

High Frequency Ceramic Solutions

BT/WiFi and UWB Mini Antenna, Single-feed, Corner Mount

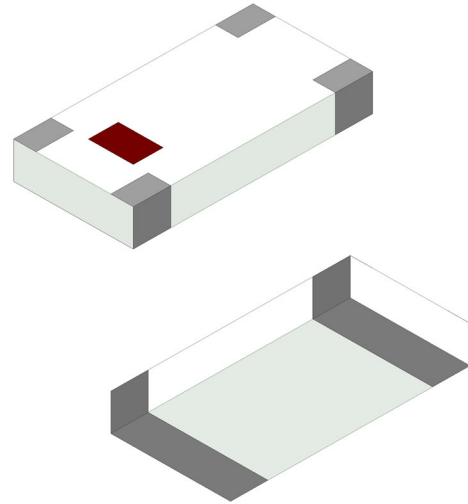
P/N 2450AD18A7250

Detail Specification: 1/21/2021

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General Specifications

Part Number	2450AD18A7250	
Frequency (MHz)	2400 - 2480	6000 - 8500
Peak Gain (dBi typ.)	+3.0 (YZ-cut)	+5.5 (YZ-cut)
Average Gain (dBi typ.)	+0.4 (YZ-cut)	+1.0 (YZ-cut)
Return Loss (dB)	6.5 min.	6.5 min.
Radiation Efficiency %¹	78	87
Reel Quantity	3000	
Operating Temp.	-40°C to +85°C	
Power Capacity (W)	3 max. (CW)	
Recommended Storage Conditions and Period for unused T&R Product	+5°C to +35°C Humidity 45 - 75% RH 18 months max.	

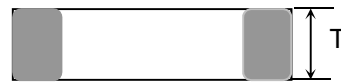


Part Number Explanation

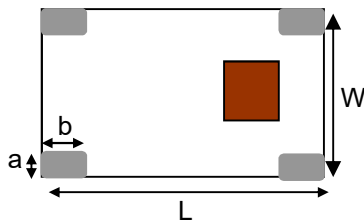
P/N Suffix	Packing Style	Bulk (loose)	Suffix = S	E.g. 2450AD18A7250S
		T & R	Suffix = E	E.g. 2450AD18A7250E
		100% Tin	Suffix = E or S	E.g. 2450AD18A7250(E or S)
	Evaluation Board	2450AD18A7250-EB1SMA (Pre-tuned with SMA connectors)		

Mechanical Dimensions

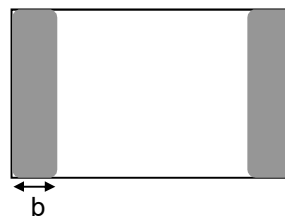
	In	mm
L	0.126 ± 0.008	3.20 ± 0.20
W	0.063 ± 0.008	1.60 ± 0.20
T	0.020 ± 0.004	0.50 ± 0.10
a	0.012 +0.004/+0.008	0.30 +0.1/-0.2
b	0.020 ± 0.004	0.50 ± 0.10



<Side view>



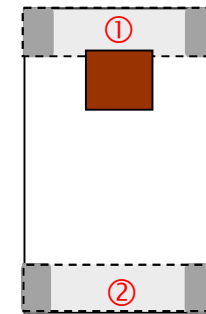
<Top view>



<Bottom view>

Terminal Configuration

No.	Function
1	Feed Point
2	NC



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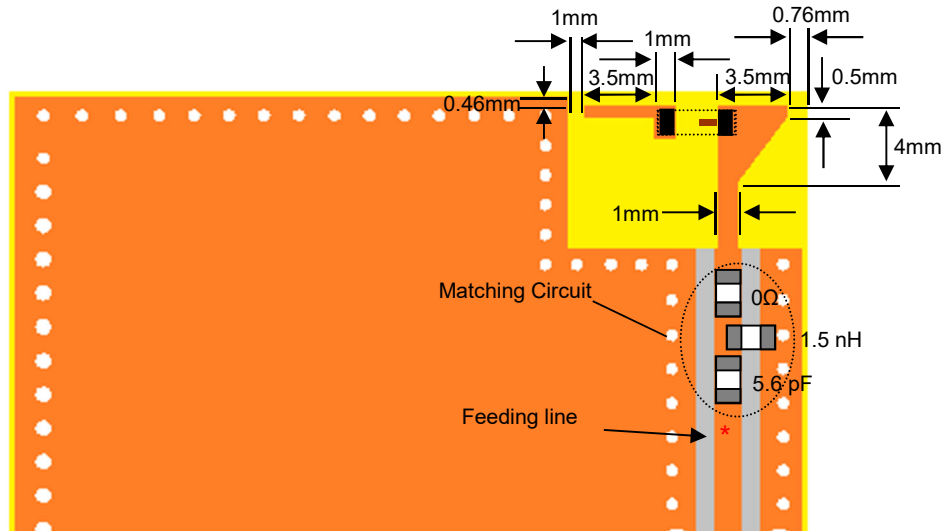
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Layout Recommendations



