



# TAOGLAS®



# Datasheet

## 868/915MHz ISM/LoRA Flexible PCB Antenna

**Part No:**  
FXP890.07.0100C

### Description

860-928MHz ISM/LoRA Compact Flexible PCB Antenna

### Features:

Low-profile antenna

Low Profile Embedded FPC Antenna Supporting 860 to 928MHz

Dimensions: 62.2mm \* 20mm \* 1.6mm

Mini coaxial cable 100mm 1.13 IPEX MHFI U.FL Compatible connector

Custom Cables and Connectors Available

RoHS & Reach Compliant

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# 1. Introduction



The Taoglas FXP890 is an ISM/LoRA compact flexible PCB antenna designed to fit into small devices. This antenna has been expertly designed to cover frequencies used in different regions for ISM/LoRA applications, incorporating a wideband design is rare for ISM/LoRA products and with the FXP890 frequencies from 860-928MHz can be covered so one SKU can be used for global ISM/LoRA applications.

The FXP890 has been designed to be extremely compact compared to other ISM/LoRA Flexible PCB antennas meaning it can be placed in areas where other products cannot. It can be adhered via 3M tape on to a customer's device with care taken to ensure the antenna is placed as far away from metal components as possible.

Typical Applications Include:

- Remote Monitoring
- Mesh Networks
- Security

The FXP890's cables and connectors are fully customizable, please contact your regional Taoglas customer support team for further information.

## 2. Specification

Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
868MHz	863-870	49.7	-3.04	-0.90	50 $\Omega$	Linear	Omni	10W
915MHz	902-928	59.2	-2.28	-0.06				

Mechanical	
Dimensions	62.2 x 20 x 1.6mm
Weight	2g
Material	Polyimide
Connector	IPEX MHFI U.FL compatible
Cable	1.13mm Coaxial

Environmental	
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Relative Humidity	40% to 95%
RoHs & REACH Compliant	YES

