TAOGLAS

Datasheet

Part No:
PC81.07.0100A.db

Description

TheStripe™ 868MHz PCB Antenna 100mm IPEX 1.13mm diameter MHF connector with foam attachment for assembly

Features:

868MHz LoRA and ISM PC Antenna

Dimensions:34mm*7mm*0.8mm(PCB)

16mm*6mm*7mm(foam)

I-PEX MHF®I U.FL Connector

With 3M Adhesive, easy stick on client enclosure

RoHS and REACH Compliant

1. Introduction

This miniaturized low profile PCB antenna is based on smart TheStripe™ antenna technology. It consists of a PCB antenna and 1.13mm mini coaxial cable with I-PEX MHF®I (U.FL comp) connector. The PC.81 antenna has been designed to operate with optimum gain and efficiency on the 868MHz LoRA and ISM frequency band.

Typical Applications Include:

- Smart Metering
- Smart Lighting
- LoRA Gateways
- Mesh Networks

Cables and Connectors can be fully customized based on customer requirements, please contact your regional Taoglas customer support team.

2. Specification

LTE Electrical							
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern
868MHz	863-870	39.8	-4.00	-0.17	50 Ω	Horizontal	Omni

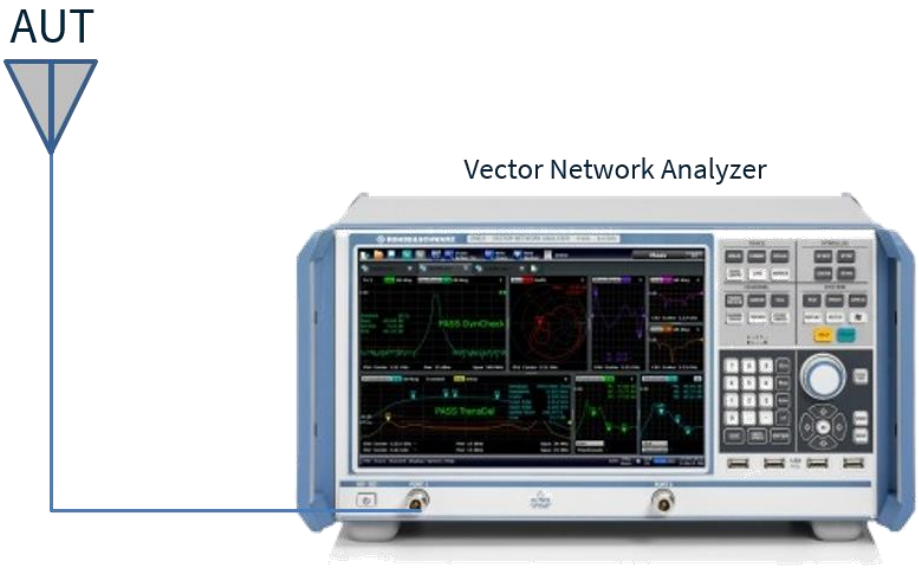
Mechanical	
Dimensions	34mm*7mm*0.8mm(PCB) 16mm*6mm*7mm(foam)
Cable Type	Ø1.13 Coaxial Cable
Cable Length	100mm
Connector	IPEX MHFI(U.FL Compatible)
Adhesive	3M 9472
Foam	CR4305

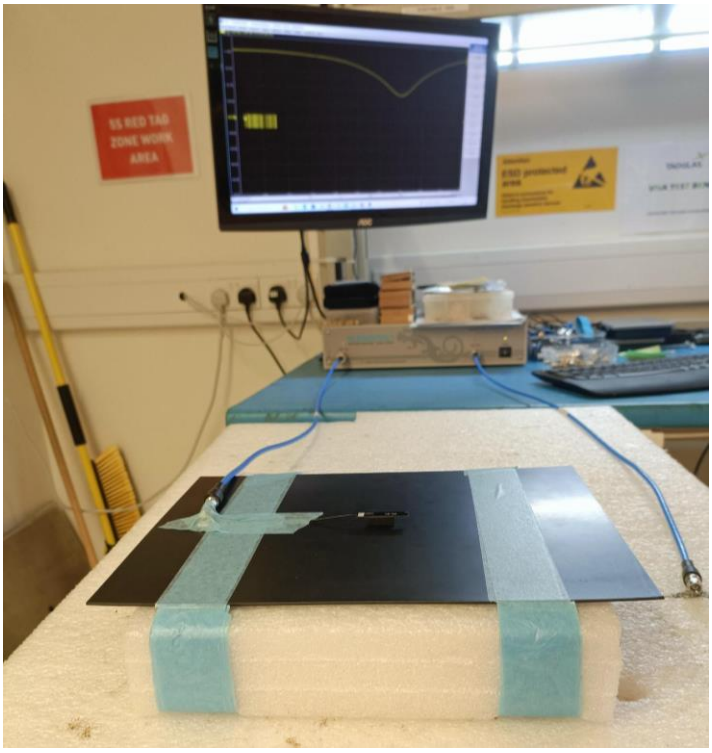
Environmental	
Temperature Range	-20°C to 100°C
Humidity	Non-condensing 65°C 95% RH

*Tested on 2mm ABS.

