



产品规格承认书

Specification For Approval

客户名称: 天派电子（深圳）有限公司
Customer Skypine Electronics (Shenzhen) Co., LTD

供 应 商: 广州市高科中实通信技术有限公司
Supplier Gaoke Ant Co., Ltd.

客户料号: 3-W301-0038-02-00
Customer P/N

产品名称: 2.4&5.8G 内置天线
Production Name 2.4G &5.8G built-in antennas

产品型号: GKZS-2.4&5.8G-P0232-RF1.13I-75
Production Number

供应商确认盖章 (Supplier Signature)		
工程师 Engineer	审核 Checked by	批准 Approved by
周胤韬 Zhou Yintao	谢倩菊 Xie Qianju	胡泽伟 Hu Zewei
2025 年 05 月 14 日 May 14, 2025	2025 年 05 月 14 日 May 14, 2025	2025 年 05 月 14 日 May 14, 2025

客户确认盖章 (Customer Signature)		
工程师 Engineer	审核 Checked by	批准 Approved by
年 月 日 Year Month Day	年 月 日 Year Month Day	年 月 日 Year Month Day



广州市高科中实通信技术有限公司

Gaoke Ant Co., Ltd.

注：客户确认盖章后，请将此承认书回传到我公司。

Note: After the customer confirms and stamps, please send this letter of acknowledgement back to our company.

广州市高科中实通信技术有限公司

Gaoke Ant Co., Ltd.

