

25.0 x 7.0 x 0.5 (mm) Wi-Fi Dual Band PCB Antenna with Cable (AA258) Engineering Specification

1. Explanation of Product Number

H	2	B	1	P	C	1	A	1	C	1	8	0	0
				(1)	(2)	(3)	(4)	(5)					



Product Code:

(1) Product Applications:

P: Wi-Fi Dual Band Antenna

(2) Dimensions:

C1: 25.0 x 7.0 x 0.5 (mm)

(3) Material:

A: GF

(4) Working Frequencies:

1C: 2400~2484 & 5150~5850 MHz

(5) Antenna Series:

18: serial number



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Prepared by : **Wen**

Designed by : **James**

Checked by : **Mike**

Approved by : **Herbert**

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2. Features

- *Stable and reliable in performances
- *Compact size
- *RoHS 2.0 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	25.0 x 7.0 x 0.5	mm
Working Frequency	2400~2484	MHz
VSWR	2.5 Max. (typical).	
Impedance	50	Ω
Polarization	Linear Polarization	
Peak Gain	0.9 (typical)	dBi
Efficiency	44.6 (typical)	%

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



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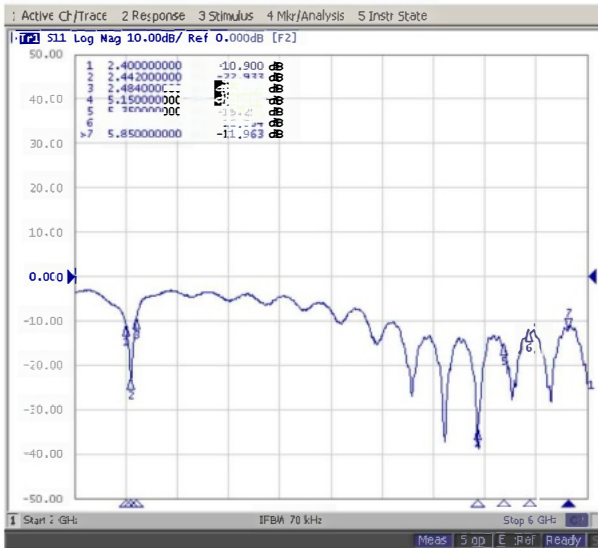
7-2. 5150~5850 MHz Band

Characteristics		Specifications	Unit
Working Frequency		5150~5850	MHz
VSWR		2.5 Max. (typical)	
Impedance		50	Ω
Polarization		Linear Polarization	
Peak Gain		4.2 (typical)	dBi
Efficiency		51.2 (typical)	%

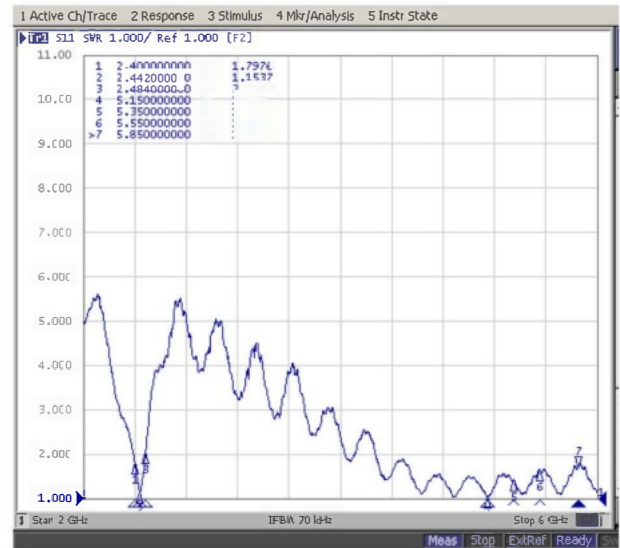
*Center frequency will be offset to another frequency according to the conditions of user's ground plane and radome

