TAOGLAS

Datasheet

Part No:
FG.81.A

Description

868MHz 6dBi Panel Antenna 300mm RG-58 Pigtail with N-Type (M) Connector

Features:

868MHz 7dBi Panel Antenna
Dimensions: 190 x 190mm x 25mm
IP67 Rated Enclosure
Cable: 300mm of RG-58
Connector: N-Type (Male)
RoHS & Reach Compliant

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1. Introduction

Taoglas High Gain ISM Panel Antenna Series

The Taoglas FG Series of compact 868MHz and 915MHz Panel Antennas are specially designed to provide directional wireless communication for ISM band applications The panel design combines a sleek, low-profile design with high-performance, delivering superior performance characteristics. Focused on high-performance signal transmission and reception, they are perfect for applications requiring long range, resilient connections. The FG.81 covers 868MHz with a peak gain of up to 6dBi and the FG.91 operated at 915MHz with a 7dBi peak gain. Both antennas in the series exhibit exceptional efficiencies of approx. 90% at the centre bands.

Typical Applications Include:

- Industrial Wireless Communication
- Environmental and Agricultural monitoring
- Medical and Healthcare
- RFID Systems for Asset Tracking and Access Control

The IP67 waterproof rated antenna enclosure is made from UV resistant ABS making it ideal for use in challenging environments and wide temperature ranges. It is supplied with a robust mounting bracket that allows for pole or wall mounting. The FG Series is supplied with RG-58 cable and N-Type connectors as standard, both of which can be fully customised to suit your requirements pending MOQ.

For further information or samples please contact your regional Taoglas customer support team.

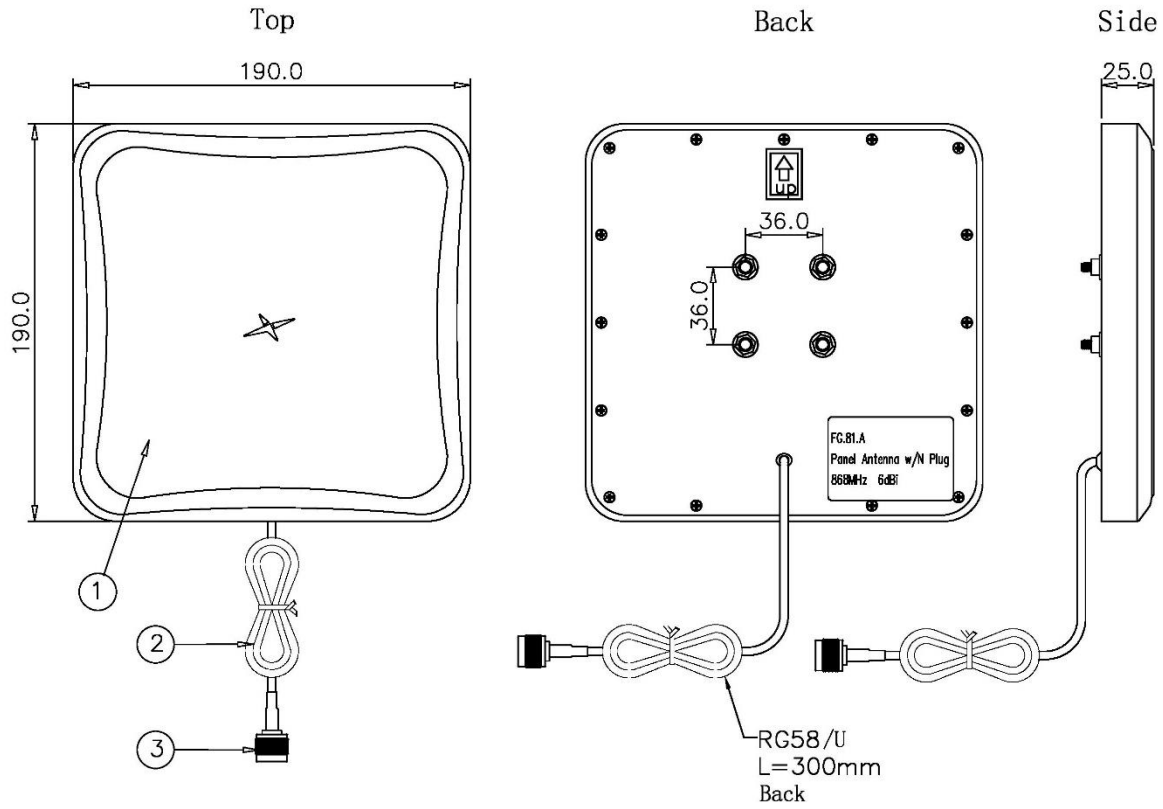
2. Specification

RFID/ISM Electrical										
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	HPBW (degrees)	FtB Ratio (dB)	Impedance	Polarization	Radiation Pattern	Max. input power
868MHz	862-874	82.63	-0.83	6.73	50 @ H 70 @ V	15 max.	50 Ω	Linear	Directional	10W

