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

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

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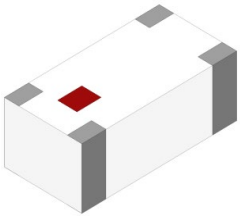
General Specifications

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[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.
Reel Quantity (pcs./reel)	3,000

Top



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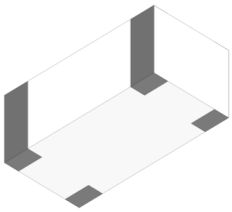


[1]Efficiency measured on Johanson's evaluation board PN 2450AT18D0100001CE1

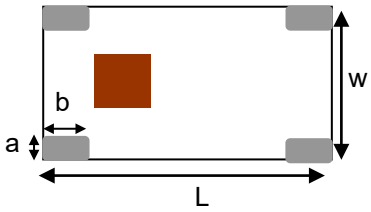
Part Number Explanation

(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		

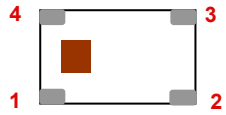
Mechanical Dimensions

	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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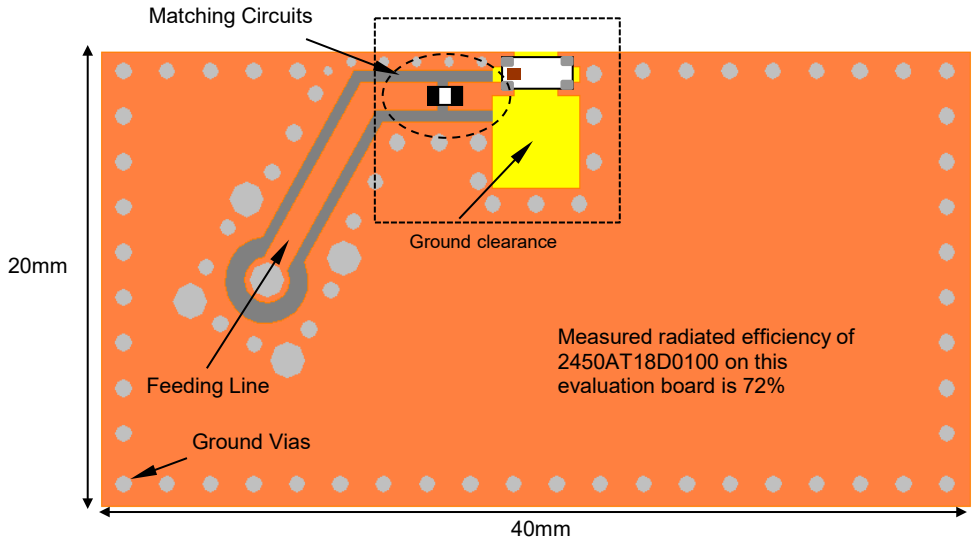
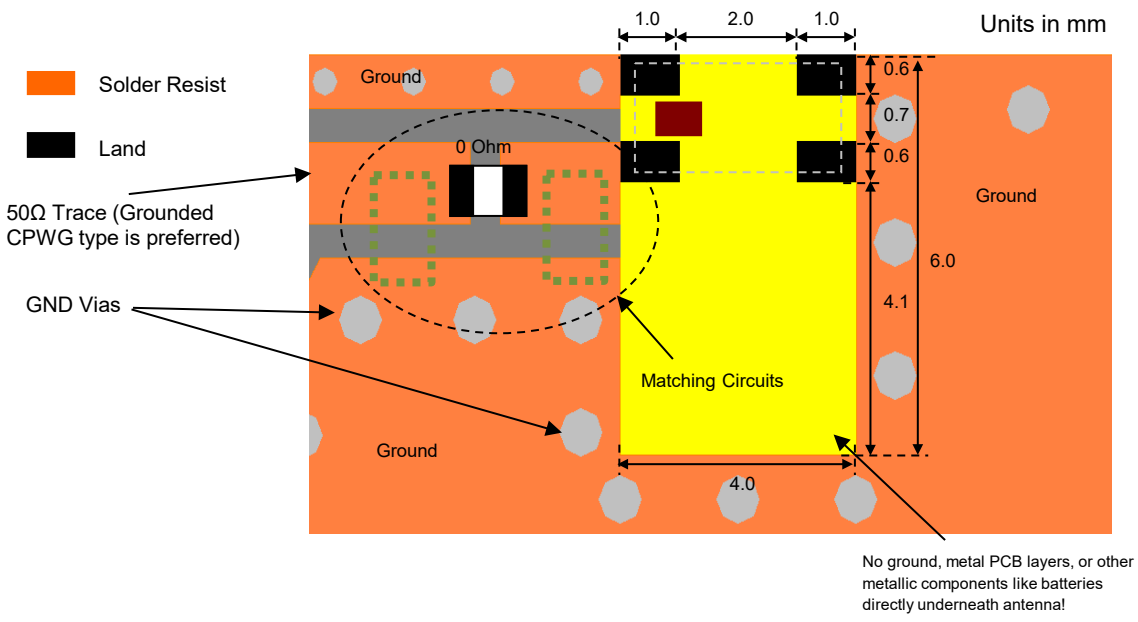
Mounting Considerations 1: Evaluation Board (Standard Layout)





