

High Frequency Ceramic Solutions

2.4, 5, and 6GHz BT/WiFi6E Mini Antenna, Single-feed, Tri-band, Corner Mount

P/N 2450AD18A6050E-AEC

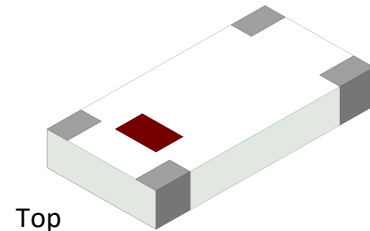
Detail Specification: 11/8/2021

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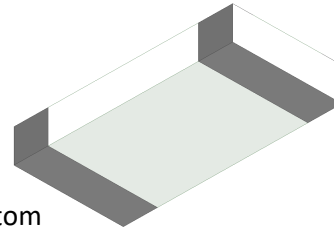
AEC-Q200 Qualified

General Specifications

Part Number	2450AD18A6050E-AEC		
Frequency (MHz)	2400 - 2500	4900 - 5850	5850 - 7200
Peak Gain (dBi typ.)	+1.9 (YZ-Total)	+1.1 (YZ-Total)	+3.0 (XZ-Total)
Average Gain (dBi typ.)	-1.2 (YZ-Total)	-2.0 (YZ-Total)	-1.1 (XZ-Total)
Return Loss (dB)	6 min.@25°C 4.4 min.@105°C	5 min.@25°C 4.4 min.@105°C	5 min.@25°C 4.4 min.@105°C
Radiation Efficiency %¹	67 Ave.	72 Ave.	81 Ave.
Impedance (Ω)	50		
Power Capacity (W)	1 max. (CW)		
Operating Temp.	-40°C to +105°C		
Reel Quantity (pcs./reel)	3,000		
Recommended Storage Conditions and Period for unused Product on T&R	+5°C to +35°C Humidity 45 - 75% RH 18 months max.		



Top



Bottom

Use this antenna with our diplexers and filters to split the signal into the corresponding RF path. Go to page 7 for the links.

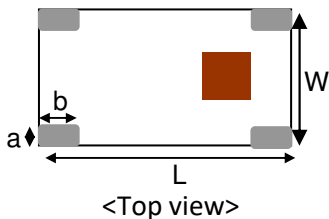
¹Efficiency measured on Johanson's evaluation board PN 2450AD18A6050-EB1SMA

Part Number Explanation

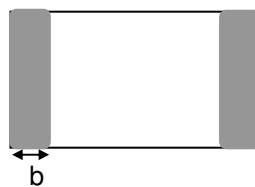
P/N Suffix	Packing Style	Bulk (loose pcs.)	Suffix = S	E.g. 2450AD18A6050S-AEC
		T & R	Suffix = E	E.g. 2450AD18A6050E-AEC
		100% Tin	Suffix = E or S	E.g. 2450AD18A6050(E or S)-AEC
	Evaluation Board	2450AD18A6050-EB1SMA (Pre-tuned with SMA connectors)		

