

Antenna Gain and Pattern Measurement Report

Model Name: TOMCAT

DATA TESTED: Feb 12th, 2026.

REPORT ISSUED: Feb 12th, 2026.

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Test Report Revision History				
Revision	Tested and prepared by	Reviewed and Approved By	Revision Detail	Release Date
A	Luo Yi	Anthony Xu	Original Release	Feb 12th, 2026.

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Reviewed and Approved By: Anthony xu.

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1. Test Methodology

The 3D Passive antenna pattern is performed using Dual-Polarization Pattern Measurement system and phi step size is set to 15° , theta step size is set to 15° .

2. Test and Measurement Equipment

Description	Manufacturer	Model	Serial No.	Calibration Date
Vector Network Analyzer	R&S	ZNB8	106027	7/26/2022
OTA Test Chamber	GTS	Rayzone1800		10/21/2025
OTA Test Software	GTS	Maxsign1.5.7		

3. Device Under Test Information

- Model name: TOMCAT
- Test Frequency (MHz): 2412, 2437, 2462,5240,5600,5745.
- Antenna type: Printed PCB antenna

4. Result Summary

TOMCAT PCB Antenna1	Frequency		
	2412 MHz	2437 MHz	2462 MHz
TRP (dBm)	-2.48	-2.47	-2.46
EIRP (dBm)	3.53	3.79	3.53
Efficiency (dB)	-2.48	-2.47	-2.46
Efficiency (%)	56.44	56.59	56.77
Gain (dBi)	3.99	3.79	3.53
TOMCAT PCB Antenna1	Frequency		
	5240 MHz	5600 MHz	5745 MHz
TRP (dBm)	-2.85	-2.78	-2.7
EIRP (dBm)	3.98	2.87	2.86
Efficiency (dB)	-2.85	-2.78	-2.7
Efficiency (%)	51.86	52.68	53.74
Gain (dBi)	3.98	2.87	2.86

TOMCAT PCB Antenna2	Frequency		
	2412 MHz	2437 MHz	2462 MHz
TRP (dBm)	-2.62	-2.54	-2.52
EIRP (dBm)	2.45	2.4	2.27
Efficiency (dB)	-2.62	-2.54	-2.52
Efficiency (%)	54.73	55.66	55.98
Gain (dBi)	2.45	2.4	2.27
TOMCAT PCB Antenna2	Frequency		
	5240 MHz	5600 MHz	5745 MHz
TRP (dBm)	-3.06	-3.26	-3.42
EIRP (dBm)	4.16	3.03	2.81
Efficiency (dB)	-3.06	-3.26	-3.42
Efficiency (%)	49.39	47.24	45.48
Gain (dBi)	4.16	3.03	2.81

