

# "High Frequency Ceramic Solutions"

**Ultra-Miniature 2.4GHz Chip antenna 0.37mm max Thickness**

**P/N 2450AT07A0100**

Detail Specification: 2/23/2016

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## General Specifications

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

## Part Number Explanation

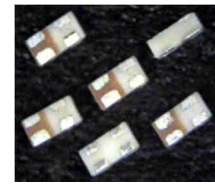
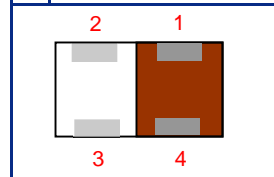
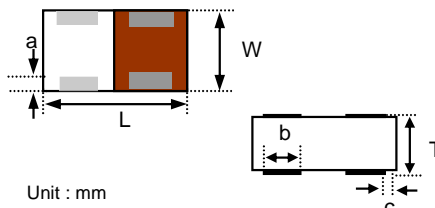
P/N	Packaging Style	Bulk	Suffix = S	Eg. 2450AT07A0100S
		T & R (10000pcs)	Suffix = T	Eg. 2450AT07A0100T
Suffix	Termination Style	100% Tin	Suffix = None	Eg. 2450AT07A0100(T or S)

## 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



## Mounting Considerations

**Mount these devices with red mark facing up.**

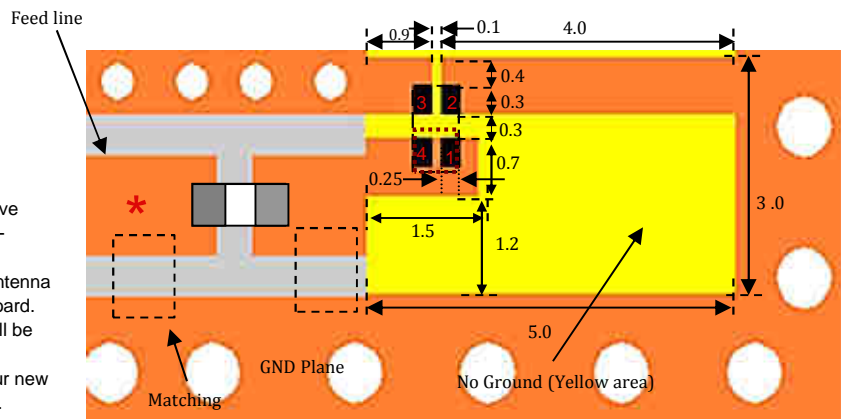
\*Line width should be designed to provide 50Ω impedance matching characteristics.

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](http://www.johansontechnology.com/ask-a-question)



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Ver 3.0

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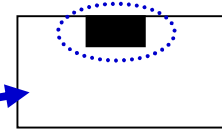
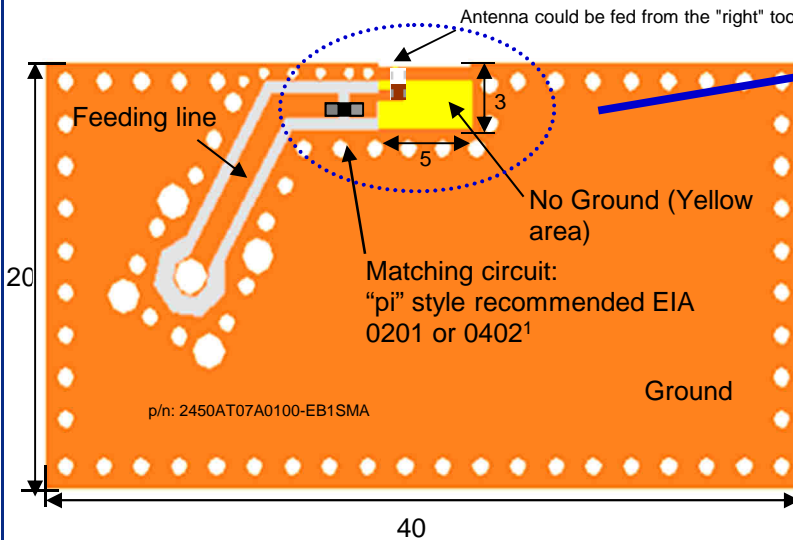
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## Layout Guidelines and EVB Specifications

