

深圳市云顶通讯电子有限公司

TEL: +86 0755-23073599

FAX: +86 0755-23097189

E-mail:wht0809@163.com

承認書 APPROVAL

客 户
:

品 名 规 格
DESCRIPTION:

Z99-FD001-WIFI-1.13-L30MM-IPEX 一代

料 号
PART NO.:

客 户 料 号
CUS PART NO.:

日 期
D A T E:

2023-9-25

云顶呈样签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT

客户承认签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	采 购 PURCHASING DEPARTMENT

联系电话: 0755 23073599

※ 承认书一式 三份, 惠蒙贵司承认签章

※ Approval in duplicate, please signed by your company.

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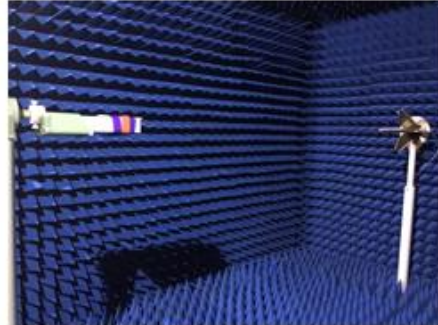
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1.Test items and equipment

	测试项目	设备
1. S11 参数 (S-parameter)	1. 回波损耗 (Return Loss) 2. 电压驻波比 (VSWR)	网络分析仪: Agilent E5071B HP 8753D
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 综合测试仪: Agilent 8960 E5515B ×2 StarPoint SP6011
3. 无源测试 (Passive)	1. 天线增益 (Gain) 2. 天线效率 (Efficiency)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪: Agilent E5071B HP 8753D



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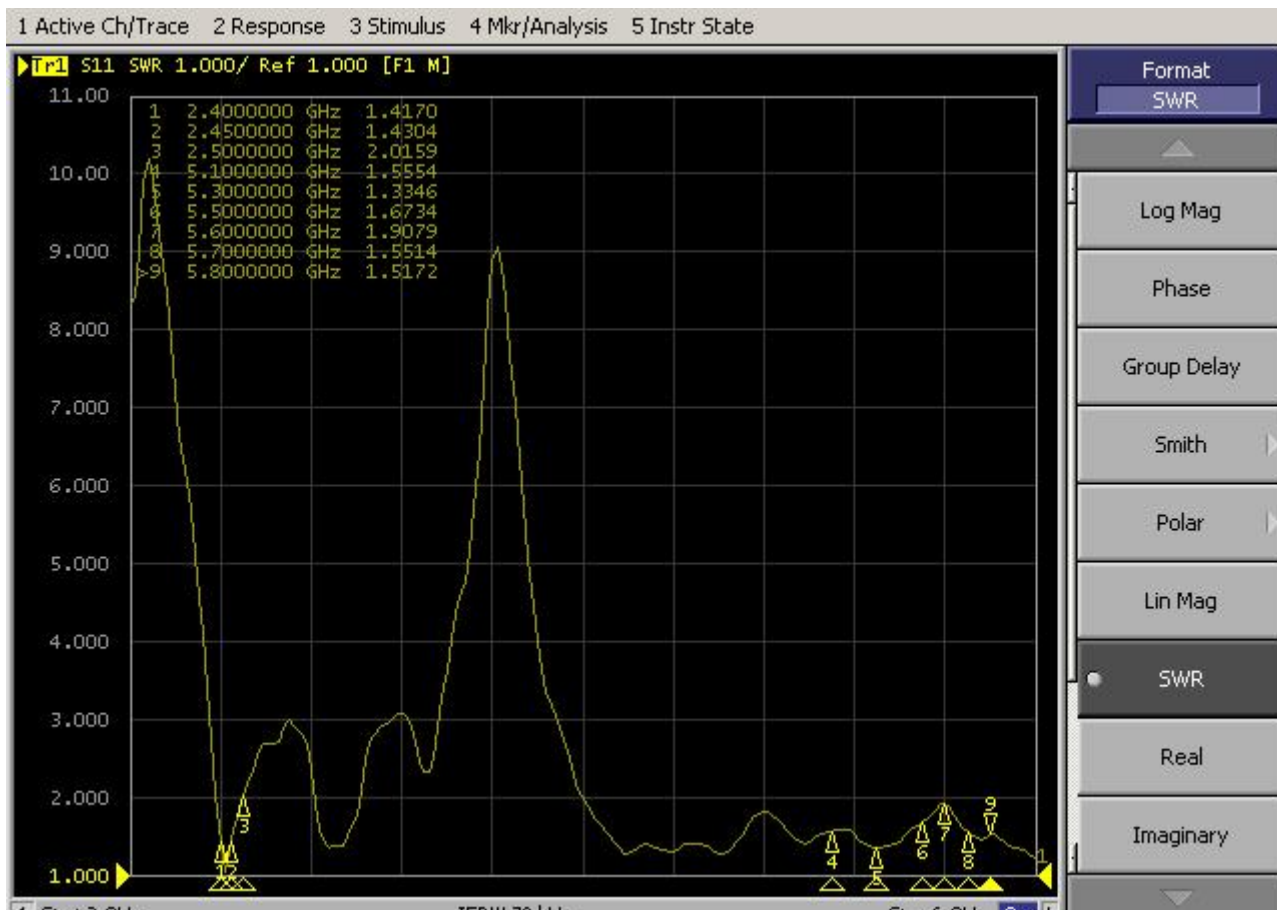
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2. Antenna performance

