



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

1.	Introduction	2
2.	Specification	3
3.	Antenna Characteristics	4
4.	Radiation Patterns	8
5.	Mechanical Drawing	11
6.	Packaging	12
<hr/>		
	Changelog	13

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 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 Ω	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

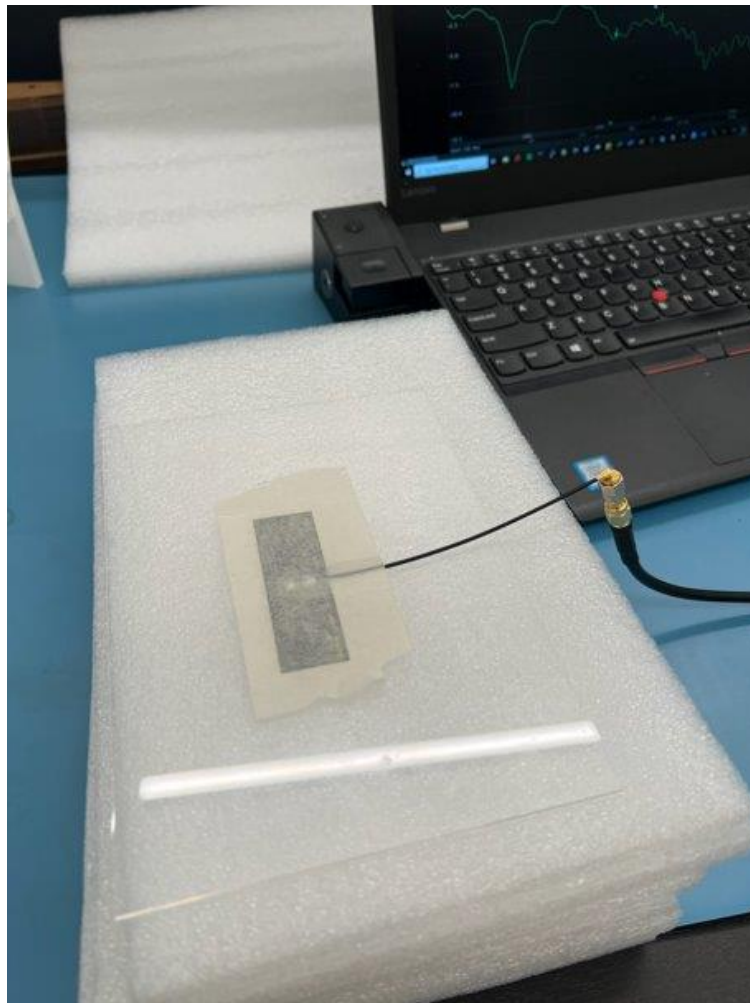
3. Antenna Characteristics

3.1 Test Setup

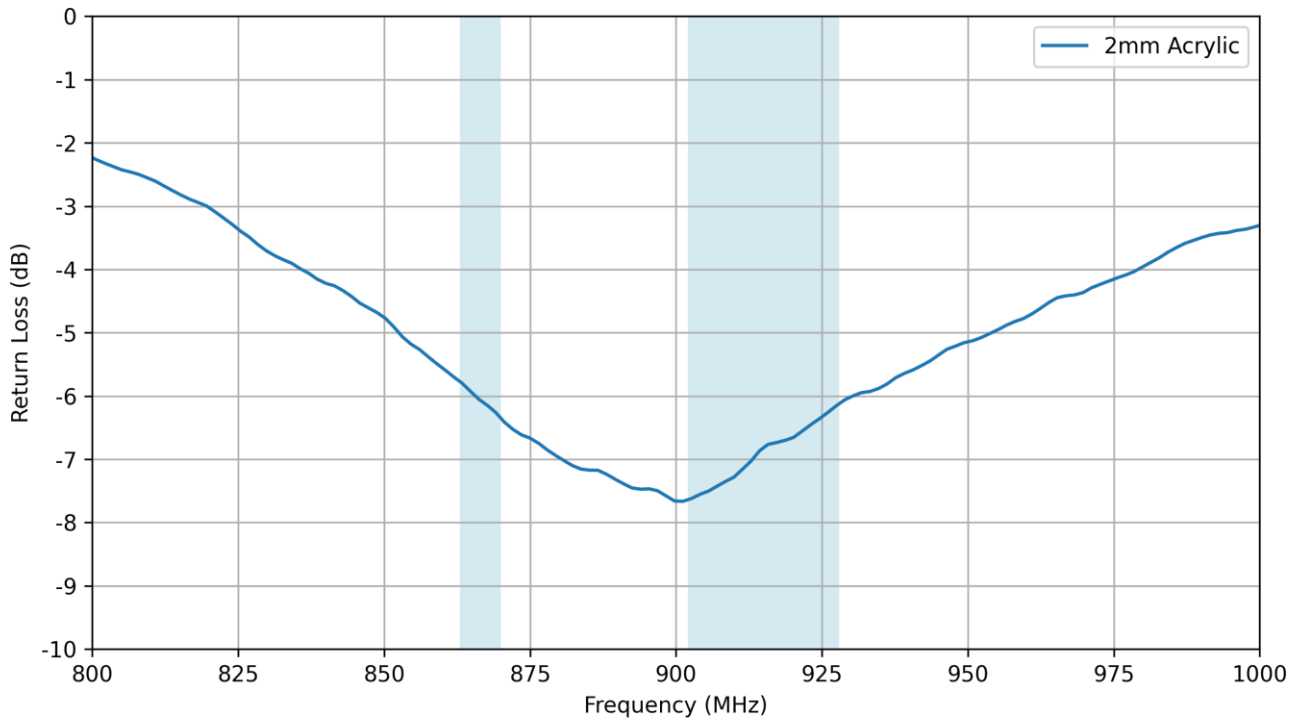
AUT



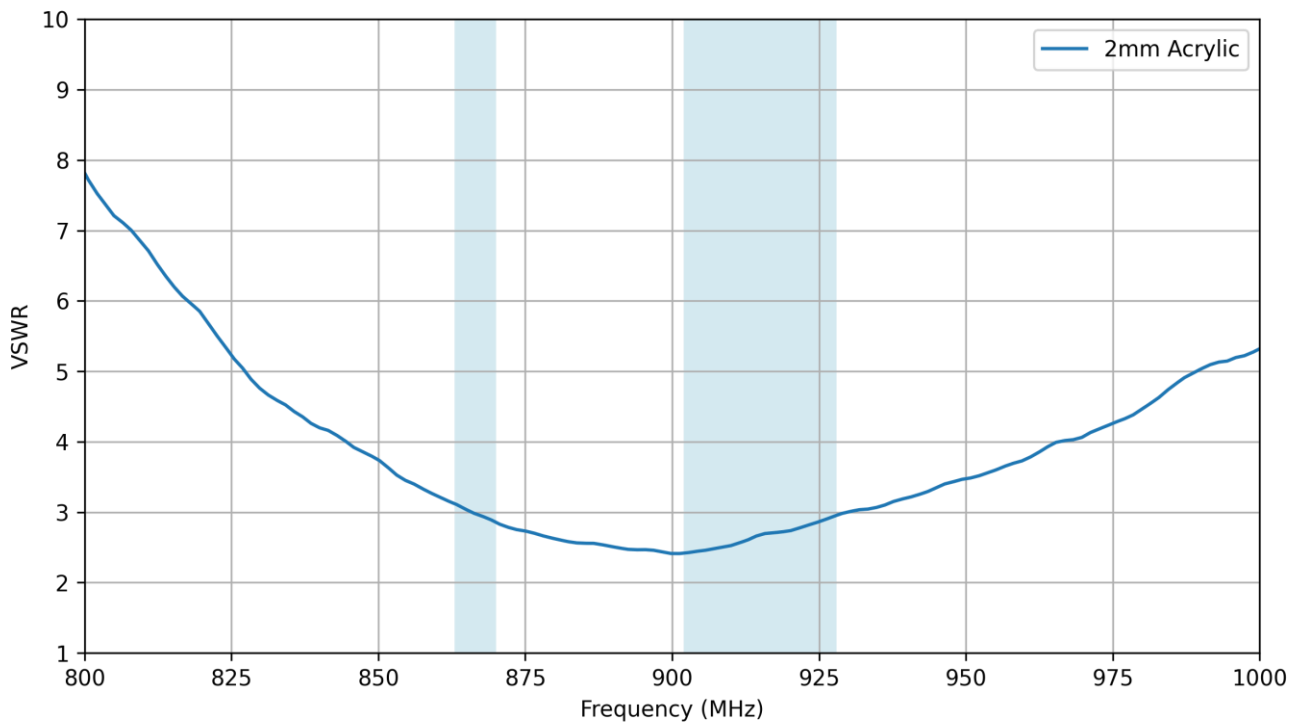
