



TAOGLAS®



Datasheet

Venti

Part No:
FXP522.A.07.A.001

Description

Venti Flex PCB Wi-Fi® MIMO 2.4/5.8/7.1GHz Antenna with 2 ports with Wi-Fi® 6 frequency bands included

Features:

- Flex PCB MIMO Antenna
- Covers Extended Wi-Fi® Frequencies of 2.4-2.5GHz, 5-7.125GHz
- Adhesive Tape for ease of installation
- Dimensions: 80.0 x 20.0 x 0.2mm
- Cables: 100mm of Ø1.13mm
- Connectors: I-PEX MHF® I (U.FL Compatible)
- RoHS & Reach Compliant

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ISO 9001:2015
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1. Introduction



The **FXP522** Venti is a MIMO flexible embedded monopole antenna designed for internal use in high-speed devices operating on modern Wi-Fi® networks, including Wi-Fi® 6 and extended Wi-Fi® bands.

The antenna features an omni-directional design and an ultra-thin flexible form factor, making it well suited for space-constrained plastic enclosures such as routers, gateways, and set-top boxes. It is tuned for use on PC and ABS housings.

Typical Applications:

- High-speed HD video streaming
- High-capacity mass-transit communication systems

Manufactured on a flexible polymer substrate, the FXP522 supports easy integration using peel-and-stick 3M adhesive mounting. It is supplied with cabled IPEX MHF (U.FL) connectors, with custom cable lengths and connector options available. Taoglas can also support testing and integration to ensure regulatory compliance within the final device.

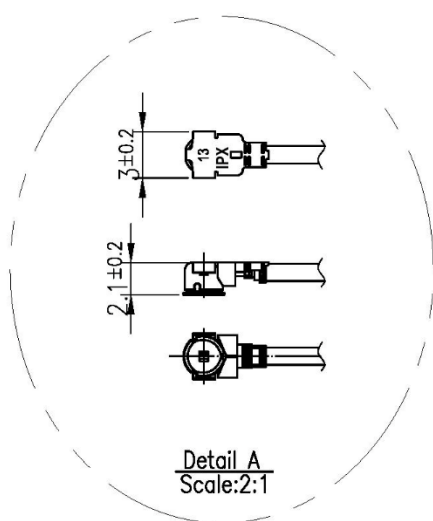
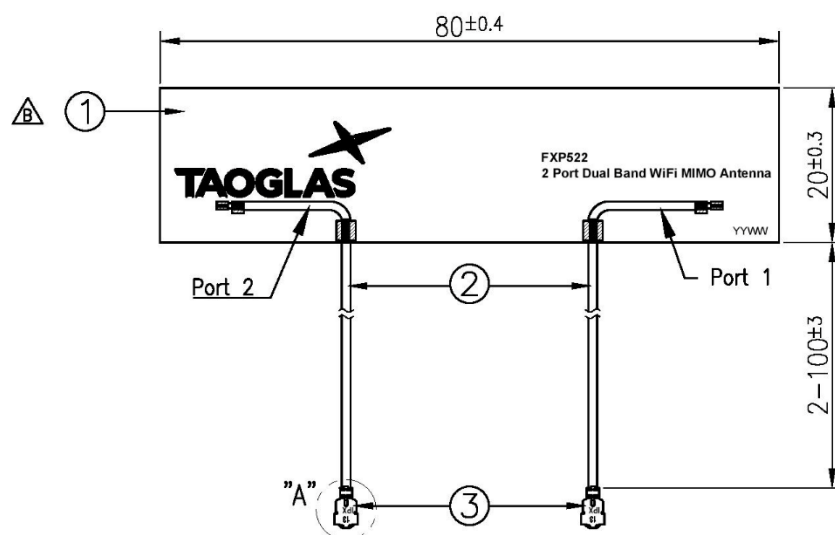
2. Specification

Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
Wi-Fi - 2GHz	2400-2500	Left	52.5	-2.80	3.92	50 Ω	Linear	Omni directional	10W
		Right	55.7	-2.54	2.81				
Wi-Fi - 5GHz	5150-5850	Left	61.1	-2.14	5.01				
		Right	60.6	-2.17	4.23				
Wi-Fi - 6GHz	5925-7125	Left	46.8	-3.30	7.21				
		Right	48.1	-3.18	5.16				

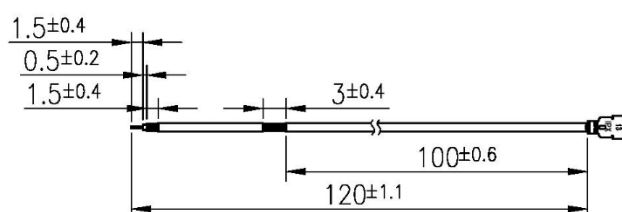
Mechanical	
Dimensions	80.0 x 20.0 x 0.1mm
Antenna Body Material	Polymer
Cable	2* Black 1.13mm Coaxial Cable
Cable Length	100mm
Connector	IPEX MHF I
Weight	8g

Environmental	
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



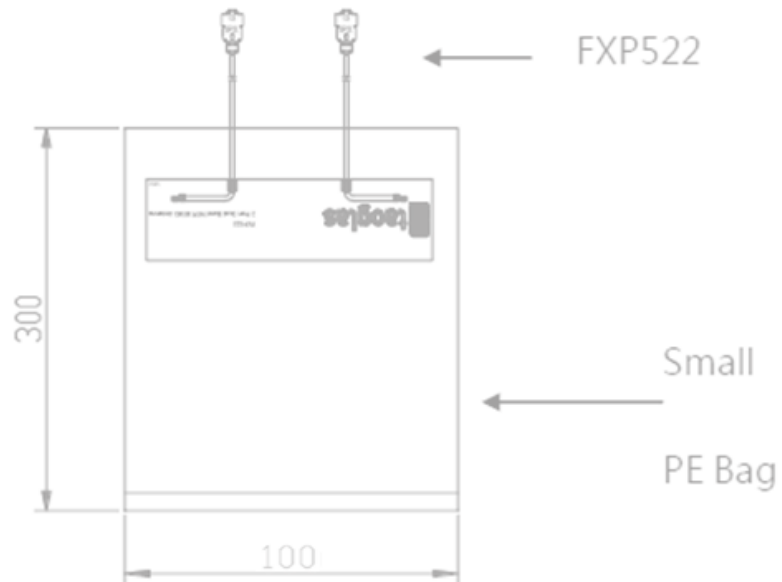
Port 1&2



	Name	Material	Finish	QTY
1	FXP522 FPCB	Polymer 0.24t	Black	1
2	1.13 Coaxial Cable	FEP	Black	2
3	IPEX.MHF1	Brass	Au Plated	2

