

OTA TEST REPORT(Passive)

Applicant Shenzhen General Test System Co., Ltd

Product RayZone1800

Issue Date March 29(th), 2024

Shenzhen 3Good Wireless Communication Co., Ltd .

Tested the above equipment in accordance with the requirements in **ANTI/IEEE Std 149-2008**.The test results show that the equipment tested is capable of demonstrating compliance with the Requirements as documented in this report.

Prepared by: Hui Xiao

Approved by: Wu Zhou

Shenzhen 3Good Wireless Communication Co., Ltd

Room 501-508,jinfulai Building,No.49-1,Dabao Road,Baoan District,Shenzhen

1. Test Laboratory

1.1 Notes of the Test report

This report shall not be reproduced in full or partial. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of applicable standards stated above.

1.2 Test facility

GTS1800 Microwave Anechoic Chamber : testing frequency ranges from 600MHz to 6GHz.

1.3 Testing Location

Company: Shenzhen 3Good Wireless Communication Co., Ltd

Address: Room501-508,jinfulaiBuilding,No.49-1,DabaoRoad,BaoanDistrict, Shenzhen

Contact: Hui Xiao

Telephone: 18898599500

E-mail: xiaohui@3good.net.cn

1.4 Laboratory Environment

Temperature	Min.= 19°C, Max.=25°C	
Relative humidity	Min.=40%, Max.=72%	
Shield effect	0.6-7GHz	>100dB
Ground resistance	<0.5Ω	

2. General Description of Equipment under Test

2.1 Applicant and Manufacturer information

Applicant Name	Shenzhen General Test System Co., Ltd
Applicant address	Building C-A7 Suite 805,2190 Liuxian Avenue, Nanshan District, Shenzhen, P.R. China
Manufacturer Name	Shenzhen General Test System Co., Ltd
Manufacturer address	Building C-A7 Suite 805,2190 Liuxian Avenue, Nanshan District, Shenzhen, P.R. China

2.2 General information

EUT Description	
Product Name	RayZone1800
Model	GTS-ANT D-H
HW Version	RayZone1800 V1.0
SW Version	MaxSign 100
Antenna Type	LDS Antenna
Antenna Manufacturer	Shenzhen 3Good Wireless Communication Co., Ltd
Test Frequency	617MHz-5000MHz

2.3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test Method: **ANSI/IEEE Std 149-2008**

3. Test Conditions

3.1 Test Configuration

The method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 1m.

3.2 Test Measurement

Spherical coordinate system

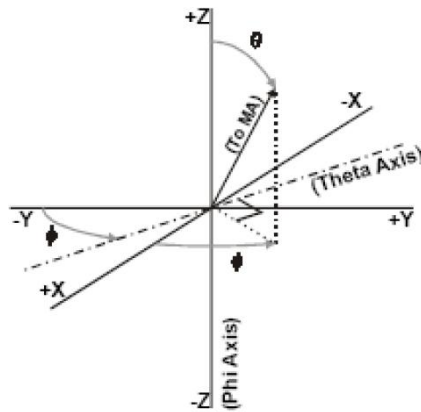
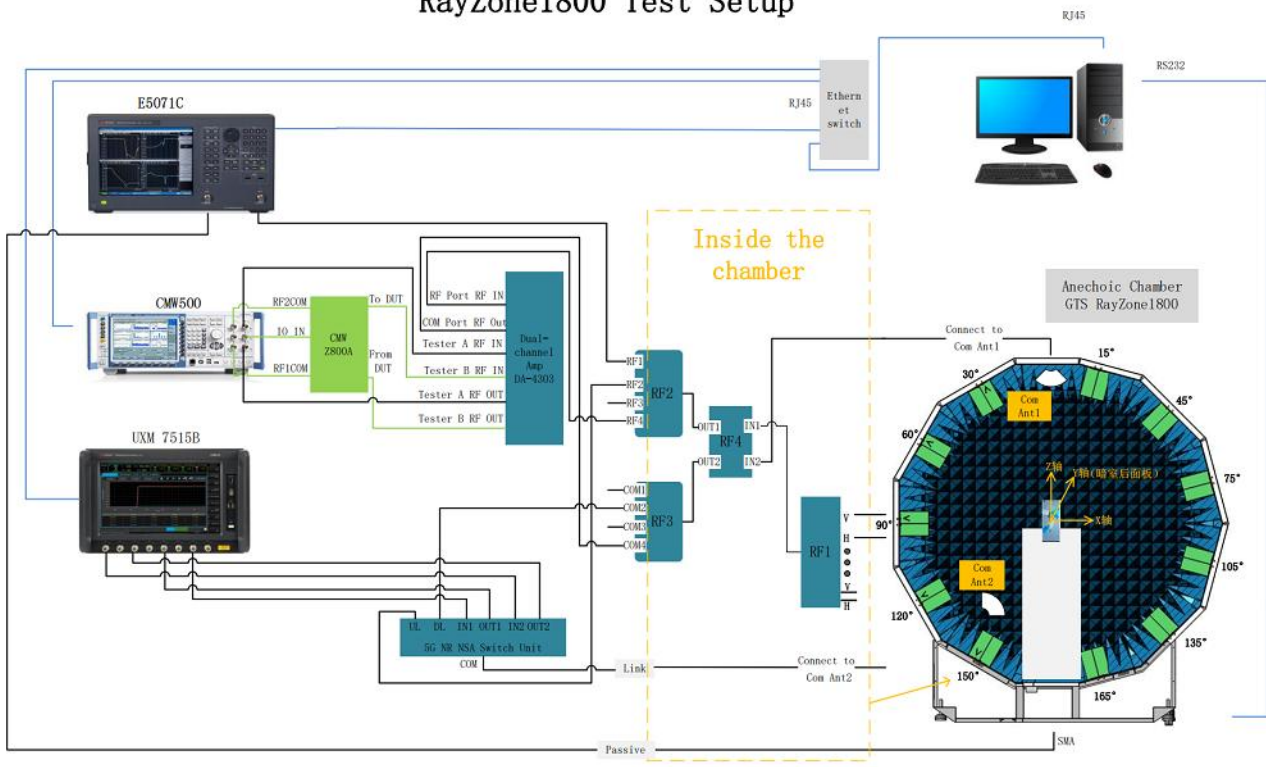


Figure 1 Test coordinate system

Note: Theta is from 0-180degree. Phi is from EUT and record the Date, the step of rotation is 15 degree.

Test Setup

RayZone1800 Test Setup



4. Test Results

4.1 Antenna Effi.& Max. Peak Gain

ANTO

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1550	40.77	-3.9	0.17
1555	39.54	-4.03	-0.21
1560	39.51	-4.03	-0.42
1565	39.71	-4.01	-0.28
1570	38.01	-4.2	-0.33
1575	36.84	-4.34	-0.36
1580	35.72	-4.47	-0.4
1585	34.92	-4.57	-0.47
1590	31.76	-4.98	-0.86
1595	32.99	-4.82	-0.62
1600	31.53	-5.01	-0.75

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	32.29	-4.91	0.74
5160	33.56	-4.74	0.99
5170	33.36	-4.77	0.91
5180	32.62	-4.87	0.74
5190	32.26	-4.91	0.54
5200	32.2	-4.92	0.54
5210	34.72	-4.59	0.98
5220	36.23	-4.41	1.18
5230	38	-4.2	1.41
5240	36.59	-4.37	1.18
5250	35.6	-4.49	1.08
5260	37.57	-4.25	1.23
5270	37.99	-4.2	1.24
5280	38.35	-4.16	1.27
5290	39.3	-4.06	1.3
5300	37.37	-4.27	1.11
5310	36.95	-4.32	0.96
5320	38.55	-4.14	1.06
5330	38.19	-4.18	0.98
5340	38.94	-4.1	0.83
5350	39.55	-4.03	0.73
5360	37.89	-4.22	0.42
5370	38.29	-4.17	0.54
5380	39.08	-4.08	0.49
5390	34.98	-4.56	0
5400	40.99	-3.87	0.76
5410	40.69	-3.91	0.81
5420	41.74	-3.79	1.1
5430	42.31	-3.74	1.22
5440	42.23	-3.74	1.27
5450	40.72	-3.9	1.3
5460	43.12	-3.65	1.55
5470	42.37	-3.73	1.58
5480	43.9	-3.58	1.85
5490	44.85	-3.48	2.08
5500	46.07	-3.37	2.31
5510	46.36	-3.34	2.33
5520	47.5	-3.23	2.54
5530	48.26	-3.16	2.77
5540	50.49	-2.97	2.94
5550	50.31	-2.98	2.9
5560	49.12	-3.09	2.87
5570	49.47	-3.06	3.03
5580	49.89	-3.02	2.89
5590	48.72	-3.12	2.88
5600	46.93	-3.29	2.91

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	49.57	-3.05	2.84
2410	52.12	-2.83	2.99
2420	54.54	-2.63	3.18
2430	55.33	-2.57	3.03
2440	57.29	-2.42	3.11
2450	57.27	-2.42	2.93
2460	54.07	-2.67	2.42
2470	49.21	-3.08	1.82
2480	45.55	-3.42	1.23
2490	43.25	-3.64	0.85
2500	40.41	-3.94	0.18

