



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

1.	Introduction	3
2.	Specifications	5
3.	Antenna Characteristics	8
4.	Radiation Patterns	12
5.	Mechanical Drawing	22
6.	Installation	23
7.	Packaging	24
	Changelog	25

Taoglas makes no warranties based on the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Taoglas reserves all rights to this document and the information contained herein. Reproduction, use or disclosure to third parties without express permission is strictly prohibited.



2. Specifications

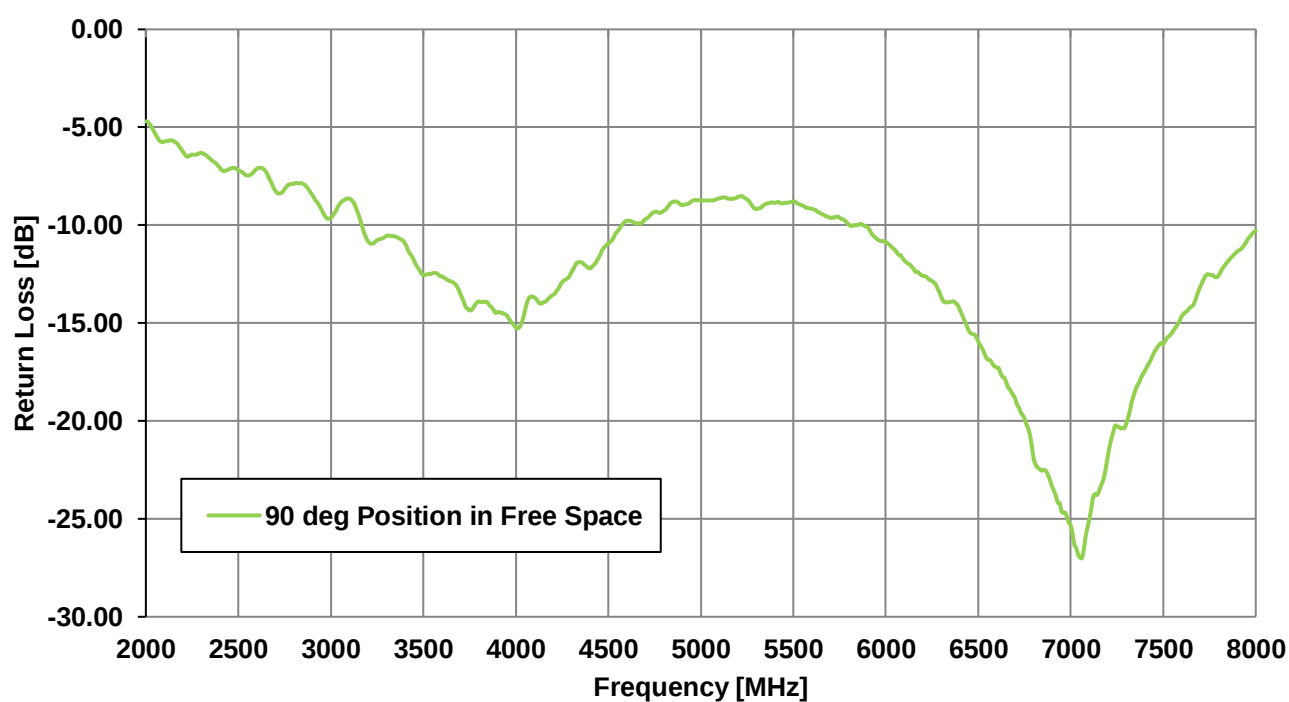
Free Space Electrical									
Band	Frequency (MHz)	Setup	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Max Power Input	Polarization	Radiation Pattern
2.4GHz Wi-Fi	2400~2500	Straight	76.7	-1.2	2.8	50Ω	10W	Linear	Omnidirectional
		90° Bent	75.9	-1.2	2.7				
5.8GHz Wi-Fi	5150~5850	Straight	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				

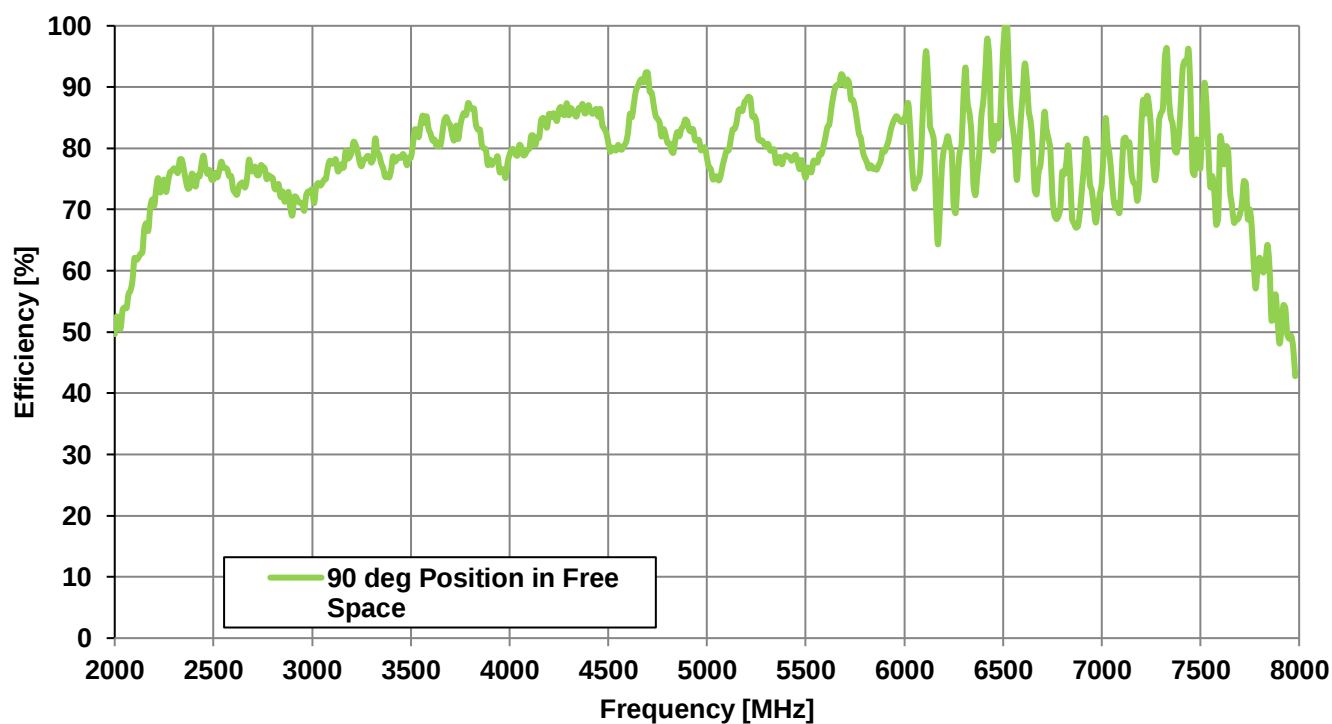
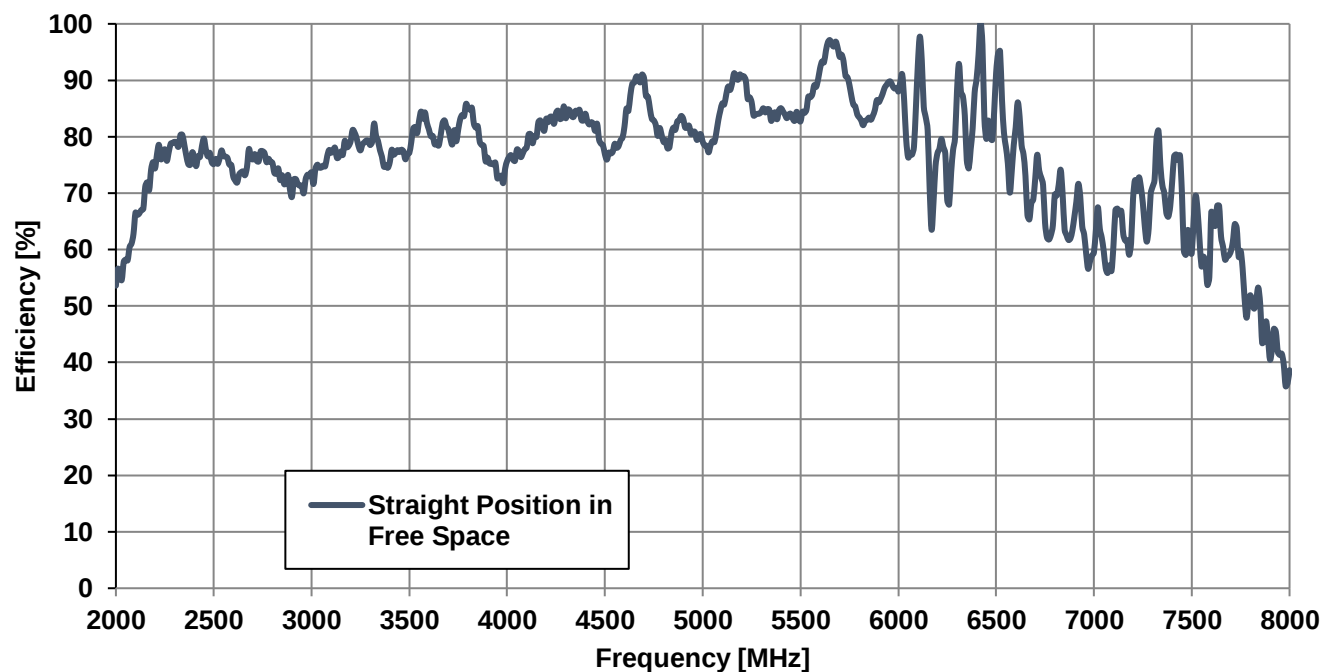
Mechanical	
Antenna length	62.3mm
Antenna Diameter	10mm
Casing	POM
Connector	RP-SMA(M)
Weight	6g
Recommended Torque for Mounting	0.9N·m
Max Torque for Mounting	1.176N·m
Environmental	
Operation Temperature	-40°C ~ + 85°C
Storage Temperature	-40°C ~ + 85°C
Humidity	Non-condensing 65°C 95% RH

