



TAOGLAS®



Datasheet

450MHz Flexible Antenna

Part No:
FXP450.07.0100C

Description

410-470MHz Flexible PCB Antenna with 100mm 1.37 IPEX MHFI

Features:

- Low-profile 450MHz FPC antenna
- 450MHz FPC Antenna 410 to 470MHz
- Low Profile Embedded FPC Antenna Supporting 410 to 470MHz
- Dimensions: 47mm * 17mm * 0.28mm
- 1.37mm Mini coaxial cable 100mm 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	12
6.	Packaging	13
<hr/>		
	Changelog	14

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 FXP450.07.0100C is a low-profile flexible PCB antenna designed for 450MHz applications. The antenna is designed to support all frequency channels within 410-470MHz. This antenna is highly stable and independent of different cable routing. The FXP450 has been designed to be as compact as possible while maintaining higher performance than any comparable production the market.

The FXP450 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. Usually, antennas that operate on 450MHz need to be much larger than the FXP450, with the design of the FXP450 we have managed to get a high performance antenna with a compact form factor.

Typical Applications Include:

- Mesh Networks
- Cellular IoT Devices
- Agriculture
- Weather Monitors

The FXP450 can be supplied with fully customized cables and connectors, 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
410MHz	410-430	29.9	-5.25	-0.36	50 Ω	Linear	Omni	10W
433MHz	430-435	29.2	-5.35	-1.57				
450MHz	450-470	34.6	-4.61	-0.05				

Mechanical	
Dimensions(mm)	47*17*0.08
Weight	1g
Material	Polymer
Connector	IPEX MHFI U.FL compatible
Cable	100mm 1.37

