



TAOGLAS®

Datasheet

**Part No:**

Black - FW.19.M6.F

White - FW.19.M6.FW

Description

150-174/430-520/700-900MHz Flexible Whip Antenna with M6 female connector

Features:

Flexible Whip Antenna

Covering: 150-174MHz, 430-520MHz, 700-900MHz

IP67 Waterproof Rated Enclosure

Dims: Ø14 x 431mm

Connector: M6 Female

RoHS & Reach Compliant

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1. Introduction



The Taoglas **FW.19** is a rugged, high-performance Flexible Whip Antenna designed to deliver reliable connectivity across three key frequency bands: 150-174 MHz, 430-520 MHz, and 700-900 MHz. Its multi-band capability makes it suitable for a wide range of VHF, UHF, and upper-band communication systems. Encased in a durable, IP67-rated housing, the FW.19 is built to withstand harsh outdoor and industrial environments. The antenna's flexible whip structure and slim 14 mm diameter help prevent damage from impact or vibration, while its extended 431 mm length supports strong radiation performance across all bands.

Equipped with an M6 female connector, the FW.19 integrates easily into handheld, fixed, and mobile communication platforms. Its omnidirectional radiation pattern ensures consistent performance for mission-critical applications requiring dependable field operation.

Typical Applications

- VHF/UHF handheld and portable radios
- Industrial communications and telemetry
- Smart city and infrastructure systems
- Public safety, security, and emergency services
- IoT and M2M systems operating in sub GHz bands

Contact your regional Taoglas customer support team for further information.

