

■ Application

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

■ Features



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

■ Parts Number

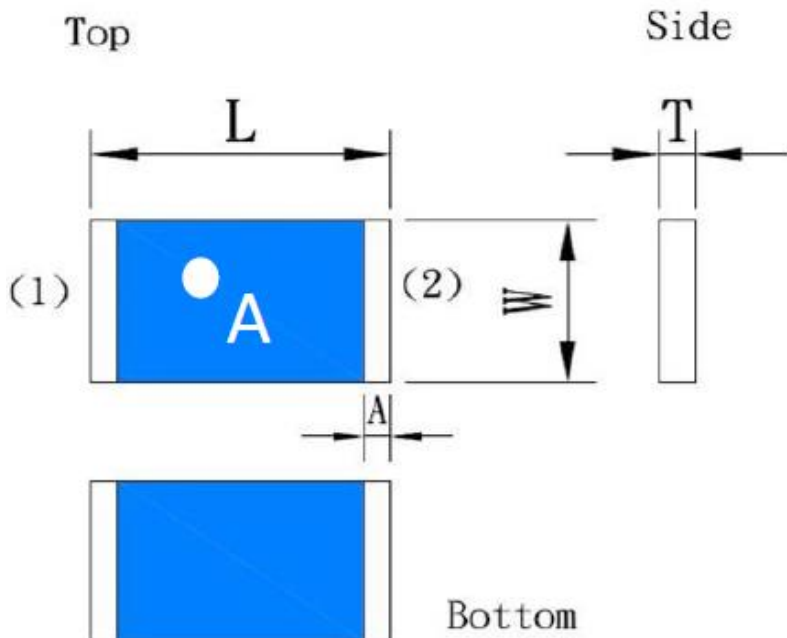
AAN 1608 - A P 2G45 Z T1
 (1) (2) (3) (4) (5) (6) (7)

(1)Product Type	Chip Antenna
(2)Size Code	1.6 x 0.8mm
(3)Type Code	A
(4)Packing	Paper Tape
(5)Frequency	2.45GHz
(6) Product appearance	Z
(7)Type Code	T1

Example:Optional Code

Optional Code	1608- Product appearance	
	Top	Bottom
z		

■ Type Dimension



Dimension (mm)	
L	1.60 ± 0.20
W	0.80 ± 0.15
T	0.40 ± 0.10
A	0.20 ± 0.10

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

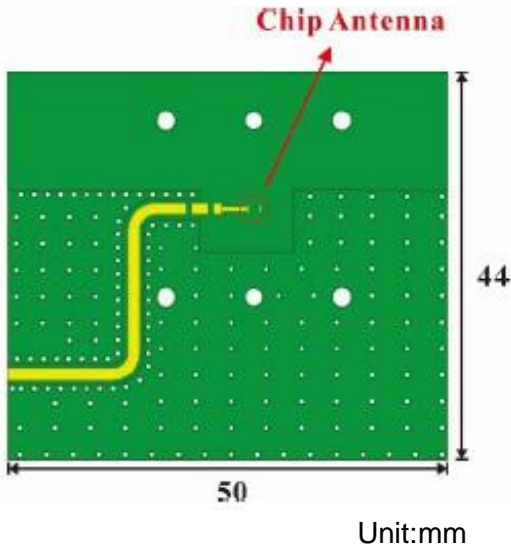
■ Electrical Specifications

Working Frequency Range	2400 ~ 2484 MHz
Peak Gain	1.51 dBi
Impedance	50 Ohm
Return loss	10 dB (Min)
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Operation Temperature	-40 ~ 125 °C

