

SPECIFICATION



深圳市大显科技有限公司

Shenzhen Daxian Technology Co., Ltd.

国光 NORI WIFI 1 天线组件

GGEC NORI WIFI 1 Antenna assembly

产 品 规 格 书

Product Specification

客 户 connection	国光 GGEC	频 段 frequency range	2400 ~ 2500MHz、5150~5850MHz
项目名称 entry name	NORI	版 本 edition	V04
物料编号 Material No	1N-ORILI-136	颜 色 Color	黑色 Black
客户料号 Customer Item Number	EAN0056502		
R F 设计 R F Design	陈志强 ZhiQiang.Chen	结构设计 Structural Design	周锐斌 Ruibin.Zhou
品质经理 Quality Manager	李崇瑞 ChongRui.Li	技术总监 Technical Director	张磊 Lei.Zhang
日 期 Date	2026-03-16		

客户确认:

Customer confirmation:

装配是否符合贵司要求: ☐OK ☐NGWhether the assembly meets your company's requirements: ☐OK ☐NG

深圳市大显科技有限公司

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变更履历 Revision history

[illegible]

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一 项目说明 Project Description

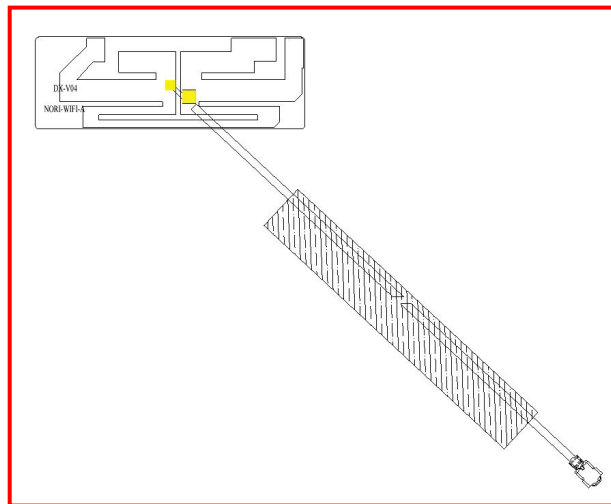
客户名: Customer Name:	国光 GGEC
整机类型: Type of complete machine:	日历机 Calendar machine
天线频段: Antenna band:	2400 ~ 2500MHz、5150-5850MHz
天线形式: Antenna form:	FPC+同轴线+线材海绵 FPC+coaxial line+wire sponge
馈电形式: Feed form:	焊接 weld
硬件版本: Hardware version:	/

二 WIFI 1 天线组件 Antenna assembly

1 规格 specifications

本报告主要提供 **NORI** 项目天线的各项电气和结构性能参数的测试状况。下图为大显设计的天线图片。

This report mainly provides the testing status of various electrical and structural performance parameters of the antenna for the **NORI** project. The following image shows an antenna with a large display design.



天线外观图

antenna appearing diagram

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1.1 电气规格标准 Electrical specifications and standards

1.1.1 电性能指标 Electrical performance index

天线工作频段在 2400 ~ 2500 MHz、5150 ~ 5850 MHz。下表是大显设计和量产天线的电性能的指标。

The operating frequency band of the antenna is between 2400 and 2500 MHz、5150and 5850 MHz.. The following table shows the electrical performance indicators of large display design and mass production antennas.

Frequency Range	Frequency (MHz)	VSWR
WIFI 1	2400 ~ 2500、5150~5850	≤ 2

1.2 结构规格标准 Structural specifications and standards

1.2.1 天线组成 Antenna composition

天线主要是由 FPC+同轴线+线材海绵 组成。

The antenna is mainly composed of FPC+coaxial line+wire sponge.

2、测试设备 The Equipment of Active Test

Satimo 3D Chamber $4 \times 4 \times 4$ (m)

CMW500 E5071C

Network analyzer-R&S ZVL

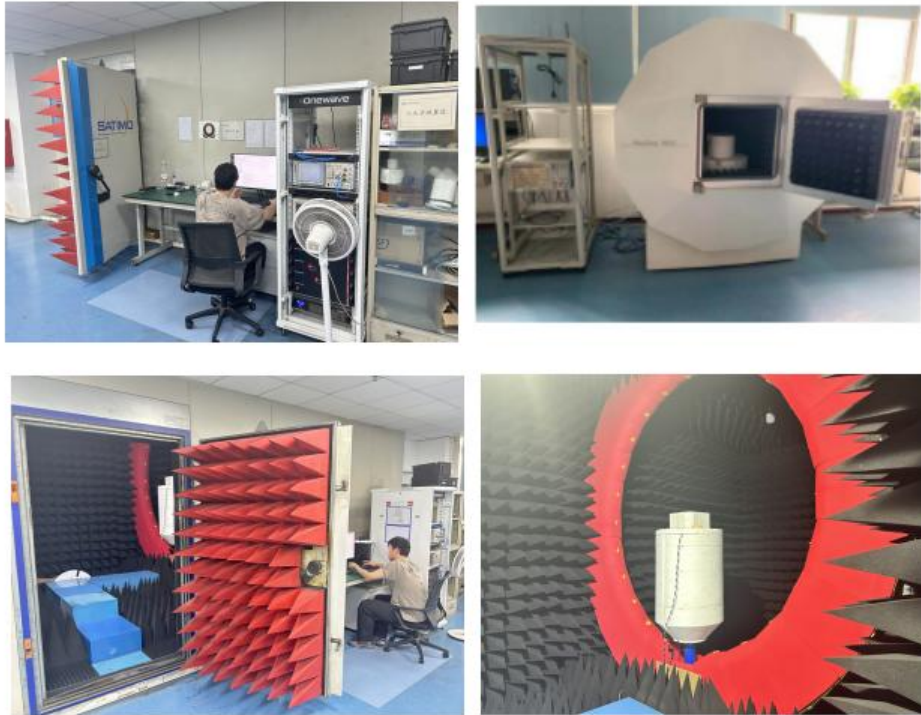


图 2

Figure 2

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3 测试 test

3.1 驻波(VSWR)的测试 Test of standing wave (VSWR)

3.1.1 测试连接: VSWR 测试装置依次的连接为: R&S ZVL 网络分析仪 → 测试线 → 测试治

Test connection: The VSWR test device is sequentially connected as follows: R&S ZVL network analyzer → test line → test fixture

实测(附图)Actual measurement (attached drawing)

3.2 增益及效率、功率 (TRP)、灵敏度 (TIS) 的测试

Gain and efficiency, power (TRP), sensitivity (TIS) testing

3.2.1 测试的场地 Test site:

大显微波暗室。测试频率范围为 400MHz—6GHz, 静区范围为 50cm 圆周, 反射率小于 -50 dB。

Large display microwave anechoic chamber. The test frequency range is 400MHz - 6GHz, the static zone range is 50cm circumferential, and the reflectivity is less than -50dB.

