

# AT7020 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 (dBi typ.)	Average Gain (dBi typ.)	VSWR	Impedance
<b>AT7020-E3R0HBA_</b>	2400~2500	1dBi (XZ-V)	-0.5dBi (XZ-V)	2 max.	50 Ω

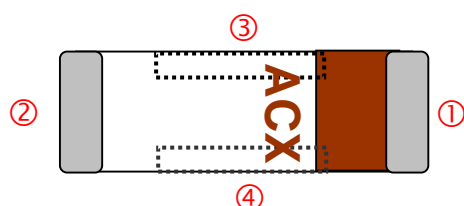
Q'ty/Reel (pcs) : 1,000 pcs  
 Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : -40 ~ +85 °C  
 Power Capacity : 3W max.

### Part Number

**AT** **7020** - **E** **3R0** **HBA**    
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	AT : Antenna	② Dimensions ( L x W )	7.0x 2.0 mm
③ Material Code	E	④ Frequency Range	3R0=3000MHz
⑤ Specification Code	HBA	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	=lead-containing /LF=lead-free		

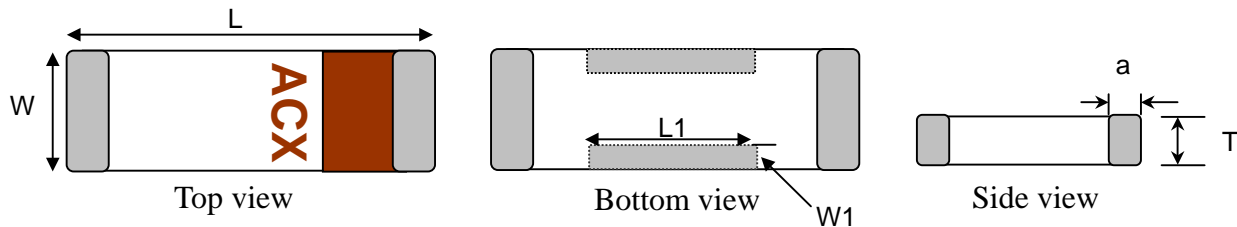
### Terminal Configuration



No.	Terminal Name	No.	Terminal Name
①	Feeding Point	③	NC
②	NC	④	NC

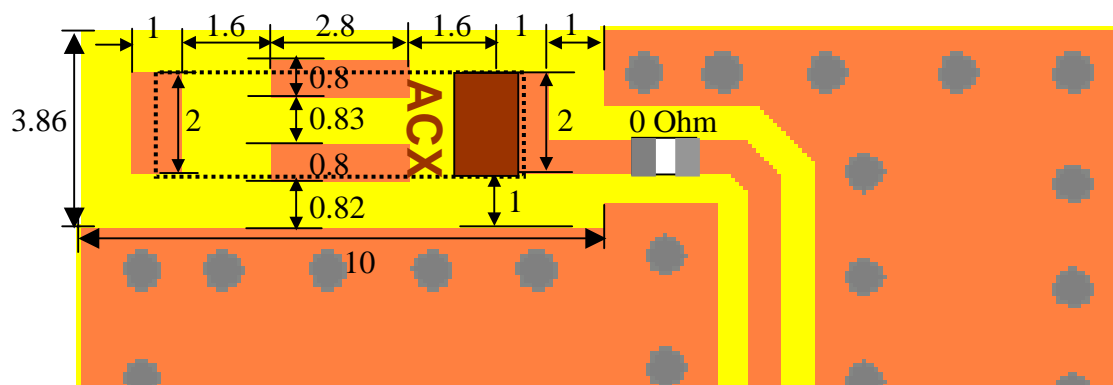
## Dimensions and Recommended PC Board Pattern

