



# Antenna Gain and Pattern Measurement Report

**Model Name: DiagnostIQ Outdoor Sensor Hub**

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Test Report Revision History				
Revision	Prepared By	Reviewed and Approved By	Revision Detail	Release Date
A	Kuang Peng	Daisy Zheng	Original Release	Nov. 14 <sup>th</sup> , 2023

Approved and Released By:

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## 1. Test Methodology

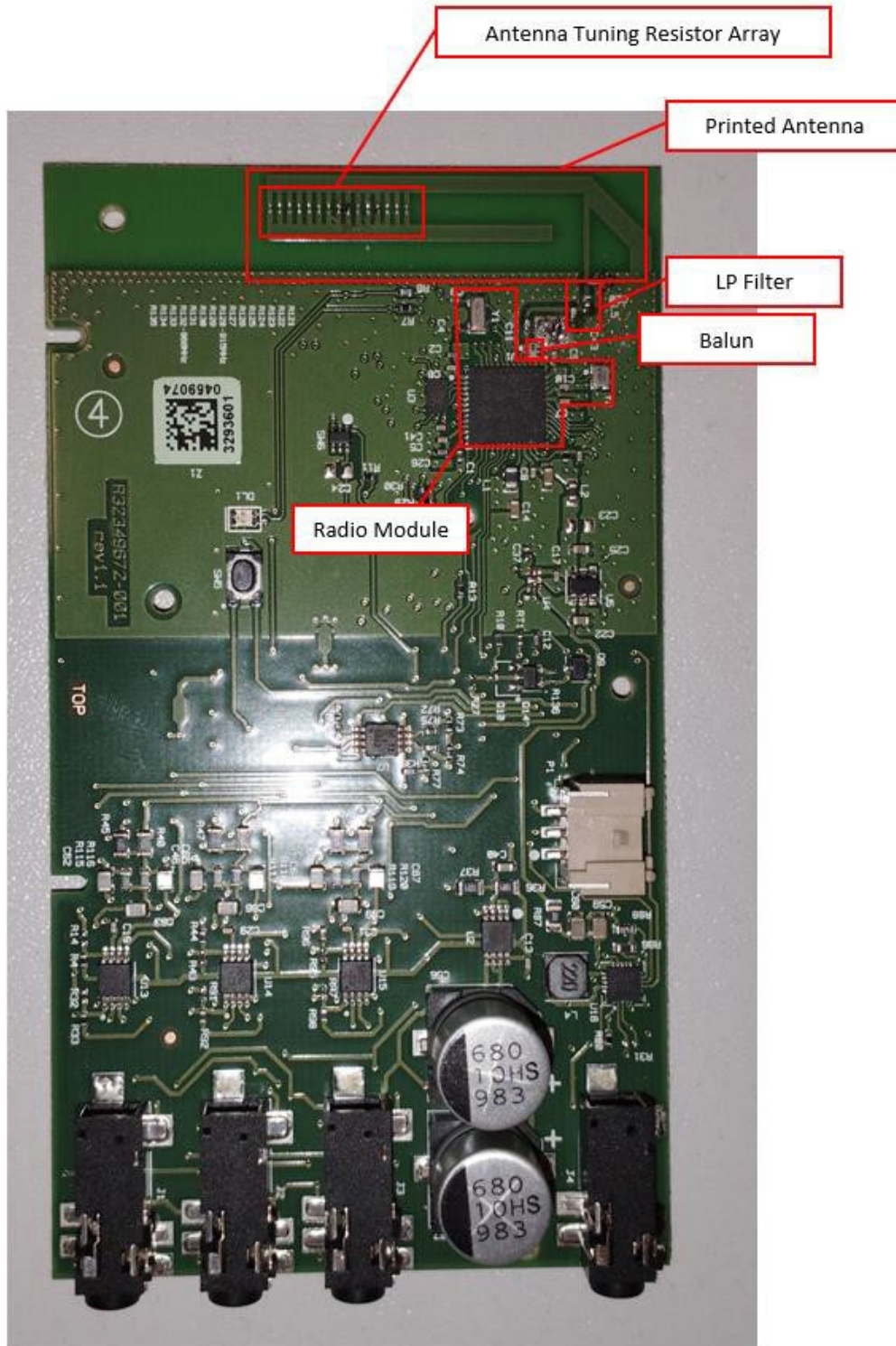
The 3D Passive antenna pattern is performed using Two-Axis Dual-Polarization Pattern Measurement and set the step size for both axes to 15° and the axis measurement mode to stepped.

## 2. Test and Measurement Equipment

Description	Manufacturer	Model	Serial No.	Calibration Date
Vector Network Analyzer	Keysight	P5002A	MY58100491	4/16/2022
OTA Test Chamber	ETS-Lindgren	AMS8050		10/5/2022
OTA Test Software	ETS-Lindgren	EMQuest V1.16 Build 24230		

## 3. Device Under Test Information

- Model name: DiagnostIQ Outdoor Sensor Hub
- Test Frequency (MHz): 903, 915, 926.
- Antenna type: Printed PCB antenna.



RF circuit identification.

