

The Bitstrata Systems Inc. model M1000 device integrates an omni-directional high frequency ceramic chip-antenna manufactured by Johanson Technology Inc. (P/N 2450AT18B100E). Pages from its datasheet are included below:

High Frequency Ceramic Solutions

2.4GHz Mini Antenna, SMT

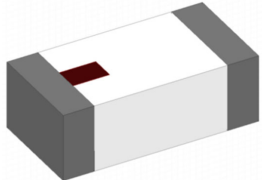
P/N 2450AT18B100

Detail Specification: 11/5/2018

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

General Specifications

Part Number	2450AT18B100		
Frequency (MHz)	2400 - 2500		
Avg. Rad Efficiency*	76%		
Peak Gain (dBi typ.)	0.5		
Average Gain (dBi typ.)	-0.5		
Return Loss (dB)	9.5 min.	Storage Temperature	-45 to +125°C
Impedance	50 Ω	Operating Temperature	-45 to +125°C
Input Power	2 Watts max. (CW)	Recommended Storage Conditions of unused product on T&R and period.	+5 to +35°C Humidity 45~75%RH 18 months max.
		Reel Quantity	3000pcs

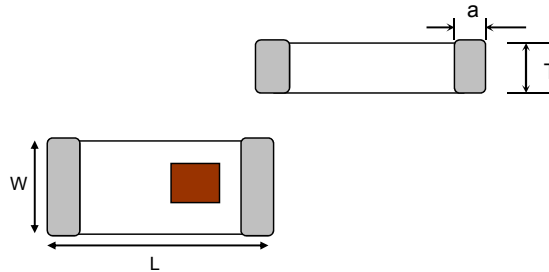
*Efficiency based on Johanson's standard evaluation board

Part Number Explanation

P/N Suffix	Packing Style	Bulk (loose)	Suffix = S	e.g. 2450AT18B100S
		T & R	Suffix = E	e.g. 2450AT18B100E
		100% Tin	Suffix = E or S	e.g. 2450AT18B100(E or S)
	Evaluation Board	2450AT18B100-EB1SMA (see page 2&3 for details)		

Mechanical Dimensions

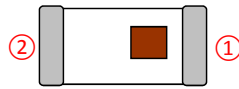
	In	mm
L	0.126 ± 0.008	3.20 ± 0.2
W	0.063 ± 0.008	1.60 ± 0.2
T	0.051 ± 0.004/-0.008	1.30 ± 0.1/-0.2
a	0.020 ± 0.008	0.50 ± 0.2



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

Terminal Configuration

No.	Function
1	FEED
2	NC



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

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High Frequency Ceramic Solutions

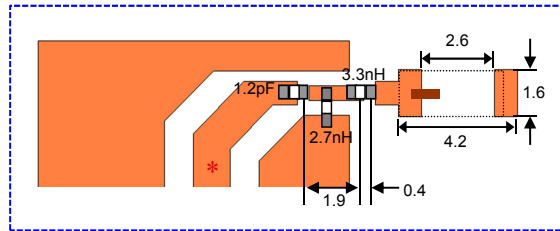
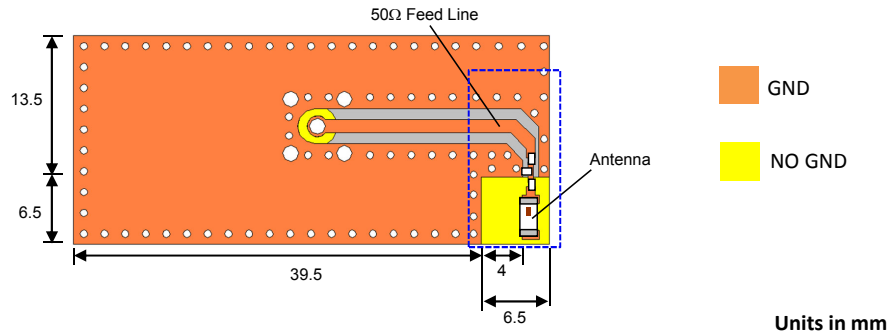
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Mounting Considerations 1: Evaluation Board



JTI P/N for Matching Circuit:
Capacitor (1.2pF): 500R07S1R2BV4T
Inductor (2.7nH): L-07C2N7SV6T
Inductor (3.3nH): L-07C3N3SV6T

