

产品承认书

APPROVAL

客 户 广州高科通信技术股份有限公司
CUSTOMER:

品 名 WIFI 内置天线
DESCRIPTION:

型 号 1.13 黑色线/线长 15CM IPEX /2.4G/5.8G
MODEL NO:

客 户 料 号 D114000640
CUS PART NO:

日 期 2024.11.21
D A T E:

正大信维呈样签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT
陈辉市	杨东东	丁永刚

客户承认签章

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

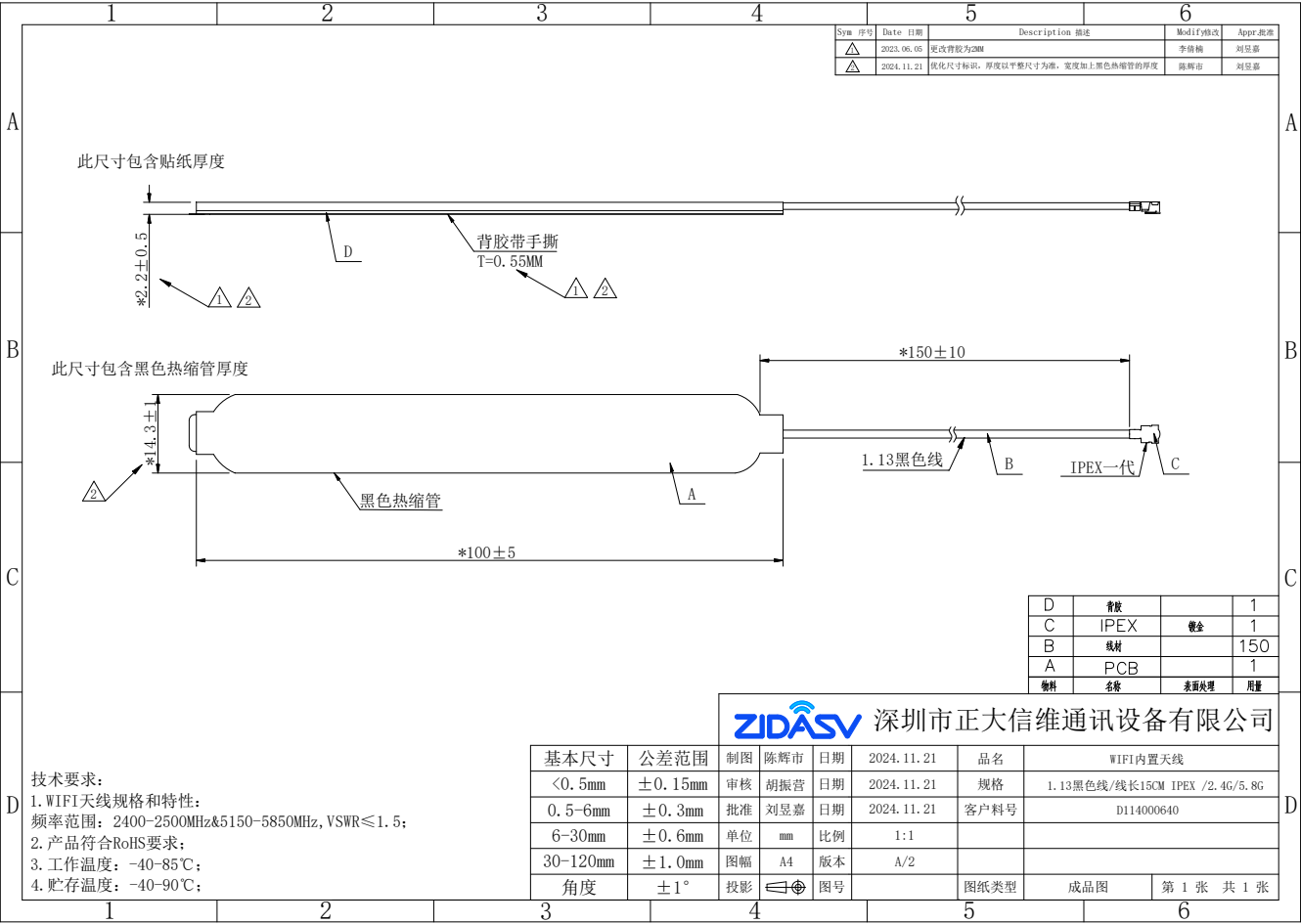
※ 客户确认样品附意栏:

公司名称: 深圳市正大信维通讯设备有限公司
公司地址: 深圳市龙岗区龙城街道嶂背社区嶂背路 486 号
公司网址: www.zidasvtx.com 联系电话: 0755-28839286
公司传真: 0755-89909291 邮箱: zds@zidasv.net

Description Record

[illegible]

1. Product size



2.Electrical Specification :

型号	WIFI 天线	Model	WIFI Antenna
主要技术参数		Main Technical Specifications	
频率范围 (MHz)	2400-2500MHz 5150-5850MHz	Frequency Range (MHz)	2400-2500MHz 5150-5850MHz
电压驻波比	≤1.5	VSWR	≤1.5
增益 (dBi)	2400-2500MHz:5.13dBi 5150-5850MHz:7.31dBi	Gain (dBi)	2400-2500MHz:5.13dBi 5150-5850MHz:7.31dBi
输入阻抗 (Ω)	50	Input Impedance (Ω)	50
极化形式	垂直	Polarization Type	vertical
接口形式	IPEX	Connector Type	IPEX
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
储存温度	-40℃~+90℃	Storage Temperature	-40℃~+90℃
方向性	全向	Radiation	omnidirectional
雷电保护	直流接地	Lighting protection	DC grounding

2-1. Frequency Band:

Frequency Band	MHz
WIFI 天线	2400-2500MHz 5150-5850MHz

2-2. Impedance

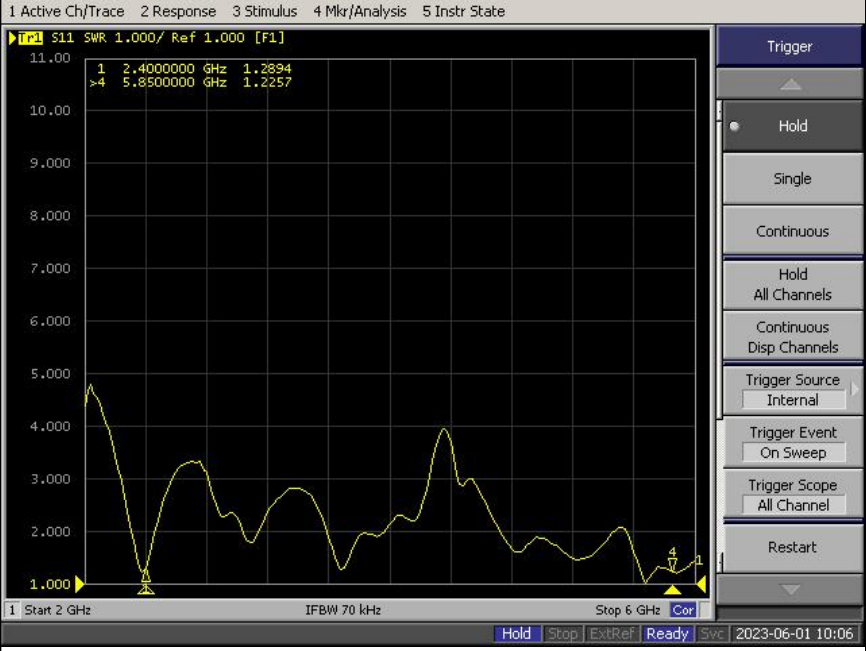
50 ohm nominal

2-3. VSWR

2-3-1.Measurement frequency points and VSWR value

Frequency (Unit MHz)	2400	5800
VSWR	1.28	1.22

2-3-2. VSWR

Frequency Band(MHz)	2400	5850
2-3-3. Typical Value:	≤ 1.5	≤ 1.5
2-3-4 Measuring Method	1. A 50 Ω coaxial cable is connected to the Antenna. Then this cable is connected to a network analyzer to measure the VSWR. 2. Keeping this jig away from metal at least 20 cm	
2-3-5 Picture		

