



TAOGLAS®



Datasheet

Part No:
GW.48.A151W

Description

White 2.4 / 5.8 / 7.125GHz

Rubber Duck Dipole Antenna with RP-SMA(M)

Features:

2.4/5.8/7.125GHz Band Operation

UV Resistant, Robust TPEE Housing

IP65 Waterproof Enclosure

IK05 Impact Rated Enclosure

Connector Mount: RP-SMA(M)

Dimensions: 89.5mm x 7.5mm Diameter

RoHS & REACH compliant

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1. Introduction



The GW.48 2.4/5.8/7.125GHz RP-SMA(M) mount dipole antenna is designed for superior performance and reliability. With an omnidirectional radiation pattern and excellent efficiency in all Wi-Fi frequency bands.

At just 89.5mm in height, the GW.48 is a great smaller form factor solution for Bluetooth and Wireless LAN networks. The IP65 rated enclosure makes it suitable for both indoor and outdoor applications. The flexible IK05 rated TPEE enclosure is impact resistant and durable and has the added benefit of UV resistance, allowing it to meet the needs of demanding outdoor applications.

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, giving you better performance.

Upon testing of any of our antennas with your device and a selection of appropriate layout, integration technique, or cable, Taoglas can make sure any of our antennas' peak gain will be below the peak gain limits. Taoglas can then issue a specification and/or report for the selected antenna in your device that will clearly show it complying with the peak gain limits, so you can be assured you are meeting regulatory requirements for that module.

Choosing a Taoglas antenna with a higher peak gain than what is specified by the module manufacturer and enlisting our help will ensure you are getting the best performance possible without exceeding the peak gain limits.

Contact your regional Taoglas customer support team for further information.

2. Specification

Wi-Fi Electrical								
Band	Frequency (MHz)	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
Wi-Fi - 2GHz	2400-2500	80.6	-0.93	1.82	50 Ω	Linear	Omni	2W
Wi-Fi - 5GHz	5150-5850	70.9	-1.49	3.28				
Wi-Fi - 6GHz	5925-7125	62.1	-2.07	4.23				

Mechanical	
Antenna Length	89.5 mm
Antenna Diameter	7.5 mm
Weight	9.5g
Antenna Body Material	TPEE
Connector	RP-SMA(M)
Waterproof	IP65
Pendulum Hammer Test [IEC62262]	IK05

Environmental	
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH

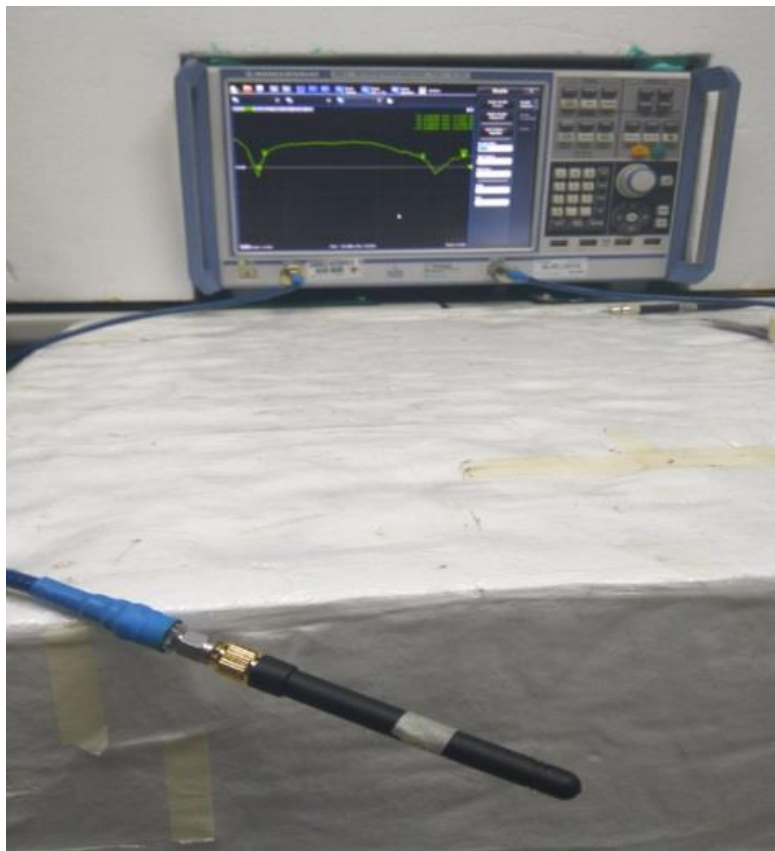
3. Antenna Characteristics

3.1 Test Setup

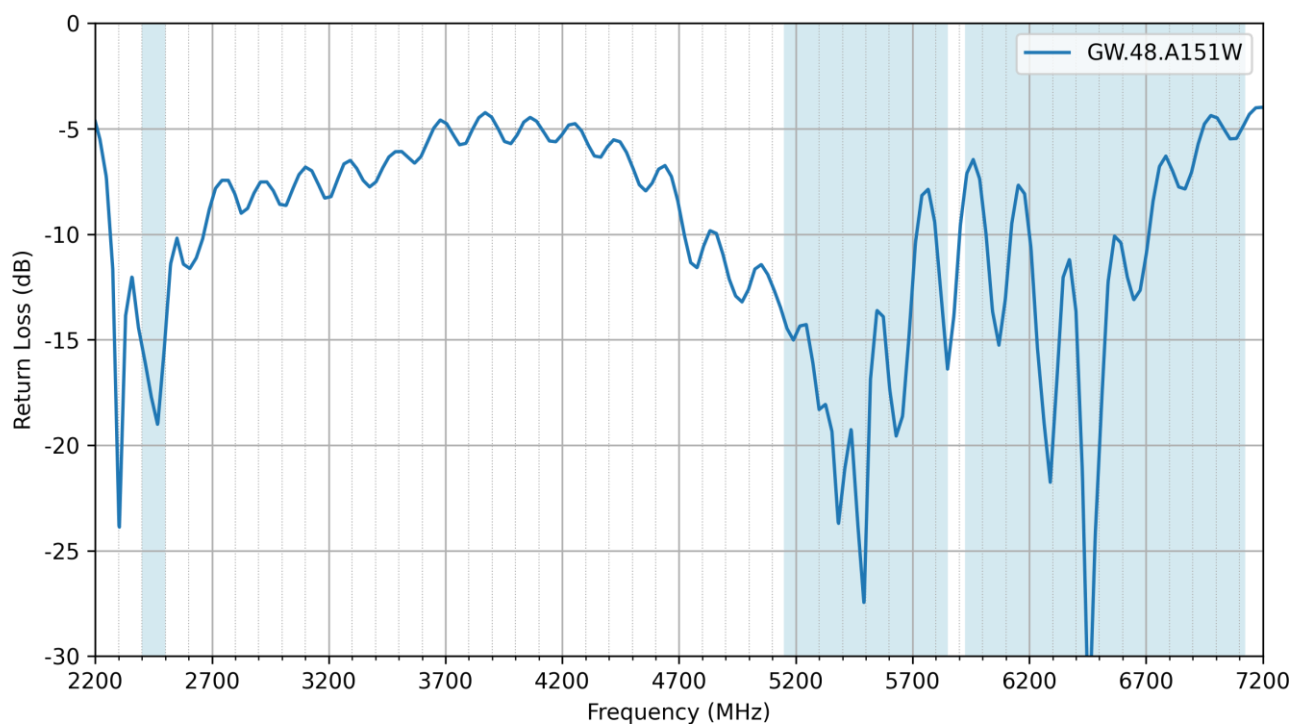
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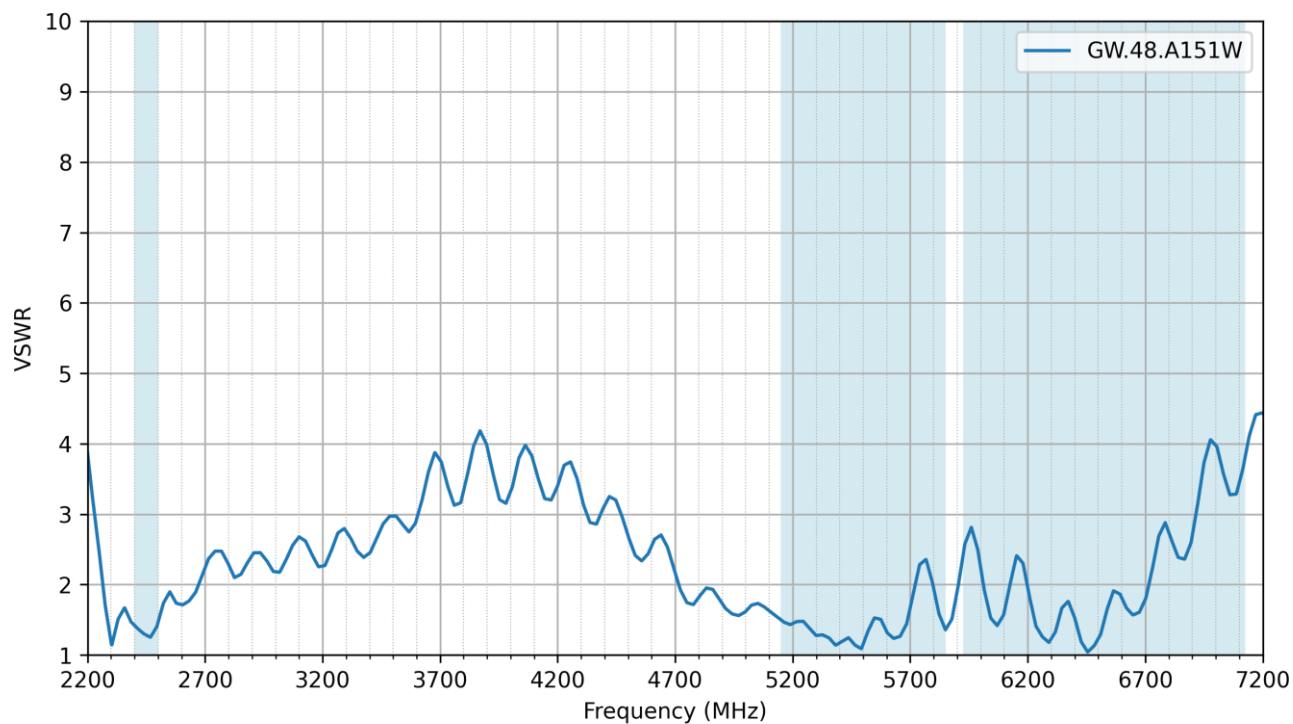
Vector Network Analyzer



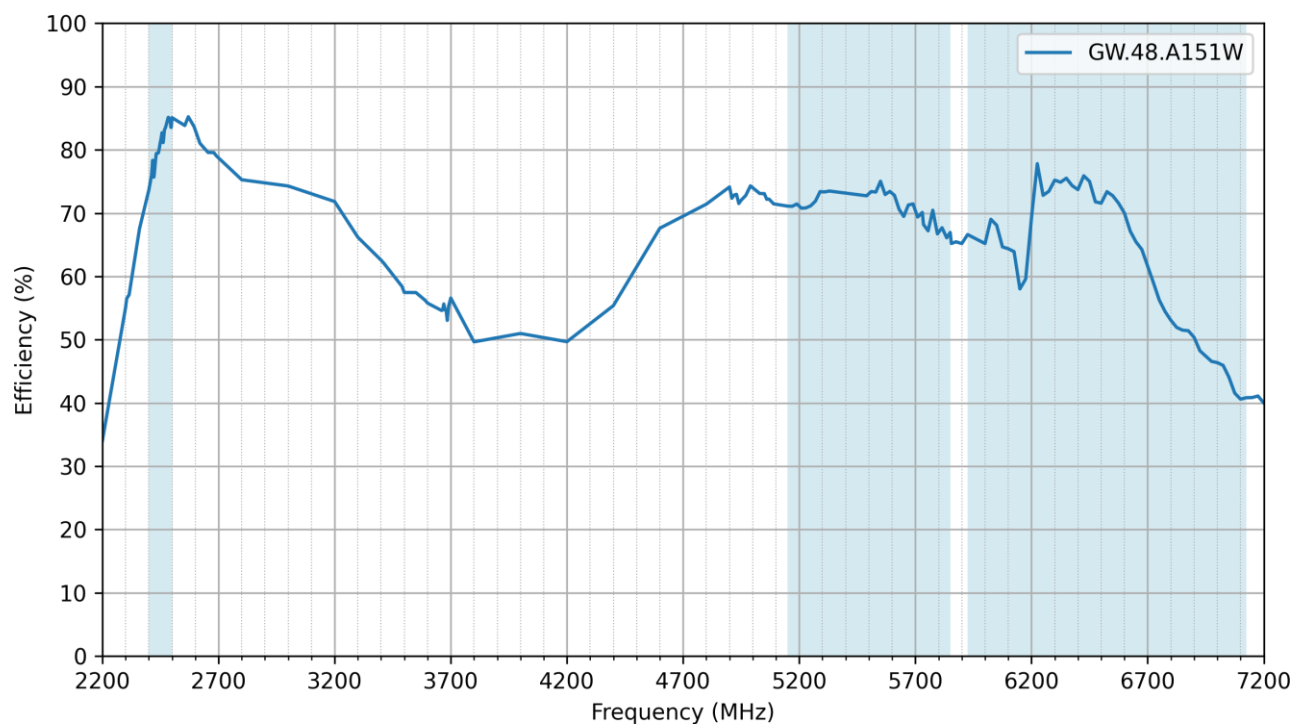
3.2 Return Loss



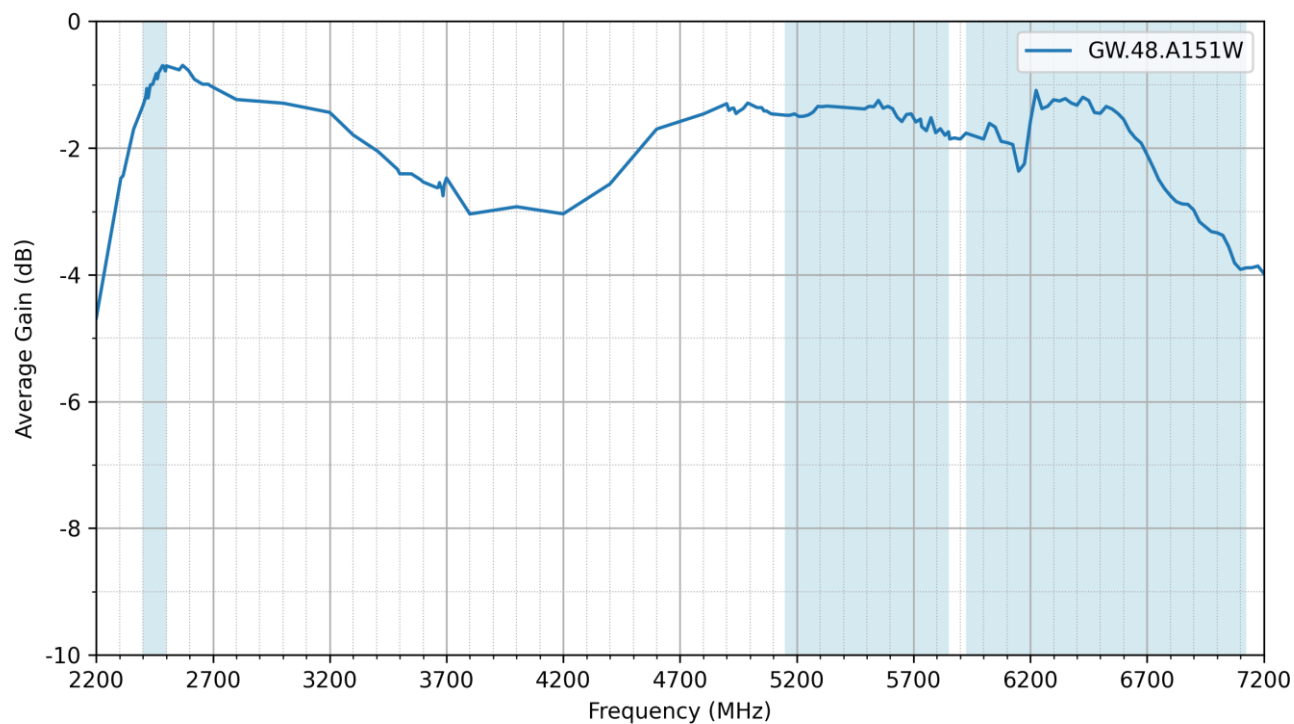
3.3 VSWR



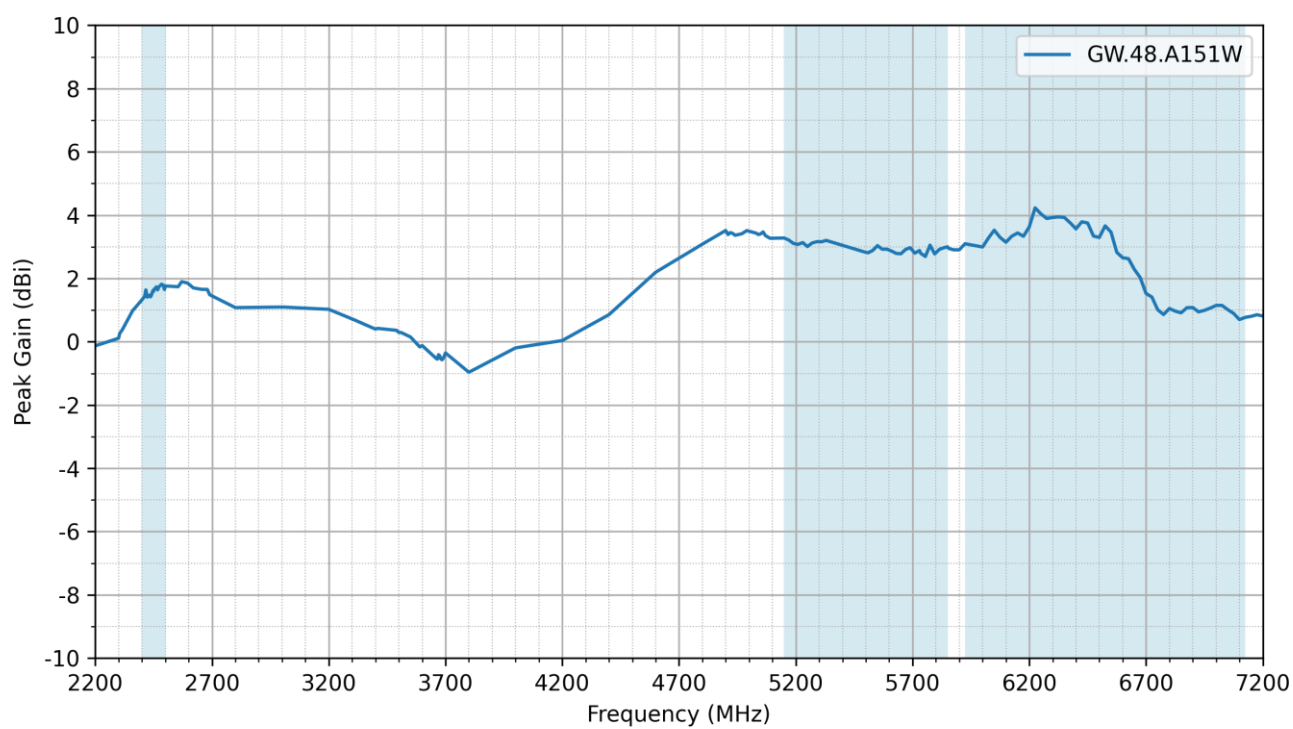
3.4 Efficiency



3.5 Average Gain

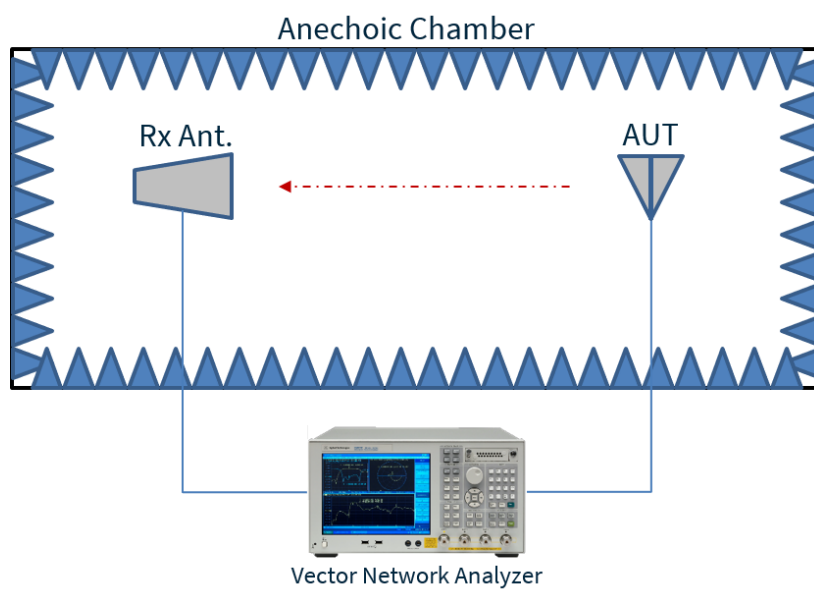


3.6 Peak Gain

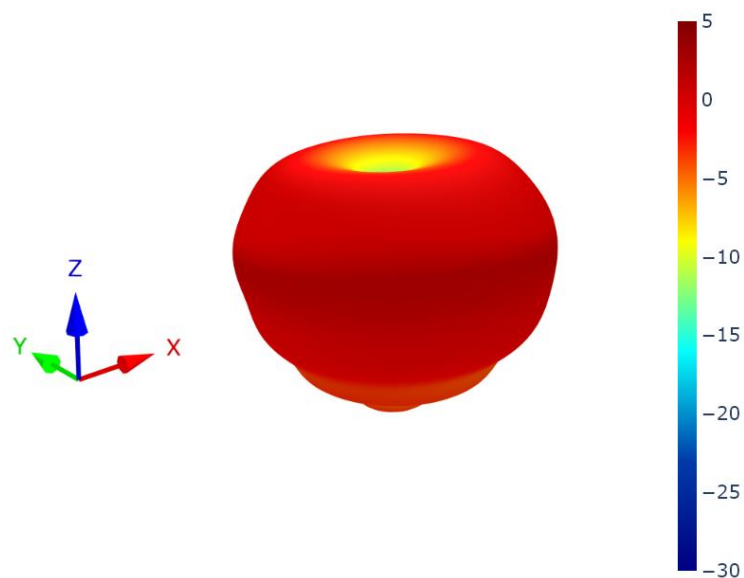


4. Radiation Patterns

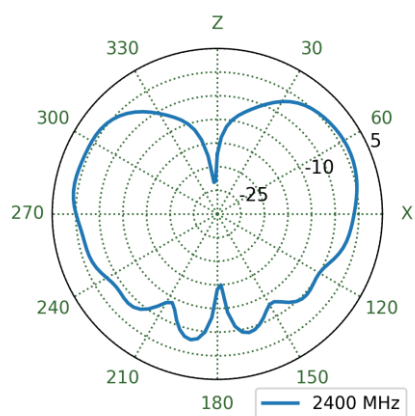
4.1 Test Setup



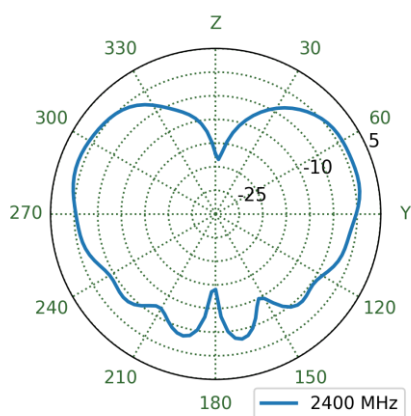
4.2 GW.48.A151W Patterns at 2400 MHz



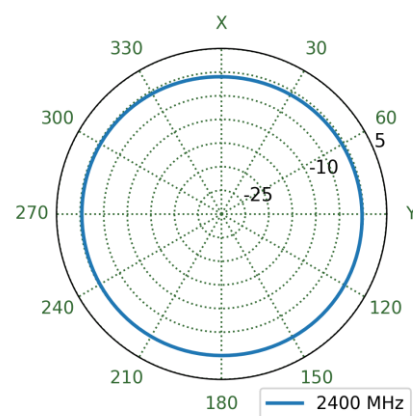
XZ Plane



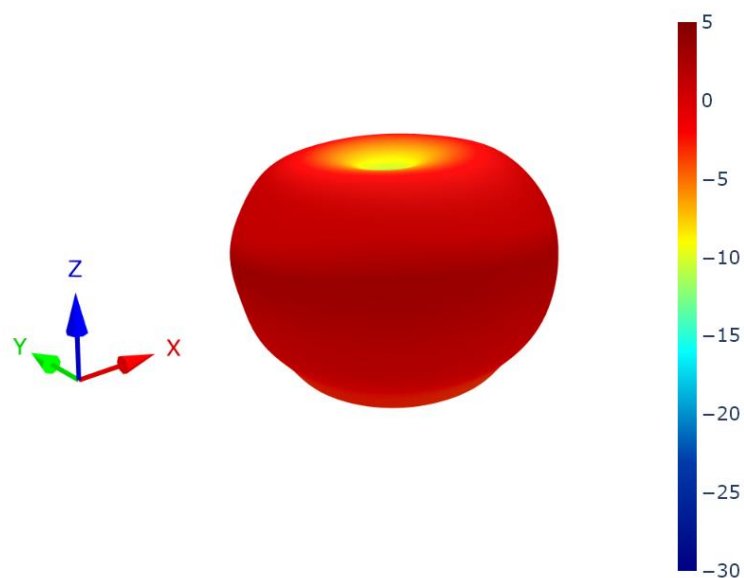
YZ Plane



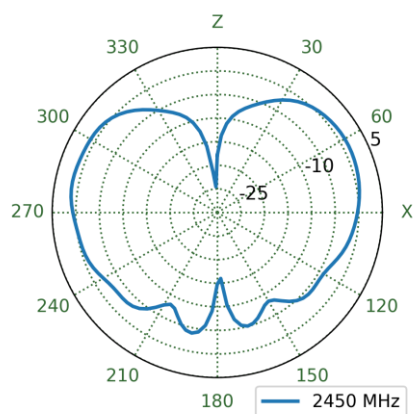
XY Plane



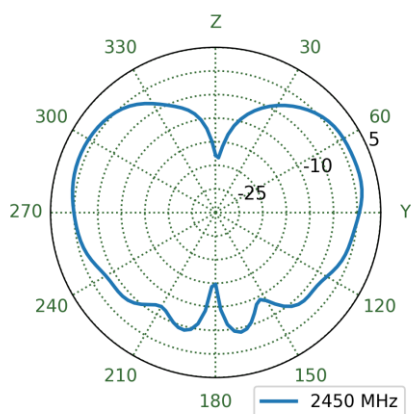
4.3 GW.48.A151W Patterns at 2450 MHz



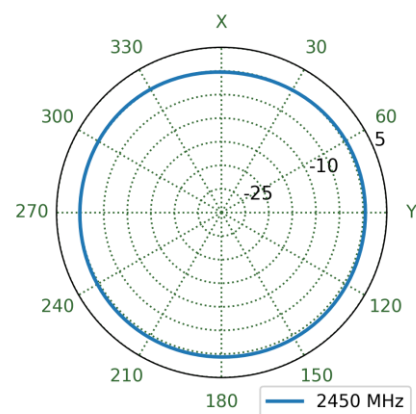
XZ Plane



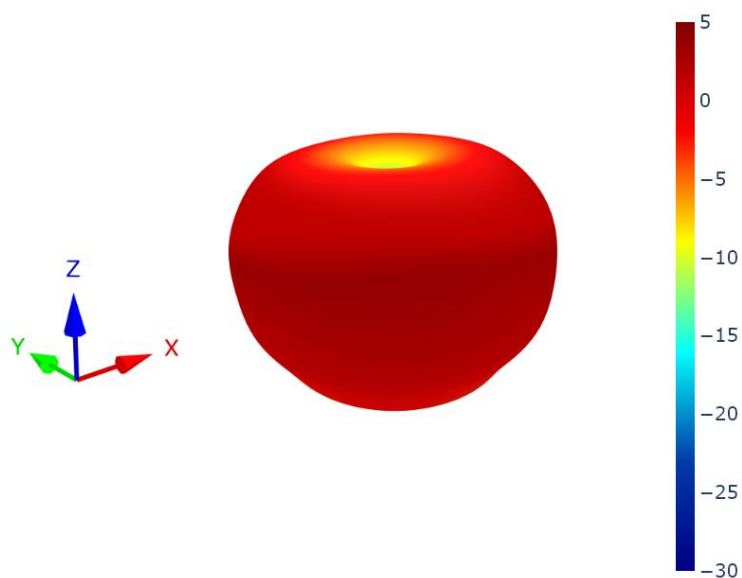
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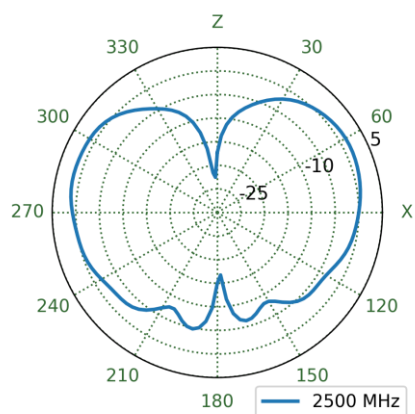
XY Plane



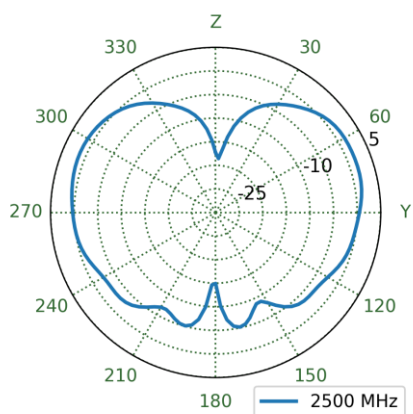
4.4 GW.48.A151W Patterns at 2500 MHz



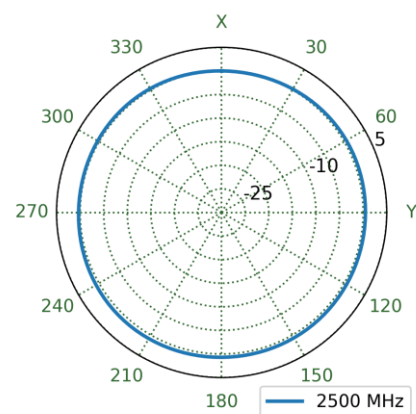
XZ Plane



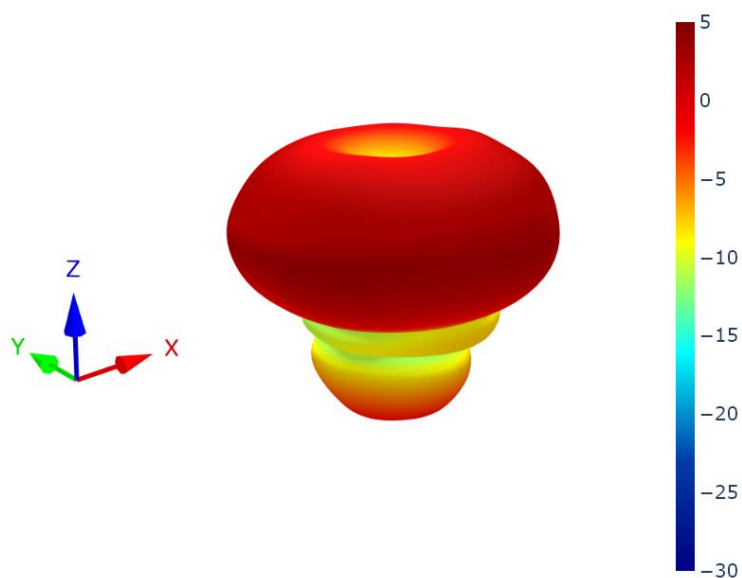
YZ Plane



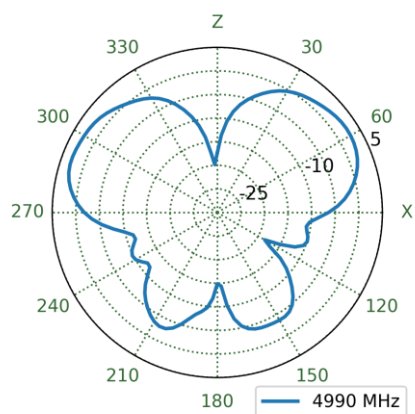
XY Plane



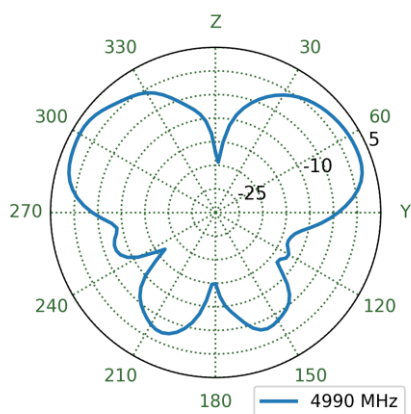
4.5 GW.48.A151W Patterns at 5000 MHz



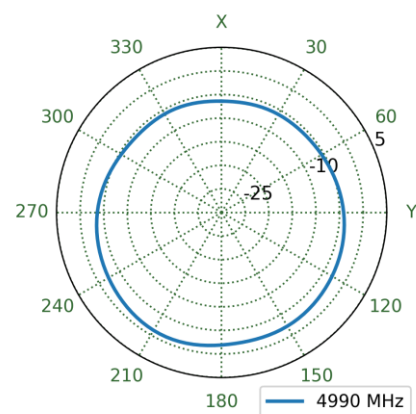
XZ Plane



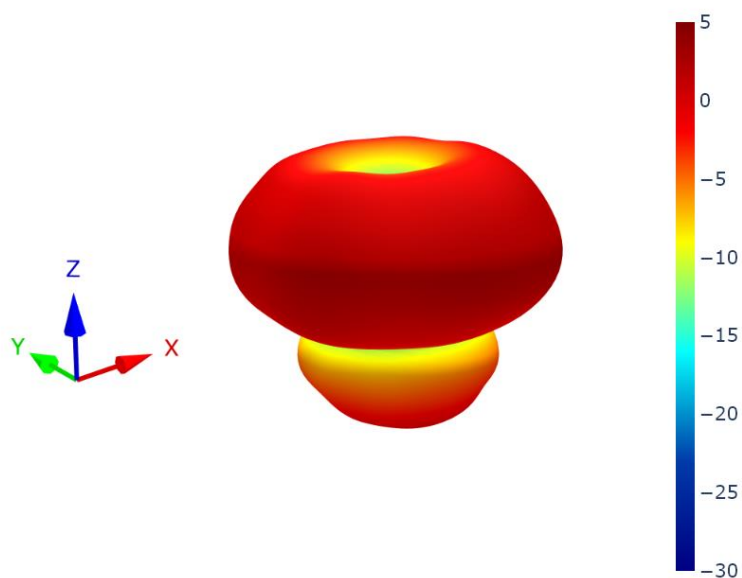
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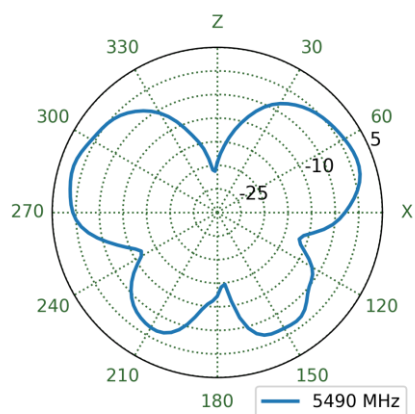
XY Plane



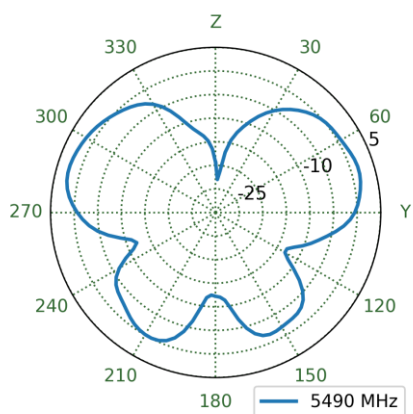
4.6 GW.48.A151W Patterns at 5500 MHz



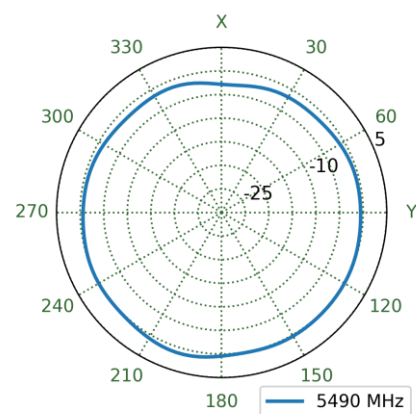
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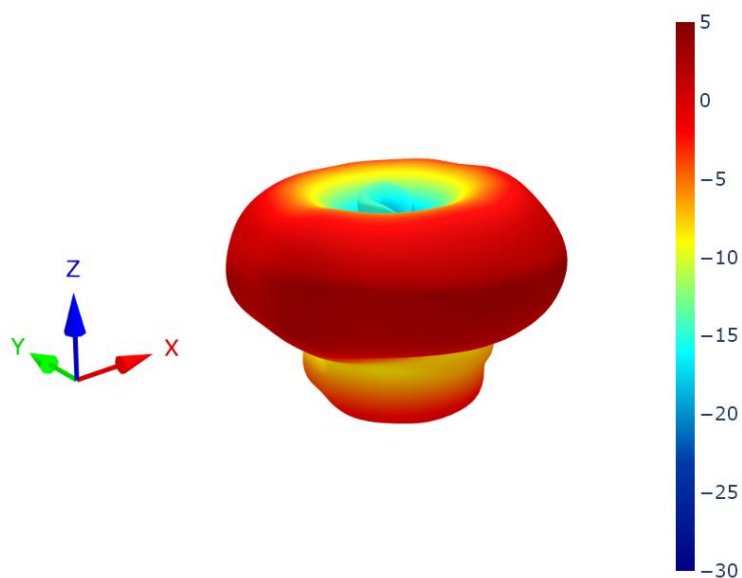
YZ Plane



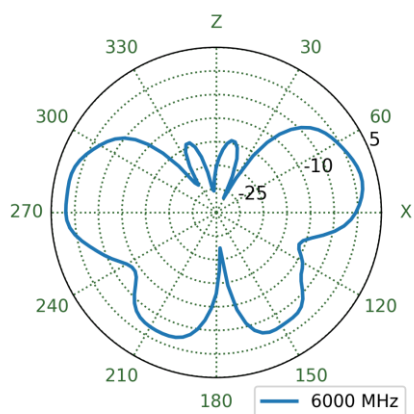
XY Plane



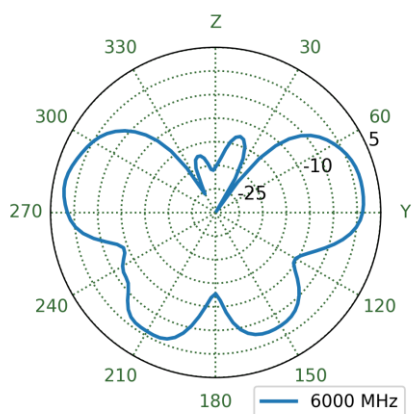
4.7 GW.48.A151W Patterns at 6000 MHz



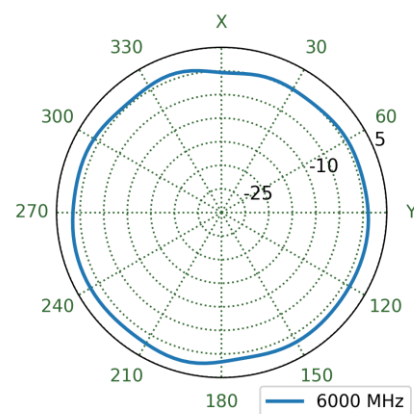
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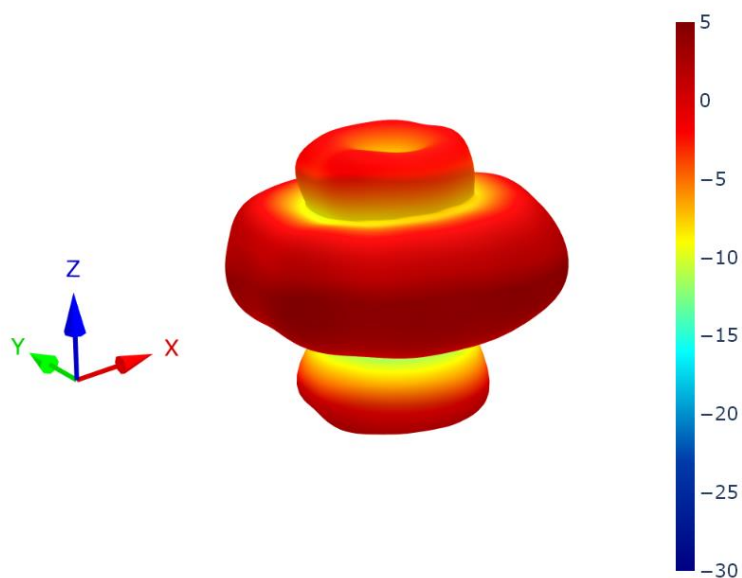
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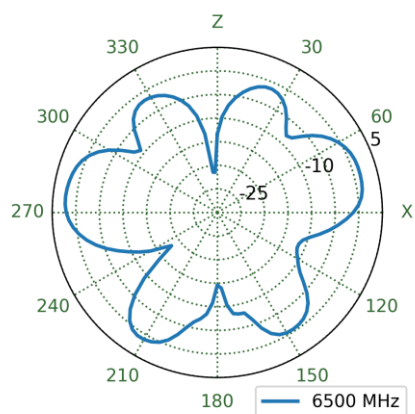
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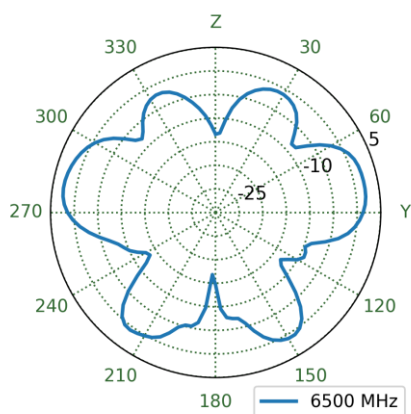
4.8 GW.48.A151W Patterns at 6500 MHz



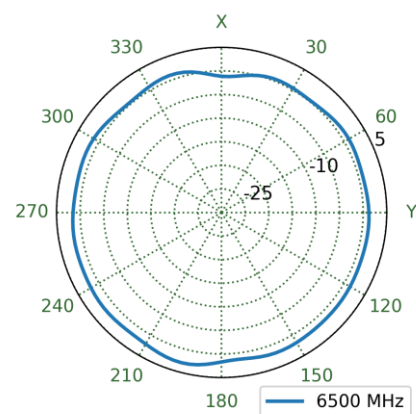
XZ Plane



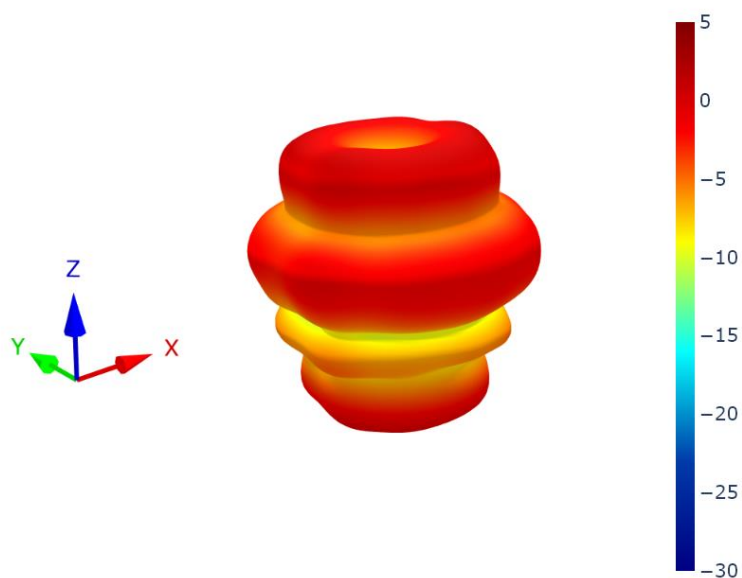
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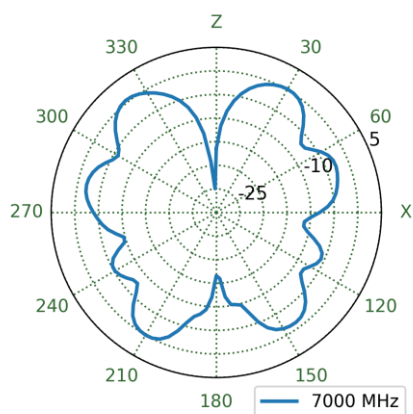
XY Plane



