

Antenna Gain and Pattern Measurement Report

Model Name: ERM4010

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Test Report Revision History				
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1. Test Methodology

The 3D passive antenna pattern is measured using a two-axis dual-polarization pattern measurement setup, with the step size for both axes set to 15° and the axis measurement mode set to “stepped.”

2. Test and Measurement Equipment

Description	Manufacturer	Model	Serial No.	Calibration Date
Vector Network Analyzer	Anritsu	MS46522B	1903101	2/27/2025
OTA Test Chamber	ETS-Lindgren	AMS8050		4/12/2025
OTA Test Software	ETS-Lindgren	EMQuest V1.16 Build 24230		

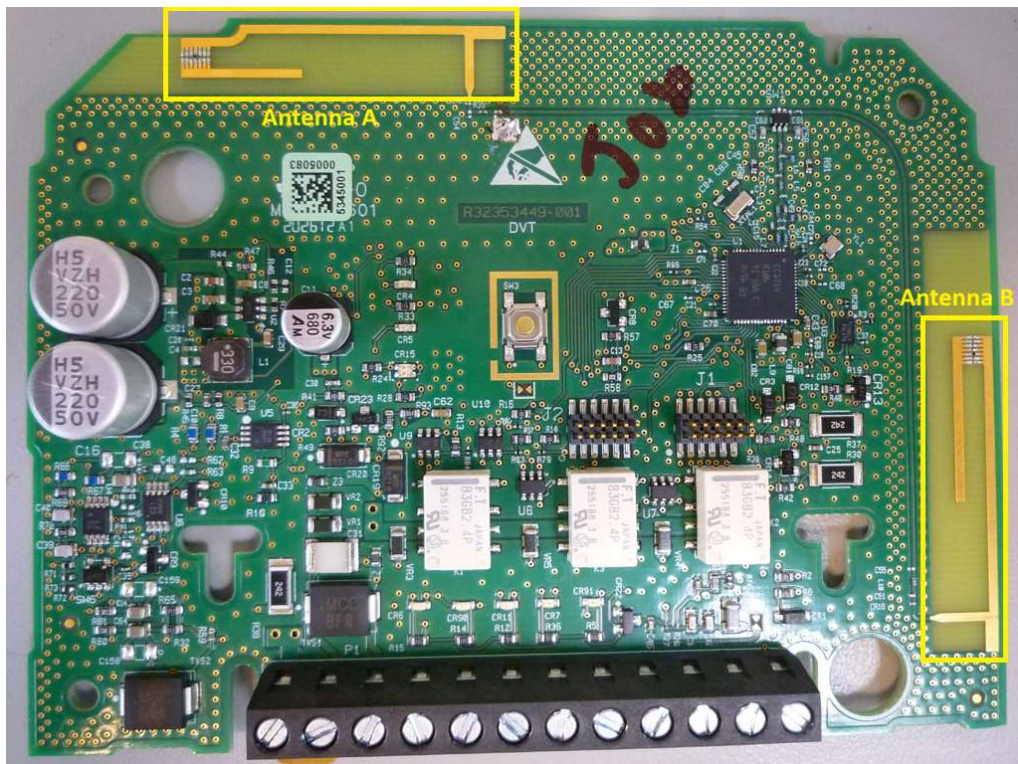
3. Device Under Test Information

- Model name: ERM4010
- Test Frequency (MHz): 903, 914.6, 926.4
- Antenna type: Printed PCB antenna.

4. Result Summary

ERM4010 PCB Antenna A (long edge of PCB)	Frequency (MHz)		
	903.0	914.6	926.4
Efficiency (dB)	-1.77	-1.64	-1.82
Efficiency (%)	66.42	68.54	65.75
Gain (dBi)	1.46	1.62	1.47

ERM4010 PCB Antenna B (short edge of PCB)	Frequency (MHz)		
	903.0	914.6	926.4
Efficiency (dB)	-1.67	-1.58	-1.59
Efficiency (%)	67.95	69.49	69.27
Gain (dBi)	1.28	1.35	1.62



