TAOGLAS

Datasheet

Part No:
GW.11. A113

Description

2.4GHz Dipole Antenna SMA(M) Hinged 90 degree

Features:

2.4GHz Band Operation

Omni-directional pattern

High Efficiency

Hinged SMA (M) Connector

Dims: Ø7.8 x 84.4mm

RoHS & Reach Compliant

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1. Introduction

The Taoglas **GW.11 series** is a high-performance 2.4 GHz terminal mount antenna designed to provide reliable wireless connectivity across the **2400–2500 MHz** frequency range. Supporting **Bluetooth, Wi-Fi, ZigBee, and 2.4 GHz ISM** applications, Taoglas GW.11 is an ideal solution for a wide range of IoT, industrial, and connected device applications requiring dependable wireless performance.

The antenna provides omnidirectional radiation characteristics with linear polarization, enabling consistent signal coverage across the supported 2.4 GHz band. Its adjustable design allows the antenna to operate in both straight and right-angle (RA) orientations, providing greater flexibility when integrating the antenna into devices with different installation and space requirements.
Typical Applications:

- Bluetooth Devices
- 2.4 GHz Wi-Fi Applications
- ZigBee Devices
- 2.4 GHz ISM Applications
- IoT Gateways & Routers
- Industrial IoT Devices

GW.11. series delivers stable antenna performance across different installation configurations. In free-space testing, the antenna achieves efficiency of up to 86 % in the right-angle orientation and up to 80.5% in the straight orientation, with peak gain reaching approximately 3.0dBi depending on frequency and configuration. The antenna features a 50 Ω impedance and supports a maximum input power of 5W.

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

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2. Specification

Electrical									
Band	**Frequency (MHz)**	**Measurement**	**Efficiency (%)**	**Average Gain (dBi)**	**Peak Gain (dBi)**	**Impedance**	**Polarization**	**Radiation Pattern**	**Max. input power**
2.4GHz Wi-Fi Bluetooth ISM ZigBee	**2400–2484**	90x150mm PCB - RA	79.9	-0.98	2.77	50 Ω	Linear	Omni directional	5W
		150x90mm PCB - RA	83.3	-0.79	2.57				
		Free Space - RA	86.1	-0.65	2.5				
		90x150mm PCB - Straight	74.1	-1.3	3				
		150x90mm PCB - Straight	71.6	-1.45	2.6				
		Free Space - Straight	80.3	-0.95	2.87				

Mechanical	
Dimensions	Ø7.8mm x 84.4mm
Weight	6.9g
Housing Material	TPEE
Connector	SMA(M)

Environmental	
Operation Temperature	-40°C - +85°C
Storage Temperature	-40°C - +85°C
Relative Humidity	Non-condensing 65°C 95% RH

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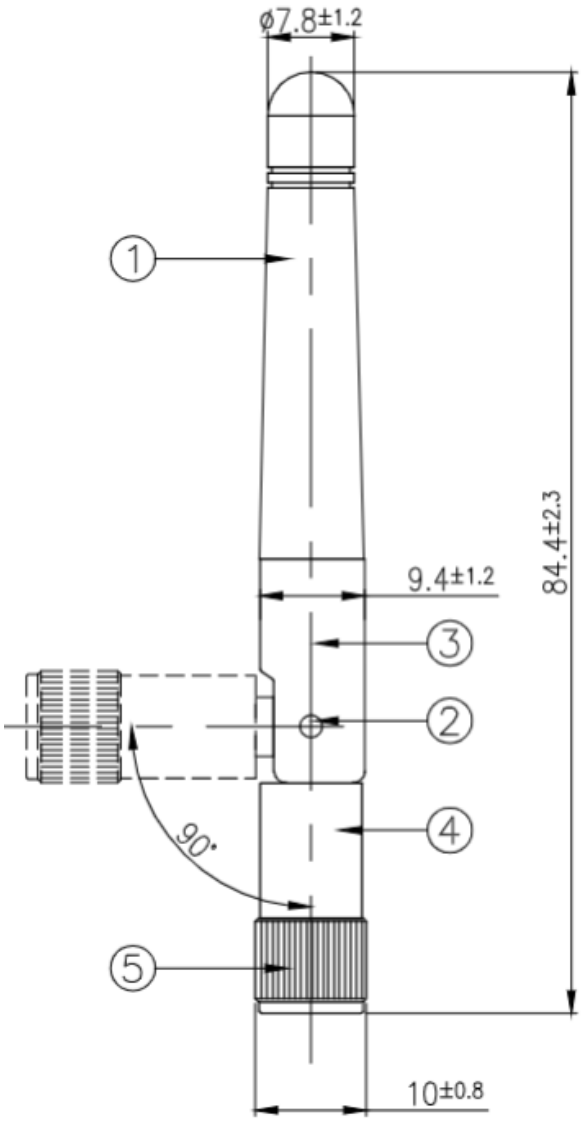
3. Mechanical Drawing



	Name	Material	Finish	QTY
1	Housing	TPEE	Black	1
2	Rotary shaft	Brass,Cr	Black	1
3	Upper Base	PC+PET	Black	1
4	Bottom Base	PC+PET	Black	1
5	SMA(M)ST	PBT+Brass	Black	1

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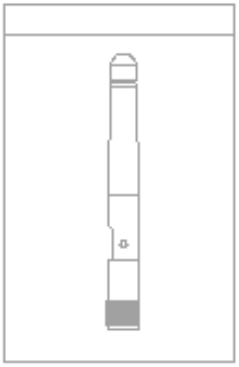
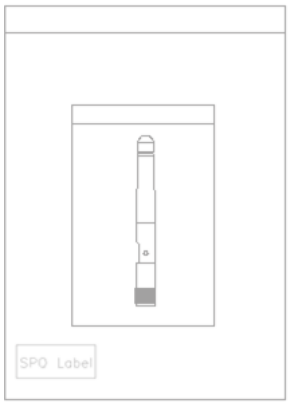
4. Packaging



☑ 10 PCS / PE bag

☑ 1 PE bag(mm):100x200

☑ Weight(g):70



☑ 100 PCS / Big PE Bag

☑ 1 PE bag(mm):180x280

☑ Weight(kg):0.73

☑ SPQ Label

☑ 1000 PCS / Carton

☑ Carton(mm): 360x310x160

☑ Weight(kg):7.6

☑ Carton Label

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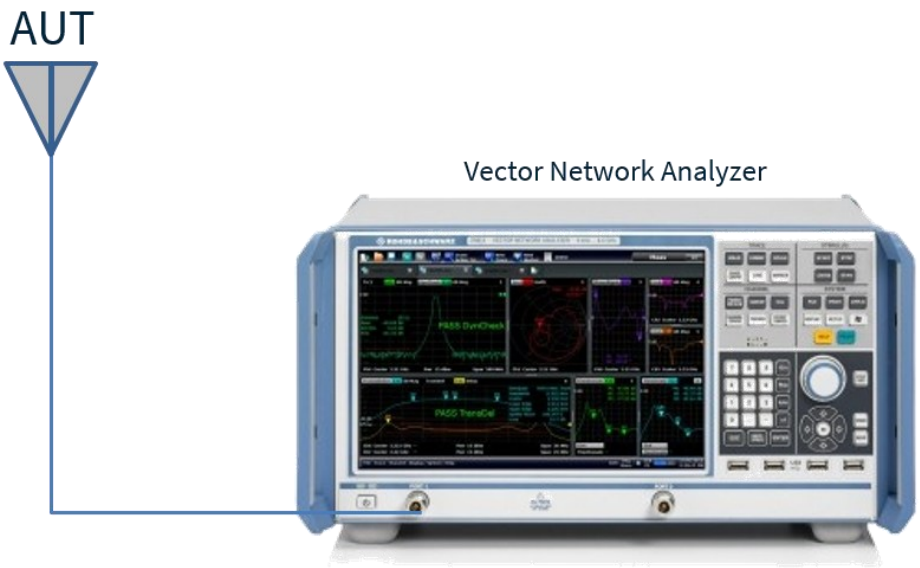
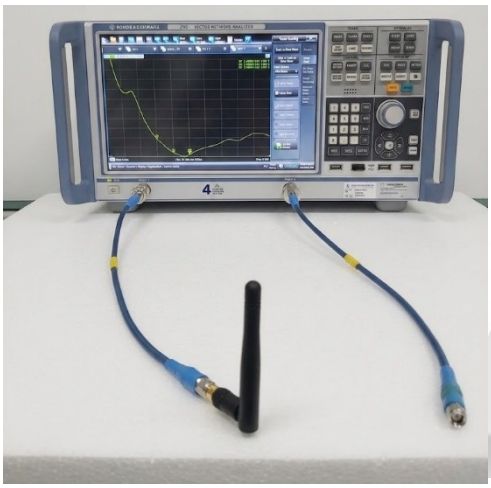
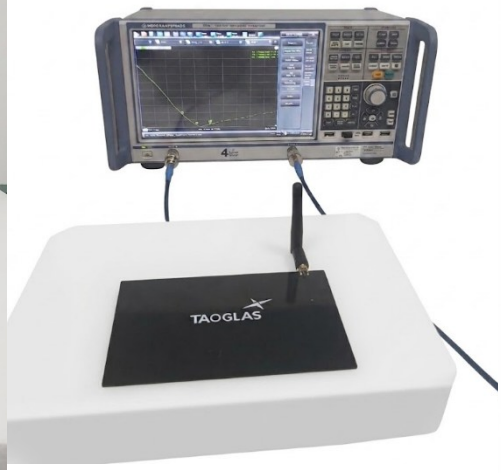
5. Antenna Characteristics

