

# "High Frequency Ceramic Solutions"

2.45 GHz SMD Antenna, EIA 1210, Detuning resilient, Edge Mount Design

P/N 2450AT18D0100

Detail Specification: 9/17/2015

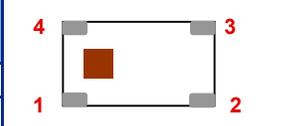
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This antenna is optimal for edge middle mounting; rectangular and circular PCB shape applications, go to pages 2-4 for more info.

## General Specifications

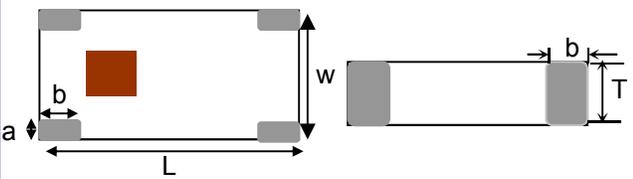
<b>Part Number</b>	2450AT18D0100	<b>Input/Output Power</b>	2W max. (CW)
<b>Frequency (MHz)</b>	2400 - 2500	<b>Impedance</b>	50 Ω
<b>Peak Gain</b>	1.5 dBi typ. (XZ-total)	<b>Reel Quantity</b>	3,000
<b>Average Gain</b>	-1.0 dBi typ. (XZ-total)	<b>Storage Temp</b>	-40 to +85°C
<b>Return Loss</b>	10.0 dB min.	<b>Total Radiation Efficiency<sup>1</sup></b>	72%
<b>Operating Temperature</b>	-40 to +125°C	<sup>1</sup> Efficiency measured on 2450AT18D0100-EB1SMA 40x20mm EVB on page 2	

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




## Mechanical Specifications

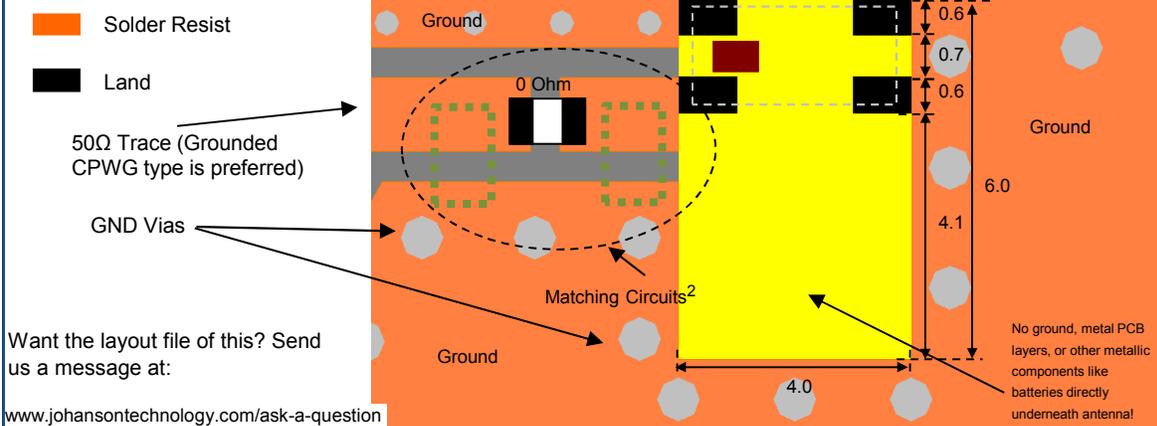
	In	mm
<b>L</b>	0.126 ± 0.008	3.20 ± 0.20
<b>W</b>	0.063 ± 0.008	1.60 ± 0.20
<b>T</b>	0.047 ± 0.008	1.20 ± 0.20
<b>a</b>	0.012 ± .004/-0.008	0.30 ± 0.1/-0.2
<b>b</b>	0.020 ± 0.008	0.50 ± 0.20



Need help designing the antenna in? Use our antenna design services! [www.johansontechnology.com/ipcantennaservices](http://www.johansontechnology.com/ipcantennaservices)  
<sup>2</sup> 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.



