

Delta antenna test

Antenna Type: PCB Antenna

Model/Part No.:CO61

Brand:LINAK

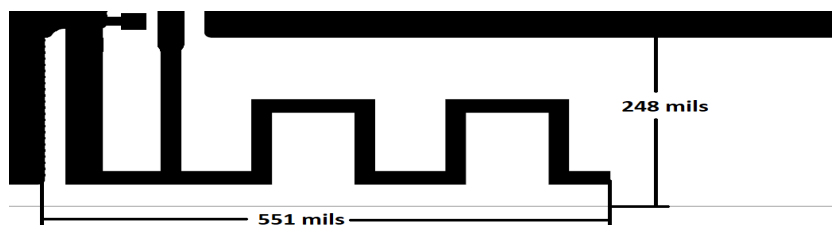
Manufacturer:LINAK A/S

OTA Test Results for Frequency 2482.000 MHz

OTA Evaluation Results:

Total Radiated Power	-7,54 dBm
Directivity	6,39 dBi
Total Efficiency	-7,54 dB
Total Efficiency	17,63 %
Peak Relaised Gain	-1,15 dBi
NHPRP 45°	-9,49 dBm
NHPRP 45° / TRP	-1,96 dB
NHPRP 45° / TRP	63,75 %
NHPRP 30°	-11,00 dBm
NHPRP 30° / TRP	-3,46 dB
NHPRP 30° / TRP	45,08 %
NHPRP 22.5°	-12,03 dBm
NHPRP 22.5° / TRP	-4,49 dB
NHPRP 22.5° / TRP	35,56 %
UHRP	-10,43 dBm
UHRP / TRP	-2,89 dB
UHRP / TRP	51,44 %
LHRP	-10,68 dBm
LHRP / TRP	-3,14 dB
LHRP / TRP	48,56 %
PGRP (0-120°)	-9,15 dBm
PGRP / TRP	-1,61 dB
PGRP / TRP	69,01 %
Front/Back Ratio	11,87
PhiBW	360,0 deg
PhiBW Up	360,0 deg
PhiBW Down	360,0 deg
ThetaBW	39,2 deg
ThetaBW Up	31,9 deg
ThetaBW Down	7,3 deg
Boresight Phi	0 deg
Boresight Theta	180 deg
Maximum Power	-1,15 dBm
Minimum Power	-14,73 dBm
Average Power	-6,24 dBm
Max/Min Ratio	13,58 dB
Max/Avg Ratio	5,10 dB
Min/Avg Ratio	-8,48 dB
Worst Single Value	-35,60 dBm
Worst Position	Azi = 180 deg; Elev = 135 deg; Pol = Ver
Best Single Value	-3,60 dBm
Best Position	Azi = 60 deg; Elev = 165 deg; Pol = Ver

Dimensions



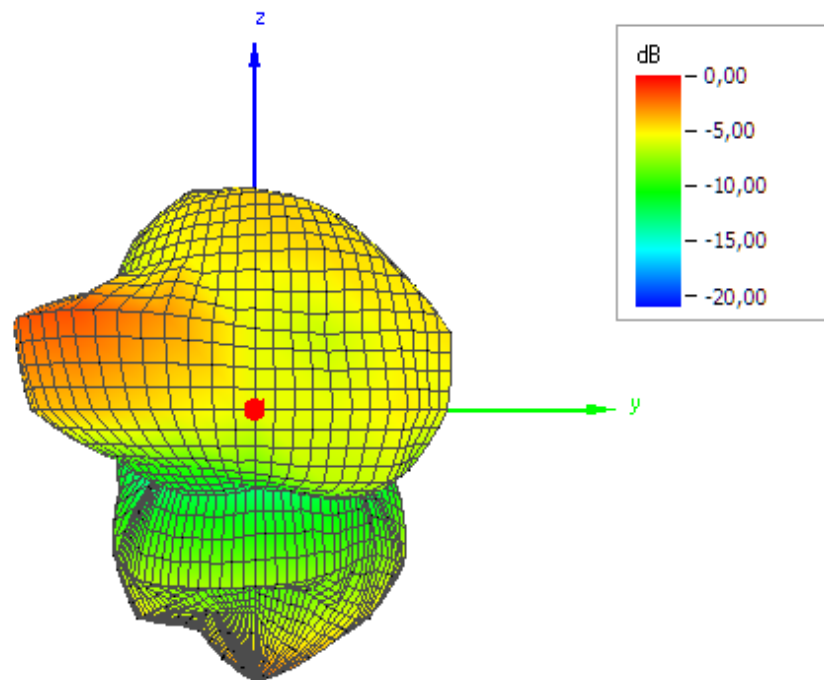
RP 2482.000 tot

Azimuth (deg)	Elevation 0 deg (dB)	Elevation 15 deg (dB)	Elevation 30 deg (dB)	Elevation 45 deg (dB)	Elevation 60 deg (dB)	Elevation 75 deg (dB)	Elevation 90 deg (dB)	Elevation 105 deg (dB)
0.00	-13.01	-9.07	-5.84	-4.01	-4.63	-5.40	-5.43	-8.15
15.00	-13.01	-8.99	-6.78	-4.44	-4.28	-6.06	-5.44	-6.28
30.00	-13.01	-8.91	-7.99	-5.55	-4.54	-4.95	-4.70	-6.01
45.00	-13.01	-8.83	-8.94	-7.67	-5.98	-4.53	-5.37	-7.72
60.00	-13.01	-8.75	-10.15	-10.98	-9.24	-6.54	-8.75	-11.54
75.00	-13.01	-8.35	-9.68	-12.13	-14.40	-9.16	-11.05	-14.73
90.00	-13.01	-7.98	-9.25	-11.17	-10.60	-7.46	-8.73	-13.70
105.00	-13.01	-7.64	-8.24	-9.51	-7.39	-6.44	-8.69	-10.70
120.00	-13.01	-7.33	-7.42	-8.50	-6.46	-7.19	-10.39	-8.87
135.00	-13.01	-7.19	-7.93	-8.14	-6.83	-8.96	-11.87	-8.46
150.00	-13.01	-7.05	-8.50	-8.25	-7.69	-9.93	-10.16	-7.94
165.00	-13.01	-6.92	-8.54	-8.49	-7.90	-9.67	-9.65	-7.07
180.00	-13.01	-6.80	-8.58	-8.31	-7.37	-9.45	-11.09	-6.60
195.00	-13.01	-7.07	-7.98	-7.72	-7.18	-10.00	-13.46	-6.71
210.00	-13.01	-7.36	-7.46	-6.68	-6.74	-11.75	-14.18	-7.07
225.00	-13.01	-7.67	-7.75	-5.88	-6.00	-13.16	-12.07	-7.51
240.00	-13.01	-8.01	-8.07	-5.88	-5.78	-11.07	-10.33	-8.37
255.00	-13.01	-7.76	-9.12	-6.84	-6.96	-9.66	-9.60	-10.31
270.00	-13.01	-7.53	-10.51	-9.92	-13.44	-10.16	-10.80	-13.39
285.00	-13.01	-7.31	-9.03	-9.94	-12.98	-7.23	-8.51	-13.50
300.00	-13.01	-7.10	-7.92	-7.90	-9.70	-3.34	-5.03	-10.55
315.00	-13.01	-7.51	-6.47	-6.27	-7.14	-1.65	-3.78	-9.47
330.00	-13.01	-7.97	-5.39	-5.19	-5.63	-1.52	-3.87	-9.24
345.00	-13.01	-8.49	-5.61	-4.46	-4.92	-2.95	-4.64	-9.07
360.00	-13.01	-9.07	-5.84	-4.01	-4.63	-5.40	-5.43	-8.15