5.1 Test Setup - Bent





Free Space



15x9cm Ground Plane

9x15cm Ground Plane

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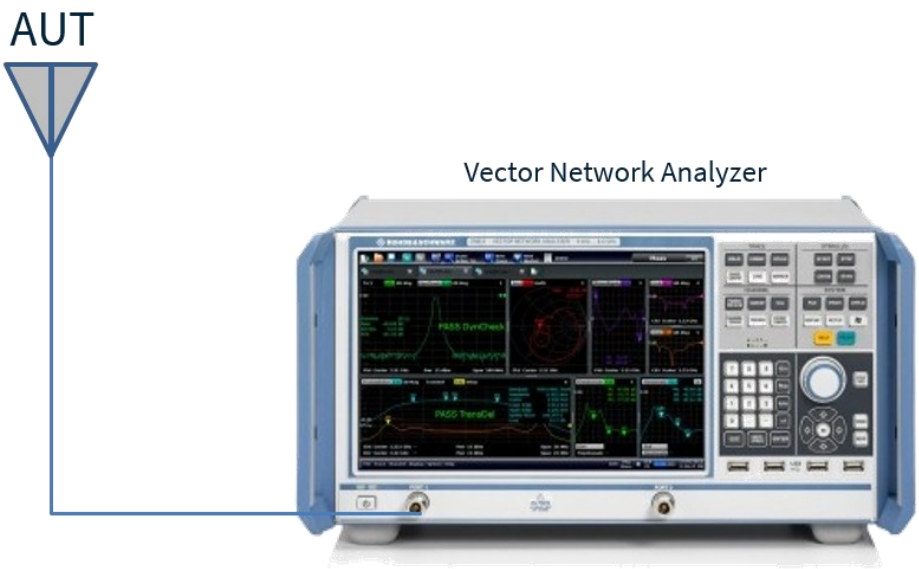
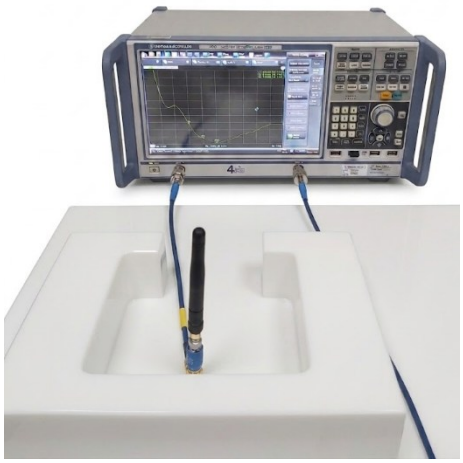
5.2 Test Setup - Straight





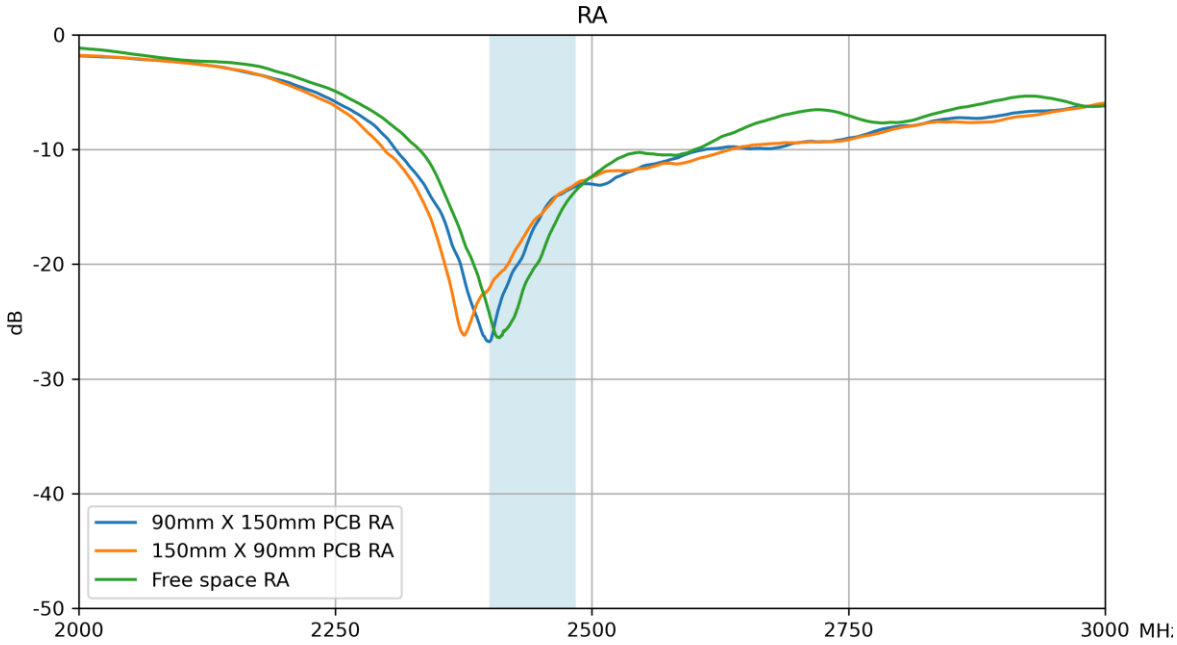
Free Space

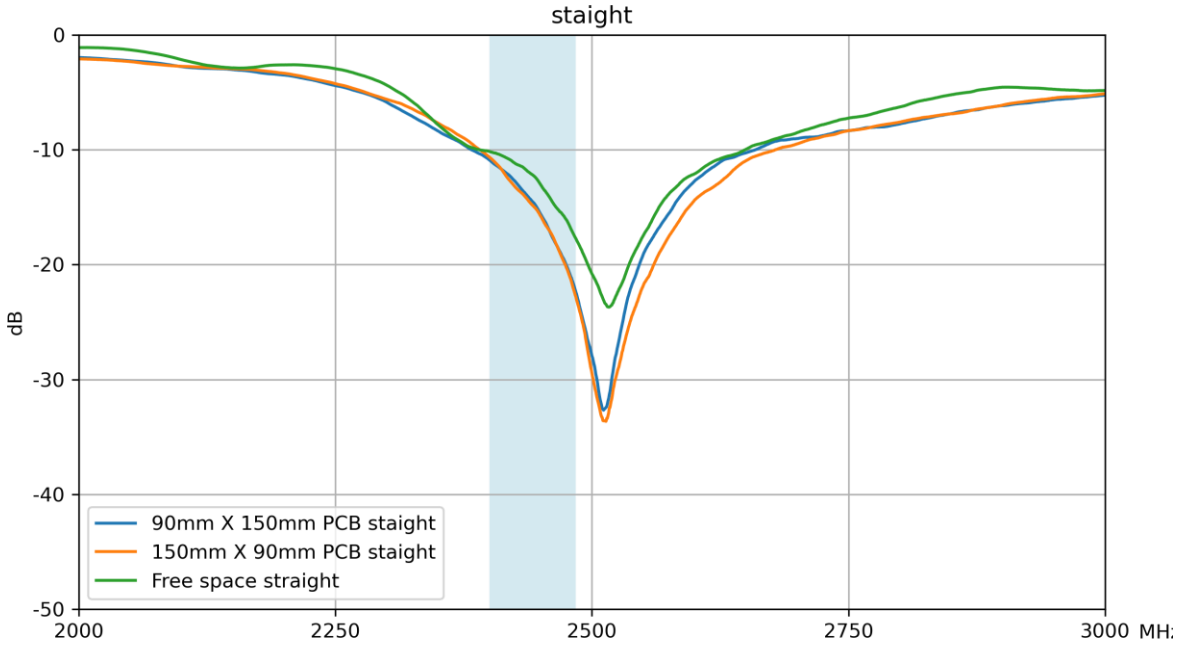
15x9cm Ground Plane

9x15cm Ground Plane

Downloaded from Arrow.com.

