

High Frequency Ceramic Solutions

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

P/N 2450AT18D0100

Detail Specification: 2/11/2021

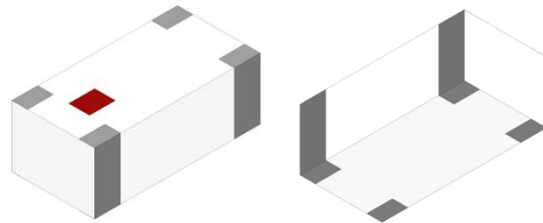
Page 1 of 7

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

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

General Specifications

Part Number	2450AT18D0100
Frequency (GHz)	2.4 - 2.5
Peak Gain (dBi)	1.5 typ. (XZ-total)
Average Gain (dBi)	-1.0 typ. (XZ-total)
Radiated Efficiency ¹	72%
Return Loss (dB)	10 min.
Impedance (Ω)	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.
Quantity/Reel (pcs.)	3,000

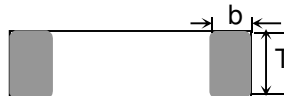
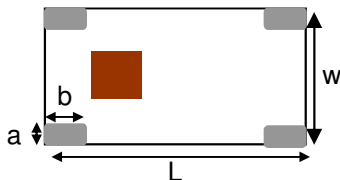
¹Efficiency measured on Johanson's evaluation board PN 2450AT18D0100-EB1SMA

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		

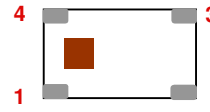
Mechanical Dimensions

	in	mm
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

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver. 4.3

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

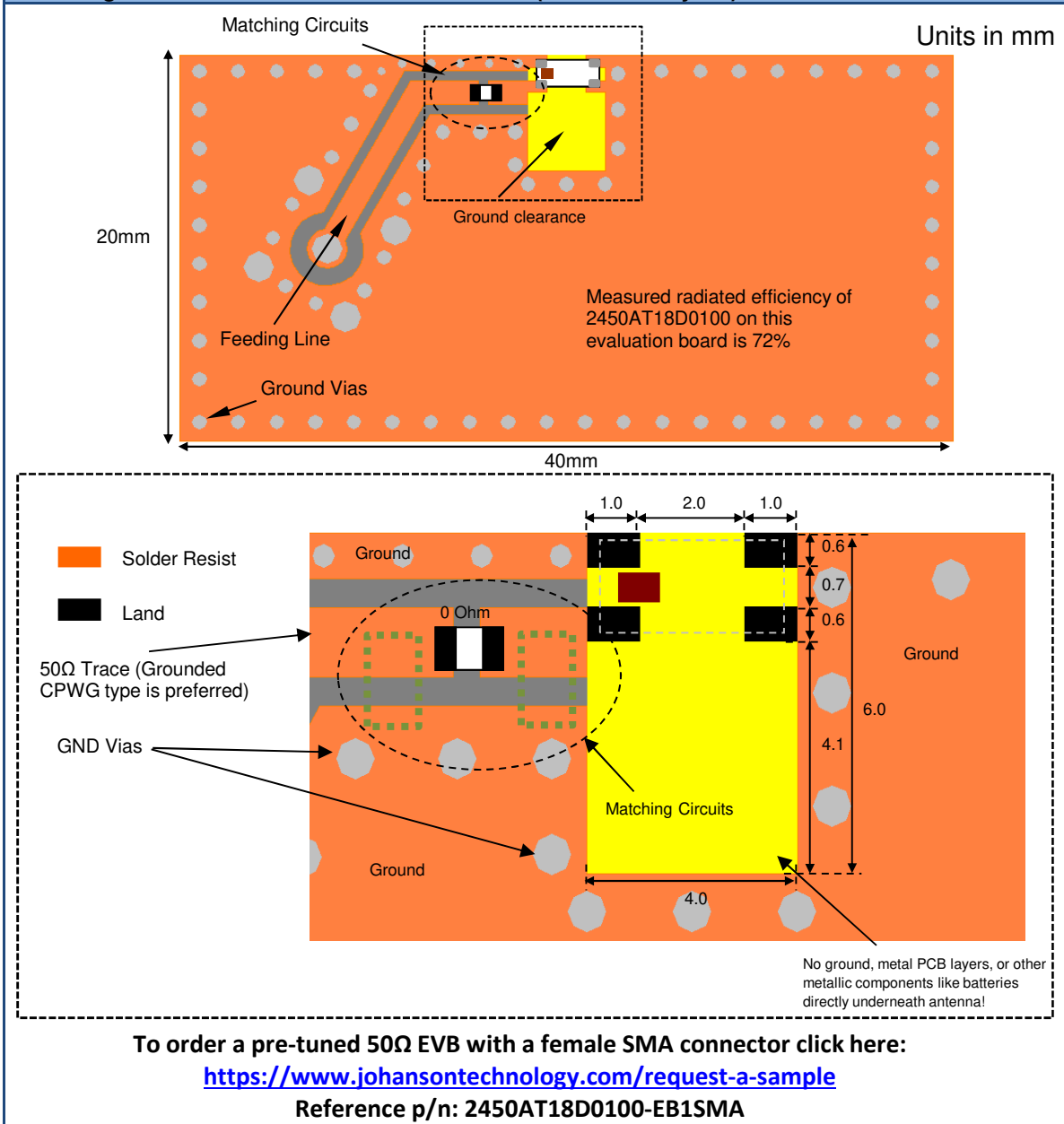
2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design

