

High Frequency Ceramic Solutions

915 MHz ISM Antenna for small form factor applications

P/N 0915AT43A0026

Detail Specification: 2/11/2021

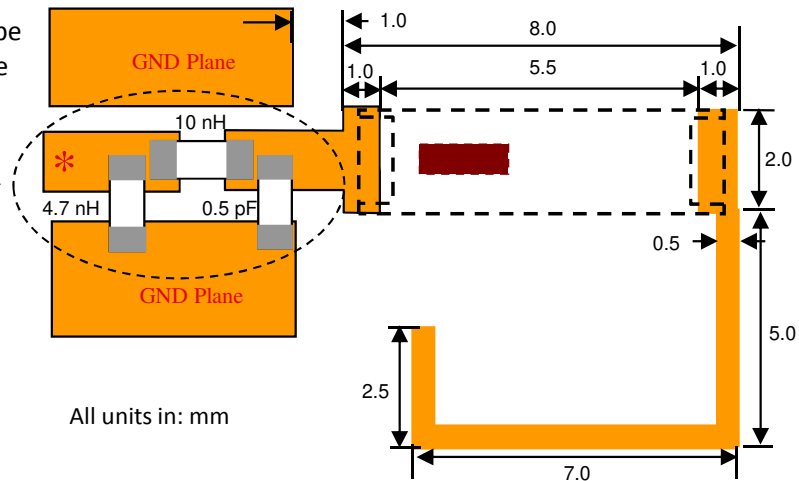
Page 2 of 7

Mounting Considerations I

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

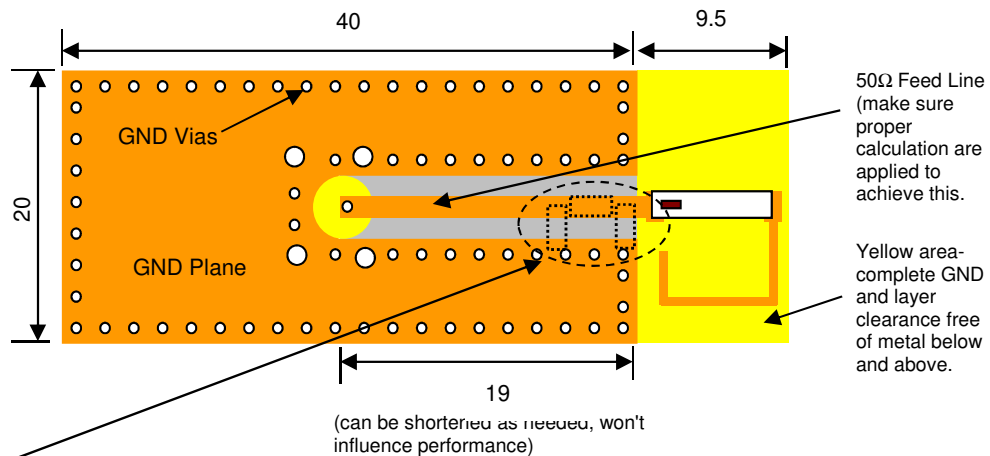
Matching circuit**:
See **Note 2** below!

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



All units in: mm

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, depending on the layout, thickness, material, etc. Go to: <https://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: <https://www.johansontechnology.com/ask-a-question>

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<https://www.johansontechnology.com>

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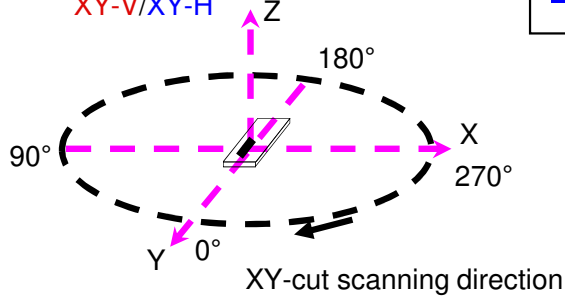
Detail Specification: 2/11/2021

Page 3 of 7

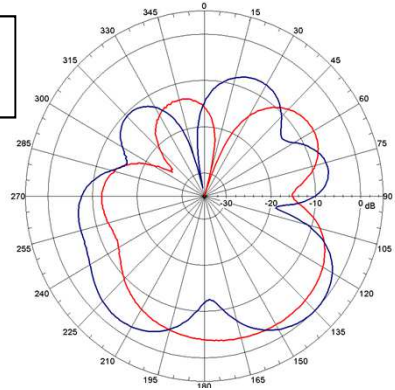
Typical Radiation Performance @ 25° C using 0915AT43A0026-EB1SMA

