

"High Frequency Ceramic Solutions"

915 MHz ISM Antenna for small form factor applications

P/N 0915AT43A0026

Detail Specification: 9/7/2016

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Recommended Application ISM

General Specifications

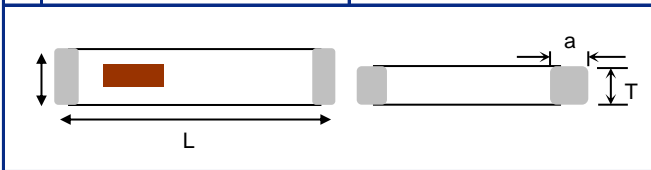
| | | | |
|-------------------------|---------------|--------------------------------|-----------------------------------|
| Part Number | 0915AT43A0026 | Input Power | 2W max. (CW) |
| Frequency (MHz) | 902 - 928 Mhz | Operating Temperature | -40 to +85°C |
| Peak Gain (XZ-total) | -1.0 dBi typ. | Recommended 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 | | |

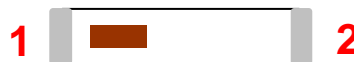
Mechanical Dimensions

| | 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

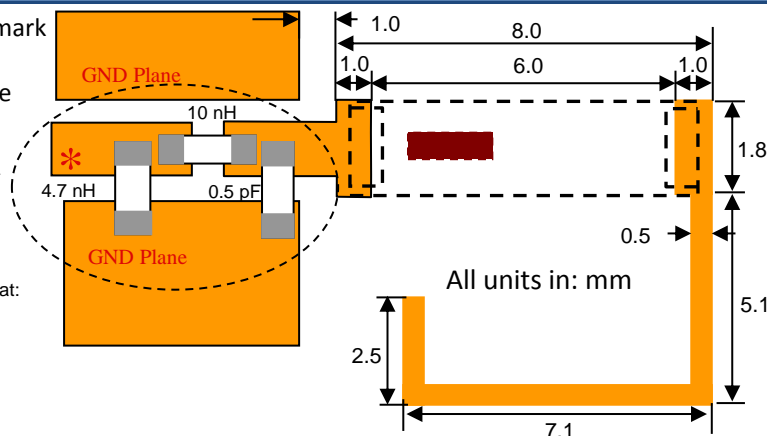
Mounting Considerations I

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

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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Ver 2.3

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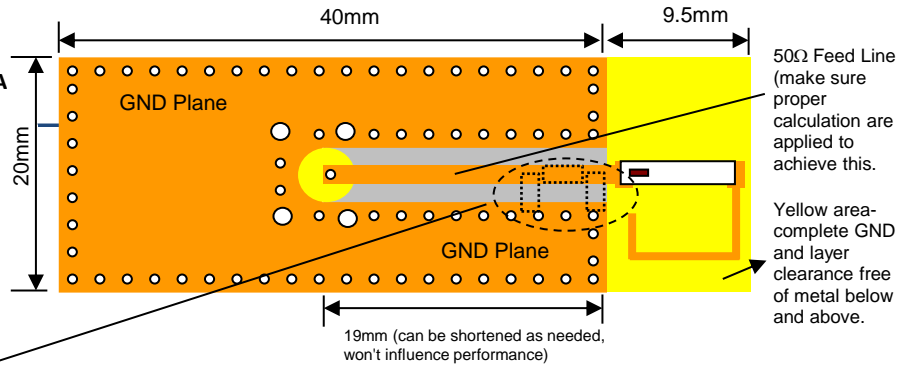
Recommended Application ISM