5590	48.72	-3.12	2.88
5600	46.93	-3.29	2.91
5610	44.99	-3.47	2.83
5620	43.4	-3.63	2.9
5630	43.32	-3.63	2.9
5640	41.23	-3.85	2.78
5650	40.96	-3.88	2.88
5660	39.74	-4.01	2.73
5670	37.71	-4.24	2.49
5680	37.03	-4.31	2.52
5690	36.86	-4.33	2.52
5700	37.16	-4.3	2.72
5710	37.07	-4.31	2.73
5720	35.52	-4.5	2.58
5730	35.64	-4.48	2.51
5740	38.71	-4.12	2.85
5750	41.45	-3.83	3.17
5760	42.61	-3.71	3.13
5770	41.81	-3.79	2.99
5780	40.09	-3.97	2.88
5790	41.4	-3.83	2.83
5800	41.47	-3.82	3.08
5810	43.92	-3.57	3.18
5820	45.42	-3.43	3.34
5830	45.11	-3.46	3.34
5840	43.71	-3.59	3.19
5850	44.31	-3.54	3.33

ANT2

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1710	19.87	-7.02	-2.44
1720	23.57	-6.28	-1.44
1730	26.02	-5.85	-0.8
1740	27.53	-5.6	-0.58
1750	30.74	-5.12	-0.42
1760	33.05	-4.81	-0.26
1770	34.39	-4.64	0.27
1780	36.59	-4.37	0.78
1790	37.12	-4.3	1.08
1800	37.35	-4.28	1.33
1810	37.65	-4.24	1.49
1820	36.75	-4.35	1.41
1830	35.8	-4.46	1.34
1840	35.44	-4.51	1.29
1850	35.74	-4.47	1.36
1860	34.79	-4.59	1.09
1870	33.97	-4.69	0.93
1880	34.25	-4.65	0.95
1890	33.74	-4.72	0.76
1900	33	-4.81	0.4
1910	30.4	-5.17	-0.39
1920	27.11	-5.67	-1.26
1930	25.04	-6.01	-1.43
1940	22.36	-6.5	-1.56
1950	22.27	-6.52	-1.39
1960	21.82	-6.61	-1.33
1970	21.21	-6.73	-1.31
1980	21.88	-6.6	-1.21
1990	22.82	-6.42	-1.05
2000	23.06	-6.37	-1.12
2010	23.77	-6.24	-1.3
2020	21.21	-6.73	-2.18
2030	20	-6.99	-2.69
2040	19.91	-7.01	-2.69
2050	20.42	-6.9	-2.36
2060	22.68	-6.44	-1.48
2070	22.62	-6.46	-1.18
2080	20.39	-6.91	-1.27
2090	19.47	-7.11	-1.29
2100	20.13	-6.96	-0.92
2110	16.78	-7.75	-1.61
2120	16.69	-7.77	-1.55
2130	16.54	-7.82	-1.74
2140	17.28	-7.62	-1.61
2150	17.61	-7.54	-1.73
2160	17.76	-7.51	-1.85
2170	17.3	-7.62	-2.11
2180	16.63	-7.79	-2.65
2190	15.53	-8.09	-2.52
2200	14.96	-8.25	-2.63
2210	14.12	-8.5	-2.71
2220	13.7	-8.63	-3.06
2230	13.91	-8.57	-3.03
2240	13.78	-8.61	-3.43
2250	13.76	-8.61	-3.59
2260	14.19	-8.48	-3.82
2270	14.24	-8.46	-4.14
2280	13.88	-8.57	-4.3
2290	14.29	-8.45	-4.28
2300	15.02	-8.23	-4.51
2310	15.67	-8.05	-4.27
2320	17.14	-7.66	-3.6
2330	18.43	-7.34	-3.13
2340	20.43	-6.9	-2.64
2350	21.47	-6.68	-2.3
2360	22.69	-6.44	-2.01
2370	23.45	-6.3	-1.72
2380	24.28	-6.15	-1.55
2390	24.82	-6.05	-1.4
2400	25.15	-6	-1.45
2410	24.64	-6.08	-1.54
2420	24.2	-6.16	-1.69
2430	23.53	-6.28	-1.74
2440	22.14	-6.55	-1.98
2450	21.74	-6.63	-2.04
2460	21.23	-6.73	-2.23
2470	20.17	-6.95	-2.71
2480	20.32	-6.92	-2.83
2490	21.39	-6.7	-2.42
2500	20.3	-6.92	-2.54
2510	19.98	-6.99	-2.47
2520	18.68	-7.29	-2.7
2530	18.65	-7.29	-2.59
2540	17.61	-7.54	-2.81
2550	17.27	-7.63	-2.76
2560	16.48	-7.83	-2.93
2570	16.96	-7.71	-2.99
2580	15.17	-8.19	-3.51
2590	14.9	-8.27	-3.88
2600	15.45	-8.11	-3.95
2610	15.35	-8.14	-4.07
2620	14.4	-8.42	-4.45
2630	13.55	-8.68	-4.74
2640	13.46	-8.71	-4.76
2650	13.2	-8.8	-4.76
2660	12.44	-9.05	-5.03
2670	11.93	-9.23	-5.18
2680	12.16	-9.15	-5.02
2690	11.18	-9.51	-5.43

ANT3

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
3300	27.29	-5.64	-1.92	4320	34.14	-4.67	-0.05
3320	30.82	-5.11	-1.21	4340	31.39	-5.03	-0.35
3340	31.88	-4.97	-1.02	4360	34.24	-4.65	-0.39
3360	36.81	-4.34	-0.3	4380	39.88	-3.99	0.14
3380	33.43	-4.76	-0.43	4400	34.99	-4.56	-0.5
3400	40.62	-3.91	0.39	4420	37.54	-4.25	-0.43
3420	35.73	-4.47	0.35	4440	42.36	-3.73	-0.18
3440	35.71	-4.47	0.43	4460	40.99	-3.87	-0.02
3460	32.68	-4.86	-0.02	4480	41.89	-3.78	0.67
3480	31.12	-5.07	-0.32	4500	41.54	-3.82	1.03
3500	27.06	-5.68	-0.92	4520	38.89	-4.1	1.07
3520	29.84	-5.25	-0.39	4540	38.7	-4.12	1.25
3540	26.54	-5.78	-0.47	4560	35.97	-4.44	0.8
3560	30.62	-5.14	0.29	4580	37.09	-4.31	1.23
3580	29.55	-5.29	0.33	4600	34.99	-4.56	0.89
3600	29.16	-5.35	0.22	4620	34.46	-4.63	0.9
3620	29.91	-5.24	0.03	4640	35.96	-4.44	1.03
3640	32.63	-4.86	0.42	4660	35.43	-4.51	1.23
3660	32.7	-4.85	0.27	4680	33.65	-4.73	1.14
3680	34.16	-4.67	0.43	4700	35.99	-4.44	1.58
3700	30.37	-5.18	-0.2	4720	36.79	-4.34	2
3720	32.41	-4.89	-0.13	4740	37.03	-4.31	2.07
3740	29.37	-5.32	-0.71	4760	36.86	-4.33	2.04
3760	28.36	-5.47	-0.61	4780	39.85	-4	2.38
3780	26.25	-5.81	-0.71	4800	41.89	-3.78	2.29
3800	25.87	-5.87	-0.68	4820	39.84	-4	1.81
3820	26.62	-5.75	-0.46	4840	41.53	-3.82	1.7
3840	28.81	-5.4	-0.17	4860	41.8	-3.79	1.74
3860	29.43	-5.31	-0.15	4880	40.26	-3.95	1.39
3880	32.4	-4.89	0.21	4900	41.4	-3.83	1.41
3900	35.38	-4.51	0.41	4920	37.73	-4.23	1.04
3920	36.56	-4.37	0.37	4940	37.91	-4.21	0.97
3940	42.64	-3.7	0.92	4960	41.57	-3.81	1.52
3960	38.09	-4.19	0.27	4980	39.33	-4.05	1.38
3980	41.36	-3.83	0.74	5000	40.02	-3.98	1.71
4000	35.97	-4.44	0.57				
4020	34.62	-4.61	0.67				
4040	35.29	-4.52	1.11				
4060	35.35	-4.52	1.25				
4080	36.28	-4.4	1.27				
4100	39.28	-4.06	1.74				
4120	34.98	-4.56	1.29				
4140	38.51	-4.14	1.86				
4160	38.33	-4.16	1.93				
4180	36.8	-4.34	1.88				
4200	37.21	-4.29	1.91				
4220	39.31	-4.05	2.08				
4240	34.62	-4.61	1.32				
4260	35.15	-4.54	1.06				
4280	32.23	-4.92	0.45				
4300	30.15	-5.21	-0.25				
4320	34.14	-4.67	-0.05				
4340	31.39	-5.03	-0.35				

