



# TAOGLAS®



# Datasheet

## 868MHz Miniature Terminal Mount Antenna

**Part No:**  
TI.08.C.0111

### Description

868MHz ISM Band Terminal Antenna

### Features:

868MHz LoRA Band  
Omni-Directional Radiation Pattern  
Robust, Lightweight TPEE Enclosure  
Dimensions:  $\varnothing$ 54 x 7mm  
Connector: SMA Male  
RoHS & Reach Compliant

<b>1.</b>	<b>Introduction</b>	<b>2</b>
<b>2.</b>	<b>Specification</b>	<b>3</b>
<b>3.</b>	<b>Antenna Characteristics</b>	<b>4</b>
<b>4.</b>	<b>Radiation Patterns</b>	<b>7</b>
<b>5.</b>	<b>Mechanical Drawing</b>	<b>12</b>
<b>6.</b>	<b>Packaging</b>	<b>13</b>
<hr/>		
	Changelog	12

Taoglas makes no warranties based on the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Taoglas reserves all rights to this document and the information contained herein. Reproduction, use or disclosure to third parties without express permission is strictly prohibited.



# 1. Introduction



The TI.08.C.0111 is a powerful ISM band terminal mount antenna for emerging 868MHz LPWA technologies including LoRa and Helium. It has 25% efficiency in free space but performs best, with an efficiency of up to 78%, when mounted on a ground plane.

It easily attaches externally to a user device via an SMA male straight connector and is therefore a quick and easy solution, ready for immediate deployment. The robust and ruggedized TPEE housing makes it ideal in even the most demanding of applications.

Typical applications include:

- Remote Monitoring
- Smart Metering
- Mesh Networks
- Helium Networks
- Smart Home

For further information or support with integrating this antenna into your device, please contact your regional Taoglas customer support team.

## 2. Specification

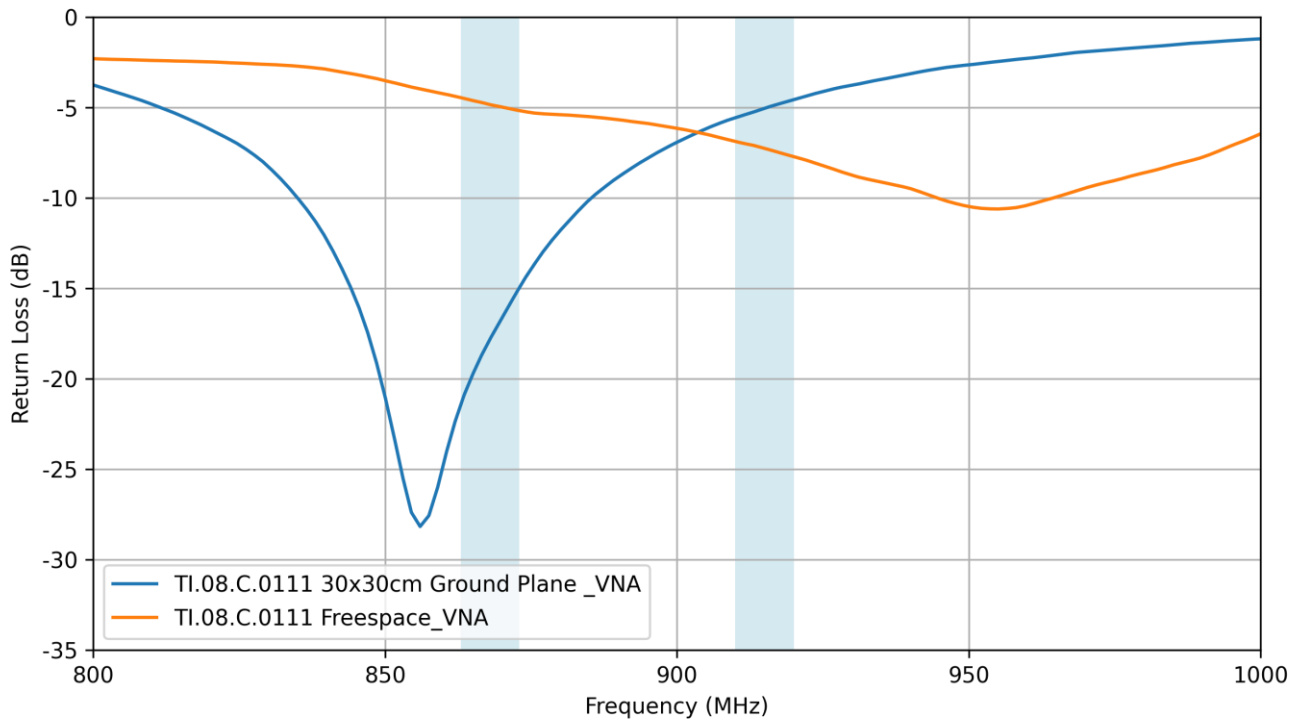
Wi-Fi Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
868MHz	863-873	30x30cm Ground Plane	62.4	-2.05	1.87	50 Ω	Linear	Omni	2W
		Free Space	32.1	-4.93	0.90				
915MHz	910-920	30x30cm Ground Plane	59.3	-2.27	1.67				
		Free Space	38.7	-4.12	1.42				

Mechanical	
Height	54 mm
Diameter	7 mm
Casing	TPEE
Connector	SMA Male
Colour	Black
Weight	7g

