TAOGLAS



Datasheet

Part No:
GW.11. A153W

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

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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, 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 80.5% 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.

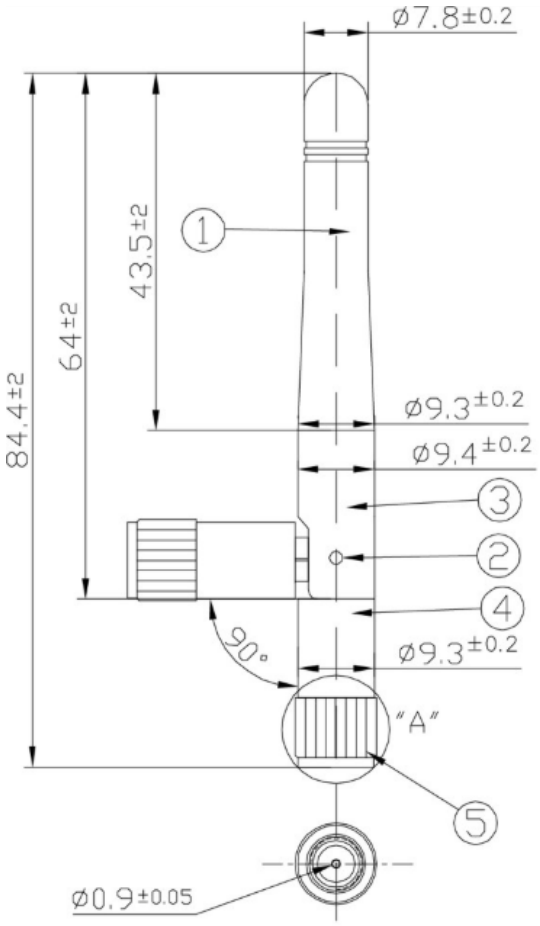
2. Specification

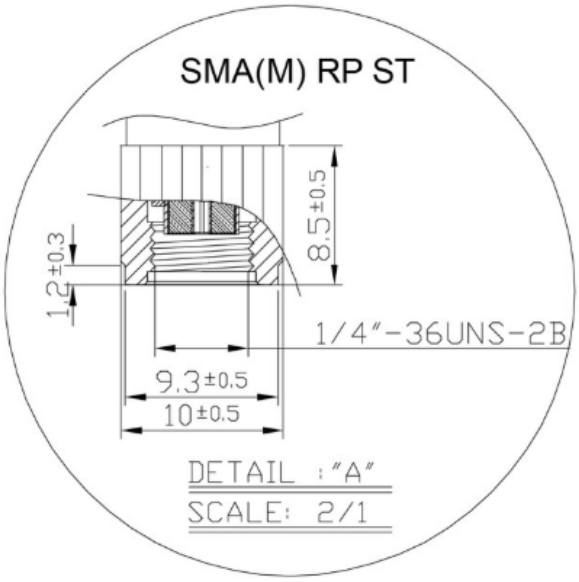
Electrical									
Band	**Frequency (MHz)**	**Measurement**	**Efficiency (%)**	**Average Gain (dBi)**	**Peak Gain (dBi)**	**Impedance**	**Polarization**	**Radiation Pattern**	**Max. input power**
2.4GHz **Wi-Fi** **Bluetooth** **ISM** **ZigBee**	2400–2484	90x150mm PCB - RA	79.9	-0.98	2.77	50 Ω	Linear	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

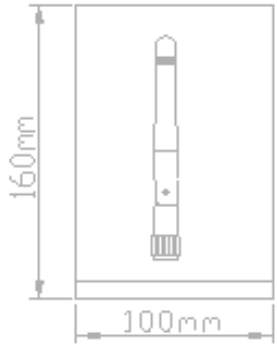
3. Mechanical Drawing



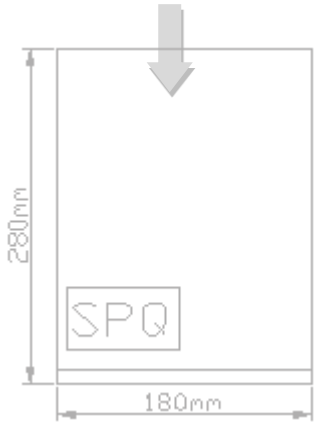


	Name	Material	Finish	QTY
1	Antenna Housing	TPEE	White	1
2	Rotary Shaft	Brass, Cr	White	1
3	Upper Base	PC+PBT	White	1
4	Bottom Base	PC+PBT	White	1
5	SMA(M) RP	PBT+Brass	White	1

