

# "High Frequency Ceramic Solutions"

## 2.45 GHz High Gain Chip Antenna (Vertical Orientation)

P/N 2450AT45A100

Detail Specification: 01/05/2012

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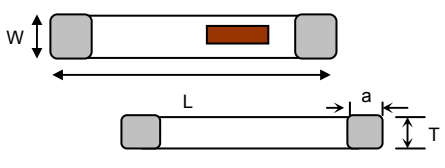
### General Specifications

Part Number	2450AT45A100
Frequency Range	2400 - 2500 Mhz
Peak Gain	3.0 dBi typ. (XZ-V)
Average Gain	1.0 dBi typ. (XZ-V)
Return Loss	9.5 dB min.

Input Power	3W max.
Impedance	50 Ω
Operating Temperature	-40 to +85°C
Reel Quantity	1,000

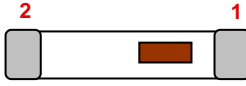
### Mechanical Dimensions

	In	mm
L	0.374 ± 0.008	9.50 ± 0.20
W	0.079 ± 0.008	2.00 ± 0.20
T	0.047 +.004/-0.008	1.20 +0.1/-0.2
a	0.020 ± 0.012	0.50 ± 0.30



### Terminal Configuration

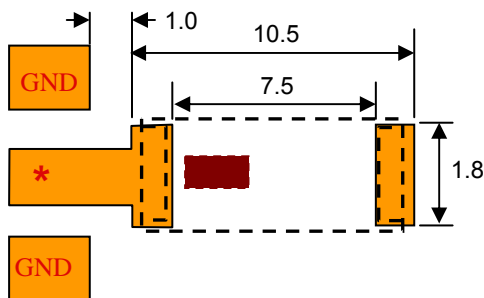
No.	Function
1	Feeding Point
2	NC



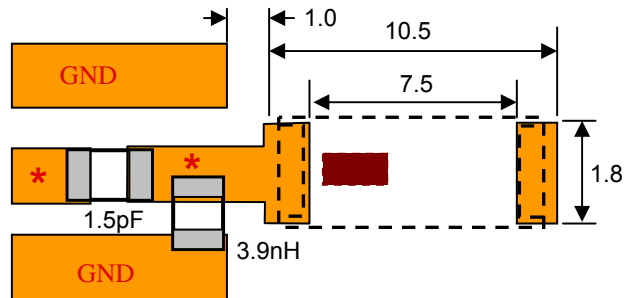
### Mounting Considerations 1

Mount these devices with brown mark facing up. Units: mm

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



a) Without Matching Circuit (moderate bandwidth)



b) With Matching Circuit\* (wide bandwidth)

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

**EVB p/n:**  
**2450AT45A100-EB1SMA**

**JTI P/N for Matching Circuit:**  
**Cap (1.5pF): 500R07S1R5BV4T**  
**Inductor (3.9nH): L-07C3N9SV6T**

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2.45 GHz High Gain Chip Antenna (Vertical Orientation)

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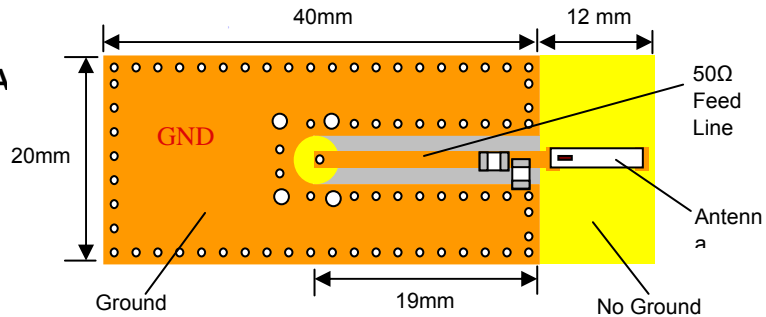
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## Typical Electrical Characteristics (T=25°C)