3.2.2 测试的仪表 Tested Instruments:

R&S ZVL 网络分析仪、CMW500 E5071C、标准喇叭天线、法国 SATIMO-SG24SYSTEM 系统、打印机等。

R&S ZVL network analyzer, Agilent 8960 E5515C, standard horn antenna, French SATIMO-SG24SYSTEM system, printer, etc.

3.2.3 测试数据: 在微波暗室中, 测试的功率和灵敏度相关的数值如下表

Test data: In a microwave anechoic chamber, the values related to the power and sensitivity tested are shown in the table bel

无源效率&增益 Passive efficiency&gain:

Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)	Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	3.2	-2.04	62.55	5150	4.75	-2.93	50.93
2410	3.38	-1.99	63.2	5200	4.3	-2.97	50.42
2420	3.39	-1.84	65.41	5250	4.18	-2.8	52.47
2430	3.4	-1.76	66.68	5300	2.8	-3.32	46.54
2440	3.69	-1.69	67.76	5350	3.54	-3.26	47.22
2450	3.83	-1.7	67.64	5400	3.58	-3.02	49.91
2460	3.69	-1.9	64.62	5450	4.5	-3.35	46.19
2470	3.76	-1.91	64.43	5500	3.8	-3.72	42.51
2480	3.73	-2.06	62.21	5550	3.73	-3.88	40.93
2490	3.69	-2.15	60.91	5600	3.96	-3.75	42.17
2500	1.28	-2.99	50.24	5650	4.04	-3.81	41.61
				5700	3.6	-3.48	44.92
				5750	4	-3.59	43.79
				5800	3.58	-3.63	43.31
				5850	3.66	-3.62	43.41

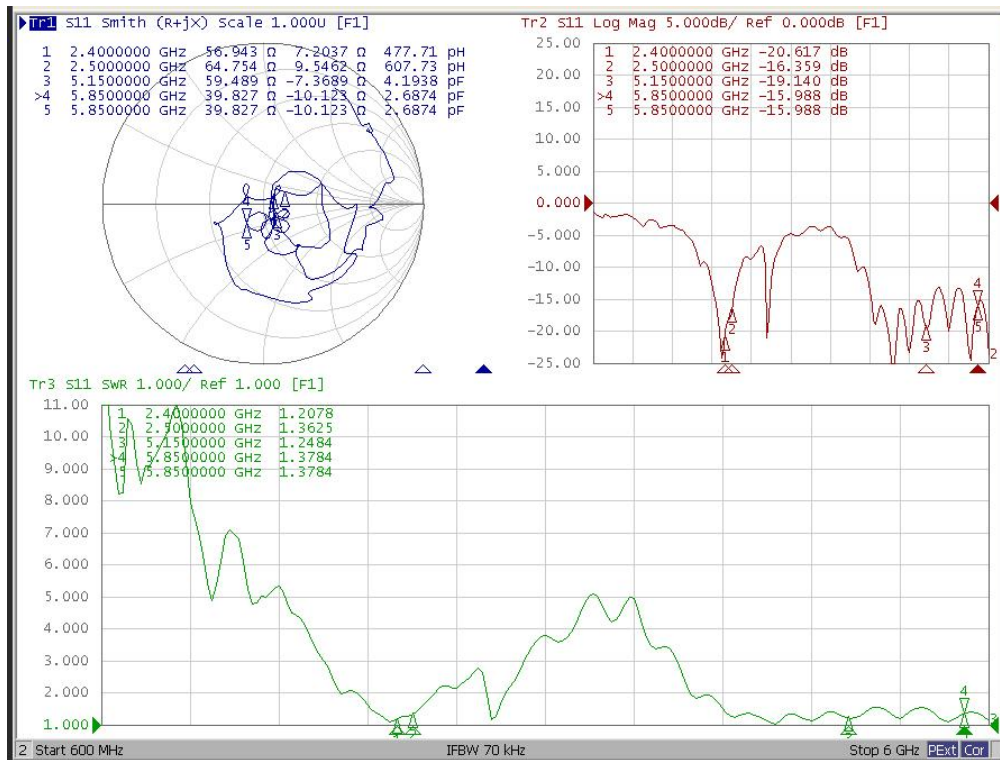
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带墙体无源效率&增益 Wall-mounted passive efficiency & gain:

Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)	Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	3.48	-4.44	35.98	5150	3.89	-4.7	33.87
2410	3.59	-4.43	36.09	5200	3.73	-4.79	33.17
2420	3.72	-4.29	37.21	5250	3.44	-4.57	34.9
2430	3.71	-4.2	38.06	5300	2.43	-4.91	32.31
2440	3.72	-4.09	39.04	5350	2.9	-4.7	33.86
2450	3.67	-4.01	39.69	5400	3.21	-4.34	36.78
2460	3.41	-4.16	38.39	5450	4.32	-4.61	34.58
2470	3.43	-4.18	38.23	5500	3.95	-5.02	31.44
2480	3.37	-4.32	37	5550	4.02	-5.24	29.91
2490	3.28	-4.39	36.4	5600	4.05	-5.09	30.95
2500	2.65	-4.84	32.78	5650	4.23	-5.2	30.21
				5700	4	-4.87	32.6
				5750	4.34	-5.05	31.24
				5800	4.13	-5.17	30.43
				5850	4.02	-5.27	29.73

