

Cub 2.4GHz SMD Antenna

Part No. GA123416BL02

Product Specification



Dimension: 12mmx3.4mmx1.6mm

➤ Applications

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

➤ Features

- Designed for 2.4 GHz applications: Bluetooth, Wi-Fi (802.11b/g), ZigBee, Wimax(2.3GHz and 2.5GHz) and etc.
- High efficiency (76%)
- 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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➤ Specification

ELECTRICAL	
Frequency	2.4 ~ 2.5 GHz
S11	< -11dB
VSWR	< 1.8:1
Peak Gain	2.28 dBi
Polarization	Linear
Impedance	50 Ohms
Efficiency	76%
Radiation Pattern	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

Note:

Lump elements matching circuit might require for optimum performance, especially Wimax 2.3GHz band.

GA STANDARD ANTENNA

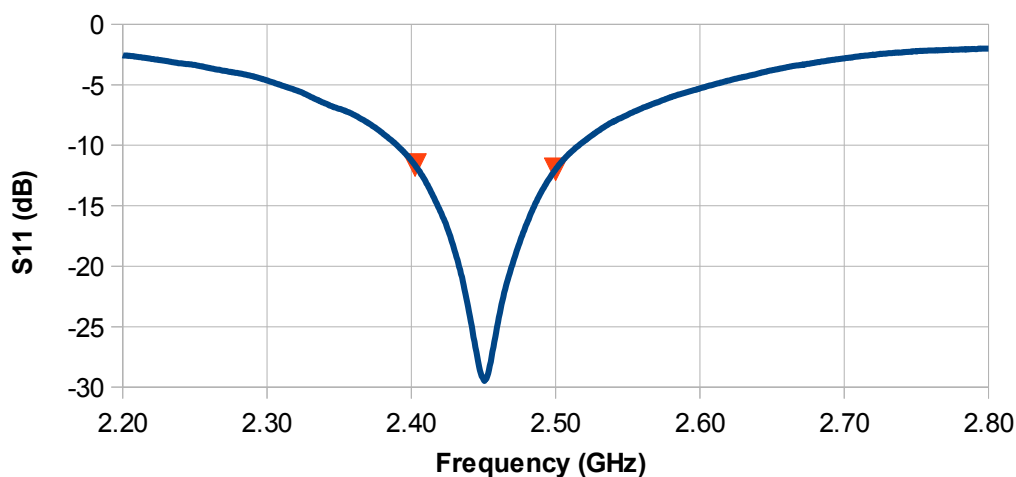
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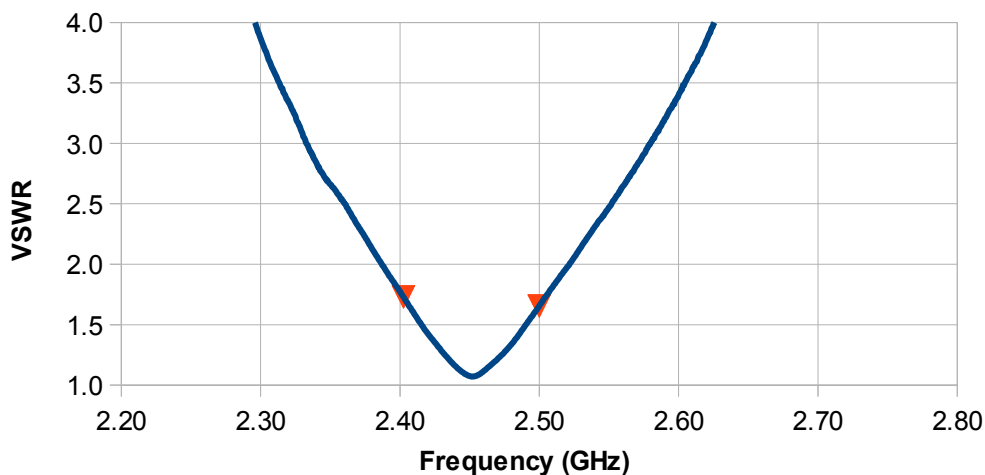
➤ Antenna Performance with CUB_RB6020T1 Reference Board

	Performance	Conditions
Peak Gain	2.28 dBi	All results measured from frequency range 2.4GHz to 2.5GHz on 60 x 20 mm reference board, Part NO.: CUB_RB6020T1 *antenna efficiency without loss of transmission line
Average 3D Gain	-1.19dBi	
*Average Efficiency	76%	
S11	< -11dB	
VSWR	< 1.8:1	