- Solder Resist
- Land

¹Attention: Matching circuits and component values will be different on the client's design, depending on PCB layout, geometry, etc. It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values you see here are used when antenna is mounted on Johanson's evaluation board.

Need help laying out the antenna, want us to review your antenna design (free!), require the Gerber files for this EVB, or would like us to validate the new tuning values of your PCB (fee may apply) go to:

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

Orderable EVB for evaluation, it comes with a female SMA connector. Go to: <https://www.johansontechnology.com/component/request-a-sample> and ask for p/n 2450AD47A1590-EB1SMA

* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material, thickness, and preferably CPWG (co-planar wave guide) type.

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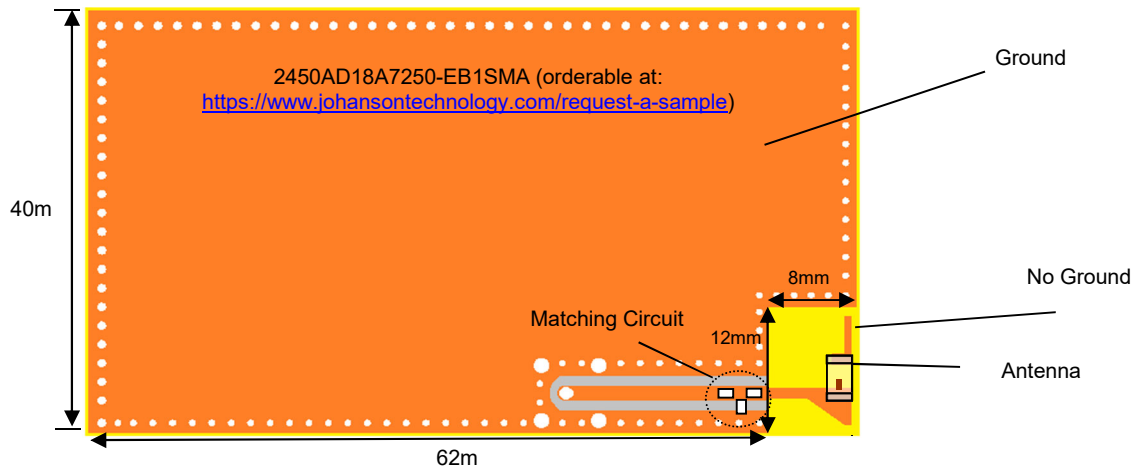
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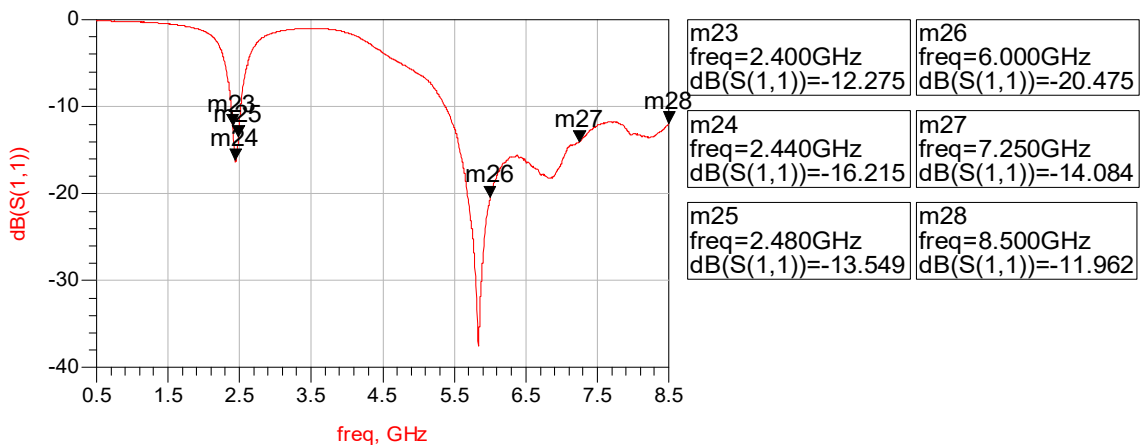
Johanson Technology Evaluation Board Mounting Configuration

