

AN3216 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-V)	Average Gain (XZ-V)	VSWR	Impedance
JTW2G45 AN3216A100	2400 ~ 2500	0.5 dBi typ.	-0.5 dBi typ.	2 max.	50 Ω

Q'ty/Reel (pcs) : 3,000pcs
 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

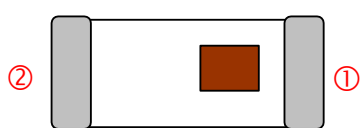
JTW 2G45 AN 3216 A100 □

① ② ③ ④ ⑤ ⑥

Material Code

① Identifier	JTW	② Frequency Range	2G45=2450MHz
③ Type	AN : Antenna	④ Dimensions (L × W)	3.2× 1.6 mm
⑤ Material Code+BW	A100=100MHz	⑥ Packaging	R: Tape & Reel B: Bulk

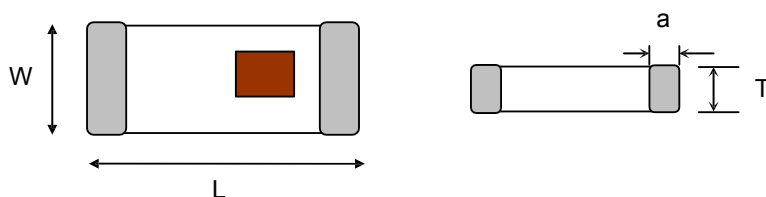
Terminal Configuration



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

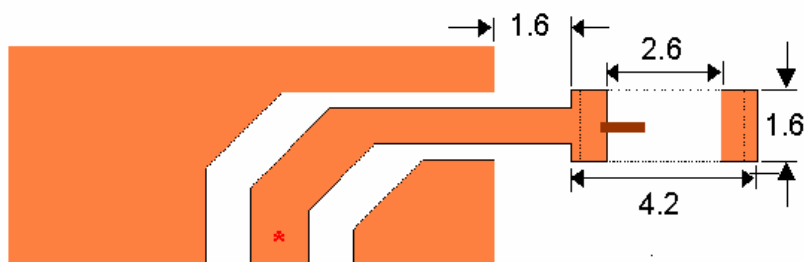
Dimensions and Recommended PC Board Pattern

