



TAOGLAS®



Datasheet

Blue Diamond

Part No:
FXP73.07.0100A

Description:

FXP73 Blue Diamond 2.4GHz Flexible PCB Antenna

Features:

- 2.4GHz Wi-Fi® Flexible Polymer antenna
- 2.5dBi Gain
- Connector: I-PEX MHF® I (U.FL compatible)
- Cable: 100mm 1.13
- Dimensions: 47*7*0.1 mm
- CE Certified
- RoHS & Reach Compliant



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1. Introduction



The FXP73 Blue Diamond 2.4GHz Antenna works on Wi-Fi®, ZigBee®, Bluetooth® and ISM band at 2.4GHz. This antenna has been designed with a specific solution to cover the current market applications that require rectangular form-factor, with easy installation through a cable connection.

Many module manufacturers specify peak gain limits for any antennas that are to be connected to that module. Those peak gain limits are based on free-space conditions. In practice, the peak gain of an antenna tested in free-space can degrade by at least 1 or 2dBi when put inside a device. So ideally you should go for a slightly higher peak gain antenna than mentioned on the module specification to compensate for this effect, giving you better performance.

Upon testing of any of our antennas with your device and a selection of appropriate layout, integration technique, or cable, Taoglas can make sure any of our antennas' peak gain will be below the peak gain limits. Taoglas can then issue a specification and/or report for the selected antenna in your device that will clearly show it complying with the peak gain limits, so you can be assured you are meeting regulatory requirements for that module.

For example, a module manufacturer may state that the antenna must have less than 2dBi peak gain, but you don't need to select an embedded antenna that has a peak gain of less than 2dBi in free-space. This will give you a less optimized solution. It is better to go for a slightly higher free-space peak gain of 3dBi or more if available. Once that antenna gets integrated into your device, performance will degrade below this 2dBi peak gain due to the effects of GND plane, surrounding components, and device housing. If you want to be absolutely sure, contact Taoglas and we will test. Choosing a Taoglas antenna with a higher peak gain than what is specified by the module manufacturer and enlisting our help will ensure you are getting the best performance possible without exceeding the peak gain limits.

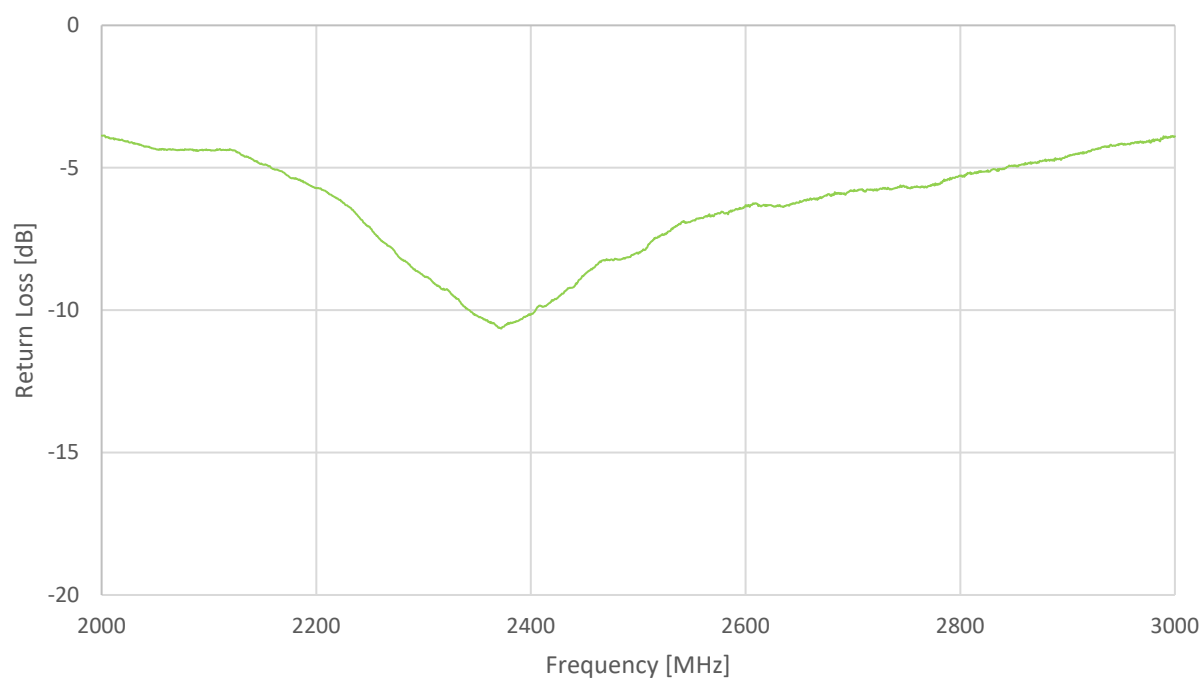
The cable and connector are fully customizable, for further information please contact your regional Taoglas customer support team.

