



Sample acknowledgement

样品承认书

Project name项目名称:	P1611
Product name产品名称:	P1611_NFC_天线_FPC(P1611_NFC_antenna_FPC)
Material number物料料号:	K6990000502LA
Material Description 物料描述:	FPC外形尺寸:77.59*75.26*0.15mm,PAD连接, 单面背胶(FPC dimensions :77.59*75.26*0.15mm,PAD connection, single-sided adhesive backing)
Supplier Product Model 供应商产品型号:	P1611_NFC_FPC_V1.0
TP FW mass production version TP FW量产版本	
Reminders提醒注意事项:	Each of the above information needs to be complete and accurate, and it needs to be consistent with the material information in the order BOM. 以上每项信息需要填写完整准确无误, 需要与下单BOM中的物料信息保持一致性。

Supplier signature (with company seal) 供应商签署 (加盖公司章)

☐ ROHS material ROHS物料		☐ Non-ROHS materials非ROHS物料		
Department 部门	☐ Producer制作人	☐ Engineering Department 工程部	☐ Design Department 设计部	☐ Quality department质量部
Signatory 签署者				
Signing date 签署日期				
Supplier information 供应商信息				
Supplier name供应商名称:	上海尚远通讯科技有限公司 (Sunnyway Technology Co.,Ltd)			
Supplier address供应商地址:	上海市青浦区高光路215弄99号4号楼 (Building 4, No. 99, Lane 215, Gaoguang Road, Qingpu District, Shanghai)			
Supplier to contact 供应商收件人-联系方式	马荣来-15921558333(Ma Ronglai-15921558333)			
Recipient email address 收件人邮箱地址:	maronglai@sunnyway-iot.com			
Note注意: 1. Supplier information must be filled in correctly供应商信息填写必须正确 2. Company seal required 必须加盖公司印章				

Customer review and signature 客户审核签署

Recognition state 承认状态	☐ Official recognition 正式承认		☐ Conditional recognition 条件承认		☐ Provisional limited recognition 临时限量承认					
	☐ Conditional recognition 条件承认 Conditions to be met需满足条件: _____									
	☐ Provisional limited recognition临时限量承认 Limited Procurement限量采购_____K									
Reviewed and signed by the Department (with the seal of recognition) 部门审核签署 (加盖承认章)										
Department 部门	☐ ID	☐ MD	☐ HW	☐ HWtest	☐ Packing	☐ NPI	☐ PM	☐ SPM	☐ PQM	☐ SQE
Signatory 签署者										
Signing date 签署日期										
Check item 检查项	Appearance / Workmanship 外观/工艺	Material / size / specification 材质/尺寸/规格		Specification/el ectrical performance 规格/电性能	Material / size / specification 材质/尺寸/规格	Process assembly/produ ction yield 工艺装配/生产 良率	Specificatio ns/customer needs 规格/客需	FW Version FW版本	Appearance / reliability 外观/可靠性	Appearance/man ufacturer yield/drawing specification 外观/厂商良率/ 图纸规范
Note注意: Before signing, the material information description, specification, drawing, dimension report, electrical performance test report, reliability test report, packaging specification and other information shall be carefully reviewed 签署前需要认真审核物料信息描述、规格书、图纸、尺寸报告、电性能测试报告、可靠性测试报告、包装规范等信息										

表单编码: QR-PQM-04-02

版本: C

修订日期: 2023年10月16日

Catalog 目录

1	Bill of material 物料清单	☒
2	RoHS restricted substances composition questionnaire Rohs限用物质成分调查表	☒
3	Engineering drawings. 工程图纸	☒
4	Sample photos 样品照片	☒
5	Full size measurement report 全尺寸测量报告	☒
6	Cpk Report Cpk 报告	☒
7	Product specifications 产品规格书	☒
8	Process Flow Chart 制造流程图	☒
9	Electrical performance test report 电气性能测试报告	☒
10	Reliability test report 可靠性测试报告	☒
11	Material certificate / SGS report 材质证明/SGS报告	☒
12	Packaging method 包装方式	☒



