

深圳市新领科技术有限公司

Shenzhen New Link Technology Co.,Ltd

样品规格书

ANTENNA APPROVAL SHEET

客户：乐韵瑞

Customer: Le Yunrui

项目：WiiM Bar

Project:

料号 Part number		审核 Audit	
射频工程师 RF Engineer		结构工程师 Structural Engineer	
地址 address	深圳南山区高新科技园北区第五工业区办公大楼五楼 The fifth floor of the office building of the Fifth Industrial Zone, North District, High-tech Park, Nanshan District, Shenzhen		
电话 Phone	13902948715	网站 site	www.kpanenna.com
公司邮箱 Company email address	sales@kpanenna.com	联系人 Contact	李鹏 Li Peng

客户硬件 Customer hardware		客户项目 Customer projects	
客户结构/MD Customer Structure/MD		客户品质 Customer quality	

本承诺书为调试金机数据，只针对金机负责，建议贵司在我司保留金机一台，我司对与金机物料及软件等相同的量产机器保证天线性能。

This acknowledgment is the debugging of the gold machine data, only for the gold machine is responsible, it is recommended that your company keep a gold machine in our company, and our company will have the same amount as the gold machine materials and software The production machine guarantees the antenna performance.

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Mold products			
CONFIDENTIAL			
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1.概述 Overview

此报告主要描述新领科给乐韵瑞机器调试天线的性能。乐韵瑞 WiiM Bar 项目，使用频率范围为，2.4G/5G/6GWIFI 该机天线为 PIFA 形式，位于机器内部。

This report mainly describes the performance of the antenna tuning by Xinlinko for the Leyunrui machine. The WiiM Bar project uses a frequency range of 2.4G/5G/6GWIFI The antenna of the machine is in the form of PIFA and is located inside the machine.

2.详细介绍 Detailed introduction

2.1 匹配电路 （匹配未改动） Matching circuit (matching unchanged)

3.调试设置 Debug the settings

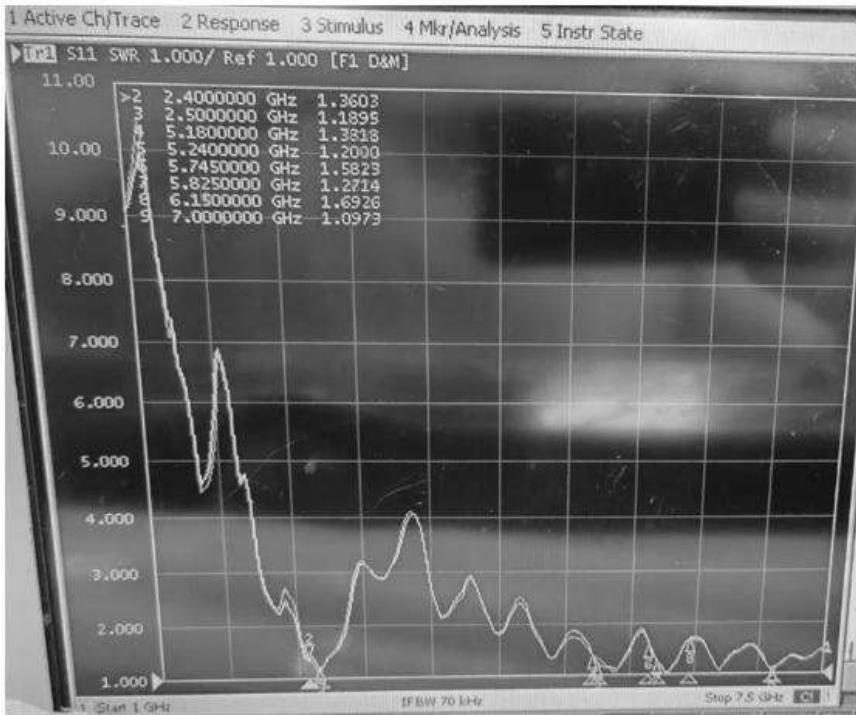
发射功率(TX Power)和接收灵敏度(RX Sensitivity)。TX Power and RX Sensitivity

发射功率和接收灵敏度是使用 CMW500/8960 在微波暗室(6m*3m*3m)里测得的 3D 结果

The transmit power and receive sensitivity are 3D results measured using the CMW500/8960 in a microwave anechoic chamber (6m*3m*3m).

