



DATASHEET

ARA | SZK-C-5W34 | Flexible Self-Adhesive Antenna | WI-FI / Bluetooth

Features:

WI-FI: 2400-2500MHz

>3.0dBi Peak Gain, >50% Efficiency

Dimensions: 5.9 x 4.0 x 0.2 mm

Cable Length: 50mm, 0.81mmØ

Connector: MHF2 (U.FL compatible)

RoHs Compliant

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Introduction

ARA antenna (SZK-C-5W34) is an ultra-compact high performance flexible (FPC) antenna designed for 2.4 GHz wireless applications. Operating over the 2400 to 2500 MHz band, ARA delivers excellent efficiency and gain performance in a footprint of just 5.9×4.0 mm.

The antenna is supplied with a 0.81 mm diameter coaxial cable and an MHF2 connector for easy integration into space constrained devices. Its size and performance make it ideal for high density layouts where space and weight are critical design factors.

Measured performance data demonstrates consistently high efficiency across the operating band.

Features

- Ultra compact size of 5.9×4.0 mm
- Flexible printed circuit construction
- 0.81 mm diameter coaxial cable with MHF2 connector
- Operating frequency range: 2400 to 2500 MHz
- Peak efficiency: 61.94 percent at 2415 MHz
- Peak gain: 3.62 dBi
- Lightweight and easy to integrate into tight mechanical designs

Applications

- Bluetooth and Bluetooth Low Energy (BLE) devices
- Wi-Fi 2.4 GHz modules and systems
- Zigbee, Thread, and other 2.4 GHz ISM band protocols
- IoT sensors and smart home devices
- Wearable electronics
- Handheld and portable equipment



Mechanical Specifications

Parameter	
Part Number	SZK-C-5W34
Name	ARA
Dimensions (mm)	5.9 x 4.0 x 0.2
Weight (g)	<1.0
Antenna Type	FPC + Cable
Cable Length (mm)	50.0, 0.81ø*
Connector Type	MHF2 (U. FL compatible)
Part Number with cable + connector	SZK-C-5W34-050-02
Adhesive backing	3M 868

Electrical / RF Specifications

Band	Frequency Range (MHz)	Average Efficiency (%)	Peak Gain (dBi)	VSWR (worst case)	Impedance
Wi-Fi 2GHz	2400-2500	58.0	3.62	2.14:1	50 Ω

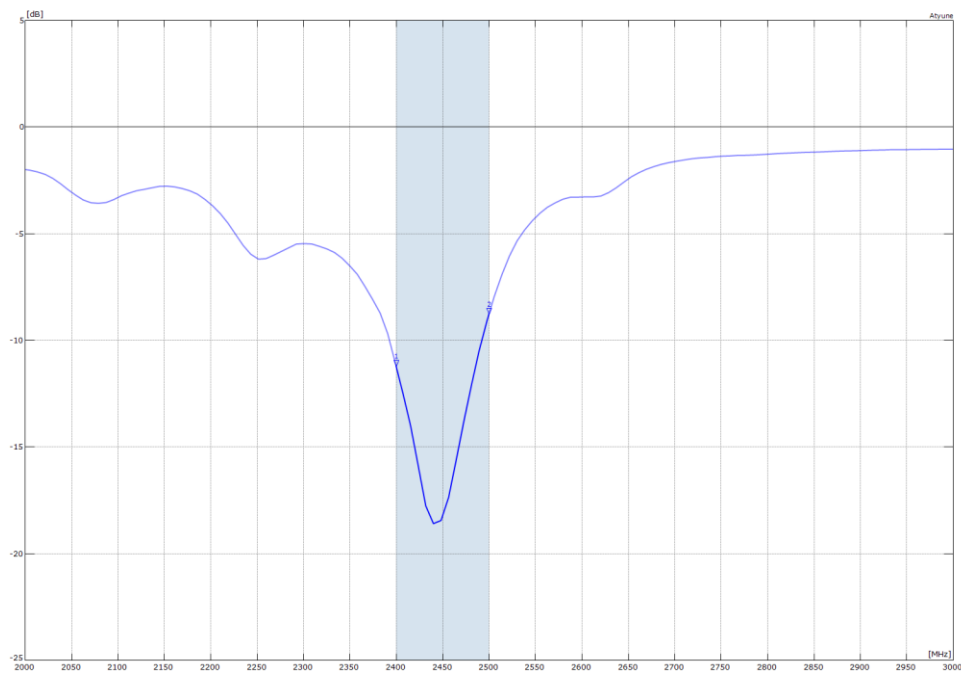
Note: The antenna performance was measured on a 2mm thick ABS plastic sheet