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

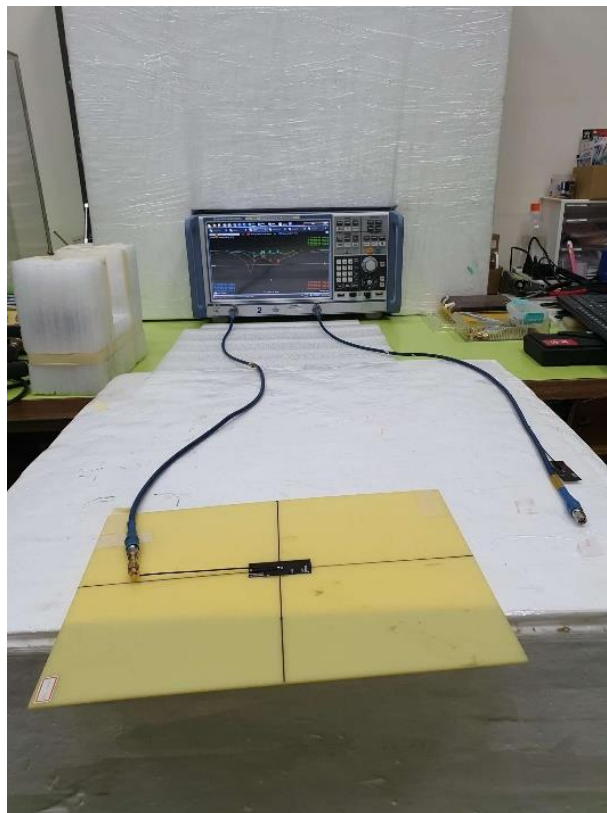
3. Antenna Characteristics

3.1 Test Setup

