

# "High Frequency Ceramic Solutions"

## Mini 2.45 GHz Antenna

Detail Specification: 7/18/2014

P/N 2450AT18A100

Page 1 of 4

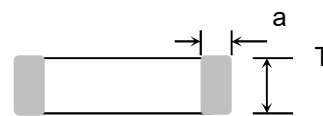
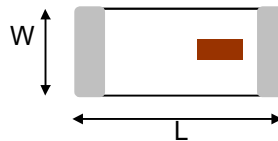
### General Specifications

Part Number	2450AT18A100
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



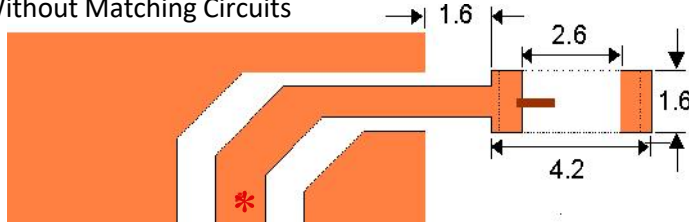
### Mechanical Dimensions

	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

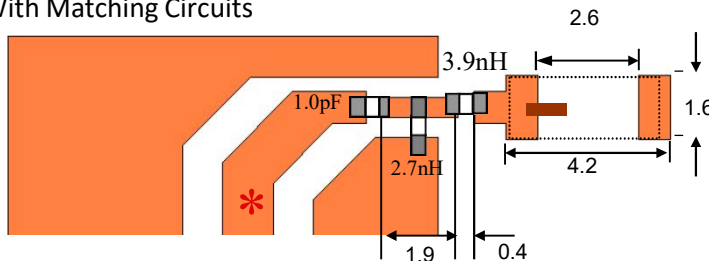


### Mounting Considerations

#### 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.

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)

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

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

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

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Ver 1.3

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**P/N 2450AT18A100**

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Page 2 of 4

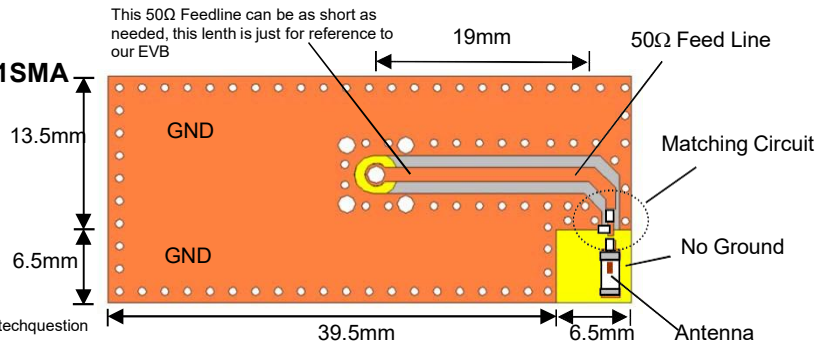
## Typical Electrical Characteristics (T=25°C)

### Test Board:

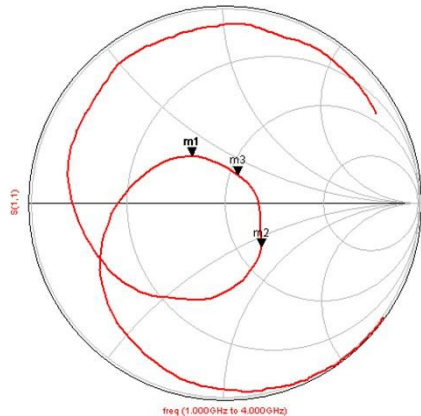
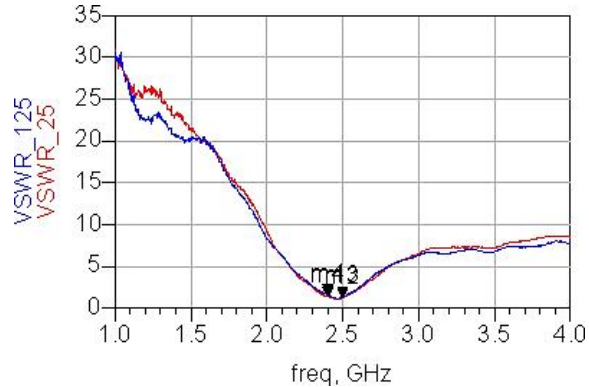
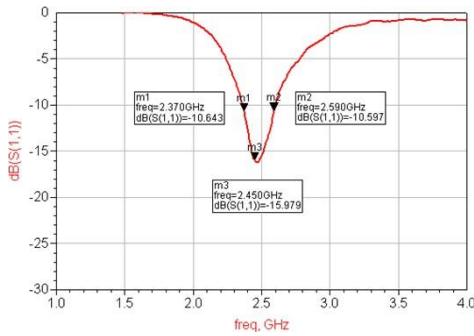
**P/N: 2450AT18A100-EB1SMA**  
(orderable item)