2. Specifications

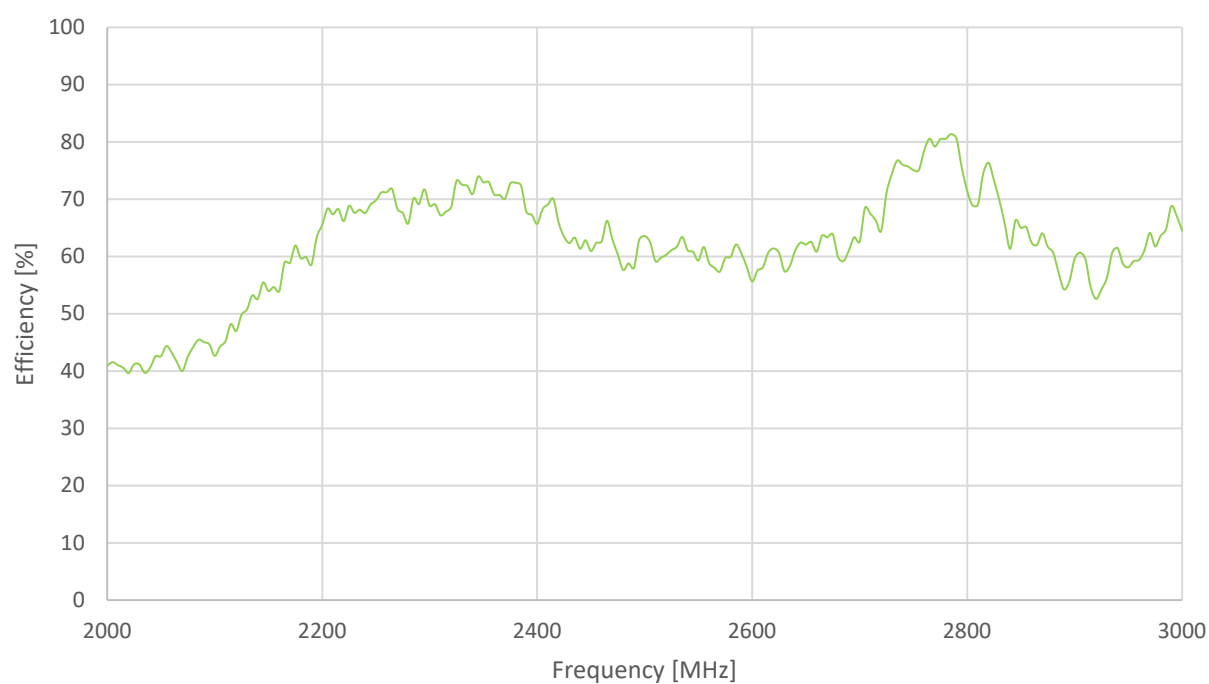
Electrical	
Frequency Range	2400-2500MHz
Efficiency	60%
Average Gain	2.5dB
Peak Gain	5dBi
Return Loss	-10dB
Impedance	50 Ohms
VSWR	≤ 2:1
Polarization	Linear
Max Input Power	5W
Mechanical	
Dimensions	47*7*0.1 mm
Weight	1.2 g
Connector	I-PEX MHF® I (U.FL Compatible)
Cable Standard	Mini-Coax 1.13 mm
Cable Length and colour	100mm, White
Adhesive	3M 467
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH

3. Antenna Characteristics

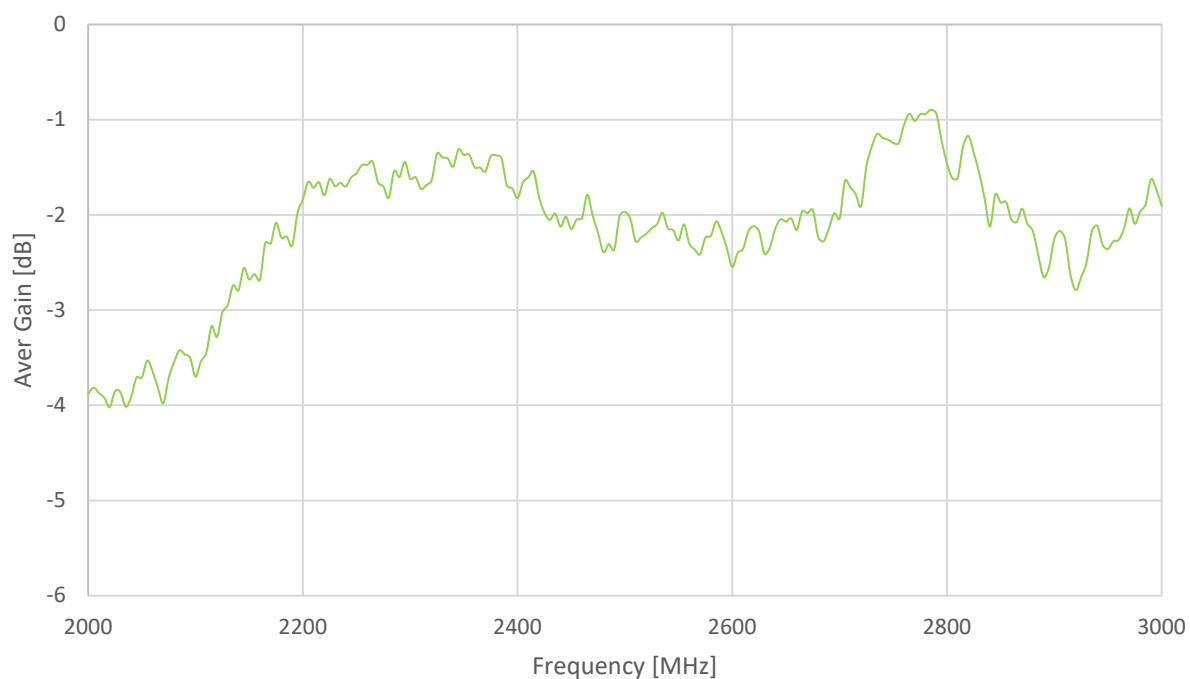
3.1 Return Loss



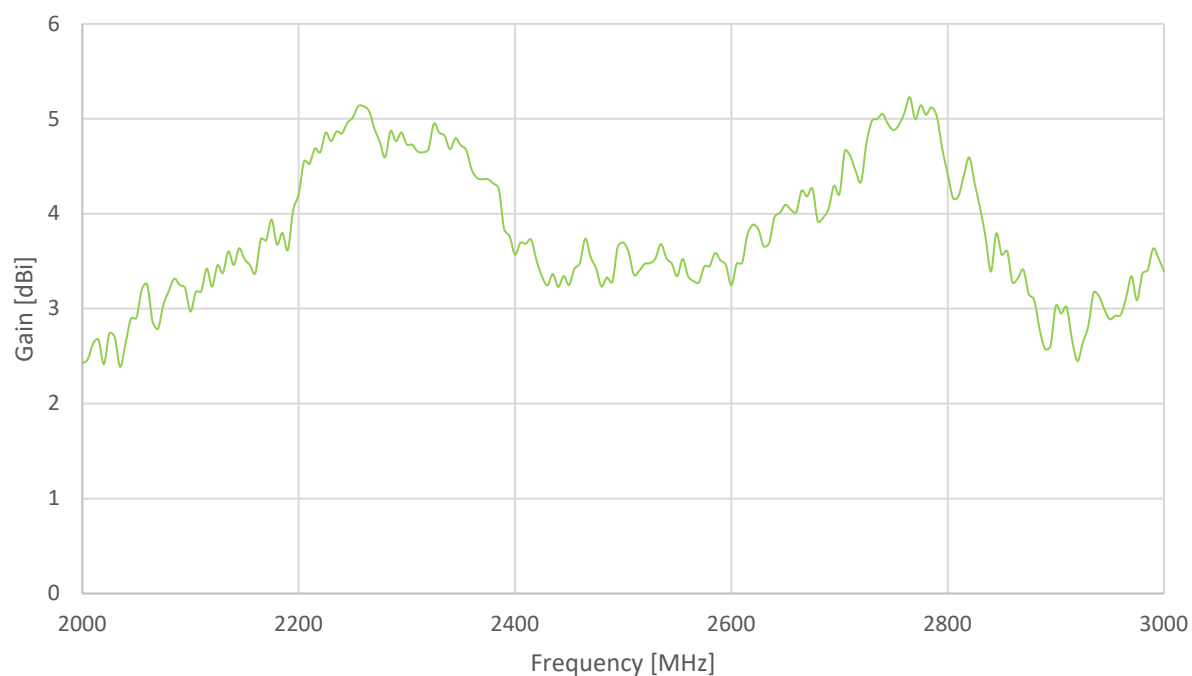
3.2 Efficiency



3.3 Average Gain



3.4 Peak Gain



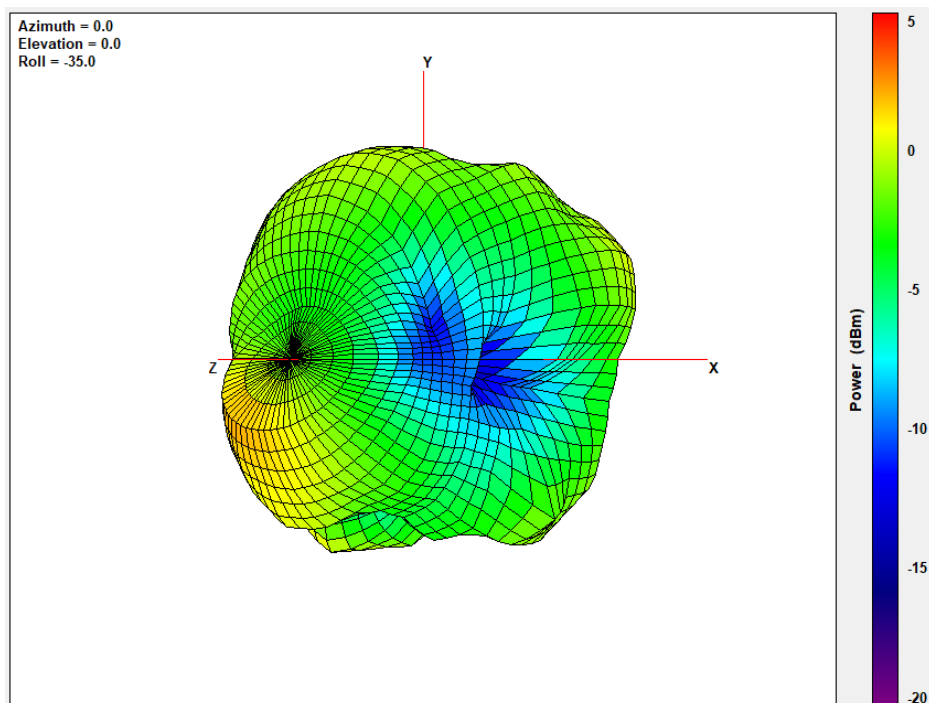