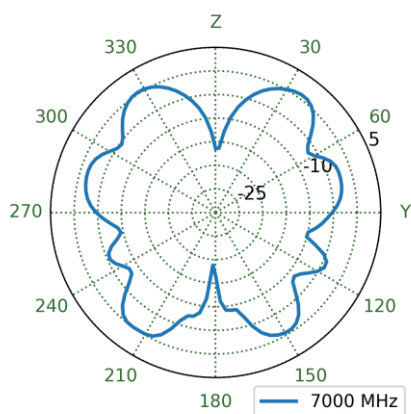
4.9 GW.48.A151W Patterns at 7000 MHz



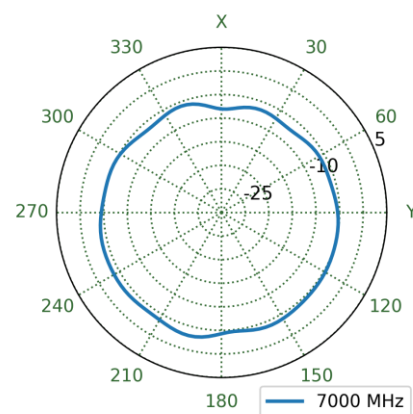
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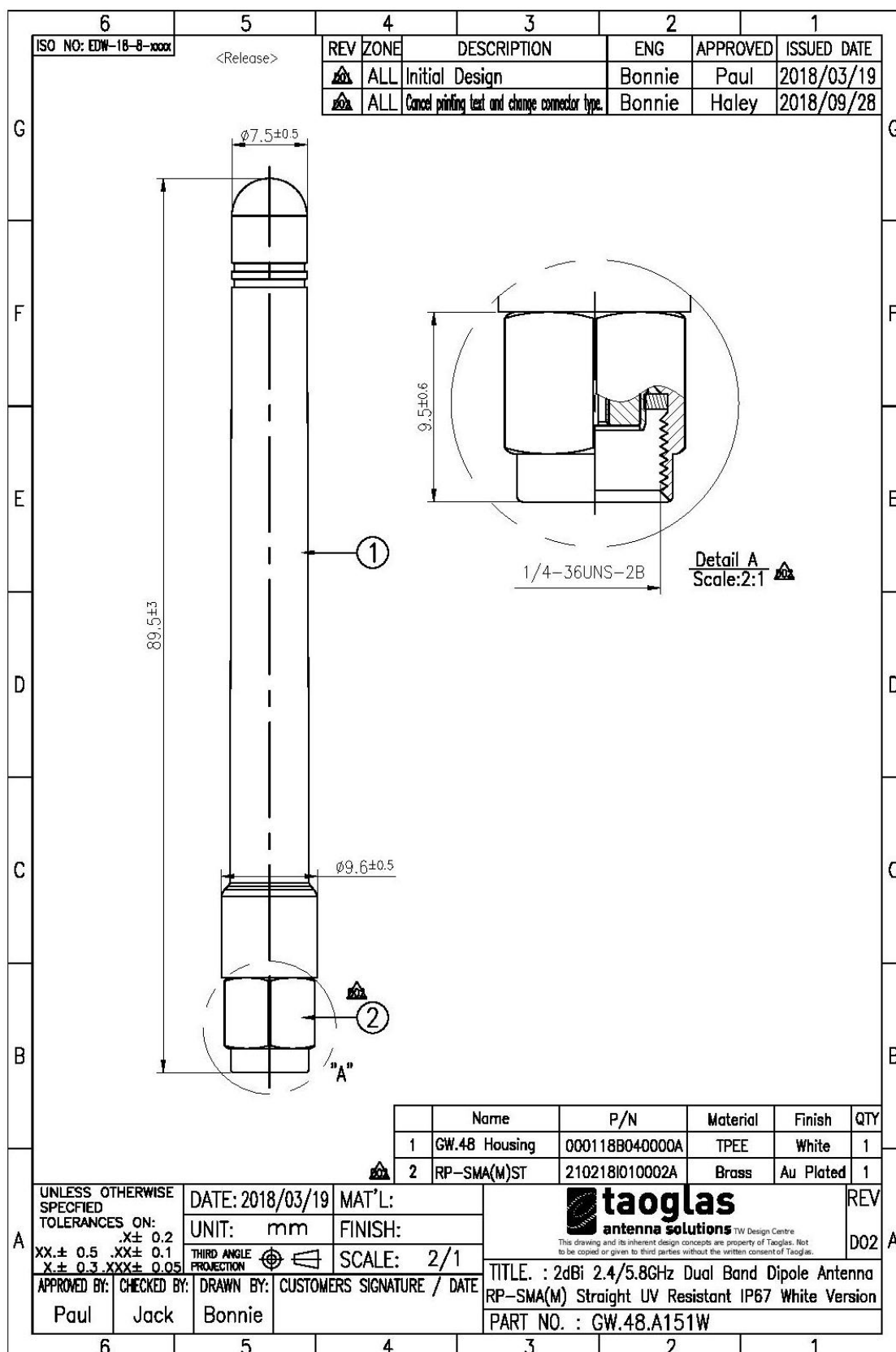
YZ Plane



XY Plane

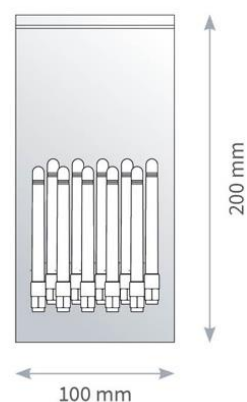


5. Mechanical Drawing

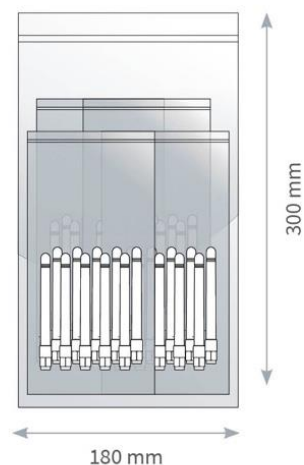


6. Packaging

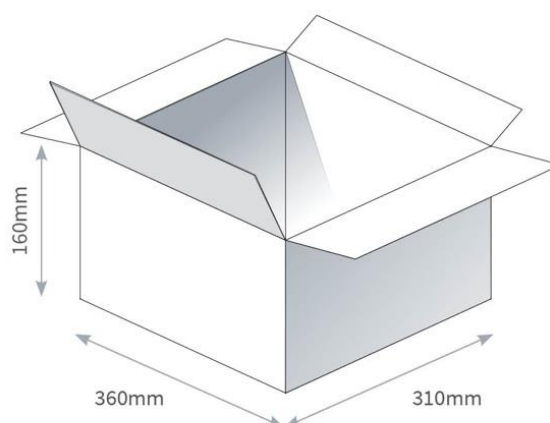
10 pcs GW.48 per PE Bag
Bag Dimensions - 100 x 200 mm
Weight - 86g



10 Small PE Bag per Large Bag
100 pcs GW.48 per PE Large Bag
Bag Dimensions - 300 x 180mm
Weight - 865g



1000 pcs GW.48 per carton
Carton - 360 x 310 x 160mm
Weight - 9.6Kg



Changelog for the datasheet

SPE-18-8-121 – GW.48.A151W

Revision: B (Current Version)

Date:	2023-03-20
Changes:	Installation Guide Amended
Changes Made by:	Gary West

Previous Revisions

Revision: A (Original First Release)

Date:	2018-11-30
Notes:	
Author:	Unknown



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