

"High Frequency Ceramic Solutions"

2.4 GHz Antenna

Detail Specification: 5/4/2016

P/N 2450AT42D0100

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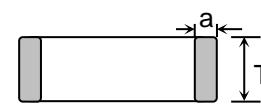
General Specifications

| | | | |
|---------------------|-----------------|--------------------------------|---|
| Part Number | 2450AT42D0100 | Input Power | 2W max. (CW) |
| Frequency (MHz) | 2400 - 2500 MHz | Operating Temperature | -40 to +85°C |
| Peak Gain (XZ-V) | 0.5 dBi typ. | Recommended Storage Conditions | +5 to +35°C, 45~75%RH 18 months max. |
| Average Gain (XZ-V) | -2.0 dBi typ. | | |
| Return Loss | 6 dB min. | Reel Quantity | 1,000 |

Part Number Explanation

| | | | | |
|------------------|---------------|--------------|----------------------|---------------------------|
| P/N Suffix | Packing Style | Bulk (loose) | Suffix = S | eg. 2450AT42D0100S |
| | | T & R | Suffix = E | eg. 2450AT42D0100E |
| | | 100% Tin | Suffix = E or S | eg. 2450AT42D0100(E or S) |
| Evaluation Board | | | 2450AT42D0100-EB1SMA | |

Mechanical Dimensions

| L | In | | mm | |
|---|---|----------------------|---|------------------|
| | 0.197 | ± 0.008 | 5.00 | ± 0.20 |
| W | | 0.079 ± 0.008 | | 2.00 ± 0.20 |
| T | | 0.118 ± +.004/-0.008 | | 3.00 ± +0.1/-0.2 |
| a | 0.020 ± 0.012 | | 0.50 ± 0.30 | |
| |  | |  | |
| | Top view | | Side view | |

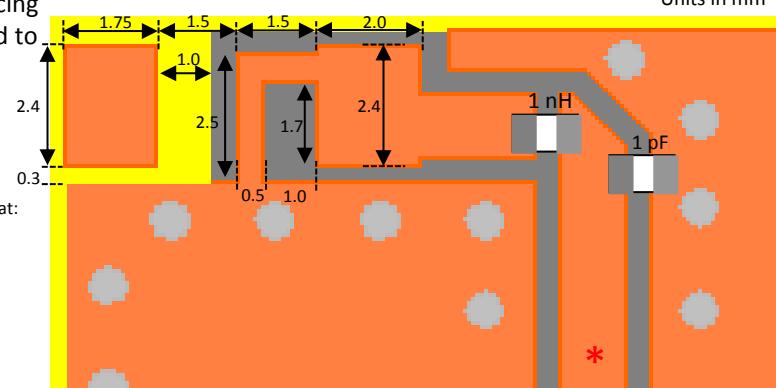
Terminal Configuration

| No. | Function |
|--|---------------|
| 1 | Feeding Point |
| 2 | NC* |
|  | |

*This terminal must be soldered for anchoring and functionality purposes

Mounting Considerations I (smaller keep out area)

Mount these devices with mark facing up. *Line width should be designed to provide 50 Ω impedance matching characteristics.



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

JTI P/N for Matching Circuit:**
 Inductor (1.0nH):L-07C1N0SV6T
 Cap (1.0pF): 500R07S1N0BV4T

** matching circuit and component values will depend on PCB layout, thickness, material, etc.

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Mounting Considerations I: Evaluation Board Dimensions and Keep-out Area

