

# 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      |

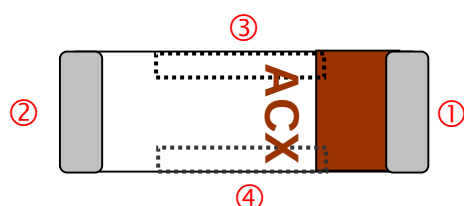
Q'ty/Reel (pcs) : 1,000 pcs  
 Operating Temperature Range : -40 ~ +85 °C  
 Storage Temperature Range : -40 ~ +85 °C  
 Power Capacity : 3W max.

### Part Number

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

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

### Terminal Configuration



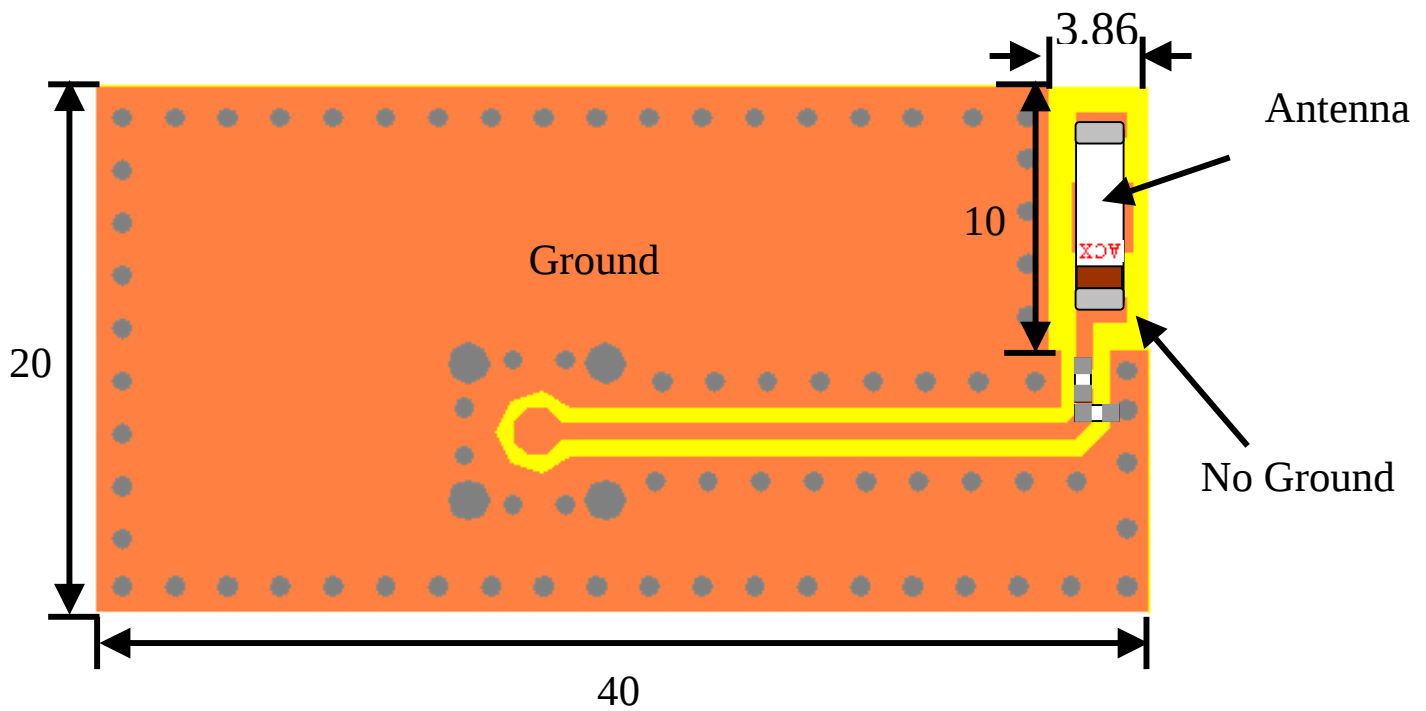
| No. | Terminal Name | No. | Terminal Name |
|-----|---------------|-----|---------------|
| ①   | Feeding Point | ③   | NC            |
| ②   | NC            | ④   | NC            |

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

material and thickness.

