

# High Frequency Ceramic Solutions

**2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,  
Edge Mount Design, AEC-Q200 Qualified**

**P/N 2450AT18D0100E-AEC**

Detail Specification: 5/26/2021

Page 1 of 7

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

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## General Specifications

|                                                                     |                                                       |
|---------------------------------------------------------------------|-------------------------------------------------------|
| Part Number                                                         | 2450AT18D0100E-AEC                                    |
| Frequency (GHz)                                                     | 2.4 - 2.5                                             |
| Peak Gain (dBi)                                                     | 1.5 typ. (XZ-total)                                   |
| Average Gain (dBi)                                                  | -1.0 typ. (XZ-total)                                  |
| Radiated Efficiency <sup>1</sup>                                    | 72%                                                   |
| Return Loss (dB)                                                    | 10 min.                                               |
| Impedance ( $\Omega$ )                                              | 50                                                    |
| Input Power (W)                                                     | 3 max. (CW)                                           |
| Operating Temperature                                               | -40 to +125°C                                         |
| Recommended Storage Conditions and Period for unused Product on T&R | +5 to +35°C<br>Humidity 45 - 75% RH<br>18 months max. |
| Reel Quantity (pcs./reel)                                           | 3,000                                                 |

<sup>1</sup>Efficiency measured on Johanson's evaluation board PN 2450AT18D0100-EB1SMA

Top

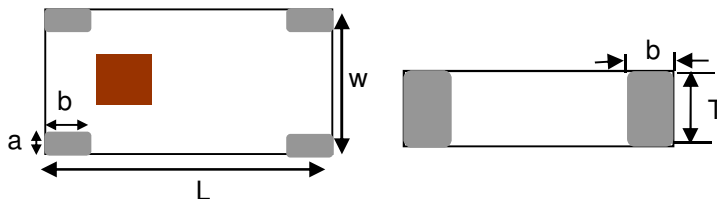
Bottom

## Part Number Explanation

| P/N Suffix | Packing Style    | Bulk (loose pcs.)    | Suffix = S    | e.g. 2450AT18D0100S-AEC        |
|------------|------------------|----------------------|---------------|--------------------------------|
|            |                  | T & R                | Suffix = E    | e.g. 2450AT18D0100E-AEC        |
|            |                  | 100% Tin             | Suffix = None | e.g. 2450AT18D0100(E or S)-AEC |
|            | Evaluation Board | 2450AT18D0100-EB1SMA |               |                                |

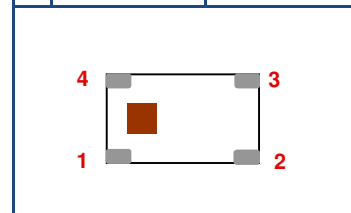
## Mechanical Dimensions

|   | In                    | mm               |
|---|-----------------------|------------------|
| L | 0.126 $\pm$ 0.008     | 3.20 $\pm$ 0.2   |
| W | 0.063 $\pm$ 0.008     | 1.60 $\pm$ 0.2   |
| T | 0.047 $\pm$ 0.004     | 1.20 $\pm$ 0.1   |
| a | 0.012 +0.004 / -0.008 | 0.30 +0.1 / -0.2 |
| b | 0.020 $\pm$ 0.008     | 0.50 $\pm$ 0.2   |