3. Antenna Characteristics

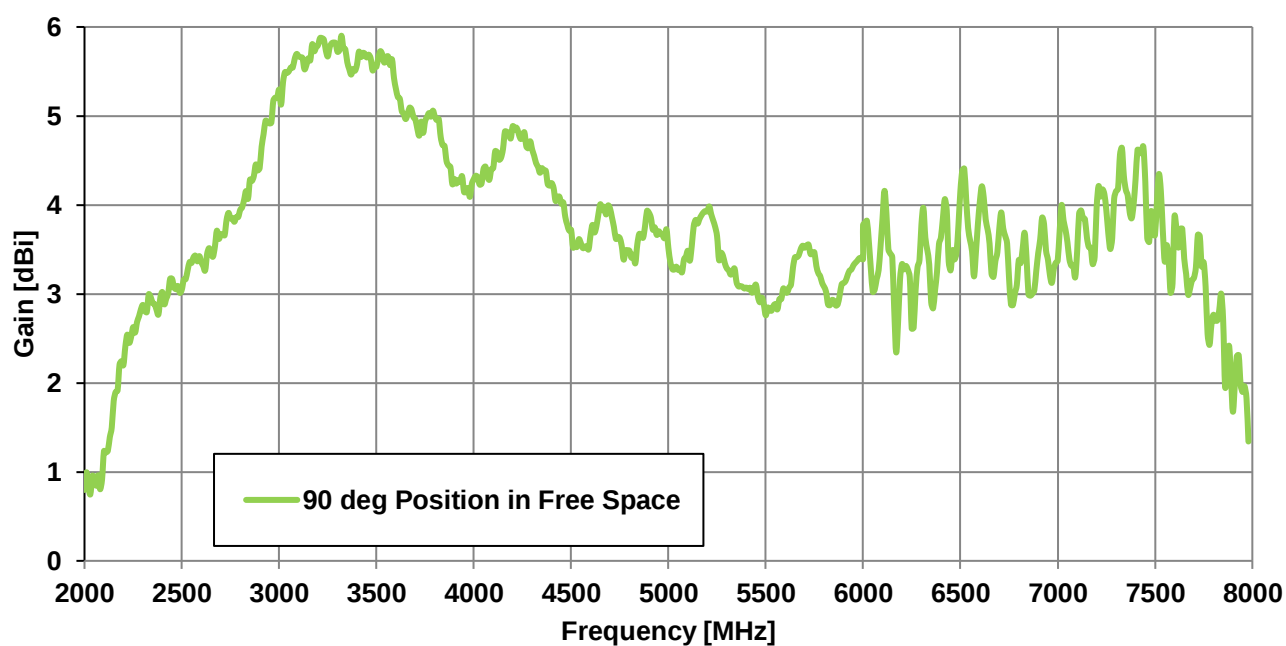
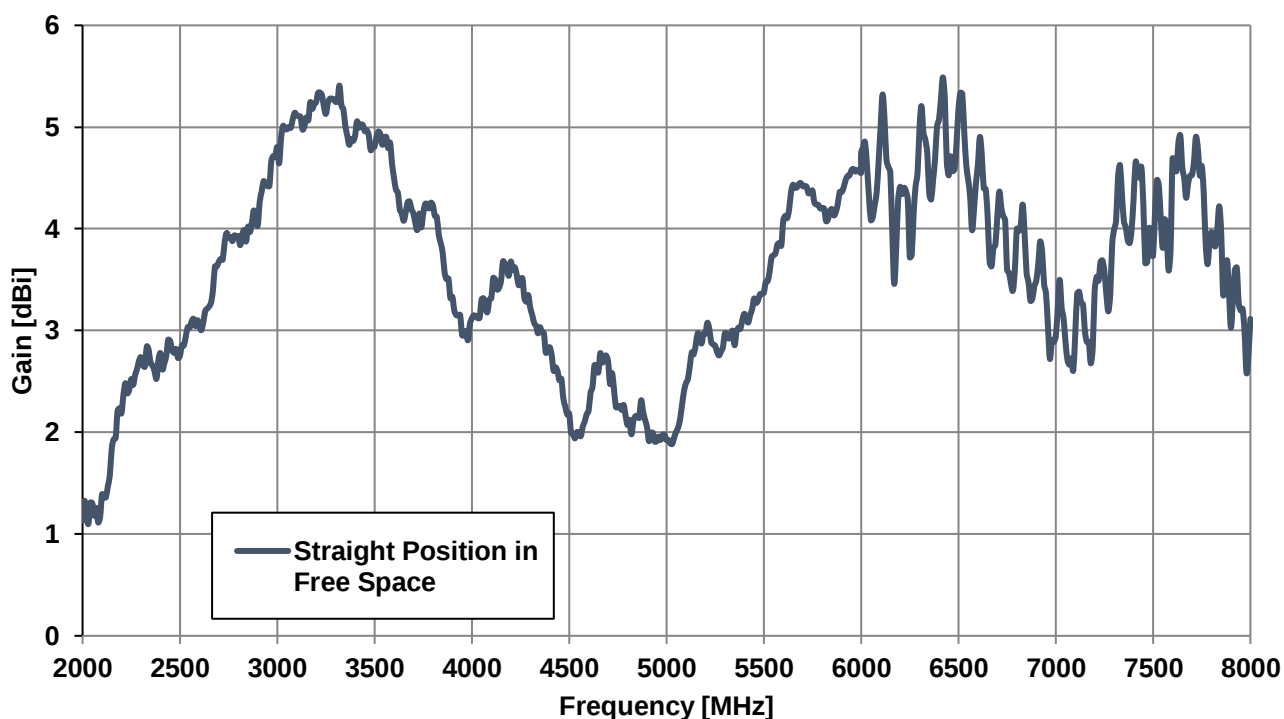
3.1 Return Loss – Free Space



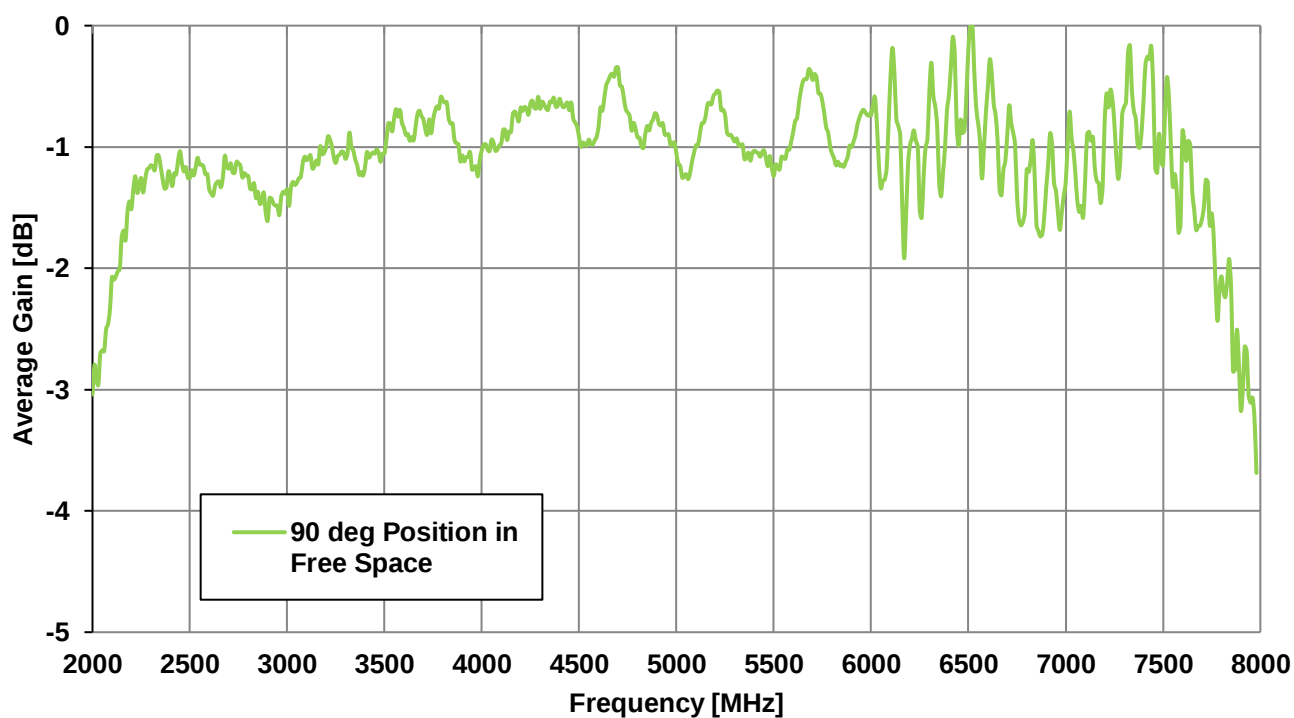
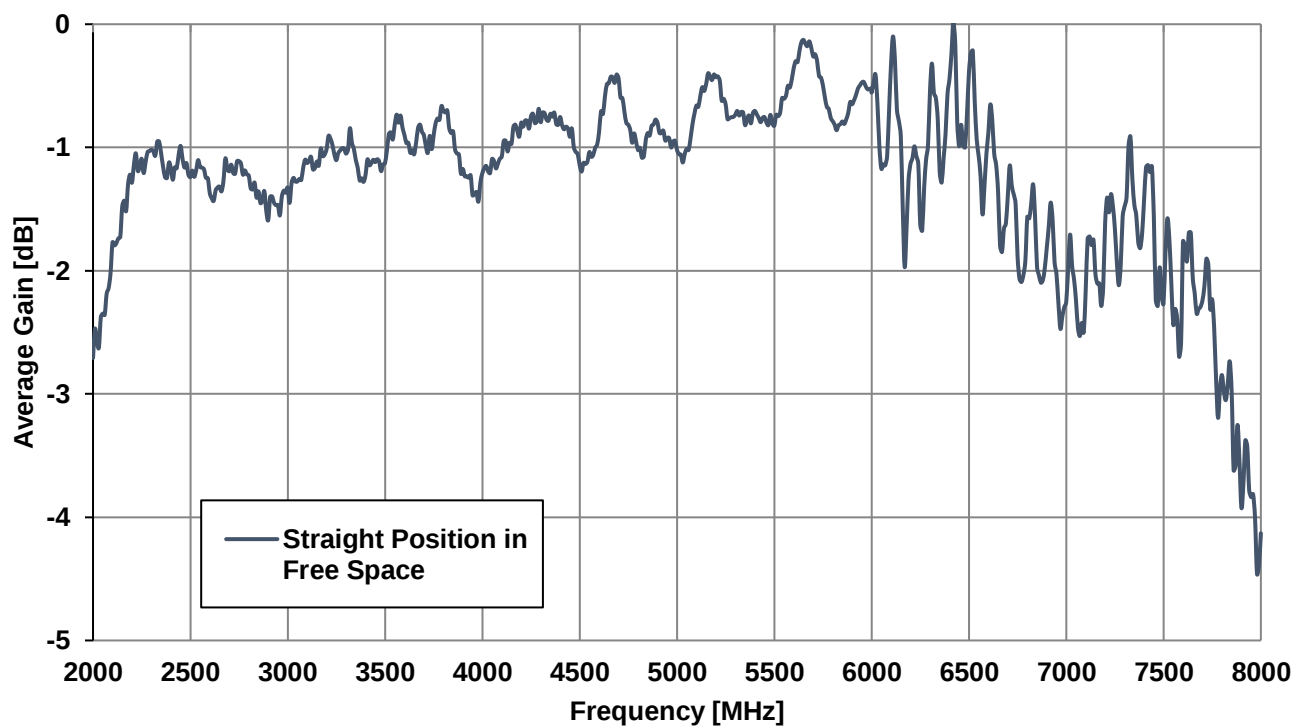
3.2 Efficiency – Free Space



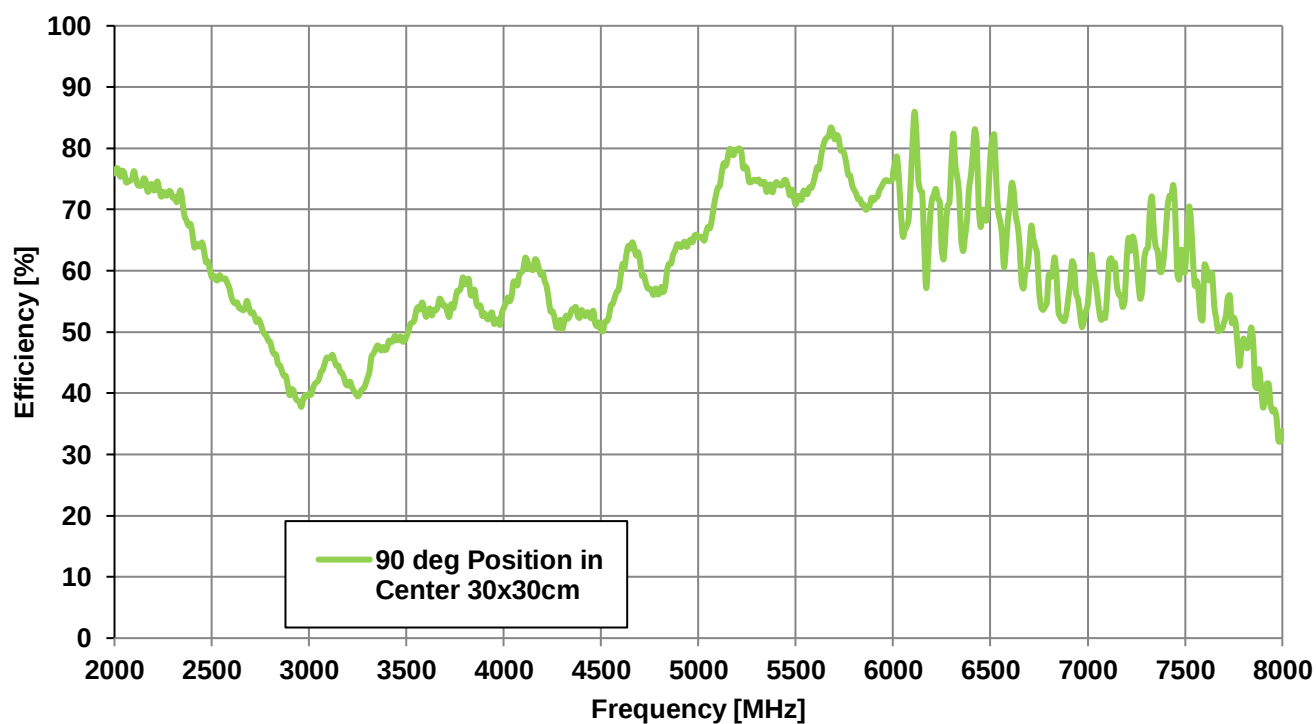
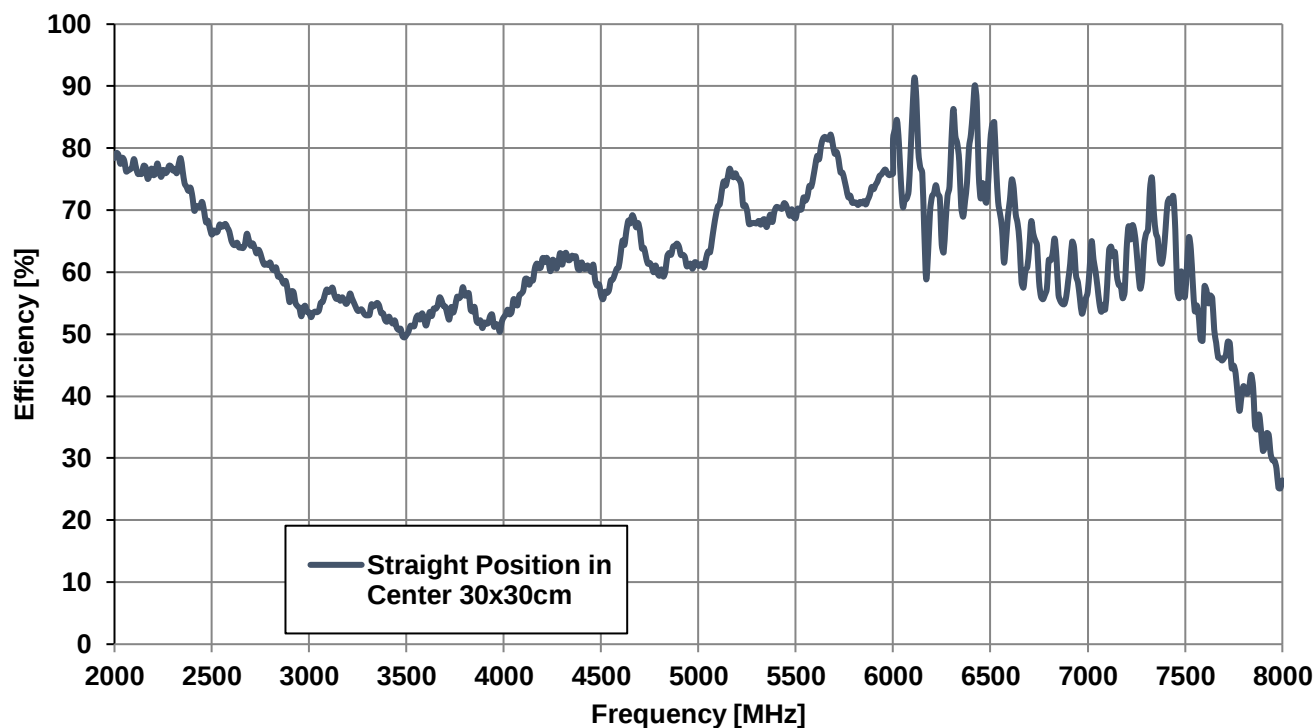
3.3 Peak Gain – Free Space



