

ANTENNA GAIN AND PATTERN MEASUREMENT REPORT
For Gain value reference

FOR

WHISTLE STOP

PART/MODEL NUMBER: WP

DATE ISSUED: AUGUST 27, 2024

REPORT NUMBER: 14976503-O1V1

Prepared for
EAST WEST MFG.
3504 Wordsworth Pl.
Raleigh, North Carolina, 27609
U.S.A.

Prepared by
UL VERIFICATION SERVICES INC.
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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	08/27/2024	Initial Issue	

TABLE OF CONTENTS

1 ATTESTATION OF TEST RESULTS 4

2 TEST METHODOLOGY 5

3 TEST FACILITY 5

4 TEST AND MEASUREMENT EQUIPMENT 6

5 DEVICE UNDER TEST INFORMATION..... 6

6 RESULT SUMMARY 7

7 2D PLOTS..... 8

 7.1 2D PASSIVE- 902 MHz 8

 7.2 2D PASSIVE- 915 MHz 10

 7.3 2D PASSIVE- 928 MHz 12

8 3D PLOTS 14

 8.1 3D PASSIVE- 902 MHz 14

 8.2 3D PASSIVE- 915 MHz 17

 8.3 3D PASSIVE- 928 MHz 20

9 TEST SETUP 23

1 ATTESTATION OF TEST RESULTS

Company Name and Address	East West Mfg.
	3504 Wordsworth Pl.
	Raleigh, North Carolina, 27609
	U.S.A.
EUT Description	Whistle Stop Waist Pack (WP)
Part/Model	WP
Date Tested	08/14/2024

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
Non-standard Test Method*	Information Only

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

Approved & Released For
UL Verification Services Inc. By:



Ekta Budhbhatti
Operations Leader
UL Verification Services Inc.

Tested and Prepared By:

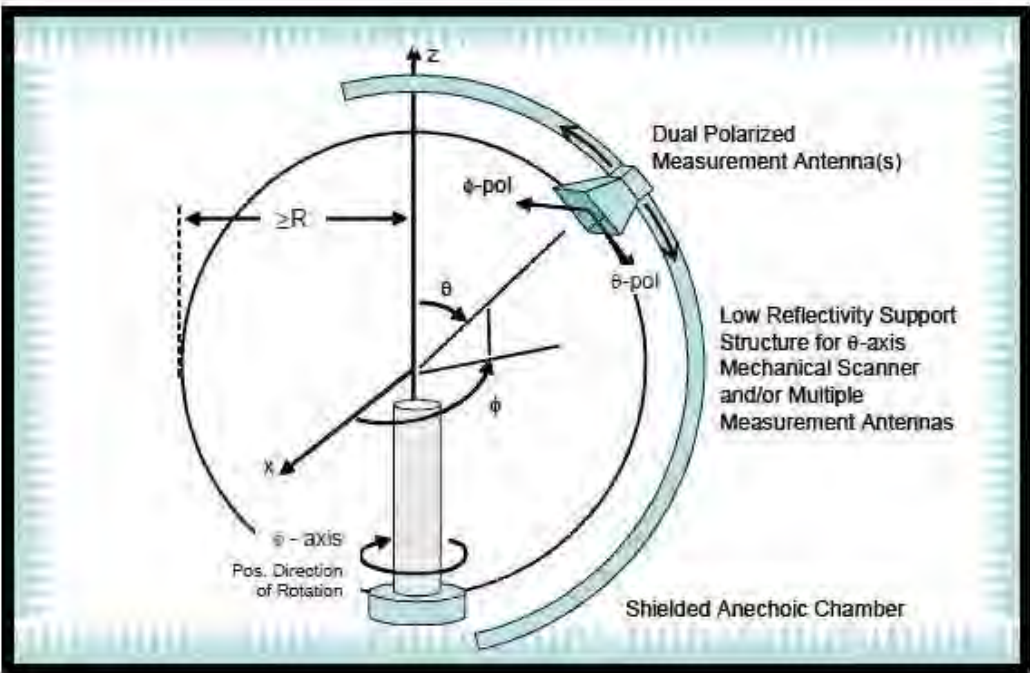


Casey Dial
Test Engineer
UL Verification Services Inc.

2 TEST METHODOLOGY

The 2D Passive Antenna Pattern tests documented in this report were performed using a fixed elevation and a resolution (increment) of 2° for azimuth.

The 3D Passive Antenna Pattern tests documented in this report were performed using a resolution (increment) of 15° for both elevation and azimuth.



OTA TEST SYSTEM DIAGRAM

3 TEST FACILITY

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA. The test was performed in OTA A.

Test Site used for testing	
OTA Lab A (Theta Arm Chamber)	☒
OTA Lab B (MAPS Chamber)	☐

- Test operator and Report writer: Casey Dial
- Report reviewed by: Ekta Budhbhatti

4 TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	Asset	Cal Date	Cal Due
Anechoic Chamber	ETS-Lindgren	AMS-8800 Series	1100181	08 August 2024	N/A
PNA-L Network Analyzer	Agilent	N5230C	81979	02 February 2024	28 February 2025
Dual Polarized Quad-Ridged Horn Antenna	ETS-Lindgren	N/A	N/A	N/A	N/A

