



Project name: F210

Material code: 01. 02. 021. 000058

Material Name: WIFI&BT&GPS antenna

Supplier: FuzhouZHONGTIANXUNCommunication Technology Co.,Ltd

Sample 2022. 10. 19

delivery time:

Edition: V1

SPECIFICATION APPROVAL SHEET

物料信息 material	物料名称 Material name		三合一天线		物料描述 Description		F210-三合一 V1 2224				
	飞天诚信料号 P\N		01. 02. 021. 000058		制造商料号 MPN		E. 03. 00671				
	供应商 Vendor		Fuzhou ZHONGTIANXUN Communication Technology Co.,Ltd		制造商 Manufacturer		Fuzhou ZHONGTIANXUN Communication Technology Co.,Ltd				
	样品数量 Sample QTY		6PCS		首次使用机型 Model		F210				
	生产地址 Address		No. 34 stone dragon avenue, stone rock street, baoan district, shenzhen, guangdong province								
质量代表 quality	RoHS		☐ FA, ☐ REJ, ☐ N/A,		资料是否齐全 Information complete		☐ FA, ☐ REJ, ☐ N/A,				
	样品一致 Consistency		☐ FA, ☐ REJ, ☐ N/A,								
	判定结果 Result: ☐ 接收 FA, ☐ 限量接收 Risk Go 数量 QTY_____ , ☐ 拒收 REJ。										
	说明（限量接收与拒收需注明详细原因）Risk go or reject comment: SQE 代表: 备注：外观限度样由质量 SQE 和 PQE 一起确认。 Remark: Appearance limit sample is confirmed by SQE and PQE together.										
PQM 代表	厂家测试报告 Test report		☐ FA, ☐ REJ, ☐ N/A,		可靠性确认 OTR confirm		☐ FA, ☐ REJ, ☐ N/A,				
	研发测试报告 Test report		☐ FA, ☐ REJ, ☐ N/A,		Design Fix 状态		☐ FA, ☐ REJ, ☐ N/A,				
	判定结果 Result: ☐ 接收 FA, ☐ 限量接收 Risk Go 数量 QTY_____ , ☐ 拒收 REJ。										
	说明（限量接收与拒收需注明详细原因）Risk go or reject comment: PQM 代表:										
研发代表 R&D	尺 寸 Dimension		☐ FA, ☐ REJ, ☐ N/A,		厂家规格书 Specification		☐ FA, ☐ REJ, ☐ N/A,				
	功能确认 Function		☐ FA, ☐ REJ, ☐ N/A,		颜 色 Color		☐ FA, ☐ REJ, ☐ N/A,				
	说明书内容 Manual content		☐ FA, ☐ REJ, ☐ N/A,		外观效果 Appearance		☐ FA, ☐ REJ, ☐ N/A,				
	来料包装方式 Packing		☐ FA, ☐ REJ, ☐ N/A,		相关安规证书 Safety certificate		☐ FA, ☐ REJ, ☐ N/A,				
	判定结果 Result: ☐ 接收 FA, ☐ 限量接收 Risk Go 数量 QTY_____ , ☐ 拒收 REJ。										
	说明（限量接收与拒收需注明详细原因）Risk go or reject comment:										
	承认 Confirmer		外观设计 ID	包材 Packing	结构 ME	硬件 HW	软件 SW	软件测试 SW TEST	销售 Market	项目经 理 PM	部门经理 Manager
	备注:结构件颜色、外观效果、颜色限度样以 ID 代表确认样品为准;《说明书》内容由软件和包材代表一起确认,包材物料由包材代表确认;结构料由结构代表确认,结构电子料由结构、硬件代表一起确认,电子料由硬件代表确认; 软件负责对应器件确认,如电池,摄像头,屏等。 Note: the color, appearance and color limit samples of the structural parts shall be confirmed by ID representative. The contents of the specification shall be confirmed by software and packaging material representative together, and the packaging material representative shall confirm the packaging material. The structure material is confirmed by structure representative, the structure electronic material is confirmed by structure and hardware representative. The electronic material is confirmed by hardware representative. Device expert and software is responsible for the confirmation of corresponding devices, such as battery, camera, screen etc.										
	重要检验指标项目（研发）：Important inspection items (R&D comment)							☐ N/A,			
	序号 NO.	重点检验项 Key inspection item			标准要求 Standard request			确认人 Confirmer		备注 Remark	
供应商 vendor	(盖章)Stamp			品质审核 Quality confirm			工程编制 RD redact				
				张昭			胡小良				
注：FA 表示接收, REJ 表示拒绝接收, N/A 表示不适用；需加盖跨页骑缝印章。 Doc. No:											
Note: FA means receiving. REJ means rejecting. N/A means not applicable.											

