

"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		

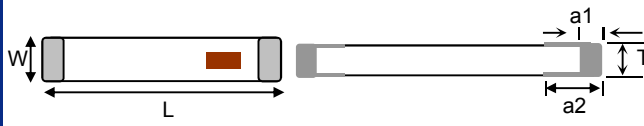
This antenna can be tuned +/- 50MHz, to see 460MHz example, go to page 8. Gain will be comparable to 433MHz.

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

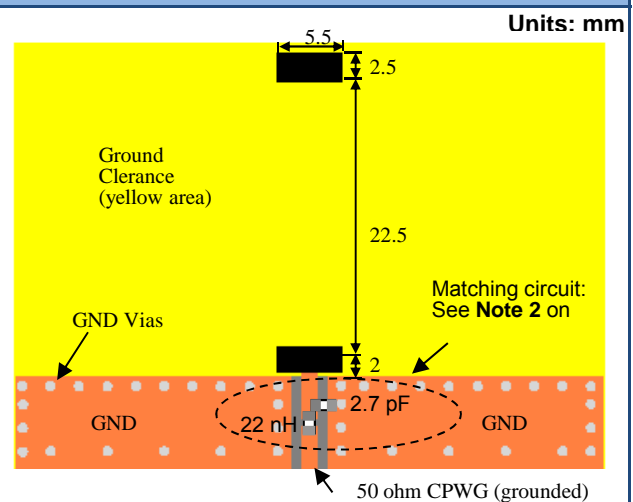
Mount these devices with the red mark facing

-  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)



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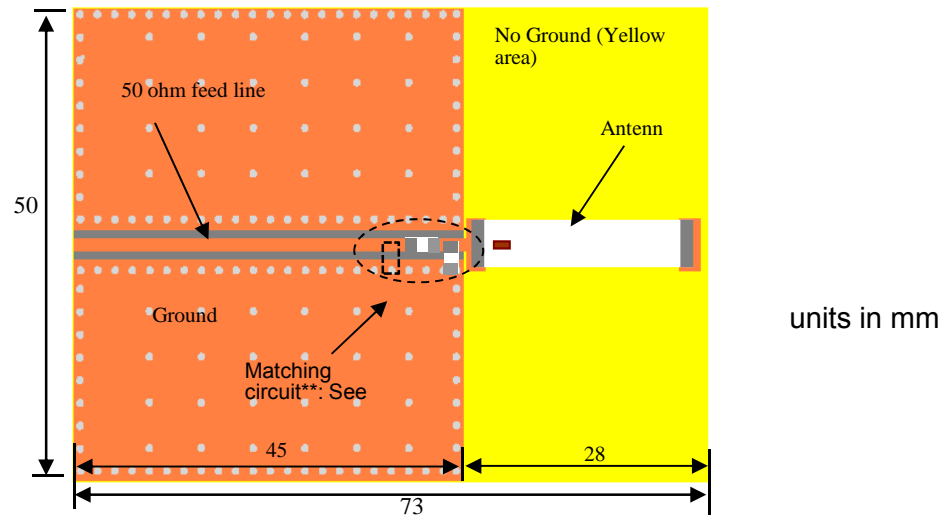
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Mounting Considerations - 1 (Evaluation board p/n: 0433AT62A0020-EB1SMA)