5 DEVICE UNDER TEST INFORMATION

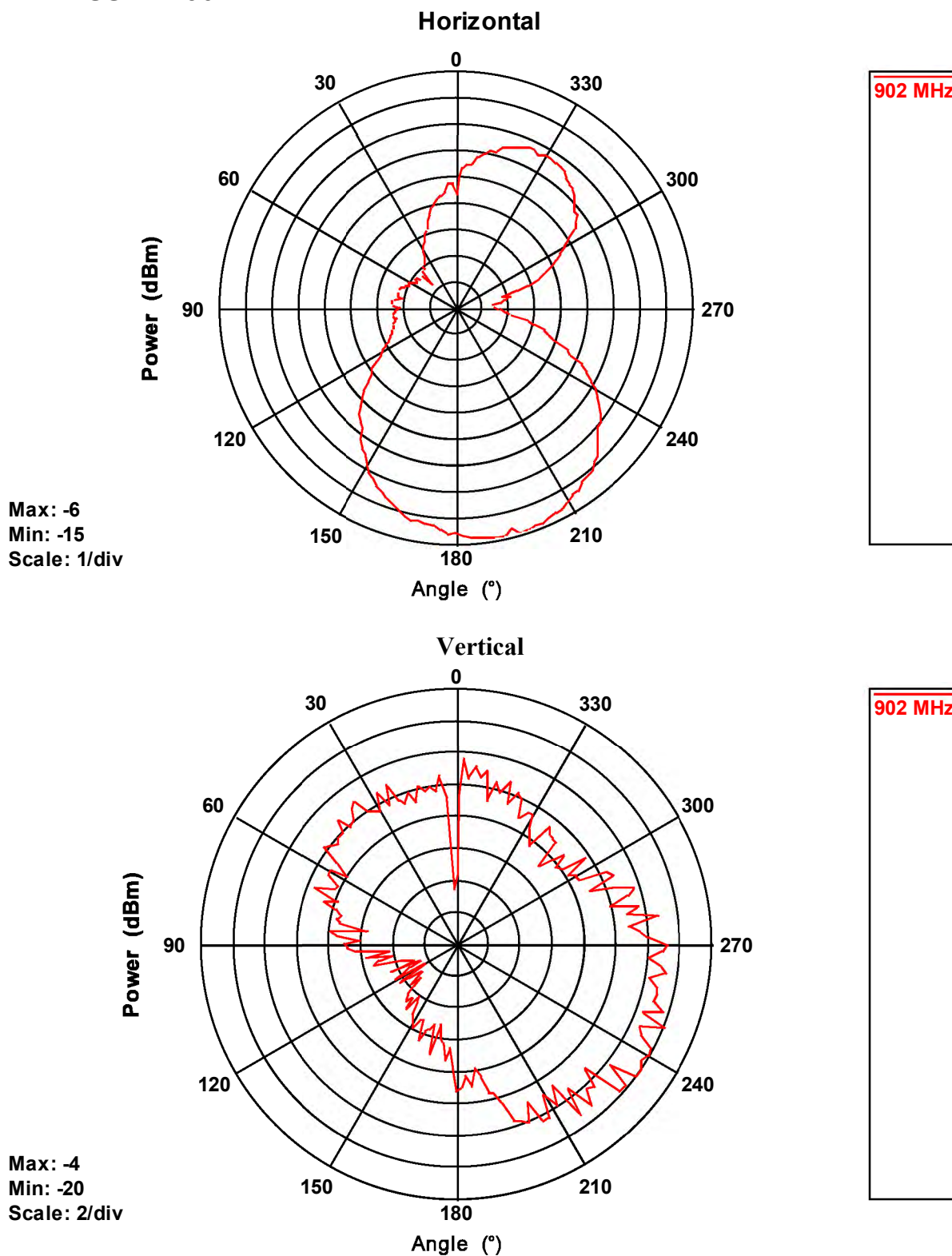
Antenna	
Manufacturer	East West Mfg.
Part/Model Number	WP
Frequency range (MHz)	902, 915, 928
Device/Antenna type	WP/ PCB ISM Antenna

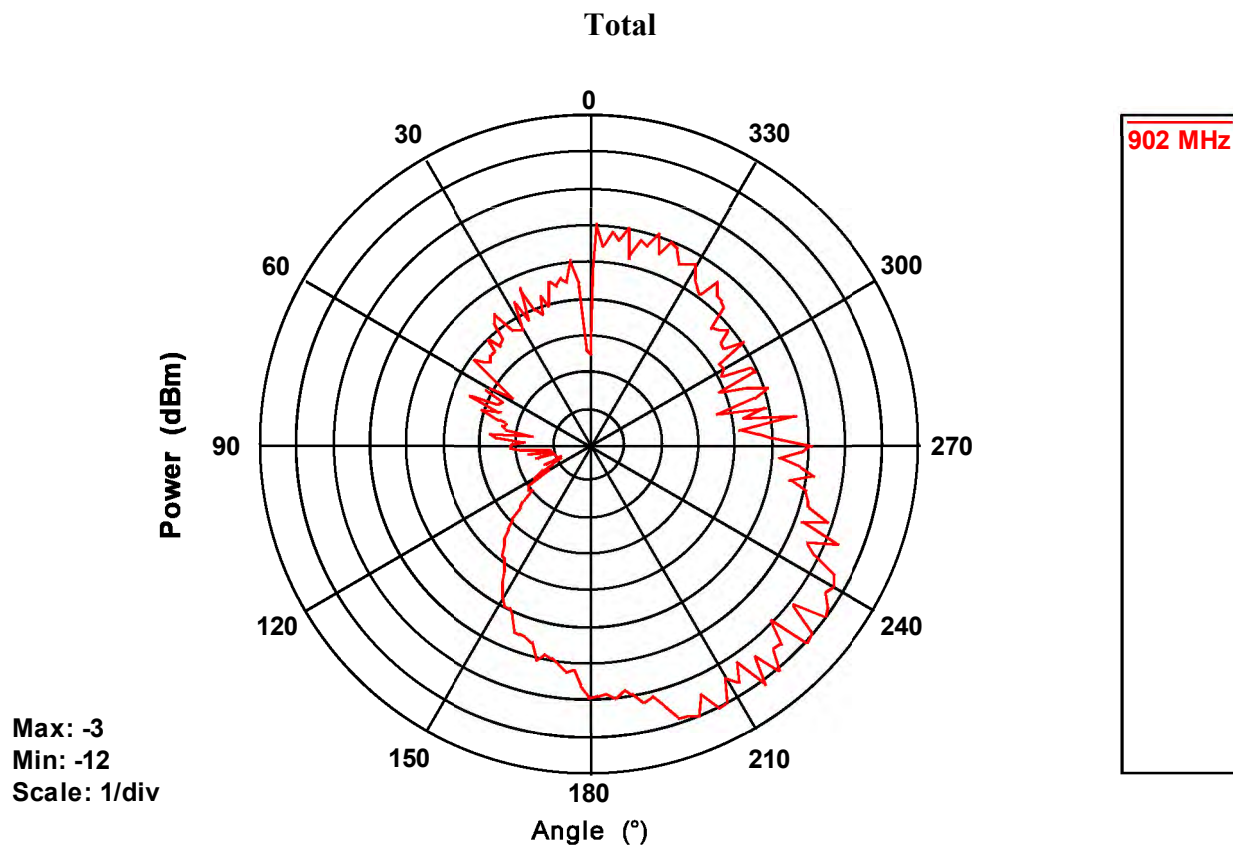
6 RESULT SUMMARY

Measurement	Frequency (MHz)		
	902	915	928
3D Peak Gain (dBi)	-4.39	-3.77	-3.79
2D/Peak Gain (dBi)	-3.94	-3.28	-3.32
Peak Polarization	Horizontal/Phi	Vertical/Theta	Vertical/Theta

