



TAOGLAS®



Datasheet

ISM Band IFA Flex Antenna

Part No:
FXP.89.A

Description:

Narrow-band FPCB Antenna for potted ISM devices

Features:

For devices potted in epoxy
PCB direct connect

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1. Introduction



FXP.89.A is a narrow-band ISM flex antenna for devices requiring an antenna potted in an epoxy substrate. The antenna can be lumped-element matched for center frequencies ranging from 784 MHz to 915MHz.

FXP.89.A is optimized for application in Pivot International's "Rooster" tracking node device, and requires potting in URC E-Cast F-82 resin with hardener 118. All antenna data herein are demonstrated with the antenna mounted and potted within the Pivot device.

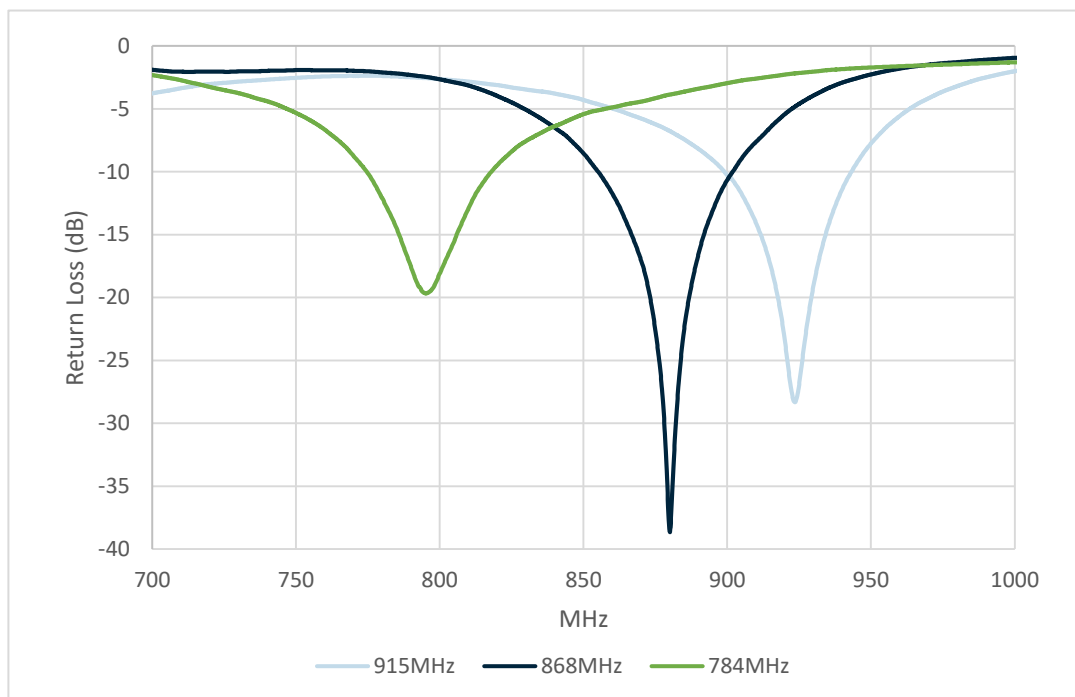
This is a provisional draft product specification and contents are subject to change.