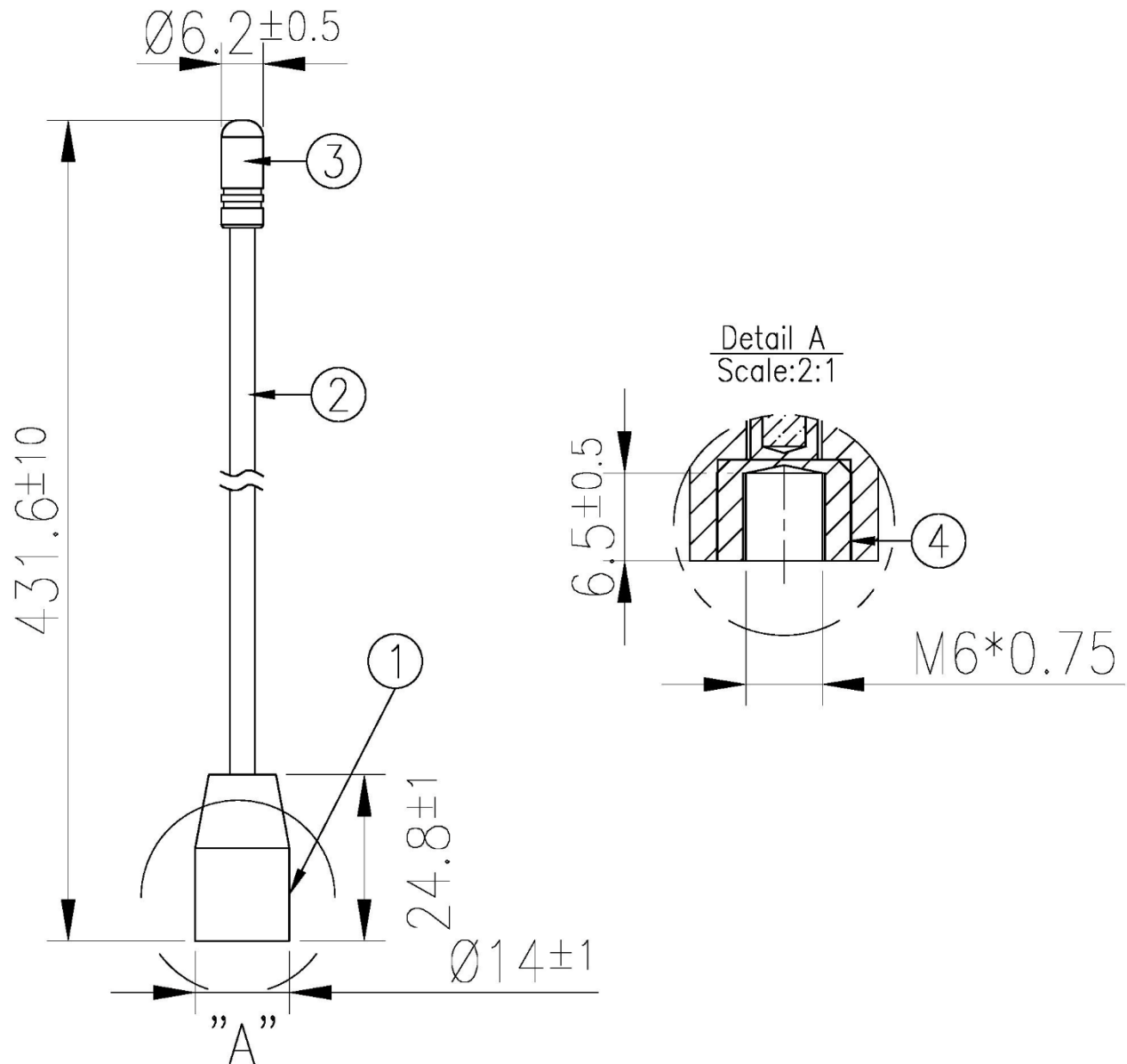
2. Specification

Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
VHF band (Low band)	150-174	35.6	-4.48	-0.18	50 Ω	Linear	Omni directional	10W
UHF band (Mid band)	430-520	33.9	-4.70	1.15				
Upper band (High band)	700-900	32.6	-4.87	2.34				

Mechanical	
Dimensions	$\varnothing 14 \times 431\text{mm}$
Weight	30.23
Material	POM
Connector	M6 Female

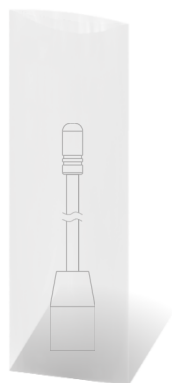
Environmental	
Waterproof Rating	IP67
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Relative Humidity	Non-condensing 65°C 95% RH

3. Mechanical Drawing



	Name	Material	Finish	QTY
1	Housing	POM	White	1
2	Whip	Steel+PE Jacket	White	1
3	Cap	POM	White	1
4	M6 Connector	Brass	Ni Plated	1

4. Packaging



- ☑ 1 PCS / Small PE bag
- ☑ Weight (g): 30.23 ±3%



- ☑ 10 PCS / PE bag
- ☑ Weight (g): 302.3 ±3%
- ☑ SPQ Label



- ☑ 200 PCS / Carton
- ☑ Carton(mm): 455 x 318 x 282
- ☑ Weight (Kg): 6.1 ±3%
- ☑ Carton Label