ANT4

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
3300	32.74	-4.85	-0.72
3320	36.52	-4.14	-0.01
3340	35.88	-4.45	-0.39
3360	40.27	-3.95	0.07
3380	40.66	-3.91	0.04
3400	43.77	-3.59	0.33
3420	41.11	-3.86	0.18
3440	43.82	-3.58	0.46
3460	35.87	-4.45	-0.24
3480	39.06	-4.08	0.24
3500	35.57	-4.49	-0.31
3520	36.13	-4.42	-0.57
3540	36.94	-4.33	-0.45
3560	36.52	-4.37	-0.71
3580	31.2	-5.06	-1.26
3600	35.48	-4.5	-0.7
3620	28.43	-5.46	-1.75
3640	29.12	-5.36	-1.43
3660	28.44	-5.46	-1.35
3680	29.11	-5.36	-1.17
3700	34.01	-4.68	-0.42
3720	41.98	-3.77	0.54
3740	38.06	-4.2	0.07
3760	47.57	-3.23	0.87
3780	42.37	-3.73	0.35
3800	44.27	-3.54	0.46
3820	47.97	-3.19	0.78
3840	43.69	-3.6	0.44
3860	42.12	-3.75	0.18
3880	45.63	-3.41	0.42
3900	43.2	-3.65	0.45
3920	45.75	-3.4	0.74
3940	48.6	-3.13	1.03
3960	41.45	-3.83	0.41
3980	48.17	-3.17	1.01
4000	39.76	-4.01	0.26
4020	38.25	-4.17	0.05
4040	40.83	-3.89	0.33
4060	39.71	-4.01	0.23
4080	40.98	-3.87	0.54
4100	43.89	-3.58	0.95
4120	37.98	-4.2	0.14
4140	42.77	-3.69	0.47
4160	38.57	-4.14	-0.42
4180	35.64	-4.48	-0.68
4200	37.1	-4.31	-0.39
4220	39.09	-4.08	-0.01
4240	39.47	-4.04	0.11
4260	43.31	-3.63	0.39
4280	44.31	-3.53	0.5
4300	42.68	-3.7	0.56
4320	47.9	-3.2	1.29
4340	44.83	-3.48	1.07
4360	46.06	-3.37	1.26
4380	48.65	-3.13	1.59
4400	42.34	-3.73	0.76
4420	40.4	-3.94	0.51
4440	45.45	-3.42	1.23
4460	42.9	-3.68	0.86
4480	43.24	-3.64	0.91
4500	43.37	-3.63	0.71
4520	40.29	-3.95	0.23
4540	37.94	-4.21	0.06
4560	35.71	-4.47	-0.24
4580	34.6	-4.61	-0.17
4600	32.48	-4.88	-0.04
4620	30.65	-5.14	-0.05
4640	28.79	-5.41	-0.21
4660	28.46	-5.46	-0.22
4680	28.12	-5.51	-0.42
4700	26.72	-5.73	-0.85
4720	25.8	-5.88	-1.56
4740	25.85	-5.87	-1.64
4760	24.25	-6.15	-2.05
4780	28.59	-5.44	-1.15
4800	29.45	-5.31	-0.76
4820	29.26	-5.34	-0.54
4840	31.73	-4.99	-0.06
4860	31.53	-5.01	-0.32
4880	31.18	-5.06	-0.44
4900	31.67	-4.99	-0.53
4920	26.44	-5.78	-1.07
4940	26.52	-5.76	-1.14
4960	25.52	-5.93	-1.19
4980	22.35	-6.51	-1.55
5000	22.5	-6.48	-1.4
5020	21.7	-6.64	-1.33
5040	19.78	-7.04	-1.58
5060	19.81	-7.03	-1.3
5080	18.87	-7.24	-1.47
5100	19.25	-7.16	-1.63

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2500	23.83	-6.23	0.13
2510	24.12	-6.18	0.08
2520	25.91	-5.87	0.18
2530	27.17	-5.66	0.1
2540	28.58	-5.44	0.09
2550	31.11	-5.07	0.25
2560	33.79	-4.71	0.49
2570	35.39	-4.51	0.54
2580	34.51	-4.62	0.28
2590	33.23	-4.78	0.04
2600	33.51	-4.75	-0.13
2610	31.9	-4.96	-0.32
2620	28.56	-5.44	-0.92
2630	26.27	-5.81	-1.27
2640	25.49	-5.94	-1.54
2650	24.14	-6.17	-1.88
2660	23.11	-6.36	-2.26
2670	21.93	-6.59	-2.47
2680	22.74	-6.43	-2.39
2690	21.25	-6.73	-2.81
2700	21.1	-6.76	-3.09

ANTS

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
600	7.75	-11.11	-7.53	660	7.53	-11.23	-8.44	880	8.27	-10.83	-5.93
610	8.14	-10.89	-7.43	670	9.44	-10.25	-7.73	890	11.29	-9.47	-4.64
620	10.14	-9.94	-6.83	680	10.92	-9.62	-6.91	900	15.91	-7.98	-3.02
630	13.9	-8.57	-5.55	690	12.72	-8.95	-5.72	910	20.79	-6.82	-1.97
640	16.87	-7.73	-4.81	700	13.23	-8.78	-5.07	920	25.6	-5.92	-1.02
650	18.43	-7.34	-4.2	710	18.08	-7.43	-3.44	930	27.8	-5.56	-0.74
660	21.14	-6.75	-3.57	720	18.25	-7.39	-3.42	940	27.42	-5.62	-0.83
670	22.26	-6.52	-3.28	730	17.41	-7.59	-3.14	950	25.91	-5.86	-1.12
680	19.87	-7.02	-3.61	740	16.89	-7.72	-3.22	960	21.39	-6.7	-2.06
690	17.97	-7.45	-3.7	750	17.77	-7.5	-2.6				
700	15.32	-8.15	-3.65	760	19.46	-7.11	-2.39				
				770	17.66	-7.53	-2.77				
				780	17.07	-7.68	-3.14				
				790	17.13	-7.66	-3.15				
				800	18.8	-7.26	-3.15				
				800	24.61	-6.09	-1.23				
				810	23.04	-6.38	-2.07				
				820	23.63	-6.27	-2.66				
				830	22.63	-6.45	-3.01				
				840	22.57	-6.47	-2.92				
				850	21.85	-6.61	-2.83				
				860	20.91	-6.8	-2.9				
				870	19.56	-7.09	-2.95				
				880	17.66	-7.53	-3.43				
				890	16.07	-7.94	-4.06				
				900	13.34	-8.75	-5.03				

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)				
1710	32.55	-4.87	1.31	2160	29.39	-5.32	-1.44
1720	34.98	-4.56	1.37	2170	28.23	-5.49	-1.56
1730	34.62	-4.61	1.35	2180	27.68	-5.58	-1.54
1740	34.3	-4.65	1.31	2190	30.08	-5.22	-0.98
1750	36.17	-4.42	1.61	2200	30.36	-5.18	-0.78
1760	37.39	-4.27	1.74	2210	30.02	-5.23	-0.65
1770	39.23	-4.06	1.93	2220	28.69	-5.42	-0.91
1780	39.49	-4.04	1.94	2230	25.99	-5.85	-1.24
1790	38.11	-4.19	1.73	2240	25.8	-5.88	-1.37
1800	37.92	-4.21	1.83	2250	26.55	-5.76	-1.11
1810	38.05	-4.2	1.83	2260	26.05	-5.84	-1.23
1820	36.57	-4.37	1.67	2270	27.48	-5.61	-0.84
1830	37.22	-4.29	1.73	2280	25.92	-5.86	-1.09
1840	36.92	-4.33	1.61	2290	25.7	-5.9	-1.07
1850	37.86	-4.22	1.63	2300	26.59	-5.75	-0.9
1860	39.78	-4	1.74	2310	26.07	-5.52	-0.61
1870	40.15	-3.96	1.75	2320	29.77	-5.26	-0.21
1880	40.25	-3.95	1.73	2330	33.03	-4.81	0.23
1890	40.35	-3.94	1.67	2340	34.23	-4.66	0.51
1900	40.31	-3.95	1.61	2350	38.44	-4.15	0.91
1910	40.67	-3.91	1.58	2360	39.89	-3.99	1.09
1920	41.95	-3.77	1.71	2370	42.39	-3.73	1.21
1930	39.84	-4	1.29	2380	45.87	-3.38	1.68
1940	37.88	-4.22	1.06	2390	48.2	-3.17	2.13
1950	36.73	-4.35	0.81	2400	48.85	-3.11	2.37
1960	35.08	-4.55	0.64	2410	45.55	-3.41	2.32
1970	35.29	-4.52	0.48	2420	40.3	-3.95	1.97
1980	35.63	-4.48	0.4	2430	45.41	-3.43	2.51
1990	34.24	-4.66	0.04	2440	50.03	-3.01	2.91
2000	34.63	-4.61	-0.07	2450	51.62	-2.87	3.03
2010	32.32	-4.91	-0.57	2460	42.76	-3.69	2.44
2020	31.54	-5.01	-0.81	2470	47.74	-3.21	2.81
2030	32.96	-4.82	-0.68	2480	45.95	-3.38	2.76
2040	32.55	-4.87	-0.81	2490	51.19	-2.91	3.15
2050	32.08	-4.94	-0.98	2500	49.67	-3.04	3.01
2060	30.81	-5.11	-1.23	2510	45.54	-3.42	2.6
2070	29.53	-5.3	-1.63	2520	40.84	-3.89	2.2
2080	30.68	-5.13	-1.58	2530	39.01	-4.09	2.09
2090	31.68	-4.99	-1.74	2540	39.21	-4.07	2.13
2100	31.81	-4.97	-1.64	2550	40.33	-3.94	2.29
2110	28.13	-5.51	-2.01	2560	39.53	-4.03	2.23
2120	26.98	-5.69	-2.2	2570	38.52	-4.14	2.16
2130	28.51	-5.45	-1.86	2580	33.53	-4.75	1.56
2140	30.11	-5.21	-1.53	2590	30.85	-5.11	1.25
2150	29.71	-5.27	-1.45	2600	29.49	-5.3	1.14
				2610	27.44	-5.62	0.92
				2620	24.62	-6.09	0.44
				2630	23	-6.38	0.13
				2640	23.27	-6.33	0.18
				2650	23.42	-6.3	0.17
				2660	23.29	-6.33	0.2
				2670	23.46	-6.3	0.13
				2680	23.8	-6.24	0.26
				2690	21.95	-6.58	-0.24

Ant6

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)				
3300	29.39	-5.32	-0.86				
3320	32.91	-4.83	-0.34				
3340	29.57	-5.29	-0.96	4340	20.1	-6.97	-2.63
3360	32.92	-4.83	-0.82	4360	21.24	-6.73	-2.61
3380	33.83	-4.71	-0.89	4380	26.09	-5.83	-1.63
3400	36.44	-4.38	-0.47	4400	22.29	-6.52	-2.28
3420	35.36	-4.51	-0.48	4420	23.56	-6.28	-1.96
3440	38.81	-4.11	0.27	4440	27.97	-5.53	-1.25
3460	33.17	-4.79	-0.29	4460	27.1	-5.67	-1.32
3480	37.3	-4.28	0.47	4480	29.53	-5.3	-0.8
3500	34.92	-4.57	-0.06	4500	29.12	-5.36	-1.06
3520	36.94	-4.33	0.08	4520	26.3	-5.8	-1.71
3540	38.6	-4.13	-0.02	4540	27.27	-5.64	-1.75
3560	39.76	-4.01	0.11	4560	24.5	-6.11	-2.55
3580	36.83	-4.34	-0.2	4580	26.22	-5.81	-1.79
3600	43.93	-3.57	0.64	4600	26.79	-5.72	-1.42
3620	39.7	-4.01	0.15	4620	25.56	-5.92	-1.36
3640	45.84	-3.39	0.94	4640	27.39	-5.62	-1.14
3660	47.07	-3.27	1.25	4660	30.35	-5.18	-0.64
3680	46.25	-3.35	1.12	4680	31.72	-4.99	-0.42
3700	47.1	-3.27	0.98	4700	32.65	-4.86	-0.53
3720	52.97	-2.76	1.19	4720	32.96	-4.82	-0.46
3740	45.97	-3.37	0.32	4740	33.58	-4.74	-0.51
3760	51.85	-2.85	0.51	4760	35.12	-4.54	-0.93
3780	45.53	-3.42	0.33	4780	39.05	-4.08	-0.46
3800	46.73	-3.3	0.71	4800	41.72	-3.8	-0.02
3820	48.75	-3.12	1.08	4820	40.72	-3.9	0.04
3840	46.61	-3.32	1.02	4840	41.1	-3.86	0.18
3860	45.11	-3.46	0.89	4860	40.42	-3.93	0.16
3880	48.38	-3.15	1.17	4880	39.39	-4.05	0.08
3900	46.75	-3.3	1.12	4900	38.49	-4.15	0.22
3920	46.78	-3.3	1.03	4920	34.95	-4.57	-0.19
3940	50.15	-3	1.42	4940	34.83	-4.58	-0.07
3960	41.2	-3.85	0.35	4960	34.67	-4.6	-0.04
3980	43.98	-3.57	0.49	4980	33.25	-4.78	-0.42
4000	36.31	-4.4	-0.32	5000	34.61	-4.61	-0.45
4020	32	-4.95	-0.71	5020	35.71	-4.47	-0.4
4040	31.04	-5.08	-0.78	5040	36.03	-4.43	-0.32
4060	30.01	-5.23	-0.83	5060	38.96	-4.09	0.22
4080	27.32	-5.63	-1.19	5080	39.49	-4.03	0.56
4100	28.43	-5.46	-0.94	5100	42.57	-3.71	1.07
4120	24.02	-6.2	-1.64				
4140	25.26	-5.98	-1.38				
4160	24.97	-6.03	-1				
4180	21.89	-6.6	-1.28				
4200	22.59	-6.46	-0.93				
4220	23.89	-6.22	-0.56				
4240	20.32	-6.92	-1.2				
4260	22.28	-6.52	-0.91				
4280	20.55	-6.87	-1.32				
4300	18	-7.45	-2.2				
4320	22.09	-6.56	-1.77				
4340	20.1	-6.97	-2.63				

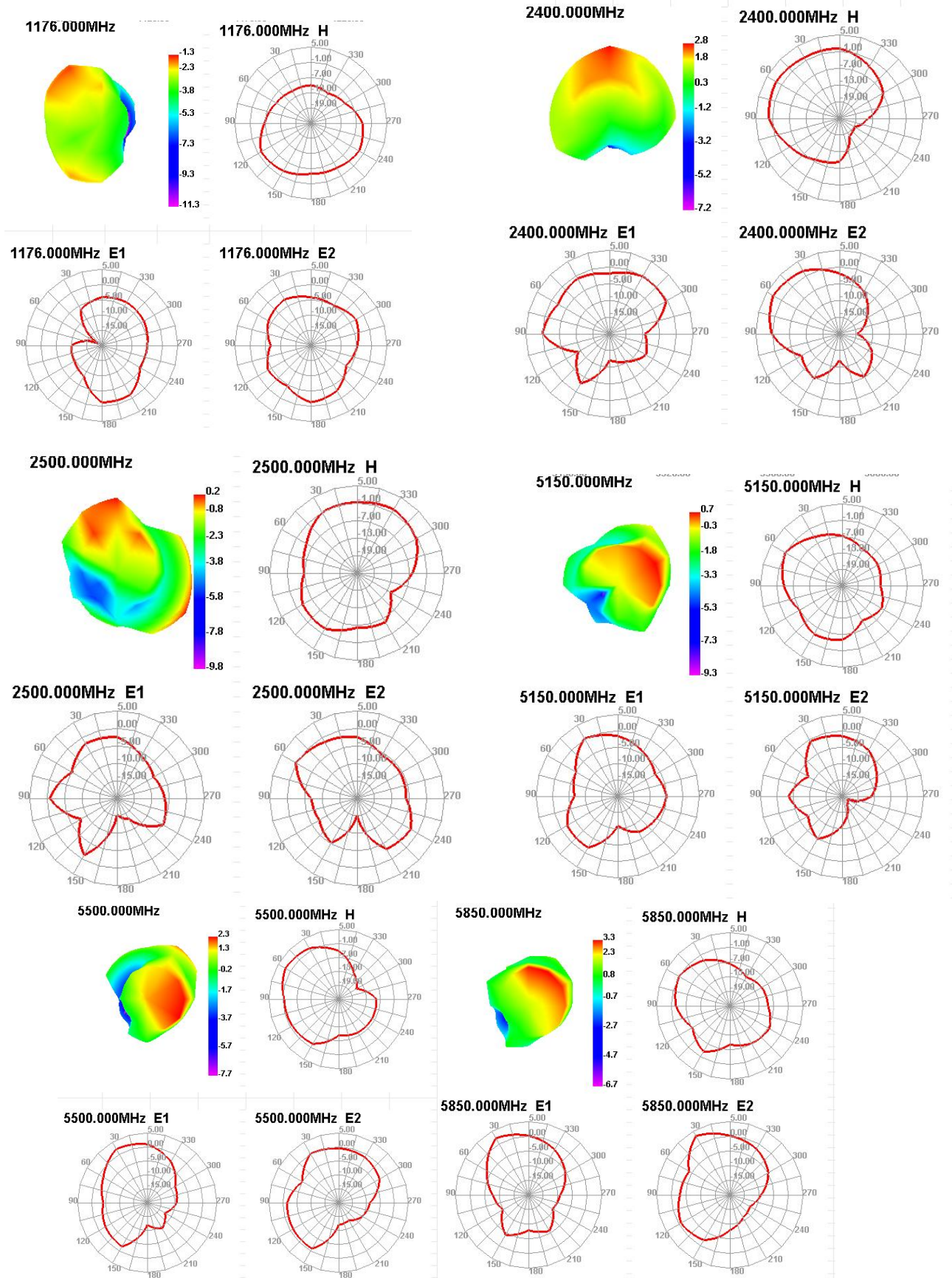
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2500	49.75	-3.03	1.85
2510	48.05	-3.18	1.38
2520	48.17	-3.17	1.14
2530	47.04	-3.28	0.78
2540	45.98	-3.37	0.56
2550	45.71	-3.4	0.36
2560	46.66	-3.31	0.34
2570	46.31	-3.34	0.2
2580	43.84	-3.58	-0.11
2590	41.93	-3.77	-0.11
2600	43.01	-3.66	0.12
2610	42.39	-3.73	0.21
2620	39.31	-4.05	-0.1
2630	38.5	-4.15	-0.15
2640	39.02	-4.09	-0.22
2650	38.64	-4.13	-0.25
2660	38.4	-4.16	-0.23
2670	37.8	-4.23	-0.16
2680	39.29	-4.06	0.05
2690	37.54	-4.26	-0.17
2700	37.5	-4.26	-0.29

