



環隆科技股份有限公司

UNIVERSAL MICROELECTRONICS CO.,LTD.

DOC.NO: S-021491

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REV: 000

文件名稱: Johanson Technology 2450AT18D0100 ANTENNA 系列零件規格書

PREPARE 製 訂	CHECK 審 查	APPROVE 核 准	發 行 日 期
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REVISE RECORD 文 件 修 改 記 錄

REV 版次	ECO NO. 工程變更	REVISE 修 改	DETAIL 內 容	DATE 日 期	PREPARE 修 改 人	CHECK 審 查	APPROVE 核 准

# High Frequency Ceramic Solutions

AEC-Q200 Qualification Available

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

**P/N 2450AT18D0100**

Detail Specification: 5/26/2021

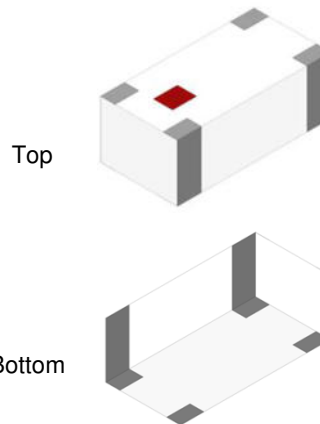
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Let us help you with the antenna design, optimization, and tuning!

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

## General Specifications

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



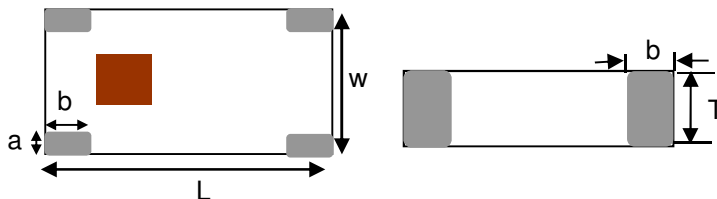
<sup>1</sup>Efficiency measured on Johanson's evaluation board PN 2450AT18D0100-EB1SMA