5. Antenna Characteristics

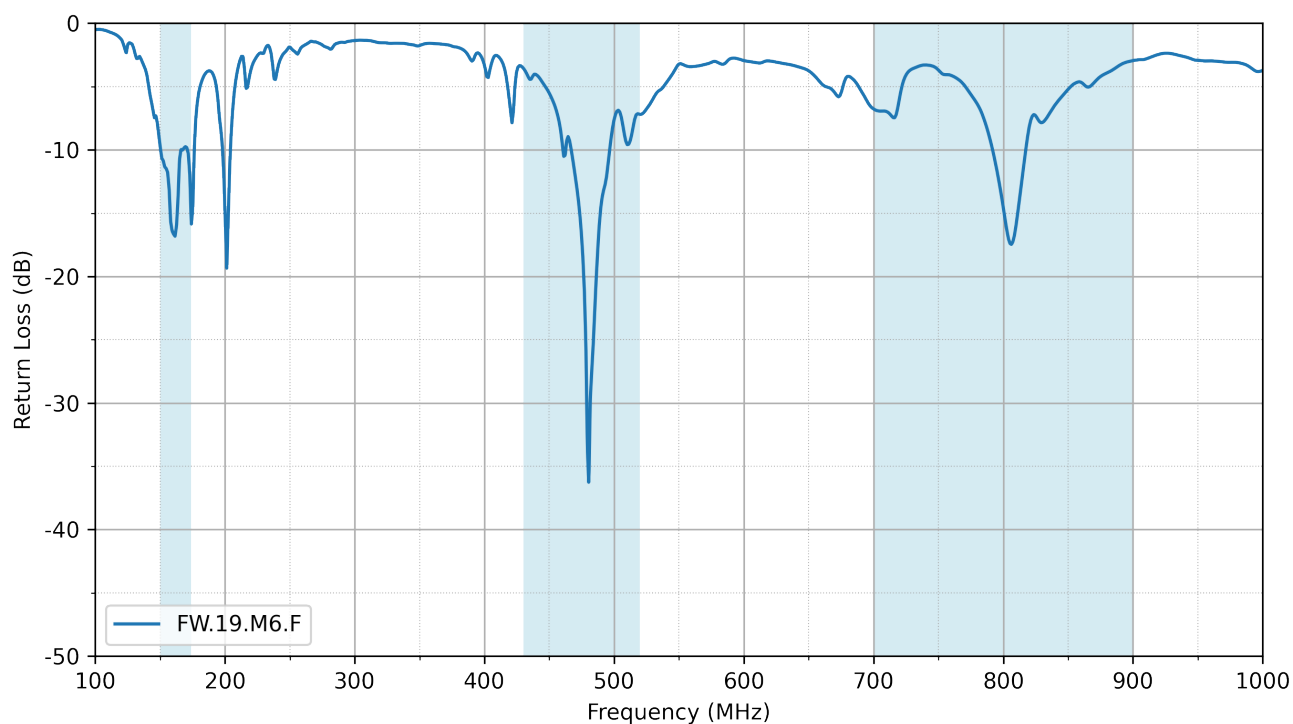
5.1 Test Setup