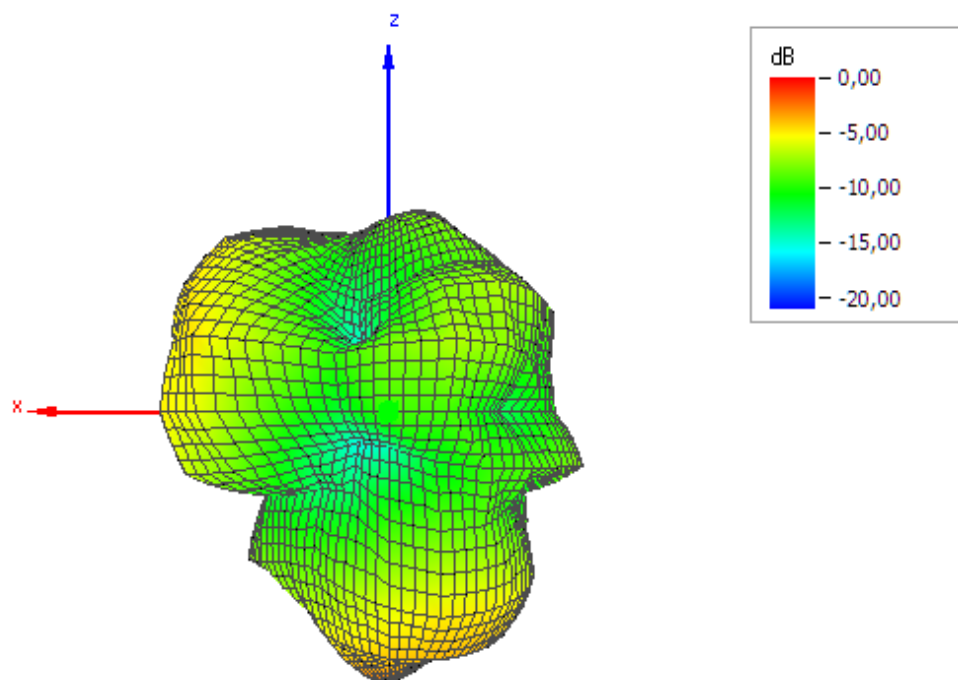
(continuation of the "RP_2482.000_tot" table from column 9 ...)

Azimuth (deg)	Elevation 120 deg (dB)	Elevation 135 deg (dB)	Elevation 150 deg (dB)	Elevation 165 deg (dB)	Elevation 180 deg (dB)
0.00	-12.28	-6.86	-9.16	-7.34	-1.15
15.00	-12.05	-7.07	-8.54	-5.93	-1.15
30.00	-10.89	-7.56	-8.00	-4.87	-1.15
45.00	-11.18	-8.17	-6.30	-4.02	-1.15
60.00	-12.35	-8.09	-5.09	-3.30	-1.15
75.00	-12.02	-6.73	-4.44	-3.50	-1.15
90.00	-9.16	-5.50	-3.88	-3.70	-1.15
105.00	-7.99	-4.64	-3.72	-3.91	-1.15
120.00	-8.18	-4.71	-3.56	-4.14	-1.15
135.00	-9.50	-5.08	-3.62	-4.07	-1.15
150.00	-11.39	-5.74	-3.69	-3.99	-1.15
165.00	-11.80	-6.47	-3.70	-3.92	-1.15
180.00	-10.04	-7.16	-3.71	-3.85	-1.15
195.00	-9.37	-7.68	-3.78	-3.80	-1.15
210.00	-9.64	-7.76	-3.86	-3.74	-1.15
225.00	-9.68	-7.12	-3.59	-3.68	-1.15
240.00	-9.24	-6.45	-3.34	-3.63	-1.15
255.00	-8.97	-5.93	-3.51	-4.26	-1.15
270.00	-10.42	-6.66	-3.68	-5.00	-1.15
285.00	-14.35	-7.15	-4.65	-5.89	-1.15
300.00	-13.66	-7.18	-5.91	-7.01	-1.15
315.00	-12.11	-6.41	-6.91	-7.09	-1.15
330.00	-11.43	-6.47	-8.22	-7.17	-1.15
345.00	-11.49	-6.67	-8.67	-7.26	-1.15
360.00	-12.28	-6.86	-9.16	-7.34	-1.15

