



**THE DATASHEET OF  
2450AT18D0100E**

# 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**

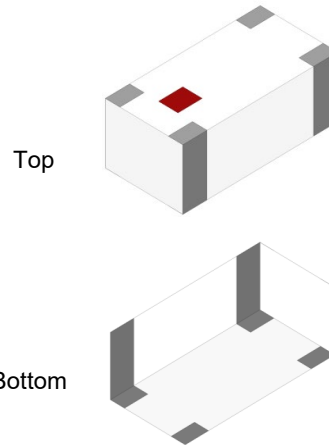
Detail Specification: 8/24/2022

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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 Humidity 45 - 75% RH 18 months max.
Reel Quantity (pcs./reel)	3,000



<sup>1</sup>Efficiency measured on Johanson's evaluation board PN 2450AT18D0100001CE1

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 ± 0.008	3.20 ± 0.2
W	0.063 ± 0.008	1.60 ± 0.2
T	0.047 ± 0.004	1.20 ± 0.1
a	0.012 +0.004 / -0.008	0.30 +0.1 / -0.2
b	0.020 ± 0.008	0.50 ± 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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# High Frequency Ceramic Solutions

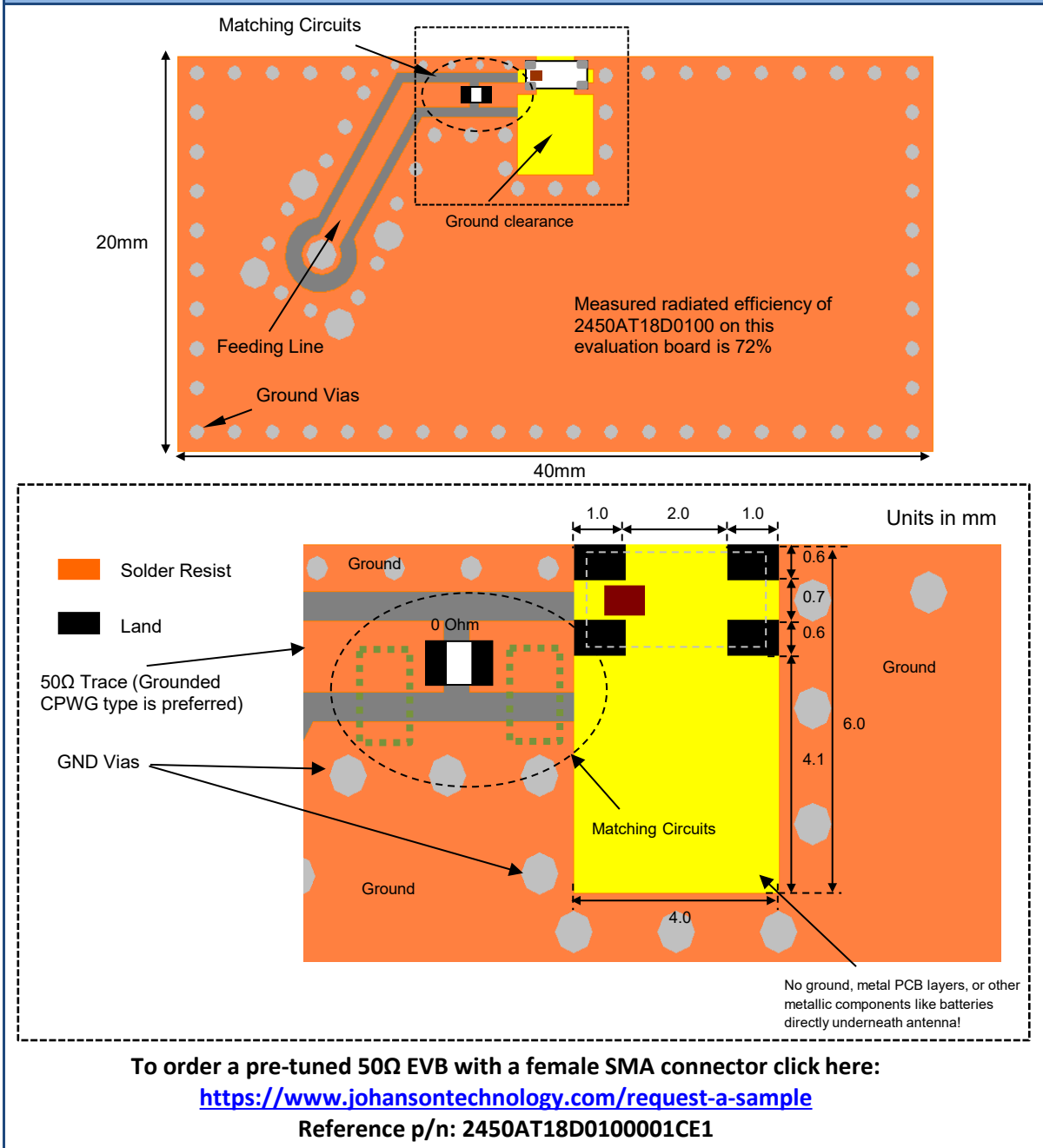
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## Mounting Considerations 1: Evaluation Board (Standard Layout)