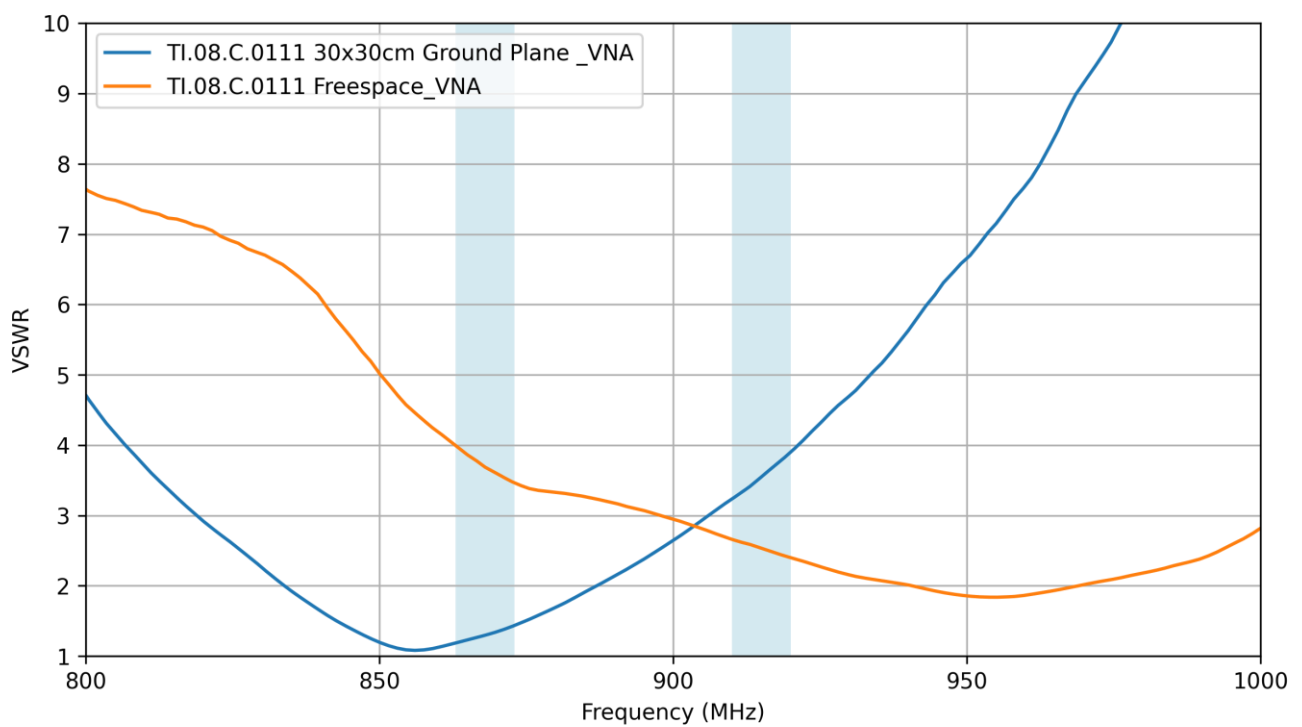
Environmental	
Temperature Range	-40°C to 85°C
Humidity Level	Non-condensing 65°C 95% RH
RoHs & REACH Compliant	Yes