## Terminal Configuration

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



Function 1: Antenna fed from left

Function 2: Antenna fed from right

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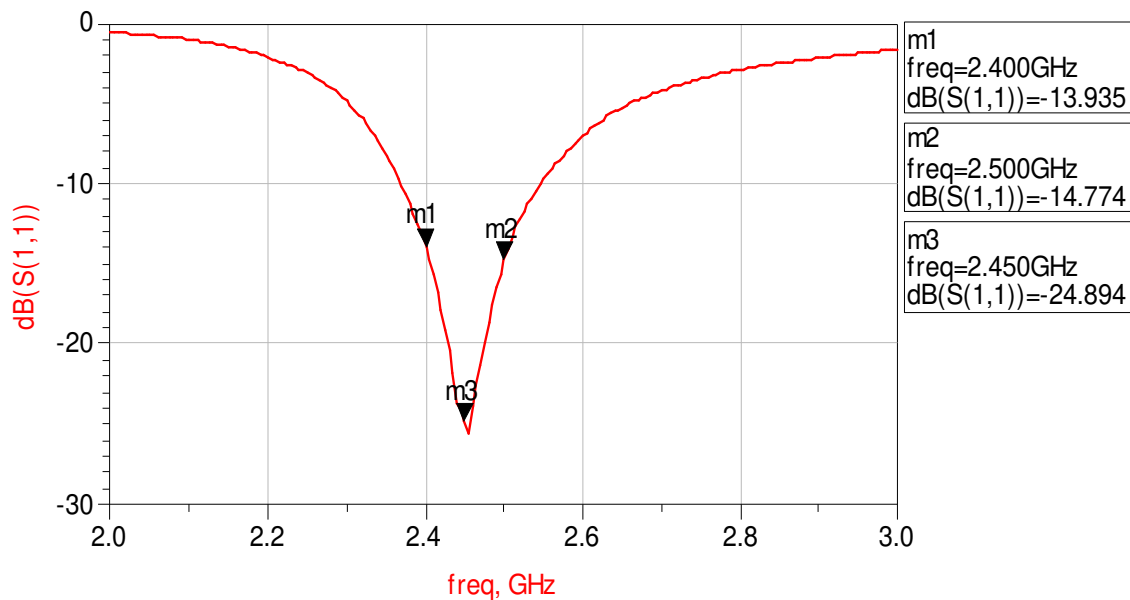
P/N 2450AT18D0100E-AEC

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Page 3 of 7

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

Measured Return Loss



Would you like the antenna layout? 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.

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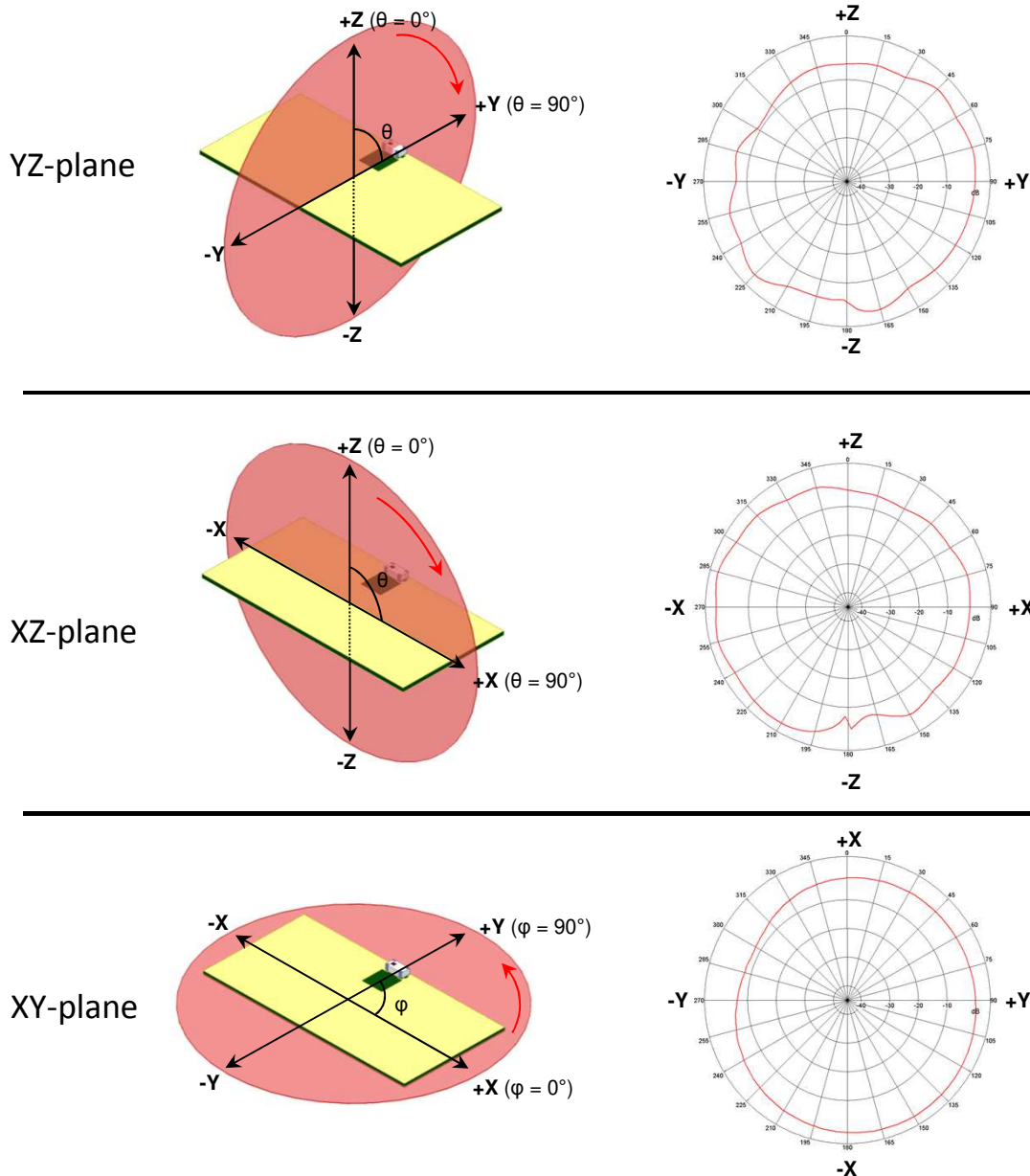
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Page 4 of 7