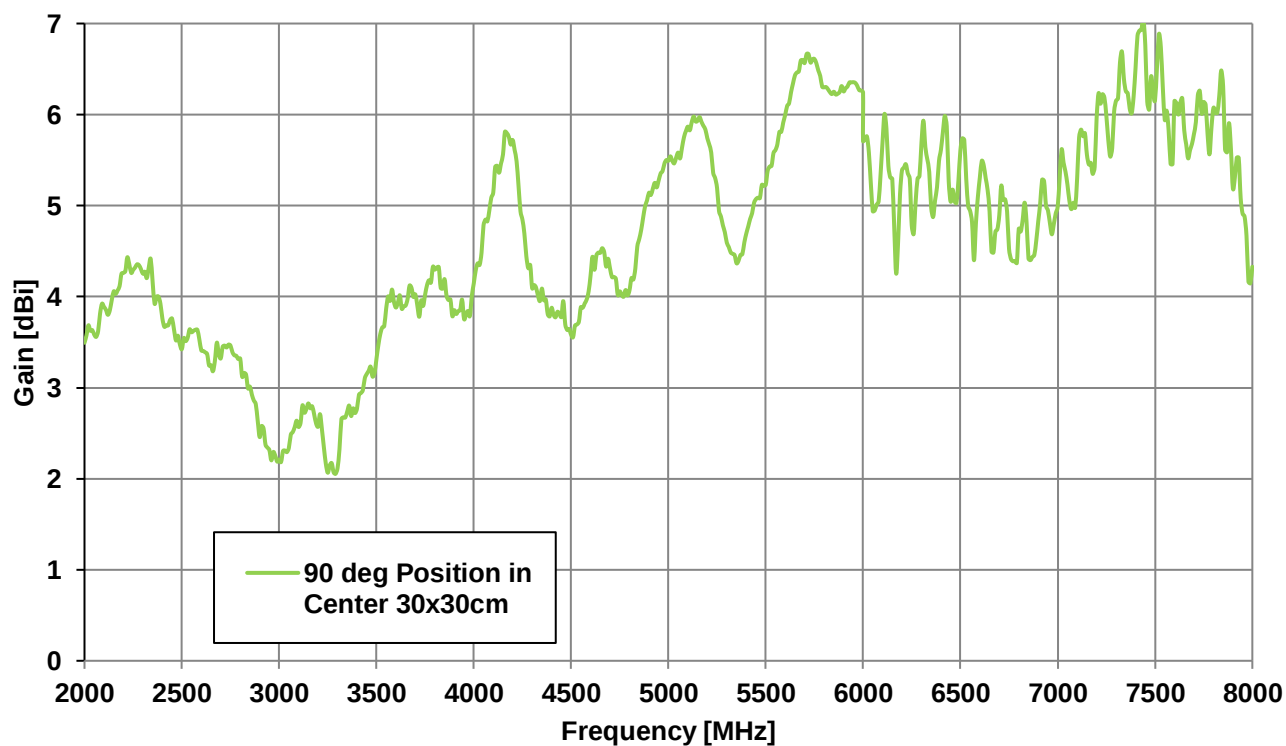
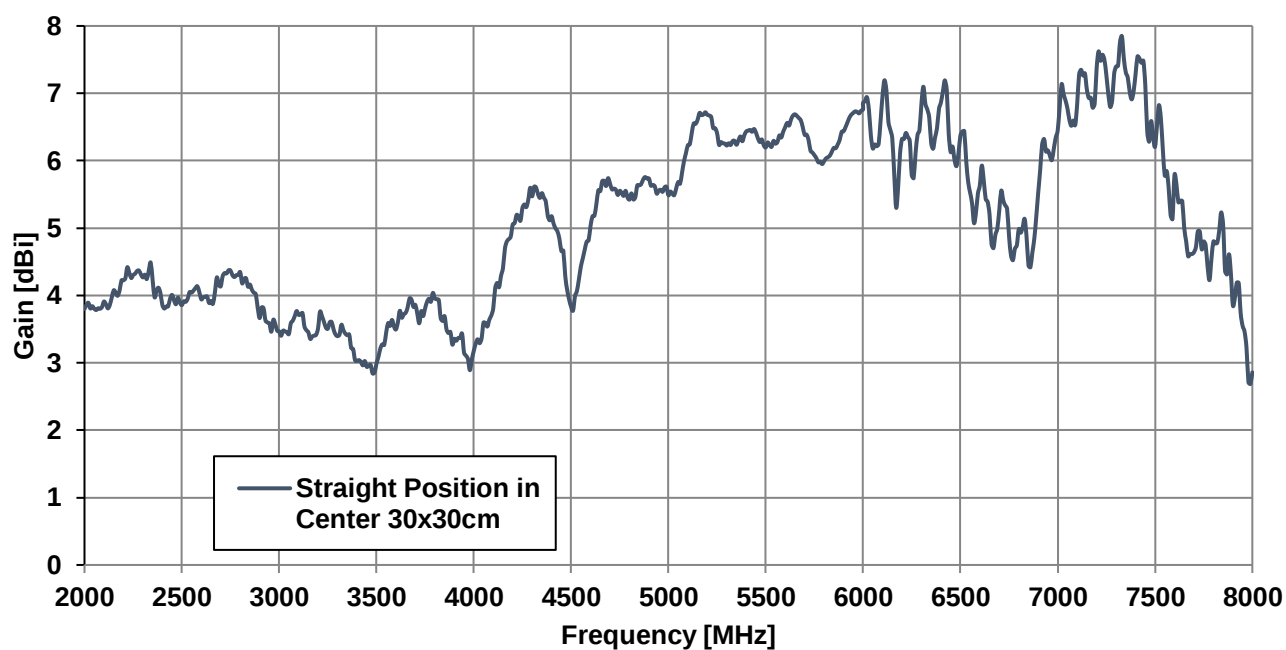
3.4 Average Gain – Free Space



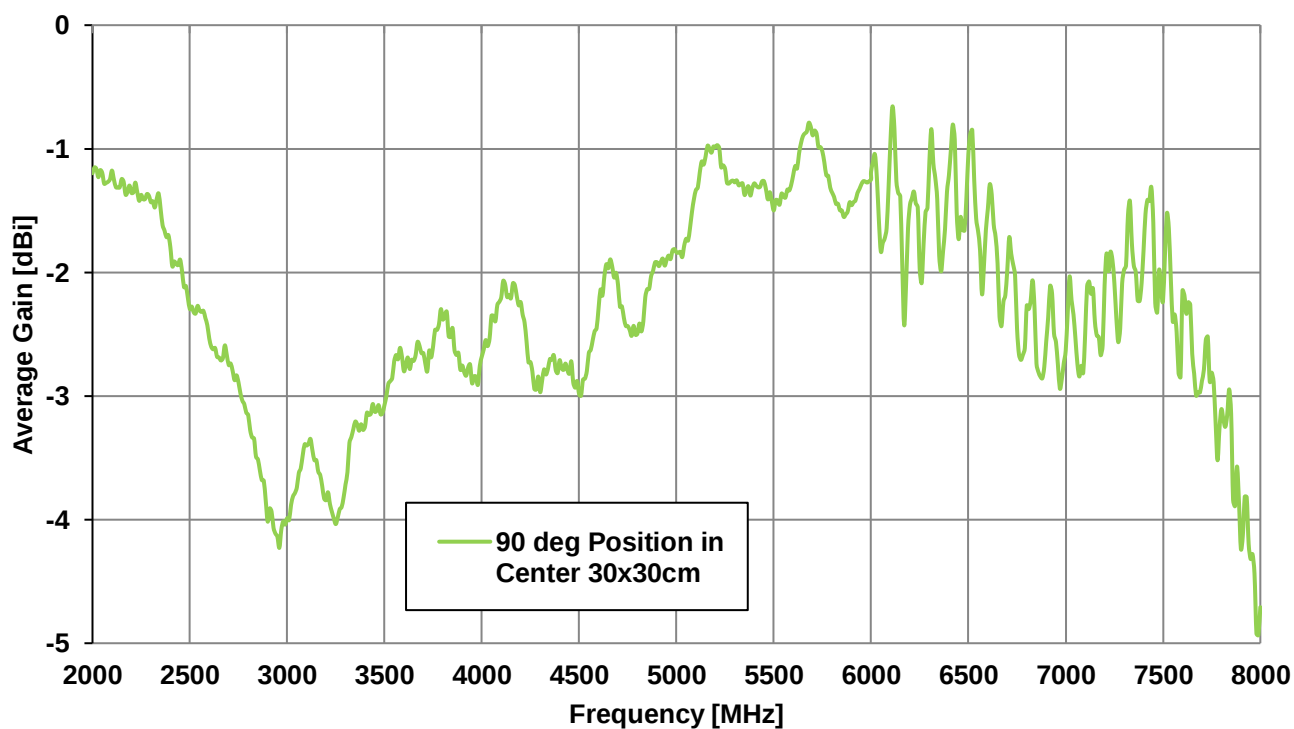
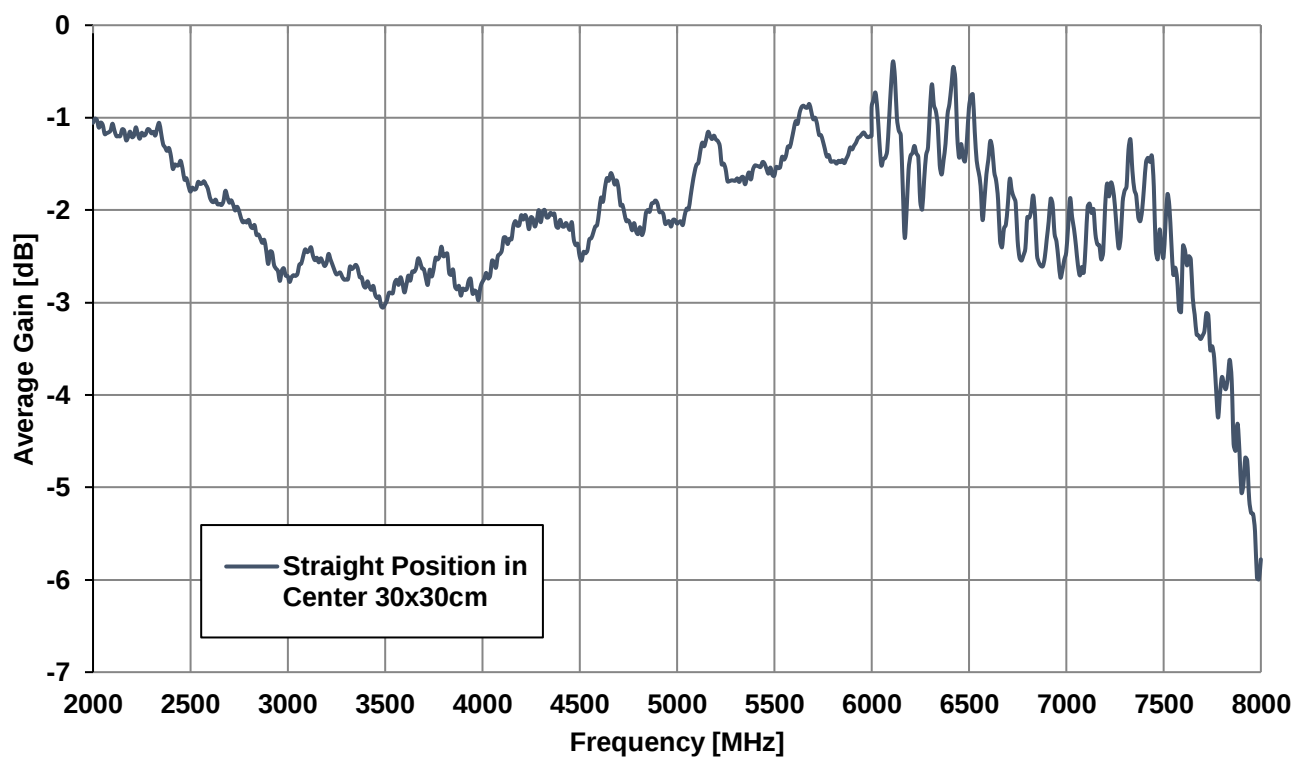
3.5 Efficiency – 30*30cm Ground Plane



