Test Report for Antenna Specifications for G2R8WD

Table of Contents

Frequency range and operation

Bluetooth Antenna: 2.402 to 2.484 GHz

Antenna type

Bluetooth Antenna: PCB Inv F type

Antenna Gain

Band	Peak Gain (dBi)
2.4GHz	2.56

Frequency (MHz)	Efficiency (dB)	Gain (dBi)
2400	-3.58	2.11
2410	-3.28	2.25
2420	-3.03	2.31
2430	-2.96	2.31
2440	-2.8	2.36
2450	-2.8	2.38
2460	-2.45	2.44
2470	-2.43	2.48
2480	-2.31	2.52
2490	-2.39	2.56
2500	-2.47	2.5

Measurement Test method

Soldered pigtail on feeding point of antenna and measured passive antenna performance, passive efficiency, directivity using ETS Over-The-Air (OTA) far-field chamber and scattering parameters using Keysight Vector-Network-Analyzer (VNA). Measurement was done at device level in free space.

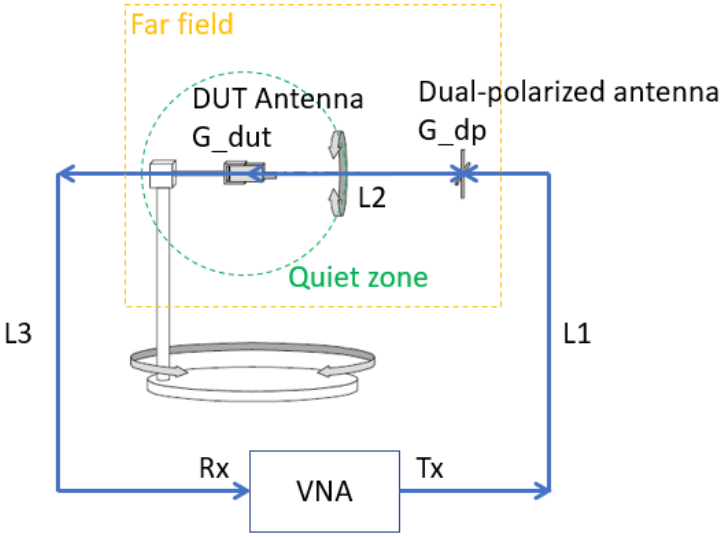
Test Equipment used

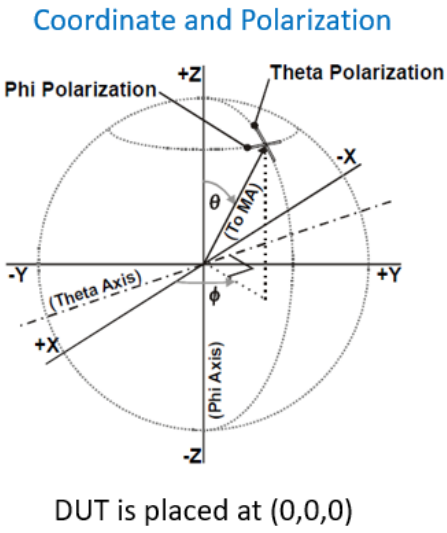
1. VNA: KEYGIGHT_E5071C
2. OTA chamber: ETS_AMS-8923-142-G Antenna Measurement System

Test set up

Device mounted in free space inside the ETS RF anechoic far-field chamber, and a frequency sweep scan was conducted to measure the antenna gain radiation pattern in 3D format.

See Figure 1 for the setup.