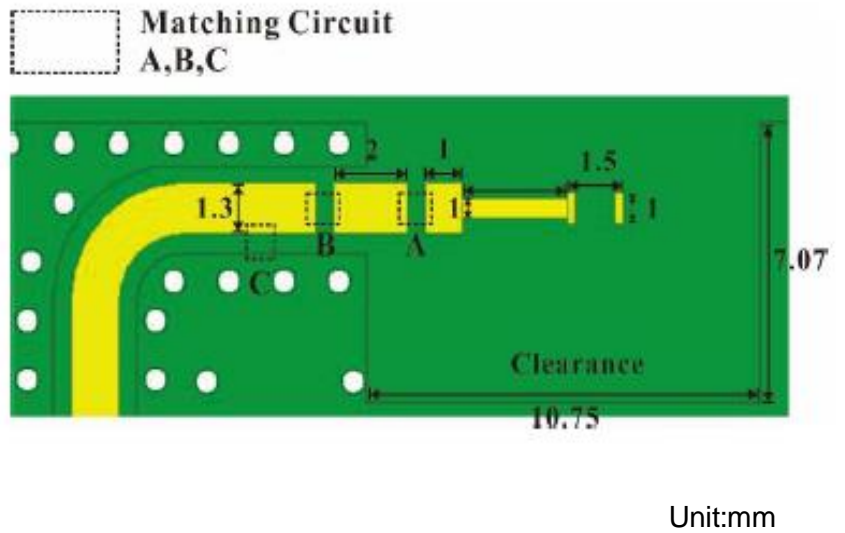
2.4GHz 1608 Chip Antenna: AAN1608AP2G45ZT1

■ Evaluation Board Reference – Regular Layout

PCB Dimension

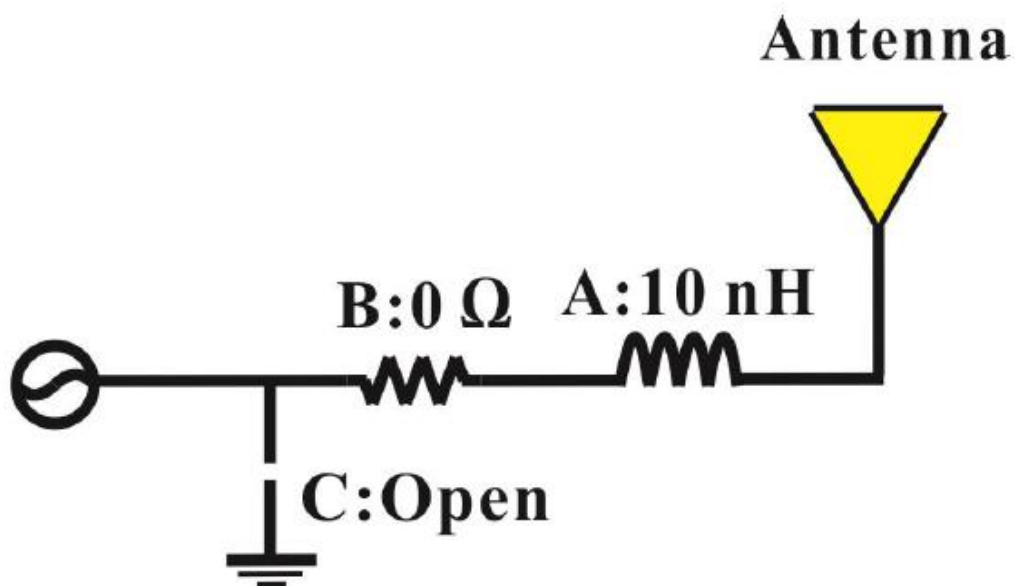


Antenna Layout Reference



■ Matching circuit

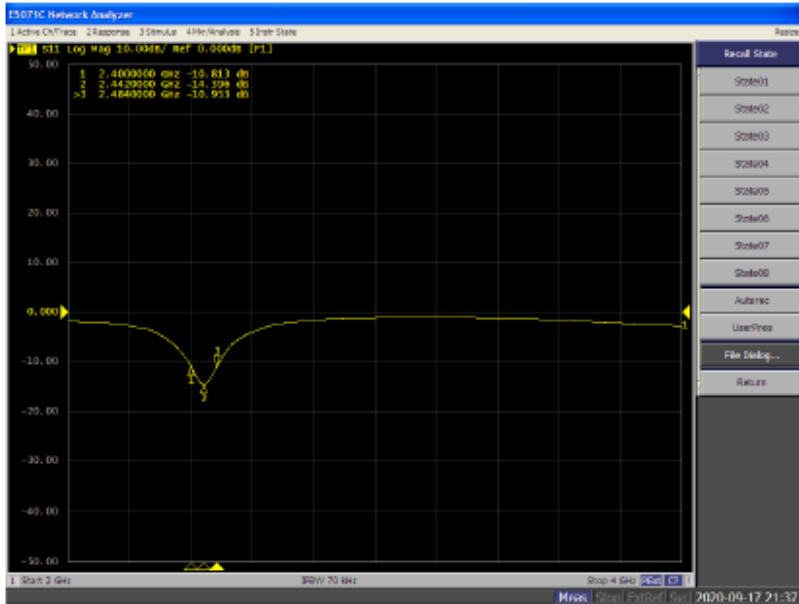
The inductance and capacitance values are used in the matching network to match the circuits by our company.
Users can design their own matching network to make some adjustments.



