



TAOGLAS®



Datasheet

Part No:
FG.27.A

Description

2.4GHz 12dBi Panel Antenna 300mm ULA-198 Pigtail with N Type Male Connector

Features:

2.4GHz 12dBi Panel Antenna
Dimensions: 210 x 210 x 74mm
Cable: 300mm of RG-58
Connector: N-Type (Male)
RoHS & Reach Compliant

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1. Introduction



The Taoglas **FG.2x Series** of compact 2.4GHz Panel antennas are specially designed to provide directional wireless communication. 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, faster data rates and more resilient connections. The FG.26 offers a peak gain of up to 7dBi and the FG.27 reaches up to 12dBi, both with great efficiency of over 60%.

Typical Applications Include:

- Point to Point and Point to Multipoint Wireless Networks
- In-building and Backhaul Networks
- Long Range Wi-Fi® Coverage for Smart City Applications
- Wireless Surveillance Systems
- Wi-Fi® Hotspot Expansion, e.g. Factories and Dockyards

The IP65 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 mounting bracket that allows for positional tilt and swivel to optimise the directionality of the antenna. 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

Wi-Fi/BT/ISM Electrical

Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	HPBW (degrees)	FtB Ratio (dB)	SLL (dB)	Impedance	Polarization	Radiation Pattern	Max. input power
Wi-Fi 2.4GHz	2400-2500	63.9	-1.95	11.81	> 30 (H & V)	27 max.	12 max.	50 Ω	Linear	Directional	10W

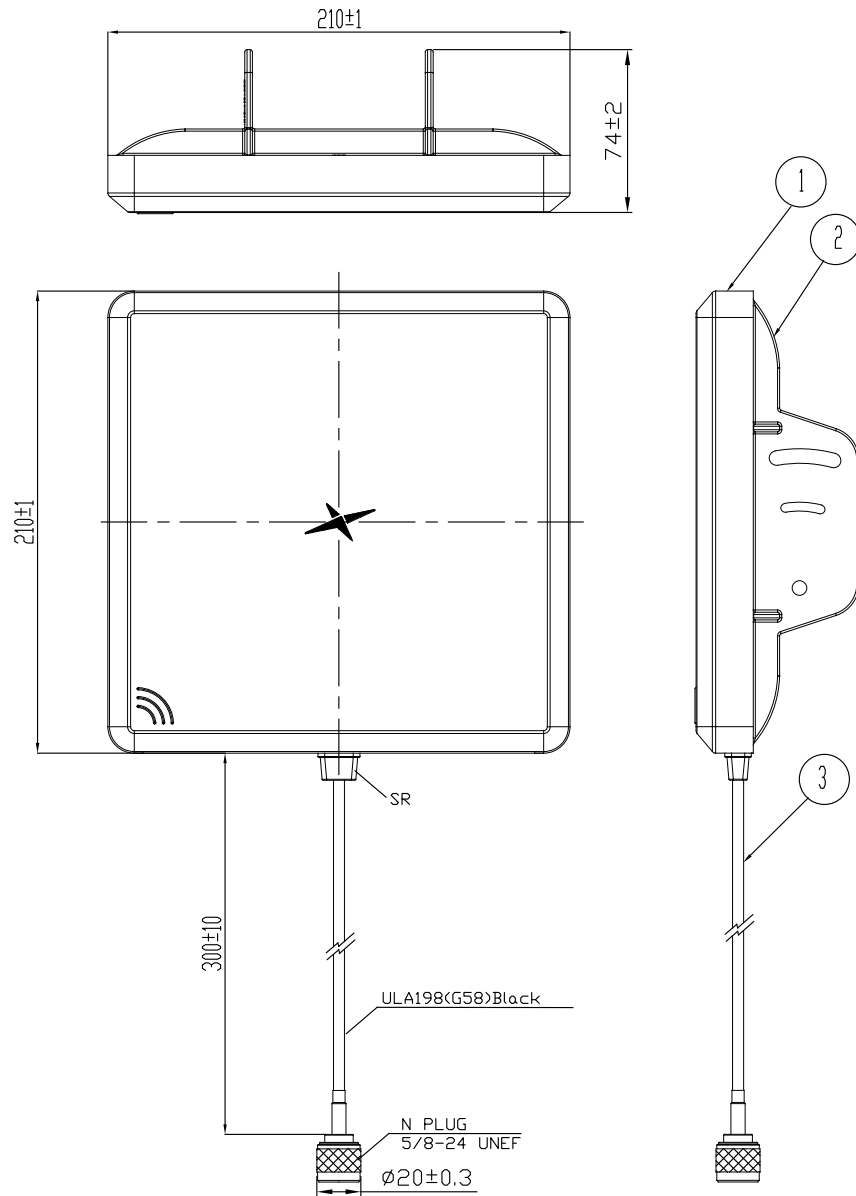
Mechanical

Dimensions	210 x 210 x 74mm
Material	ABS PA-777B+UV
Connector	N Type (M)
Cable	300mm of RG-58

