

# "High Frequency Ceramic Solutions"

## 1.57 GHz Antenna

P/N 1575AT47A0040

Detail Specification: 10/27/09

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### General Specifications

|                 |                      |
|-----------------|----------------------|
| Part Number     | 1575AT47A0040        |
| Frequency Range | 1555 - 1595 Mhz      |
| Peak Gain       | -1.0 dBi typ. (XZ-V) |
| Average Gain    | -3.0 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        |

| No. | Function | Terminal Configuration |
|-----|----------|------------------------|
| 1   | INPUT    |                        |
| 2   | NC       |                        |

### Mechanical Dimensions

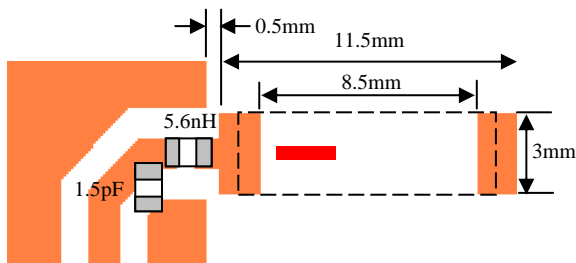
|   | In            | mm           |
|---|---------------|--------------|
| L | 0.394 ± 0.008 | 10.00 ± 0.20 |
| W | 0.118 ± 0.008 | 3.00 ± 0.20  |
| T | 0.030 ± 0.008 | 0.77 ± 0.20  |
| a | 0.030 ± 0.008 | 0.75 ± 0.20  |

### Mounting Considerations (Close Up)

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

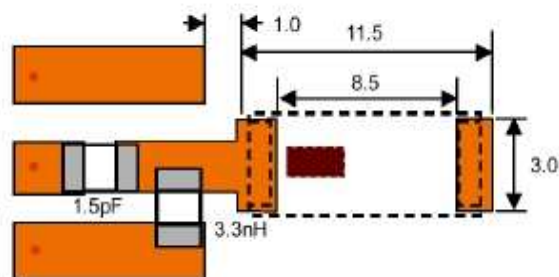
\* Line width should be designed to provide 50Ω impedance matching characteristics.

#### With Matching Circuit (Horizontal Mounting Situation)



JTI P/N for Matching Circuit:  
Cap (1.5pF): 500R07S1R5BV4T  
Inductor (5.6nH): L-07C5N6SV4T

#### With Matching Circuit (Vertical Mounting Situation)



JTI P/N for Matching Circuit:  
Cap (1.5pF): 500R07S1R5BV4T  
Inductor (3.3nH): L-07C3N3SV6T

(Matching components, if used, will vary in value depending on PCB layout)

