"High Frequency Ceramic Solutions"

2.45 GHz SMD Antenna, EIA 1210, Detuning resilient, Edge Mount Design **P/N 2450AT18D0100**

Detail Specification: 9/17/2015

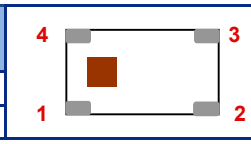
This antenna is optimal for edge middle mounting; rectangular and circular PCB shape applications, go to pages 2-4 for more info.

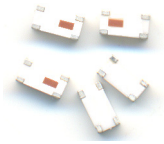
General Specifications

Part Number	2450AT18D0100	**Input/Output Power**	2W max. (CW)
Frequency (MHz)	2400 - 2500	**Impedance**	50 Ω
Peak Gain	1.5 dBi typ. (XZ-total)	**Reel Quantity**	3,000
Average Gain	-1.0 dBi typ. (XZ-total)	**Storage Temp**	-40 to +85°C
Return Loss	10.0 dB min.	**Total Radiation Efficiency**[1]	72%
Operating Temperature	-40 to +125°C		

[1]Efficiency measured on 2450AT18D0100-EB1SMA 40x20mm EVB on page 2

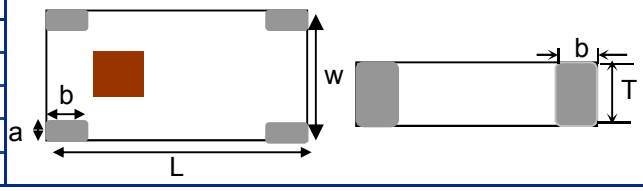
No.	Terminal Function		
1	Feeding Point	3	GND
2	GND	4	GND





Mechanical Specifications

	In	mm
L	0.126 ± 0.008	3.20 ± 0.20
W	0.063 ± 0.008	1.60 ± 0.20
T	0.047 ± 0.008	1.20 ± 0.20
a	0.012 ± .004/-.008	0.30 ± 0.1/-0.2
b	0.020 ± 0.008	0.50 ± 0.20

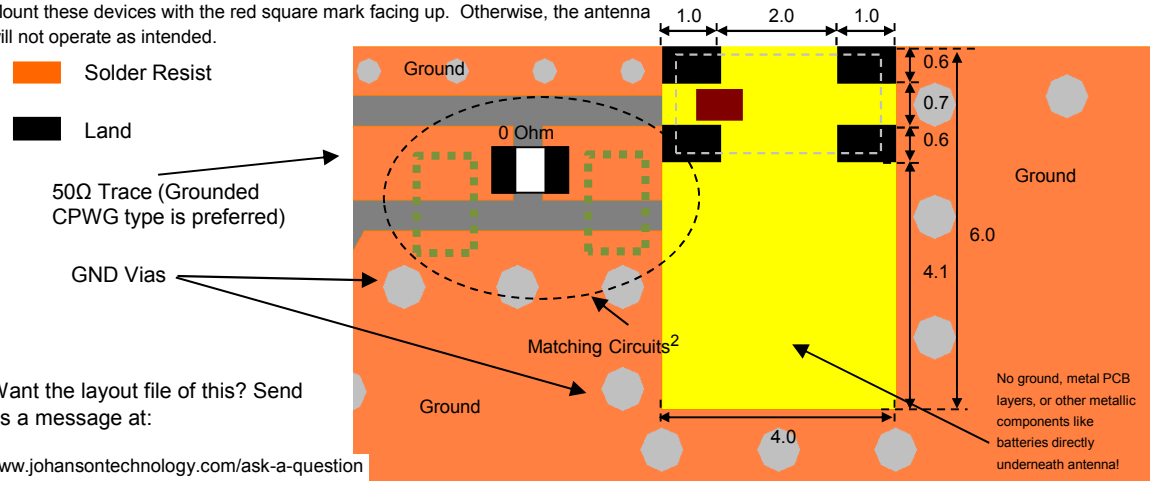


Need help designing the antenna in? Use our antenna design services! www.johansontechnology.com/ipcantennaservices

2 Free layout reviews and if you need us to tune and characterize our antenna on your design (anechoic chamber) we can do that too (lab fee may apply for the latter).