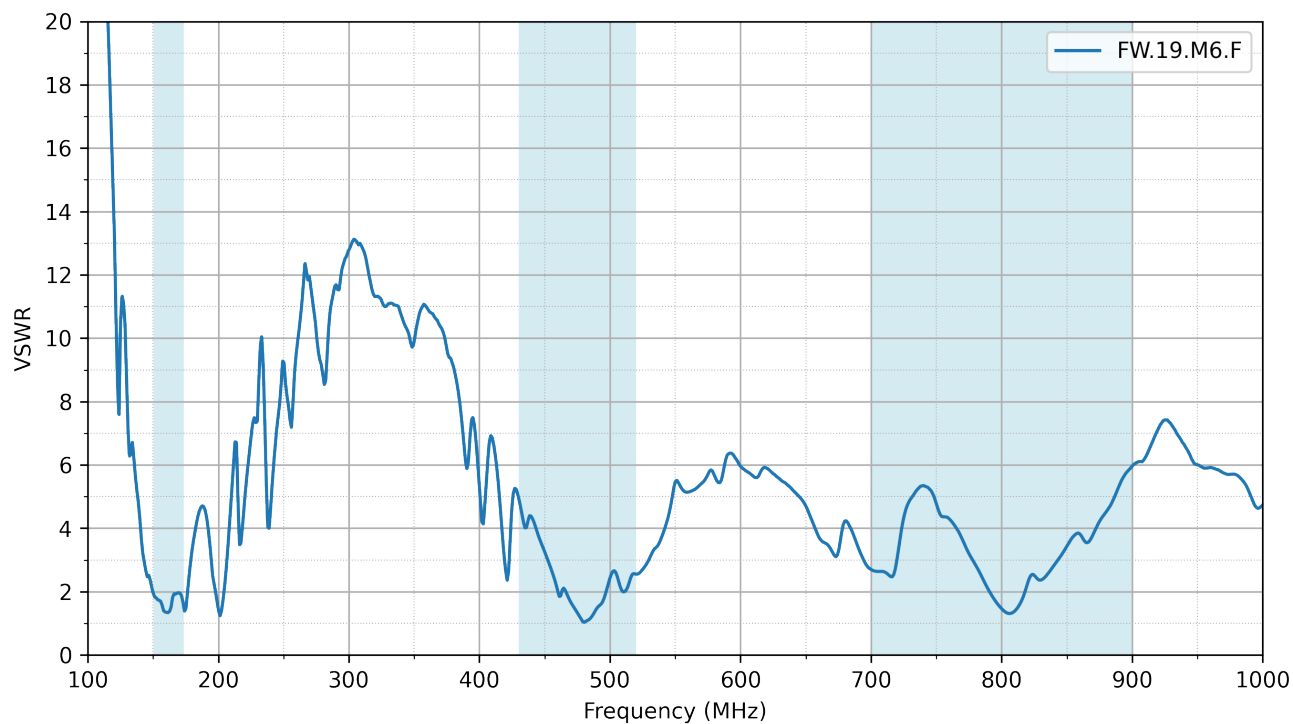
Vector Network Analyzer



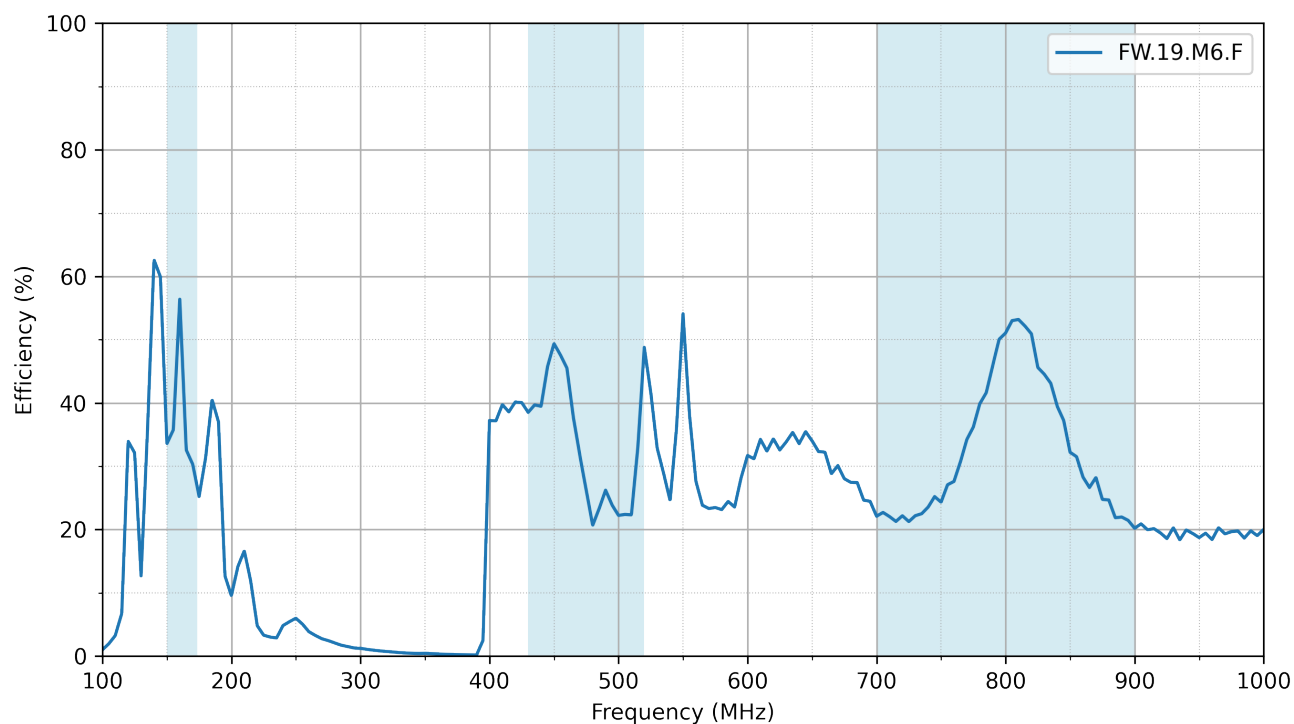
5.2 Return Loss



