

# High Frequency Ceramic Solutions

AEC-Q200 Qualification Available

**2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,  
Edge Mount Design**

**New Global P/N 2450AT18D0100001  
Legacy P/N 2450AT18D0100**

Detail Specification: 8/24/2022

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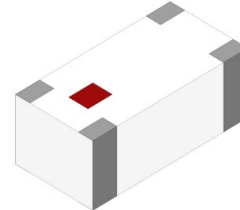
Let us help you with the antenna design, optimization, and tuning!

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

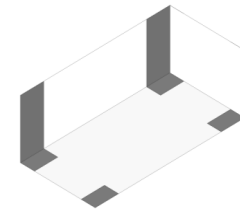
| General Specifications                                              |                                                       |
|---------------------------------------------------------------------|-------------------------------------------------------|
| New Global Part Number                                              | 2450AT18D0100001                                      |
| 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 2450AT18D0100001CE1

Top



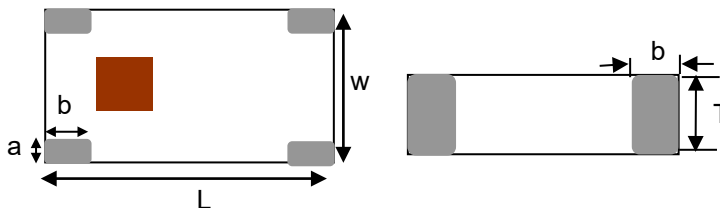
Bottom



| Part Number Explanation (See last page for more info on new and legacy part numbers) |                  |                     |               |                               |
|--------------------------------------------------------------------------------------|------------------|---------------------|---------------|-------------------------------|
| P/N Suffix                                                                           | Packing Style    | Bulk (loose pcs.)   | Suffix = B    | e.g. 2450AT18D0100001B        |
|                                                                                      |                  | T & R               | Suffix = E    | e.g. 2450AT18D0100001E        |
|                                                                                      |                  | 100% Tin            | Suffix = None | e.g. 2450AT18D0100001(B or S) |
|                                                                                      | Evaluation Board | 2450AT18D0100001CE1 |               |                               |

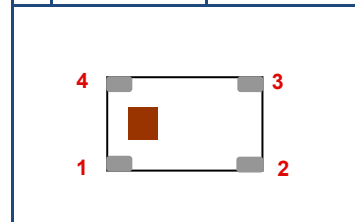
## Mechanical Dimensions

|   | 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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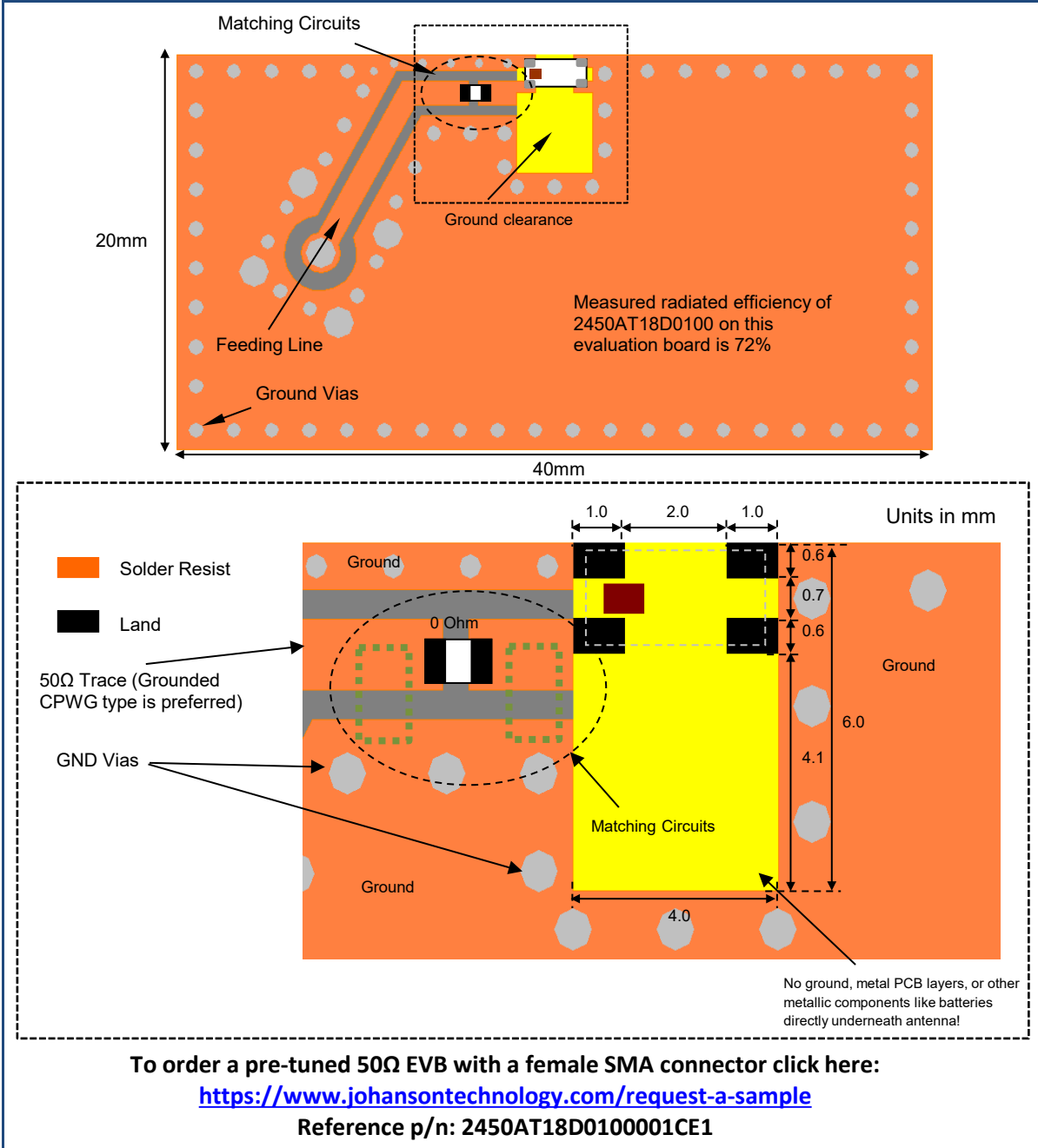
**New Global P/N 2450AT18D0100001**

