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: _____

产品名称
Product Name: **2.4G 外置天线**

规格描述
Description: **SMA Plug for RG178 Brown Cable ，L=196.1mm，Black**

客户料号
CUSTP/N: _____

硕天料号
SOANT.P/N: STDPA201300STE201

发出日期
Approval Date: 2023 年 5 月 08 日

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

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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	2023-5-08	新增	----------

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TECHNICAL DATE

1. Electrical Properties :（电气特性）

1.1 Frequency Range（频率范围）……2400-2500MHz

1.2 Impedance （输入阻抗）……50Ω （50欧姆）

1.3 VSWR （电压驻波比）……2.0 Max

1.4 Gain(peak)（最大增益）……3.5dBi

1.5 Polarization（极化方式）…… Vertical （垂直极化）

2. Physical Properties :（物理特性）

2.1 Cable（线缆） ……Φ178

2.2 Connector（连接器）…… SMA PLUG

2.3 Antenna Housing(S)（天线下盖）……ABS

2.4 Antenna Housing(M)（天线上盖）……ABS

2.5 Antenna Base（天线固定座）……PC+PBT

2.6 Storage Life（保存期）……一年

2.6 Operating Temp（工作温度）……-40℃ ~ +80℃

2.7 Storage Temp（存储温度）……-40℃ ~ +80℃

2.8 Cable Color （线材颜色）……Brown

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Cable SPEC

RG、细微射频同轴电缆	RG178/50Ω	
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
	(绞合)标称外径(mm) (Intertwist)NOM.O.D.(mm)	0.306±0.02
②绝缘层 Insulation	材料 Material	聚四氟乙烯 PTFE
	标称外径(mm) NOM.O.D.(mm)	0.86±0.05
③外导体 Outer conductor	材料 Material	镀锡铜线
	标称外径(mm) NOM.O.D.(mm)	1.3±0.05
	覆盖率(%) Coverage ratio(%)	≥90
④护套层 Jacket	材料 Material	聚全氟乙丙烯 FEP
	颜色 Color	棕色 Brown
	标称外径(mm) NOM.O.D.(mm)	1.78±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	0.1GHz	≤0.52
速率(%) Velocity(%)	70		0.4GHz	≤1.2
阻抗(Ω) Impedance(Ω)	50±2		1GHz	≤1.7
驻波比 Standing wave ratio	≤1.3@0~6GHz		2GHz	≤2.42
最大工作电压(V)Max.operating voltage(V)	1000		3GHz	≤3.08
最大工作频(GHz)Max.operatingfrequency(GHz)	3		4GHz	≤3.63
			5GHz	≤4.15
			6GHz	≤4.8