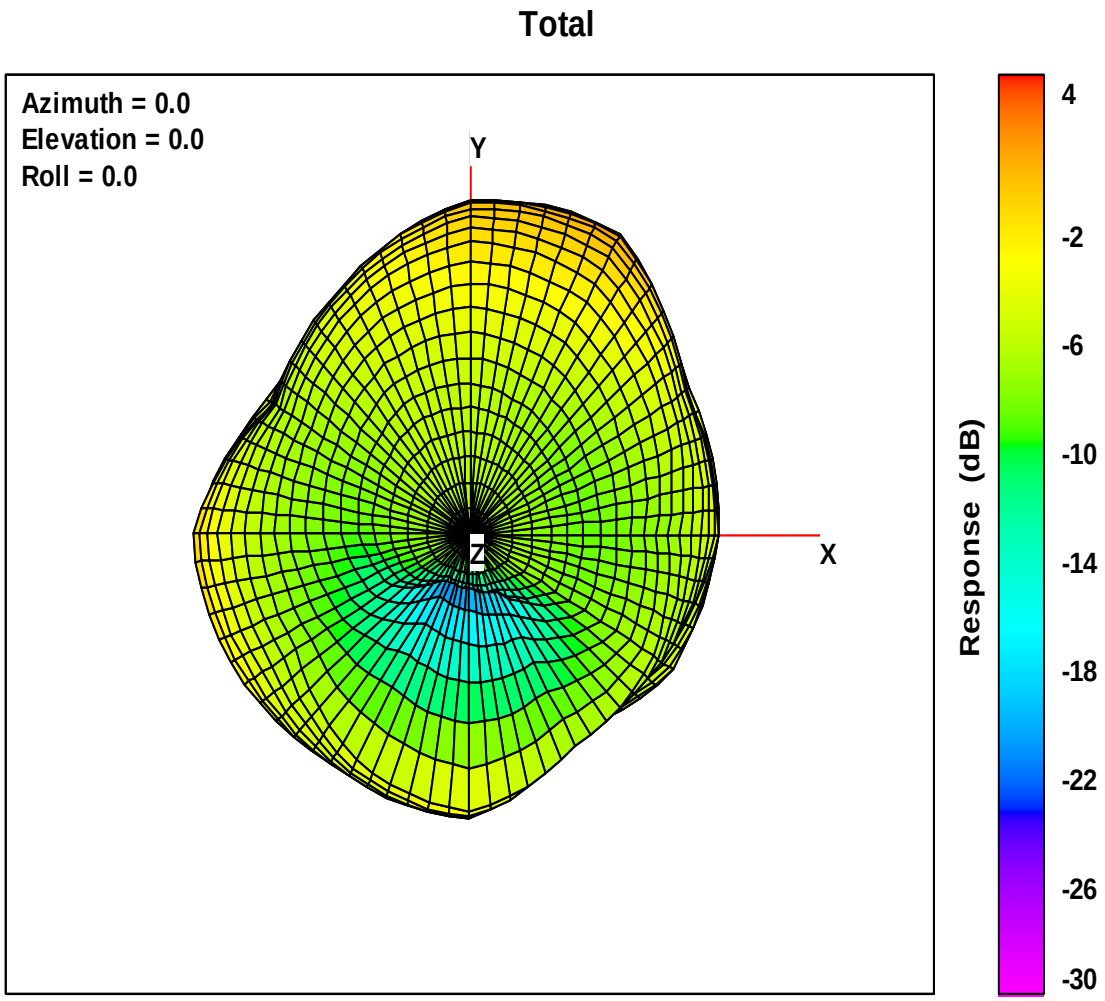




DUT is placed at (0,0,0)

Device Image and Antenna locations – Refer to document – 'G2R8WD_Antenna Report_Photos'