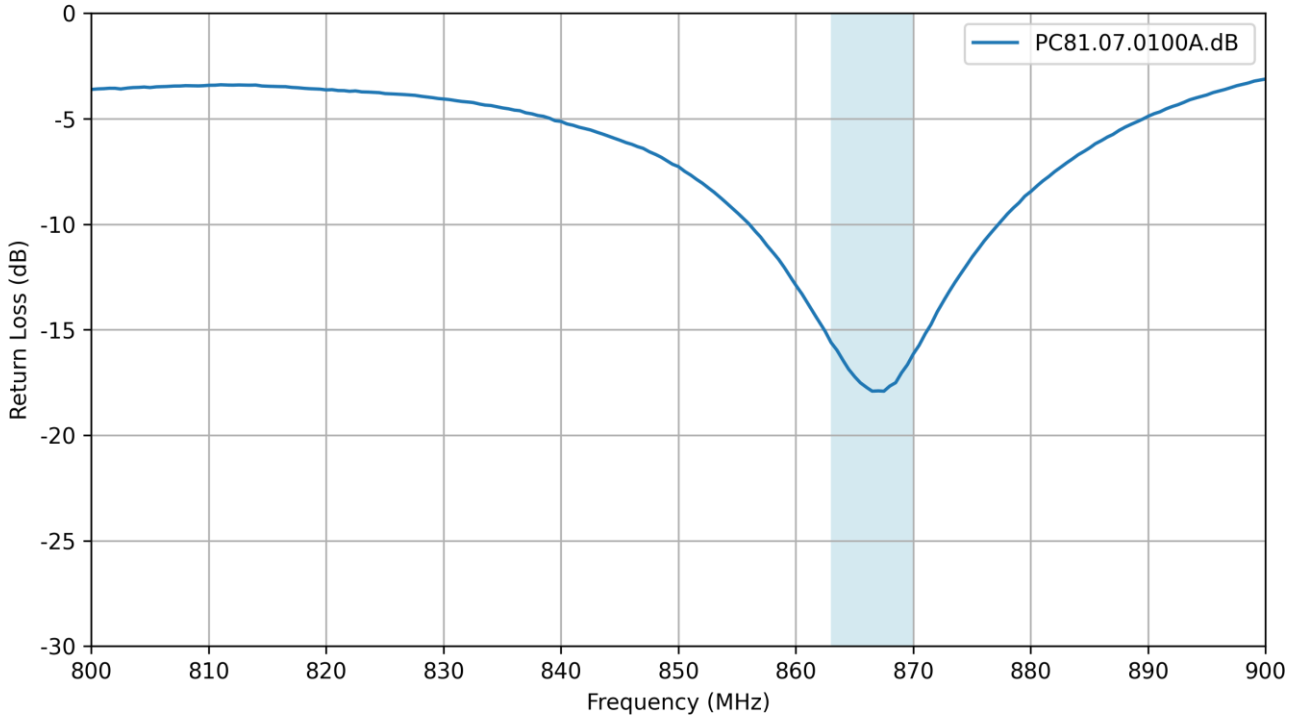
3. Antenna Characteristics

3.1 Test Setup

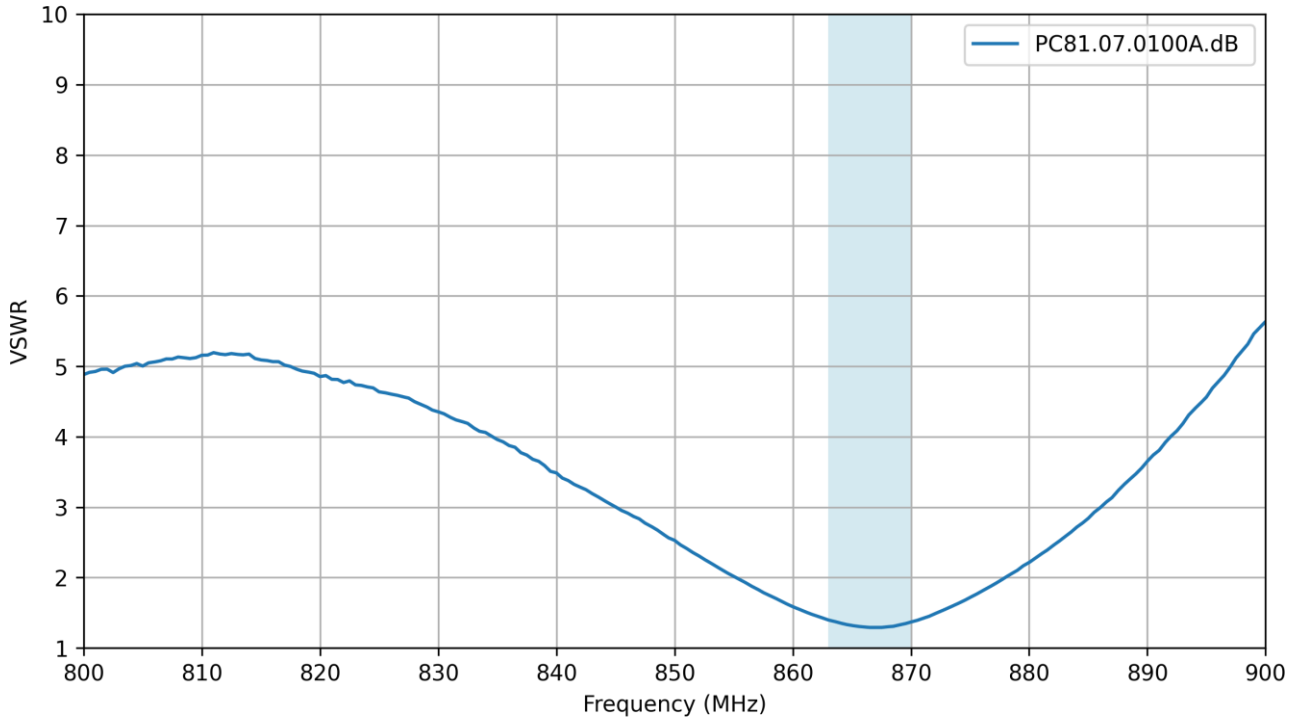




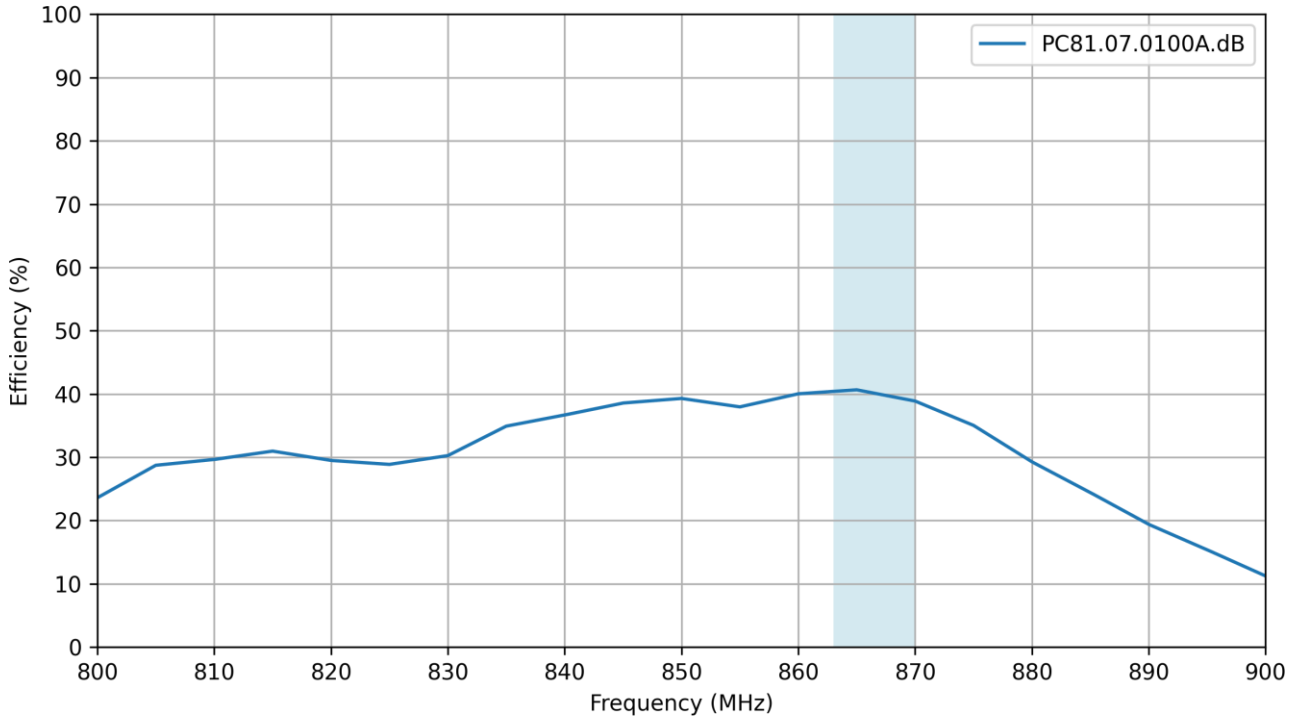
3.2 Return Loss