ANT7

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)				
				4200	29.02	-5.37	-0.63
				4220	33.4	-4.76	-0.17
				4240	31.55	-5.01	-0.42
3300	15.56	-8.08	-3.42	4260	30.55	-5.15	-0.61
3320	18.84	-7.25	-2.38	4280	32.44	-4.89	-0.45
3340	18.49	-7.33	-2.36	4300	27.78	-5.56	-1.28
3360	22.08	-6.56	-1.62	4320	27.97	-5.53	-1.03
3380	21.72	-6.63	-1.8	4340	25.77	-5.89	-1.38
3400	24.03	-6.19	-1.66	4360	23.02	-6.38	-1.61
3420	23.12	-6.36	-2.13	4380	23.16	-6.35	-1.49
3440	24.31	-6.14	-2.05	4400	20.72	-6.84	-1.91
3460	22.59	-6.46	-2.34	4420	17.98	-7.45	-2.16
3480	24.55	-6.1	-1.93	4440	20.8	-6.82	-1.61
3500	23.2	-6.35	-2.13	4460	19.42	-7.12	-1.75
3520	26.98	-5.69	-1.62	4480	19.49	-7.1	-1.71
3540	26.68	-5.74	-1.71	4500	21.87	-6.6	-1.24
3560	30.31	-5.18	-1.17	4520	21.26	-6.72	-1.42
3580	30.73	-5.12	-1.2	4540	19.93	-7	-1.78
3600	33.21	-4.79	-0.74	4560	20.86	-6.81	-1.64
3620	31.94	-4.96	-0.69	4580	18.59	-7.31	-2.26
3640	34.31	-4.65	-0.42	4600	18.13	-7.42	-2.45
3660	31.61	-5	-0.88	4620	17.43	-7.59	-2.75
3680	31.37	-5.03	-0.82	4640	14.99	-8.24	-3.54
3700	27.27	-5.64	-1.42	4660	15.18	-8.19	-3.68
3720	29.12	-5.36	-0.97	4680	14.83	-8.29	-3.85
3740	27.11	-5.67	-1.2	4700	13.49	-8.7	-4.57
3760	25.91	-5.87	-1.35	4720	13.85	-8.59	-4.4
3780	23.72	-6.25	-1.6	4740	13.4	-8.73	-4.23
3800	24.95	-6.03	-1.22	4760	12.12	-9.17	-4.19
3820	25.41	-5.95	-1.09	4780	15.03	-8.23	-2.95
3840	27.34	-5.63	-1.06	4800	15.31	-8.15	-2.3
3860	29.12	-5.36	-0.67	4820	15.65	-8.06	-1.87
3880	31.4	-5.03	-0.2	4840	17.38	-7.6	-1.1
3900	34.26	-4.65	0.3	4860	15.78	-8.02	-1.59
3920	33.51	-4.75	0.19	4880	14.46	-8.4	-1.92
3940	37.51	-4.26	0.74	4900	14.63	-8.35	-2.02
3960	34.44	-4.63	0.49	4920	11.6	-9.35	-3.15
3980	36.12	-4.42	0.76	4940	11.95	-9.23	-3.19
4000	32.27	-4.91	0.32	4960	11.41	-9.43	-3.58
4020	30.86	-5.11	-0.08	4980	9.81	-10.09	-4.44
4040	29.54	-5.3	-0.24	5000	9.98	-10.01	-4.48
4060	29.74	-5.27	-0.33				
4080	29.34	-5.33	-0.25				
4100	29.36	-5.32	-0.14				
4120	27.55	-5.6	-0.74				
4140	28.43	-5.46	-0.53				
4160	27.48	-5.61	-0.82				
4180	29.51	-5.3	-0.57				
4200	29.02	-5.37	-0.63				

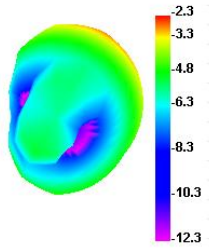
4.2 Antenna radiation pattern

ANT0

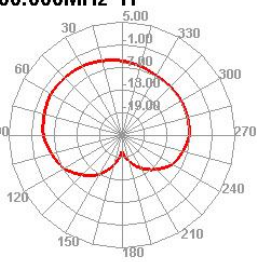


ANT2

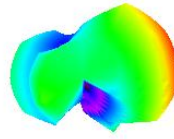
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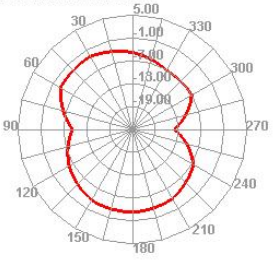
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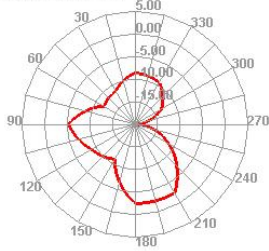
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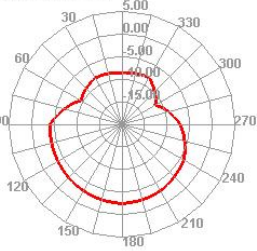
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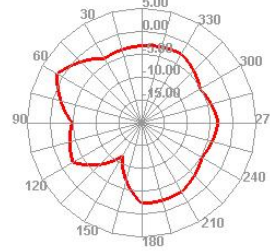
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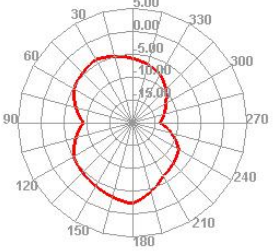
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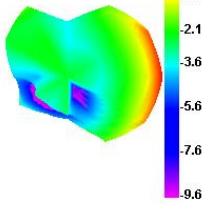
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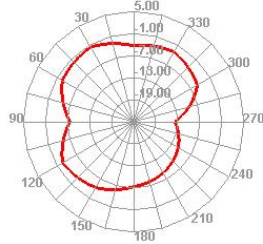
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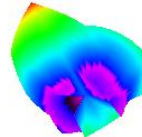
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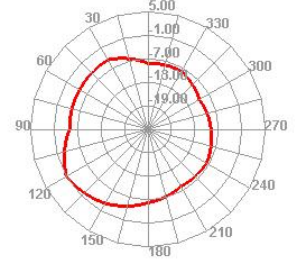
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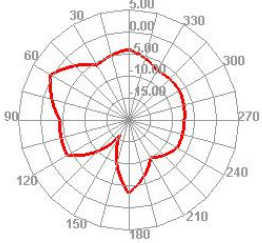
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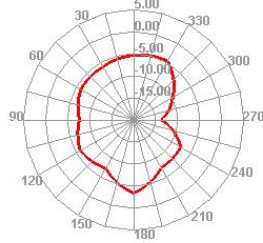
2100.000MHz H



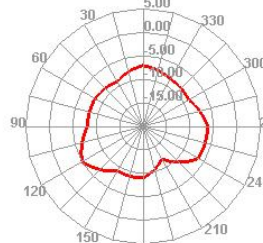
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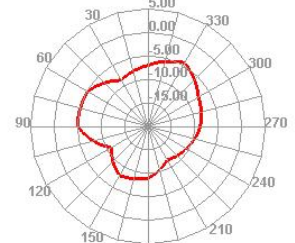
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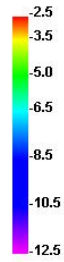
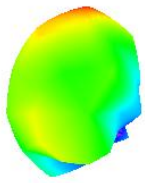
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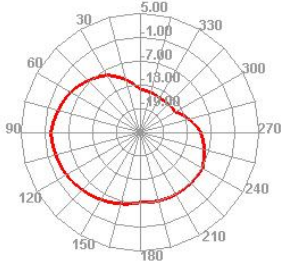
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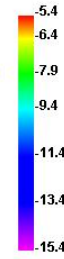
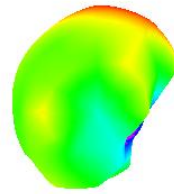
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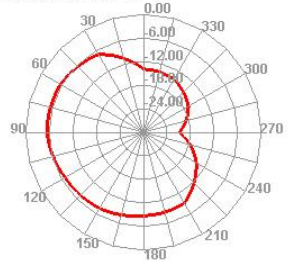
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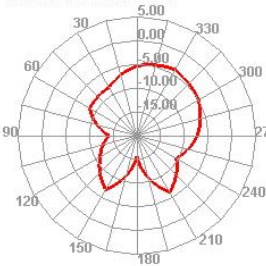
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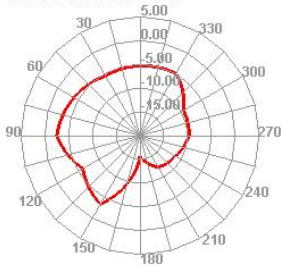
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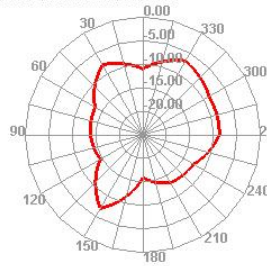
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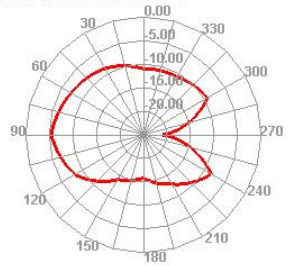
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2690.000MHz E1