Mounting Considerations II

Johanson Test Board

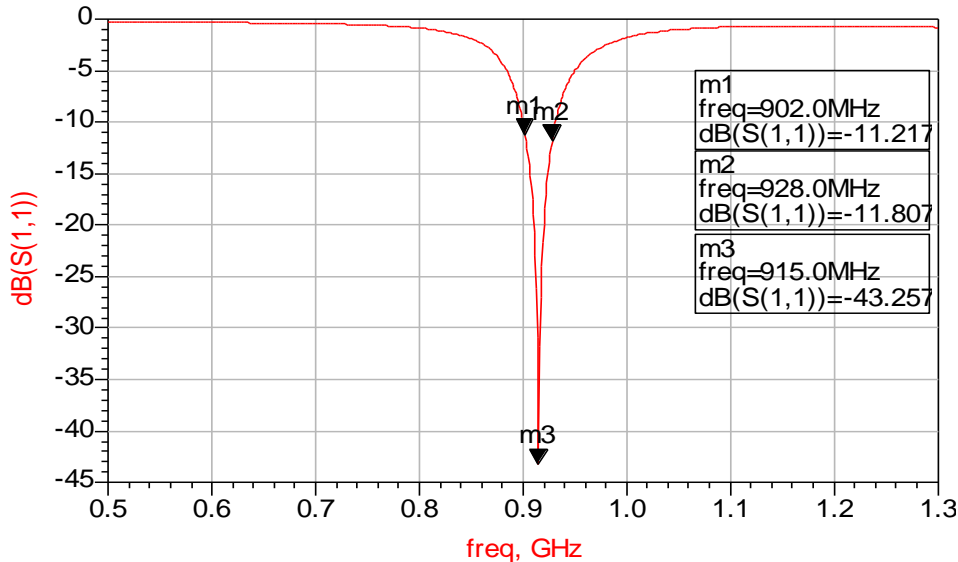
(orderable) p/n:

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 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

Return Loss (with matching)



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



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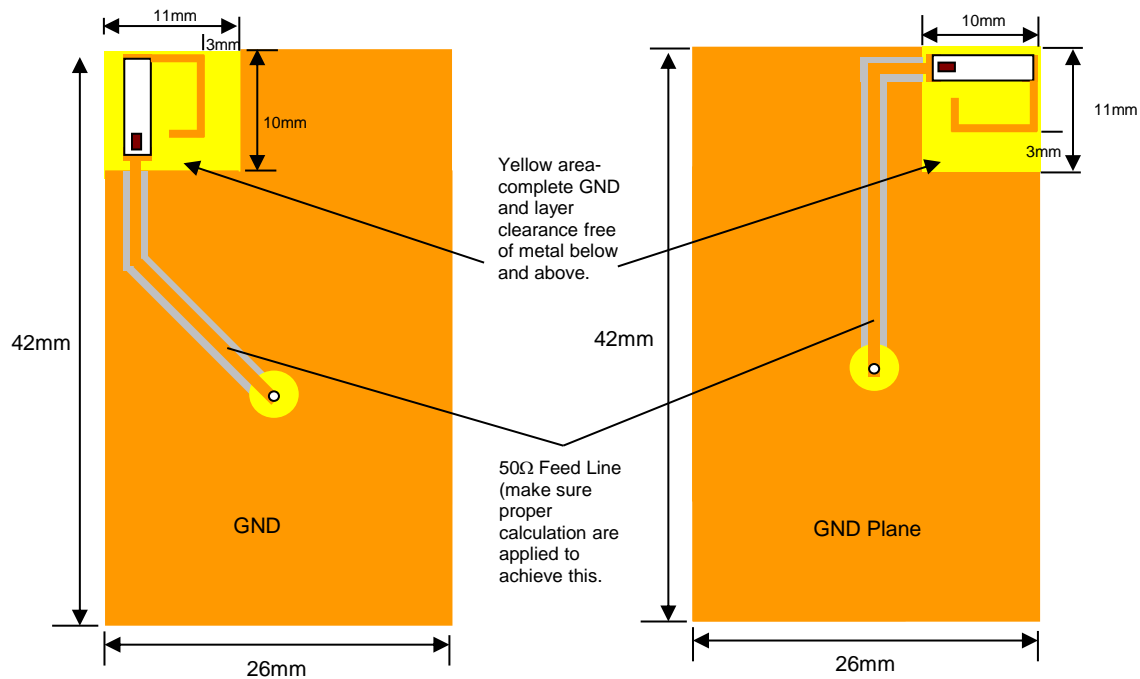
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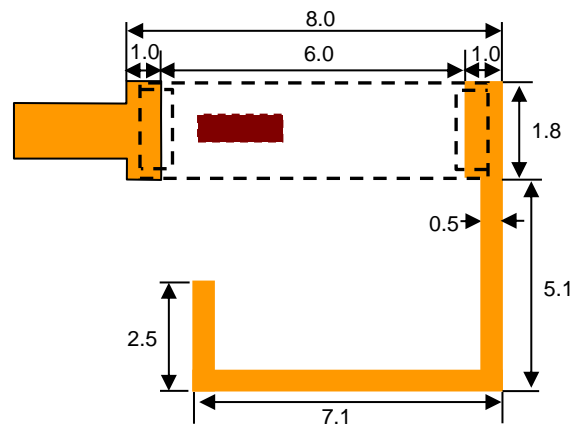
Mounting Considerations III

