

acknowledgement

Supplier name: Shenzhen Zhongtianxun Communication Technology Co., Ltd

Supplier material name: OB. P. SCSD16

Supplier specification and model: The WIFI antenna assembly

The CVTE item code: 004. 032. 0052763

Admit the book edition: A1

Drawing version number (no filling in if no drawings): V1

The CVTE admission column

具体见系统的承认记录

Supplier acknowledgement column

lay down

Auditing

Ratify

Le. Qin

Yiqing. Lin

Guohua. Zou

Address: No.192, Kezhu Road, Science City,
Guangzhou city

Tel.: 020-82075661

Fax: 020-32085197

Address: No.34, Shilong Avenue, Shilong Zai,
Baoan District, Shenzhen City (Tengda
Industrial Park)

Tel.: 0755-27588320

Fax: 0755-27588045

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规格承认书

SPECIFICATIONFORAPPROVAL

客 户 Customer	CVTE
项目名称 Project Name	OB. P. SCSD16
客户料号 Customer NO.	004. 032. 0052763
规 格 specification	WIFI Antenna components
供方料号 Supplier NO.	2. 00000645
规格书编号 specification NO.	
编写人 Write by	Le. Qin
版本 REV.	A1
日期 Date	2023/12/01
备注 Note	

客户确认 CUSTOMERAPPROVEDBY		
批准 Approved by	审核 checked by	制表 prepared by
供应商确认 SUPPLIERAPPROVEDBY		
批准 Approved by	审核 checked by	制表 prepared by
Guohua.Zou	Yiqing.Lin	Le.Qin



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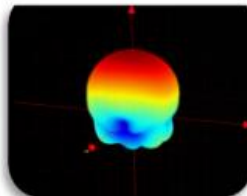
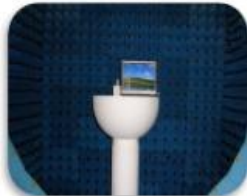
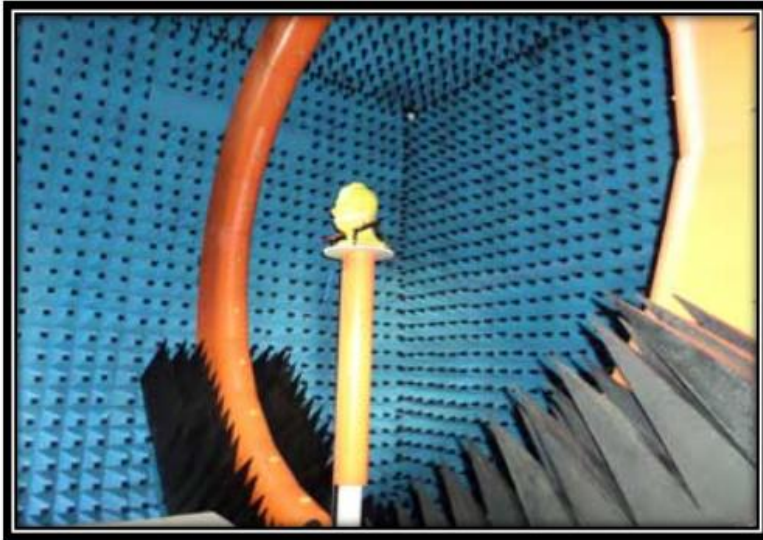


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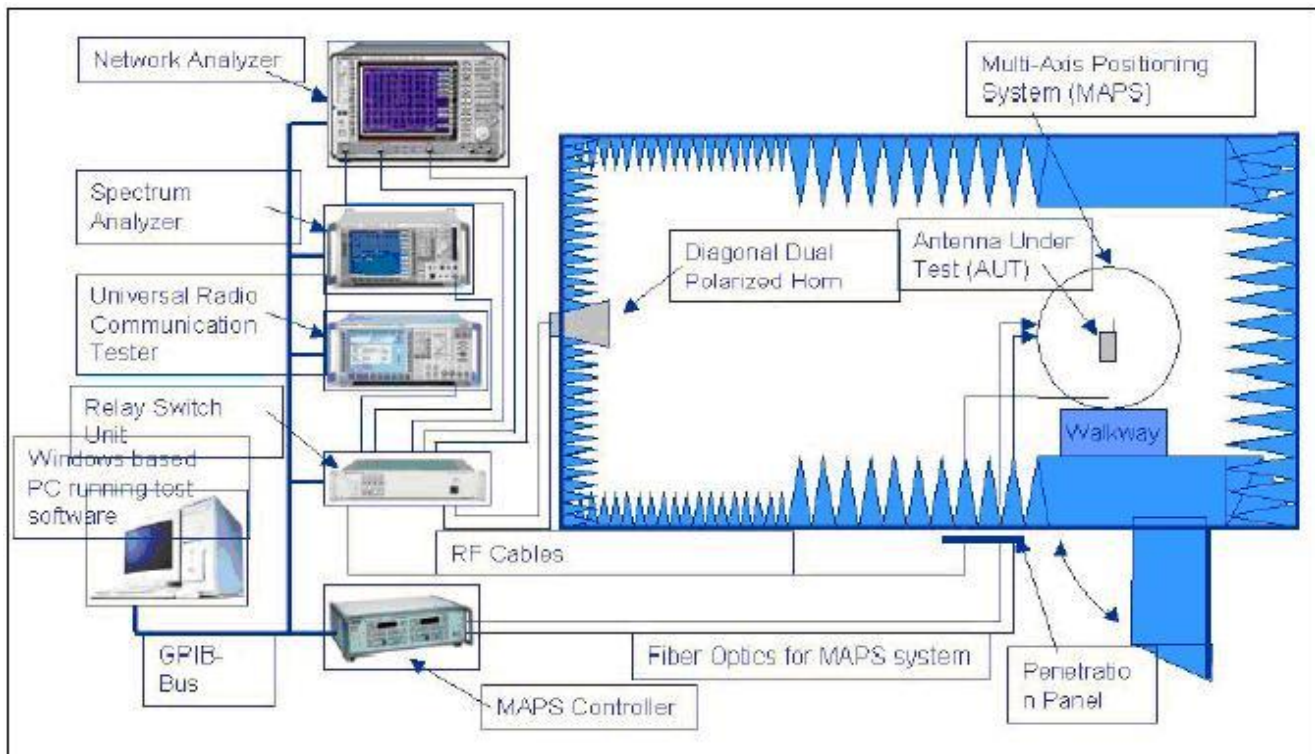
2. Test Equipment & Conditions