4. Packaging

10 pcs per small PE Bag

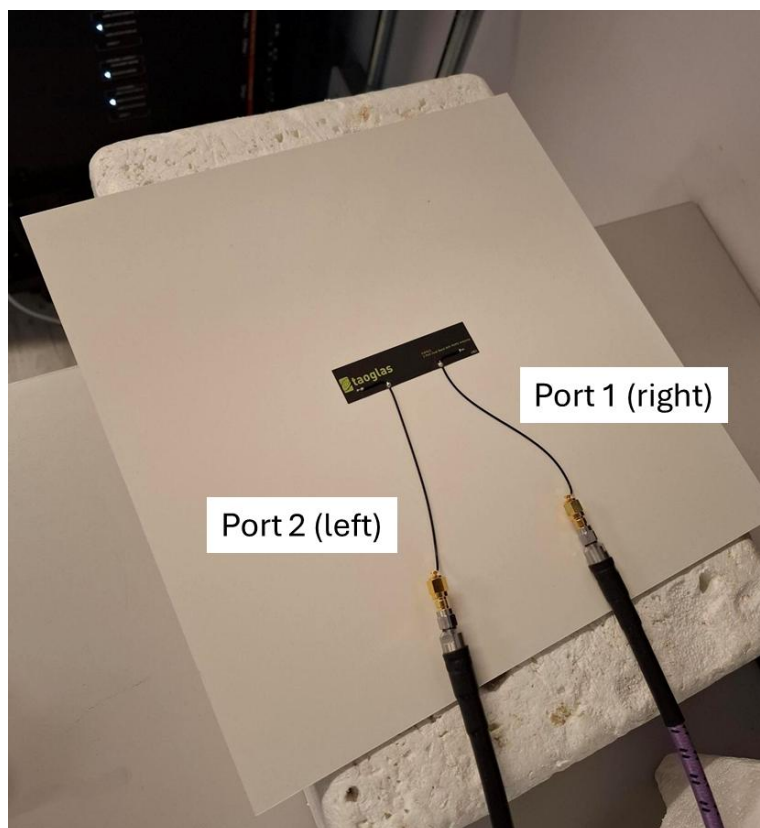


5. Antenna Characteristics

5.1 Test Setup

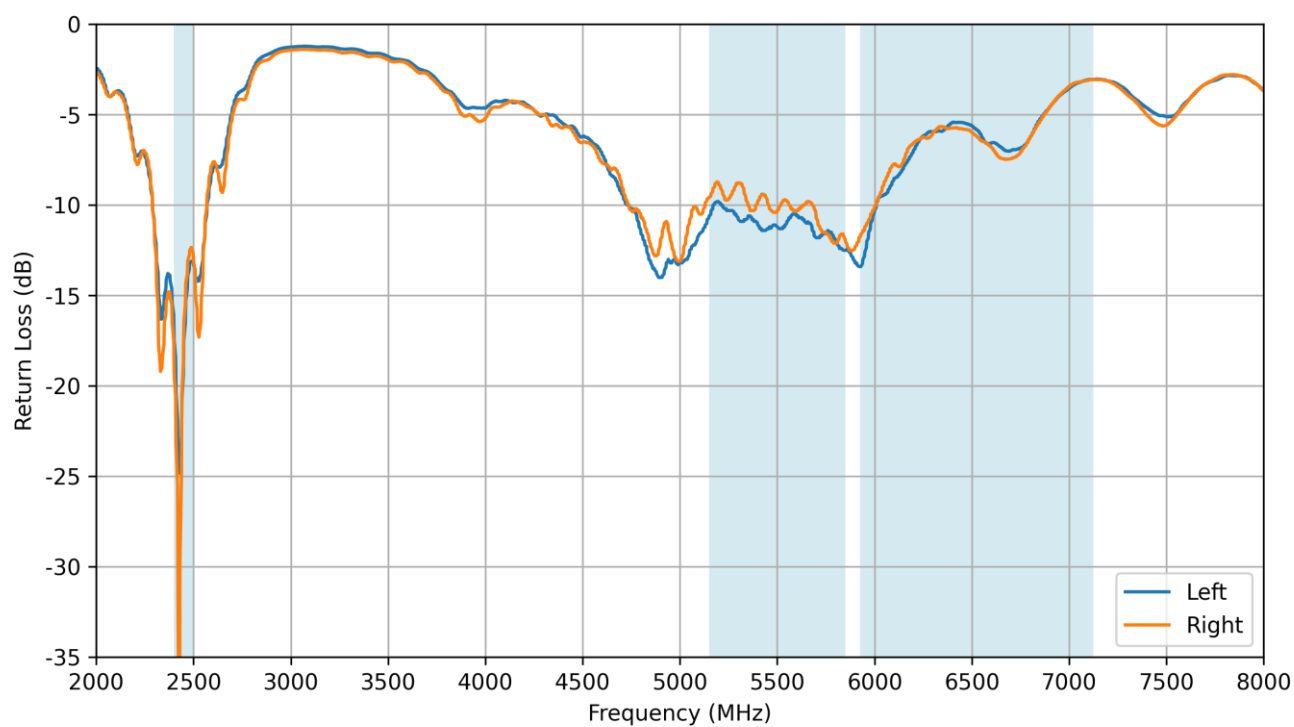


