



TAOGLAS®



Datasheet

2.4/5.8GHz Terminal Mount Antenna

Part No:
GW.53.A151

Description

2.4/5.8GHz Terminal Mount Antenna RP-SMA(M) Straight

Features:

- 2.4/5.8GHz Band Operation
- Small Factor
- RP-SMA(M) Straight Connector
- IP67 Rated Enclosure
- Dimensions: $\varnothing 8.5\text{mm} \times 35.8\text{mm}$
- RoHS & Reach Compliant

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1. Introduction



The GW.53 is one of a range of super small form factor, lightweight, IP67 rated terminal mount antennas from Taoglas. It is ideal for wireless applications operating on Bluetooth® and Wireless LAN bands covering 2.4/5.8GHz. Its robust silicone enclosure is engineered to perform in the most challenging of external environments when connecting IoT devices to smart grid and smart monitoring applications.

With its IP67 rating, the GW.53 can withstand dust, dirt, and even complete submersion in water, making it the perfect choice for any IoT application that demands both reliable connectivity and extreme durability. Whether you're connecting sensors for remote agricultural, monitoring equipment in industrial settings, or building the infrastructure for smart cities, the GW.53 is a great solution.

If you are looking for an antenna that's small, tough, and versatile, look no further than the GW.53. Contact your regional Taoglas Customer Services Team for more information or to discuss your project.

2. Specification

Wi-Fi Electrical							
Band		Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern
Wi-Fi 2.4~2.5GHz	In Free space	21.9	-6.5	-0.61	50 Ω	Linear	Omni
	On 15x9cm Ground plane (Long side)	56.9	-2.45	3.35			
	On 9x15cm Ground plane (Short side)	53	-2.75	4.03			
Wi-Fi 5.1~5.85GHz	In Free space	43.5	-3.62	1.13			
	On 15x9cm Ground plane (Long side)	64.0	-1.94	6.51			
	On 9x15cm Ground plane (Short side)	60.5	-2.18	3.84			

Mechanical	
Dimensions	ø8.5mm x 35.8mm
Weight	5.5g
Material	Silicone
Connector	RP-SMA(M)

