

样品承认书Sample Acknowledgment Letter

供应商名称(全称) Supplier Name (Full Name)	深圳市沃特沃德信息有限公司 Shenzhen Waterward Information Co., LTD		供应商代码 supplier code		物料名称 Name	天线组件 antenna assembly
沃特沃德信息料号(P/N) Waterward Information Part Number (P/N)	3. S-5A02-000682-S00	供应商料号(P/N) Supplier Part Number (P/N)	/		物料类型 Material type	结构料
项 目project	ULTima50系列(RS539A)	承认书版本号 Acknowledgment version number	V1.0		物料颜色 Acknowledgment version number	黑色 black
送样数量Sample quantity	5	送样日期Sample delivery date	2023/7/13 August 24, 2023		是否环保要求物料 Is there an environmental requirement for	环保要求物料
物料描述 Material Description	三合一天线, 三合一天线WIFI、BT、GPS, 黑色, 材质:FPC, ROHS, 62.2 mm*27.62 mm*0.1 mm, 连接端子:一代端子, 线径1.13MM, 单头剥线, 总长70MM, 焊接FPC天线, 带背胶, 丝印: XW-RS539A-G/WThree in one antenna, WIFI, BT, GPS, black, material: FPC, ROHS, 62.2 mm * 27.62 mm * 0.1 mm, connection terminal: first generation terminal, wire diameter 1.13MM, single end stripped wire, total length 70MM, welded FPC antenna, with adhesive backing, silk screen: XW-RS539A-G/W					

送样原因Reason for sample submission:

☒ 新物料New materials ☐ 新供应商new supplier ☐ 替代料2nd Source (Alternative 2nd Source) ☐ 工程变更
(PCN/ECN) Engineering Change (PCN/ECN) ☐ 其他other

附送报告列表:

Attached report list:

☒ 产品规格书 (Spec) *☒ Product Specification (Spec)*☐ 原理图 (电子料)☐ Schematic diagram (electronic material)☒ 标准2D图纸 *☒ Standard 2D drawings*☐ 安规认证报告☐ Safety certification report☒ 关键元器件清单 (BOM)*☒ Key Component List (BOM)*☐ 实物解剖图☐ Physical Anatomy Map☐ 工艺菲林图☐ Process Film Chart

说明: 物料承认书必须包含带“*”文件, 其他列表文件根据物料特性及要求提供。且必须与实物信息一致。其中电子物料测试报告必须包含可靠性测试报告及性能测试报告。包材、辅料可只提供全尺寸报告。有环保要求的物料必须提供环保数据 (环保声明书或环保测试报告)。

Explanation: The material recognition form must include files with “*”, and other list files are provided based on the material characteristics and requirements. And it must be consistent with the physical information. The electronic material testing report must include reliability testing report and performance testing report. Packaging materials and accessories can only provide full size reports. Materials with environmental requirements must provide environmental data (environmental declaration or environmental testing report).

评估结果Evaluation results:

☐ 完全认可 (符合沃特沃德信息及客户要求) ☐ Fully recognized (in accordance with Waterward information and customer requirements)

☐ 条件性认可 (□客户需求 □初步认可, 规格认证 □其他) 限量数量: _____

☐ Conditional Approval (□ Customer Requirements □ Preliminary Approval, Specification Certification for _____) Limited Quantity: _____

备注: 天线模具样品 Note: Sample of antenna mold

供应商物料制作确认: (须盖章, 纸质文档加盖骑缝章)

Supplier material production confirmation: (must be stamped, paper documents must be stamped with a cross stitch seal)

组 织 Organization	制 作 Production	商务确认 Business confirmation	研发审核 R&D review	品质确认 Quality confirmation	批 准 Approval
签 字Signature	王新峰	宋象桂	韩良光	朱崇贤	李文波
日 期Date	2023.7.12	2023.7.12	2023.7.12	2023.7.12	2023.7.12

ZK核准: (涉及客制化标贴类需商务签核, 手写签字附带签字日期)

ZKInformation: (For customized labeling, commercial signature is required, with handwritten signature and signature date attached)

组 织 Organization	制 作 Production	商务确认 Business confirmation	研发审核 R&D review	品质确认 Quality confirmation	批 准 Approval
签 字Signature					
日 期Date					



一、变更记录栏 Change Record Column

序号 Serial	版本号 VERSION	变更内容Changes	修订人 Revised by	变更日期 Change date
1	V1.0	首次发行first issue	song	2023.8.24
2				
3				
4				

二、样品图片 2.Sample image

正面图片Front image	背面图片Back image	丝印/条形码图片 Screen printing/barcode images
		XW-RS539A-G/W

三、物料基本情况3、 Basic information of materials

1	类别 Category	☐ 拉杆 材料类型及规格 _____ ☐ 金属冲压 材料类型及规格 _____ ☐ Type and specification of pull rod material _____ ☐ Metal stamping material type and specifications							
2	FPC	材料类型及规格 Material type	3M胶3M adhesive	金手指化金厚度 Gold		背胶型号 Back glue model	9471	背胶供应商 Adhesive supplier	Xiang Hong

备注：上述不适用请使用“/”填充表示

四、BOM（关键物料清单）4.BOM（Key Bill of materials）

序号 Serial Number	物料名称Name	规格/性能参数 Specifications/Performance Parameters	单位 unit	用量 Dosage	供应商 supplier	备注notes
1	天线 antenna	WIFI2.4G、5G/BLE/GPS	PCS	1	WT	
2	以下空白					
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

目录:

Directory:

1、项目基本信息说明 Project Basic Information Description

1.1、设备外观图 Appearance of the equipment

1.2、机型及壳料材质 Model and Shell Material

2、天线 antenna

2.1、天线工作频段 antenna operating frequency band

2.2、天线匹配电路 Antenna matching circuit

2.3、无源测试指标 Passive testing indicators

2.4、有源测试数据 Active Test Data

2.5、天线外观图 Antenna appearance diagram

2.6、天线材质说明及安装方式 Antenna Material Description and
Installation Method

2.7、无源测试 **Passive test**

3、工程尺寸图 Engineering Dimensional Drawing

1、 项目基本信息说明 Project Basic Information Description

设计外观图: Appearance of the equipment

1.1、 机型及壳料材质: Model and Shell Material

ULtima50 系列、全塑胶壳料 ULtima50 series, all plastic shell material

1.3、 设备主板型号: Equipment motherboard model

报告所使用主板型号: ZKT-ULTIMA50_MAIN-V1.3

Report the type of motherboard used: ZKT-ULTIMA50 MAIN-V1.3

2、 主天线: main antenna

2.1、 主天线工作频段: Main antenna operating band

2.420 - 2.4835GHz 是所谓的 2.450 GHz 频段

2.420-2.4835 GHz is the so-called 2.450 GHz band

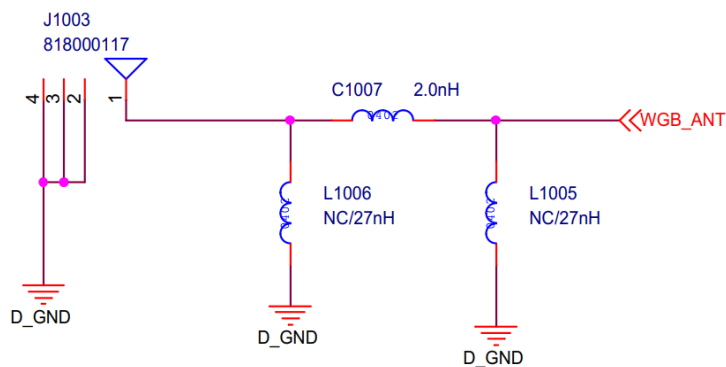
5.15GHz-5.875GH 就是所谓的 5.800 GHz 频段

5.15GHz-5.875GH is the so-called 5.800 GHz band

主天线工作频段为:WIFI2.4G、5G/GPS/BLE

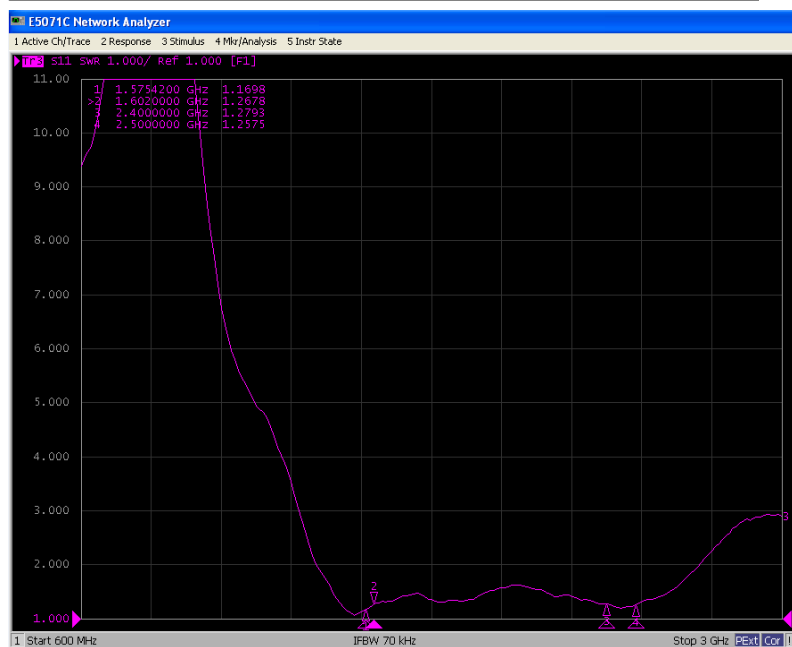
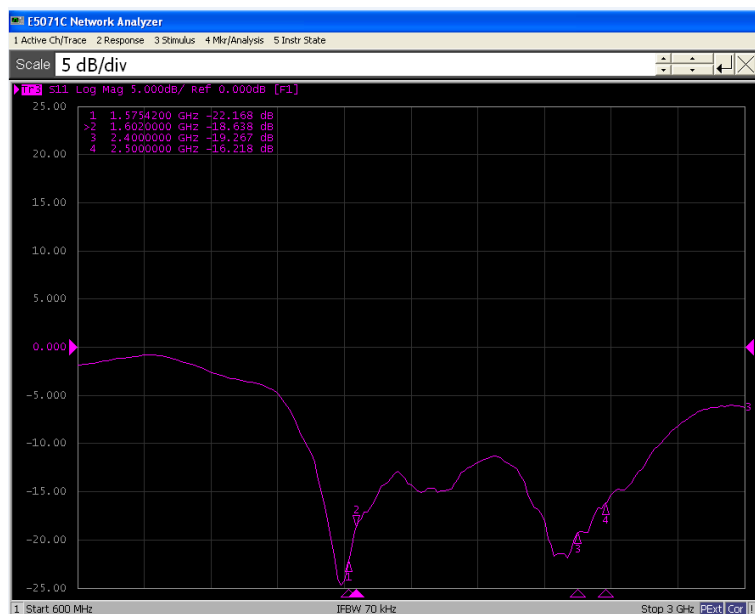
The working band of the main antenna is :WIFI2.4G、5G /GPS/BLE

2.2、天线匹配电路 Antenna matching Circuit



2.3、无源测试指标： Passive testing indicators:

频率范围 Frequency range (MHz)	1575	2400-2500	5100-5800
VSWR	< 3.5	< 3.5	< 3.5

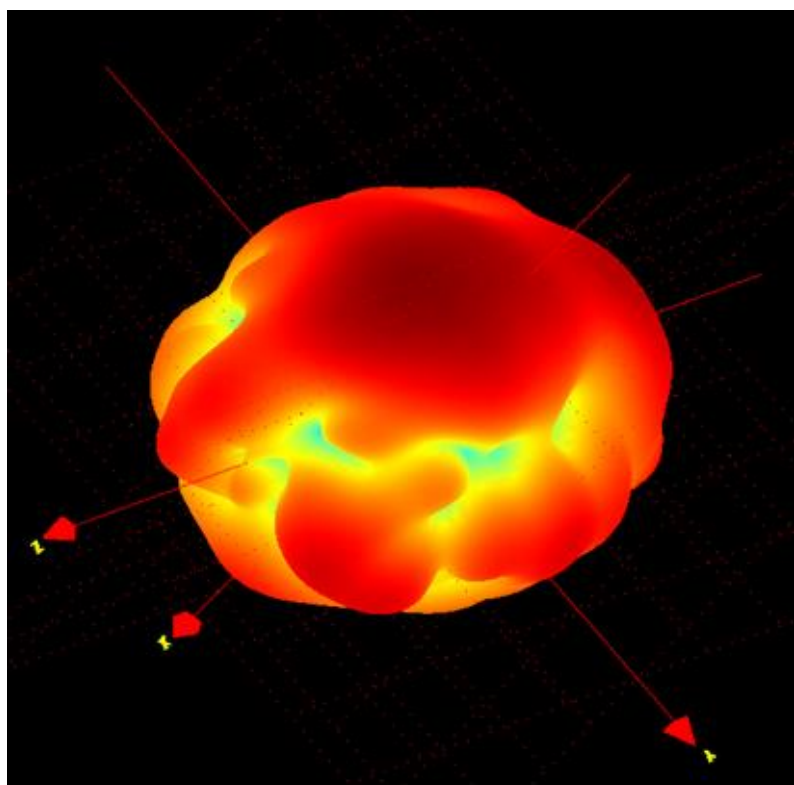


2.4、有源测试数据(3D)：Active Test Data (3D)

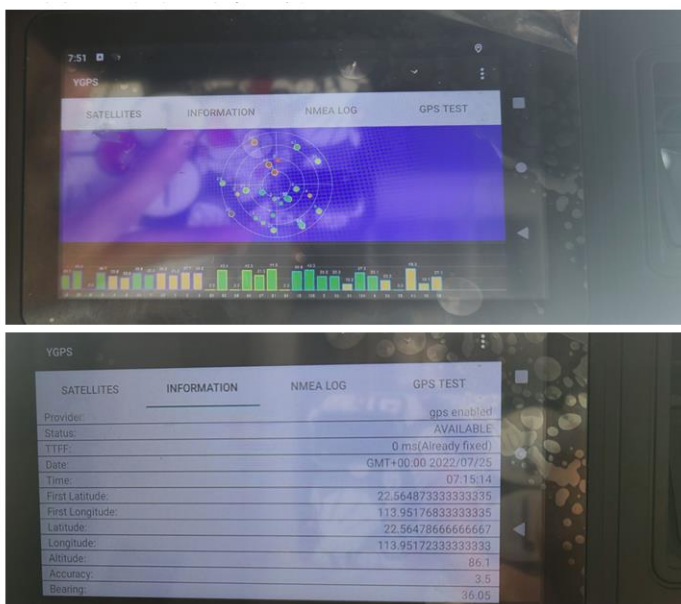
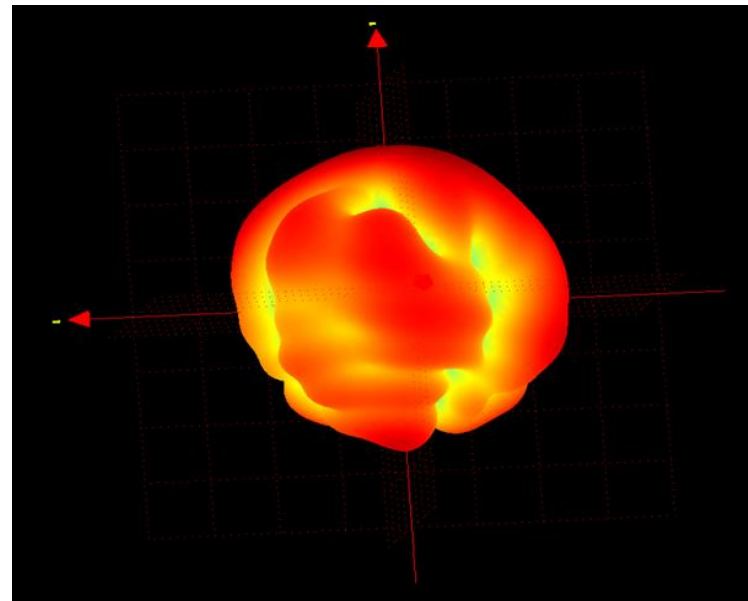
Band	Channel	TRP	TIS
WIFI-B	1	14.56	-82.56
	7	15.04	-83.28
	13	15.28	-83.51
WIFI-A	36	10.22	-68.44
	64	10.34	-68.51
	165	10.47	-68.71

2.5、无源测试数据 Passive test data

Passive Test For 2.4G Gain	
Frequency(MHZ)	Gain(dBi)
2400	-1.54
2410	-1.85
2420	-1.94
2430	-1.50
2440	-1.83
2450	-1.95
2460	-1.70
2470	-1.82
2480	-1.72
2490	-1.85
2500	-1.75



Passive Test For 5G Gain	
Frequency (MHZ)	Gain(dBi)
5100	-1.38
5200	-1.69
5300	-1.55
5400	-1.54
5500	-1.43
5600	-1.40
5700	-1.48
5800	-1.69