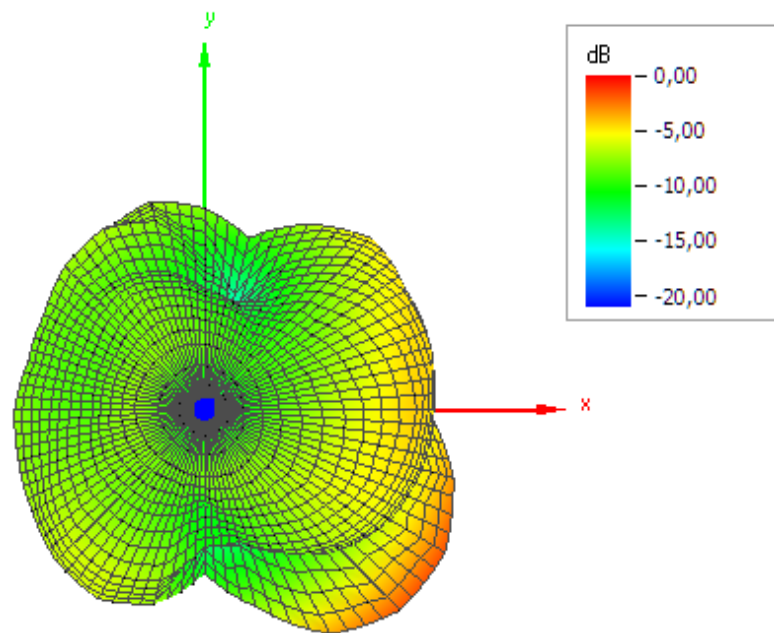
Theta = 90, Phi = 0



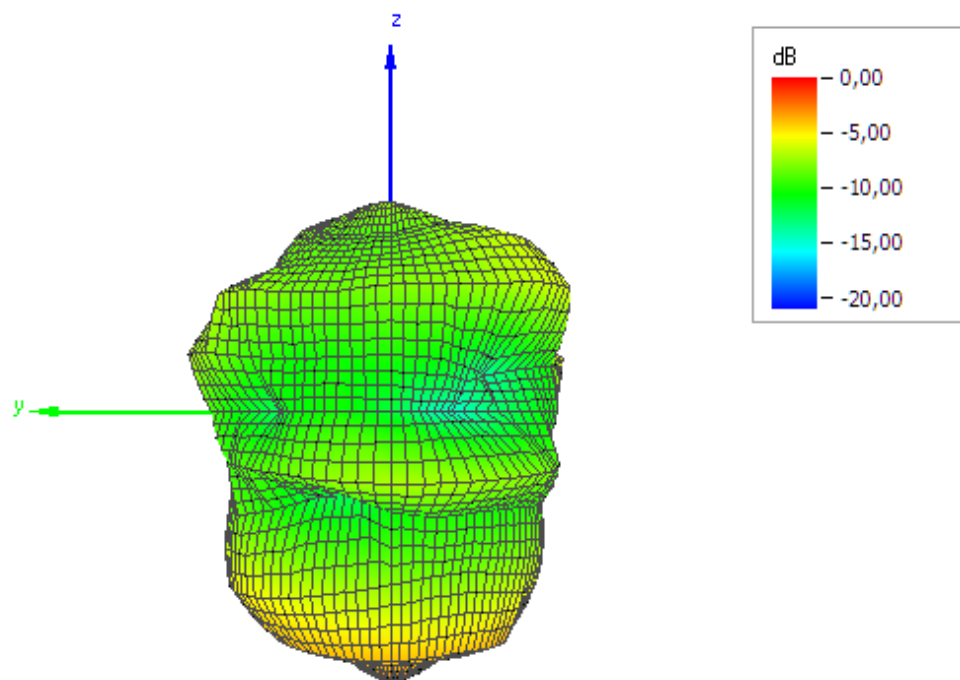
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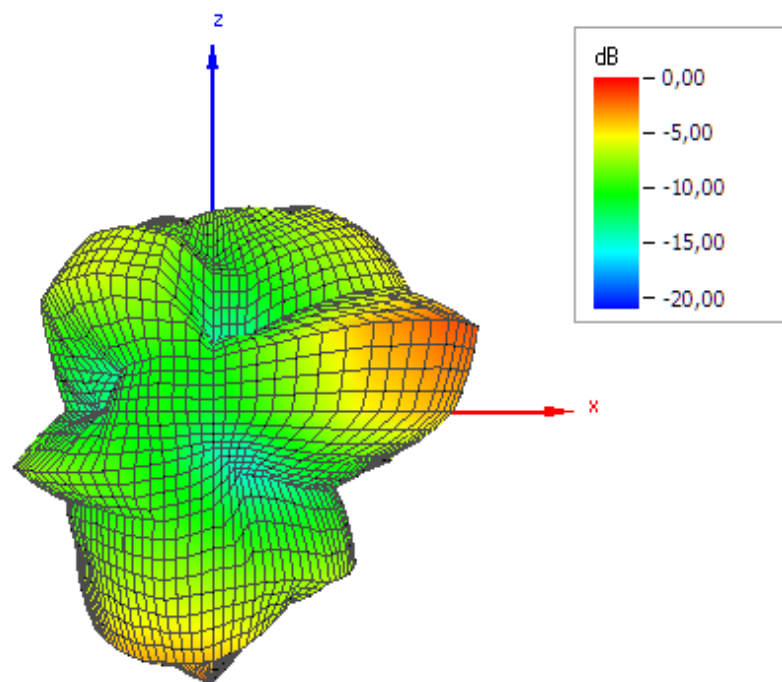
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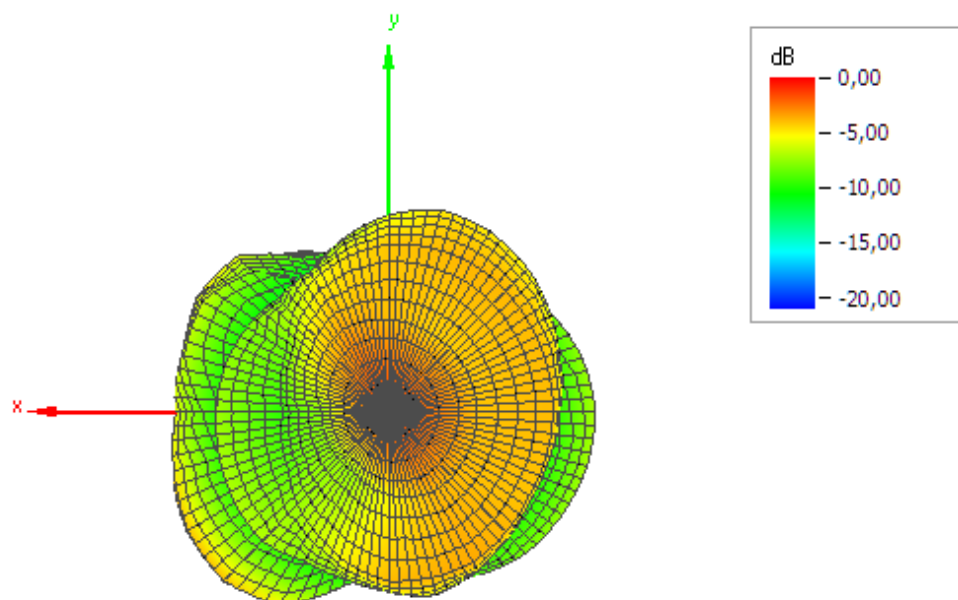
Theta = 90, Phi = 180



Theta = 90, Phi = 270



Theta = 180, Phi = 0



OTA Test Results for Frequency 2440.000 MHz

OTA Evaluation Results:

Total Radiated Power	-6,77 dBm
Directivity	5,71 dBi
Total Efficiency	-6,77 dB
Total Efficiency	21,03 %
Peak Relaxed Gain	-1,06 dBi
NHPRP 45°	-8,79 dBm
NHPRP 45° / TRP	-2,02 dB
NHPRP 45° / TRP	62,75 %
NHPRP 30°	-10,53 dBm
NHPRP 30° / TRP	-3,76 dB
NHPRP 30° / TRP	42,12 %
NHPRP 22.5°	-11,64 dBm
NHPRP 22.5° / TRP	-4,87 dB
NHPRP 22.5° / TRP	32,59 %
UHRP	-9,53 dBm
UHRP / TRP	-2,76 dB
UHRP / TRP	52,97 %
LHRP	-10,05 dBm
LHRP / TRP	-3,28 dB
LHRP / TRP	47,03 %
PGRP (0-120°)	-8,37 dBm
PGRP / TRP	-1,60 dB
PGRP / TRP	69,13 %
Front/Back Ratio	8,87
PhiBW	59,1 deg
PhiBW Up	29,1 deg
PhiBW Down	30,0 deg
ThetaBW	35,8 deg
ThetaBW Up	12,2 deg
ThetaBW Down	23,6 deg
Boresight Phi	330 deg
Boresight Theta	75 deg
Maximum Power	-1,06 dBm
Minimum Power	-15,55 dBm
Average Power	-5,72 dBm
Max/Min Ratio	14,49 dB
Max/Avg Ratio	4,66 dB
Min/Avg Ratio	-9,83 dB
Worst Single Value	-35,98 dBm
Worst Position	Azi = 120 deg; Elev = 90 deg; Pol = Ver
Best Single Value	-3,07 dBm
Best Position	Azi = 180 deg; Elev = 150 deg; Pol = Hor