5.3 Return Loss





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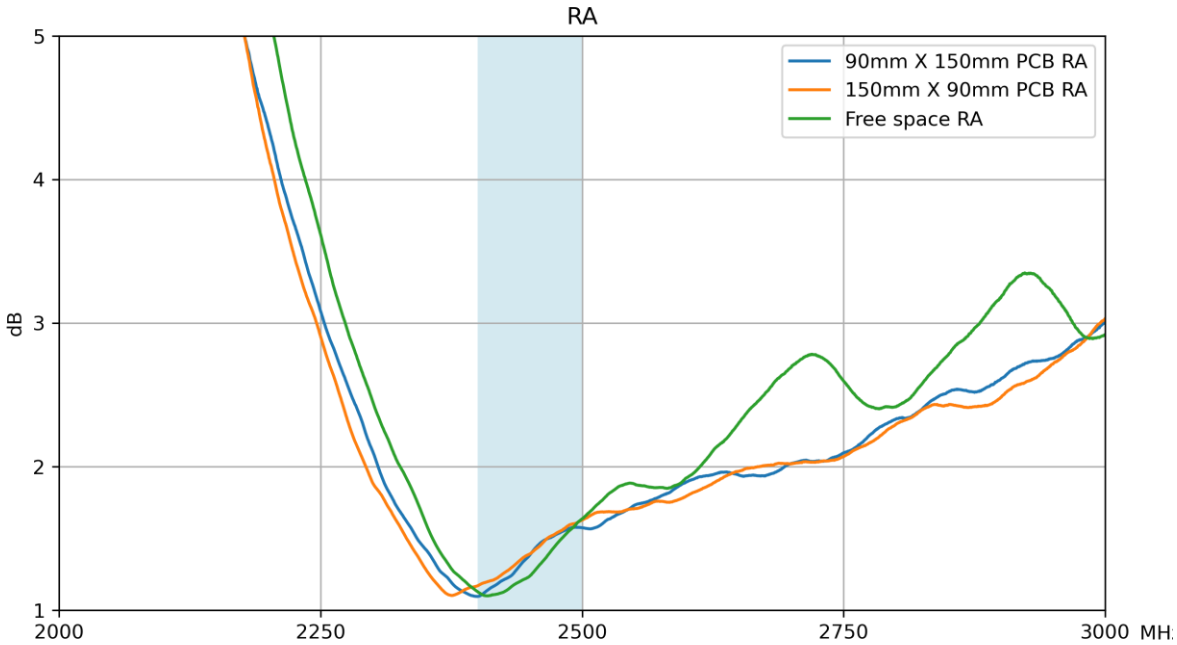

