TAOGLAS®

Datasheet

IP67 Wi-Fi® 2.4/5.8/7.125GHz Terminal Antenna

Part No:
GW.49.A153

Description

IP67 Wi-Fi® 2.4/5.8/7.125GHz Dipole Antenna RP-SMA(M) Hinged

Features:

- 2.4/5.8/7.1GHz Band Operation
- Wi-Fi® 6/7 Compatible
- Waterproof for Outdoor Use - IP67 Rating
- 6.5dBi Gain
- High Efficiency
- Hinged RP-SMA (M) Connector
- Height: 123.7mm
- Diameter: 13mm
- RoHS & Reach Compliant

1. Introduction

The Taoglas GW.49 is an IP67, 2.4/5.8/7.125GHz Wi-Fi® terminal mount dipole antenna. At just 123.7mm in height and 13mm in diameter, the robust IP67 PC+PBT enclosure can be mounted indoor or outdoor straight or at right angle to the device with its hinged RP-SMA(M) connector. It is ideal for applications such as Bluetooth®, BLE, ZigBee®, Wi-Fi® 6 & 7 and Wireless LAN. The GW.49, designed for superior performance and reliability, has an omnidirectional radiation pattern and extremely high efficiency and gain on all Wi-Fi® bands.

Typical applications include:

- Smart Home - Gateways/Routers - Connected Agriculture

The GW.49 has optimized Peak Gain making it a cost-effective, high-performing choice for any indoor or outdoor application. Many module manufacturers specify peak gain limits for any antennas that are to be connected to that module. Those peak gain limits are based on free-space conditions. In practice, the peak gain of an antenna tested in free-space can degrade by at least 1 or 2dBi when installed. So ideally you should go for a slightly higher peak gain antenna than mentioned on the module specification to compensate for this effect.

This great product has an RP-SMA (M) connector as standard and is an ideal solution for any device requiring reliable performance in a slim form factor. The innovative hinge design not only provides flexibility when mounting the antenna, but its weatherproof, IP67 rating, means it be used in outdoor locations where potential water ingress would prevent other terminal mount antennas from being used.

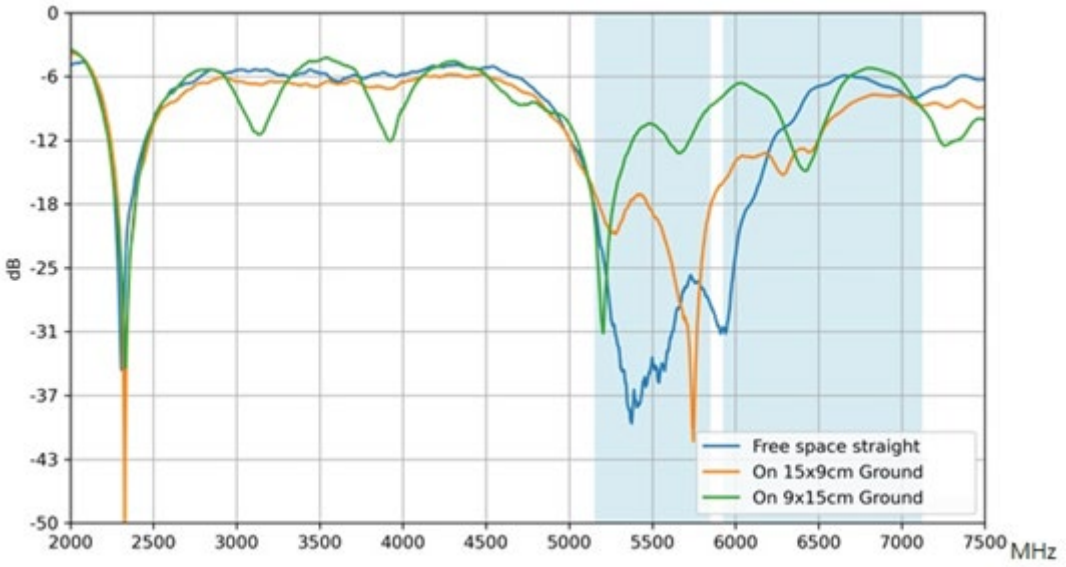
For further information, or support to test and integrate this product please contact your regional Taoglas customer support team.

2. Specification

Electrical			
Frequency (MHz)	**2400~2500**	**4900~5850**	**5925~7125**
Efficiency (%)			
Free space	93.0	72.1	58.2
15X9cm Ground plane	80.2	69.7	55.7
9X15cm Ground plane	82.8	72.2	53.6
Average Gain (dB)			
Free space	-0.31	-1.42	-1.83
15X9cm Ground plane	-0.96	-1.57	-2.01
9X15cm Ground plane	-0.82	-1.42	--2.12
Peak Gain (dBi)			
Free space	2.58	3.80	1.54
15X9cm Ground plane	2.58	6.20	6.53
9X15cm Ground plane	3.99	5.18	5.46
Impedance	50Ω		
Polarization	Linear		
Radiation Pattern	Omni		
Mechanical			
Height	123.7 ±2mm		
Planner Dimension	Ø13 x 123.7mm		
Casing	PC+PBT		
Connector	RP-SMA(M)		
Environmental			
Temperature Range	-40°C to 85°C		
Humidity	Non-condensing 65°C 95% RH		