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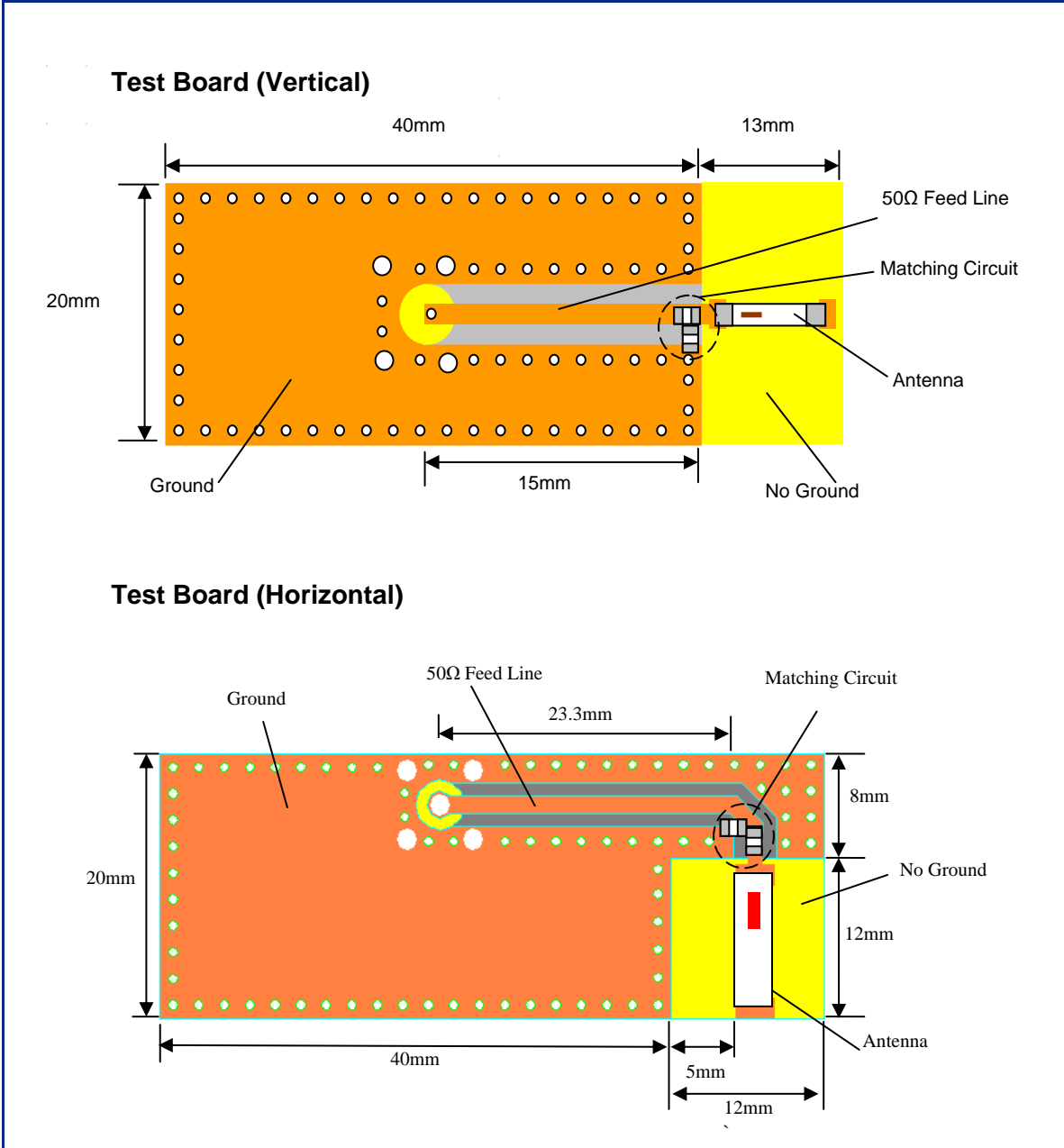
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## Mounting Considerations



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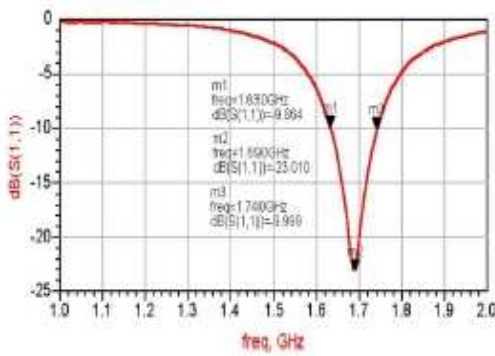
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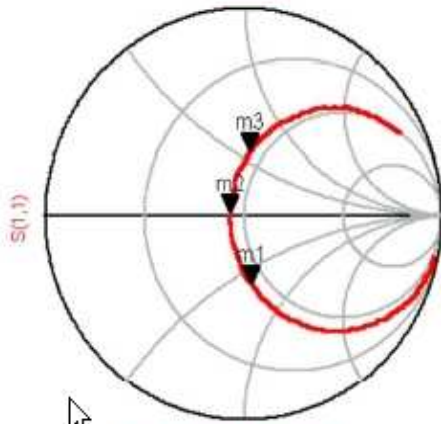
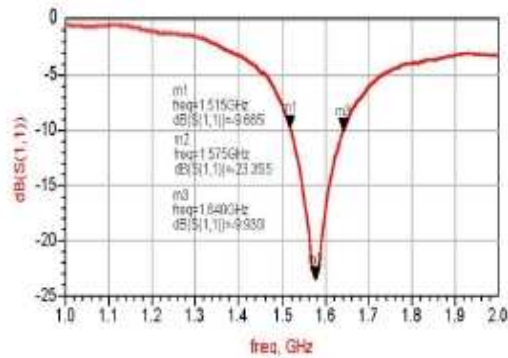
## Typical Electrical Characteristics (T=25°C)

