

供方 LOGO 和名称:



东莞市仁丰电子科技有限公司

Dongguan RF Electronic Technology Co., Ltd

公司地址: 东莞市塘厦镇清湖头三坑工业区1号 电话: 0769-38940168 传真: 0769-39010966 网址: <http://rflink.net.cn>

# 规格承认书

## SPECIFICATION FOR APPROVAL

客户名称 (CUSTOMER)	广东九联科技股份有限公司
客户型号 (MODEL NO)	(由九联填写)
客户料号 (PART NO)	(由九联填写)
供方型号 (MODEL NO)	(由供方填写)
供方料号 (PART NO)	U00T01S076N04819 (由供方填写)
最小包装量 (MPQ)	20 (由供方填写)
品牌 (BRAND)	Rf link (由供方填写)
送样日期 (DATE)	2023/12/22 (由供方填写)
样品数量 (QUANTITY)	30 (由供方填写)

供方确认			客户确认		
APPROVED SIGNATURES			APPROVED SIGNATURES		
承办	审核	核准	检测	审核	核准
PREPARED BY	CHECKED BY	APPROVED BY	TESTED BY	CHECKED BY	APPROVED BY

备注: 承认书一式一份; 送样时由供方 **手工签名和加盖公司公章**

地址: 广东省东莞市塘厦镇清湖头三坑路一号

电 话: 0769-38940168 传真: 0769-39010966

联系人: 韦良松 手机: 18877417721

电子邮箱: [SevlynWei@rflink.net.cn](mailto:SevlynWei@rflink.net.cn)

公司网址: [www.rflink.net.cn](http://www.rflink.net.cn)

# 承 认 书

## SPECIFICATION FOR APPROVAL

客户名称

CUSTOMER NAME: 九联

产品名称

PRODUCT NAME: 2.4/5G 外露L=305/115MM

客户料号

CUSTOMER P/N:

仁丰料号

Ren Feng P/N: U00T01S076N04819 REV: B

内部结构

Internal structure: PCB

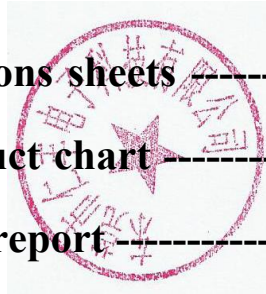
	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	杨振	
AUDITOR BY:	肖玉鹏	
APPROVED BY:	姚定军	
DATE:	2023-12-08	

### 履历表

版次号	修改章节	修改页码	生效日期	文件和资料更改内容	更改记录人
A			2023-12-08	初版发行	杨振
B	五	5	2024-03-12	更改外观及方案	杨振