4、VSWR 参数图 VSWR parameter diagram

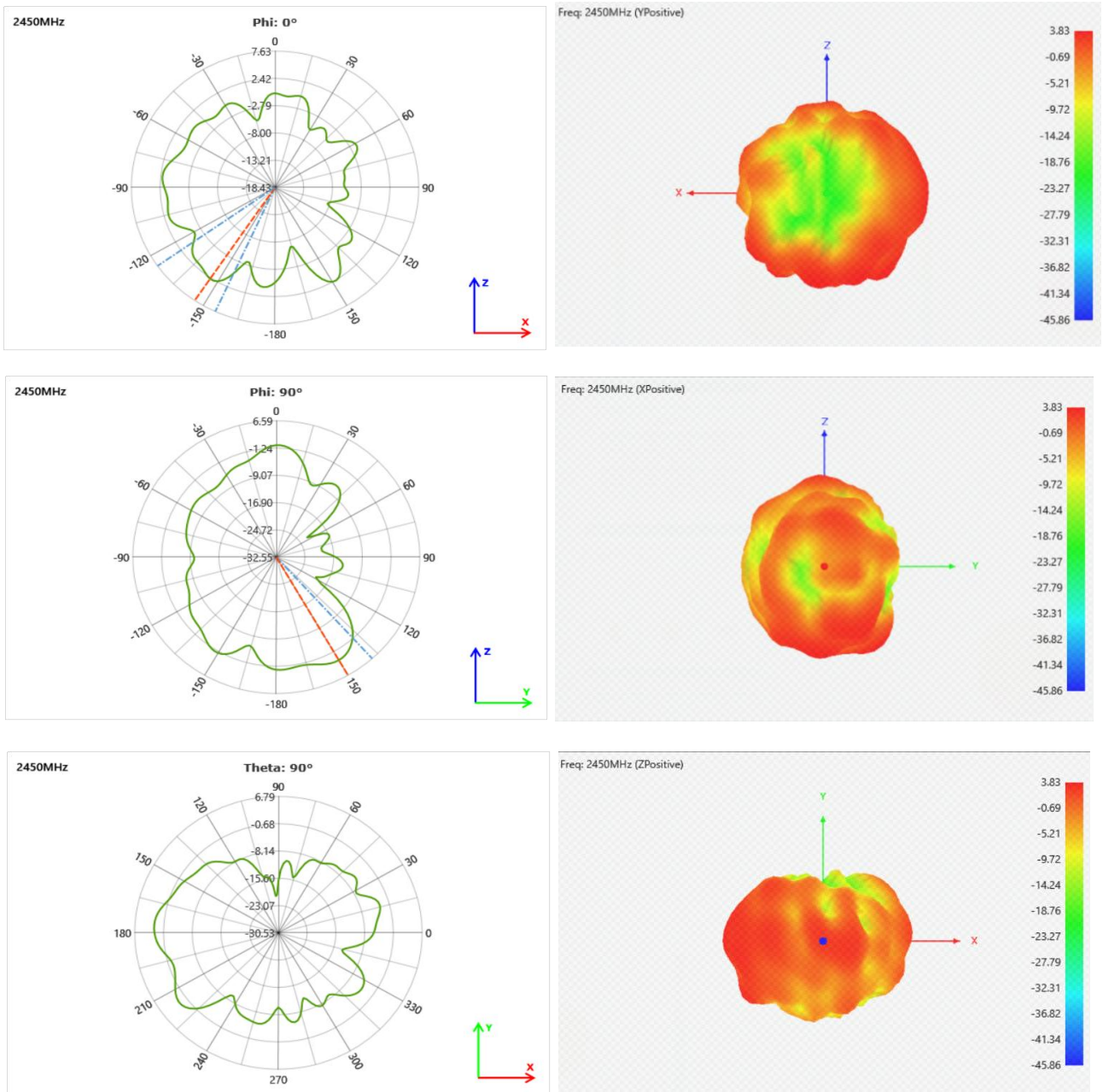
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5、无源效率场型图 Passive efficiency field pattern diagram