### Return Loss

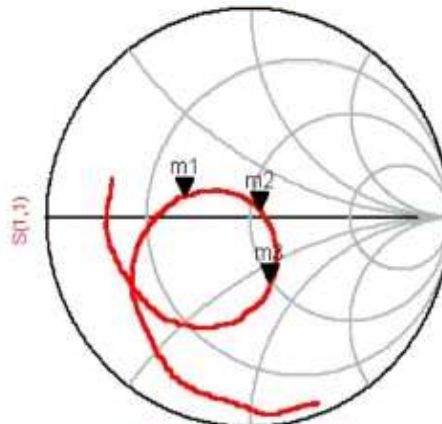
**Vertical Test Board  
(without matching components)**



**Vertical Test Board  
(with matching components)**



freq (1.000GHz to 2.000GHz)



freq (1.000GHz to 2.000GHz)

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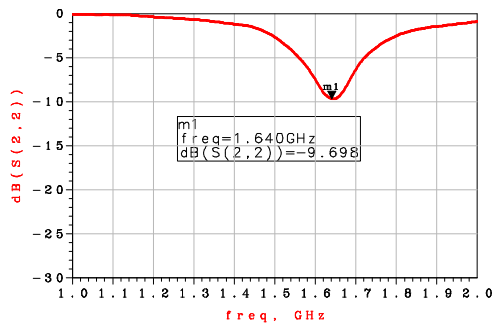
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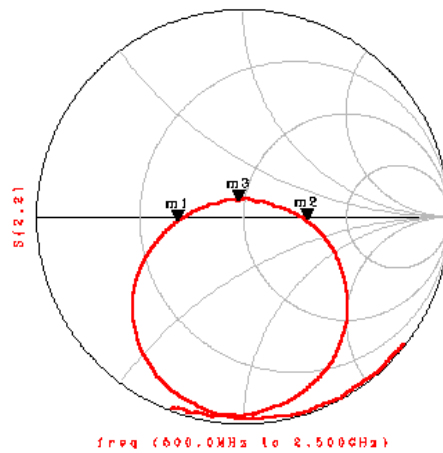
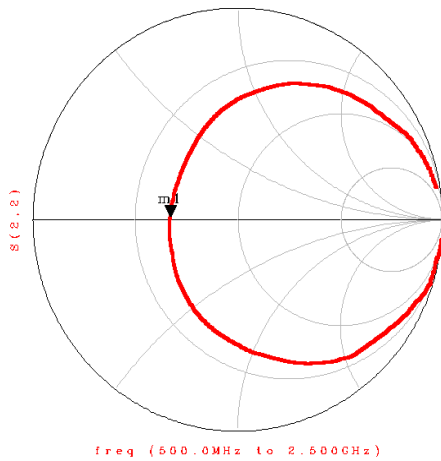
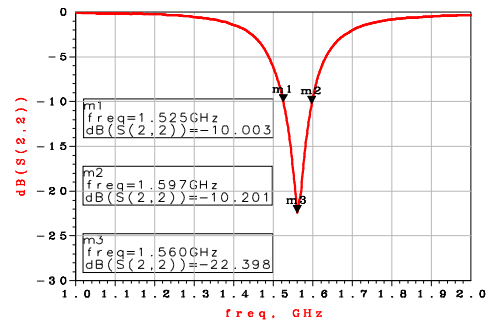
## Typical Electrical Characteristics (T=25°C)