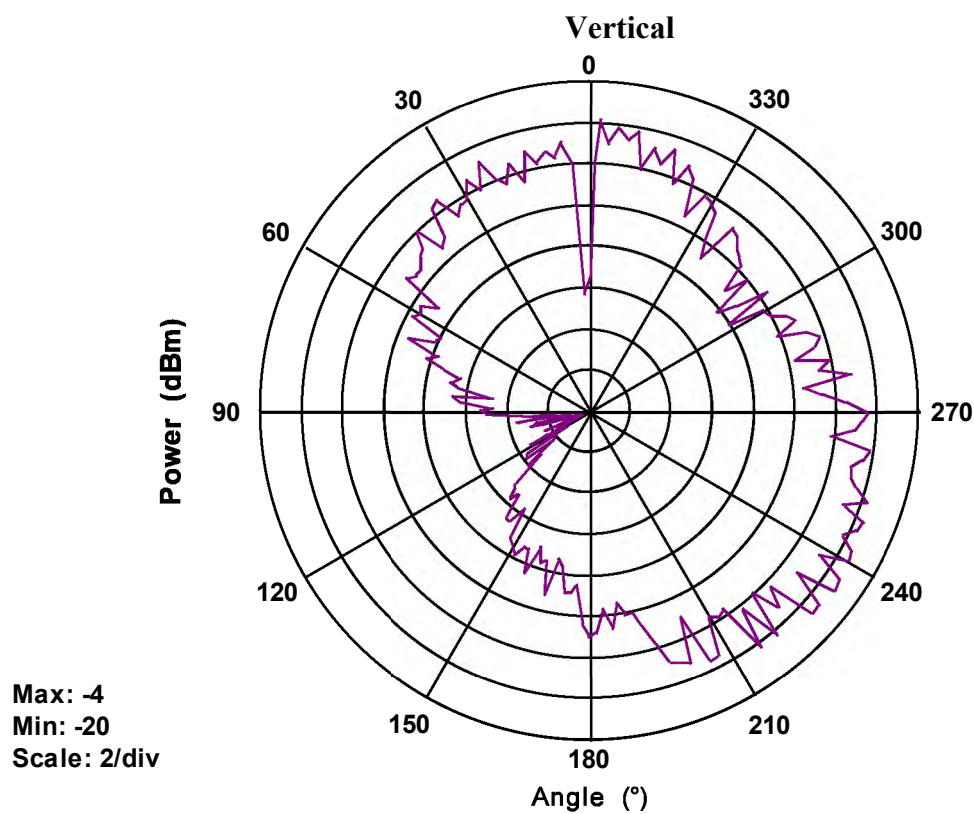
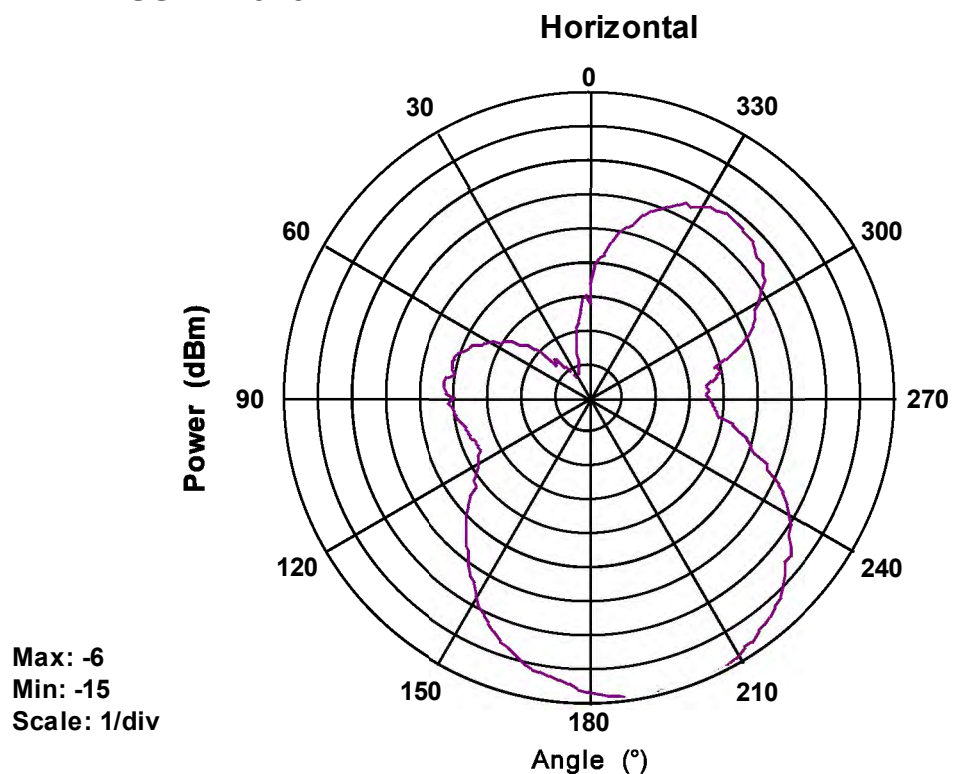
7 2D PLOTS

