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 -B2R4HAA_	2400~2500	2.0 (XZ-V)	0.5 (XZ-V)	2 max.	50 Ω

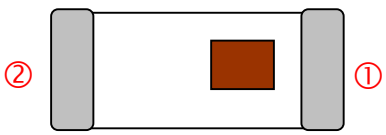
Q'ty/Reel (pcs) : 1,000 pcs
Operating Temperature Range : -40 ~ +85 °C
Storage Temperature Range : -40 ~ +85 °C
Power Capacity : 3W max.

Part Number

AT ① 7020 ② - B ③ 2R4 ④ HAA ⑤ □ ⑥

① Type	AT : Antenna	② Dimensions (L × W)	7.0× 2.0 mm
③ Material Code	B	④ Frequency Range	2R4=2400MHz
⑤ Specification Code	HAA	⑥ Packaging	T: Tape & Reel B: Bulk

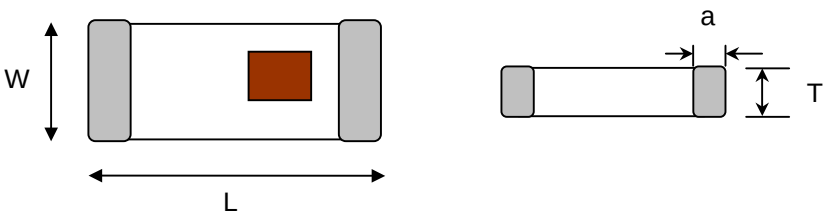
Terminal Configuration



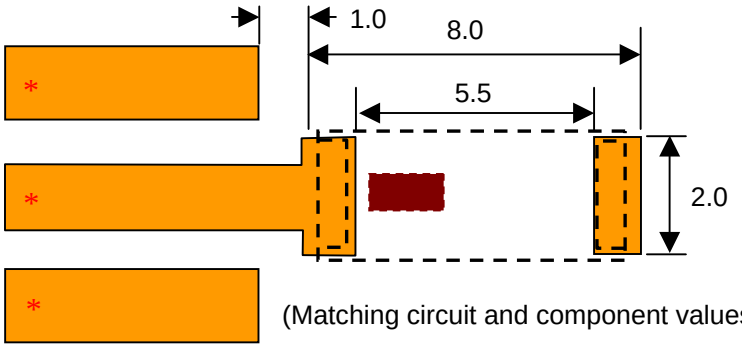
No.	Terminal Name	No.	Terminal Name
①	Feeding Point	②	NC

Dimensions and Recommended PC Board Pattern

Unit : mm



Mark	L	W	T	a
Dimensions	7.0±0.2	2.0±0.2	1.2+ 0.1/-0.2	0.5±0.3

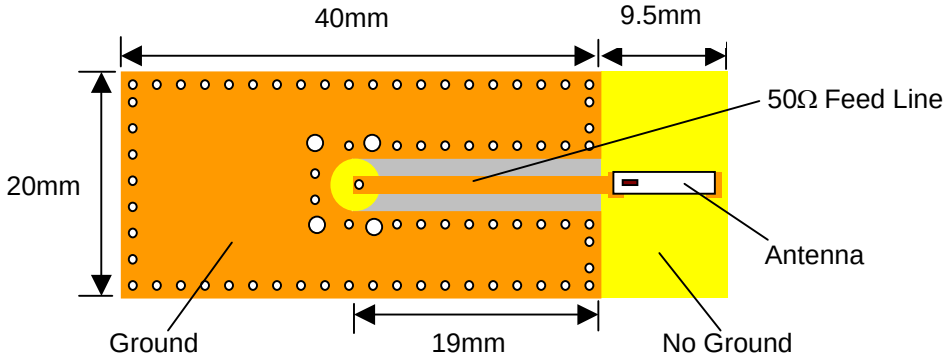


(Matching circuit and component values will be different, depending on PCB layout)