Environmental

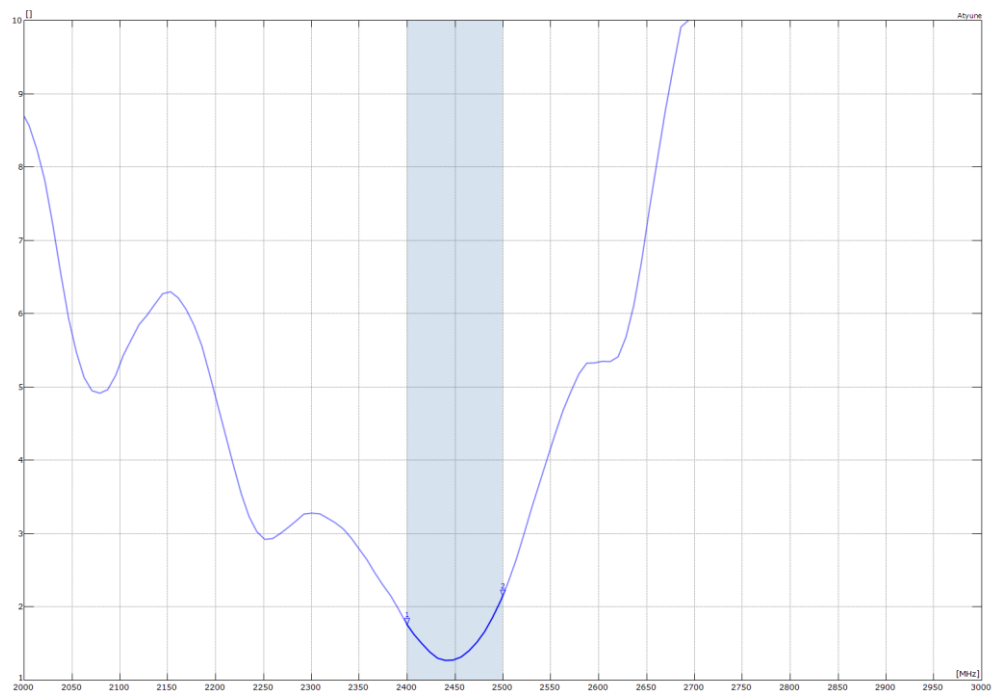
Parameter	
Operational Temperature	-40 to +85°C
Storage Temperature	-10 to +85°C
Relative Humidity (Storage)	65±20% RH
Moisture Sensitivity	1
RoHs and REACH compliant	Yes

