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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: ⌀8.5mm x 35.8mm
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.

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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			

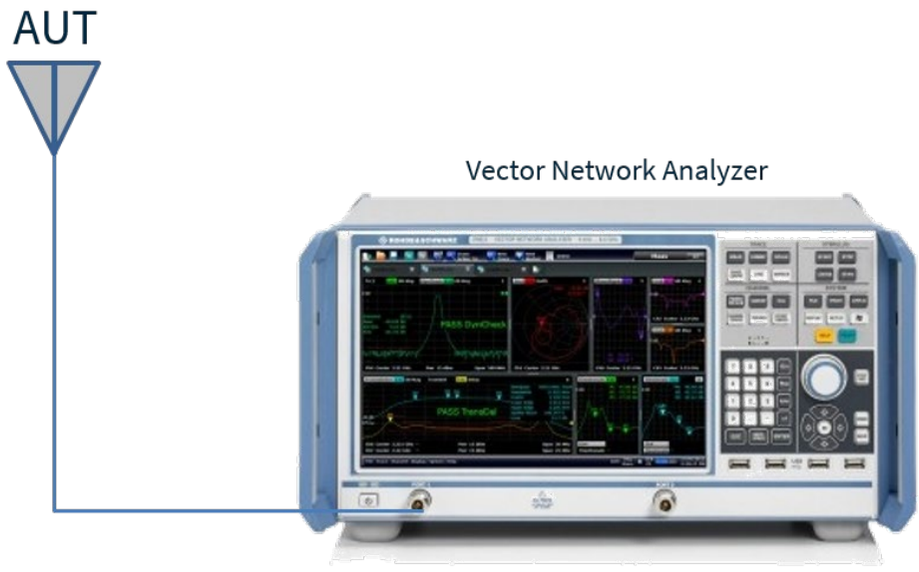
Mechanical	
Dimensions	⌀8.5mm x 35.8mm
Weight	5.5g
Material	Silicone
Connector	RP-SMA(M)

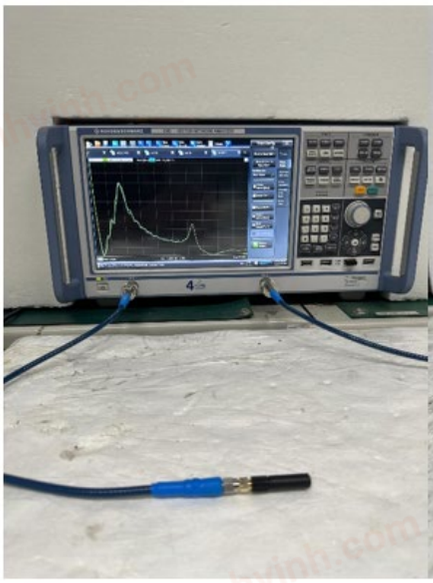
Environmental	
Operating Temperature	-40°C ~ +85°C
Waterproof Rating	IP67

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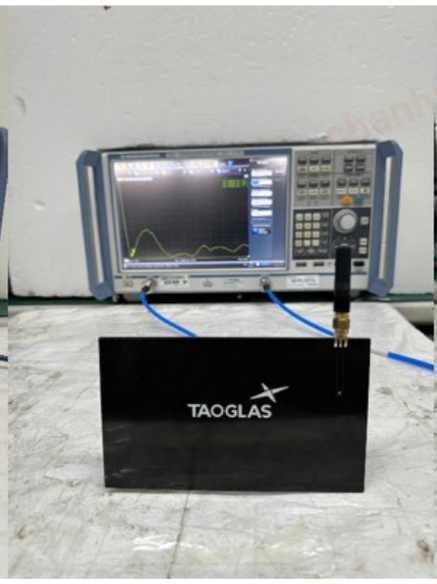
3. Antenna Characteristics

