



TAOGLAS®

Datasheet

Hercules Wi-Fi 6 Permanent Mount Antenna

Part No:
WS.03.B.305151

Description:

Hercules –Low Profile Wi-Fi 6 Permanent Mount Antenna
Covering Frequencies 2.4 – 2.5 / 5.1 - 5.8 / 5.9 - 7.125GHz

Features:

Low Profile Permanent Mount Antenna
Covers 2.4/5.8GHz as well as Wi-Fi 6 Frequencies: 5.9-7.125GHz
UV and Vandal Resistant ABS Housing
IP65 Rated Enclosure
Dimensions: Ø49 x 29mm
Connector: RP-SMA Male
Cable: 3m of TGC-200
RoHS & Reach Compliant

1.	Introduction	3
2.	Specifications	4
3.	Antenna Characteristics	5
4.	Radiation Patterns	8
5.	Mechanical Drawing	17
6.	Footprint	18
7.	Packaging	19
8.	Application Note	20
	Changelog	23

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2. Specifications

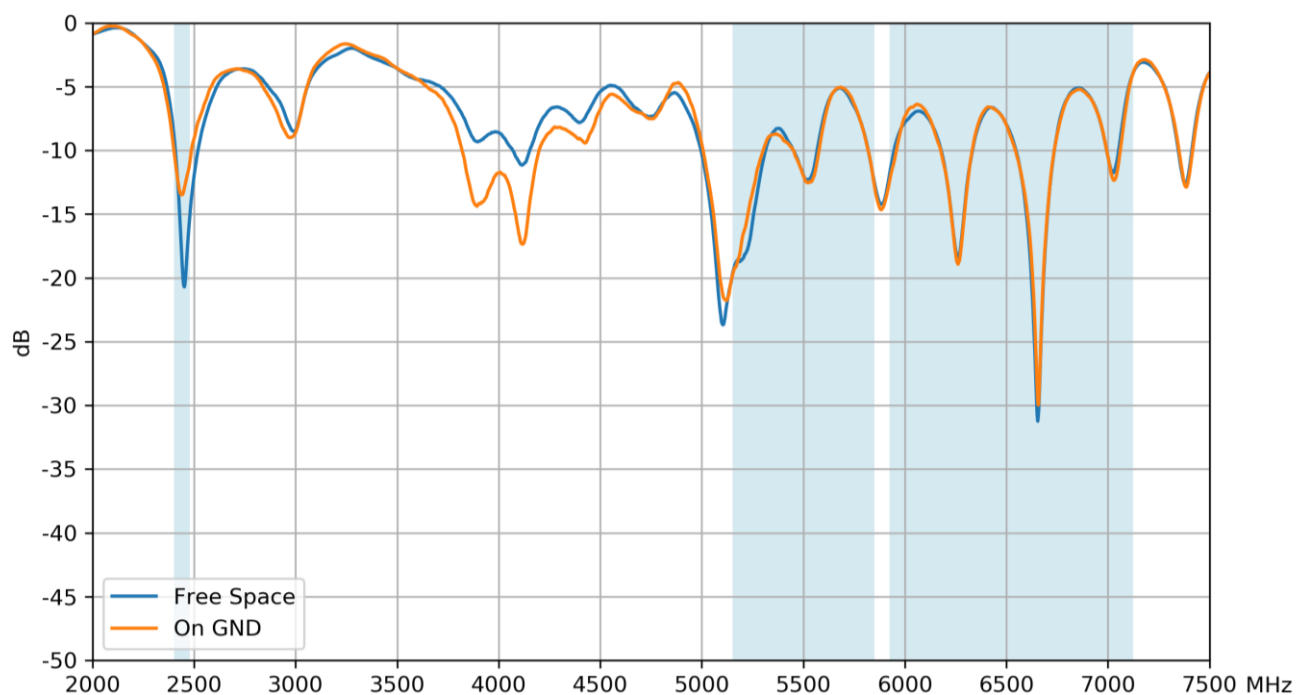
Wi-Fi Electrical									
Band	Frequency (MHz)		Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max Input Power
2.4GHz Wi-Fi	2400~2500	Free space	57.9	-2.37	4.85	50 Ω	Linear	Omni-Directional	10W
		30x30cm Ground Plane	58.2	-2.35	3.25				
5.8GHz Wi-Fi	5150~5850	Free space	42.2	-3.74	5.25				
		30x30cm Ground Plane	43.8	-3.59	5.46				
7.1GHz Wi-Fi 6	5925~7125	Free Space	72.5	-2.19	6.00				
		Ground Plane	69.7	-2.07	8.23				

*Tested on a 30x30cm Ground Plane & In Free Space.

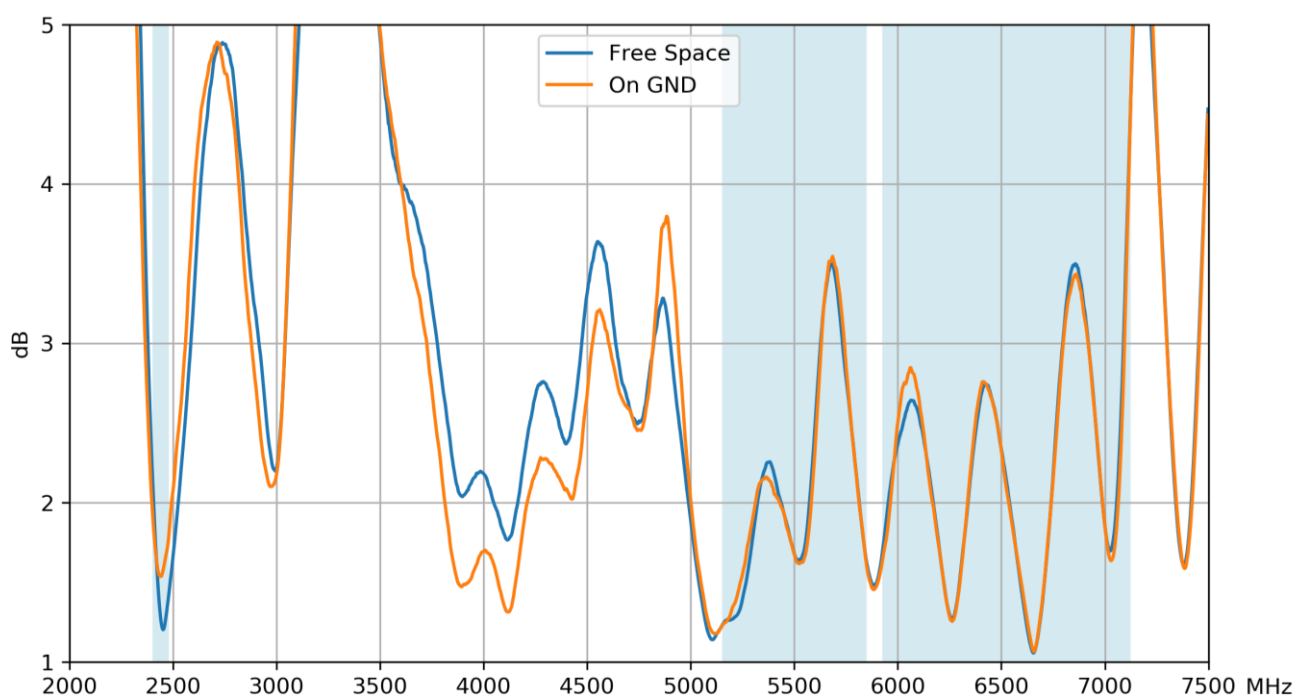
Mechanical	
Height	29 mm
Planner Dimension	49 mm
Casing	ASA
Cable	3000mm of TGC-200
Connector	Reverse Polarity SMA Male
Base and Thread	Zinc Alloy
Thread Diameter	M18
Sealant	Silicon Rubber
Weight	130g
Recommended Mounting Torque	24.5N·m
Maximum Mounting Torque	29.4N·m
Antenna Structure	Monopole
Environmental	
Temperature Range	-40°C to 85°C
Humidity Level	Non-condensing 65°C 95% RH
Ingress Protection	IP65

