

# "High Frequency Ceramic Solutions"

## 403 MHz - MICS - Internal SMD Chip Antenna

P/N 0403AT62A0003

Detail Specification: 3/10/2013

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Recommended for Medical Applications

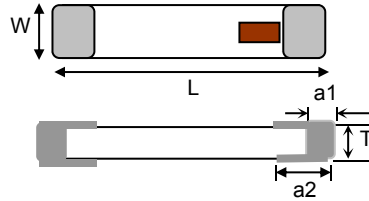
General Specifications			
Part Number	0403AT62A0003	Input Power	2W max.
Frequency Range	402 - 405 MHz	Reel Quantity	500
Peak Gain (YZ-total)	0.0 dBi typ.	Operating Temperature	-40 to +85°C
Average Gain (YZ-total)	-5.0 dBi typ.	Recommended Storage Conditions	+5 ~ +35 °C, Humidity 45~75%RH, 18 mos. max
Return Loss	9.5 dB min.	Power Capacity	2W max (CW)
Impedance	50 Ω		

### Part Number Explanation

P/N Suffix	Packing Style	Bulk	Suffix = S	eg. 0403AT62A0003S
		T & R	Suffix = T	eg. 0403AT62A0003E
		100% Tin	Suffix = None	eg. 0403AT62A0003(E or S)
	Evaluation Board	SMA	Suffix = -EB1SMA	eg. 0403AT62A0003-EB1SMA

### 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*

The diagram shows a side view of the chip with two terminals labeled 1 and 2. Terminal 1 is the feeding point, and terminal 2 is a non-connected terminal (NC\*).

For Antenna layout and tuning app note go to: <http://johansontechnology.com/tuning> \*Used only for anchoring on PCB

### Mounting/Layout Considerations

Mount these devices with brown mark facing up.

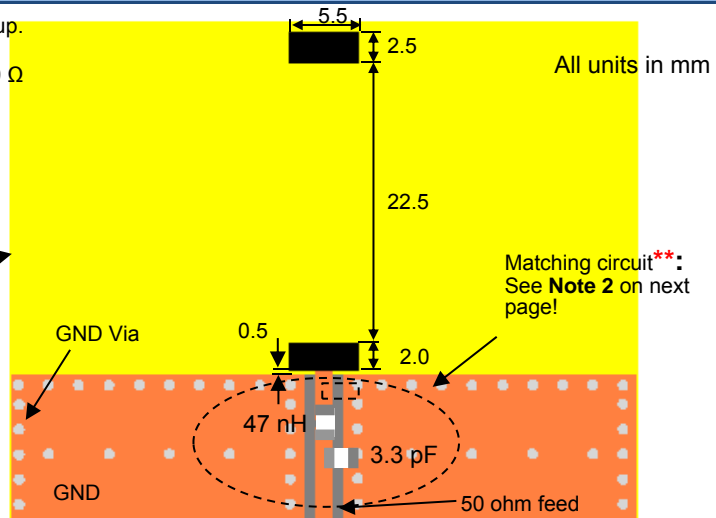
\*\*Line width should be designed to provide 50 Ω impedance matching characteristics.

#### With Matching Circuit

No Ground plane here (keep out area)

- Solder Resist
- Soldering pad

\*\*matching circuit and component values will depend on PCB layout, thickness, material, etc.



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Ver 2.1

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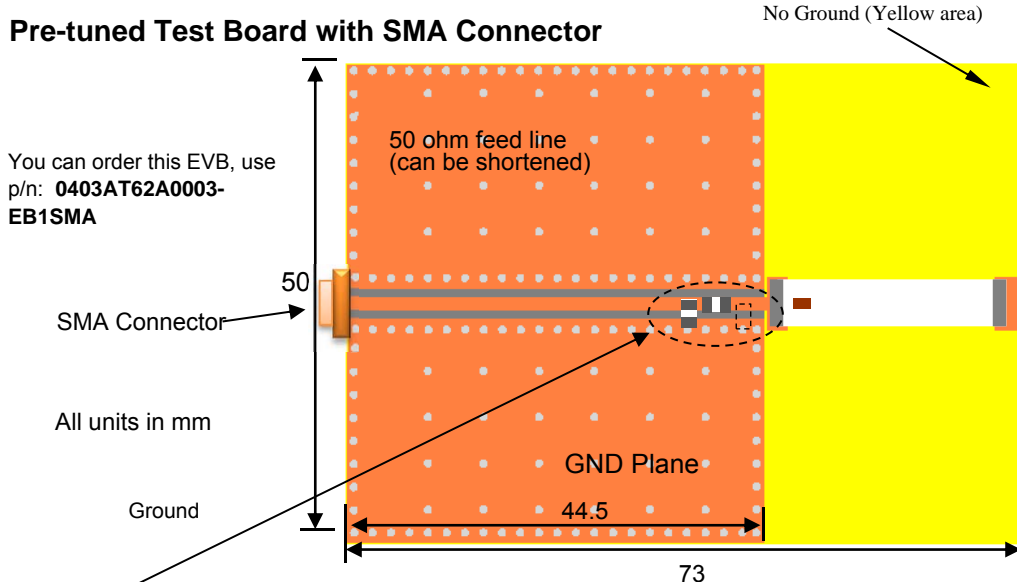
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## Test EVB used to obtain return loss, gain, and radiation patterns

