"High Frequency Ceramic Solutions"

Ultra-Miniature 2.4GHz Chip antenna 0.37mm max Thickness **P/N 2450AT07A0100**

Detail Specification: 2/23/2016

General Specifications

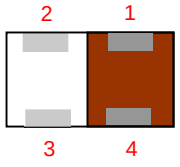
Part Number	2450AT07A0100	**Input Power**	2W max. (CW)
Frequency (MHz)	2400~2500	**Storage Temperature**	-40 to +85°C
Peak Gain (dBi typ.)	1.0 (XZ-Total)	**Operating Temperature**	-40 to +125°C
Average Gain (dBi typ.)	-1.5 (XZ-Total)	**Recommended Storage Conditions of unused product on T&R**	+5 ~ +35 °C, 18 mos max. Humidity 45~75%RH
Return Loss	6.5 dB min.		
Impedance	50 Ω		

Part Number Explanation

P/N Suffix	**Packaging Style**	Bulk	Suffix = S	Eg. 2450AT07A0100S
		T & R (10000pcs)	Suffix = T	Eg. 2450AT07A0100T
	Termination Style	100% Tin	Suffix = None	Eg. 2450AT07A0100(T or S)

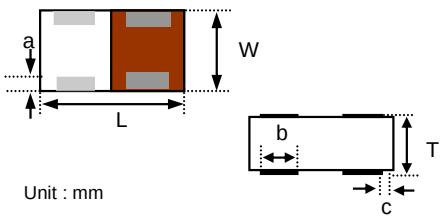
Terminal Configuration

No.	Function
1	Feed
2	GND
3	GND
4	Feed

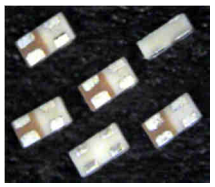


Mechanical Dimensions

	In	mm
L	0.039 ± 0.004	1.00 ± 0.10
W	0.020 ± 0.004	0.50 ± 0.10
T	0.014 (max)	0.37 (max)
a	0.006 +.004/-.006	0.15 +0.1/-0.05
b	0.010 +.004/-.006	0.25 +0.1/-0.05
c	0.003 +.004/-.006	0.08 +0.1/-0.05



Unit : mm



Mounting Considerations

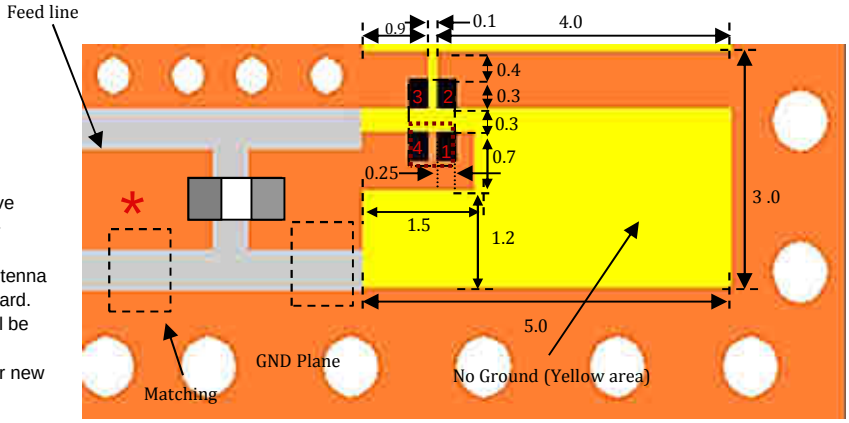
Mount these devices with red mark facing up.

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

Units: mm

Solder

Land



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.
Let us help you tune our antenna on your new layout, contact our RF Applications Eng. Team at:

