TAOGLAS®



Datasheet

Part No:
TI.82.A113

Description

ISM 868MHz IP67 Terminal Mount Antenna

with Hinged SMA Plug

Features:

ISM 868MHz Terminal Mount Antenna
Covering: 868MHz
IP67 Waterproof Enclosure
Dims:Ø12.9 x 203mm
Connector: SMA(M)
RoHS & Reach Compliant

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1. Introduction



The **Taoglas TI.82.A113** is a compact, high-performance 868 MHz terminal mount antenna designed to provide reliable wireless connectivity for **ISM and LPWAN applications including LoRaWAN®, Sigfox® and proprietary sub-GHz networks**. Its 868 MHz operation makes it an ideal antenna solution for IoT gateways, sensors, smart metering and remote monitoring equipment where dependable long-range wireless connectivity is required.

A key feature of the TI.82 is its **IP67-rated hinged construction**, combining flexible antenna positioning with protection against dust and water ingress. The rugged enclosure makes the antenna well suited to both indoor and outdoor applications where environmental protection and reliable wireless performance are required.
The hinged **SMA (M) connector** allows the antenna to be positioned to suit different device orientations and space-constrained installations, providing greater flexibility when integrating the antenna onto gateways, enclosures, monitoring equipment and other connected devices.

The TI.82 provides **omnidirectional coverage across the 868 MHz band**, supporting dependable wireless connectivity across a wide range of fixed IoT and LPWAN applications.

Typical Applications:

- LoRaWAN® Gateways & Sensors
- Smart Metering, Industrial IoT & Remote Monitoring
- Smart Agriculture and Environmental Monitoring
- Smart City Infrastructure
- Wireless Sensors & Control Systems
- Utility & Infrastructure Monitoring

For integration support, testing services or additional technical assistance, please contact your regional Taoglas customer support team.

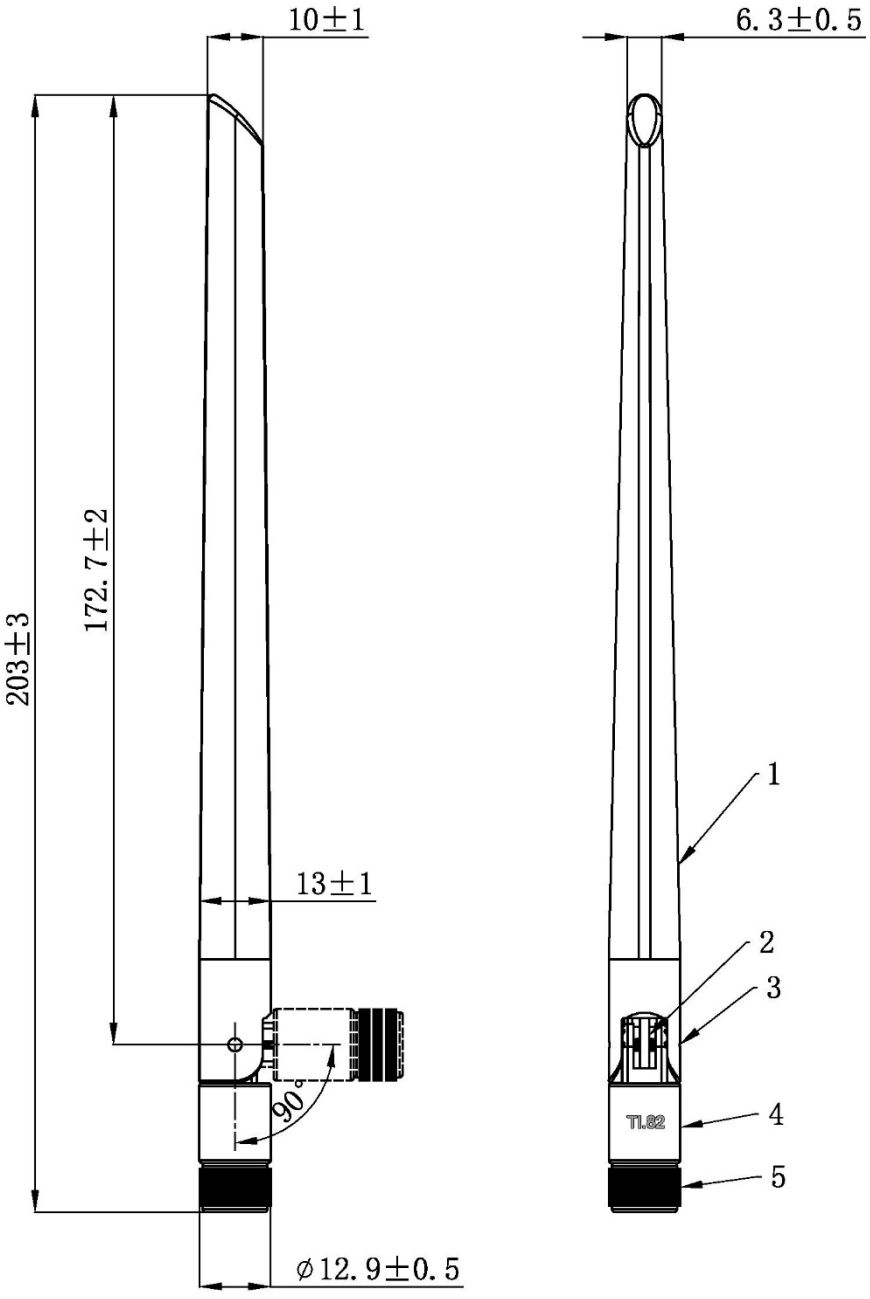
2. Specification

Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
868MHz	862-874	15x9cm - Bent	86.9	-0.61	2.31	50 Ω	Linear	Omni directional	10W
		15x9cm - Straight	87.0	-0.60	2.98				
		9x15cm - Bent	88.2	-0.54	2.68				
		9x15cm - Straight	84.5	-0.73	1.97				
		Free Space - Bent	94.4	-0.25	2.72				
		Free Space - Straight	86.3	-0.64	2.00				

Mechanical	
Dimensions	Ø12.9mm x 203mm
Weight	20.5g
Material	ASA
Connector	SMA(M)

Environmental	
Waterproof Rating	IP 67 Enclosure
Operation Temperature	-40°C - +85°C
Storage Temperature	-40°C - +85°C
Relative Humidity	Non-condensing 65°C 95% RH

3. Mechanical Drawing



	Name	Material	Number	Finish
5	SMA(M)	Brass	1	Black
4	SMA holder	PC+PBT	1	Black
3	Pin	POM	2	Black
2	Rg178 Cable	FEP	1	Brown
1	Antenna Enclosure	ASA	1	Black

