"High Frequency Ceramic Solutions"

1.575 & 1.602 GHz GPS/GLONASS SMD Chip Antenna **P/N 1575AT54A0010**

Detail Specification: 1/29/2015

General Specifications

Part Number	1575AT54A0010	**Reel Quanity**	500 pcs
Frequency (MHz)*	1575 - 1605 Mhz	**Operating Temperature**	-40 to +85°C
Peak Gain (YZ-total)	1.3 dBi typ.	**Recommended Storage Conditions**	+5 ~ +35 °C, Humidity 45~75%RH
Average Gain (YZ-total)	-0.7 dBi typ.		
Return Loss	9.5 dB min.	**Storage Period**	18 months max.
Impedance	50 Ω	**Power Capacity**	2W max. (CW)

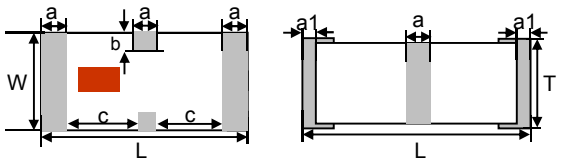
*Plus 5MHz of guard band on each side

Part Number Explanation

P/N Suffix	**Packing Style**	Bulk	Suffix = S	eg. 1575AT54A0010S
		T & R	Suffix = E	eg. 1575AT54A0010E
		100% Tin	Suffix = E or S	eg. 1575AT54A0010(E or S)
	Termination style	Tin / Lead	Please Consult Factory (www.johansontechnology.com/component/quoterequest)	

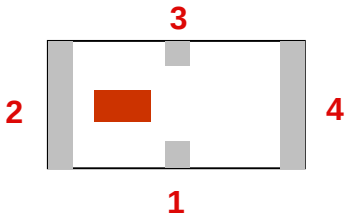
Mechanical Dimensions

	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



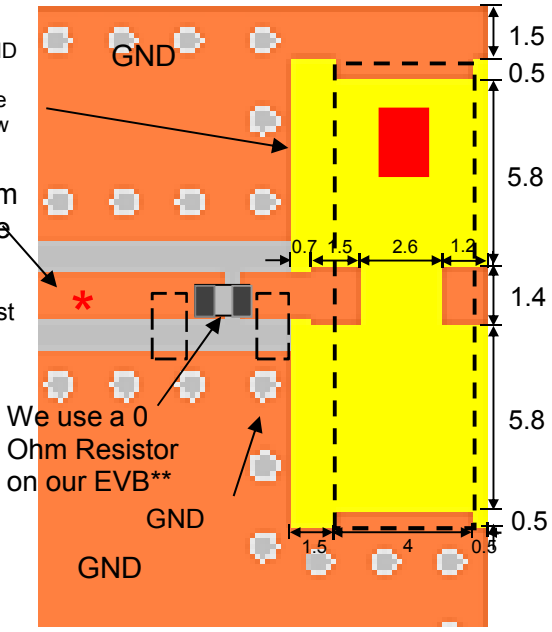
GPS-only Mounting Considerations

*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Yellow area- complete GND and layer clearance free of metal below

*50 ohm feedline

EVB Johanson with SMA (orderable!)
reference p/n: 1575AT54A0010-EB1SMA and go to:
www.johansontechnology.com/component/samplerequest

