

WIFI 2.4/5GHz SMD Antenna

Part No. GA123416WL01

Product Specification



Dimension: 12mmx3.4mmx1.6mm

➤ Applications

- Smart phone
- Tablets
- Laptops
- Wireless dongles
- Automotive

➤ Features

- Designed for 2.4 GHz and 5GHz applications: Bluetooth, ZigBee, Wimax(2.3GHz and 2.5GHz) and Wi-Fi(802.11a/b/g/n).
- Linear Polarization
- Omni- Directional (*PCB dimension dependent*)
- Minimum PCB clearance
- Flexible placement on PCB edge
- SMD mounting
- Low Profile, miniature and light weight
- Tape and reel packaging
- RoHS Compliance

➤ Customer Services (Optional)

- EM Antenna Simulation for optimum placement of antenna on PCB.
- Lump Elements Matching for optimum antenna performance.
- Anechoic Chamber Measurement for antenna performance validation.

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The measurement results base on the reference board

ELECTRICAL		
Frequency	2.4 ~ 2.5 GHz	5.15 ~ 5.85 GHz
S11	< -6dB	< -10dB
VSWR	< 3:1	< 2:1
Peak Gain	2.1dBi	4.76dBi
Polarization	Linear	Linear
Impedance	50 Ohms	50 Ohms
Efficiency	60%	60%
Radiation Pattern	Omni	Omni
MECHANICAL		
Dimension	12mm x 3.4mm x 1.6 mm	
Weight	0.12g	
ENVIROMENTAL		
Temperature Range	-25°C to +80°C	
Humidity	65°C 95% RH	

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➤ Antenna Dimension

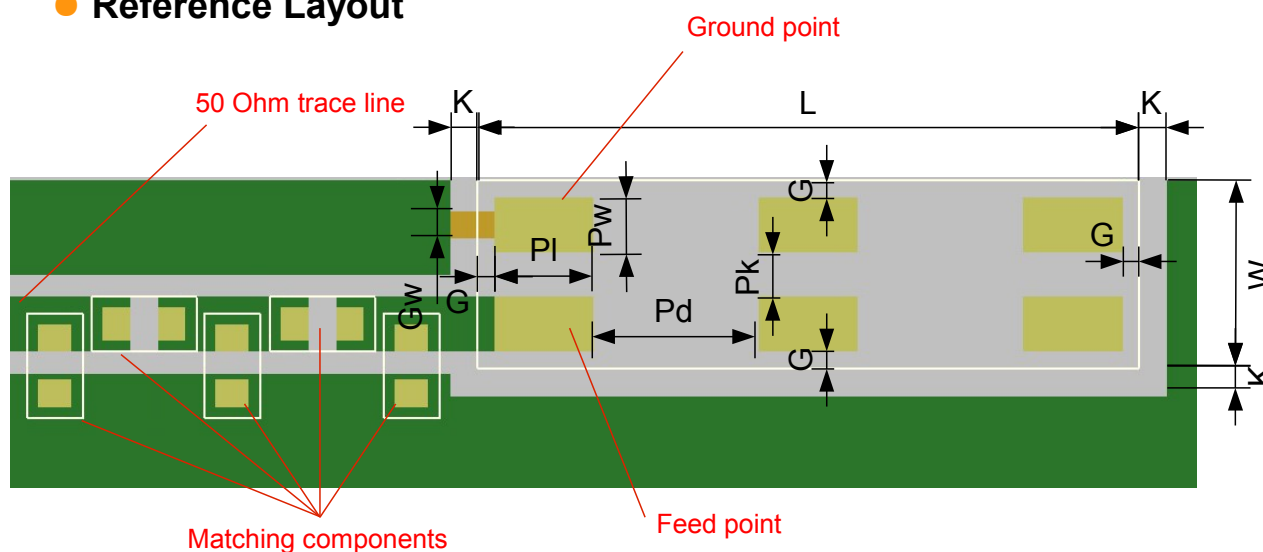
● Overview



L	W	H
12	3.4	1.6

Unit : mm
Tolerance: +/- 0.2mm

● Reference Layout



L	W	K	G	PI	Pw	Pd	Pk	Gw
12	3.4	0.5	0.3	1.8	1	3	0.8	0.5

Unit : mm
Tolerance: +/- 0.1mm

■ : PCB copper
■ : PCB dielectric
■ : Pads

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➤ Antenna Implementation Guidelines

● Transmission Line

- a) Design the transmission line with characteristic impedance of 50 Ohm to feed the antenna.
- b) Minimize the length of transmission line to reduce insertion loss.

● Lump Elements Matching Circuit

Placement of antenna, PCB dimension and components within the vicinity of antenna will affect the antenna response. Therefore, at least **FIVE** lump elements matching circuit **MUST** be reserved for antenna optimization purpose during PCB layout process.

Green Antenna provides optional matching and anechoic chamber measurement services on request. Please contact ga@green-antenna.com for further information.

● Antenna PCB Placement

To achieve optimum antenna performance, the antenna is recommended to place on the edge of PCB.

Green Antenna provides optional EM simulation service to locate the optimum placement of antenna on customer device or bare PCB board. Please contact ga@green-antenna.com for further information.