3D Radiation Pattern



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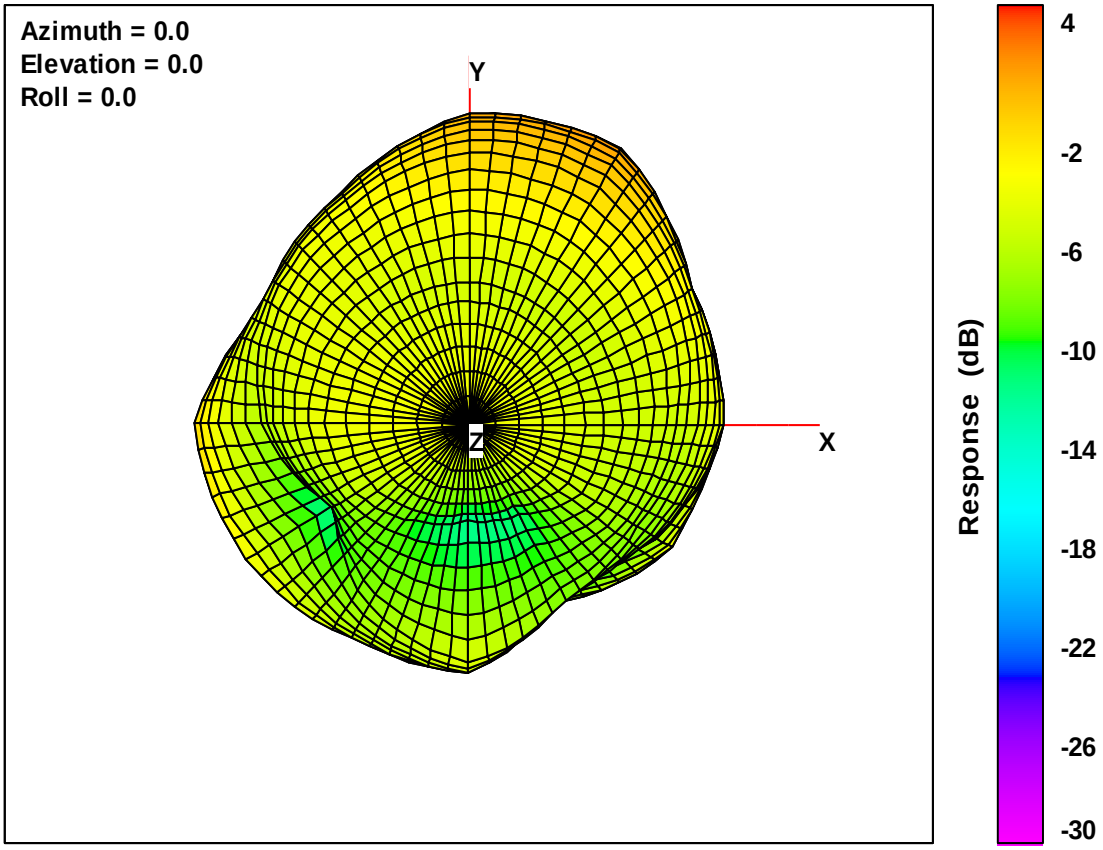
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Elevation = 0.0
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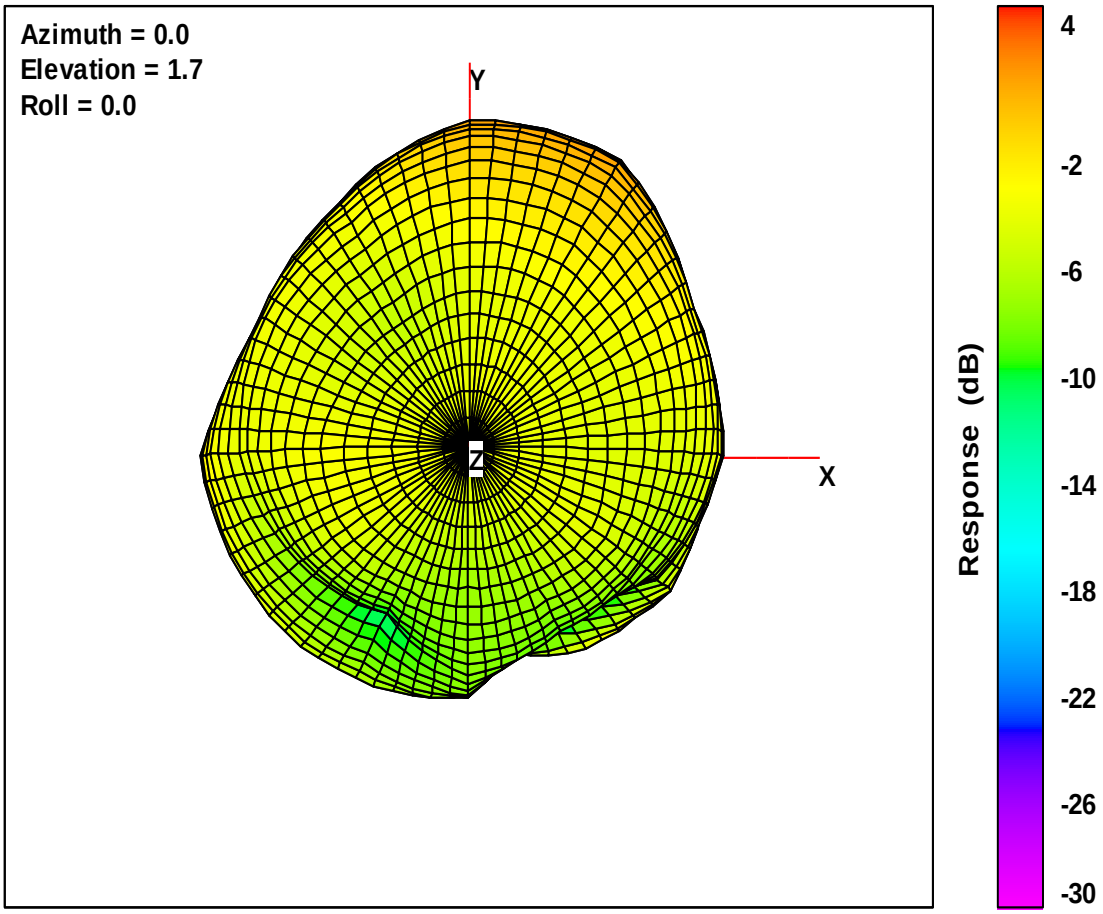
Y
Z
X
Response (dB)
4
-2
-6
-10
-14
-18
-22
-26
-30