Bill of material 物料清单

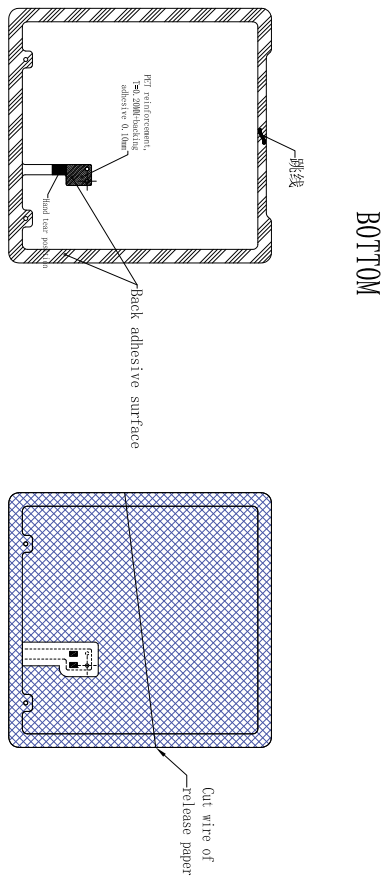
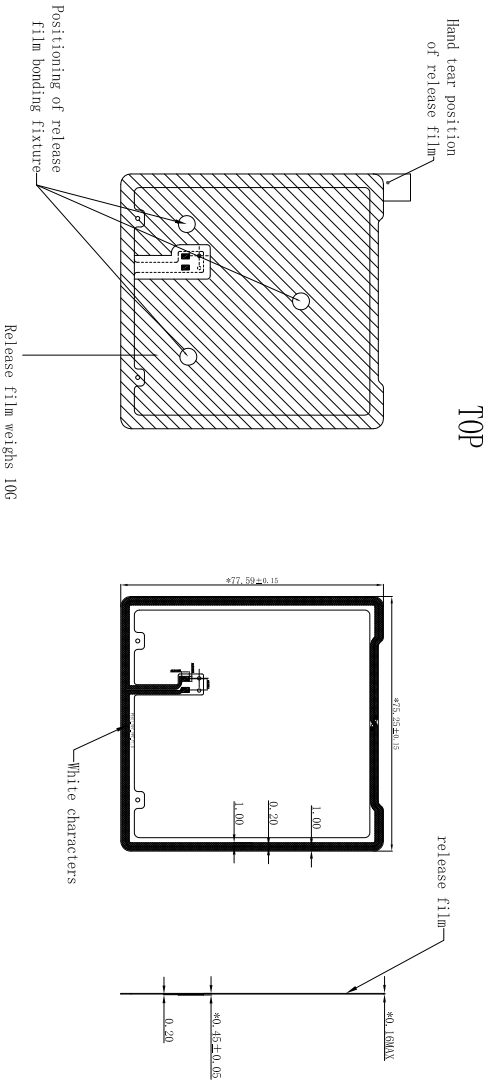
■ ROHS2.0 (ROSH新指令2011/65/EU)

Item	Part material number 零件料号	Part name 零件名称	Part description 零件描述	Supplier 供应商名称	Supplier model 供应商型号	Number 数量	Yes / no ROHS materiel 是/否ROSH 物料	Remark 备注
注意事项：屏/电池/喇叭/摄像头/磁头/NFC/FPC/同轴线等BTB类型物料，必须填写连接器厂商、型号、材质等信息，并核对与搭配组装连接器型号是否匹配；								
1	K6990000502 LA	P1611_NFC_天线_FPC (P1611_NFC_antenna_FPC)	FPC外形尺寸： 77.59*75.26*0.15mm, PAD连接，单面背胶 (FPC dimensions: 77.59*75.26*0.15mm, PAD connection, single-sided adhesive backing)	尚远 (SUNNYWAY)	P1611_NFC_FPC_V1.0	1	是 (YES)	
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

[illegible]