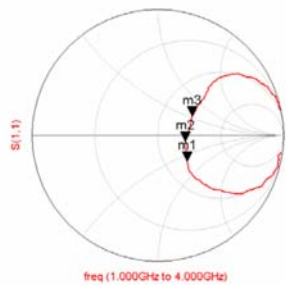
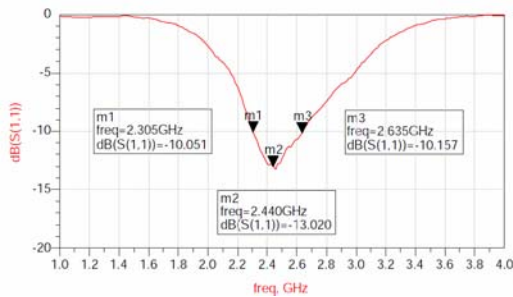
### Test Board

EVb p/n:  
2450AT45A100-EB1SMA

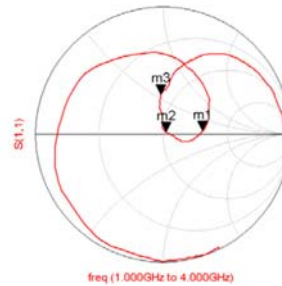
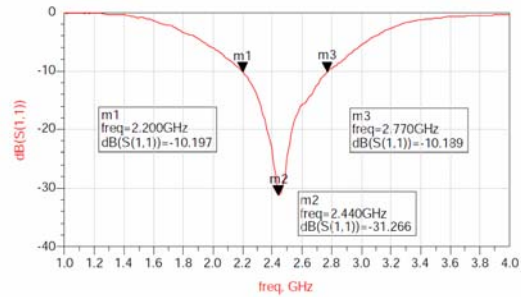


### Return Loss

a) Without Matching Circuit



a) With Matching Circuit



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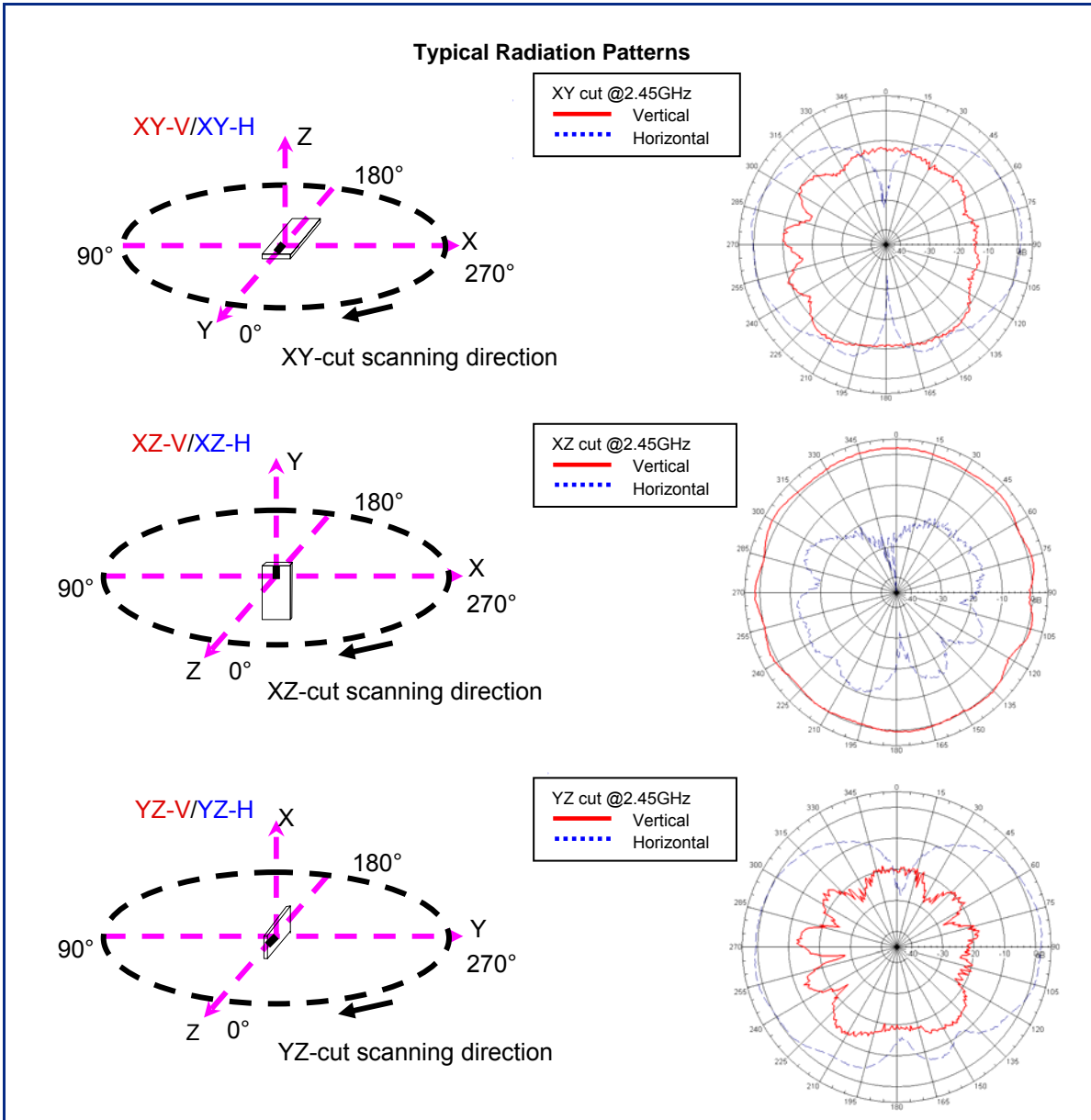
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# "High Frequency Ceramic Solutions"