### Test Board-Top View (Units in mm)



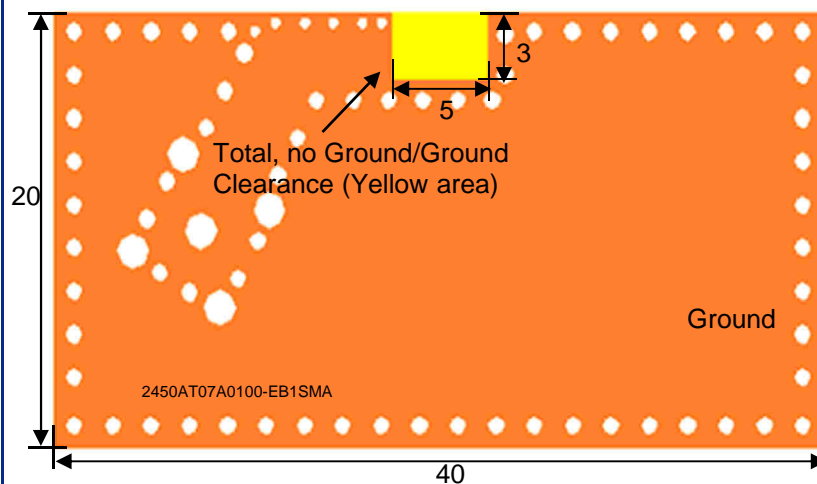
Antenna Radiation  
Pattern Symbol Position  
Explanation (See page  
3 for patterns)

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

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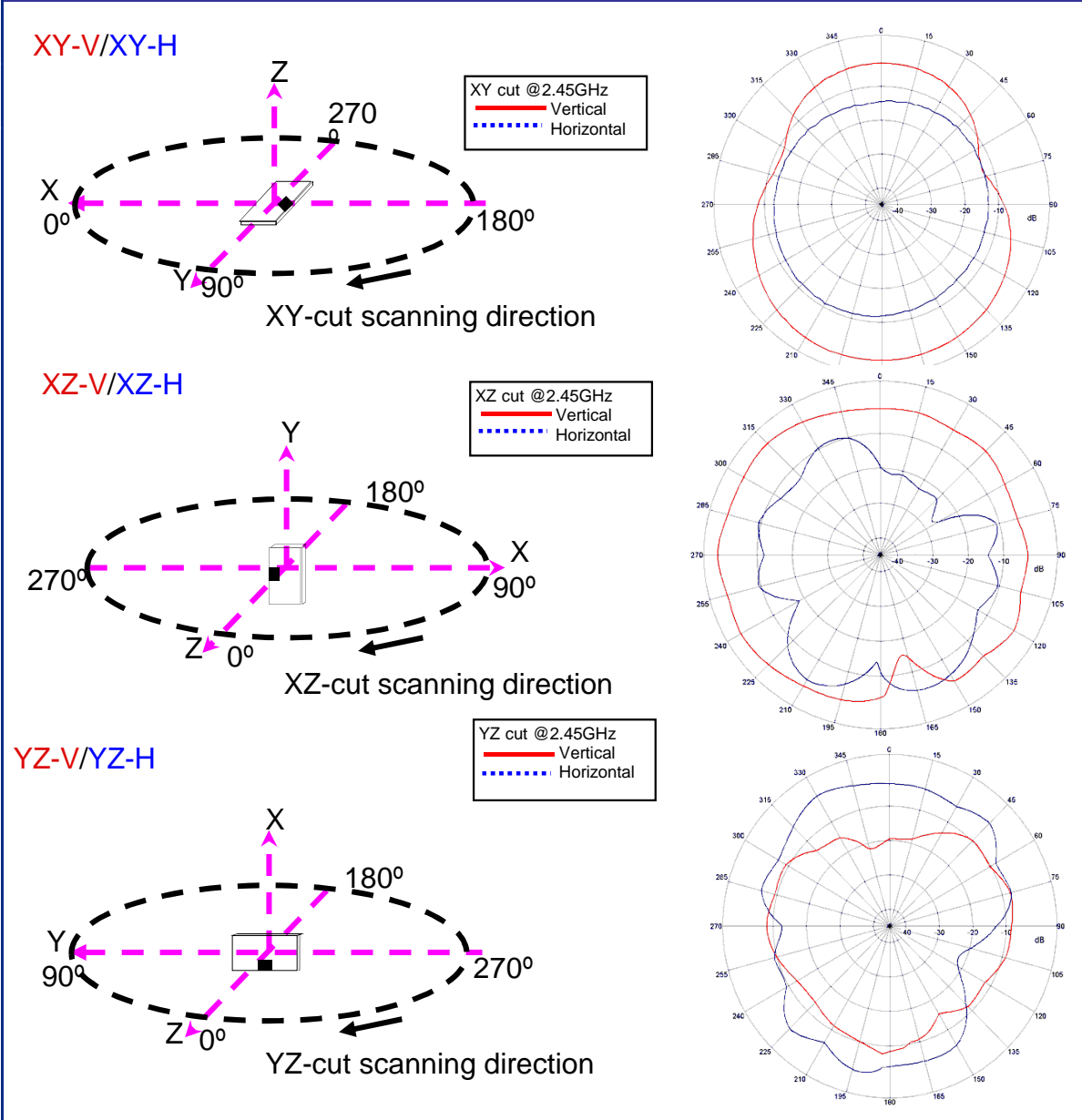
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## Typical Radiation Patterns @25C



