

"High Frequency Ceramic Solutions"

2.45 GHz Antenna (Vertical Orientation)

P/N 2450AT45A100

Detail Specification: 07/10/09

Page 1 of 9

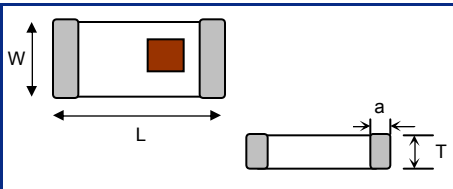
General Specifications

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

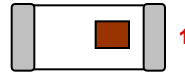
Mechanical Dimensions

	In	mm
L	0.374 $\pm$ 0.008	9.50 $\pm$ 0.20
W	0.079 $\pm$ 0.008	2.00 $\pm$ 0.20
T	0.047 $\pm$ 0.004/-0.008	1.20 $\pm$ 0.1/-0.2
a	0.020 $\pm$ 0.012	0.50 $\pm$ 0.30



Terminal Configuration

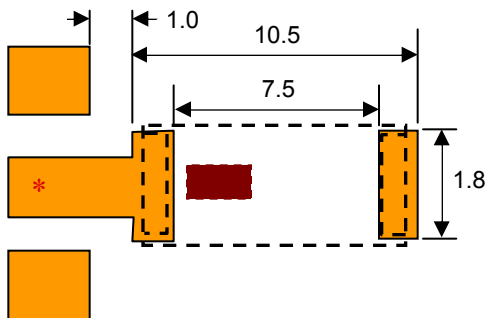
No.	Function
1	Feeding Point
2	NC



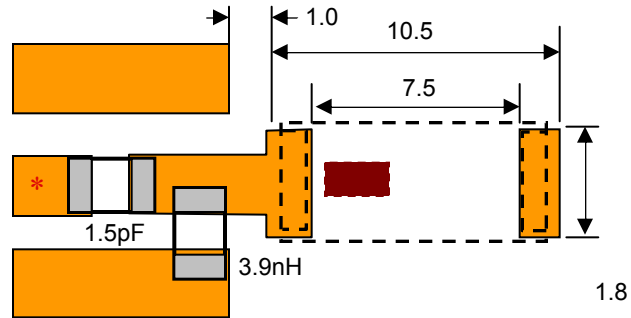
Mounting Considerations

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 on PCB layout.

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

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"High Frequency Ceramic Solutions"

2.45 GHz Antenna (Vertical Orientation)

P/N 2450AT45A100

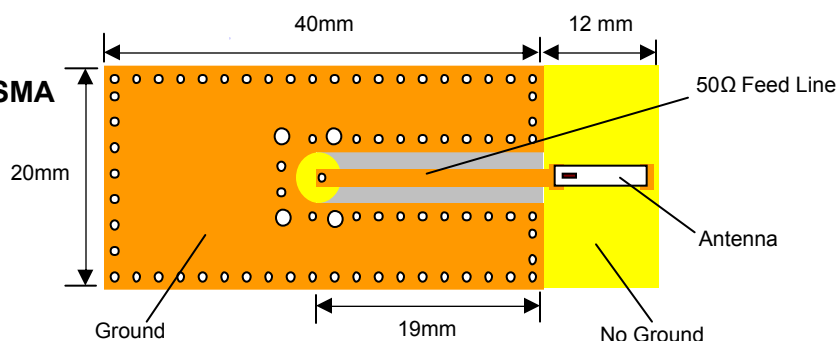
Detail Specification: 07/10/09

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Typical Electrical Characteristics (T=25°C)

