

# AT9520 Series

## Multilayer Chip Antenna

### Features

- ❖ Monolithic SMD with small, low-profile and light-weight type.
- ❖ Wide bandwidth

### Applications

- ❖ 2.4GHz WLAN, Home RF, Bluetooth Modules, etc.



### Specifications

| Part Number           | Frequency Range (MHz) | Peak Gain (XZ-V) | Average Gain (XZ-V) | VSWR   | Impedance   |
|-----------------------|-----------------------|------------------|---------------------|--------|-------------|
| <b>AT9520-B2R4HAA</b> | 2400~2500             | 3.0 dBi typ.     | 1.0 dBi typ.        | 2 max. | 50 $\Omega$ |

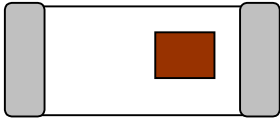
Q'ty/Reel (pcs) : 1000pcs  
 Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : -40 ~ +85 °C  
 Power Capacity : 3W max.

### Part Number

AT    9520    -    B    2R4    HAA    □  
 ①        ②        ③        ④        ⑤        ⑥

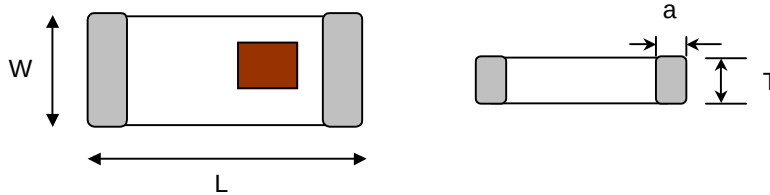
|                      |              |                        |                           |
|----------------------|--------------|------------------------|---------------------------|
| ① Type               | AT : Antenna | ② Dimensions ( L × W ) | 9.5× 2.0 mm               |
| ③ Material Code      | B            | ④ Frequency Range      | 2R4=2400MHz               |
| ⑤ Specification Code | HAA          | ⑥ Packaging            | T: Tape & Reel<br>B: Bulk |

### Terminal Configuration

|   |                                                                                     |     |               |     |               |
|---|-------------------------------------------------------------------------------------|-----|---------------|-----|---------------|
| ② |  | No. | Terminal Name | No. | Terminal Name |
|   |                                                                                     | ①   | Feeding Point | ②   | NC            |

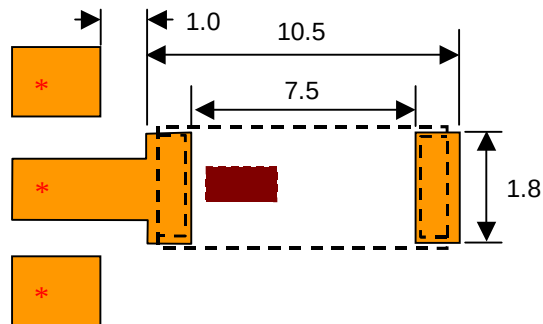
## Dimensions and Recommended PC Board Pattern

Unit : mm

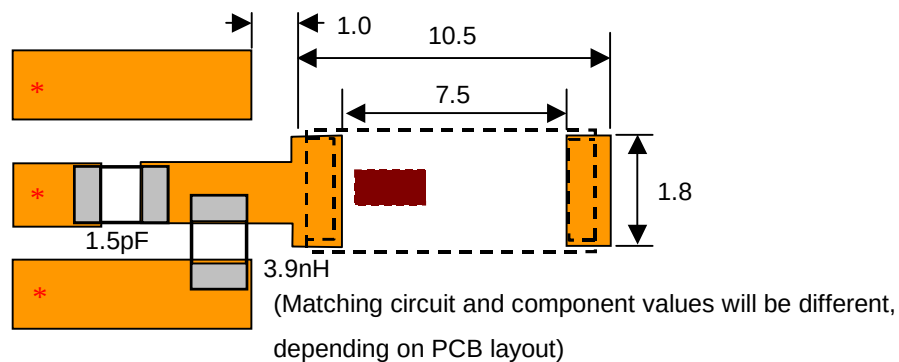


| Mark       | L       | W       | T                | a       |
|------------|---------|---------|------------------|---------|
| Dimensions | 9.5±0.2 | 2.0±0.2 | 1.2+<br>0.1/-0.2 | 0.5±0.3 |