地址:中国广东省广州市从化区神岗广从南路 22 号

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<http://www.gkzs.com.cn>



Description Record

版本
Version

修改内容 Content Revised

创建者
Modifier

日期
Date

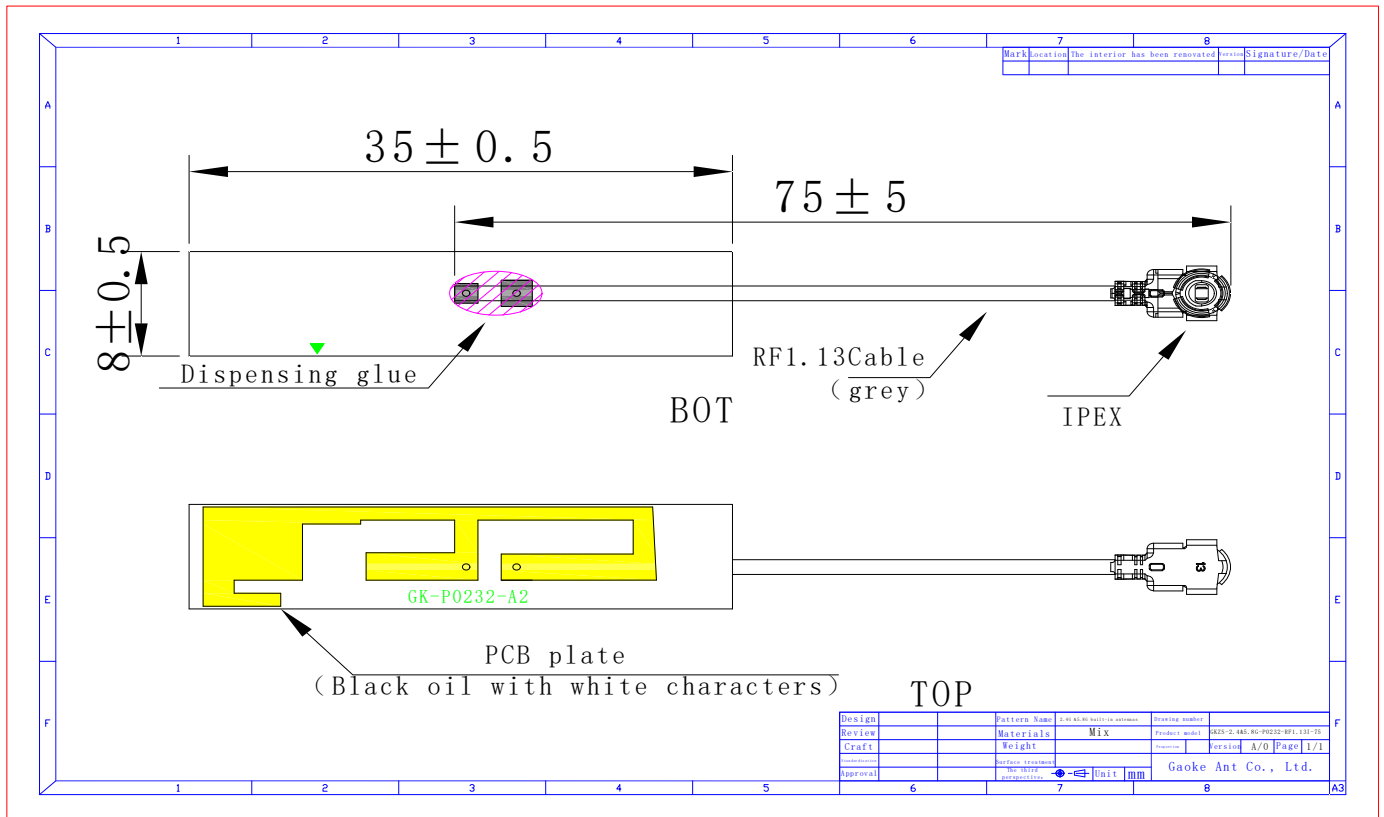
A/0

初始新建
New construction

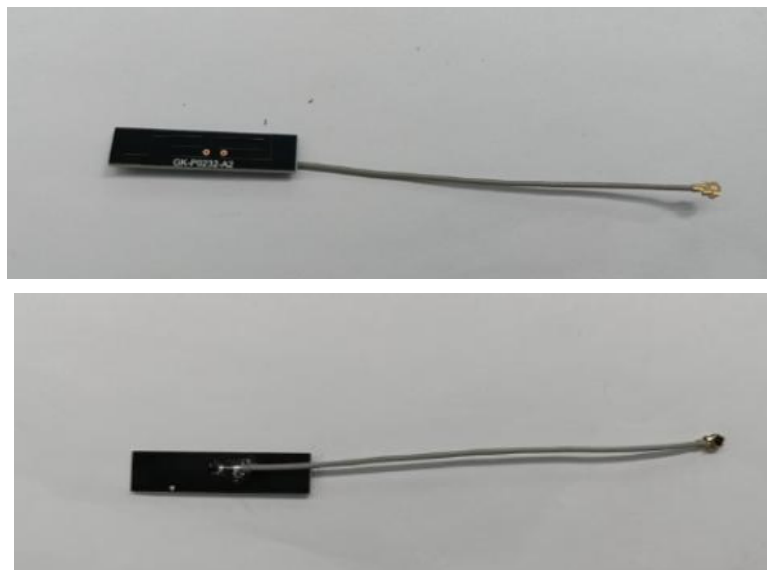
胡梅娇
Hu Meijiao

2025.05.14

1、产品结构图纸 (mm) /Product structure drawing (mm)



2、产品实物图/picture products



3、天线技术参数/Antenna technical parameters

Design Specifications	Typical
天线形式 (Antenna type)	PCB 板内置天线 The PCB board is equipped with an internal antenna
工作频率(working Frequency)	2400-2500MHz、5150-5850MHz
增益 (Gain)	0.55dBi (Average) , 1.50dBi (MAX) @2400-2500MHz 0.96dBi (Average) , 2.42dBi (MAX) @5150-5850MHz
天线效率 (Antenna efficiency)	$\geq 15\%$
电压驻波比 (VSWR)	$\leq 3.0@2400-2500\text{MHz}$ $\leq 2.5@5150-5850\text{MHz}$
极化方式(Polarization)	linear polarization
辐射方向(Radiation pattern)	omnidirectional
馈电阻抗(impedance)	50 Ω
功率容量(Power handling)	33dBm
天线接口(Interface)	IPEX / RF1.13Cable (Grey) L=75mm
天线尺寸(Overall dimensions)	35x8mm
重量(Weight)	1.0g
工作温度(Operatin Temp)	-40~80°C

4、线材的规格/Specifications of Cable

• Model

RF1.13/P-TC (DX)

• structural diagram



• structural parameters

structure	Material	standard value (mm)
1.Inner conductor	SC	7/0.08 (φ0.24)
2.Insulation	FEP	φ0.68±0.03
3.Outer conductor	Copper foil+TC	Straight wrapping + weaving 4*16/0.05
4.Sheath	FEP	φ 1.13±0.05

Note: SC is silver-plated copper wire. TC is tin-plated copper wire. The insulation color is transparent, and the common colors of the sheath include black, gray, etc.

