



TAOGLAS®

Datasheet

[Model Name]

Part No:
GW.05.0153

Description

Dual-Band Wi-Fi 2.4~2.5GHz/5.15~5.85GHz Terminal Mount Monopole Antenna
Also Covering Wi-Fi 6 Frequencies

Features:

Wi-Fi 2.4/5.8/7.1GHz
Covers Wi-Fi 6 Frequencies: 5.9-71GHz
Extremely Compact - 62.3mm ± 1.5mm
Aesthetic look and feel
Unique can rotate 360 degrees and articulate through 180 degrees
Max Peak Gain compliant with most Wi-Fi modules
Connector: RP-SMA(M)
Dimensions: 62.3*Ø10mm
CE Certified
RoHS & Reach Compliant

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1. Introduction



The GW.05 dual band Wi-Fi Hinged Rotatable Antenna is a high efficiency monopole antenna with the capacity to cover Wi-Fi 6 frequencies up to 7.125GHz. Compared to other much larger antennas on the market, it has superior wide-band high efficiency characteristics. The bright green colour of the antenna adds a unique quality look and feel to any modern Wi-Fi application point, device or router. It also provides differentiation if using Taoglas other similar looking antennas (such as the black color Taoglas TG.09 cellular antenna) on same device.

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 put inside a device. 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.

For example, a module manufacturer may state that the antenna must have less than 2dBi peak gain, but you don't need to select an embedded antenna that has a peak gain of less than 2dBi in free-space. This will give you a less optimized solution. It is better to go for a slightly higher free-space peak gain of 3dBi or more if available. Once that antenna gets integrated into your device, performance will degrade below this 2dBi peak gain due to the effects of GND plane, surrounding components, and device housing. If you want to be absolutely sure, contact Taoglas and we will test. 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.

This antenna's colour and connector can be customized subject to NRE, for further information please contact your regional Taoglas customer support team.

The GW.05 is also available in black - GW.05.0153B, and also available with FAKRA Code Z Connector - GW.05.0ZZ23 or with FAKRA Code I - GW.05.AE23. For further customizations please contact your regional Taoglas customer support team.

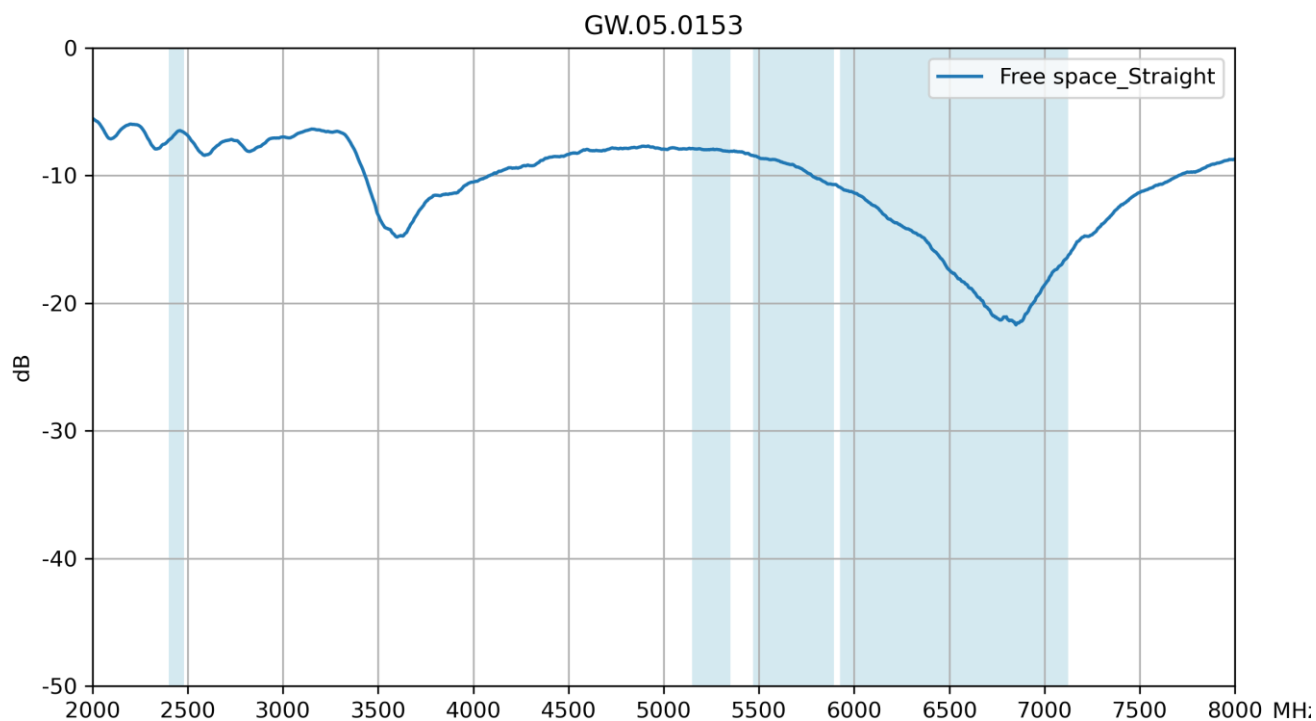
2. Specification

GW.05.0153										
Frequency (MHz)	2.4-2.4835 GHz	5.150-5.250 GHz	5.250-5.350 GHz	5.470-5.725 GHz	5.725-5.850 GHz	5.850-5.895 GHz	5.925-6.425 GHz	6.425-6.525 GHz	6.525-6.875 GHz	6.875-7.125 GHz
	2400-2483	5150-5250	5250-5350	5470-5725	5725-5850	5850-5895	5925-6425	6425-6525	6525-6875	6875-7125
Efficiency (%)										
Free space_Straight	31.93	75.65	77.29	76.53	75.15	72.10	77.21	79.47	72.26	68.90
Average Gain (dB)										
Free space_Straight	-4.96	-1.21	-1.12	-1.16	-1.24	-1.42	-1.14	-1.00	-1.41	-1.62
Peak Gain (dBi)										
Free space_Straight	0.37	1.69	1.92	2.18	2.43	2.07	3.09	2.94	2.55	2.48
Impedance			50 Ω							
Polarization			Linear							
Radiation Pattern			Omni							

