

# "High Frequency Ceramic Solutions"

## 2.4GHz Mini Antenna, SMT

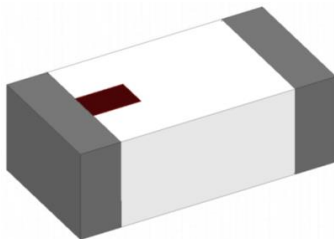
P/N 2450AT18B100

Detail Specification: 2/8/2018

Page 1 of 5

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, 18months max. |
|                         |                   | Reel Quantity                                                                      | 3000                                          |

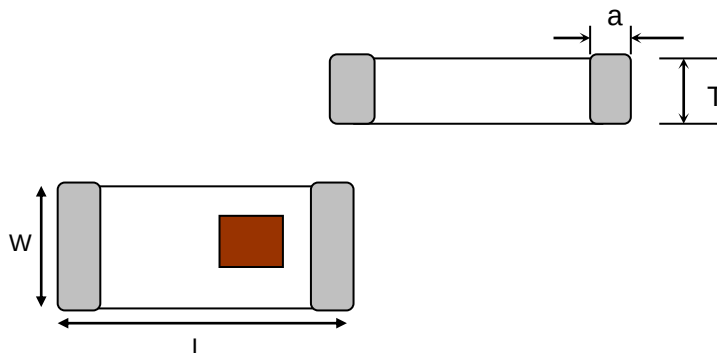
\*Efficiency based on Johanson's standard evaluation board

### 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-EBSMA (see page 2&3 for details) |                 |                           |

### Mechanical Dimensions

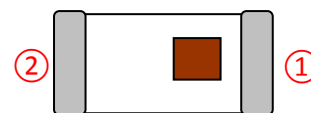
|   | In                | mm             |
|---|-------------------|----------------|
| L | 0.126 ± 0.008     | 3.20 ± 0.2     |
| W | 0.063 ± 0.008     | 1.60 ± 0.2     |
| T | 0.051 +.004/-.008 | 1.30 +0.1/-0.2 |
| a | 0.020 ± 0.008     | 0.50 ± 0.2     |



Want the layout file? Request it at: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

### Terminal Configuration

| No. | Function |
|-----|----------|
| 1   | FEED     |
| 2   | NC       |



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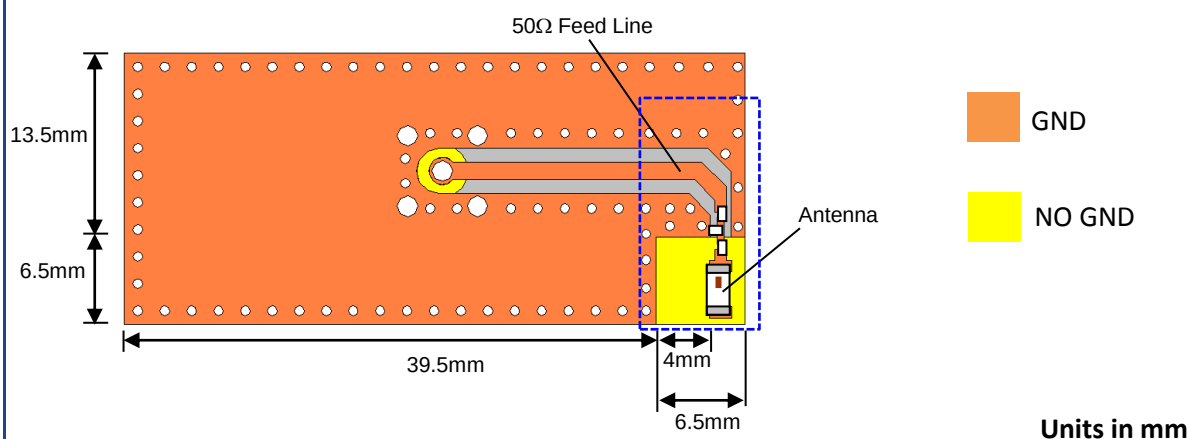
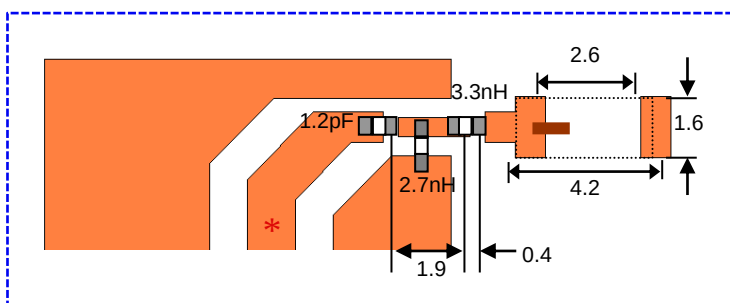
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Detail Specification: 2/8/2018

Page 2 of 5

## Mounting Considerations 1: Evaluation Board



JTI P/N for Matching Circuit:  
 Cap (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: [www.johansontechnology.com/request-a-sample](http://www.johansontechnology.com/request-a-sample)  
 Reference p/n: 2450AT18B100-EBSMA