• Electrical performance parameters

Characteristic impedance (Ω)	50±3
Capacitor (pf/m)	98±5
Transmission rate (%)	69
Transmission delay (ns/m)	4.8
Pressure resistance (V)	1000
Maximum operating frequency (MHz)	6000

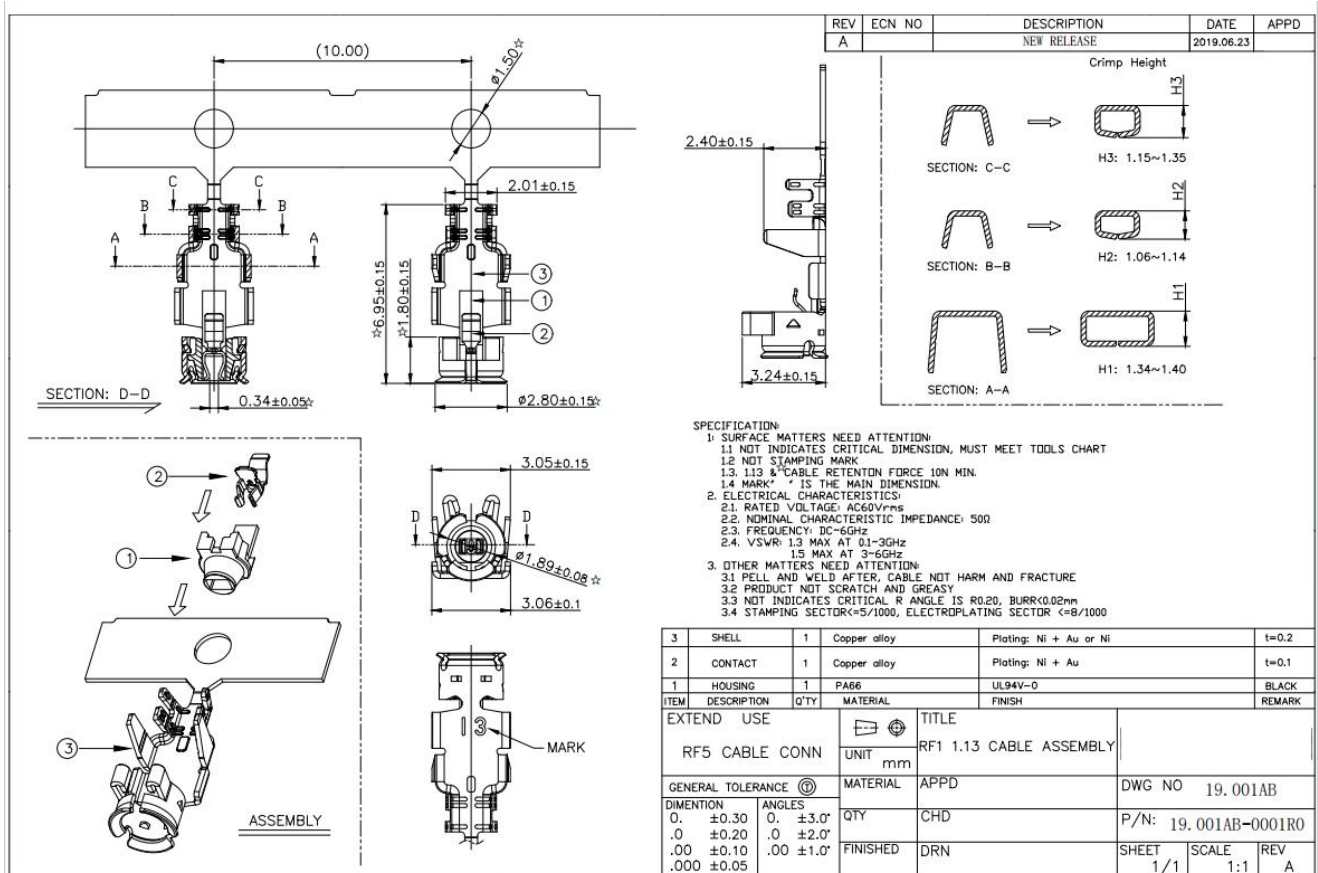
VSWR ≤1.30@0-3GHz; ≤1.35@3-6GHz

Attenuation (dB/m)	Frequency (MHz)	Typical value	Frequency (MHz)	Typical value