3. Antenna Characteristics

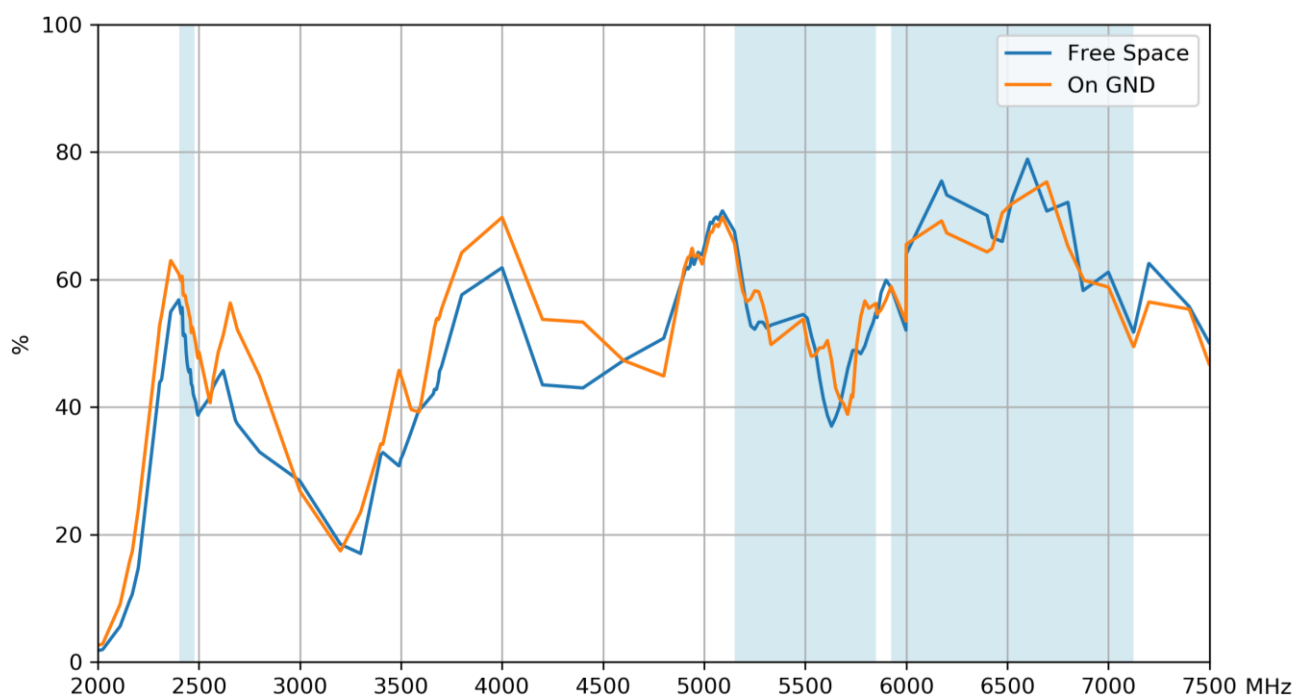
3.1 Return Loss



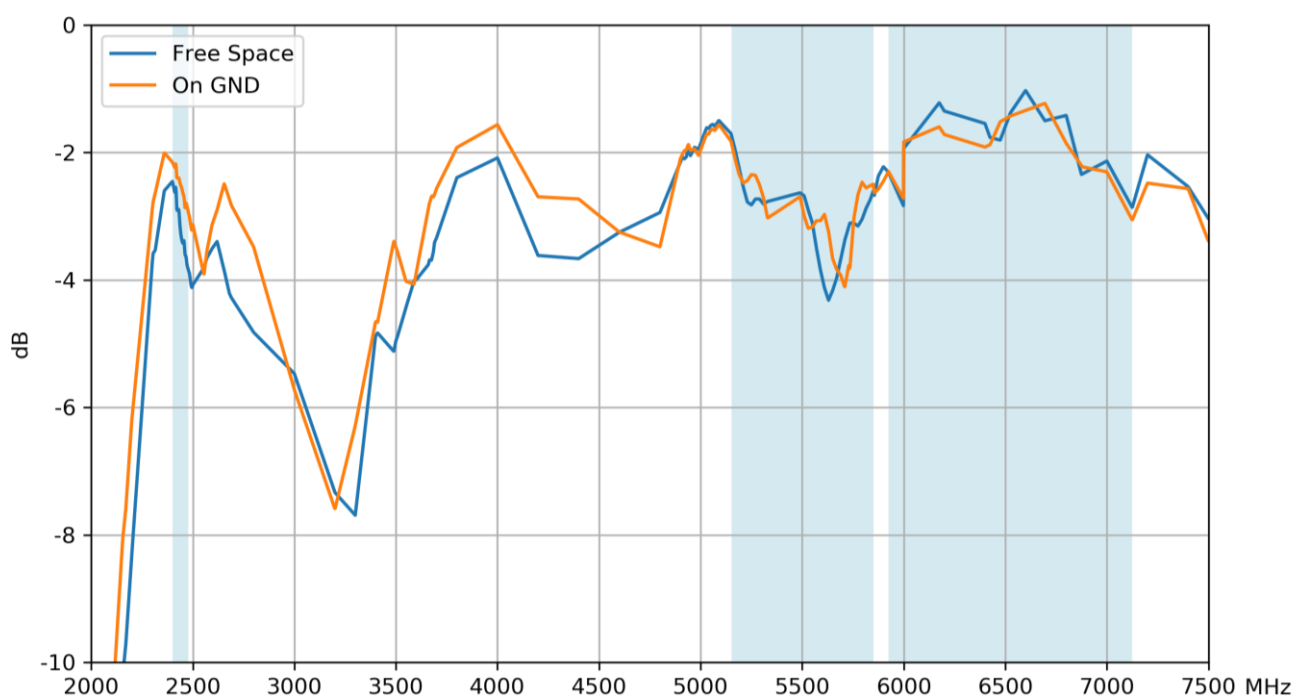
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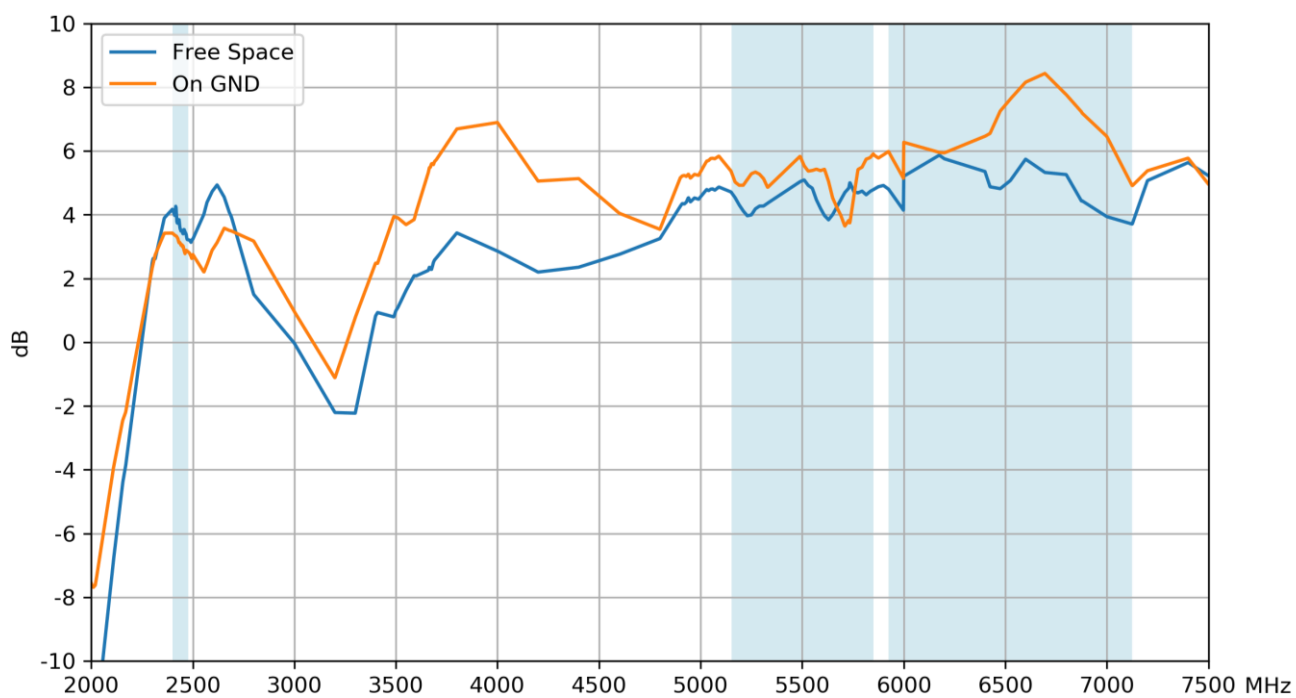
3.3 Efficiency