3.1 Test Setup

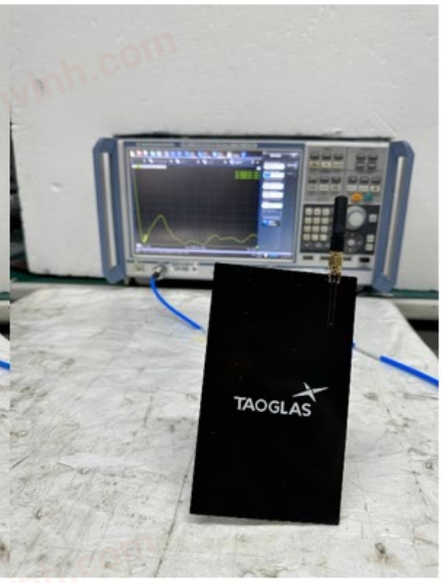




In Free Space



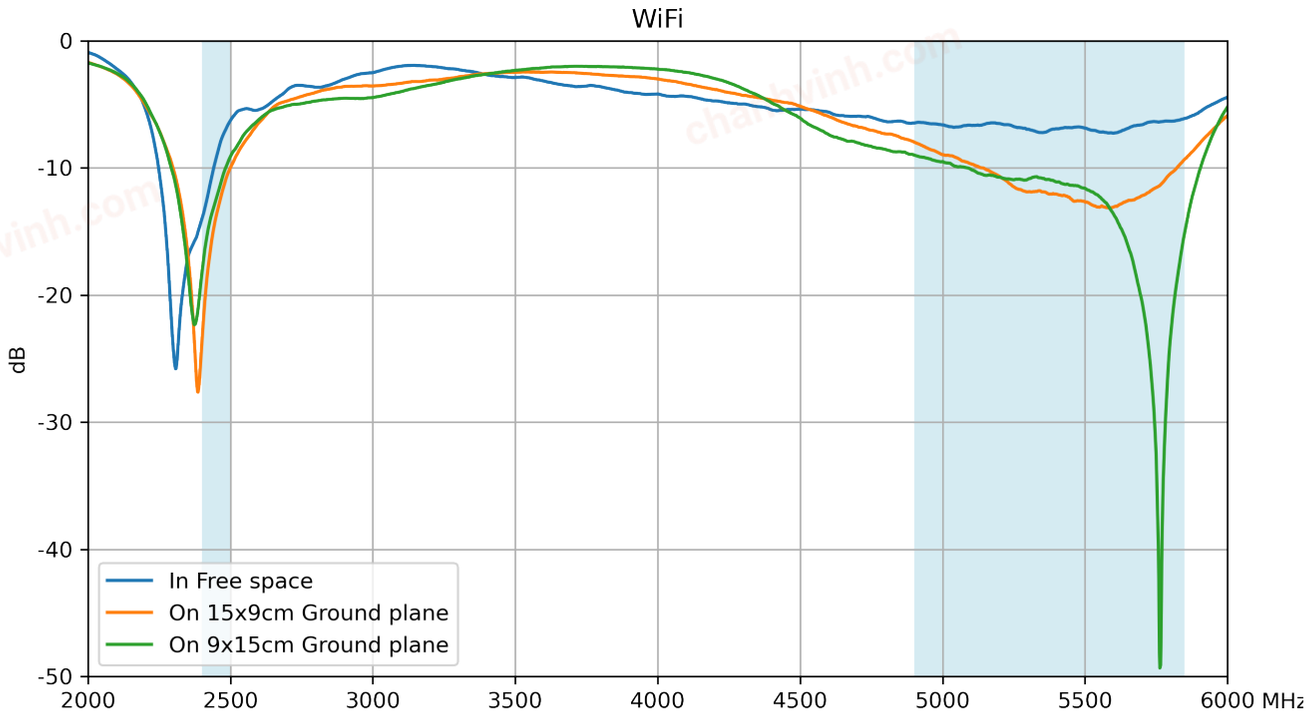
On 15x9cm Ground plane



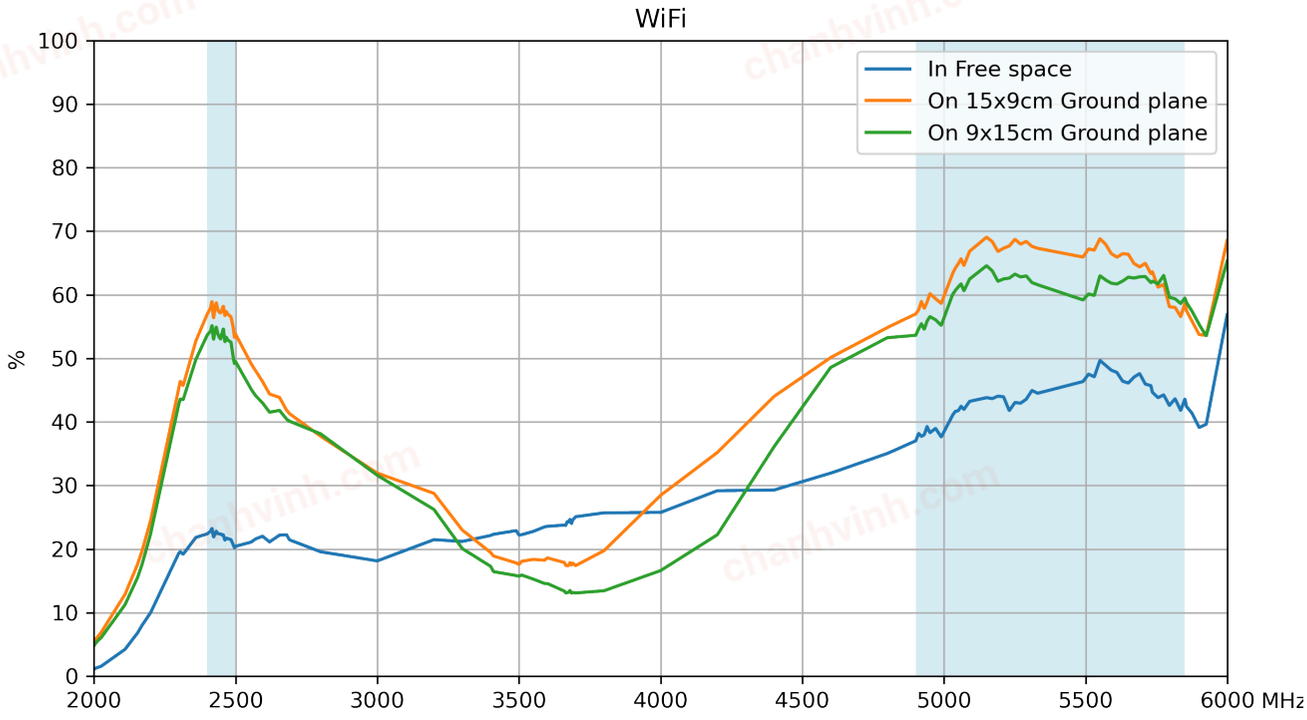
On 9x15cm Ground plane

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3.2 Return Loss

