

AT3216 Series

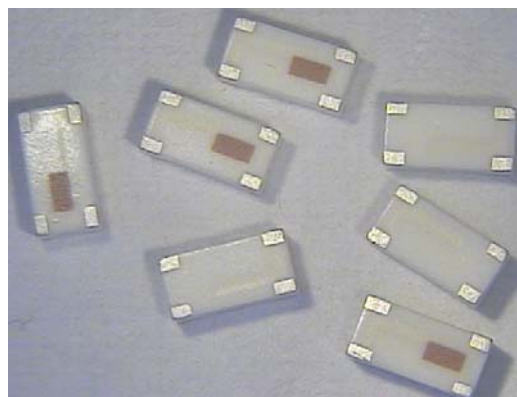
Multilayer Chip Antenna

Features

- ❖ Monolithic SMD with small, low-profile and light-weight type.
- ❖ Wide bandwidth
- ❖ RoHS compliant

Applications

- ❖ Bluetooth/Wireless LAN/Home RF
- ❖ ISM band 2.4GHz applications



Specifications

Part Number	Operating Frequency (MHz)	Peak Gain (XZ-total)	Average Gain (XZ-total)	VSWR	Impedance
AT3216 - A2R4BM32	2400 ~ 2500	0.9 dBi typ.	-3.1 dBi typ.	2.0 max.	50

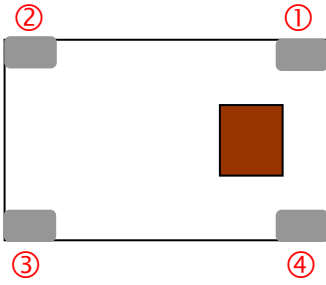
Q'ty/Reel (pcs) : 3,000pcs
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.
 Power Capacity : 3W max.

Part Number

AT 3216 - A 2R4 BM32 □ □
 ① ② ③ ④ ⑤ ⑥ ⑦

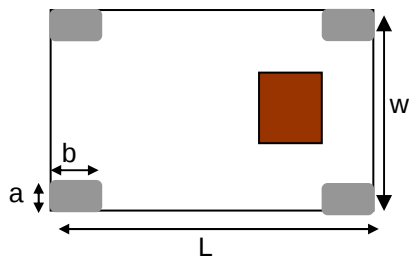
① Type	AT : Antenna	② Dimensions (L × W)	3.2× 1.6 mm
③ Material Code	A	④ Initial center frequency	2R4=2400MHz
⑤ Specification Code	BM32	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