Catalogue

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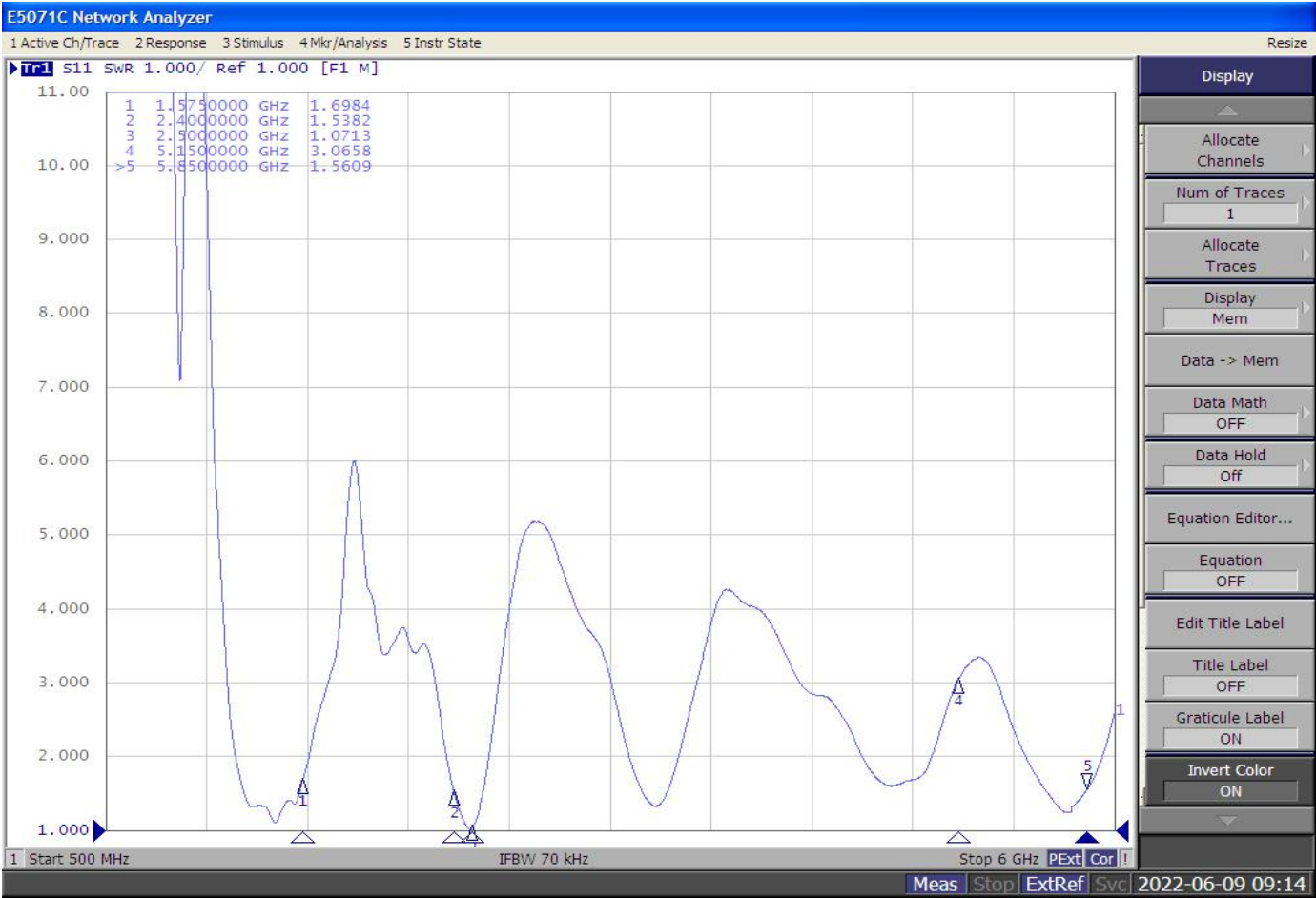
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Change resume