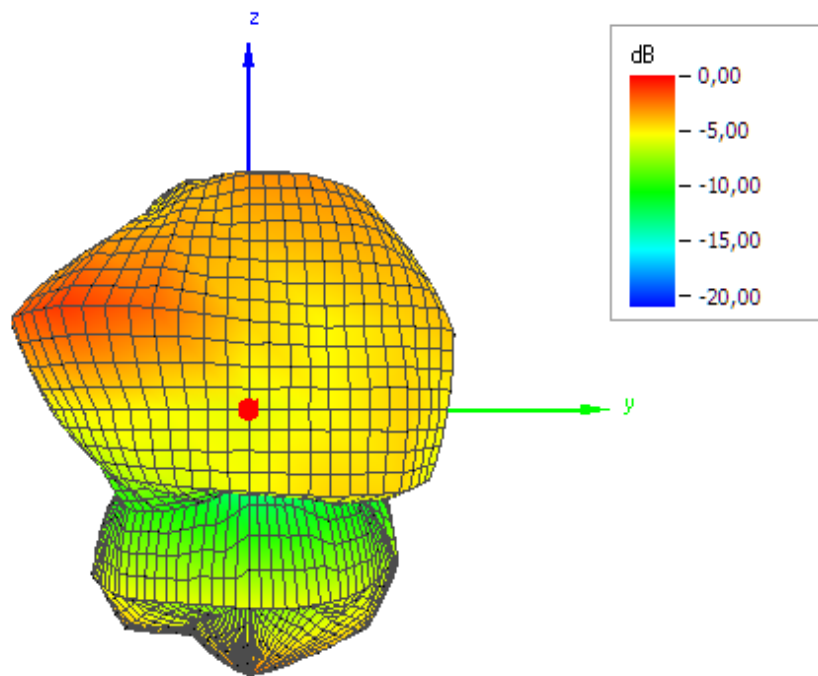
RP 2440.000 tot

Azimuth (deg)	Elevation 0 deg (dB)	Elevation 15 deg (dB)	Elevation 30 deg (dB)	Elevation 45 deg (dB)	Elevation 60 deg (dB)	Elevation 75 deg (dB)	Elevation 90 deg (dB)	Elevation 105 deg (dB)
0.00	-10.46	-5.44	-4.99	-2.87	-3.73	-4.19	-5.47	-5.12
15.00	-10.46	-5.85	-5.68	-2.73	-3.57	-4.98	-4.98	-4.21
30.00	-10.46	-6.30	-6.51	-3.28	-3.49	-4.24	-4.15	-4.22
45.00	-10.46	-6.81	-7.43	-4.65	-4.48	-3.90	-4.93	-5.64
60.00	-10.46	-7.38	-8.58	-7.55	-7.23	-6.00	-8.96	-9.25
75.00	-10.46	-7.55	-8.84	-9.04	-12.89	-8.93	-12.62	-14.34
90.00	-10.46	-7.73	-9.10	-8.66	-9.91	-7.10	-8.28	-13.38
105.00	-10.46	-7.91	-7.60	-7.05	-6.43	-6.14	-6.99	-10.39
120.00	-10.46	-8.11	-6.48	-5.40	-4.86	-7.06	-8.08	-9.21
135.00	-10.46	-7.56	-6.64	-4.81	-4.58	-9.71	-10.54	-9.76
150.00	-10.46	-7.08	-6.81	-4.95	-5.09	-12.02	-10.09	-9.93
165.00	-10.46	-6.64	-6.92	-5.82	-5.91	-11.45	-9.26	-8.65
180.00	-10.46	-6.25	-7.04	-6.47	-6.52	-10.89	-10.28	-7.59
195.00	-10.46	-6.64	-6.79	-6.64	-7.02	-11.60	-11.56	-7.35
210.00	-10.46	-7.07	-6.55	-5.94	-7.11	-13.03	-10.73	-7.66
225.00	-10.46	-7.55	-7.55	-5.12	-6.45	-12.20	-8.54	-8.12
240.00	-10.46	-8.09	-8.84	-5.38	-6.06	-9.19	-7.05	-8.63
255.00	-10.46	-7.45	-9.91	-7.18	-6.98	-8.18	-6.98	-9.95
270.00	-10.46	-6.89	-11.32	-9.48	-11.88	-10.36	-9.87	-13.40
285.00	-10.46	-6.40	-8.00	-8.94	-9.55	-8.75	-10.72	-15.55
300.00	-10.46	-5.95	-6.14	-7.22	-6.25	-4.05	-6.92	-11.11
315.00	-10.46	-5.82	-5.39	-6.27	-4.02	-1.66	-5.24	-8.29
330.00	-10.46	-5.69	-4.75	-4.81	-3.03	-1.06	-4.75	-6.62
345.00	-10.46	-5.56	-4.86	-3.69	-3.14	-2.06	-5.08	-5.83
360.00	-10.46	-5.44	-4.99	-2.87	-3.73	-4.19	-5.47	-5.12

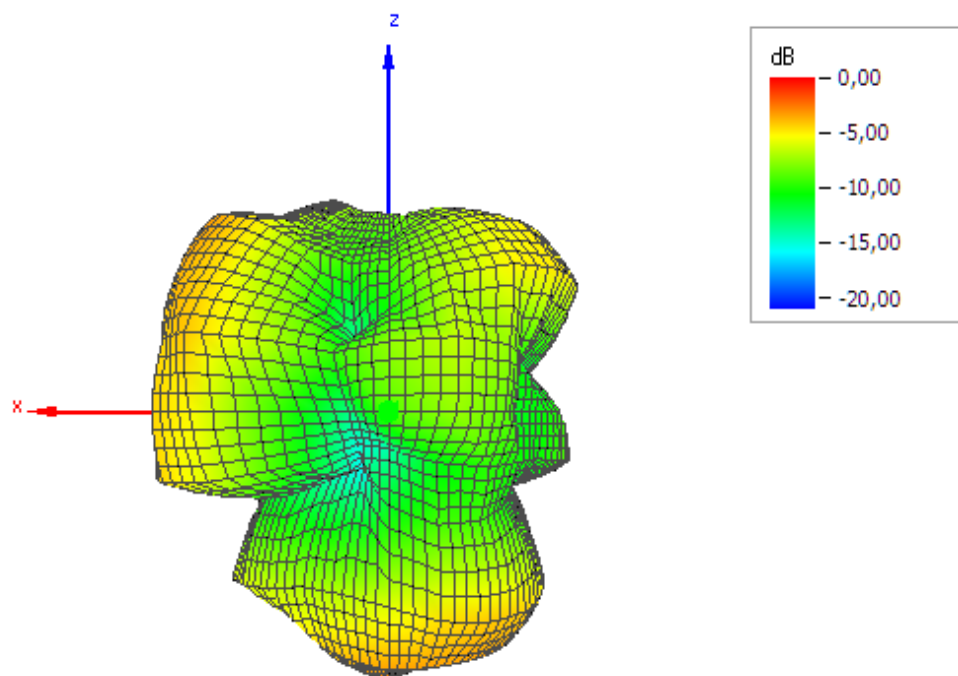
(continuation of the "RP_2440.000_tot" table from column 9 ...)

