

TC2 规格承认书

客户名称 / Customer	INSTA360
客户料号 / Customer P/N.	QT.A00003203
供应商 / Supplier	深圳市中天迅通信技术股份有限公司 Shenzhen ZTX Communication Technology Co., Ltd
供方料号 / Supplier P/N.	1.03.03164
时间 / Time	23-Apr-24
版本 / Version	A2

供应商会签 Approval			
批准 Approval	品质承认 QA Approval	工程承认 PE Approval	研发承认 RD Approval
Guohua. Zou	Zhao. Zhang	L. Q. 	Jin. Wei

客户承认 Customer Approval			
批准 Approval	品质承认 QA Approval	研发承认 RD Approval	采购承认 PUR Approval

注：会签必须手工签字确认；

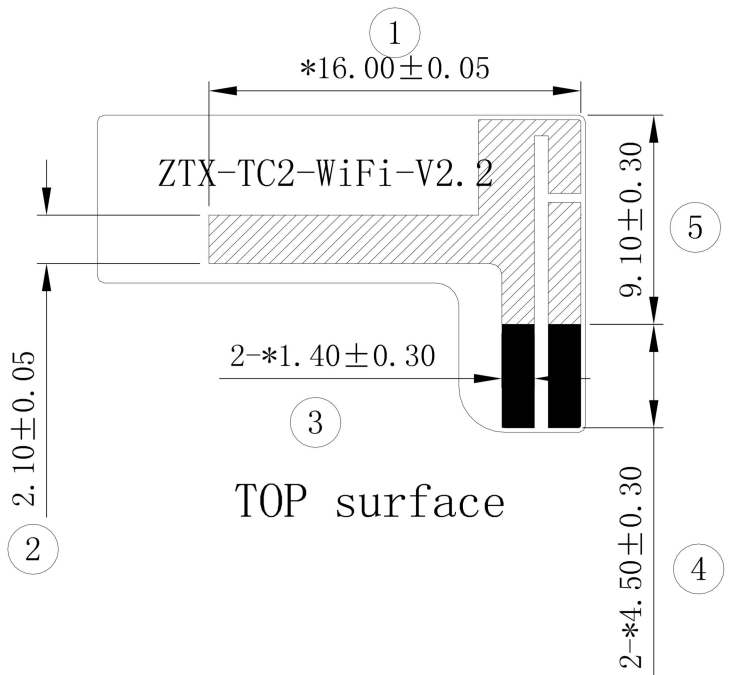
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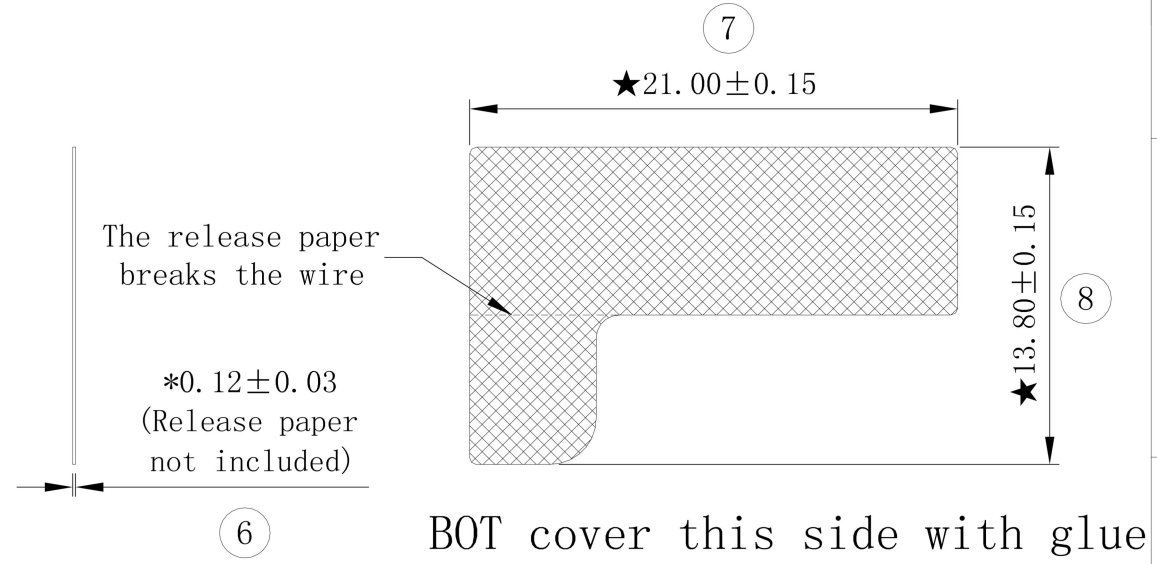
Drawing number: ZTX-QR-RD-013

- Copper foil Break a line
- Gold plating Gum zone
- External form Tear position

Rev	Description	Designed	Date
A1	Initial issue	Le Qin	2024.02.01
A2	Line adjustment	Le Qin	2024.03.01



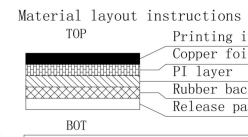
TOP surface



BOT cover this side with glue

Technical requirements:

1. The dimensions marked in the figure are required to be measured by IQC, and all trial production or mold samples need to be measured. The dimensions with "*" are the key control dimensions; The size with "★" is the CPK control size, and the tolerance is not specified by referring to the tolerance table in the drawing frame.
2. the line adopts the exposure development process.
- 3, gold finger surface treatment: nickel plating 2-7um, gold plating $\geq 0.03\mu m$.
- 4, the shape should be blanked smooth and smooth, no overflow, and can not be blanked to the internal line; The surface of the product should not be stained, wrinkled, exposed copper and other bad problems; The ink surface must pass the test requirements; The gold-plated area is required to pass the salt spray test for 48 hours, and the salt spray test is not required if the goldfinger is OSP process.
- 5, all materials should meet ROHS2.0/Reach/HF and other environmental requirements.
- 6, packaging: single PCS shipment.
- 7, without the confirmation of ZTX company, the material can not be changed at will.



