

AT5020 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
AT5020-E3R0HBA_	2400~2500	0dBi (XZ-V)	-1.5dBi (XZ-V)	2 max.	50 Ω

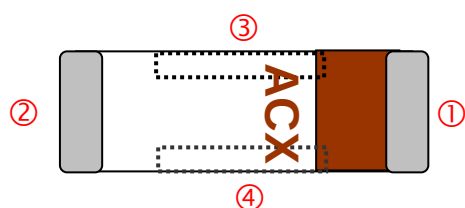
Q'ty/Reel (pcs) : 2,000 pcs
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : +5 ~ +35 °C, Humidity 45~75%RH
 Storage Period : 12 months max.
 Power Capacity : 2W max.

Part Number

AT 5020 - E 3R0 HBA □ □
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	AT : Antenna	② Dimensions (L × W)	5.0× 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		

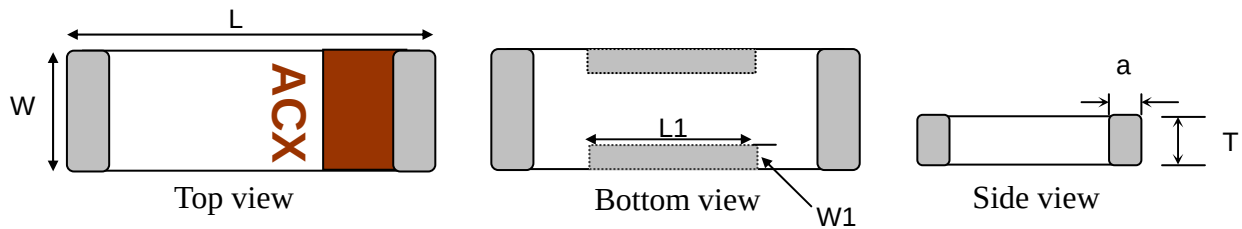
Terminal Configuration



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

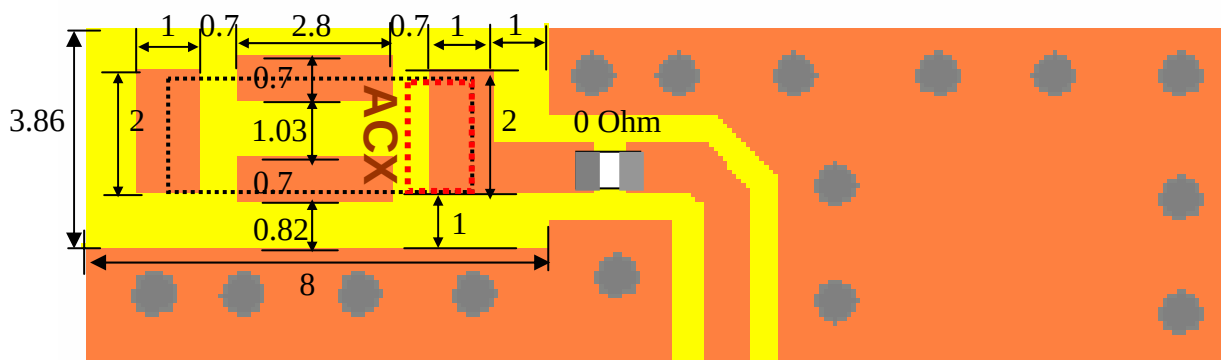
Dimensions and Recommended PC Board Pattern