## Contents

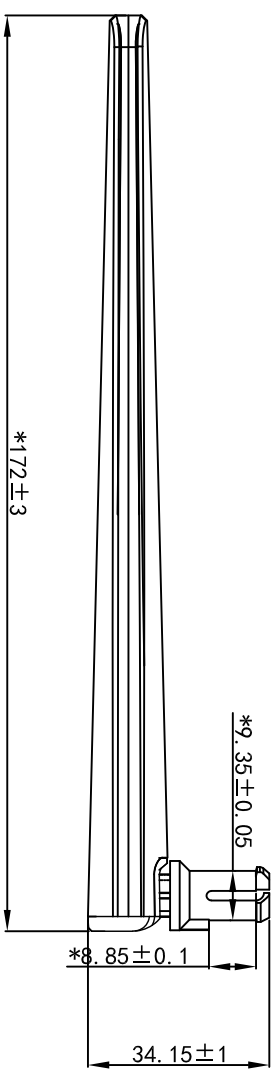
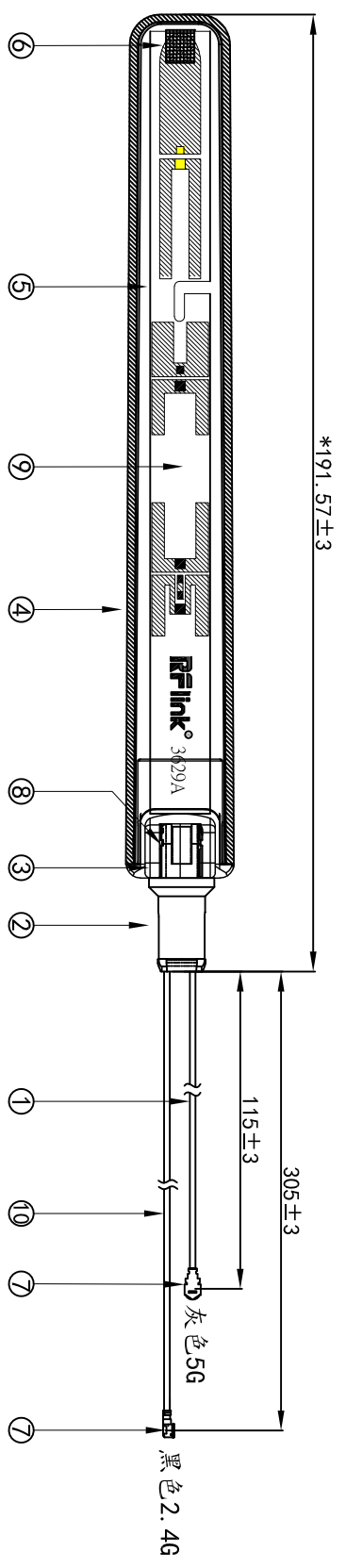
<i>Description</i>	<i>Page</i>
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2、履历表 Resume -----	3
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6、测试报告 Testing report -----	7-16



产品主要技术参数

主要技术指标		Main technical specifications	
频率范围 (MHZ)	2400-2500 5150-5850	Frequency Range (MHZ)	2400-2500 5150-5850
中心频率 特性阻抗( $\Omega$ )	50	Impedance( $\Omega$ )	50
增益(dBi)	2.4G:3.46 5G:4.69	Gain(dBi)	2.4G:3.46 5G:4.69
反射损耗	$\leq -10$	Return Loss(dB)	$\leq -10$
输出电压 驻波比	$\leq 1.92$	VSWR	$\leq 1.92$
极化方式	垂直极化	Polarization	Linear, Vertical
方向性	全向性	Radiation	Omni-directional
连接方式	端子	Connector Type	MHF Plug
物理性能		Physical Properties	
天线本体材 料	PC+ABS	Antenna Base	PC+ABS
工作温度	-20 $^{\circ}$ C~+60 $^{\circ}$ C	Operating Temp	-20 $^{\circ}$ C~+60 $^{\circ}$ C
保存温度	-20 $^{\circ}$ C~+70 $^{\circ}$ C	Storage Temp	-20 $^{\circ}$ C~+70 $^{\circ}$ C

REV	DATE	DESCRIPTION
A	2023-12-08	NEW ISSUE
B	2024-03-12	更改外观及方案



NO.	DESCRIPTION	Q'TY	REMARK
1	线材	1	φ1.37 Black
2	跳线	1	φ1.37 Black
3	铆钉	2	POM; Black
4	端子	2	Copper
5	泡棉	1	EVA; Black
6	POB板	1	FR-4
7	杆套	1	ABS; Black
8	上固定座	1	ABS; Black
9	下固定座	1	PC+PBT; Black
10	线材	1	φ1.37 Gray

尺寸范围 (mm)	公差 (mm)
0<L≤6	±0.10
6<L≤30	±0.10
30<L≤90	±0.15
90<L≤180	±0.20
180<L≤315	±0.25
315<L≤800	±0.35