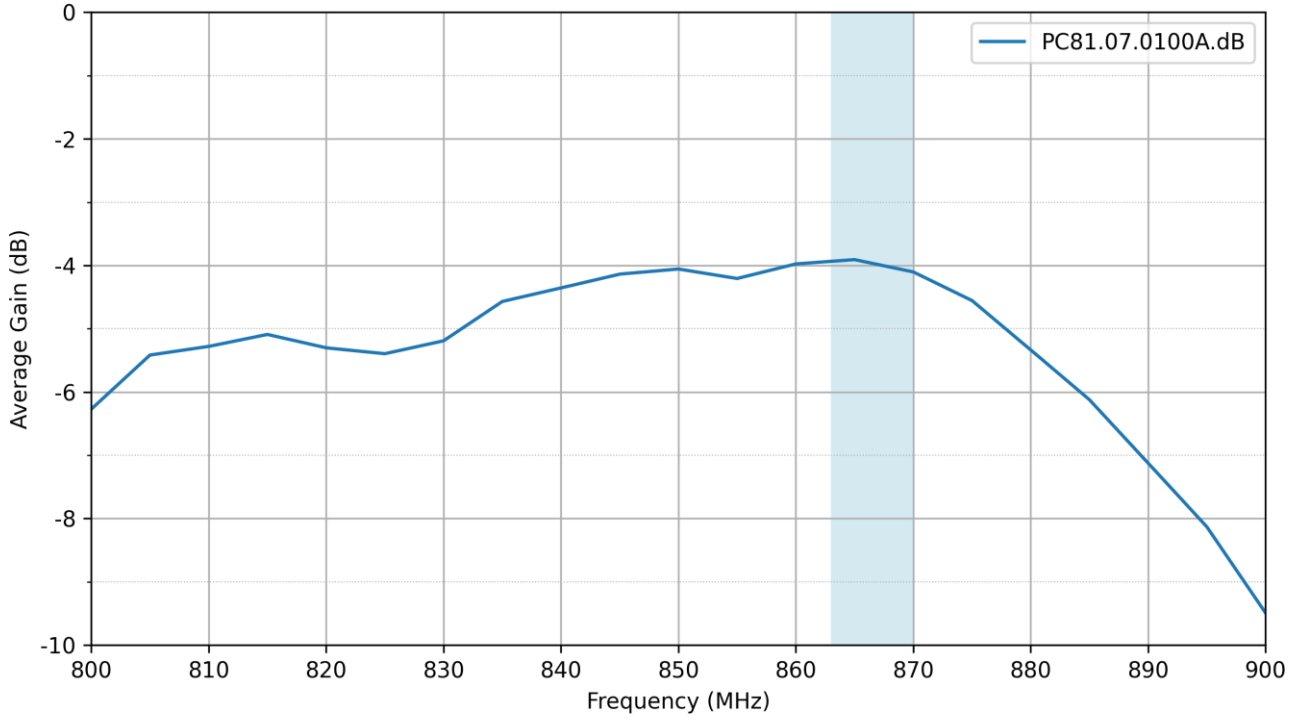
3.3 VSWR



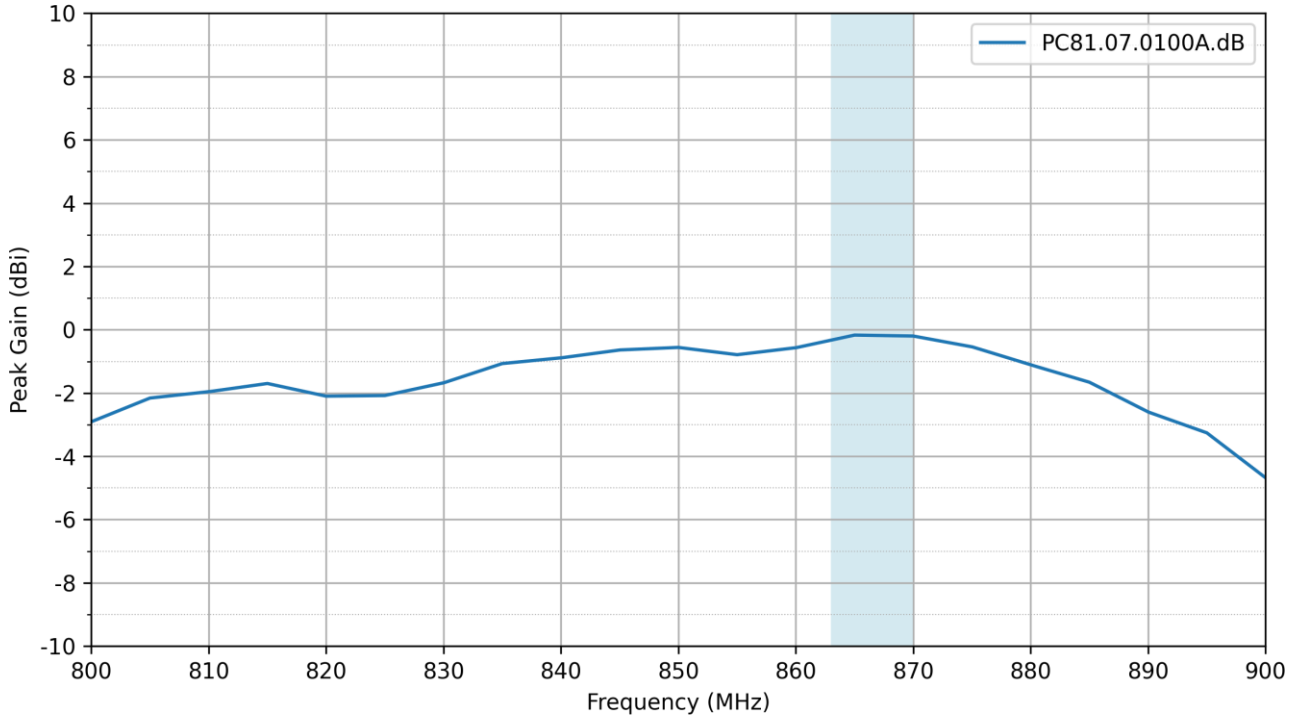
3.4 Efficiency



3.5 Average Gain

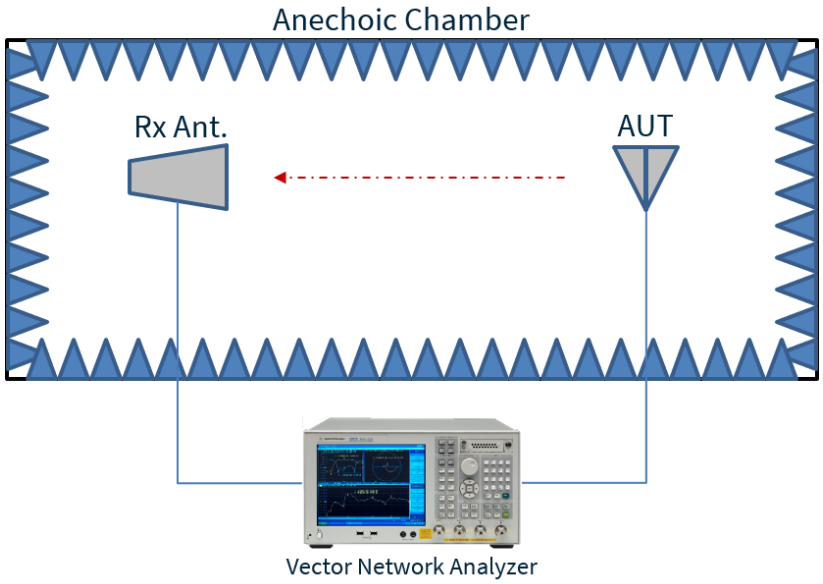