2-4. Efficiency and Gain

- **量测仪器:** 微波暗室, 网络分析仪, 标准天线.
- **微波暗室说明:**

这是本公司设置在深圳的微波暗室, 本微波暗室是属于一套远场量测系统,暗室的大小为 7.0 米 x4.0 米 x3.0 米 , 静区尺寸(Quiet zone)大小为 15 厘米 x15 厘米 x15 厘米。

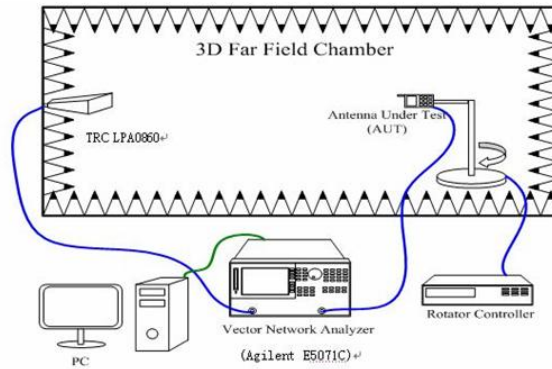


图. 1. 微波暗室内仪器设置

图. 1 为微波暗室内的仪器设置及网络分析仪的联接图, 发射天线到待测天线(AUT)的距离为 3.3 米, 待测天线放置在旋转平台上,藉由控制转台旋转的角度可对待测天线做概略性及较为准确的量测。将待测天线放置于旋转台上,并测得其各个平面(ZY 平面及 ZX 平面)的 360 度场强数据。再将待测天线换置成标准天线将其 360 度的场强数据测出,以作换算增益标准值,经由式 1 的换算即可获得待测天线的增益值及方向图。

$$G_{AUT} = G_{stand} + P_{AUT} - P_{stand}$$

G_{AUT} : Gain of AUT

G_{stand} : Gain of Standard Gain Antenna

P_{AUT} : Measured Power of AUT

P_{stand} : Measured Power of Standard Gain Antenna



4.4 OTA无源数据:

1#

Frequency (MHz)	Gain (dBi)	Efficiency(%)	Frequency (MHz)	Gain (dBi)	Efficiency(%)
2400.0	4.24	46.08	5150.0	5.51	57.43
2410.0	4.56	40.17	5200.0	4.20	48.19
2420.0	4.67	41.68	5250.0	5.51	57.43
2430.0	4.42	38.36	5300.0	4.01	47.34
2440.0	4.21	35.82	5350.0	4.76	50.74
2450.0	3.14	37.56	5400.0	4.12	41.08
2460.0	2.67	34.27	5450.0	5.38	57.50
2470.0	3.80	39.27	5500.0	5.73	61.26
2480.0	4.48	36.34	5550.0	4.96	50.16
2490.0	4.64	38.40	5600.0	5.63	55.48
2500.0	4.72	40.14	5650.0	5.13	57.55
			5700.0	5.03	58.18
			5750.0	5.72	56.40
			5800.0	5.28	58.95
			5850.0	5.23	51.74



2#

Frequency (MHz)	Gain (dBi)	Efficiency(%)	Frequency (MHz)	Gain (dBi)	Efficiency(%)
2400.0	4.50	44.03	5150.0	4.11	54.91
2410.0	4.41	37.60	5200.0	6.86	54.46
2420.0	4.47	36.95	5250.0	5.35	50.96
2430.0	5.10	36.32	5300.0	5.18	46.57
2440.0	5.13	36.94	5350.0	4.75	53.65
2450.0	4.61	38.55	5400.0	4.44	56.56
2460.0	4.17	40.71	5450.0	4.03	51.63
2470.0	3.05	43.97	5500.0	5.35	46.51
2480.0	3.72	42.62	5550.0	5.92	57.68
2490.0	3.86	40.81	5600.0	5.71	53.53
2500.0	4.12	40.93	5650.0	5.56	51.46
			5700.0	5.53	56.15
			5750.0	5.07	54.54
			5800.0	5.13	46.94
			5850.0	5.50	52.60



3#

Frequency (MHz)	Gain (dBi)	Efficiency(%)	Frequency (MHz)	Gain (dBi)	Efficiency(%)
2400.0	2.80	33.20	5150.0	5.46	54.37
2410.0	2.60	31.70	5200.0	3.98	41.82
2420.0	4.14	44.11	5250.0	4.91	48.72
2430.0	3.57	40.41	5300.0	4.40	54.88
2440.0	3.56	40.75	5350.0	4.02	52.06
2450.0	3.08	37.15	5400.0	6.04	56.67
2460.0	2.66	33.63	5450.0	4.57	55.47
2470.0	1.66	25.82	5500.0	4.33	58.96
2480.0	1.50	25.24	5550.0	6.76	50.16
2490.0	2.99	36.32	5600.0	6.51	49.37
2500.0	3.30	39.27	5650.0	5.71	52.55
			5700.0	6.05	57.04
			5750.0	6.64	50.88
			5800.0	6.76	48.74
			5850.0	7.31	58.39