## 2.45 GHz High Gain Chip Antenna (Horizontal Orientation\_1)

P/N 2450AT45A100

Detail Specification: 01/05/2012

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### General Specifications

Part Number	2450AT45A100
Frequency Range	2400 - 2500 Mhz
Peak Gain	1.5 dBi typ. (XZ-V)
Average Gain	0.0 dBi typ. (XZ-V)
Return Loss	9.5 dB min.

### Mechanical Dimensions

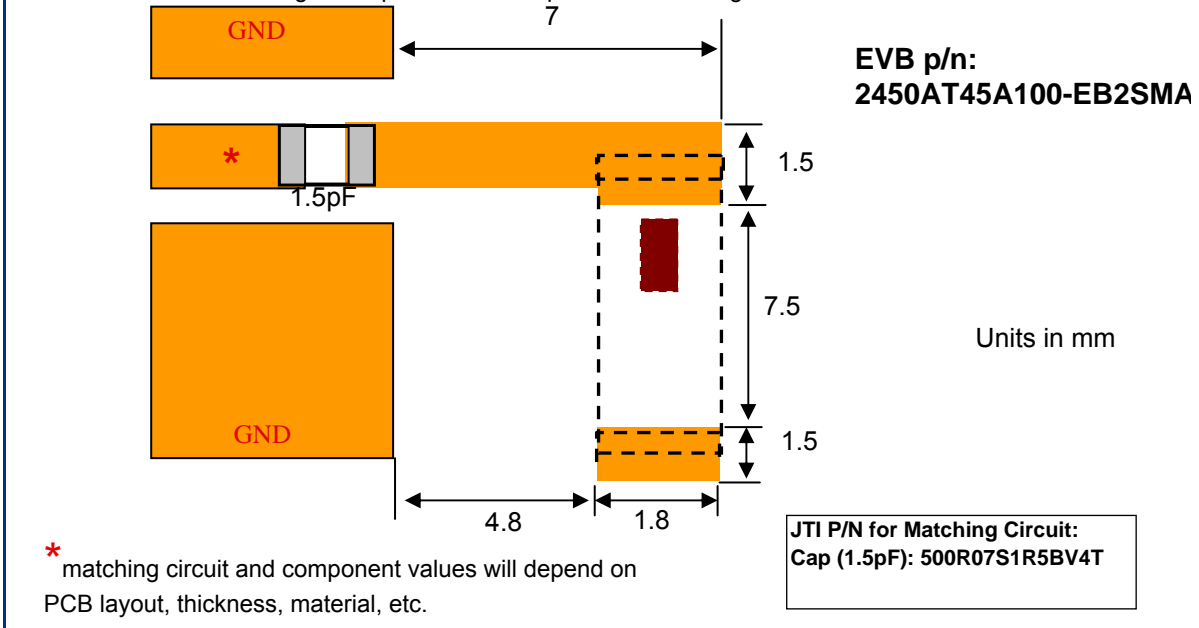
	In	mm
L	0.374 ± 0.008	9.50 ± 0.20
W	0.079 ± 0.008	2.00 ± 0.20
T	0.047 +.004/-0.008	1.20 +0.1/-0.2
a	0.020 ± 0.012	0.50 ± 0.30