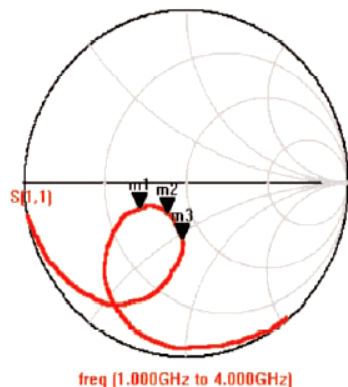
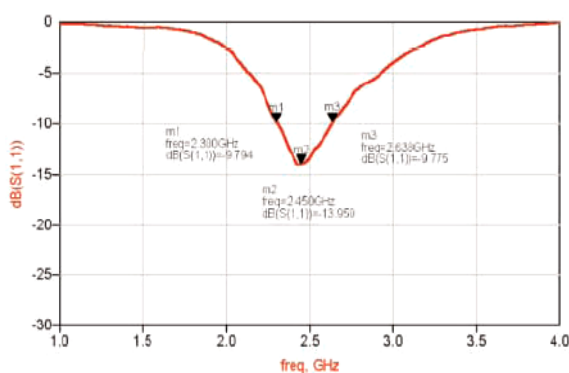
Test Board

EVB p/n:
2450AT45A100-EB1SMA

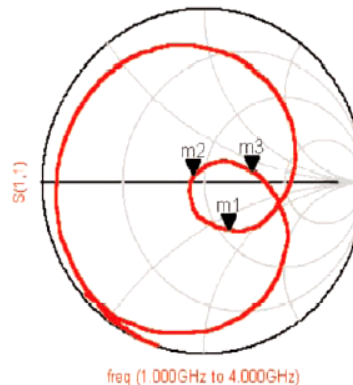
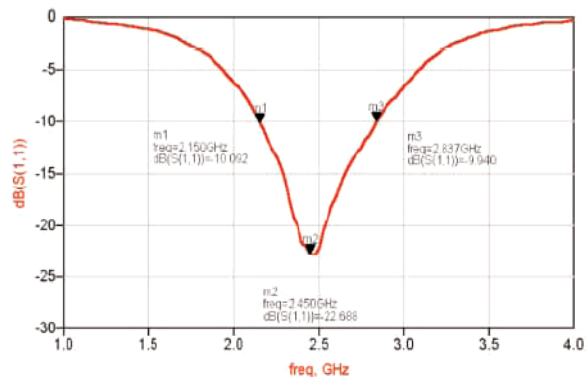


Return Loss

a) Without Matching Circuit



a) With Matching Circuit



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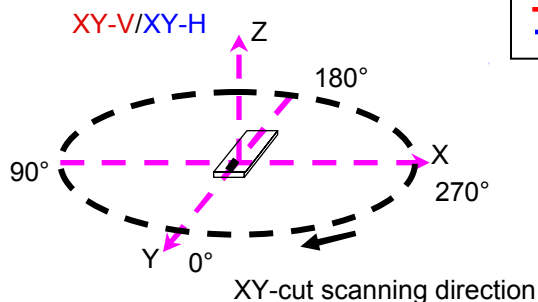
2.45 GHz Antenna (Vertical Orientation)

P/N 2450AT45A100

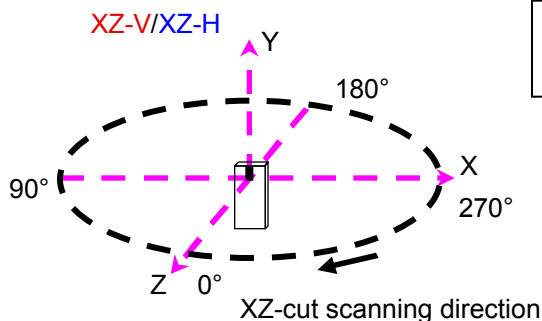
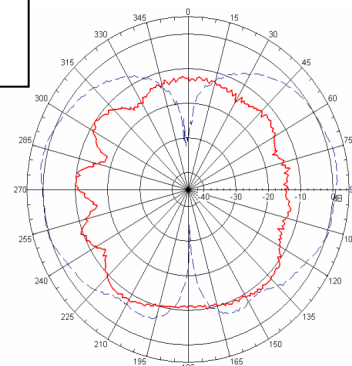
Detail Specification: 07/10/09

