

**RF  
NEXUS**

# Product Datasheet

**NEX15-EXT-KB3-002**

## Key Features

- LoRa
- Sigfox/Z-Wave/ISM
- 865/870 & 902/928 MHz
- Screw Mount
- High Gain
- Usable With Ground Plane
- Water Resistant
- Dimensions  
Ø 42 × 94 mm



[www.nexus-rf.com](http://www.nexus-rf.com)

## 1- Introduction

The NEX15-EXT-KB3-002 is a high-gain antenna, specifically designed to deliver superior performance across a variety of wireless communication protocols, including LoRa, Sigfox, Z-Wave, and ISM bands, covering the 865/870 MHz and 902/928 MHz frequencies. Its enhanced gain ensures extended range and exceptional signal clarity, making it a standout choice for IoT applications that demand reliable, long-range communication in both urban and remote settings.

Equipped with a screw-mount system, the NEX15-EXT-KB3-002 allows for easy installation and secure attachment, providing stability in various deployment scenarios. Its versatile design enables efficient operation with or without a ground plane, offering greater flexibility for integration into different systems. Additionally, this antenna is water-resistant, ensuring durability in outdoor or harsh environments where long-term performance is critical.

Measuring  $\varnothing 42 \times 94$  mm, the NEX15-EXT-KB3-002 offers a balance of high performance and compact design, making it ideal for industries such as smart cities, agriculture, and logistics. Its robust construction, wide frequency support, and high-gain capability ensure consistent and dependable communication, even under challenging conditions.

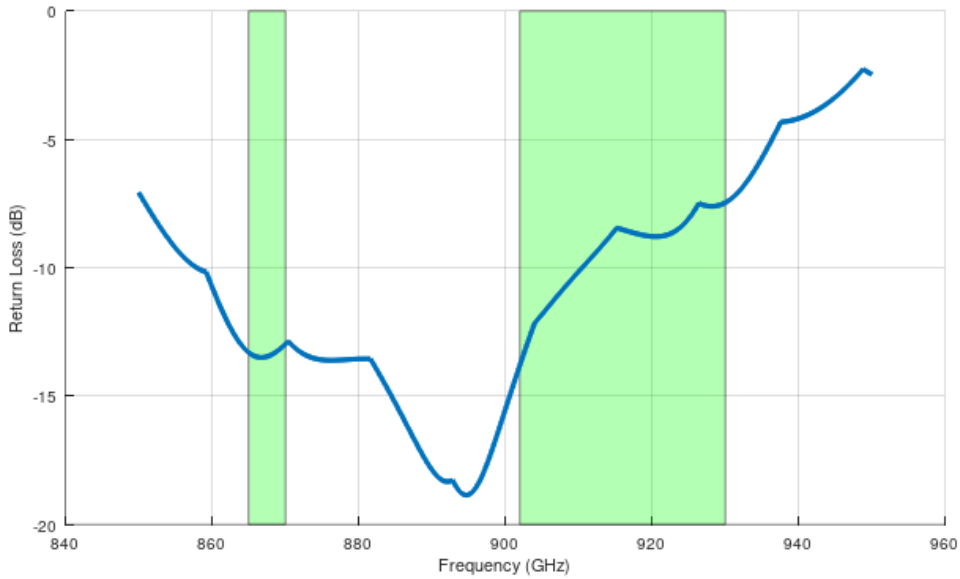
## 2- Specifications

Mechanical		
Size	94mm	
Diameter	42 mm	
Connector	SMA(M)	
Screw	M12 (1.75)	
Casing	ABS(UV)	
Weight*	36g	
Temperature Range	-40°C to 85°C	
Electrical		
Frequency (GHz)	865/870	902/928
Return Loss (dB)	-14	-9
VSWR	1.5:1	2.1:1
Efficiency	71%	60%
Peak Gain (dB)	2.5	2.6
Impedance	50Ω	
Polarization	Linear	
Pattern	Omnidirectional	

