

# 规格书

## SPECIFICATION FOR APPROVAL

客户名称

CUSTOMER NAME: 东威

产品名称

PRODUCT NAME: 内置天线 2.4G L=720MM+端子

客户料号

CUSTOMER P/N: EG1

仁丰料号

RenFeng P/N: U00T02S000N06295 REV:A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	赵文天	
AUDITOR BY:	姚鑫	
APPROVED BY:	姚定军	
DATE:	2024-05-15	





## Contents

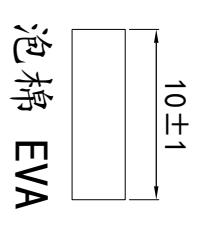
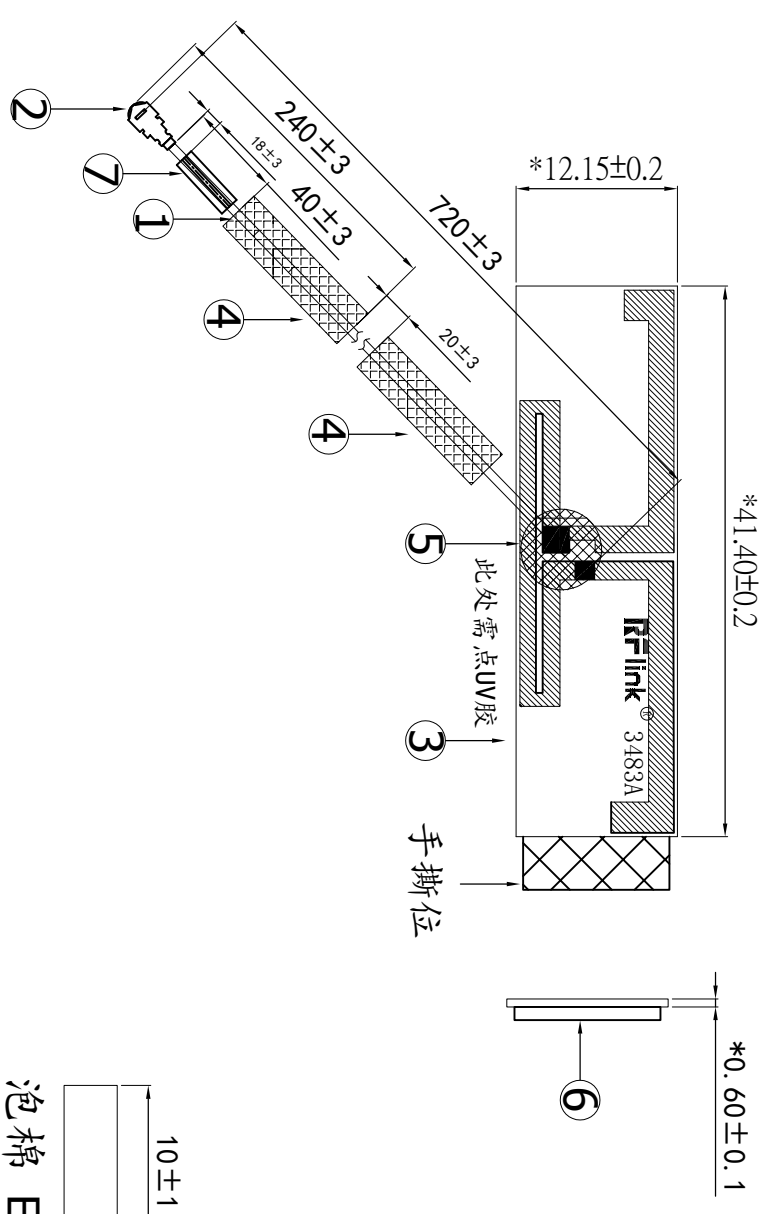
<i>Item</i>	<i>Description</i>
1、-----	封面
2、-----	履历表
3、-----	目录
4、-----	规格表
5、-----	成品图
6、-----	测试报告7-16
7、-----	PCB材质17
8、-----	线材报告18-22
9、-----	泡棉报告23-24
10、-----	盐雾报告25
11、-----	摇摆报告26-27
12、-----	端子报告28-142