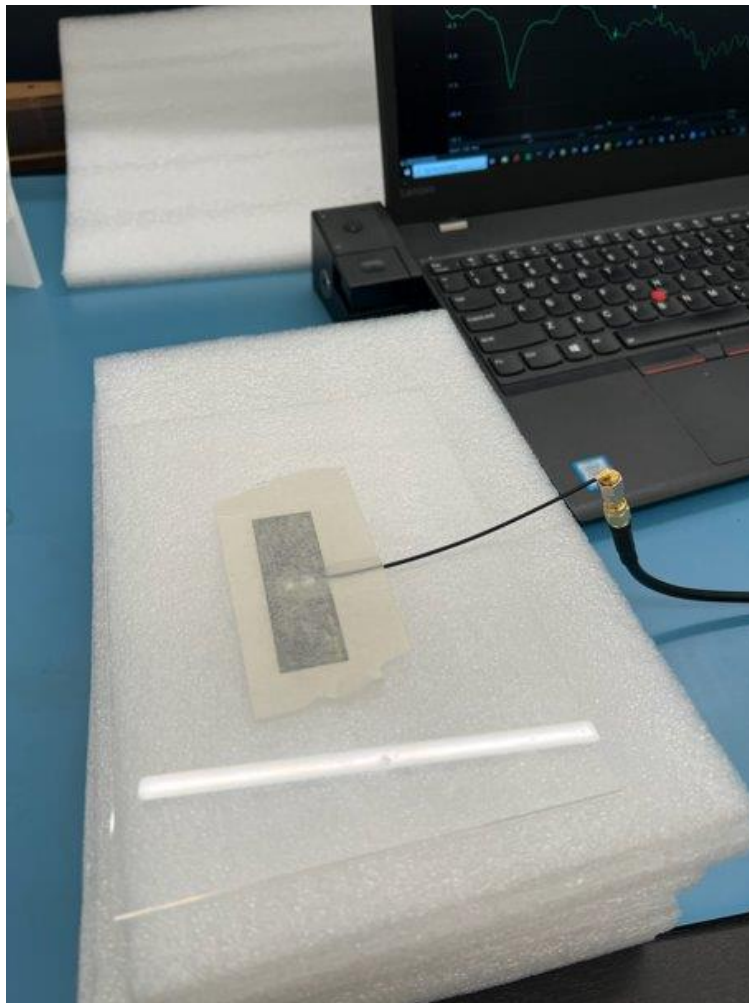
### 3. Antenna Characteristics

#### 3.1 Test Setup

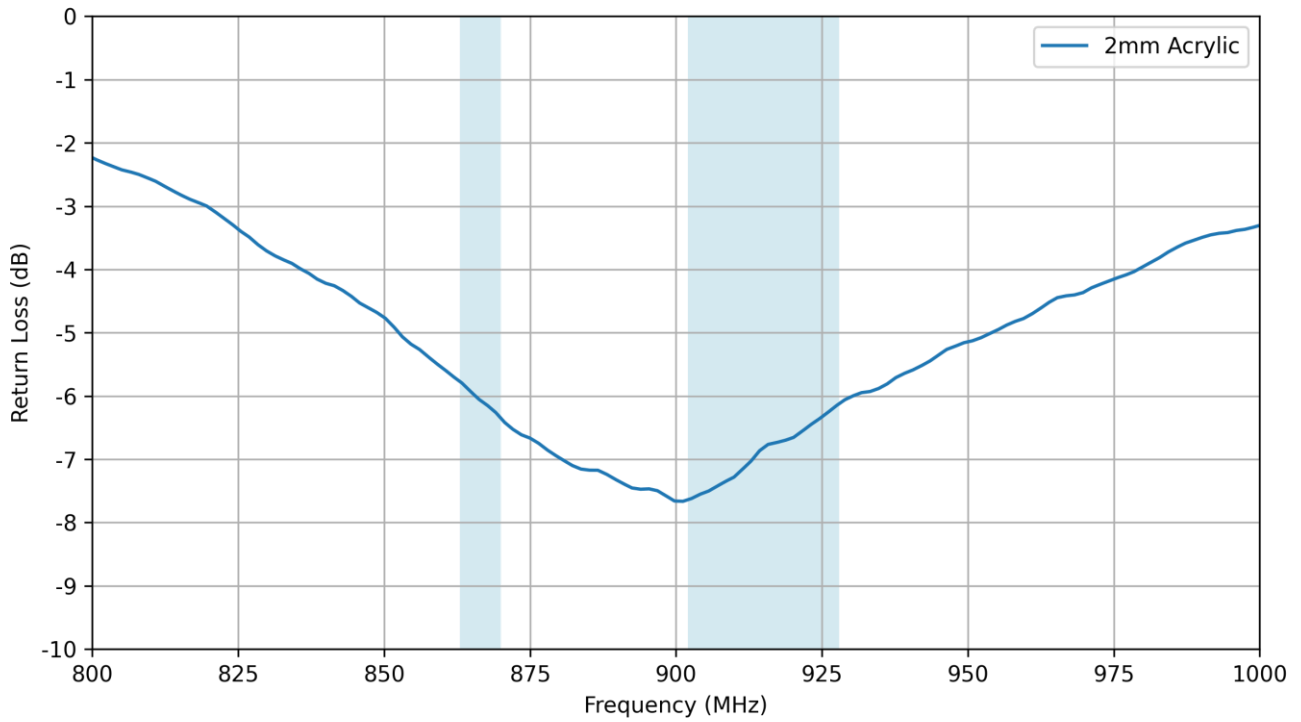
