

WiFi Dual Band PCB Substrate Antenna
Model: AA107
Product Number: H2B1BE1A1B345L

REFERENCE SPECIFICATION

Table of Contents

1	Introduction.....	3
2	Electrical Characteristics.....	4
2.1	Table with electrical properties:.....	4
2.2	Return Loss (S_{11}).....	5
2.3	VSWR (S_{11}).....	5
2.4	Efficiency Table.....	6
2.5	Efficiency vs. Frequency.....	6
2.6	Radiation Pattern.....	7
3	Antenna Dimensions.....	8
4	Notes.....	8
4.1	Operating conditions.....	9
4.2	Storage conditions.....	9
4.3	Cables and connectors.....	9

1 Introduction

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.

Features

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

Applications

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

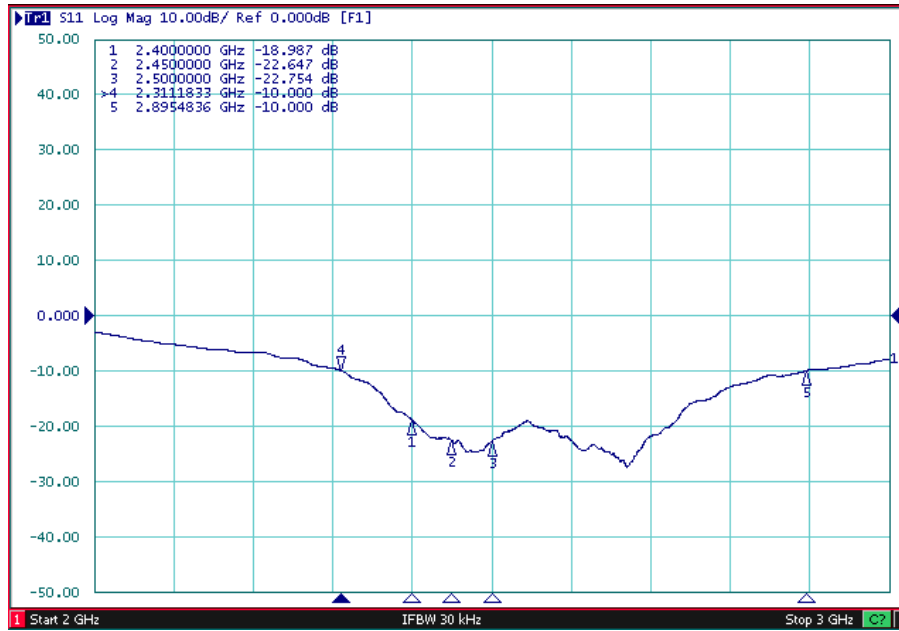
2 Electrical Characteristics

2.1 Table with electrical properties:

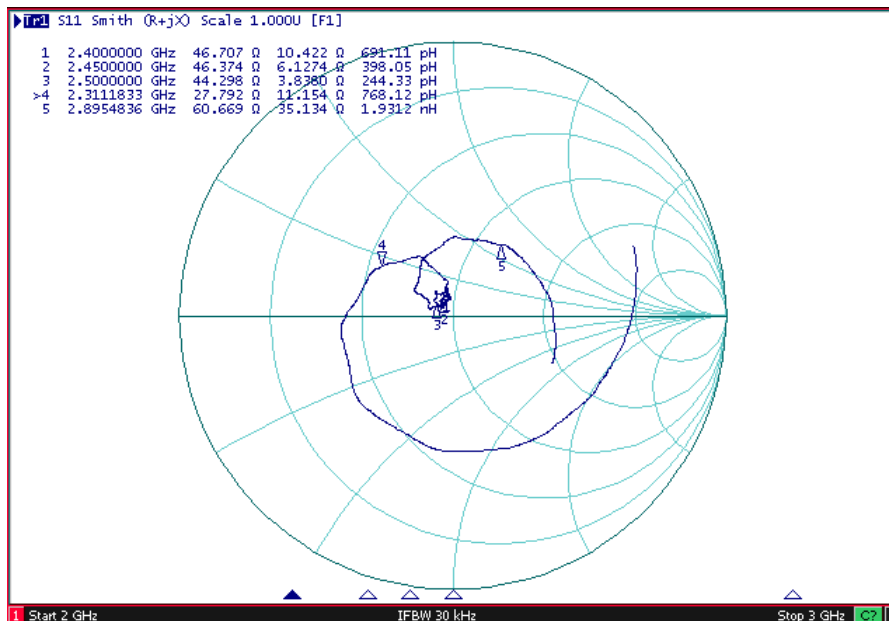
Characteristics		Specifications	Unit
Outline Dimensions		50.0 x 5.0 x 0.5	mm
Working Frequency *		2442	MHz
Bandwidth		100 (min)	MHz
VSWR		2 (max)	
Characteristic Impedance		50	Ω
Polarization		Linear Polarization	
Gain	Peak	3.3 (typical)	dBi
	Efficiency	76 (typical)	%

