



# TAOGLAS®



# Datasheet

## Freedom

**Part No:**  
FXP70.A

## Description

2.4GHz Flex PCB Antenna without cable

## Features:

- Low profile antenna
- High performance magnetic field antenna
- Flexible PCB Antenna with 3M adhesive
- Dimensions: 27 x 25 x 0.2mm
- RoHS & Reach Compliant

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ISO 9001:2015  
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## 1. Introduction



The FXP70 Freedom 2.4GHz Antenna works on Wi-Fi, ZigBee, Bluetooth and ISM band at 2.4GHz. This antenna has been designed as a general solution to cover the current market applications, with easy installation through a cable connection. The antenna has been designed to work on different plastics material and thickness. We have selected a piece of ABS plastic with 2mm of thickness as a baseline for testing.

The cable and connector are fully customizable, for more information please contact your regional Taoglas customer support team.

## 2. Specification

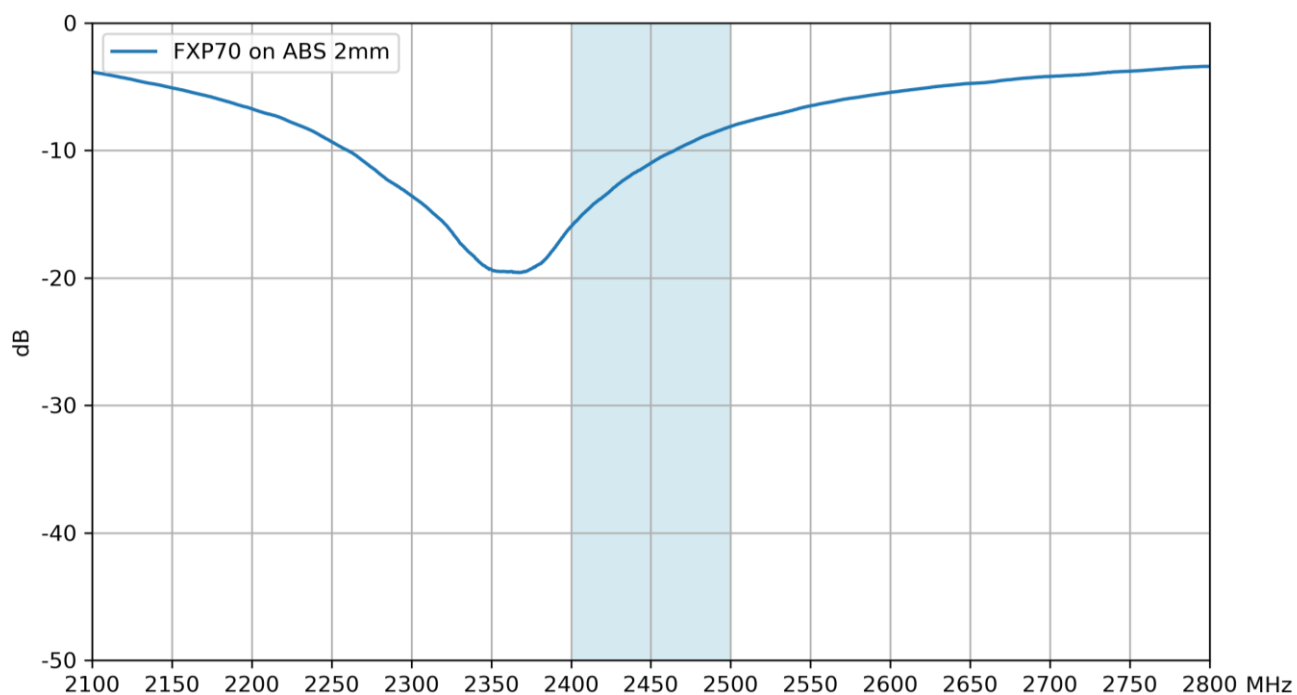
Wi-Fi Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
Wi-Fi - 2.4GHz	2400-2500	2mm ABS	63.7	-2.0	1.1	50 $\Omega$	Linear	Omni directional	10W
		Free Space	30.5	-5.2	-1.9				