角度	公差
角度	±0.5°

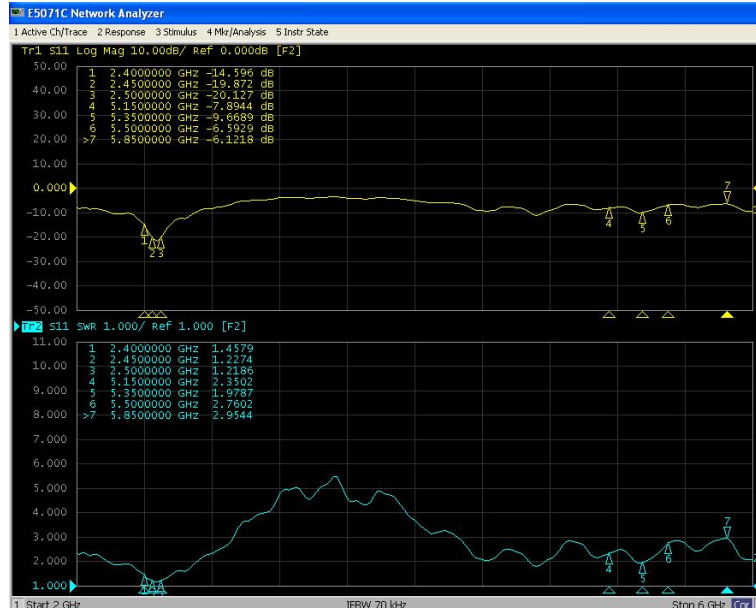
规格 (Specification) :  
 频率 (Frequency Range) : 2.4~2.5GHz  
 回波损耗 (Return loss) : -10dB or less  
 驻波比 (VSWR) : 1.92max

**RFlink**  
 东莞市仁丰电子科技有限公司  
 RenFeng Electronic  
 technology Co., LTD.

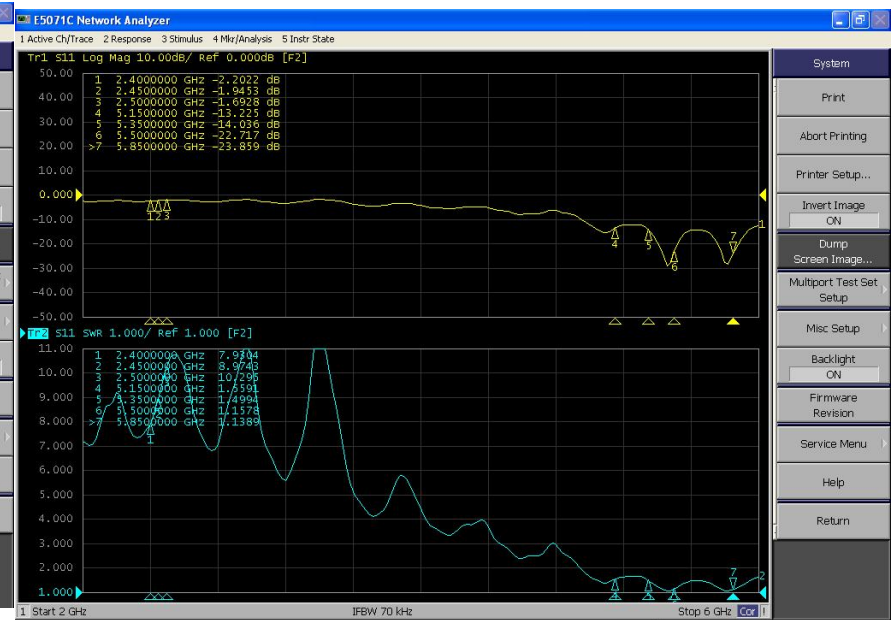
带公差尺寸为检验尺寸  
 产品符合环保RoHS2.0之要求

## 双频天线ANT2

### ANT2-2.4G/ANT2-5G回波损耗与电压驻波比VSWR



ANT2-2.4G



ANT2-5G

# ANT2增益与远场方向图

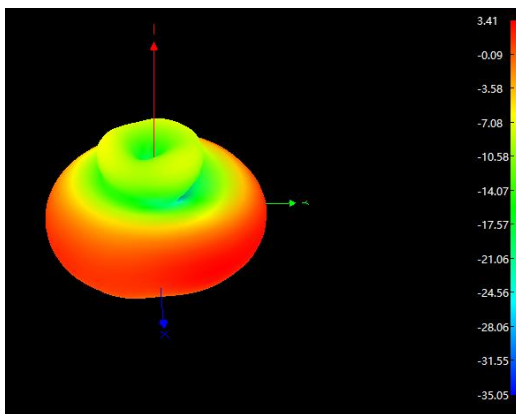
2D/3D Pattern

H面: XY (水平面)

E1面: XZ

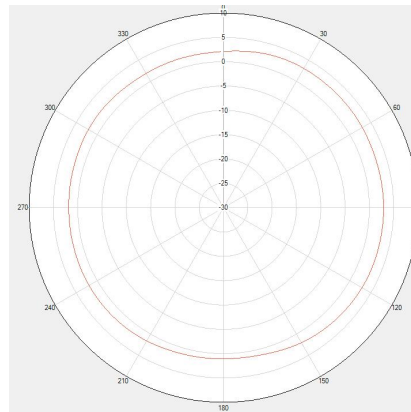
E2面: YZ

远场方向图

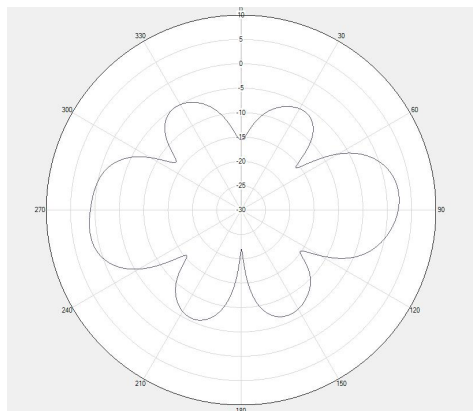


ANT2-  
2400MHz

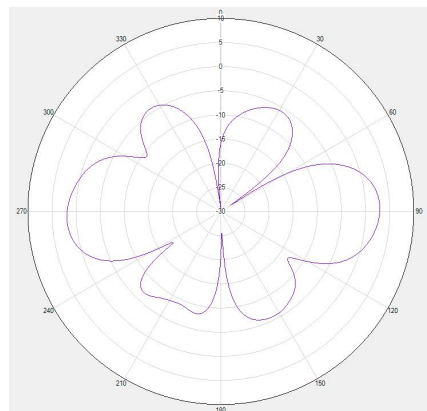
H面



E1面



E2面





# ANT2增益与远场方向图

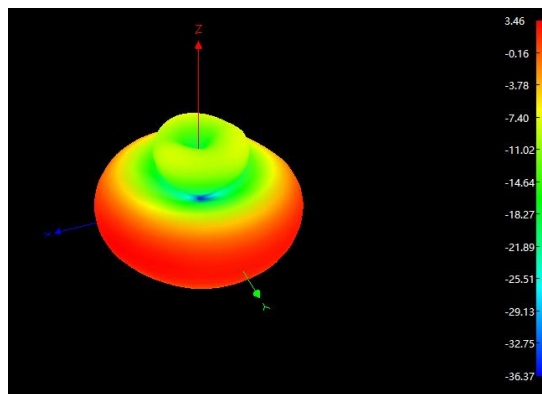
2D/3D Pattern

H面: XY (水平面)