Passive Test For GPS Gain	
Frequency (MHZ)	Gain(dBi)
1575	-0.83

2.5、天线外观图： Antenna appearance diagram



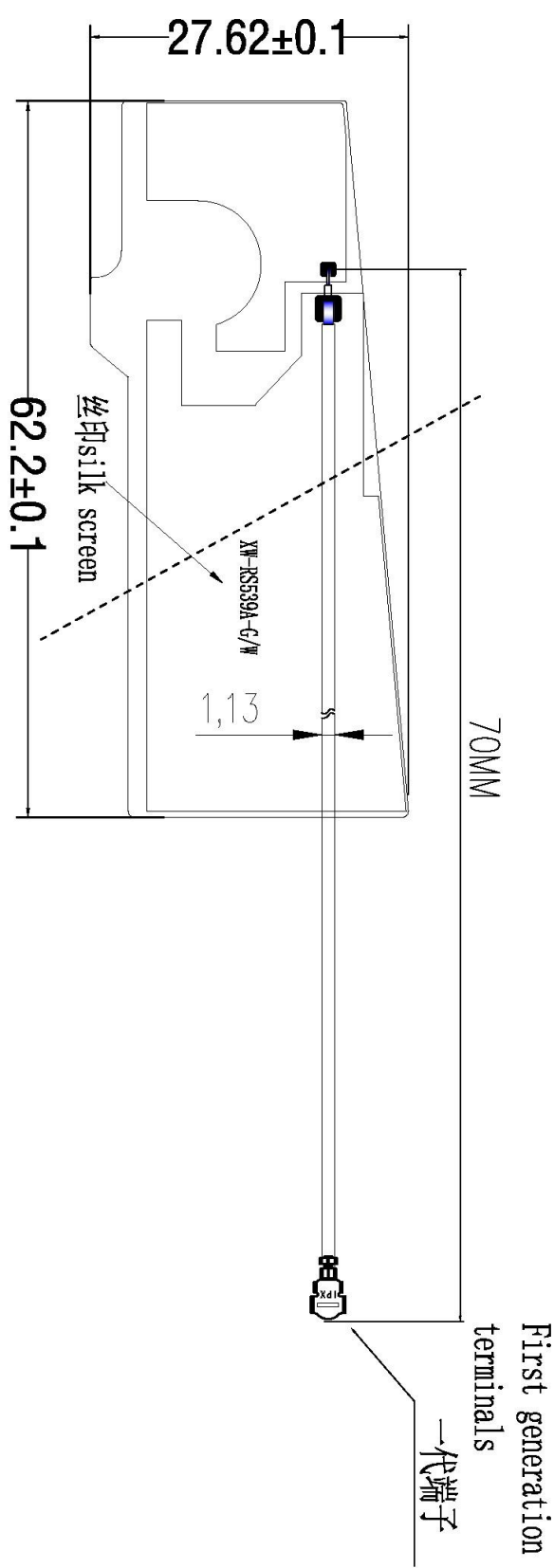
2.6、天线材质说明及安装方式： Antenna Material Description and Installation Method

天线材质为 FPC, 安装方式为粘贴壳体上。 The antenna material is FPC, and the installation method is to stick it onto the shell

地址： 深圳市南山区西丽镇创盛路 1 号康和盛大厦 6 楼

3、工程尺寸图 Engineering Dimensional Drawing

- IPC appearance standard IPC外观标准：
- 1.表面平整、光滑，无污渍、损伤、剥离、破裂、气泡、划痕、孔洞、分层和粘合材料；
1. The surface is flat, smooth, free from stains, damages, tears, fractures, bubbles, scratches, holes, delaminations, and adhesive materials;
 2. FPC 接头处不得有破损、缺失、变形、脱落、划伤等现象；
2. There should be no breakage, missing, deformation, detachment, or scratch at the joint of FPC;
 3. FPC 的连接处没有开口边缘、裂缝或连接痕迹；
3. There are no open edges, fractures, or joint marks at the junction of FPC;
 4. 镀金厚度为0.5U
4. The gold plating thickness is 0.5U



第三版			rignonmetr			项目名称			DATA			2023. 8. 24		
0~5	±0.05	Φ	0.03	Project	RS539	Design								
5~30	±0.08	○	0.03	产品名称	天线	审核			MD			1 i		
30~50	±0.10	◎	0.02	Product name	ANTENNA	to examine			RF			wang		
50~80	±0.12	⊥	0.02	塑胶	3M9471	批准								
angle	±1°	∇	0.05	材料	半对半	单位			mm			比例		
Page 1 of 1			Material			Examination			8			9		