Environmental

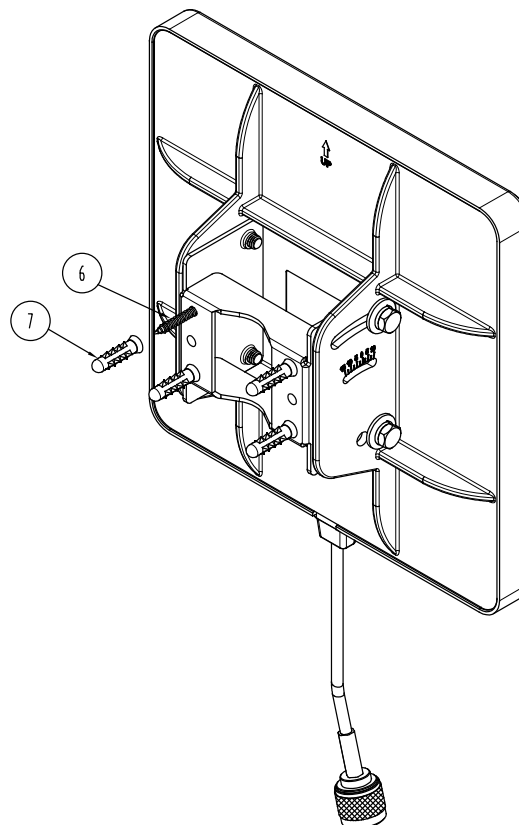
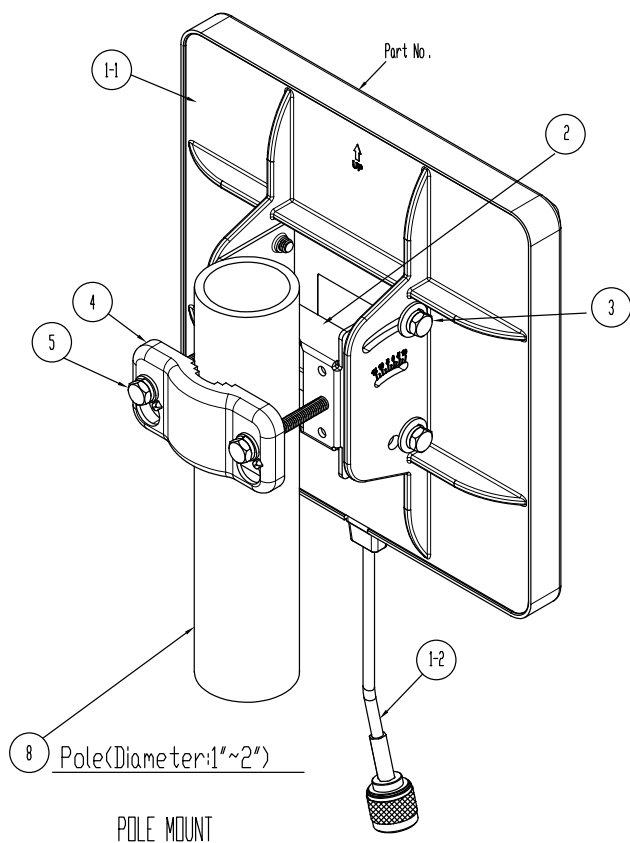
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Waterproof	IP65
Relative Humidity	Non-condensing 65°C 95% RH

3. Mechanical Drawing



③	Cable ASS'Y (Ø) N Plug-SR 300mm	ULA198 (G58)Black Cable	1
②	Rear Cover	ABS PA-777B+UV	1
①	Front Cover	ABS PA-777B+UV	1
ITEM	DESCRIPTION	MATERIAL	QTY

4. Installation Guide



5		M6- $\phi 10 \times 60$ mm(screw) M6- $\phi 12.2 \times 1.5$ mm(s/w) M6- $\phi 12.5 \times 1.5$ mm(w)	2set
4		83.6x42x15.5mm	1pc
3		M6- $\phi 10 \times 16$ mm(screw) M6- $\phi 12.2 \times 1.5$ mm(s/w) M6- $\phi 16 \times 1.5$ mm(w)	4set
2		76.6x76x46mm	1pc
7		$\phi 8 \times 25$ mm	4pcs
6		TH5/32"-16 $\times 3/4$ " ($\phi 9 \times 19$ mm)	4pcs
ITEM	Graphics	Size(LxWxH)	Q'TY

7	Anchor	PP	4
6	TH5/32"-16 $\times 3/4$ "TP-A screw	SUS302	4
	M6 W(12.5mm)	SUS304	2
5	M6 S/W	SUS304	2
	XH M6-1.0 $\times 60$ mm screw	SUS302HQ	2
4	Lock frame	SUS430	1
	M6 W(16mm)	SUS304	4
3	M6 S/W	SUS304	4
	XH M6-1.0 $\times 16$ mm screw	SUS302HQ	4
2	M-Shape mounting	SUS430	1
1-2	Antenna Body-Cable Assy(N Plug)	ULAI9806580/Black	1
1-1	Antenna Body-Rear Cover	ABS PA-777H/IV	1
1	Antenna Body-Front Cover	ABS PA-777H/IV	1
ITEM	DESCRIPTION	MATERIAL	Q'TY