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	10
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%
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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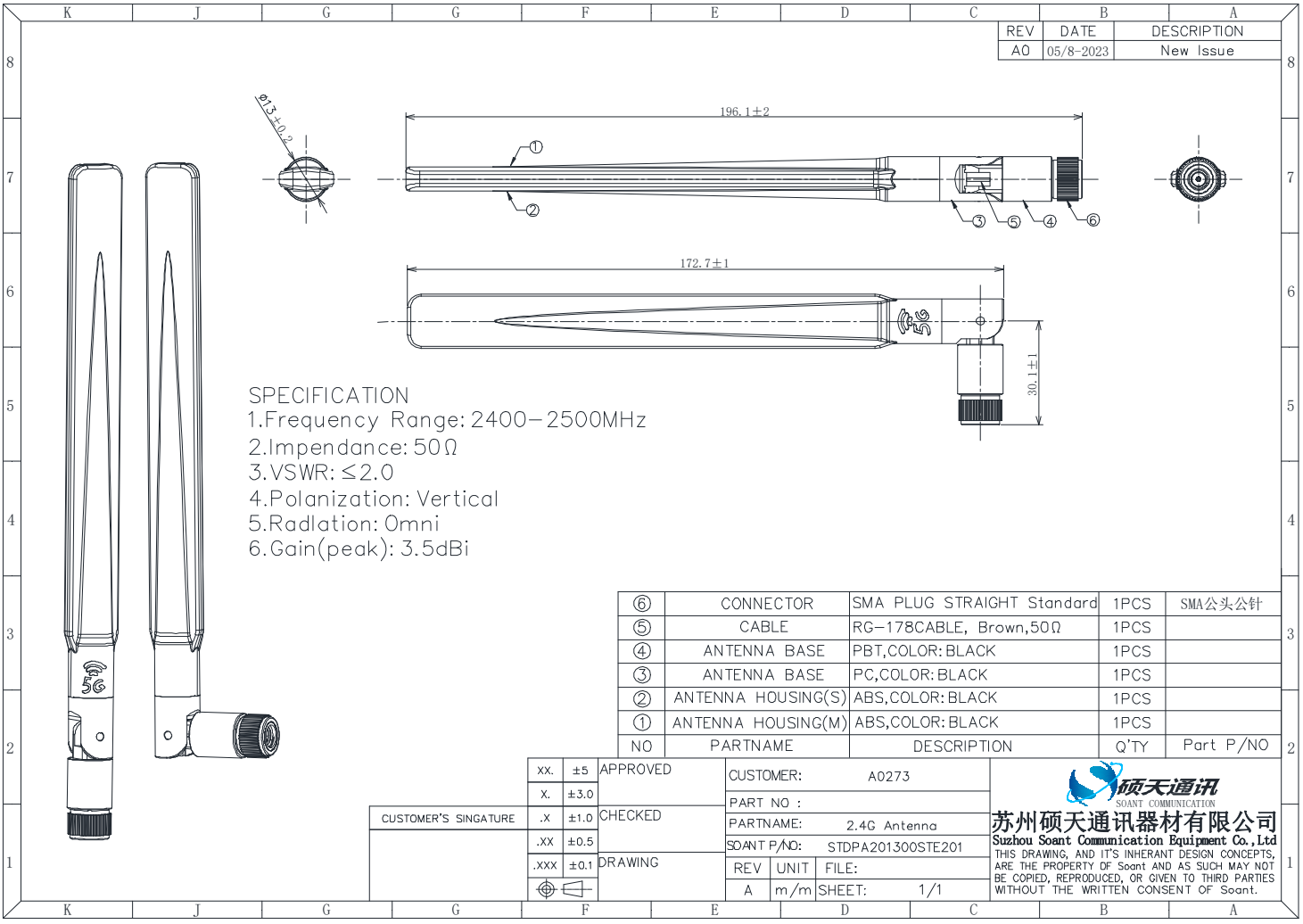
工程图


