



# "High Frequency Ceramic Solutions"

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

**P/N 0433AT62A0020**

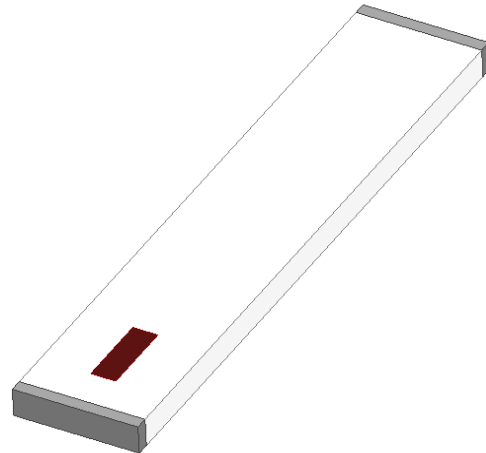
Detail Specification: 5/30/2018

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 460MHz

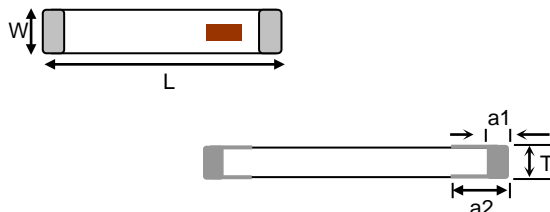
\* See page 9 for tuned antenna performance at 403MHz

## 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



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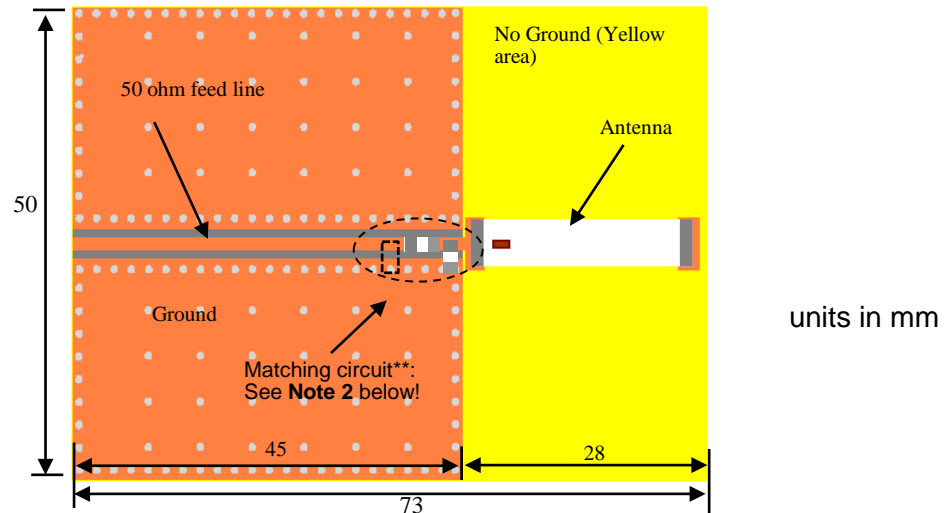
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

Detail Specification: 5/30/2018

Page 2 of 10

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



**\*\*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>

Want the layout file of the above?

Send us a message at: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

Orderable EVB Johanson p/n: 0433AT62A0020-EB1SMA  
to request a sample, go to: [www.johansontechnology.com/request-a-sample](http://www.johansontechnology.com/request-a-sample)