Environmental	
Operating Temperature	-40°C ~ +85°C
Waterproof Rating	IP67

3. Antenna Characteristics

3.1 Test Setup

AUT



Vector Network Analyzer

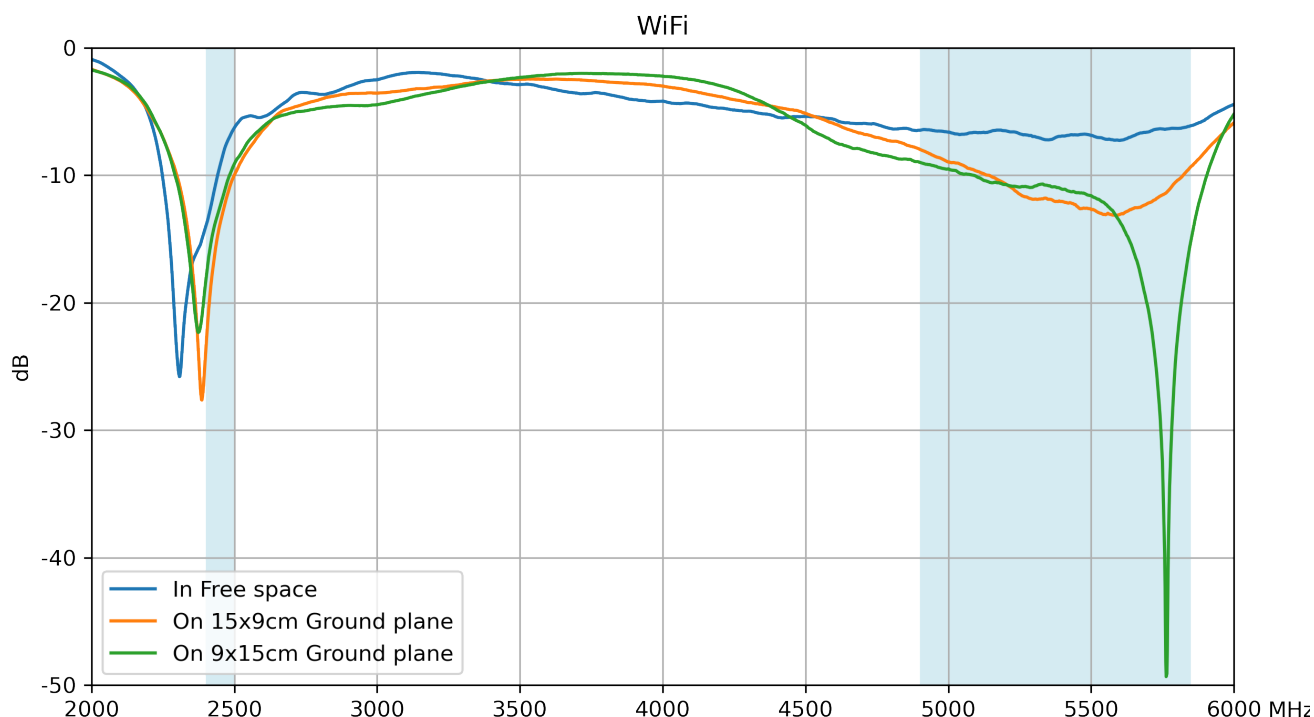


In Free Space

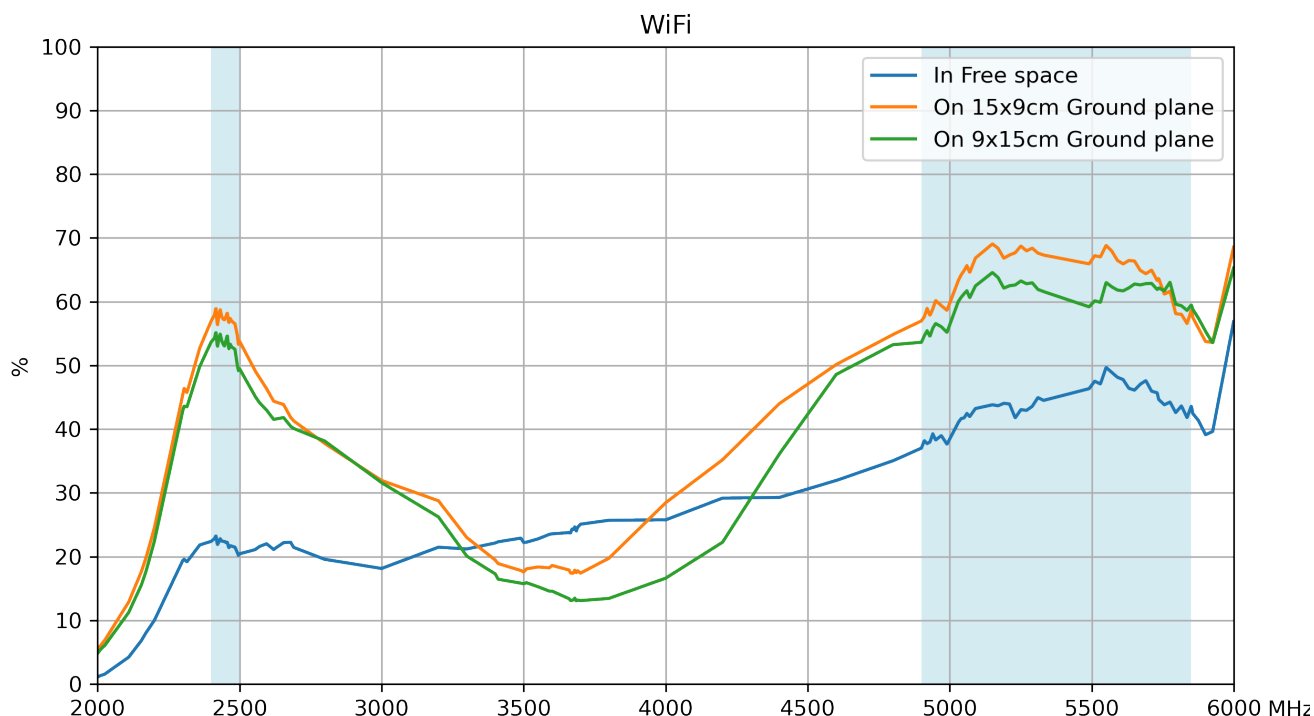
On 15x9cm Ground plane