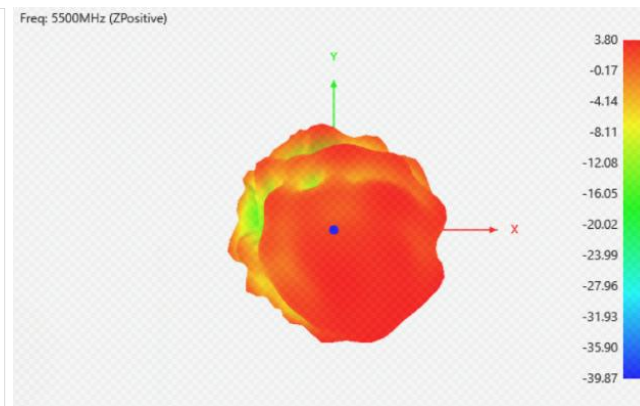
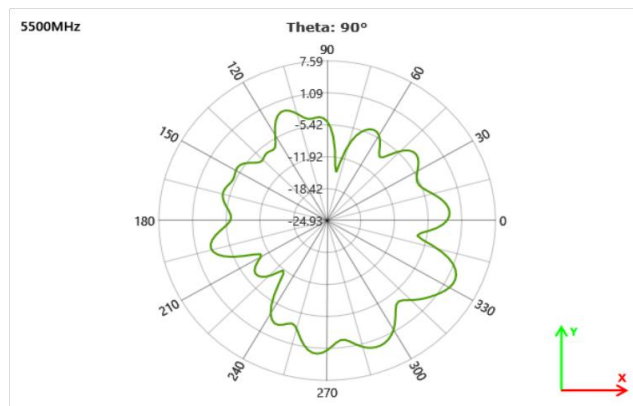
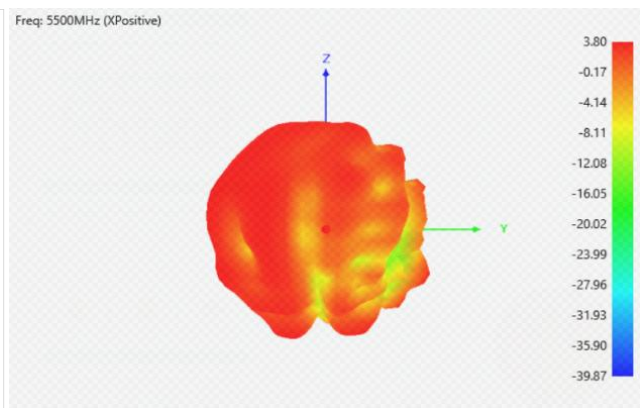
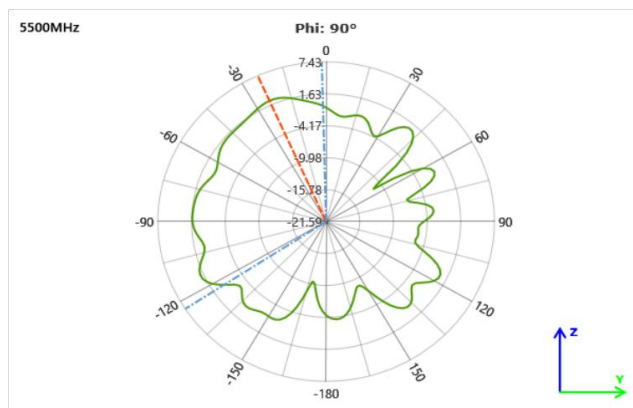
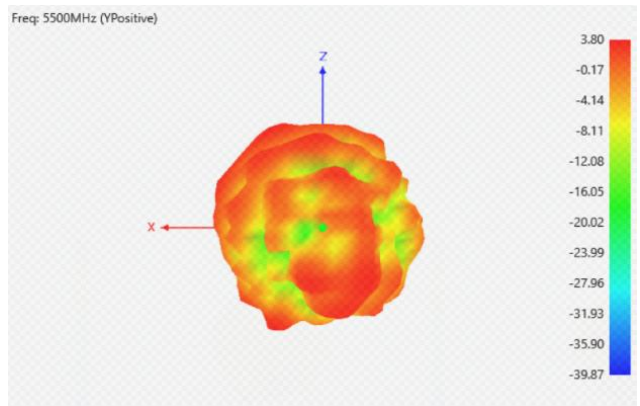
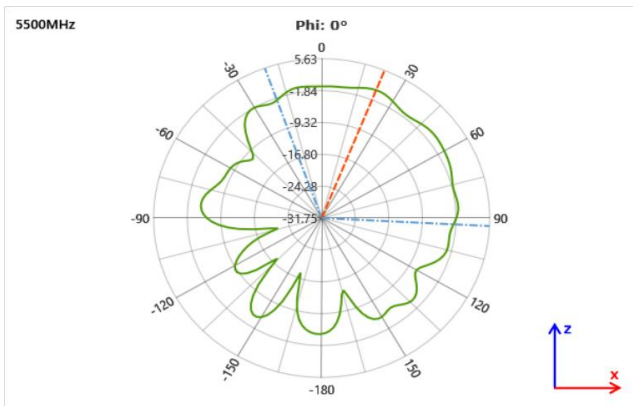
2450MHz



