

# 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
AT5020-B2R8HAA_	2400 ~ 2500	0 dBi typ.	-1 dBi typ.	2 max.	50 Ω

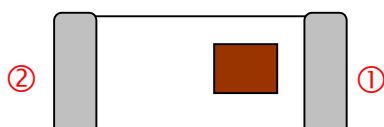
Q'ty/Reel (pcs) : 2,000pcs  
 Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : -40 ~ +85 °C  
 Power Capacity : 3W max.

### Part Number

AT   5020   -   B   2R8   HAA   □   /LF  
 ①            ②            ③            ④            ⑤            ⑥            ⑦

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 B: Bulk
⑦ Soldering	=lead-containing /LF=lead-free		

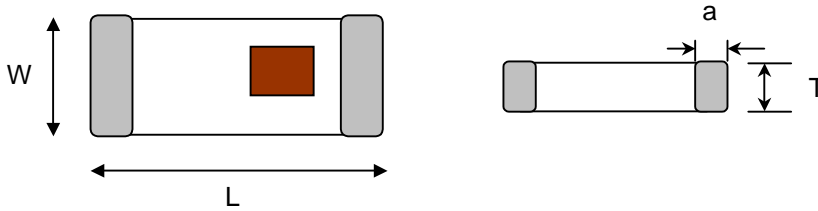
### Terminal Configuration



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

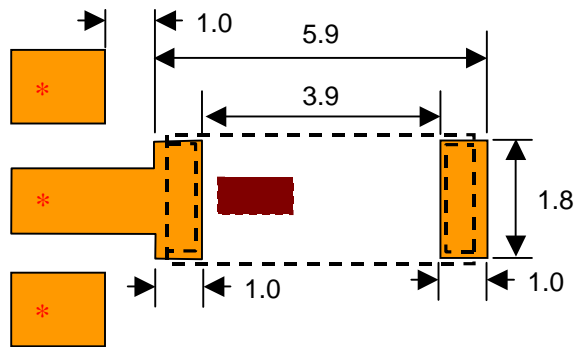
**Dimensions and Recommended PC Board Pattern**