Unit : mm

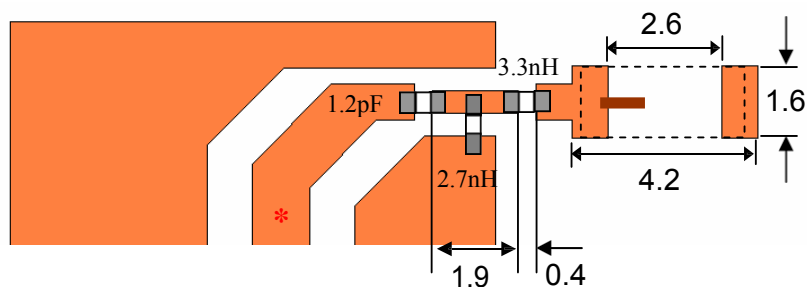


Mark	L	W	T	a
Dimensions	3.2±0.2	1.6±0.2	1.3+ 0.1/-0.2	0.5±0.3

(a) Without Matching Circuits



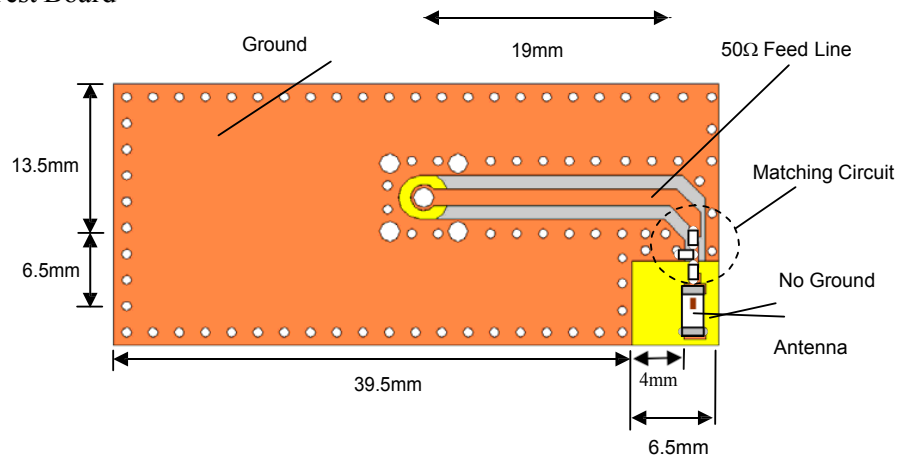
(b) With Matching Circuits



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

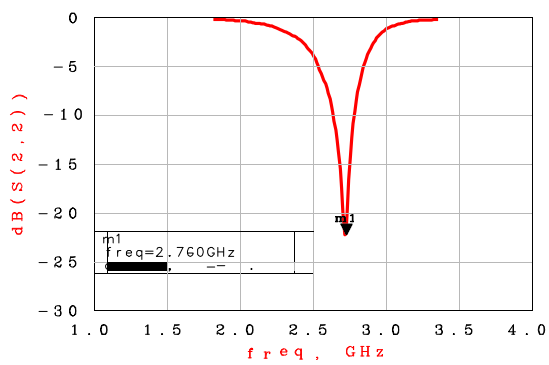
Typical Electrical Characteristics (T=25°C)

❖ Test Board

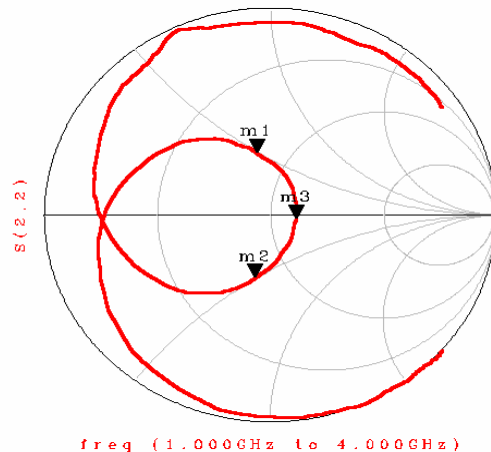
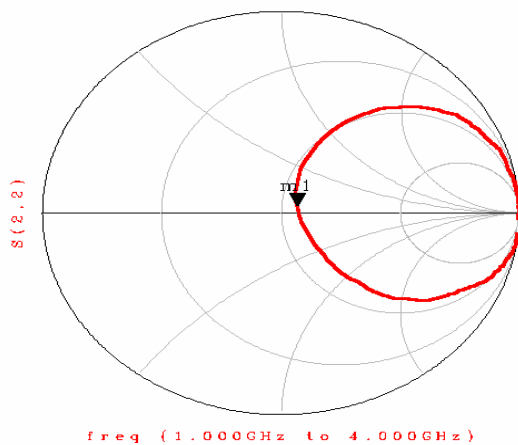
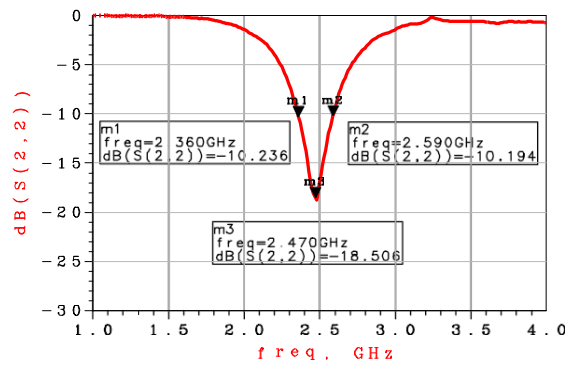


