

# High Frequency Ceramic Solutions

**433 MHz ISM Antenna SMD (25x5mmx1.2)**

**P/N 0433AT62A0020**

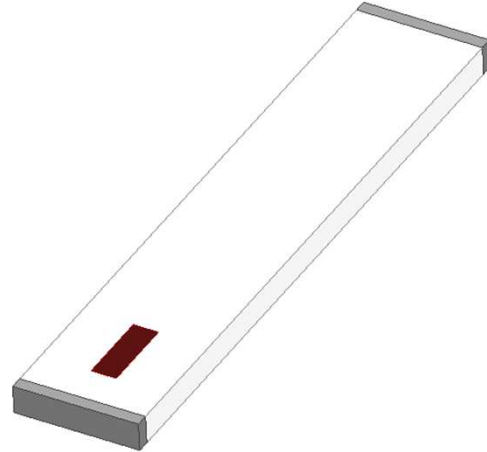
Detail Specification: 2/12/2020

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## General Specifications

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

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



\* See page 8 for tuned antenna performance at 403MHz

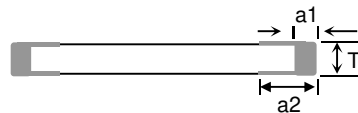
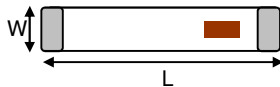
\* See page 9 for tuned antenna performance at 460MHz

## Part Number Explanation

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

## Mechanical Dimensions

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



## Terminal Configuration

No.	Function
<b>1</b>	Feeding Point
<b>2</b>	NC



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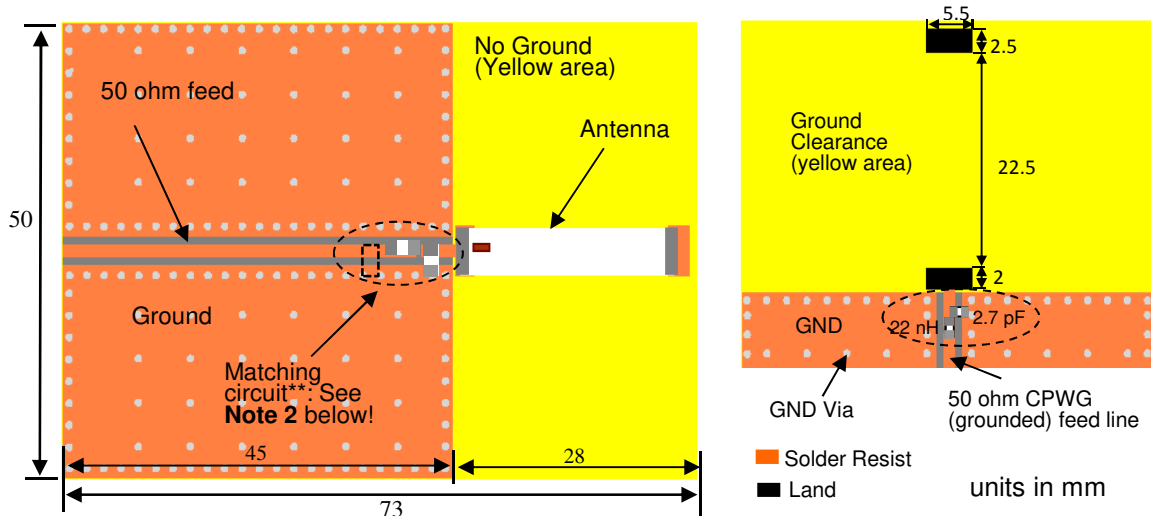
P/N 0433AT62A0020

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## 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>