Mechanical	
Dimensions	190 x 190 x 25mm
Material	ABS
Connector	N Type (M)
Cable	300mm RG-58

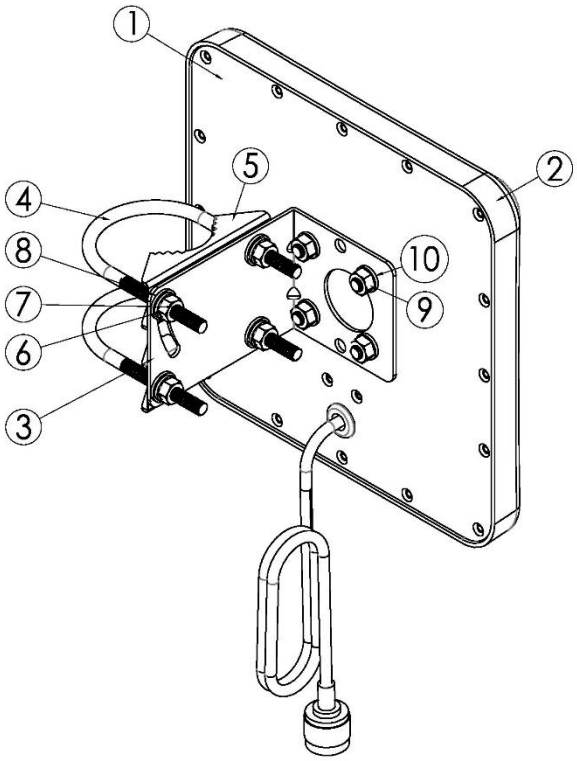
Environmental	
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Waterproof	IP67
Relative Humidity	Non-condensing 65°C 95% RH

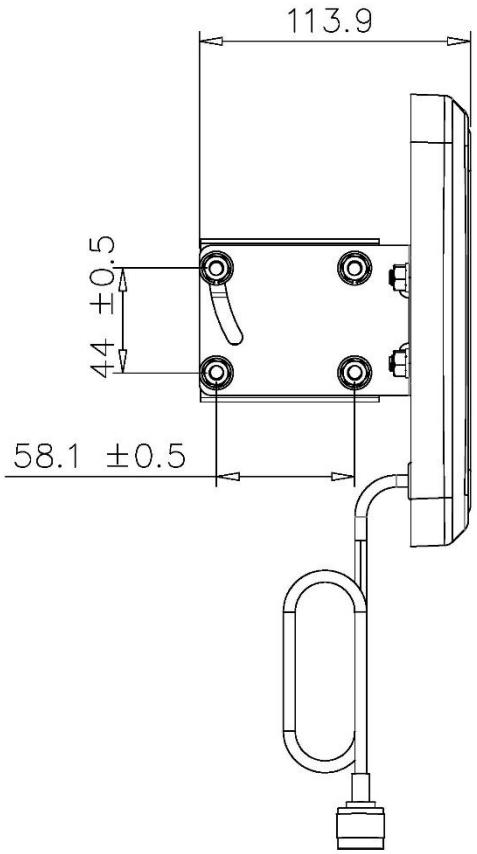
3. Mechanical Drawing



3	N type Plug Connector	Brass C3604	1	Nickel Plated
2	Cable	RG-58U	1	Black
1	Antenna Cover Material	ABS	1	White
No.	Parts Name	Material	Q'ty	Treatment