4. Packaging



☑ 10 PCS / Ten-pack bag

☑ Ten-pack Bag(mm): 358x280

☑ Weight (g): 219 ±3%



☑ 50 PCS / PE Bag

☑ PE Bag(mm): 270x390

☑ Weight (Kg): 1.1 ±3%

☑ SPQ Label



☑ 300 PCS / Carton

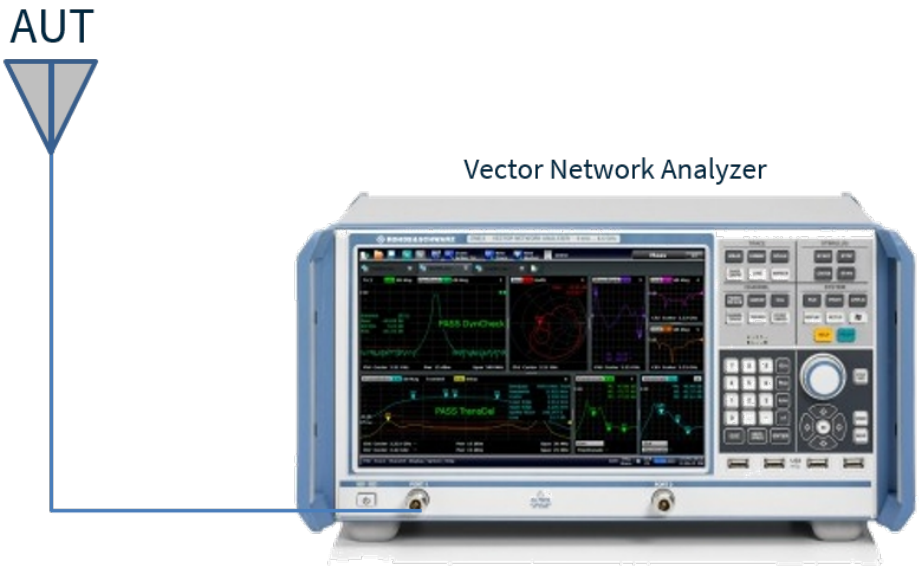
☑ Carton(mm): 320x250x290

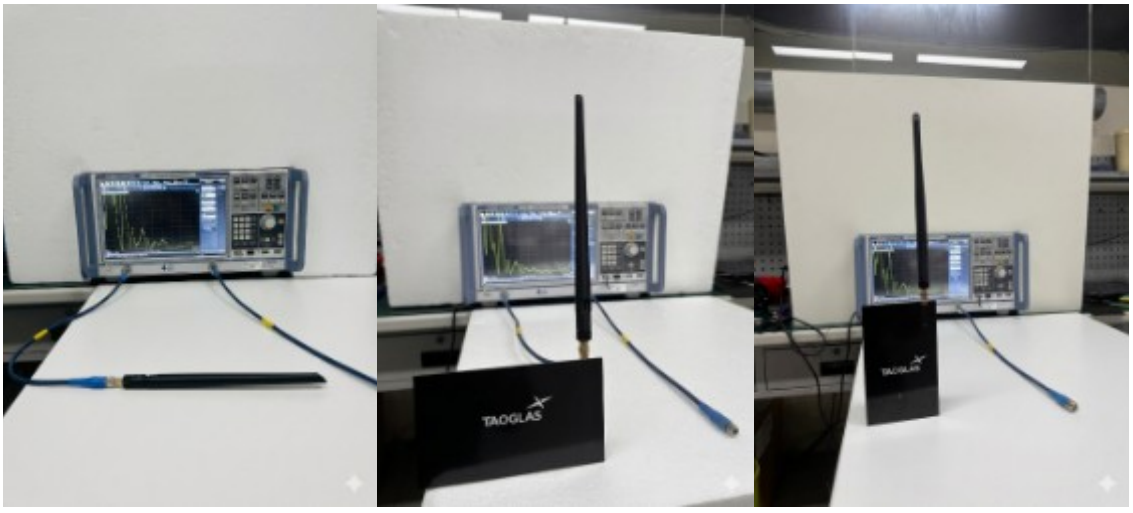