Unit : mm

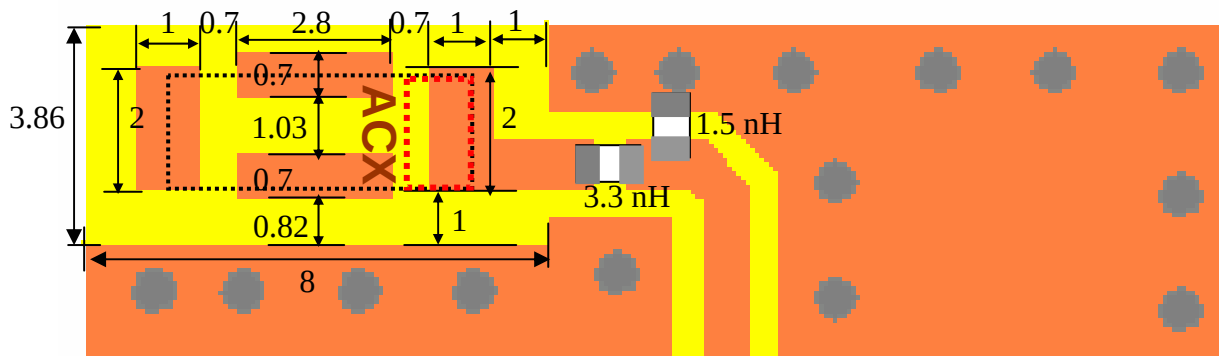


Mark	L	W	L1	W1	T	a
Dimensions	5.0 ± 0.2	2.0 ± 0.2	2.6 ± 0.2	0.5 ± 0.2	$2.0 + 0.1 / - 0.2$	0.5 ± 0.3

(a) Without Matching Circuits (Unit in mm)



(b) With Matching Circuits

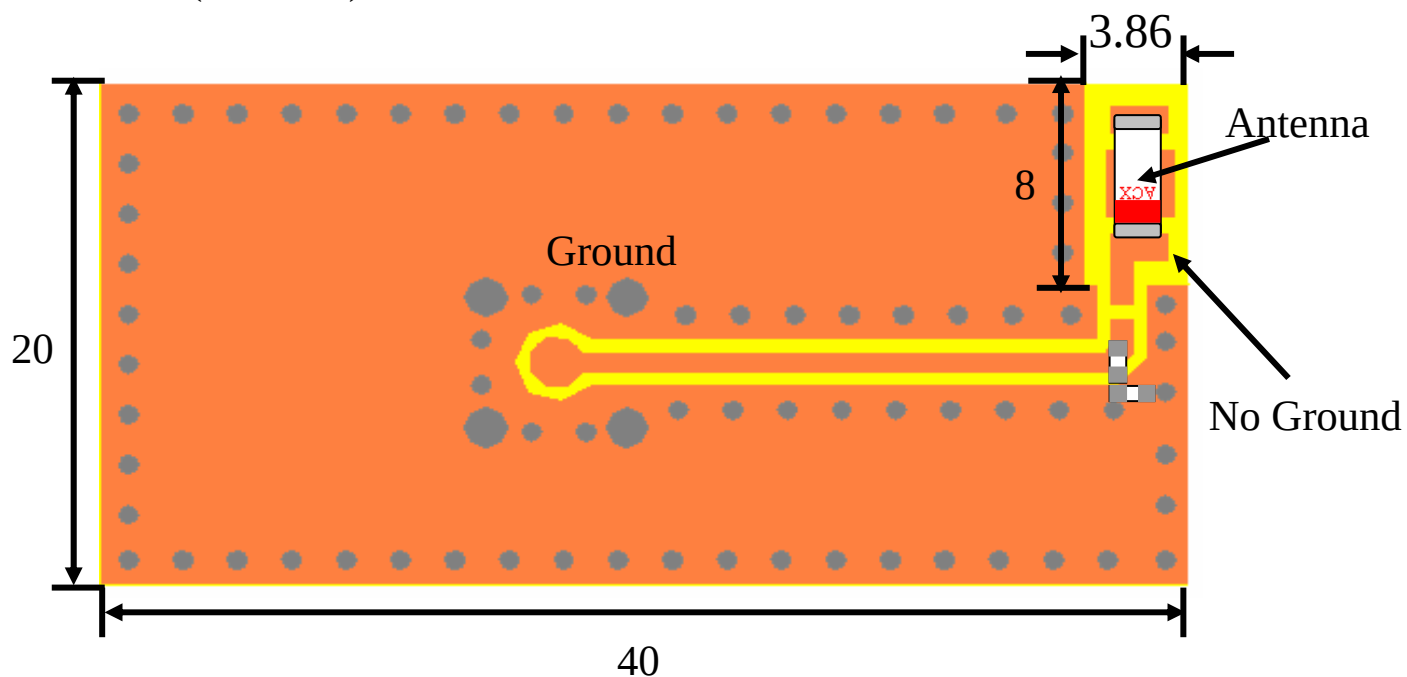


(Matching circuit and component values will be different, depending on PCB layout)