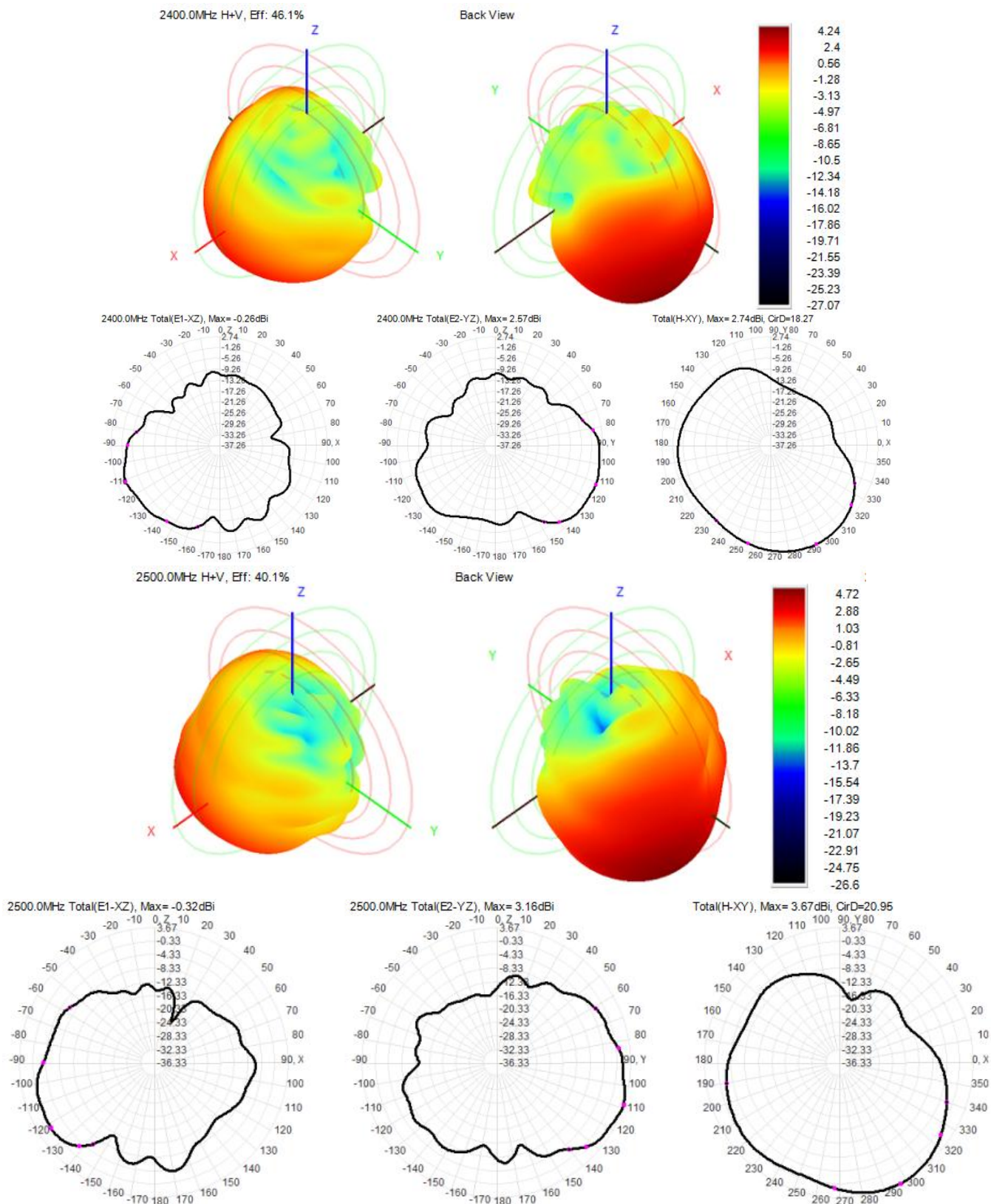


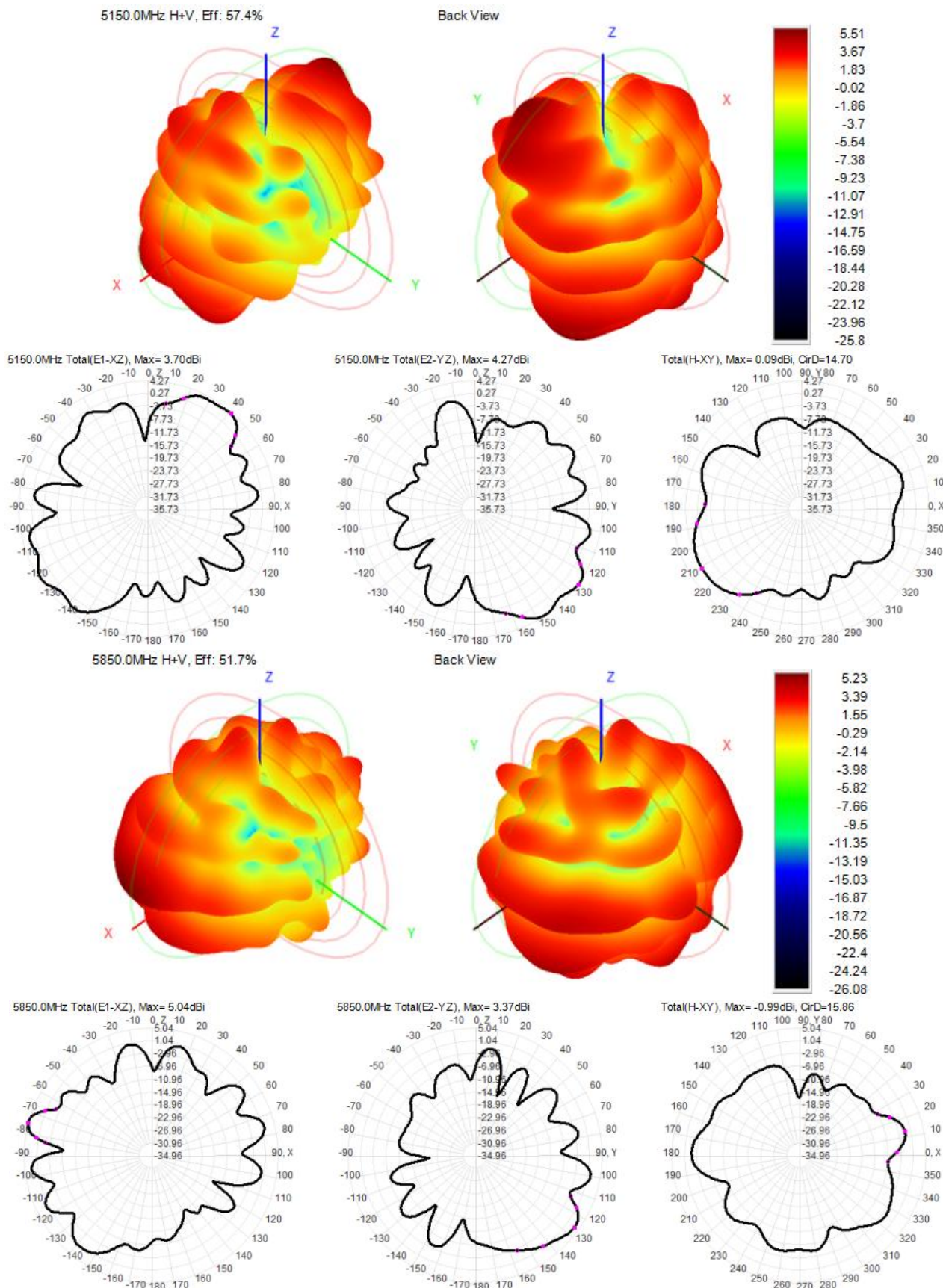
4#

Frequency (MHz)	Gain (dBi)	Efficiency(%)	Frequency (MHz)	Gain (dBi)	Efficiency(%)
2400.0	4.80	48.64	5150.0	4.58	43.20
2410.0	4.08	41.04	5200.0	4.65	40.61
2420.0	4.22	41.89	5250.0	5.36	49.05
2430.0	4.79	46.57	5300.0	5.63	50.38
2440.0	4.89	46.70	5350.0	4.80	41.61
2450.0	4.59	43.42	5400.0	4.23	41.19
2460.0	4.22	40.64	5450.0	6.75	47.16
2470.0	3.15	31.99	5500.0	5.26	49.54
2480.0	2.80	28.97	5550.0	5.26	48.71
2490.0	3.81	37.06	5600.0	5.43	53.26
2500.0	4.21	41.79	5650.0	5.80	55.08
			5700.0	5.40	47.92
			5750.0	5.25	47.08
			5800.0	5.13	54.52
			5850.0	5.72	55.73