Total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-6
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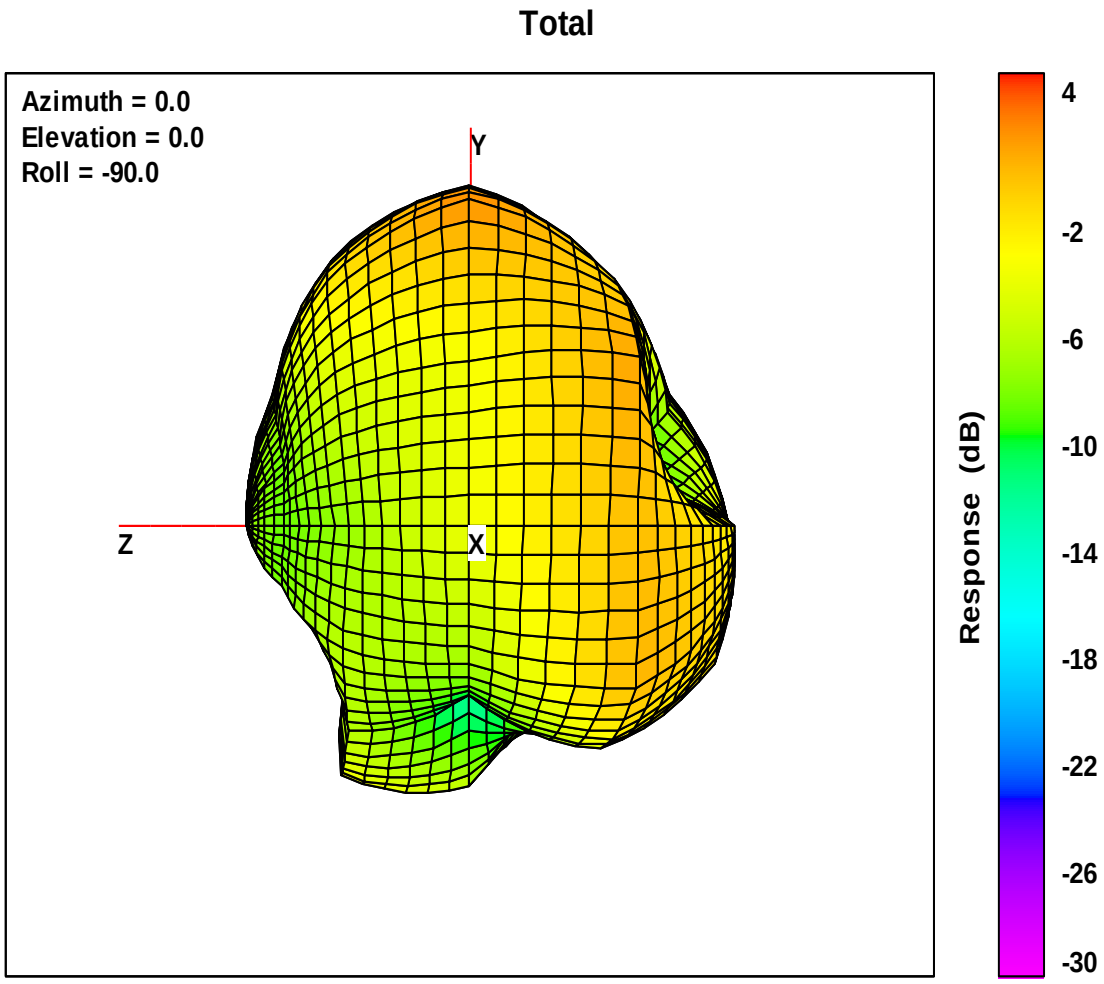
-14
-18
-22
-26
-30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Z
X
Response (dB)
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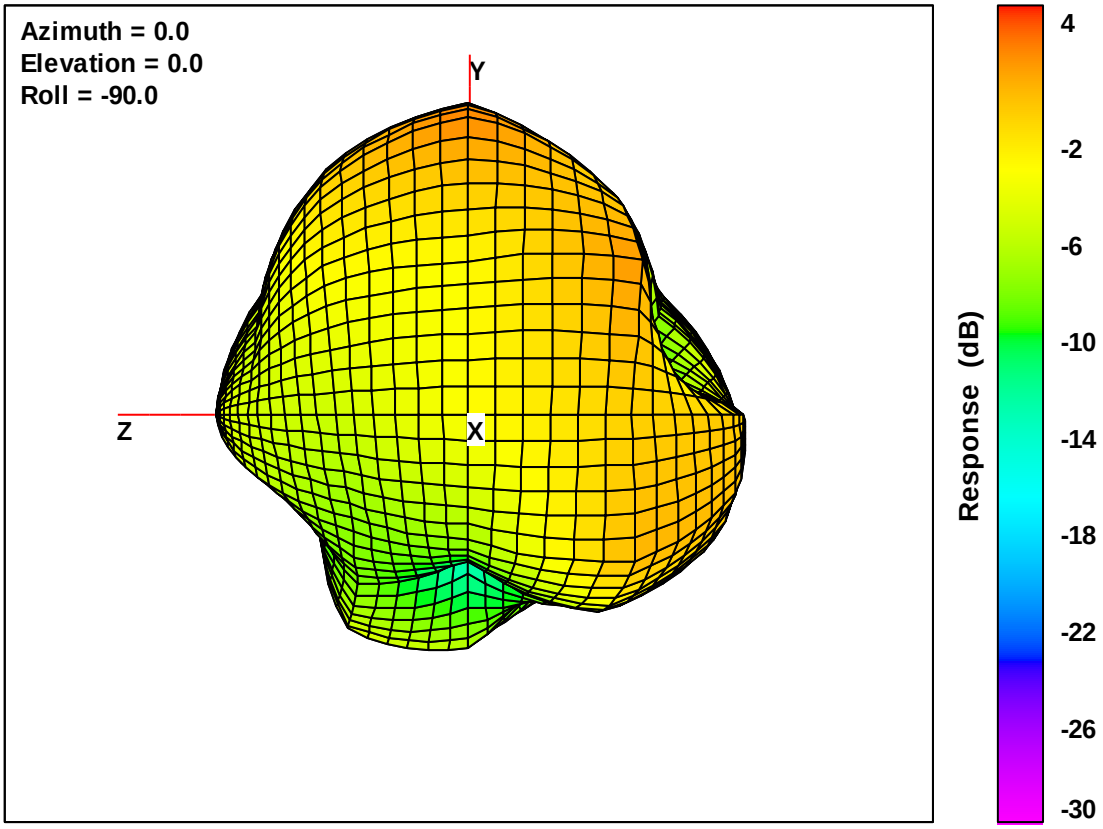
-2
-6
-10
-14
-18
-22
-26
-30

Total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X
Response (dB)
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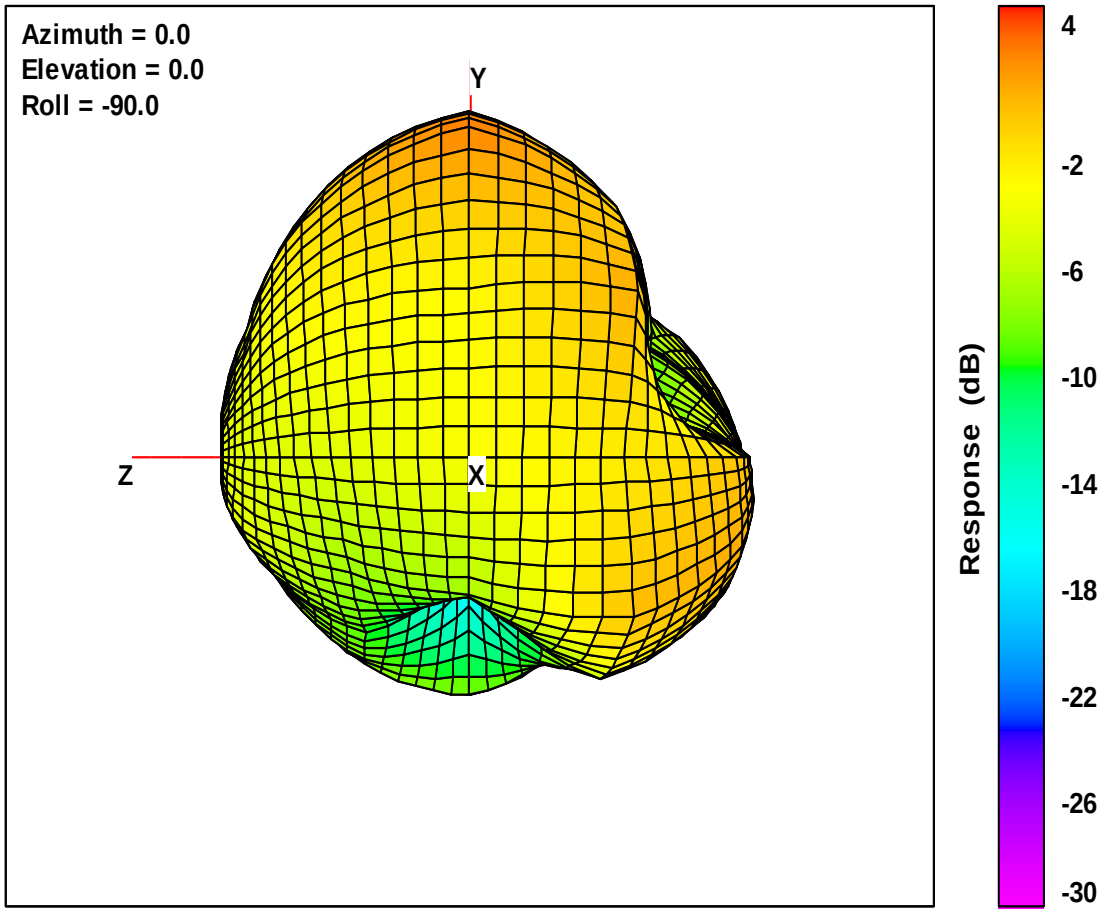
-6
-10
-14
-18
-22
-26
-30

Total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Response (dB)
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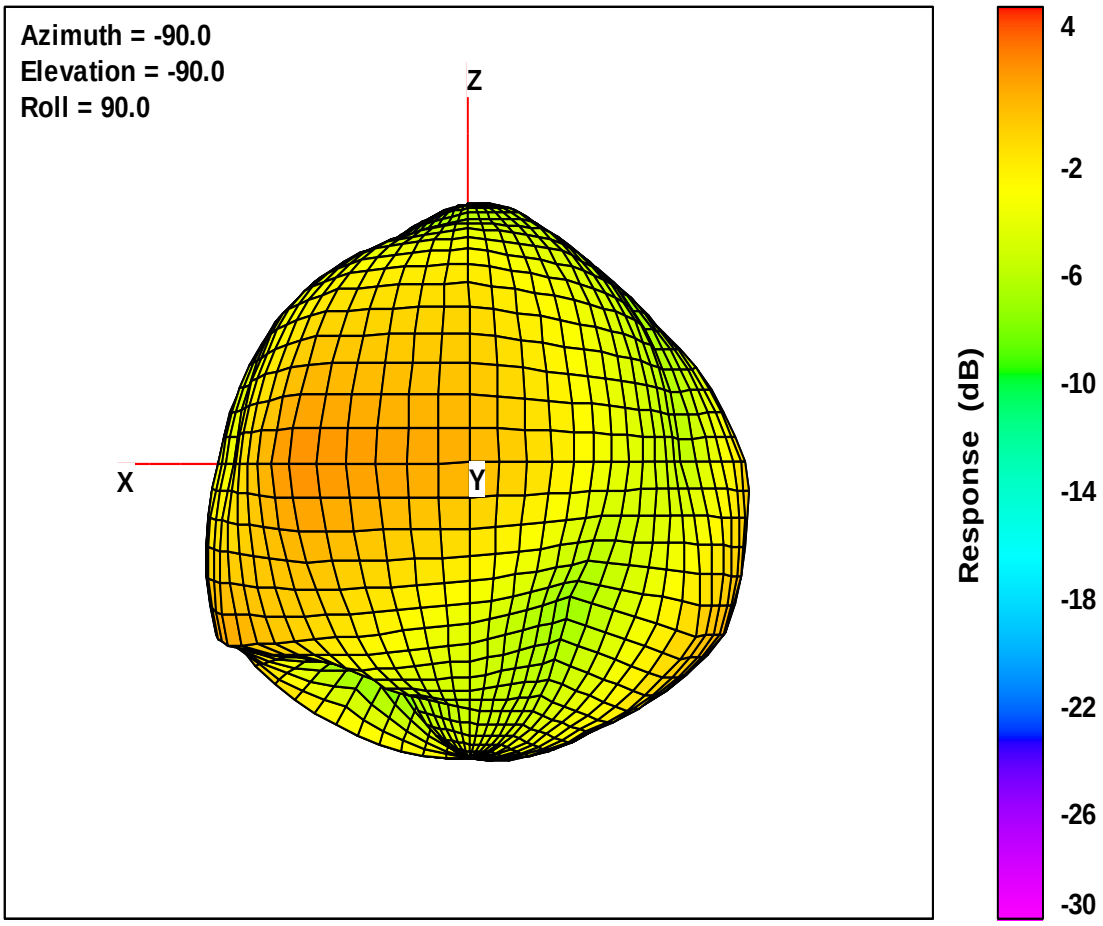
-2
-6
-10
-14
-18
-22
-26
-30