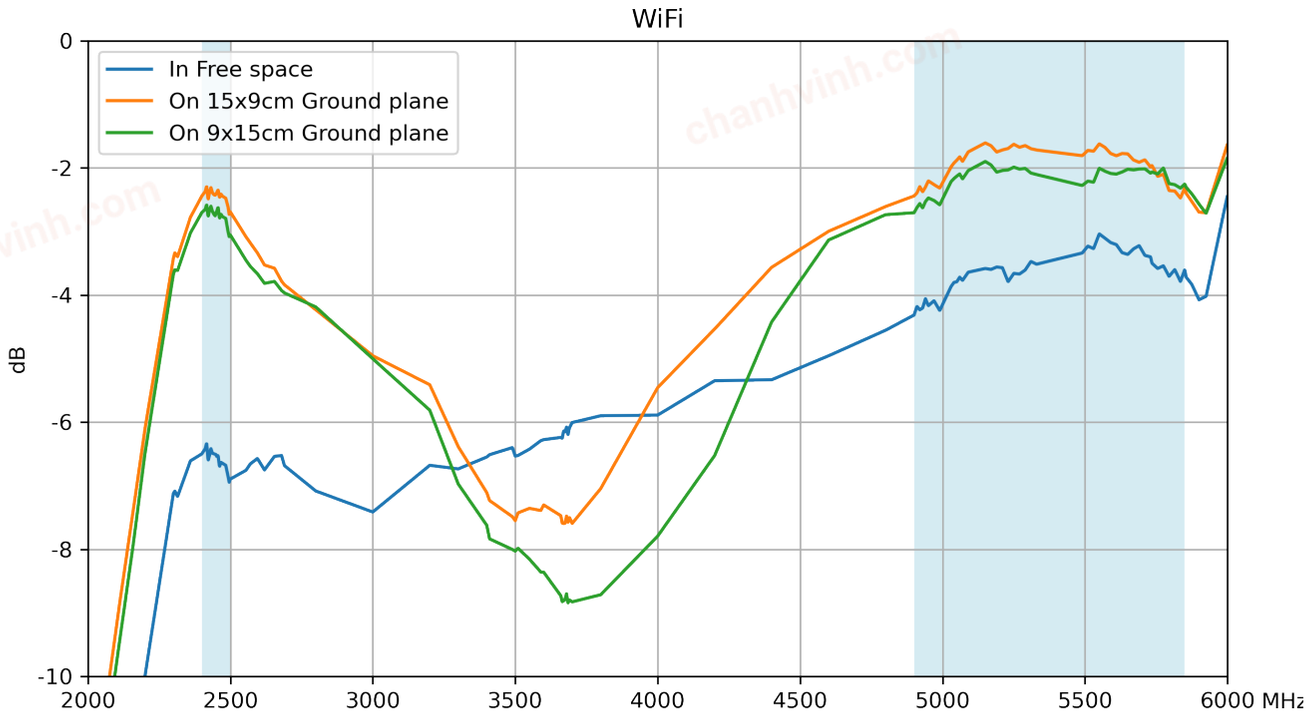


3.3 Efficiency

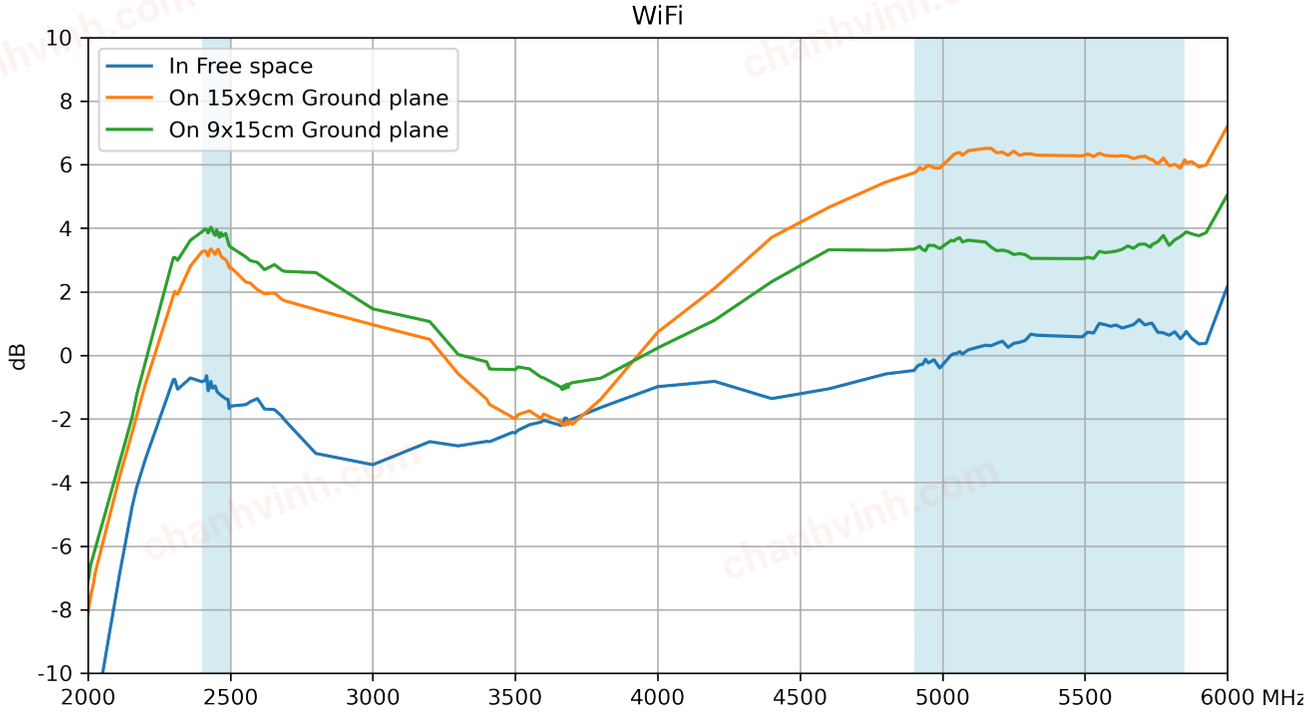


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3.4 Average Gain



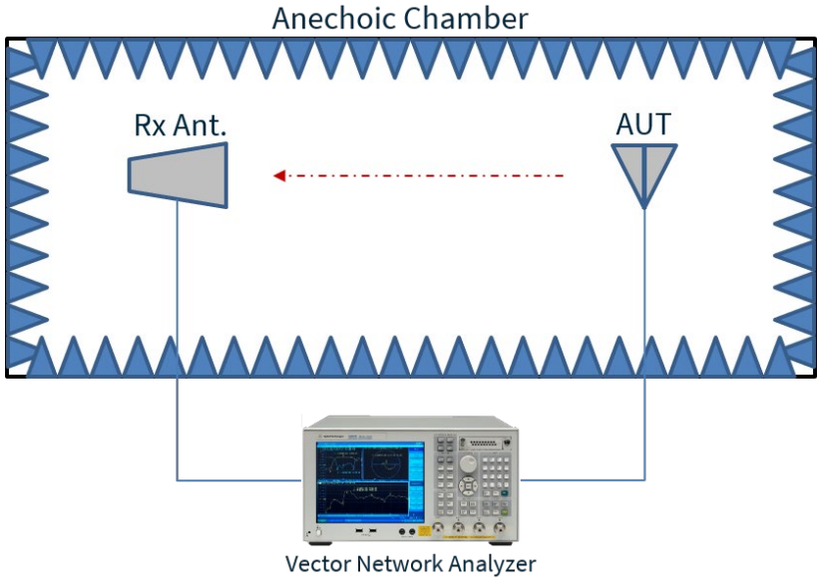
3.5 Peak Gain

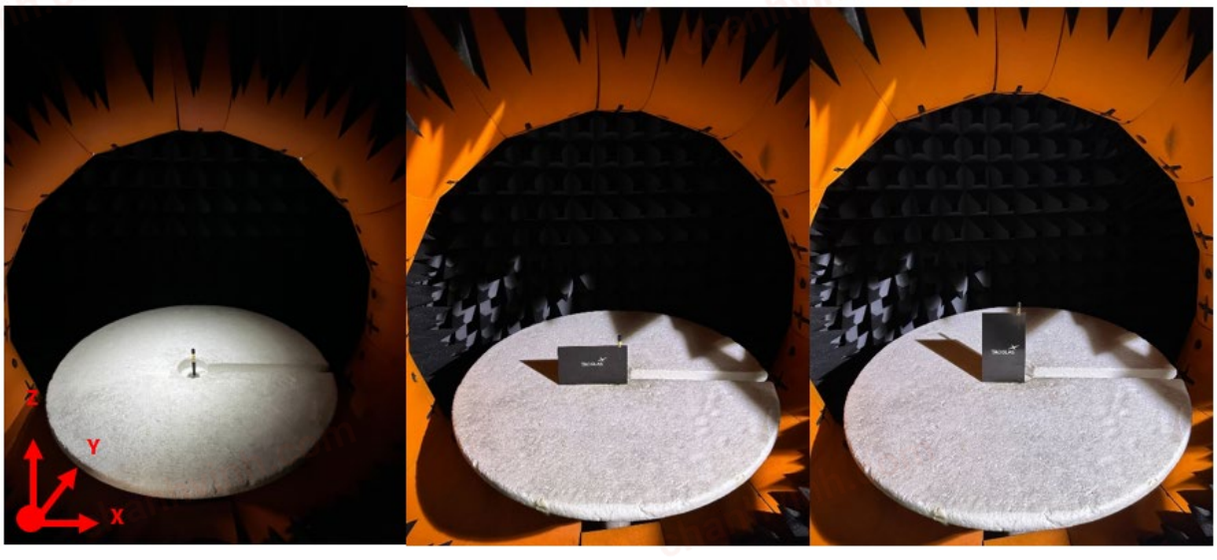


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4. Radiation Patterns