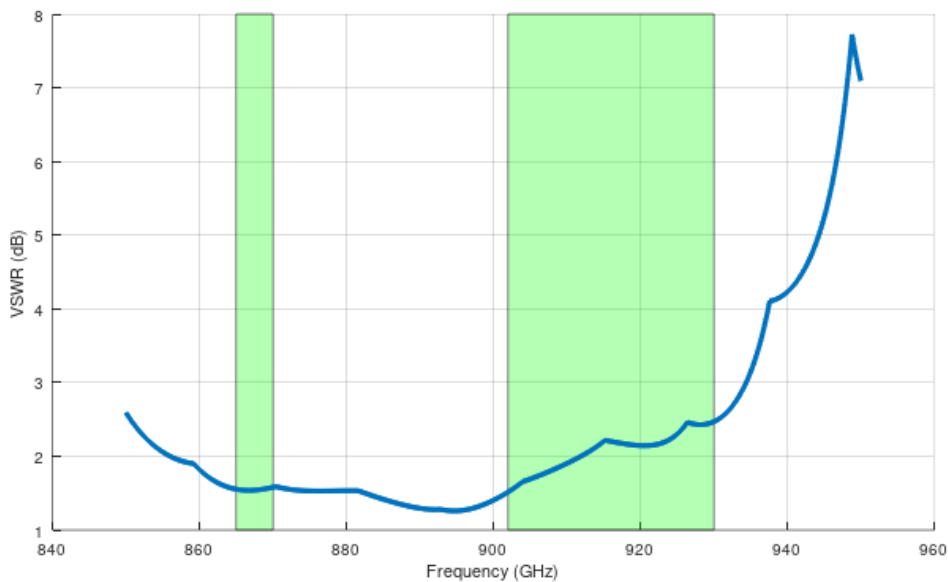
\*Data are given for antenna on 30cm diameter circular metal ground plane with 3m LMR195 cable .

## 3- Antenna Parameters

### 3.1- Return Loss

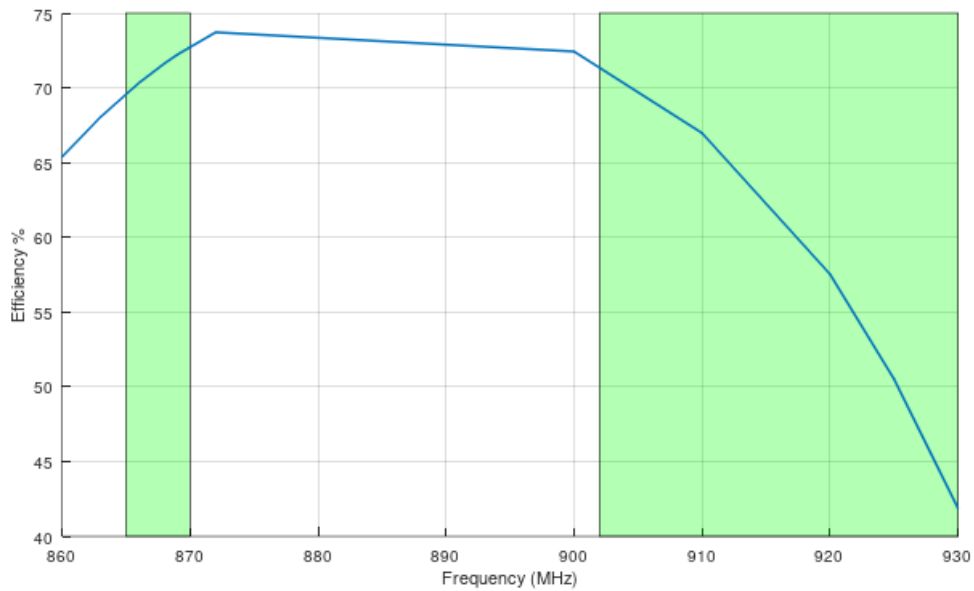


### 3.2- VSWR



\*Data are given for antenna on 30cm diameter circular metal ground plane with 3m LMR195 cable .

