

# "High Frequency Ceramic Solutions"

## 2450 MHz Small SMD Chip Antenna

P/N 2450AT42B100

Ground Clearance Requirements Minimized. This antenna was designed for corner or end-mounting

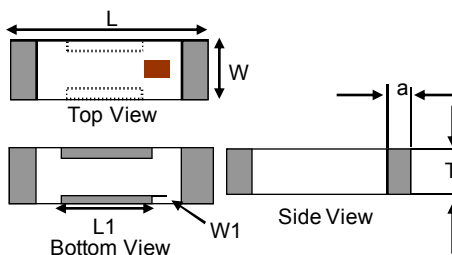
Detail Specification: 10/08/13

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General Specifications			
Part Number	2450AT42B100		
Frequency Range	2400 - 2500 Mhz		
Peak Gain	0 dBi typ. (XZ-V)		
Average Gain	-1.5 dBi typ. (XZ-V)		
Return Loss	9.5 dB min.		
Impedance	50 Ω		
Reel Quantity	2,000		
Operating Temperature	-40 to +85°C	Storage Period	-40 to +85°C
Recommended Storage Conditio	+5 ~ +35 °C, Humidity 45~75%RH	Power Capacity	2W max. (CW)



Mechanical Dimensions		
	In	mm
L	0.197 ± 0.008	5.00 ± 0.20
W	0.079 ± 0.008	2.00 ± 0.20
L1	0.102 ± 0.008	2.60 ± 0.20
W1	0.020 ± 0.008	0.50 ± 0.20
T	0.079 +.004/-0.008	2.00 +0.1/-0.2
a	0.020 ± 0.012	0.50 ± 0.30



Terminal Configuration	
No.	Function
1	Feeding Point
2	NC
3	NC
4	NC

### Mounting Considerations

Line width should be designed to match 50Ω characteristic impedance (Grounded Co-Planar Waveguide), depending on PCB material and thickness. (The matching circuit and component values will be different on clients PCB layout, se notes below and go to page 2 for details).

Yellow area=Ground/Metal Clearance.

The "0.82mm" dimmension is a min. requirement, if the designer can make this larger, the better radiation and gain will occur (i.e. 2.0 or 4.0mm)

Note: It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values here are used when antenna is mounted on Johanson's evaluation board. The matching values on clinet's PCB will be different, go to: [johansontechnology.com/tuning](http://johansontechnology.com/tuning) and see how to obtain the new values. If you need further help, contact our RF Applications Eng Team at: [www.johansontechnology.com/en/ask-a-technical-question.html](http://www.johansontechnology.com/en/ask-a-technical-question.html)

RF Via "stich" around antenna clearance and feed trace for best radiation

We perform layout review as well as antenna tuning and characterization services. Go to page 2 for details.

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

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



[www.johansontechnology.com](http://www.johansontechnology.com)

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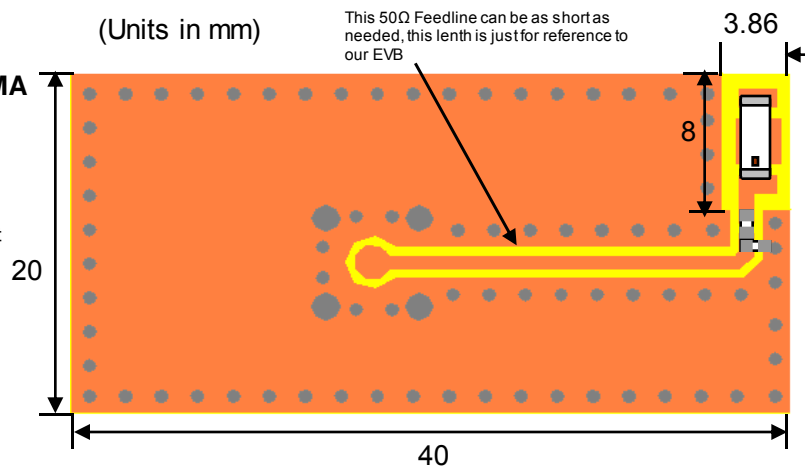
## Johanson Evaluation Board (orderable item)