On 9x15cm Ground plane

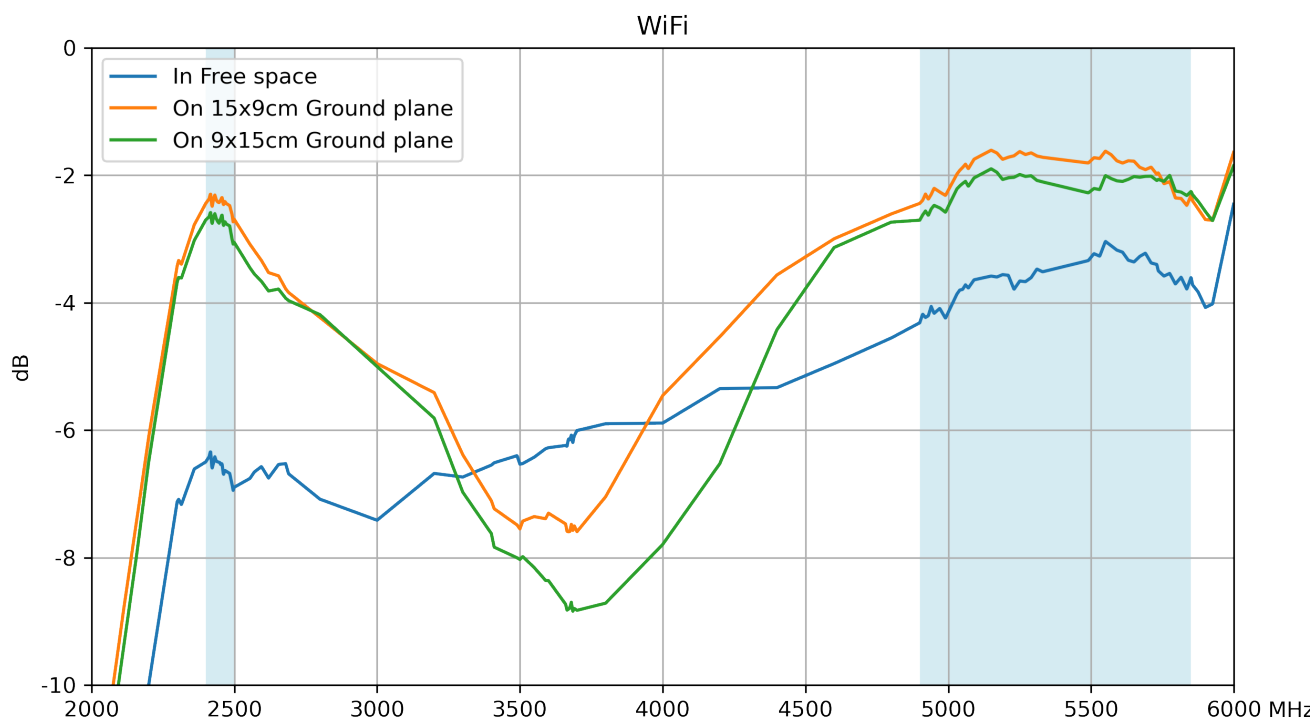
3.2 Return Loss



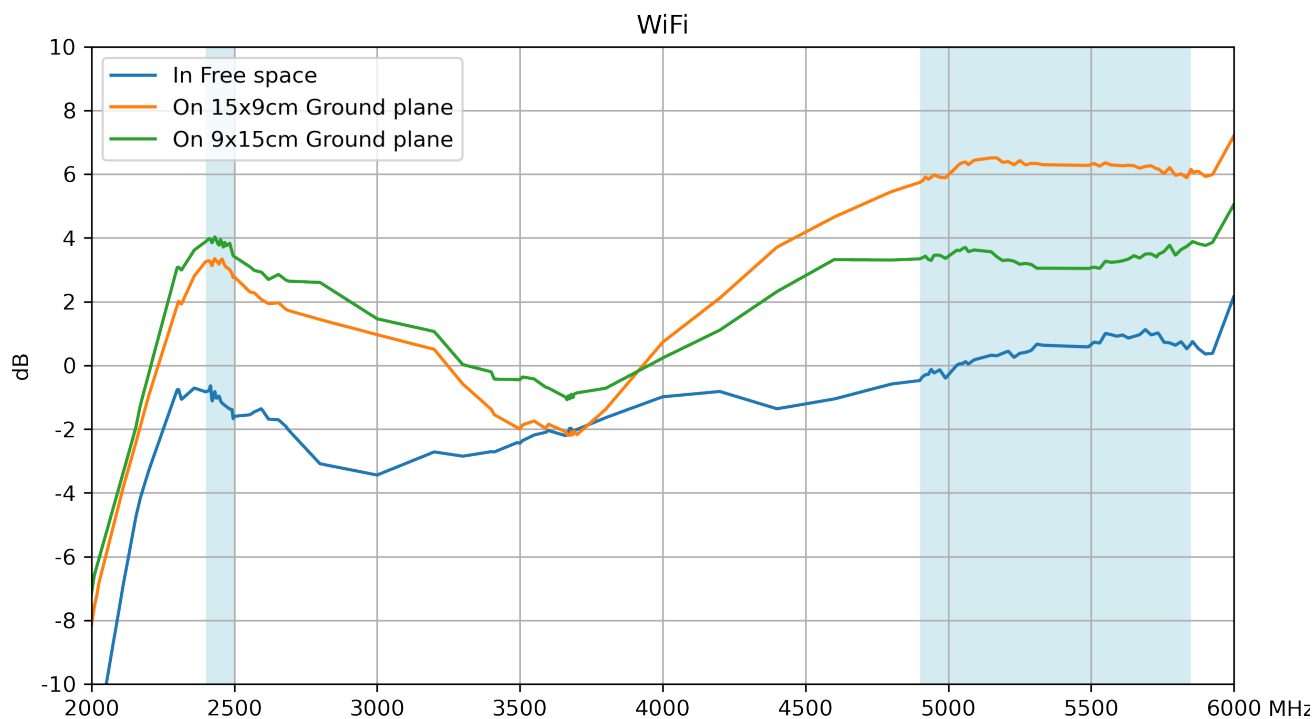
3.3 Efficiency



3.4 Average Gain

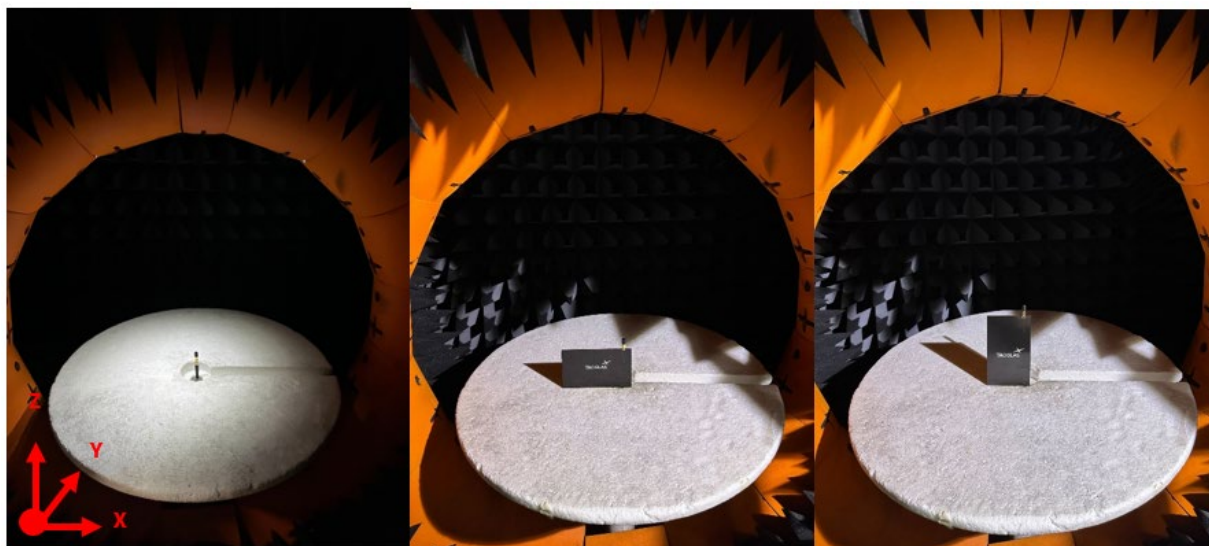
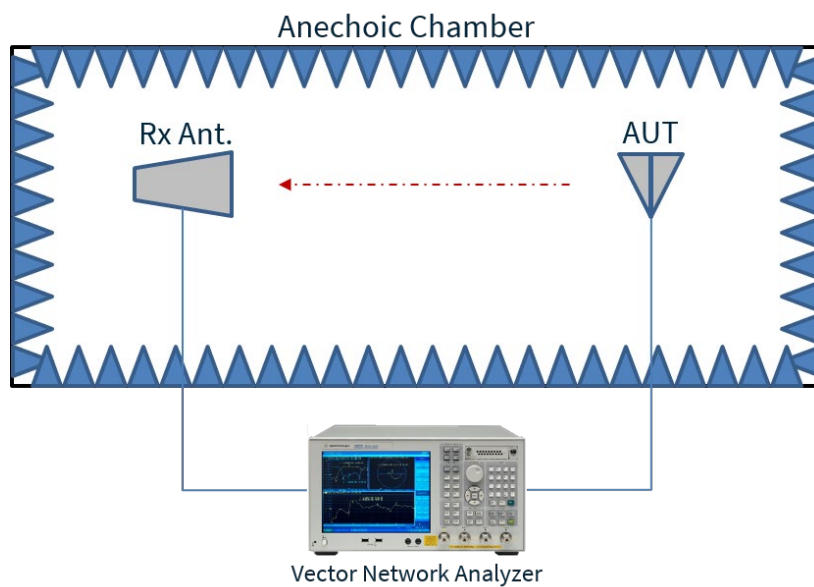


3.5 Peak Gain



