

RF
NEXUS

Product Datasheet

NEX13-INT-FLEX-001

Key Features

- WiFi
- Bluetooth/ISM/Zigbee
- Adhesive Mount
- Flexible
- Usable Without Ground
- Dimensions
8.5×33.4×0.12mm



1- Introduction

The NEX13-INT-FLEX-001 is a compact, high-efficiency dipole antenna designed to cover a wide range of frequency bands, including 2.4/2.5 GHz, 4.9/6.5 GHz. This makes it suitable for Bluetooth, Wi-Fi, and the latest Wi-Fi 6/Wi-Fi 6E technologies, ensuring compatibility with both current and future wireless communication standards. Its ability to support these diverse frequency bands makes the NEX13-INT-FLEX-001 an excellent choice for IoT devices that require long-term, reliable wireless connectivity.

This antenna's flexible design allows it to be seamlessly integrated into devices with limited space, without compromising performance. The NEX13-INT-FLEX-001 delivers consistent, high-quality signal strength and efficiency across all supported bands, making it an ideal solution for applications requiring robust and stable connectivity.

The omnidirectional radiation pattern ensures uniform signal coverage, making the antenna suitable for various wireless systems. Whether used in compact IoT devices or other space-constrained applications, the NEX13-INT-FLEX-001 offers a future-proof solution with excellent performance across multiple frequency ranges.

2- Specifications

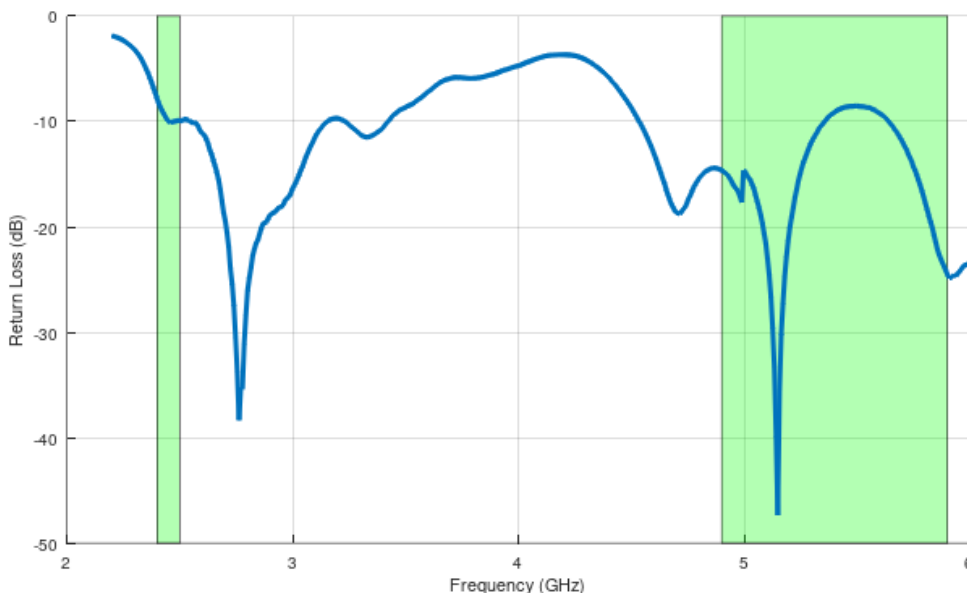
Mechanical		
Height	8.5x33.4mm	
Thickness	0.12 mm	
Connector	I-PEX MHF1	
Standard Cable	1.13mm Coaxial (100mm)	
Adhesive	3M	
Weight	1g	
Temperature Range	-20°C to 100°C	
Electrical		
Frequency (GHz)	2.4/2.5	4.9/6.5
Average Gain (dB)	-1.1	-1.4
Peak Gain (dB)	1.4	2.9
Return Loss (dB)	-6	
VSWR	3:1	
Impedance	50Ω	
Polarization	Linear	
Pattern	Omni Directional	