Terminal Configuration	
No.	Function
1	Feeding Point
2	NC

### Mounting Considerations 2

Mount these devices with brown mark facing up. Units: mm

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



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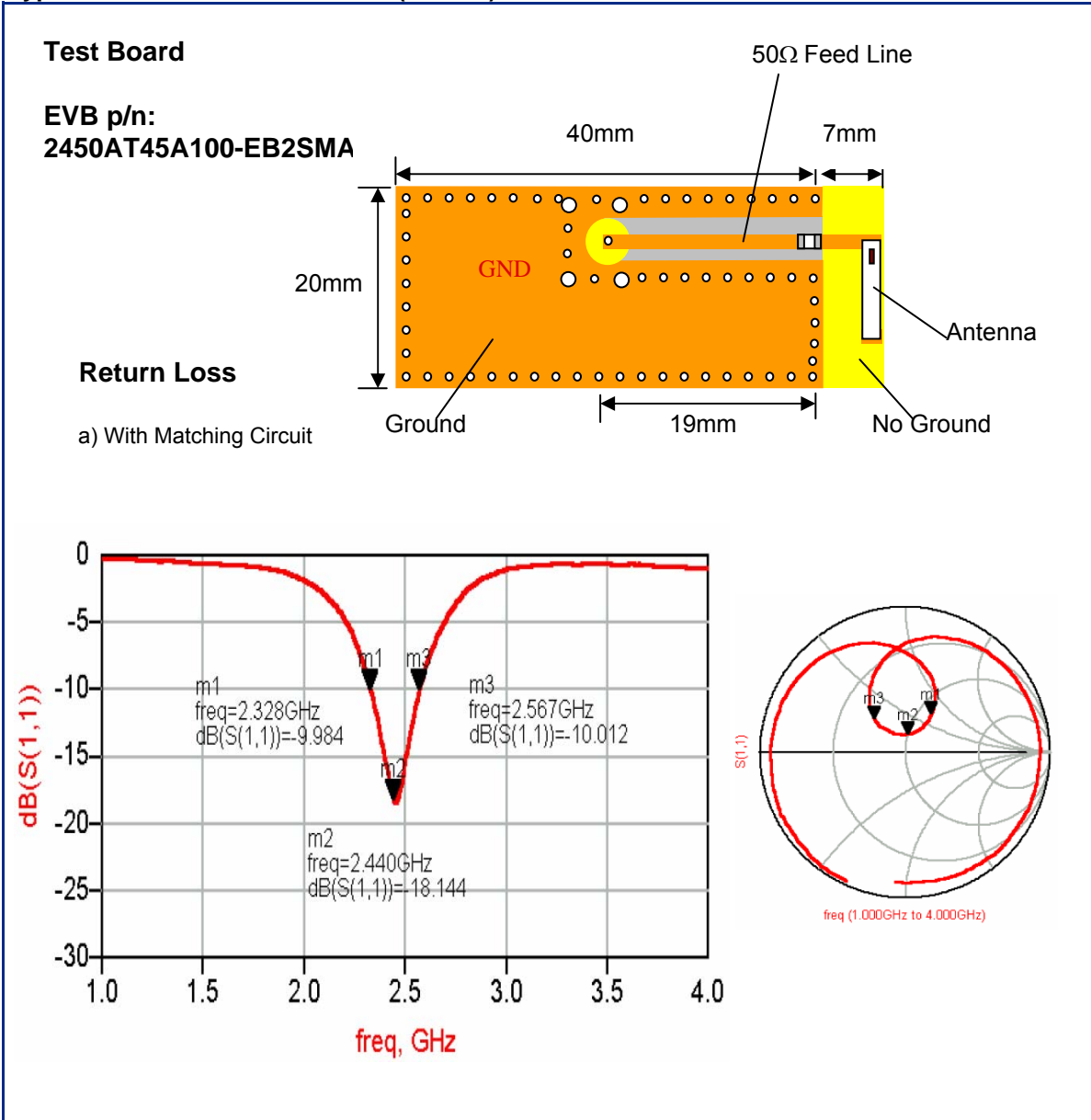
2.45 GHz High Gain Chip Antenna (Horizontal Orientation\_1)