REV DATE DESCRIPTION
A0 05/8-2023 New Issue
ø13±0.2
196.1±2
172.7±1
30.1±1
SPECIFICATION
1.Frequency Range: 2400-2500MHz
2.Impendance: 50Ω
3.VSWR: ≤2.0
4.Polanization: Vertical
5.Radiation: Omni
6.Gain(peak): 3.5dBi
⑥ CONNECTOR SMA PLUG STRAIGHT Standard 1PCS SMA公头公针
⑤ CABLE RG-178CABLE, Brown,50Ω 1PCS
④ ANTENNA BASE PBT,COLOR: BLACK 1PCS
③ ANTENNA BASE PC,COLOR: BLACK 1PCS
② ANTENNA HOUSING(S) ABS,COLOR: BLACK 1PCS
① ANTENNA HOUSING(M) ABS,COLOR: BLACK 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
CUSTOMER: A0273
PART NO :
PARTNAME: 2.4G Antenna
SOANT P/NO: STDPA201300STE201
REV UNIT FILE:
A m/m SHEET: 1/1
硕天通讯
SOANT COMMUNICATION
苏州硕天通讯器材有限公司
Suzhou Soant Communication Equipment Co.,Ltd
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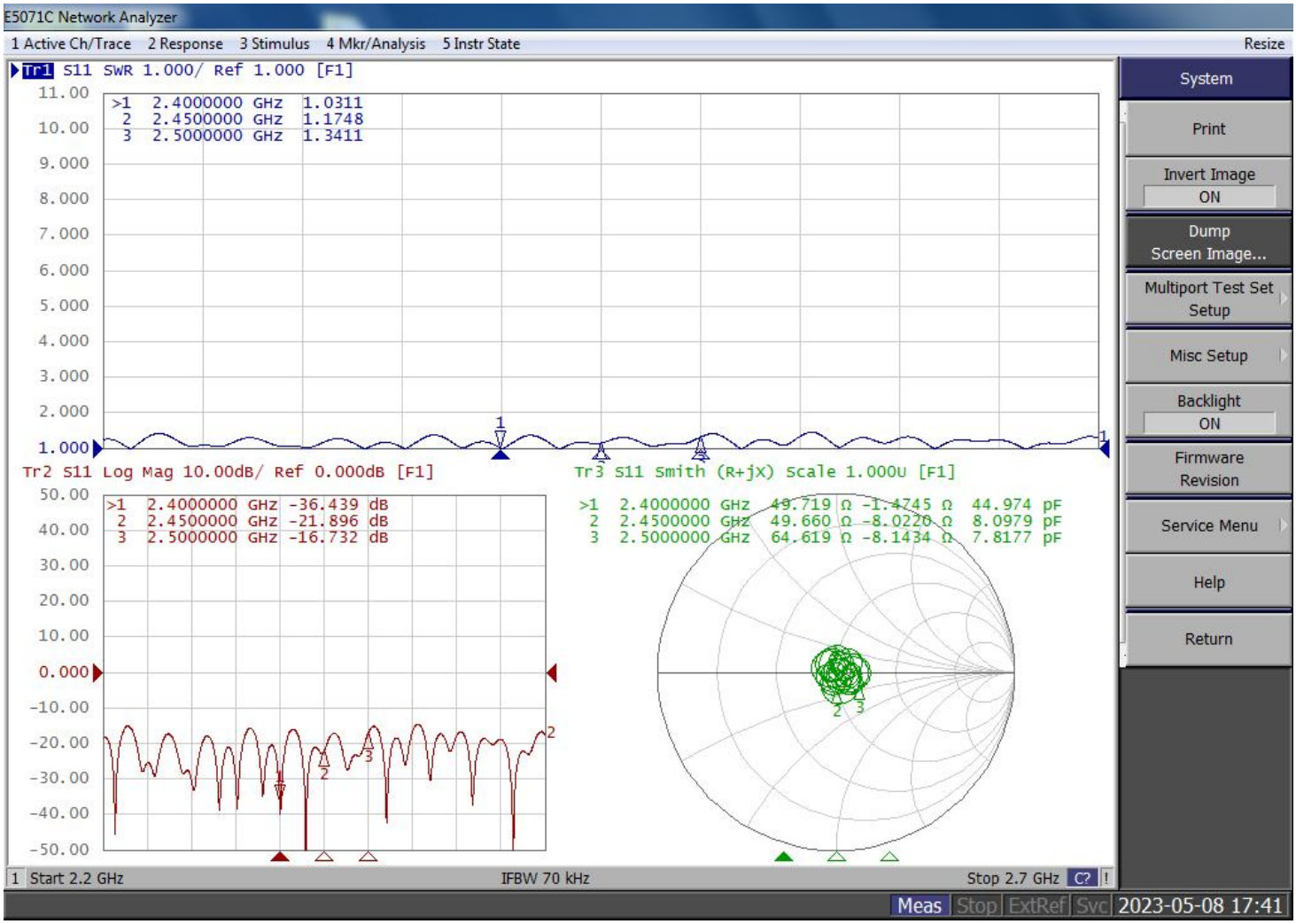
测试报告


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 1.0311
2 2.4500000 GHz 1.1748
3 2.5000000 GHz 1.3411
Tr2 S11 Log Mag 10.00dB/ Ref 0.000dB [F1]
>1 2.4000000 GHz -36.439 dB
2 2.4500000 GHz -21.896 dB
3 2.5000000 GHz -16.732 dB
Tr3 S11 Smith (R+jX) Scale 1.000u [F1]
>1 2.4000000 GHz 49.719 Ω -1.4745 Ω 44.974 pF
2 2.4500000 GHz 49.660 Ω -8.0220 Ω 8.0979 pF
3 2.5000000 GHz 64.619 Ω -8.1434 Ω 7.8177 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 2.2 GHz
IFBW 70 kHz
Stop 2.7 GHz
Meas Stop ExtRef Svc 2023-05-08 17:41

Frequency Total Data

Frequency (MHz)	Directivity(dB)	Gain(dB)	Efficiency(dB)	Efficiency(%)
2400	4.2141	3.3759	-0.8382	82.4474
2410	4.157	3.1909	-0.9661	80.0557
2420	4.0455	3.1103	-0.9352	80.6268
2430	3.9973	3.0953	-0.902	81.2459
2440	3.9686	2.8886	-1.08	77.9824
2450	4.0429	2.9655	-1.0775	78.0286
2460	4.1997	3.145	-1.0547	78.4395
2470	4.2375	3.1558	-1.0817	77.9524
2480	4.2455	3.0222	-1.2233	75.4527
2490	4.2574	3.038	-1.2194	75.5197
2500	4.049	2.9396	-1.1094	77.4571