7-3. Return Loss & VSWR

Return Loss



VSWR



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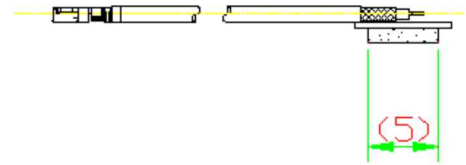
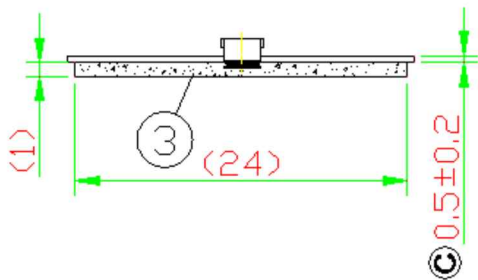
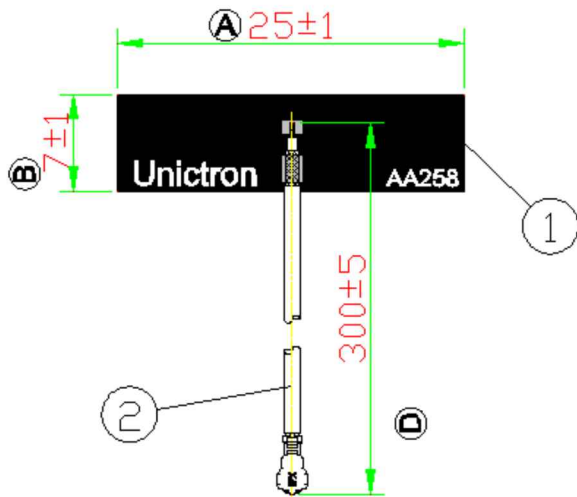
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8. Dimensions of PCB antenna with cable (unit: mm)



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

Item	Name	Material	Color	Q'ty
1	AA258_PCB	FR4	Black	1
2	I-PEX connector(MHF 4L plug)_Cable1.13mm	FEP	Gray	1
3	Adhesive			

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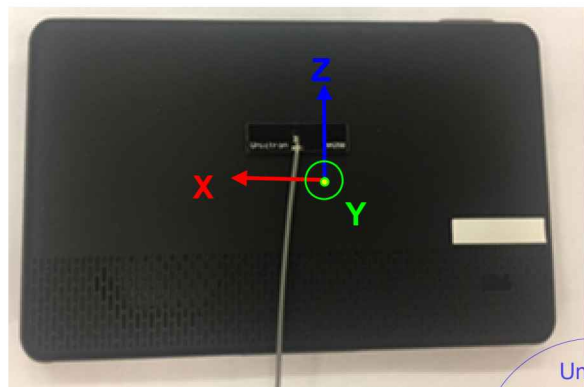
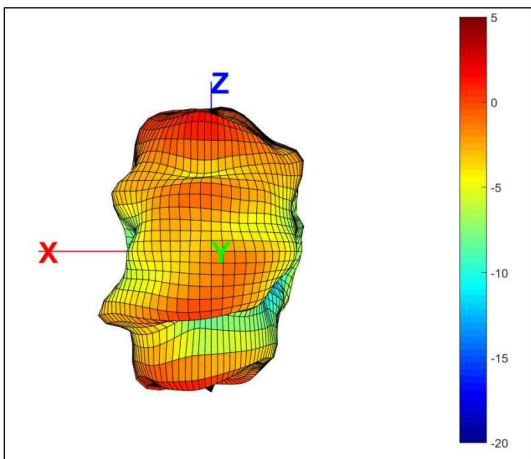
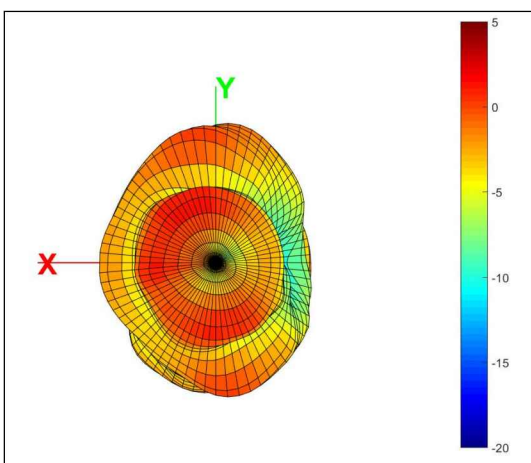
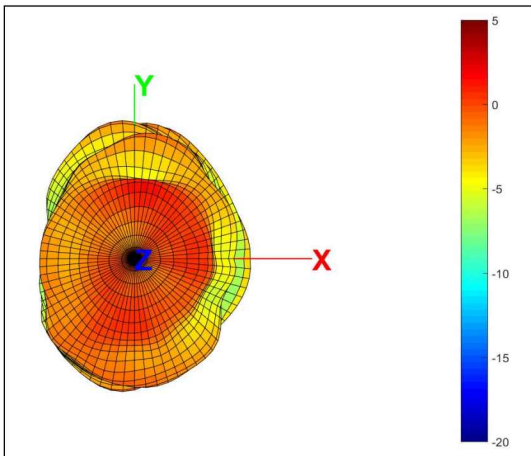
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9. Radiation Pattern

