

深圳有力科技有限公司

ShenZhen Powerful Technology CO., Limited

規 格 书

SPECIFICATION FOR APPROVAL

客 户

CUSTOMER:

客 户 料 号

CUSTOMER NO:

品 名

PART NAME:

供 方 料 号

SUPPLIER NO:

JACS

4G副天线：FPC黑色/加补强0.1mm/4代端子/1.13黑线 L=85MM/贴导电布/接地面镀金

YL1653-DIV-V2-L85

日期 Date: 2024.10.31

客户确认 CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
赵旋旋	陈娜	张洋

实验室测试环境及设备



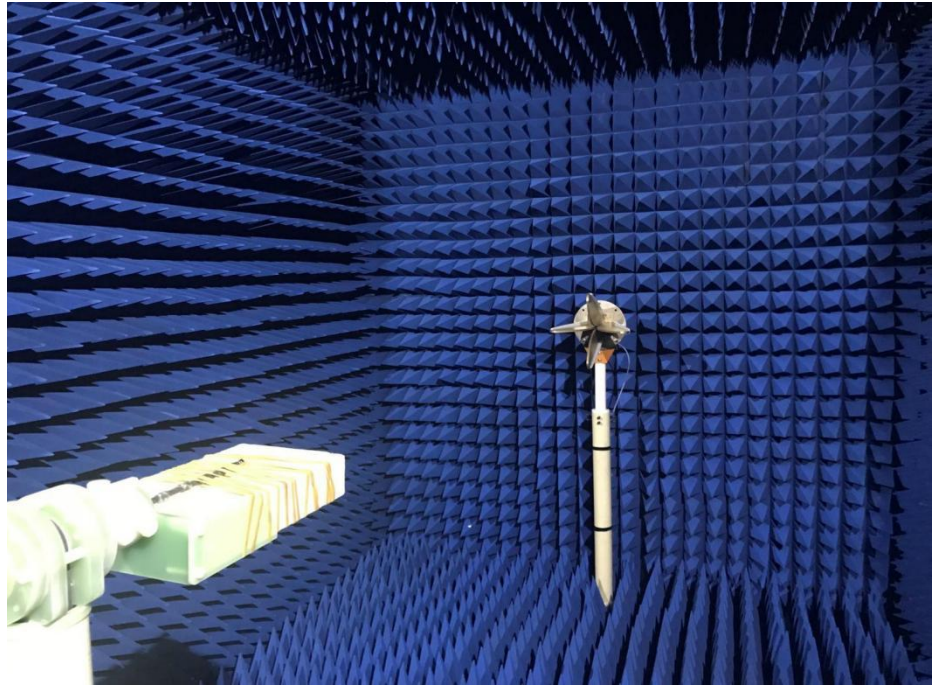
CMW500



E5071B



Aglient 8960



测试项目 (Test Project) : S11、S12 、VSWR 、Efficiency、Gain 3D Radiation Pattern 、TRP、TIS

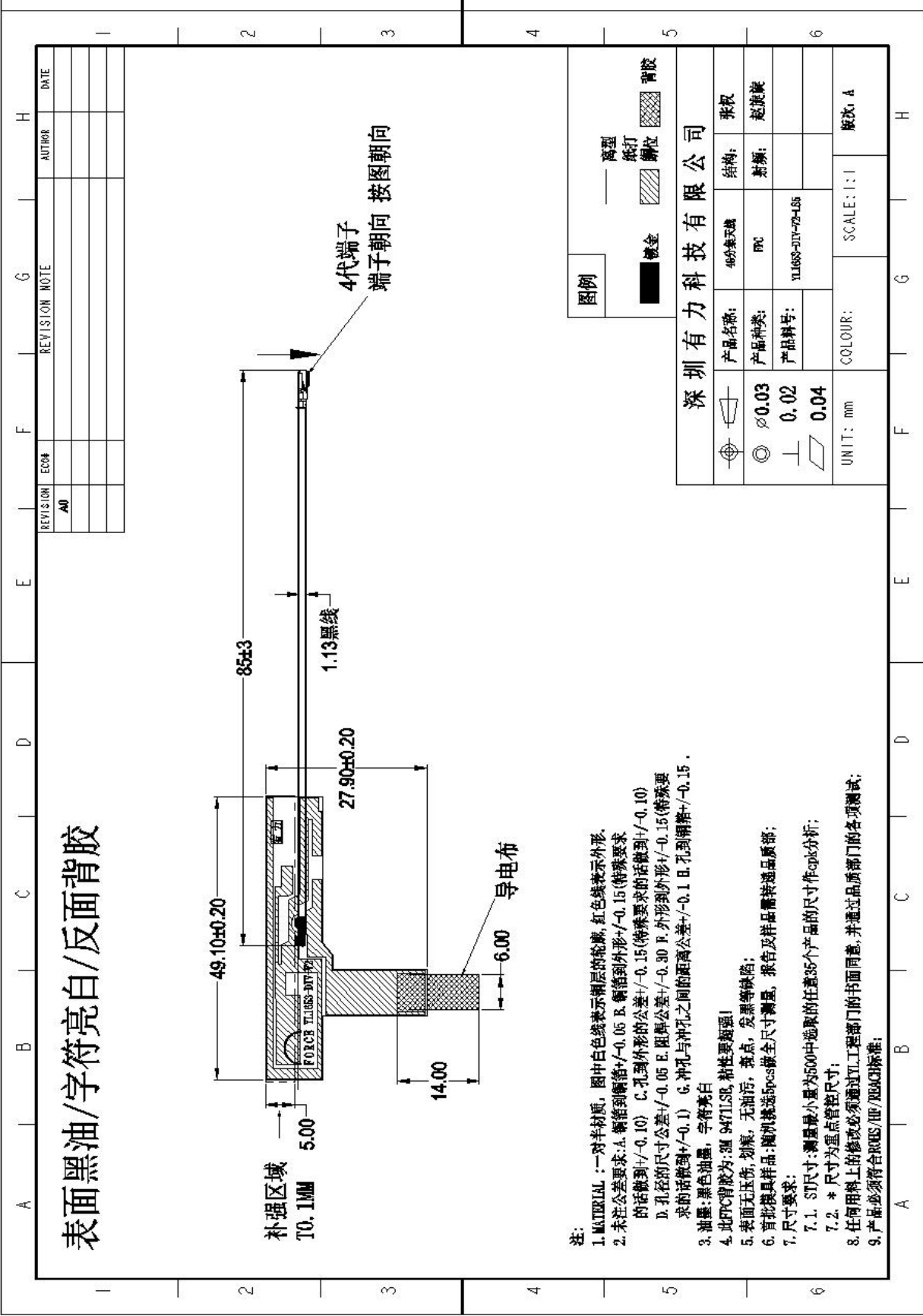
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1.工程图纸 (Mechanical Drawing)