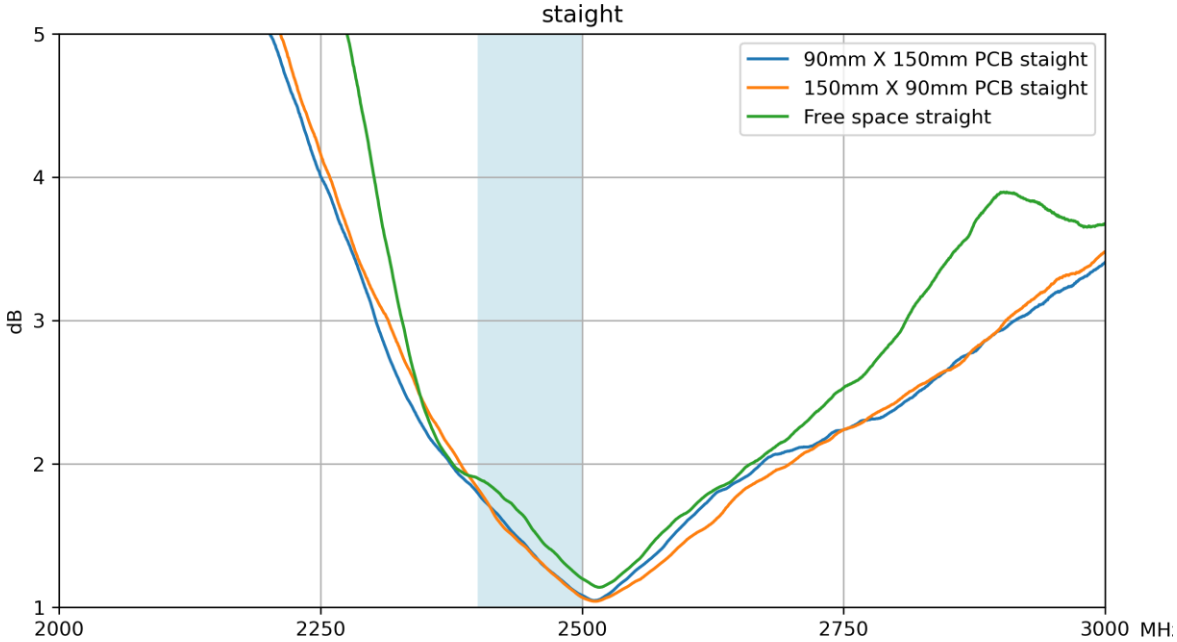

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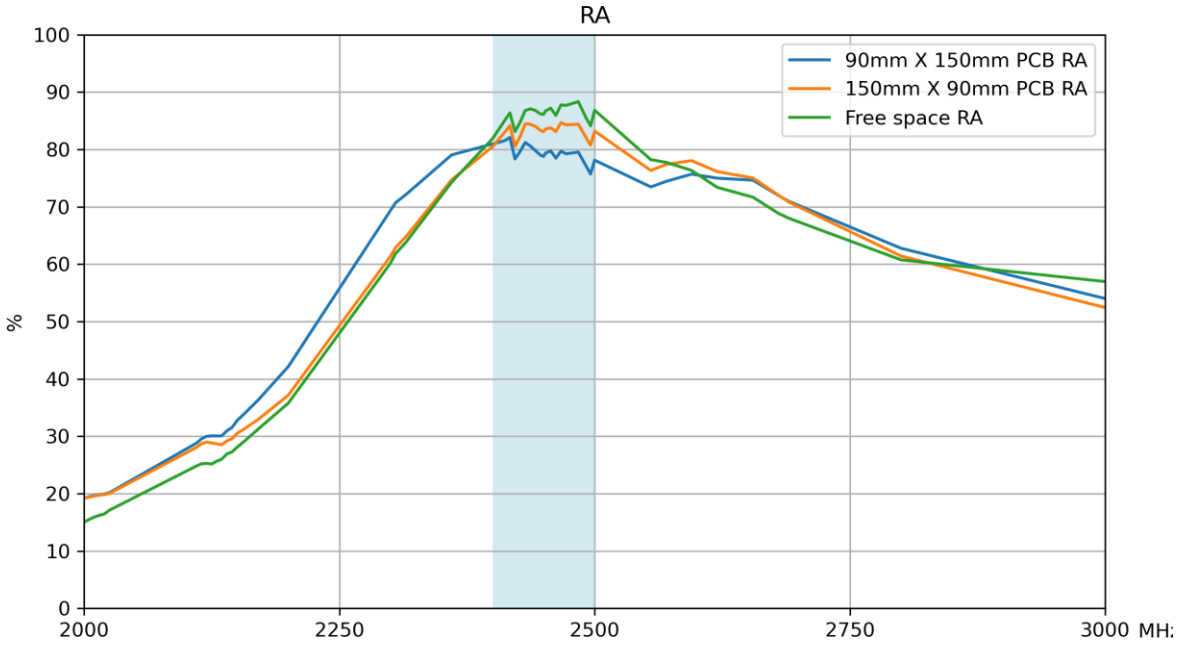
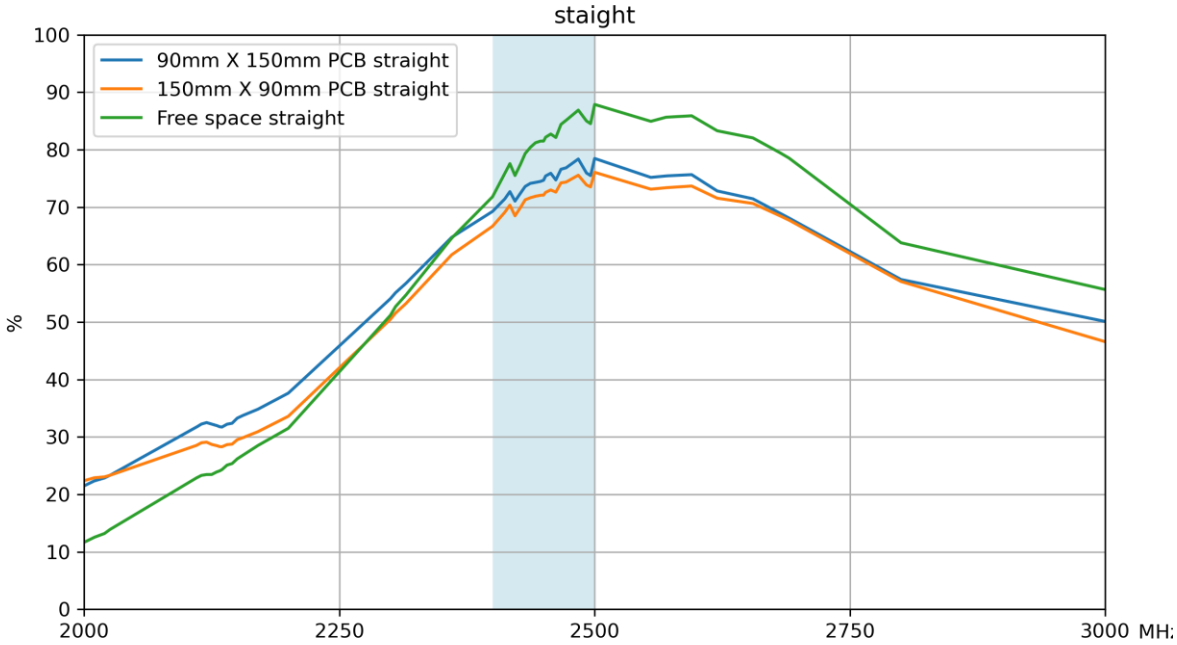
5.5 Efficiency





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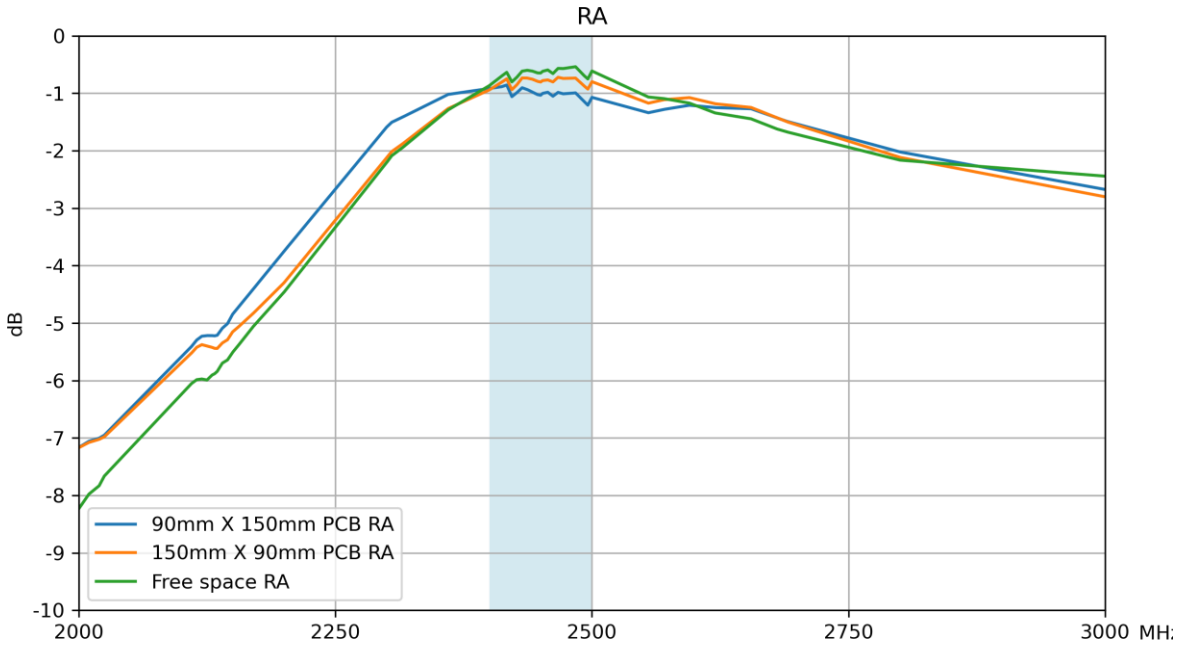
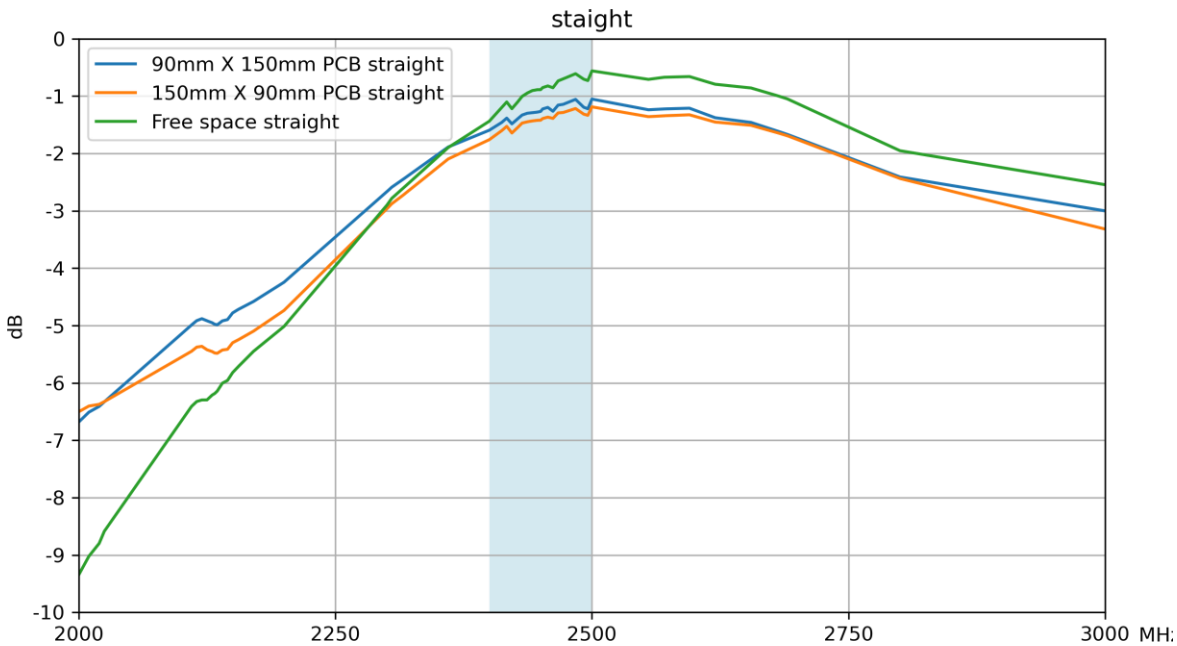
5.6 Average Gain