3.1 天线无源数据 Antenna passive data

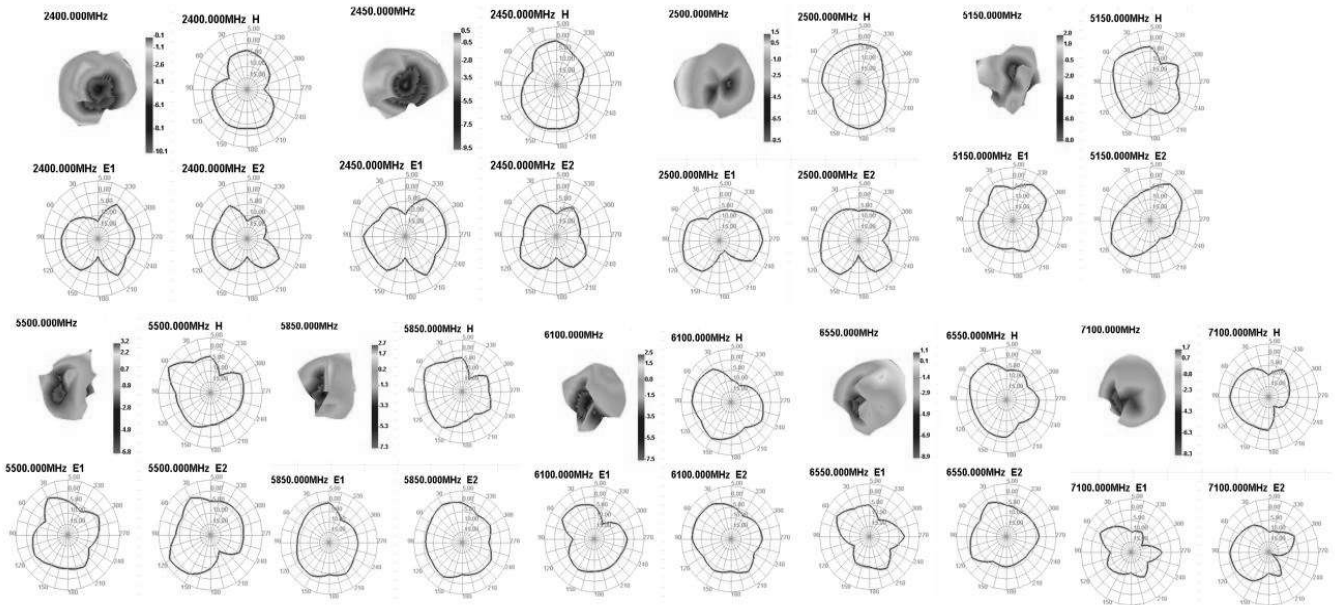
WiFi 1 无源数据



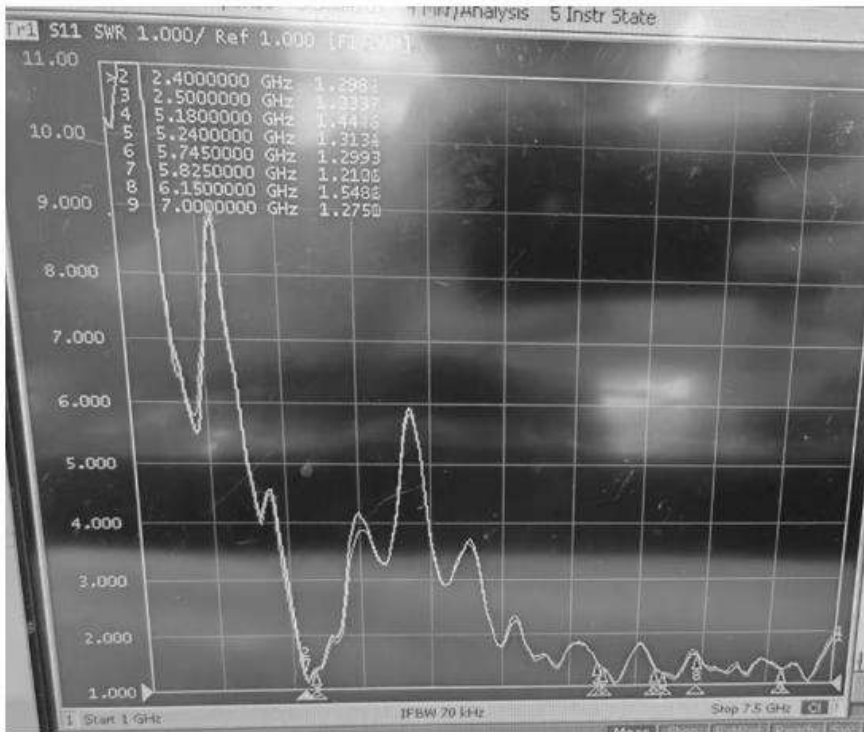
Freq (MHz)	Effi (%)	Gain (dBi)
2400	39.6	-0.14
2450	40.5	0.45
2500	41.4	1.51
5150	39.6	2.03
5200	38.7	1.69
5300	40.2	1.13
5400	41.5	2.44
5500	43.4	3.2
5700	42.4	2.11
5850	40.4	2.74
5900	41.5	2.21
6000	39.8	1.67
6100	40.2	2.52
6200	41.4	2.83
6300	38.7	2.31
6400	40.1	2.14
6550	39.9	1.08
6600	40.5	0.98
6700	42.2	1.88
6800	42.1	0.73
6900	41.4	2
7000	42.5	2.15
7100	41.4	1.54