Mechanical	
Dimensions	27 x 25 x 0.08 mm
Weight	1.2 g
Adhesive	3M 467

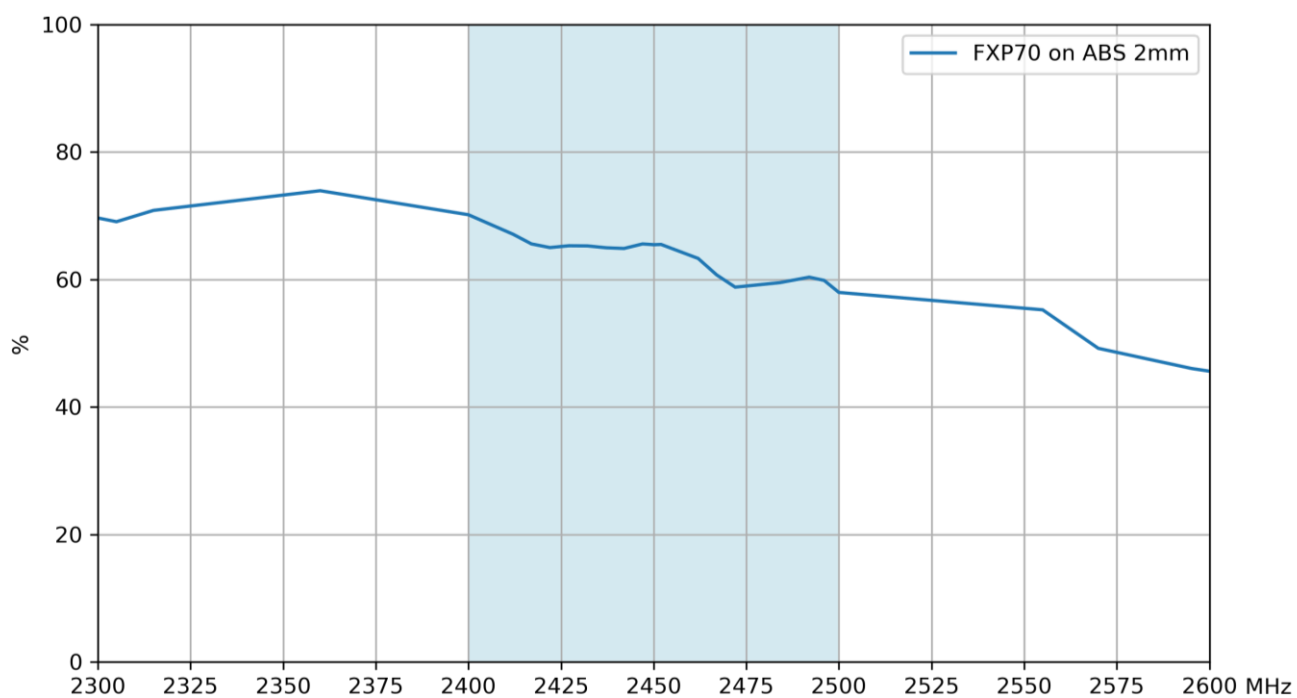
Environmental	
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Relative Humidity	Non-condensing 65°C 95% RH