2.技术指标（Technical Index）

频率范围 Frequency Range （MHz）	1700-2700MHz/3400-3800MHz/5150-5950MHz （主调中高频）
天线增益 Antenna gain （dBi）	1700-2700MHz MAX 4.25dBi 3350-3750MHz MAX 2.47dBi 5150-5950MHz MAX 3.03dBi
天线形式	monopole
天线方向 Antenna direction	全向
驻波比 VSWR/50 Ohms	≤2.0
输入阻抗 Impedance	50 Ω
接头 Termination	4代端子 1.13黑线 L=85mm
工作温度 （℃）	-30~+75

3. 天线测试数据（Antenna test data）

3-1 无源效率/增益

1700-2700MHz/3400-3800MHz		
Freq (MHz)	Effi (%)	Gain (dBi)
1700	72.75	3.52
1710	67.79	2.94
1720	63.58	2.29
1730	61.92	2.24
1740	65.67	2.74
1750	60.01	2.73
1760	50.23	2.2
1770	47.67	2.09
1780	43.32	1.72
1790	38.6	1.29
1800	34.79	0.87
1810	29.59	0.16
1820	24.78	-0.79
1830	22.81	-1.64
1840	21.31	-1.68
1850	23.12	-1.26
1860	22.7	-1.42
1870	22.2	-1.85
1880	23.15	-1.65
1890	23.13	-1.69
1900	22.42	-1.91
1910	21.09	-1.67
1920	18.75	-1.97
1930	19.29	-2.07
1940	22.51	-2.22
1950	23.88	-2.54
1960	25.86	-1.81
1970	28.89	-0.48
1980	31.54	0.33
1990	35.51	1.03
2000	41.81	1.73
2010	38.7	1.26

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2020	40.03	1.22
2030	44.55	1.61
2040	47.72	1.86
2050	51.58	2.18
2060	55.95	2.44
2070	53.44	2.08
2080	57.28	2.11
2090	60.13	2.17
2100	61.68	2.3
2110	59.92	2.06
2120	61.58	2.17
2130	66.76	2.69
2140	66.86	2.77
2150	65.93	2.72
2160	65.88	2.99
2170	68	3.34
2180	69.05	3.45
2190	66.74	3.24
2200	65.5	3.11
2210	65.22	3.12
2220	72.44	3.61
2230	78.58	4.04
2240	81.01	4.25
2250	80.62	4.24
2260	79.55	4.09
2270	73.4	3.55
2280	76.74	3.56
2290	77.74	3.36
2300	77.86	3.17
2310	77.05	3.03
2320	78.89	3.28
2330	79.25	3.34
2340	87.96	3.67
2350	79.18	3.46
2360	75.26	3.47
2370	69.03	3.15
2380	69.84	3.09
2390	70.91	2.9
2400	76.69	3.1
2410	71.86	3.03
2420	71.28	3.07
2430	64.94	2.65

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2440	68.46	3.03
2450	68.2	3.19
2460	67.99	3.33
2470	63.54	3.19
2480	64.07	3.38
2490	65.08	3.59
2500	67.35	3.84
2510	61.71	3.56
2520	58.08	3.33
2530	56.15	3.21
2540	51.71	2.82
2550	51.01	2.7
2560	51.8	2.61
2570	51.43	2.54
2580	48.41	2.4
2590	49.21	2.58
2600	47.87	2.4
2610	45.55	1.97
2620	43.22	1.44
2630	45.51	1.53
2640	54.4	2.32
2650	55.82	2.39
2660	62.4	3
2670	71.57	3.63
2680	75.29	3.87
2690	75.54	3.88
2700	75.24	3.88
3400	50.62	2.92
3410	45.15	2.47
3420	44.99	2.4
3430	44.49	2.22
3440	42.25	1.76
3450	41.09	1.42
3460	40.86	1.26
3470	36.4	0.8
3480	39.72	1.3
3490	36.78	0.99
3500	35.78	0.78
3510	40.96	1.01
3520	40.52	0.44
3530	37.56	0.03
3540	40.35	0.29

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3550	37.42	-0.18
3560	39.2	-0.15
3570	42.1	0.01
3580	40.36	0.13
3590	40.67	0.23
3600	41.76	0.2
3610	38.21	-0.29
3620	40	-0.33
3630	39.53	-0.56
3640	37.51	-0.19
3650	36.81	0.28
3660	36.88	0.79
3670	36.88	1.13
3680	37.56	1.51
3690	35.55	1.36
3700	34.09	1.28
3710	32.82	1.1
3720	34.29	1.28
3730	33.89	1.24
3740	34.35	1.31
3750	35.99	1.47
3760	34.54	1.27
3770	32.82	1.04
3780	35.22	1.33
3790	33.95	1.06
3800	35.43	1.14

5150-5950MHz		
Freq (MHz)	Effi (%)	Gain (dBi)
5150	42.9	1.48
5160	45.52	1.86
5170	46.57	1.98
5180	46.36	2.06
5190	39.54	1.24
5200	42.27	1.63
5210	43.69	1.8
5220	50.15	2.63
5230	49.64	2.54
5240	49.22	2.41
5250	43.93	1.76
5260	44.84	1.86
5270	47.82	2.27
5280	55.1	3.03
5290	50.09	2.45
5300	49.05	2.28
5310	42.91	1.46
5320	45.69	1.77
5330	48.66	2.06
5340	48.1	1.92
5350	43.83	1.36
5360	42.24	1.11
5370	36.08	0.26
5380	40.03	0.91
5390	42.16	1.25
5400	38.02	0.63
5410	36.15	0.4
5420	33.35	-0.08
5430	32.23	-0.26
5440	35.67	0.4
5450	36	0.58
5460	34.9	0.44
5470	33.77	0.28
5480	33.19	0.19
5490	33.97	0.34
5500	36.5	0.91
5510	37.31	1.05
5520	36.23	0.83