## Part Number Explanation

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

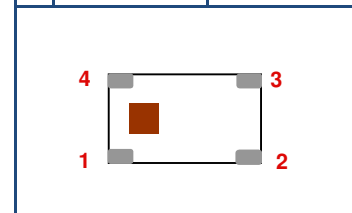
## Mechanical Dimensions

	In	mm
<b>L</b>	0.126 ± 0.008	3.20 ± 0.2
<b>W</b>	0.063 ± 0.008	1.60 ± 0.2
<b>T</b>	0.047 ± 0.004	1.20 ± 0.1
<b>a</b>	0.012 +0.004 / -0.008	0.30 +0.1 / -0.2
<b>b</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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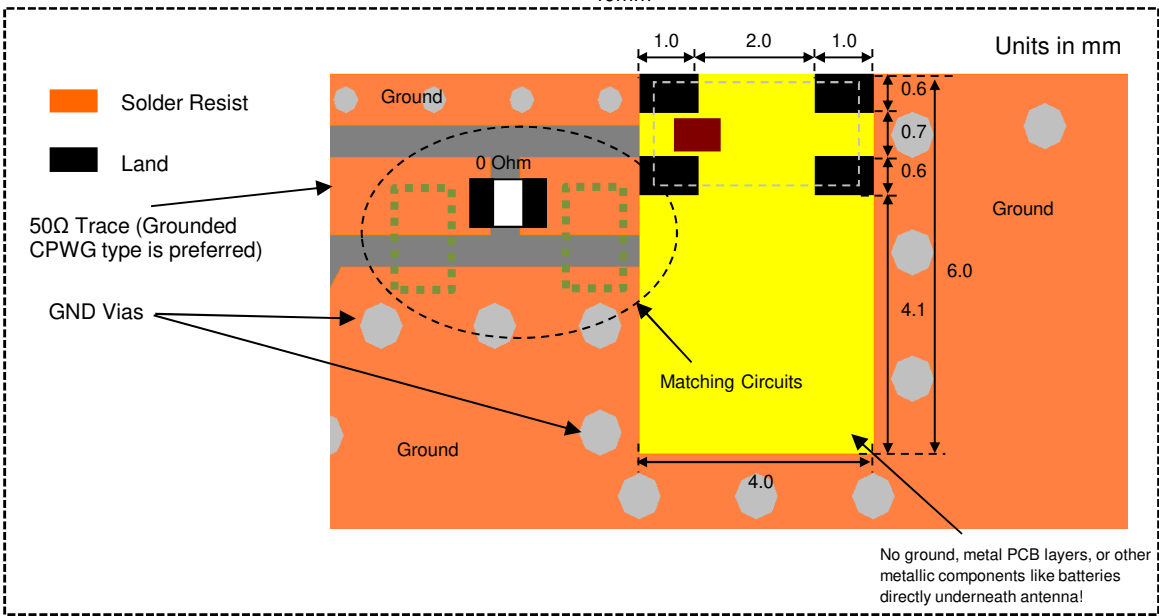
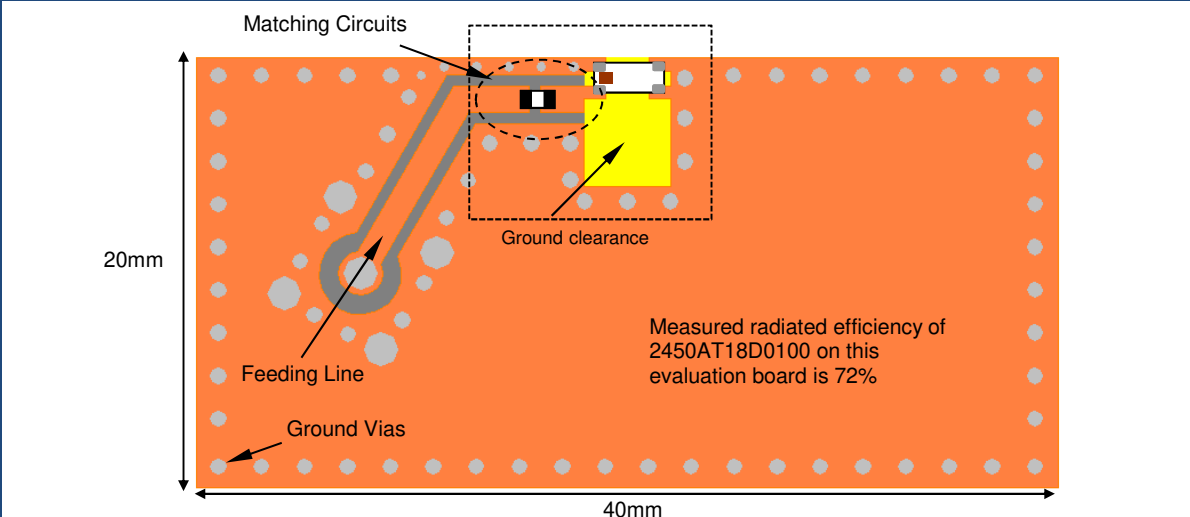
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# High Frequency Ceramic Solutions

**2.45 GHz SMD Antenna, EIA 1206, Detuning resilient, Edge Mount Design** **P/N 2450AT18D0100**  
Detail Specification: 5/26/2021 Page 2 of 7

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



To order a pre-tuned 50Ω EVB with a female SMA connector click here:

<https://www.johansontechnology.com/request-a-sample>

Reference p/n: 2450AT18D0100-EB1SMA

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

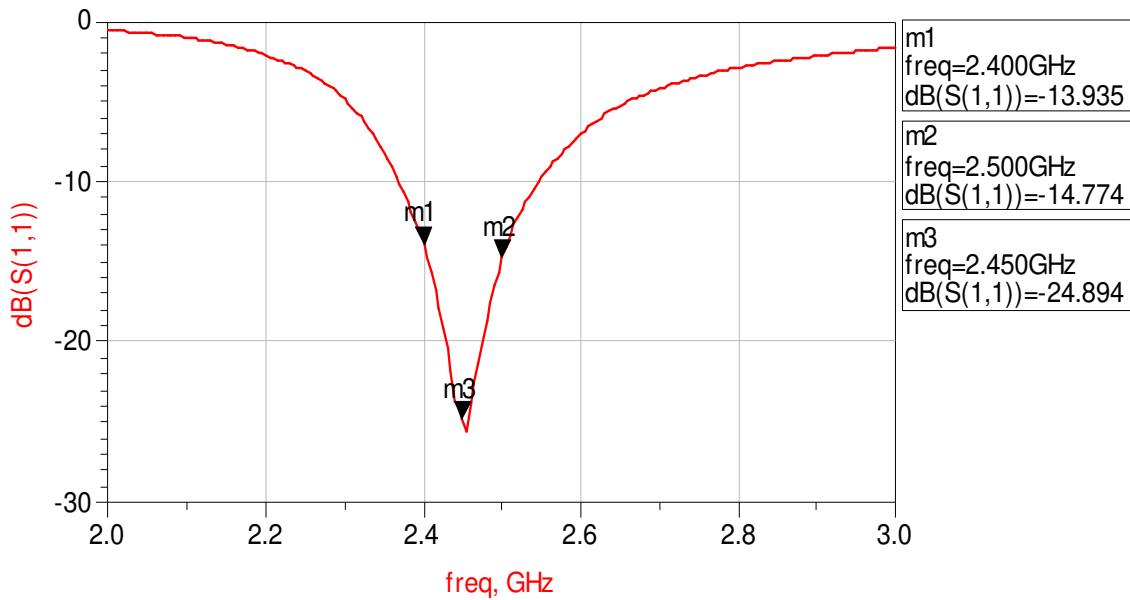
P/N 2450AT18D0100

Detail Specification: 5/26/2021

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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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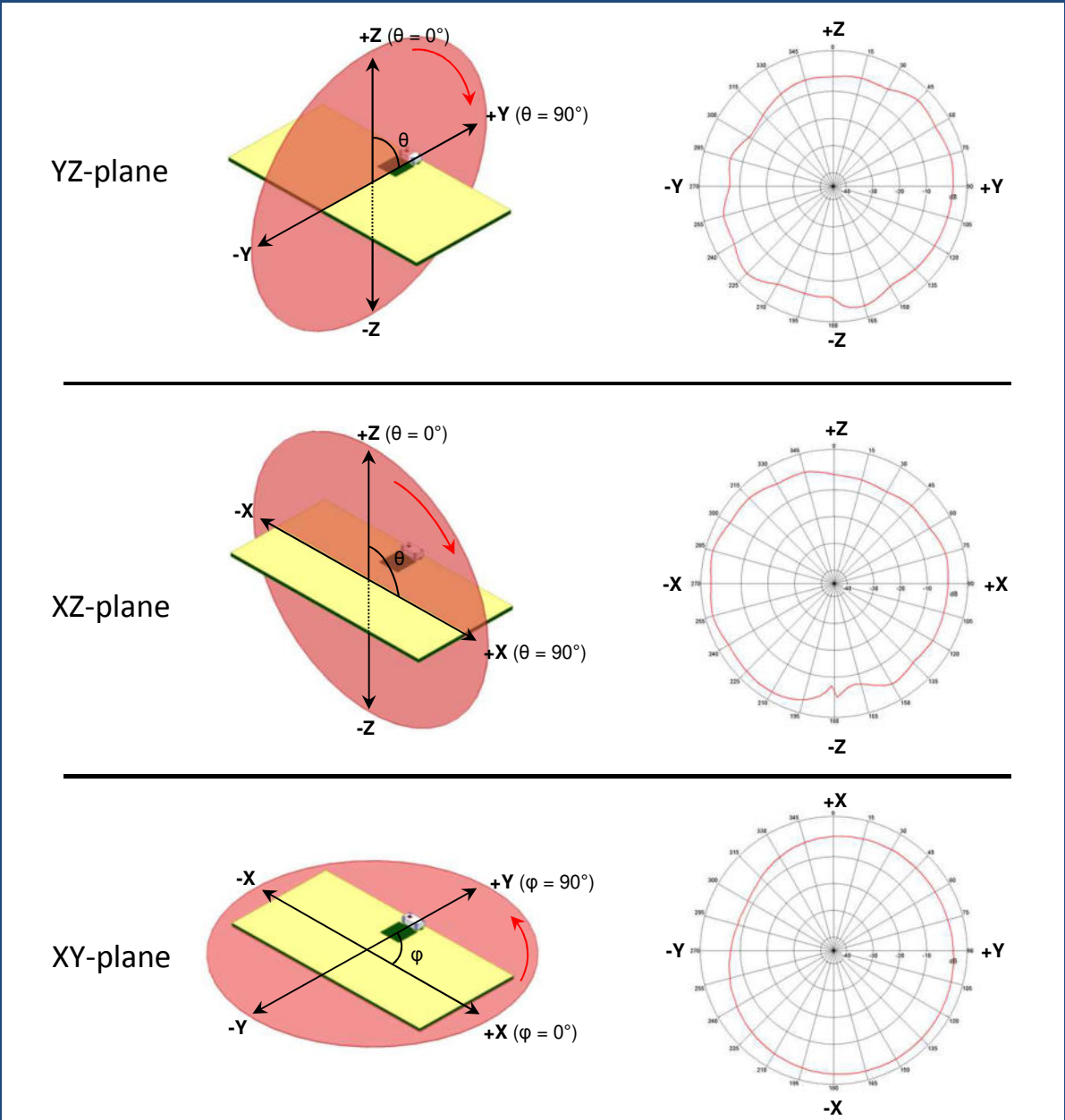