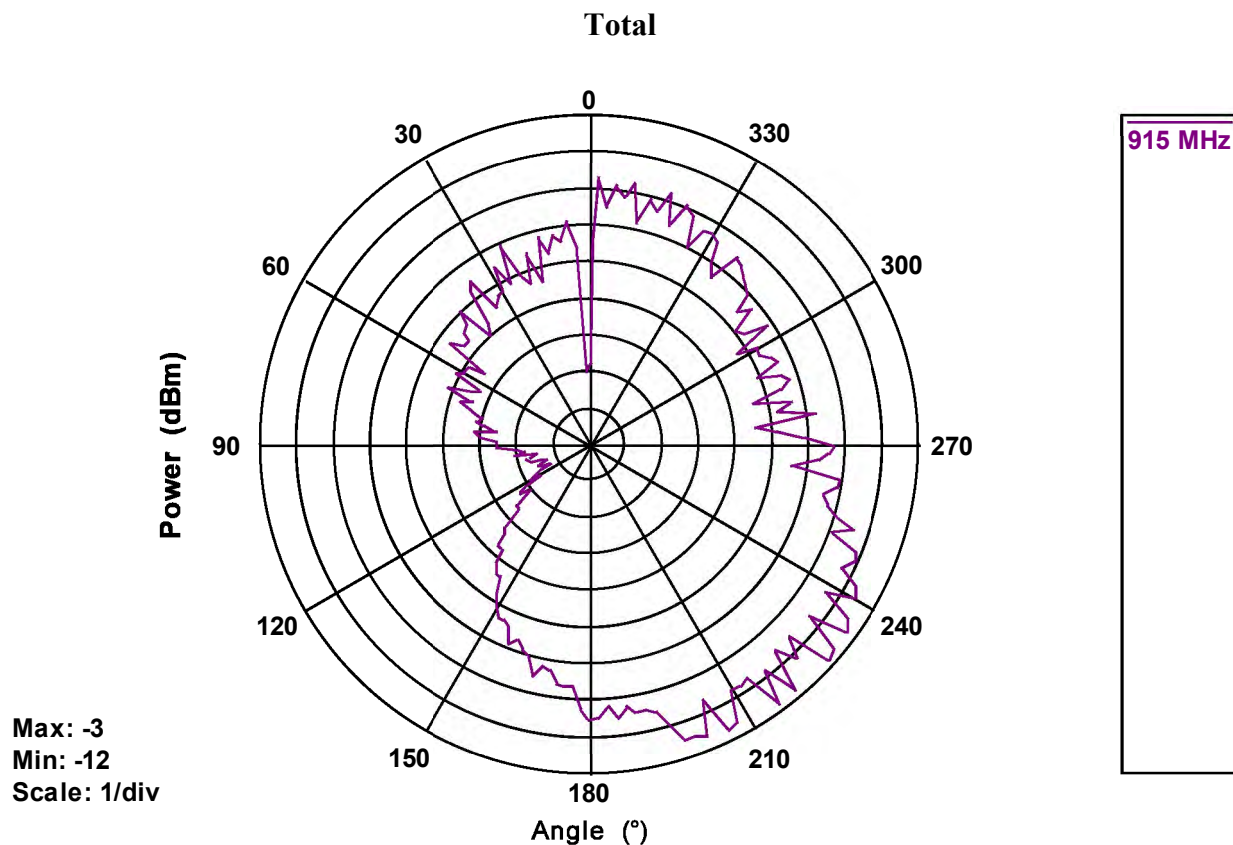
7.1 2D PASSIVE- 902 MHz



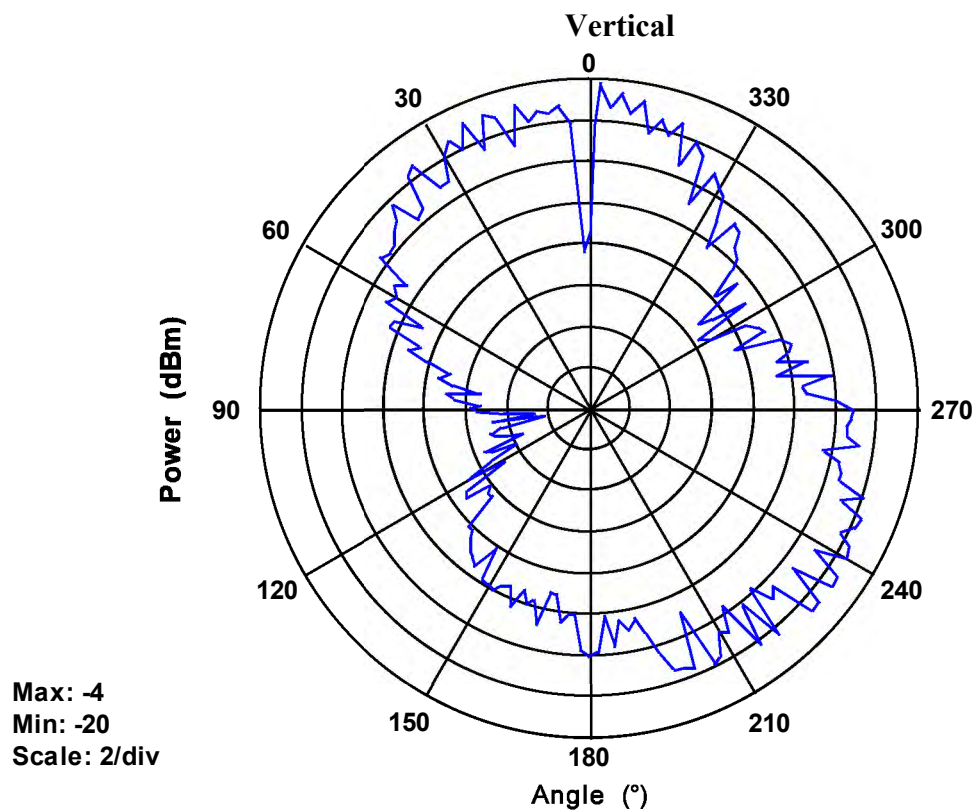
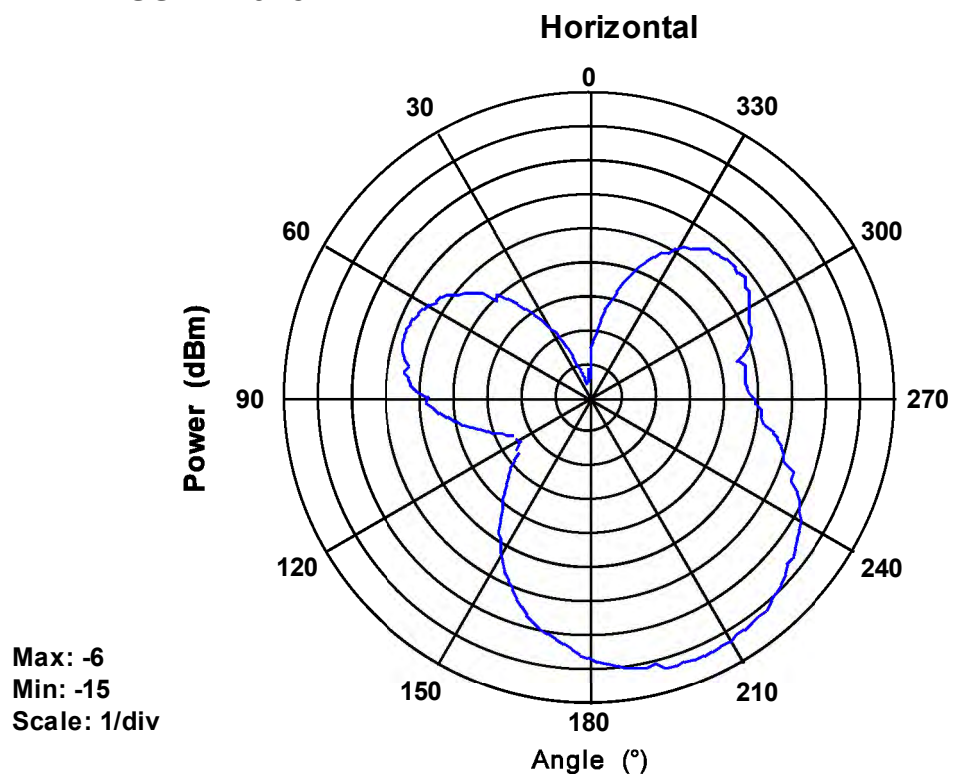


