

"High Frequency Ceramic Solutions"

433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 9/25/2014

Page 1 of 9

General Specifications

Part Number	0433AT62A0020	Operating Temperature	-40 to +85°C
Frequency (MHz)	423 - 443	Recommended Storage Conditions for unused	+5 ~ +35 °C, Humidity 45~75%RH, 18 mos. max
Peak Gain (XZ-total)	-4.0 dBi typ. (Mounting 1)	T&R product	
Average Gain (XZ-total)	-4.0 dBi typ. (Mounting 1)	Power Capacity	2W max. (CW)
Return Loss	8.5 dB min. (Mounting 1)	Reel Quantity	500 pcs.
Impedance	50 Ω		

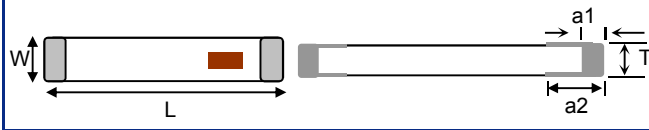
This antenna can be tuned +/- 50MHz, to see 460MHz example, go to page 8. Gain will be comparable to 433MHz.

Part Number Explanation

P/N Suffix	Packing Style	Bulk	Suffix = S	eg. 0433AT62A0020S
		T & R	Suffix = T	eg. 0433AT62A0020E
		100% Tin	Suffix = None	eg. 0433AT62A0020(E or S)

Mechanical Dimensions

	In	mm
L	0.984 ± 0.008	25.00 ± 0.20
W	0.197 ± 0.008	5.00 ± 0.20
T	0.047 ± 0.004	1.20 ± 0.10
a	0.020 ± 0.008	0.50 ± 0.20
a2	0.039 ± 0.008	1.00 ± 0.20



Terminal Configuration

No.	Function
1	Feeding Point
2	NC



Mounting Considerations - 1

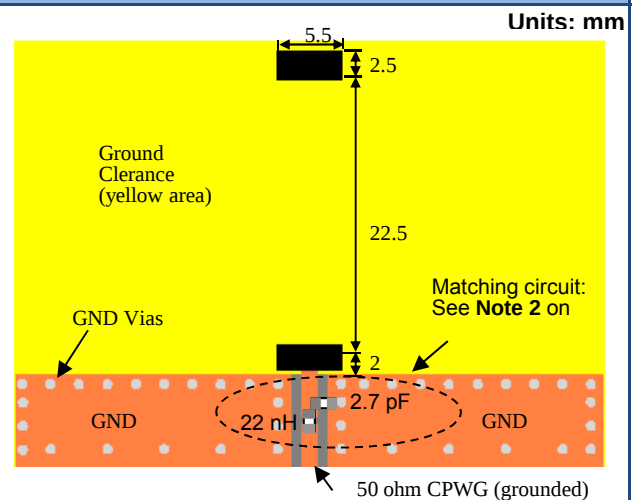
Mount these devices with the red mark facing

- Solder Resist
- Land

It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values in this datasheet are only used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different. Go to:

<http://johansontechnology.com/tuning> and see how to obtain the new values.

If you need further help and would like us to do the tuning and characterization, go to: www.johansontechnology.com/ipcantennaservices (nominal lab fee may apply)



JOHANSON
TECHNOLOGY

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

Ver 2.2

2014 Johanson Technology, Inc. All Rights Reserved

www.johansontechnology.com

"High Frequency Ceramic Solutions"