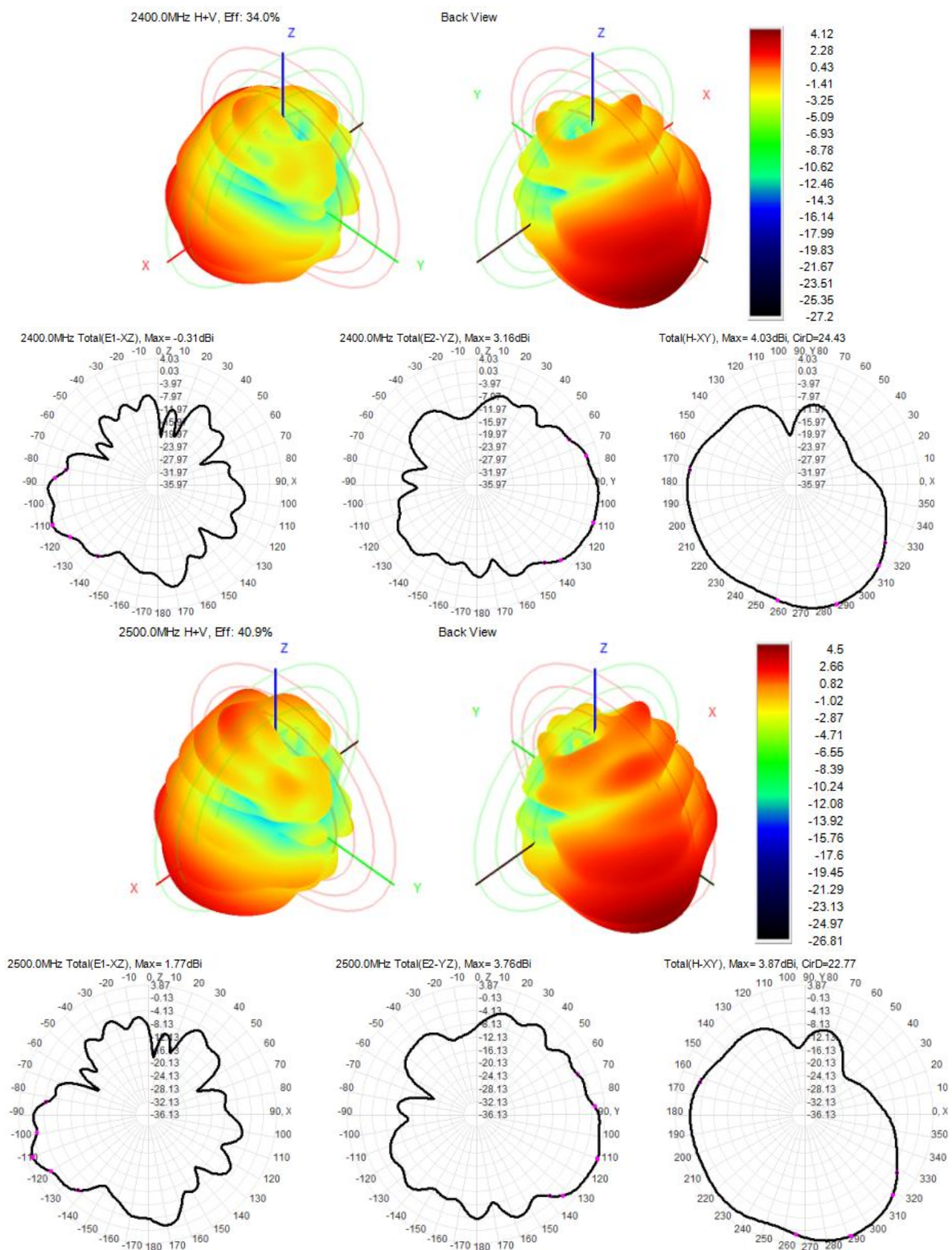
4.5 OTA方向图

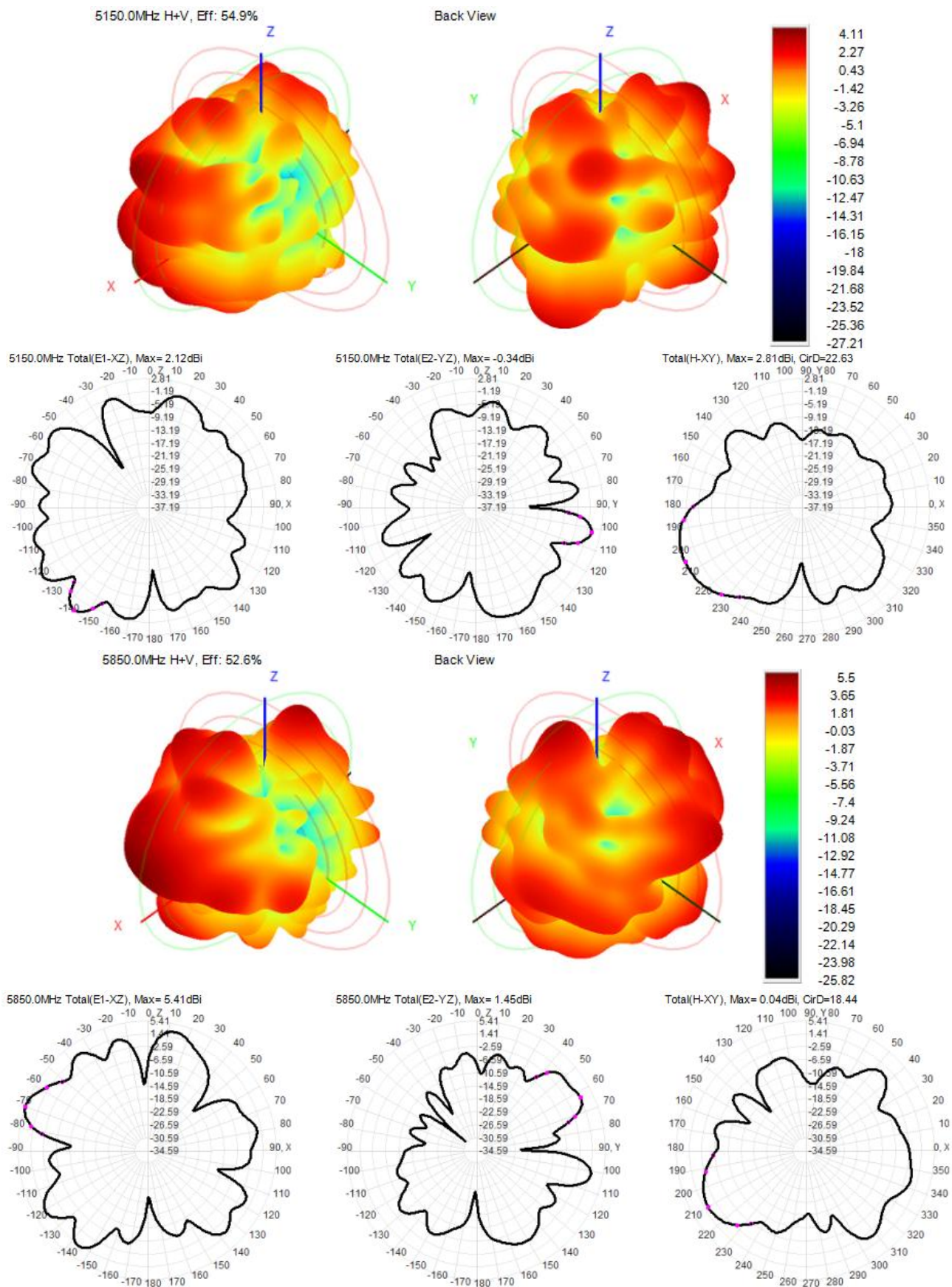
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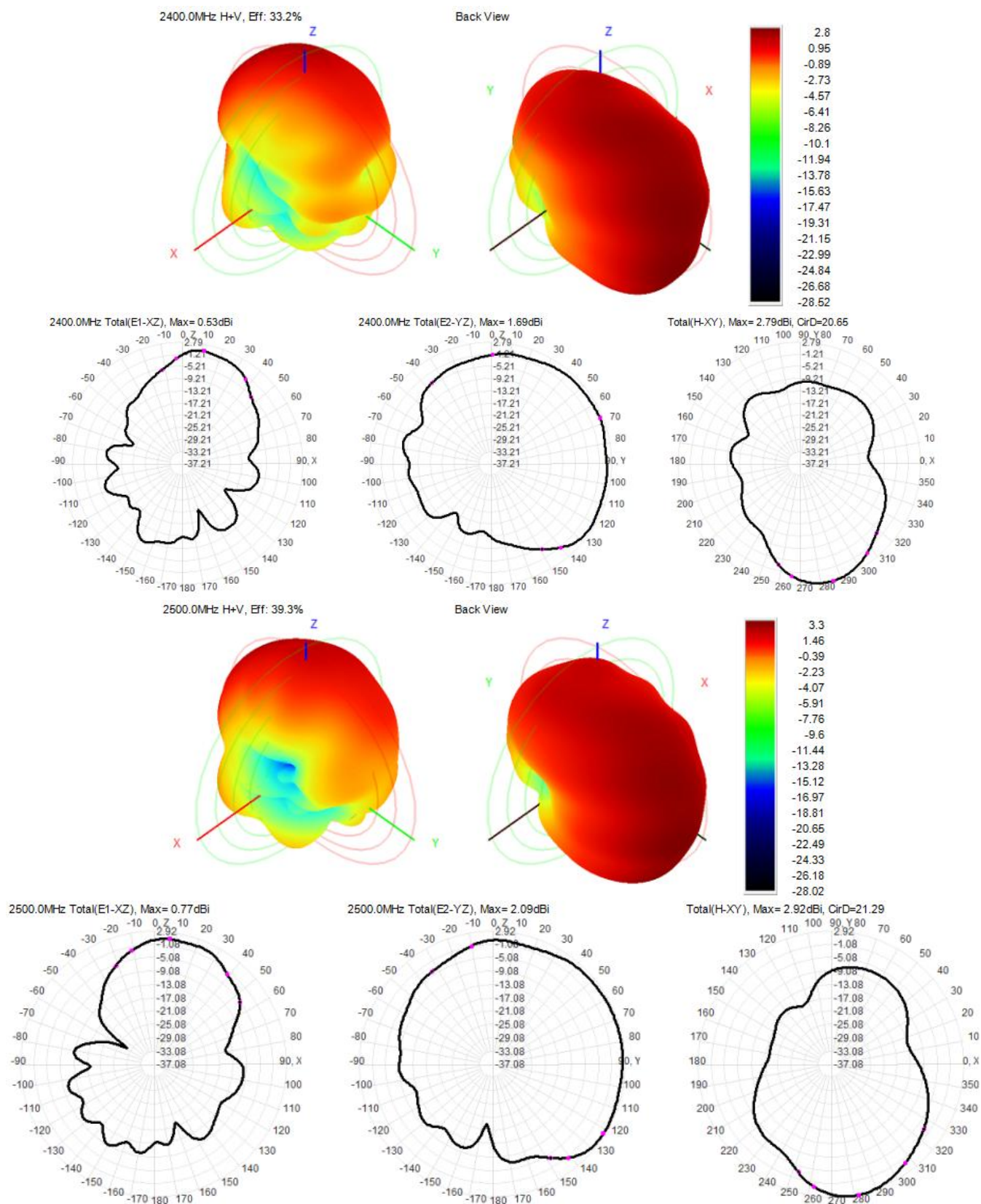


