

High Frequency Ceramic Solutions

433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

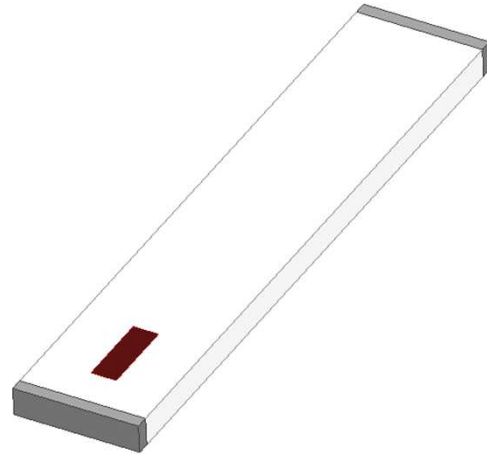
Detail Specification: 2/12/2020

Page 1 of 10

General Specifications

Part Number	0433AT62A0020
Frequency (MHz)*	423 - 443
Peak Gain (XZ-total)	-4.0 dBi typ.
Average Gain (XZ-total)	-4.0 dBi typ.
Return Loss	9.5 dB min.
Impedance	50 Ω

Power Capacity (W)	3 max. (CW)
Operating Temperature	-40 to +85°C
Recommended Storage Conditions for unused T&R product	+5 ~ +35 °C Humidity 45~75%RH 18 mos. max
Reel Quantity	500 pcs.



* See page 8 for tuned antenna performance at 403MHz

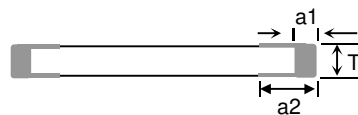
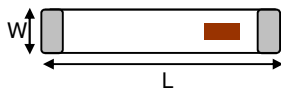
* See page 9 for tuned antenna performance at 460MHz

Part Number Explanation

P/N Suffix	Packing Style		Suffix = S	eg. 0433AT62A0020S
		Bulk		
		T & R	Suffix = E	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



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.



<https://www.johansontechnology.com>

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

Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

433 MHz ISM Antenna SMD (25x5mmx1.2)

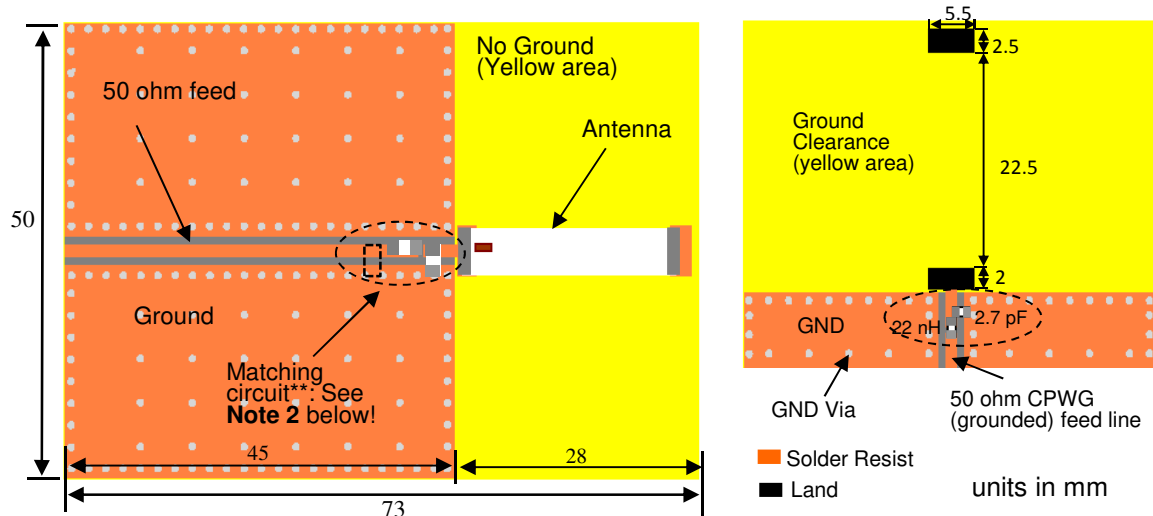
P/N 0433AT62A0020

Detail Specification: 2/12/2020

Page 2 of 10

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

Mount these devices with the red mark facing up.