Vector Network Analyzer



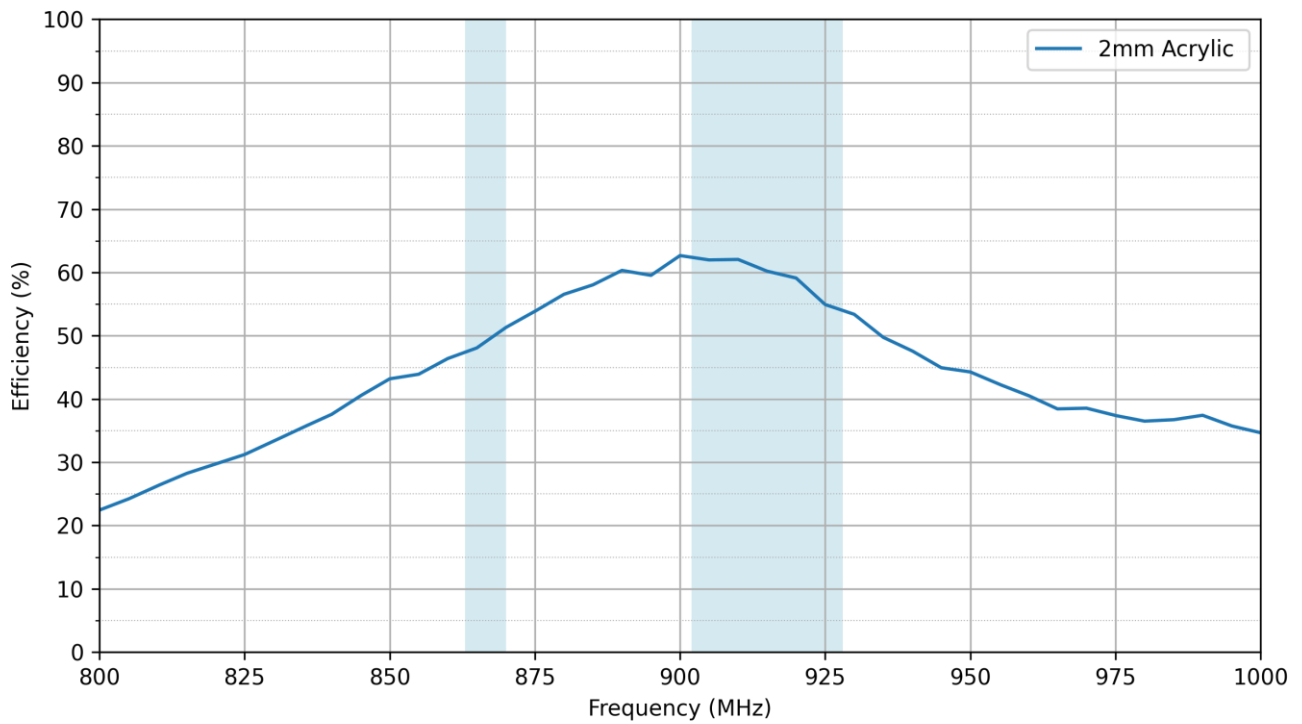
3.2 Return Loss



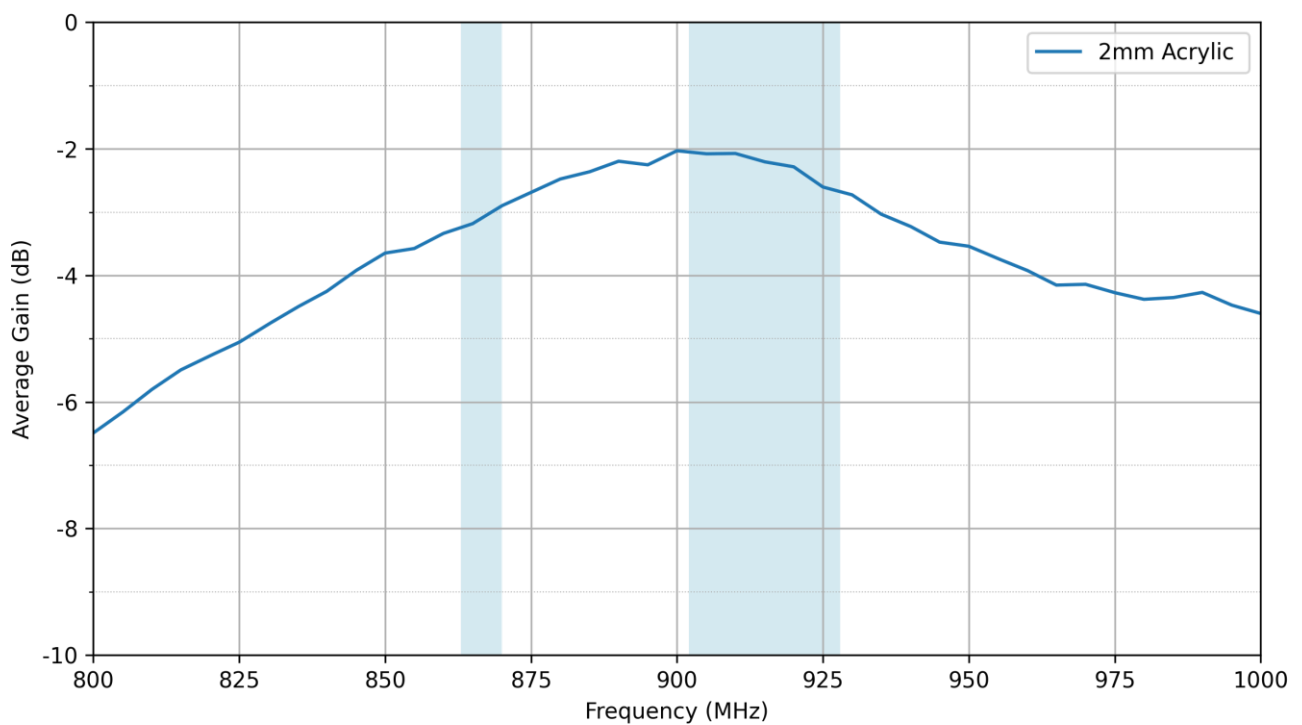
3.3 VSWR



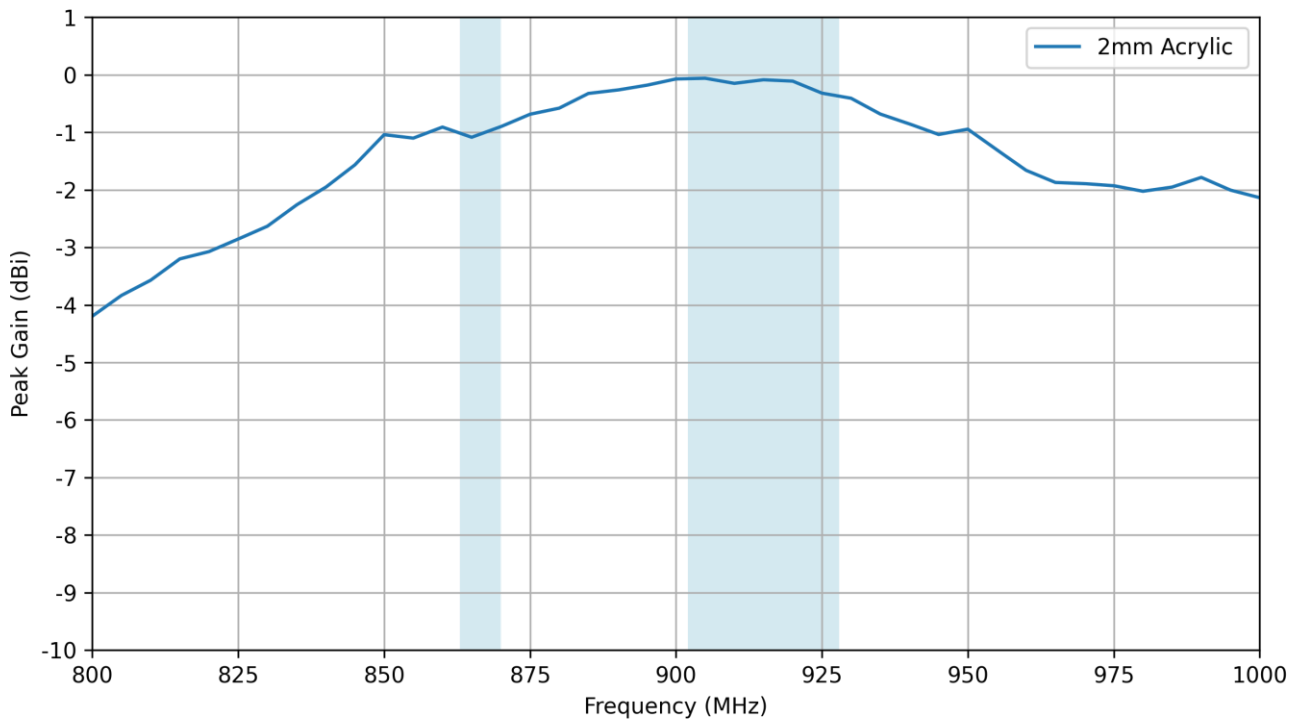