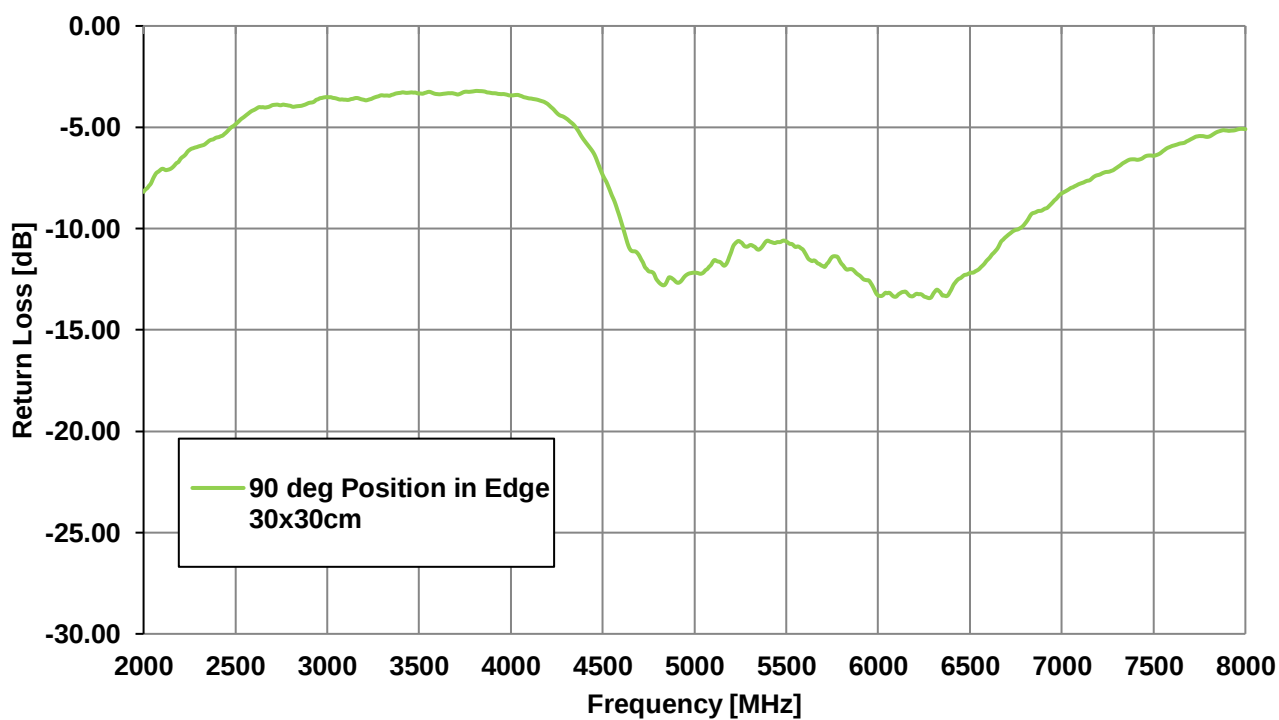
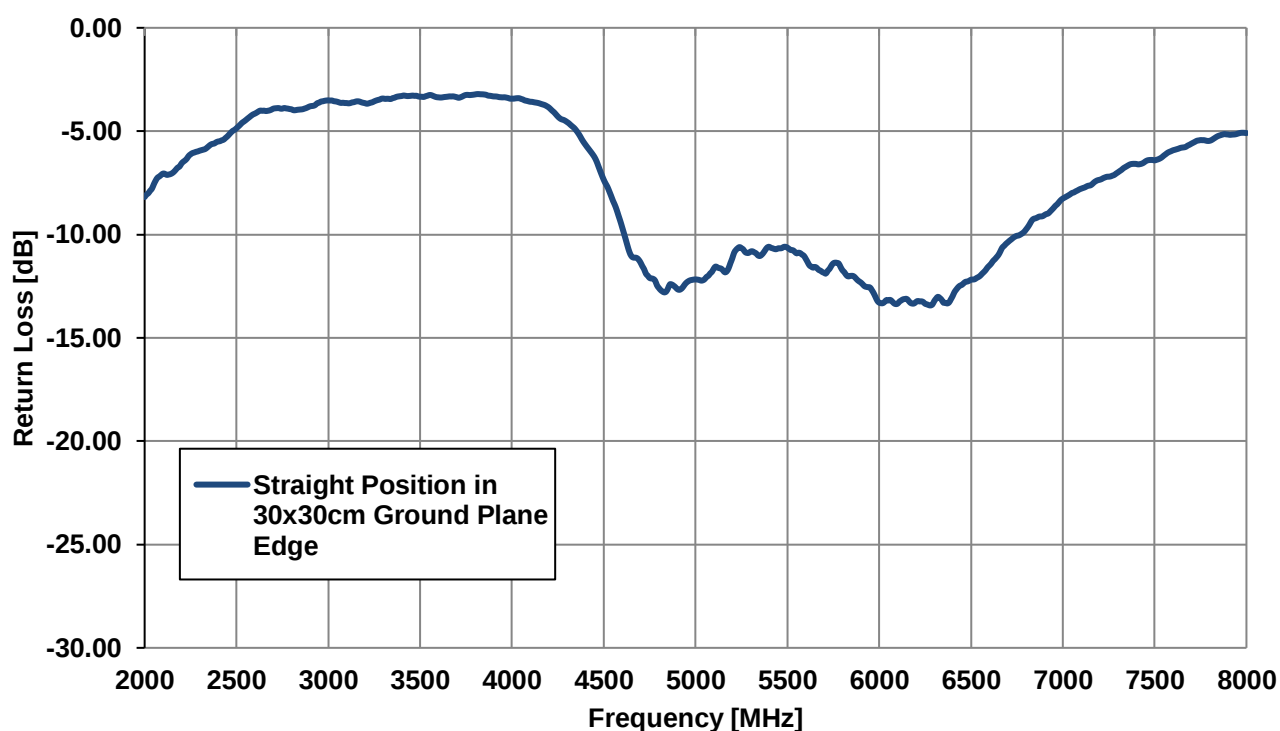
3.6 Peak Gain – 30*30cm Ground Plane



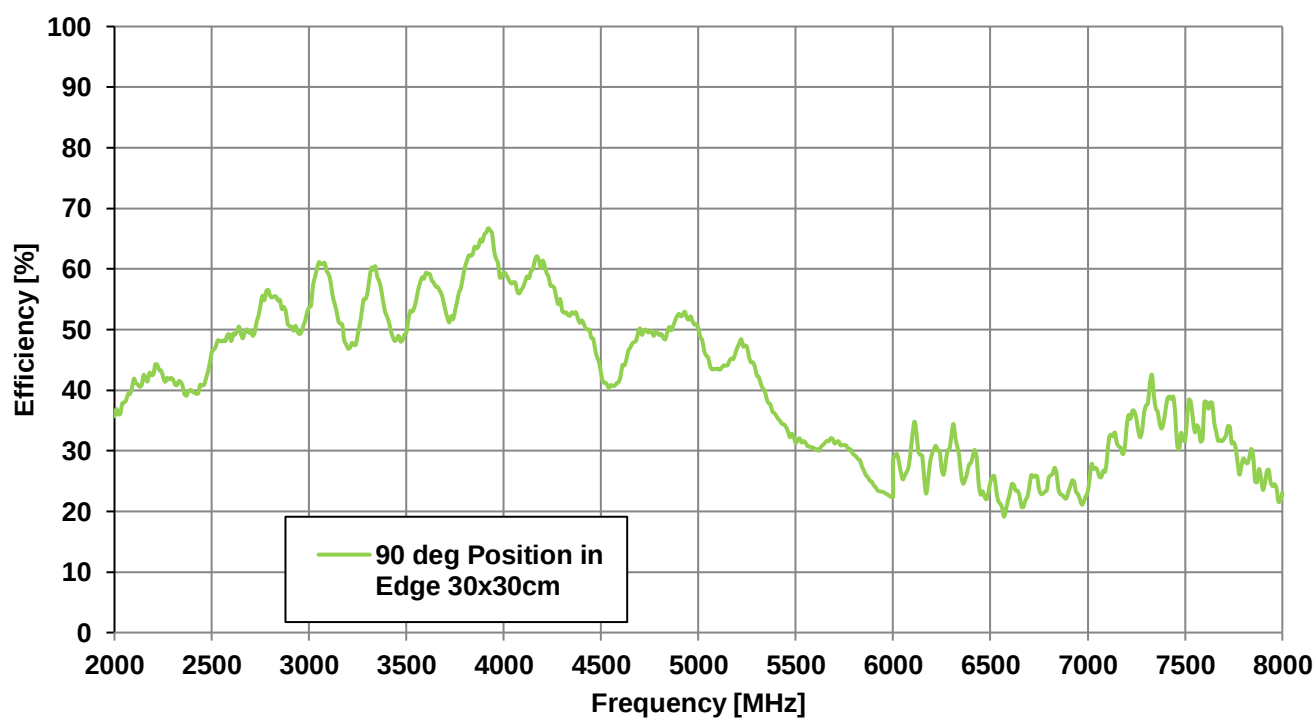
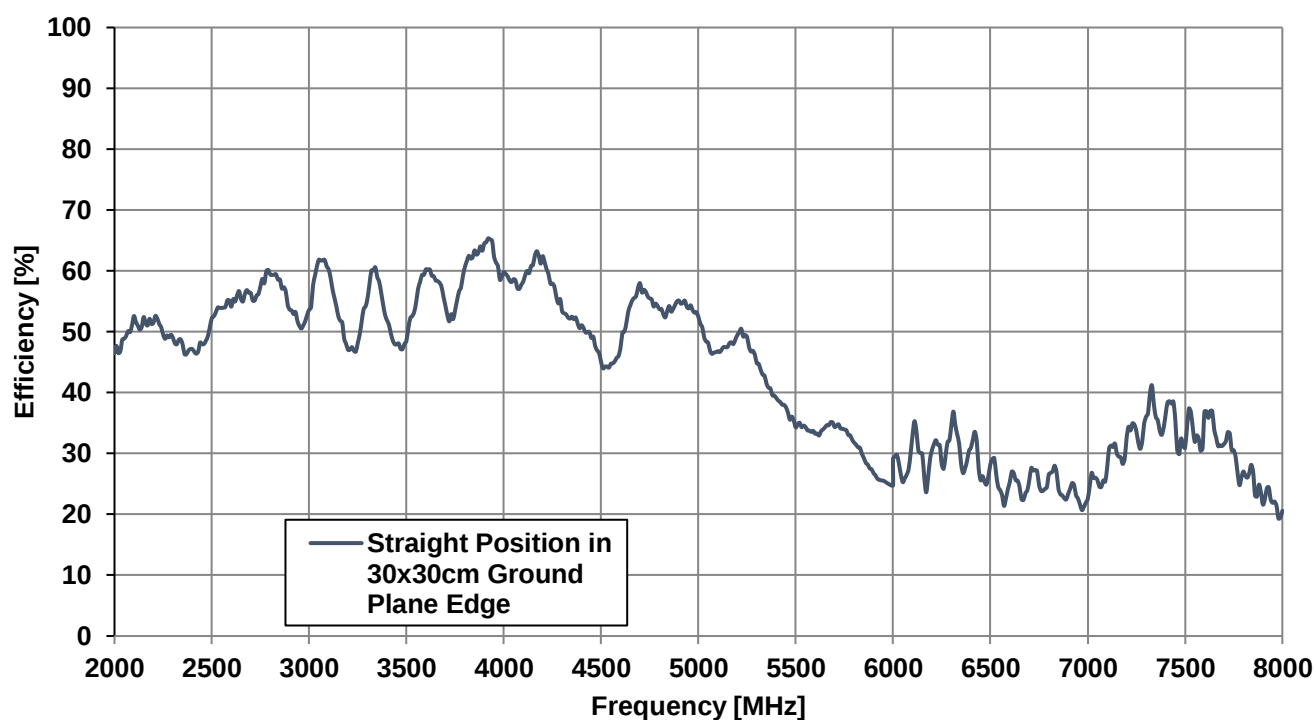
3.7 Average Gain – 30*30cm Ground Plane