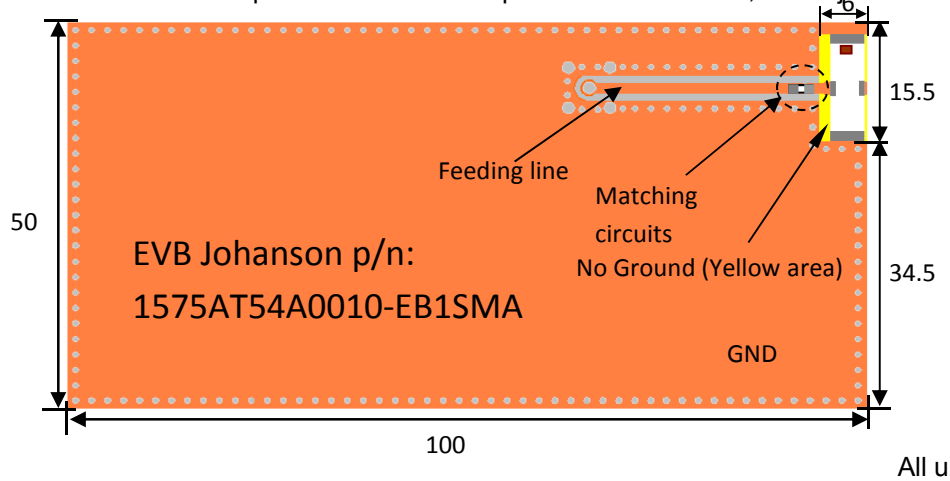


**Note 2: It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is monted on Johanson's evaluation board. The matching values on clinet's PCB will be different. Go to: http://johansontechnology.com/tuning and see how to obtain the new values. If you need further help, contact our RF Applications Eng Team at:

http://www.johansontechnology.com/en/ask-a-technical-question.html

All units in mm

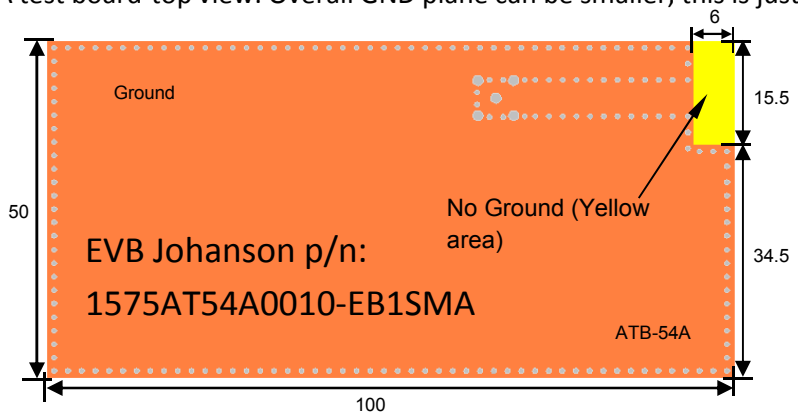
Johanson SMA test board-top view: Overall GND plane can be smaller, this is just for reference



All units in mm

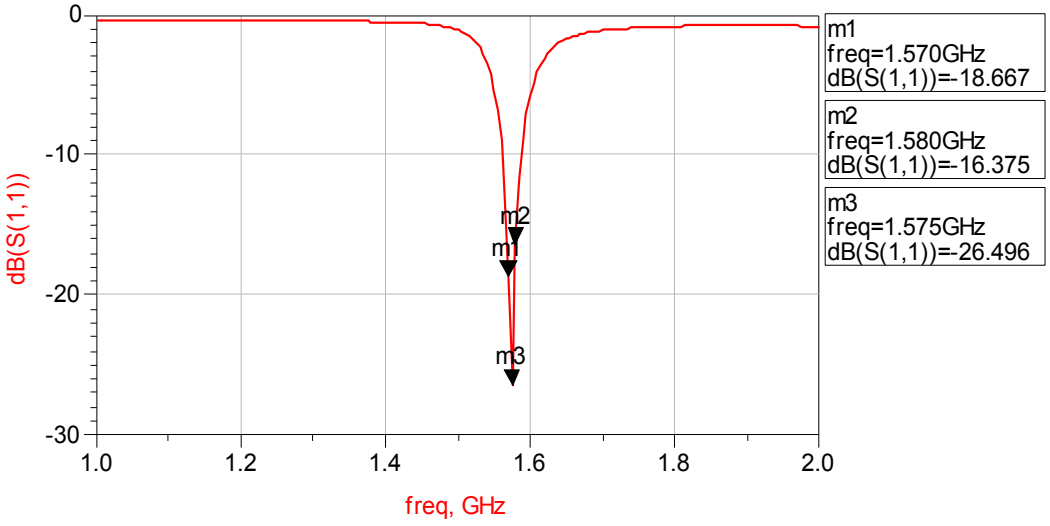
GPS-only Mounting Considerations

Johanson SMA test board-top view: Overall GND plane can be smaller, this is just for reference



Typical Electrical Characteristics (T=25°C)

Return Loss / Without Matching Circuits



GPS + GLONASS Mounting Considerations

*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

EVB Johanson with SMA (orderable!)
reference p/n: 1575AT54A0010-EB2SMA and go to:
www.johansontechnology.com/component/samplerequest