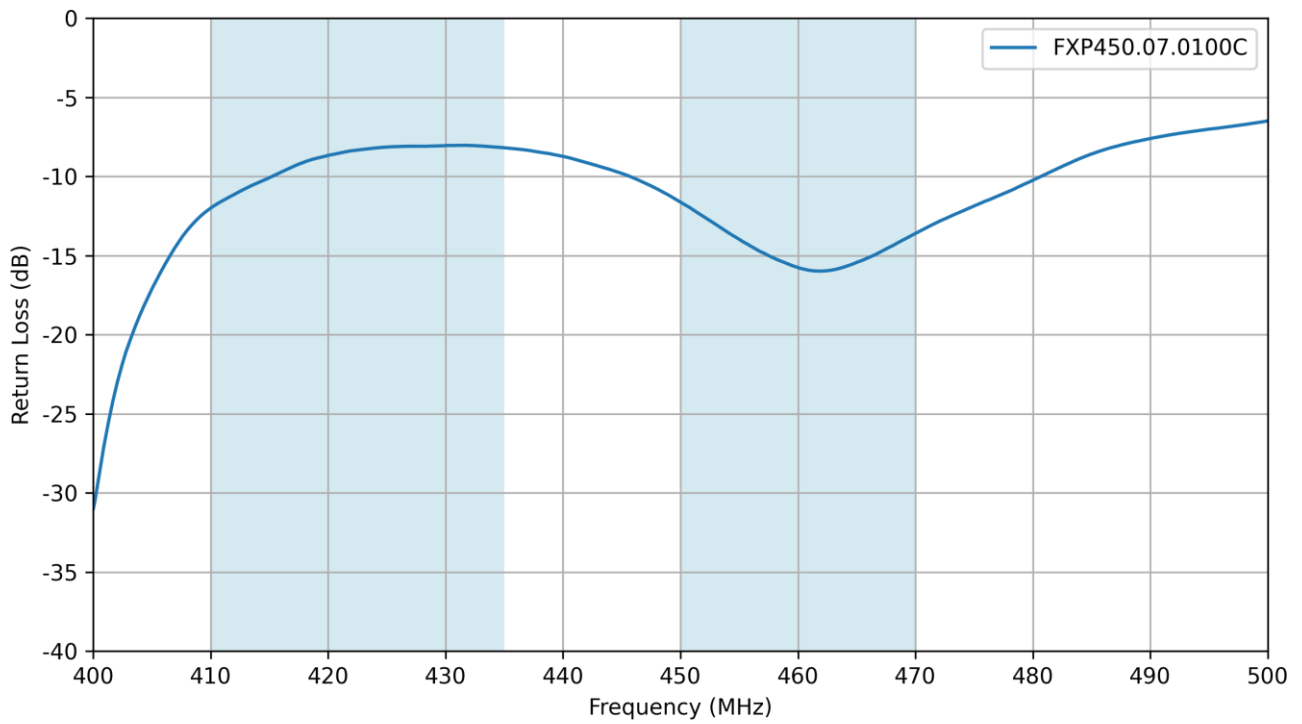
AUT



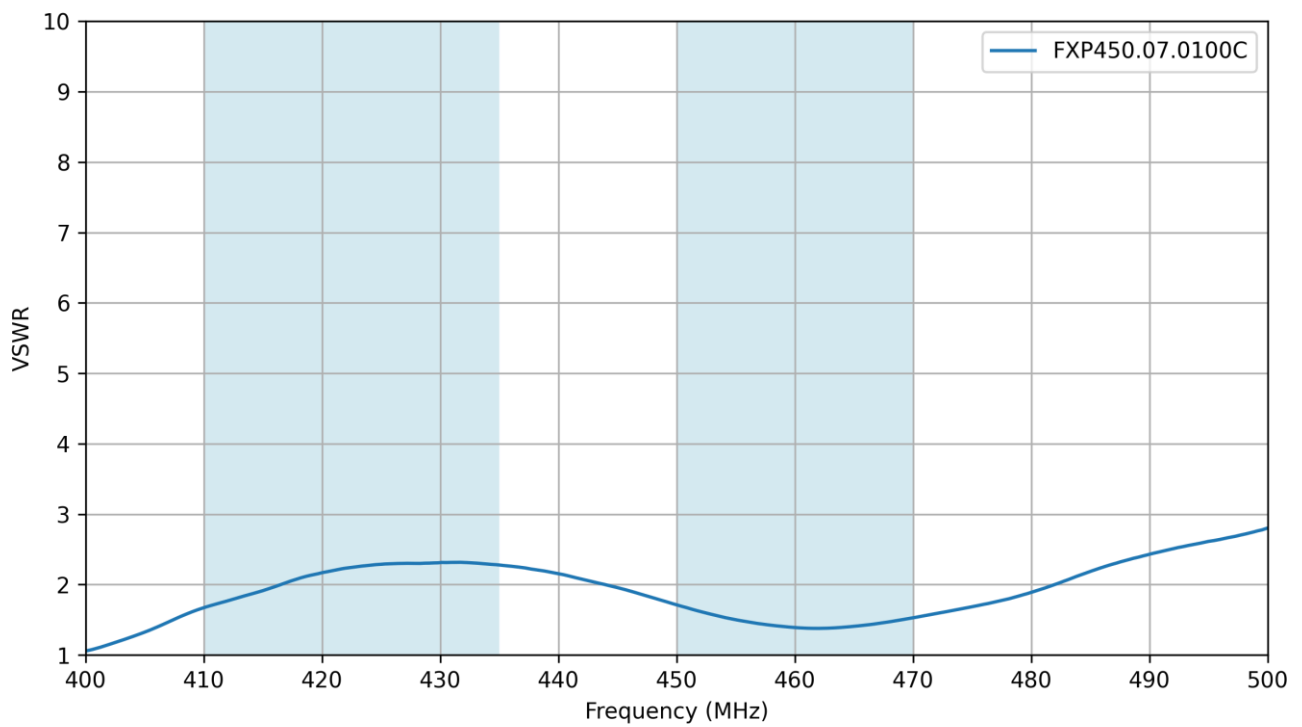
Vector Network Analyzer



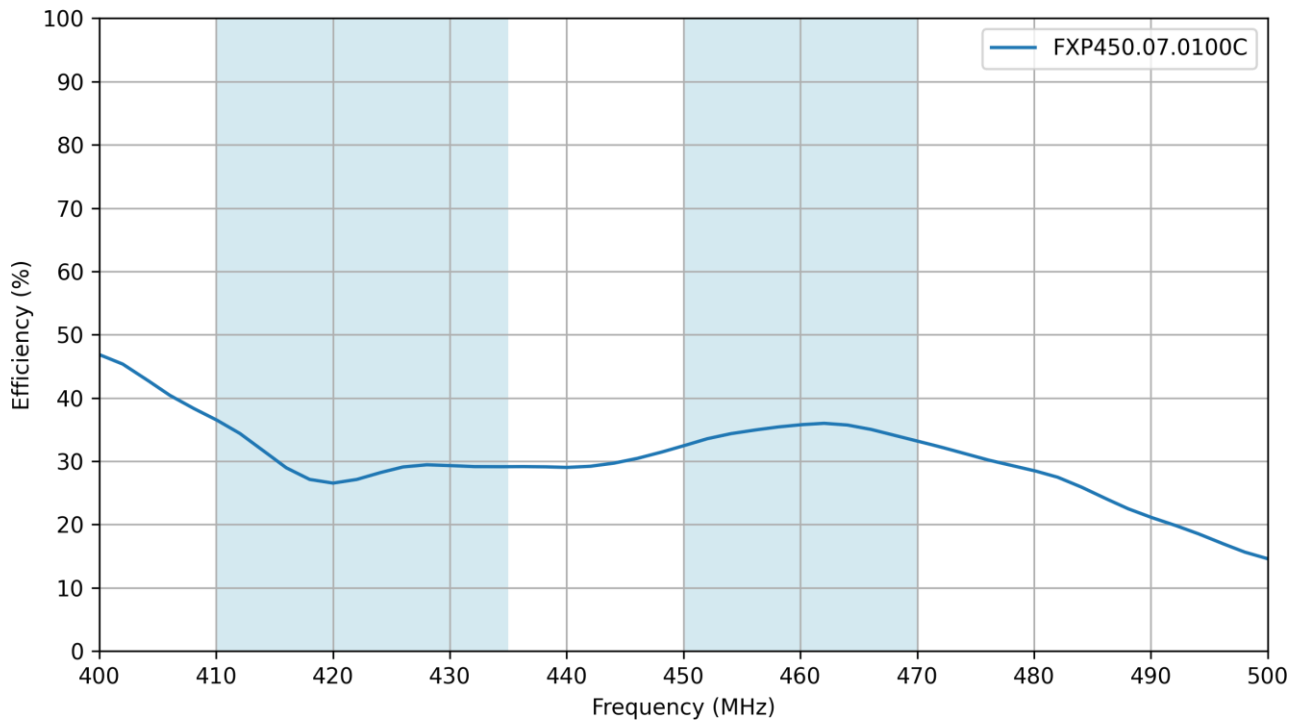
3.2 Return Loss



