Report Number: TRA-051967-47-19A
Issue: A

Antenna Pattern Measurements

For

Draeger Safety UK Ltd

On

NG800 Gauge Radio

TEST DATE: 18th - 19th April 2024

Written by: Digitally signed by D Winstanley
DN: cn=D Winstanley, o=Element, ou=Radio, email=daniel.winstanley@element.com, c=US
Date: 2024.05.01 10:28:10 +01'00'

D Winstanley
Radio Senior Test Engineer

Approved by: Digitally signed by John Charters
Date: 2024.05.01 13:07:00 +01'00'

J Charters
Lab Manager

Date: 1st May 2024

1 Revision Record

Issue	*Issue Date*	*Revision History*
A	1st May 2024	Original

2 Summary

TEST REPORT NUMBER:	TRA-051967-47-19A
WORKS ORDER NUMBER:	TRA-051967-25
PURPOSE OF TEST:	To obtain 2D antenna pattern measurements and calculated antenna performance values.
EQUIPMENT UNDER TEST (EUT):	NG800 Gauge Radio
EUT SERIAL NUMBER:	not applicable
MANUFACTURER/AGENT:	Draeger Safety UK Ltd
ADDRESS:	Ullswater Close Blyth Riverside Business Park Blyth NE24 4RG United Kingdom
CLIENT CONTACT:	Eoghan Quigley ✉ eoghan.quigley@draeger.com
TEST DATE:	18th - 19th April 2024
TESTED BY:	D Winstanley Element

3 Contents

4 Introduction

This report TRA-051967-47-19A presents the results of the 2D Antenna Pattern Measurements on a Draeger Safety UK Ltd, NG800 Gauge Radio.

The testing was carried out for Draeger Safety UK Ltd by Element, at the address detailed below.

☒	Element Skelmersdale Unit 1 Pendle Place Skelmersdale West Lancashire WN8 9PN UK	☐	Element Surrey Hills Unit 15 B Henley Business Park Pirbright Road Normandy Guildford GU3 2DX UK

This report details the configuration of the equipment, the test methods used and any relevant modifications where appropriate.

All test and measurement equipment under the control of the laboratory and requiring calibration is subject to an established programme and procedures to control and maintain measurement standards. The quality management system meets the principles of ISO 9001, and has quality control procedures for monitoring the validity of tests undertaken. Records and sufficient detail are retained to establish an audit trail of calibration records relating to its test results for a defined period. Under control of the established calibration programme, key quantities or values of the test & measurement instrumentation are within specification and comply with the relevant traceable internationally recognised and appropriate standard specifications, which are UKAS calibrated as such where these properties have a significant effect on results. Participation in inter-laboratory comparisons and proficiency testing ensures satisfactory correlation of results conform to Elements own procedures, as well as statistical techniques for analysis of test data providing the appropriate confidence in measurements.

Throughout this report EUT denotes equipment under test.

FCC Site Listing:
The test laboratory is accredited for the above sites under the following US-UK MRA, Designation numbers.

Element Skelmersdale UK2020

The test site requirements of ANSI C63.4-2014 are met up to 1 GHz.

The test site SVSWR requirements of CISPR 16-1-4:2010 are met over the frequency range 1 GHz to 18 GHz.

5 Equipment Under Test

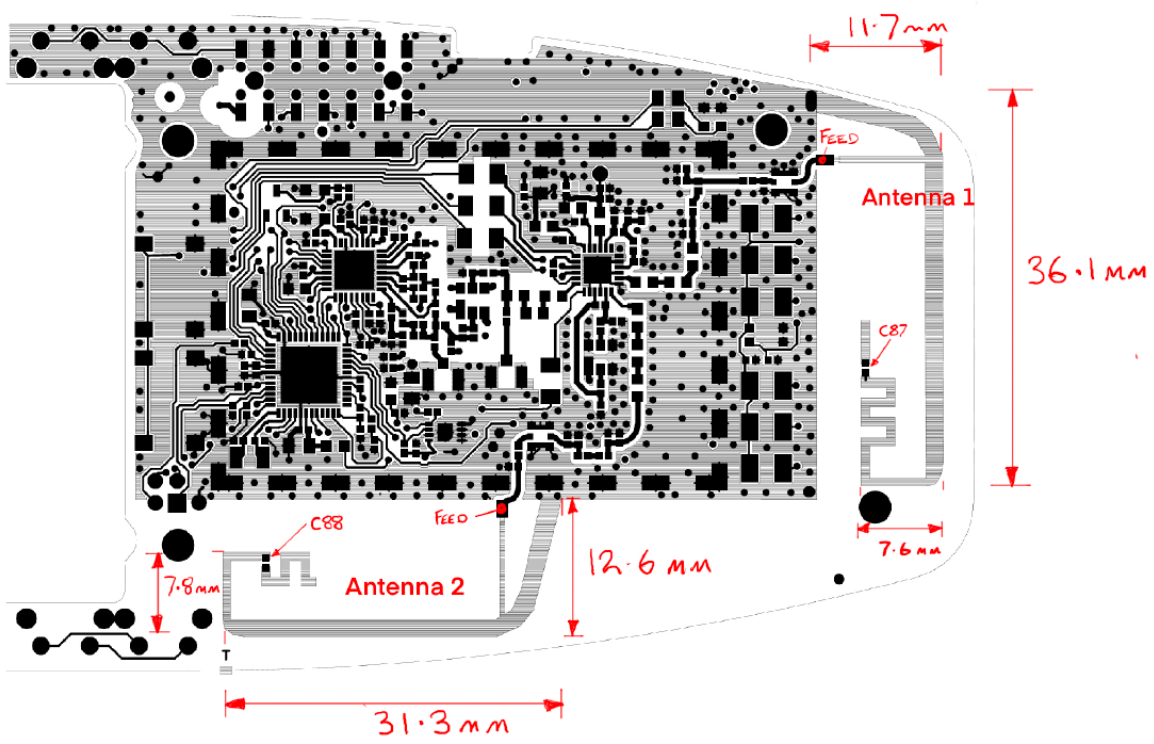
5.1 EUT Identification

- Name: NG800 Gauge Radio
- PCB Part number: 8328562 V06

5.2 Antenna Information, Identification & Dimensions

Type:	PCB track antenna based on an inverted-F design
Test Frequencies:	902.25 MHz, 907.15 MHz
Impedance:	50 Ohms
Connector type:	Integral

NG800 Gauge Radio
PCB P/N: 8328562 V06
C87,C88 fitted, 220pF



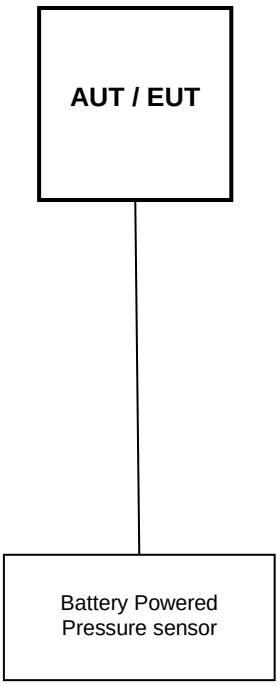
6 Modifications

No modifications were performed during this assessment.

7 EUT Test Setup

7.1 Block Diagram

The following diagram shows basic EUT interconnections:



7.2 General Set-up Photograph

EUT Vertical Orientation

EUT Horizontal Orientation

EUT Side Orientation

7.3 Measurement software

Where applicable, the following software was used to perform measurements contained within this report.