SWR



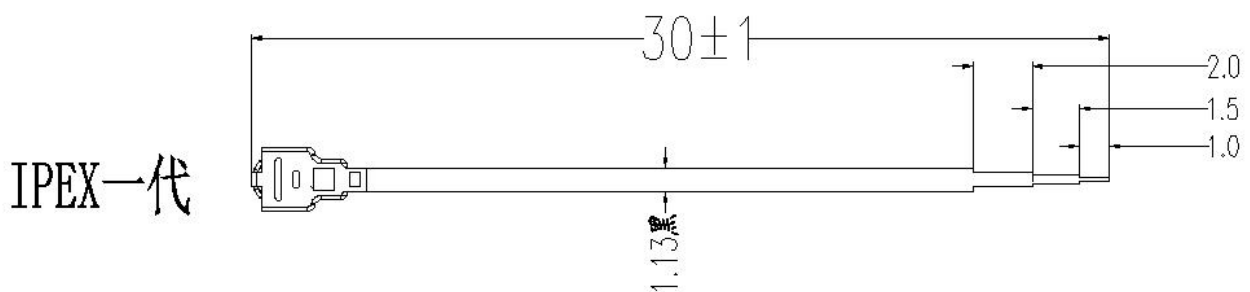
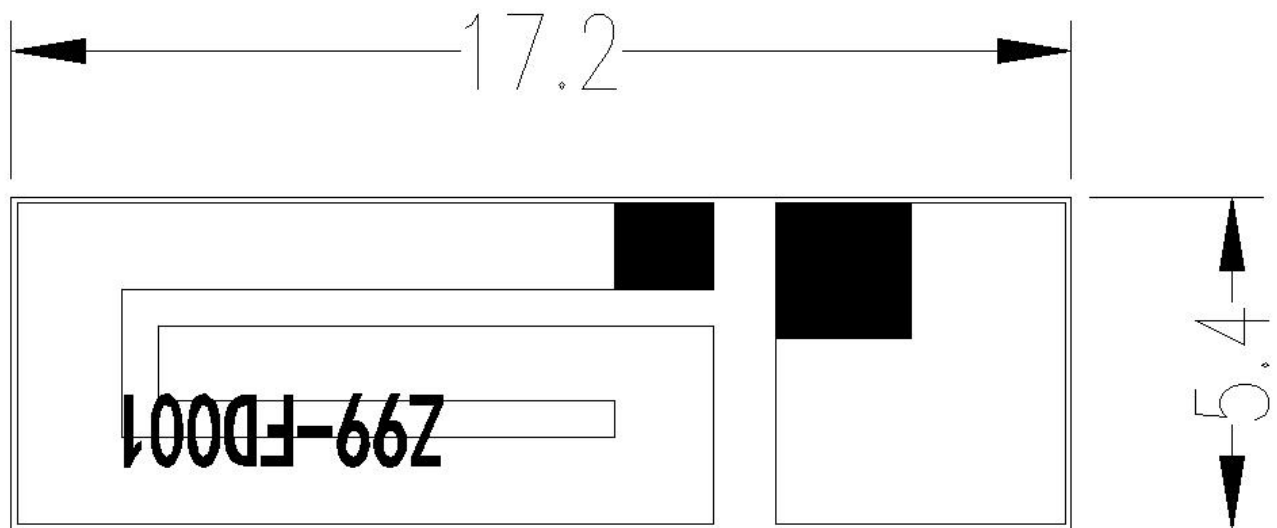
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3. Antenna structure diagram



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Efficiency

Frequency/Mhz	Efficiency / dB	Efficiency / %
2400	-2.31	58.75
2410	-2.24	59.7
2420	-1.98	63.39
2430	-1.83	65.61
2440	-1.88	64.86
2450	-1.93	64.12
2460	-1.65	68.39
2470	-1.47	71.29
2480	-1.37	72.95
2490	-1.29	74.3
2500	-1.1	77.62
5150	-5.67	27.1
5160	-5.33	29.31
5170	-5.26	29.79
5180	-5.3	29.51
5190	-5.46	28.44
5200	-5.18	30.34
5210	-5.09	30.97
5220	-4.99	31.7
5230	-4.7	33.88
5240	-4.63	34.43
5250	-4.63	34.43
5260	-4.74	33.57
5270	-4.54	35.16
5280	-4.37	36.56
5290	-4.35	36.73
5300	-4.06	39.26
5310	-3.9	40.74
5320	-3.87	41.02
5330	-3.83	41.4
5340	-3.61	43.55
5350	-3.48	44.87
5360	-3.53	44.36
5370	-3.44	45.29
5380	-3.33	46.45
5390	-3.07	49.32
5400	-3.06	49.43
5410	-2.97	50.47
5420	-2.95	50.7
5430	-3	50.12
5440	-3.03	49.77

5450	-2.66	54.2
5460	-2.51	56.1
5470	-2.53	55.85
5480	-2.57	55.34
5490	-2.41	57.41
5500	-2.39	57.68
5510	-2.34	58.34
5520	-2.33	58.48
5530	-2.19	60.39
5540	-2.24	59.7
5550	-2.17	60.67
5560	-1.99	63.24
5570	-1.89	64.71
5580	-1.88	64.86
5590	-1.83	65.61
5600	-1.74	66.99
5610	-1.71	67.45
5620	-1.79	66.22
5630	-1.61	69.02
5640	-1.44	71.78
5650	-1.49	70.96
5660	-1.49	70.96
5670	-1.47	71.29
5680	-1.41	72.28
5690	-1.44	71.78
5700	-1.31	73.96
5710	-1.34	73.45
5720	-1.29	74.3
5730	-1.35	73.28
5740	-1.22	75.51
5750	-1.13	77.09
5760	-1.08	77.98
5770	-1.17	76.38
5780	-0.93	80.72
5790	-0.91	81.1
5800	-0.87	81.85
5810	-0.89	81.47
5820	-0.8	83.18
5830	-0.9	81.28
5840	-0.91	81.1
5850	-0.79	83.37