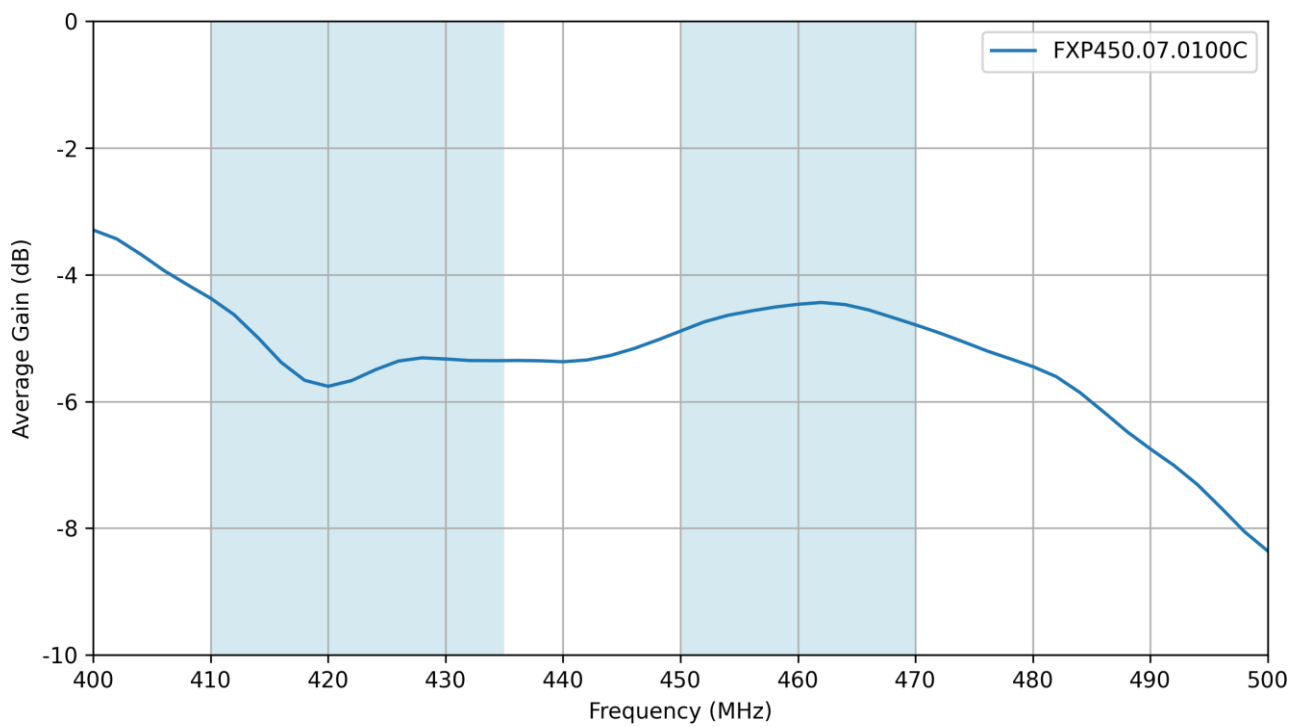
3.3 VSWR



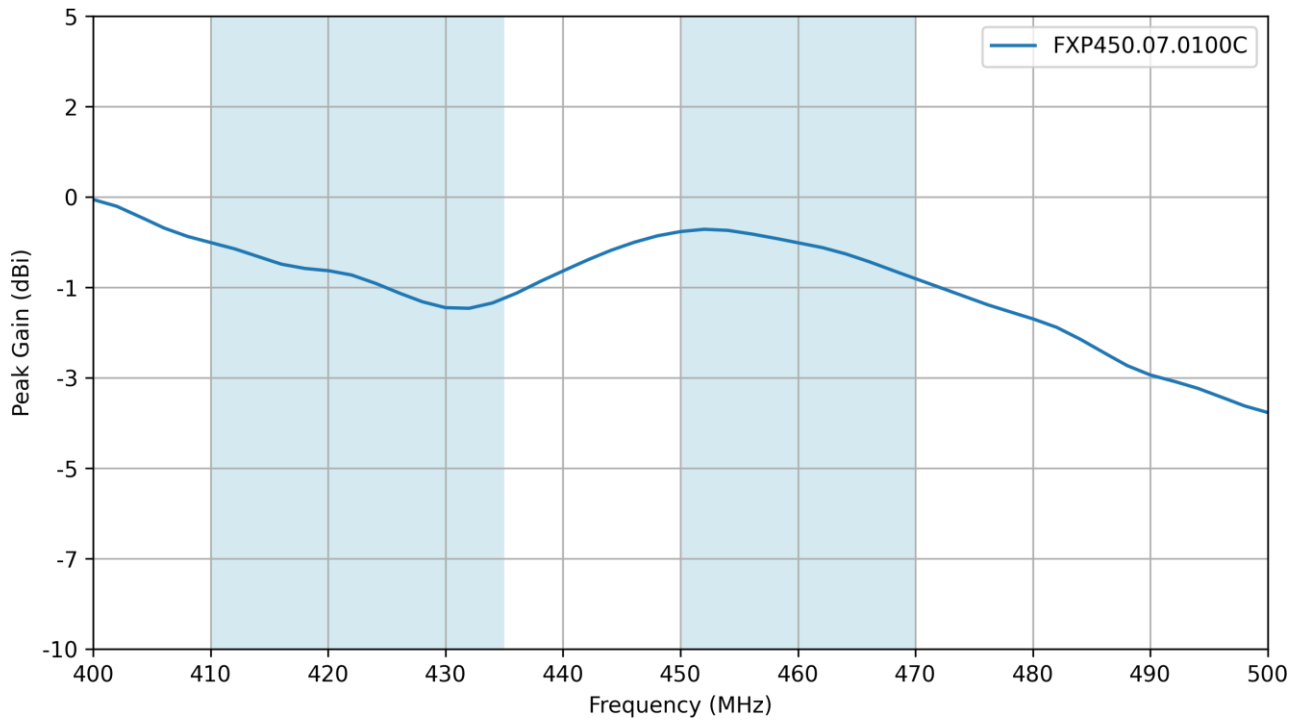
3.4 Efficiency



3.5 Average Gain

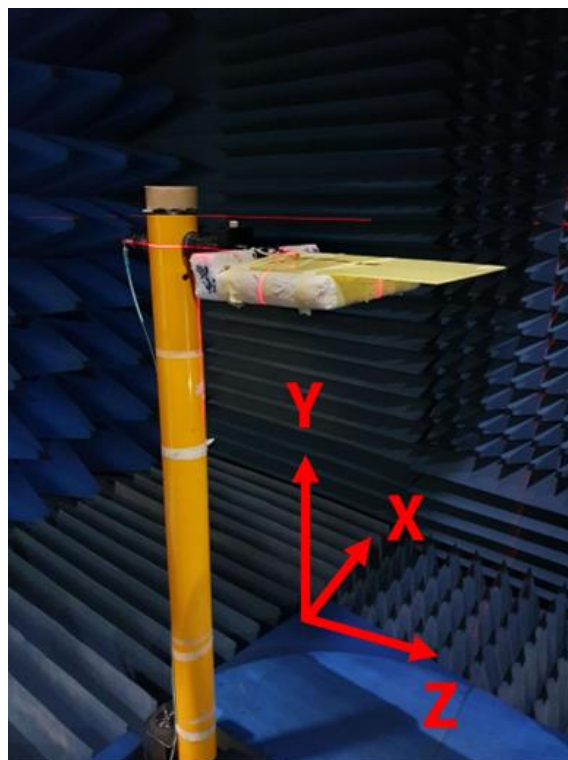