3.4 Average Gain

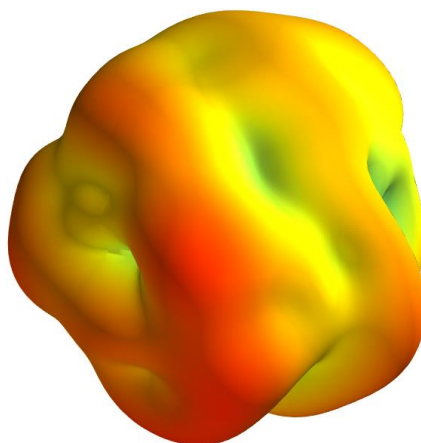


3.5 Peak Gain

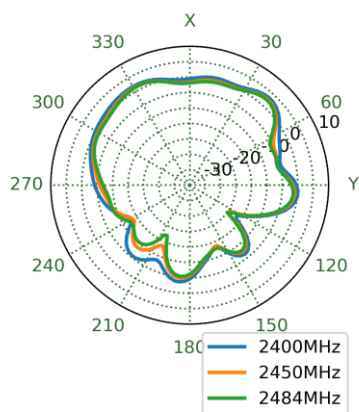


4.2 Free Space 3D and 2D Radiation Patterns

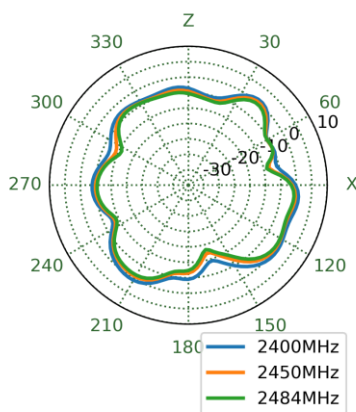
2450MHz



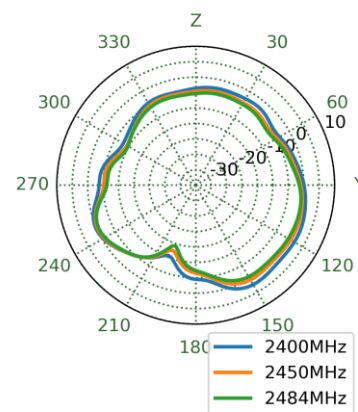
XY Plane



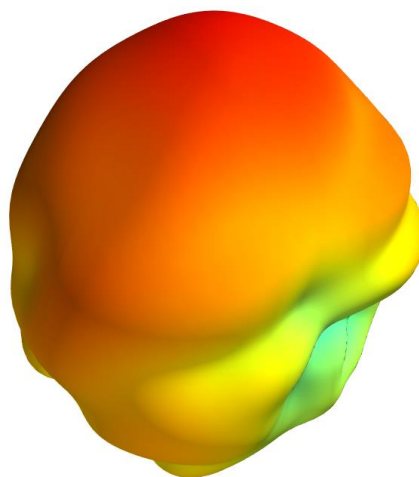
XZ Plane



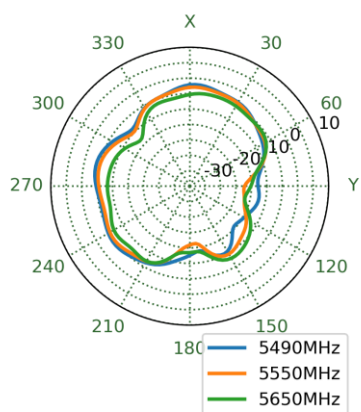
YZ Plane



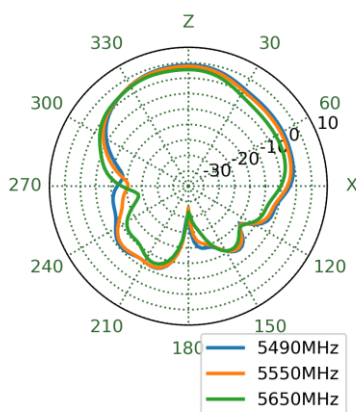
5550MHz



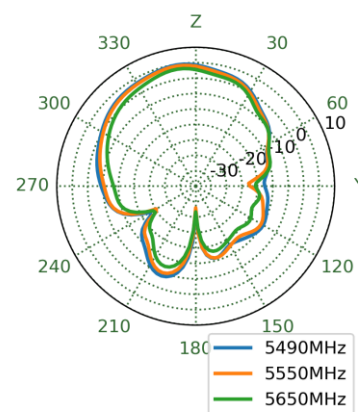
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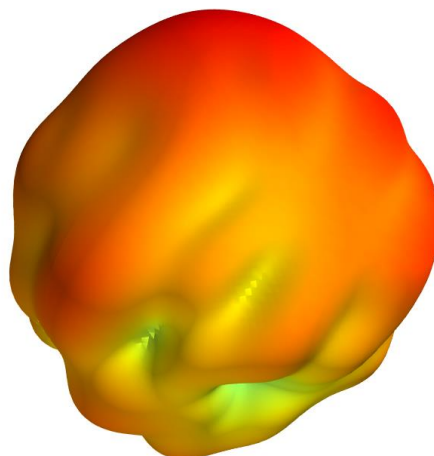
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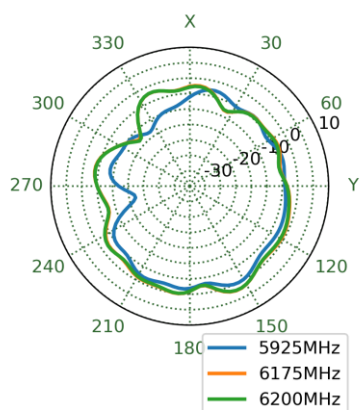
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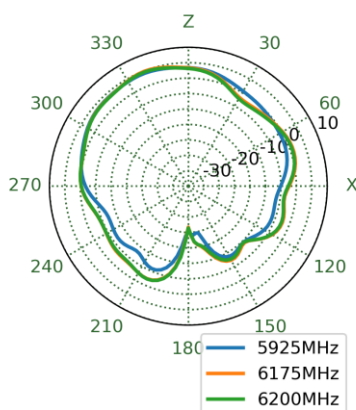
6175MHz



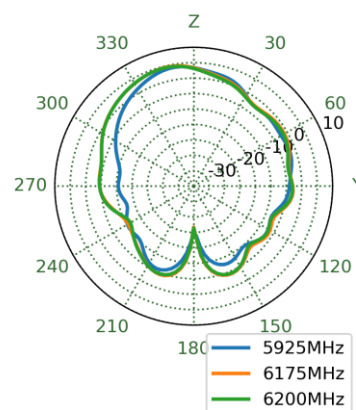
XY Plane



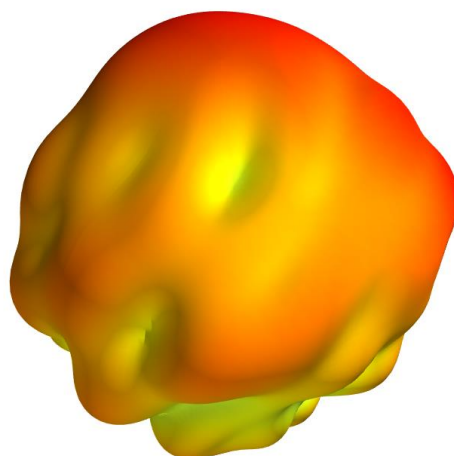
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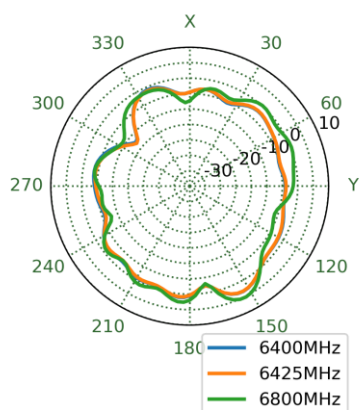
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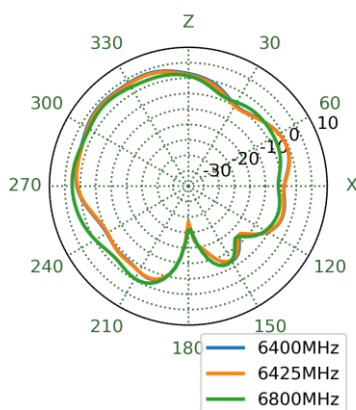
6425MHz



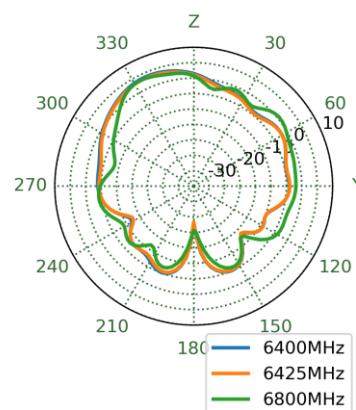
XY Plane



XZ Plane

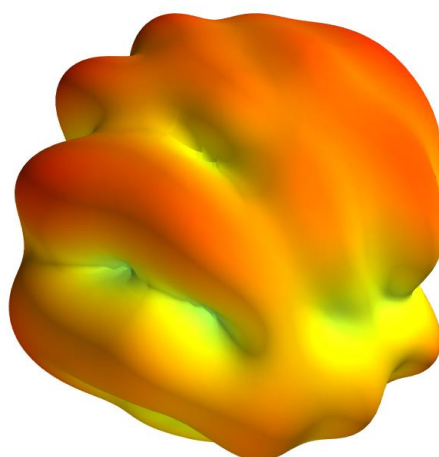


YZ Plane

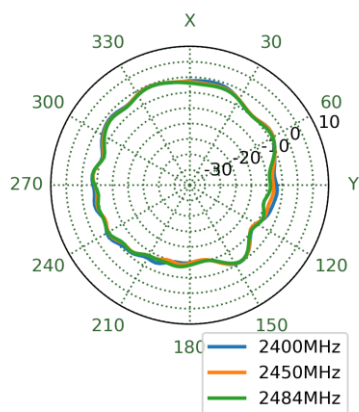


4.3 Ground Plane 3D and 2D Radiation Patterns

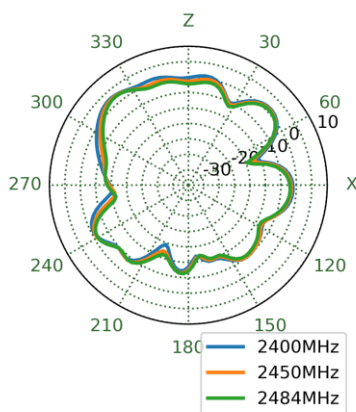
2450MHz



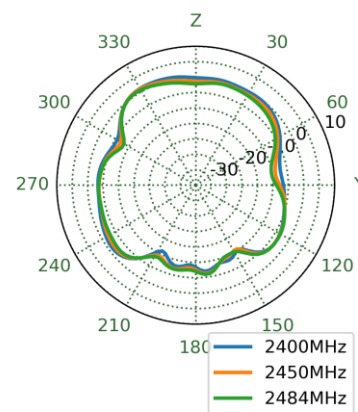
XY Plane



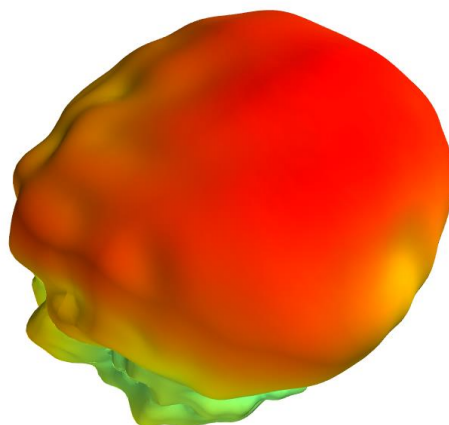
XZ Plane



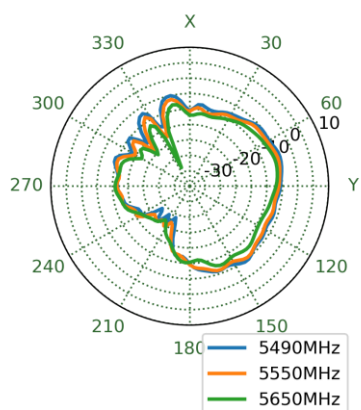
YZ Plane



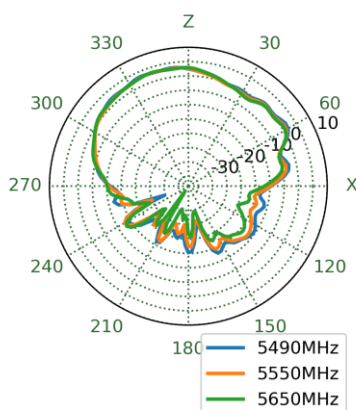
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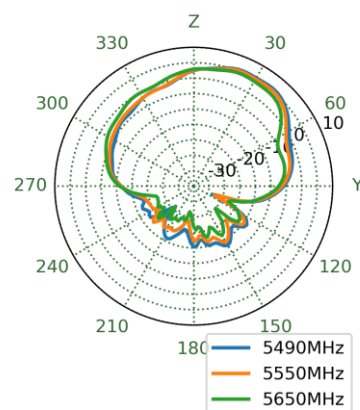
XY Plane