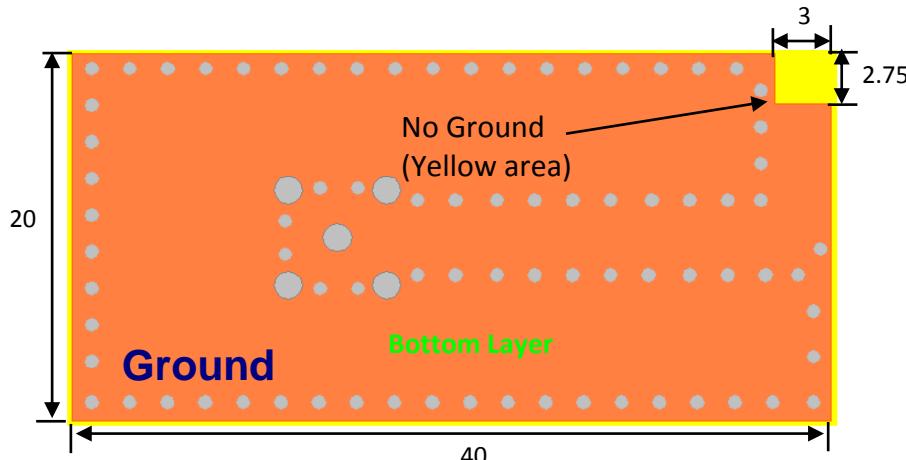
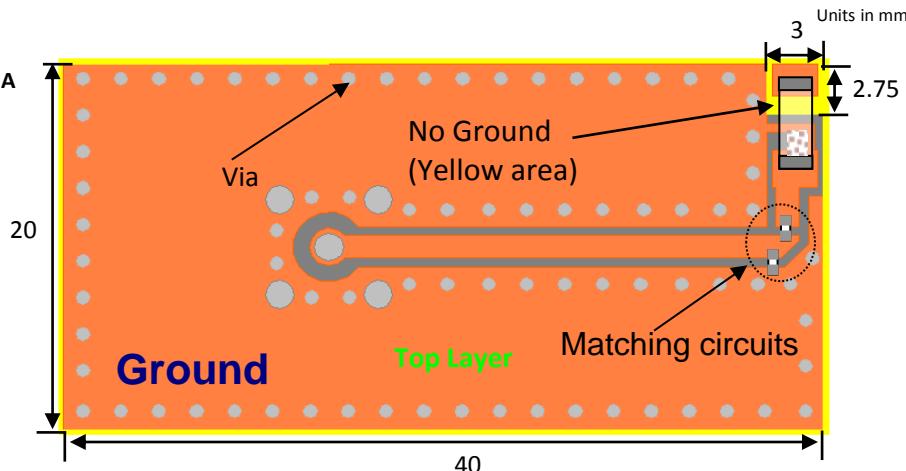
Johanson Test Board

(orderable) p/n:

2450AT42D0100-EB1SMA

50Ω Feed Line (make sure proper calculation are

Yellow area-
complete GND and
layer clearance
free of metal below
and above.



****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 client's PCB will be different. Go to: www.johansontechnology.com/tuning and see how to obtain the new values. If you need further help, such as needing the layout file of the above, contact our RF Applications Eng. Team at: www.johansontechnology.com/ask-a-question

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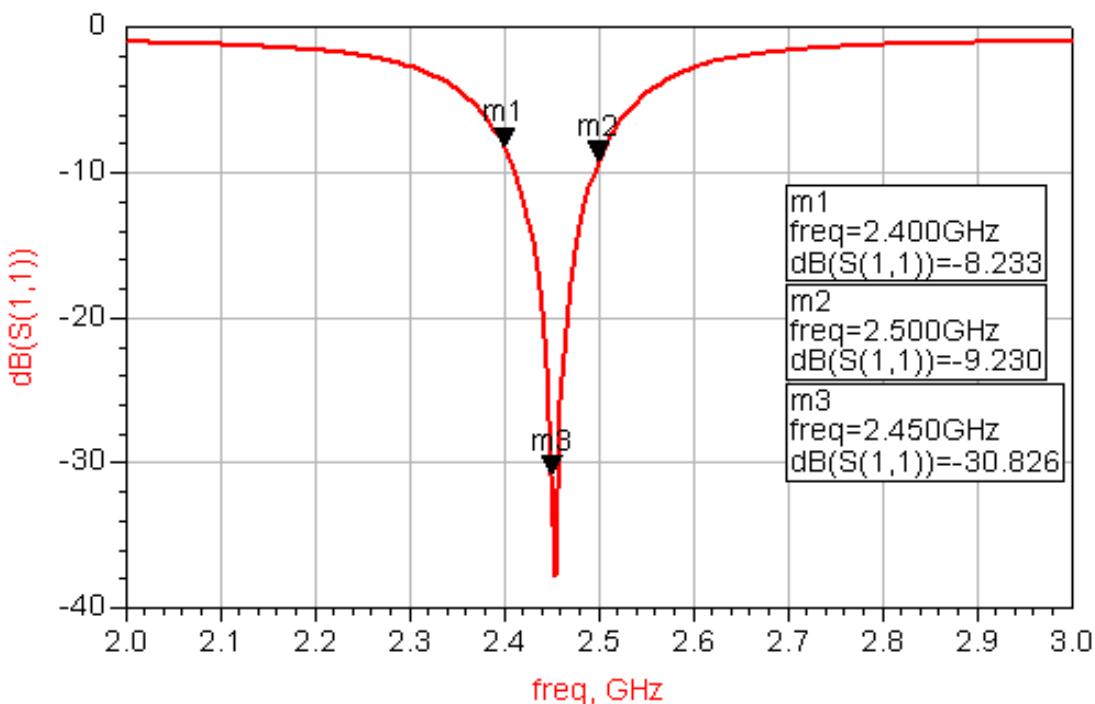
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Mounting Considerations I: Typical Electrical Performance (T = 25°C)



