

ECN/PCN No.: R0490

For Manufacturer

Product Description: 2.4 / 5 GHz Whip Antenna	Abrakon Part Number / Part Series: APAMBJ-135	☐ Documentation only ☒ ECN ☐ EOL	☐ Series ☐ Part Number
Affected Revision: A	New Revision: B	Application:	☐ Safety ☒ Non-Safety

Prior to Change:

 ABRACON Date of Issue: May 29 th , 2024 Page (3) of (13)	APAMBJ-135 Wi-Fi/Bluetooth Antenna Module 56 x 09.5mm Abracon Drawing # 454009	RoHS Compliant Revision #: A
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5.0 Ordering information

[APAMBJ-135](#)

Code	Connector Type
S (Standard)	SMA J3 (M)
A	RP-SMA (M)

Example Configuration

Part Number	Description	Connector Option
APAMBJ-135S	54.4 x 010mm Wi-Fi/Bluetooth Antenna Module with SMA J3	SMA J3(M)
APAMBJ-135A	56 x 09.5mm Wi-Fi/Bluetooth Antenna Module with RP-SMA	RP-SMA(M)

After Change:

2.4 / 5 GHz Whip Antenna



APAMBJ-135

Request Samples 
Check Inventory 

09.5 x 56 mm
RoHS/RoHS II Compliant
MSL Level = 1

Description

This versatile 2.4/5 GHz monopole whip antenna delivers robust dual-band performance for modern wireless protocols including Wi-Fi®, Bluetooth®, Zigbee®, Thread, and Matter. Featuring a peak gain of 4.0 / 5.2 dBi @ 2.4 / 5 GHz and customizable straight connectors, it enables flexible integration across diverse IoT applications. The antenna supports smart home systems, asset tracking, smart metering, and intelligent lighting installations. As a RoHS-compliant, MSL Level 1 component, it ensures reliable connectivity and manufacturing compatibility for deployments requiring consistent dual-band coverage and adaptable mechanical configurations in both residential and commercial environments.



Features

- 2.4 / 5 GHz Monopole Whip Antenna
- Peak Gain 4.0 / 5.2 dBi @ 2.4 / 5 GHz
- Connector Design for Straight
- Fully Customizable Connectors
- RoHS Compliant | MSL Level 1

Applications

- Bluetooth® / ZigBee® / Thread / Matter / Wi-Fi
- Smart Home & Smart Building
- Asset Tracking & Telematics
- Smart Metering
- Intelligent Lighting

Ordering Information

Part Number	Description	Connector Option
APAMBJ-135	2.4 / 5 GHz Whip Antenna with SMA (M)	SMA (M)
APAMBJ-135A	2.4 / 5 GHz Whip Antenna with RP-SMA (M)	RP-SMA(M)

Note: Other options not listed may be available upon request via [Abracon online support](#)

Updated test data

Cause/Reason for Change: Updated test data and ordering information

Change Plan

Effective Date: 12/18/2025	Additional Remarks:	
Change Declaration:		
Issued Date:	Issued By:	Issued Department:

12/18/2025	Allan	Engineering
Approval: <i>Saravanan Subramanian</i> Engineering Manager	Approval: <i>Reuben Quintanilla</i> Quality Director	Approval: <i>Ying Huang</i> Purchasing Director
For Abracon EOL only		
Last Time Buy (if applicable):		Alternate Part Number / Part Series:
Additional Approval:	Additional Approval:	Additional Approval:
Customer Approval (If Applicable)		
Qualification Status: ☐ Approved ☐ Not accepted <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i>		
Customer Part Number:		Customer Project:
Company Name:	Company Representative:	Representative Signature:
Customer Remarks:		

Brand	Affected PN	Discontinued/EOL PN	Added PN	Series	ECO#	Datasheet Link	ECN Notification Link
Abracon	APAMBJ-135			APAMBJ-135	R0490	https://abracon.com/patchantenna/APAMBJ-135.pdf	https://abracon.com/downloads/ECN-PCN/ECN-PCN-Notification_ECOR0490_APAMBJ-135.pdf
Abracon	APAMBJ-135A			APAMBJ-135	R0490	https://abracon.com/patchantenna/APAMBJ-135.pdf	https://abracon.com/downloads/ECN-PCN/ECN-PCN-Notification_ECOR0490_APAMBJ-135.pdf