Azimuth (deg)	Elevation 120 deg (dB)	Elevation 135 deg (dB)	Elevation 150 deg (dB)	Elevation 165 deg (dB)	Elevation 180 deg (dB)
0.00	-13.68	-5.33	-9.54	-8.22	-1.61
15.00	-13.34	-5.24	-8.30	-6.39	-1.61
30.00	-11.01	-5.45	-7.34	-5.10	-1.61
45.00	-11.17	-5.93	-5.48	-4.11	-1.61
60.00	-13.49	-6.59	-4.18	-3.31	-1.61
75.00	-15.19	-6.35	-3.64	-3.40	-1.61
90.00	-10.68	-5.55	-3.16	-3.51	-1.61
105.00	-8.64	-4.42	-3.16	-3.61	-1.61
120.00	-8.75	-3.94	-3.17	-3.71	-1.61
135.00	-9.86	-4.05	-3.13	-3.83	-1.61
150.00	-11.41	-4.70	-3.09	-3.94	-1.61
165.00	-12.27	-5.33	-2.97	-4.06	-1.61
180.00	-11.26	-5.85	-2.86	-4.19	-1.61
195.00	-10.40	-6.21	-2.84	-3.94	-1.61
210.00	-10.21	-6.26	-2.82	-3.71	-1.61
225.00	-9.71	-5.48	-2.41	-3.49	-1.61
240.00	-9.09	-4.79	-2.03	-3.28	-1.61
255.00	-9.14	-4.32	-2.36	-3.83	-1.61
270.00	-11.84	-4.97	-2.71	-4.46	-1.61
285.00	-13.56	-5.29	-4.00	-5.20	-1.61
300.00	-10.46	-5.31	-5.86	-6.09	-1.61
315.00	-9.25	-5.06	-7.09	-6.53	-1.61
330.00	-9.52	-5.32	-8.81	-7.02	-1.61
345.00	-10.87	-5.48	-9.16	-7.58	-1.61
360.00	-13.68	-5.33	-9.54	-8.22	-1.61

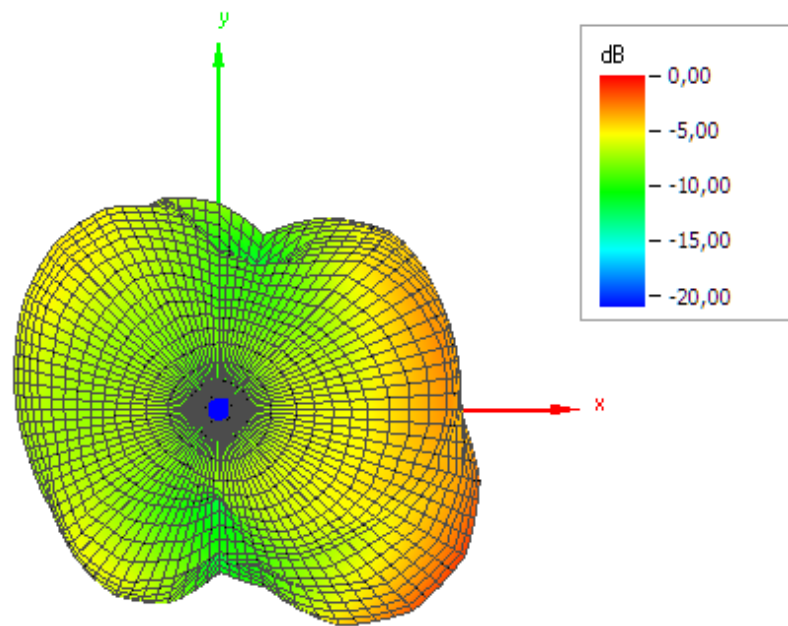
Theta = 90, Phi = 0



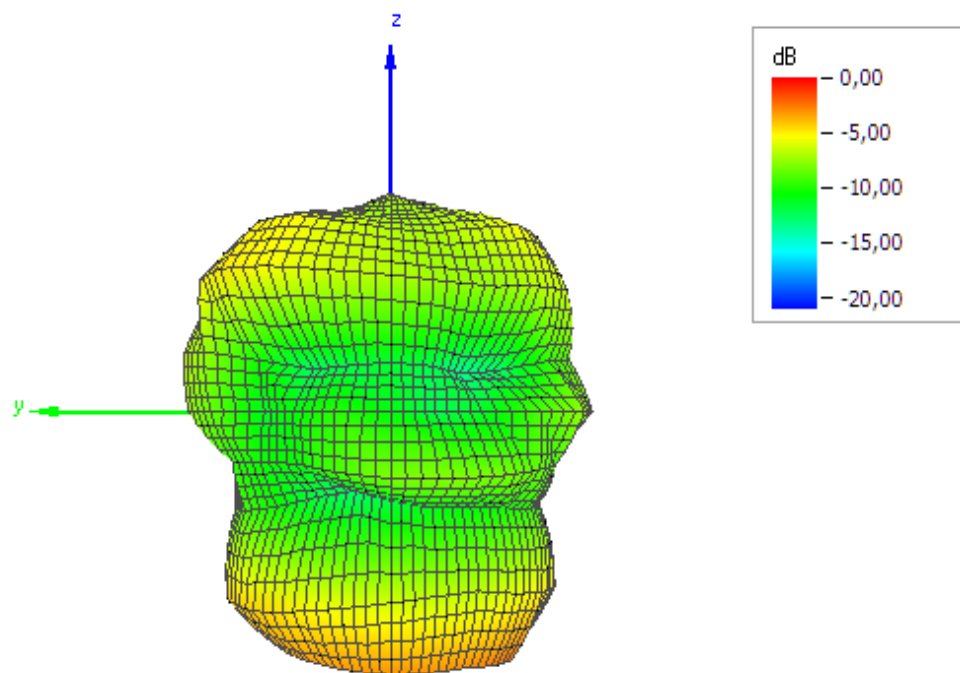
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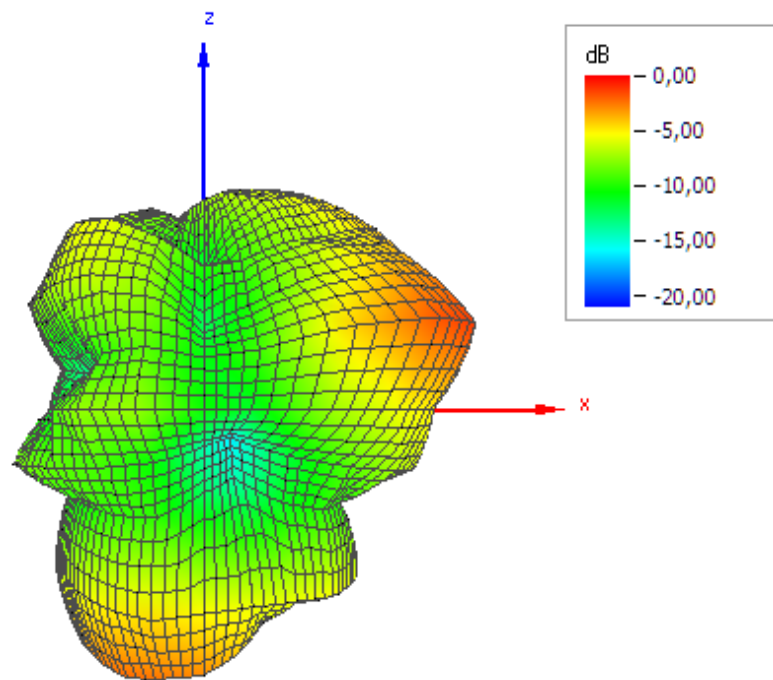
Theta = 0, Phi = 0