Rev	Acknowledge the change	Alteration party	auditor	approver	date
V1	First edition.				2022. 10. 18

A. Product specifications \2D drawings \ product material composition list

A-1 VSWR



SPECIFICATION APPROVAL SHEET

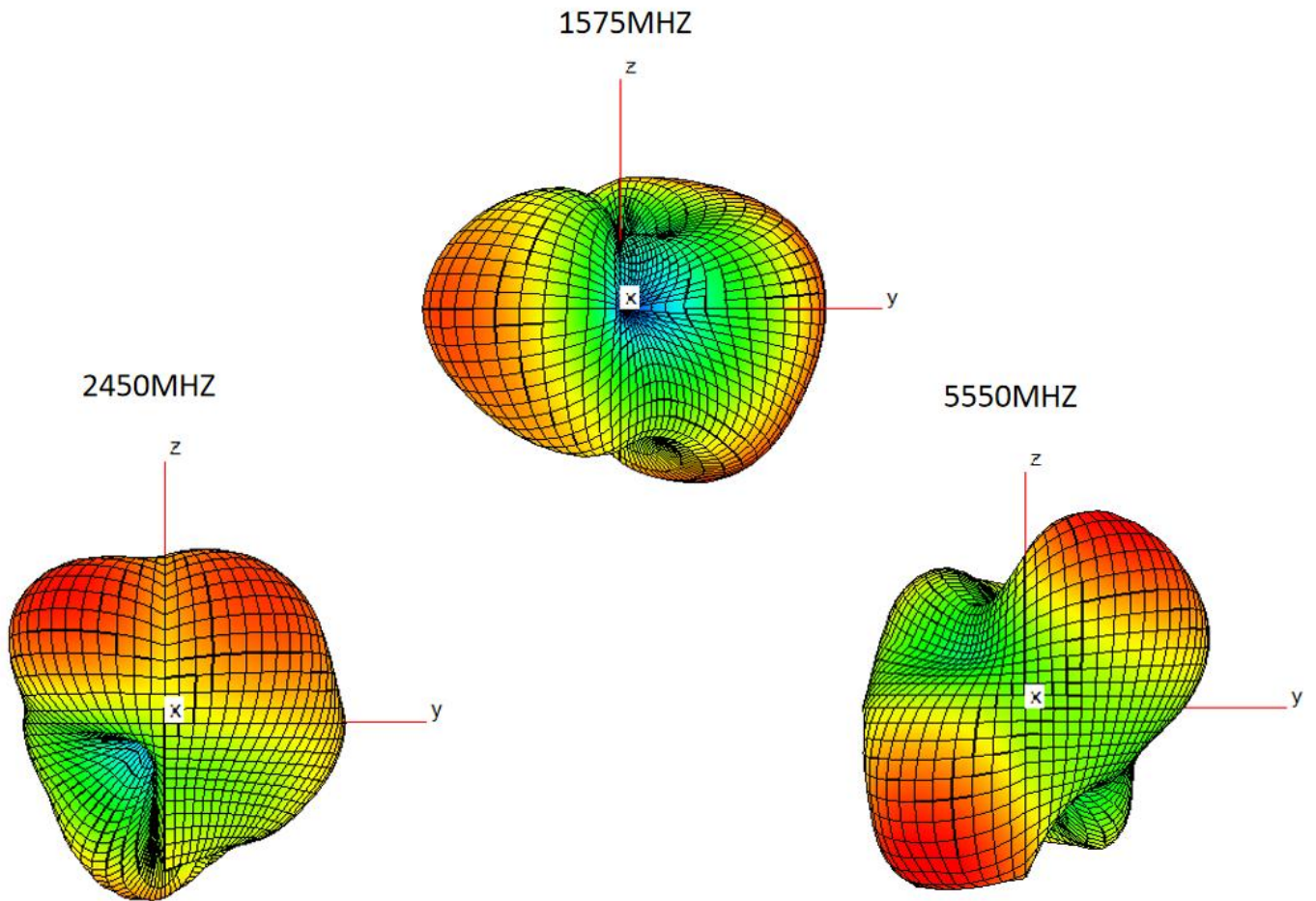
A-2 Passive efficiency

chNo	Freq MHz	Gain dBi	Efficiency_Pcent
1	1550	0.959584834	38.64658385
2	1555	1.22157813	40.46636503
3	1560	1.359295033	42.27701413
4	1565	1.381359583	43.75068249
5	1570	1.384115419	44.62203352
6	1575	1.243384275	45.06593075
7	1580	1.05325172	44.78699386
8	1585	1.049136383	44.44284481
9	1590	0.963967358	44.42248063
10	1595	1.030989638	45.18052249
11	1600	1.602132591	51.30393724
12	2400	-0.115518807	44.23346257
13	2410	-0.004780236	46.1665735
14	2420	0.090957879	47.27111391
15	2430	-0.168434465	47.39852852
16	2440	-0.674606684	44.18179704
17	2450	-0.590195198	43.79609255