### (a) Without Matching Circuits (Moderate Bandwidth)



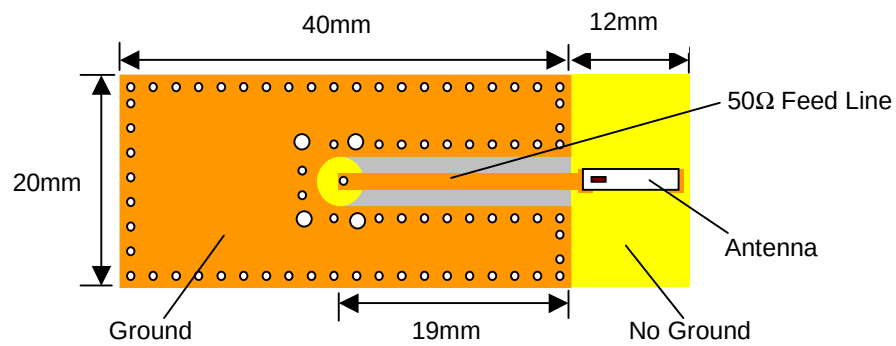
### (b) With Matching Circuits (Wide Bandwidth)



\*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

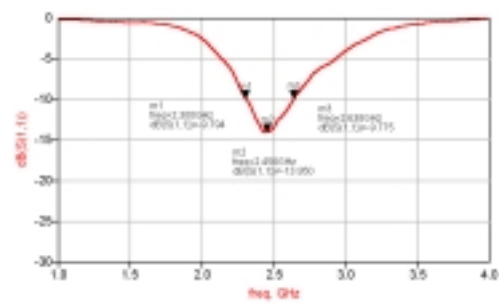
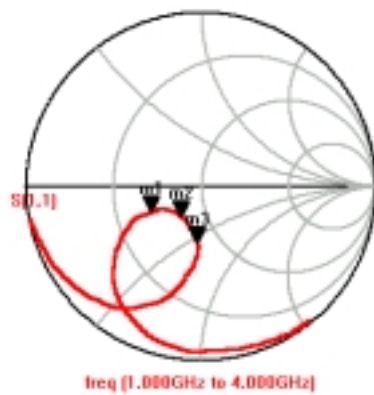
## Typical Electrical Characteristics (T=25°C)

### ❖ Test Board

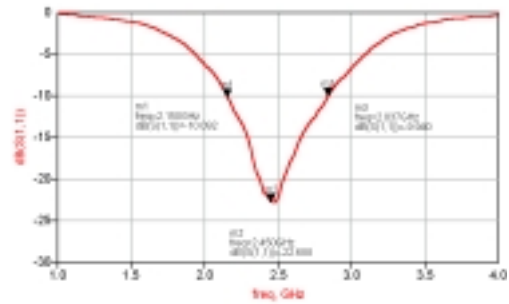
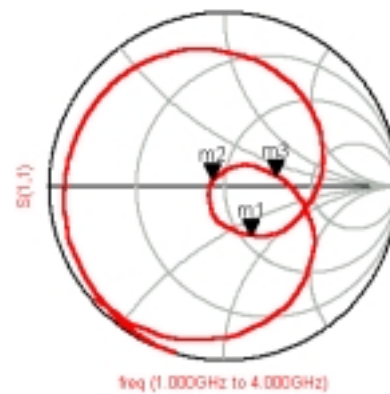