Serial number	Material name	Material/specification model
①	Screen printing code	Typeface/silk screen white bright oil font height 1.2mm
②	Solder resist ink	T=10-15um black matte
③	Copper foil substrate	Single panel electrolytic copper/half and half
④	Double-sided adhesive	3M 467 T=50um

ZTX 深圳市中天迅通信技术股份有限公司
Shenzhen ZTX Communication Technology Co., Ltd

General Tolerance			Date	Unit	Rev	Scale	Project Code
Dim	Grade	A	日期: 2024.04.19	单位: mm	版本: A2	比例: 1:1	项目代码: ztx3451
5-10		±0.10	Designed	Material		Project Name	
10-20		±0.15	设计: Le Qin	材料: /		项目名称: TC2	
20-40		±0.20	Checked	Process		Product Name	
40≥		±0.25	审核: Jin Wei	工艺:		产品名称: WiFi Antenna_FPC_V2	
			Approval	Third Angle		Material Code	
			批准: Guohua Zou	第三视角		物料编码: 1.03.03164	









Process Capability Index assessment report

Customer name : INSTA360					Product name: TC2 WIFI antenna					acknowledge		verify		consummate	
Product material: FPC					date : 2024/1/15					Deng Howard		Yi Ailing		Ou Mingjian	
NO	Spec	21.00		13.80										remark	
		0.15	0.15	0.15	0.15										
1		21.02		13.82											
2		21.00		13.81											
3		21.01		13.80											
4		20.99		13.83											
5		20.98		13.81											
6		20.97		13.83											
7		20.99		13.84											
8		21.00		13.82											
9		21.01		13.81											
10		20.99		13.84											
11		21.02		13.82											
12		21.02		13.84											
13		21.00		13.83											
14		20.96		13.82											
15		20.98		13.80											
16		21.01		13.84											
17		21.03		13.83											
18		20.99		13.85											
19		21.00		13.82											
20		20.99		13.84											
21		21.00		13.82											
22		21.01		13.81											
23		21.02		13.84											
24		21.03		13.81											
25		21.01		13.83											
26		20.99		13.84											
27		21.02		13.85											
28		21.02		13.83											
29		20.99		13.86											
30		21.00		13.84											
31		21.01		13.83											
32		20.99		13.82											
MAX		21.03		13.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1. Mass production can be carried out if the CPK value is "satisfied", but the inspection needs to be strengthened. 2. CPK values are "very satisfied" in the case of mass production can be sampled inspection. 3. If one CPK value does not meet the requirement of "meet", the reason should be analyzed and improved.	
MIN		20.96		13.8	0	0	0	0	0	0	0	0	0		
X		21.00		13.83	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
M		21.15		13.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
CP		2.964		3.376	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
SN-1		0.017		0.015	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
K		0.0104		0.1833	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
CPK/determine	2.933	Very content	2.757	Very content	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Final decision	The CPK value is "very satisfied" with the production conditions and can be mass-produced.														

样品检测报告
 Sample test report

客户名称 Customer name	INSTA360				产品名称 Product name	TC2 WIFI antenna				数量 quantity	10 PCS					
产品材质 Product material	FPC				材料颜色 Material color	black				日期 date	2024/1/15					
产品类型: <input type="checkbox"/> 新模样品 <input type="checkbox"/> 改模样品 <input type="checkbox"/> 量产 <input type="checkbox"/> 其它 Product type: <input type="checkbox"/> New shape <input type="checkbox"/> Changed shape <input type="checkbox"/> Mass production <input type="checkbox"/> Others																
NO	type	Drawing size	Upper toleranc e	Lower toleranc e	Measured size										determ ine	remark
					1	2	3	4	5	6	7	8	9	10		
1	*	16.00	0.05	0.05	16.01	15.99	15.98	15.99	15.98	15.99	16.00	16.01	15.98	15.99	OK	
2		2.10	0.05	0.05	2.09	2.08	2.11	2.10	2.11	2.09	2.11	2.10	2.09	2.12	OK	
3	*	1.40	0.30	0.30	1.46	1.50	1.48	1.49	1.47	1.50	1.49	1.47	1.50	1.46	OK	
4	*	4.50	0.30	0.30	4.49	4.48	4.49	4.48	4.50	4.48	4.49	4.49	4.51	4.52	OK	
5		9.10	0.30	0.30	9.03	9.05	9.04	9.02	9.06	9.02	9.05	9.03	9.04	9.01	OK	
6	*	0.12	0.03	0.03	0.13	0.12	0.14	0.11	0.12	0.12	0.11	0.13	0.12	0.11	OK	
7	#	21.00	0.15	0.15	20.99	21.01	21.01	21.00	21.00	20.99	21.00	21.01	21.00	21.00	OK	
8	#	13.80	0.15	0.15	13.82	13.83	13.84	13.84	13.85	13.81	13.83	13.82	13.84	13.85	OK	
9																
10																
11																
12																
13																
14																
外观:OK Appearance :OK																
其它:驻波一致性测试OK Other: Standing wave conformance test OK																
Final decision: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG																
核准(Approved by): Deng Howard				审核(Checked by): Yi Ailing				测试(Name of operator):Li Lihua								
remark																

测试报告(Test Report)