	0.1GHz	0.61	9GHz	-
	0.4GHz	1.19	10GHz	-
	1GHz	1.99	At sea level of 20℃	
	2GHz	2.97		
	3GHz	3.72		
	4GHz	4.65		
	5GHz	5.22		
	6GHz	5.35		

• Reliability

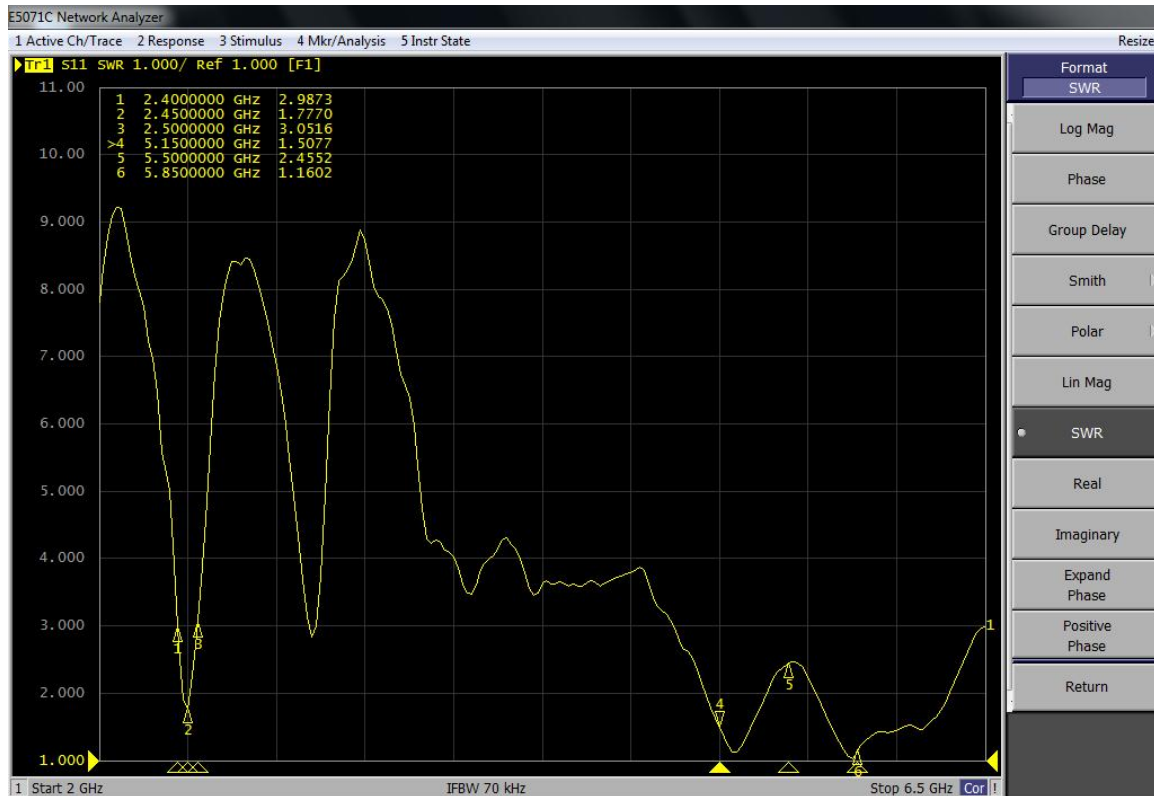
Minimum bending radius (mm)	Once ≥15; Repeat ≥25
Rated temperature/voltage (℃/V)	-55℃~+200℃/30V

