

High Frequency Ceramic Solutions

868 MHz Antenna for small form factor applications

P/N 0868AT43A0020

Detail Specification: 9/7/2016

Page 1 of 5

General Specifications

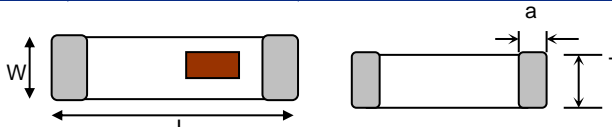
Part Number	0868AT43A0020	Input Power	3W max. (CW)
Frequency Range	858 - 878 Mhz	Impedance	50 Ω
Peak Gain	-1.0 dBi typ. (XZ-total)	Operating Temperature	-40 to +85°C
Average Gain	-4.0 dBi typ. (XZ-total)	Reel Quantity	1,000
Return Loss	9.5 dB min.	MSL	1

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	

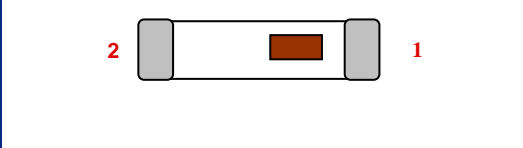
Mechanical Dimensions

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



Terminal Configuration

No.	Function
1	Feeding Point
2	NC



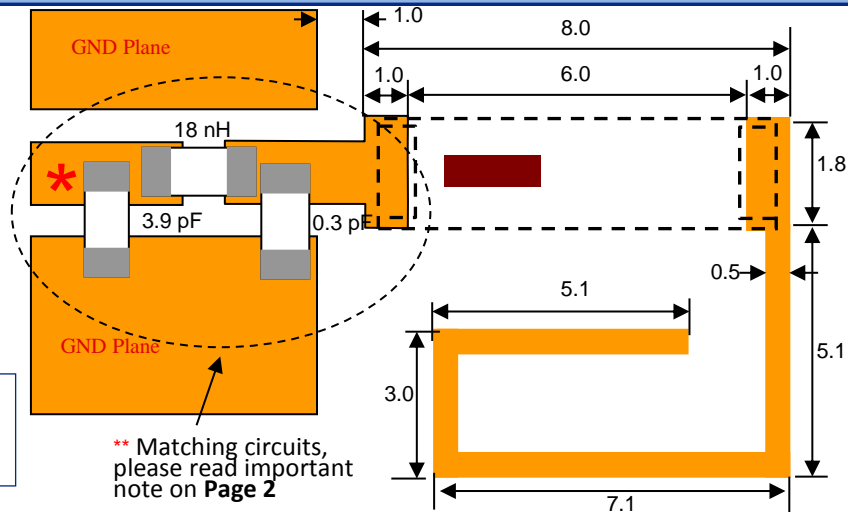
Mounting Considerations I

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

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.8

2016 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

868 MHz Antenna for small form factor applications

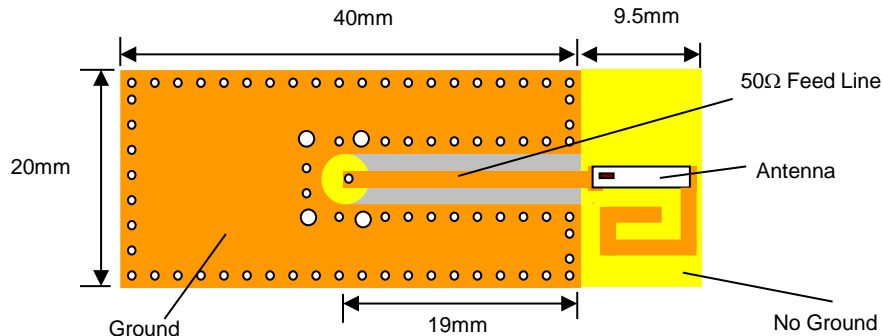
P/N 0868AT43A0020

Detail Specification: 9/7/2016

Page 2 of 5

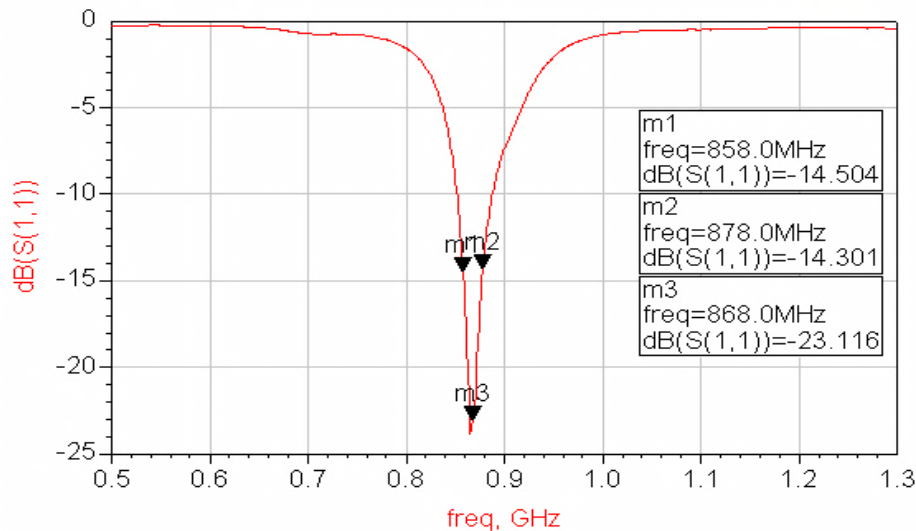
Mounting Considerations I

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 mounted 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)