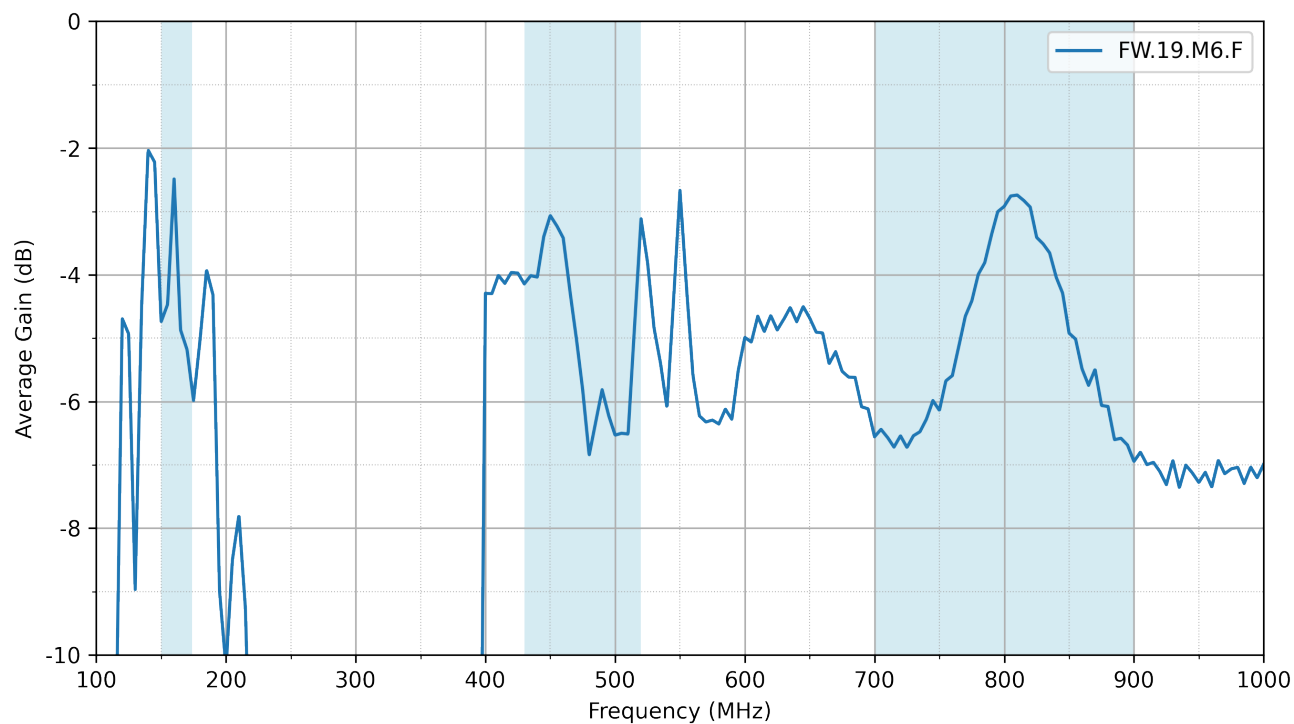
5.3 VSWR



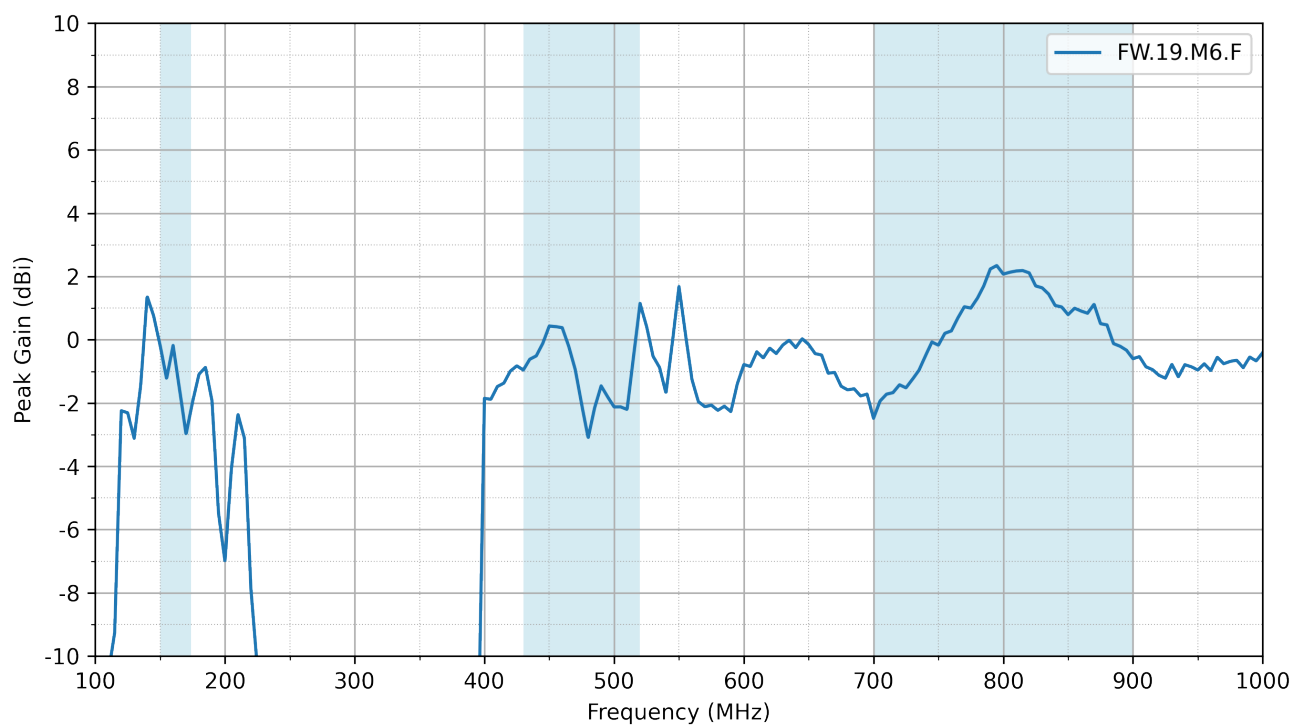
5.4 Efficiency