● Return Loss with CUB RB6020T1 Reference Board



● VSWR with CUB RB6020T1 Reference Board



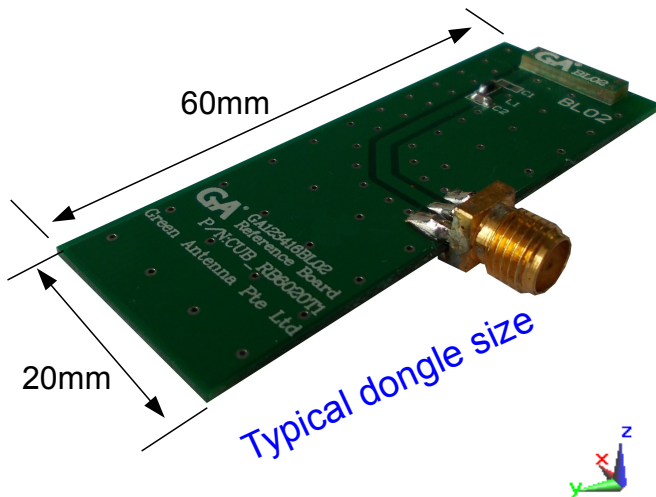
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Design & Solution

● Performance with reference board (CUB_RB6020T1)



RADIATION PATTERN

2441MHz

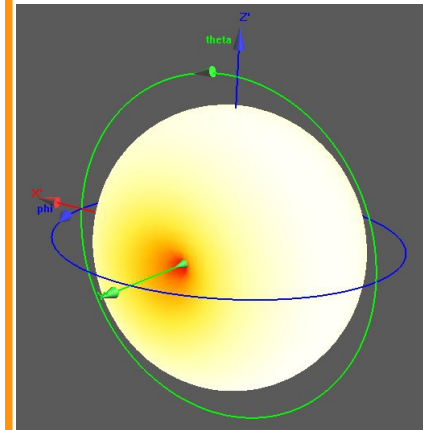


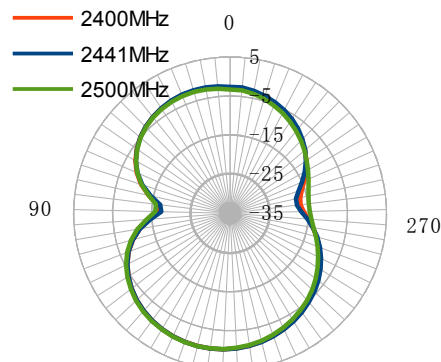
Figure 1, Antenna on reference board

Board Part NO.: CUB_RB6020T1

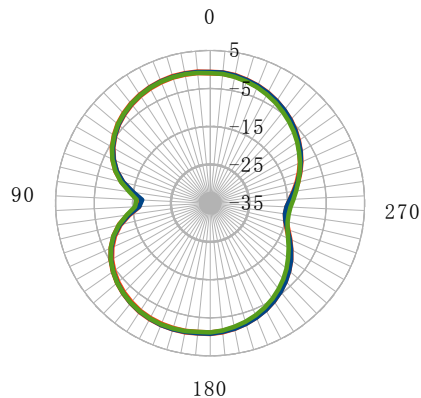
Antenna Placement: Top

2D PLOT

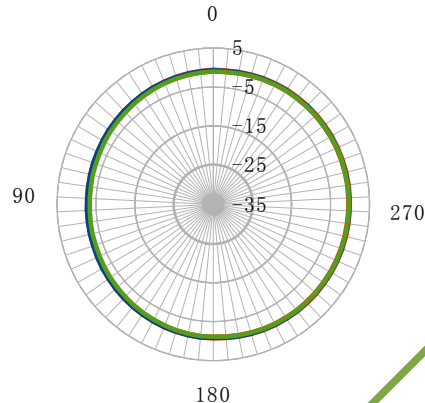
XY Plane



YZ Plane



XZ Plane