❖ Return Loss

(a) Without Matching Circuits



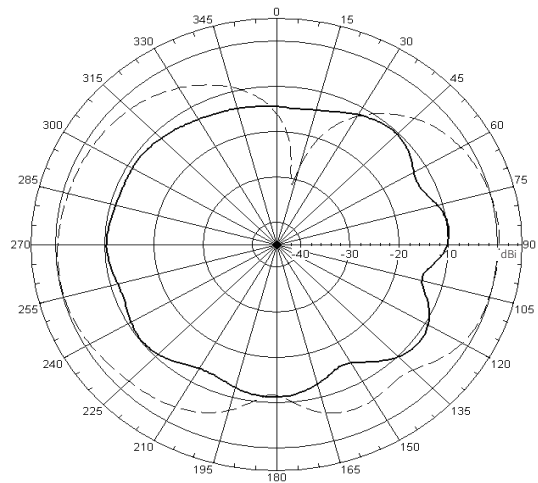
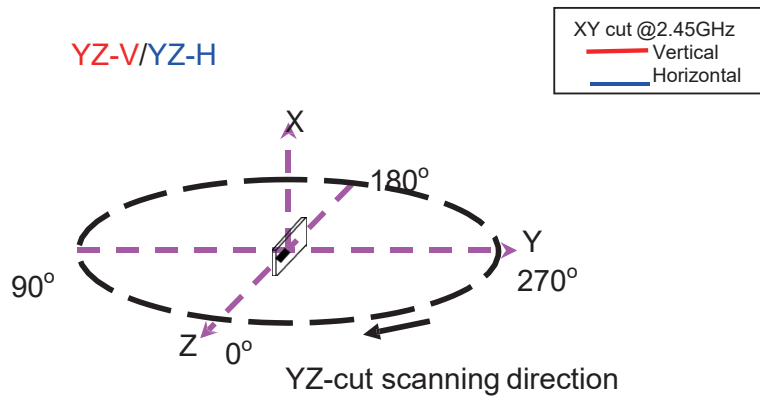
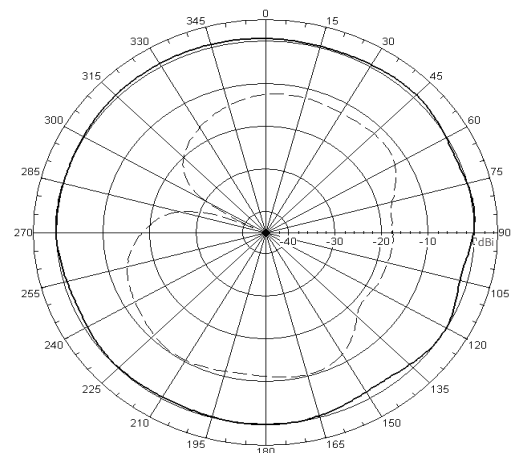
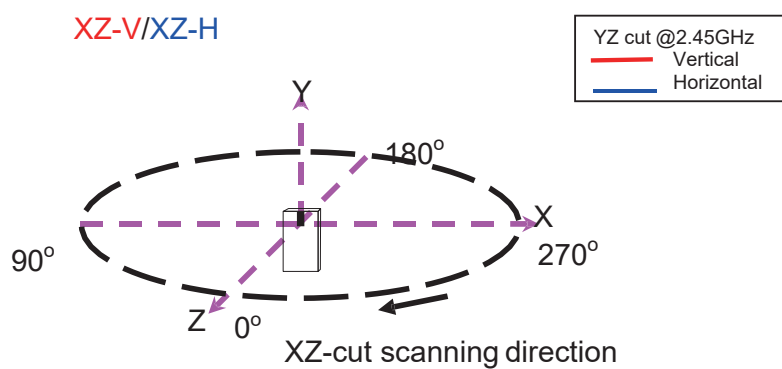
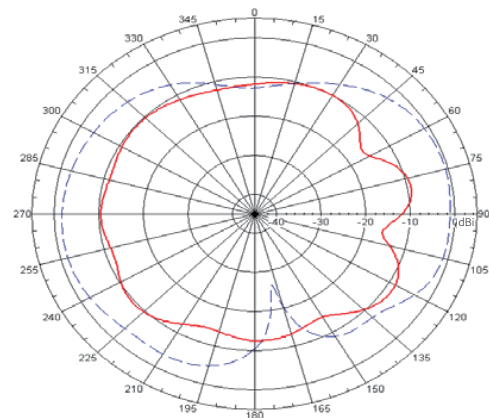
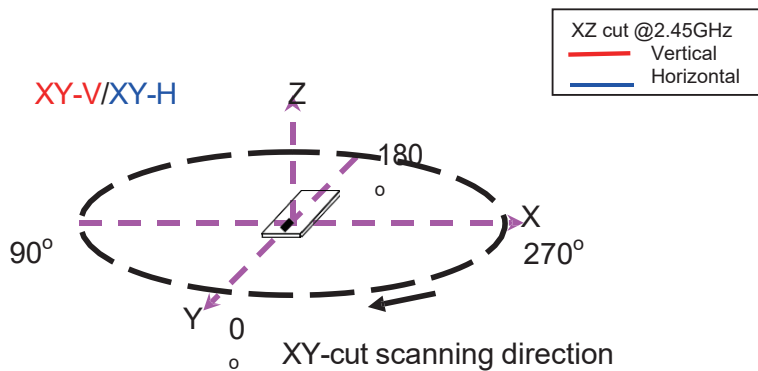
(b) With Matching Circuits