产品主要技术参数

Main technical specifications

主要技术指标		Main technical specifications	
频率范围 (MHZ)	2400~2500	Frequency Range (MHZ)	2400~2500
中心频率 特性阻抗( $\Omega$ )	50	Impedance( $\Omega$ )	50
峰值增益(dBi)	2.61	Gain(dBi)	2.61
反射损耗	$\leq -9.5$	Return Loss(dB)	$\leq -9.5$
输出电压 驻波比	$\leq 2.0$	VSWR	$\leq 2.0$
极化方式	交叉极化	Polarization	Cross polarization
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	FR-4	Antenna Base	FR-4
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	Change the code
A	2023-05-15	NEW ISSUE	



规格Specification:  
频率Frequency Range: 2.4-2.5GHz

7	泡棉	1	EVA:
6	背胶	1	3M9888T:
5	胶水	1	UV胶:
4	海绵	1	海绵T10 ; 海绵胶:
3	PCB	1	FR-4:
2	端子	1	Copper; 1.37科信成端子:
1	线材	1	φ1.37 Black ; (线材不含氟)
NO.	DESCRIPTION	QTY	REMARK
带公差尺寸为检验尺寸			
产品符合环保RoHS2.0/HF之要求			

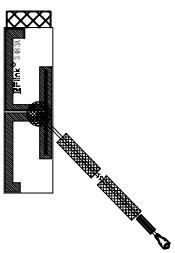
尺寸范围(mm)	公差(mm)	APPROVED	CUSTOMER:
0<D≤6	±0.10		PART NO :
6<D≤30	±0.15	CHECKED	PARTNAME : RF Antenna Assembly
30<D≤90	±0.20		R.F P/NO : U00T02S000N06295
90<D≤180	±0.25	DRAWING	REV
180<D≤315	±0.35		UNIT
315<D≤800	±0.5°		SCALE
			SIZE
			SHEET
			10F1

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

# 产品包装图

REV	DATE	DESCRIPTION
A	2024-05-10	NEW ISSUE

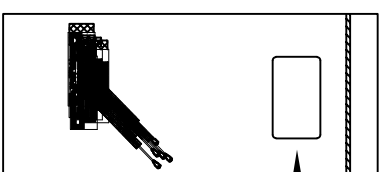
单个产品



- 内袋包装说明：
- 1.每袋20pcs,用珍珠泡棉包扎
  - 2.PE袋进行封口.
  - 3.每袋需贴1pc内袋标签



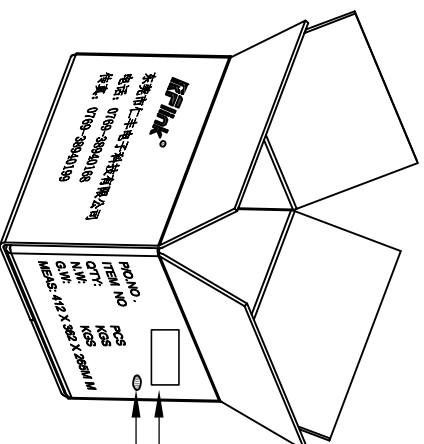
内袋包装



内袋标签



外箱包装



外箱标签

RoHS标签



- 外箱包装说明：
- 1.外箱需贴1pc外箱标签.
  - 2.RoHS标签需外箱标签右下角外置.
  - 3.每箱装25袋产品，共计装500pcs产品每箱.

NO	DESCRIPTION	QTY	REMARK
APPROVED			
COSTOMER:			
PART NO :			
PARTNAME : 天线包装			
R.F.P/NO : U00T02S000N06295			
REV	UNIT	SCALE	SIZE
A	mm	1 : 1	A4
DRAWING			SHEET
			20F2

尺寸范围 (mm)	公差 (mm)
0.1 ≤ L ≤ 6	±0.10
6.1 ≤ L ≤ 30	±0.15
30.1 ≤ L ≤ 90	±0.20
90.1 ≤ L ≤ 180	±0.25
180.1 ≤ L ≤ 315	±0.35
315.1 ≤ L ≤ 600	±0.5

产品符合环保RoHS 2.0之要求

6

5

4

3

2

1

6

5

4

3

2

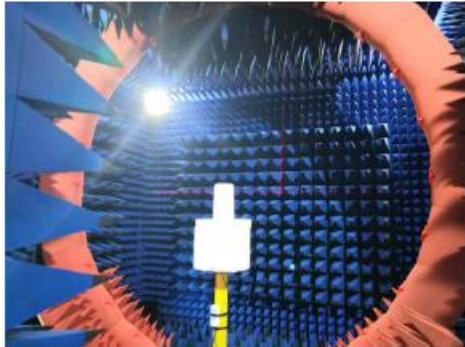


1

## ◆ 常规要求 ( General requirement )

Description	Specification
Antenna VSWR	Typical : 1.5 Limit : 2
Nominal Impedance	50 ohm Typical
Antenna Radiation Efficiency	$\geq 40\%$
Return loss free space	$< -10\text{dB}$