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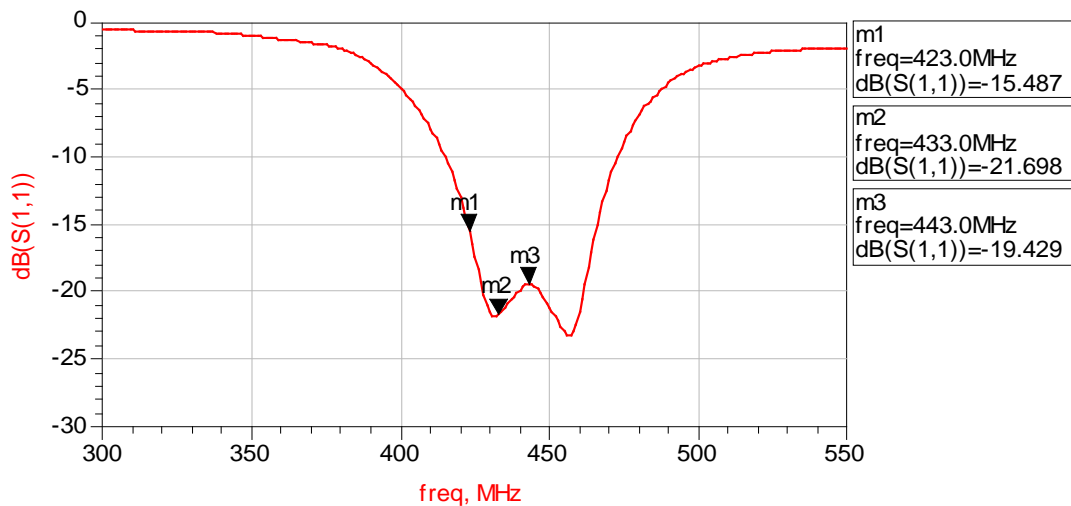
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# "High Frequency Ceramic Solutions"

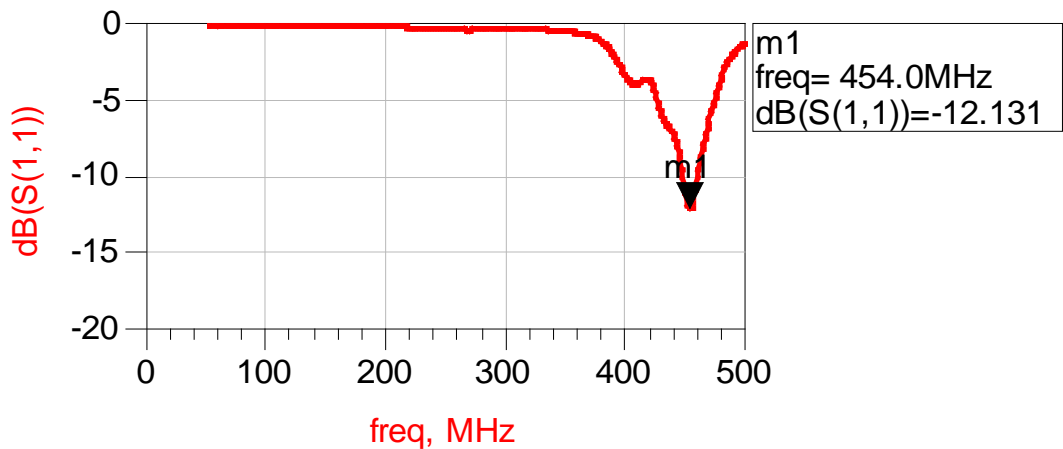
**433 MHz ISM Antenna SMD (25x5mmx1.2)** **P/N 0433AT62A0020**  
 Detail Specification: 5/30/2018 Page 3 of 10