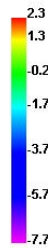
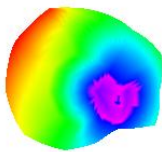


2690.000MHz E2

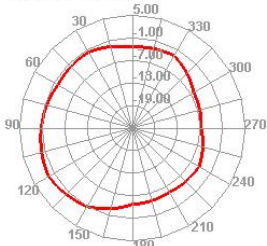


ANT3

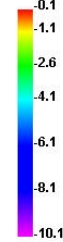
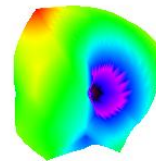
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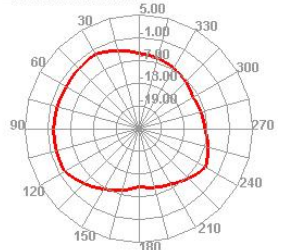
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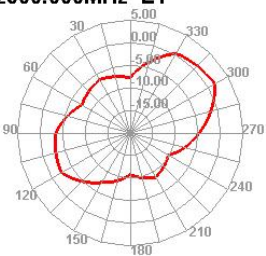
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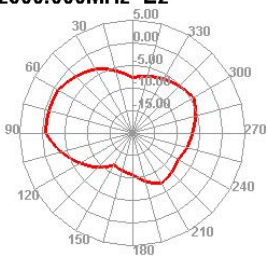
2690.000MHz H



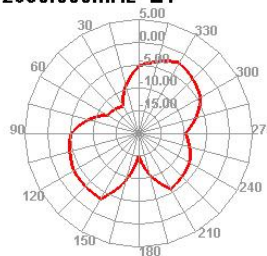
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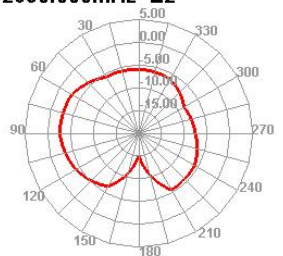
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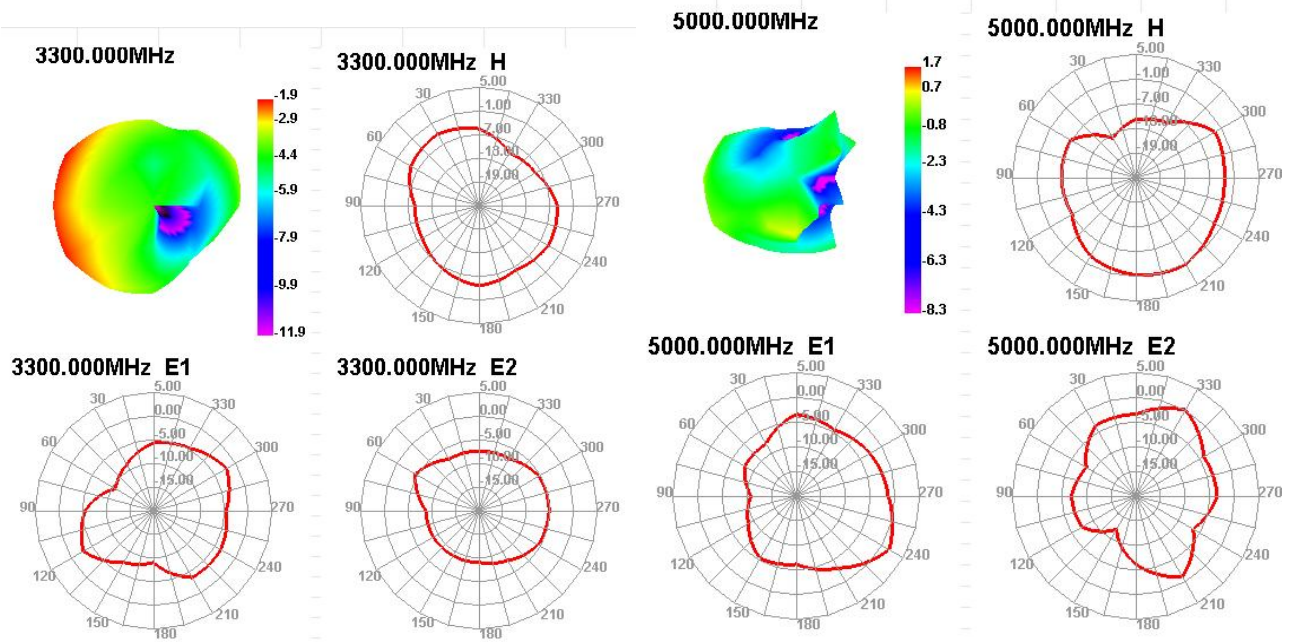


2690.000MHz E1

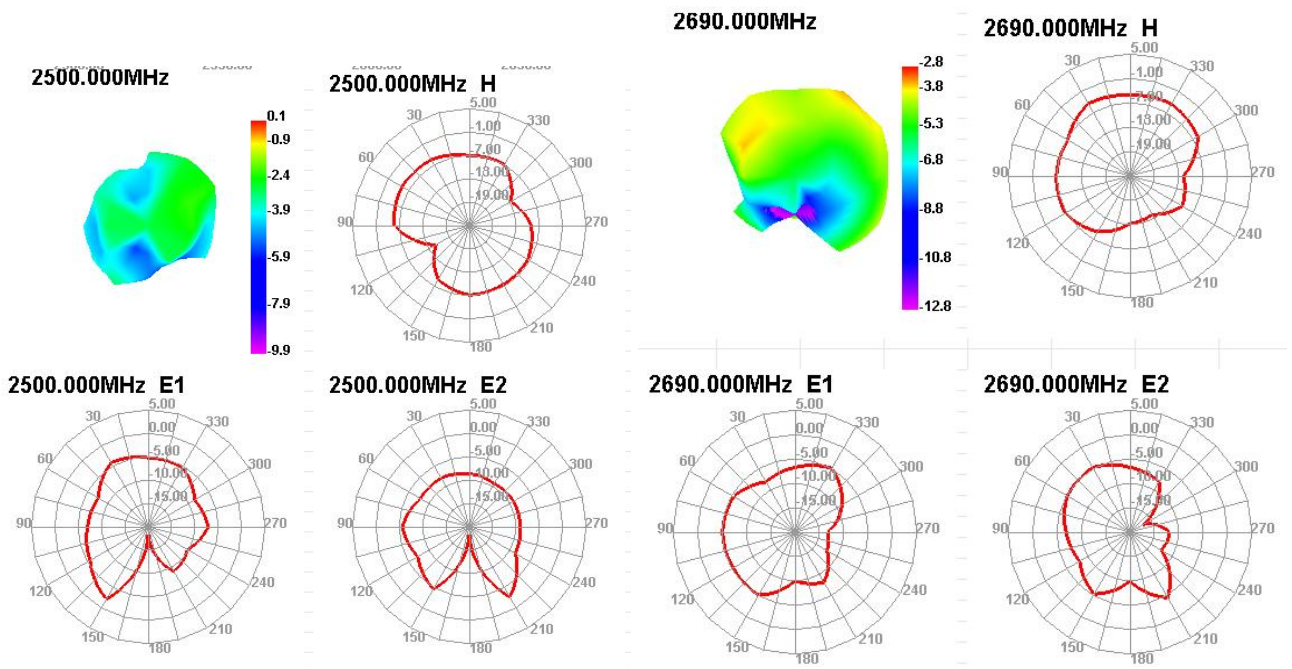


2690.000MHz E2

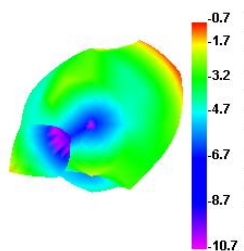




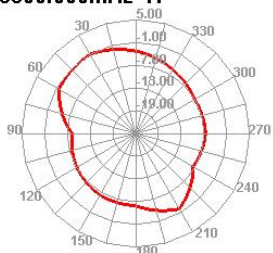
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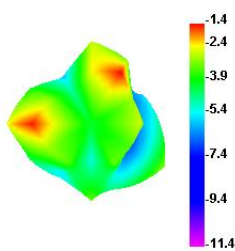
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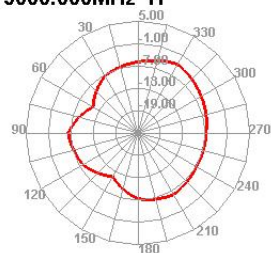
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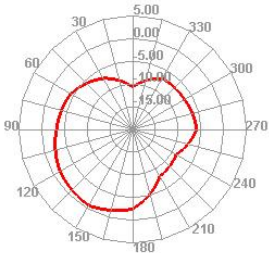
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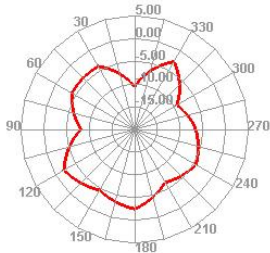
5000.000MHz H