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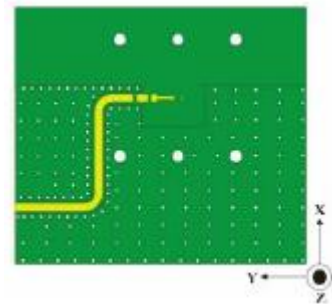
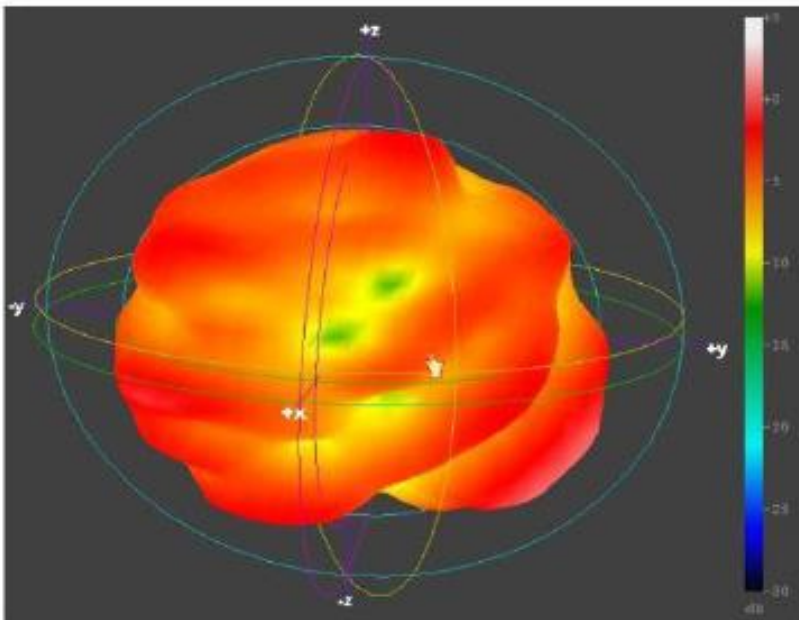
Electrical Characteristics

