

High Frequency Ceramic Solutions

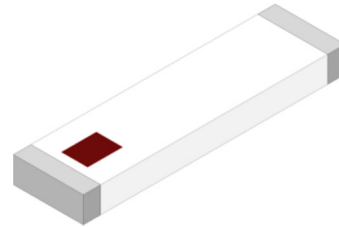
Sub-GHz / 2.4GHz Dual-band Antenna, Single Feed

P/N: 0900AD54B2450

Detail Specification: 12/7/2018

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General Specifications	
Part Number	0900AD54B2450
Frequency (MHz)	868 - 928 2400 - 2480
Return Loss (dB)	6.5 typ. 6.5 typ.
Peak Gain (dBi)*	1.1 typ. 1.7 typ.
Average Gain (dBi)*	-2.4 typ. -1.5 typ.
Efficiency*	51% 62%
Power Capacity (W)	3 max. (CW)
Quantity/Reel	500 pcs
Operating Temperature	-40°C to +85°C (may be expanded, ask us how)
Storage Conditions for unused product on T&R and max shelf period	+5 to +35 °C Humidity 45 - 75%RH 18 months max



Need help with the antenna layout or performance?
We offer 2 free layout/optimization reviews!
Contact our applications engineers at:
<https://www.johansontechnology.com/ask-a-question>

*Performance based on antenna evaluation board illustrated on page 2

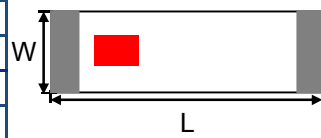
For more antennas, go to:
<https://www.johansontechnology.com/antennas>

Part Number Explanation

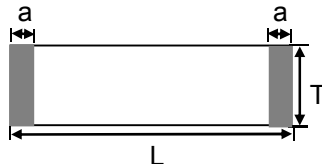
P/N Suffix	Packing Style	Bulk	Suffix = S	eg. 0900AD54B2450S
		T & R	Suffix = E	eg. 0900AD54B2450E
		100% Tin	Suffix = None	eg. 0900AD54B2450(E or S)
	Evaluation Boards	0900AD54B2450-EB1SMA		

Mechanical Dimensions

	In	mm
L	0.591 ± 0.008	15.00 ± 0.2
W	0.157 ± 0.008	4.00 ± 0.2
T	0.059 ± 0.008	1.50 ± 0.2
a	0.039 ± 0.012	1.00 ± 0.3



Top View



Side View



Bottom View

Terminal Configuration

No.	Function
1	FEED
2	NC



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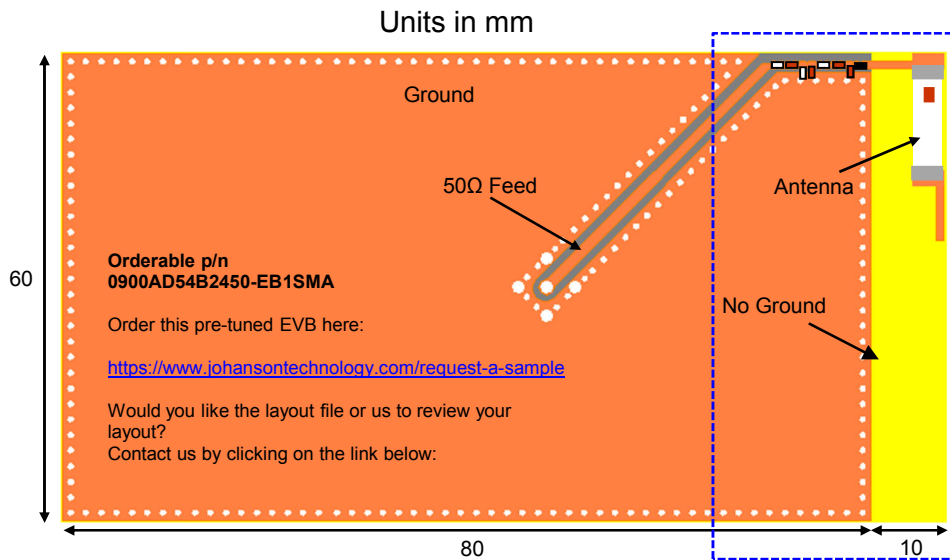
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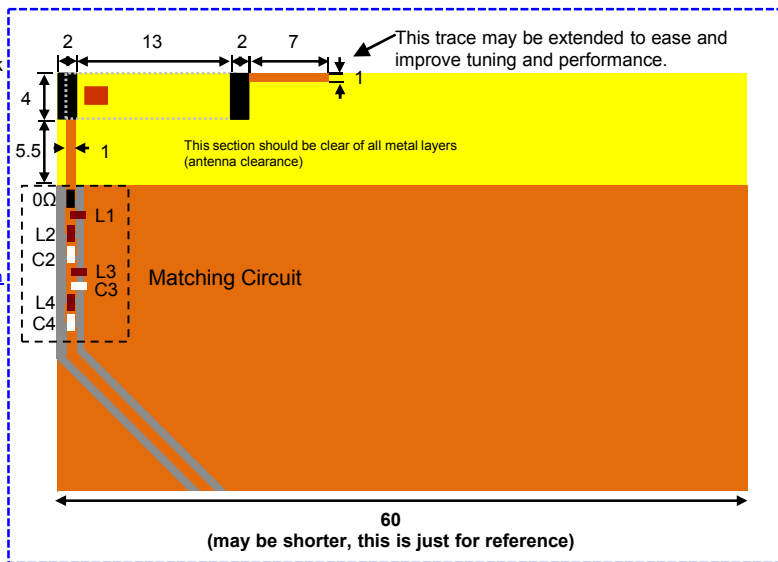
Mounting Style, Small