Mounting Considerations 1: Standard Rectangular Layout

Mount these devices with the red square mark facing up. Otherwise, the antenna will not operate as intended.



[2]It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network, even if all slots won't be used, this will prepare the PCB for the final mass production values of the matching circuit. 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. Go to: http://johansontechnology.com/tuning and see how to obtain the new values yourself if you have a network analyzer.

JOHANSON TECHNOLOGY

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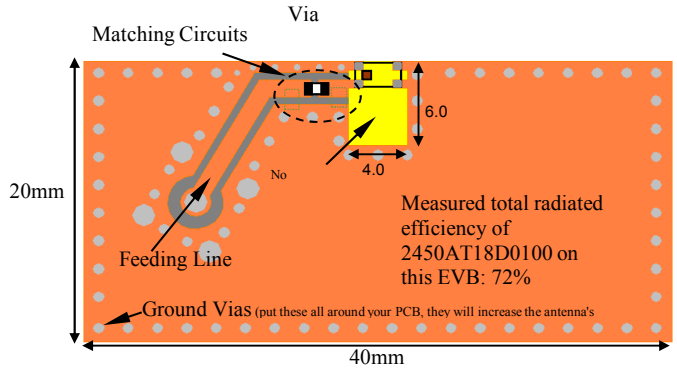
This antenna is optimal for edge middle mounting; rectangular and circular PCB shape applications, go to pages 2-4 for more info.

Mounting Considerations 1: Standard Rectangular Layout (continued)



Orderable EVB p/n (comes with 1 female SMA connector mounted on the opposite side):

2450AT18D0100-EB1SMA

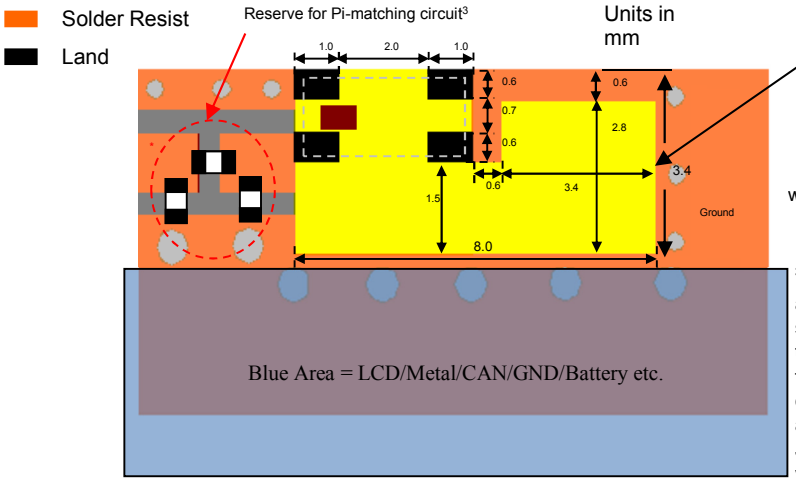
We offer 2 free layout reviews as well as antenna tuning and characterization services (lab fee may apply). For more info go to:

www.johansontechnology.com/ipcantennaservice

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

To order a pre-tuned 50Ω EVB with a female SMA connector you see above Click here:
www.johansontechnology.com/request-a-sample
Reference p/n: 2450AT18D0100-EB1SMA

Mounting Considerations 2: Small clearance or "thin edge" applications



No ground or metals in yellow area and must be located somewhere in the middle of the assembly, not the corner

Want the layout file of this example? Send us a message at:

www.johansontechnology.com/ask-a-question

[3]It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network, even if all slots won't be used, this will prepare the PCB for the unpredictable final mass production version of the matching circuit. 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.

