

RF  
NEXUS

# Product Datasheet

NEX16-INT-FLEX-001

## Key Features

- UWB
- 3.1-11GHz
- Adhesive Mount
- Flexible
- Usable Without Ground
- Dimensions  
25 × 35 x 0.12 mm



## 1- Introduction

This compact, low-profile PCB antenna leverages advanced smart antenna technology to deliver exceptional performance. It features a flexible PCB design, making it adaptable to various installation environments, and comes equipped with a 1.13mm mini coaxial cable terminating in an I-PEX MHF connector for easy integration with a wide range of devices.

The NEX16-INT-FLEX-001 antenna is specifically engineered for optimal gain and efficiency across the 3.1- 11 GHz frequency bands, which are commonly used for UWB applications. Its design ensures reliable wireless connectivity in both industrial and commercial IoT environments, making it an ideal solution for long-range, low-power communications. The antenna's flexibility and small form factor (25x35x0.12mm) allow it to be seamlessly incorporated into space-constrained devices, while still maintaining excellent performance across the target frequency ranges.

## 2- Specifications

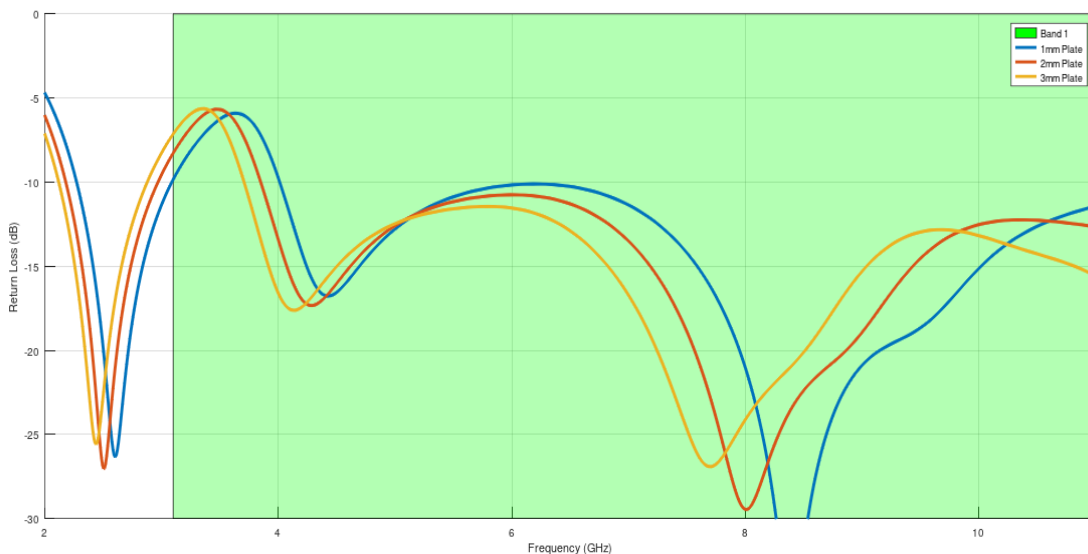
Mechanical	
Size	25x35mm
Thickness	0.12 mm
Connector	I-PEX MHF1
Adhesive	3M
Weight	1g
Temperature Range	-20°C to 100°C
Electrical	
Frequency (MHz)	3.1-11 GHz
Return Loss (dB)	-6
VSWR	3:1
Efficiency	40%
Peak Gain (dBi)	2
Impedance	50Ω
Polarization	Linear
Pattern	Omni Directional

