



TAOGLAS®



Datasheet

Part No:
GW.11.A153

Description

2.4GHz Dipole Antenna RP-SMA(M) Hinged 90 degree

Features:

- 2.4GHz Band Operation
- Omni-directional pattern
- High Efficiency
- Hinged RP-SMA (M) Connector
- Dims: Ø7.8 x 84.4mm
- RoHS & Reach Compliant

1.	Introduction	3
2.	Specification	4
3.	Mechanical Drawing	6
4.	Packaging	7
5.	Antenna Characteristics	8
6.	Radiation Patterns	10
	Changelog	23

Taoglas makes no warranties based on the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Taoglas reserves all rights to this document and the information contained herein. Reproduction, use or disclosure to third parties without express permission is strictly prohibited.

Ireland & USA
ISO 9001:2015
Certified



Taiwan
ISO 9001:2015
Certified



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, the 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% in the straight orientation, with peak gain reaching approximately 3.0 dBi 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.

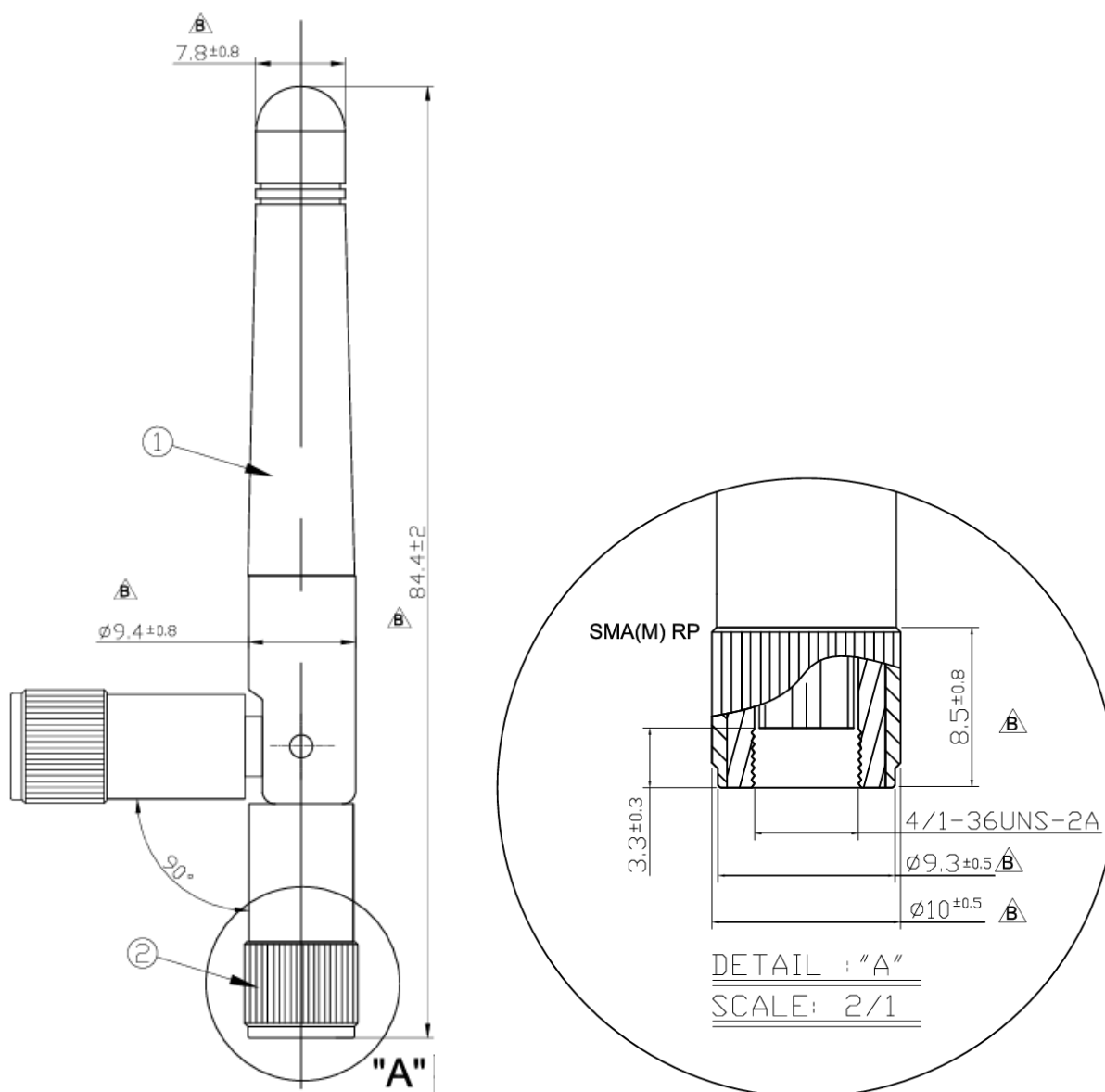
2. Specification

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	RP-SMA(M)

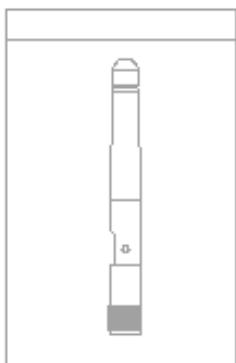
Environmental	
Operation Temperature	-40°C - +85°C
Storage Temperature	-40°C - +85°C
Relative Humidity	Non-condensing 65°C 95% RH