4. Radiation Patterns

4.1 Test Setup

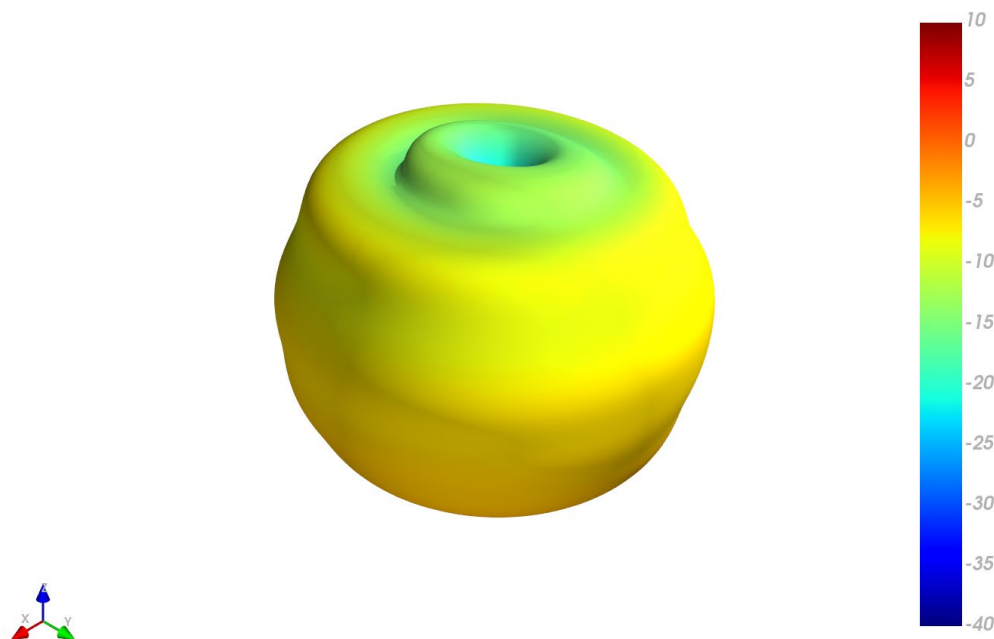


In Free Space

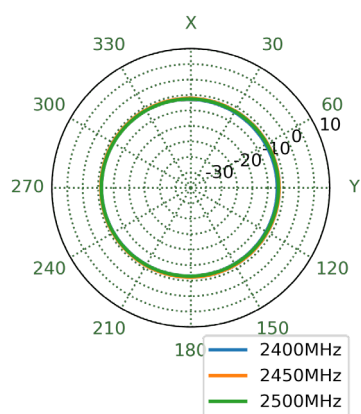
On 15x9cm Ground plane

On 9x15cm Ground plane

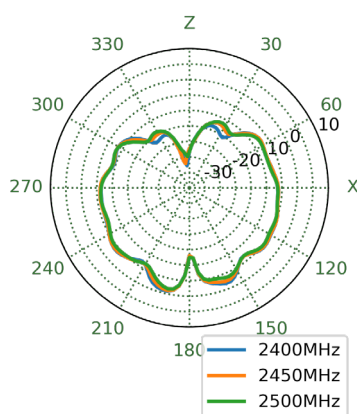
4.2 GW.53.A151 - Patterns at 2450 MHz in Free Space