Element Emissions R5 (See Note)

Note:

The version of the Element software used is recorded in the results sheets contained within this report.

8 2D Antenna Pattern Measurements

8.1 Scope

Testing was performed using the mode(s) of operation and configuration(s) noted within the report.

The test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels.

The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

8.2 Test Parameters

Test Location:	Element Skelmersdale
Test Chamber:	
AUT Frequencies:	902.25 MHz, 907.15 MHz
Temperature:	18 °C
Humidity:	48 % RH

8.3 Test Method

Measurements were performed in a semi-anechoic chamber at a 3 m distance. To simulate free space, the ground plane was covered with RF absorbing cones. The reference antenna / AUT were setup at a height of approximately 1.7 meters.

The output power of the conducted sample was measured and recorded in this report.

A signal generator was connected to the reference antenna with a low loss RF cable.

A CW tone was then provided to the calibrated reference antenna and reference scan was then collected at the frequencies noted in this test report.

Using the same test setup, the antenna under test (AUT) was placed into the chamber.

A polar plot was then collected at the antenna height of maximum field strength. This plot was then compared to the reference antenna scan.

Using the antenna gain (dBi) of the reference antenna and the output power of the conducted sample the absolute gain of the AUT was calculated.

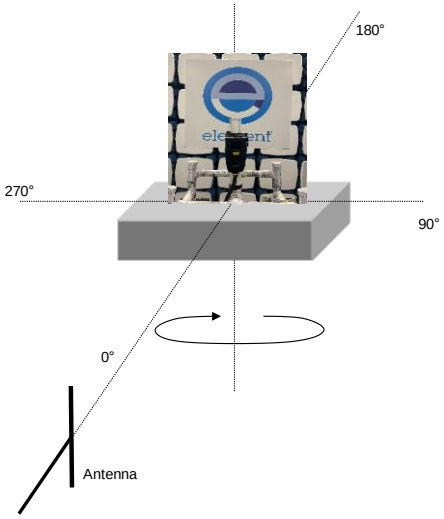
8.4 Test Equipment

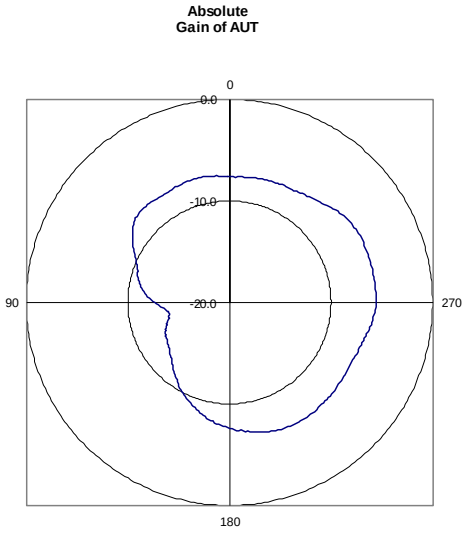
Equipment Type	Manufacturer	Equipment Description	Element No	Due For Calibration
UPA6108	Chase	Log Periodic Ant	L203	2024-06-15
CBL611/B	Chase	Bilog	U573	2024-10-14
FSU50	R&S	Spectrum Analyser	U544	2024-11-28
SMBV100A	R&S	Signal Generator	REF916	2024-07-20

8.5 2D Radiation Pattern – Antenna 1 902.25 MHz

Antenna 1: 902.25 MHz – EUT: Vertical – Measurement Antenna: Vertical

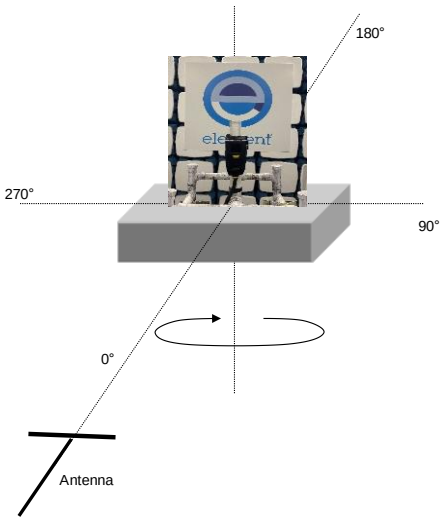
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Vertical**	AUT Relative Gain Max (dBuV/m)	116.67
Maximum Absolute Gain of AUT (dBi)	**-5.57**	Difference (Reference Antenna - AUT) (dB)	-15.60
Average Absolute Gain of AUT (dBi)	**-8.25**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.24**
3 dB Beamwidth	**193°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	24.47
		Power Delta (Antenna Power-Output Power) (dB)	-25.65

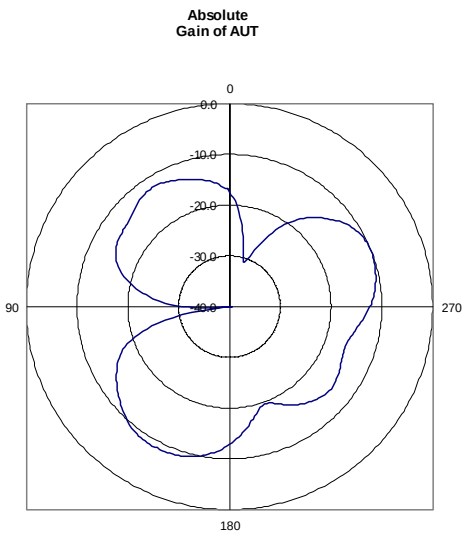




Antenna 1: 902.25 MHz – EUT: Vertical – Measurement Antenna: Horizontal

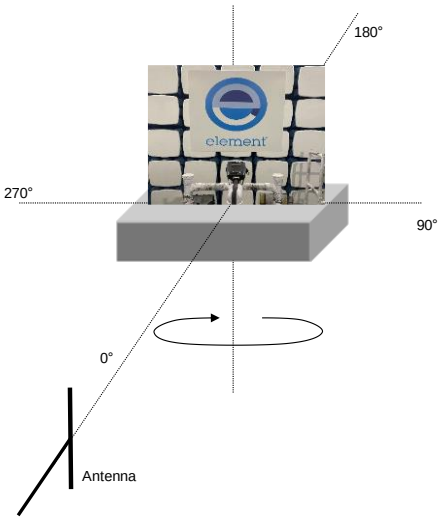
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Vertical**	AUT Relative Gain Max (dBuV/m)	113.57
Maximum Absolute Gain of AUT (dBi)	**-8.67**	Difference (Reference Antenna - AUT) (dB)	-12.50
Average Absolute Gain of AUT (dBi)	**-16.07**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.24**
3 dB Beamwidth	**47°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	24.47
		Power Delta (Antenna Power-Output Power) (dB)	-25.65