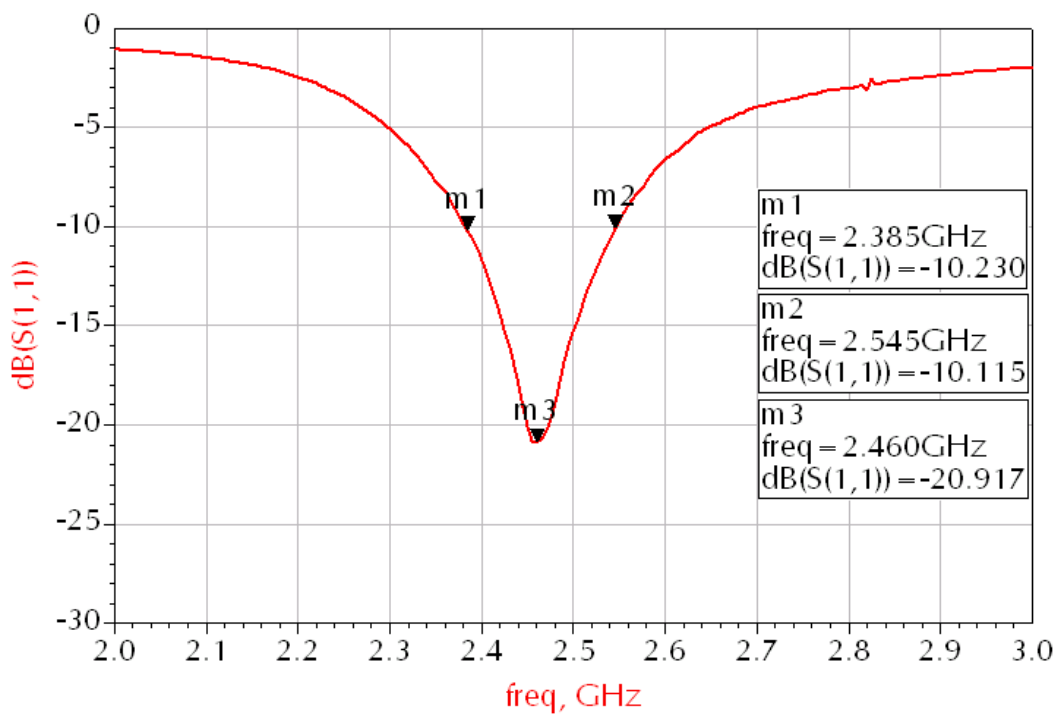
## Typical Electrical Characteristics (T=25°C)

❖ Test Board (Unit in mm)