2.4 / 5 GHz Whip Antenna



APAMBJ-135

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Ø9.5 x 56 mm

RoHS/RoHS II Compliant

MSL Level = 1

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Applications

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- Smart Home & Smart Building
- Asset Tracking & Telematics
- Smart Metering
- Intelligent Lighting

Ordering Information

Part Number	Description	Connector Option
APAMBJ-135	2.4 / 5 GHz Whip Antenna with SMA (M)	SMA (M)
APAMBJ-135A	2.4 / 5 GHz Whip Antenna with RP-SMA (M)	RP-SMA(M)

Note: Other options not listed may be available upon request via [Abracon online support](#)



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Cave, TX 78738
Phone: 512-371-6159 | Fax: 512-351-8858
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2.4 / 5 GHz Whip Antenna



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Ø9.5 x 56 mm

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MSL Level = 1

Electrical Specification

Parameter	Specification		Unit
Operating Frequency	2.4	5	GHz
VSWR (Typ.)	1.5		:1
Peak Gain	4.0	5.2	dBi
Impedance	50		Ω
Polarization	Linear		
Radiation Pattern (Azimuth)	Omni-directional		
Input Power (Ambient 25°C)	20		W

Please note: All measurement data is based on the standard configuration (conducted in free space unless otherwise specified).

Mechanical Specification

Parameter	Specification
Dimensions	Ø9.5 x 56 mm
Material	UV-Resistant ABS
Recommended Torque for Mounting	0.565 N·m
Color	Black
Antenna Type	Whip (Monopole)
RF Connector ⁽¹⁾	SMA(M)
Additional Resources	Download STEP File, Package Drawing, 3D PDF

(1): Fully Customizable Connectors

Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
RoHS Complaint	Yes



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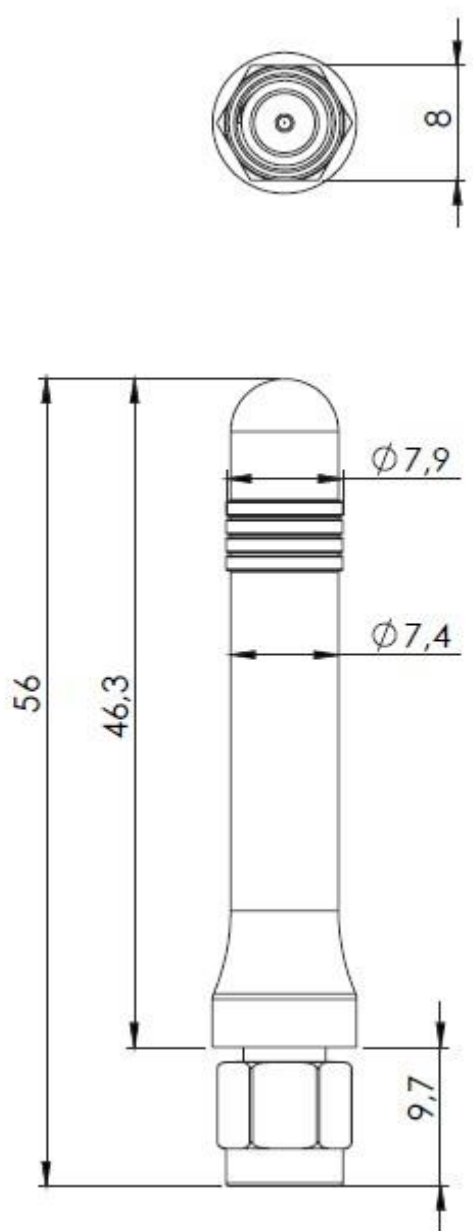