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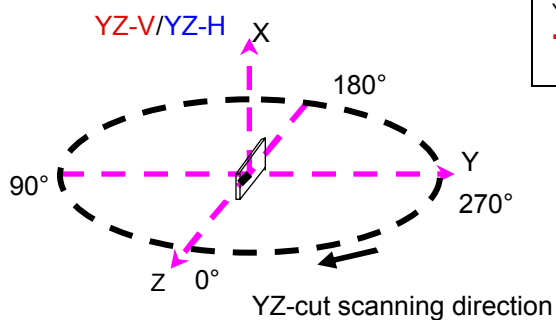
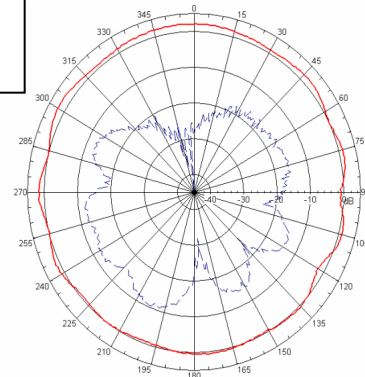
Typical Radiation Patterns



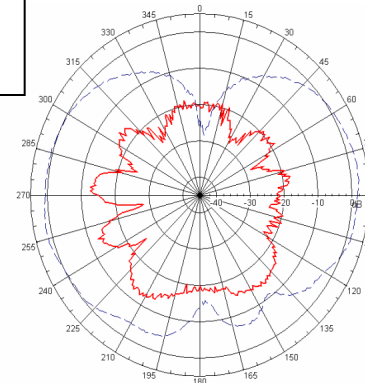
XY cut @2.45GHz
— Vertical
..... Horizontal



XZ cut @2.45GHz
— Vertical
..... Horizontal



YZ cut @2.45GHz
— Vertical
..... Horizontal



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"High Frequency Ceramic Solutions"

2.45 GHz Antenna (Horizontal Orientation_1)

P/N 2450AT45A100

Detail Specification: 07/10/09

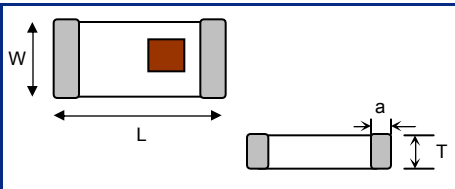
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General Specifications

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.

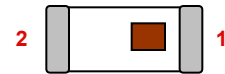
Mechanical Dimensions

	In	mm
L	0.374 ± 0.008	9.50 ± 0.20
W	0.079 ± 0.008	2.00 ± 0.20
T	0.047 +.004/-.008	1.20 +0.1/-0.2
a	0.020 ± 0.012	0.50 ± 0.30



Terminal Configuration

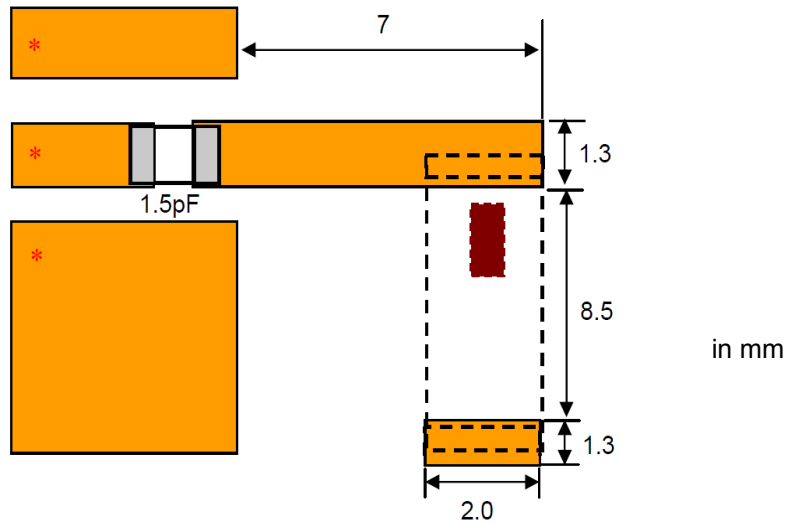
No.	Function
1	Feeding Point
2	NC



Mounting Considerations

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

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



*matching circuit and component values will depend on PCB layout.