E1面: XZ

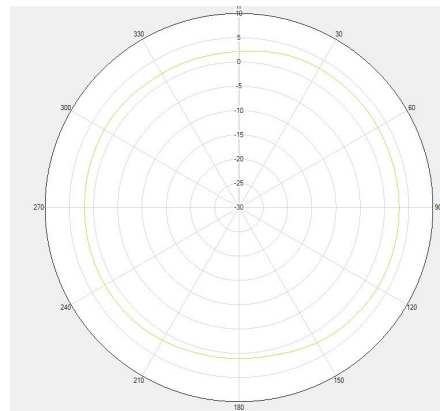
E2面: YZ

远场方向图

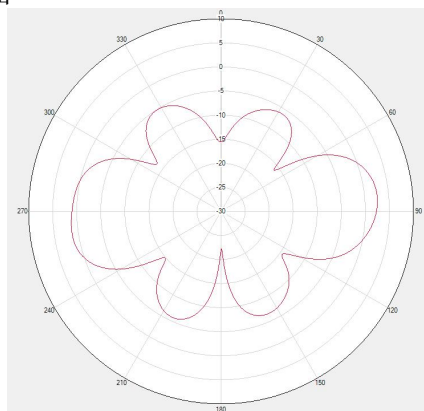


ANT2-  
2450MHz

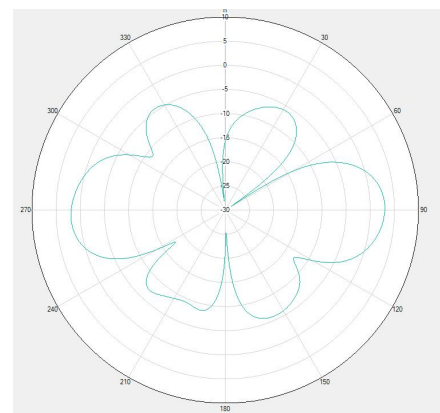
H面



E1面



E2面



# ANT2增益与远场方向图

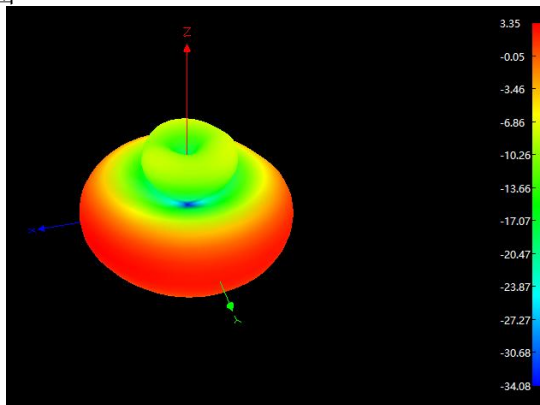
2D/3D Pattern

H面: XY (水平面)