样品名称 (Product name)	wifi antenna	样品型号 (Part Model)	TC2	环境温度 (Ambient temperature)	20±5℃	测试日期 (Date of test)	2024/1/9
样品数量 (Specimens quantity)	16PCS	客户料号 (Customer number)	/	相对湿度 (Relative humidity)	50-60%RH	委托单位 (Client/Dept)	品质部 Quality department
测试原因 (Test reasons)	<input checked="" type="checkbox"/> 新型号/材料验证 <input type="checkbox"/> 新工艺验证 <input type="checkbox"/> ORT测试 <input type="checkbox"/> 过期物料 <input type="checkbox"/> 客户投诉要求 <input type="checkbox"/> 高不良率 <input type="checkbox"/> 其他: 定期回行性分析 <input checked="" type="checkbox"/> New model/Material Verification <input type="checkbox"/> New process verification /ORT test <input type="checkbox"/> Expired materials <input type="checkbox"/> Customer complaints/requests <input type="checkbox"/> High defect rate <input type="checkbox"/> Other: Periodic feasibility analysis			测试依据 (Test documentation)	<input type="checkbox"/> 产品图纸 <input checked="" type="checkbox"/> 天线可靠性检验基准书 <input type="checkbox"/> 客户要求 <input type="checkbox"/> 出货检验基准书 <input type="checkbox"/> 其他: <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Antenna reliability Test reference book <input type="checkbox"/> Customer requirements <input type="checkbox"/> Shipping inspection basis <input type="checkbox"/> Other:		
序号 (NO)	测试项目 (Test project)	样品数 (Samples Qty.)	测试仪器 (Test equipment)	测试条件与要求 (Test condition and note)	测试结果 (Test result)	结论 (Conclude) (Pass/Fail)	样品图片/实测值 Sample picture/measured value
1	盐雾测试 Salt spray test	3	盐雾测试机 Salt spray testing machine	Conditions: 1. Place the product in the test chamber at 30 degrees ±5 degrees 2. Debug the test chamber parameters: NaCl (no water); Concentration 5%±1%; pH value: 6.5 ~ 7.2; Laboratory temperature: 32-38℃; Compressed air pressure :1.0±0.01 (KG/M2) spray volume :1.0 ~ 2.0ML/80CM2/H. Relative humidity :85%±2%; Test product placement Angle :30 degrees +/-10 degrees 3. The storage time is 48 hours. 4. After cleaning, place at room temperature for 2 hours for observation. Requirements: plating (coating) layer without falling off, foaming, corrosion, oxidation and other undesirable phenomena. The surface of the product should not have rust spots and other undesirable phenomena	No peeling and oxidation of coating were observed.	Pass	
2	高温测试 High temperature test	3	高低温交变湿热试验箱 High and low temperature alternating wet heat test chamber	1. Place the sample in a high temperature environment of 85 °C for 48 hours and take it out 2. Leave for 2 hours at room temperature.	After the test, the product has no deformation, no discoloration, no falling off, no warping	Pass	
3	低温测试 Low temperature test	3	低温冰箱 Cryogenic refrigerator	1. Keep the sample at a low temperature of -40 °C for 48 hours and then take it out 2. Leave for 2 hours at room temperature.	After the test, the product has no deformation, no discoloration, no falling off, no warping	Pass	
4	高温高湿储存测试 High temperature and high humidity storage test	3	高低温交变湿热试验箱 High and low temperature alternating wet heat test chamber	1. Sample 3pcs 2. Place the test sample in the test box (temperature 70±2℃, humidity 90% ~ 95%RH), and take it out for inspection after 48H.	After the test, the product has no deformation, no discoloration, no falling off, no warping	Pass	
5	百格试验 Baique test	1	百格刀 Cross-cut cutter	Use a knife to draw 10×10 (100)1mm×1mm small grids on the surface of the test sample ≥10m square meters, each line should be deep and the bottom of the ink layer; Brush the test area five times in the diagonal direction with a brush to clean up debris; Stick the small grid under test firmly with 3M600 glue, and wipe the tape with a rubber to increase the contact area and strength between the tape and the tested area; Grab one end of the tape with your hand and pull it off quickly at 90 degrees. If the coating shedding area is less than 5%, it is qualified. If the coating shedding area is more than 5%, it is unqualified	The coating did not fall off after the test.	Pass	
6	粘性测试 Viscosity test	3	/	1. Attach the FPC to the plastic, keeping pressure 2. Place at room temperature for 48 hours and observe	The product has no warping after the test	Pass	

备注(Comments):