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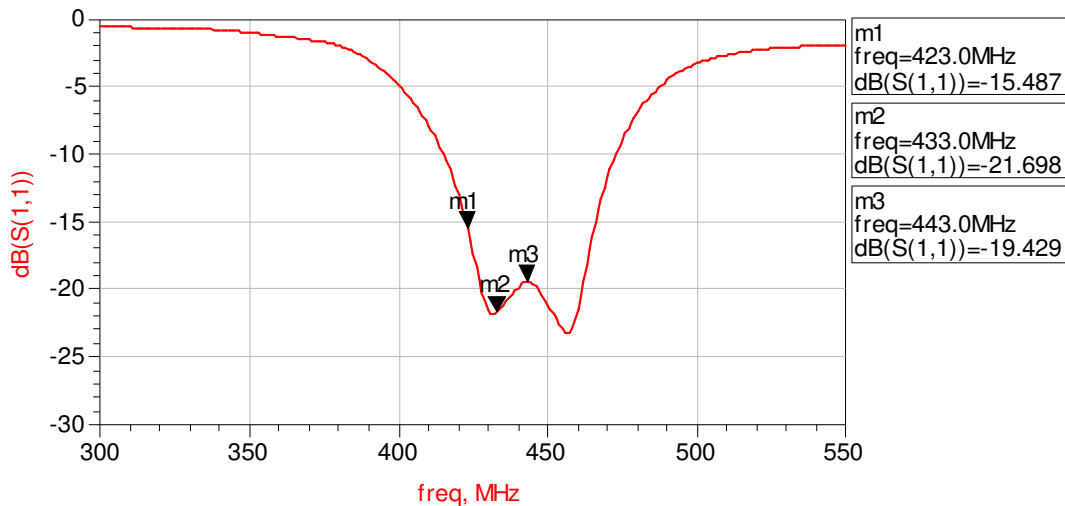
P/N 0433AT62A0020

Detail Specification: 2/12/2020

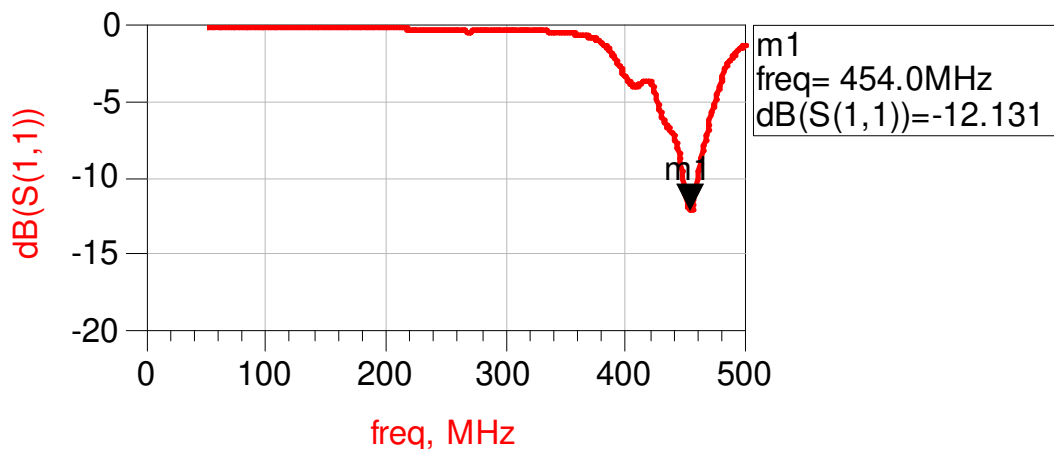
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## Electrical Characteristics: Mounting Consideration - 1 (0433AT62A0020-EB1SMA)