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 within 0.4-6G.



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2-1 Passive Test

Passive Test For WIFI2.4										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2400	52	-2.84	1.97	-0.18	30.553	21.45	1.97	-13.28	52.03	53.99
2410	51.46	-2.89	1.91	-0.24	29.764	21.698	1.91	-13.96	51.99	53.84
2420	49.65	-3.04	1.82	-0.33	28.728	20.919	1.82	-12.53	52.04	53.98
2430	47.45	-3.24	1.34	-0.81	27.212	20.238	1.34	-12.37	52.23	54.02
2440	51.31	-2.9	1.58	-0.57	29.006	22.304	1.58	-11.82	52.54	54.25
2450	54.34	-2.65	1.86	-0.29	30.165	24.177	1.86	-12.18	52.64	54.11
2460	52.27	-2.82	1.72	-0.43	28.879	23.393	1.72	-12.26	52.59	54.02
2470	49.21	-3.08	1.56	-0.59	26.886	22.326	1.56	-12.13	52.66	54.04
2480	49.87	-3.02	1.54	-0.61	27.027	22.846	1.54	-11.42	53.06	54.43
2490	56.13	-2.51	2	-0.15	30.048	26.081	2	-11.86	53.33	54.57
2500	54.88	-2.61	1.81	-0.34	29.232	25.65	1.81	-11.87	53.11	54.29

Passive Test For 5.8										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
5000	46.67	-3.31	1.85	-0.3	20.83	25.842	1.85	-14.19	60.98	61.12
5100	49.34	-3.07	2.72	0.57	21.539	27.8	2.72	-20.56	62.27	61.85
5200	46.53	-3.32	2.61	0.46	19.821	26.71	2.61	-15.82	61.29	61.02
5300	47.43	-3.24	2.39	0.24	20.042	27.387	2.39	-17.77	62.07	61.55
5400	54.3	-2.65	2.97	0.82	22.628	31.669	2.97	-18.02	62.13	60.92
5500	54.3	-2.65	3.27	1.12	22.779	31.523	3.27	-15.15	63.01	61.73
5600	46.08	-3.37	2.94	0.79	19.41	26.668	2.94	-17.6	63.72	61.99
5700	52.48	-2.8	3.28	1.13	20.976	31.508	3.28	-16.71	64.01	63.03
5800	50.29	-2.98	2.74	0.59	19.693	30.6	2.74	-17.24	63.93	62.81
5900	43.42	-3.62	1.79	-0.36	17.19	26.228	1.79	-14.67	64.36	63.01
6000	0.93	-20.32	-14.54	-16.69	0.392	0.537	-14.54	-33.8	49.87	48.27