****Note 2:** We recommend that the designer leave available slots for a "pi" (or shunt-series-shunt) matching network. The antenna matching values in this datasheet only apply to Johanson's evaluation board.

If you need help and would like us to do the tuning and characterization, 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>

Orderable EVB Johanson p/n: 0433AT62A0020-EB1SMA
to request a sample, go to: <https://www.johansontechnology.com/request-a-sample>

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.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

433 MHz ISM Antenna SMD (25x5mmx1.2)

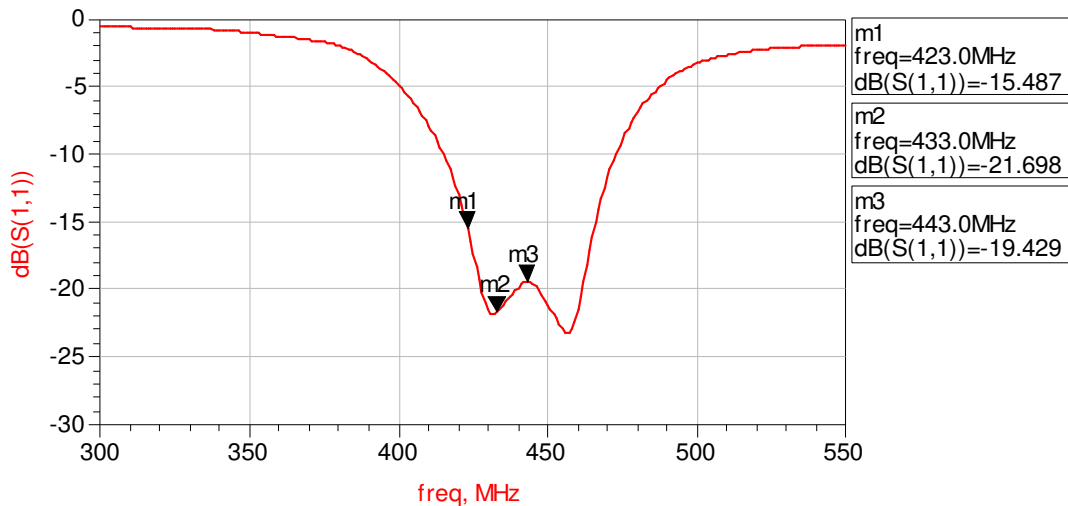
P/N 0433AT62A0020

Detail Specification: 2/12/2020

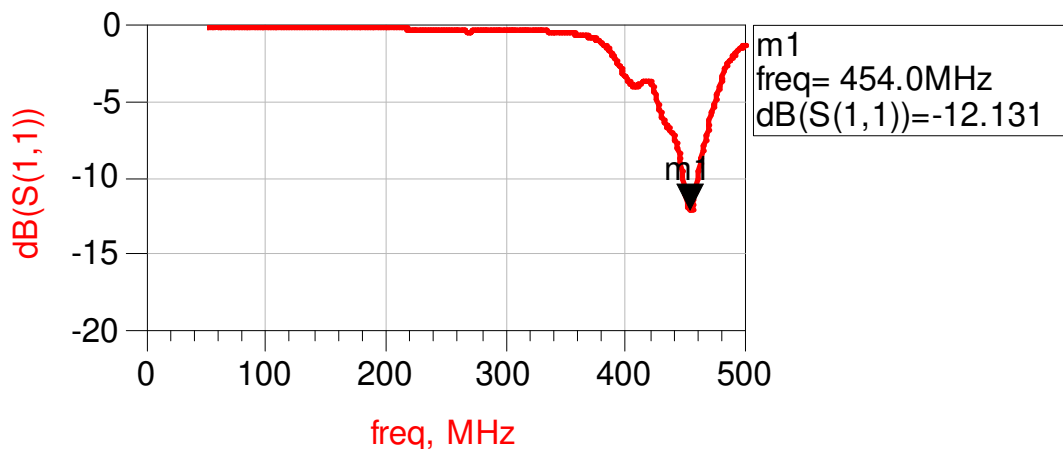
Page 3 of 10

Electrical Characteristics: Mounting Consideration - 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.