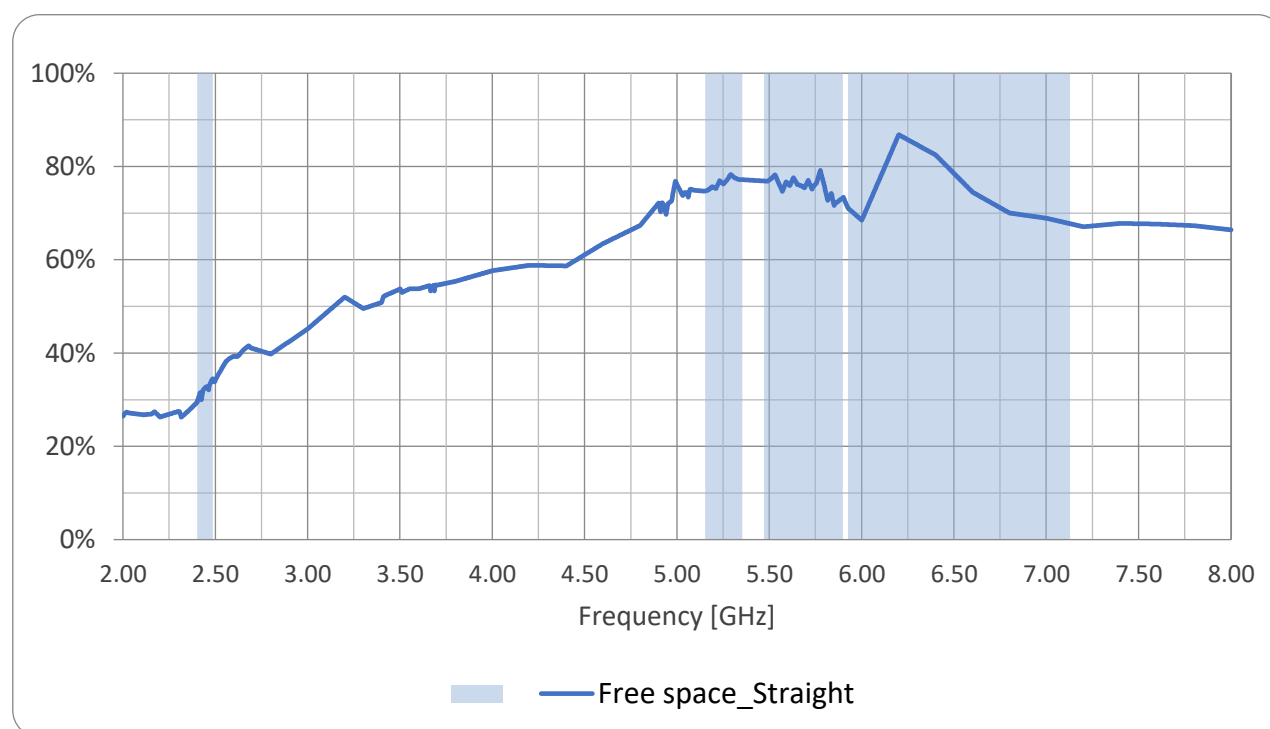
Mechanical	
Antenna length	62.3mm
Antenna Diameter	10mm
Casing	POM
Connector	RP-SMA(M)
Weight	6g
Recommended Torque for Mounting	0.9N · m
Max Torque for Mounting	1.176N · m
Environmental	
Temperature Range	-40°C ~ + 85°C