☑ Weight (Kg): 7.18 ±3%

☑ Carton Label

5. Antenna Characteristics

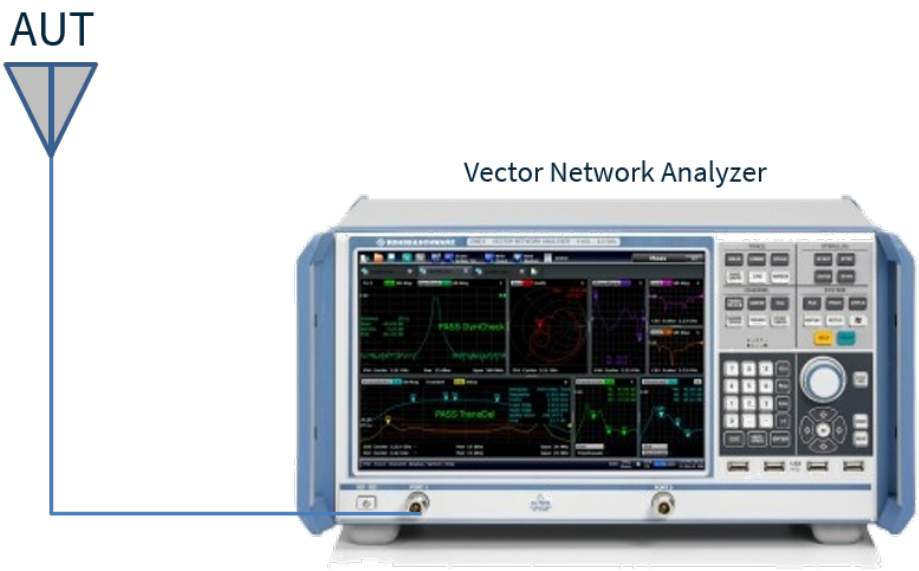
5.1 Test Setup - Straight

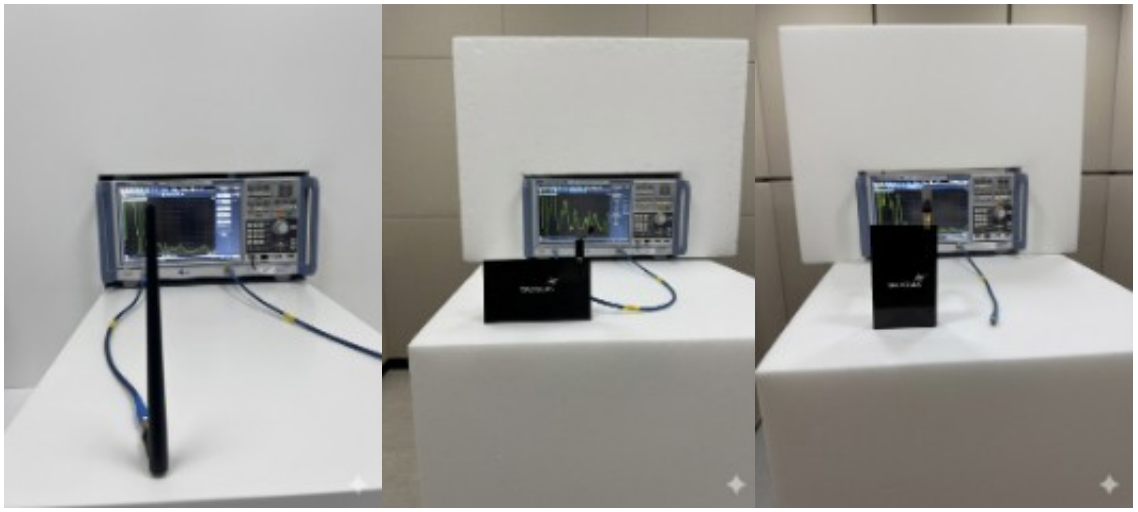




Free Space | 15x9cm Ground Plane | 9x15cm Ground Plane

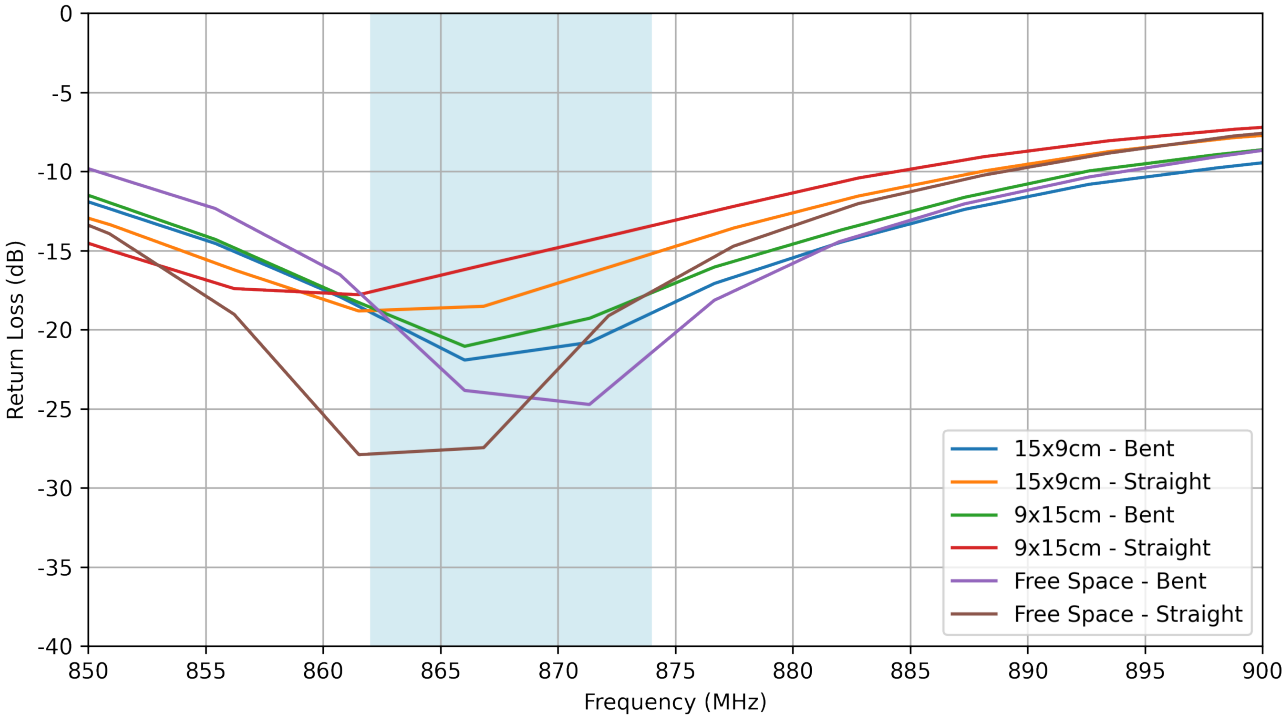
