

50 x 5.0 x 0.5 (mm) WiFi PCB Substrate Antenna (L=50mm)

Engineering Specification

1. Explanation of Product Number

<u>H</u>	<u>2</u>	<u>B</u>	<u>1</u>	<u>B</u>	<u>E</u>	<u>1</u>	<u>A</u>	<u>1</u>	<u>B</u>	<u>1</u>	<u>3</u>	<u>0</u>	<u>0</u>
(1)				(2)		(3)	(4)		(5)				



Product Code:

(1) Product Categories:

B: polymer substrate antenna

(2) Dimensions:

E1: 50 x 5.0 x 0.5(mm)

(3) Material:

A: GF

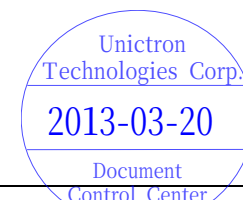
(4) Working Frequencies

1B: 2400~2500 MHz

(5) Antenna Series:

13: serial number

(IPEX I Compatible, L=50mm, Tape: 3M#1600SB)



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Prepared by : Nacy	Designed by : Jason	Checked by : Jason	Approved by : Herbert	UNIT : mm
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2. Features

- *Stable and reliable in performances
- *Compact size
- *RoHS compliance

3. Applications

- * IEEE802.11 (b/g/n).
- * Hand-held devices when WiFi (802.11 b/g/n) functions are needed.

4. Description

Unictron's PCB antenna series are specially designed for WiFi (802.11 b/g/n) applications. Based on Unictron's proprietary design and processes, this PCB antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications

5-1. Electrical Table:

Characteristics		Specifications	Unit
Outline Dimensions		50 x 5.0 x 0.5	mm
Working Frequency*		2400~2500	MHz
Bandwidth		100 min.	MHz
VSWR		2 max.	
Impedance		50	Ω
Polarization		Linear Polarization	
Gain	Peak	3.3 (typical)	dBi
	Efficiency	76 (typical)	%

Note :

- * Working frequency will be offset to another frequency according to the conditions of user's ground plane and radome.



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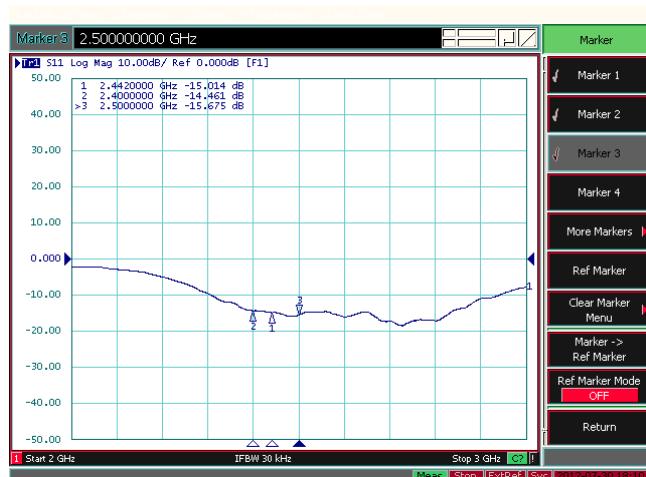
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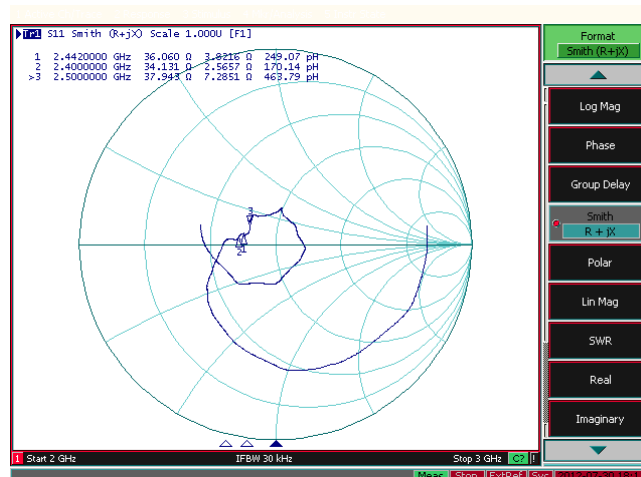
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5-2. Return Loss & Smith Chart