**Test Board:**

**P/N: 2450AT42B100-EB1SMA**  
(orderable item)

**To order, go to:**

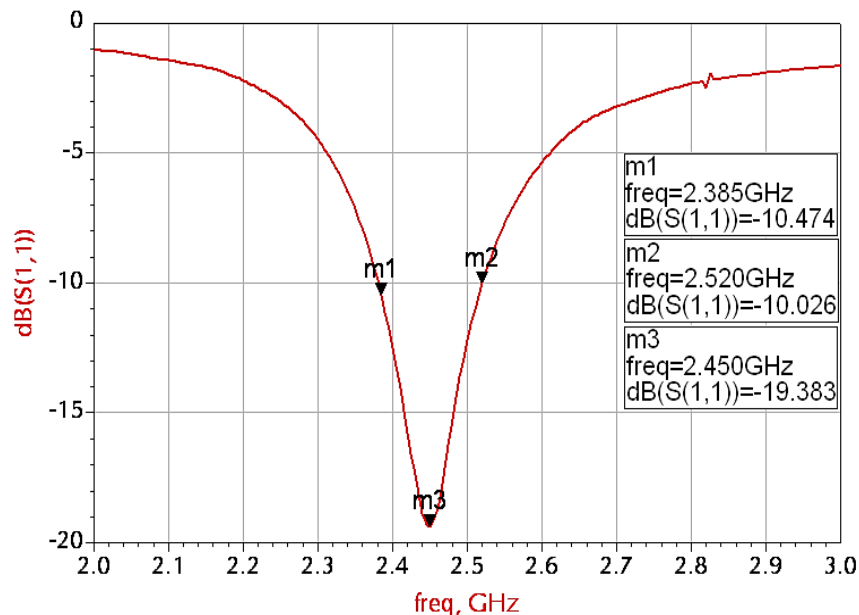
[www.johansontechnology.com/samplerrequest](http://www.johansontechnology.com/samplerrequest)



We offer antenna layout review, tuning, and characterization services, go to:  
[www.johansontechnology.com/ipcantennaservices](http://www.johansontechnology.com/ipcantennaservices) for details and instructions