5. Plots

5.1 Antenna – Ant1 2412 MHz 3D Passive

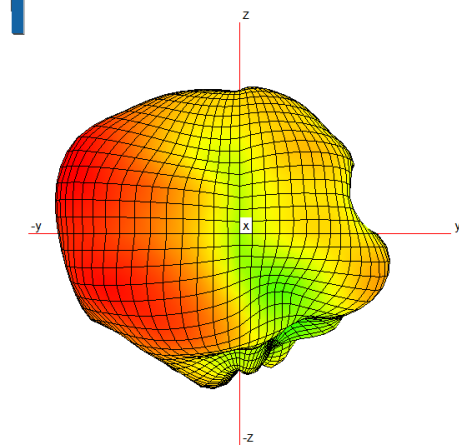


Figure 1.TOMCAT Antenna1 2412 MHz Front View

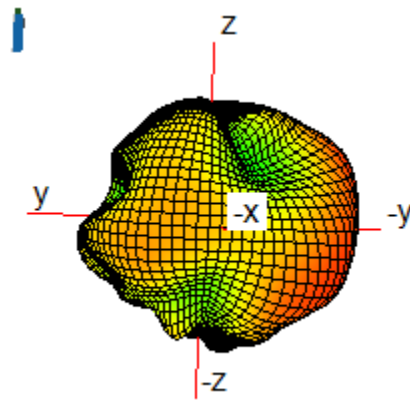


Figure 2.TOMCAT Antenna1 2412 MHz Back View

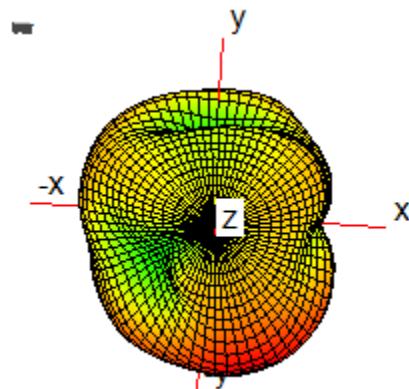


Figure 3.TOMCAT Antenna1 2412 MHz Top View

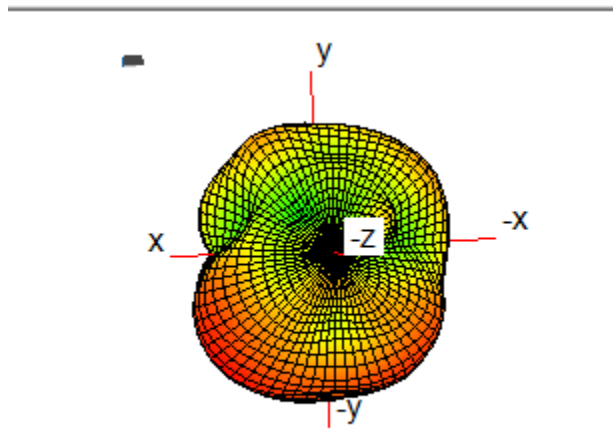


Figure 4. TOMCAT Antenna1 2412 MHz Bottom View

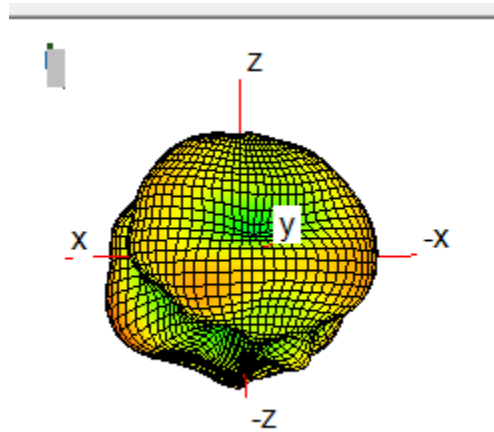


Figure 5. TOMCAT Antenna1 2412 MHz Left Side View

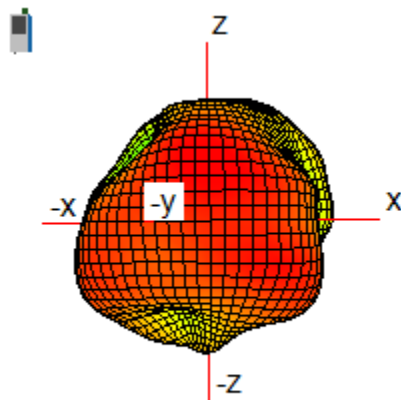


Figure 6. TOMCAT Antenna1 2412 MHz Right Side View

5.2 Antenna 1– 2437 MHz 3D Passive

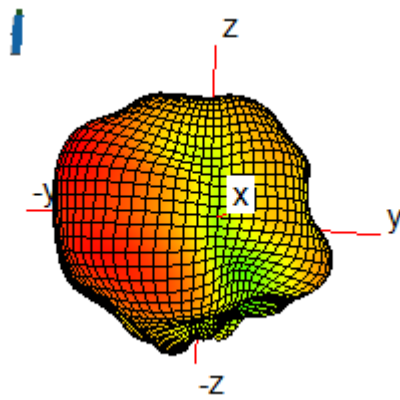


Figure 7. TOMCAT Antenna1 2437 MHz Front View

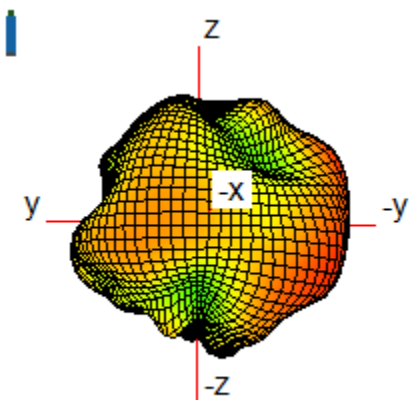


Figure 8. TOMCAT Antenna1 2437 MHz Back View

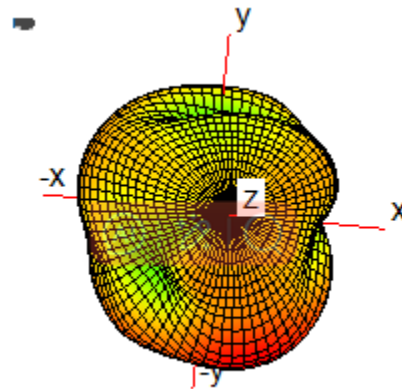


Figure 9. TOMCAT Antenna1 2437 MHz Top View

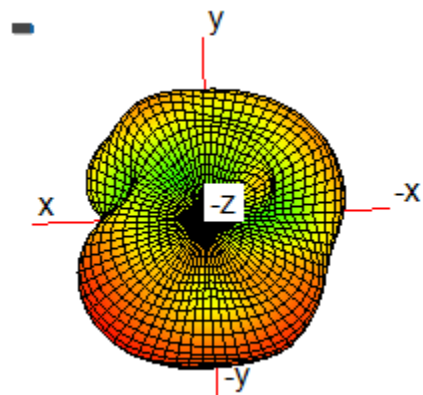


Figure 10. TOMCAT Antenna1 2437 MHz Bottom View

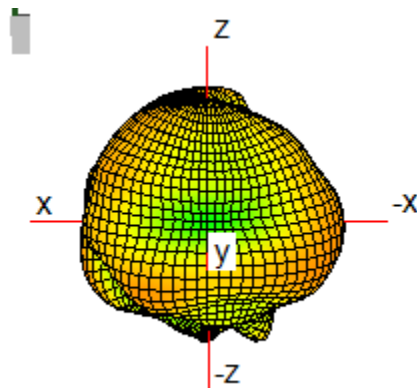