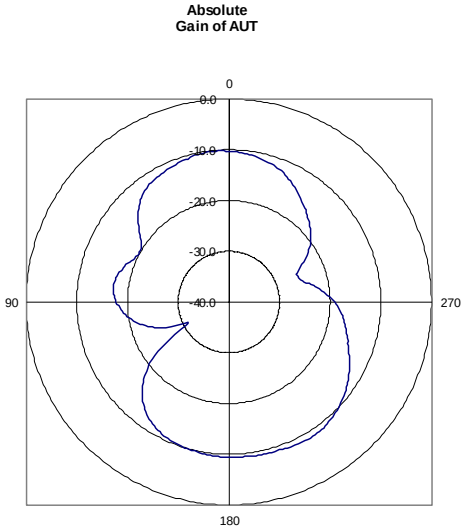




Antenna 1: 902.25 MHz – EUT: Horizontal – Measurement Antenna: Vertical

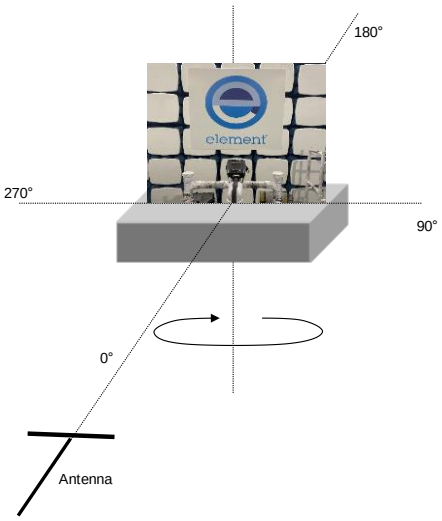
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Horizontal**	AUT Relative Gain Max (dBuV/m)	113.47
Maximum Absolute Gain of AUT (dBi)	**-8.77**	Difference (Reference Antenna - AUT) (dB)	-12.40
Average Absolute Gain of AUT (dBi)	**-15.20**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.24**
3 dB Beamwidth	**90°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	24.47
		Power Delta (Antenna Power-Output Power) (dB)	-25.65

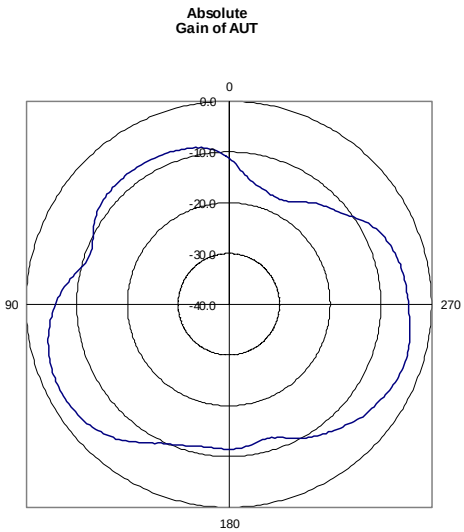




Antenna 1: 902.25 MHz – EUT: Horizontal – Measurement Antenna: Horizontal

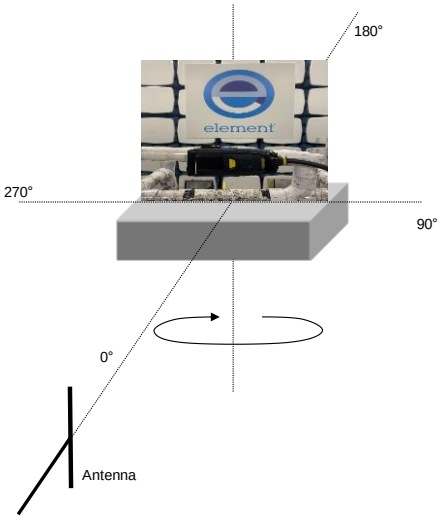
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Horizontal**	AUT Relative Gain Max (dBuV/m)	119.57
Maximum Absolute Gain of AUT (dBi)	**-2.67**	Difference (Reference Antenna - AUT) (dB)	-18.50
Average Absolute Gain of AUT (dBi)	**-8.40**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.24**
3 dB Beamwidth	**51°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	24.47
		Power Delta (Antenna Power-Output Power) (dB)	-25.65

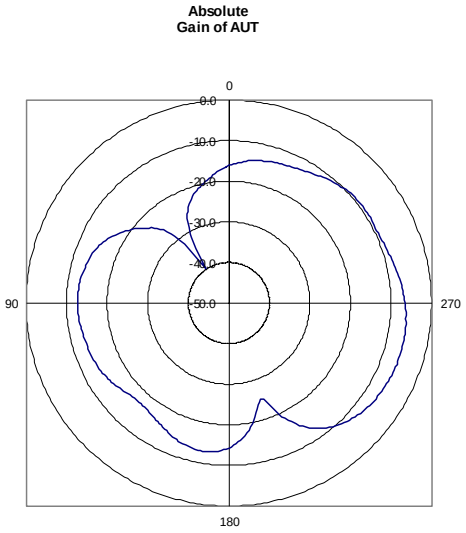




Antenna 1: 902.25 MHz – EUT: Side – Measurement Antenna: Vertical

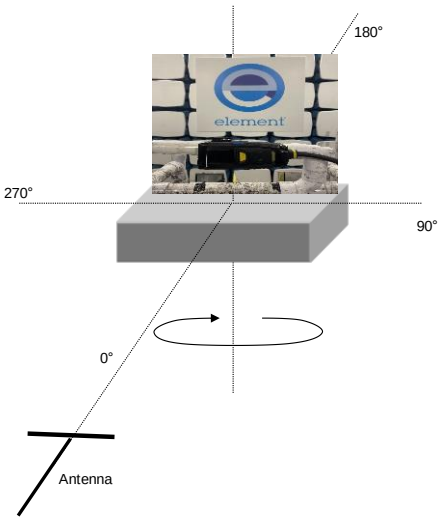
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Side**	AUT Relative Gain Max (dBuV/m)	116.37
Maximum Absolute Gain of AUT (dBi)	**-5.87**	Difference (Reference Antenna - AUT) (dB)	-15.30
Average Absolute Gain of AUT (dBi)	**-14.39**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.24**
3 dB Beamwidth	**65°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	24.47
		Power Delta (Antenna Power-Output Power) (dB)	-25.65

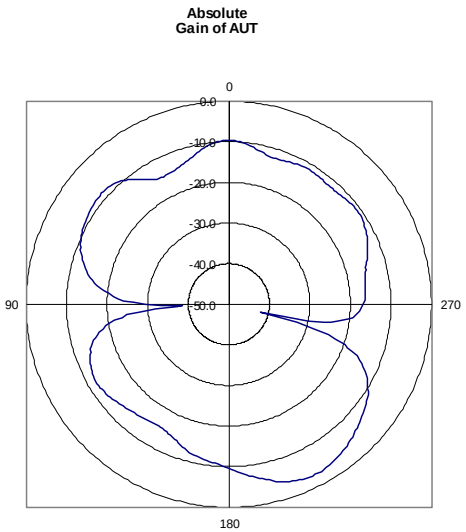




Antenna 1: 902.25 MHz – EUT: Side – Measurement Antenna: Horizontal

Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Side**	AUT Relative Gain Max (dBuV/m)	119.27
Maximum Absolute Gain of AUT (dBi)	**-2.97**	Difference (Reference Antenna - AUT) (dB)	-18.20
Average Absolute Gain of AUT (dBi)	**-12.64**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.24**
3 dB Beamwidth	**35°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	24.47
		Power Delta (Antenna Power-Output Power) (dB)	-25.65