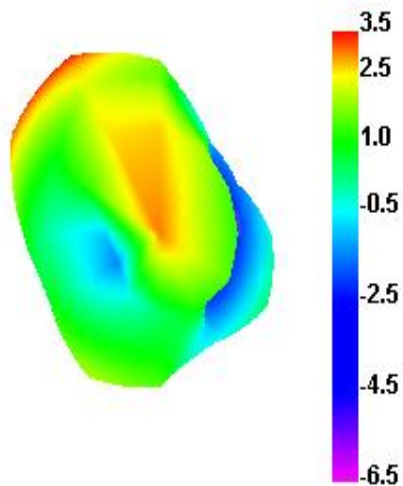
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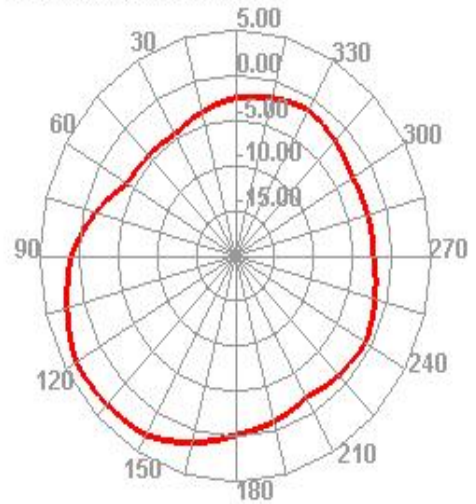
5530	34.35	0.56
5540	35.17	0.59
5550	37.53	1.04
5560	41.71	1.67
5570	40.93	1.61
5580	35.69	0.76
5590	35.2	0.61
5600	35.23	0.61
5610	35.59	0.66
5620	37.99	1.1
5630	35.37	0.61
5640	31.05	-0.21
5650	31.96	0.07
5660	31.93	0.01
5670	33.54	0.39
5680	34.24	0.66
5690	30.97	0.03
5700	29.66	-0.35
5710	30.85	0.01
5720	30.07	-0.2
5730	31.98	0.36
5740	32.17	0.43
5750	30.81	0.18
5760	30.71	0.28
5770	31.35	0.36
5780	32.12	0.55
5790	33.54	0.92
5800	31.77	0.61
5810	30.17	0.34
5820	29.65	0.24
5830	31.14	0.56
5840	47.32	0.81
5850	47.49	0.92
5860	31.65	0.77
5870	30.22	0.53
5880	28.62	0
5890	29.25	0.23
5900	29.11	0.24
5910	31.51	0.82
5920	30.6	0.57
5930	29.08	0.19
5940	30.4	0.4
5950	30.42	0.46

3-3 方向图

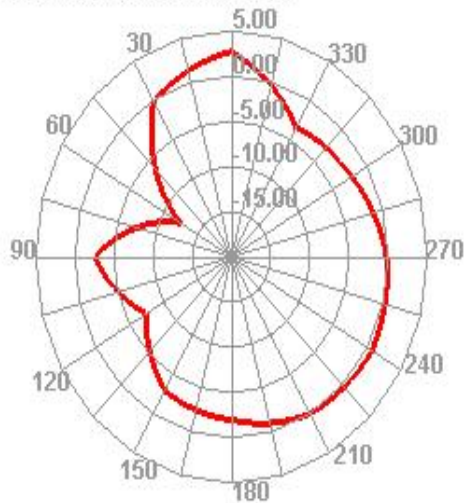
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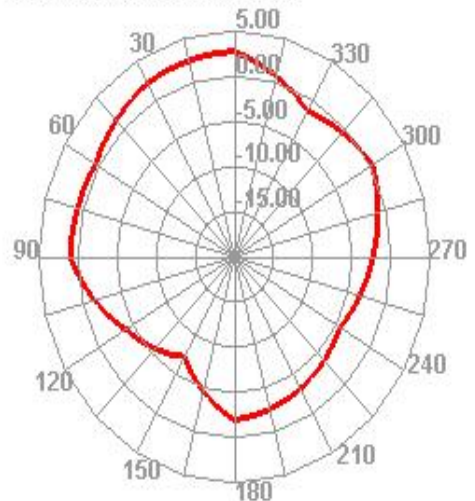
1700.000MHz H