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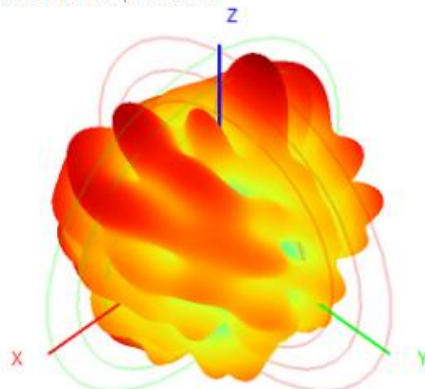




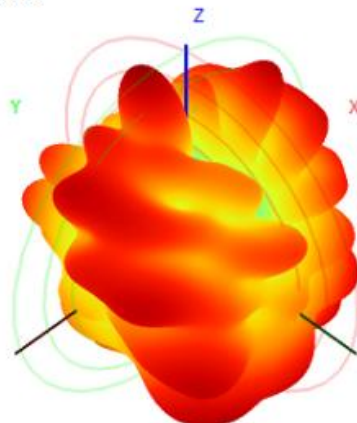
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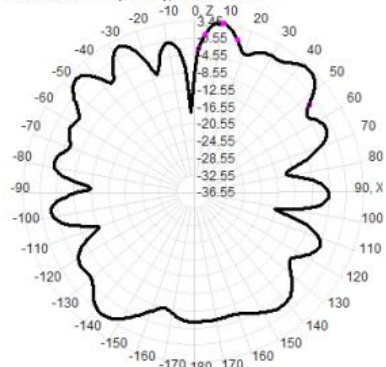
5150.0MHz H+V, Eff: 54.4%



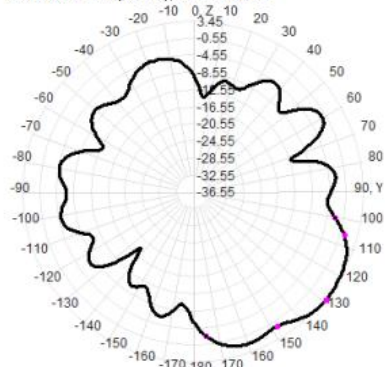
Back View



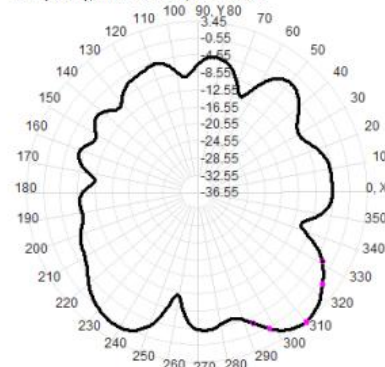
5150.0MHz Total(E1-XZ), Max= 3.45dBi



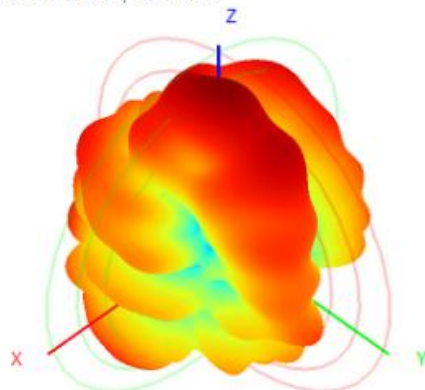
5150.0MHz Total(E2-YZ), Max= 3.44dBi



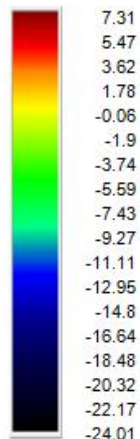
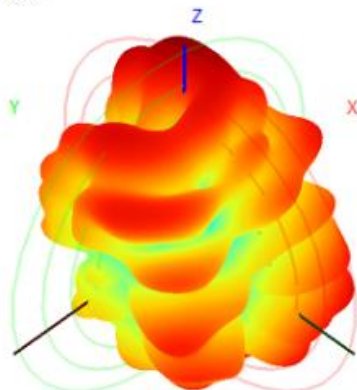
Total(H-XY), Max= 3.01dBi, CirD=15.51