4. Antenna Characteristics

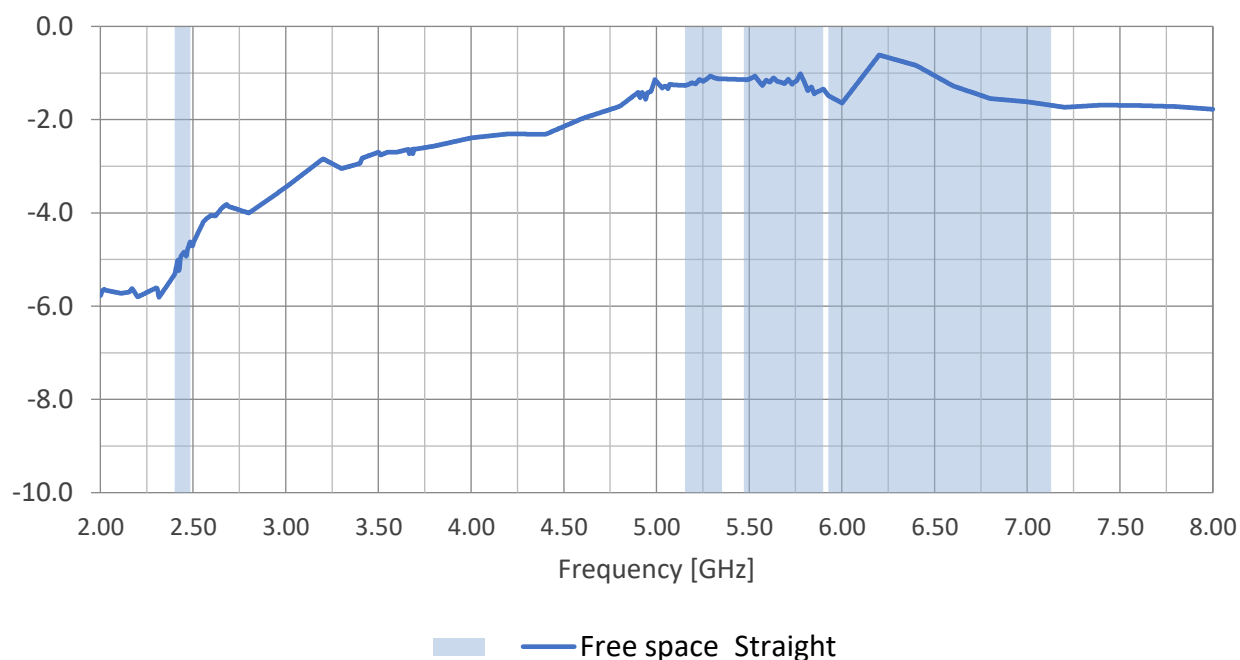
Return Loss



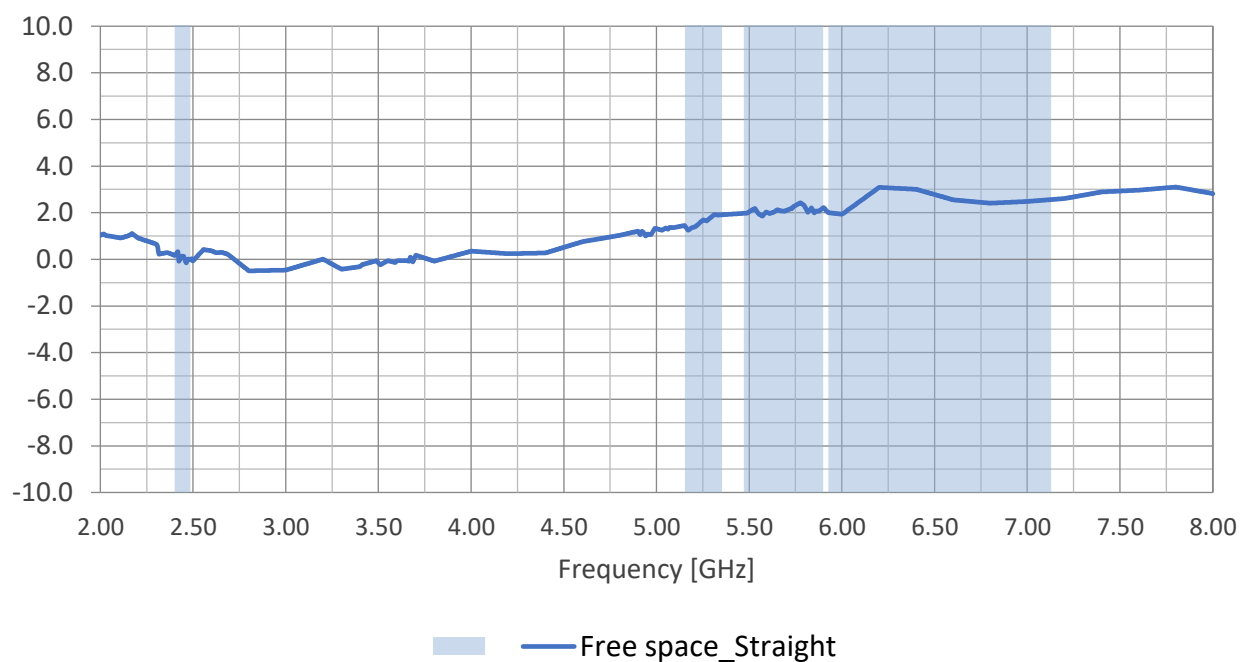
Efficiency



Average Gain



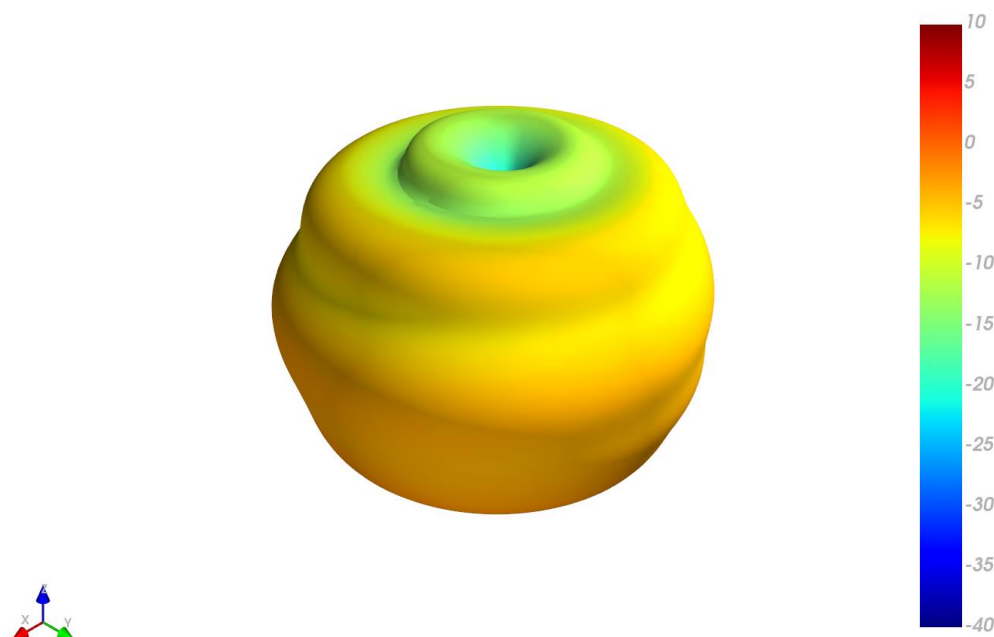
Peak Gain



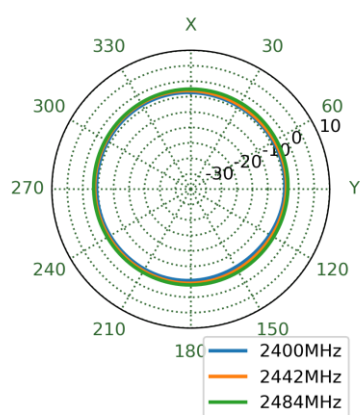
5. Radiation Patterns

GW.05.0153 Free space_Straight 3D and 2D Radiation Pattern

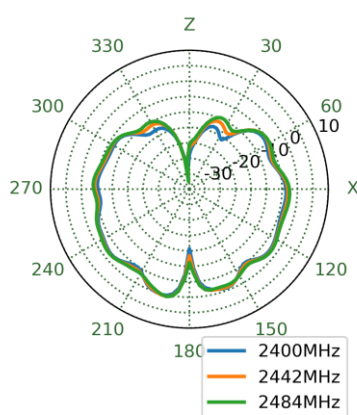
Gain total, 2442MHz



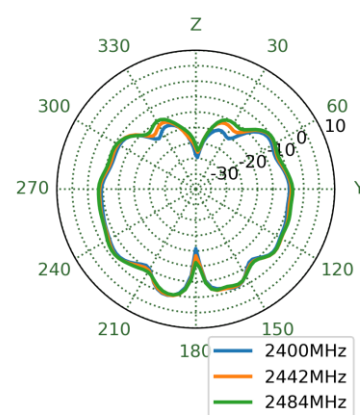
XY Plane



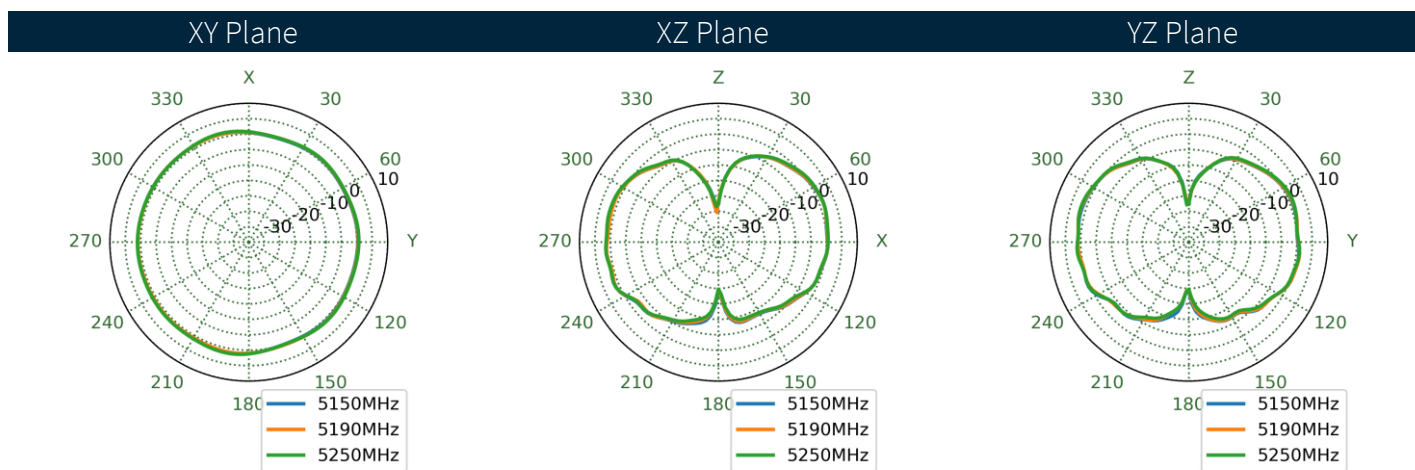
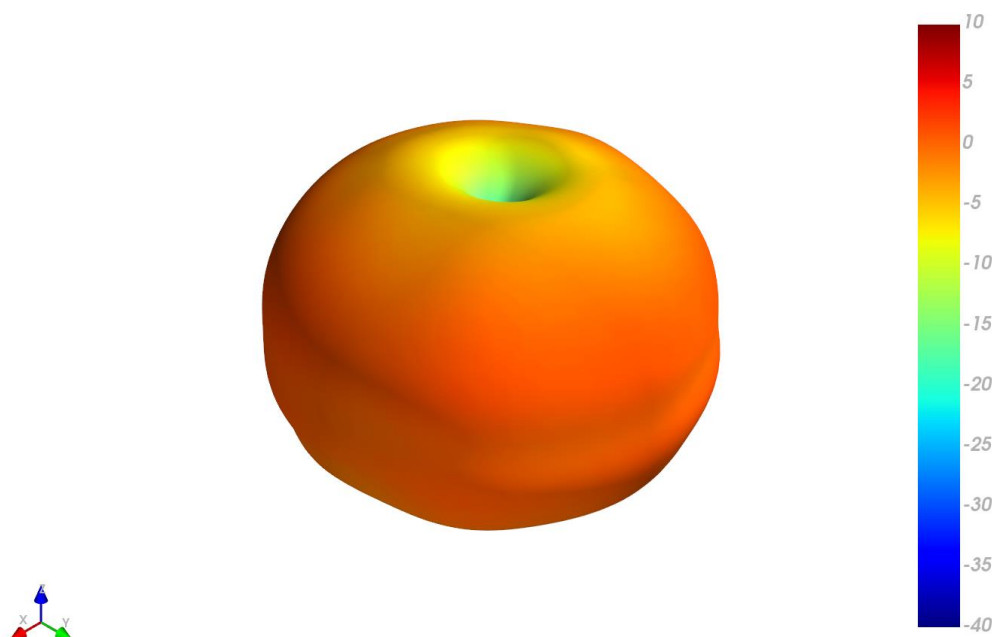
XZ Plane