Vector Network Analyzer

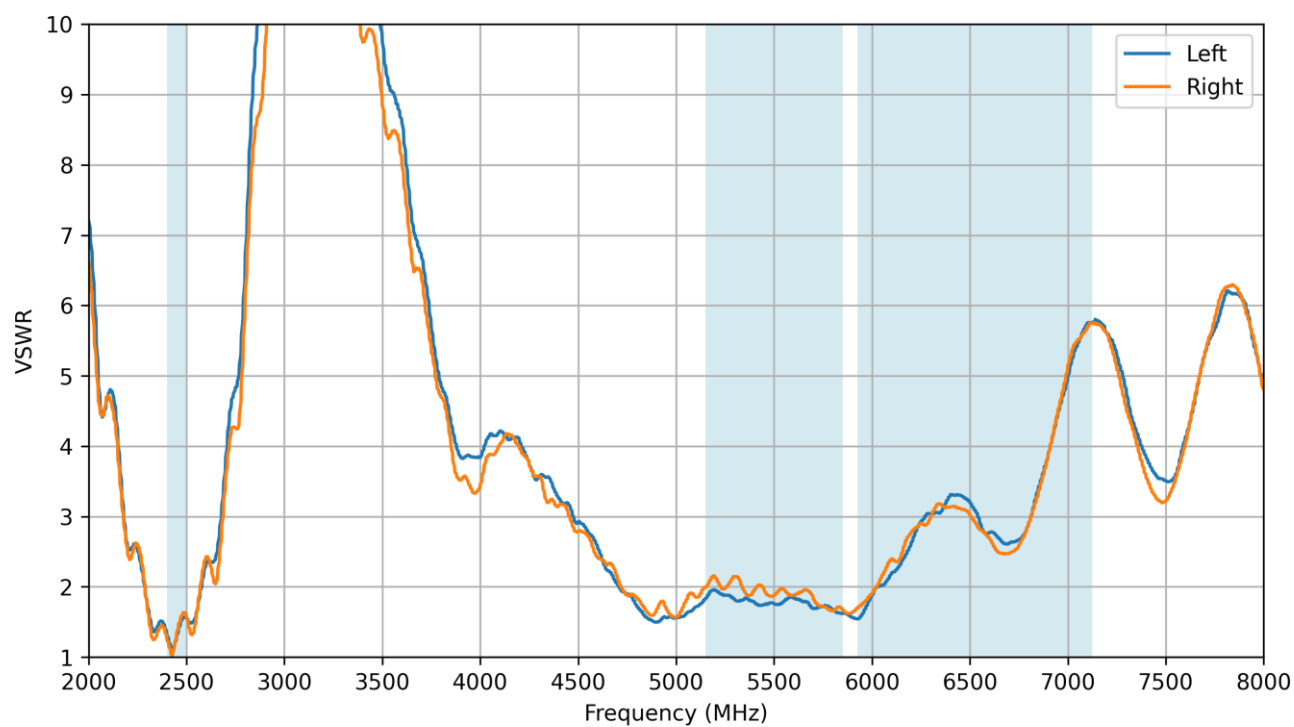


VNA Test Set-up on 2mm ABS

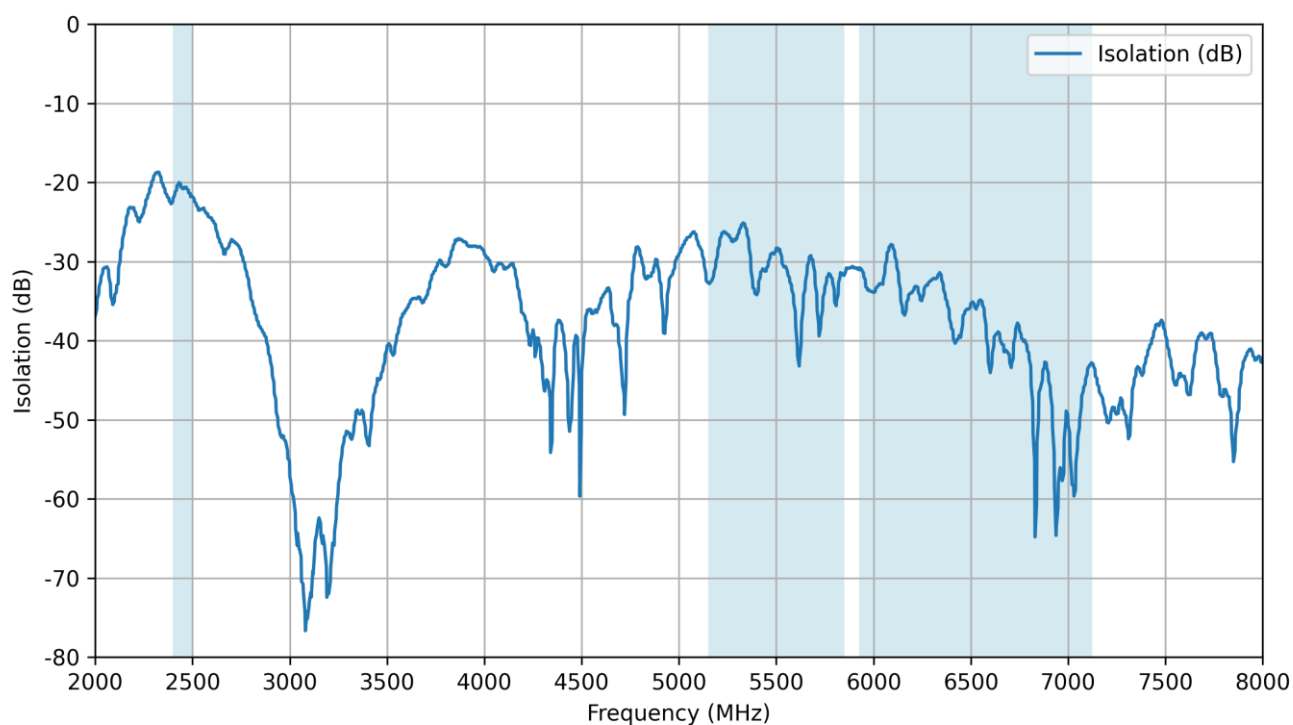