5. Plots

5.1 Antenna A (long edge of PCB) – 903.0 MHz 3D Passive

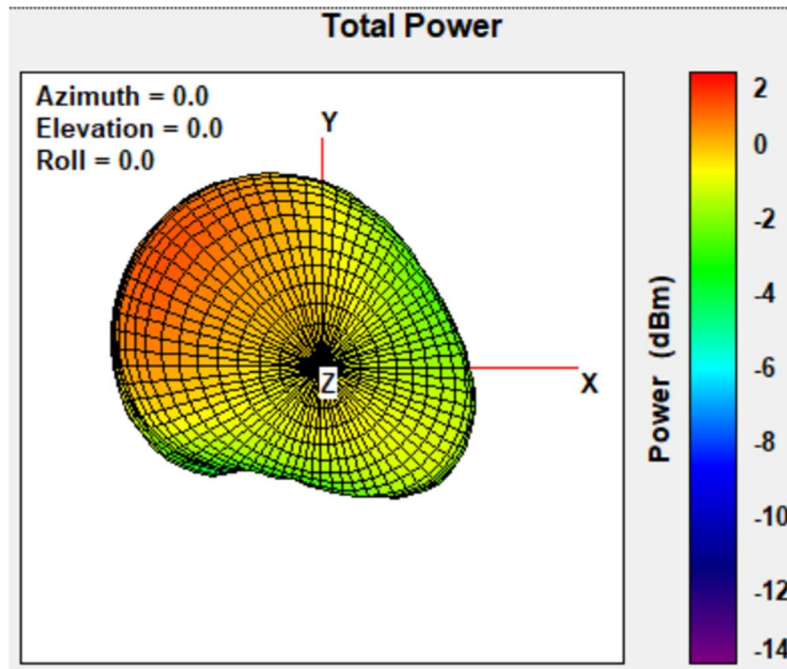


Figure 1. ERM4010 Antenna A 903.0 MHz Front View

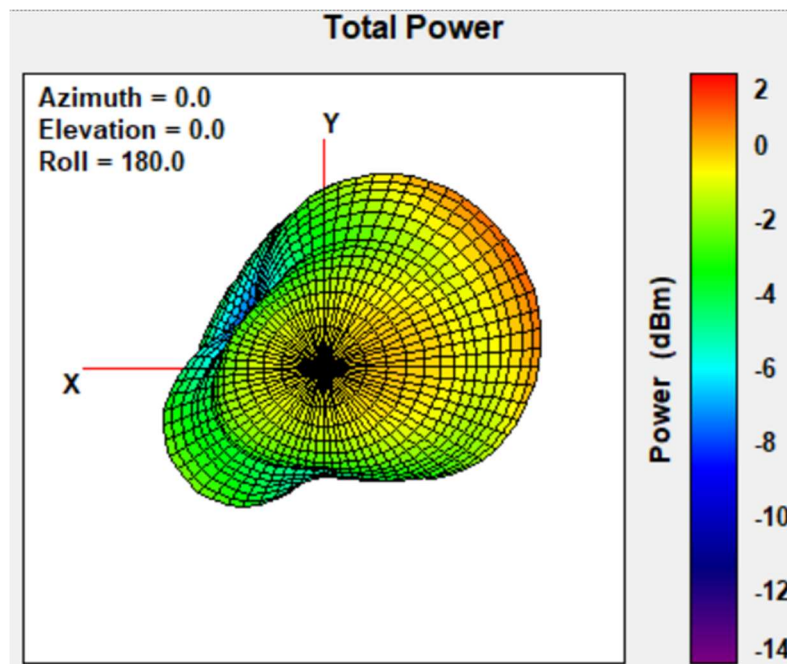


Figure 2. ERM4010 Antenna A 903.0 MHz Back View

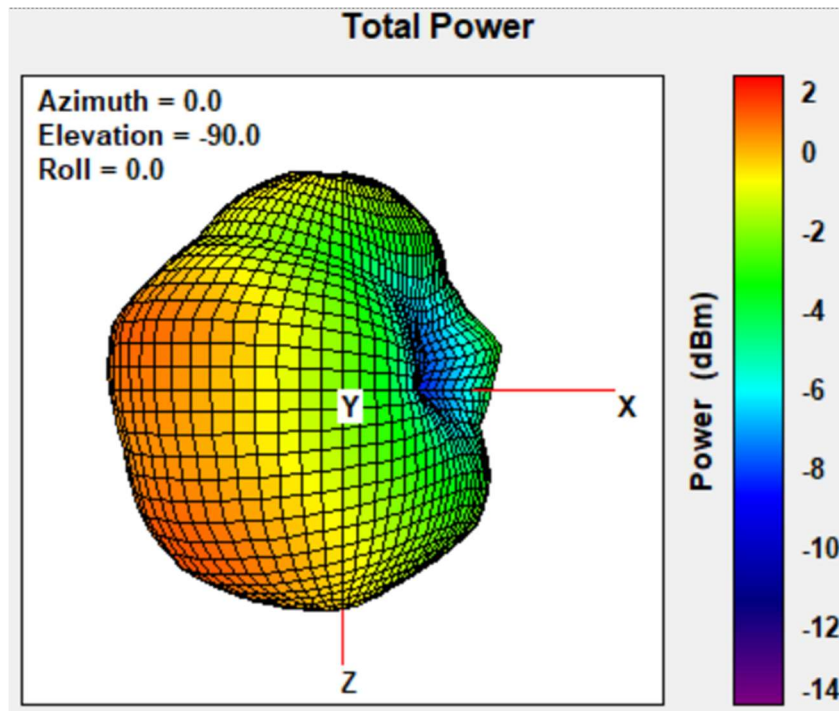


Figure 3. ERM4010 Antenna A 903.0 MHz Top View

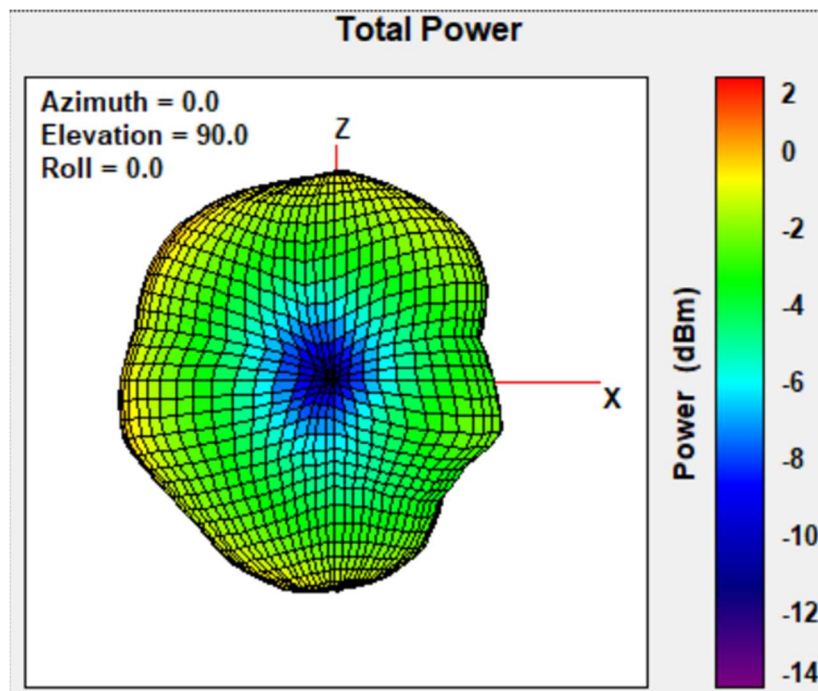


Figure 4. ERM4010 Antenna A 903.0 MHz Bottom View

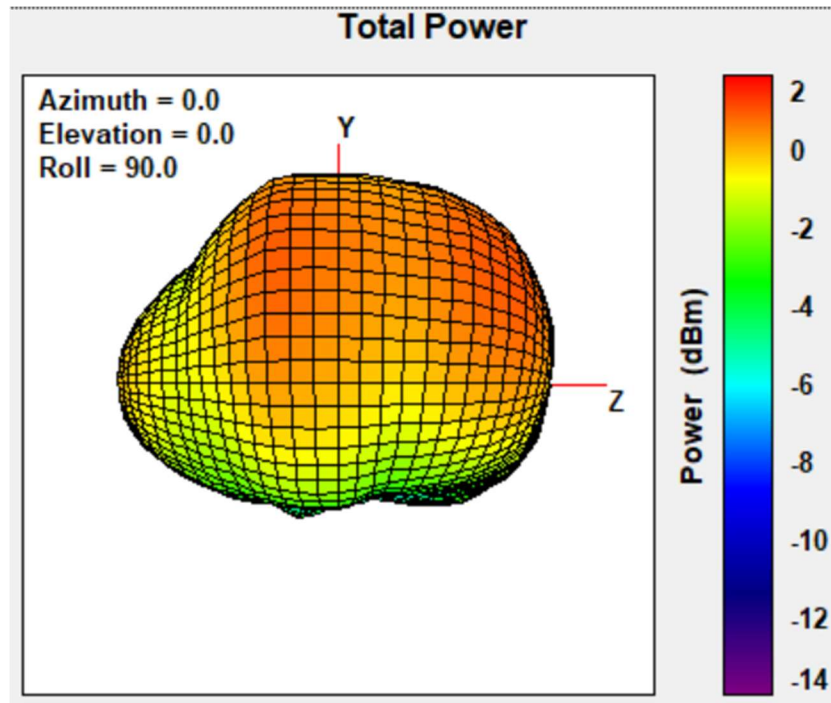


Figure 5. ERM4010 Antenna A 903.0 MHz Left Side View