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



High Frequency Ceramic Solutions

868 MHz Antenna for small form factor applications

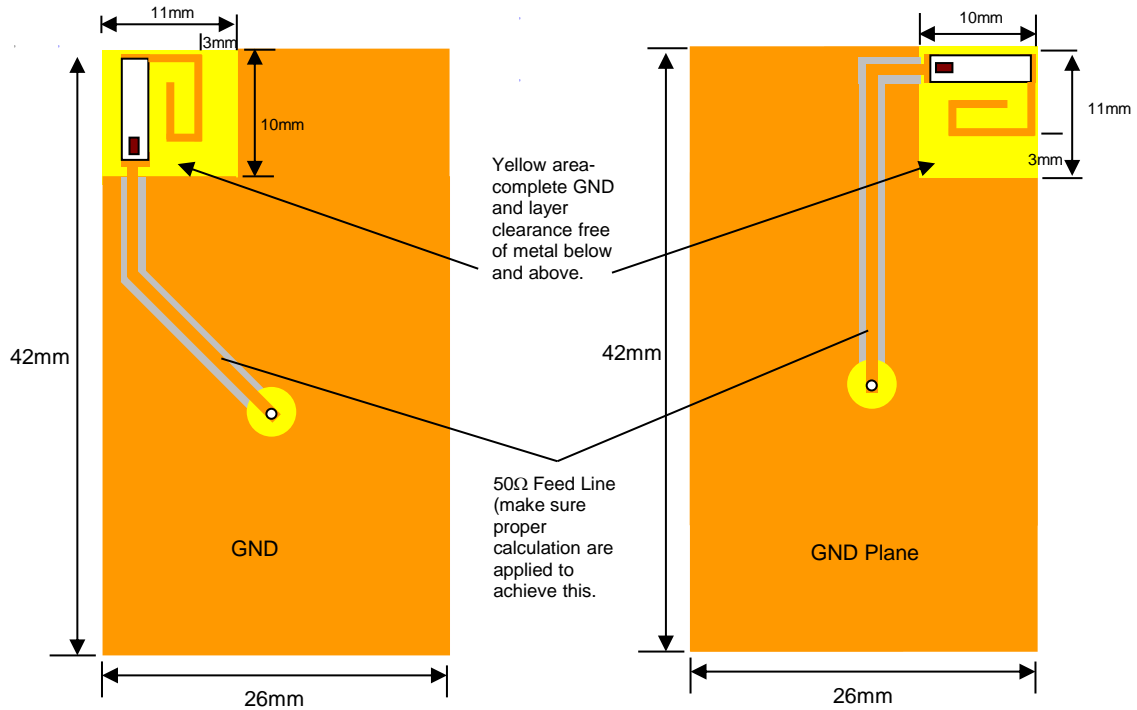
P/N 0868AT43A0020

Detail Specification: 9/7/2016

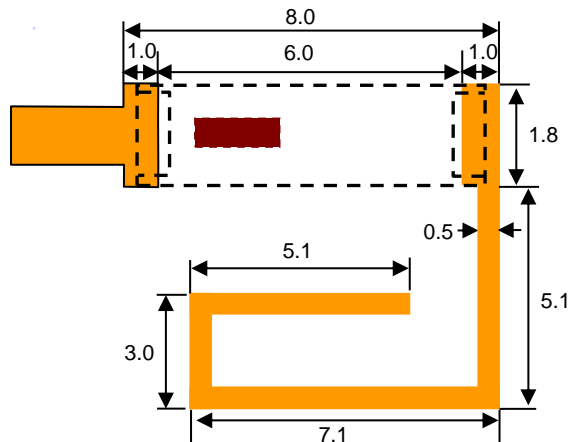
Page 3 of 5

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



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



High Frequency Ceramic Solutions

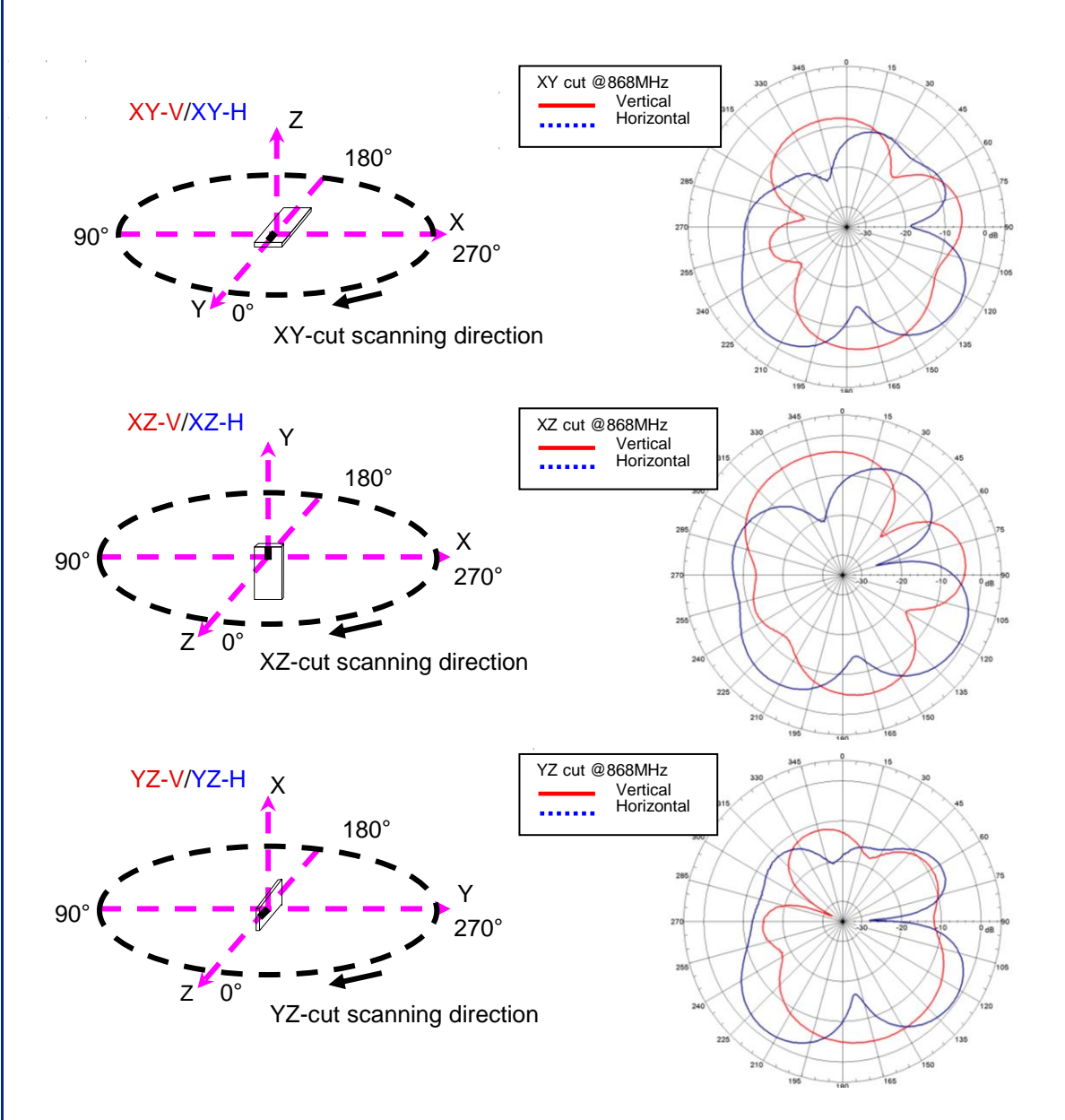
868 MHz Antenna for small form factor applications

P/N 0868AT43A0020

Detail Specification: 9/7/2016

Page 4 of 5

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



Johanson Technology, Inc. reserves the right to make design changes without notice.
 All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.8

2016 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

868 MHz Antenna for small form factor applications

P/N 0868AT43A0020

Detail Specification: 9/7/2016

Page 5 of 5

More SMD Chip Antennas at:

www.johansontechnology.com/antennas

Packaging information

www.johansontechnology.com/tape-reel-packaging

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

RoHS Compliance

www.johansontechnology.com/rohs-compliance

MSL Info

www.johansontechnology.com/msl-rating

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver 1.8 2016 Johanson Technology, Inc. All Rights Reserved