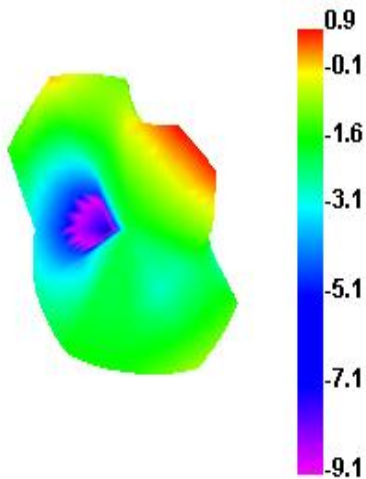
1700.000MHz E1



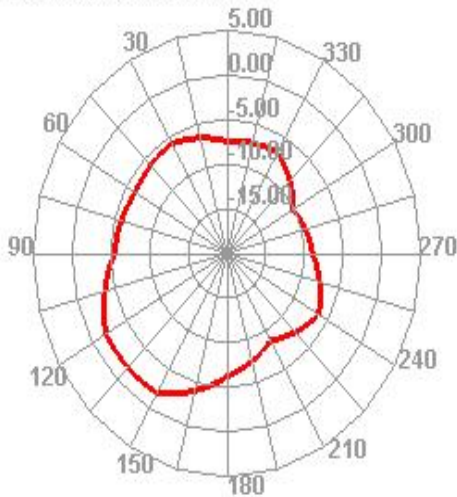
1700.000MHz E2



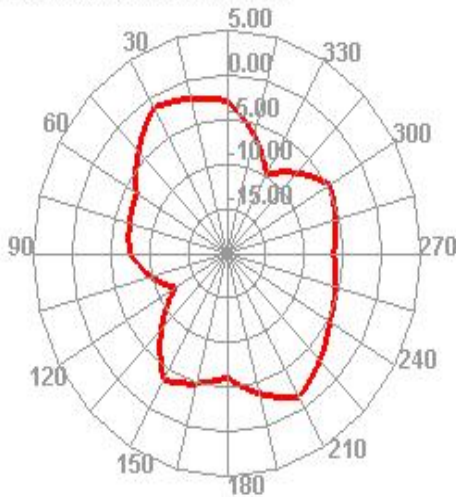
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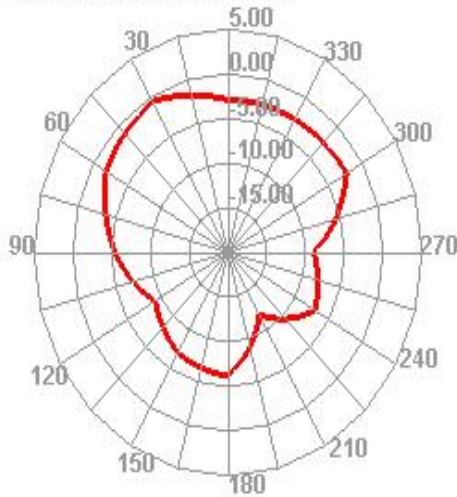
1800.000MHz H



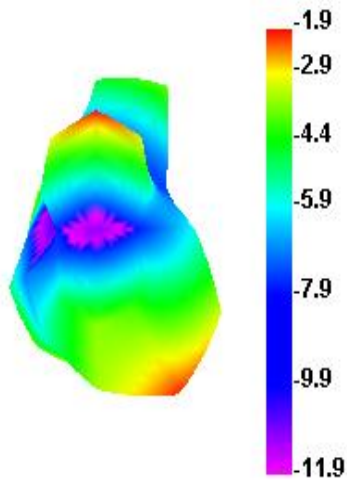
1800.000MHz E1



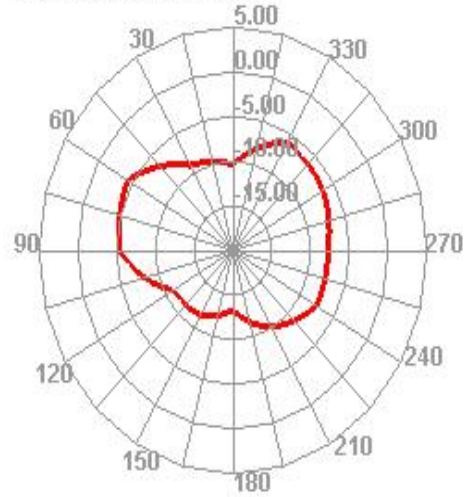
1800.000MHz E2



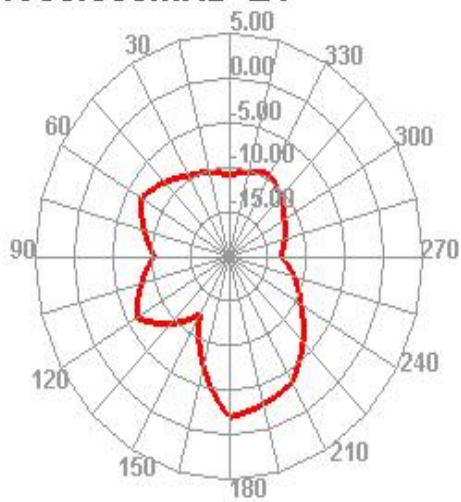
1900.000MHz



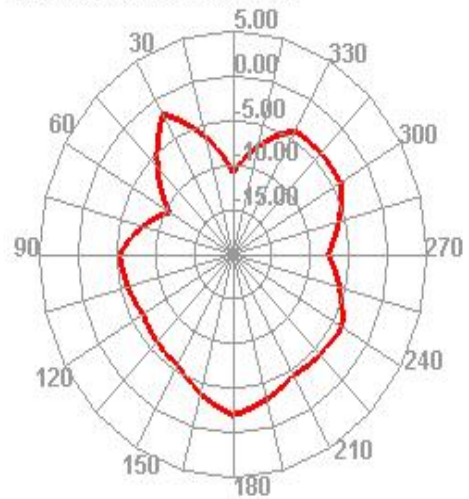
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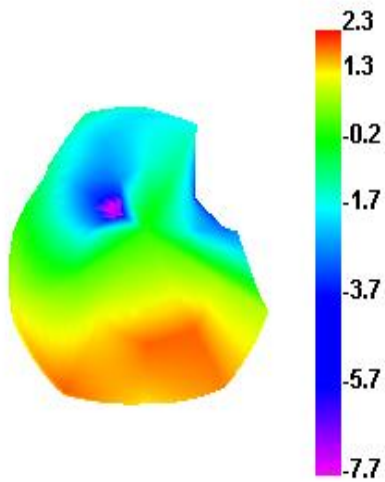
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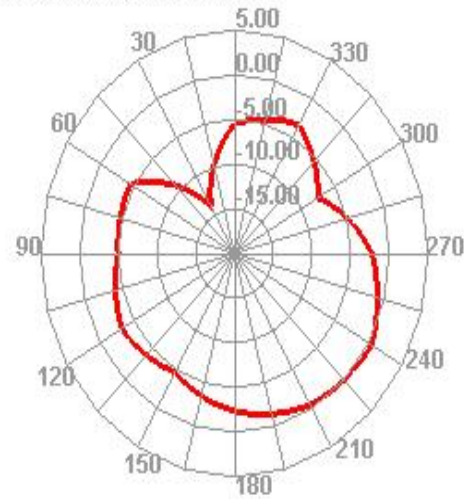
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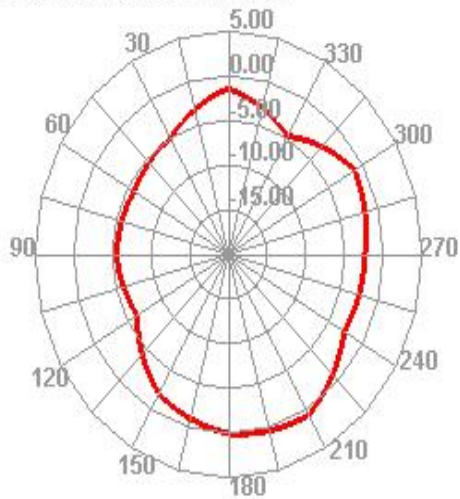
2100.000MHz