Terminal Configuration

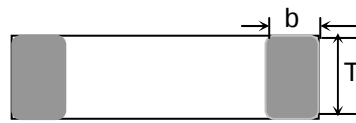


No.	Terminal Name	No.	Terminal Name
①	Feeding Point	②	GND
③	GND	④	GND

Dimensions and Recommended PC Board Pattern

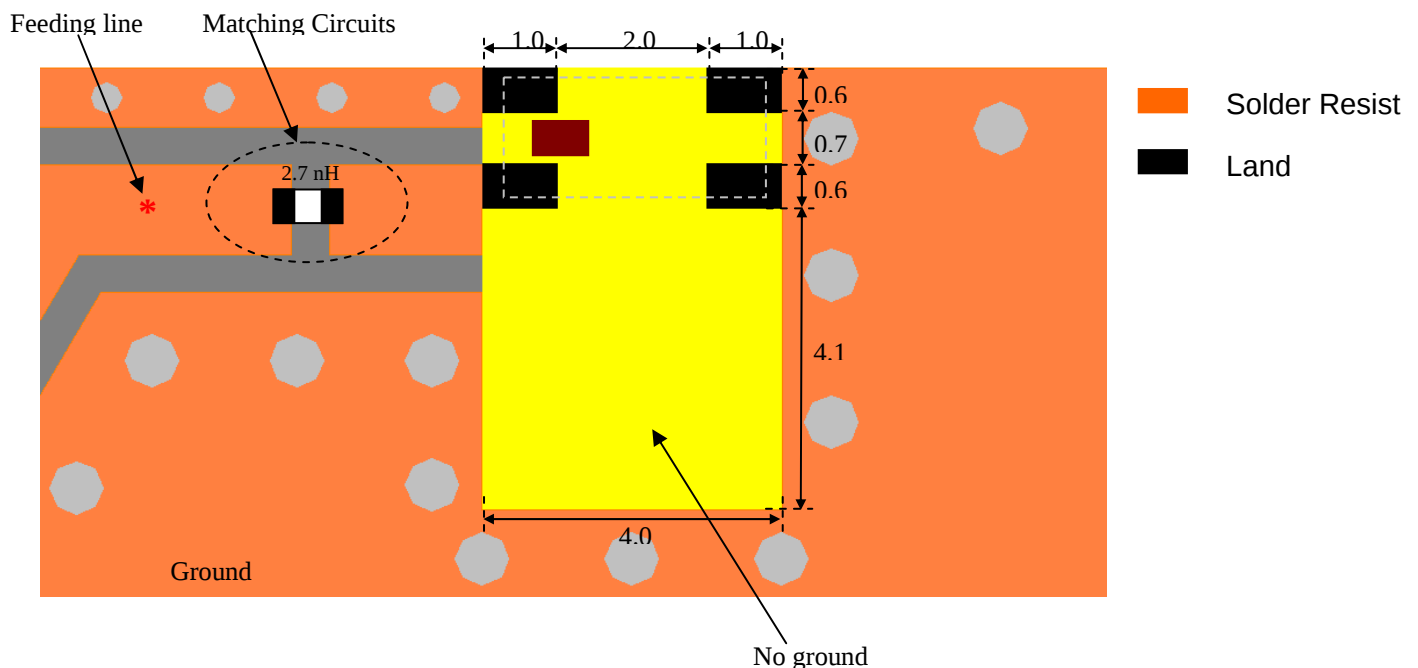


Unit : mm



Mark	L	W	T	a	b
Dimensions	3.2±0.2	1.6±0.2	0.5 max.	0.3+0.1 /-0.2	0.5±0.2

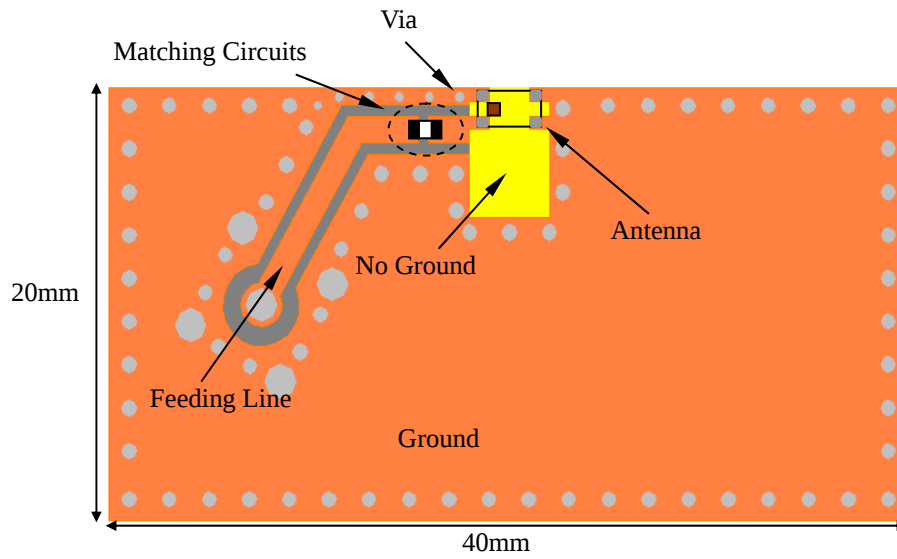
❖With Matching Circuits - Unit in mm



