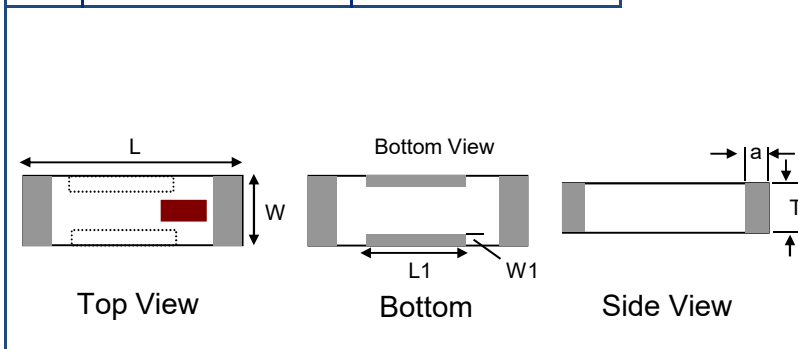


### Part Number Explanation

| P/N Suffix | Packing Style    | Bulk (loose)        | Suffix = S      | e.g. 2450AT43B100S        |
|------------|------------------|---------------------|-----------------|---------------------------|
|            |                  | T&R                 | Suffix = E      | e.g. 2450AT43B100E        |
|            |                  | 100% Tin            | Suffix = E or S | e.g. 2450AT43B100(E or S) |
|            | Evaluation Board | 2450AT43B100-EB1SMA |                 |                           |

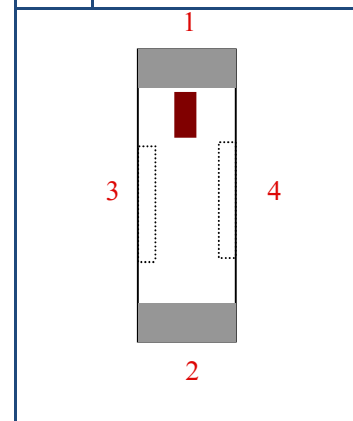
### Mechanical Dimensions

|    | In                    | mm               |
|----|-----------------------|------------------|
| L  | 0.276 $\pm$ 0.008     | 7.00 $\pm$ 0.2   |
| W  | 0.079 $\pm$ 0.008     | 2.00 $\pm$ 0.2   |
| L1 | 0.102 $\pm$ 0.008     | 2.60 $\pm$ 0.2   |
| W1 | 0.020 $\pm$ 0.008     | 0.50 $\pm$ 0.2   |
| T  | 0.079 +0.004 / -0.008 | 2.00 +0.1 / -0.2 |
| a  | 0.020 $\pm$ 0.012     | 0.50 $\pm$ 0.3   |



### Terminal Configuration

| No. | Function |
|-----|----------|
| 1   | FEED 1   |
| 2   | FEED 2   |
| 3   | NC       |
| 4   | NC       |



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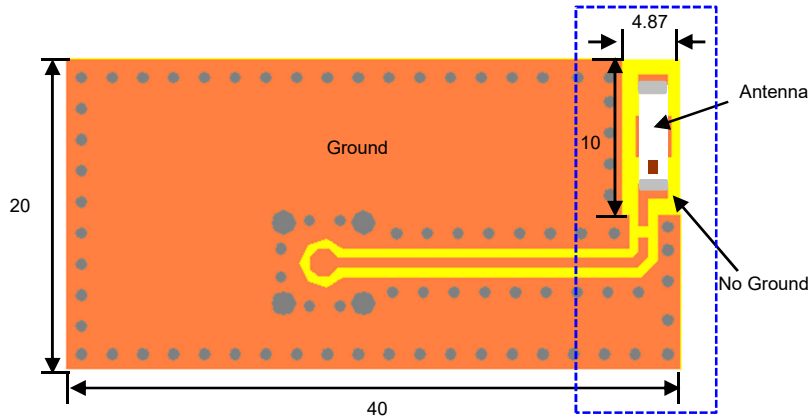
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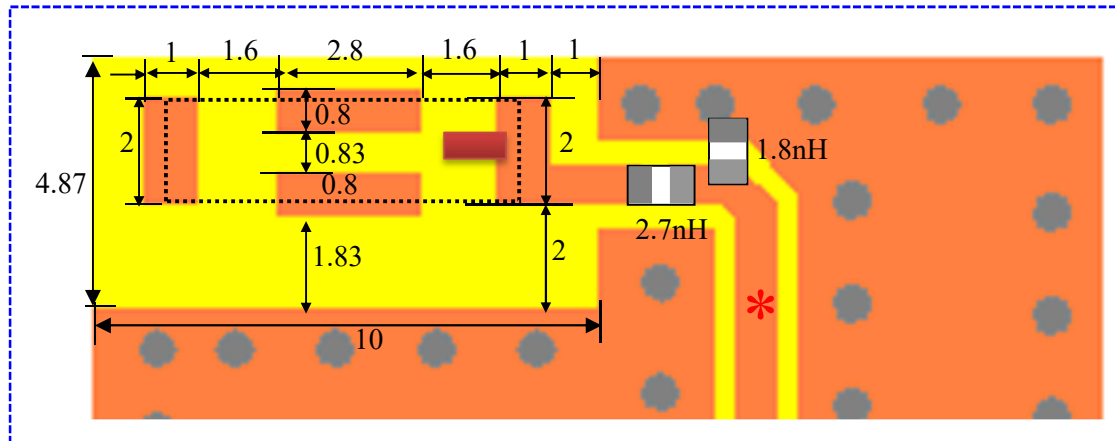
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## Mounting Considerations 1: Evaluation Board