JTI P/N for Matching Circuit:
Cap (1.5pF): 500R07S1R5BV4T

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"High Frequency Ceramic Solutions"

2.45 GHz Antenna (Horizontal Orientation)

P/N 2450AT45A100

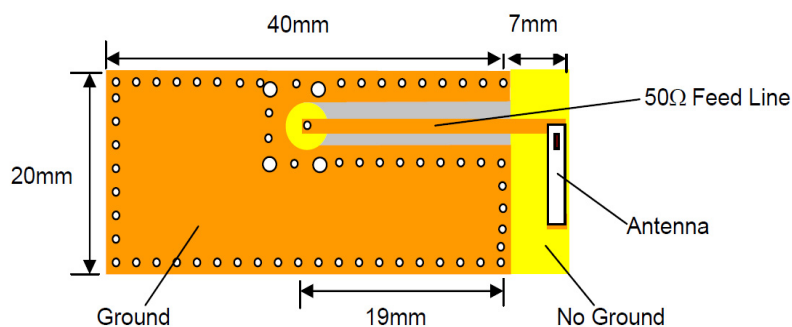
Detail Specification: 07/10/09

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Typical Electrical Characteristics (T=25°C)

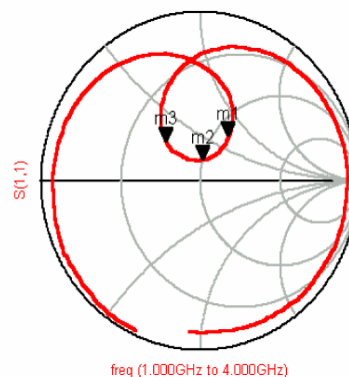
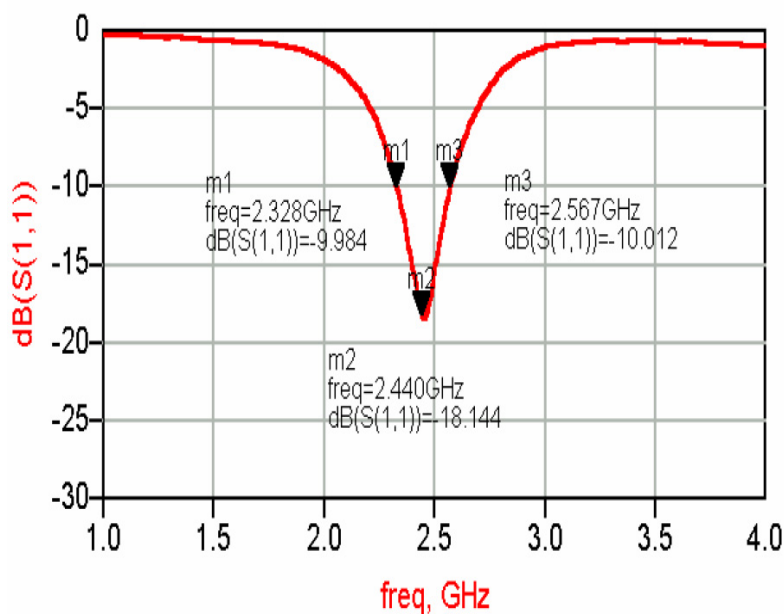
Test Board

EVB p/n:
2450AT45A100-EB2SMA



Return Loss

a) With Matching Circuit



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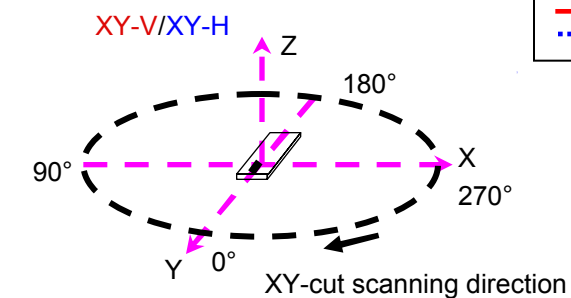
2.45 GHz Antenna (Horizontal Orientation)