## 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).**



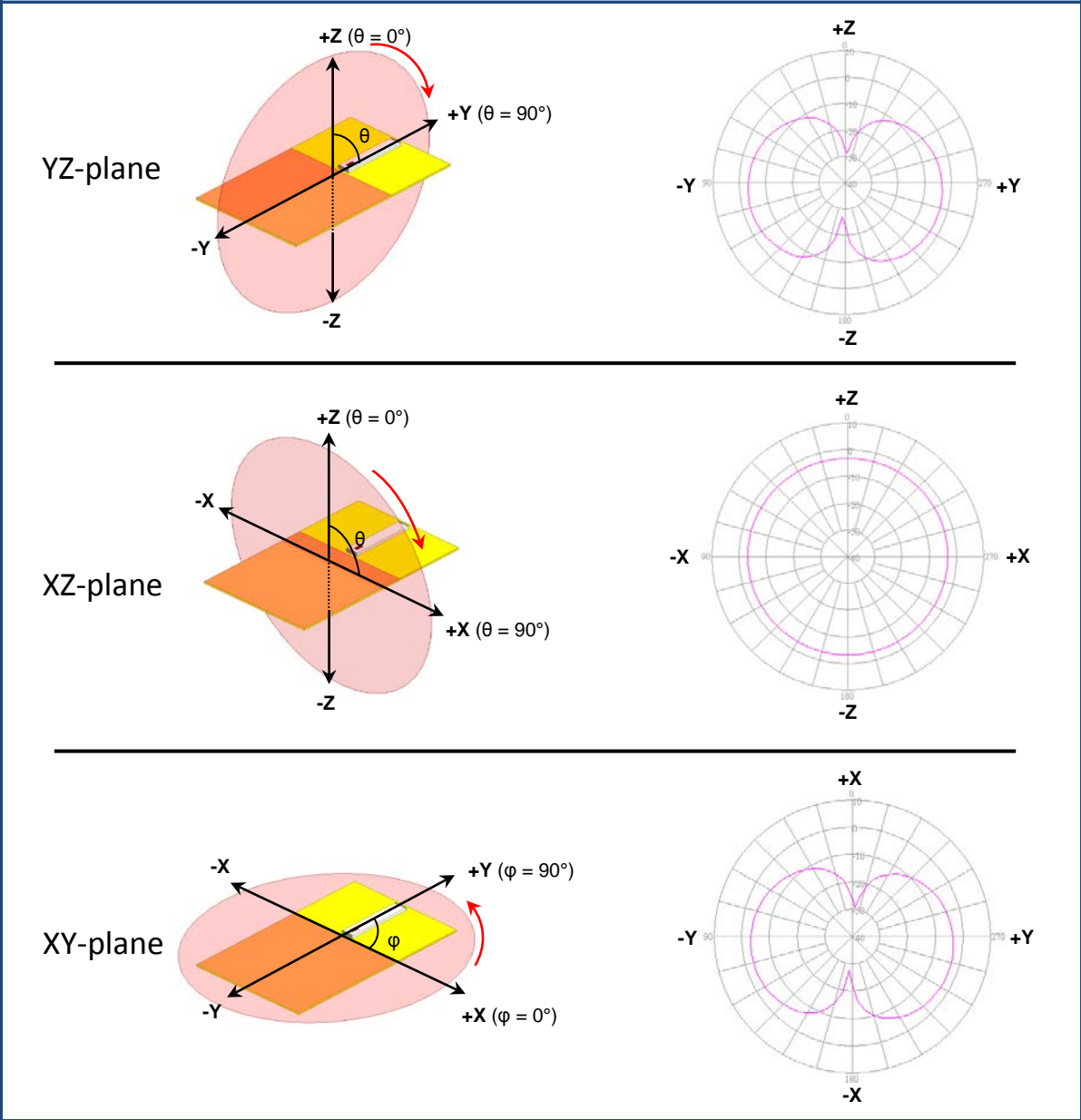
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Detail Specification: 5/30/2018	Page 4 of 10

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



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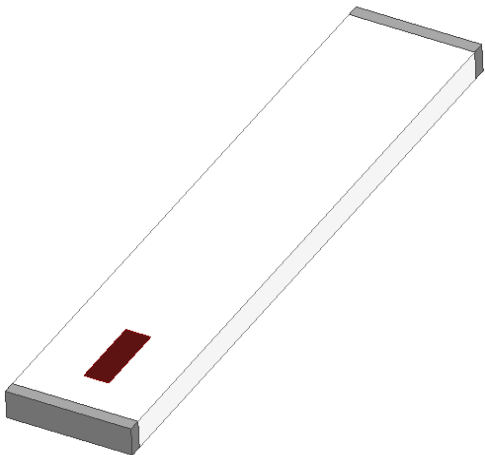
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# "High Frequency Ceramic Solutions"

