

High Frequency Ceramic Solutions

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

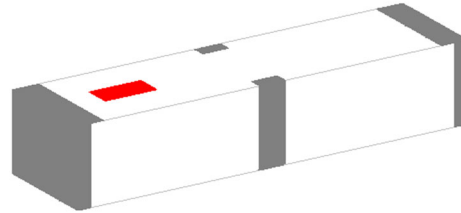
P/N 1582AT54A0045

Detail Specification: 6/3/2021

Page 1 of 5

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 Ω
Power Capacity	3W max. (CW)
Reel Quantity	500 pcs
Operating Temperature	-40 to +85°C



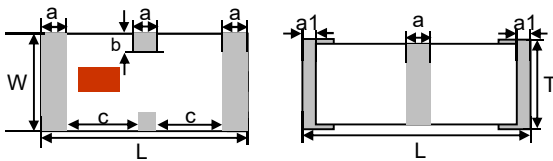
Recommended Storage Conditions of uninstalled product still on T&R	+5 to +35°C Humidity 45~75%RH 18 months max.	Measured Efficiencies				
		MHz	1565	1575	1585	1595
		%	77	80	86	86
						1602
						82

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		

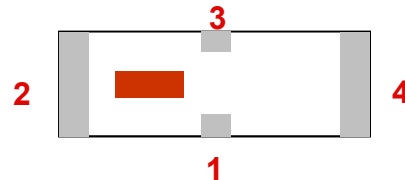
Mechanical Dimensions

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



Terminal Configuration

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



Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



<http://www.johansontechnology.com>

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

Ver. 1.2

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

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

P/N 1582AT54A0045

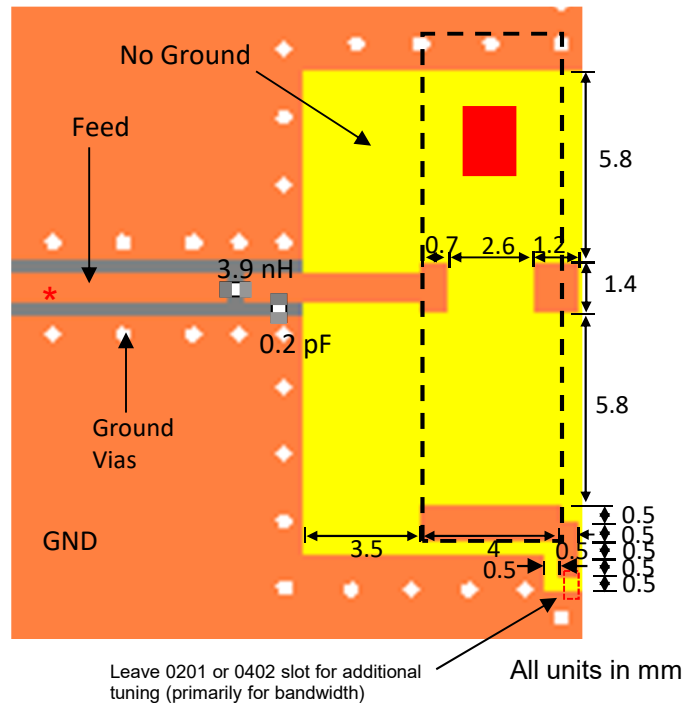
Detail Specification: 6/3/2021

Page 2 of 5

GPS-only Mounting Considerations

* Line width should be designed to match 50Ω 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>

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<http://www.johansontechnology.com>

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

Ver. 1.1

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

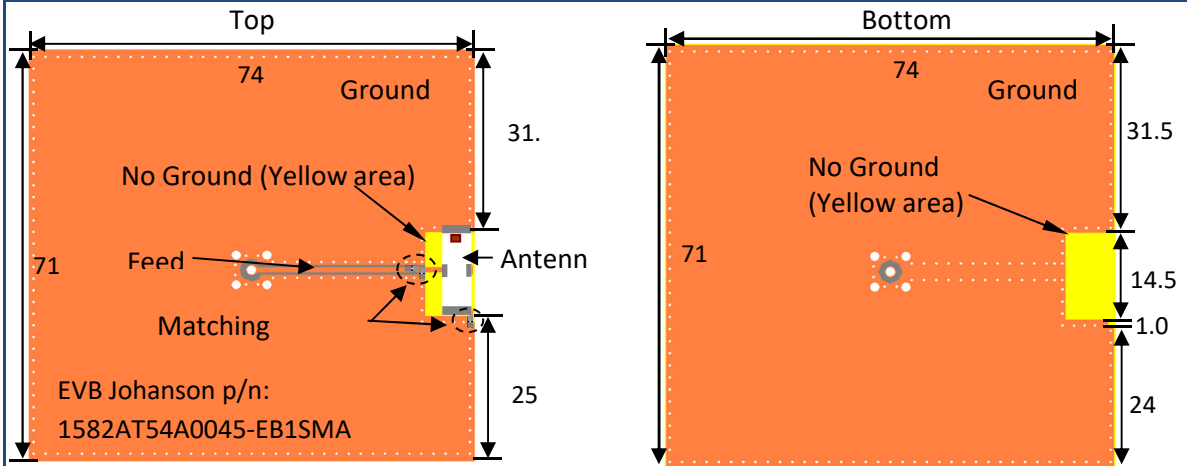
1.585GHz Global Navigation (GPS, GLONASS, Beidou, Galileo) SMD Chip Antenna