核准(Approved by):Deng Howard

审核(Checked by):Yi Ailing

测试(Name of operator): Li Lihua

Form Number: ZTX-QR-QA-076 Version: A1

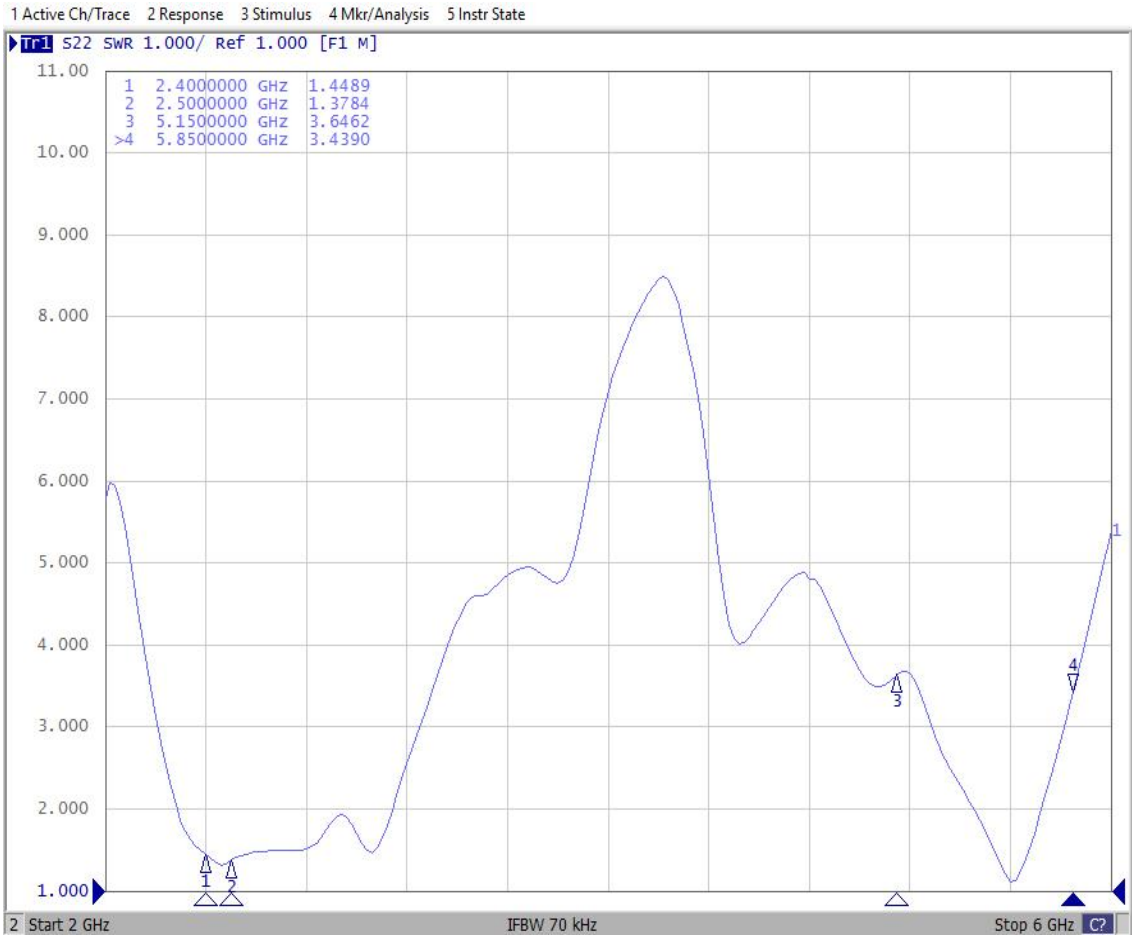
Antenna related information

Antenna type : Monopole Antenna

Antenna gain : 2.4G Gain-2.07dBi,5G Gain-2.07dBi,

Polarization mod:linear polarization

VSWR



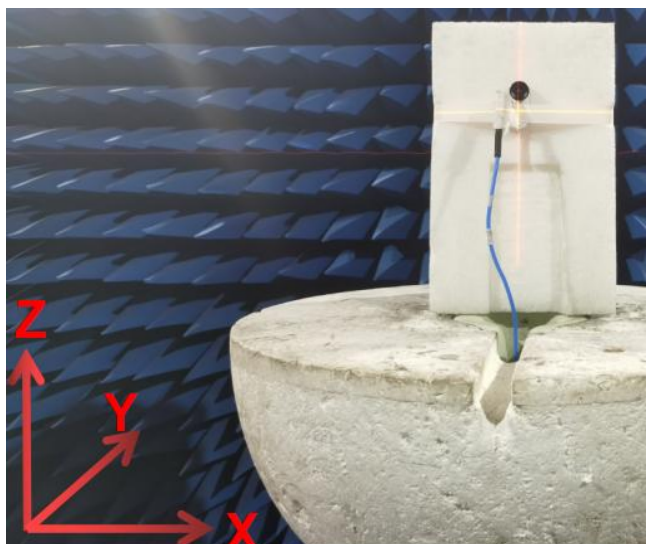
Active Test

Camera is in the AP mode				Camera is in the STA mode				BLE			
11A	Channels	TRP (6M)	TIS (6M)	11A	Channels	TRP (6M)	TIS (6M)	BLE	Channels	TRP	TIS
	36	8.57	-61.22		36	8.79	-63.22		L	-4.33	-66.13
	149	9.17	-71.39		149	9.32	-72.57		M	-4.48	-62.41
	161	8.68	-69.25		161	8.77	-71.36		H	-4.11	-65.25
11AC	Channels	TRP (6M)	TIS (6M)	11AC	Channels	TRP (6M)	TIS (6M)				
	36	8.68	-62.39		36	8.55	-61.46				
	149	9.02	-70.46		149	9.25	-71.32				
	161	8.53	-68.47		161	8.71	-72.31				

Passive Test

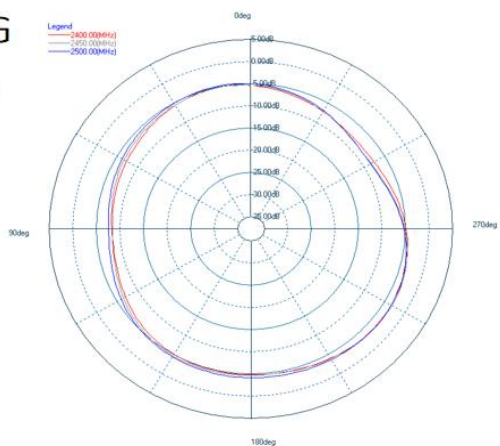
Frequency	Efficiency	Efficiency . dB	Gain . dBi
2400MHz	32%	-4.94	-2.51
2410MHz	32%	-5.00	-2.38
2420MHz	32%	-4.99	-2.41
2430MHz	32%	-4.97	-2.33
2440MHz	32%	-5.02	-2.18
2450MHz	32%	-4.95	-2.42
2460MHz	32%	-4.97	-2.31
2470MHz	32%	-4.97	-2.39
2480MHz	33%	-4.82	-2.18
2490MHz	33%	-4.84	-2.22
2500MHz	34%	-4.73	-2.07
5150MHz	30%	-5.30	-2.07
5200MHz	29%	-5.37	-2.69
5250MHz	29%	-5.38	-2.72
5300MHz	29%	-5.33	-2.71
5350MHz	32%	-4.97	-2.55
5400MHz	35%	-4.59	-2.64
5450MHz	32%	-4.92	-2.77
5500MHz	33%	-4.75	-2.51
5550MHz	36%	-4.49	-2.07
5600MHz	36%	-4.41	-2.09
5650MHz	34%	-4.62	-2.33
5700MHz	32%	-5.01	-2.41
5750MHz	32%	-4.99	-2.52
5800MHz	30%	-5.25	-2.63
5850MHz	29%	-5.32	-2.07

