Specification

Part No.	:	**GW.20.A151W**
Product Name	:	White 2dBi 2.4GHz Dipole Antenna with RP-SMA(M) Straight Connector
Features	:	Terminal Antenna IP65 UV Resistant Waterproof Housing RP-SMA(M) Connector Dimension: 89.5mm * ∅9.6mm **RoHS & REACH Compliant**

1. Introduction

The GW.20.A151W dipole RP-SMA(M) plug mount antenna is ideal for 2.4~2.5GHz wireless applications such as Bluetooth® and Wireless LAN. The antenna structure is flexible, so is designed for robust handling and the housing is made with UV Resistant TPE giving superior environmental reliability and a quality finish.

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.

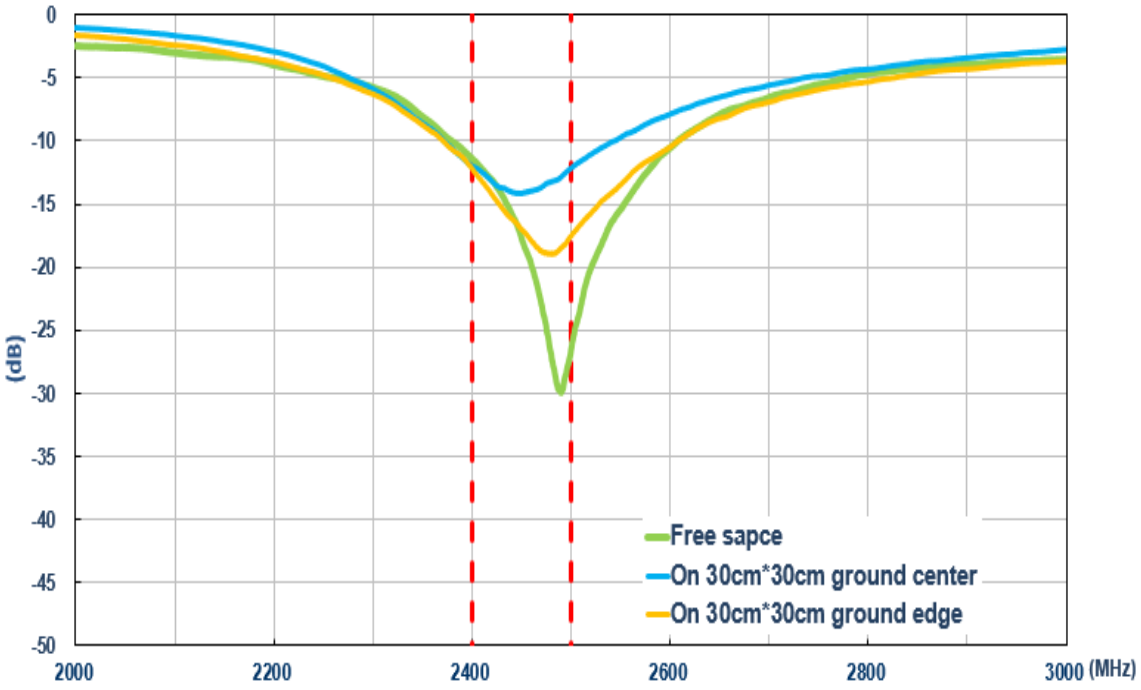
For further information, please contact your regional Taoglas customer support team.

