



TAOGLAS®



Datasheet

Product Name

Part No:
TG.90.2313

Description

Terminal Mount 696-2700 Antenna with Rugged, Springback Design and TNC(M)

Features:

Rugged, Impact Resistant, Spring Enclosure Design
Covering: 696-2700MHz
IP67 Waterproof Enclosure
Dims: Ø20.0 x 280.0mm
Connector: TNC(M)
RoHS & Reach Compliant

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ISO 9001:2015
Certified



Taiwan
ISO 9001:2015
Certified



1. Introduction



The Taoglas TG.90.2313 is a high-performance, terminal-mount spring antenna engineered for mission-critical connectivity in harsh and high-impact environments. Covering the wideband 696–2700MHz frequency range, it delivers reliable cellular communications for defence, public safety, and ruggedised vehicle applications.

Designed with a flexible spring system, the TG.90 withstands repeated mechanical shocks, impacts, and bending forces exceeding 90°, returning to its original position without permanent deformation. This makes it ideal for deployment on vehicles and equipment operating in unpredictable or physically demanding conditions. Its rugged, IP67-rated enclosure ensures dependable performance in extreme weather, off-road terrain, and exposed outdoor environments.

Typical applications include:

- Military and defence communication systems
- Emergency services and public safety vehicles (police, fire, ambulance)
- Off-road, construction, and heavy-duty industrial vehicles
- Connected tactical and command vehicles
- Autonomous and unmanned ground vehicles (UGVs)
- Secure mobile communication platforms in hostile environments

The TG.90.2313 is supplied with a TNC (M) connector for secure and straightforward integration into a wide range of communication systems. It is fully compliant with RoHS and REACH standards.

For integration support or application-specific guidance, contact your local Taoglas sales team. Our global RF specialists can assist in selecting the optimal antenna solution for your deployment.

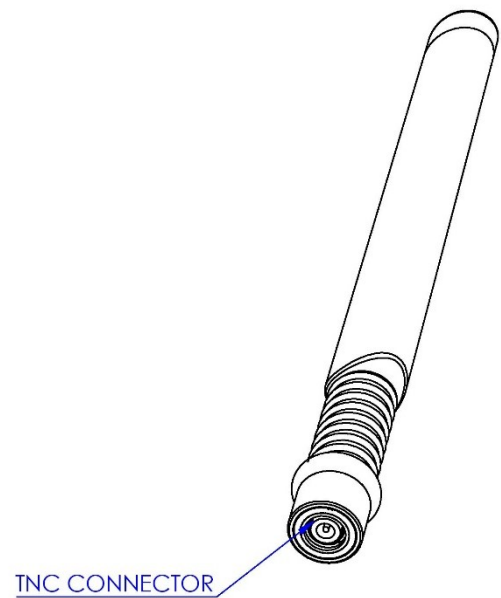
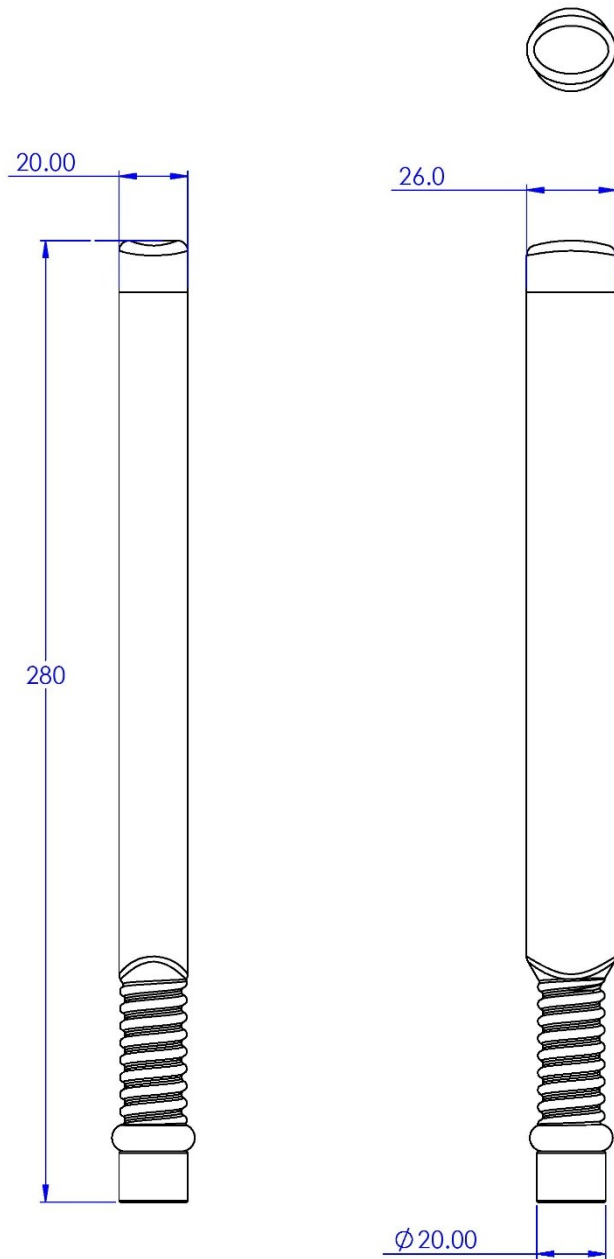
2. Specification

Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
5GNR/4G Band 71	617-698	67.3	-1.72	2.76	50 Ω	Linear	Omni directional	2W
4G/3G Band 12,13,14,17,28,29	698-806	46.6	-3.32	1.78				
4G/3G/NB-IoT/Cat M Band 5,8,18,19,20,26,27	824-960	57.7	-2.39	1.36				
5GNR/4G Band 21,32,74,75,76	1427-1518	21.2	-6.74	-0.77				
4G/3G Band 1,2,3,4,9,23,25,35,39,66	1710-2200	49.6	-3.05	3.04				
4G/3G Band 7,30,38,40,41	2300-2690	32.6	-4.87	4.23				

Mechanical	
Dimensions	Ø20.0 x 280.0mm
Weight	84g
Material	TPU
Connector	TNC(M)

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

3. Mechanical Drawing



4. Antenna Characteristics

4.1 Test Setup

AUT

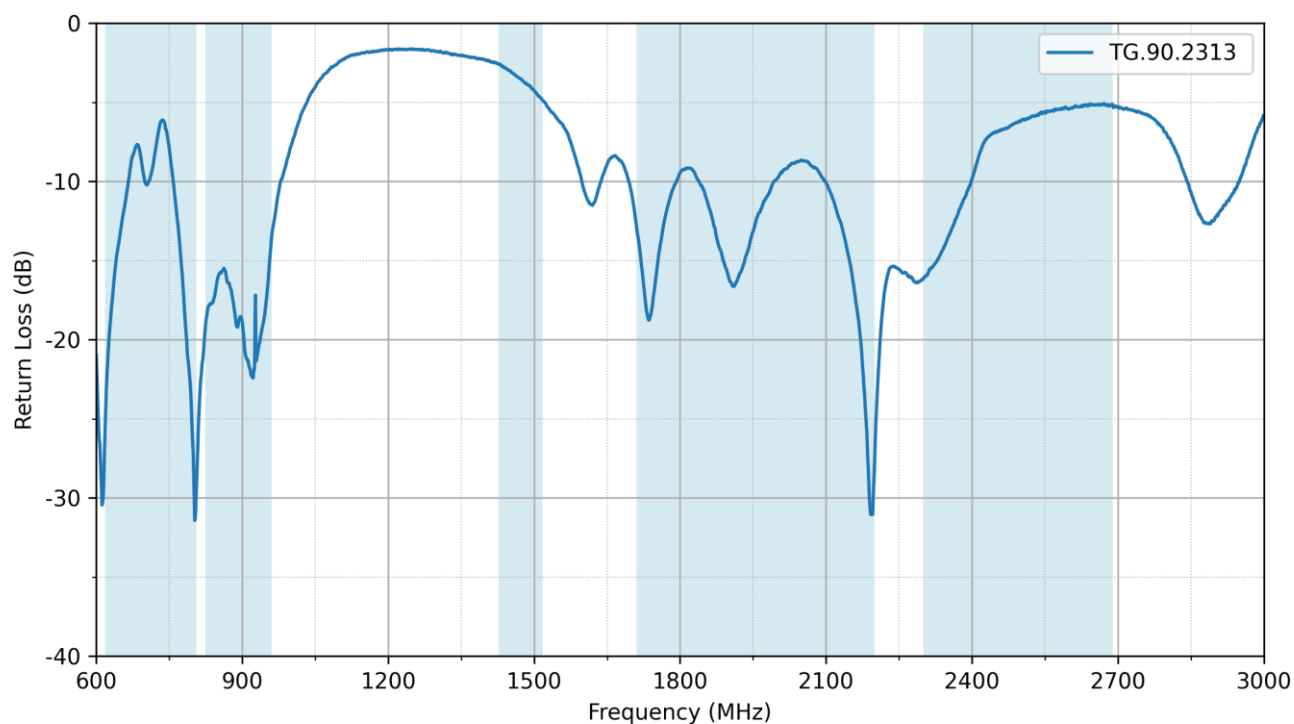


Vector Network Analyzer

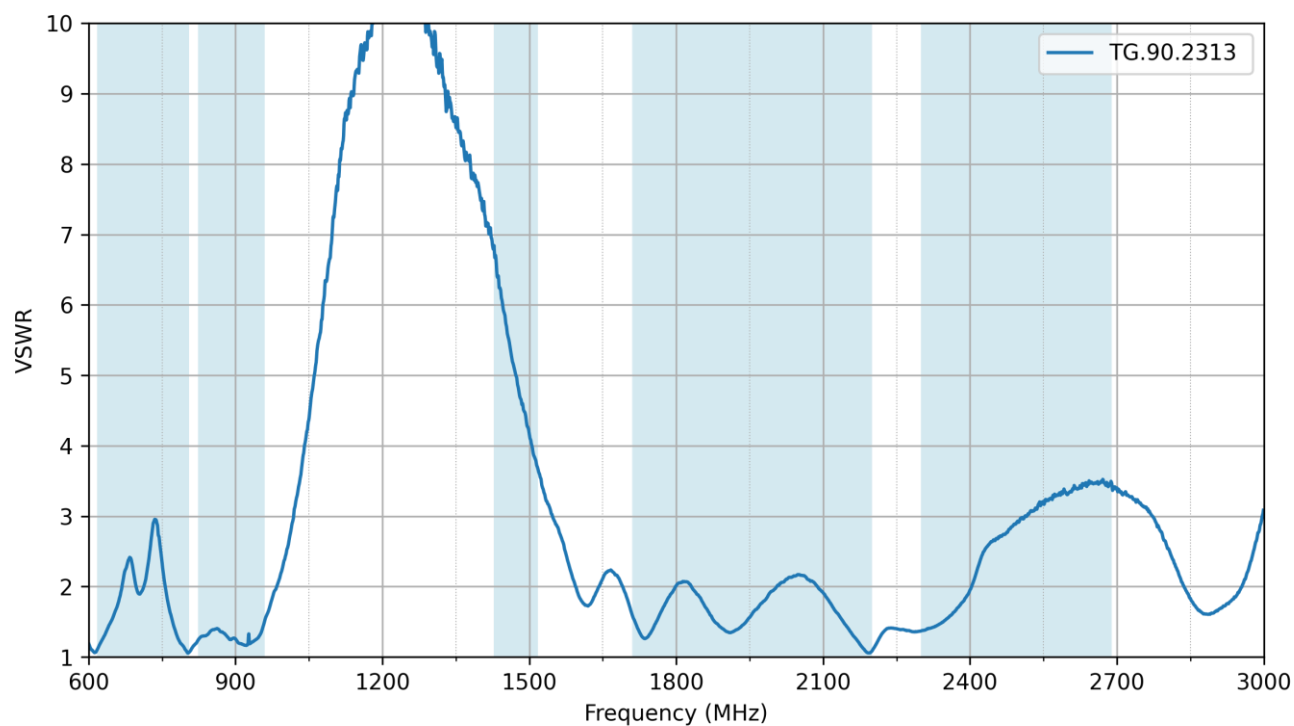


VNA Test Set-up

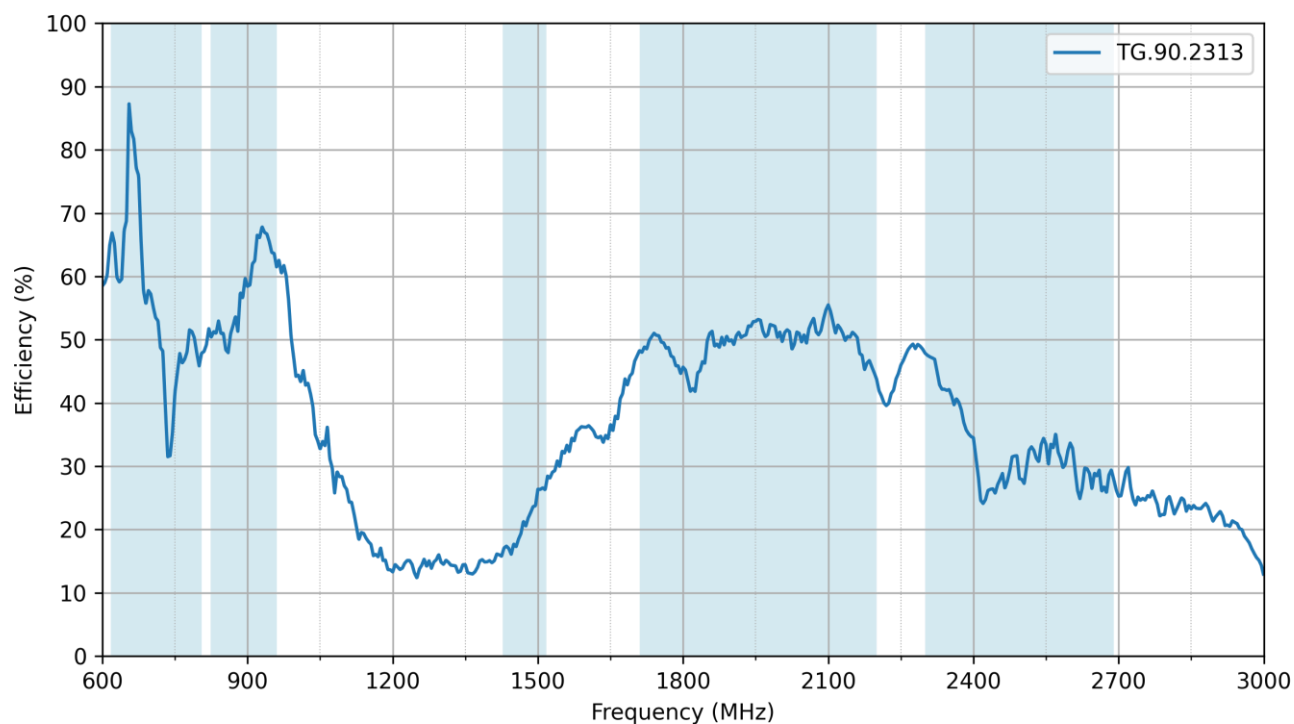
4.2 Return Loss



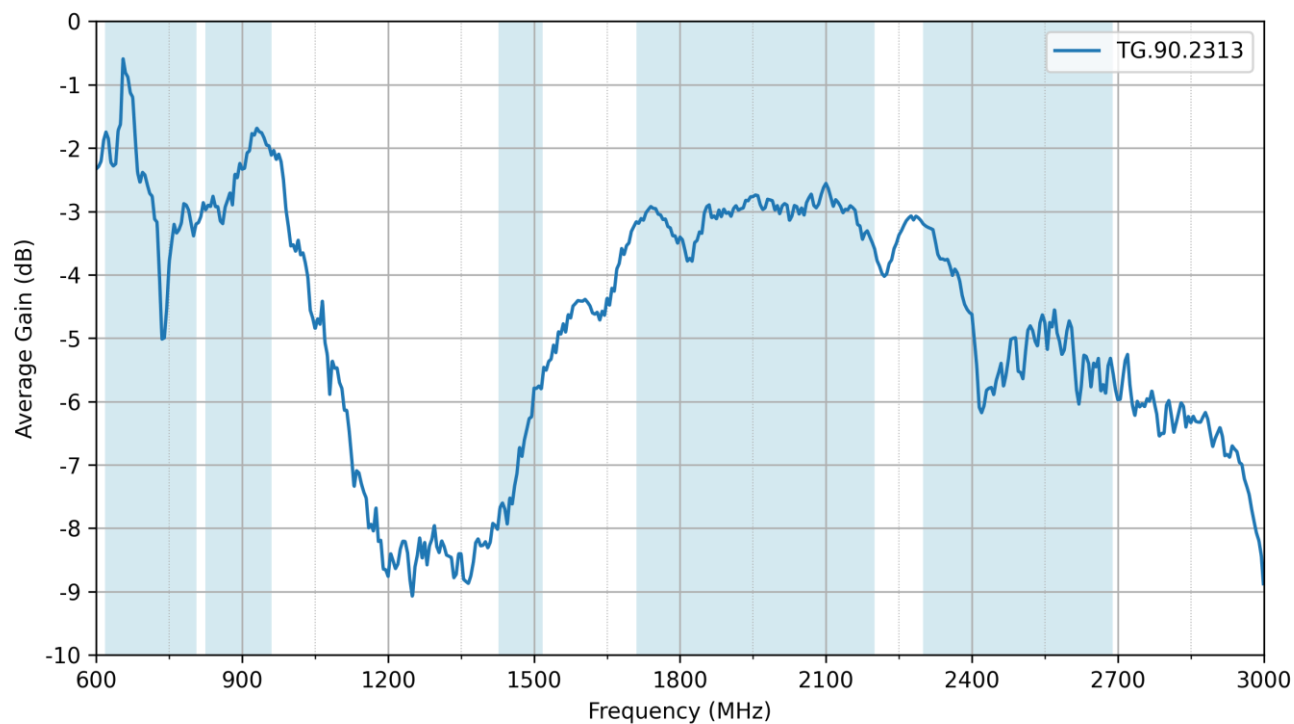