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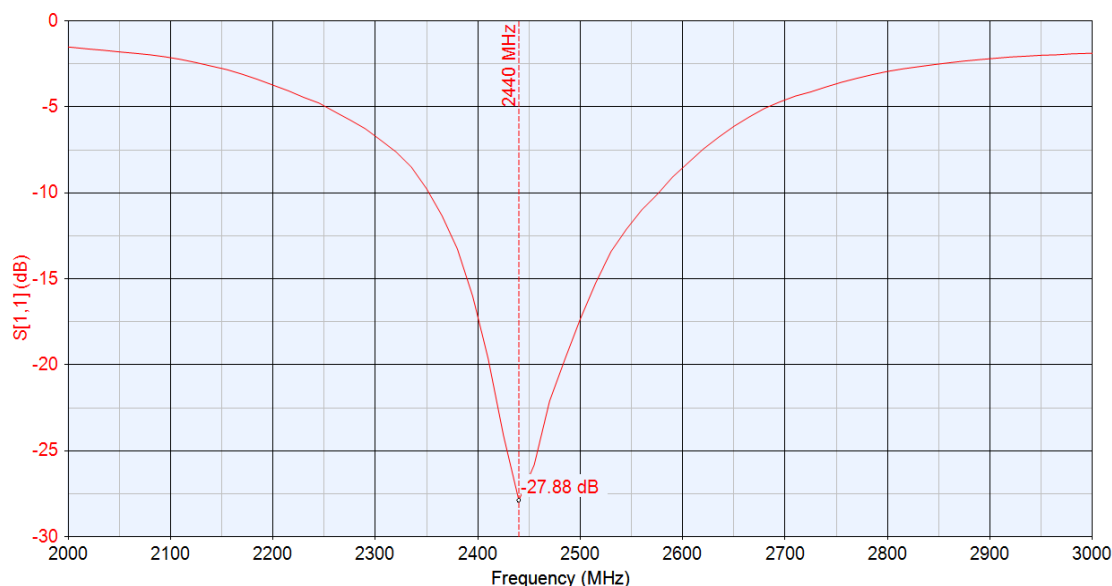
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P/N 2450AT18B100

Detail Specification: 2/8/2018

Page 3 of 5

## 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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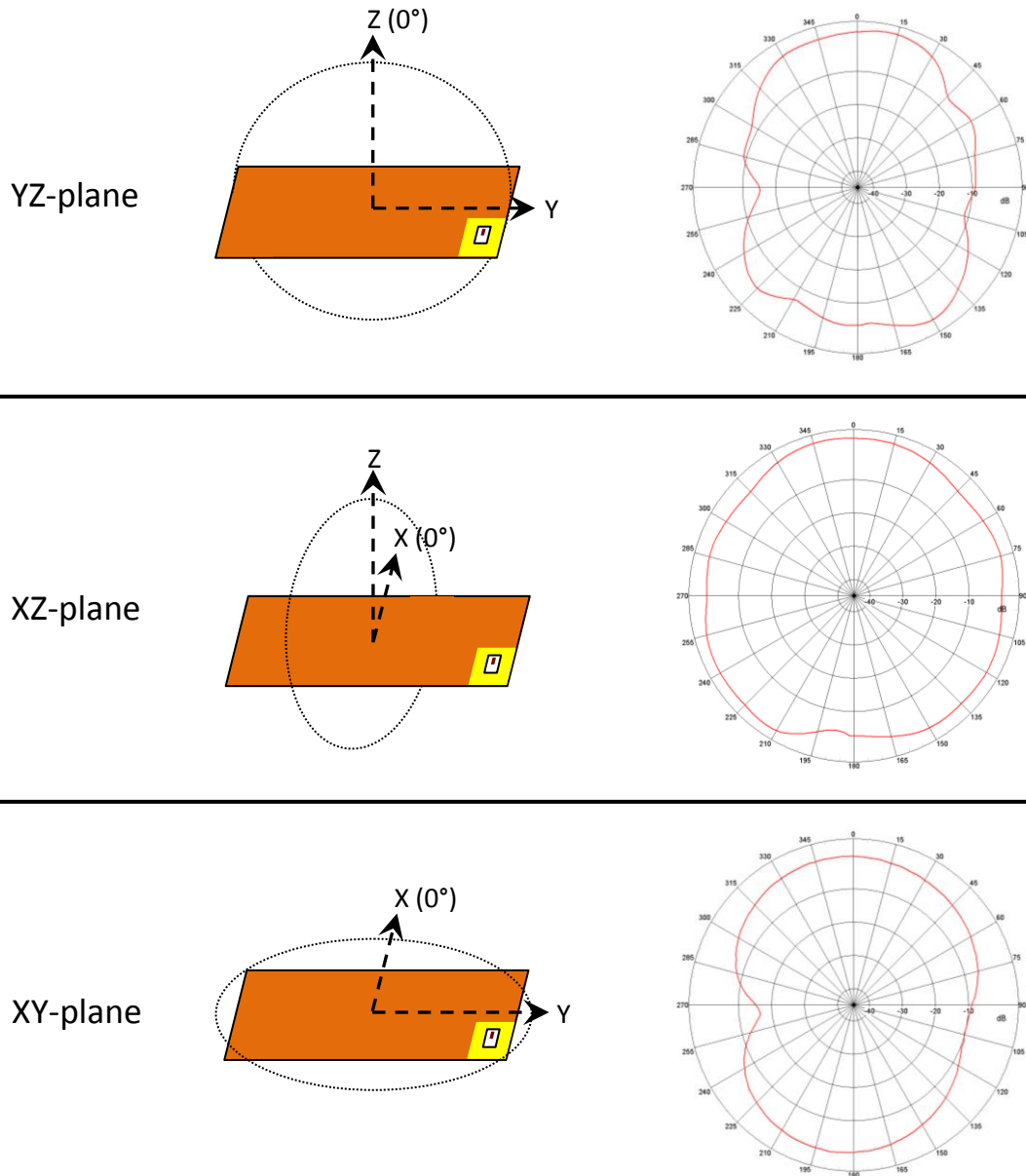
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Detail Specification: 2/8/2018

Page 4 of 5

## Mounting Considerations 1: Antenna Performance

Typical 2D radiation patterns @ 2.44GHz



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Page 5 of 5

**Antenna tuning, optimization, and validation services:**

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

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**MSL Info**

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**Packaging information**

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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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