9-1.2400~2484 MHz Band

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



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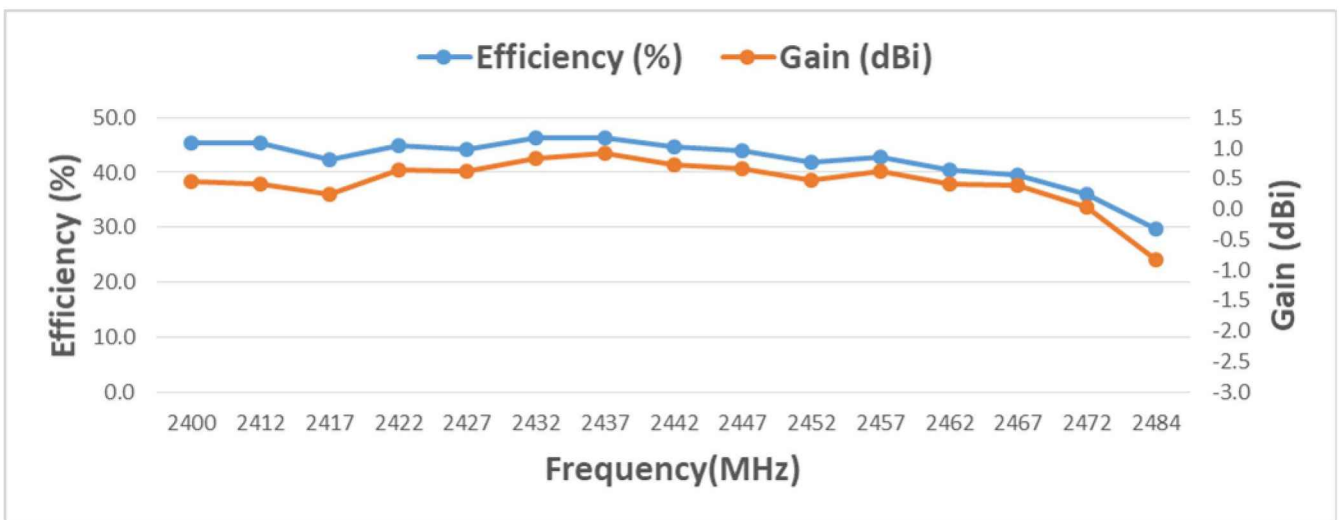
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9-1-2. 3D Efficiency Table

Frequency (MHz)	2400	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462	2467	2472	2484
Efficiency (dB)	-3.4	-3.4	-3.7	-3.5	-3.5	-3.3	-3.4	-3.5	-3.6	-3.8	-3.7	-3.9	-4.0	-4.4	-5.3
Efficiency (%)	45.3	45.3	42.3	45.0	44.2	46.2	46.2	44.6	44.0	41.9	42.8	40.5	39.5	36.0	29.7
Gain (dBi)	0.4	0.4	0.2	0.6	0.6	0.8	0.9	0.7	0.7	0.5	0.6	0.4	0.4	0.0	-0.8