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<b>2.45 GHz SMD Antenna, EIA 1206, Detuning resilient, Edge Mount Design</b>	<b>P/N 2450AT18D0100</b>
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## Mounting Considerations 1: Typical 2D radiation patterns @ 2.44GHz



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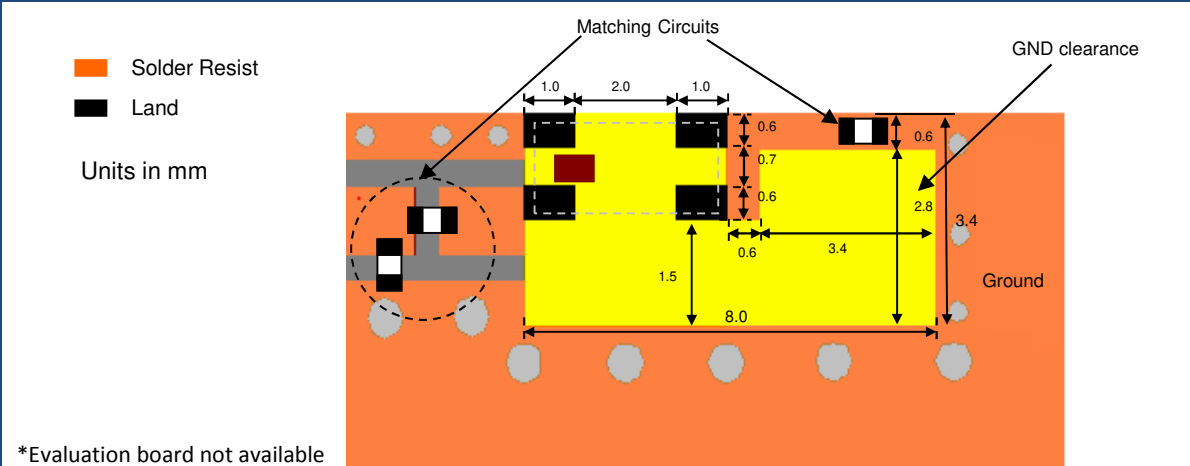