Unit : mm

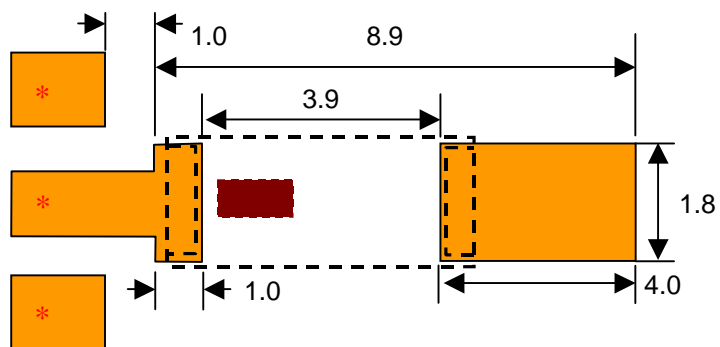


Mark	L	W	T	a
Dimensions	$5.0 \pm 0.2$	$2.0 \pm 0.2$	$1.1 \pm 0.2$	$0.5 \pm 0.3$

(a) Without Matching Circuits



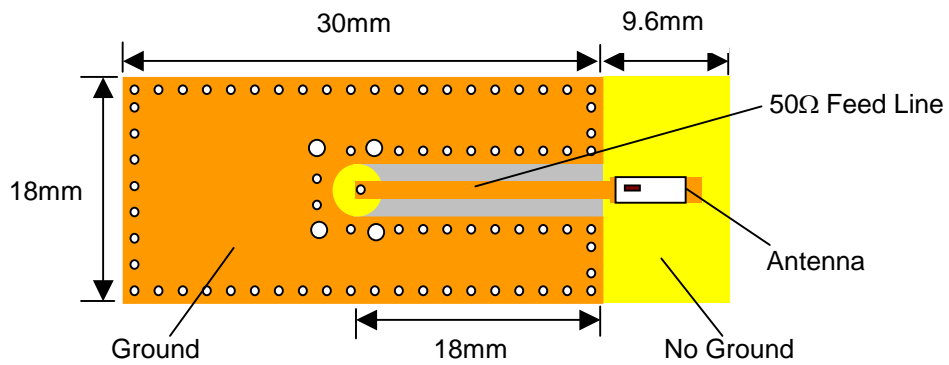
(b) With Matching Circuits



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

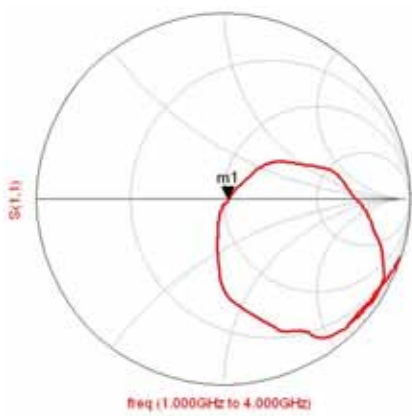
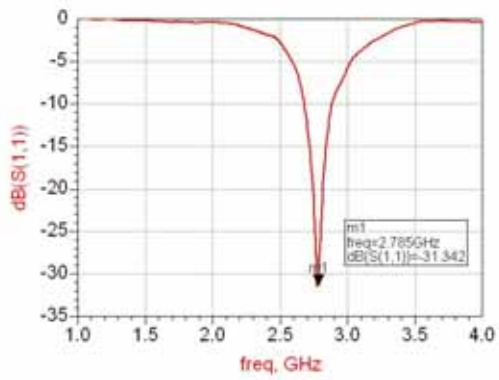
Typical Electrical Characteristics (T=25°C)

❖ Test Board

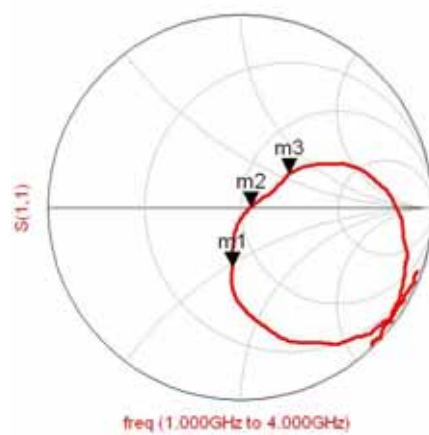
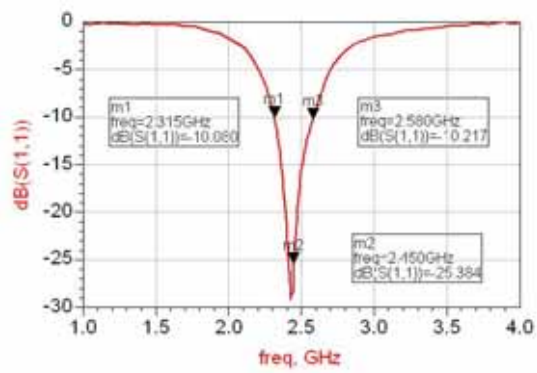