5. Packaging

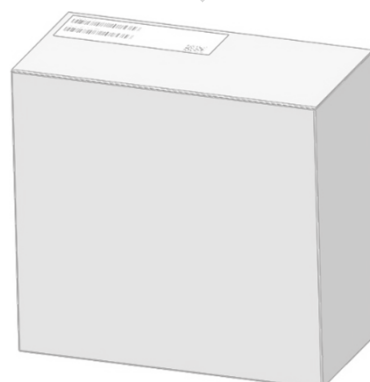
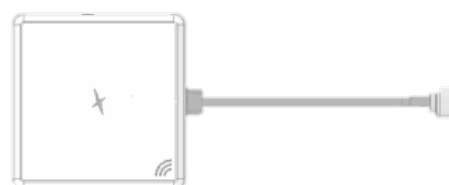
1 Pcs per PE bag



1 pcs per zipper bag



1pcs per box
Box dimensions: 250 x 90 x 30mm
Weight: 1.1Kg



10pcs per carton
Carton dimensions: 520 x 475 x 265mm
Weight: 12.54Kg



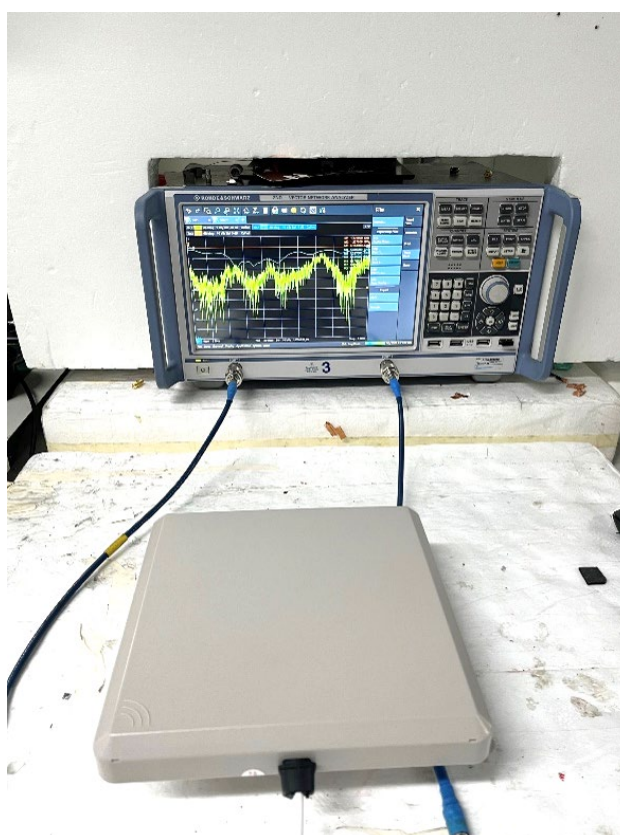
6. Antenna Characteristics

6.1 Test Setup

AUT