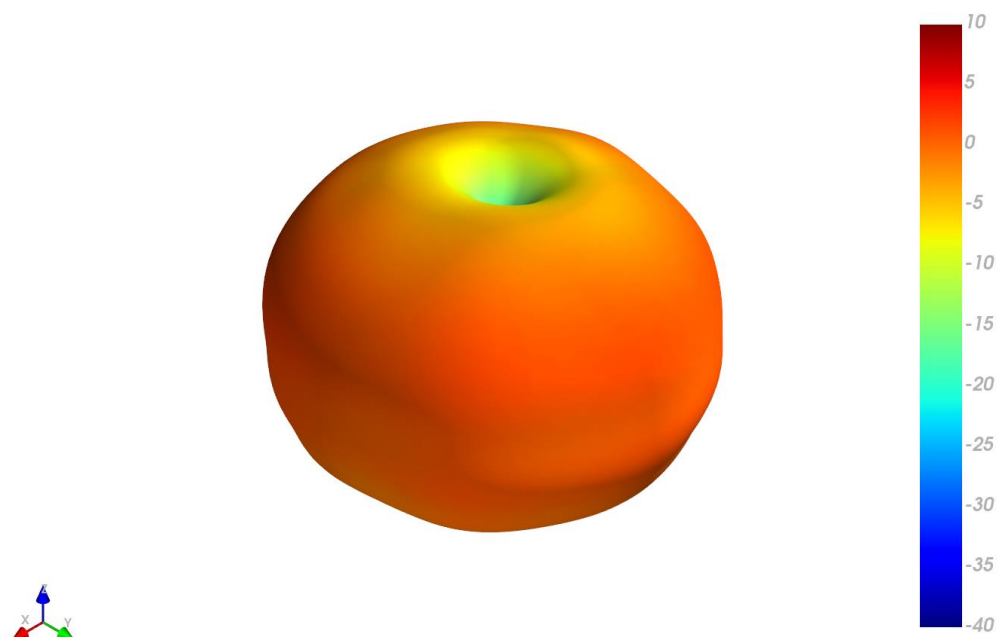
YZ Plane



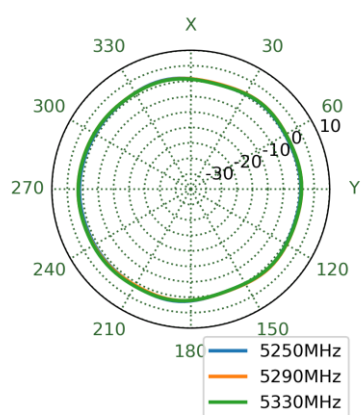
Gain total, 5190MHz



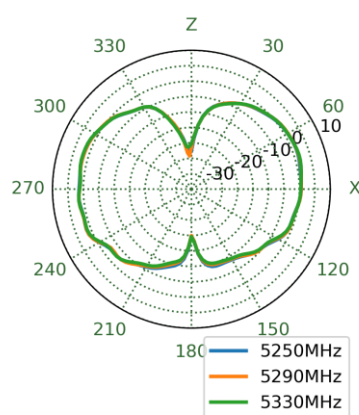
Gain total, 5290MHz



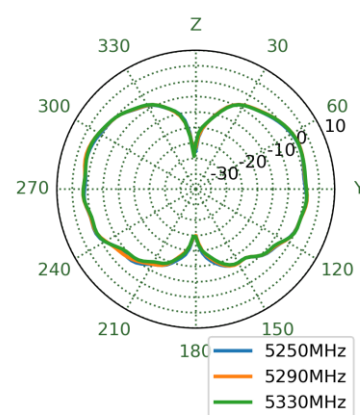
XY Plane



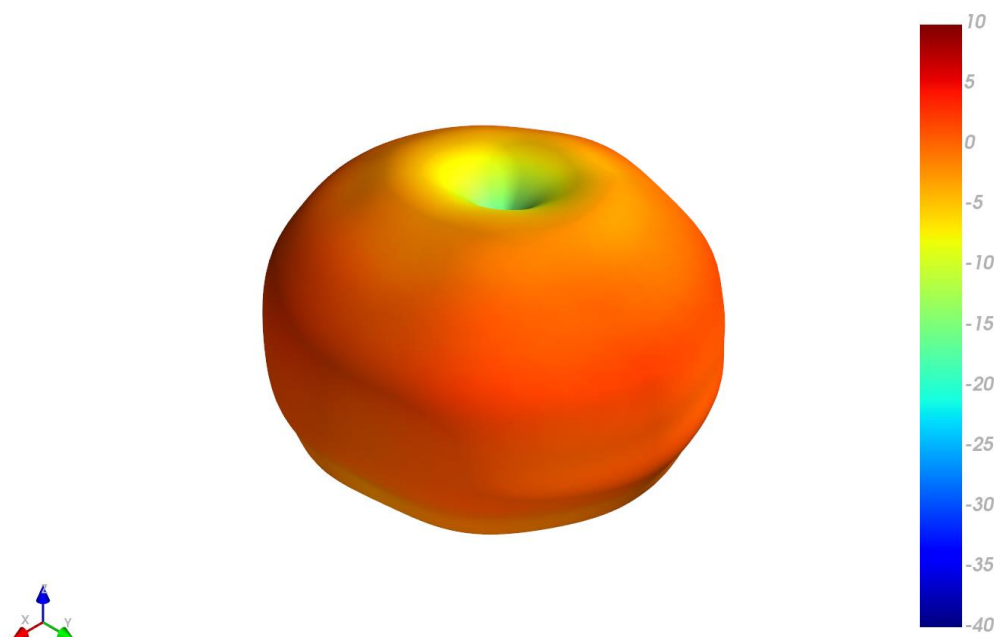
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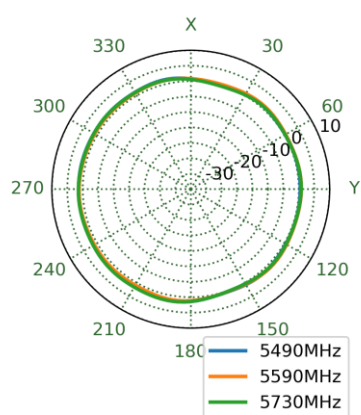
YZ Plane