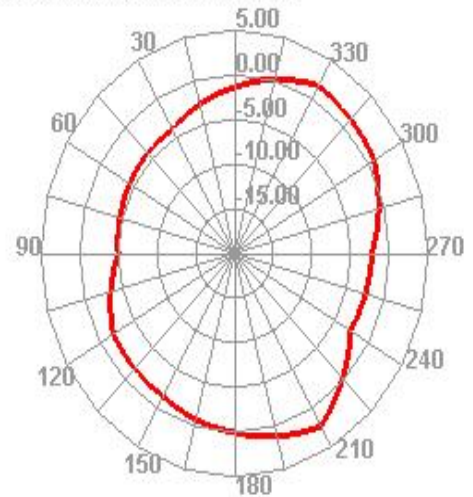
2100.000MHz H



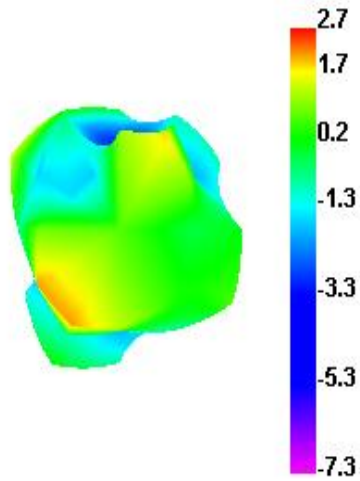
2100.000MHz E1



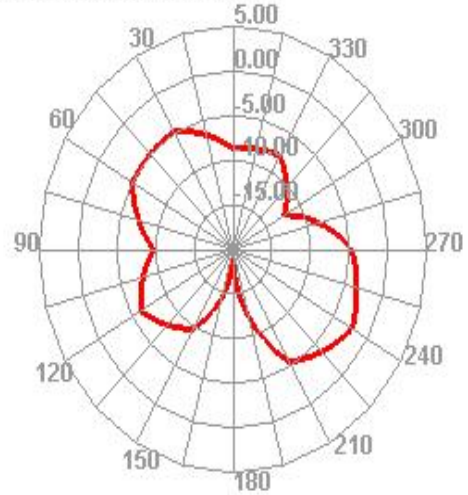
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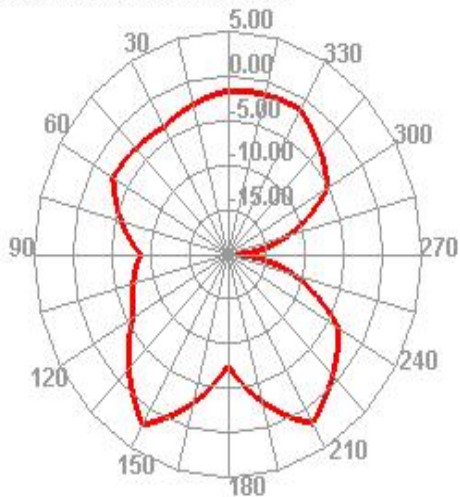
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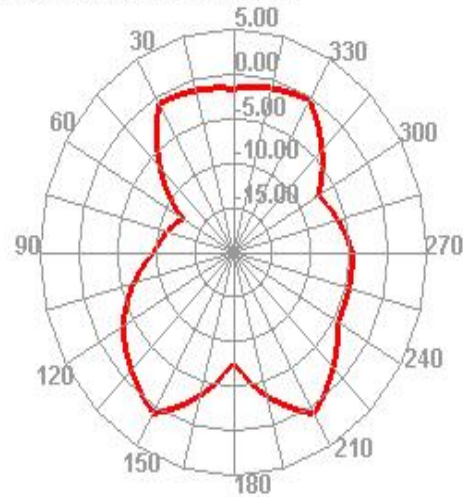
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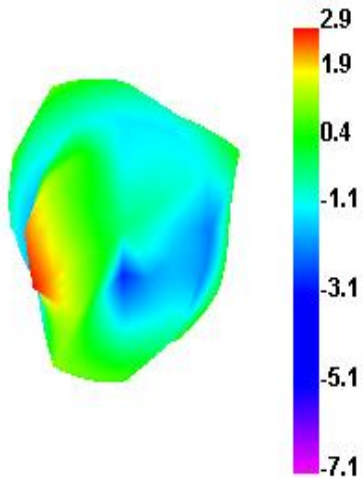
2550.000MHz E1



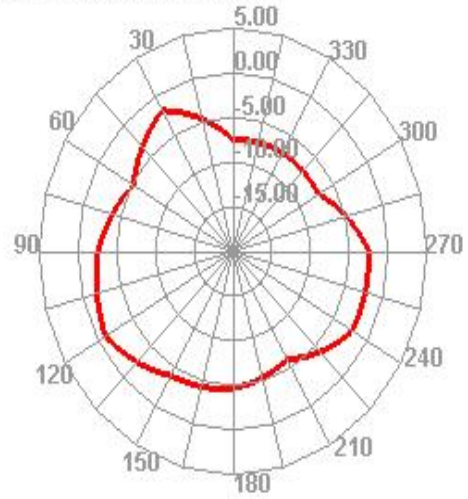
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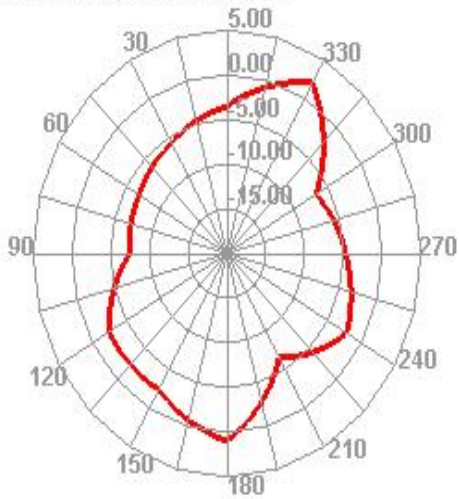
3400.000MHz