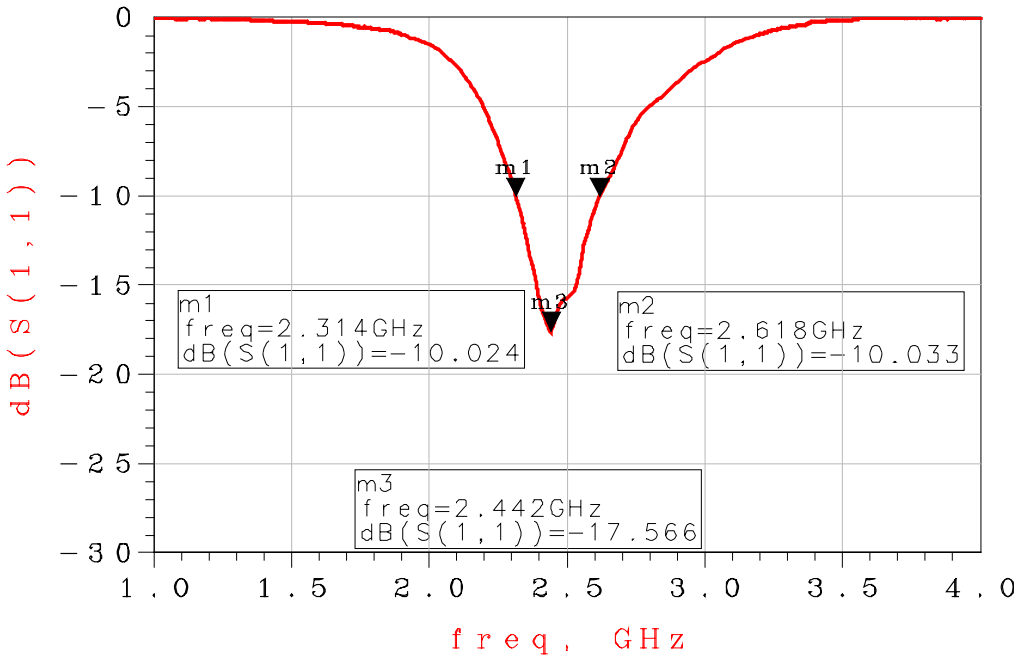
*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

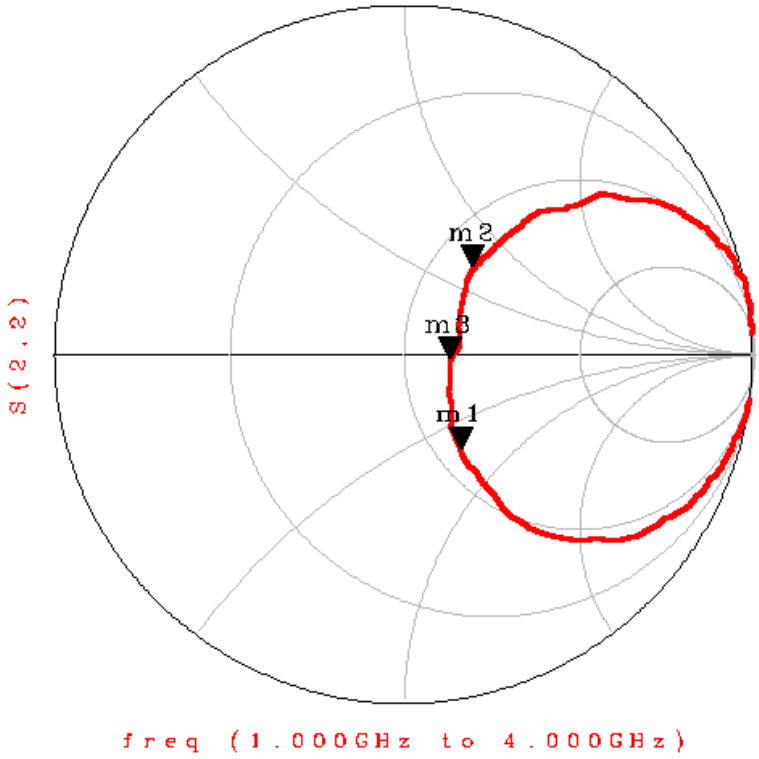
Typical Electrical Characteristics (T=25°C)

❖Test Board



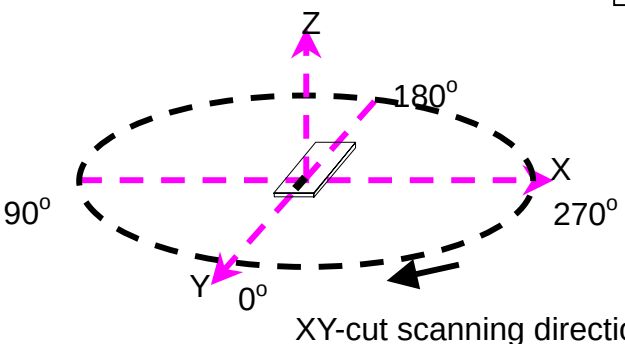
❖Return Loss


0
-5
-10
-15
-20
-25
-30
dB(S(1,1))
m1
m2
m3
m1
freq=2.314GHz
dB(S(1,1))=-10.024
m2
freq=2.618GHz
dB(S(1,1))=-10.033
m3
freq=2.442GHz
dB(S(1,1))=-17.566
1.0
1.5
2.0
2.5
3.0
3.5
4.0
freq, GHz