2D/3D Radiation Pattern Results

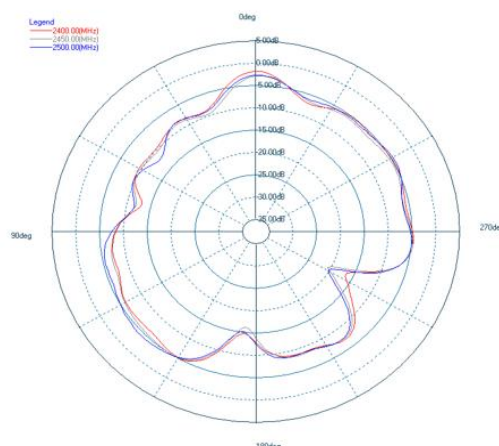


2.4G

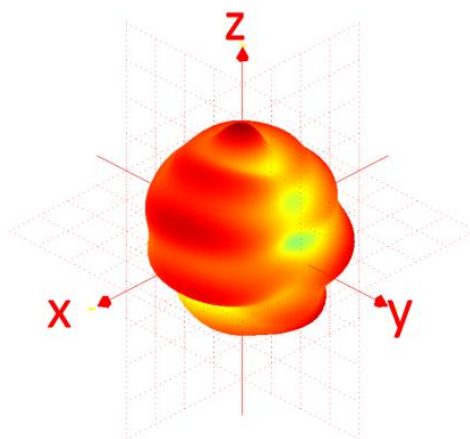
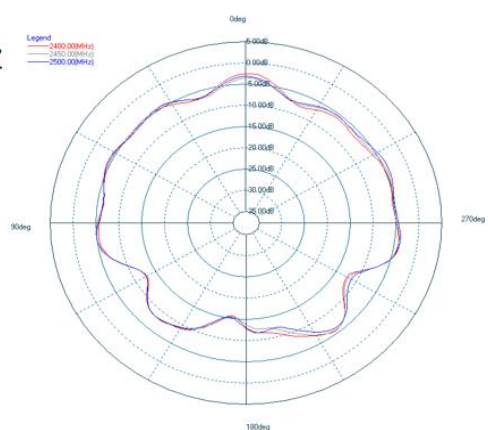
xoy



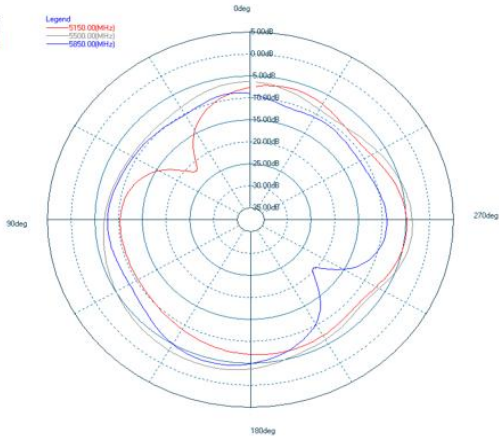
yoZ



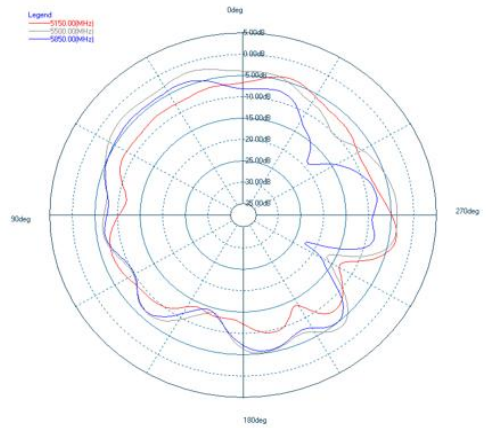
XOZ



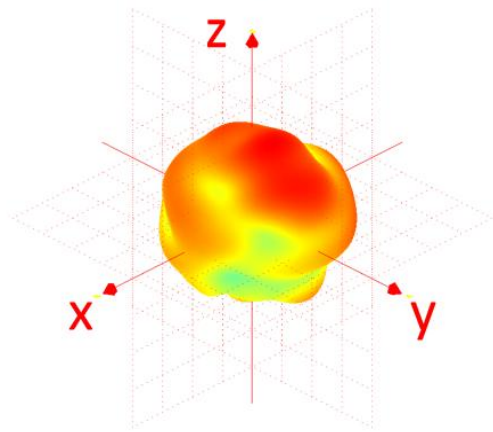
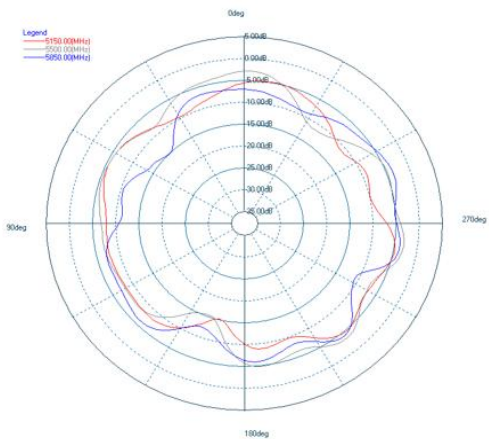
5.8G
 xoy