2. Specifications

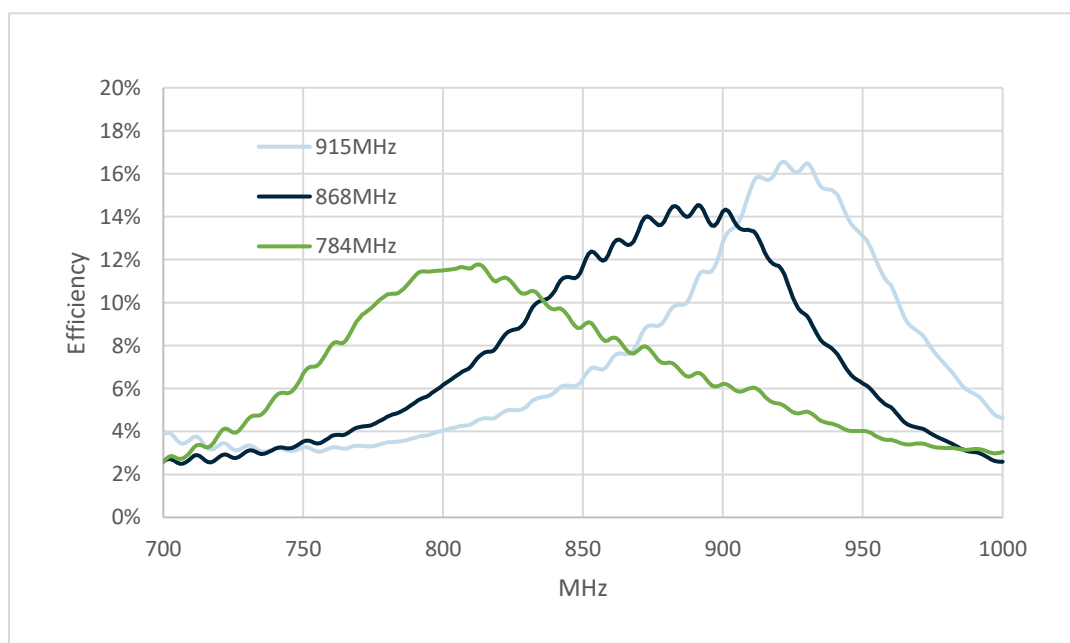
Electrical			
Frequency (MHz)	784	868	915
Efficiency (%)			
Straight	11.5	14.0	16.0
Peak Gain (dBi)			
Straight	-5.6	-5.2	-4.5
Average Gain (dB)			
Straight	-9.4	-8.5	-7.9
Impedance		50Ω	
Polarization		Linear	
Radiation Pattern		Omnidirectional	
Input Power		5W	
Mechanical			
Substrate		Polyimide	
Connection Style		Manual direct solder	
Weight		TBD	
Adhesive		3M 467MP	
Environmental			
Temperature Range		-40°C to 85°C	
Humidity		Non-condensing 65°C 95% RH	