P/N 1582AT54A0045

Detail Specification: 6/3/2021

Page 3 of 5

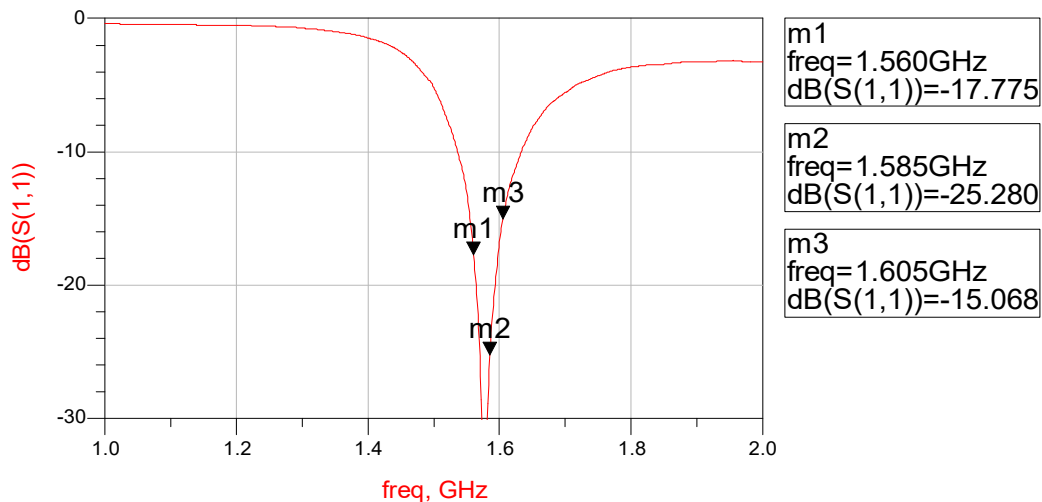
Mounting Considerations



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

Typical Electrical Characteristics (T=25°C)

Evaluation Board Return Loss



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<http://www.johansontechnology.com>

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

Ver. 1.2

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

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

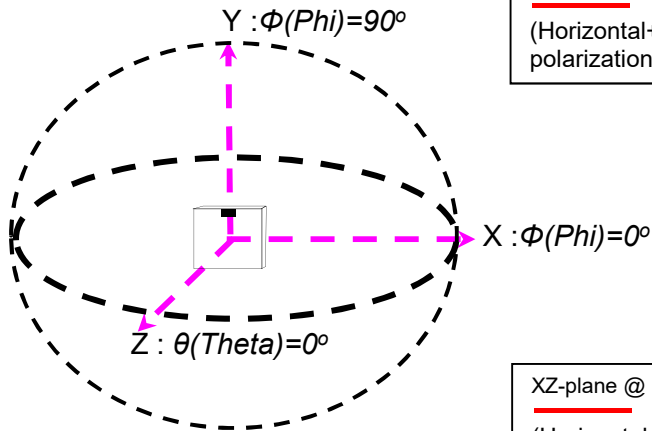
P/N 1582AT54A0045

Detail Specification: 6/3/2021

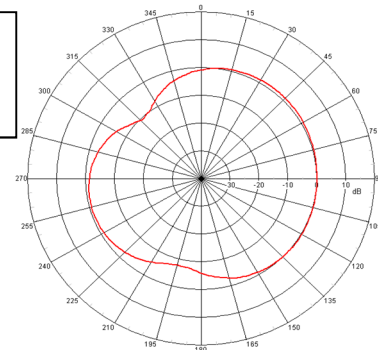
Page 4 of 5

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

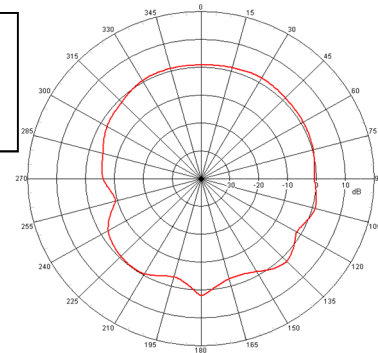
Typical Radiation Patterns



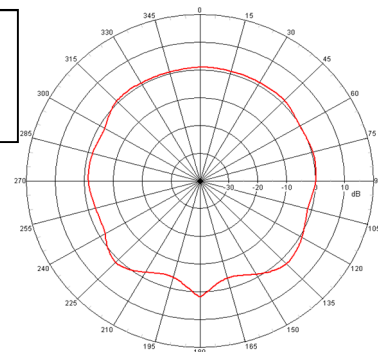
XY-plane @ 1585MHz
— Total
(Horizontal+Vertical
polarization)



XZ-plane @ 1585MHz
— Total
(Horizontal+Vertical
polarization)



YZ-plane @ 1585MHz
— Total
(Horizontal+Vertical
polarization)



Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



<http://www.johansontechnology.com>

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

Ver. 1.2

2021 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

1.585GHz Global Navigation (GPS, GLONASS, Beidou, Galileo) SMD Chip Antenna P/N 1582AT54A0045

1.585GHz Global Navig 6/3/2021

Page 5 of 5

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>

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<http://www.johansontechnology.com>

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

Ver. 1.2

2021 Johanson Technology, Inc. All Rights Reserved