## 4. Result Summary

DiagnostIQ Outdoor Sensor Hub on-board PCB Antenna	Frequency		
	903 MHz	915 MHz	926 MHz
TRP (dBm)	-5.54	-5.09	-5.23
EIRP (dBm)	-0.77	-0.41	-0.45
Efficiency (dB)	-5.54	-5.09	-5.23
Efficiency (%)	27.90	30.94	29.97
Gain (dBi)	-0.77	-0.41	-0.45

## 5. Plots

### 5.1 Antenna – 903 MHz 3D Passive

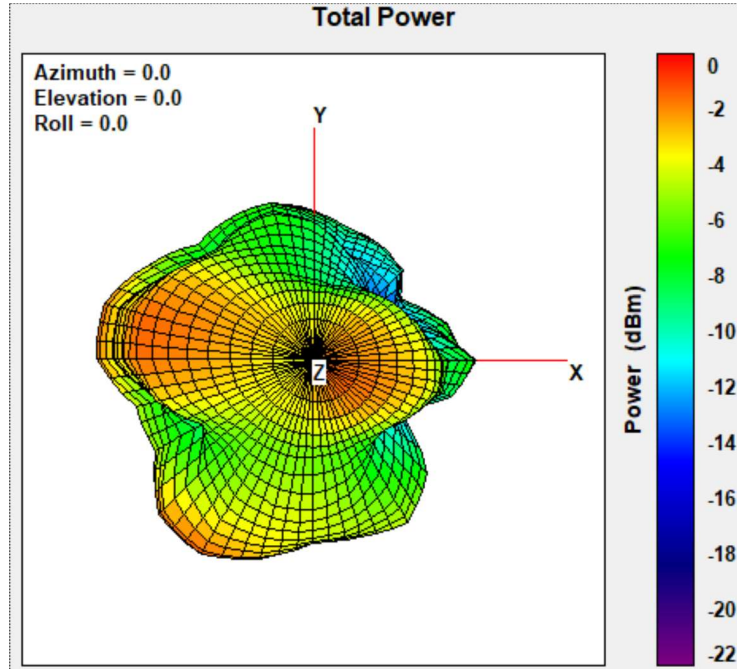