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WiFi 1 苹果图



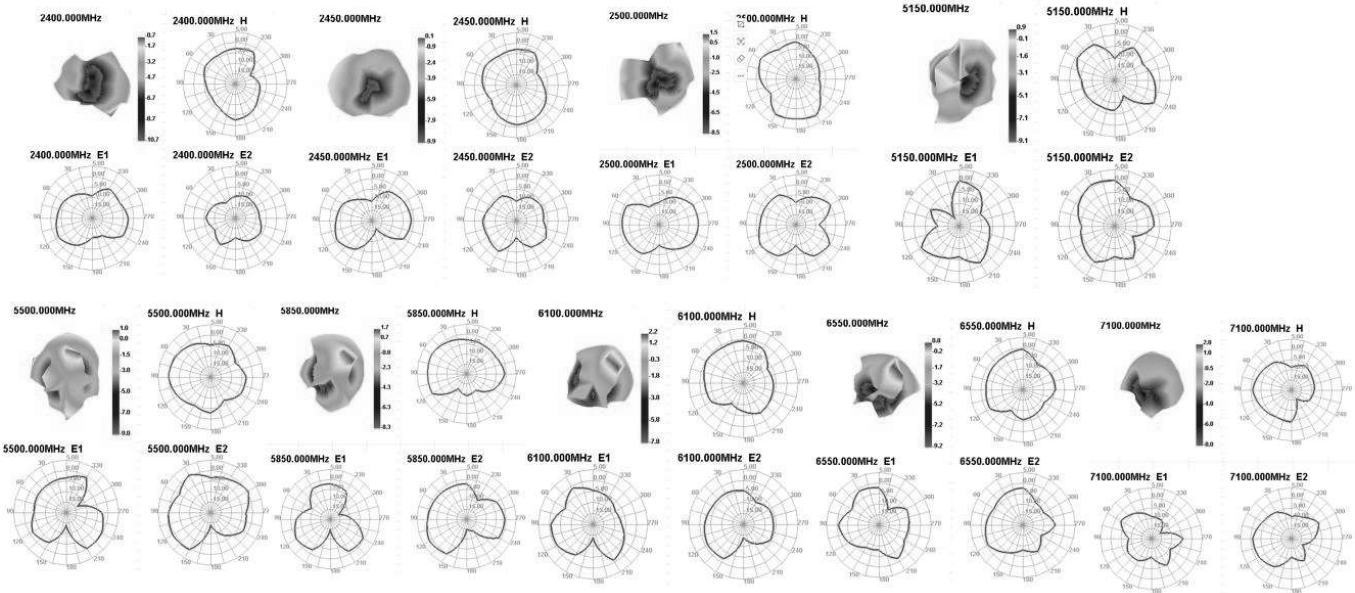
WiFi 2 无源数据



Freq (MHz)	Effi (%)	Gain (dBi)
2400	40.5	-0.74
2450	41.3	0.08
2500	42.6	1.54
5150	41.7	0.91
5200	39.4	0.81
5300	40.4	0.87
5400	42.8	0.66
5500	43.8	1.03
5700	42.7	2.38
5850	41.5	1.67
5900	41.2	1.15
6000	43.9	1.35
6100	42.5	2.16
6200	42.7	2.24
6300	40.8	2.17
6400	39.5	1.96
6550	38.7	0.79
6600	40.8	1.34
6700	39.5	2.68
6800	40.2	1.57
6900	41.5	1.63
7000	41.7	1.87