<https://www.johansontechnology.com>

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

Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

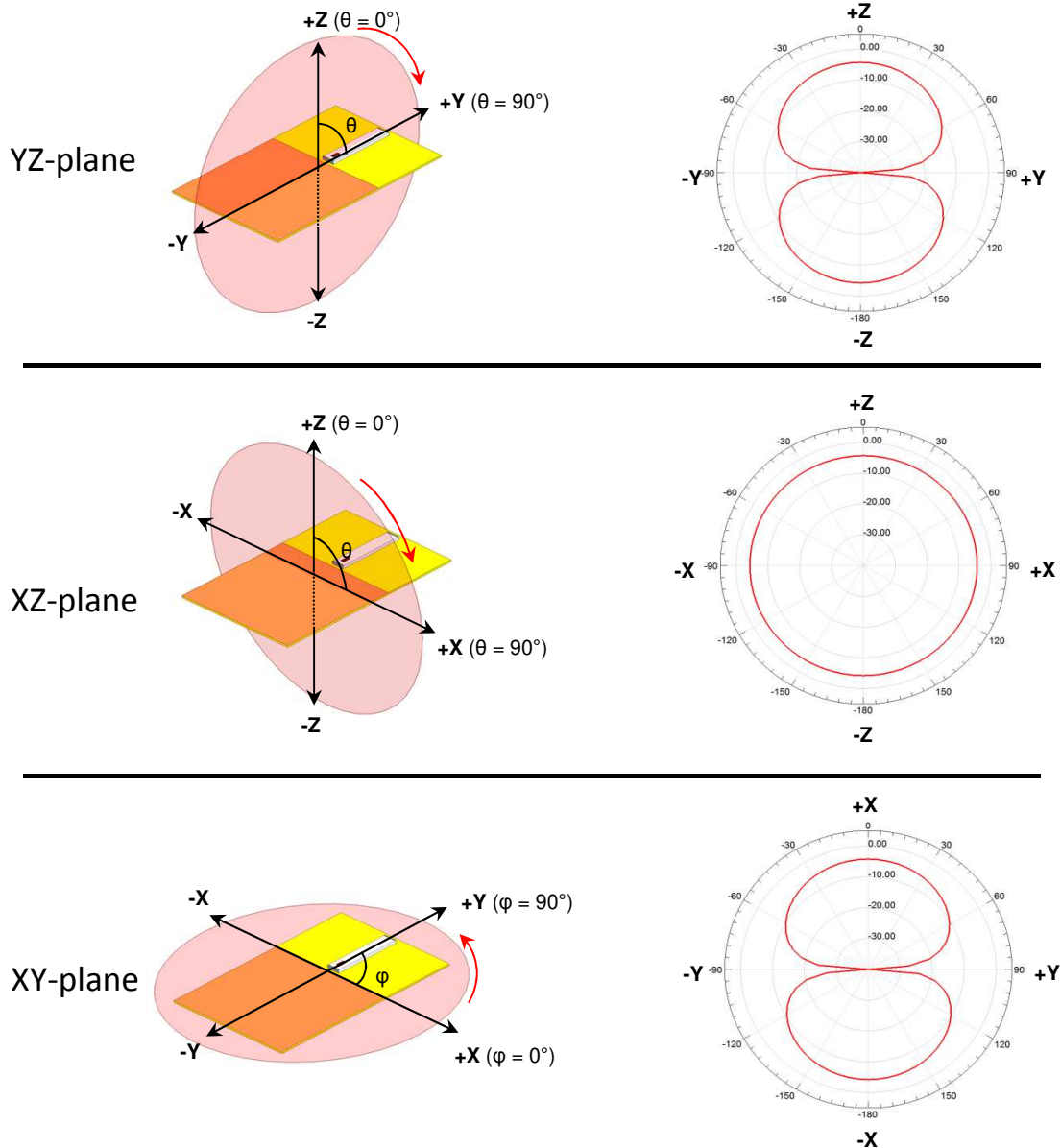
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 2/12/2020

Page 4 of 10

Typical Radiation Performance @ 25°C Mounting Consideration - 1 (0433AT62A0020-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.