<b>433 MHz ISM Antenna SMD (25x5mmx1.2)</b>	<b>P/N 0433AT62A0020</b>
Detail Specification: 5/30/2018	Page 5 of 10

## 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 Ω



Terminal Configuration	
No.	Function
1	Feeding Point
2	NC

## Mounting Consideration - 2

**Units: mm**

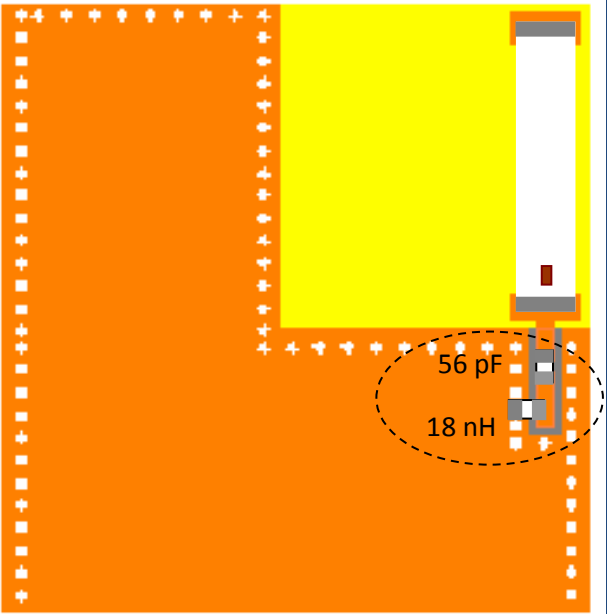
Mount these devices with the red mark facing

- 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:

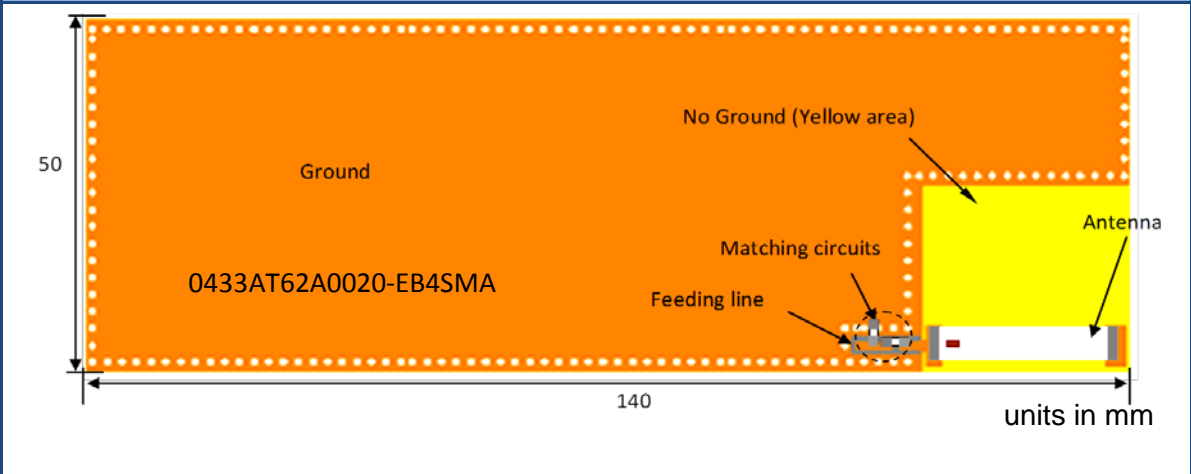
[www.johansontechnology.com/jpc-antenna-services](http://www.johansontechnology.com/jpc-antenna-services)



