天 线 规 格 书

客户名称：QW
项目型号：无线鼠标
评估日期：2024-10-18

版次记录

版本	内容	更新原因	日期
1.0	天线测试	首次发行	2024-10-17
2.0	天线测试	增加天线对比/接收器天线优化	2024-10-18

目录

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项目情况

客戶名称:	QW
项目名称	无线鼠标/接收器
天线数量	1
天线频段	2.4GHz
结构形式	PCB板载

天线及结构形式

鼠标-调试样

天线网分测试图

鼠标-调试样

天线无源测试数据

鼠标-调试样

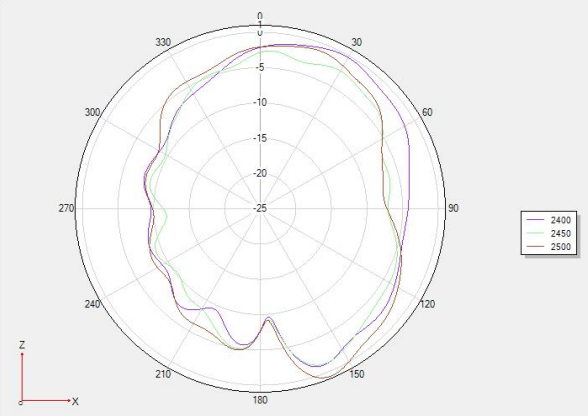
Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	44.57	0.66
2410	46.34	0.46
2420	48.75	0.53
2430	46.99	0.27
2440	45.19	0.34
2450	41.4	0.49
2460	46.34	0.43
2470	45.71	0.26
2480	44.06	0.28
2490	45.92	0.21
2500	47.09	0.32

天线测试2D图

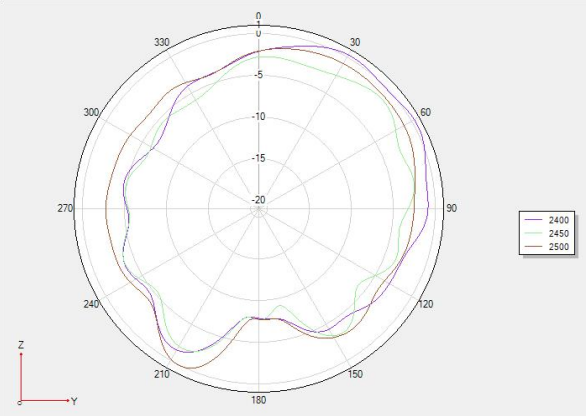
英佳创 无线天线—无线可能
WIRELESS ANTENNA—INFINNITE POSSIBILITIES