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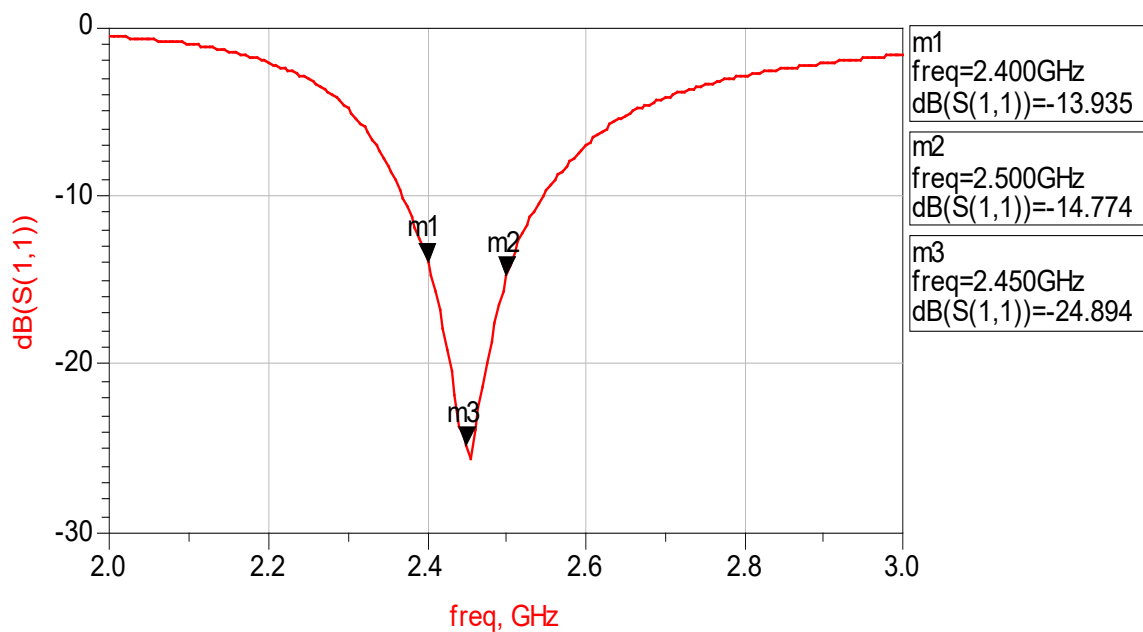
Legacy P/N 2450AT18D0100