### 3. Antenna Characteristics

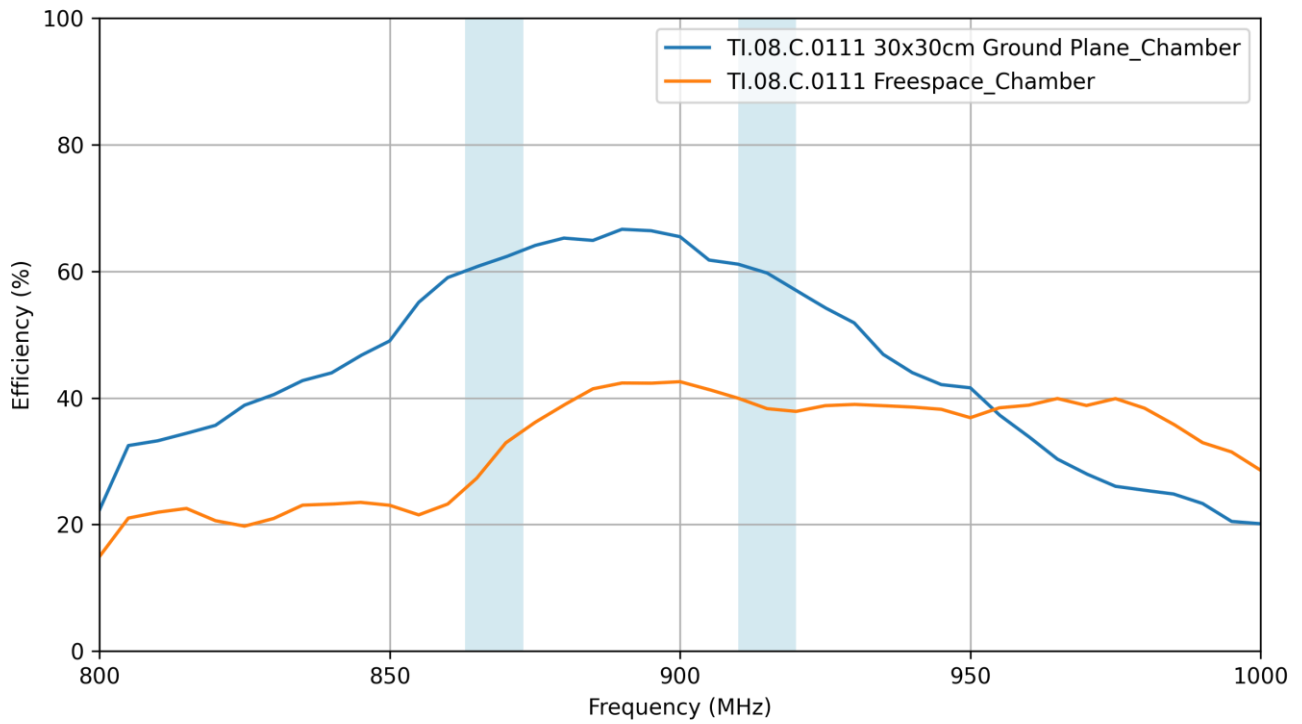
#### 3.1 Return Loss



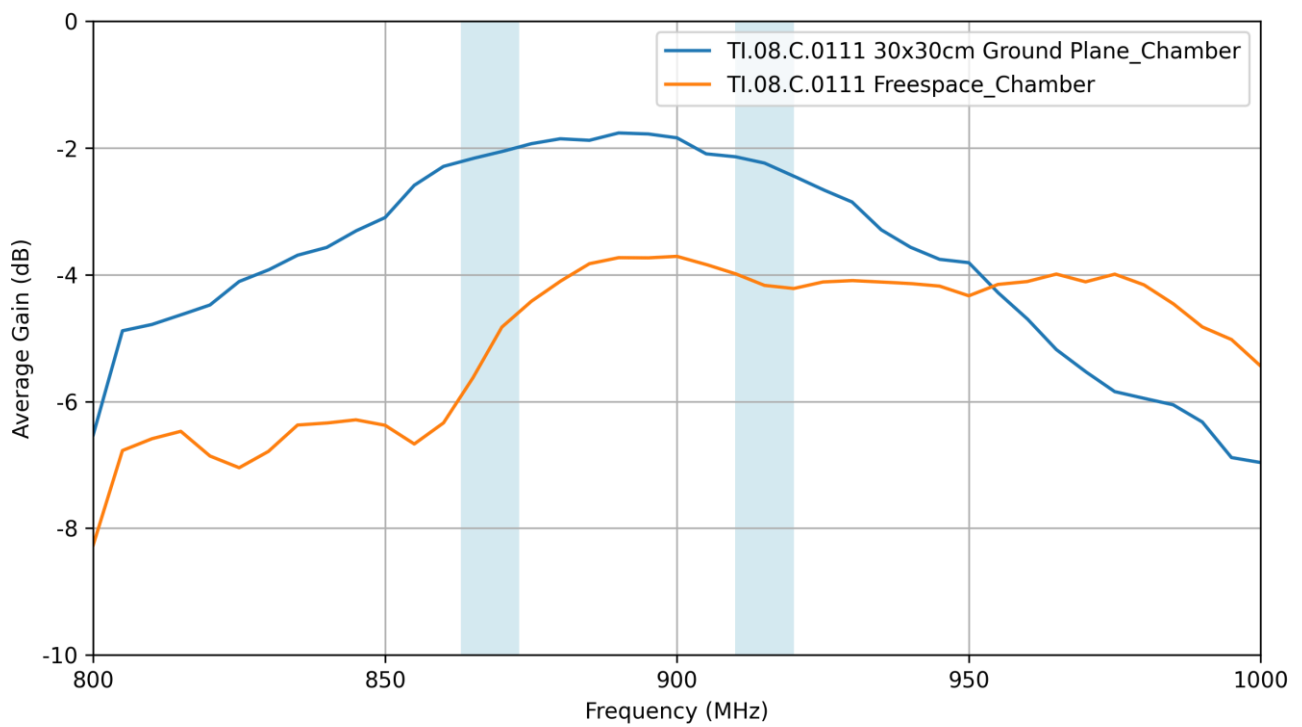
