

# AT5020 Series

## Multilayer Chip Antenna

### Features

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

### Applications

- ❖ Bluetooth/Wireless LAN/Home RF
- ❖ ISM band 2.4GHz applications



### Specifications

| Part Number           | Frequency Range (MHz) | Peak Gain (XZ-V) | Average Gain (XZ-V) | VSWR   | Impedance |
|-----------------------|-----------------------|------------------|---------------------|--------|-----------|
| <b>AT5020-B2R8HAA</b> | 2400 ~ 2500           | 0 dBi typ.       | -1 dBi typ.         | 2 max. | 50 Ω      |

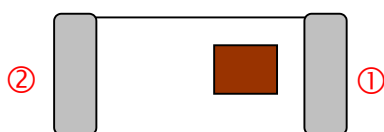
Q'ty/Reel (pcs) : 2,000pcs  
 Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : -40 ~ +85 °C  
 Power Capacity : 3W max.

### Part Number

AT   5020   -   B   2R8   HAA   □  
 ①   ②   ③   ④   ⑤   ⑥

|                      |              |                        |                           |
|----------------------|--------------|------------------------|---------------------------|
| ① Type               | AT : Antenna | ② Dimensions ( L x W ) | 5.0x 2.0 mm               |
| ③ Material Code      | B            | ④ Frequency Range      | 2R8=2800MHz               |
| ⑤ Specification Code | HAA          | ⑥ Packaging            | T: Tape & Reel<br>B: Bulk |

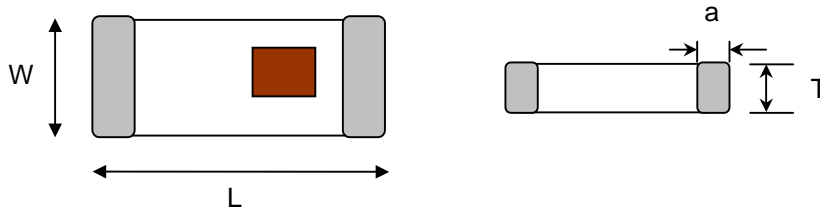
### Terminal Configuration



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

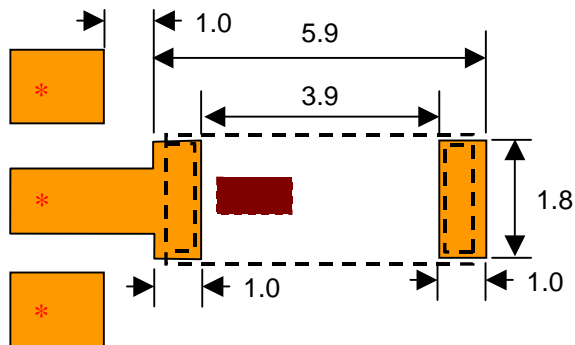
**Dimensions and Recommended PC Board Pattern**

Unit : mm

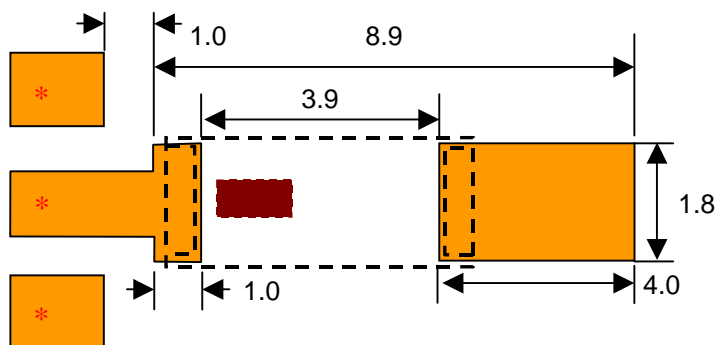


| Mark       | L         | W         | T         | a         |
|------------|-----------|-----------|-----------|-----------|
| Dimensions | 5.0 ± 0.2 | 2.0 ± 0.2 | 1.1 ± 0.2 | 0.5 ± 0.3 |