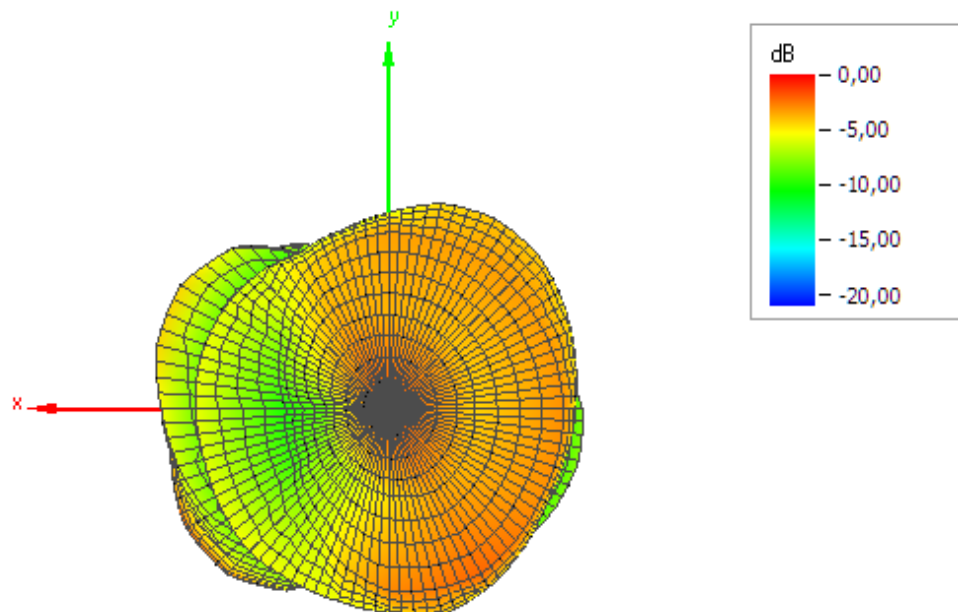
Theta = 90, Phi = 180



Theta = 90, Phi = 270



Theta = 180, Phi = 0



OTA Test Results for Frequency 2402.000 MHz

OTA Evaluation Results:

Total Radiated Power	-5,65 dBm
Directivity	5,60 dBi
Total Efficiency	-5,65 dB
Total Efficiency	27,22 %
Peak Relaxed Gain	-0,05 dBi
NHPRP 45°	-7,72 dBm
NHPRP 45° / TRP	-2,07 dB
NHPRP 45° / TRP	62,10 %
NHPRP 30°	-9,72 dBm
NHPRP 30° / TRP	-4,07 dB
NHPRP 30° / TRP	39,20 %
NHPRP 22.5°	-10,87 dBm
NHPRP 22.5° / TRP	-5,21 dB
NHPRP 22.5° / TRP	30,10 %
UHRP	-8,24 dBm
UHRP / TRP	-2,59 dB
UHRP / TRP	55,04 %
LHRP	-9,12 dBm
LHRP / TRP	-3,47 dB
LHRP / TRP	44,96 %
PGRP (0-120°)	-7,21 dBm
PGRP / TRP	-1,56 dB
PGRP / TRP	69,82 %
Front/Back Ratio	9,68
PhiBW	67,8 deg
PhiBW Up	36,8 deg
PhiBW Down	31,0 deg
ThetaBW	42,4 deg
ThetaBW Up	7,9 deg
ThetaBW Down	34,4 deg
Boresight Phi	330 deg
Boresight Theta	75 deg
Maximum Power	-0,05 dBm
Minimum Power	-18,11 dBm
Average Power	-4,69 dBm
Max/Min Ratio	18,06 dB
Max/Avg Ratio	4,64 dB
Min/Avg Ratio	-13,42 dB
Worst Single Value	-36,93 dBm
Worst Position	Azi = 75 deg; Elev = 90 deg; Pol = Ver
Best Single Value	-1,91 dBm
Best Position	Azi = 0 deg; Elev = 45 deg; Pol = Hor

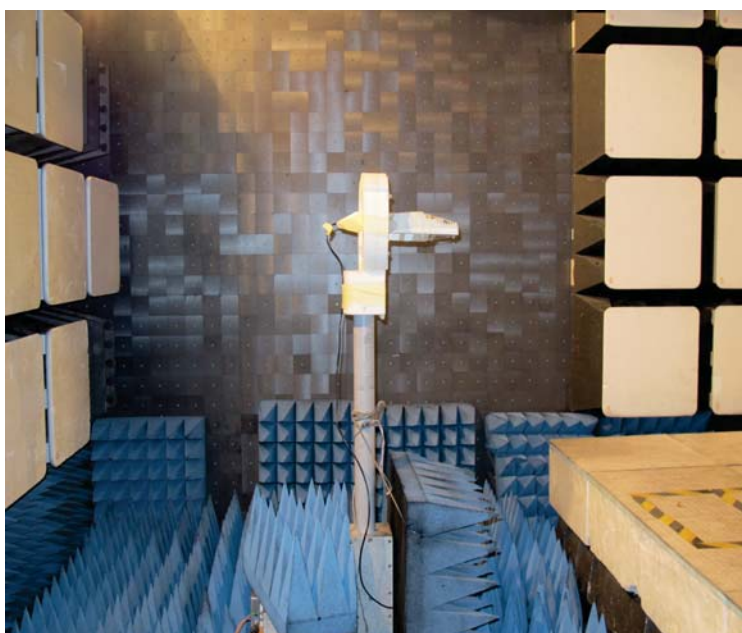
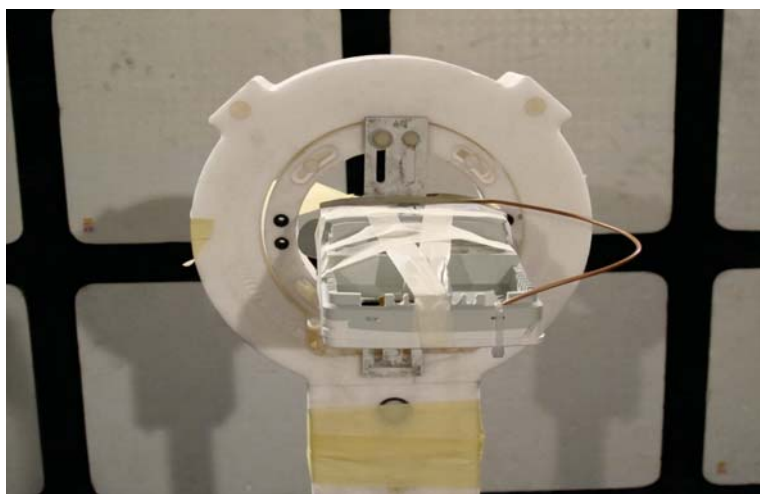
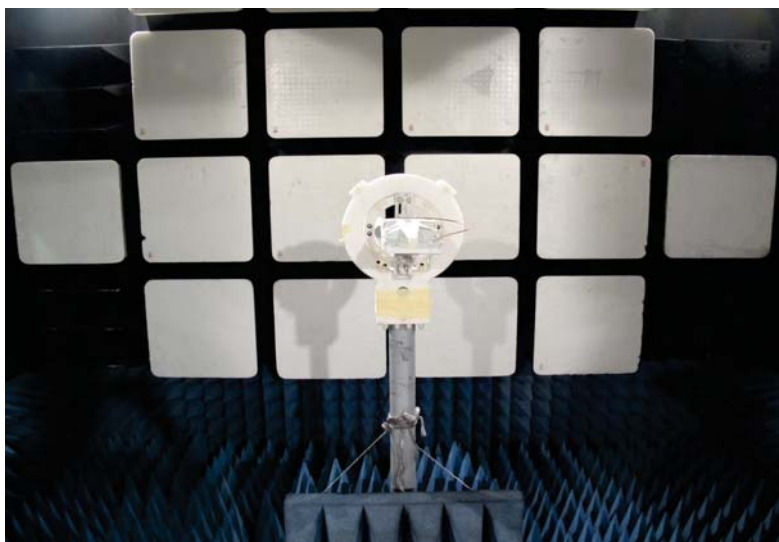
RP 2402.000 tot