<https://www.johansontechnology.com>

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

Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 2/12/2020

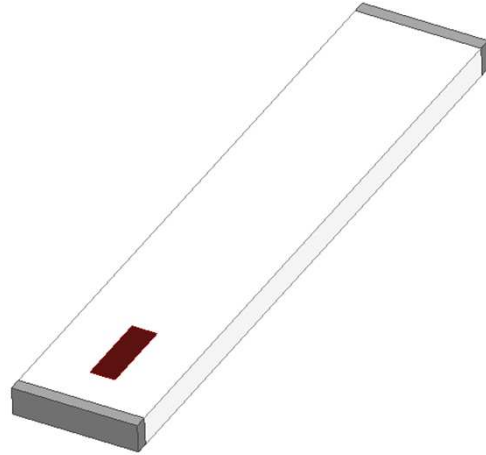
Page 5 of 10

General Specifications: Mounting Consideration - 2 (Larger PCB)

Part Number	0433AT62A0020
Frequency (MHz)	423 - 443
Peak Gain (XZ-total)	-6.8 dBi typ. (Mounting 2)
Average Gain (XZ-total)	-7.2 dBi typ. (Mounting 2)
Return Loss	5 dB min. (Mounting 2)
Impedance	50 Ω

Terminal Configuration

No.	Function
1	Feeding Point
2	NC



Mounting Consideration - 2

Units: mm

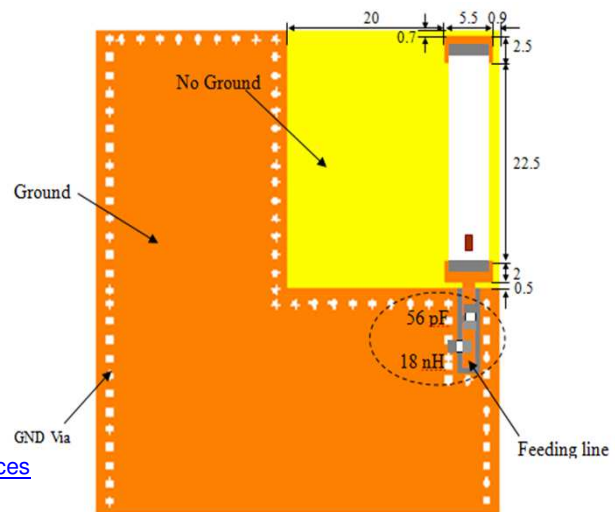
Mount these devices with the red mark facing

- Solder Resist
- Land

We recommend that the designer leave available slots for a "pi" (or shunt-series-shunt) matching network. The antenna matching values in this datasheet only apply to Johanson's evaluation board.

If you need further help and would like us to do the tuning and characterization, go to:

<https://www.johansontechnology.com/ipc-antenna-services>



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.



<https://www.johansontechnology.com>

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

Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

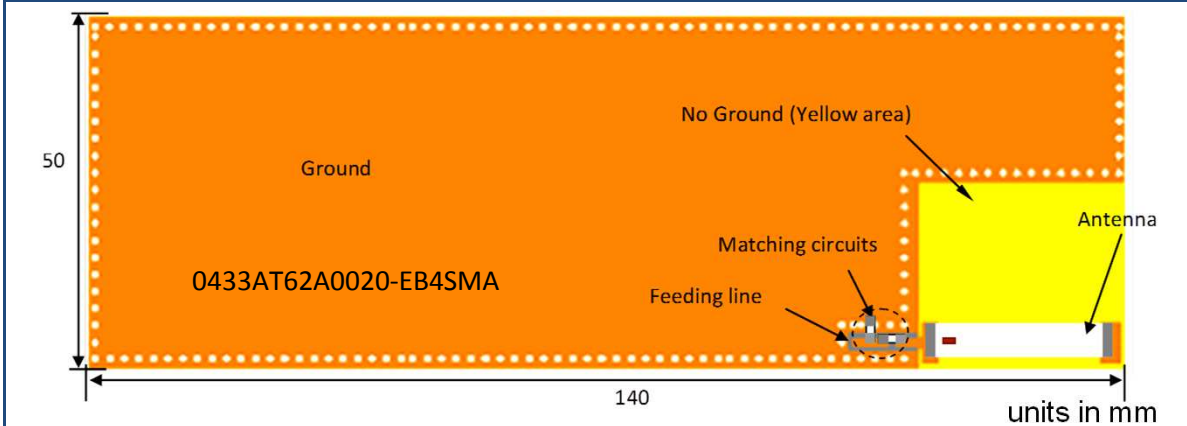
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 2/12/2020