AUT



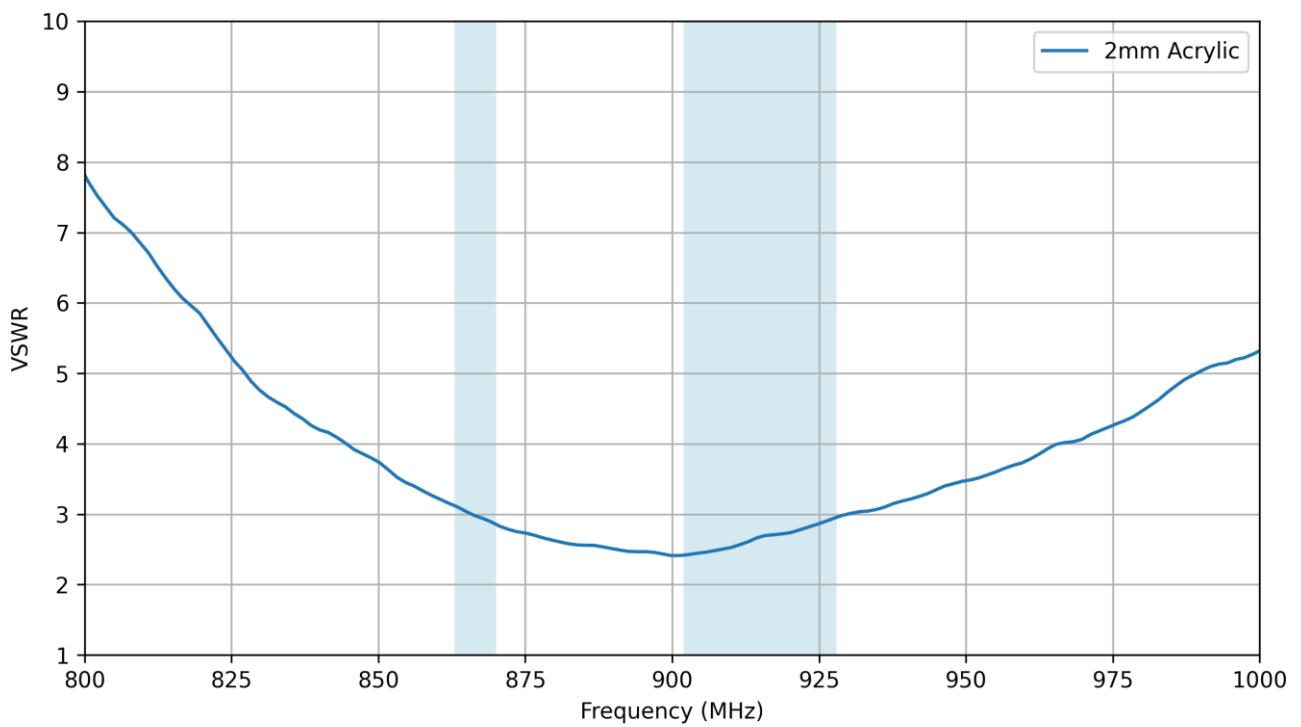
Vector Network Analyzer



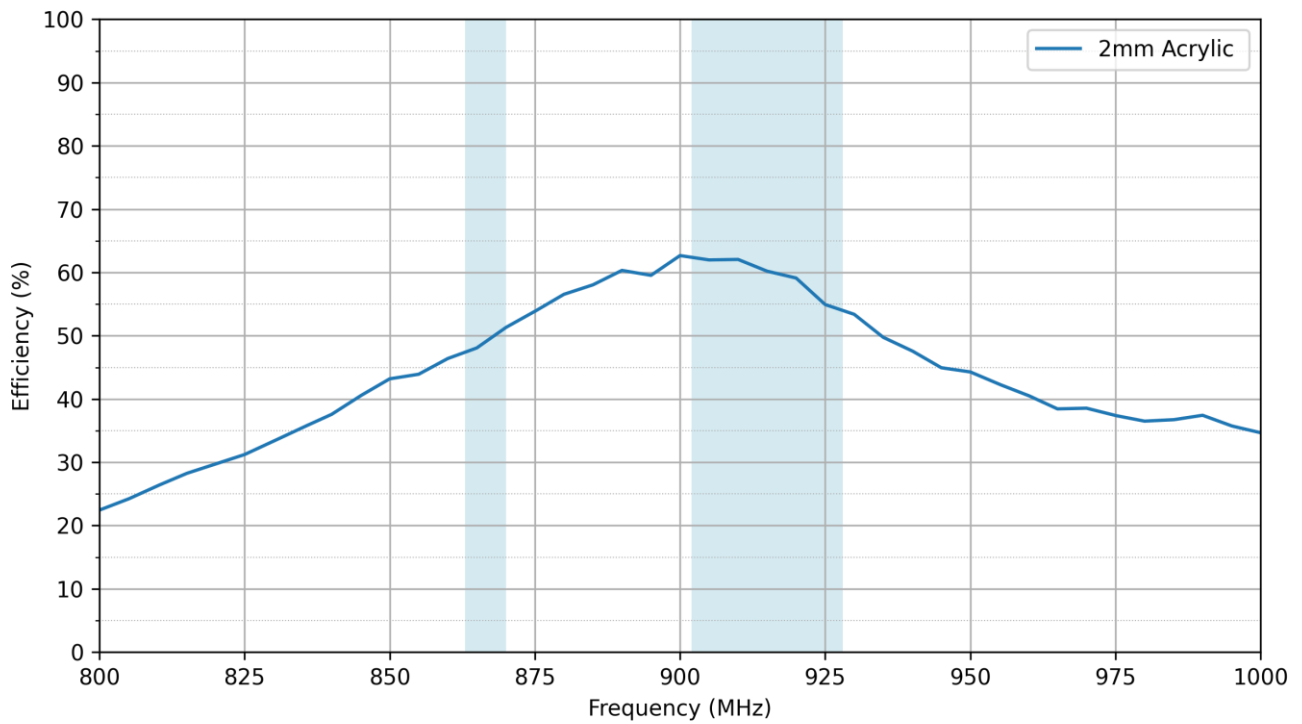
