

2.4GHz 3216 Chip Antenna: AAN3216F24P2G45ZT1



- **Application**

WLAN, 802.11b/g, Bluetooth, etc...

- **Features**



SMD, high gain, high reliability, ultra- impact, omni-directional...

- **Parts Number**

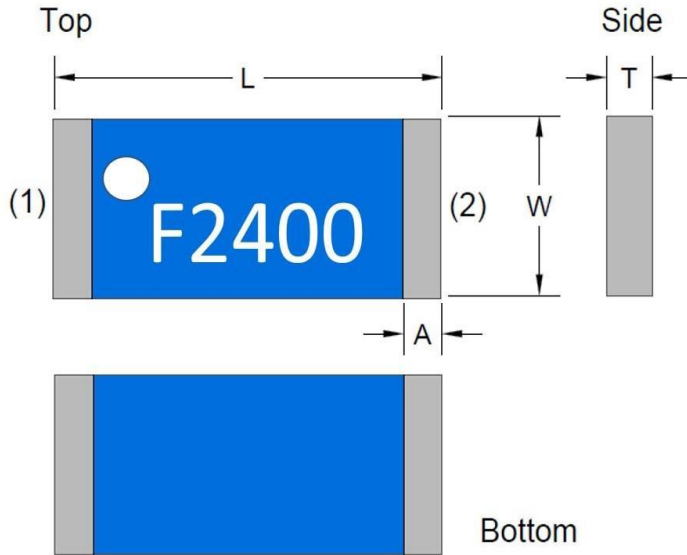
AAN 3216 - F24 P 2G45 Z - T1
(1) (2) (3) (4) (5) (6) (7)

(1)Product Type	Chip Antenna
(2)Size Code	3.2x1.6mm
(3)Type Code	F24
(4)Packing	Paper Tape
(5)Frequency	2.45GHz
(6) Product appearance	Z
(7)Type Code	T1

Example:Optional Code

Optional Code	3216 Product appearance	
	Top	Bottom
Z		

■ **Type Dimension**



Dimension (mm)	
L	3.05 ± 0.10
W	1.60 ± 0.20
T	0.55 ± 0.15
A	0.40 ± 0.20

NO.	Terminal Name
[1]	Feeding point
[2]	GND

■ **Electrical Specifications**

Working Frequency Range	2070 ~ 2215 MHz
Peak Gain	2.58 dBi
Impedance	50 Ohm
Return loss	10 dB (Min)
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Operation Temperature	-40 ~ 125 °C

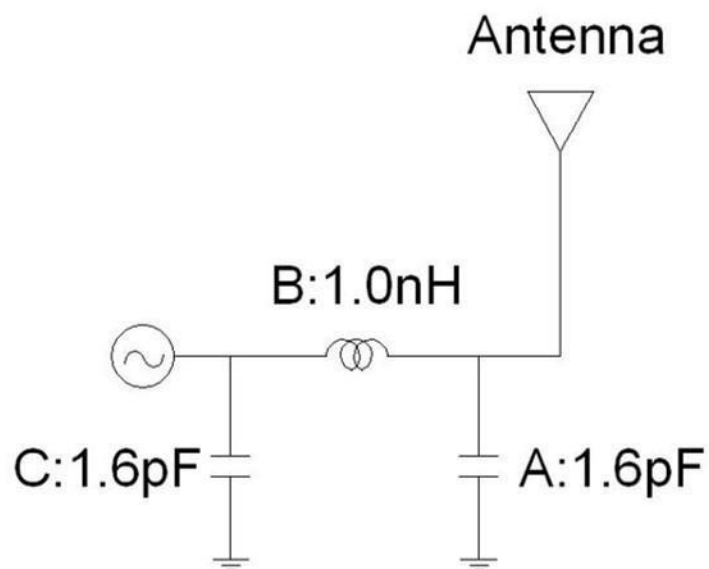
■ **Evaluation Board Reference – Regular Layout**

PCB Dimension	Antenna Layout Reference
<p>Chip Antenna</p> <p>40</p> <p>20</p>	<p>A,B,C Matching Circuit</p> <p>2.3</p> <p>0.6</p> <p>0.7</p> <p>1.6</p> <p>0.7</p> <p>6.0</p> <p>Clearance</p> <p>5.05</p> <p>Unit:mm</p>

■ **Matching circuit**

The inductance and capacitance values are used in the matching network to match the circuits by our company.

