

# 承認書

## APPROVAL

客 户

:

品名規格  
DESCRIPTION:

銅管天線-2.4G -1.13 黑-L130-IPEX

料 号

PART NO.:

客 户 料 号

CUS PART NO.:

日 期

D A T E:

2022. 7. 4

工 程 ENGINEERING DEPARTMENT	品 保 QC DEPARTMENT	业 务 SALES DEPARTMENT

客户承认签章

工 程 ENGINEERING DEPARTMENT	品 保 QC DEPARTMENT	采 购 PURCHASING DEPARTMENT

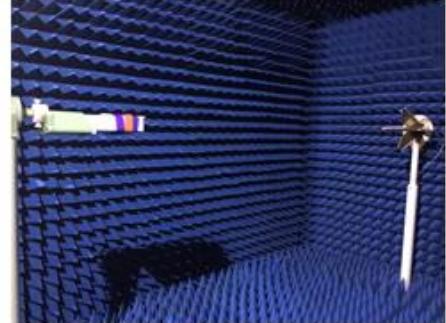
联系电话:

\* 承认书一式三份, 惠蒙贵司承认签章

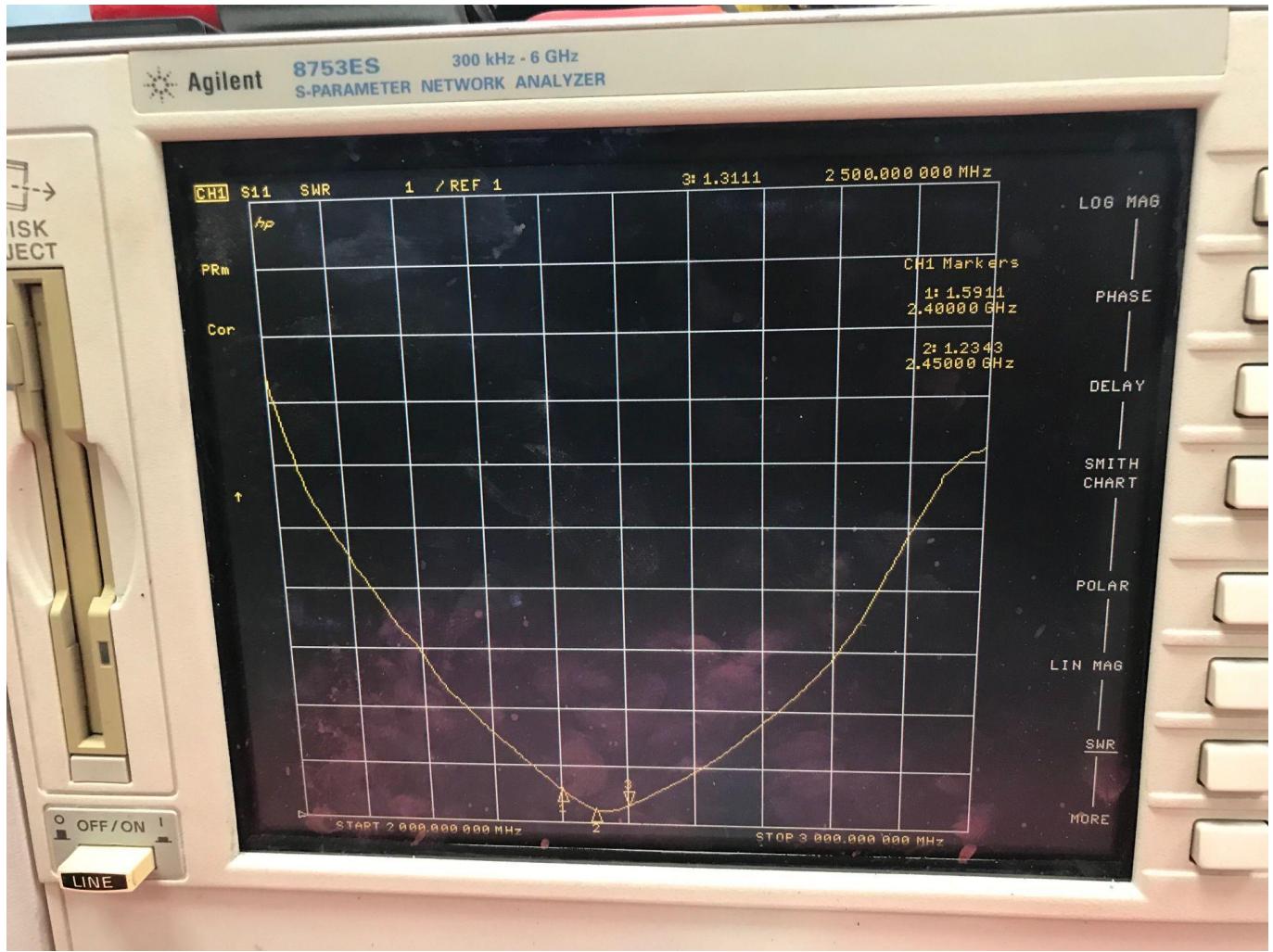
\* Approval in duplicate, please signed by your company.