Typical Radiation Patterns

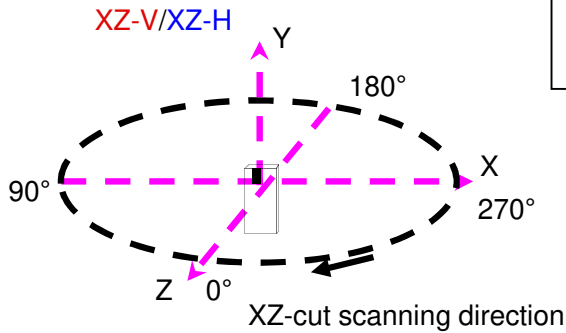
XY-V/XY-H



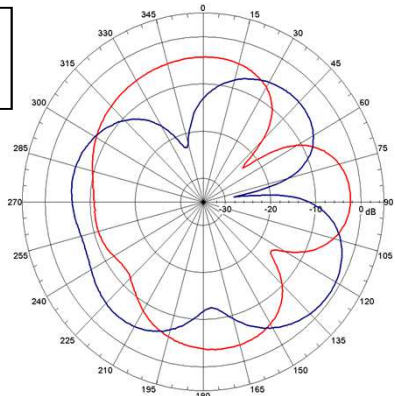
XY cut @915MHz
 — Vertical
 — Horizontal



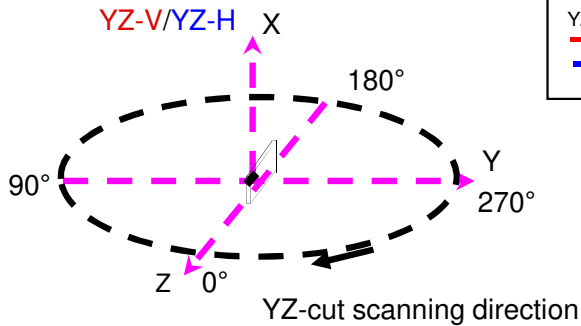
XZ-V/XZ-H



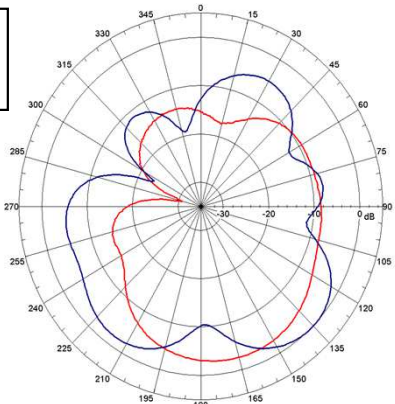
XZ cut @915MHz
 — Vertical
 — Horizontal



YZ-V/YZ-H



YZ cut @915MHz
 — Vertical
 — Horizontal



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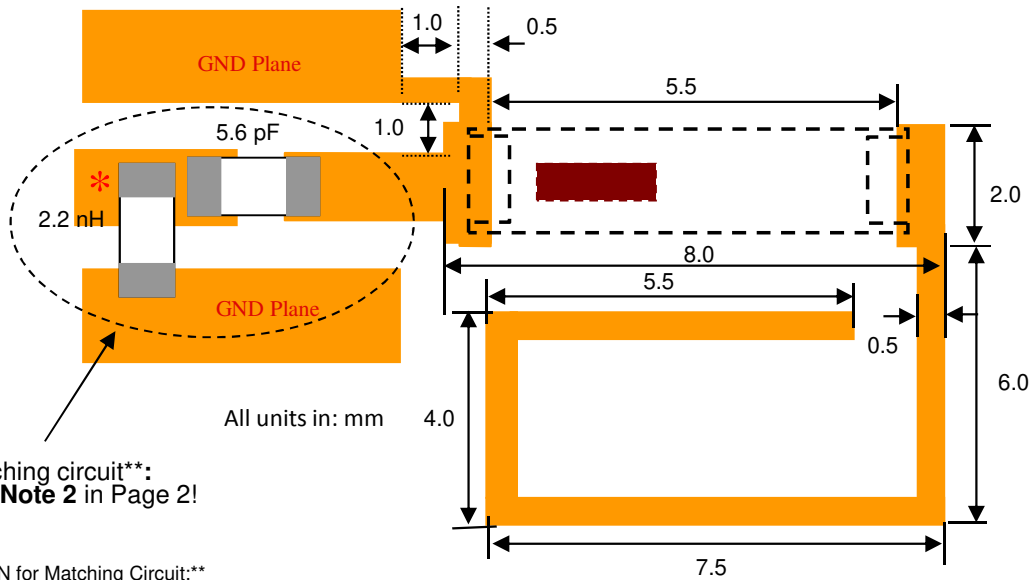
P/N 0915AT43A0026

