TPV Component Specification

Basic Information / 基本信息

TPV Part No. / 料号	Supplier Part Name / 厂商型号	Part Description / 品名描述	
368GAAWA774GSD	WF6E-50	WIFI Antenna	
Supplier Name / 厂商名称	TPV Vendor Code / 厂商代码	Manufacturing Location / 制造产地	
惠州高盛达科技有限公司	3736501	广东惠州	
Safety Parts / 安规零件	YES √ NO □	Net Weight / 净重(g)	4.0±0.2

Environmental Guarantee / 环境保证

1. All raw materials of supplied parts shall met TPV latest version standard (RDEMS-01) and the requirement of regional or country laws and ordinances.
   料件之所有原材料必须符合 TPV 环境物质管理最新版本标准(RDEMS-01)及销售国家、地区的法律法规及机型申请适用之条例。
2. All raw materials of supplied parts shall comply below requirements (mark "√" in the "□" when needed).
   料件之所有原材料必须符合以下所列项目的环保要求。必须符合的项目， "□"中打"√"。

   □ HF: Low Halogen / 低鹵 (氯 Cl <900ppm, 溴 Br<900ppm, Cl+Br<1500ppm)，外箱必须标识"HF"

   √ RP: Not contained any red phosphorus

   □ VOC: 挥发性有机物(According TPV standard RDEMS-01) /(依照 TPV RDEMS-01 标准)

Important Notice / 重点说明

1. Any specification change for component, especially following items: Raw Material, Process, Tooling, Factory, Label, halftone, and any engineering changed of production, should be approved by TPV.
   零件的任何变更，尤其原材、制程、模具、产地、标识、网版、以及任何生产之变更，必须得到 TPV 之承认。
2. Any engineering change for component should be in version record, supplier should provide management information for old version parts to TPV if required.
   任何零件之工程变更必须有版本记录，如需要，厂商必须提供库存之旧料管理信息状况。
3. Safety parts should be ensured that all safety certificate is complete and in the period of validity. Any change of safety certificate should be noticed to TPV timely and phased-in after approved by TPV.
   安规零件，须保证各项安规证书齐全且在有效期内。安规证书等任何变更必须及时报备 TPV，且必须得到 TPV 认可后导入。

Supplier Information / 厂商信息

Prepared 承办	侯文南	Check 确认	秦楠	Approved 核准	孙燕
Tel. 电话	0752-2096985	Fax 传真	0752-2096985	Email 邮件	suny@gaosd.com
Address 地址	广东省惠州市三栋镇惠南科技园金达路 **2** 号				

TPV 内部资料，未经允许不得外传

TPV Component Specification

VERSION RECORD			
VERSION	DESCRIPTION OF CHANGE	OWNER	RELEASE DATE
1.0	Original Version	侯文南	20211201
2.0	增加钢印字符（Add steel print characters）	侯文南	20220107

TPV 内部资料，未经允许不得外传

SPECIFICATION

SHEET FOR APPROVAL

（Revision：R：A2）

	CUSTOMER(客户名称)	高盛达	
	CS P/N(客户机种)	WIFI6E-50	
	PART NAME(品名)	WIFI Antenna	L=500mm
	FREQUENCY(频率)	2.4G+5G+6GHz	
	ZTX NO.(物料编号)	2.00005326	G.5.13.WF6E50XXXX
	DATE(日期)	2022-01-07	

CUSTOMER			
QA CHECKED	ME CHECKED	RF CHECKED	MANAGER CHECKED

Remark(备注):

Sign(客户确认签字盖章): _____

ZHONG TIAN XUN TECHNOLOGY CO., LTD				
MANAGER CHECKED	MANAGER CHECKED	ME CHECKED	RF CHECKED	LISTER
		YINGJUN WEI	FENG ZHAO	

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

Address: No.34 Shilong Avenue (Tengda Industrial Park), Shiyan Town, Baoan District, Shenzhen City: 518000 TEL:0755-27588320 FAX:0755-27588045 http://www.chinaztx.com

Revision history

version	Date	status
A1	2021-11-18	First edition
A2	2022-01-24	增加钢印字符（Add steel print characters）