❖ Test Board-Top View (Unit in mm)



Typical Electrical Characteristics (T=25°C)

Antenna Return Loss with Matching Circuits On Johanson EVB



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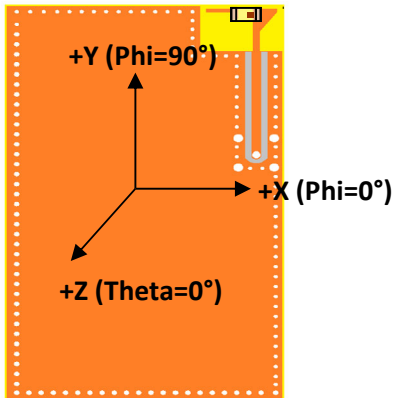
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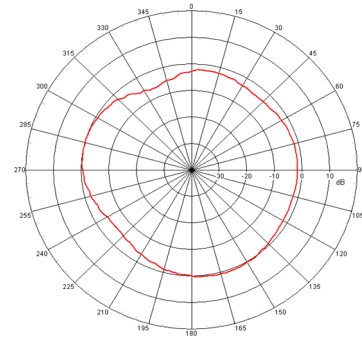
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Typical Radiation Patterns

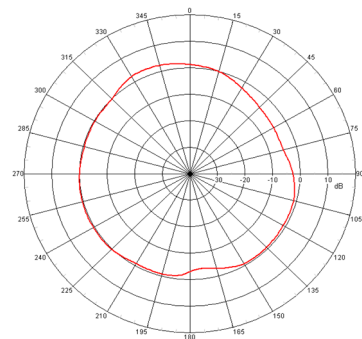
❖ Radiation Patterns @ 2.44GHz



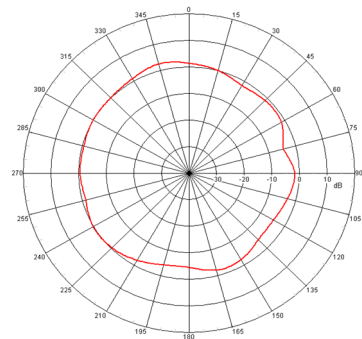
XY-Plane



YZ-Plane



XZ-Plane



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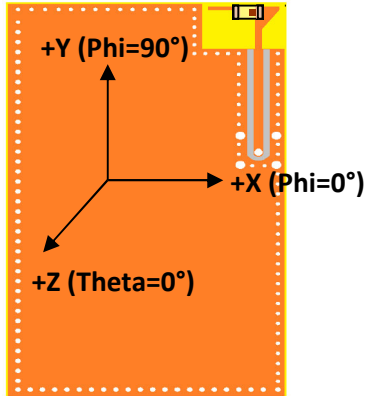
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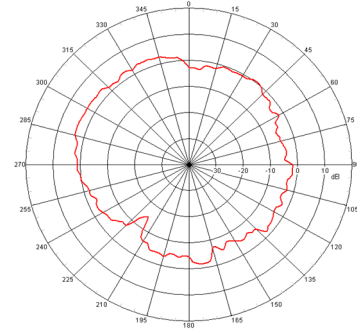
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Typical Radiation Patterns

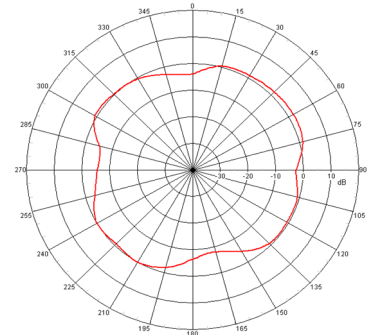
❖ Radiation Patterns @ 7.250GHz



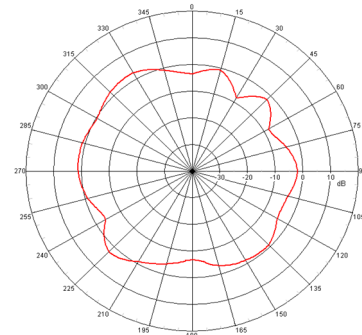
XY-Plane



YZ-Plane



XZ-Plane



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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

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