<sup>2</sup>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.



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

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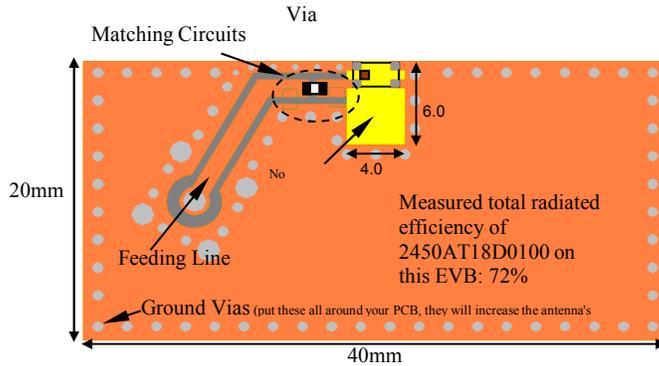
P/N 2450AT18D0100

Detail Specification: 04/04/12

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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](http://www.johansontechnology.com/ipcantennaservice)

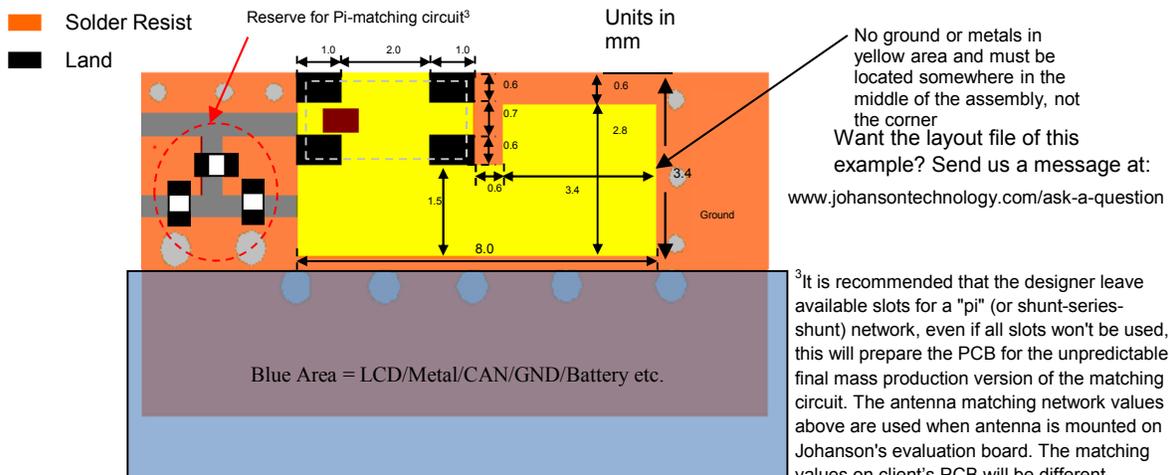
Want the layout file of the above? Send us a message at: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

To order a pre-tuned 50Ω EVB with a female SMA connector you see above Click here:

[www.johansontechnology.com/request-a-sample](http://www.johansontechnology.com/request-a-sample)