Azimuth (deg)	Elevation 0 deg (dB)	Elevation 15 deg (dB)	Elevation 30 deg (dB)	Elevation 45 deg (dB)	Elevation 60 deg (dB)	Elevation 75 deg (dB)	Elevation 90 deg (dB)	Elevation 105 deg (dB)
0.00	-8.97	-4.61	-2.97	-1.36	-2.05	-2.55	-5.25	-3.73
15.00	-8.97	-5.20	-3.83	-1.37	-1.88	-3.66	-4.34	-3.06
30.00	-8.97	-5.87	-4.89	-1.88	-1.85	-3.59	-3.40	-3.21
45.00	-8.97	-6.67	-6.27	-3.03	-2.81	-3.87	-4.05	-4.83
60.00	-8.97	-7.65	-8.32	-5.43	-5.26	-6.28	-7.60	-9.21
75.00	-8.97	-7.35	-8.17	-6.55	-9.26	-9.36	-10.84	-16.03
90.00	-8.97	-7.08	-8.02	-6.36	-7.23	-7.17	-6.95	-11.66
105.00	-8.97	-6.81	-5.90	-5.25	-5.10	-5.98	-5.16	-8.50
120.00	-8.97	-6.57	-4.48	-4.00	-4.26	-6.51	-5.82	-7.84
135.00	-8.97	-6.50	-3.89	-3.24	-4.41	-8.46	-8.30	-8.94
150.00	-8.97	-6.43	-3.37	-2.86	-5.37	-11.47	-9.37	-9.73
165.00	-8.97	-6.37	-3.84	-3.14	-6.79	-14.55	-8.03	-8.68
180.00	-8.97	-6.31	-4.36	-3.16	-7.34	-16.85	-7.95	-7.75
195.00	-8.97	-6.42	-4.89	-2.85	-7.33	-17.99	-8.19	-7.87
210.00	-8.97	-6.54	-5.50	-2.12	-6.65	-17.05	-7.38	-8.82
225.00	-8.97	-6.67	-6.24	-1.77	-5.36	-12.94	-5.85	-9.83
240.00	-8.97	-6.80	-7.13	-2.33	-4.81	-9.31	-4.94	-10.27
255.00	-8.97	-6.49	-7.75	-4.35	-5.96	-8.49	-5.63	-11.53
270.00	-8.97	-6.20	-8.47	-7.27	-11.54	-10.20	-9.37	-15.58
285.00	-8.97	-5.93	-7.66	-7.62	-7.34	-6.96	-10.78	-14.96
300.00	-8.97	-5.68	-6.98	-5.77	-4.17	-2.76	-7.29	-9.78
315.00	-8.97	-5.39	-5.32	-3.85	-2.44	-0.64	-6.12	-6.93
330.00	-8.97	-5.11	-4.12	-2.60	-1.74	-0.05	-5.72	-5.12
345.00	-8.97	-4.86	-3.51	-1.81	-1.82	-0.88	-5.71	-4.24
360.00	-8.97	-4.61	-2.97	-1.36	-2.05	-2.55	-5.25	-3.73

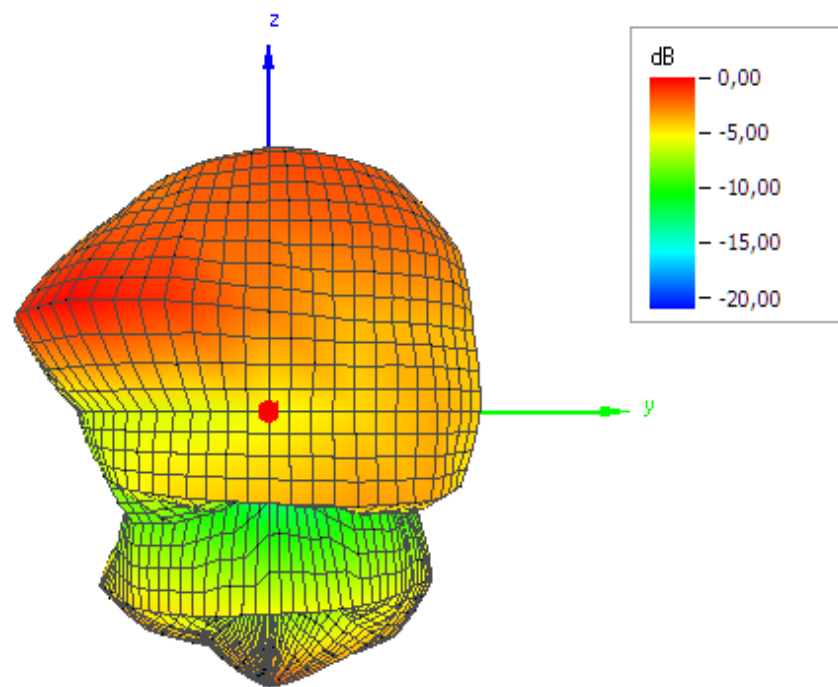
(continuation of the "RP_2402.000_tot" table from column 9 ...)

Azimuth (deg)	Elevation 120 deg (dB)	Elevation 135 deg (dB)	Elevation 150 deg (dB)	Elevation 165 deg (dB)	Elevation 180 deg (dB)
0.00	-14.41	-5.09	-10.25	-9.94	-0.86
15.00	-13.40	-5.09	-9.21	-6.84	-0.86
30.00	-10.08	-5.15	-8.37	-5.04	-0.86
45.00	-9.39	-5.27	-5.63	-3.78	-0.86
60.00	-10.49	-5.48	-3.96	-2.80	-0.86
75.00	-11.97	-4.84	-2.96	-2.89	-0.86
90.00	-9.65	-3.91	-2.15	-2.99	-0.86
105.00	-7.73	-2.91	-2.15	-3.08	-0.86
120.00	-7.14	-2.45	-2.15	-3.18	-0.86
135.00	-7.37	-2.30	-2.29	-2.98	-0.86
150.00	-8.50	-2.39	-2.42	-2.79	-0.86
165.00	-10.85	-2.45	-2.39	-2.61	-0.86
180.00	-12.96	-2.70	-2.36	-2.44	-0.86
195.00	-11.90	-2.98	-2.19	-2.45	-0.86
210.00	-11.52	-3.12	-2.02	-2.46	-0.86
225.00	-11.36	-2.71	-1.70	-2.48	-0.86
240.00	-11.24	-2.34	-1.39	-2.49	-0.86
255.00	-11.76	-2.16	-2.05	-3.07	-0.86
270.00	-18.11	-3.22	-2.82	-3.75	-0.86
285.00	-14.16	-4.18	-4.37	-4.55	-0.86
300.00	-8.95	-4.76	-6.78	-5.53	-0.86
315.00	-7.83	-4.34	-7.66	-6.28	-0.86
330.00	-8.48	-4.49	-8.78	-7.20	-0.86
345.00	-10.27	-4.77	-9.45	-8.36	-0.86
360.00	-14.41	-5.09	-10.25	-9.94	-0.86

