

RF
NEXUS

Product Datasheet

NEX11-INT-FLEX-001

Key Features

- Bluetooth
- Zigbee/Z-Wave/WiFi/ISM
- 2.4/2.5 GHz
- Adhesive Mount
- Flexible
- Usable Without Ground
- Dimensions
8.5 × 23 x 0.12 mm



1- Introduction

The NEX11-INT-FLEX-001 is a flexible and highly efficient antenna designed specifically for 2.4GHz wireless protocols, such as Bluetooth, ZigBee, and similar applications. With its compact dimensions of just 8.5mm in width and 23 mm in length, this antenna is perfect for space-constrained devices where performance and flexibility are critical. Its robust yet lightweight design allows for easy integration into a wide range of devices, providing both durability and adaptability in various installation scenarios.

Featuring a flexible PCB design, the NEX11-INT-FLEX-001 maintains consistent performance across different cable lengths, ensuring reliable operation without sacrificing signal quality. This makes it ideal for use in Bluetooth, BLE, and other wireless communication systems that demand consistent and high-quality connections.

Engineered to deliver excellent performance and stability, this antenna boasts an omnidirectional radiation pattern that ensures uniform signal coverage in all directions. It provides high efficiency and impressive gain across Bluetooth frequency bands, making it an optimal choice for devices requiring seamless wireless connectivity.

2- Specifications

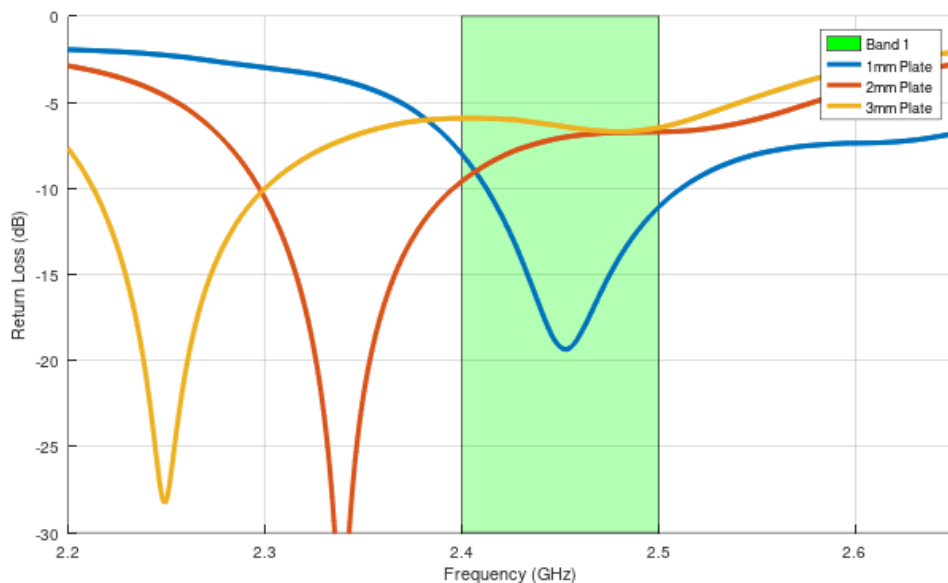
Mechanical	
Height	8.5x23mm
Thickness	0.12 mm
Connector	I-PEX MHF1
Standard Cable	1.13mm Coaxial (100mm)
Adhesive	3M9077
Weight	1g
Temperature Range	-20°C to 100°C
Electrical	
Frequency (GHz)	2.4/2.5
Return Loss (dB)	-6
VSWR	3:1
Efficiency	40%
Peak Gain (dBi)	-1
Impedance	50Ω
Polarization	Linear
Pattern	Omni Directional

*Data are given for antenna placed on 2 mm PLA plate.