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

2.2 Return Loss (S_{11})



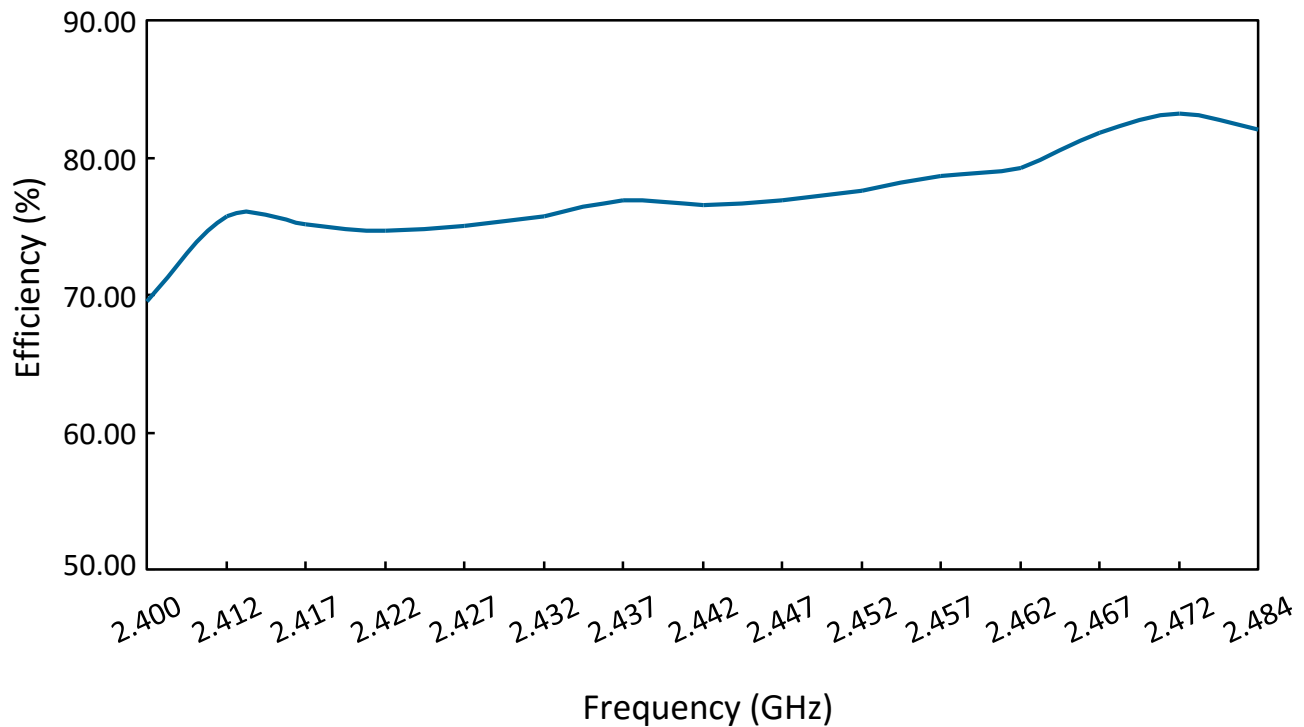
2.3 VSWR (S_{11})