2. Specification

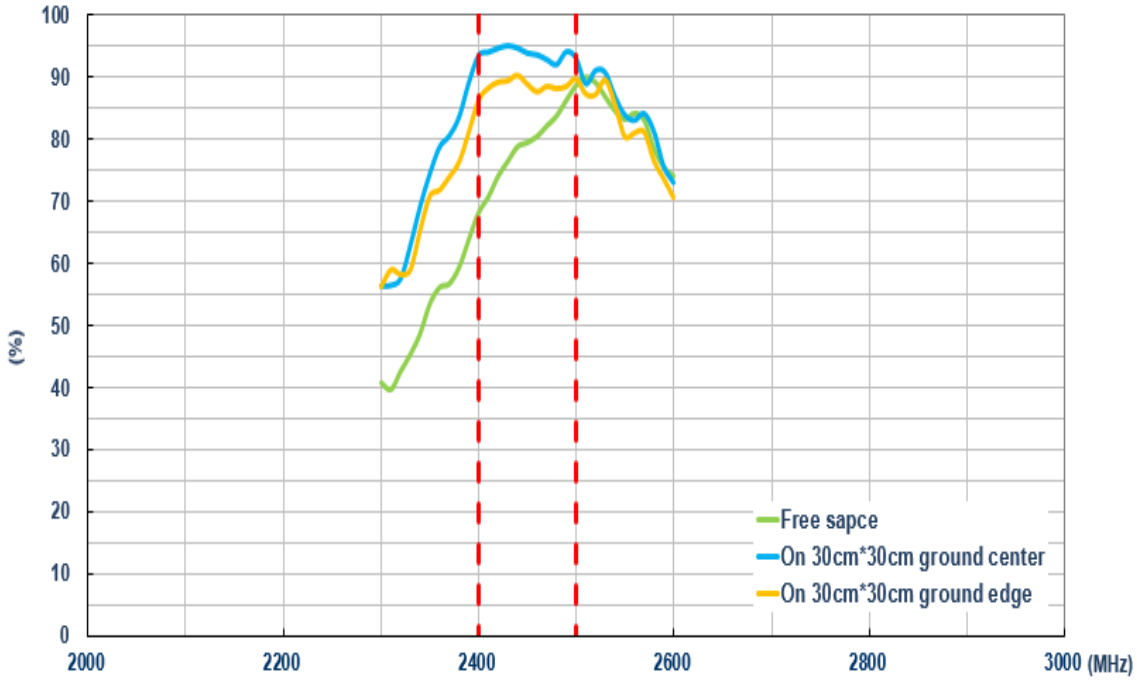
ELECTRICAL			
Frequency (MHz)	2400	2450	2500
Efficiency (%)			
Free Space	68.14	79.43	88.59
On 30cm*30cm Ground Center	93.35	91.70	85.72
On 30cm*30cm Ground Edge	86.36	88.49	83.11
Average Gain (dBi)			
Free Space	-1.67	-1.00	-0.53
On 30cm*30cm Ground Center	-1.07	-0.38	-0.67
On 30cm*30cm Ground Edge	-1.30	-0.53	-0.81
Peak Gain (dBi)			
Free Space	0.65	1.26	1.68
On 30cm*30cm Ground Center	5.38	5.38	5.26
On 30cm*30cm Ground Edge	2.45	2.29	2.11
Return Loss	<-10		
Radiation	Omni-directional		
Polarization	Linear		
Impedance	50 Ω		
Input Power	10W		
MECHANICAL			
Antenna length	89.5mm		
Antenna Diameter	7.5mm		
Casing	TPE		
Connector	RP-SMA(M)		
Weight	7g		
Waterproof	IP65		
ENVIRONMENTAL			
Operation Temperature	-40°C ~ + 85°C		
Storage Temperature	-40°C ~ + 85°C		
Humidity	Non-condensing 65°C 95% RH		