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Gain

Frequency/MHz	MaxGain/dBi	AvgGain/dBi
2400	1.51	-2.31
2410	1.18	-2.24
2420	1.38	-1.98
2430	1.62	-1.83
2440	1.76	-1.88
2450	1.78	-1.93
2460	1.93	-1.65
2470	1.82	-1.47
2480	1.69	-1.37
2490	1.78	-1.29
2500	2.04	-1.1
5150	-0.54	-5.67
5160	-0.24	-5.33
5170	-0.23	-5.26
5180	-0.29	-5.3
5190	-0.49	-5.46
5200	-0.4	-5.18
5210	-0.39	-5.09
5220	-0.32	-4.99
5230	-0.04	-4.7
5240	0.01	-4.63
5250	-0.02	-4.63
5260	-0.19	-4.74
5270	-0.01	-4.54
5280	0.07	-4.37
5290	0.1	-4.35
5300	0.29	-4.06
5310	0.45	-3.9
5320	0.51	-3.87
5330	0.7	-3.83
5340	0.87	-3.61
5350	0.89	-3.48
5360	0.72	-3.53
5370	0.81	-3.44
5380	0.85	-3.33
5390	1.08	-3.07
5400	1	-3.06
5410	1.09	-2.97
5420	1.04	-2.95
5430	0.99	-3
5440	0.97	-3.03

5450	1.46	-2.66
5460	1.63	-2.51
5470	1.7	-2.53
5480	1.74	-2.57
5490	2.04	-2.41
5500	2.12	-2.39
5510	2.31	-2.34
5520	2.46	-2.33
5530	2.55	-2.19
5540	2.49	-2.24
5550	2.45	-2.17
5560	2.64	-1.99
5570	2.66	-1.89
5580	2.73	-1.88
5590	2.73	-1.83
5600	2.79	-1.74
5610	2.85	-1.71
5620	2.83	-1.79
5630	3.07	-1.61
5640	3.37	-1.44
5650	3.45	-1.49
5660	3.5	-1.49
5670	3.52	-1.47
5680	3.49	-1.41
5690	3.36	-1.44
5700	3.48	-1.31
5710	3.47	-1.34
5720	3.52	-1.29
5730	3.44	-1.35
5740	3.46	-1.22
5750	3.48	-1.13
5760	3.47	-1.08
5770	3.49	-1.17
5780	3.84	-0.93
5790	4.02	-0.91
5800	4.19	-0.87
5810	4.18	-0.89
5820	4.28	-0.8
5830	4.22	-0.9
5840	4.23	-0.91
5850	4.5	-0.79