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



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



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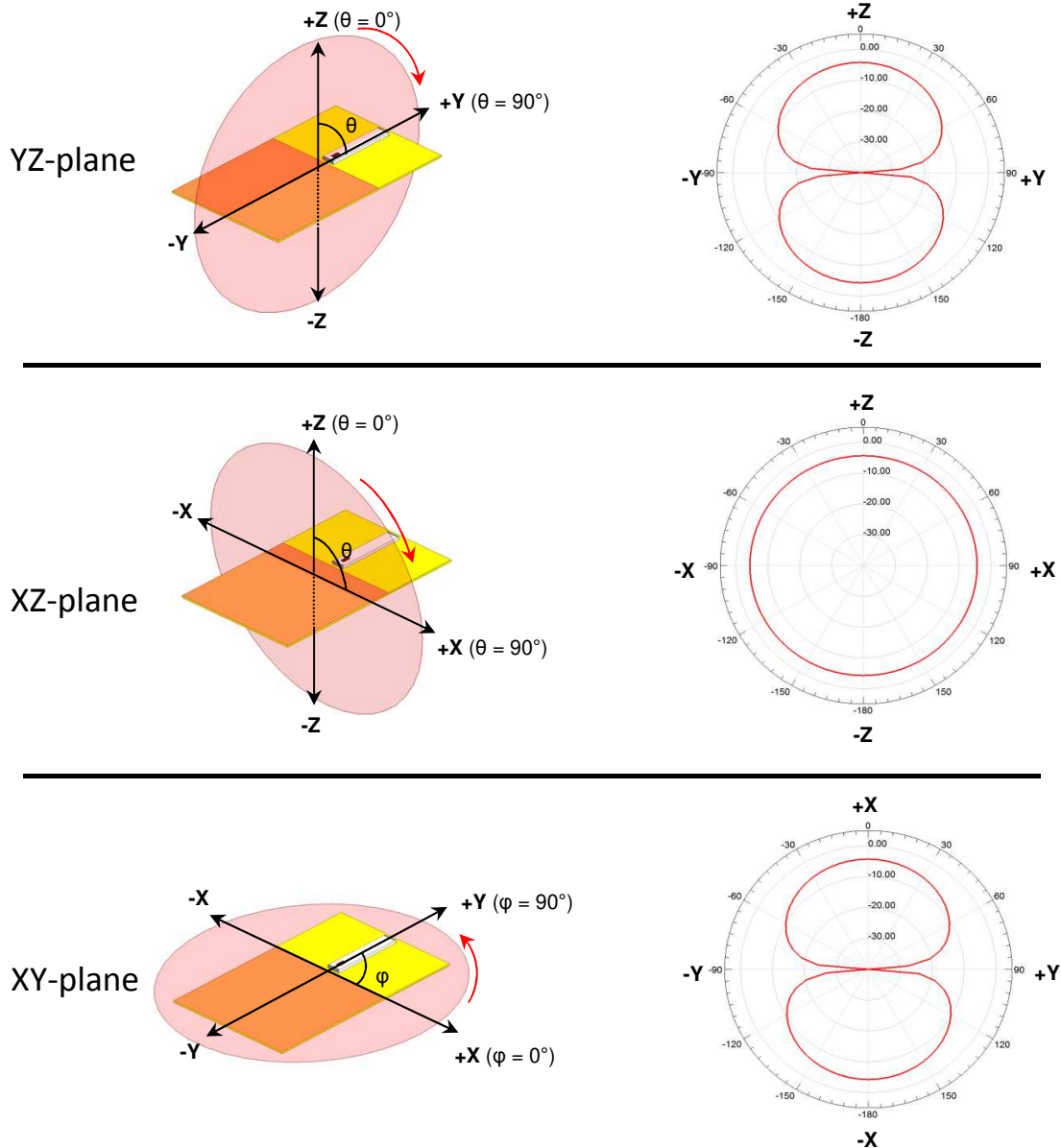
433 MHz ISM Antenna SMD (25x5mmx1.2)

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



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**433 MHz ISM Antenna SMD (25x5mmx1.2)**

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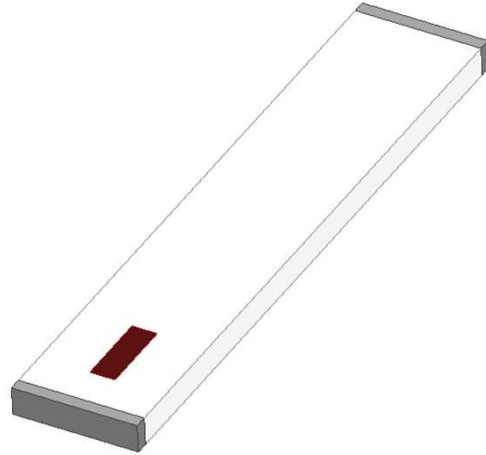
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## General Specifications: Mounting Consideration - 2 (Larger PCB)

<b>Part Number</b>	0433AT62A0020
<b>Frequency (MHz)</b>	423 - 443
<b>Peak Gain (XZ-total)</b>	-6.8 dBi typ. (Mounting 2)
<b>Average Gain (XZ-total)</b>	-7.2 dBi typ. (Mounting 2)
<b>Return Loss</b>	5 dB min. (Mounting 2)
<b>Impedance</b>	50 $\Omega$