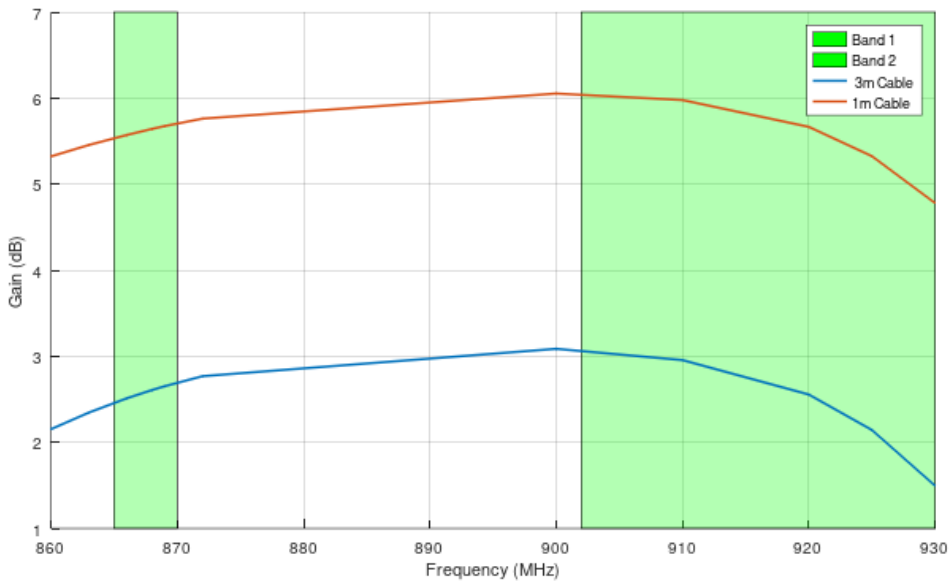
### 3.3- Efficiency



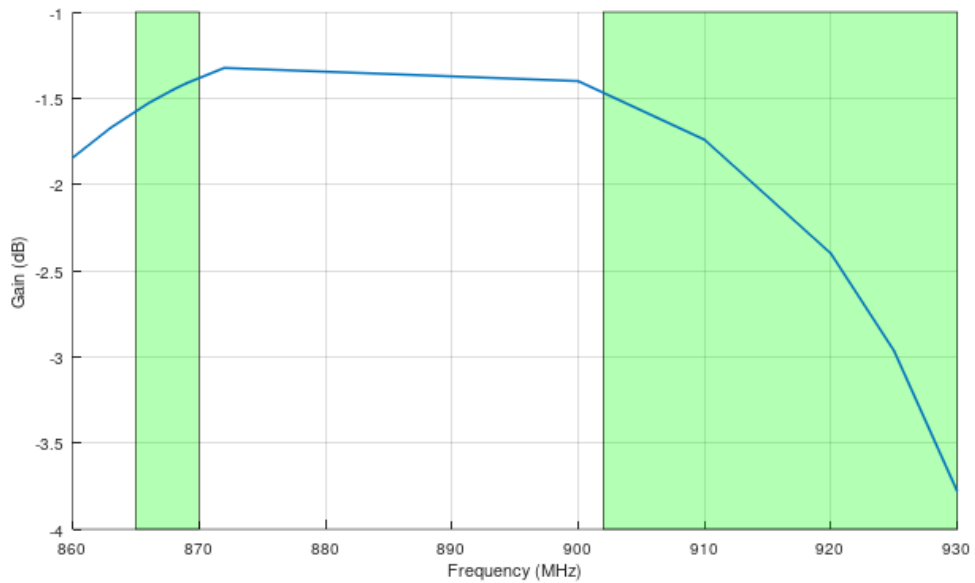
\*Data are given for antenna on 30cm diameter circular metal ground plane with 3m LMR195 cable .