(a) Without Matching Circuits



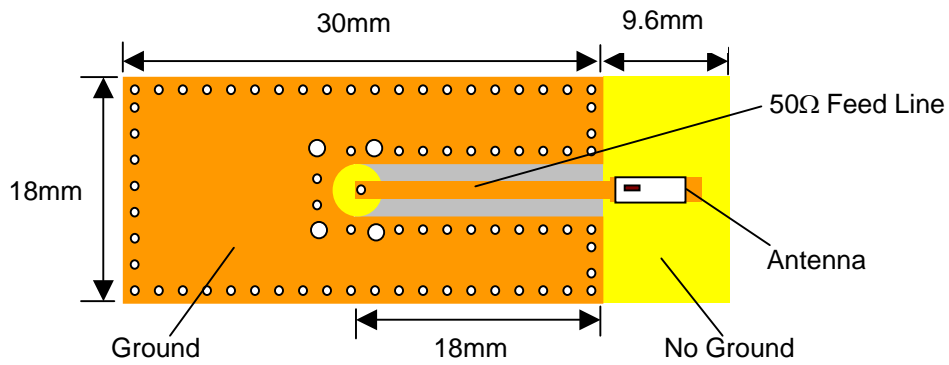
(b) With Matching Circuits



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

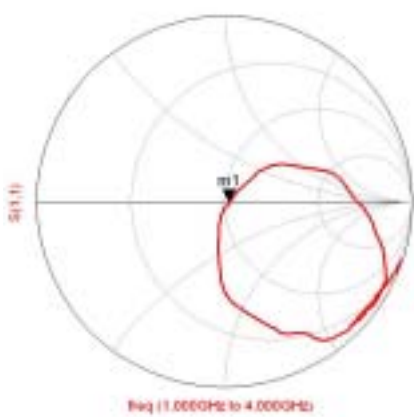
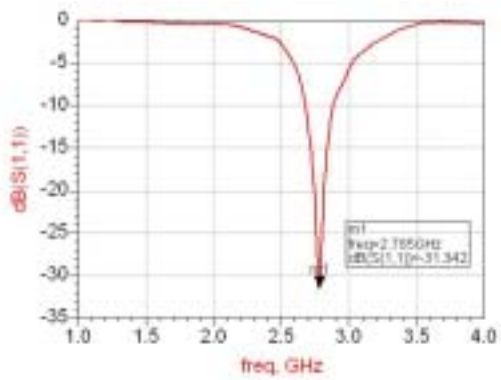
Typical Electrical Characteristics (T=25°C)

❖ Test Board

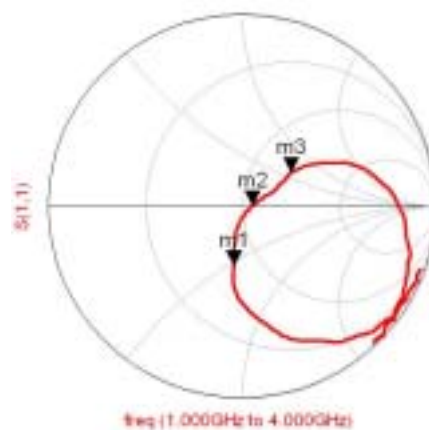
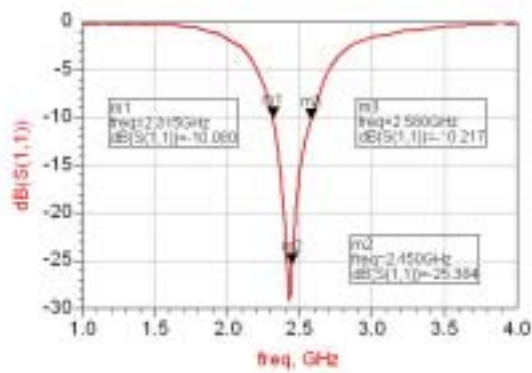