3.4 Efficiency



3.5 Average Gain

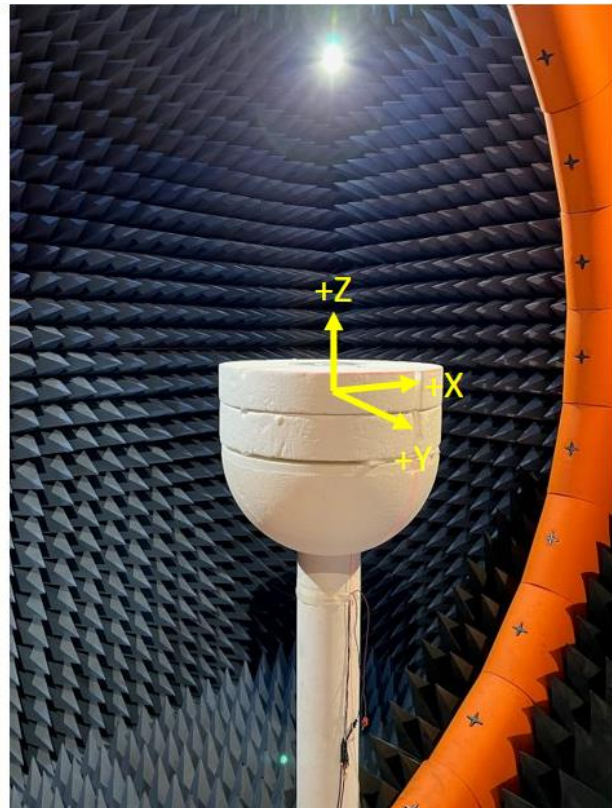
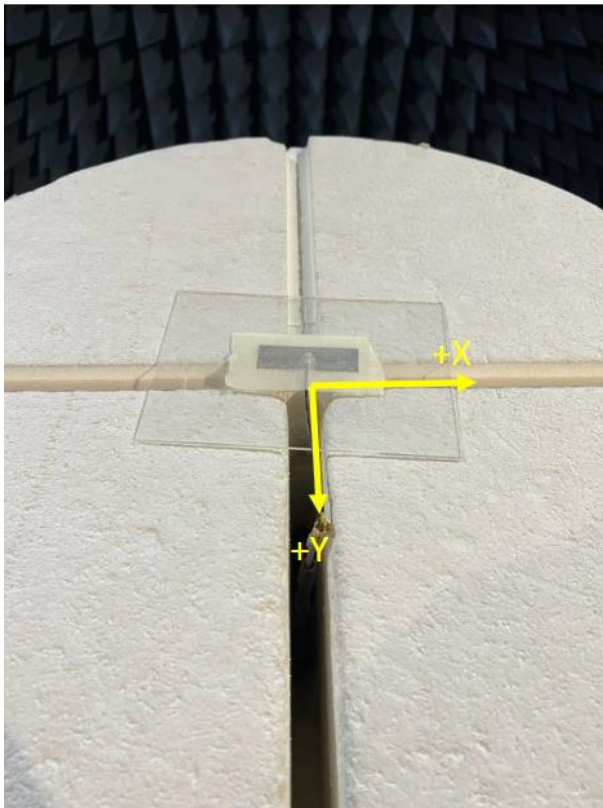
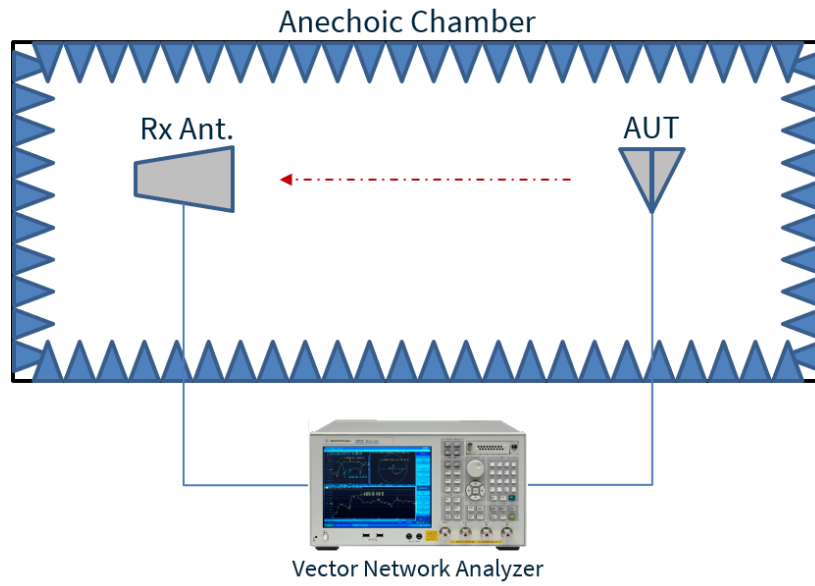