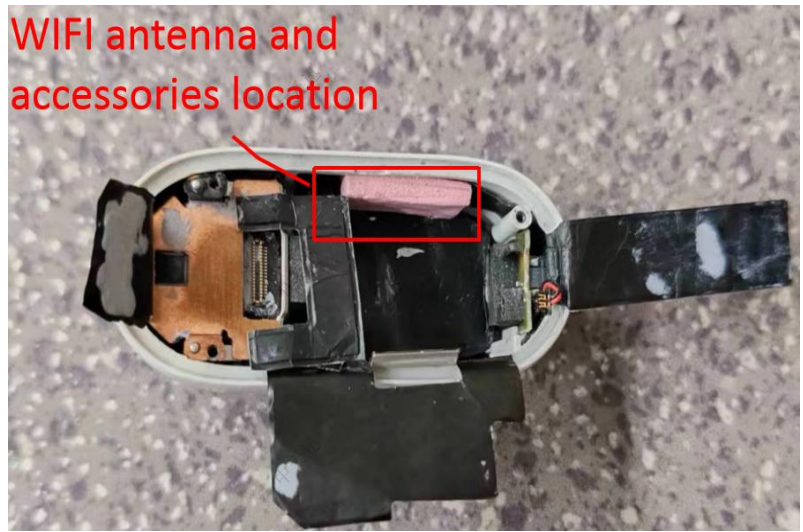
yoz



xoz



Environment treatment



Material & Substance Check List 材料和物质检查表

Supplier/供应商: ZHWOTIAN XUN Communication Technology Co., Ltd
Contact window/联系窗口: Quality Department
Phone/电话: 18924953109
E-mail/邮件: szc@zhuantian.com
Product model/产品型号: TCC-WFH-antenna-FPC-antenna
Date/日期: 2024.1.19

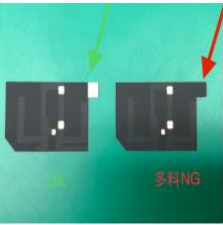
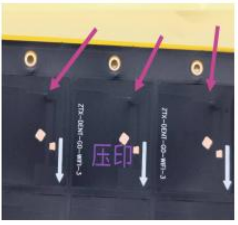
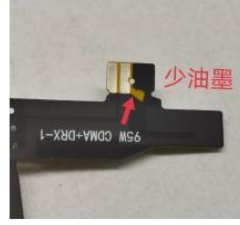

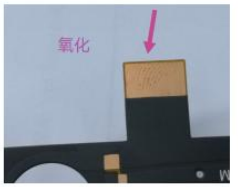


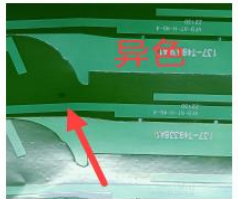
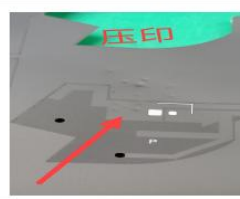
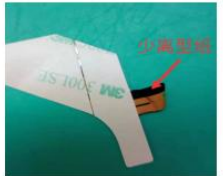

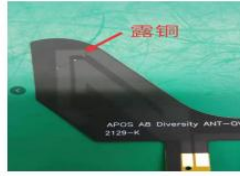
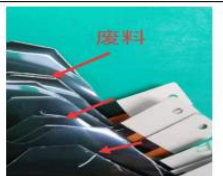








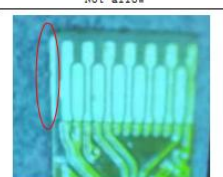


Raw Material Detection List
原材料检测清单

Position 拆解部位	Component Structure 拆解结构	Homogeneous material N/Ame 均质材料名称 (名称与均质材料名称 均质材料名称)	Homogeneous material 均质材料名称 (名称与均质材料名称 均质材料名称)	Chemical Element chemical N/Ame 英文元素(化学元 素)	CAS No. 化学元素CAS号	Material composition (%) 物质含量	Main/Avg Substance Content (ppm) 主要物质含量(ppm)										Lab 检测机构	AN/Alyz Report Issue Date 化验报告日期 (有检测材料)	AN/Alyz report number 化验报告号	REACH ROHS	Remark 备注	RoHS报告	REACH报告	AN/Alyz MSDS or Material Safety Data Sheet for all parts and materials MSDS/化学品安全 数据表	Attachment/附件 扫描图 (将图中所有完全 清晰字样, 须有英 文图, 原图电子档 文件, 不要变 SCAN文件)
							Pb 铅	Cd 镉	Hg 汞	Cr+6 六价 铬	PbMS 铅	PCBS 六价 铬	PBDEs 多氯 联苯	DEHP 邻苯 二甲 酯	BBP 邻苯 二甲 酯	DIBP 邻苯 二甲 酯									
		Halogen-free epoxy resin adhesive	Halogen-free epoxy resin adhesive		24899-06-0	34.45%																			
	Base material	Polysulfide film	Polysulfide film		25039-81-7	31.02%																			
		Copper foil	Copper foil		7440-50-8	34.45%																			
	Double-sided tape	Disposable Paper or Film Liner	Disposable Paper or Film Liner		Mixture	Ret Applicable																			
		Acrylate Polymer	Acrylate Polymer		Trade Secret	100%																			
FPC	Solder resist ink	Epoxy acrylic derived resin	Epoxy acrylic derived resin		Trade Secret	47.33%																			
		Barium sulfate	Barium sulfate		7727-43-7	23.51%																			
		Aromatic solvents	Aromatic solvents		6442-94-5	11.15%																			
		Silica	Silica		7631-86-9	6.75%																			
		dna	dna		34890-94-8	11.18%																			
		Epoxy Resin	Epoxy Resin		25085-99-8	50.00%																			
		Barium Sulfate	Barium Sulfate		7727-43-7	15.00%																			
		Titanium Dioxide	Titanium Dioxide		13463-67-7	30.00%																			
		Barium	Barium		8000-30-6	5.00%																			
		BI	BI		7440-02-0	86.95%																			
	coating	AU	AU/AU		7440-57-5	1%																			
		Er-lightener	Er-lightener		6155-57-3	0.05%																			