4. Installation Guide

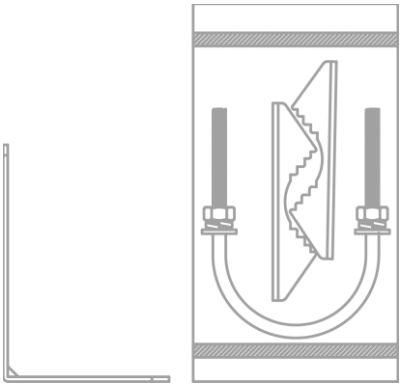




No.	Parts Name	Material	Q'ty
10	M6 washer	SUS304	4
9	M6 nut	SUS304	4
8	M6 washer	SUS304	4
7	M6 spring washer	SUS304	4
6	M6 nut	SUS304	4
5	Rounded mounting plate	SUS304	2
4	U bolts	SUS304	2
3	L plate	SUS304	1
2	Housing-190*190*25	ABS	1
1	Antenna		1

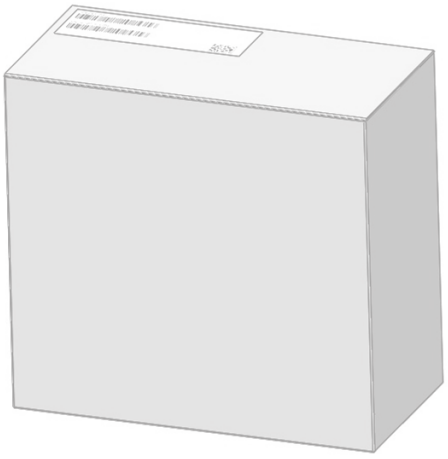
5. Packaging

Bracket set
1 Pcs per zipper bag



1 pcs per PE bag
Bag dimensions: 300 x 260mm

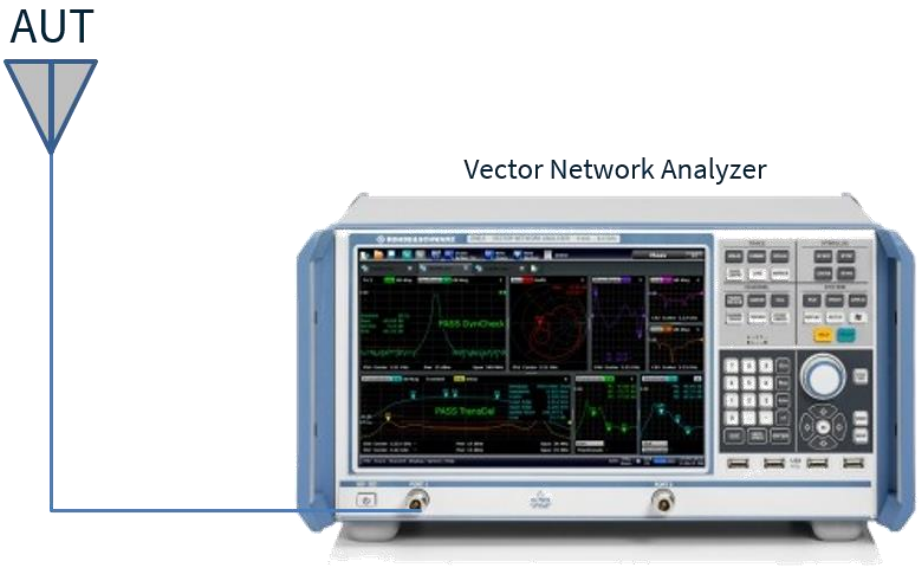
1pcs per box
Box dimensions: 200 x 200 x 50mm
Weight: 0.74Kg