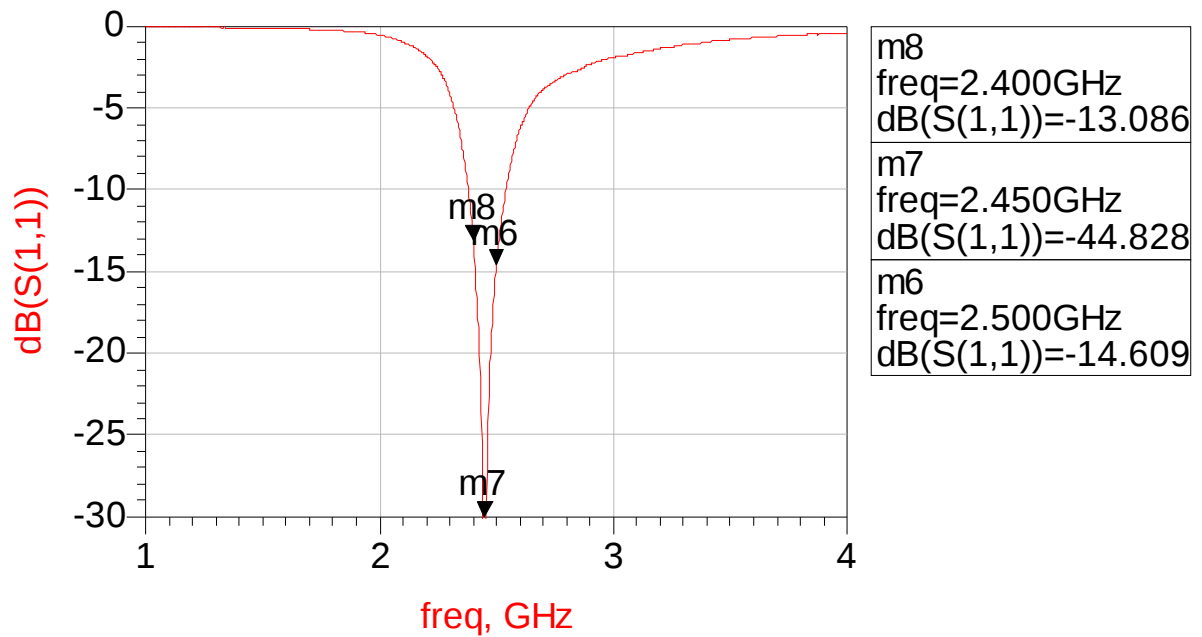
*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Typical Electrical Characteristics (T=25°C)

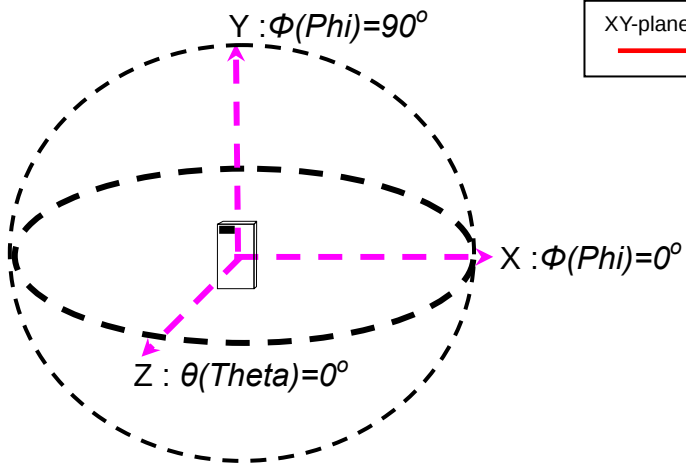
❖ Test Board



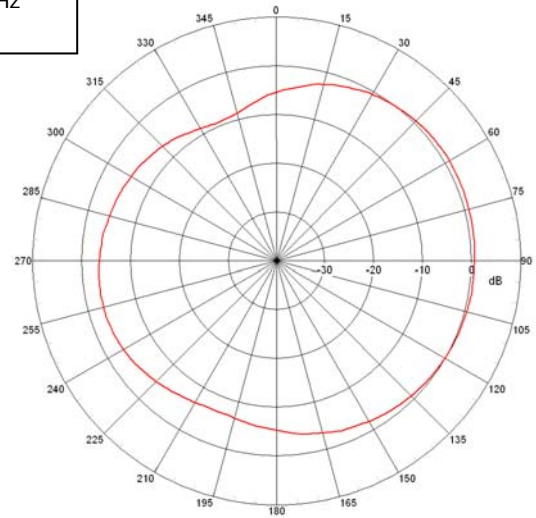
❖ Return Loss-with matching circuits



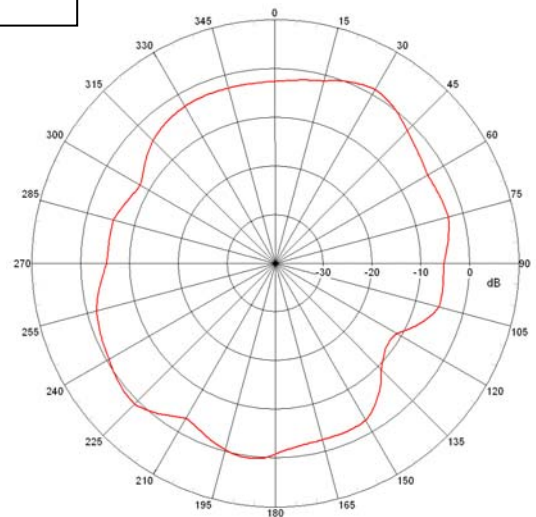
❖ Radiation Patterns - (Antenna Efficiency 65%@ 2.4GHz; 72%@2.45GHz ; 70%@2.5GHz)