### 3.2 Return Loss



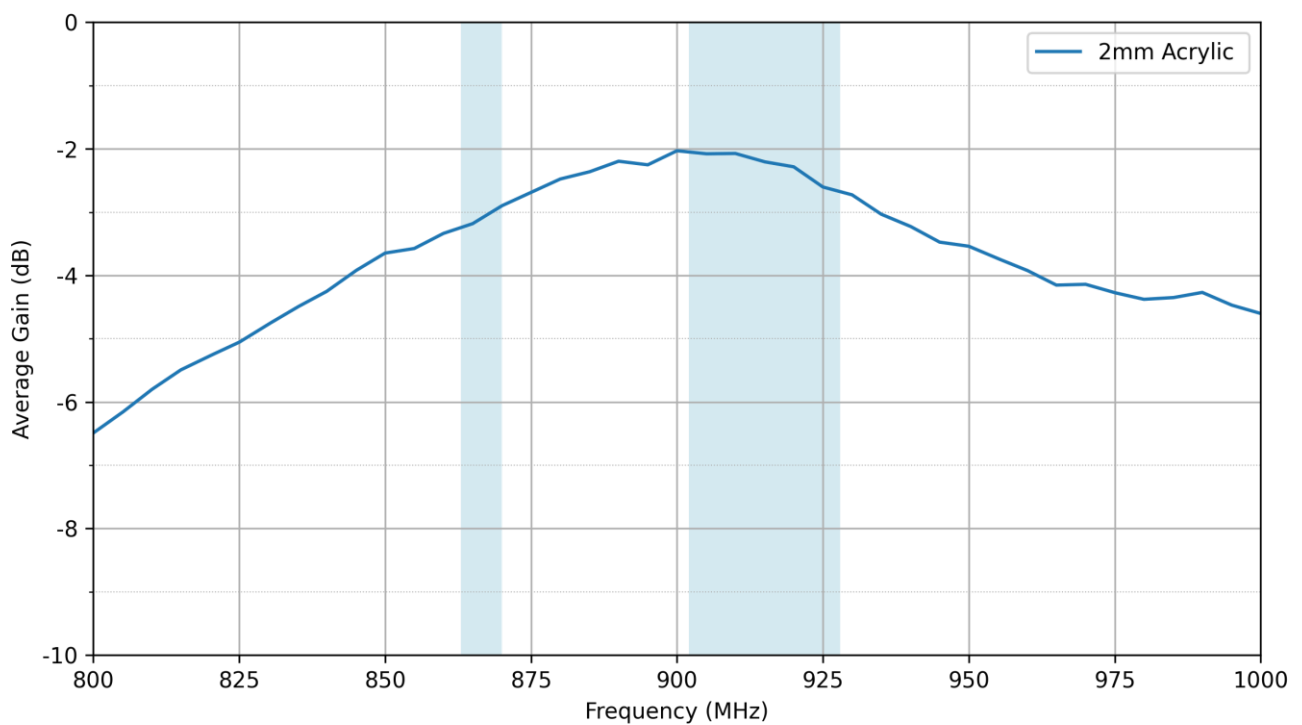
### 3.3 VSWR



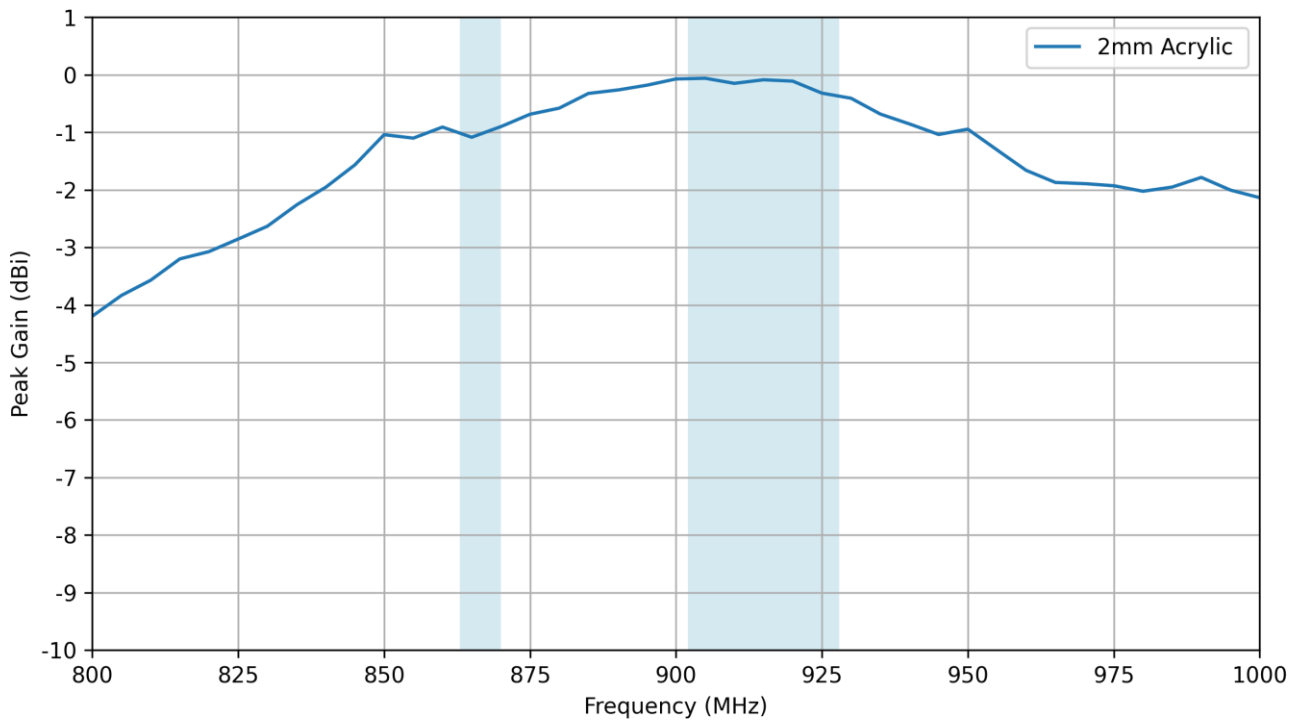
