

# High Frequency Ceramic Solutions

1.585GHz Global Navigation (GPS, GLONASS, Beidou, Galileo) SMD Chip Antenna

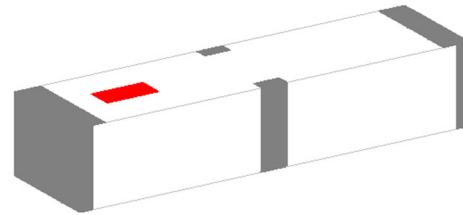
P/N 1582AT54A0045

Detail Specification: 6/3/2021

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## General Specifications

Part Number	1582AT54A0045
Frequency (MHz)	1560 - 1605
Peak Gain (YZ-total)	1.5 dBi typ.
Average Gain (YZ-total)	-0.5 dBi typ.
Return Loss	9.5 dB min.
Impedance	50 $\Omega$
Power Capacity	3W max. (CW)
Reel Quantity	500 pcs
Operating Temperature	-40 to +85°C



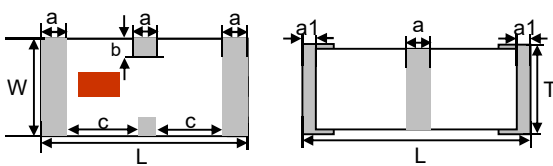
Recommended Storage Conditions of uninstalled product still on T&R	+5 to +35°C Humidity 45~75%RH 18 months max.	Measured Efficiencies					
		MHz	1565	1575	1585	1595	1602
		%	77	80	86	86	82

## Part Number Explanation

P/N Suffix	Packaging Style (orderable p/n)	Bulk	Suffix = S	e.g. 1582AT54A0045S
		T & R	Suffix = E	e.g. 1582AT54A0045E
	Termination style	100% Tin	Suffix = E or S	e.g. 1582AT54A0045(E or S)
	Evaluation Board	1582AT54A0045-EB1SMA		

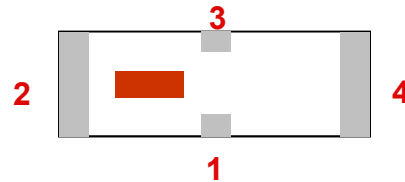
## Mechanical Dimensions

	In	mm
L	0.591 ± 0.008	15.00 ± 0.20
W	0.157 ± 0.008	4.00 ± 0.20
T	0.126 ± 0.008	3.20 ± 0.20
a	0.039 ± 0.008	1.00 ± 0.20
a1	0.020 ± 0.008	0.50 ± 0.20
b	0.020 ± 0.008	0.50 ± 0.20
c	0.236 ± 0.008	6.00 ± 0.20



## Terminal Configuration

No.	Function
1	Feeding Point
2	GND
3	NC
4	GND



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<http://www.johansontechnology.com>

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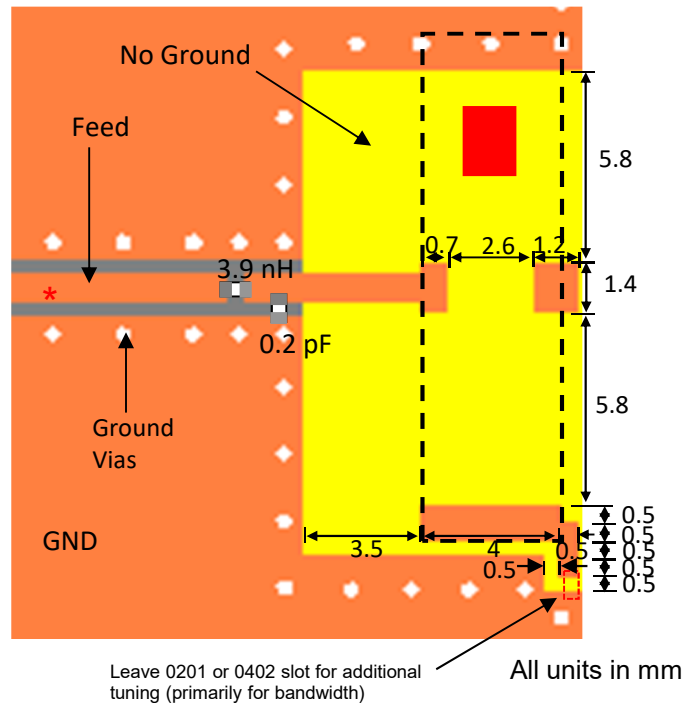
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## GPS-only Mounting Considerations

\* Line width should be designed to match  $50\Omega$  characteristic impedance, depending on PCB material and thickness. Grounded CPWG will provide best results!

