

# 30.0 x 5.0 x 0.5 (mm) WiFi PCB Substrate Antenna (AA273) Engineering Specification

## 1. Explanation of Product Number

H	2	B	1	B	C	2	A	1	B	2	2	5	L
				(1)		(2)		(3)		(4)		(5)	



Product Code:

(1) Product Applications:

B: WiFi Antenna

(2) Dimensions:

C2: 30.0 x 5.0 x 0.5(mm)

(3) Material:

A: GF

(4) Working Frequencies:

1B: 2400~2484 MHz

(5) Antenna Series:

22: serial number



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Website: www.unictron.com

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Prepared by : **Xenia**

Designed by : **Sam**

Checked by : **Chinling**

Approved by : **Herbert**



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**DOCUMENT NO.**

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**REV. A**

## 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. Operating Condition:

Temperature	-10 to +85 °C	(With double-sided tape)
	- 40 to +85 °C	(Without double-sided tape)
Humidity	10 to 95% RH	

## 6. Storage Condition:

Temperature	-10 to +85 °C	(With double-sided tape)
	- 40 to +85 °C	(Without double-sided tape)
Humidity	10 to 95% RH	

## 7. Electrical Specifications (Antenna on the plastic housing)

### 7-1. 2400~2484 MHz Band

Characteristics		Specifications	Unit
Outline Dimensions		30.0 x 5.0 x 0.5	mm
Working Frequency		2400~2484	MHz
Bandwidth		84Min (typical)	MHz
VSWR(@Center Frequency)*		2Max (typical)	
Impedance		50	Ω
Polarization		Linear Polarization	
Peak Gain	(@ 2442 MHz)	3.3 (typical)	dBi
Efficiency		79.3 (typical)	%

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



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2017-04-14

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Control Center

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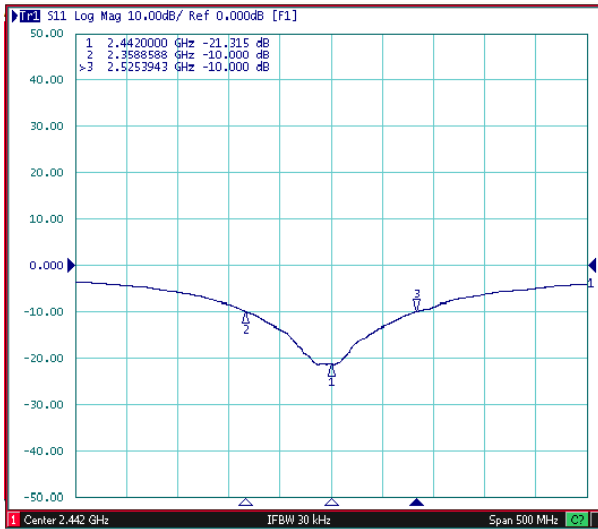
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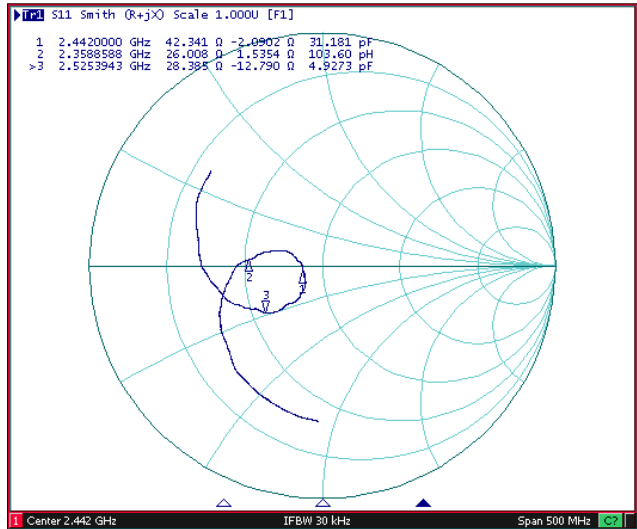
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## 7-2. Return Loss & Smith Chart