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



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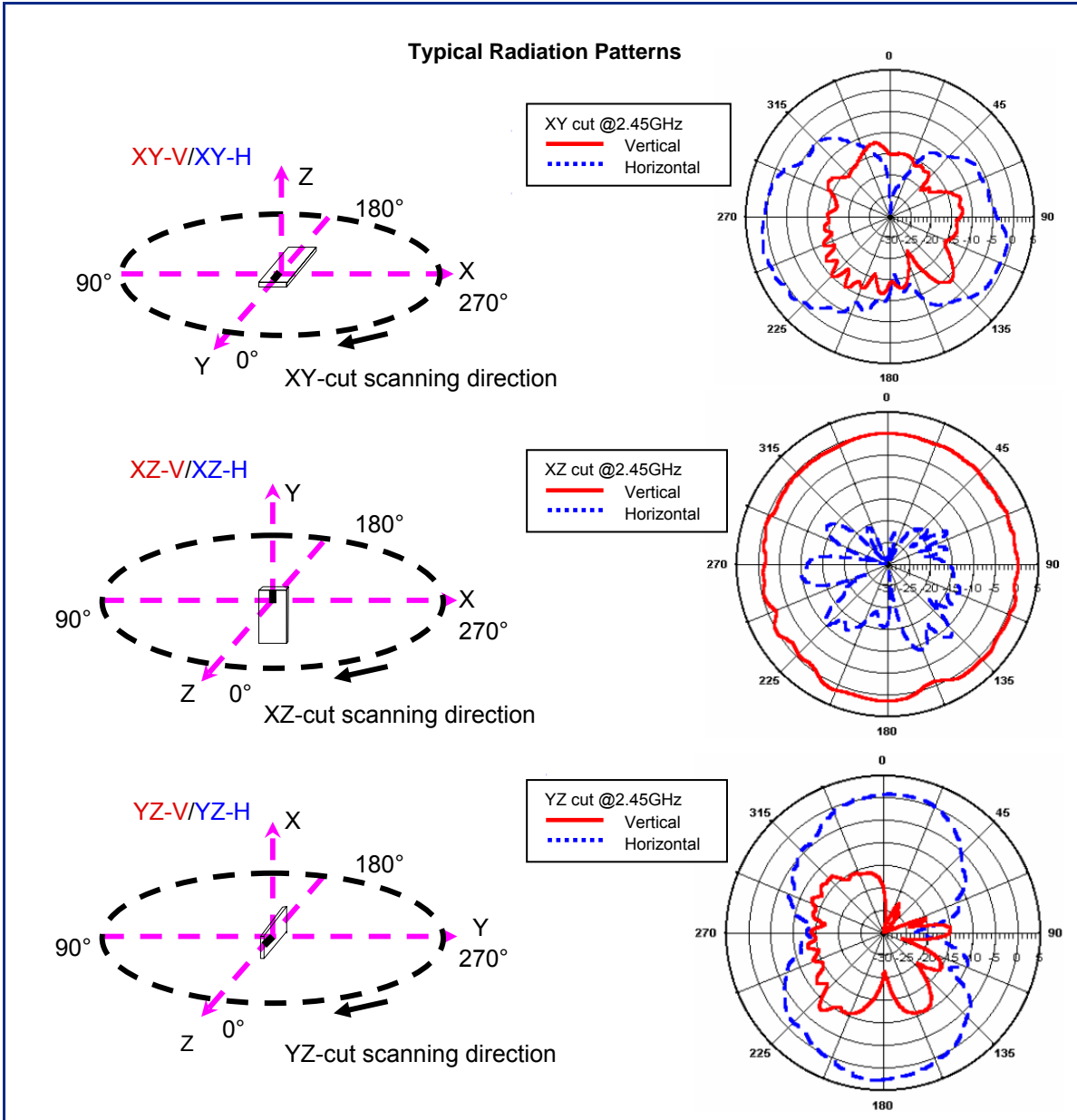
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2.45 GHz High Gain Chip Antenna (Horizontal Orientation\_1)