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



Want the layout file of this? Send us a message at:  
<https://www.johansontechnology.com/ask-a-question>

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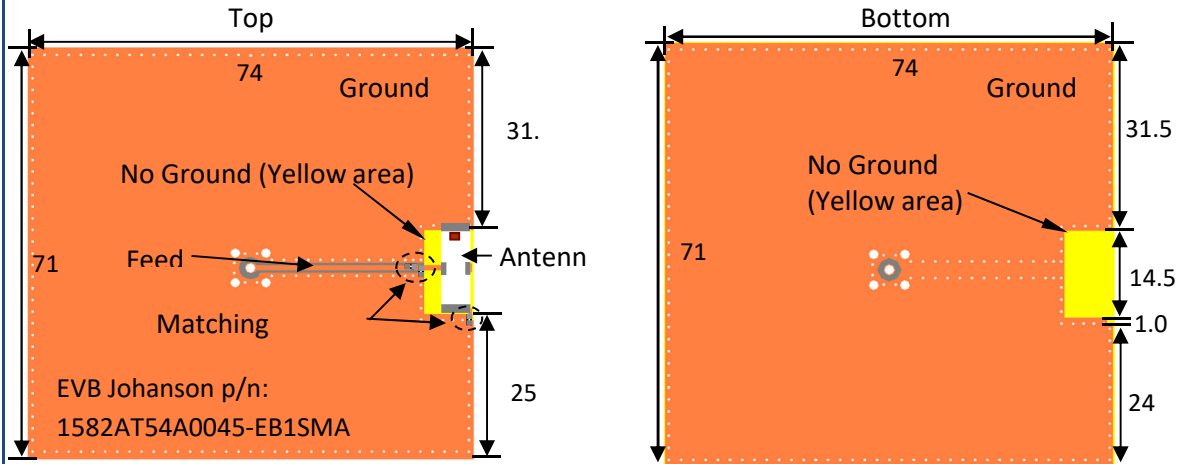
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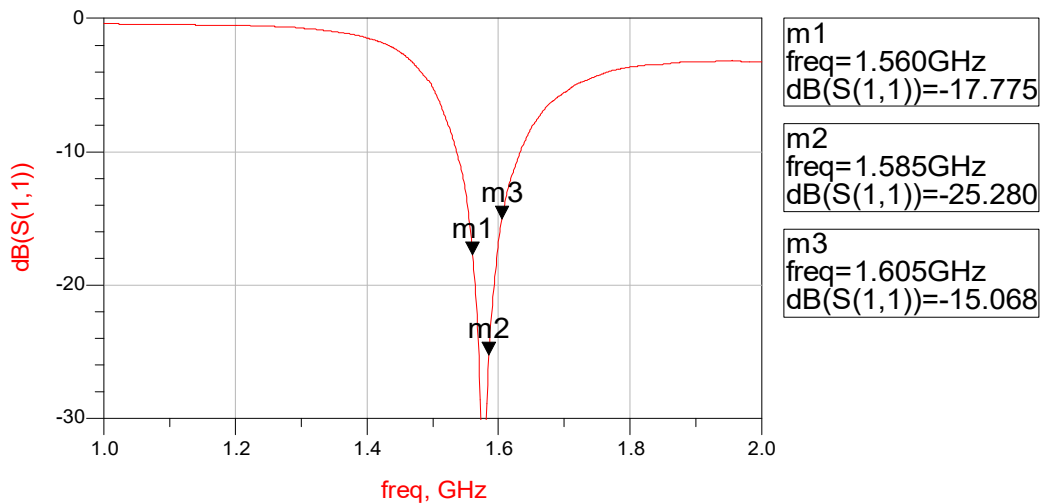
## Mounting Considerations