4. Packaging



☑ 10 PCS / Small PE bag



☑ 100 PCS / Big PE Bag

☑SPQ Label



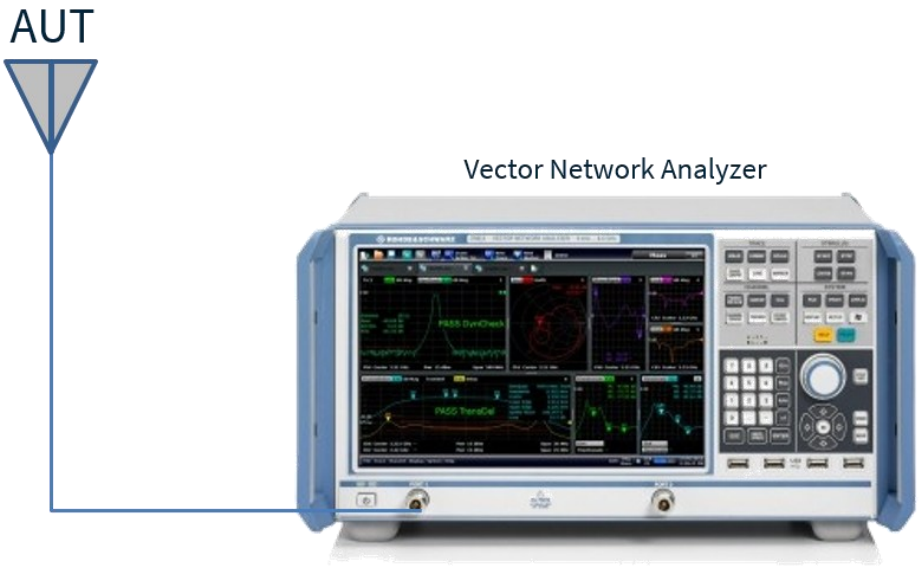
☑ 1500 PCS / Carton

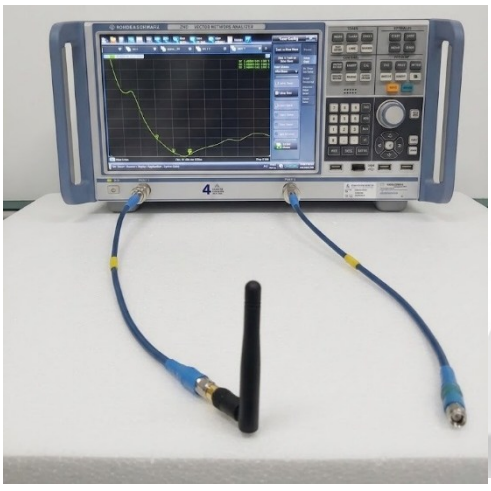
☑ Carton(mm): 360x310x160

☑ Carton Label

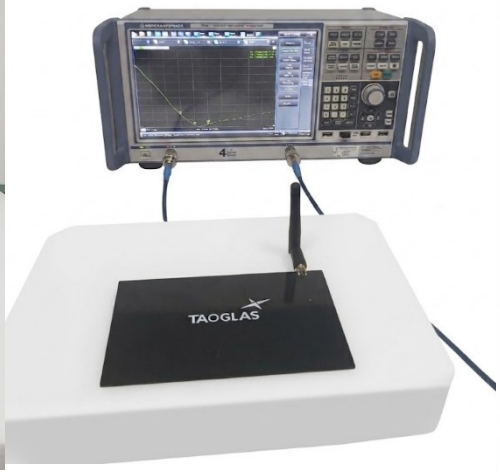
5. Antenna Characteristics

5.1 Test Setup - Bent





Free Space

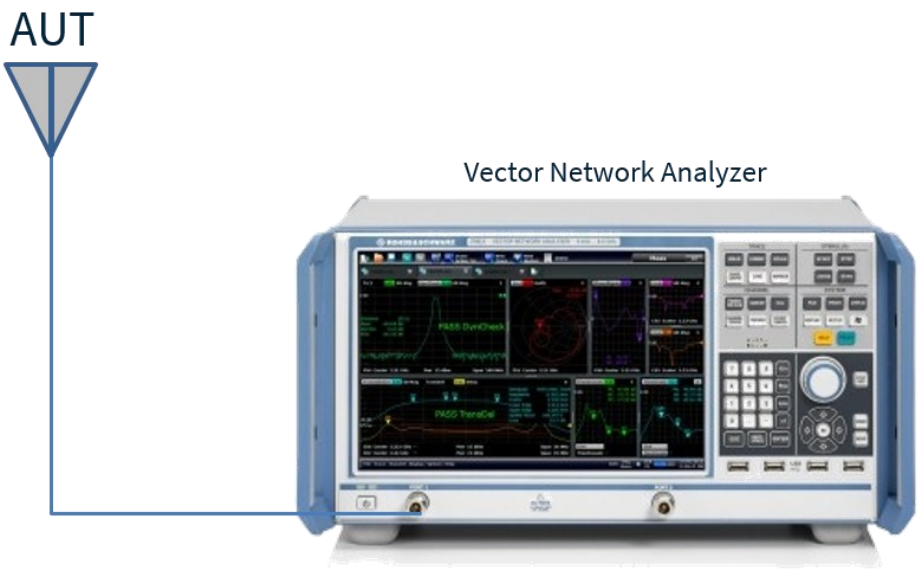