Feel free to contact us if you have any questions regarding the implementation of this antenna in your PCB's layout. We'll be happy to guide you in how to maximize the antenna's performance.

You can contact us here:

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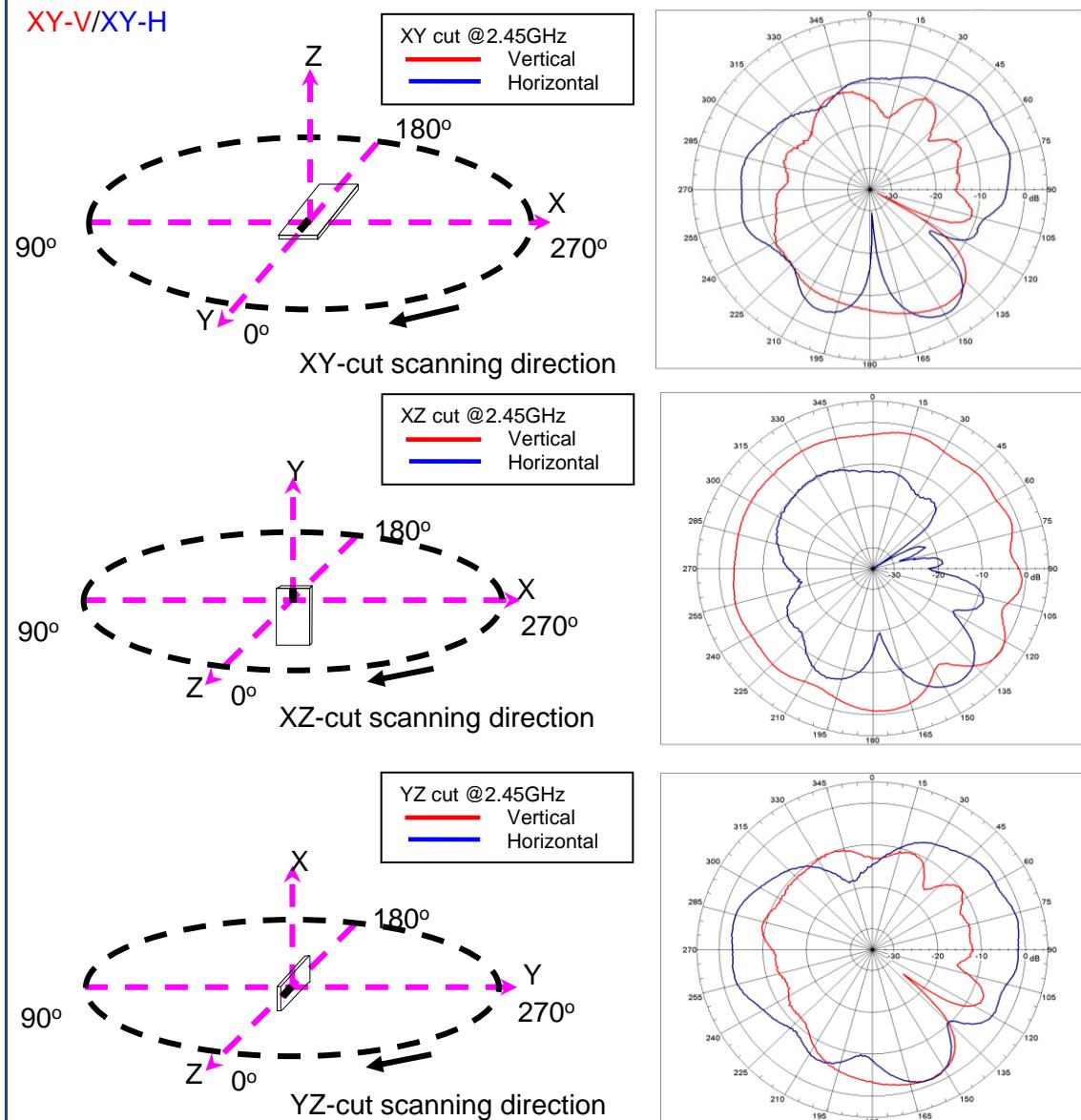
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Mounting Considerations I: Typical EM Radiation Pattern (T = 25°C)