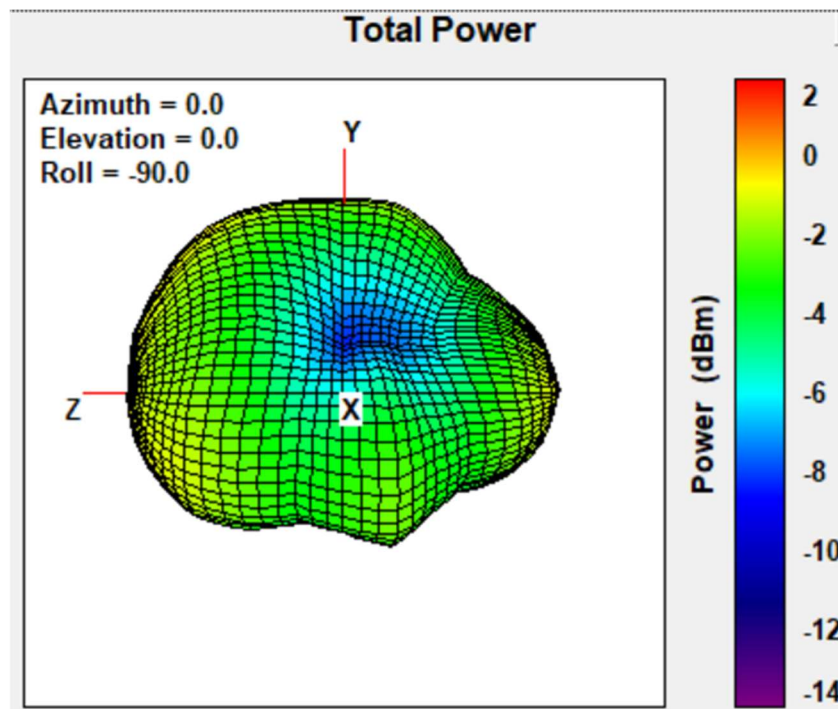


Figure 6. ERM4010 Antenna A 903.0 MHz Right Side View

5.2 Antenna A (long edge of PCB) – 914.6 MHz 3D Passive

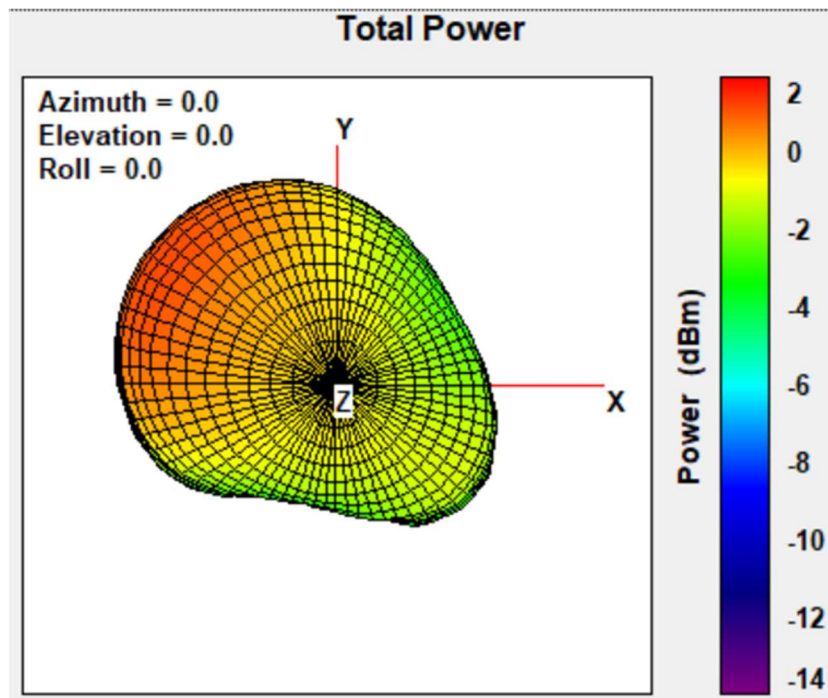


Figure 7. ERM4010 Antenna A 914.6 MHz Front View

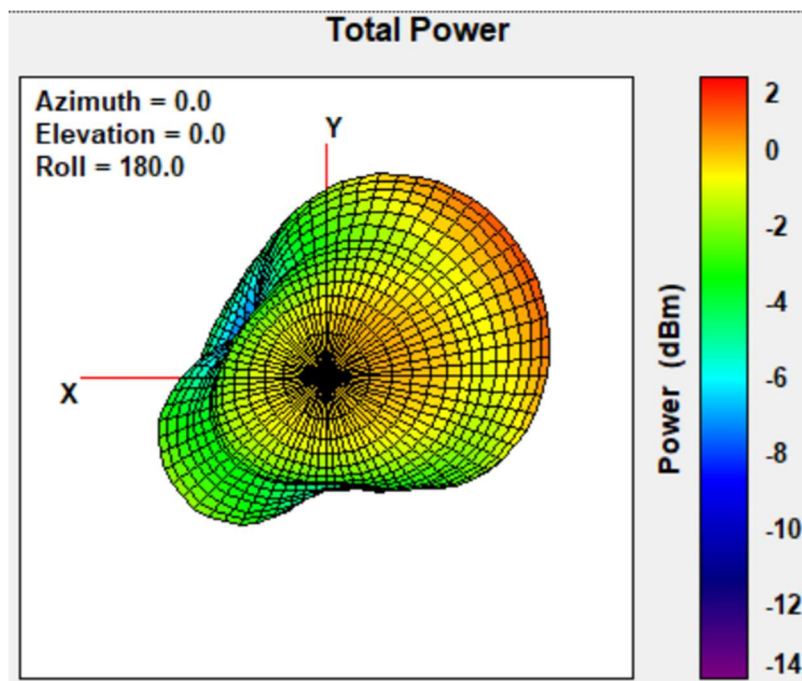


Figure 8. ERM4010 Antenna A 914.6 MHz Back View

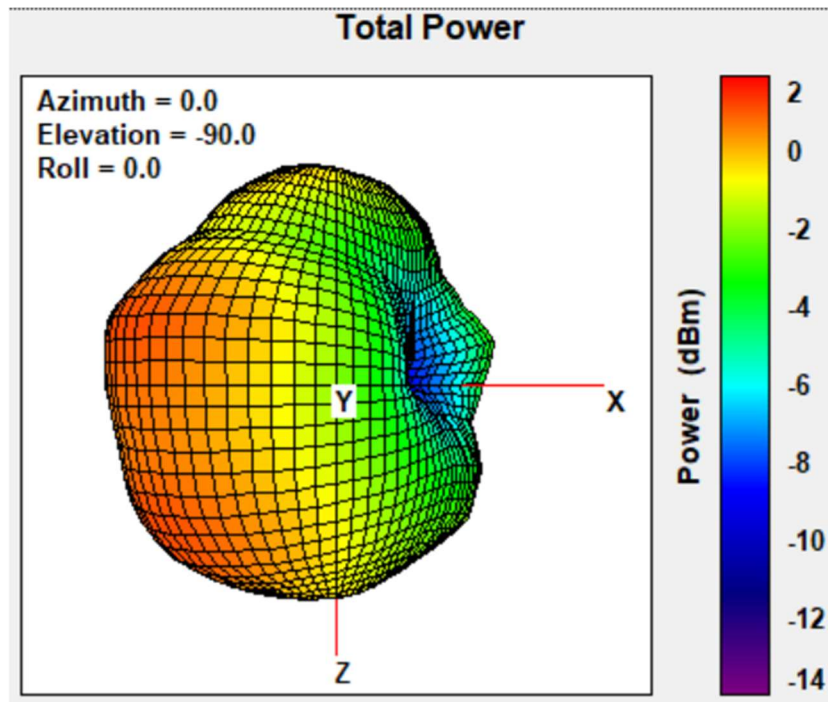


Figure 9. ERM4010 Antenna A 914.6 MHz Top View

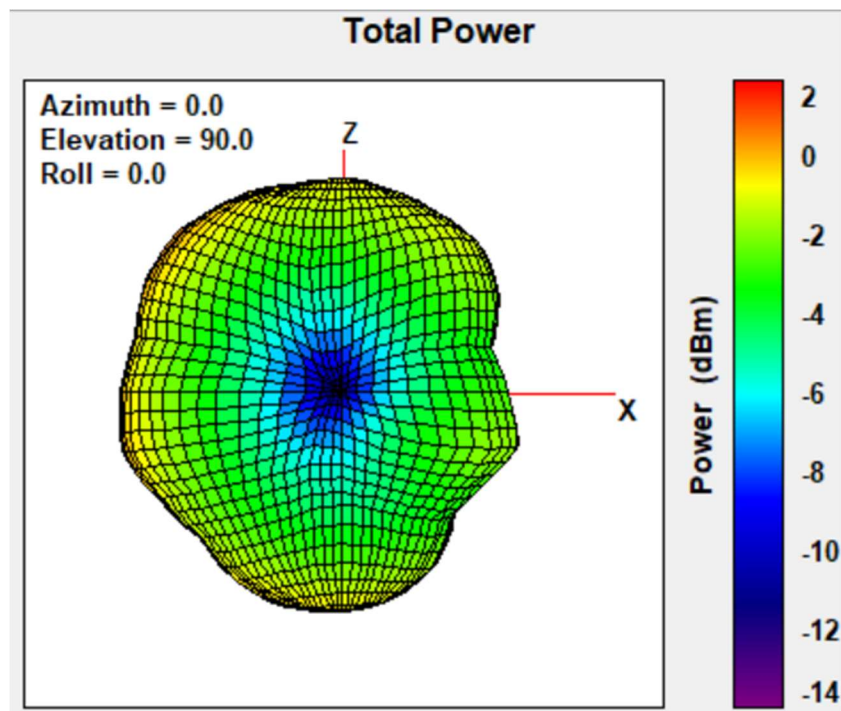


Figure 10. ERM4010 Antenna A 914.6 MHz Bottom View

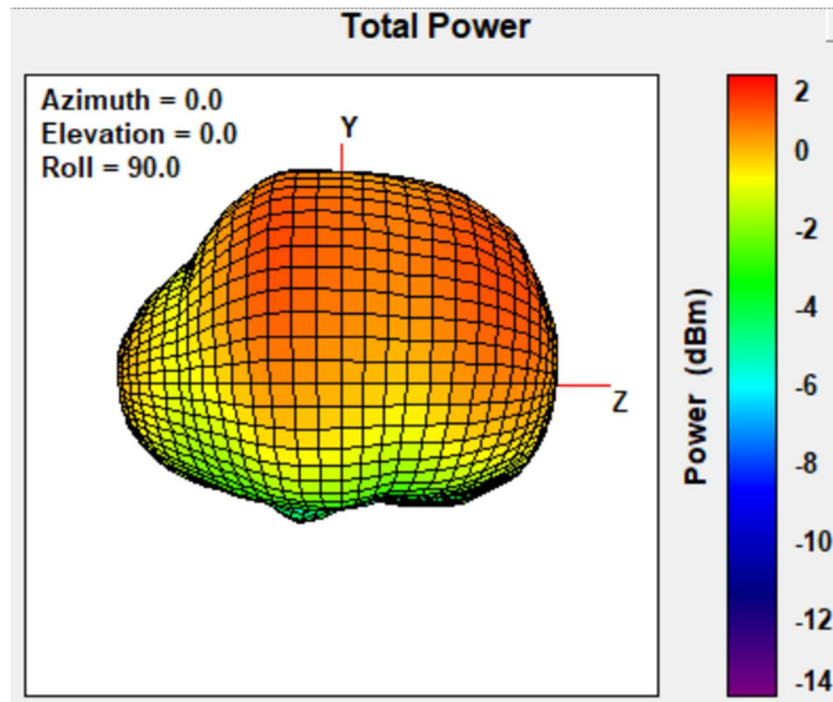