鼠标-调试样

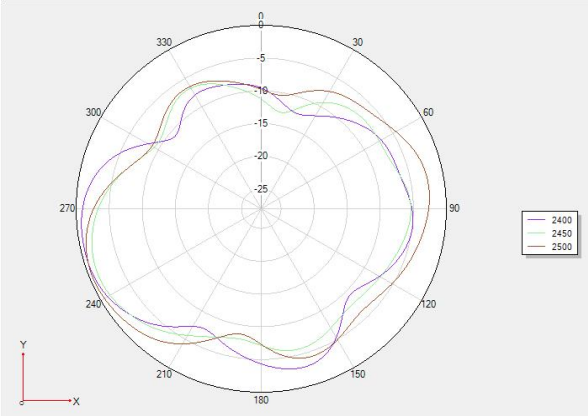
Phi 0 2D图



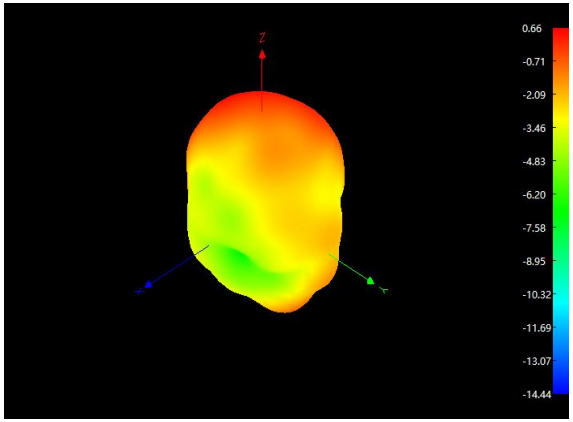
Phi 90 2D图



Theta 90 2D图



2400



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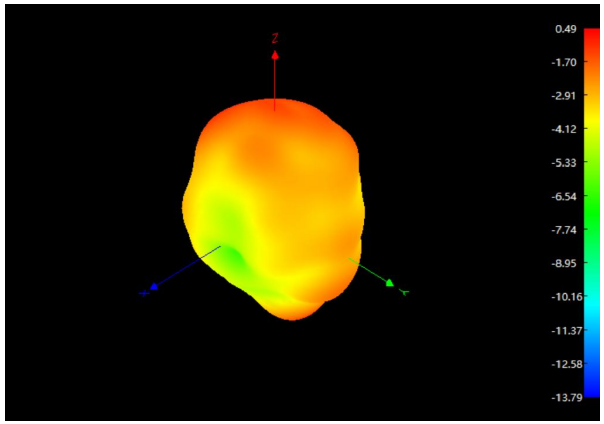

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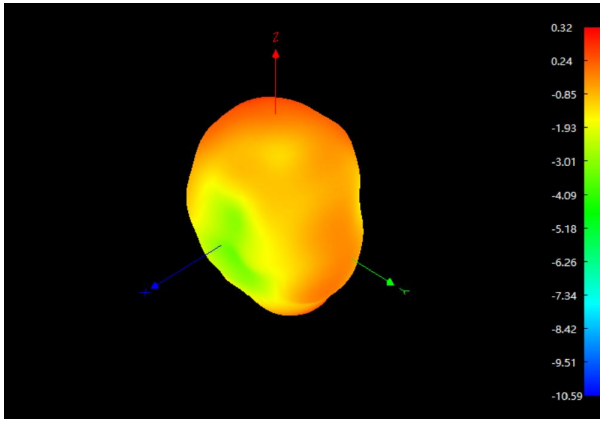


天线及结构形式

鼠标

天线网分测试图

鼠标

1 Active Ch/Trace
2 Response
3 Stimulus
4 Mkr/Analysis
5 Instr State
Tr1 S22 SWR 1.000/ Ref 1.000 [F2]
1 2.4000000 GHz 1.5969
2 2.4500000 GHz 1.6957
>3 2.5000000 GHz 1.8179
Tr2 S22 Log Mag 10.00dB/ Ref 0.000dB [F2]
1 2.4000000 GHz -12.771 dB
2 2.4500000 GHz -11.765 dB
>3 2.5000000 GHz -10.745 dB
Tr3 S22 Smith (R+jX) Scale 1.000U [F2]
1 2.4000000 GHz 50.817 Ω 23.797 Ω 1
2 2.4500000 GHz 58.686 Ω 27.606 Ω 1
>3 2.5000000 GHz 71.894 Ω 29.041 Ω 1
1 Start 2.2 GHz
IFBW 70 kHz
Stop 2.7 GHz
Cor

天线无源测试数据

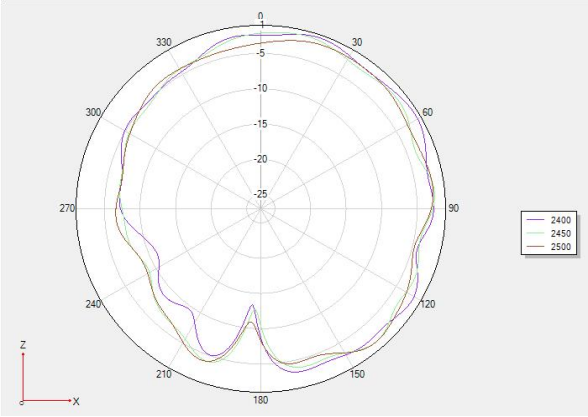
鼠标

Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	47.86	0.65
2410	47.86	0.26
2420	46.03	0.59
2430	45.45	0.25
2440	48.19	0.25
2450	48.31	0.18
2460	47.1	0.13
2470	51.05	0.34
2480	51.64	0.36
2490	48.75	0.42
2500	45.85	0.44