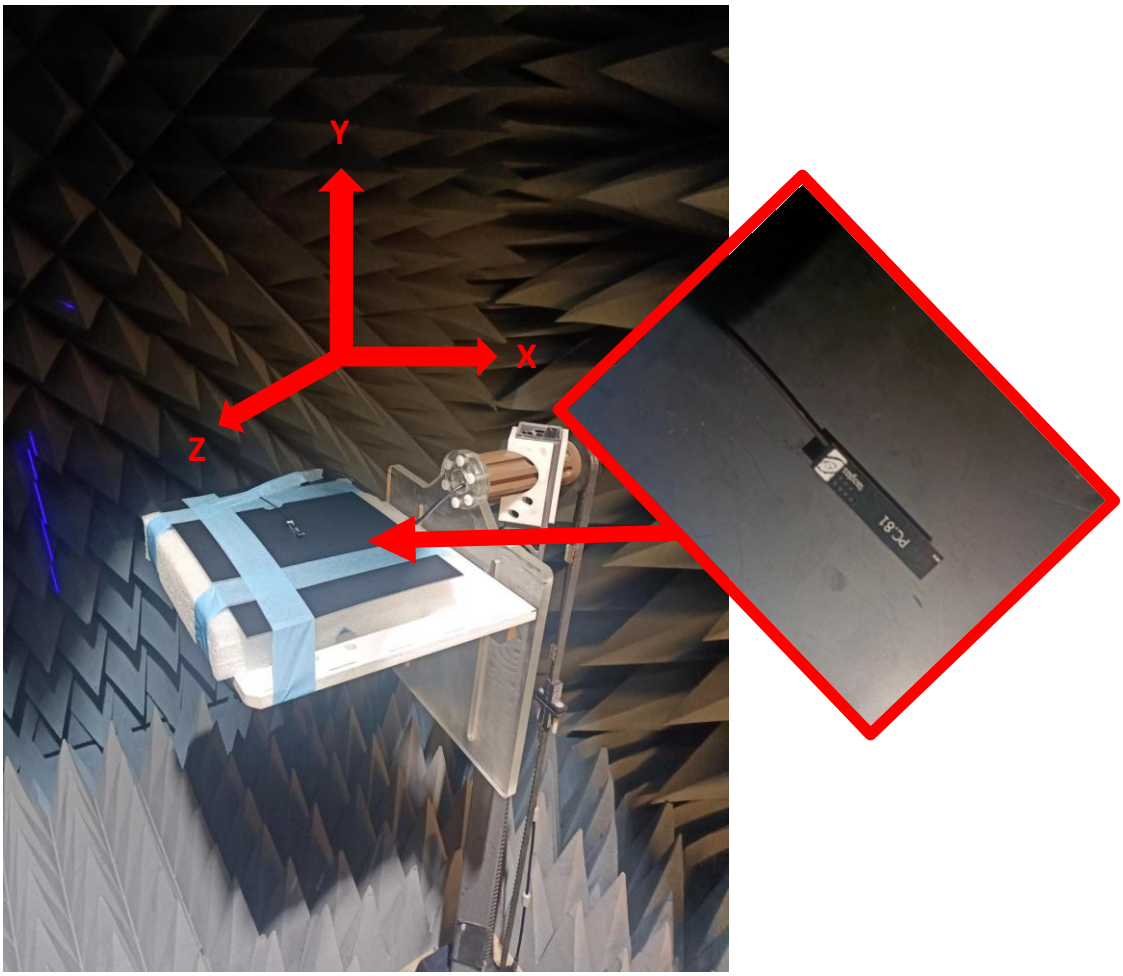
3.6 Peak Gain


PC81.07.0100A.dB
Peak Gain (dBi)
Frequency (MHz)
10
8
6
4
2
0
-2
-4
-6
-8
-10
800
810
820
830
840
850
860
870
880
890
900