18	2460	-0.297946983	43.32322712
19	2470	-0.03948603	42.92283498
20	2480	-0.034748994	40.78579061

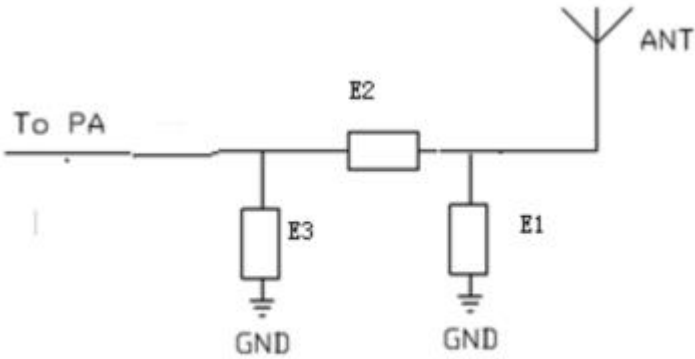
SPECIFICATION APPROVAL SHEET

21	2490	-0.023431642	39.37895287
22	2500	0.162040741	39.2917299
23	5150	-1.202774881	21.68702403
24	5190	-2.880070108	22.67549835
25	5230	-1.809315875	26.51051965
26	5270	-0.819837464	33.97413789
27	5310	-0.178383187	33.97455286
28	5350	-1.291226365	32.98627299
29	5390	-0.219623028	36.95886398
30	5430	1.123815871	38.68460221
31	5470	1.789744525	44.1579167
32	5510	-0.380644351	39.10656061
33	5550	-0.111459934	40.1456786
34	5590	0.246179144	38.80284324
35	5630	-0.426221583	34.93248712
36	5670	1.91463241	44.1791074
37	5710	1.658623123	39.81788159
38	5750	1.048760887	38.17061477
39	5790	0.559335665	36.17692837
40	5830	0.263217486	41.45715359
41	5850	0.70749941	43.36764026