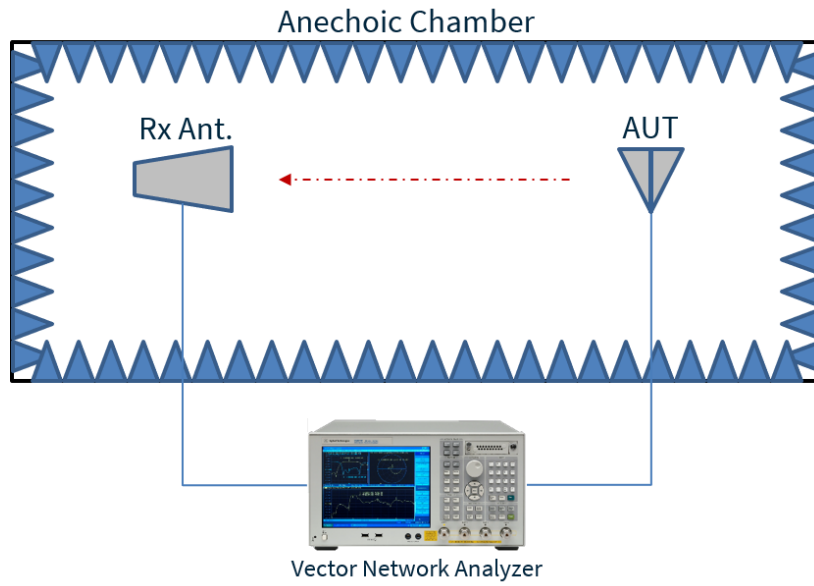


3.6 Peak Gain

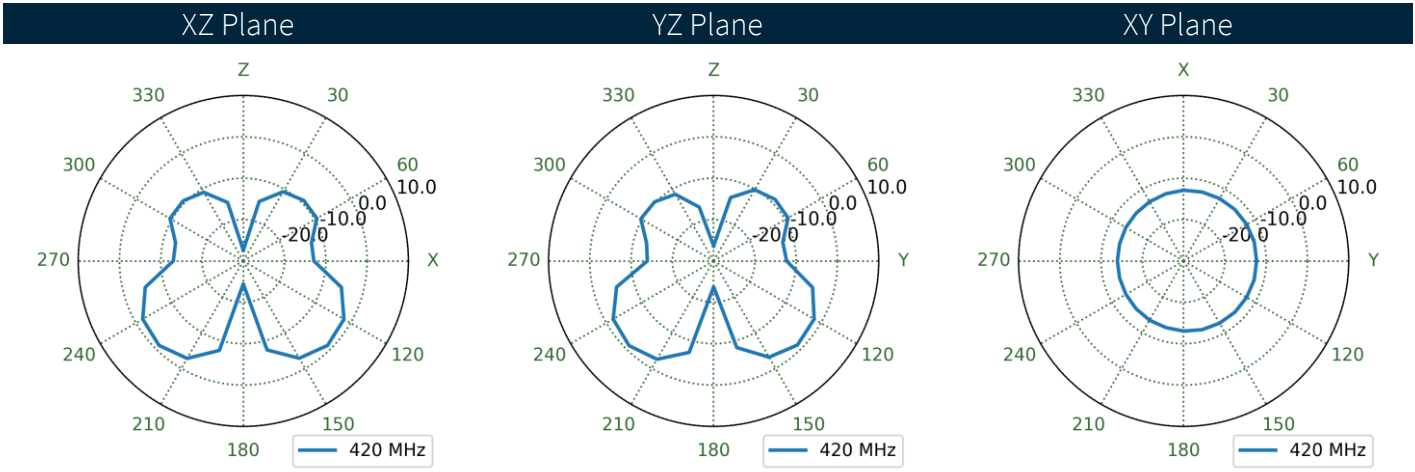
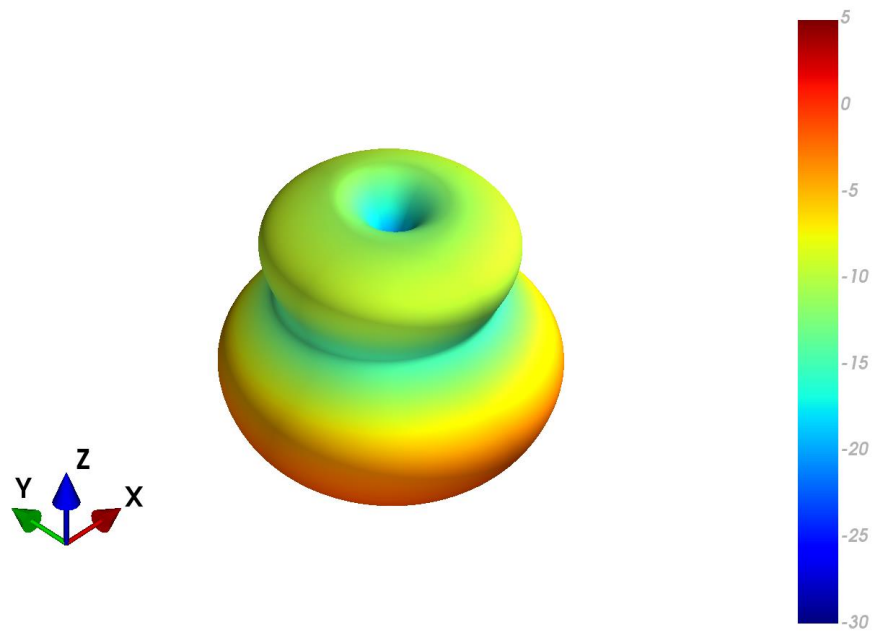