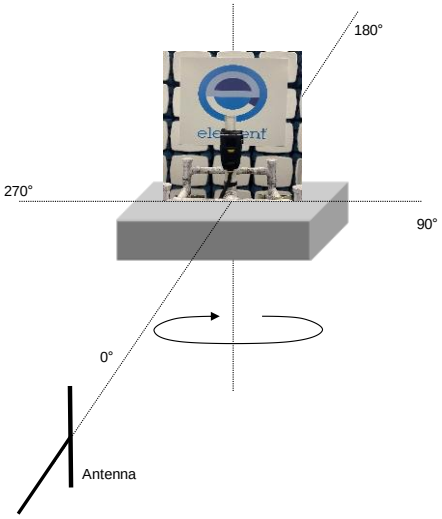


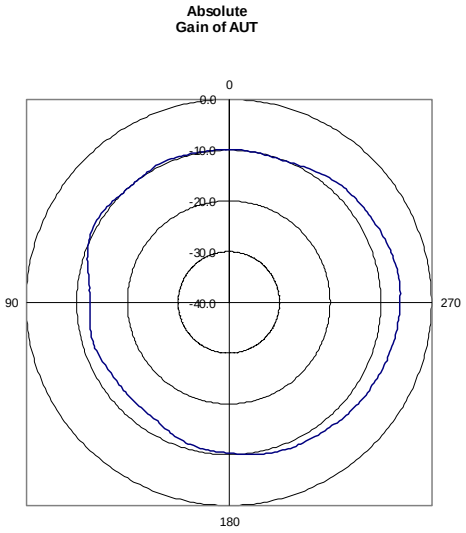


8.6 2D Radiation Pattern – Antenna 1 907.15 MHz

Antenna 1: 907.15 MHz – EUT: Vertical – Measurement Antenna: Vertical

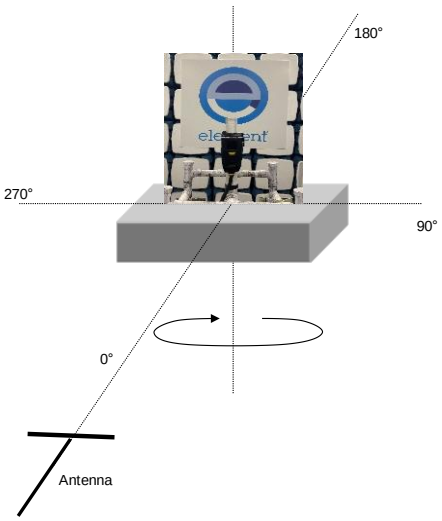
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Vertical**	AUT Relative Gain Max (dBuV/m)	116.37
Maximum Absolute Gain of AUT (dBi)	**-6.10**	Difference (Reference Antenna - AUT) (dB)	-15.10
Average Absolute Gain of AUT (dBi)	**-9.64**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.47**
3 dB Beamwidth	**130°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	24.56
		Power Delta (Antenna Power-Output Power) (dB)	-25.84

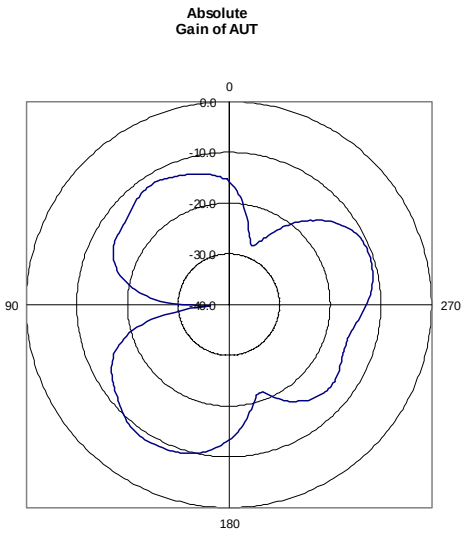




Antenna 1: 907.15 MHz – EUT: Vertical – Measurement Antenna: Horizontal

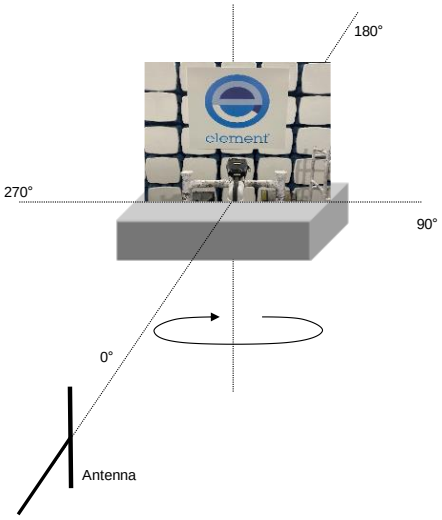
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Vertical**	AUT Relative Gain Max (dBuV/m)	113.77
Maximum Absolute Gain of AUT (dBi)	**-8.70**	Difference (Reference Antenna - AUT) (dB)	-12.50
Average Absolute Gain of AUT (dBi)	**-15.73**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.47**
3 dB Beamwidth	**48°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	24.56
		Power Delta (Antenna Power-Output Power) (dB)	-25.84

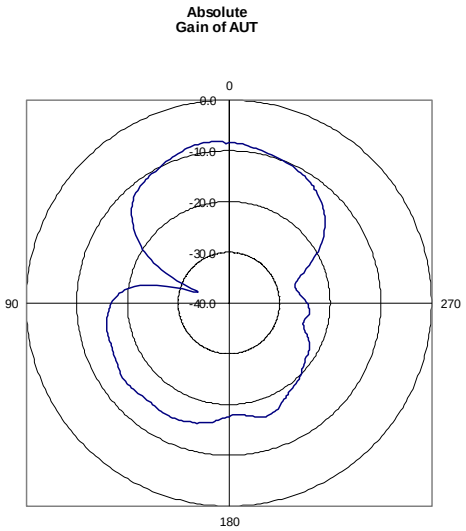




Antenna 1: 907.15 MHz – EUT: Horizontal – Measurement Antenna: Vertical

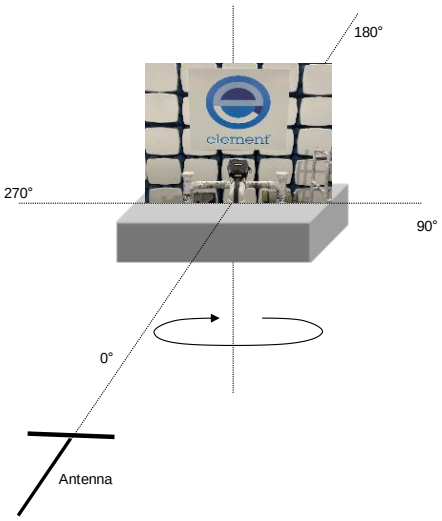
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Horizontal**	AUT Relative Gain Max (dBuV/m)	114.37
Maximum Absolute Gain of AUT (dBi)	**-8.10**	Difference (Reference Antenna - AUT) (dB)	-13.10
Average Absolute Gain of AUT (dBi)	**-16.90**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.47**
3 dB Beamwidth	**70°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	24.56
		Power Delta (Antenna Power-Output Power) (dB)	-25.84