4. Radiation Patterns

4.1 Test Setup



Free space

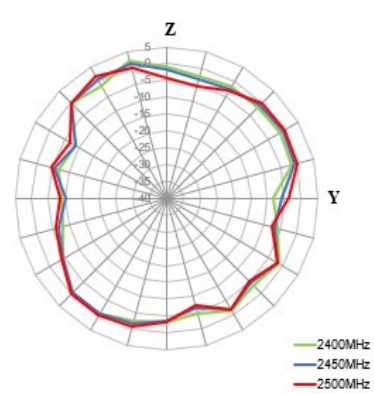
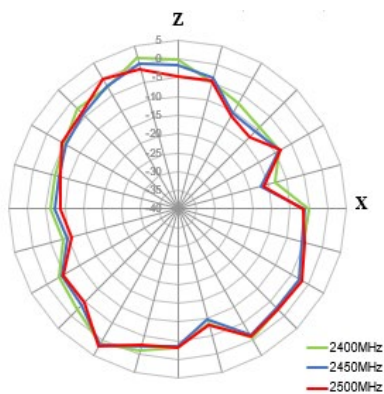
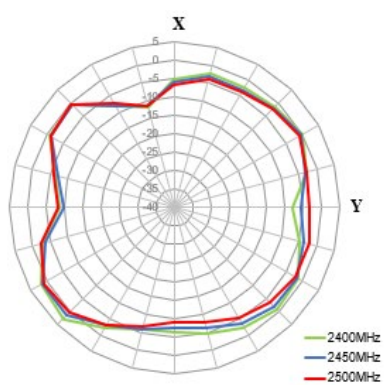
4.2 2450MHz 3D & 2D Radiation Pattern