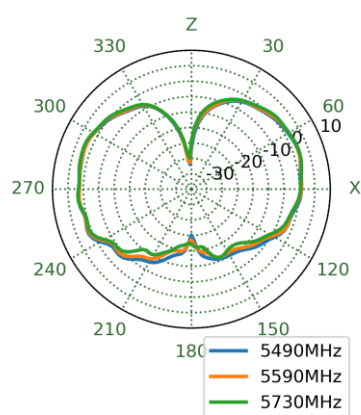
Gain total, 5590MHz



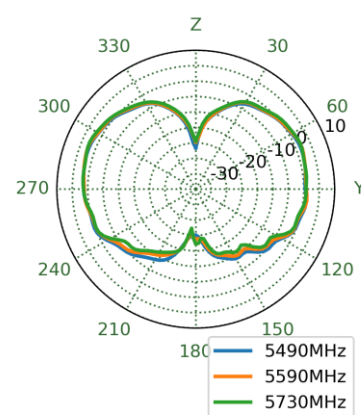
XY Plane



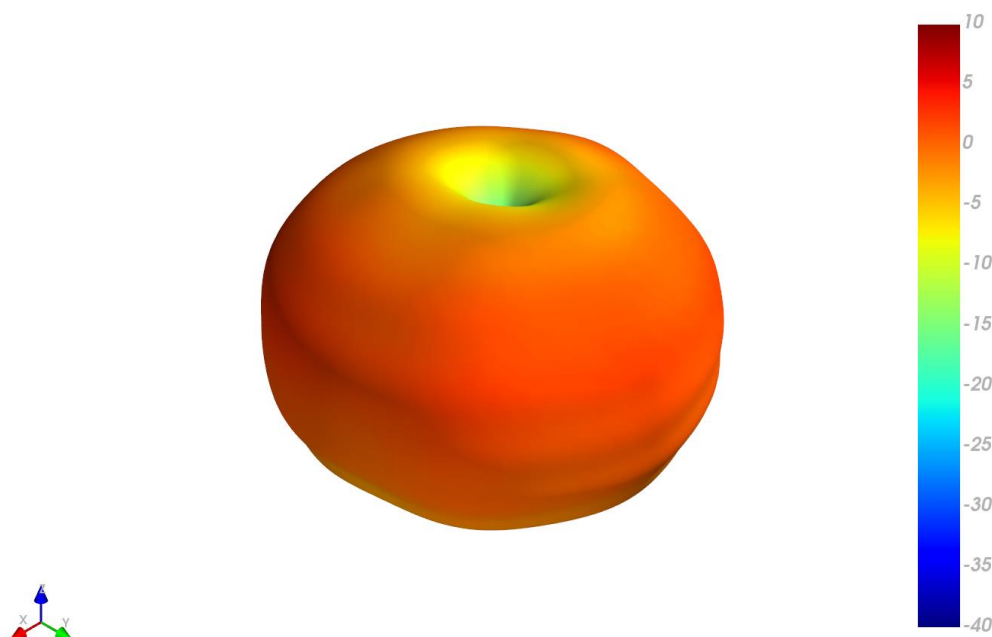
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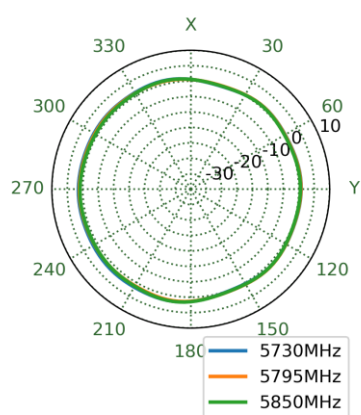
YZ Plane