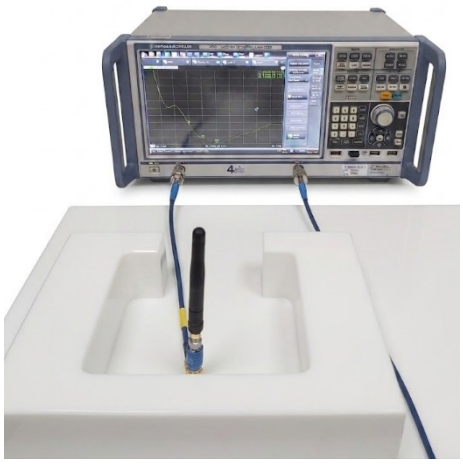
15x9cm Ground Plane



9x15cm Ground Plane

5.2 Test Setup - Straight





Free Space

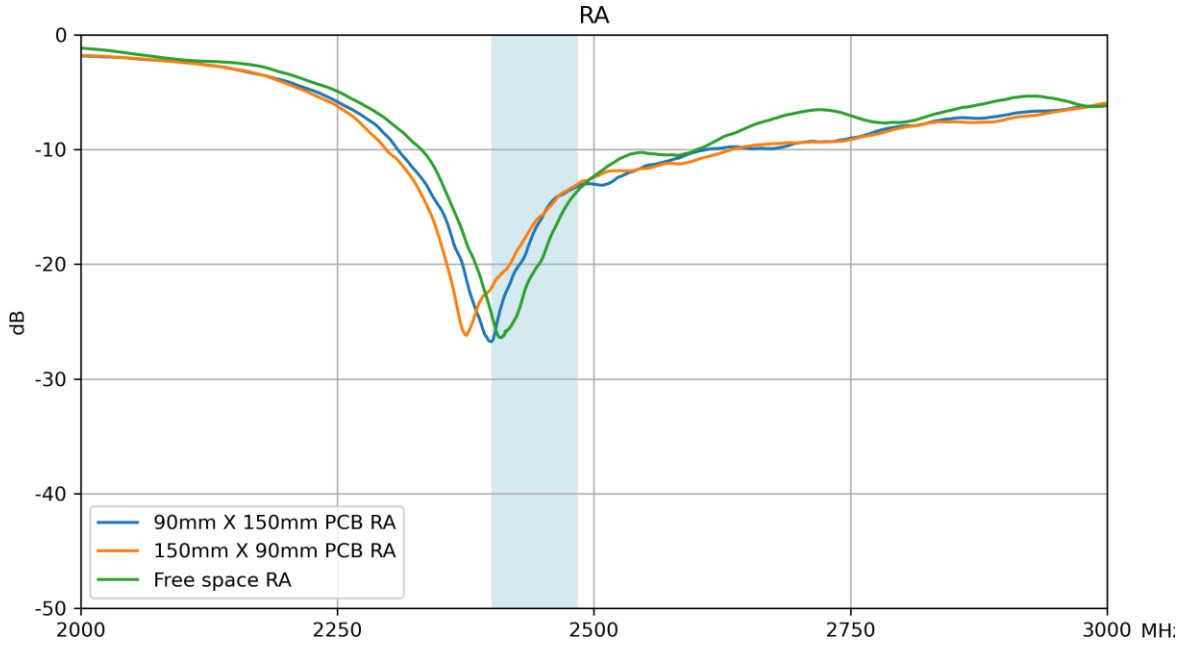


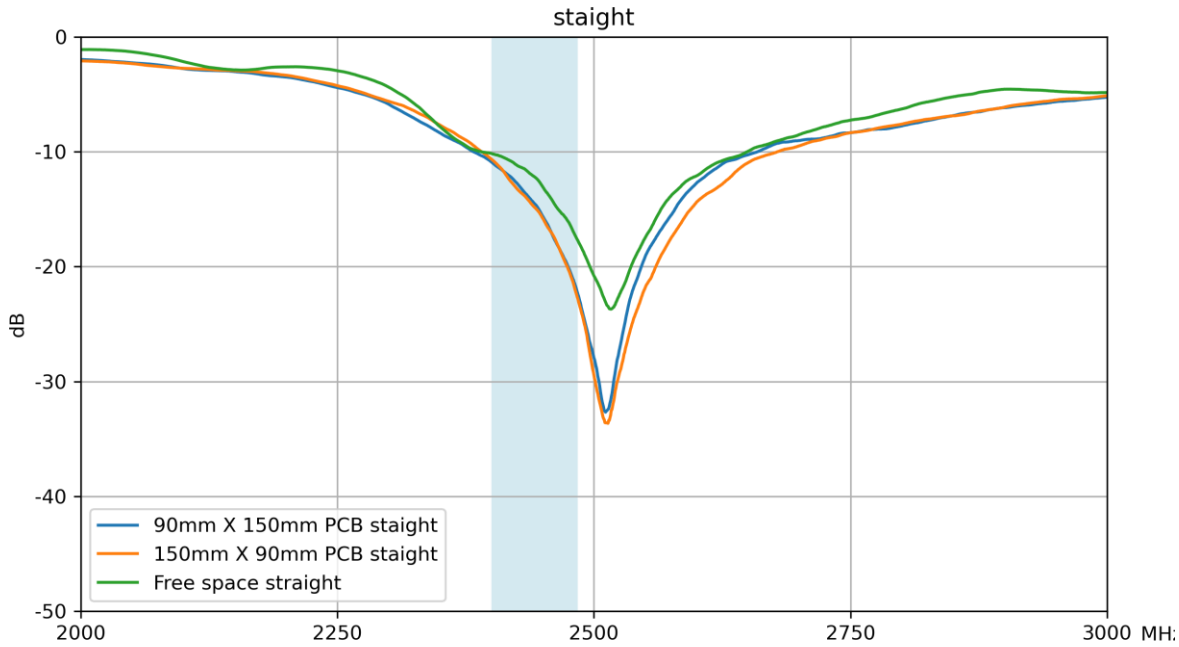
15x9cm Ground Plane



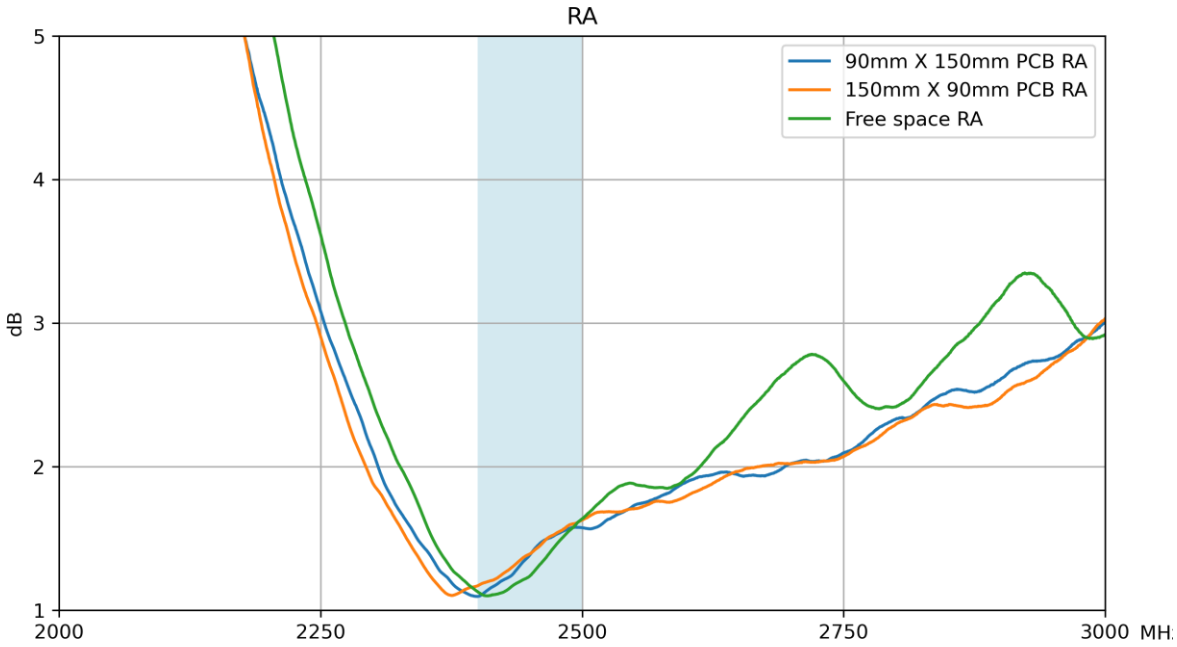
9x15cm Ground Plane

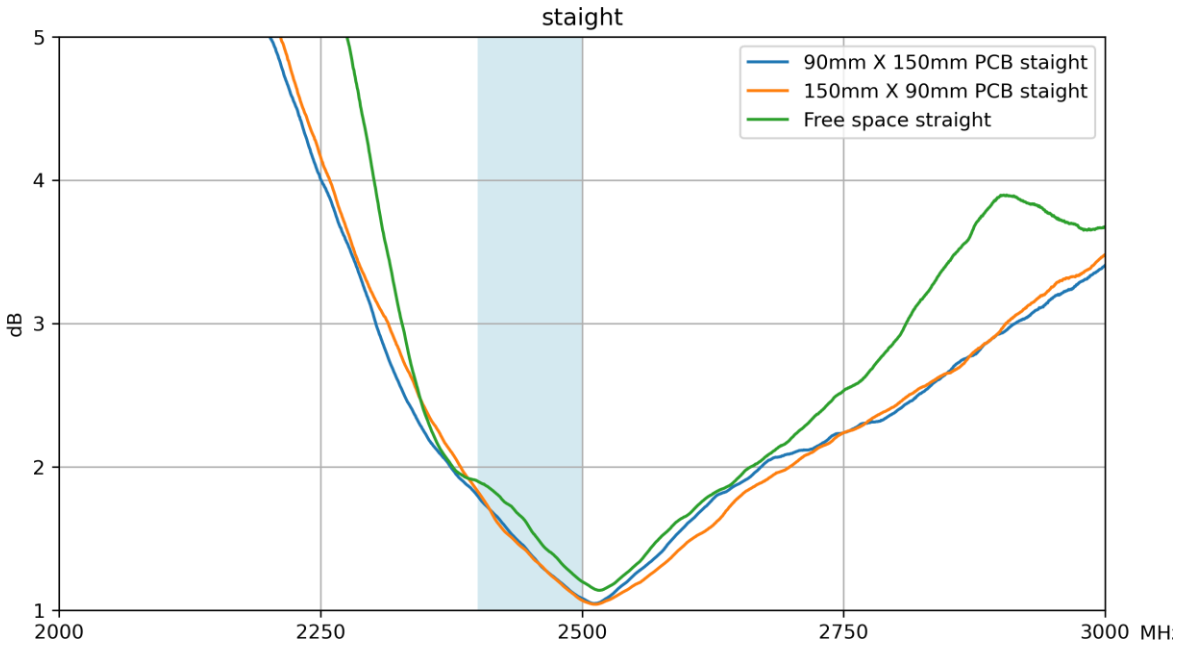
5.3 Return Loss