A-3 3d radiation map



A-4 Active data

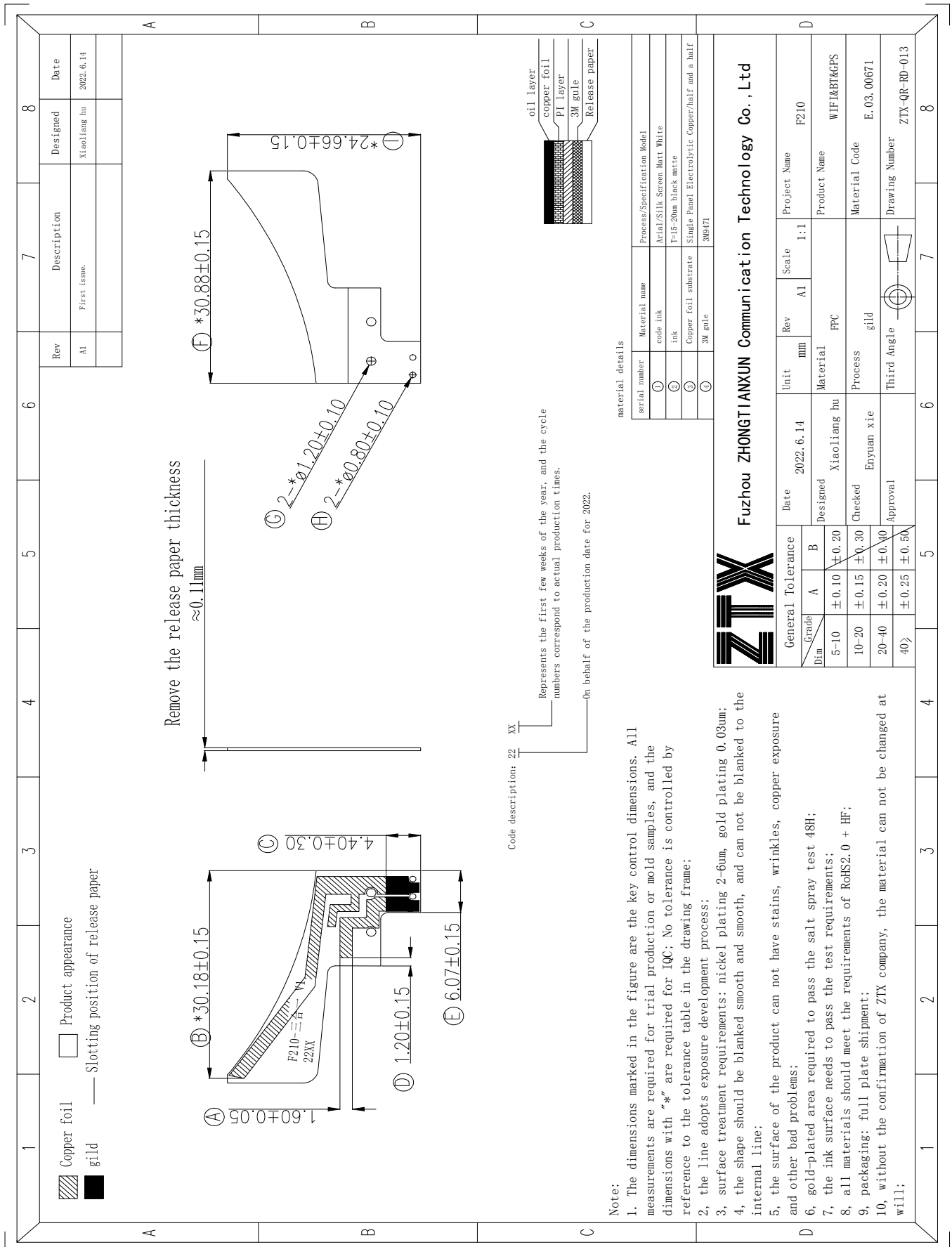


Matching structure	WIFI&BT&GPS
E1	NC
E2	0Ω
E3	NC

A-5 Matching specification



A-6 Engineering drawing



SPECIFICATION APPROVAL SHEET

B. Full size measurement report \CPK report

Customer name	FEITIAN	Product name	F210 WIFI&BT&GPS				quantity	5pcs					
Product material	FPC	colour	black				date	2022/6/13					
Product type: ☐ New look ☐ reshape ☒ Mass production ☐ other													
NO	dimension	Measured size										determine	remark
		1	2	3	4	5	6	7	8	9	10		
A	1.6±0.05	1.57	1.58	1.56								OK	
B	*30.18±0.15	30.11	30.12	30.11								OK	
C	4.4±0.3	4.5	4.49	4.53								OK	
D	1.2±0.15	1.13	1.15	1.12								OK	
E	6.07±0.15	6.01	5.99	5.97								OK	
F	* 30.88±0.15	30.81	3.78	30.8								OK	
G	* ∅1.2±0.1	∅1.24	∅1.23	∅1.26								OK	
H	* ∅0.8±0.1	∅0.83	∅0.88	∅0.85								OK	
I	*24.66±0.15	24.59	24.6	24.57									
Performance: Conformance test OK													
Overall decision: ☒ OK ☐ NG													
approval: _____ audit: _____ consummate: _____													