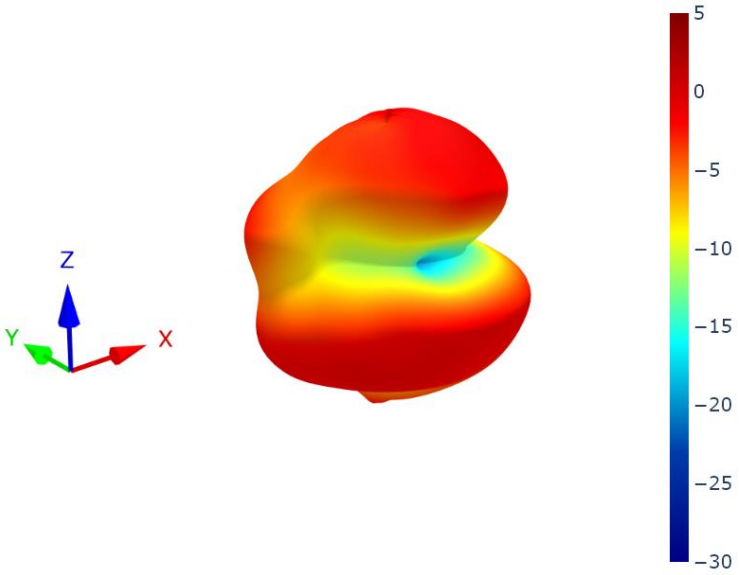
4. Radiation Patterns

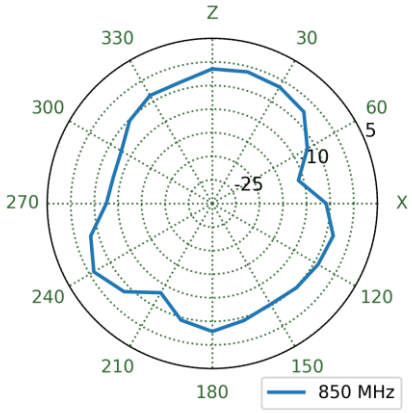
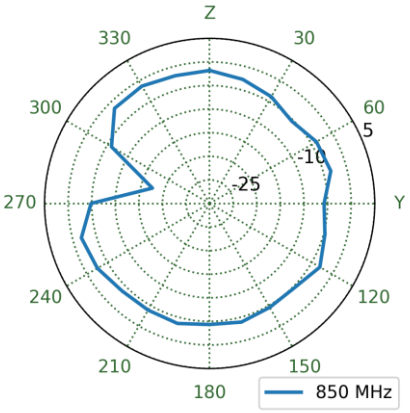
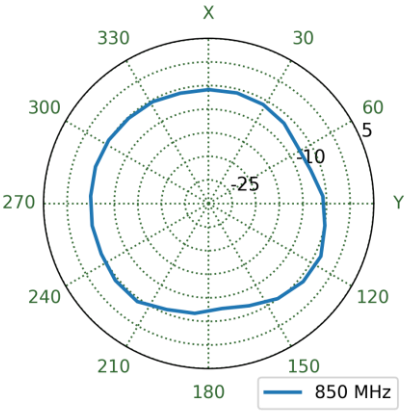
4.1 Test Setup