5.2 Return Loss



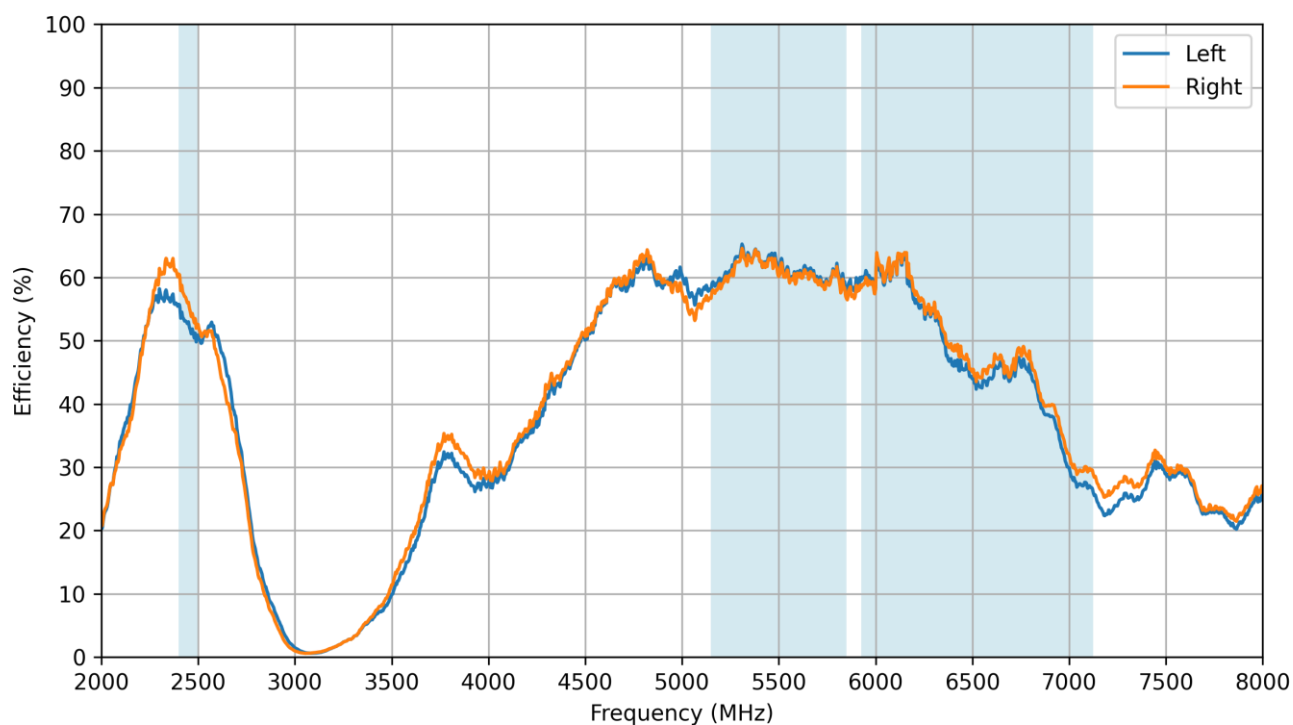
5.3 VSWR



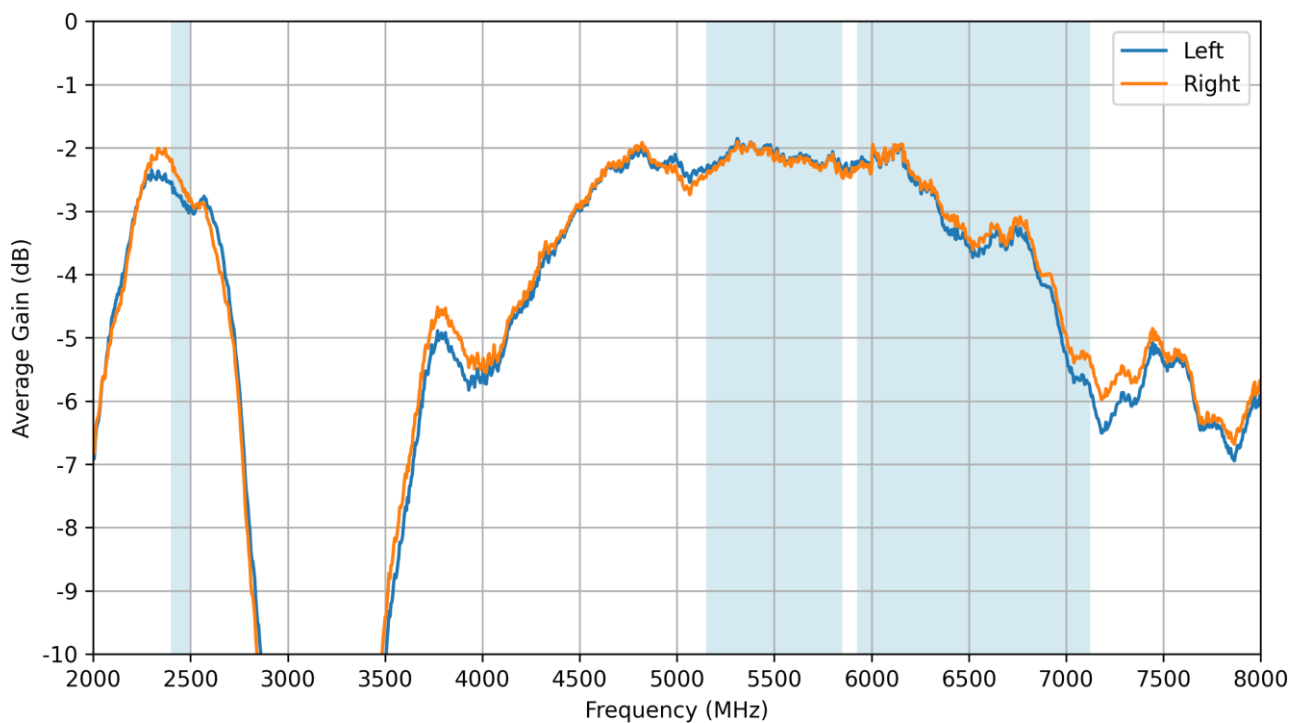
5.4 Isolation