Return Loss



Frequency (MHz)	Return Loss (dB)
2400	10.81
2442	14.39
2484	10.95

3D Radiation

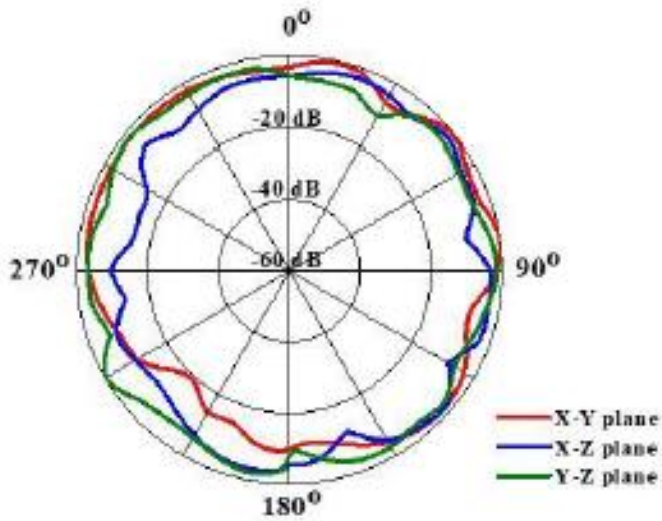


Frequency	2420 MHz
Peak Gain	1.51 dBi
Average Gain	1.1 dBi
Efficiency	32.19 %

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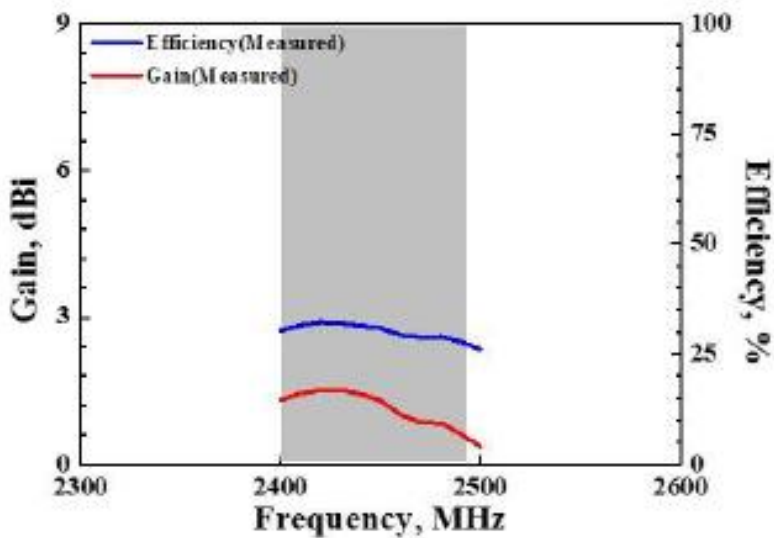
2D Radiation

Frequency : 2450 MHz



Pattern	Test Plane	Peak Gain (dBi)	Peak Gain Angle	
1	Red	X-Y	-0.352	50°
2	Blue	X-Z	-1.898	130°
3	Green	Y-Z	-0.233	300°

Peak Gain & Efficiency

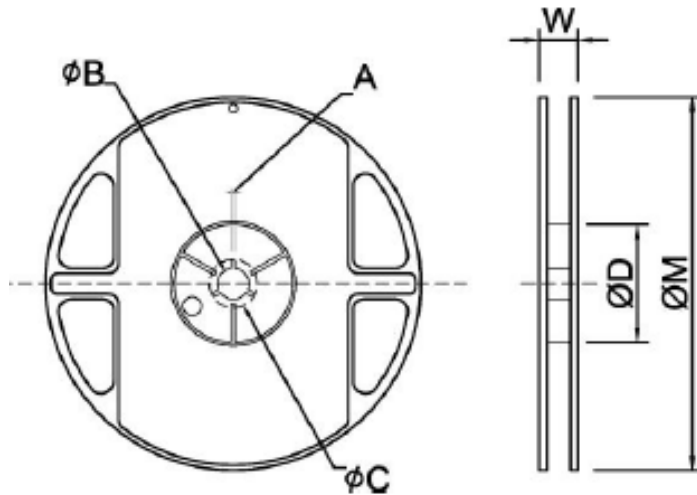


Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	1.31	30.37
2440	1.43	31.33
2480	0.84	28.91

2.4GHz 1608 Chip Antenna: AAN1608AP2G45ZT1

■ Appendix For SMD Chip Antenna

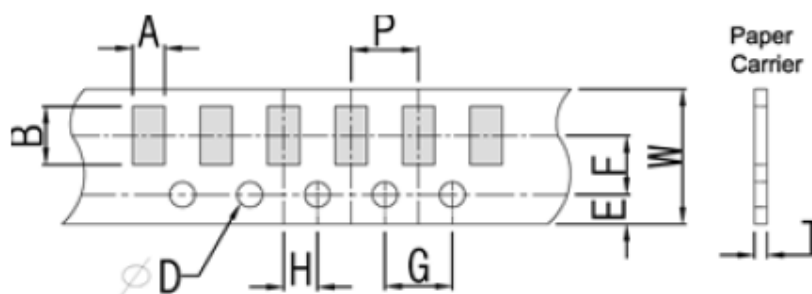
● Packaging Information



■ Dimension

TYPE	SIZE		A	ψB	ψC	ψD	W	ψM
1608	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