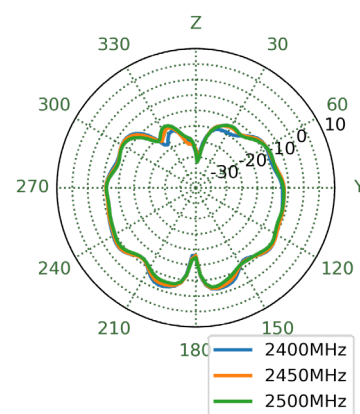
XZ Plane



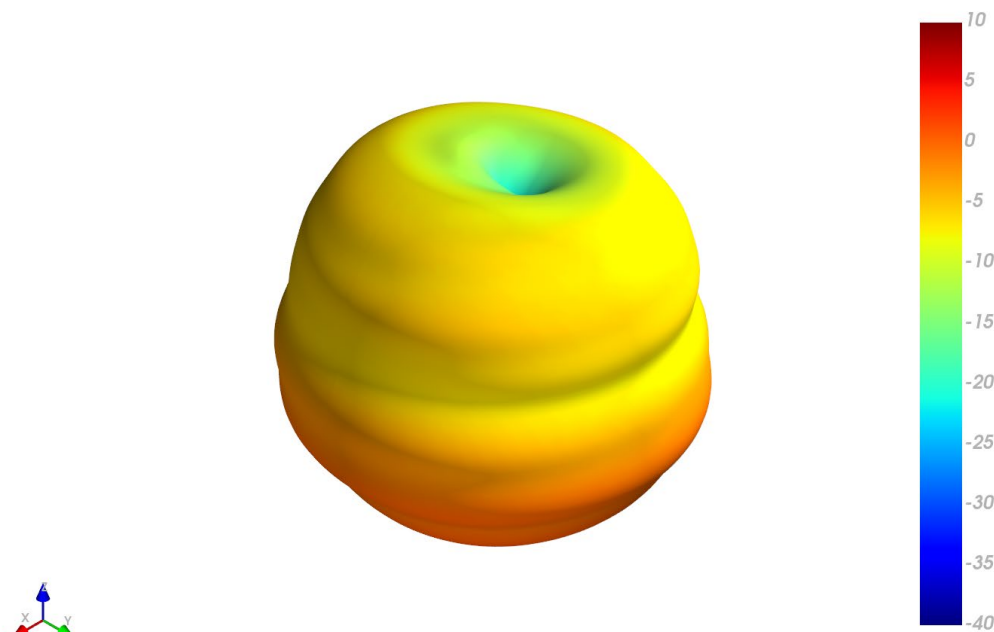
YZ Plane



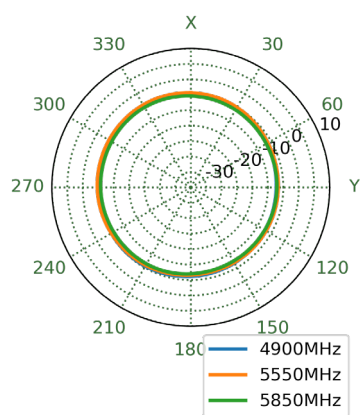
XY Plane



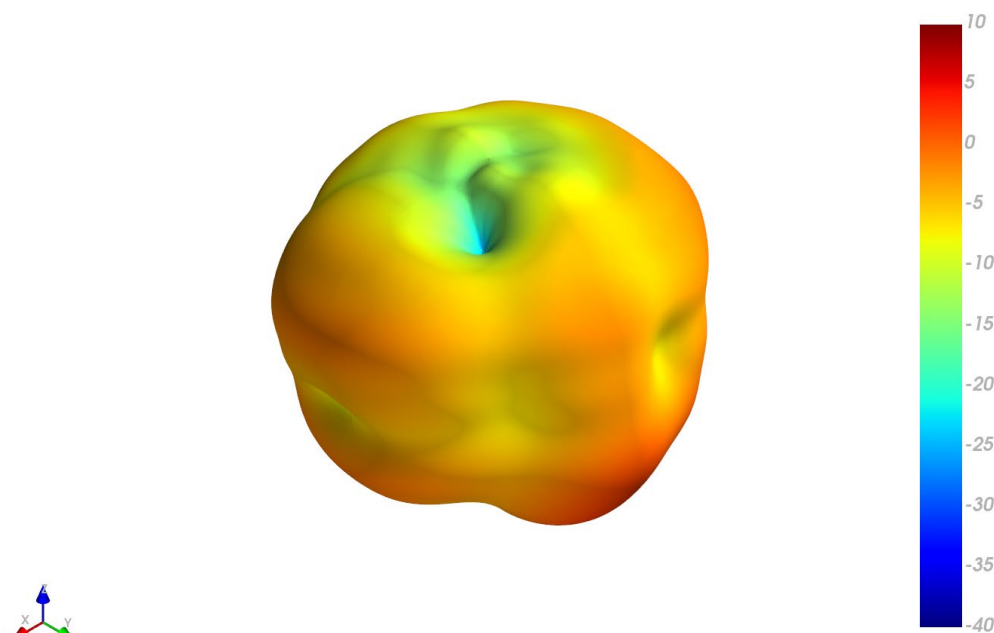
4.3 GW.53.A151 - Patterns at 5550 MHz in Free Space