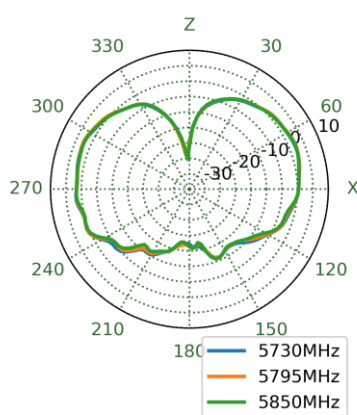
Gain total, 5795MHz



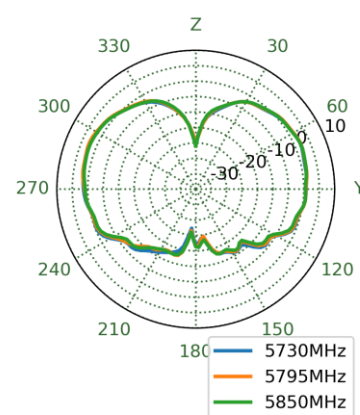
XY Plane



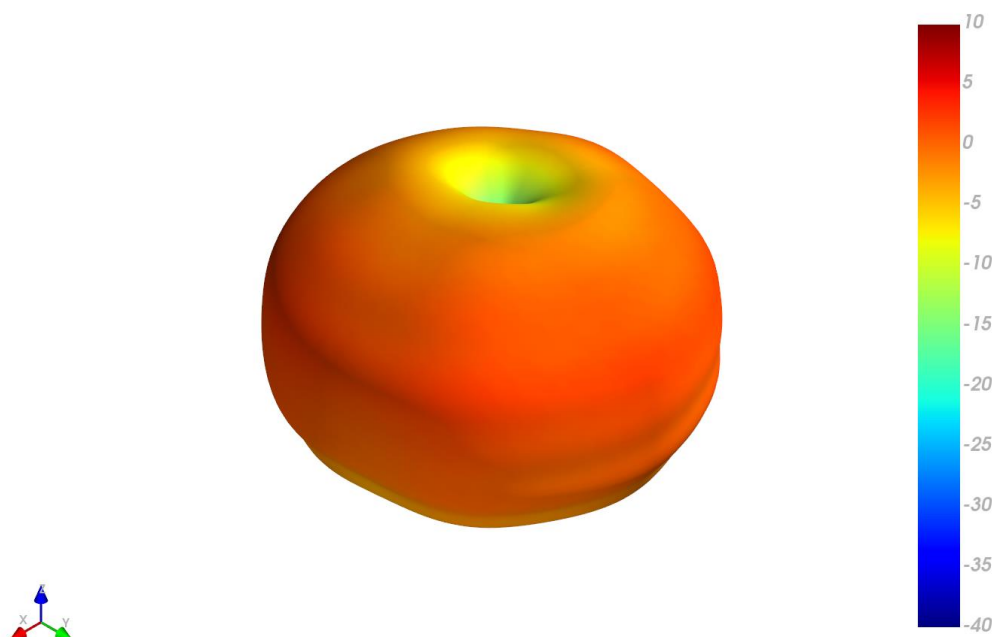
XZ Plane



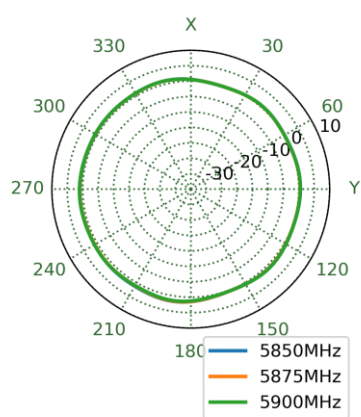
YZ Plane



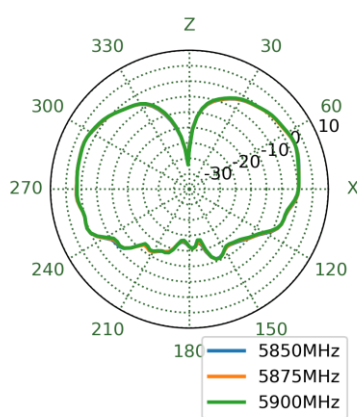
Gain total, 5875MHz



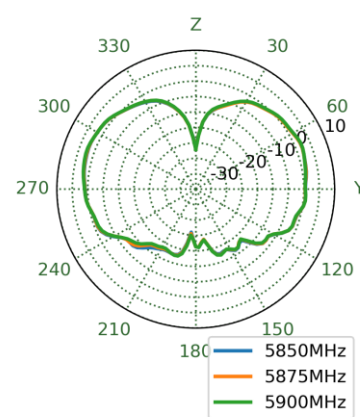
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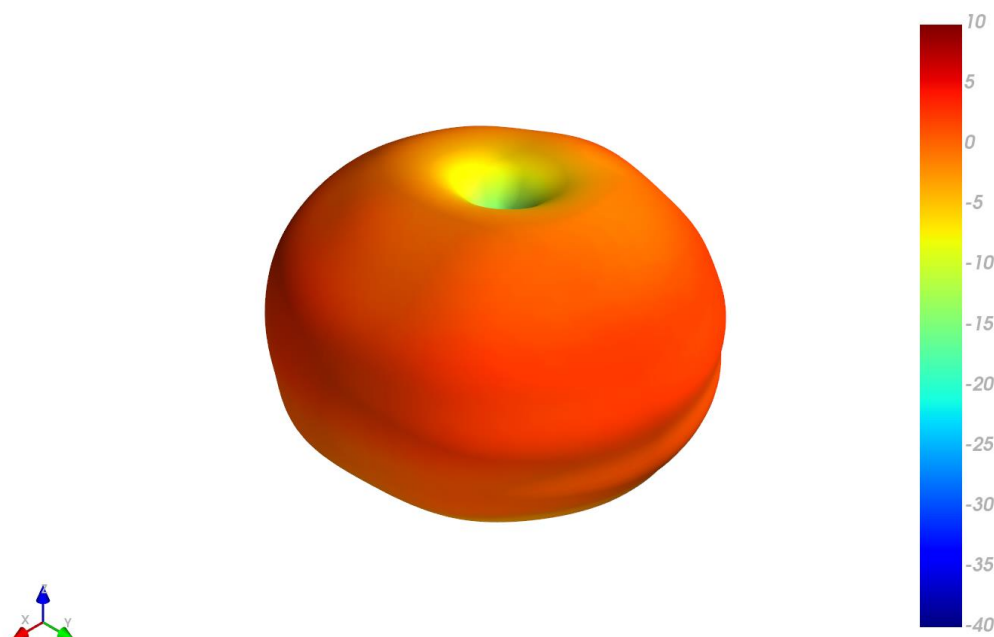
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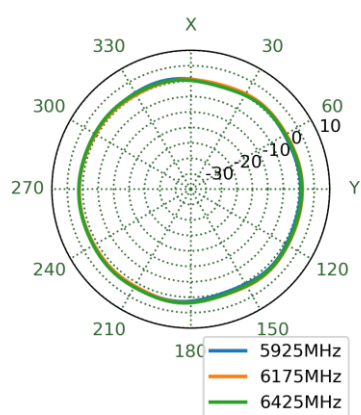
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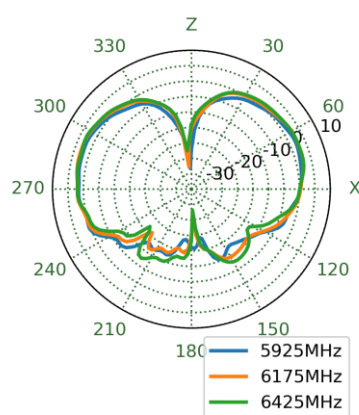
Gain total, 6175MHz