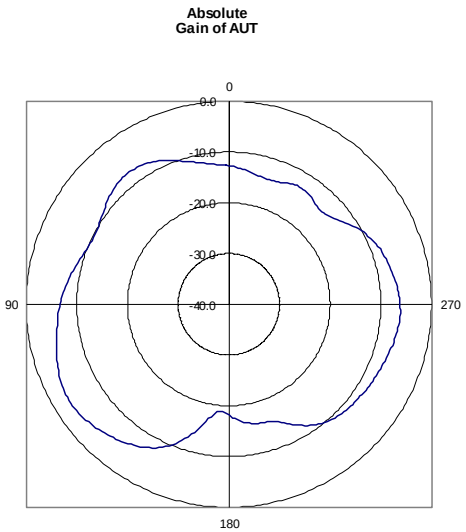




Antenna 1: 907.15 MHz – EUT: Horizontal – Measurement Antenna: Horizontal

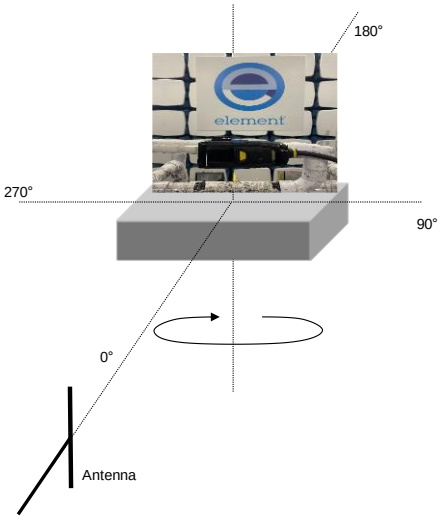
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Horizontal**	AUT Relative Gain Max (dBuV/m)	119.27
Maximum Absolute Gain of AUT (dBi)	**-3.20**	Difference (Reference Antenna - AUT) (dB)	-18.00
Average Absolute Gain of AUT (dBi)	**-9.82**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.47**
3 dB Beamwidth	**51°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	24.56
		Power Delta (Antenna Power-Output Power) (dB)	-25.84

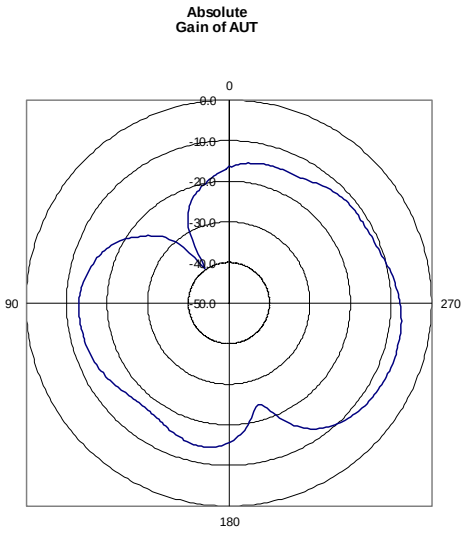




Antenna 1: 907.15 MHz – EUT: Side – Measurement Antenna: Vertical

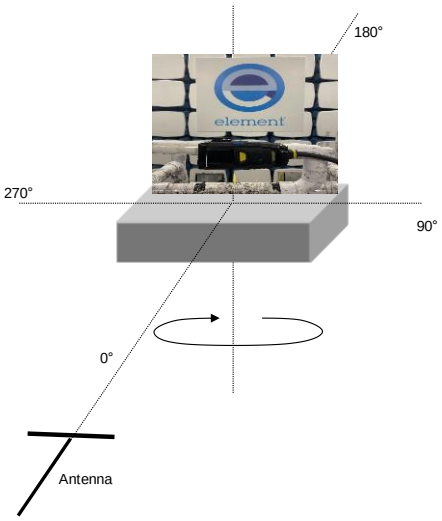
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Side**	AUT Relative Gain Max (dBuV/m)	115.57
Maximum Absolute Gain of AUT (dBi)	**-6.90**	Difference (Reference Antenna - AUT) (dB)	-14.30
Average Absolute Gain of AUT (dBi)	**-15.33**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.47**
3 dB Beamwidth	**62°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	24.56
		Power Delta (Antenna Power-Output Power) (dB)	-25.84

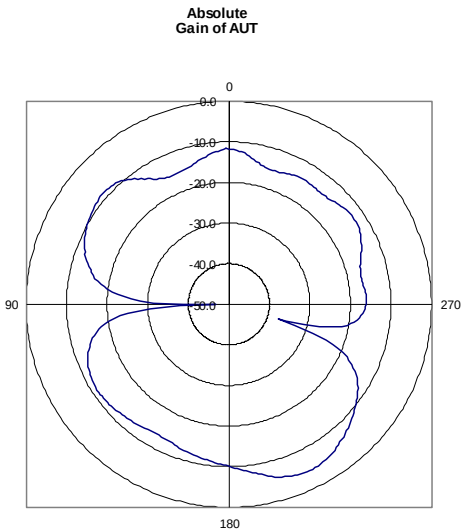




Antenna 1: 907.15 MHz – EUT: Side – Measurement Antenna: Horizontal

Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Side**	AUT Relative Gain Max (dBuV/m)	118.07
Maximum Absolute Gain of AUT (dBi)	**-4.40**	Difference (Reference Antenna - AUT) (dB)	-16.80
Average Absolute Gain of AUT (dBi)	**-13.54**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**122.47**
3 dB Beamwidth	**33°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	24.56
		Power Delta (Antenna Power-Output Power) (dB)	-25.84

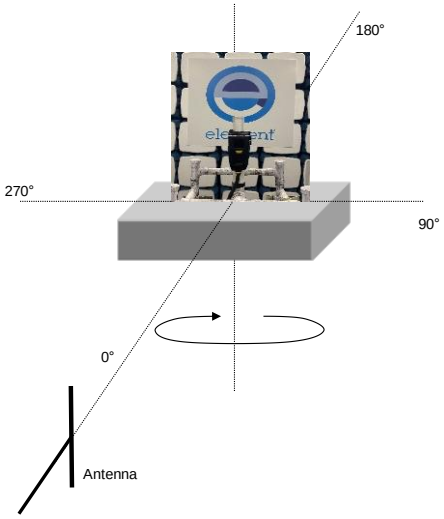


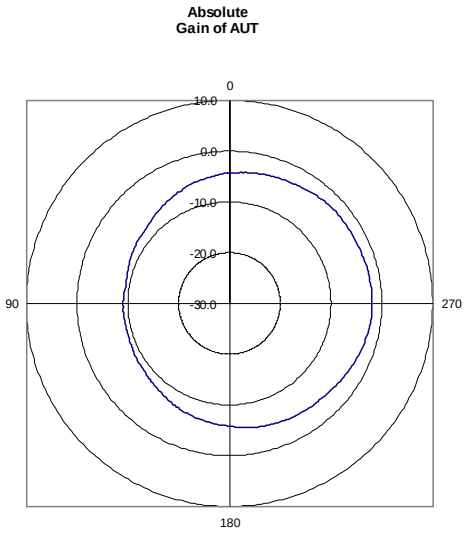


8.7 2D Radiation Pattern – Antenna 2 902.25 MHz

Antenna 2: 902.25 MHz – EUT: Vertical – Measurement Antenna: Vertical

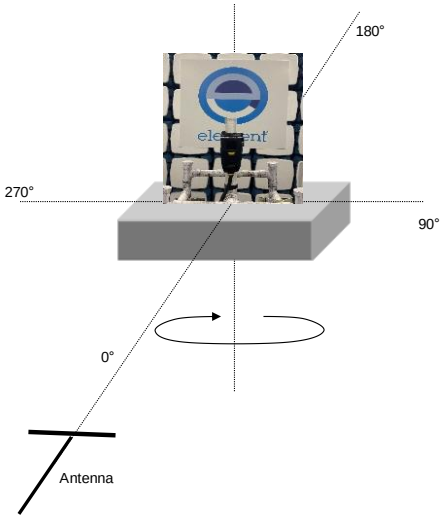
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Vertical**	AUT Relative Gain Max (dBuV/m)	121.87
Maximum Absolute Gain of AUT (dBi)	**-1.91**	Difference (Reference Antenna - AUT) (dB)	-20.80
Average Absolute Gain of AUT (dBi)	**-5.42**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**123.78**
3 dB Beamwidth	**163°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	26.01
		Power Delta (Antenna Power-Output Power) (dB)	-27.19