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



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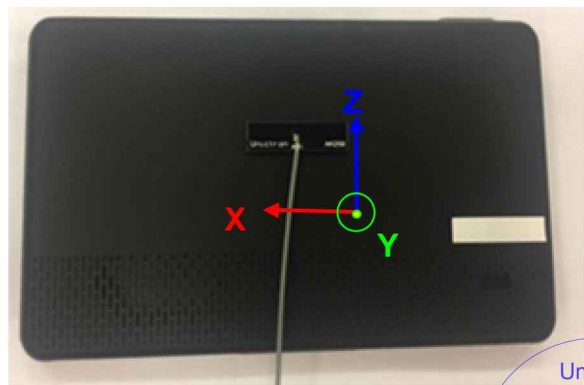
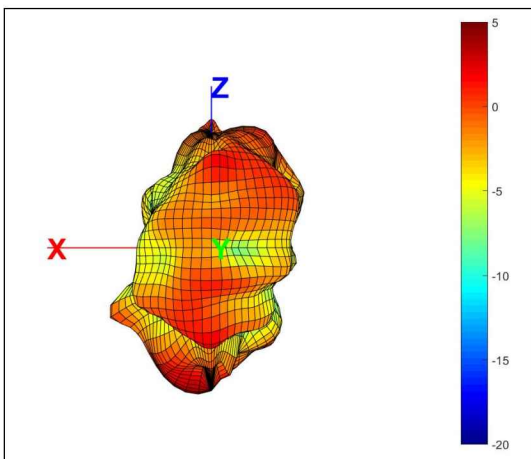
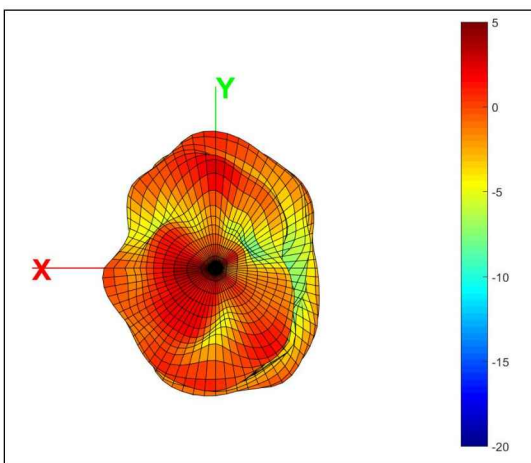
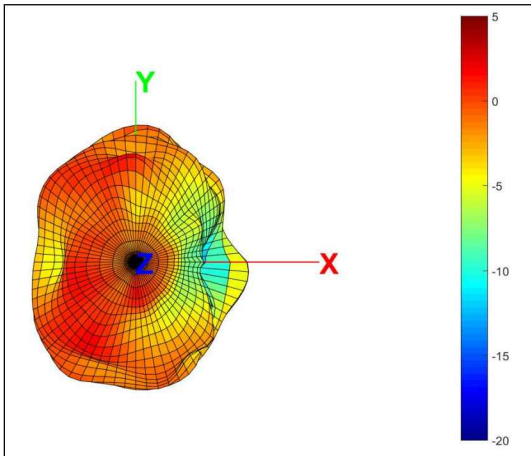
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9-2. 5150~5850 MHz Band

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



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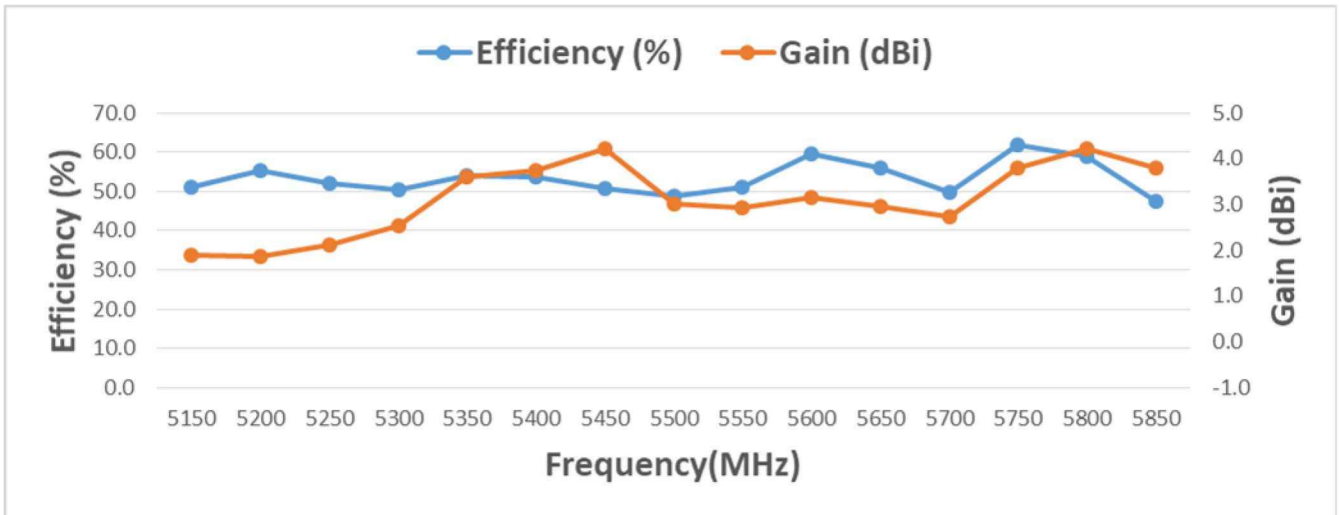
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9-2-4. 3D Efficiency Table