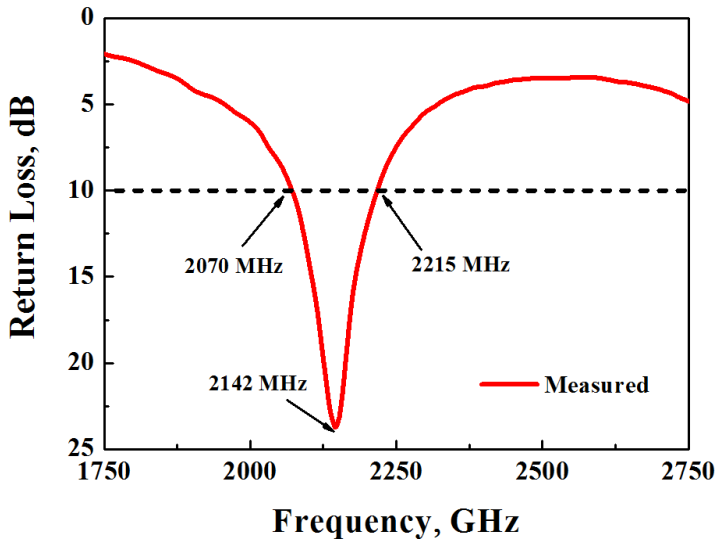
Users can design their own matching network to make some adjustments.



Electrical Characteristics

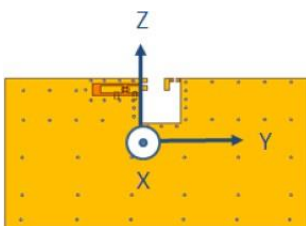
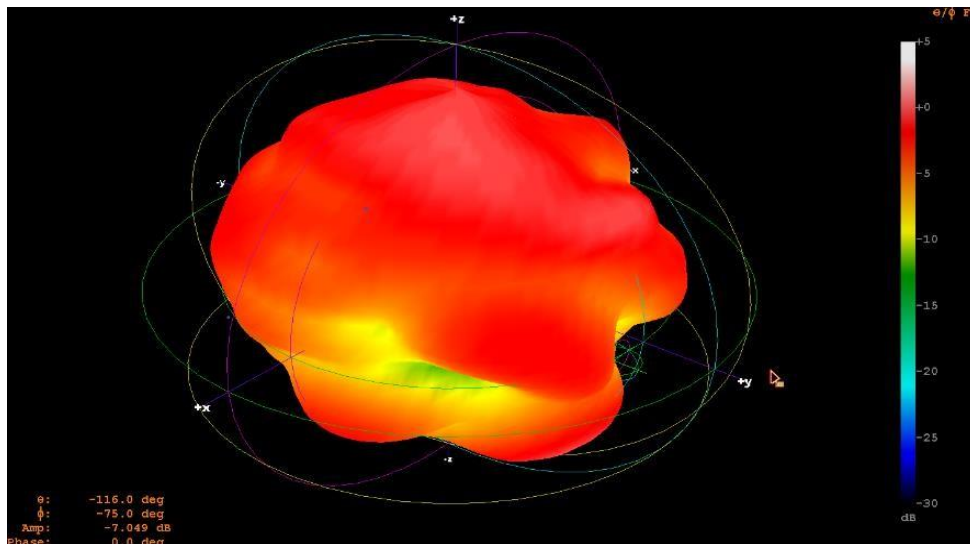
Return Loss & Radiation