Return Loss



Smith Chart



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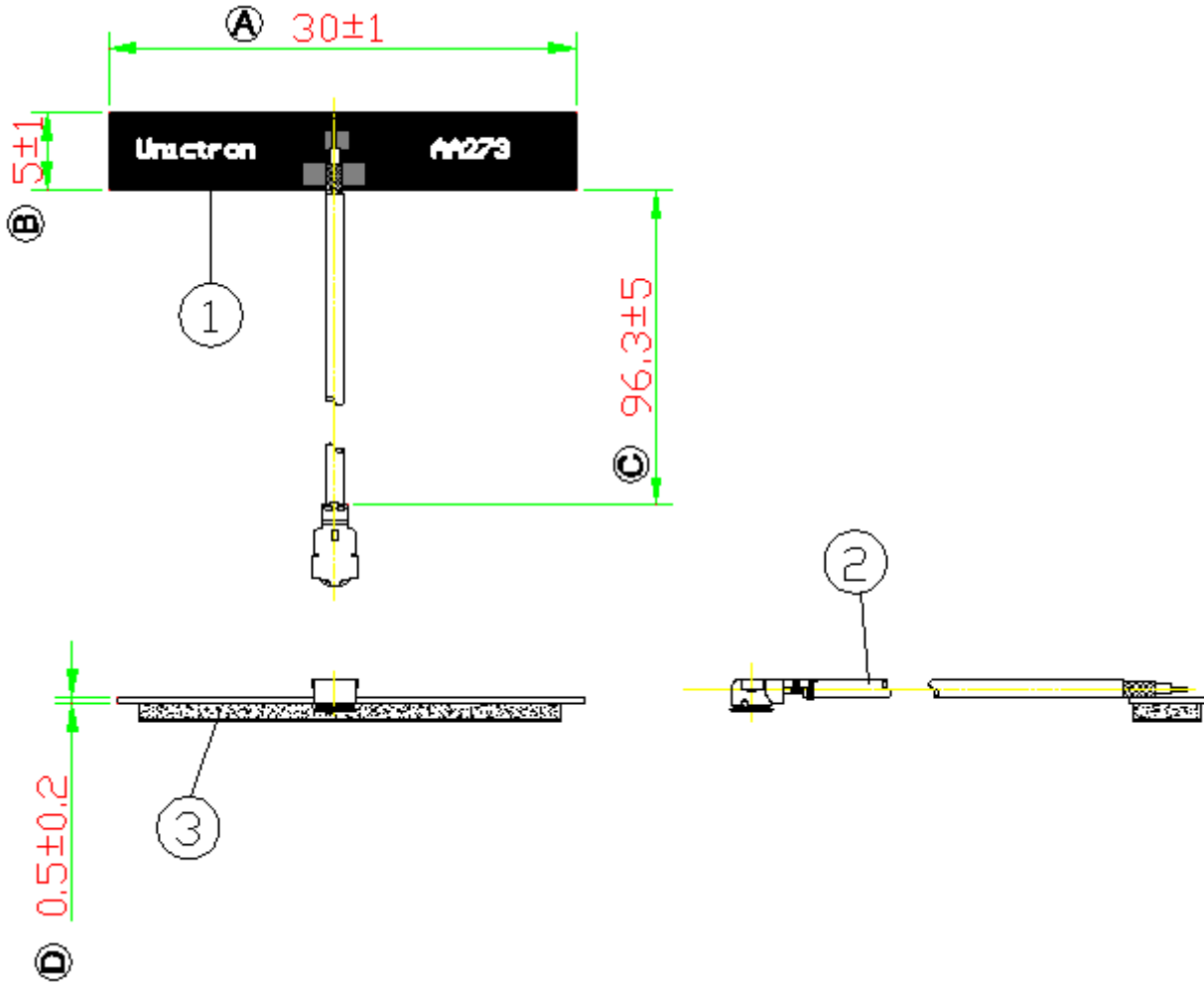
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8. Dimensions of PCB antenna with cable (unit: mm)



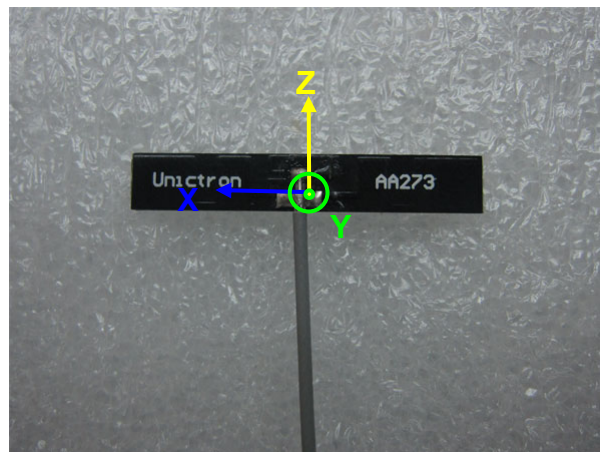
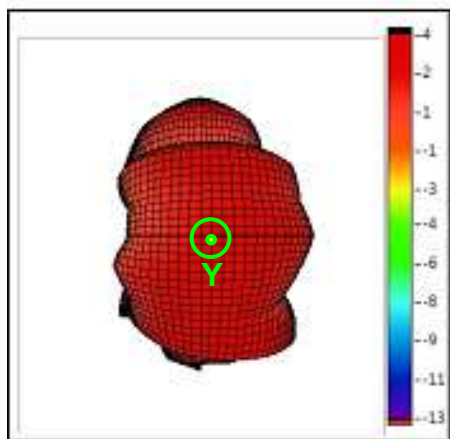
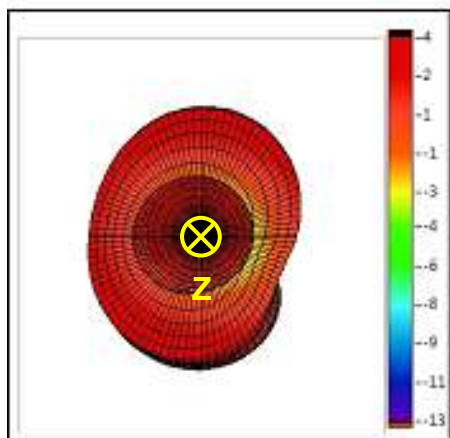
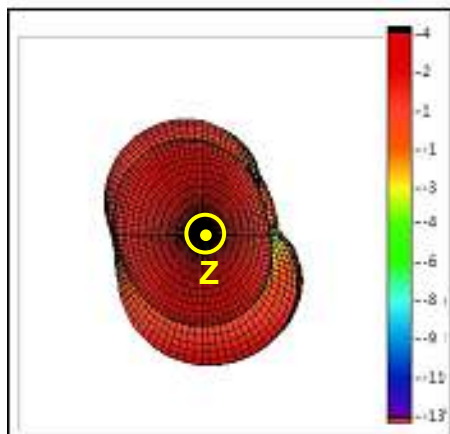
NOTE:  
 1.All materials are RoHS compliant.  
 2."A~D" Critical Dimensions.  
 3."( )" Reference Dimensions.