Figure 11. TOMCAT Antenna1 2437 MHz Left View

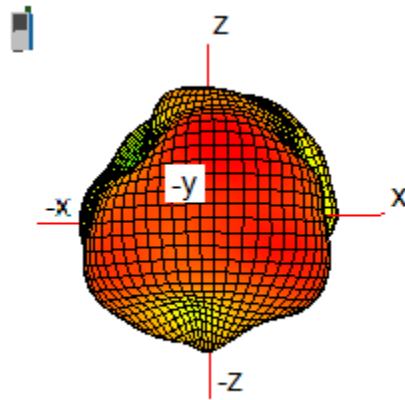


Figure 12. TOMCAT Antenna1 2437 MHz Right View

5.3 Antenna1 – 2462 MHz 3D Passive

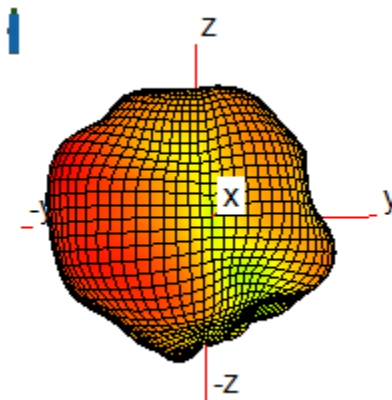


Figure 13. TOMCAT Antenna1 2462 MHz Front View

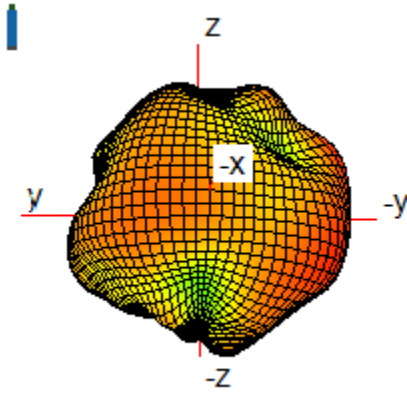


Figure 14. TOMCAT Antenna1 2462 MHz Back View

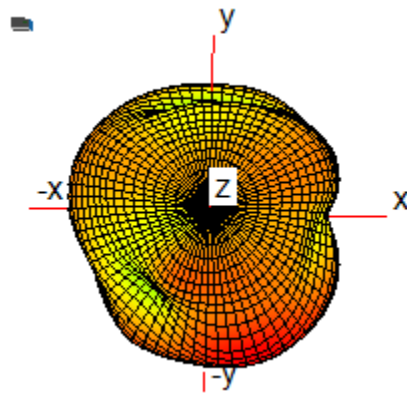


Figure 15. TOMCAT Antenna1 2462 MHz Top View

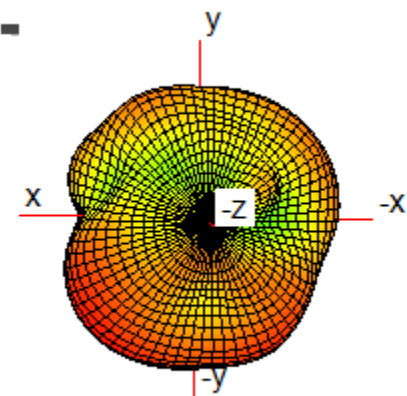


Figure 16. TOMCAT Antenna1 2462 MHz Bottom View

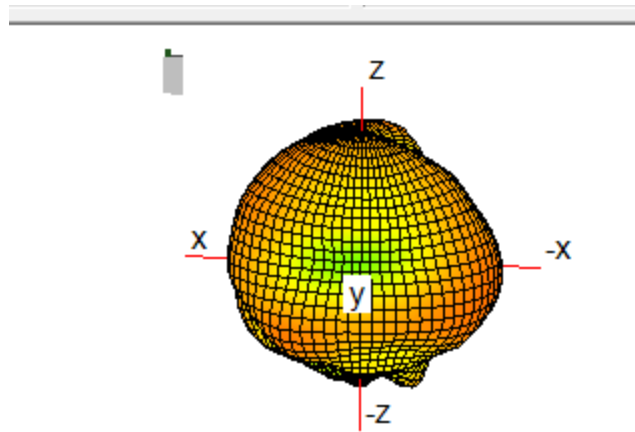


Figure 17.TOMCAT Antenna1 2462 MHz Left View

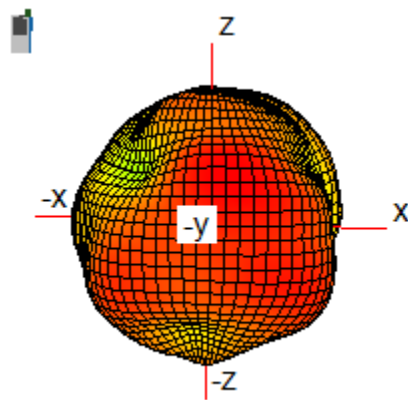


Figure 18.TOMCAT Antenna1 2462 MHz Right View

5.4 Antenna – Ant1 5240 MHz 3D Passive

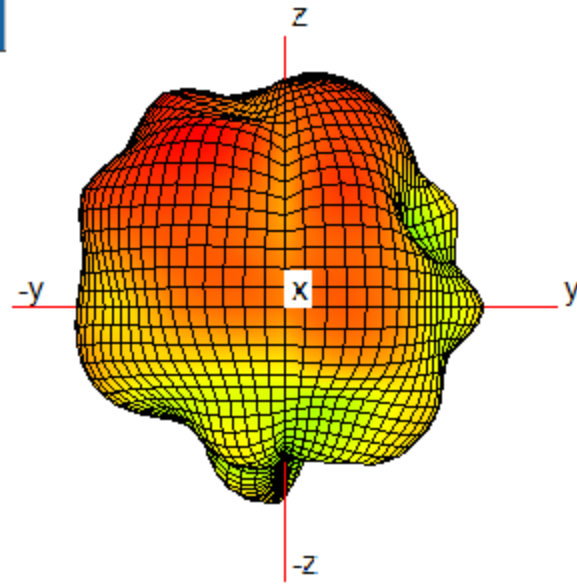


Figure 199. TOMCAT Antenna1 5240 MHz Front View

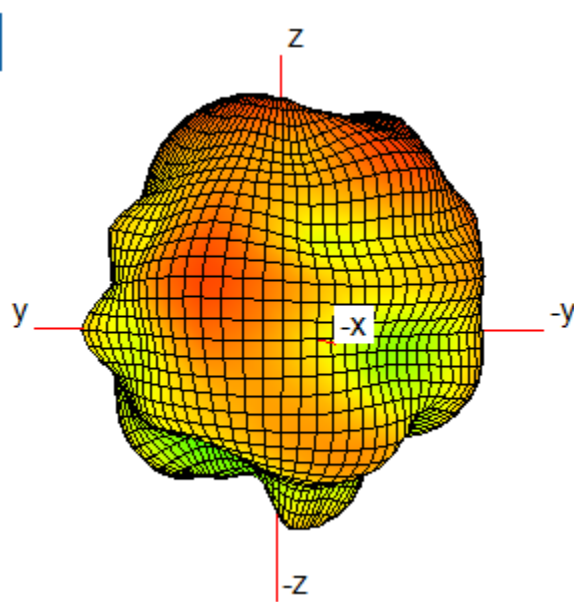


Figure 20. TOMCAT Antenna1 5240 MHz Back View

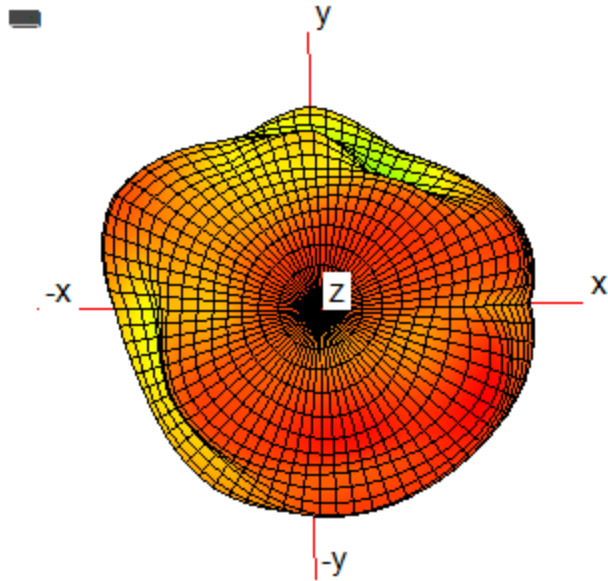


Figure 21. TOMCAT Antenna1 5240 MHz Top View