#### 3.2 VSWR



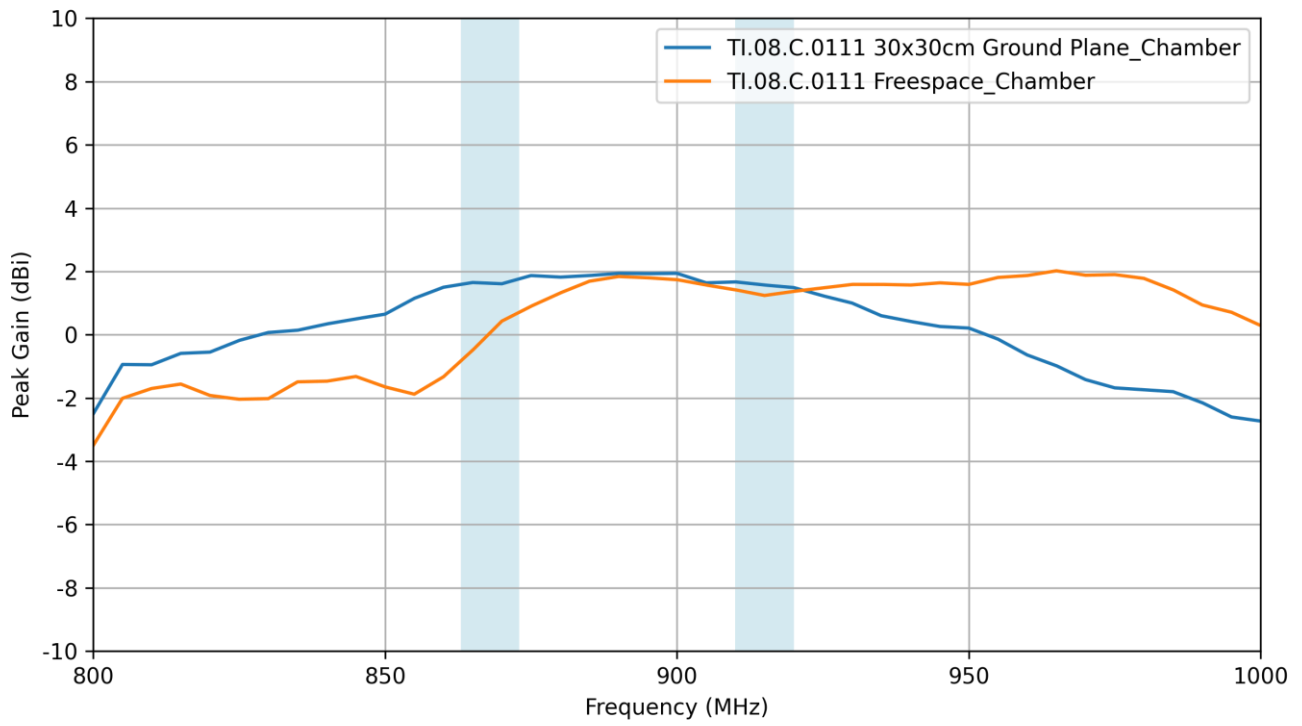
### 3.3 Efficiency



### 3.4 Average Gain

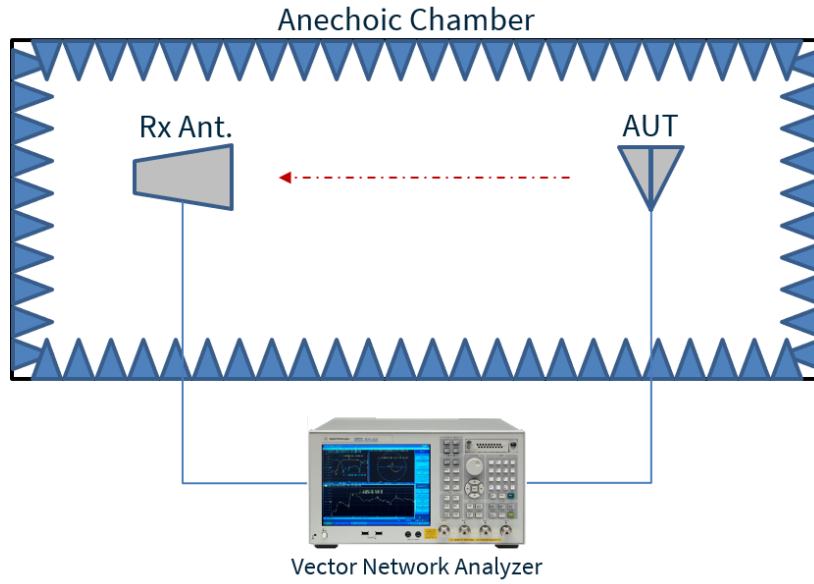


### 3.5 Peak Gain

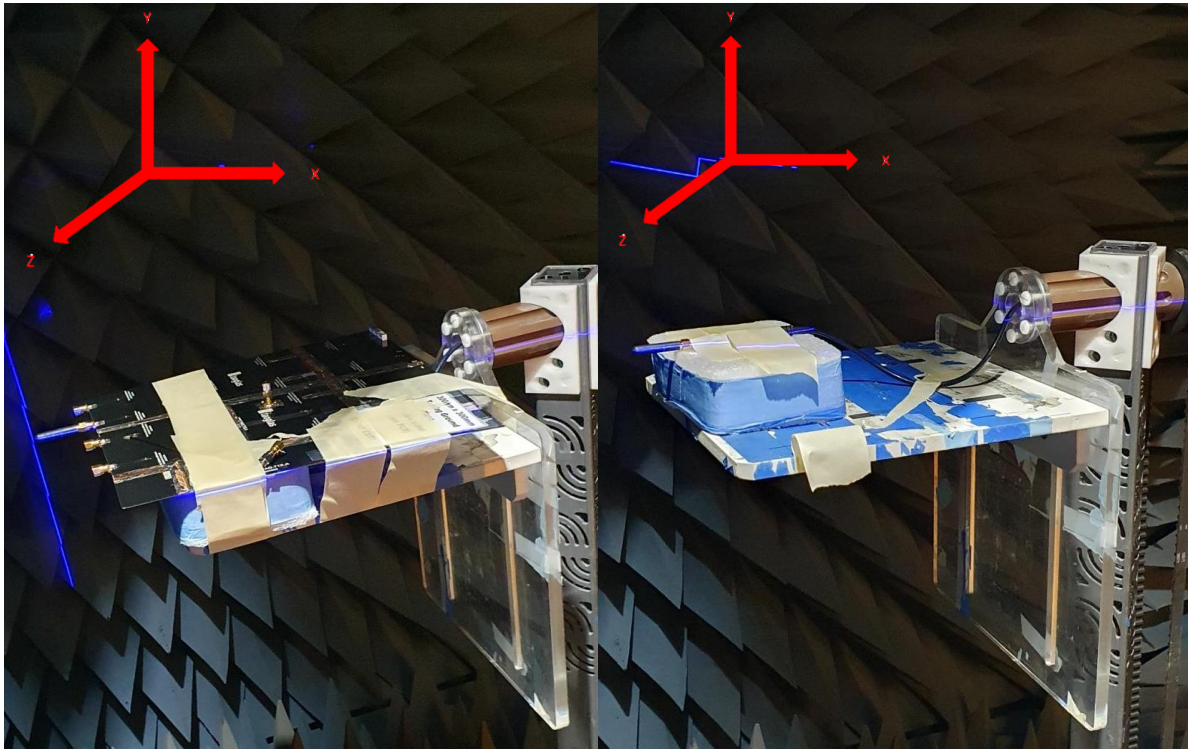