Total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X
Y
Response (dB)
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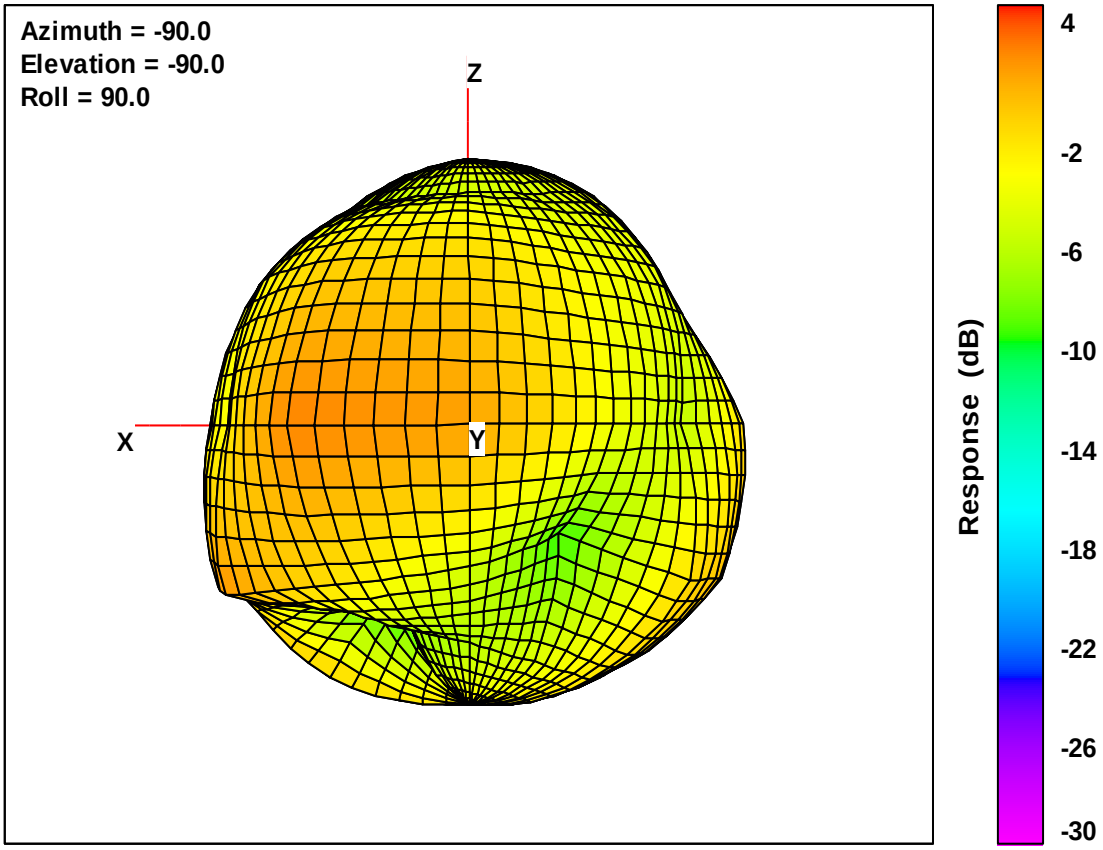
-2
-6
-10
-14
-18
-22
-26
-30