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

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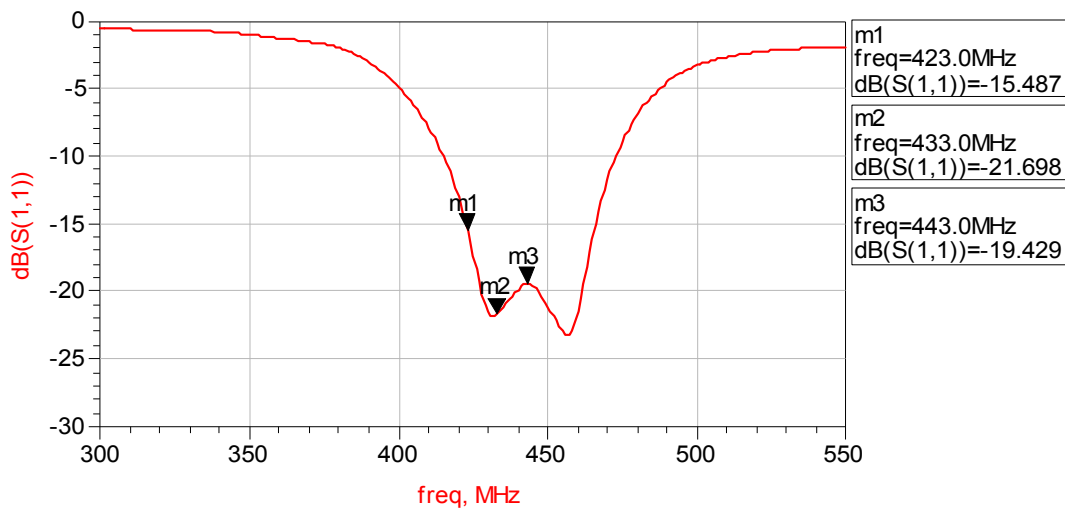
P/N 0433AT62A0020

Detail Specification: 9/25/2014

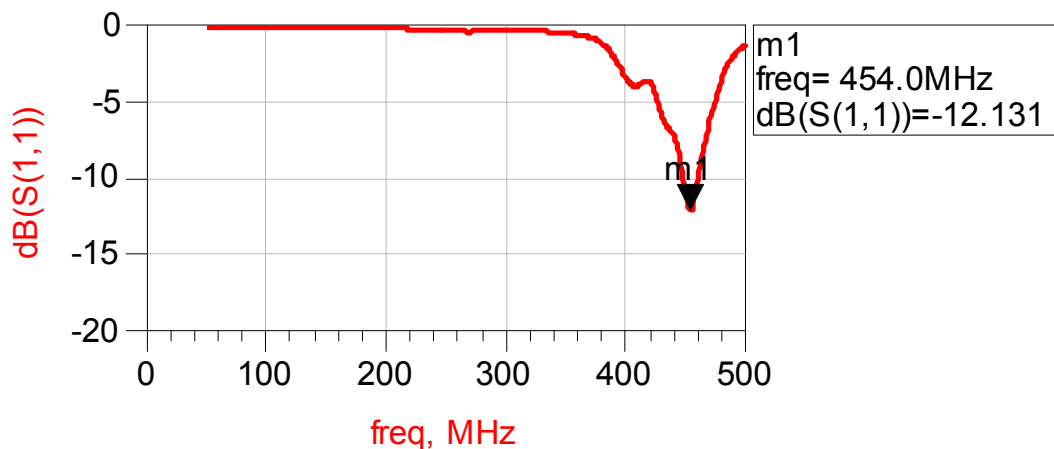
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Electrical Characteristics: Mounting - 1 (0433AT62A0020-EB1SMA)

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



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



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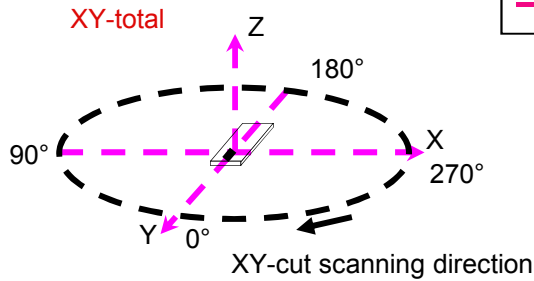
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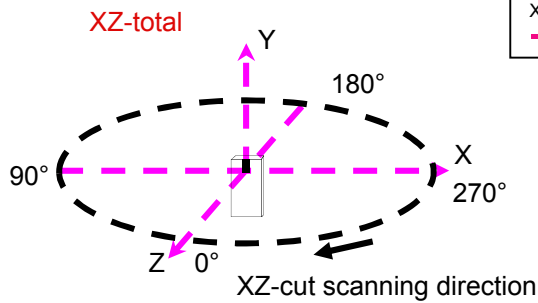
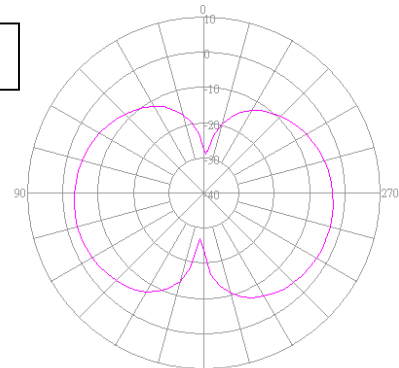
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Typical Radiation Performance @ 25° C on Mounting - 1 (0433AT62A0020-EB1SMA)