Note: There's no orderable EVB available for the above reference "Mounting Considerations 2" reference design

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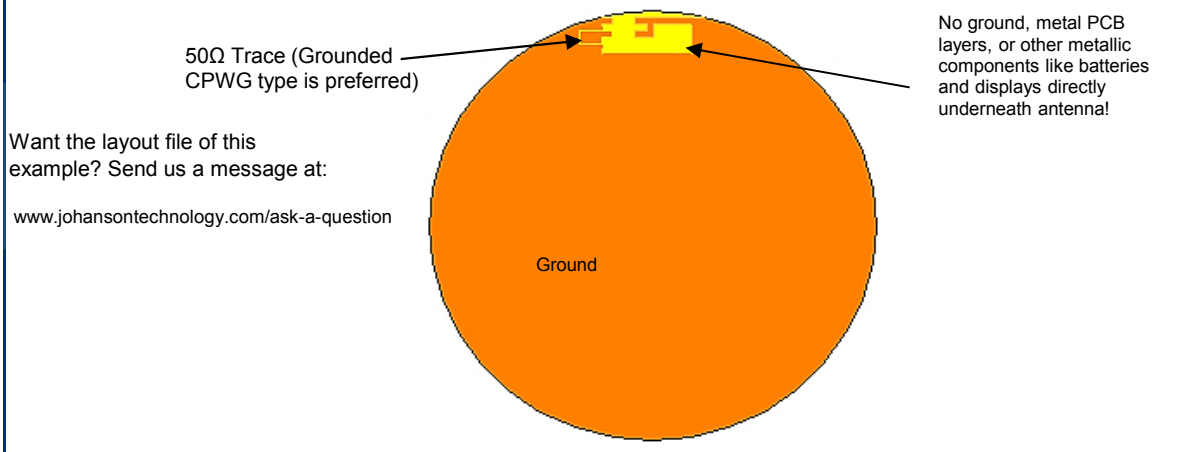
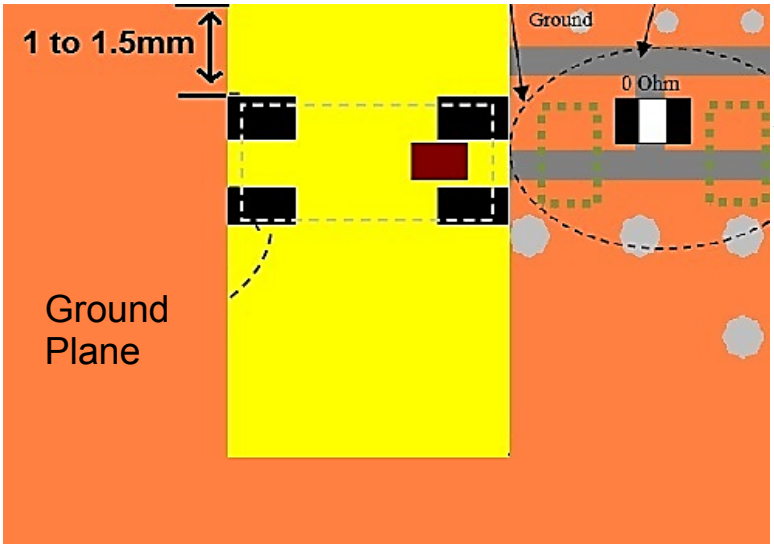
Mounting Considerations 3: Thin Edge + Circular PCB applications



Note: There's no orderable EVB available for the above reference "Mounting Considerations 3" reference design

