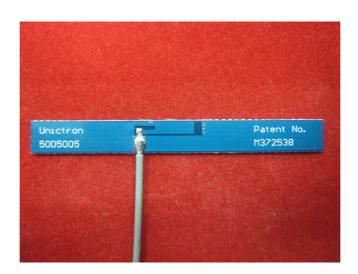
## 50 x 5.0 x 0.5 WiFi PCB Substrate Antenna(AA107)

## 1. Explanation of Product Number

H 2 B 1 B E 1 A 1 B 0 2 0 0 (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: 2400~2500MHz

(6) Antenna Series:

02: serial number

Tolerances (Unless other X: ± 1 X.X: ± 0.1 Angle: ±	• •	Unictron Technologies Corpor Website: www.unictron.co				
Scale :	Unit: mm	THIS SPECIFICAT	TION IS THE PROPERTY OF	UNICTRON		
Prepared By : Meiping Checked By :Chinling		TECHNOLOGIES CORPORATION AND SHALL NOT BE REPRODUCED				
Designed By : Mike	Approved By :Herbert	OR USED IN ALL CIRCUMSTANCES WITHOUT WRITTEN PERMISSION				
TITLE: 50 x 5.0 x 0.5 WiFi PCB		DOCUMENT H2B1BE1A1B0200		REV.		
Substrate Antenna(AA107)		NO.	112B1BE1A1B0200	В		

## 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.

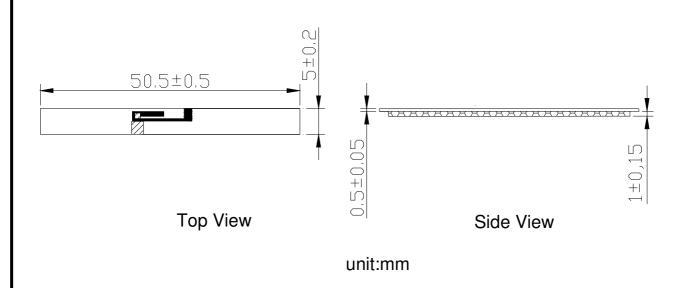
Characteristics		Specifications	Unit
Outline Dimensions		50 x 5.0 x 0.5	mm
Center Frequence	су	2442	MHz
Bandwidth		100 min.	MHz
VSWR		2 max.	
Impedance		50	Ω
Polarization		Linear Polarization	
Gain	Peak	3.3 (typical)	dBi
Gaiii	Efficiency	76 (typical)	%

Tolerances (Unless otherwise specified) $X: \pm 1$ $X.X: \pm 0.1$ $X.XX: \pm 0.01$ Angle: $\pm$ Hole Dia.: $\pm$		Unictr Technologies	Unictron Technologies Co Website: www.unictro	Unictron Technologies Corporation Website: www.unictron.com			
Scale :	Unit: mm	THIS SPECIFICA	TION IS THE PROPERTY OF	UNICTRON			
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Substrate A	ntenna(AA107)	NO.	TIED I DE TATEOLOG	В			

# 5-2. Return Loss(S<sub>11</sub>) 1 2.400000 det 18.987 de 40.000 det 18.987 de 3 2.500000 det 22.784 de 3 2.500000 det 22.784 de 5 2.894836 det 10.000 de 5 2.894836 det 10.000 de 5 2.894836 det 10.000 de 3 0.00

## Smith Chart(S<sub>11</sub>) | 1 2.4000000 GHz 46.707 0 10.422 0 694:111 FH | 2 2.4000000 GHz 46.707 0 10.422 0 694:111 FH | 2 2.4000000 GHz 46.374 0 6 1.677.4 996.05 FH | 2 2.8100000 GHz 46.374 0 6 1.677.4 996.05 FH | 2 2.810000 GHz 46.374 0 6 1.974.8 996.05 FH | 2 2.810000 GHz 46.374 0 6 1.974.8 996.05 FH | 2 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 35.134 0 1.9312 GHz | 3 2.895433 GHz 60.669 0 1.9312 GHz | 3 2.89543 GHz 60.669 0 1.9

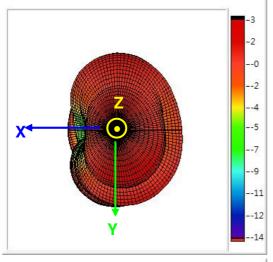
## **6.** Antenna Dimensions (unit: mm)

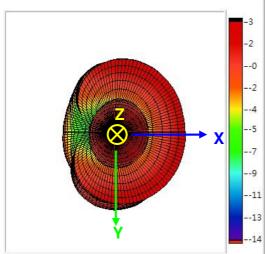


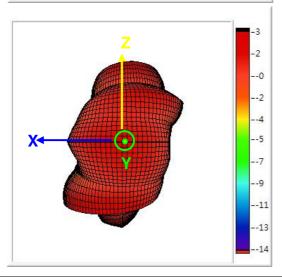
Tolerances (Unless oth X: ± 1 X.X: ± 0 Angle: ±	• •	Unictron Technologies Corporation Website: www.unictron.com					
Scale :	Unit: mm	TILLO ODECLEIOA	TION IS THE PROPERTY OF	LINICTRON			
Prepared By : Meiping	Checked By :Chinling	THIS SPECIFICATION IS THE PROPERTY OF UNICTRON TECHNOLOGIES CORPORATION AND SHALL NOT BE REPRODUCED					
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TITLE: 50 x 5.0 x 0	-	DOCUMENT	H2B1BE1A1B0200	REV.			
Substrate A	Antenna(AA107)	NO					

## 7. Radiation Pattern

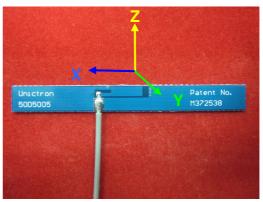
7-1. 3D Gain Pattern (Radiation Pattern at 2442 MHz)







**Substrate Antenna(AA107)** 



Tolerances (Unless other X: ± 1 X.X: ± 0.  Angle: ±	• •	Unictr Technologies	Unictron Technologies C Website: www.unictro	•
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TITLE: 50 x 5.0 x 0.	5 WiFi PCB	DOCUMENT	H2B1BE1A1B0200	REV.
Cubatrata A	ntonno/		112D1DL1A1D0200	

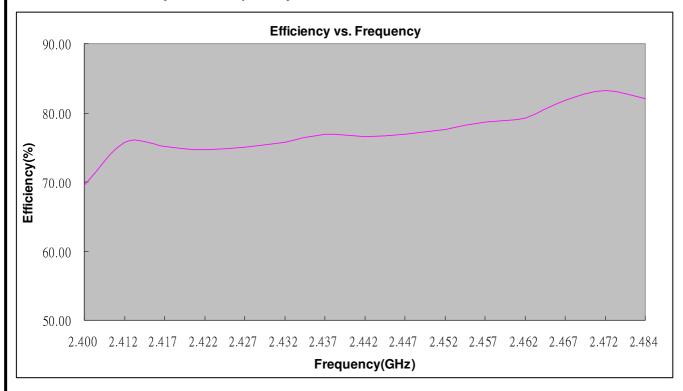
NO.

В

## 7-2. 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. Efficiency vs. Frequency



Tolerances (Unless oth X: ± 1 X.X: ± 0 Angle: ±	• '	Unictron Technologies Corporat Website: www.unictron.com					
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TITLE: 50 x 5.0 x 0		DOCUMENT H2B1BE1A1B0200		REV.			
Substrate A	Intenna(AA107)	NO.		В			