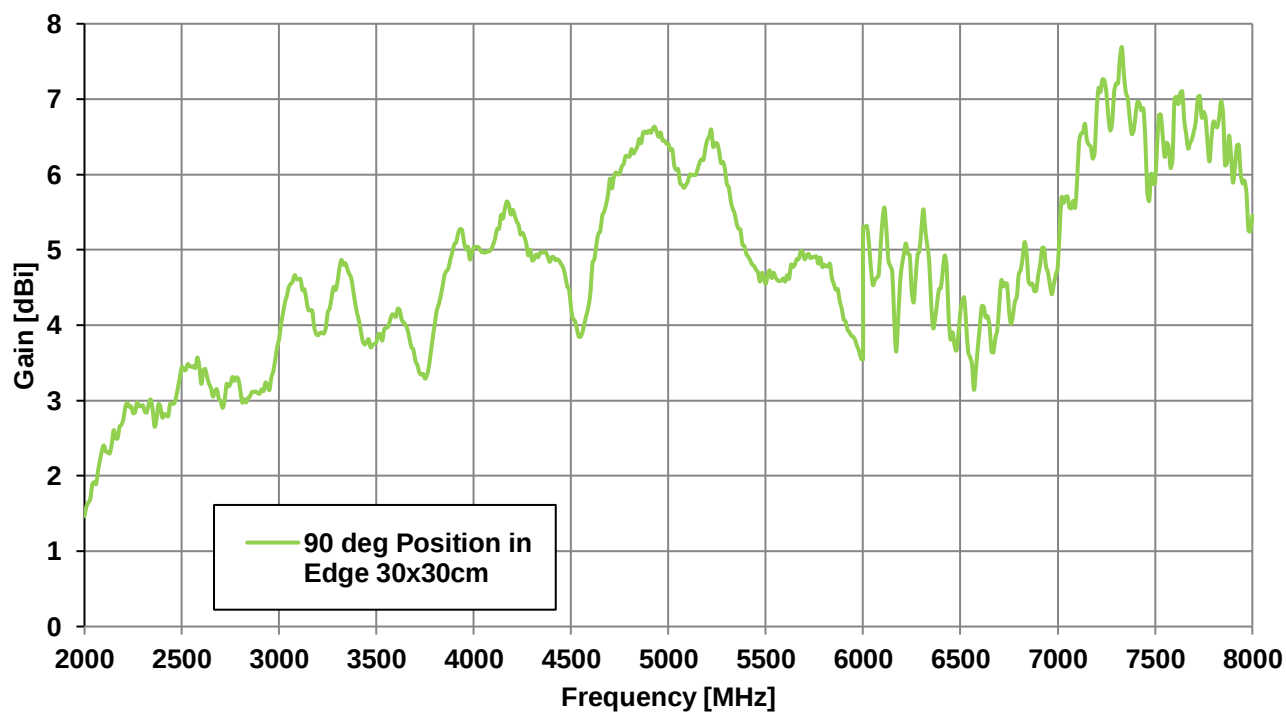
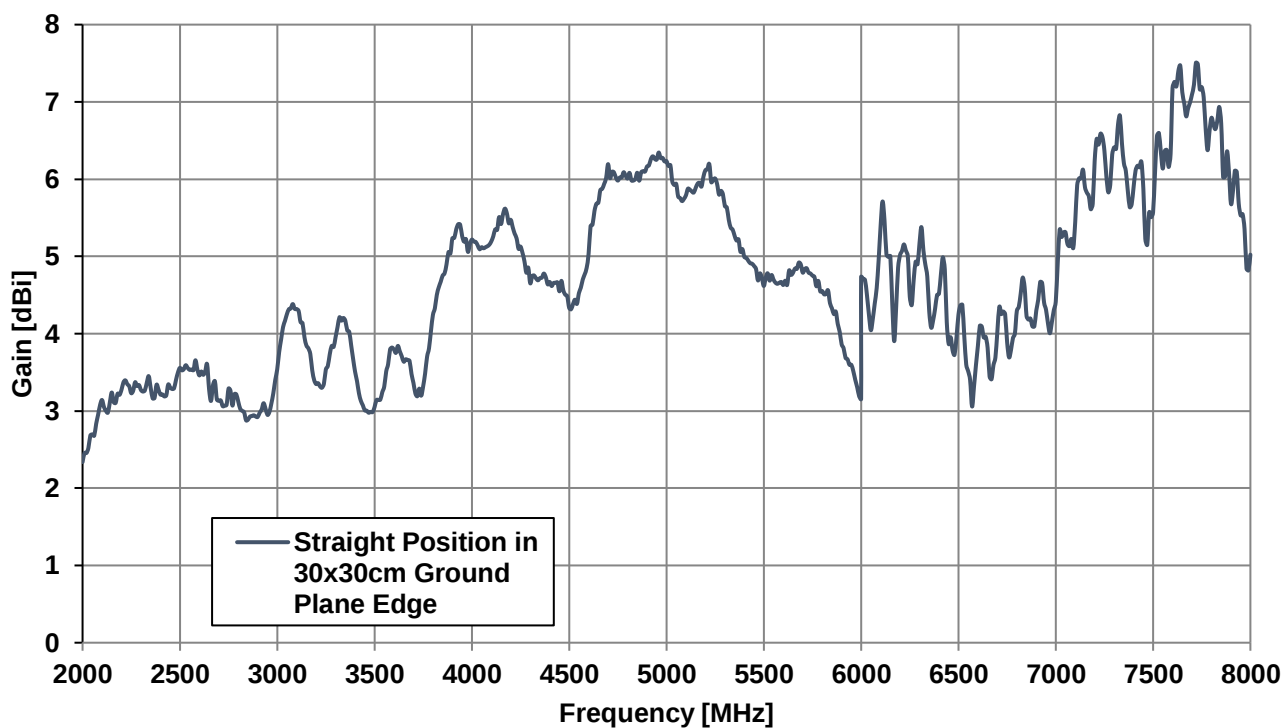
3.8 Return Loss – 30*30cm Ground Plane Edge



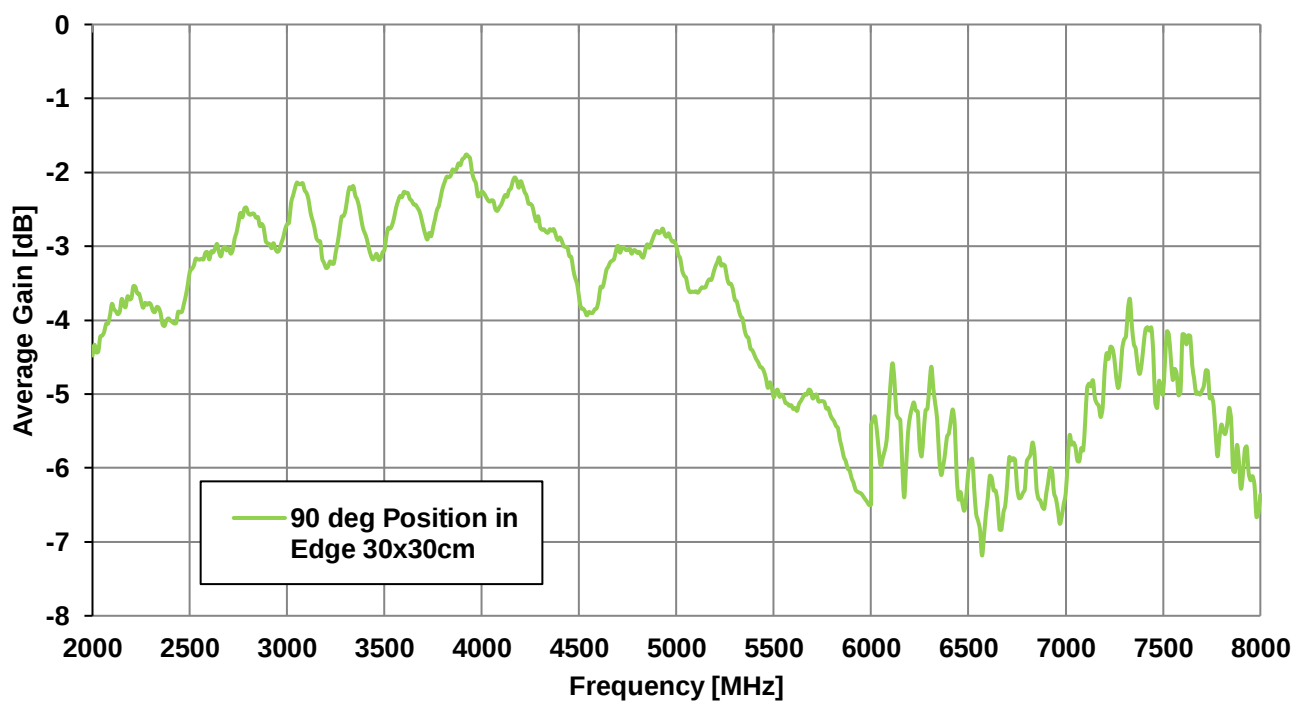
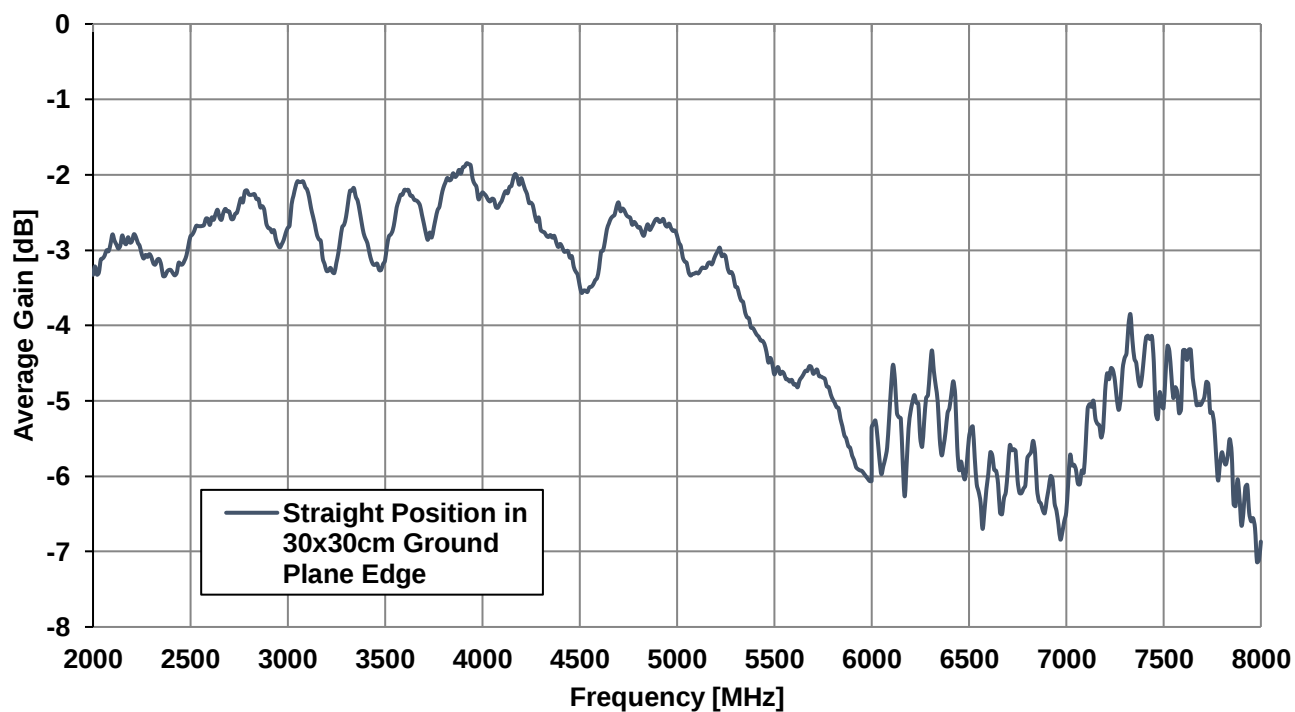
3.9 Efficiency – 30*30cm Ground Plane Edge