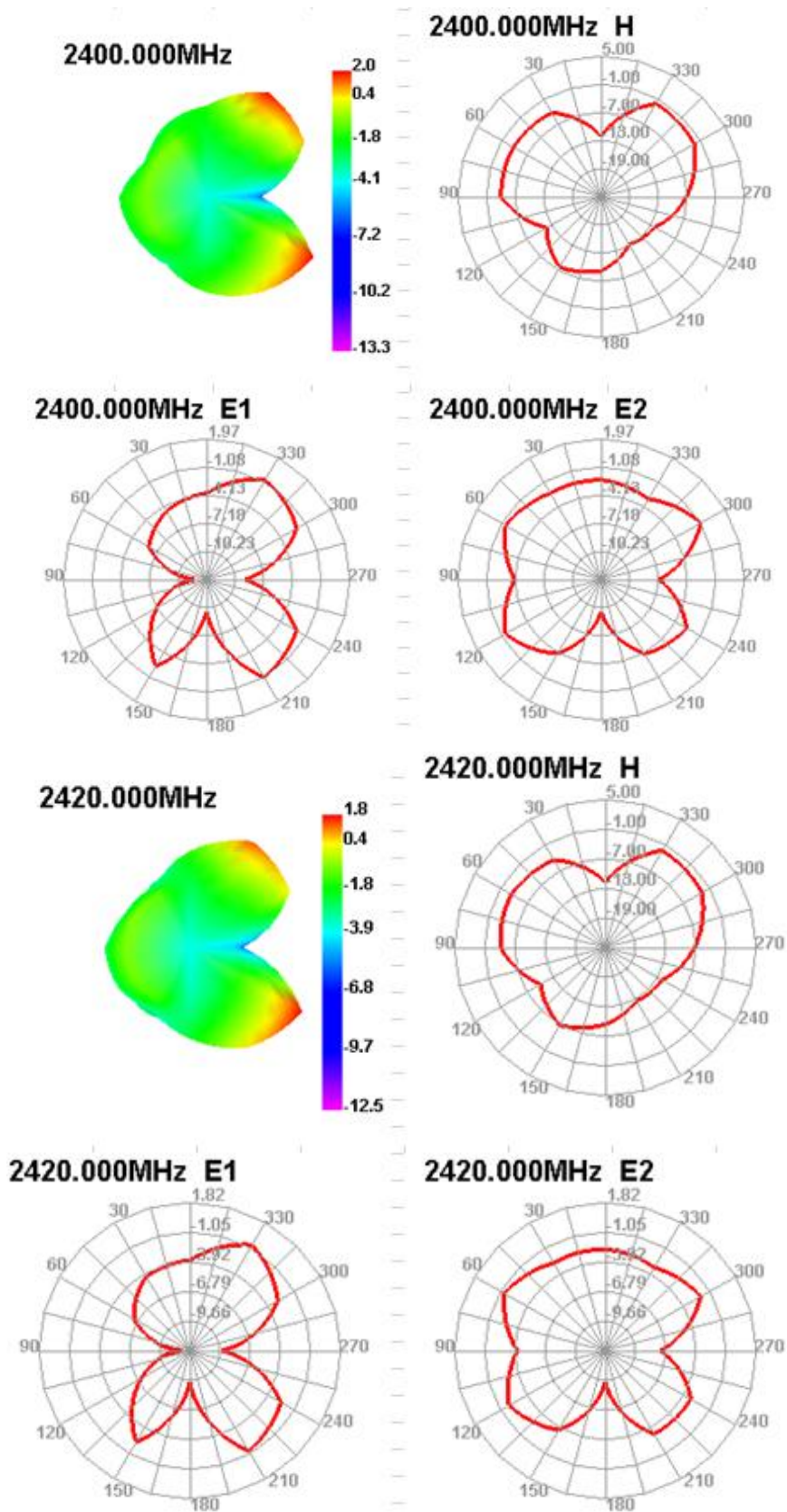


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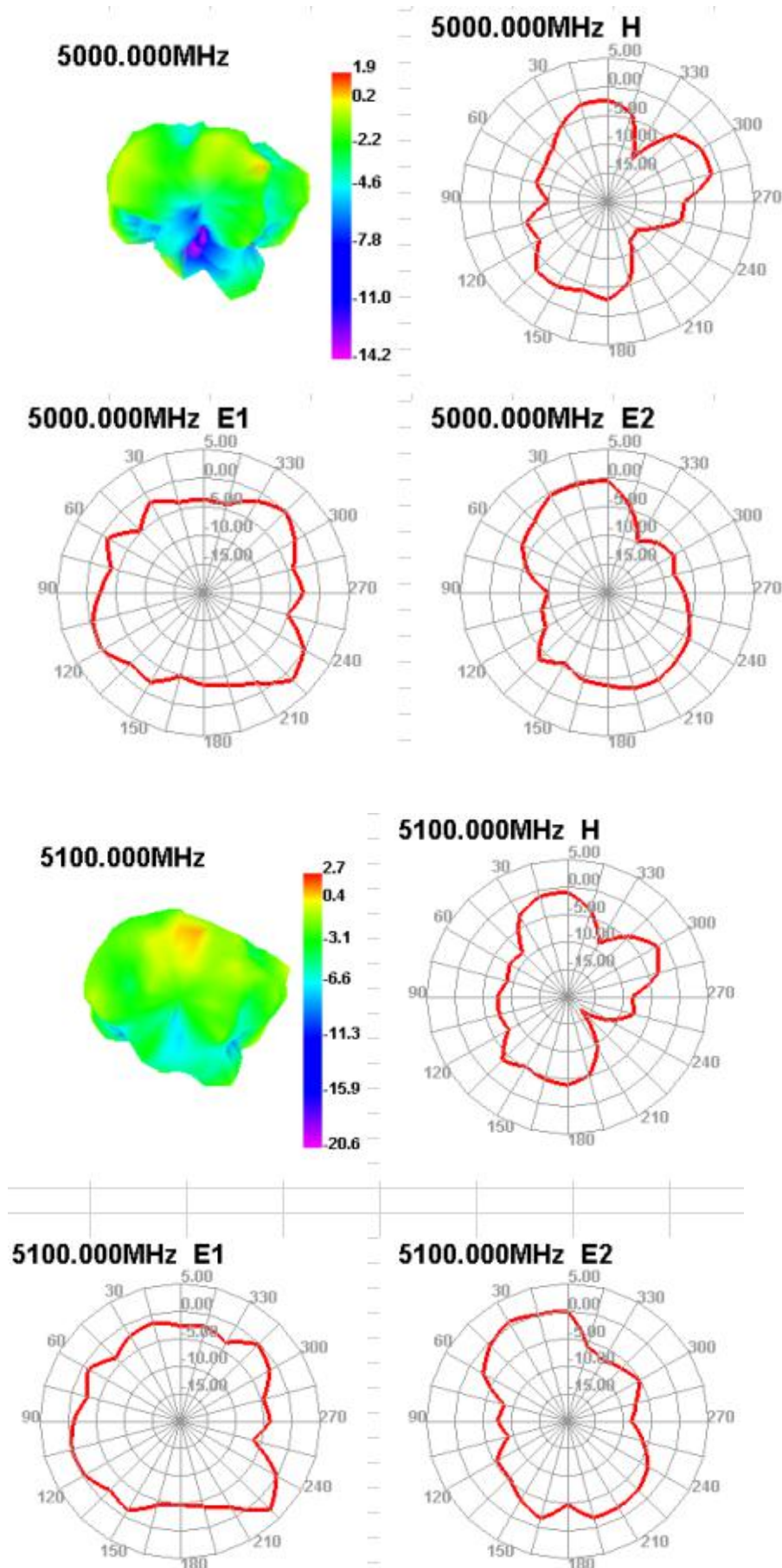
2-2 2D/3D Radiation Pattern Results