## 3. Antenna Characteristics

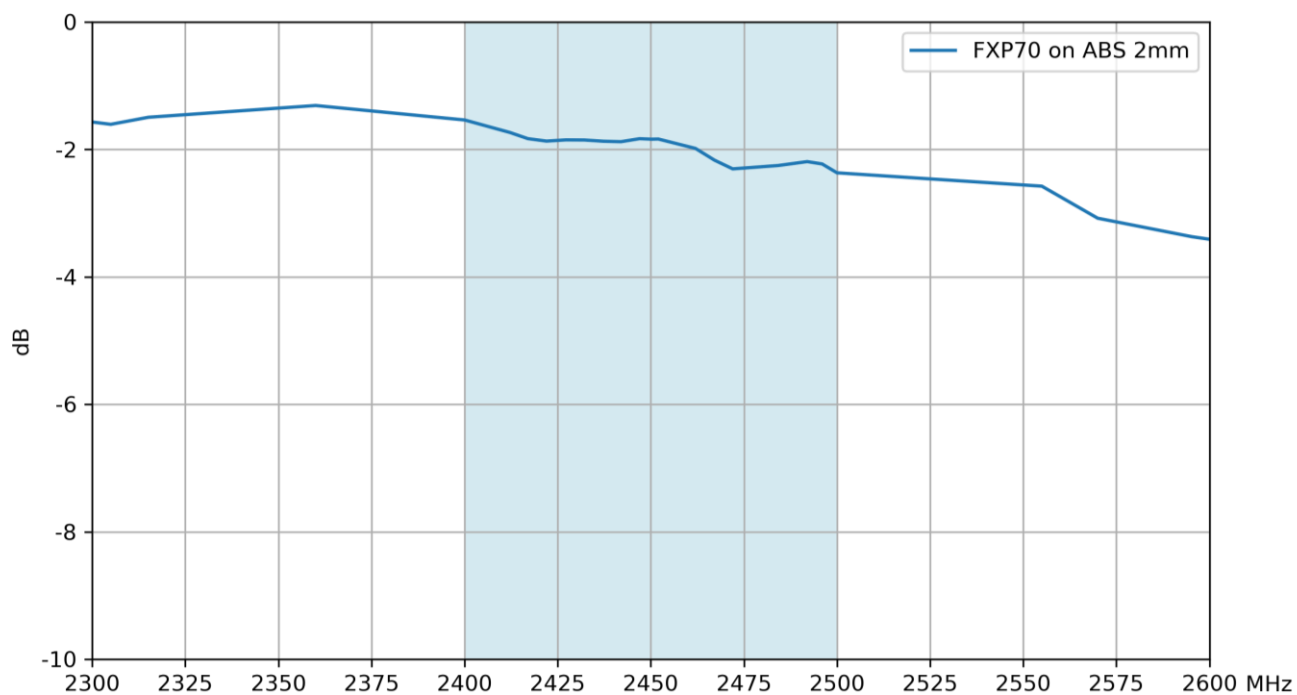
### 3.1 Return Loss



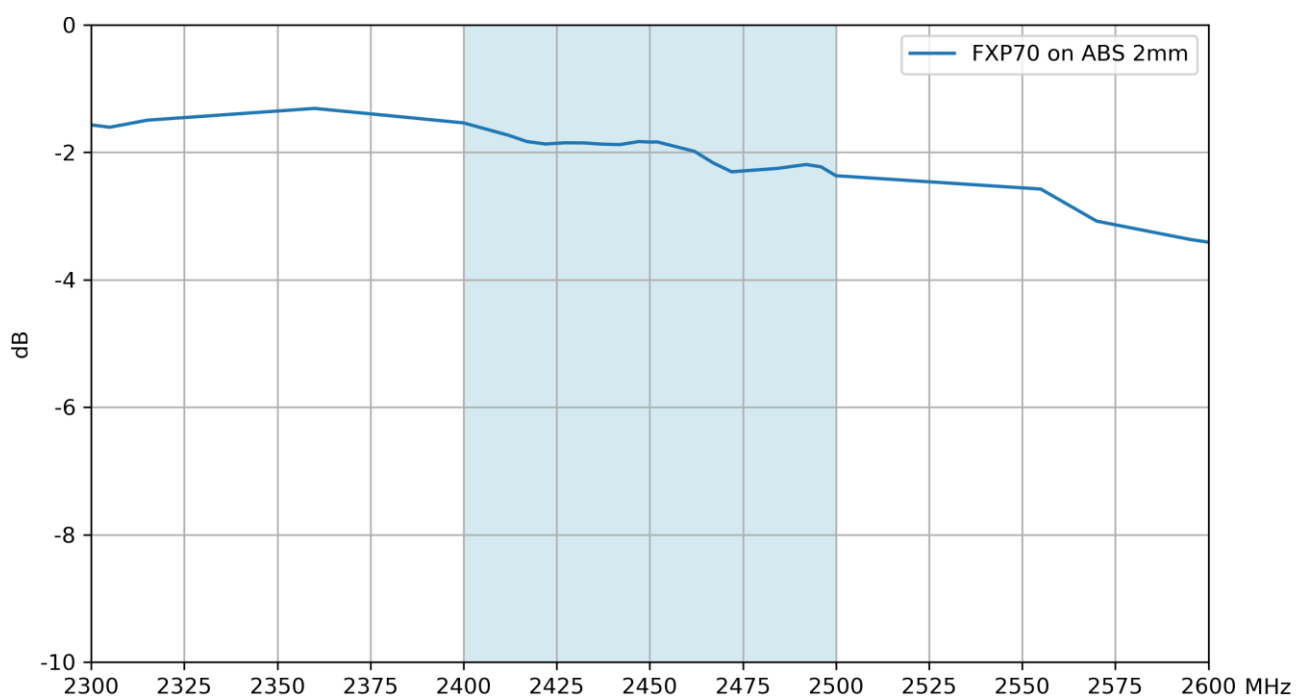