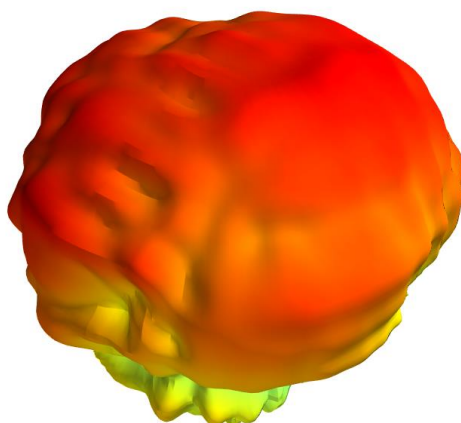
XZ Plane



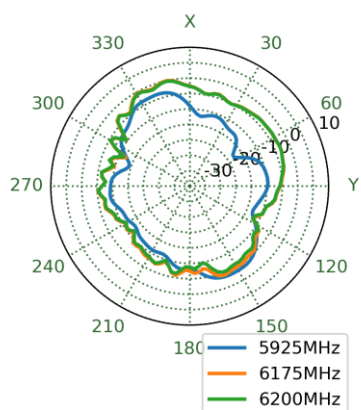
YZ Plane



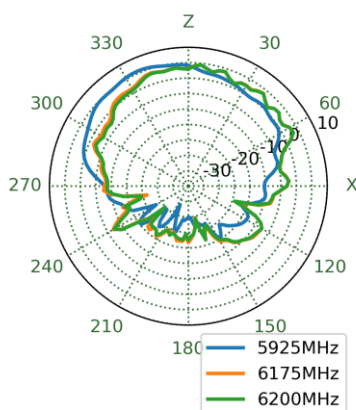
6175MHz



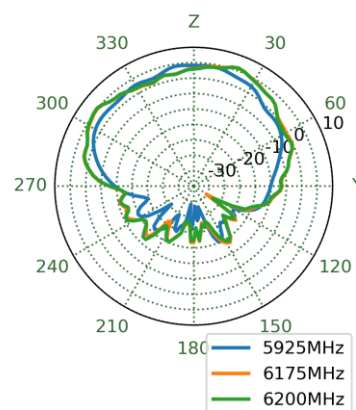
XY Plane



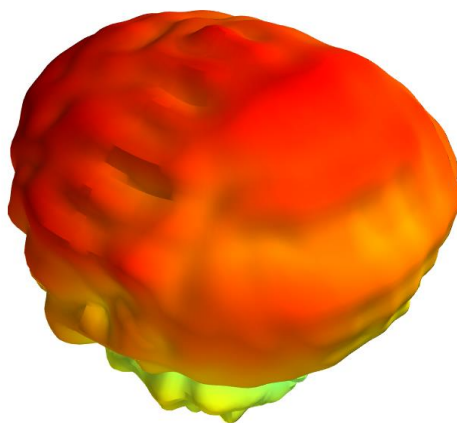