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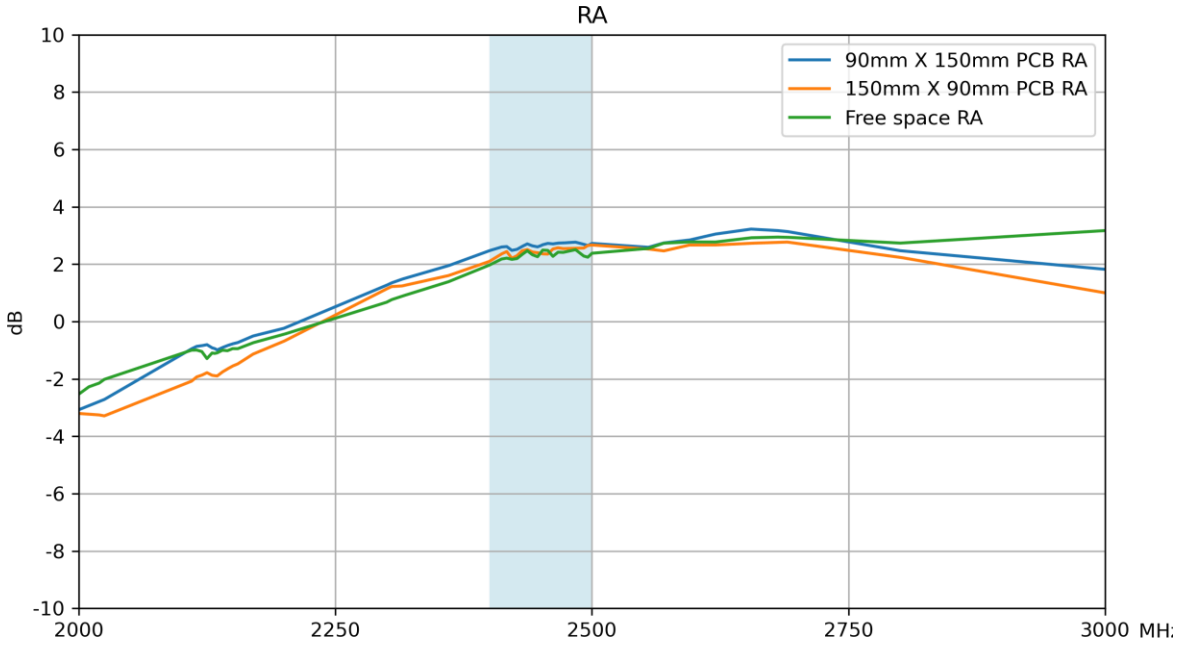
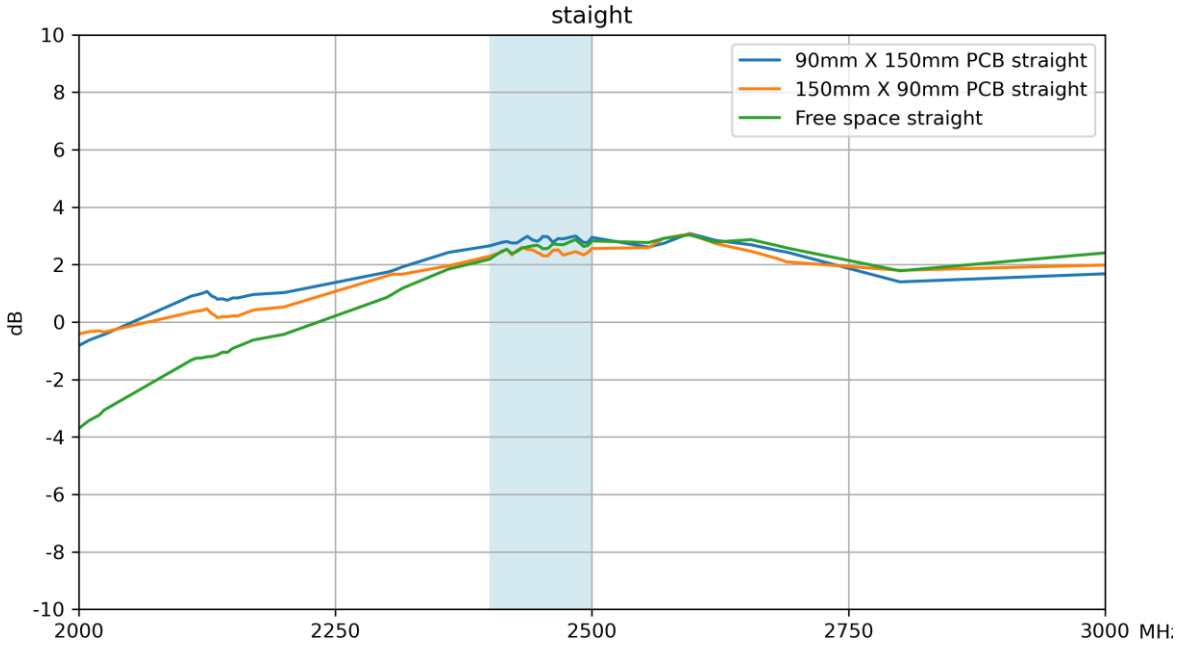
5.7 Peak Gain





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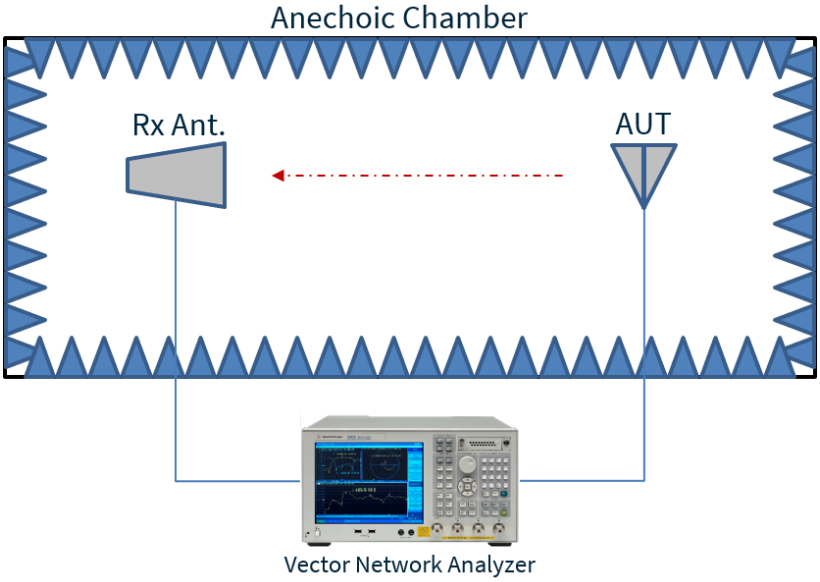
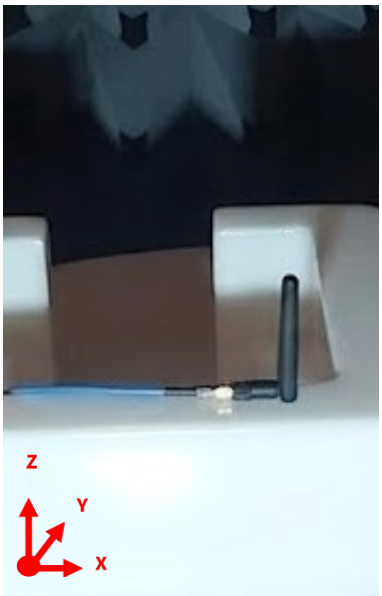
6. Radiation Patterns