 祥承科技			Reach test report																		
SALEABLE PART																					
Part material number 零件料号			Part name / model 零件名称/型号			Supplier P/N 供应商标号		Name of manufacturer 制造商名称								Supplier green material identification method 供应商绿色物料标识方法					
K6990000502LA			P1611_NFC_天线 _FPC (P1611_NFC_antenna_FPC)			SH23366IB99		尚远 (SUNNYWAY)								ROHS					
Remark			参考PD产品认证定义，如有要求时必须提供； 第三方检测报告必须由获得ISO17025（检测和校准实验室能力的通用要求）认证资质且被国家认可委（CNAS）批准进行REACH测试的实验室出具（例如 SGS,BV, Intertek, TUV等），否则相关测试报告应被视为无效；(Refer to the definition of PD product certification. It must be provided if required. Third-party test reports must be issued by laboratories that have obtained ISO17025 (General Requirements for the Competence of Testing and Calibration Laboratories) certification and have been approved by the National Accreditation Service for Conformity Assessment (CNAS) to conduct REACH tests (such as SGS,BV, Intertek, TUV, etc.); otherwise, the relevant test reports should be regarded as invalid.)																		
SUB-PART																					
Item	Name (Chinese / English) 名称(中文/英文)		Material number (material composition material number or brand in monomer / monomer) 料号 (单体/单体中的物质)	Usage of single product (g) 单件产品使用量(g)	Supplier 供应商	Test report											Control method 控制方法	Report		Remarks (project name, component P / N and others) 备注(项目名称, 组件P/N及其它)	
	Monomer 单体	Substance composition in monomer 单体中的物质成分																Number 编号	Effective date of report 出报告日期 即生效日期		
1	NFC	电解铜 (electrolytic copper)			骏驰 (jun chi)	有	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CTI	A2250105273102002E	2025.03.05	/	
2		3M467(Back Adhesive)			常兴源 (chang xing yuan)	有	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SGS	SHAEC25005222103	2025.03.19	/	
3		黑油 (solder resist ink)			优立 (you li)	有	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SGS	ETR24802643	2024.08.25	/	
4		白油 (Text ink)		太阳 (sun)		有	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	/	/	/		
5		镀金 (gold plating)			金晟炜达 (jin sheng wei da)	有	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CTI	A2240294937102001E	2024.05.28		

version	Modify content	Modified by	Date



technical requirement

1. Shipping packaging requirements: (Micro mucosal packaging)

- The copper surface is coated with black matte finish;
- The ink should be uniform;
- Sizes marked with “*” are the key dimensions;
- Use 3M4671se for backing adhesive;
- The substrate uses PI T=25um;
- Copper foil thickness of 0.5oz;
- The unmarked rounded corners are all 0.2, and the process edge is 0.2mm;
- For unmarked tolerances, follow the general tolerance table;
- The product complies with the RoHS 2.0 standard.