Frequency(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
Efficiency(dB)	-2.9	-2.6	-2.8	-3.0	-2.7	-2.7	-2.9	-3.1	-2.9	-2.2	-2.5	-3.0	-2.1	-2.3	-3.2
Efficiency(%)	51.0	55.4	52.1	50.5	54.2	53.7	50.9	48.9	51.2	59.7	55.9	49.7	61.9	58.8	47.5
Peak Gain(dBi)	1.9	1.9	2.1	2.5	3.6	3.7	4.2	3.0	2.9	3.1	3.0	2.7	3.8	4.2	3.8

9-2-5. 3D Efficiency vs. Frequency



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10. Package

10-1. Weight and Quantity:

10-1-1. Unit Weight: 1.5 ± 0.5 (g)

10-1-2. Quantity:

Each PE Bag: 25 pcs

Each Outer Box: 2500 pcs

10-1-3. Total Weight:

N.W.: 3.8 ± 1 kg

G.W.: 5.2 ± 1 kg

Process	Photos	Remark
1		Put 25 pcs in a PE bag and attach label on PE bag.
2		Put 100 PE bags into an outer box with 2,500 pcs of antenna inside.



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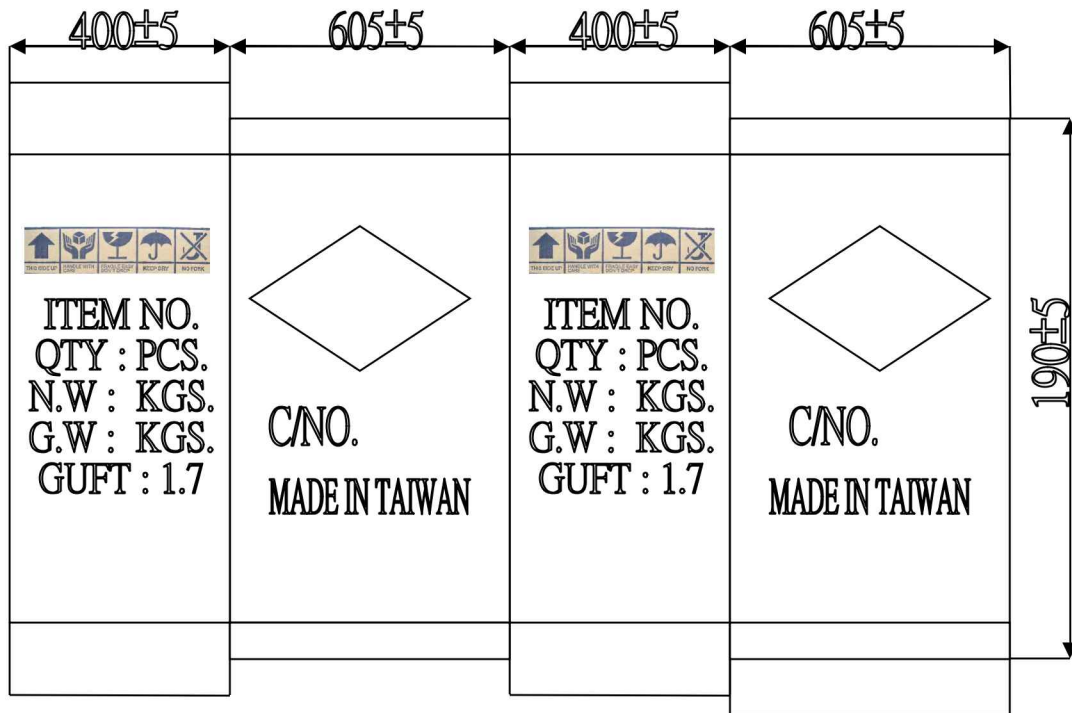
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10-2. Dimensions

10-2-1 Outer Box (605mm*400mm*190mm)



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