Units in mm

It is recommended that the designer leave available slots for the topology of the network to the right. These particular antenna matching values are used when the antenna is mounted on Johanson's evaluation board. The matching values on other PCBs will be different. We recommend to leave them unpopulated until final assembly to tune.

Want us to tune it for you and need layout optimization? Contact us here:
<https://www.johansontechnology.com/ask-a-question>



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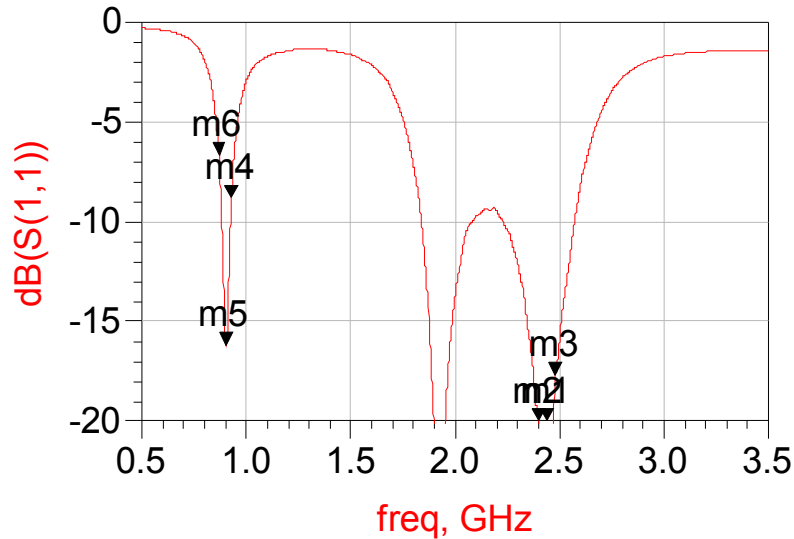
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Typical Electrical Characteristics (T=25°C)

Evaluation Board p/n: 0900AD54B2450-EB1SMA



m6
freq=868.0MHz
 $\text{dB}(S(1,1))=-6.722$

m5
freq=900.0MHz
 $\text{dB}(S(1,1))=-16.237$

m4
freq=928.0MHz
 $\text{dB}(S(1,1))=-8.819$

m2
freq=2.400GHz
 $\text{dB}(S(1,1))=-20.252$

m1
freq=2.440GHz
 $\text{dB}(S(1,1))=-23.639$

m3
freq=2.480GHz
 $\text{dB}(S(1,1))=-17.712$

To order a pre-tuned 50Ω EVB with a female SMA connector
go here: <https://www.johansontechnology.com/request-a-sample>
Reference p/n: **0900AD54B2450-EB1SMA**