Reference p/n: 2450AT18D0100-EB1SMA

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



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

Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



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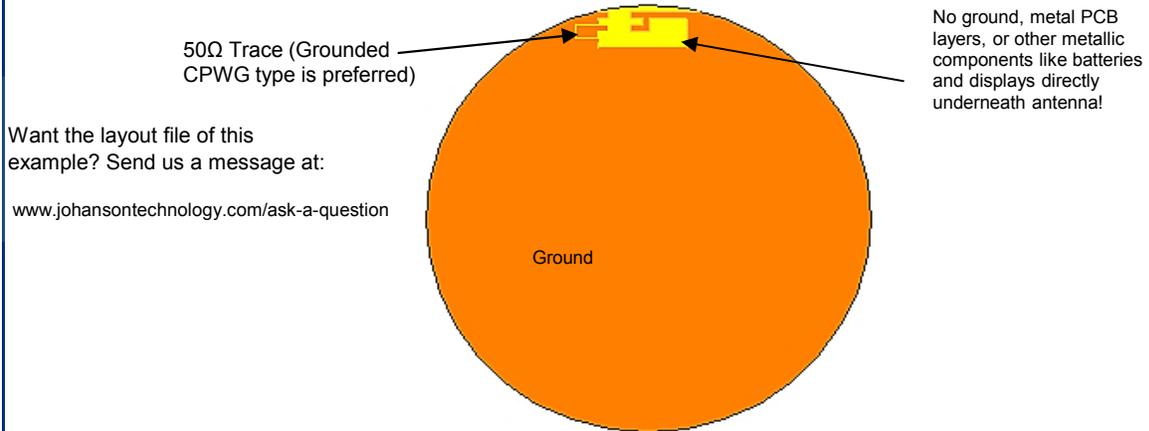
P/N 2450AT18D0100

Detail Specification: 04/04/12

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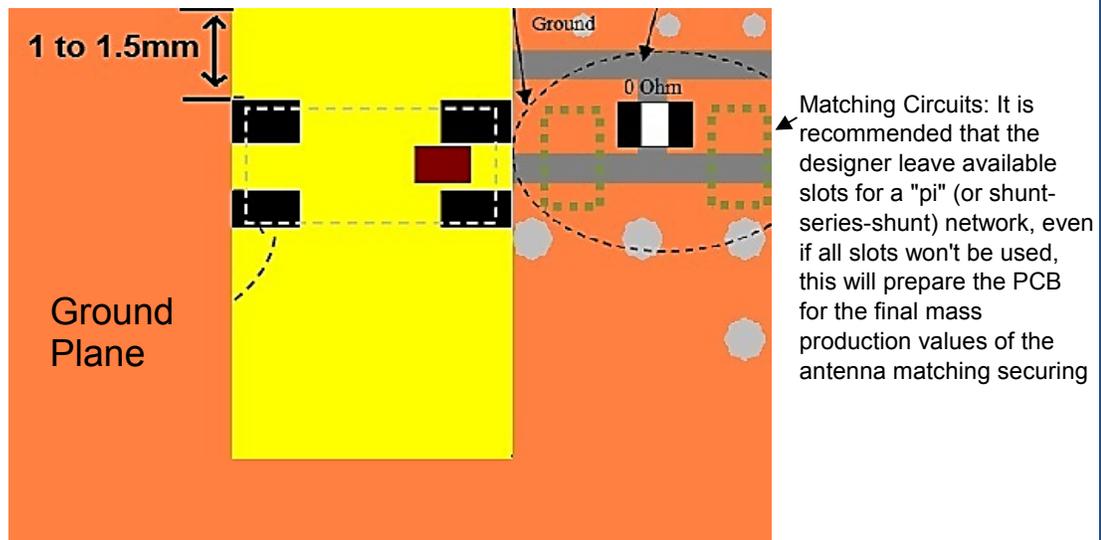
This antenna is optimal for edge middle mounting; rectangular and circular PCB shape applications, go to pages 2-4 for more info.