20pcs per carton
Carton dimensions: 560 x 430 x 220mm
Weight: 15.7Kg

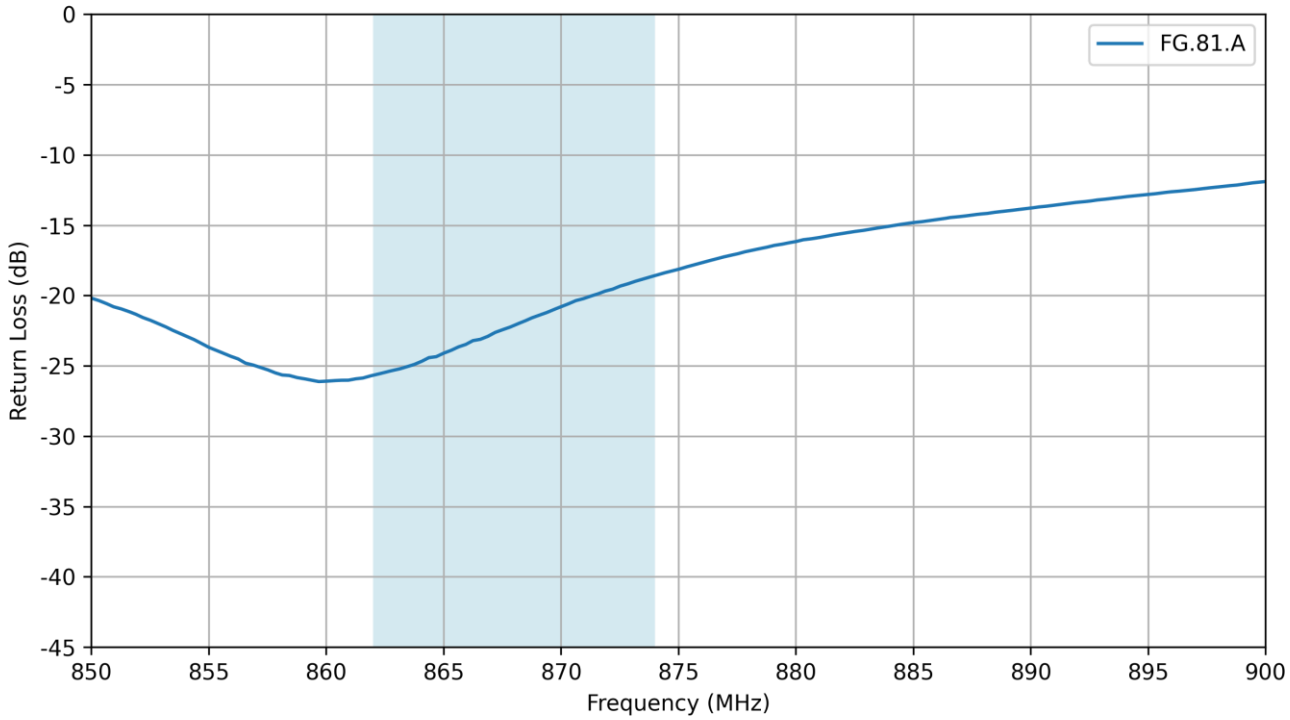
6. Antenna Characteristics

6.1 Test Setup

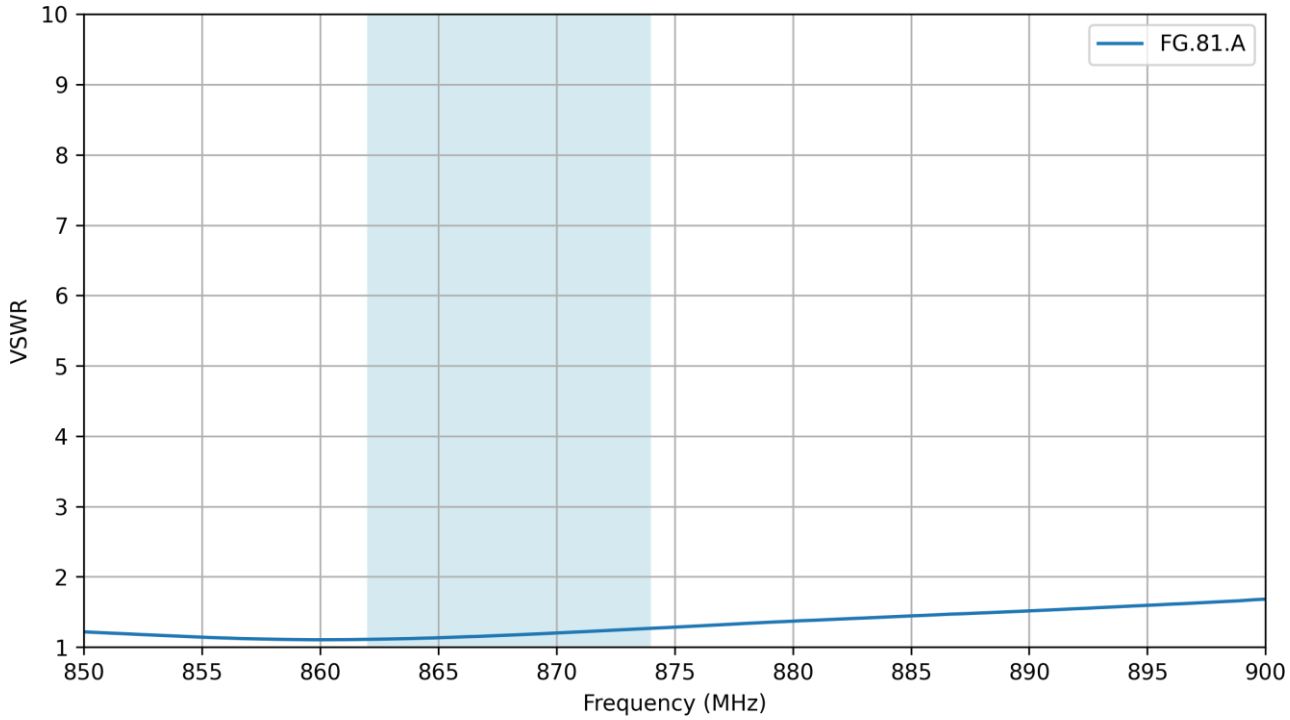


VNA Setup

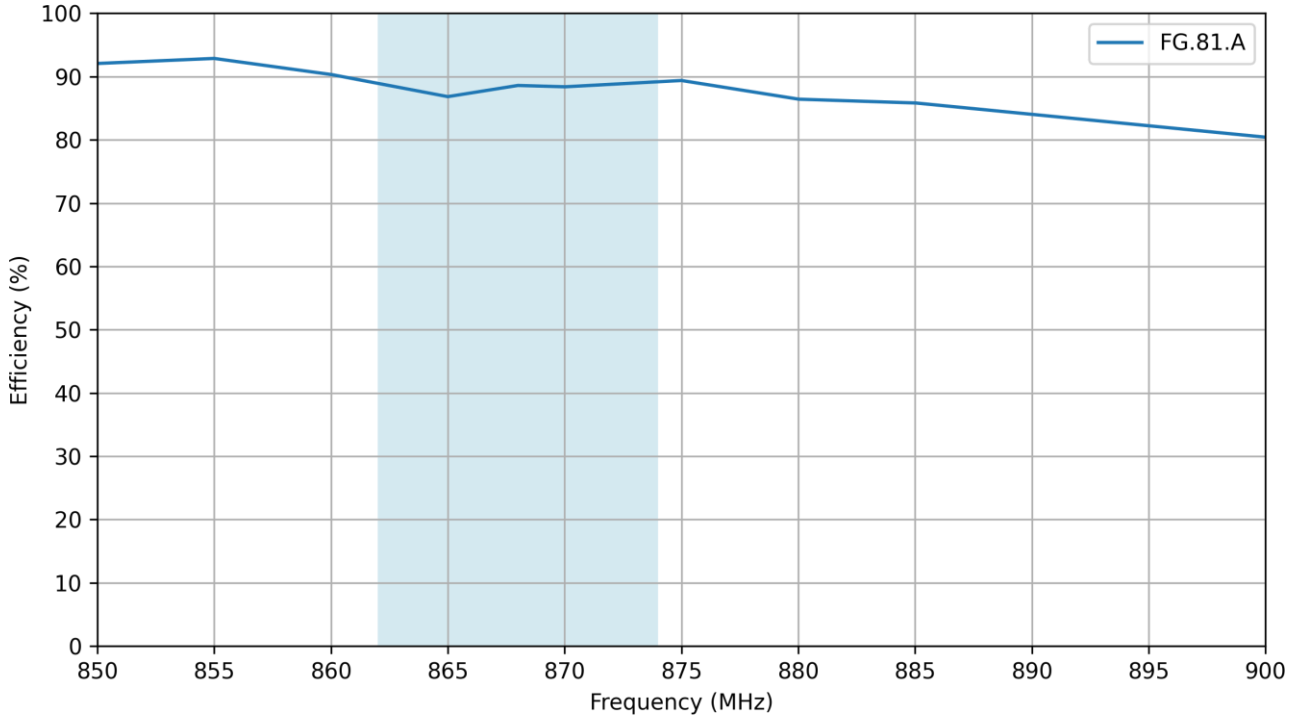