3.6 Peak Gain

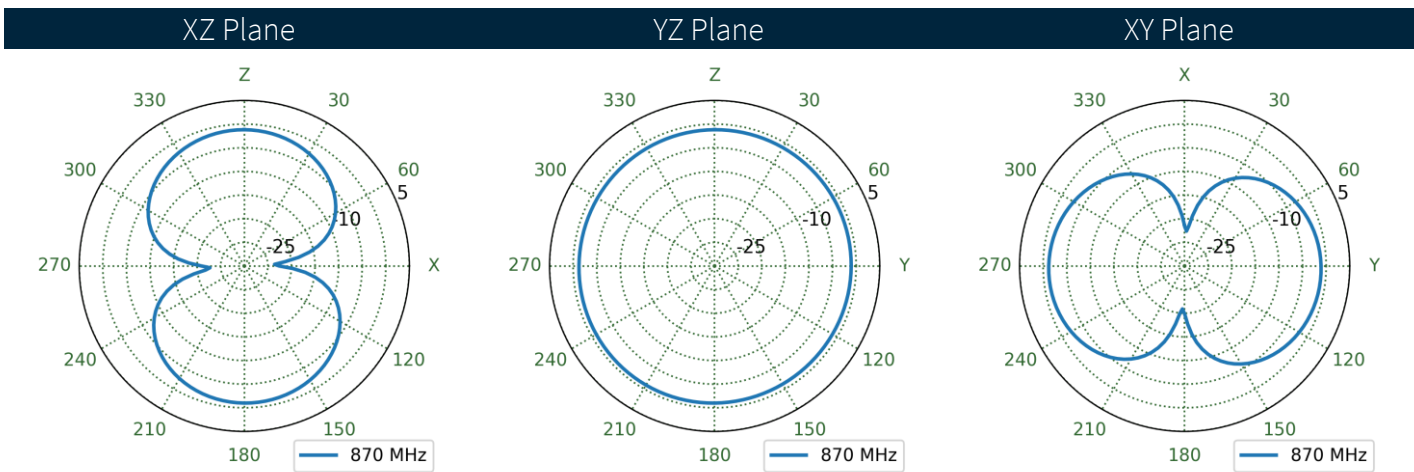
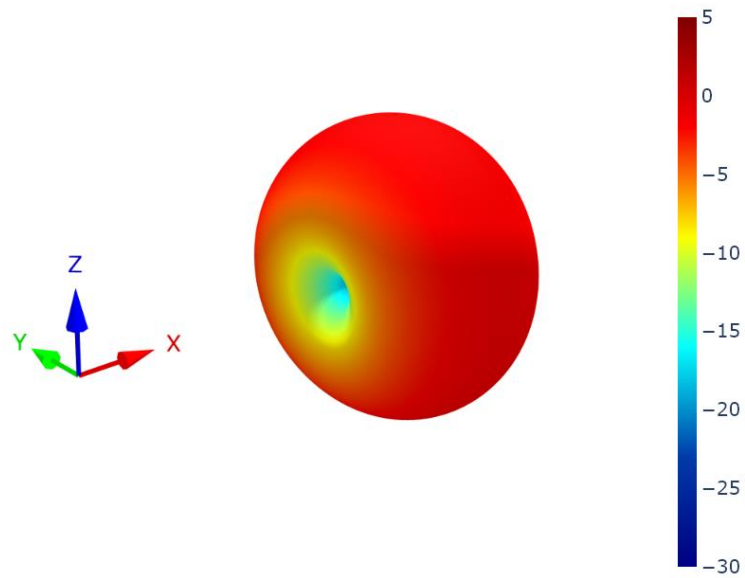