3. Antenna Characteristics

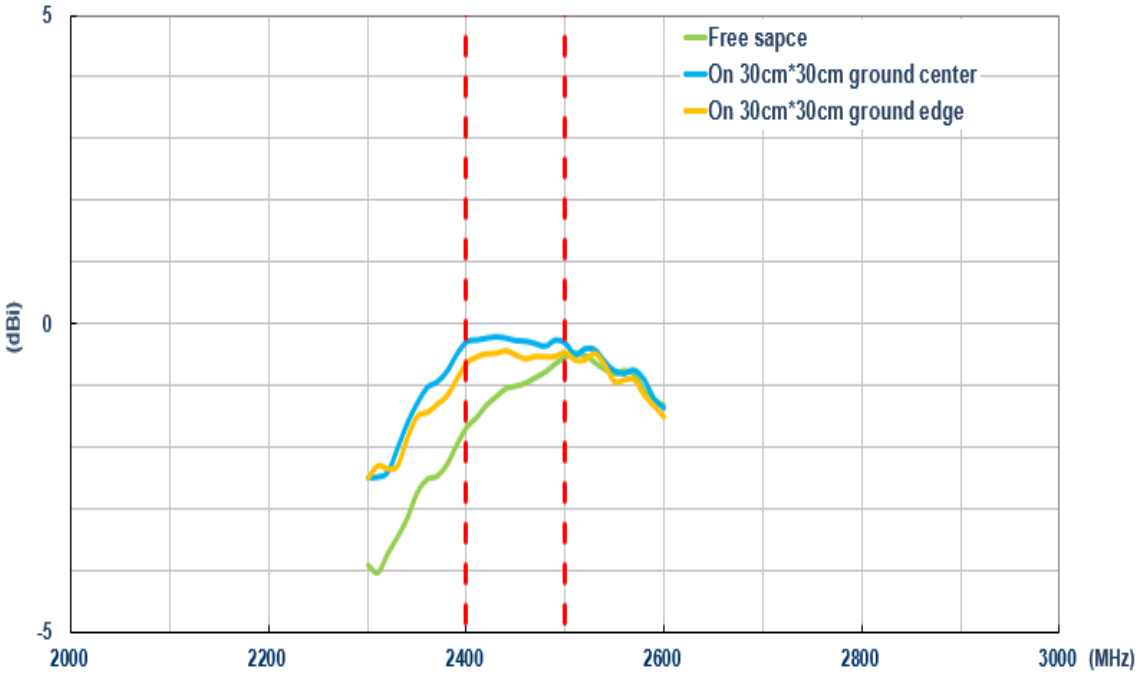
3.1 Return Loss



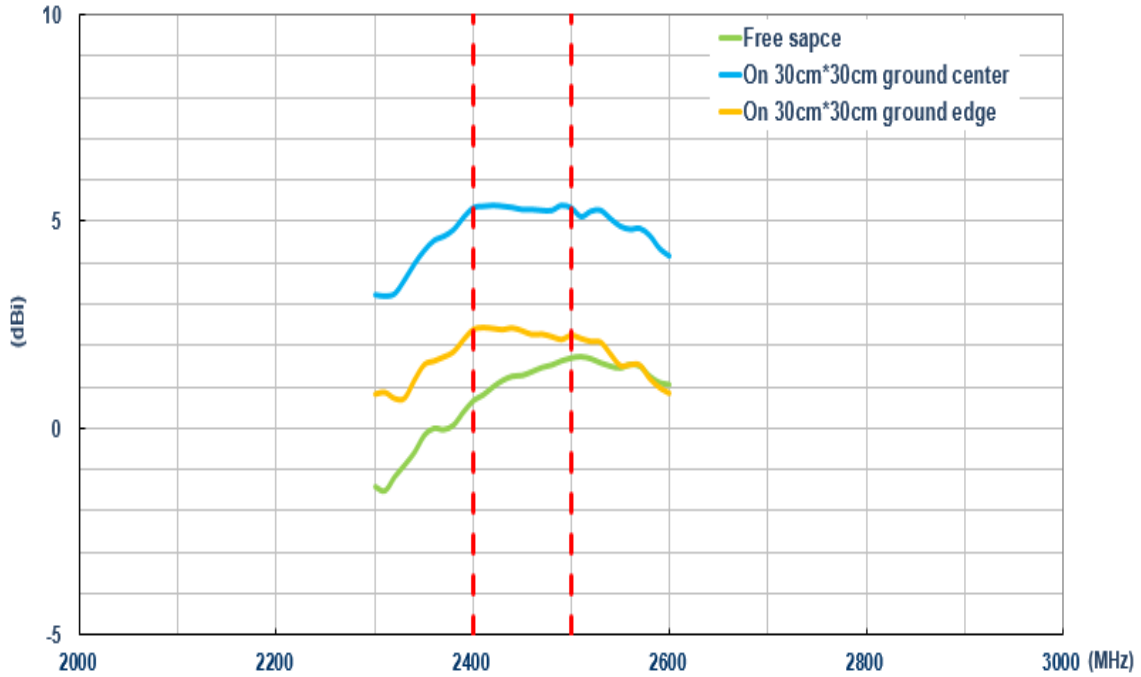
3.2 Efficiency



3.3 Average Gain



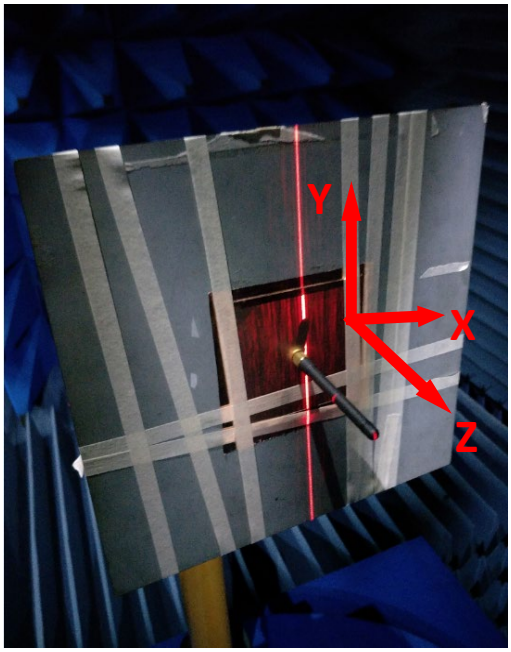
3.4 Peak Gain



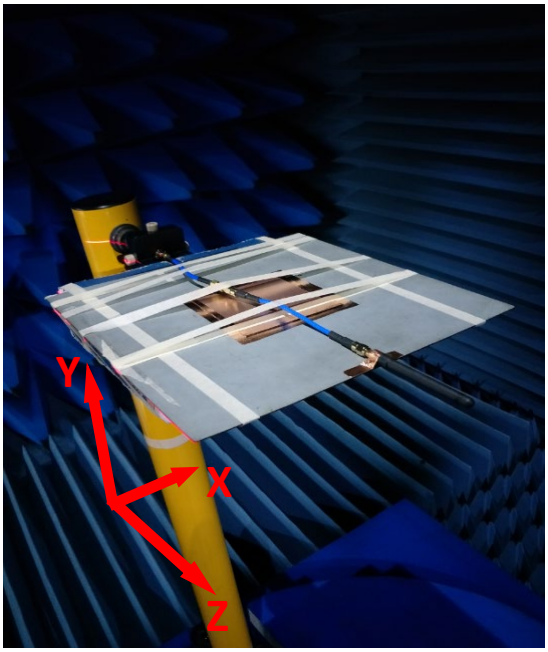
4. Antenna Radiation Patterns

The antenna radiation patterns were measured in a CTIA certified ETS Anechoic Chamber. The measurement setup is shown below.