5.5 Average Gain

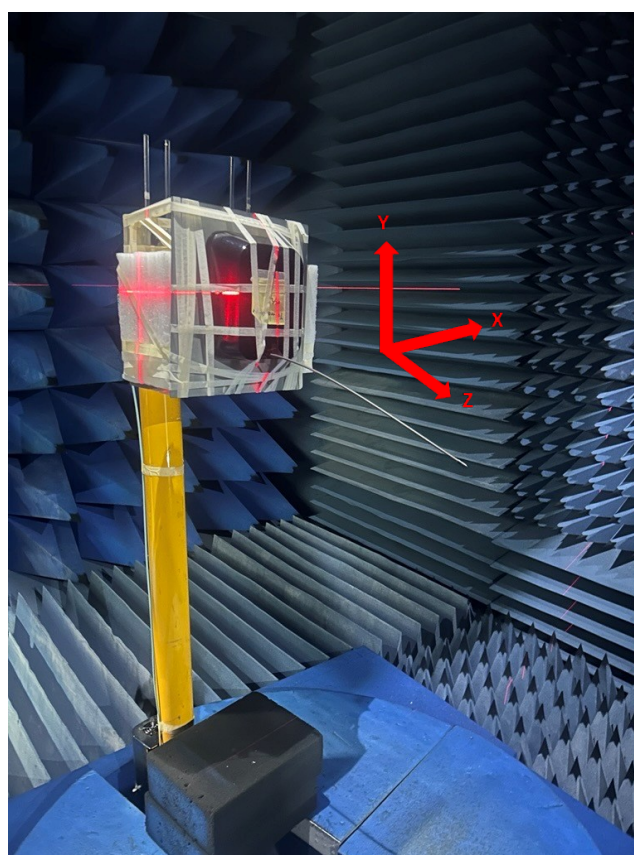
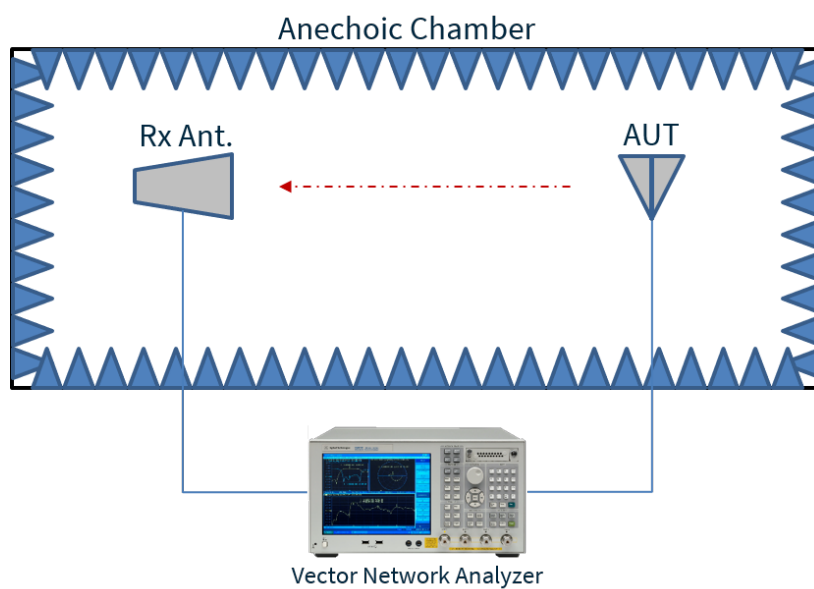