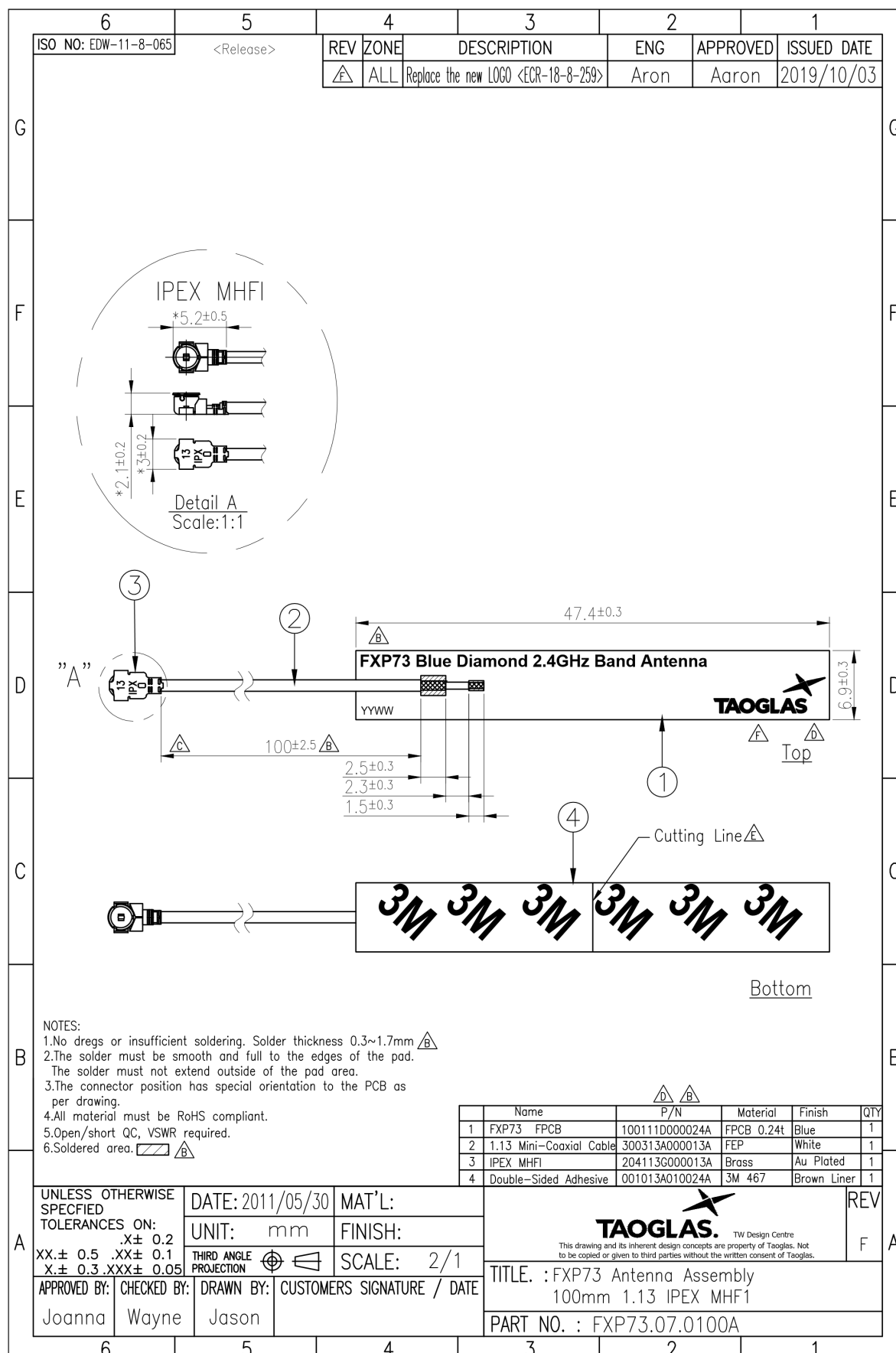
XY Plane

XZ Plane

YZ Plane

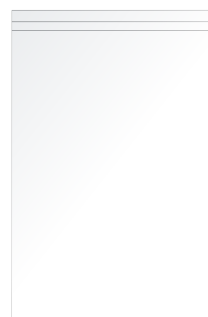


5. Mechanical Drawing (Units: mm)

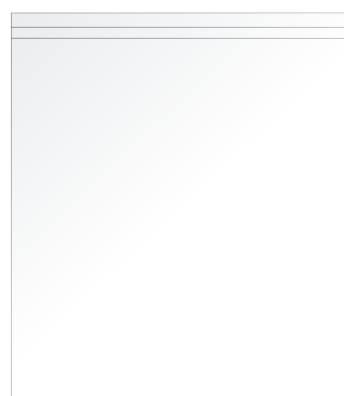


6. Packaging

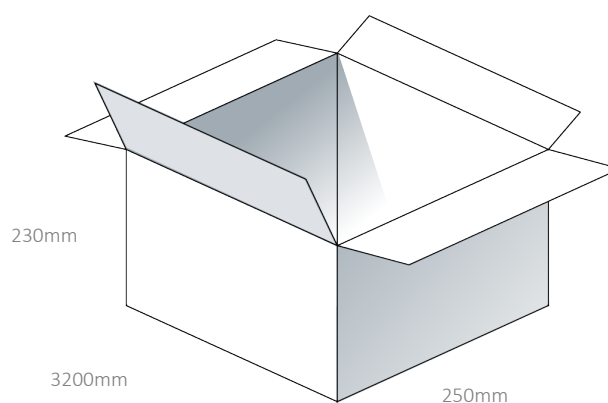
100pcs FXP73.07.0100A per Small PE Bag
Weight - 130g



1000pcs FXP73.07.0100A per Large PE Bag
Weight - 1.3Kg



5000pcs FXP73.07.0100A per carton
Dimensions - 320*250*230mm
Weight - 6.6Kg



Changelog for the datasheet

SPE-11-8-048 – FXP73.07.0100A

Revision: I (Current Version)

Date:	2022-08-10
Changes:	Retested antenna and completed a full datasheet update.
Changes Made by:	Gary West

Previous Revisions

Revision: H

Date:	2020-01-07
Changes:	Updated format drawing and image ECR-18-8-259
Changes Made by:	Jack Conroy

Revision: C

Date:	2012-02-06
Changes:	Data Updated
Changes Made by:	Aine Doyle

Revision: G

Date:	2017-03-08
Changes:	Added note on Gain
Changes Made by:	Aine Doyle

Revision: B

Date:	2011-07-26
Changes:	Data updated
Changes Made by:	Aine Doyle

Revision: F

Date:	2017-10-16
Changes:	Data Updated
Changes Made by:	Aine Doyle

Revision: A (Original First Release)

Date:	2009-03-26
Notes:	
Author:	Aine Doyle

Revision: E

Date:	2012-06-27
Changes:	Data Updated
Changes Made by:	Aine Doyle

Revision: D

Date:	2012-06-08
Changes:	Data Updated
Changes Made by:	Aine Doyle



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