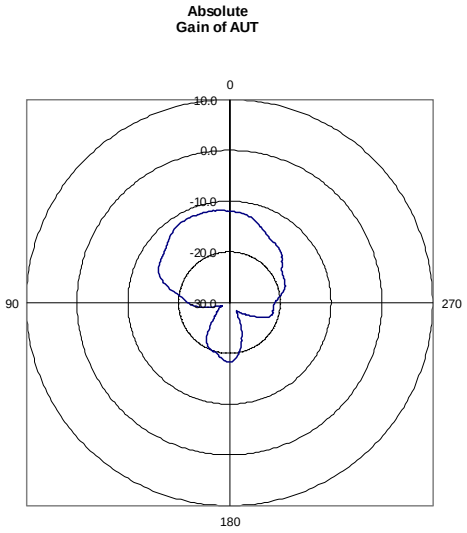




Antenna 2: 902.25 MHz – EUT: Vertical – Measurement Antenna: Horizontal

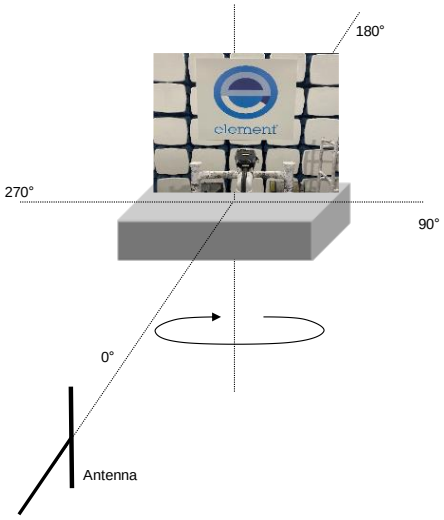
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Vertical**	AUT Relative Gain Max (dBuV/m)	112.27
Maximum Absolute Gain of AUT (dBi)	**-11.51**	Difference (Reference Antenna - AUT) (dB)	-11.20
Average Absolute Gain of AUT (dBi)	**-19.26**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**123.78**
3 dB Beamwidth	**91°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	26.01
		Power Delta (Antenna Power-Output Power) (dB)	-27.19

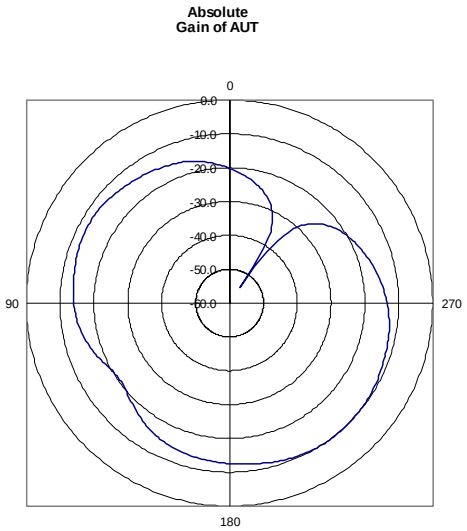




Antenna 2: 902.25 MHz – EUT: Horizontal – Measurement Antenna: Vertical

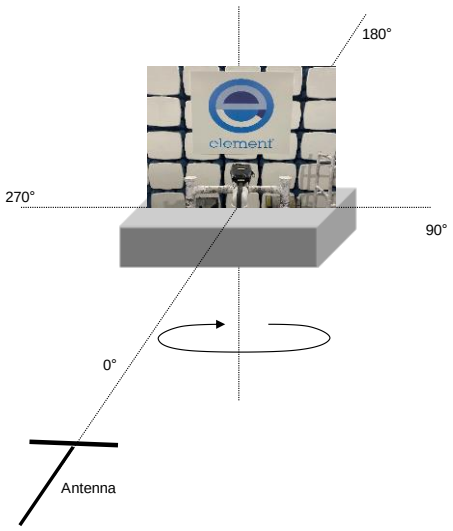
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Horizontal**	AUT Relative Gain Max (dBuV/m)	113.97
Maximum Absolute Gain of AUT (dBi)	**-9.81**	Difference (Reference Antenna - AUT) (dB)	-12.90
Average Absolute Gain of AUT (dBi)	**-16.48**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**123.78**
3 dB Beamwidth	**90°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	26.01
		Power Delta (Antenna Power-Output Power) (dB)	-27.19

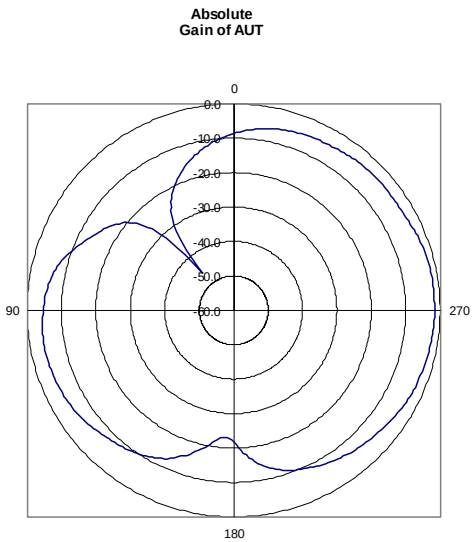




Antenna 2: 902.25 MHz – EUT: Horizontal – Measurement Antenna: Horizontal

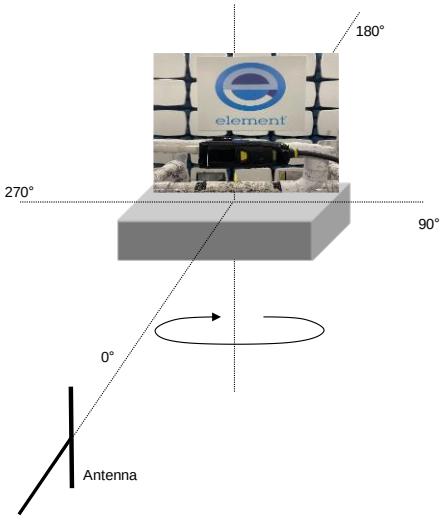
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Horizontal**	AUT Relative Gain Max (dBuV/m)	122.17
Maximum Absolute Gain of AUT (dBi)	**-1.61**	Difference (Reference Antenna - AUT) (dB)	-21.10
Average Absolute Gain of AUT (dBi)	**-9.31**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**123.78**
3 dB Beamwidth	**99°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	26.01
		Power Delta (Antenna Power-Output Power) (dB)	-27.19