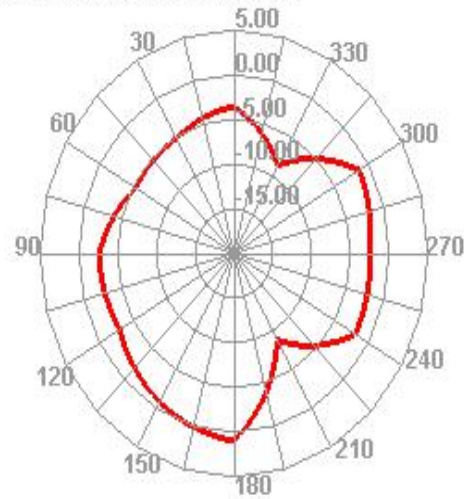
3400.000MHz H



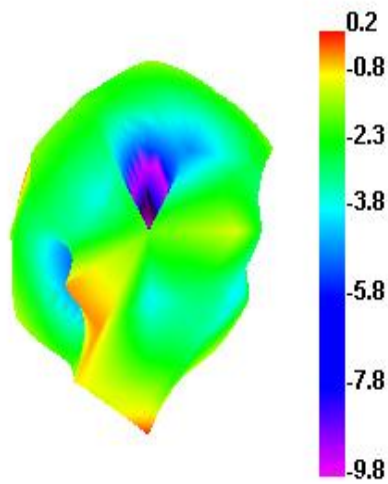
3400.000MHz E1



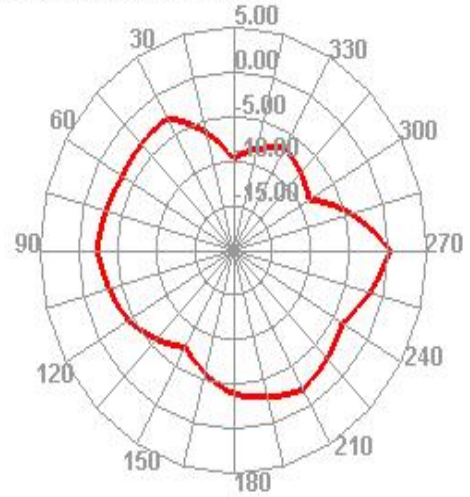
3400.000MHz E2



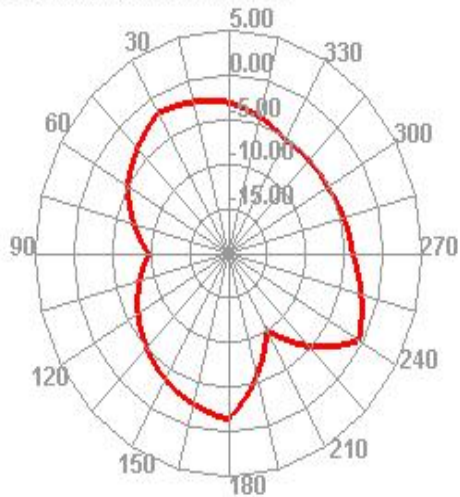
3600.000MHz



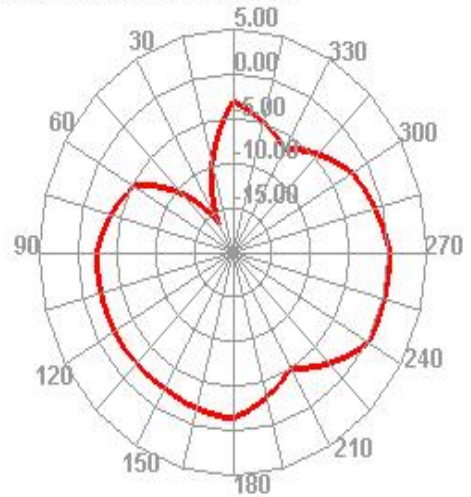
3600.000MHz H



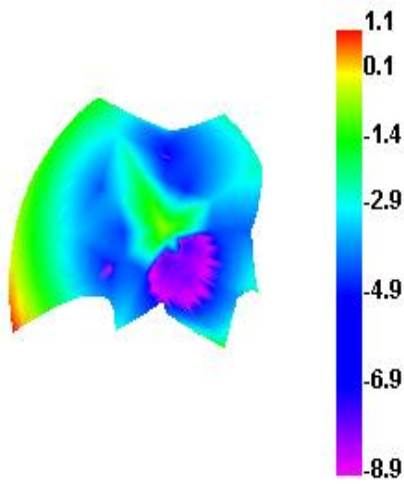
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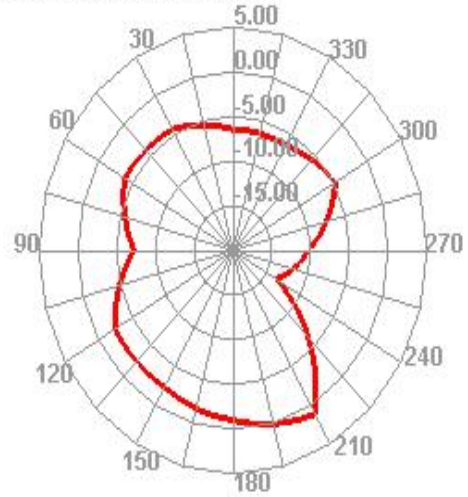
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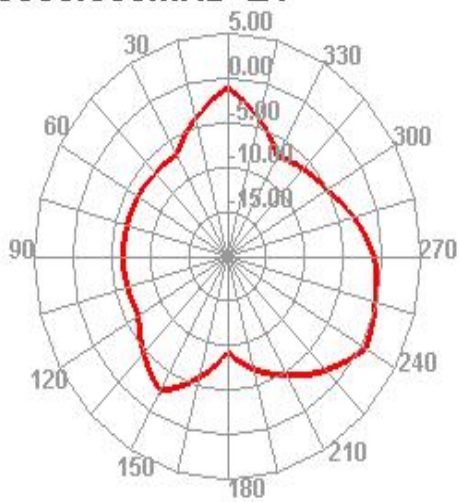
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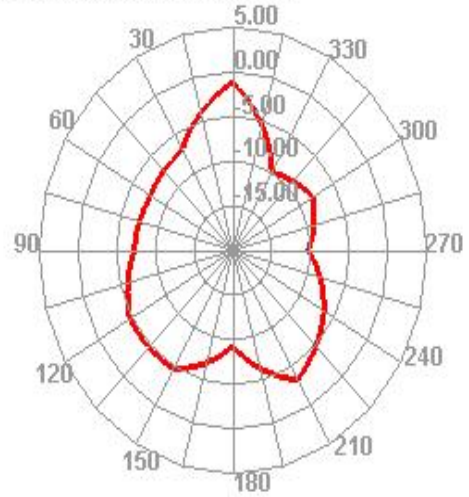
3800.000MHz H



