

"High Frequency Ceramic Solutions"

403 MHz - MICS - Internal SMD Chip Antenna

P/N 0403AT62A0003

Detail Specification: 3/10/2013

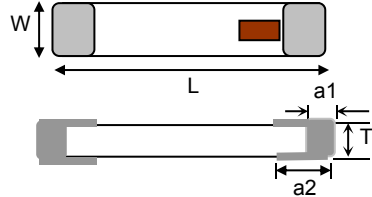
Page 1 of 3

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 not connected (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.

The diagram shows a yellow PCB area with a brown mark on the chip. Dimensions are: 5.5 mm for the chip length, 2.5 mm for the chip width, 22.5 mm for the distance from the chip to the matching circuit, and 2.0 mm for the distance from the chip to the soldering pad. A 50 ohm feed line is shown with a 47 nH inductor and a 3.3 pF capacitor. A GND Via is also indicated. A note says "Matching circuit**": See Note 2 on next page!

Johanson Technology, Inc. reserves the right to make design changes without notice.
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Ver 2.1

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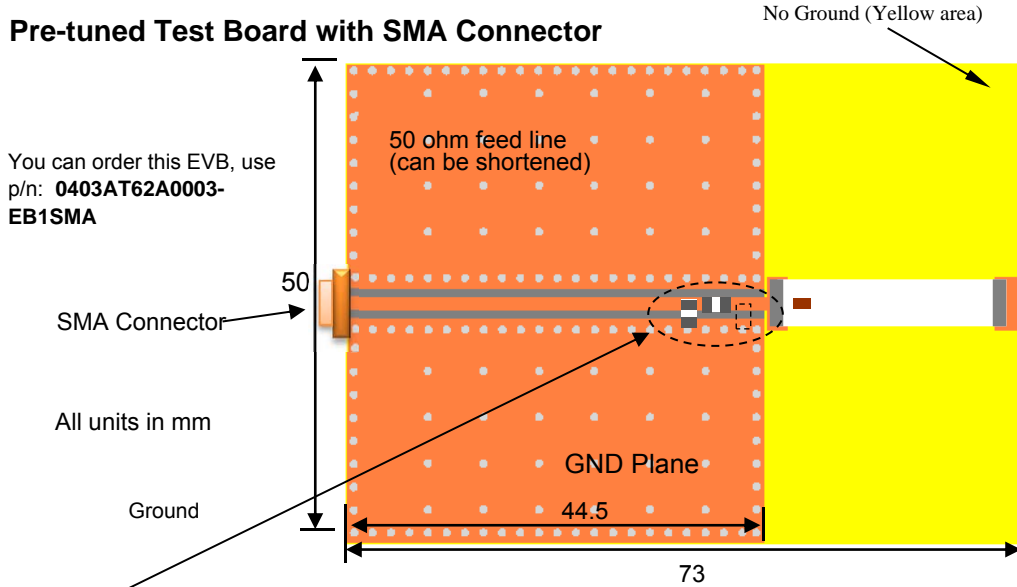
P/N 0403AT62A0003

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Page 2 of 3

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

Pre-tuned Test Board with SMA Connector

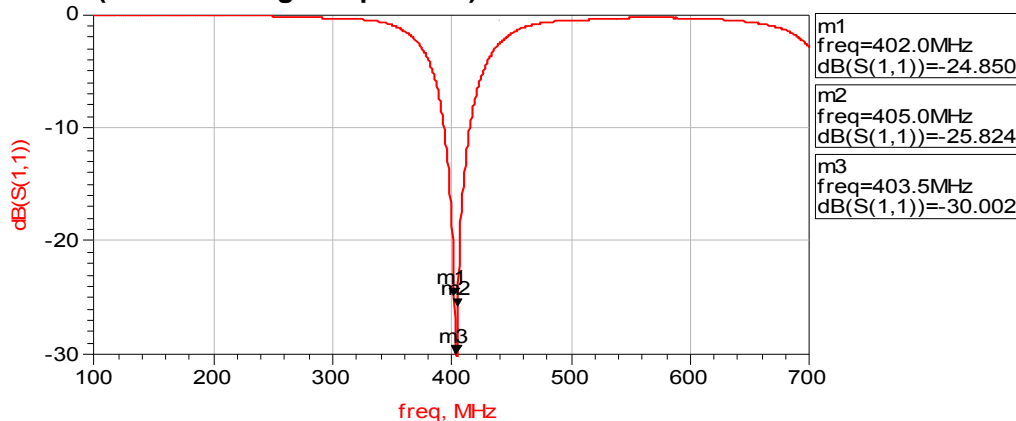


****Note 2:** It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is mounted on Johanson's evaluation board. The matching values on clinet's PCB will be different.