7100	40.3	2.03

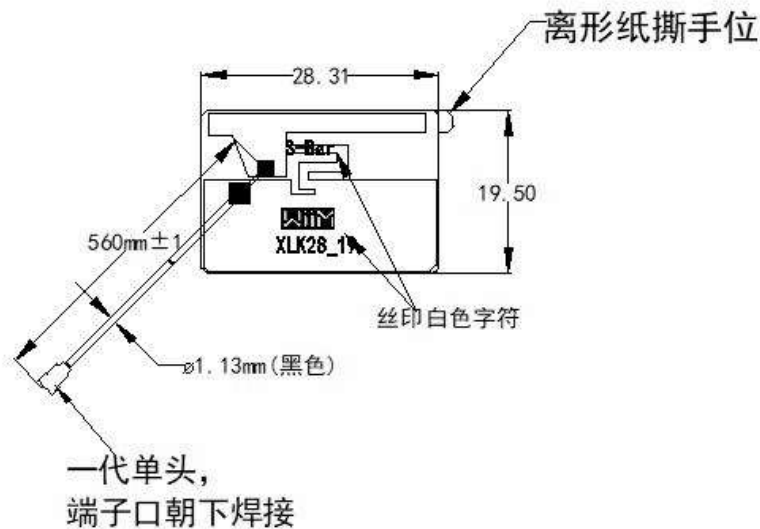
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WiFi 2 苹果图



4.结构图 Structural diagram

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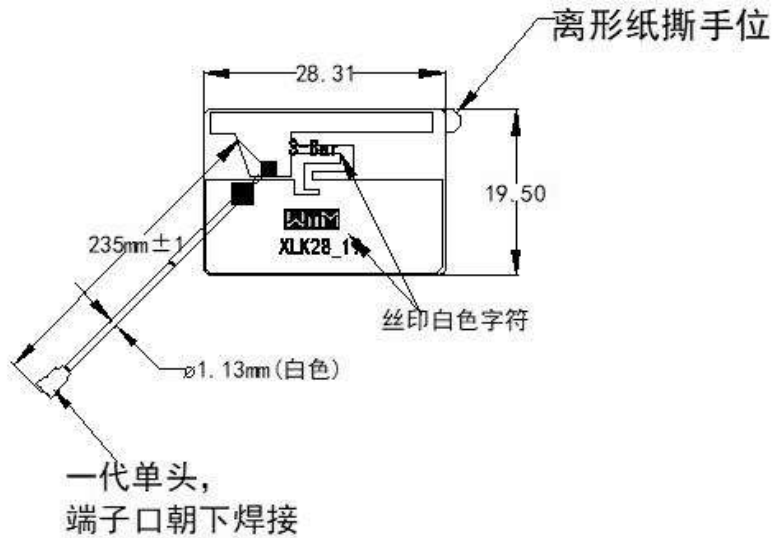
技术要求:

- 1、材质: FPC(黑油, 一对半电解铜基材), T<0.15mm; 反面背胶类型: 3M9471(粘性需过热冲击实验)
- 2、标“*”号为量点管控尺寸, 未注公差按图框中自由公差管控; 未注尺寸以菲林片检验为准(电性能需测试OK);
- 3、镀点抗氧化处理, 不可有抗氧化后易断裂及脱落, 导电不良, 电路部分断裂等不良现象;
- 4、FPC表面油墨均匀, 不可有污染物, 擦伤, 黑点, 起皱, 镀金不良等现象;
- 5、产品符合ROHS标准。