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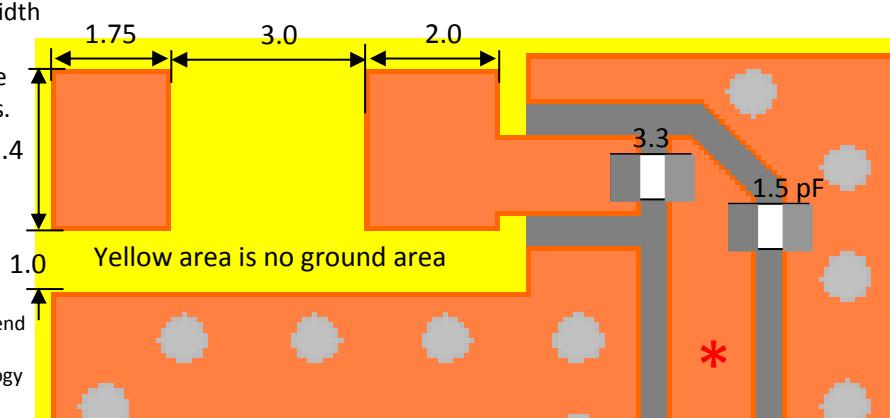
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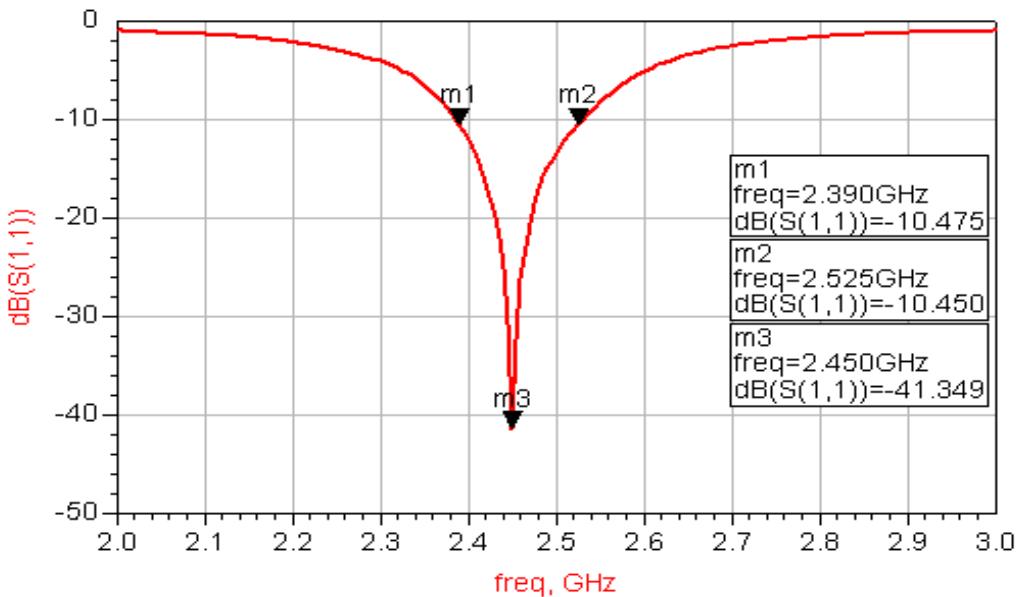
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Mounting Considerations II