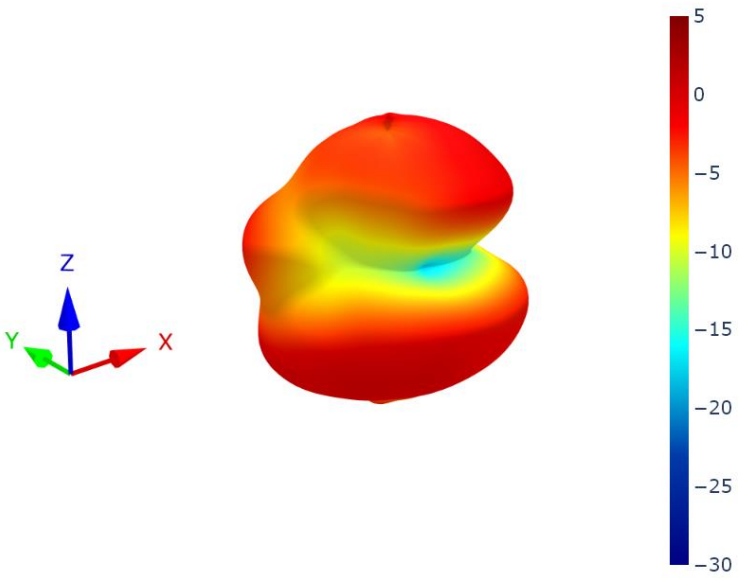


4.2 Patterns at 848 MHz

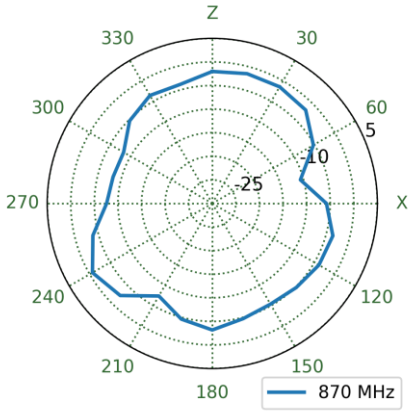


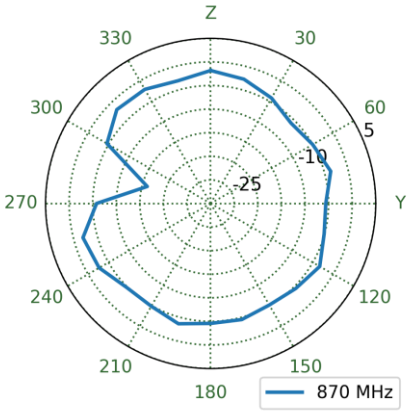
XZ Plane	YZ Plane	XY Plane
		

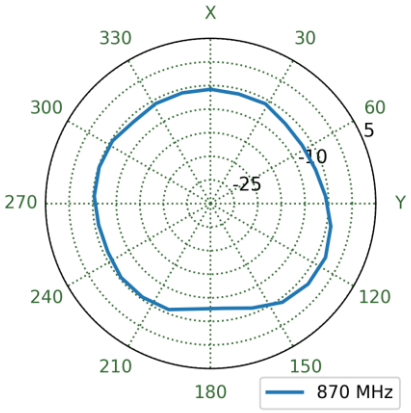
4.3 Patterns at 868 MHz



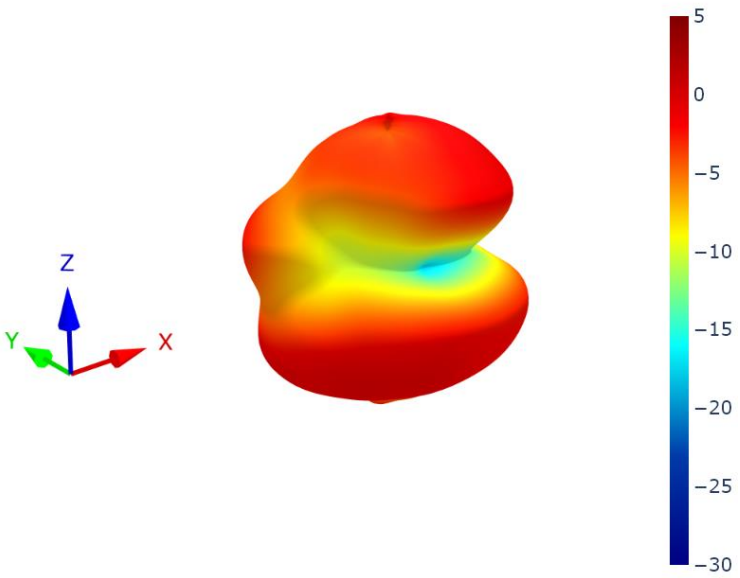
XZ Plane	YZ Plane	XY Plane

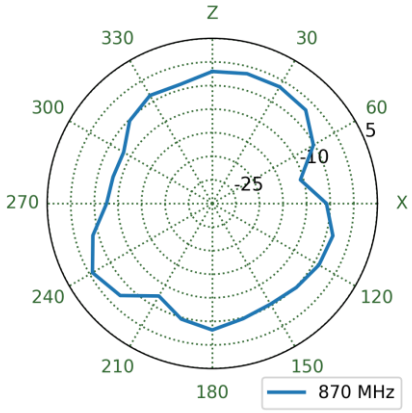
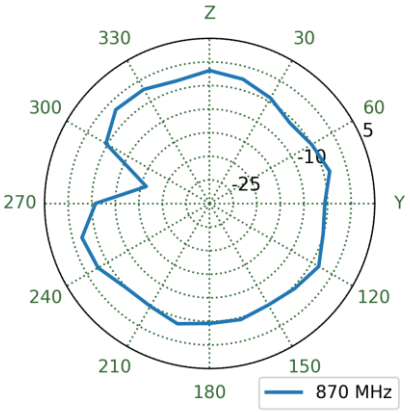
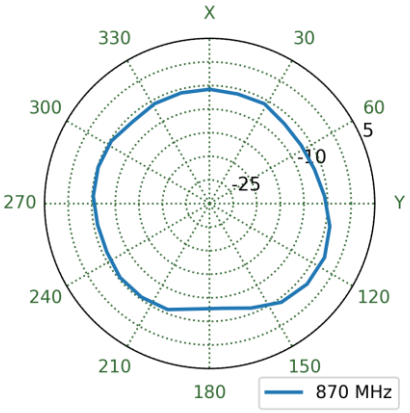