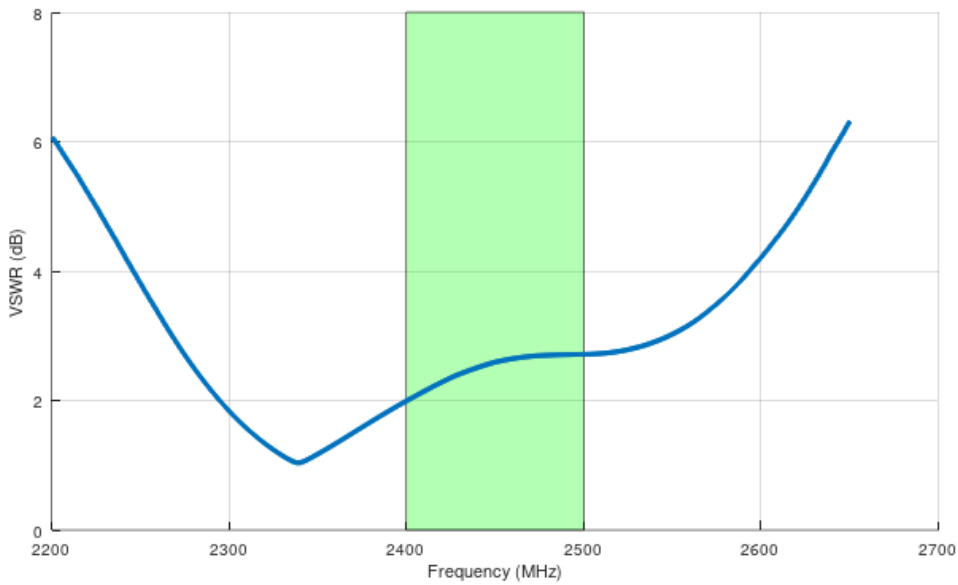
3- Antenna Parameters

The reflection performance of the NEX11-INT-FLEX-001 antenna was assessed using three PLA plastic samples with thicknesses of 1mm, 2mm, and 3mm, each sized 20x20 mm. These plots were provided to evaluate the antenna's behavior under different material conditions for inclusion in the datasheet.