表头编号: TCC-WFH-03, 版本: A1 初版/01版

title		FPC SIP		File number		ZTX-QD-SP-004		
Formulation department	Quality department	Set a date	2023/9/28	Set a date	A1	pagination	1/3	
I. Inspection basis: 1. Specifications and limit samples recognized by customers 2. Engineering drawing file/acknowledgement letter/sample 3. part appearance inspection standards			Ii. Sampling level: 1, Appearance: GB/T2828.1-2012/ISO2859-1:1999 sampling level (II level) a single positive Constant sampling scheme: Automobile products shall be sampled according to: C=0; AQL: CR(0), MA (0.4) MI (1.0). 2, size: N=10, C=0					
III. inspection conditions: 1. Lighting & Vision: illumination 800Lux-1200Lux 2. Visual acuity: the visual acuity of the inspector (including correction) should be above 1.0 3. Visual time: Confirm defects within 10 seconds 4. Visual distance: the distance between the naked eye and the measured object is 30cm to 35cm 5. Visual Angle: The inspected item rotates 45 degrees from side to side								
Iv. Classification of defects: CRITICAL: Likely to cause injury to the operator of the machine or equipment; Potentially hazardous effects that can lead to safety related failures or non-compliance with the government Laws and regulations: Affecting mechanical or electrical performance, the product will have a major quality accident after assembly or during customer use. MAJOR defect: Performance does not meet the expected goal, but does not cause dangerous or unsafe phenomenon; But it will affect the performance and assembly of the product. MINOR defects: refers to the defects that have no impact on the function and performance of the product and do not lead to grade reduction, and may cause user dissatisfaction but can be tolerated. 5. Defect code comparison table								
Name (unit)	Diameter (mm)	Length (mm)	Area (mm ²)	Number (number)	Width (mm)	Distance (mm)	Height (mm)	
Code letter	D	L	S	N	W	DS	H	
6. homework content:								
item	Scope of inspection content				Inspection tool	criterion	Grade defect	remark
a p p e a r a n c e	Particle and spot defects: Appearance: thickness OK, $D \leq 0.1mm$, regardless but not dense: $0.1mm < D \leq 0.2mm$, $N \leq 2$, $DS \geq 30mm$; $0.2mm < D \leq 0.25mm$, $N \leq 1$; If the value is greater than 0.25mm, this parameter is not allowed. Non-appearance surface: Thickness is OK, $D \leq 0.5mm$ does not affect the fit acceptable.				目视、菲林尺	Accept within range	MI	According to the customer's requirements for appearance, the inspection standard can be adjusted appropriately to meet customer requirements.
	Scratch: Appearance: $L \leq 3mm$, $W \leq 0.05mm$, excluding: $L \leq 3mm$, $0.05mm < W \leq 0.15mm$, $N \leq 2$, $DS \geq 15mm$; $L \leq 3mm$, $0.15mm < W \leq 0.2mm$, $N \leq 1$; $W > 0.2mm$ or $L > 3mm$ is not allowed. Non-appearance surface: $L \leq 10mm$, $W \leq 0.5mm$, does not affect the fit acceptable.					Accept within range	MI	
	Scratches: Appearance: do not show the bottom: $L \leq 3mm$, $W \leq 0.03mm$, excluding: $L \leq 3mm$, $0.03mm < W \leq 0.05mm$, $N \leq 2$, $DS \geq 30mm$; $W > 0.05mm$ or $L > 3mm$, not allowed. Non-appearance surface: $L \leq 5mm$, $W \leq 0.2mm$, the bottom is not allowed.					Accept within range	MI	
	Gold finger pressure point: $H \leq 0.02mm$ and the number of pressure points per gold finger $N \leq 2$ slight pressure point $D \leq 0.25mm$ Or refer to customer limit signature					Accept within range	MI	
	Overflow: $W \leq 0.1mm$					Accept within range	MI	
	Ink pressure point: Appearance: no feel, $D \leq 0.1mm$, regardless but not dense: $0.1mm < D \leq 0.2mm$, $N \leq 2$, $DS \geq 15mm$; If the value is greater than 0.2mm, it is not allowed. Non-appearance surface: $D \leq 0.3mm$, no feel, does not affect the fit acceptable					Accept within range	MI	
	Back adhesive attached/missing material (offset) : $W \leq 0.3mm$					Accept within range	MI	
	Ink surface dirt: Appearance: inspection light 30cm naked eyes can not be seen, or spot defect standard. Non-appearance surface: the dirty area can not exceed one quarter, and the smearing effect is not allowed					Accept within range	MI	
	Gold finger scratch: no coating damage, $L \leq 3mm$, $W \leq 0.03mm$, excluding: $0.03mm < W \leq 0.05mm$, $L \leq 3mm$, $N \leq 2$, $DS \geq 15mm$; $W > 0.05mm$ or $L > 3mm$, not allowed					Accept within range	MI	
	Gold finger scratches: $W \leq 0.15mm$, $L \leq 3mm$, $N \leq 2$, $DS \geq 15mm$; If $W > 0.15mm$ or $L > 3mm$, it is not allowed					Accept within range	MI	
	Pile glue: no feel, $D \leq 0.5mm$ does not affect the fit acceptable					Accept within range	MI	
	Multi-material, missing material: $L \leq 0.2mm$, $W \leq 0.1mm$					Accept within range	MI	
	Poor punching of release paper					Accept within range	MI	
	Rough edge of the release paper					Accept within range	MI	
	Porous, wrong hole, few hole					Accept within range	MA	
	Goldfinger deviation (according to the drawing control, the conventional distance between the two sides and the edge subtracted $< 0.05mm$)					Accept within range	MA	
	SMT edge joint leakage, loose					Accept within range	MA	
	Missing patch strength & steel sheet					Accept within range	MA	
	Goldfinger lack of material, oxidation					Accept within range	MA	
	Goldfinger fold					Accept within range	MA	
Release paper offset				Accept within range	MA			
worn				Accept within range	MI			
The golden finger is dirty				Accept within range	MI			
Surface exposed copper substrate, copper residue				Accept within range	MI			
Color difference with sample				Sample according to color limit	MI			
Oxidation and corrosion				Not allow	MI			
Screen printing content does not match, screen printing characters blurred, incomplete				Not allow	MI			