4. Radiation Patterns

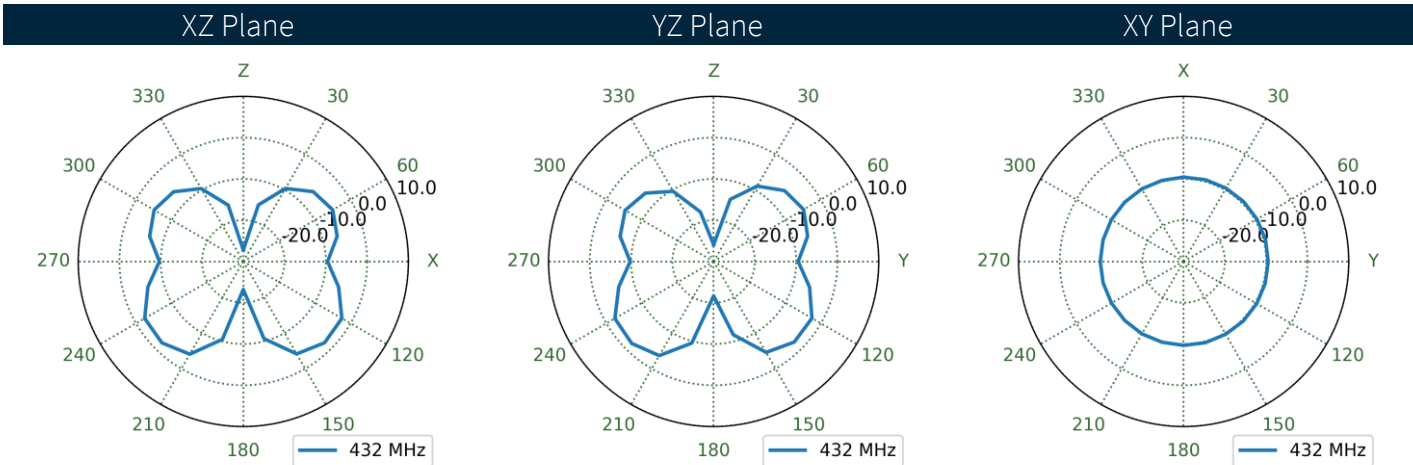
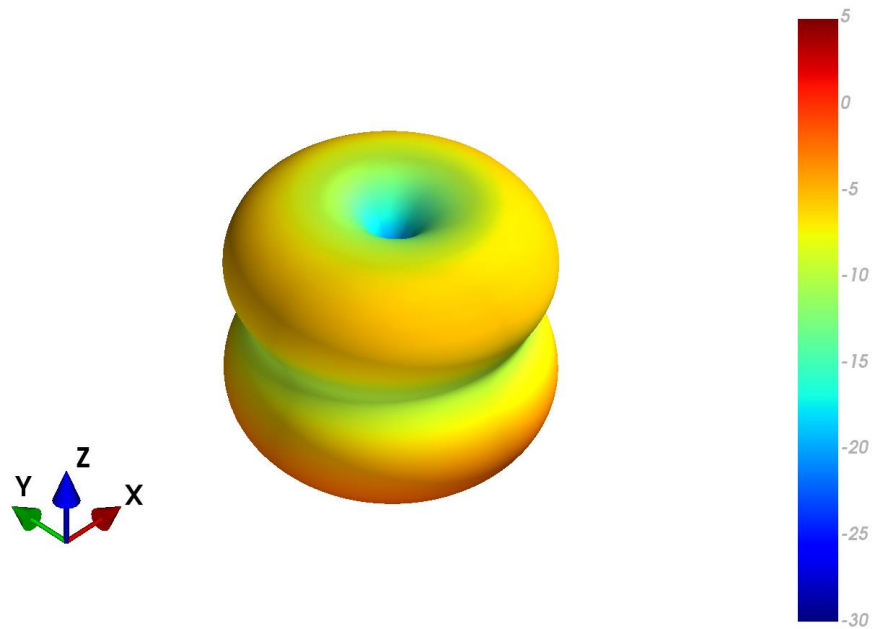
4.1 Test Setup