Detail Specification: 2/11/2021

Page 4 of 7

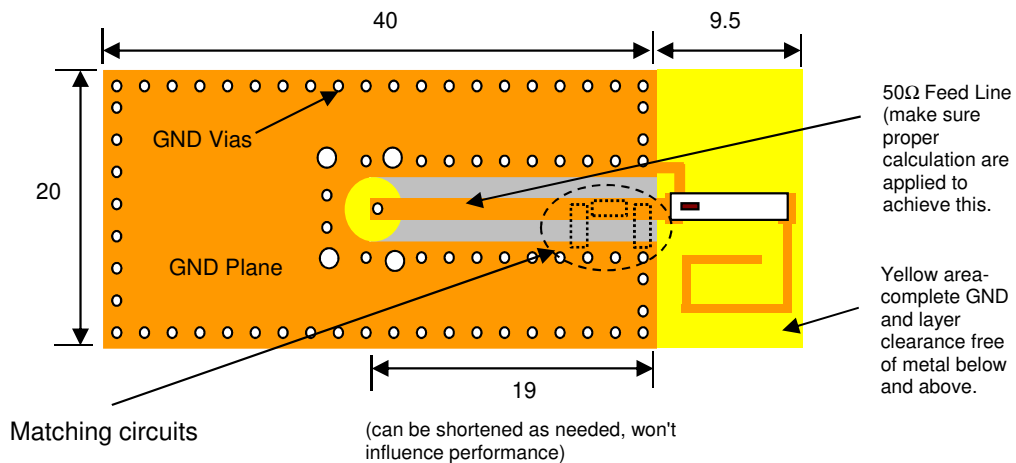
Mounting Considerations II

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 in Page 2!

JTI P/N for Matching Circuit:**
Inductor (2.2nH):L-07C2N2SV6T
Cap (5.6pF):500R07S5R6BV4T



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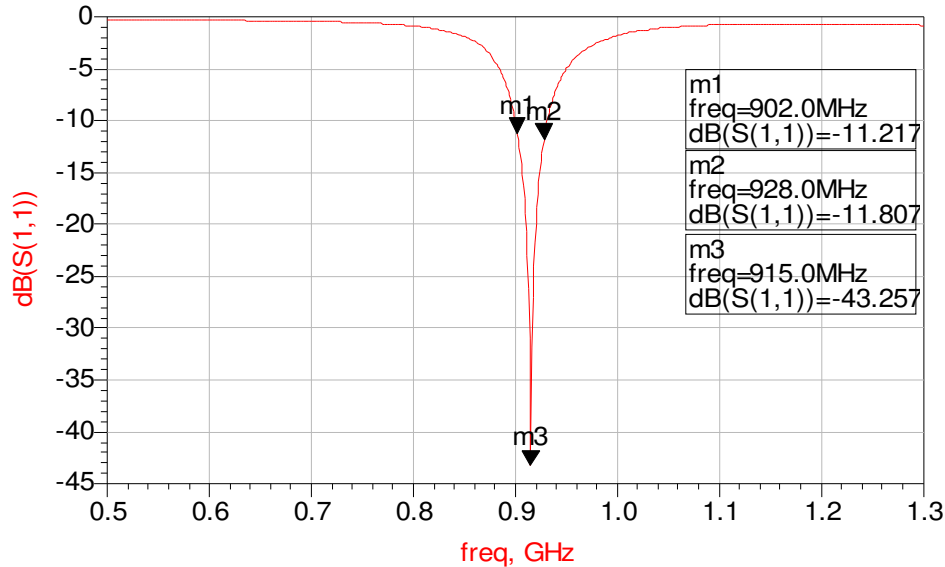
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Detail Specification: 2/11/2021

Page 5 of 7

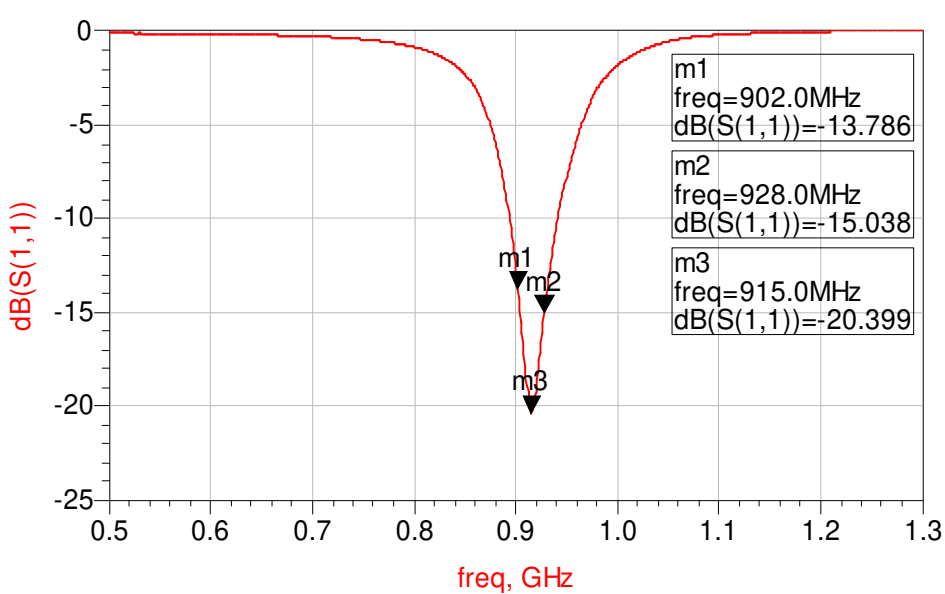
Mounting Considerations I: Electrical Performance @25°C