4.3 VSWR



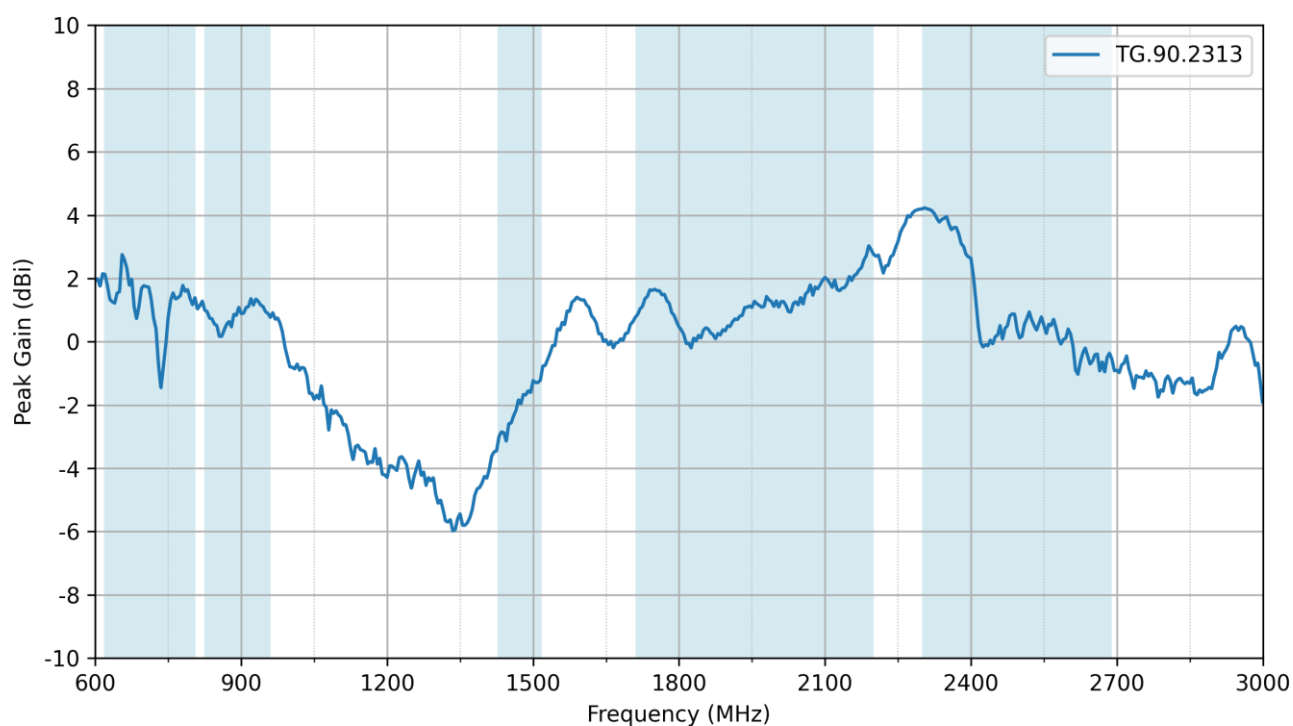
4.4 Efficiency



4.5 Average Gain

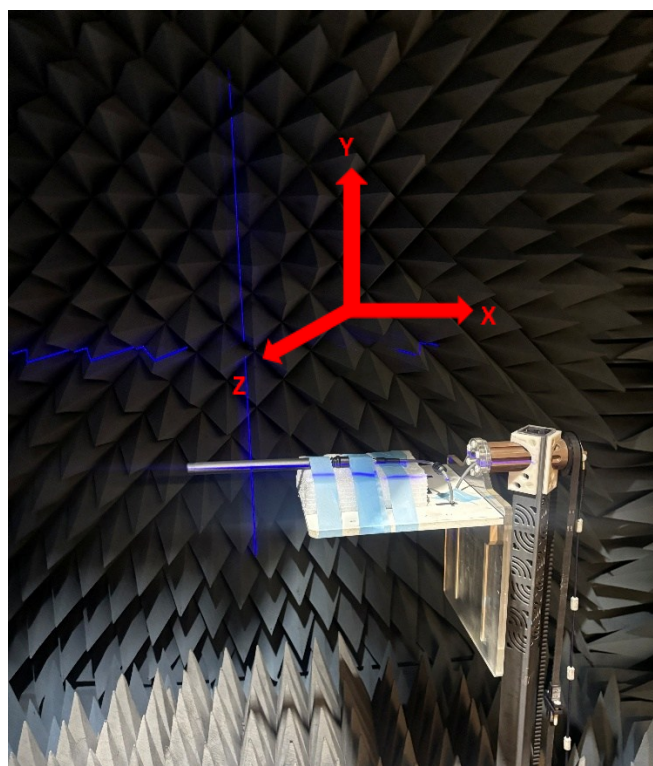
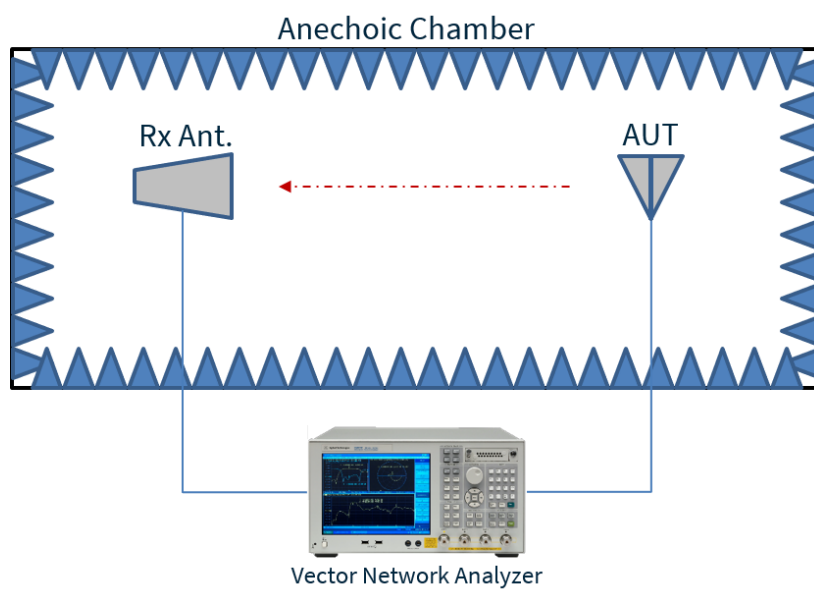


4.6 Peak Gain



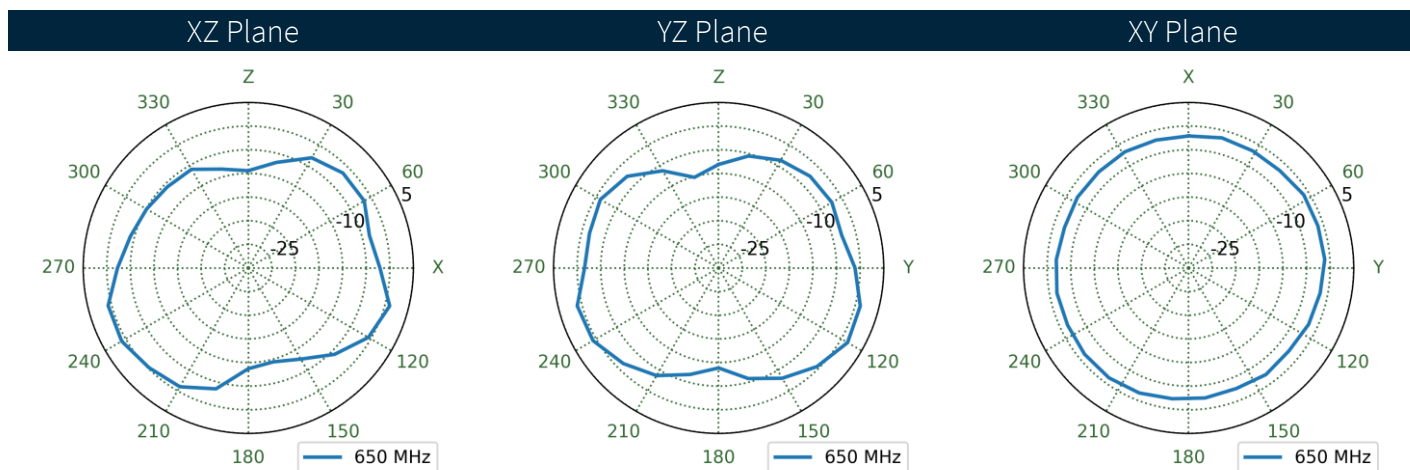
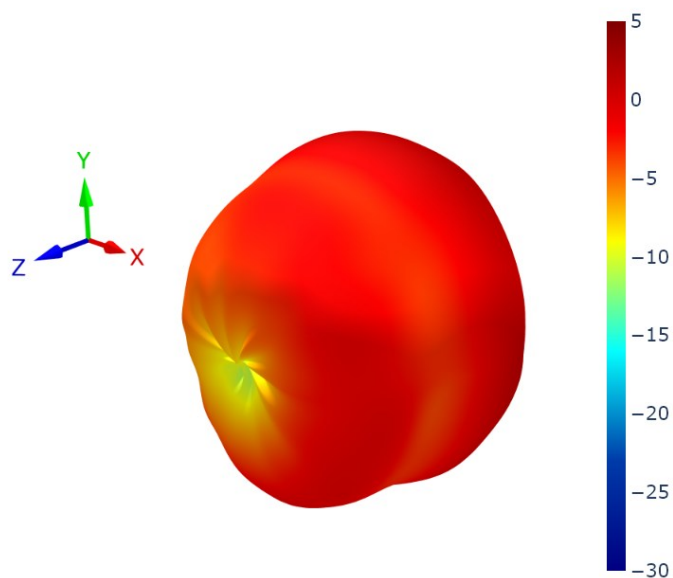
5. Radiation Patterns