# 4- Radiator Patterns

## 4.1- Peak Gain

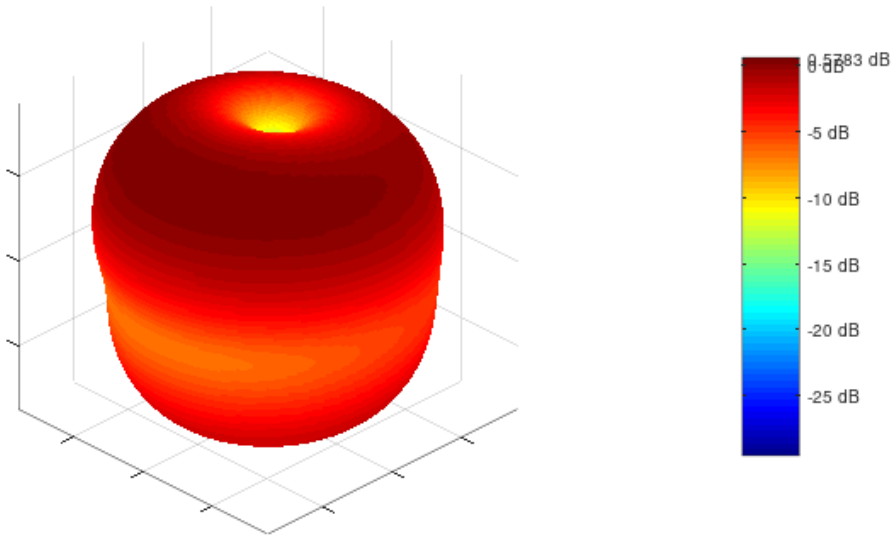


## 4.2- Average Gain

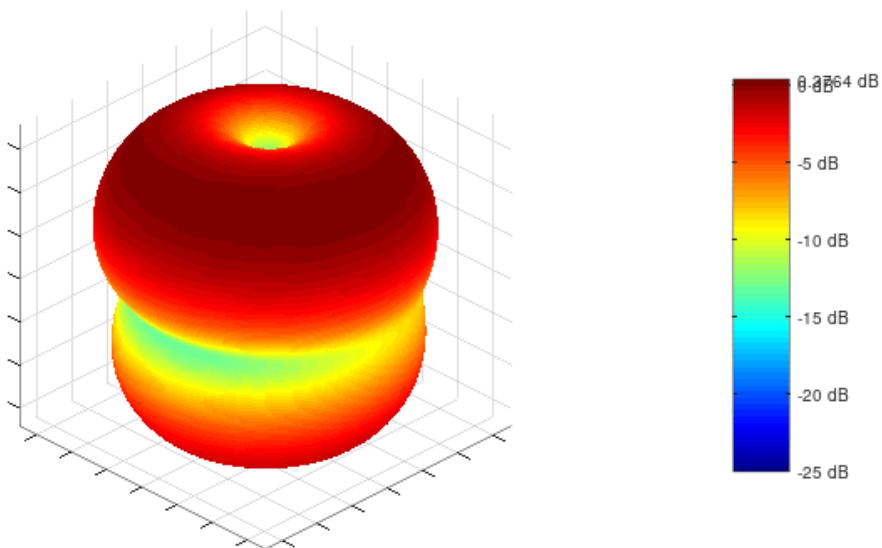


\*Data are given for antenna on 30cm diameter circular metal ground plane with 3m LMR195 cable .