3. Mechanical Drawing

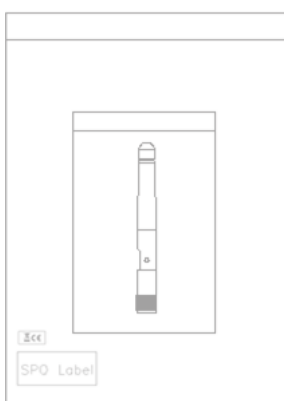


	Name	Material	Finish	QTY
1	Housing	TPEE	Black	1
2	SMA(M)RP	PBT+Brass	Black	1

4. Packaging



☒ 10 PCS / Small PE bag



☒ 100 PCS / Big PE Bag

☒ SPQ Label



☒ 1000 PCS / Carton

☒ Carton(mm): 360x310x160

☒ Carton Label

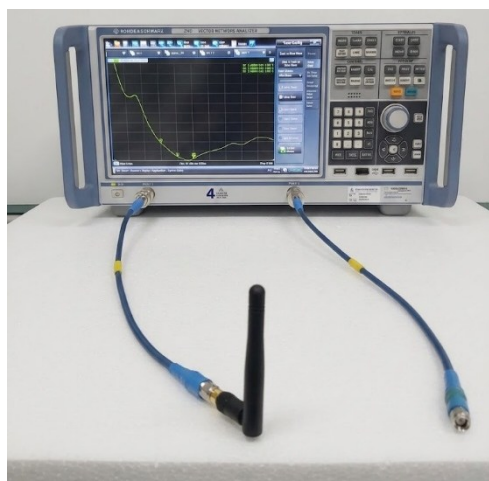
5. Antenna Characteristics

5.1 Test Setup – Right angle

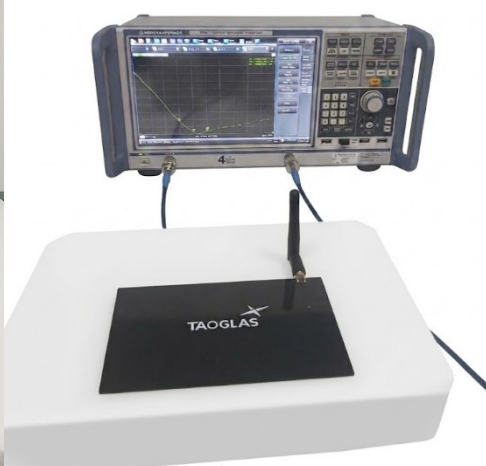
AUT



Vector Network Analyzer