Figure 1. DiagnostIQ Outdoor Sensor Hub Antenna 903 MHz Front View

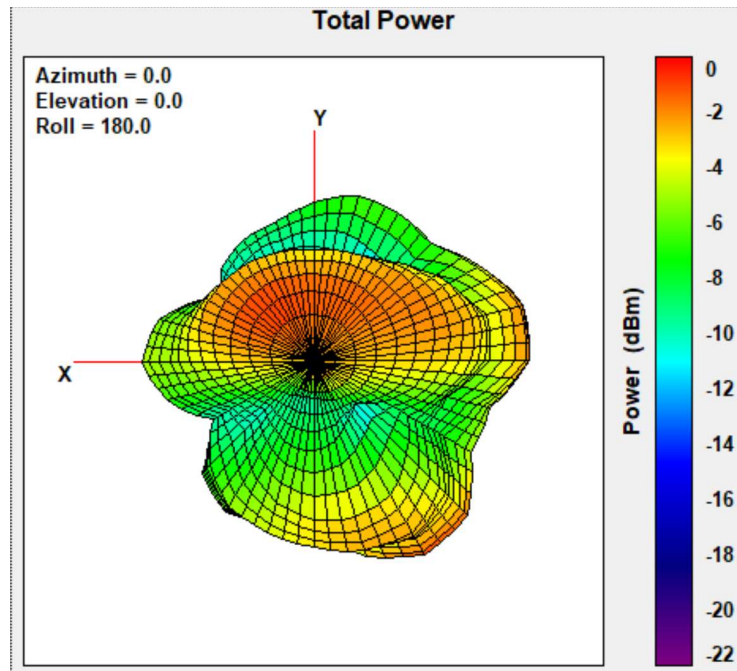


Figure 2. DiagnostIQ Outdoor Sensor Hub Antenna 903 MHz Back View



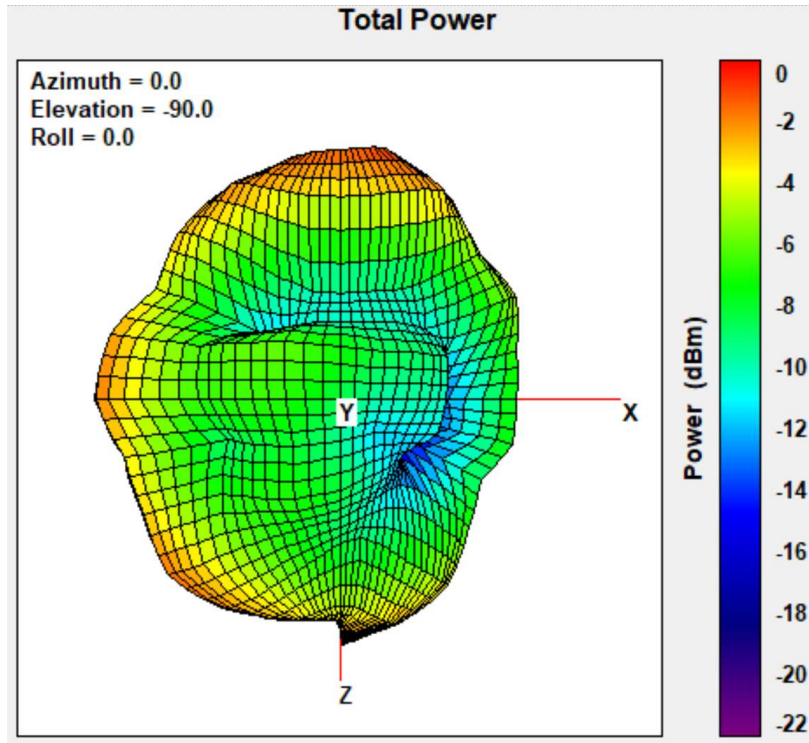


Figure 3. DiagnostIQ Outdoor Sensor Hub Antenna 903 MHz Top View

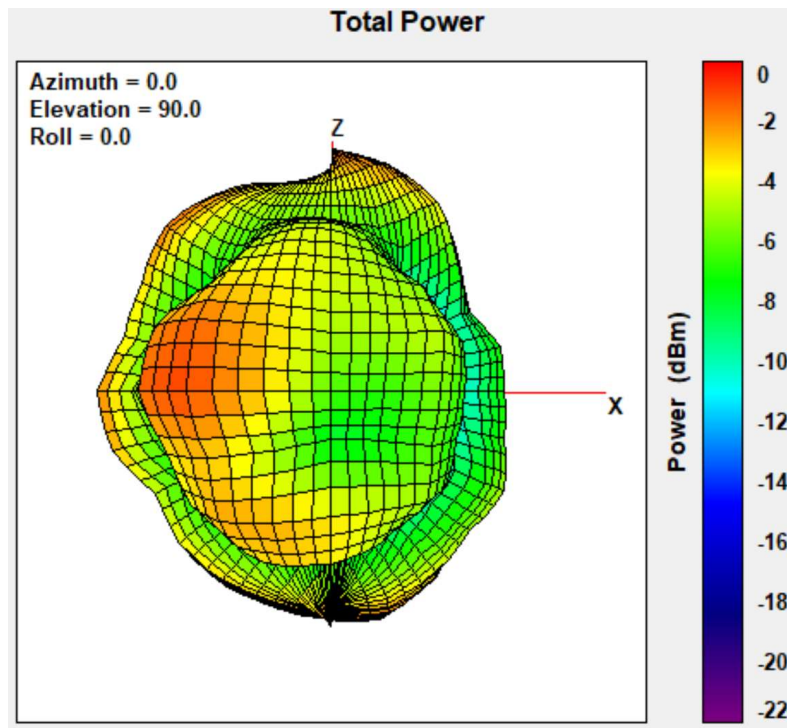