5.2 Test Setup - Bent



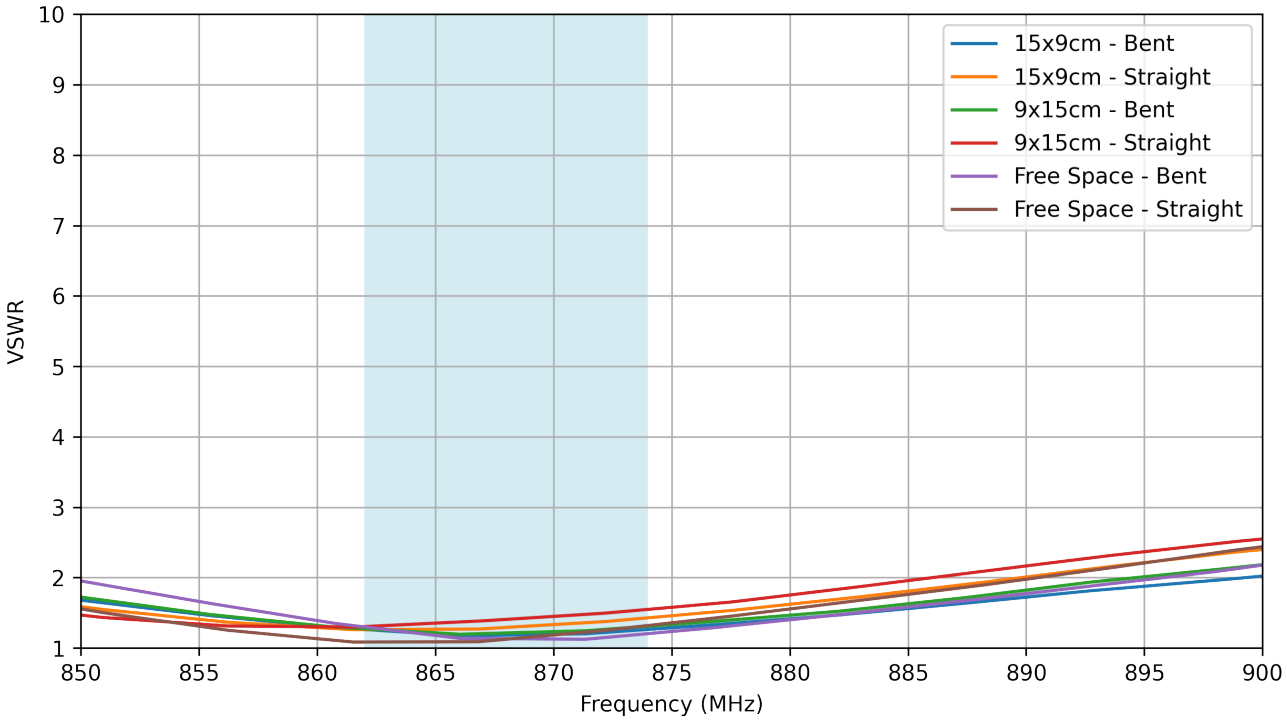


Free Space | 15x9cm Ground Plane | 9x15cm Ground Plane

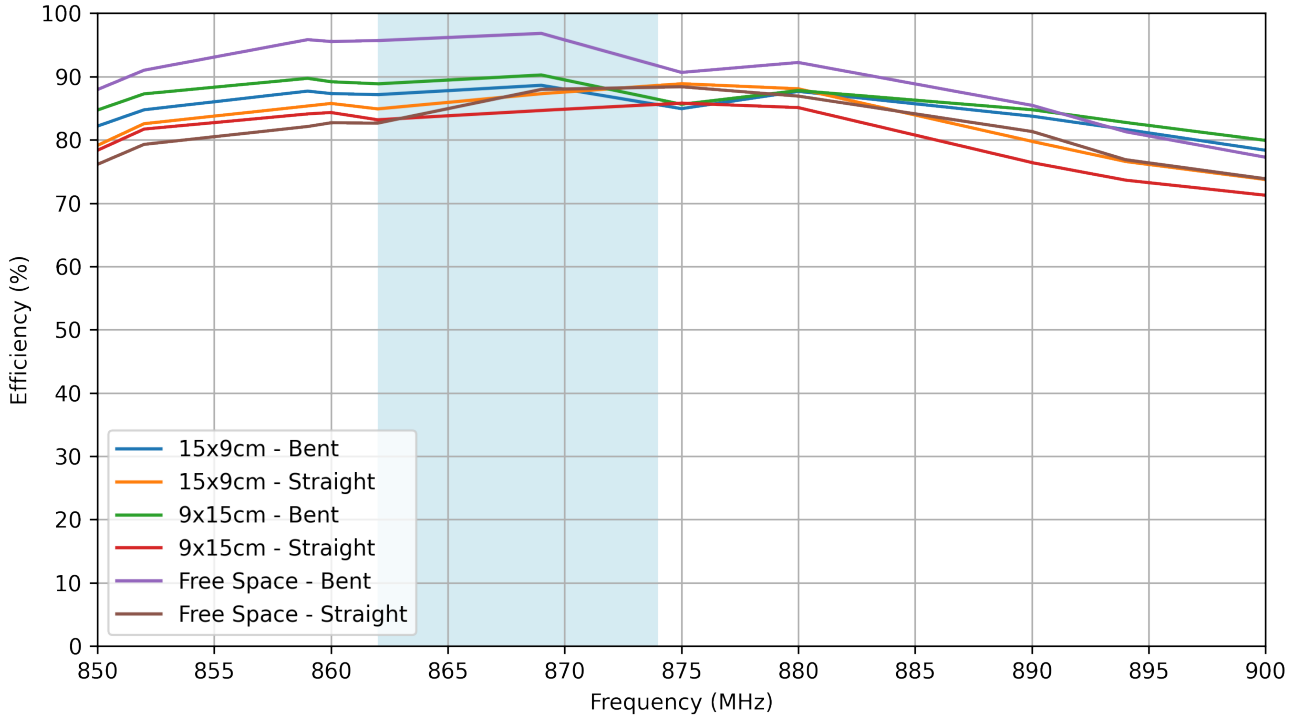
5.3 Return Loss



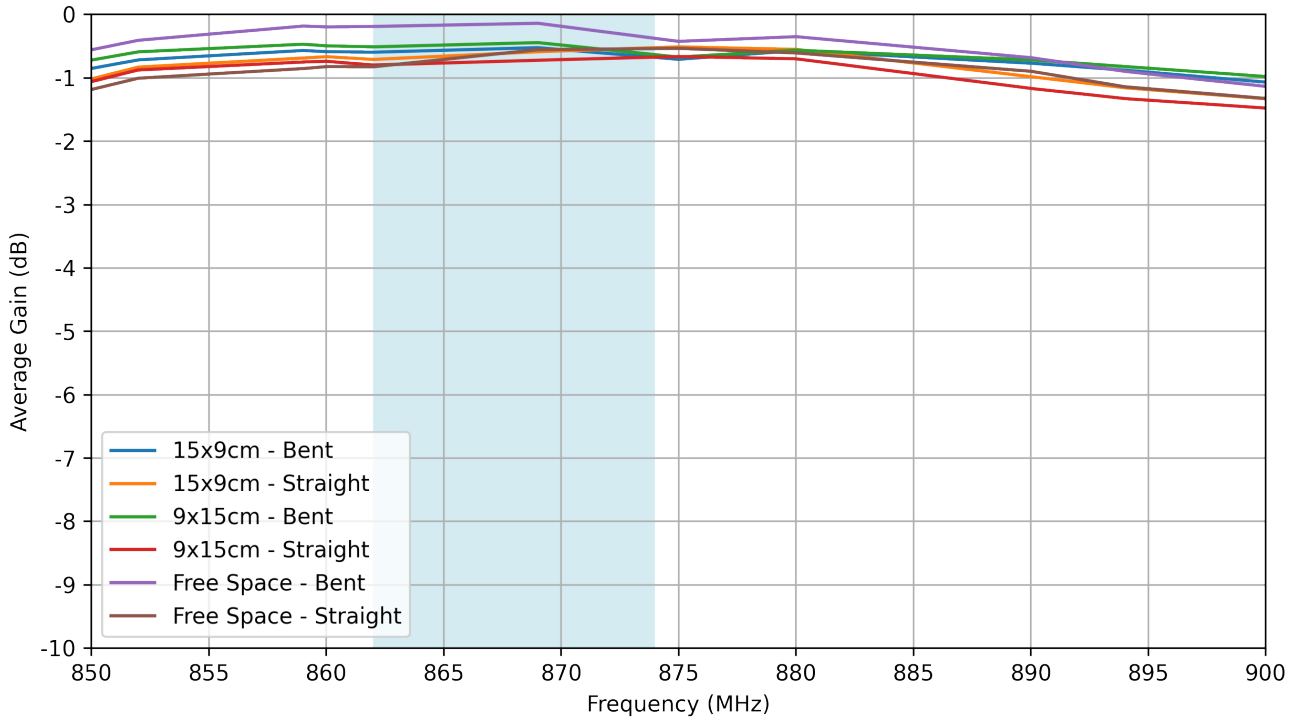
5.4 VSWR



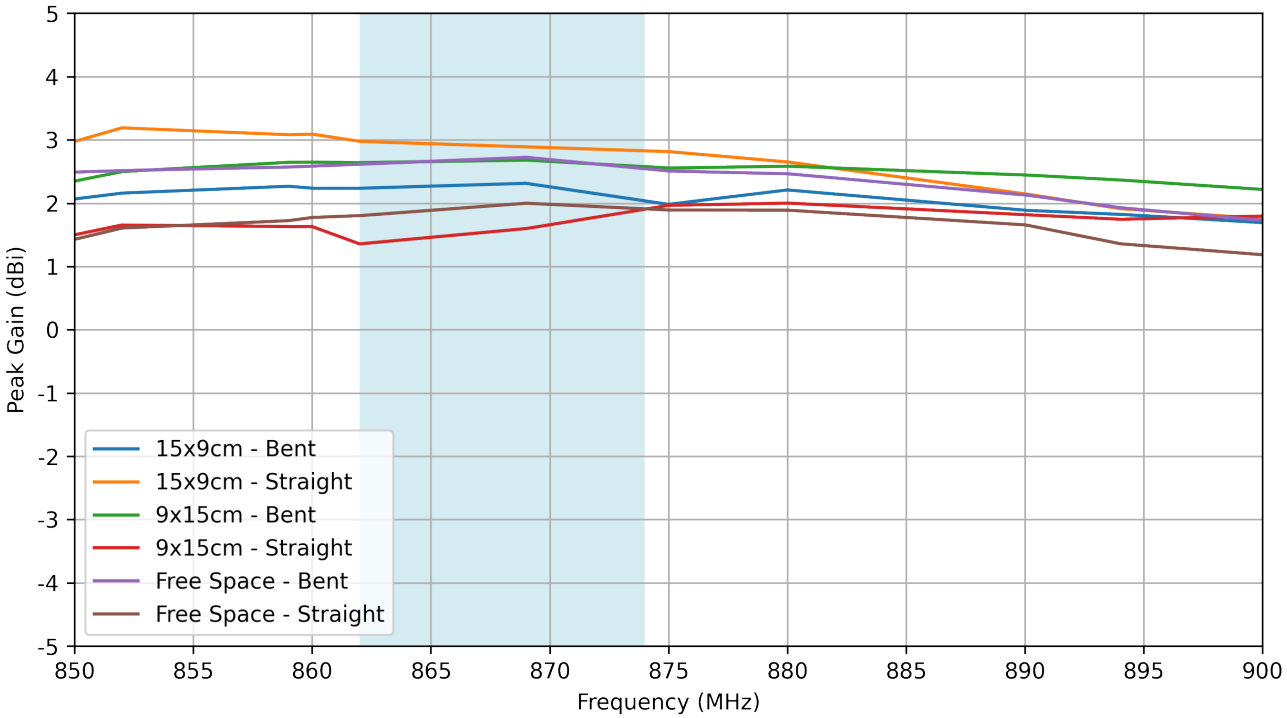
5.5 Efficiency