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

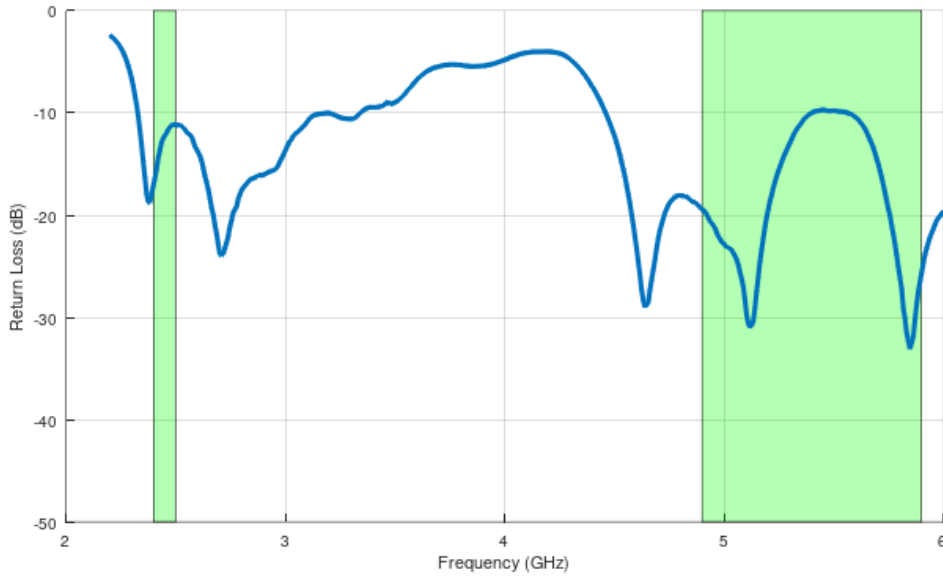
3- Antenna Parameters

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 behaviour under different material conditions for inclusion in the datasheet. Data are given for standard cable length 100mm with 1.13 mm diameter.