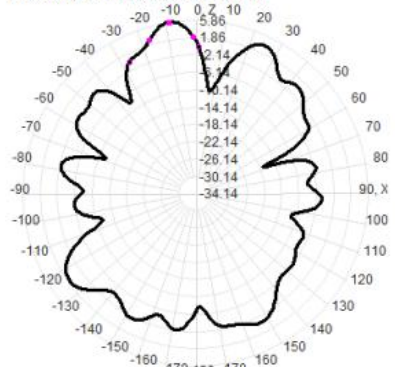
5850.0MHz H+V, Eff: 58.4%



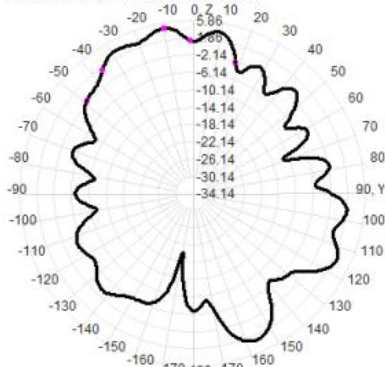
Back View



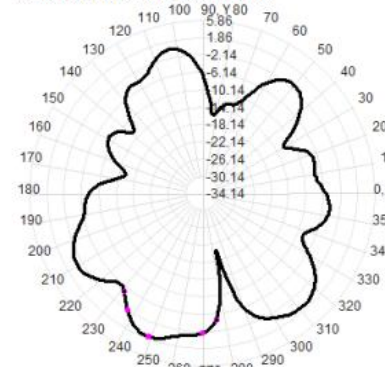
5850.0MHz Total(E1-XZ), Max= 5.86dBi



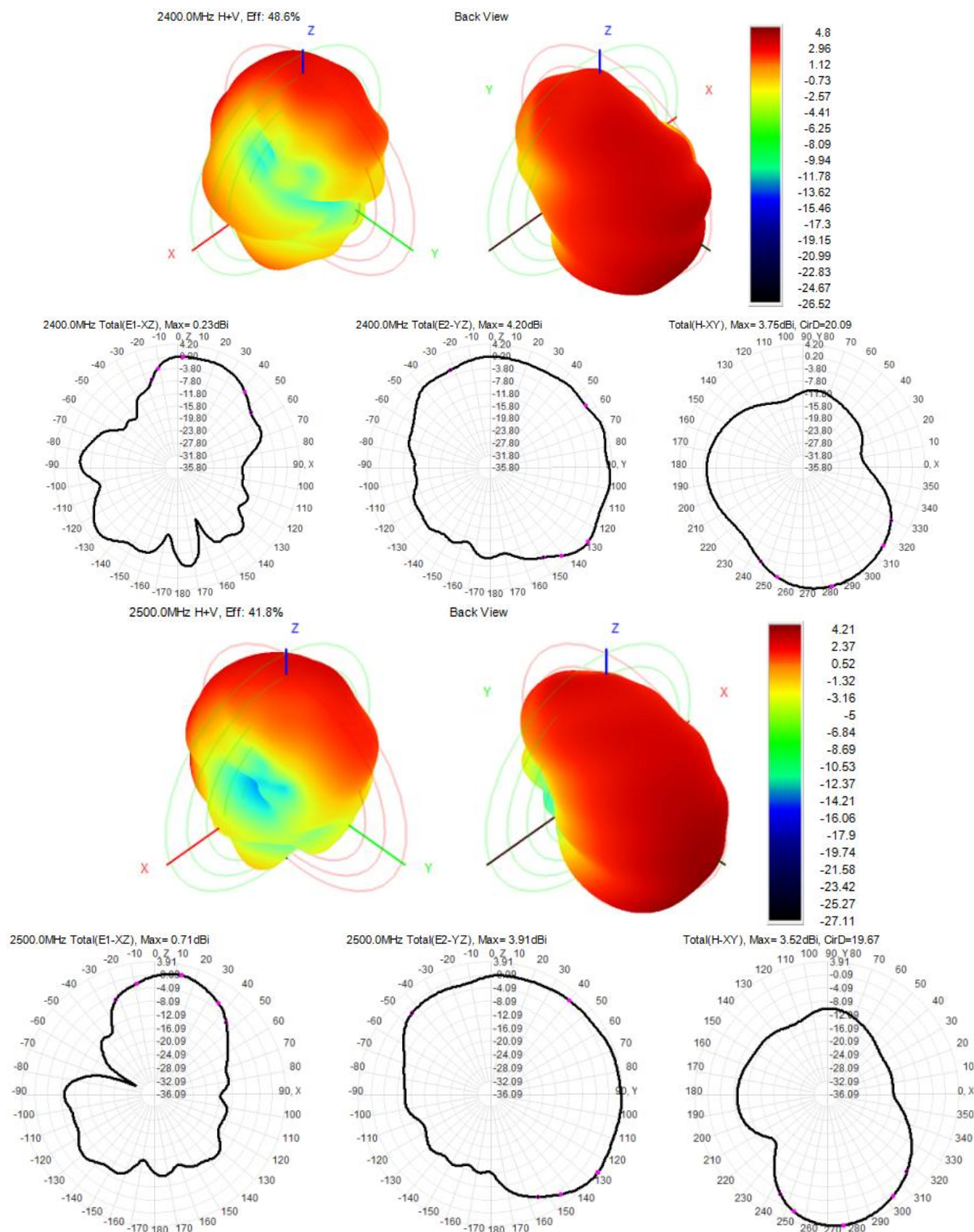
580.0MHz Total(E2-YZ), Max= 4.54dBi



Total(H-XY), Max= 1.06dBi, CirD=21.84

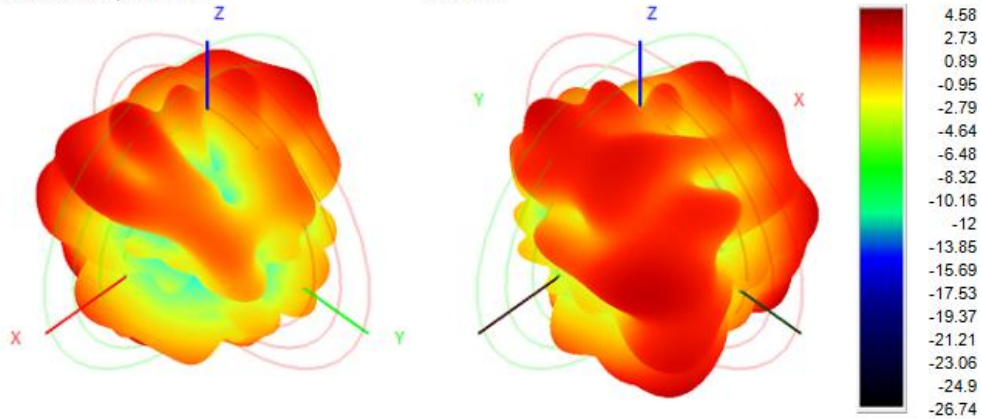


4#



5150.0MHz H+V, Eff: 43.2%

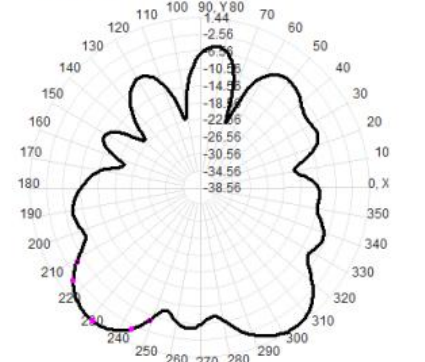