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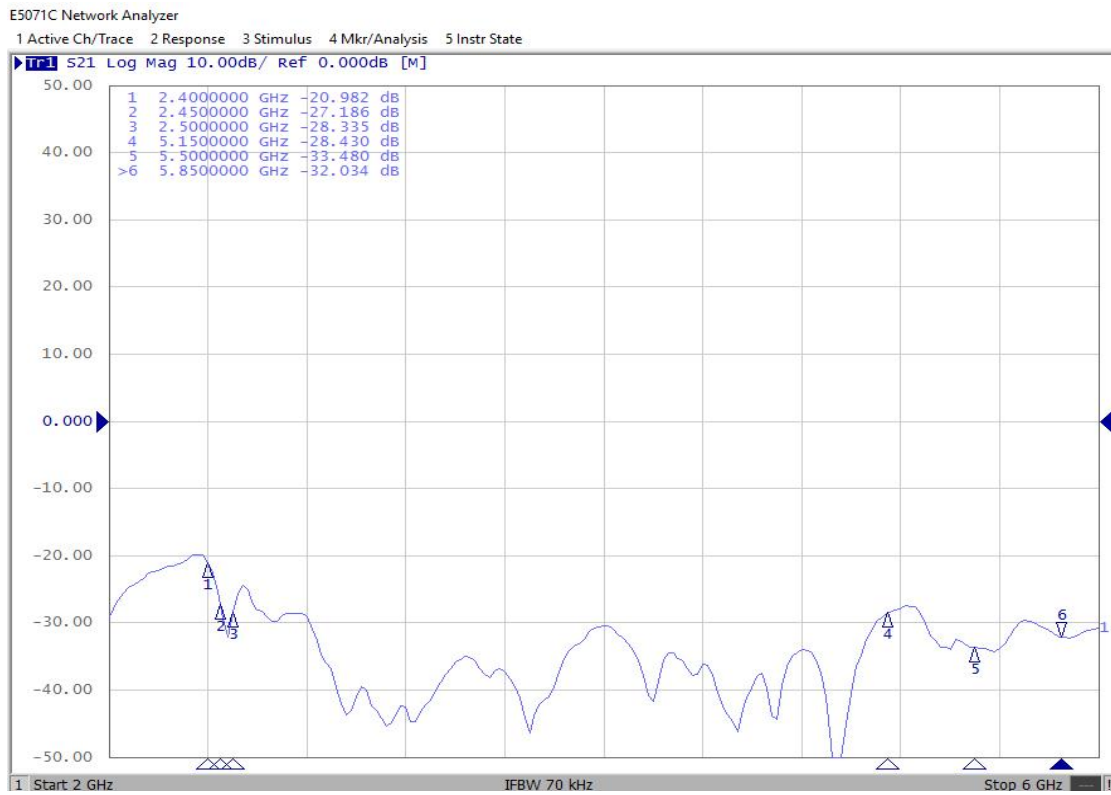
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2-3 insulation