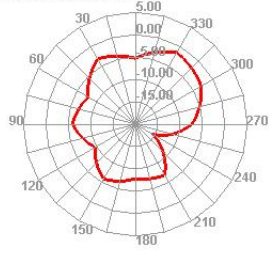
3300.000MHz E1



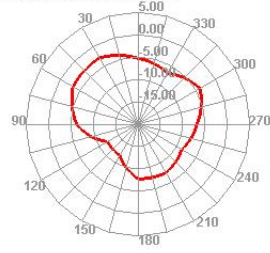
3300.000MHz E2



5000.000MHz E1

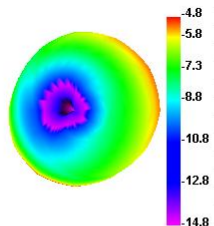


5000.000MHz E2

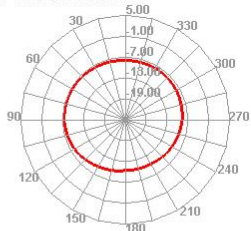


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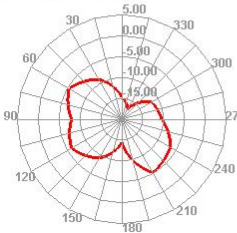
640.000MHz



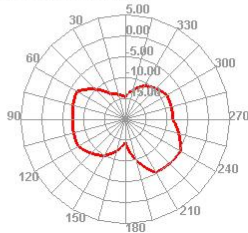
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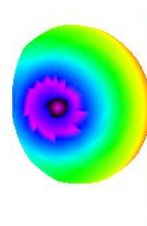
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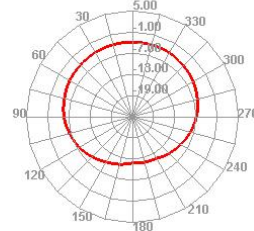
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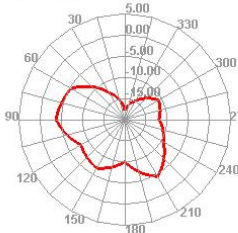
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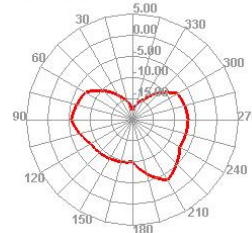
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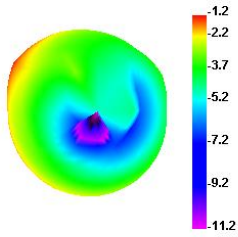
710.000MHz E1



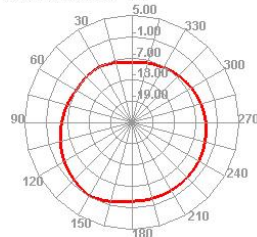
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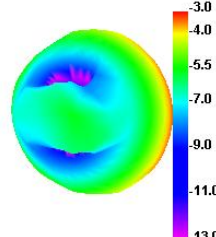
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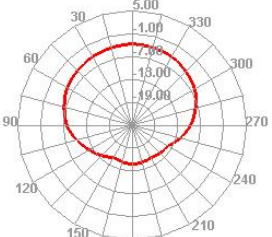
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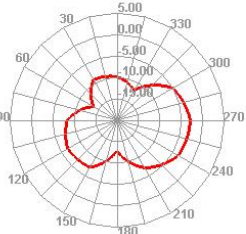
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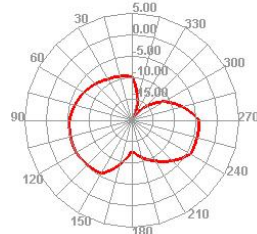
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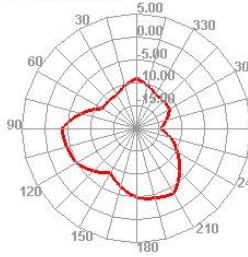
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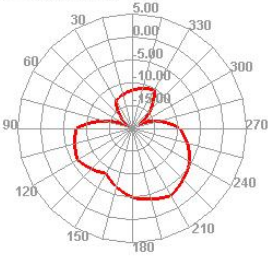
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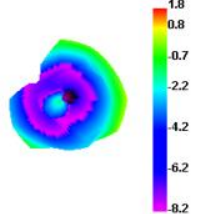
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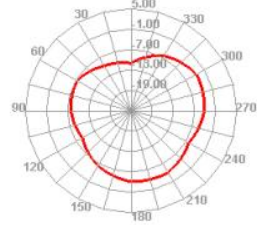
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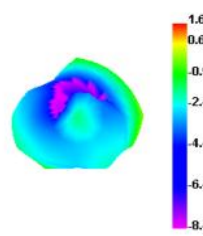
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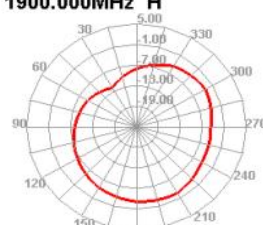
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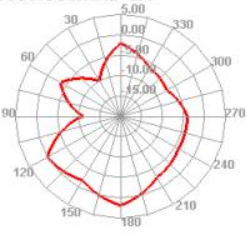
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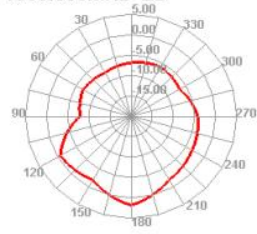
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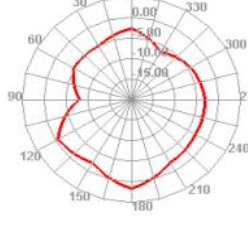
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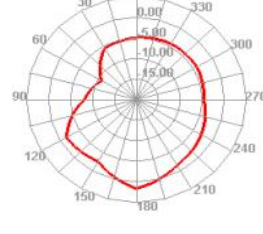
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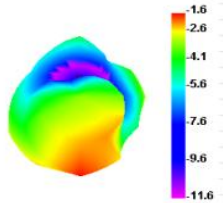
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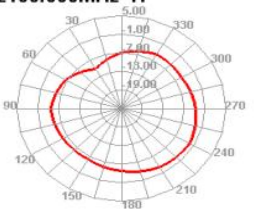
1900.000MHz E2



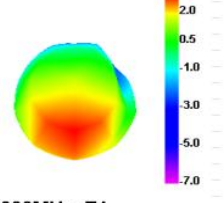
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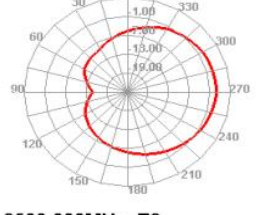
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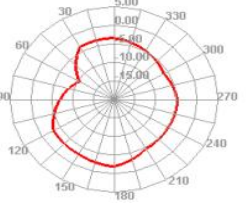
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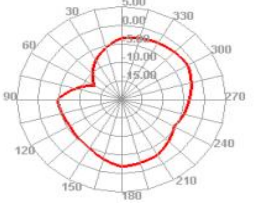
2500.000MHz H



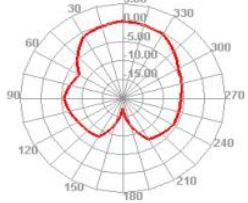
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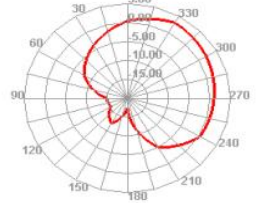
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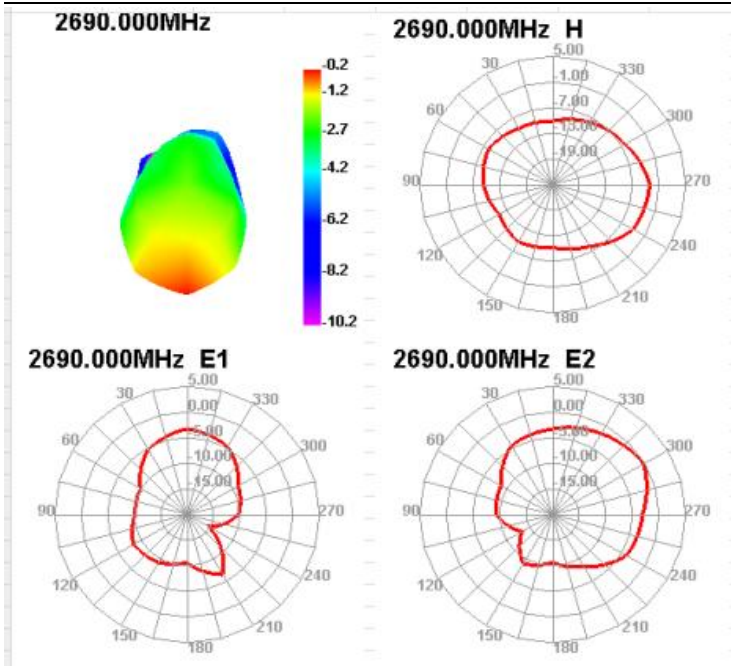