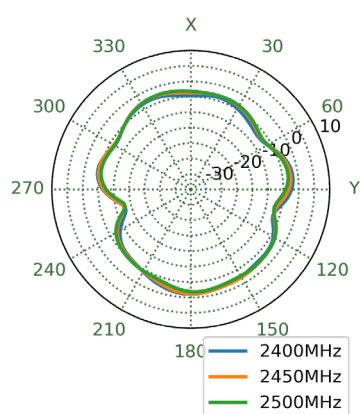
XZ Plane



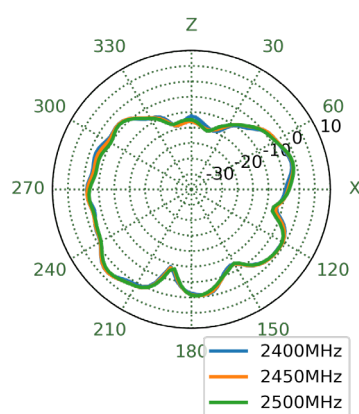
4.4 GW.53.A151 - Patterns at 2450 MHz on 15x9cm ground plane



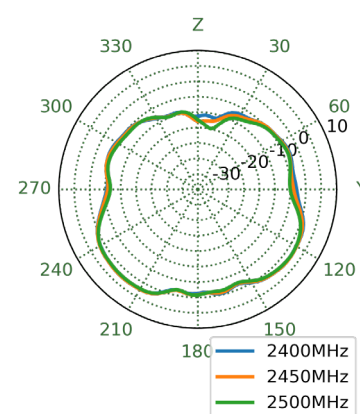
XZ Plane



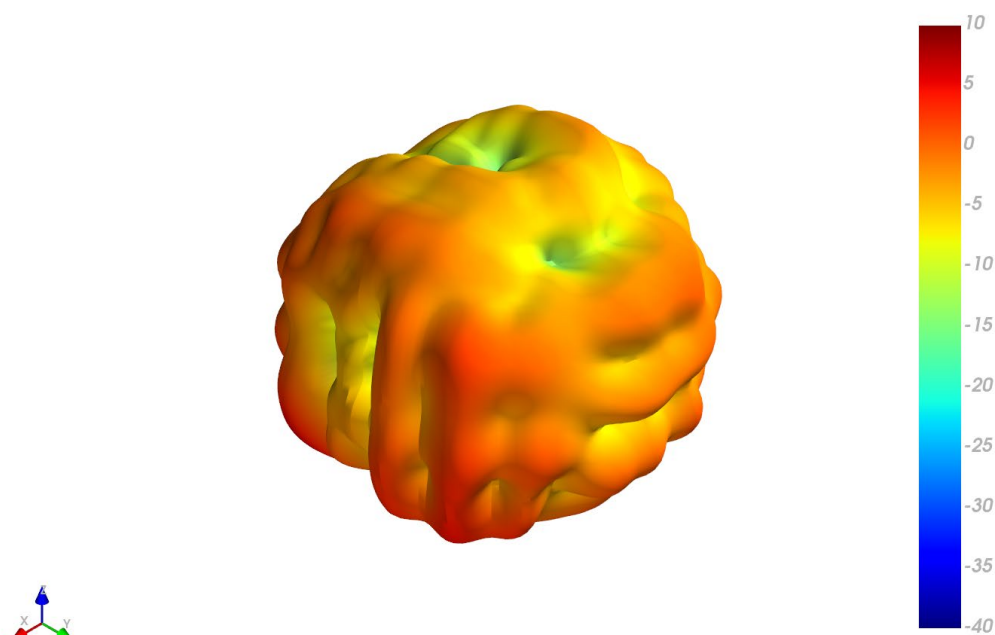
YZ Plane



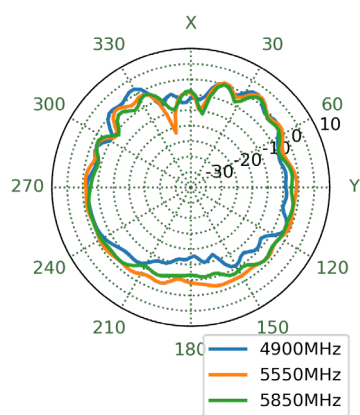
XY Plane



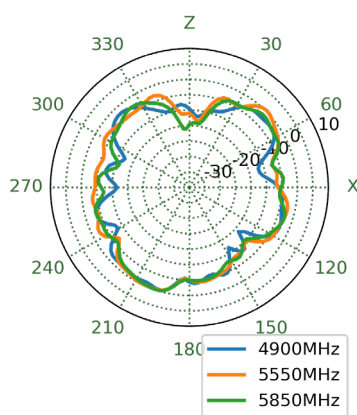
4.5 GW.53.A151 - Patterns at 5550 MHz on 15x9cm ground plane