Total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X
Y
Response (dB)
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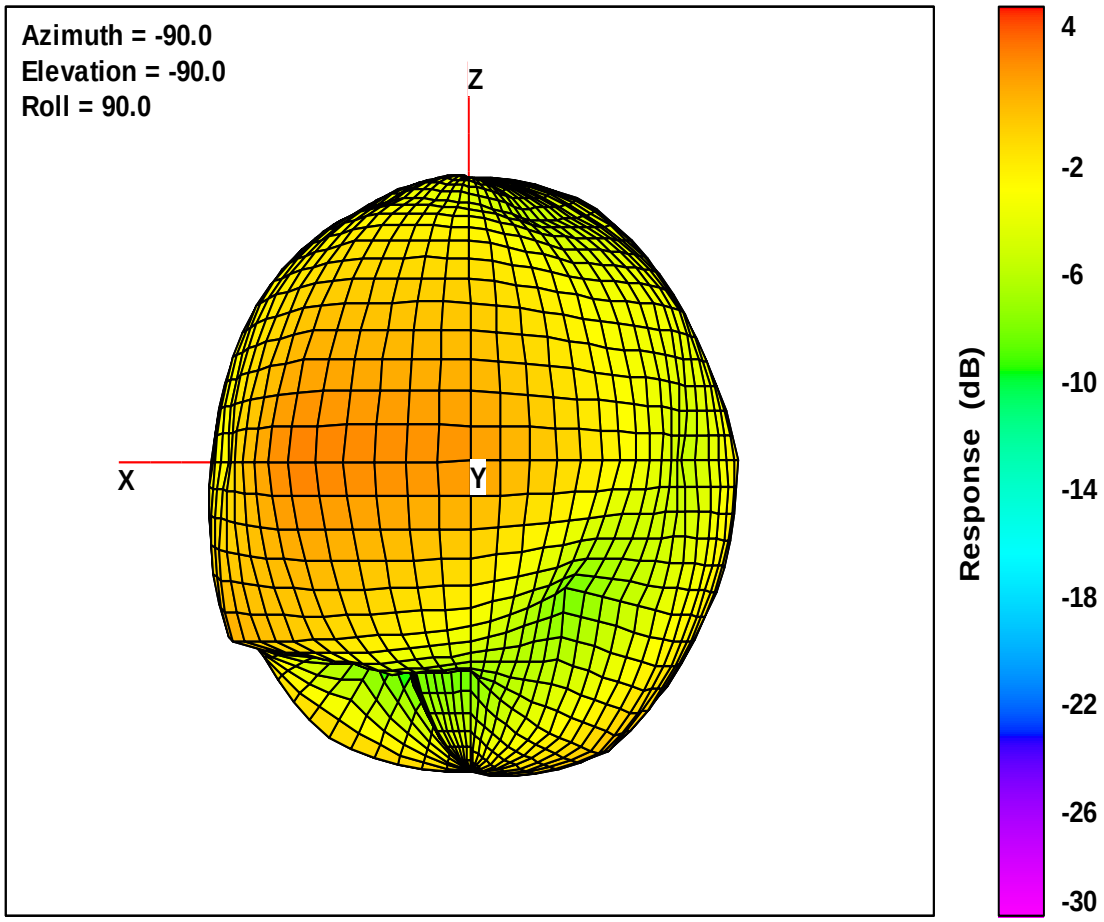
-2
-6
-10
-14
-18
-22
-26
-30

Total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Roll = 90.0
Z
X
Y
Response (dB)
4
-2
-6
-10
-14
-18
-22
-26
-30

S11 Measurement