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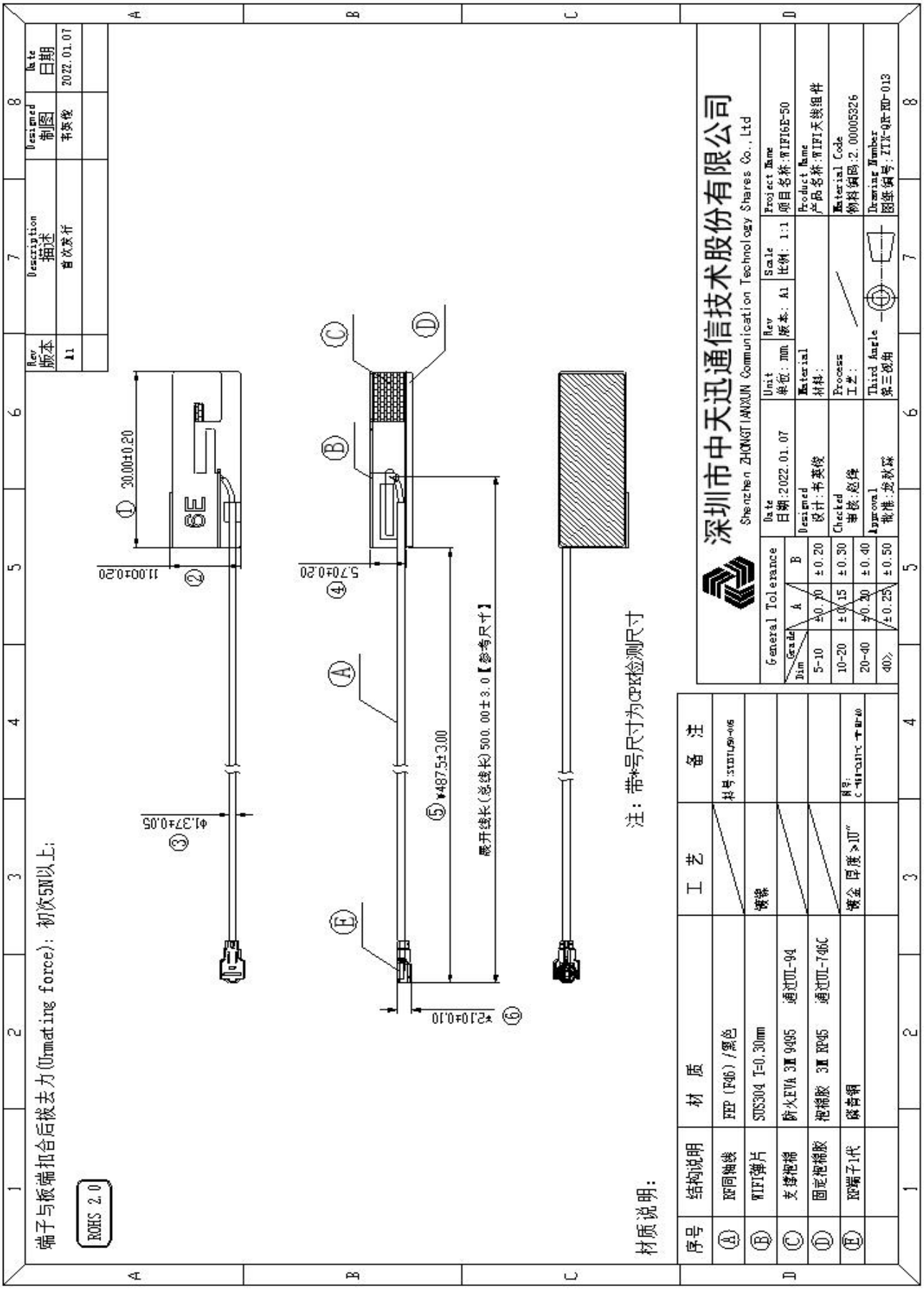
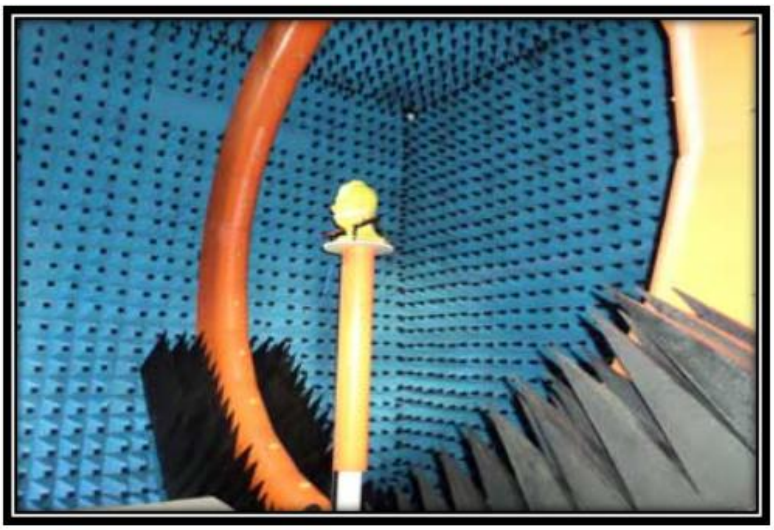
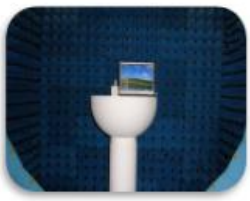
1. Mechanical Specification

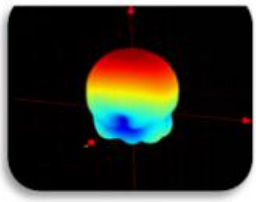
1-1 Mechanical Configuration(WIFI Antenna components)



2. Test equipment



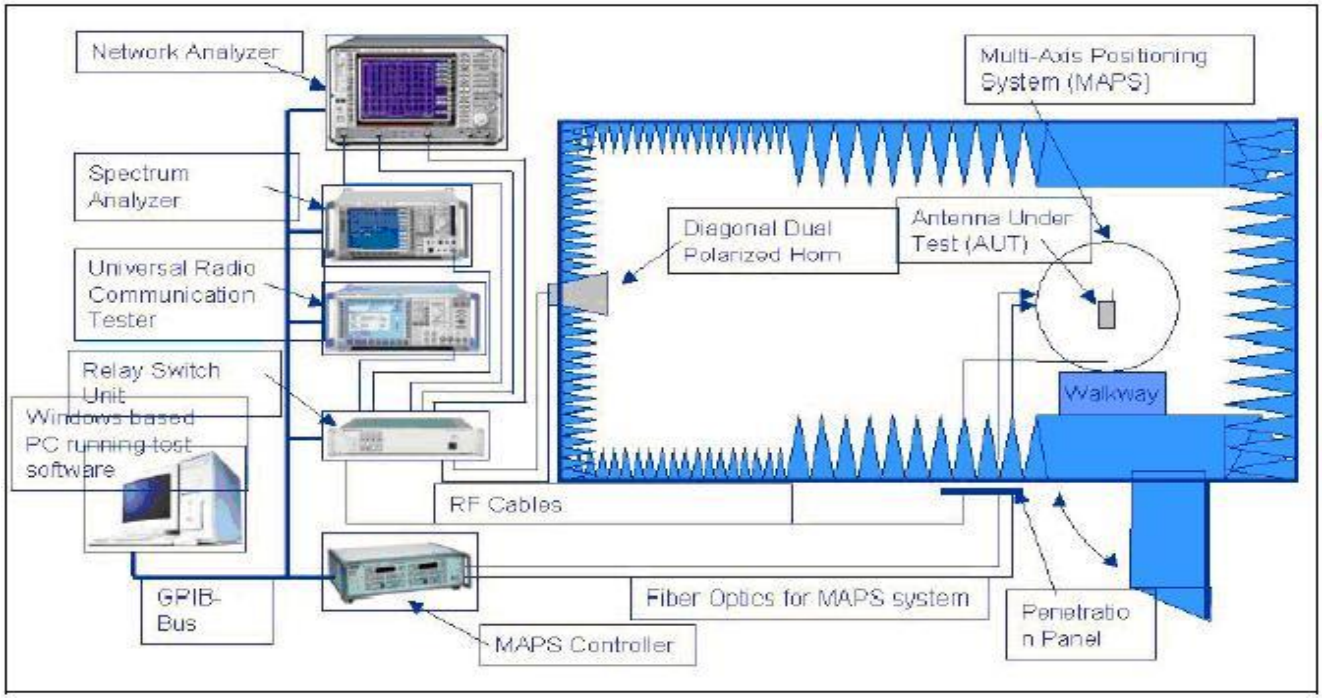




Owned 6 microwave dark room, equipped 2 sets world leading France Satimo SG24 OTA certification test systems（one in SHENZHEN, another one in Shanghai）, ETS OTA Standard test system，Blue test reverberation test system which is High repeatability, high accuracy and high resolution. It can quickly provide accurate test reports, fully meet the CITA standards.