Figure 11. ERM4010 Antenna A 914.6 MHz Left Side View

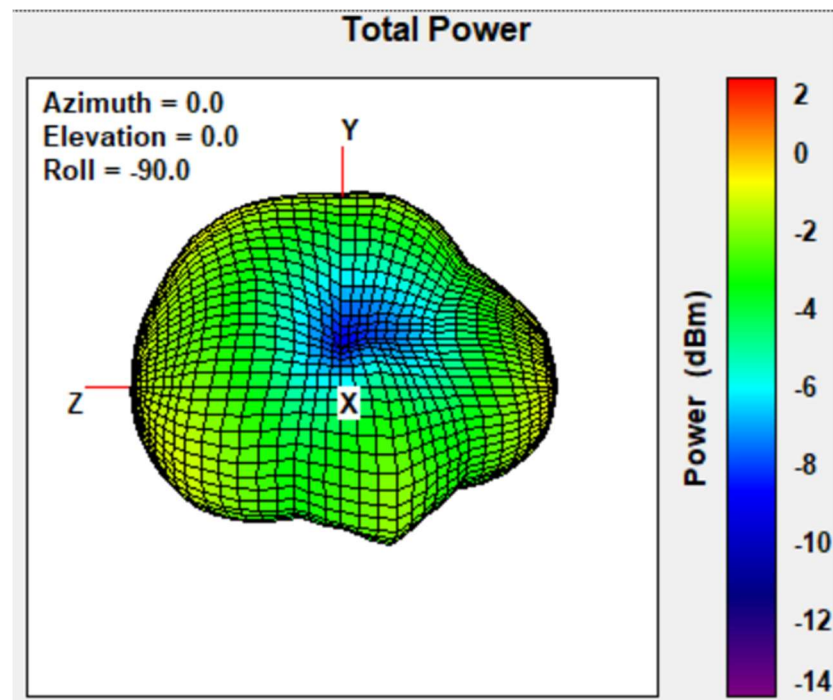


Figure 12. ERM4010 Antenna A 914.6 MHz Right Side View

5.3 Antenna A (long edge of PCB) – 926.4 MHz 3D Passive

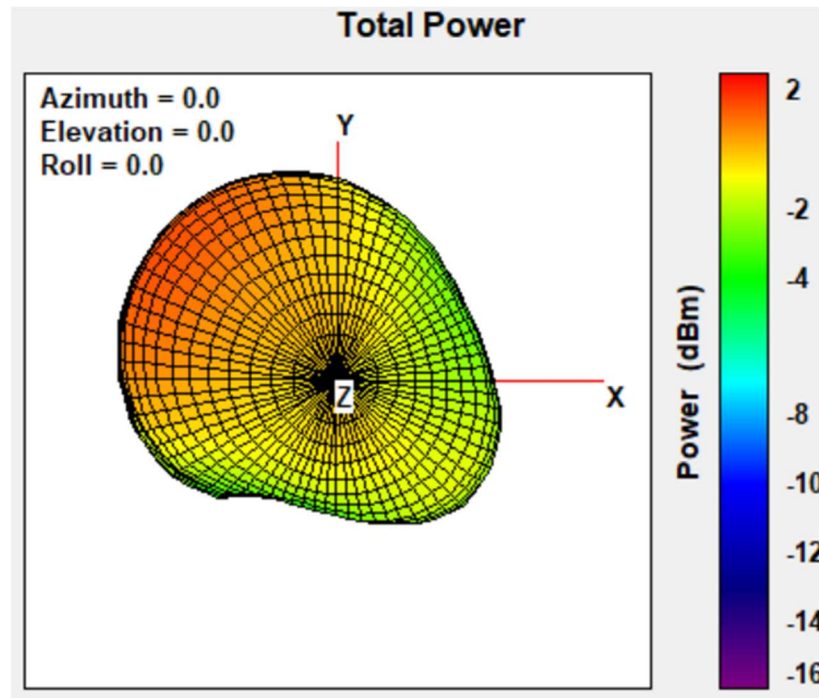


Figure 13. ERM4010 Antenna A 926.4 MHz Front View

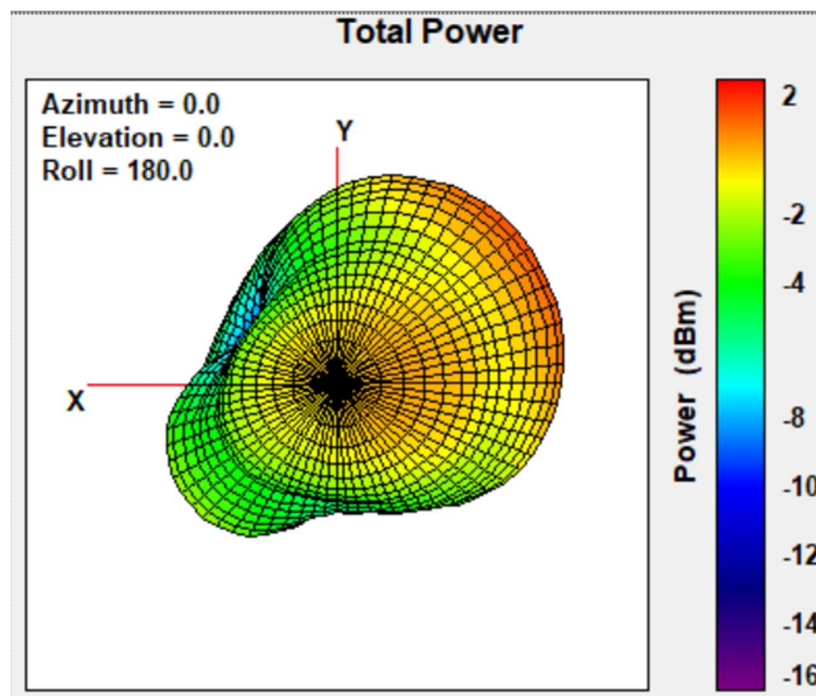


Figure 14. ERM4010 Antenna A 926.4 MHz Back View

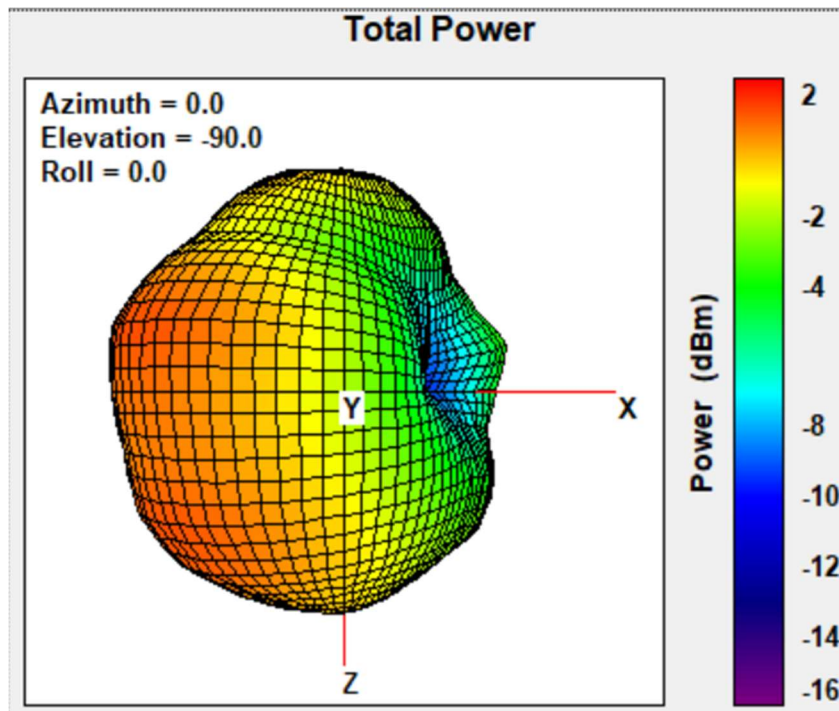


Figure 15. ERM4010 Antenna A 926.4 MHz Top View

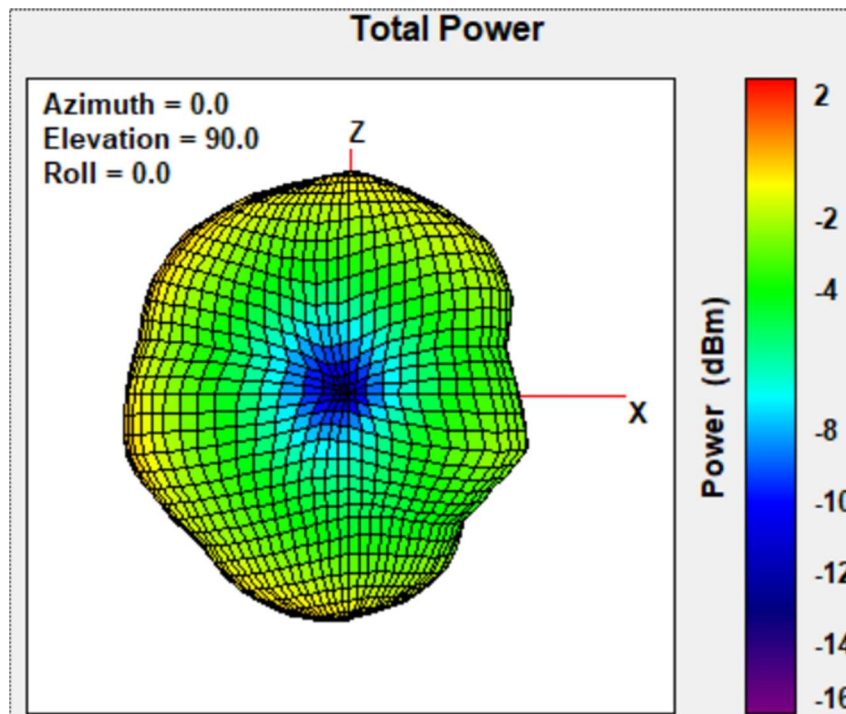