## Typical Electrical Characteristics (T=25°C)

**Return Loss**  
(with  
matching)



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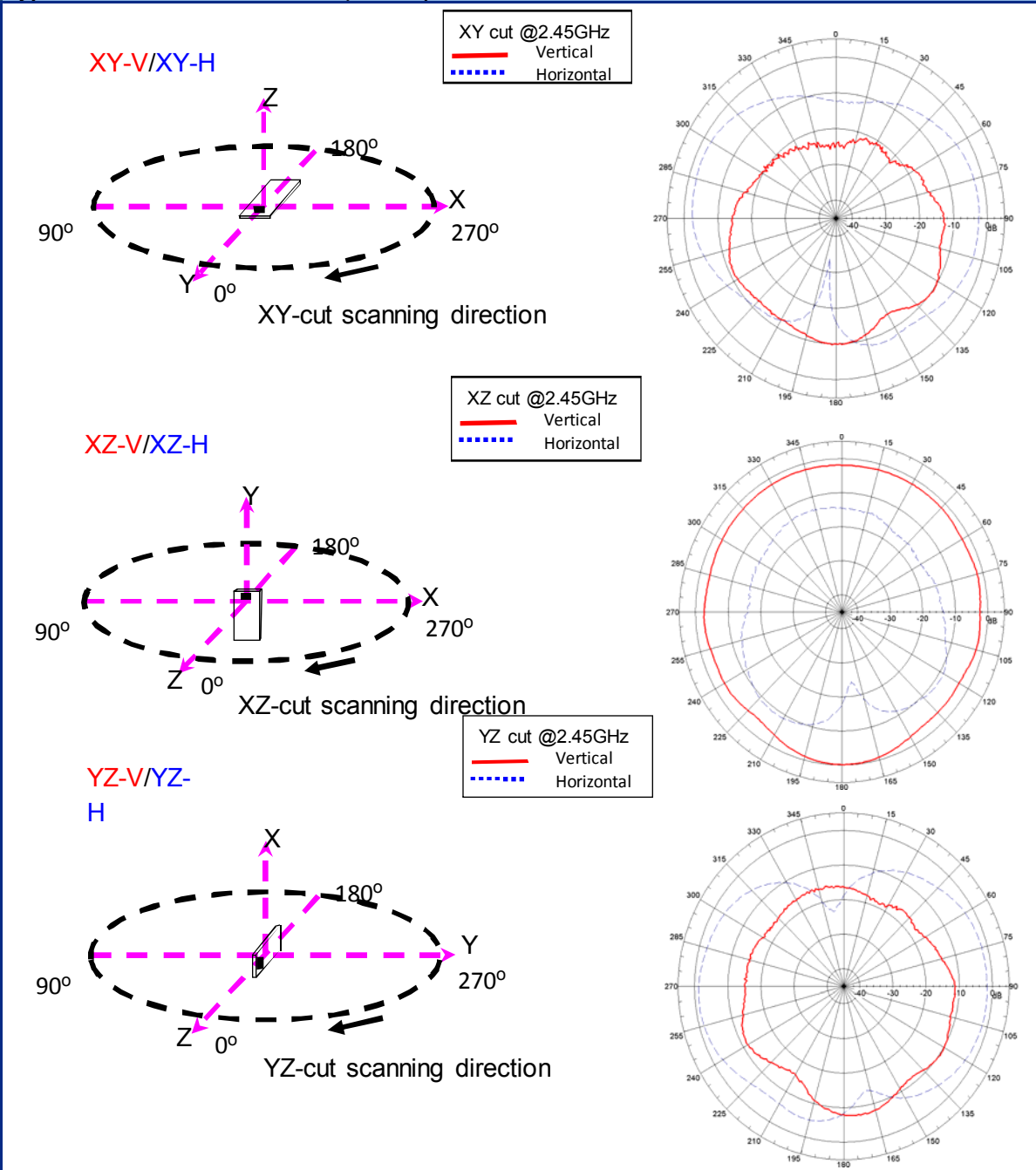
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## Typical Electrical Characteristics (T=25°C) Radiation Patterns



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## Part Number Explanation

<b>P/N Suffix</b>	<b>Packing Style</b>	Bulk (loose pieces)	Suffix = S	eg.2450AT42B100S
		T & R	Suffix = E	eg. 2450AT42B100E
		T & R (Reverse)	Suffix = R	eg. 2450AT42B100R (MOQ Applies)
		100% Tin	Suffix = None	eg. 2450AT42B100(S, E, R)
	Eval Board (1-port SMA antenna test boards)	2450AT42B100-EB1SMA (Page 2)		
<b>More Details</b>	<a href="http://www.johansontechnology.com/ipc-pn-explained">www.johansontechnology.com/ipc-pn-explained</a>			

## Storage Conditions and Shelf Life (On T&R or Bulk)

<b>Temperature:</b>	+5C to +35°C	<b>Shelf Life:</b>	18 months max.
<b>Relative Humidity:</b>	45 to 75%		

## Packaging information

[www.johansontechnology.com/ipcpackaging.html](http://www.johansontechnology.com/ipcpackaging.html)

## Soldering Information

[www.johansontechnology.com/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-profile)

## Antenna layout and tuning techniques

[www.johansontechnology.com/tuning](http://www.johansontechnology.com/tuning)

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipcantennaservices](http://www.johansontechnology.com/ipcantennaservices)

## RoHS Compliance

[www.johansontechnology.com/technical-notes/rohs-compliance.html](http://www.johansontechnology.com/technical-notes/rohs-compliance.html)

## MSL Info

[www.johansontechnology.com/technical-notes/msl-rating.html](http://www.johansontechnology.com/technical-notes/msl-rating.html)

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