Free Space



15x9cm Ground Plane

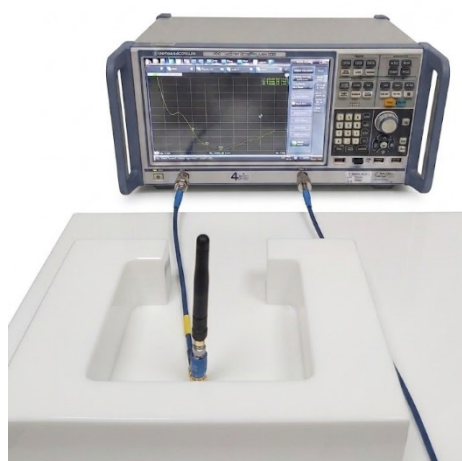


9x15cm Ground Plane

5.2 Test Setup - Straight

AUT

Vector Network Analyzer



Free Space

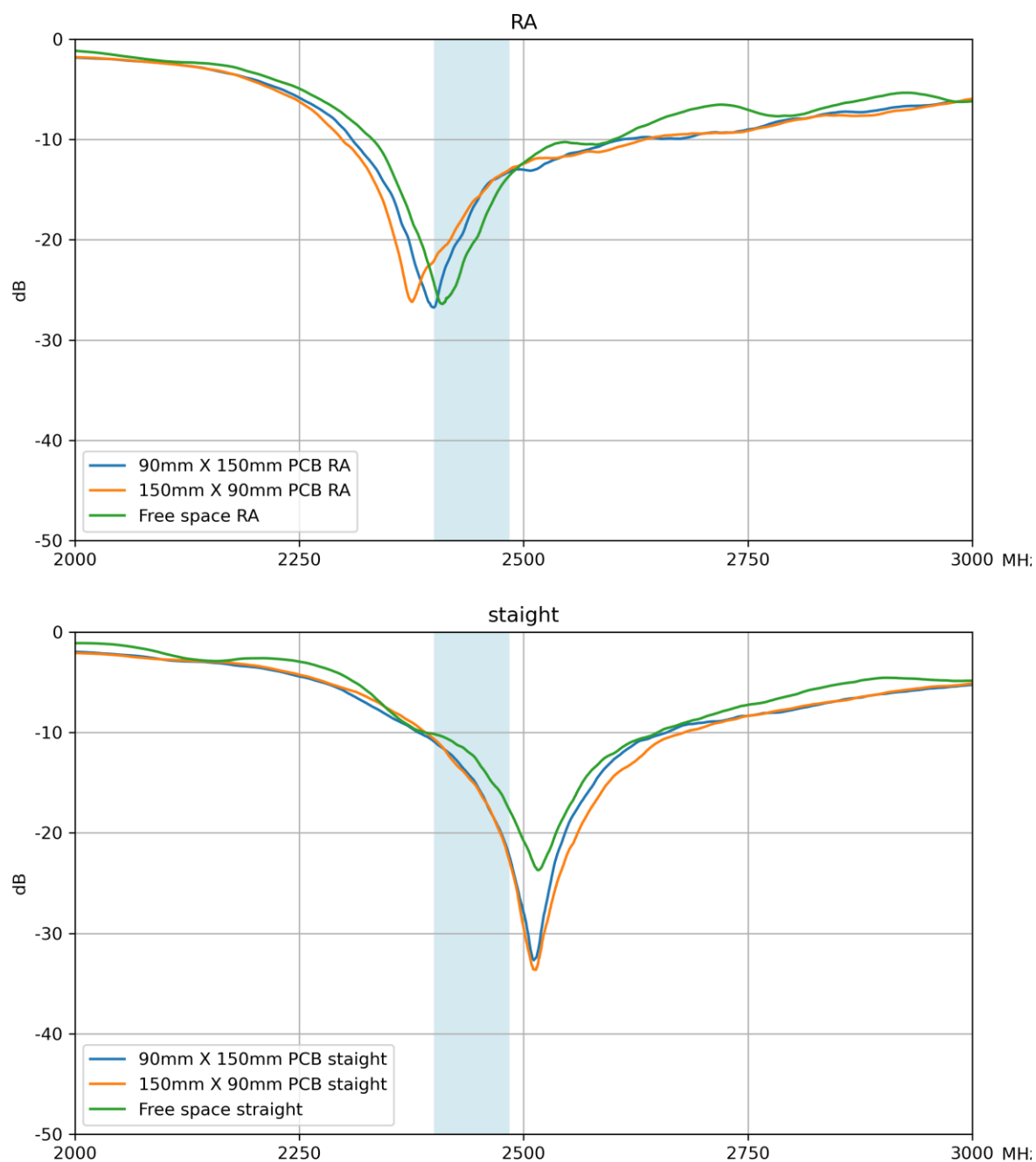


15x9cm Ground Plane

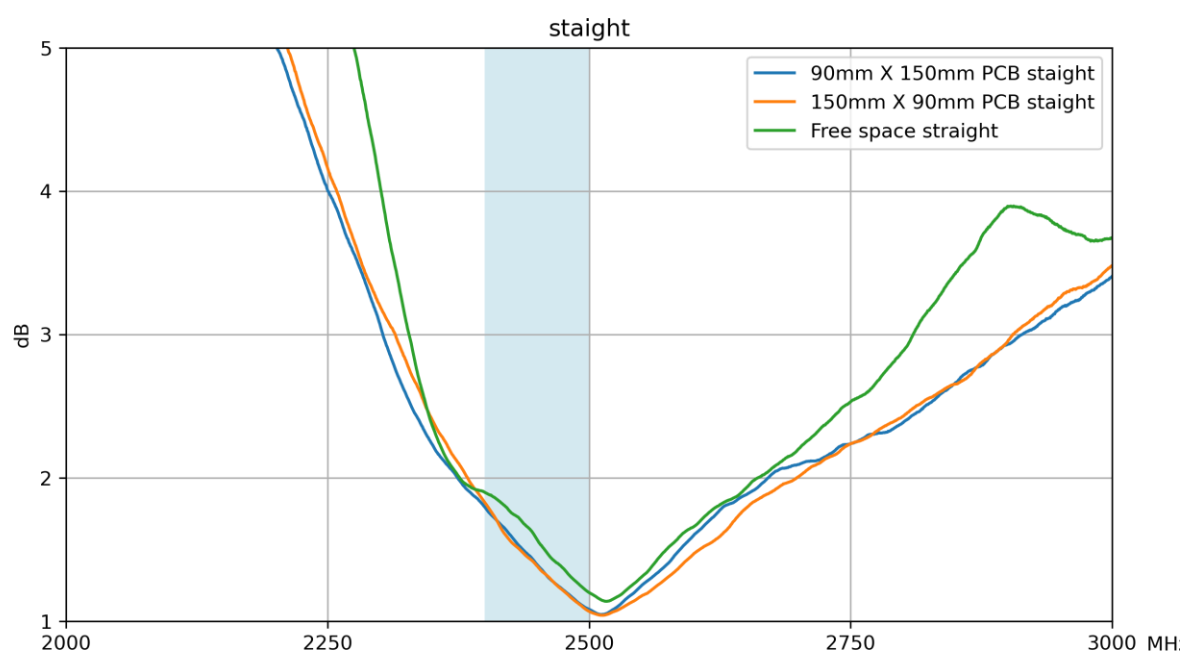
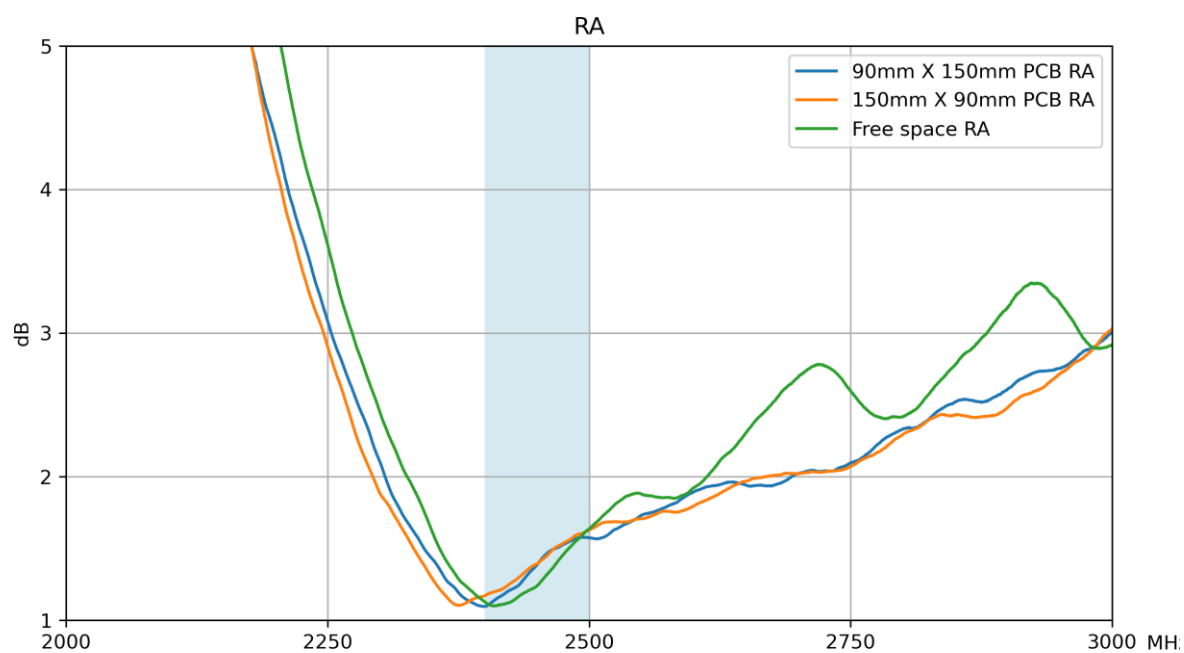


9x15cm Ground Plane

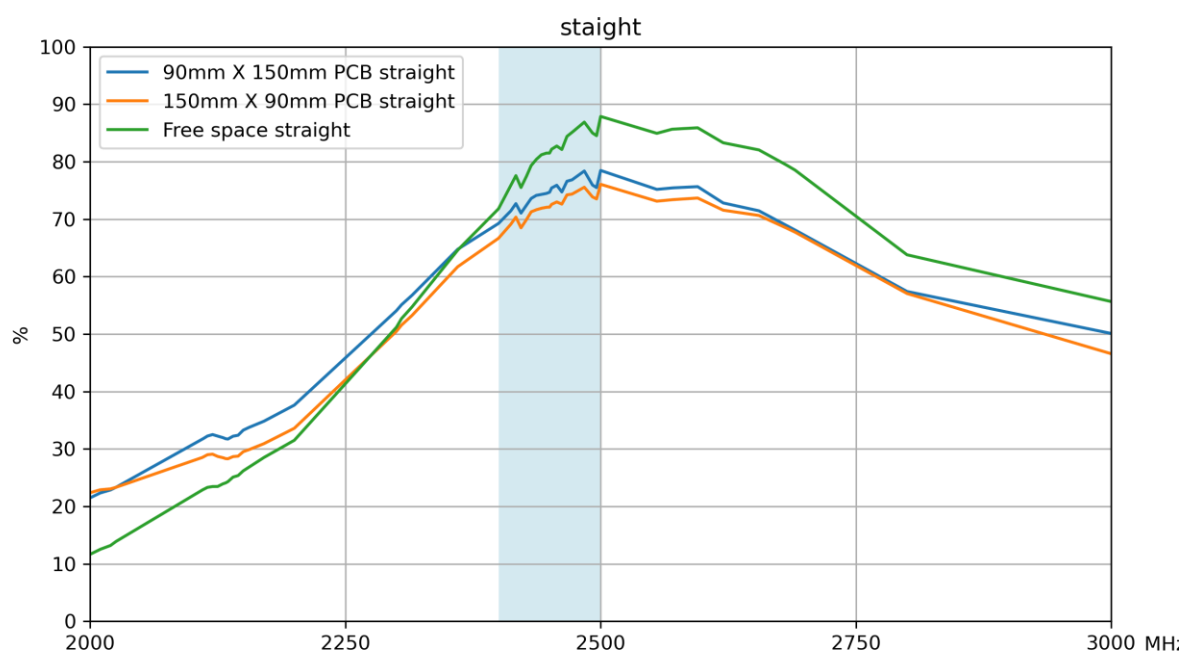
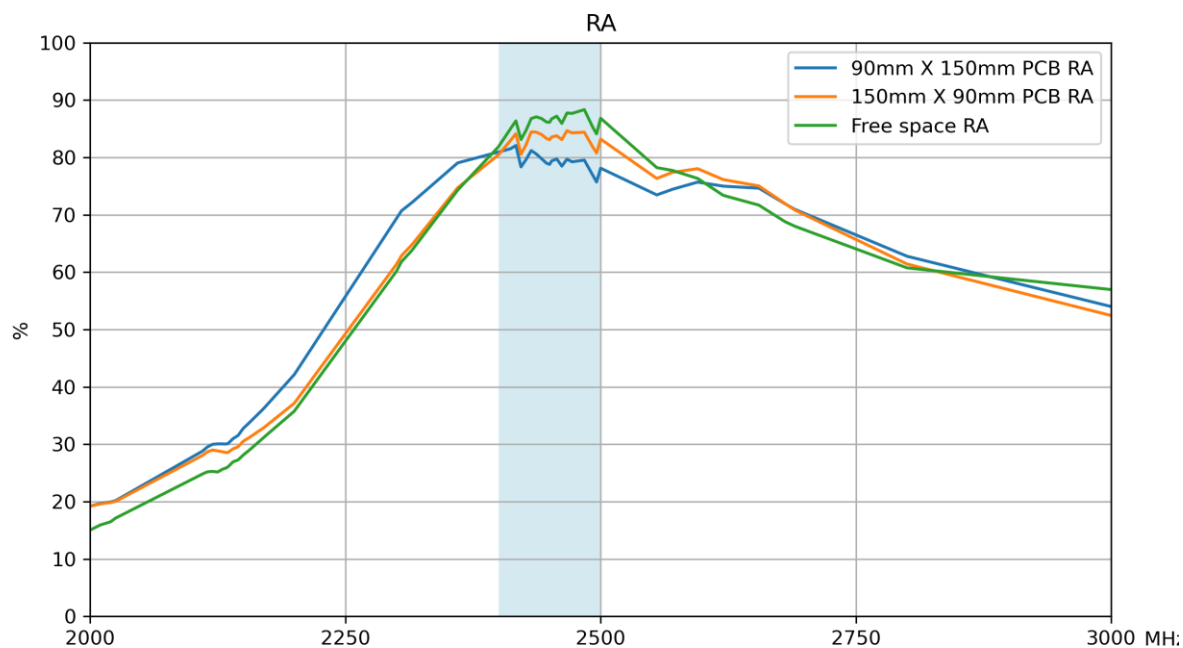
5.3 Return Loss



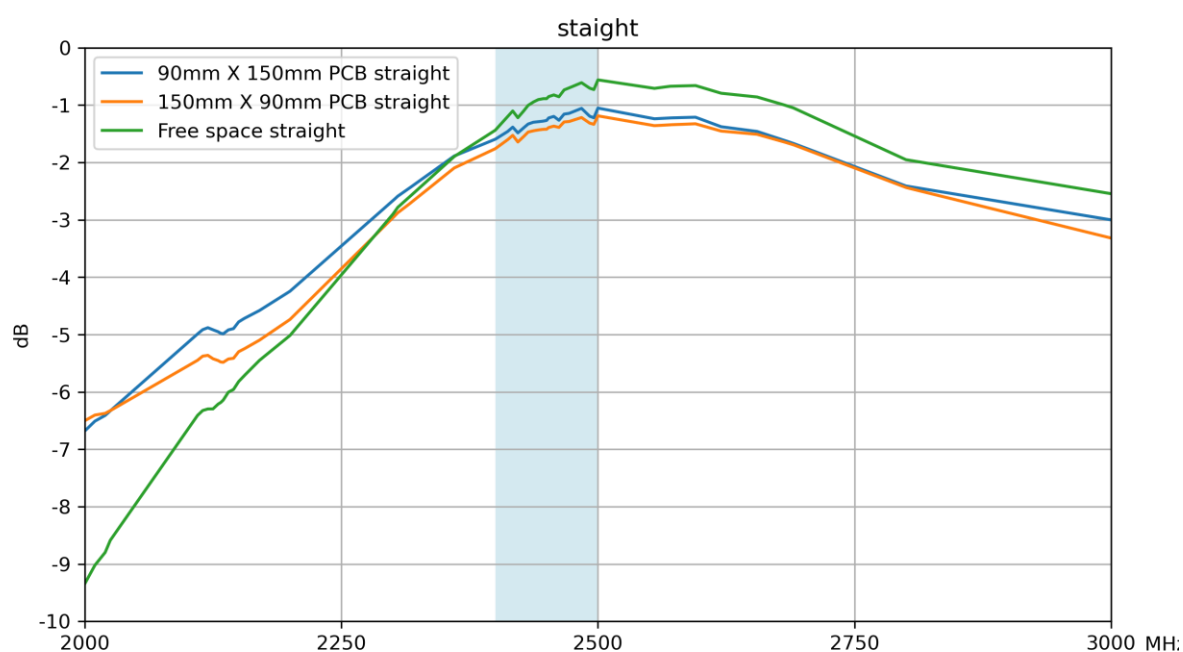
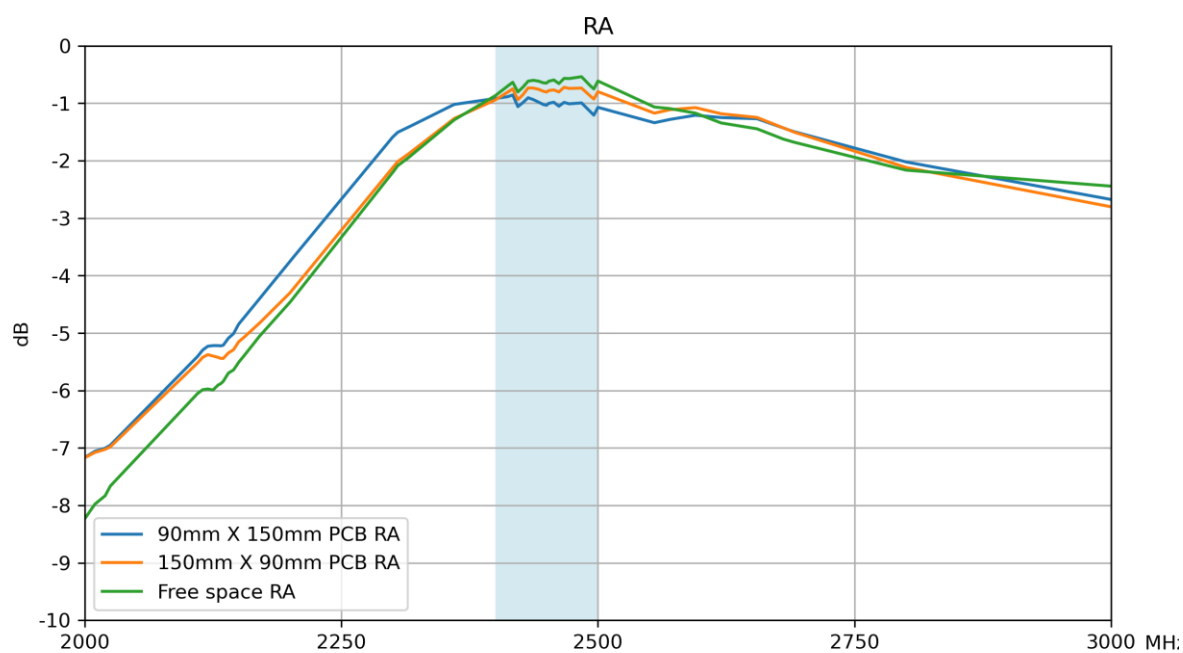
5.4 VSWR