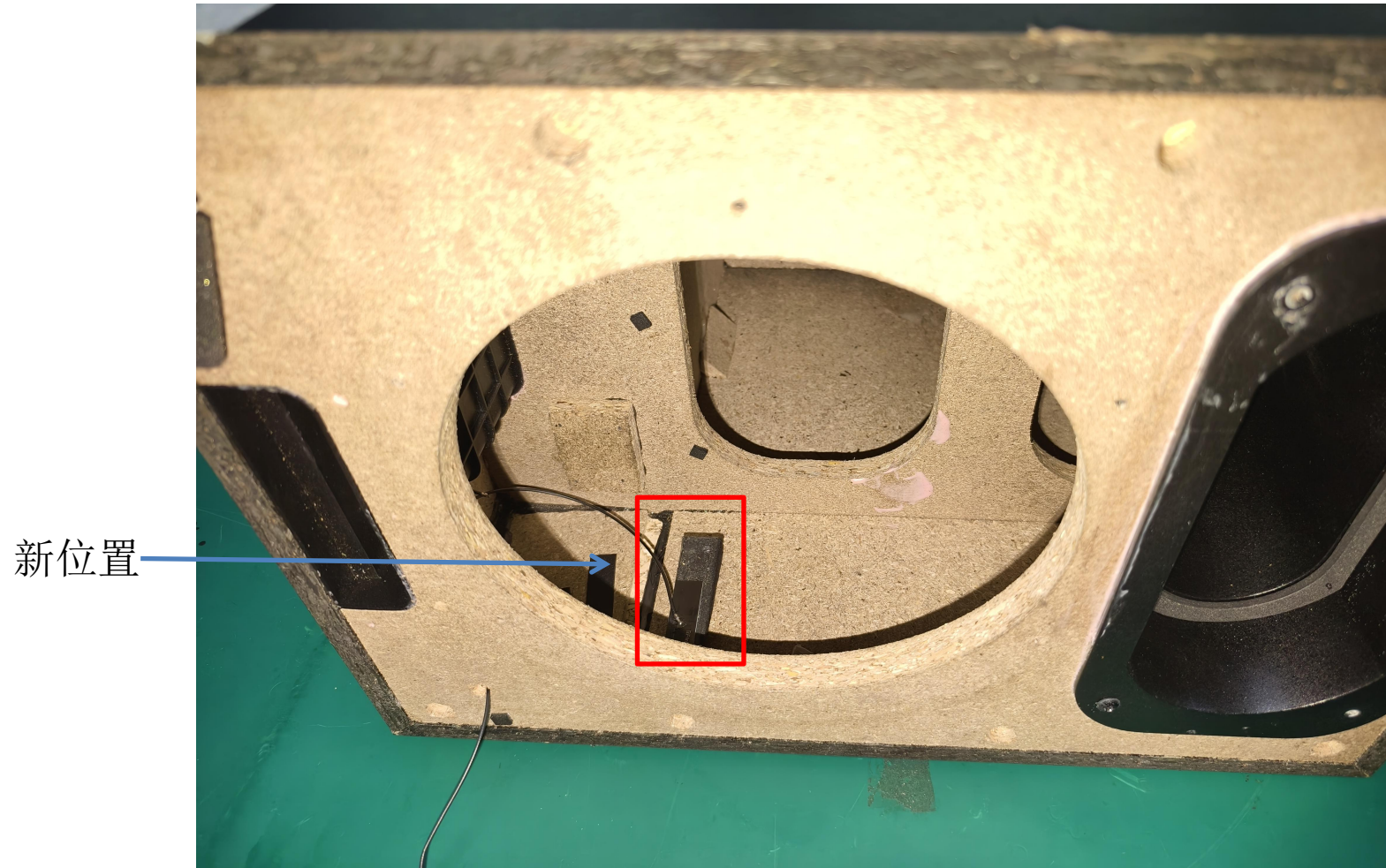
# 测试设备 (Test Equipment)