### 3.4 Efficiency



### 3.5 Average Gain



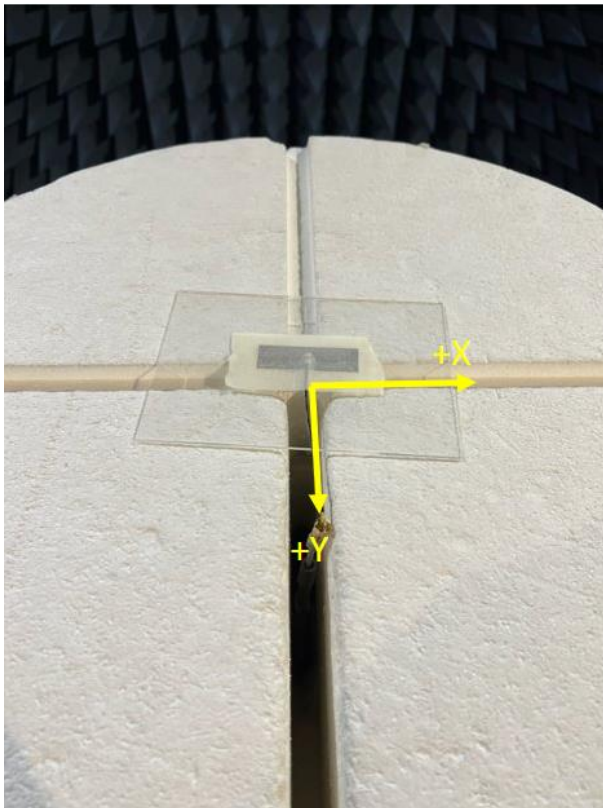
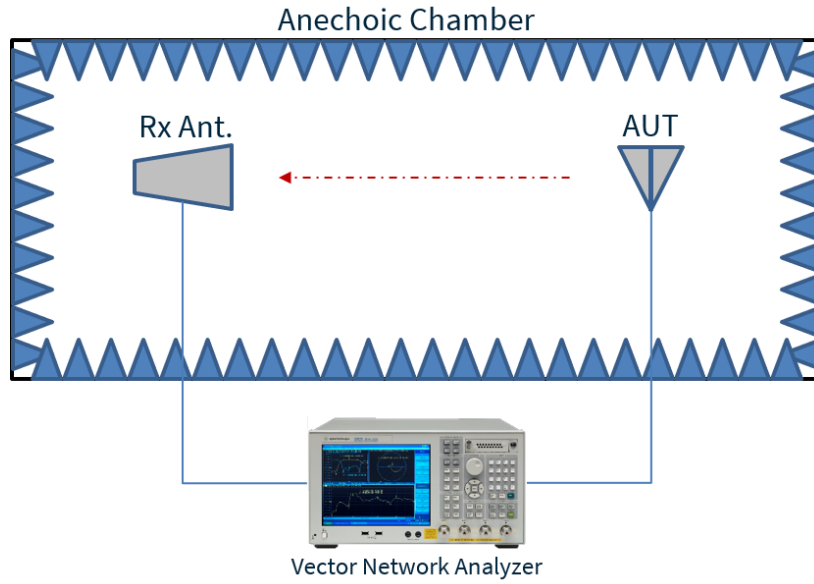
### 3.6 Peak Gain