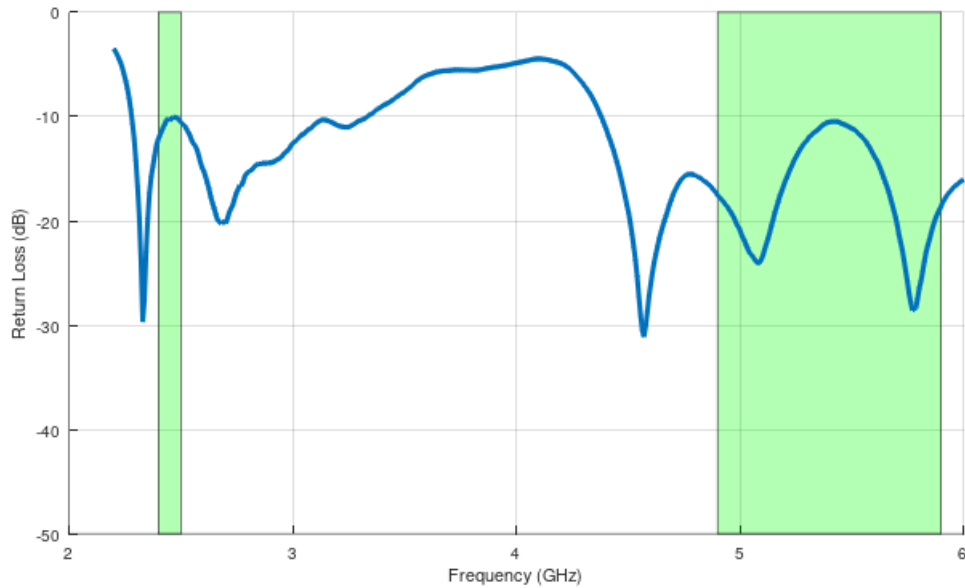
3.1- Return Loss with 1mm PLA Plate



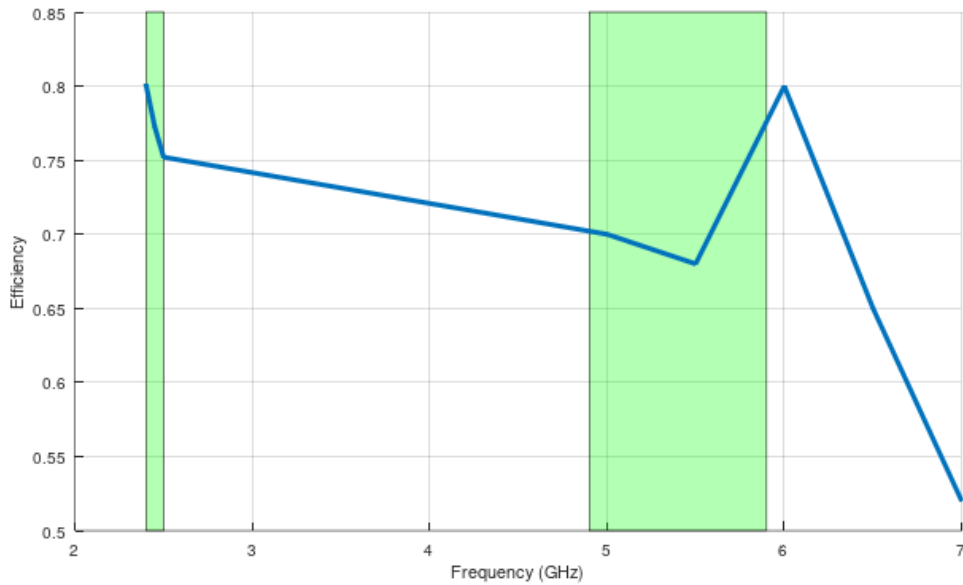
3.2- Return Loss with 2mm PLA Plate