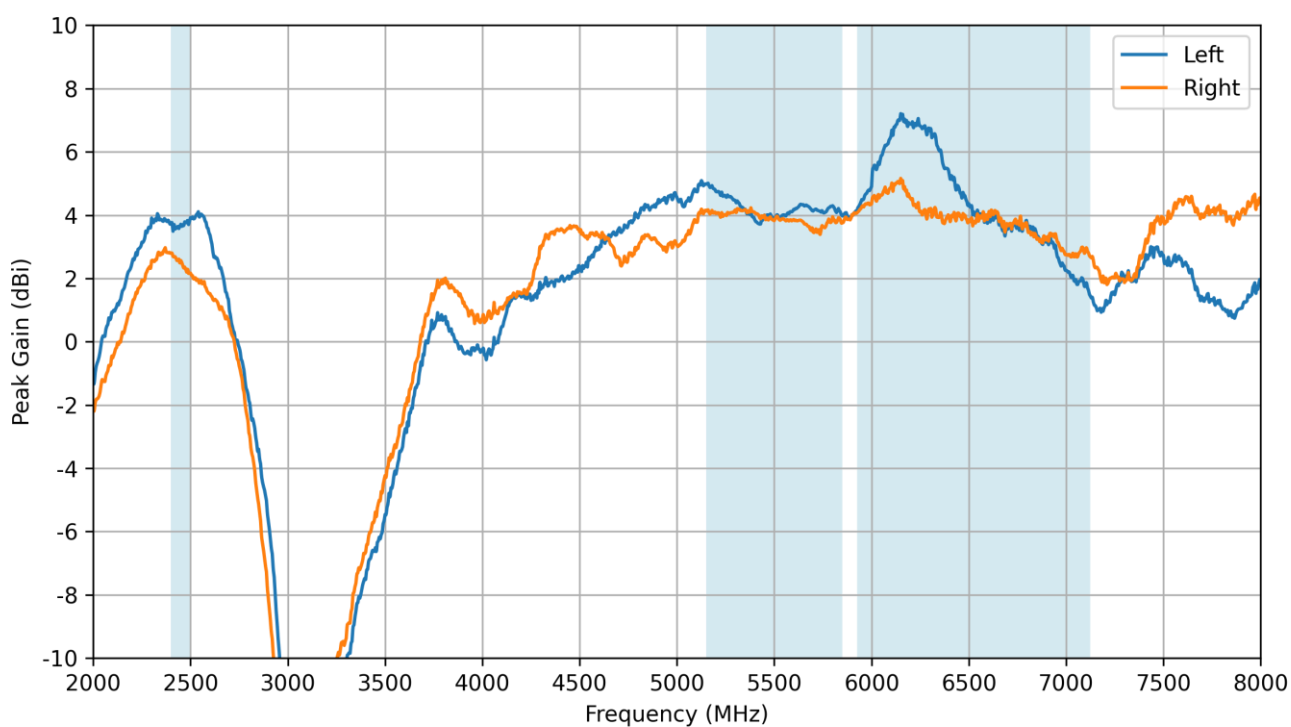
5.5 Efficiency



5.6 Average Gain

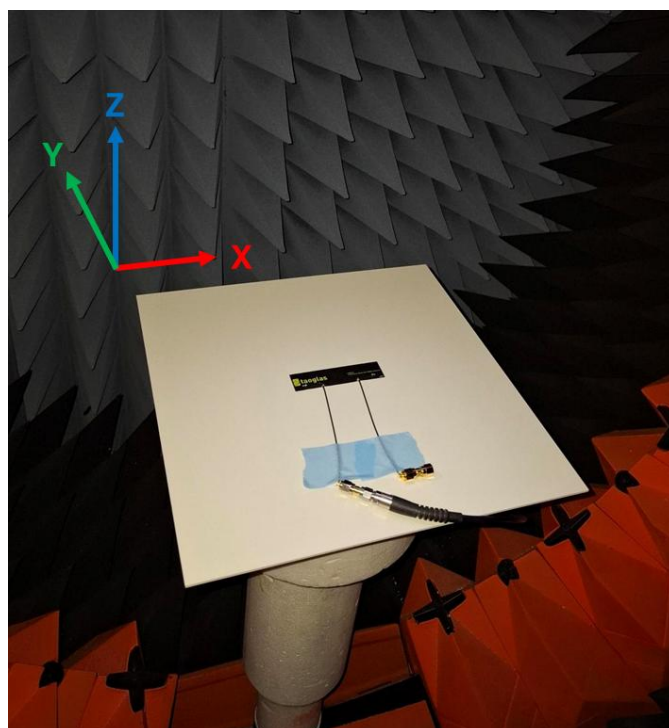
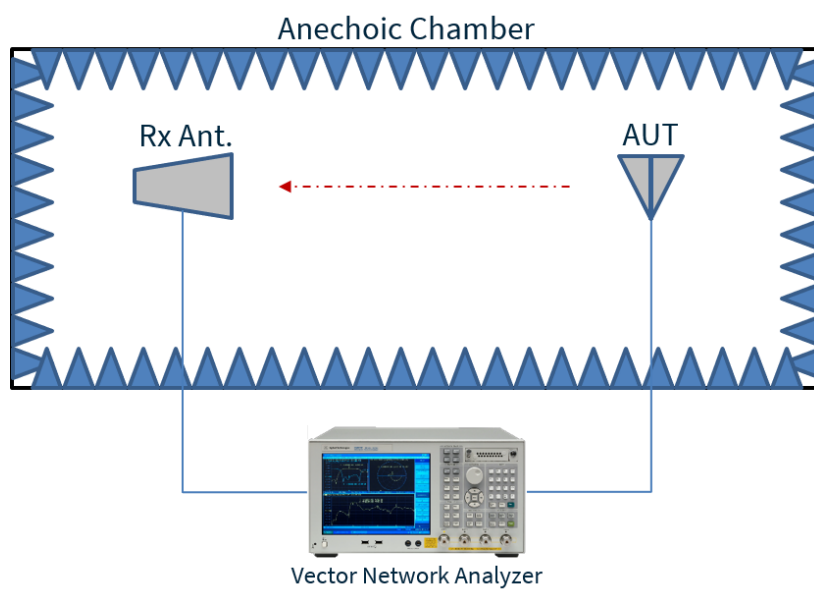


