High Frequency Ceramic Solutions

868 MHz Antenna for small form factor applications **P/N 0868AT43A0020**

Detail Specification: 9/7/2016

General Specifications

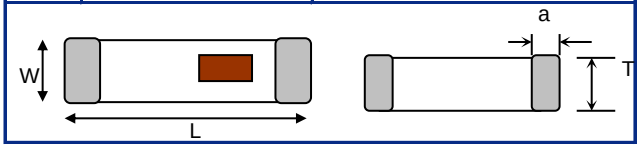
Part Number	0868AT43A0020	**Input Power**	3W max. (CW)
Frequency Range	858 - 878 Mhz	**Impedance**	50 Ω
Peak Gain	-1.0 dBi typ. (XZ-total)	**Operating Temperature**	-40 to +85°C
Average Gain	-4.0 dBi typ. (XZ-total)	**Reel Quanity**	1,000
Return Loss	9.5 dB min.	**MSL**	1

Part Number Explanation

P/N Suffix	**Packing Style**	Bulk	Suffix = S	eg. 0868AT43A0020S
		T & R	Suffix = E	eg. 0868AT43A0020E
	Termination style	100% Tin	Suffix = None	eg. 0868AT43A0020 (E or S)
		Tin / Lead	Please Consult Factory	

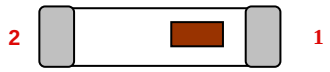
Mechanical Dimensions

	In	mm
L	0.276 ± 0.008	7.00 ± 0.20
W	0.079 ± 0.008	2.00 ± 0.20
T	0.031 + .004/-.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

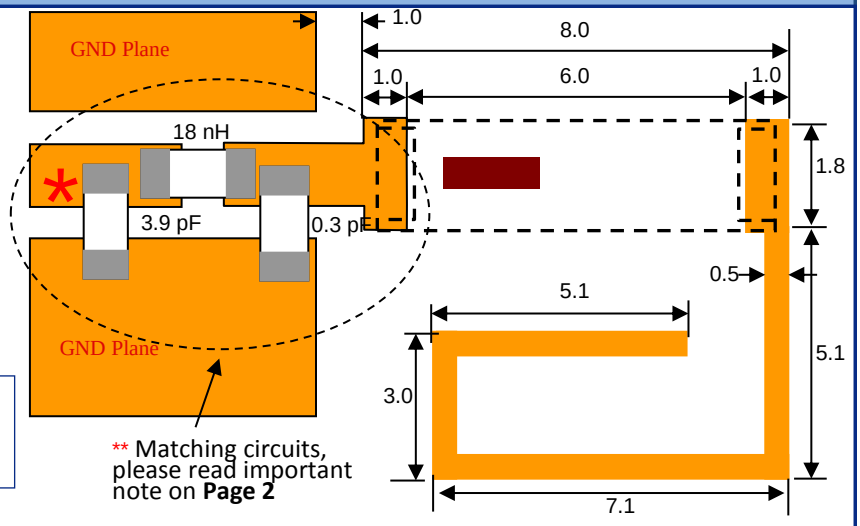


Mounting Considerations I

Mount these devices with brown mark facing up. Units: mm

* Line width should be designed to provide 50 Ω impedance matching characteristics.

With Matching Circuit



JTI P/Na for Matching Circuit: **
Cap (0.3pF): 500R07S0R3BV4T
Cap (3.9pF): 500R07S3R9BV4T
Inductor (18nH): L-07C18NJV6T

** Matching circuits, please read important note on **Page 2**

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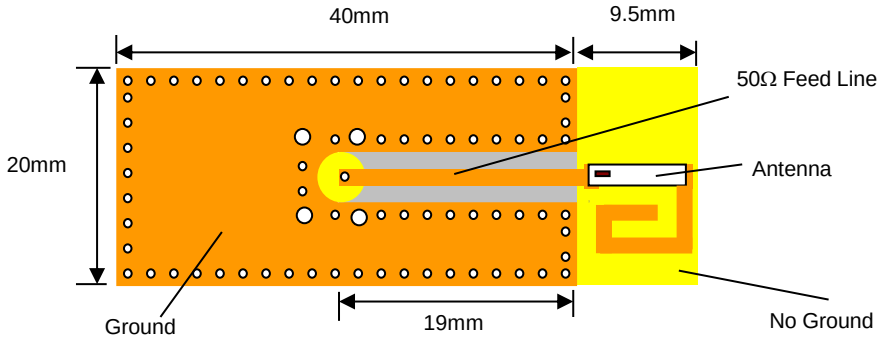
www.johansontechnology.com
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