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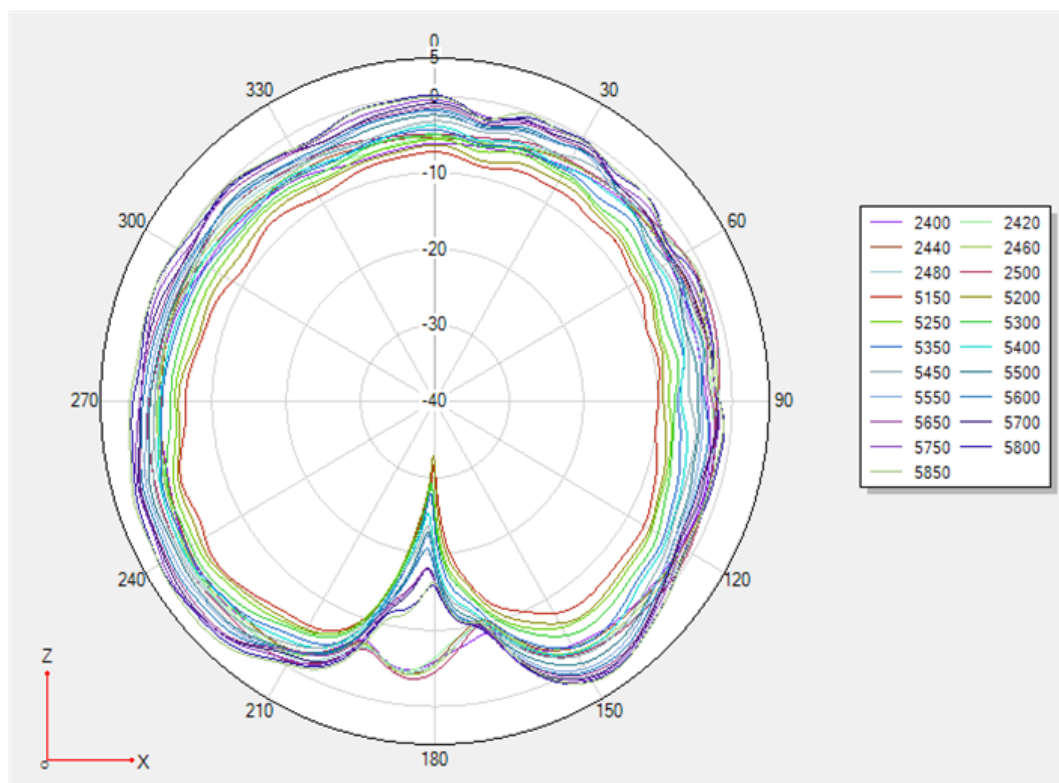
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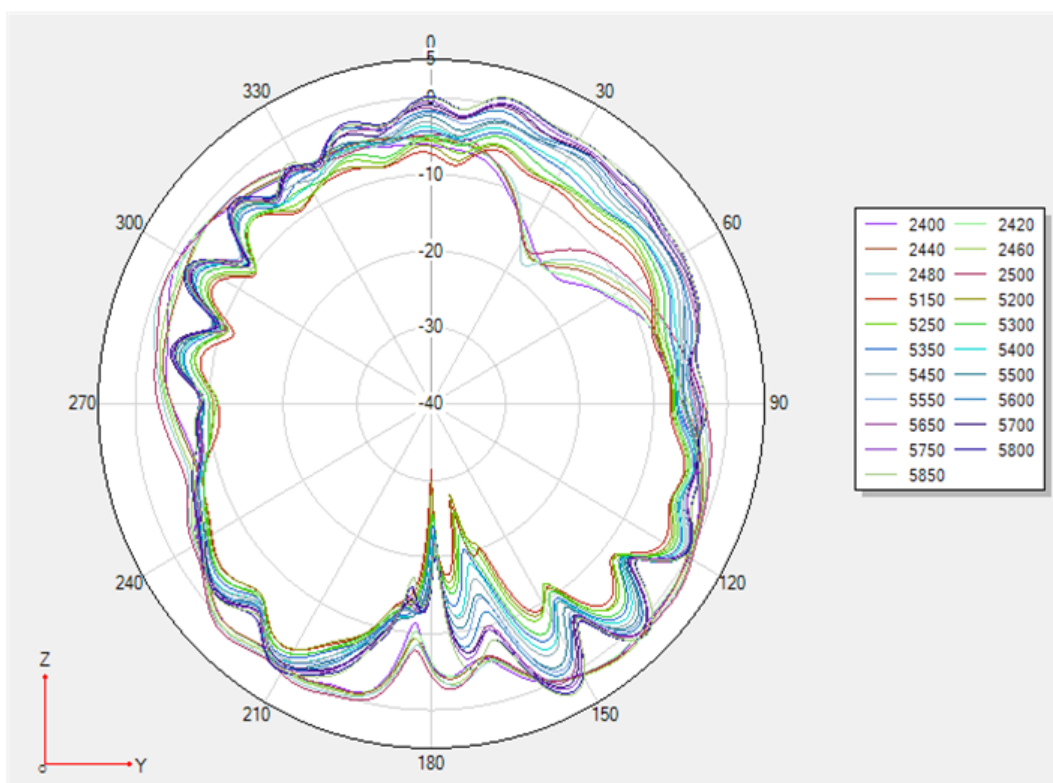
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Radiation Pattern