2500.000MHz E1

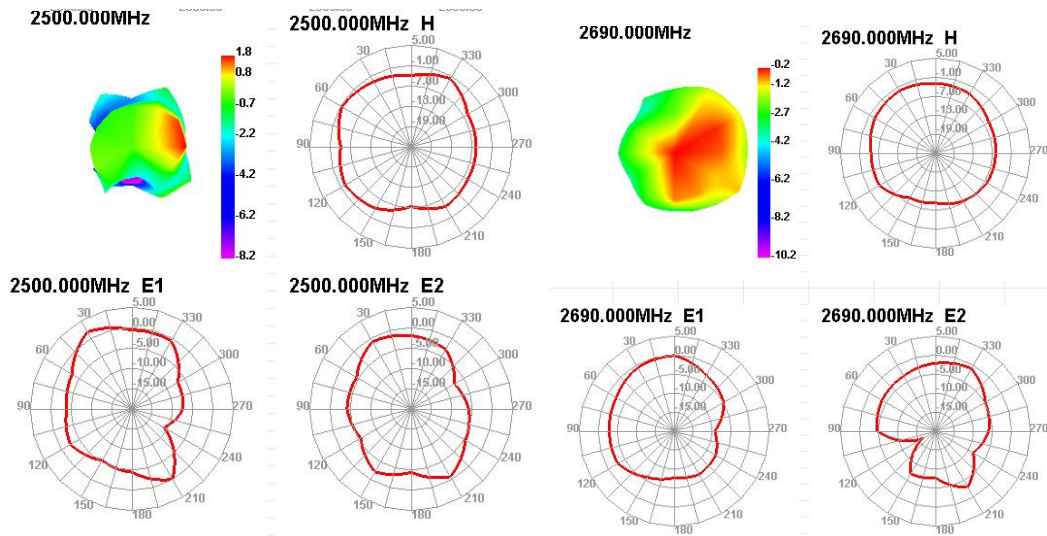


2500.000MHz E2

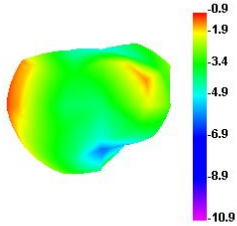




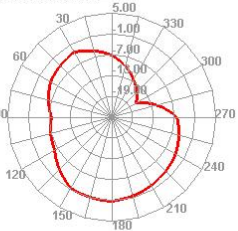
ANT6



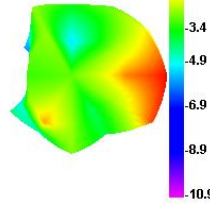
3300.000MHz



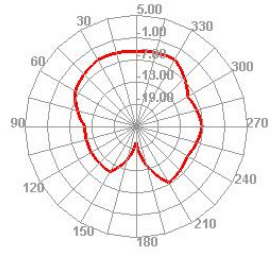
3300.000MHz H



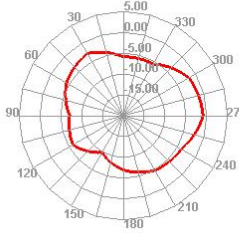
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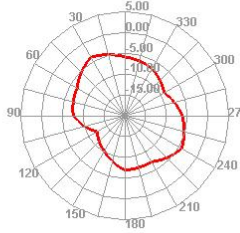
4200.000MHz H



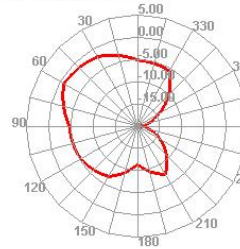
3300.000MHz E1



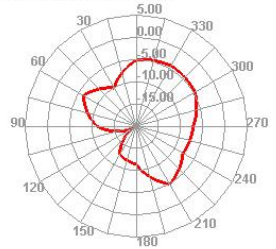
3300.000MHz E2



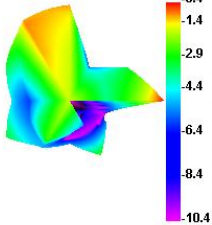
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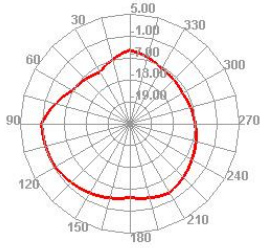
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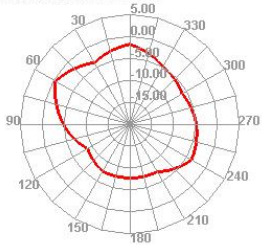
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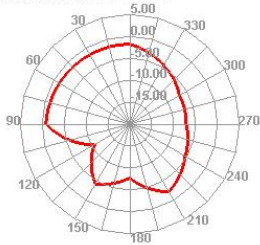
5000.000MHz H



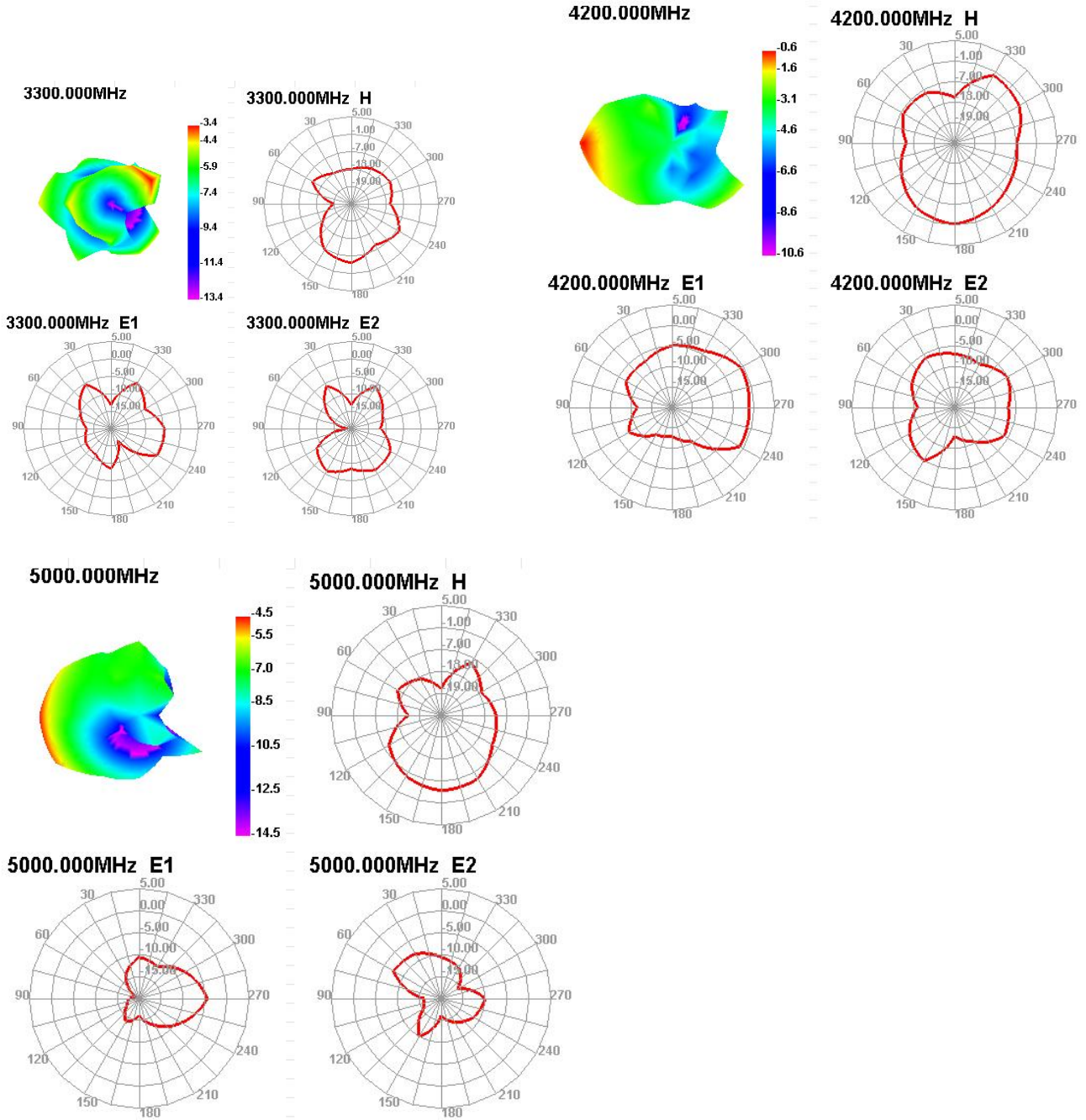
5000.000MHz E1



5000.000MHz E2



ANT7



ANT8

5. Equipment List

Type of Equipment	Manufacture	Model Number
Network Analyzer	Agilent Technologies	E5071B
Switch control System	GTS	RayZone1800
Software	GTS	MaxSign 100 Patten Measurement software

ANNEX B: The EUT Appearance and Test Configuration

B.1 EUT Appearance



B.2 Test Configuration

