

# "High Frequency Ceramic Solutions"

## 915 MHz ISM Antenna for small form factor applications

P/N 0915AT43A0026

Detail Specification: 1/11/2016

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Recommended Application ISM

### General Specifications

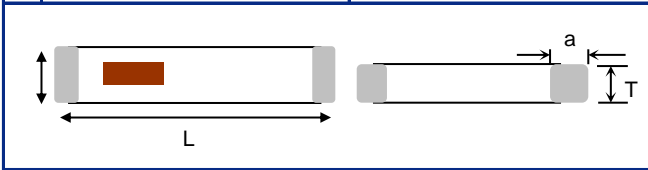
Part Number	0915AT43A0026	Input Power	2W max. (CW)
Frequency (MHz)	902 - 928 Mhz	Operating Temperature	-40 to +85°C
Peak Gain (XZ-total)	-1.0 dBi typ.	Recommended Storage Conditions	+5 to +35°C, Humidity 45~75%RH
Average Gain (XZ-total)	-4.0 dBi typ.	Reel Quantity	1,000
Return Loss	8.5 dB min.		

### 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

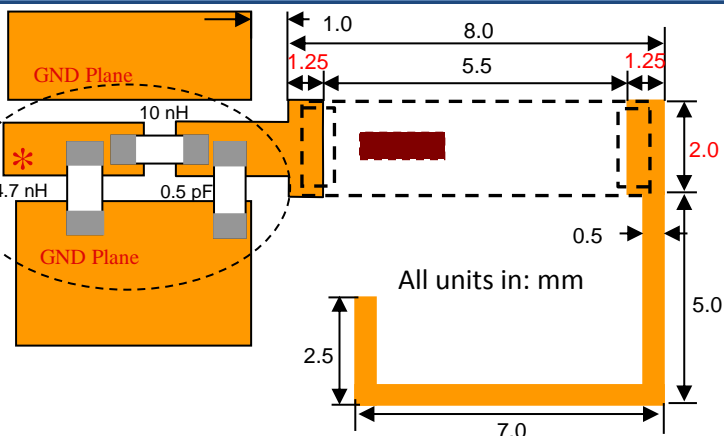
### Mounting Considerations I

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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# "High Frequency Ceramic Solutions"

915 MHz ISM Antenna for small form factor applications

P/N 0915AT43A0026

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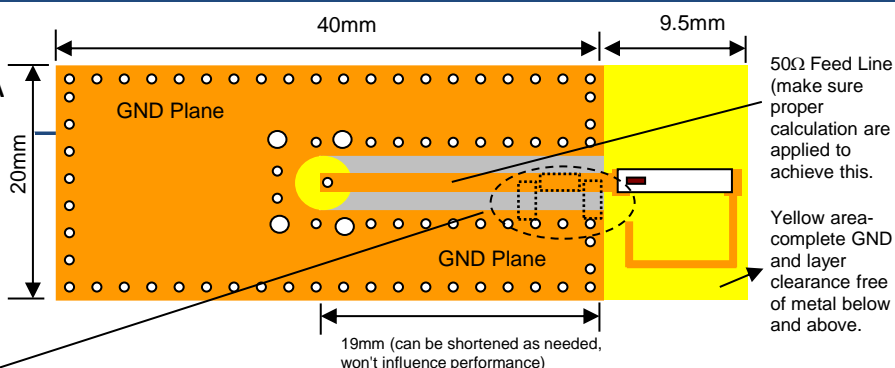
Recommended Application ISM