Ø9.5 x 56 mm

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Product Dimensions



Unit : mm

2.4 / 5 GHz Whip Antenna



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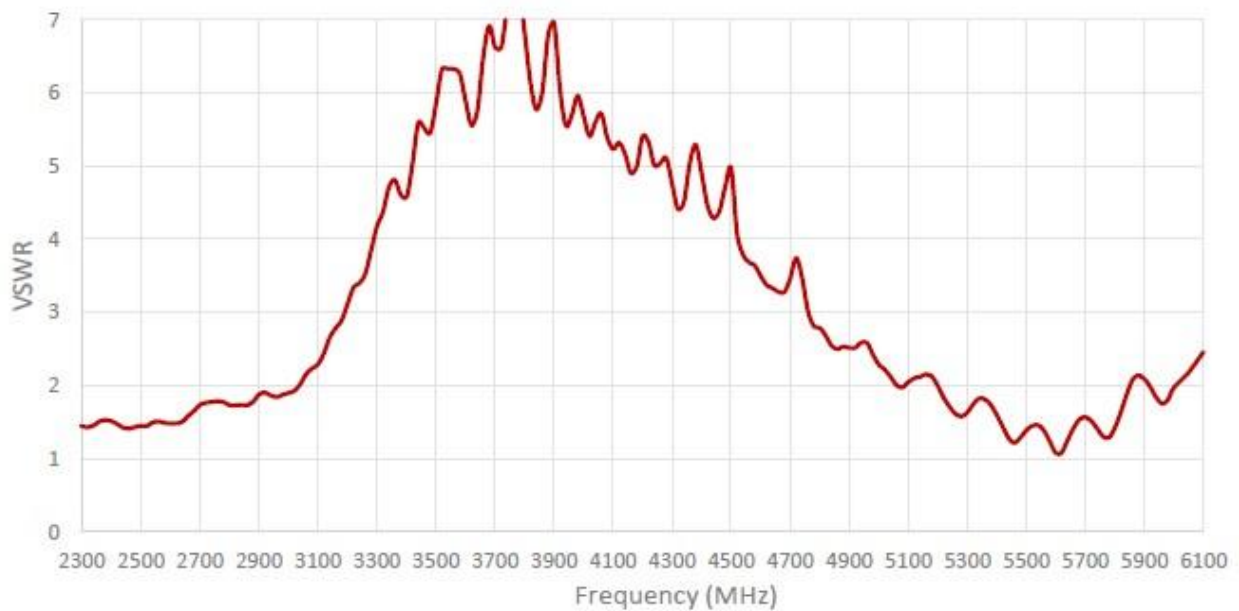
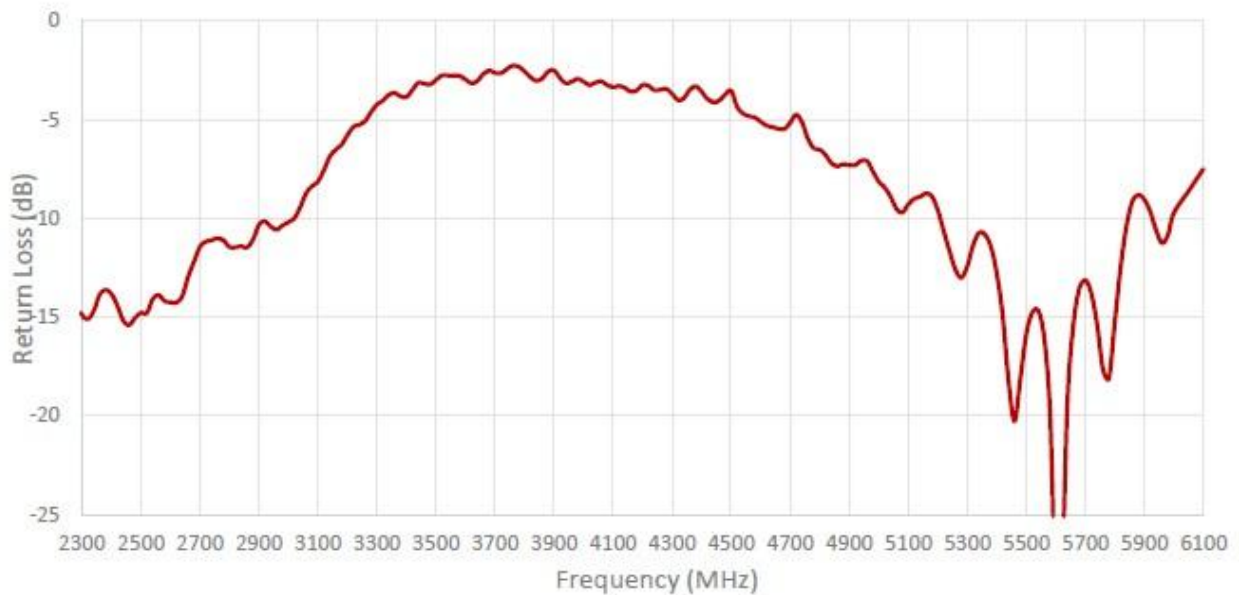