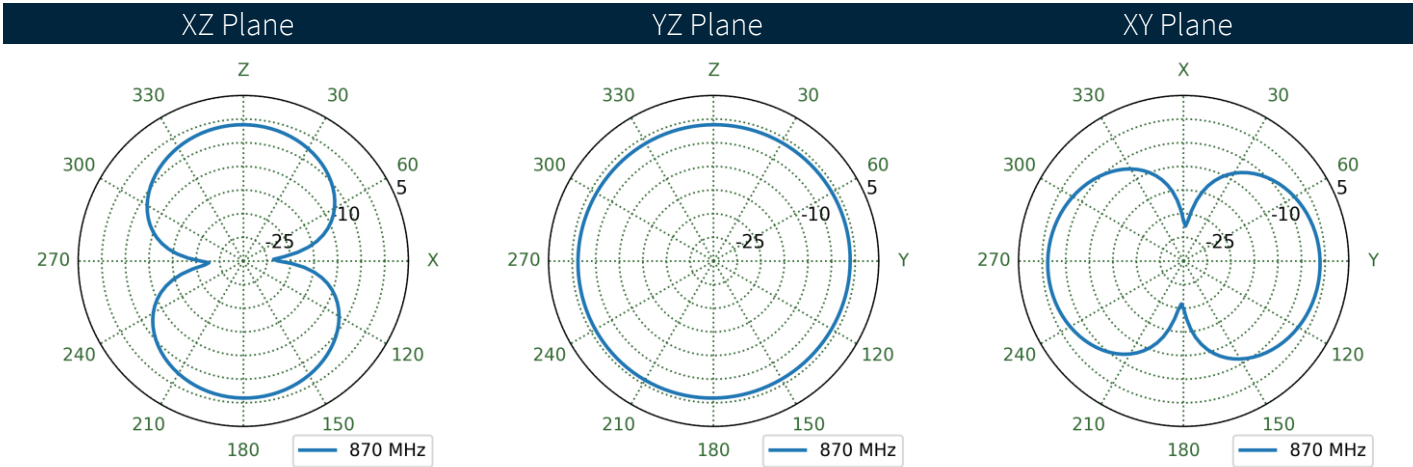
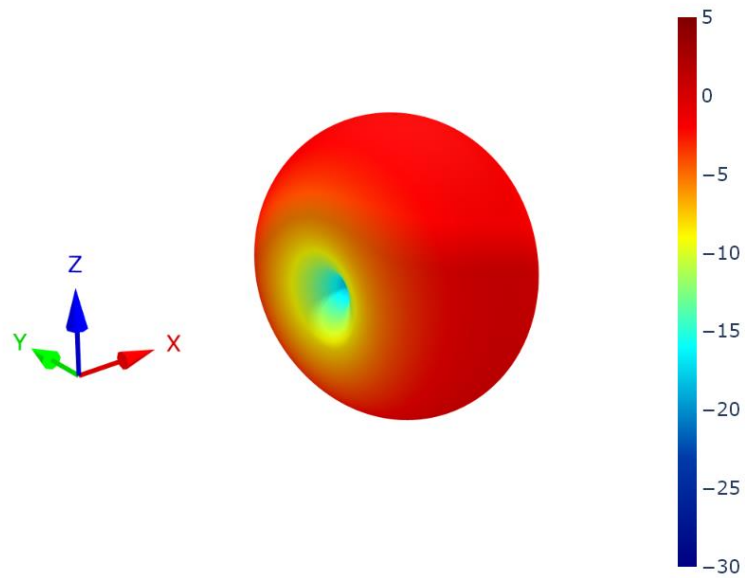


## 4. Radiation Patterns

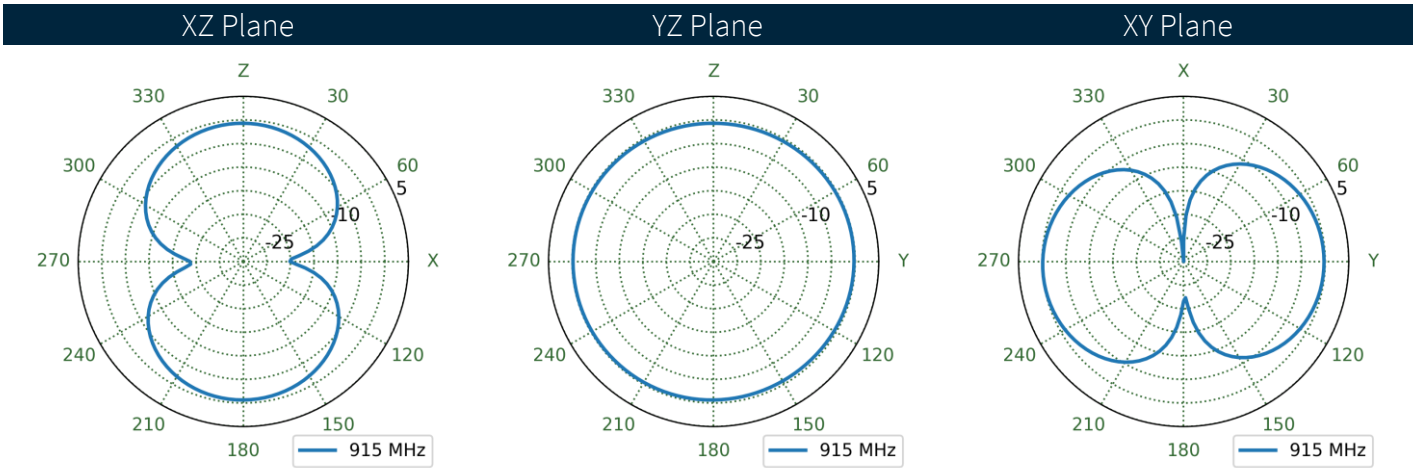
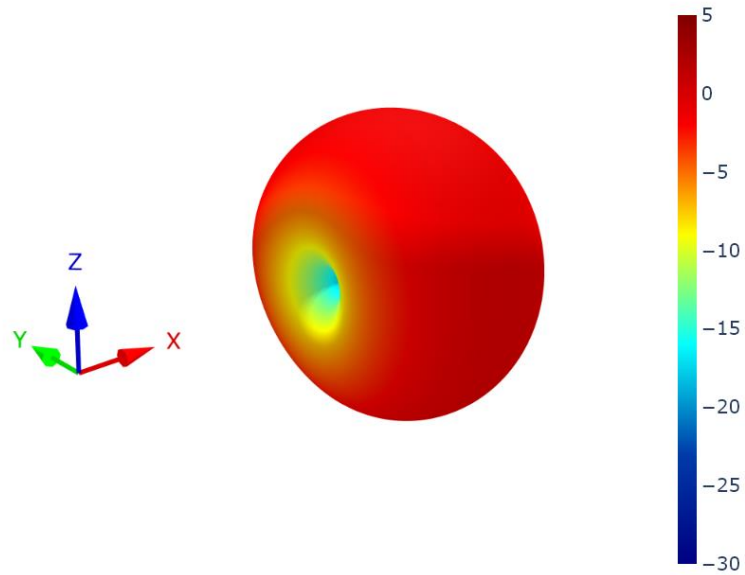
### 4.1 Test Setup