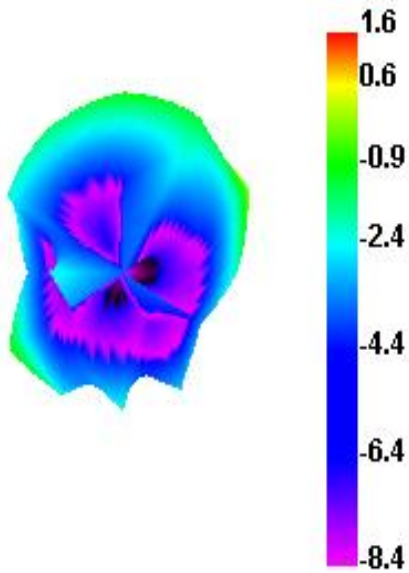
3800.000MHz E1



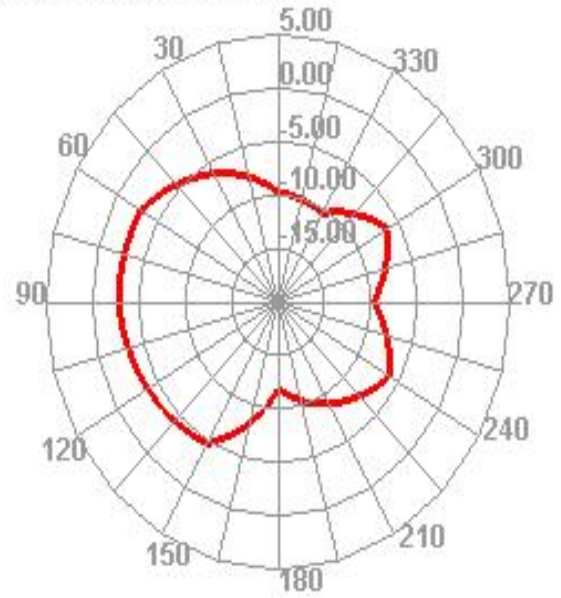
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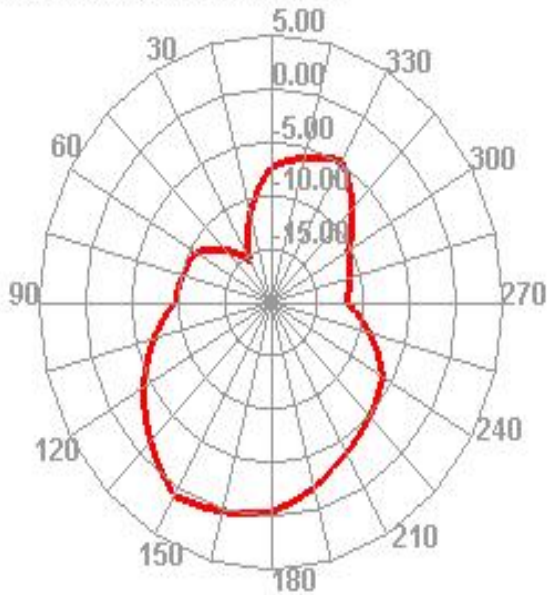
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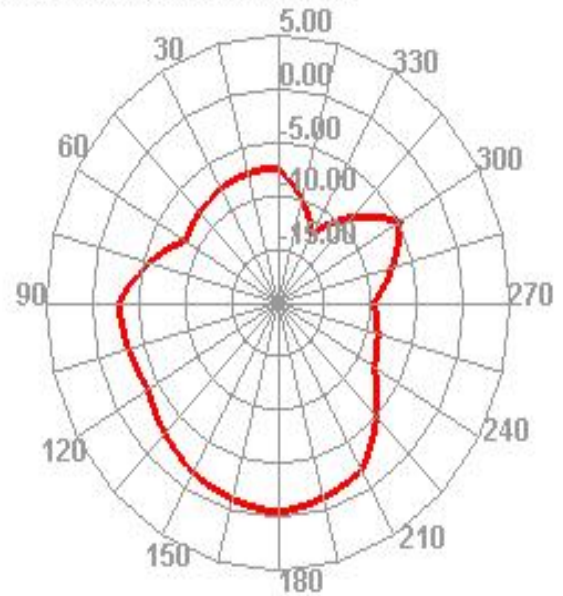
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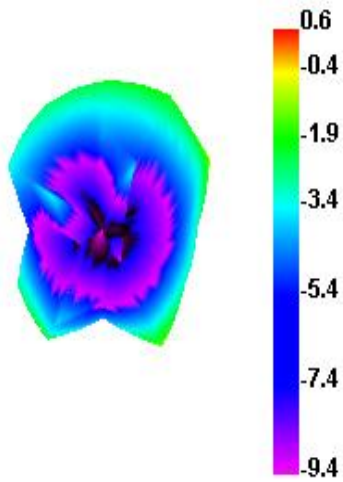
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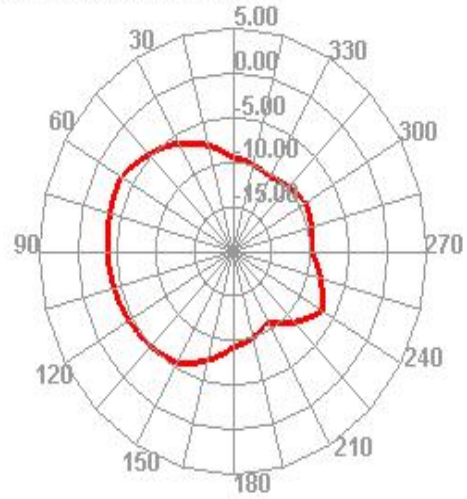
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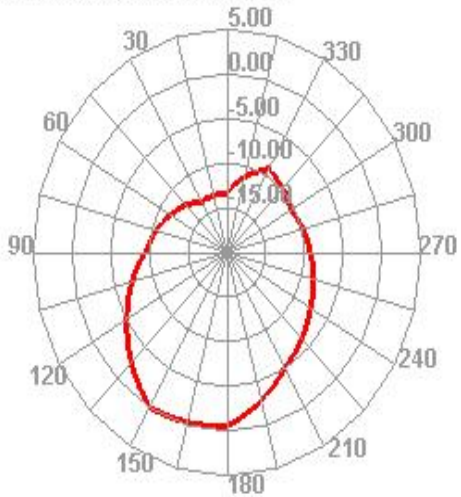
5400.000MHz