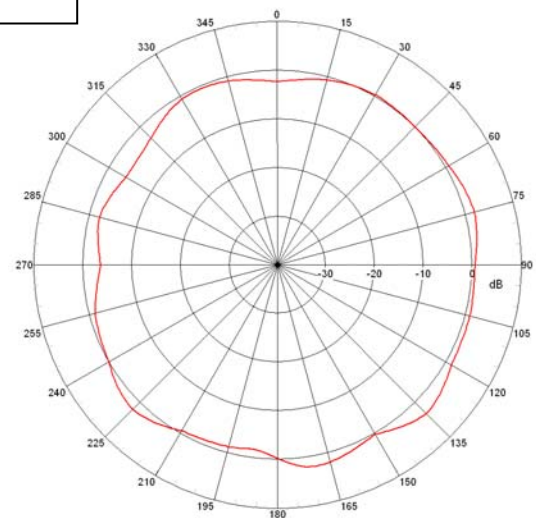
XY-plane @2450MHz
Total



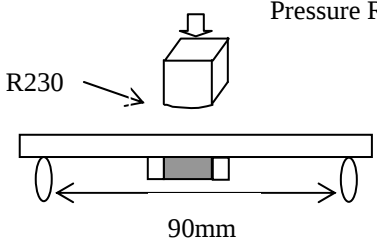
XZ-plane @2450MHz
Total



YZ-plane @2450MHz
Total



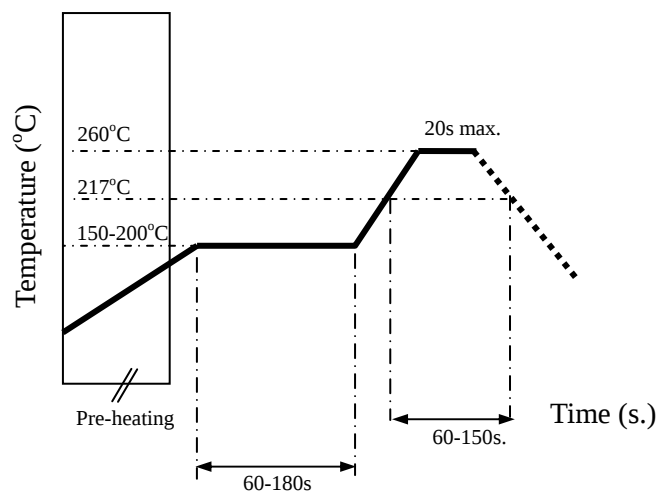
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	- No apparent damage - More than 95% of the terminal electrode shall be covered with new solder	- Preheat: $120 \pm 5^{\circ}\text{C}$ - Solder: $245 \pm 5^{\circ}\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	1kg minimum	- Solder specimen onto test jig. - Apply push force at 0.5mm/s until electrode pads are peeled off or ceramic are broken. Pushing force is applied to longitude direction
Deflection (Substrate Bending)	No apparent damage	- Solder specimen onto test jig (FR4, 0.8mm) using the recommend soldering profile. - Apply a bending force of 2mm deflection 
Heat/Humidity Resistance	- No apparent damage - Fulfill the electrical specification after test	- Temperature: $85 \pm 2^{\circ}\text{C}$ - Humidity: 90% ~ 95% RH - Duration: 1000 ± 48hrs - Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	- No apparent damage - Fulfill the electrical specification after test	- One cycle/step 1 : $125 \pm 5^{\circ}\text{C}$ for 30 min step 2 : $-40 \pm 5^{\circ}\text{C}$ for 30 min - No of cycles : 100 - Recovery: 1-2 hrs
Low Temperature Resistance	- No apparent damage - Fulfill the electrical specification after test	- Temperature: $-40 \pm 5^{\circ}\text{C}$ - Duration: 500 ± 24hrs - Recovery: 1-2hrs

Soldering Conditions

❖ Typical Soldering Profile for Lead-free Process

Reflow Soldering :



Notes

❖ The contents of this data sheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.

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