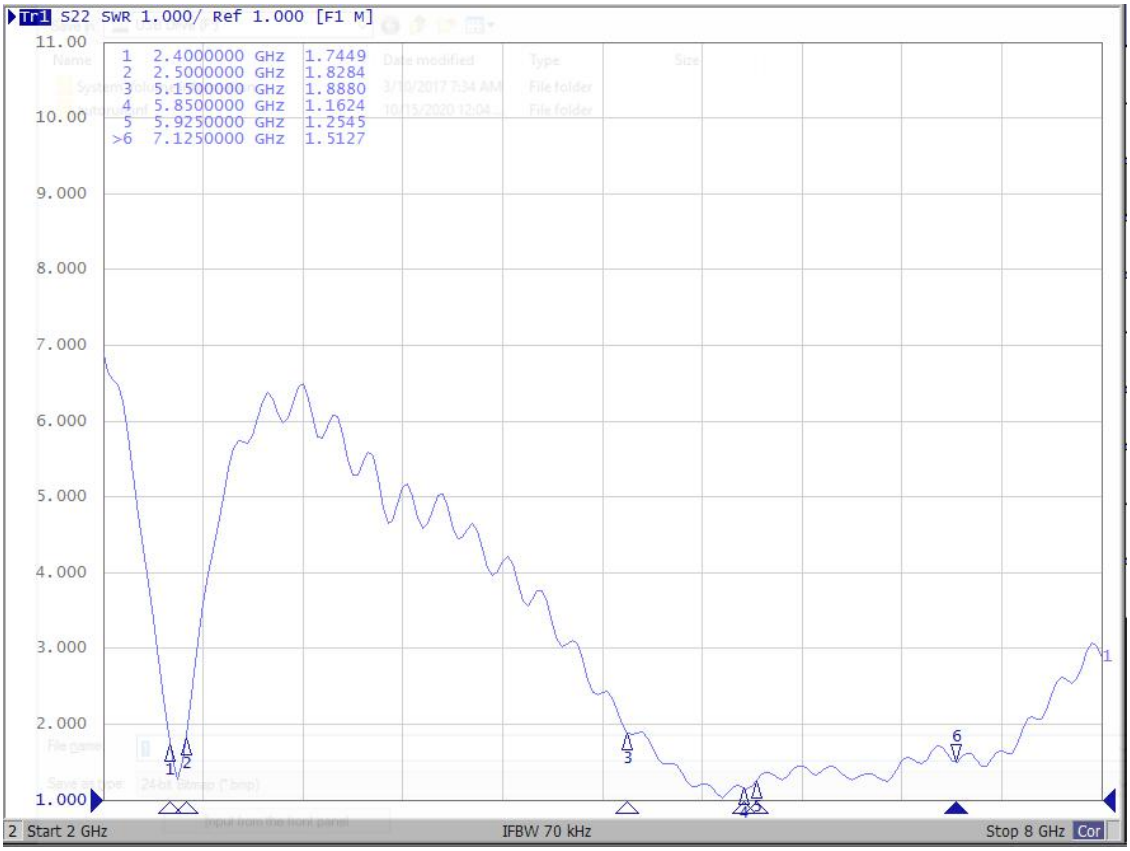
Testing range:

Support active, passive testing of GSM/CDMA/WCDMA/TD-SCDMA/LTE/WIFI/WLAN/WiMax/BT/GPS/MIMO/UWB within0.4-6G.