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



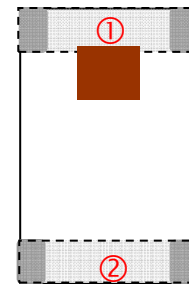
<Side view>



<Bottom view>

Terminal Configuration

No.	Function
1	Feed Point
2	NC



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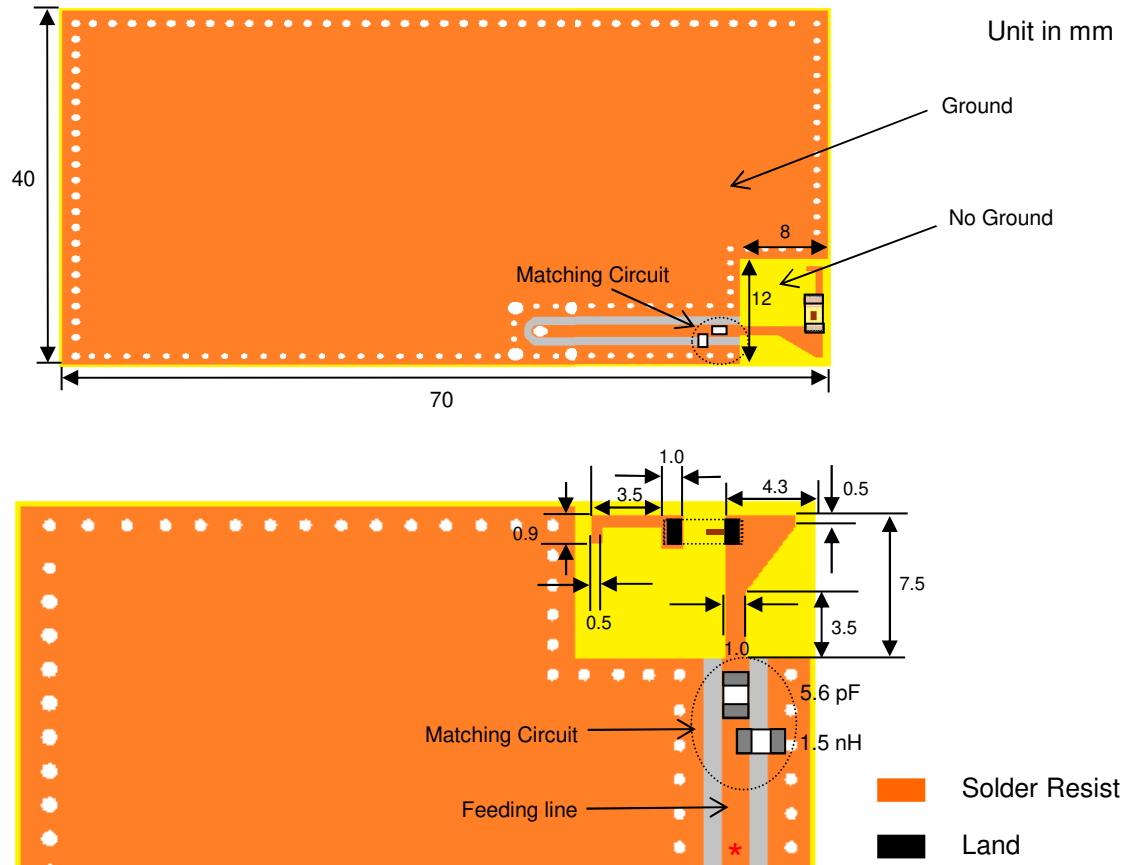
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Mounting Considerations



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

Note: 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.

Orderable pre-tuned 50Ω EVB with a female SMA connector, reference p/n. 2450AD18A6050-EB1SMA.

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

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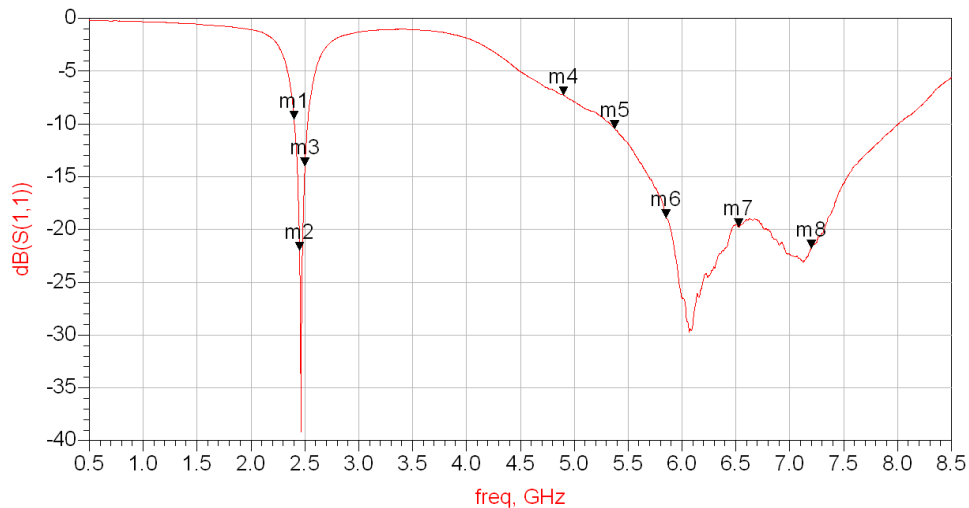
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Typical Electrical Characteristics (T=25°C)