WIFI

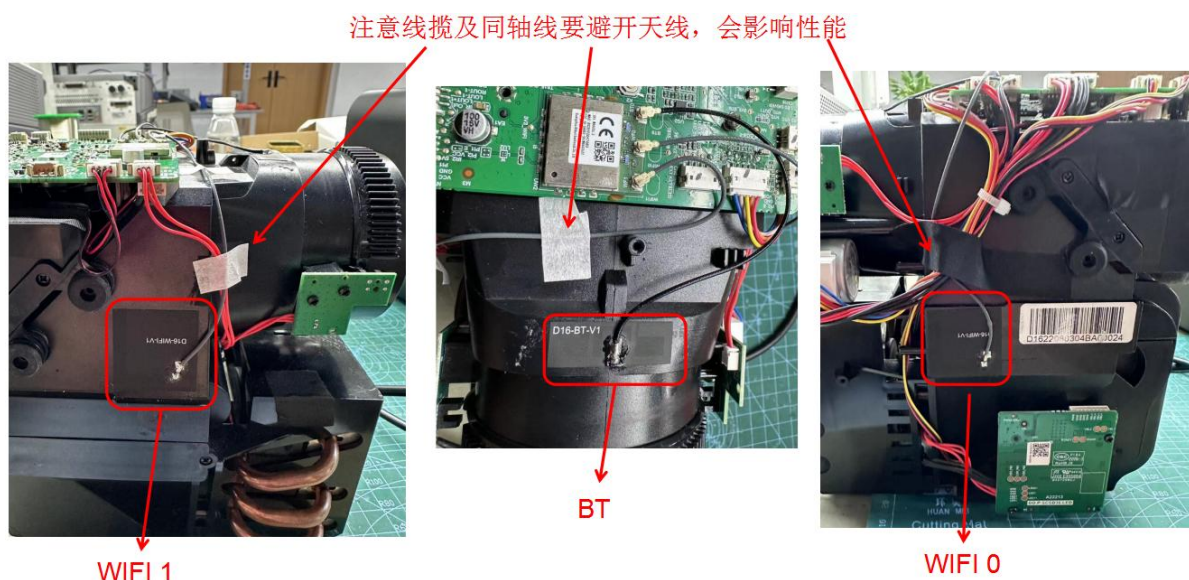


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2-4 Environmental treatment

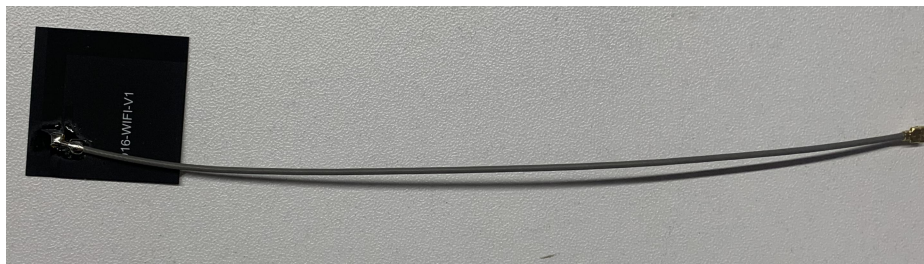


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3. Antenna physical picture