RF Characteristics

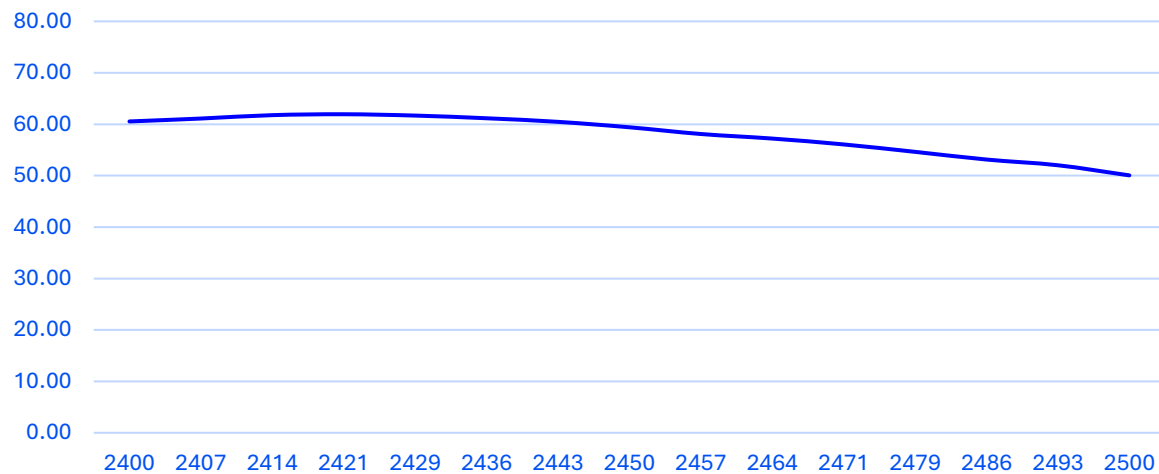
Return loss



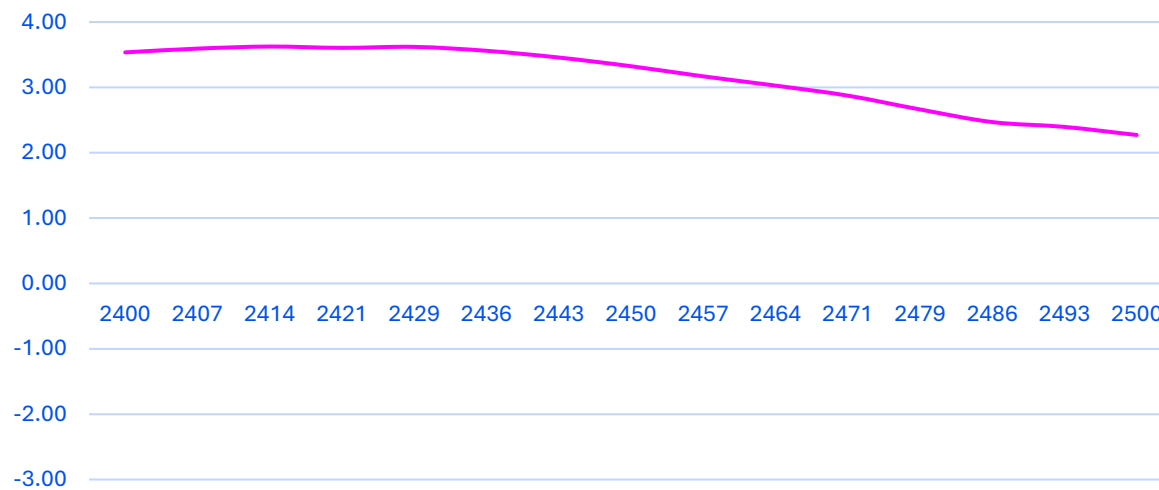
VSWR