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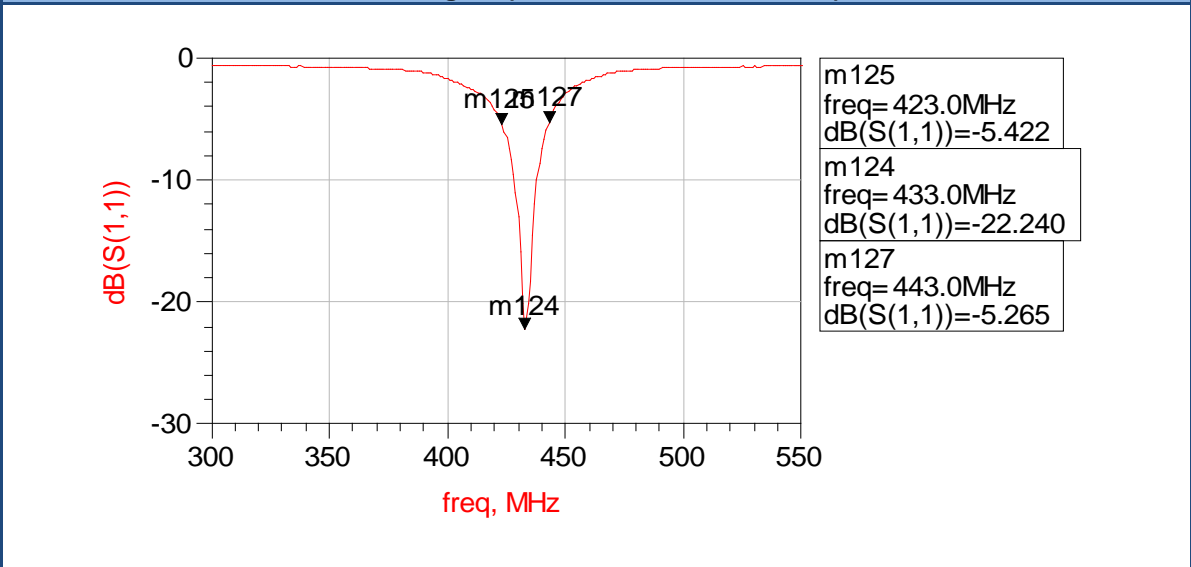
<b>433 MHz ISM Antenna SMD (25x5mmx1.2)</b>	<b>P/N 0433AT62A0020</b>
Detail Specification: 5/30/2018	Page 6 of 10

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



Orderable EVB Johanson p/n: 0433AT62A0020-EB4SMA  
 To request an evaluation board, go to: [www.johansontechnology.com/request-a-sample](http://www.johansontechnology.com/request-a-sample)