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5500MHz

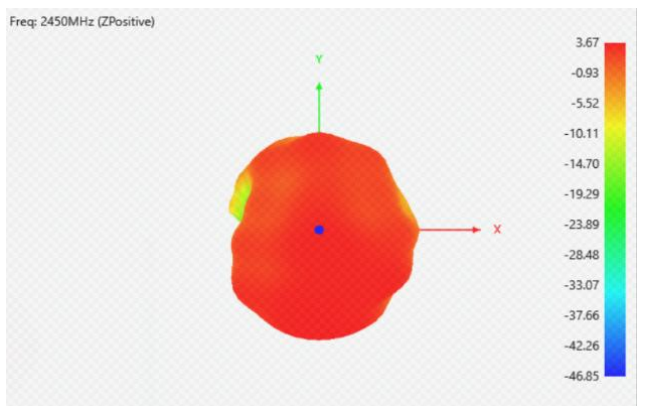
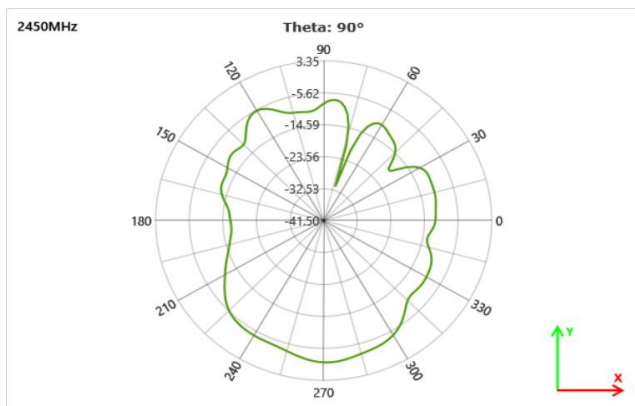
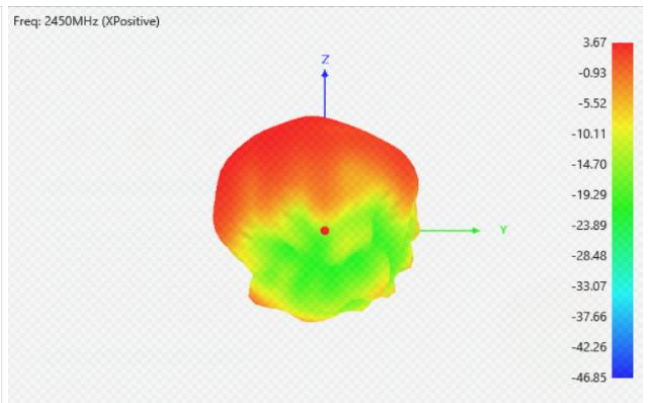
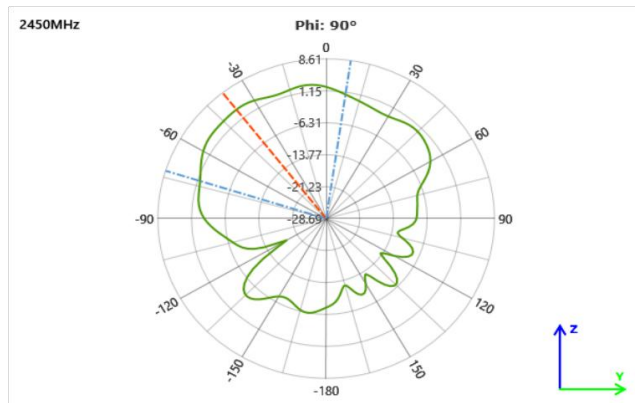
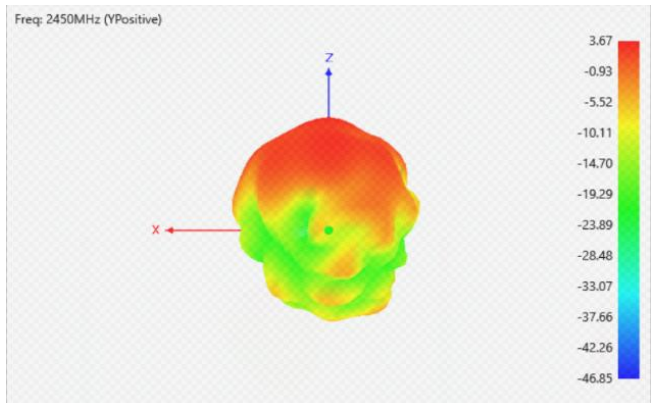
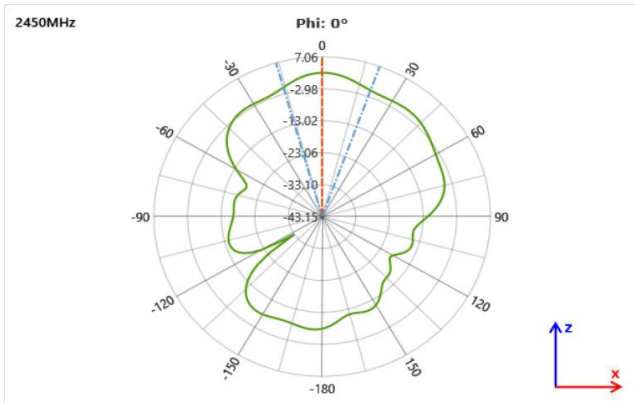