Free space



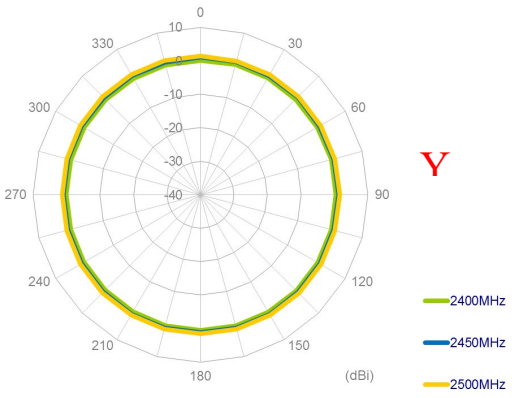
On 30cm*30cm ground



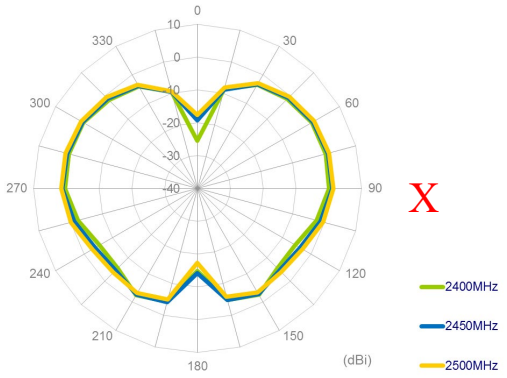
On 30cm*30cm ground

4.1 2D Radiation Pattern (Free Space)

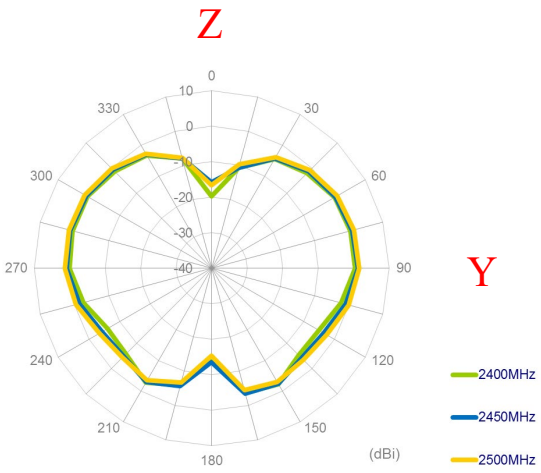
XY Plane



XZ Plane

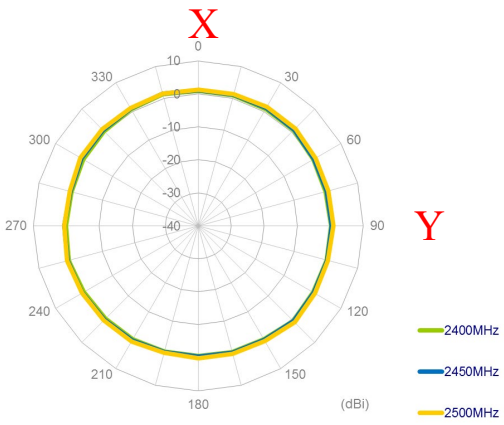


YZ Plane

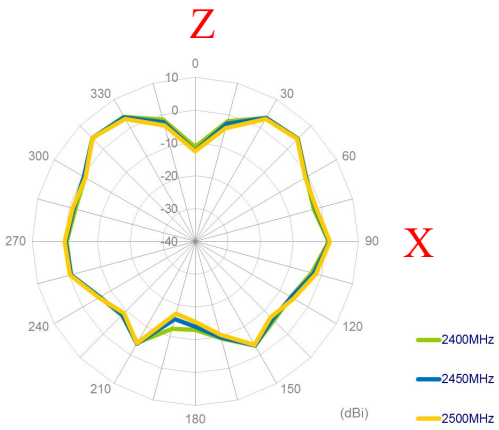


4.2 2D Radiation Pattern (On 30x30cm Ground Center)