### 3.2 Efficiency



### 3.3 Average Gain

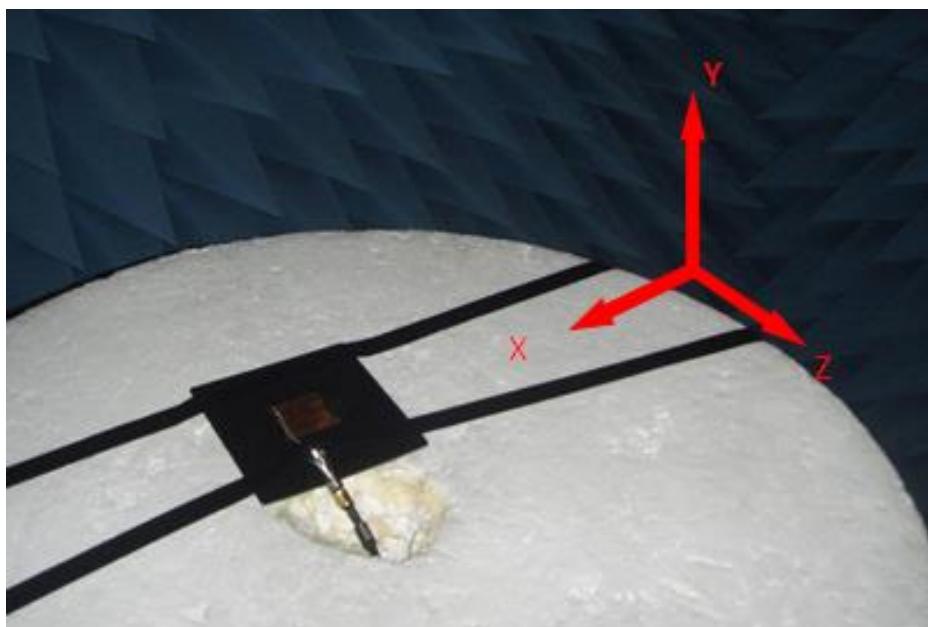
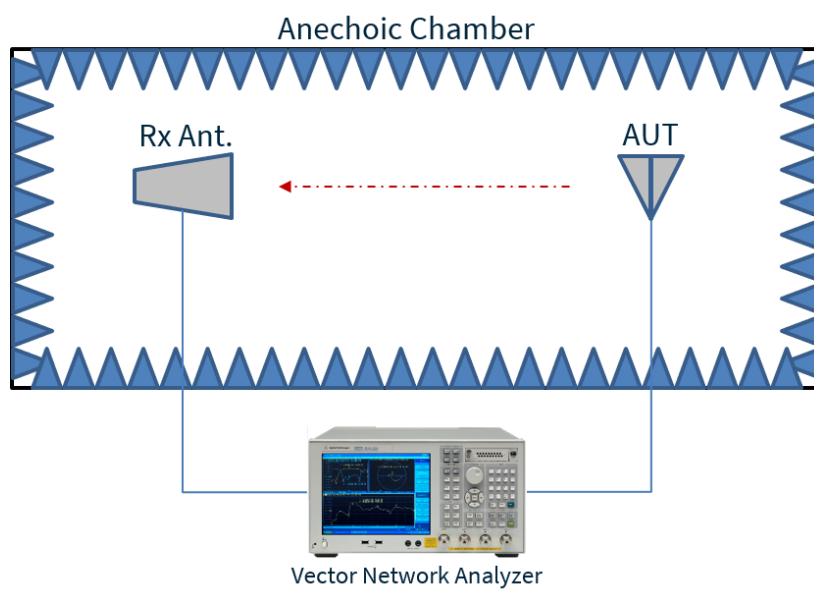