### Pre-tuned Test Board with SMA Connector

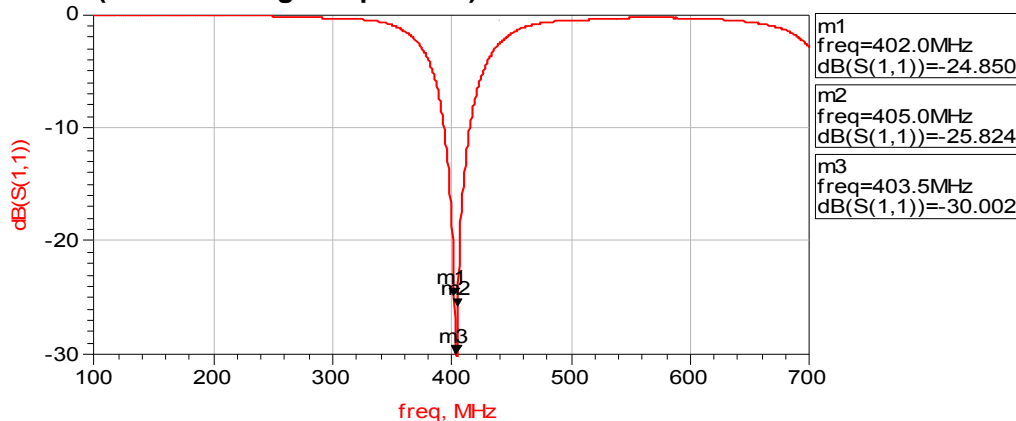


**\*\*Note 2:** It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is mounted on Johanson's evaluation board. The matching values on clinet's PCB will be different.

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>

### Return Loss (with matching components)



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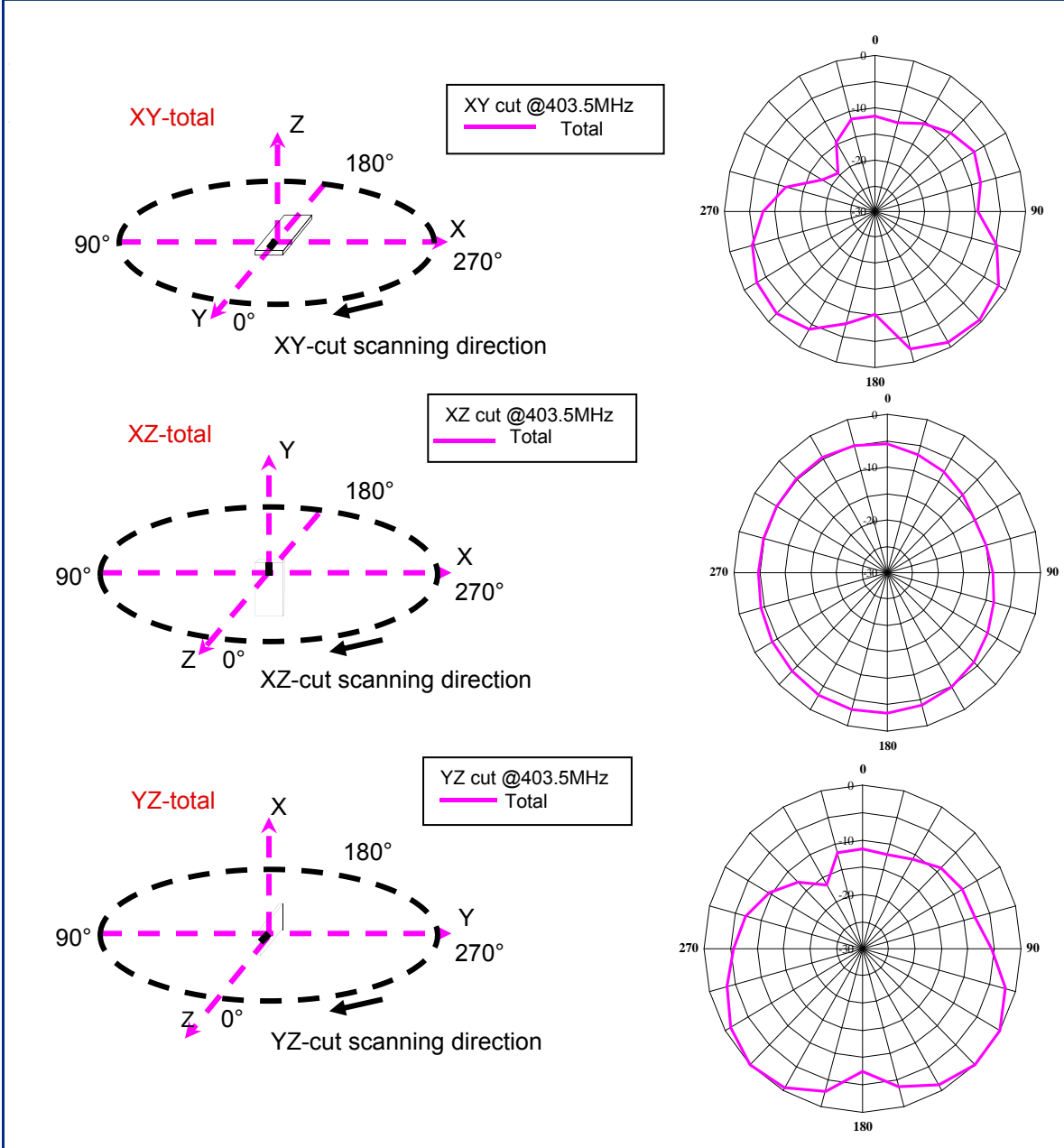
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