4. Radiation Patterns

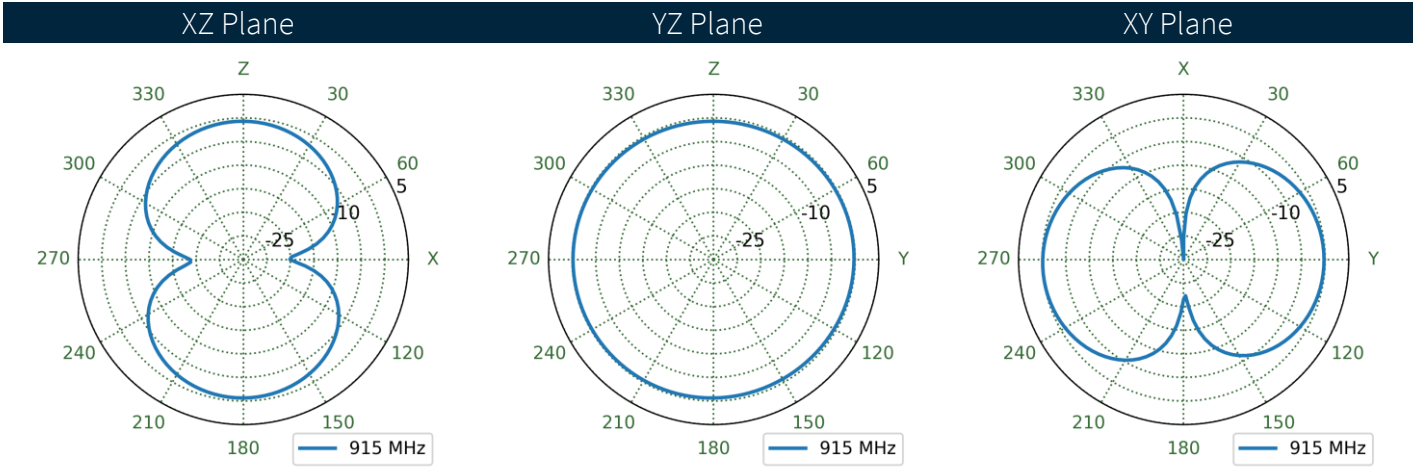
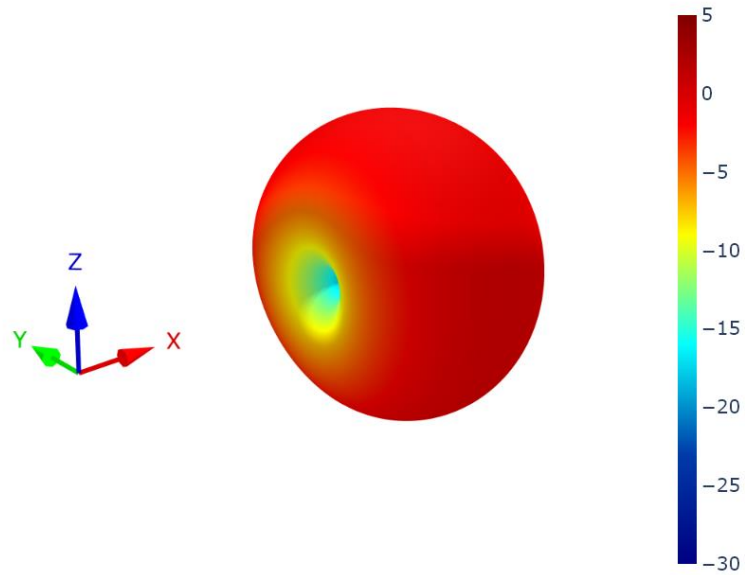
4.1 Test Setup