Figure 4 DiagnostIQ Outdoor Sensor Hub Antenna 903 MHz Bottom View

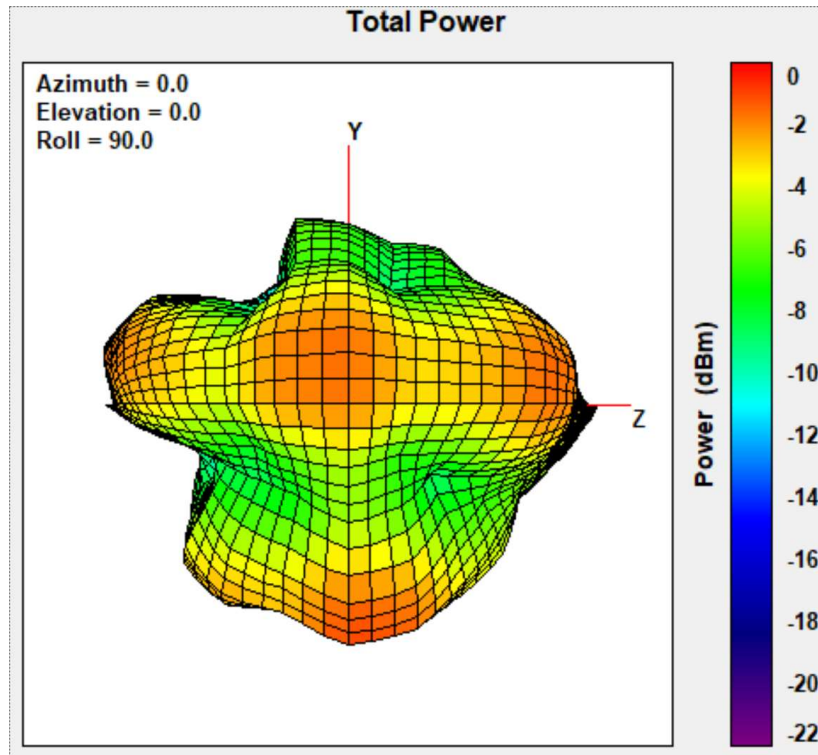


Figure 5. DiagnostIQ Outdoor Sensor Hub Antenna 903 MHz Left Side View

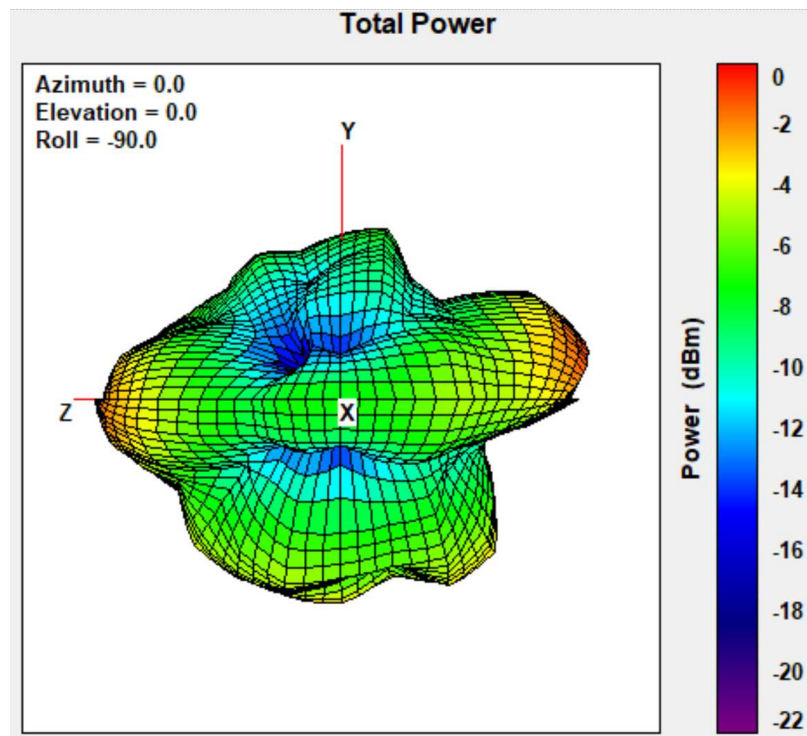


Figure 6. DiagnostIQ Outdoor Sensor Hub Antenna 903 MHz Right Side View

## 5.2 Antenna – 915 MHz 3D Passive

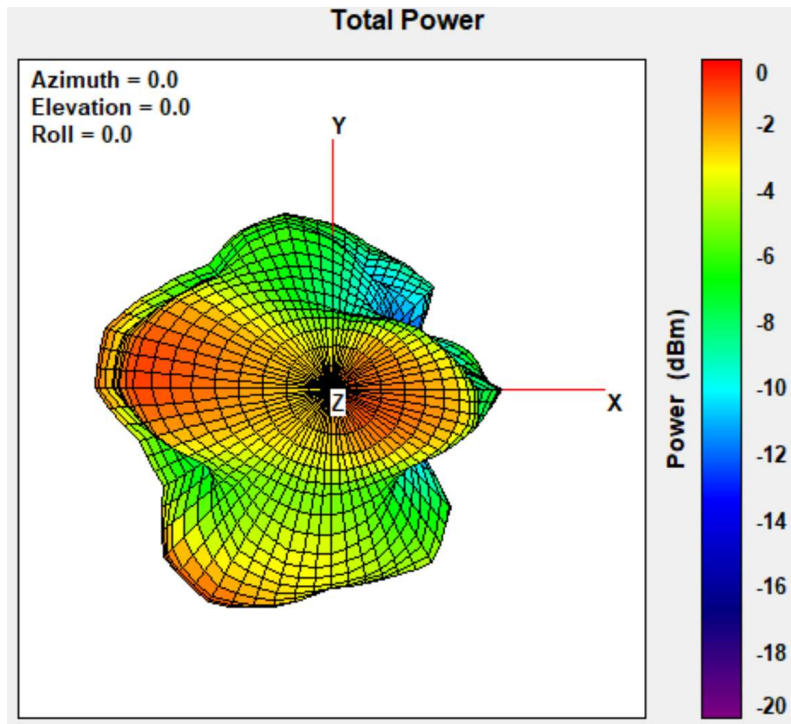