www.johansontechnology.com/ask-a-question

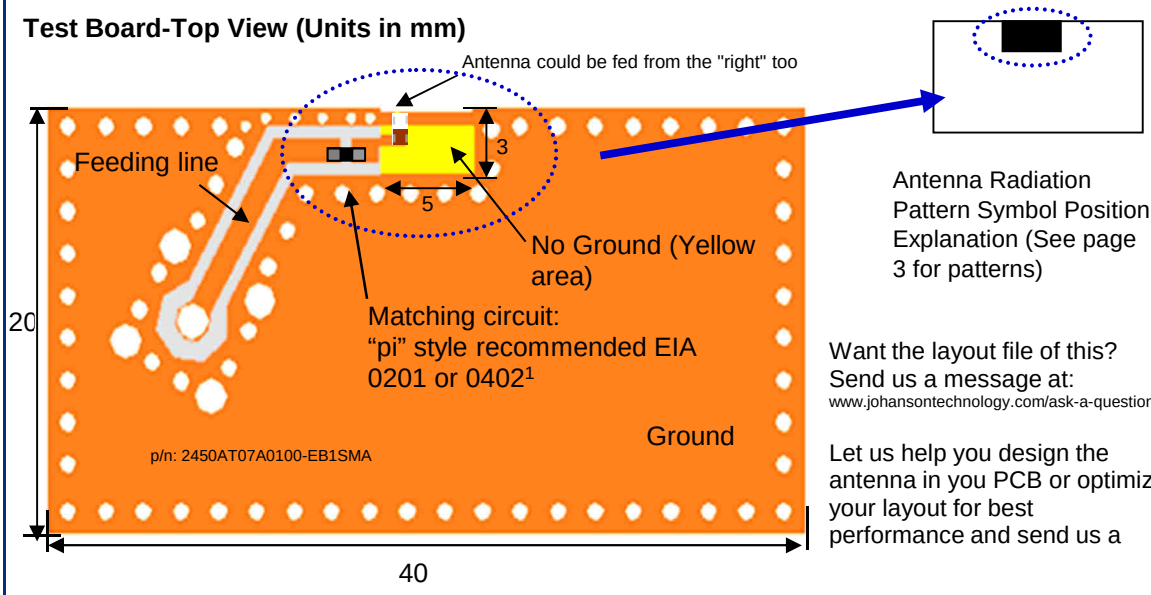
JOHANSON TECHNOLOGY

www.johansontechnology.com

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

Layout Guidelines and EVB Specifications

Test Board-Top View (Units in mm)



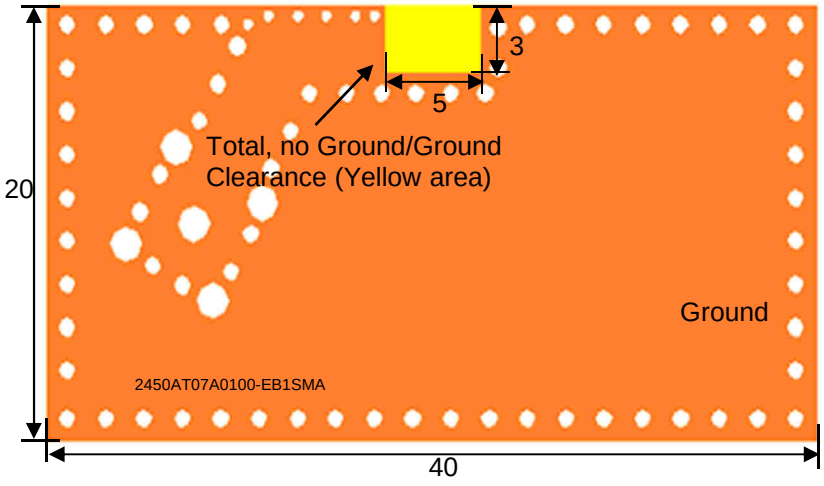
Antenna Radiation Pattern Symbol Position Explanation (See page 3 for patterns)

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

Let us help you design the antenna in you PCB or optimize your layout for best performance and send us a

To order a pre-tuned evaluation board with SMA connector click here: http://www.johansontechnology.com/request-a-sample
Reference p/n: 2450AT07A0100-EB1SMA
To request the Gerber files click here: www.johansontechnology.com/component/techquestion

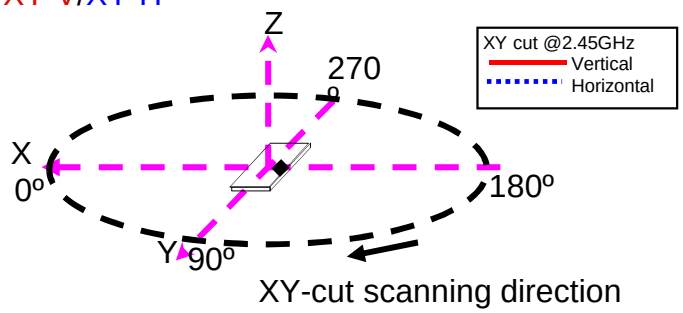
Test Board-Bottom View (Units in mm)



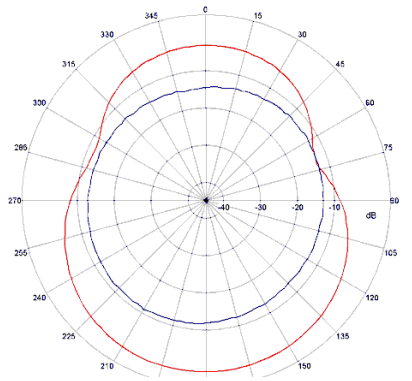
Need help designing the antenna in? Use our antenna design services! Click on:
www.johansontechnology.com/ipc-antenna-services
2 Free layout reviews and if you need us to tune and characterize the antenna on your design (anechoic chamber) we can do that too (lab fee may apply for the latter).