To order a pre-tuned 50Ω EVB with a female SMA connector click here:
https://www.johansontechnology.com/request-a-sample
Reference p/n: 2450AT18D0100001CE1

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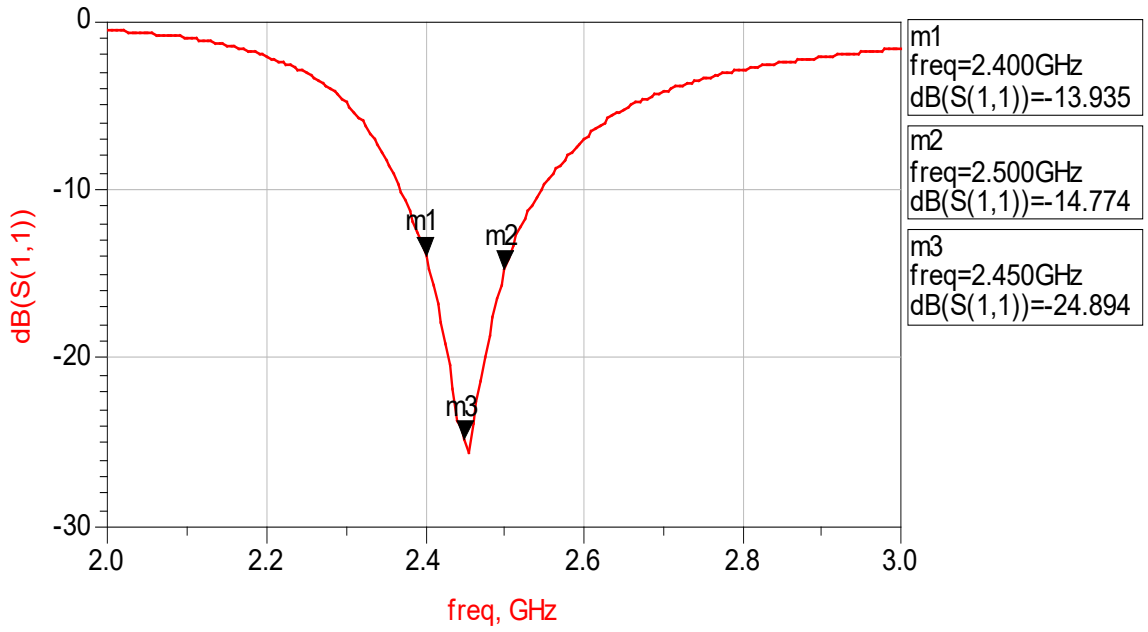
Mounting Considerations 1: Electrical Performance @25°C

Measured Return Loss



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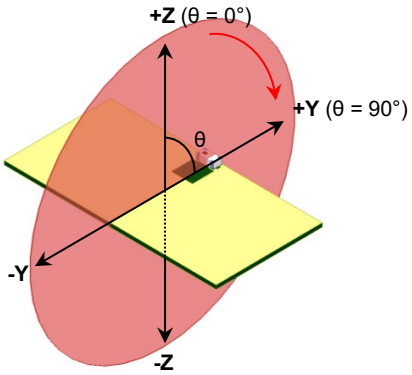
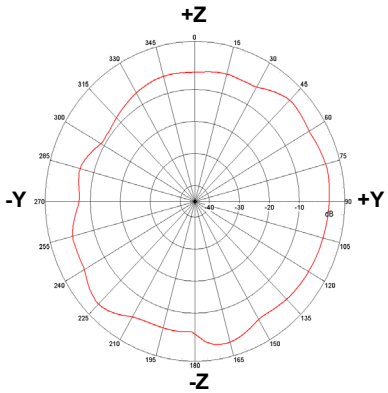
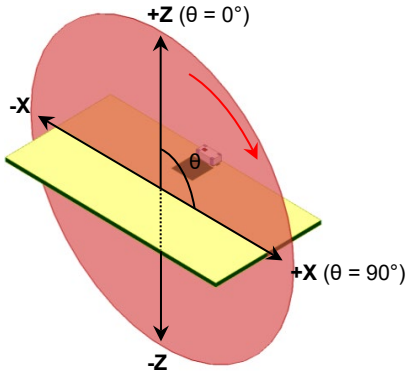
Mounting Considerations 1: Typical 2D radiation patterns @ 2.44GHz