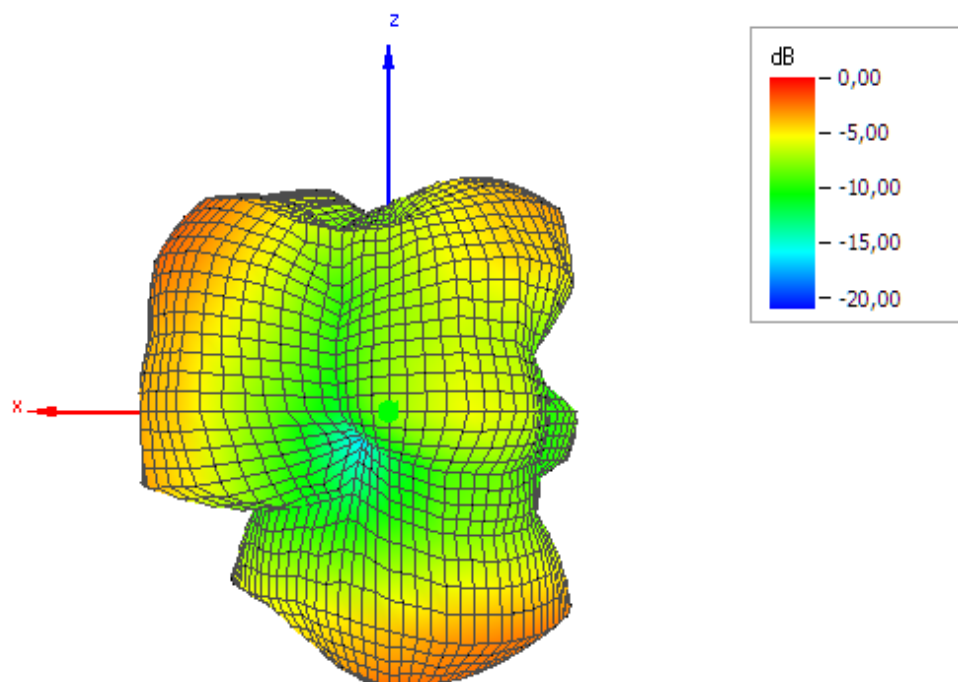
DUT setup photo of OTA testing



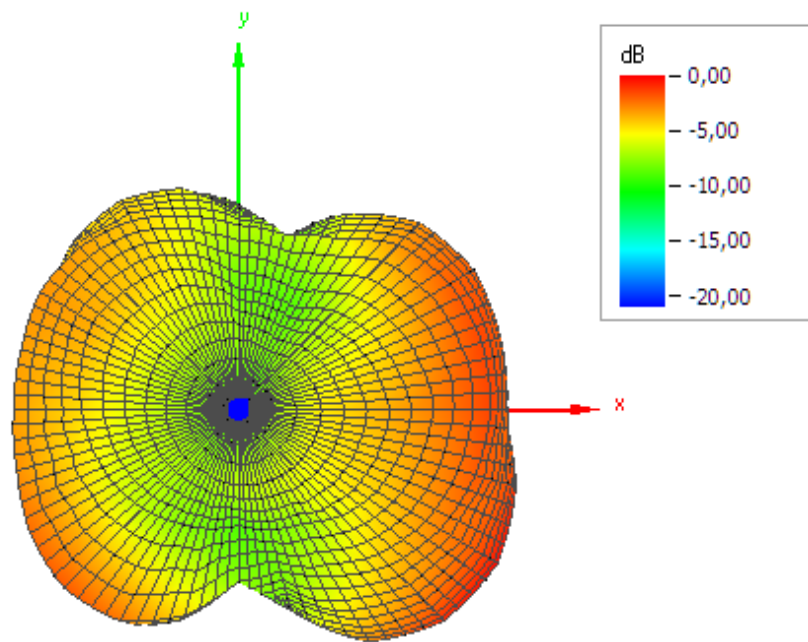
Theta = 90, Phi = 0



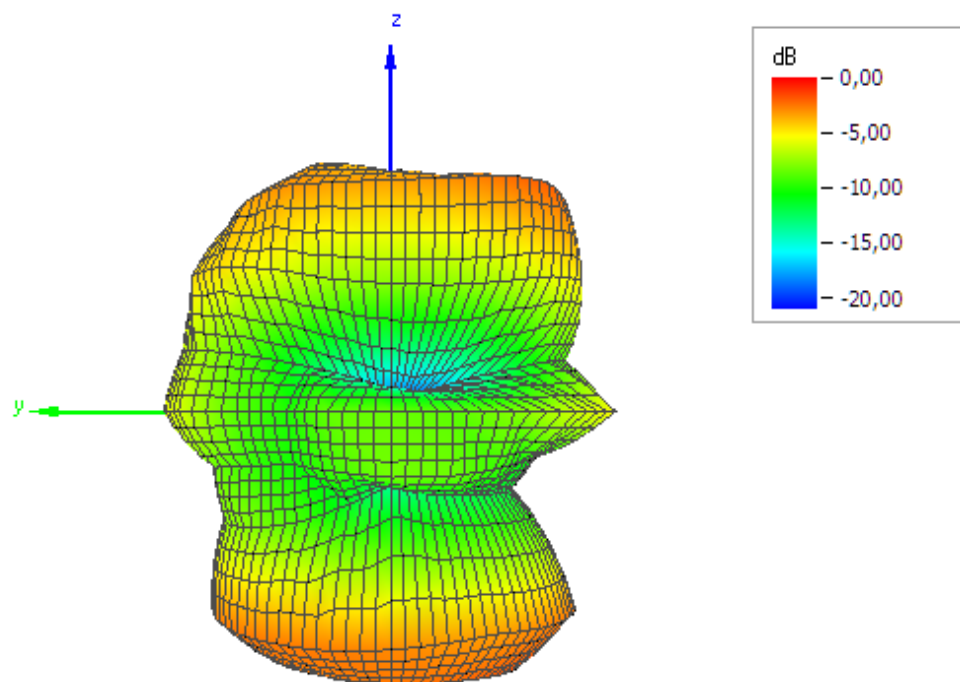
Theta = 90, Phi = 90



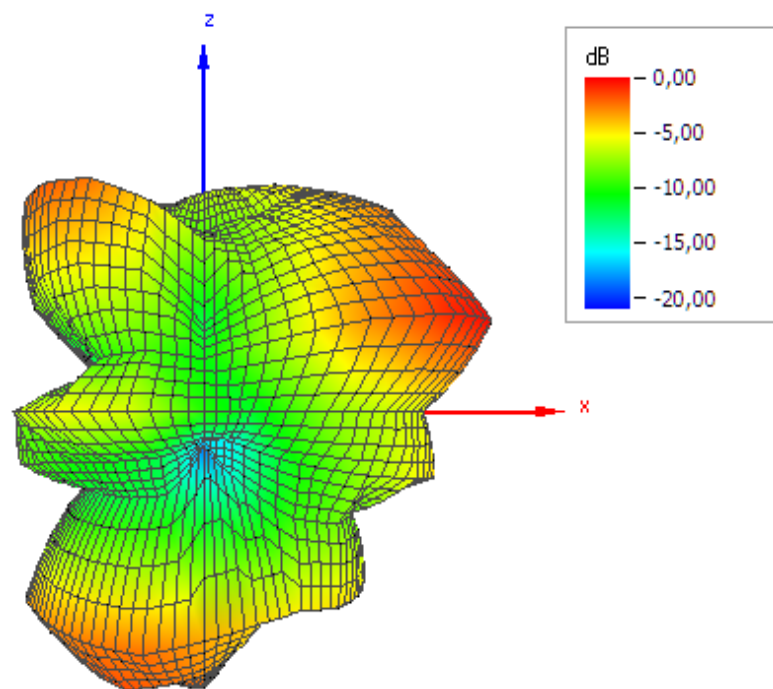
Theta = 0, Phi = 0



Theta = 90, Phi = 180



Theta = 90, Phi = 270



Theta = 180, Phi = 0