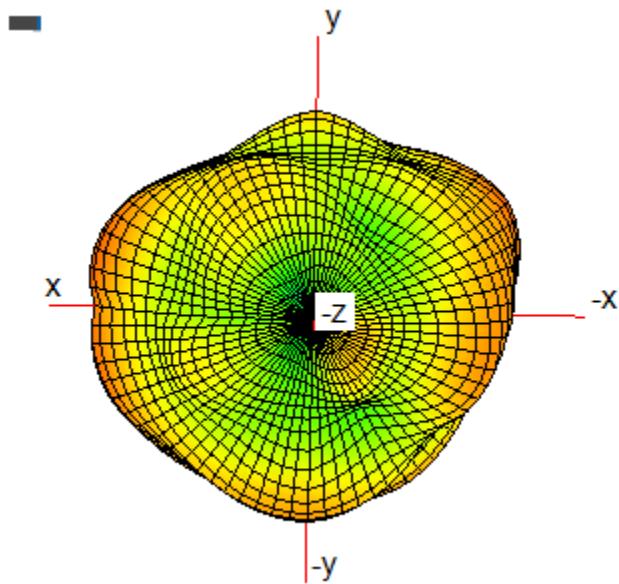


Figure 22 . TOMCAT Antenna1 5240 MHz Bottom View

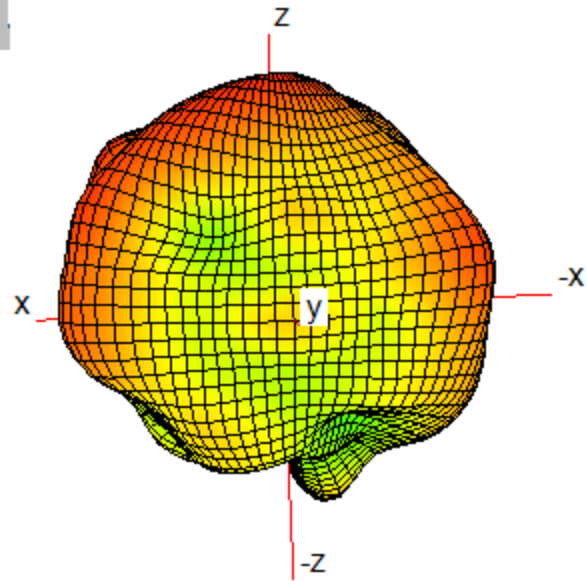


Figure 23. TOMCAT Antenna1 5240 MHz Left Side View

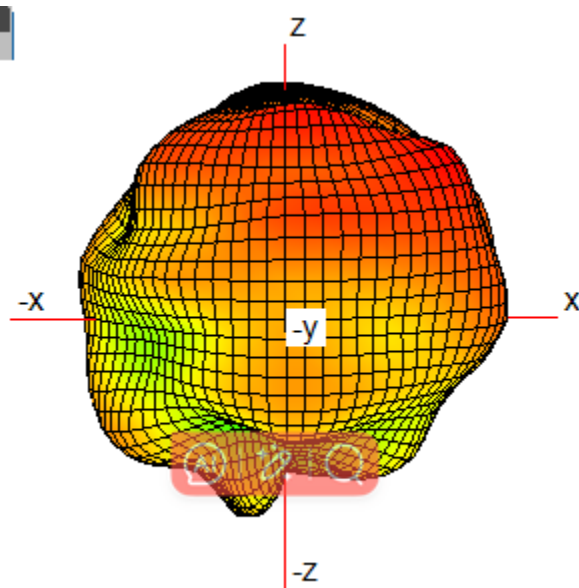


Figure 24. TOMCAT Antenna1 5240 MHz Right Side View



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5.5 Antenna 1– 5600 MHz 3D Passive

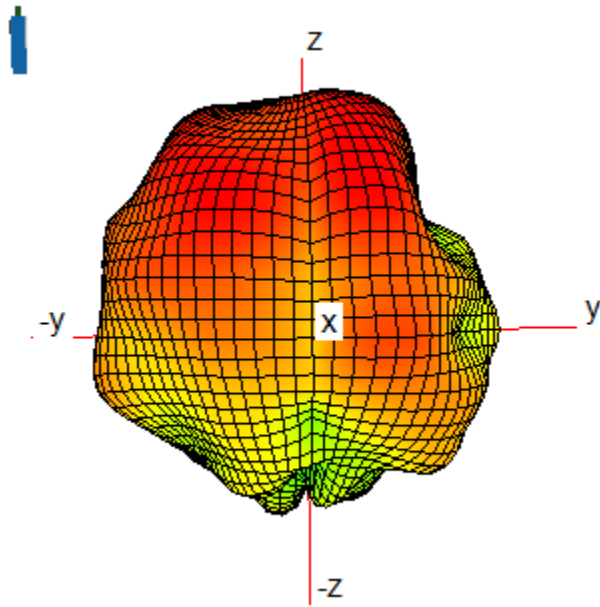


Figure 25. TOMCAT Antenna1 5600 MHz Front View

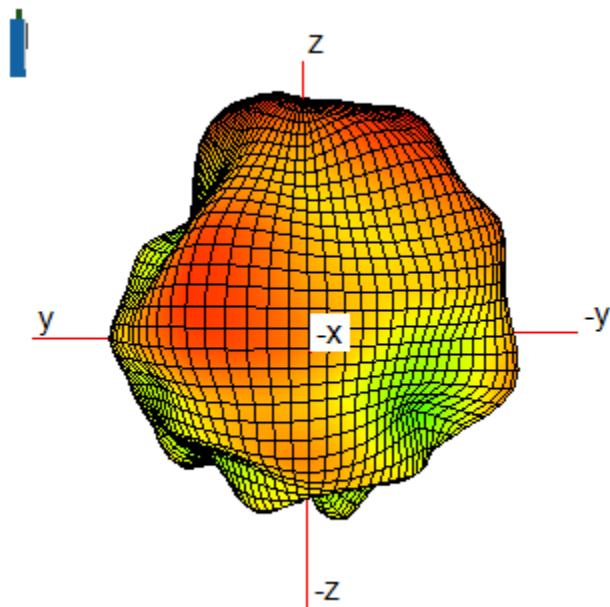


Figure 26. TOMCAT Antenna1 5600 MHz Back View

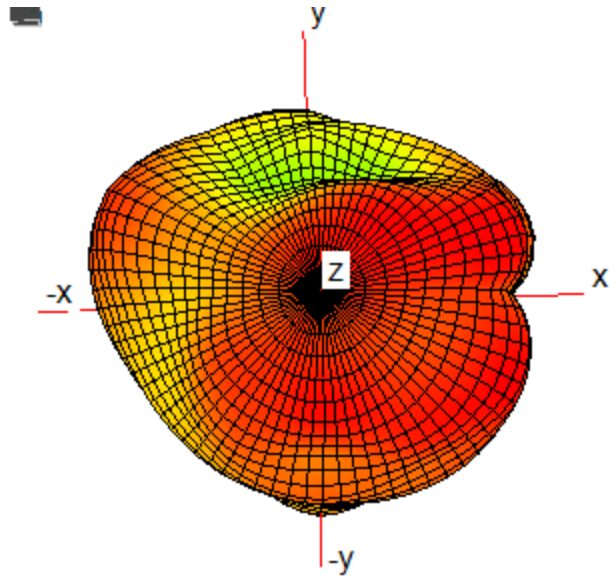


Figure 27.TOMCAT Antenna1 5600 MHz Top View

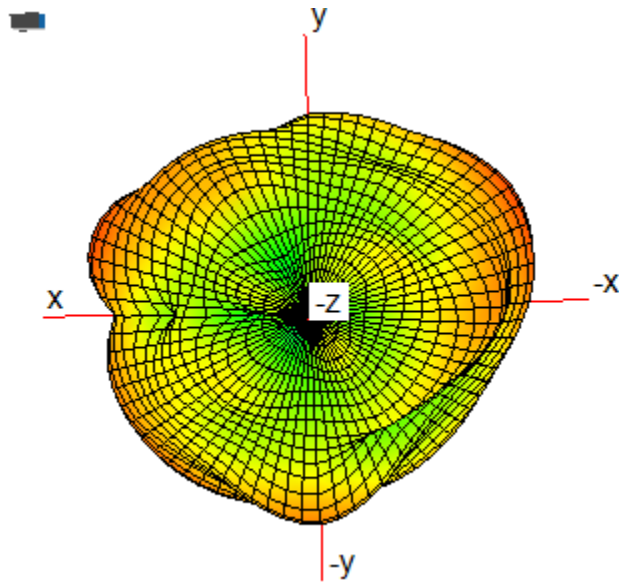


Figure 28.TOMCAT Antenna1 5600 MHz Bottom View

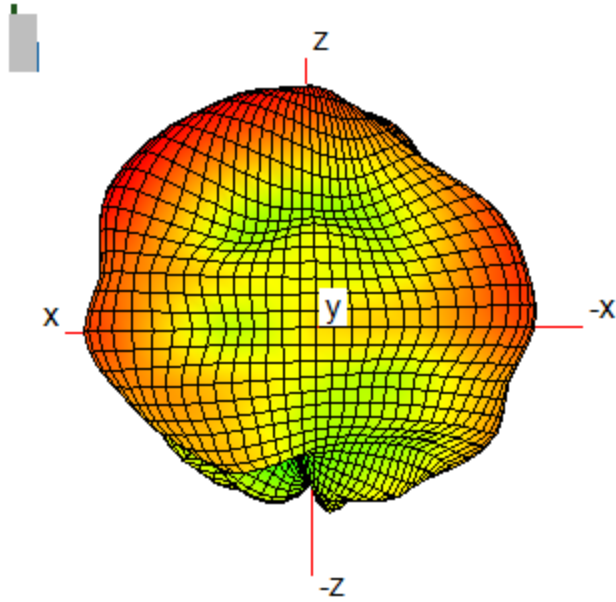


Figure 29. TOMCAT Antenna1 5600 MHz Left View

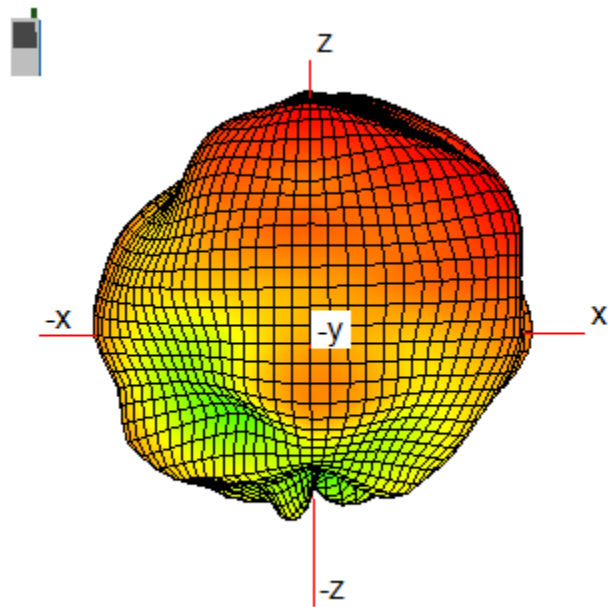


Figure 30. TOMCAT Antenna1 5600 MHz Right View



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5.6 Antenna1 – 5745 MHz 3D Passive