5.7 Peak Gain



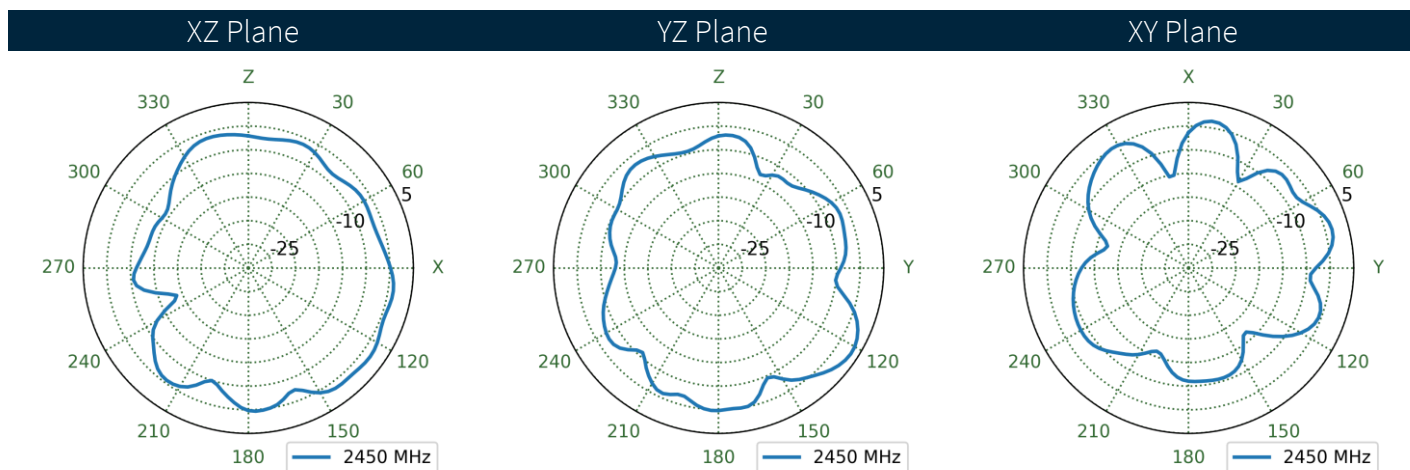
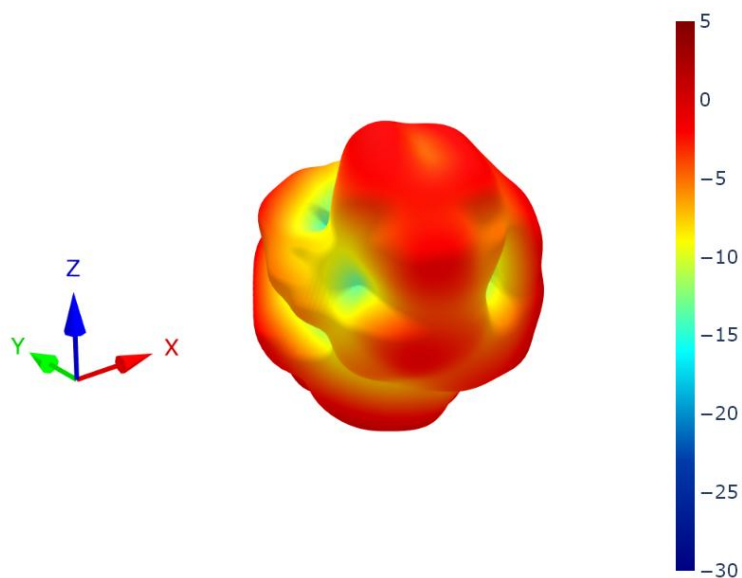
6. Radiation Patterns