### Terminal Configuration

No.	Function
1	Feeding Point
2	NC



## Mounting Consideration - 2

Units: mm

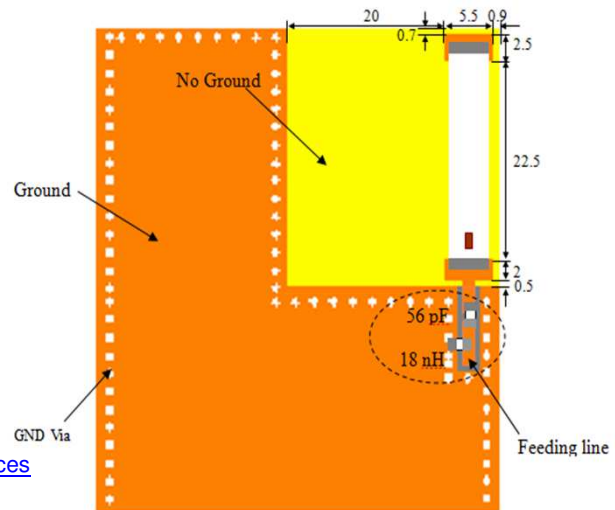
Mount these devices with the red mark facing

- 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.

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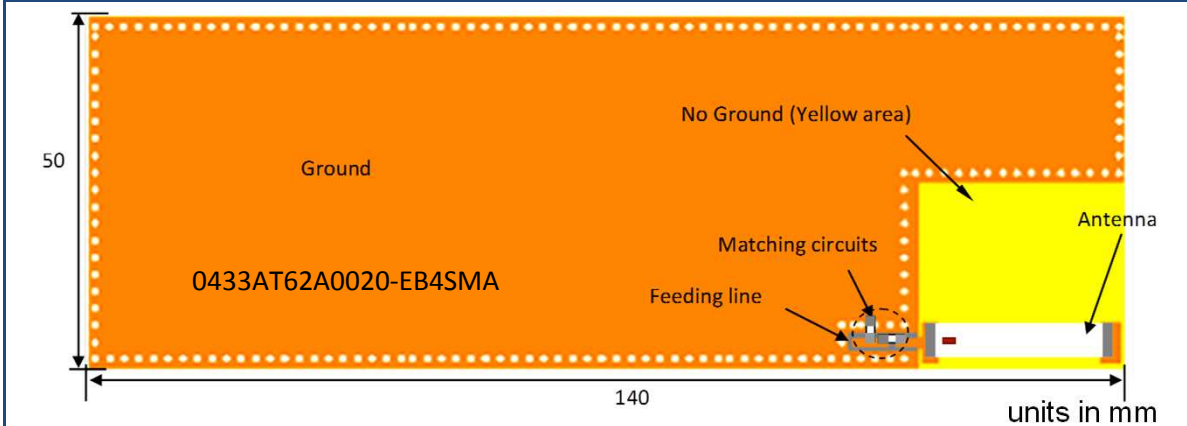
433 MHz ISM Antenna SMD (25x5mmx1.2)

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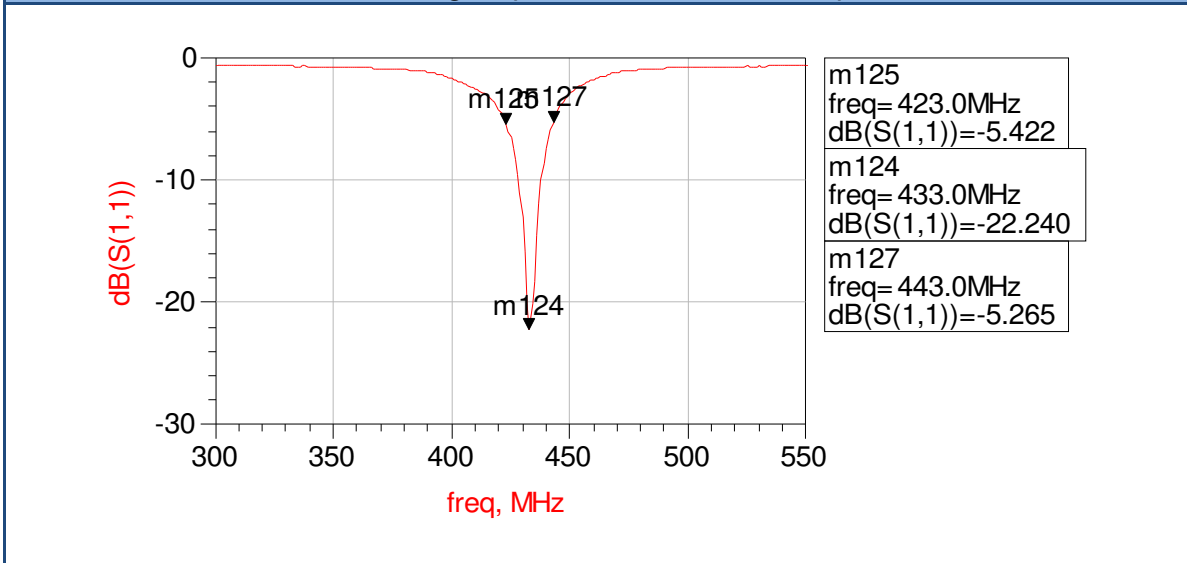
## Mounting Consideration - 2 (Evaluation board p/n: 0433AT62A0020-EB4SMA)