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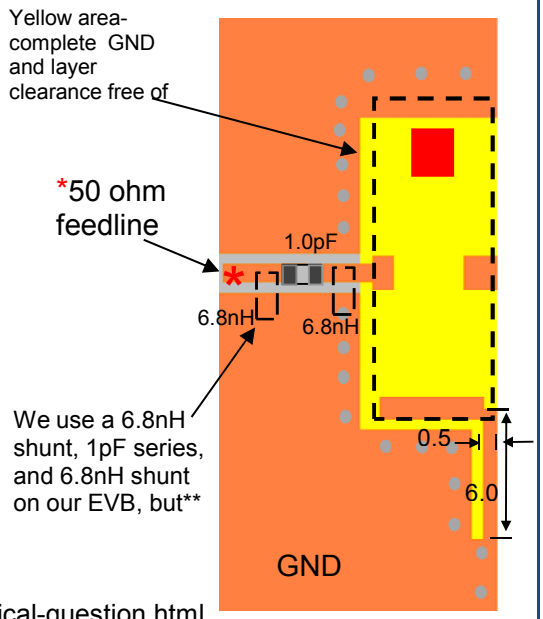
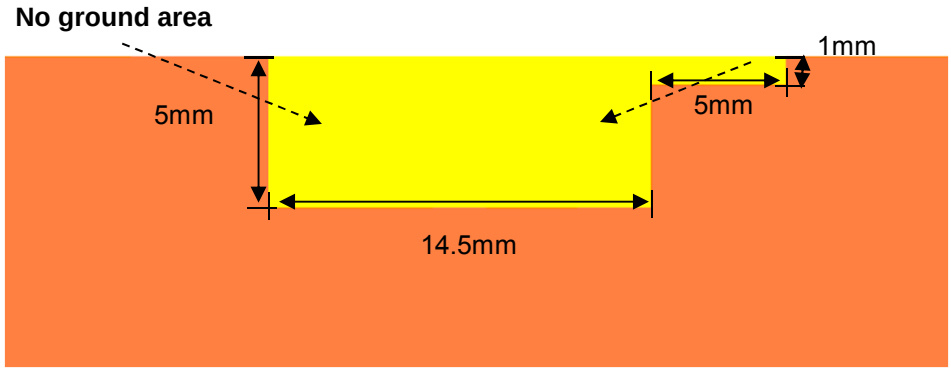


All units in mm

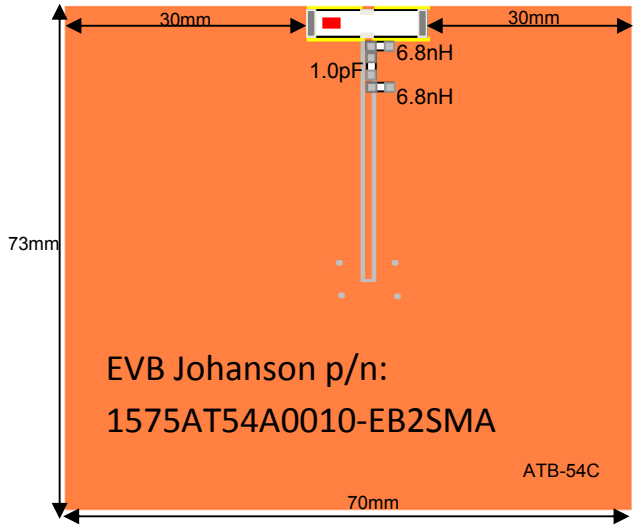
Bottom view:



All units in mm

GPS + GLONASS Mounting Considerations

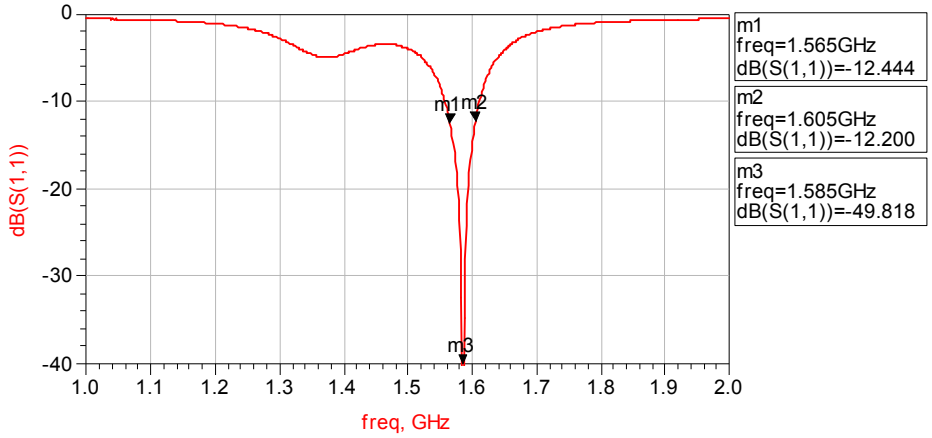
Johanson SMA test board-top view: Overall GND plane can be smaller, this is just for reference



