



TAOGLAS®

Datasheet

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:

High Efficiency – with and without ground plane
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
RoHS & Reach Compliant

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2. Specifications

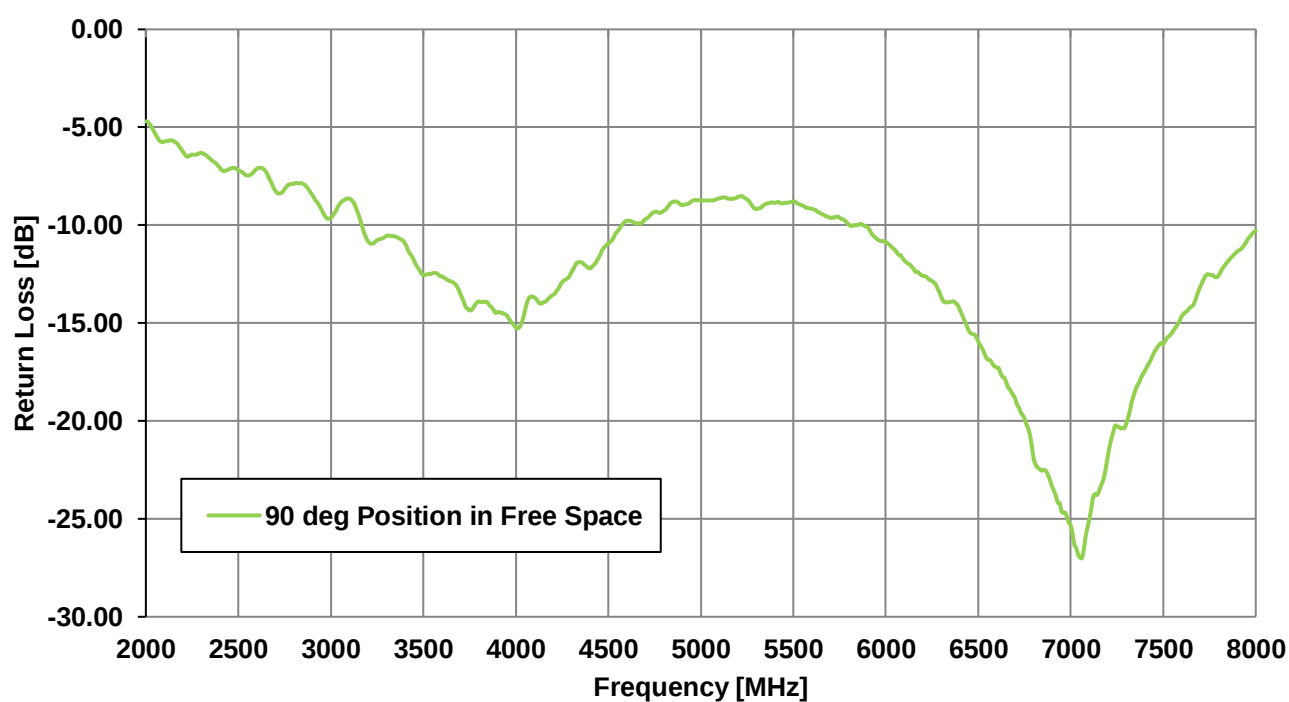
Free Space Electrical									
Band	Frequency (MHz)	Setup	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Max Power Input	Polarization	Radiation Pattern
2.4GHz Wi-Fi	2400~2500	Straight	76.7	-1.2	2.8	50Ω	10W	Linear	Omnidirectional
		90° Bent	75.9	-1.2	2.7				
5.8GHz Wi-Fi	5150~5850	Straight	87.5	-0.6	3.6				
		90° Bent	82.1	-0.9	2.8				
7.1GHz Wi-Fi 6	5925~7125	Straight	75.8	-1.2	4.1				
		90° Bent	80	-1	3.4				
15x9cm Ground Plane Centre Electrical									
Band	Frequency (MHz)	Setup	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Max Power Input	Polarization	Radiation Pattern
2.4GHz Wi-Fi	2400~2500	Straight	55.5	-2.6	4.7	50Ω	10W	Linear	Omnidirectional
		90° Bent	41.6	-3.8	3.5				
5.8GHz Wi-Fi	5150~5850	Straight	51.5	-2.9	2				
		90° Bent	47.2	-3.3	1.3				
7.1GHz Wi-Fi 6	5925~7125	Straight	46.8	-3.3	2.6				
		90° Bent	46.3	-3.4	2.2				
30x30cm Ground Plane Centre Electrical									
Band	Frequency (MHz)	Setup	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Max Power Input	Polarization	Radiation Pattern
2.4GHz Wi-Fi	2400~2500	Straight	69.5	-1.6	3.9	50Ω	10W	Linear	Omnidirectional
		90° Bent	62.9	-2	3.6				
5.8GHz Wi-Fi	5150~5850	Straight	72.9	-1.4	6.4				
		90° Bent	75.8	-1.2	5.6				
7.1GHz Wi-Fi 6	5925~7125	Straight	68.9	-1.7	6.1				
		90° Bent	66.2	-1.8	5.2				

30x30cm Ground Plane Edge Electrical									
Band	Frequency (MHz)	Setup	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Max Power Input	Polarization	Radiation Pattern
2.4GHz Wi-Fi	2400~2500	Straight	48.4	-3.2	3.3	50Ω	2W	Linear	Omnidirectional
		90° Bent	41.5	-3.8	3				
5.8GHz Wi-Fi	5150~5850	Straight	38.4	-4.2	5.1				
		90° Bent	35.5	-4.5	5.2				
7.1GHz Wi-Fi 6	5925~7125	Straight	27	-5.7	4.4				
		90° Bent	25.7	-5.9	4.6				

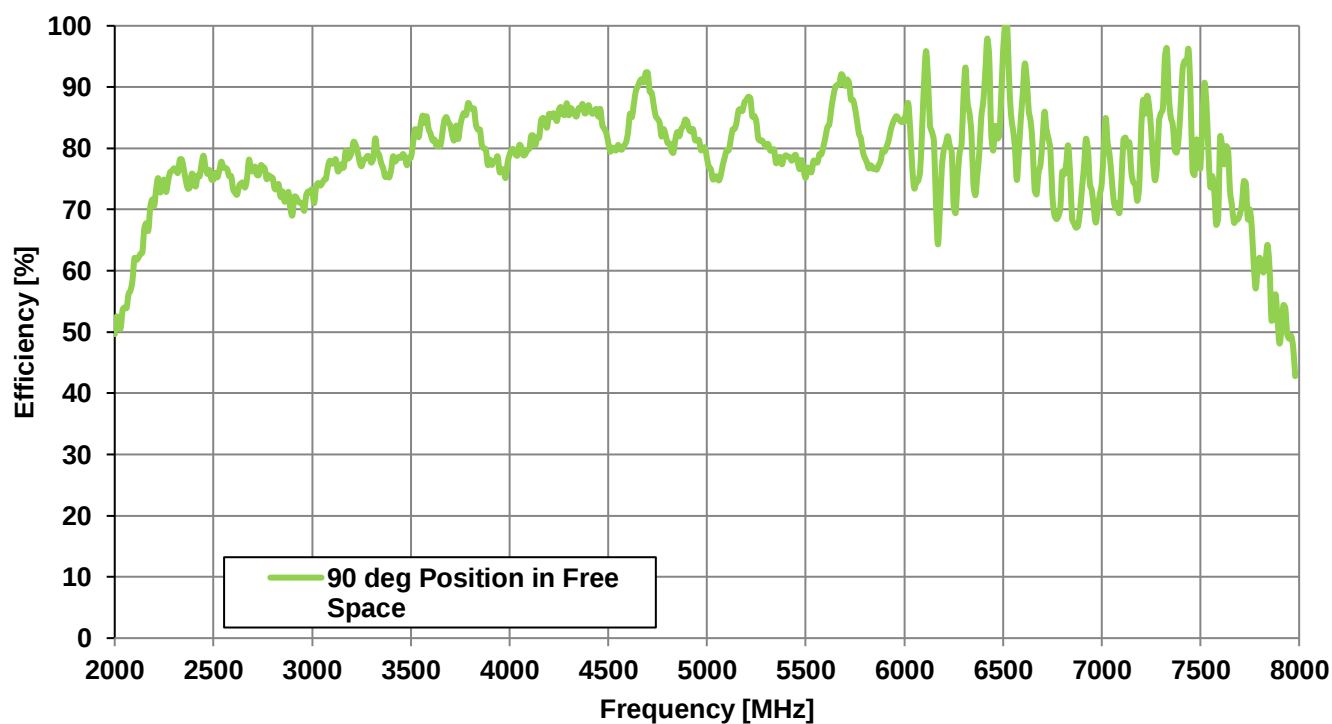
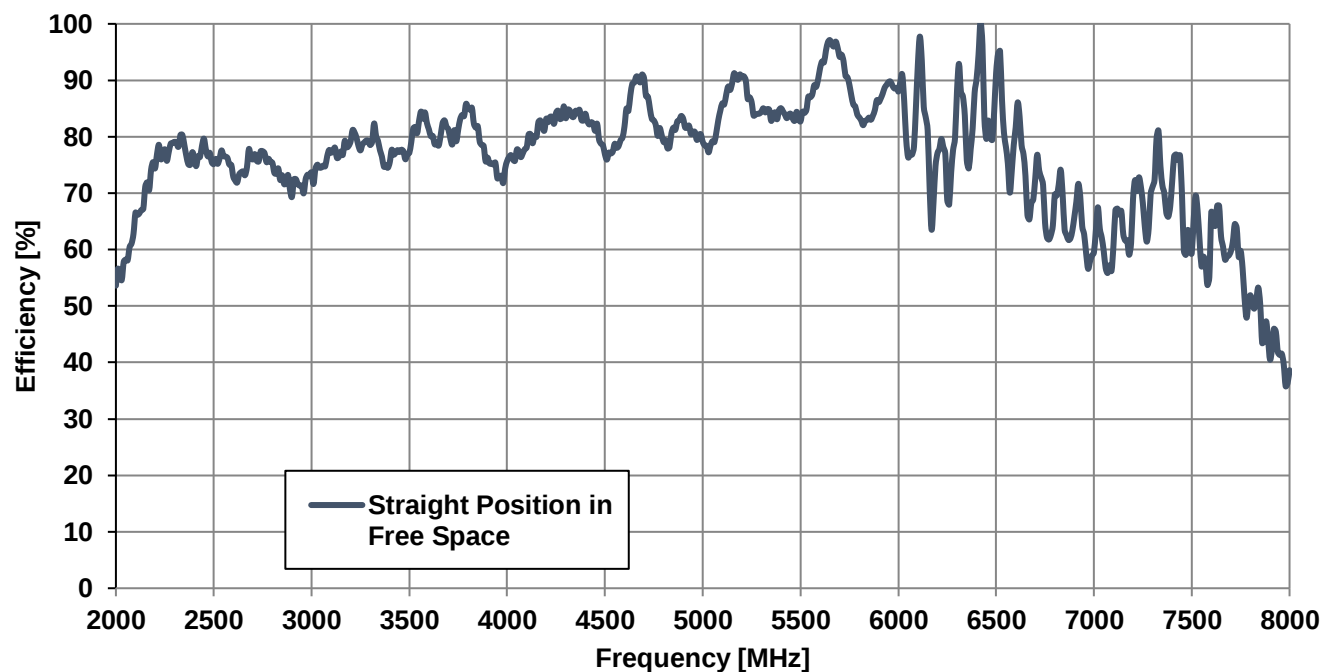
Mechanical	
Antenna length	62.3mm
Antenna Diameter	10mm
Casing	POM
Connector	RP-SMA(M)
Weight	6g
Recommended Torque for Mounting	0.9N·m
Max Torque for Mounting	1.176N·m
Environmental	
Operation Temperature	-40°C ~ + 85°C
Storage Temperature	-40°C ~ + 85°C
Humidity	Non-condensing 65°C 95% RH