6.1 Test Setup - Straight



90x150mm Ground Plane

150x90mm Ground Plane



Free Space

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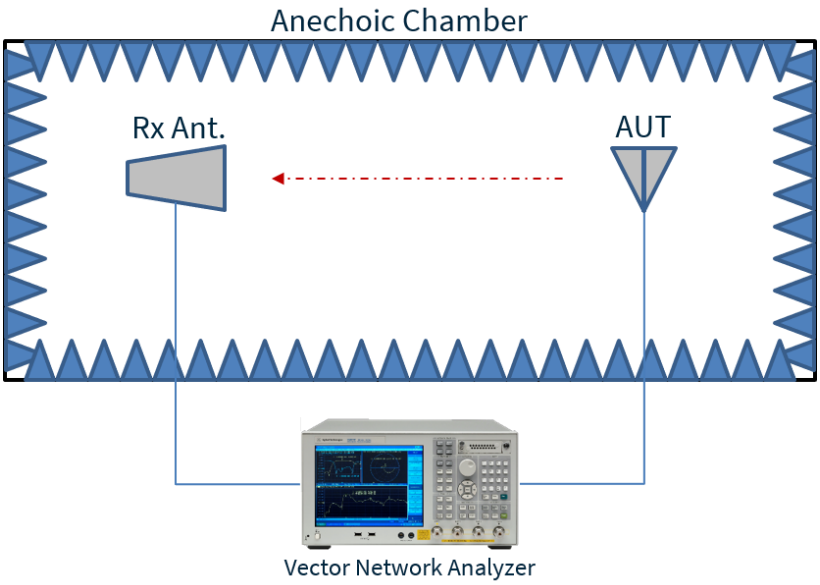
6.2 Test Setup - Bent



90x150mm Ground Plane

150x90mm Ground Plane

Free Space

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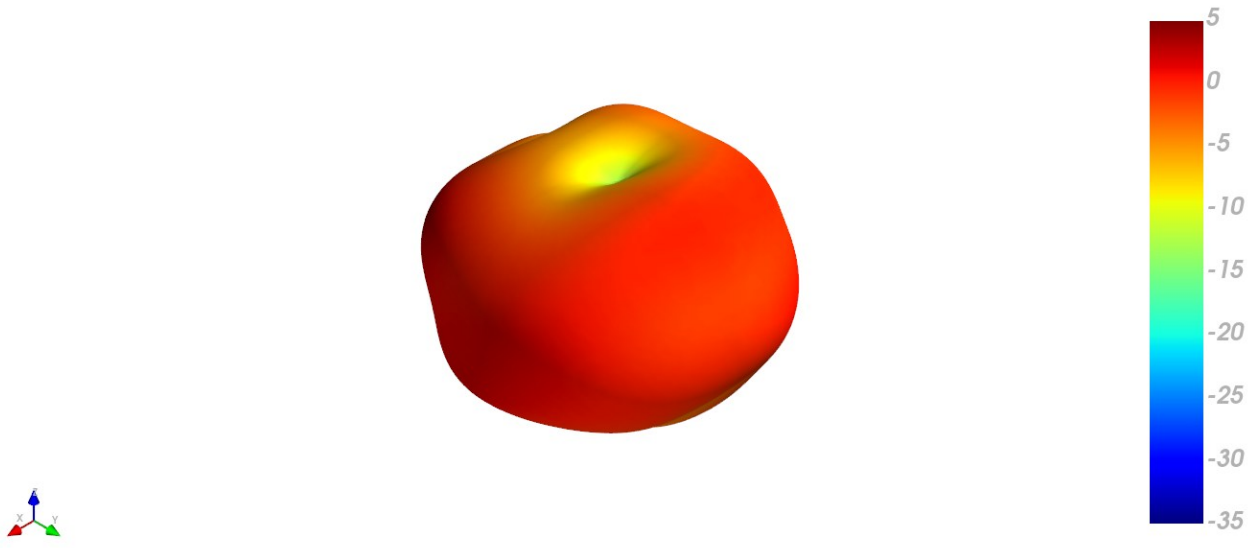
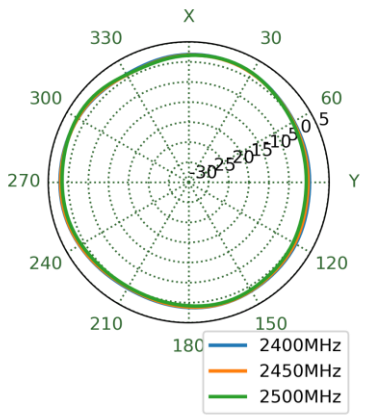
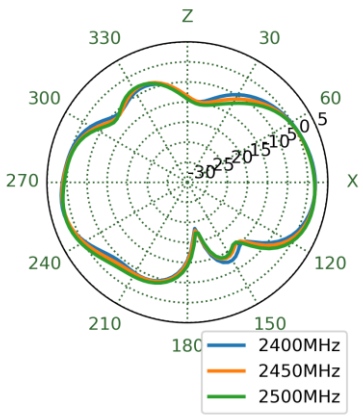
6.3 90*150mm PCB 3D/2D Radiation Patterns-Right angle

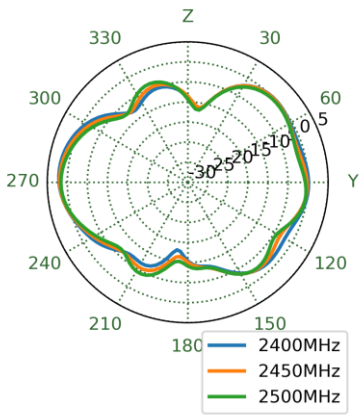
Gain total, 2450MHz



XY Plane	XZ Plane	YZ Plane







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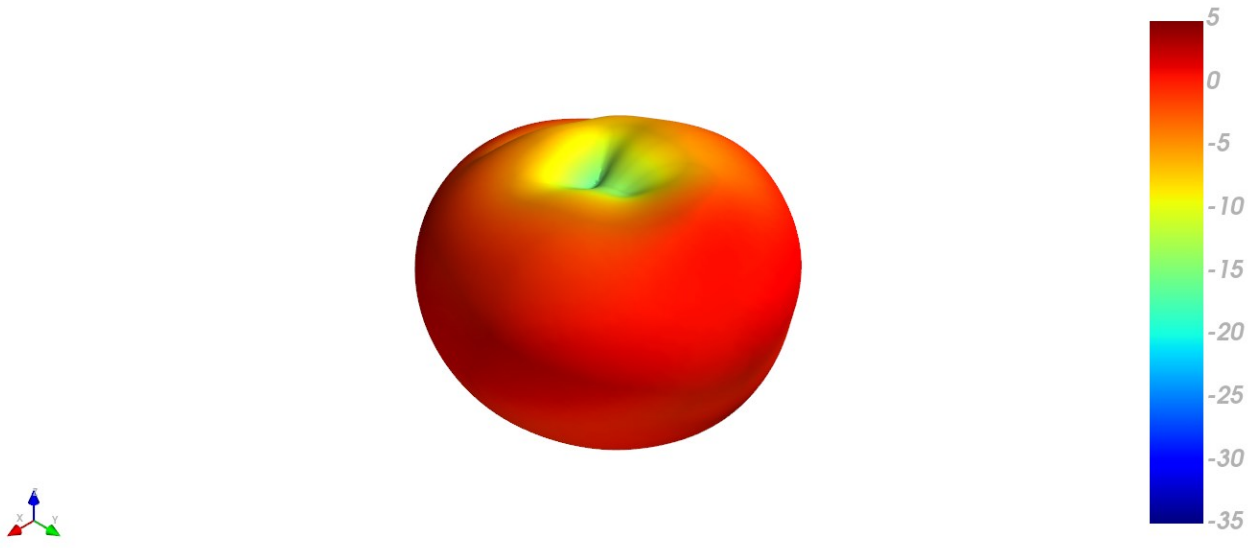
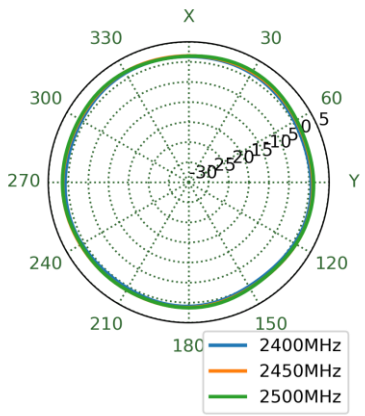
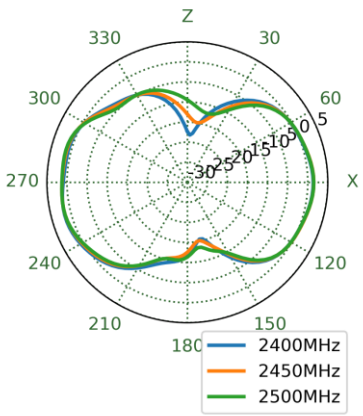
6.4 150*90mm PCB 3D/2D Radiation Patterns-Right angle

