

# "High Frequency Ceramic Solutions"

## 915 MHz ISM Antenna for small form factor applications

P/N 0915AT43A0026

Detail Specification: 1/23/2015

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Recommended Application ISM

### General Specifications

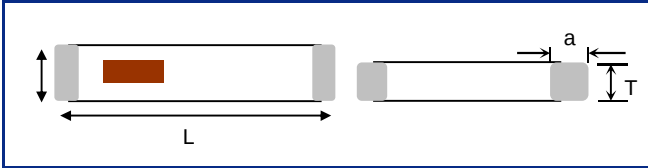
|                         |               |                                |                                   |
|-------------------------|---------------|--------------------------------|-----------------------------------|
| Part Number             | 0915AT43A0026 | Input Power                    | 2W max. (CW)                      |
| Frequency (MHz)         | 902 - 928 Mhz | Operating Temperature          | -40 to +85°C                      |
| Peak Gain (XZ-total)    | -1.0 dBi typ. | Recommended Storage Conditions | +5 to +35°C,<br>Humidity 45~75%RH |
| Average Gain (XZ-total) | -4.0 dBi typ. | Reel Quantity                  | 1,000                             |
| Return Loss             | 8.5 dB min.   |                                |                                   |

### Part Number Explanation

| P/N Suffix | Packing Style    | Bulk (loose)         | Suffix = S      | eg. 0915AT43A0026S        |
|------------|------------------|----------------------|-----------------|---------------------------|
|            |                  | T & R                | Suffix = E      | eg. 0915AT43A0026E        |
|            |                  | 100% Tin             | Suffix = E or S | eg. 0915AT43A0026(E or S) |
|            | Evaluation Board | 0915AT43A0026-EB1SMA |                 |                           |

### Mechanical Dimensions

|   | In                   | mm               |
|---|----------------------|------------------|
| L | 0.276 ± 0.008        | 7.00 ± 0.20      |
| W | 0.079 ± 0.008        | 2.00 ± 0.20      |
| T | 0.031 ± +.004/-0.008 | 0.80 ± +0.1/-0.2 |
| a | 0.020 ± 0.012        | 0.50 ± 0.30      |



### Terminal Configuration

| No. | Function      |
|-----|---------------|
| 1   | Feeding Point |
| 2   | NC*           |



\*This terminal must be soldered for anchoring and functionality purposes

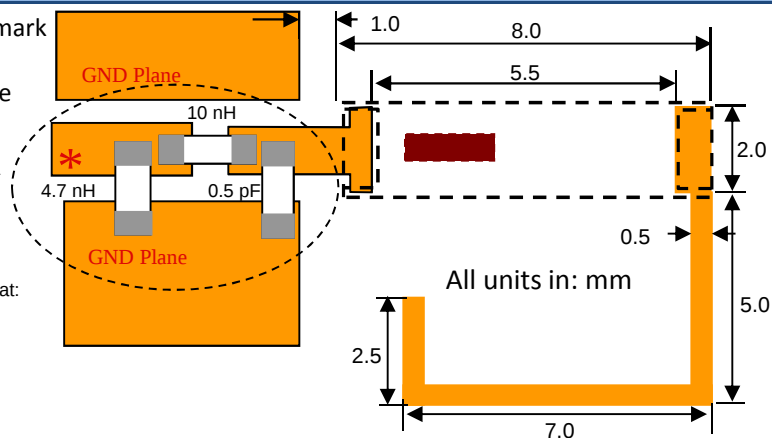
### Mounting Considerations I

Mount these devices with maroon mark facing up. \*Line width should be designed to provide 50 Ω impedance matching characteristics.

Matching circuit\*\*:  
See Note 2 on next page!

Want the layout file of this? Send us a message at:  
[www.johansontechnology.com/component/techquestion](http://www.johansontechnology.com/component/techquestion)

JTI P/N for Matching Circuit:\*\*  
Inductor (4.7nH): L-07C4N7SV6T  
Inductor (10nH): L-07C10NJV6T  
Cap (0.5pF): 500R07S0R5BV4T



\*\*matching circuit and component values will depend on PCB layout, thickness, material, etc.



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915 MHz ISM Antenna for small form factor applications

P/N 0915AT43A0026

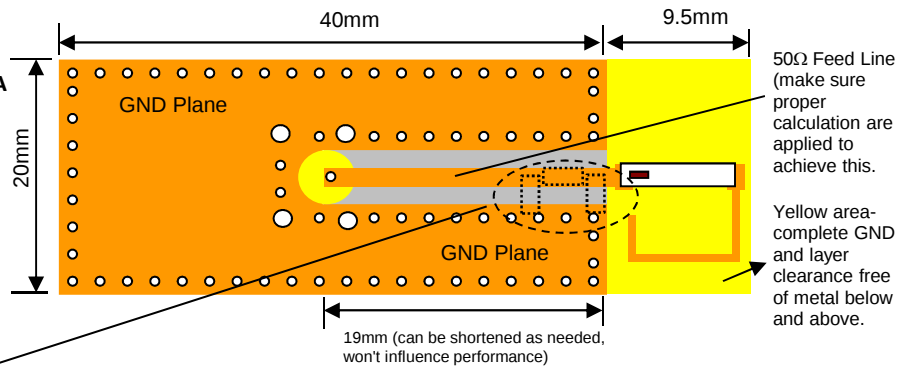
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Recommended Application ISM