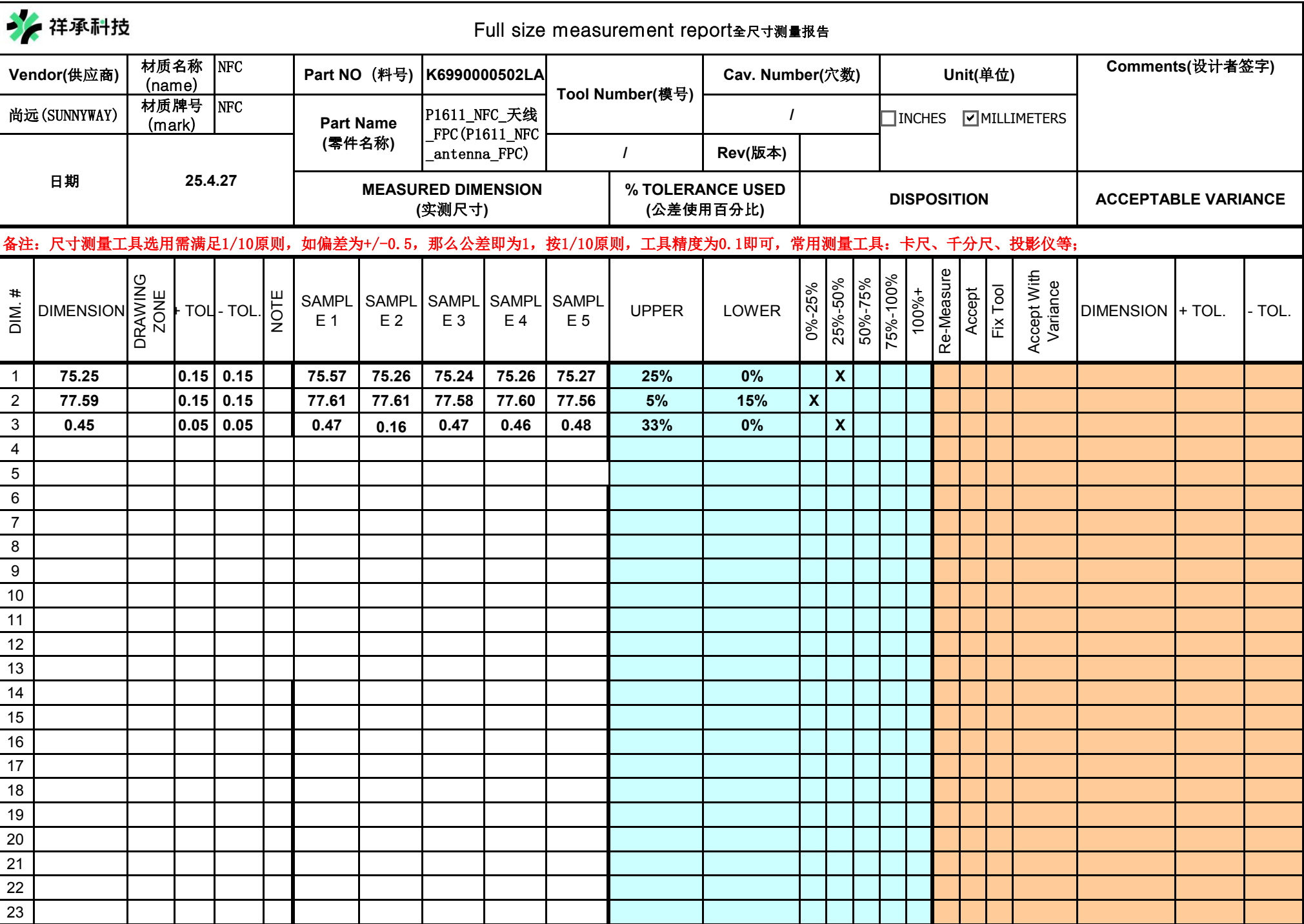
Copper foil area

Gold plated area

Adhesive backing area

Sunnyway Technology (China) Co., Ltd.					
	PART NAME:		P1611 NFC	DATE:	2025.2.27
	PART NO:		SH233661B99	DRAWN:	zhangyuanfang
	RF:		zhangxiangyu	Te1:	17792486468
	PM:		maronglai	Te1:	15921558333
	MATERIAL:			CHECKED:	yujiang
FINISHING:			APPROVED:		
UNIT:mm		COLOUR:	balck	SCALE:1:1	REV:TA