Unit : mm

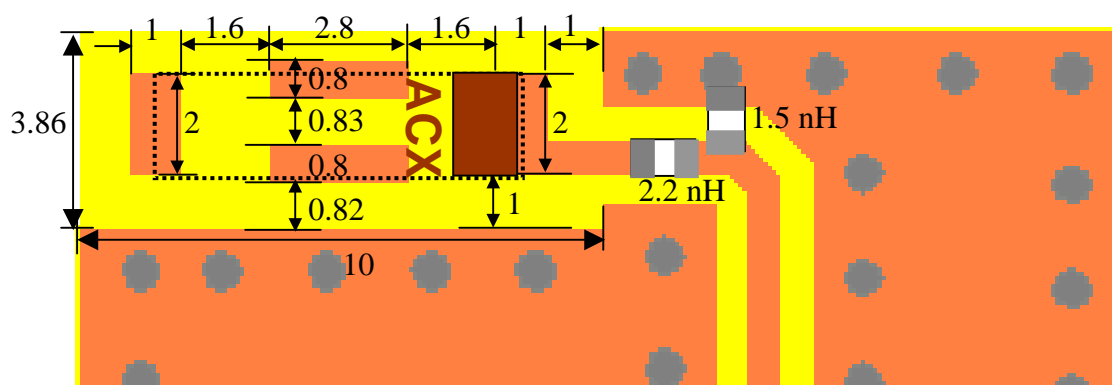


Mark	L	W	L1	W1	T	a
Dimensions	7.0±0.2	2.0±0.2	2.6±0.2	0.5±0.2	2.0+ 0.1/-0.2	0.5±0.3

(a) Without Matching Circuits (Unit in mm)



(b) With Matching Circuits



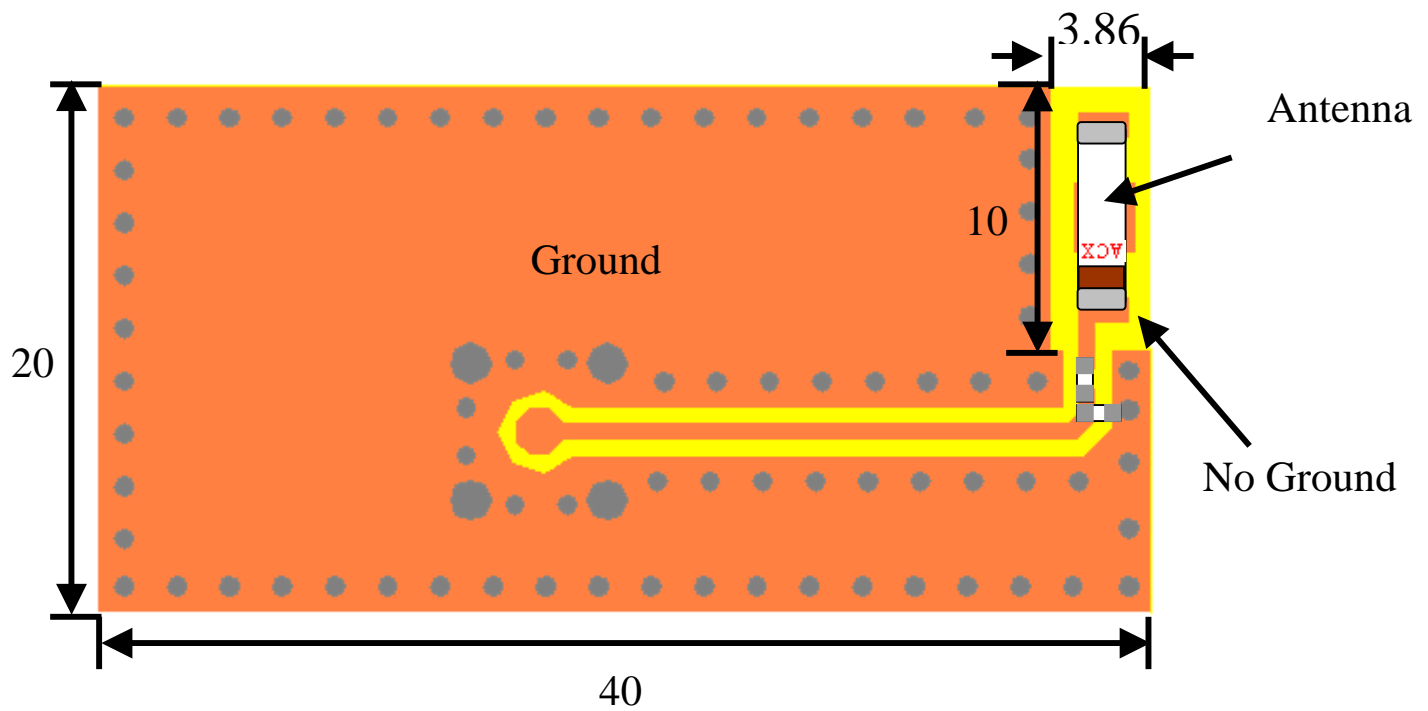
(Matching circuit and component values will be different, depending on PCB layout)