## ◆ 测试设备 (Test Equipment)

设备 ( Equipment )	型号 ( Type )	照片 ( photo )
微波暗室 Microwave anechoic chamber	FTMP-24D ( 4*4*3.5 )	
综合测试仪 ( Comprehensive tester )	R&S CMW500	
网络分析仪 ( Network Analyzer )	KEYSIGHT E5063A	



# External ANT location

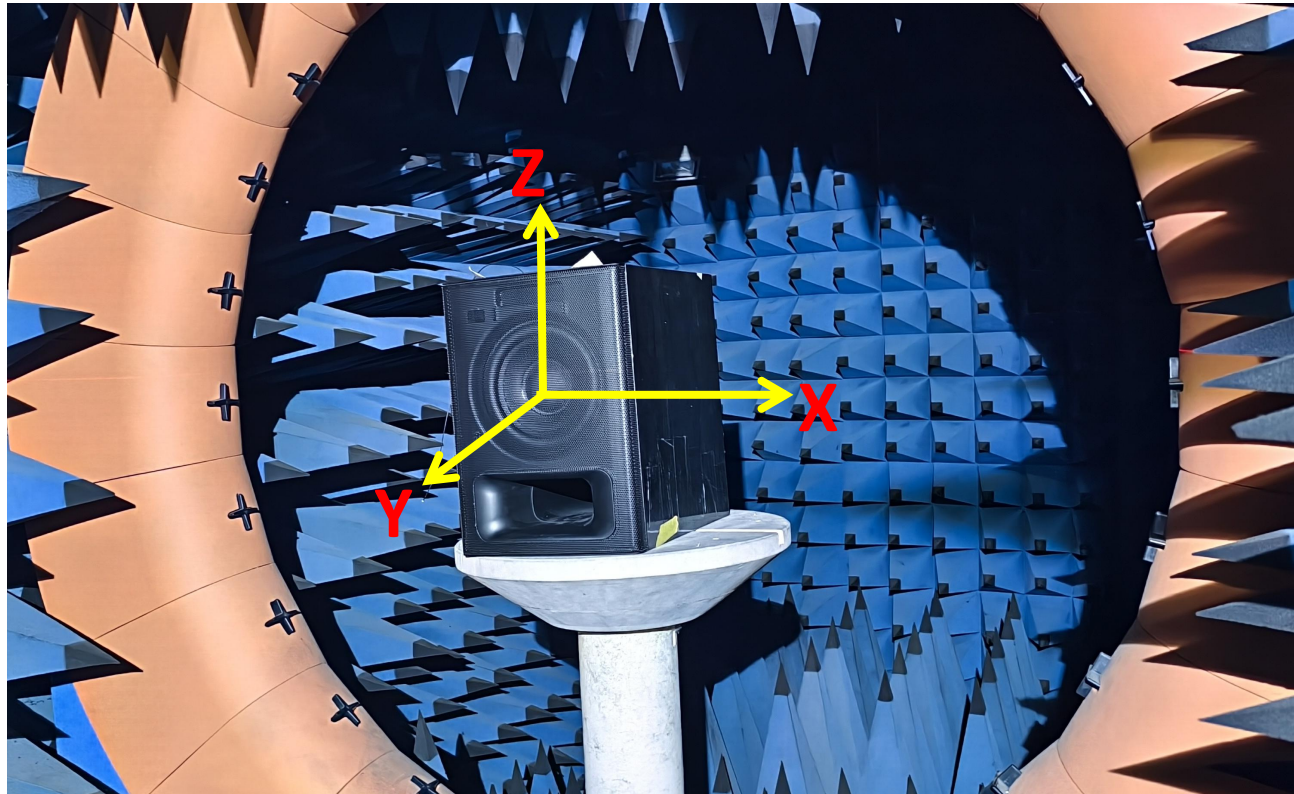


*The **Wireless Connection** Unlimited Wonderful*

# 实际测试图片 (test photo)

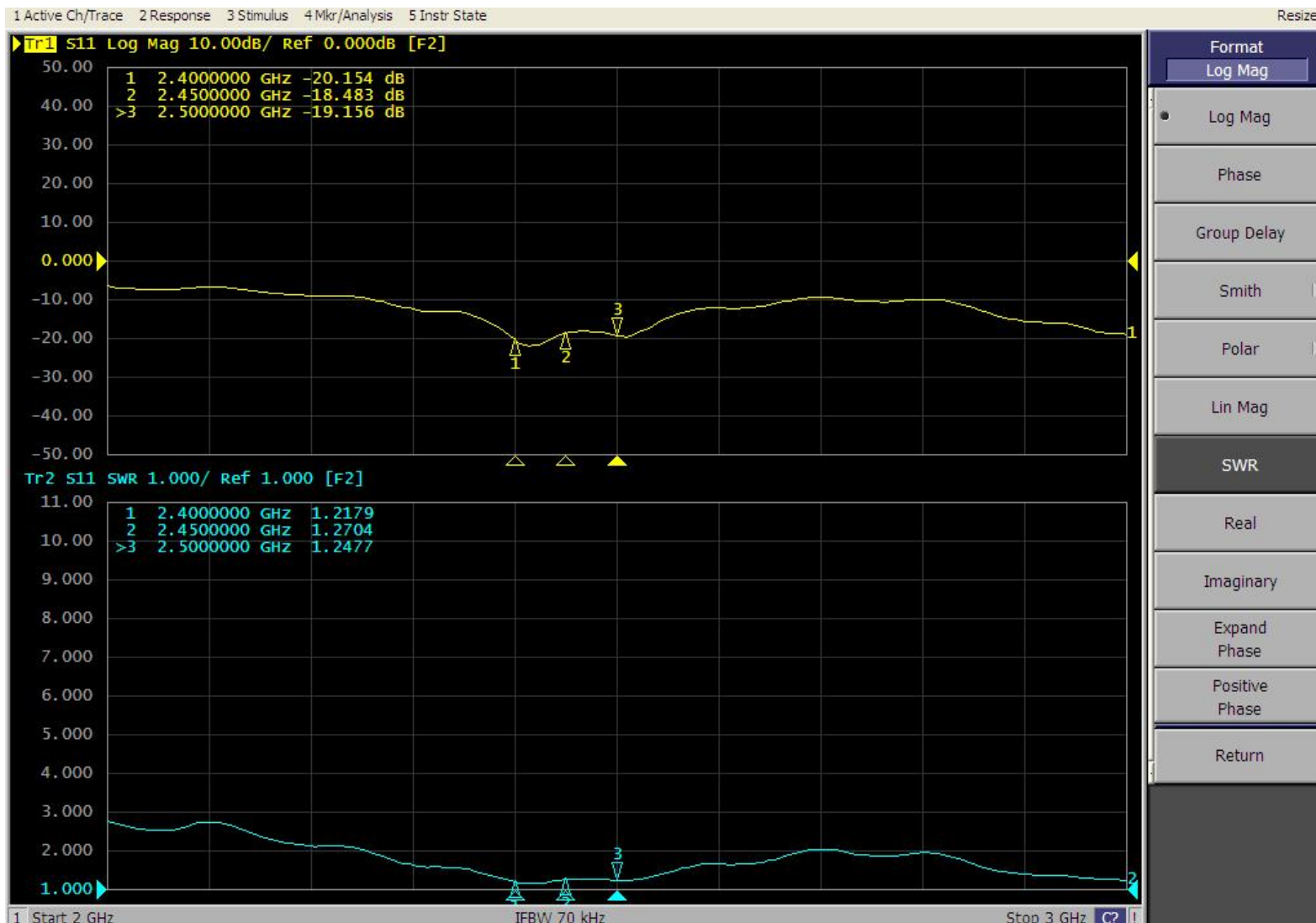
## ◆ 实际测试图片 (test photo)

X轴: 左右  
Y轴: 前后  
Z轴: 上下



# 无源S11 ( Passive S11)

## ◆ 无源S11 ( Passive S11)



Frequency (MHz)	2400	2450	2500
return loss	-20.15	-18.48	-19.15
VSWR	1.21	1.27	1.24

# 无源效率、增益测试报告 (Passive efficiency and gain test report)

## ◆ 无源效率、增益测试报告 (Passive efficiency and gain test report)

Frequency / MHz	Efficiency / %	Gain/ dBi
2400	42.55	2.27
2410	43.59	2.29
2420	43.59	2.12
2430	42.64	1.78
2440	43.3	1.53
2450	42.74	1.46
2460	41.9	1.64
2470	42.64	1.95
2480	42.36	2.06
2490	42.09	2.22
2500	42.74	2.61

