

"High Frequency Ceramic Solutions"

2.4GHz Mini Antenna, SMT

P/N 2450AT18A100

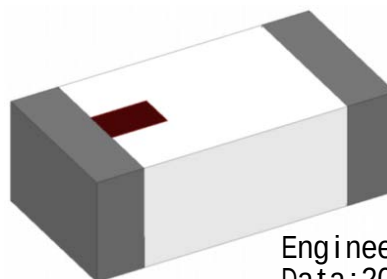
Detail Specification: 7/9/2018

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Let us help you with the antenna design, optimization, and tuning!

General Specifications

Part Number	2450AT18A100
Frequency (MHz)	2400 - 2500
Avg. Rad Efficiency*	76%
Peak Gain (dBi typ.)	-4.16
Average Gain (dBi typ.)	-0.5
Return Loss (dB)	9.5 min.
Impedance	50 Ω
Input Power	2 Watts max. (CW)



Engineer : Bill Lai 赖勇平
Data: 2025.4.24

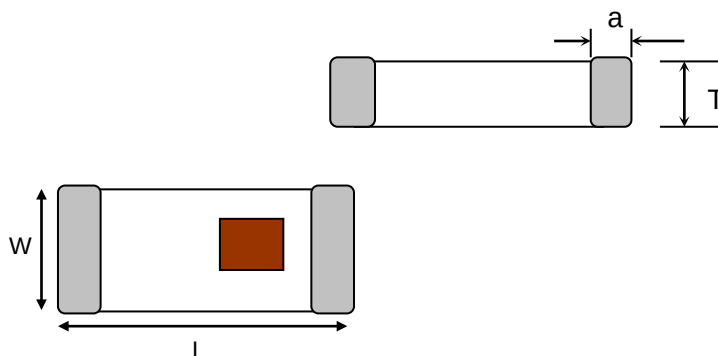
*Efficiency based on Johanson's standard evaluation board

Part Number Explanation

P/N Suffix	Packing Style	Bulk (loose)	Suffix = S	e.g. 2450AT18A100S
		T & R	Suffix = E	e.g. 2450AT18A100E
		100% Tin	Suffix = E or S	e.g. 2450AT18A100(E or S)
	Evaluation Board	2450AT18A100-EBSMA (see page 2&3 for details)		

Mechanical Dimensions

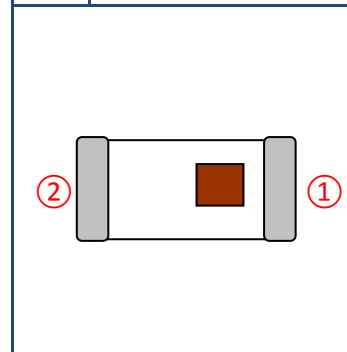
	In	mm
L	0.126 $\pm$ 0.008	3.20 $\pm$ 0.2
W	0.063 $\pm$ 0.008	1.60 $\pm$ 0.2
T	0.051 $\pm$ 0.004/-0.008	1.30 $\pm$ 0.1/-0.2
a	0.020 $\pm$ 0.012	0.50 $\pm$ 0.3