Page 6 of 10

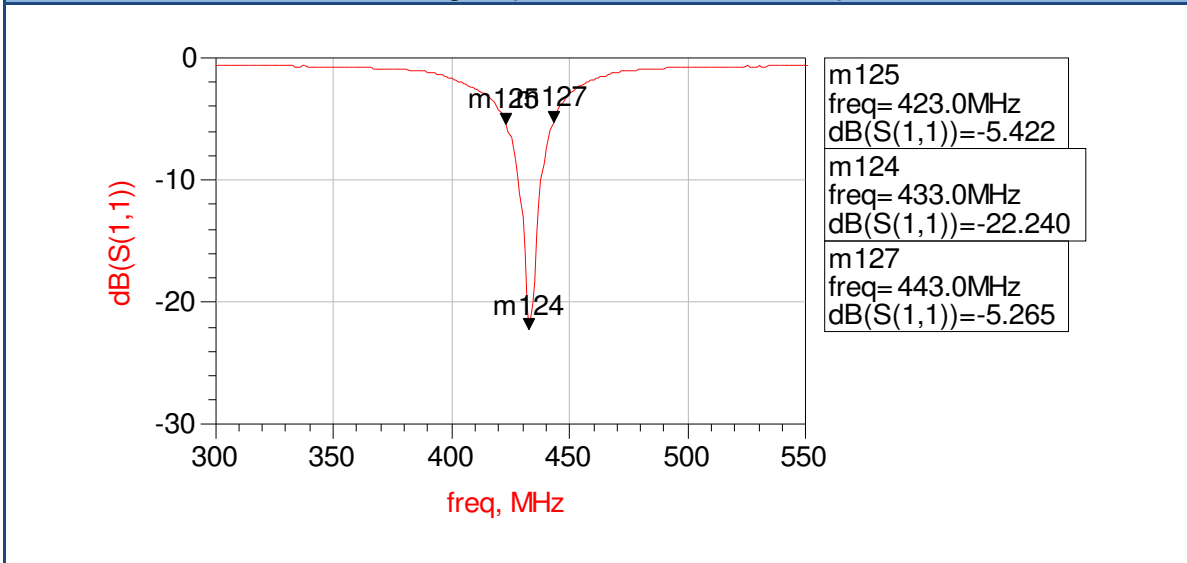
Mounting Consideration - 2 (Evaluation board p/n: 0433AT62A0020-EB4SMA)



Orderable EVB Johanson p/n: 0433AT62A0020-EB4SMA

To request an evaluation board, go to: <https://www.johansontechnology.com/request-a-sample>

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.