5.1 Test Setup

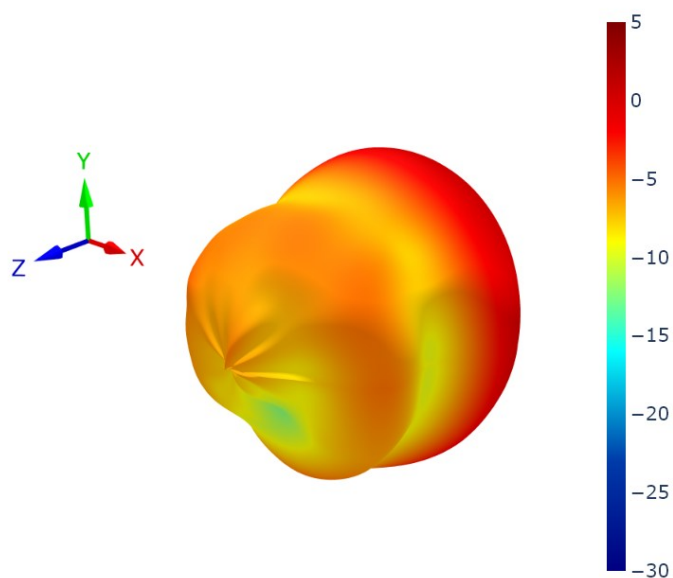


Chamber Test Set-up

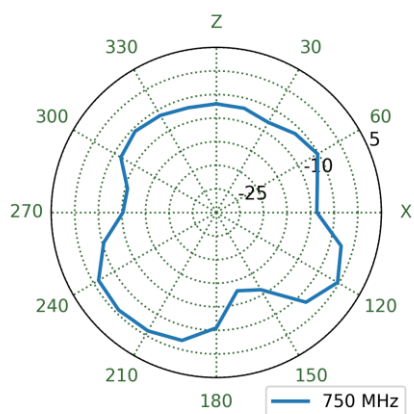
5.2 Patterns at 650 MHz



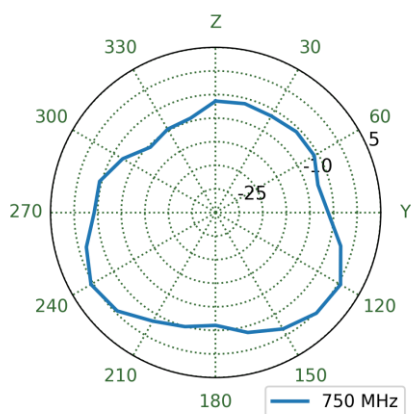
5.3 Patterns at 750 MHz



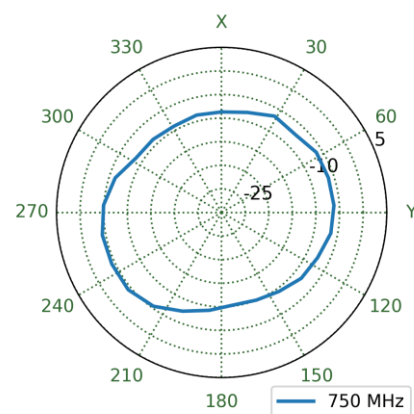
XZ Plane



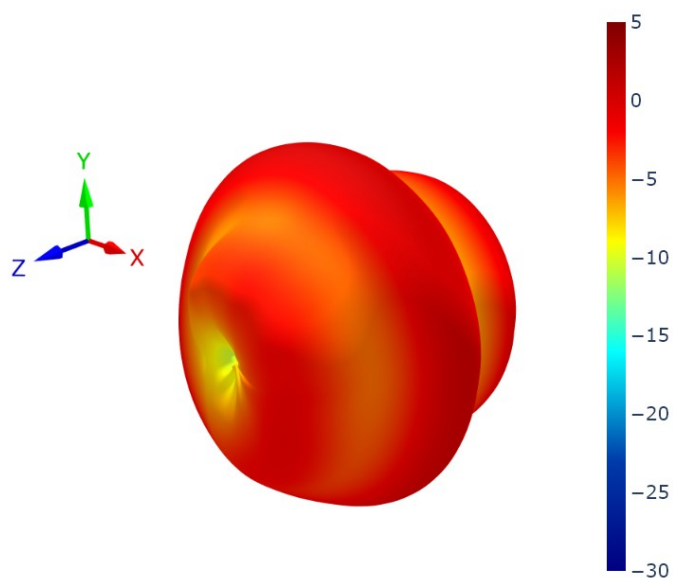
YZ Plane



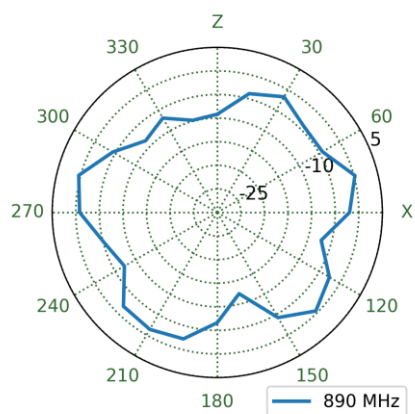
XY Plane



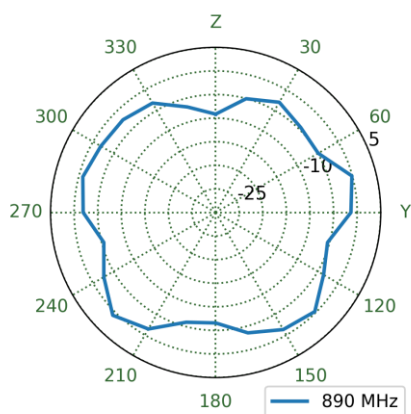
5.4 Patterns at 890 MHz



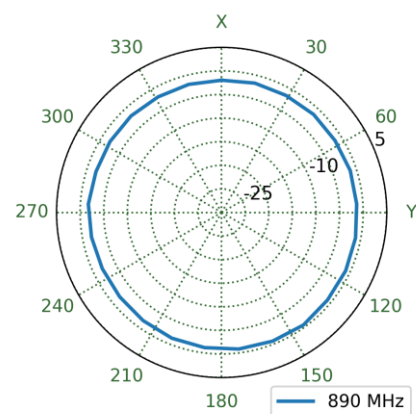