Typical Radiation Patterns @25C

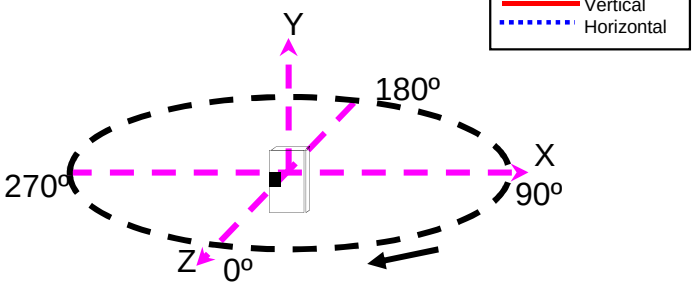
XY-V/XY-H



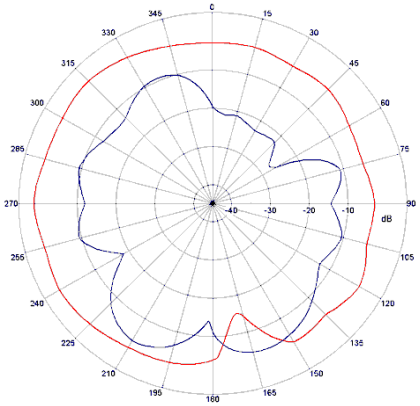
XY-cut scanning direction



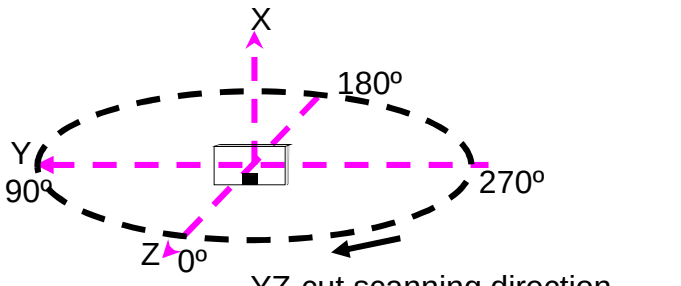
XZ-V/XZ-H



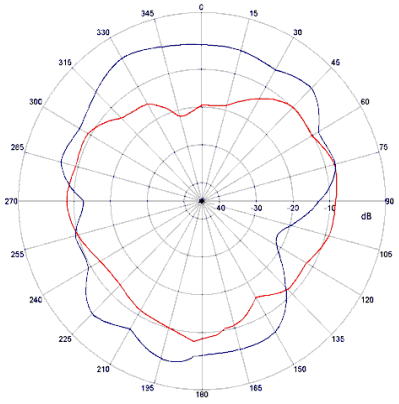
XZ-cut scanning direction



YZ-V/YZ-H



YZ-cut scanning direction



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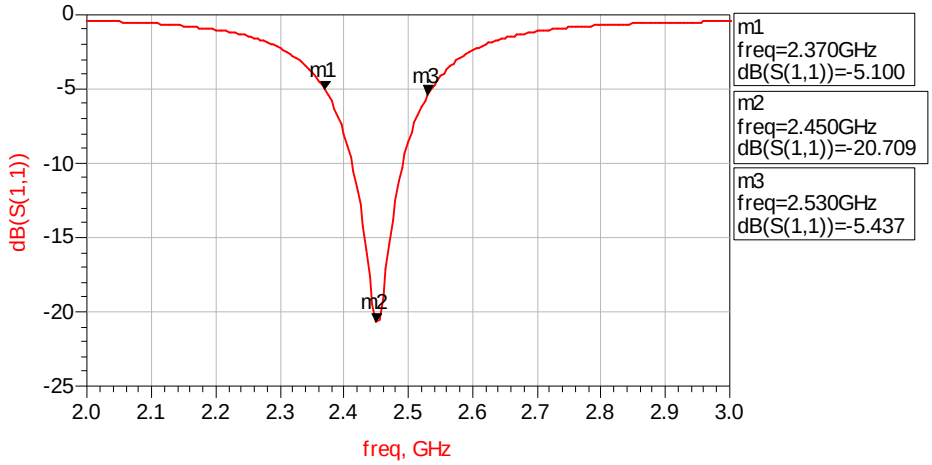
Typical Electrical Performance (T=25°C)

Return Loss / Without Matching Circuits



The designer should not be highly concerned of the fact that the antenna only demonstrates a -5dB S11 level at the band edges. The antenna has sufficient gain at the band edges to satisfy the applications and uses a high dielectric constant ceramic giving it some detuning resilience to capacitive loading effects. This antenna is designed for close proximity evironment applications.

Packaging information

http://www.johansontechnology.com/tape-reel-packaging

Soldering Information

www.johansontechnology.com/ipcsoldering-profile

Antenna layout and tuning techniques (How to obtain the new antenna matching values)

www.johansontechnology.com/tuning

Antenna layout review, tuning, and characterization services

www.johansontechnology.com/ipcantennaservices

RoHS Compliance

www.johansontechnology.com/rohs-compliance

MSL Info

www.johansontechnology.com/msl-rating