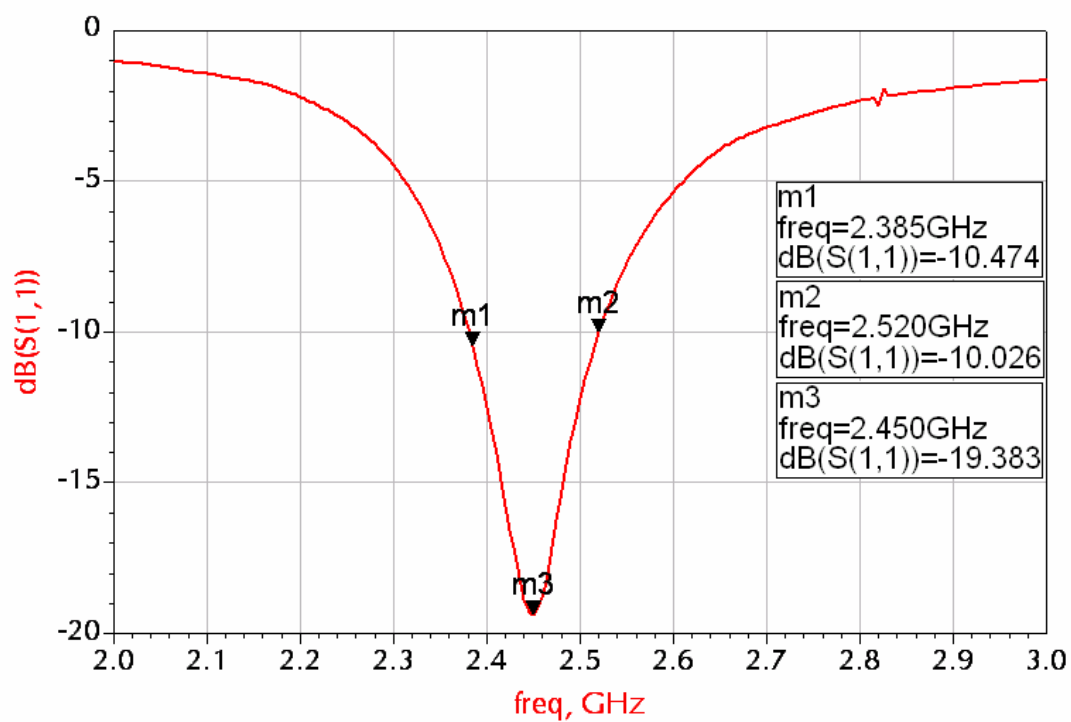
*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Typical Electrical Characteristics (T=25°C)

❖ Test Board (Unit in mm)

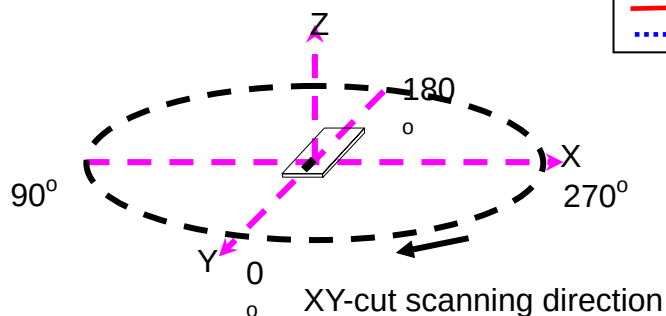


❖ Return Loss(with matching)

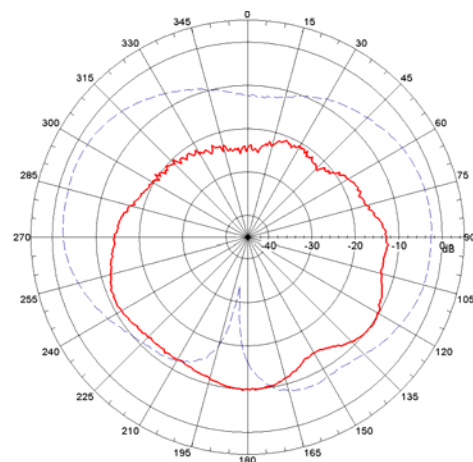


❖ Radiation Patterns

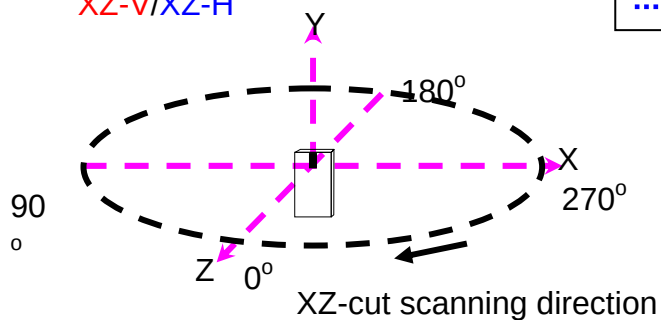
XY-V/XY-H



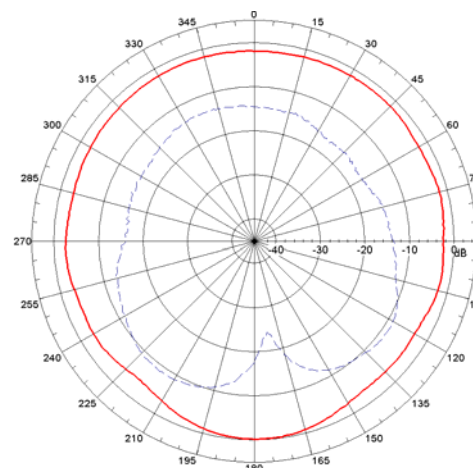
XY cut @2.45GHz
— Vertical
... Horizontal



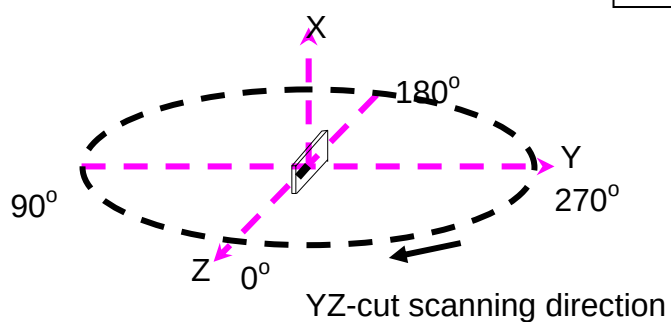
XZ-V/XZ-H



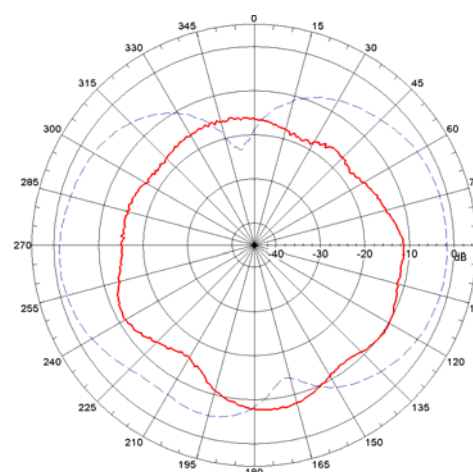
XZ cut @2.45GHz
— Vertical
... Horizontal



YZ-V/YZ-H



YZ cut @2.45GHz
— Vertical
... Horizontal



Advanced Ceramic X Corp.

16 Tzu Chiang Road, Hsinchu Industrial District Hsinchu Hsien 303, Taiwan

TEL:886-3-5987008 FAX:886-3-5987001

E-mail: acx@acxc.com.tw <http://www.acxc.com.tw>