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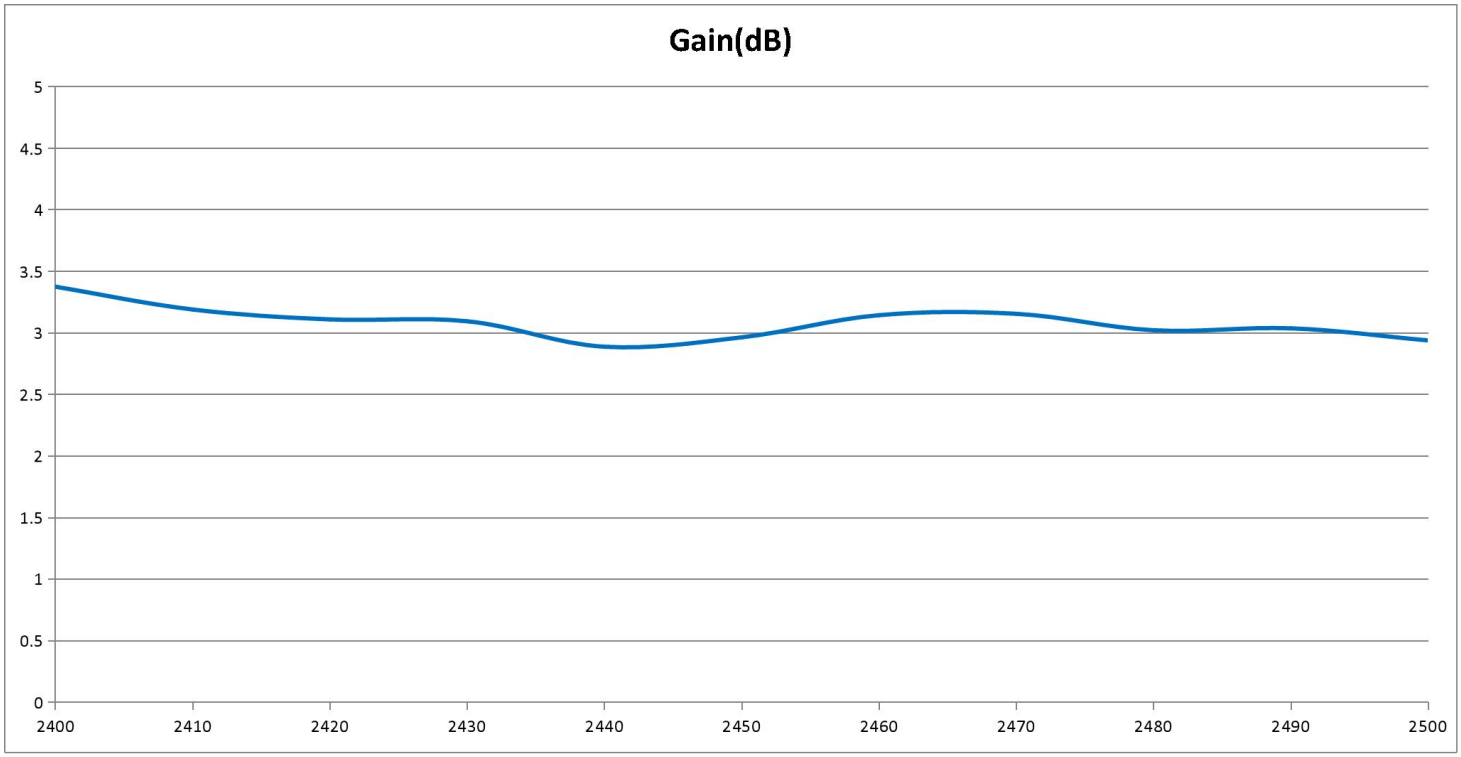
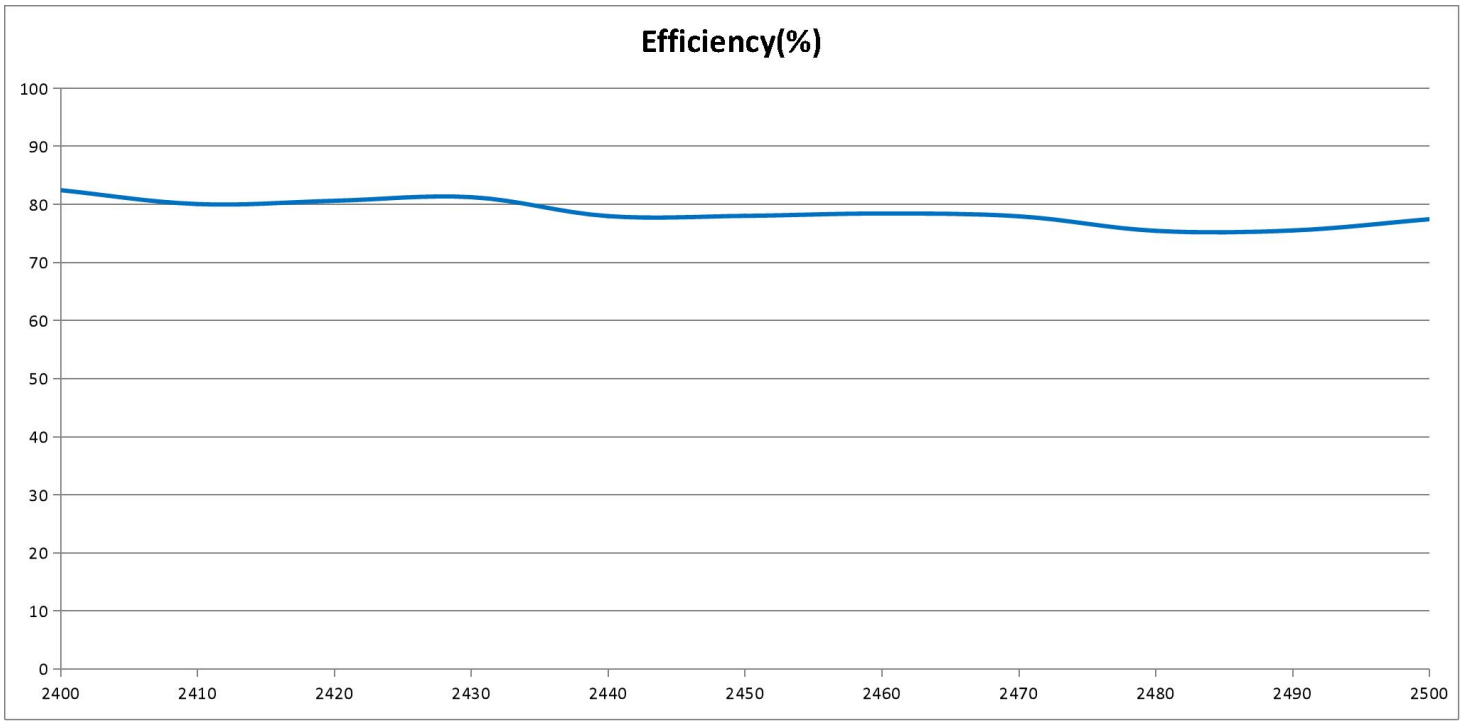
Gain(dBi)&Efficiency(%)