XZ Plane



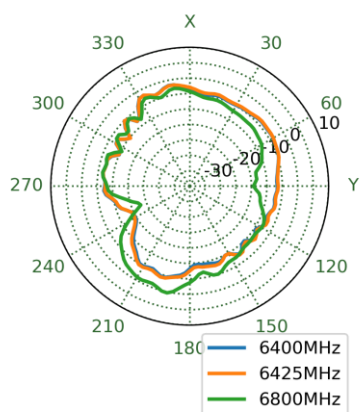
YZ Plane



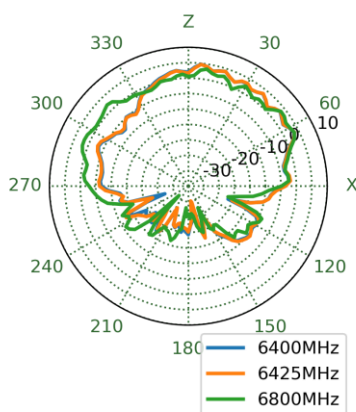
6425MHz



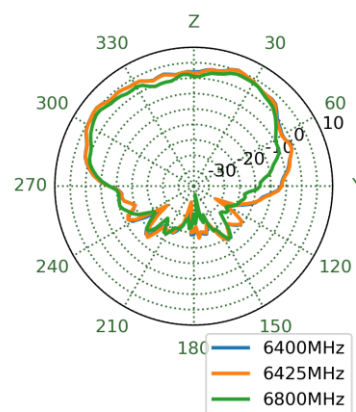
XY Plane



XZ Plane

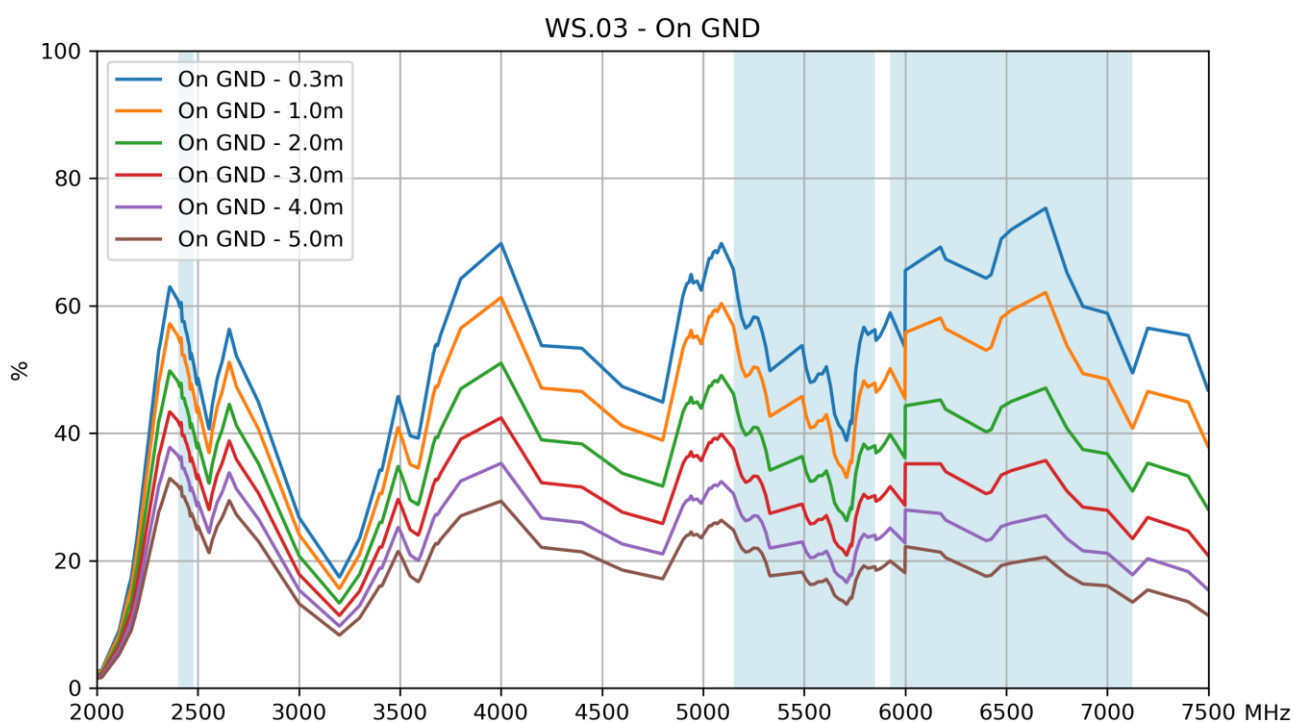
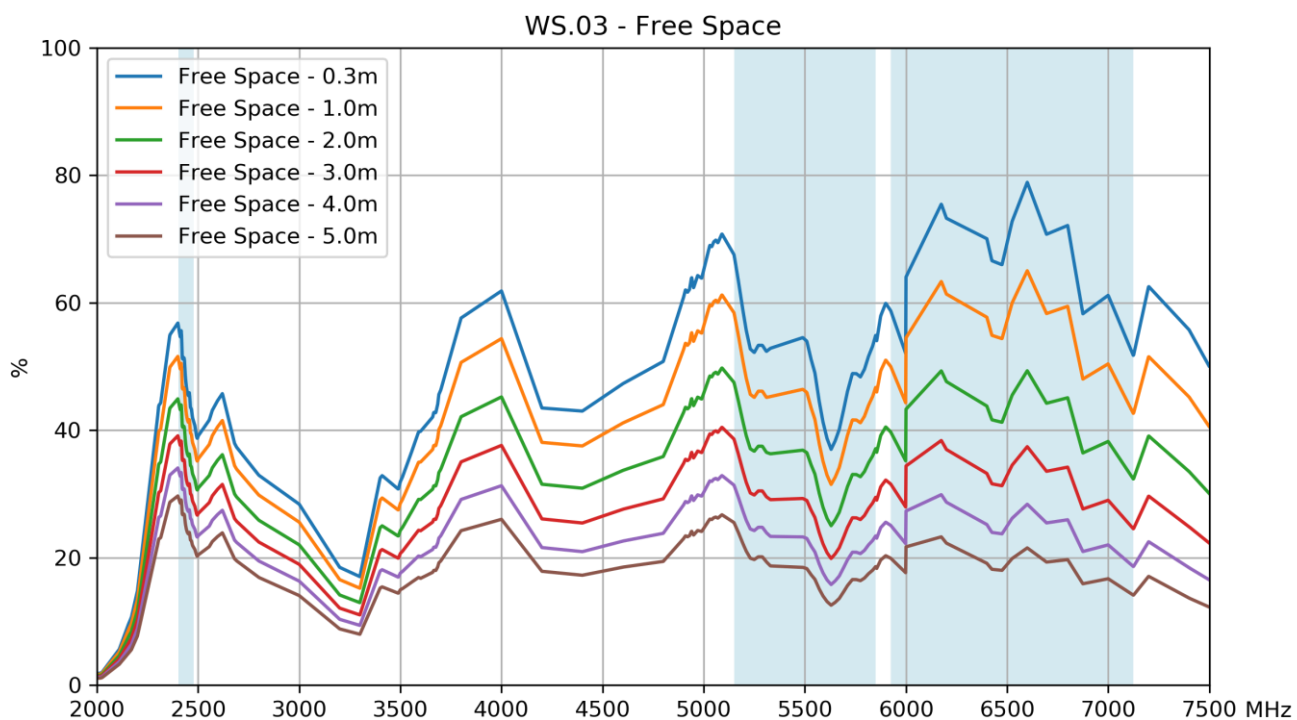