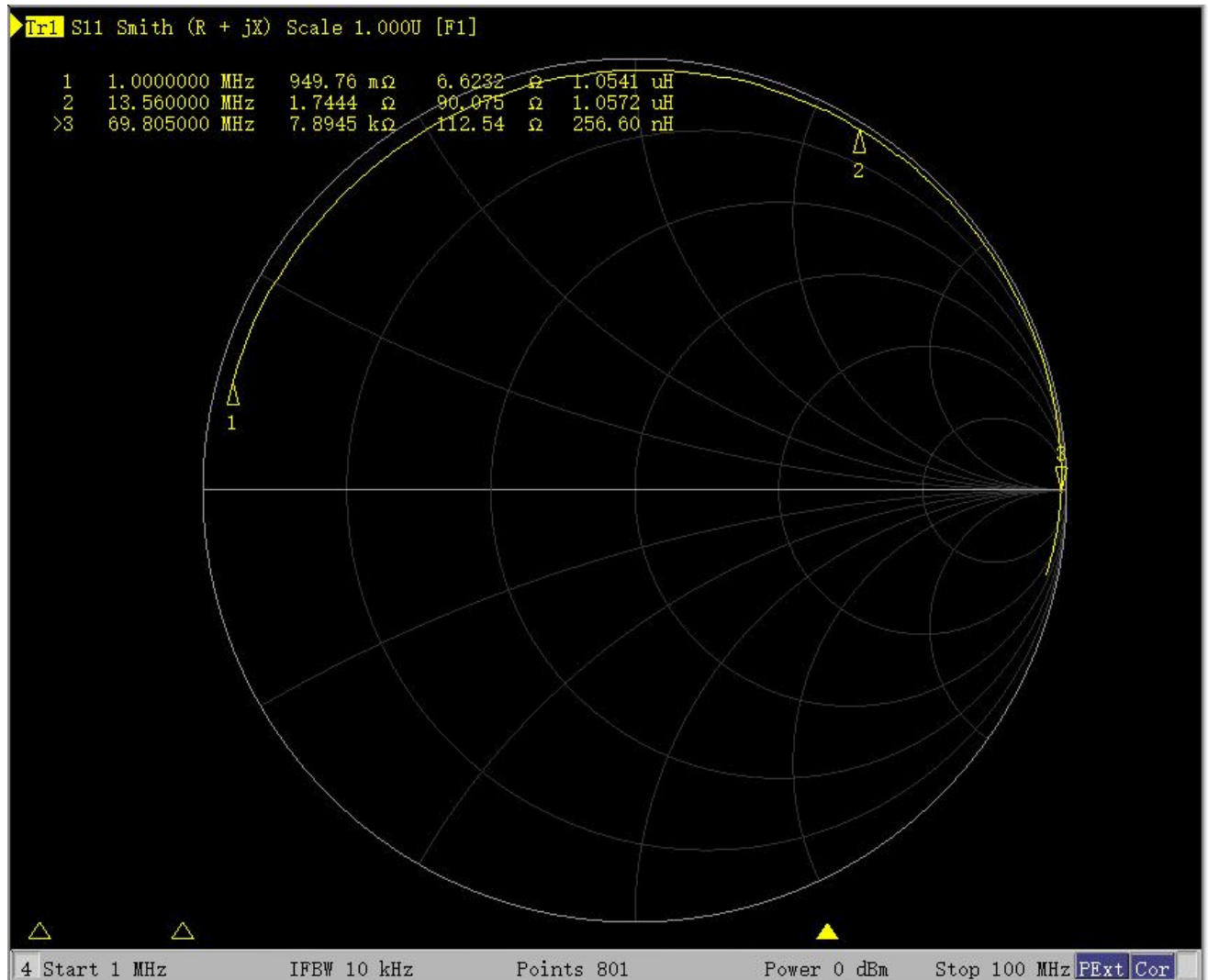
 祥承科技		CPK Report			
Part Number(料号)	K6990000502LA		Vendor(供应商)	尚远 (SUNNYWAY)	
Description(零件名称)	P1611_NFC_天线_FPC (P1611_NFC_antenna_FPC)		Inspected(确认者)	陈小平 (Chenxiaoping)	
Tool Number(模号)	/		Inches/MM(英寸/毫米)	MM	
Cavity(穴号)	/	Material Name(材质名称)		NFC	
		Material Code(材质牌号)		NFC	
Revision(版本)			Date(日期)	24.4.27	
Dim. Designator(尺寸序号)	1	2			
Nominal(公称尺寸)	75.25	77.59			
+ Tolerance(正公差)	0.15	0.15			
- Tolerance(负公差)	-0.15	-0.15			
Upper Limit(规格上限)	75.40	77.74			
Lower Limit(规格下限)	75.10	77.44			
1	75.31	77.61			
2	75.32	77.61			
3	75.35	77.63			
4	75.31	77.65			
5	75.33	77.63			
6	75.32	77.68			
7	75.32	77.63			
8	75.33	77.61			
9	75.31	77.63			
10	75.28	77.65			
11	75.31	77.63			
12	75.28	77.65			
13	75.32	77.68			
14	75.32	77.65			
15	75.31	77.63			
16	75.28	77.65			
17	75.31	77.63			
18	75.32	77.65			
19	75.31	77.65			
20	75.32	77.65			
MAX.	75.35	77.68			
MIN.	75.28	77.61			
AVERAGE	75.31	77.64			
STDEV	0.02	0.02			
CP	2.91	2.53			
Cpk	1.69	1.69			
TOOLING(测量工具)	二次元	二次元			
备注：尺寸测量工具选用需满足1/10原则，如偏差为+/-0.5，那么公差即为1，按1/10原则，工具精度为0.1即可，常用测量工具：卡尺、千分尺、投影仪等；(Note: The selection of dimension measurement tools should follow the 1/10 principle. For instance, if the deviation is +/-0.5, then the tolerance is 1. According to the 1/10 principle, a tool accuracy of 0.1 is sufficient. Commonly used measurement tools include calipers, micrometers, projectors, etc.)					
Tabulation:制表: 林锋		Audit: (signature and company seal) 审核: (签字并加盖公司章)		Date日期:24.4.27	