Figure 7. DiagnostIQ Outdoor Sensor Hub Antenna 915 MHz Front View

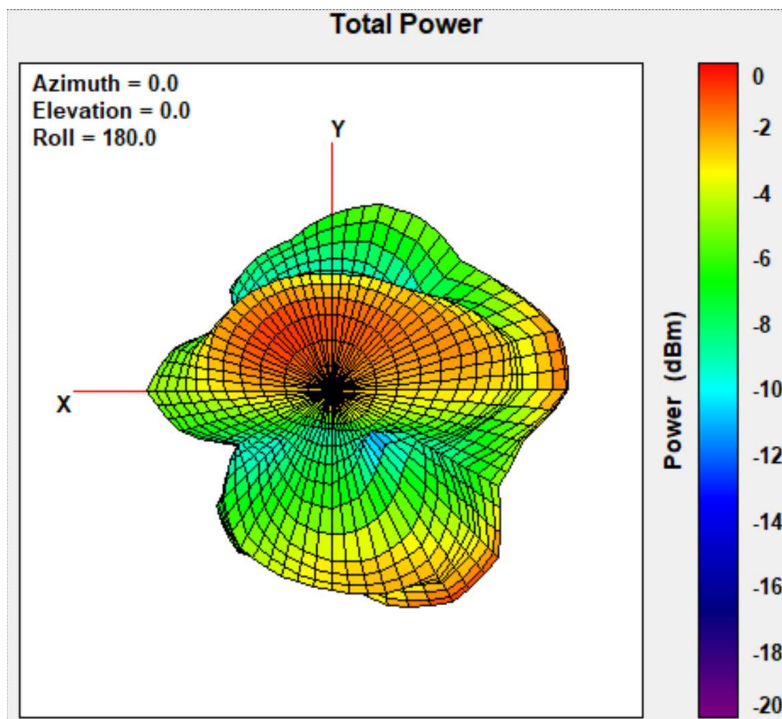


Figure 8. DiagnostIQ Outdoor Sensor Hub Antenna 915 MHz Back View

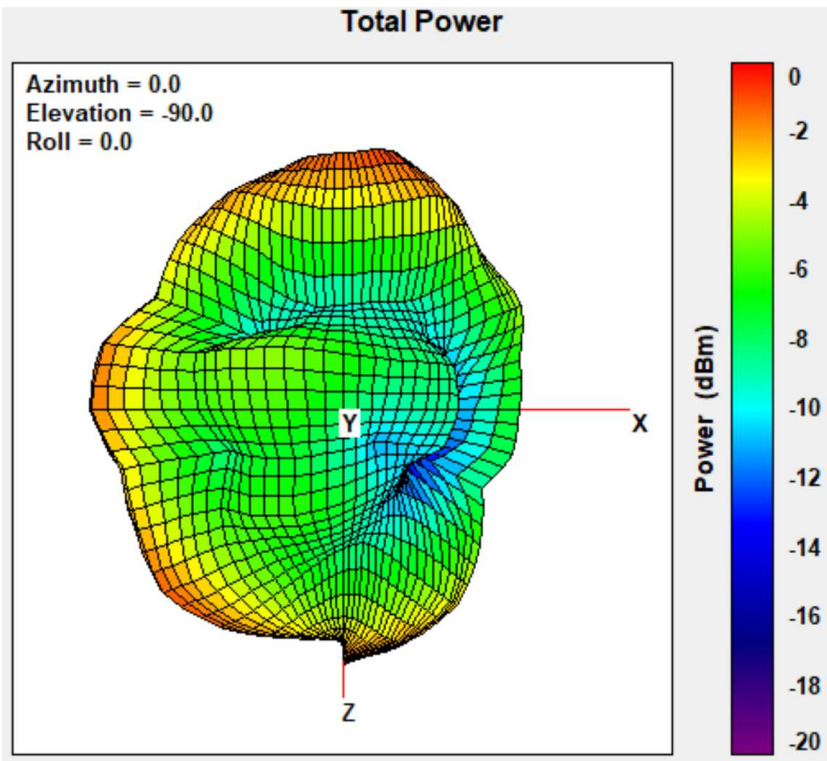


Figure 9. DiagnostIQ Outdoor Sensor Hub Antenna 915 MHz Top View

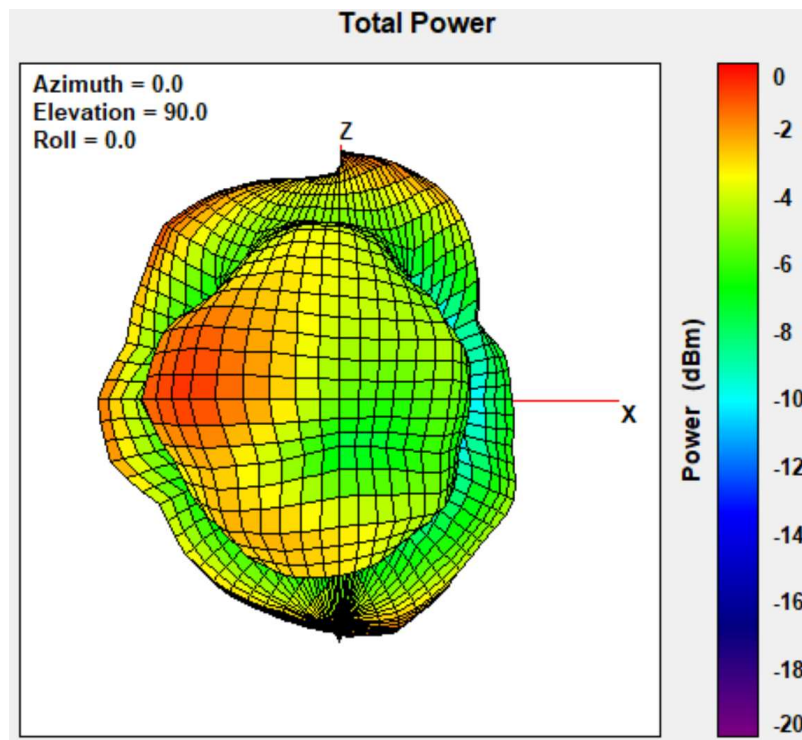