YZ Plane

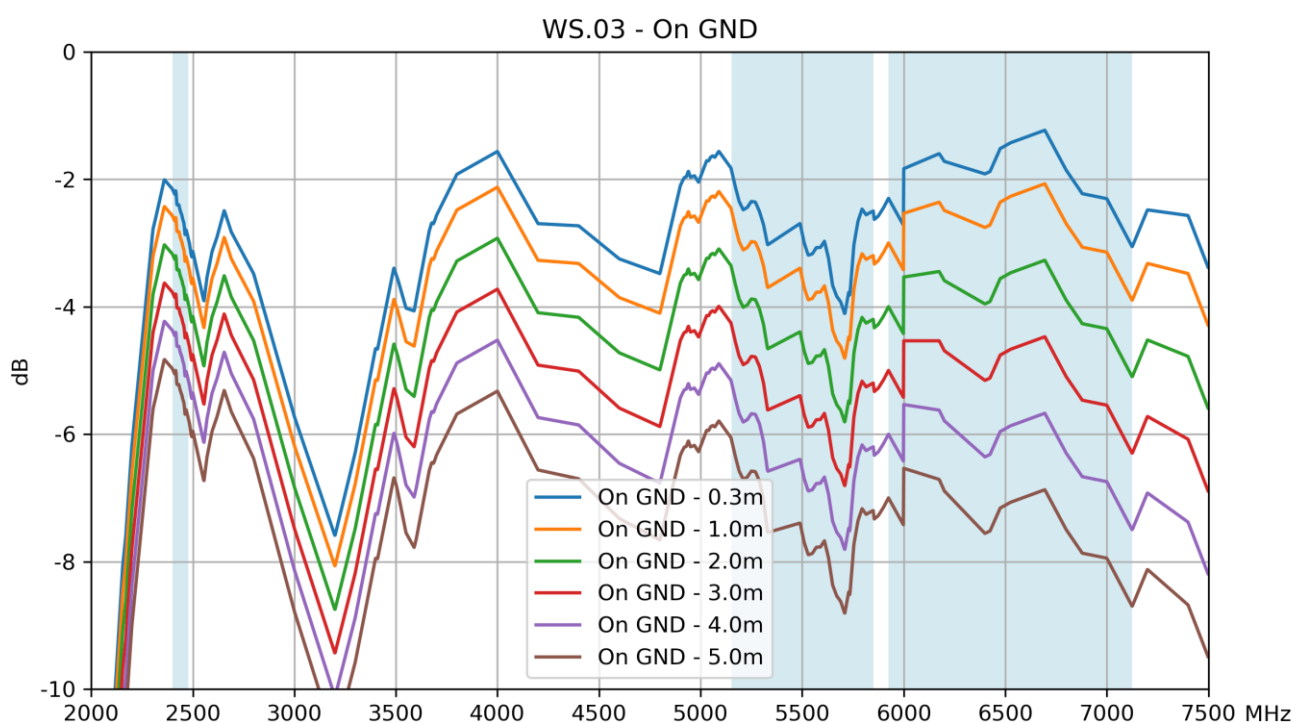
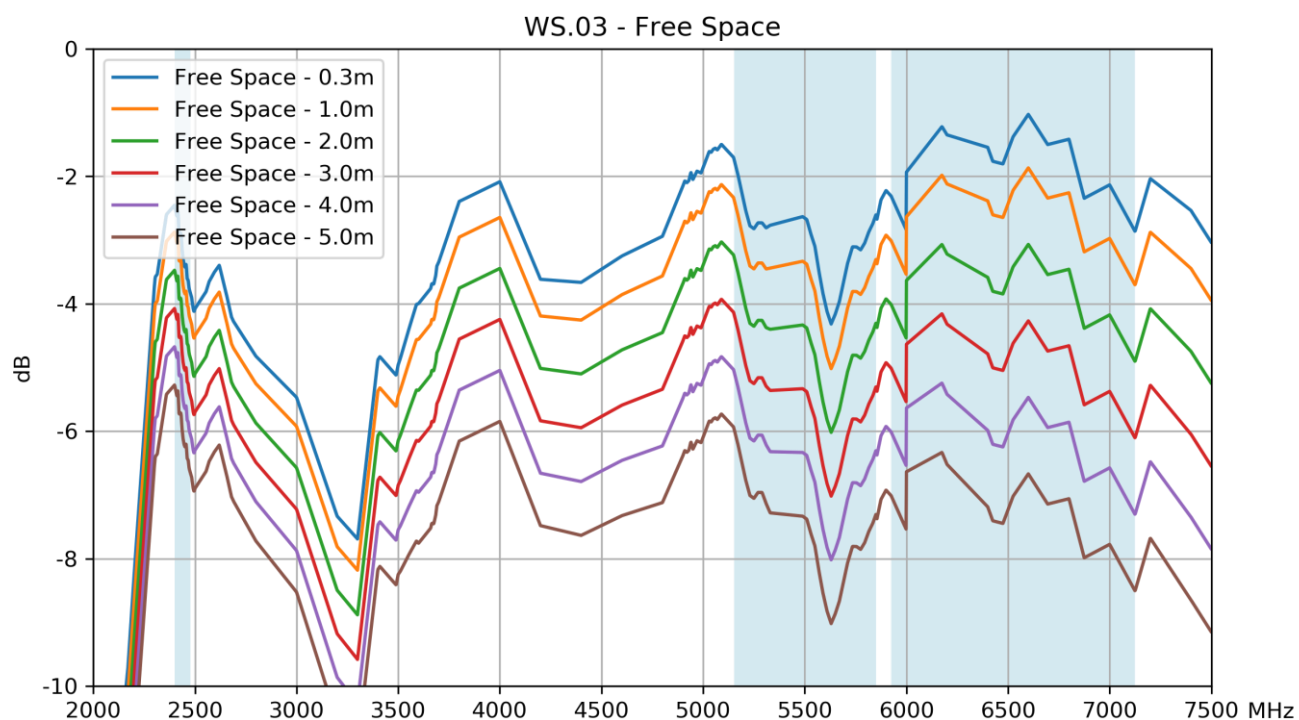