Part Number(料号)	K6990000502LA	Revised By(校订)	林锋(Linfeng)	Revised Date(校订日期)	24.4.27
Description(零件名称)	P1611_NFC_天线 _FPC(P1611_NFC_antenn a_FPC)	Approved By(确认)	于姜(Yujiang)	Approved Date(确认日期)	24.4.27

工序 (process)
1、开料 (rough shape cutting)
2、烘烤 (torrefy)
3、曝光线路 (Exposure circuit)
4、显影/蚀刻/脱模 (Development/etching/demolding)
5、AOI
6、丝印阻焊 (Screen printing solder mask)
7、烘烤 (torrefy)
8、丝印字符 (Silk-screened characters)
9、烘烤 (torrefy)
10、电金 (gold plating)
11、贴胶 (rubberizing)
12、覆膜 (membrana tectoria)
13、冲孔 (punching)
14、外形 (outline)
15、撕膜
16、FQC
17、FQA
18、包装 (packaging)
19、备注 (remark)

1.Single antenna parameters

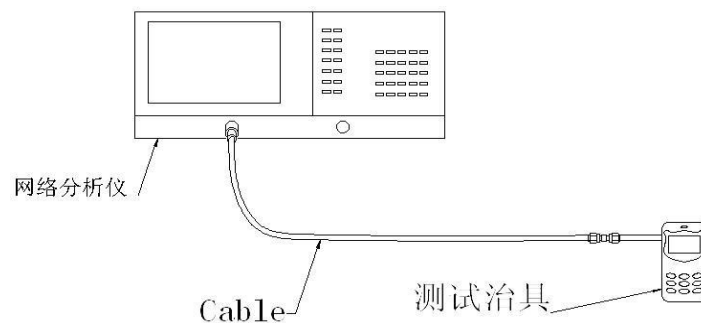
$L_a=1.05\mu\text{H}$ $R_s=0.95\Omega$ @1MHz



Testing equipment: Network analyzer (E5071C)

Test method: Use a 50 ohm CABLE cable to export from the instrument test port, calibrate with a calibration piece, connect to the SMA connector of the prototype fixture, and record the inductance value.