# 驻波比、回波损耗测试报告 (VSWR and Return loss test report)

## ◆ VSWR、Return loss (Passive efficiency and gain test report)

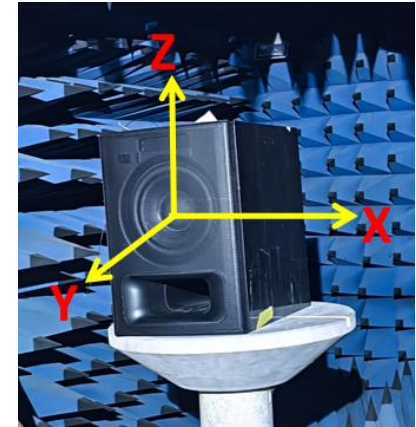
Frequency / MHz	Return loss	VSWR
2400	-20.15	1.21
2450	-18.48	1.27
2500	-19.15	1.24



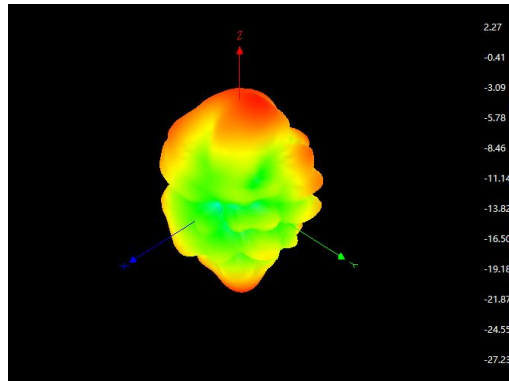
# 辐射方向图 (Radiation pattern)

## ◆ 辐射方向图 (Radiation pattern)

X轴: 左右  
Y轴: 前后  
Z轴: 上下

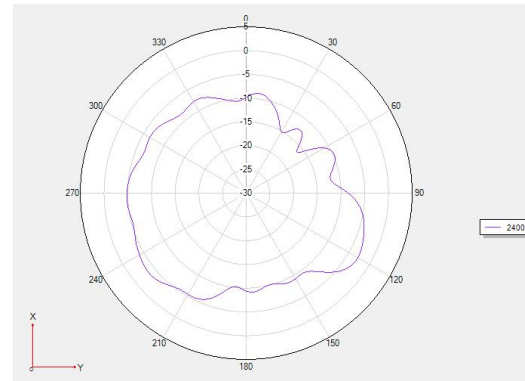


3D



2400MHz

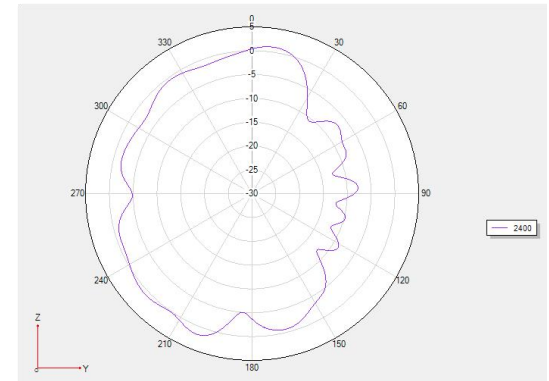
XY面



ZX面



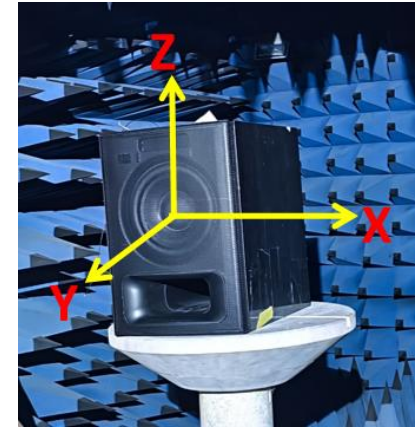
ZY面



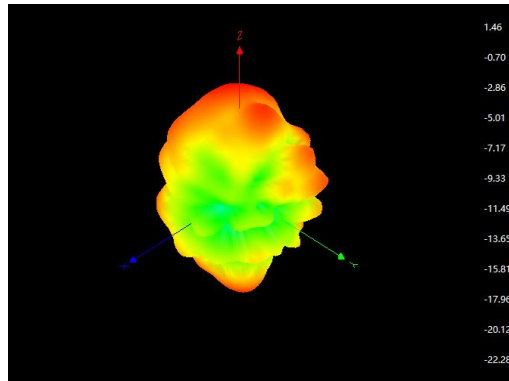
# 辐射方向图 (Radiation pattern)