Figure 10. DiagnostIQ Outdoor Sensor Hub Antenna 915 MHz Bottom View

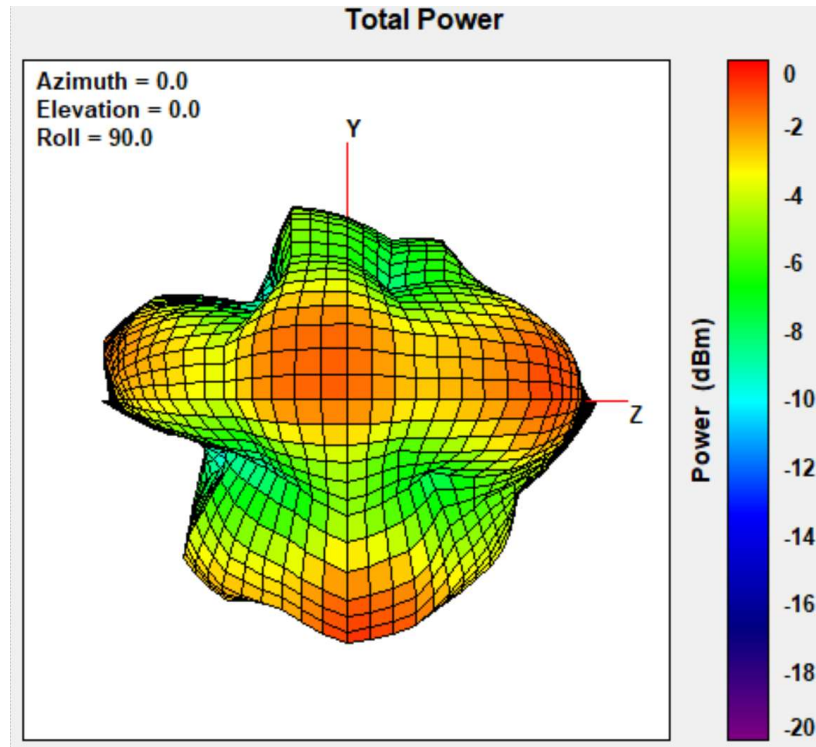


Figure 11. DiagnostIQ Outdoor Sensor Hub Antenna 915 MHz Left View

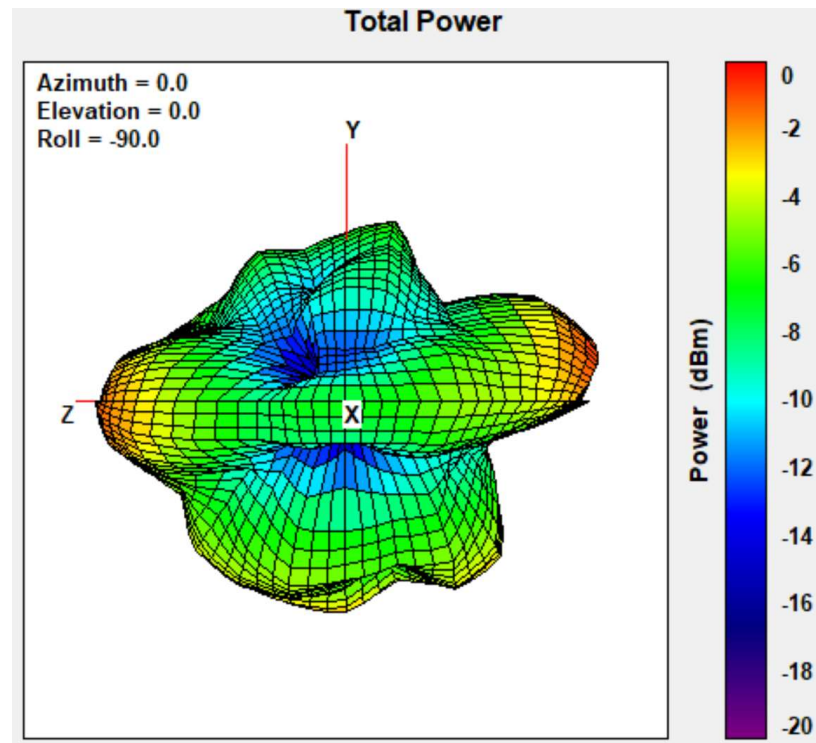


Figure 12. DiagnostIQ Outdoor Sensor Hub Antenna 915 MHz Right View

### 5.3 Antenna – 926 MHz 3D Passive

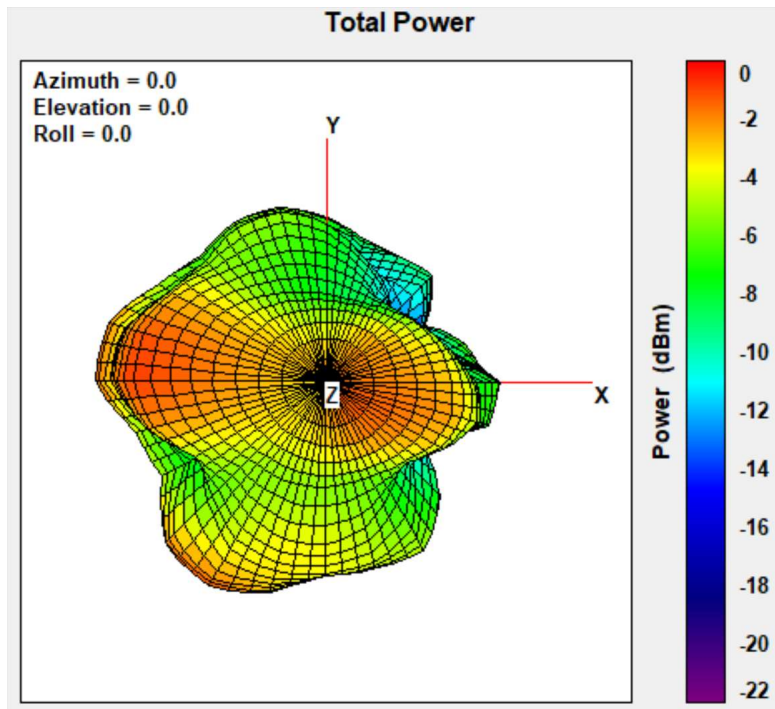