### 3.4 Peak Gain



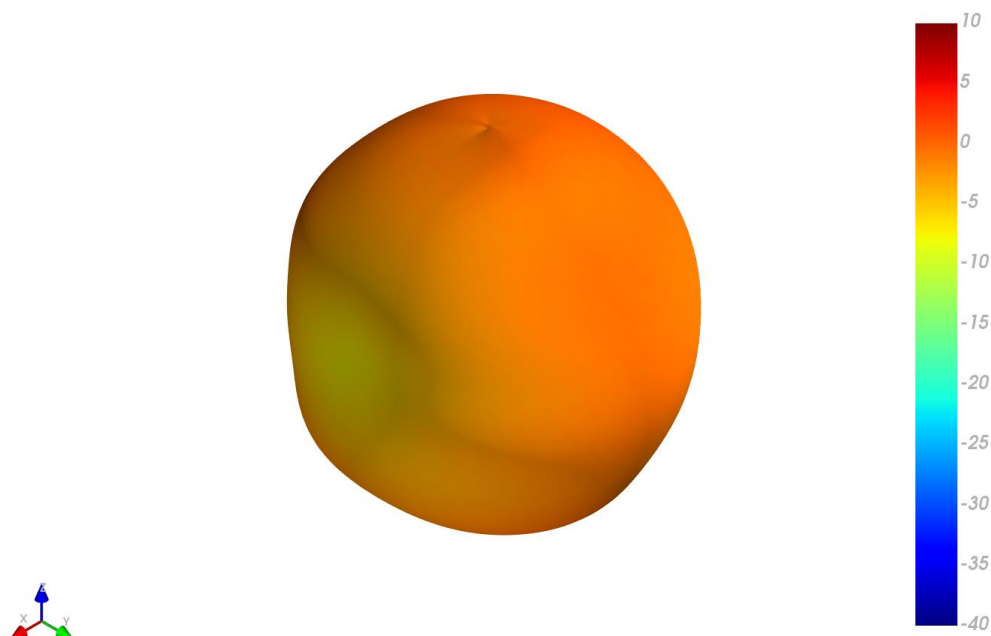
## 4. Radiation Patterns

### 4.1 Test Setup

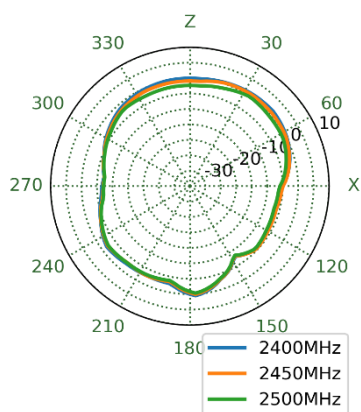


Chamber Test Set-up on 2mm ABS

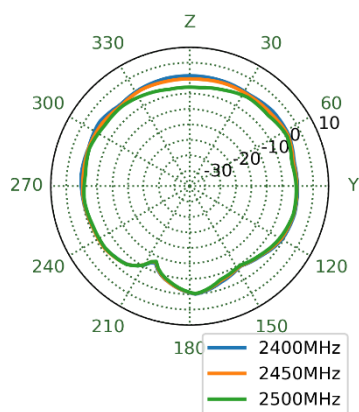
## 4.2 Patterns at 2450 MHz



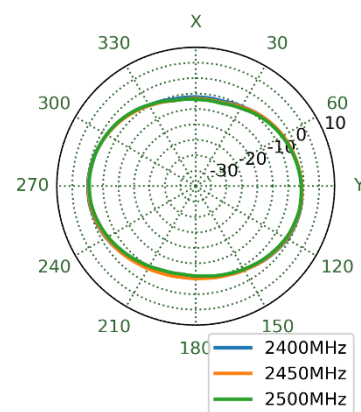
XZ Plane



YZ Plane



XY Plane






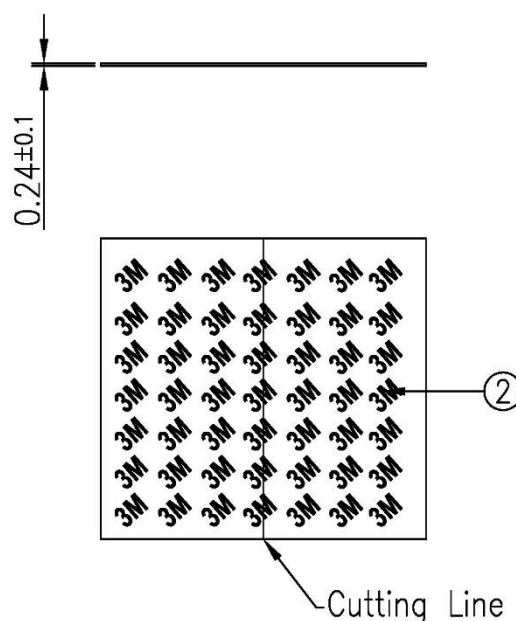
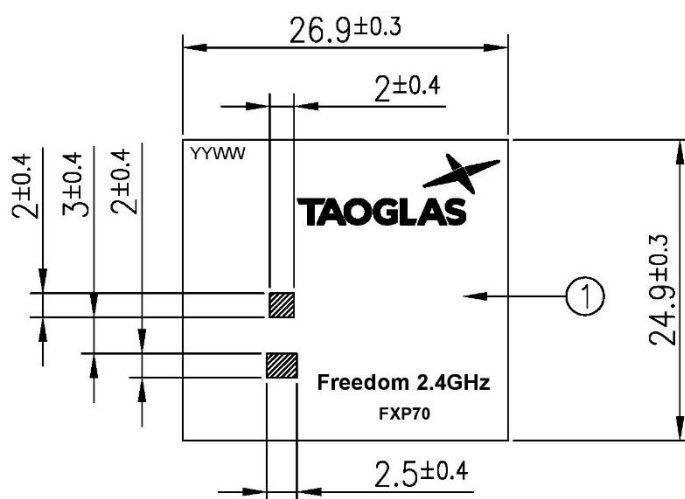
## 5. Drawing

ISO NO.: EDW.xxxxxx

STATE: Release


NOTES: 1. All material must be RoHS compliant.  
2. Solder Area (Au Plated): 

REV.	DESCRIPTION	ENG.	APPROVED	DATE
001	Initial Design	Ruby	Aaron	2025/01/21



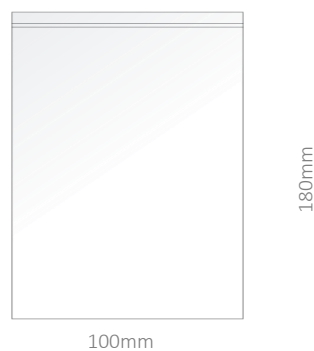
Cutting Line

	Name	Material	Finish	QTY
1	FPCB	Polymer 0.24t	Black	1
2	Double-Sided Adhesive	3M 467	Brown Liner	1

APPROVED BY: Aaron	 <p>TW Design Centre This drawing is TAOGLAS Confidential Information and its inherent design concepts are property of TAOGLAS. This is not to be copied or shared with third parties without the prior written consent of TAOGLAS.</p>