Figure 16. ERM4010 Antenna A 926.4 MHz Bottom View

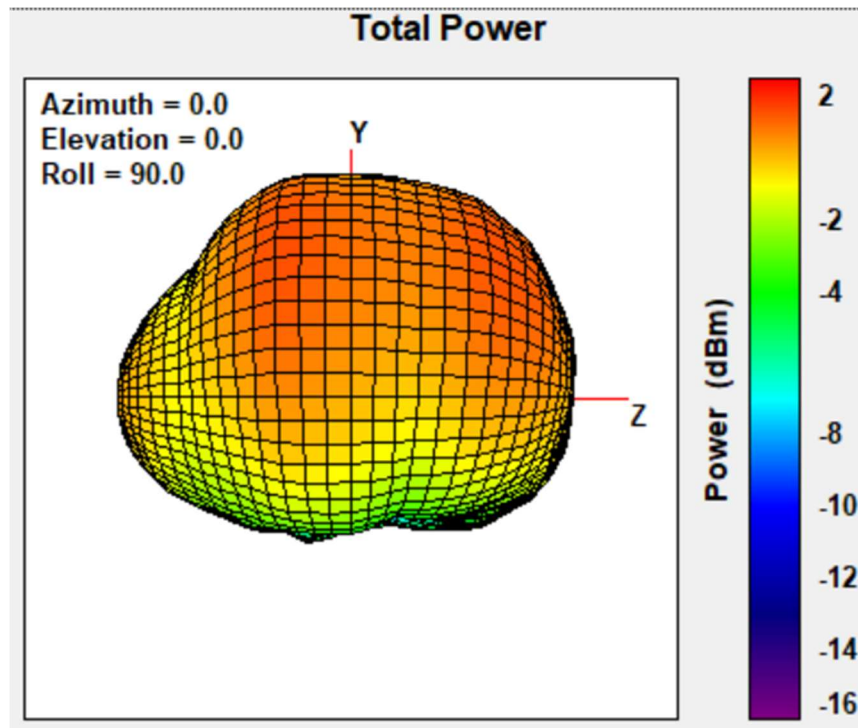


Figure 17. ERM4010 Antenna A 926.4 MHz Left Side View

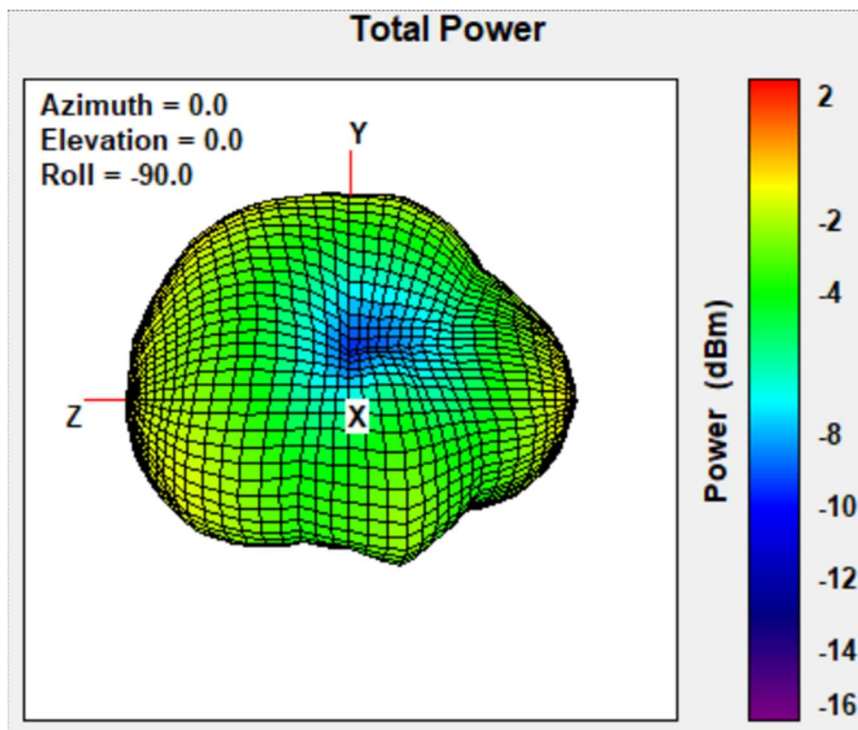


Figure 18. ERM4010 Antenna A 926.4 MHz Right Side View

5.4 Antenna B (short edge of PCB) – 903.0 MHz 3D Passive

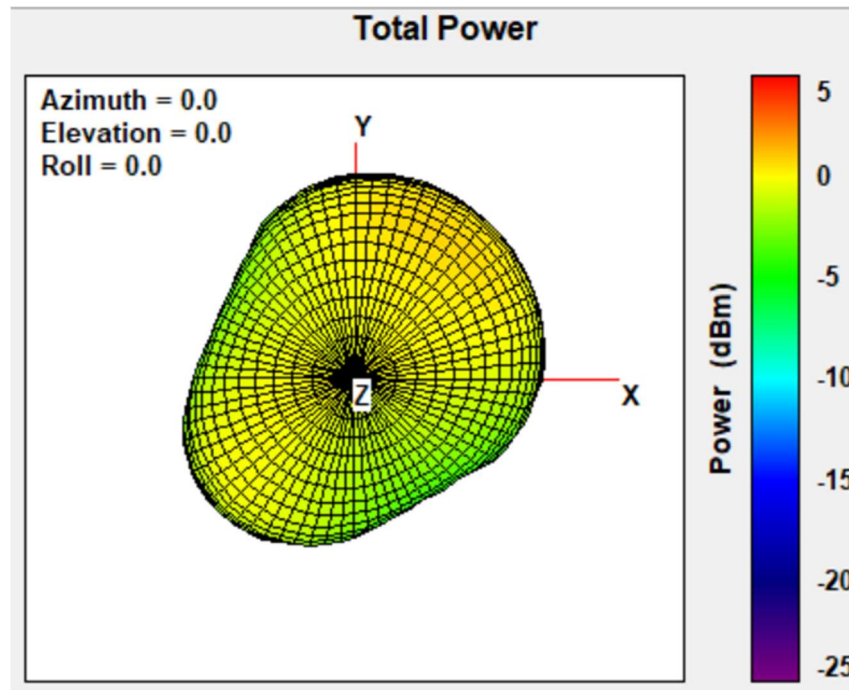


Figure 19. ERM4010 Antenna B 903.0 MHz Front View

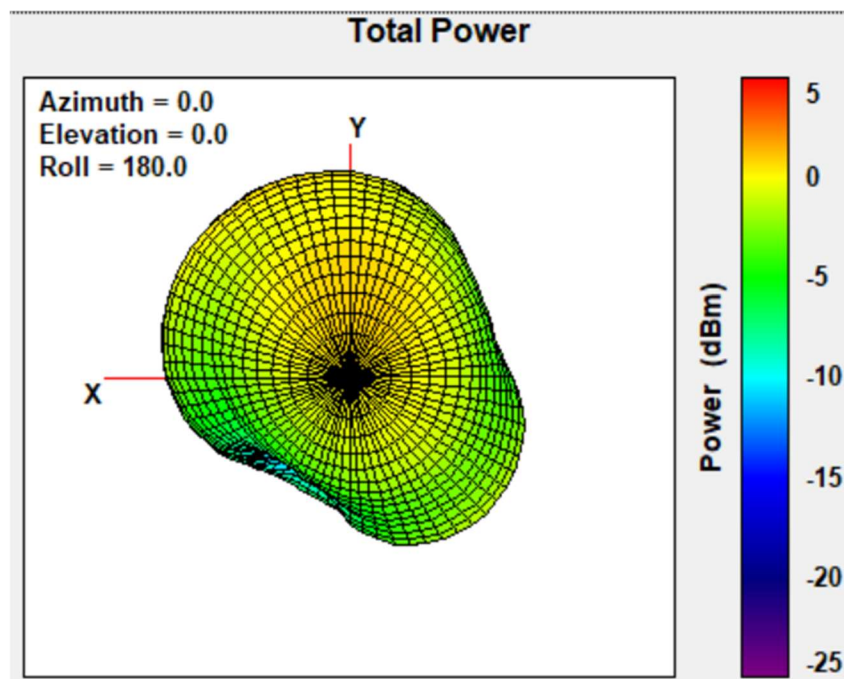


Figure 20. ERM4010 Antenna B 903.0 MHz Back View

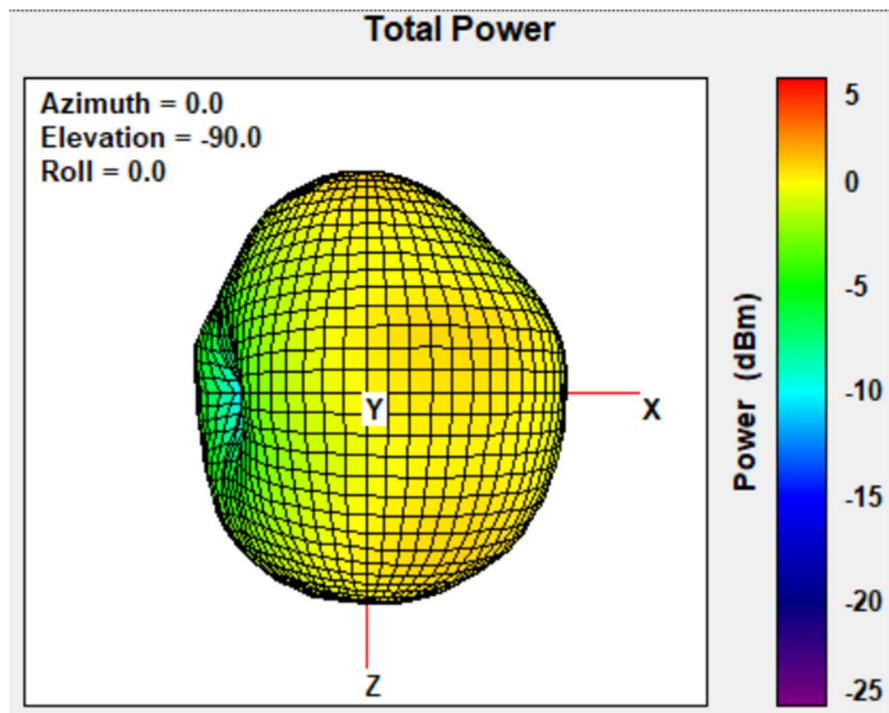