4.1 Test Setup

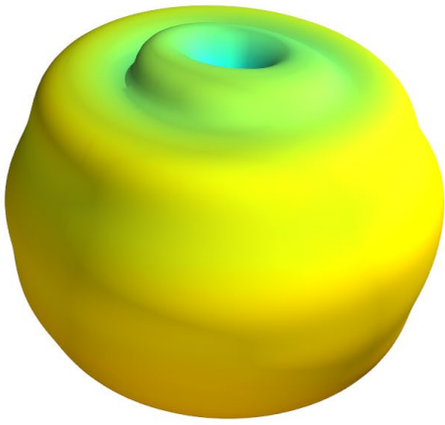




In Free Space | On 15x9cm Ground plane | On 9x15cm Ground plane

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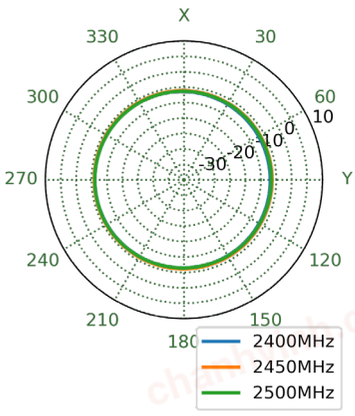
4.2 GW.53.A151 - Patterns at 2450 MHz in Free Space

