

# "High Frequency Ceramic Solutions"

Mini 2.45 GHz Antenna, AEC-Q200 Qualified

P/N 2450AT18A100E-AEC

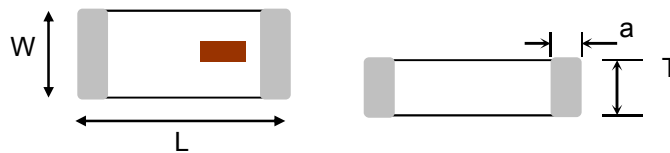
Detail Specification: 12/22/2017

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General Specifications	
Part Number	2450AT18A100E-AEC
Frequency Range	2400 - 2500 Mhz
Peak Gain	0.5 dBi typ. (XZ-V)
Average Gain	-0.5 dBi typ. (XZ-V)
Return Loss	9.5 dB min.
Input Power	2W max. (CW)
Impedance	50 $\Omega$
Operating Temperature	-40 to +125°C
Reel Quantity	3,000



Mechanical Dimensions		
	In	mm
L	0.126 $\pm$ 0.008	3.20 $\pm$ 0.20
W	0.063 $\pm$ 0.008	1.60 $\pm$ 0.20
T	0.051 +.004/-0.008	1.30 +0.1/-0.2
a	0.020 $\pm$ 0.012	0.50 $\pm$ 0.30



### Mounting Considerations

a) Without Matching Circuits

b) With Matching Circuits

Mount these devices with mark facing up. Units: mm  
 \* Line width should be designed to provide 50  $\Omega$  impedance matching characteristics.

### Terminal Configuration

No.	Function
1	Feeding Point
2	NC

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 and topology on client's PCB will be different.

Need our help tuning the antenna on your board? Contact our RF Applications Eng Team at:

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

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

Need the layout file of the above? Contact us at: [www.johansontechnology.com/en/ask-a-technical-question.html](http://www.johansontechnology.com/en/ask-a-technical-question.html)

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

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

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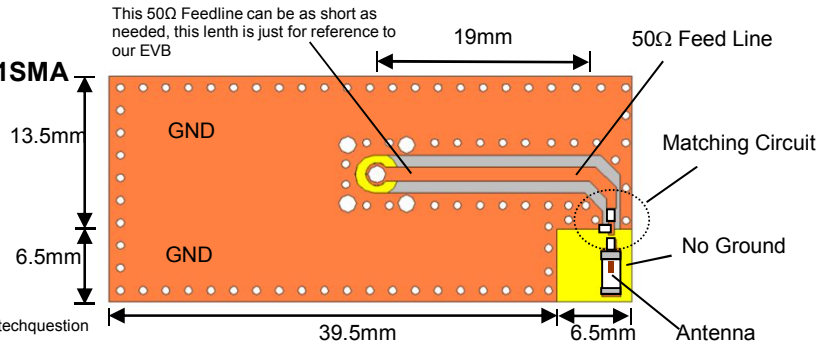
## Typical Electrical Characteristics (T=25°C)

### Test Board:

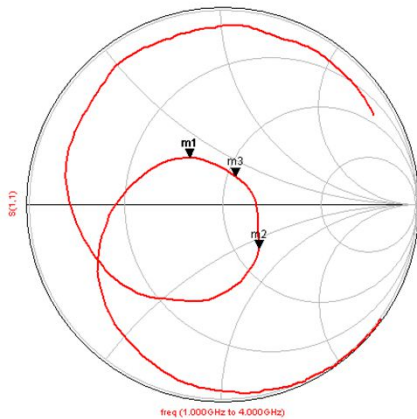
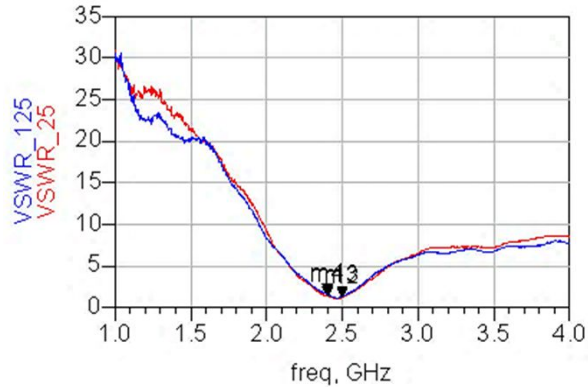
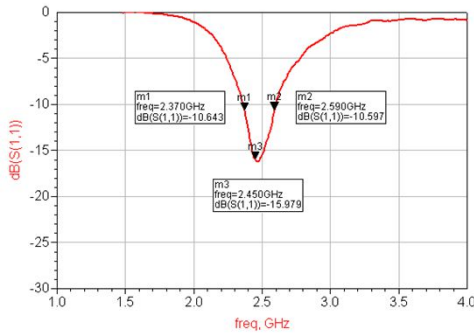
P/N: 2450AT18A100-EB1SMA  
(orderable item)

The antenna matching network values here are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different. Go to: [www.johansontechnology.com/ipcantednaservices](http://www.johansontechnology.com/ipcantednaservices) and see how to obtain the new values. If you need further help, contact our RF Applications Eng Team at:

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



### Return Loss with matching circuit @ +25C VSWR with matching circuit @ +25C and +125C



m 1  
freq=2.400GHz  
VSWR\_25=1.386

m 2  
freq=2.500GHz  
VSWR\_25=1.219

m 4  
freq=2.400GHz  
VSWR\_125=1.606

m 3  
freq=2.500GHz  
VSWR\_125=1.332

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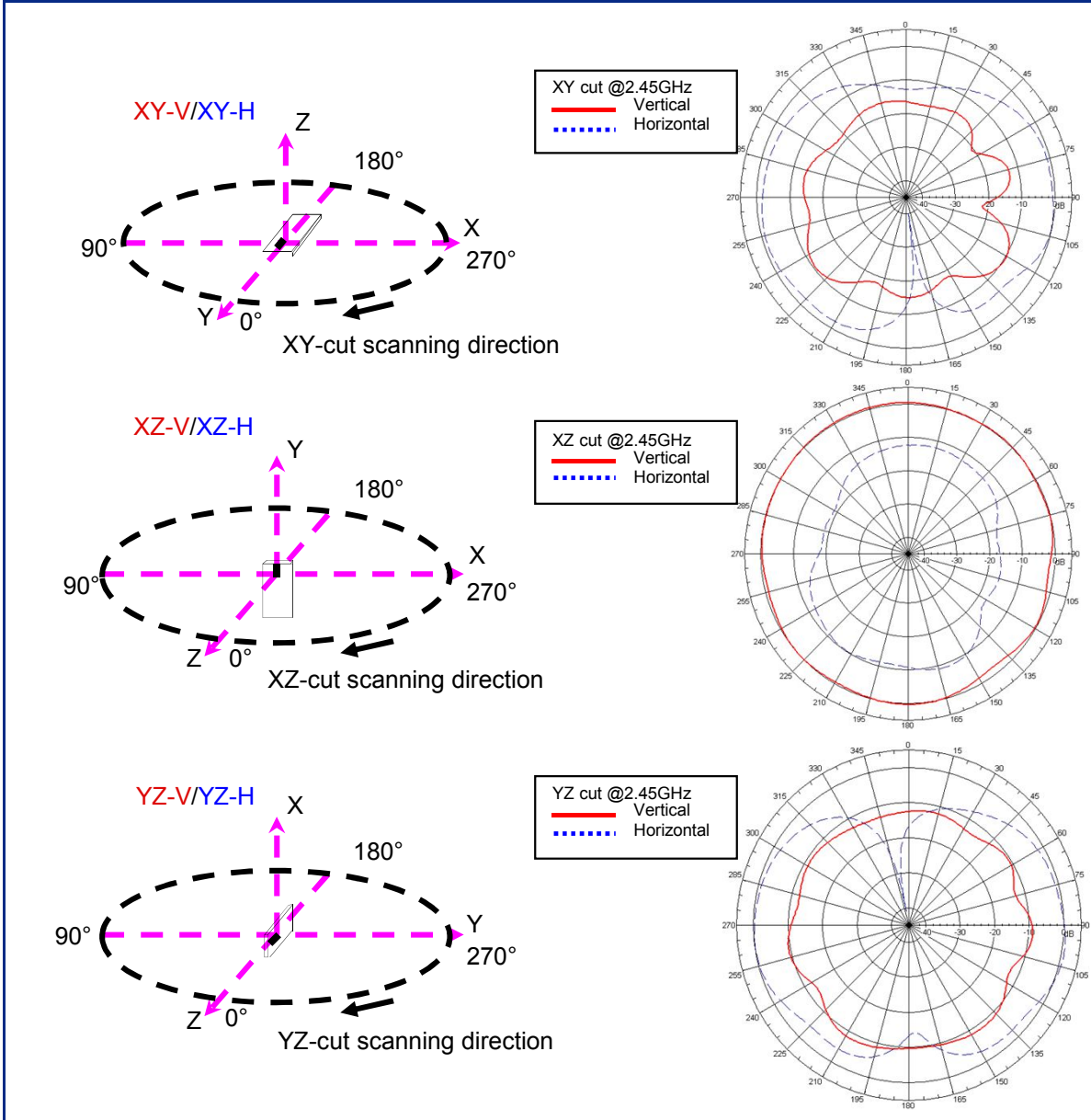
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## Typical Radiation Patterns at 2.45GHz (+25C)



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Part Number Explanation				
P/N Suffix	Packaging Style	Bulk (loose pieces)	Suffix = S	Eg. 2450AT18A100S-AEC
		T & R	Suffix = E	Eg. 2450AT18A100E-AEC
		T & R (Reverse)	Suffix = R	Eg. 2450AT18A100R (MOQ Applies)
	Termination style	100% Tin (RoHS)	Suffix = S/E/R	Eg. 2450AT18A100(S, E, R)-AEC
		Tin / Lead	Please consult Factory	
Evaluation Board(s) (1-port SMA antenna test boards)	2450AT18A100-EB1SMA (Page 2) Orderable item!			

Would you like Johanson Technology's RF team to help you design and tune our antenna on your board? Click on the link below:

## Antenna layout review, tuning, and characterization services

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

## 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)

## 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)

## Recommended Storage Condition and Max Shelf Life

[www.johansontechnology.com/ipcstorage-shelflife](http://www.johansontechnology.com/ipcstorage-shelflife)

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