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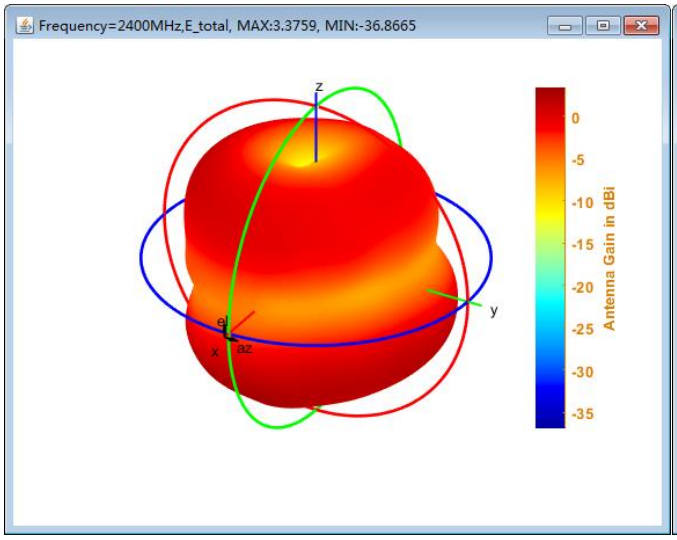
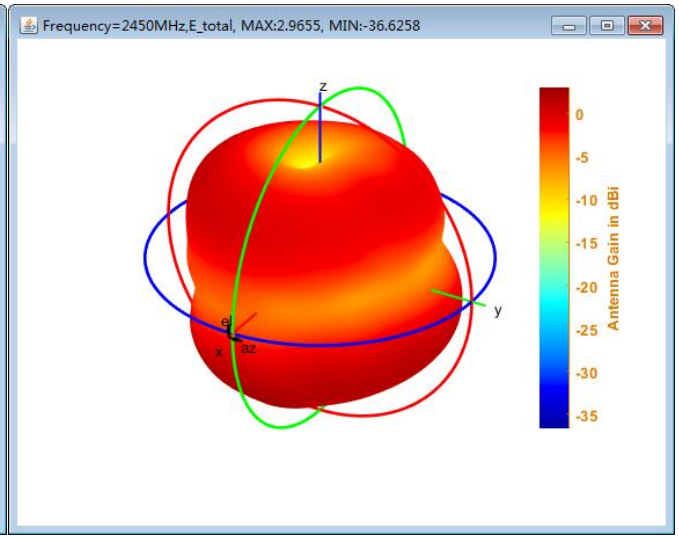
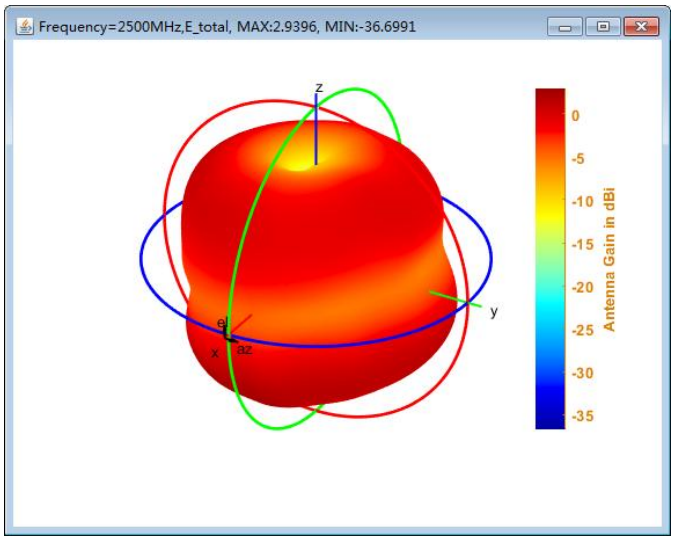
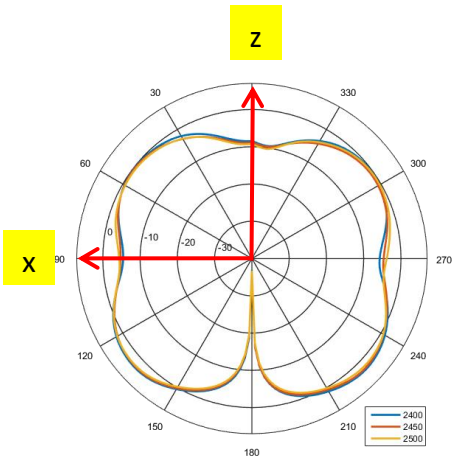
2D&3D test pattern