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

material and thickness.

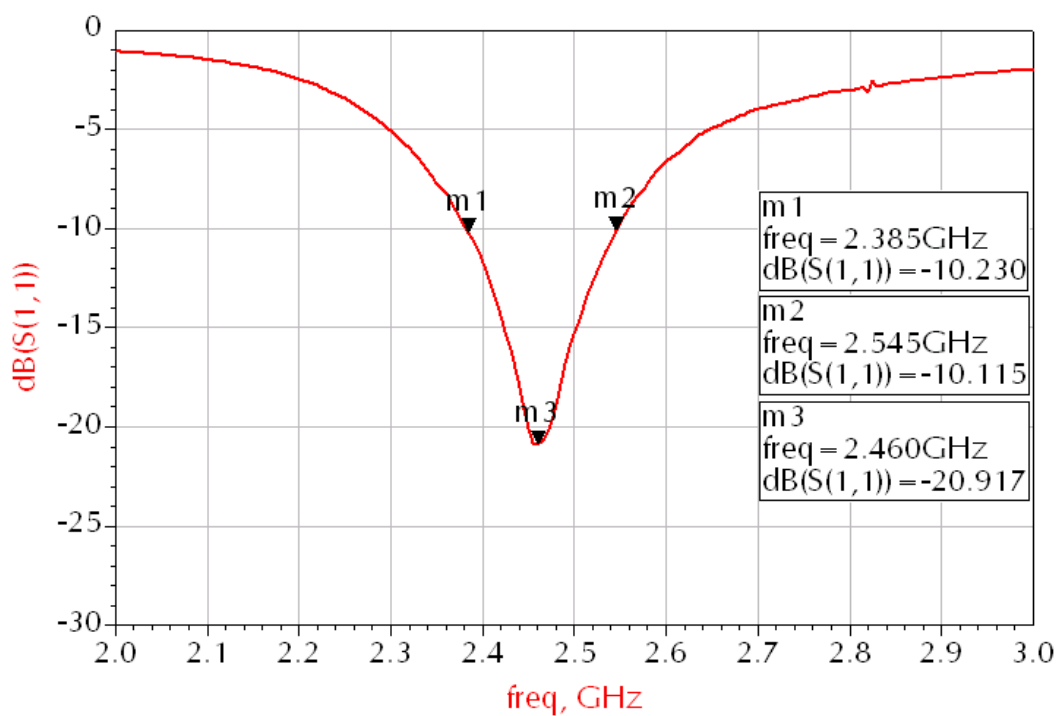
## Typical Electrical Characteristics (T=25°C)

❖ Test Board (Unit in mm)