E1面: XZ

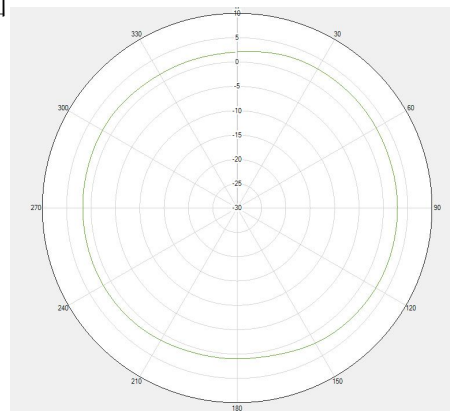
E2面: YZ

远场方向图

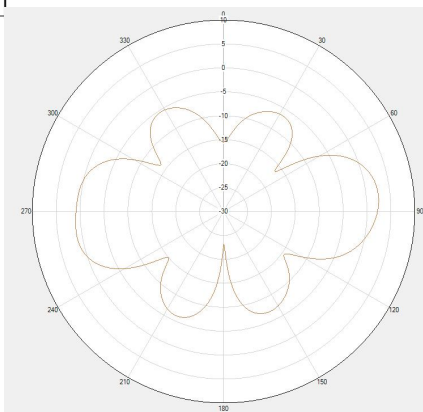


ANT2-  
2500MHz

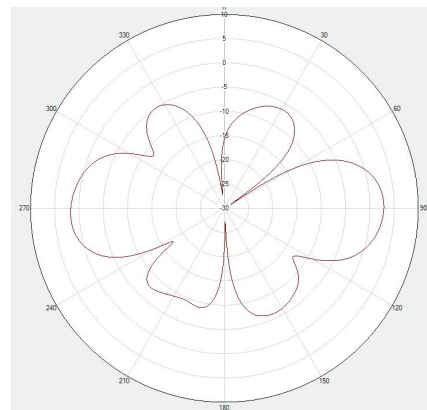
H面



E1面



E2面



# ANT2增益与远场方向图

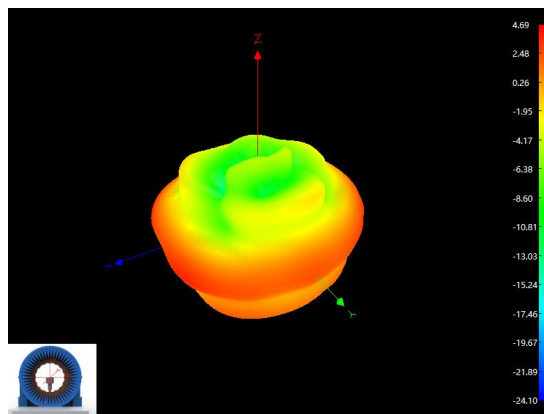
2D/3D Pattern

H面: XY (水平面)

E1面: XZ

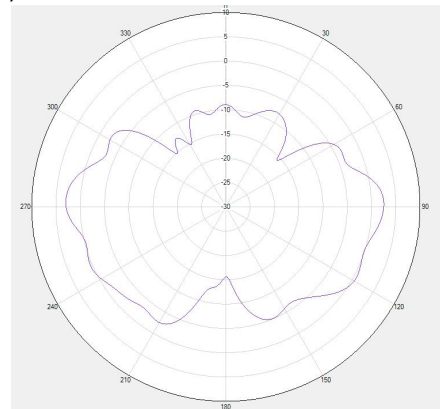
E2面: YZ

远场方向图

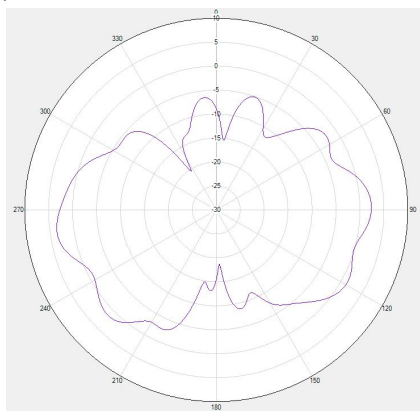


5G-ANT2  
5150MHz

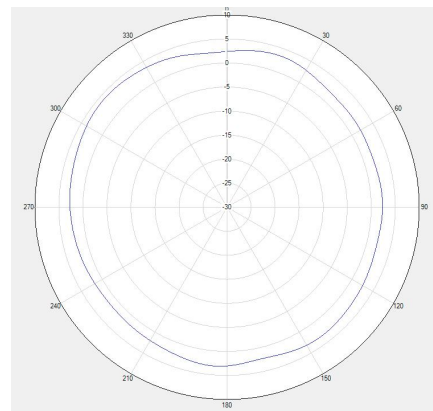
E1面



E2面



H面



# ANT2增益与远场方向图

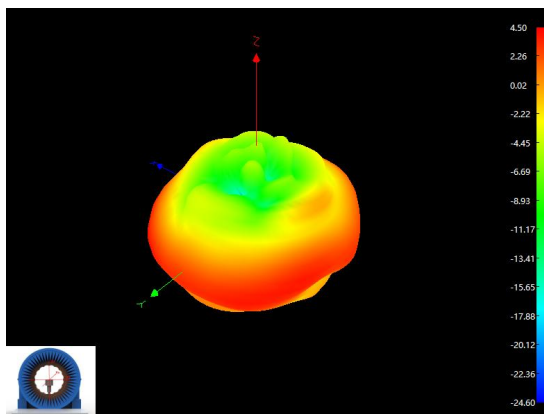
2D/3D Pattern

H面: XY (水平面)