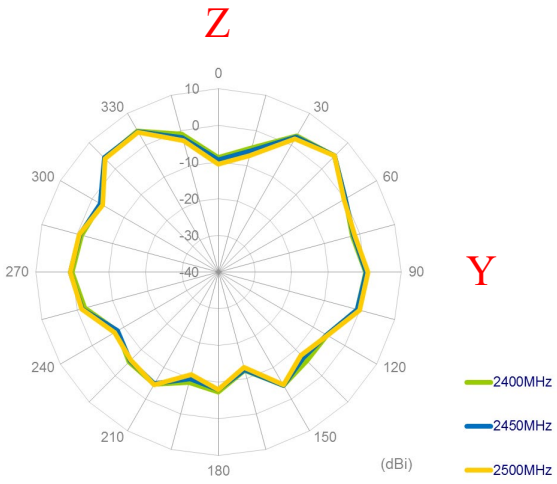
XY Plane



XZ Plane

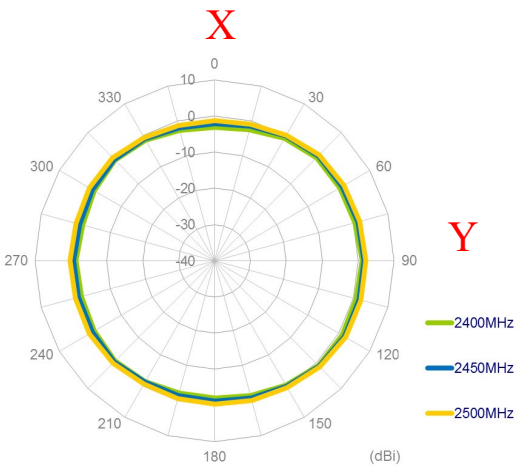


YZ Plane

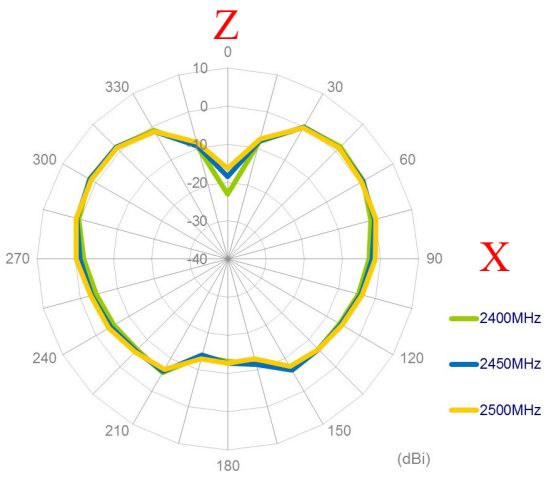


4.3 2D Radiation Pattern (On 30x30cm Ground Edge)

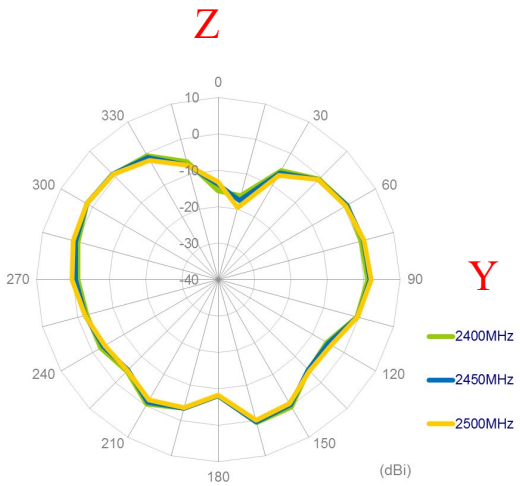
XY Plane



XZ Plane

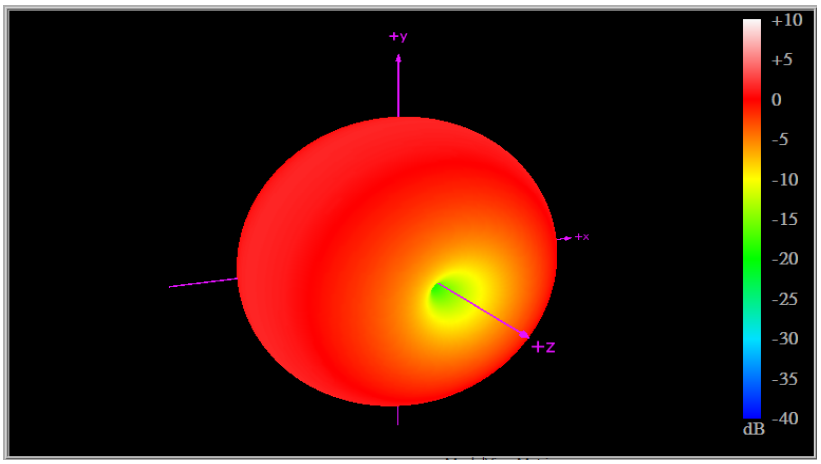


YZ Plane

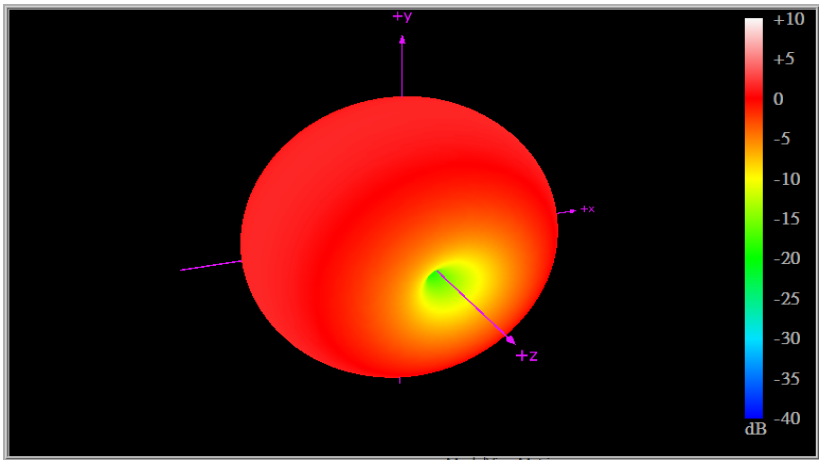


4.4 3D Radiation Pattern (Free Space)