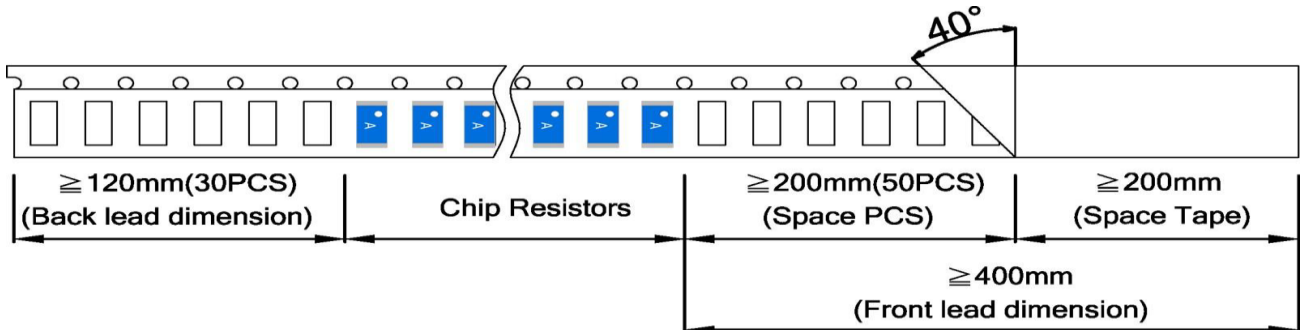
■ Dimension

Packaging	Type	A	B	W	E	F	G	H	T	ψD	P
Paper Type	1608	1.05 ± 0.2	1.80 ± 0.2	8.0 ± 0.2	1.75 ± 0.1	3.5 ± 0.05	4.0 ± 0.1	2.0 ± 0.05	0.60 ± 0.1	$1.50^{+0.10}_{-0}$	4.0 ± 0.1

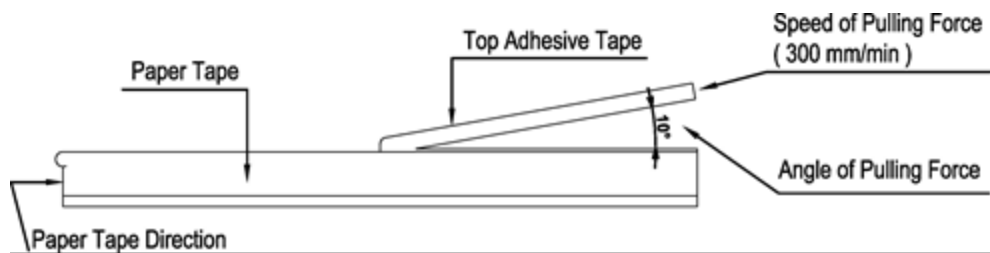
2.4GHz 1608 Chip Antenna: AAN1608AP2G45ZT1

Packing Material Data/Storage Data

■ Front & Back Lead Dimension

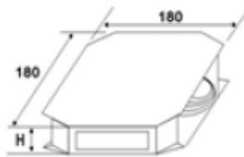


■ Top Adhesive Peel Off Strength : 10~70g

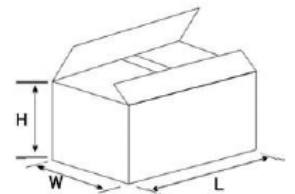


■ Package

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

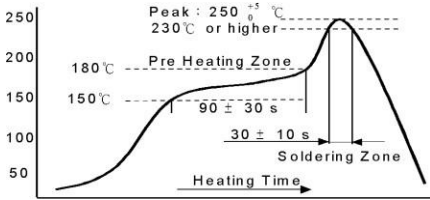


■ Storage Data :

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

2.4GHz 1608 Chip Antenna: AAN1608AP2G45ZT1

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
High Temperature 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>The graph shows a temperature profile for IR reflow. The y-axis is temperature in degrees Celsius (50 to 250), and the x-axis is heating time. Key points include: a pre-heating zone at 180°C, a heating zone reaching 150°C, a soldering zone peaking at 250 ± 5°C (with a note '230°C or higher'), and a cooling zone. Time intervals are marked as 90 ± 30 s for the heating phase and 30 ± 10 s for the soldering phase.</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