3.3- Return Loss with 3mm PLA Plate



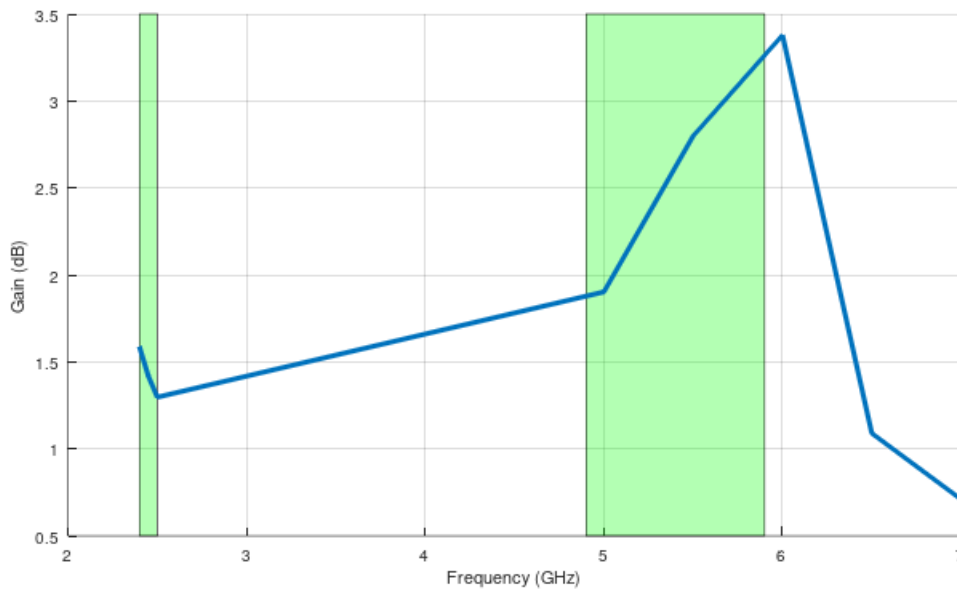
3.4- Efficiency



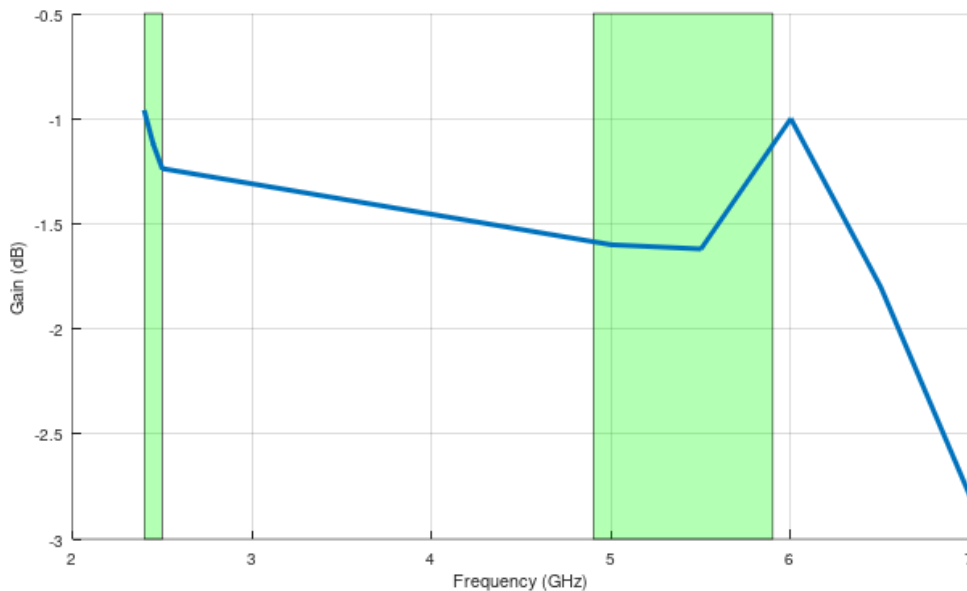
*Data are given for antenna placed on 2 mm PLA plate.