Figure 21. ERM4010 Antenna B 903.0 MHz Top View

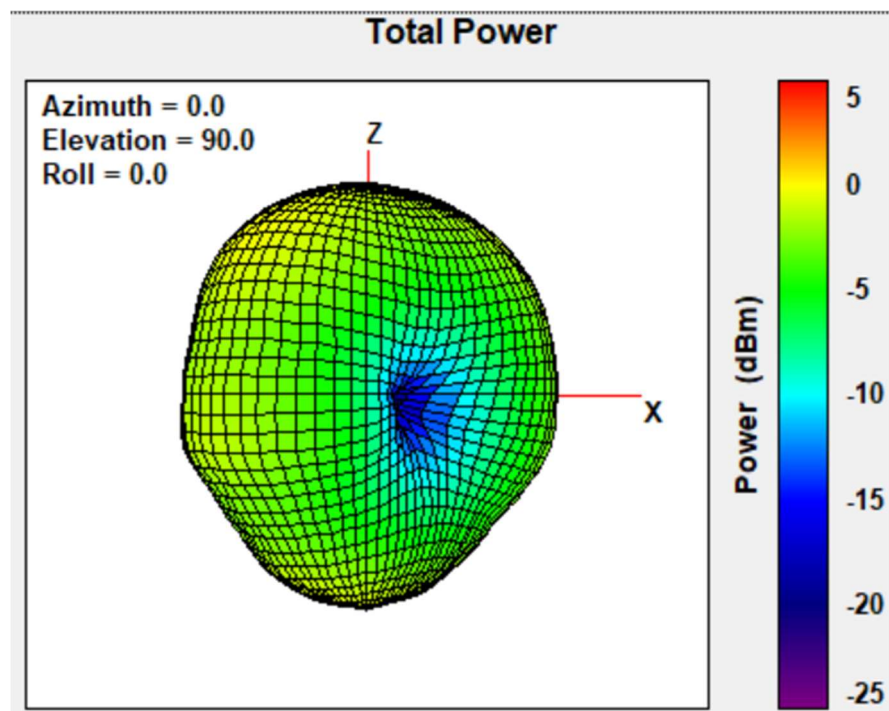


Figure 22. ERM4010 Antenna B 903.0 MHz Bottom View

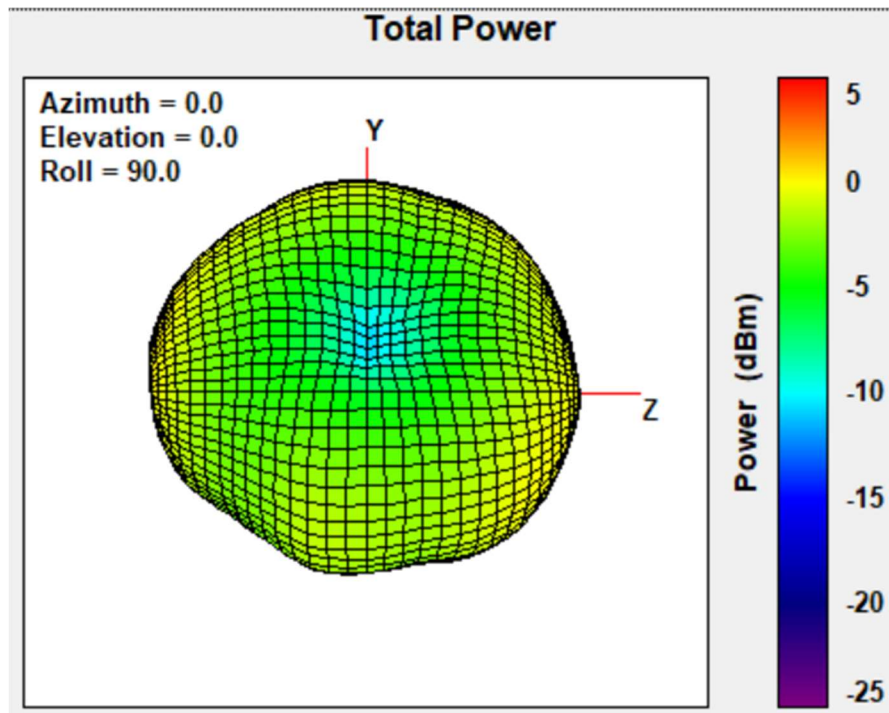


Figure 23. ERM4010 Antenna B 903.0 MHz Left Side View

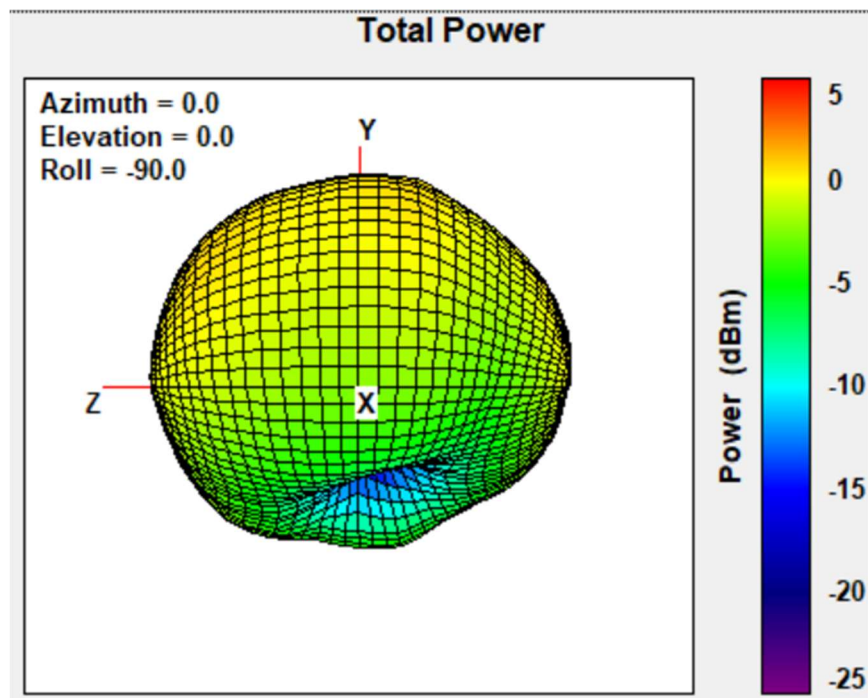


Figure 24. ERM4010 Antenna B 903.0 MHz Right Side View

5.5 Antenna B (short edge of PCB) – 914.6 MHz 3D Passive

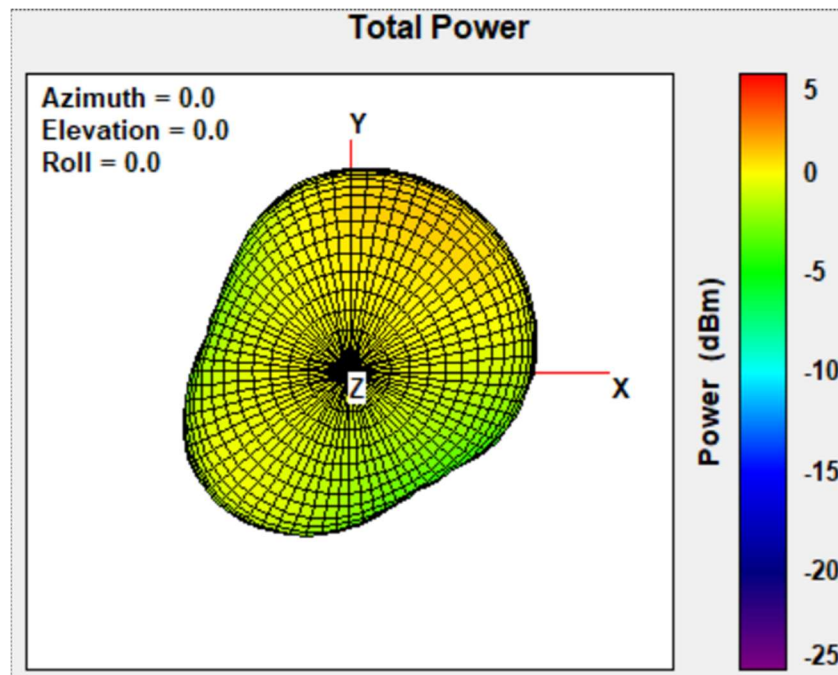


Figure 25. ERM4010 Antenna B 914.6 MHz Front View

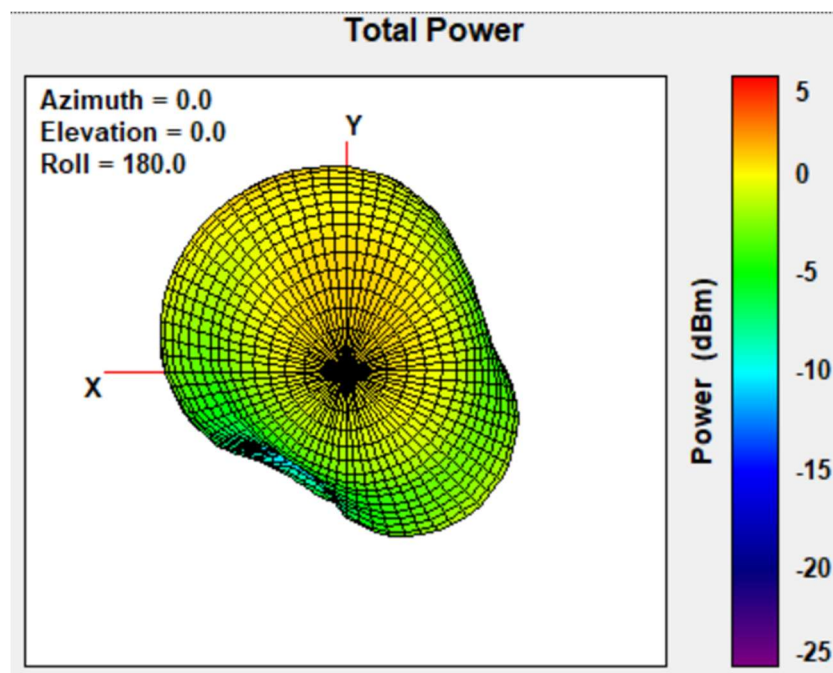