The middle placement at the edge of the board is for optimum performance, it not necesarily has to have 30mm on each side to function properly

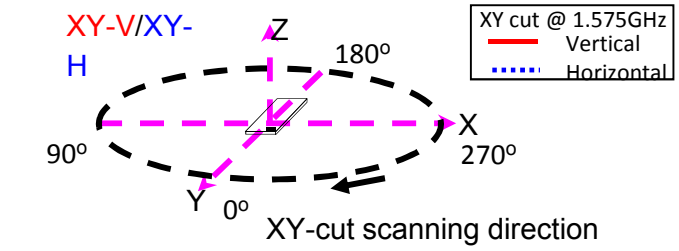
Typical Electrical Characteristics (T=25°C)

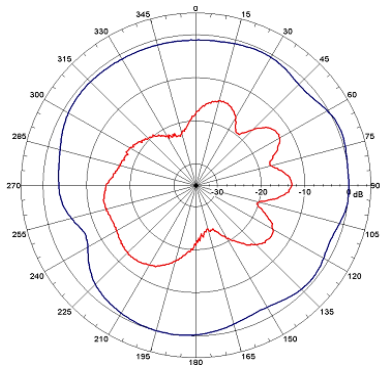
Return Loss / Without Matching Circuits

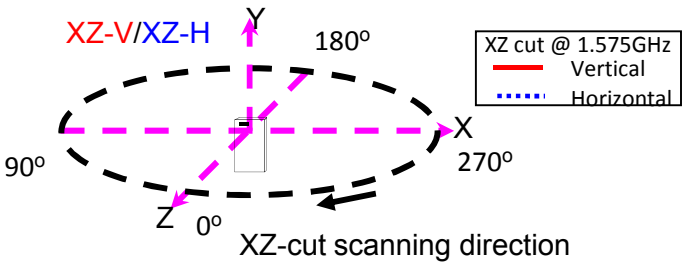


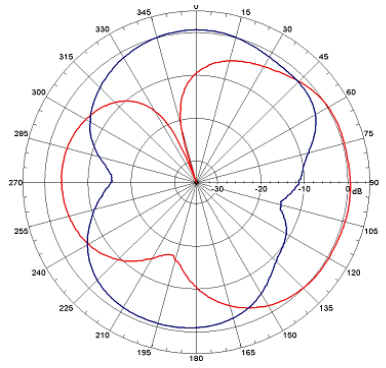
GPS Typical Electrical Characteristics (T=25°C)

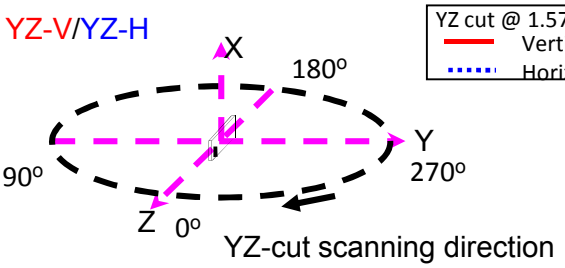
Typical Radiation Patterns

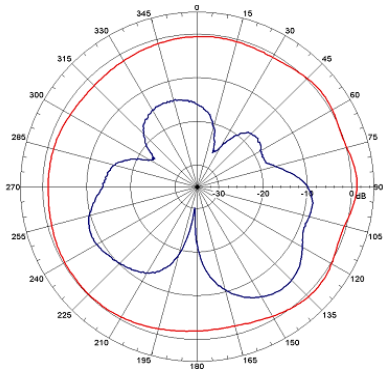












GLNSS Typical Electrical Characteristics (T=25°C)

Typical Radiation Patterns: Vertical and Horizontal Cuts are added together in these plots