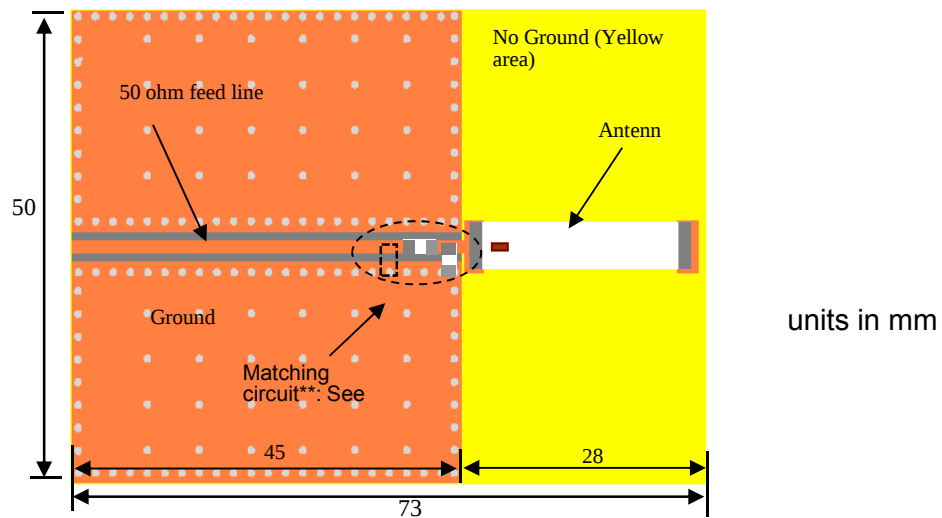
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 9/25/2014

Page 2 of 9

Mounting Considerations - 1 (Evaluation board p/n: 0433AT62A0020-EB1SMA)



Orderable EVB Johanson p/n: 0433AT62A0020-EB1SMA, go to:
www.johansontechnology.com/component/samplerrequest to request it

Want the layout file of the above? Send us a message at:
www.johansontechnology.com/component/techquestion

We offer 2 free layout reviews as well as antenna tuning and characterization services (lab fee may apply).
Go to: www.johansontechnology.com/ipcantennaservices

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.



www.johansontechnology.com
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver 2.2