## Mounting Considerations 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



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

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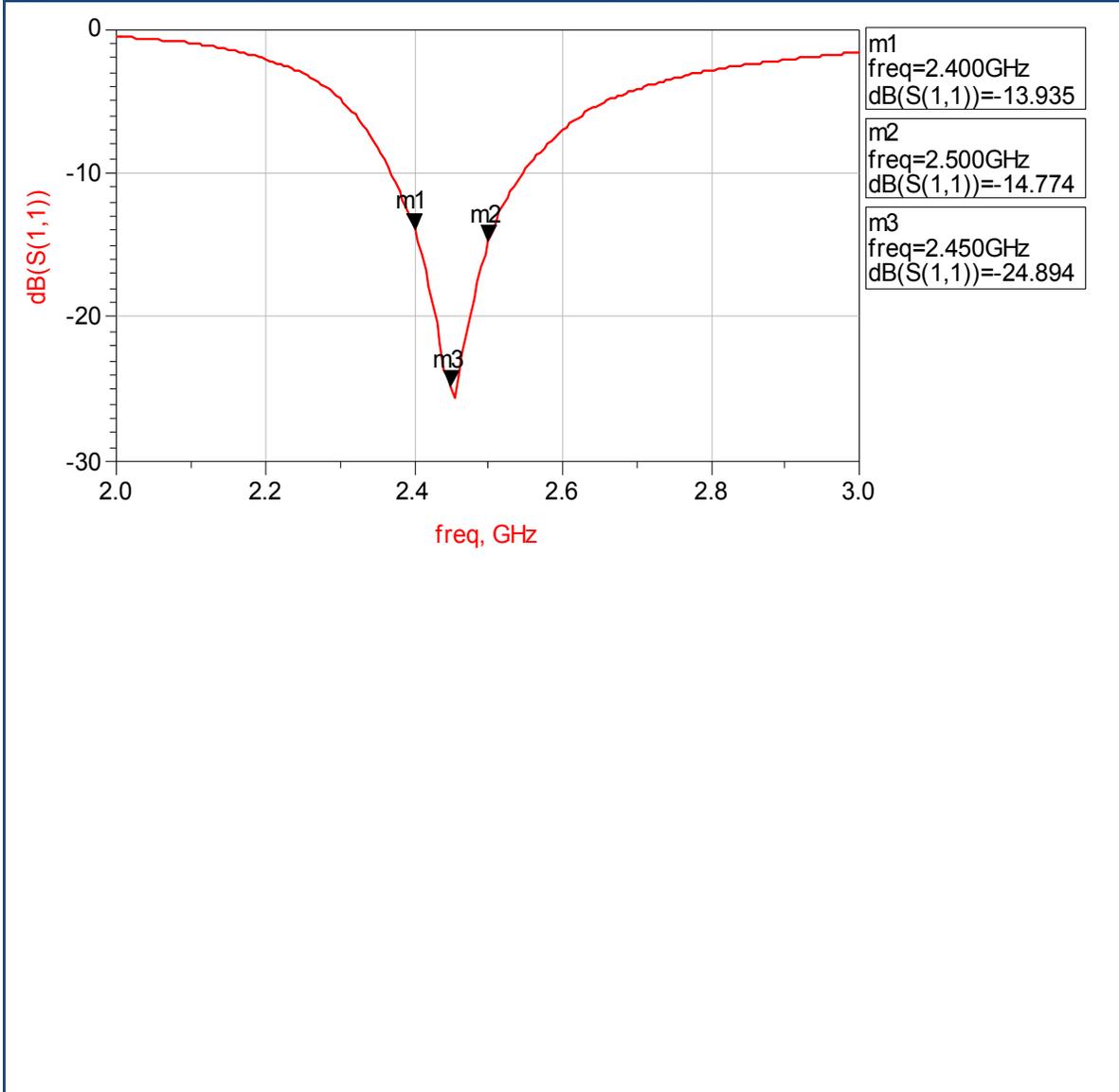
P/N 2450AT18D0100

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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.

