40.0 x 6.0 x 0.5 (mm) Wi-Fi Dual Band PCB Substrate Antenna (AA222) Engineering Specification

1. Explanation of Product Number

H	2	B	1	P	D	1	A	1	C	3	8	5	L
				(1)	(2)		(3)	(4)		(5)			

Product Code:

(1) Product Applications:

P: Wi-Fi Dual Band Antenna

(2) Dimensions:

D1: 40.0 x 6.0 x 0.5 (mm)

(3) Material:

A: GF

(4) Working Frequencies:

1C: 2400~2484 & 5150~5850 MHz

(5) Antenna Series:

38: serial number

Unictron Technologies Corp.

詠業科技股份有限公司

Unictron Technologies Corporation

Website:www.unictron.com

Prepared by : Amy	Designed by : Alex	Checked by : Mike	Approved by : Herbert

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2. Features

*Stable and reliable in performances

*Compact size

*RoHS2.0 compliance

3. Applications

* IEEE802.11(a/b/g/n).

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

4. Description

Unictron's PCB antenna with cable series are specially designed for IEEE802.11(a/b/g/n) applications. Based on Unictron's proprietary design and processes, this 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 in device)

7-1. 2400~2484 MHz Band

Characteristics		Specifications	Unit
Outline Dimensions		40.0 x 6.0 x 0.5	mm
Working Frequency		2400~2484	MHz
VSWR		2 Max. (typical)	
Impedance		50	Ω
Polarization		Linear Polarization	
Peak Gain	(@ 2442 MHz)	2.7 (typical)	dBi
Efficiency		80 (typical)	%

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

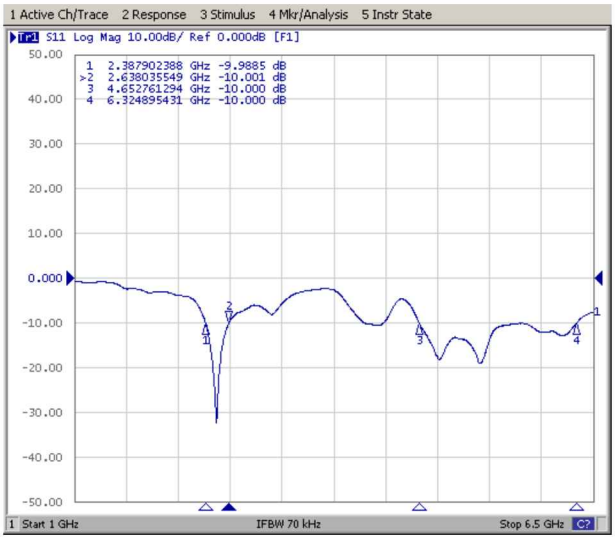
7-2. 5150~5850 MHz Band

Characteristics		Specifications	Unit
Working Frequency		5150~5850	MHz
VSWR(		2.5 Max. (typical)	
Impedance		50	Ω
Polarization		Linear Polarization	
Peak Gain	(@5550 MHz)	3.5 (typical)	dBi
Efficiency		72.3 (typical)	%

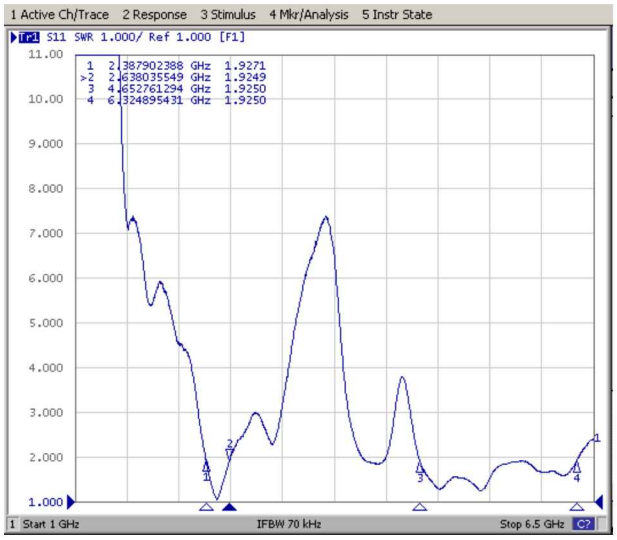
*Center frequency will be offset to another frequency according to the conditions of user's ground plane and radome