### ❖ Return Loss

#### (a) Without Matching Circuits

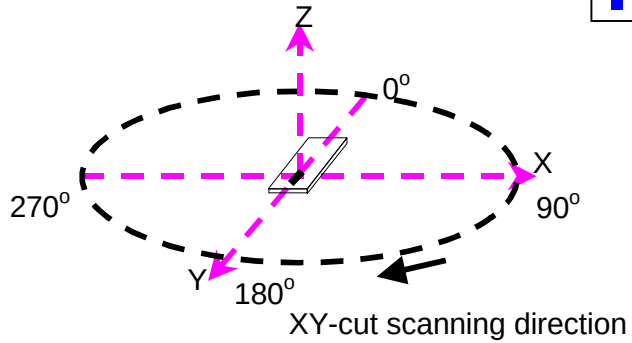


#### (b) With Matching Circuits

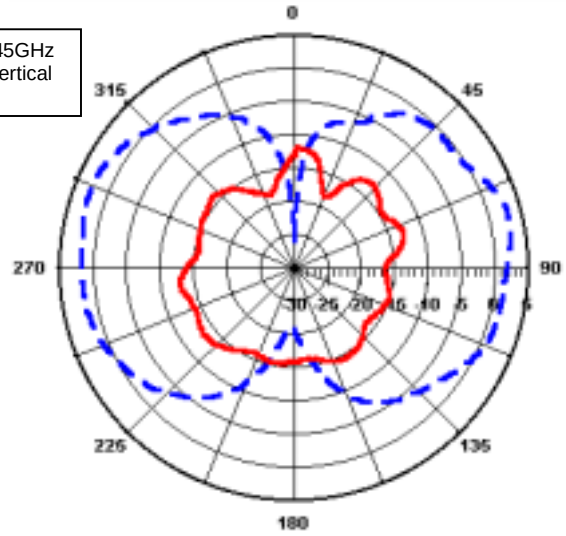


❖ Radiation Patterns

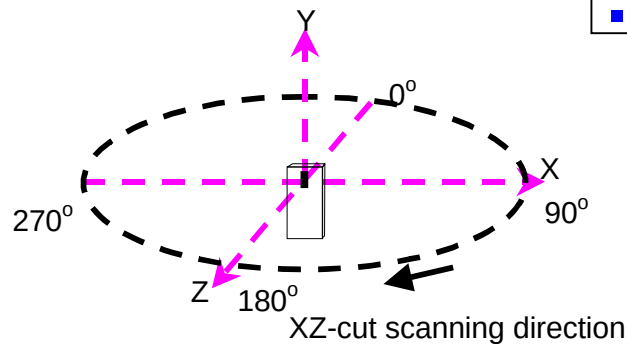
XY-V/XY-H



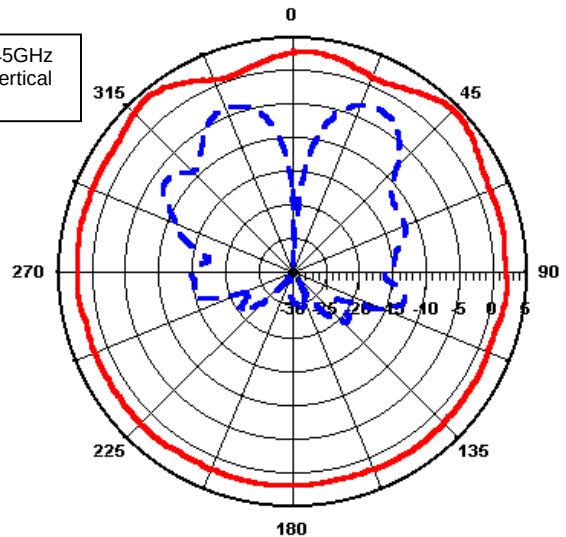
XY cut @2.45GHz  
Vertical  
■ ■ ■



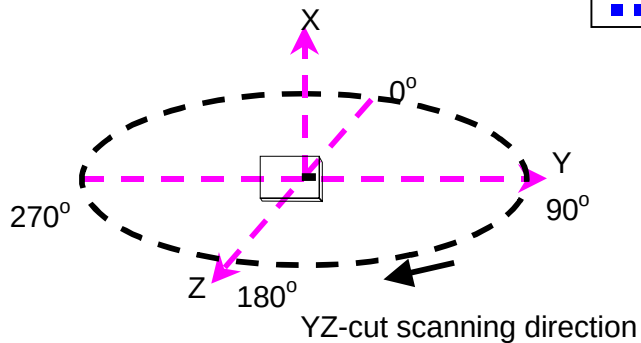
XZ-V/XZ-H



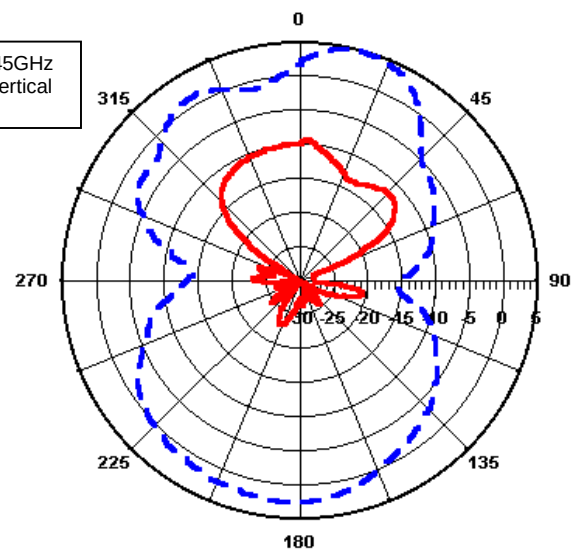
XZ cut @2.45GHz  
Vertical  
■ ■ ■



YZ-V/YZ-H



YZ cut @2.45GHz  
Vertical  
■ ■ ■



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