## Mounting Considerations II

Johanson Test Board

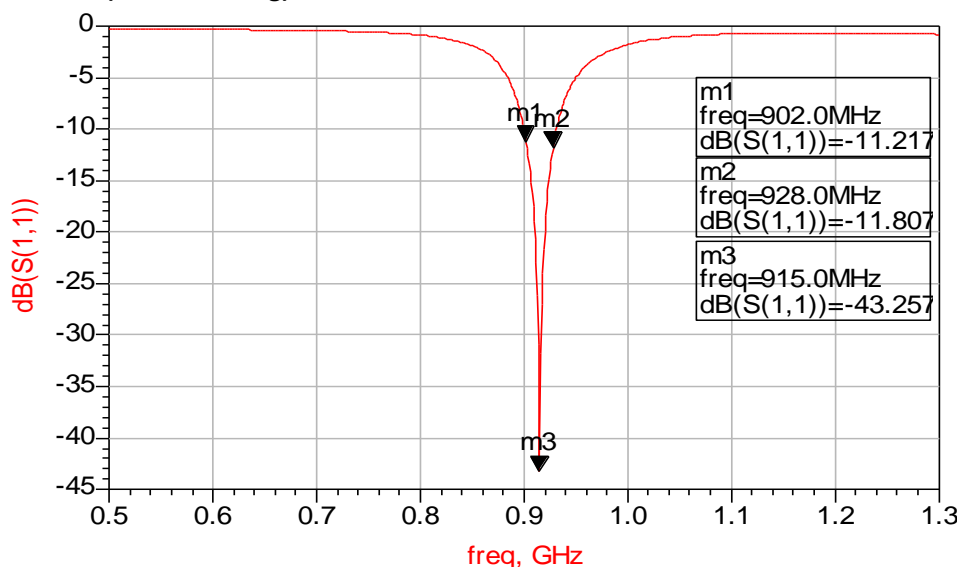
(orderable) p/n:

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: [www.johansontechnology.com/tuning](http://www.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: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

## Return Loss (with matching)



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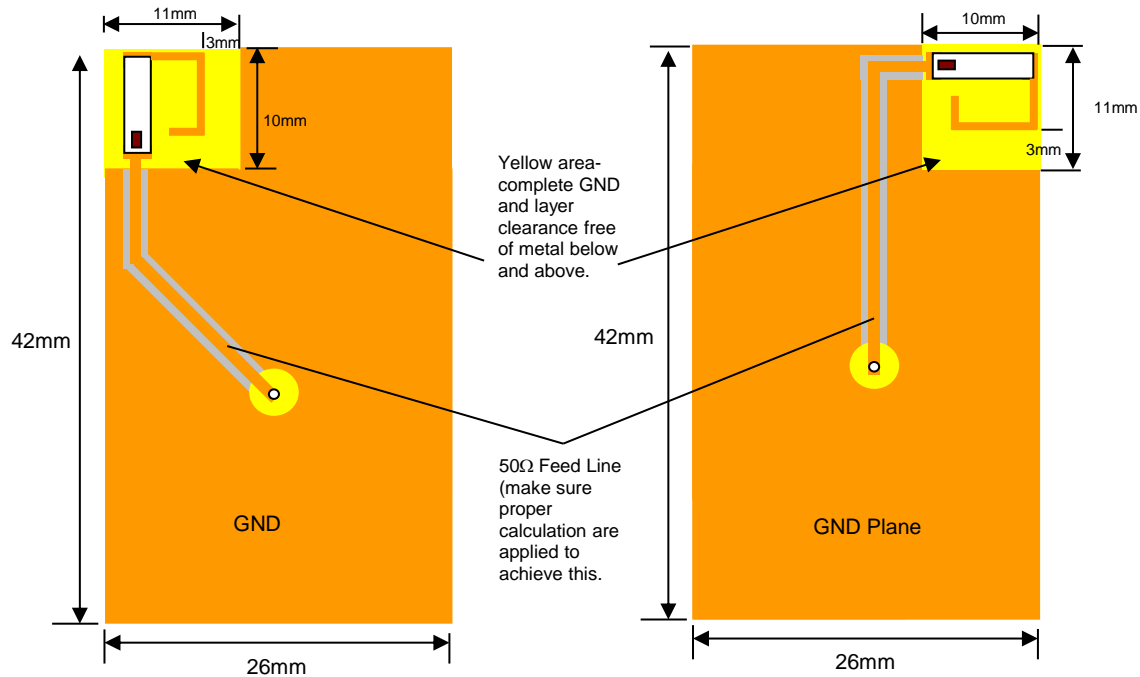
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Recommended Application ISM

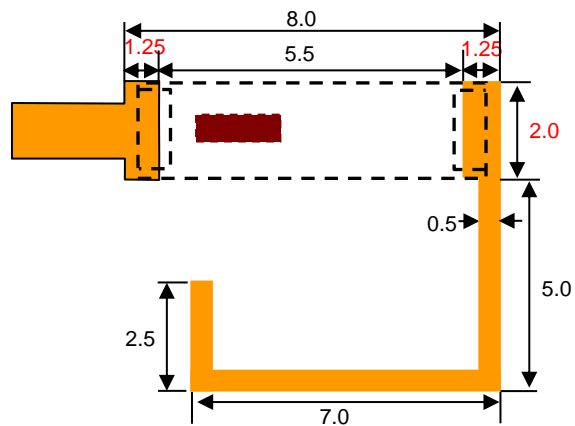
## Mounting Considerations III

We have conducted internal studies to show that the following corner placements provide antenna efficiency results with minimal detrimental effects.