6.2 Return Loss



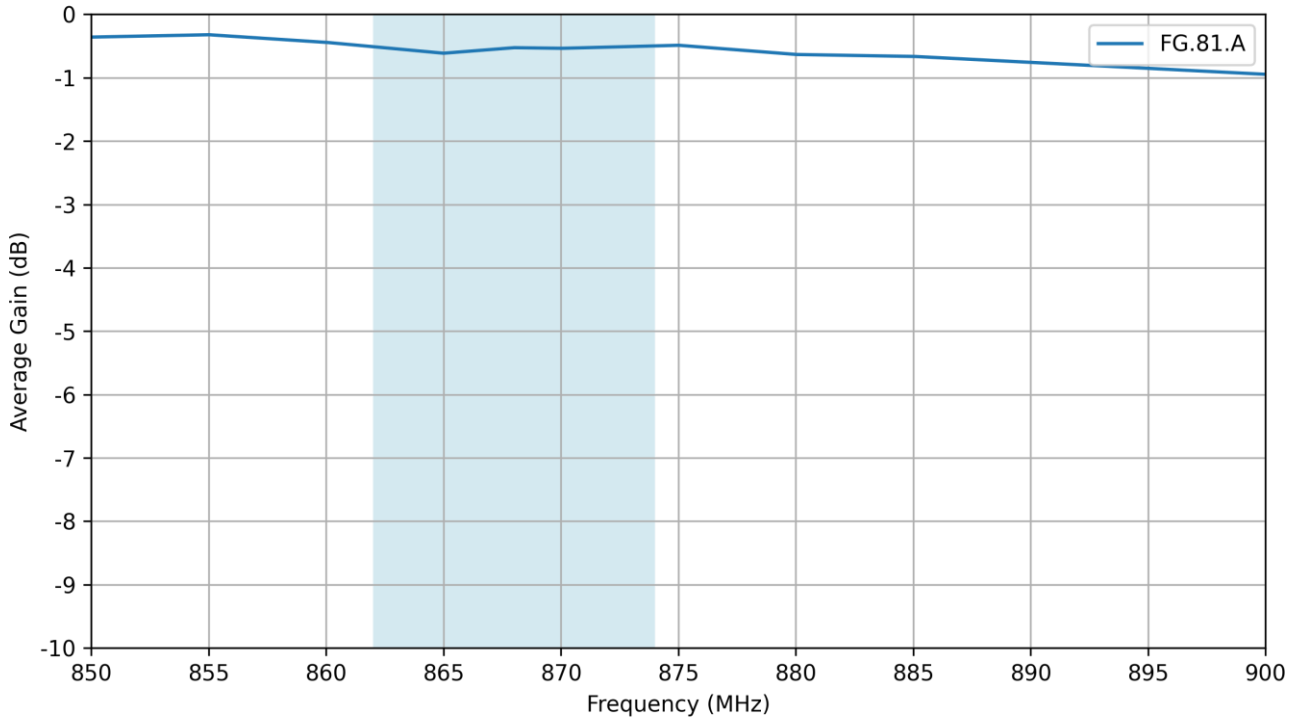
6.3 VSWR



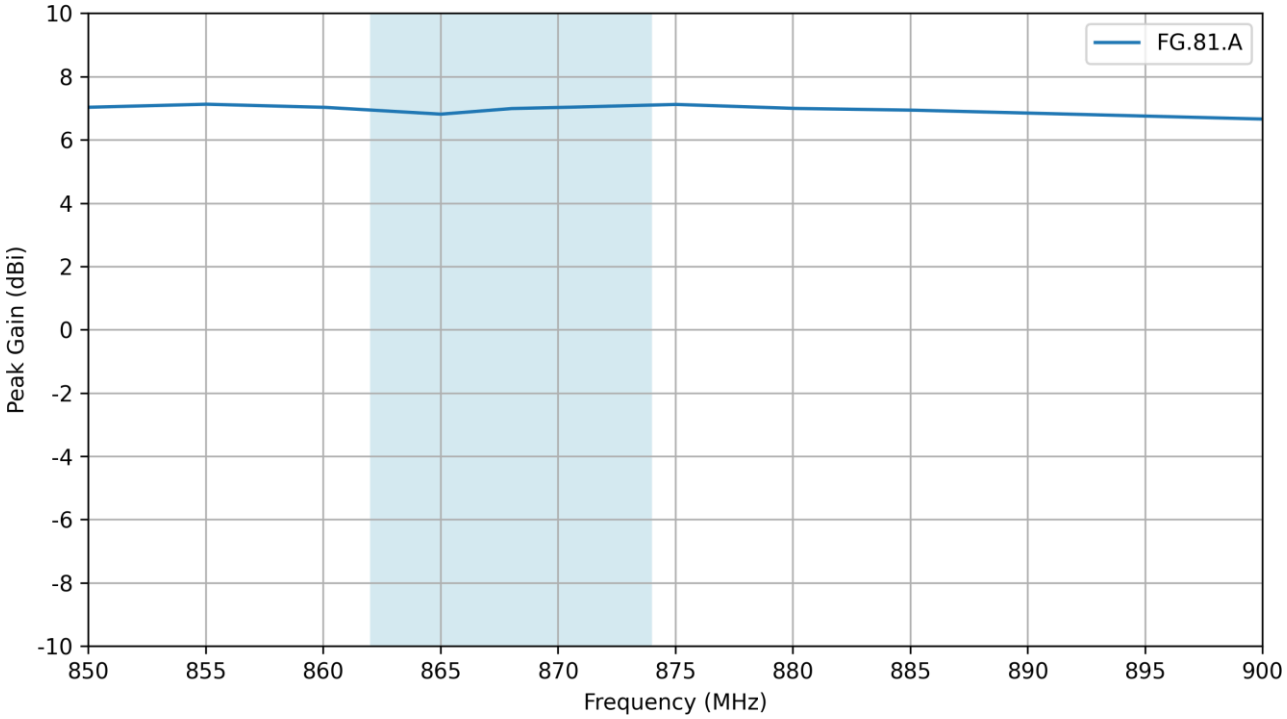
6.4 Efficiency



6.5 Average Gain

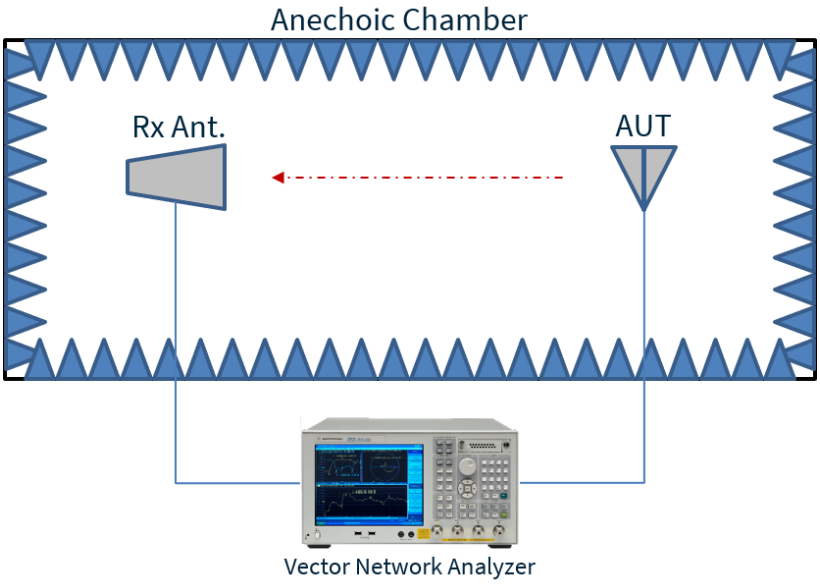


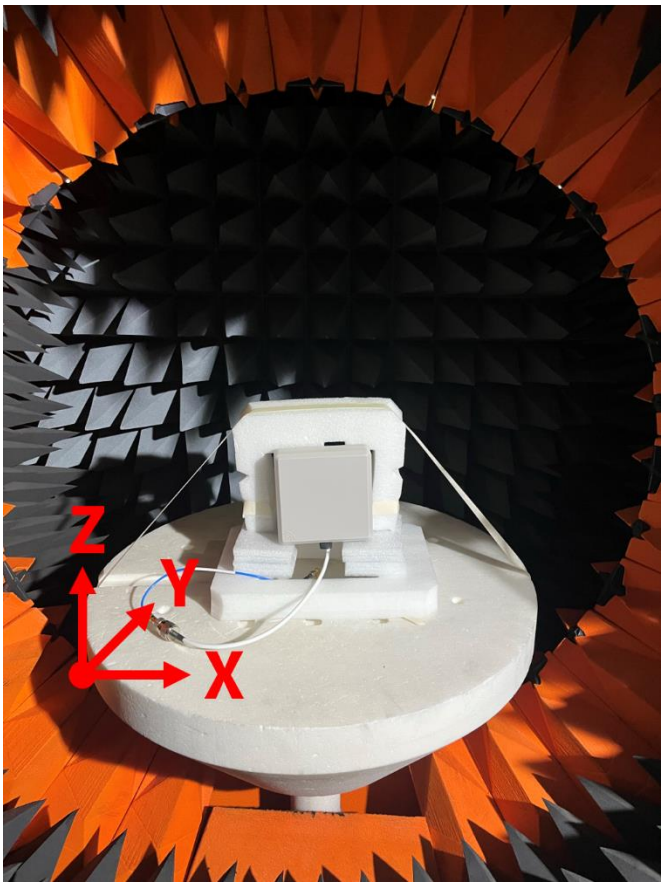