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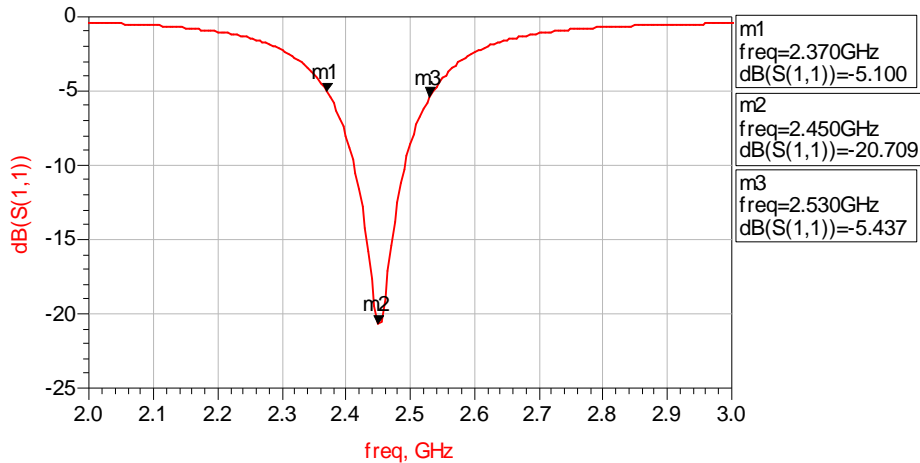
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## Typical Electrical Performance (T=25°C)

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 environment applications.

## Packaging information

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

## Soldering Information

[www.johansontechnology.com/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-profile)

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

[www.johansontechnology.com/tuning](http://www.johansontechnology.com/tuning)

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipcantennaservices](http://www.johansontechnology.com/ipcantennaservices)

## RoHS Compliance

[www.johansontechnology.com/rohs-compliance](http://www.johansontechnology.com/rohs-compliance)

## MSL Info

[www.johansontechnology.com/msl-rating](http://www.johansontechnology.com/msl-rating)

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- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
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- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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