CHECK BY: Aaron	
DRAWN BY: Ruby	
DATE: 2025/01/21	
UNLESS OTHERWISE SPECIFIED TOLERANCES ON:	<p>XX.00.0 X.00.0 X.00.0 X.00.0 X.00.0</p>
THIRD ANGLE PROJECTION	<p>TITLE: 2.4GHz Flex PCB Antenna without cable (100111C020024A)</p> <p>PART NO.: FXP70.A</p> <p>UNIT: mm SCALE: 2:1 PAGES: 1/1 REV. D01</p>

## 6. Packaging

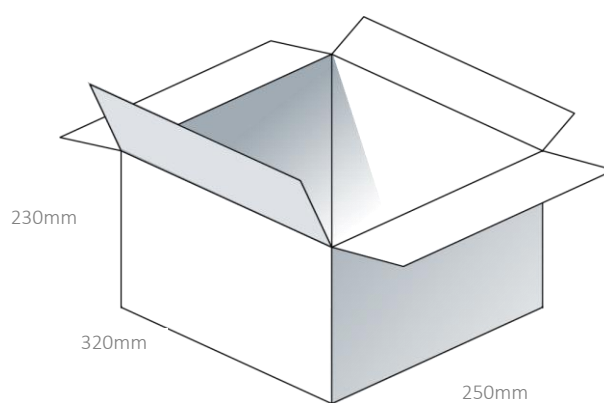
100pcs FXP70.A per PE Bag  
Dimensions – 180 x 100mm  
Weight - 130g



1000pcs FXP70.A per Large PE Bag  
Dimensions – 280 x 450mm  
Weight - 1.4Kg



6000pcs FXP70.A per carton  
Dimensions – 320 x 250 x 230mm  
Weight - 8.5Kg



Changelog for the datasheet

SPE-25-8-019 - FXP70.A

Revision: A (Original First Release)	
Date:	2025-01-16
Notes:	Initial Release
Author:	Gary West

Previous Revisions



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