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# "High Frequency Ceramic Solutions"

## 2.45 GHz Antenna (Horizontal Orientation\_2)

P/N 2450AT45A100

Detail Specification: 01/05/2012

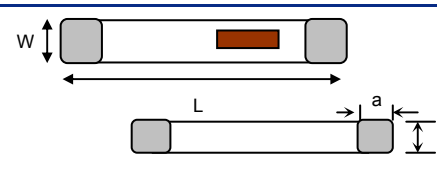
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### General Specifications

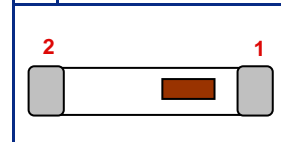
Part Number	2450AT45A100
Frequency Range	2400 - 2500 Mhz
Peak Gain	1.3 dBi typ. (XZ-V)
Average Gain	0.6 dBi typ. (XZ-V)
Return Loss	9.5 dB min.

### Mechanical Dimensions

	In	mm
L	0.374 ± 0.008	9.50 ± 0.20
W	0.079 ± 0.008	2.00 ± 0.20
T	0.047 +.004/-0.008	1.20 +0.1/-0.2
a	0.020 ± 0.012	0.50 ± 0.30



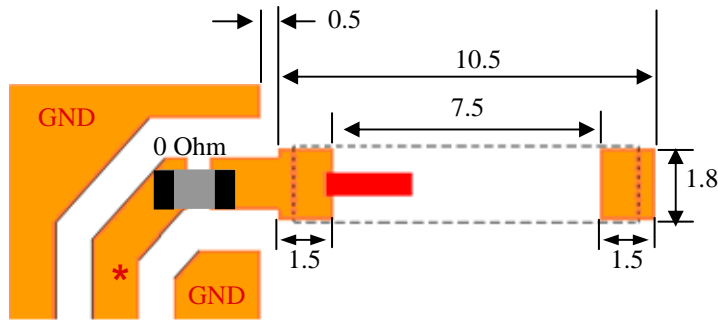
Terminal Configuration	
No.	Function
1	Feeding Point
2	NC