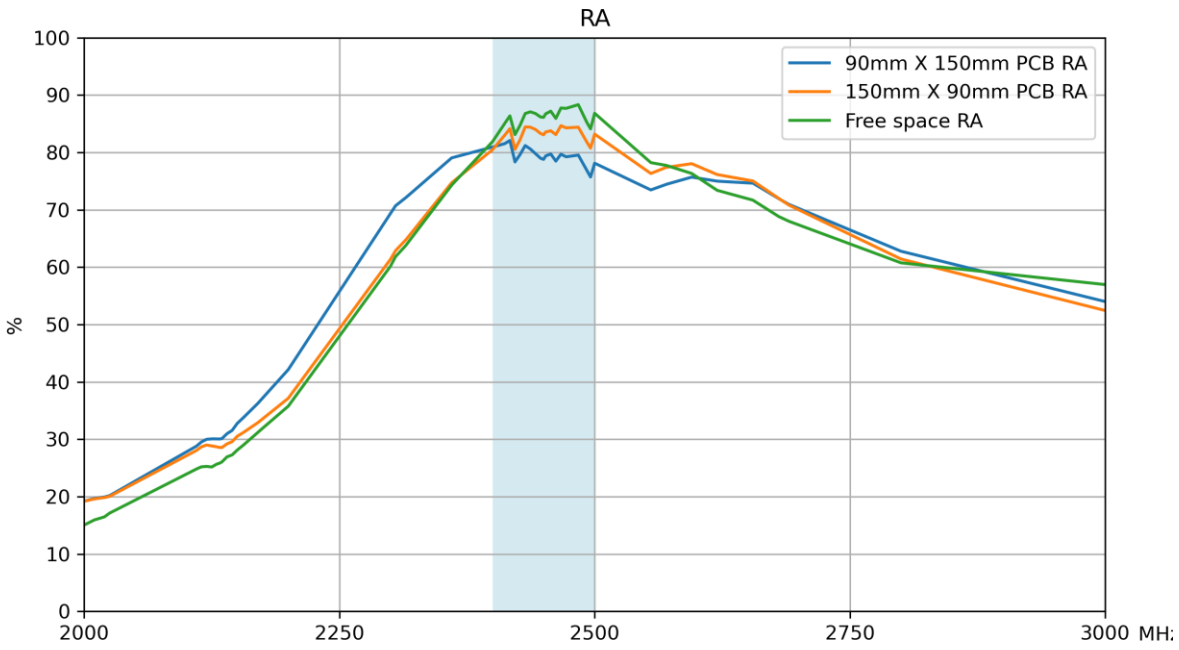


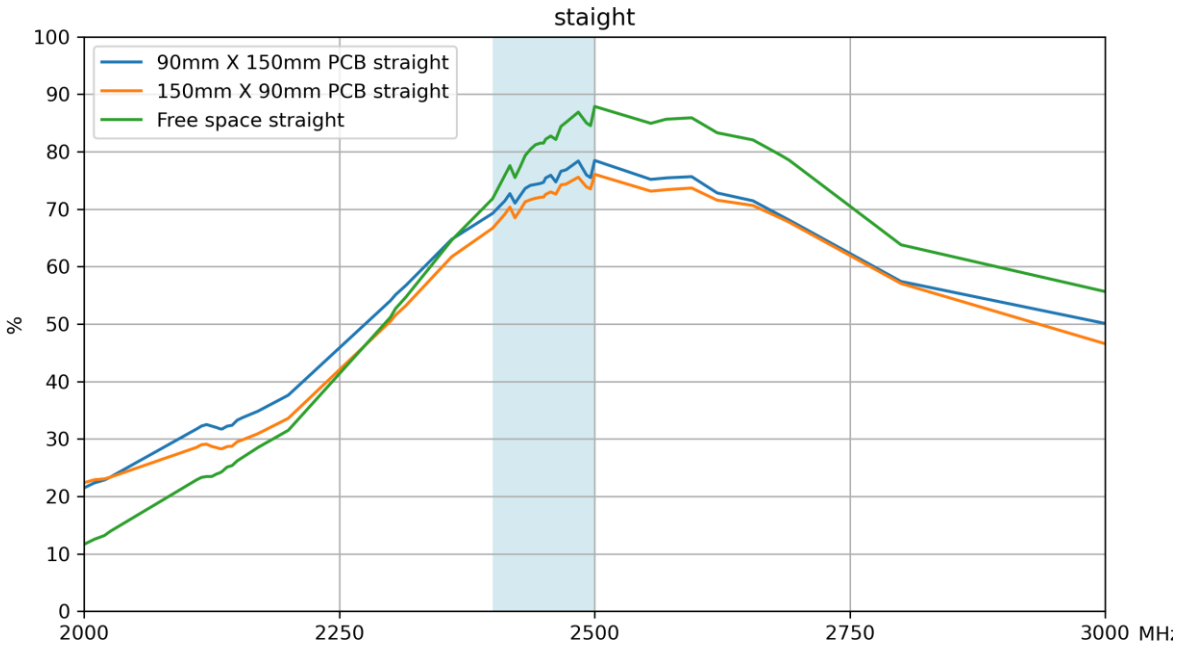
5.4 VSWR


RA
90mm X 150mm PCB RA
150mm X 90mm PCB RA
Free space RA
dB
5
4
3
2
1
2000
2250
2500
2750
3000
MH

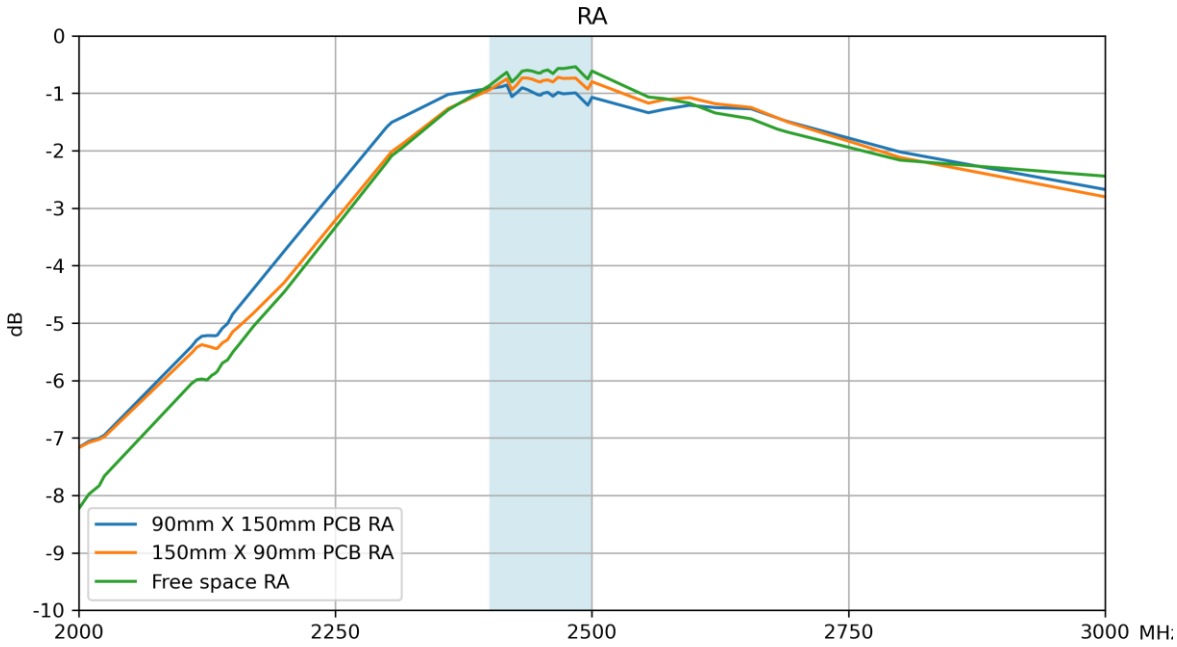

staight
90mm X 150mm PCB staight
150mm X 90mm PCB staight
Free space straight
dB
5
4
3
2
1
2000
2250
2500
2750
3000
MH

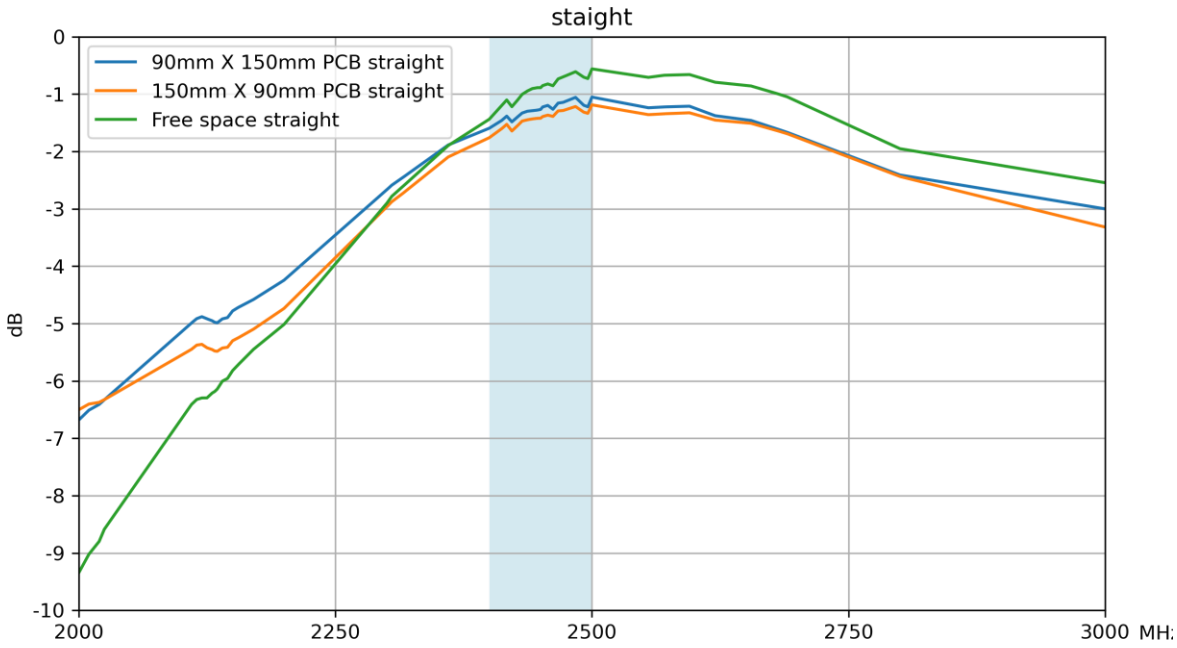
5.5 Efficiency



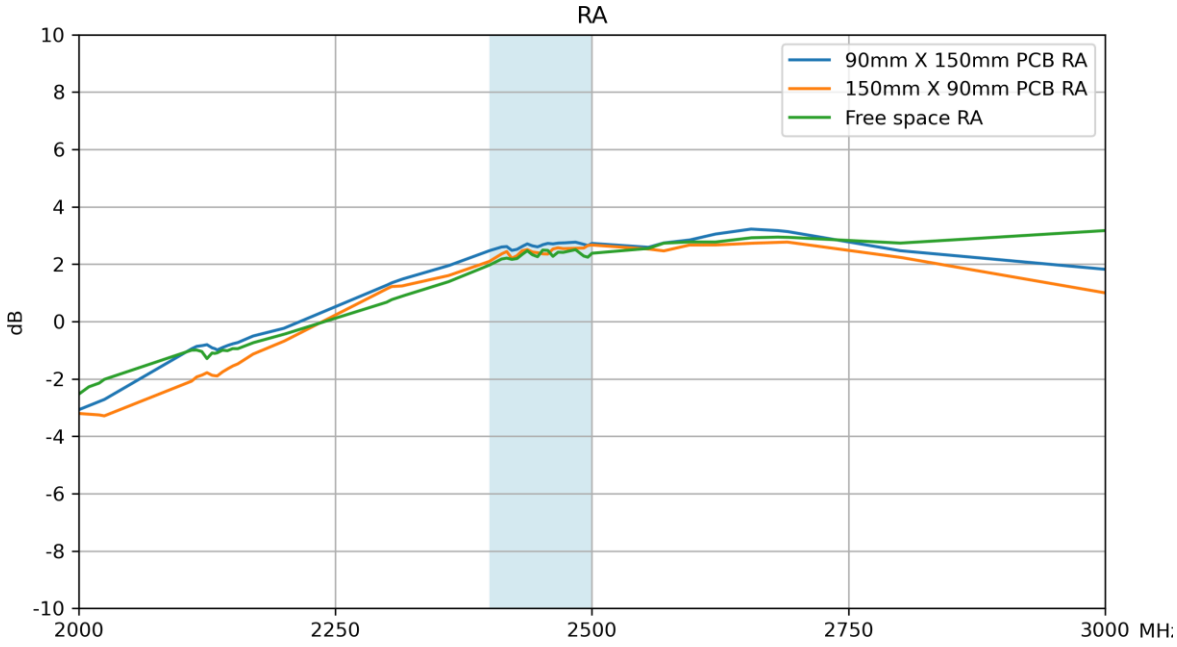


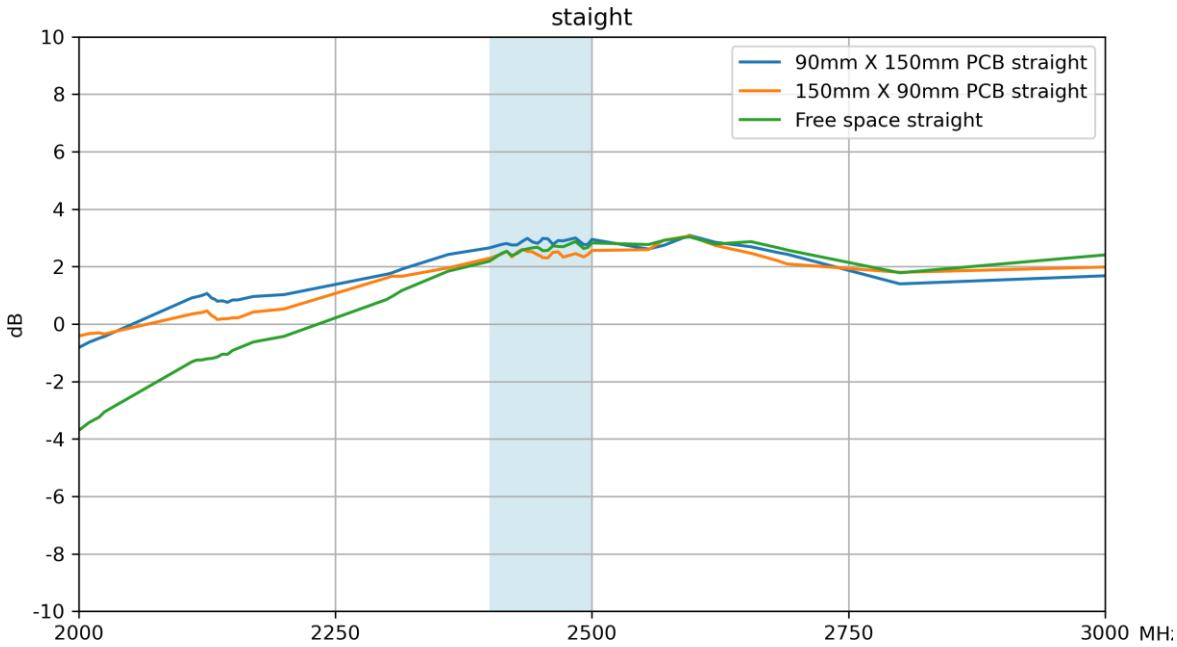
5.6 Average Gain





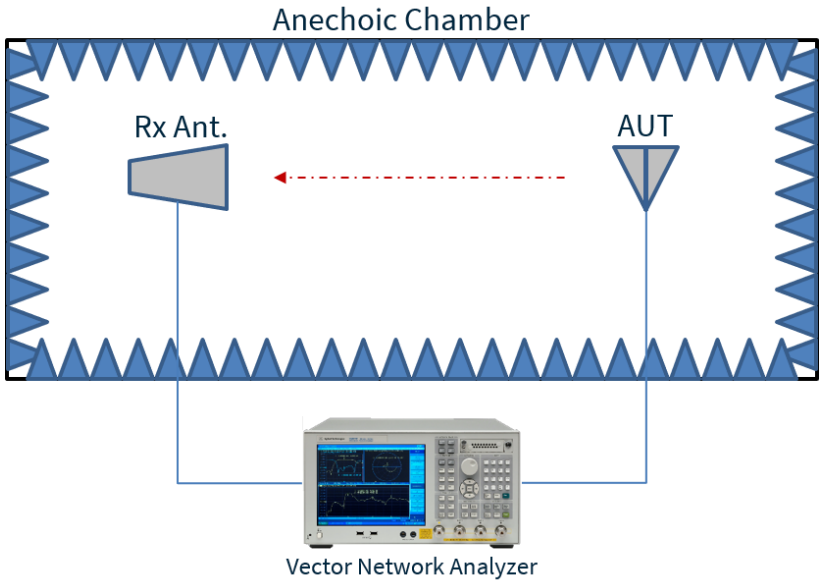
5.7 Peak Gain


RA
90mm X 150mm PCB RA
150mm X 90mm PCB RA
Free space RA
dB
10
8
6
4
2
0
-2
-4
-6
-8
-10
2000
2250
2500
2750
3000
MH:


staight
90mm X 150mm PCB straight
150mm X 90mm PCB straight
Free space straight
dB
10
8
6
4
2
0
-2
-4
-6
-8
-10
2000
2250
2500
2750
3000
MH:

6. Radiation Patterns

6.1 Test Setup - Straight

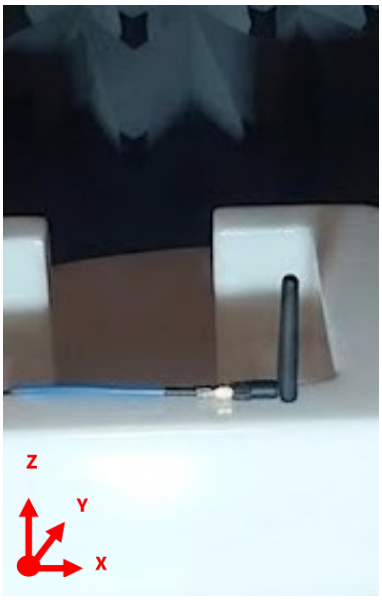




90x150mm Ground Plane

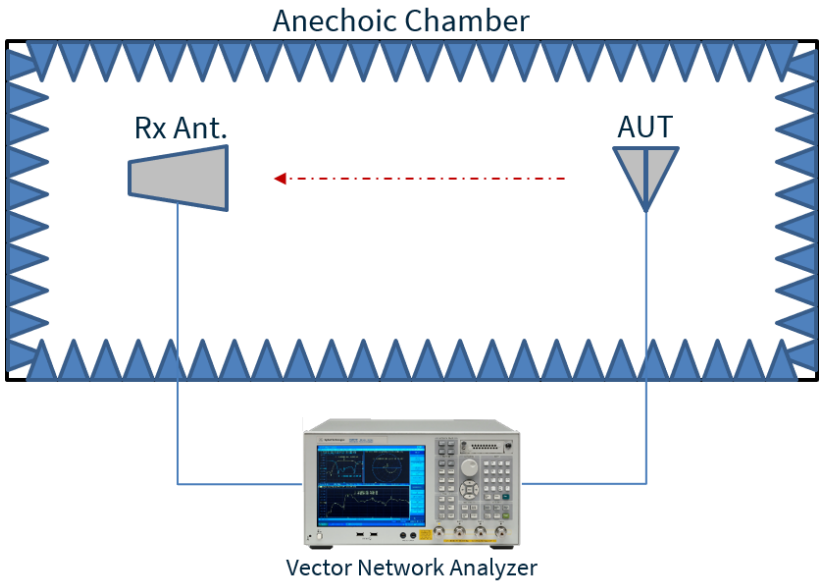


150x90mm Ground Plane



Free Space

6.2 Test Setup - Bent





90x150mm Ground Plane



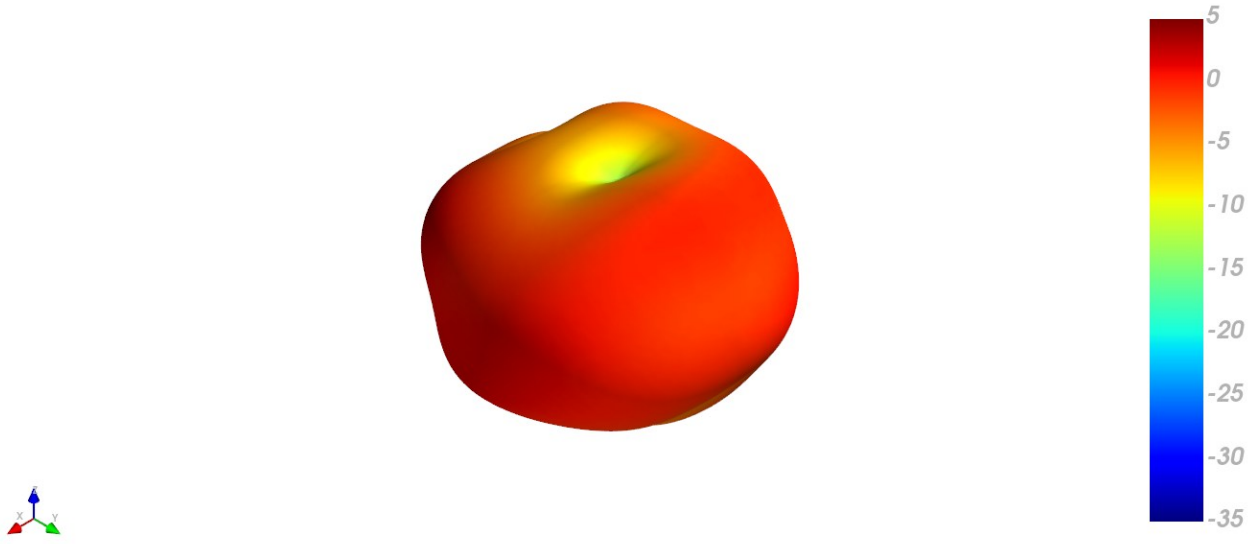
150x90mm Ground Plane



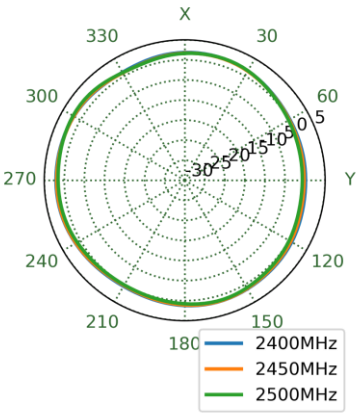
Free Space

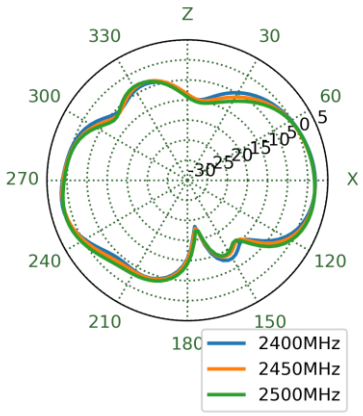
6.3 90*150mm PCB 3D/2D Radiation Patterns-Right angle

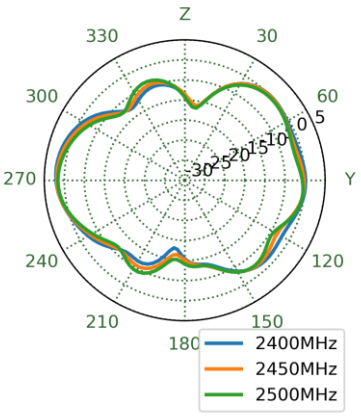
Gain total, 2450MHz



XY Plane	XZ Plane	YZ Plane

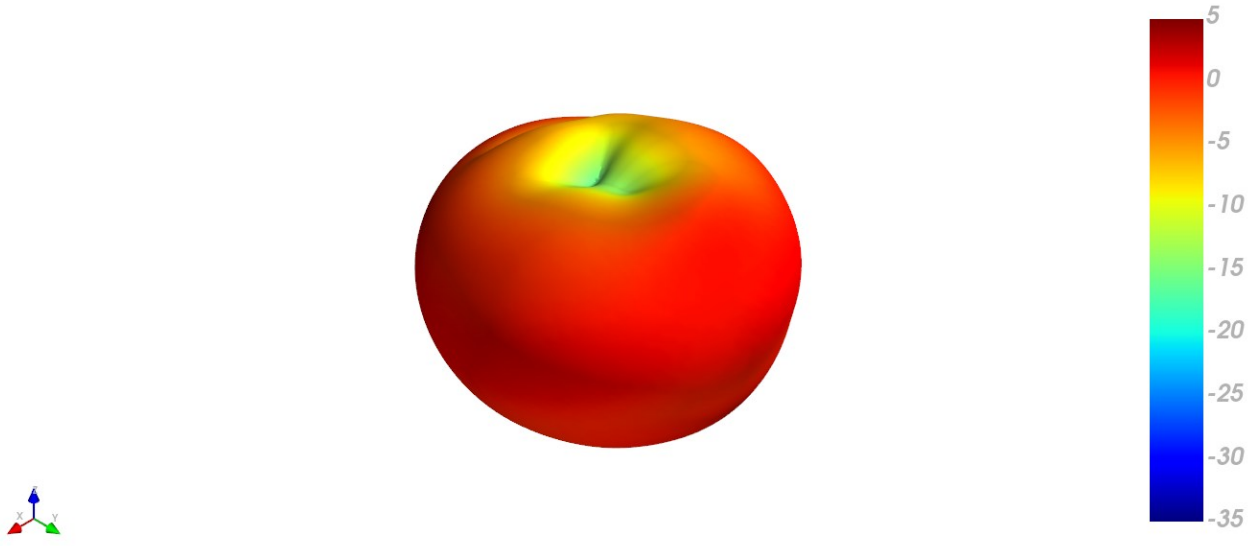


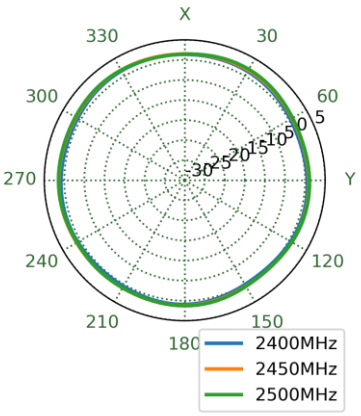
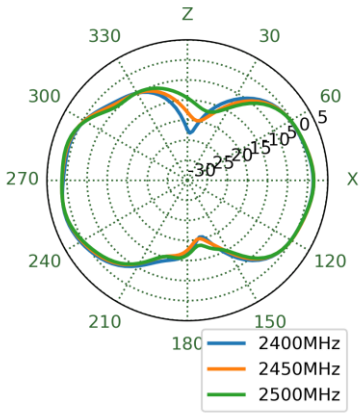
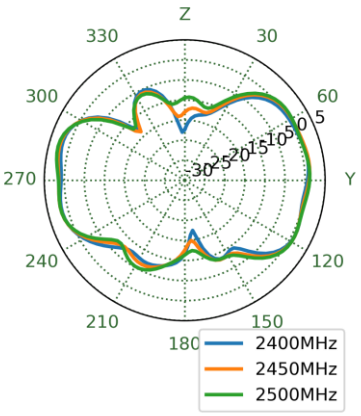