SPECIFICATION APPROVAL SHEET

C. Reliability test report

Test Report									
Product name		FPC		Part Model	F210 WIFI&BT&GPS	Ambient temperature	20±5℃	Date of test	2022/6/13
Specimens quantity		48 PCS		Customer number	/	Relative humidity	50-60%RH	Client/Dept	Quality department
Test reasons		New type/material verification				Test documentation	Antenna reliability testing reference		
NO.	Test projec	Samples Qty.	Test equipmen t	Test condition and note	Test result	conclusion	Sample picture/measured value		
1	Salt fog test	3	Salt mist tester	Conditions: The product is placed in 30 degrees and 5 degrees in the test box The test box parameter is adjusted for the test box. The concentration is 5%. Ph: 6.5~7.2; Laboratory temperature: 32~38cent; Air pressure: 1 (kg/m2) spray amount: : 1.0~2.0ml/90cm2/h relative humidity: 85%. Test product placement Angle: 30 degrees + / -10 degrees The time is 48 hours. 4. after cleaning, the 2h observation is placed in room temperature Requirements: non-shedding, foaming, corrosion and oxidation of the coating. There is no such thing as rust spot	No coating and oxidation were found.	Pass			
2	High temperature test	3	High and low temperature alternating wet heat test chamber	The sample is removed from the temperature 85 °C in the environment for 48 hours The function is placed at room temperature.	The coating surface of the product has no oxidation, no foaming, peeling, delamination, and the electrical function is intact	Pass			
3	Low temperature test	3	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.	The coating surface of the product is not oxidized, no shedding, no stripping, electrical function is intact	Pass			
4	High temperature and wet storage test	3	Heat and heat test box	Sample 3pcs The test is placed in the test box (temperature 70g, 20, humidity 90%~95%rh1), and then the 48h is removed for inspection.	The coating surface of the product has no oxidation, no foaming, peeling, delamination, and the electrical function is intact	Pass			
Comments:									
Approved by:			Checked by:			Name of operator: Wei li			

D. Process flow chart

Process Flow Chart

Customer	FEITIAN	Written By	Xiaoliang hu	Orig. Date	18-Oct-22
Part Number	E.03.00671	Revised By	Enyuan xie	Revised Date	18-Oct-22
Description	F210 WIFI&BT&GPS	Approved By	Erdong wang	Approved Date	18-Oct-22

Production flowchart

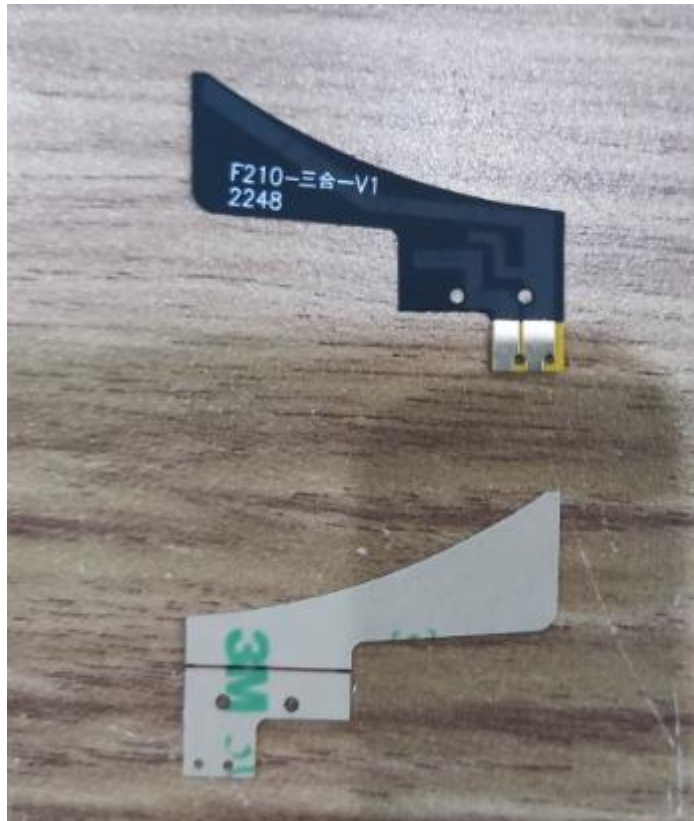
Process flow
blanching
Dry lamination
Exposure circuit
develop
Etched film retreat
AOI
Grinding plate
Machine printing and punching
Screen face welding
Ink drying
QC
Screen front character
Ink drying
QC
Goldfinger treatment
Gold face protection
IPQC
Demulching film
Dividing plate
3M adhesive bonding
Positioning holes for target shooting
Contour forming
FQC
Packing and warehousing

SPECIFICATION APPROVAL SHEET

E. Shipping packaging operation guidelines

Packaging Specifications & Work instructions					
Customer name	FEITIAN	Product type	F210 WIFI&BT&GPS		Product name antenna
Carton specification	K=K(Kraft paper) 46CM*32.5CM*42CM		Material number	1.12.000004	dosage 1PCS
PE seal pocket	360*280*0.10mm		Material number	1.12.000026	dosage /PCS
cardboard	2PCS/box*5		Other materials	Label/Tape	
Quantity per carton	5000~10000PCS				
Matters needing attention	1. Whether the customer's material code and quantity are correct, the label must be printed by machine. 2. The contents of the inner label, outer label, shipping report and delivery note must be consistent. 3. If the trial production materials or changes are required, the corresponding labels shall be affixed to the last number of boxes, and the inspection report shall be attached				
Package sketch:					
NO	Get more		Change of person and date		
Labelling chart:			The outer box is abbreviated:		
Tabulation: Chen Hao		Review: Xiang Hengfeng		Approval: party not	