2014 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

433 MHz ISM Antenna SMD (25x5mmx1.2)

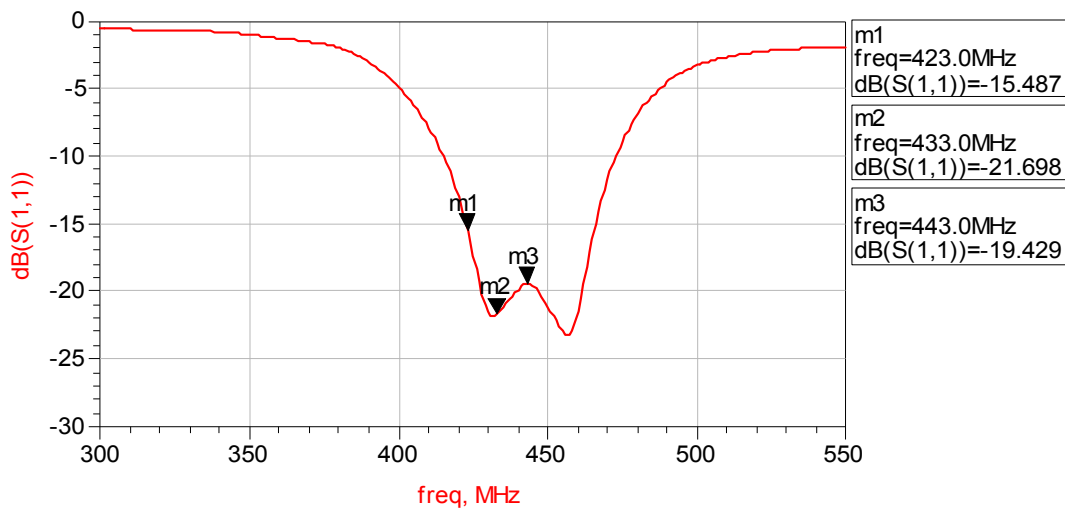
P/N 0433AT62A0020

Detail Specification: 9/25/2014

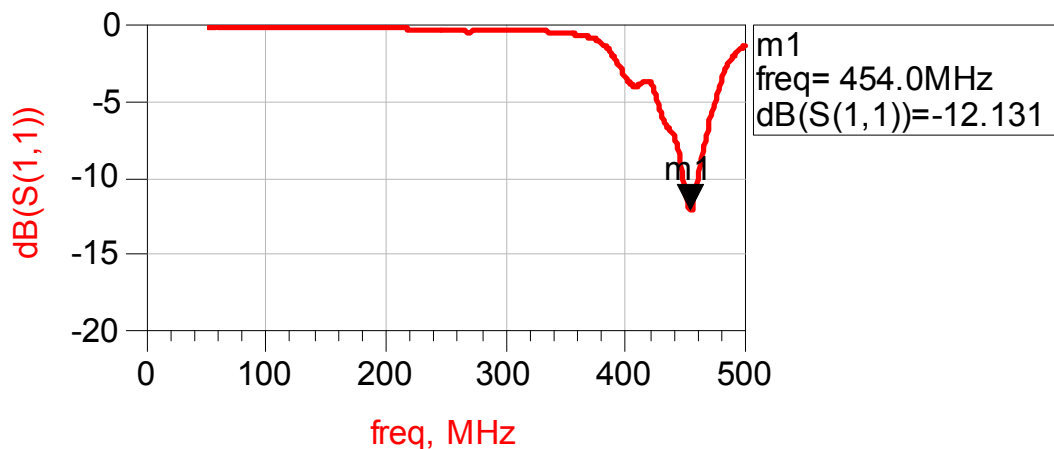
Page 3 of 9

Electrical Characteristics: Mounting - 1 (0433AT62A0020-EB1SMA)

Return Loss on EVB1 (pages 1&2) with matching network.



Return Loss without matching network (0Ω resistor in series on EVB).



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.



4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver 2.2

www.johansontechnology.com

2014 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

433 MHz ISM Antenna SMD (25x5mmx1.2)

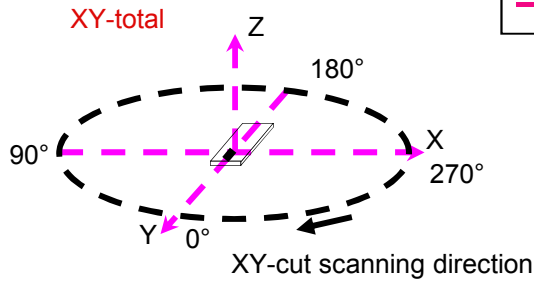
Detail Specification: 9/25/2014

P/N 0433AT62A0020

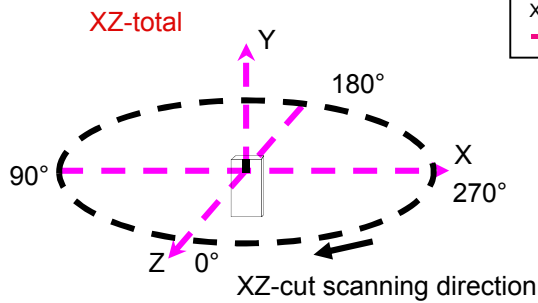
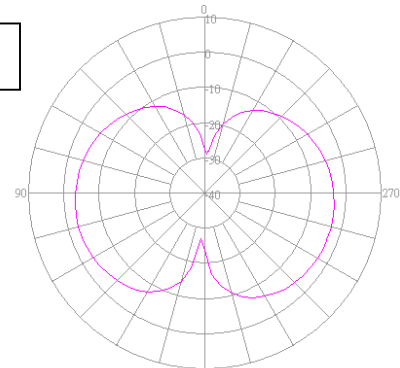
Page 4 of 9

Typical Radiation Performance @ 25° C on Mounting - 1 (0433AT62A0020-EB1SMA)

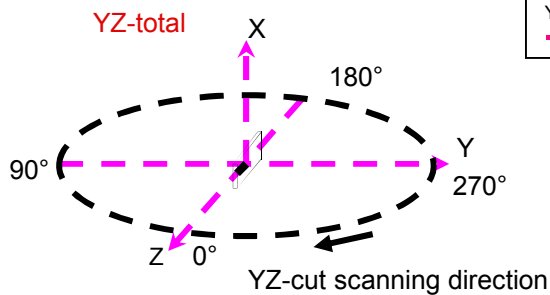
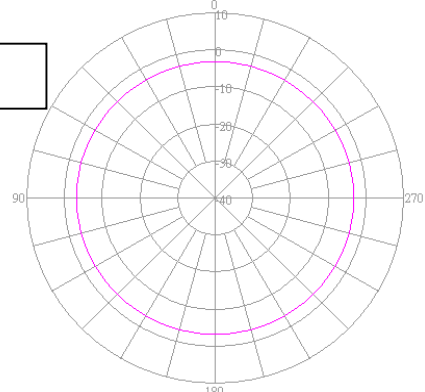
Radiation Patterns