P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 2 of 7

Mounting Considerations 1: Evaluation Board (Standard Layout)



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

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

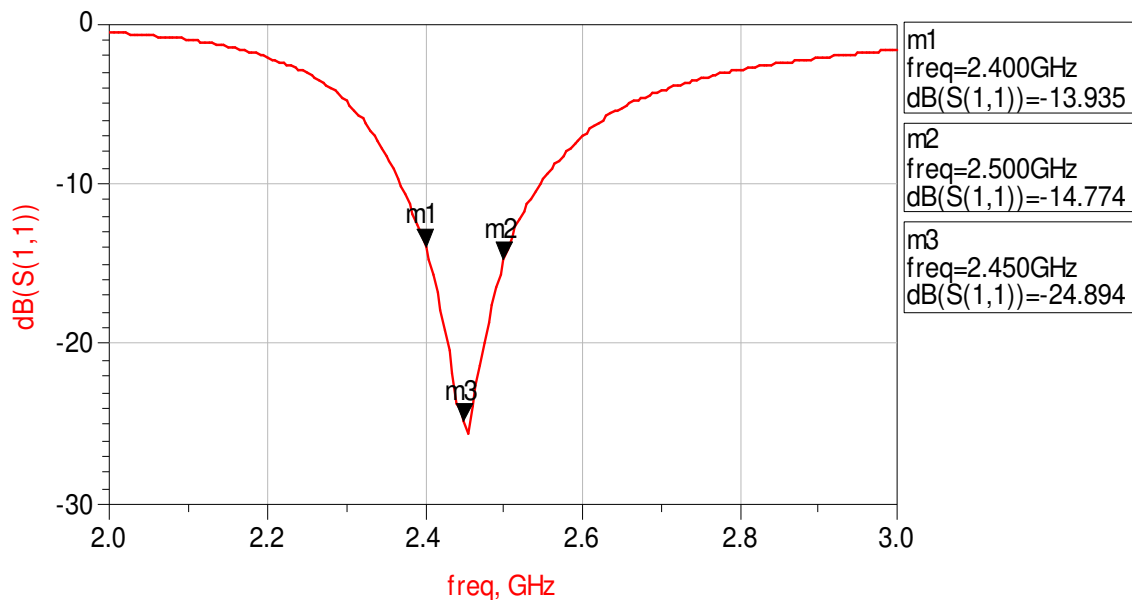
P/N 2450AT18D0100

Detail Specification: 2/11/2021

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.

Contact our applications engineers at:

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

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

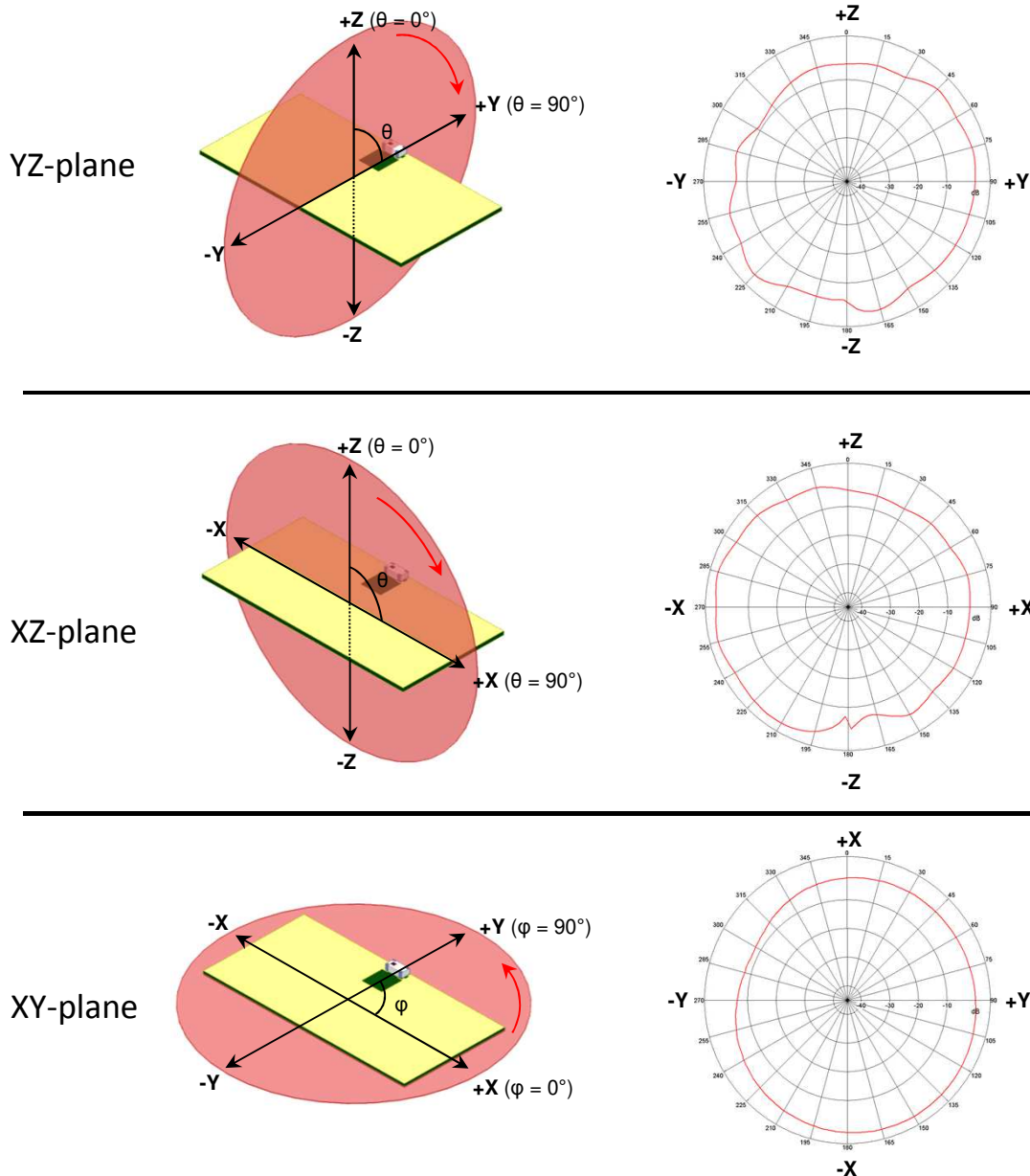
2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design

P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 4 of 7

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



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



Ver. 4.3

<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

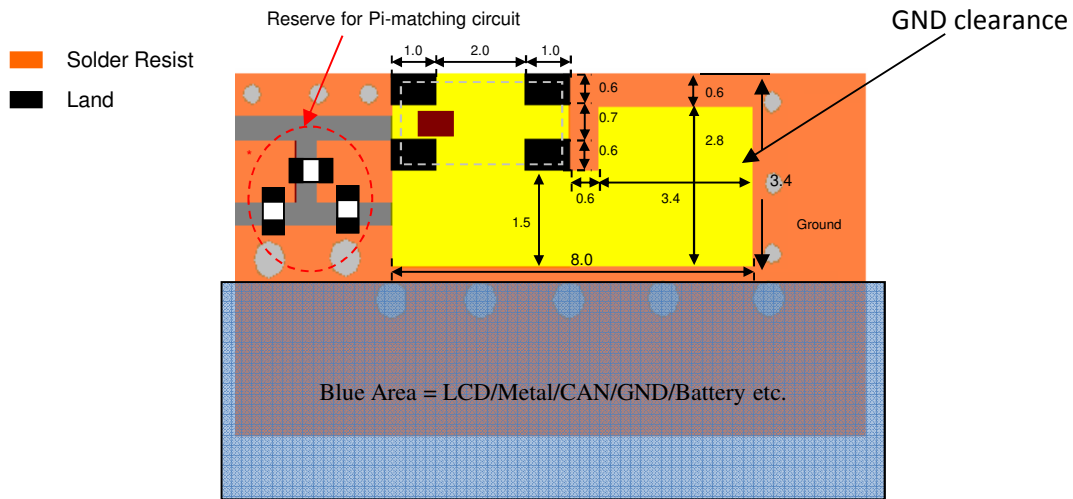
2.45 GHz SMD Antenna, EIA 1206, Detuning resilient,
Edge Mount Design