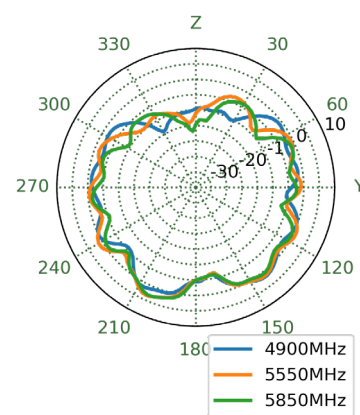
XZ Plane



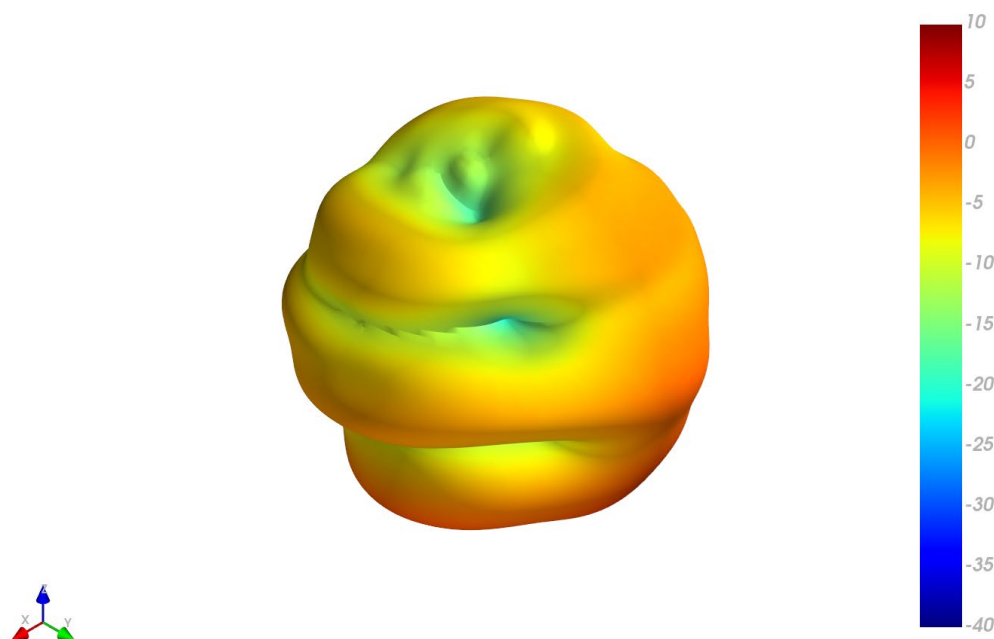
YZ Plane



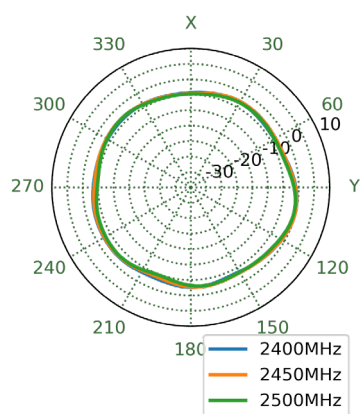
XY Plane



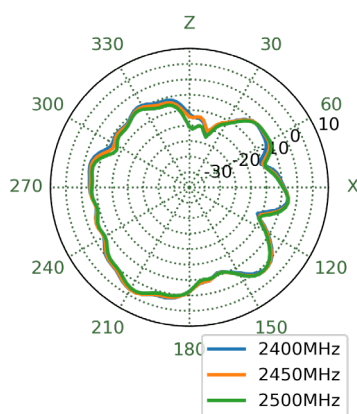
4.6 GW.53.A151 - Patterns at 2450 MHz on 9x15cm ground plane