*Line width should be designed to provide 50Ω impedance

To order a pre-tuned 50Ω EVB with a female SMA connector click here: <https://www.johansontechnology.com/request-a-sample>
Reference p/n: 2450AT18B100-EB1SMA

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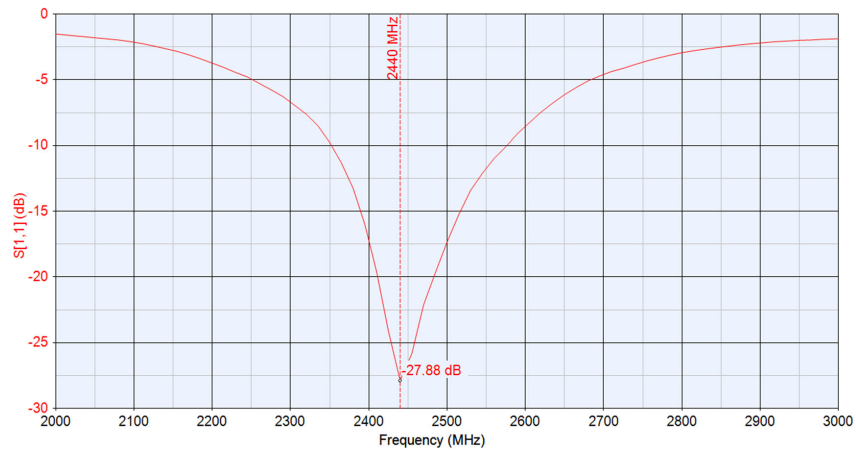
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Mounting Considerations 1: Typical Electrical Performance (T=25°C)



Would you like the antenna layout? Have antenna tuning issues?
Please contact us if you have any questions regarding the
implementation of this antenna in your PCB's layout. We'll be happy to
guide you to maximize the antenna's performance.

Contact our applications engineers at:

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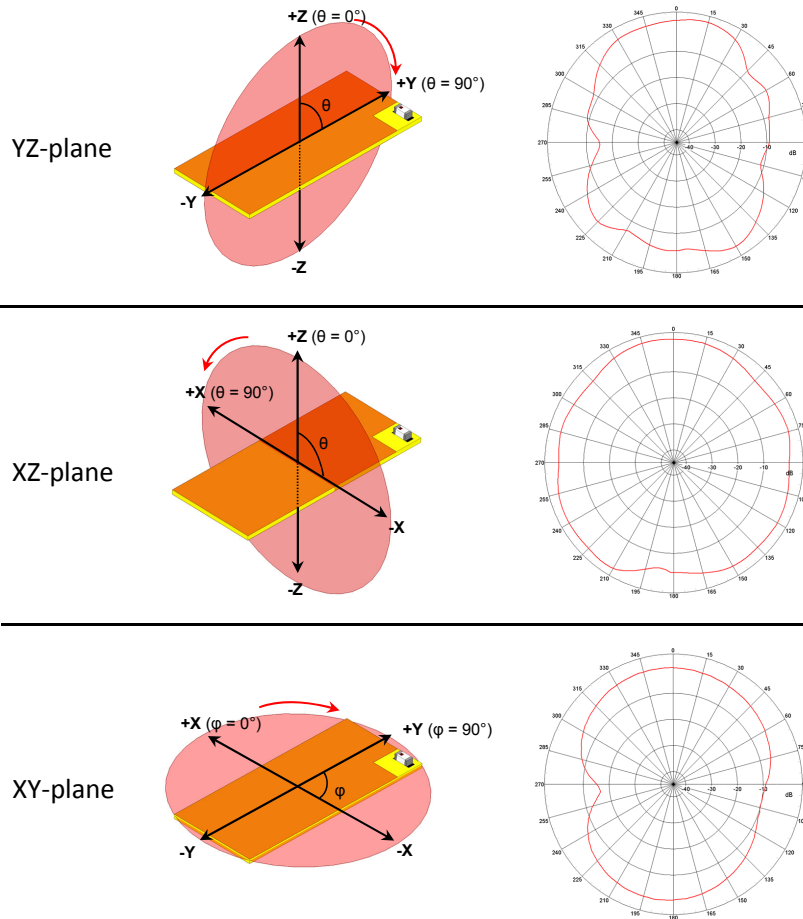
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Mounting Considerations 1: Antenna Performance

Typical 2D radiation patterns @ 2.44GHz



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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>

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

<https://www.johansontechnology.com/ipc-antenna-services>

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

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