Mount these devices with mark facing up. *Line width should be designed to provide 50 Ω impedance matching characteristics.



Mounting Considerations II: Typical Electrical Performance ($T = 25^\circ\text{C}$)



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Mounting Considerations II: Evaluation Board Dimensions and Keep-out Area

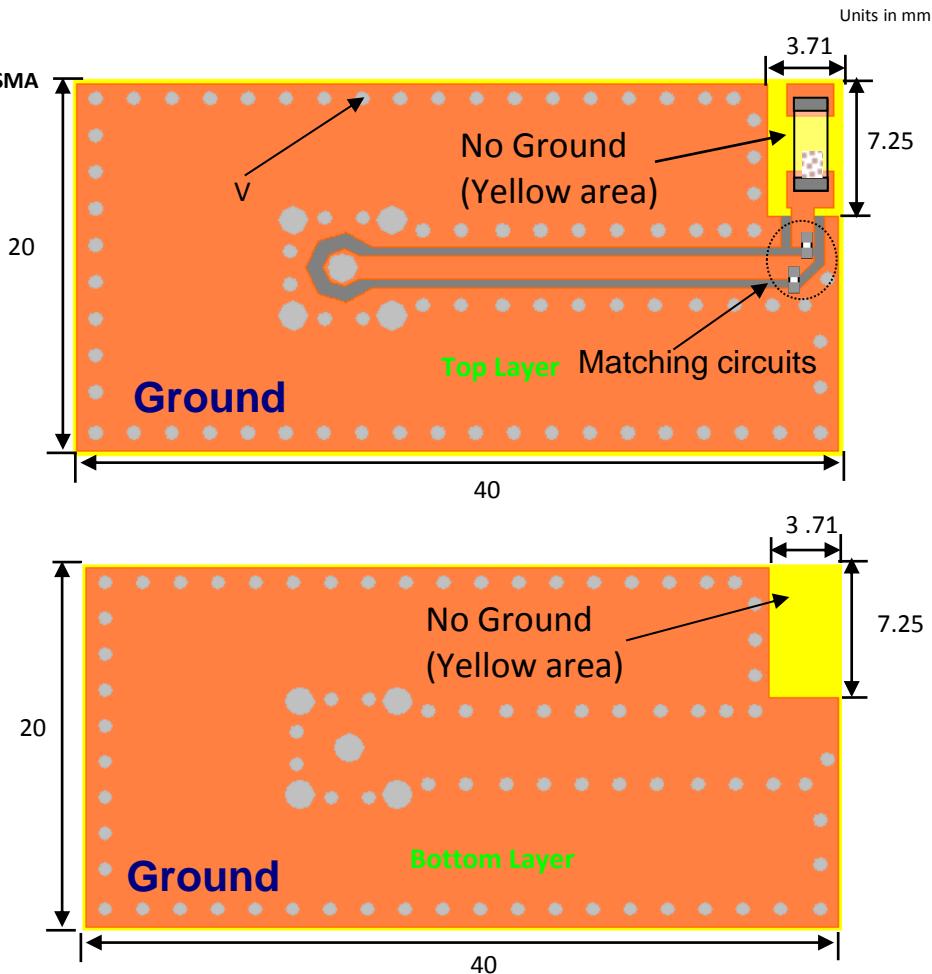
Johanson Test Board

(orderable) p/n:

2450AT42D0100-EB2SMA

50Ω Feed Line (make sure proper calculation are

Yellow area-
complete GND and
layer clearance
free of metal below
and above.