Phi 0 2D



Phi 90 2D



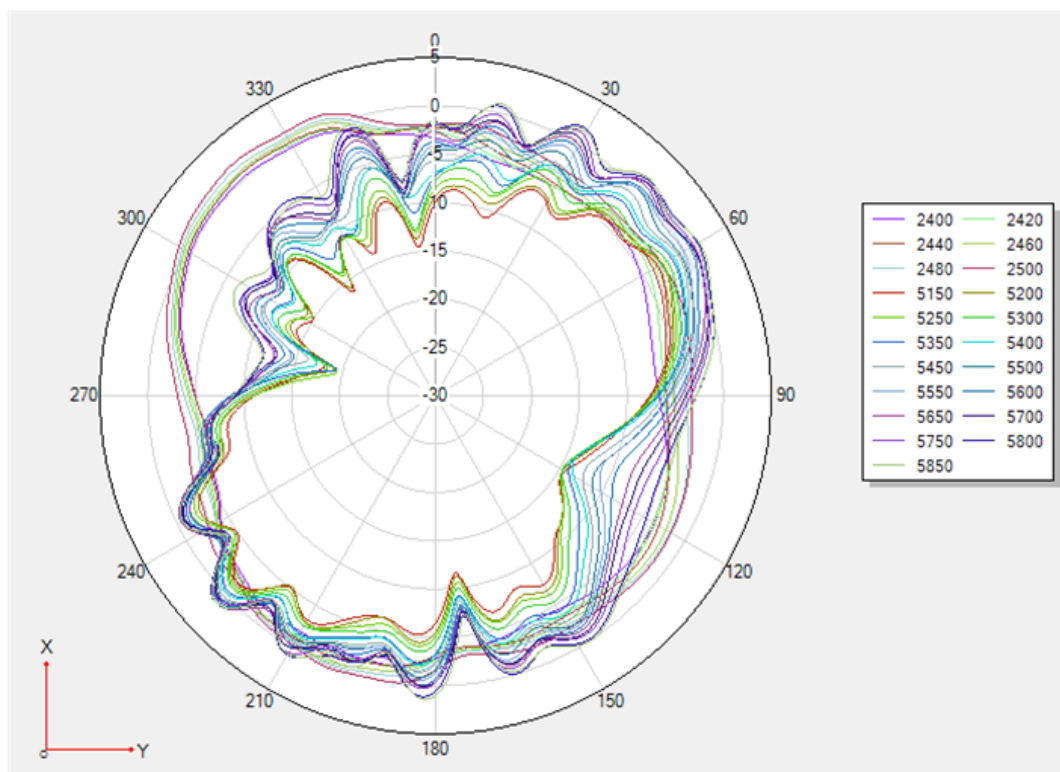
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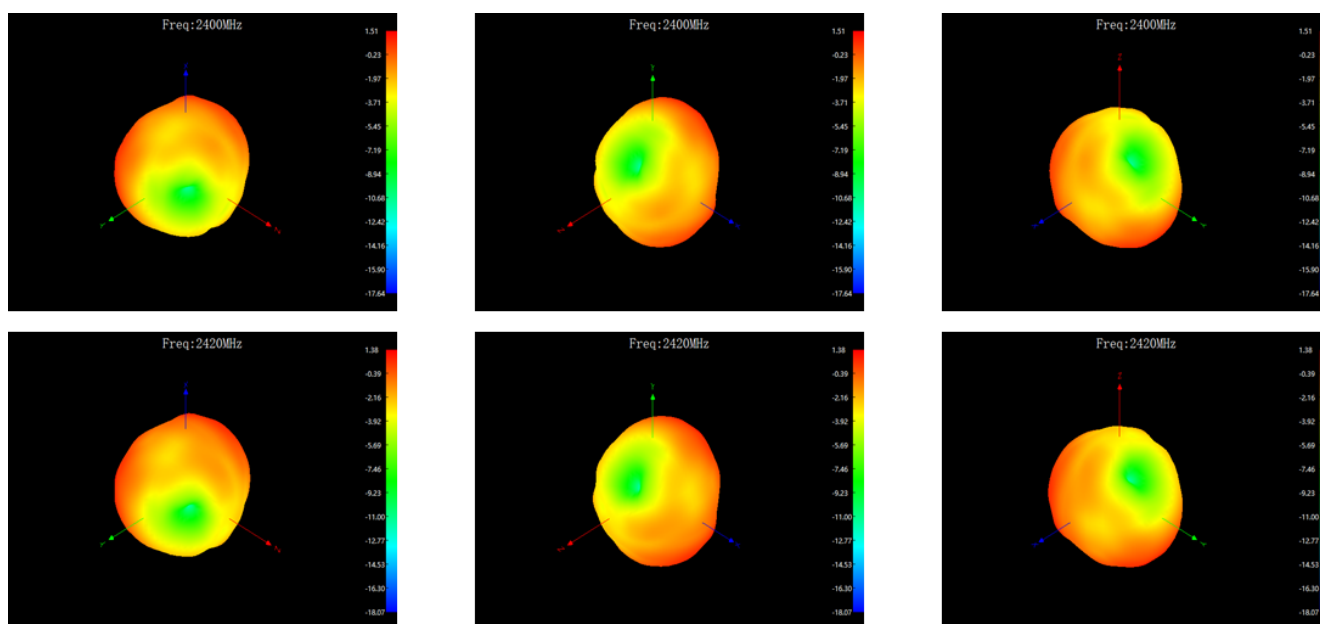
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Theta 90 2D