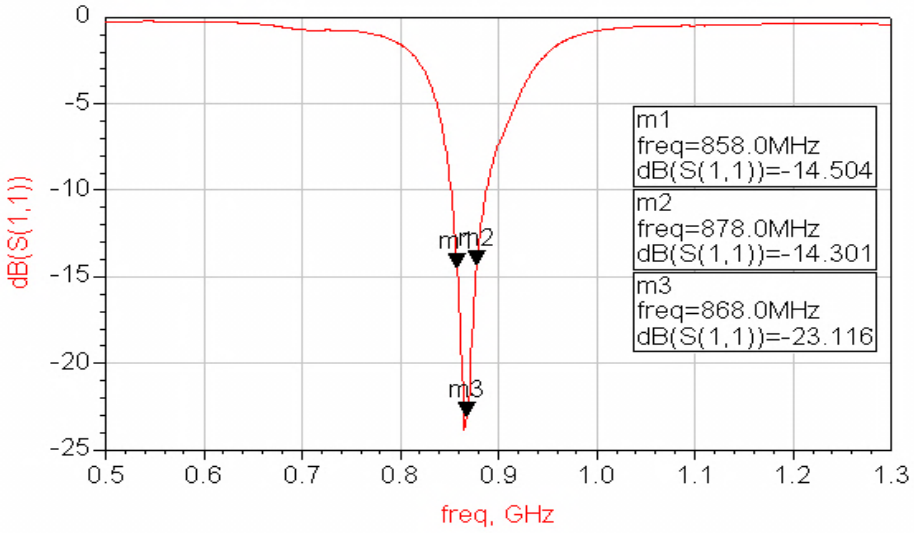
Mounting Considerations I

Test Board used orderable p/n: 0868AT43A0020-EB1SMA (comes with SMA connector)



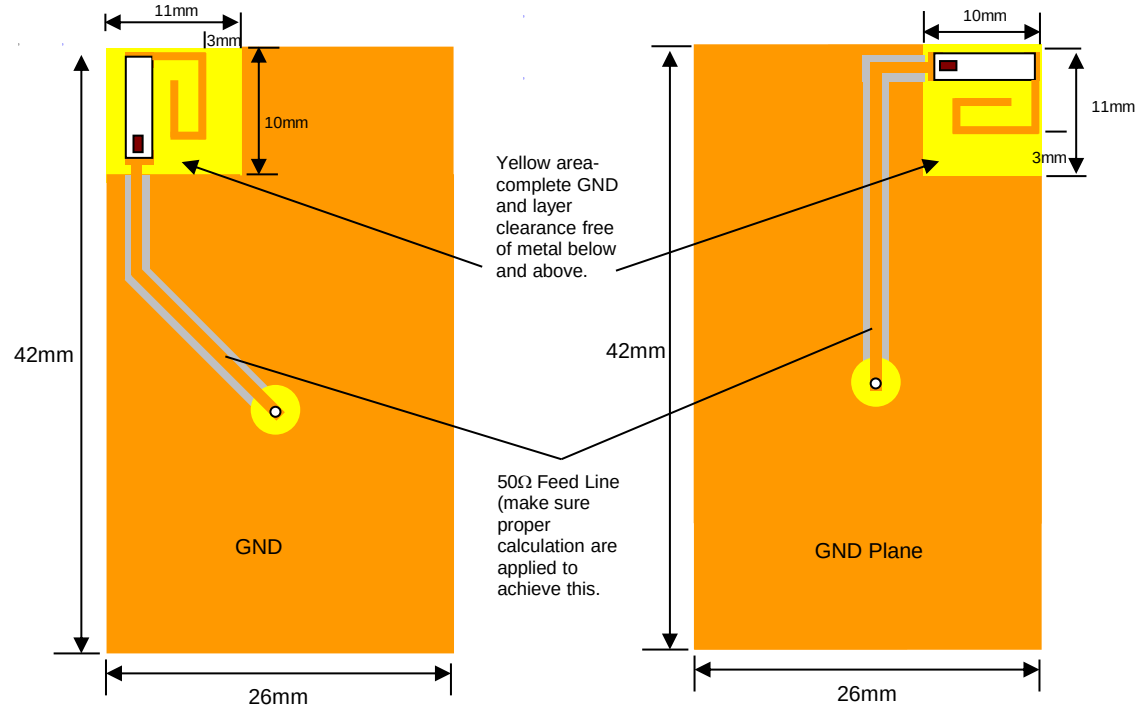
Note: It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is monted on Johanson's evaluation board. The matching values on clinet's PCB will be different. Go to: www.johansontechnology.com/tuning and see how to obtain the new values. If you need further help, contact our RF Applications Eng Team at: www.johansontechnology.com/ask-a-question

Return Loss (with matching)