XZ Plane



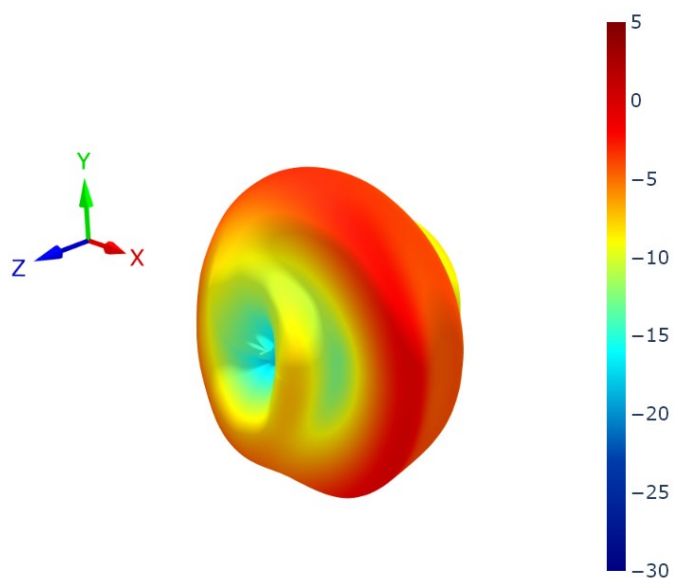
YZ Plane



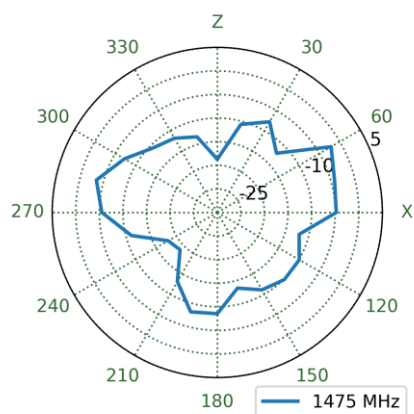
XY Plane



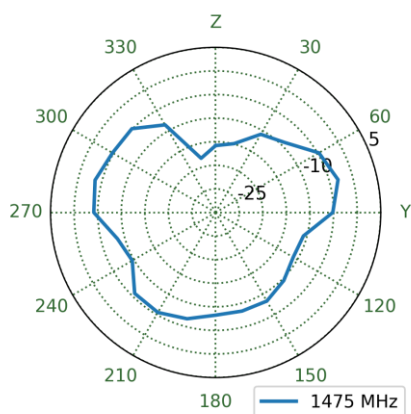
5.5 Patterns at 1475 MHz



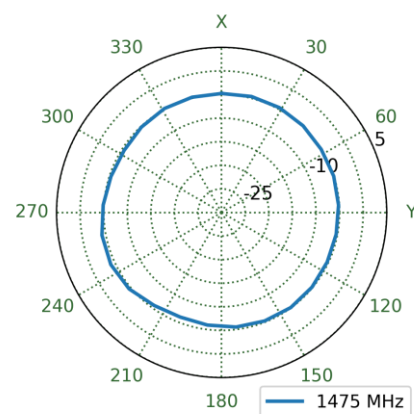
XZ Plane



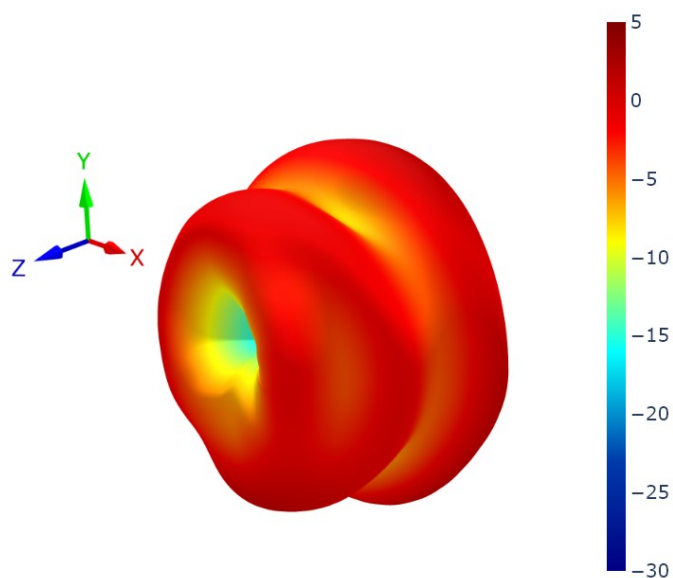
YZ Plane



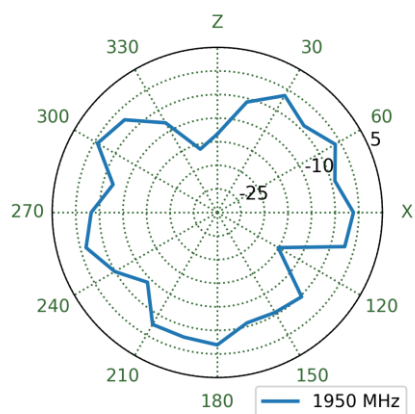
XY Plane



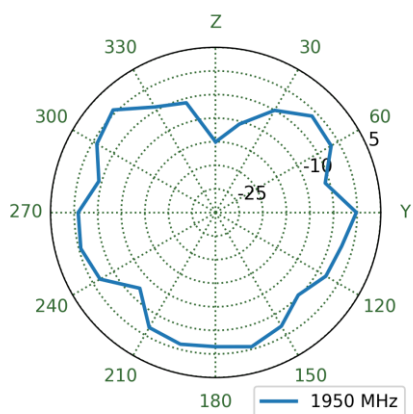
5.6 Patterns at 1950 MHz



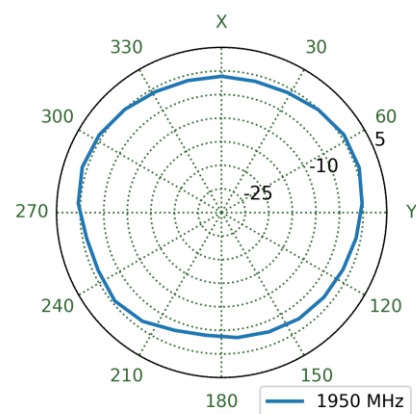
XZ Plane