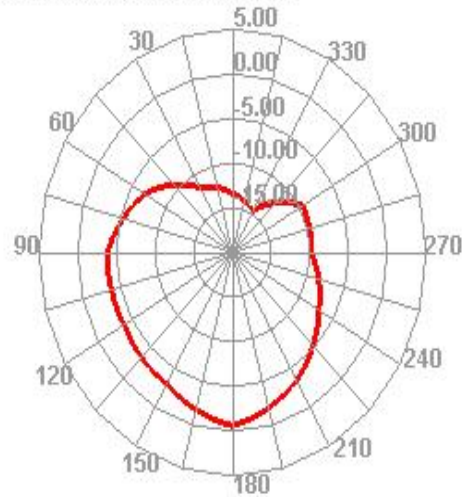
5400.000MHz H



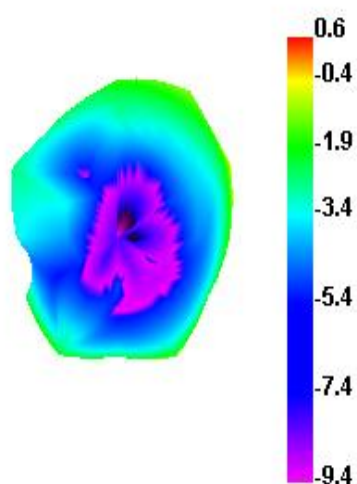
5400.000MHz E1



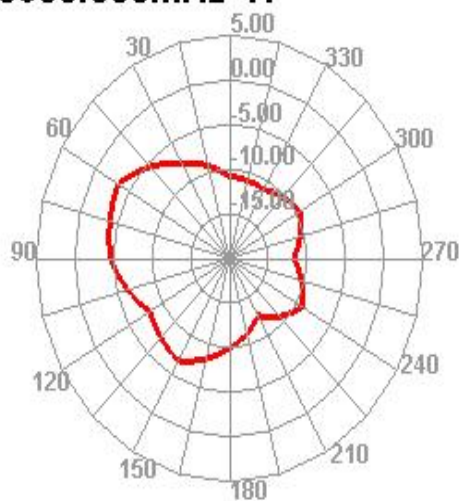
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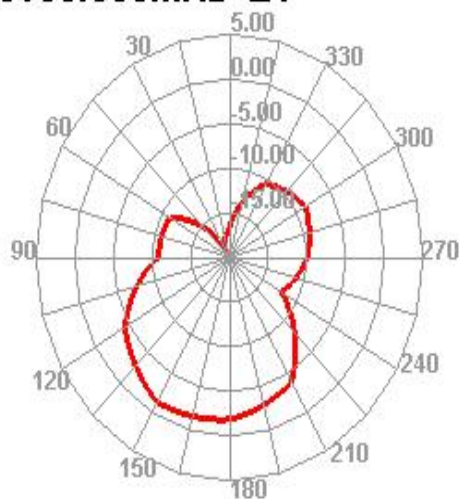
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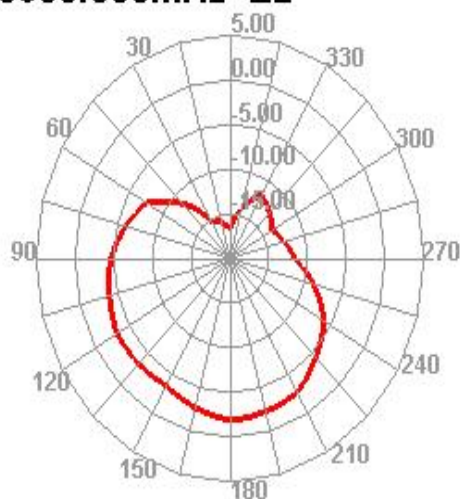
5600.000MHz H



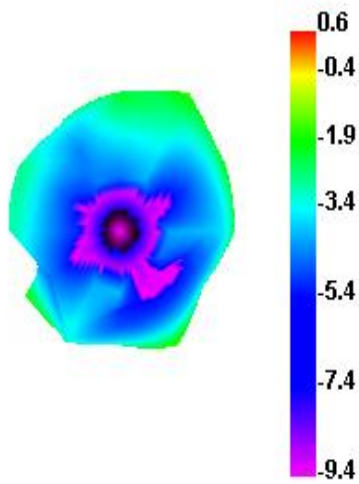
5600.000MHz E1



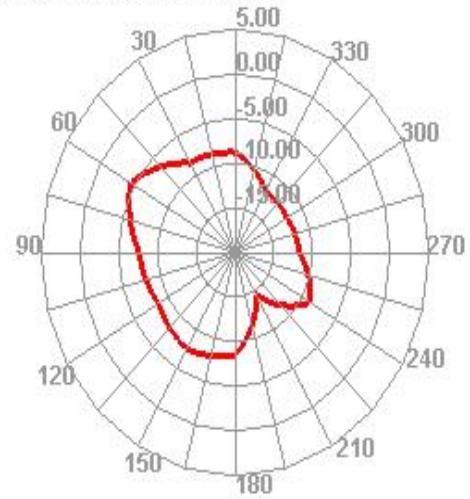
5600.000MHz E2



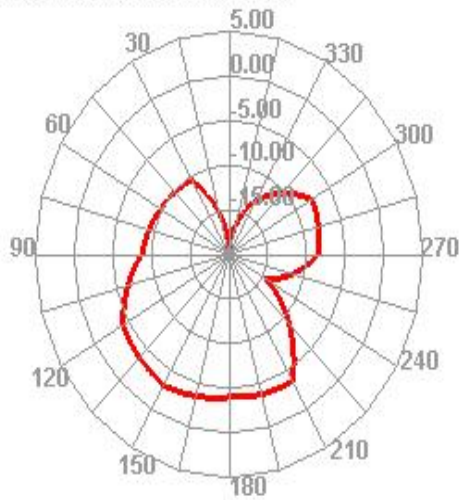
5800.000MHz



5800.000MHz H



5800.000MHz E1



5800.000MHz E2