The test schematic diagram is as follows:



Control standards:

According to the measured value of standard components, the inductance should be controlled within $\pm 3\%$. The above figure is an example of the range: $1.02\text{--}1.08\mu\text{H}$

祥承科技 Reliability test report可靠性测试报告									
Part Number(料号)	K6990000502LA	Revised By(校订)	林锋(Linfeng)	Revised Date(校订日期)	24.4.27				
Description1(零件名称)	P1611_NFC_天线_FPC	Approved By(确认)	于姜(Yujiang)	Approved Date(确认日期)	24.4.27				
内置天线环境测试报告 (Built-in antenna environment test report)									
客户名称 (customer name) : 祥承 (Xiangcheng) 项目名称 (project name) : P1611 产品名称 (product name) : NFC 尚远料号(P/N):SH23366IB99									
样品数量 (sample quantity) : 5PCS 测试时间 (test time) : 25.4.21									
测试时间 (test time)	测试项目 (test item)	测试条件和需求 (Test conditions and requirements)	测试设备 (test equipment)	测试结果 (test result)					
25.4.21-25.4.22	低温储存 (low temperature storage)	在温箱中(-40℃)保存24个小时, 在常温常湿(20℃, 50%RH)下放2小时恢复干燥后测试, 电性能(VSWR)和结构外形良好 (After being stored in an incubator at -40℃ for 24 hours and then placed under normal temperature and humidity (20℃, 50%RH) for 2 hours to restore dryness, the electrical performance (VSWR) and structural appearance were tested)	标准温湿度箱 (Standard temperature and humidity chamber)		1	2	3	4	5
				-40℃	-40℃	-40℃	-40℃	-40℃	
				RF	OK	OK	OK	OK	OK
25.4.21-25.4.22	高温储存 (high temperature storage)	在温箱中(65℃)保存24个小时, 在常温常湿(20℃, 50%RH)下放2小时恢复干燥后测试, 电性能(VSWR)和结构外形良好 (After being stored in an incubator at 65℃ for 24 hours and then placed under normal temperature and humidity (20℃, 50%RH) for 2 hours to restore dryness, the electrical performance (VSWR) and structural appearance were tested)	标准温湿度箱 (Standard temperature and humidity chamber)		1	2	3	4	5
				+70℃	+70℃	+70℃	+70℃	+70℃	
				RF	OK	OK	OK	OK	OK
25.4.21-25.4.23	恒温恒湿试验 (steady temperature damp test)	温度为65℃, 湿度为90%-95%RH, 48H后, 要求结构无破损, 电性能无变化 (When the temperature is 65℃ and the humidity is 90%-95%RH, after 48 hours, the structure should be undamaged and the electrical performance should remain unchanged)	标准温湿度箱 (Standard temperature and humidity chamber)		1	2	3	4	5
				25-55℃/95%	25-55℃/95%	25-55℃/95%	25-55℃/95%	25-55℃/95%	
				RF	OK	OK	OK	OK	OK
25.4.21-25.4.23	冷热冲击测试 (Thermal shock test)	高温65℃, 低温-35℃各1H, 32个循环, 要求结构无破损, 电性能无变化。 (At a high temperature of 65℃ and a low temperature of -35℃ for 1 hour each, for 32 cycles, the structural components were not damaged, but the electrical performance remained unchanged.)	标准温湿度箱 (Standard temperature and humidity chamber)		1	2	3	4	5
				-40℃→+70℃	-40℃→+70℃	-40℃→+70℃	-40℃→+70℃	-40℃→+70℃	
				RF	OK	OK	OK	OK	OK
25.4.21-25.4.23	耐盐雾试验 (Salt spray resistance test)	盐雾浓度为5%的NaCl溶液, 在35℃条件下, 对天线连续喷雾48小时, 然后移出清洗之后进行16小时晾干, 天线表面应无锈蚀、变色、及键层剥落 (The antenna should be continuously sprayed with a 5% nacl solution at 35℃ for 48 hours. After that, it should be removed for cleaning and then dried for 16 hours. The surface of the antenna should be free of rust, discoloration, and key layer peeling)	盐雾机 (Salt spray machine)		1	2	3	4	5
				35℃/5%	35℃/5%	35℃/5%	35℃/5%	35℃/5%	
				RF	OK	OK	OK	OK	OK
审核 (audit) : 何金柱 (Hejinzhu) 确认 (check) : 陈小平 (Chenxiaoping) 测试 (test) : 韦月丽 (Weiyueli)									