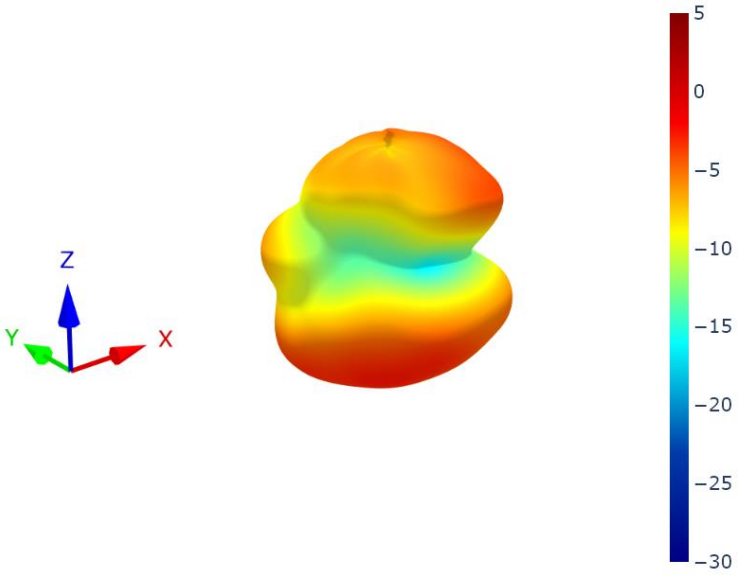


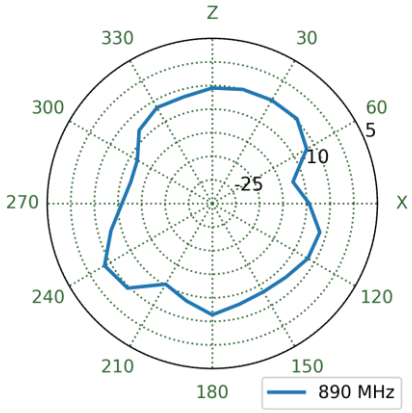
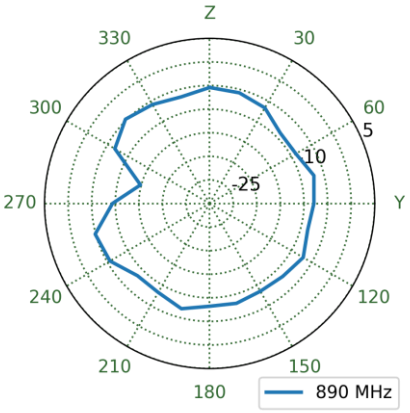
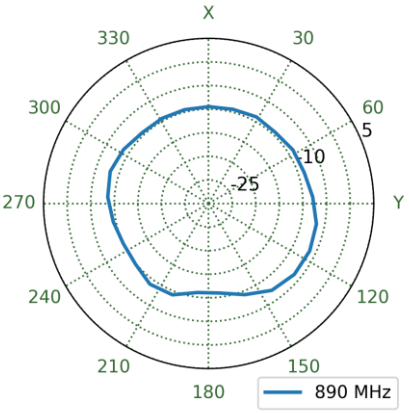
4.4 Patterns at 870 MHz