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第三视角		项目名称:	日期	2025-10-15
	0.03	S-Bar	设计	Zsb
	0.03	产品名称:	审核	MD
	0.02	WIFI1天线	RF	
	0.02	产品料号:	批准	
	0.05	材料:	单位:mm	比例:FIT
第 1 页, 共 1 页		FPC+同轴线		

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■技术要求:

- 1、材质: FPC(黑油, 一对半电镀铜基材), T<0.15mm; 反面背胶类型: 3M9471(粘性经过热冲击实验)
- 2、标“*”号为重点管控尺寸, 未注公差按图框中自由公差管控; 未注尺寸以菲林片检验为准(电性能测试OK);
- 3、镀点抗氧化处理, 不可有抗氧化后易断裂及脱落, 导电不良, 电路部分断裂等不良现象;
- 4、FPC表面油墨均匀, 不可有污染物, 擦伤, 黑点, 起皱, 镀金不良等现象;
- 5、产品符合ROHS标准。

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第三视角		项目名称:	日期	2025-10-15
		S-Bar	设计	Zsb
		产品名称:	MD	
		WIFI2天线	RF	
		产品料号:	批准	
		材料:	单位:mm	比例:1:1
第 1 页, 共 1 页		FPC+同轴线		

5.盐雾检测报告 Structural diagram

产品型号 Product model	WiiM Bar			测试数量 Number of tests	5PCS		
测试标准 Test Standards	GB2423.17			货品素材 Product materials	FPC		
测试项目 Test items	要求标准 Requirement Standards	实际数值 Actual values	判定 decision	测试项目 Test items	要求标准 Requirement Standards	实际数值 Actual values	判定 decision
测试仪器规格 Test Instrument Specifications	KD-60	KD-60	OK	测试时间 Test time	24H	24H	OK

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盐雾测试类型 Types of salt spray tests	NSS 中性 NSS neutral	NSS 中性 NSS neutral	OK	盐雾箱温度 Salt spray box temperature	35℃	35℃	OK
盐水 PH 值 SALINE PH	6.5-7.2	6.8	OK	盐 雾 沉 降 量 (H.80C) Salt spray sedimentation	1-2ml	1.8ml	OK
喷雾方式 Spray method	连续喷雾 Spray continuously	连续喷雾 Spray continuousl y	OK	货品材质 Material of the goods	FPC	FPC	OK
盐水成份 Brine ingredients	5%/NaCL	5%/NaCL	OK	压缩空气节压 力 Compressed air section pressure	1 ± 0.1KG/CM2	1	OK
饱和温度 Saturation temperature	47℃	47℃	OK	试样放置角度 Specimen placement angle	90°	90°	OK
测试观察时间 Test observation time	观察现象 Observe the phenomenon						
4H	无异常 No anomalies						
12H	无异常 No anomalies						
24H	无异常 No anomalies						
判定标准：依国标 5944-86 评级方法判定，9 级以上为合格 Judging criteria: According to the national standard 5944-86 rating method, grade 9 or above is qualified							
最终判定结果 Final Judgment	合格√ Eligible √				不合格 Unqualified		
测试人员	何本源	审核	王爱兵		审批		

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Tester	He Yuanyuan	Audit	Wang Aibing	Approval	
备注：常用的盐雾试验方法有：NSS 中恒盐雾试验，AASS 乙酸盐雾试验，CASS 铜乙酸加速试验。 Note: The commonly used salt spray test methods are: NSS medium salt spray test, AASS acetate spray test, CASS copper acetic acid accelerated test.					