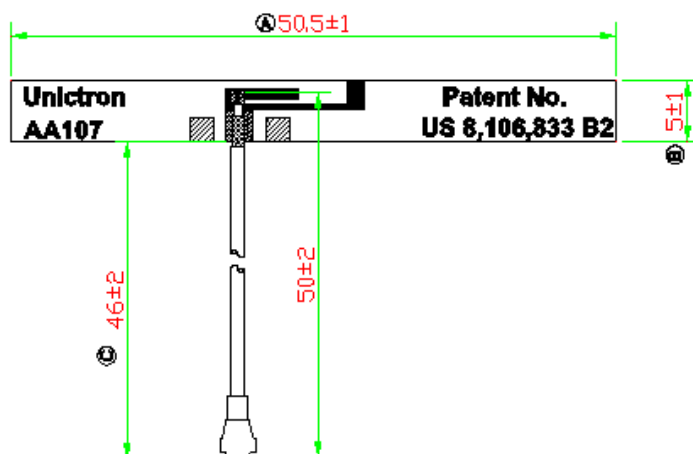
Return Loss (S_{11})



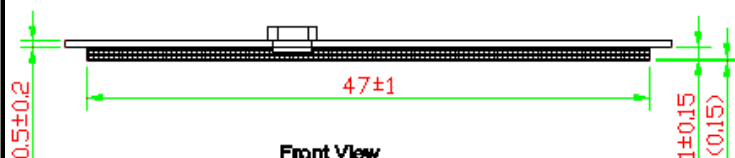
Smith Chart (S_{11})



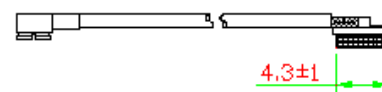
6. Antenna Dimensions : (unit: mm)



Top View



Front View



Side View



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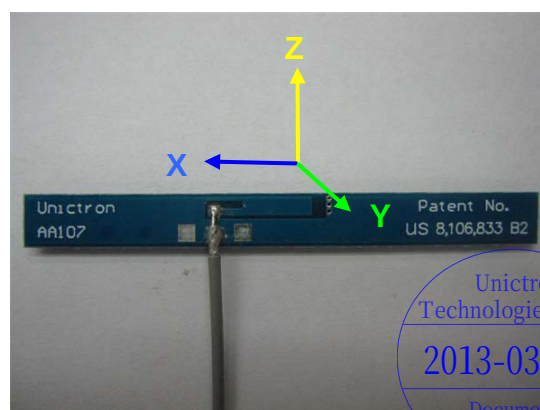
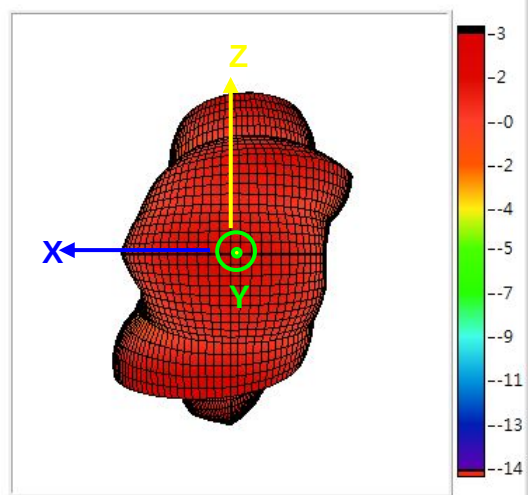
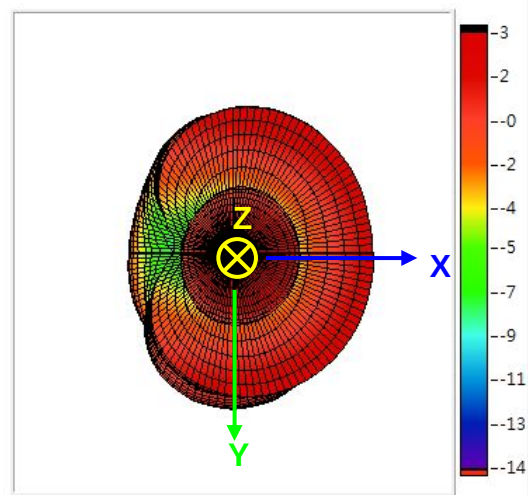
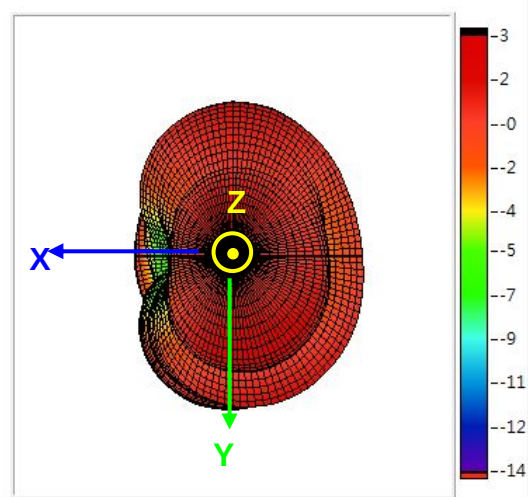
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7. Radiation Pattern