Return Loss



Frequency (MHz)	Return Loss (dB)
2070	10
2142	23.5
2215	10

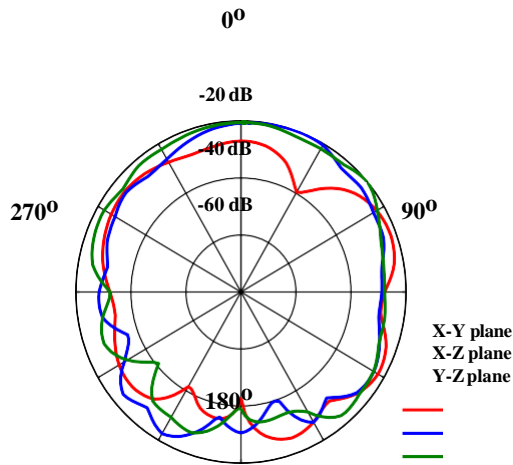
3D Radiation



Frequency	2142MHz
Peak Gain	2.58 dBi
Average Gain	-1.88 dBi
Efficiency	64.94 %

2D Radiation

Frequency : 222 MHz

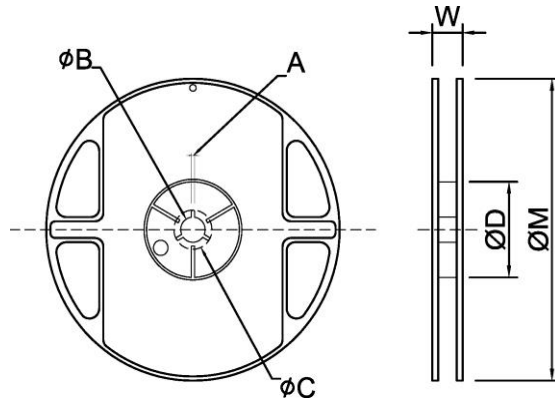


Pattern	Test Plane	Peak Gain (dBi)	Peak Gain Angle	
1	Red	X-Y	-2.2	70°
2	Blue	X-Z	-0.247	22°
3	Green	Y-Z	-0.138	50°

Peak Gain & Efficiency

Frequency (MHz)	Gain (dBi)	Efficiency (%)
2070	1.81	48.67
2142	2.58	64.94
2215	2.16	60.46

■ Appendix For SMD Chip Antenna
 • Packaging Information

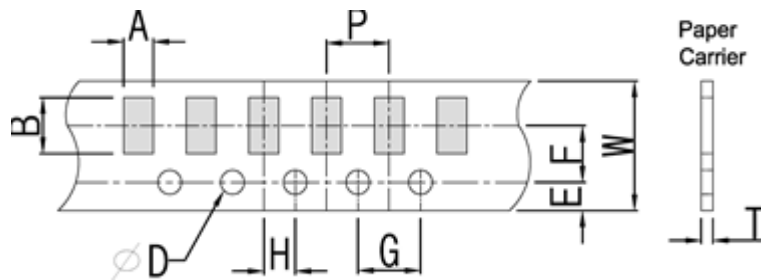


■ Dimension

Unit:mm

TYPE	SIZE		A	ψB	ψC	ψD	W	ψM
3216	7"	5K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0