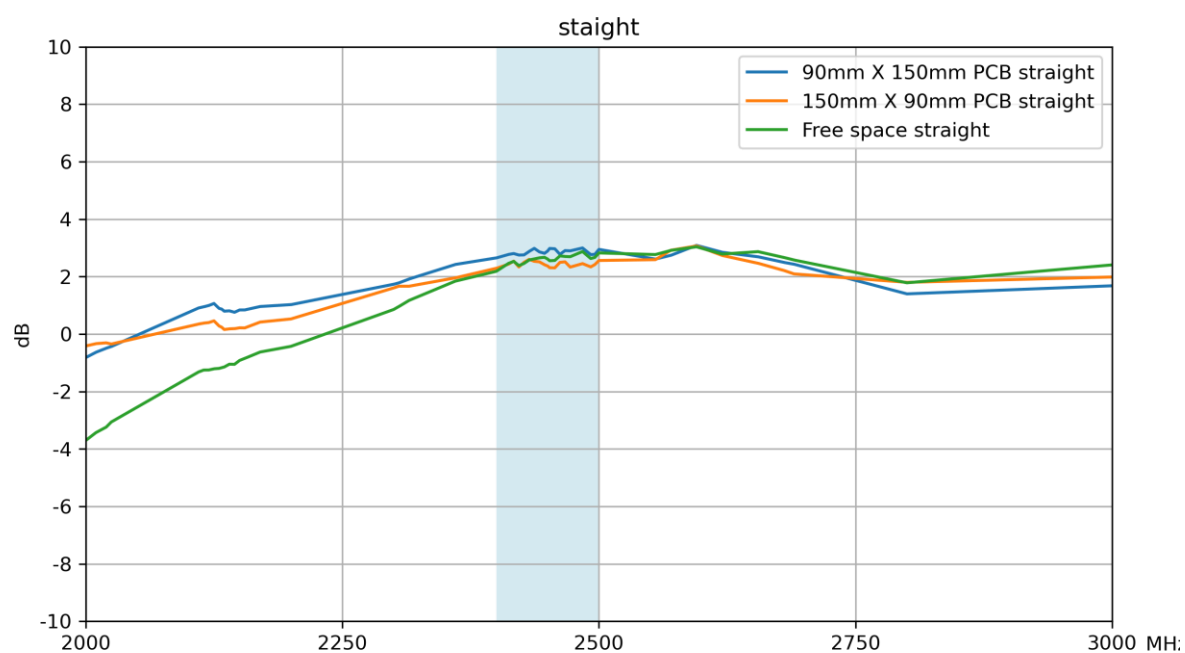
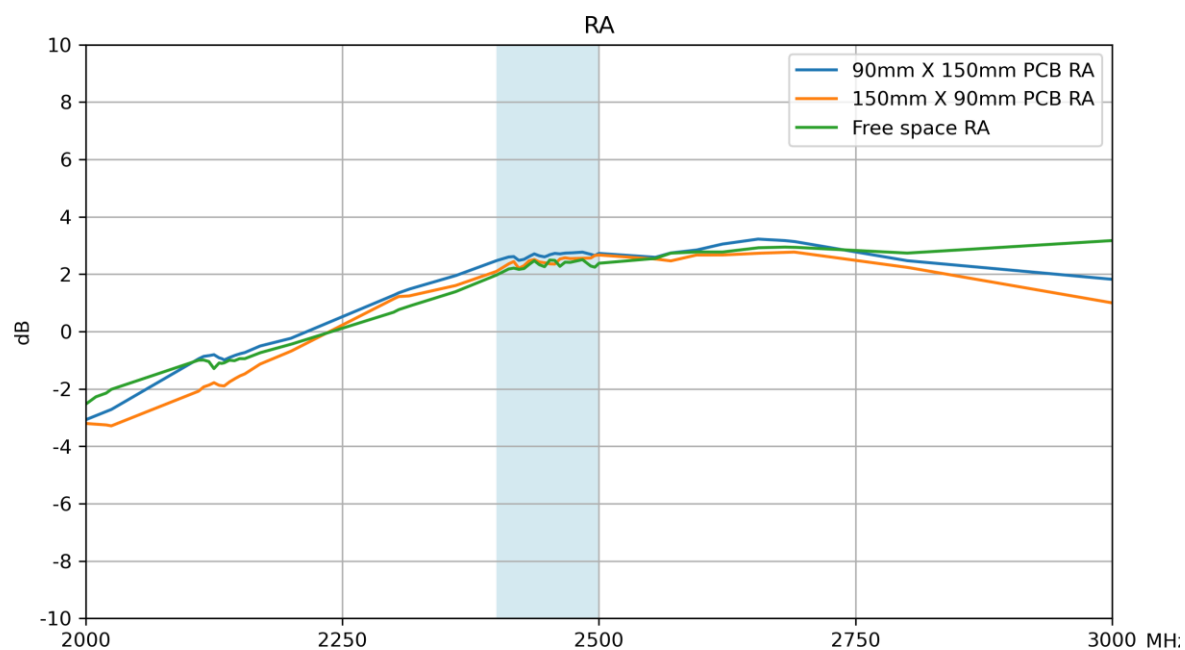
5.5 Efficiency