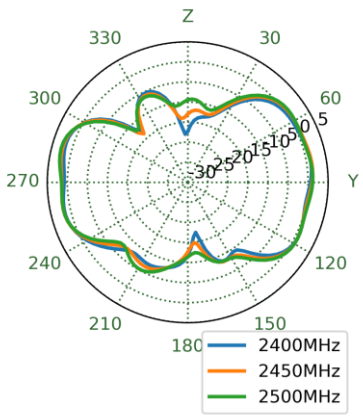
Gain total, 2450MHz



XY Plane	XZ Plane	YZ Plane







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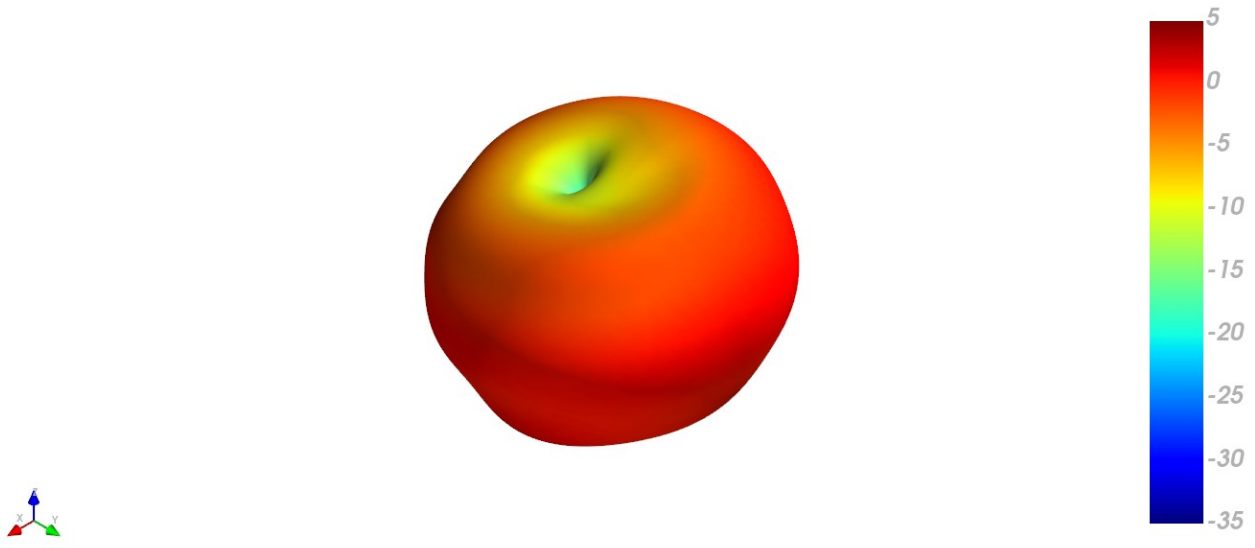
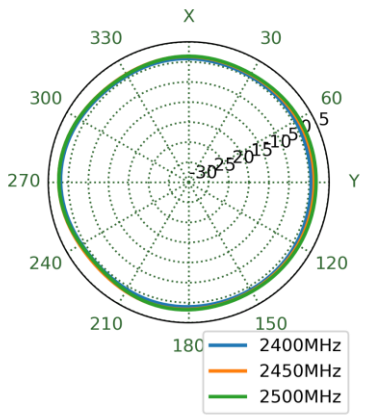
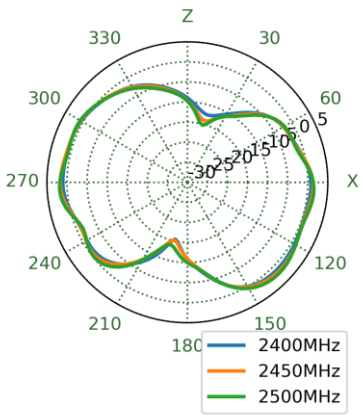
6.5 Free space 3D/2D Radiation Patterns-Right angle

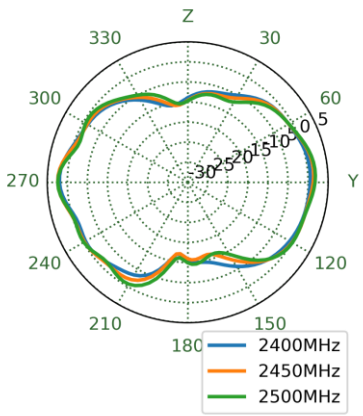
Gain total, 2450MHz



XY Plane	XZ Plane	YZ Plane







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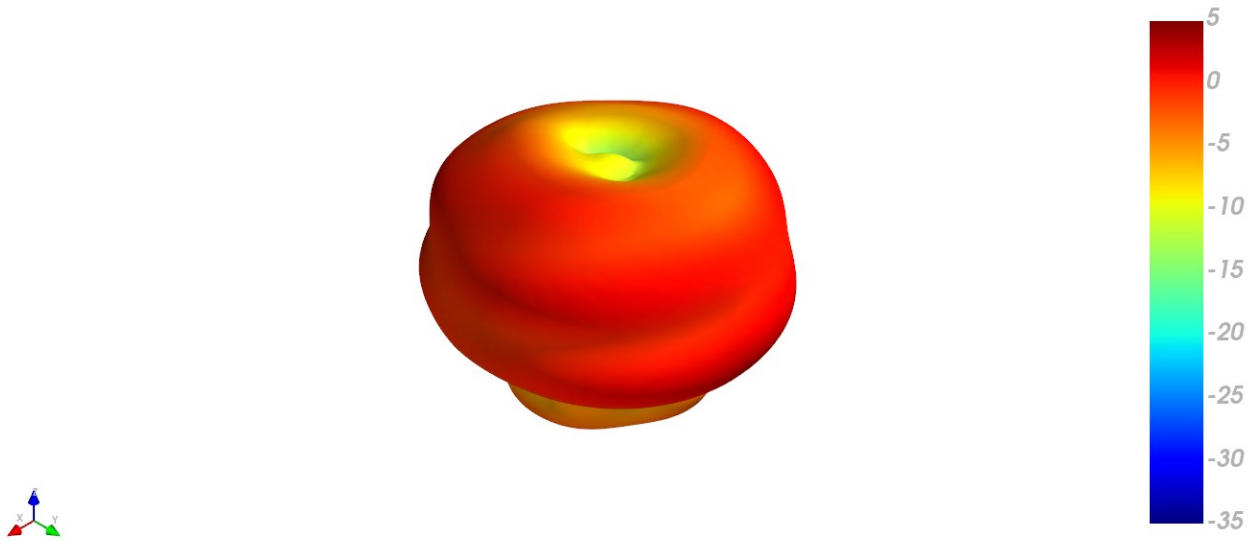
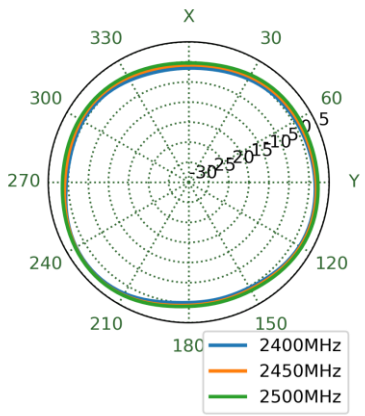
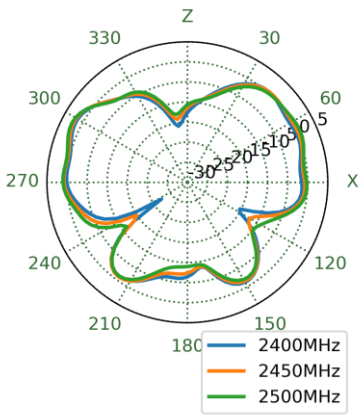
6.6 90*150mm PCB 3D/2D Radiation Patterns- Straight