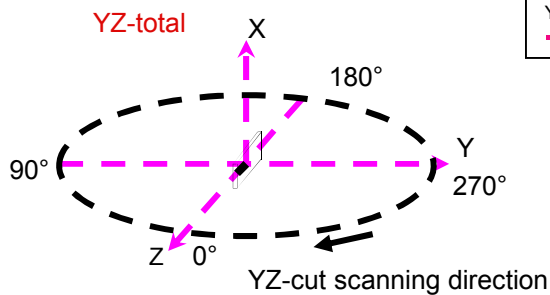
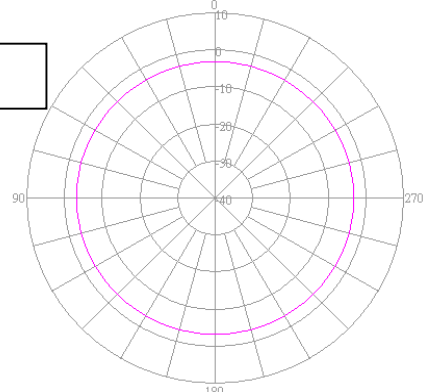
Radiation Patterns



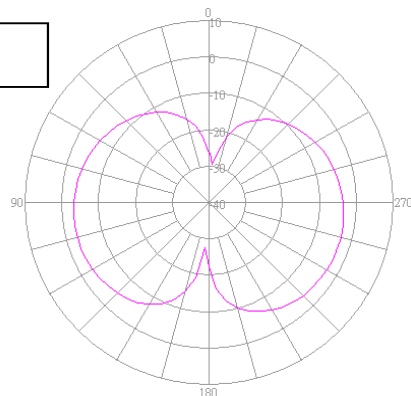
XY cut @433MHz
Total



XZ cut @433MHz
Total



YZ cut @433MHz
Total



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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

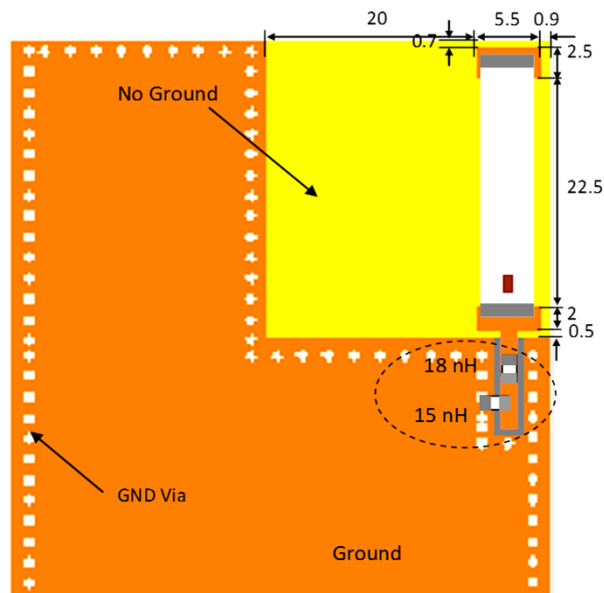
Mount these devices with the red mark facing

