

RF
NEXUS

Product Datasheet

NEX15-INT-FLEX-001



Key Features

- LoRa
- Sigfox/Z-Wave/ISM
- 865/870 & 902/928 MHz
- Adhesive Mount
- Flexible
- Usable Without Ground
- Dimensions
25 × 80 x 0.2 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 NEX15-INT-FLEX-001 antenna is specifically engineered for optimal gain and efficiency across the 865/870 MHz and 902/928 MHz frequency bands, which are commonly used for LoRa and ISM 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 allow it to be seamlessly incorporated into space-constrained devices, while still maintaining excellent performance across the target frequency ranges. Whether used in LoRa networks or other ISM band applications, this antenna is tailored for superior signal strength and efficiency.

2- Specifications

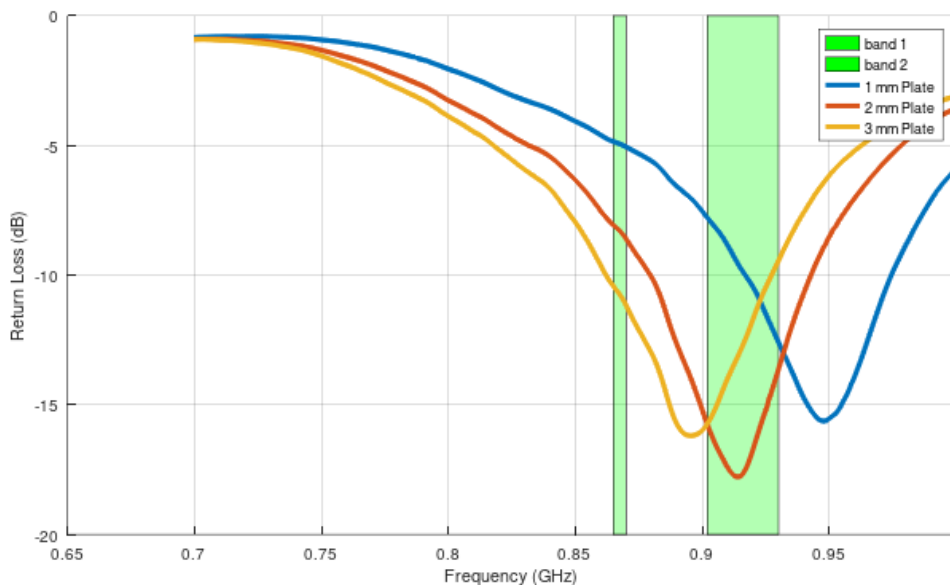
| Mechanical | | |
|-------------------|------------------|---------|
| Size | 25x80mm | |
| Thickness | 0.2 mm | |
| Connector | I-PEX MHF1 | |
| Adhesive | 3M | |
| Weight | 1g | |
| Temperature Range | -20°C to 100°C | |
| Electrical | | |
| Frequency (MHz) | 865/870 | 902/928 |
| Peak Gain (dB) | 1.8 | 2.7 |
| Return Loss (dB) | -6 | -6 |
| VSWR (dB) | 3:1 | 3:1 |
| Impedance | 50Ω | |
| Polarization | Linear | |
| Pattern | Omni Directional | |

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

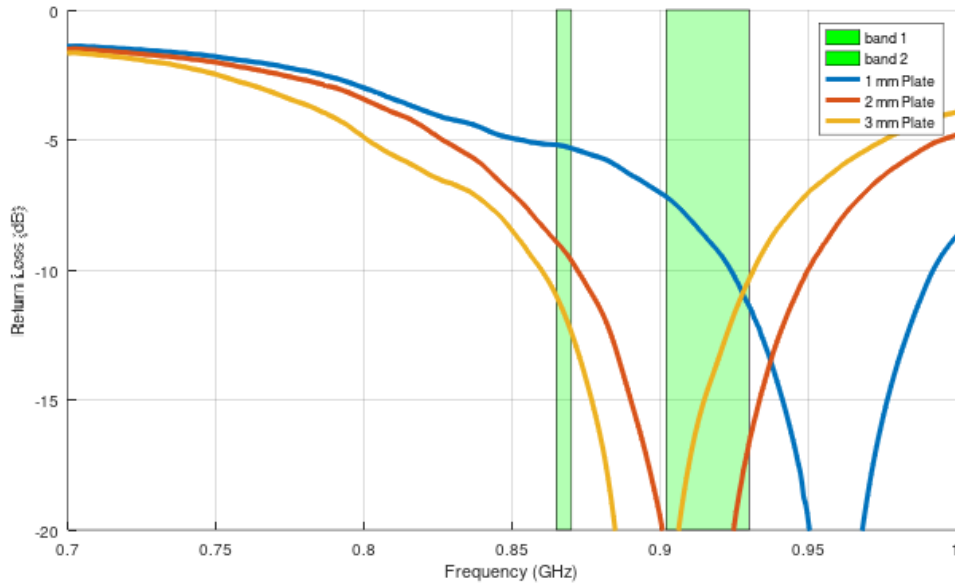
3- Antenna Parameters

The reflection performance of the NEX15-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.