## 1. 测试项目与设备

	测试项目	设备
1. S11 参数 (S-parameter)	1. 回波损耗 (Return Loss) 2. 电压驻波比 (VSWR)	网络分析仪: Agilent E5071B HP 8753D
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 综合测试仪: Agilent 8960 E5515B ×2 StarPoint SP6011
3. 无源测试 (Passive)	1. 天线增益 (Gain) 2. 天线效率 (Efficiency)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪: Agilent E5071B HP 8753D

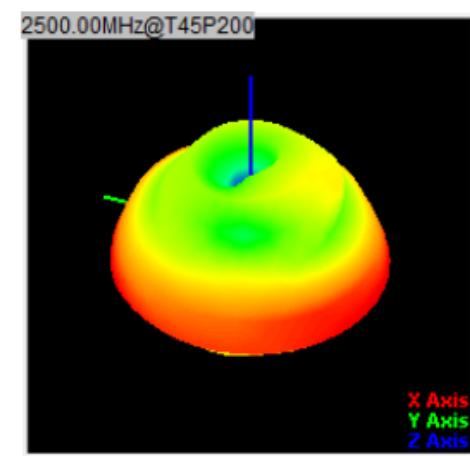
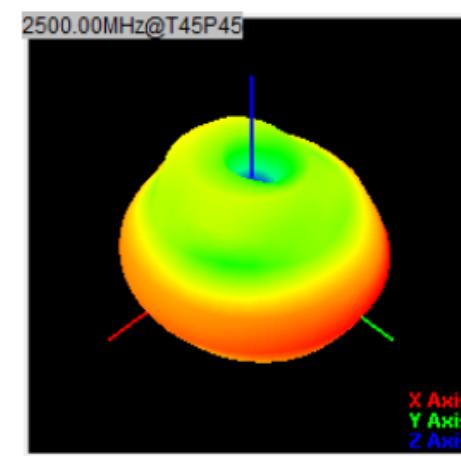
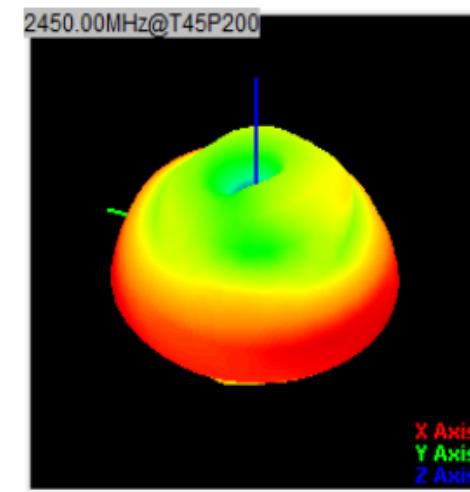
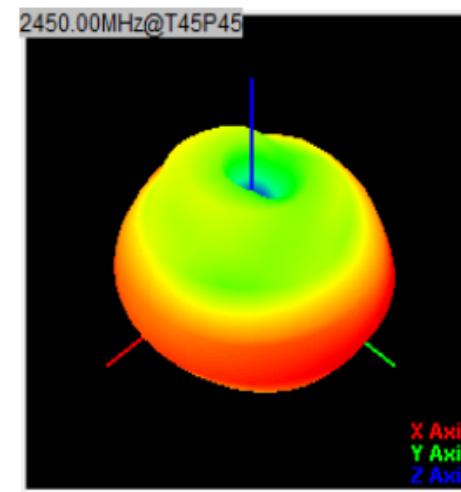
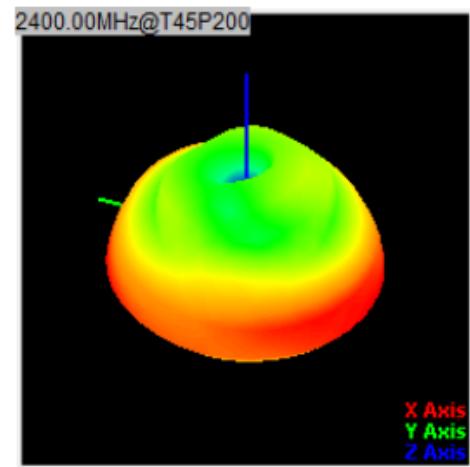
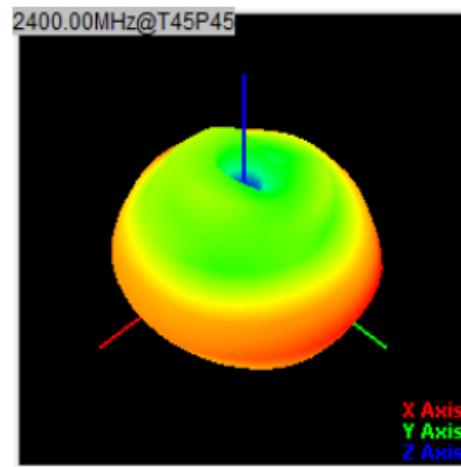
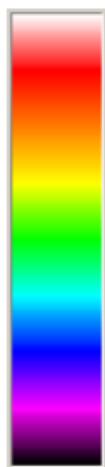