 Solder Resist

 Land

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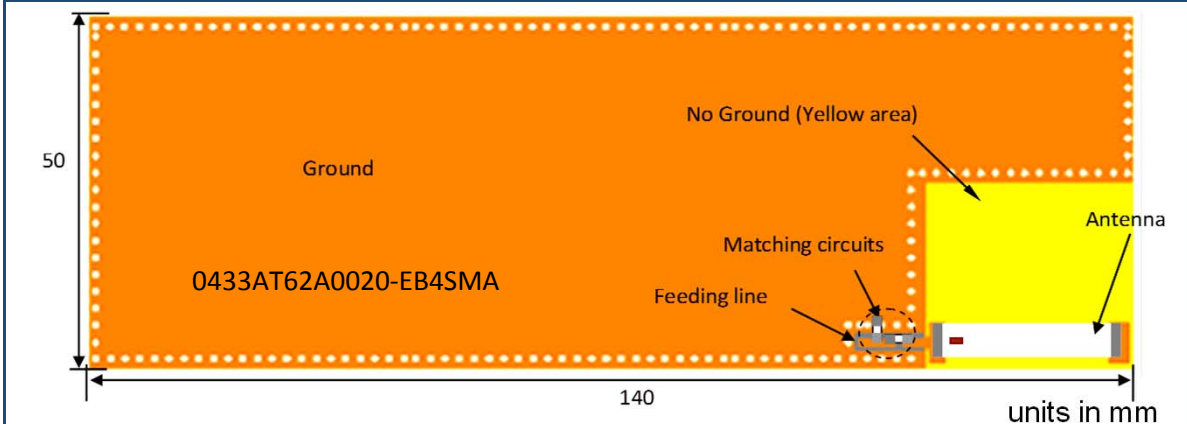
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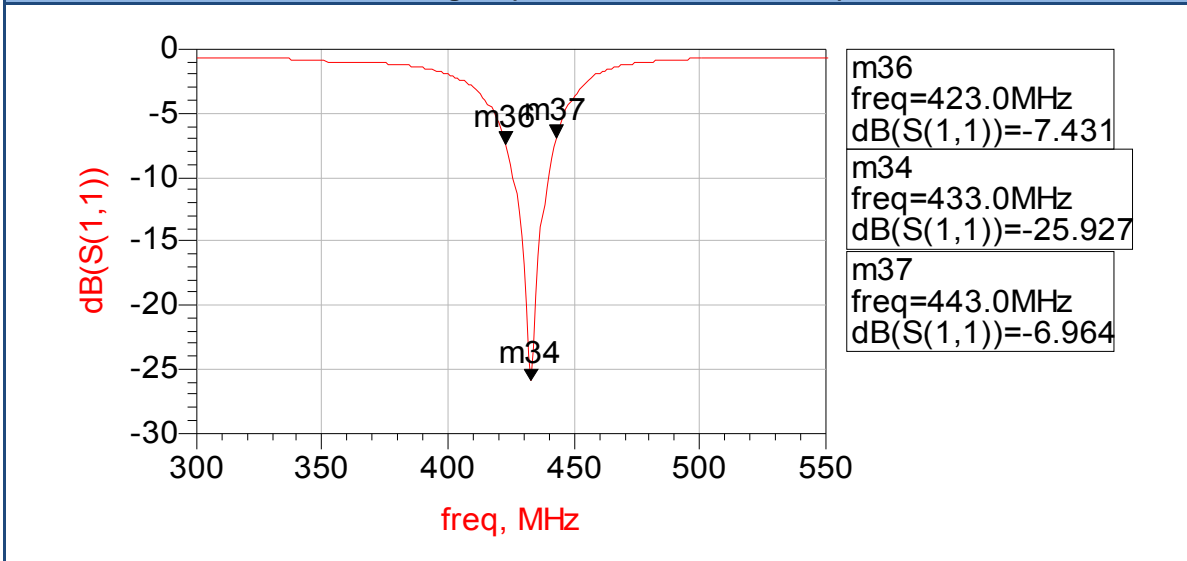
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Mounting Considerations - 2 (Evaluation board p/n: 0433AT62A0020-EB4SMA)