<https://www.johansontechnology.com>

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

Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

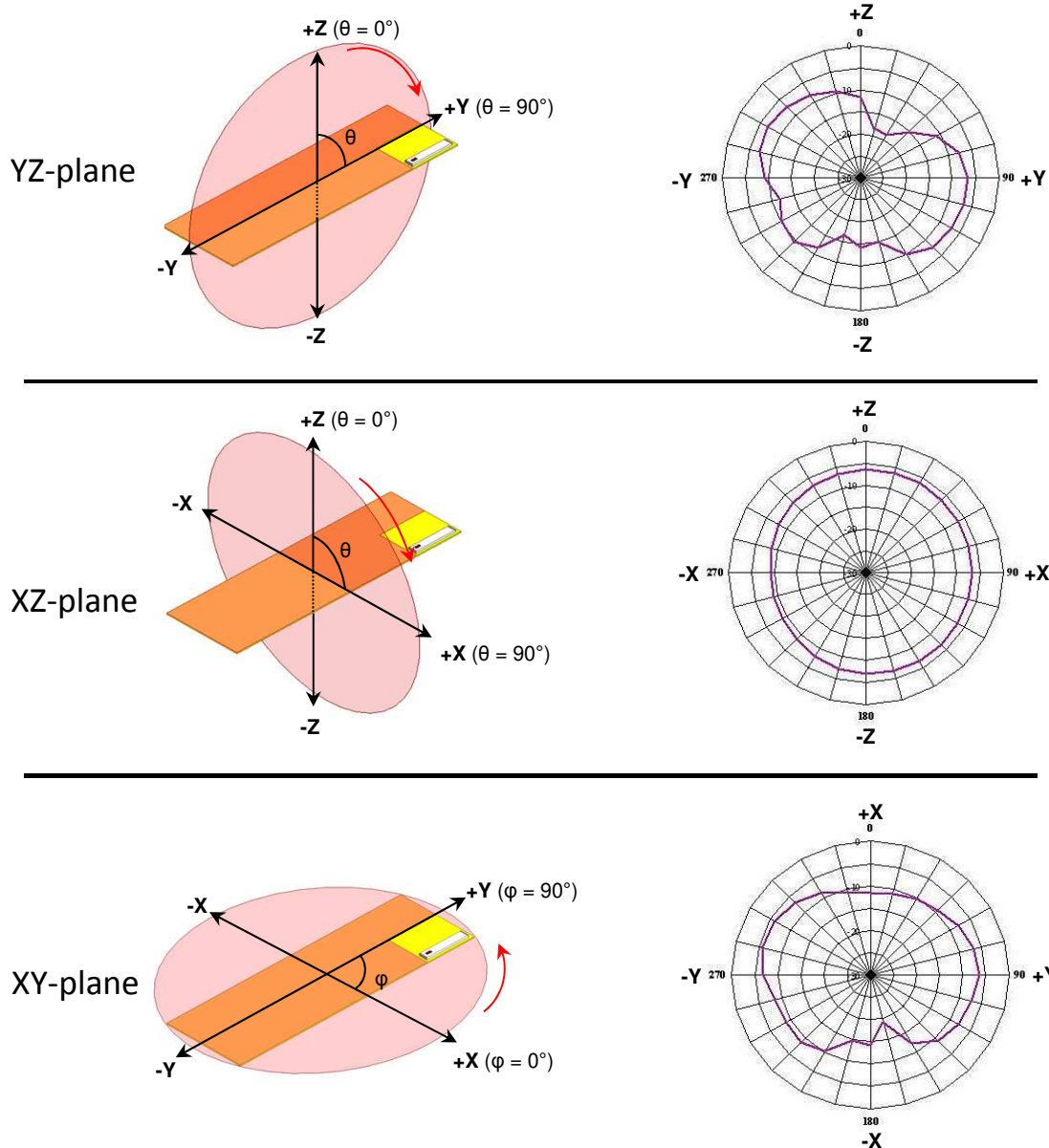
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 2/12/2020

Page 7 of 10

Typical Radiation Performance @ 25°C Mounting Consideration - 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.