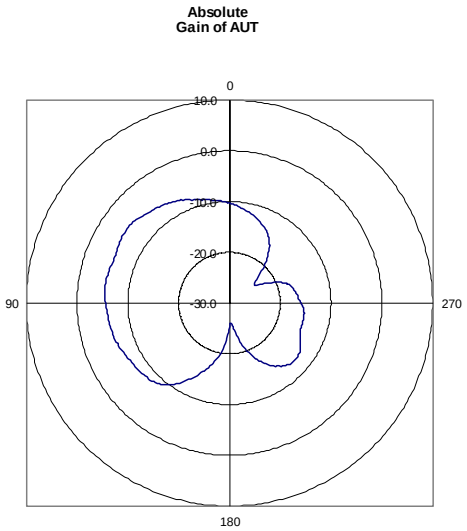




Antenna 2: 902.25 MHz – EUT: Side – Measurement Antenna: Vertical

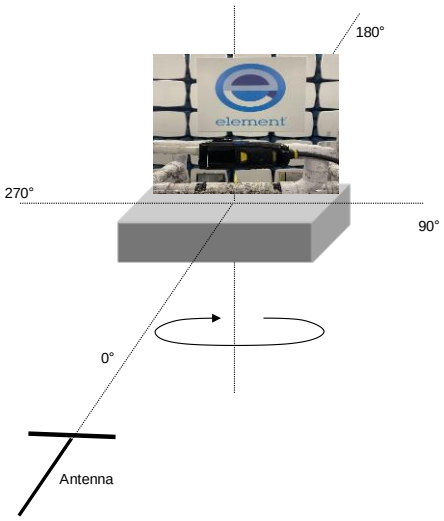
Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Side**	AUT Relative Gain Max (dBuV/m)	118.67
Maximum Absolute Gain of AUT (dBi)	**-5.11**	Difference (Reference Antenna - AUT) (dB)	-17.60
Average Absolute Gain of AUT (dBi)	**-12.91**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**123.78**
3 dB Beamwidth	**111°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	26.01
		Power Delta (Antenna Power-Output Power) (dB)	-27.19

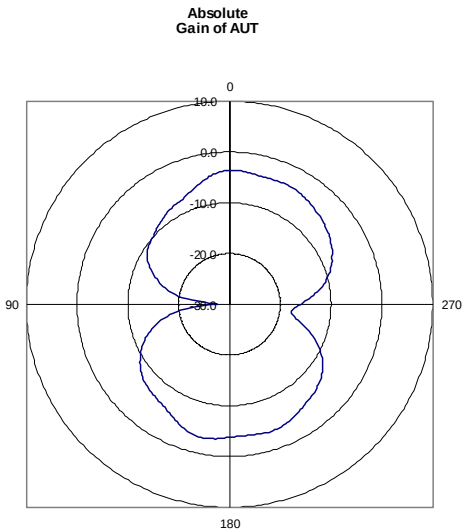




Antenna 2: 902.25 MHz – EUT: Side – Measurement Antenna: Horizontal

Frequency	**902.25**	Absolute Gain of Reference Antenna (dBi)	4.48
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.07
Antenna Under Test (AUT) Polarity	**Side**	AUT Relative Gain Max (dBuV/m)	120.57
Maximum Absolute Gain of AUT (dBi)	**-3.21**	Difference (Reference Antenna - AUT) (dB)	-19.50
Average Absolute Gain of AUT (dBi)	**-8.73**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**123.78**
3 dB Beamwidth	**81°**		
		Reference Antenna Measured Input Power (dBm)	-1.18
		EUT Conducted Output Power (dBm)	26.01
		Power Delta (Antenna Power-Output Power) (dB)	-27.19

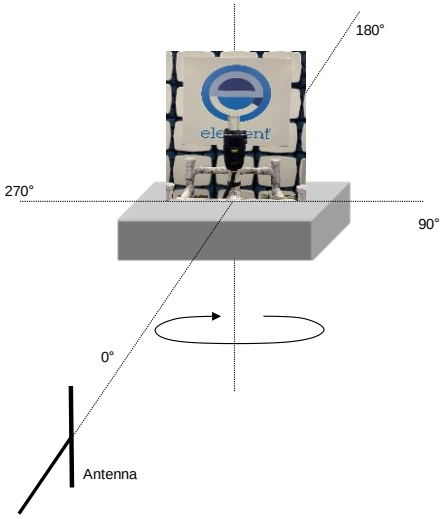


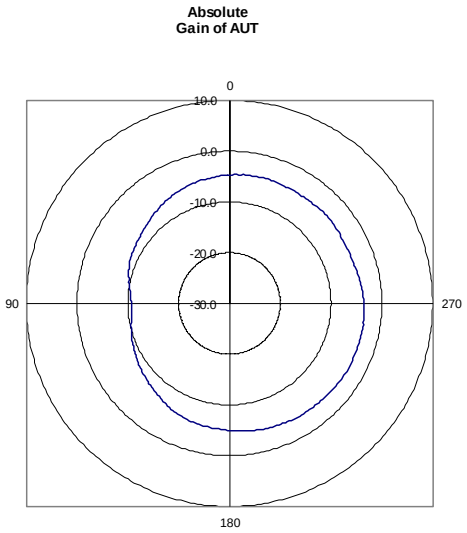


8.8 2D Radiation Pattern – Antenna 2 907.15 MHz

Antenna 2: 907.15 MHz – EUT: Vertical – Measurement Antenna: Vertical

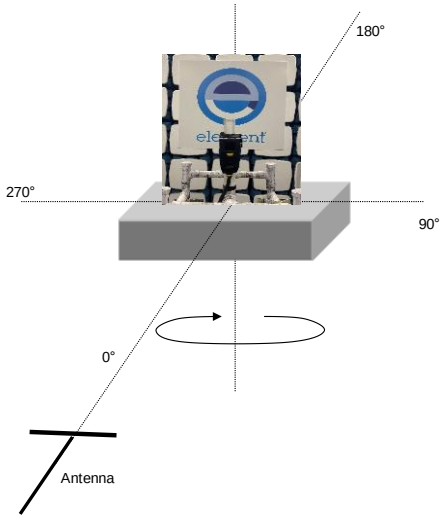
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Vertical**	AUT Relative Gain Max (dBuV/m)	120.77
Maximum Absolute Gain of AUT (dBi)	**-3.31**	Difference (Reference Antenna - AUT) (dB)	-19.50
Average Absolute Gain of AUT (dBi)	**-5.80**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**124.08**
3 dB Beamwidth	**210°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	26.17
		Power Delta (Antenna Power-Output Power) (dB)	-27.45

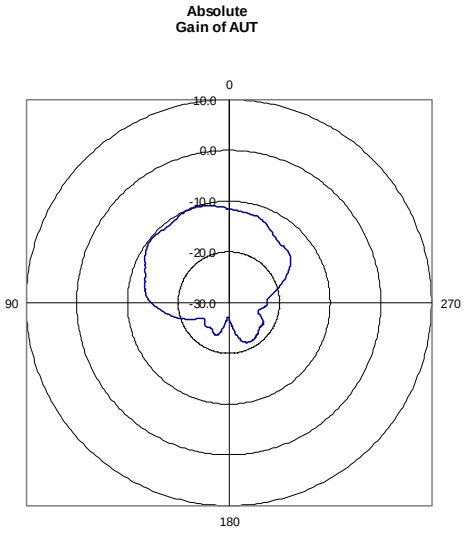




Antenna 2: 907.15 MHz – EUT: Vertical – Measurement Antenna: Horizontal

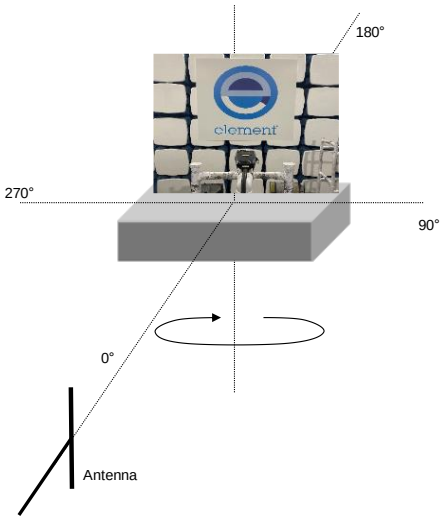
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Vertical**	AUT Relative Gain Max (dBuV/m)	113.97
Maximum Absolute Gain of AUT (dBi)	**-10.11**	Difference (Reference Antenna - AUT) (dB)	-12.70
Average Absolute Gain of AUT (dBi)	**-18.06**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**124.08**
3 dB Beamwidth	**105°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	26.17
		Power Delta (Antenna Power-Output Power) (dB)	-27.45