2.4 Efficiency Table

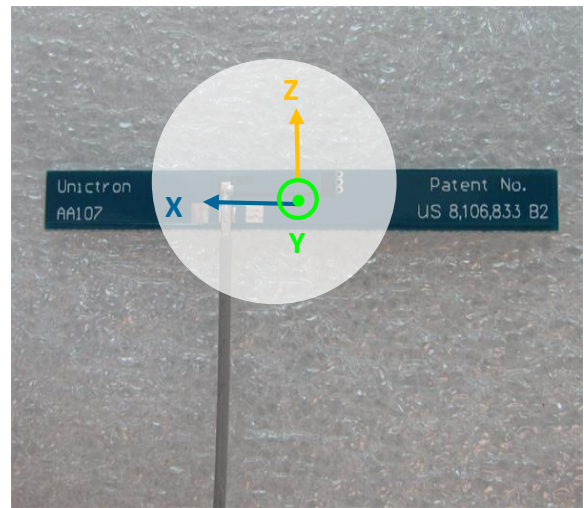
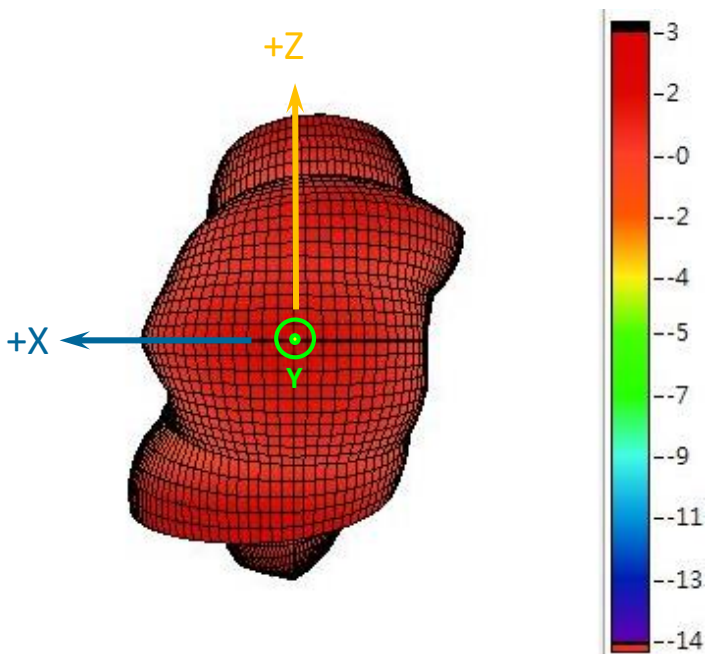
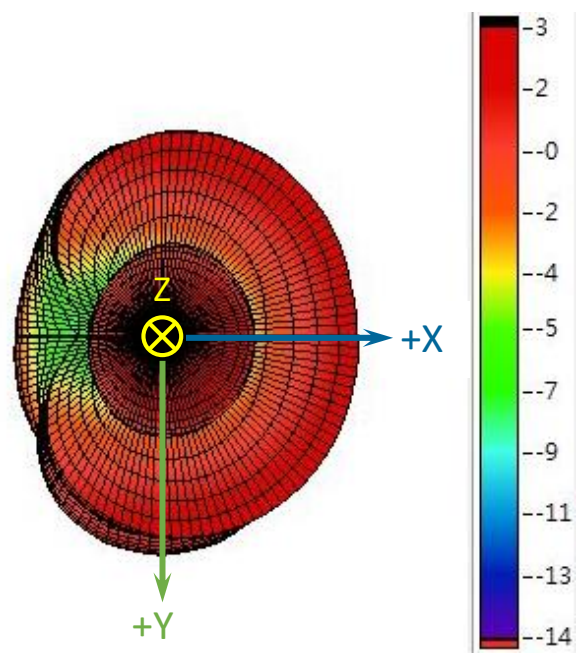
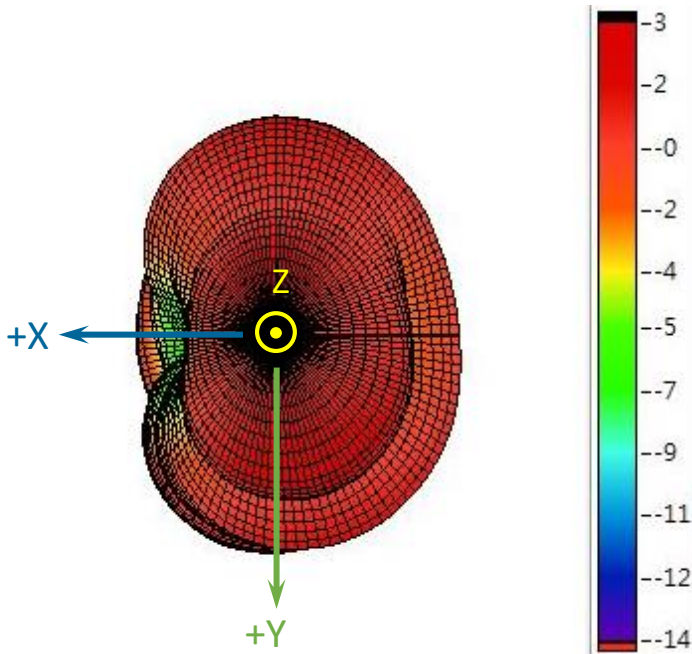
Frequency(MHz)	2.400	2.412	2.417	2.422	2.427	2.432	2.437	2.442	2.447	2.452	2.457	2.462	2.467	2.472	2.484
Efficiency(dB)	-1.58	-1.21	-1.24	-1.27	-1.25	-1.21	-1.14	-1.16	-1.14	-1.10	-1.04	-1.01	-0.87	-0.80	-0.86
Efficiency(%)	69.50	75.68	75.16	74.64	74.99	75.68	76.91	76.56	76.91	77.62	78.70	79.25	81.85	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