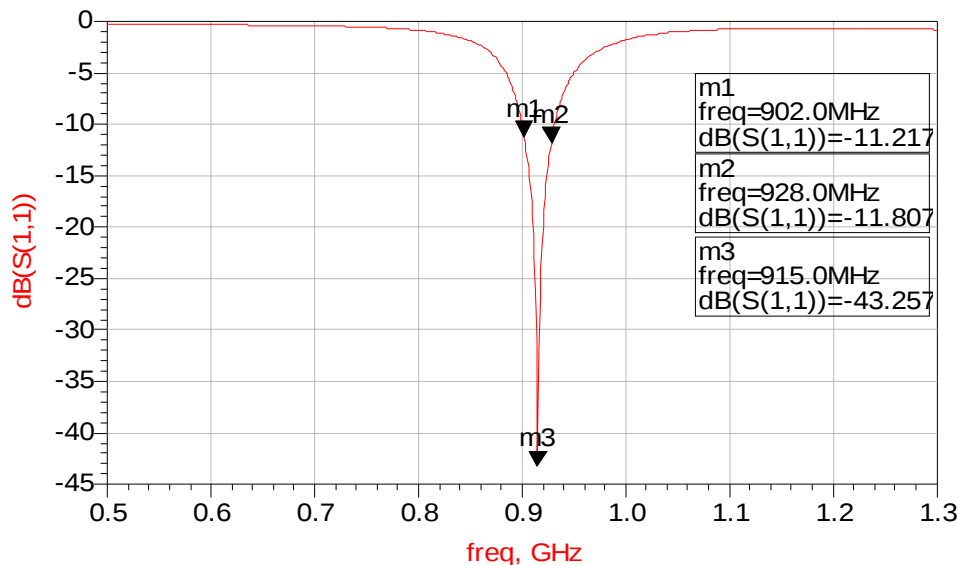
## Mounting Considerations II

Johanson Test Board  
(orderable) p/n:  
0915AT43A0026-EB1SMA



**\*\*Note 2:** It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different. Go to: <http://johansontechnology.com/tuning> and see how to obtain the new values. If you need further help, such as needing the layout file of the above, contact our RF Applications Eng. Team at: <http://www.johansontechnology.com/component/techquestion/>

## Return Loss (with matching)



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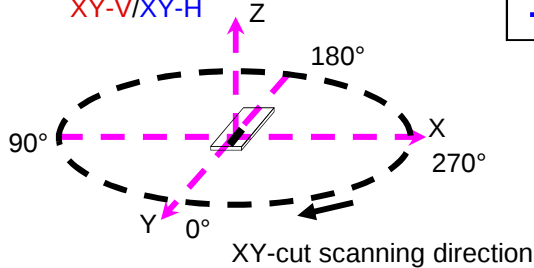
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Recommended Application ISM

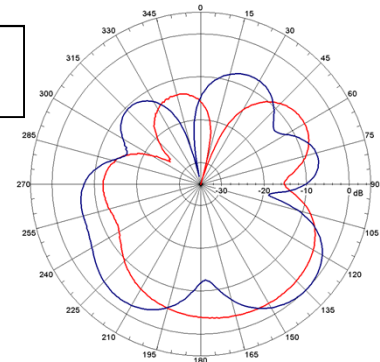
## Typical Radiation Performance @ 25° C using 0915AT43A0026-EB1SMA

### Typical Radiation Patterns

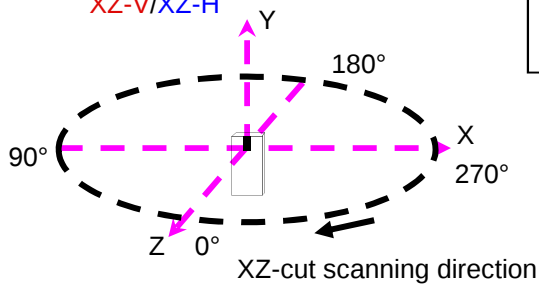
XY-V/XY-H



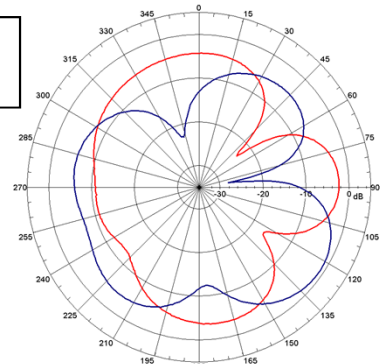
XY cut @915MHz  
 — Vertical  
 ..... Horizontal



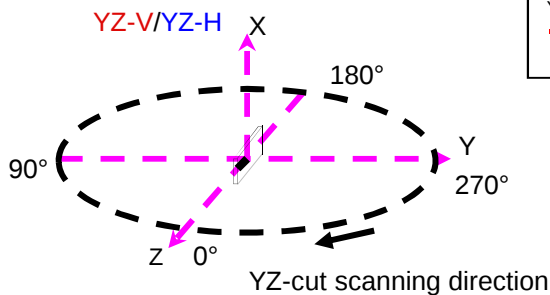
XZ-V/XZ-H



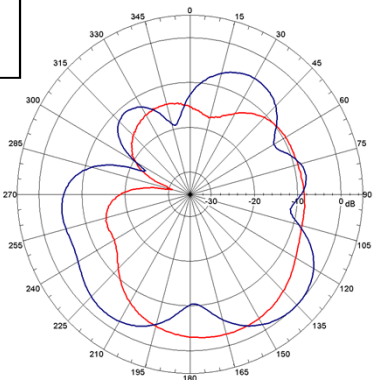
XZ cut @915MHz  
 — Vertical  
 ..... Horizontal



YZ-V/YZ-H



YZ cut @915MHz  
 — Vertical  
 ..... Horizontal



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### More SMD Chip Antennas at:

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

### 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)

### Antenna layout and tuning techniques (How to obtain the new antenna matching values)

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

### Antenna layout review, tuning, and characterization services

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

### 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)

### P/N Explanation and Breakdown

[www.johansontechnology.com/ipc-pn-explained](http://www.johansontechnology.com/ipc-pn-explained)

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