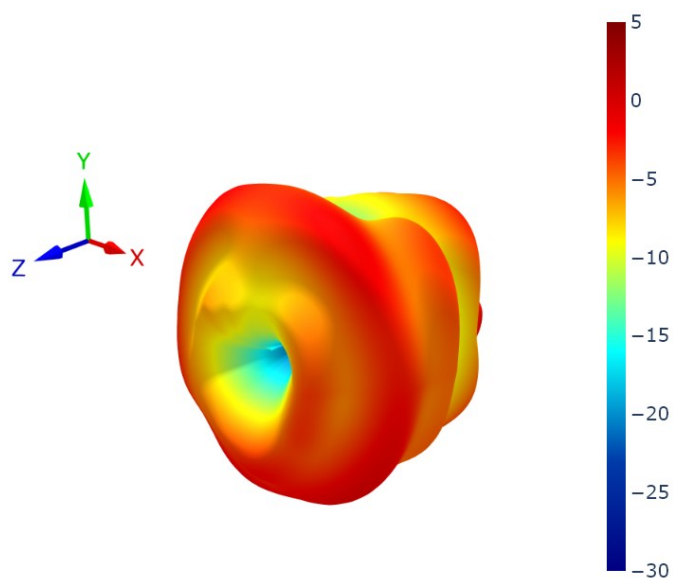
YZ Plane



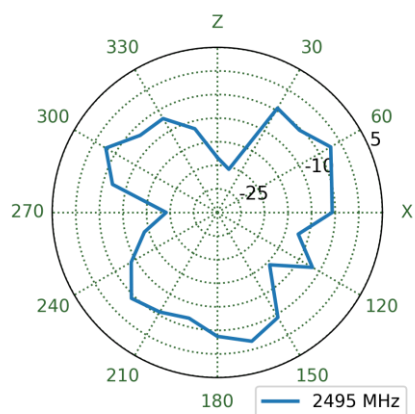
XY Plane



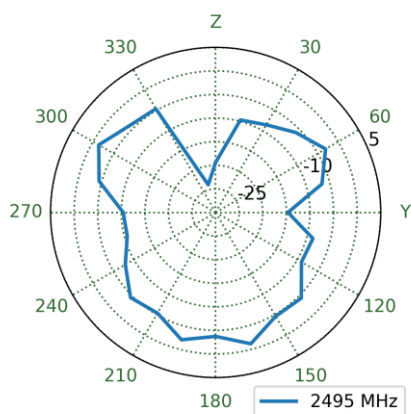
5.7 Patterns at 2495 MHz



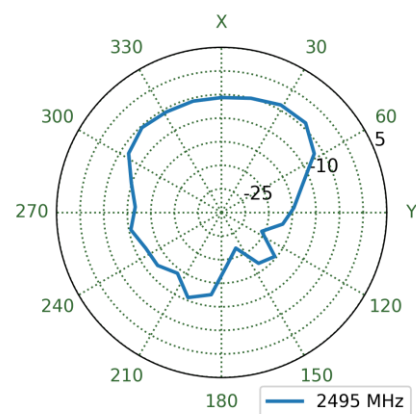
XZ Plane



YZ Plane



XY Plane



Changelog for the datasheet

SPE-26-8-131 - TG.90.2313

Revision: A (Original First Release)	
Date:	2026-06-30
Notes:	Initial Release.
Author:	Gary West

Previous Revisions



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