四、IPEX 头(一代)规格/IPEX head (first generation) specification

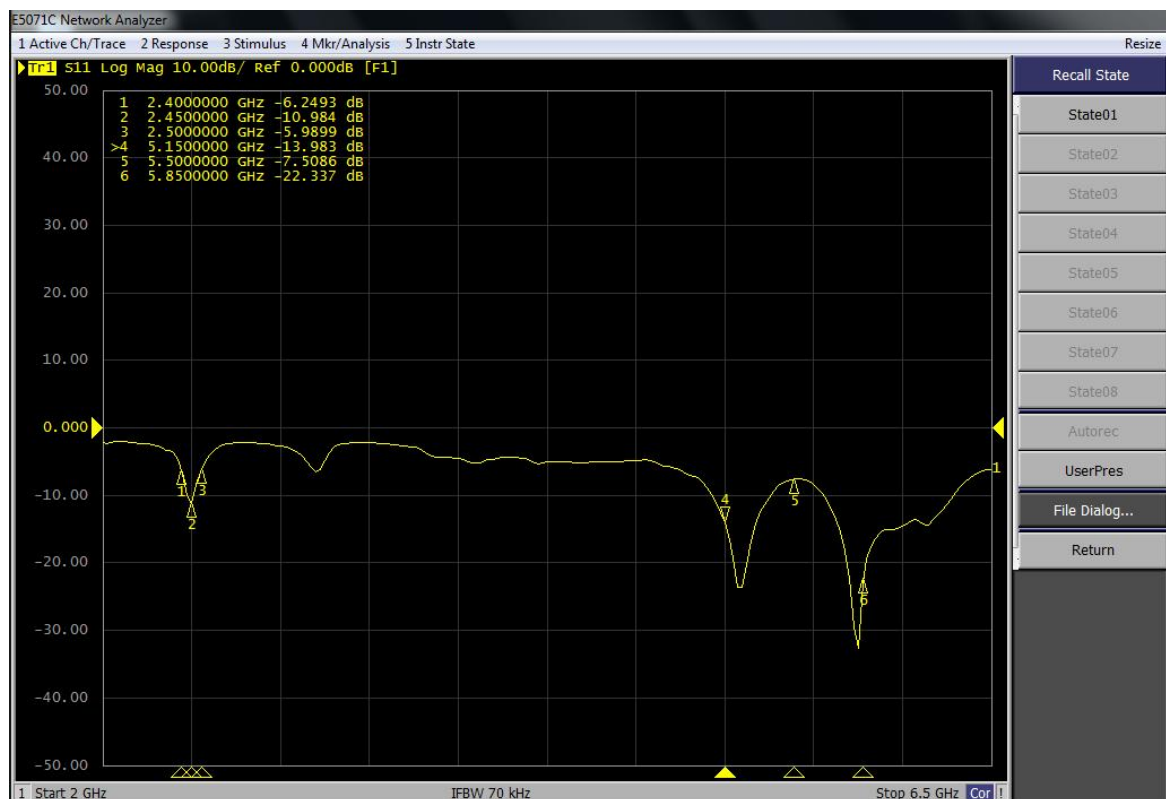


五、天线性能测试(配样机测试)/Antenna performance test (Sample testing)