<https://www.johansontechnology.com>

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

Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

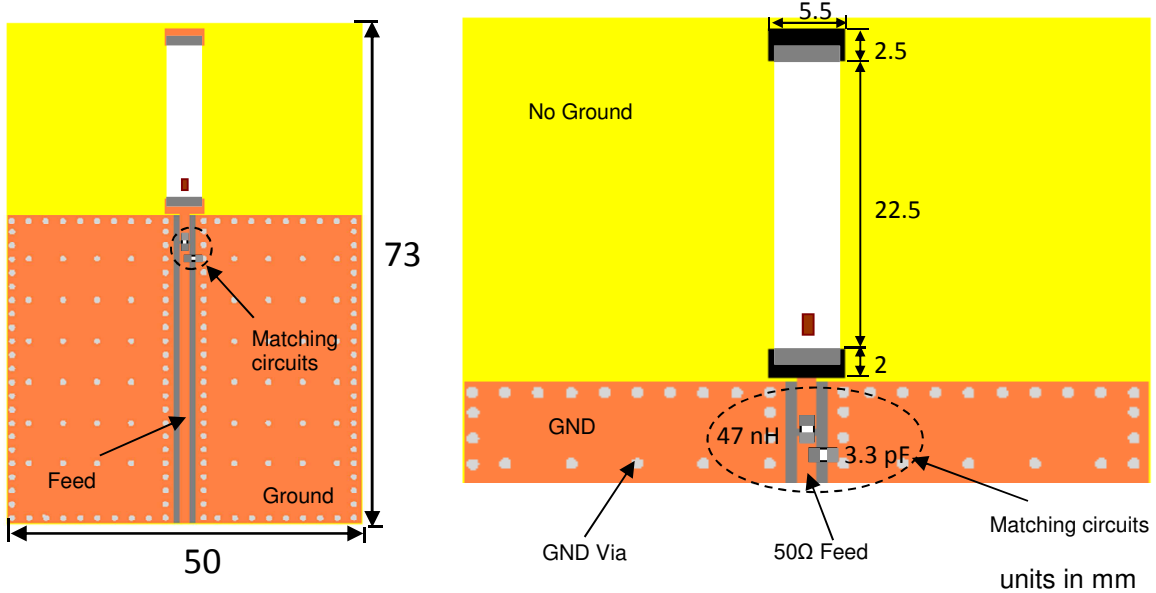
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

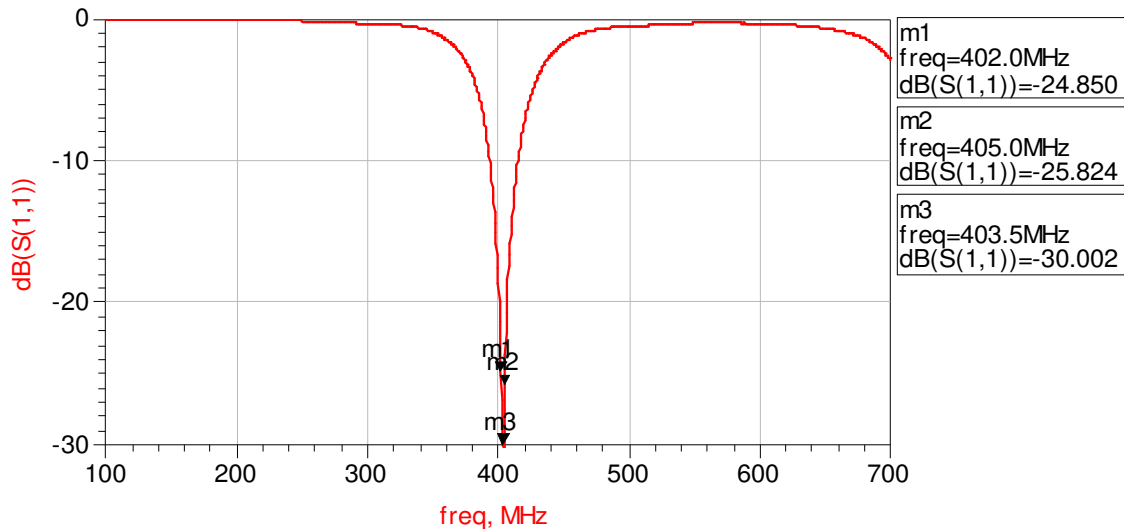
Detail Specification: 2/12/2020

Page 8 of 10

Tuning 0433AT62A0020 to 403MHz



Orderable EVB Johanson p/n: 0433AT62A0020-EB5SMA



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.