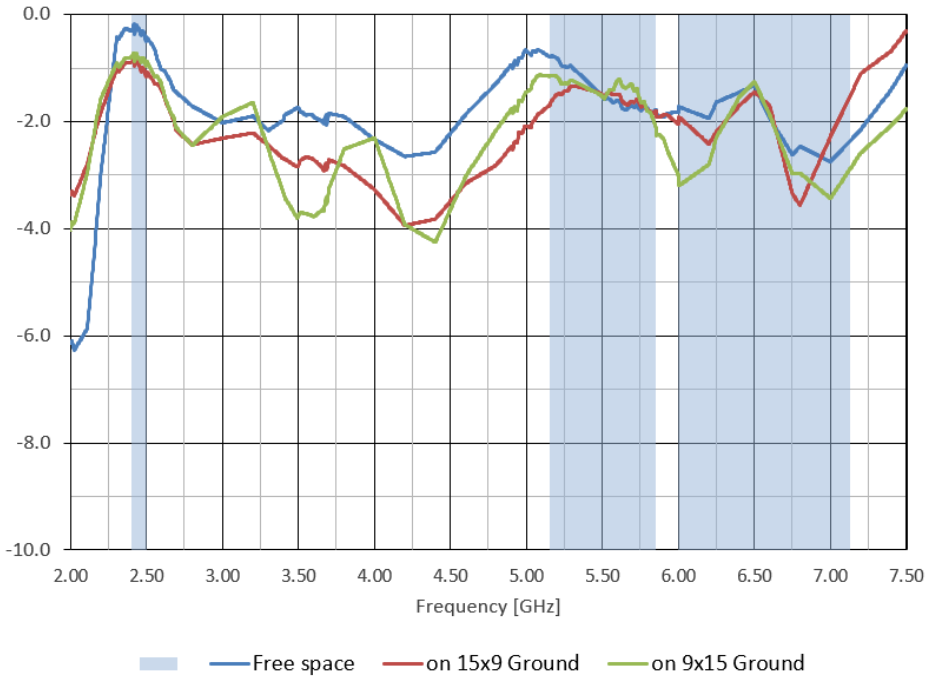
3. Antenna Characteristics

3.1 Return Loss

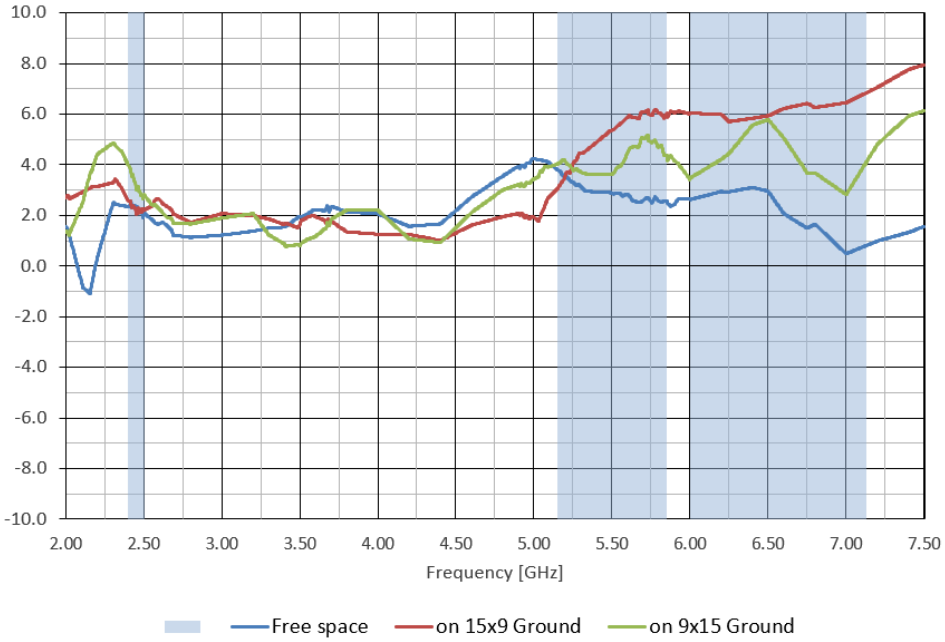


3.2 Efficiency

3.3 Average Gain

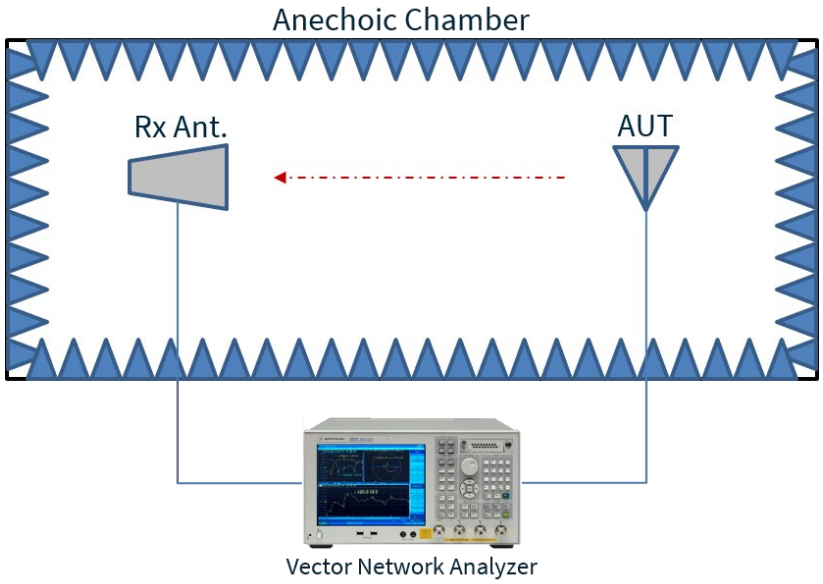


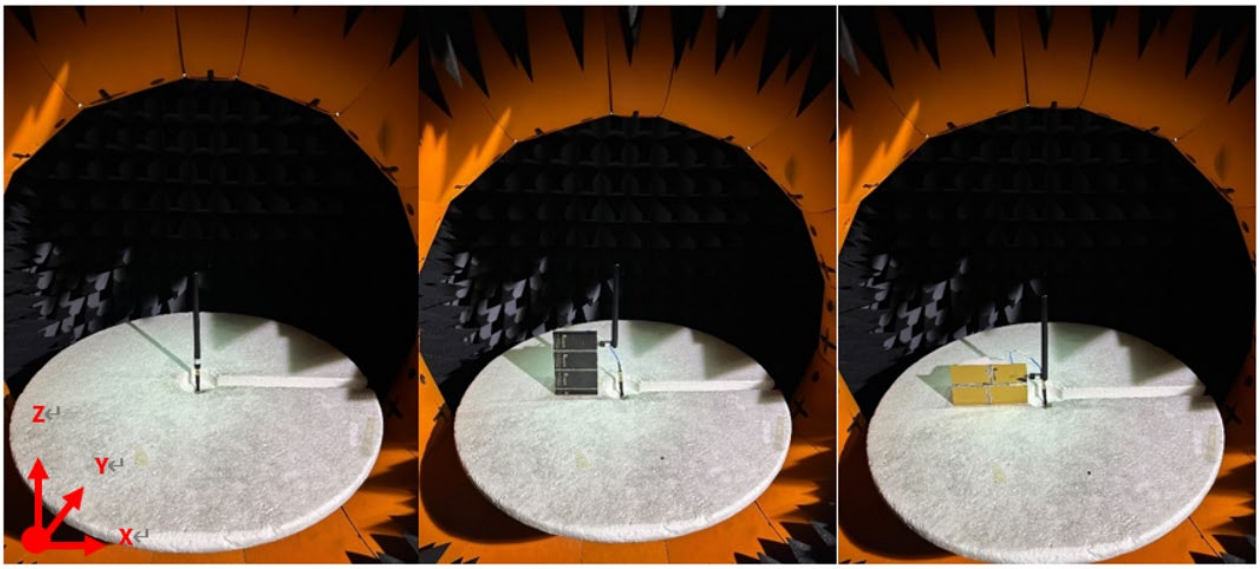
3.4 Peak Gain



4. Radiation Patterns

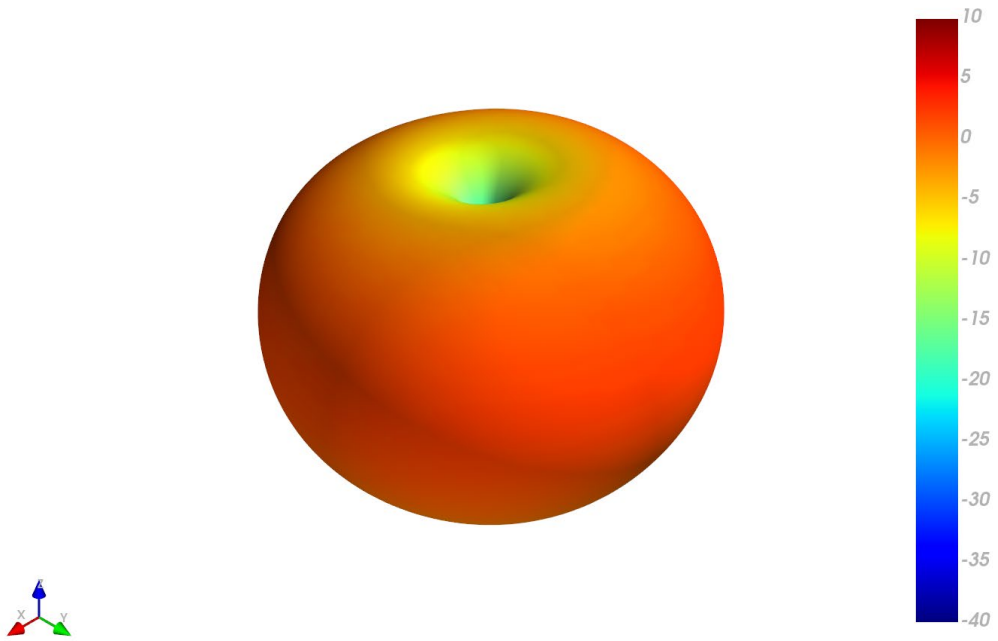
4.1 Test Setup





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

4.2 Free space 3D and 2D Radiation Patterns at 2450 MHz



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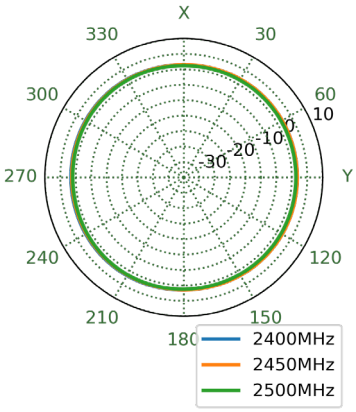
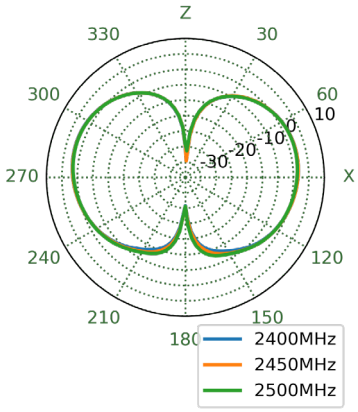
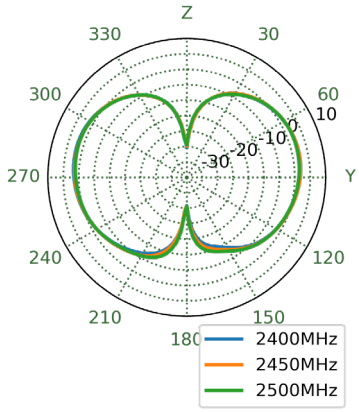
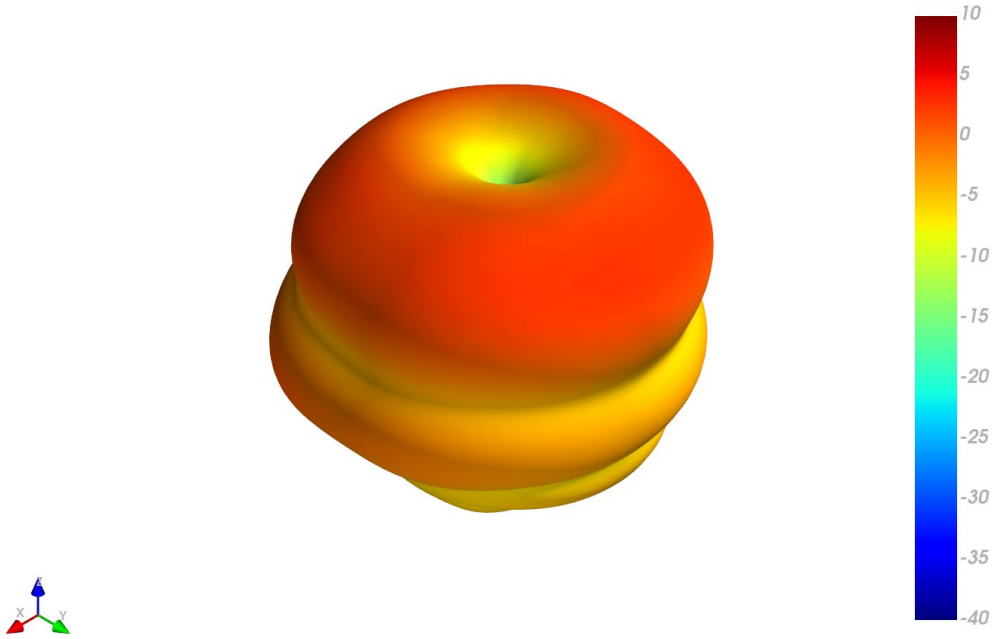
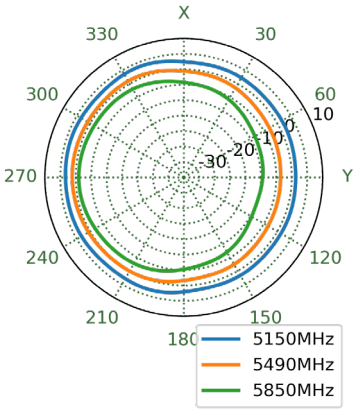
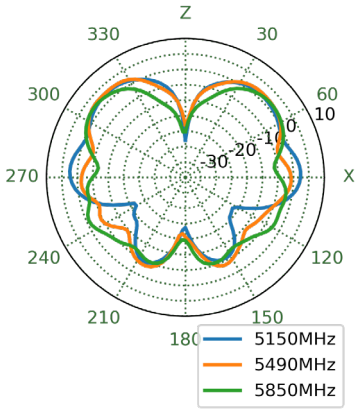
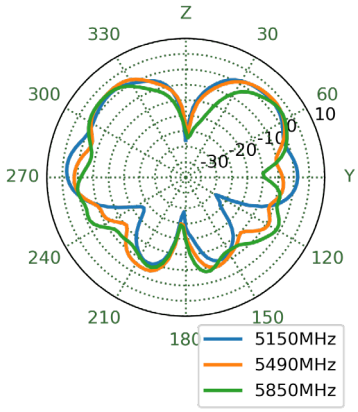
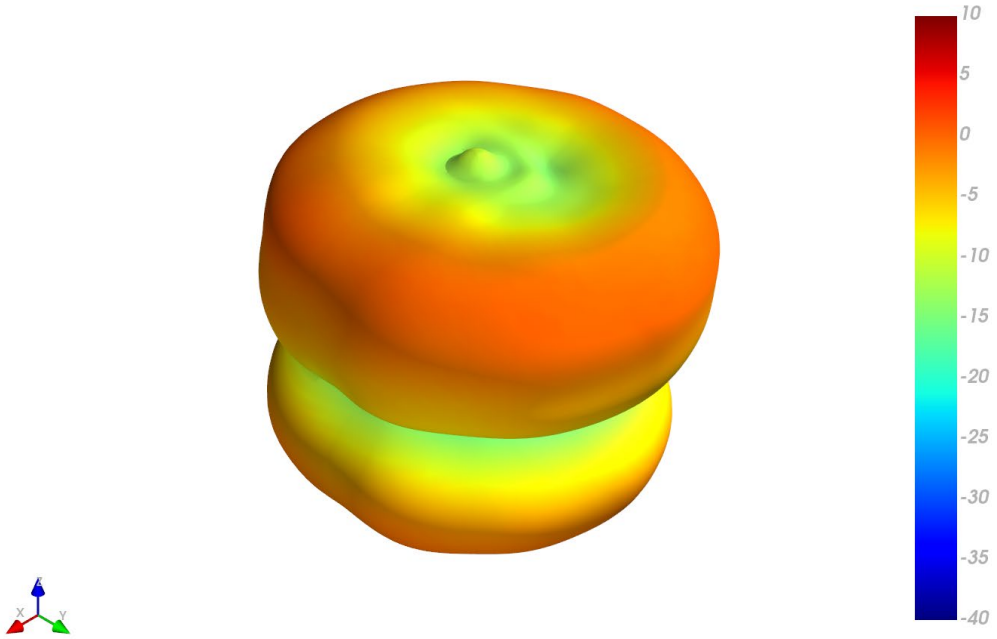
		

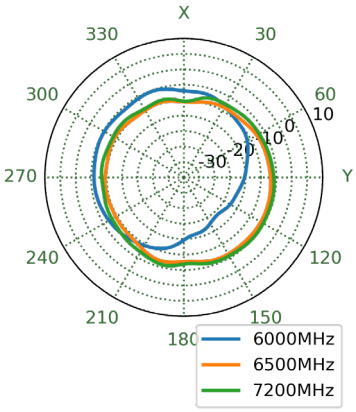
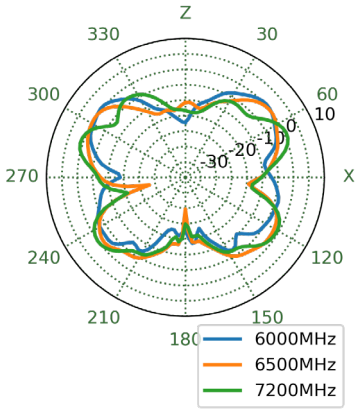
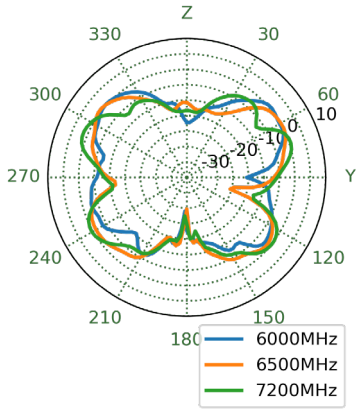
4.3 Free space 3D and 2D Radiation Patterns at 5490 MHz



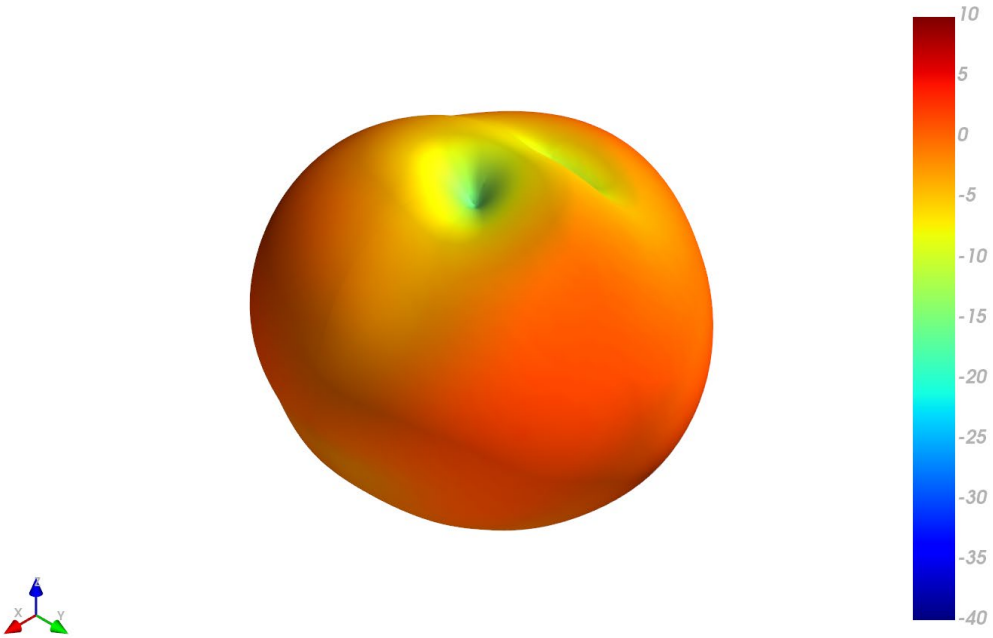
XY Plane	XZ Plane	YZ Plane
		

4.4 Free space 3D and 2D Radiation Patterns at 6500 MHz

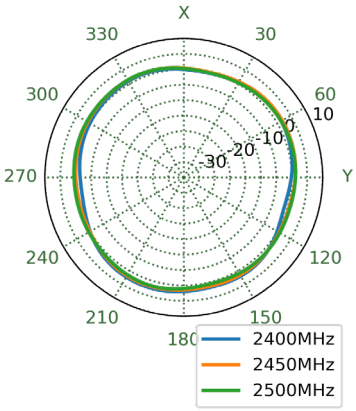


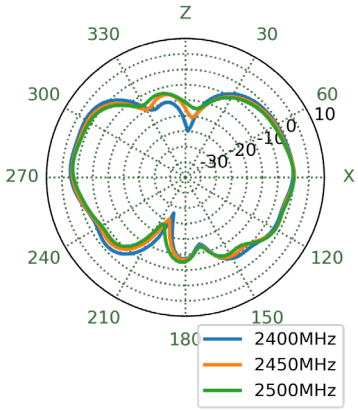
XY Plane	XZ Plane	YZ Plane
		

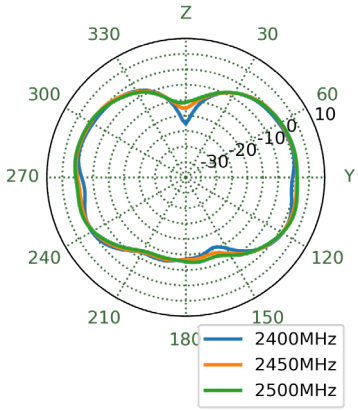
4.5 15x9cm Ground 3D and 2D Radiation Patterns at 2450 MHz



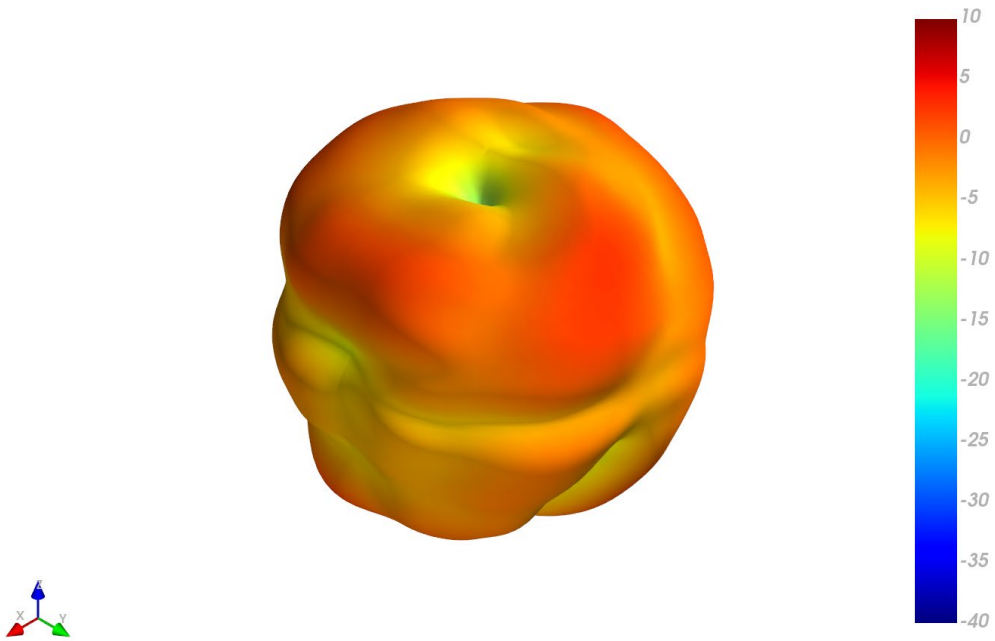
XY Plane	XZ Plane	YZ Plane



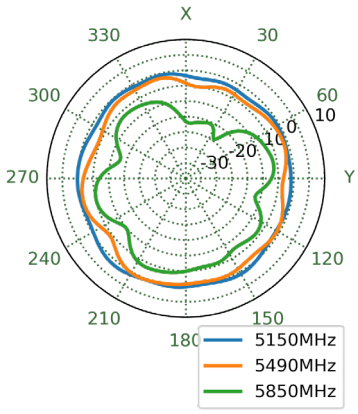


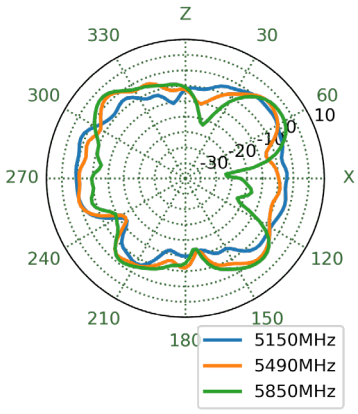


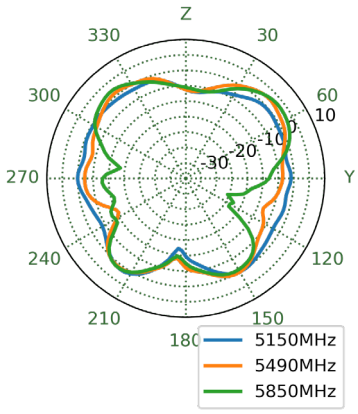
4.6 15x9cm Ground 3D and 2D Radiation Patterns at 5490 MHz



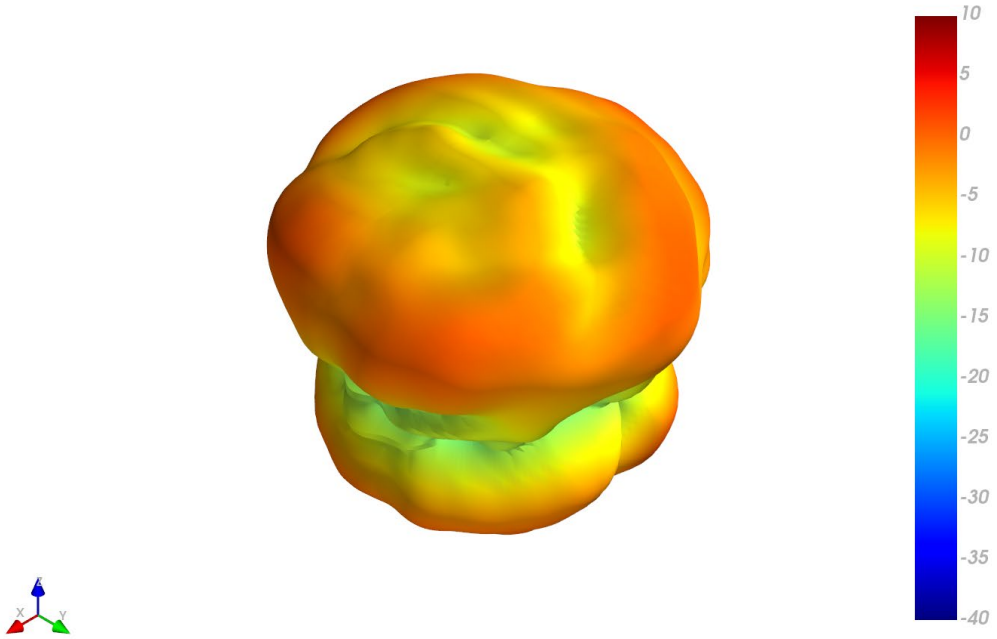
XY Plane	XZ Plane	YZ Plane

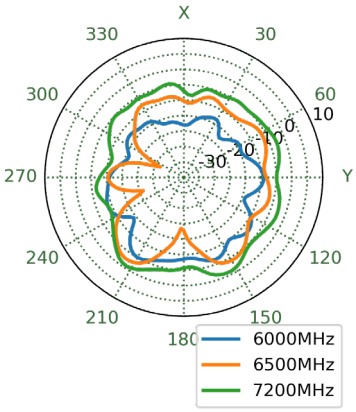
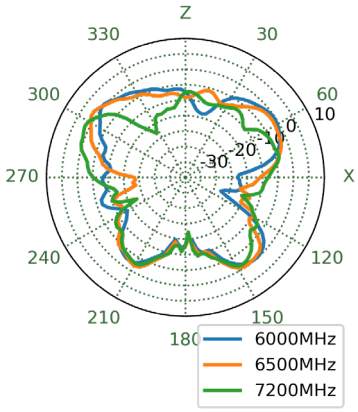
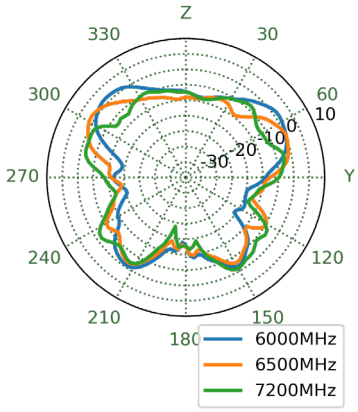