## 4. Radiation Patterns

### 4.1 Test Setup



AUT

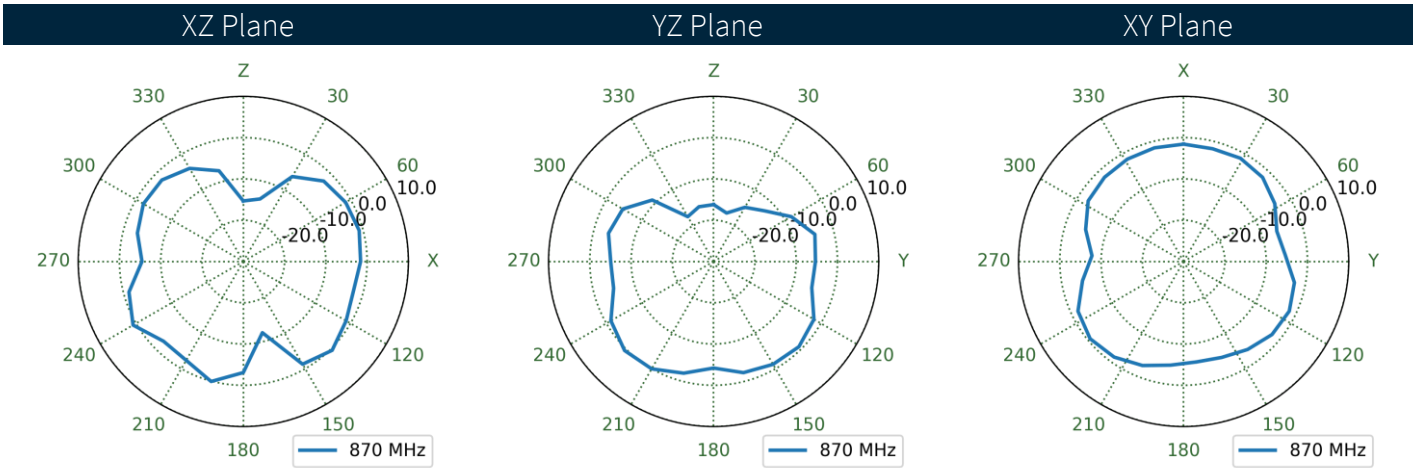
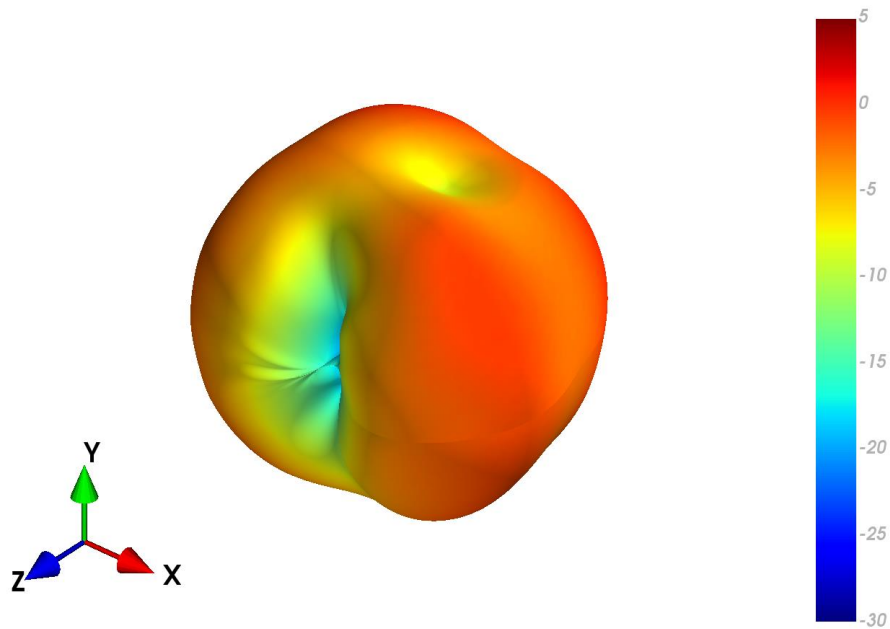