4- Radiator Patterns

4.1- Peak Gain

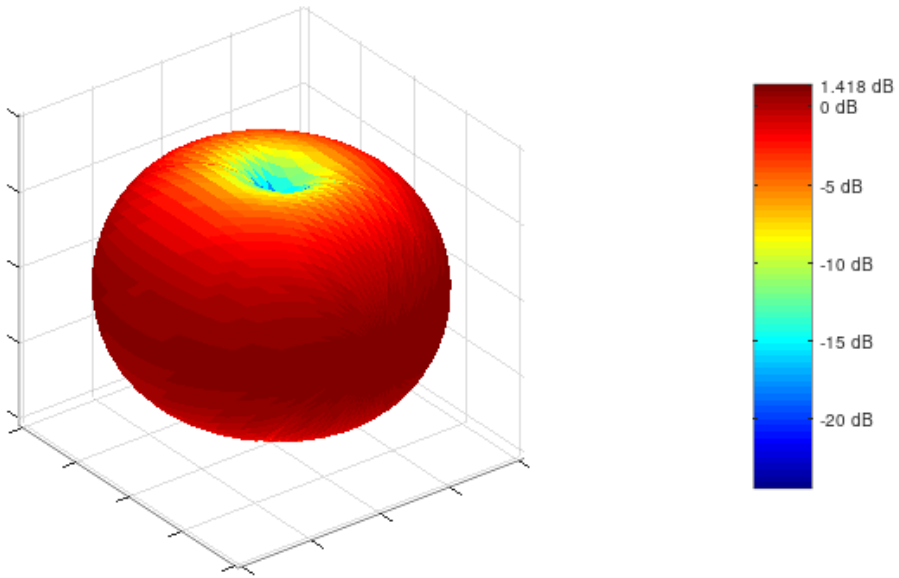


4.2- Average Gain

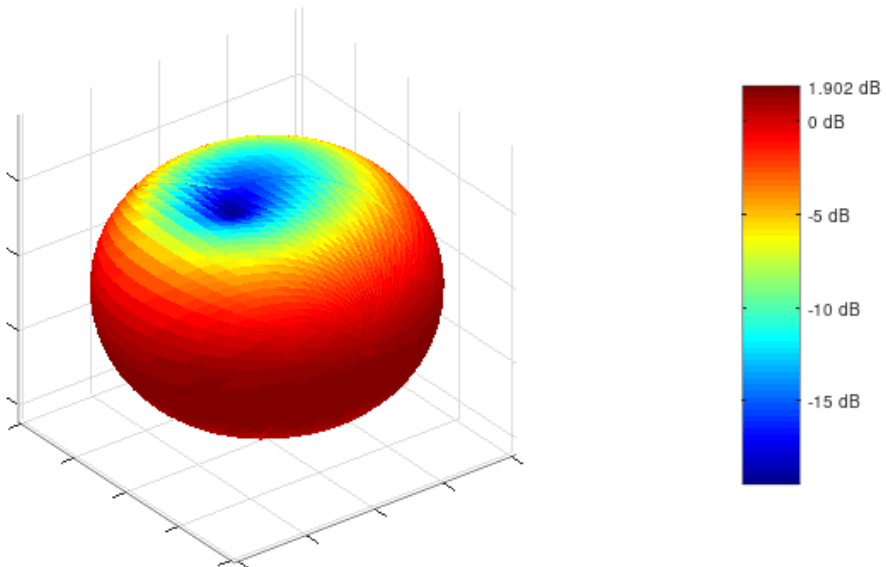


*Data are given for antenna placed on 2 mm PLA plate.

4.3- 2450 MHz Pattern

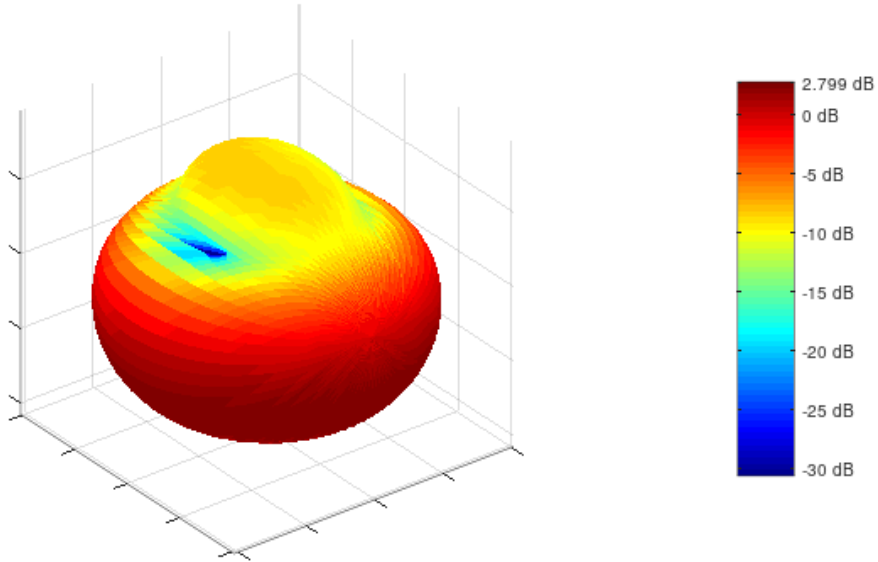


4.4- 5000 MHz Pattern

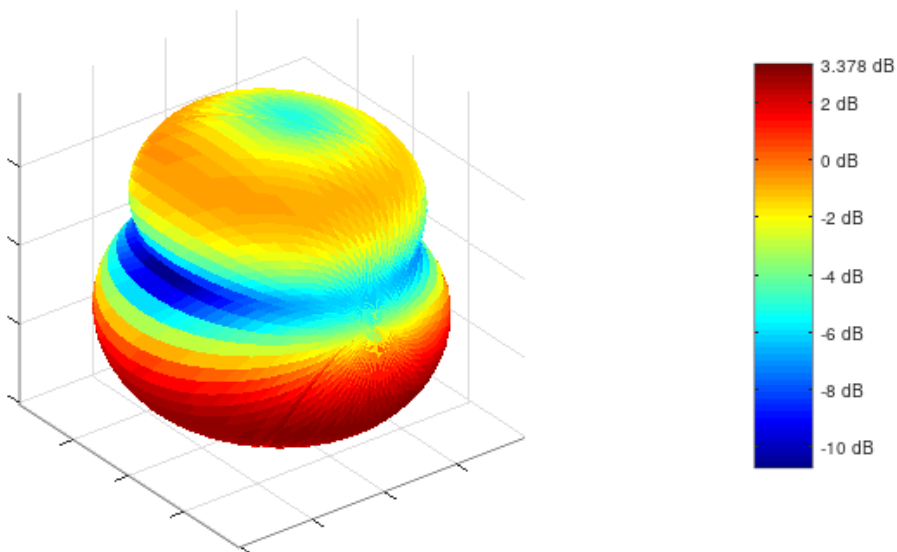


*Data are given for antenna placed on 2 mm PLA plate.