3D Etotal

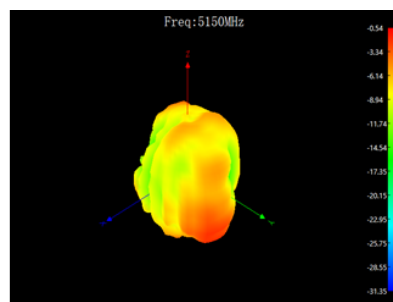
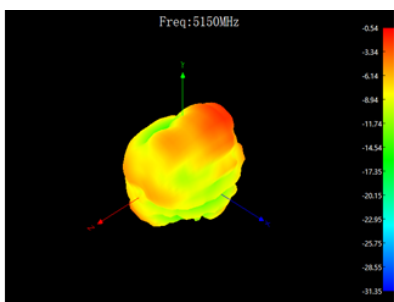
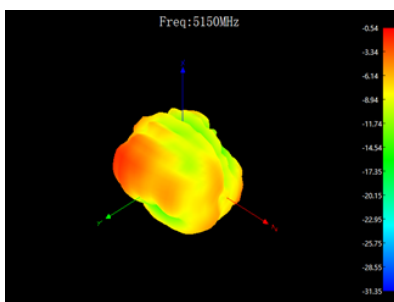
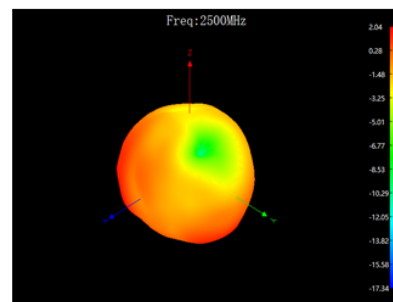
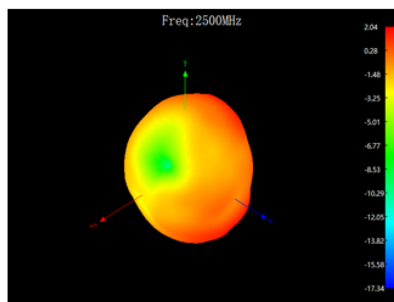
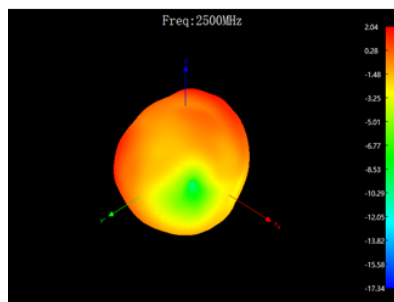
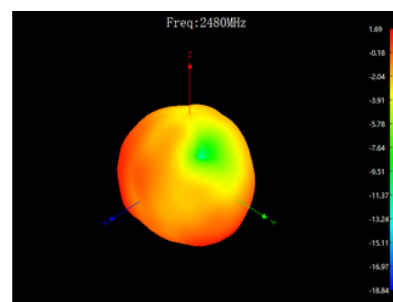
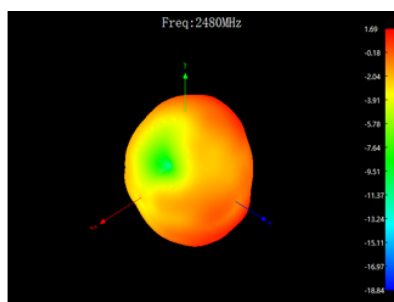
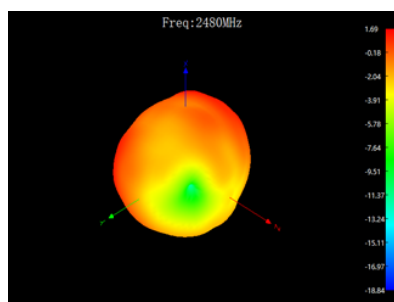
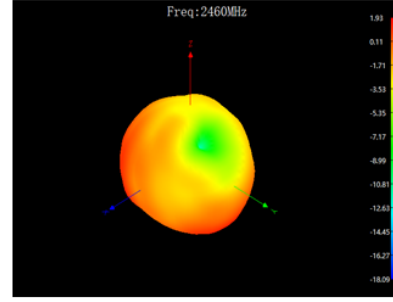
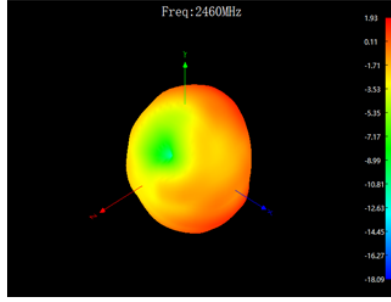
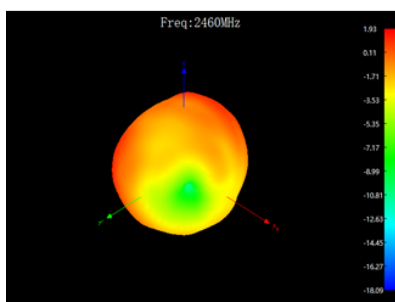
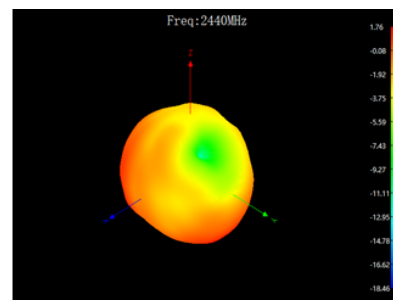
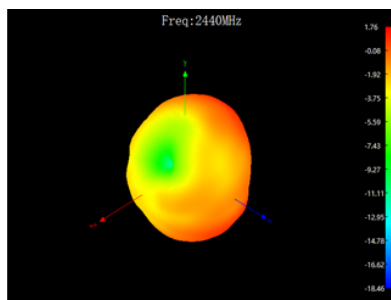
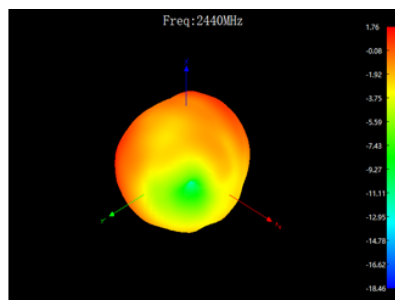