4.2 2mm Acrylic Patterns at 868 MHz



4.3 2mm Acrylic Patterns at 915 MHz



# 5. Mechanical Drawing

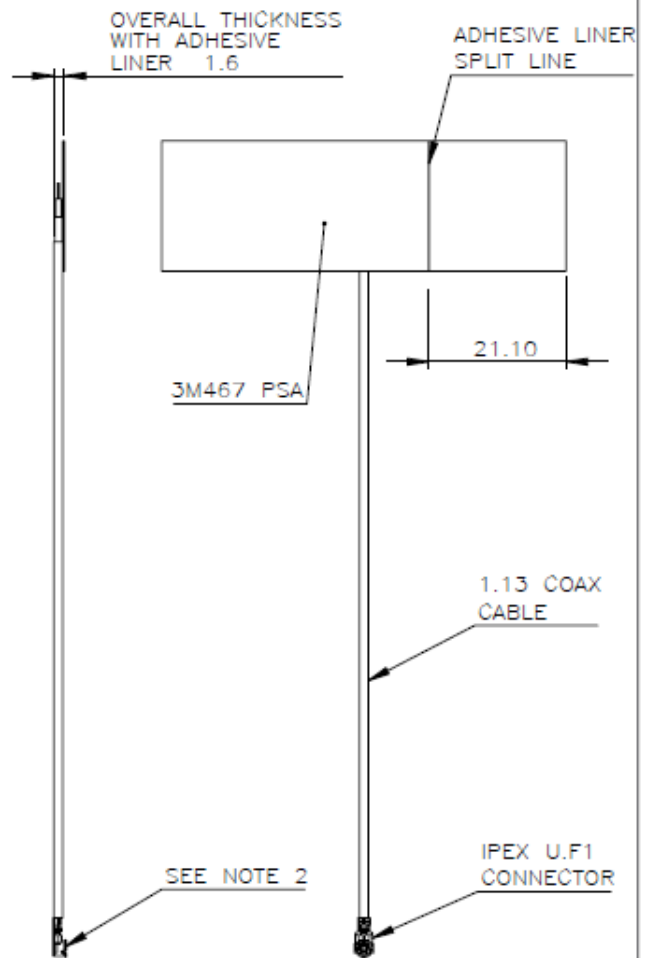
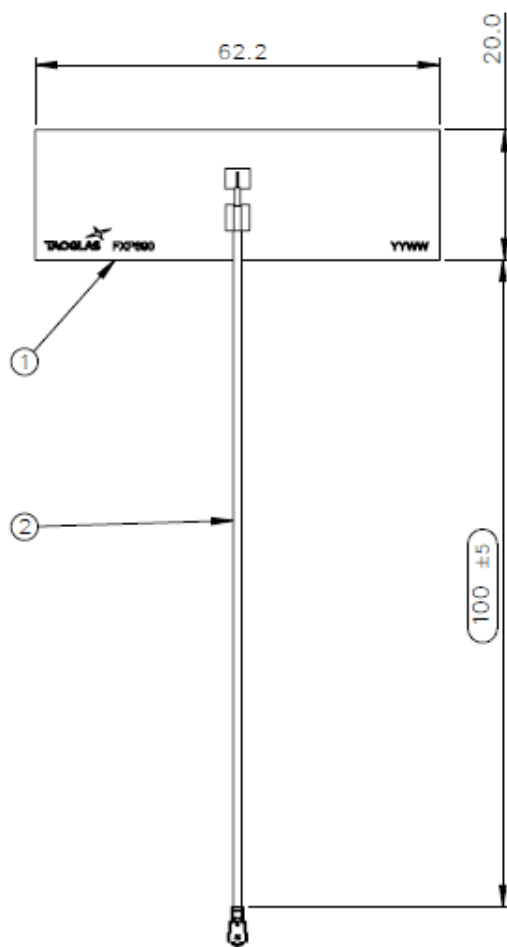
ISO NO.: EDW-23-8-0517