### Return Loss

**Horizontal Test Board  
(without matching components)**



**Horizontal Test Board  
(with matching components)**



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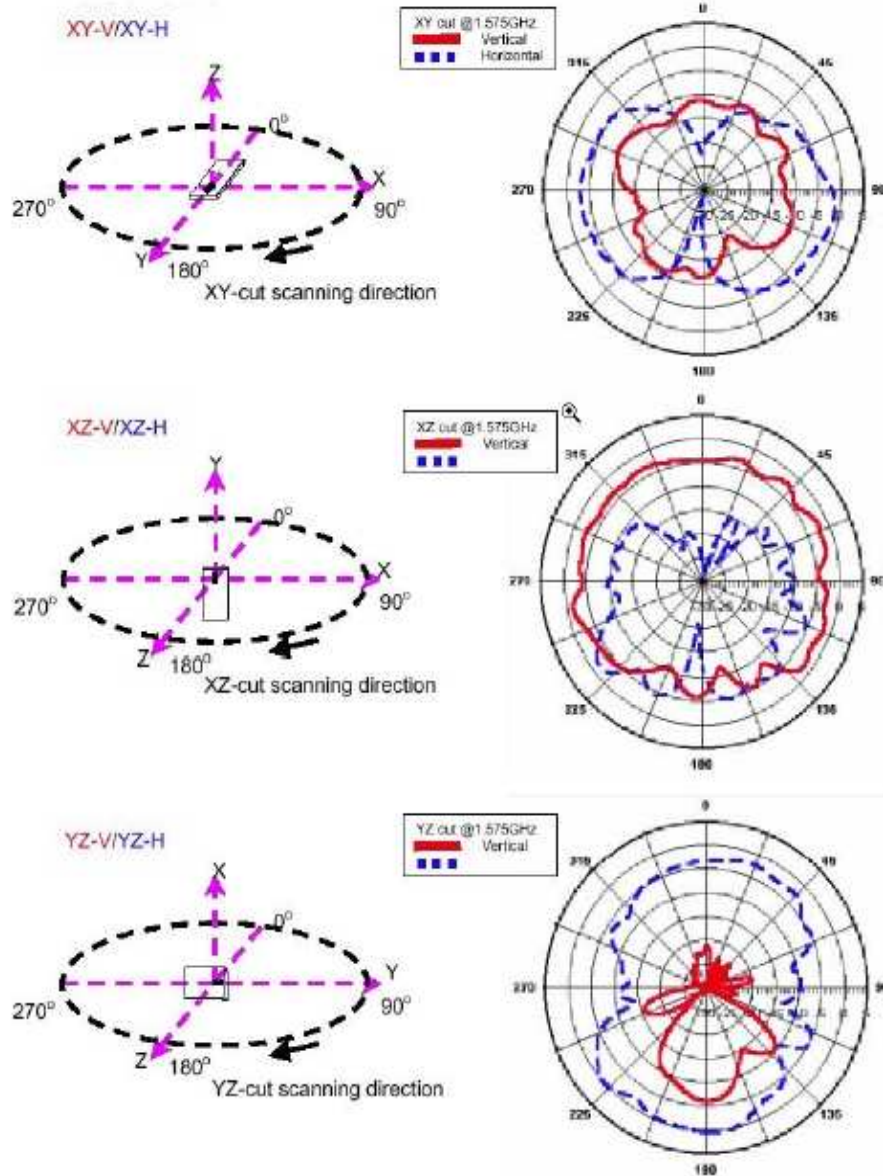
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## Typical Radiation Patterns (Vertical Test Board)



