2.4GHz Chip Antenna

1. Explanation of Product Number

R A 0 0 L P F A 0 0 M A 0 0 0 (1) (2) (3) (4) (5) (6)



※ The direction of white dot forwards to feed point

Product Code:

(1) Dimensions:

00: 5.0x2.0x1.0(mm)

(2) Polarization:

L: Linear Polarization

(3) Product categories:

PF: Polymer Substrate

(4) Working frequency:

A: 2400~2500MHz

(5) Applications::

00: WiFi IEEE802.11 b/g / Bluetooth / ZigBee

(6) Antenna series:

MA000: serial number

		NO.		Α
TITLE:2.4GHz Chi	4GHz Chip Antenna DOCUMENT RA00LPFA00MA000		REV.	
Designed By :Jason	Approved By :Allen	CIRCUMSTANCES WITHOUT WRITTEN PERMISSION		
Prepared By : Helen	Checked By :Jeff	THIS SPECIFICATION IS THE PROPERTY OF RIFO TECHNOLOG CORPORATION AND SHALL NOT BE REPRODUCED OR USED IN A		
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2. Features

- *Stable and reliable in performances
- *Compact size
- *RoHS compliance
- *Low temperature coefficient of frequency
- *SMD type

3. Applications

*WiFi IEEE802.11 b/g / Bluetooth / ZigBee

*2.4HGz Wireless Devices

4. Description

RIFO's chip antenna series are specially designed for 2.4GHz band application. Based on RIFO's proprietary designs and processes, this chip antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications

No	Item	SPEC.	Unit
1	Dimensions (LxWxH)	5.0*2.0*1.0	mm
2	Operating Frequency Range	2.4~2.5	GHz
3	VSWR	2 max.	
4	Impedance	50	Ω
5	Polarization	Linear	
6	Peak gain	3.2	dBi
7	Efficiency	61	%
8	Operating Temperature	-40~85	$^{\circ}\mathbb{C}$

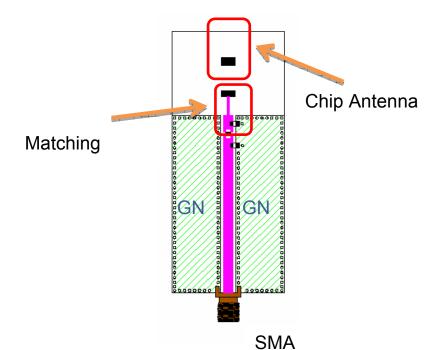
^{*}The antenna performance is measured on 40*20mm test Board.

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^{*}Center frequency will be offset to operating frequency according to the conditions of user's ground plane and radome.

6. PCB Design for Measurement

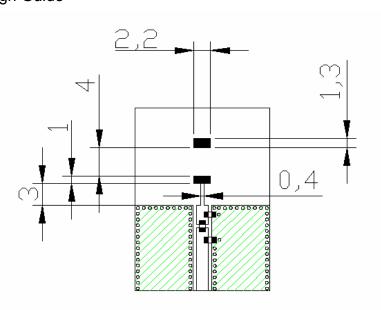
6.1 Test Board Dimension



Connector

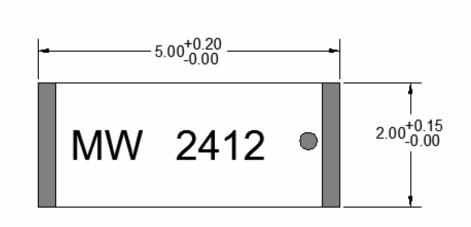
- ★ Test Board size is 40*20mm
- ☆ Ground plane size is 30*20mm