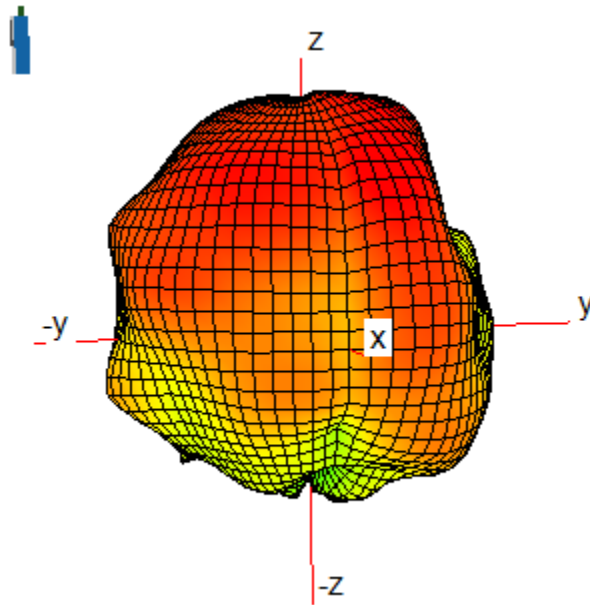


Figure 31. TOMCAT Antenna1 5745 MHz Front View

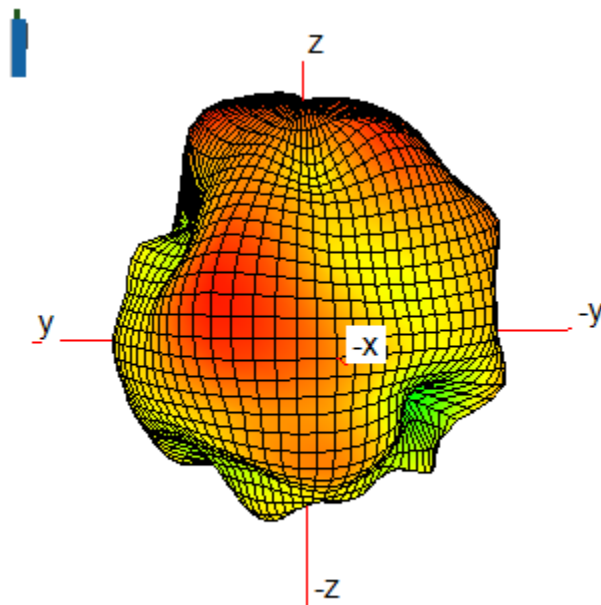


Figure 32. TOMCAT Antenna1 5745 MHz Back View

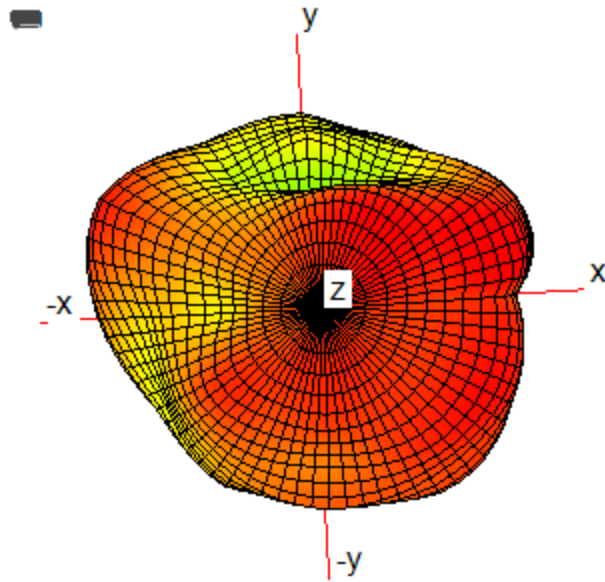


Figure 33. TOMCAT Antenna1 5745 MHz Top View

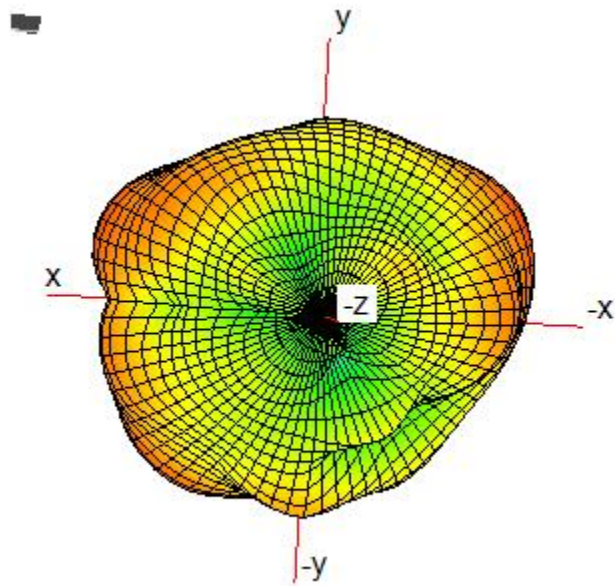


Figure 34. TOMCAT Antenna1 5745 MHz Bottom View

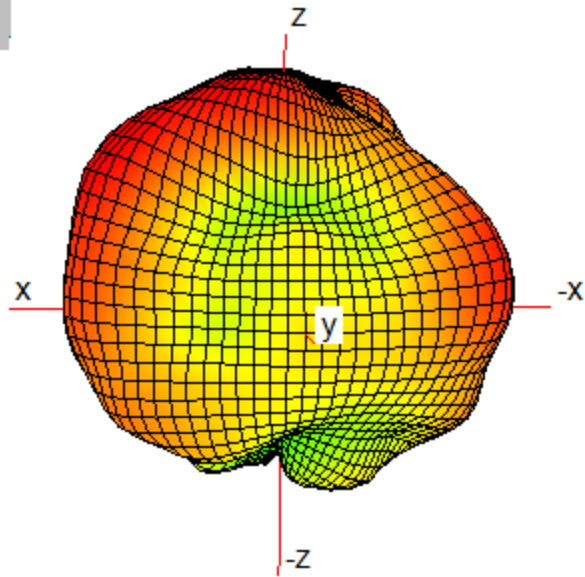


Figure 35. TOMCAT Antenna1 5745 MHz Left View

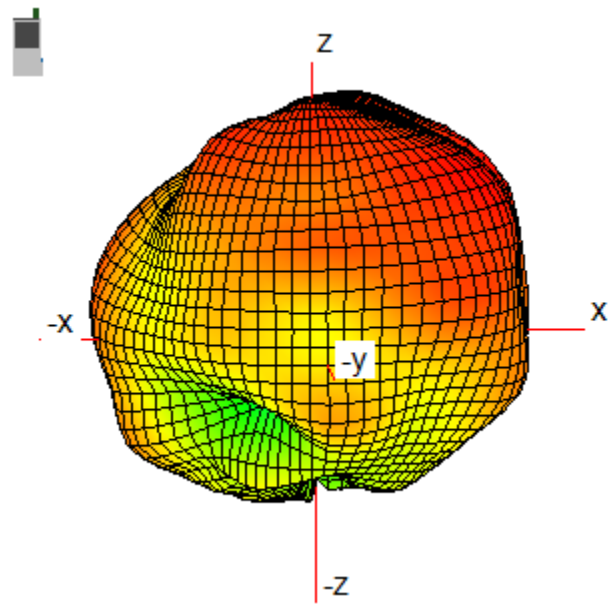


Figure 36. TOMCAT Antenna1 5745 MHz Right View

5.7 Antenna – Ant2 2412 MHz 3D Passive

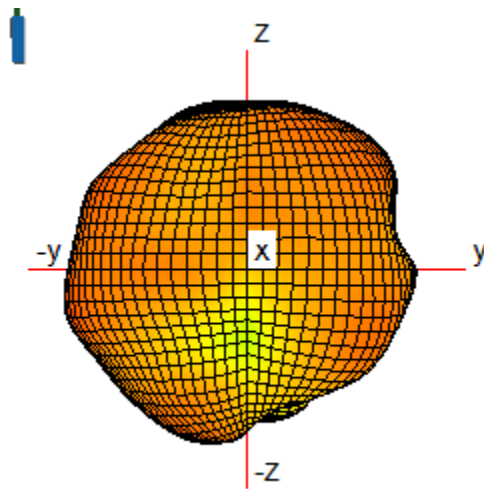


Figure 37. TOMCAT Antenna2 2412 MHz Front View

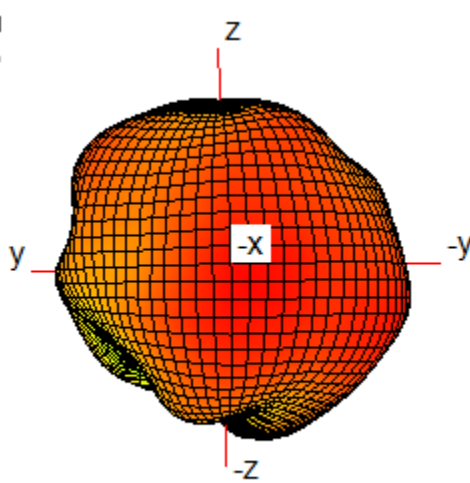


Figure 38. TOMCAT Antenna2 2412 MHz Back View

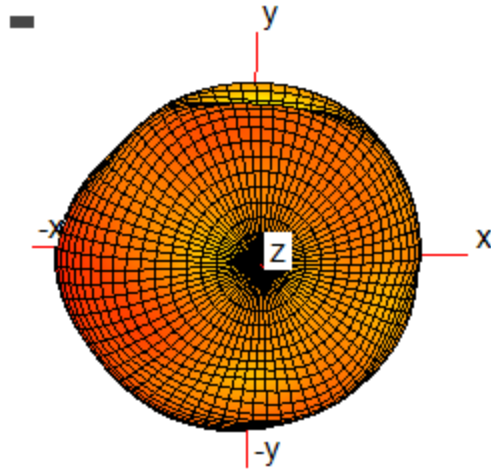


Figure 39. TOMCAT Antenna2 2412 MHz Top View

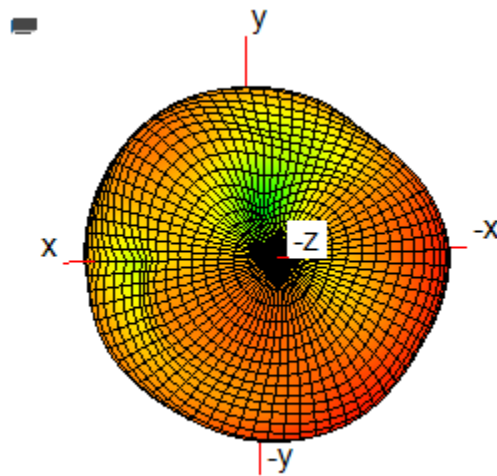


Figure 40. TOMCAT Antenna2 2412 MHz Bottom View

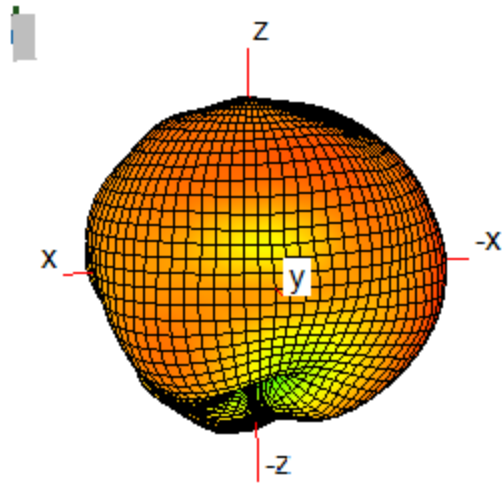


Figure 41. TOMCAT Antenna2 2412 MHz Left Side View

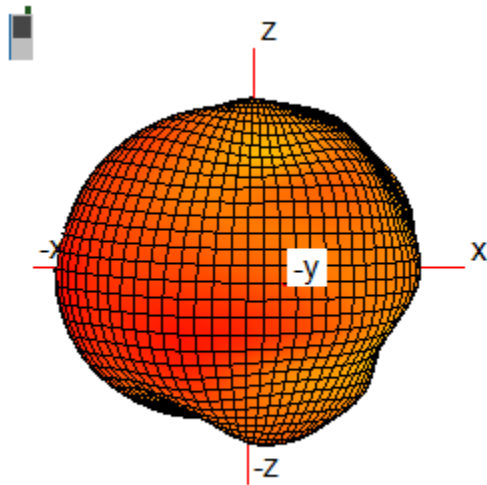


Figure 42. TOMCAT Antenna2 2412 MHz Right Side View

5.8 Antenna 2– 2437 MHz 3D Passive