# High Frequency Ceramic Solutions

<b>2.45 GHz SMD Antenna, EIA 1206, Detuning resilient, Edge Mount Design</b>	<b>P/N 2450AT18D0100</b>
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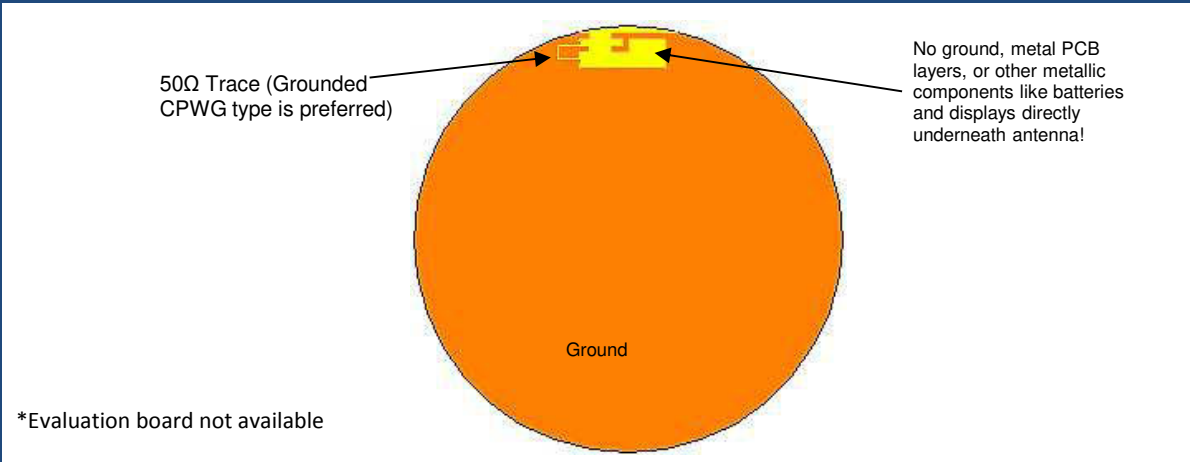
## Mounting Considerations 2: Small Clearance or "Thin edge" Applications\*

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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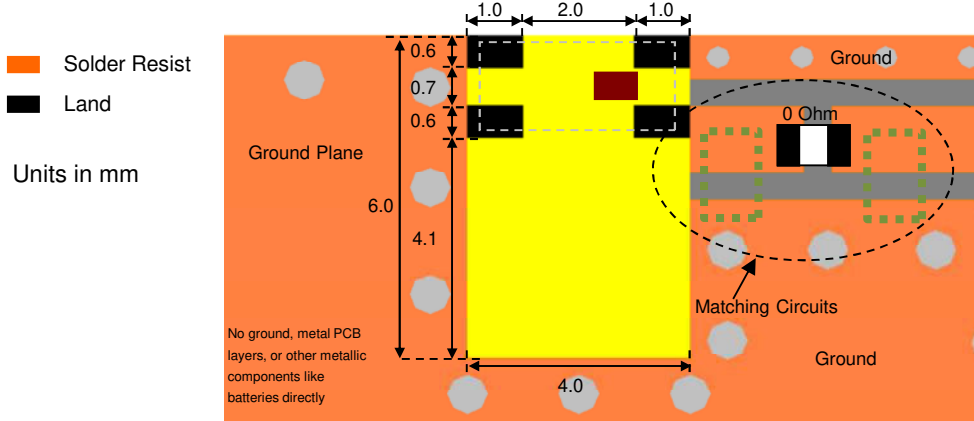


# High Frequency Ceramic Solutions

**2.45 GHz SMD Antenna, EIA 1206, Detuning resilient, Edge Mount Design** **P/N 2450AT18D0100**  
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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?  
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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**

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