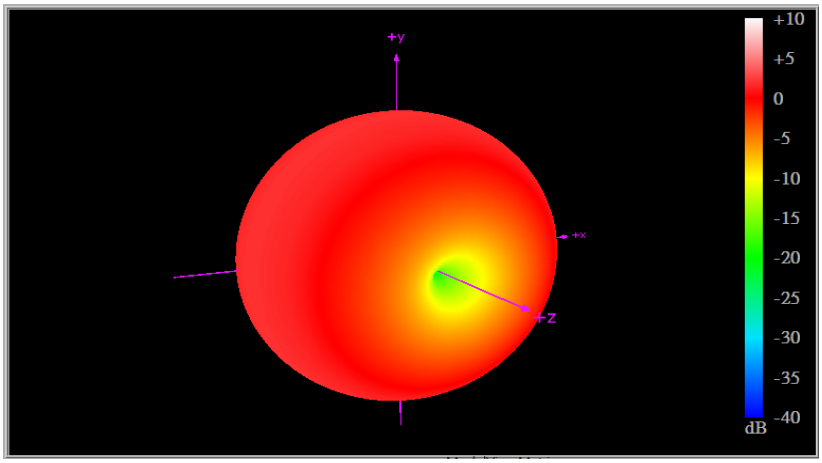
2400MHz



2450MHz

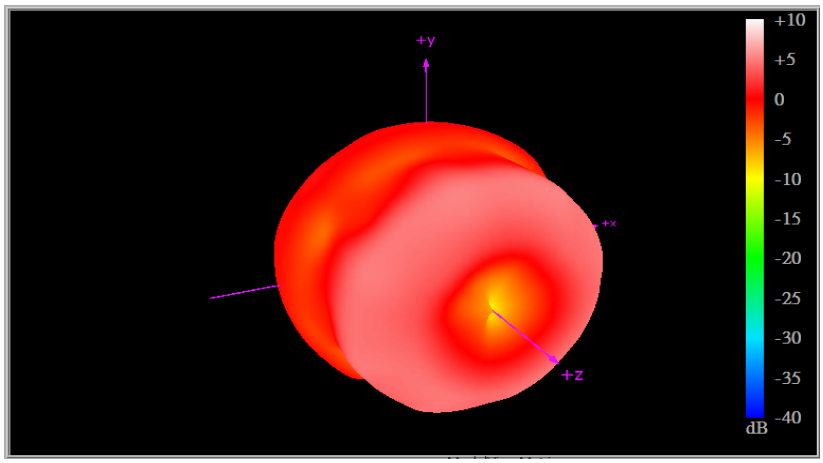


2500MHz

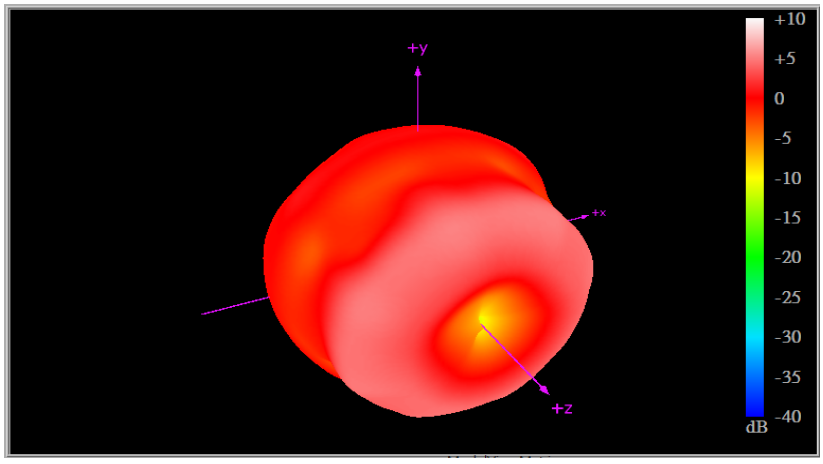


4.5 3D Radiation Pattern (On 30x30cm Ground Center)