3. Antenna Characteristics

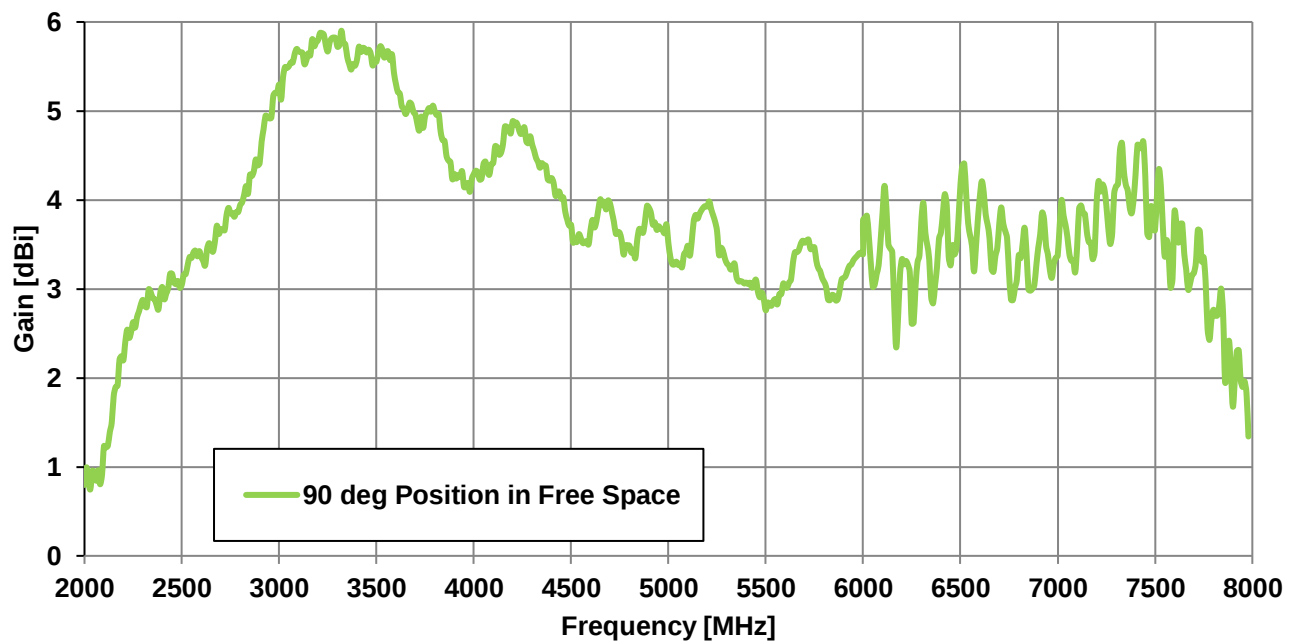
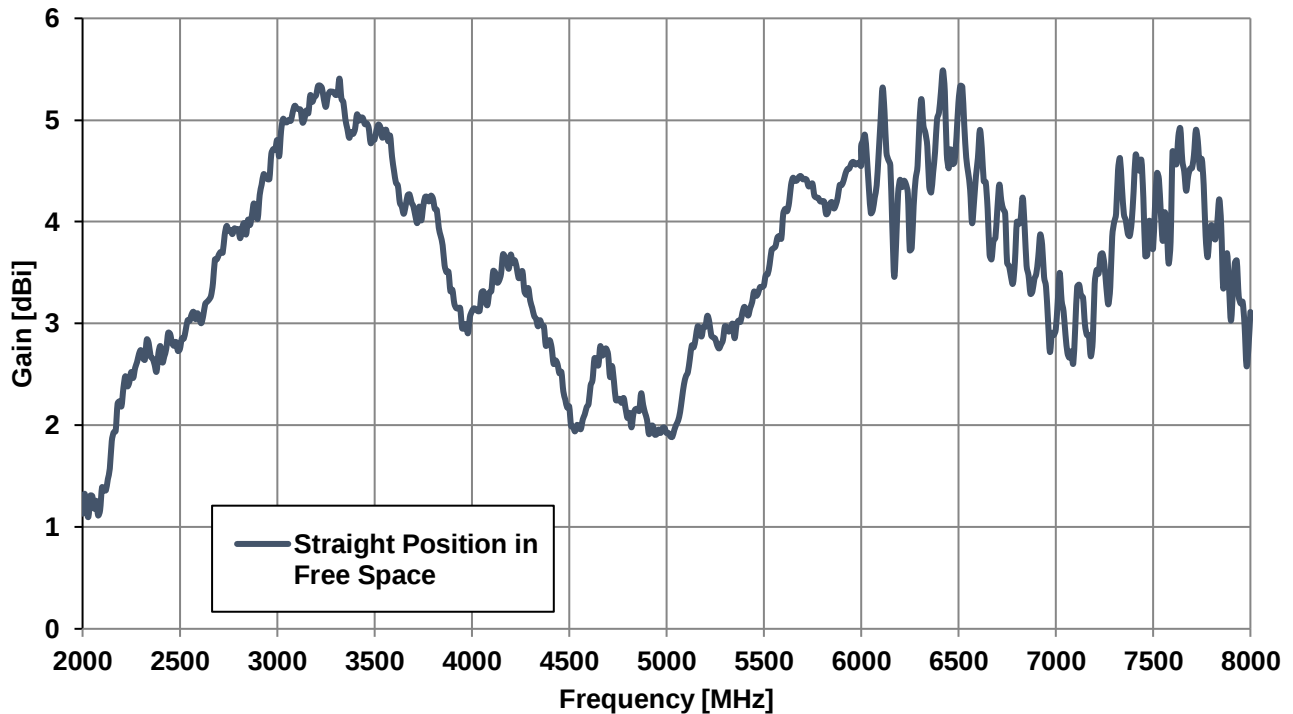
3.1 Return Loss – Free Space



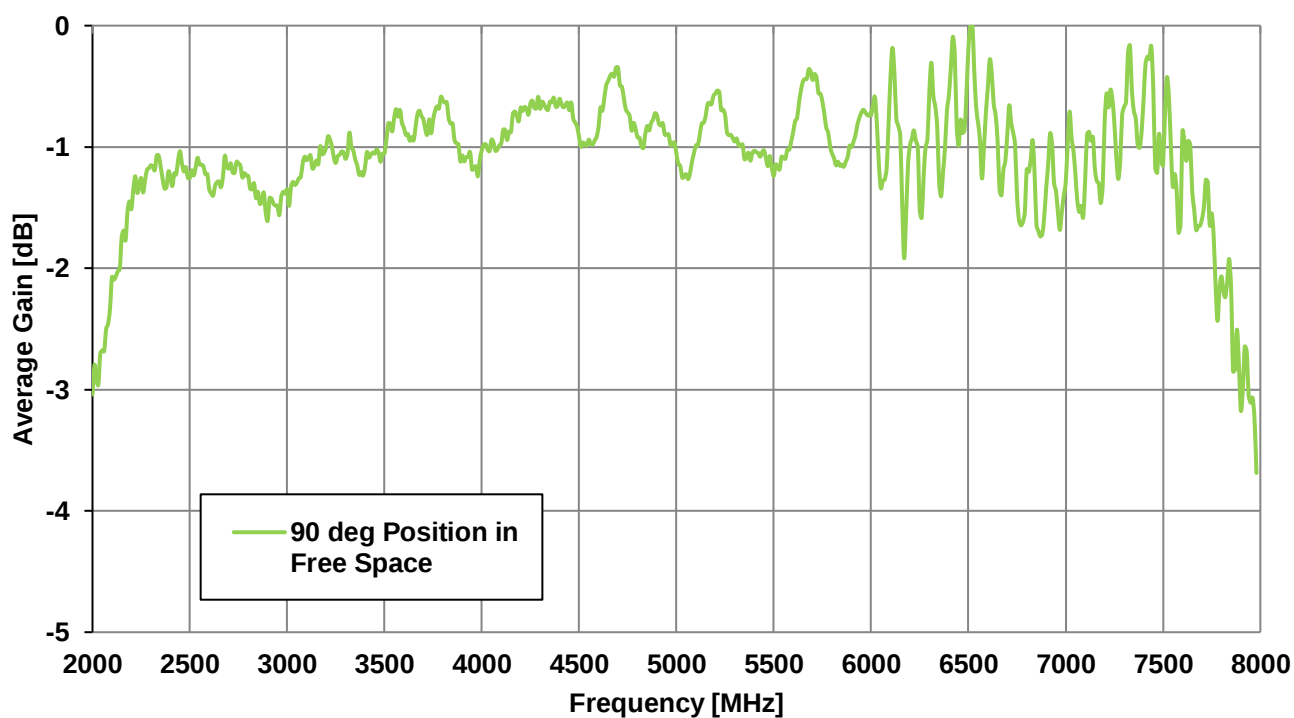
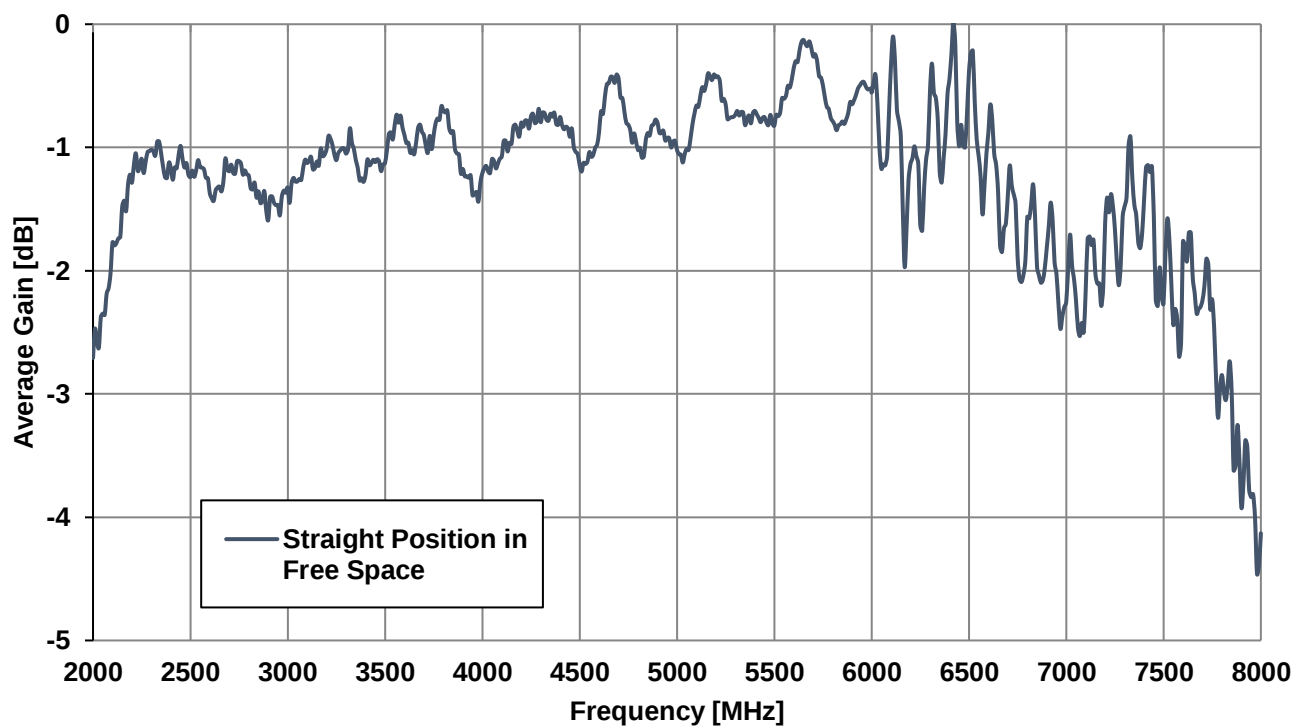
3.2 Efficiency – Free Space