Figure 13. DiagnostIQ Outdoor Sensor Hub Antenna 926 MHz Front View

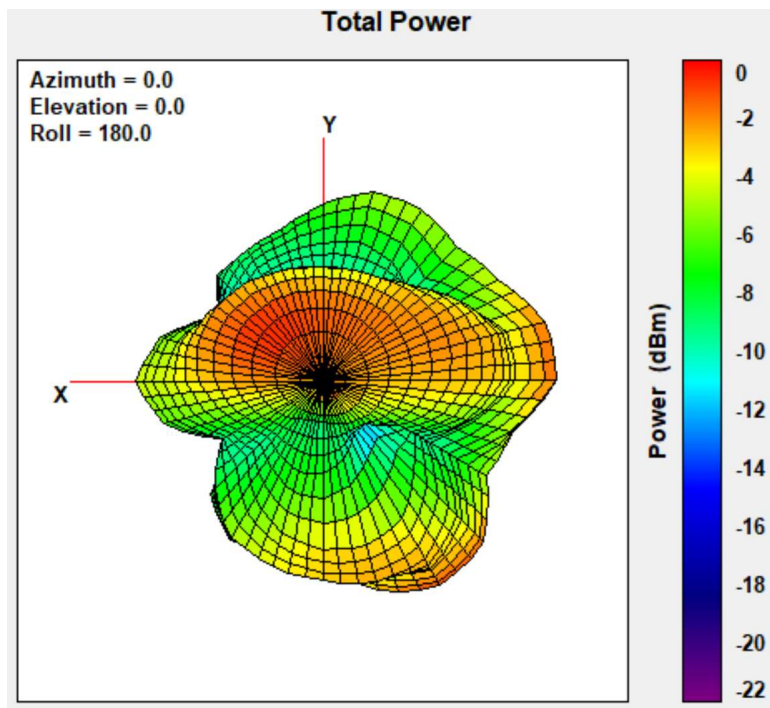


Figure 14. DiagnostIQ Outdoor Sensor Hub Antenna 926 MHz Back View

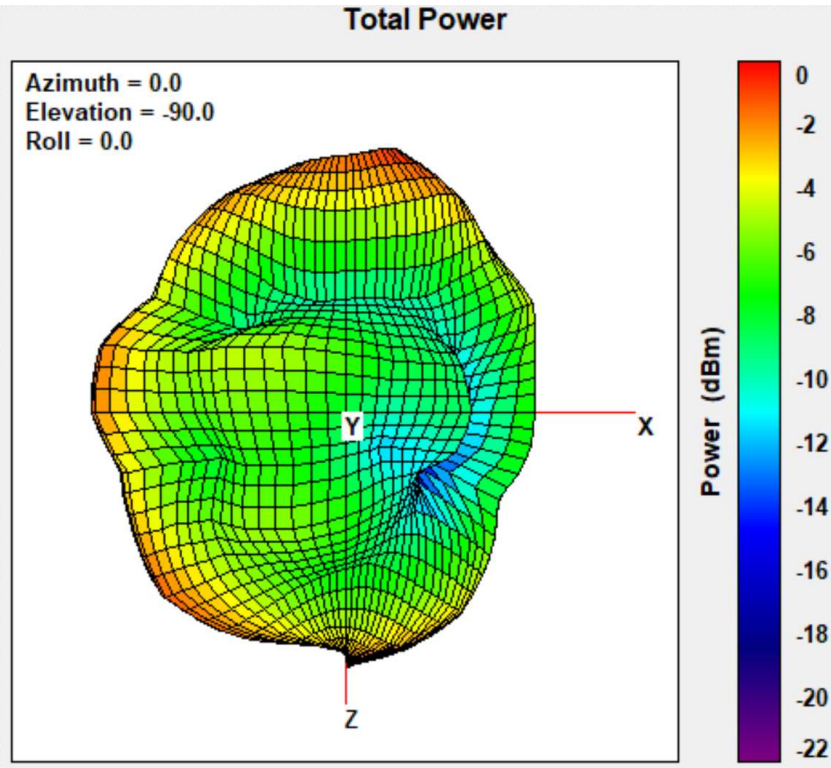


Figure 15. DiagnostIQ Outdoor Sensor Hub Antenna 926 MHz Top View

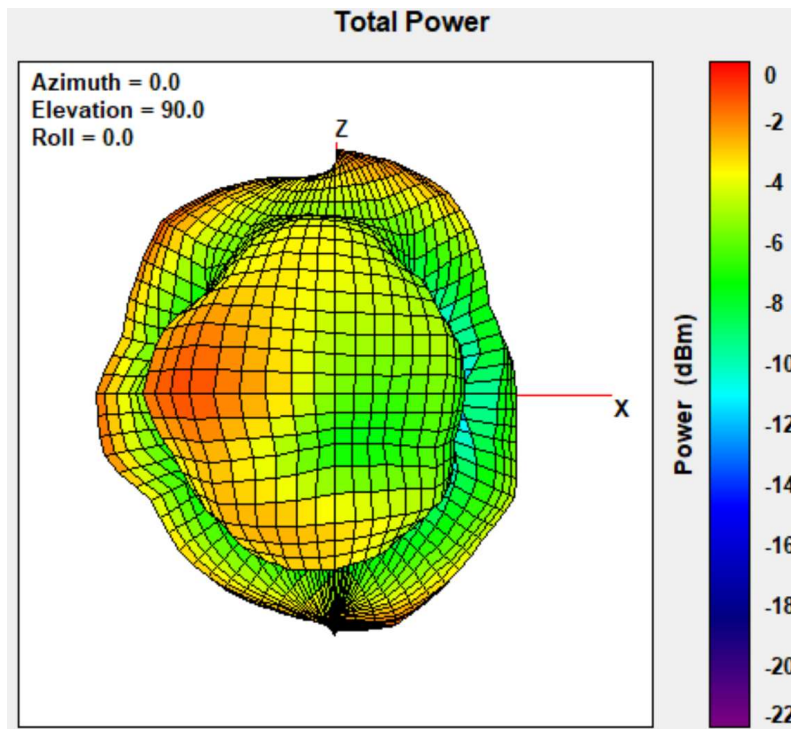