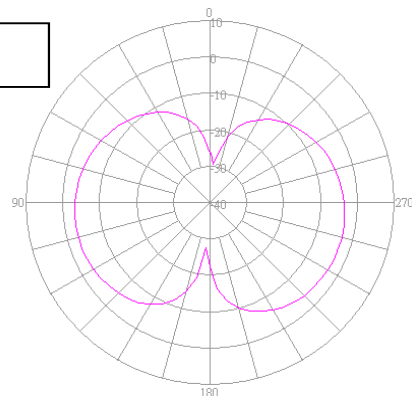
XY cut @433MHz
Total



XZ cut @433MHz
Total



YZ cut @433MHz
Total



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.



4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver 2.2

www.johansontechnology.com

2014 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 9/25/2014

Page 5 of 9

General Specifications

Part Number	0433AT62A0020
Frequency (MHz)	423 - 443
Peak Gain (XZ-total)	-6.0 dBi typ. (Mounting 2)
Average Gain (XZ-total)	-7.0 dBi typ. (Mounting 2)
Return Loss	8.5 dB min. (Mounting 2)
Impedance	50 Ω

Terminal Configuration

No.	Function
1	Feeding Point
2	NC



Mounting Considerations - 2

Units: mm

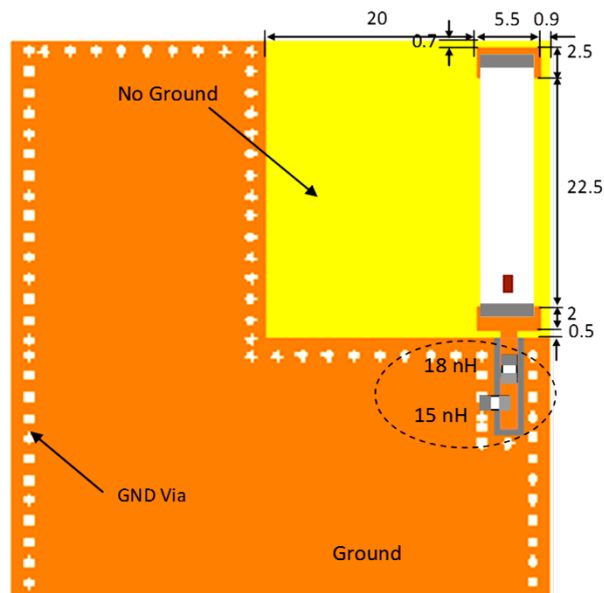
Mount these devices with the red mark facing

 Solder Resist

 Land

It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values in this datasheet are only used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different. Go to: <http://johansontechnology.com/tuning> and see how to obtain the new values.

If you need further help and **would like us to do the tuning and characterization**, go to: www.johansontechnology.com/ipcantennaservices (nominal lab fee may apply)



"High Frequency Ceramic Solutions"

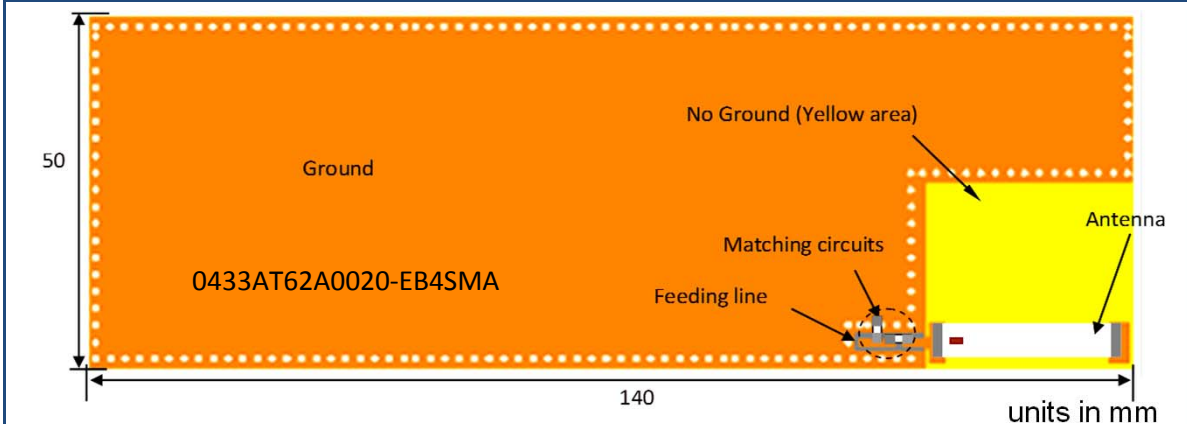
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 9/25/2014