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/pcbantennaservices](http://www.johansontechnology.com/pcbantennaservices) 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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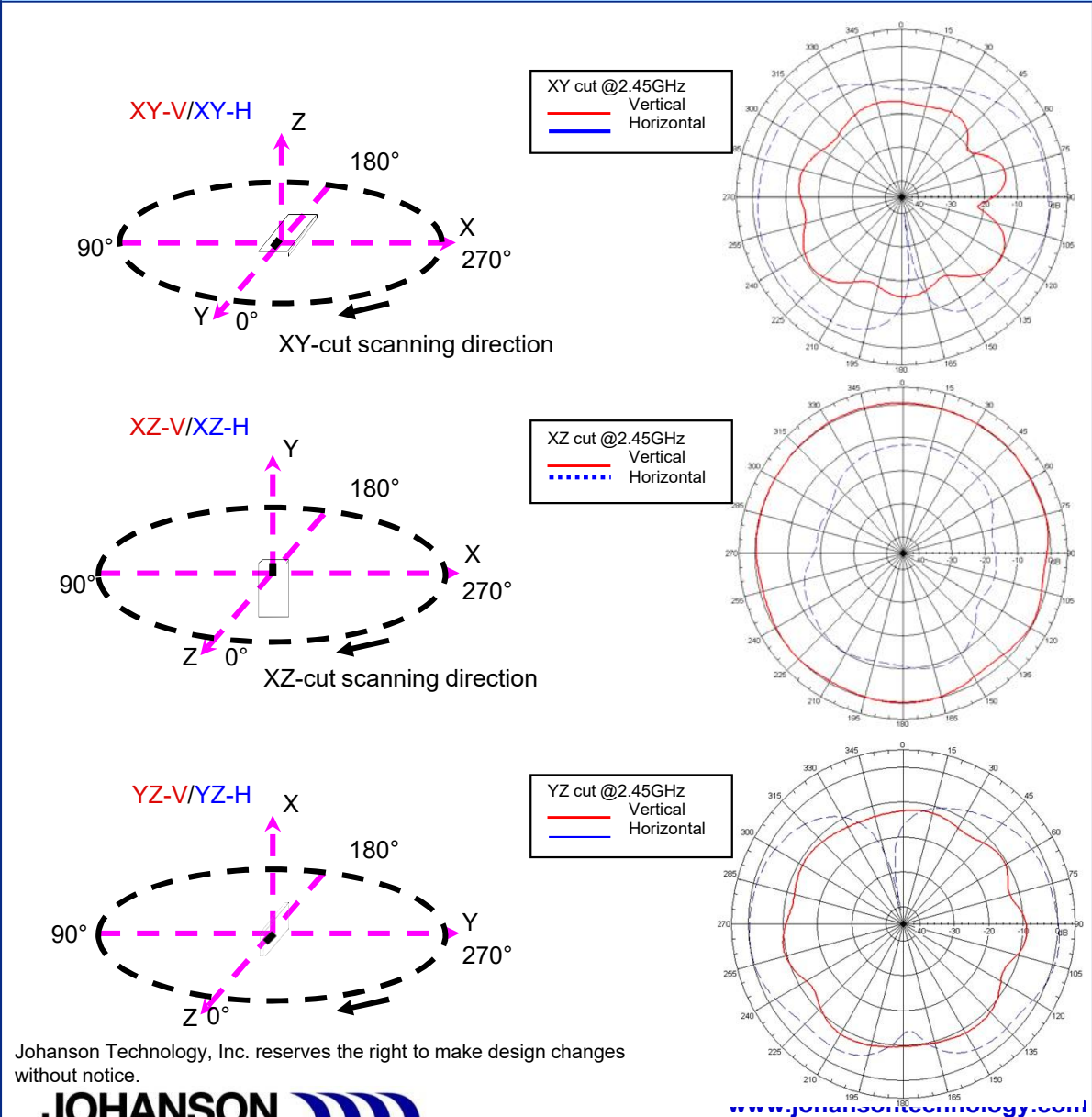
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frequency (MHz)	2400MHz	2450MHz	2500MHz
Peak Gain (dBi)	0.32	0.50	0.41

**Mini 2.45 GHz Antenna** **P/N 2450AT18A100**  
 Detail Specification: 7/18/2014 Page 3 of 4

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



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Detail Specification: 7/18/2014

Page 4 of 4

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

AEC-Q2000 qualification available after special p/n: 2450AT18A100-AEC order. MOQ of 24K PCS applies for AEC and allow 16 weeks for AEC report leadtime.

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

Packaging information
<a href="http://www.johansontechnology.com/ipcpackaging.html">www.johansontechnology.com/ipcpackaging.html</a>

Soldering Information
<a href="http://www.johansontechnology.com/ipcsoldering-profile">www.johansontechnology.com/ipcsoldering-profile</a>

RoHS Compliance
<a href="http://www.johansontechnology.com/technical-notes/rohs-compliance.html">www.johansontechnology.com/technical-notes/rohs-compliance.html</a>

MSL Info
<a href="http://www.johansontechnology.com/technical-notes/msl-rating.html">www.johansontechnology.com/technical-notes/msl-rating.html</a>

Recommended Storage Condition and Max Shelf Life
<a href="http://www.johansontechnology.com/ipcstorage-shelflife">www.johansontechnology.com/ipcstorage-shelflife</a>

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