1. Single product packaging photos or 2D drawings (for single packaged materials)
单个产品包装照片或2D图(针对单体有包装的物料)



2. Single layer product packaging photos or 2D drawings (reflect the tidiness and reliability)
参考图片(reference picture)

参考图片(reference picture)



3. Photos of products placed in all layers of the box (reflecting the tightness and reliability)
箱内所有层产品放置的照片(密封性、可靠性体现)



4. Overall picture or 2D picture after the whole box is sealed (overall box sealing state)



5. Label of single package product (item no., product name, quantity, etc.)
单包产品标签(料号、产品名称、数量等信息)

产品标签(product label)

客户: _____
品号: K6990000502LA
数量: 1000PCS



物料描述: FPC外形尺寸:77.59*75.26*0.15mm, PAD连接, 单面背胶
生产批次: 210805 品牌: _____



采购单: 3501-202108040001
供应商: 尚远
厂商代码: _____
生产日期: 2021.8.5 出货日期: 2021.8.10
采购单号: _____ 周期: 2108 产地: _____

6. Outer box label (material number, product name, quantity and other information)
外箱标签(料号、产品名称、数量等信息)

产品标签(product label)

客户: _____
品号: K6990000502LA
数量: 1000PCS



物料描述: FPC外形尺寸:77.59*75.26*0.15mm, PAD连接, 单面背胶
生产批次: 210805 品牌: _____



采购单: 3501-202108040001
供应商: 尚远
厂商代码: _____
生产日期: 2021.8.5 出货日期: 2021.8.10
采购单号: _____ 周期: 2108 产地: _____

Product name 产品名称	P1611_NFC_天线 _FPC (P1611_NFC_antenna_FPC)	
Product number 产品料号	K6990000502LA	
Material Description 物料描述	FPC外形尺寸:77.59*75.26*0.15mm, PAD连接, 单面背胶 (FPC dimensions: 77.59*75.26*0.15mm, PAD connection, single-sided adhesive backing)	
Packaging method Description or packaging material description 包装方式描述或者包装物料描述	PE bag+4 bags of desiccant (2 bags of waterproof bags placed diagonally)+carton waterproof bag+upper and lower partition of carton+thickened carton (K=K reinforced core) PE袋+4包干燥剂(防水袋对角各放2包)+卡通箱防水袋+卡通箱上下层隔板+加厚材质卡通箱(K=K加强芯)	
Packing in box Number 箱内包装数量	Quantity of each layer or package 每层或每包的数量	
	Number of layers or packages 层数或包数	
	Quantity per box 每箱的数量	
Remarks 备注		
1. Each small package and carton box shall be attached with a 1pcs shipping material label. The label format shall refer to the purchase definition. The right side of the carton box shipping label shall be attached with a 1pcs ROHS label; 2. It is not allowed to print the company name information (if there is manufacturer information, it needs to use kraft paper glue to cover it), and print upward, moisture-proof, stacking layers, anti-static ESD and other signs; 3. Cartoon box shall be sealed with I-shaped or Wang shaped. When the ratio of length to width of the carton box is less than 2 (length/width < 2), I-shaped sealing shall be used; When the length width ratio is greater than 2 (length/width ≥ 2), the box shall be sealed in king shape; 1. 小包装和卡通箱各加贴1pcs出货物料标签, 标签格式参考采购定义, 卡通箱出货标签右侧加贴1pcs ROHS标签; 2. 卡通箱加贴不可以印刷公司名称信息(如有厂商信息, 需使用牛皮纸胶遮挡), 印刷向上、防潮、堆叠层数、防静电ESD等标识; 3. 卡通箱需要采用工字封箱或者王字封箱, 当卡通箱长宽比小于2时(长/宽<2)采用工字封箱; 长宽比大于2时(长/宽≥2)采用王字封箱;		
Supplier Sign 供应商签字	戴巧玲(dai qiao ling)	
Date	25.4.27	