Want the layout file? Request it at: www.johansontechnology.com/ask-a-question

Terminal Configuration

No.	Function
1	FEED
2	NC



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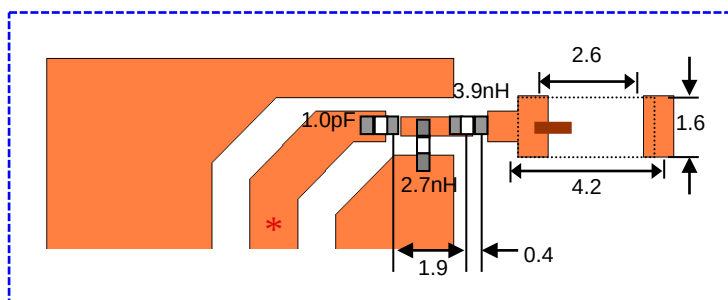
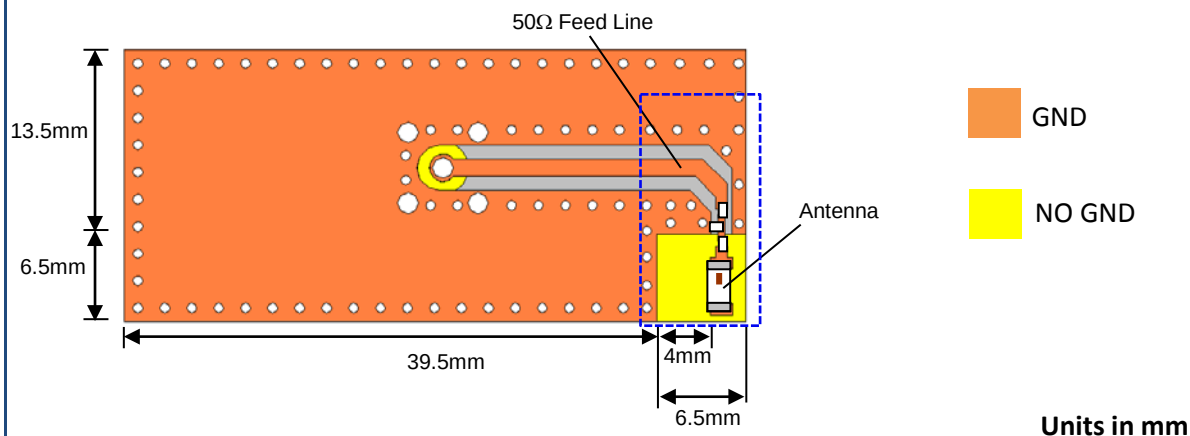
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Mounting Considerations 1: Evaluation Board



JTI P/N for Matching Circuit: Cap
(1.0pF): 500R07S1R0BV4T
Inductor (2.7nH): L-07C2N7SV6T
Inductor (3.9nH): L-07C3N9SV6T

To order a pre-tuned 50Ω EVB with a female SMA connector click
here: www.johansontechnology.com/request-a-sample

Reference p/n: 2450AT18A100-EBSMA

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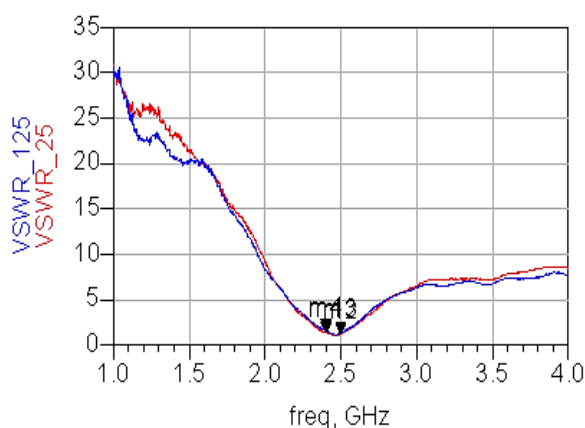
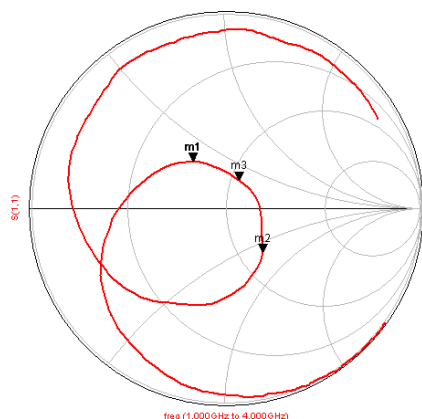
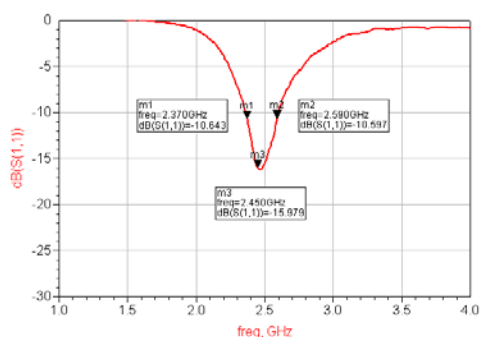
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Mounting Considerations 1: Typical Electrical Performance (T=25°C)