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



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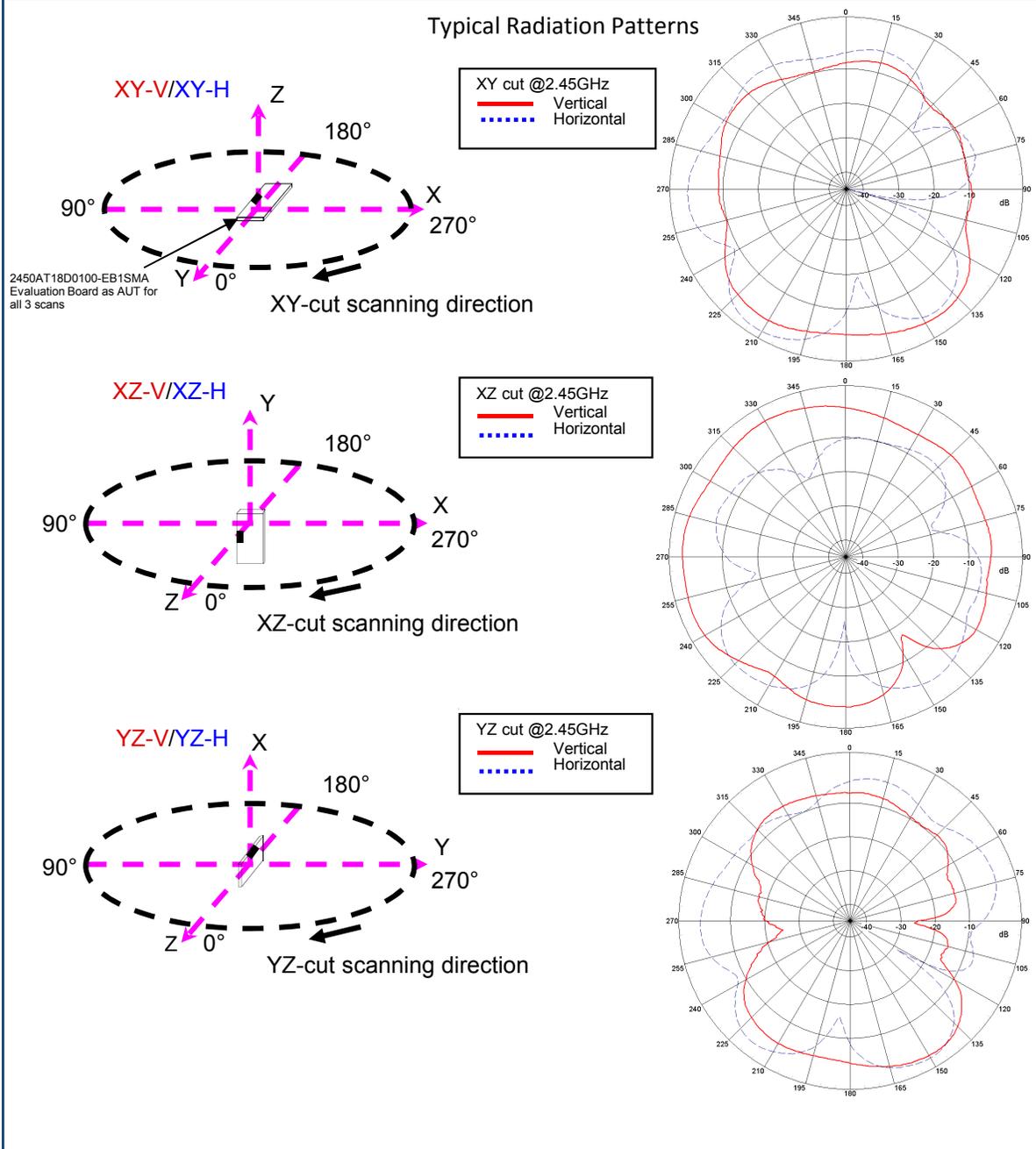
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## Typical EM Radiation Performance (T=25°C)



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## Part Number Explanation

P/N Suffix	Packing Style	Bulk	Suffix = S	eg.2450AT18D0100S
		T & R	Suffix = E	e.g.. 2450AT18D0100E
	EVN p/n	2450AT18D0100-EB1SMA		
Recommended Storage Conditions of <b>uninstalled</b> 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](http://www.johansontechnology.com/ipcantennaservices)

## More SMD Chip Antennas at:

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

## 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)

## Packaging information

[www.johansontechnology.com/ipcpackaging.html](http://www.johansontechnology.com/ipcpackaging.html)

## RoHS Compliance

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

## MSL Info

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

## P/N Explanation and Breakdown

[www.johansontechnology.com/ipc-pn-explained](http://www.johansontechnology.com/ipc-pn-explained)

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Technical Author: Manuel Carmona



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