## 4.5- 868 MHz Pattern



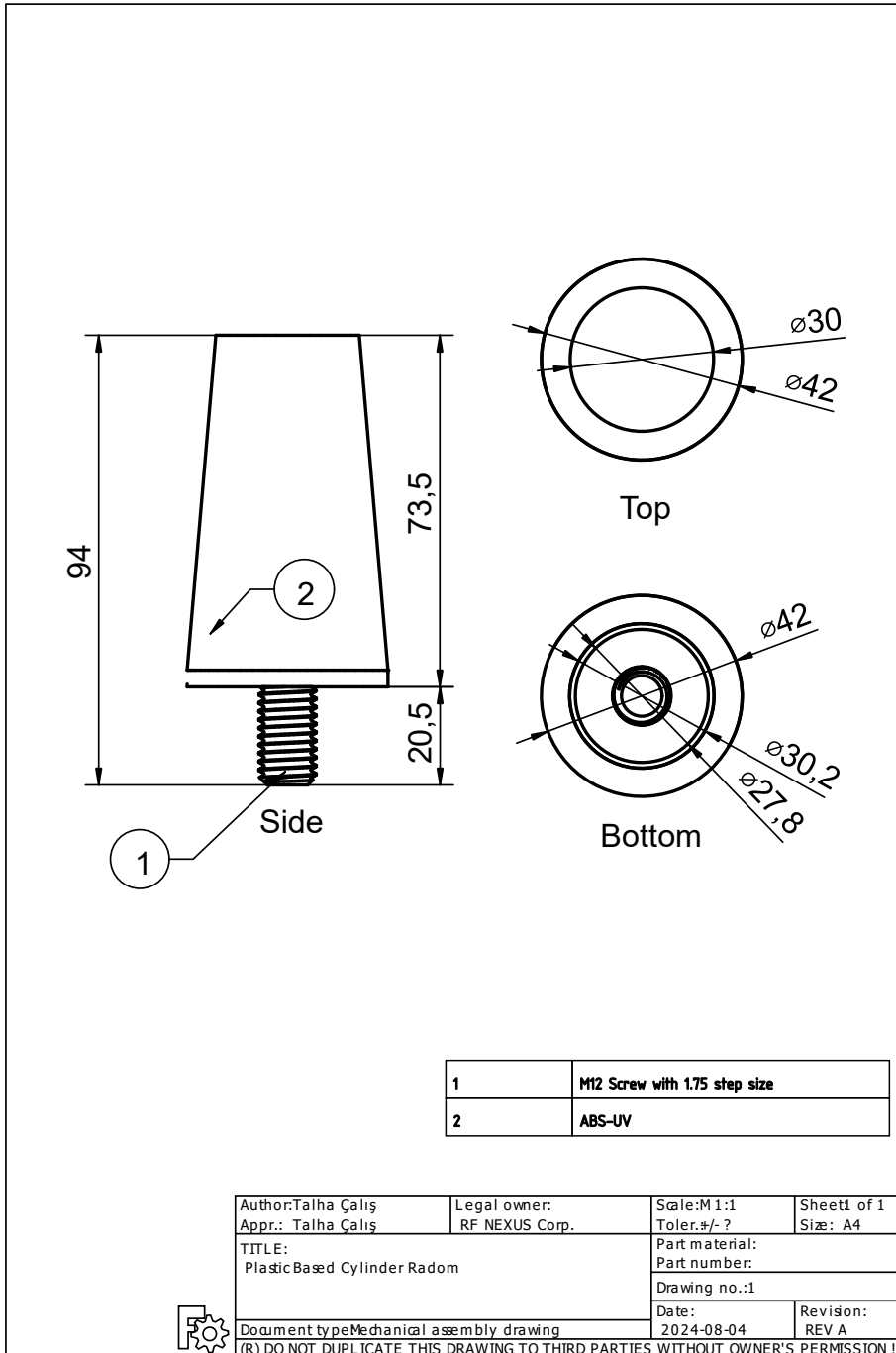
## 4.6- 915 MHz Pattern

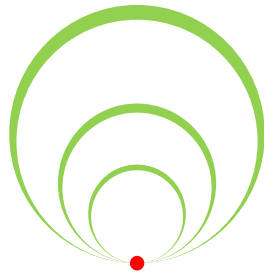


\*Data are given for antenna on 30cm diameter circular metal ground plane with 3m LMR195 cable .



# 5- Technical Drawing





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