Figure 16. DiagnostIQ Outdoor Sensor Hub Antenna 926 MHz Bottom View

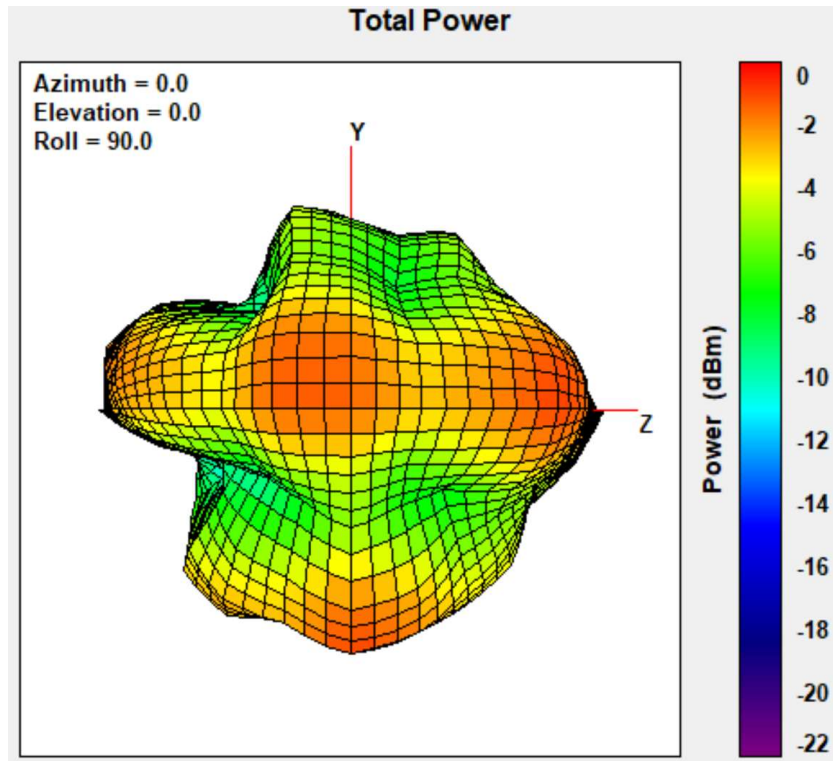


Figure 17. DiagnostIQ Outdoor Sensor Hub Antenna 926 MHz Left View

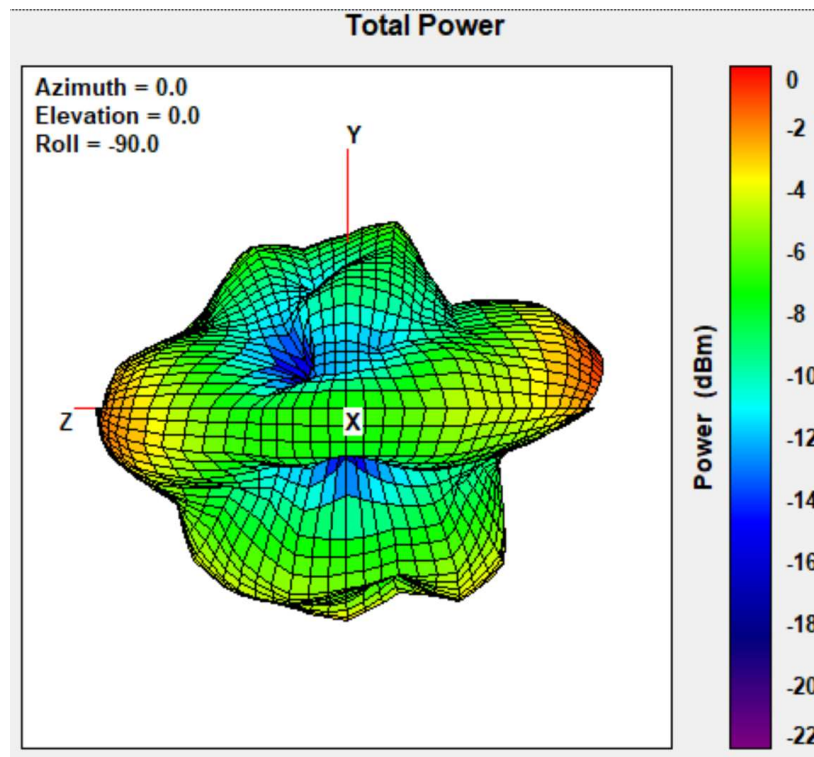


Figure 18. DiagnostIQ Outdoor Sensor Hub Antenna 926 MHz Right View





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## 6. Test Setup