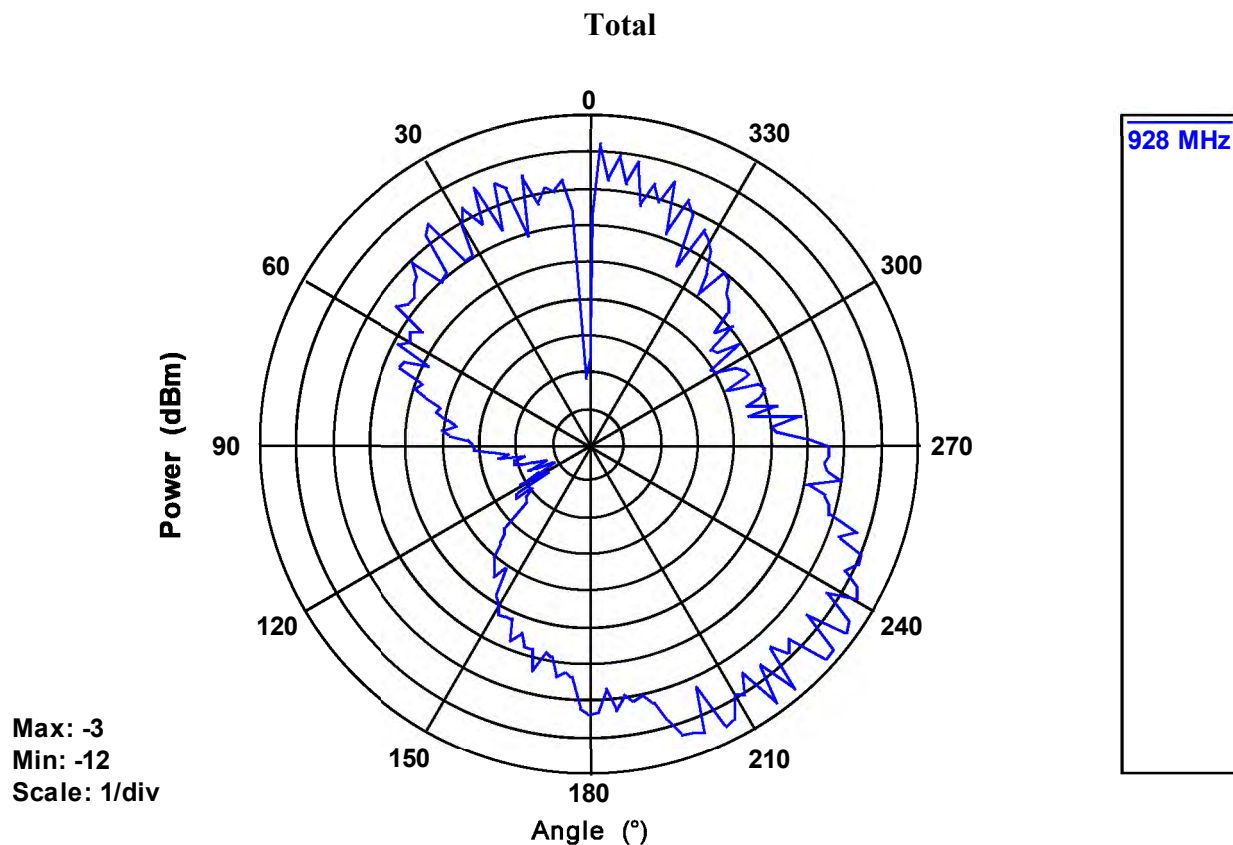
7.2 2D PASSIVE- 915 MHz





7.3 2D PASSIVE- 928 MHz

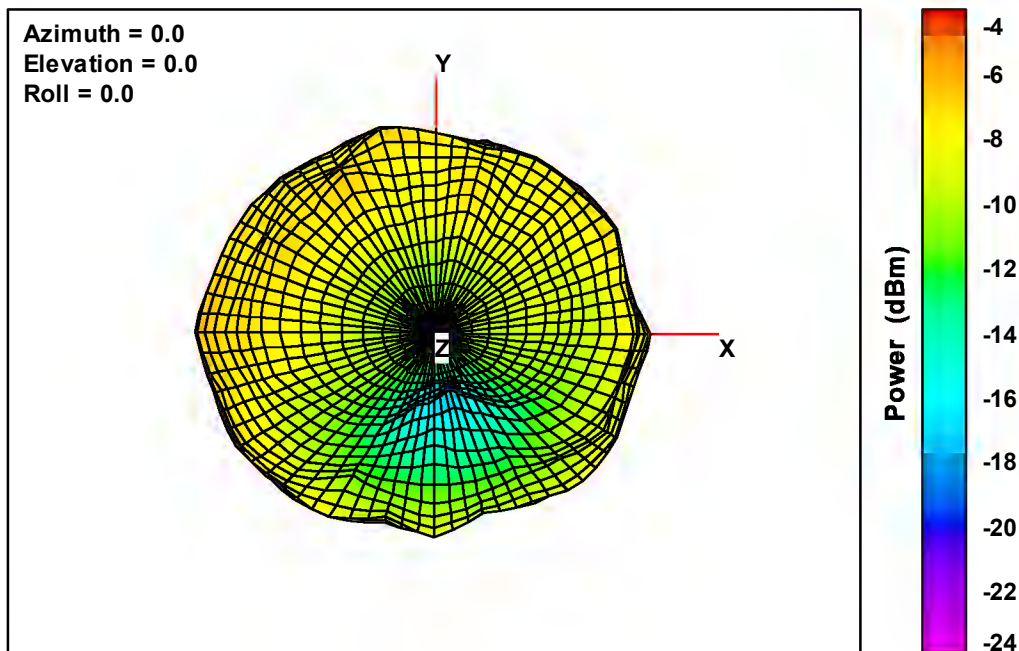




8 3D PLOTS