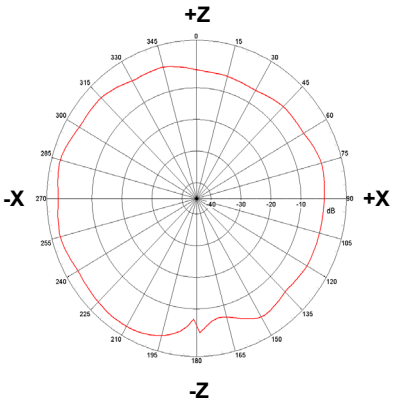
YZ-plane



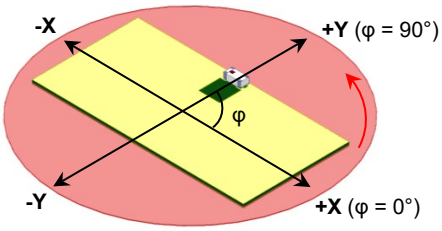


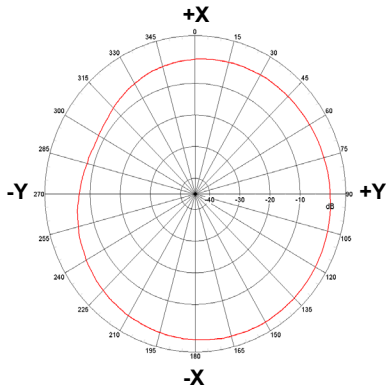
XZ-plane





XY-plane





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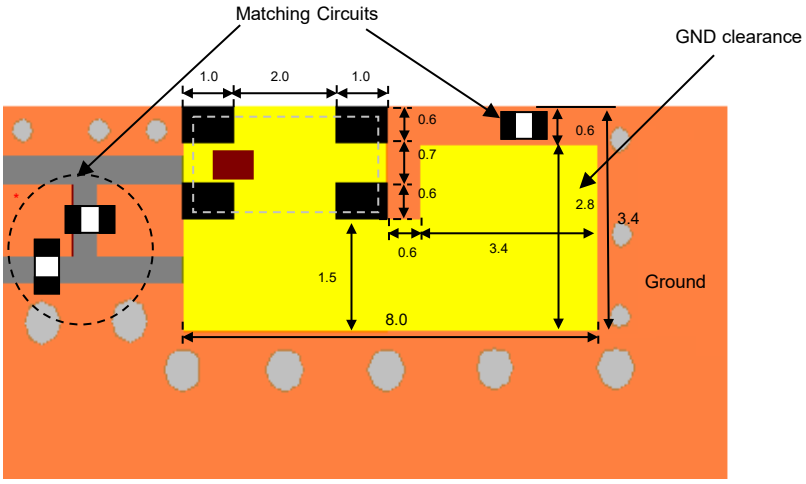
Mounting Considerations 2: Small Clearance or "Thin edge" Applications*

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

Solder Resist

Land

Units in mm



*Evaluation board not available

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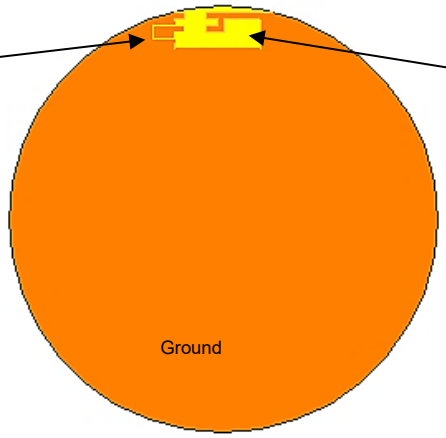
Mounting Considerations 3: "Thind edge" application on circular PCB



*Evaluation board not available

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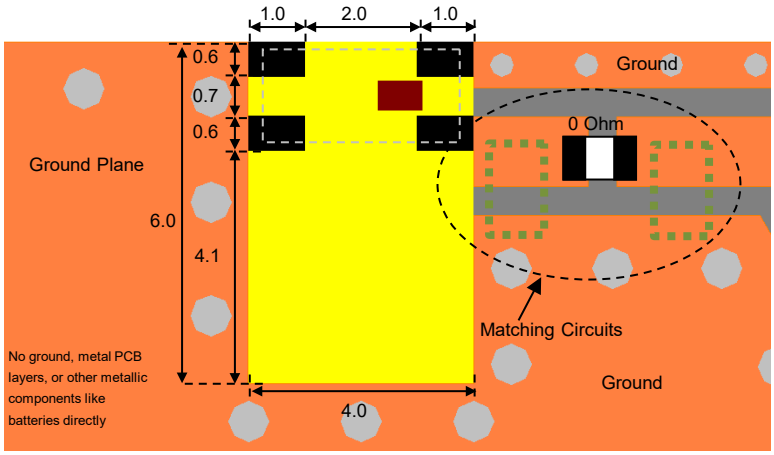
Mounting Considerations 4: Fed from Right Side*

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

Solder Resist

Land

Units in mm



*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

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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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