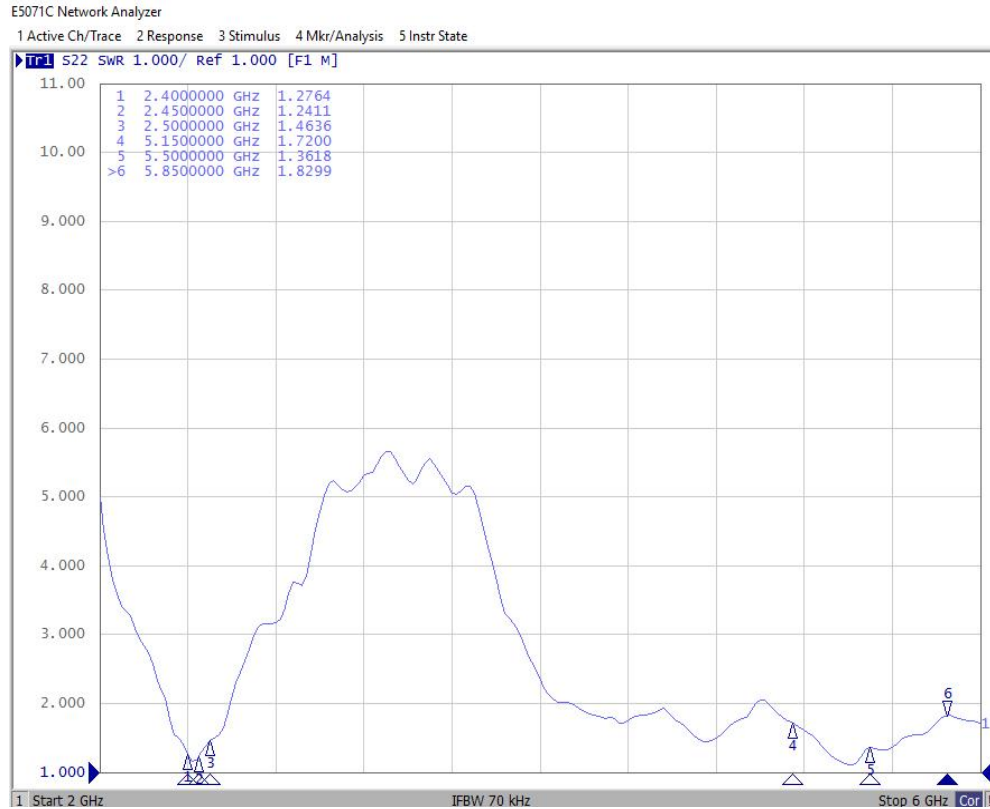
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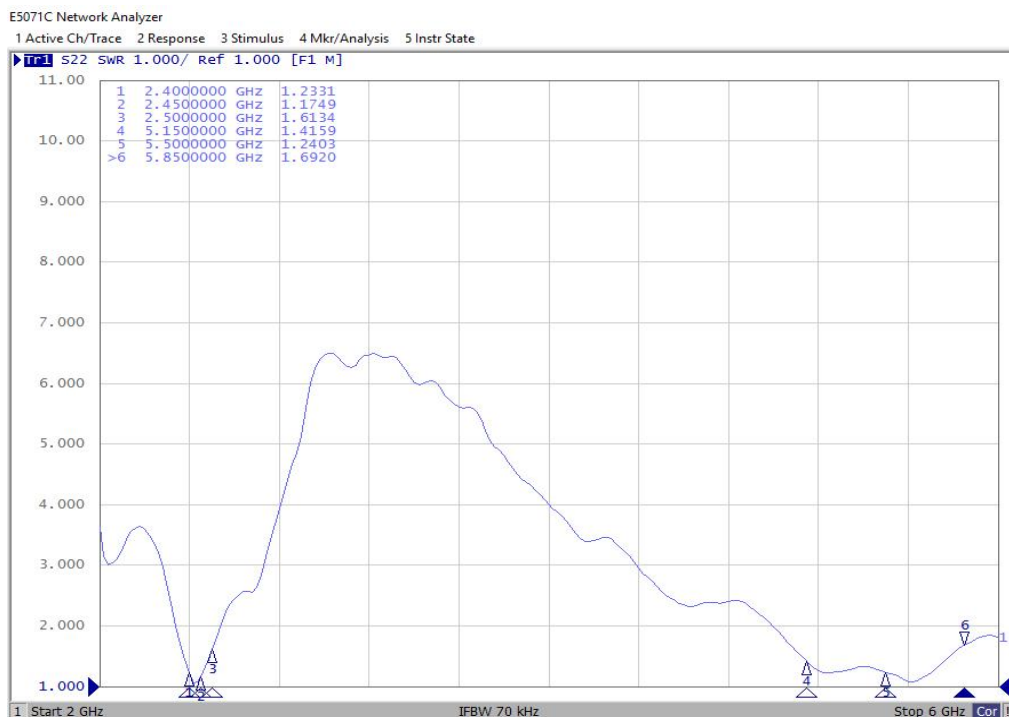
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4.VSWR