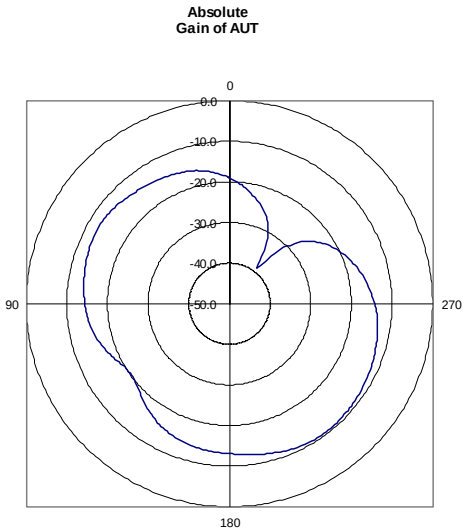




Antenna 2: 907.15 MHz – EUT: Horizontal – Measurement Antenna: Vertical

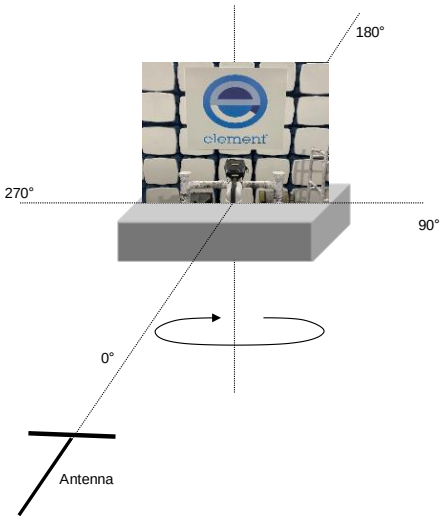
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Horizontal**	AUT Relative Gain Max (dBuV/m)	113.57
Maximum Absolute Gain of AUT (dBi)	**-10.51**	Difference (Reference Antenna - AUT) (dB)	-12.30
Average Absolute Gain of AUT (dBi)	**-16.61**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**124.08**
3 dB Beamwidth	**94°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	26.17
		Power Delta (Antenna Power-Output Power) (dB)	-27.45

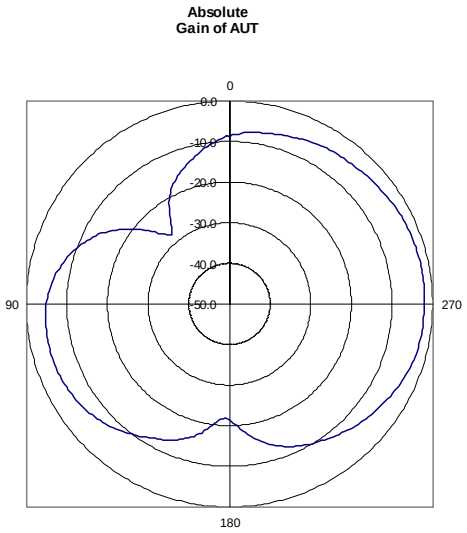




Antenna 2: 907.15 MHz – EUT: Horizontal – Measurement Antenna: Horizontal

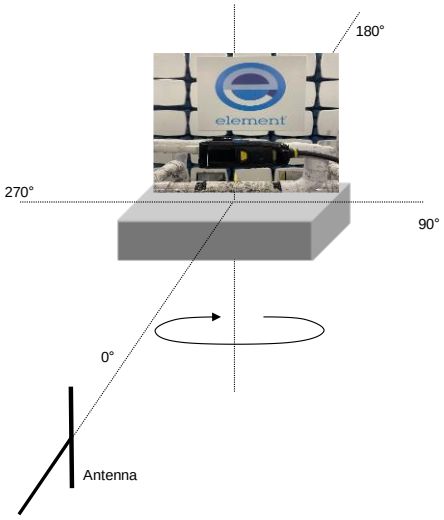
Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Horizontal**	AUT Relative Gain Max (dBuV/m)	122.17
Maximum Absolute Gain of AUT (dBi)	**-1.91**	Difference (Reference Antenna - AUT) (dB)	-20.90
Average Absolute Gain of AUT (dBi)	**-9.33**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**124.08**
3 dB Beamwidth	**92°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	26.17
		Power Delta (Antenna Power-Output Power) (dB)	-27.45

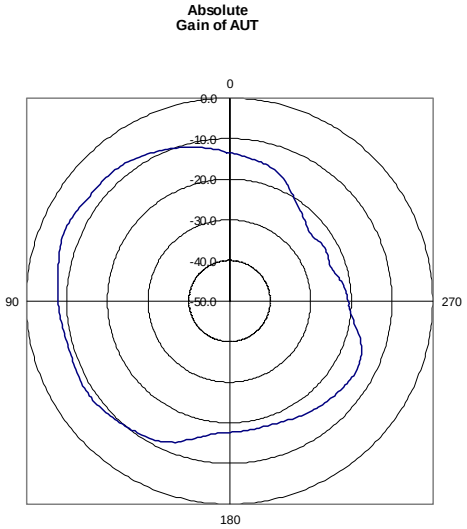




Antenna 2: 907.15 MHz – EUT: Side – Measurement Antenna: Vertical

Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Vertical**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Side**	AUT Relative Gain Max (dBuV/m)	118.07
Maximum Absolute Gain of AUT (dBi)	**-6.01**	Difference (Reference Antenna - AUT) (dB)	-16.80
Average Absolute Gain of AUT (dBi)	**-14.05**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**124.08**
3 dB Beamwidth	**106°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	26.17
		Power Delta (Antenna Power-Output Power) (dB)	-27.45





Antenna 2: 907.15 MHz – EUT: Side – Measurement Antenna: Horizontal

Frequency	**907.15**	Absolute Gain of Reference Antenna (dBi)	4.64
Measurement Antenna Polarity	**Horizontal**	Reference Antenna Relative Gain Max (dBuV/m)	101.27
Antenna Under Test (AUT) Polarity	**Side**	AUT Relative Gain Max (dBuV/m)	120.97
Maximum Absolute Gain of AUT (dBi)	**-3.11**	Difference (Reference Antenna - AUT) (dB)	-19.70
Average Absolute Gain of AUT (dBi)	**-8.32**	AUT Setup Loss (dB)	**0**
		Correction Factor (Convert Relative to Absolute Gain) (dB)	**124.08**
3 dB Beamwidth	**92°**		
		Reference Antenna Measured Input Power (dBm)	-1.28
		EUT Conducted Output Power (dBm)	26.17
		Power Delta (Antenna Power-Output Power) (dB)	-27.45