Mounting Considerations 4: Chip antenna fed from the right

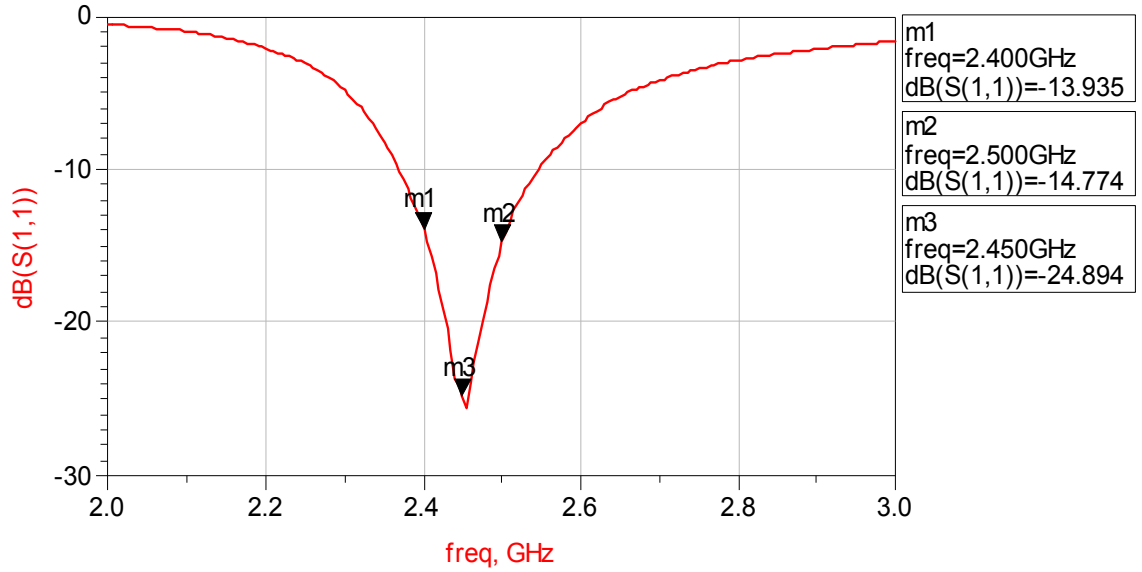


Matching Circuits: It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network, even if all slots won't be used, this will prepare the PCB for the final mass production values of the antenna matching securing

Note: There's no orderable EVB available for the above reference "Mounting Considerations 4" reference design

This antenna is optimal for edge middle mounting; rectangular and circular PCB shape applications, go to pages 2-4 for more info.

Typical Return Loss (S11) Electrical Performance (T=25°C)



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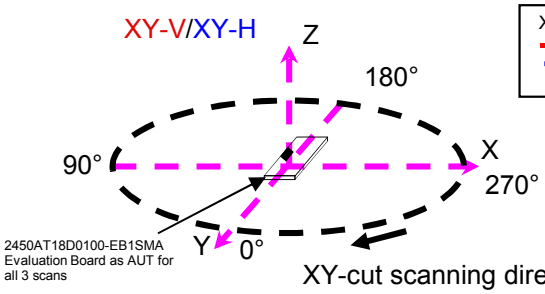
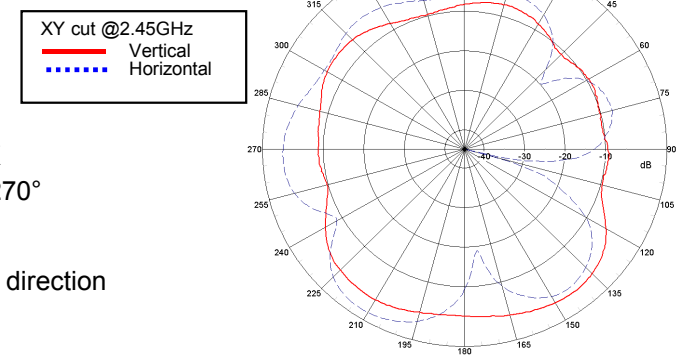
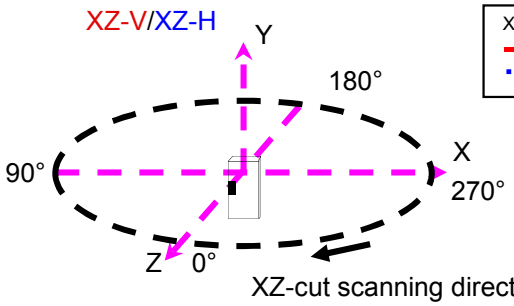
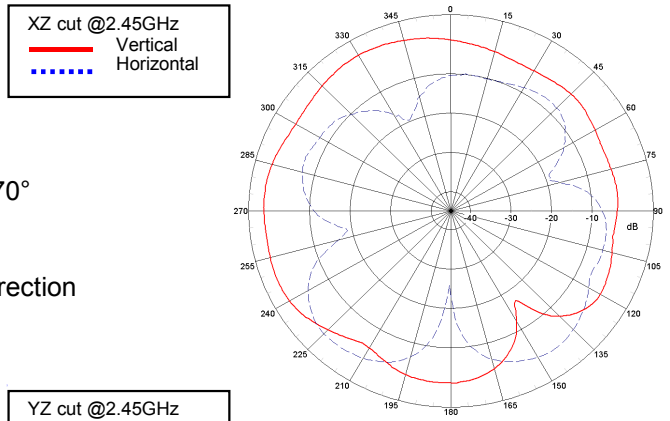
Typical EM Radiation Performance (T=25°C)