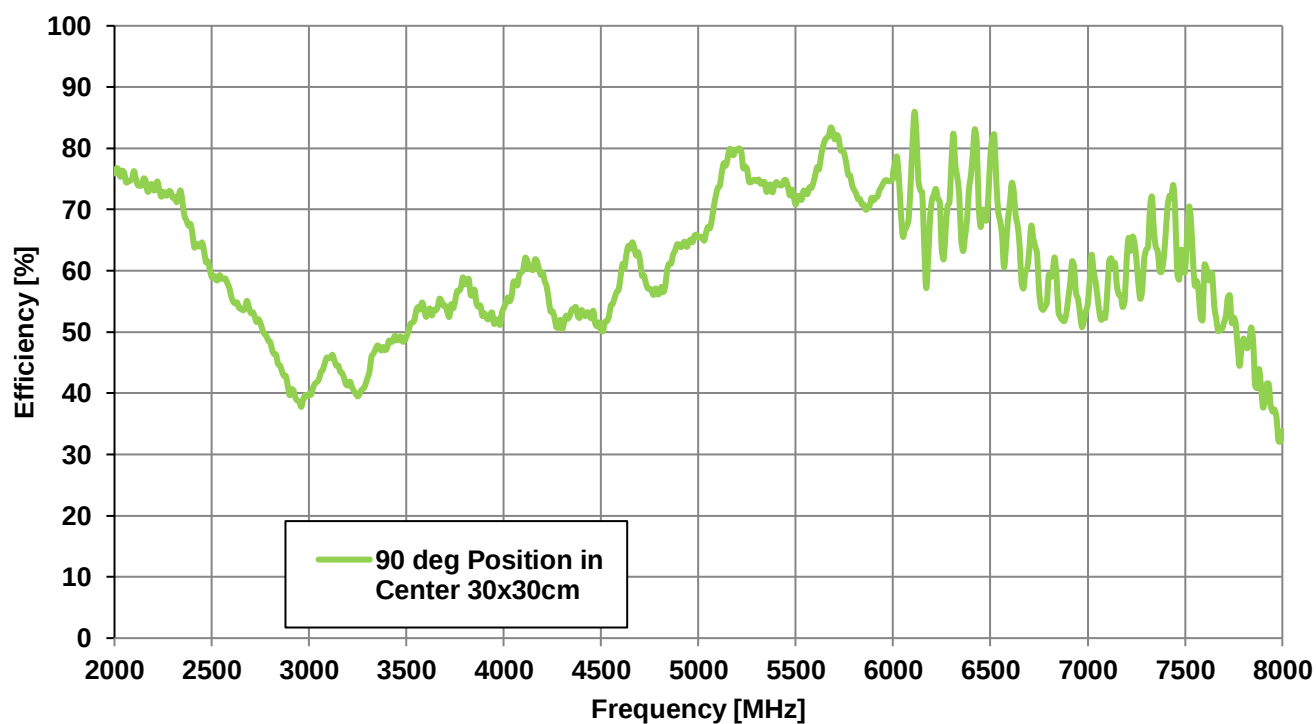
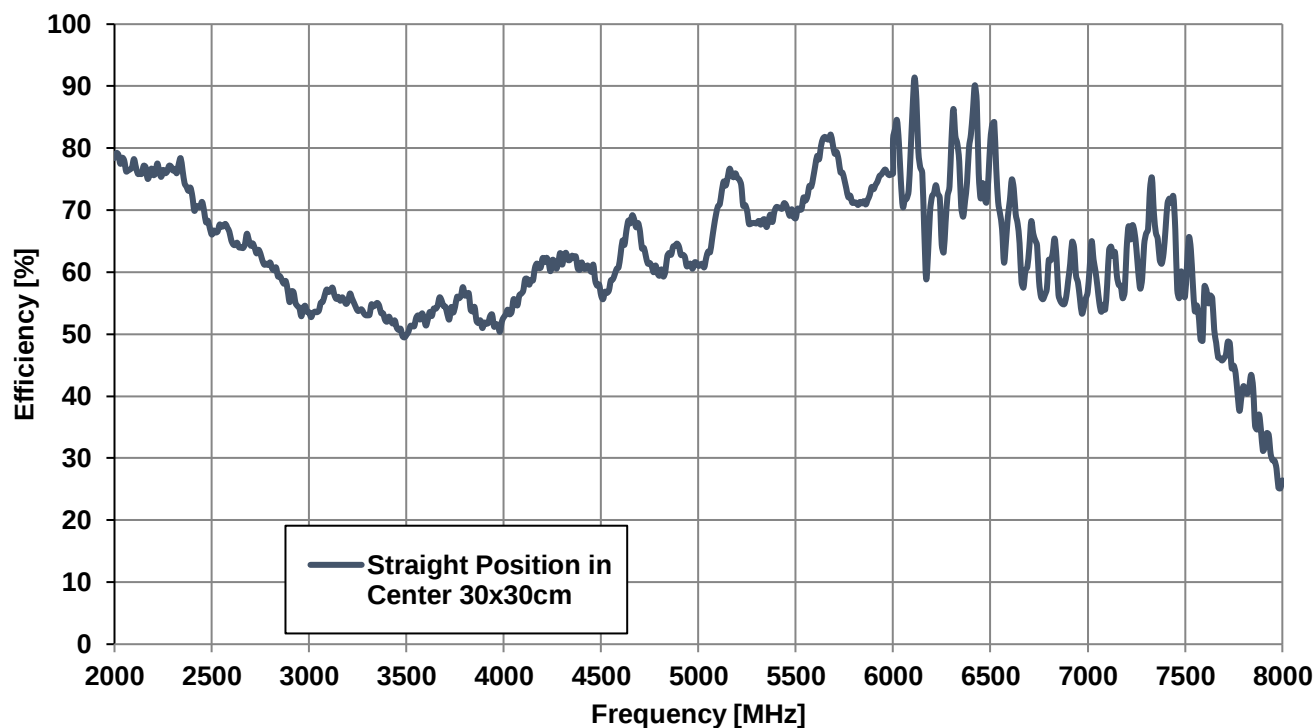
3.3 Peak Gain – Free Space



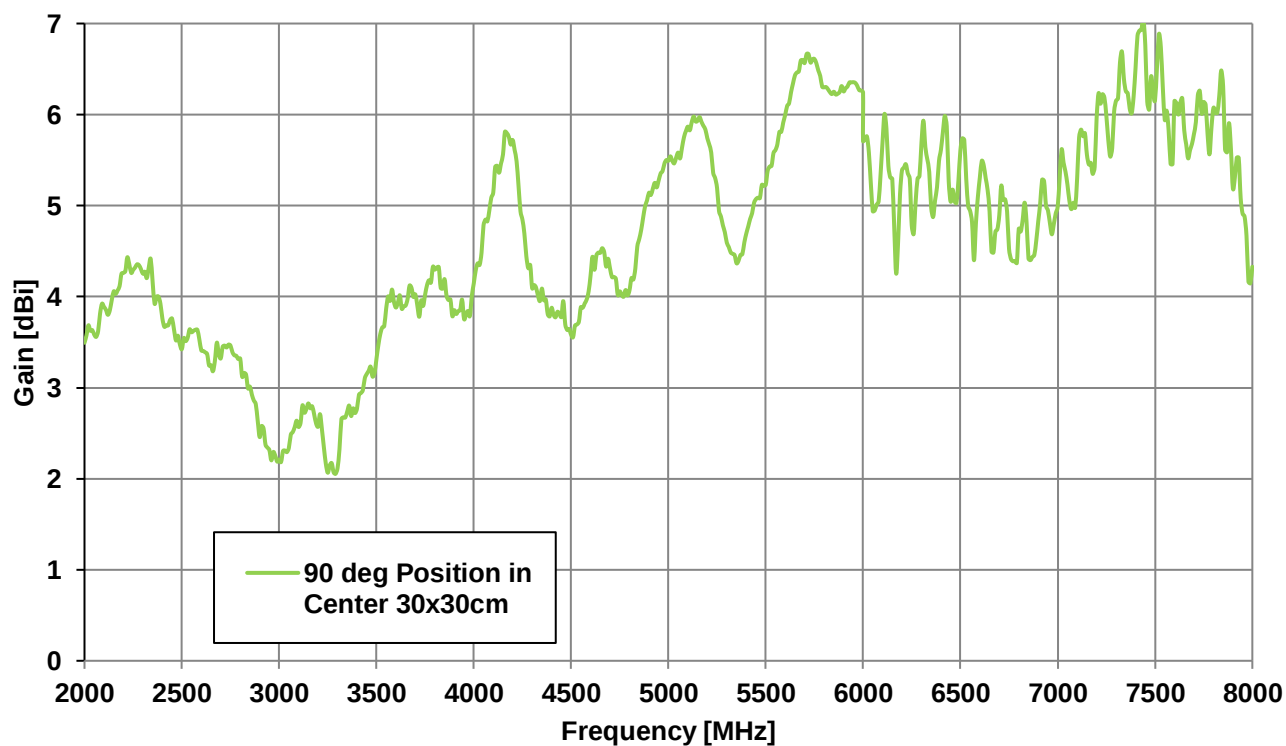
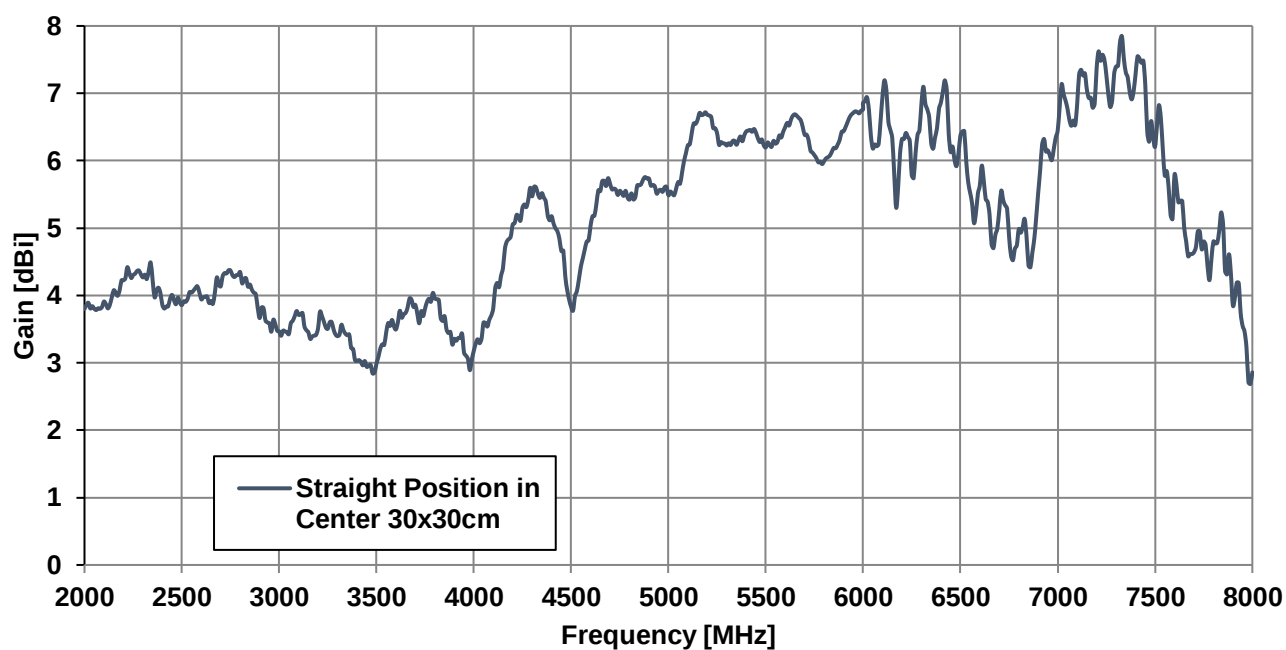
3.4 Average Gain – Free Space



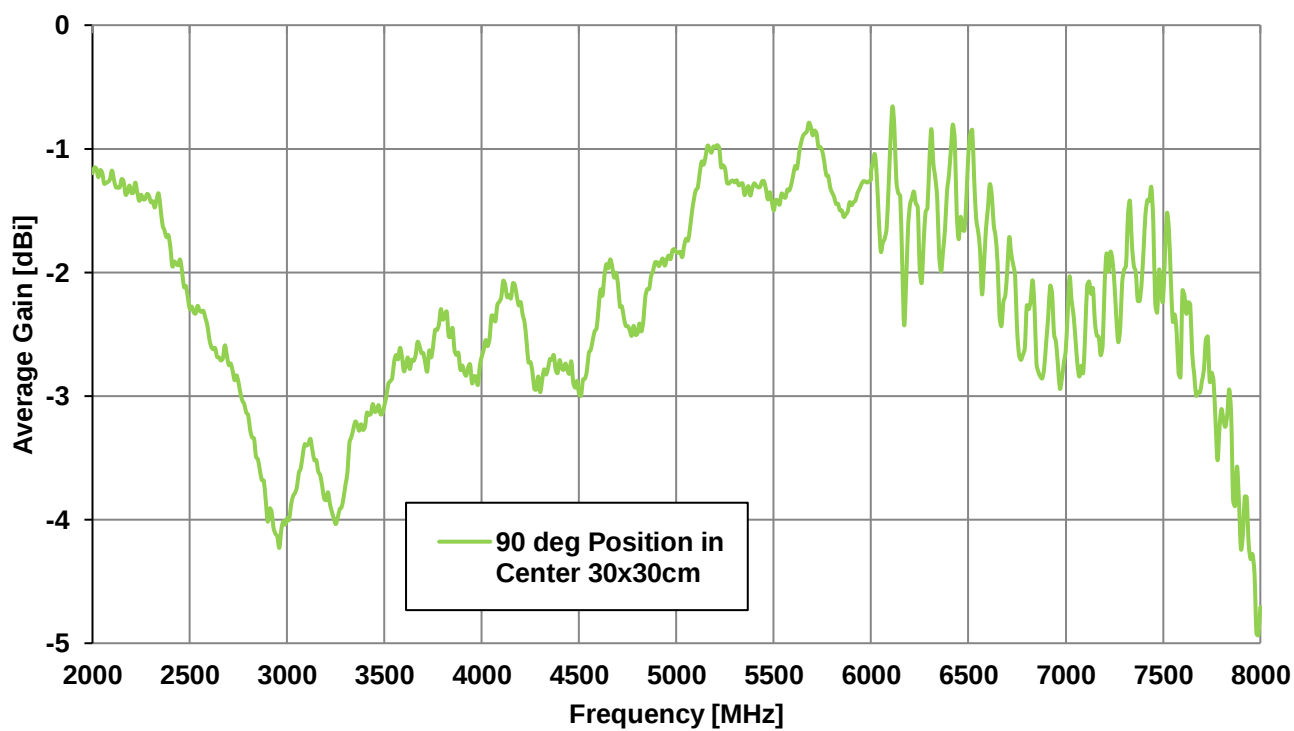
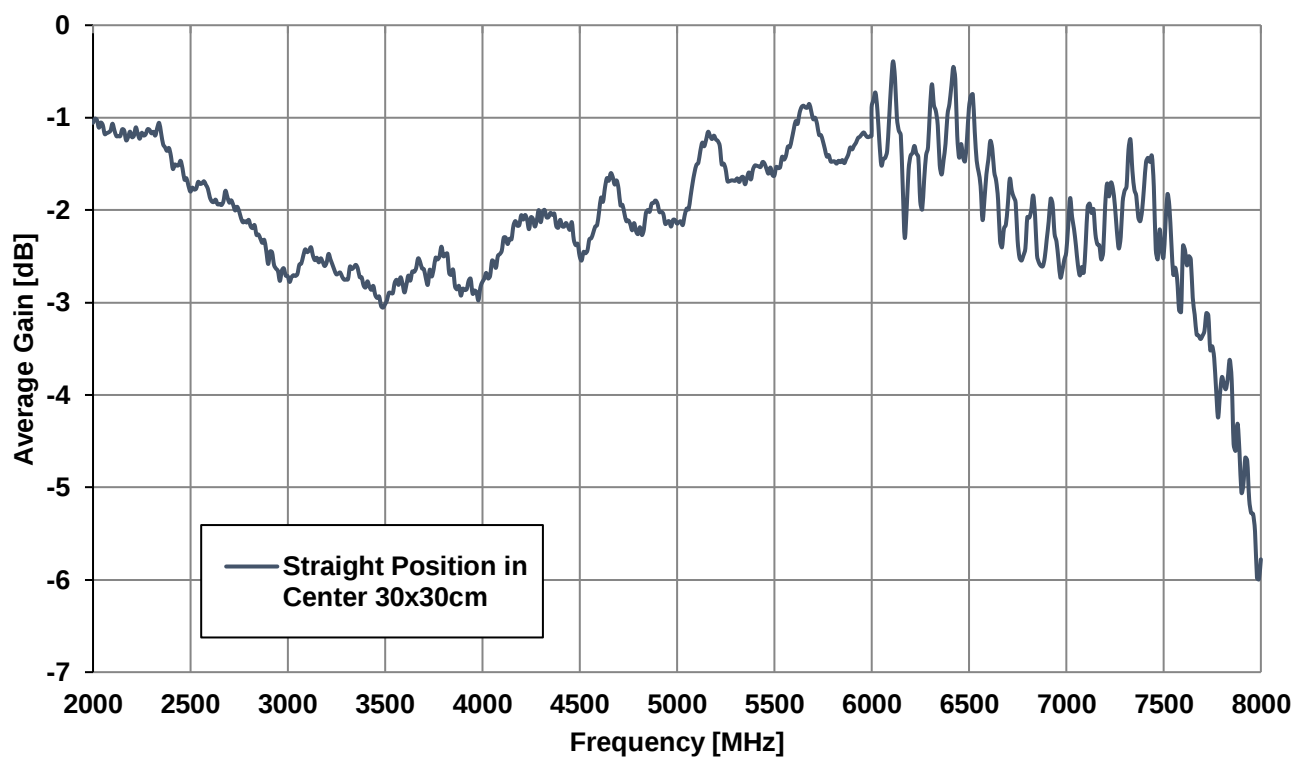
3.5 Efficiency – 30*30cm Ground Plane