## ◆ 辐射方向图 (Radiation pattern)

X轴: 左右  
Y轴: 前后  
Z轴: 上下

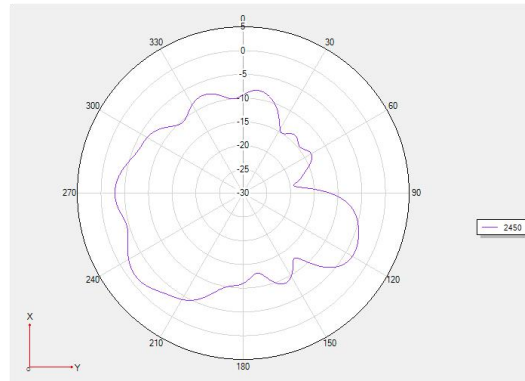


3D

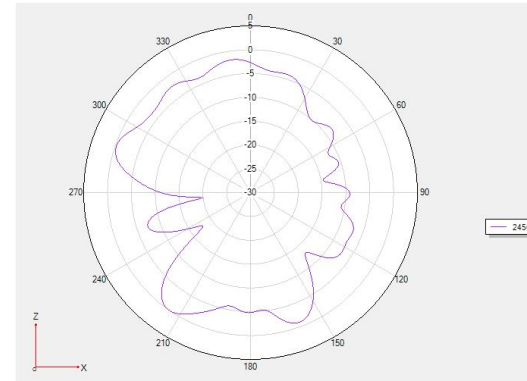


2450MHz

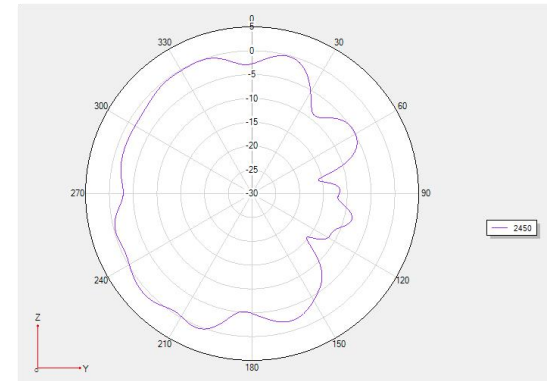
XY面



ZX面



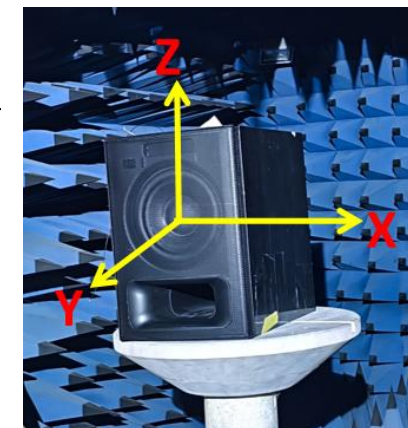
ZY面



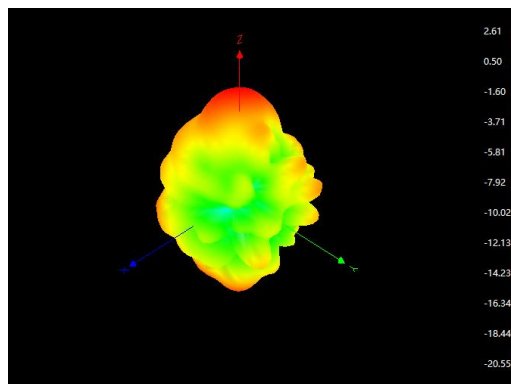
# 辐射方向图 (Radiation pattern)

## ◆ 辐射方向图 (Radiation pattern) TX-原位置

X轴: 左右  
Y轴: 前后  
Z轴: 上下

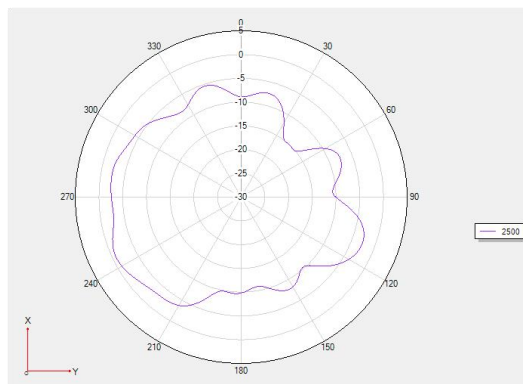


3D



2500MHz

XY面



ZX面



ZY面