Ø9.5 x 56 mm

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MSL Level = 1

Reflection Characteristics – Return Loss & VSWR



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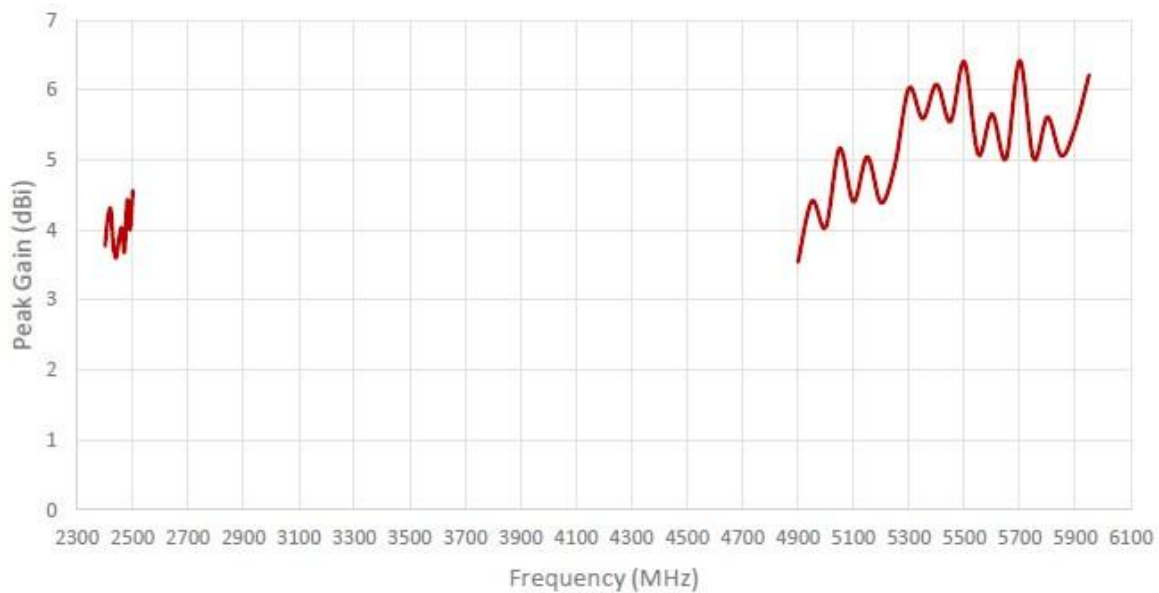
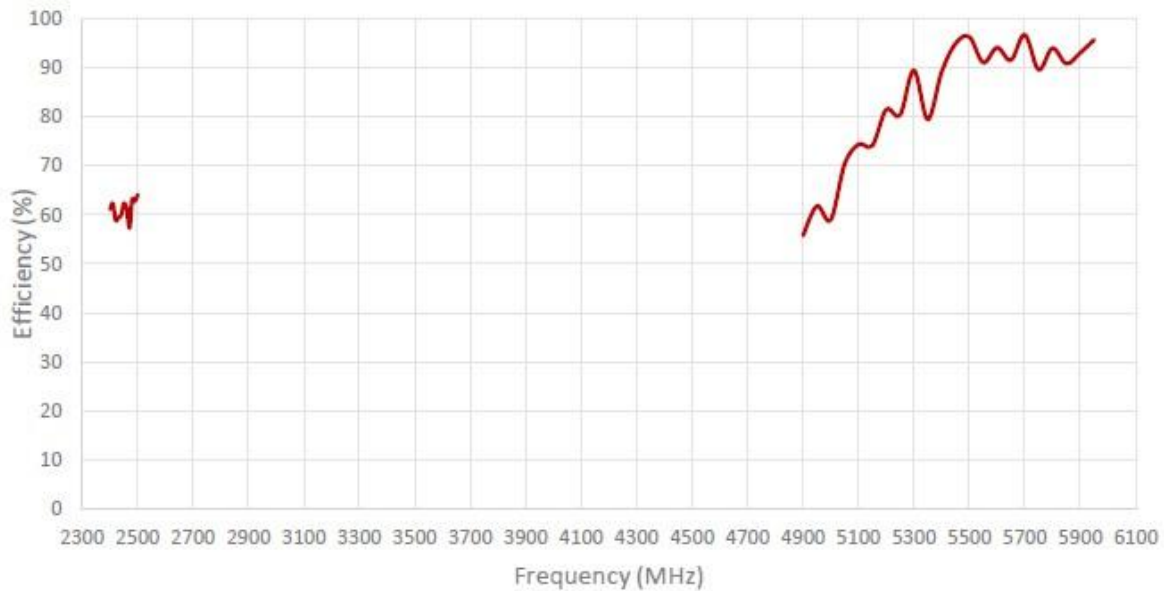