5.6 Average Gain

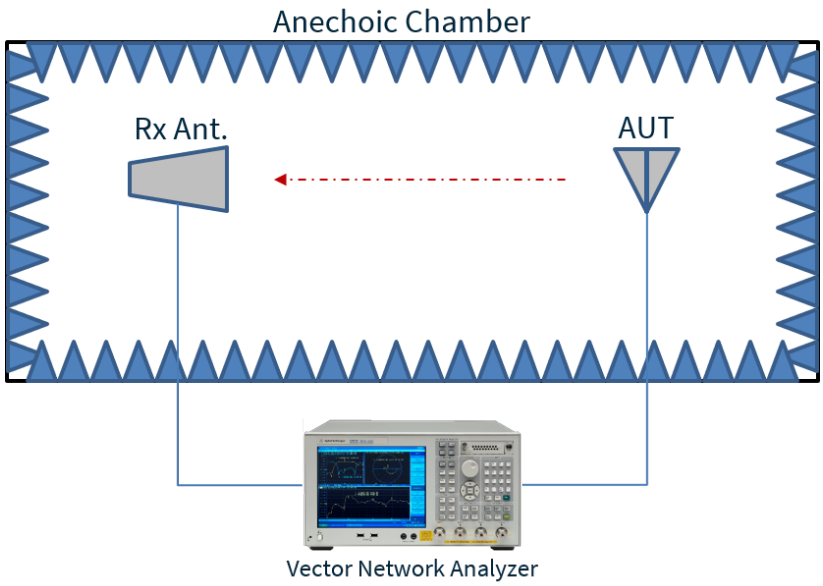


5.7 Peak Gain


Peak Gain (dBi)
Frequency (MHz)
15x9cm - Bent
15x9cm - Straight
9x15cm - Bent
9x15cm - Straight
Free Space - Bent
Free Space - Straight
5
4
3
2
1
0
-1
-2
-3
-4
-5
850
855
860
865
870
875
880
885
890
895
900