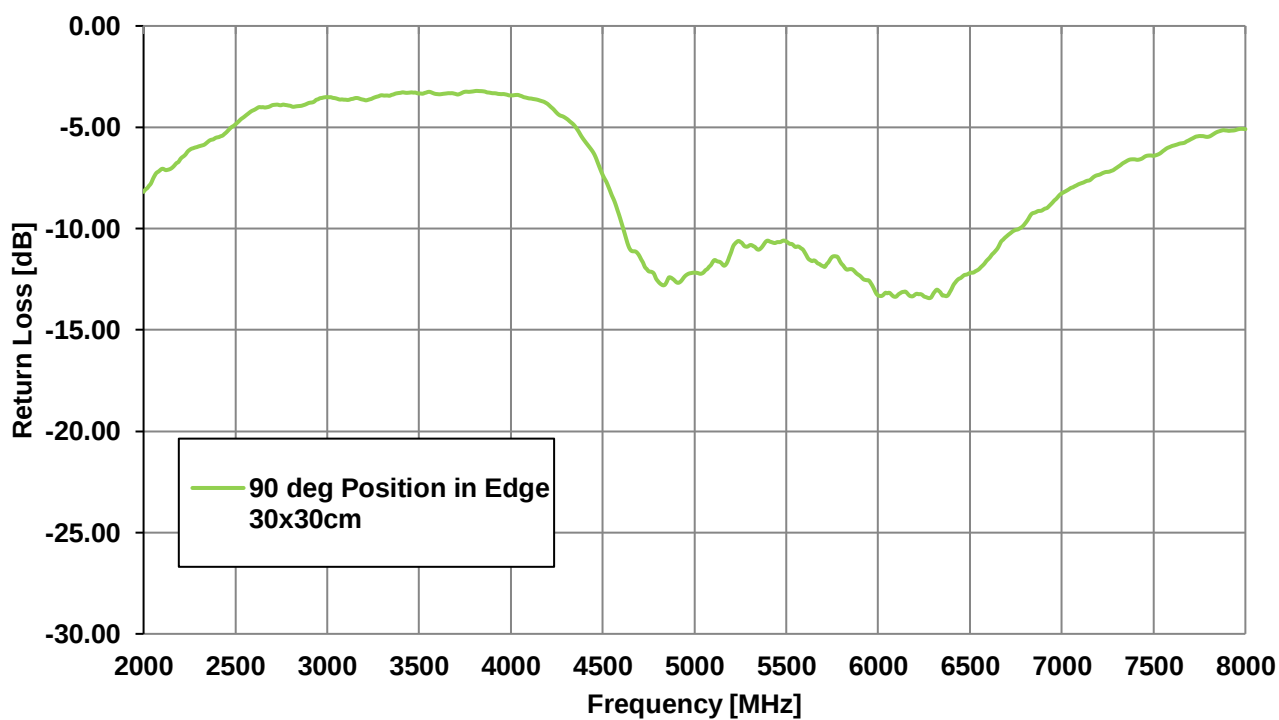
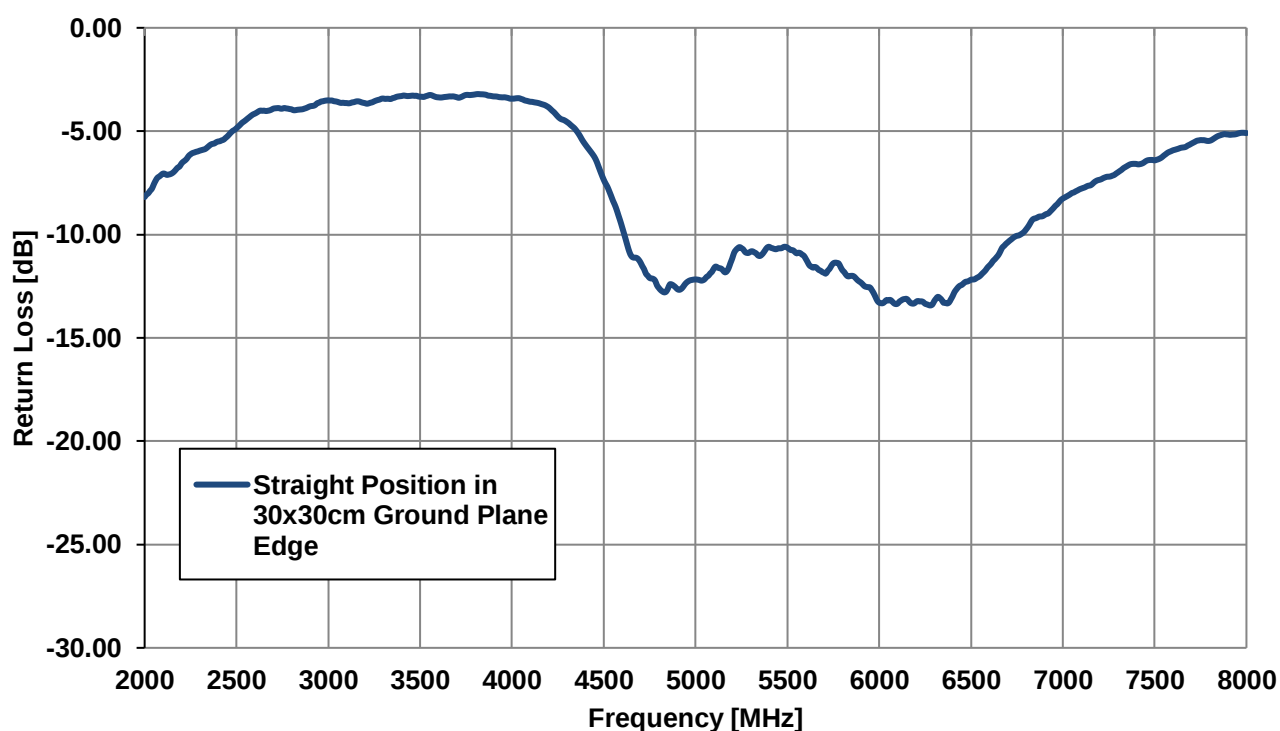
3.6 Peak Gain – 30*30cm Ground Plane



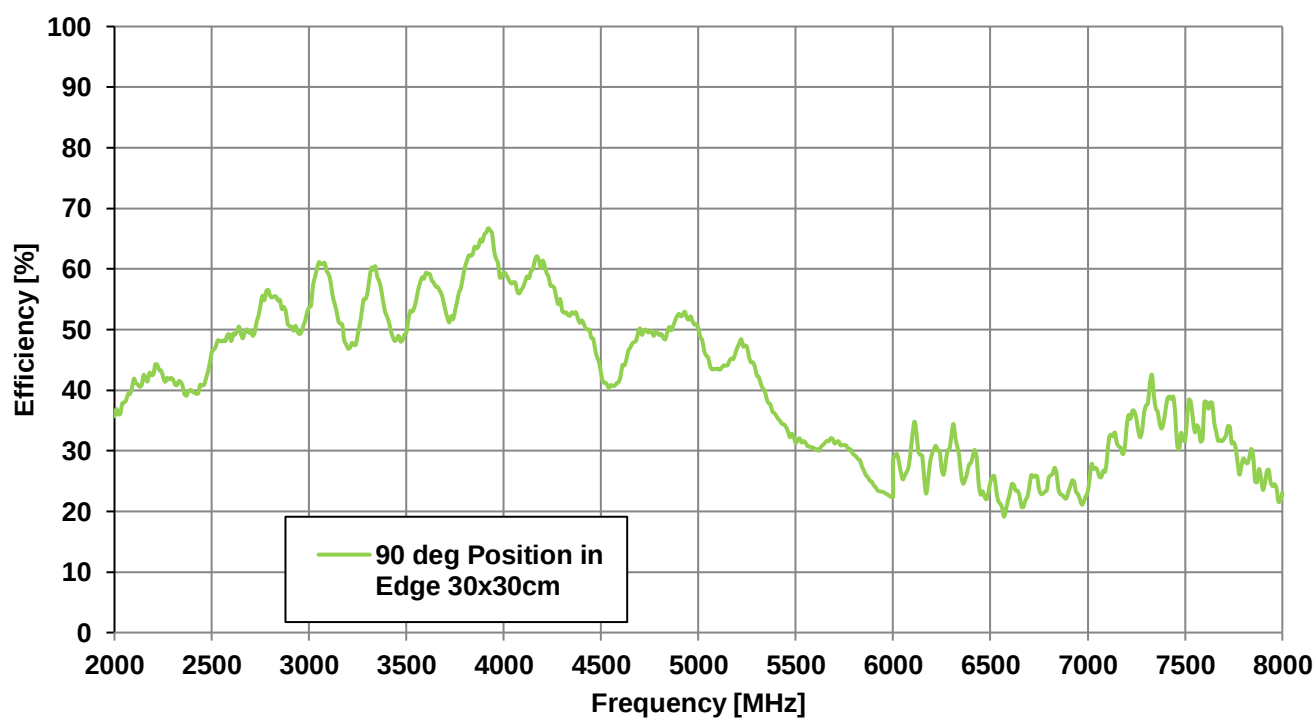
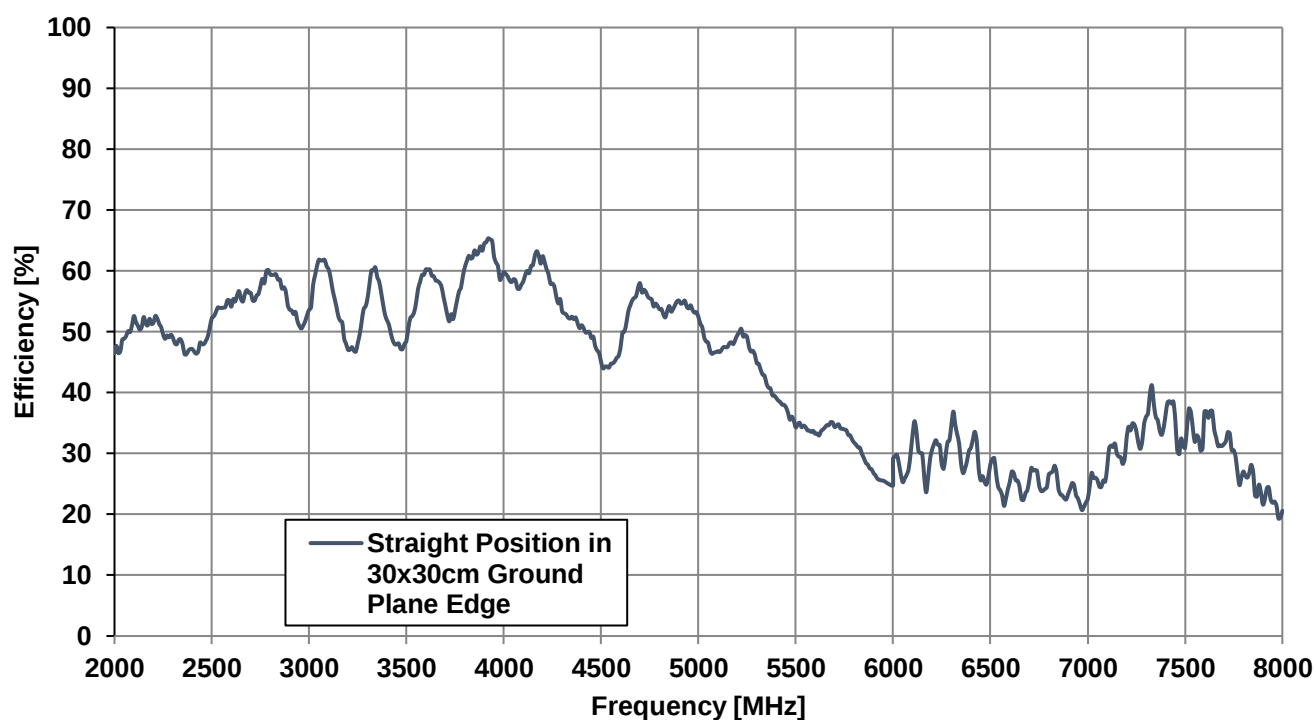
3.7 Average Gain – 30*30cm Ground Plane