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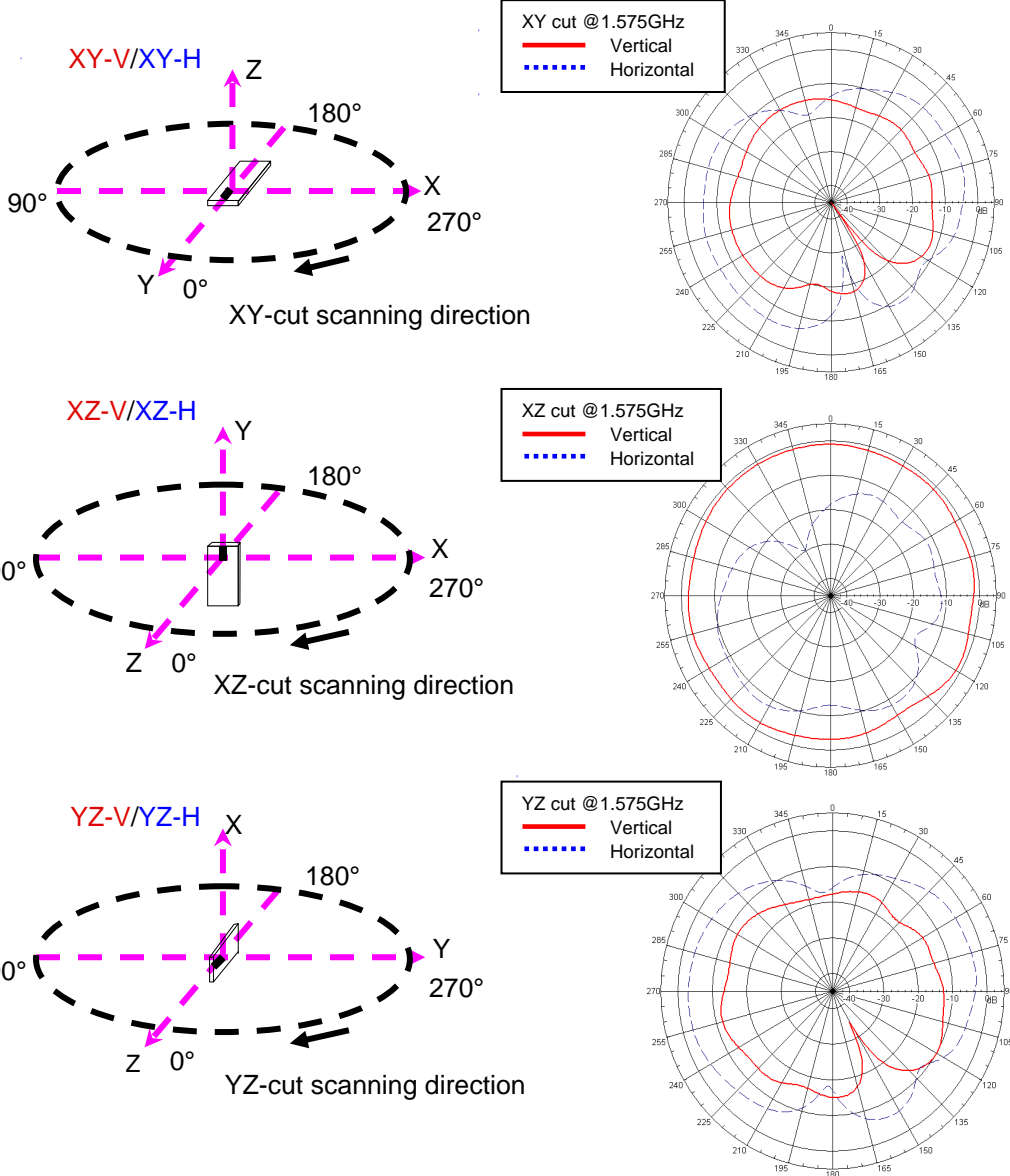
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## Typical Radiation Patterns (Horizontal Test Board)



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