P/N 2450AT45A100

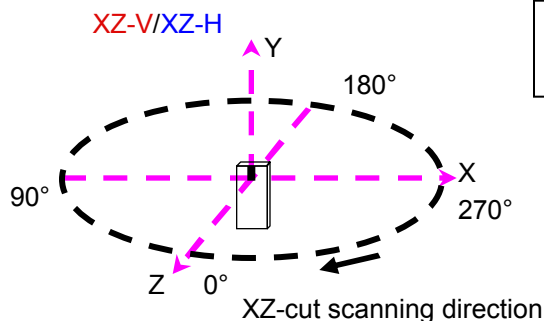
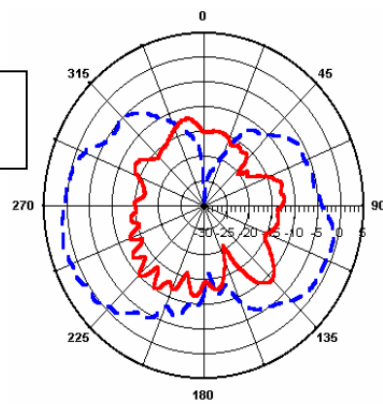
Detail Specification: 07/10/09

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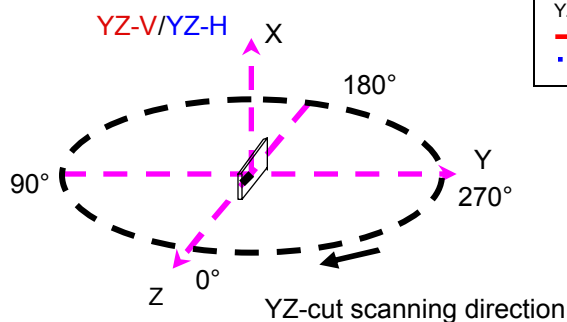
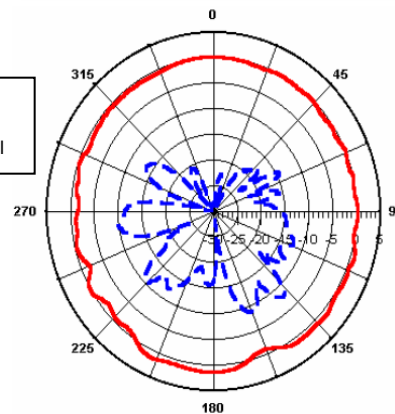
Typical Radiation Patterns



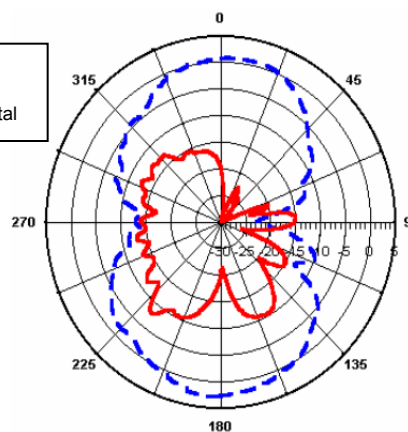
XY cut @2.45GHz
— Vertical
- - - Horizontal



XZ cut @2.45GHz
— Vertical
- - - Horizontal



YZ cut @2.45GHz
— Vertical
- - - Horizontal



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"High Frequency Ceramic Solutions"

2.45 GHz Antenna (Horizontal Orientation_2)

P/N 2450AT45A100

Detail Specification: 07/10/09

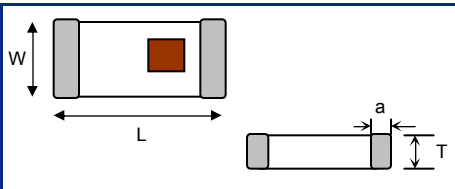
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General Specifications

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.