WIFI0



WIFI 1

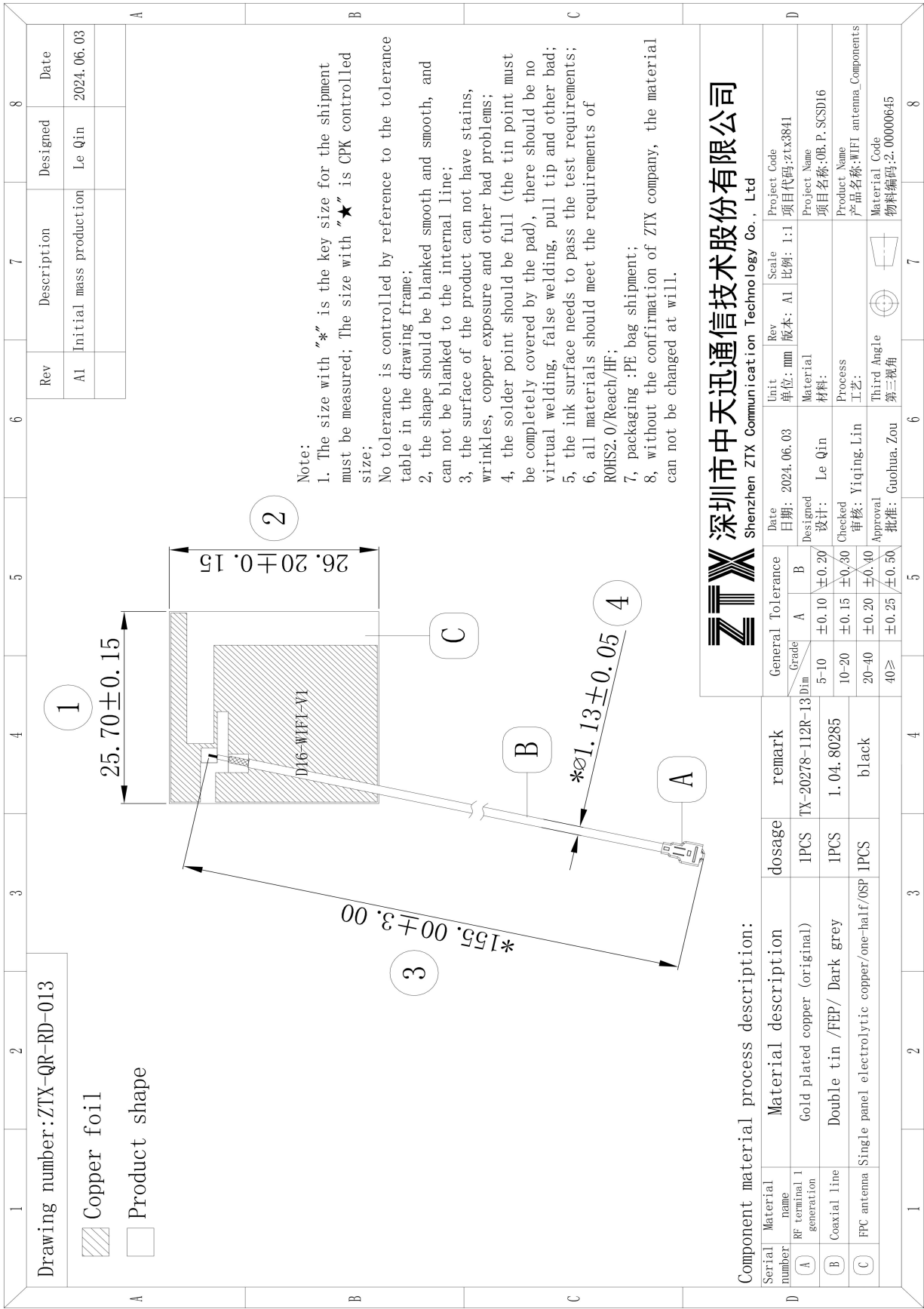


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5.Drawing



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6.Package

Work instructions						Document number	
Product model	Product name	Proceed to the process	Version	Operation No./Name	Post number	ZTX-QD-WI-ASSY-752	
OB.P.SCSD16	WIFI Antenna components	Appearance	A1	Packing	B05		
Detailed list of materials (refer to ERP system for detailed list of materials)							
NO	Part number	Material name	Material/Specification	Dosage	Unit		
1	1.12.000029	PE seal pocket	230*330*0.05mm	500pcs/bag	pcs		
2	1.12.000030	PE open pocket	240*160*0.05mm	50pcs/bag	pcs		
3	1.12.000002	Cartons	K = K 46 * 32.5 * 21 CM (without LOGO silk-	5000pcs/box	pcs		
4	1.13.000003	Pinkta	A3B 42*30CM	2pcs/box	pcs		
Fixture tool list							
NO	equipment/Tool No	Name of equipment/tool	equipment/tool specification	Dosage	Unit		
1	/	Electronic scale	/	/	/		
2							
3							
4							
Environmental requirements							
1. Temperature control of group test workshop: 15 °C -28 °C; humidity: 35%-70%.							
2. Illumination requirement of worktable in test area: 800Lux-1200Lux.							
3. Illumination requirement of worktable in operation area: 400Lux-800 Lux.							
Operation precautions							
1) The operator shall wear finger cots or gloves for operation, and operation with bare hands is prohibited;							
2) The product shall be handled with care during operation to prevent scratches and bruises on the surface of the product;							
3) In the packaging process or warehouse, the label information of the material and the inner box (or packaging bag) must be compared and checked;							
4) It is not allowed to paste, replace or retain labels in the informal packaging process;							
						Version	Revised content
						A1	New issue
						Production review	Quality audit
						Fang Qiang	Yu Hongshu
							Engineering approval
							Dang Feifei

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7.FAI

Sample test report

Customer Name	IB169052				Product Name	OB P SCSD16 WIFI Antenna module								Amount	10PCS		
Product Material	FPC+Coaxial line+RF terminal				Color	Grey								Date	2023/11/8		
product type: ☒ New appearance product ☐ Modified shape product ☐ Production ☐ Product style																	
NO	type	Required size	+Tolerance	-Tolerance	measured size										Decision	comment	
					1	2	3	4	5	6	7	8	9	10			
1		25.70	0.15	0.15	25.63	25.65	25.62	25.67	25.64	25.68	25.75	25.64	25.68	25.64	OK		
2		26.20	0.15	0.15	26.22	26.19	26.16	26.21	26.17	26.18	26.21	26.23	26.19	26.17	OK		
3	*	155.00	3.00	3.00	155.00	155.00	155.00	155.00	155.00	155.00	155.00	155.00	155.00	155.00	OK		
4	*Ø	1.13	0.05	0.05	1.13	1.13	1.12	1.13	1.14	1.13	1.12	1.13	1.13	1.12	OK		
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
Exterior:																	
Other:																	
Total judgment: ☒ OK ☐ NG																	
ratify: Lai Ningping check: Yi Ailing make: Li Li Hua																	
comment:																	