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)



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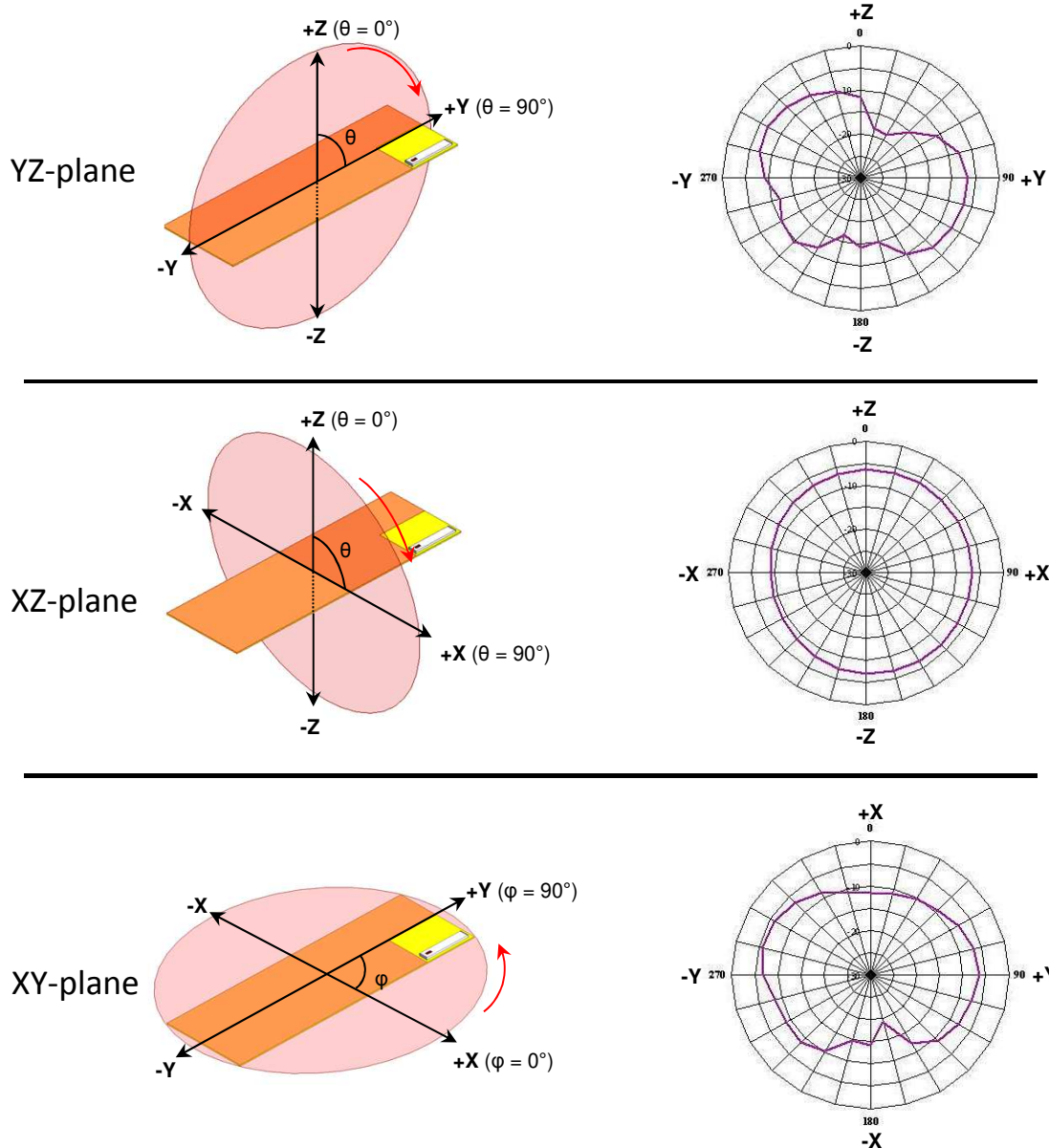
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