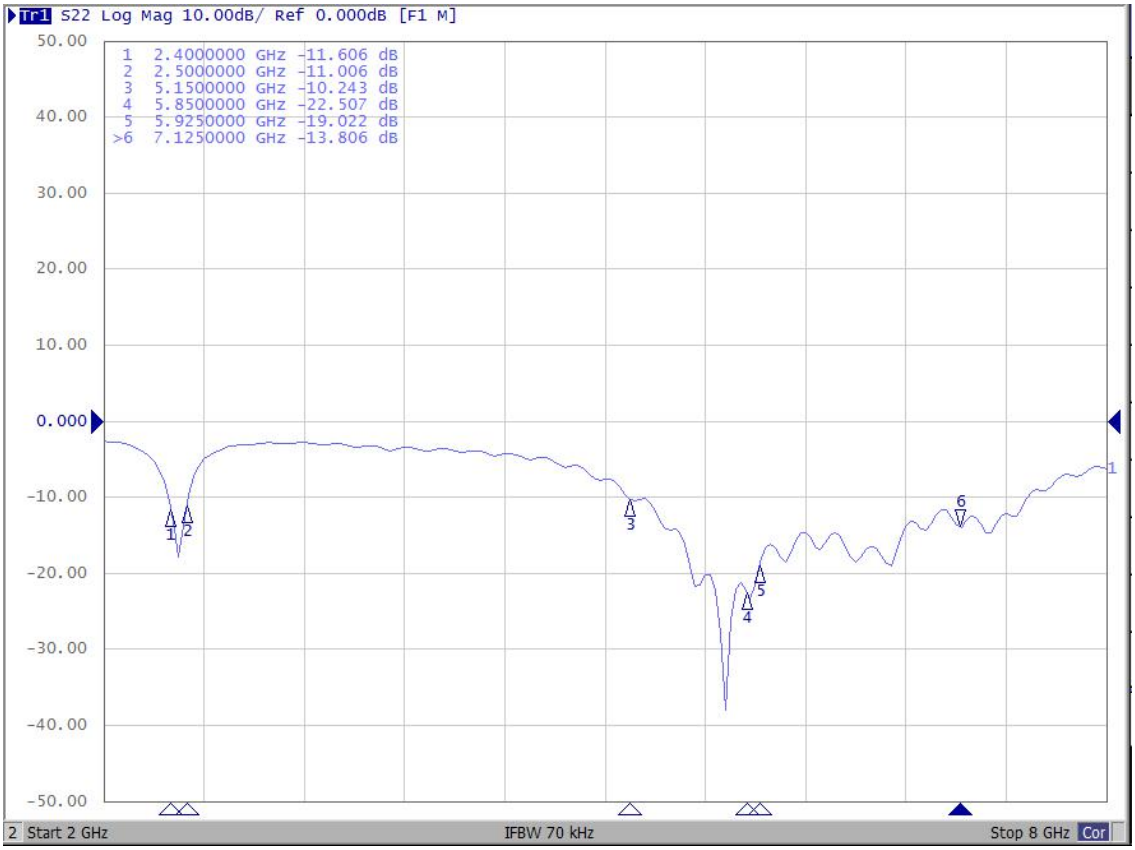


3.Antenna test data

3-1 VSWR



3-2 Return loss plot



3-3 Matching circuit

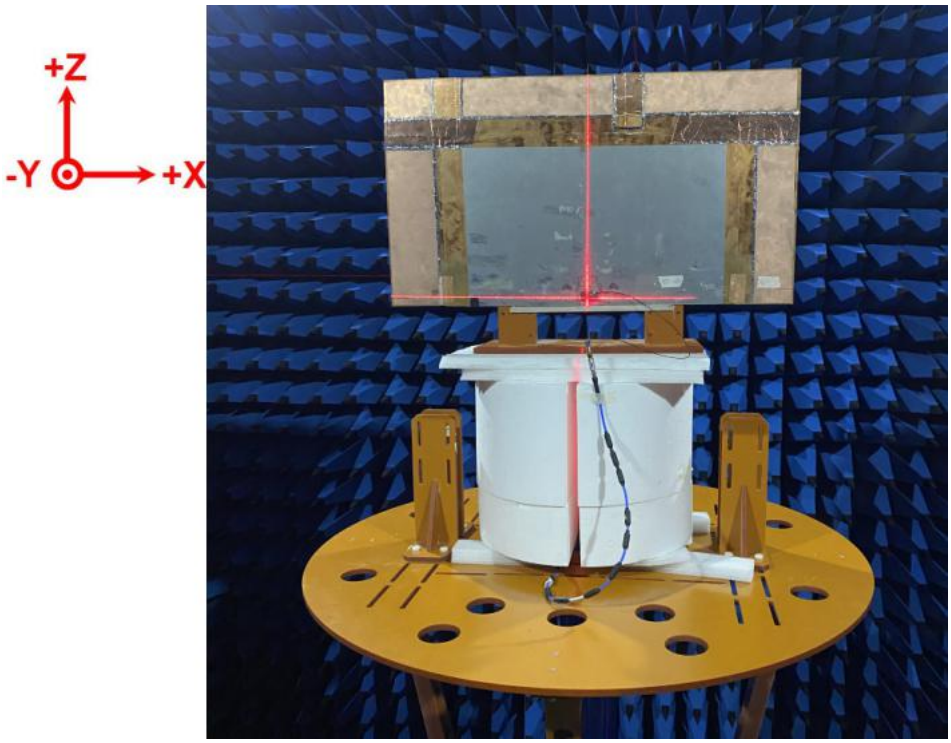
N/A

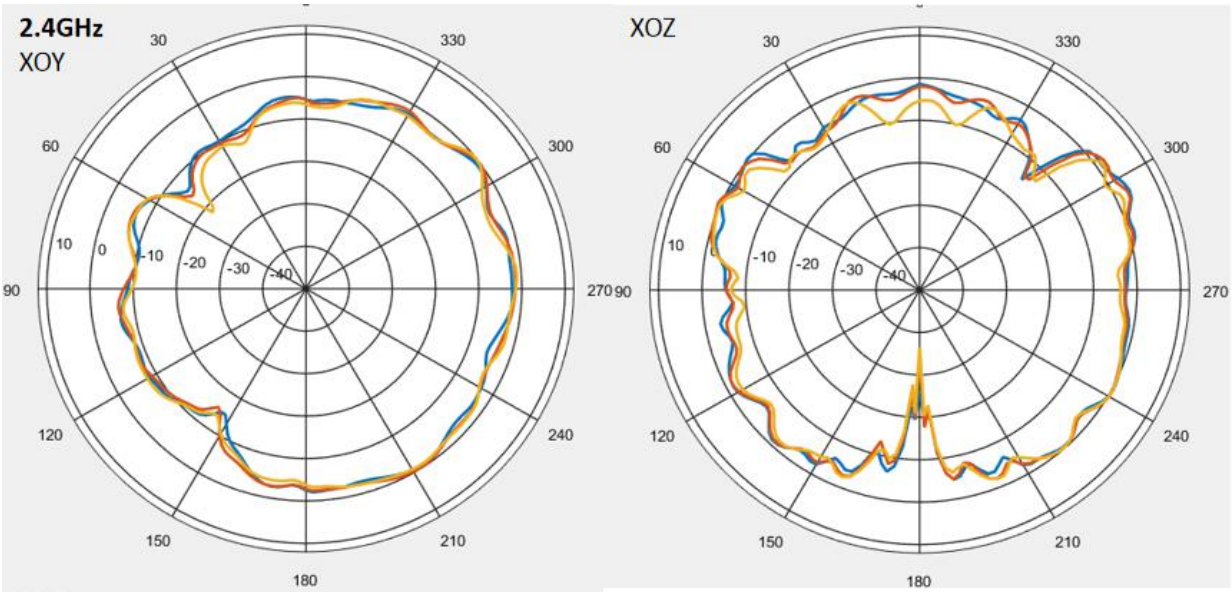
3-4 No-source test data

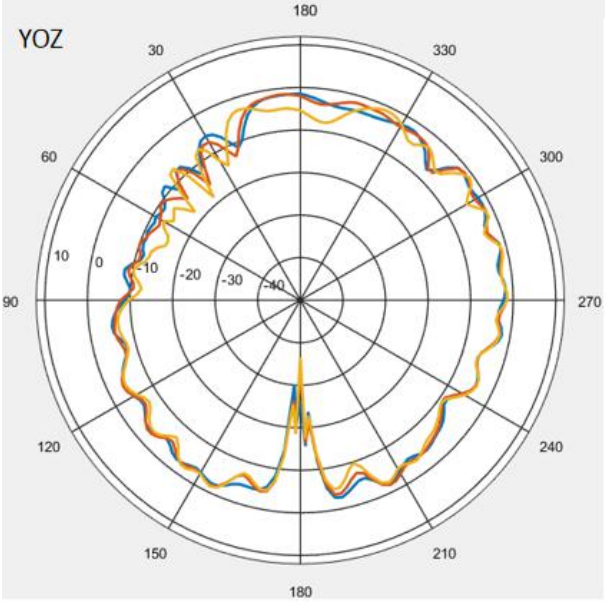
Frequency	Peak Gain	Efficiency	
Mhz	dB	%	dB
2400	3.91	45.36	-3.43
2410	3.93	45.47	-3.42
2420	4.22	48.64	-3.13
2430	4.23	49.72	-3.03
2440	4.52	51.69	-2.87
2450	4.59	51.99	-2.84
2460	4.48	49.58	-3.05
2470	4.26	49.45	-3.06
2480	4.16	48.74	-3.12
2490	4.06	46.71	-3.31
2500	3.76	42.79	-3.69
5150	4.63	41.93	-3.77
5250	4.61	43.51	-3.61
5350	5.33	46.19	-3.35
5450	5.04	47.82	-3.20
5550	5.07	48.79	-3.12
5650	5.61	50.72	-2.95
5750	5.73	50.43	-2.97
5850	5.41	50.31	-2.98