6.4 150*90mm PCB 3D/2D Radiation Patterns-Right angle

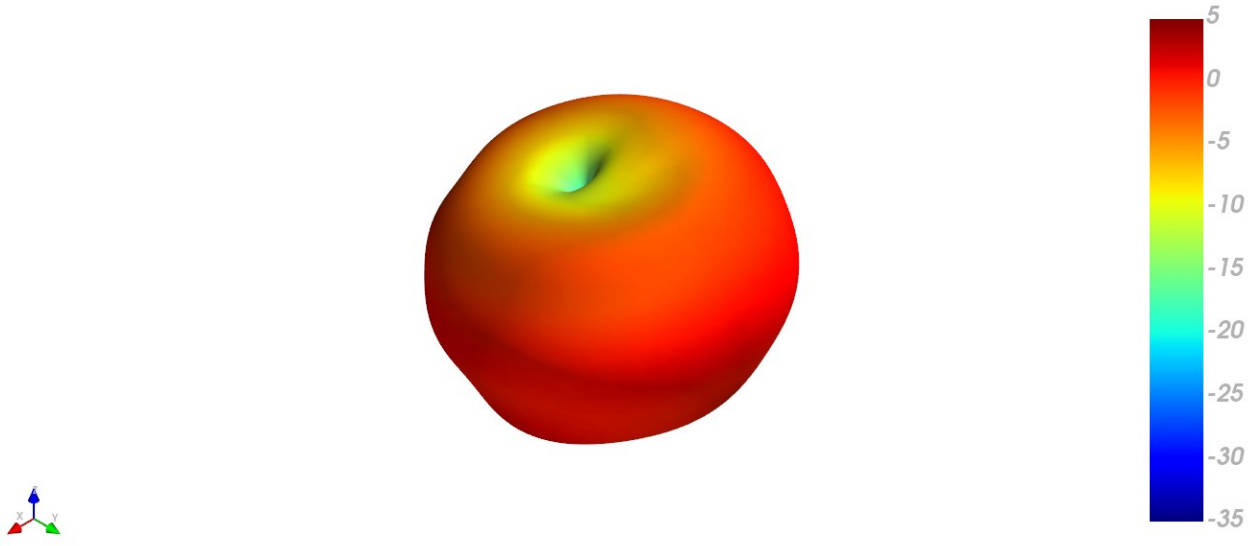
Gain total, 2450MHz



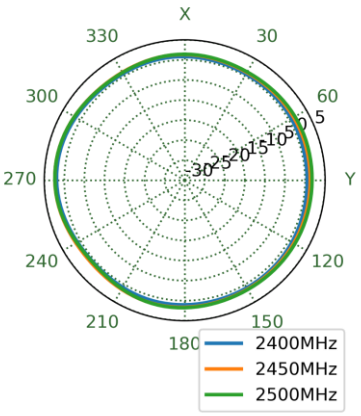
XY Plane	XZ Plane	YZ Plane
		

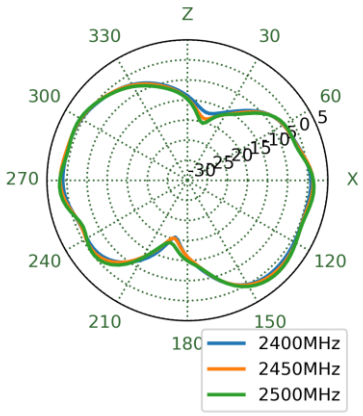
6.5 Free space 3D/2D Radiation Patterns-Right angle

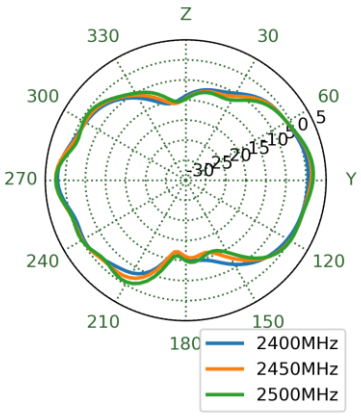
Gain total, 2450MHz



XY Plane	XZ Plane	YZ Plane

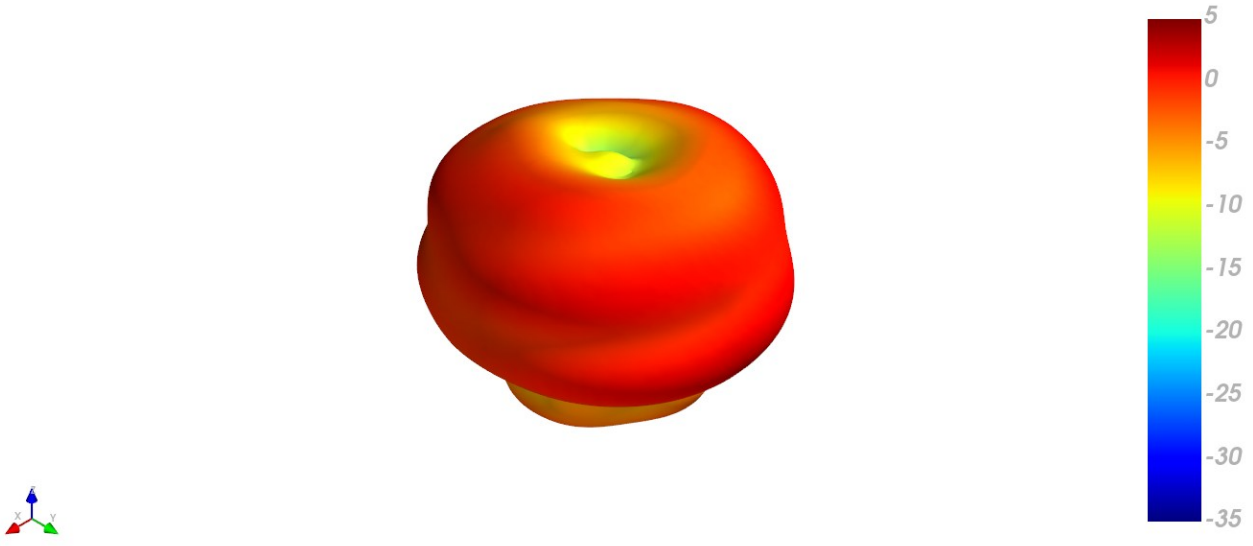


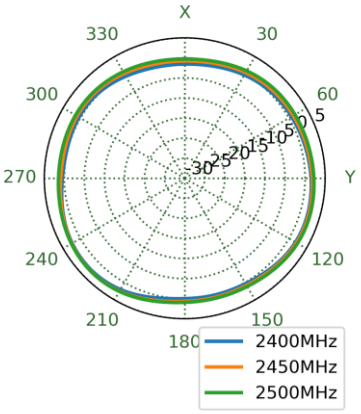
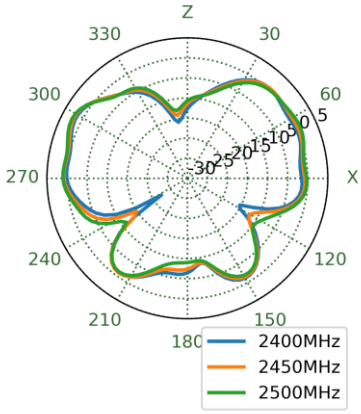
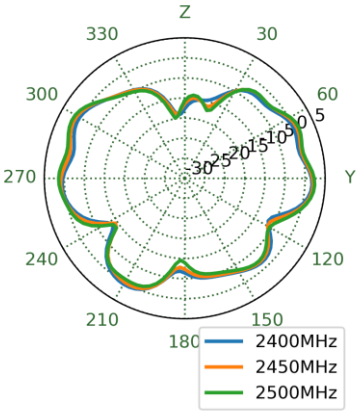