7-3. Return Loss & VSWR

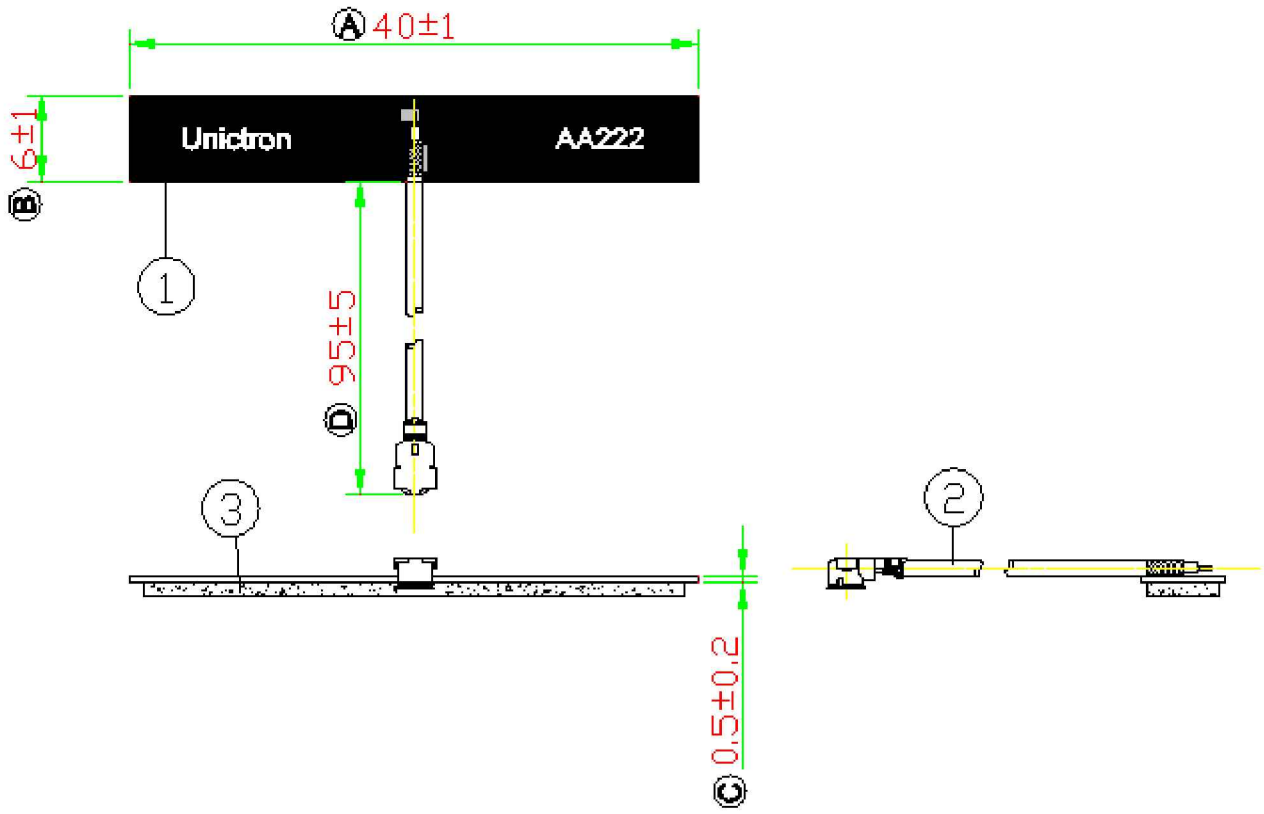
Return Loss



VSWR



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



NOTE:
1.All materials are RoHS 2.0 compliant.
2."Ⓐ~Ⓓ" Critical Dimensions.
3."( )" Reference Dimensions.