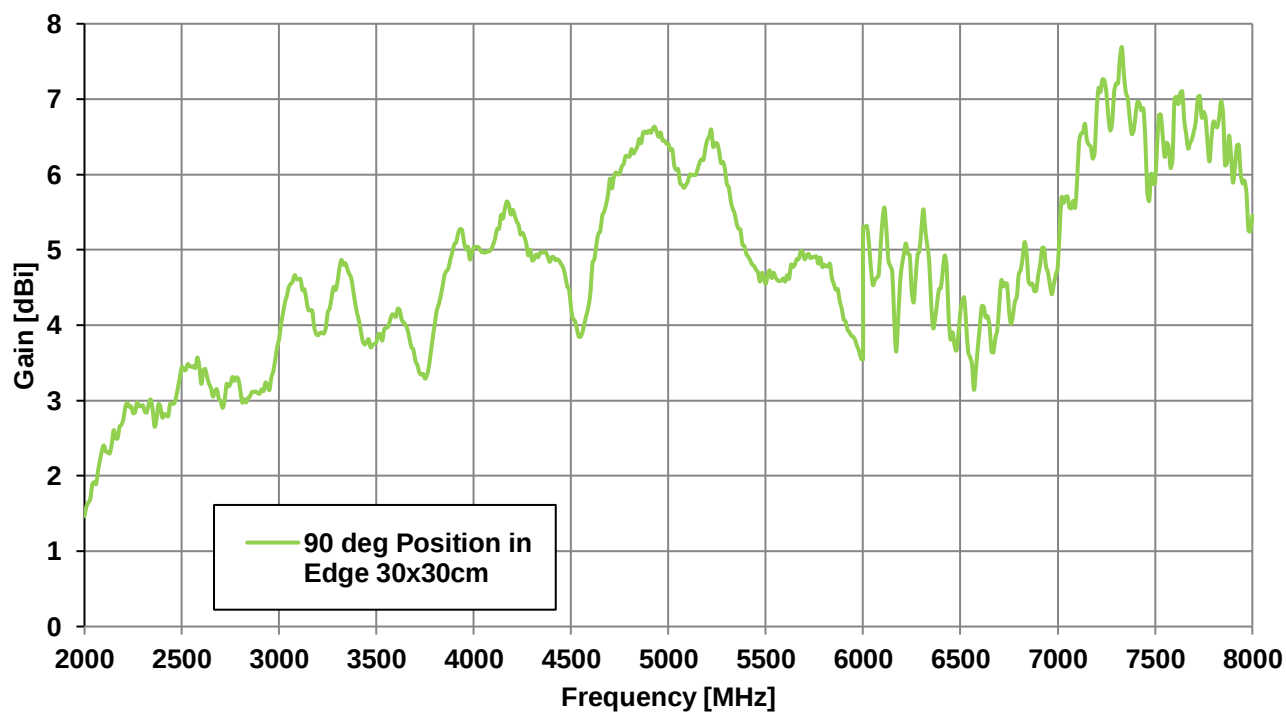
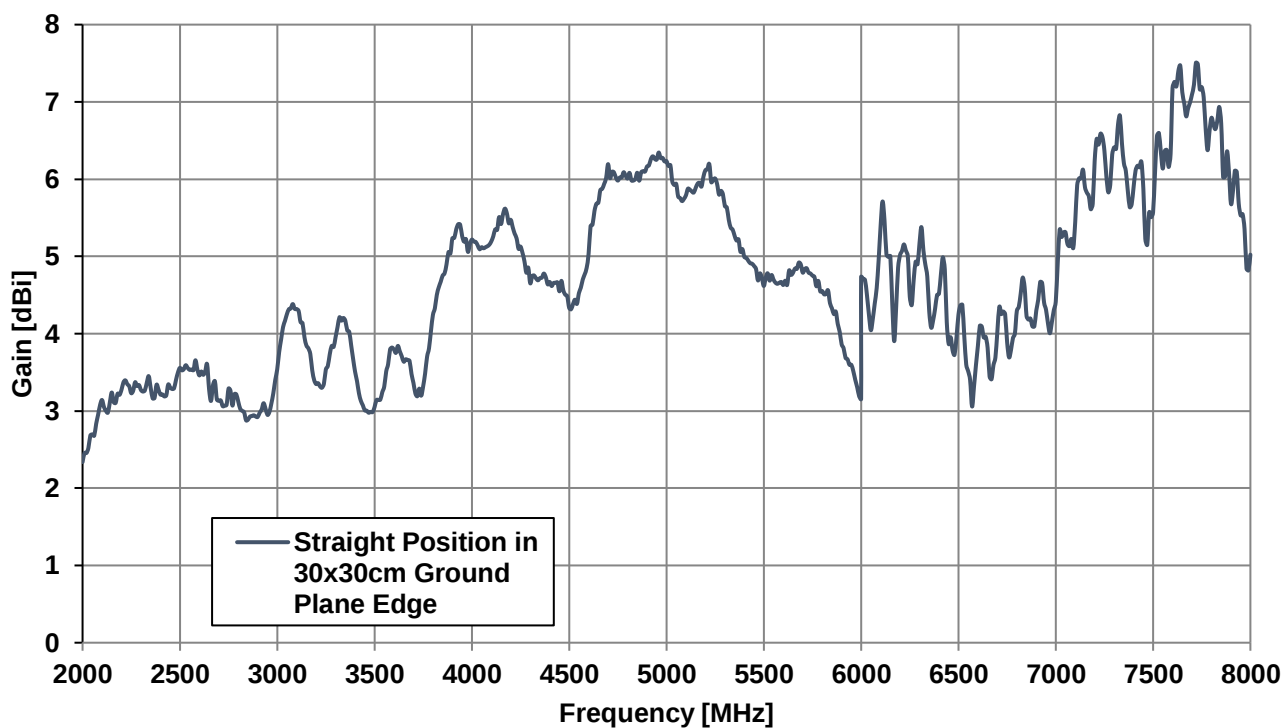
3.8 Return Loss – 30*30cm Ground Plane Edge



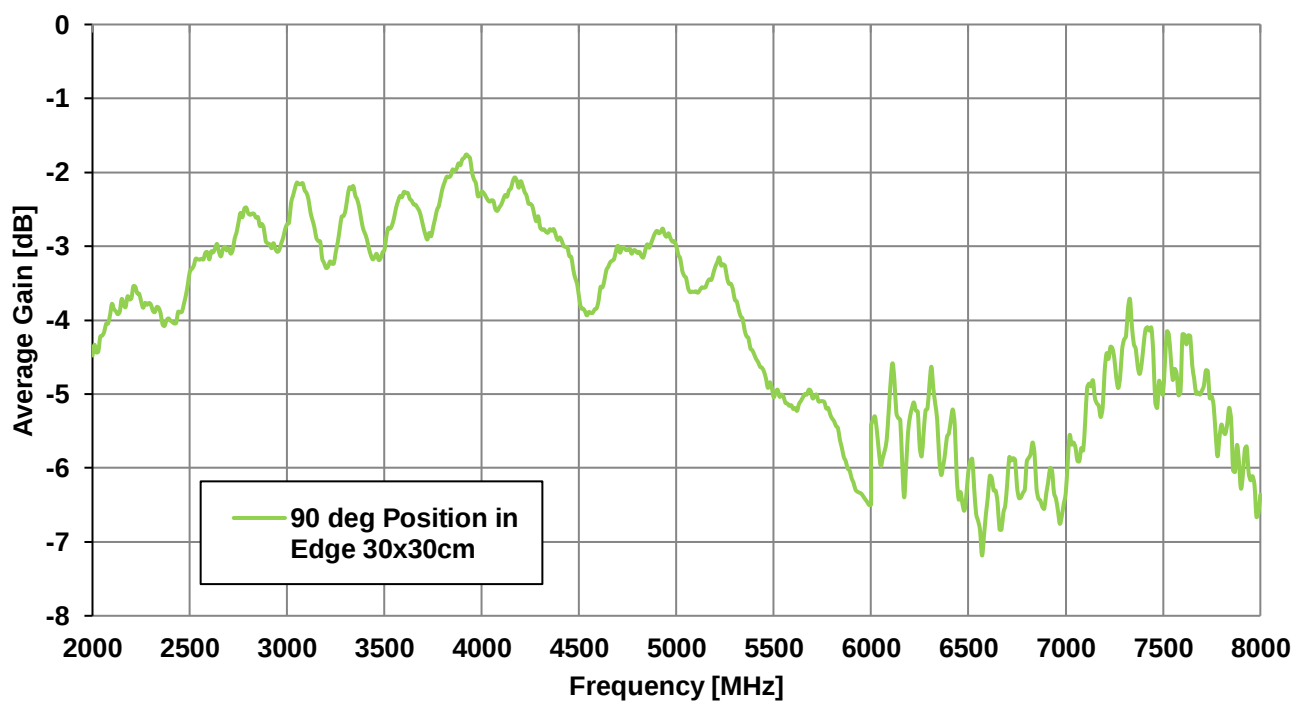
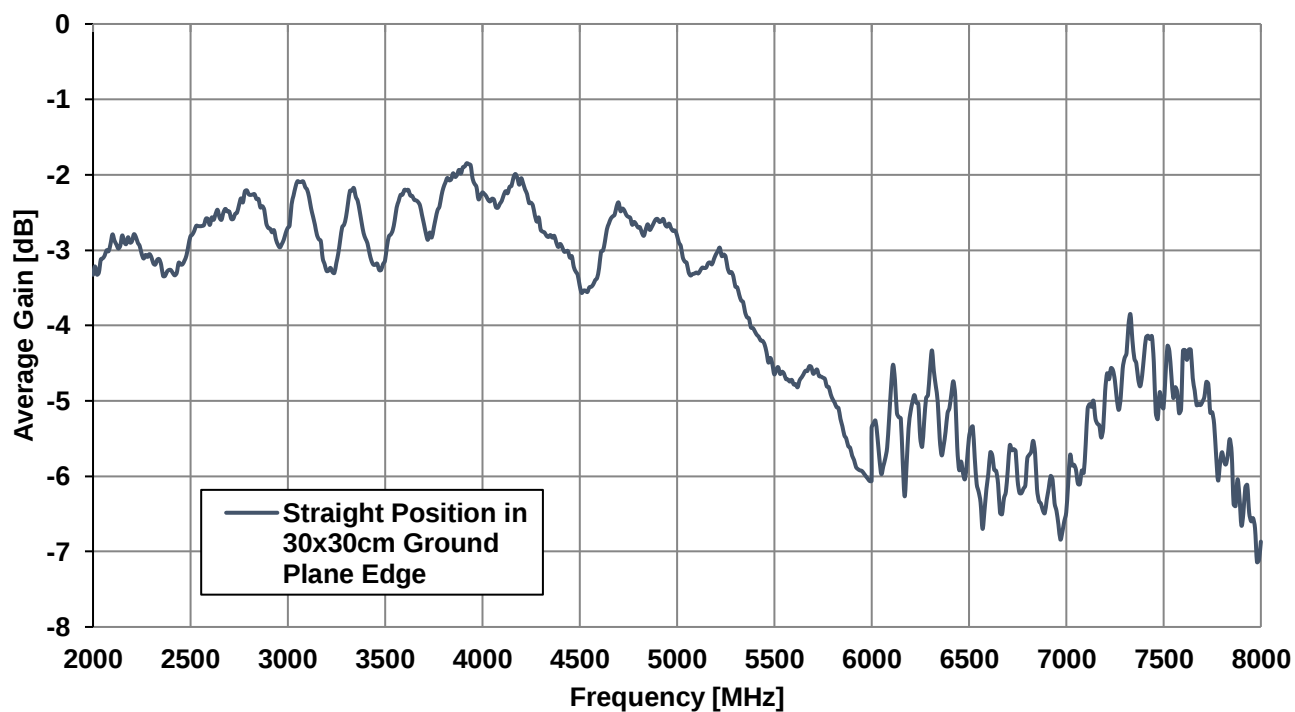
3.9 Efficiency – 30*30cm Ground Plane Edge



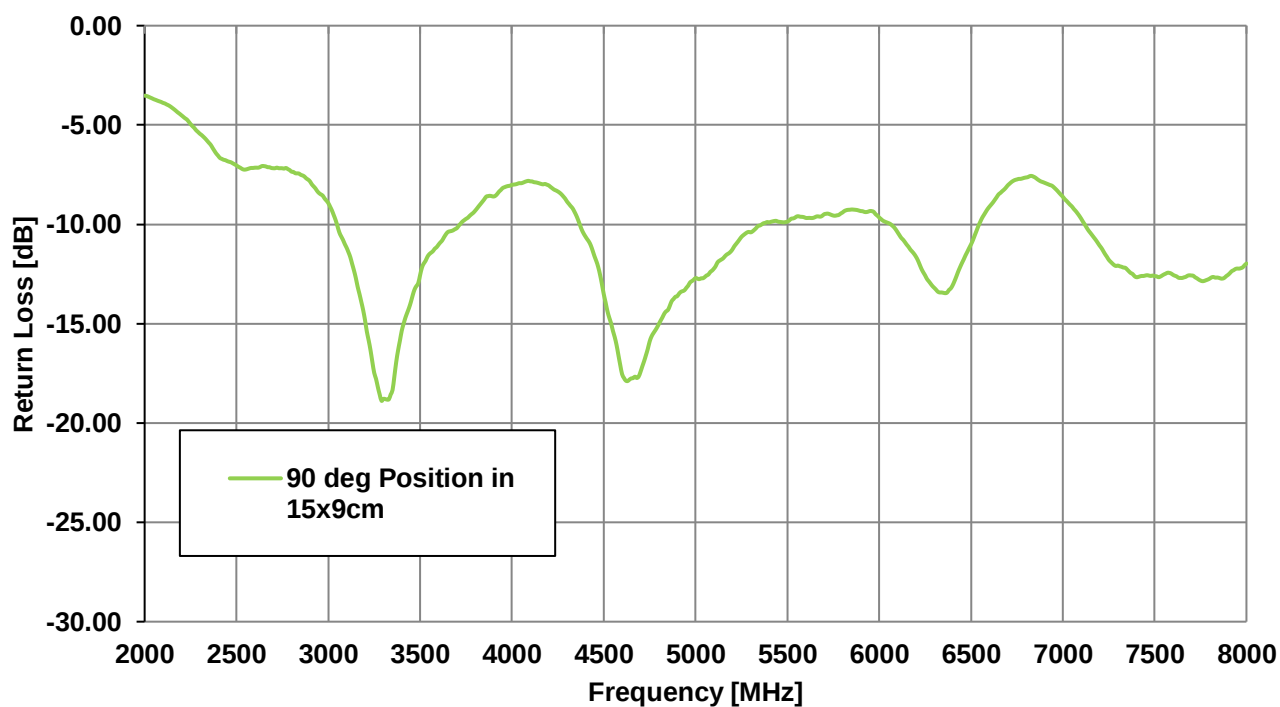
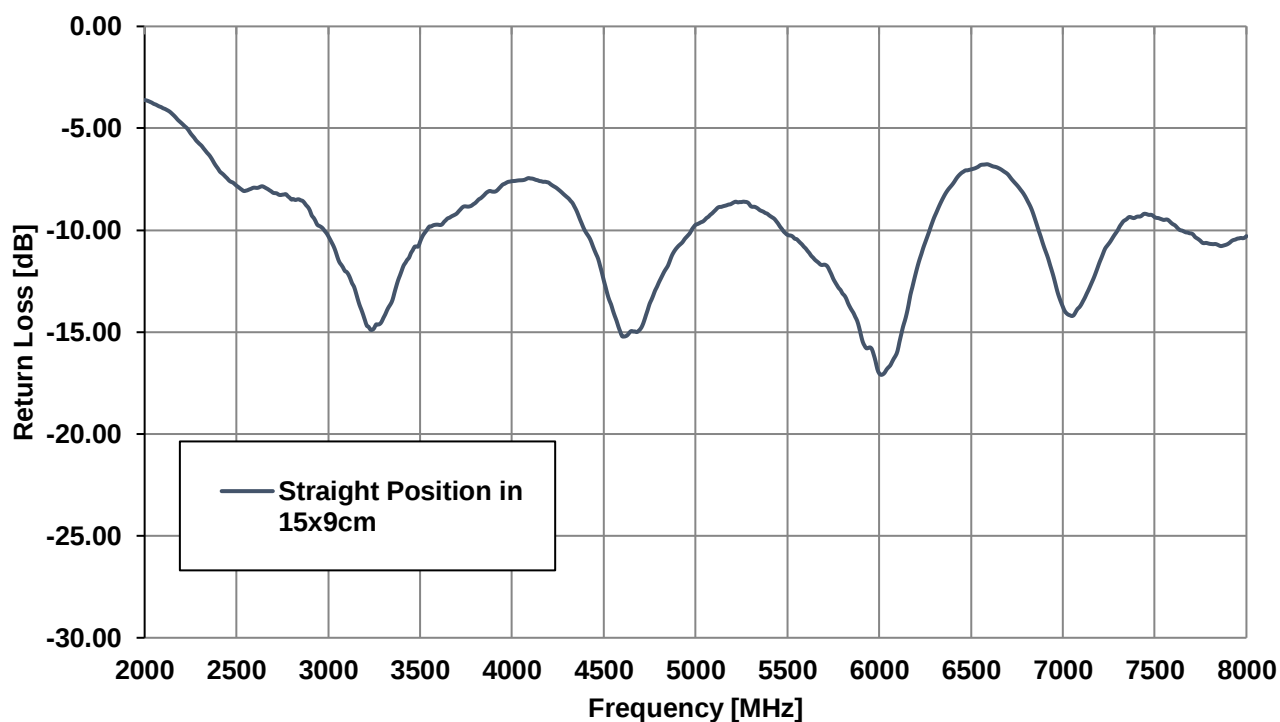
3.10 Peak Gain – 30*30cm Ground Plane Edge



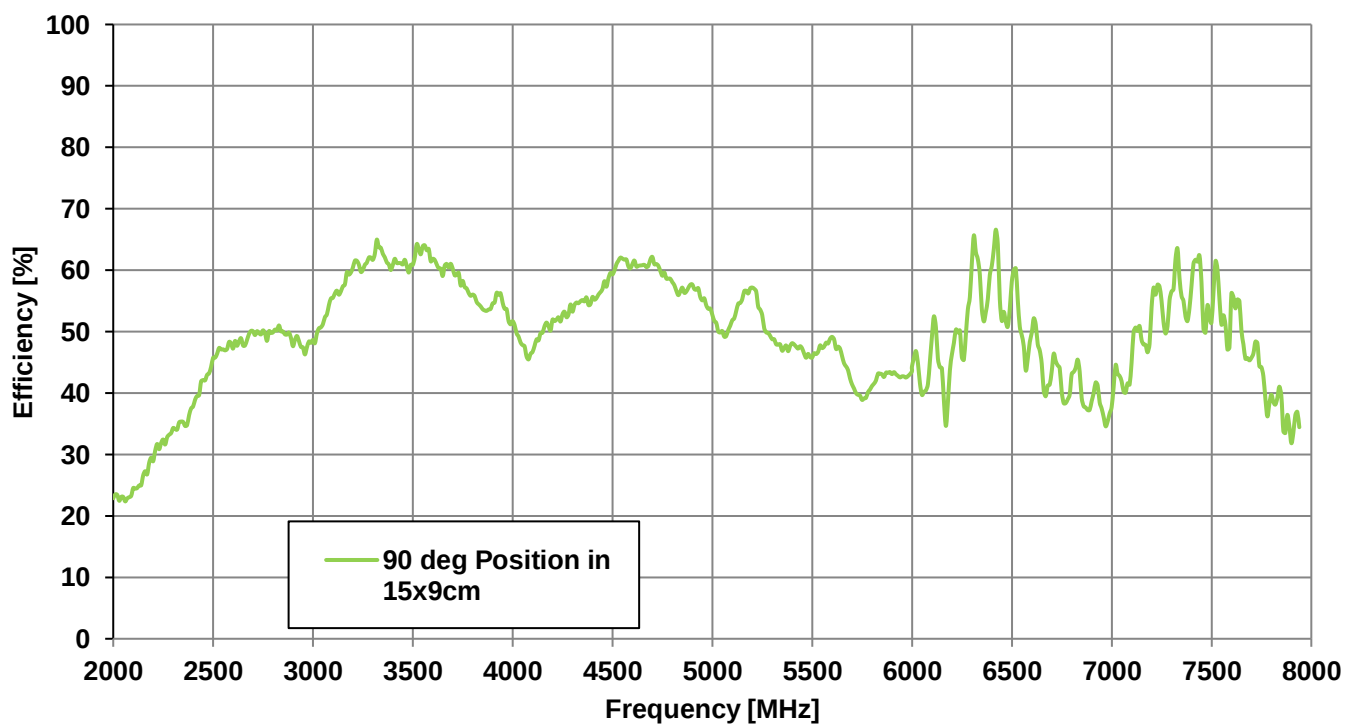
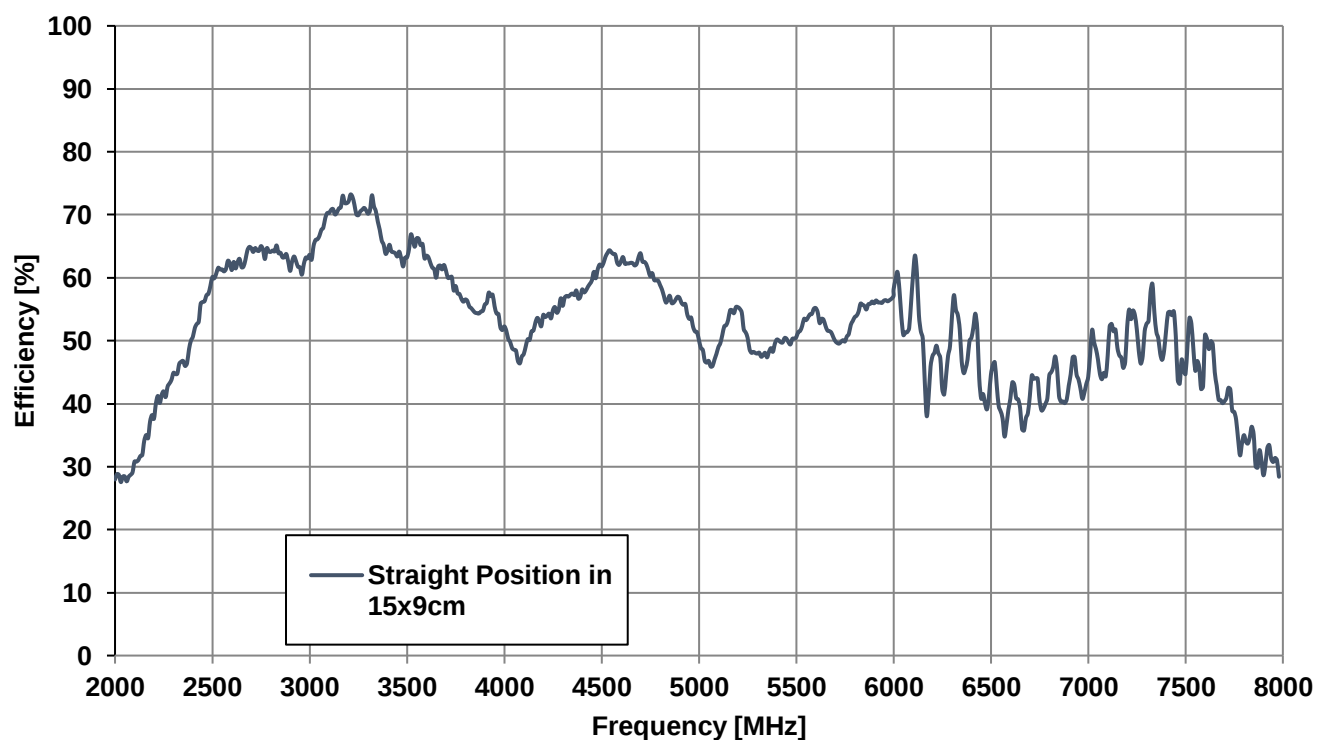
3.11 Average Gain – 30*30cm Ground Plane Edge



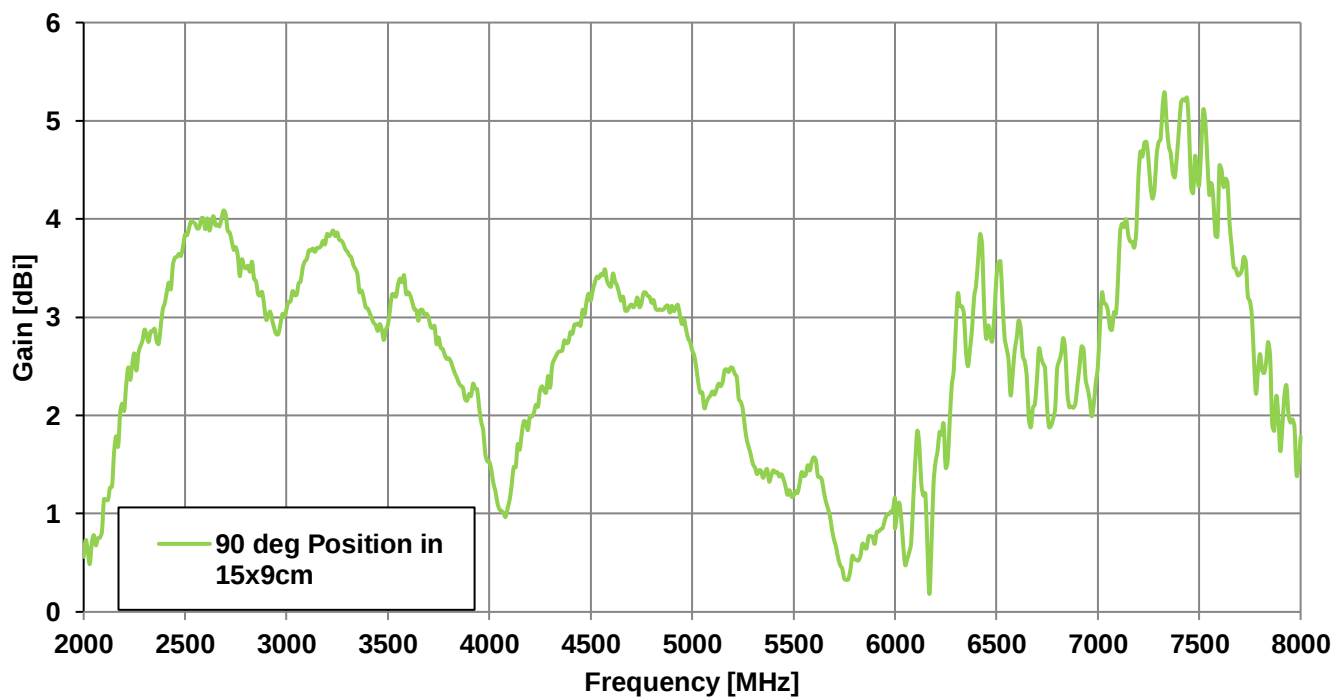
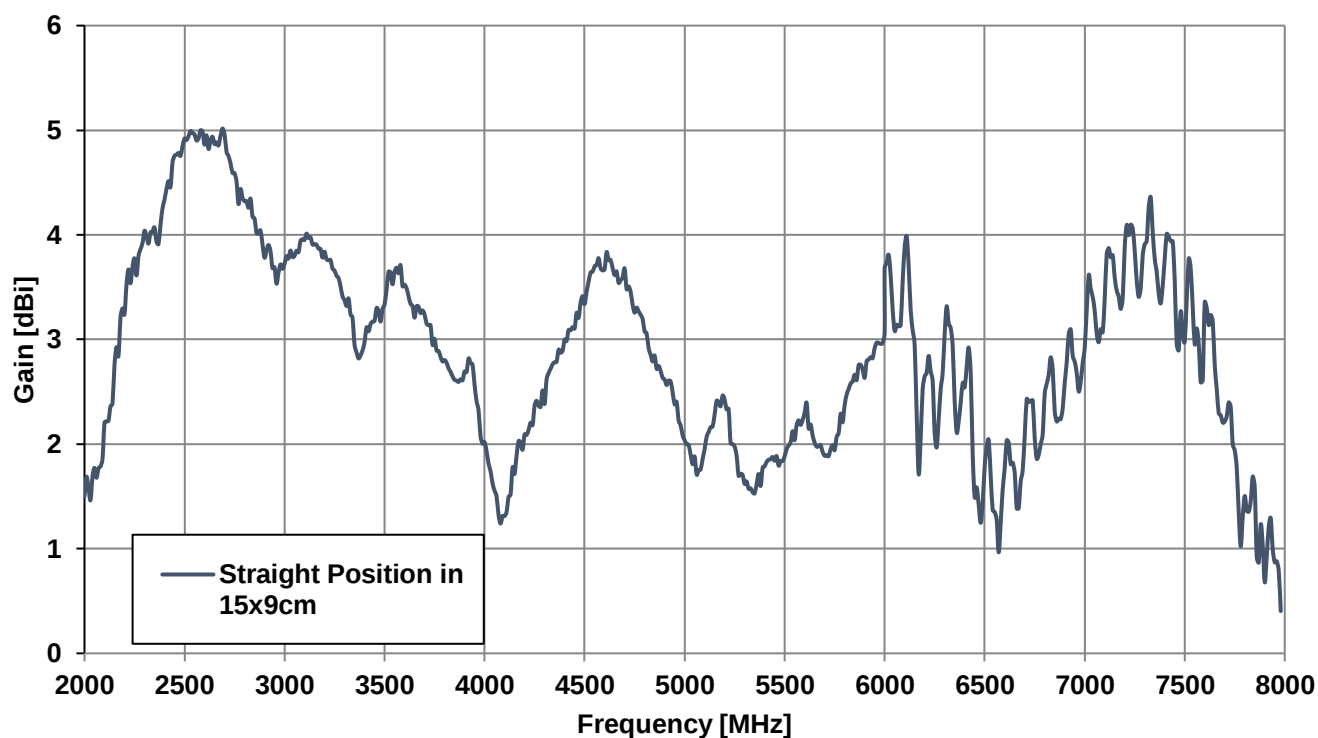
3.12 Return Loss – 15*9cm Ground Plane



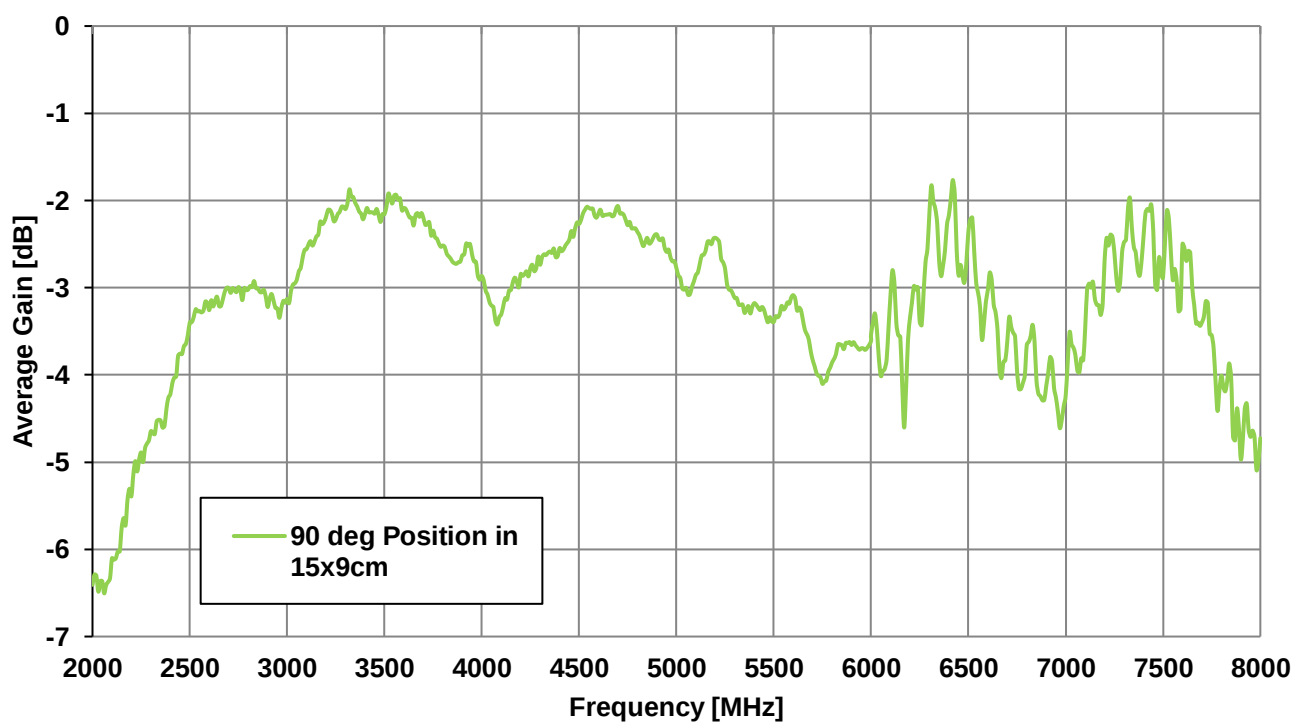
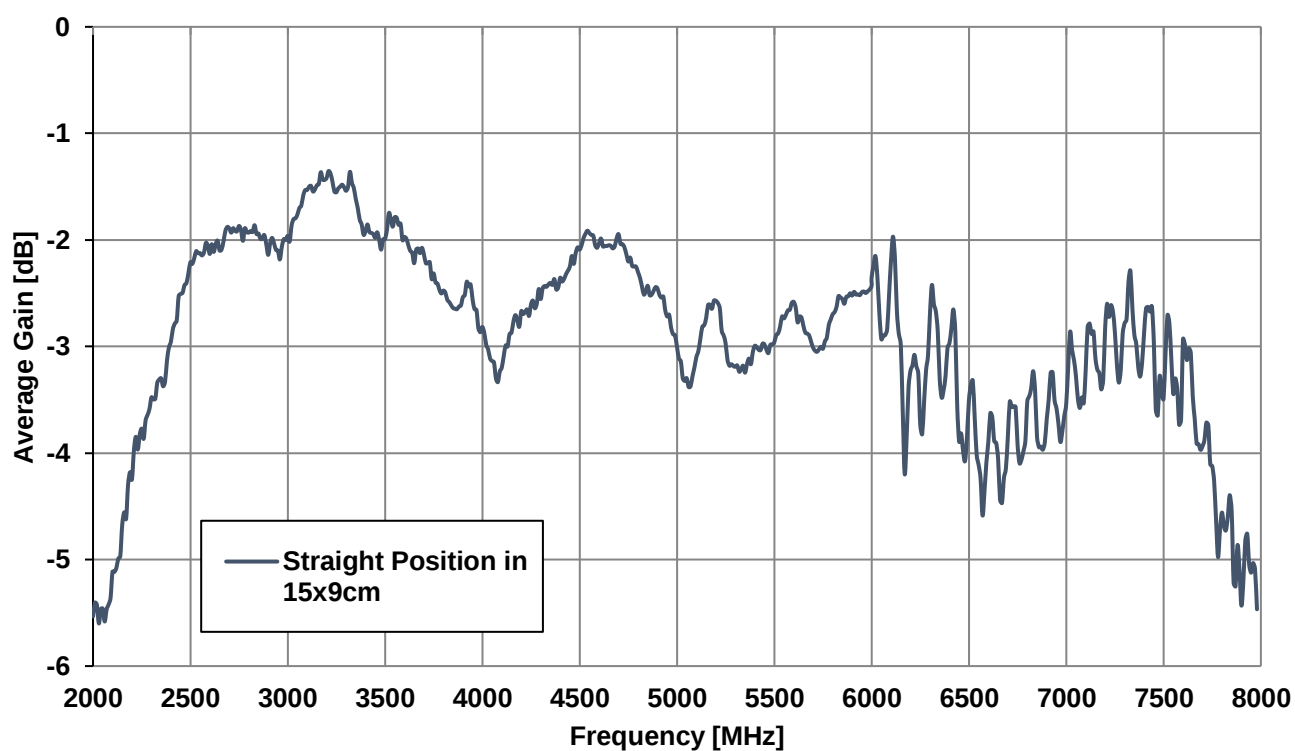
3.13 Efficiency – 15*9cm Ground Plane