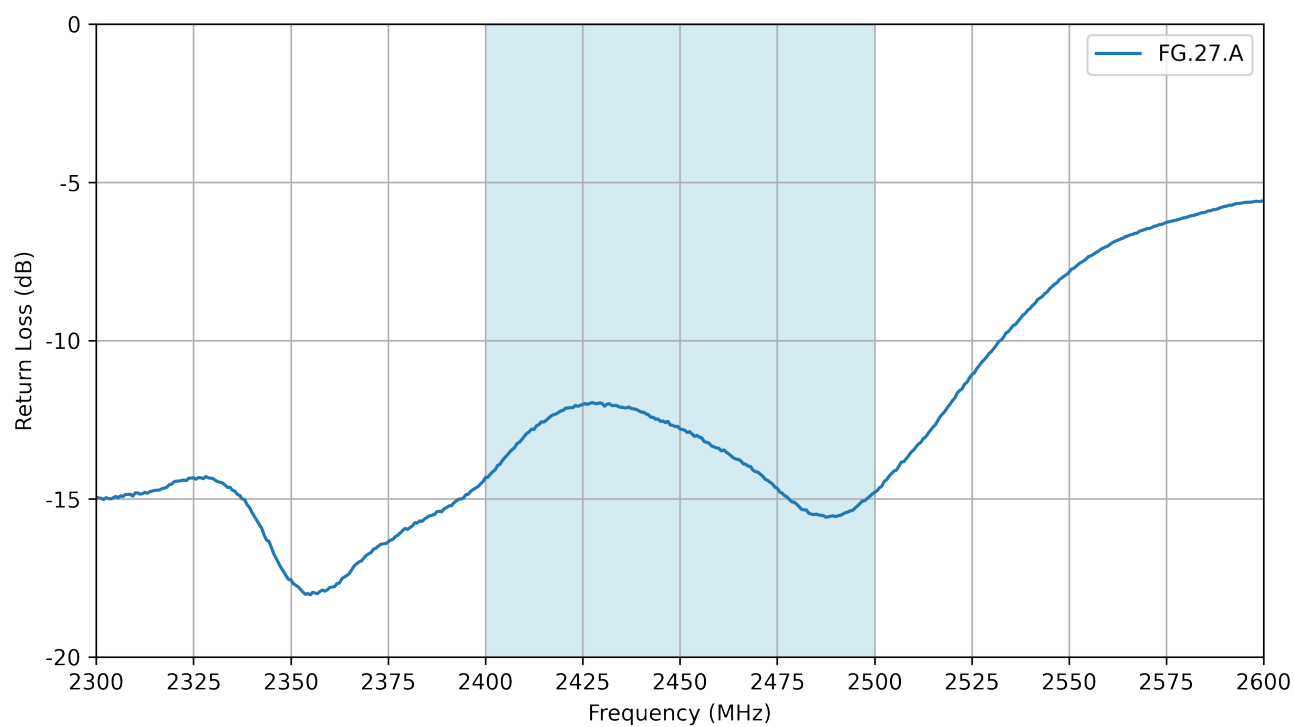


Vector Network Analyzer

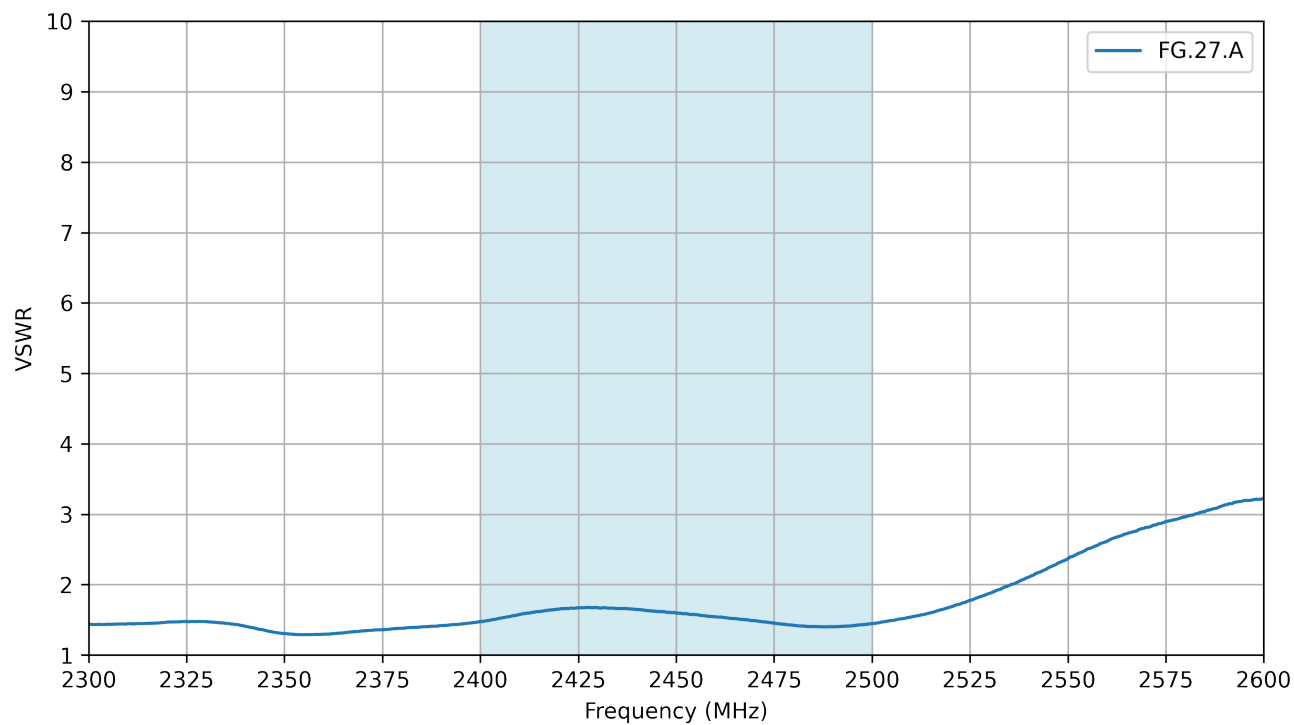


VNA Setup

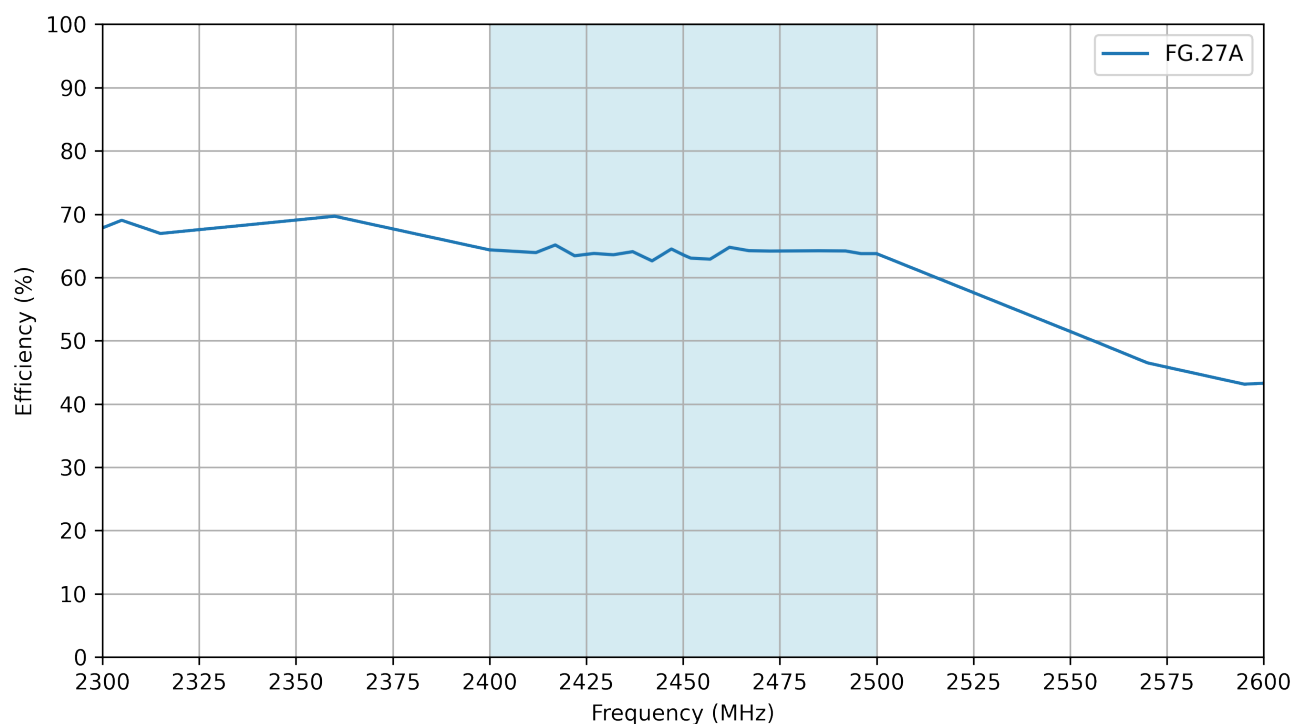
6.2 Return Loss



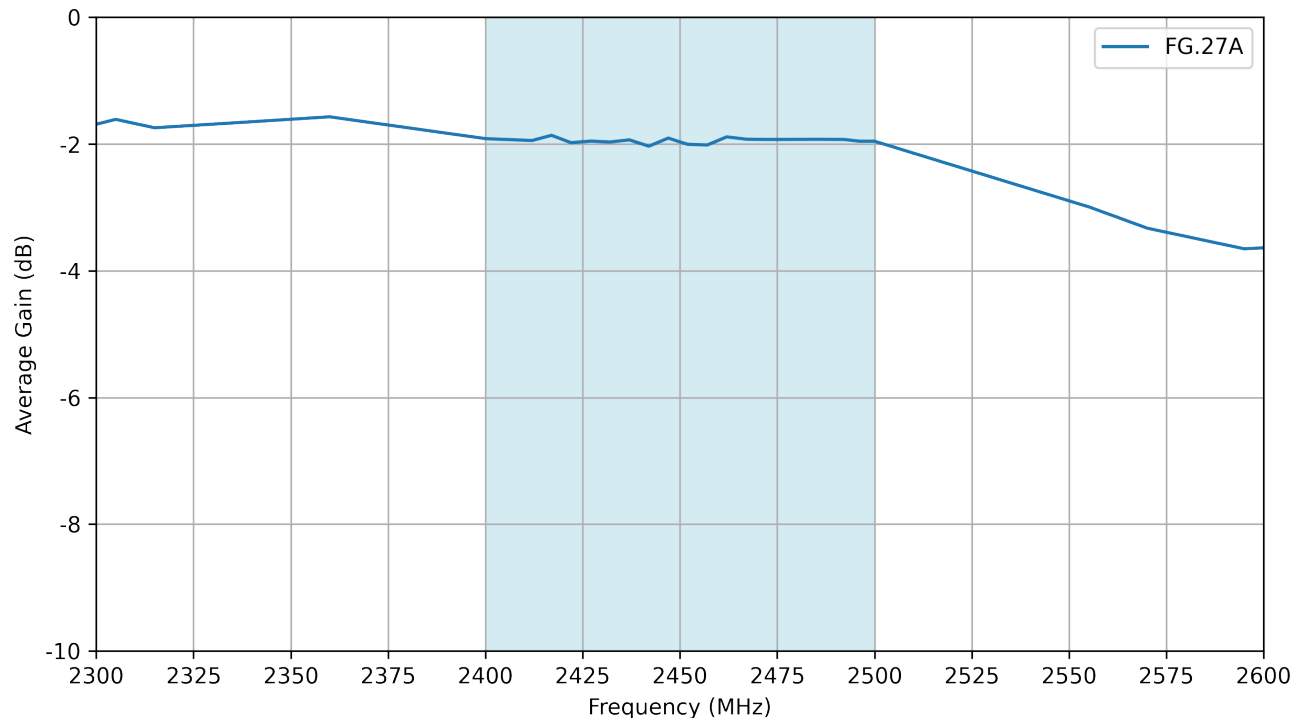