Form number :ZTX-QR-QA-016 Version: A1

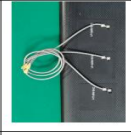


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8.Reliability Report

测试报告 (Test Report)										
样品名称 (Product name)	BT 天线组件 BT antenna module		样品型号 (Part Model)	OB P SCD16		环境温度 (Ambient temperature)	20±5℃	测试日期 (Date of test)	2023/11/13	
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 QA	
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 ☐ 其他: ☒ New model/material verification ☐ New process verification ☐ ORT test ☐ Expired Materials ☐ Customer complaints/requirements ☐ High defect rate ☐ Others:					测试依据 (Test documentation)	☐ 产品图纸 ☒ 无线可能性检验基准书 ☐ 客户要求 ☐ 出货检验基准书 ☐ 其他: ☐ Product Drawings ☒ Antenna Reliability Test reference ☐ Customer requirements ☐ Shipping inspection reference book ☐ Others:			
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 PCS	盐雾测试仪 Salt spray tester	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.清洗后在室温条件下放置2H观察 要求: 镀(涂)层无脱落、起翘、腐蚀、氧化等不良影响; 产品表面不可有锈斑等不良现象 Conditions: 1. Place the product in the test chamber at 30°±5° 2. Adjust the parameters of the test chamber: NaCl (no water); Concentration 5%±1%; pH value: 6.5~7.2; Laboratory temperature: 32-38°C; 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 in room temperature for 2 hours for observation Requirements: plating (coating) layer without shedding, foaming, corrosion, oxidation and other undesirable phenomena; Product surface shall not have rust spots and other undesirable phenomena	No coating shedding and oxidation occurred.	Pass				
2	高温测试 High temperature test	3 PCS	高低温交变湿热试验箱 High and low temperature alternating humidity and heat test chamber	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. 1. Put the sample into a high temperature environment of 85℃ for 48 hours and take it out 2. Store at room temperature for 2 hours.	试验后产品无变形, 无变色, 无脱落, 无起翘, 电气功能完好. After the test, the product has no deformation, no discoloration, no shedding, no warping, electrical function is intact	Pass				
3	低温测试 Low temperature test	3 PCS	低温冰箱 Cryogenic refrigerator	1.将样品放入低温 -40℃ 的环境中保持48小时后取出 2.在室温条件下放置2H. 1. Put the sample into a low temperature -40℃ environment for 48 hours before taking it out 2. Store at room temperature for 2 hours.	试验后产品无变形, 无变色, 无脱落, 无起翘, 电气功能完好. After the test, the product has no deformation, no discoloration, no shedding, no warping, electrical function is intact.	Pass				
4	高温高湿储存测试 High temperature and high humidity storage test	3 PCS	高低温交变湿热试验箱 High and low temperature alternating humidity and heat test chamber	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. 1. Sample 3pcs 2. Put the test sample in the test box (temperature 70±2℃, humidity 90%~95% RH), and take it out for inspection after 48H.	试验后产品无变形, 无变色, 无脱落, 无起翘, 电气功能完好. After the test, the product has no deformation, no discoloration, no shedding, no warping, electrical function is intact.	Pass				
5	百格试验 Baique test	1 PCS	百格刀 Cross-Cut Tester	用百格刀在测试样本表面≥10mm²的地方划10×10个(100个)1mm×1mm小网格, 每一划线条应深及油墨层的底层; 用毛刷将测试区域对角线方向各刷五次, 清理干净碎片; 用3M600胶水半粘住被测试小网格, 并用橡皮用力摩擦胶带, 以加大胶带与被测区域的接触面积及力度; 用手抓住胶带一端, 以90°快速扯下胶纸. 涂层脱落面积≤5%为合格, 如>5%为不合格. 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.	试验后涂层无脱落. The coating did not fall off after the test.	Pass				
6	端子与线材铆压后拉力 Riveting tension between terminal and wire	3 PCS	拉力计 Tension meter	1.取样3PCS 2.拉伸线材记录其最大值, 需>15N. 1. Sample 3PCS 2. Record the maximum value of a broken cable, which must be greater than 15N	端子脱落后拉力数据大于15N. After the terminal falls off, the tension data is greater than 15N.	Pass	23.5N 24.9N 23.5N			

备注(Comments):

核准(Approved by): 邓孝华/Deng Xiaohua 审核(Checked by): 易爱玲/Yi Ailing 测试(Name of operator): 李丽华/Li Liba

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



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9.Raw Material Detection List

Raw Material Detection List 原材料检测清单																				
序号	组成部件或零件 Parts or Components	材料名称或型号 Style/Item NO.	Pb 铅	Cd 镉	Hg 汞	Cr6+ 六价铬	PBBs 多溴联苯	PBDEs 多溴联苯醚	邻苯二甲酸二(2-乙基己基)酯 DEHP	邻苯二甲酸二丁酯 DBP	邻苯二甲酸丁基苯酯 BBP	邻苯二甲酸二异丁酯 DIBP	Br	Cl	测试报告编号 Test Report NO.	TestLab 测试机构名称	测试报告日期	测试报告有效期限	RoHS Report RoHS报告	
1	FPC	基材 base material	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SHAEC23001049106	SGS	2023/2/15	2024/2/14	
		阻焊油墨 solder resist ink	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	476	ETR23701480 ETR23701481	SGS	2023/7/13	2024/7/11	
		文字油墨 Text ink	4.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	560	ETR23400862M01	SGS	2023/10/13	2024/10/11	
		表面处理 OSP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180	SZHEC230000119402	SGS	2023/2/27	2024/2/26	
2	Coaxial line	背胶 double faced adhesive tape	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	178	SHAEC23009060001 SHAEC23008562801	SGS	2023-7-4 2023-8-28	2024-7-3 2024-8-27	
		同轴线 - 镀锡铜线 Coaxial line - tinned copper wire	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	A2230496550101001C	SGS	2023/9/26	2024/9/24	
		同轴线 - 护套/绝缘 Coaxial line - sheathed/insulated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NCENR23000169902	SGS	2023/2/6	2024/2/5	
		同轴线 - 包母 (灰色) Coaxial line - masterbatch (Grey)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	A2230222421101003C	CTI	2023/5/23	2024/5/21	
3	RF terminal	端子金属 Terminal metal	21.6	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ETR23803657M01	SGS	2023/2/8	2024/2/7	
		端子塑料 Terminal plastic	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	EKR23400747	SGS	2023/4/20	2024/4/18	
		镀镍 nickel plating	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SGACP2300000389	SGS	2023/9/20	2024/9/18	
		镀金 gold plating	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	SGACP2300000388	SGS	2023/9/20	2024/9/18	



ANTENNA SPECIFICATION

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禁用物质保证 (Certification of Restricted substance)

我方保证所提供的物料，完全遵守签核的广州视源电子科技有限公司/或其子公司的质量和环保协议中的各项条款，物料中禁用物含量，符合最新版《有害物质管理规范》中的各项标准。

we hereby certify that all the Material fully conform to the requirements of the ShiYuan/or its affiliated companies Declaration of conformity that had been signed , and the maximum concentration value of restricted substance in Materials comply with the latest 《Regulations on the management of hazardous substances》.