### Mounting Considerations 3

Mount these devices with brown mark facing up. Units: mm

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



Units in mm

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

**EVB p/n:  
2450AT45A100-EB3SMA**

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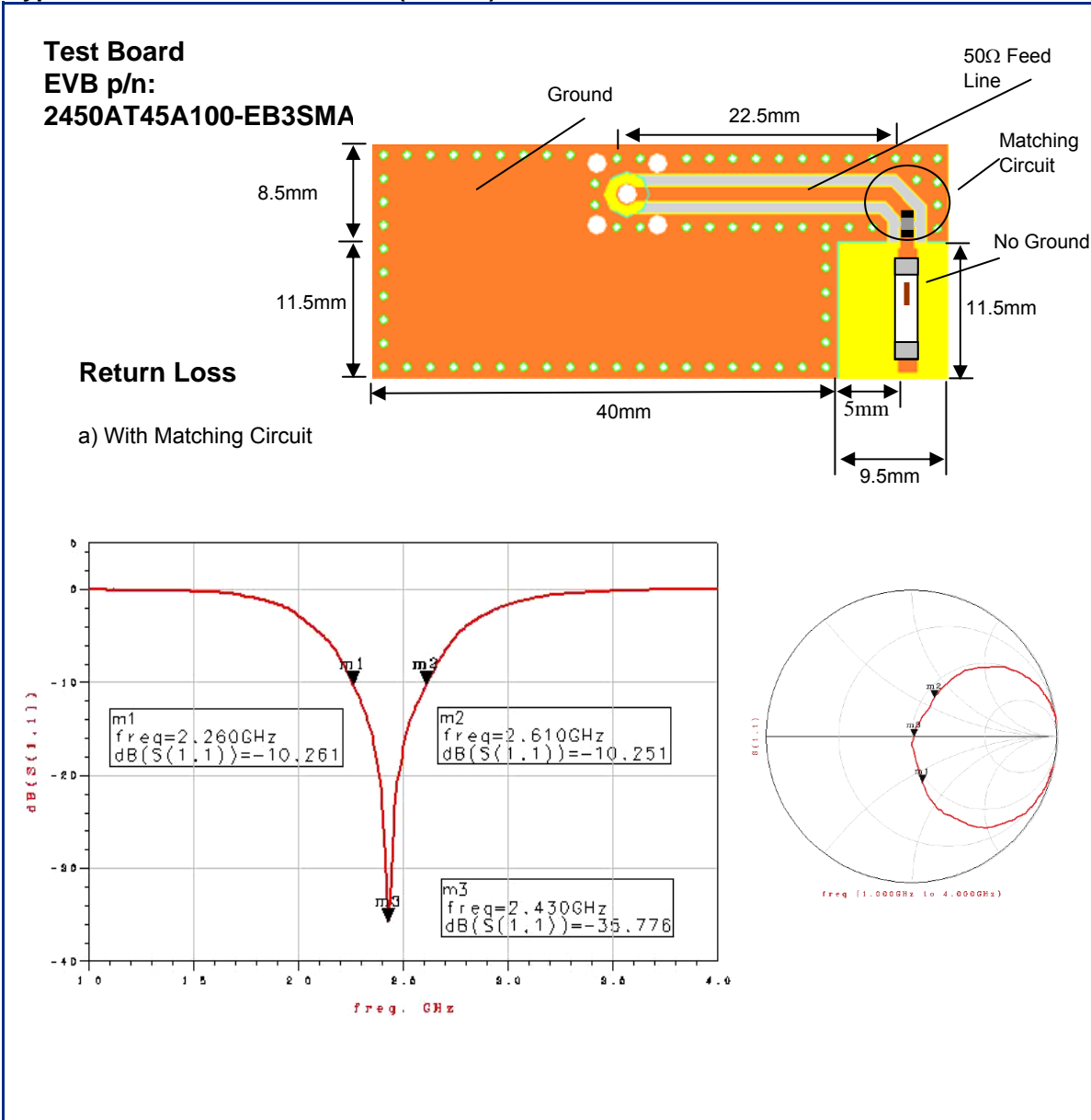
2.45 GHz Antenna (Horizontal Orientation\_2)