● Soldering and SMT Re-flow

The re-flow profile should be consider the following conditions:

- a) The maximum re-flow temperature should not exceed 240 °C
- b) The maximum temperature of 255 °C for less than 20 seconds is allowed during lead free soldering.

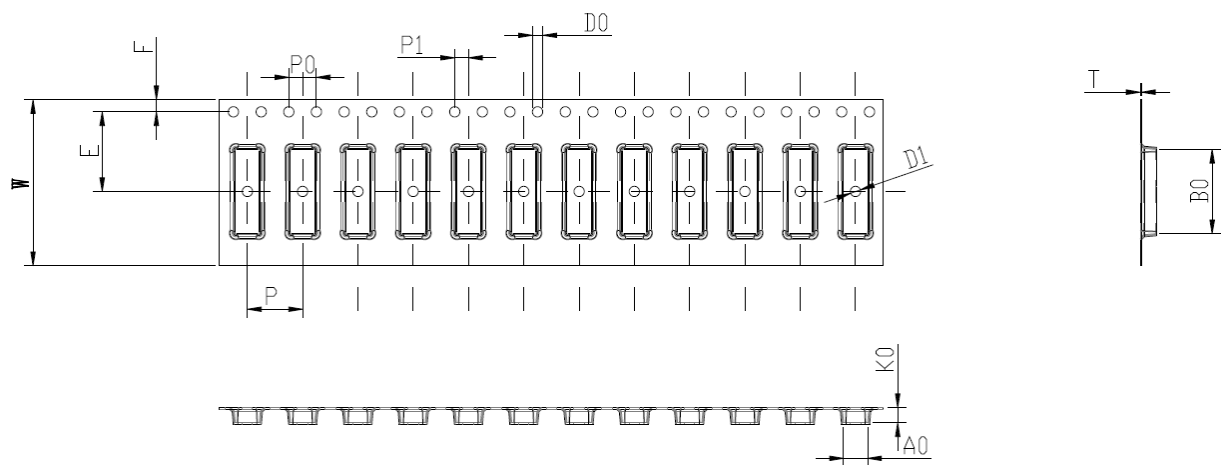
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Tape Characteristics



W	E	F	P	P0	P1	D0	D1	A0
24.0±0.3	11.5±0.1	1.75±0.1	8.0±0.1	4.0±0.1	2.0±0.1	1.5±0.1	1.5±0.1	3.5±0.1

Unit : mm

K0	T	B0
2.2±0.1	0.3±0.05	12.2±0.1

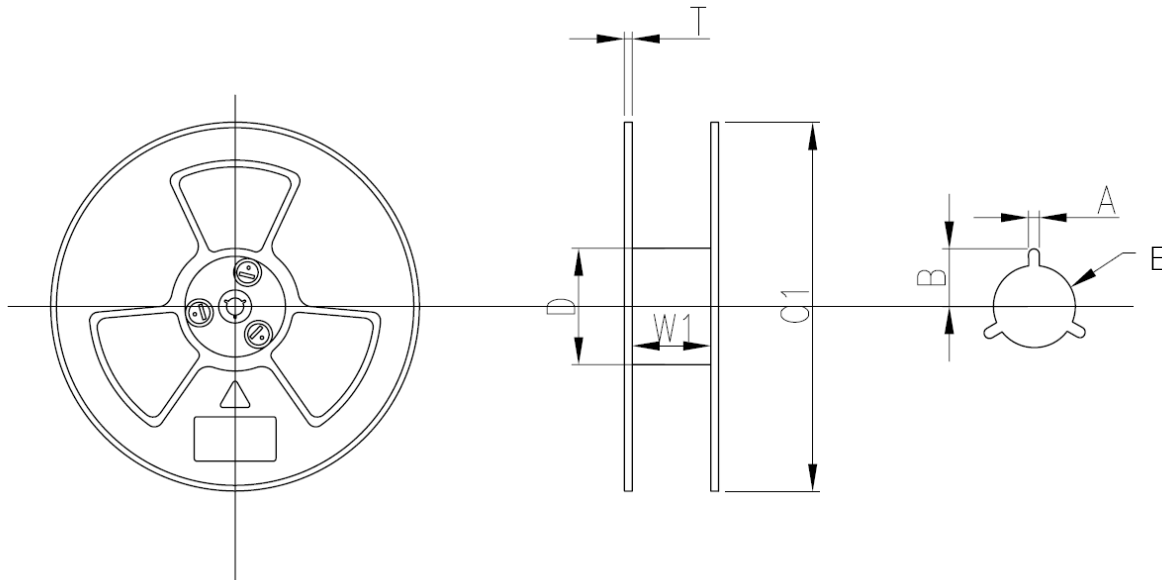
Quantity	3000 pcs/reel
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➤ Reel Dimensions



W1	D	T	C1	A	B	E
24.4±2.0	99.5±2.0	2.2±0.3	330±1.0	2.3±0.3	10.75±0.3	13.0±0.5

Unit : mm

➤ Reel Label



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Website: www.green-antenna.com

Description: WIFI 2.4/5GHz

Part Number: GA123416WL01

Qty: 3000 pcs

Date Code:

Manufacturers code number:

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GA keeps improving products, specification subject to revise without notice.

Rev 1.2