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 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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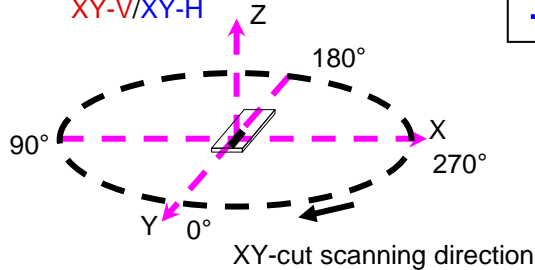
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Recommended Application ISM

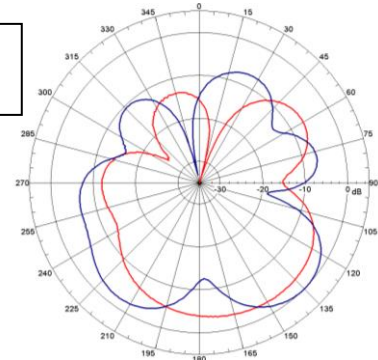
Typical Radiation Performance @ 25° C using 0915AT43A0026-EB1SMA

Typical Radiation Patterns

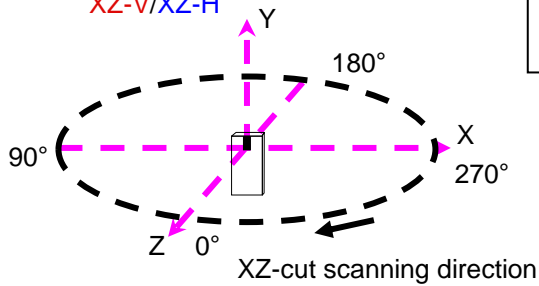
XY-V/XY-H



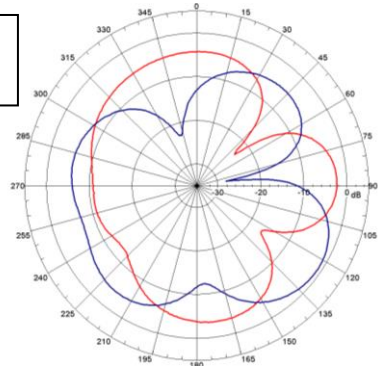
XY cut @915MHz
 — Vertical
 Horizontal



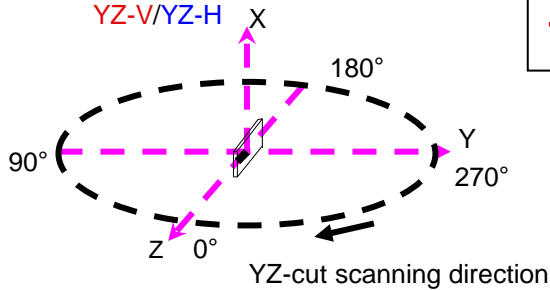
XZ-V/XZ-H



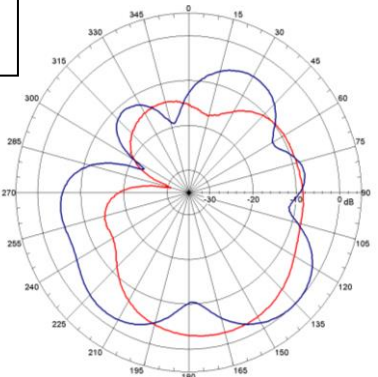
XZ cut @915MHz
 — Vertical
 Horizontal



YZ-V/YZ-H



YZ cut @915MHz
 — Vertical
 Horizontal



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Soldering Information

www.johansontechnology.com/typical-soldering-profile

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

www.johansontechnology.com/tuning

Antenna layout review, tuning, and characterization services

www.johansontechnology.com/ipc-antenna-services

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