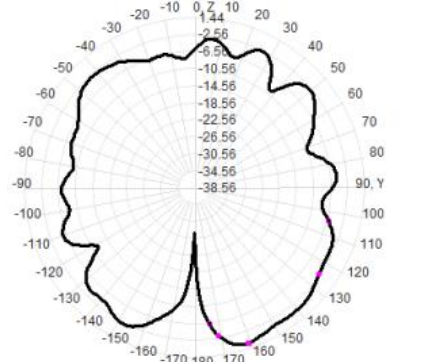
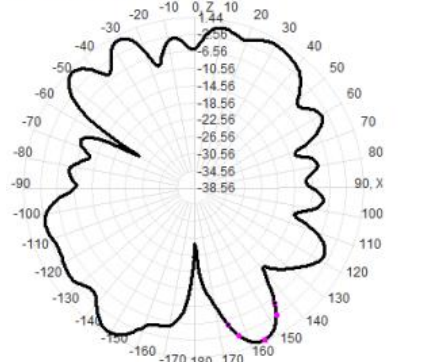
Back View



5150.0MHz Total(E1-XZ), Max= 0.74dBi

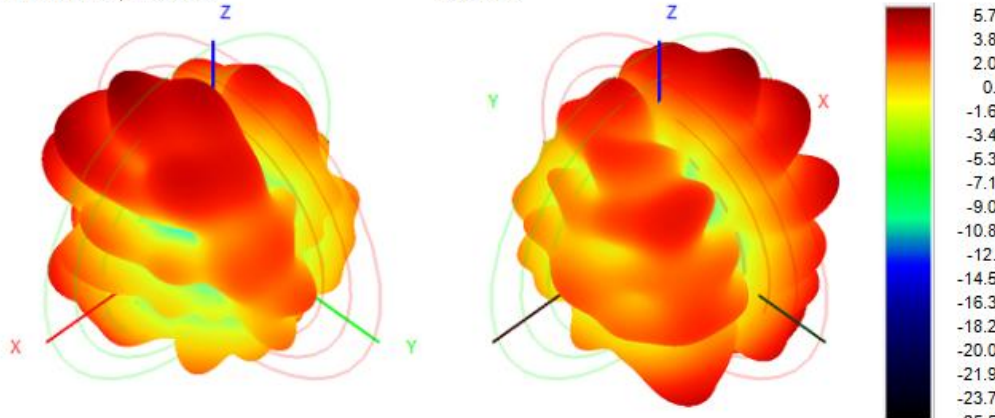
5150.0MHz Total(E2-YZ), Max= -0.12dBi

Total(H-XY), Max= 1.44dBi, CirD=23.62



5850.0MHz H+V, Eff: 55.7%

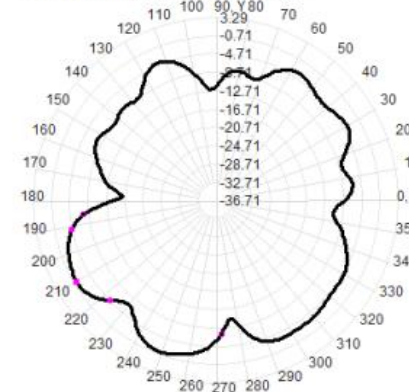
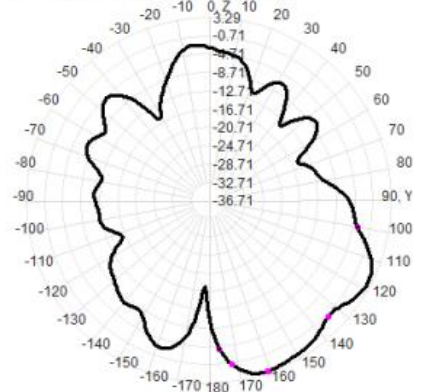
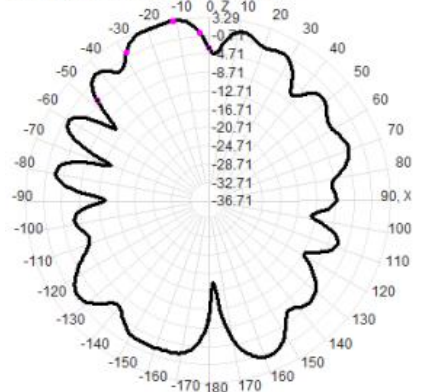
Back View