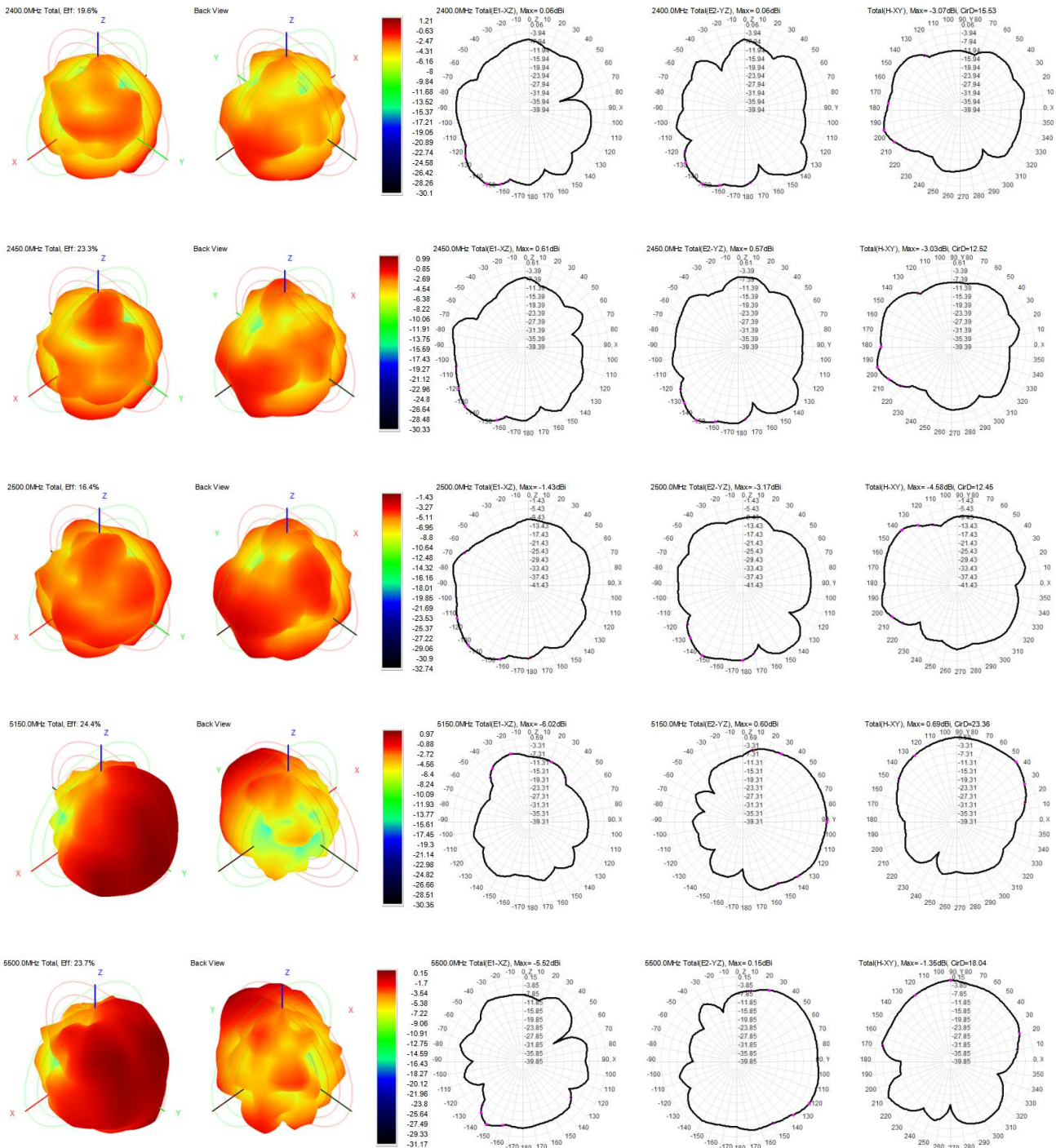
1、V.S.W.R

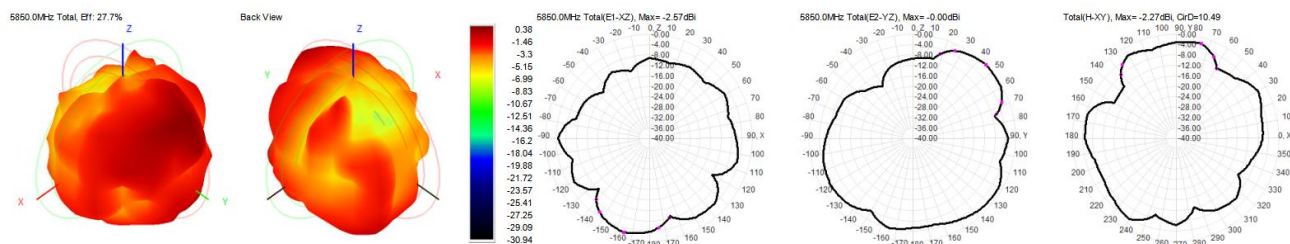


2、回波损耗/Return loss



3、方向图 (2D及3D图) /Radiation Pattern (2D and 3D)