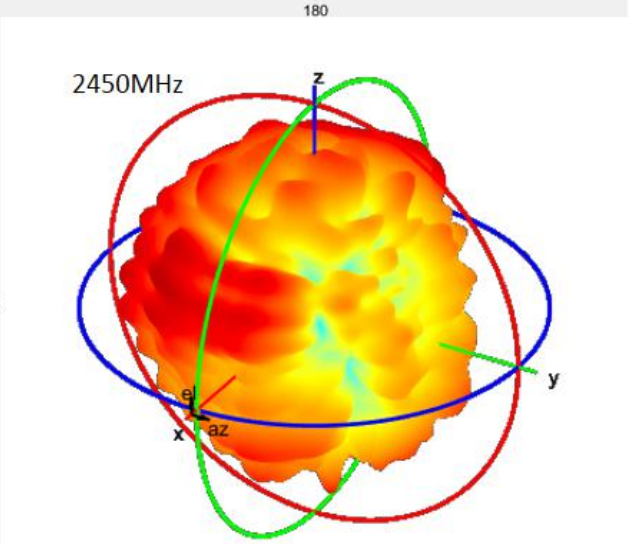
Frequency	Peak Gain	Efficiency	
Mhz	dB	%	dB
5925	5.86	44.47	-3.52
6025	5.52	44.51	-3.52
6125	4.76	42.69	-3.70
6225	4.65	41.32	-3.84
6325	4.74	40.59	-3.92
6425	4.35	42.15	-3.75
6525	4.13	42.89	-3.68
6625	4.43	44.27	-3.54
6725	4.31	43.28	-3.64
6825	4.39	42.59	-3.71
6925	4.46	42.06	-3.76
7025	3.61	41.80	-3.79
7125	3.51	40.49	-3.93

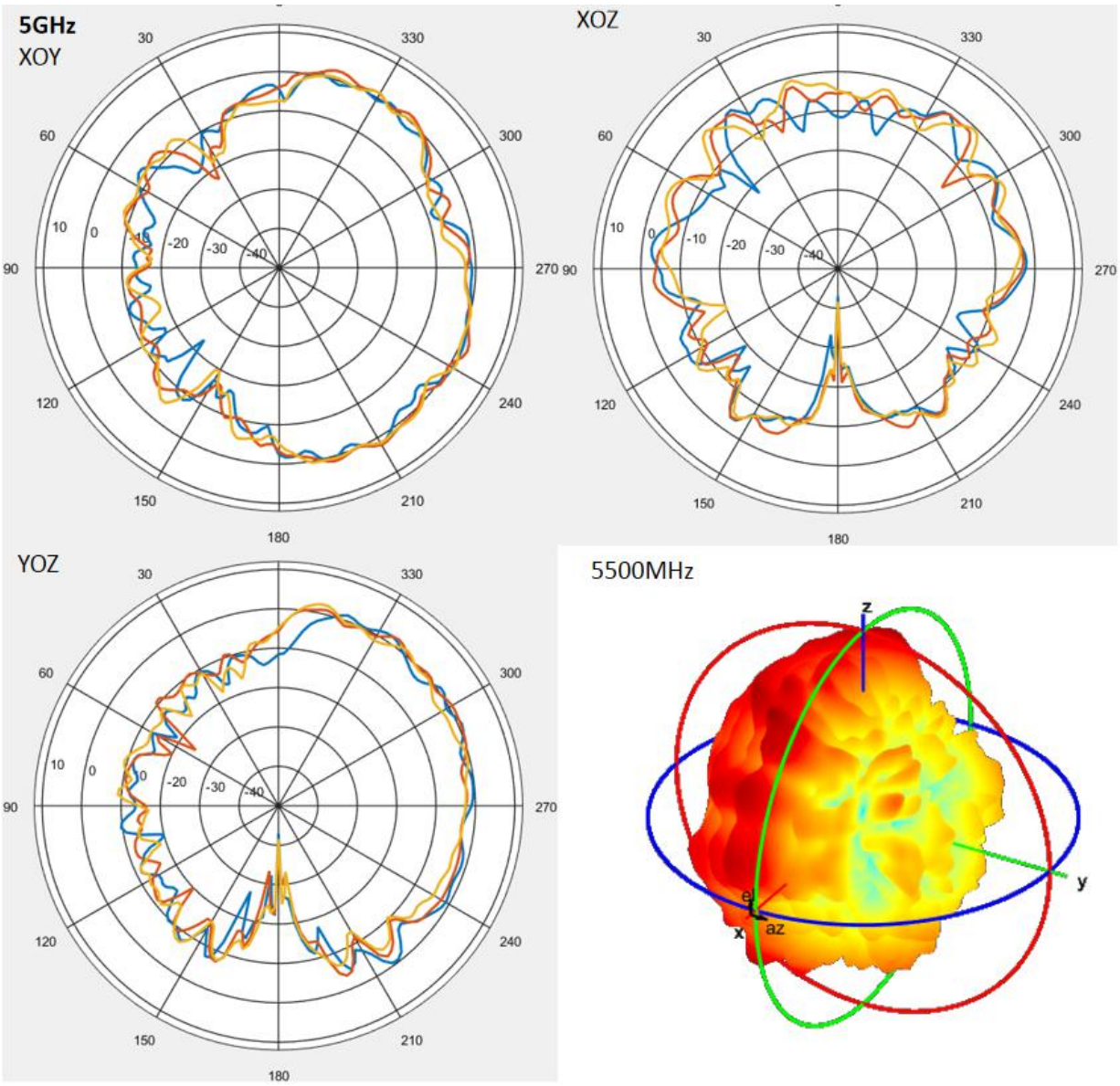
3-5 Directional drawing of horizontal plane of