6.6 Peak Gain


FG.81.A
Peak Gain (dBi)
10
8
6
4
2
0
-2
-4
-6
-8
-10
850
855
860
865
870
875
880
885
890
895
900
Frequency (MHz)

7. Radiation Patterns

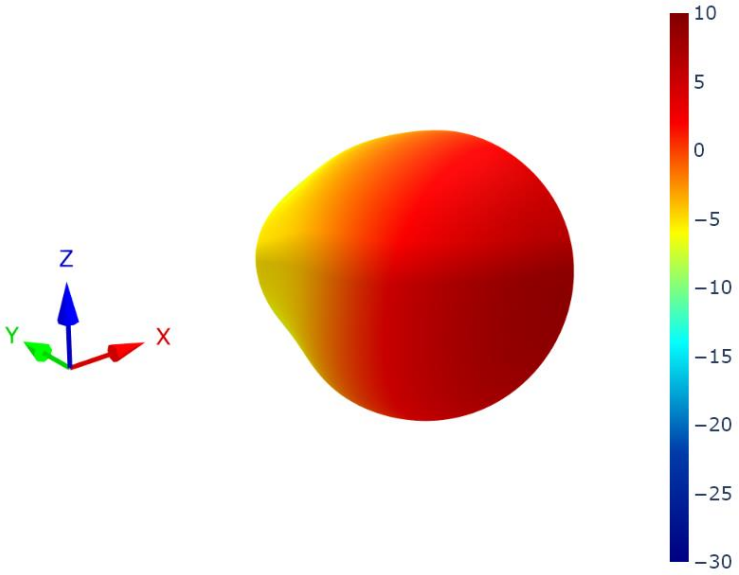
7.1 Test Setup



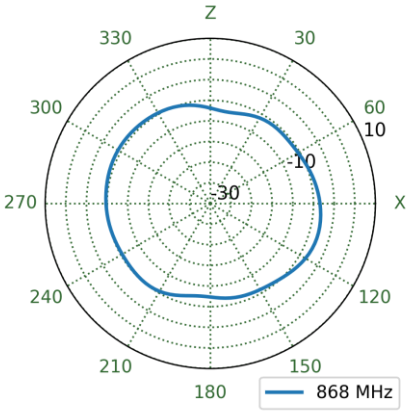