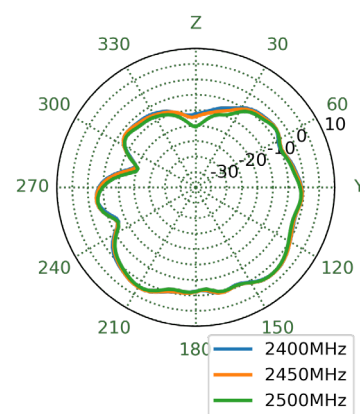
XZ Plane



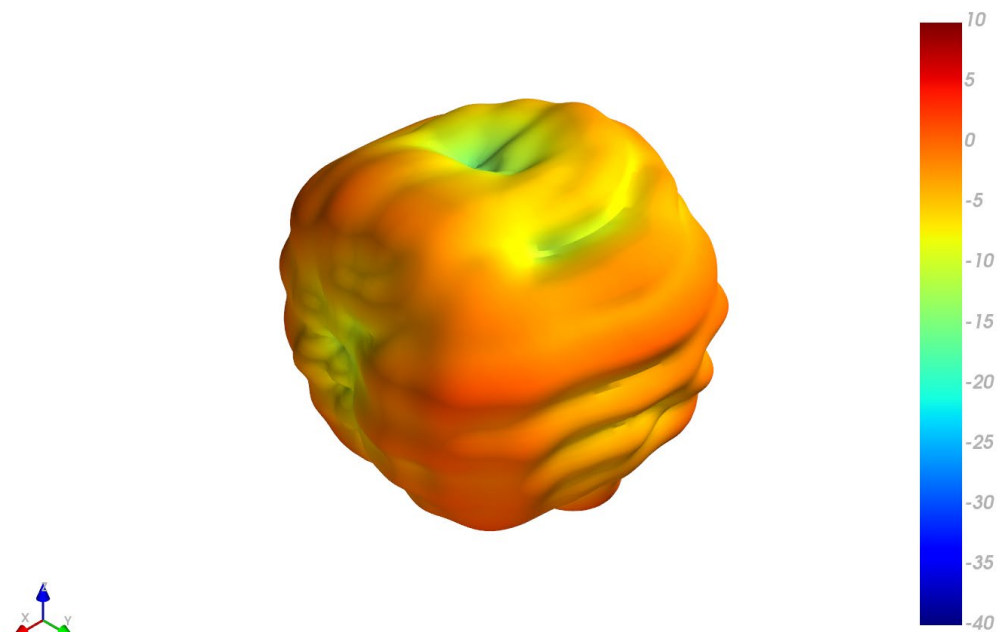
YZ Plane



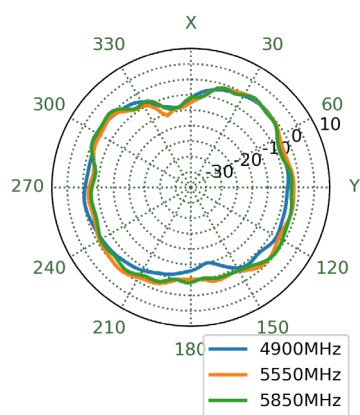
XY Plane



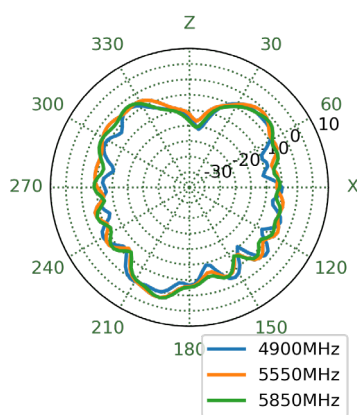
4.7 GW.53.A151 - Patterns at 5550 MHz on 9x15cm ground plane



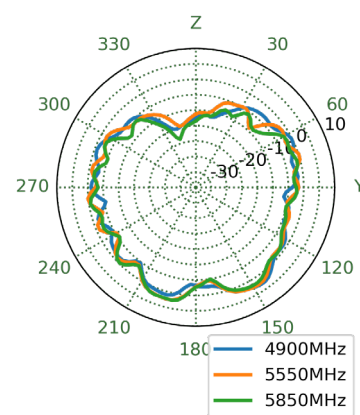
XZ Plane



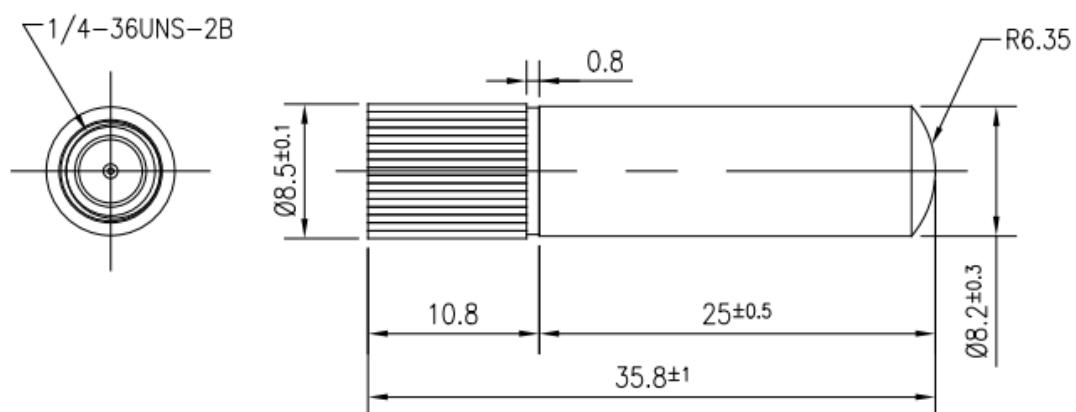
YZ Plane



XY Plane

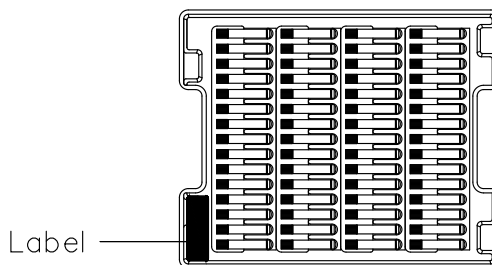


5. Mechanical Drawing

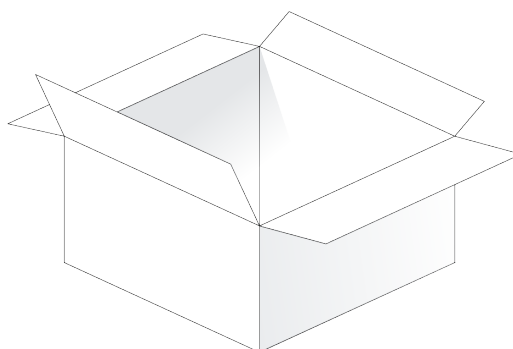


6. Packaging

60pcs GW.53.A151 per Tray
Tray dimension: 300x140x18mm
Weight: 0.38Kg



1200pcs per Carton
Carton dimensions: 328x296x282mm
Weight: 8.5Kg



Changelog for the datasheet

SPE-24-8-016 – GW.53.A151

Revision: A (First Release)	
Date:	2024-02-13
Notes:	
Author:	Cesar Sousa

Previous Revisions

Rev. 01

Rev. 02

Rev. 03

Rev. 04

Rev. 05

Rev. 06

Rev. 07

Rev. 08

Rev. 09

Rev. 10

Rev. 11

Rev. 12

Rev. 13

Rev. 14

Rev. 15

Rev. 16

Rev. 17

Rev. 18

Rev. 19

Rev. 20

Rev. 21

Rev. 22

Rev. 23

Rev. 24

Rev. 25

Rev. 26

Rev. 27

Rev. 28

Rev. 29

Rev. 30

Rev. 31

Rev. 32



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