Item	Name	Material	Color	Q'ty
1	AA222_PCB	FR4	Black	1
2	I-PEX Connector(MHF 4L Plug P/N 20565-001R-13)	FEP	Gray	1
3	Adhesive tape		Black	1

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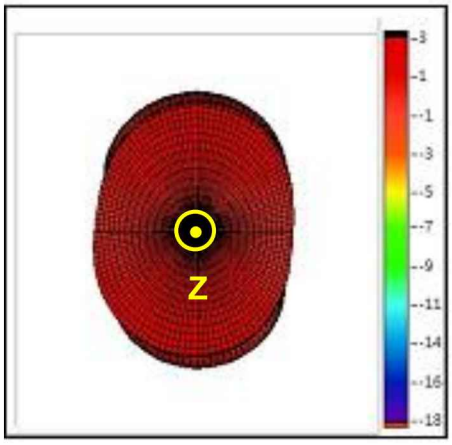
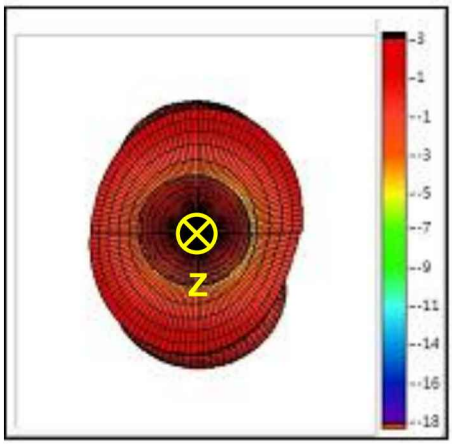
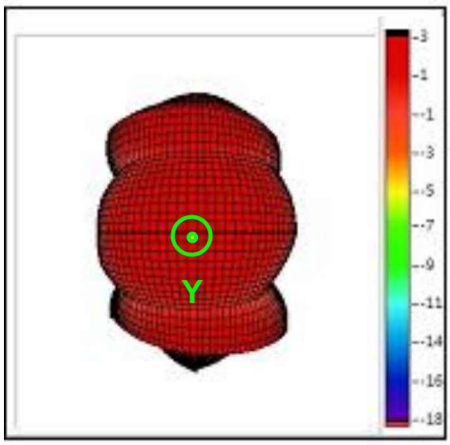
9. Radiation Pattern

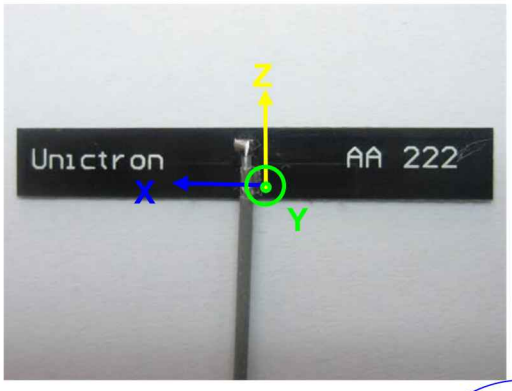
9-1.2400~2484 MHz Band

9-1-1.3D Gain Pattern @ 2442 MHz (unit: dBi)