30x30cm Ground Plane

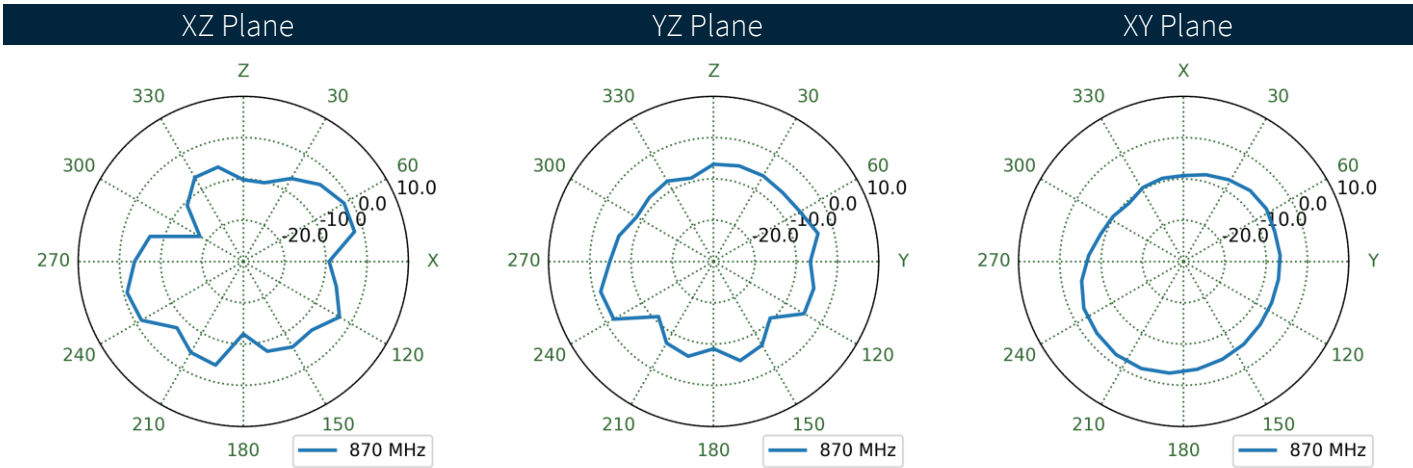
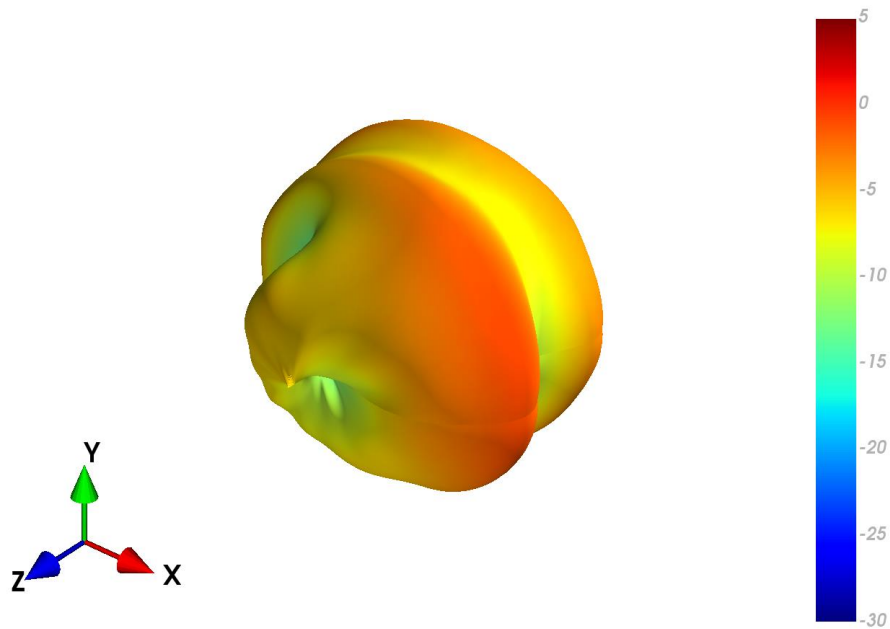
Free Space



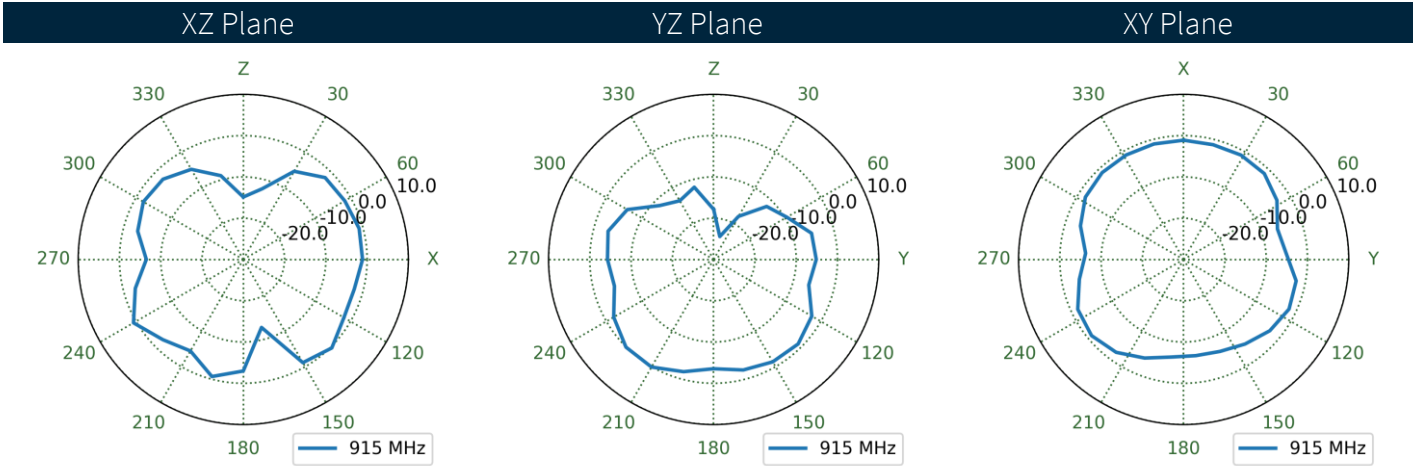
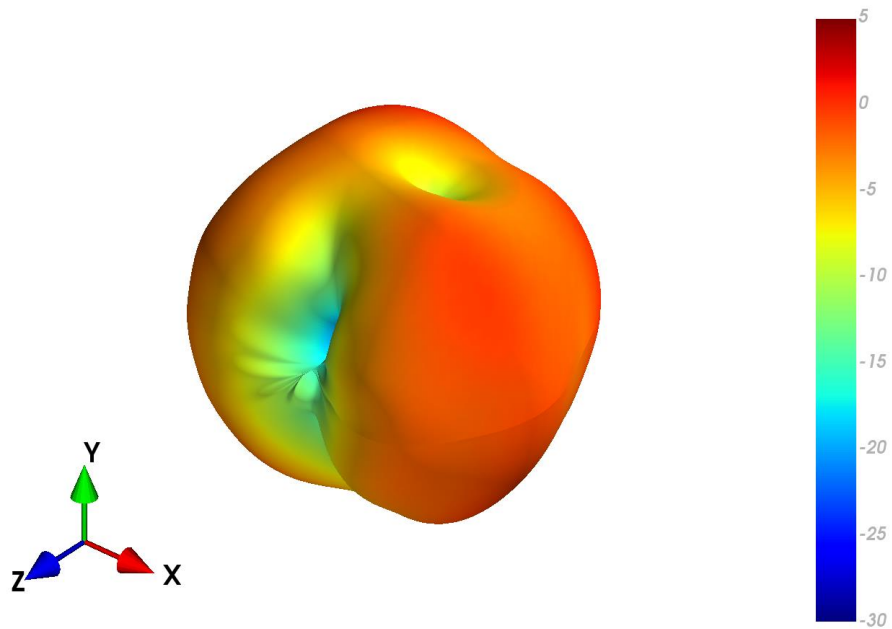
4.2 30x30cm Ground Plane Chamber Patterns at 868 MHz