7-1. 3D Gain Pattern (Radiation Pattern @ 2442 MHz)



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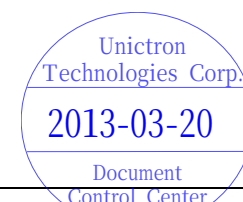
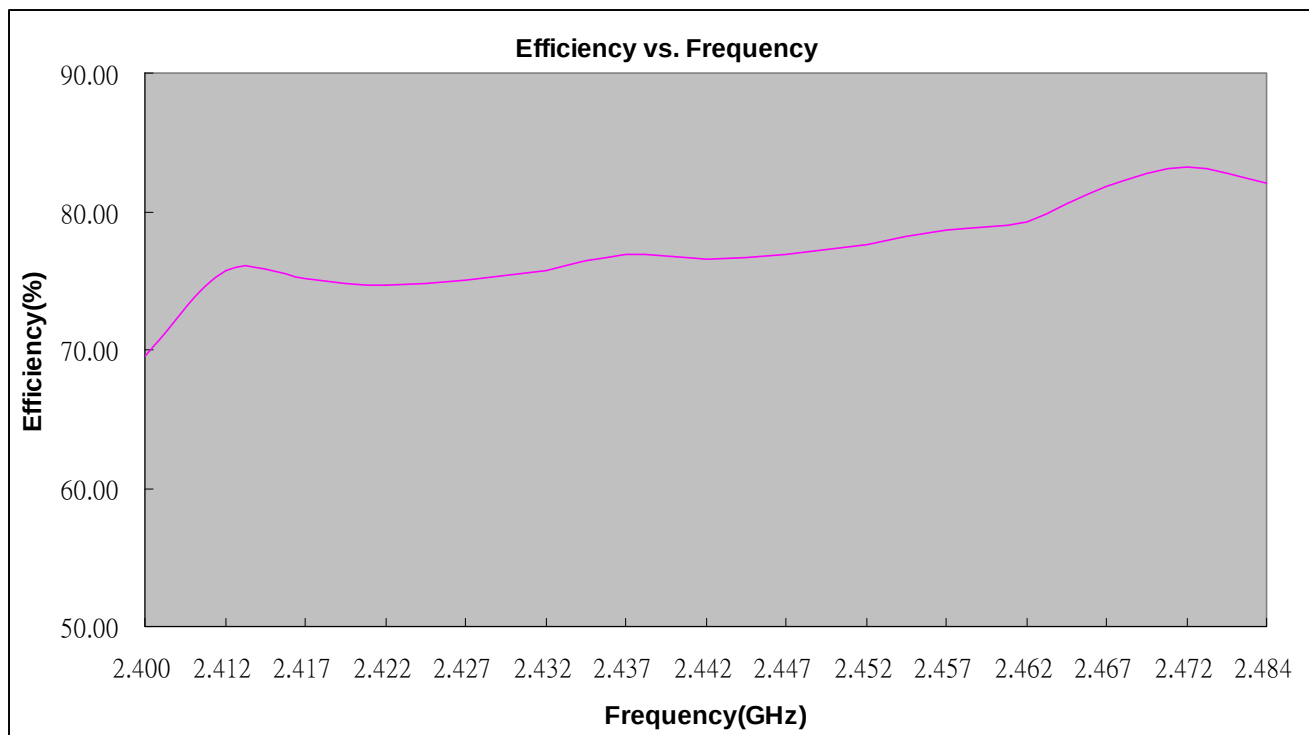
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7-2. 3D Efficiency Table

Frequency(GHz)	2.400	2.412	2.417	2.422	2.427	2.432	2.437	2.442	2.447	2.452	2.457	2.462	2.467	2.472	2.484
Efficiency(dB)	-1.58	-1.21	-1.24	-1.27	-1.25	-1.21	-1.14	-1.16	-1.14	-1.10	-1.04	-1.01	-0.87	-0.80	-0.86
Efficiency(%)	69.50	75.68	75.16	74.64	74.99	75.68	76.91	76.56	76.91	77.62	78.70	79.25	81.85	83.18	82.04
Gain(dBi)	2.81	3.20	3.18	3.17	3.21	3.22	3.35	3.39	3.48	3.60	3.66	3.73	4.02	4.13	4.06

7-3. 3D Efficiency vs. Frequency



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