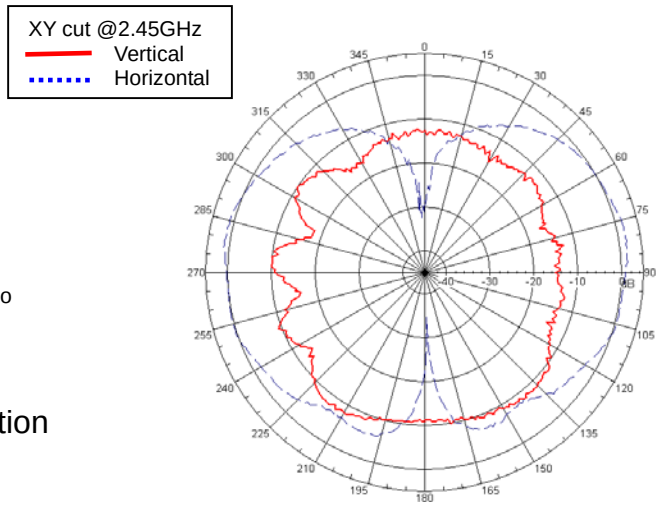

m2
m3
m1
S(2,2)
freq (1.000GHz to 4.000GHz)

❖Radiation Patterns

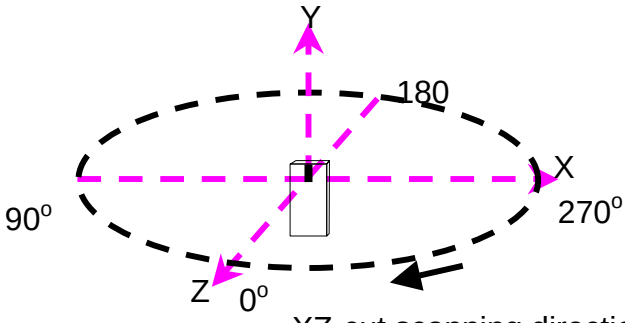
XY-V/XY-H



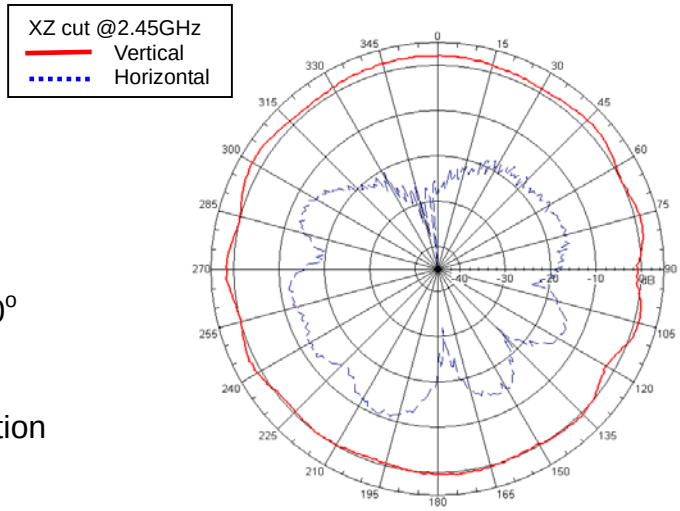
XY-cut scanning direction



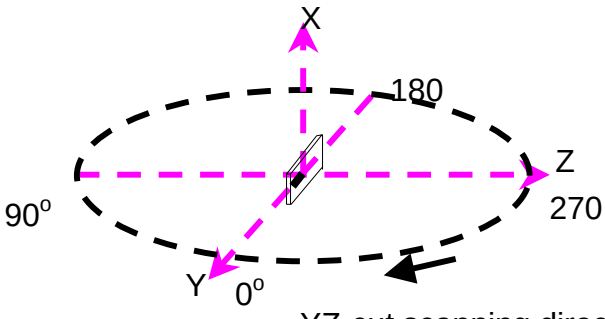
XZ-V/XZ-H



XZ-cut scanning direction



YZ-V/YZ-H



YZ-cut scanning direction