5.6 Peak Gain



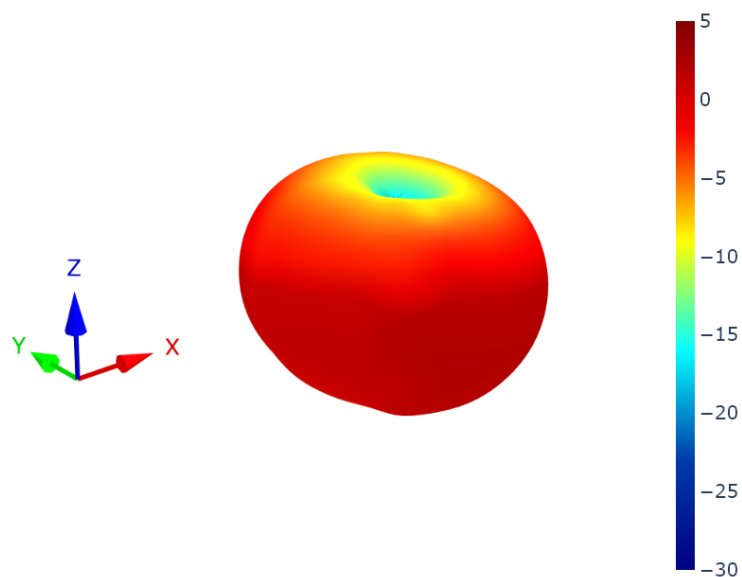
6. Radiation Patterns

6.1 Test Setup

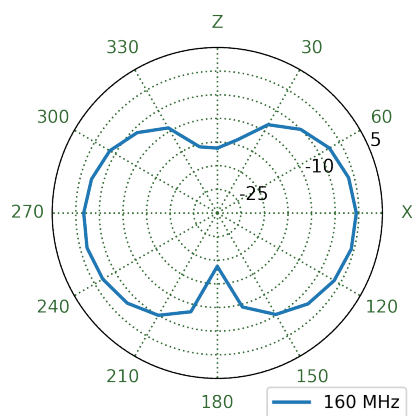


Chamber Test Set-up

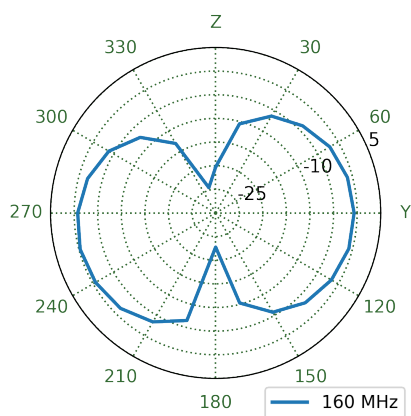
6.2 Patterns at 160 MHz



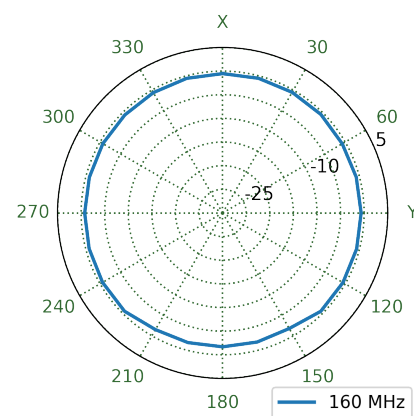
XZ Plane



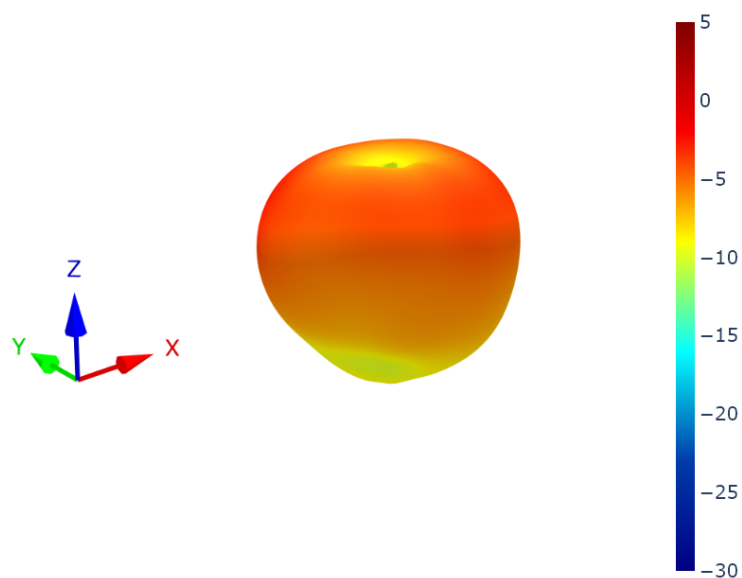
YZ Plane



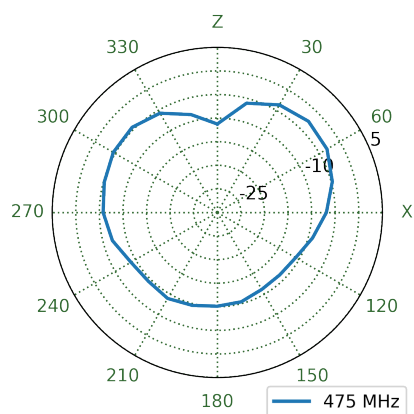
XY Plane



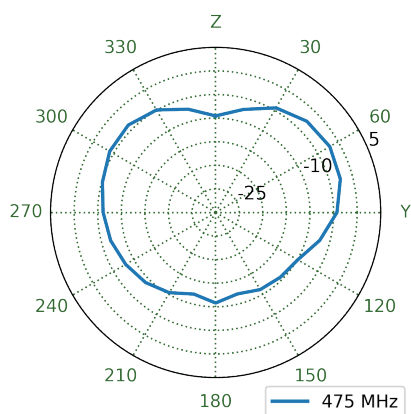
6.3 Patterns at 475 MHz



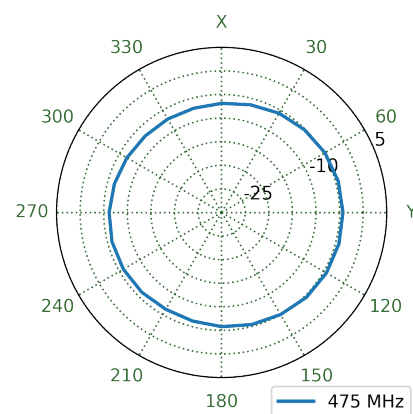