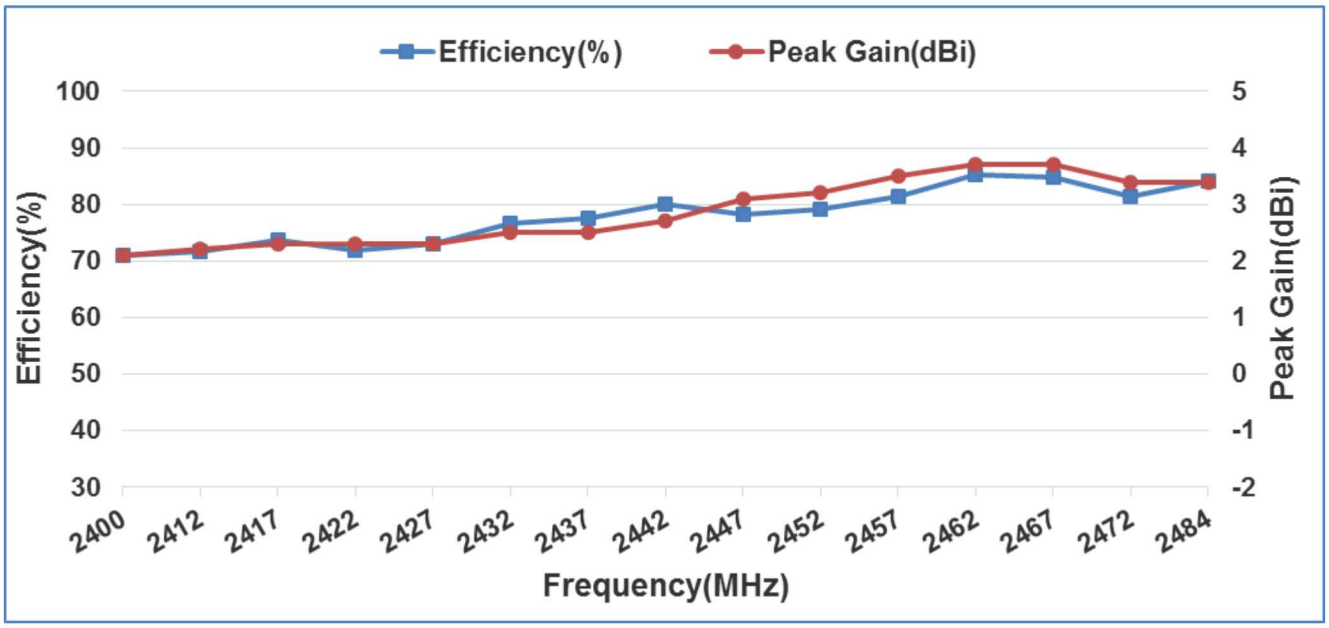




9-1-2. 3D Efficiency Table

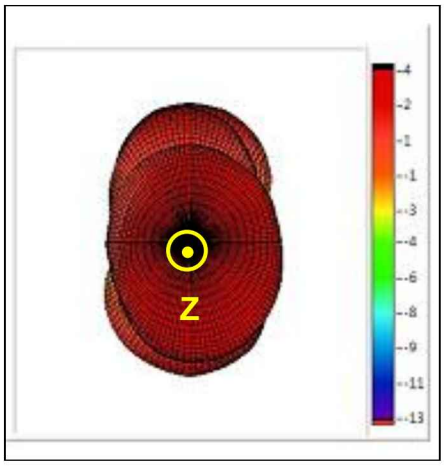
Frequency (MHz)	2400	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462	2467	2472	2484
Efficiency (dB)	-1.5	-1.5	-1.3	-1.4	-1.4	-1.2	-1.1	-1.0	-1.1	-1.0	-0.9	-0.7	-0.7	-0.9	-0.8
Efficiency (%)	71.0	71.6	73.8	71.8	73.1	76.7	77.5	80.0	78.3	79.1	81.5	85.3	84.8	81.5	84.2
Gain (dBi)	2.1	2.2	2.3	2.3	2.3	2.5	2.5	2.7	3.1	3.2	3.5	3.7	3.7	3.4	3.4