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



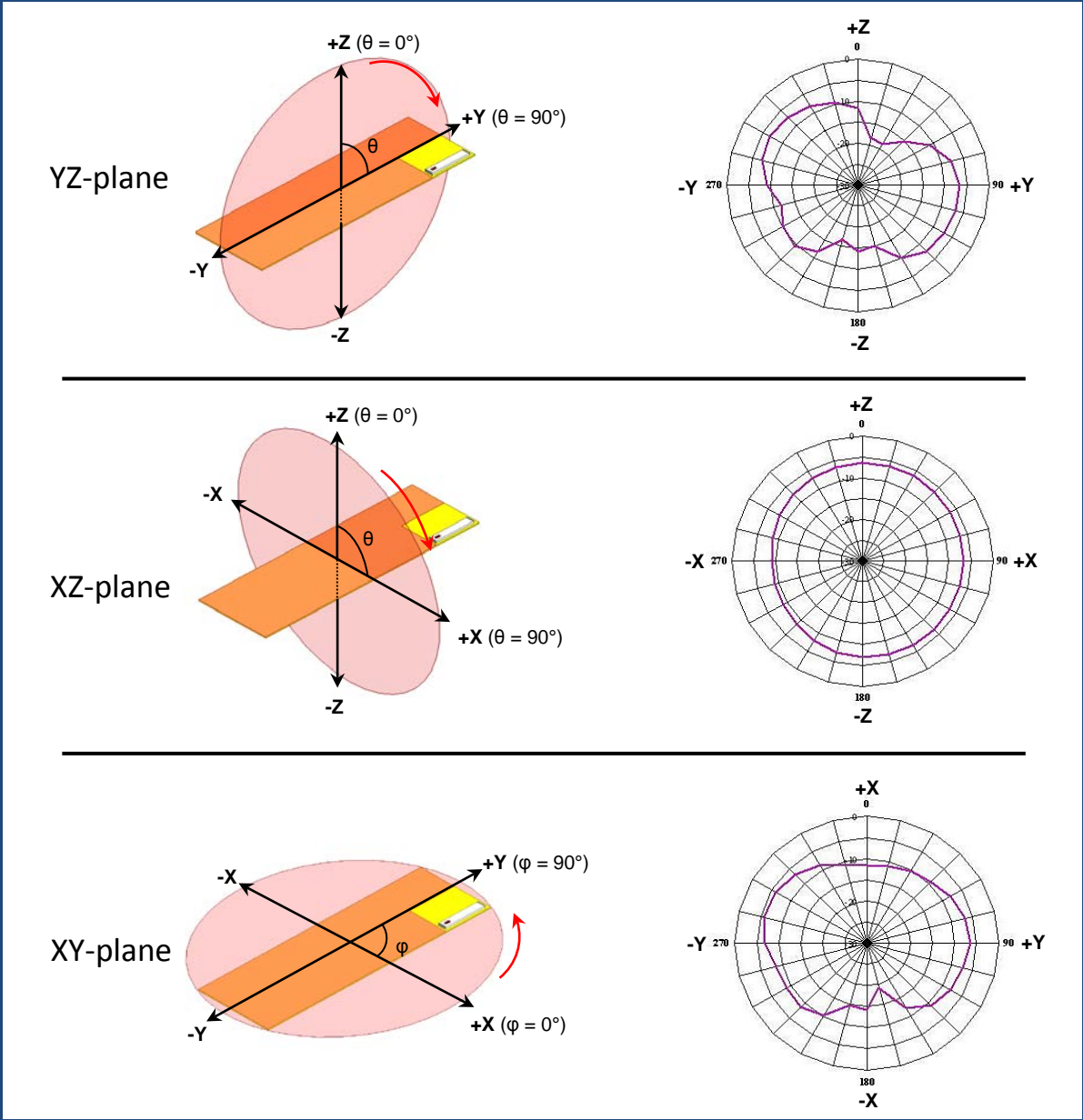
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<b>433 MHz ISM Antenna SMD (25x5mmx1.2)</b>	<b>P/N 0433AT62A0020</b>
Detail Specification: 5/30/2018	Page 7 of 10

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



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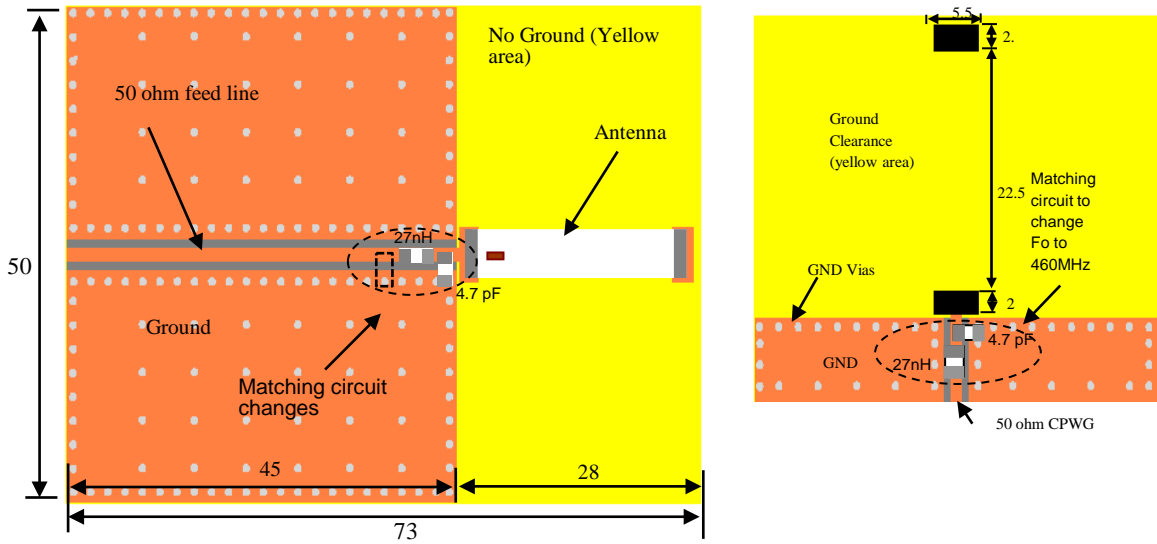
**433 MHz ISM Antenna SMD (25x5mmx1.2)**