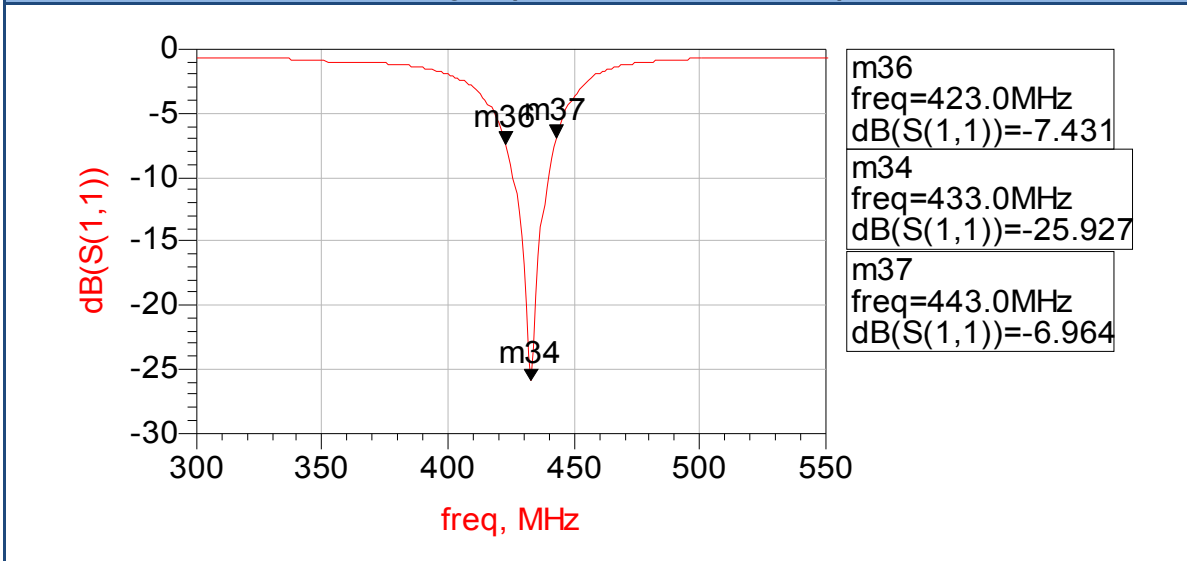
Page 6 of 9

Mounting Considerations - 2 (Evaluation board p/n: 0433AT62A0020-EB4SMA)



Orderable EVB Johanson p/n: 0433AT62A0020-EB4SMA, go to:
www.johansontechnology.com/component/samplerrequest to request it. Want the layout file of the above?
Send us a message at: www.johansontechnology.com/component/techquestion. We offer 2 free layout reviews as well as antenna tuning and characterization services (lab fee may apply). Go to:
www.johansontechnology.com/ipcantennaservices

Electrical Characteristics: Mounting - 2 (0433AT62A0020-EB4SMA)



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.



www.johansontechnology.com
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver 2.2 2014 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