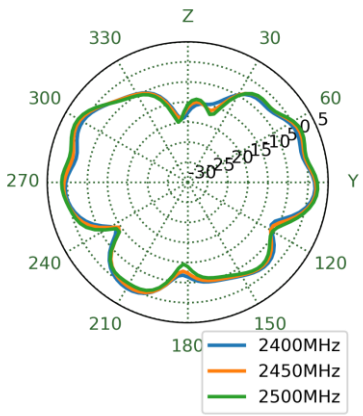
Gain total, 2450MHz



XY Plane	XZ Plane	YZ Plane







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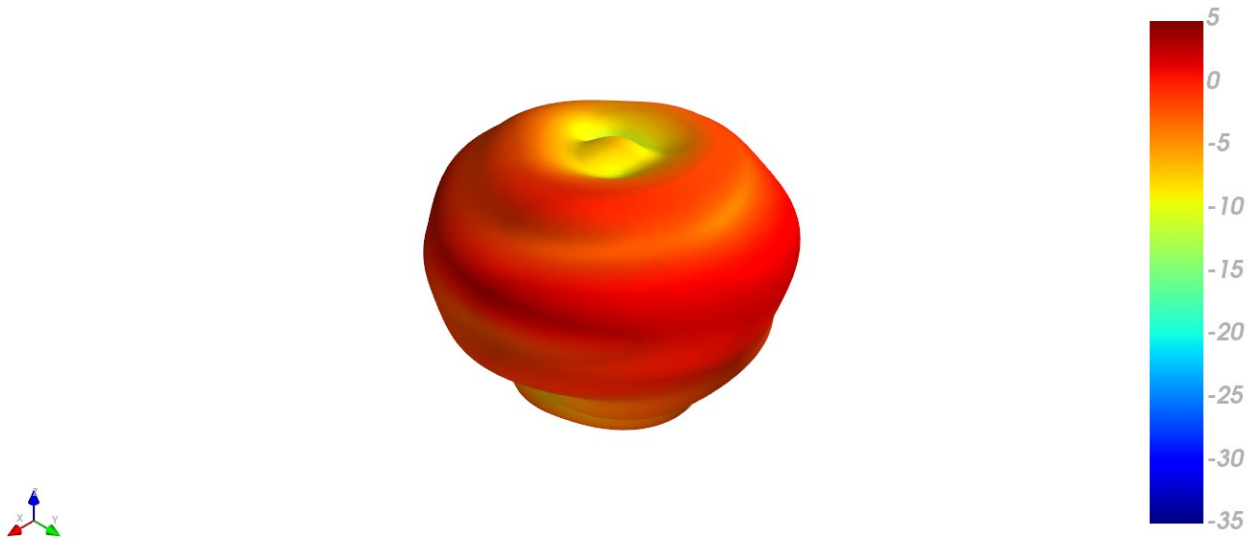
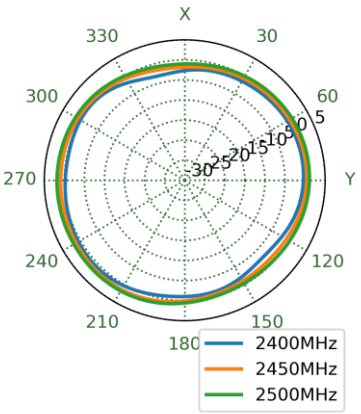
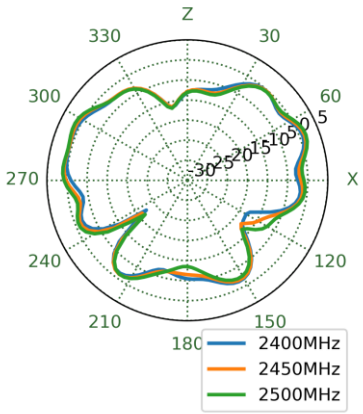
6.7 150*90mm PCB 3D/2D Radiation Patterns-Straight

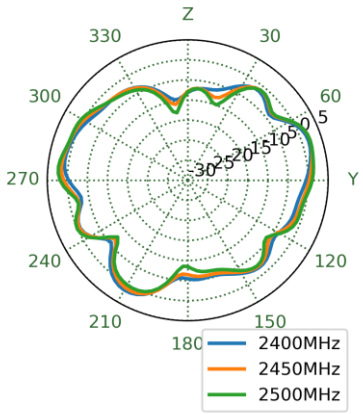
Gain total, 2450MHz



XY Plane	XZ Plane	YZ Plane







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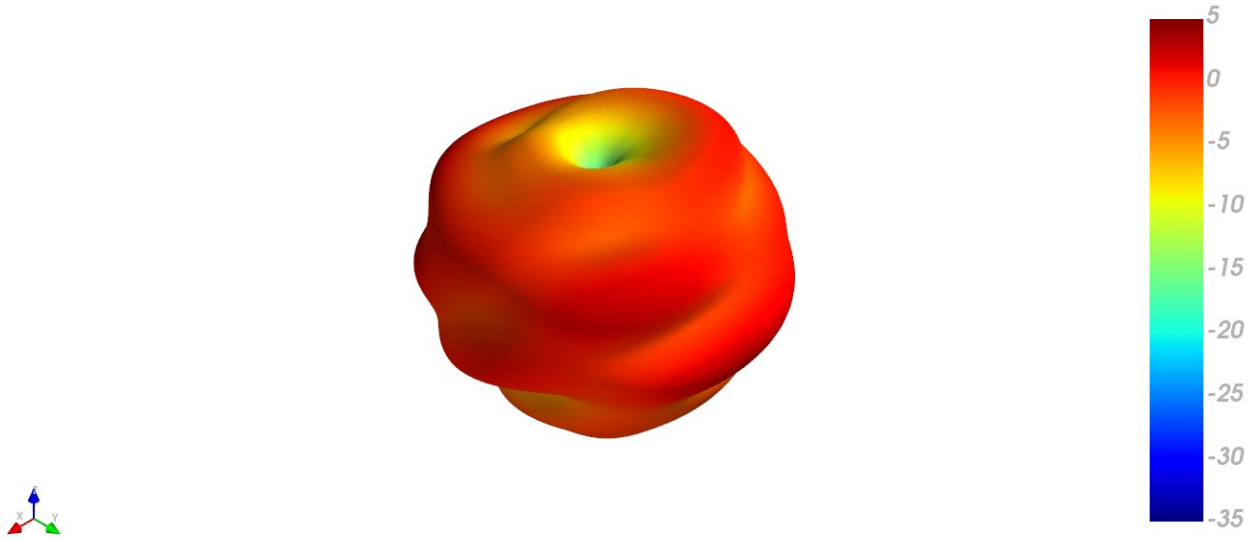
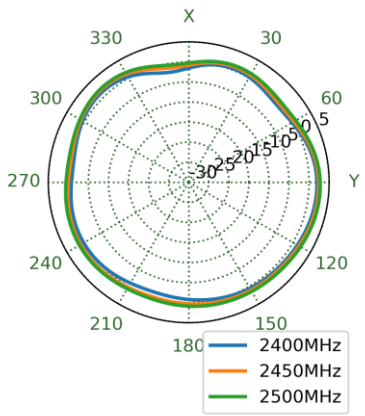
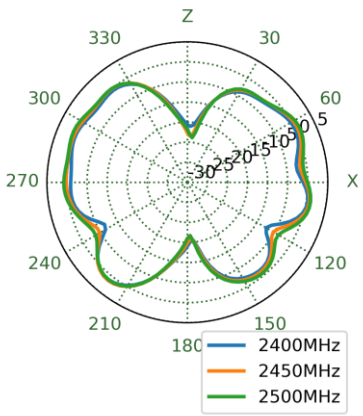
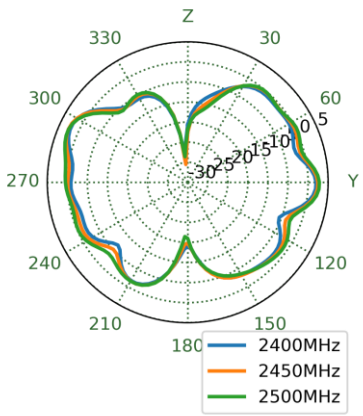
6.8 Free space 3D/2D Radiation Patterns- Straight



XY Plane	XZ Plane	YZ Plane







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Changelog for the datasheet

SPE-18-8-019– GW.11.A113

Revision: B (Current)	
Date:	2026-08-31
Notes:	full date sheet updated to new template
Author:	Emily Huang

Previous Revisions

Revision: A (Original First Release)	
Date:	2018-01-17
Notes:	Initial Release
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