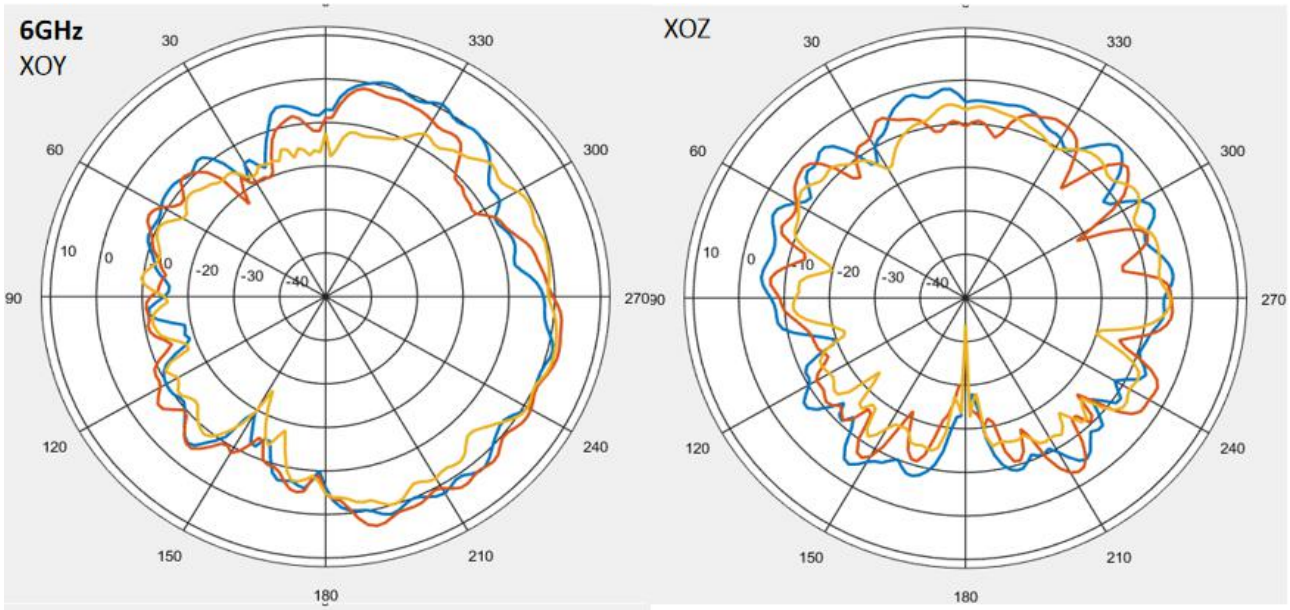


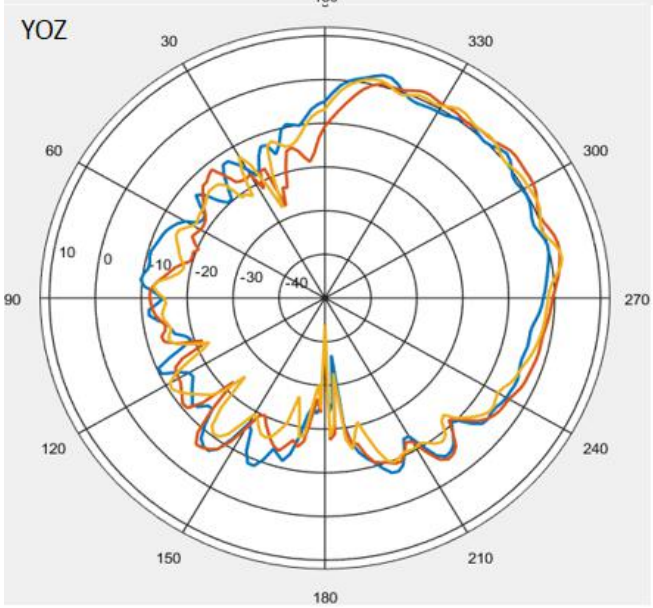

2.4GHz
XOY
XOZ
30
330
60
300
90
270
120
240
150
210
180
10
0
-10
-20
-30
-40

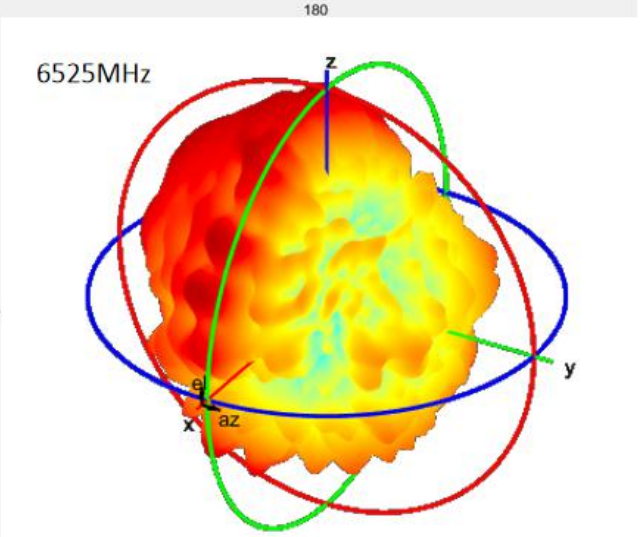

YOZ
30
330
60
300
90
270
120
240
150
210
180
10
0
-10
-20
-30
-40


2450MHz
z
y
x
el
az

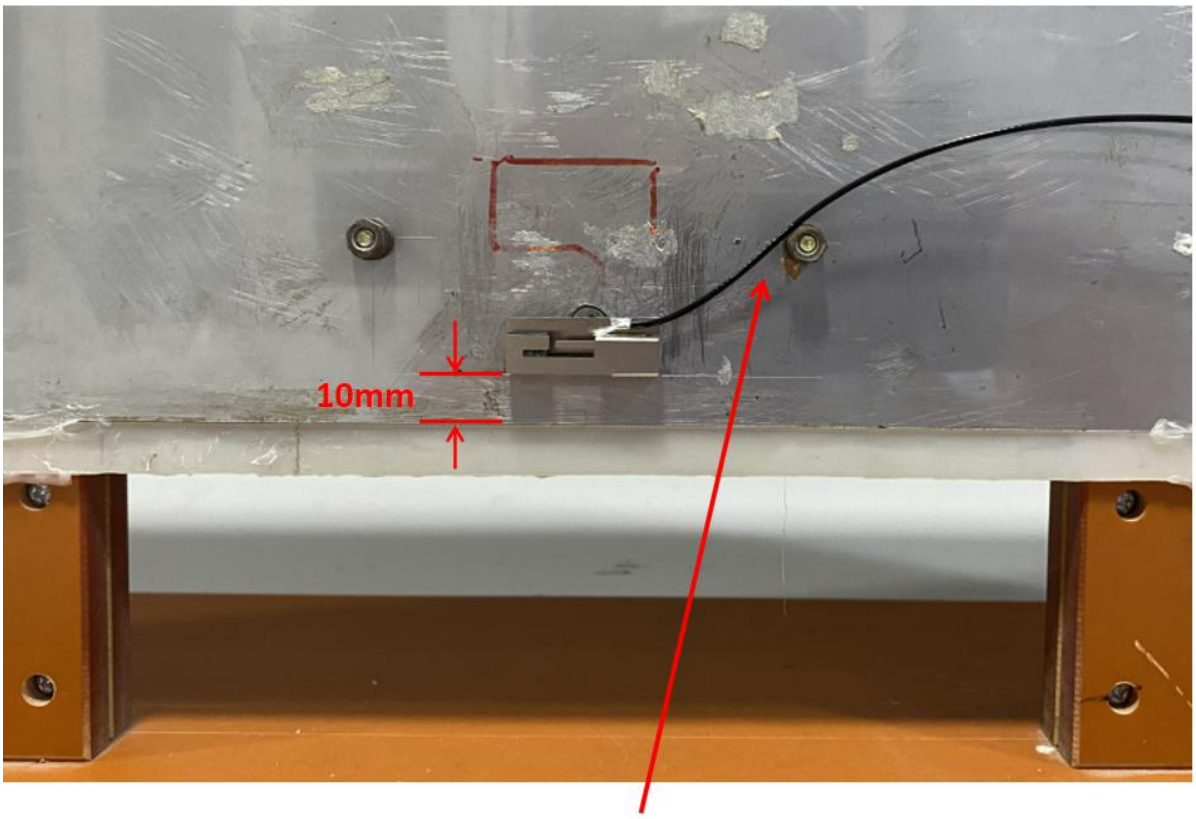

5GHz
XOY
XOZ
YOZ
5500MHz
30
330
60
300
90
270
120
240
150
210
180
10
0
-10
-20
-30
-40
z
y
x
el
az


6GHz
XOY
XOZ
30
330
60
300
90
270
120
240
150
210
180
10
0
-10
-20
-30
-40


YOZ
30
330
60
300
90
270
120
240
150
210
180
10
0
-10
-20
-30
-40

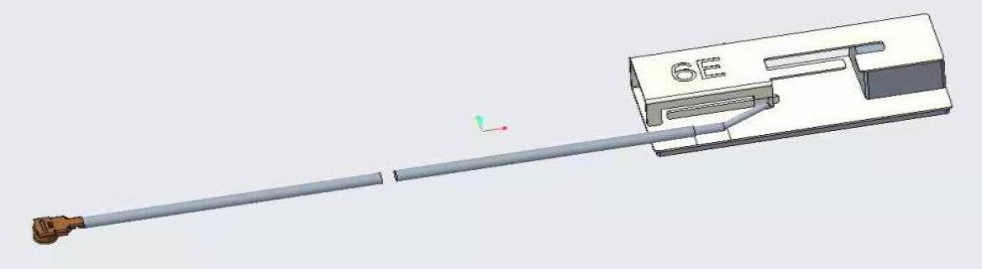

6525MHz
z
y
x
el
az

3-6 Environment treatment



Diameter 1.37, wire length 500mm

3-7 产品实物图片



4. Environment Characteristic

NO.	ITEM	TEST CONDITION	SPECIFICATION
4-1	High Temperature/Humidity Storage Test(non operating)	1.Temperature: +80 ±2℃ 2.Humidity: 90~95%RH 3.Time: 48hrs	No material deformation is allowed.
4-2	Low Temperature/Humidity Storage Test(non operating)	1.Temperature: -30±2℃ 2.Humidity: 0%RH 3.Time:48hrs	The VSWR, Gain, Radiation Pattern must be met specifications after these test.

5.Notes for antenna use

No	Type	Technical requirements
1	Antenna placement and storage environment	°C 4 to 38 °C and 0-95% relative humidity, 22 °C and 50% relative humidity storage was optimal.
2	Antenna fixed back glue use environment	The recommended temperature is between 21 °C and 38 °C; it is recommended not to use tape on surfaces temperatures below 10 °C.
3	Antenna can paste the surface material	Sheet metal surface, plastic surface, glass surface (pay attention to the paste surface can not have oil pollution, dust, debris, etc.).