<https://www.johansontechnology.com>

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

Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

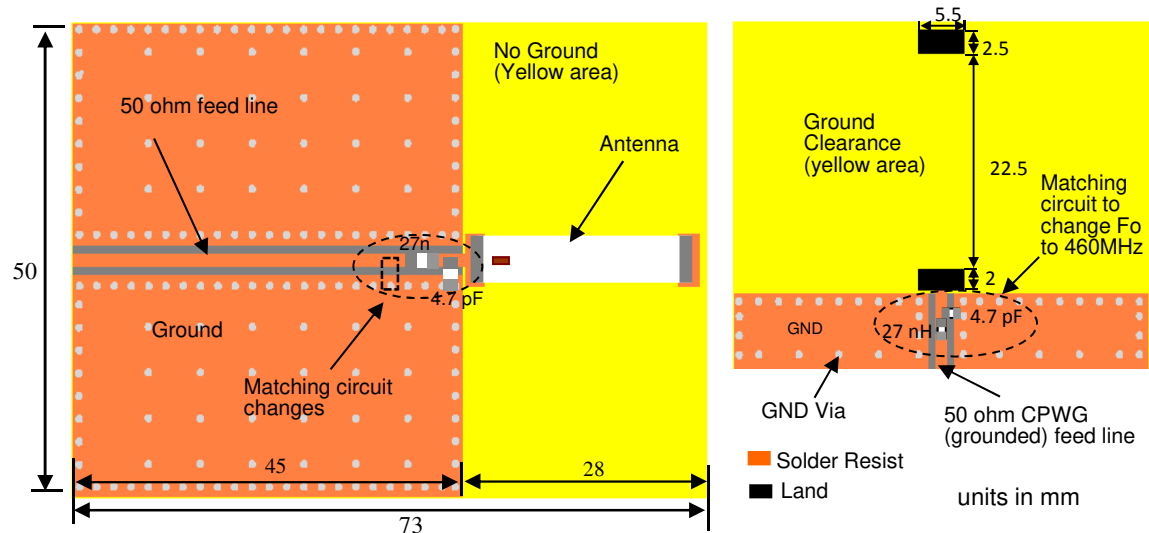
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

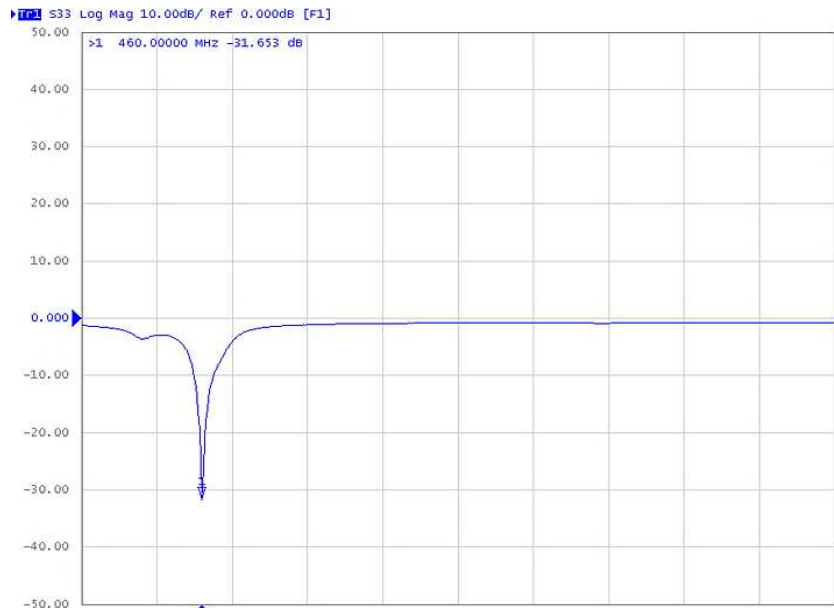
Detail Specification: 2/12/2020

Page 9 of 10

Tuning 0433AT62A0020 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.



<https://www.johansontechnology.com>

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

Ver 3.1

2020 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 2/12/2020

Page 10 of 10

Antenna layout review, tuning, and characterization services

<https://www.johansontechnology.com/ipc-antenna-services>

More SMD Chip Antennas at:

<https://www.johansontechnology.com/antennas>

Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

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

<https://www.johansontechnology.com/tuning>

Packaging information

<http://www.johansontechnology.com/tape-reel-packaging>

RoHS Compliance

<https://www.johansontechnology.com/rohs-compliance>

MSL Info

<https://www.johansontechnology.com/msl-rating>

P/N Explanation and Breakdown

<https://www.johansontechnology.com/ipc-pn-explained>

For all sample requests go to
<https://www.johansontechnology.com/request-a-sample>

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.



<https://www.johansontechnology.com>
4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821
Ver 3.1 2020 Johanson Technology, Inc. All Rights Reserved