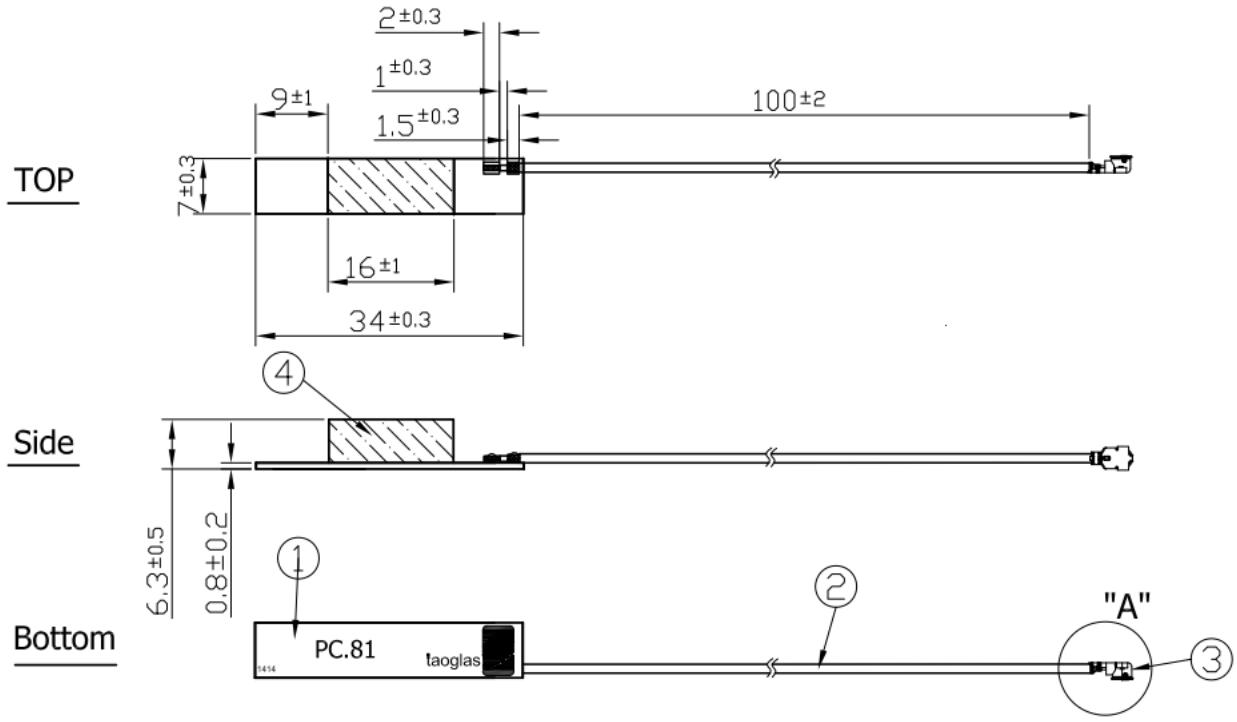
XZ Plane	YZ Plane	XY Plane
		

4.5 Patterns at 890 MHz

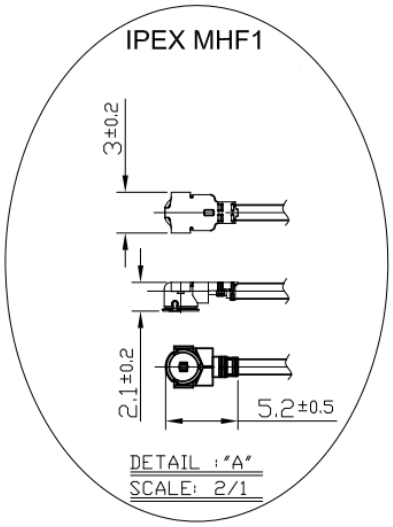


XZ Plane	YZ Plane	XY Plane
		

5. Mechanical Drawing

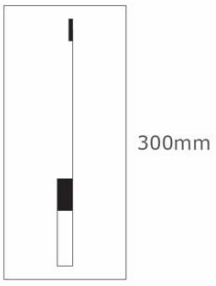


	Name	Material	Finish	QTY
1	PC81 PCB	FR4 0.8t	Black	1
2	1.13 Mini-Coaxial Cable	FEP	Black	1
3	IPEX MHF1	Brass	Gold	1
4	Double Sided Adhesive + Closed Cell Foam	3M9472+CR4305	Black	1

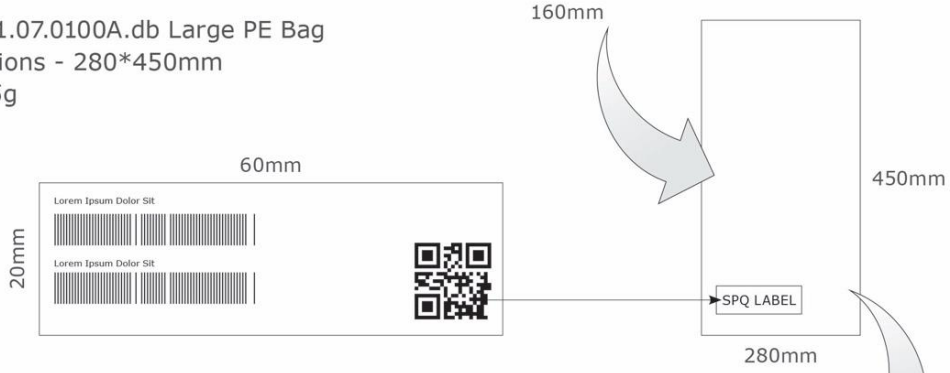


6. Packaging

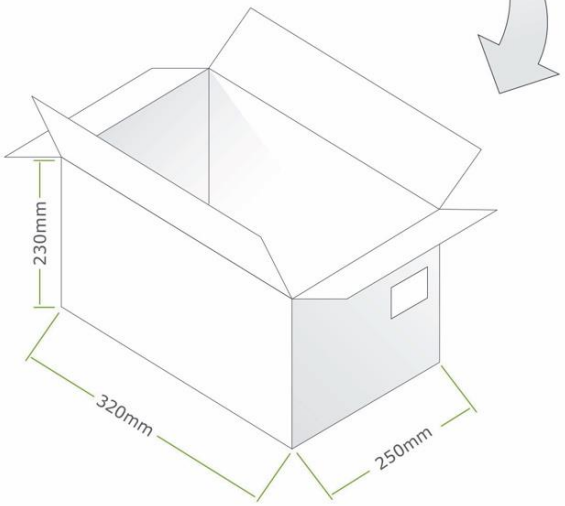
100pcs PC81.07.0100A.db per Small PE Bag
Bag Dimensions - 160*300mm
Weight - 100g



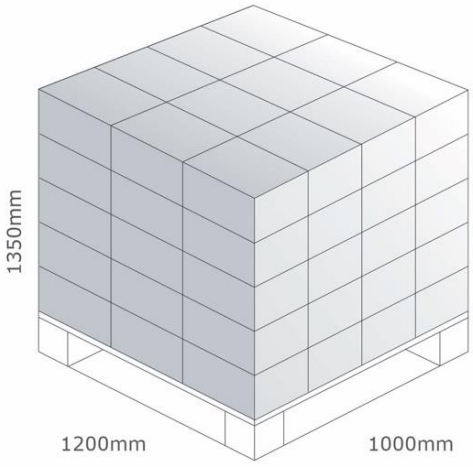
500pcs PC81.07.0100A.db Large PE Bag
Bag Dimensions - 280*450mm
Weight - 0.5g



2000pcs PC81.07.0100A.db per Carton
Carton Dimensions - 320*250*230mm
Weight - 2.5Kg



Pallet Dimensions:
1200mm*1000mm*1350mm
60 Cartons per Pallet
12 Cartons per Layer, 5 Layers



Changelog for the datasheet

SPE-12-8-085 – PC81.07.0100A.db

Revision: E (Current Version)	
Date:	2023-10-26
Changes:	Full Datasheet update
Changes Made by:	Gary West

Previous Revisions

Revision: D	
Date:	2022-06-20
Changes:	Full Datasheet update
Changes Made by:	Evan Murphy

Revision: C	
Date:	2019-11-15
Changes:	Updated imagery Reference ECR-18-8-259
Changes Made by:	Jack Conroy

Revision: B	
Date:	2014-10-16
Changes:	Added Mech and Environmental spec updated drawing and added packaging.
Changes Made by:	Aine Doyle

Revision: A (Original First Release)	
Date:	2012-06-27
Notes:	Initial Release
Author:	Unknown

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