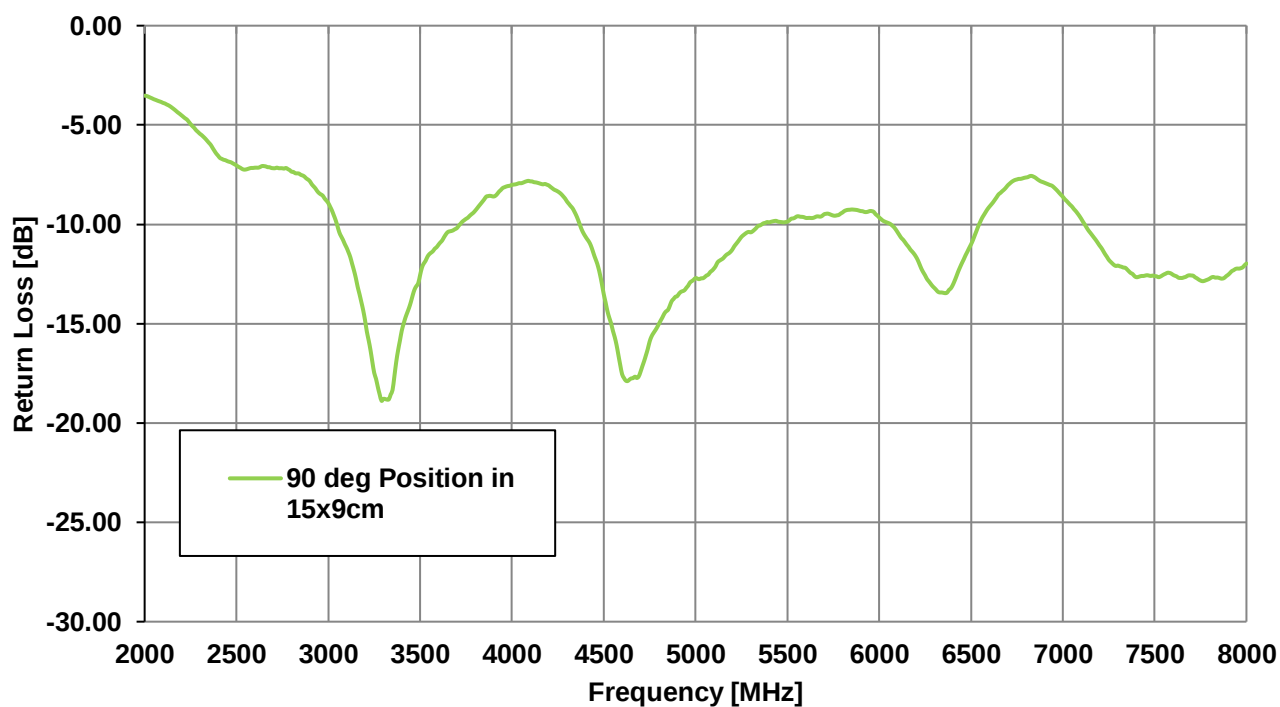
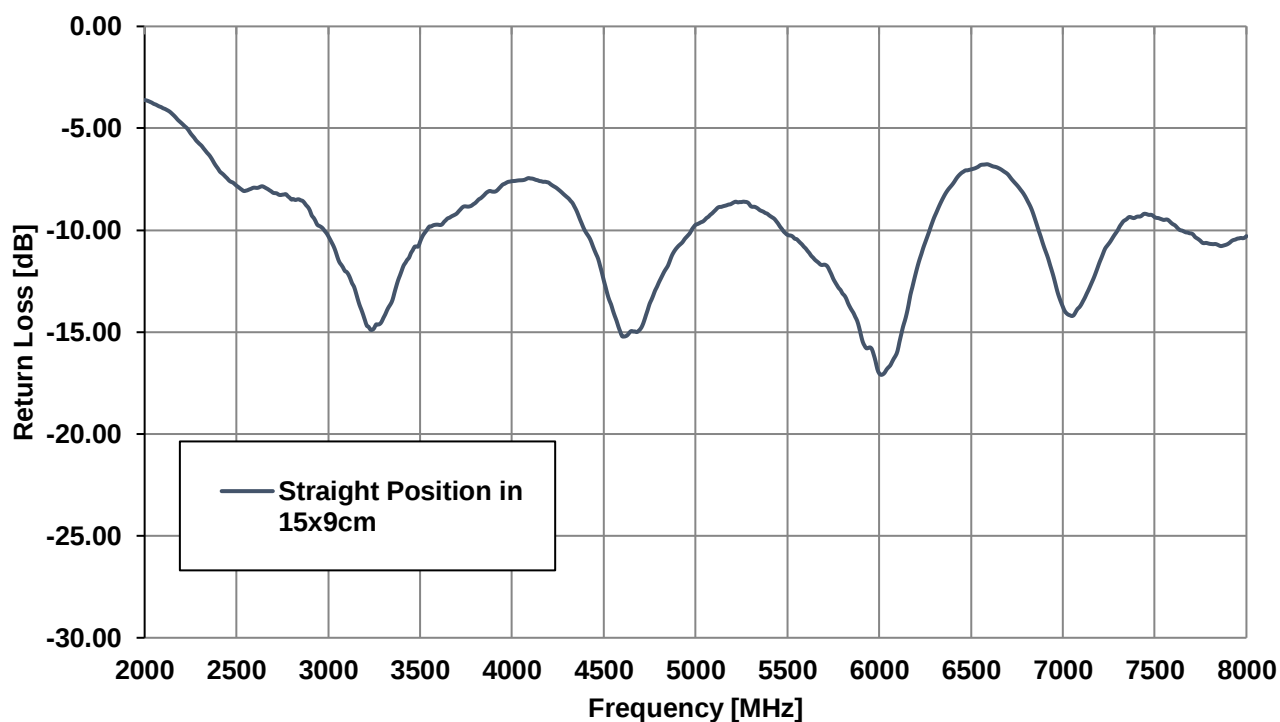
3.10 Peak Gain – 30*30cm Ground Plane Edge



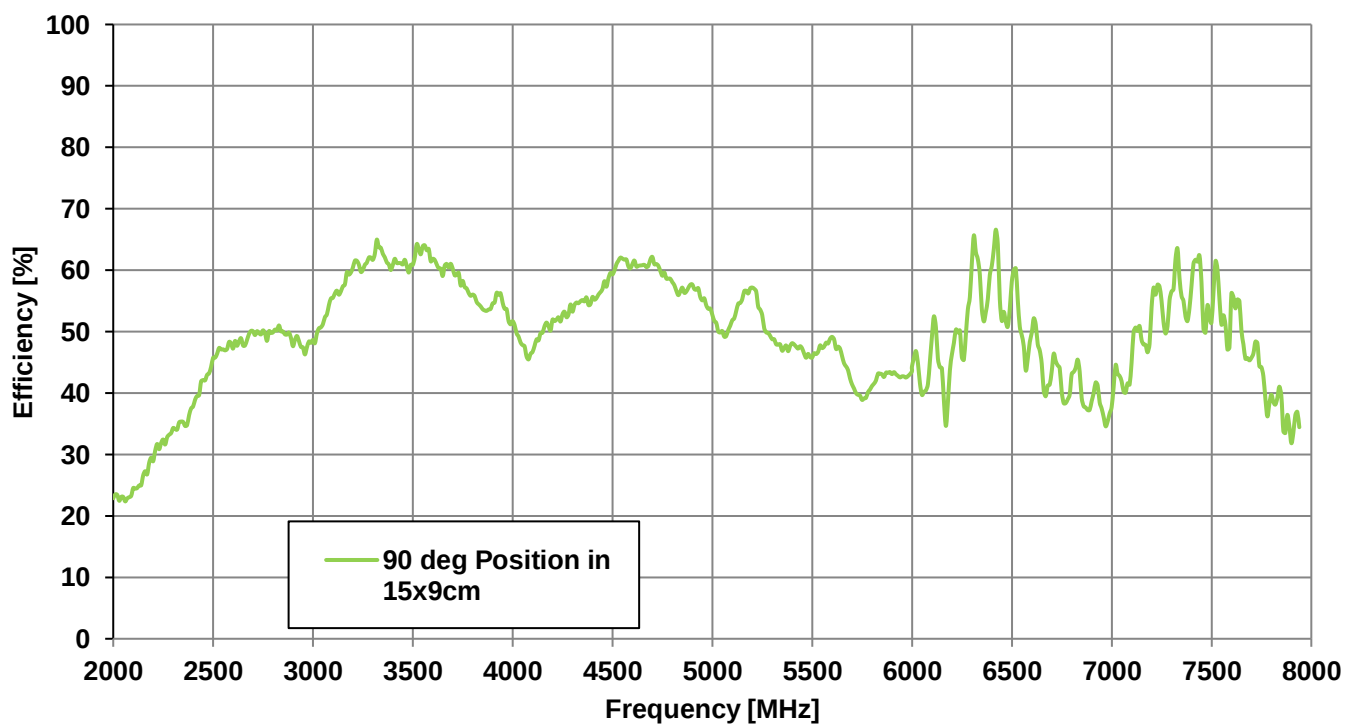
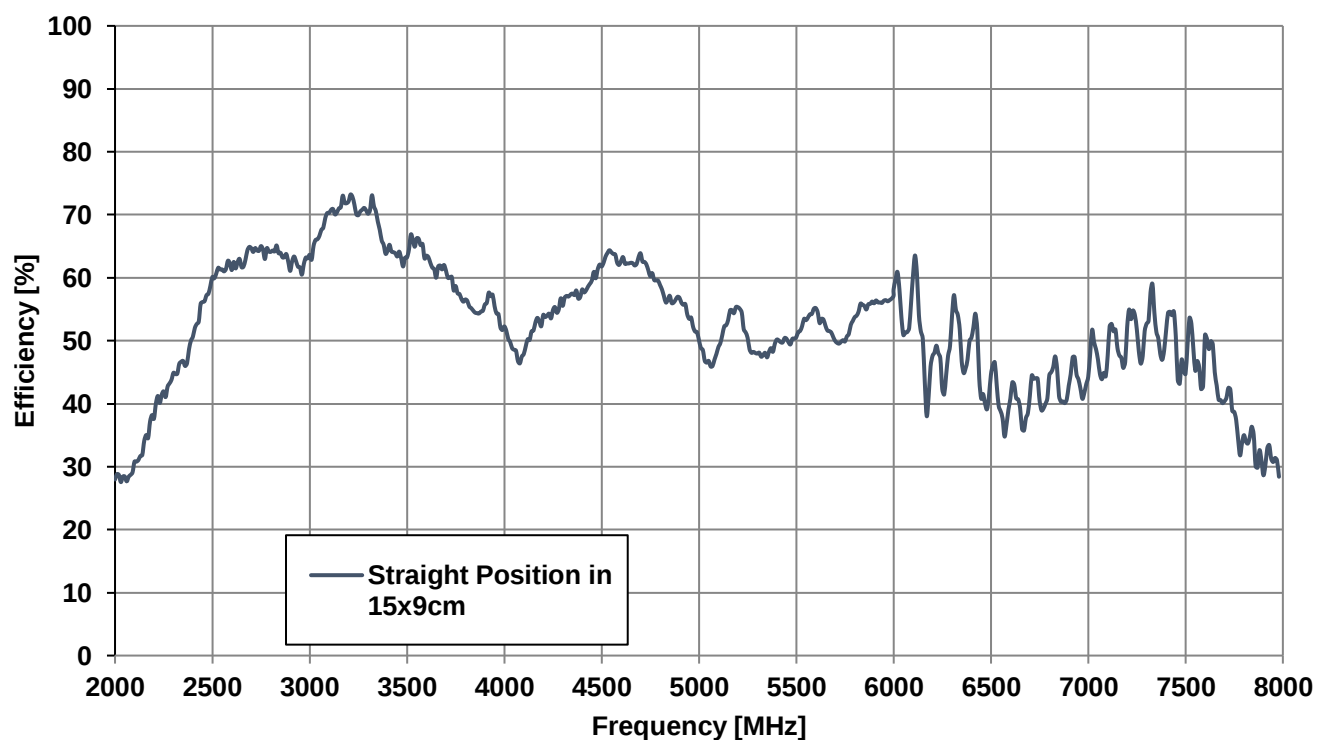
3.11 Average Gain – 30*30cm Ground Plane Edge