Item	Name	Material	Color	Q'ty
1	AA273_PCB	FR4	Black	1
2	I-PEX Connector (MHF I)_ Cable1.13mm	FEP	Gray	1
3	Adhesive	PE	Black	1

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## 9. Radiation Pattern

9-1.3D Gain Pattern @ 2442 MHz (unit: dBi)



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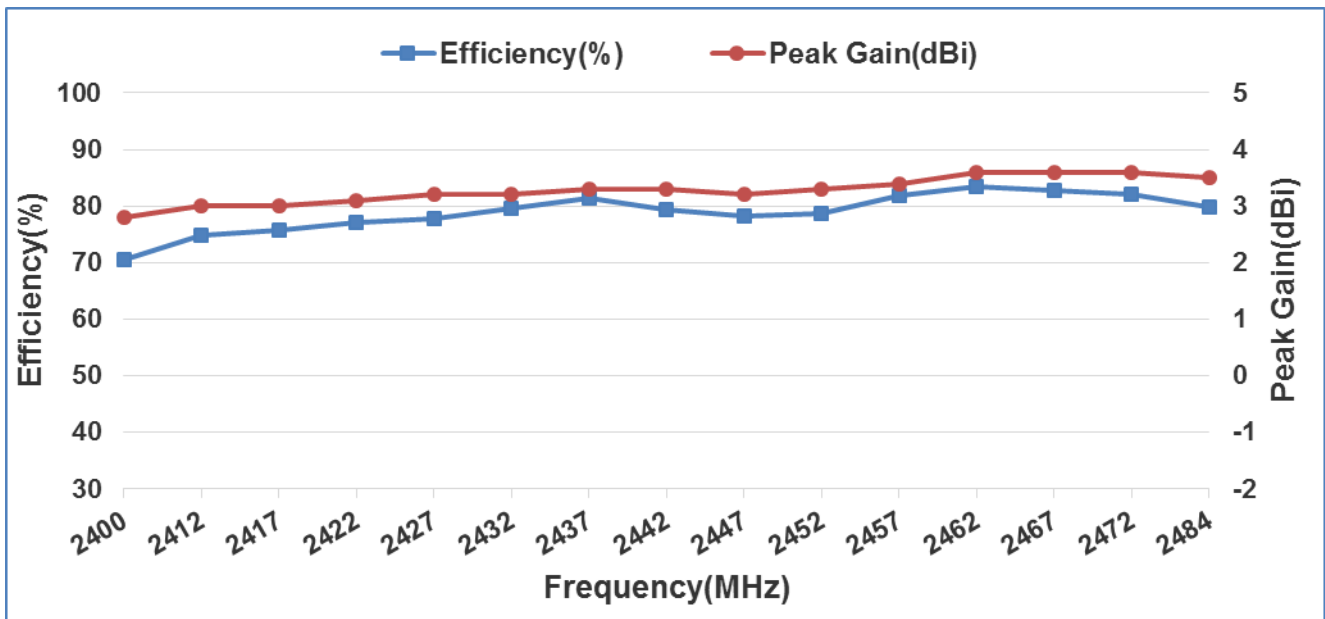
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### 9-2. 3D Efficiency Table

Frequency (MHz)	2400	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462	2467	2472	2484
Efficiency (dB)	-1.5	-1.3	-1.2	-1.1	-1.1	-1.0	-0.9	-1.0	-1.1	-1.0	-0.9	-0.8	-0.8	-0.9	-1.0
Efficiency (%)	70.6	74.8	75.7	77.1	77.8	79.6	81.3	79.3	78.3	78.7	81.9	83.4	82.8	82.0	79.8
Gain (dBi)	2.8	3.0	3.0	3.1	3.2	3.2	3.3	3.3	3.2	3.3	3.4	3.6	3.6	3.6	3.5

### 9-3. 3D Efficiency vs. Frequency



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