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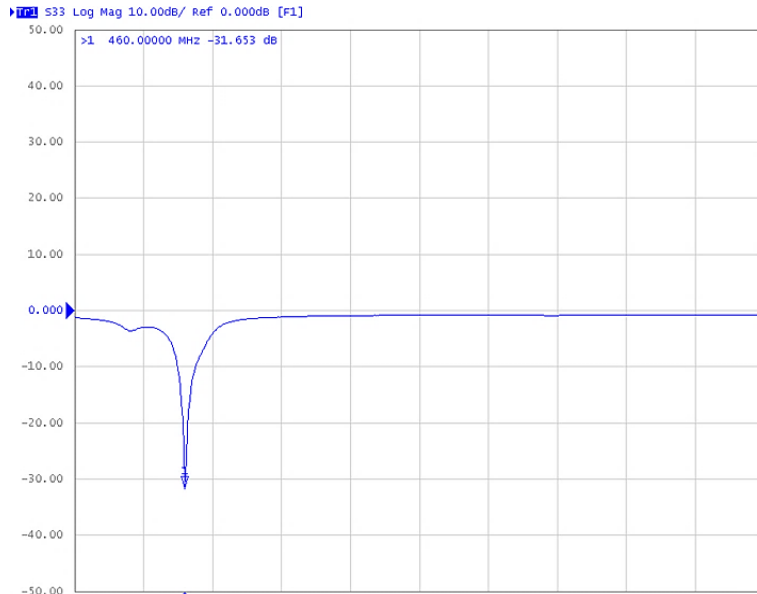
Detail Specification: 5/30/2018

Page 8 of 10

## Tuning 0433AT62A0020 to 460MHz



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



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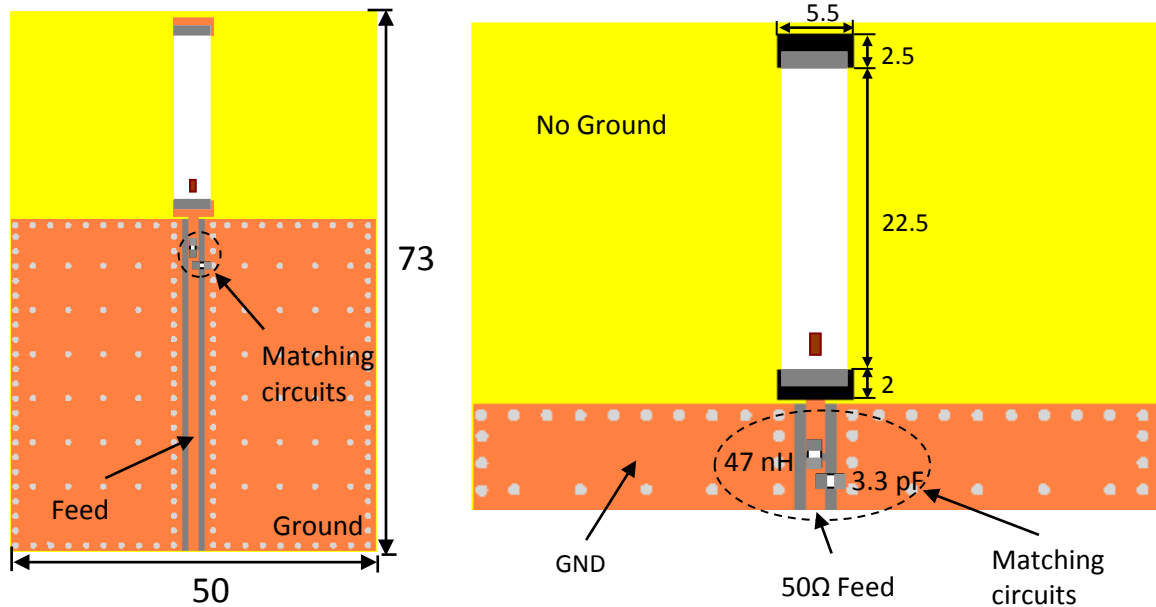
433 MHz ISM Antenna SMD (25x5mmx1.2)