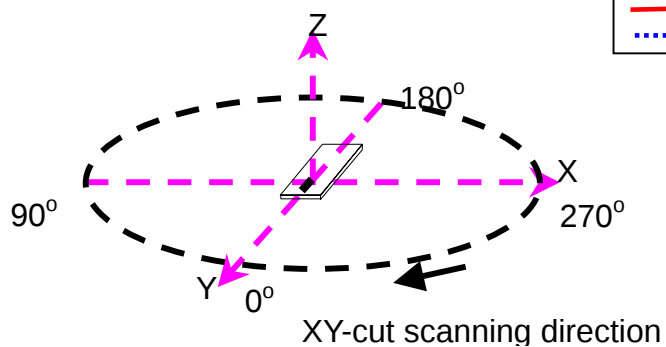
❖ Return Loss

With Matching Circuits

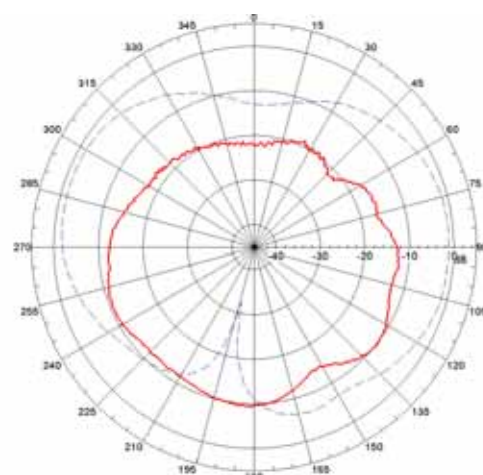


❖ Radiation Patterns

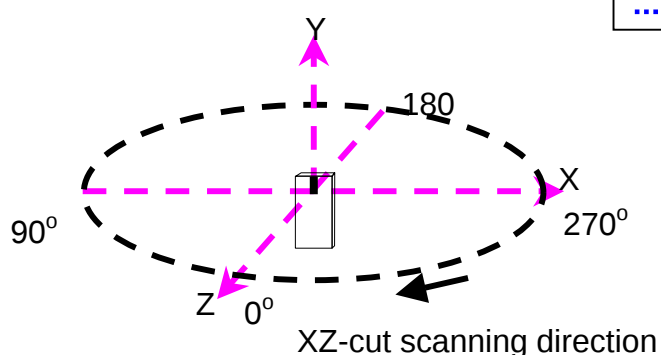
XY-V/XY-H



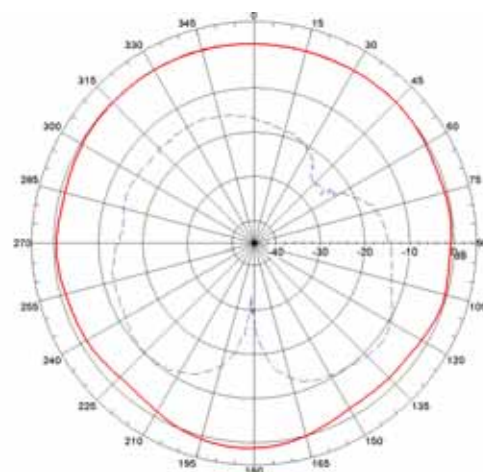
XY cut @2.45GHz  
— Vertical  
..... Horizontal



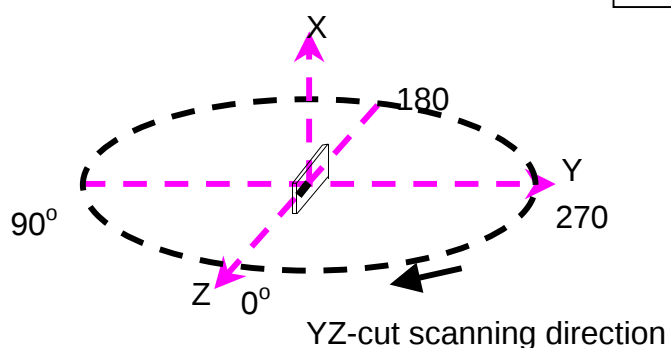
XZ-V/XZ-H



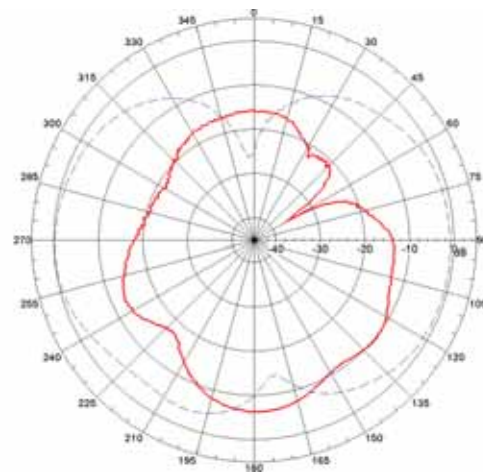
XZ cut @2.45GHz  
— Vertical  
..... Horizontal



YZ-V/YZ-H



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



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