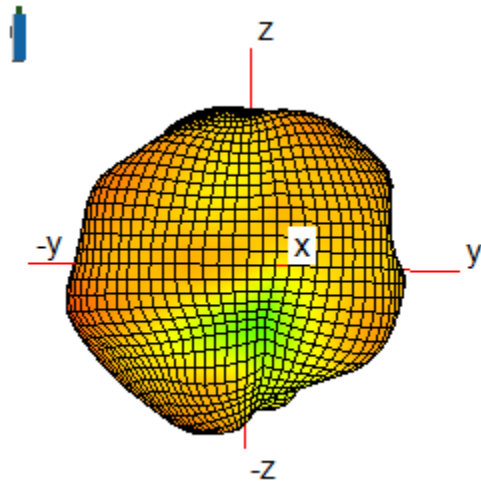


Figure 43. TOMCAT Antenna2 2437 MHz Front View

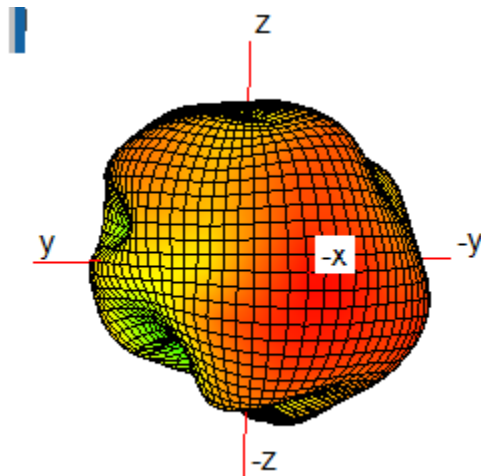


Figure 44. TOMCAT Antenna2 2437 MHz Back View

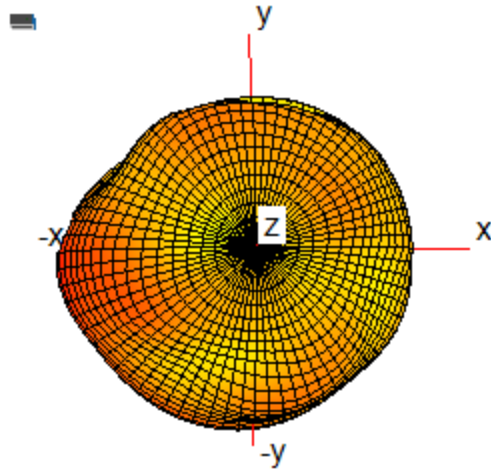


Figure 45. TOMCAT Antenna2 2437 MHz Top View

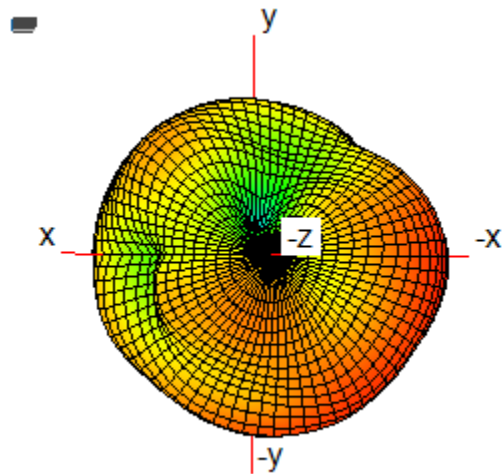


Figure 46. TOMCAT Antenna2 2437 MHz Bottom View

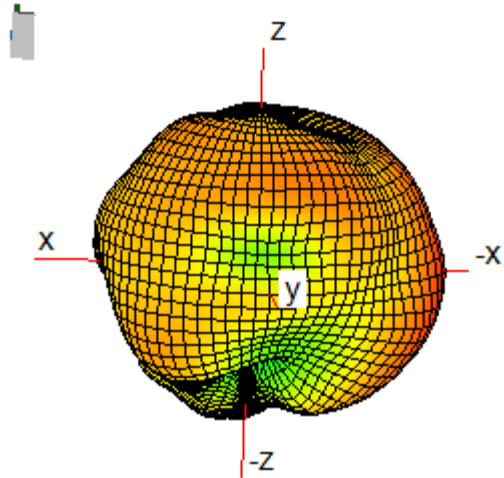


Figure 47. TOMCAT Antenna2 2437 MHz Left View

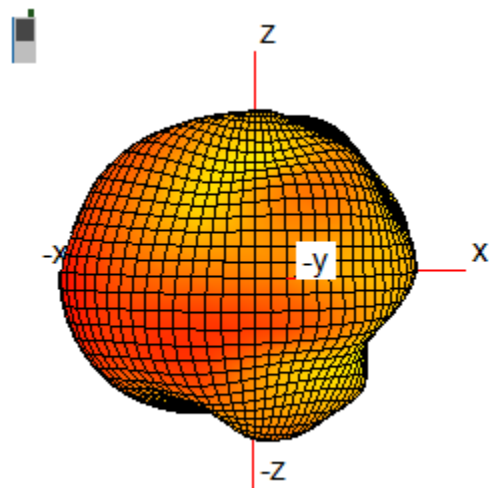


Figure 48. TOMCAT Antenna2 2437 MHz Right View

5.9 Antenna2 – 2462 MHz 3D Passive

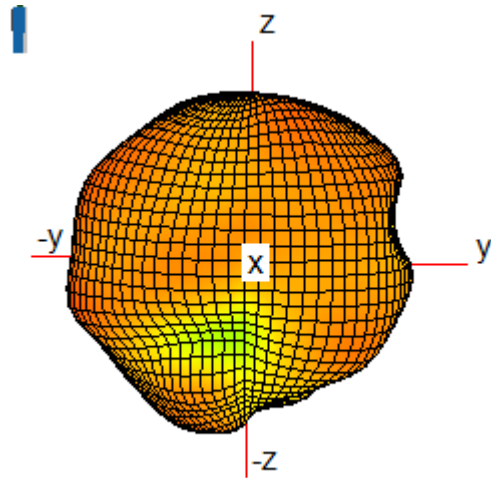


Figure 49. TOMCAT Antenna2 2462 MHz Front View

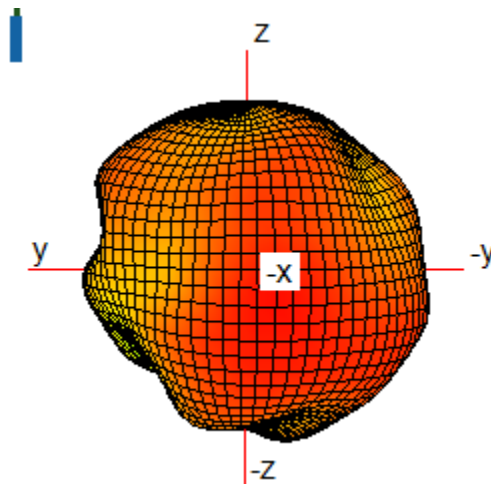


Figure 50. TOMCAT Antenna2 2462 MHz Back View

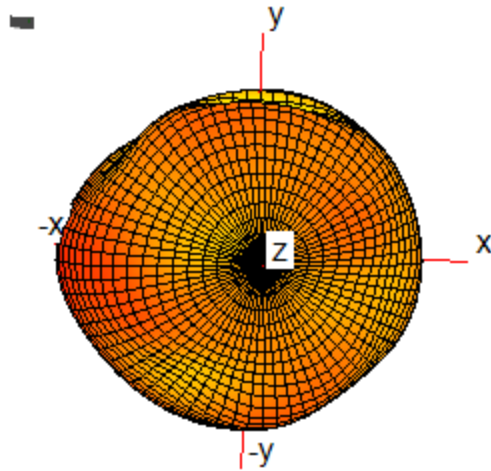


Figure 51. TOMCAT Antenna2 2462 MHz Top View

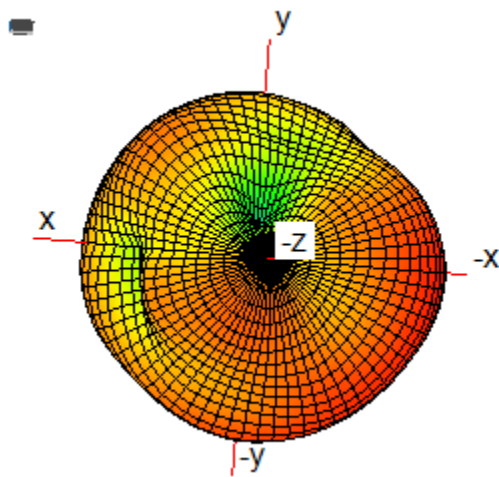


Figure 52. TOMCAT Antenna2 2462 MHz Bottom View

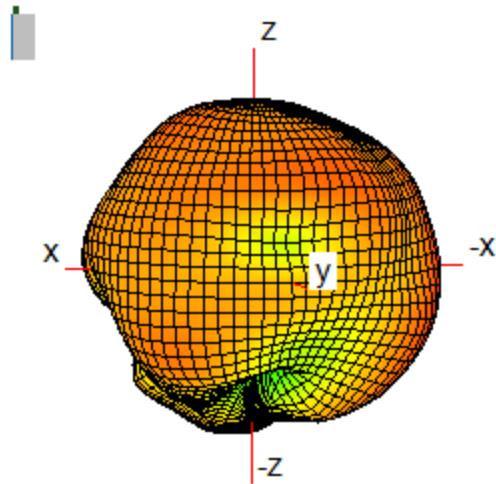


Figure 53. TOMCAT Antenna2 2462 MHz Left View

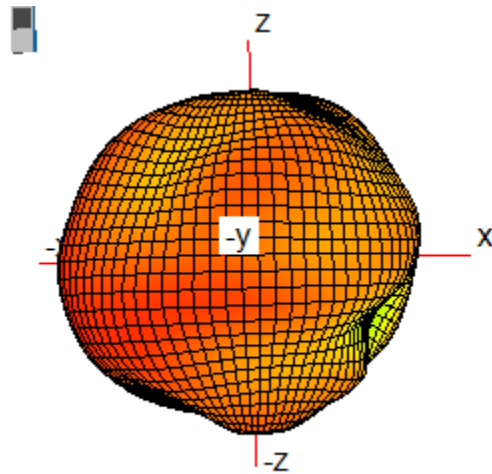


Figure 54. TOMCAT Antenna2 2462 MHz Right View

5.10 Antenna – Ant2 5240 MHz 3D Passive

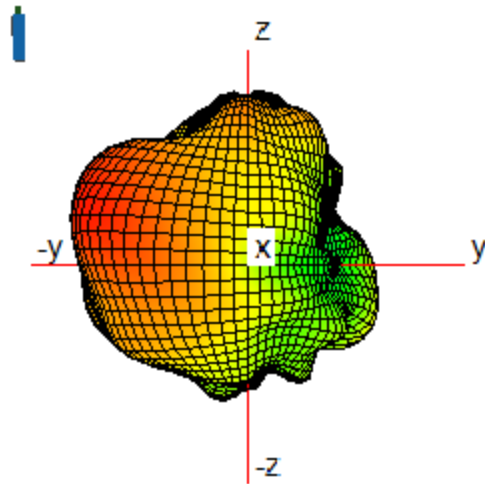