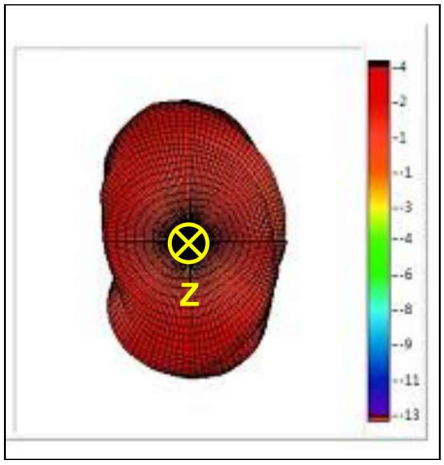
9-1-3. 3D Efficiency vs. Frequency

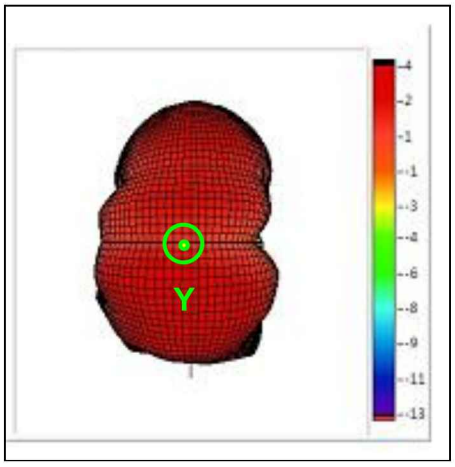


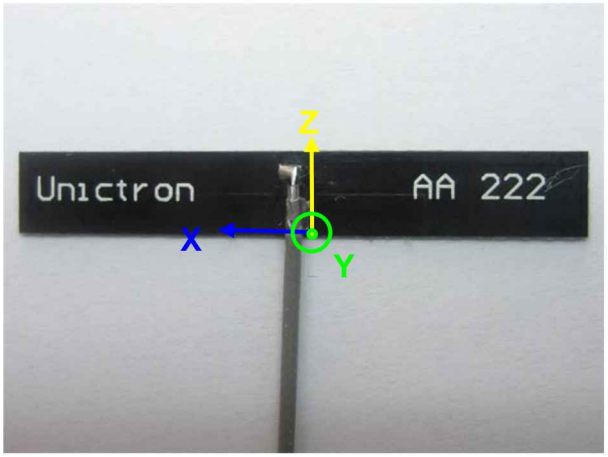
9-2. 5150~5850 MHz Band

9-2-1.3D Gain Pattern @ 5550 MHz (unit: dBi)





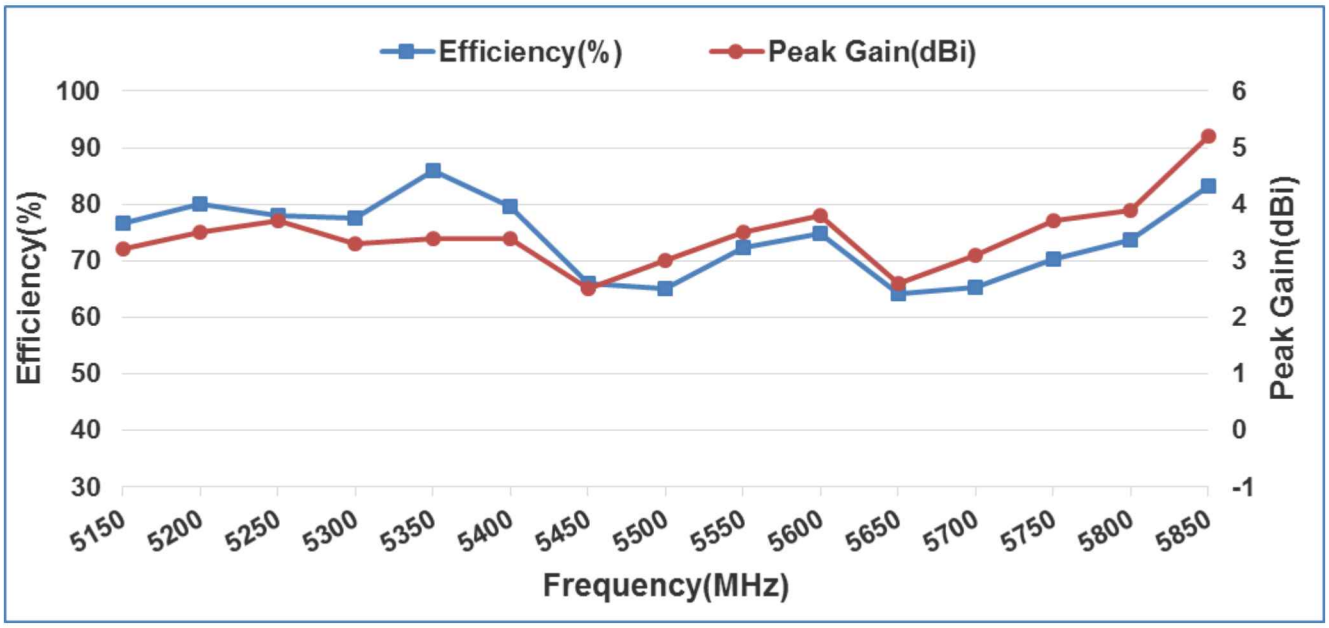




9-2-2. 3D Efficiency Table

Frequency(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
Efficiency(dB)	-1.2	-1.0	-1.1	-1.1	-0.7	-1.0	-1.8	-1.9	-1.4	-1.3	-1.9	-1.9	-1.5	-1.3	-0.8
Efficiency(%)	76.7	80.0	78.1	77.5	86.0	79.6	65.9	65.0	72.3	74.8	64.1	65.4	70.3	73.6	83.1
Peak Gain(dBi)	3.2	3.5	3.7	3.3	3.4	3.4	2.5	3.0	3.5	3.8	2.6	3.1	3.7	3.9	5.2

9-2-3. 3D Efficiency vs. Frequency



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