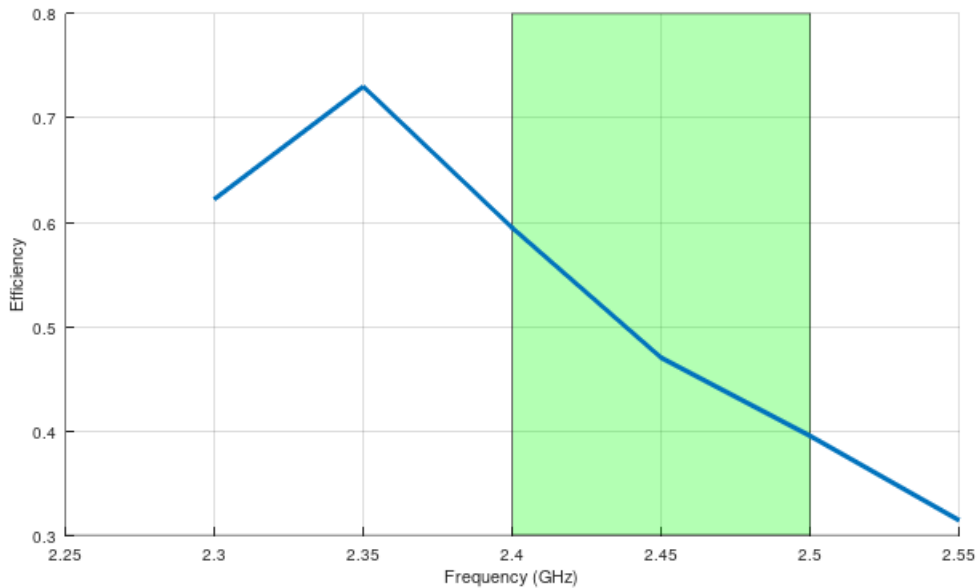
3.1- Return Loss



3.2- VSWR



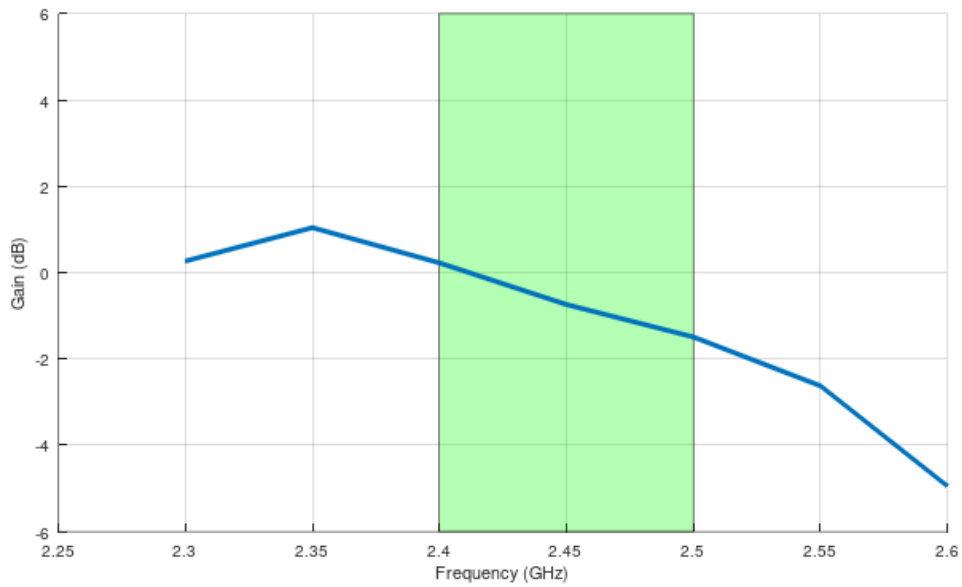
3.3- Efficiency



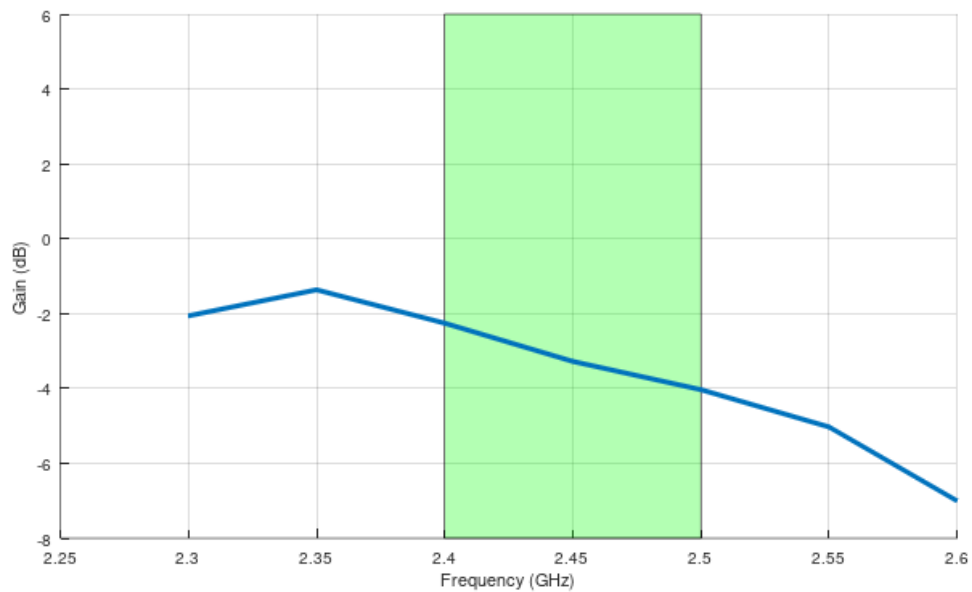
*Data are given for antenna placed on 2 mm PLA plate.