4	Note for antenna assembly and paste	Tear off the detached paper and stick to the specified position and press it tight;

6.Test Report

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

测试报告(Test Report)

样品名称 (Product name)	弹片+同轴线+RF端子1代	样品型号 (Part Model)	WIFI6E-50	环境温度 (Ambient temperature)	20±5℃	测试日期 (Date of test)	2021/12/21
样品数量 (Specimens quantity)	27PCS	客户料号 (Customer number)	/	相对温度 (Relative humidity)	50-60%RH	委托单位 (Client/Dept)	品质部
测试原因 (Test reasons)	□新型号/材料验证 □ 新工艺验证 □ ORT测试 □过期物料 □客户投诉/要求 □ 高不良率 ■其他：定期可行性分析			测试依据 (Test documentation)	■ 产品图纸 ■天线可靠性检验基准书 □ 客户要求 ■ 出货检验基准书 □ 其他：		

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 comdition and note)	测试结果 (Test result)	结论 (Conclude) (Pass/Fail)
1	焊点拉力	3	拉力计	1.取焊接样品3pcs 2.固定弹片,向焊点施加>9.8N的力，保持5S	1#~3#：同轴线本身断裂，焊点无脱落	Pass
2	盐雾测试	3	盐雾测试机	条件： 1.将产品以30度±5度放置于试验箱 2.调试好试验箱参数：NaCl（无水）；浓度5%±1%；pH值：6.5～7.2；试验室温度：32-38℃；压缩空气压力:1.0±0.01(KG/M2)喷雾量：1.0～2.0ML/80CM2/H.相对湿度:85%±2%;试验品放置角度:30度+/-10度 3.放置时间为48小时. 4.清洗后在室温条件内放置2H观察 要求：镀（涂）层无脱落、起泡、腐蚀、氧化等不良现象；产品表面不可有锈斑等不良现象	4#~6#：均未出现镀层脱落及氧化现象。	Pass
3	高温高湿储存测试	3	恒温恒湿箱	1.取样3pcs 2.将测试样品置于测试箱中(温度70±2℃，湿度90%～95% RH)，放置48H后取出检查.	7#~9#：产品镀层表面无氧化，无起泡、剥离、分层，电性功能完好	Pass
4	高温测试	3	高低温箱	1.将样品放入高温 85 ℃ 的环境中保持48小时后取出 2.在室温条件下放置2H.	10#~12#：产品镀层表面无氧化，无起泡、剥离、分层，电性功能完好	Pass
5	低温测试	3	高低温箱	1.将样品放入高温 -30±2 ℃ 的环境中保持48小时后取出 2.在室温条件下放置2H.	13#~15#：产品镀层表面无氧化，无起泡、剥离、分层，电性功能完好	Pass
6	焊锡性测试	3	烙铁	1.取样3PCS 2.将样品用380℃铬铁加锡焊接2-5S.	16#~18#：吃锡面积须≥95%，无有拒焊不上锡现象；	Pass
7	端子与线材铆压后拉力	3	拉力计	1.取样3PCS 2.拉断线材记录其最大值，需>9.8N	19#~21#：16N,15.8N,17.1N,	Pass
8	综合插拔去力试验	3	拉力计	1.取焊接样品3pcs 2.IPEX插头插入对应插座，对IPEX插头施加垂直插头金属面的拉力.要求全新插座第一次拉力大于11N	22#~24#： 插头不会从插座脱落，无变形等	Pass
9	粘性测试	3	塑胶壳	1.取样3PCS 2.将贴3M背胶的弹片粘贴于壳料表面 3.2小时后对天线施加垂直应力，应力控制在9.8N保持10S	25#~27#： 天线本体不会从粘贴面脱落	Pass