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Antenna Dimension

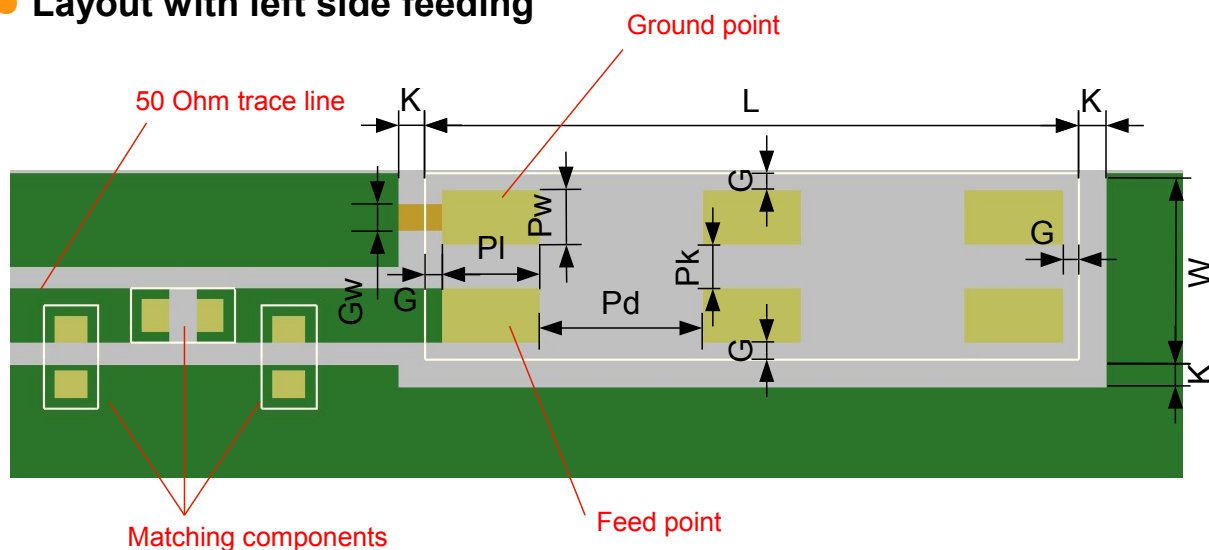
Overview



L	W	H
12	3.4	1.6

Unit : mm
Tolerance: +/- 0.2mm

Layout with left side feeding



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

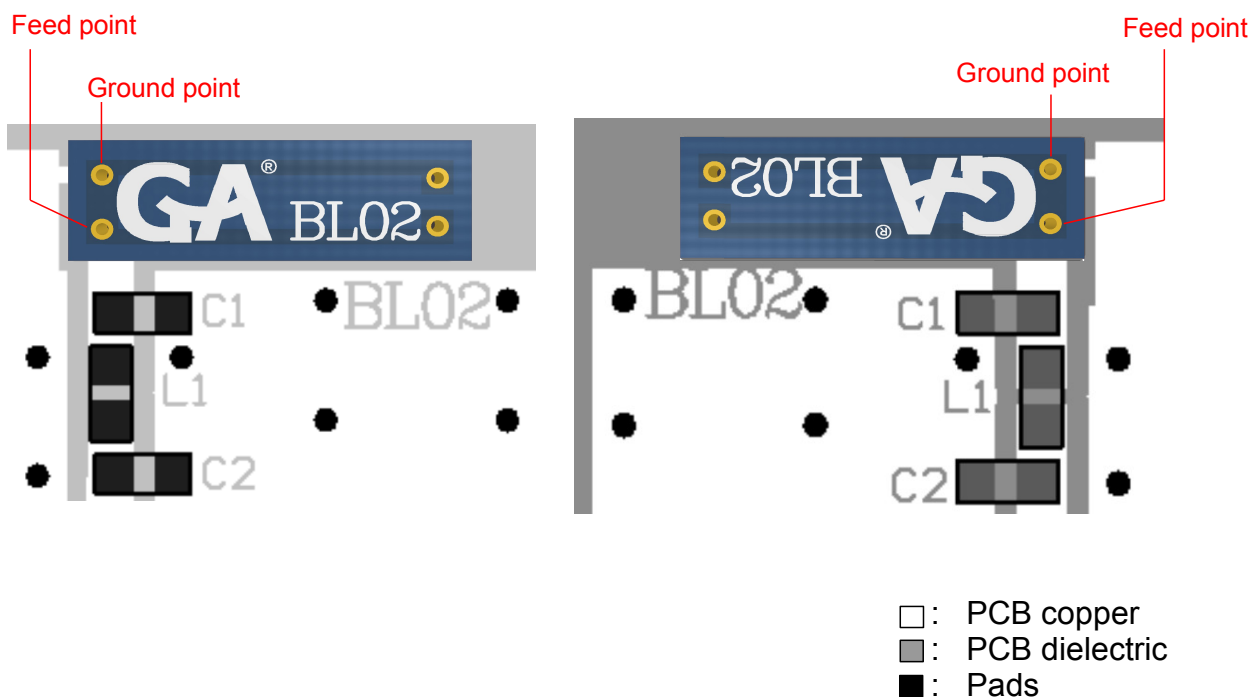
■ : PCB copper
■ : PCB dielectric
■ : Pads

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● Antenna Orientation Flexibility

Cub Antenna can be implemented on the PCB either right side feeding or left side feeding by rotating it 180 degrees. Please implement the antenna placement and orientation as below drawings.