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带墙体无源效率场型图 Wall-mounted Passive efficiency field pattern diagram

2450MHz

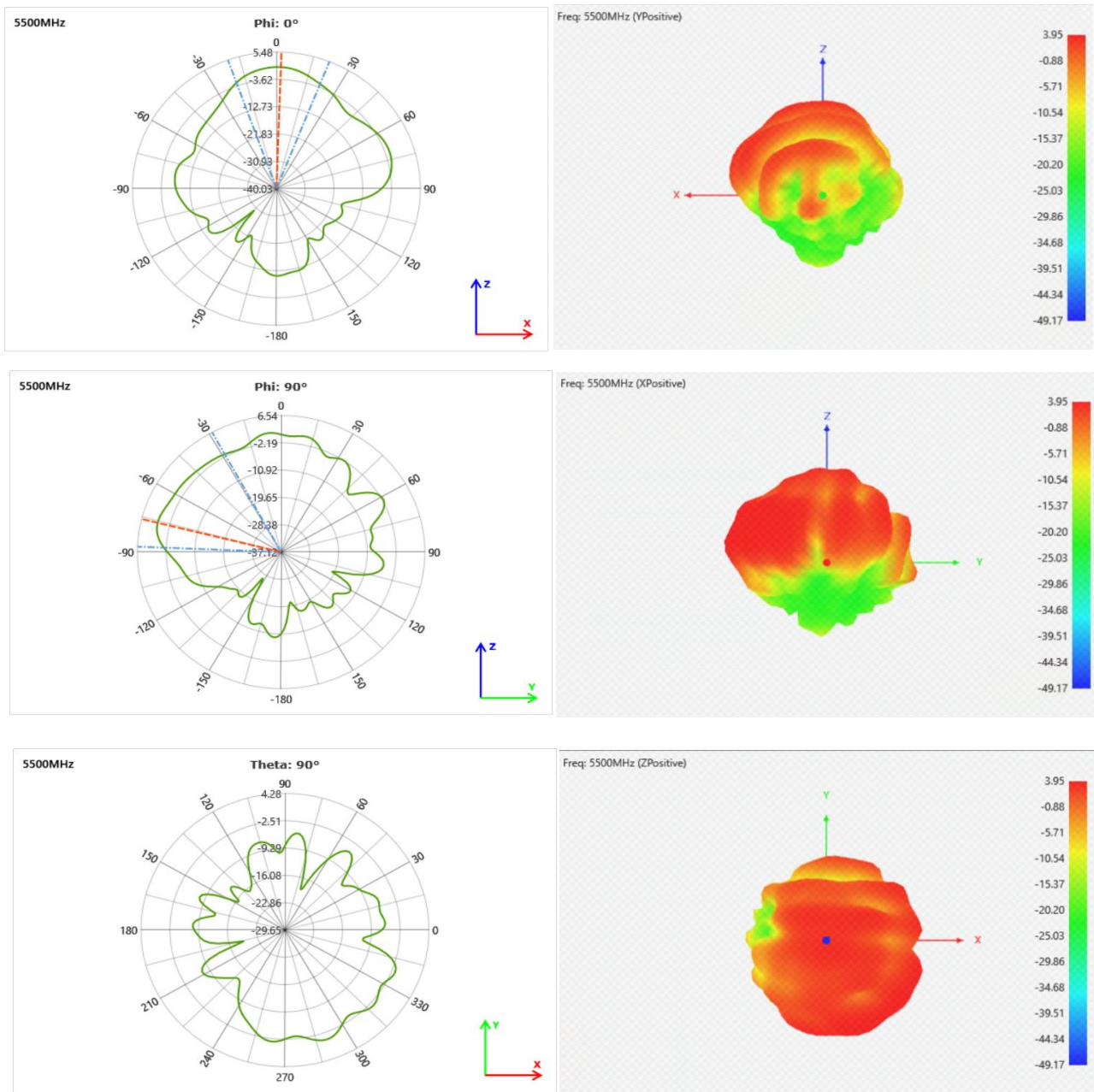


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5500MHz



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6、装机注意事项 Installation Notes

WiFi1 天线同轴线的出线方式

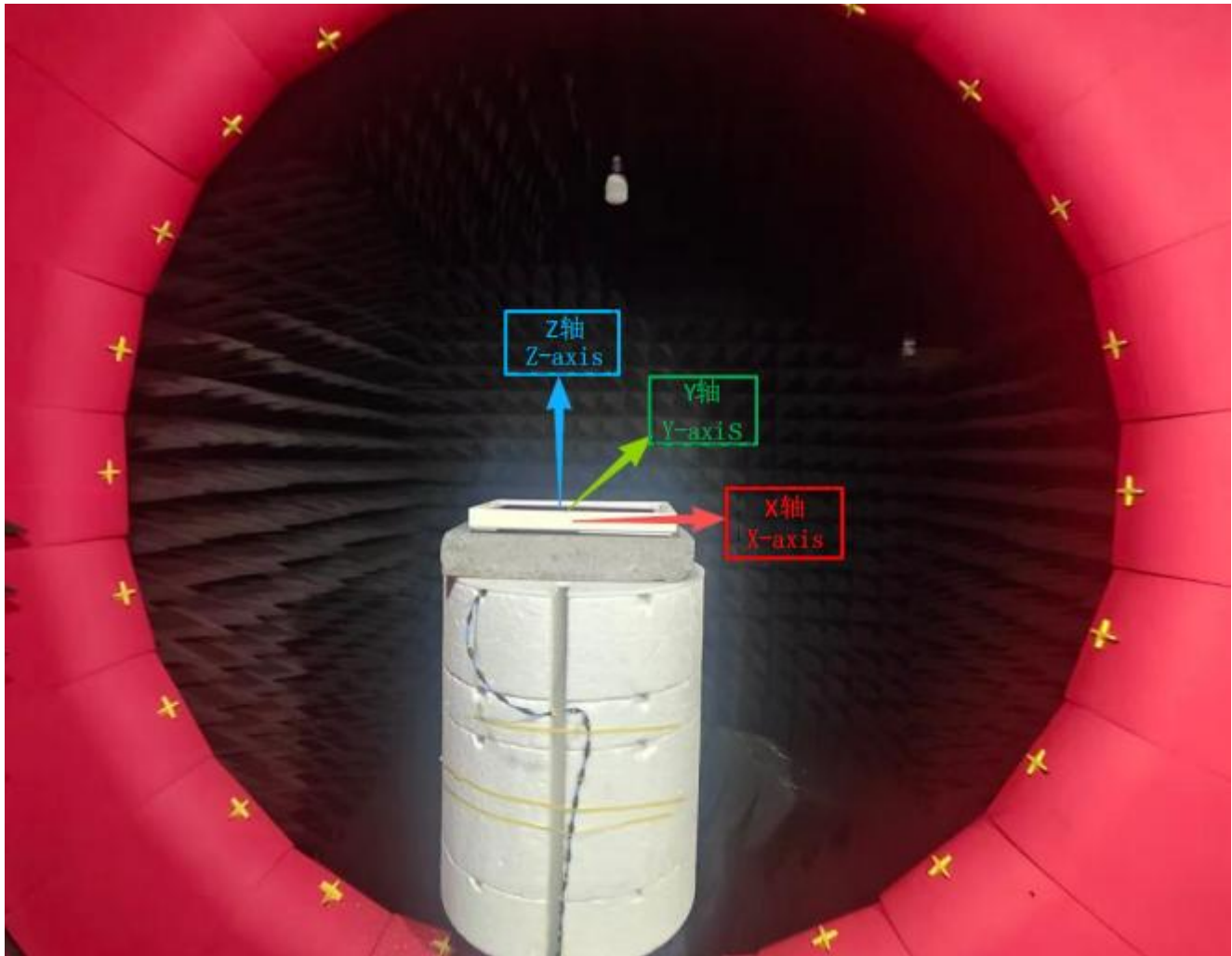
The wiring method for the coaxial cable of the WiFi antenna.

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7、暗室坐标系 Darkroom coordinate system