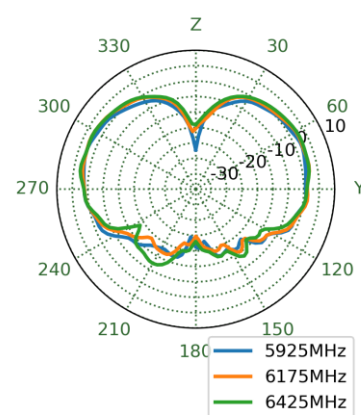
XY Plane



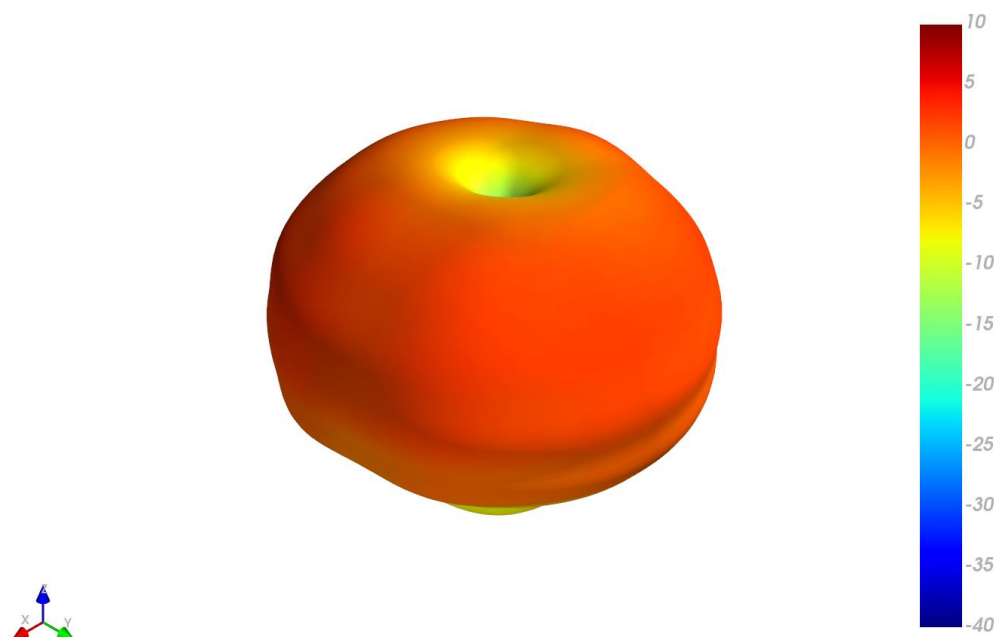
XZ Plane



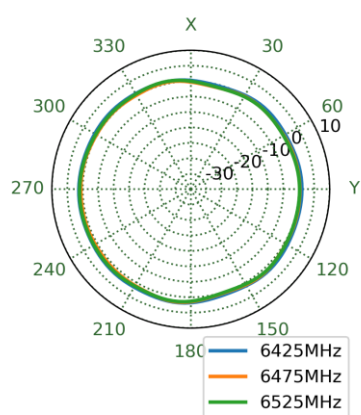
YZ Plane



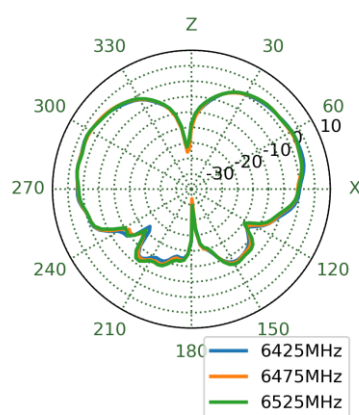
Gain total, 6475MHz



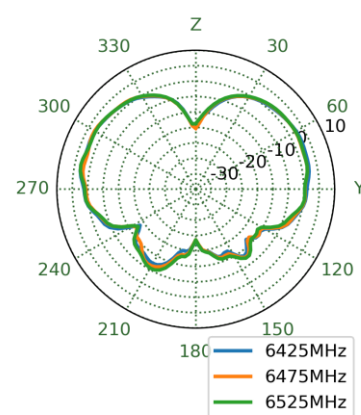
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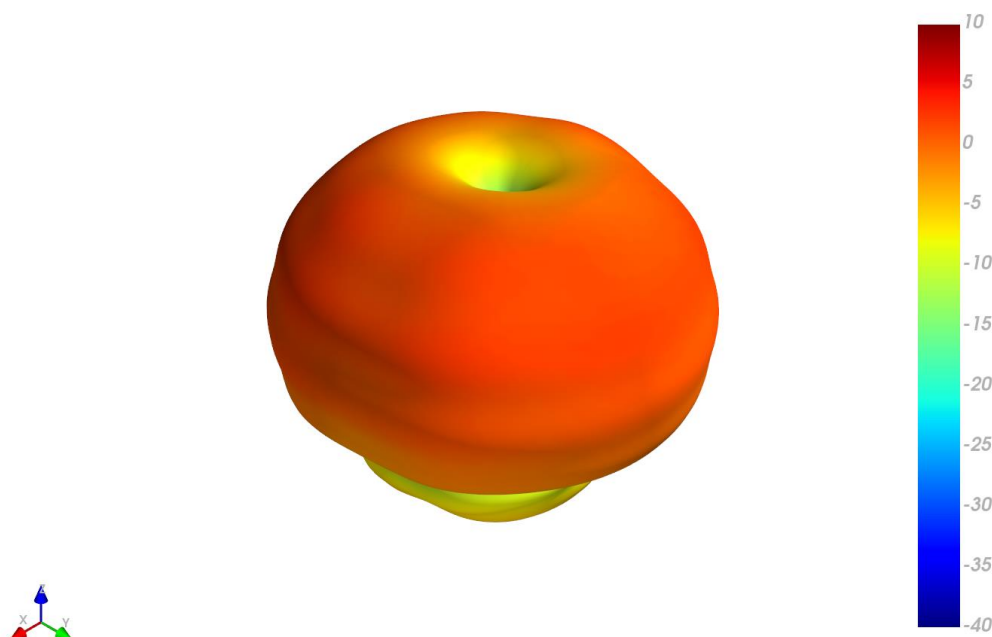
XZ Plane



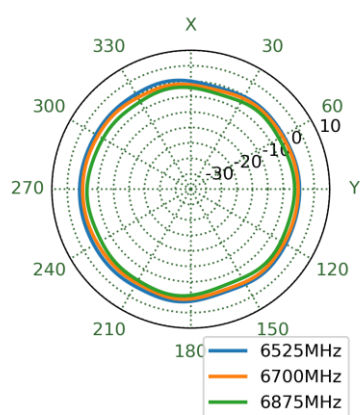
YZ Plane



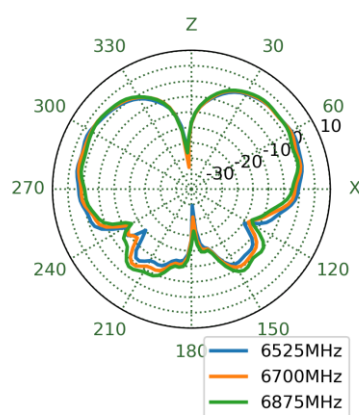
Gain total, 6700MHz



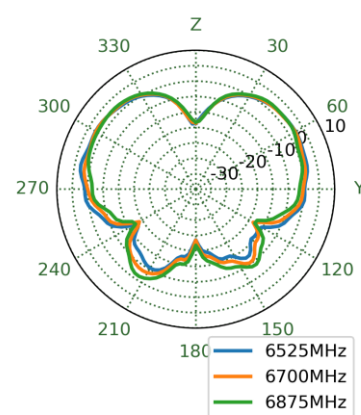
XY Plane



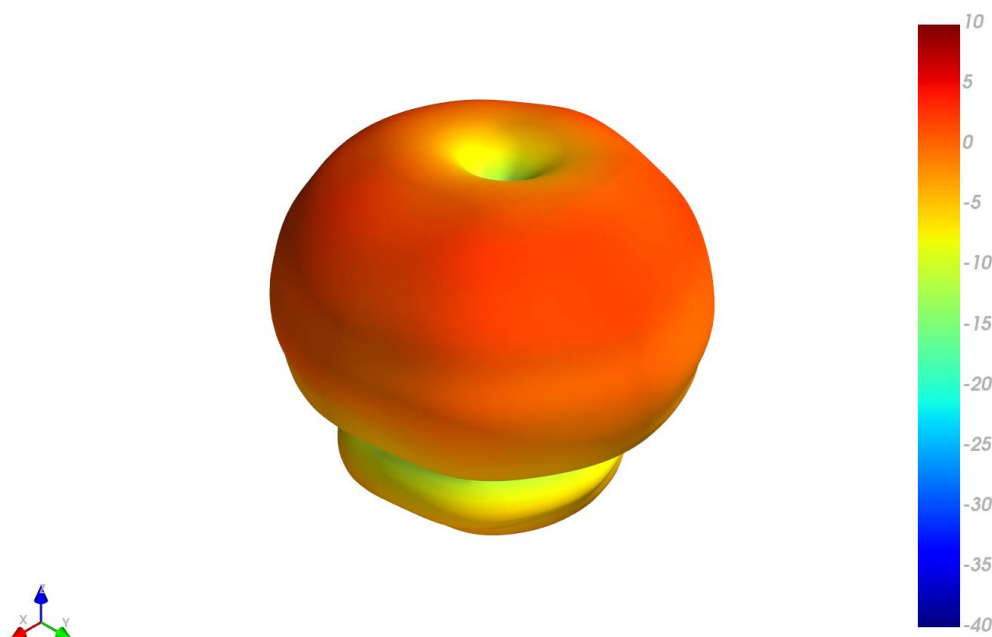
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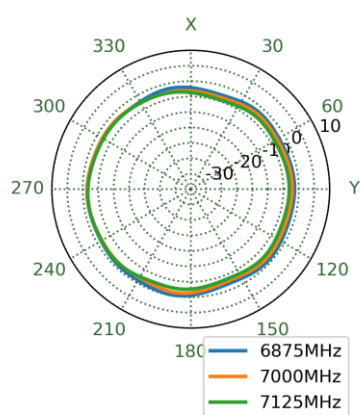
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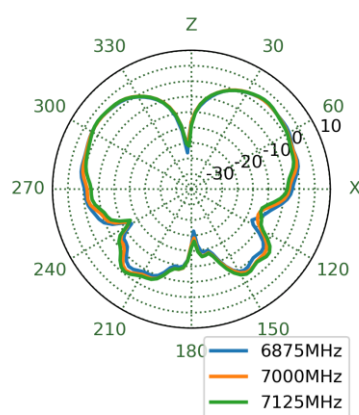
Gain total, 7000MHz