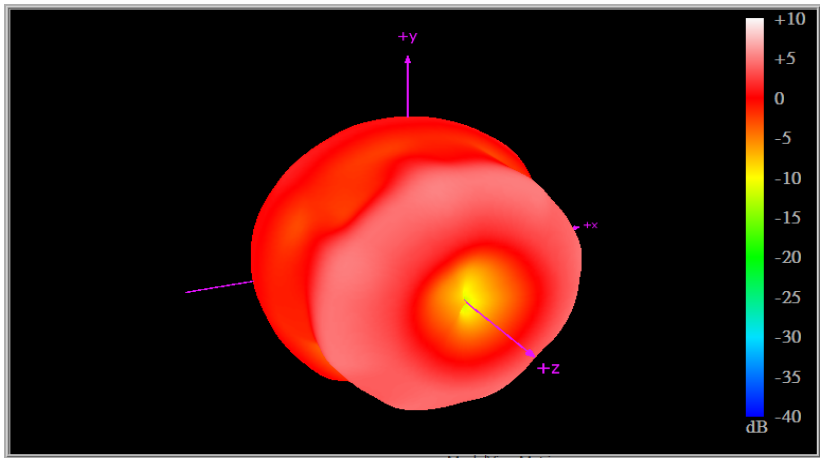
2400MHz



2450MHz

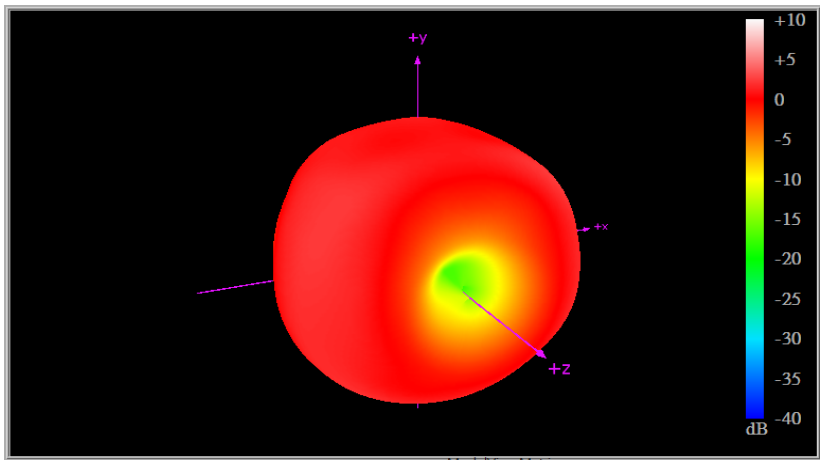


2500MHz

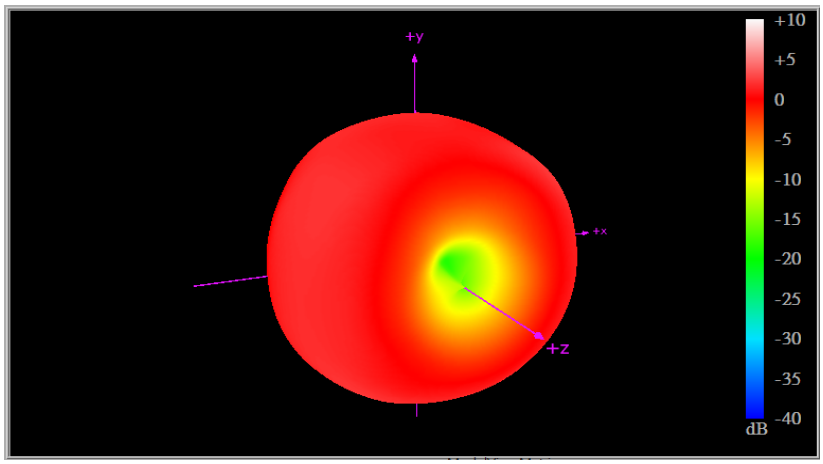


4.6 3D Radiation Pattern (On 30x30cm Ground Edge)