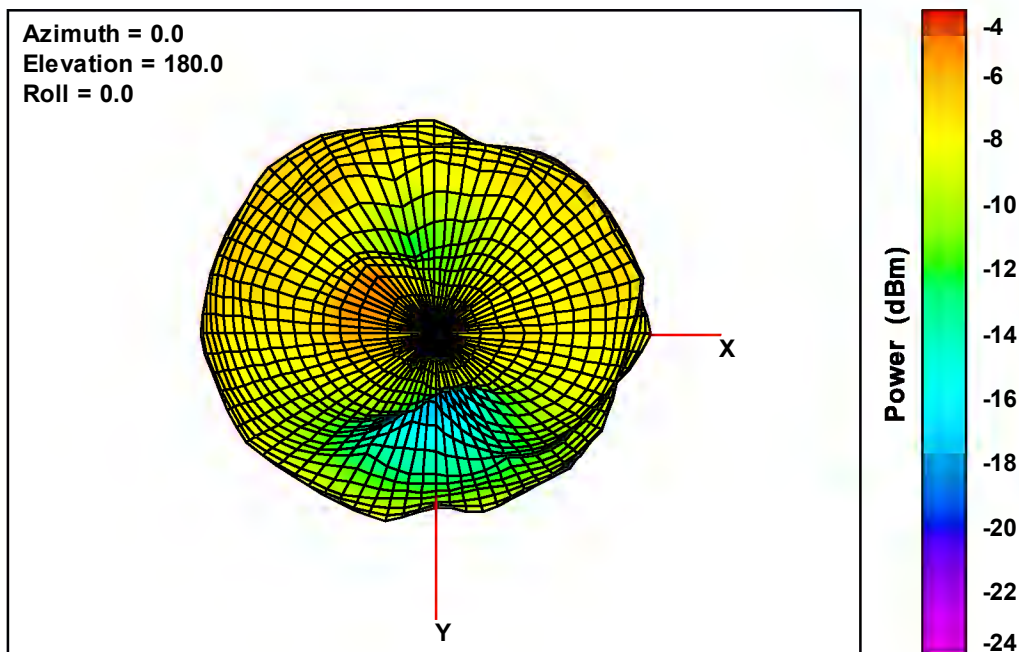
8.1 3D PASSIVE- 902 MHz

Total EIRP, Top View



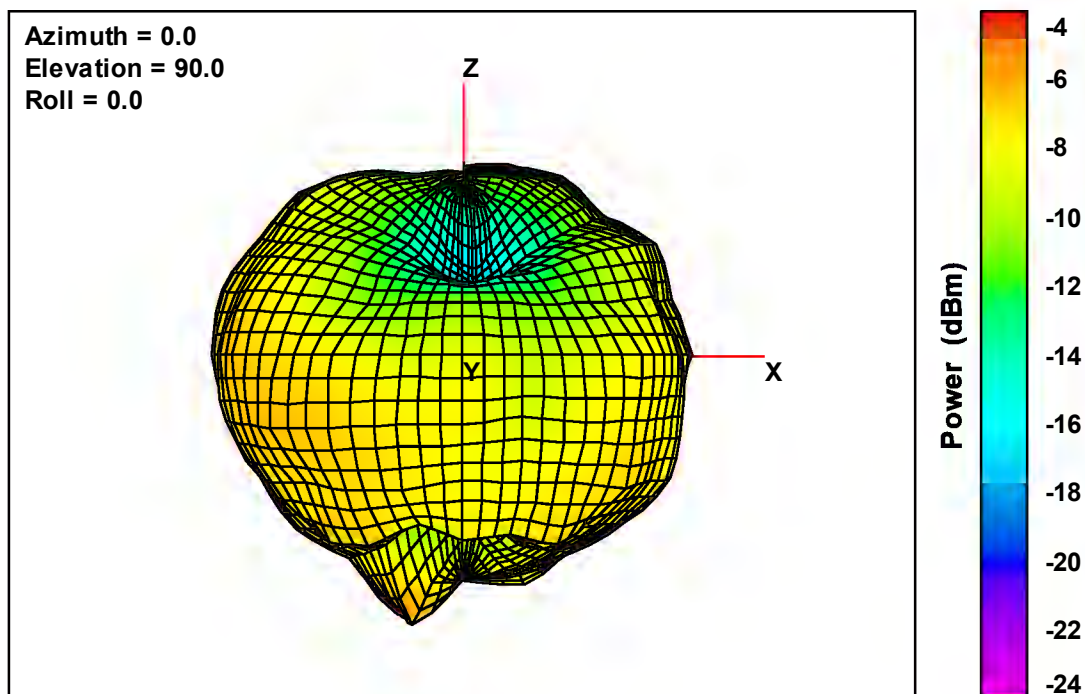
Free-Space Total EIRP, Top View, 902 MHz

Total EIRP, Bottom View



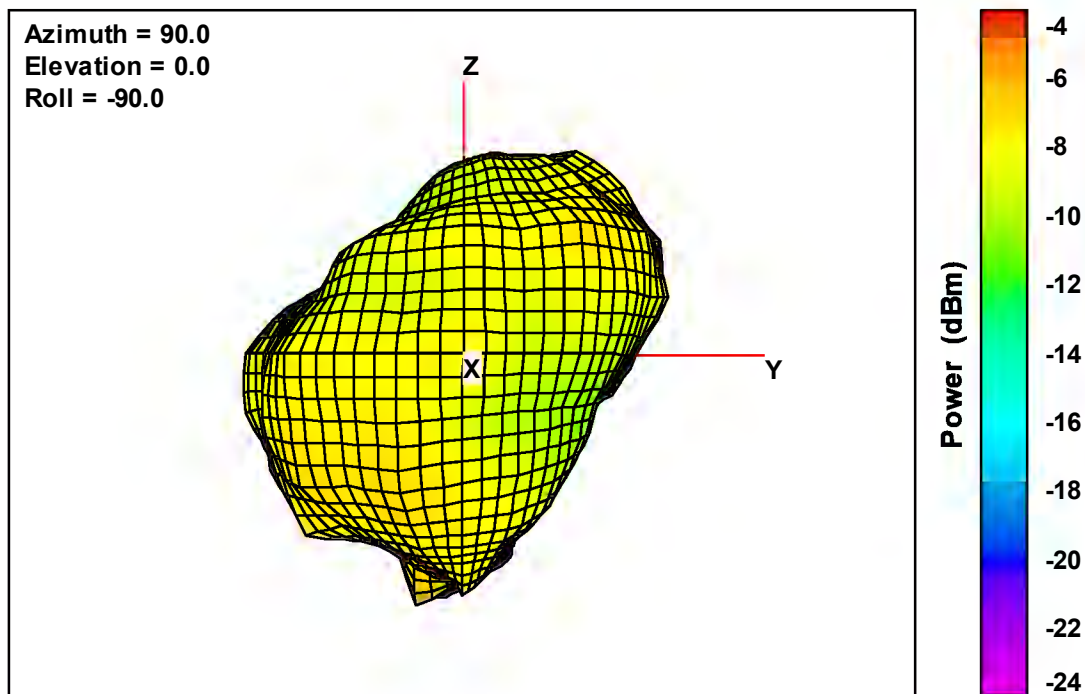
Free-Space Total EIRP, Bottom View, 902 MHz

Total EIRP, Left Side View



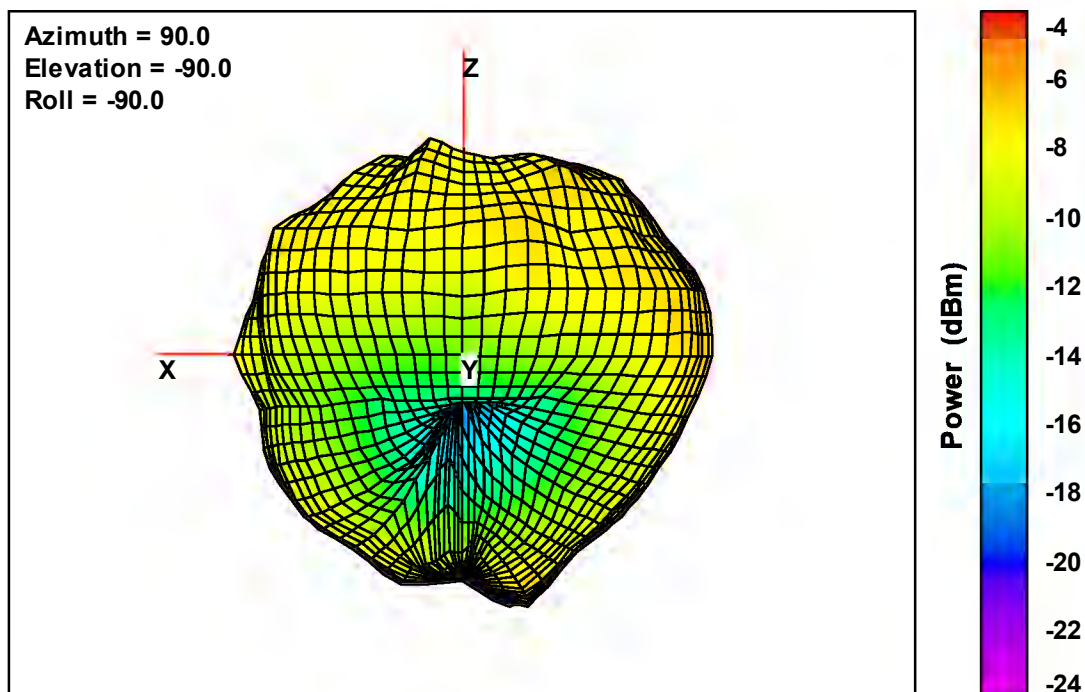
Free-Space Total EIRP, Left Side View, 902 MHz

Total EIRP, Front Face View



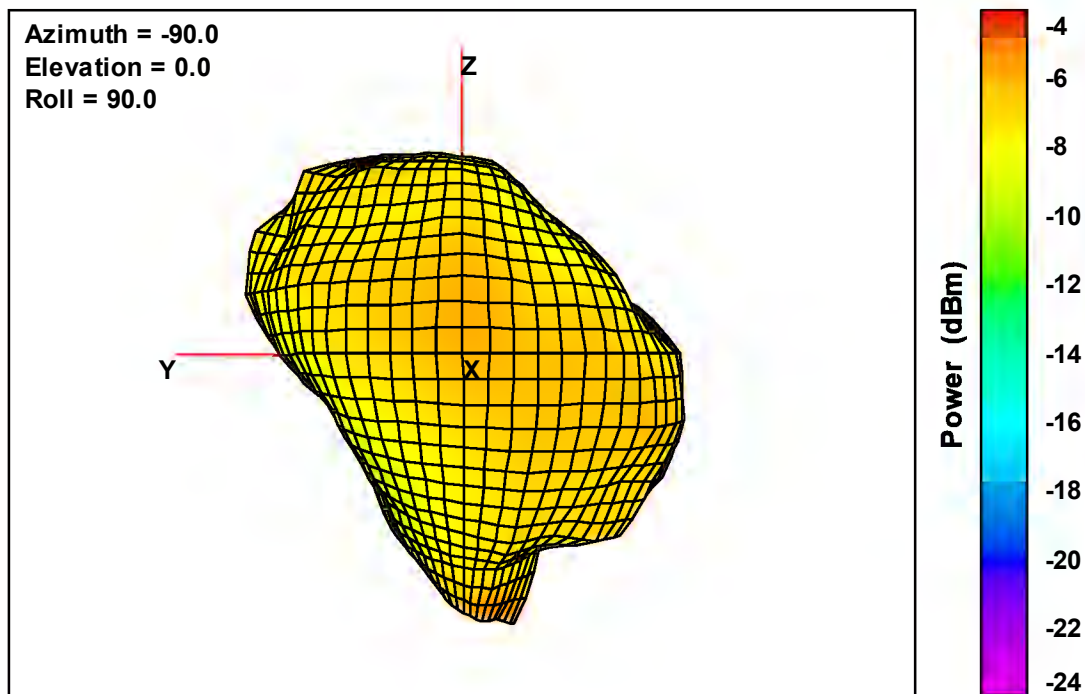
Free-Space Total EIRP, Front Face View, 902 MHz