**Note:** 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: [www.johansontechnology.com/tuning](http://www.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:

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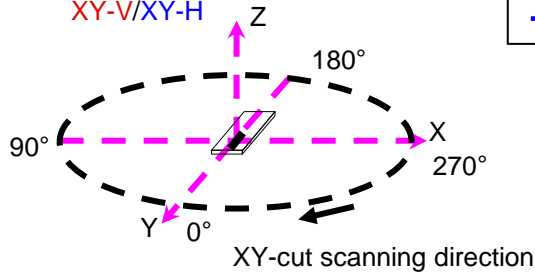
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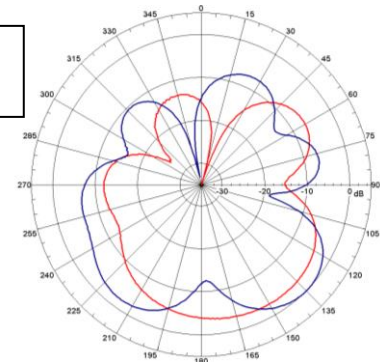
Typical Radiation Performance @ 25° C using 0915AT43A0026-EB1SMA

## Typical Radiation Patterns

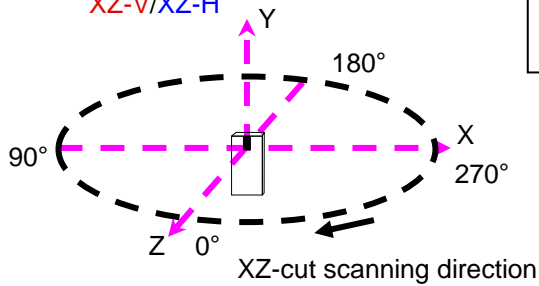
XY-V/XY-H



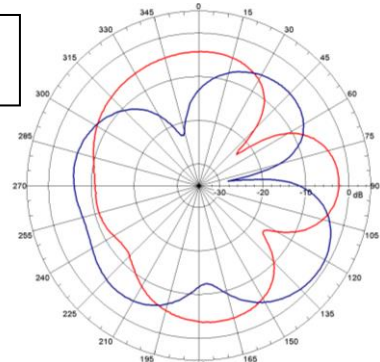
XY cut @915MHz  
 — Vertical  
 ..... Horizontal



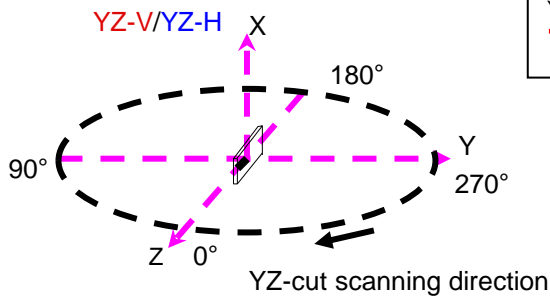
XZ-V/XZ-H



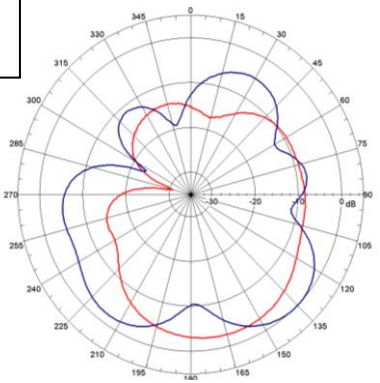
XZ cut @915MHz  
 — Vertical  
 ..... Horizontal



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/tape-reel-packaging](http://www.johansontechnology.com/tape-reel-packaging)

### Soldering Information

[www.johansontechnology.com/typical-soldering-profile](http://www.johansontechnology.com/typical-soldering-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/ipc-antenna-services](http://www.johansontechnology.com/ipc-antenna-services)

### RoHS Compliance

[www.johansontechnology.com/rohs-compliance](http://www.johansontechnology.com/rohs-compliance)

### MSL Info

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