3. Antenna Characteristics

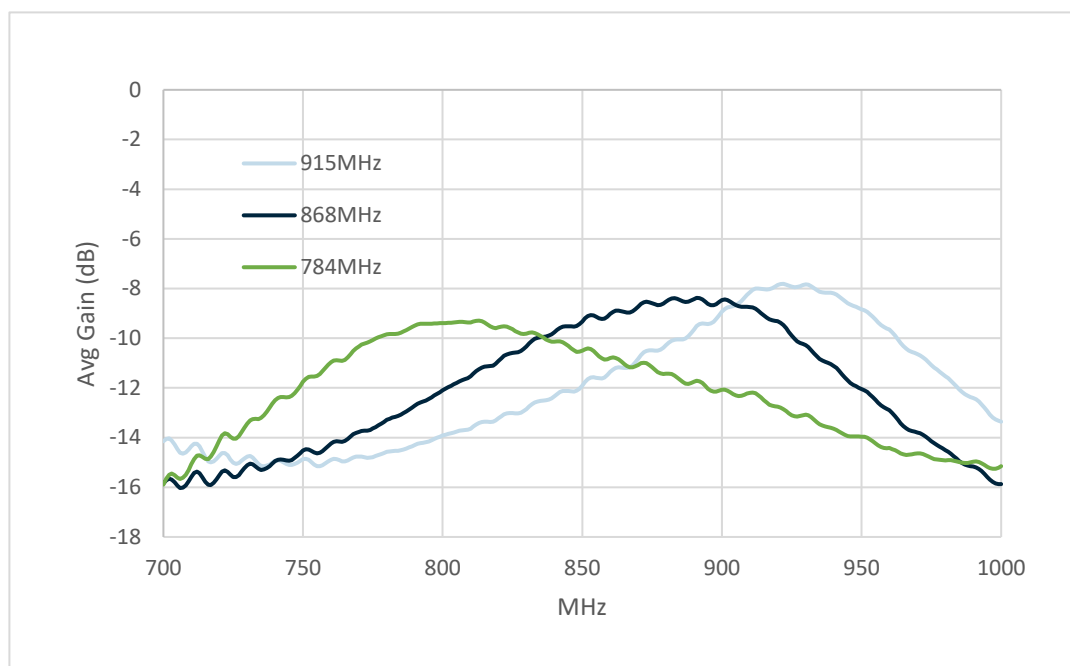
3.1 Return Loss



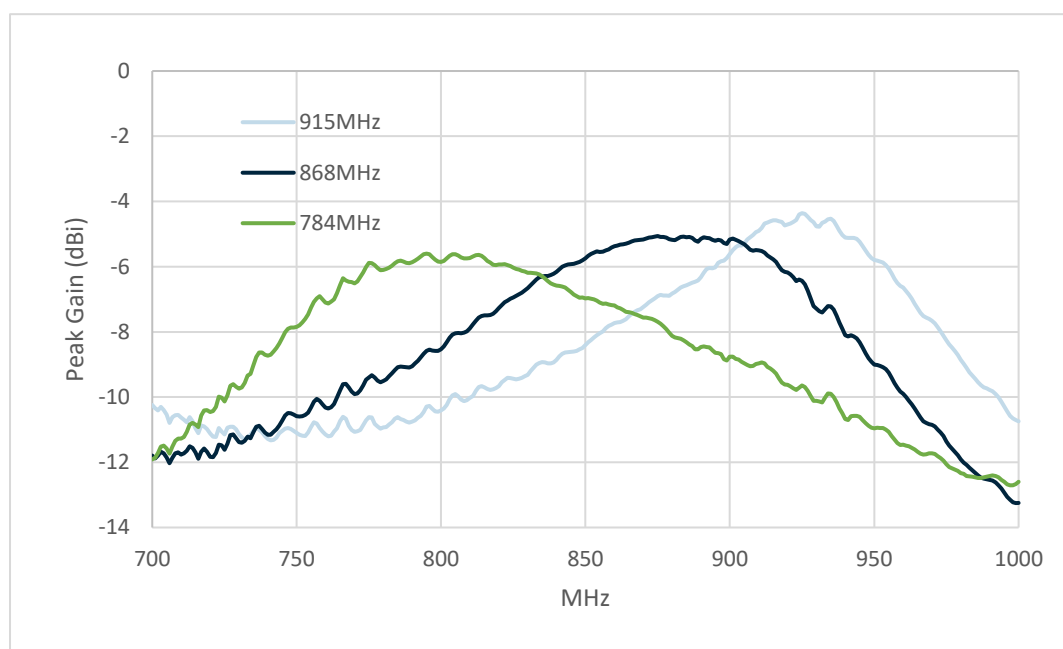
3.2 Efficiency



3.3 Average Gain

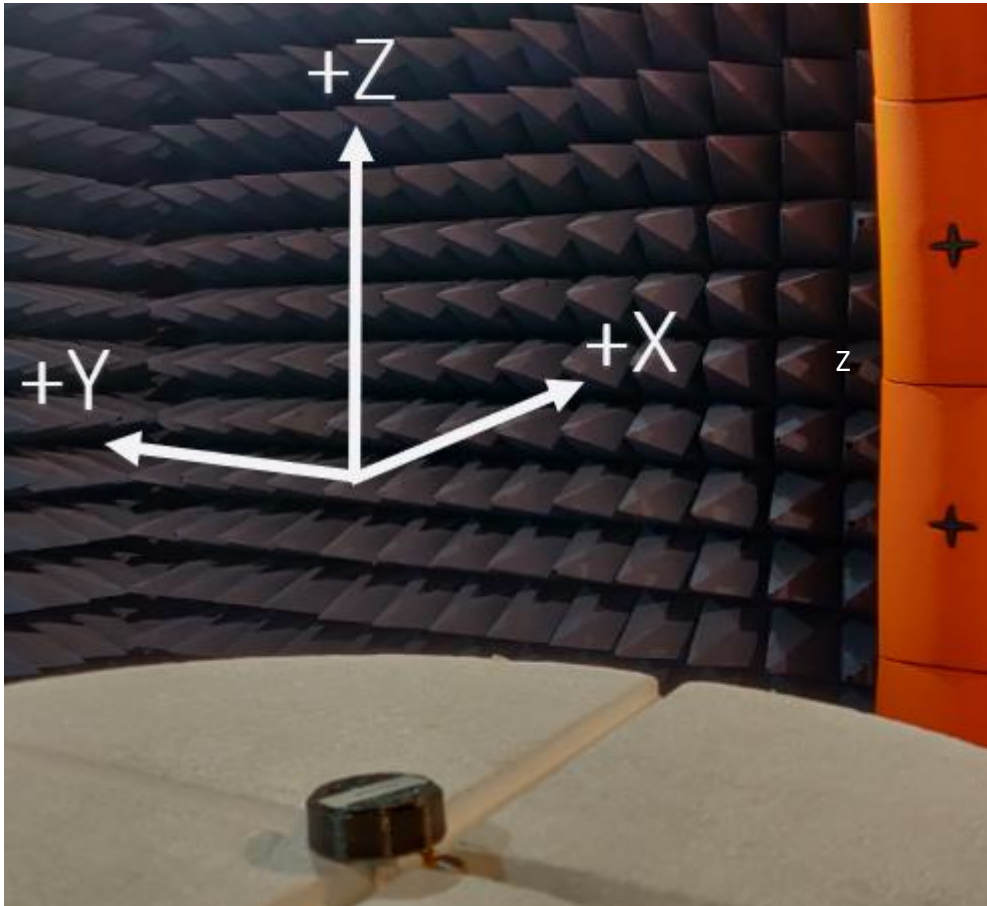


3.4 Peak Gain



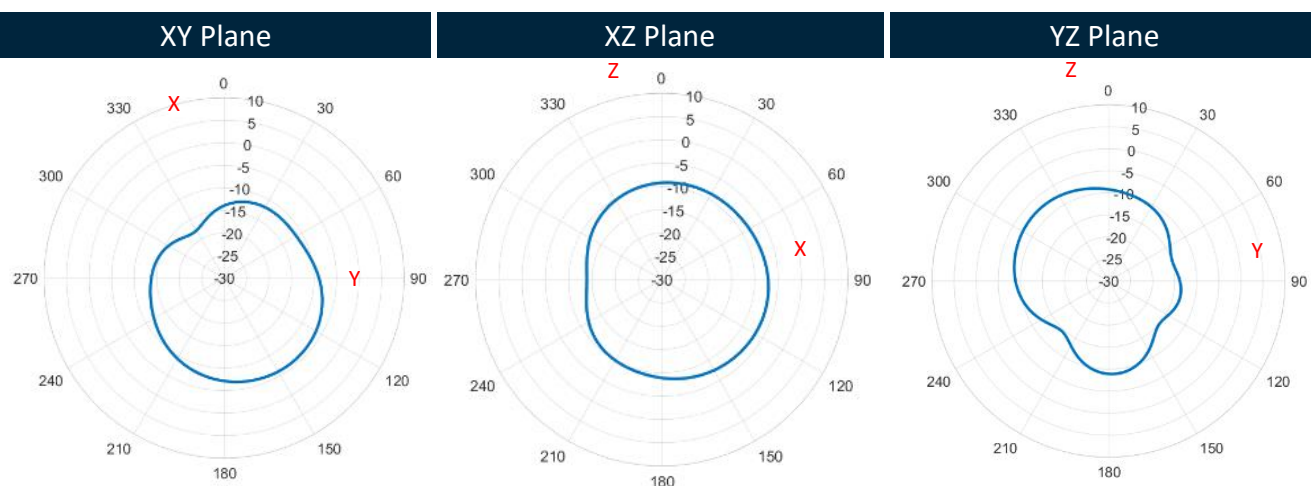
4. Radiation Patterns