Figure 55. TOMCAT Antenna2 5240 MHz Front View

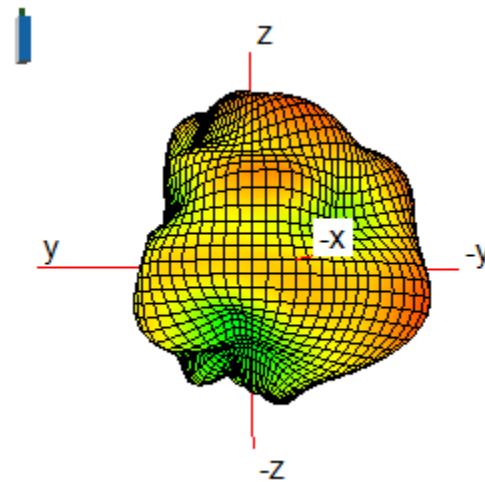


Figure 56. TOMCAT Antenna2 5240 MHz Back View

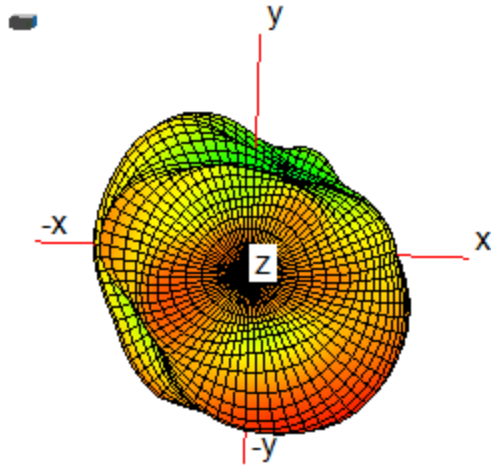


Figure 57. TOMCAT Antenna2 5240 MHz Top View

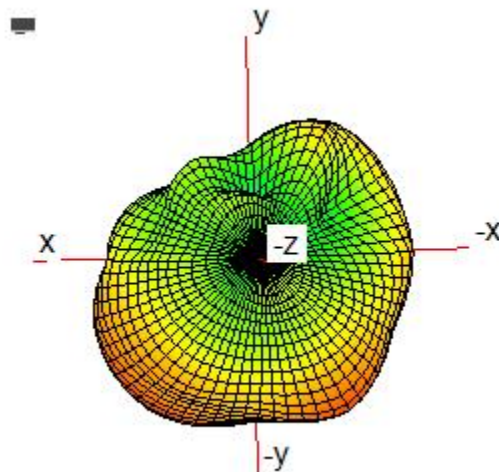


Figure 58. TOMCAT Antenna2 5240 MHz Bottom View

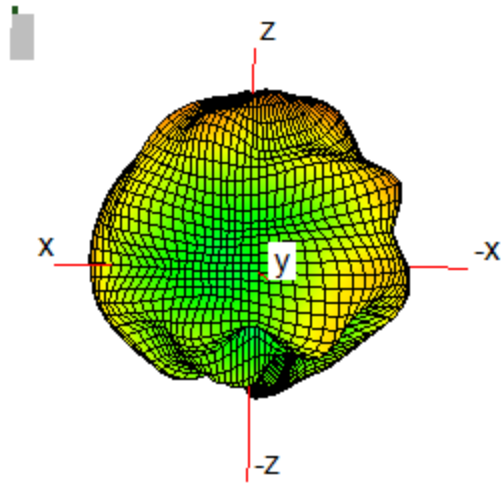


Figure 59. TOMCAT Antenna2 5240 MHz Left Side View

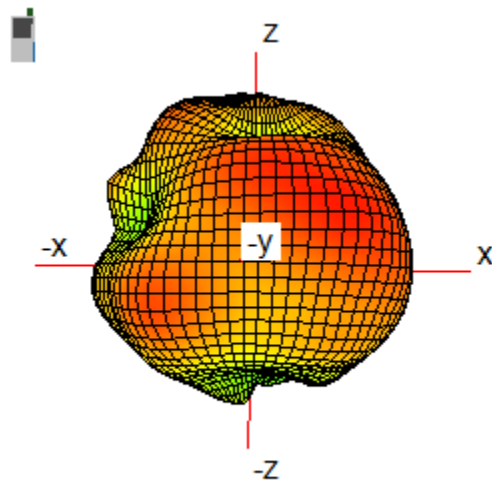


Figure 60. TOMCAT Antenna2 5240 MHz Right Side View

5.11 Antenna 2– 5600 MHz 3D Passive

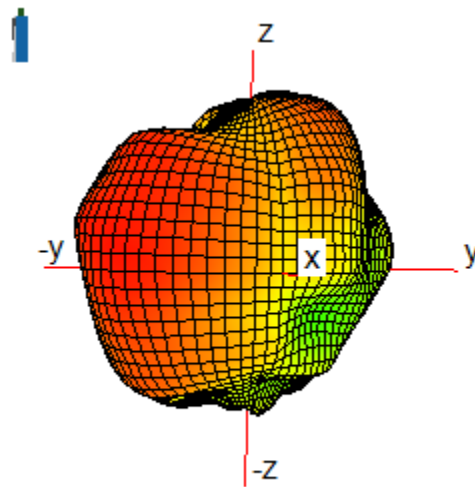


Figure 61. TOMCAT Antenna2 5600 MHz Front View

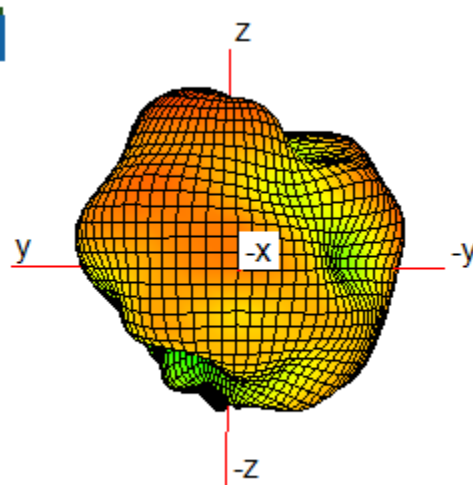


Figure 62. TOMCAT Antenna2 5600 MHz Back View

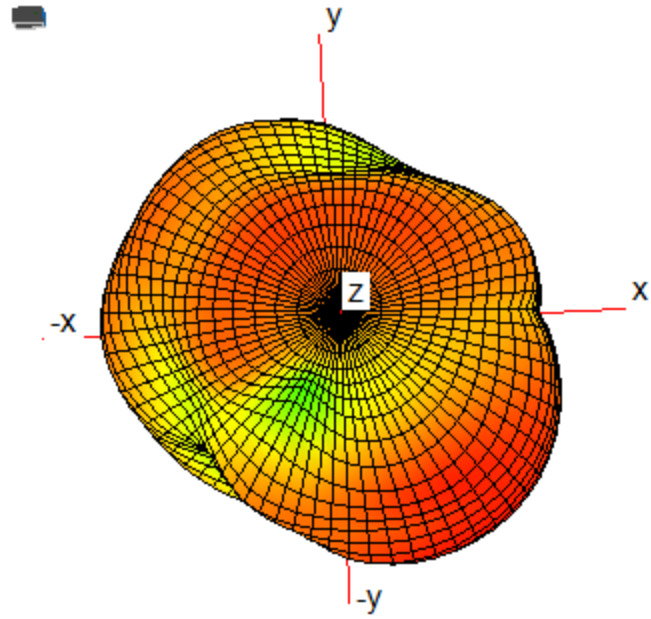


Figure 63. TOMCAT Antenna2 5600 MHz Top View

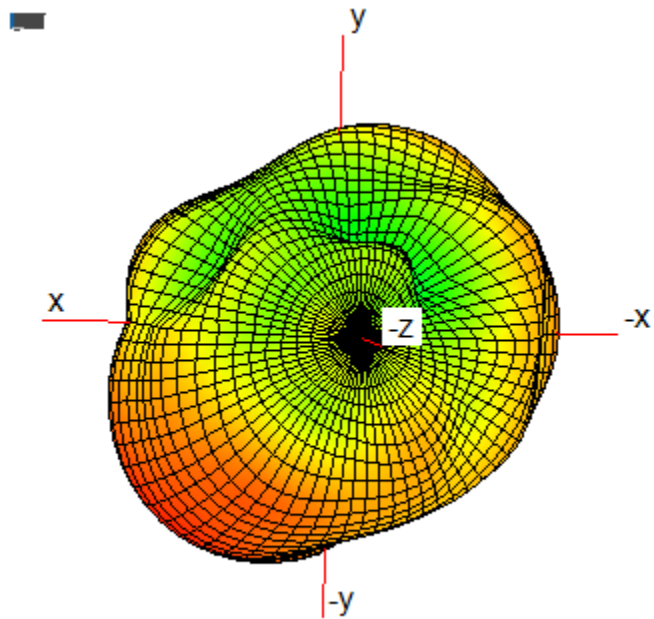


Figure 64. TOMCAT Antenna2 5600 MHz Bottom View

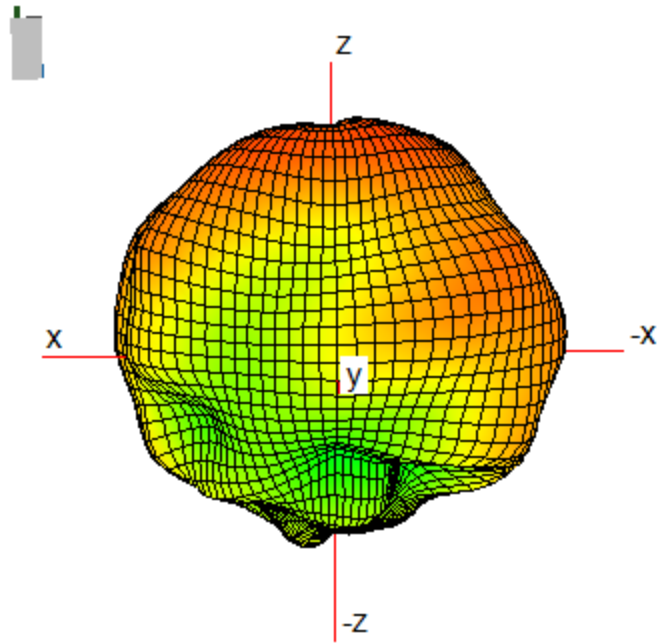


Figure 65. TOMCAT Antenna2 5600 MHz Left View

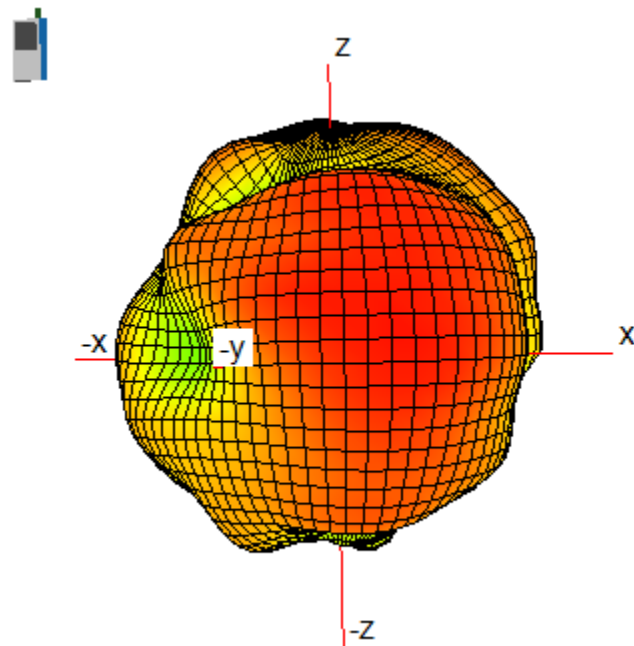


Figure 66. TOMCAT Antenna2 5600 MHz Right View



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5.12 Antenna2 – 5745 MHz 3D Passive