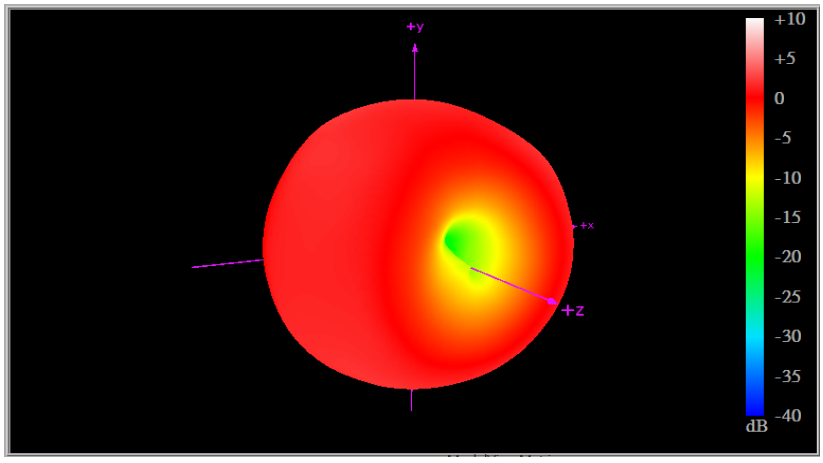
2400MHz



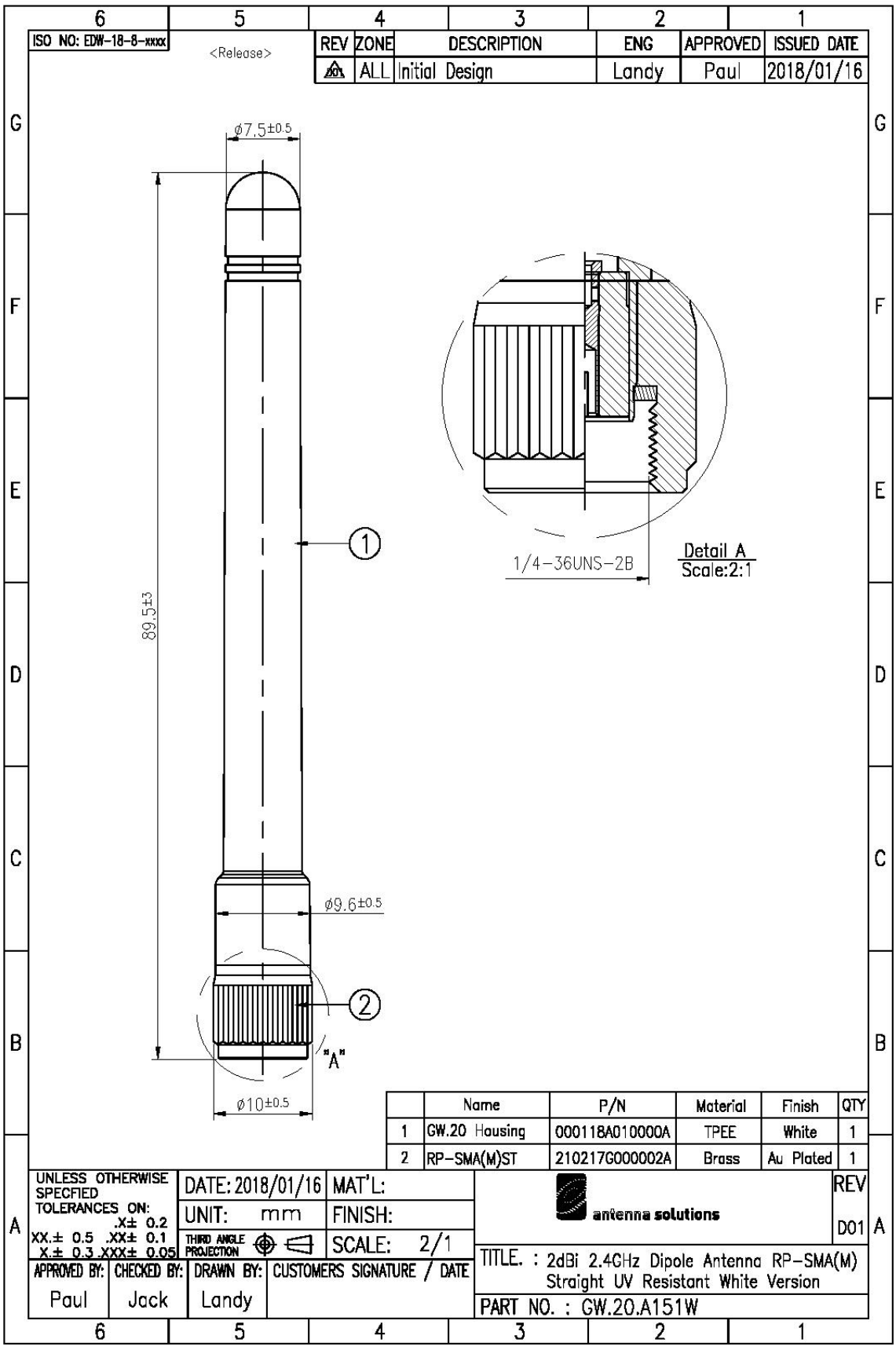
2450MHz



2500MHz

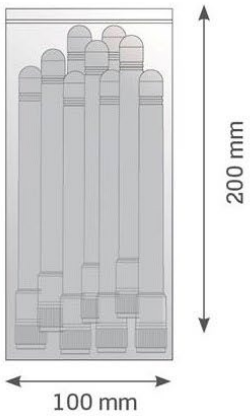


5. Mechanical Drawing

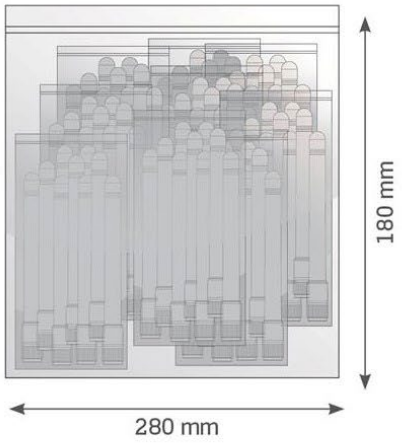


6. Packaging

10 pcs GW.20.A151W per PE Bag
Bag Dimensions - 100 x 200 mm



100 pcs GW.20.A151W per PE Large Bag
Bag Dimensions - 280 x 180mm



1000 pcs GW.20.A151W per carton
Carton - 360 x 310 x 160mm