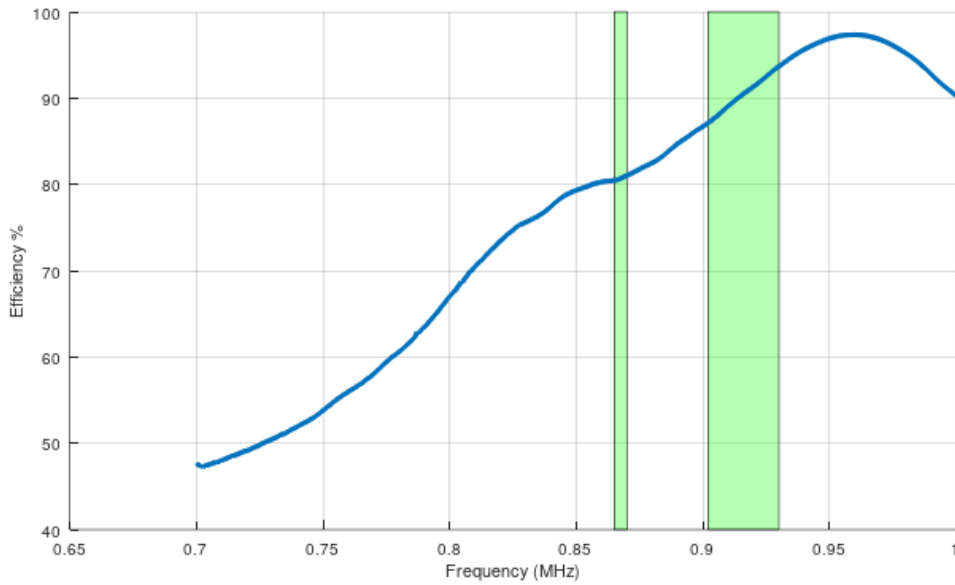
3.1- Return Loss with 100mm Cable



3.2- Return Loss with 200mm Cable



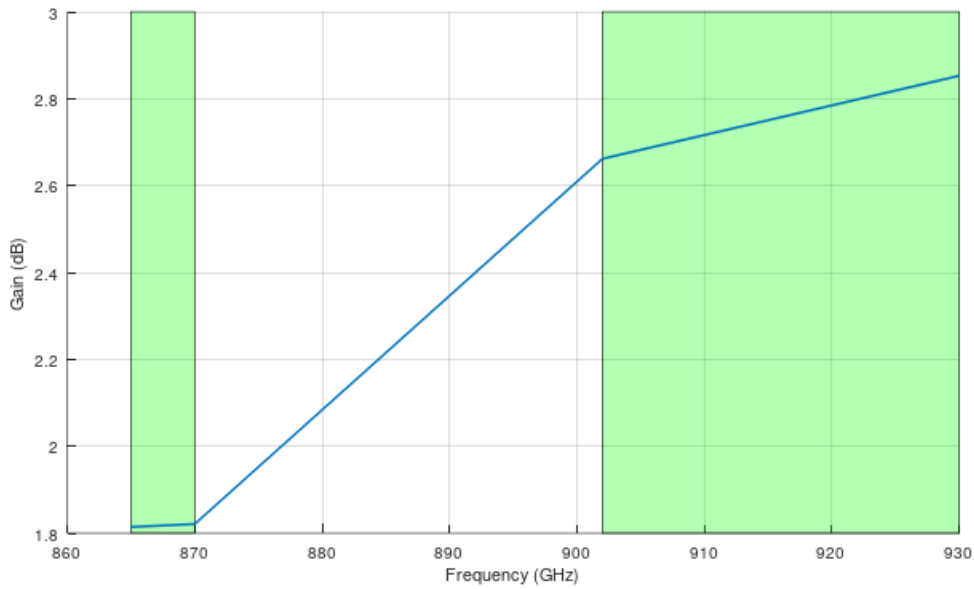
3.3- Efficiency



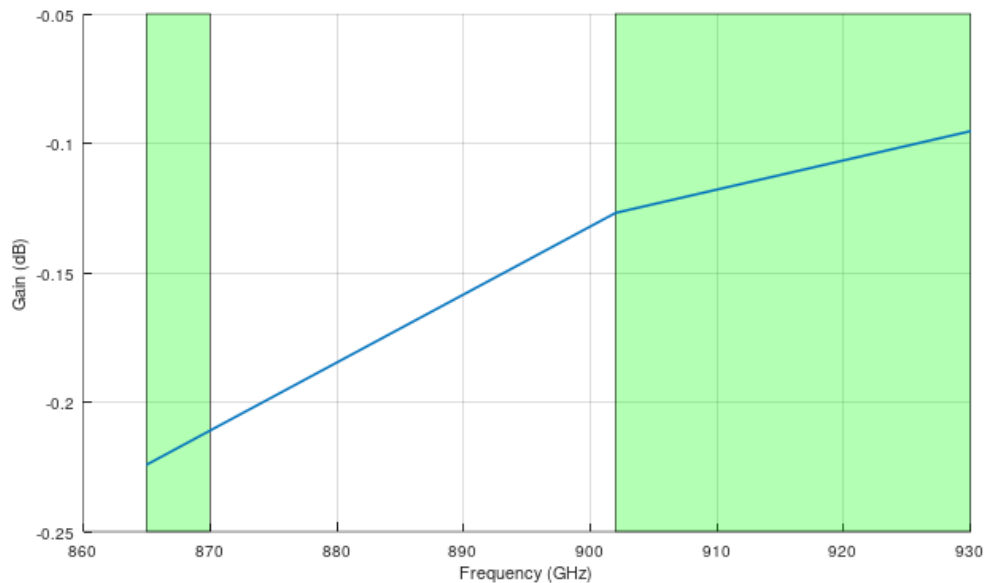