6.1 Test Setup

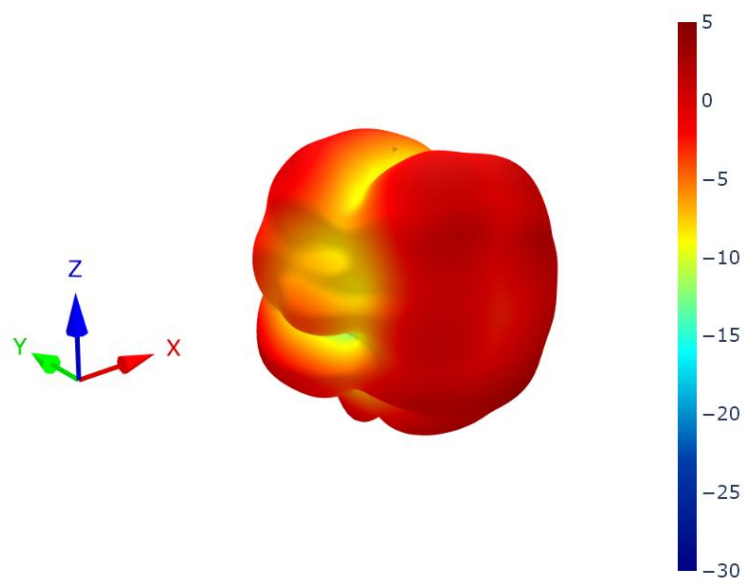


Chamber Test Set-up on 2mm ABS

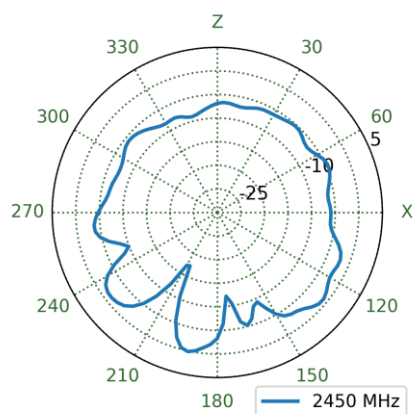
6.2 Left Patterns at 2450 MHz



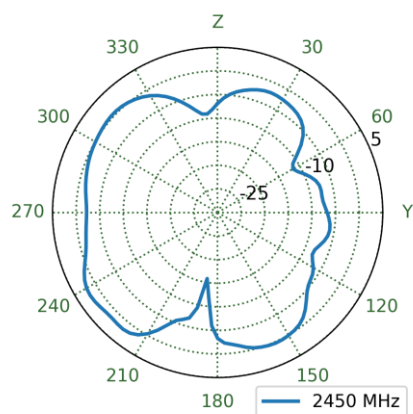
6.3 Right Patterns at 2450 MHz



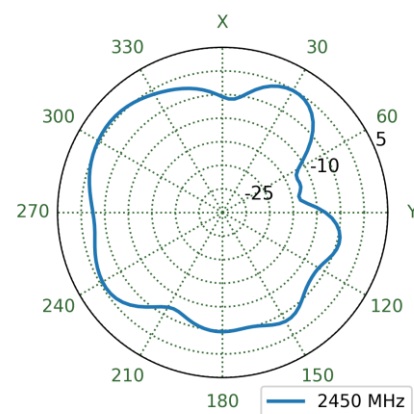
XZ Plane



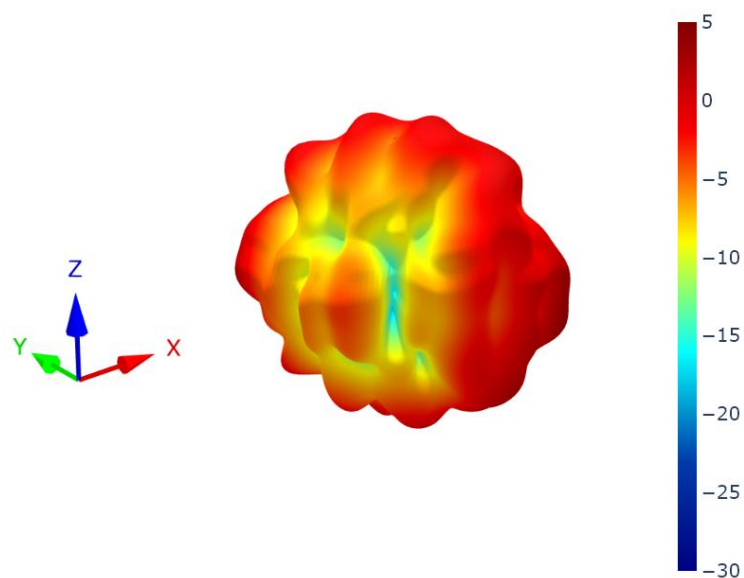
YZ Plane



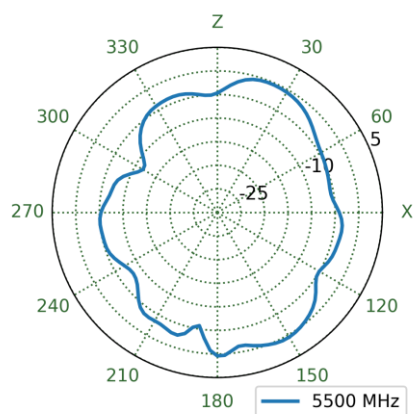
XY Plane



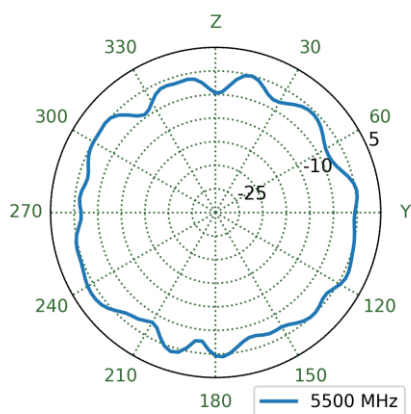
6.4 Left Patterns at 5500 MHz



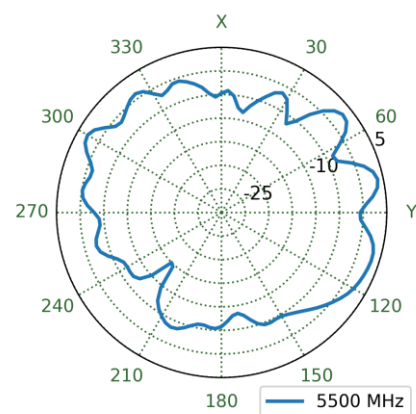
XZ Plane



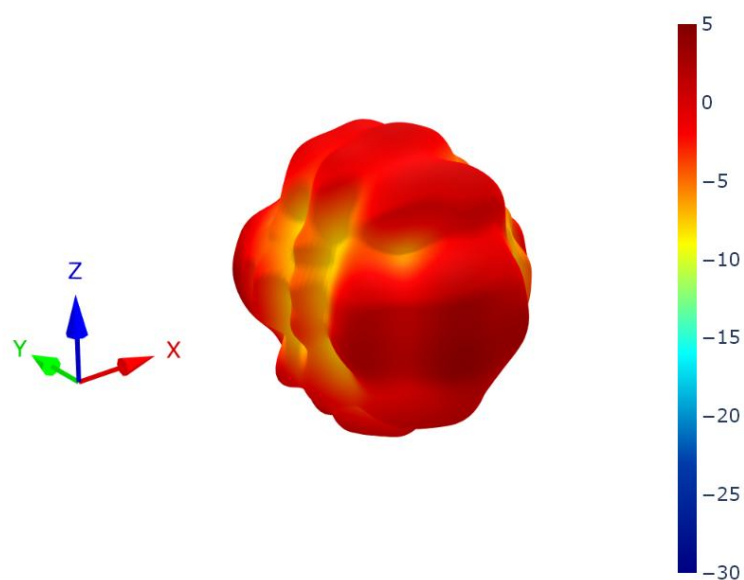
YZ Plane



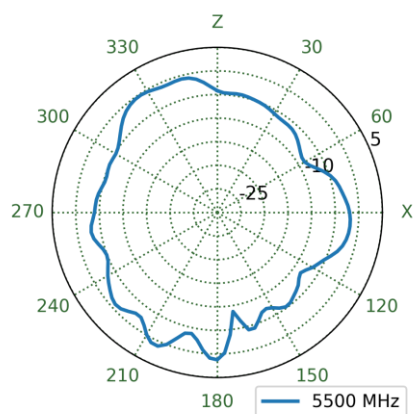
XY Plane



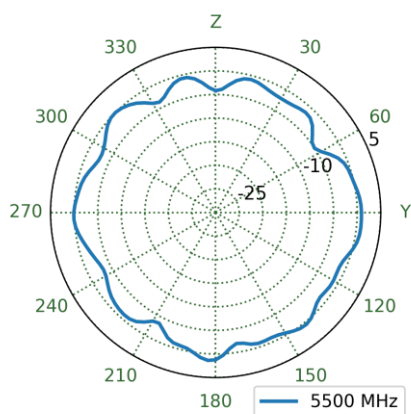
6.5 Right Patterns at 5500 MHz



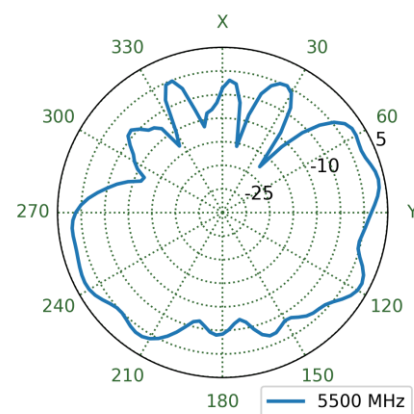
XZ Plane



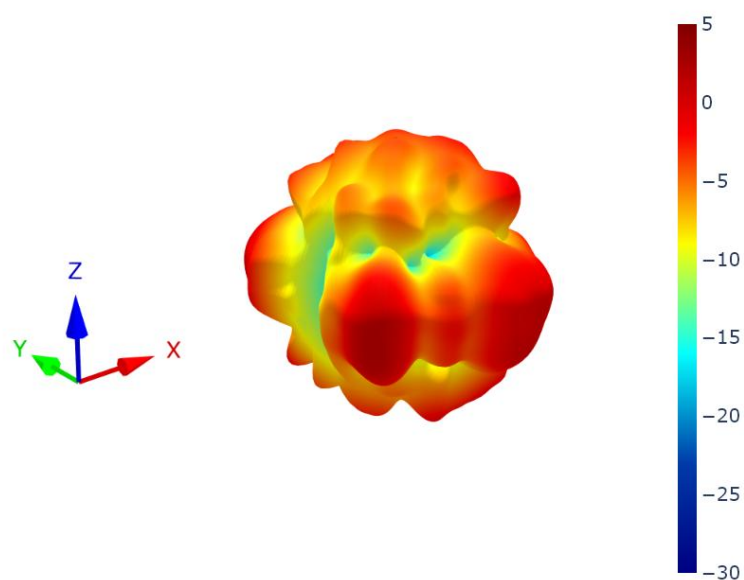
YZ Plane



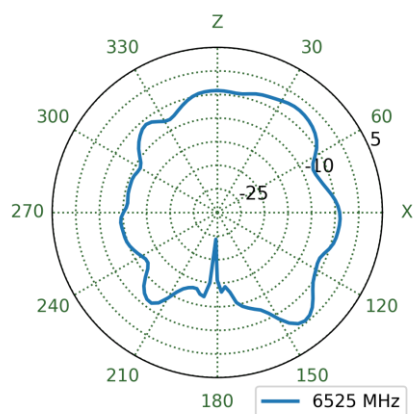
XY Plane



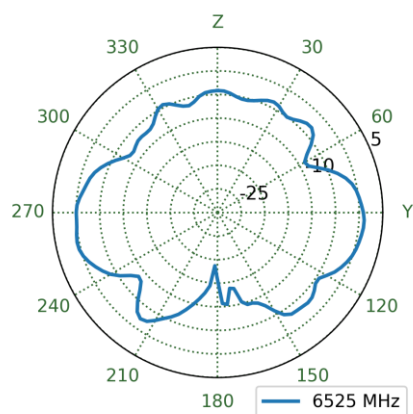
6.6 Left Patterns at 6525 MHz



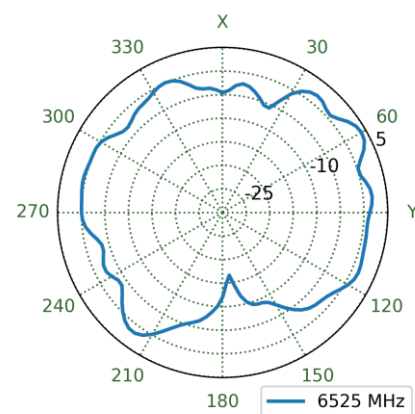
XZ Plane



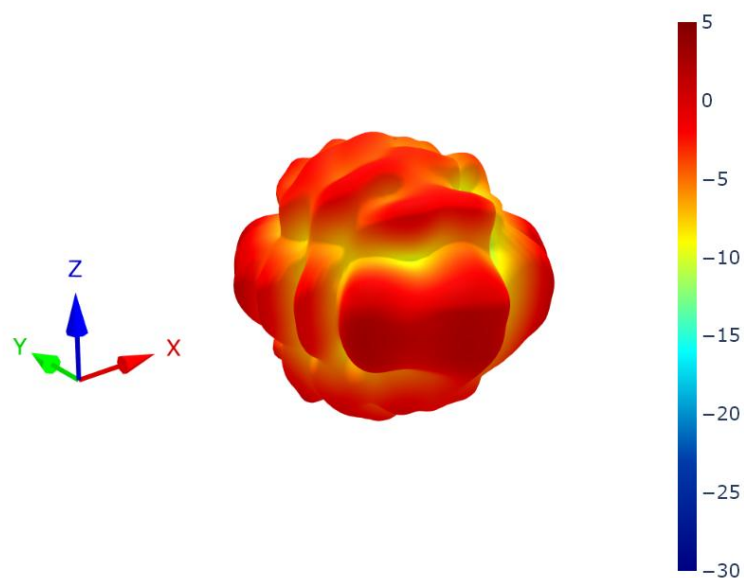
YZ Plane



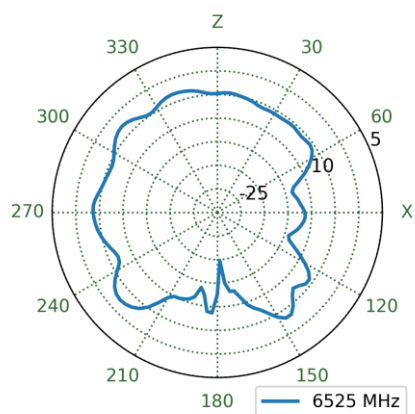
XY Plane



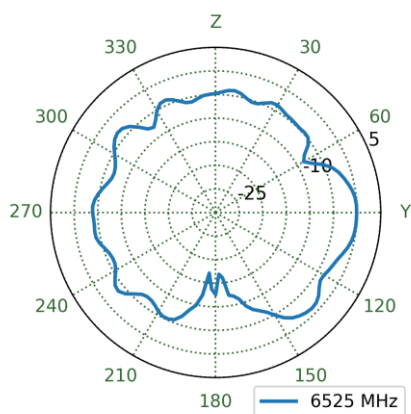
6.7 Right Patterns at 6525 MHz



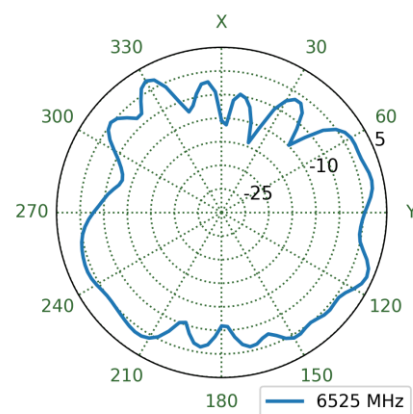
XZ Plane



YZ Plane



XY Plane



Changelog for the datasheet

SPE-14-8-112 – FXP522.A.07.A.001

Revision: F (Current Version)

Date:	2026-03-12
Changes:	Full datasheet update
Changes Made by:	Gary West

Previous Revisions

Revision: E

Date:	2024-05-29
Changes:	Drawing updated
Changes Made by:	Cesar Sousa

Revision: D

Date:	2020-07-01
Changes:	Updated to Include Wi-Fi 6
Changes Made by:	Jack Conroy

Revision: C

Date:	2015-08-24
Changes:	Amended Note Gain
Changes Made by:	Aine Doyle

Revision: B

Date:	2015-01-14
Changes:	Updated Intro
Changes Made by:	Aine Doyle

Revision: A (Original First Release)

Date:	2014-10-24
Notes:	
Author:	Technical Writer



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