❖ Return Loss

(a) Without Matching Circuits

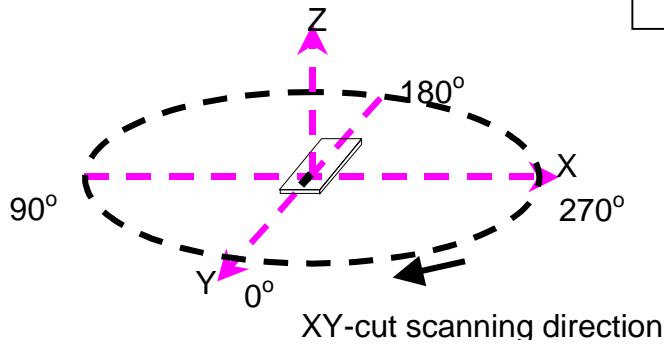


(b) With Matching Circuits

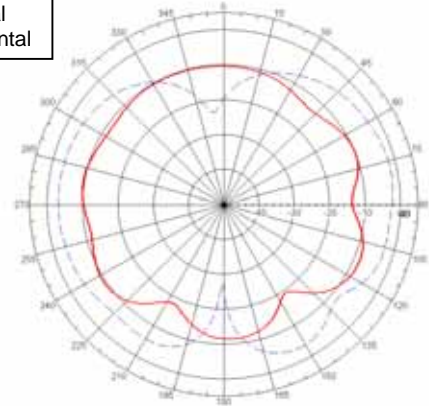


Radiation Patterns

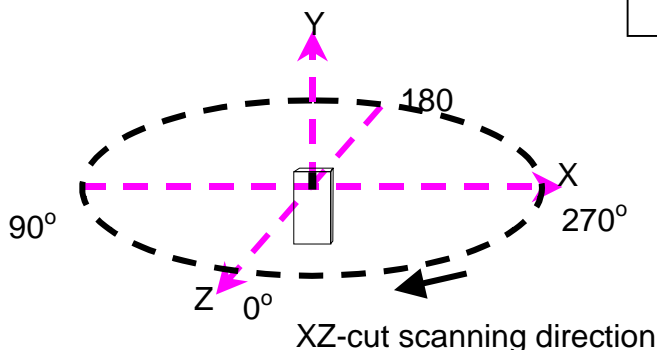
XY-V/XY-H



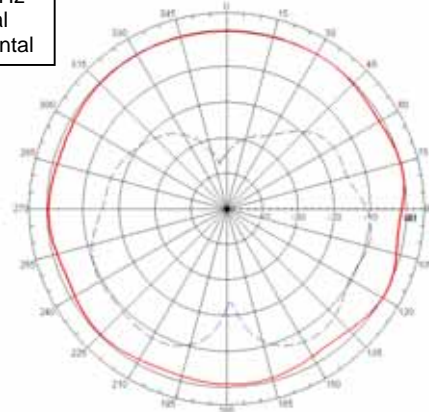
XY cut @2.45GHz  
— Vertical  
- - - Horizontal



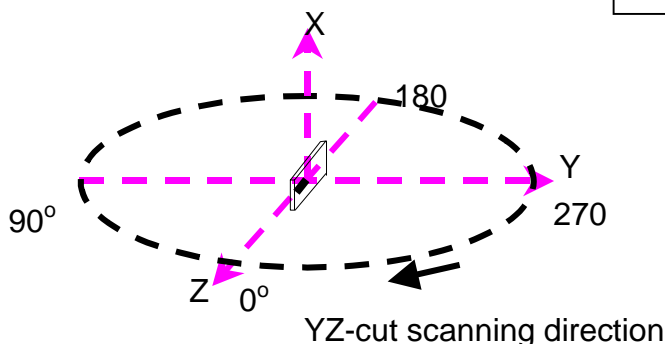
XZ-V/XZ-H



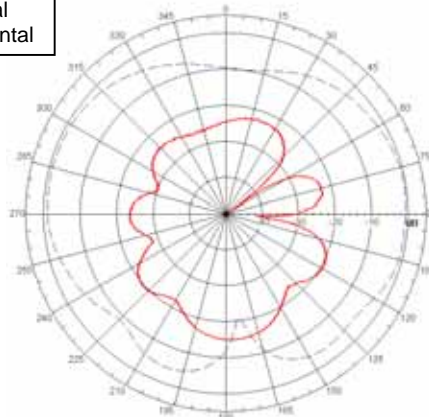
XZ cut @2.45GHz  
— Vertical  
- - - Horizontal



YZ-V/YZ-H



XY cut @2.45GHz  
— Vertical  
- - - Horizontal



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