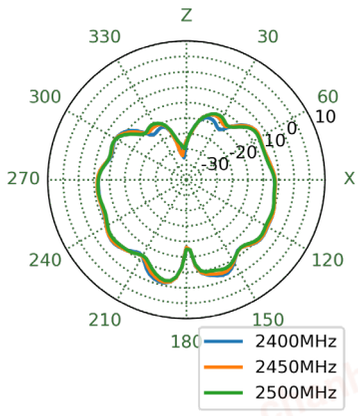


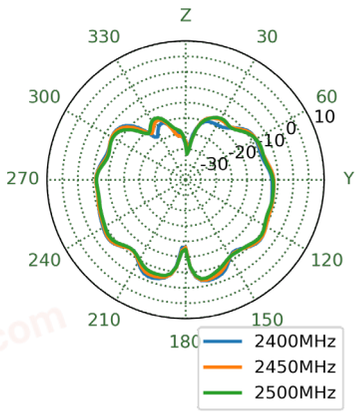




XZ Plane	YZ Plane	XY Plane

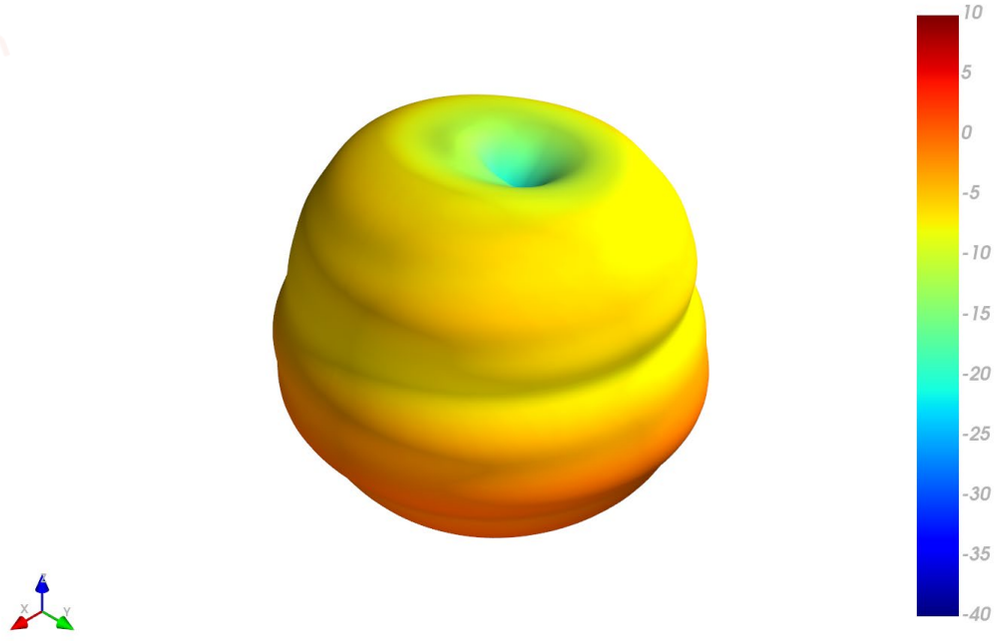


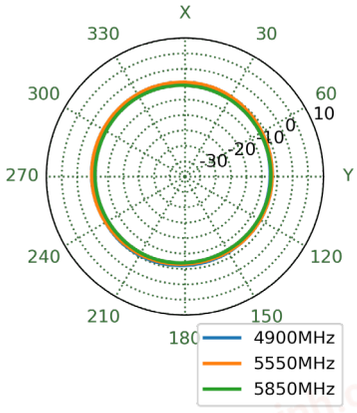
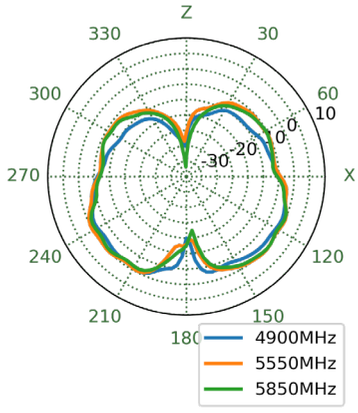
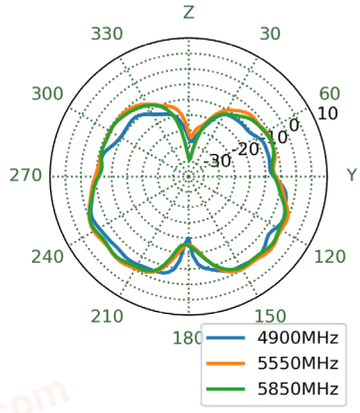