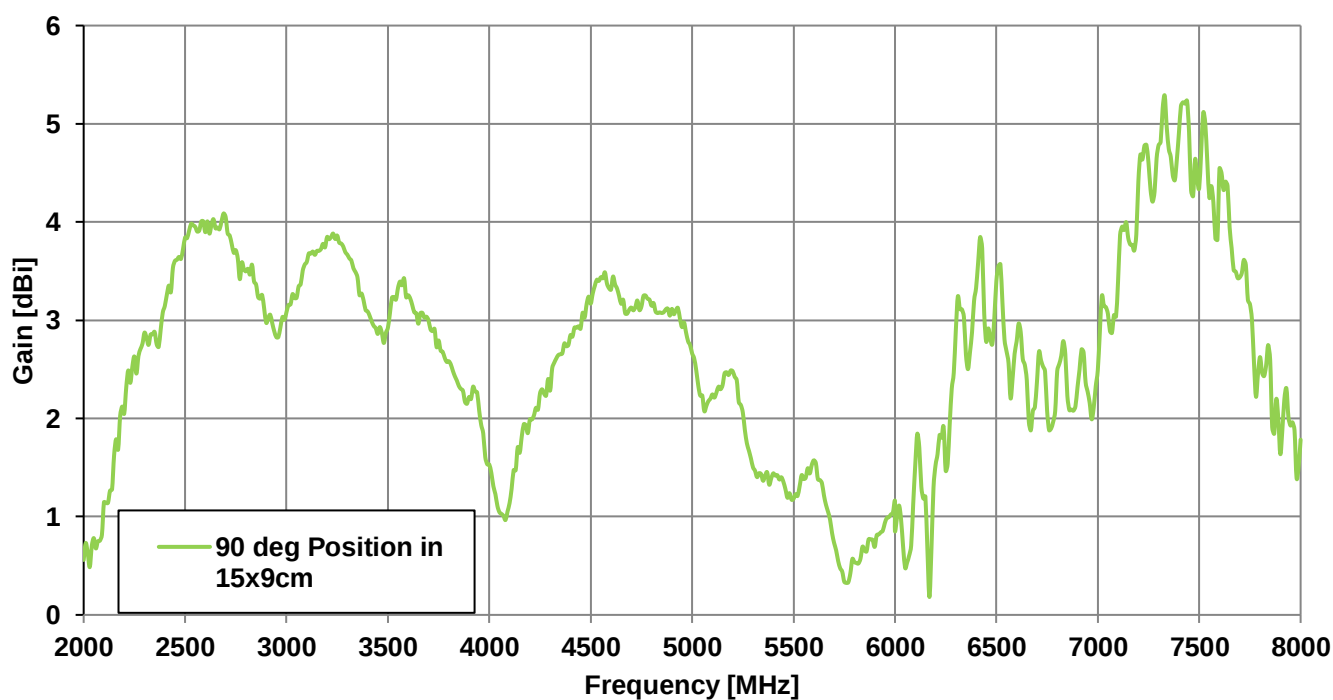
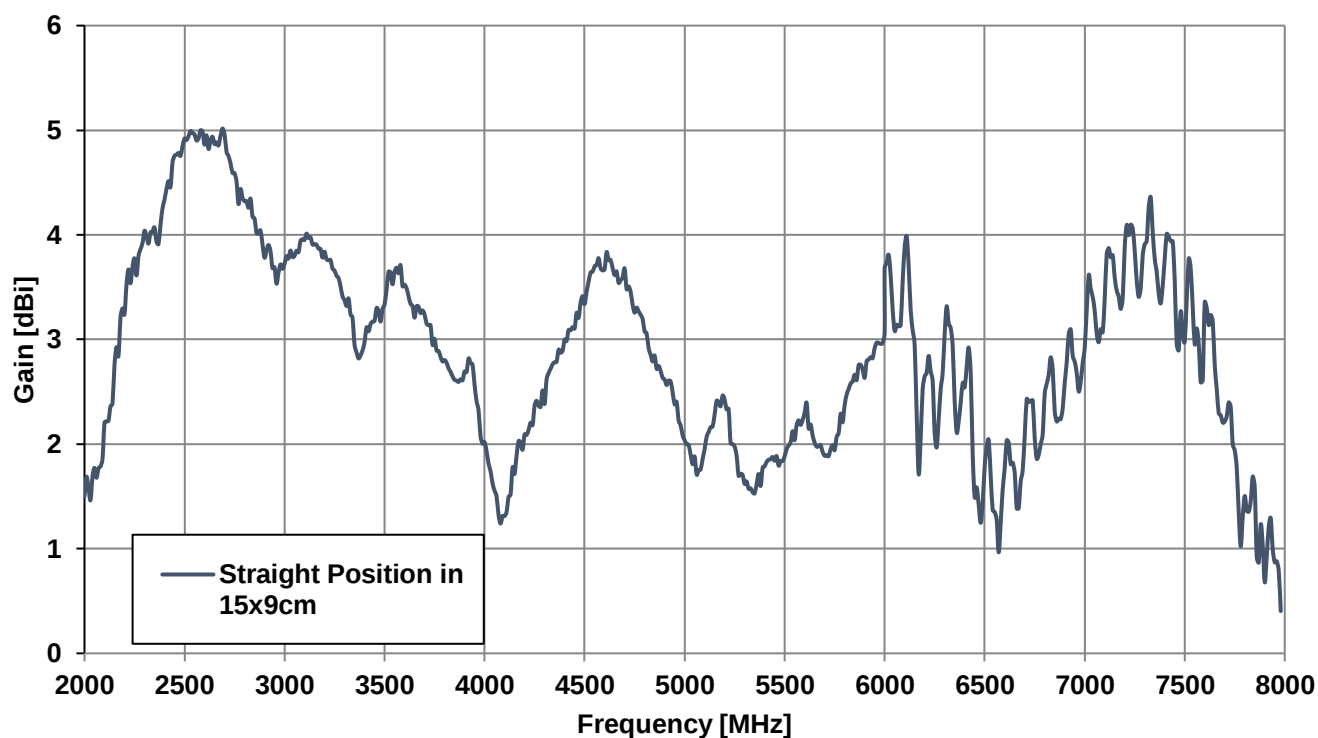
3.12 Return Loss – 15*9cm Ground Plane



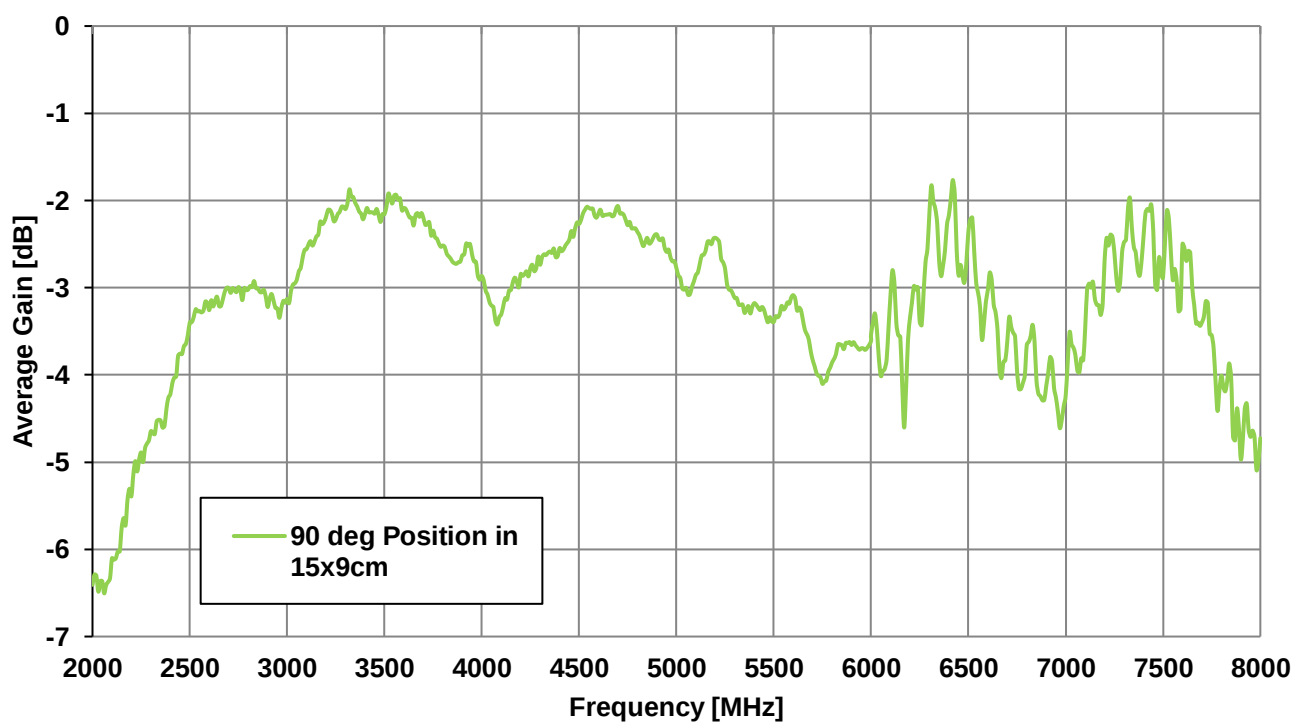
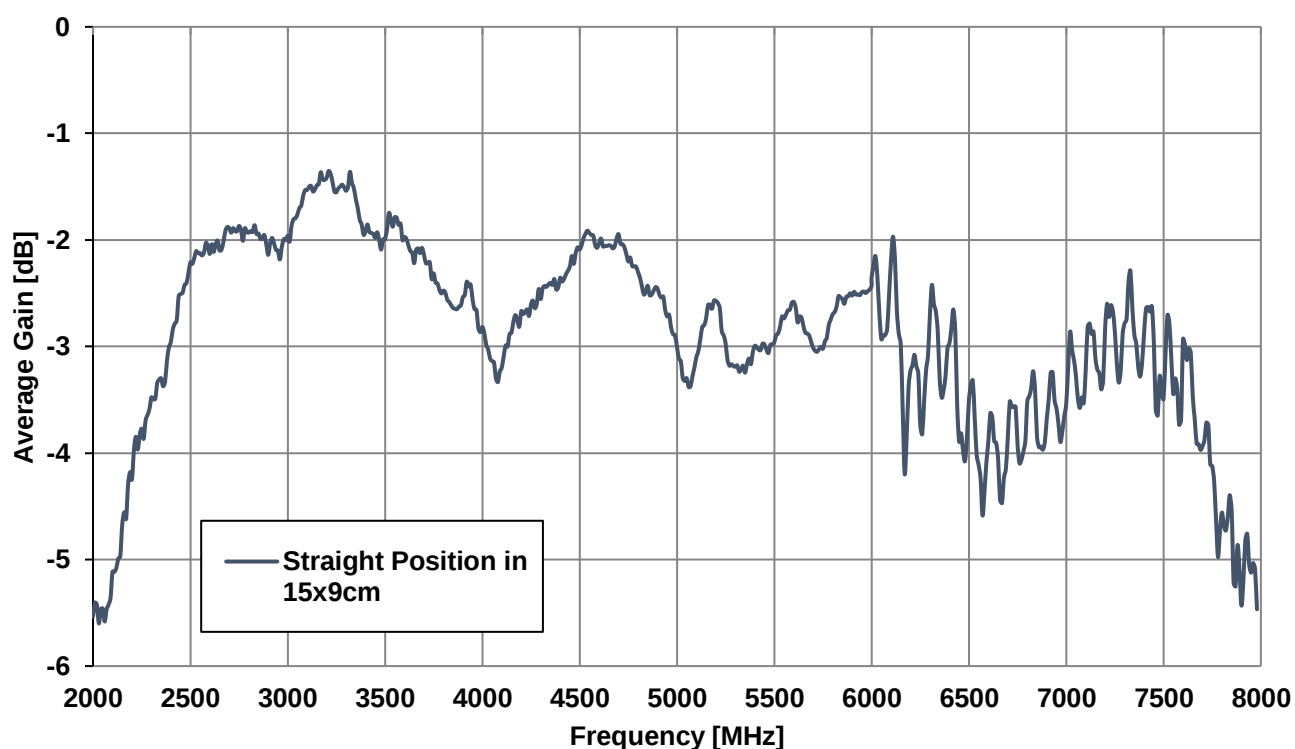
3.13 Efficiency – 15*9cm Ground Plane