STATE: Released

NOTES:

1. All material must be RoHS compliant.
2. The connector orientation has a fixed position to the antenna as per drawing.
3. Critical dimensions are marked with an inspection symbol  $\text{O}$ .

REV	ZONE	DESCRIPTION	ENG	APPROVED	DATE
D01	All	Initial Design	G. Samson	I. Mendez	4/20/2023
D02	All	Updated Adhesive Split Line Location.	G. Samson	I. Mendez	06/08/2023



FN	DESCRIPTION	MATERIAL	FINISH	QTY
1	FXP890 FPCB 62x20mm	Polyimide	Black	1
2	Cable Assy, FXP890	Brass/FEP	Gold/Black	1

APPROVED BY: S. Peters	<p><b>TAOGLAS</b>™ Design Centre This drawing and its inherent design concepts are property of Taoglas. Not to be copied or given to third parties without the written consent of Taoglas.</p>
CHECK BY: I. Mendez	
DRAWN BY: G. Samson	
DATE: 4/20/2023	
UNLESS OTHERWISE SPECIFIED TOLERANCES ON: XX±0.5, X±0.3, ±0.2, XX±0.1, XX±0.05	TITLE: 860-928 MHz Flex PCB Antenna with 100mm 1.37 I-PEX MHF1(U.FL)
THIRD ANGLE PROJECTION	PART NO.: FXP890.07.0100C
	UNIT: mm   SCALE: 1:2   PAGES: 1/1   REV: D02

## 6. Packaging

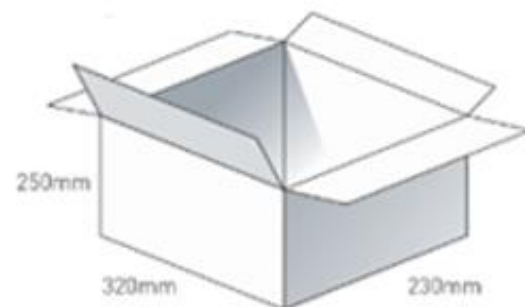
100pcs FXP890.07.0100C per PE Bag  
 Dimensions 300\*100mm  
 Weight -150g



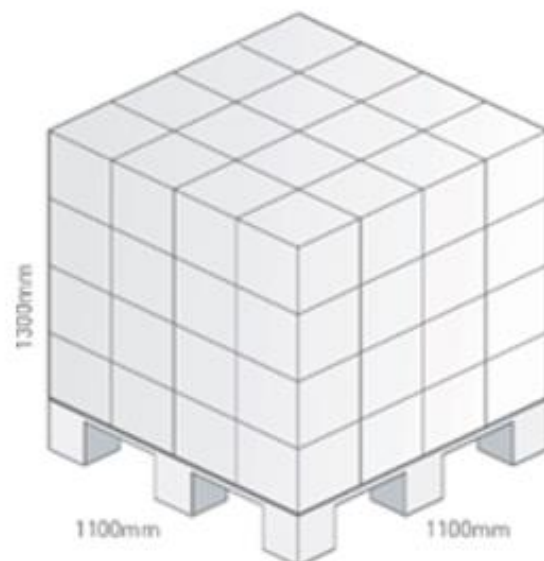
1000pcs FXP890.07.0100C per Large PE Bag  
 Dimensions 450\*280mm  
 Weight -1.5Kg



5000pcs FXP890.07.0100C per carton  
 Dimensions 320\*250\*230mm  
 Weight -6Kg



Pallet Dimensions 1100\*1100\*1300mm  
 65 Cartons per pallet  
 13 Cartons per layer  
 5 Layers



Changelog for the datasheet

**SPE-23-8-181 – FXP890.07.0100C**

Revision: A (Original First Release)	
Date:	2023-06-19
Notes:	First Release
Author:	Gary West

**Previous Revisions**




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