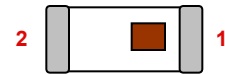
Mechanical Dimensions

	In	mm
L	0.374 ± 0.008	9.50 ± 0.20
W	0.079 ± 0.008	2.00 ± 0.20
T	0.047 +.004/-.008	1.20 +0.1/-0.2
a	0.020 ± 0.012	0.50 ± 0.30



Terminal Configuration

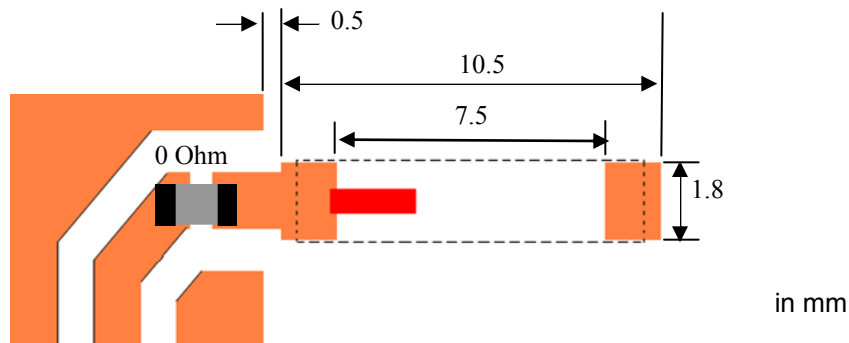
No.	Function
1	Feeding Point
2	NC



Mounting Considerations

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

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



*matching circuit and component values will depend on PCB layout.

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2.45 GHz Antenna (Horizontal Orientation)

P/N 2450AT45A100

Detail Specification: 07/10/09

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Typical Electrical Characteristics (T=25°C)

Test Board

EVB p/n:

2450AT45A100-EB3SMA

8.5mm

11.5mm

Ground

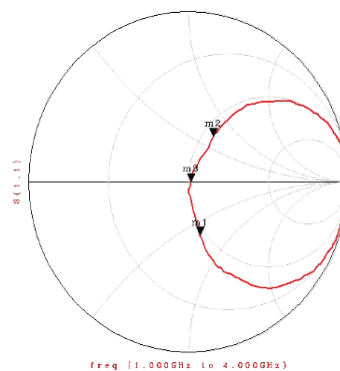
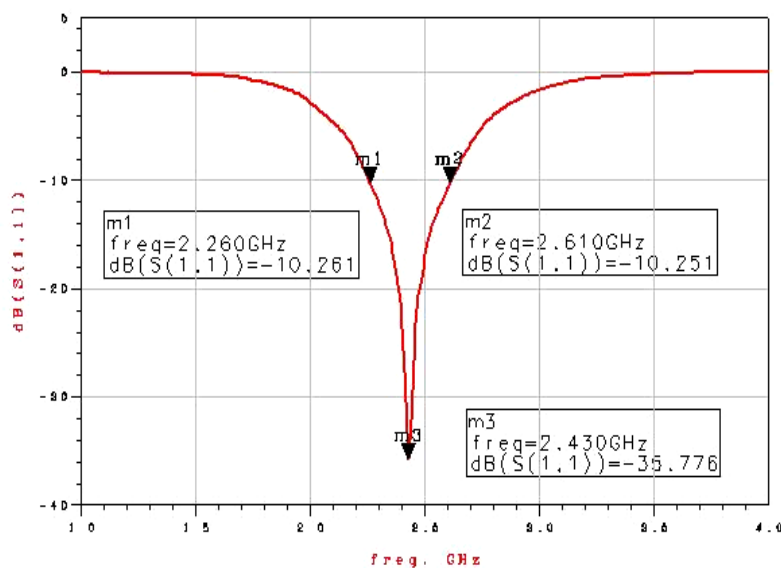
50Ω Feed Line