Order this pre-tuned EVB by clicking: <https://www.johansontechnology.com/request-a-sample>

## Typical Electrical Characteristics (T=25°C)

Evaluation Board Return Loss



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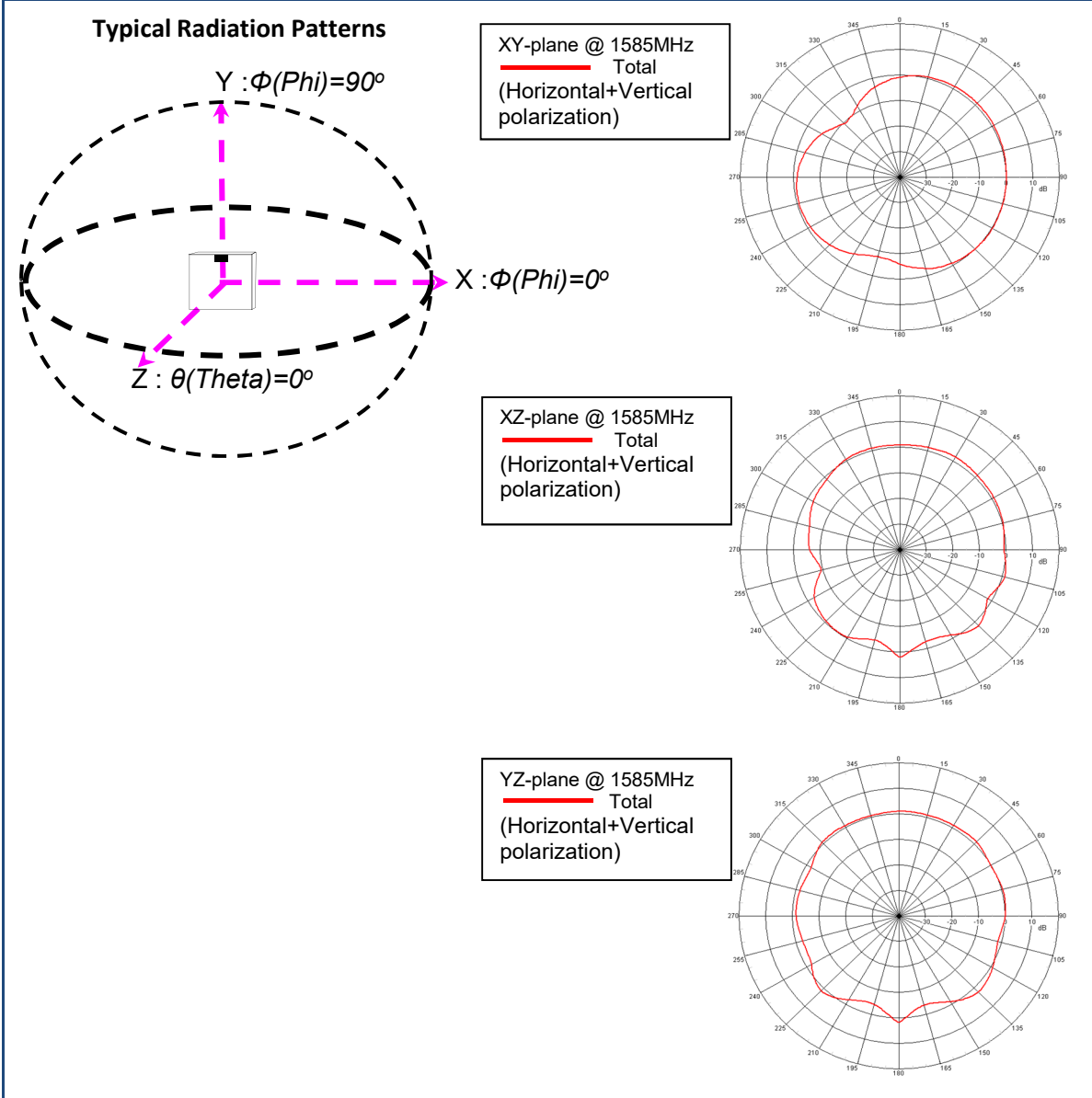
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## Evaluation Board Typical Electrical Characteristics (T=25°C)



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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

<https://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>

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