## 2. 天线性能

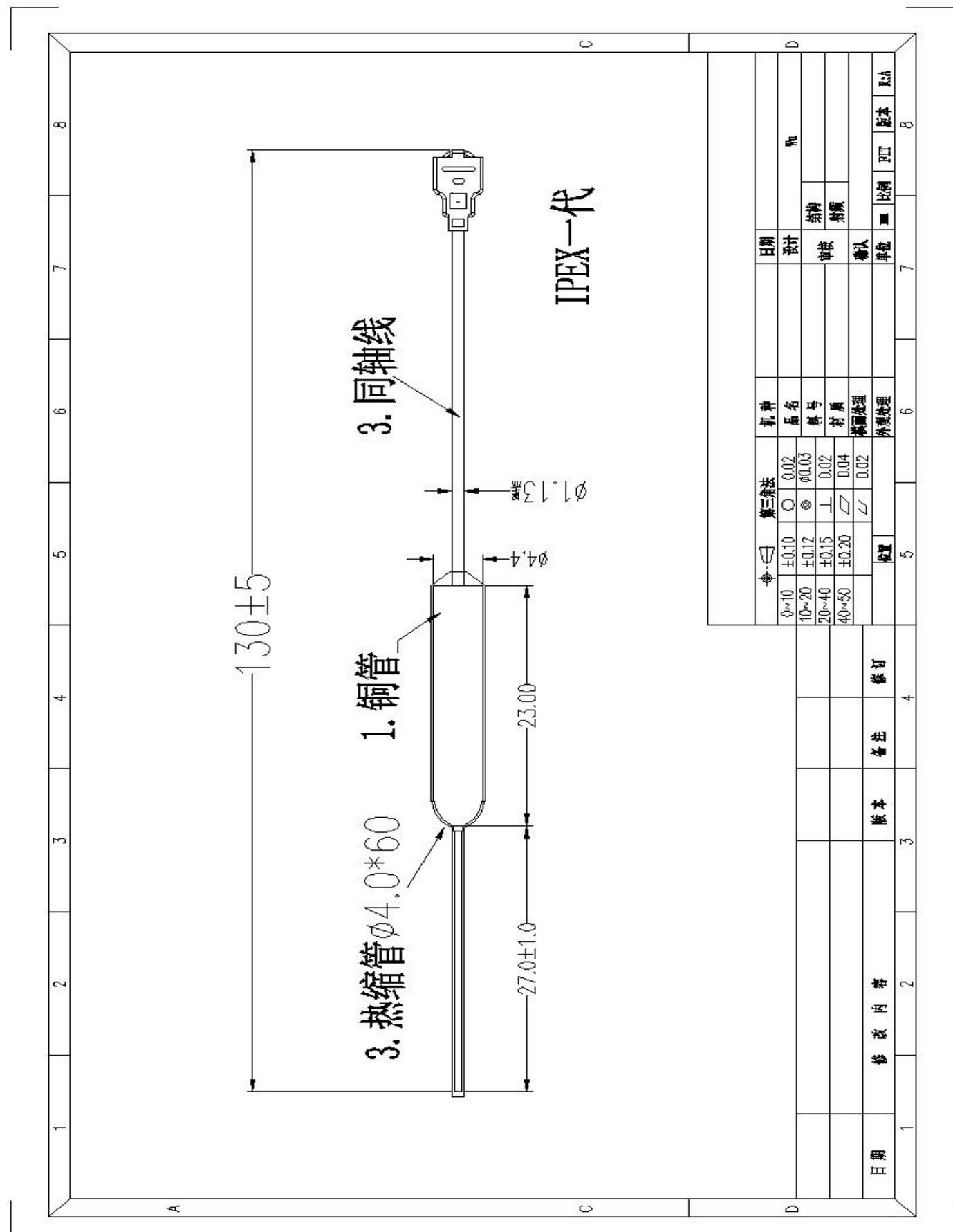


## 3. 暗室无源数据:

Passive Test For WIFI										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBD)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	Attenuat Hor	Attenuat Ver
2400	52.5	-2.8	1.77	-0.38	33.79	18.711	1.77	-16.22	48.09	47.94
2410	52.19	-2.82	1.65	-0.5	33.644	18.548	1.65	-15.92	48.07	47.87
2420	51.69	-2.87	1.5	-0.65	33.325	18.362	1.5	-15.32	48.18	48
2430	50.49	-2.97	1.33	-0.82	32.605	17.886	1.33	-15.32	48.17	47.99
2440	52.25	-2.82	1.49	-0.66	33.893	18.354	1.49	-15.44	48.33	48.11
2450	54.16	-2.66	1.64	-0.51	35.564	18.592	1.64	-15.72	48.44	48.14
2460	53.18	-2.74	1.53	-0.62	35.419	17.761	1.53	-16.88	48.41	48.06
2470	53.35	-2.73	1.51	-0.64	35.958	17.389	1.51	-17.44	48.49	48.11
2480	54.2	-2.66	1.5	-0.65	36.806	17.391	1.5	-16.88	48.63	48.18
2490	54.75	-2.62	1.43	-0.72	37.292	17.459	1.43	-16.87	48.76	48.29
2500	51.65	-2.87	1	-1.15	35.18	16.467	1	-17.68	48.69	48.16



4. 天线结构图：



电器技术参数			
电 性 能 指 标		Electrical Specifications	
频率范围	2400~2500MHz	Frequency Range	2400~2500MHz
电压驻波比	≤2.0	VSWR	≤2.0
输入阻抗	50 Ω	Input Impedance	50 Ω
增益	1.77DBI	Gain	1.77DBI