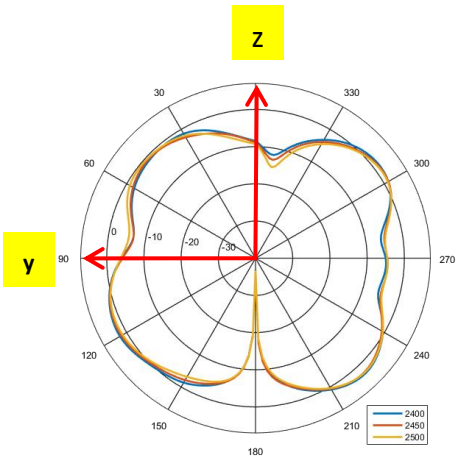


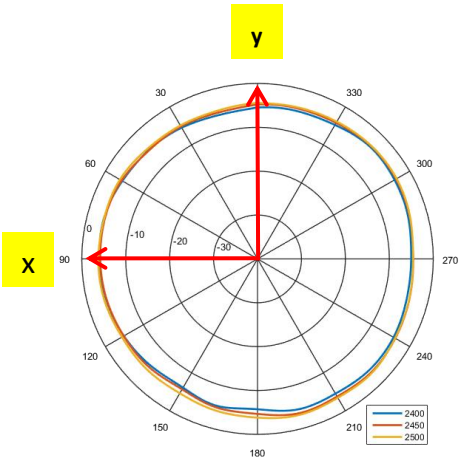




XZ Plane	YZ Plane	XY Plane







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