❖ Return Loss

(a) Without Matching Circuits

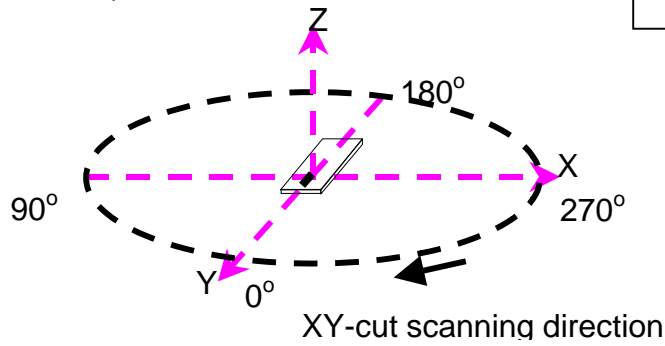


(b) With Matching Circuits

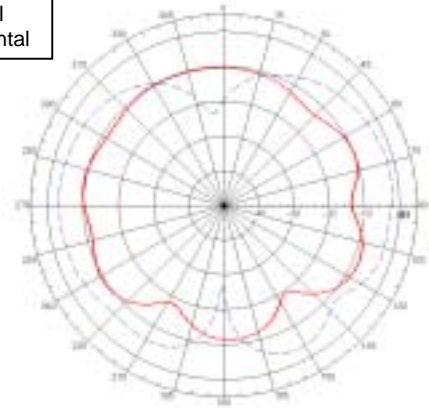


Radiation Patterns

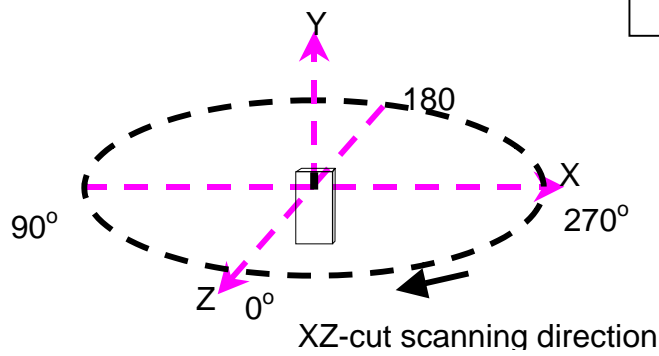
XY-V/XY-H



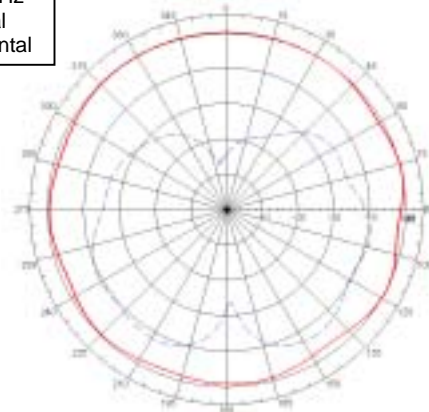
XY cut @2.45GHz  
— Vertical  
- - Horizontal



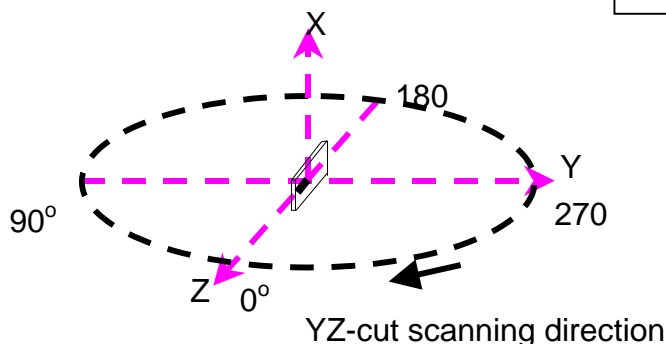
XZ-V/XZ-H



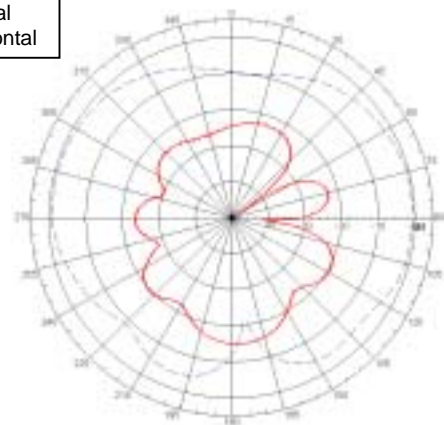
XZ cut @2.45GHz  
— Vertical  
- - Horizontal



YZ-V/YZ-H



XY cut @2.45GHz  
— Vertical  
- - Horizontal



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