**Legacy P/N 2450AT18D0100**

Detail Specification: 8/24/2022

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## Mounting Considerations 1: Evaluation Board (Standard Layout)



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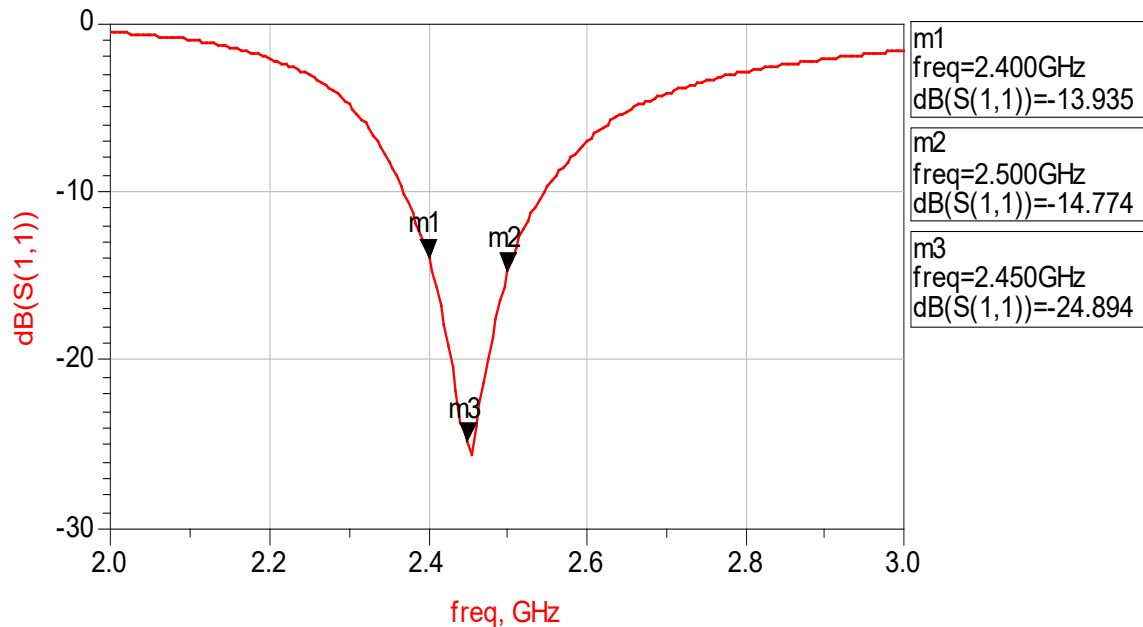
**Legacy P/N 2450AT18D0100**

Detail Specification: 8/24/2022

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## 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.

Contact our applications engineers at:

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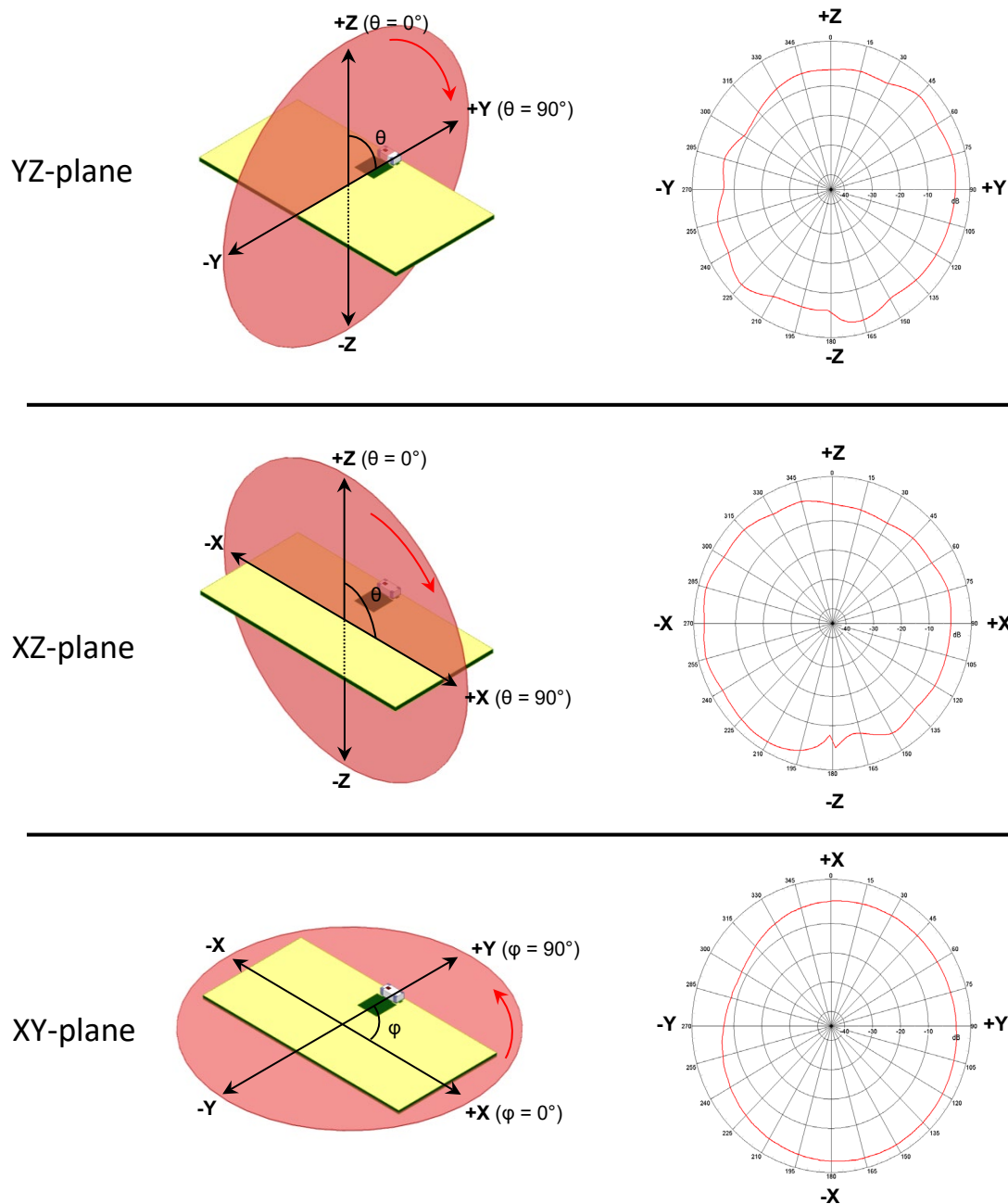
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## Mounting Considerations 1: Typical 2D radiation patterns @ 2.44GHz



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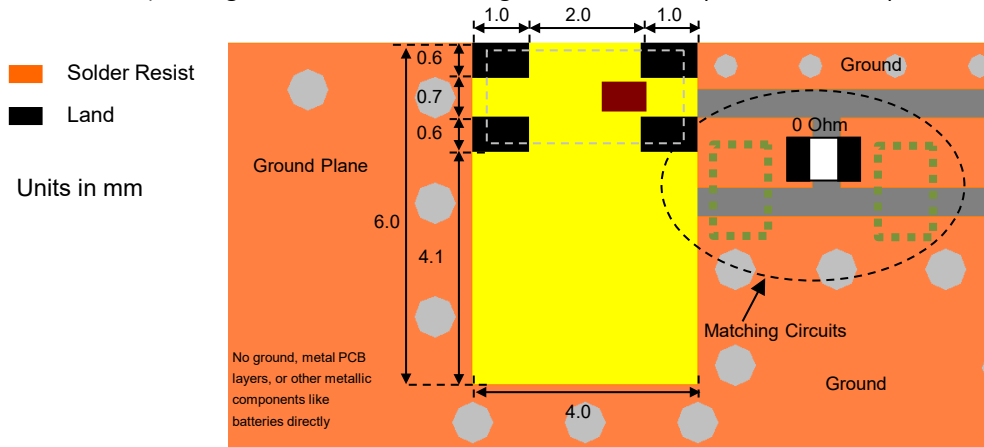
**Legacy P/N 2450AT18D0100**

Detail Specification: 8/24/2022

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

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



\*Evaluation board not available

Would you like the layout file of the above? 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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## 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>

## Johanson's New Global Part Number Schema

Johanson has instituted a new Global Part Numbering (GPN) system. **Only the part number is changing.** The parts are produced with the exact same materials, manufacturing processes, manufacturing controls, dimensions, physical attributes and testing as the parts supplied with the legacy part numbers.

A database for part number crosses can be accessed at:

<https://www.johansontechnology.com/pn-search>

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