E1面: XZ

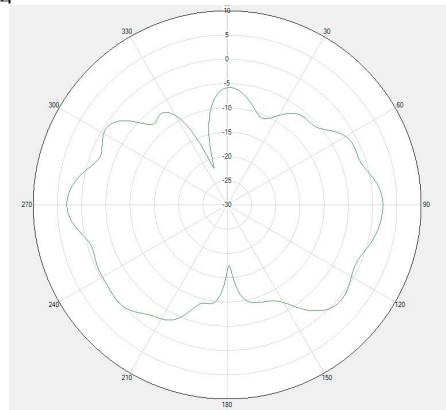
E2面: YZ

远场方向图

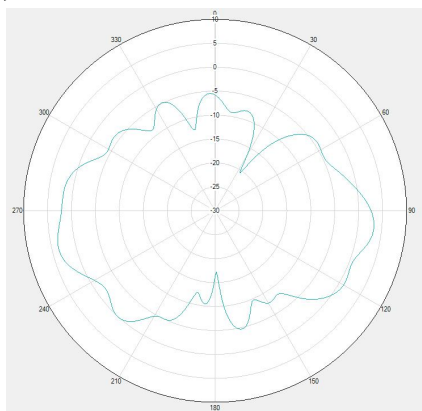


5G-ANT2  
5500MHz

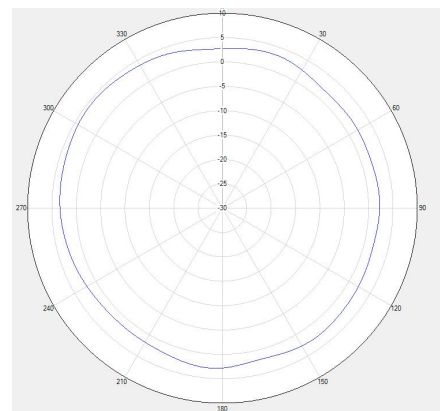
E1面



E2面



H面



# ANT2增益与远场方向图

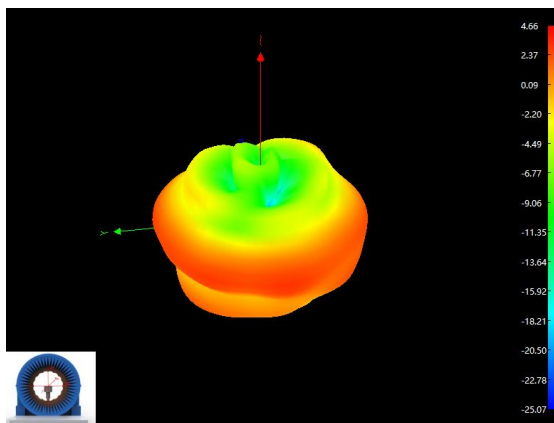
2D/3D Pattern

H面: XY (水平面)