5.6 Average Gain

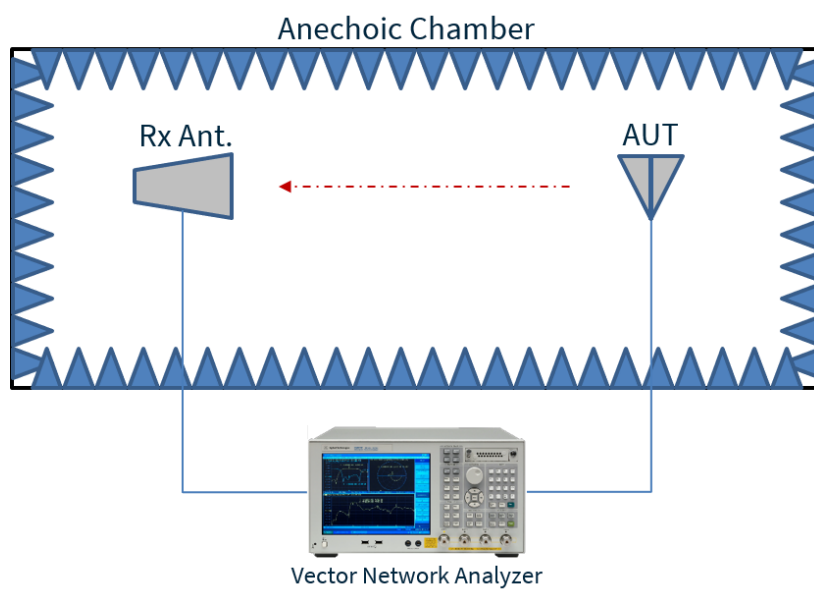


5.7 Peak Gain



6. Radiation Patterns

6.1 Test Setup – Right angle



90x150mm Ground Plane

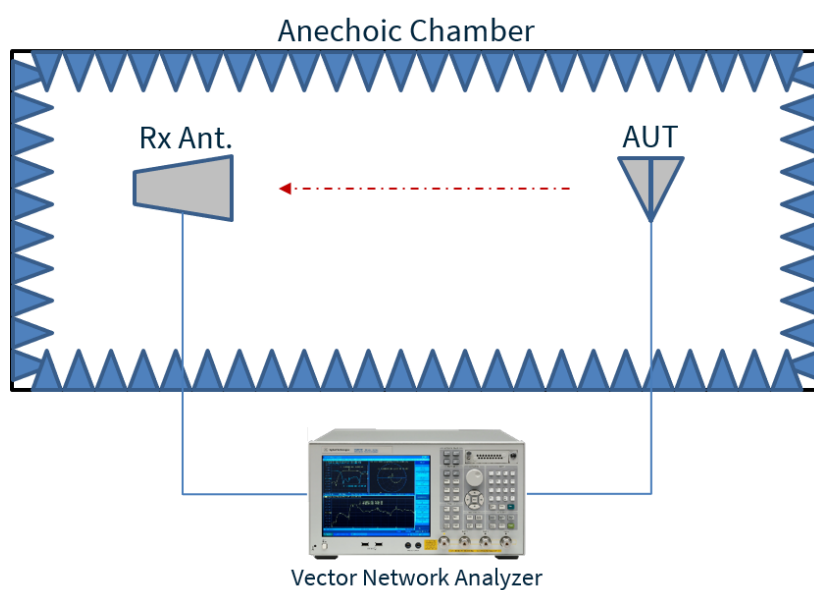


150x90mm Ground Plane



Free Space

6.2 Test Setup - Straight



90x150mm Ground Plane



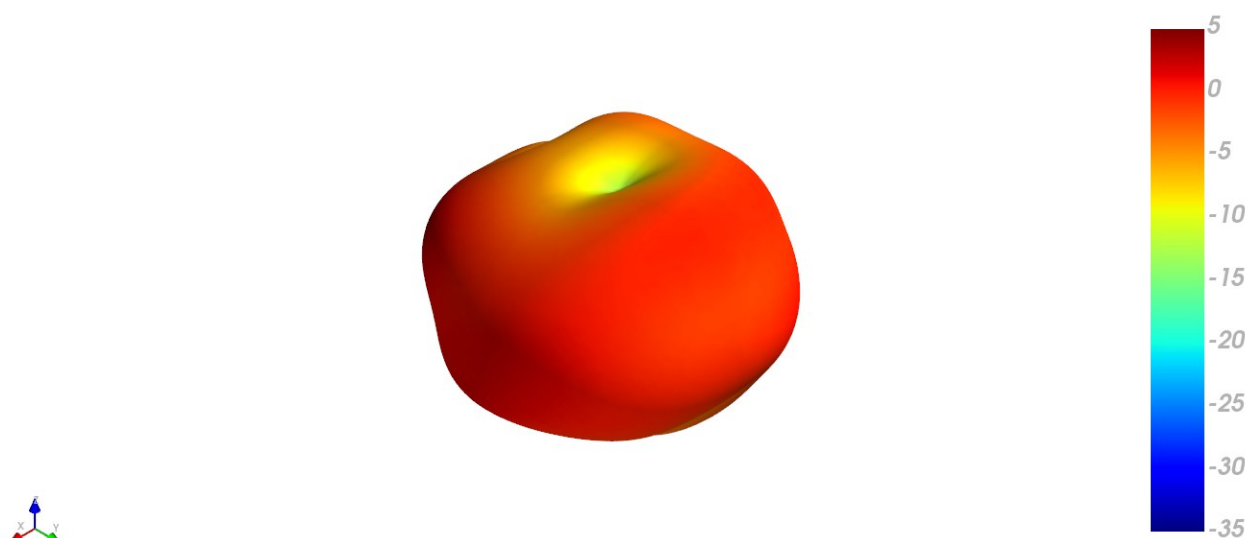
150x90mm Ground Plane



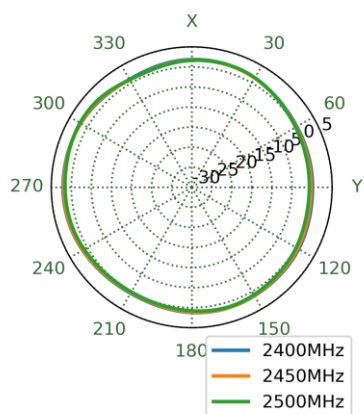
Free Space

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

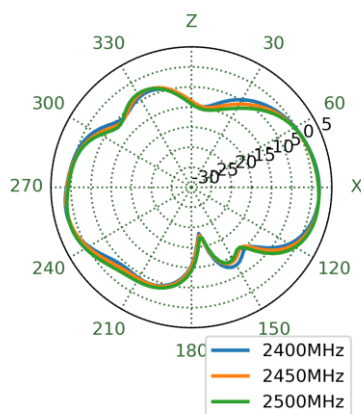
Gain total, 2450MHz



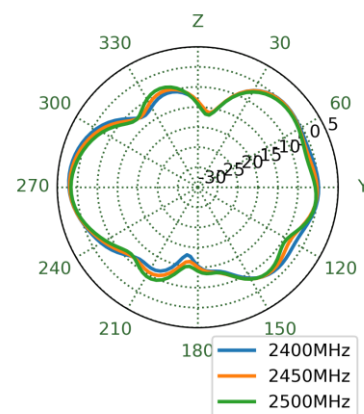
XY Plane



XZ Plane

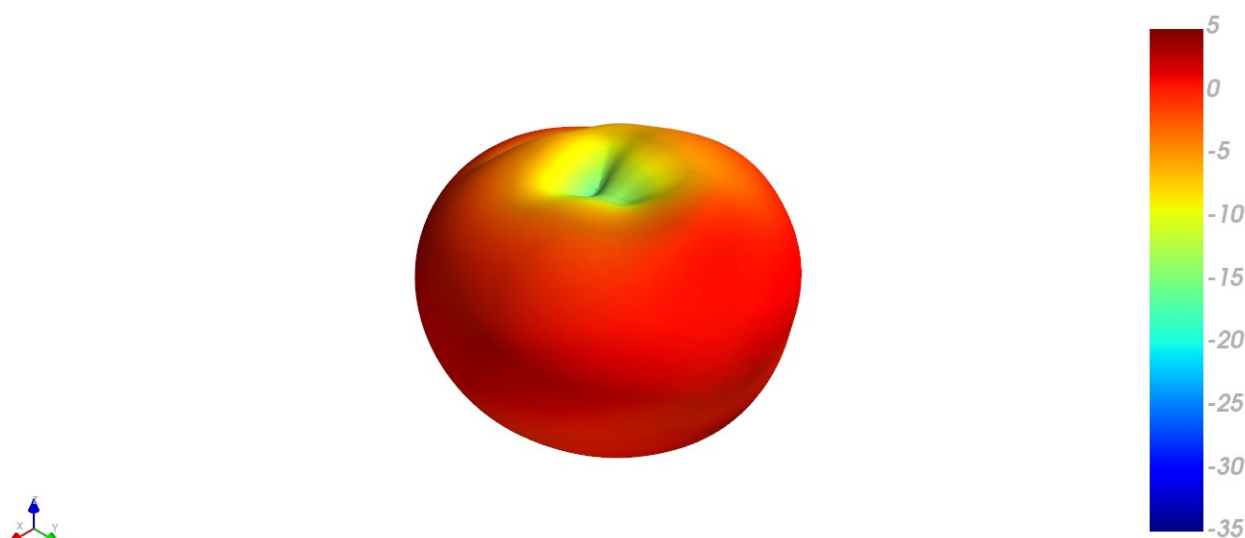


YZ Plane

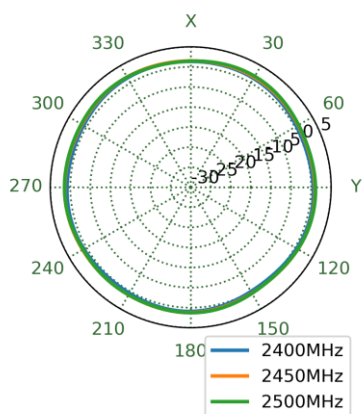


6.4 150*90mm PCB 3D/2D Radiation Patterns-Right angle

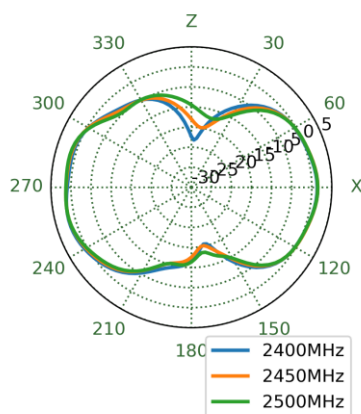
Gain total, 2450MHz



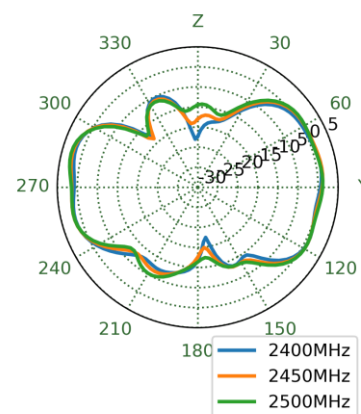
XY Plane



XZ Plane

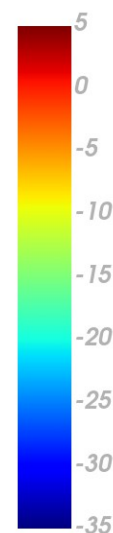
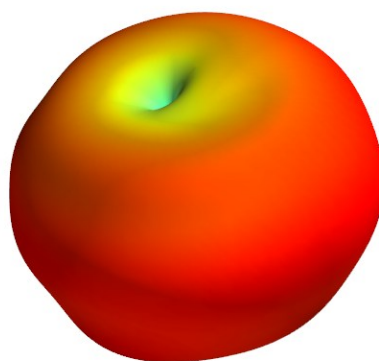