2.5 Efficiency vs. Frequency

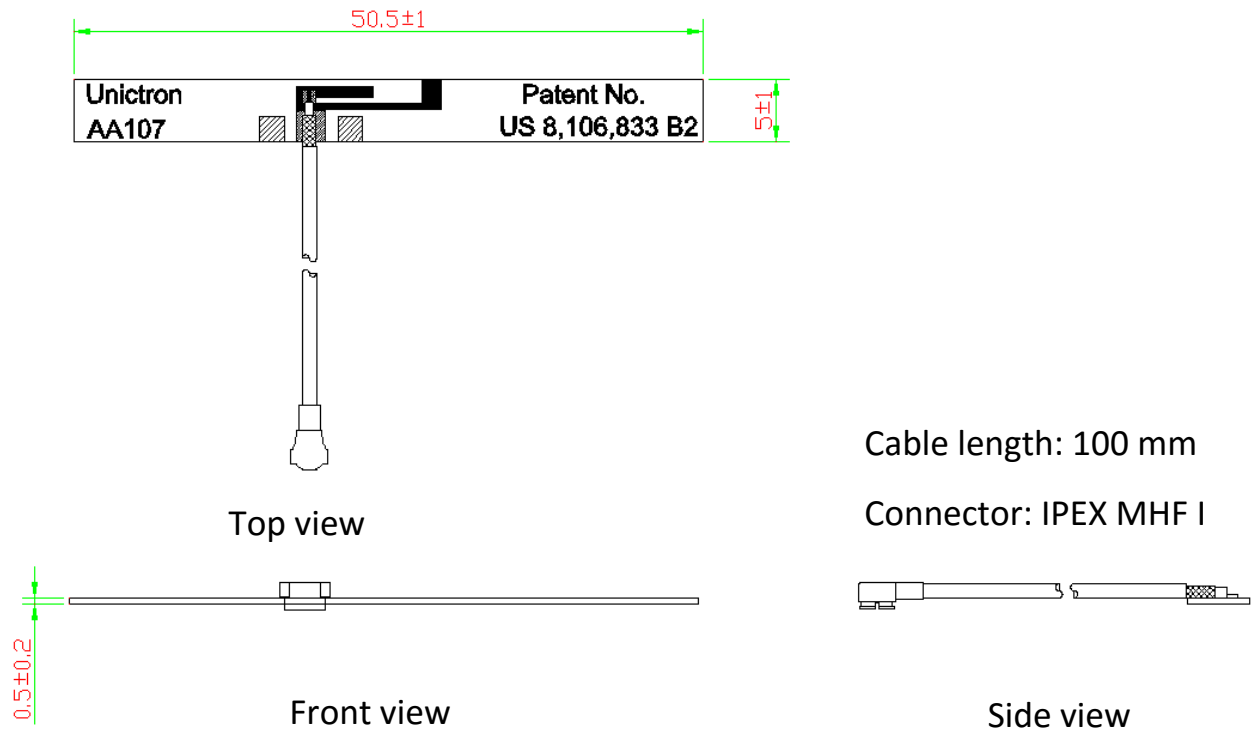


2.6 Radiation Pattern

3D Gain Pattern @ 2442 MHz (unit: dBi)



3 Antenna Dimensions



Cable length: 100 mm

Connector: IPEX MHF I

Unit: mm

Notes

4.1 Operating conditions

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

4.2 Storage conditions

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

4.3 Cables and connectors

The AA222 PCB antenna is provided with a standard cable 100mm long and IPEX MHF I connector.

Change of the cable length and type, connector type, is possible upon request.

The actual performance of the antenna will depend on the environment of the device antenna is placed into. For the optimal performance avoid using antenna near metal parts like metal housing, display, battery, metal buttons, etc.

Feel free to contact us in regard of optimal antenna placement in your device.

Information presented in this Reference Specification is believed to be correct as of the date of publishing. Unictron Technologies Corporation reserves the rights to change the Reference Specification without notice due to technical improvements, etc. Please consult with Unictron's engineering team about the latest information before using this product. Per request, we may provide advice and assistance in implementing this antenna to a customer's device by simulation or real measurement of the interested device in our testing facilities.

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