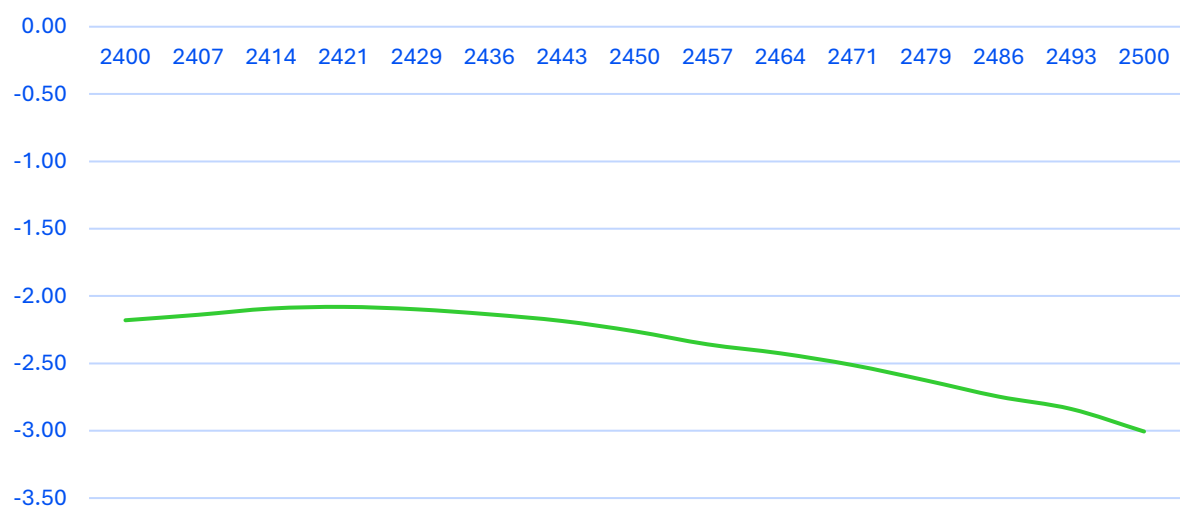
Efficiency



Peak Gain

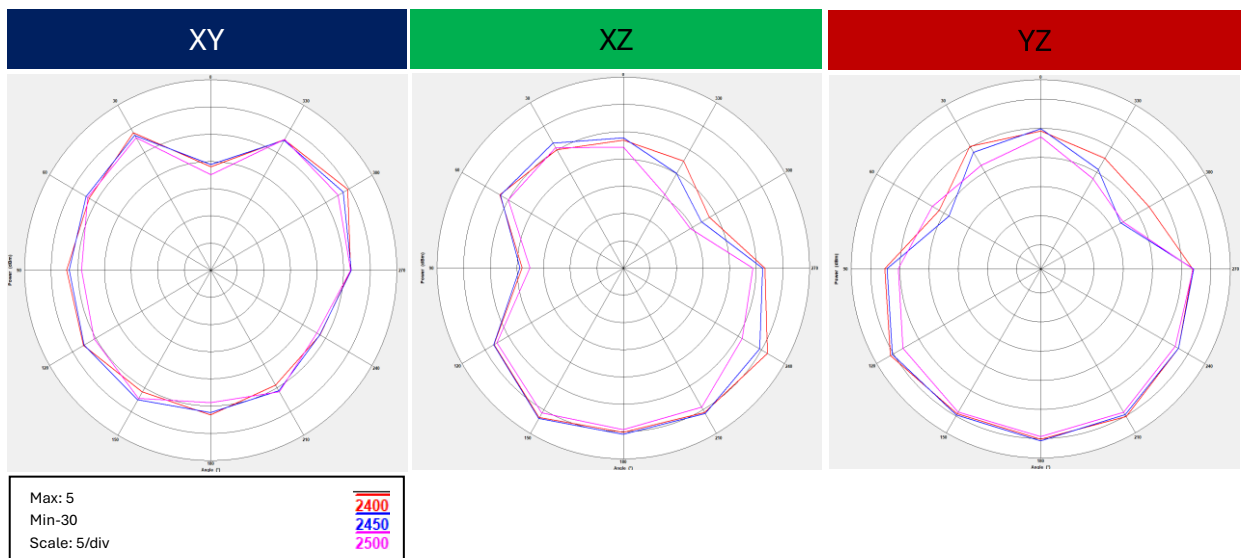
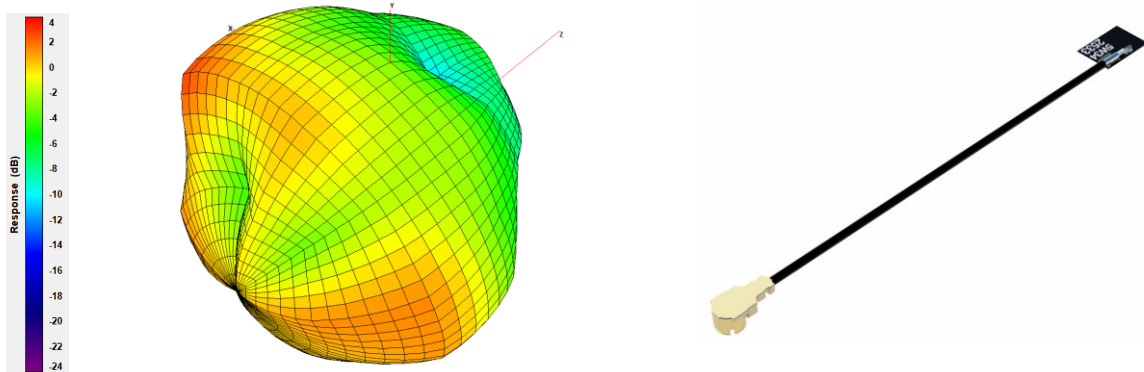