5850.0MHz Total(E1-XZ), Max= 3.29dBi

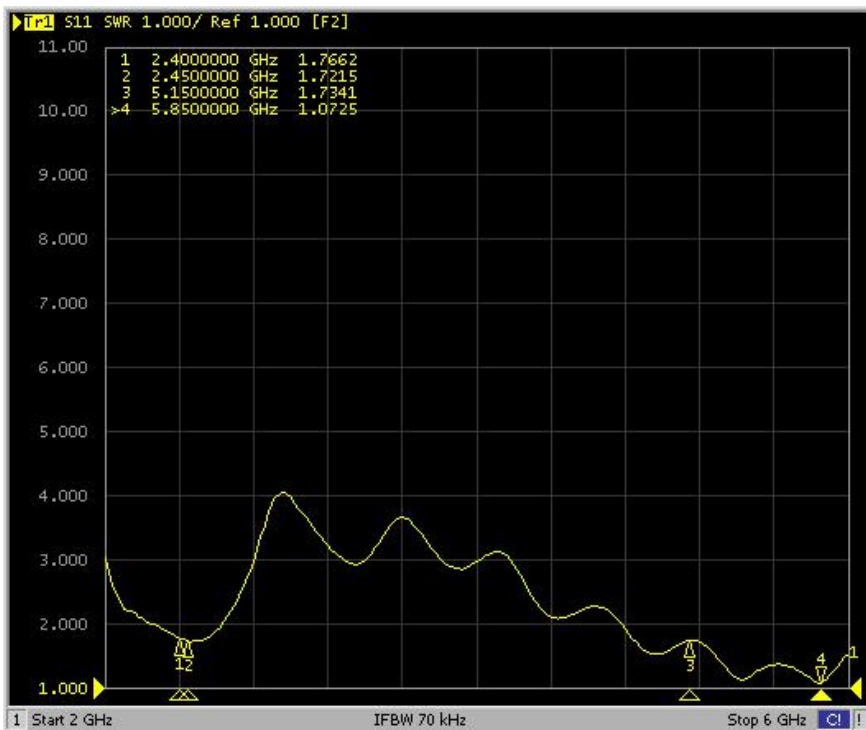
5850.0MHz Total(E2-YZ), Max= 2.54dBi

Total(H-XY), Max= -1.54dBi, CirD=14.67



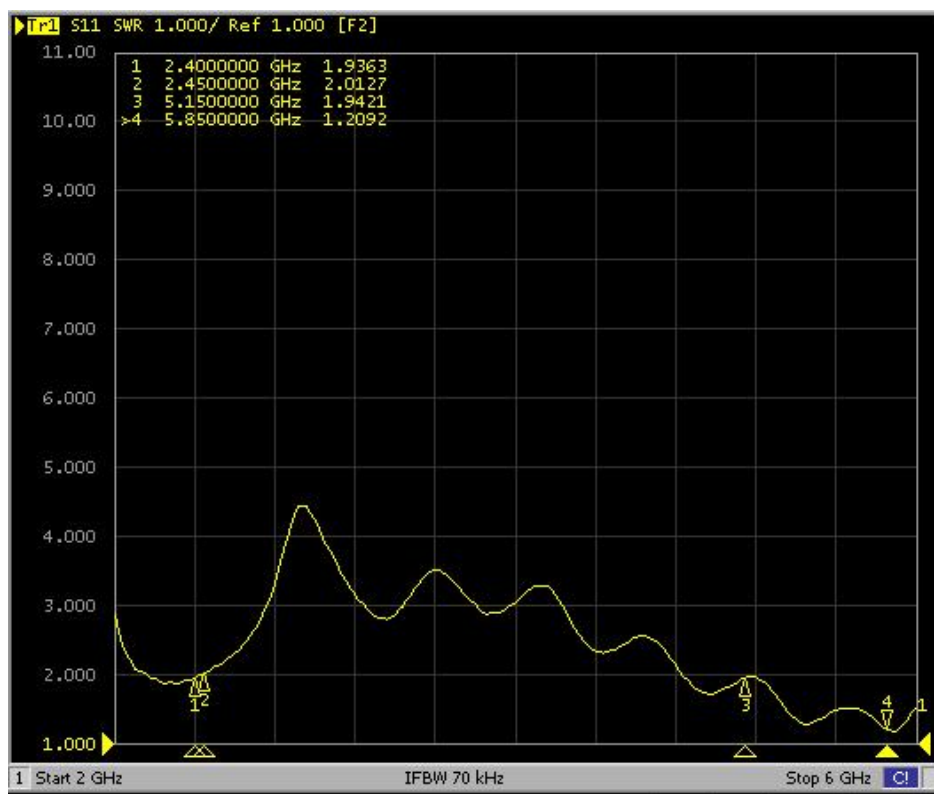
4.6 驻波比测试图

1#



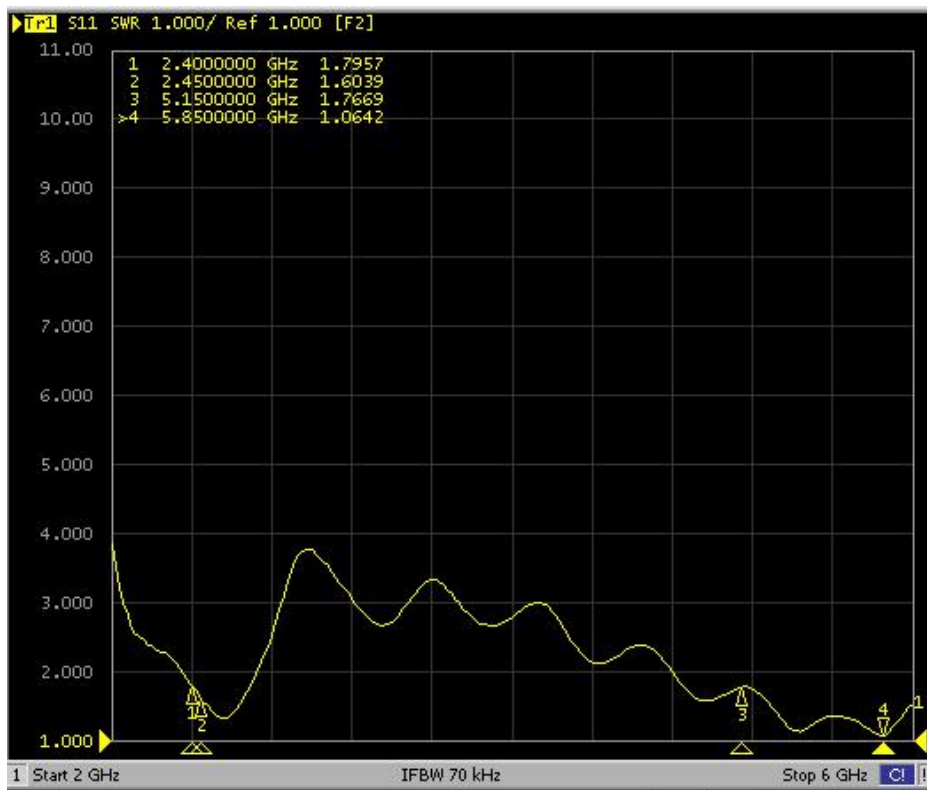
Frequency (MHz)	VSWR
2400	1.76
2500	1.72
5150	1.73
5850	1.07

2#



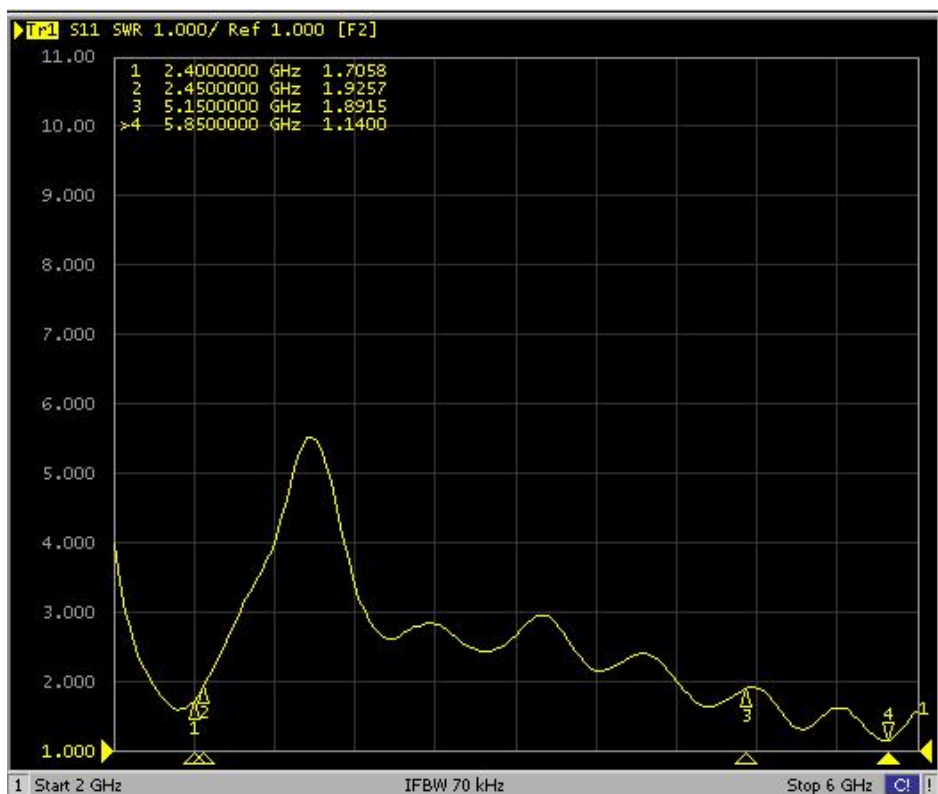
Frequency (MHz)	VSWR
2400	1.93
2500	2.01
5150	1.94
5850	1.20

3#



Frequency (MHz)	VSWR
2400	1.79
2500	1.60
5150	1.76
5850	1.06

4#



Frequency (MHz)	VSWR
2400	1.70
2500	1.92
5150	1.89
5850	1.14