Total EIRP, Right Side View



Free-Space Total EIRP, Right Side View, 902 MHz

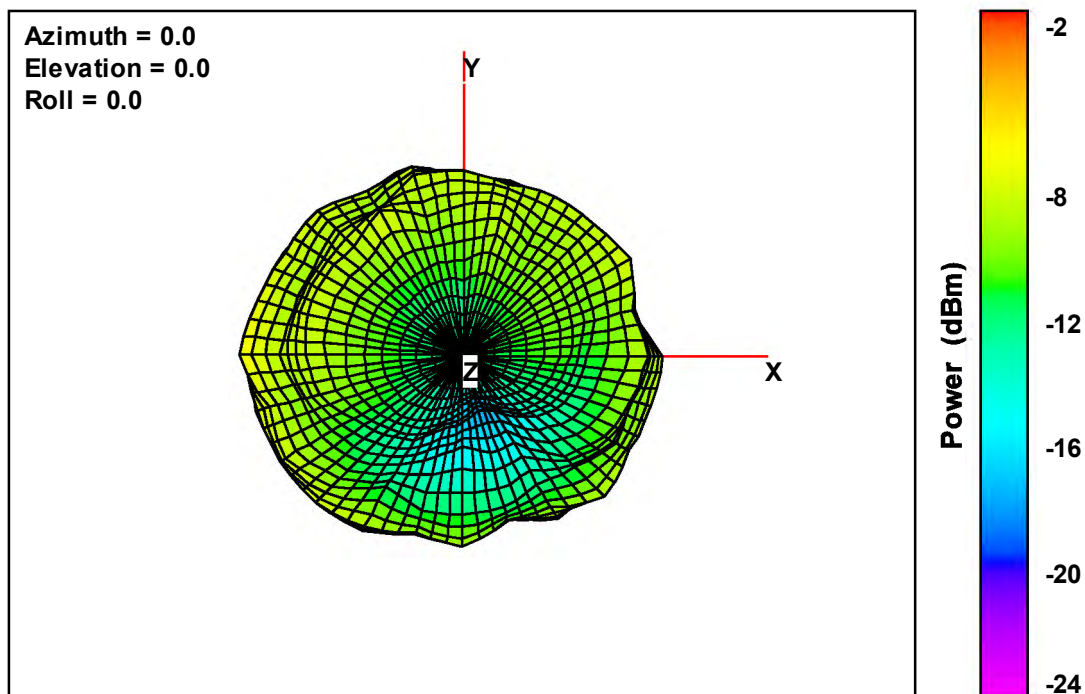
Total EIRP, Back Face View



Free-Space Total EIRP, Back Face View, 902 MHz

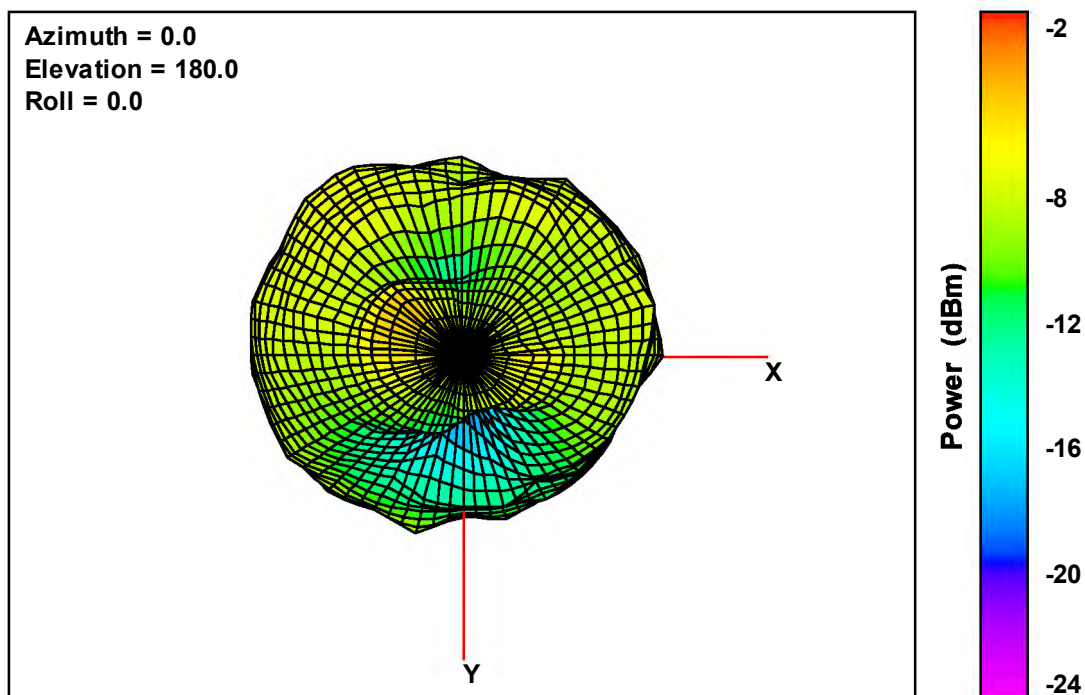
8.2 3D PASSIVE- 915 MHz

Total EIRP, Top View



Free-Space Total EIRP, Top View, 915 MHz

Total EIRP, Bottom View



Free-Space Total EIRP, Bottom View, 915 MHz