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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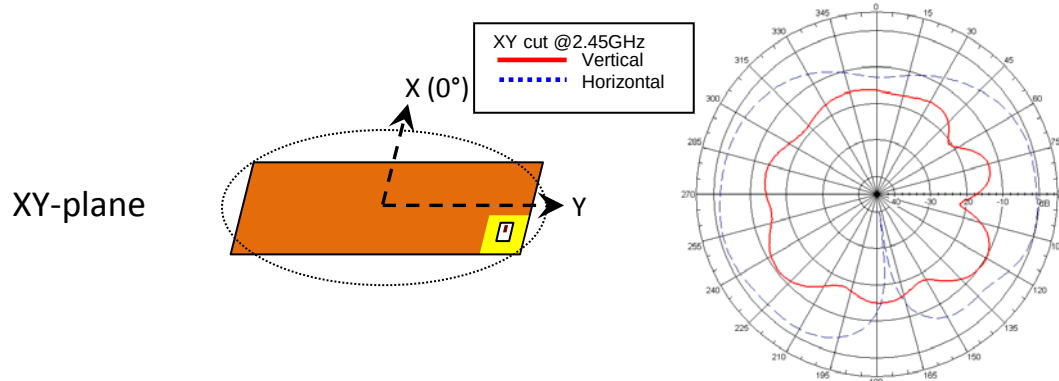
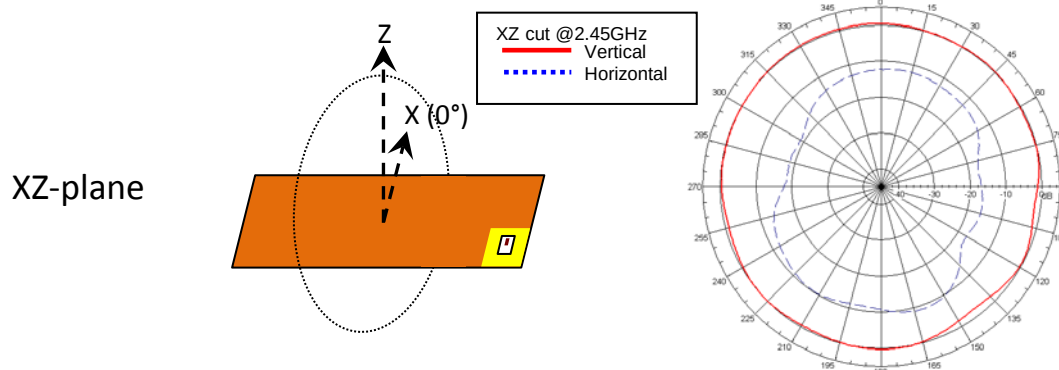
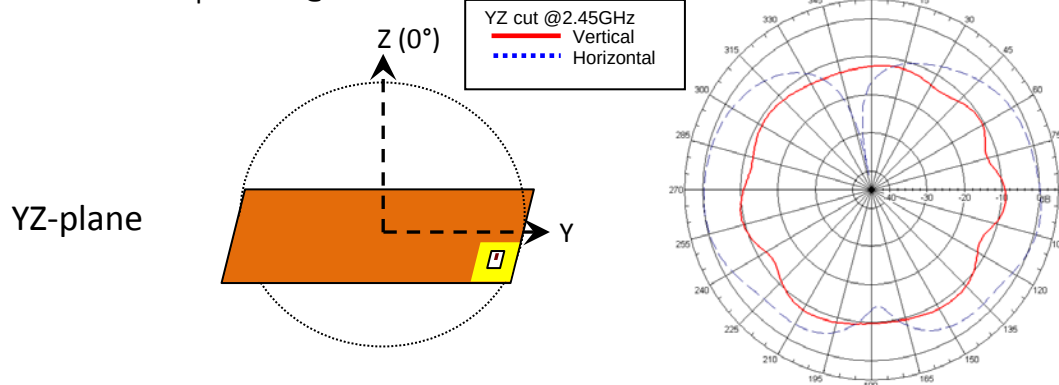
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Mounting Considerations 1: Antenna Performance

Typical 2D radiation patterns @ 2.44GHz



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Passive S11 data



Passive efficiency and gain

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	-4.16	-4.71	-5.07	-4.60	-5.11	-4.34	-4.91	-4.54	-4.27	-4.25	-4.55
Mingain Gain (dBi)	-28.34	-30.06	-35.11	-41.34	-47.14	-38.9	-37.35	-37.45	-36.21	-35.57	-35.87
Efficiency (%)	6.92	6.82	5.78	6.40	5.97	6.67	5.84	6.73	6.86	6.87	6.74

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Antenna tuning, optimization, and validation services:

www.johansontechnology.com/ipc-antenna-services

For more antennas and to download measured S-parameters, go to:

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Need help designing the antenna in? Use our antenna design services!

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We provide 2 free layout reviews and if you need us to tune and characterize the antenna on your product (inside anechoic chamber) we can do that too. Small lab fee may apply for the latter.

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