## Mounting Considerations 1: Typical 2D radiation patterns @ 2.44GHz



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|                                                                                                      |           |                               |
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| Detail Specification:                                                                                | 5/26/2021 | Page 6 of 7                   |

|                                                                                                      |           |                               |
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| Detail Specification:                                                                                | 5/26/2021 | Page 6 of 7                   |

Detail Specification: 5/26/2021 Page 6 of 7

Detail Specification: 5/26/2021 Page 6 of 7

## Mounting Considerations 4: Fed from Right Side\*

(Feeding the antenna from the right will have no impact on antenna performance)

Legend:

- Solder Resist
- Land

Units in mm

Ground Plane

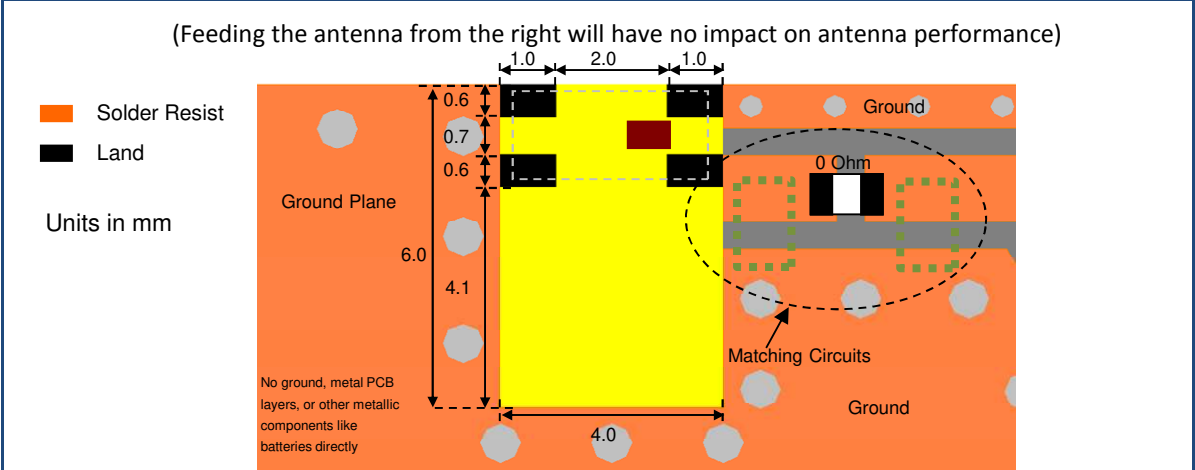
Ground

0 Ohm

Matching Circuits

Ground

No ground, metal PCB layers, or other metallic components like batteries directly



\*Evaluation board not available

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Page 7 of 7

## 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>

## Recommended Storage Condition and Max Shelf Life

<https://www.johansontechnology.com/recommended-storage-conditions>

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