4.1 Test Setup

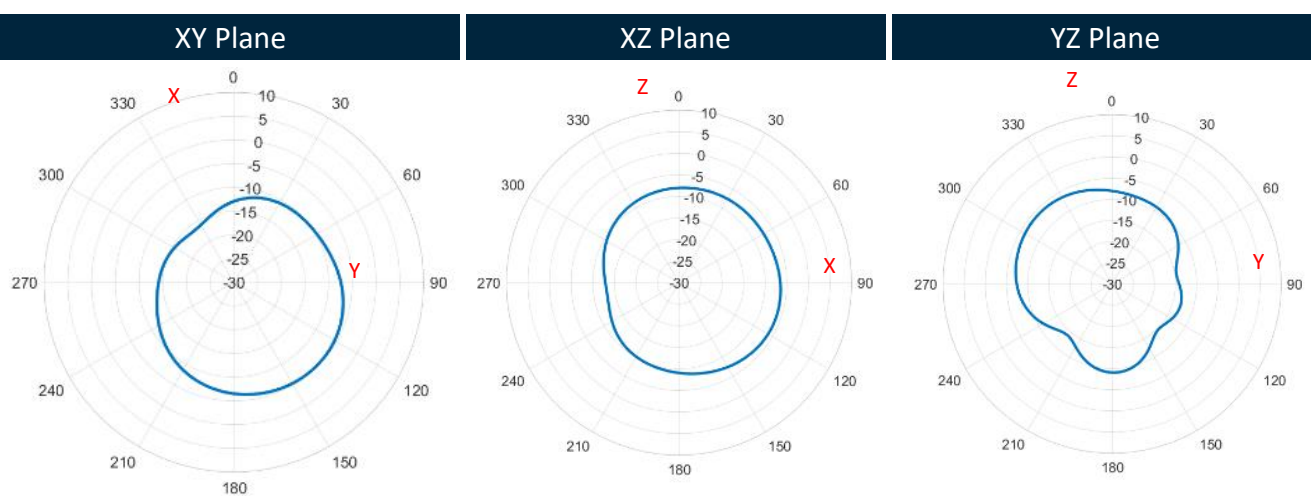


Antenna potted in situ, device in free space

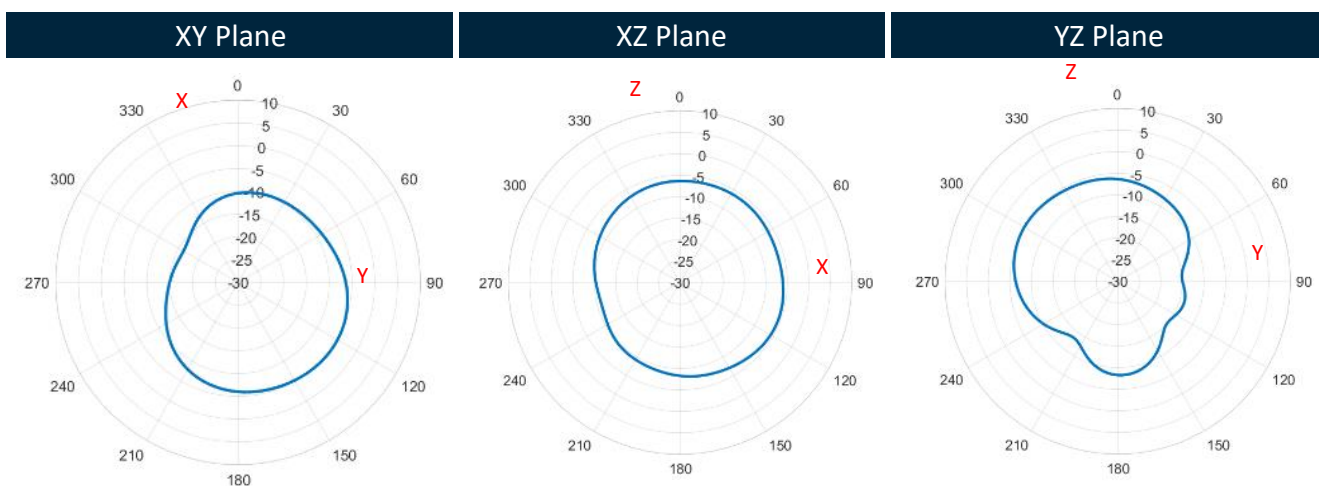
4.2 784MHz 2D Radiation Patterns



4.3 868MHz 2D Radiation Patterns



4.4 915MHz 2D Radiation Patterns

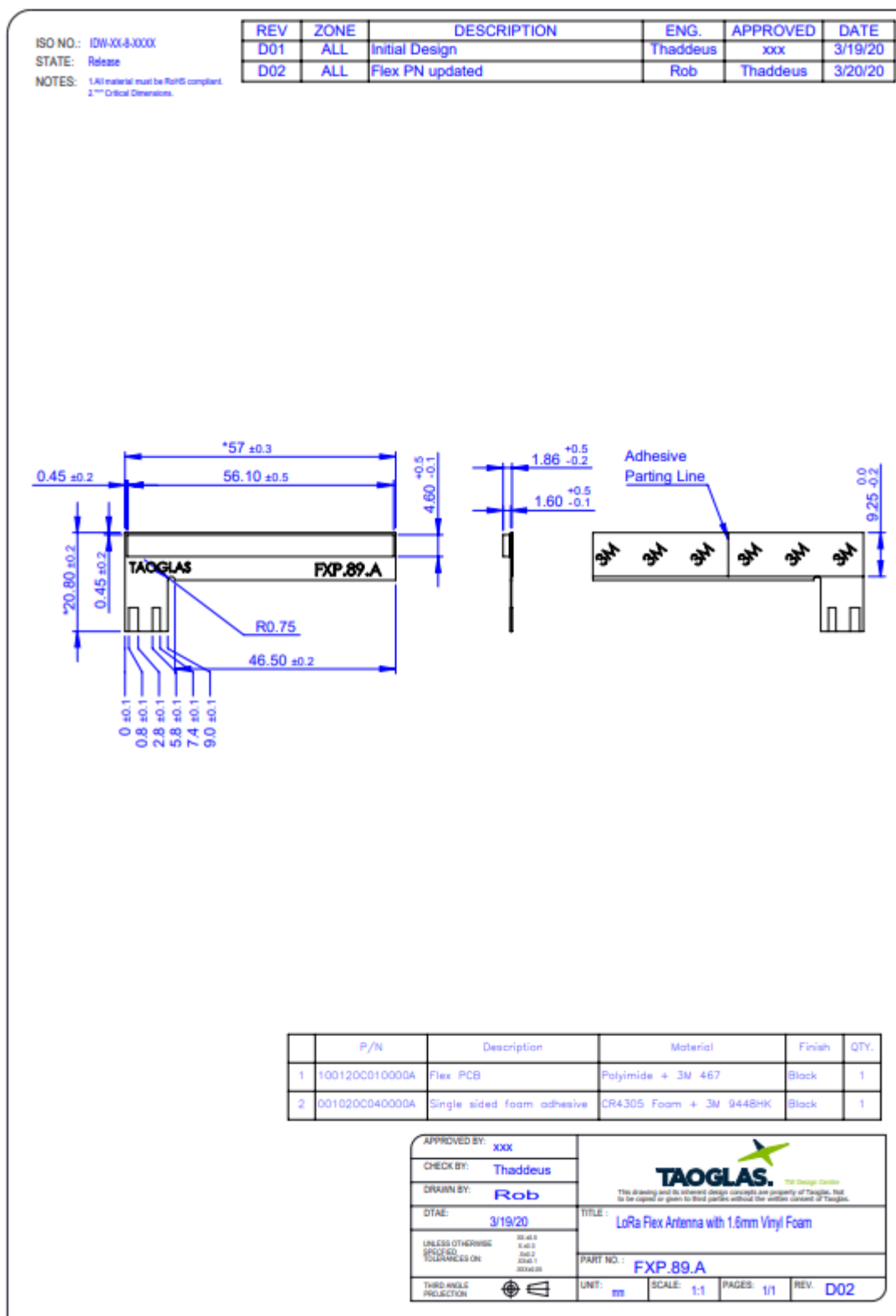


5. Matching Circuit Values



Center f	C1	L1	C2
784MHz	27nH Inductor	2.2pF Capacitor	DNP
868MHz	DNP	0 Ω Jumper	DNP
915MHz	DNP	10pF Capacitor	4.7pF Capacitor

6. Mechanical Drawing (Units: mm)



Download Drawing



Download 3D Model

7. Packaging

Packaging specification is still pending.

Changelog for the datasheet

SPE-17-x-xxx- FXP.89.A

Revision: A (Current Version)	
Date:	2020-03-31
Changes:	Initial Draft
Changes Made by:	Thaddeus Gulden

Previous Revisions

Previous Revisions (Continued)



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