Average Gain

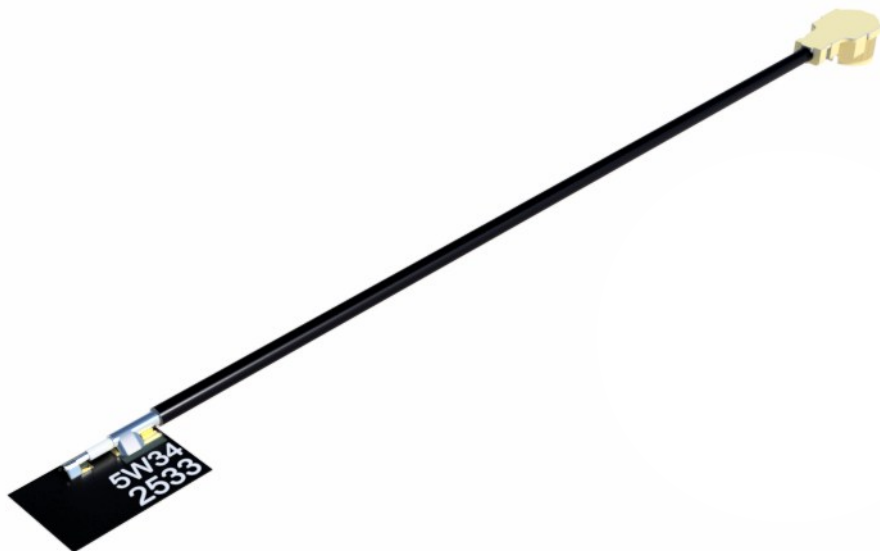
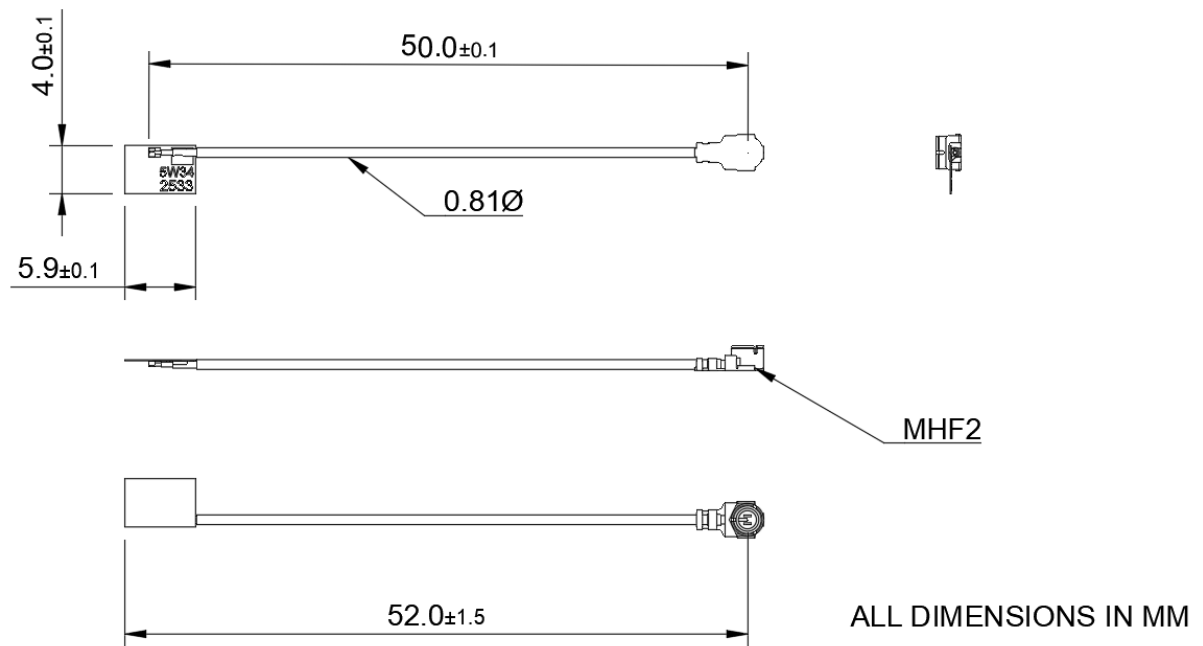


RF Radiation Patterns

RF Radiation Patterns at 2450MHz



Mechanical Drawing



Packaging

Antennas packed in PE bag (20 per bag)

Small bag dimensions: 28.5 x 9.5 (cm)

100pcs per larger PE bag with product label

Bag dimensions = 30 x 19 (cm)

Material Regulation

The antenna has been assessed to conform to RoHS requirements. A certificate of conformance is available upon request.



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