备注(Comments):

核准(Approved by):	胡春梅	审核(Checked by):	易爱玲	测试(Name of operator):	李丽华

表单编号：ZTX-QR-QA-076 版本：A1

7.Raw Material Detection List

描述 Description	Material/Type name 原材料名称/型号	Raw Material Manufacturers 原材料制造商名称	Test Lab 测试机构名称	Test Report NO. 测试报告编号	Report date 测试日期	Validity Date （有效日期）	Remark 备注
1	SUS304NI	HESHENG	SGS	SZXEC2100804201	2021/3/30	2022/3/29	
2	Support the foam EVA 3M 9495 UL-94	3M	SGS	SHAEC2118889502	2021/9/6	2022/9/5	
2	Fixed ure foam for 3M RP45 UL-746C	3M	SGS	SHAEC2109174405	2021/5/18	2022/5/17	
4	End-metal	ZIJIN	SGS	CANEC2102355502	2021/2/25	2022/2/24	
	End-Gold plated	CM	CTI	A2210394436101001	2021/9/22	2022/9/21	
	End-Plastic	CM	SGS	SHAEC2103629401	2021/3/11	2022/3/10	
5	Plainized copper wire	MINGXING	CTI	A2210168238101E	2021/5/15	2022/5/14	
	Coaxial-FEP sheath	DAIKIN	SGS	SHAEC2200415801	2022/1/15	2023/1/14	
	Coaxial- -FEP insulation	DAIKIN	SGS	SHAEC2127178503	2021/12/21	2022/12/20	
	Coaxial- -color mother black	DAIKIN	SGS	SHAEC2103629401	2021/3/11	2022/3/10	

8.The packing way

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

包 装 规 范

产品名称	产品型号	文件编号	版本	工序序号/名称	工序工时	日产量
WIFI天线	WIFI6E-50		A1	包装/装箱	/	/

图1：确认数量/装袋/贴标签

图2：装袋/贴标签

名称：WIFI天线
(Name):WIFI antenna

型号：WF6E-50 (Type)	客户代码：368GAAWA774GSD (Customers No.)	
数量：3600 PCS (Qty)	批号：ZTX2021111447 (Production No.)	ROHS
合同号：(Contract No.)	箱号：(No.)	

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Made in china

名称：WIFI天线
(Name):WIFI antenna

型号：WF6E-50 (Type)	客户代码：368GAAWA774GSD (Customers No.)	
数量：720 PCS (Qty)	批号：ZTX2021111447 (Production No.)	ROHS
合同号：(Contract No.)	箱号：(No.)	

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图4：贴现品票/封箱

图3：装箱/贴标签

作业方法（自检该工序作业合格后，方能流入下一道工序）

1. 每40pcs产品采用橡皮筋包扎，PE开口胶袋包装，贴小标签，填写产品名称、物料号、数量、周期等信息；
2. 将独立包装好的产品，每9袋（360PCS)装入（36*28cm）PE封口胶袋中，贴标签，填写产品名称、物料号、数量、周期等信息；
3. 装箱，纸箱规格（38*26*9cm）每小箱装2袋（720pcs）；
4. 装箱，纸箱规格（45*32.5*42cm）每大箱装5小箱（3600pcs）尾数除外；
5. 外箱的右上角贴现品票，标签内容包括（物料名称，Box ID，物料编码，数量，生产日期，供应名称，供应商代码，原产地，批次/Bin值，条码等）不可有漏写，写错现象；
6. 箱子用胶纸以“工”字型封箱。

注意事项：

注意标签有无贴错，漏贴，箱子有无破损；

物料标签内容按TPV要求。

物料名称	物料编码	用量	规格
PE开口袋	1.12.000030	90	240*160*0.05mm
PE封口袋	1.12.000026	10	360*280*0.10mm
纸箱(内)	1.12.000044	5	38*26*9cm
纸箱	1.12.000004	1	45*32.5*42cm
标签		/	
橡皮筋		/	

版本	修订内容	修订日期	修订人
A1	首版	2021/11/18	陈浩

制订	陈浩	审核	易爱玲	品质确认	胡春梅	批准	龙秋霖

附页：出货标签模板

名称：WIFI天线 (Name):WIFI antenna		
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数量：3600 PCS (Qty)	批号：ZTX2021111447 (Production No.)	ROHS
合同号： (Contract No.)	箱号： (No.)	
惠州高盛达科技有限公司 (HUIZHOU GAOSHENGDA TECHNOLOGY CO.,LTD.) Made in china		

368GAAWA774GSD 2147130440100101E

PN: G. 5. 13. WF6E50XXXX
LOT NO:1205-2110300055
REEL NO: 201004421111491238
Date Code: 211114
VENDOR: ZTX
QTY: 3600
PART DESC: WF6E-50(TPV)WIFI天线组件
深圳市中天迅通信技术股份有限公司

名称：WIFI天线 (Name):WIFI antenna		
型号：WF6E-50 (Type)	客户代码：368GAAWA774GSD (Customers No.)	
数量：720 PCS (Qty)	批号：ZTX2021111447 (Production No.)	ROHS
合同号： (Contract No.)	箱号： (No.)	
惠州高盛达科技有限公司 (HUIZHOU GAOSHENGDA TECHNOLOGY CO.,LTD.) Made in china		

368GAAWA774GSD 2147130440100101E

368GAAWA774GSD
WF6E-50/PIFA/2.4G+5G+6G/
外拉/500mm/720pcs/TPV
QTY:360 PCS
20211114
Made in china

368GAAWA774GSD 2147130440100101E

368GAAWA774GSD
WF6E-50/PIFA/2.4G+5G+6G/
外拉/500mm/720pcs/TPV
QTY:40 PCS
20211114
Made in china

368GAAWA774GSD 2147130440100101E