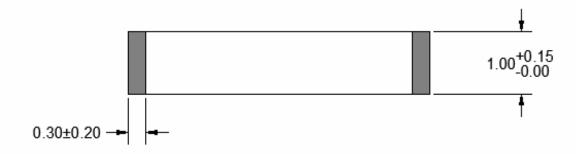
6.2 PCB Design Guide



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		NO.		Α

7. Antenna Dimensions (unit: mm)

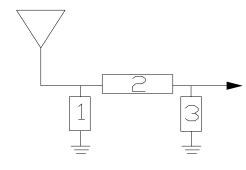




8. Measurement Result

8.1 Matching circuit



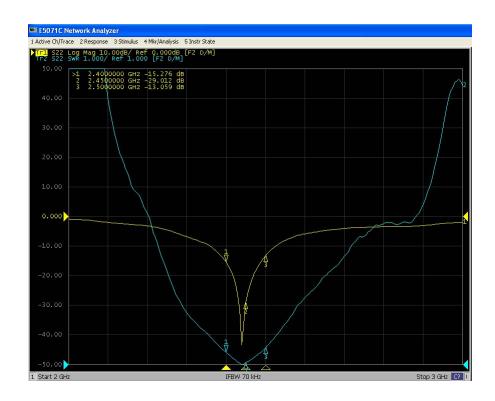


System Matching Circuit Component			
Location	Description	Vendor	
Antenna	502010	MW	
1	NC		
2	2.7nH	0402 TDK	
3	1.2pf	0402TDK	

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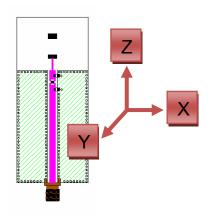
8.2 Return Loss (S11 / VSWR)

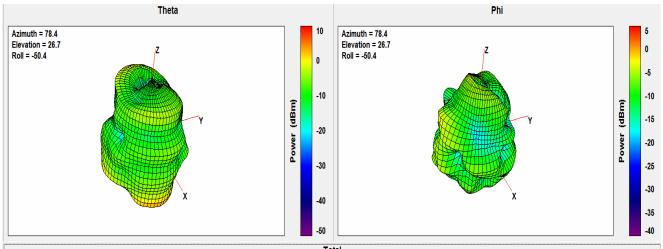


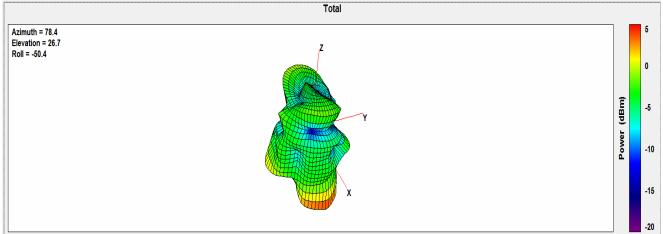
	2.4GHz	2.45GHz	2.5GHz
S11(dB)	-16	-29	-14
VSWR	1.4	1.1	1.5

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9. Radiation Pattern(@2450MHz)





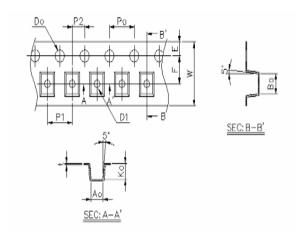


	X-Y plane	Y-Z plane	X-Z plane
Avg. gain(dBi)	-2.95	-0.61	-2.03
Peak gain(dBi)	1.43	3.52	2.18

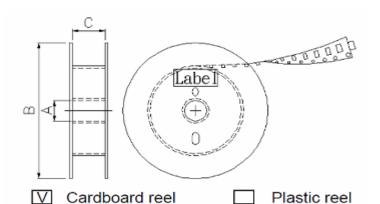
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10. Package

5.1 Dimension (Unit: mm)



5.2 Reel & Packing Specification



Item	Specifications	Tolerance
		s
W	12.00	±0.20
E	1.75	± 0.10
F	5.50	± 0.05
D0	1.50	+0.10, -0
D1	1.50	± 0.10
P0	4.00	± 0.05
P1	4.00	± 0.10
P2	2.00	± 0.05
P0 x 10	40.00	± 0.20
t	0.25	± 0.05
A0	2.20	± 0.10
В0	5.10	± 0.10
K0	1.40	± 0.10

Product code: 1101 - Polycarbonate natural transparent. 1201 - Polycarbonate conductive black. Surface resistivity 10E4 to E6 ohm/sq.
 Reel Dimensions

 A
 77
 mm

 B
 560
 mm

 C
 96
 mm

 Packing

	T woming	
Length / Roll	700	meters
Each Carton	3	rolls
~	D: : /	

Carton Dimension (mm)
V 575(L)*345(W)*585(H)

Tolerances (Unless otherwise specified)			
X: ± 1	X.X: ± 0.1	X.XX: ± 0.01	
Angle : ±	Hole Dia. : ±		
Scale :		Unit: mm	
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