E1面: XZ

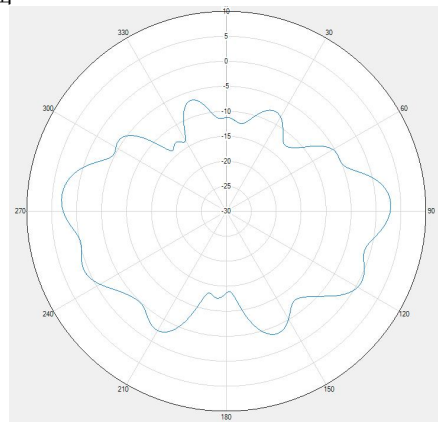
E2面: YZ

远场方向图

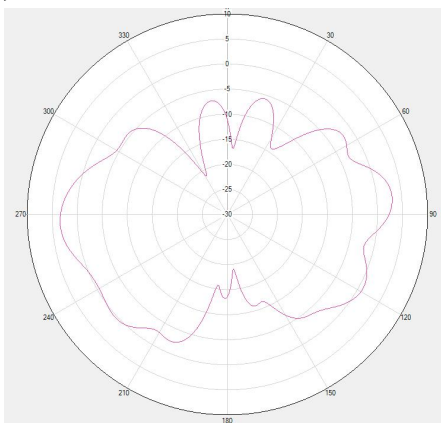


5G-ANT2  
5850MHz

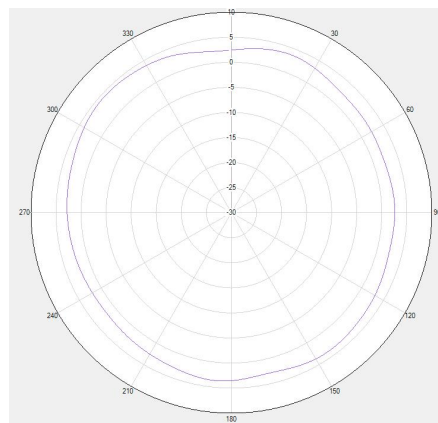
E1面



E2面



H面



# AX6000 Project

## 2.4G Peak Gain&Efficiency



2.4G_ANT2		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	66.62	3.41
2410	69.84	3.33
2420	67.67	3.26
2430	69.43	3.45
2440	65.09	3.27
2450	65.52	3.46
2460	66.23	3.39
2470	67.12	3.30
2480	66.43	3.31
2490	68.12	3.46
2500	68.88	3.35

5G_ANT2		
Freq (MHz)	Effi (%)	Gain (dBi)
5150	65.19	4.69
5200	67.10	4.51
5250	68.65	4.35
5300	65.19	4.41
5350	68.77	4.36
5400	72.17	4.46
5450	69.25	4.58
5500	71.59	4.50
5550	72.17	4.50
5600	73.35	4.43
5650	69.87	4.31
5700	66.56	4.29
5750	65.39	4.31
5800	67.64	4.47
5850	70.47	4.66

## OTA测试结果

2.4G							
Mode	Test Case	Channel	Date Rate (Mbps)	ANT1 Test Results (dBm)	ANT2 Test Results (dBm)	ANT3 Test Results (dBm)	ANT4 Test Results (dBm)
IEEE 802.11g	TRP (Total)	1	6	22.41	22.57	22.81	21.47
		6		22.50	21.37	21.78	21.38
		11		21.46	21.31	21.54	21.16
	TIS (Total)	1	54	-78.06	-78.08	-78.32	-77.24
		6		-78.60	-78.56	-78.24	-78.11
		11		-78.39	-78.35	-78.05	-77.68

5G							
Mode	Test Case	Channel	Date Rate (Mbps)	ANT1 Test Results (dBm)	ANT2 Test Results (dBm)	ANT5 Test Results (dBm)	ANT6 Test Results (dBm)
IEEE 802.11a	TRP (Total)	36	6	21.54	22.37	21.38	21.92
		149		20.65	21.21	21.66	21.88
		161		20.31	21.15	21.80	21.74
	TIS (Total)	36	54	-76.45	-76.36	-76.85	-76.69
		149		-75.88	-75.44	-76.82	-76.21
		161		-75.15	-75.05	-76.13	-76.35

## OTA测试结果

2.4G							
Mode	Test Case	Channel	Date Rate (Mbps)	ANT1 Test Results (dBm)	ANT2 Test Results (dBm)	ANT3 Test Results (dBm)	ANT4 Test Results (dBm)
IEEE 802.11g	TRP (MAX)	1	6	28.16	28.60	30.21	29.92
				28.79	28.61	29.41	28.65
				29.11	29.24	28.95	28.63
	TIS (MIN)	1	54	-85.79	-85.12	-86.64	-86.20
				-85.92	-85.76	-86.62	-85.97
				-86.69	-85.88	-85.73	-86.48

5G							
Mode	Test Case	Channel	Date Rate (Mbps)	ANT1 Test Results (dBm)	ANT2 Test Results (dBm)	ANT5 Test Results (dBm)	ANT6 Test Results (dBm)
IEEE 802.11a	TRP (MAX)	36	6	29.16	29.82	29.35	29.16
		149		28.72	28.54	29.22	28.74
		161		28.01	28.31	28.83	28.69
	TIS (MIN)	36	54	-84.22	-83.80	-84.35	-84.54
		149		-83.23	-83.26	-84.22	-84.43
		161		-83.07	-83.19	-84.07.	-84.15