OQC 检验测试报告

OQC inspection and test report

订单号 report		客户料号 Customer part number		检测 项目 Detection items	抽样计划 Sampling plan		AQL	AC	RE	判定 decisio n
客户型号 Customer model	WiiM Bar			外观 appearance	CR	0.15	0.15	0	1	
数量 quantity	出货数量 : Pcs Shipment quantity				MAJ	0.4	0.4	2	3	合格 qualifi ed
	抽样数量: Pcs Number of samples				MIN	0.65	0.65	3	4	
1. 开路 Open		NIL	10.凹坑/压伤 Pits/crushes		NIL	19.离型纸未切断 The release liner is not cut			NIL	
2. 短路 short circuit		NIL	11.电镀粗脏、金面水印 Plating coarse and dirty, gold watermark		NIL	20.金面氧化 Oxidation of the gold surface			NIL	
3. 线路起翘 The line is warped		NIL	12.金面针孔、缺口 Gold pinholes, notches		NIL	21.冲偏/露铜 Offset / exposed copper			NIL	
4. 线路损坏 Damaged lines		NIL	13.胶层气泡 Glue line bubbles		NIL	22.未冲断 Not broken			NIL	
5. 擦/刮花 Rub/scratch		NIL	14.油墨颜色 Ink color		NIL	23.掉金/甩金 Drop gold/throw gold			NIL	
6. 露铜/镍 Exposed copper/nickel		NIL	15.字符不清 Unclear characters		NIL	24.弯曲/变形 Bending/deformation			NIL	
7. 掉油 Lose oil		NIL	16.垃圾/异物 Garbage/foreign objects		NIL	25.外形缺口 Form factor notch			NIL	
8. 氧化/变色 Oxidation/discoloration		NIL	17 溢胶/流胶 Overflowing/flowing glue		NIL	26.堆胶/缺胶 Glue stacking/lack of			NIL	

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				glue	
9. 表面脏污 The surface is dirty	NIL	18.皱褶 pucker	NIL	27.补强不良 Poor reinforcement	NIL
判定: Decision:	☒ 合格 ☐ 不合格 ☐ 特采出货 ☒ qualified ☐ unqualified ☐ special picking				

备注：请将本产品储存在低温、低湿（温度 18-28℃，湿度 35%-75%RH）无腐蚀性气体的环境下，建议开包后一周内使用完。

Note: Please store this product in a low temperature, low humidity (temperature 18-28℃, humidity 35%-75%RH) non-corrosive gas environment, it is recommended to use it within one week after opening.

可靠性测试 Reliability testing					
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项目名称 The name of the project	要求 requirements	实 测 Measurements
热冲击实验 Thermal shock experiments	288℃*10S*3 次	288℃*10S*3 次无分层、起泡 288℃*10S*3 times without delamination and blistering
抗剥离实验 Anti-peel experiment	≥1.0 kg f/c m ²	1.112 kg f/c m ²
油墨拉力测试 Ink pull test	3M600 胶带垂直拉起 The 3M600 tape is pulled up vertically	无掉油墨现象 No ink dropping

生产及检测设备清单 List of production and testing equipment		
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生产设备 Production equipment	检测设备 1 Testing equipment 1	检测设备 2 Testing equipment 2
蚀刻外形机 Etching profile machine	二次元摄影机 Two-dimensional camera	千分尺 micrometer

检验员：
Inspectors:

审核：
Audit:

材料成份宣告表

Material Composition Declaration Form

序号 serial num ber	材料名称 The name of the material	材料型号 Material type	材料供应商 Material Suppliers	环保报告或声明编号 Environmental report or declaration number	报告日期 Report date	备注 remark
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1	基材 substrate	一对半材料 One-to-one materials	蔡伦格蒂 Cailenghetti	SHAEC24028809006	2024/12/20	1-8 页 Pages 1-8
2	背胶 Adhesive backing	3M9471LE	3M	SHAEC24027480901	2024/12/6	1-8 页 Pages 1-8
3	油墨 printing ink	黑色 BLACKINK Black BLACKINK	优立 Youli	ETR25501383	2025/03/20	1-73 页 Pages 1-73
4	电金 Electricity gold	检测 detect	乾圣 Qiansheng	A2240574309101001C	2024/09/14	1-7 页 Pages 1-7

出货方式

Shipping method

物料类别 The item category	包装方式 Packing	举例图示 Illustration of an example
FPC	1、 PET 塑胶袋包装 1、 PET plastic bag packaging	

备注：请将本产品储存在低温、低湿（温度 18-28℃，湿度 35%-75%RH）无腐蚀性气体的环境下，建议开包后一周内使用完,使用中请尽量不要让产品 3M 胶有指纹，以免影响粘着力。

Note: Please store this product in a low temperature, low humidity (temperature 18-28 °C, humidity 35%-75%RH) non-corrosive gas environment, it is recommended to use it within a week after opening the package, please try not to let the product 3M glue have fingerprints during use, so as not to affect the adhesion.

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