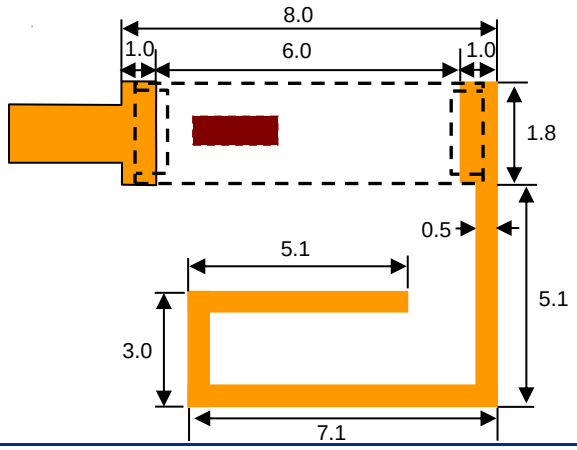


Mounting Considerations II

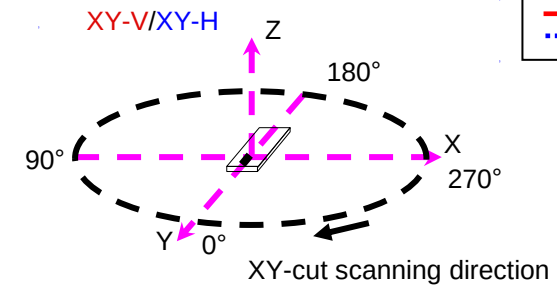
We have conducted internal studies to show that the following corner placements provide antenna efficiency results with minimal detrimental effects.



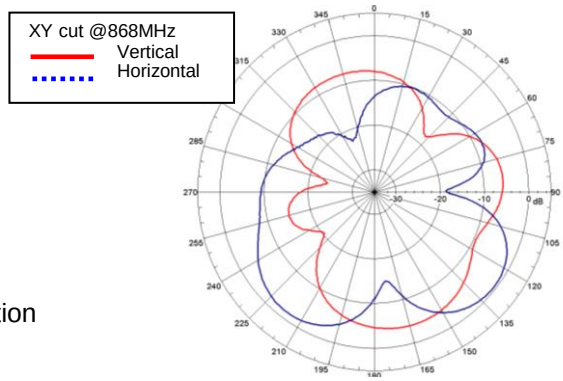
Note: It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different. Go to: www.johansontechnology.com/tuning 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: www.johansontechnology.com/ask-a-question

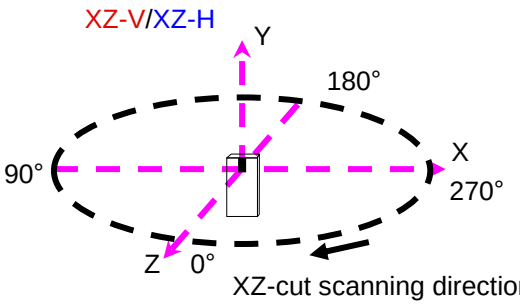


Typical Radiation Performance @ 25° C using 0868AT43A0020-EB1SMA

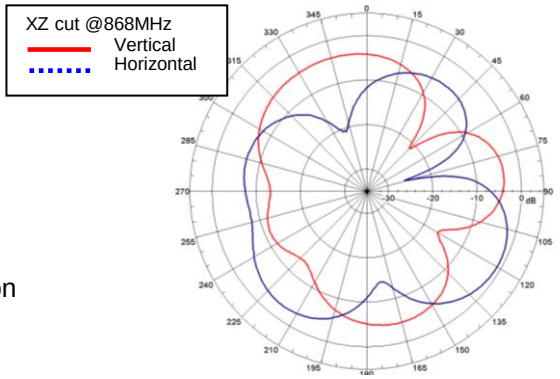


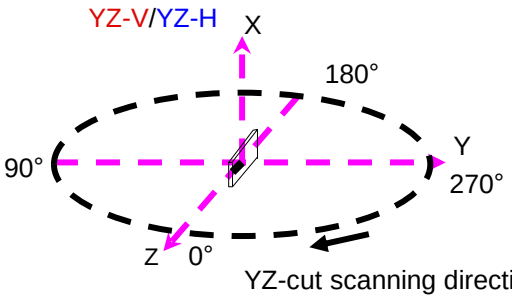
XY-cut scanning direction



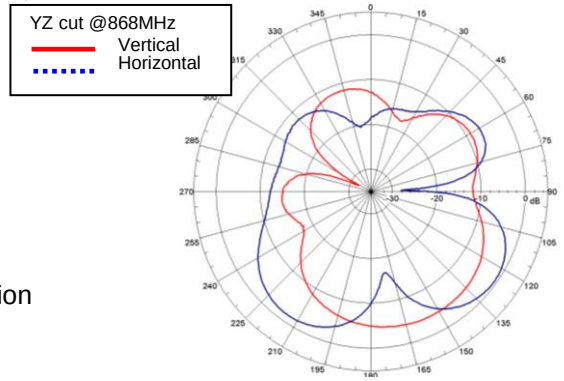


XZ-cut scanning direction





YZ-cut scanning direction



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