# 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 |
|---|---|---|---|---|---|
| AT7020 -E3R0HBA_ | 2400~2500 | 1dBi (XZ-V) | -0.5dBi (XZ-V) | 2 max. | 50 Ω |

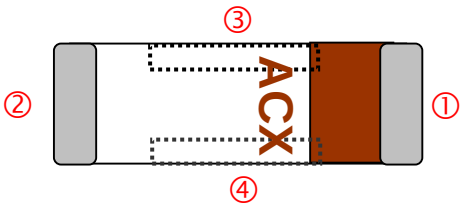
Q'ty/Reel (pcs) : 1,000 pcs
Operating Temperature Range : -40 ~ +85 °C
Storage Temperature Range : -40 ~ +85 °C
Power Capacity : 3W max.

### 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 | | |

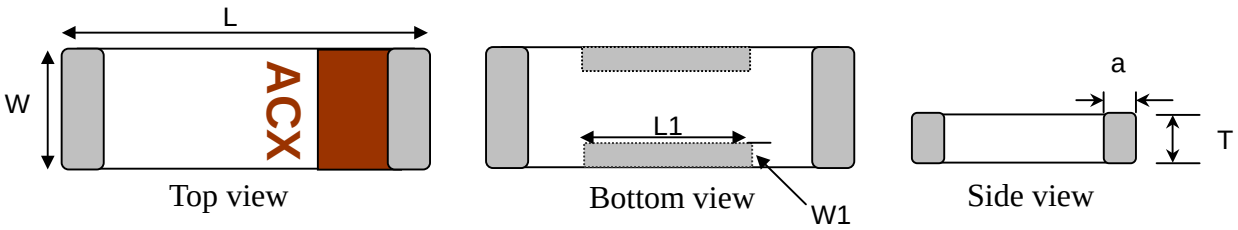
### Terminal Configuration




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

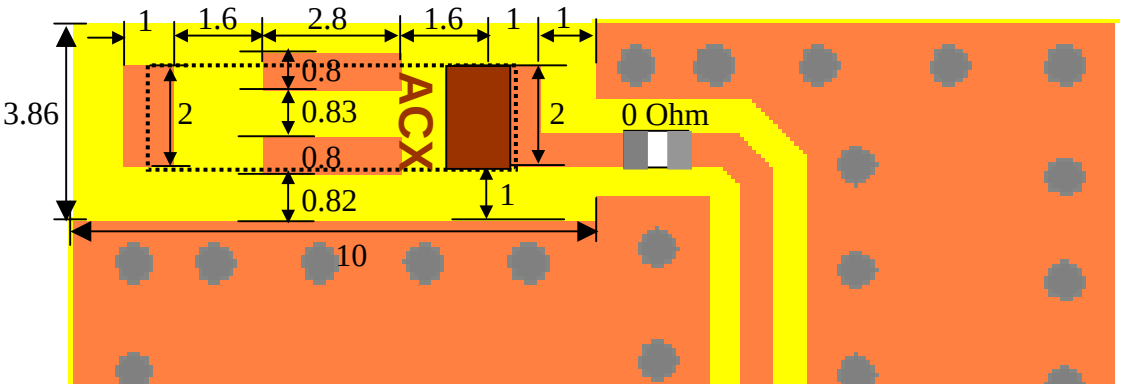
## Dimensions and Recommended PC Board Pattern

Unit : mm

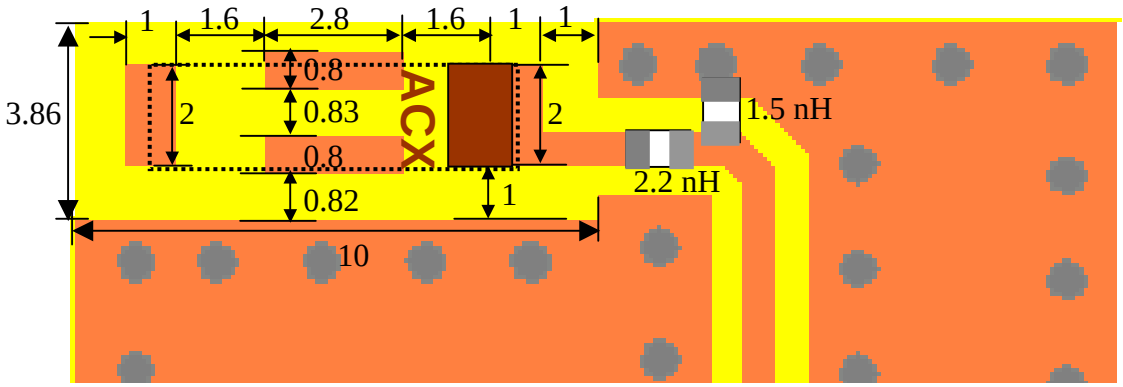



| Mark | L | W | L1 | W1 | T | a |
|---|---|---|---|---|---|---|
| Dimensions | 7.0±0.2 | 2.0±0.2 | 2.6±0.2 | 0.5±0.2 | 2.0+ 0.1/-0.2 | 0.5±0.3 |

(a) Without Matching Circuits (Unit in mm)




(b) With Matching Circuits



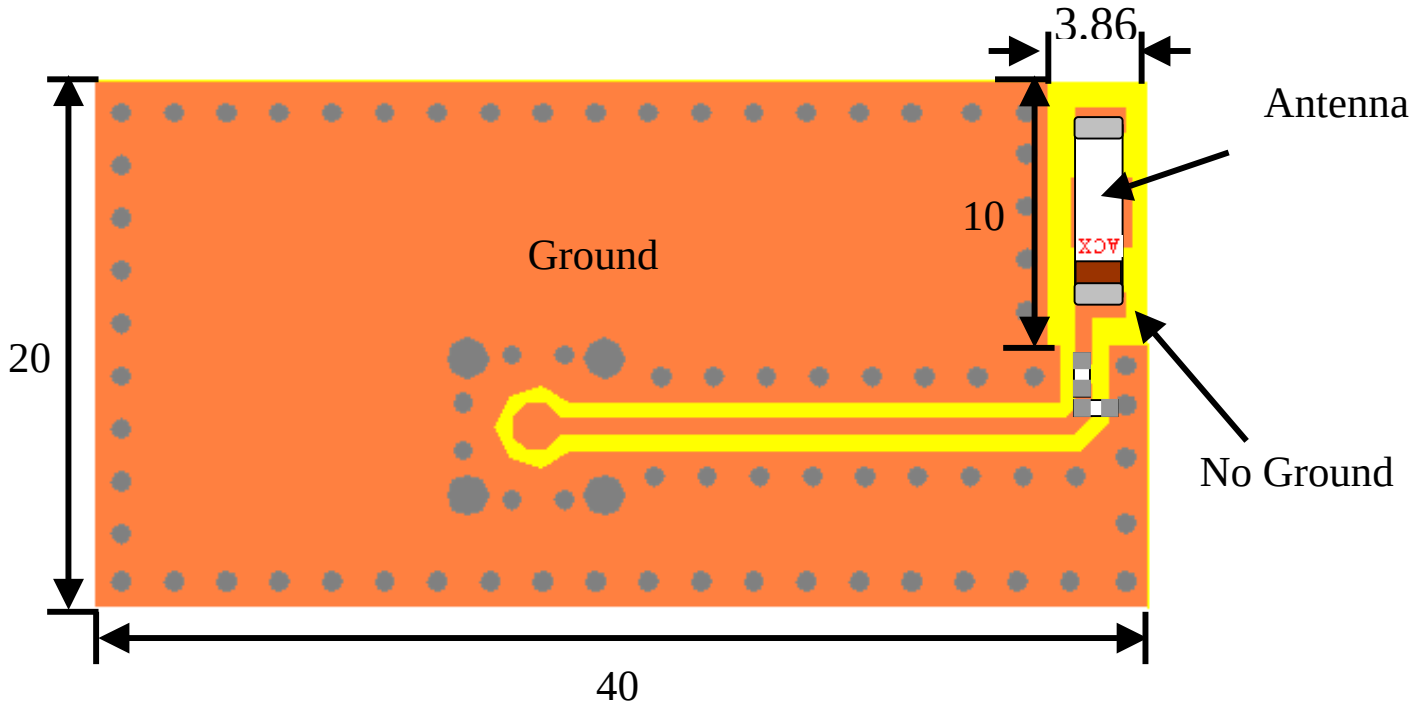

(Matching circuit and component values will be different, depending on PCB layout)

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

material and thickness.

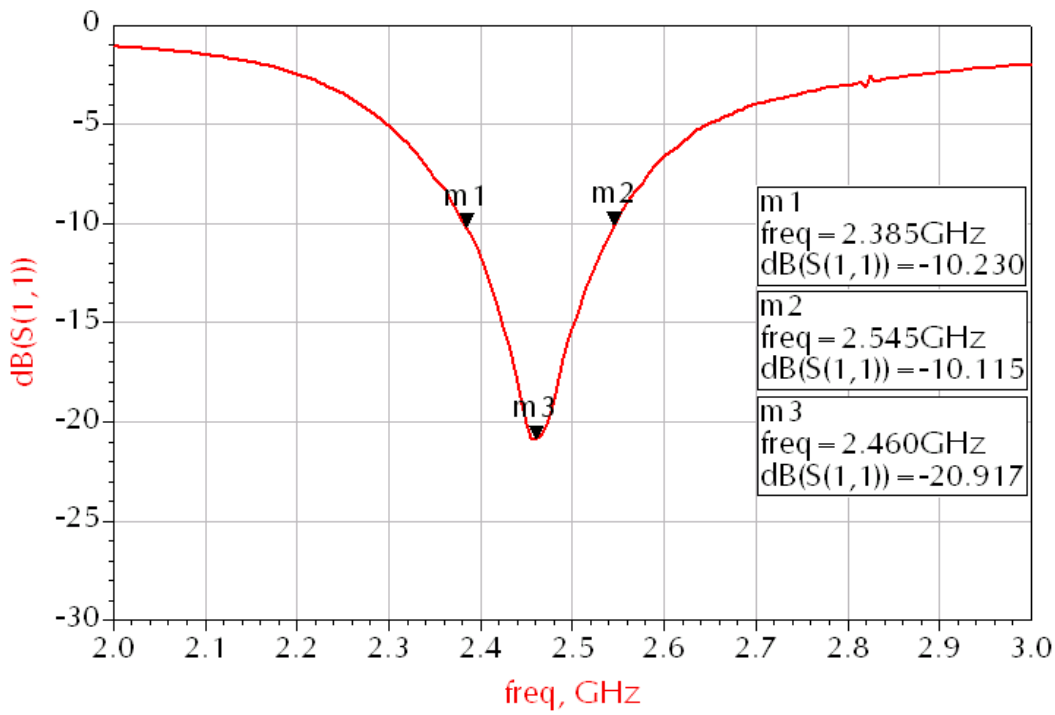
## Typical Electrical Characteristics (T=25°C)

❖Test Board (Unit in mm)



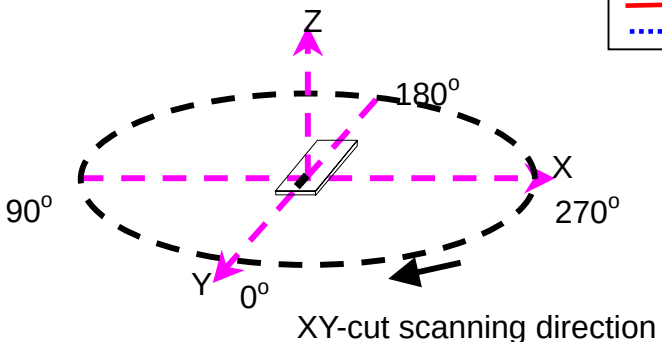

❖Return Loss

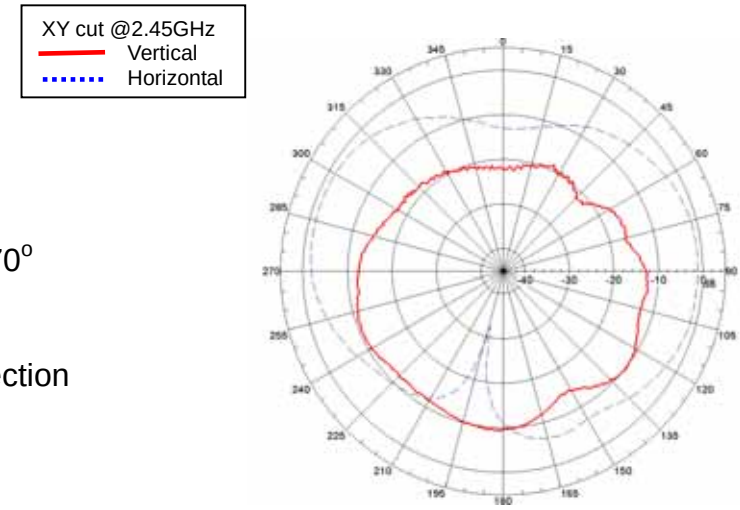
With Matching Circuits



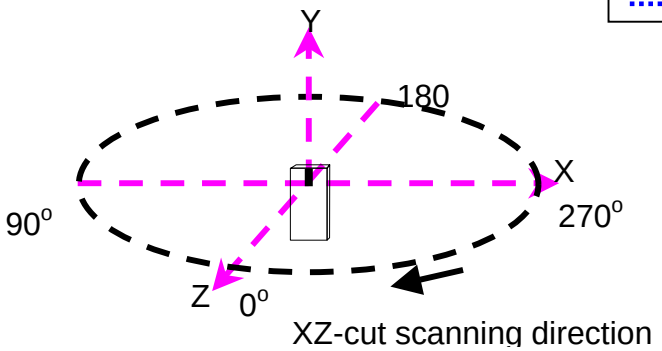
❖Radiation Patterns

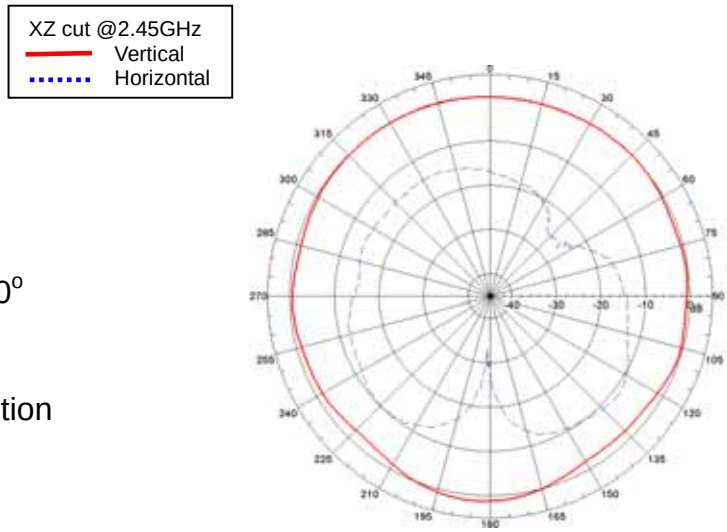
XY-V/XY-H



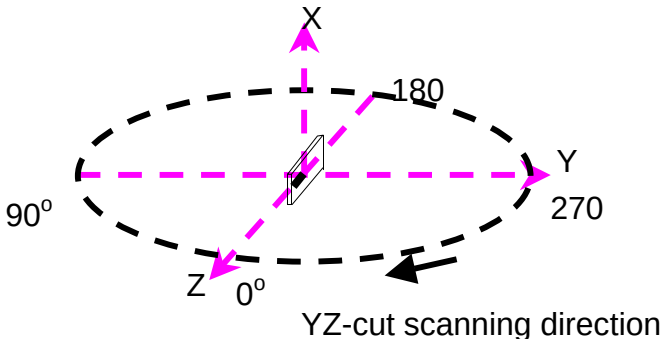



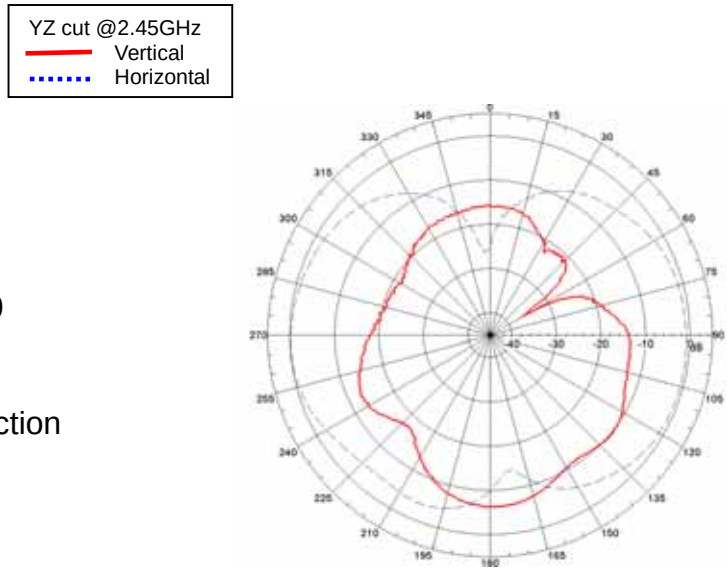

XZ-V/XZ-H




YZ-V/YZ-H

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