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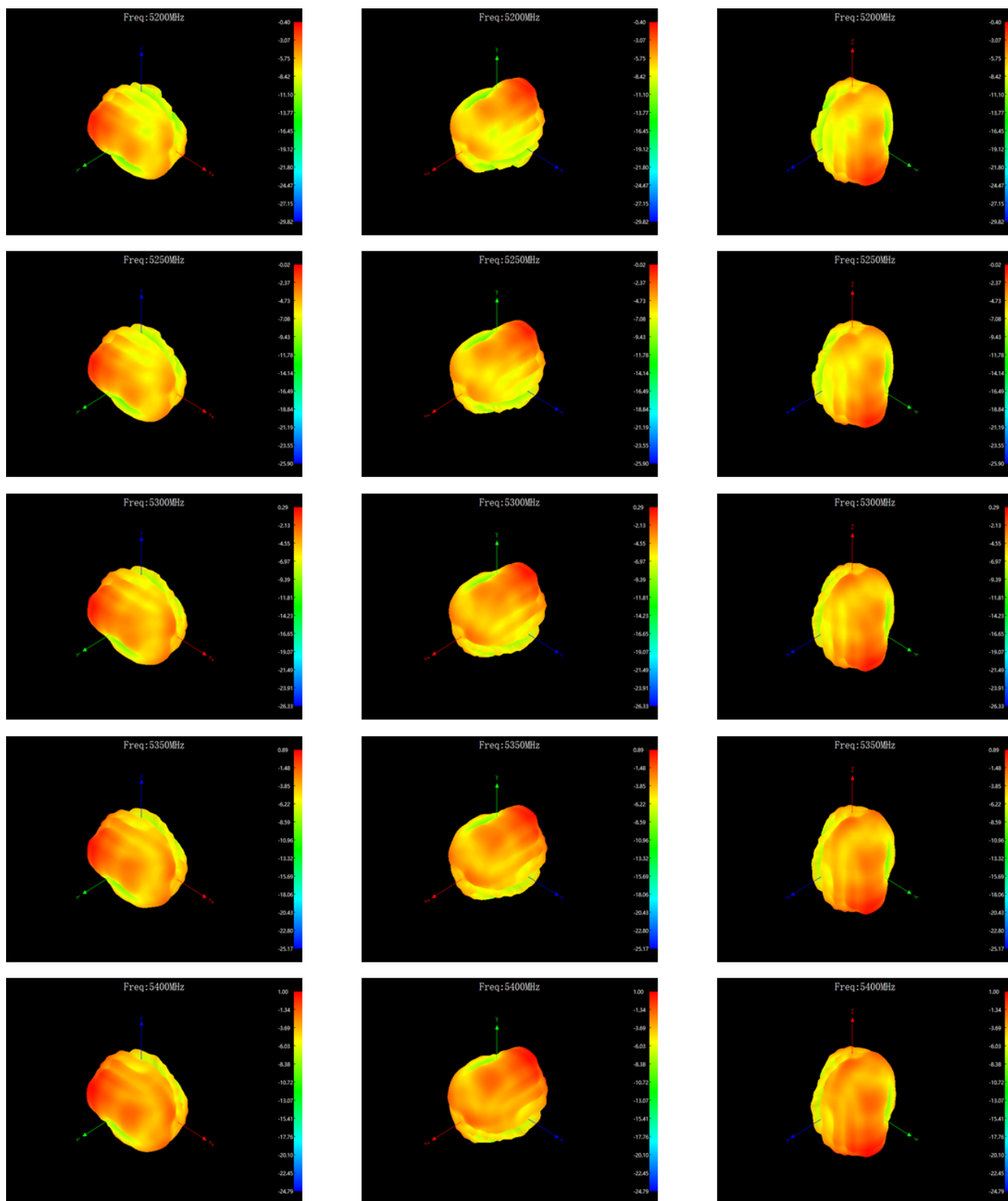


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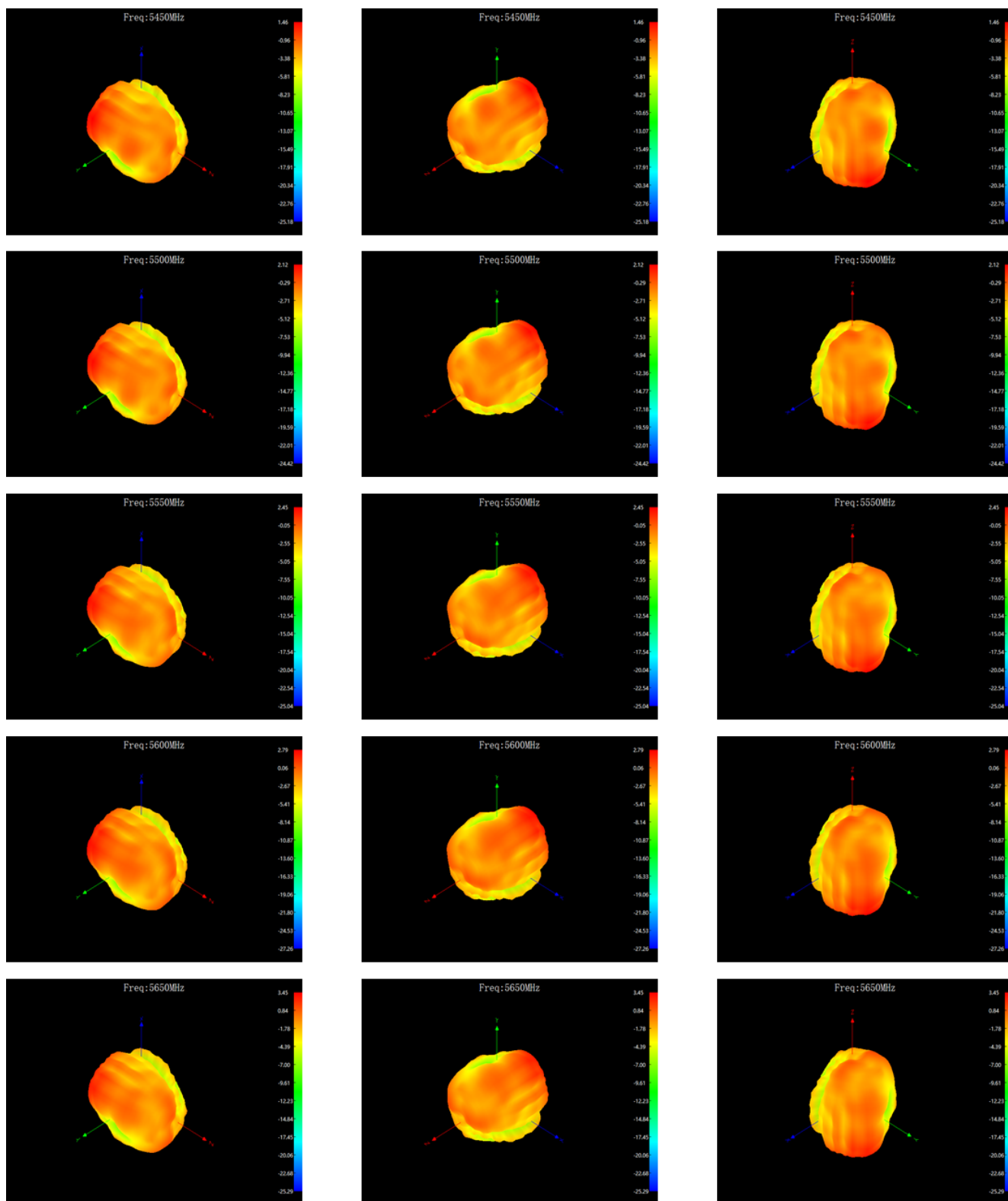