*Data are given for antenna placed on 2 mm PLA plate.

4- Radiator Patterns

4.1- Peak Gain

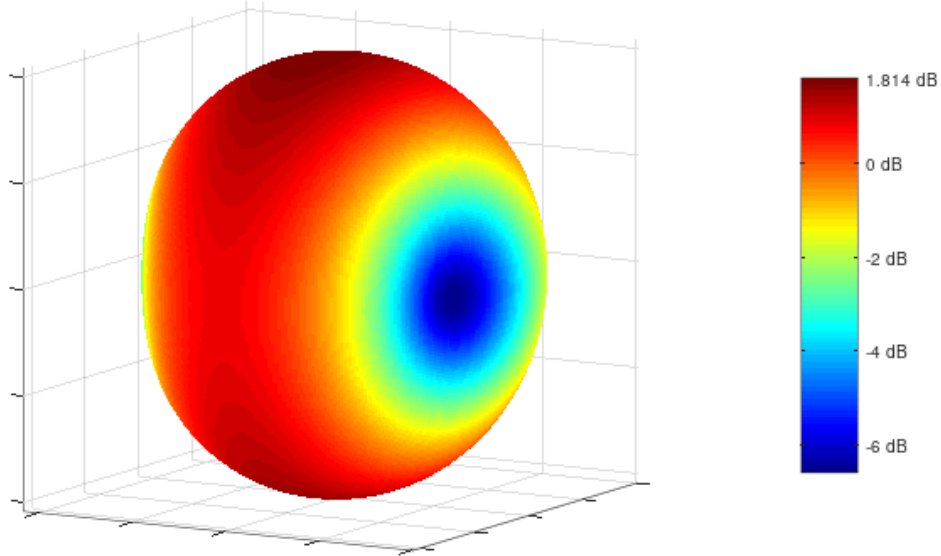


4.2- Average Gain

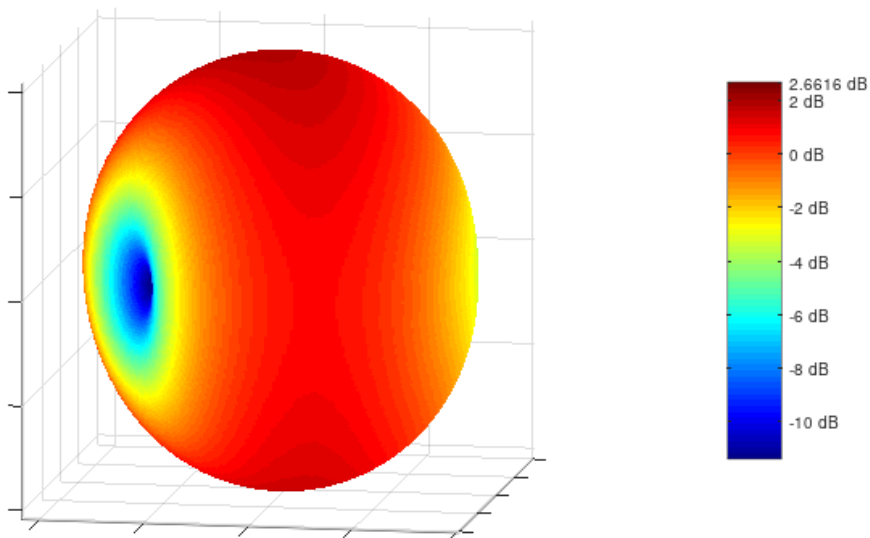


*Data are given for antenna placed on 2 mm PLA plate.