YZ Plane

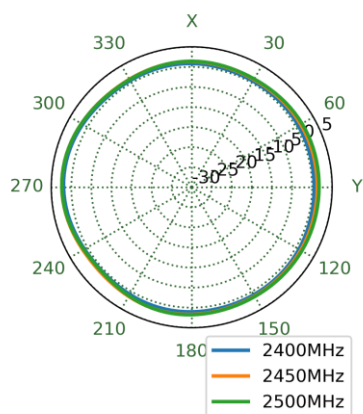


6.5 Free space 3D/2D Radiation Patterns-Right angle

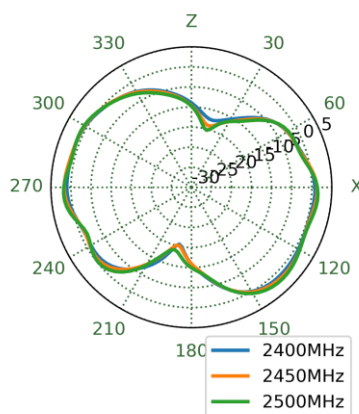
Gain total, 2450MHz



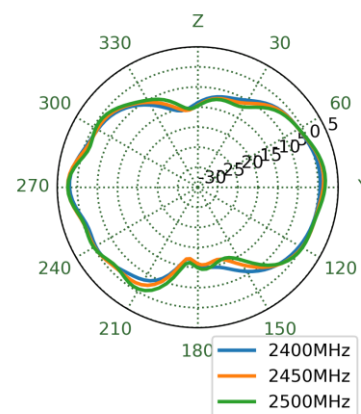
XY Plane



XZ Plane

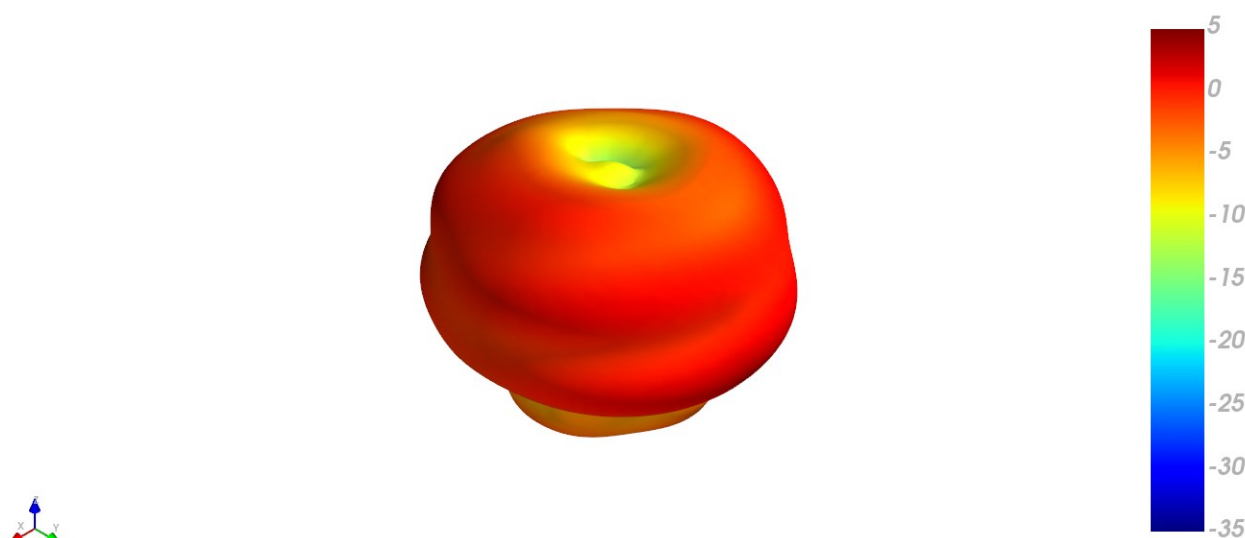


YZ Plane

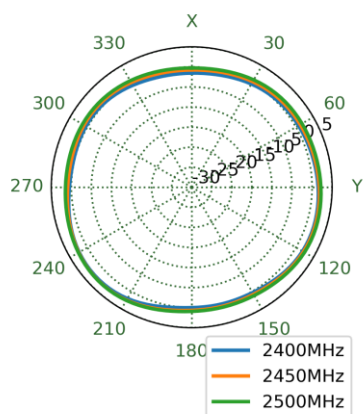


6.6 90*150mm PCB 3D/2D Radiation Patterns- Straight

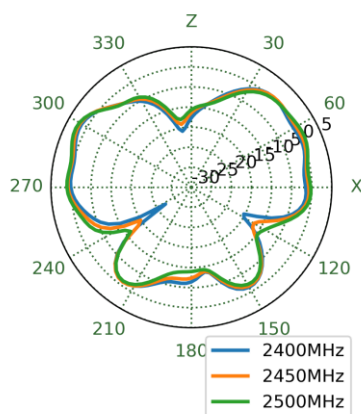
Gain total, 2450MHz



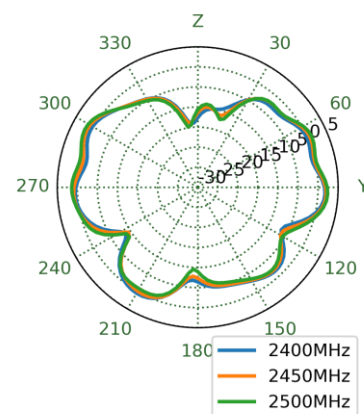
XY Plane



XZ Plane

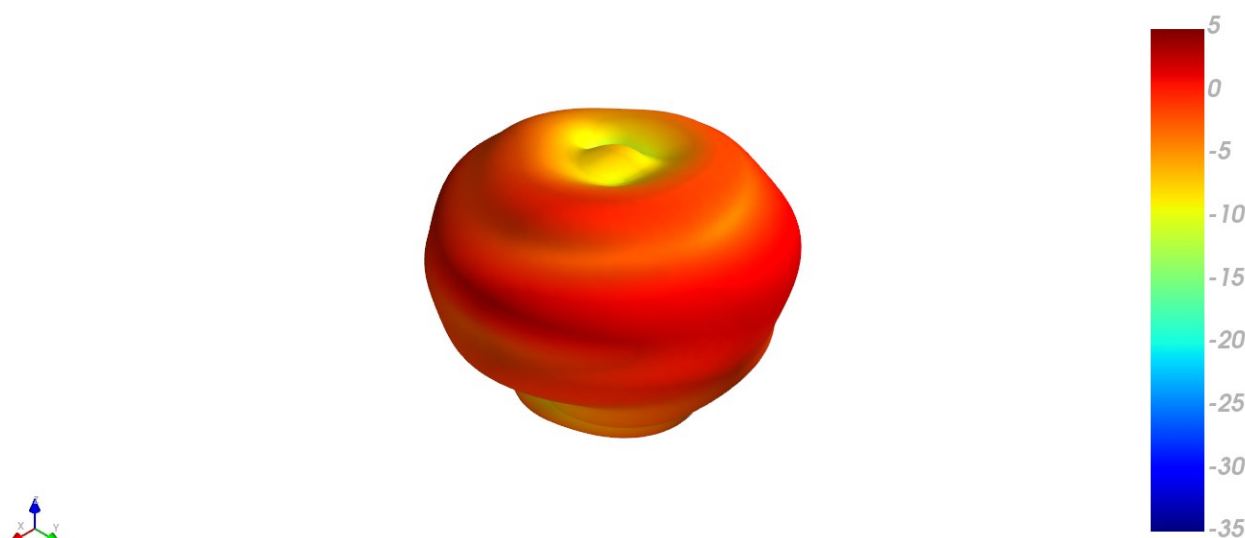


YZ Plane

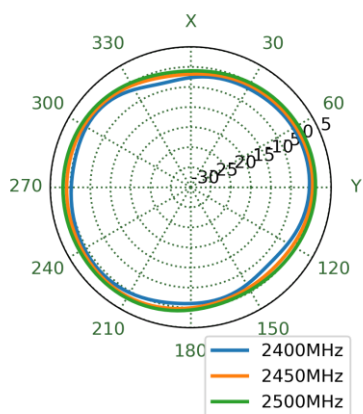


6.7 150*90mm PCB 3D/2D Radiation Patterns-Straight

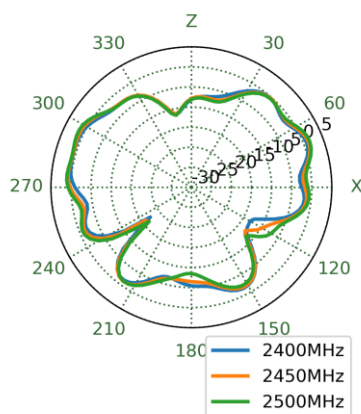
Gain total, 2450MHz



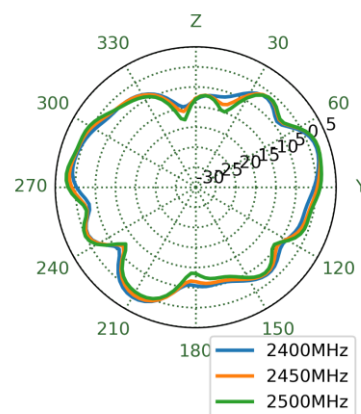
XY Plane



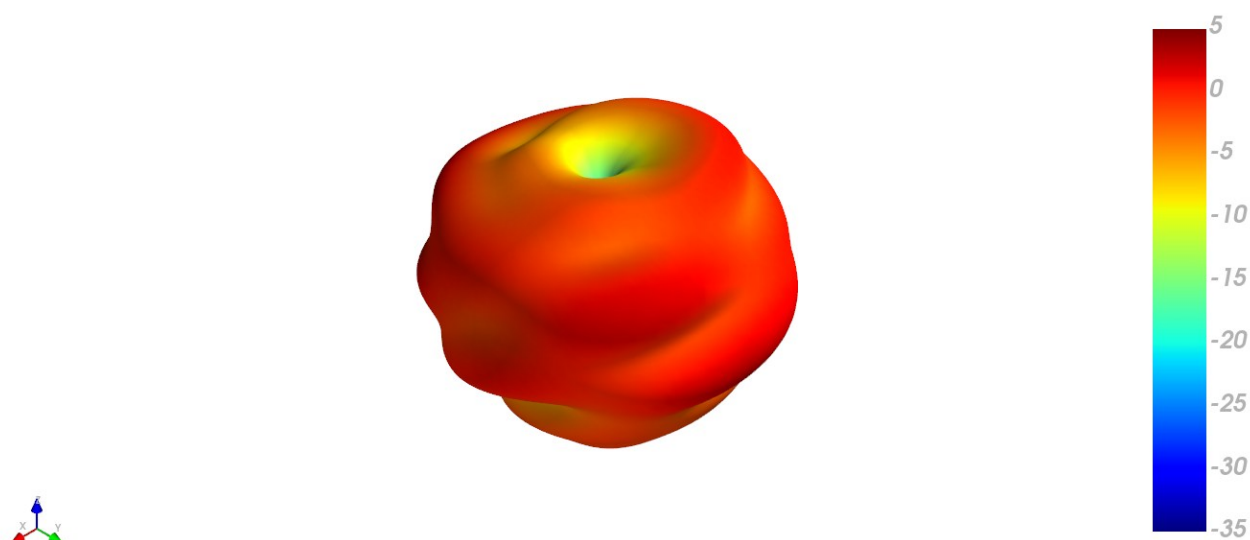
XZ Plane



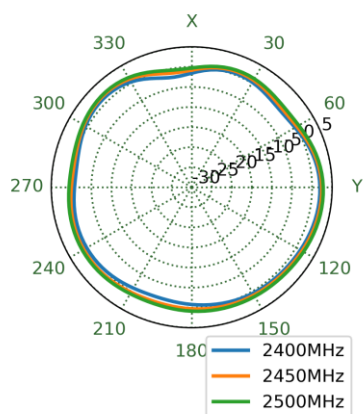
YZ Plane