Figure 26. ERM4010 Antenna B 914.6 MHz Back View

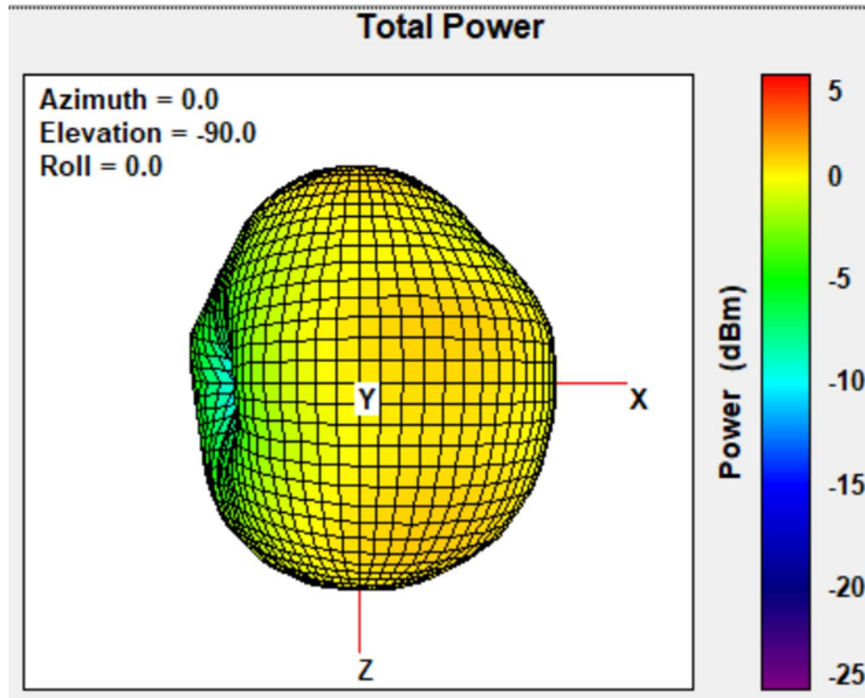


Figure 27. ERM4010 Antenna B 914.6 MHz Top View

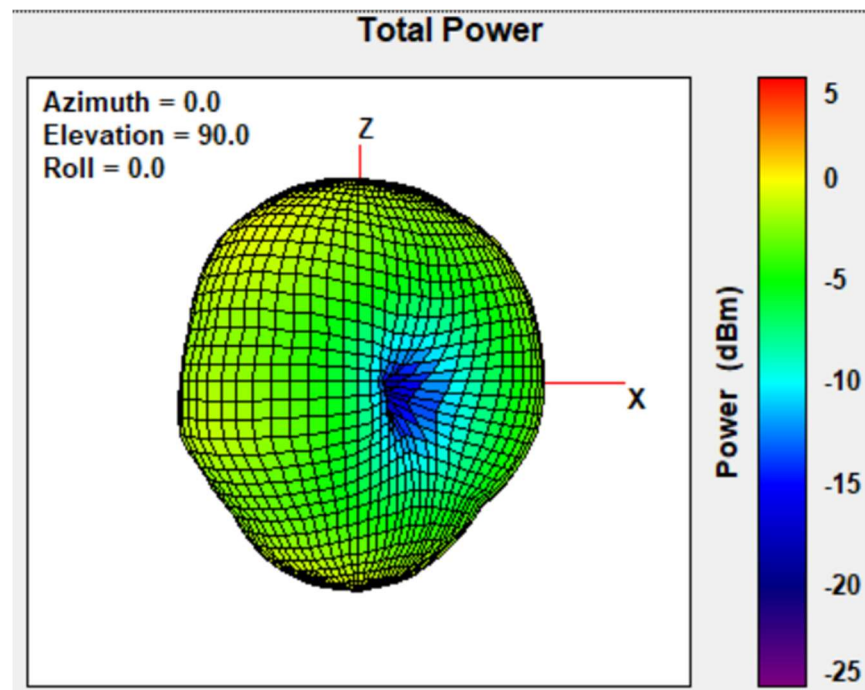


Figure 28. ERM4010 Antenna B 914.6 MHz Bottom View

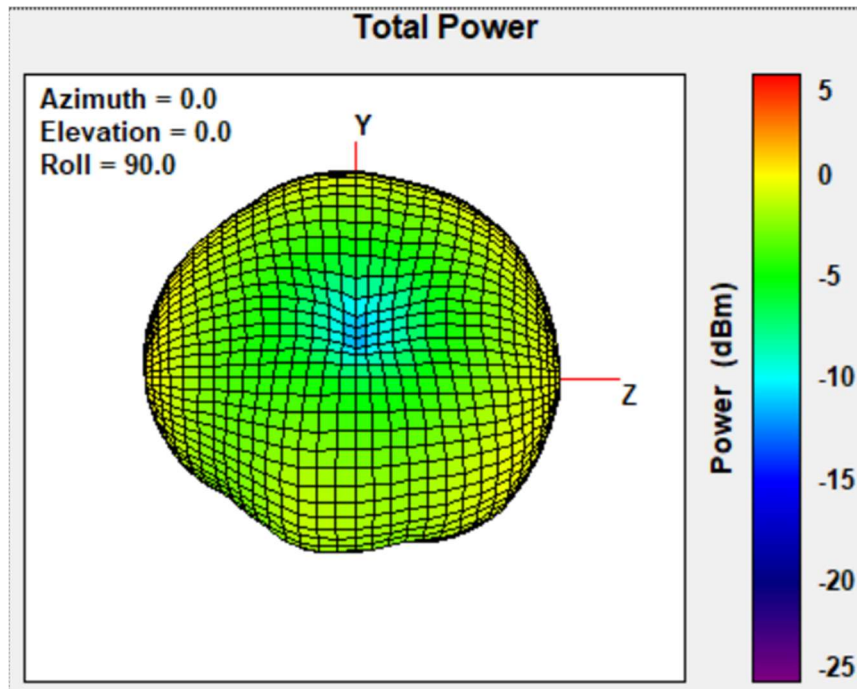


Figure 29. ERM4010 Antenna B 914.6 MHz Left Side View

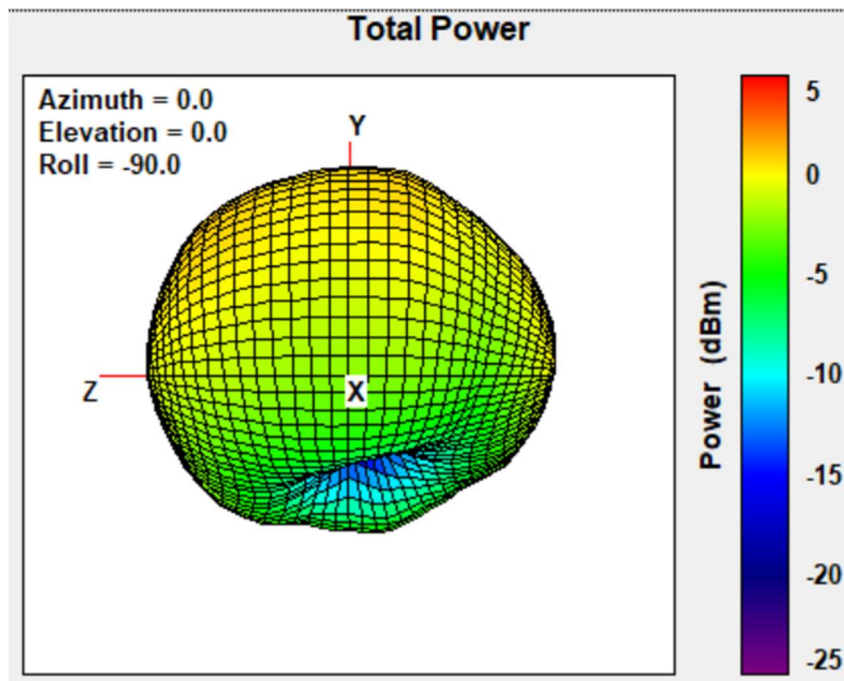


Figure 30. ERM4010 Antenna B 914.6 MHz Right Side View

5.6 Antenna B (short edge of PCB) – 926.4 MHz 3D Passive

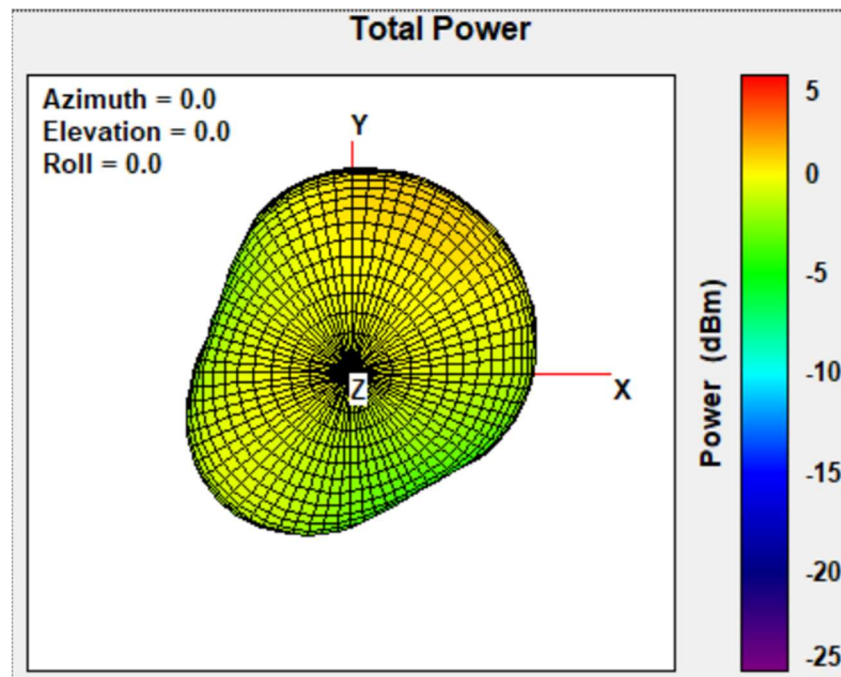