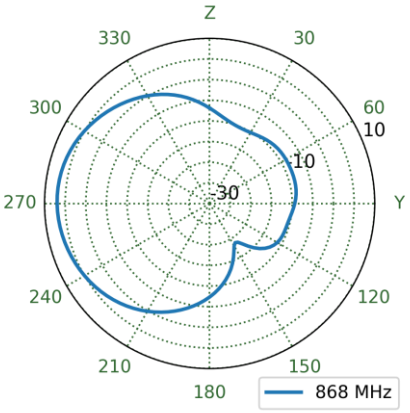
Chamber Setup

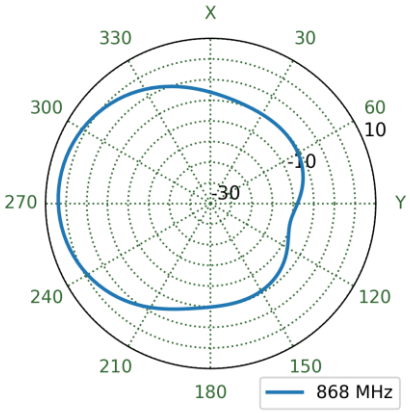
7.2 Patterns at 868 MHz



XZ Plane	YZ Plane	XY Plane







Changelog for the datasheet

SPE-24-8-240 – FG.81.A

Revision: B (Current Version)	
Date:	2025-06-10
Notes:	Updated performance table.
Author:	Paul Liu

Previous Revisions

Revision: A	
Date:	2024-09-26
Notes:	Initial Datasheet Release
Author:	Gary West

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