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

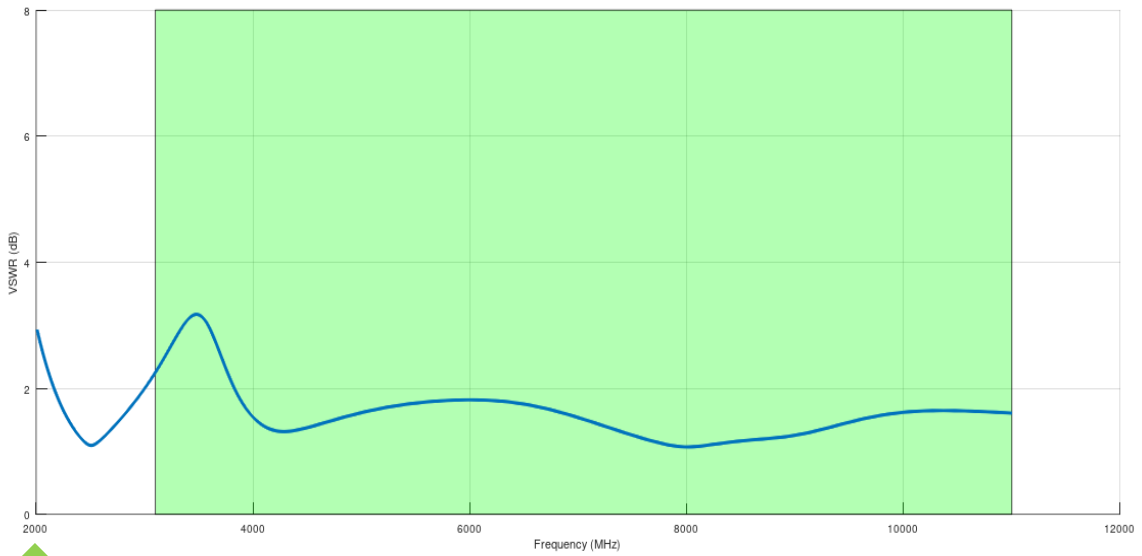
## 3- Antenna Parameters

The reflection performance of the NEX16-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.