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



\* 50Ω GCPW transmission line recommended

Units in mm

Would you like the layout file?

Contact our engineers at: <https://www.johansontechnology.com/ask-a-question>

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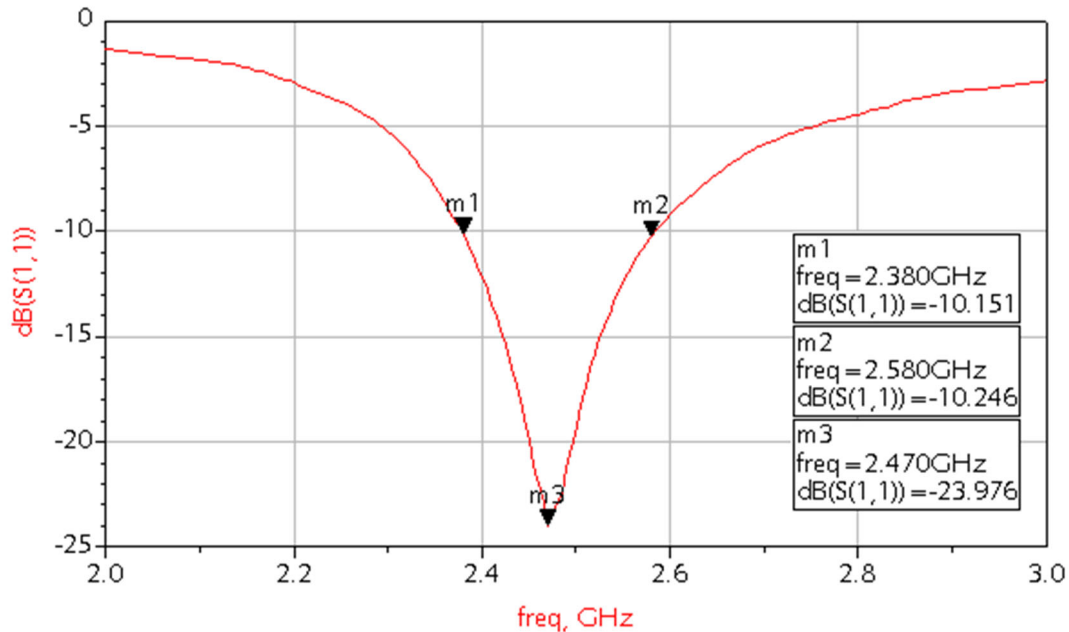
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## Mounting Considerations 1: Electrical Performance @25°C

Measured Return Loss



Have antenna tuning issues?