433 MHz ISM Antenna SMD (25x5mmx1.2)

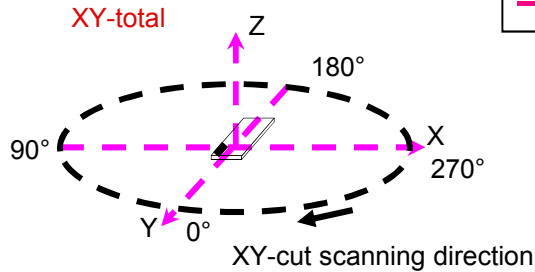
P/N 0433AT62A0020

Detail Specification: 9/25/2014

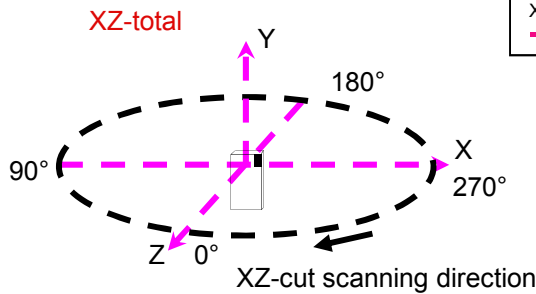
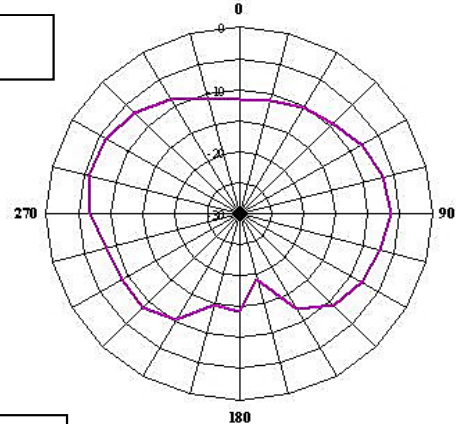
Page 7 of 9

Typical Radiation Performance @ 25° C on Mounting - 2 (0433AT62A0020-EB4SMA)

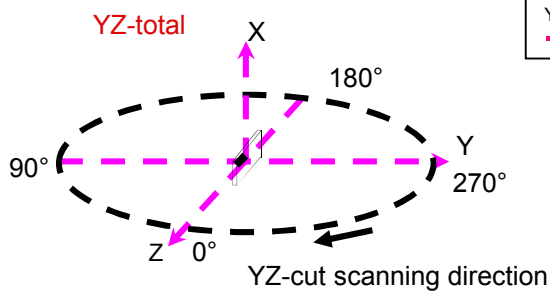
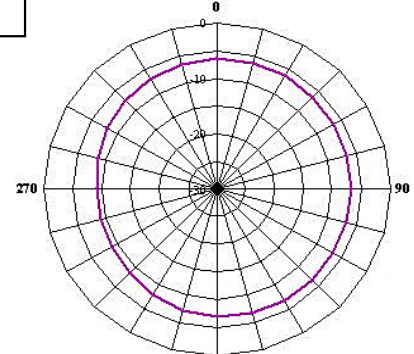
Radiation Patterns



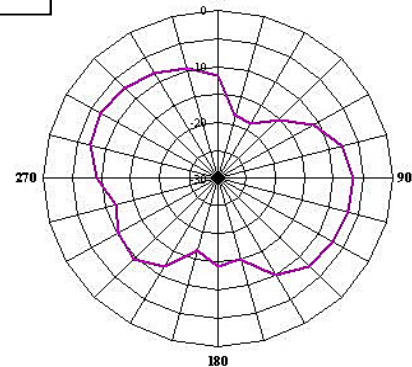
XY cut @433MHz
Total



XZ cut @433MHz
Total



YZ cut @433MHz
Total



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.