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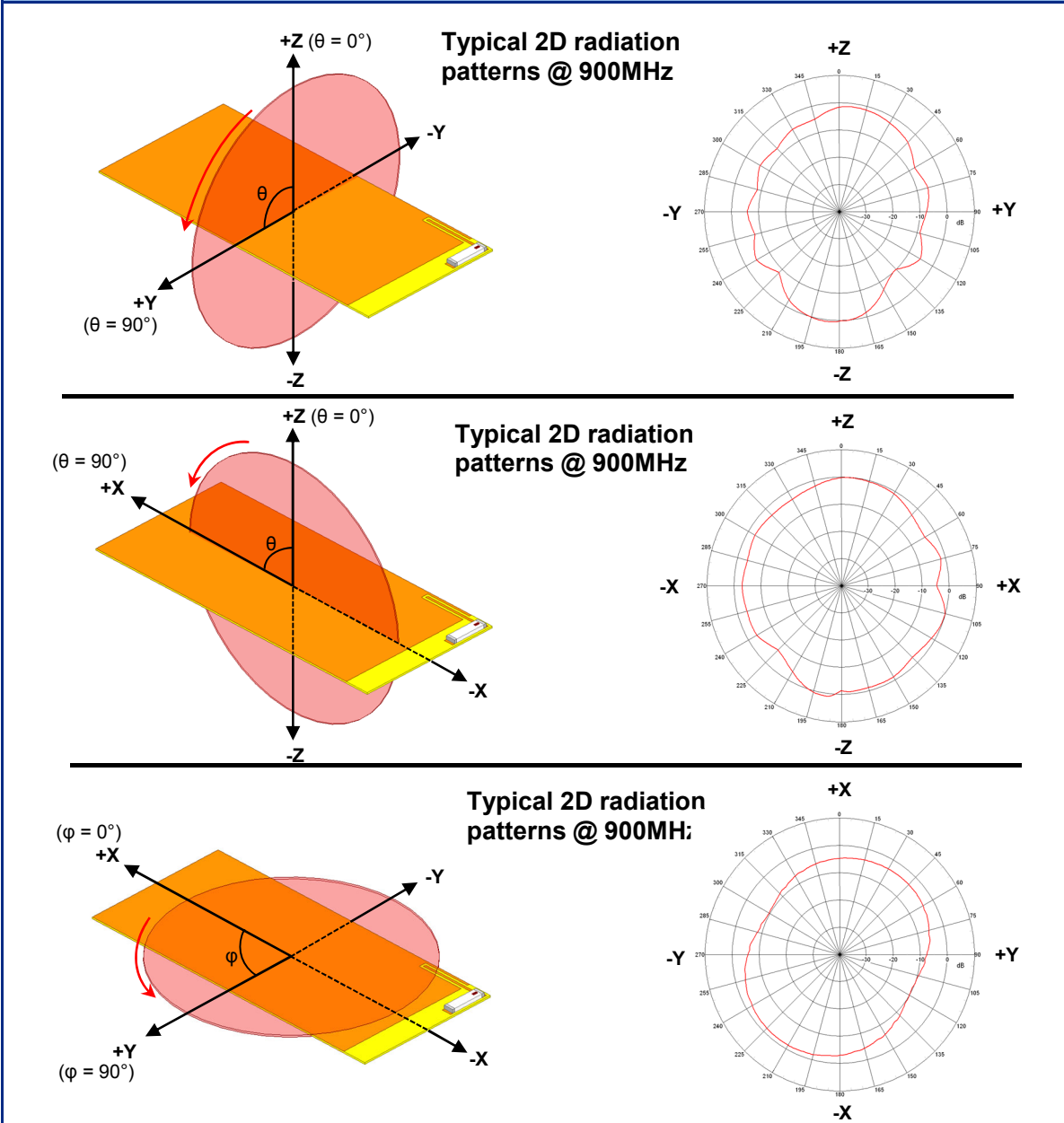
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Radiation pattern and gain for P/N 0900AD54B2450-EB1SMA (Low Band)