P/N 0433AT62A0020

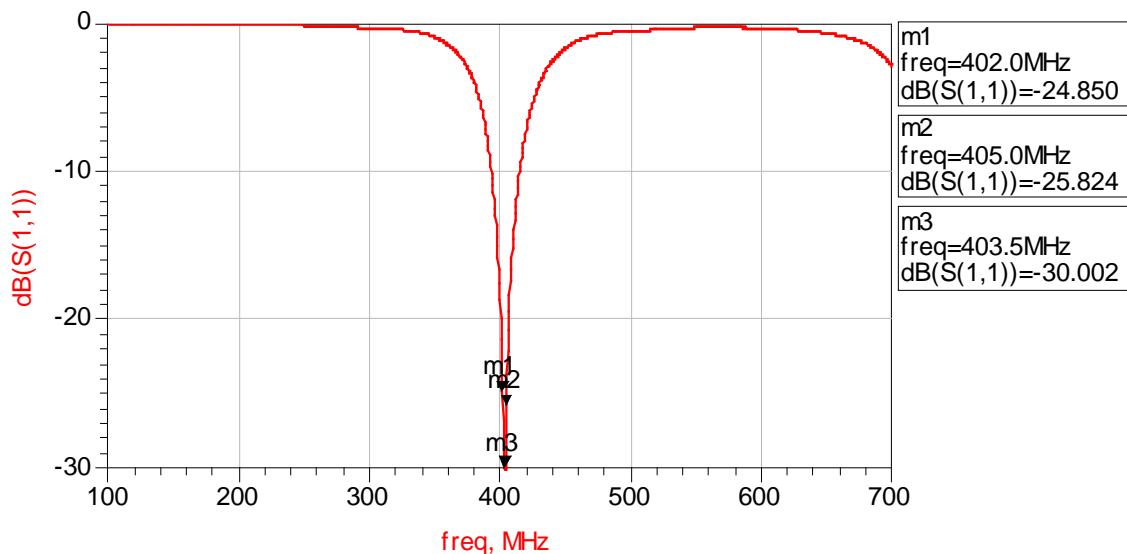
Detail Specification: 5/30/2018

Page 9 of 10

## Tuning 0433AT62A0020 to 403MHz



Orderable EVB Johanson p/n: 0433AT62A0020-EB5SMA



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**P/N 0433AT62A0020**

Detail Specification: 5/30/2018

Page 10 of 10

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[www.johansontechnology.com/antennas](http://www.johansontechnology.com/antennas)

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**Soldering Information**

[www.johansontechnology.com/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-profile)

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

[www.johansontechnology.com/tuning](http://www.johansontechnology.com/tuning)

**Antenna layout review, tuning, and characterization services**

[www.johansontechnology.com/ipc-antenna-services](http://www.johansontechnology.com/ipc-antenna-services)

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