Please contact us if you have any questions regarding the implementation of this antenna in your PCB's layout. We'll be happy to guide you to maximize the antenna's performance

Contact our applications engineers at:

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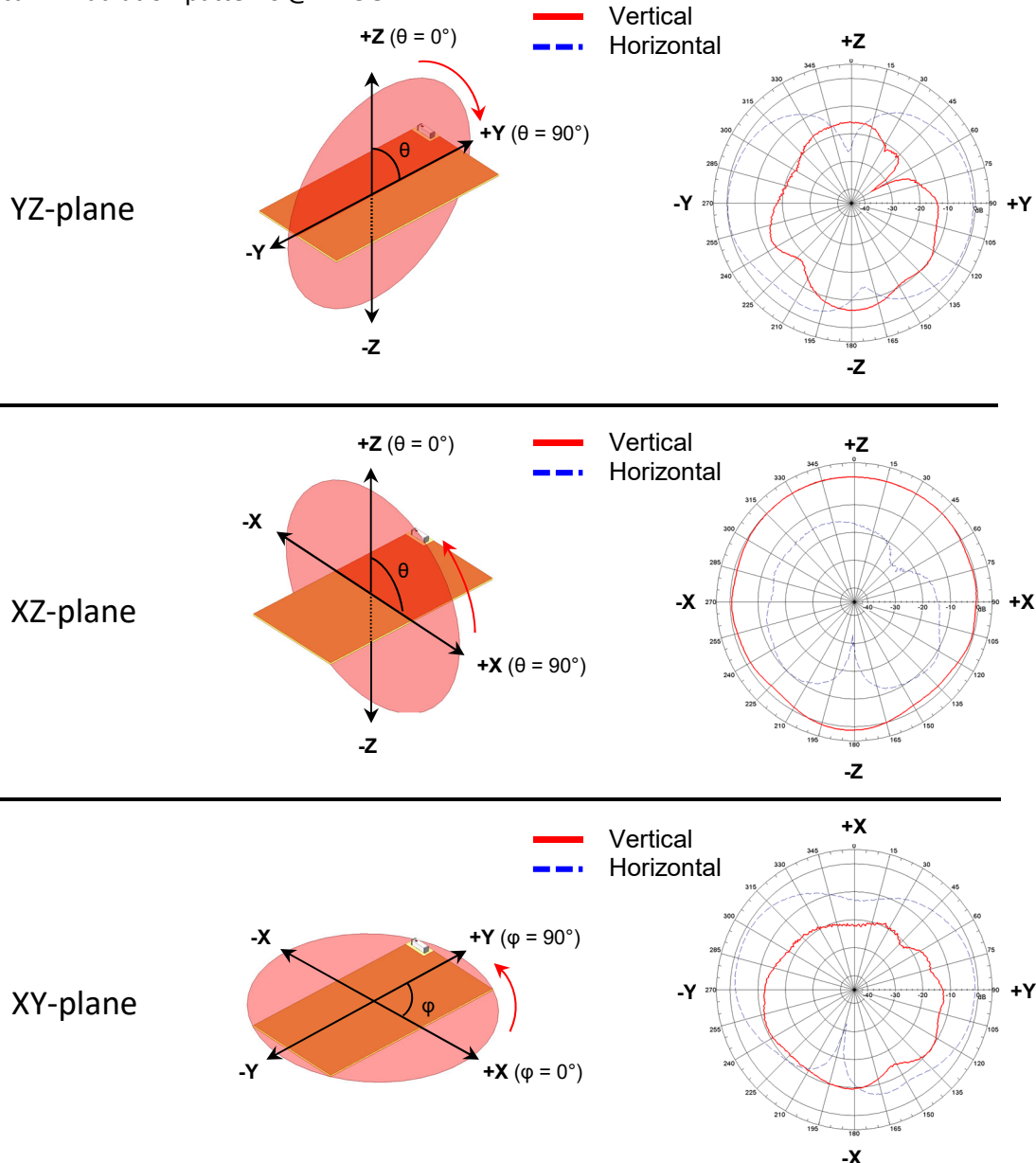
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## Mounting Considerations 1: Antenna Performance

Typical 2D radiation patterns @ 2.45GHz



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## Antenna tuning, optimization, and validation services:

<https://www.johansontechnology.com/ipc-antenna-services>

## For more antennas and to download measured S-parameters, go to:

<https://www.johansontechnology.com/antennas>

## Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

## MSL Info

<https://www.johansontechnology.com/msl-rating>

## Packaging Information

<https://www.johansontechnology.com/tape-reel-packaging>

## For layout review contact our applications team at:

<https://www.johansontechnology.com/ask-a-question>

## RoHS Compliance

<https://www.johansontechnology.com/rohs-compliance>

Need help designing the antenna in? Use our antenna design services!

<https://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 product (inside anechoic chamber) we can do that too. Small lab fee may apply for the latter.

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