6.6 90*150mm PCB 3D/2D Radiation Patterns- Straight

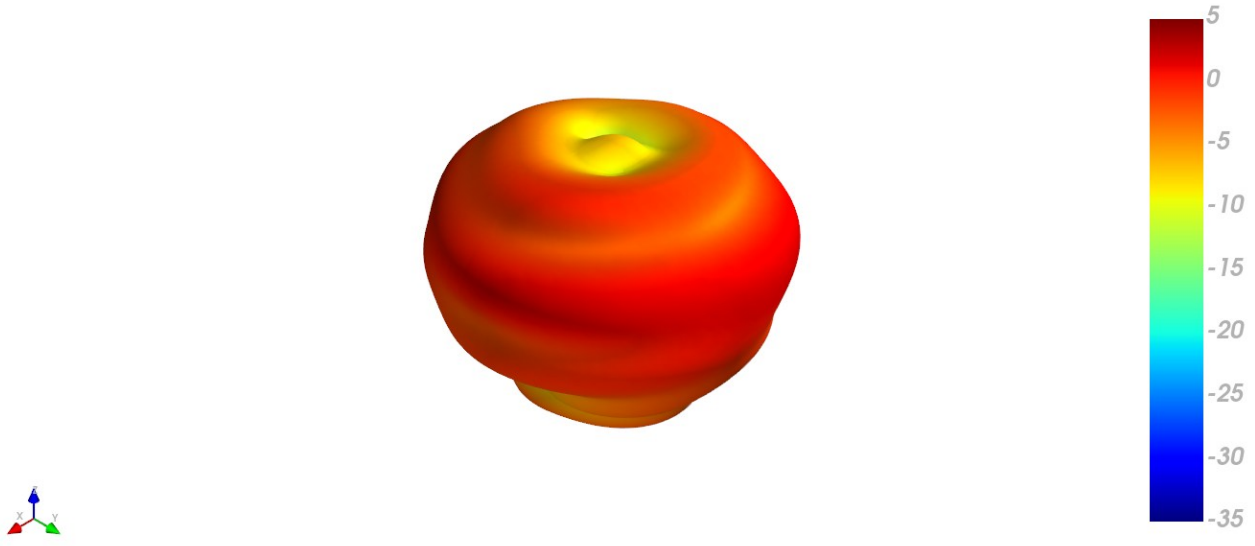
Gain total, 2450MHz

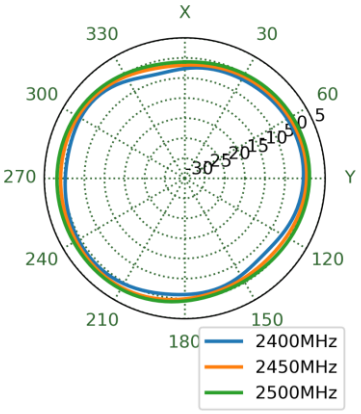
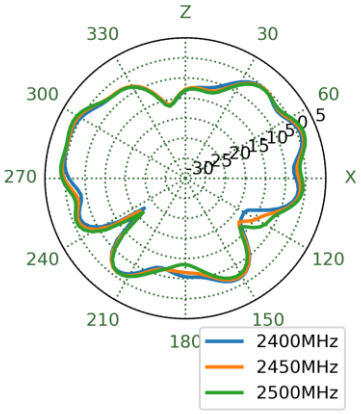
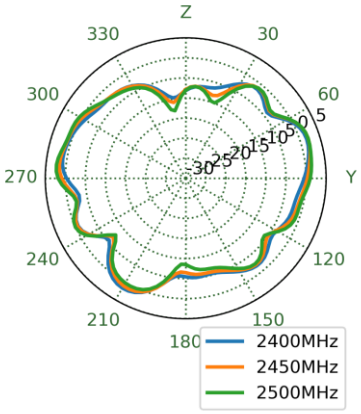


XY Plane	XZ Plane	YZ Plane
		

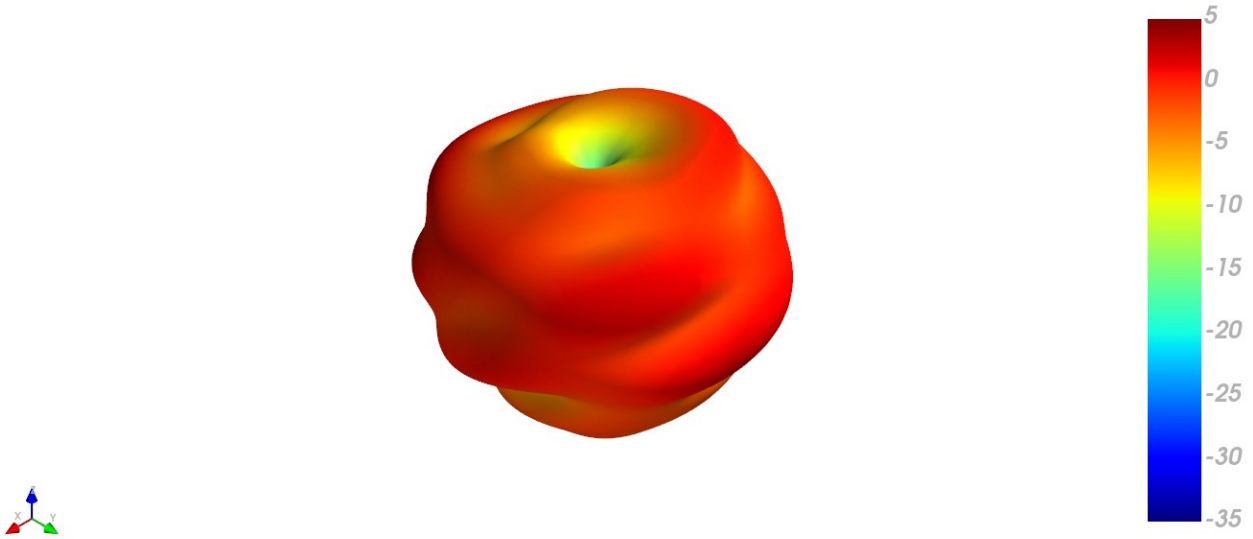
6.7 150*90mm PCB 3D/2D Radiation Patterns-Straight

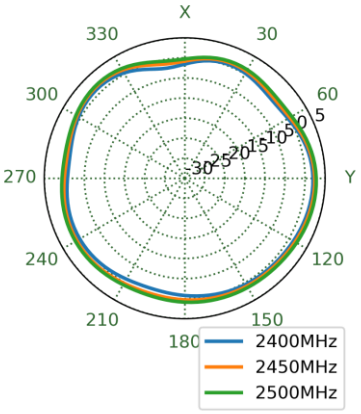
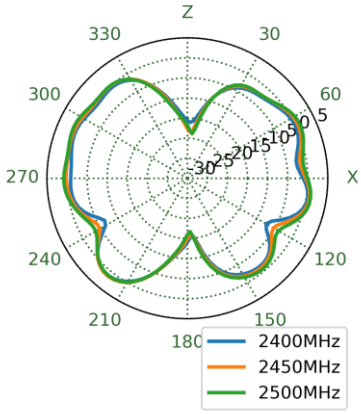
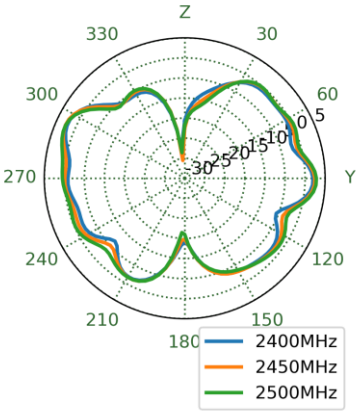
Gain total, 2450MHz



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-11-8-133– GW.11. A153W

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:	Corrected radiation patterns (copied from GW.11. A153 datasheet)
Author:	Technical writer

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

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

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

Revision: C	
Date:	2013-4-17
Notes:	Edited Radiation Patterns from Wayne
Author:	Anie Dole

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

Revision: A (Original First Release)	
Date:	2011-11-11
Notes:	Initial Release
Author:	Technical writer

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