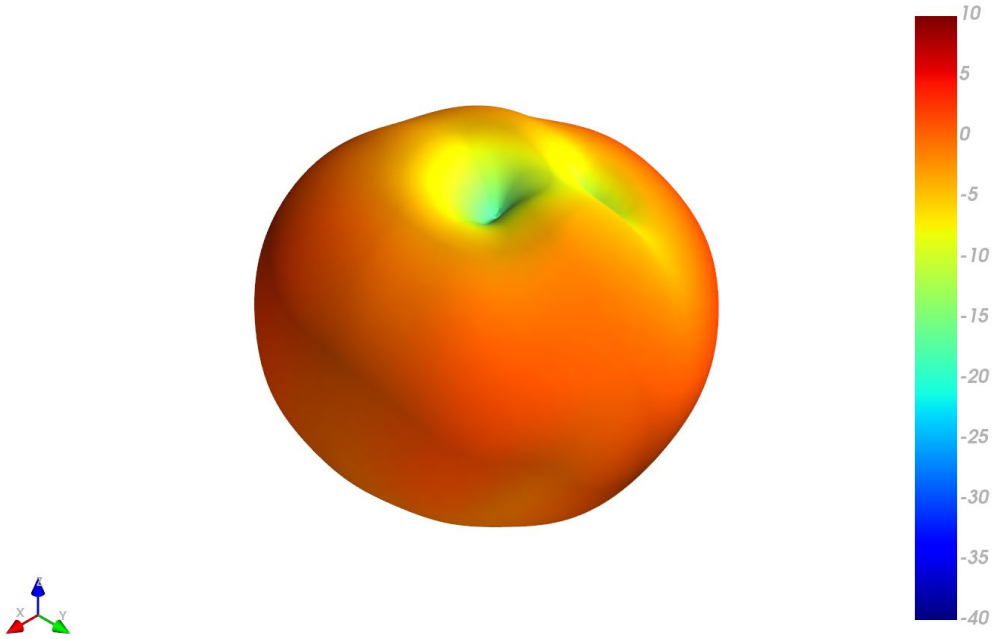


4.7 15x9cm Ground 3D and 2D Radiation Patterns at 6500 MHz

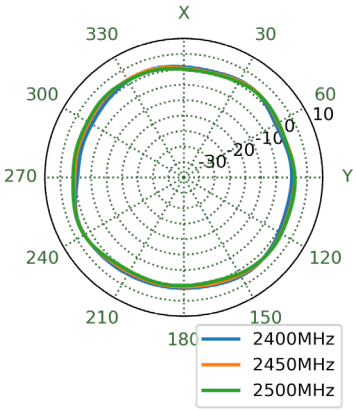


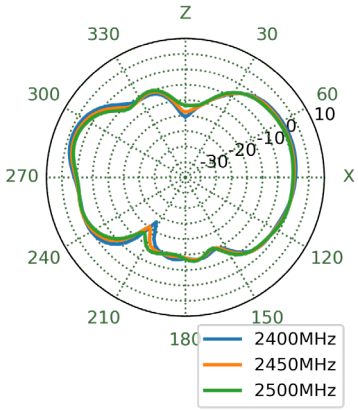
XY Plane	XZ Plane	YZ Plane
		

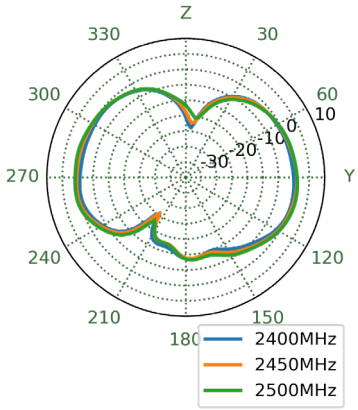
4.8 9x15cm Ground 3D and 2D Radiation Patterns at 2450 MHz