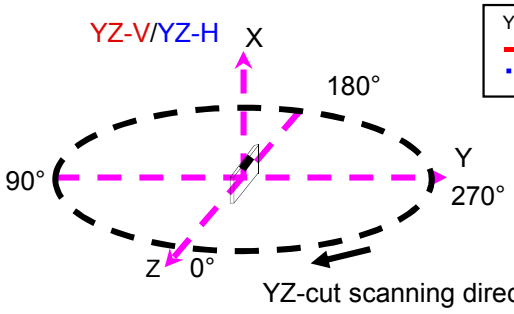
Typical Radiation Patterns

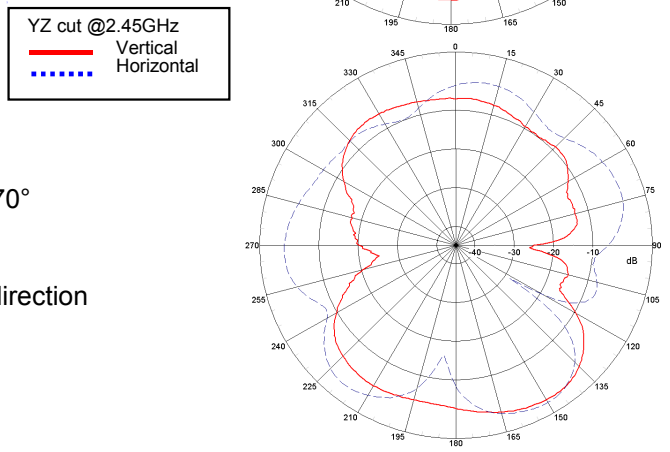












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Part Number Explanation				
P/N Suffix	**Packing Style**	Bulk	Suffix = S	eg.2450AT18D0100S
		T & R	Suffix = E	e.g.. 2450AT18D0100E
	EVB p/n	2450AT18D0100-EB1SMA		
Recommended Storage Conditions of uninstalled product still on T&R		+5 ~ +35 °C, Humidity 45~75%RH, 18 mos. Max		

Antenna layout review, tuning, and characterization services

www.johansontechnology.com/ipcantennaservices

More SMD Chip Antennas at:

www.johansontechnology.com/antennas

Soldering Information

www.johansontechnology.com/ipcsoldering-profile

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

www.johansontechnology.com/tuning

Packaging information

www.johansontechnology.com/ipcpackaging.html

RoHS Compliance

www.johansontechnology.com/technical-notes/rohs-compliance.html

MSL Info

www.johansontechnology.com/technical-notes/msl-rating.html

P/N Explanation and Breakdown

www.johansontechnology.com/ipc-pn-explained

Technical Author: Manuel Carmona

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