6.3 VSWR



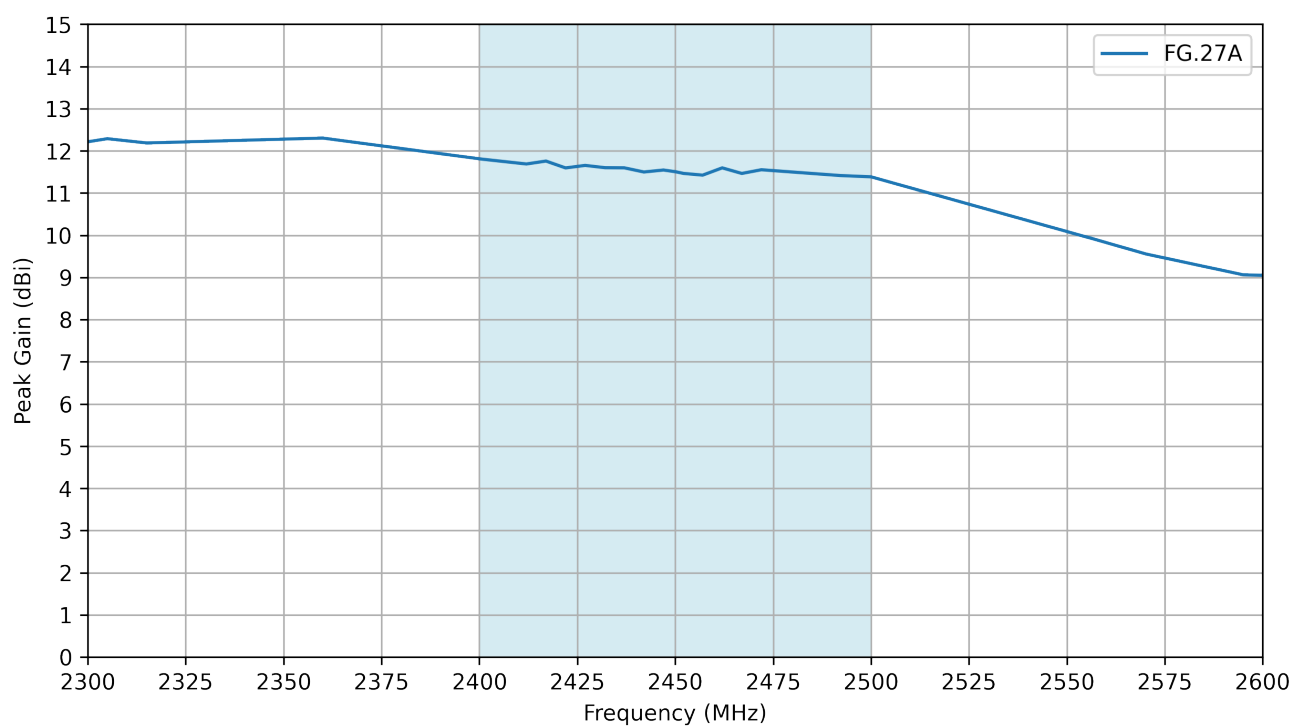
6.4 Efficiency



6.5 Average Gain

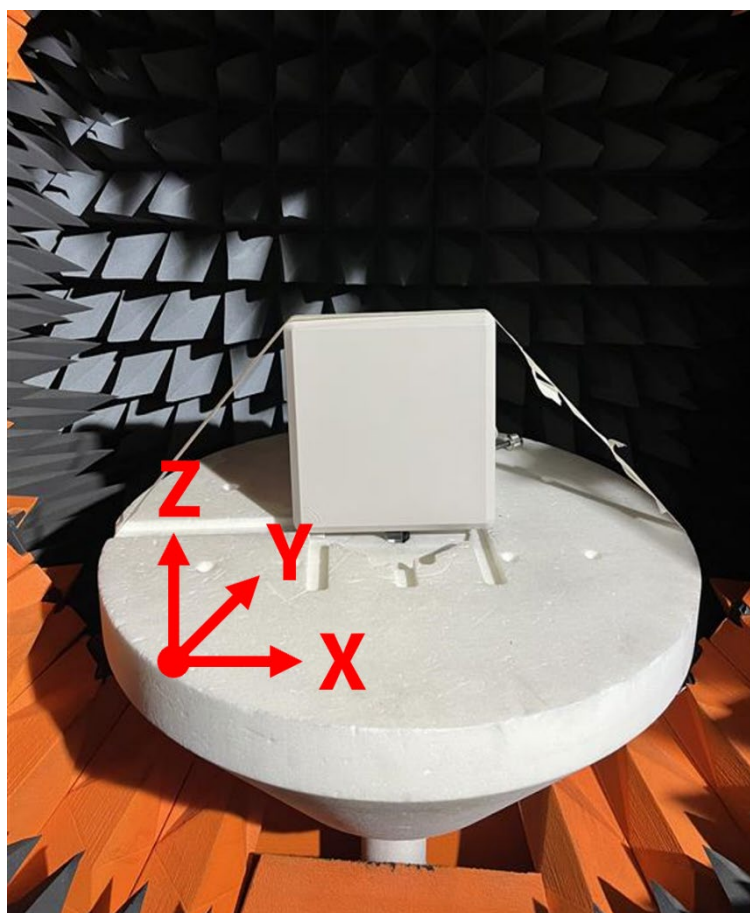
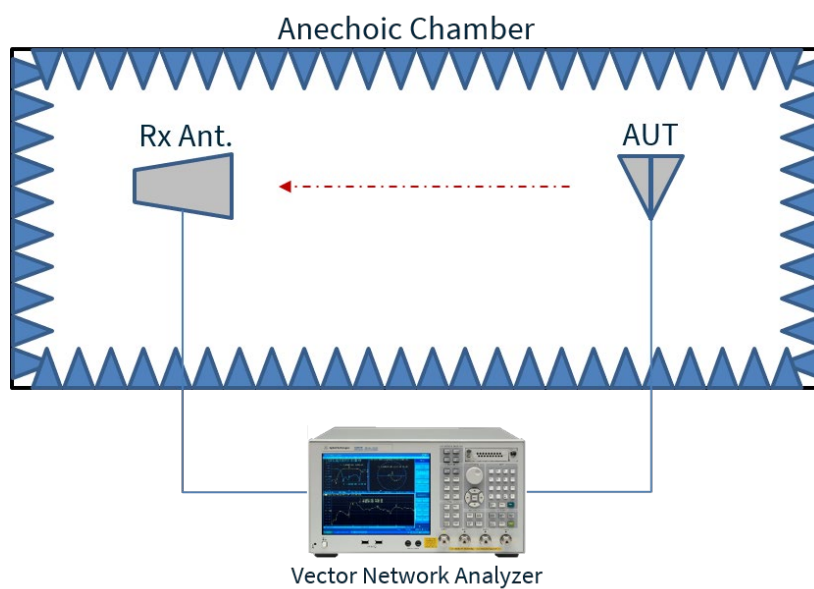