P/N 2450AT45A100

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



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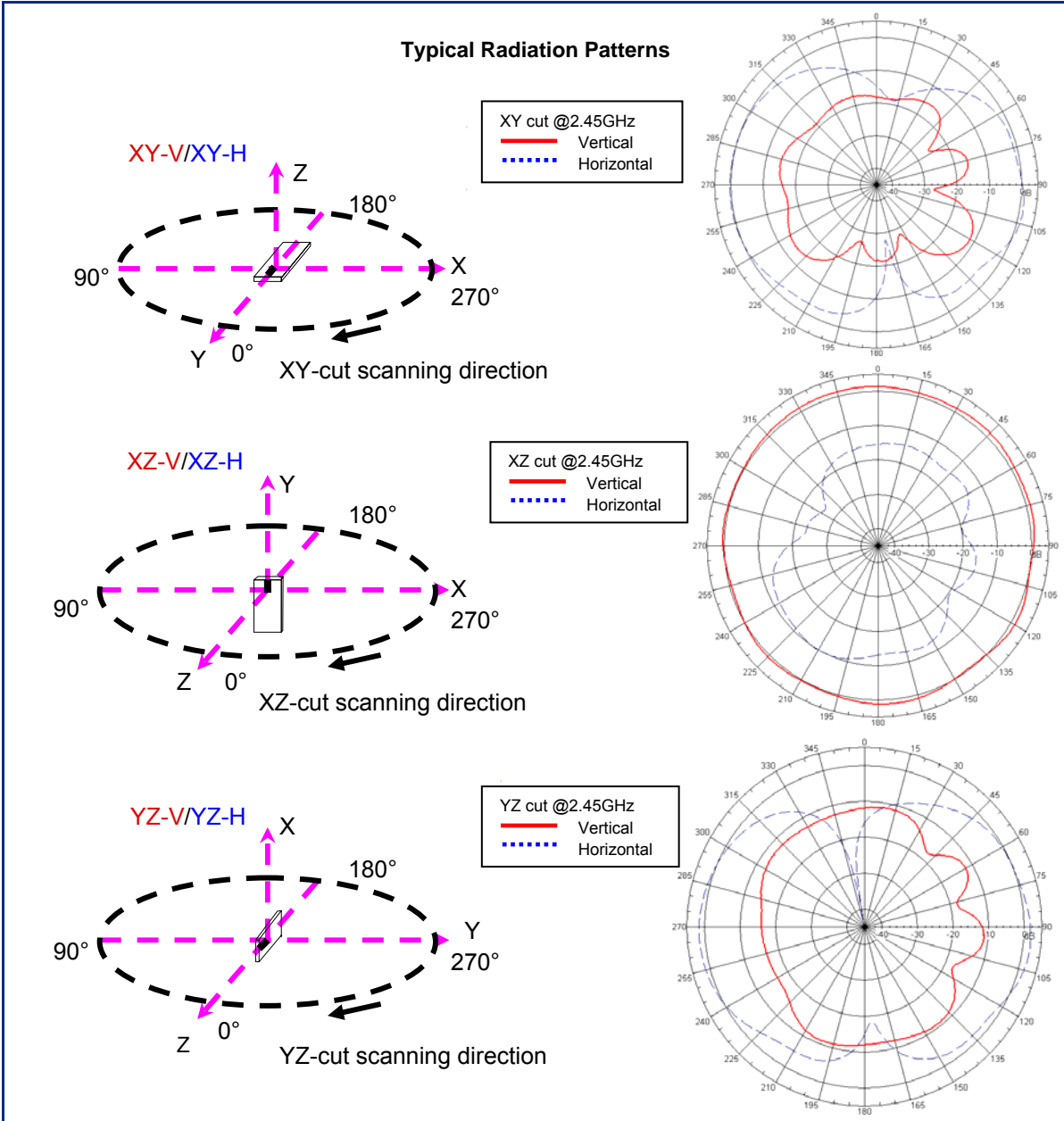
# "High Frequency Ceramic Solutions"

**2.45 GHz Antenna (Horizontal Orientation\_2)**

**P/N 2450AT45A100**

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**2.45 GHz Antenna**

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## Ordering Information

<b>Packaging Style*</b>	Bulk (loose pieces)	Suffix = S	Eg. 2450AT45A100S
	T & R	Suffix = E	Eg. 2450AT45A100E
	T & R (Reverse)	Suffix = R	Eg. 2450AT45A100R
<b>Termination Style</b>	100% Tin	Suffix = None	Eg. 2450AT45A100(S, E, R)
	Tin / Lead	Please consult Factory	
<b>Evaluation Boards (1-port SMA antenna test boards)</b>	2450AT45A100-EB1SMA (Page 2)		
	2450AT45A100-EB2SMA (Page 5)		
	2450AT45A100-EB3SMA (Page 8)		

\*<http://johansontechnology.com/en/integrated-passives/integrated-passive-tape-a-reel-packaging.html>

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