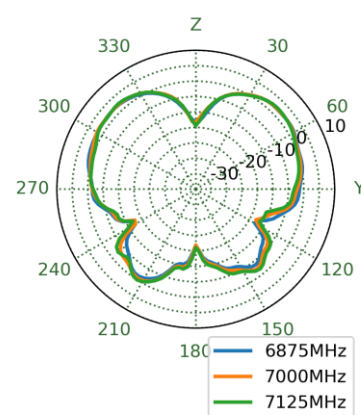
XY Plane



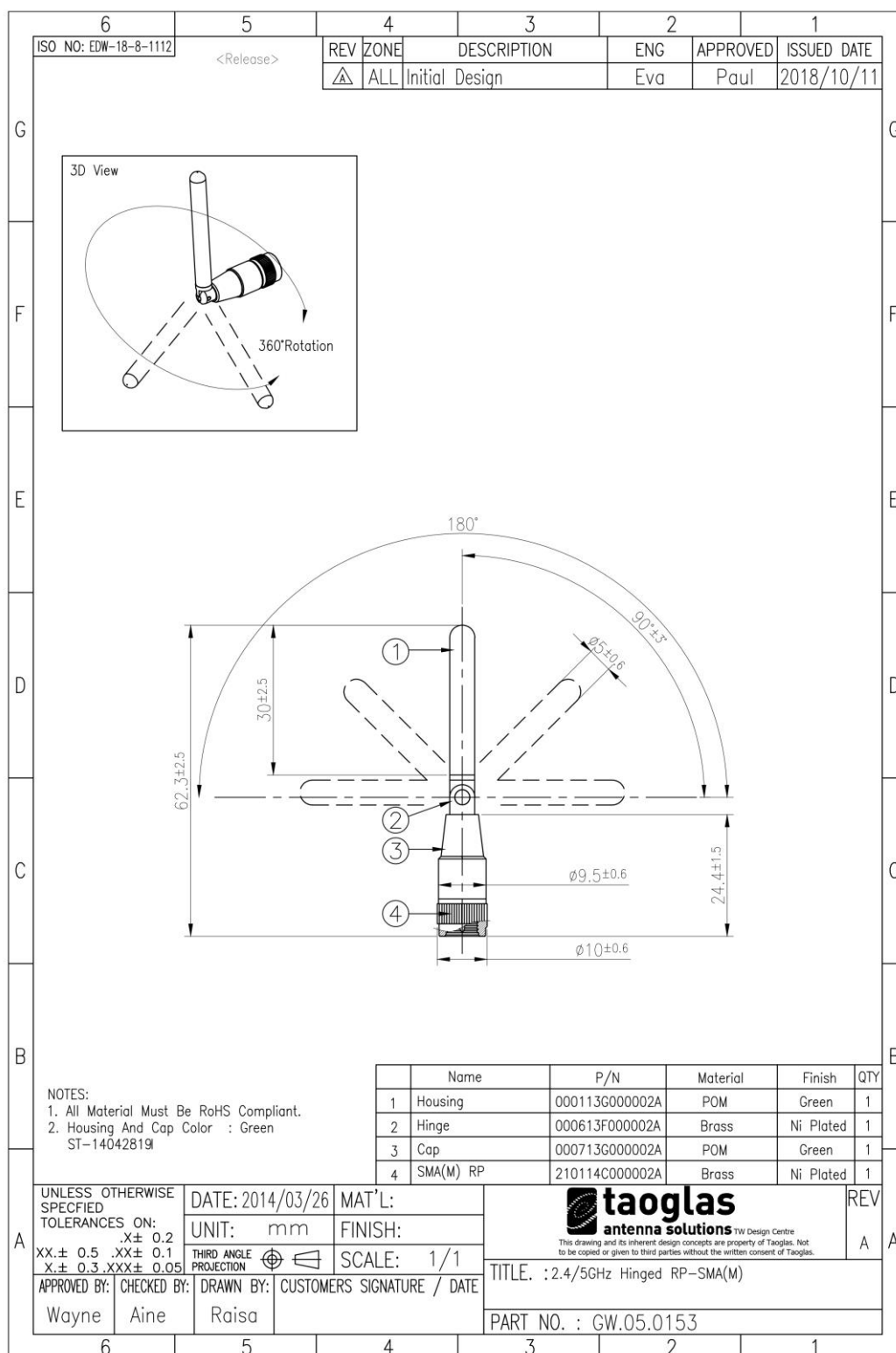
XZ Plane



YZ Plane



6. Mechanical Drawing

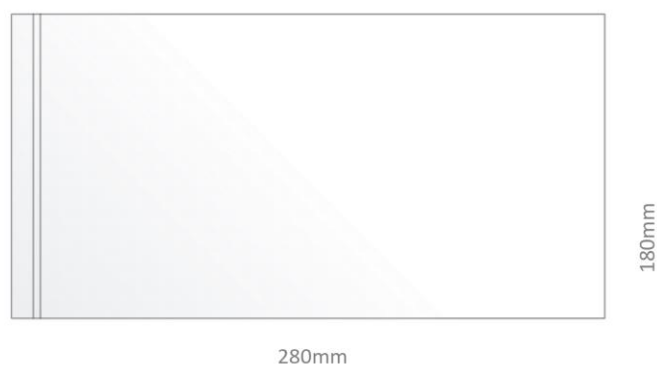


7. Packaging

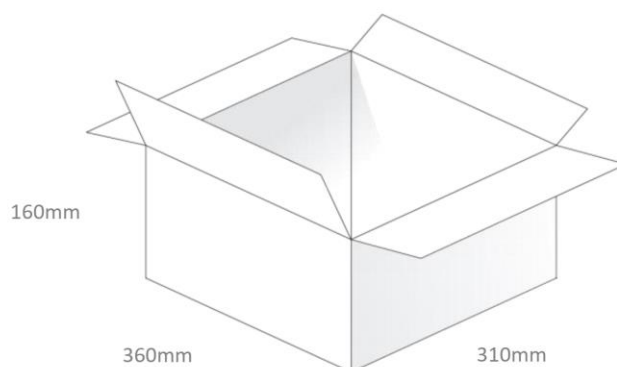
1pc GW.05.0153 per PE Bag
Bag Dimension: 74*42mm
Weight: 8.5g



100pcs GW.05.0153 per Large PE Bag
Bag Dimensions: 180*280mm
Weight: 100g



1500pcs GW.05.0153 per Carton
Dimensions: 360*310*160mm
Weight: 2.5Kg





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