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)



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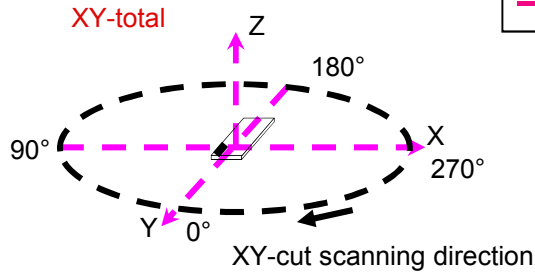
P/N 0433AT62A0020

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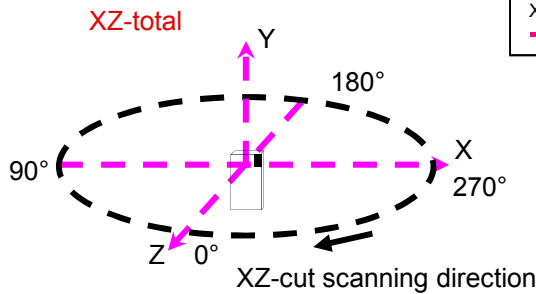
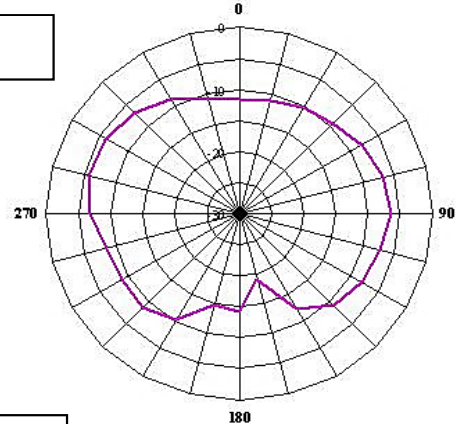
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Typical Radiation Performance @ 25° C on Mounting - 2 (0433AT62A0020-EB4SMA)

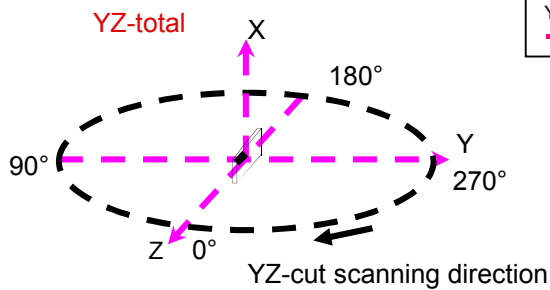
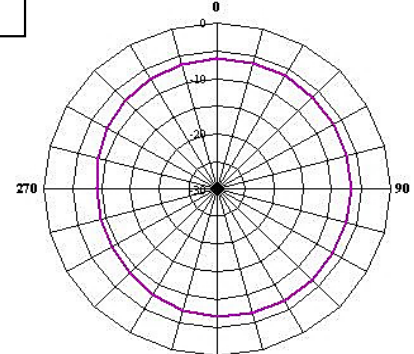
Radiation Patterns