6. Radiation Patterns

6.1 Test Setup - Straight





Free Space

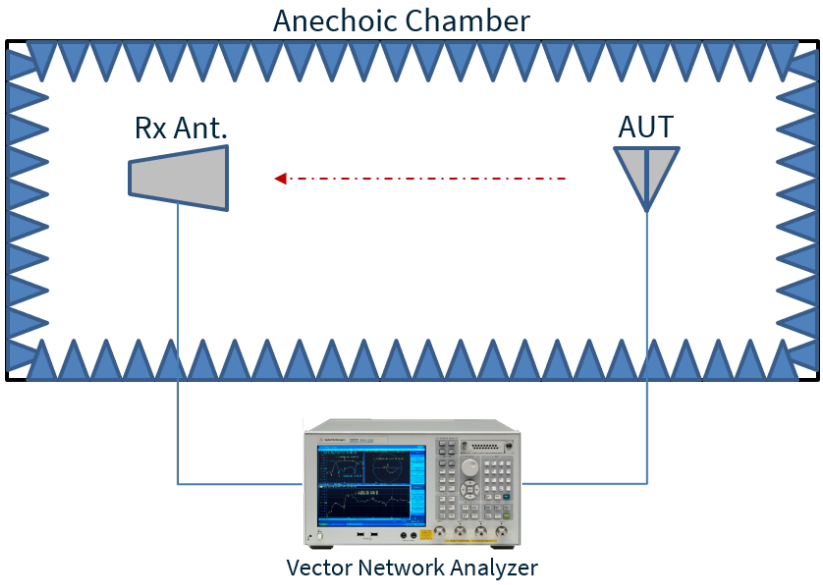


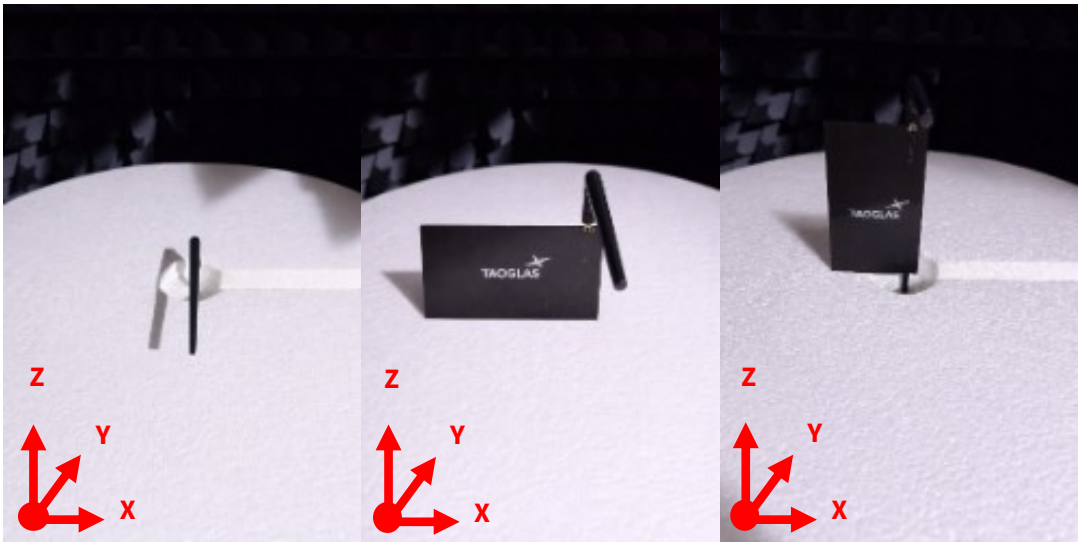
15x9cm Ground Plane



9x15cm Ground Plane

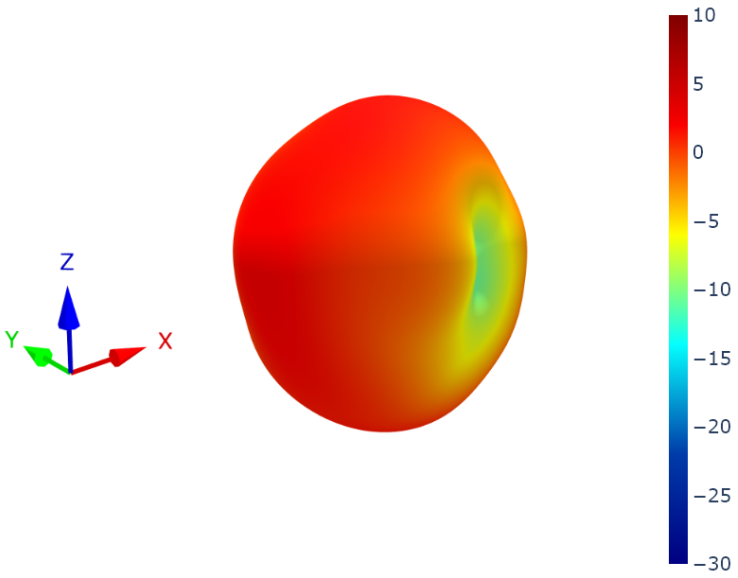
6.2 Test Setup - Bent



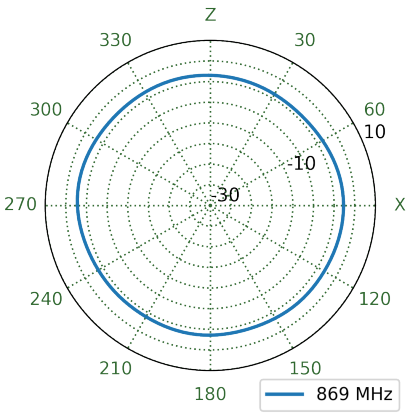


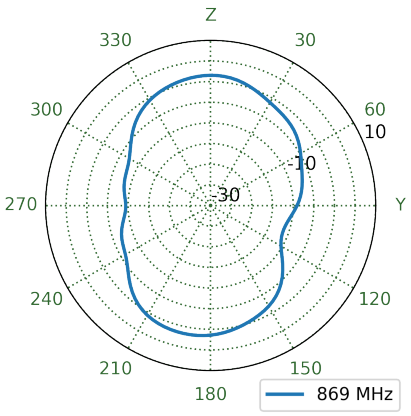
Free Space | 15x9cm Ground Plane | 9x15cm Ground Plane

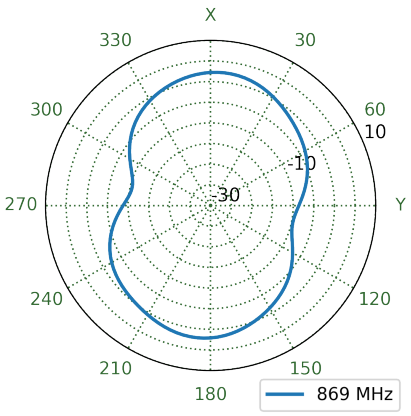
6.3 15x9cm - Bent Patterns at 869 MHz



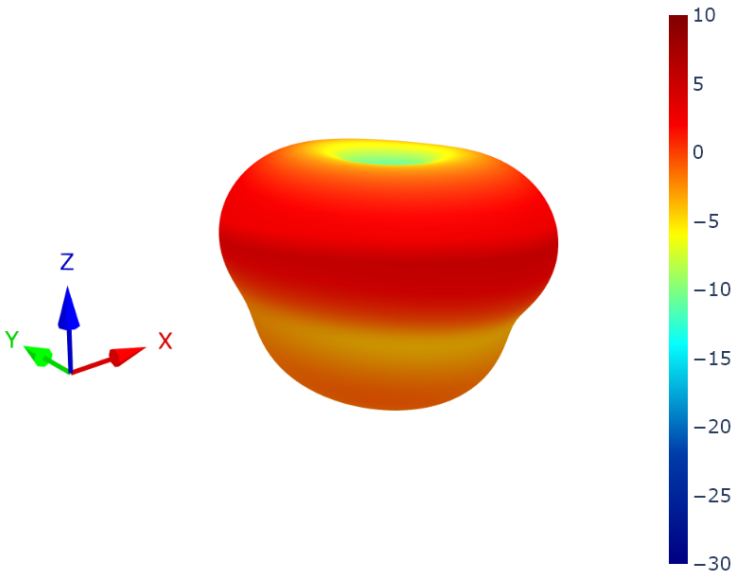
XZ Plane	YZ Plane	XY Plane



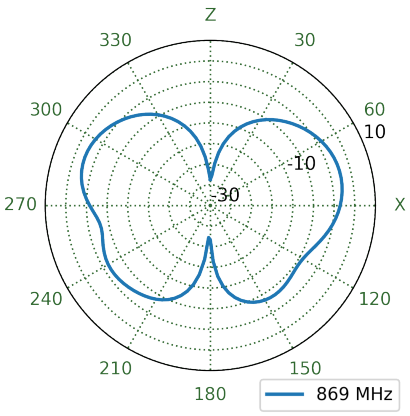


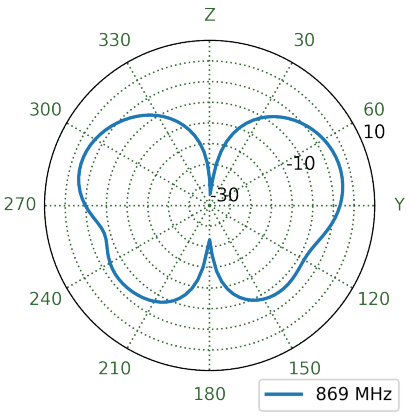


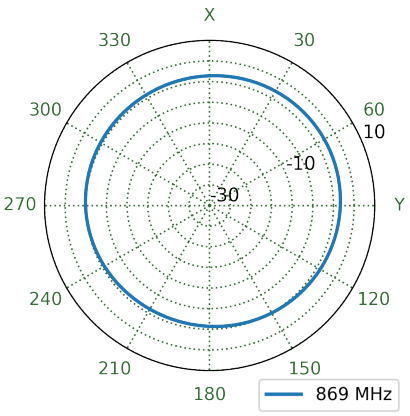
6.4 15x9cm - Straight Patterns at 869 MHz