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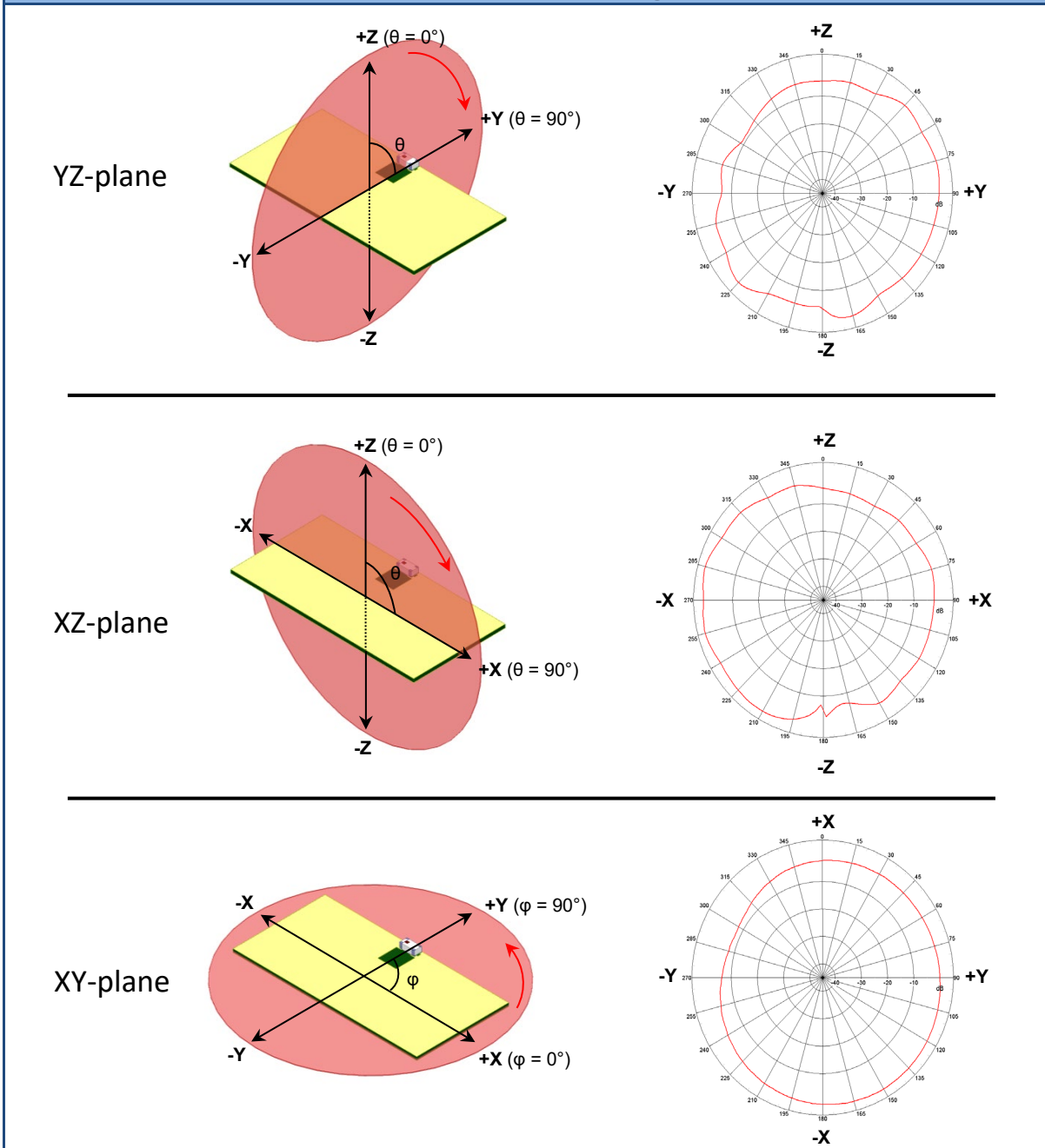
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## Mounting Considerations 1: Typical 2D radiation patterns @ 2.44GHz



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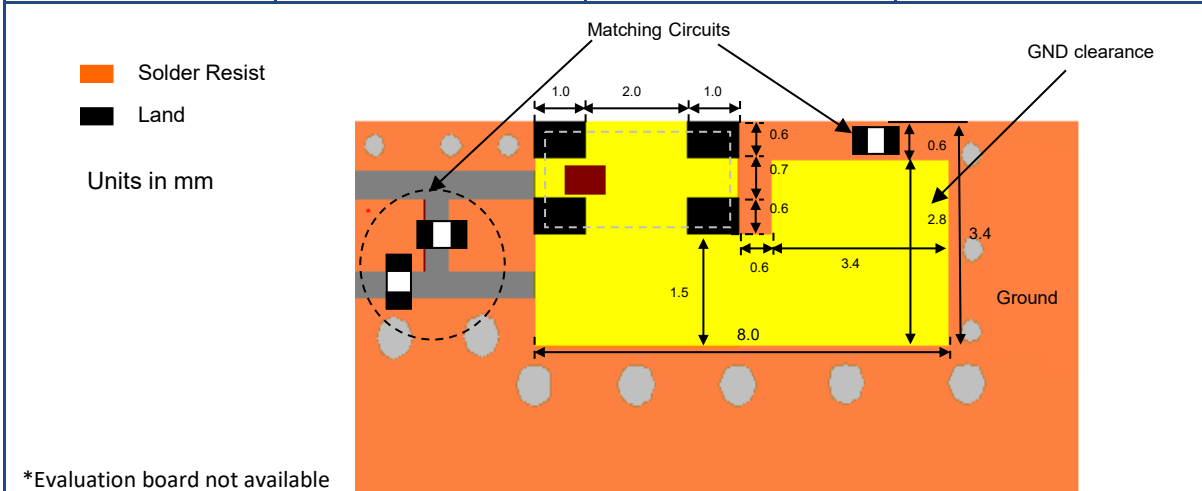
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## Mounting Considerations 2: Small Clearance or "Thin edge" Applications\*