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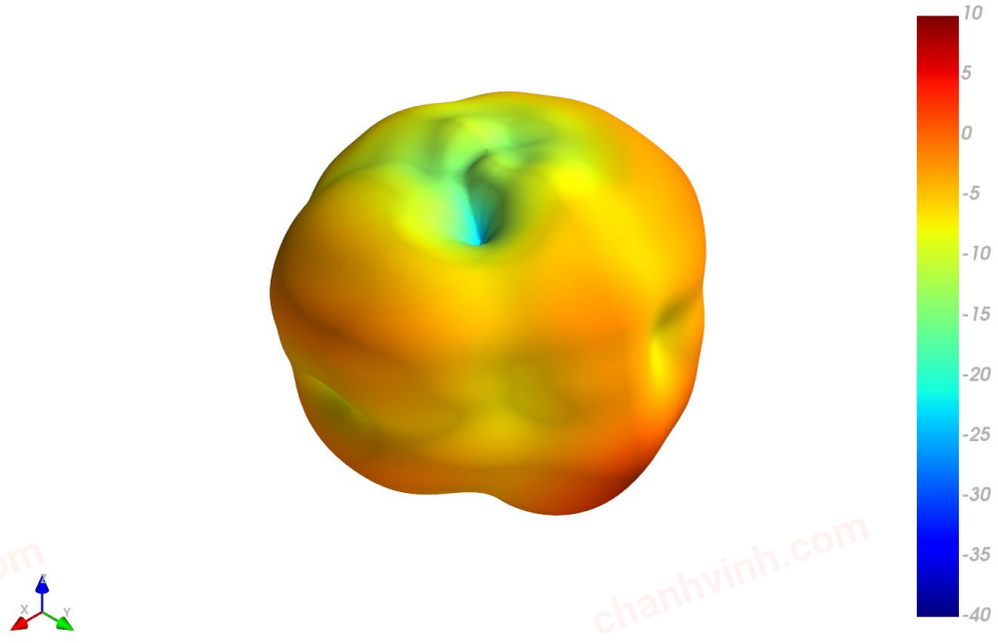
4.3 GW.53.A151 - Patterns at 5550 MHz in Free Space

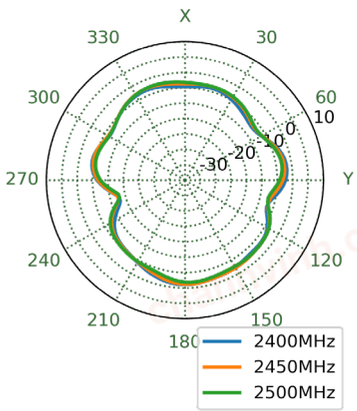
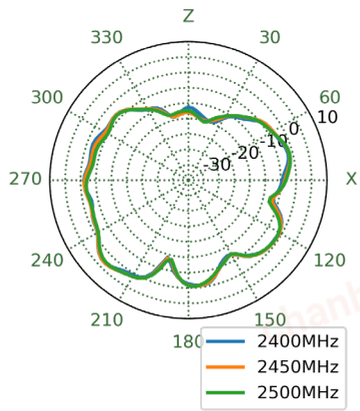
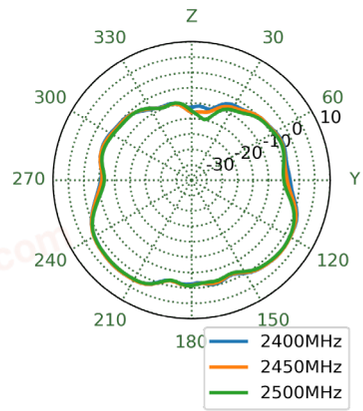


XZ Plane	YZ Plane	XY Plane
		

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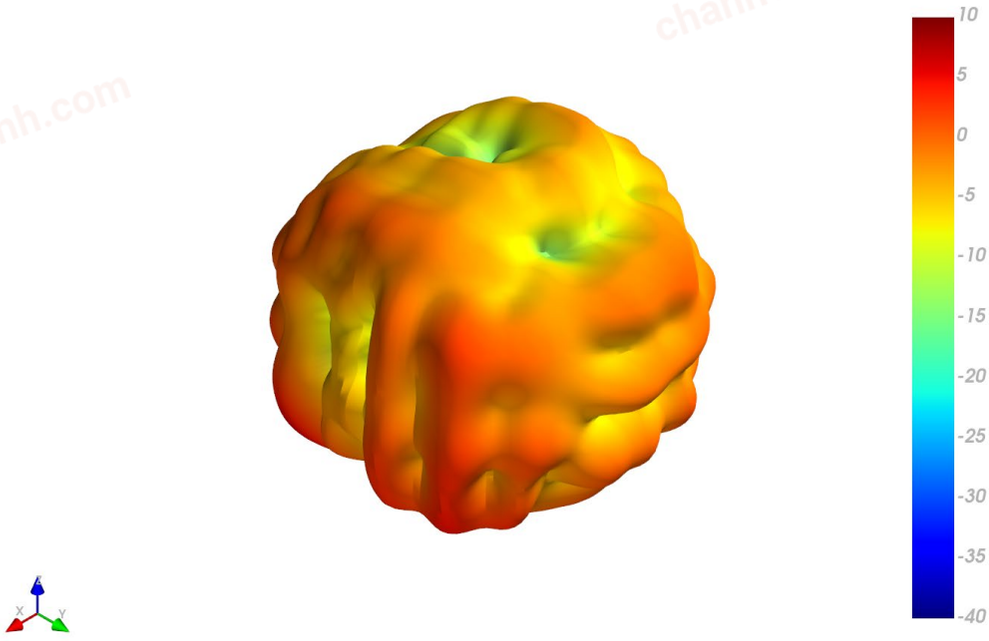
4.4 GW.53.A151 - Patterns at 2450 MHz on 15x9cm ground plane