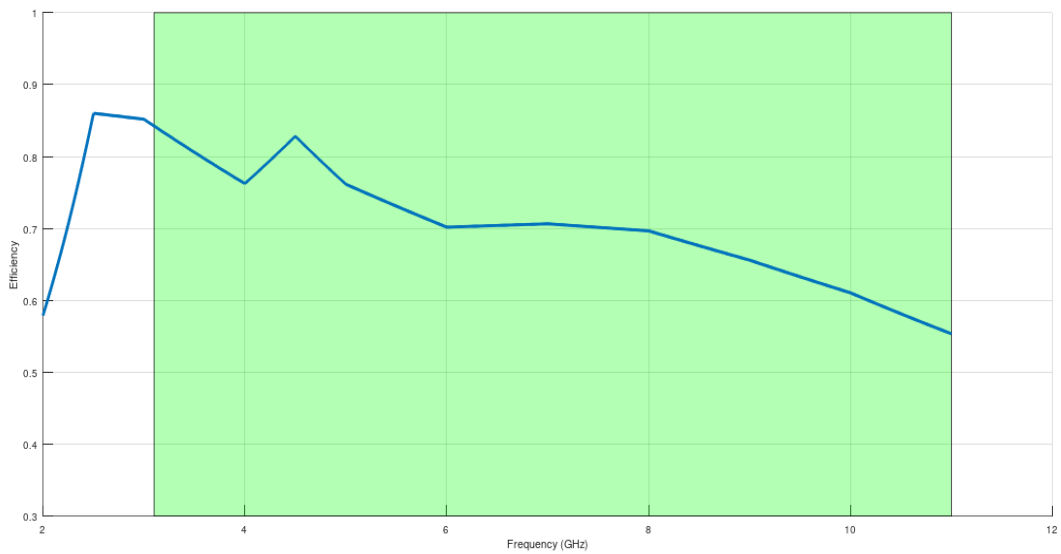
### 3.1- Return Loss with 100mm Cable



### 3.2- VSWR



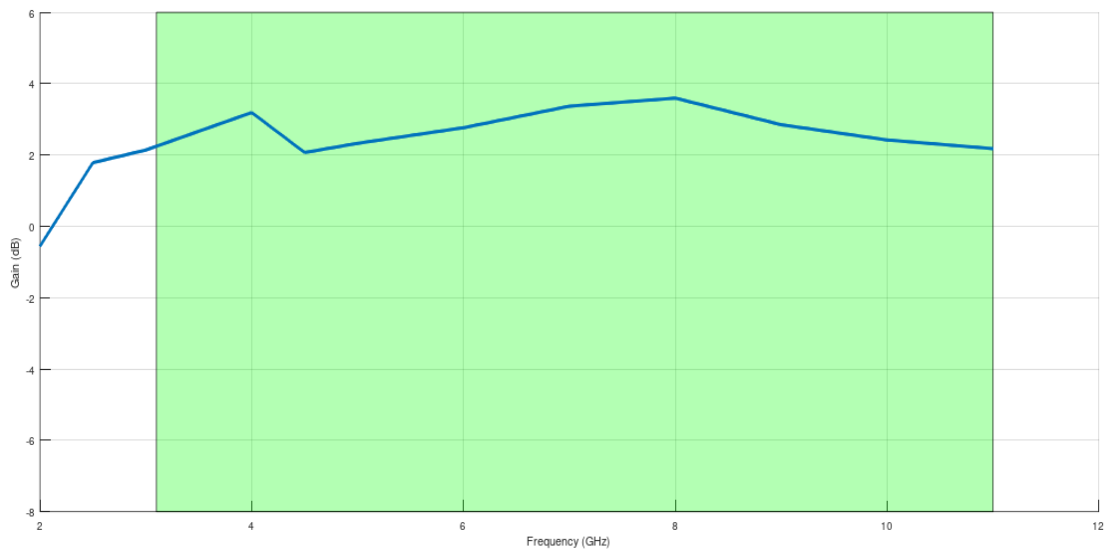
### 3.3- Efficiency



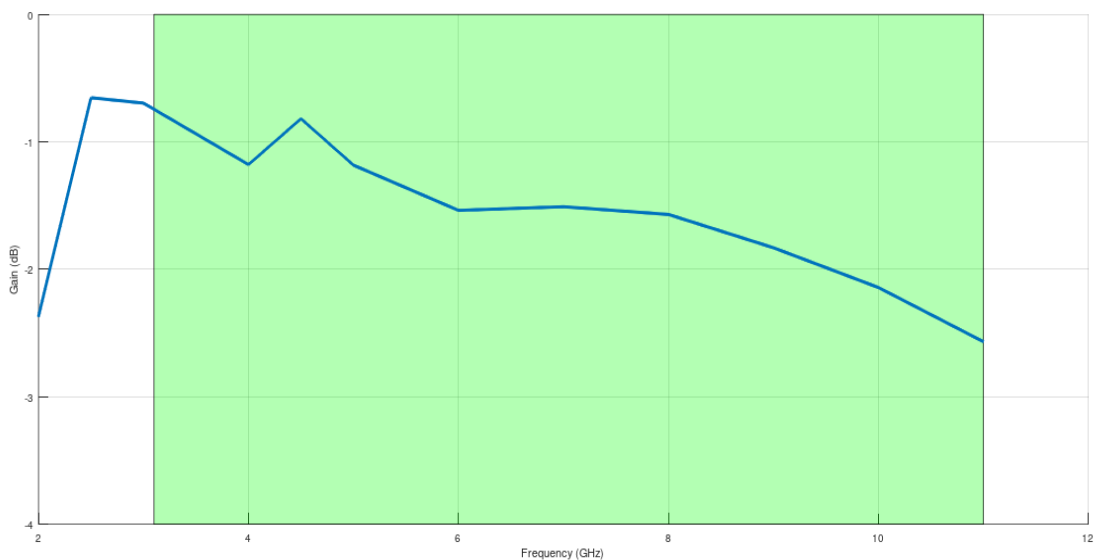
\*Data are given for antenna placed on 2 mm PLA plate.

## 4- Radiator Patterns

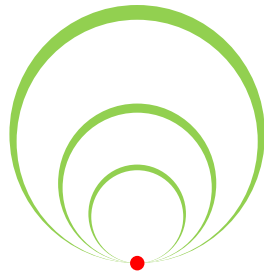
### 4.1- Peak Gain



### 4.2- Average Gain



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