辐射方向	全向	Radiation direction	omnidirectional
机 械 指 标		Mechanical Specifications	
线材颜色	黑色	Antenna Color	Black
接口形式	IPEX	Input connector	IPEX
天线线长	130mm	Cable length	130mm
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
工作湿度	20~80%	Working Humidity	20~80%

# RF113 规格

## 1. 适用范围

本规格书制定了电线的结构和电气特性

同轴线  
AWG 32

## 2. 结构/Construction

单位/Unit: mm

项目/Item		单位/Unit	详细资料/Details
Conductor 导体	材料/Material	-	绞合镀银铜丝 Silver-coated copper wire
	构成/Composition	(No./mm)	7/0.08
	外径/OD.	mm	0.24
	绞向/Orientation	-	S
Insulation 绝缘层	材料/Material	-	FEP(进口料)
	绝缘颜色/Insulation color	-	本色/Natural
	标称绝缘厚度/ Nom. Thickness	mm	0.22
	绝缘线径/OD.	mm	0.69
Braid Shield 编织	材料/Material	-	镀锡铜丝 Tinned copper wire
	构成/Composition	(No./mm)	16/4/0.05
	编织密度/Coverage	(%)	>=90
Jacket 外被	材料/Material	-	FEP
	标称绝缘厚度/ Nom. Thickness	mm	0.12
	外径/OD.	mm	1.13±0.10

## 3. Electrical Properties (at 20°C) / 电气特性(20°C时)

项目/Item	单位/Unit	详细资料/Details
导体电阻/Conductor Resistance	Ω/km	571 (Max. )
绝缘电阻/Insulation Resistance	MΩ • km	100 (Min. )
耐压强度(AC)/Dielectric Strength(AC)	V/ 1 Min	500
特性阻抗/Impedance	Ω	50±3
耐温等级/ Temperature	°C	200
额定电压/rated voltage	V	30

## 4. 电线截面图示如下：