P/N 2450AT18D0100

Detail Specification: 2/11/2021

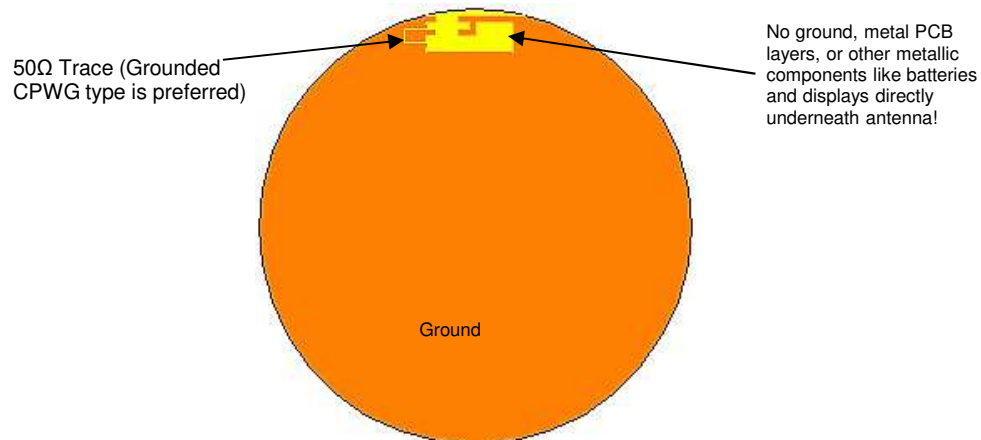
Page 5 of 7

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



*Evaluation board not available

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



50Ω Trace (Grounded
CPWG type is preferred)

No ground, metal PCB
layers, or other metallic
components like batteries
and displays directly
underneath antenna!

Ground

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

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

*Evaluation board not available

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



Ver. 4.3

<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

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

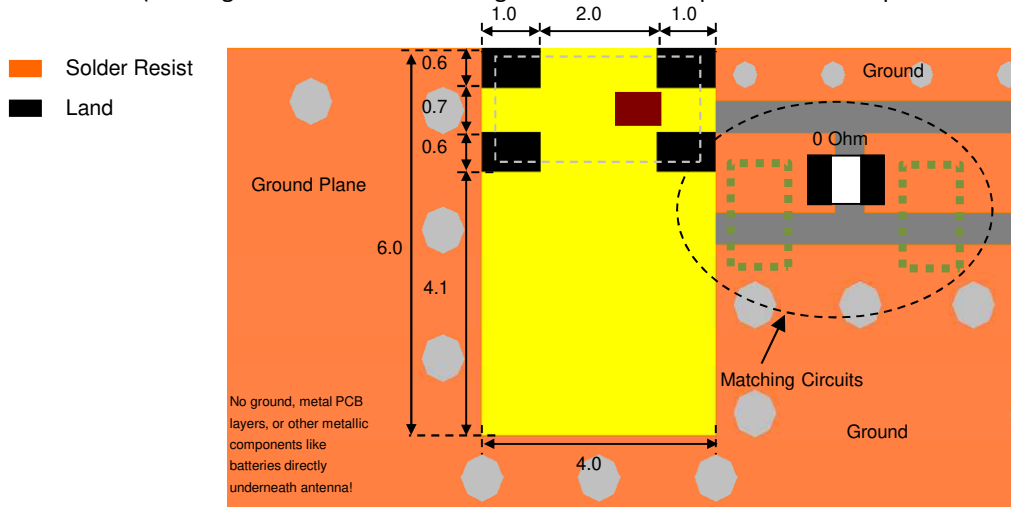
P/N 2450AT18D0100

Detail Specification: 2/11/2021

Page 6 of 7

Mounting Considerations 4: Fed from Right Side*

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



Units in mm

*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.

Contact our applications engineers at:

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

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3 2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

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

P/N 2450AT18D0100

Detail Specification: 2/11/2021

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>

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver. 4.3 2021 Johanson Technology, Inc. All Rights Reserved