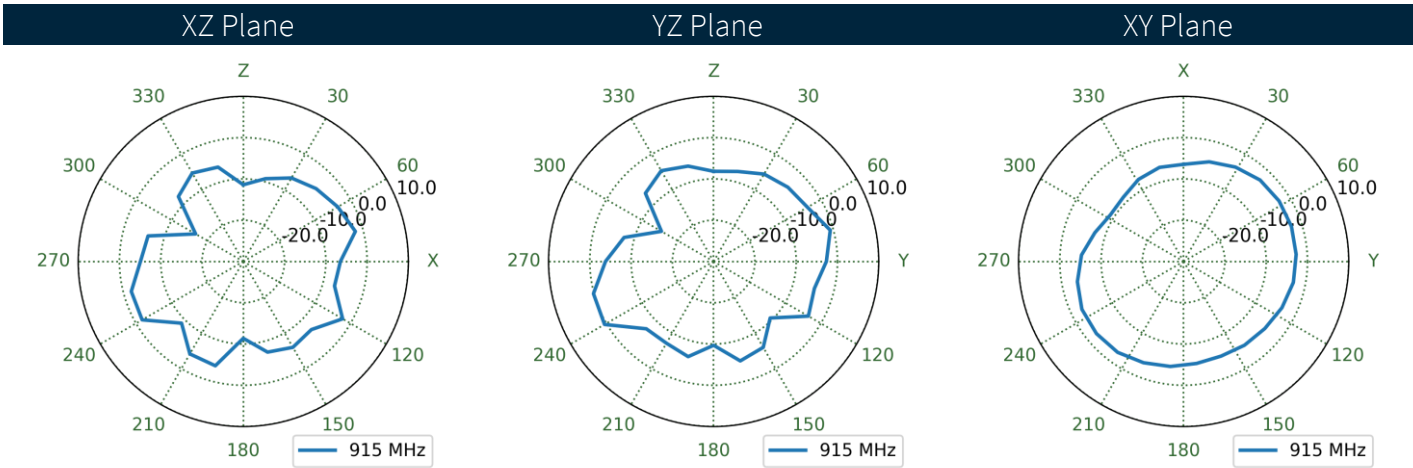
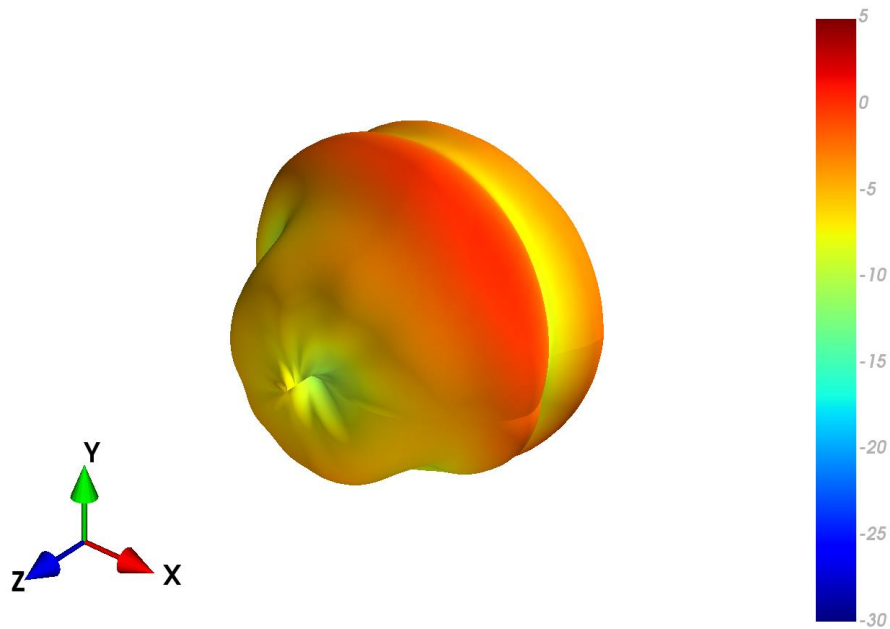
4.3 Free Space Chamber Patterns at 868 MHz