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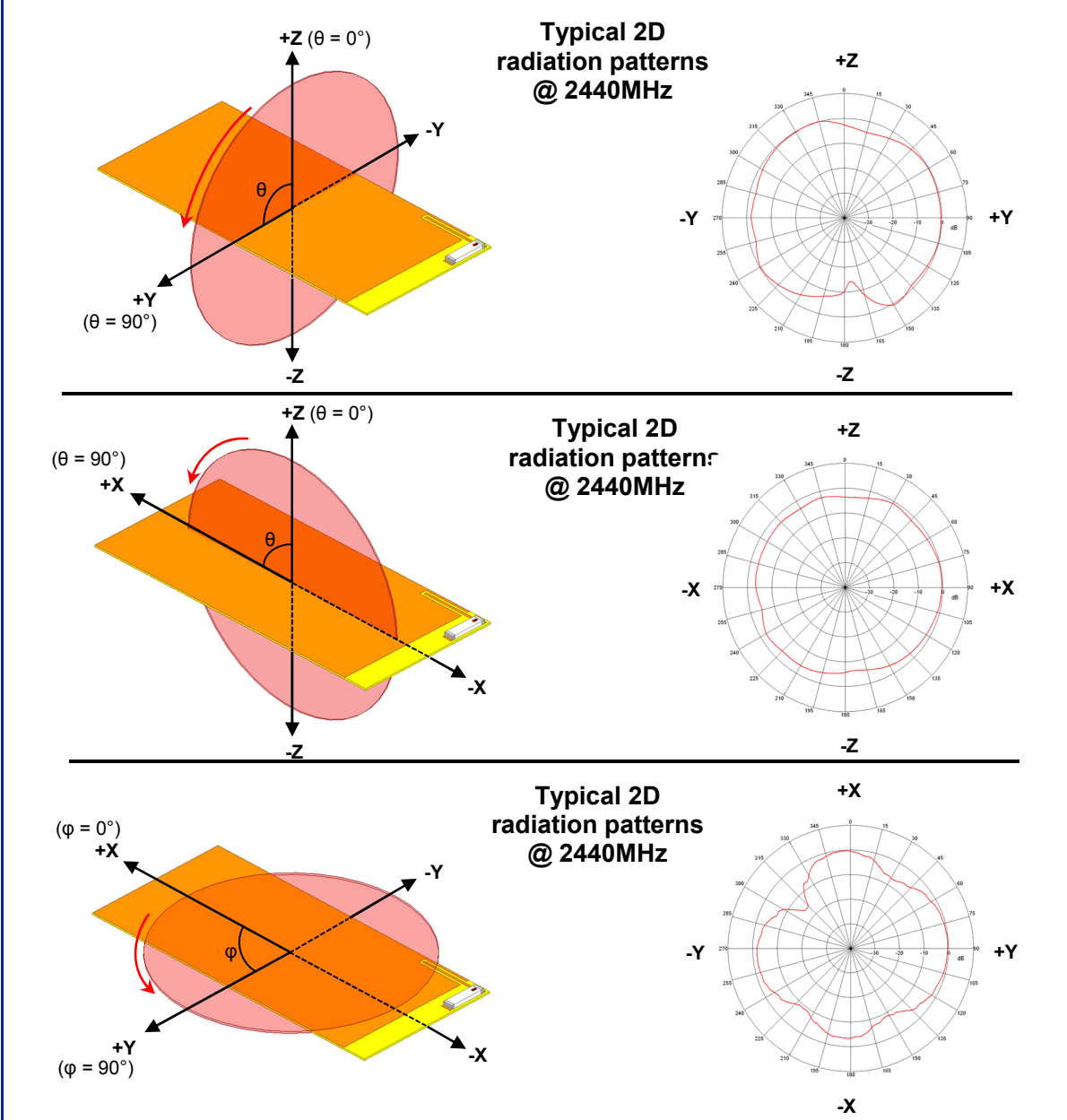
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Radiation pattern and gain for P/N 0900AD54B2450-EB1SMA (High Band)



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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

<https://www.johansontechnology.com/rohs-compliance>

Would you like us to review your layout for free? Need an embedded antenna recommendation for your application?

Contact us at:

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