F. Product physical picture (front \ back)



G. Material HSF declaration form

ITEN	Part Number	Part Name	Measured Part Weight	unit	Supplier SUB-Part Number	Manufacturer	Application Project
1	F210 F210 WIFI&BT&GPS	Half and half electrolytic copper	0.0416	g	E.03.00671	CAI Lungetti	General purpose material
		PSM-800FSMBL	0.0044	g		Youli	General purpose material
		3M 9471	0.0055	g		3M	General purpose material
		KSM-S6188-C	0.0011	g		Xindongfang	General purpose material
		Nickel-plated gold	0.0027	g		Qiansheng	General purpose material
Tabulation: Hxiaoliang		Tabulator Department/Position: Development Engineer			Tabulation date: 2022/10/18		

SPECIFICATION APPROVAL SHEET

H. Related product inspection report

Outgoing inspection report												
Customer name	FEITIAN		Order number	P00RD2022061375078			Material coding	01.02.021.000059				
Product type	F210 WIFI&BT&GPS		Production date	2022/6/20			Number of orders	105				
Production quantity	105		Date of inspection	2022/6/20			Sampling quantity	20				
Sampling plan: GB/T2828.1-2012/ISO2859-1:1999Sampling level (Level level) Single time C=0(Zero defect) Sampling plan												
Test mode: Normal test CR(0):0/1 MAJ(0.4): 0/1 MIN(1): 0/1												
project	Test content	Inspection requirement						Test result	CR	MAJ	MIN	
appearance	shard	The surface is not scratches, oil, pressure, oxidation/rust, wool, low hole/porous, deformation, etc.						/				
	FPC/PCB	No oxidation, no waste, no waste, no material, no matter, no matter, no matter, no hole/porous, color difference, spray oil, etc.						OK				
	Wire wood	No damage, color difference, no disconnect, tin, deformation, burn, etc., the end and the wire are riveted and strong, and the writing needs to be clear.						/				
	ferrite	No wrinkles, burrs/burrs, particles, foreign bodies, deformations, scratches, etc						/				
	Horn/stand	The button is no deformation/break, the surface is no plastic, the oil, the oil, the top, the top white, the deformation, the color difference, the water mouth is not treated and so on. The lead line is not broken, the pressure injury, the unwave is the first class bad. The writing needs to be clear and discernible						/				
	weld	No leakage welding, virtual welding, false welding, welding bridge, tin tip, tin, tin, tin, stripping, splash tin, high						/				
	Hot melt/fit	The slippage and the scaffold need to be attached tightly, no ups, blow points and so on. FPC and support should be closely tied, no ups, skew, wrinkles and so on.						/				
	Apply the backing/backi	No leakage, distortion, damage, warping and other bad						/				
Test item	1	2	3							determine		
Significant dimension	a. 16.5±0.05	16.48	16.47	16.48							OK	
	b. 4.3±0.3	4.38	4.37	4.39							OK	
	c. 5±0.1	4.97	4.98	4.99							OK	
	d. 0.7±0.1	0.73	0.75	0.72							OK	
	e. 1.2±0.1	1.23	1.26	1.25							OK	
	f. 20.22±0.15	20.18	20.19	20.16							OK	
other												
Packing (outer box label/internal packing) ☒ Whether it suits rohs												
Outer box label: quantity (105) ☒ specification ☒ name ☒ Object code ☐ Lot number ☒ Order number												
Internal sign: quantity (100) ☒ specification ☒ name ☒ Object code ☐ Lot number ☒ Order number												
Comprehensive judgment: ☒ Up to standard ☐ Below standard												
Approval: yi ailing QA: Xie Yongying												
Unqualified handling mode	☐ Provisional release ☐ Return check ☐ Back processing											
	Non-conforming processing countersign:											
Remarks	Test basis: the customer returns the relevant parameters in the specification book.											
	The data for the sampling test data.											