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



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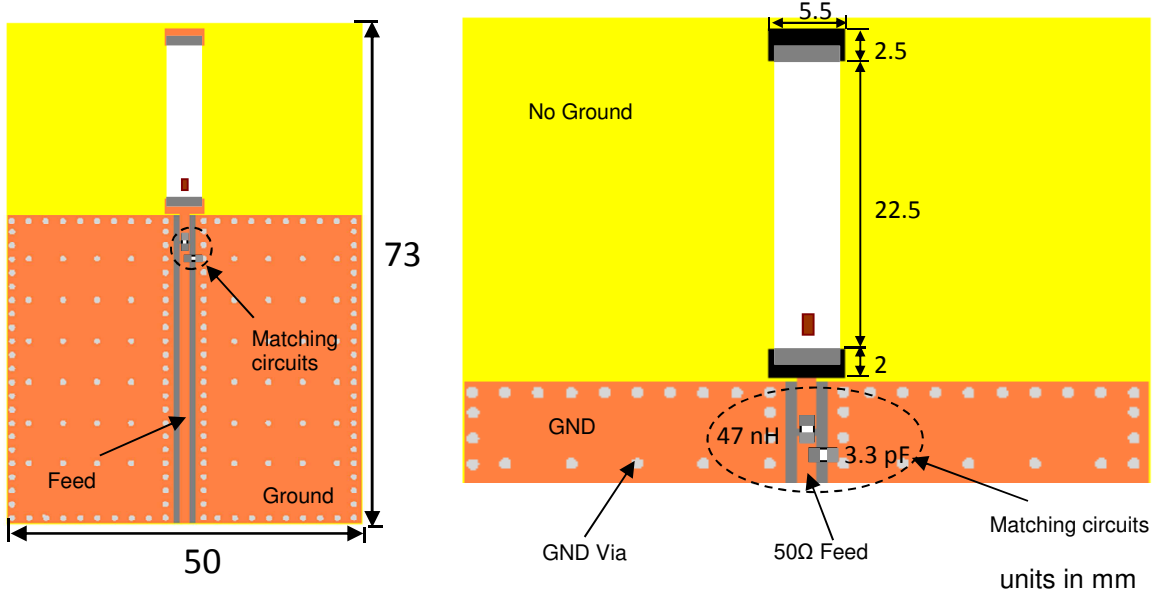
433 MHz ISM Antenna SMD (25x5mmx1.2)

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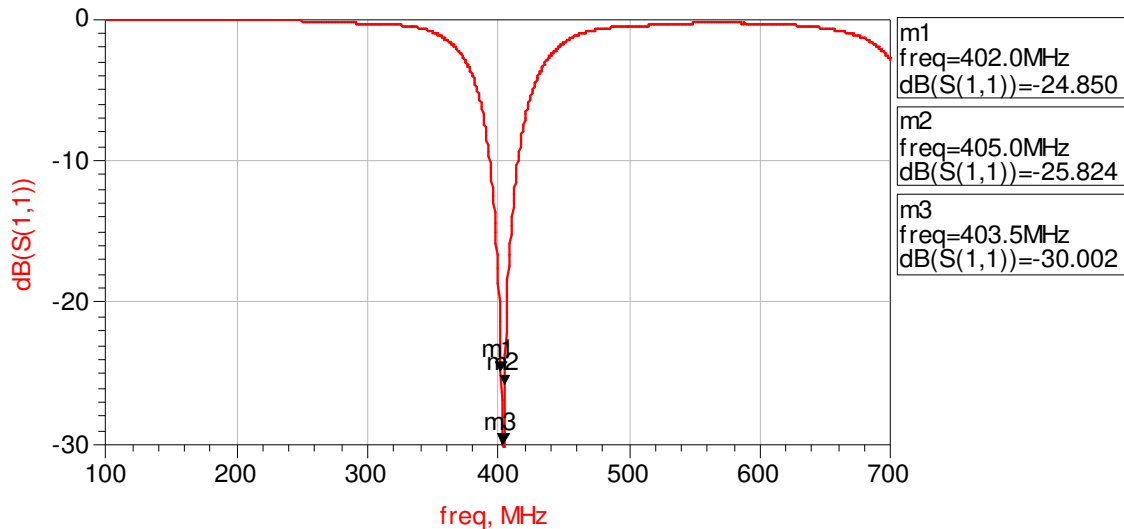
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## Tuning 0433AT62A0020 to 403MHz