4.5- 5500 MHz Pattern

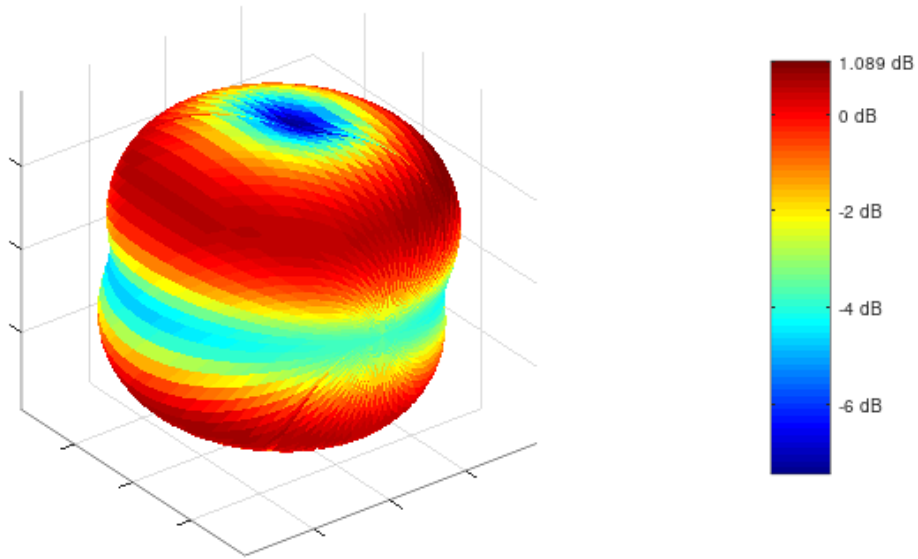


4.6- 6000 MHz Pattern



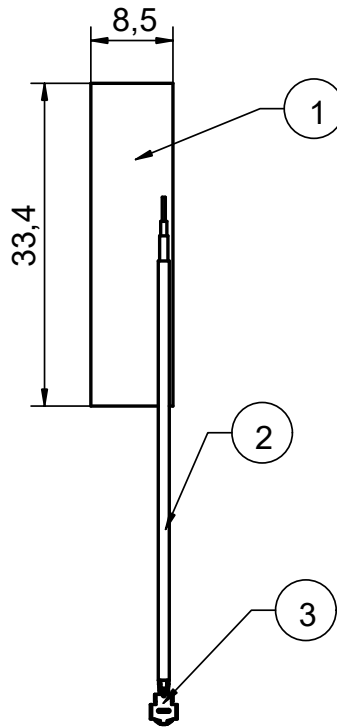
*Data are given for antenna placed on 2 mm PLA plate.

4.7- 6500 MHz Pattern



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

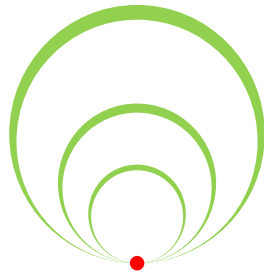
5- Technical Drawing



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

Author: Talha Çalış	Legal owner: RF NEXUS Corp.	Scale: M2:1	Sheet of 1
Appr.: Talha Çalış		Toler.#: -/ - ?	Size: A4
TITLE: Flexible Wifi Antenna		Part material: Part number: NEX13-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 !	





**RF
NEXUS**



+90 530-716-6670



www.nexus-rf.com



info@nexus-rf.com



**İvedikOSB Mh. 2224. Cad.
No:1 - 117/A
Yenimahalle / Ankara**