title		FPC SIP		File number		ZTX-QD-SP-004		
Formulation department	Quality department	Set a date	2023/9/28	Set a date	AI	pagination	2/3	
Scope of inspection					Inspection tool	critierion	Grade defect	remark
item	content							
a p p e a r a n c e	Waste residue				visual	Not allow	MI	According to the customer's requirements for appearance, the inspection standard can be adjusted appropriately to meet customer requirements.
	cockle					Not allow	MI	
	The line doesn't match the drawing					Not allow	MA	
	Line open, short circuit					Not allow	CR	
	Rubber residue					Not allow	MI	
	Back rubber fold: no feel and according to scratch defect standard					Not allow	MI	
	Non-locating hole					Not allow	MA	
	The ink surface is dirty					Not allow	MI	
d i m e n s i o n	The key control dimensions (IQC required grade) marked in the controlled Engineering Drawing shall be measured, and the excess dimensions shall be judged by the results of trial assembly				Quadratic element/microscope	Not allow	MI	Each batch will draw 10PCS
性 能	According to the controlled "engineering drawing" file, open circuit, short circuit, resistance value is not allowed to test the coating line with the multimeter pass-through file, and FPC should have a full test process.				multimeter	Not allow	CR	Routine test
包 装	1. Material packaging and marking meet our requirements				visual	Not allow	MI	Check according to the drawing requirements, if there is
	2. Each batch of incoming materials shall be accompanied with					Not allow	MI	
	3. The inside and outside packaging of the material are not allowed to be damaged by extrusion					Not allow	MI	
	4. each box and the minimum package are not allowed to have a few phenomena					Not allow	MA	
可 靠 性	1, according to the requirements of the drawing to do neutral salt spray test, brine pH value is required between 6.5 and 7.2, salt spray test is completed				Salt spray machine	Not allow	MA	2PCS per batch, according to the drawing or customer requirements, if there is no requirement, according to the routine
	2, sampling the test sample is placed in the test box (temperature 70±2℃, humidity 90% ~ 95%RH), after 72 hours to take out the inspection, after the test of the product coating surface can not produce oxidation, the product can not bubble, peel, stratification, product electrical function is intact,FPC normal conduction				Constant temperature and humidity	Not allow	MA	
	3. Use a grid knife to mark 100 small grids of 10×10 of 1mm×1mm on the surface of the coating, stick to the grid coating with 3M glue, and quickly tear 3M glue at a 90 degree Angle with the coating. The same position is repeatedly tested three times, and the loss area of the coating in the grid is less than 5%				Hundred grid knife 3M glue	Not allow	MA	
	4, coating thickness test: sample, the coating area with scissors cut off the test platform, and then test, gold-plated thickness according to the requirements of the drawing				Film thickness tester	Not allow	MA	
	5. Screen printing adhesion test, stick the screen with 3M adhesive, and quickly tear 3M adhesive at a 90 degree Angle with the test surface, the same position				3M adhesive	Not allow	MA	
	6, viscosity test: sample,FPC paste on the shell material, need to do pressure, placed at room temperature for 48H after observation, not warped				Plastic case	Not allow	MA	
	7, solder pad weldability test, using a soldering iron on the solder pad to test the solder pad weldability, solder pad eating area must be ≥95%, After the test, the pad should not bubble, fall off, etc				Soldering iron	Not allow	MA	
	8, put the sample on a flat table, hit the multimeter to buzz, two pens contact FPC gold finger test conduction				multimeter	Not allow	MA	
	9, bending test, bending 180 degrees at the position of the copper foil line, after bending the copper foil line and ink surface are not allowed to be detached,					Not allow	MA	
HSF com pli an ce	1, the environmental report must meet the requirements of RoHS2.0 within the validity period or material content				multimeter	Not allow	CR	Draw 1PCS per batch
	2, all packaging RoHS mark is not clear or not allowed				visual	Not allow	CR	
Description:								
1, if the size is found to be out of whack, it must be confirmed with other accessories, and the actual matching result is the final judgment basis								
2. The sampling standard for reliability test is 2PCS of random samples.								
3. HSF compliance test is to extract 2PCS when new products or suppliers change, and then check with the report provided by suppliers.								

title		FPC SIP		File number		ZTX-QD-SP-004	
Formulation	Quality	Set a date	2023/9/28	Set a date	A1	pagination	3/3
7、bad illustration:							
sample				multi-material	coining	Less ink	
determine	Not allow	Not allow	Not allow	Not allow	Not allow	Not allow	
sample				Scalding	oxidation	Line shortage	
determine	Not allow	Not allow	Not allow	Not allow	Not allow	Not allow	
sample				Screen shift	heterochromia	coining	
determine	Not allow	Not allow	Not allow	Not allow	Not allow	Not allow	
sample				Less release paper	starving	Copper leakage	
determine	Not allow	Not allow	Not allow	Not allow	Not allow	Not allow	
sample				scrap	Poor punching	Hole deviation	
determine	Not allow	Not allow	Not allow	Not allow	Not allow	Not allow	
sample				gluey	Rubber residue	Open circuit	
determine	Not allow	Not allow	Not allow	Not allow	Not allow	Not allow	
sample				A cut on the goldfinger	coogle	short-circuit	
determine	Not allow	Not allow	Not allow	Not allow	Not allow	Not allow	
sample				The goldfinger is skewed	Missing joint or joint off	FPC back glue black	
determine	Not allow	Not allow	Not allow	Not allow	Not allow	Not allow	