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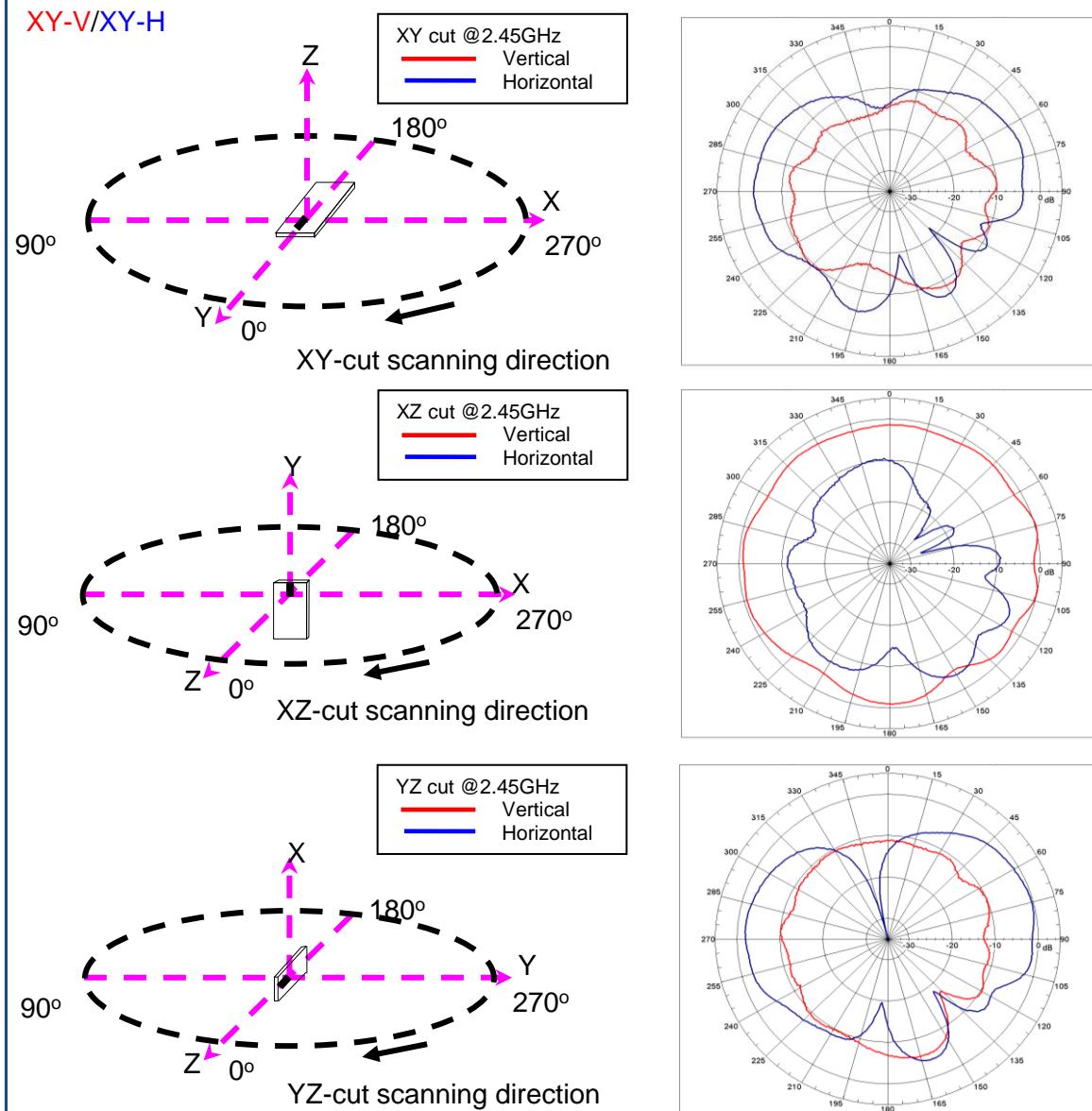
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Mounting Considerations II: Typical EM Radiation Pattern (T = 25°C)



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