8. Application Note

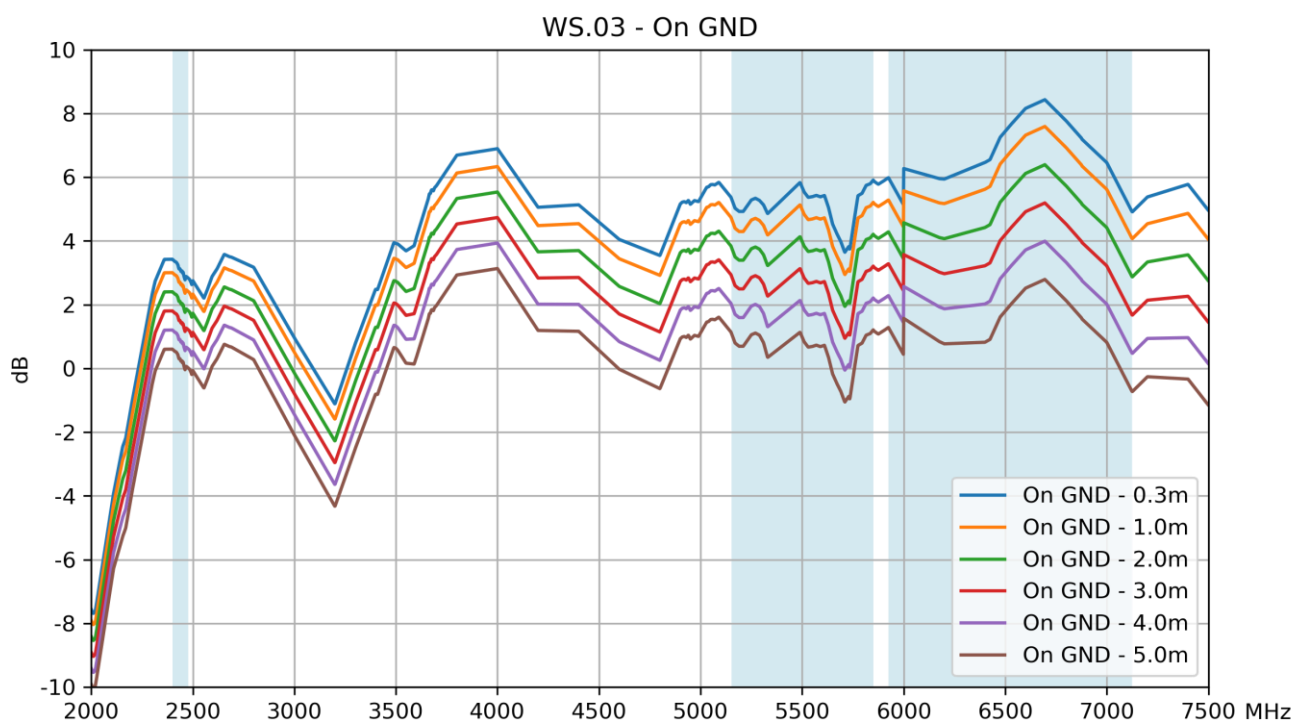
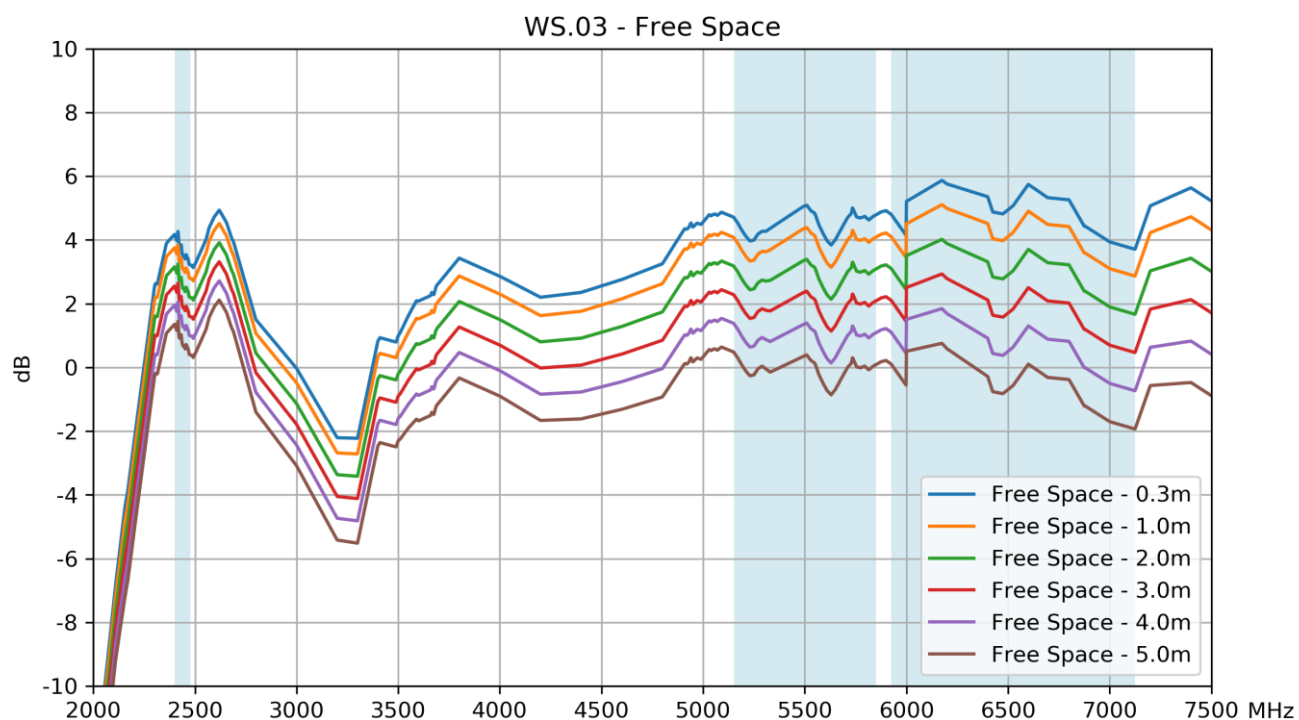
8.1 Efficiency



8.2 Average Gain



8.3 Peak Gain



8.4 Complete Gain Table

Frequency (MHz)	Free Space (dBi)	30x30cm GND (dBi)
2400 - 2483	2.11	2.41
5150 - 5250	3.48	5.63
5250 - 5350	3.59	5.15
5470 - 5725	3.53	4.14
5725 - 5850	3.16	4.12
5850 - 5895	2.69	4.02
5925 - 6425	4.16	4.31
6425 - 6525	4.08	4.17
6525 - 6875	3.72	3.93
6875 - 7125	2.41	3.92

Changelog for the datasheet

SPE-25-8-040– WS.03.B.305151

Revision: A (Original First Release)	
Date:	2025-02-06
Notes:	Initial release
Author:	Paul Liu

Previous Revisions



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