Ø9.5 x 56 mm

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Radiation Characteristics – Total Efficiency (%) & Peak Gain



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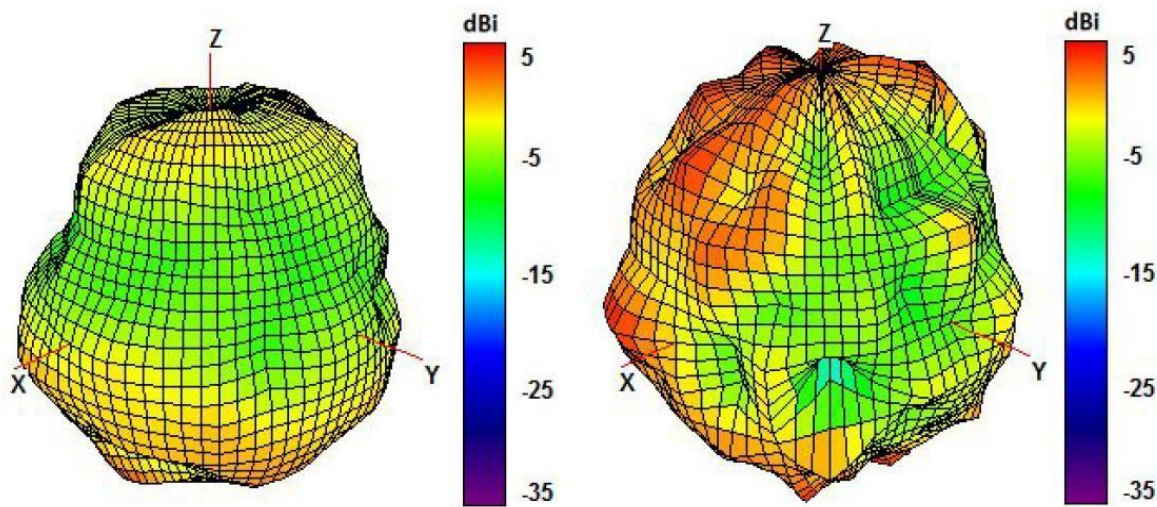


Ø9.5 x 56 mm

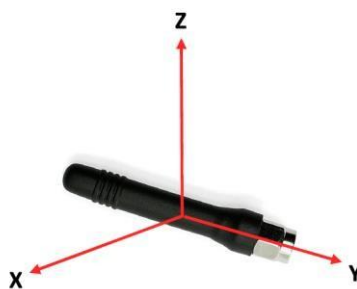
RoHS/RoHS II Compliant

MSL Level = 1

Radiation Characteristics –3D Radiation Pattern



2450 and 5500 MHz Radiation pattern



Radiation pattern reference

Note: Mounted on Ground Plane of 70x35 mm
Measured in Certified CTIA 3D Anechoic Chamber

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Ø9.5 x 56 mm

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MSL Level = 1

Packaging

Package Type	Quantity	Dimensions
Plastic bag	1 pcs/ Plastic bag	100 x 150 mm
Outer Box	1000 pcs/box	470 x 310 x 210 mm

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf ('COTS'), which are designed, intended, and validated for use in commercial, industrial, and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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