No Ground

Antenna

Return Loss

a) With Matching Circuit



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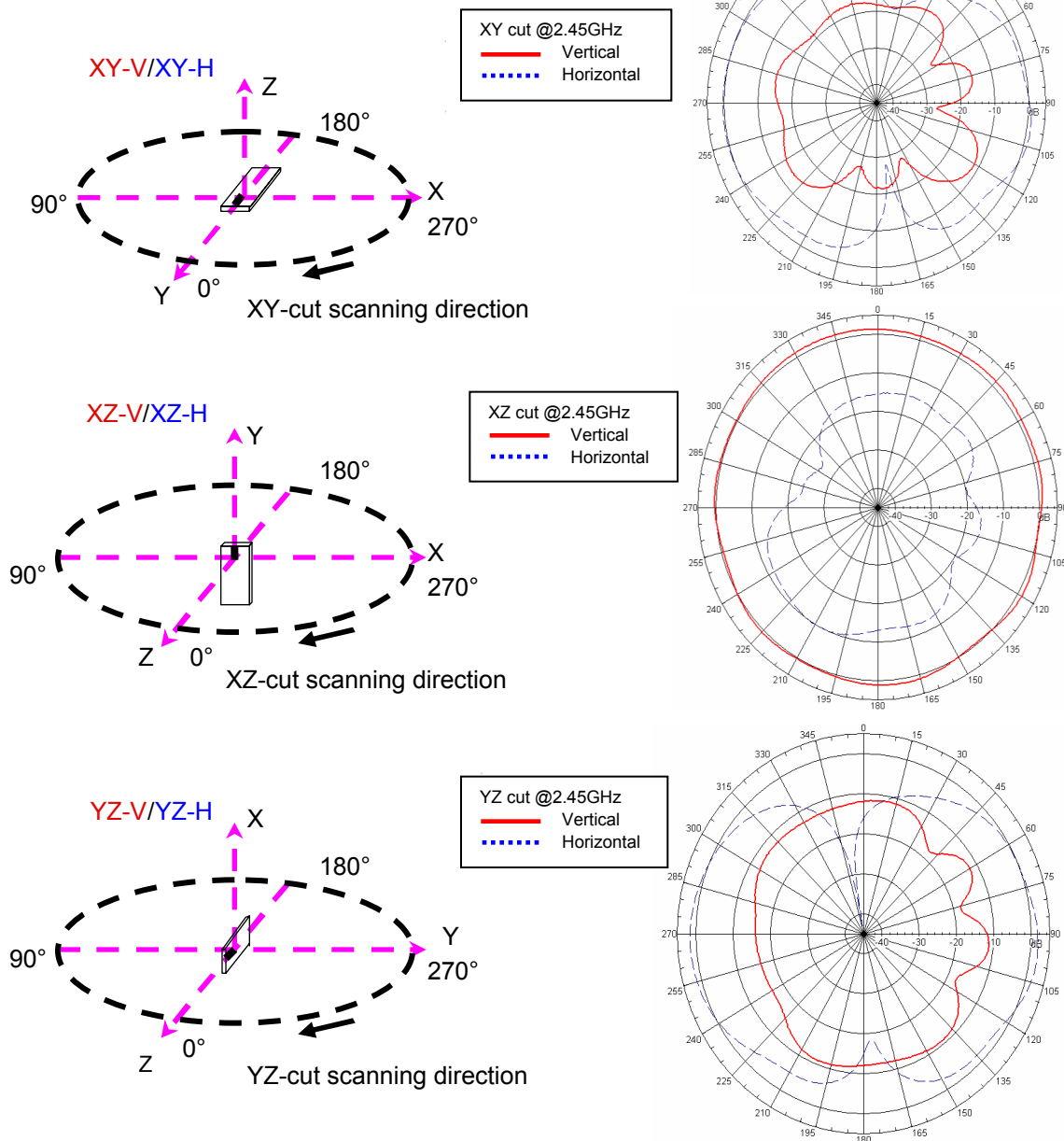
2.45 GHz Antenna (Horizontal Orientation)

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Typical Radiation Patterns



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