Return Loss with Matching Circuits



m1
freq=2.400GHz
dB(S(1,1))=-9.555

m2
freq=2.450GHz
dB(S(1,1))=-21.986

m3
freq=2.500GHz
dB(S(1,1))=-13.981

m4
freq=4.900GHz
dB(S(1,1))=-7.272

m5
freq=5.375GHz
dB(S(1,1))=-10.416

m6
freq=5.850GHz
dB(S(1,1))=-18.867

m7
freq=6.525GHz
dB(S(1,1))=-19.755

m8
freq=7.200GHz
dB(S(1,1))=-21.746

Need help laying out the antenna, want us to review your antenna design (free!), or would like us to measure and derive the new tuning values of your PCB (fee may apply).

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

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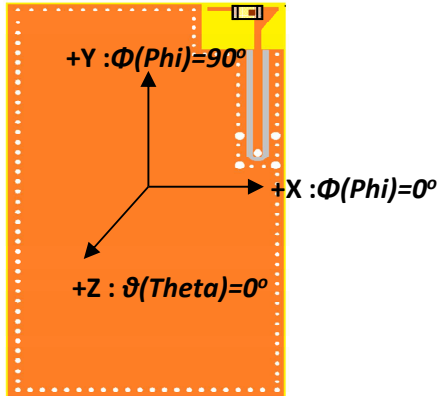
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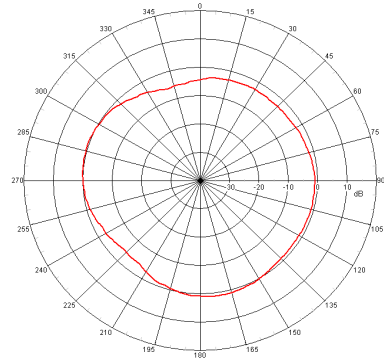
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Typical Radiation Patterns

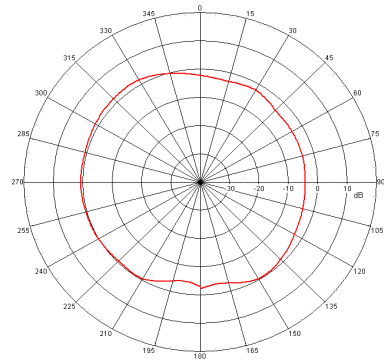
❖ Radiation Patterns @ 2.45GHz



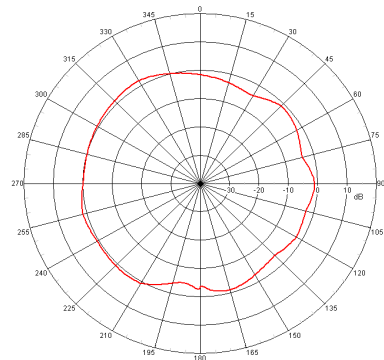
XY-Plane



XZ-Plane



YZ-Plane



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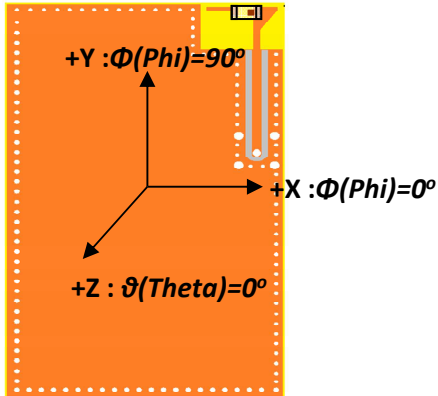
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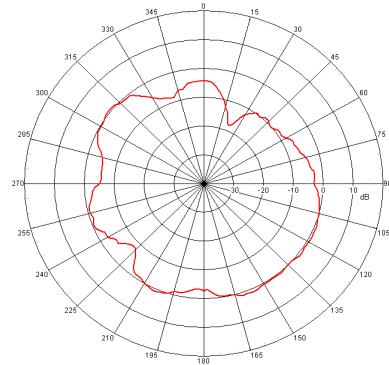
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Typical Radiation Patterns