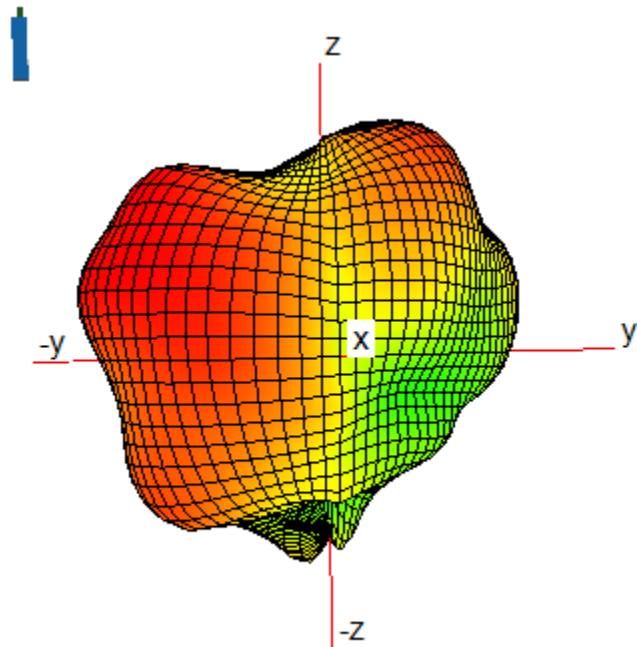


Figure 67. TOMCAT Antenna2 5745 MHz Front View

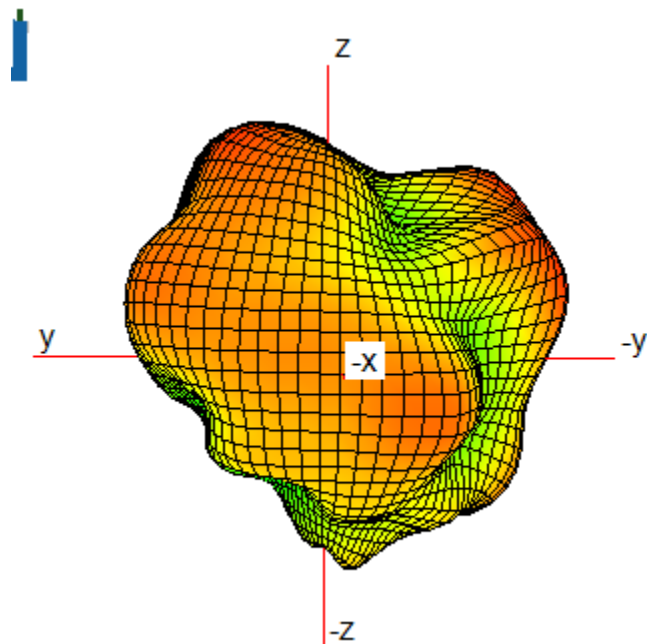


Figure 68. TOMCAT Antenna2 5745 MHz Back View

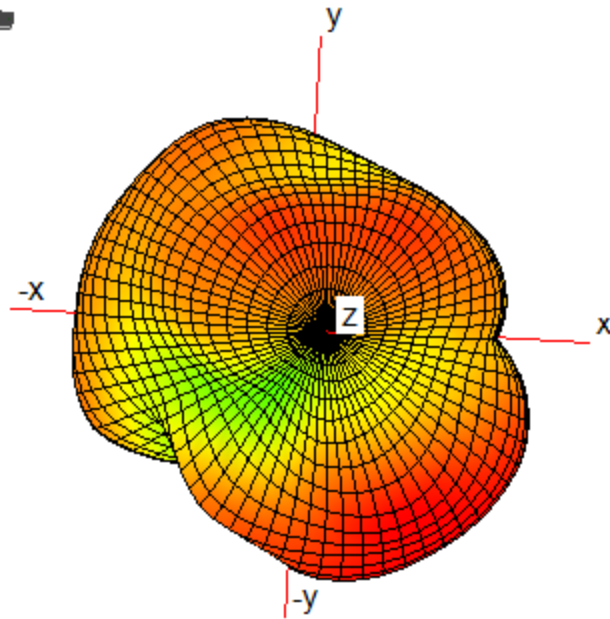


Figure 69. TOMCAT Antenna2 5745 MHz Top View

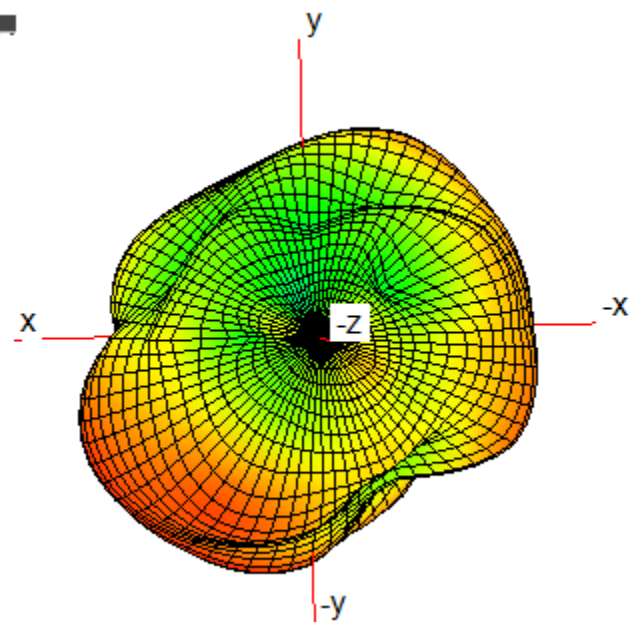


Figure 70. TOMCAT Antenna2 5745 MHz Bottom View

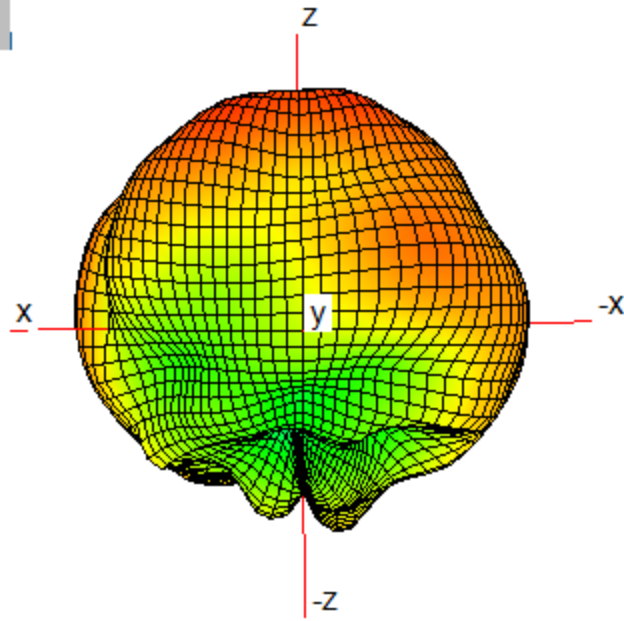


Figure 71.TOMCAT Antenna2 5745 MHz Left View

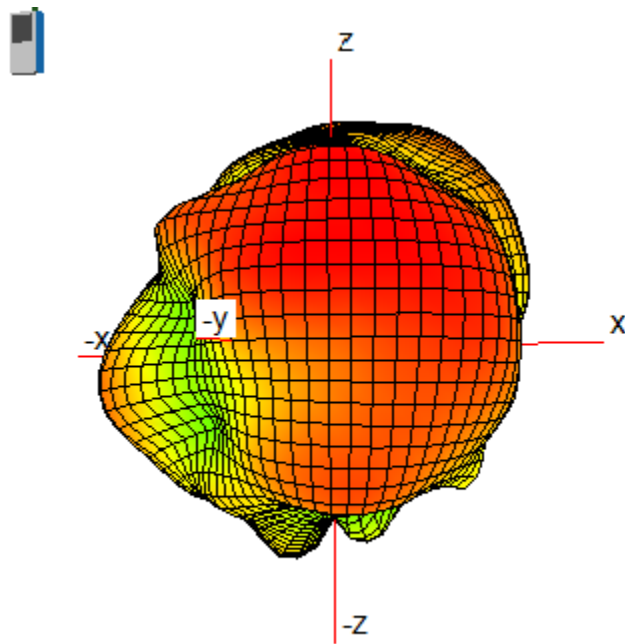


Figure 72.TOMCAT Antenna2 5745 MHz Right View

6.Test Setup

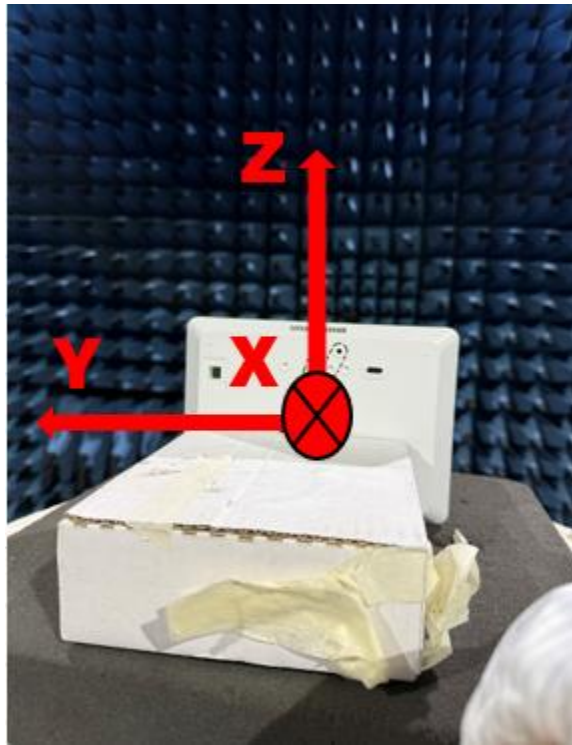


Figure73.TOMCAT Location reference definition

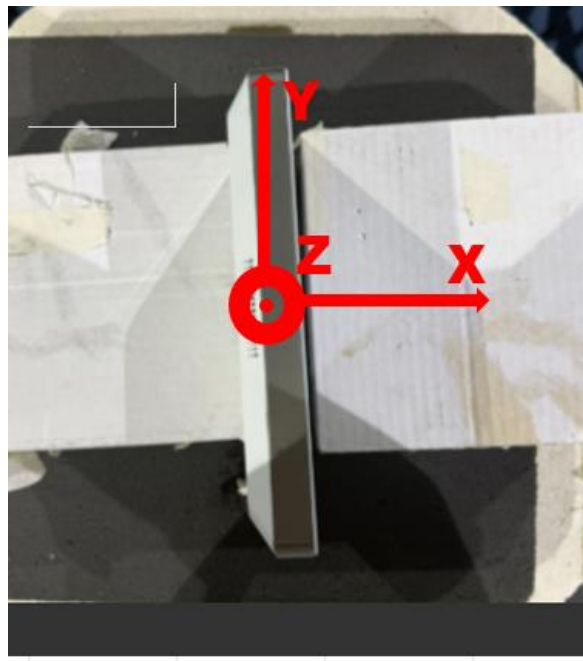


Figure74.TOMCAT TOP View definition

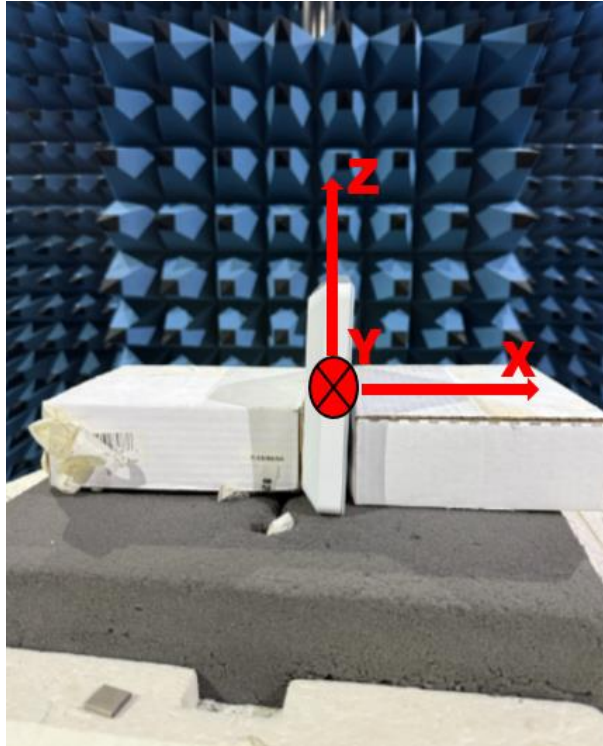


Figure 75. TOMCAT right View definition

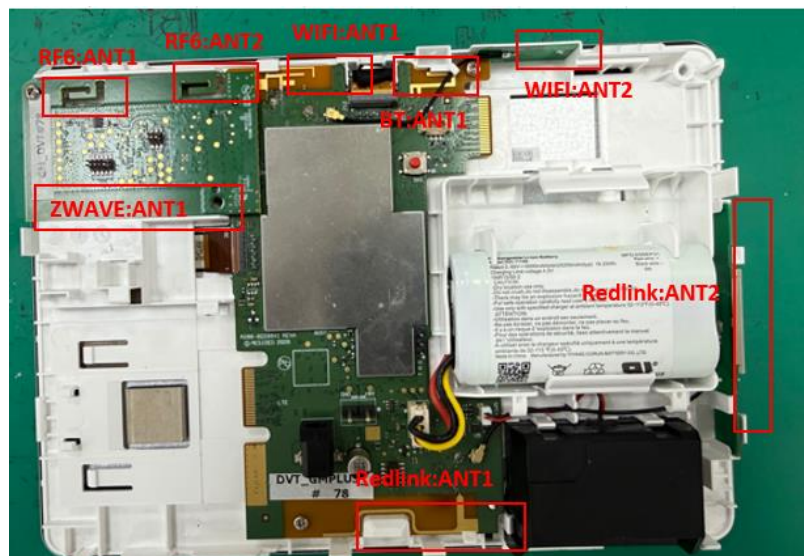


Figure 76. TOMCAT ANT1/2 definition