Radiation Patterns

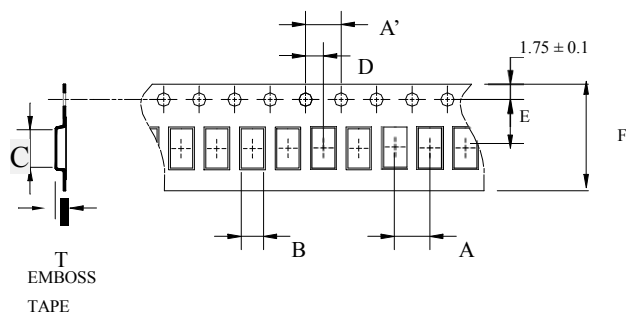
ANT Gain results:

Freq. (MHz)	Effi (%)	Peak Gain) (dBi)
2400	44.06	-0.17
2410	43.39	-0.29
2420	46.53	0.14
2430	45.79	0.25
2440	49.88	0.33
2450	49.25	0.50
2460	47.29	0.08
2470	48.36	0.27
2480	52.66	0.31
2490	51.17	0.29
2500	51.10	0.30



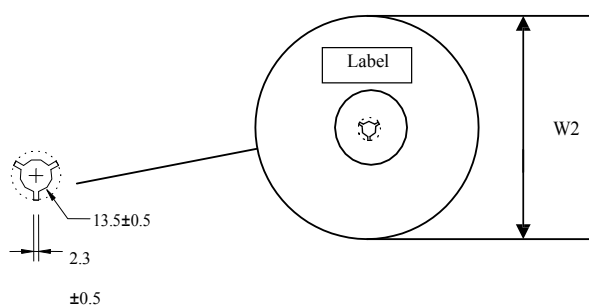
Taping Specifications

❖Tape & Reel Dimensions (Unit: mm) vs. Quantity (pcs)



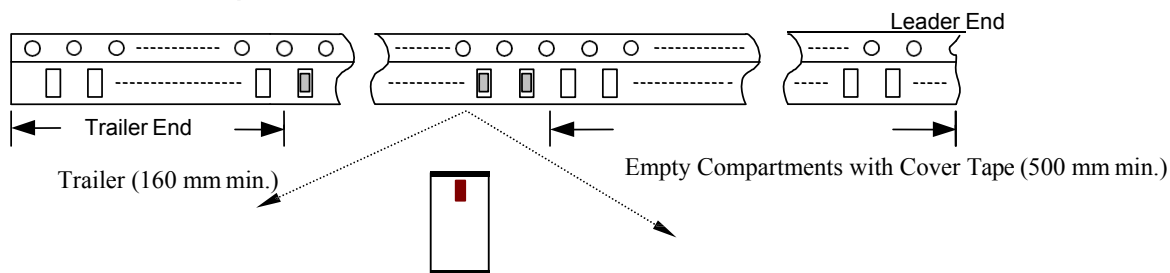
Type	A	A'	B	C	D	E	F	T	Quantity/per reel	Tape material
AN3216	4.0±0.1	4.0±0.05	1.95±0.1	3.5±0.1	2.0±0.05	3.5±0.05	8.00±0.2	1.50±0.1	3,000pcs	Plastic (Embossed)