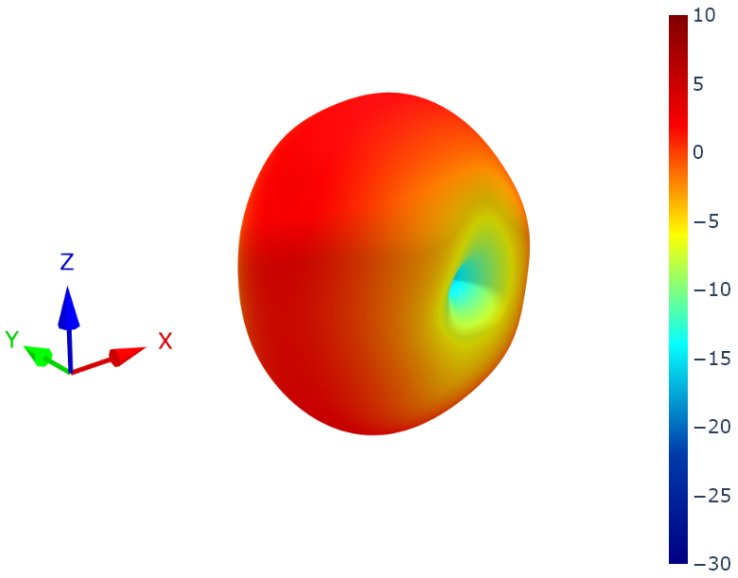
XZ Plane	YZ Plane	XY Plane



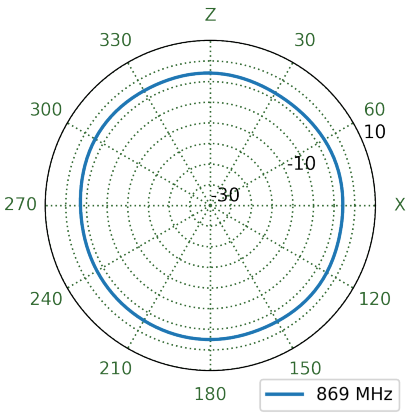


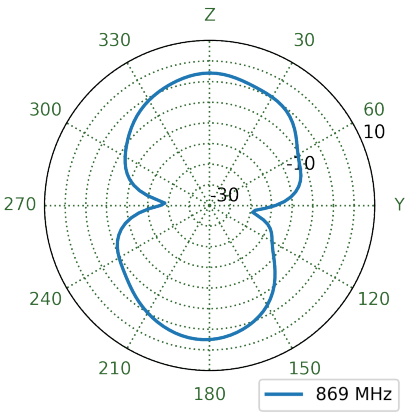


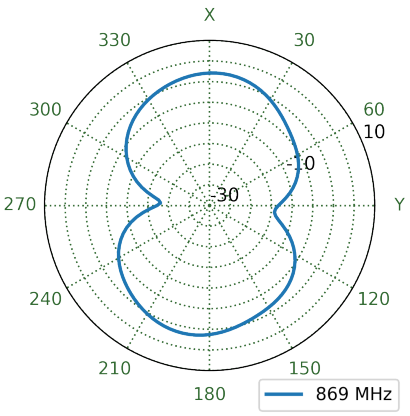
6.5 9x15cm - Bent Patterns at 869 MHz



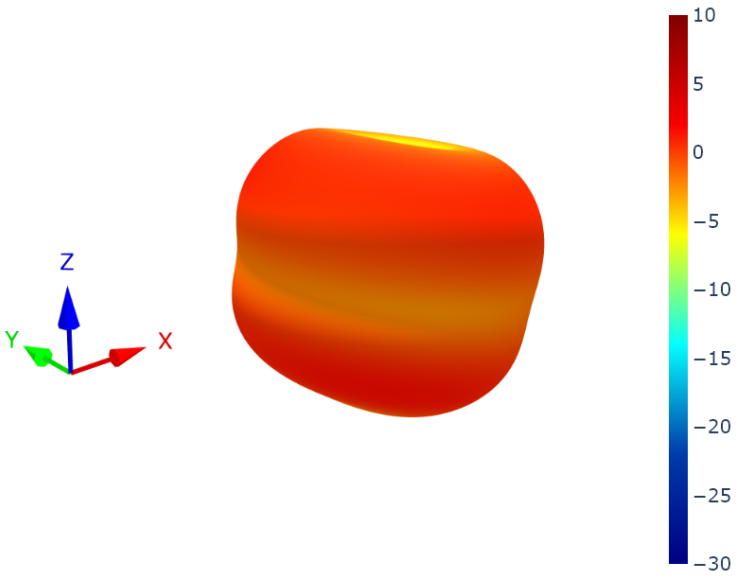
XZ Plane	YZ Plane	XY Plane

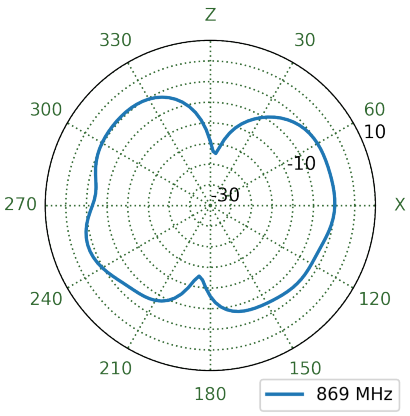
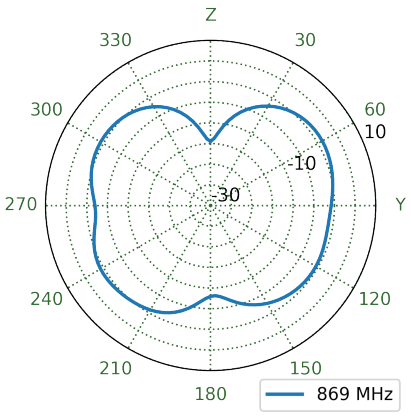
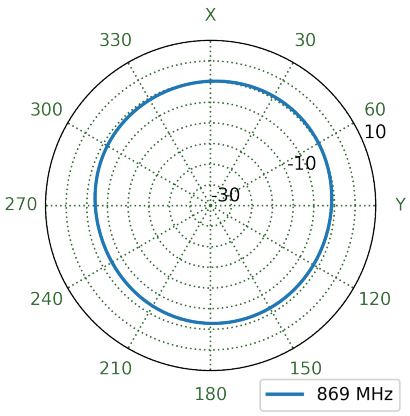