Orderable EVB Johanson p/n: 0433AT62A0020-EB5SMA



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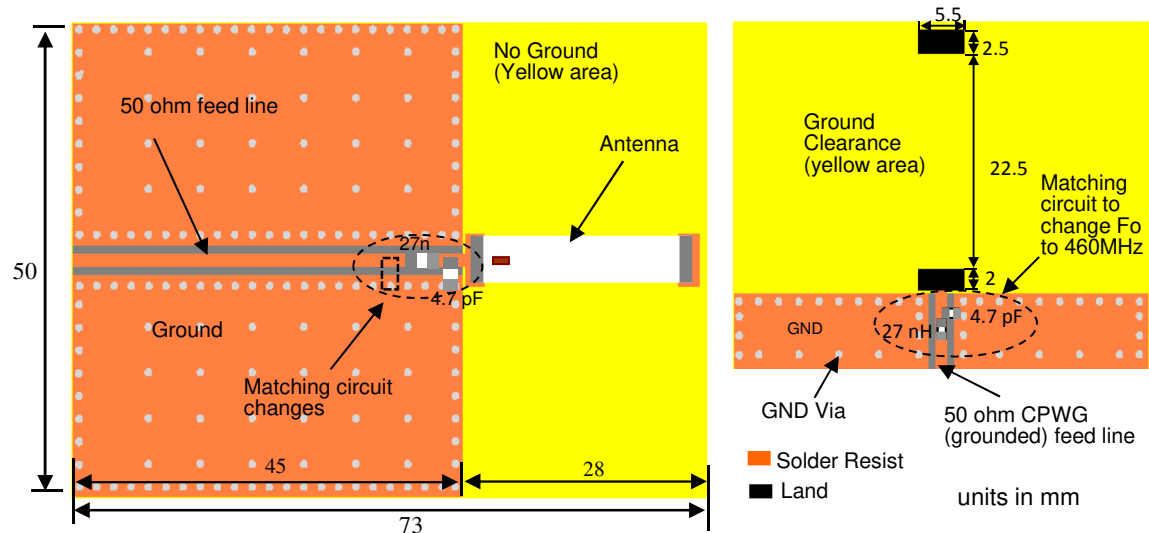
433 MHz ISM Antenna SMD (25x5mmx1.2)

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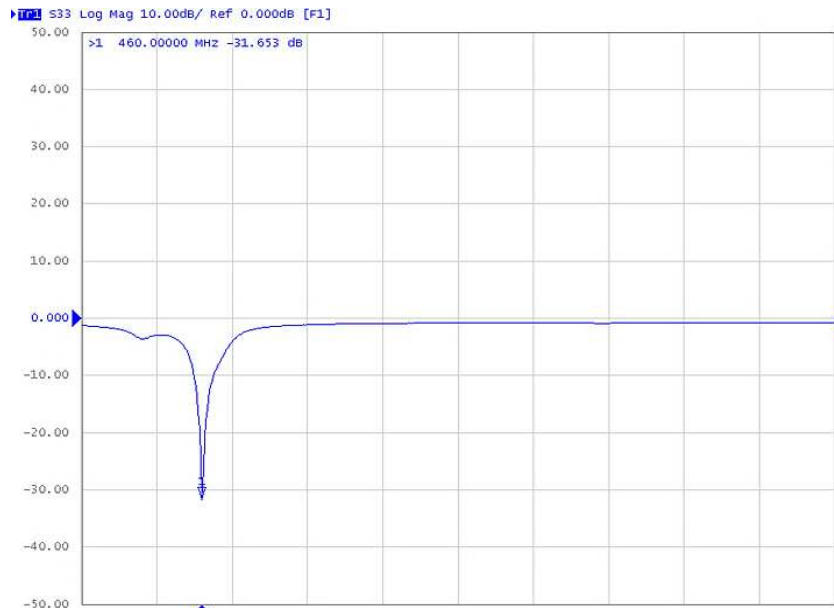
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## Tuning 0433AT62A0020 to 460MHz



### Orderable EVB Johanson p/n: 0433AT62A0460-EB1SMA



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## 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>

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