4.2 2mm Acrylic Patterns at 868 MHz



4.3 2mm Acrylic Patterns at 915 MHz



5. Mechanical Drawing

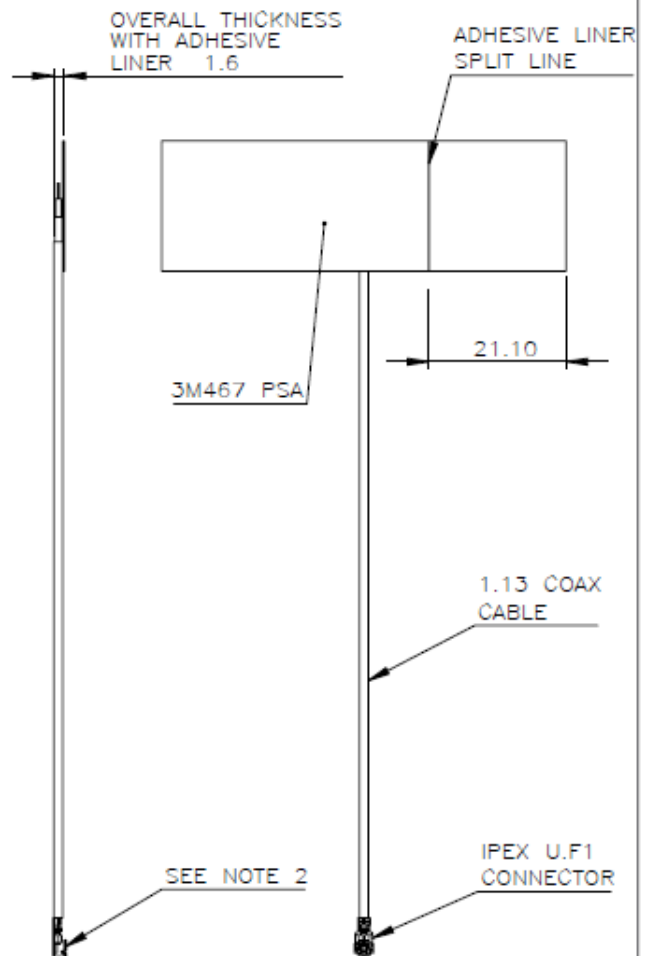
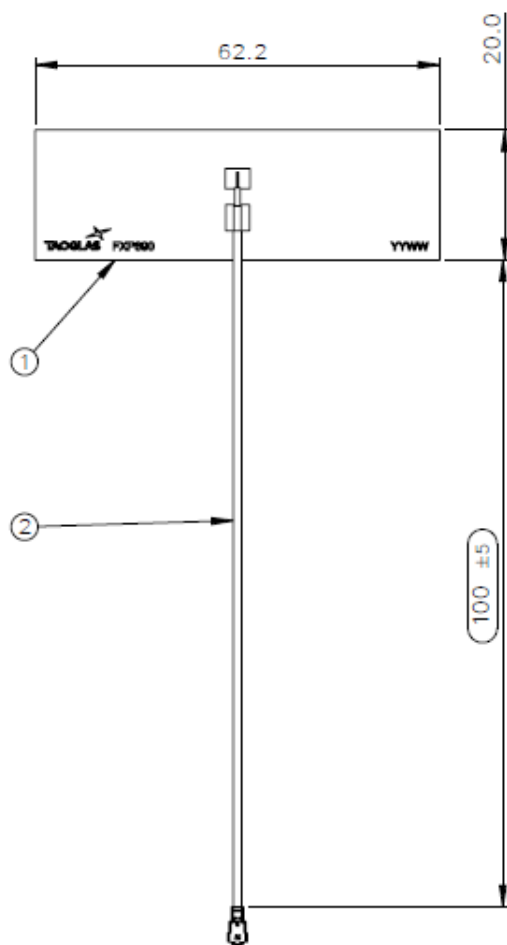
ISO NO.: EDW-23-8-0517

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 \ominus .

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>TAOGLAS™ 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 X±0.2 XX±0.1 XX±0.05
THIRD ANGLE PROJECTION	<p>TITLE: 860-928 MHz Flex PCB Antenna with 100mm 1.37 I-PEX MHF1(U.FL)</p> <p>PART NO.: FXP890.07.0100C</p>
	UNIT: mm SCALE: 1:2 PAGES: 1/1 REV: D02

6. Packaging

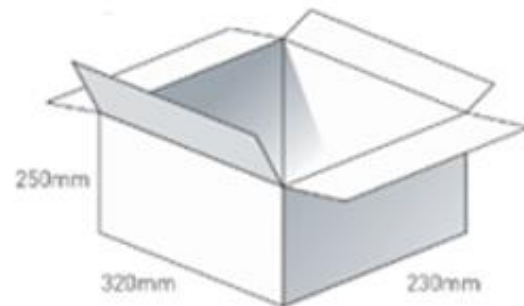
100pcs FXP890.07.0100C per PE Bag
 Dimensions 300*100mm
 Weight -150g



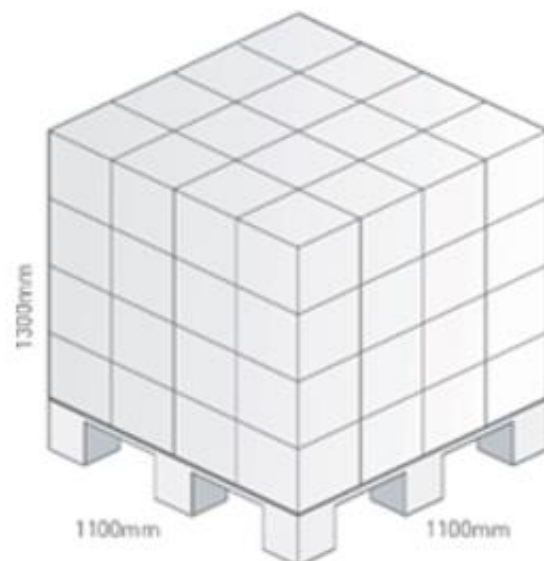
1000pcs FXP890.07.0100C per Large PE Bag
 Dimensions 450*280mm
 Weight -1.5Kg



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