XZ Plane



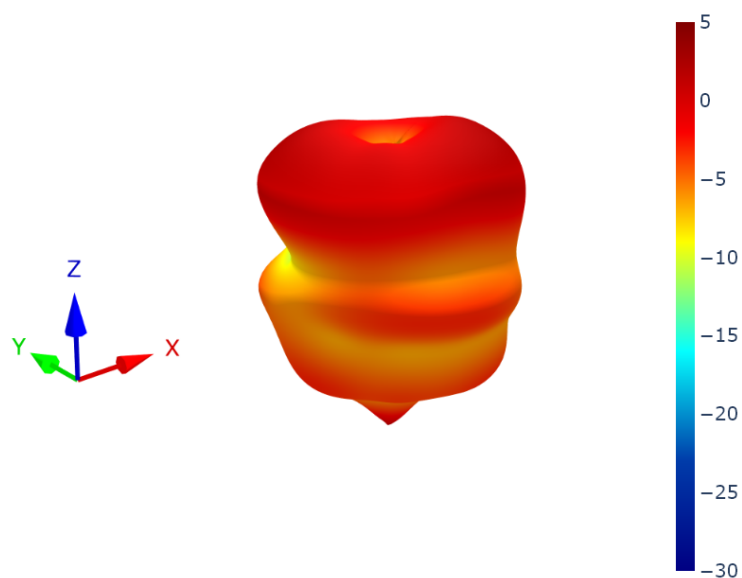
YZ Plane



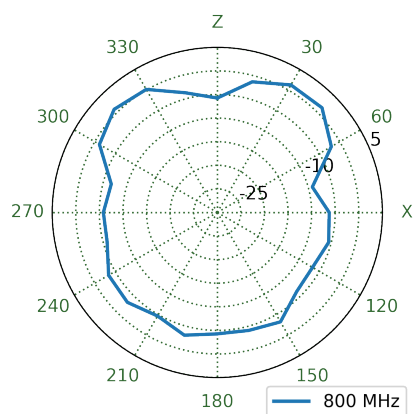
XY Plane



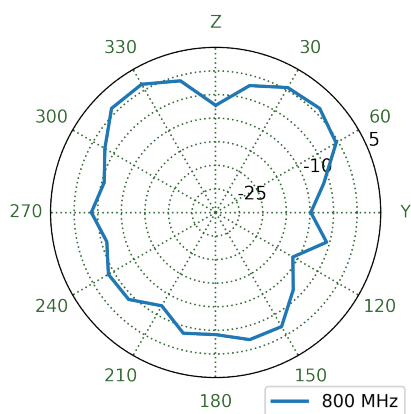
6.4 Patterns at 800 MHz



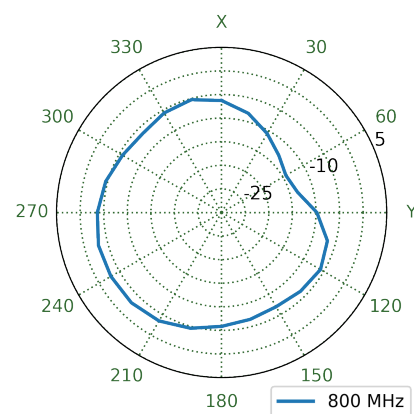
XZ Plane



YZ Plane



XY Plane



Changelog for the datasheet

SPE-25-8-322– FW.19.M6.F

Revision: A (Original First Release)

Date: 2025-11-27

Notes: Initial Release

Author: Gary West

Previous Revisions

X-ON Electronics

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