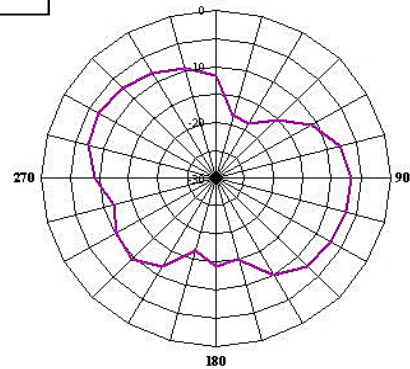
XY cut @433MHz
Total



XZ cut @433MHz
Total



YZ cut @433MHz
Total



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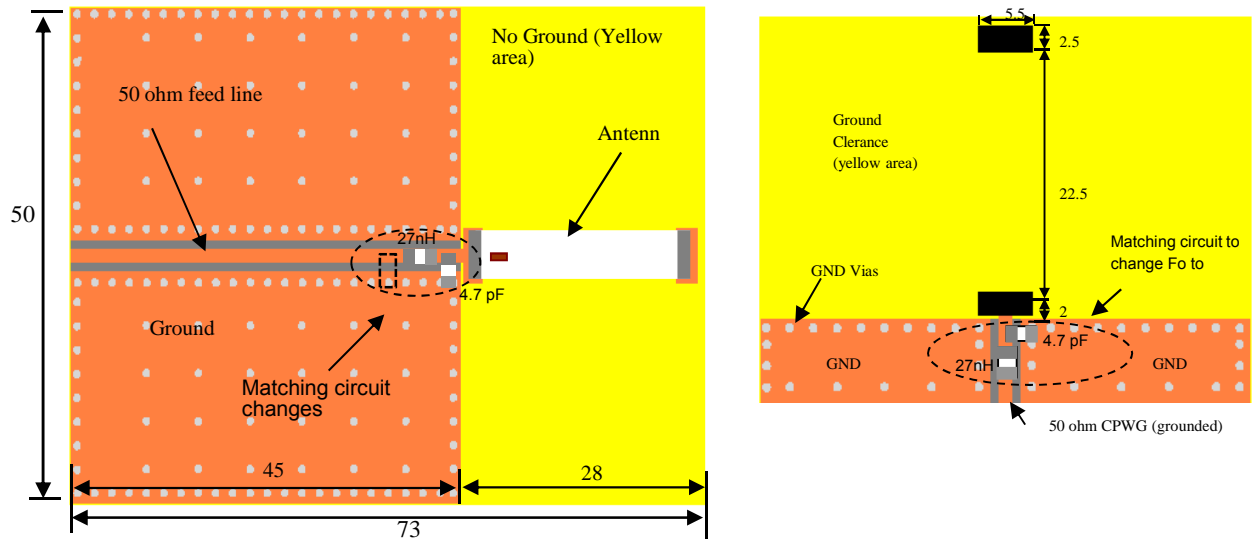
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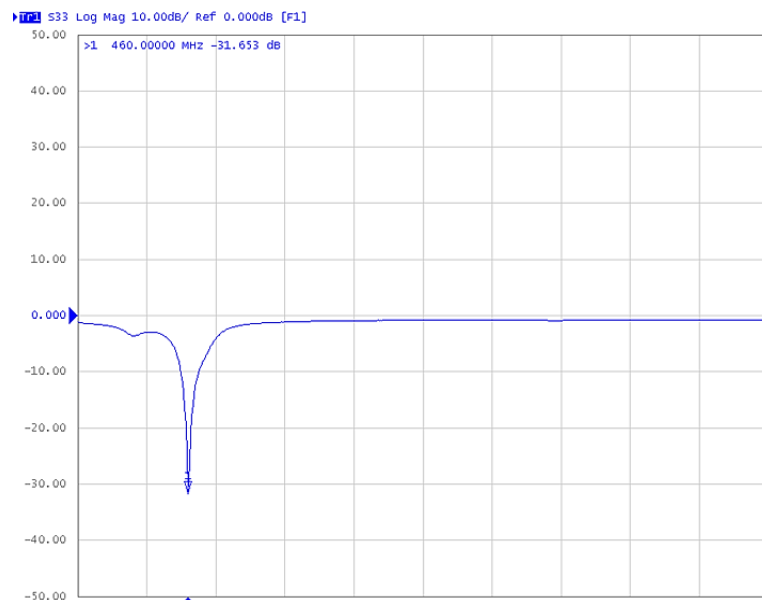
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Tuning 0433AT62A0080 to 460MHz



Orderable EVB Johanson p/n: 0433AT62A0460-EB1SMA



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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

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