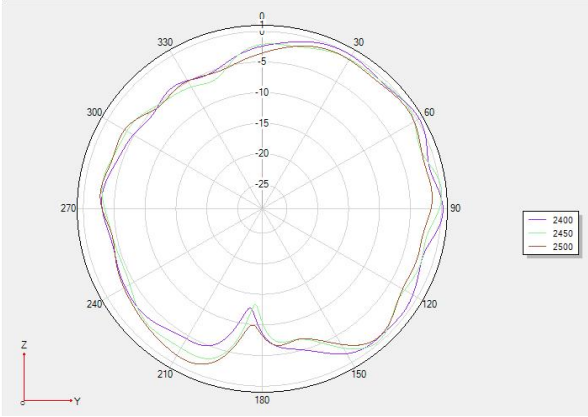
天线测试2D图

鼠标

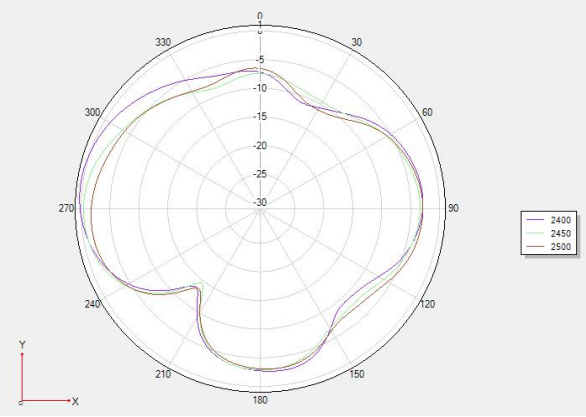
Phi 0 2D图



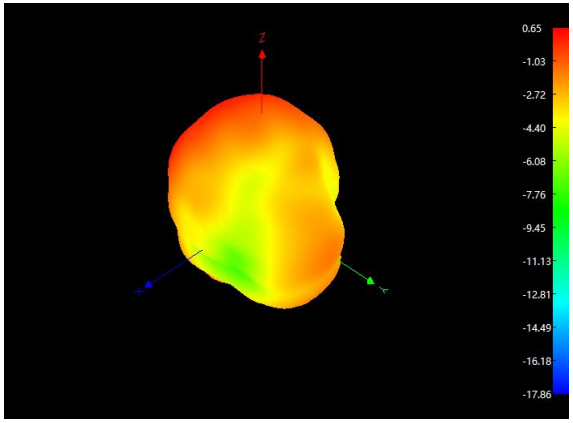
Phi 90 2D图



Theta 90 2D图



2400



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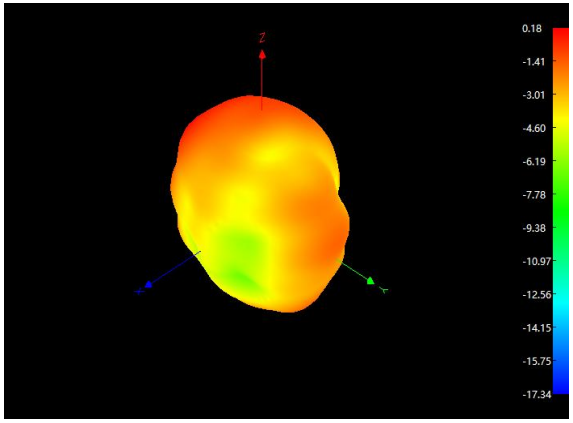
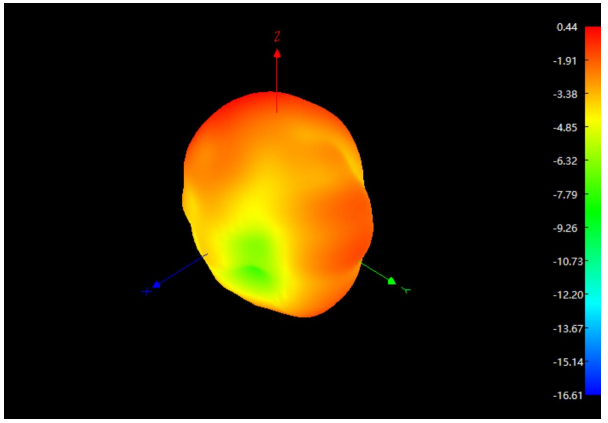
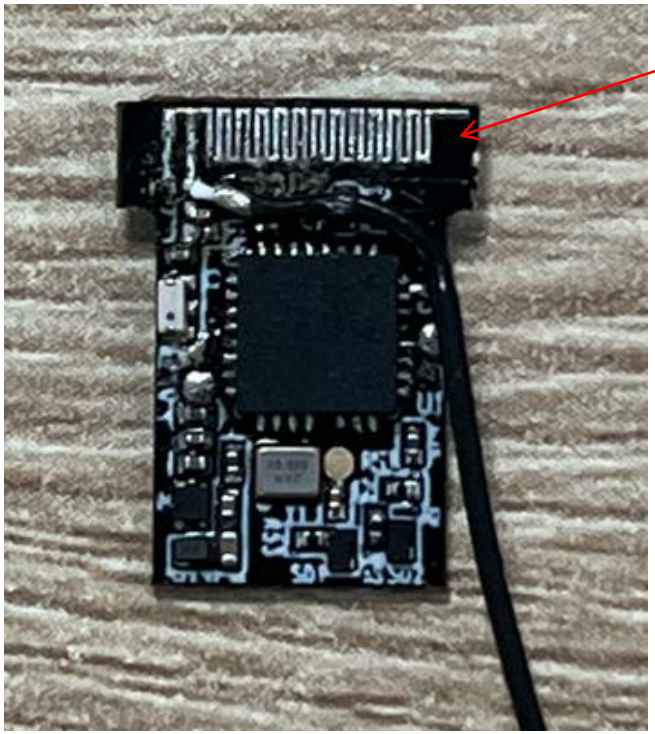


2500



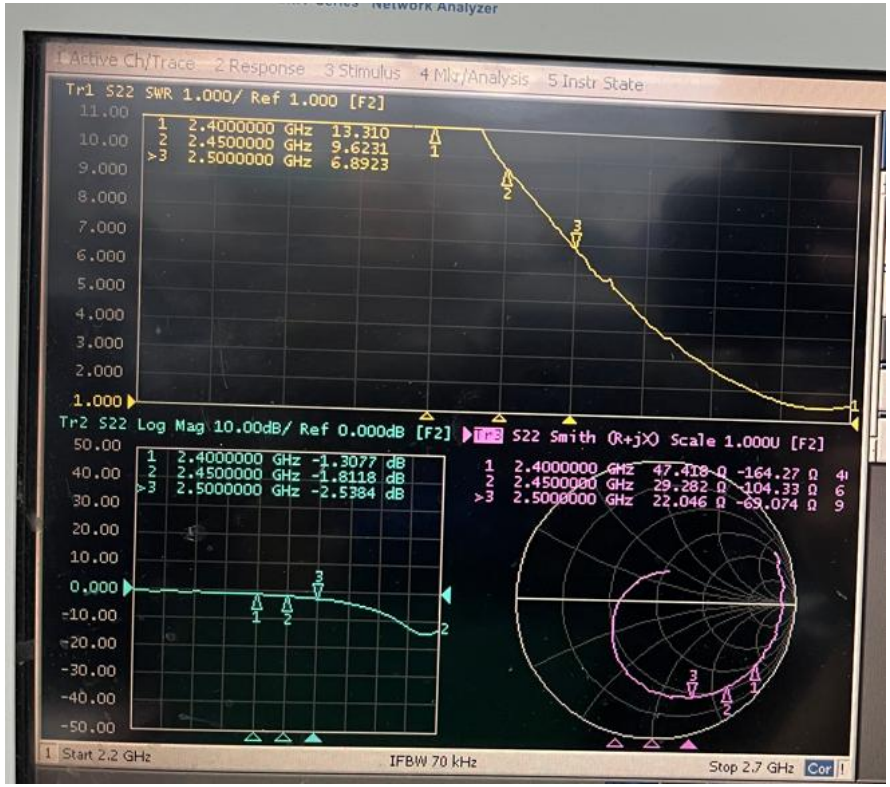
天线及结构形式

接收器



天线网分测试图

接收器


Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Tr1 S22 SWR 1.000/ Ref 1.000 [F2]
1 2.4000000 GHz 13.310
2 2.4500000 GHz 9.6231
>3 2.5000000 GHz 6.8923
Tr2 S22 Log Mag 10.00dB/ Ref 0.000dB [F2]
1 2.4000000 GHz -1.3077 dB
2 2.4500000 GHz -1.8118 dB
>3 2.5000000 GHz -2.5384 dB
Tr3 S22 Smith (R+jX) Scale 1.000U [F2]
1 2.4000000 GHz 47.418 Ω -164.27 Ω
2 2.4500000 GHz 29.282 Ω -104.33 Ω
>3 2.5000000 GHz 22.046 Ω -69.074 Ω
1 Start 2.2 GHz
IFBW 70 kHz
Stop 2.7 GHz
Cor

天线无源测试数据

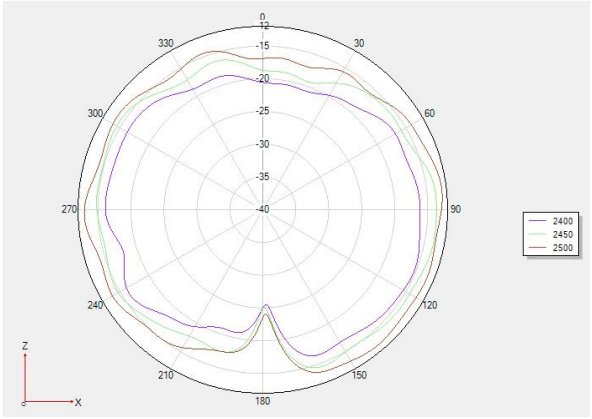
接收器

Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	1.77	-14.26
2410	2.17	-13.69
2420	2.78	-12.32
2430	2.04	-14.02
2440	2.6	-12.67
2450	2.92	-12.57
2460	3.44	-11.69
2470	2.45	-13.28
2480	2.8	-12.15
2490	2.8	-12.65
2500	3.57	-10.99

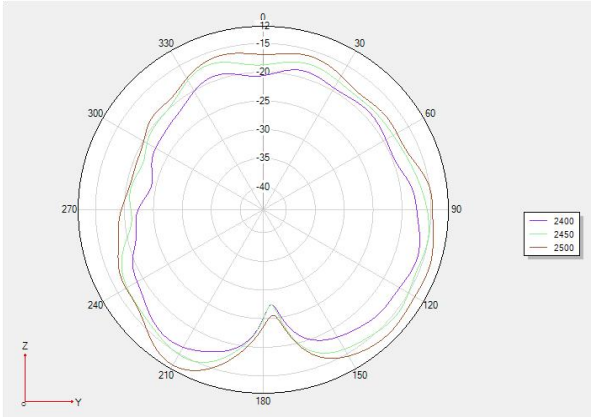
天线测试2D图

接收器

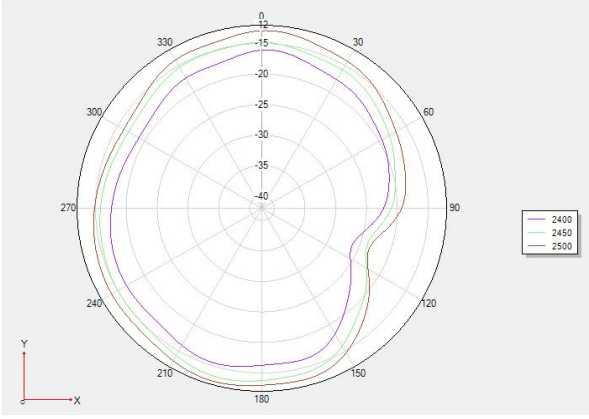
Phi 0 2D图



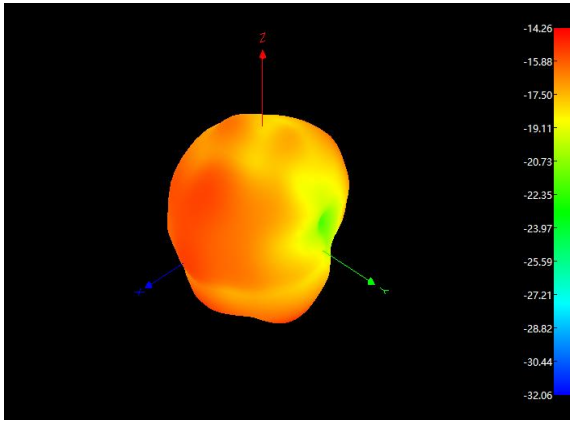
Phi 90 2D图



Theta 90 2D图



2400



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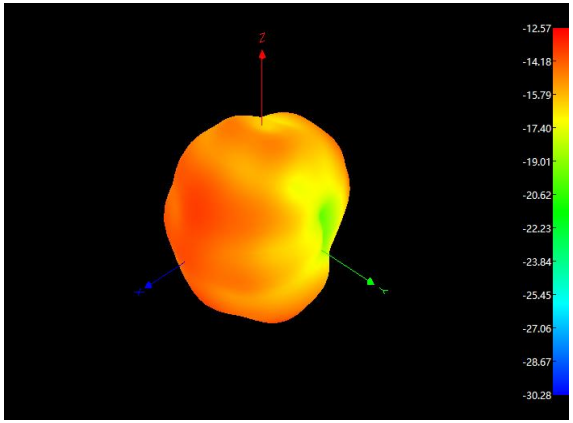
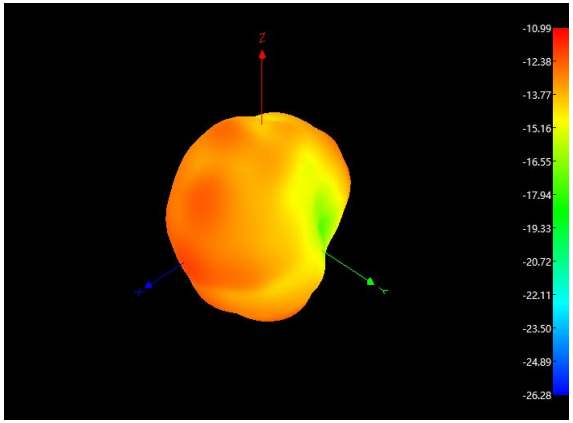
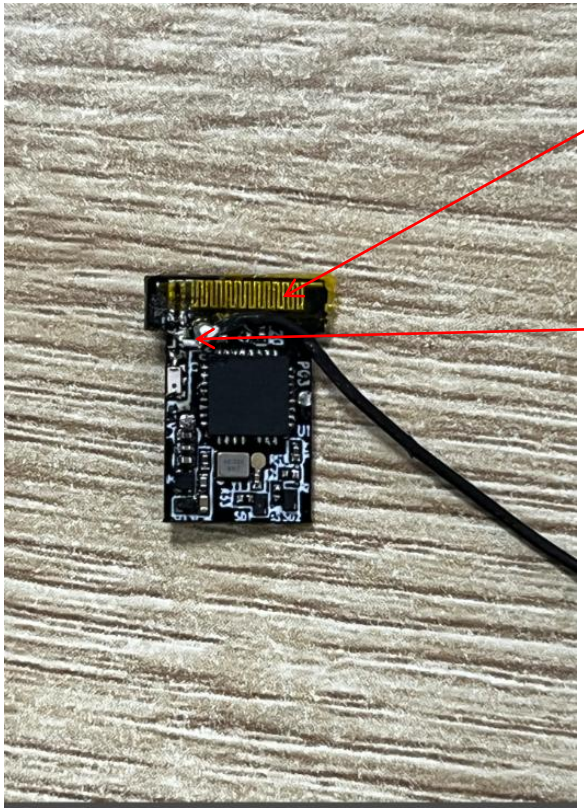


2500



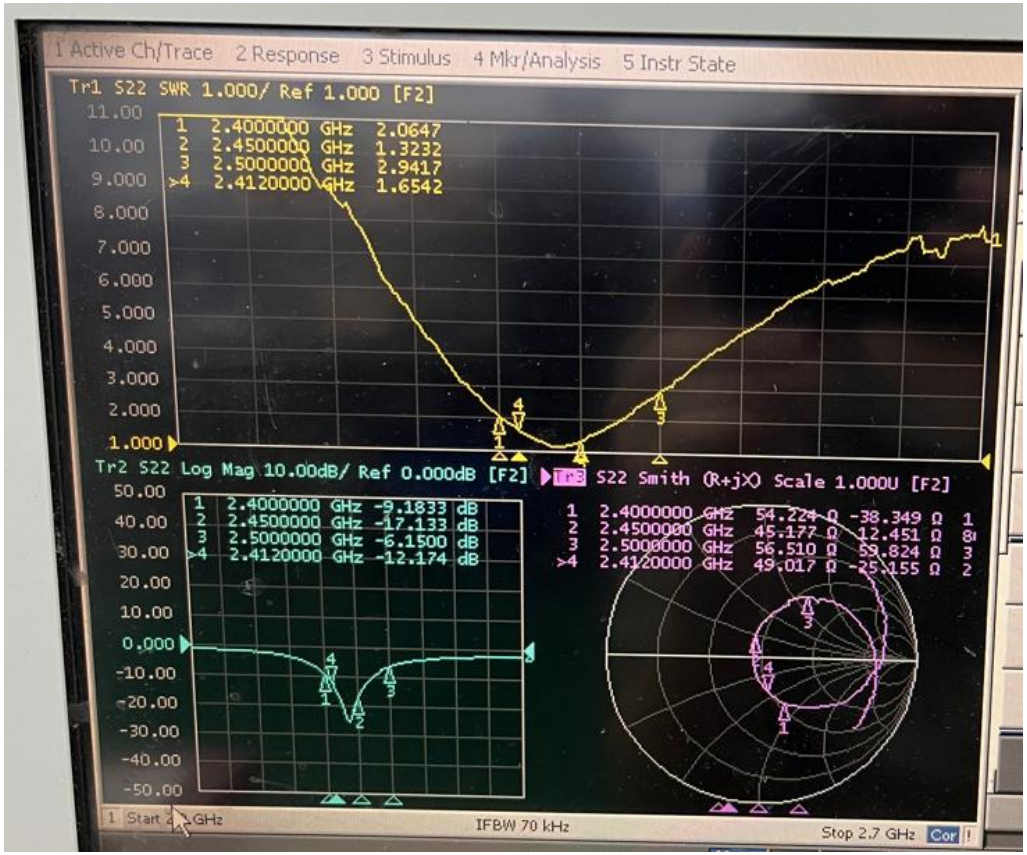
天线及结构形式

接收器-优化



天线网分测试图

接收器-优化



天线无源测试数据

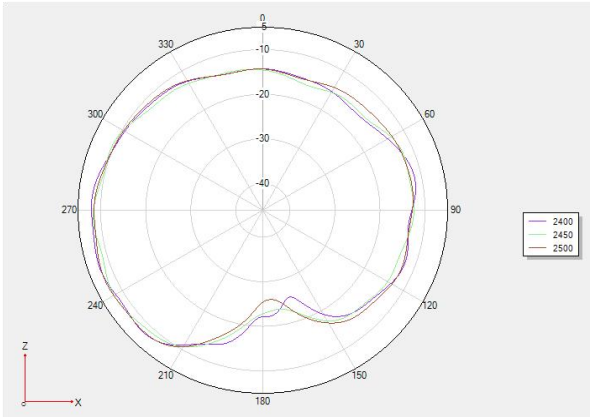
接收器-优化

Frequency/Mhz	Efficiency / %	MaxGain/dBi
2400	9.05	-7.21
2410	10.15	-7.59
2420	11.1	-7.01
2430	10.57	-7.63
2440	11.04	-7.18
2450	10.73	-7.6
2460	10.73	-7.36
2470	11.06	-6.51
2480	10.83	-6.46
2490	10.11	-6.59
2500	8.75	-7.51

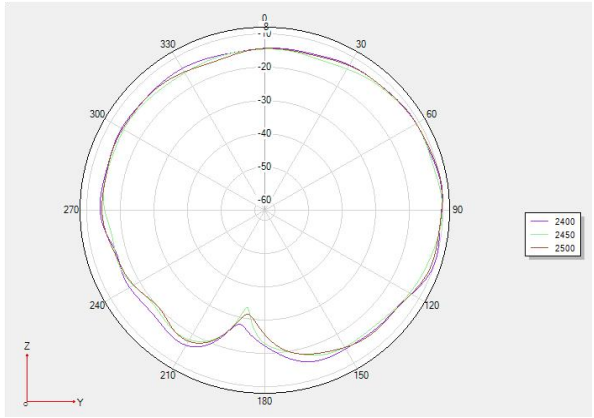
天线测试2D图

接收器-优化

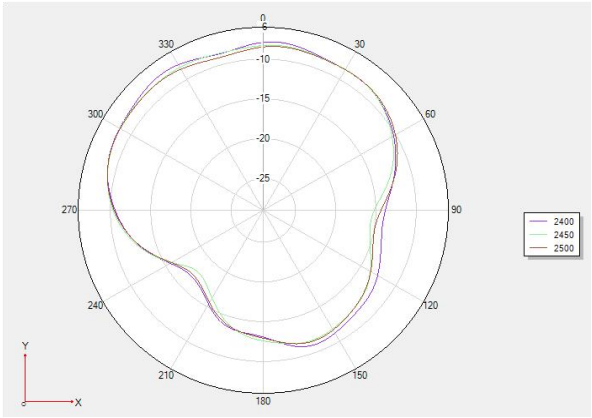
Phi 0 2D图



Phi 90 2D图



Theta 90 2D图



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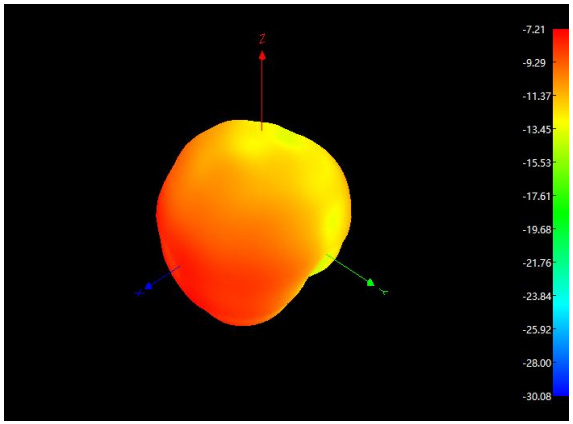

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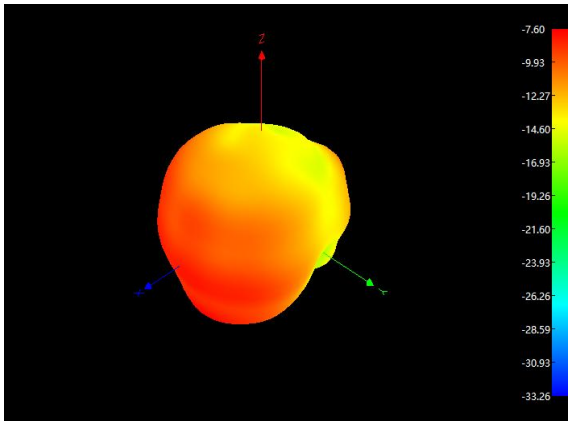

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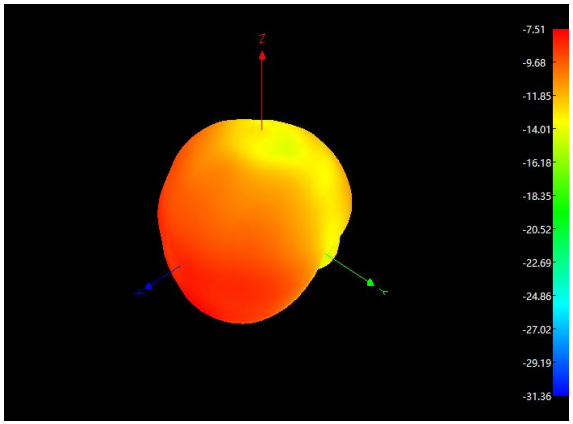

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电话：18926060339 http://www.szsyjc.com emal:yjc@szsyjc.com