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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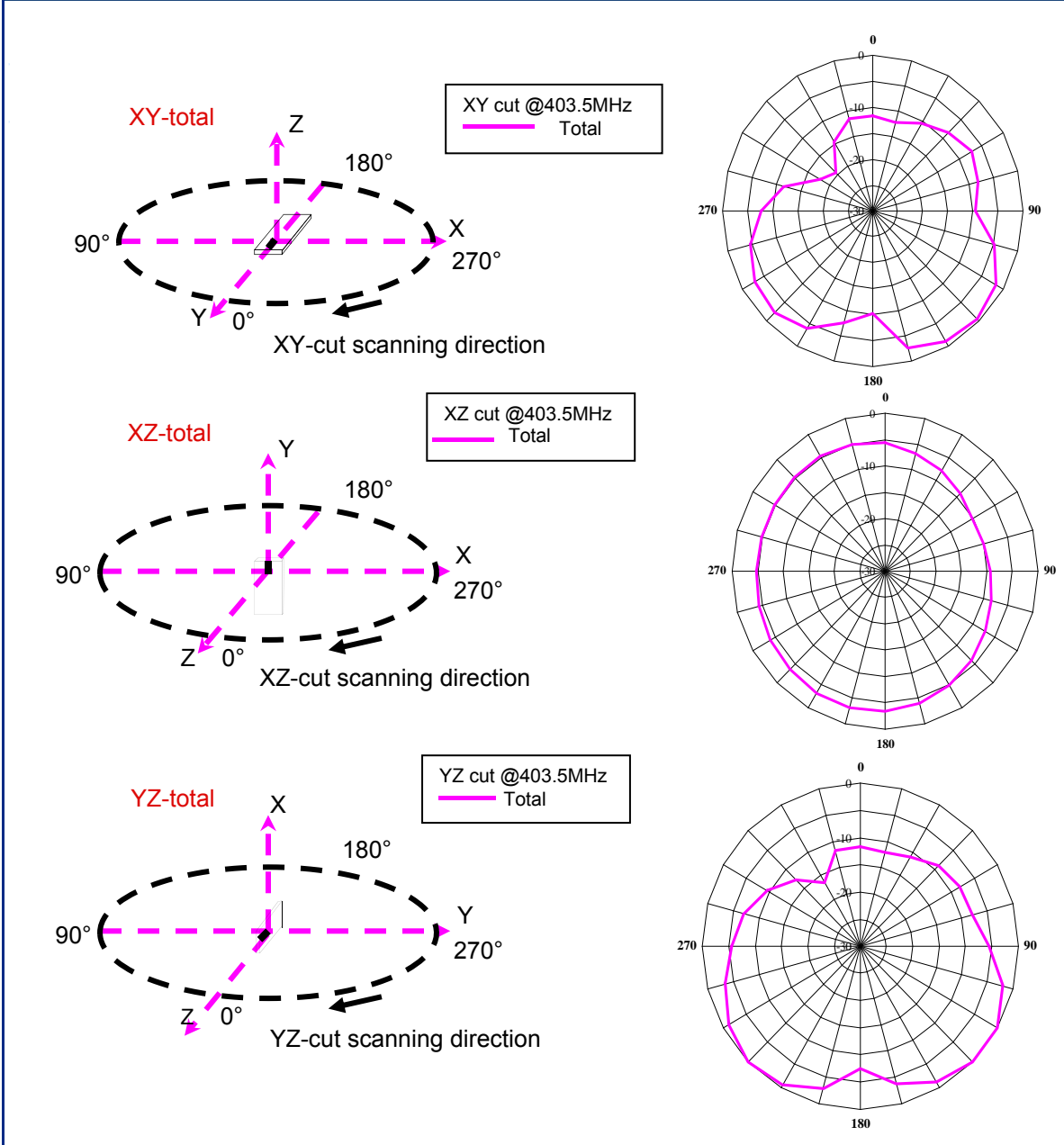
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Page 3 of 3

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