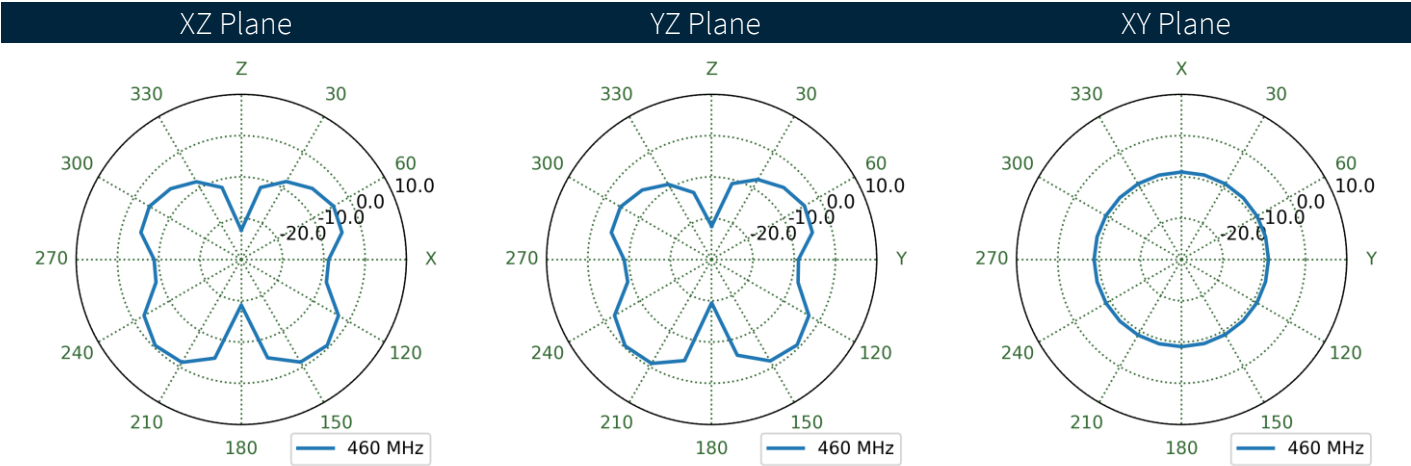
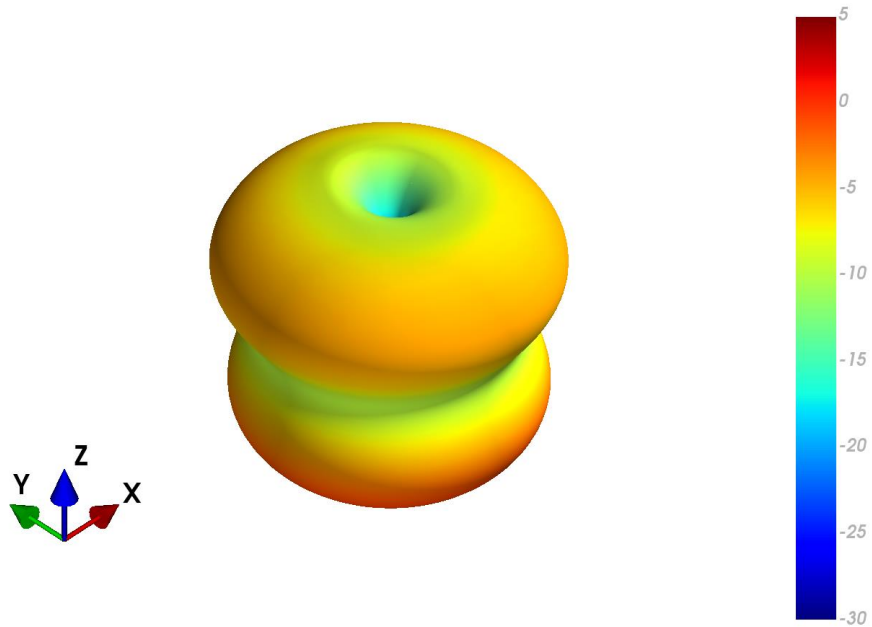
4.2 FXP450.07.0100C Patterns at 420 MHz