Return Loss (with matching)



Mounting Considerations II: Electrical Performance @25°C

Return Loss (with matching)



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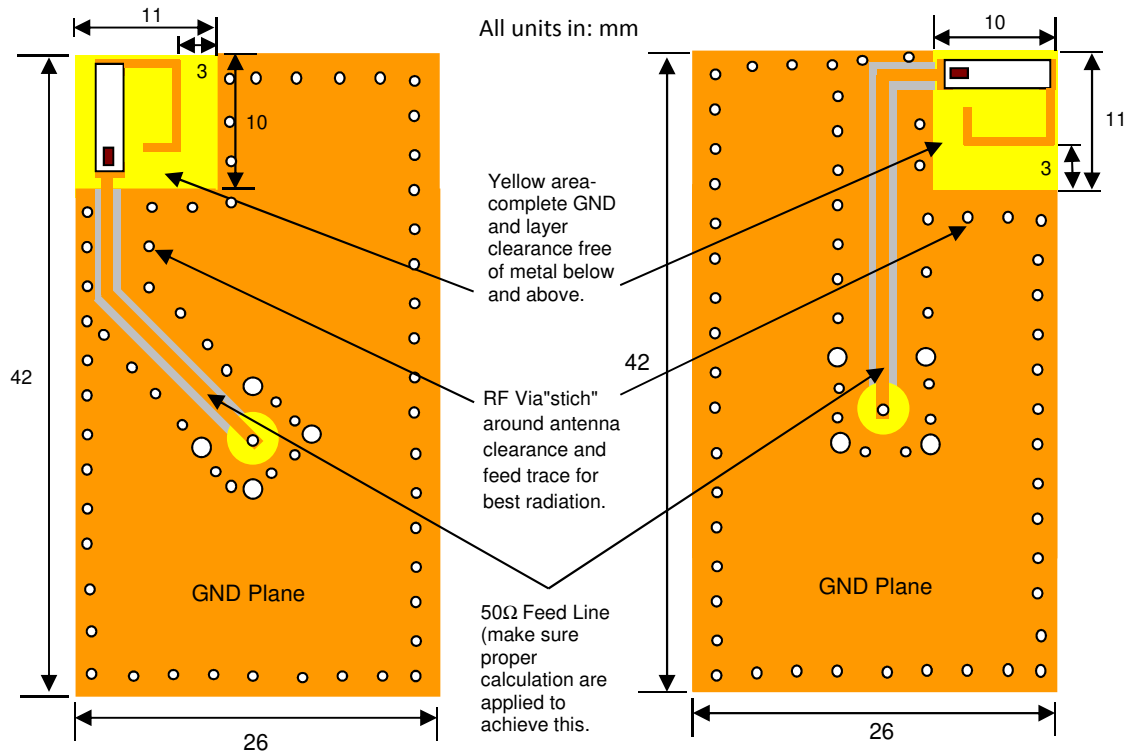
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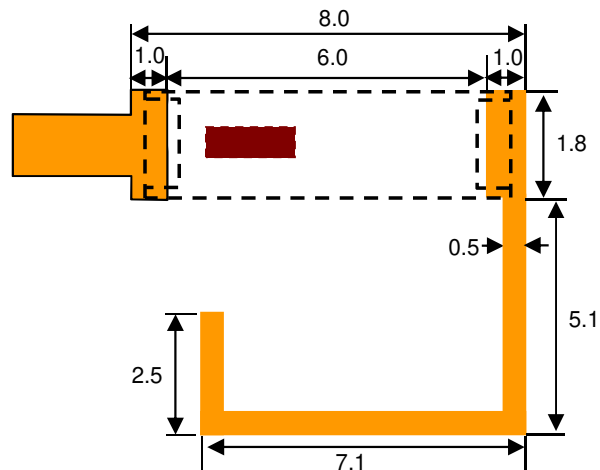
Page 6 of 7

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 matching values on client's PCB will be different, depending on the layout, thickness, material, etc. Go to: <https://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: <https://www.johansontechnology.com/ask-a-question>



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Page 7 of 7

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>

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