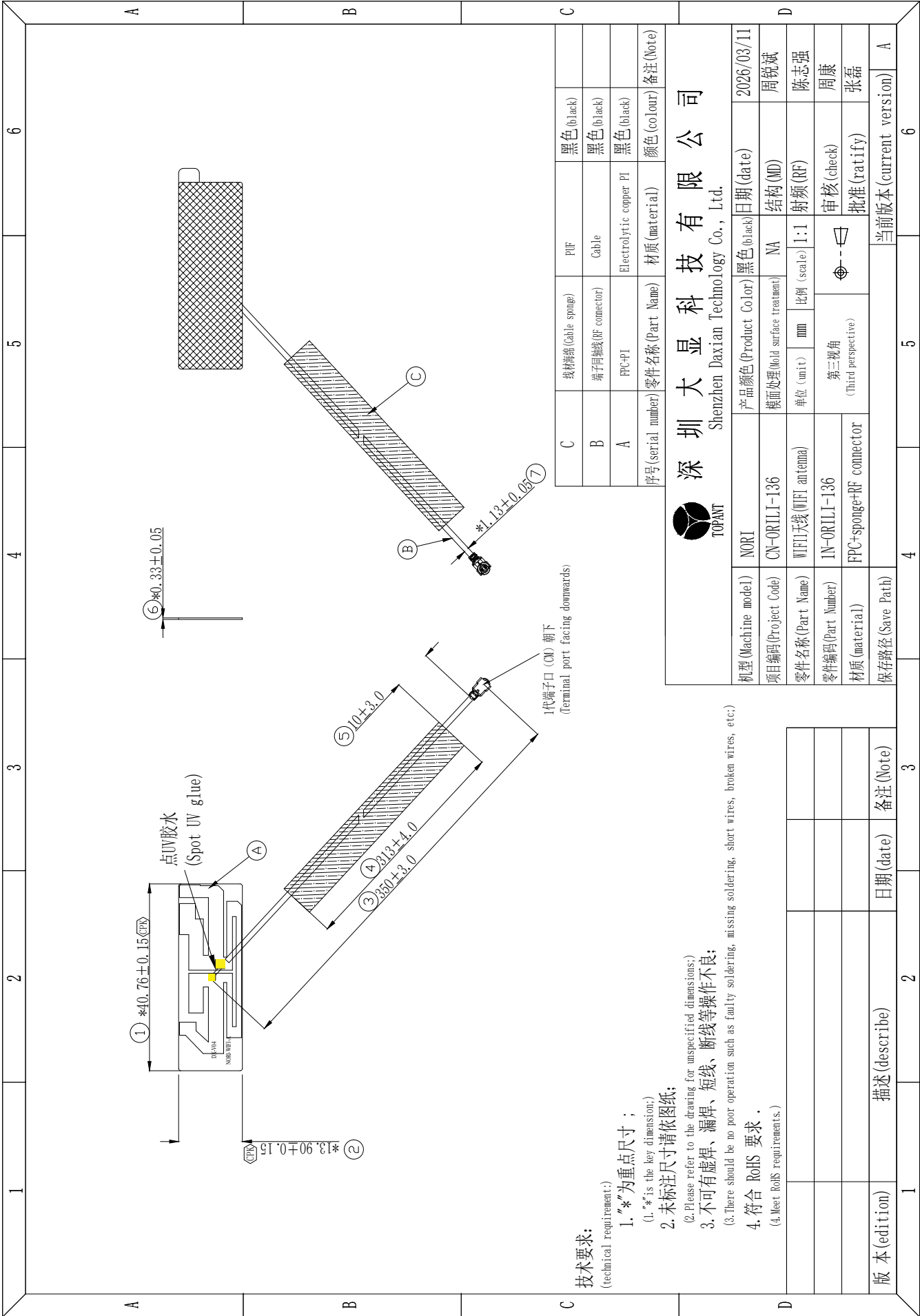
8、结论 conclusion

此天线是在客户提供样机基础上设计，电参数和结构性能已达到技术要求，请确认！

This antenna is designed based on the prototype provided by the customer. The electrical parameters and structural performance have met the technical requirements, please confirm!

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技术要求:

(technical requirement:)

1. "※"为重点尺寸；
(1. "※" is the key dimension;)
2. 未标注尺寸请依图纸；
(2. Please refer to the drawing for unspecified dimensions;)
3. 不可有虚焊、漏焊、短线、断线等操作不良；
(3. There should be no poor operation such as faulty soldering, missing soldering, short wires, broken wires, etc;)
4. 符合 RoHS 要求。
(4. Meet RoHS requirements.)

C	线材棉绳 (Cable sponge)	PIF	黑色 (black)
B	端子引线 (Pin connector)	Cable	黑色 (black)
A	FPC-PI	Electrolytic copper PI	黑色 (black)
序号 (serial number) 零件名称 (Part Name)			材质 (material)
			颜色 (colour) 备注 (Note)

深圳大显科技有限公司

Shenzhen Daxian Technology Co., Ltd.

机型 (Machine model)	NORI	产品颜色 (Product Color)	黑色 (black)	日期 (date)	2026/03/11
项目编码 (Project Code)	CN-ORILLI-136	表面处理 (Mold surface treatment)	NA	结构 (MD)	周锐斌
零件名称 (Part Name)	WiFi天线 (WiFi antenna)	单位 (unit)	mm	比例 (scale)	1:1
零件编码 (Part Number)	IN-ORILLI-136	第三视角 (Third perspective)	审核 (check)	射频 (RF)	陈志强
材质 (material)	FPC+sponge+RF connector		批准 (ratify)		周康
保存路径 (Save Path)			当前版本 (current version)		张磊

版本 (edition)	描述 (describe)	日期 (date)	备注 (Note)
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深圳市大显科技有限公司

全尺寸报告

送样单位:工程

日期: 2026年3月13日

品 名		NORI WIFI1天线		数 量		5pcs		类别	☐ 模具零件 ☐ 材料评估		
料 号		1N-ORILI-136		模穴数					☒ 送样评估 ☐ 其他		
序号	图面规格	量具	测试结果					超差值	判定		
			1	2	3	4	5		OK	NG	
①	40.76±0.15	P	40.75	40.76	40.74	40.76	40.75	0	√		
②	13.90±0.15	P	13.91	13.91	13.92	13.91	13.90	0	√		
③	350±3.0	F	351.00	349.00	349.00	351.00	350.00	0	√		
④	313±3.0	F	312.00	313.00	312.00	311.00	312.00	0	√		
⑤	10±3	F	10.00	11.00	11.00	10.00	10.00	0	√		
⑥	0.33±0.05	C	0.33	0.32	0.33	0.31	0.30	0	√		
⑦	1.13±0.05	C	1.13	1.13	1.13	1.13	1.13	0	√		
量具		目视 E 卡尺 C 千分尺 M 投影仪 P 螺纹规 Pg								最终判定	
代号		网络分析仪 Ne 扭力计 G 万用表 Me 直 尺 F								OK NG	
备注:		外观OK.									

表单编号: QR/RD-P01-08

核准:李崇瑞

作成: 李朝花

深圳大显科技有限公司

Shenzhen Topant Technology Co., Ltd.