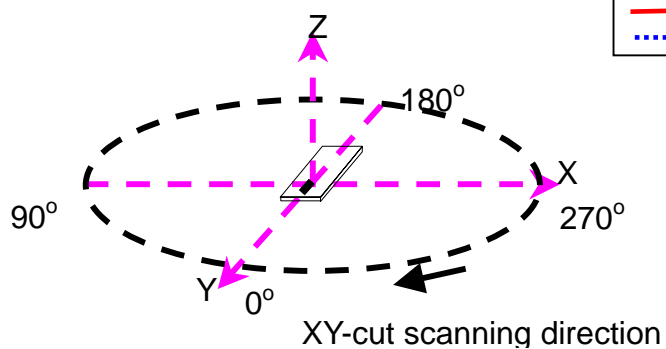
❖ Return Loss

With Matching Circuits

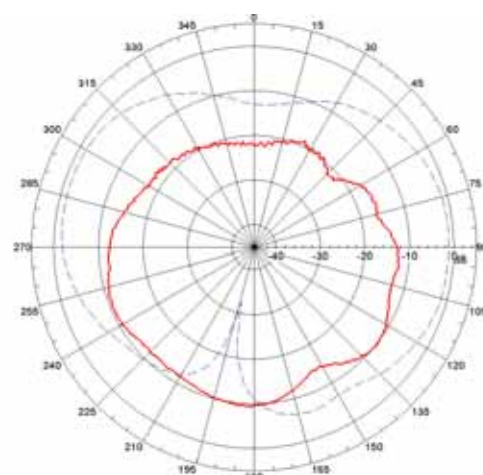


❖ Radiation Patterns

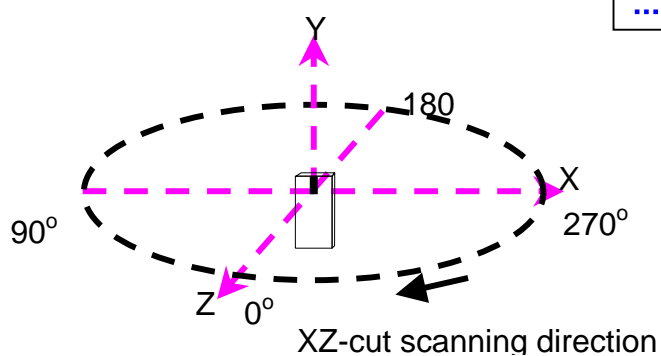
XY-V/XY-H



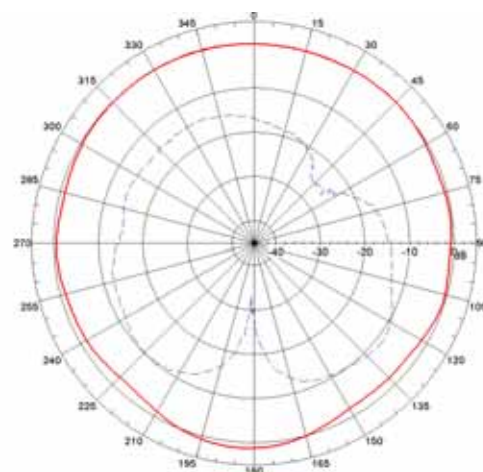
XY cut @2.45GHz  
— Vertical  
..... Horizontal



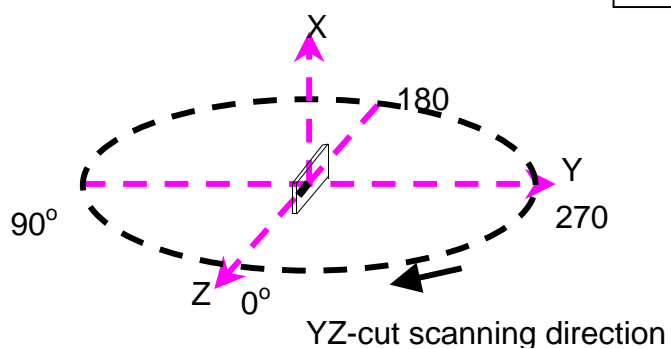
XZ-V/XZ-H



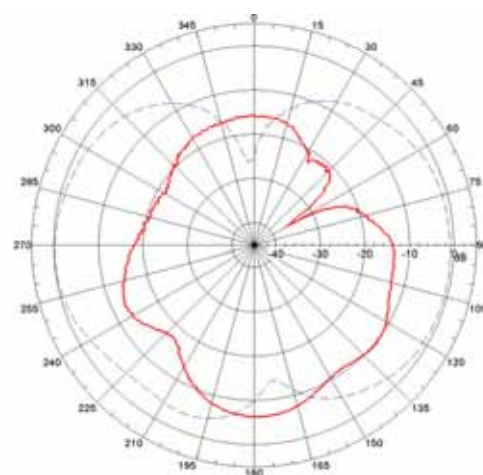
XZ cut @2.45GHz  
— Vertical  
..... Horizontal



YZ-V/YZ-H



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



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