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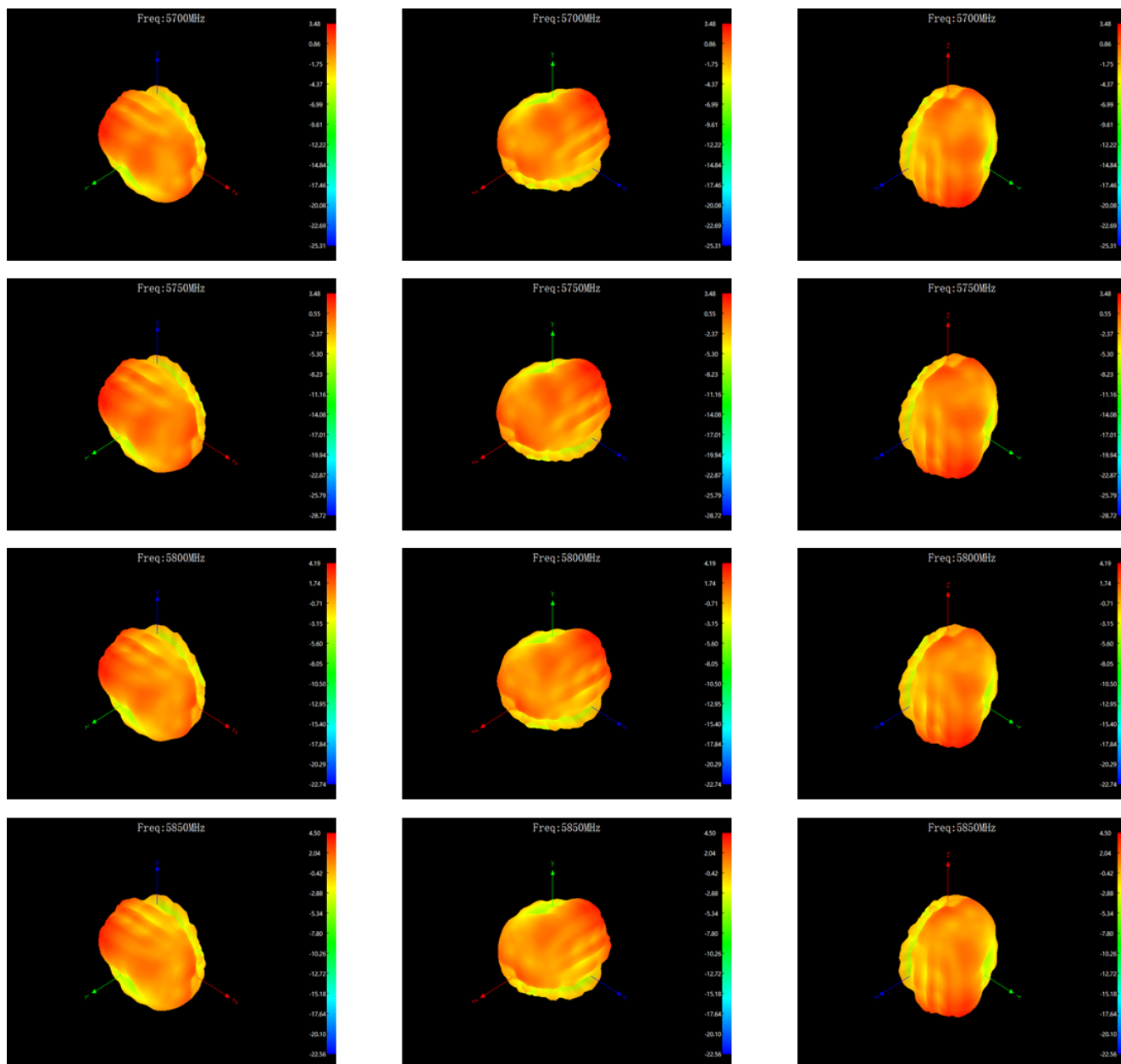


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电器技术参数			
电 性 能 指 标		Electrical Specifications	
频率范围	2400~2500/5100~5800MHz	Frequency Range	2400~2500/5100~5800MHz
电压驻波比	≤2.0	VSWR	≤2.0
输入阻抗	50 Ω	Input Impedance	50 Ω
增益	2.04 dBi	Gain	2.04 dBi
最大输入功率	50W	Maximum Input Power	50W
机 械 指 标		Mechanical Specifications	
天线颜色	黑色	Antenna Color	BLACK
接口形式	IPEX	Input connector	IPEX
天线线长	30mm	Cable length	30mm
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
工作湿度	20~80%	Working Humidity	20~80%