CPK Report							
Part Number(料号)	1N-ORILI-136			Vendor(供应商)		大显	
Description(零件名称)	NORI WIFI1天线			Inspected(确认者)		李崇瑞	
Tool Number(模号)	/			Inches/MM(英寸/毫米)		mm	
Cavity(穴号)	/			Material Name(材质名称)		FPC+泡棉+端子+线材	
				Material Code(材质牌号)		/	
Revision(版本)	V04			Date(日期)		2026.3.13	
Dim. Designator(尺寸序号)	1	2					
Nominal(公称尺寸)	40.76	13.90					
+ Tolerance(正公差)	0.15	0.15					
- Tolerance(负公差)	-0.15	-0.15					
Upper Limit(规格上限)	40.91	14.05					
Lower Limit(规格下限)	40.61	13.75					
1	40.76	13.92					
2	40.74	13.93					
3	40.76	13.90					
4	40.76	13.96					
5	40.76	13.90					
6	40.67	13.97					
7	40.74	13.96					
8	40.76	13.94					
9	40.76	13.90					
10	40.76	13.90					
11	40.75	13.95					
12	40.76	13.93					
13	40.74	13.98					
14	40.75	13.90					
15	40.76	13.90					
16	40.73	13.88					
17	40.76	13.90					
18	40.68	13.95					
19	40.76	13.92					
20	40.69	13.91					
21	40.76	13.90					
22	40.80	13.90					
23	40.73	13.92					
24	40.76	13.93					
25	40.71	13.90					
26	40.72	13.94					
27	40.76	13.90					
28	40.76	13.87					
29	40.81	13.90					
30	40.76	13.90					
31	40.75	13.86					
32	40.76	13.90					
MAX.	40.81	13.98					
MIN.	40.67	13.86					
AVERAGE	40.75	13.92					
STDEV	0.03	0.03					
CP	1.72	1.76					
Cpk	1.58	1.57					
TOOLING(测量工具)	2.5次元	2.5次元					

审核：李崇瑞

制表：李朝花

日期：2026.03.13

产品材料宣告表 Product material declaration																								
Part Number(料号)			IN-ORILL-136			Description(零件名称)				NORI WIFI1天线				Vendor(供应商)				深圳市大显科技有限 公司			Written By(制作)		李朝花	
序号	物料编号/名称	均质名称	型号	原材料商	报告编号	检测机构	RoHS/电池指令(Directive 2006/66/EC)/包装指令(94/62/EC) 测试结果 (Testing Result)				卤素测试 结果 Halogen test				备 注	报告插入	MSDS	检测日期	有效时间					
							Pb	Cd	Hg	Cr(VI)	PBBs	PBDEs	DEHP	BBP	DBP	DiBP	F	Br	CI					
1	FPC	基材	PI-CCL	蔡伦格蒂	SHAE25031840901	SCS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	 RoHS 2011 10 18 2	2025/12/8	有效期一年	
2		阻焊油墨	PSM-800FSDM-A	优立	ETR25501383 ETR25501384	SCS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	 RoHS 2011 10 18 2	2025/5/50	有效期一年	
3		文字油墨	ZSR-150	川裕	ETR25901252M01 ETR25901254M01	SCS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2025/9/11	有效期一年	
4		OSP	KEX-108H	宝鑫	SZXF25003651102 SZXF25004580202	SCS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2025/10/9 2025/11/28	有效期一年	
5		双面胶	9471	3M	SHAE25032493501 SHAE25032493503	SCS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2025/12/12	有效期一年	
6	焊料	锡线	无铅锡线	大本	SZXF26000715703 SZXF26000715701	SCS	32															2026/2/10	有效期一年	
7	胶水	UV胶	NLX-314	诺力兴	CANE25003489502 WTH25H06162211C	SCS VTH	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	 RoHS 2011 10 18 2	2025/3/4 2025/6/24	有效期一年	
8	黑色海绵	黑色泡棉	PU	永迪	A2250658424101001 A2250658424101006	CTI	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	 RoHS 2011 10 18 2	2025/9/18	有效期一年	
10	CABLE线	外绝缘	FEP白	神宇	SHAE26004707728 SHAE26004707610	SCS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	323841	ND	ND	 RoHS 2011 10 18 2	2026/3/3	有效期一年	
11		内绝缘	FEP	神宇	SHAE25029870131 SHAE25029870127	SCS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2025/11/18	有效期一年	
12		编织网/导体	镀锡铜线	明星	A2260126383102001E	CTI	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	2026/3/5	有效期一年	
13	PLUG 1代	端子	C5210	紫金	CANE25027363005	SCS	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2025/11/13	有效期一年	
14		胶芯	PBT	新纤	48279652a3 001	TUV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	2025/7/25	有效期一年	
15		镀镍	Ni	民丰	A2250940194401003E	CTI	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2025/12/26	有效期一年	
16		镀金	Au	民丰	A2250940194401002E	CTI	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2025/12/26	有效期一年

批准:李崇瑞

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ROHS已检测，
最新报告未出。

一、包装方式 Packing method:

1 .FPC+同轴线+线材海绵 FPC + coaxial cable + cable sponge:



2、装袋，每袋装100cs ;每10袋 装 1pcs 纸箱（根据订单数量可调整）.

Bagging, each bag is 100cs; Packed in 1pcs carton per 10 bags (adjustable according to the order quantity).



每 10 小袋装入 1pcs纸箱 Every 10 small bags are packed into a 1pcs carton.



所附图片仅供参考， 以实物为准

The attached pictures are for reference only, subject to the real thing.

3 、 装箱, 纸箱规格: 390*305*335 , 打包后装箱密封, 贴标签。

Packing: Carton dimensions: 390 × 305 × 335 mm. After packing, seal the carton and affix labels.



二、运输要求 Transport requirements:

产品包装件运输时，应防潮、防破损、防污染。

When the product package is transported, it should be moisture-proof, damage-proof and pollution-proof.

三、存储要求 Storage requirements:

产品包装件应在仓库内堆放，库房应干燥、通风、清洁。

Product packages should be stacked in the warehouse, which should be dry, ventilated and clean.

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Confidentiality requirements

Shenzhen Daxian Technology Co., Ltd. already possesses the information provided by the proprietary technology, which should be strictly confidential and not allowed to be disclosed to any person or company without the prior written consent of Shenzhen Daxian Technology Co., Ltd