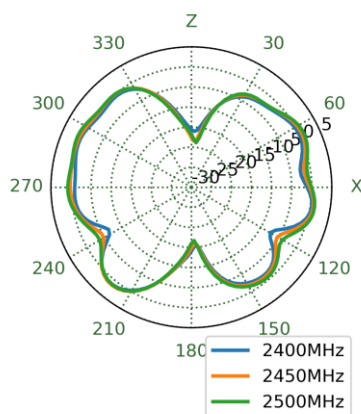
6.8 Free space 3D/2D Radiation Patterns- Straight



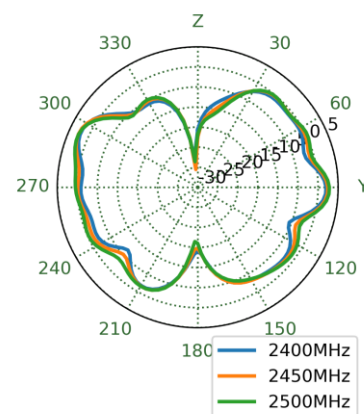
XY Plane



XZ Plane



YZ Plane



Changelog for the datasheet

SPE-11-8-128– GW.11.A153

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

Previous Revisions

Revision: G	
Date:	2018-5-2
Notes:	
Author:	Technical writer

Revision: E	
Date:	2014-6-6
Notes:	updated IP65 rating
Author:	Anie Dole

Revision: C	
Date:	2013-3-12
Notes:	Edited Radiation Patterns from Wayne
Author:	Anie Dole

Revision: A (Original First Release)	
Date:	2011-10-26
Notes:	Initial Release
Author:	Technical writer

Revision: F	
Date:	2015-2-18
Notes:	added note on Gain
Author:	Anie Dole

Revision: D	
Date:	2013-7-4
Notes:	Updated version form Martin
Author:	Anie Dole

Revision: B	
Date:	2012-3-26
Notes:	
Author:	Technical writer



www.taoglas.com