3.14 Peak Gain – 15*9cm Ground Plane

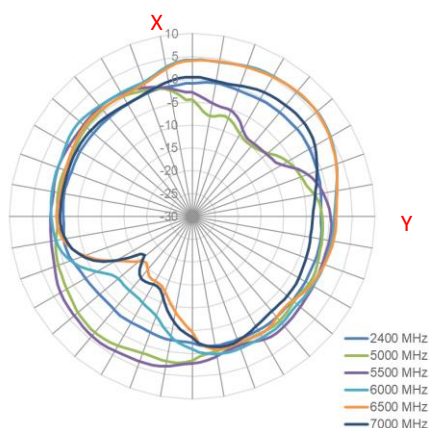


3.15 Average Gain – 15*9cm Ground Plane

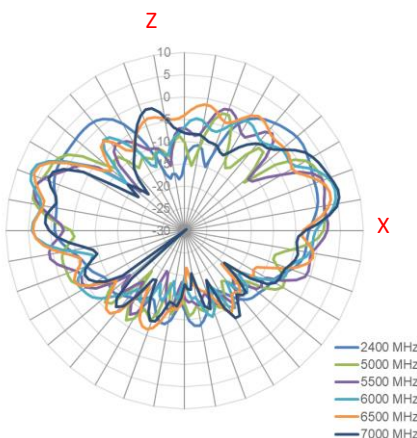


4.5 Straight 30*30cm Center Ground Plane - 2D Radiation Patterns

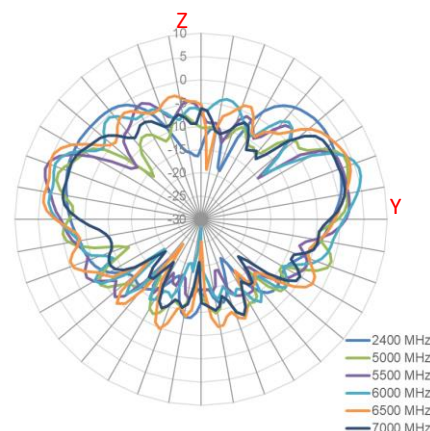
XY Plane



XZ Plane

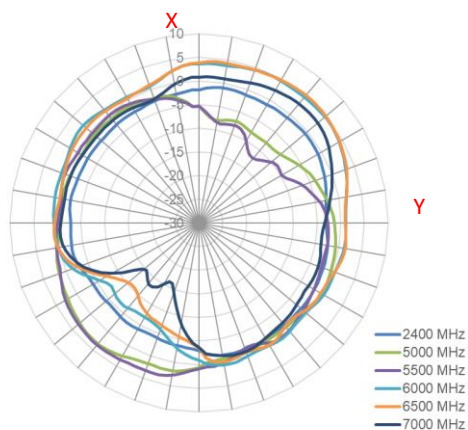


YZ Plane

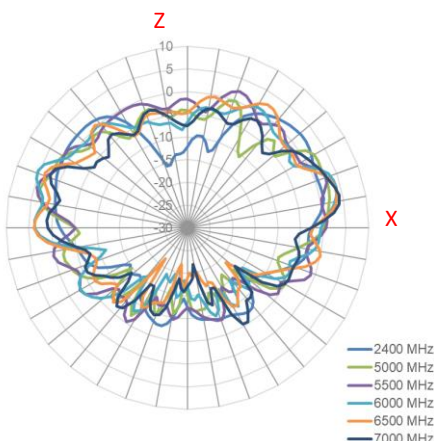


4.6 Bent 90° 30*30cm Center Ground Plane - 2D Radiation Patterns

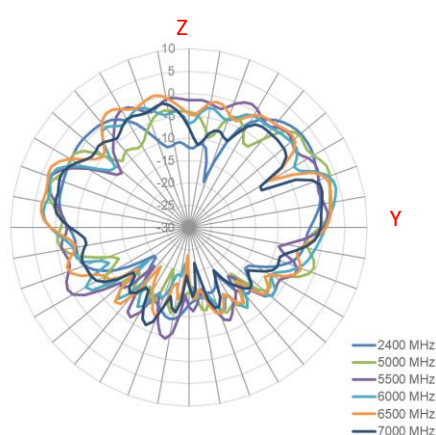
XY Plane



XZ Plane

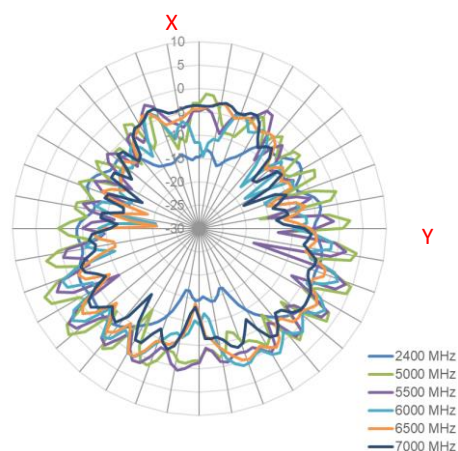


YZ Plane

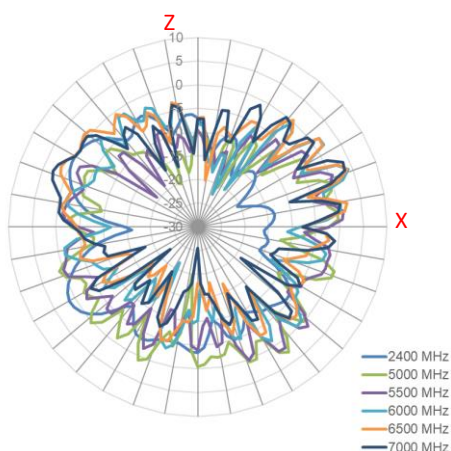


4.7 Straight 30*30cm Edge Ground Plane - 2D Radiation Patterns

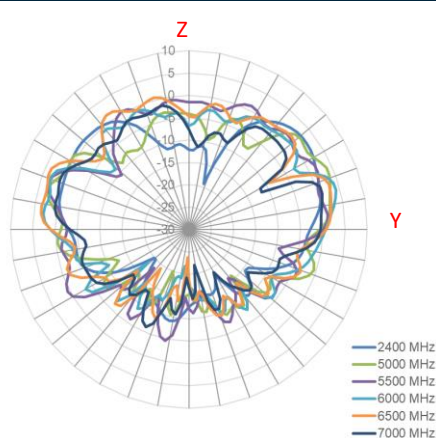
XY Plane



XZ Plane

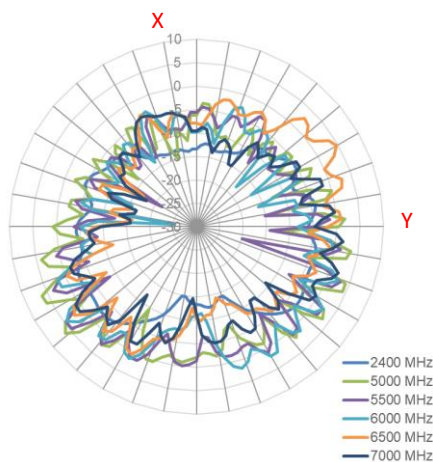


YZ Plane

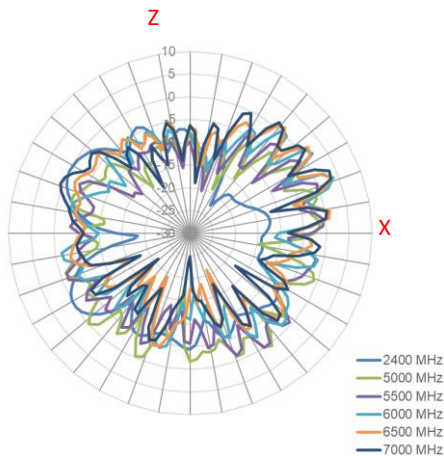


4.8 Bent 90° 30*30cm Edge Ground Plane - 2D Radiation Patterns

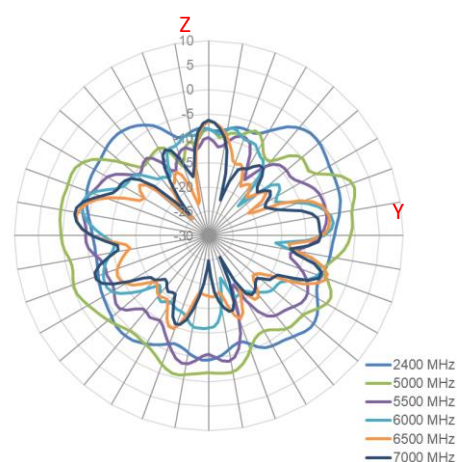
XY Plane



XZ Plane

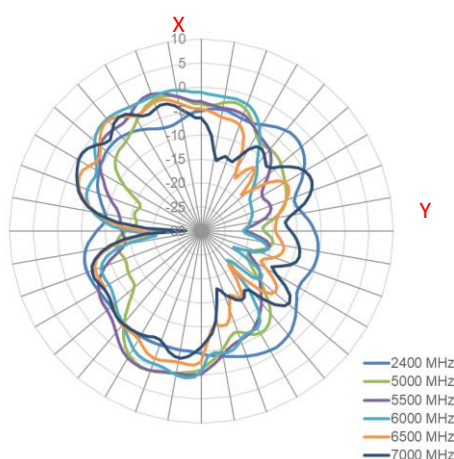


YZ Plane

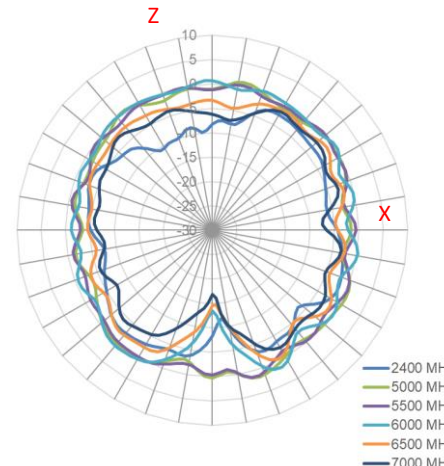


4.9 Straight 15*9cm Ground Plane - 2D Radiation Patterns

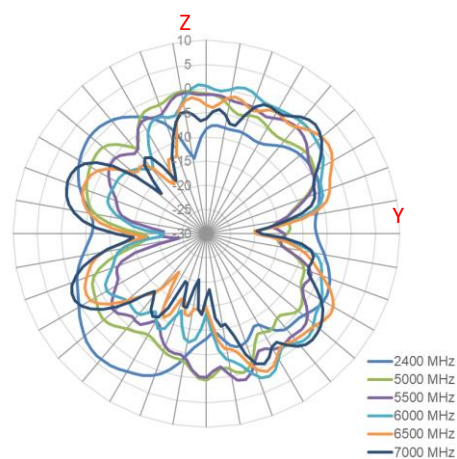
XY Plane



XZ Plane

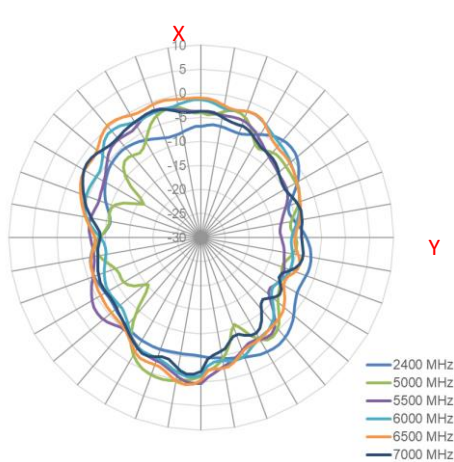


YZ Plane

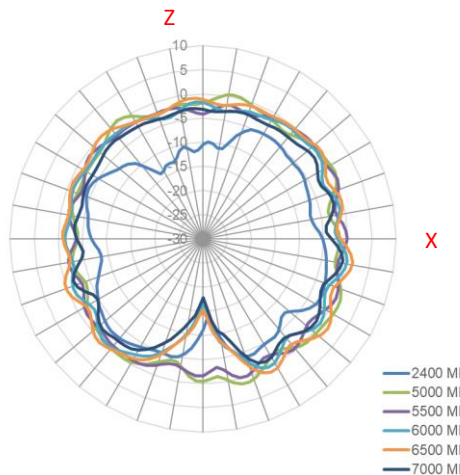


4.10 Bent 90° 15*9cm Ground Plane - 2D Radiation Patterns

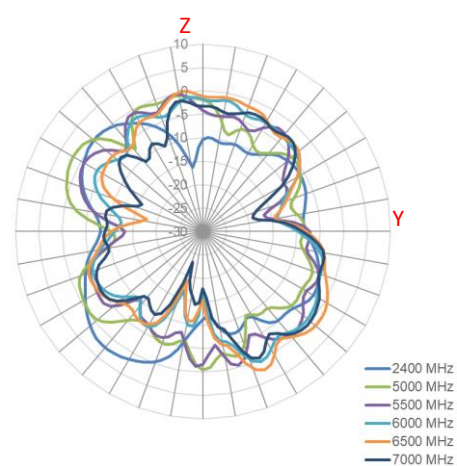
XY Plane



XZ Plane



YZ Plane



Changelog for the datasheet

SPE-14-8-105 – GW.05.0153

Revision: E (Current Version)

Date:	2020-06-16
Changes:	Updated to include Wi-Fi 6
Changes Made by:	Jack Conroy

Previous Revisions

Revision: D

Date:	2020-05-13
Changes:	Template and formatting updated
Changes Made by:	Jack Conroy

Revision: C

Date:	2015-08-24
Changes:	Amended Introduction
Changes Made by:	Aine Doyle

Revision: B

Date:	2015-02-05
Changes:	Added Gain note
Changes Made by:	Aine Doyle

Revision: A (Original First Release)

Date:	2014-09-26
Notes:	
Author:	Technical Writer



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