● Soldering and SMT Re-flow

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

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

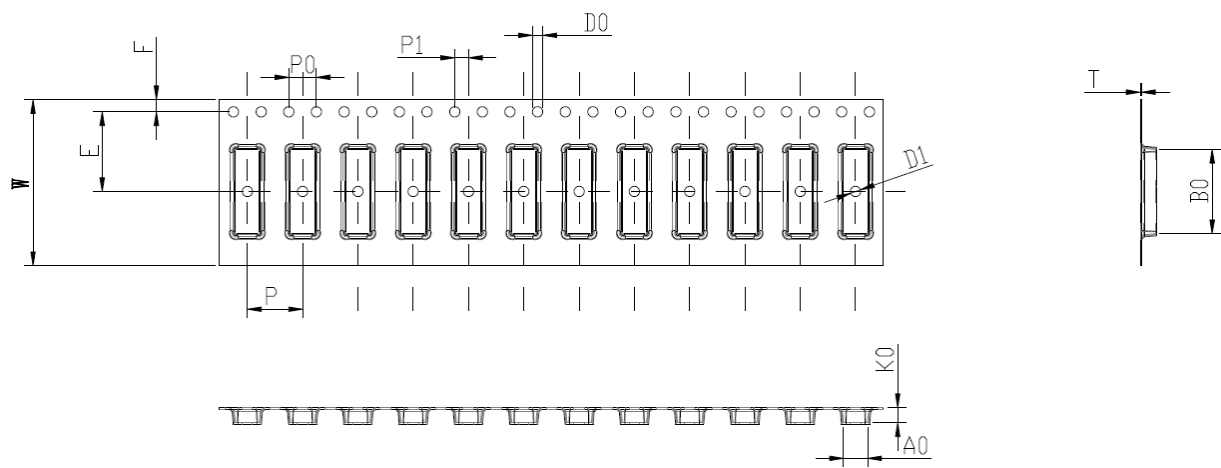
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GA STANDARD ANTENNA

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

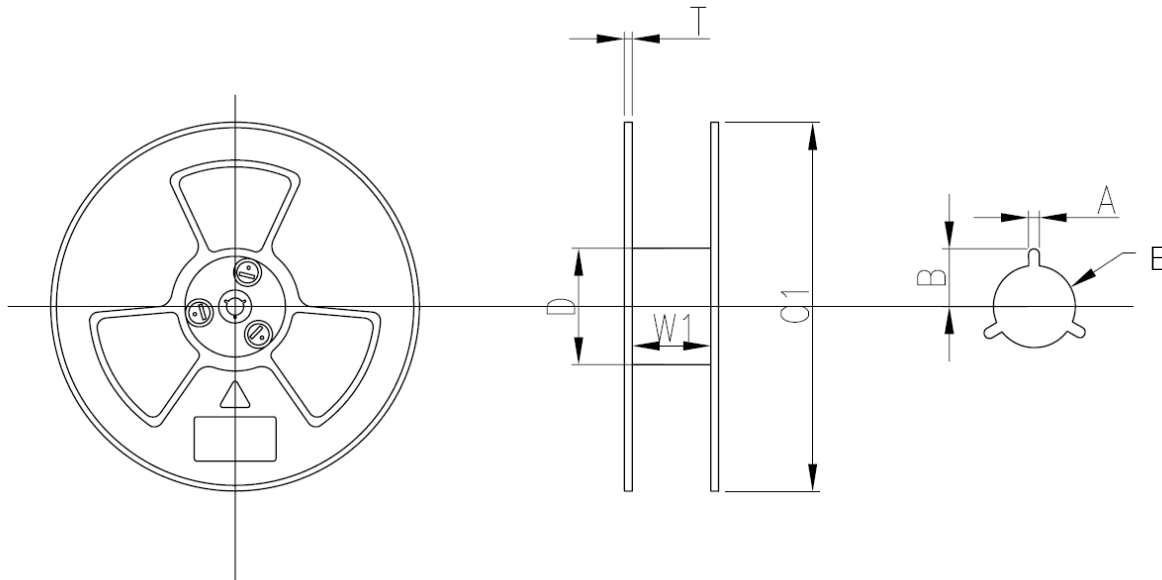
K0	T	B0
2.2±0.1	0.3±0.05	12.2±0.1

Quantity	2500 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: Cub

Part Number: GA123416BL02

Qty: 2500 pcs

Date Code:

Manufacturers code number: