苏州硕天通讯器材有限公司
Suzhou Soant Communication Equipment Co.,Ltd

承认书

SPECIFICATION FOR APPROVAL

客户名称
Customer: 轰天炮

产品名称
Product Name: **2.4/5.8GHz PCB** 天线

规格描述
Description: **2.4/5G PCB Ant（26*13.9*0.2mm）to MHF for 1.13cable Low Loss Black L=90mm**

客户料号
CUSTP/N:

硕天料号
SOANT.P/N: STPCA261390ILL301

发出日期
Approval Date: 2024 年 11 月 12 日

核准 **Approved**	审核 **Checked By**	制作 **Made By**
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客户承认
Customer Approve

核准 **Approved**	审核 **Checked By**	承办 **Undertake By**

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承认书变更履历表

No.	原版	变更日期	变更内容	变更项目描述
1	A0	2024-11-12	新增	----------

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TECHNICAL DATE

1.Electrical Specifications

1.1 Frequency Ranges ……. 2.4~2.5GHz&5.15~5.85 GHz

1.2 Impedance ……. 50Ω

1.3 VSWR…….. 测试驻波一致性

2. Physical Properties

2.1 Connector ……..……MHF(I-PEX)

2.2 Cable Type ……..……Φ1.13mm low loss

2.3 Cable Color……..Black

2.4 Cable Attenuations ……..……1.88dB/m @ 1.0GHz

2.55dB/m @ 2.0GHz

3.05dB/m @ 3.0GHz

3.52dB/m @ 4.0GHz

4.05dB/m @ 5.0GHz

4.4dB/m @ 6.0GHz

2.5Antenna Metal ……..……..……FR-4

2.6 Operating Temperature ……..……-20℃ ~ +65℃

2.7 Storage Temperature …….. …….. -20℃ ~ +65℃

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RG、细微射频同轴电缆	RF-1.13L/50Ω
结构图 Structure drawing	

结构特性 Structure characteristics

结构 Structure	项目 Item	标准值 Standard value
①内导体 Inner conductor	材料 Material	镀锡铜线 Tinned copper wire
	(绞合)标称外径 (mm)(Intertwist)NOM.O.D.(mm)	0.249±0.02
②绝缘层 Insulation	材料 Material	聚全氟乙丙烯 FEP
	标称外径(mm)NOM.O.D.(mm)	0.735±0.03
③外导体 Outer conductor	材料 Material	铜塑箔 Cu-plastic composite tape
	标称外径(mm) NOM.O.D.(mm)	0.759±0.03
	覆盖率(%) Coverage ratio(%)	100
④外导体 Outer conductor	材料 Material	镀锡铜线 Tinned copper wire
	标称外径(mm)NOM.O.D.(mm)	0.96±0.05
	覆盖率(%)Coverage ratio(%)	90±5
⑤护套层 Jacket	材料 Material	聚全氟乙丙烯 FEP
	颜色 Color	黑 Black
	标称外径(mm)NOM.O.D.(mm)	1.15±0.05

电性能特性 Electrical characteristics

项目 Item	标准值 Standard value	项目 Item	频率 Frequency	标准值 Standard value 单位 Unit:dB/m
电容(pF/m)Capacitance(pF/m)	96	衰减 Attenuation	1GHz	≤1.88
速率(%)Velocity(%)	70		2GHz	≤2.55
阻抗(Ω)Impedance(Ω)	50±2		3GHz	≤3.05
驻波比 Standing wave ratio	≤1.3@0~6GHz		4GHz	≤3.52
最大工作电压(V)Max.operating voltage(V)	1000		5GHz	≤4.05
最大工作频率(GHz)Max.operating frequency(GHz)	6		6GHz	≤4.4

可靠性 Dependability

项目 Item	单位 Unit	标准值 Standard value
最小弯曲半径(一次)Min.bending radius static	mm	5
最小弯曲半径(重复)Min.bending radius repeated	mm	—
工作温度范围 Operating temperature	℃	-55~+200

使用提示 Use tips

存储环境 Storage environment	温度：30℃以下：湿度：20%~65%
保质期 Quality guarantee period	1 年（上锡效果除外）
最佳保存周期 The best save cycle	2 个月;2 个月以上作业性下降,如上锡效果变差,但电性能不受影响。夏季高温高湿环境开剥后需尽快流转
加工温度 Processing temperature	260℃的极限情况下，可短时间承受；300℃以上分子通常带有的等端基会分解；400℃以上发生显著的热分解
铁氟龙收缩 Teflon Shrink	固有材料特性。绝缘：0.2mm 以下；护套：0.3mm 以下
护套窜动 Jacket traverse	加工长度（护套残留长度）低于 5cm 易发生

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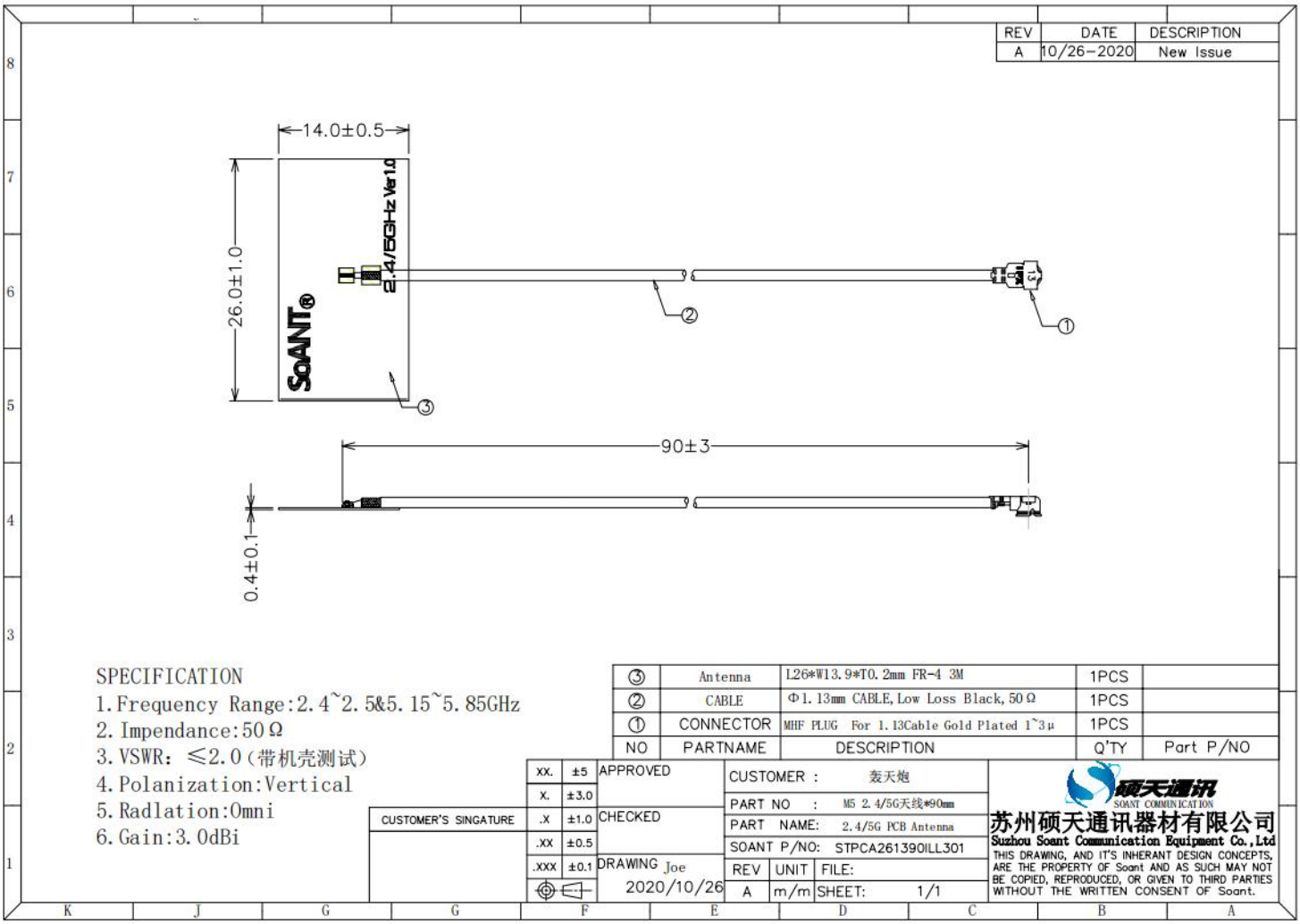
工程图


REV DATE DESCRIPTION
A 10/26-2020 New Issue
14.0±0.5
26.0±1.0
2.4/5GHz Ver1.0
SoANT
90±3
0.4±0.1
SPECIFICATION
1. Frequency Range:2.4~2.5&5.15~5.85GHz
2. Impendance:50Ω
3. VSWR: ≤2.0(带机壳测试)
4. Polanization:Vertical
5. Radlation:Omni
6. Gain:3.0dBi
③ Antenna L26*W13.9*T0.2mm FR-4 3M 1PCS
② CABLE Φ1.13mm CABLE, Low Loss Black, 50Ω 1PCS
① CONNECTOR MHF PLUG For 1.13Cable Gold Plated 1~3μ 1PCS
NO PARTNAME DESCRIPTION Q'TY Part P/NO
CUSTOMER'S SINGATURE
XX. ±5
X. ±3.0
.X ±1.0
.XX ±0.5
.XXX ±0.1
APPROVED
CHECKED
DRAWING Joe 2020/10/26
CUSTOMER : 轰天炮
PART NO : M5 2.4/5G天线*90mm
PART NAME: 2.4/5G PCB Antenna
SOANT P/NO: STPCA261390ILL301
REV UNIT FILE:
A m/m SHEET: 1/1
苏州硕天通讯器材有限公司
Suzhou Soant Communication Equipment Co.,Ltd
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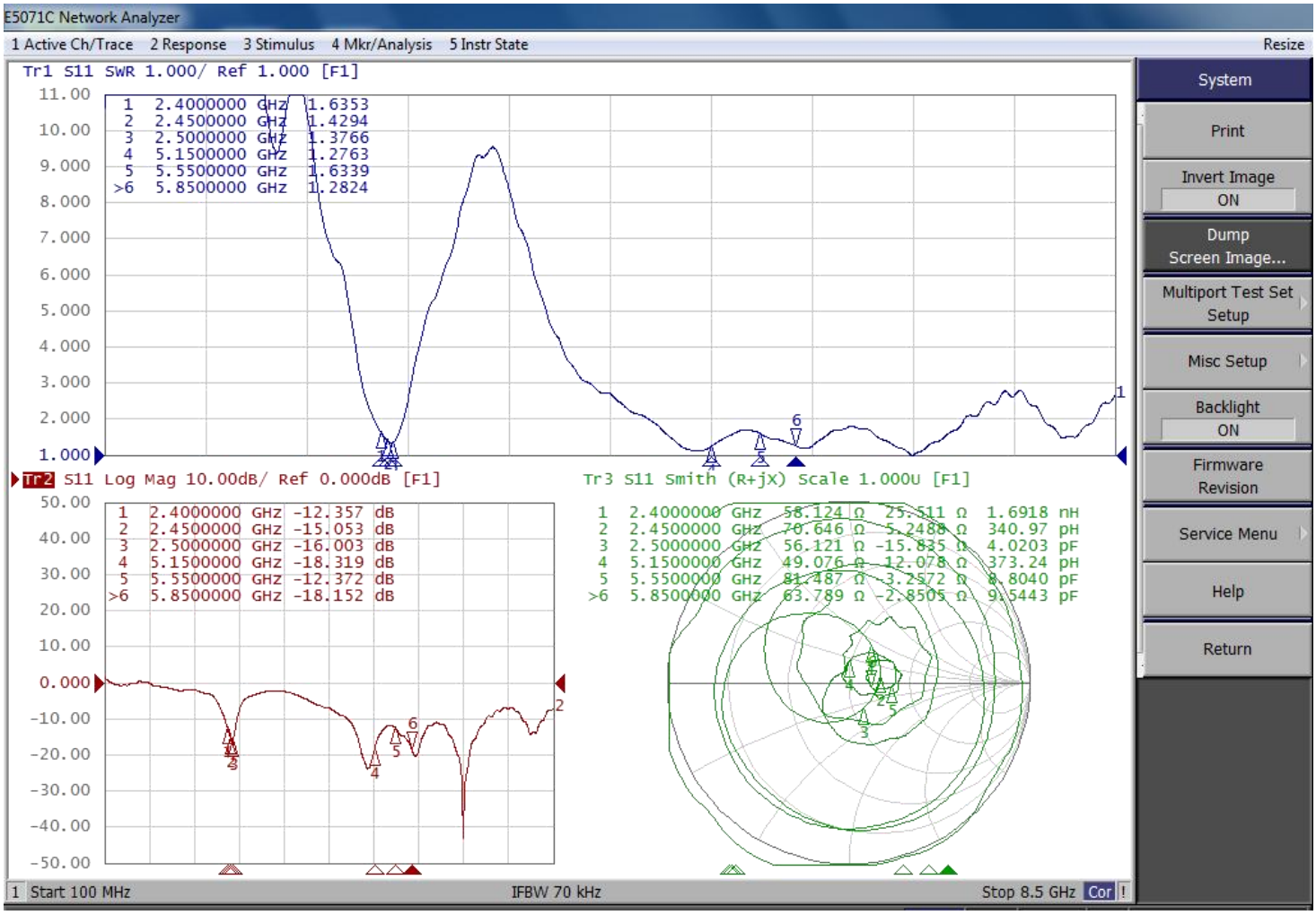
测试报告


E5071C Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 SWR 1.000/ Ref 1.000 [F1]
1 2.4000000 GHz 1.6353
2 2.4500000 GHz 1.4294
3 2.5000000 GHz 1.3766
4 5.1500000 GHz 1.2763
5 5.5500000 GHz 1.6339
>6 5.8500000 GHz 1.2824
Tr2 S11 Log Mag 10.00dB/ Ref 0.000dB [F1]
1 2.4000000 GHz -12.357 dB
2 2.4500000 GHz -15.053 dB
3 2.5000000 GHz -16.003 dB
4 5.1500000 GHz -18.319 dB
5 5.5500000 GHz -12.372 dB
>6 5.8500000 GHz -18.152 dB
Tr3 S11 Smith (R+jX) Scale 1.000U [F1]
1 2.4000000 GHz 58.124 Ω 25.511 Ω 1.6918 nH
2 2.4500000 GHz 70.646 Ω 5.2488 Ω 340.97 pH
3 2.5000000 GHz 56.121 Ω -15.835 Ω 4.0203 pF
4 5.1500000 GHz 49.076 Ω -12.078 Ω 373.24 pH
5 5.5500000 GHz 81.487 Ω -3.2572 Ω 8.8040 pF
>6 5.8500000 GHz 63.789 Ω -2.8505 Ω 9.5443 pF
System
Print
Invert Image ON
Dump Screen Image...
Multiport Test Set Setup
Misc Setup
Backlight ON
Firmware Revision
Service Menu
Help
Return
1 Start 100 MHz
IFBW 70 kHz
Stop 8.5 GHz
Cor

测试数据

Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	5150	5350	5500	5650	5850
Efficiency (dBi)	-2.86	-2.72	-2.72	-2.65	-2.88	-2.88	-2.72	-2.99	-2.90	-3.06	-3.16	-3.62	-3.52	-3.74	-3.65	-3.96
Gain (dBi)	1.10	1.13	1.39	1.48	2.00	1.12	1.09	1.21	1.20	1.03	1.09	1.24	1.33	1.69	1.75	2.00
Efficiency (%)	51.81	53.50	53.49	54.33	51.53	51.53	53.45	50.26	51.27	49.44	48.31	43.44	44.42	42.27	43.10	40.16

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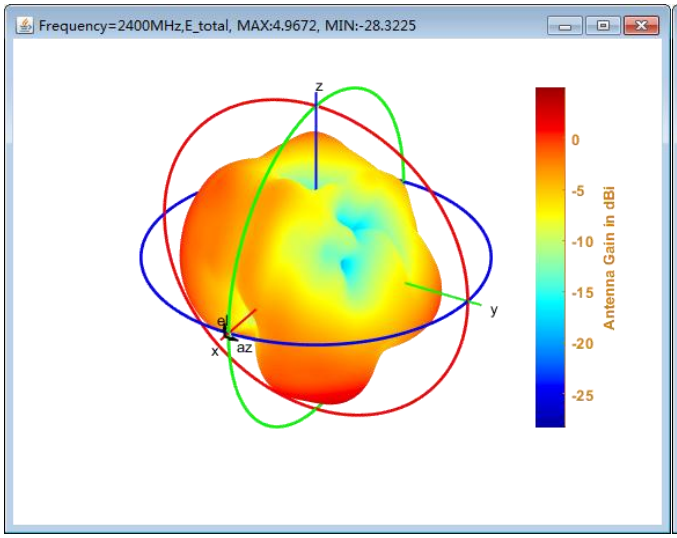

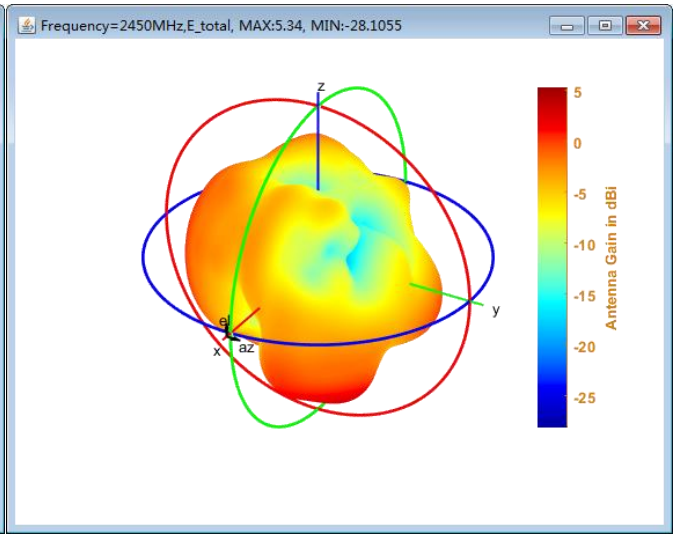

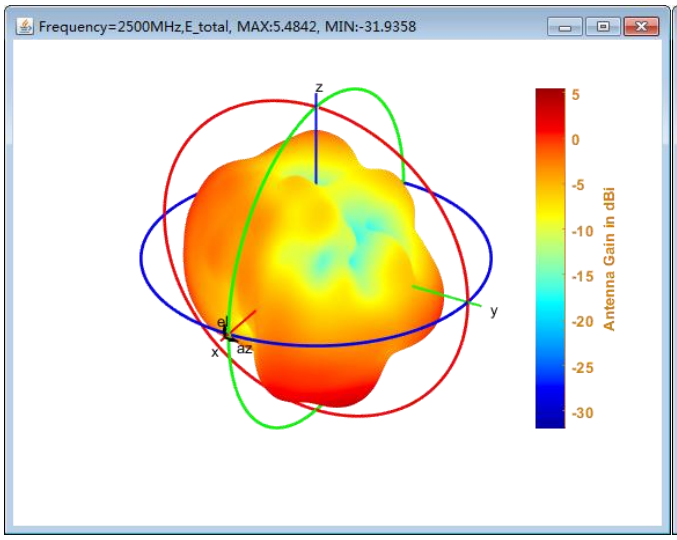

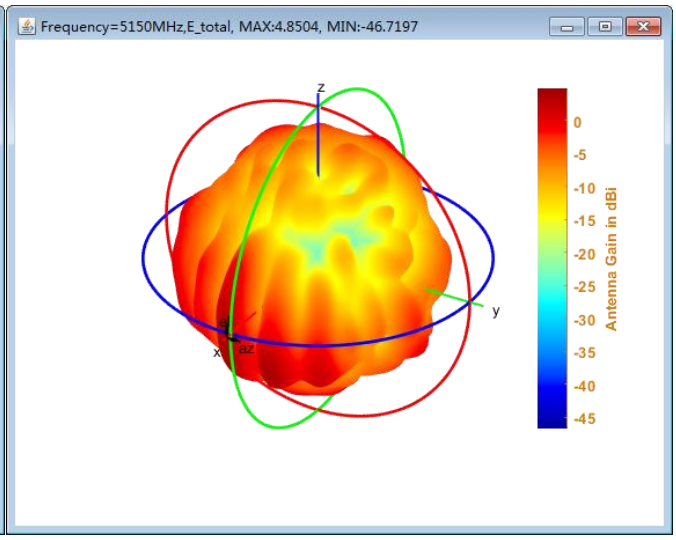

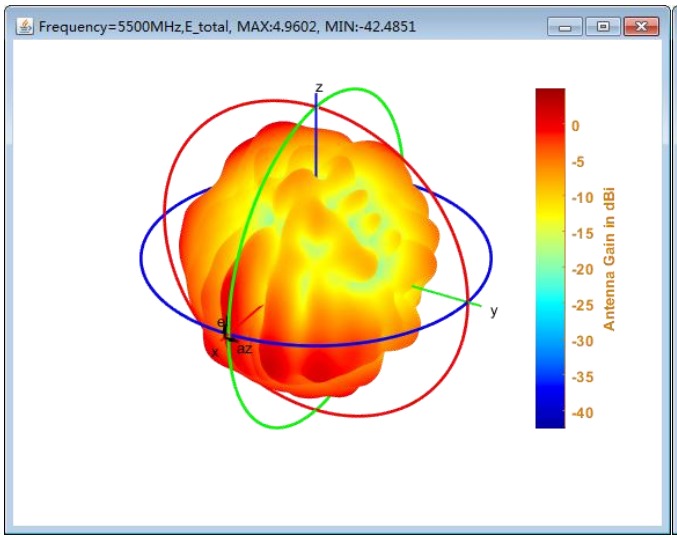

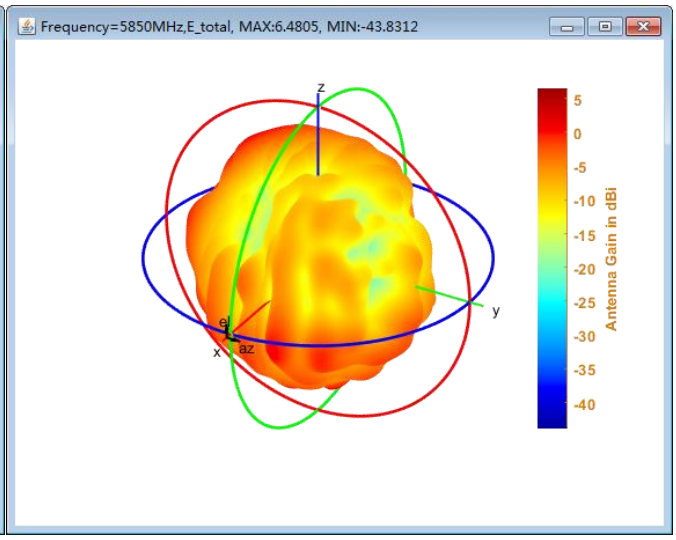

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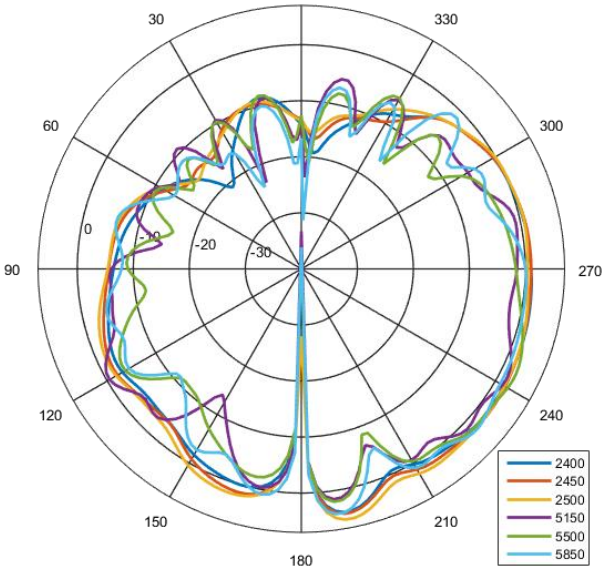
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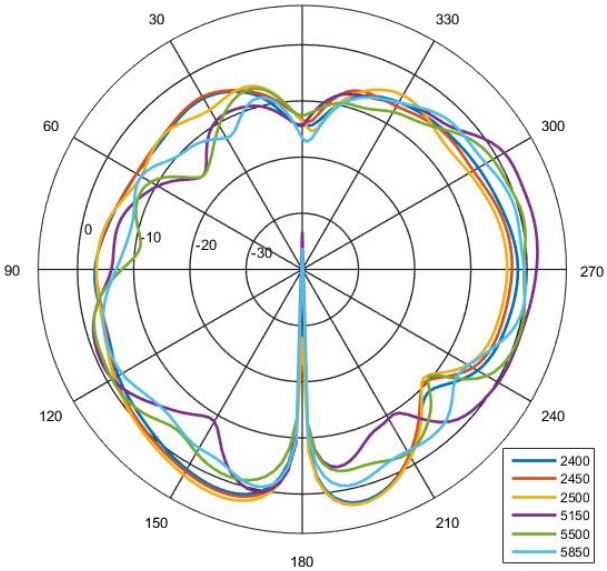
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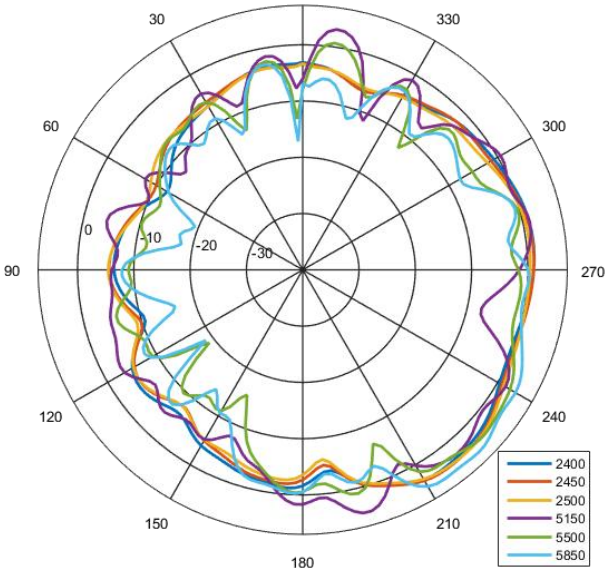
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