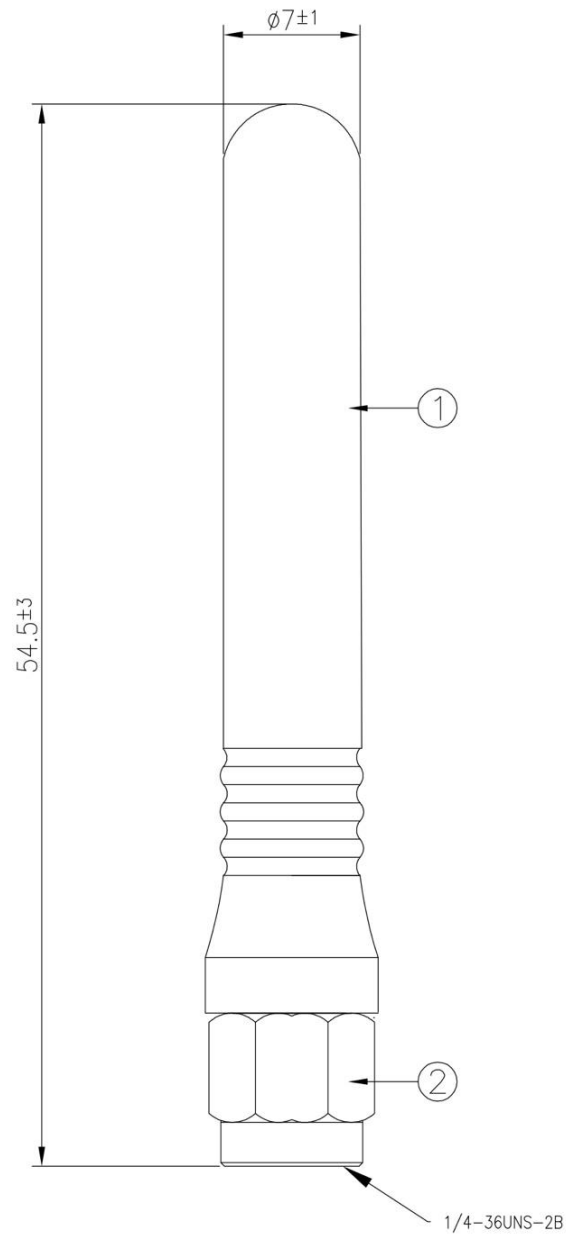
4.4 30x30cm Ground Plane Chamber Patterns at 915 MHz



4.5 Free Space Chamber Patterns at 915 MHz



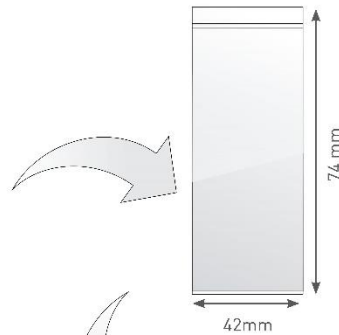
## 5. Mechanical Drawing



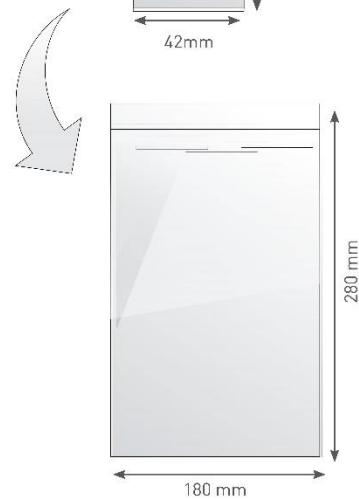
	Name	Material	Finish	QTY
1	Antenna Cover	TPEE	Black	1
2	SMA(M)ST	Brass	Au Plated	1

## 6. Packaging

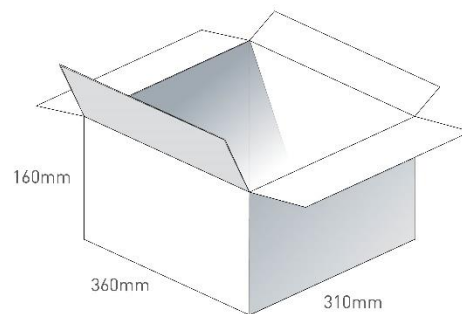
1 pcs TI.08.C.0111 per PE Bag  
 PE Bag Dimensions - 42\*74mm  
 Weight - 7g



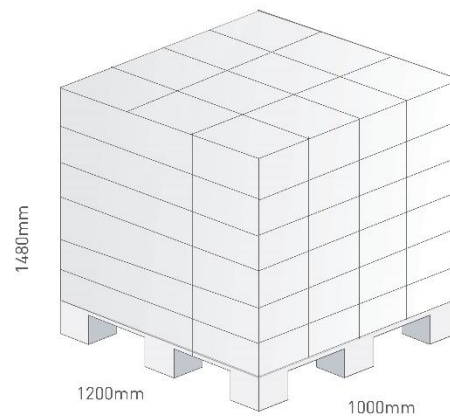
100 PE Bags per Large PE Bag  
 100 pcs TI.08.C.0111 per Large PE Bag  
 Large PE Dimensions - 180\*280mm  
 Weight - 0.761kg



15 Large PE bags per carton  
 1500 pcs TI.08.C.0111 per carton  
 Carton Dimensions - 360\*310\*160mm  
 Weight - 12kg



Pallet Dimensions 1200mm\*1000mm\*1480mm  
 72 Cartons per Pallet  
 9 Cartons per layer  
 8 Layers



Changelog for the datasheet

**SPE-18-8-056 – TI.08.C.0111**

**Revision: C (Current Version)**

Date:	2022-12-14
Notes:	Full datasheet update
Author:	Evan Murphy

**Previous Revisions**

**Revision: B**

Date:	2022-05-05
Notes:	
Author:	Technical Writer

**Revision: A (Original First Release)**

Date:	2018-12-06
Notes:	
Author:	Jack Conroy



[www.taoglas.com](http://www.taoglas.com)