6.6 Peak Gain



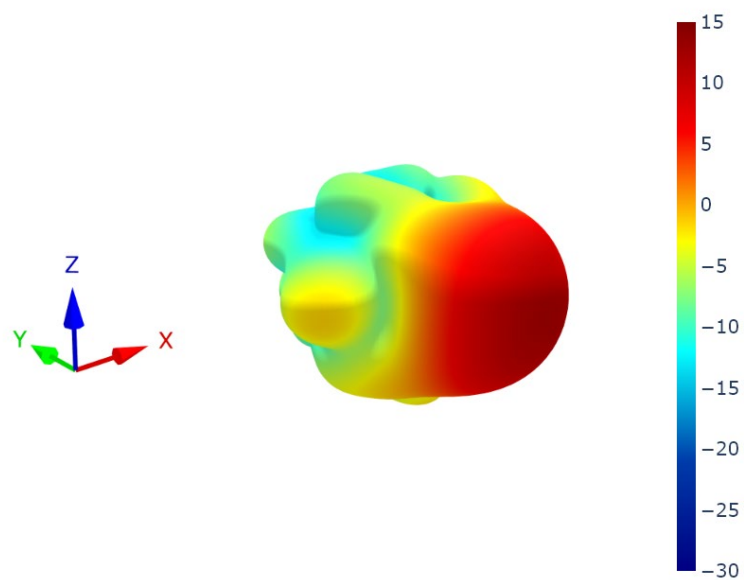
7. Radiation Patterns

7.1 Test Setup

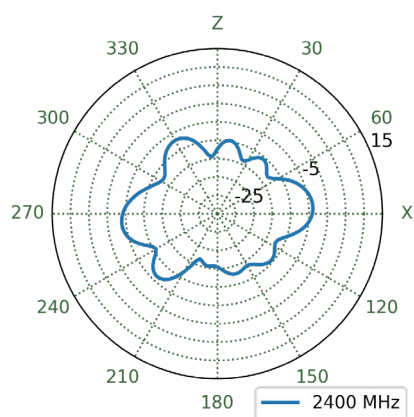


Chamber Setup

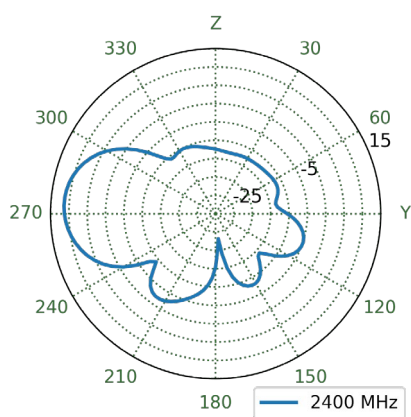
7.2 Patterns at 2400 MHz



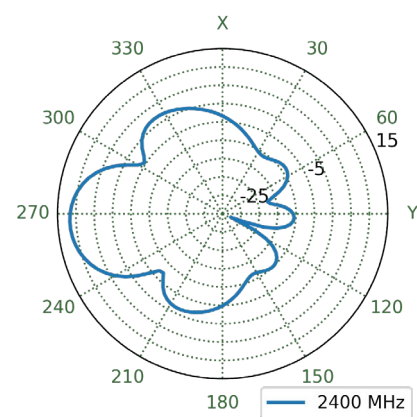
XZ Plane



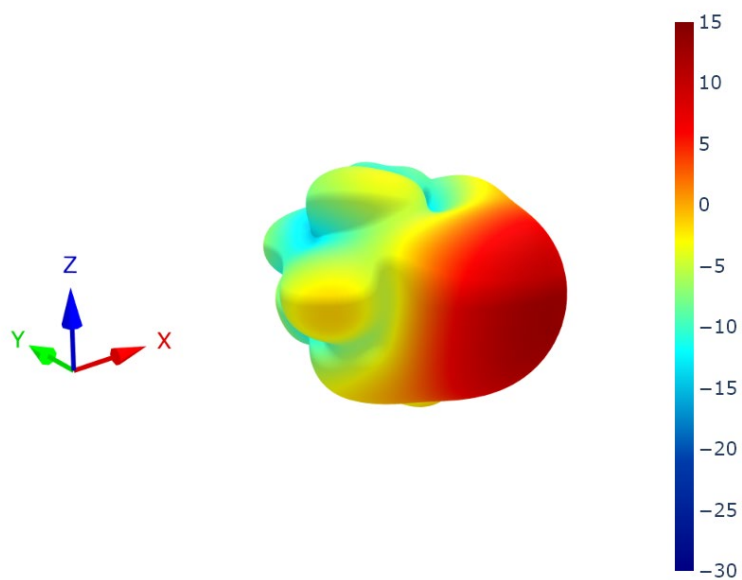
YZ Plane



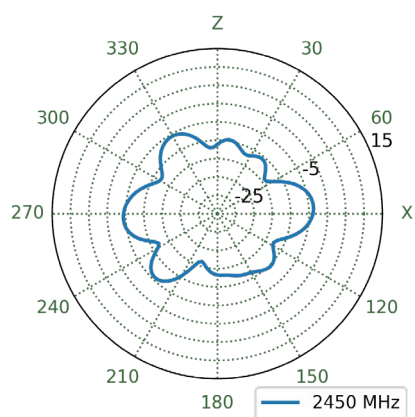
XY Plane



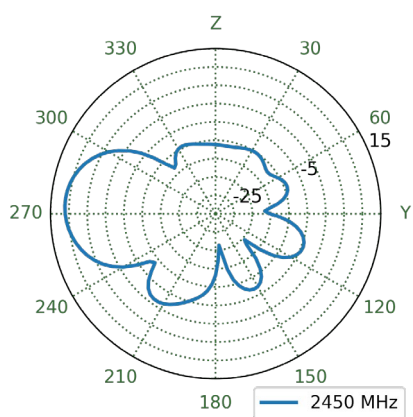
7.3 Patterns at 2450 MHz



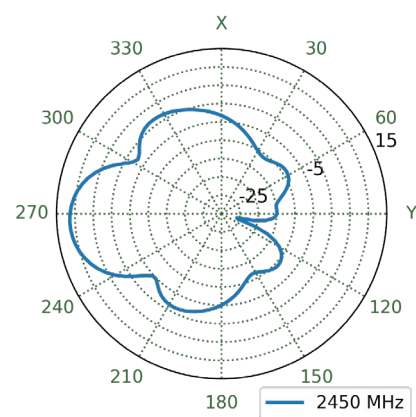
XZ Plane



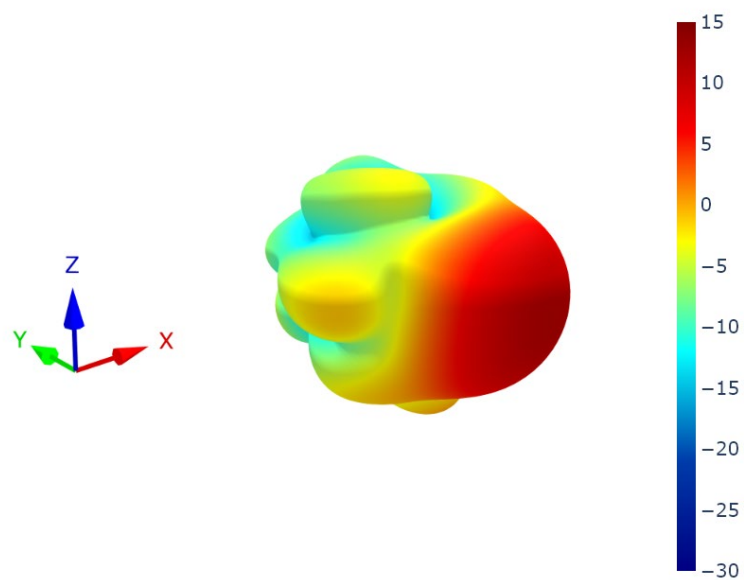
YZ Plane



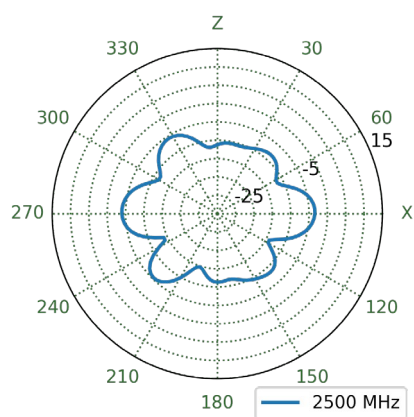
XY Plane



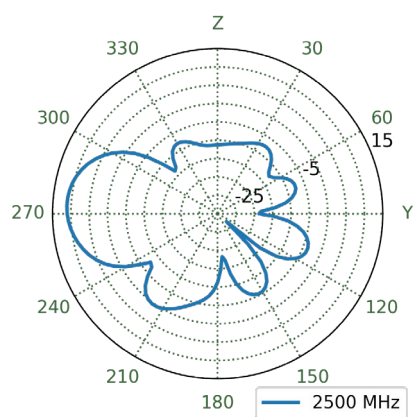
7.4 Patterns at 2500 MHz



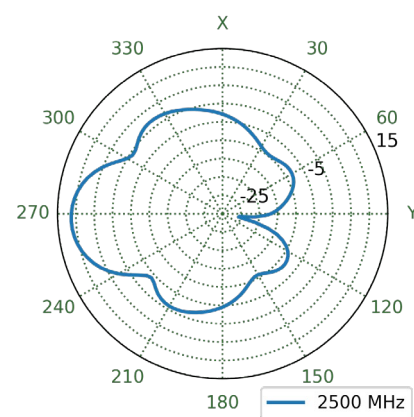
XZ Plane



YZ Plane



XY Plane



Changelog for the datasheet

SPE-24-8-241 – FG.27.A

Revision: A (Initial Release)

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

Previous Revisions



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