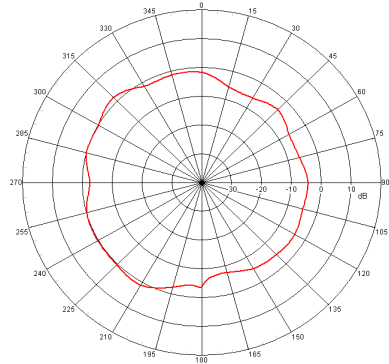
❖ Radiation Patterns @ 5.375GHz



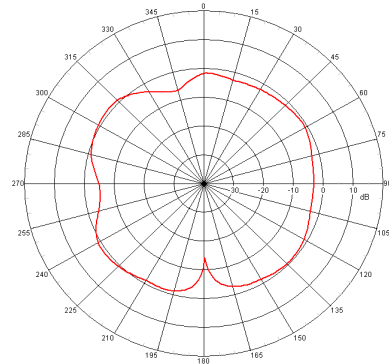
XY-Plane



XZ-Plane



YZ-Plane



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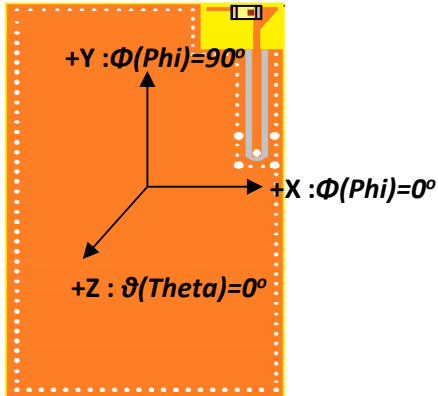
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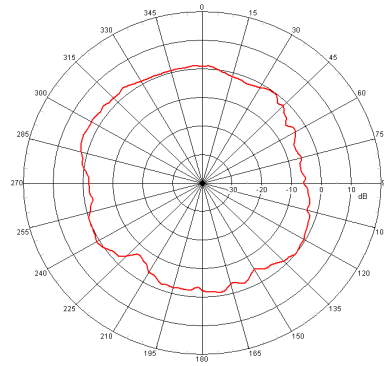
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Typical Radiation Patterns

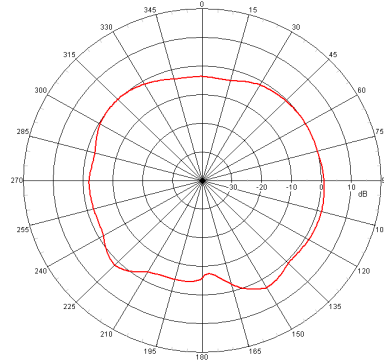
❖ Radiation Patterns @ 6.525GHz



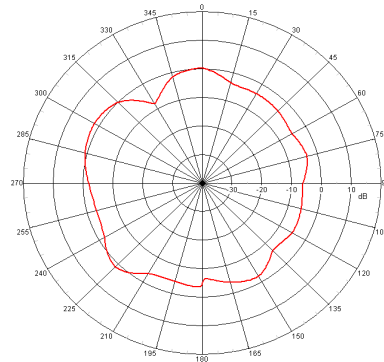
XY-Plane



XZ-Plane



YZ-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:

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Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

MSL Info

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Packaging information

<https://www.johansontechnology.com/tape-reel-packaging>

For layout review contact our Applications Team at:

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RoHS Compliance

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Recommended Storage Condition and Max Shelf Life

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Diplexers Page

<https://www.johansontechnology.com/diplexers>

Band Pass Filters Page

<https://www.johansontechnology.com/band-pass-filters>

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