4.3 FXP450.07.0100C Patterns at 432 MHz



4.4 FXP450.07.0100C Patterns at 460 MHz



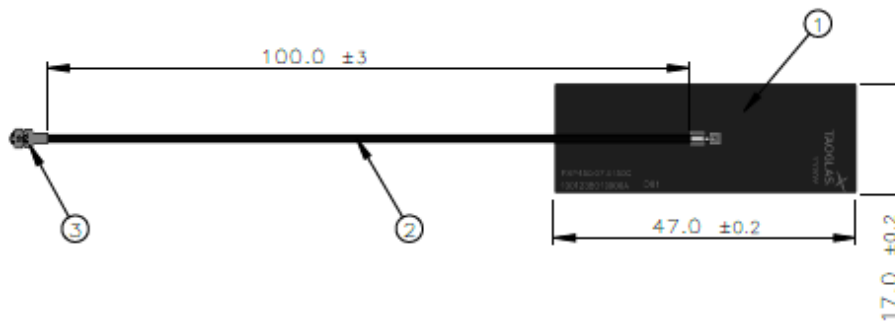
5. Mechanical Drawing

ISO NO.: EDW-23-8-0597


STATE: Release

- NOTES:
- 1.No dregs or insufficient soldering. Solder thickness 0.3~1.7mm.
 - 2.The solder must be smooth and full to the edges of the pad.
 - 3.The solder must not extend outside of the pad area.
 - 3.The connector position has special orientation to the PCB as per drawing.
 - 4.All material must be RoHS compliant.
 - 5.Open/short QC, VSWR required.
 - 6.Soldered area.

REV	ZONE	DESCRIPTION	ENG	APPROVED	DATE
D01	All	Initial design	Aron Yan	Aaron	2023/4/21



	Name	Material	Finish	QTY
1	FXP450 PCB	Polymer 0.263t	Black	1
2	1.37 Coaxial Cable	FEP	Black	1
3	IPEX MHFHT	Brass	Au Plated	1

APPROVED BY: Chozen	 <p>The Design Centre</p>
CHECK BY: Aaron	
DRAWN BY: Aron Yan	
DATE: 2023/4/21	TITLE: 450MHz Flexible Antenna with 100mm 1.37 IPEX MHFI
UNLESS OTHERWISE SPECIFIED TOLERANCES ON:	PART NO.: FXP450.07.0100C
THIRD ANGLE PROJECTION	UNIT: mm SCALE: 1:1 PAGES: 1/1 REV: D01

6. Packaging

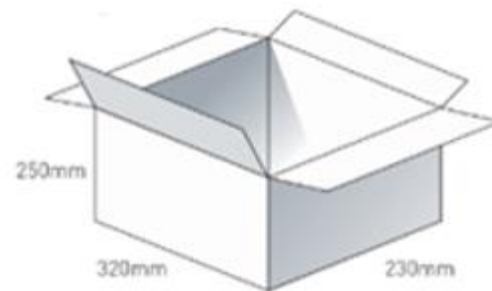
100pcs FXP450.07.0100C per PE Bag
 Dimensions 300*100mm
 Weight -150g



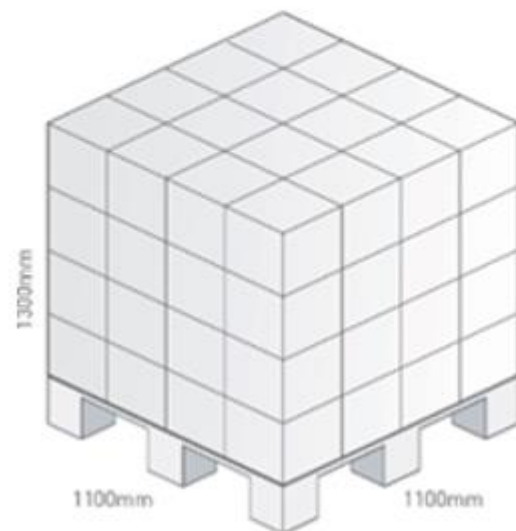
1000pcs FXP450.07.0100C per Large PE Bag
 Dimensions 450*280mm
 Weight -1.5Kg



5000pcs FXP450.07.0100C 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-23-8-180 – FXP450.07.0100C

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

Previous Revisions



www.taoglas.com