❖Reel Dimensions (Unit: mm)

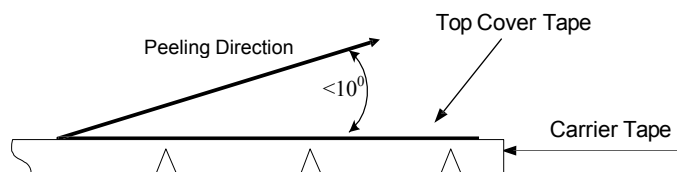


Type	W2	W3	W4	W5
AN3216	178±1	60±1	1.4±0.2	17±0.5

❖Leader and Trailer Tape



❖ Peel-off Force



Peel-off force should be in the range of 0.1 – 0.6 N at a peel-off speed of 300 ± 10 mm/min .

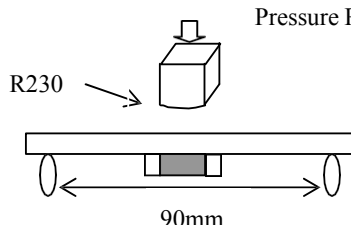
❖ Storage Conditions

- (1) Temperature: 15 ~35°C, relative humidity (RH): 45~75%.
- (2) Non-corrosive environment

Notes

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

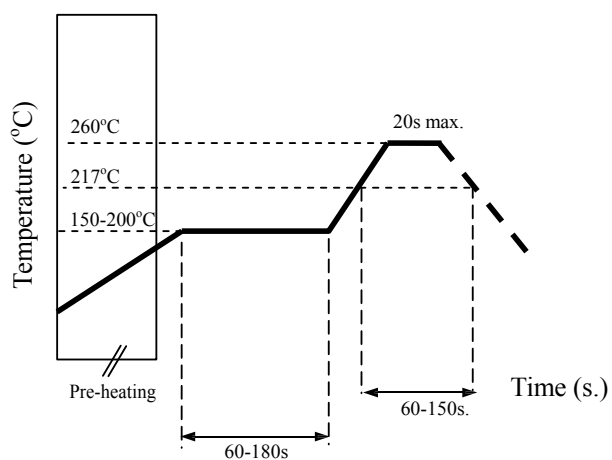
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	1. No apparent damage 2. More than 95% of the terminal electrode shall be covered with new solder	1. Preheat: $120 \pm 5^{\circ}\text{C}$ 2. Solder: $245 \pm 5^{\circ}\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	1. 1kg minimum	1. Solder specimen onto test jig. 2. 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)	1. No apparent damage	1. Solder specimen onto test jig (FR4, 0.8mm) using the recommend soldering profile. 2. Apply a bending force of 2mm deflection 
Heat/Humidity Resistance	1. No apparent damage 2. Fulfill the electrical specification after test	1. Temperature: $85 \pm 2^{\circ}\text{C}$ 2. Humidity: 90% ~ 95% RH 3. Duration: 1000±48hrs 4. Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	1. No apparent damage 2. Fulfill the electrical specification after test	1. One cycle/step 1 : $125 \pm 5^{\circ}\text{C}$ for 30 min step 2 : $-40 \pm 5^{\circ}\text{C}$ for 30 min 2. No of cycles : 100 3. Recovery: 1-2 hrs
Low Temperature Resistance	1. No apparent damage 2. Fulfill the electrical specification after test	1. Temperature: $-40^{\circ} \pm 5^{\circ}\text{C}$ 2. Duration: 500 ±24hrs 3. Recovery: 1-2hrs

Soldering Conditions

❖ Typical Soldering Profile for Lead-free Process

Reflow Soldering :



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