■ Tapping Specification



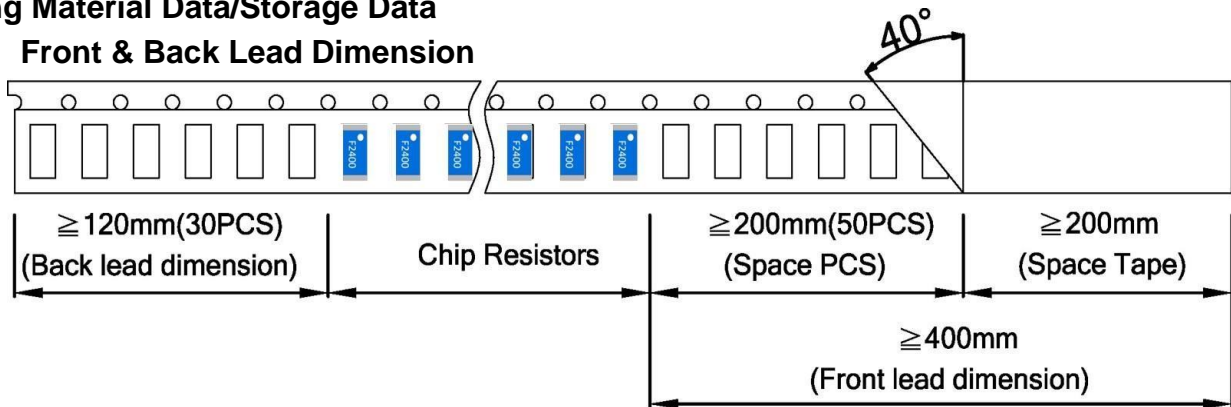
■ Dimension

Unit:mm

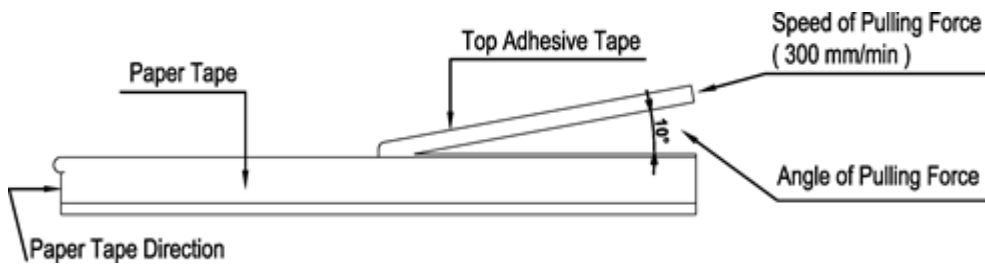
Packaging	Type	A	B	W	E	F	G	H	T	ψD	P
Paper Type	3216	1.90±0.2	3.50±0.2	8.0±0.2	1.75±0.1	3.5±0.05	4.0±0.1	2.0±0.05	0.75±0.1	1.50 ^{+0.10} ₋₀	4.0±0.1

Packing Material Data/Storage Data

■ **Front & Back Lead Dimension**

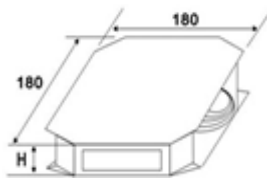


■ **Top Adhesive Peel Off Strength : 10~70g**

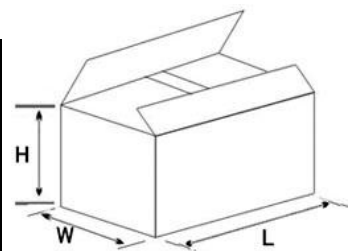


■ **Package**

Inner Box Size	
Reel	Size H(mm)
1	13
2	24
3	36
5	60
10	113



External Box Size			
Contain (Kpcs)	Length (mm)	Width (mm)	Height (mm)
25K	180	180	60
50K	180	180	110
150K	430	200	200
300K	400	400	200



■ **Storage Data :**

Storage time at the environment temp: $25\pm 5^{\circ}\text{C}$ & humidity: $60\pm 20\%$ is valid for one year from the date of delivery

● **Reliability Test and Requirement**

Test Item	Procedure	Requirements Ceramic Type	Remark (Reference)
Electrical Characterization		Fulfill the electrical specification	User Spec
Thermal Shock	50 ± 10°C/ 1 hr	No Visible Damage Fulfill the electrical specification	MIL-STD-202 107
Temperature Cycling	-30°C to +85°C · 100 Cycles	No Visible Damage Fulfill the electrical specification	JESD22 JA104
HighTemperature Exposure	500hours @ T=+85°C	No Visible Damage Fulfill the electrical specification	MIL-STD-202 108
Low Temperature Storage	500hours @ T= -30°C	No Visible Damage Fulfill the electrical specification	MIL-STD-202 108
Leaching	260°C ±5°C.for 30 seconds	>95% Coverage	Sony SS-00254-9
Soldering Heat	260 ± 5°C For 10 Seconds	No Visible Damage	JIS C 5201-1
Vibration	5g's for 20 min., 12 cycles each of 3 orientations	No Visible Damage	MIL-STD-202 Method 204
Mechanical Shock	Impact acceleration:1500g Pulse duration:0.5ms Number Of shocks:30shocks(5 shocks for eachface)	No Visible Damage	MIL-STD-202 Method 213
Biased Humidity	500hours 85 °C./85% RH.	No Visible Damage Fulfill the electrical specification	MIL-STD-202 Method 106
Board Flex(SMD)	Bending once for 60 seconds	No Visible Damage	AEC-Q200 005
IR Reflow	<p>Peak : 250 ± 5 °C 230°C or higher</p> <p>180°C --- Pre Heating Zone</p> <p>150°C ---</p> <p>90 ± 30 s</p> <p>30 ± 10 s</p> <p>Soldering Zone</p> <p>Heating Time</p>	In accordance with specification	Sony SS-00254
Physical Dimension	Any applicable method using x10 magnification, micrometers, calipers, gauges, contour projectors, or other measuring equipment, capable of determining the actual specimen dimensions.	In accordance with specification	JESD22 JB100