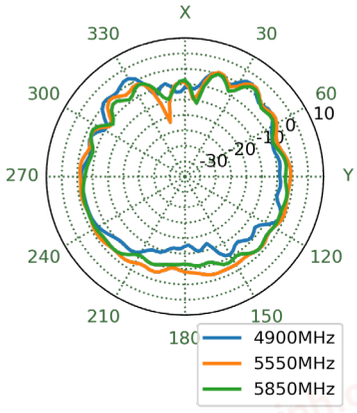
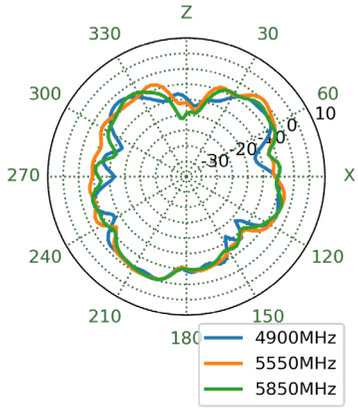
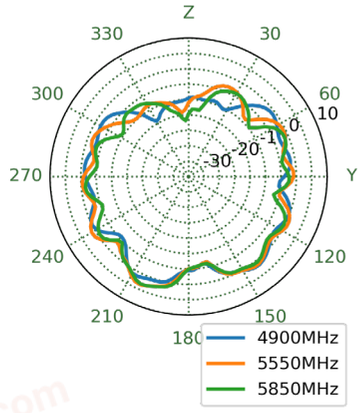


XZ Plane	YZ Plane	XY Plane
		

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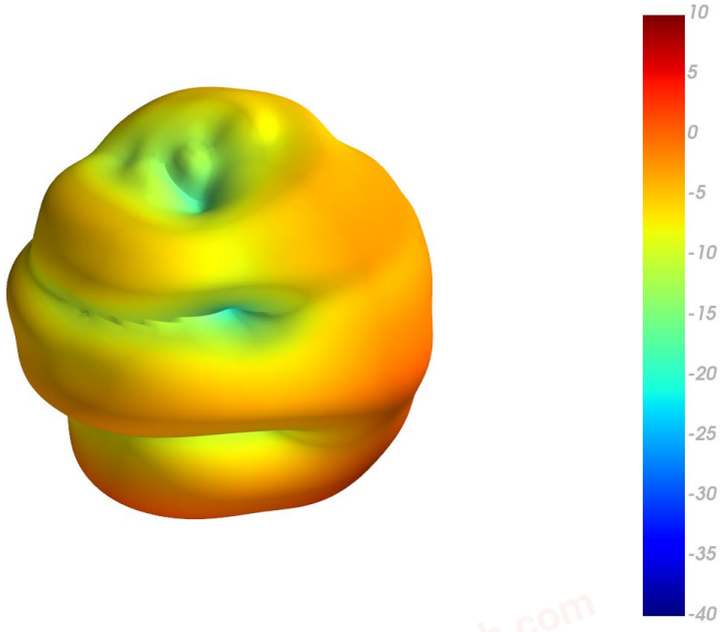
4.5 GW.53.A151 - Patterns at 5550 MHz on 15x9cm ground plane

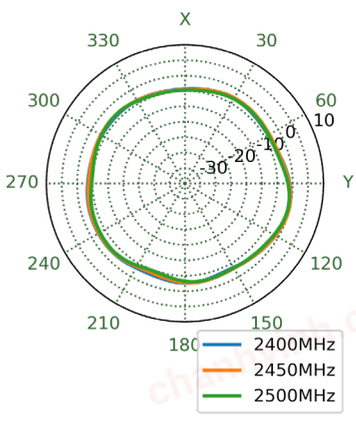
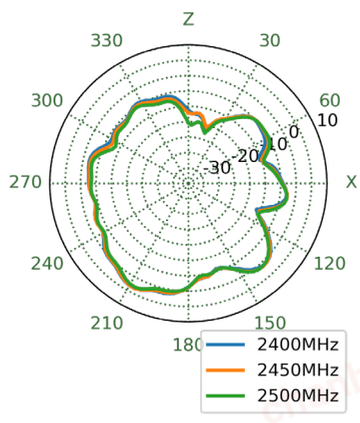
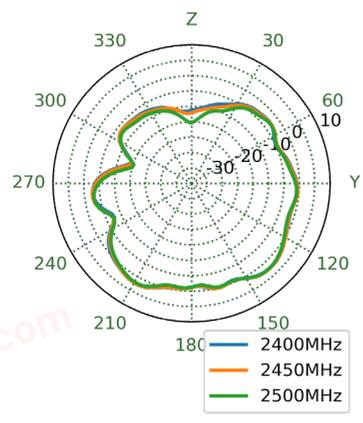