4- Radiator Patterns

4.1- Peak Gain

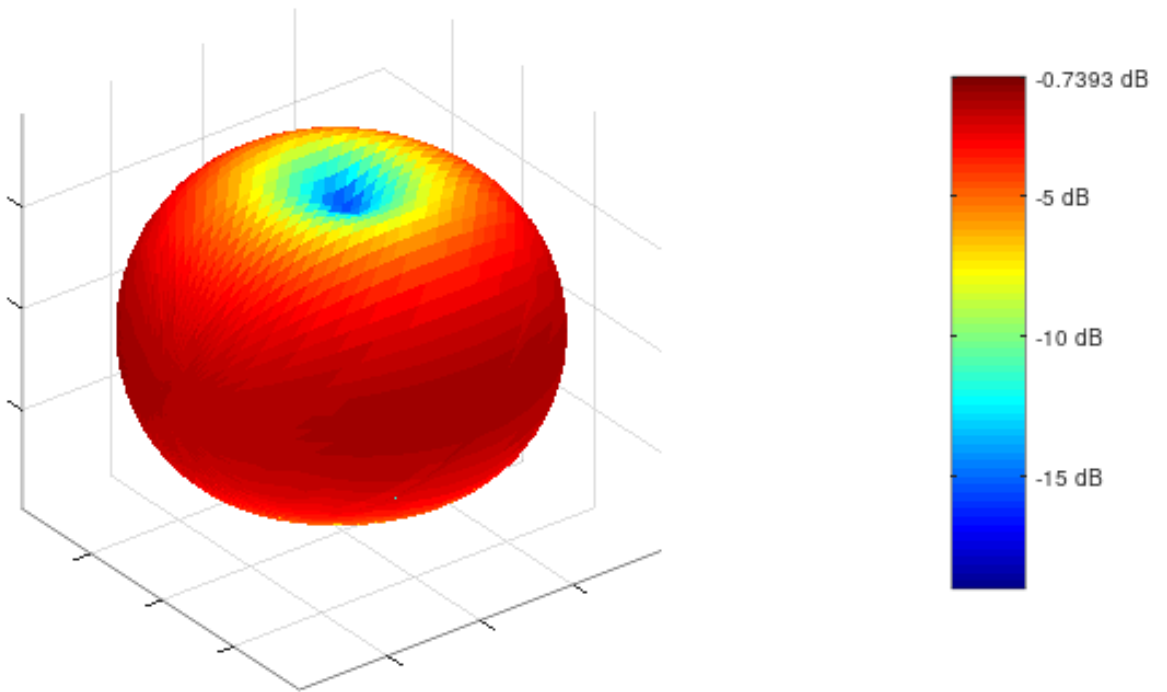


4.2- Average Gain



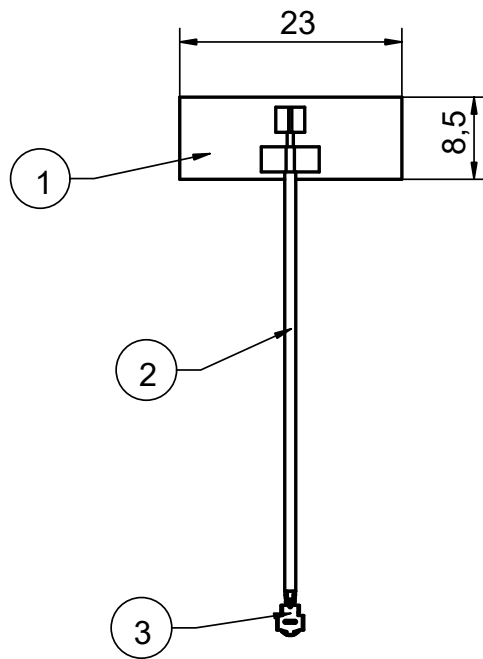
*Data are given for antenna placed on 2 mm PLA plate.

4.3- 2450 MHz Pattern



*Data are given for antenna placed on 2 mm PLA plate.

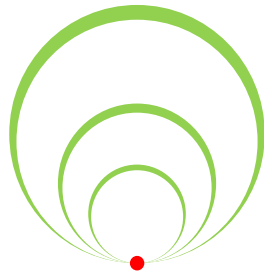
5- Technical Drawing



1	Flexible Antenna
2	1.37 Coaxial Cable
3	I-PEX MHF-1

Author: Talha Çalış	Legal owner: RF NEXUS Corp.	Scale: M 2:1	Sheet of 1
Appr.: Talha Çalış		Toler. #/ - ?	Size: A4
TITLE: Flexible Bluetooth Antenna		Part material: Part number: NEX11-INT-FLEX-001	
		Drawing no.: DN	
		Date: 2024-08-04	Revision: REV A
Document type: Mechanical assembly drawing		(R) DO NOT DUPLICATE THIS DRAWING TO THIRD PARTIES WITHOUT OWNER'S PERMISSION !	





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