www.johansontechnology.com

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

Ver 2.2

2014 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

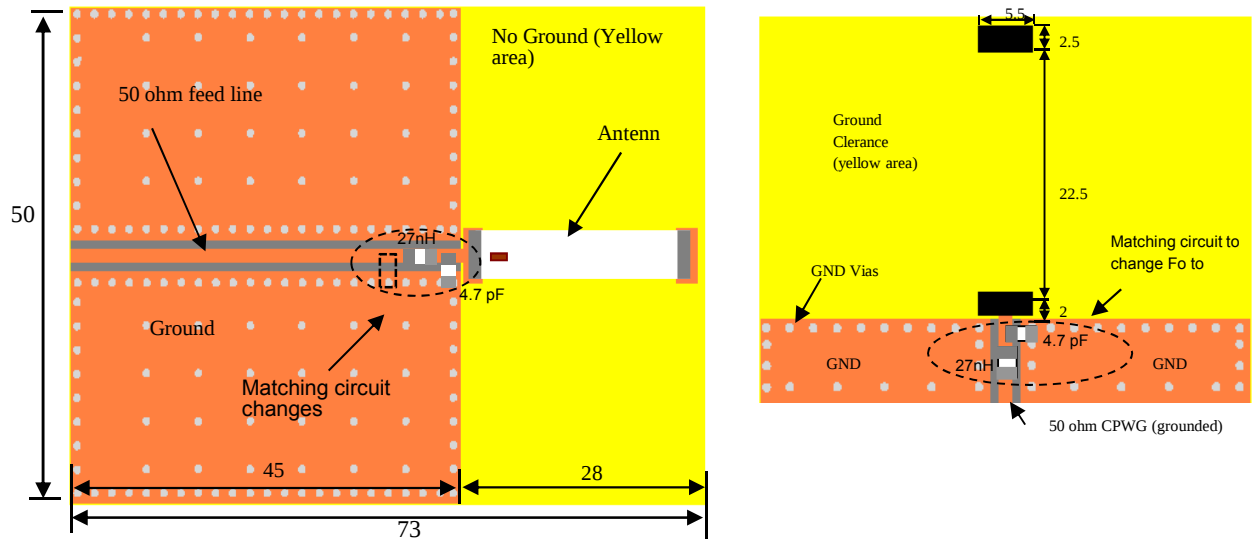
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

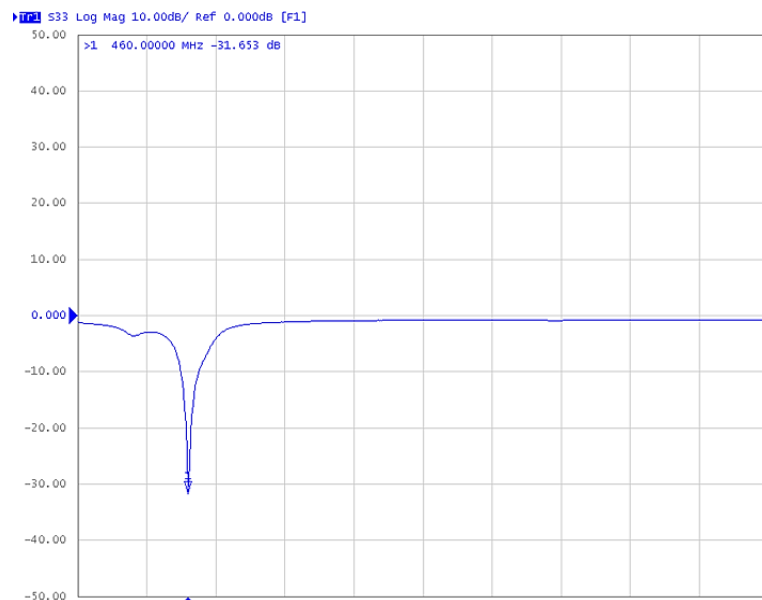
Detail Specification: 9/25/2014

Page 8 of 9

Tuning 0433AT62A0080 to 460MHz



Orderable EVB Johanson p/n: 0433AT62A0460-EB1SMA



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.



Ver 2.2

www.johansontechnology.com

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

2014 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 9/25/2014

Page 9 of 9

More SMD Chip Antennas at:

www.johansontechnology.com/antennas

Packaging information

www.johansontechnology.com/ipcpackaging.html

Soldering Information

www.johansontechnology.com/ipcsoldering-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/ipcantennaservices

RoHS Compliance

www.johansontechnology.com/technical-notes/rohs-compliance.html

MSL Info

www.johansontechnology.com/technical-notes/msl-rating.html

P/N Explanation and Breakdown

www.johansontechnology.com/ipc-pn-explained

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.



Ver 2.2

www.johansontechnology.com

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

2014 Johanson Technology, Inc. All Rights Reserved