XZ Plane	YZ Plane	XY Plane
		

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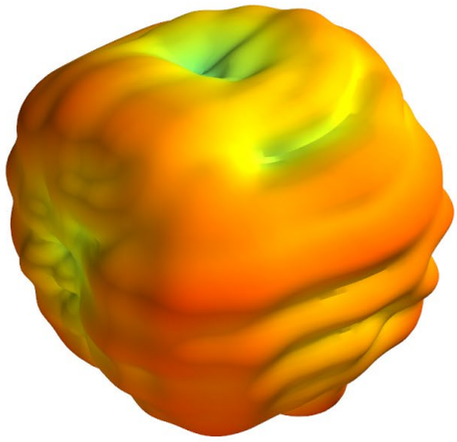
4.6 GW.53.A151 - Patterns at 2450 MHz on 9x15cm ground plane



XZ Plane	YZ Plane	XY Plane
		

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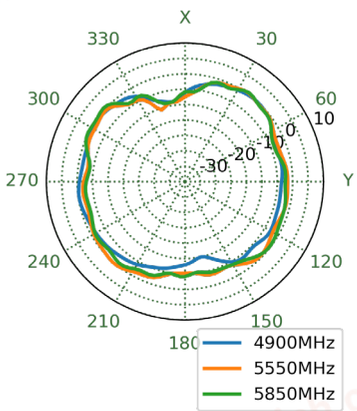
4.7 GW.53.A151 - Patterns at 5550 MHz on 9x15cm ground plane

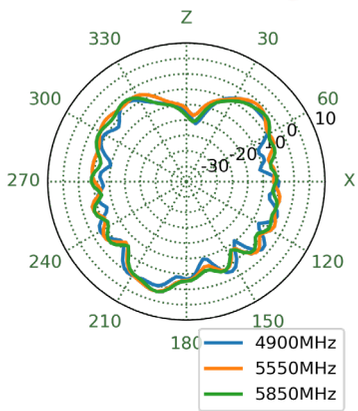


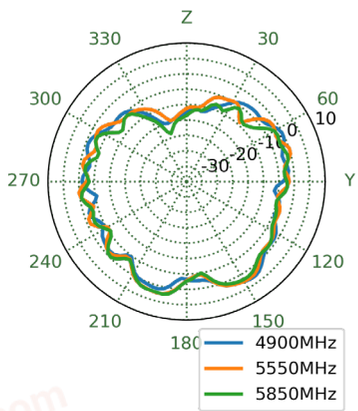




XZ Plane	YZ Plane	XY Plane

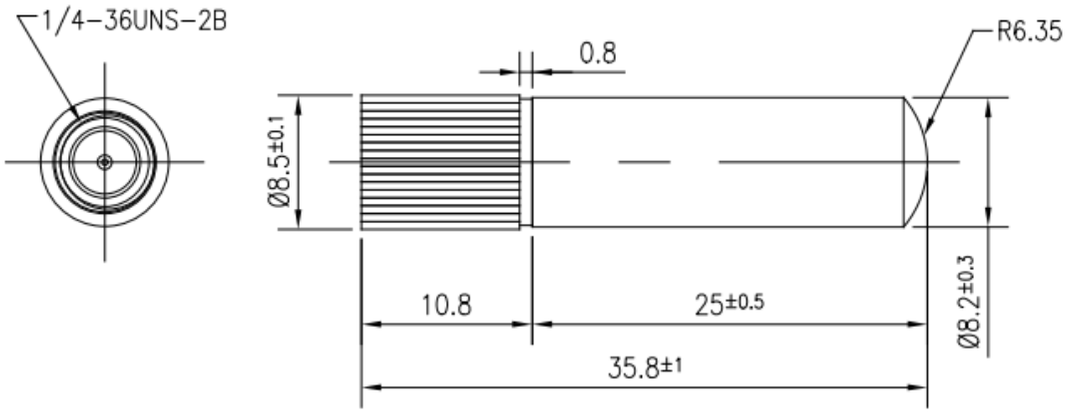






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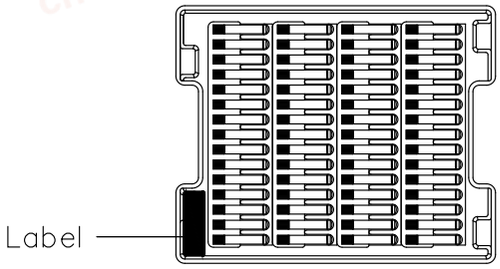
5. Mechanical Drawing



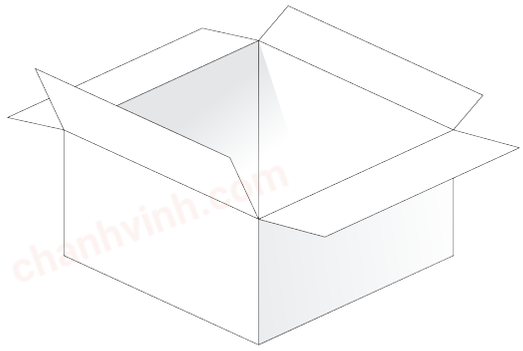
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6. Packaging

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



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



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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

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