3.14 Peak Gain – 15*9cm Ground Plane

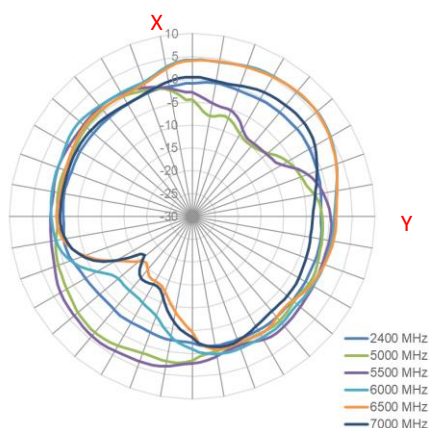


3.15 Average Gain – 15*9cm Ground Plane

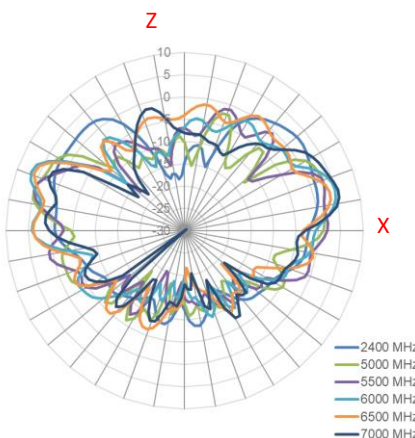


4.5 Straight 30*30cm Center Ground Plane - 2D Radiation Patterns

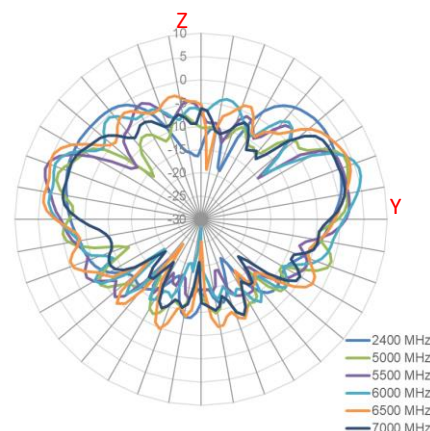
XY Plane



XZ Plane

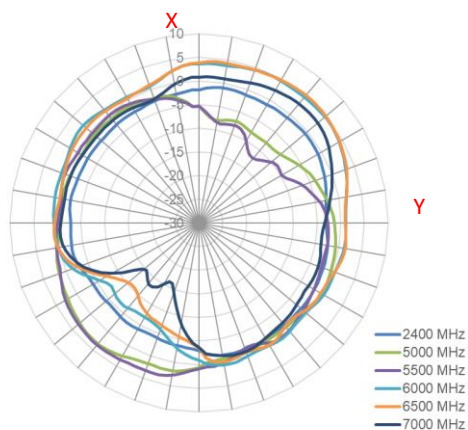


YZ Plane

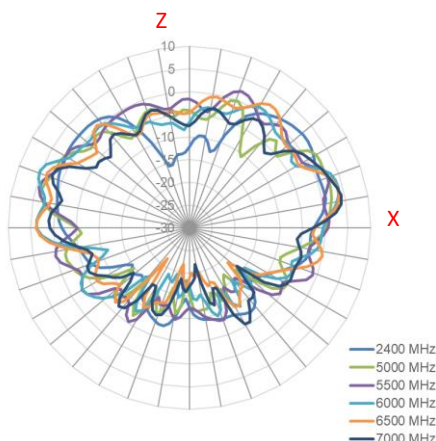


4.6 Bent 90° 30*30cm Center Ground Plane - 2D Radiation Patterns

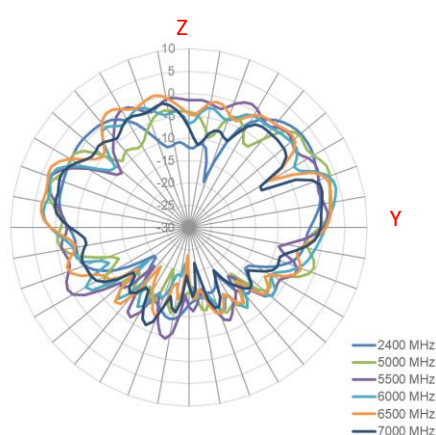
XY Plane



XZ Plane

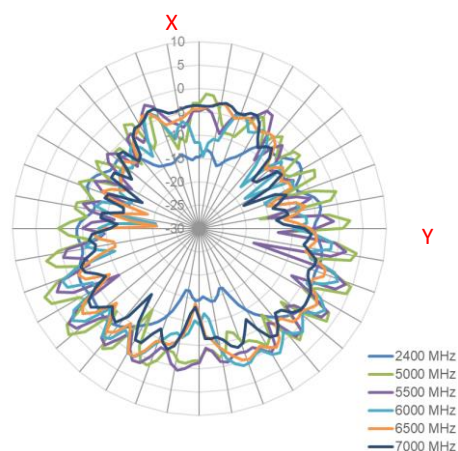


YZ Plane

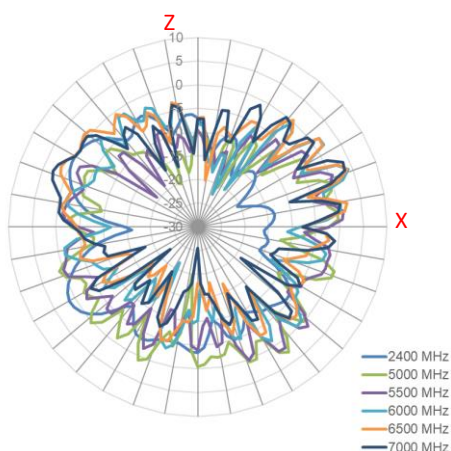


4.7 Straight 30*30cm Edge Ground Plane - 2D Radiation Patterns

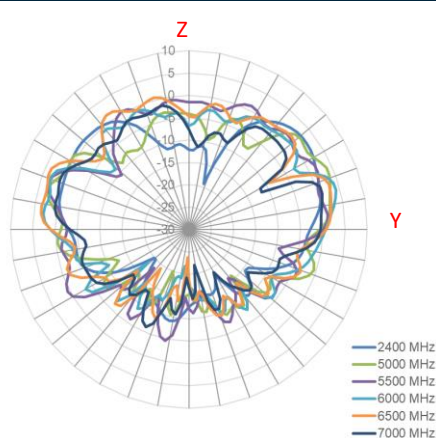
XY Plane



XZ Plane

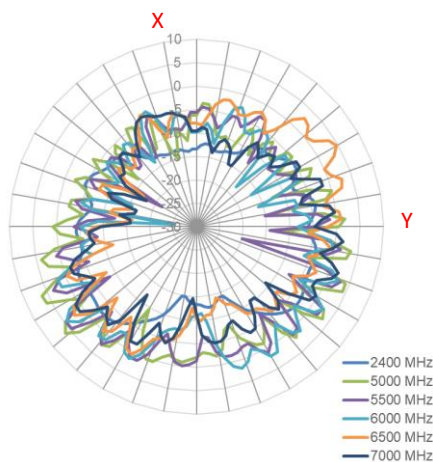


YZ Plane

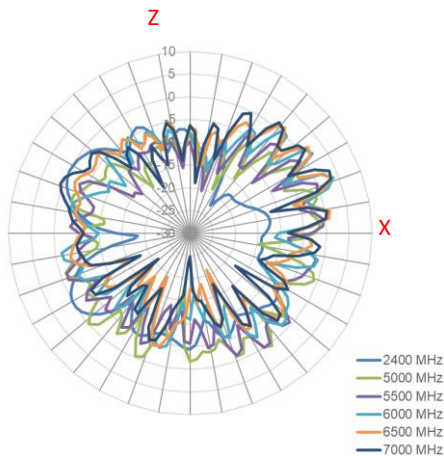


4.8 Bent 90° 30*30cm Edge Ground Plane - 2D Radiation Patterns

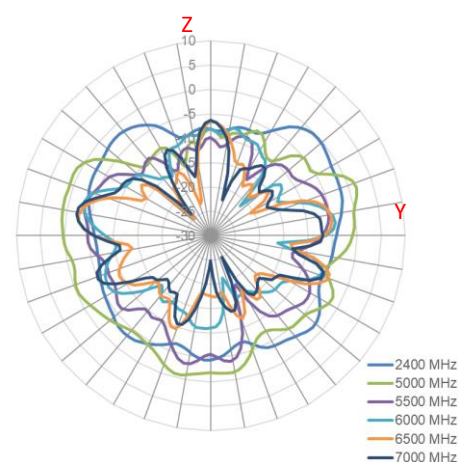
XY Plane



XZ Plane

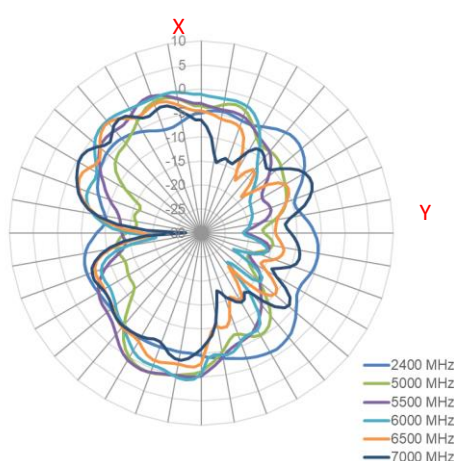


YZ Plane

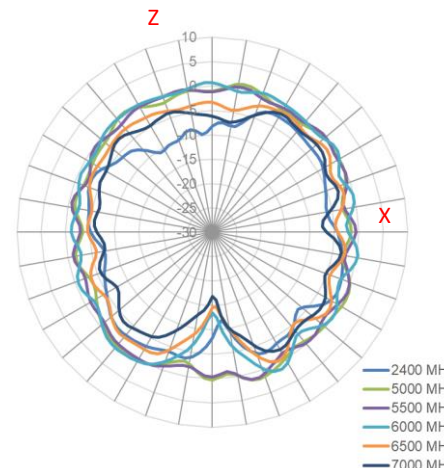


4.9 Straight 15*9cm Ground Plane - 2D Radiation Patterns

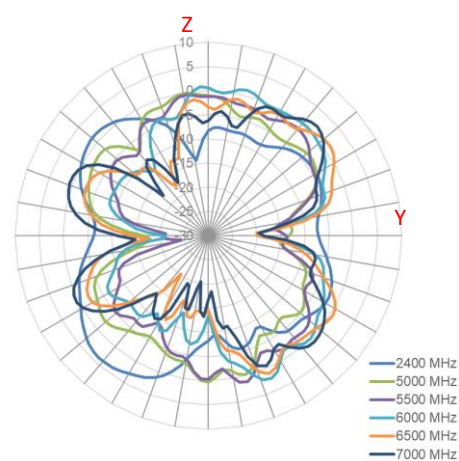
XY Plane



XZ Plane

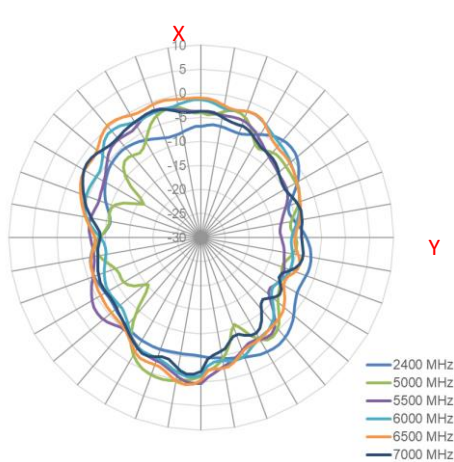


YZ Plane

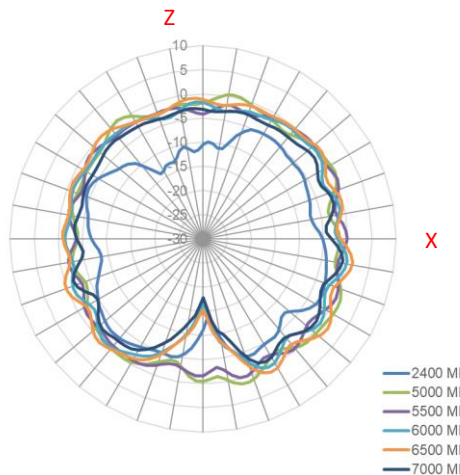


4.10 Bent 90° 15*9cm Ground Plane - 2D Radiation Patterns

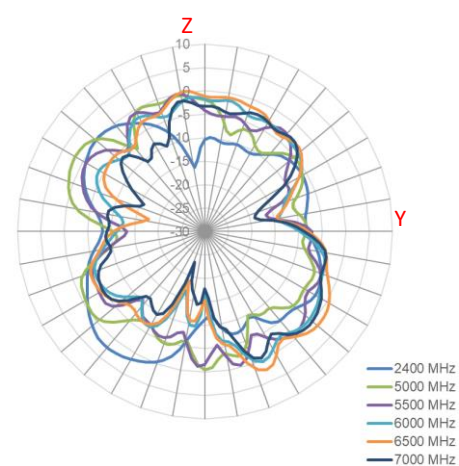
XY Plane



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



www.taoglas.com