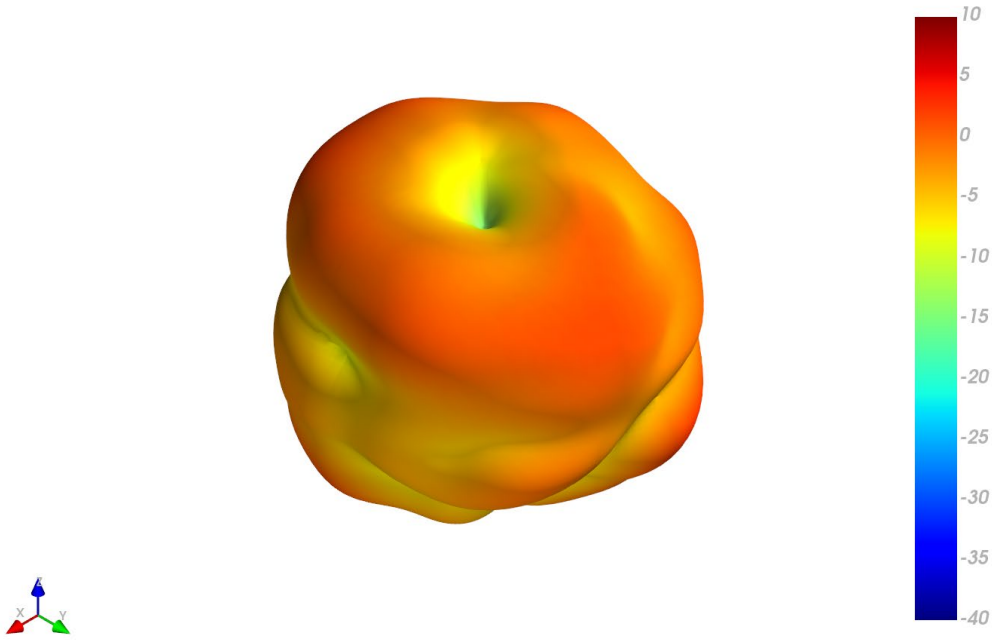
XY Plane	XZ Plane	YZ Plane



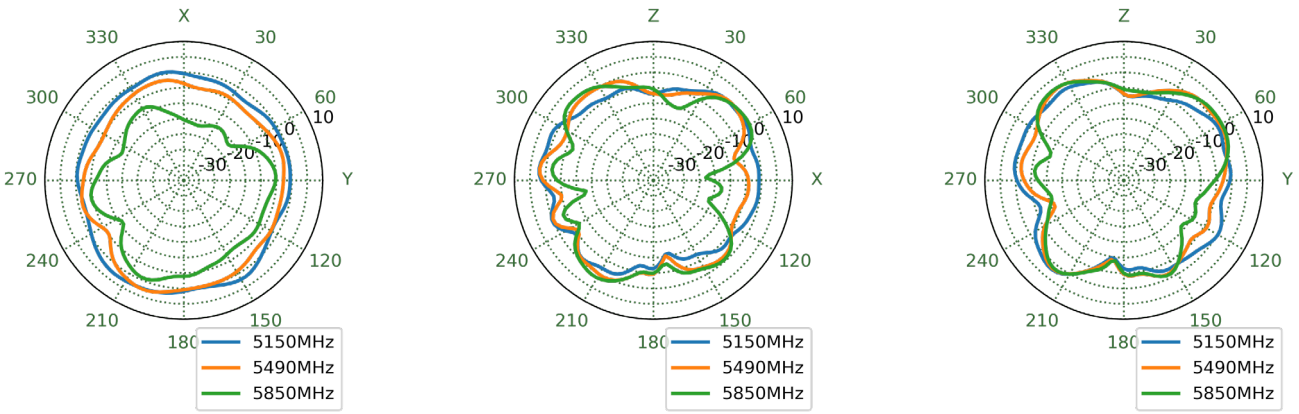




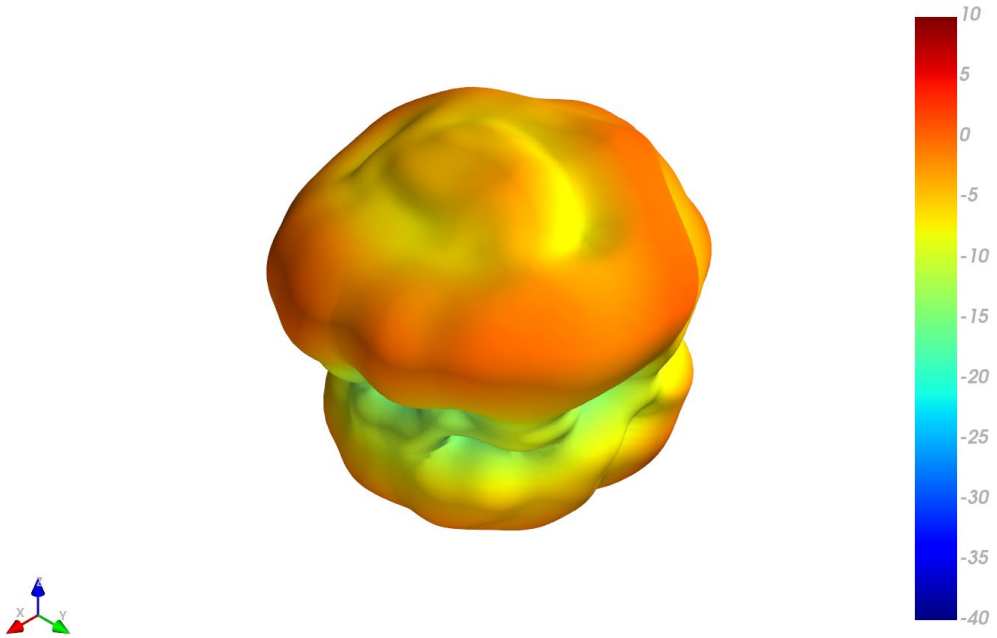
4.9 9x15cm Ground 3D and 2D Radiation Patterns at 5490 MHz



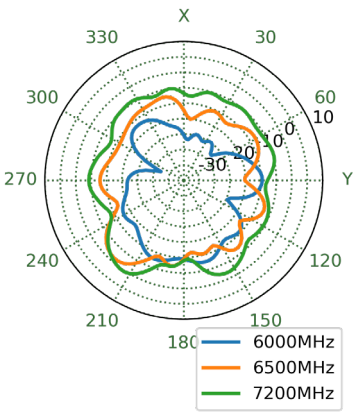
XY Plane	XZ Plane	YZ Plane

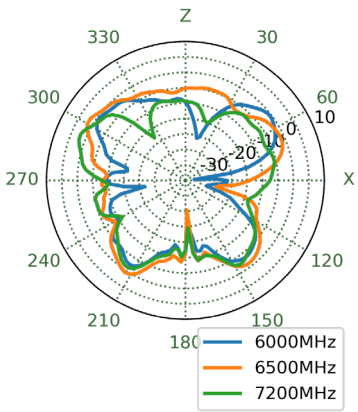


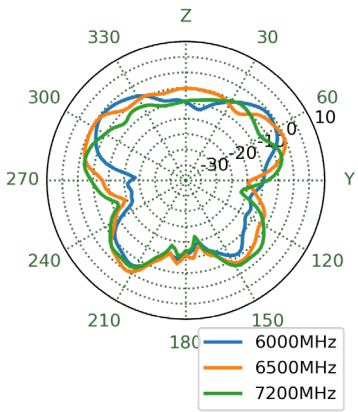
4.10 9x15cm Ground 3D and 2D Radiation Patterns at 6500 MHz



XY Plane	XZ Plane	YZ Plane

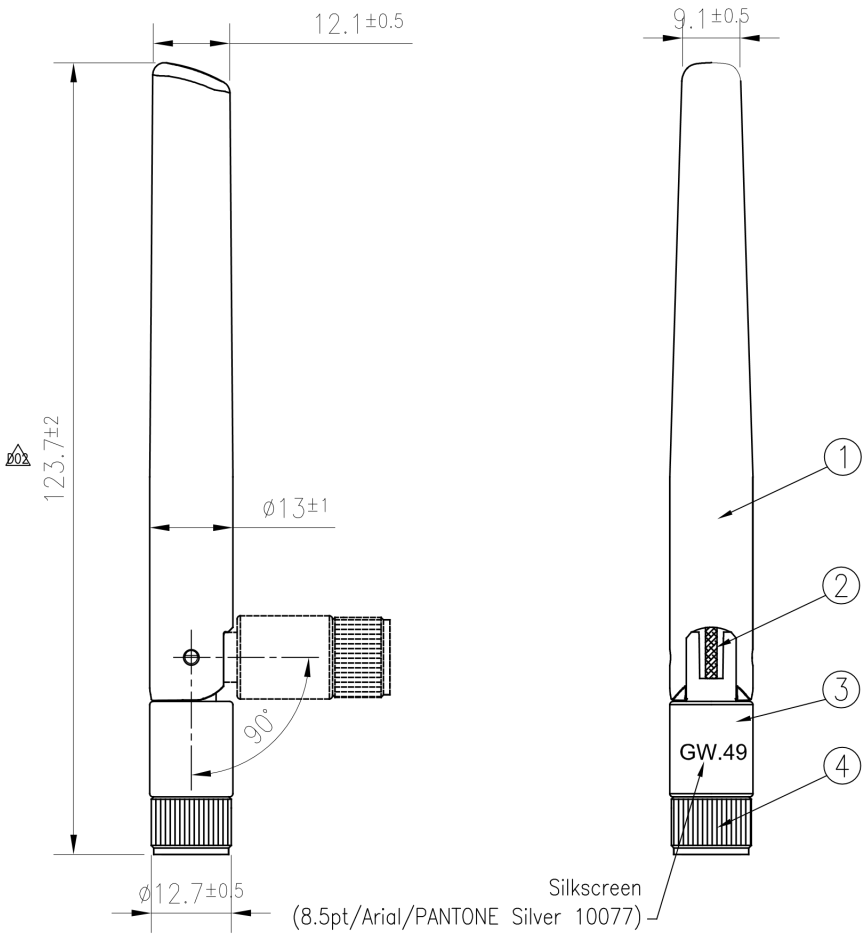






5. Mechanical Drawing

ISO NO.: EDW-23-8-0894
STATE: RELEASE
NOTES: 1. All material must be RoHS compliant.



	Name	Material	Finish	QTY
1	Radome	PC+PBT	Black	1
2	RG178 coaxial cable	FEP	Brown	1
3	Lower Holder	PC+PBT	Black	1
4	RP-SMA(M)	PC+PBT	Black	1

6. Packaging

TBD

Changelog for the datasheet

SPE-23-8-273 – GW.49.A153

Revision: A (Original First Release)	
Date:	2023-09-27
Notes:	Initial Release
Author:	Cesar Sousa

Previous Revisions

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