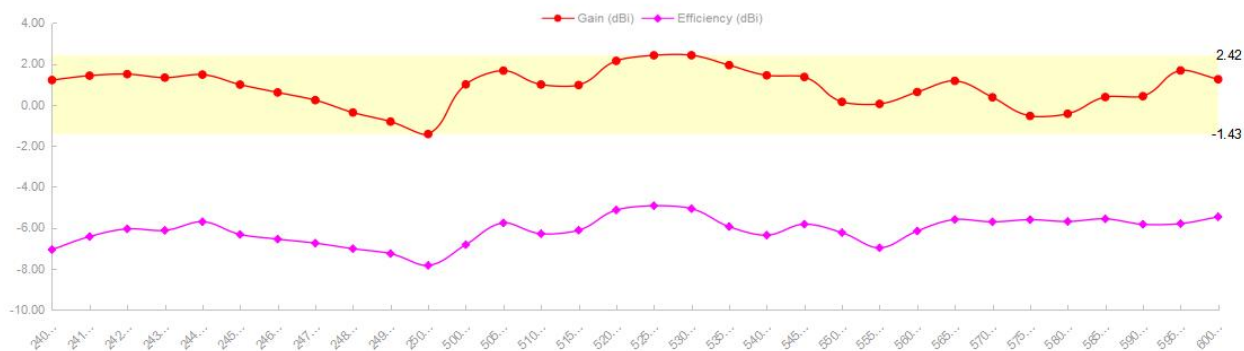




4、效率曲线图/Efficiency chart



5、增益曲线图/Gain chart



盐雾实验报告
Salt spray test report

产品名称 Product Name	IPEX (一代/First Generation)		实验数量 Number of experiments	3PCS
实验要求 Experimental requirements	氯化钠溶液浓度 Concentration of sodium chloride solution	5% (m ²)	进气压力 (一次) Intake pressure (first time)	2 kg/c m ²
	PH 值 PH value	6.5-7.2	出气压力 (二次) Exhaust pressure (secondary)	1 kg/c m ²
	压力桶温度 Pressure tank temperature	47°C±1°C	盐水桶温度 Salt water tank temperature	35°C±1°C
	试验室温度 Laboratory temperature	35°C±1°C	实验室相对湿度 Relative humidity in the laboratory	75-85%
	实验时间要求 Experimental time requirements	(24)H, 无氧化 (无发黄、发绿、红锈、白锈等) (24)H, no oxidation (no yellowing, greenness, red rust, white rust, etc.)		
实验设备说明 Description of Experimental Equipment				
开始时间 Start time	2025. 05. 06		结束时间 End time	2025. 05. 07
实验内容及记录 (Experimental content and records)				
实验时长 Duration of the experiment	实验状况描述 Description of the actual situation			备注 Supplementary Note
☐ 24H ☐ 28H	无氧化 (无发黄、发绿、红锈、白锈等) No oxidation (no yellowing, greenness, red rust, white rust, etc.)			外观 Appearance
☐ 40H ☒ 48H	无氧化 (无发黄、发绿、红锈、白锈等) No oxidation (no yellowing, greenness, red rust, white rust, etc.)			外观 Appearance
☐ 56H ☐ 72H				
(Judgment) 判定	☒ 合格 (Qualified) ☐ 不合格 (Unqualified) ☐ 特采 (Special Feature) ☐ 降级使用: (Downgraded usage)			

产品名称 Product Name		IPEX (一代/First Generation)		实验数量 Number of experiments		3PCS			
实验要求 Experimental requirements		氯化钠溶液浓度 Concentration of sodium chloride solution		5% (m ²)		进气压力 (一次) Intake pressure (first time)		2 kg/c m ²	
		PH 值 PH value		6.5-7.2		出气压力 (二次) Exhaust pressure (secondary)		1 kg/c m ²	
		压力桶温度 Pressure tank temperature		47°C±1°C		盐水桶温度 Salt water tank temperature		35°C±1°C	
		试验室温度 Laboratory temperature		35°C±1°C		实验室相对湿度 Relative humidity in the laboratory		75-85%	
		实验时间要求 Experimental time requirements		(24)H, 无氧化 (无发黄、发绿、红锈、白锈等) (24)H, no oxidation (no yellowing, greenness, red rust, white rust, etc.)					
实验设备说明 Description of Experimental Equipment									
开始时间 Start time		2025. 05. 06				结束时间 End time		2025. 05. 07	
		实验员/日期: 谢文婷 2025. 05. 07 Laboratory Technician/Date: Xie Wenting				审核/日期: 杨敬松 2025. 05. 07 Review/Date: Yang Jingsong			
备注 (Remarks)									