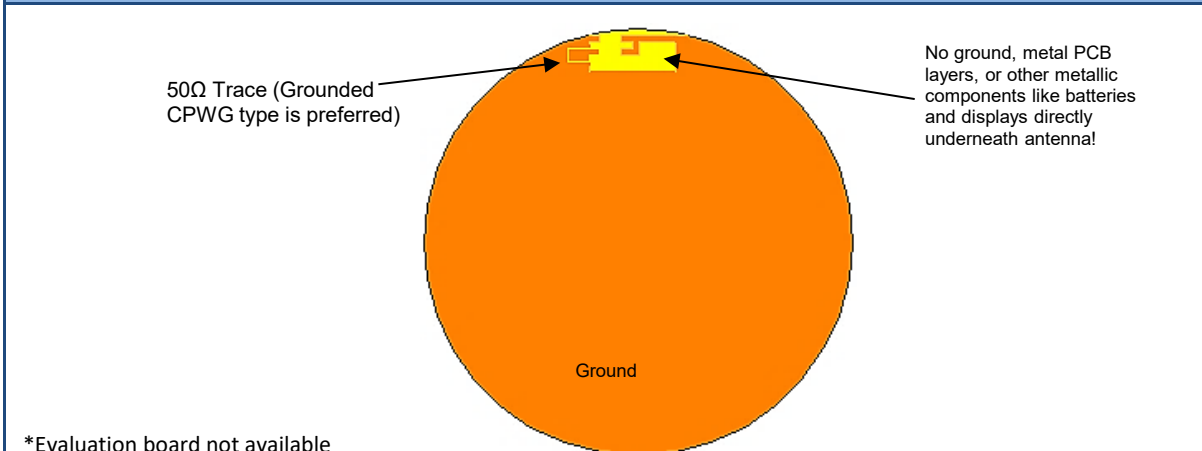
Frequency (GHz)	Peak Gain (dBi)	Average Gain (dBi)	Radiated Efficiency (%)
2.45	0.3 (XZ-plane)	-3.6 (XZ-plane)	66



Want the layout file of this example? Send us a message at:

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## Mounting Considerations 3: "Thin edge" application on circular PCB



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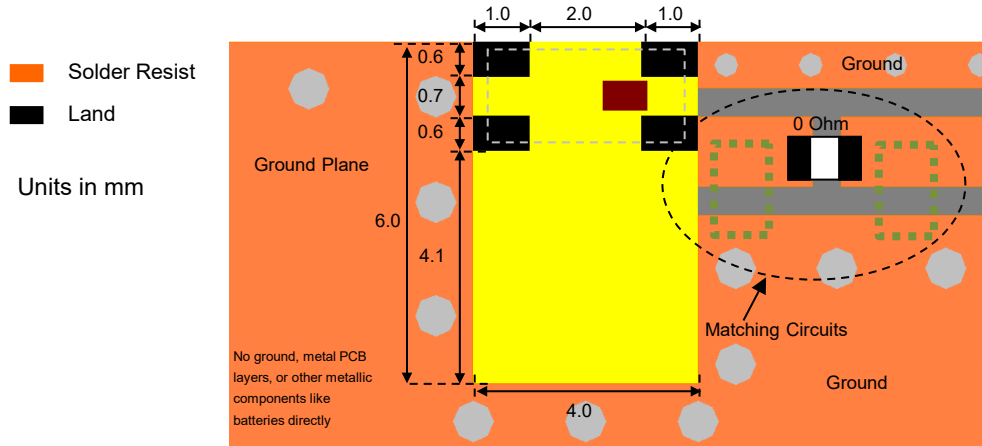
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## Mounting Considerations 4: Fed from Right Side\*

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



\*Evaluation board not available

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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:**

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**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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## Looking for pricing, stock, or lifecycle information?

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## Optimize Your Supply Chain with WIN SOURCE Solutions

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