Figure 31. ERM4010 Antenna B 926.4 MHz Front View

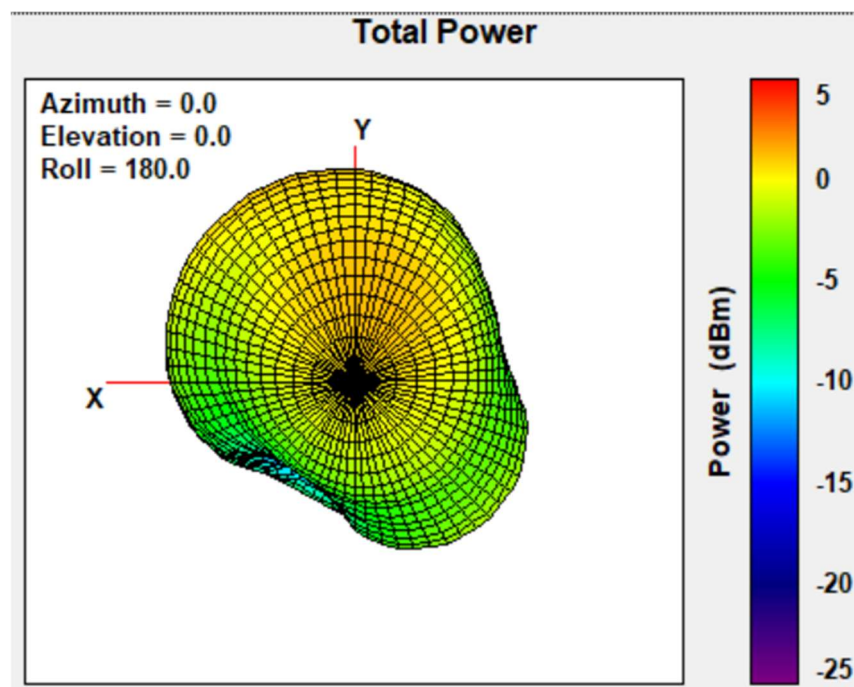


Figure 32. ERM4010 Antenna B 926.4 MHz Back View

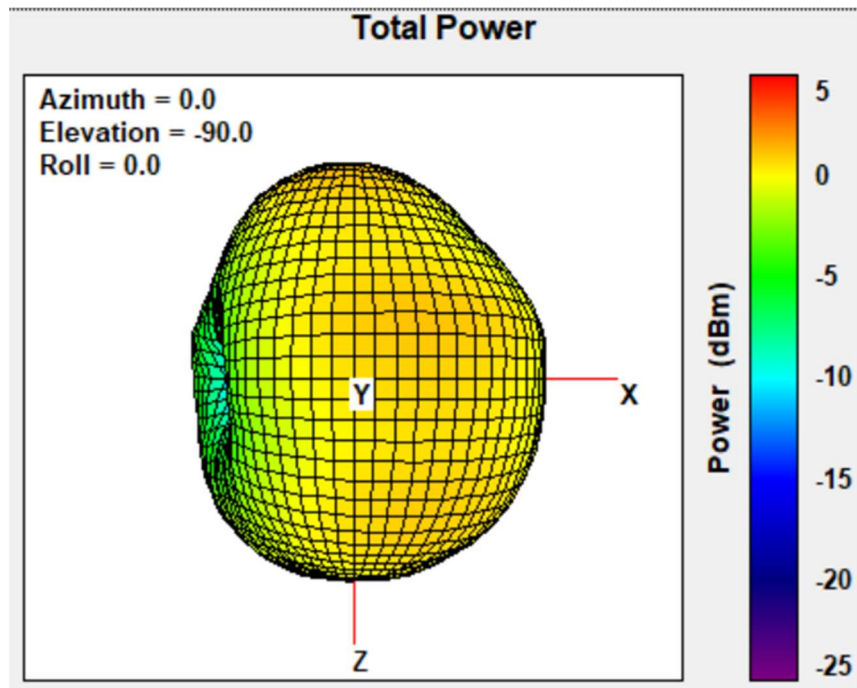


Figure 33. ERM4010 Antenna B 926.4 MHz Top View

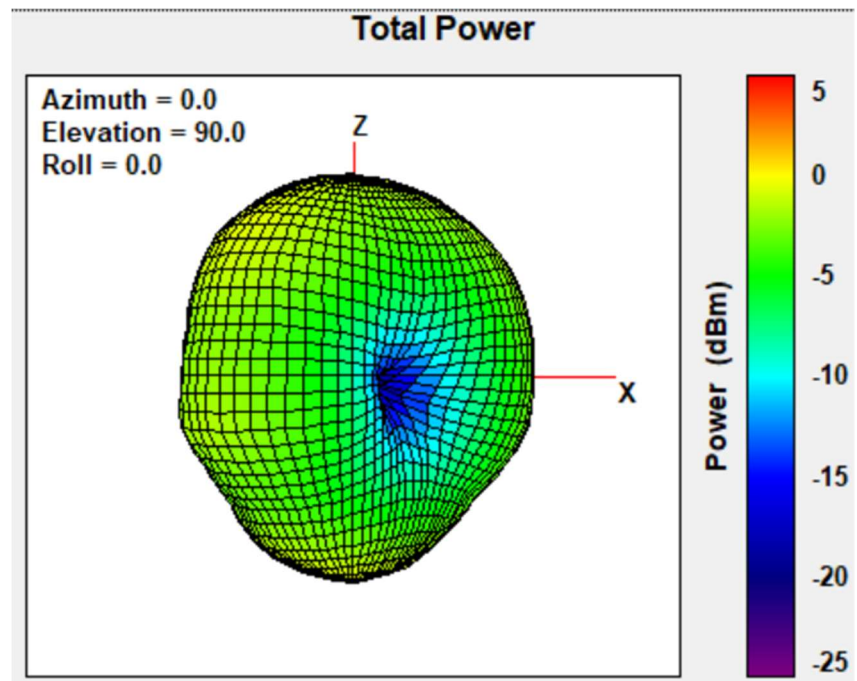


Figure 34. ERM4010 Antenna B 926.4 MHz Bottom View

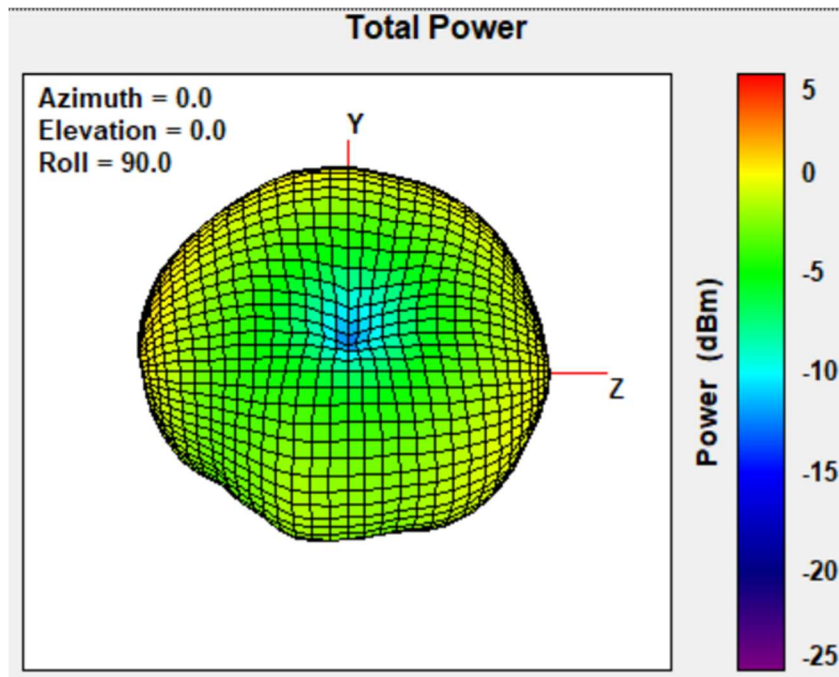


Figure 35. ERM4010 Antenna B 926.4 MHz Left Side View

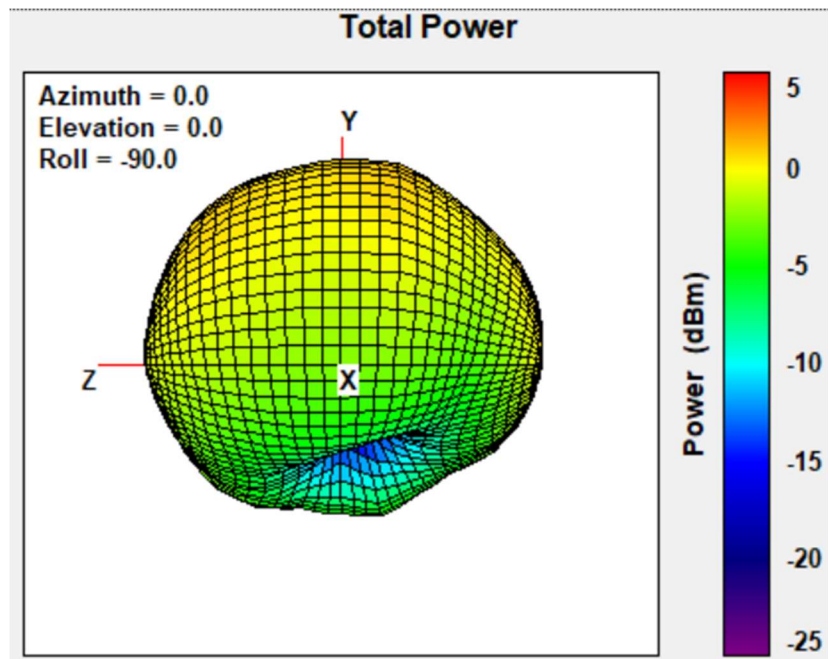


Figure 36. ERM4010 Antenna B 926.4 MHz Right Side View

6. Test Setup