4.3- 865 MHz

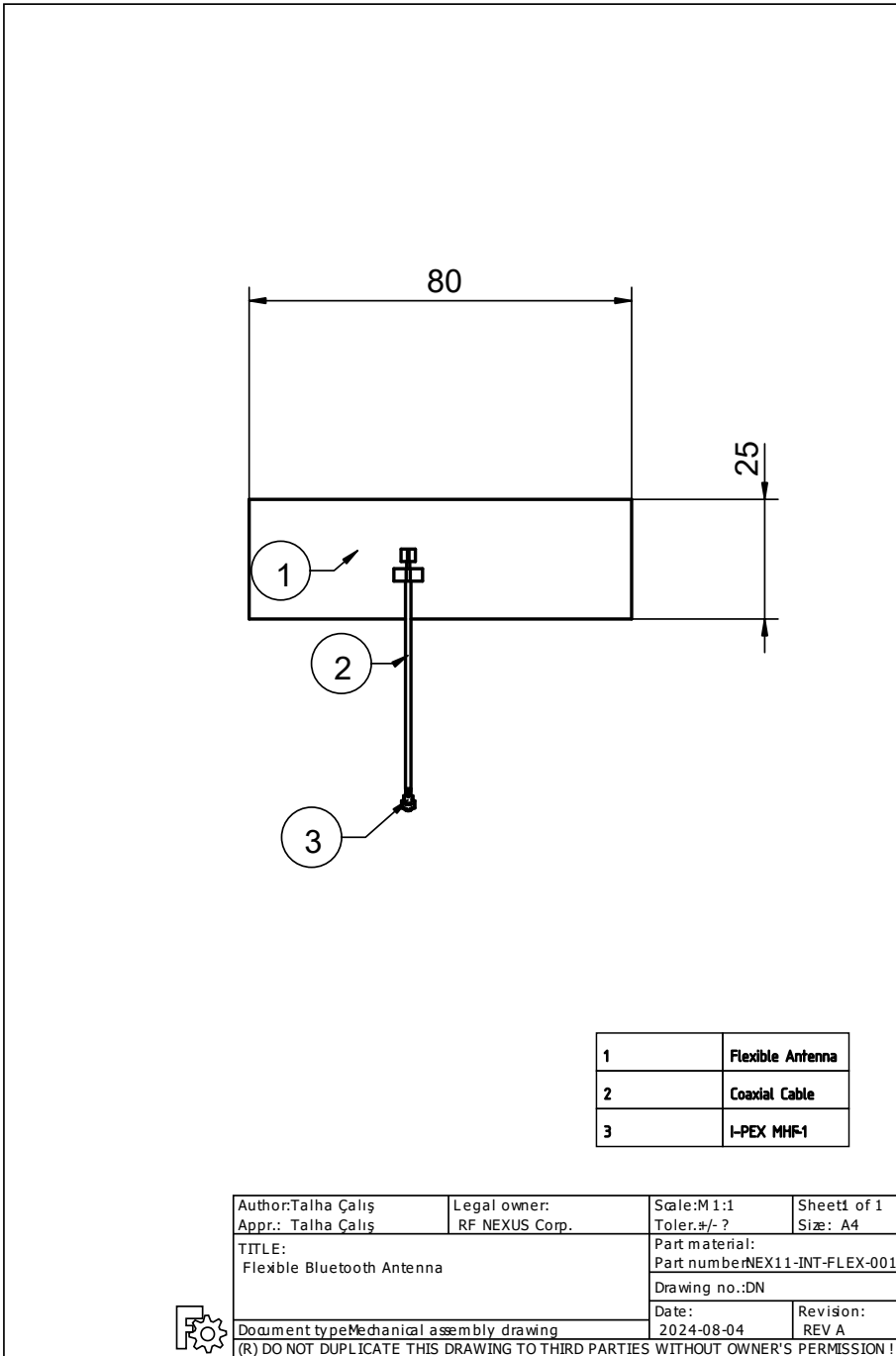


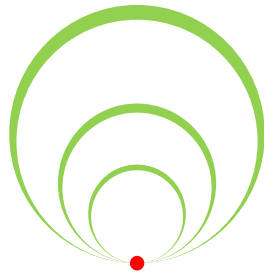
3.4- 902 MHz



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

5- Technical Drawing





RF
NEXUS



+90 530-716-6670



www.nexus-rf.com



info@nexus-rf.com



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