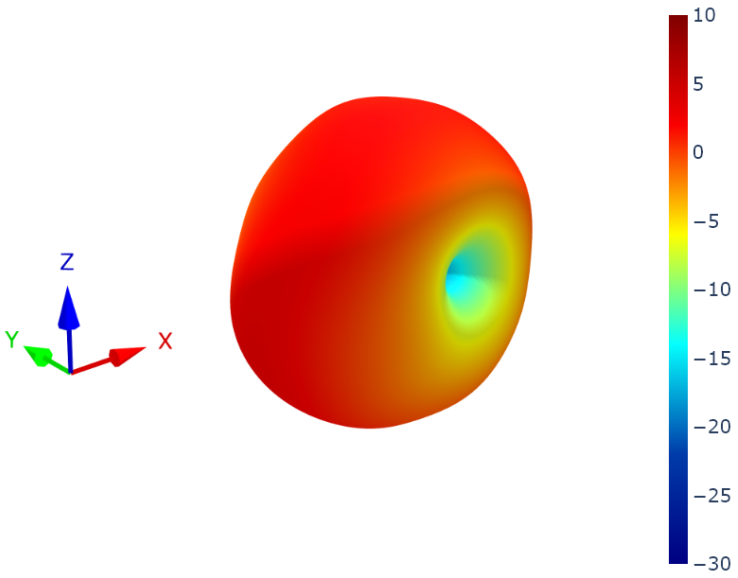


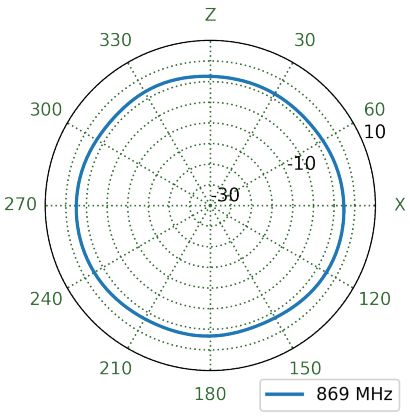
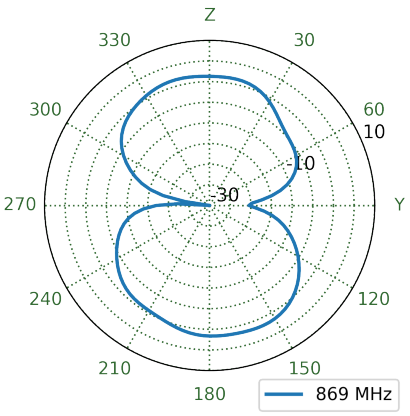
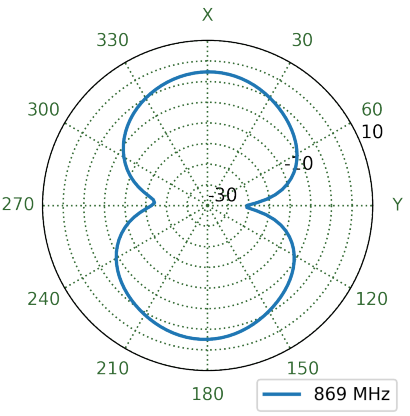
6.6 9x15cm - Straight Patterns at 869 MHz



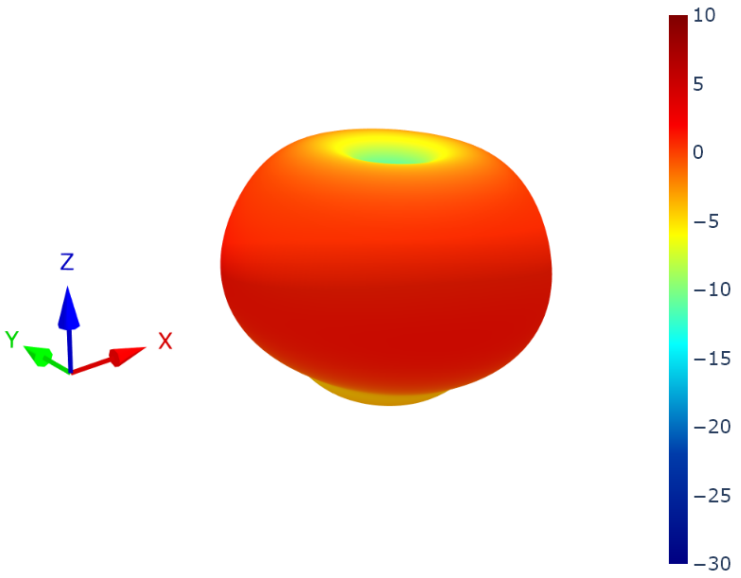
XZ Plane	YZ Plane	XY Plane
		

6.7 Free Space - Bent Patterns at 869 MHz

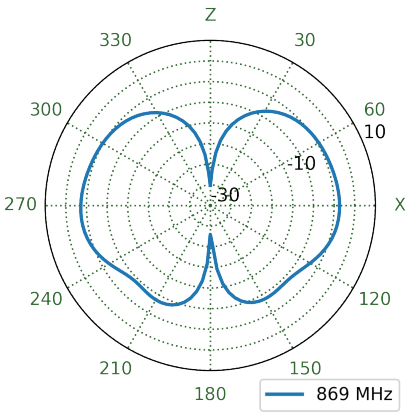


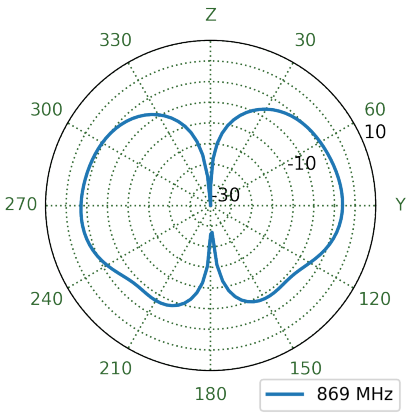
XZ Plane	YZ Plane	XY Plane
		

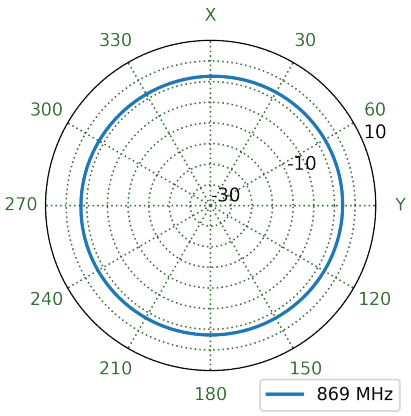
6.8 Free Space - Straight Patterns at 869 MHz



XZ Plane	YZ Plane	XY Plane







Changelog for the datasheet

SPE-26-8-145 - TI.82.A113

Revision: A (Original First Release)	
Date:	2026-07-22
Notes:	Initial Release
Author:	Gary West

Previous Revisions

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