

SPECIFICATION

SHEET FOR APPROVAL

(Revision: R: A4)

	CUSTOMER(客户名称)	高盛达	
	CS P/N(客户机种)	WC0F	
	PART NAME(品名)	WIFI Antenna	
	FREQUENCY(频率)	2.4~2.5G/5.15-5.85G	
	ZTX NO.(物料编号)	1.01.00636	G.5.13.WC0FXXXXXX
	DATE(日期)	2019-10-09	

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
		黄小宇	李方森	



深圳市中天迅通信科技股份有限公司

SHENZHEN ZHONGTIAN XUN Communication Technology Co.,Ltd.

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Revision history

版本	日期	状态
A1	2014-11-13	制定承认书
A2	2016-10-25	优化结构
A3	2017-03-06	调整长度管控尺寸
A4	2017-09-14	更改包装材质



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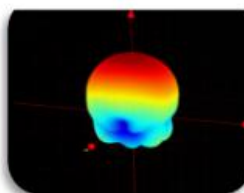
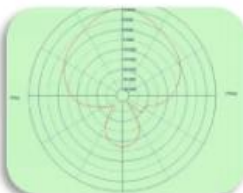
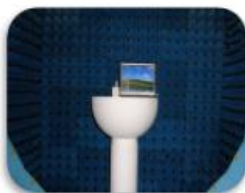
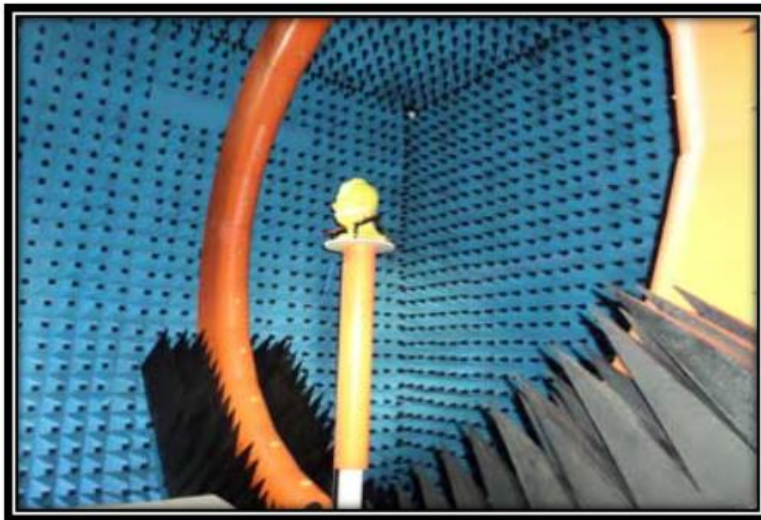
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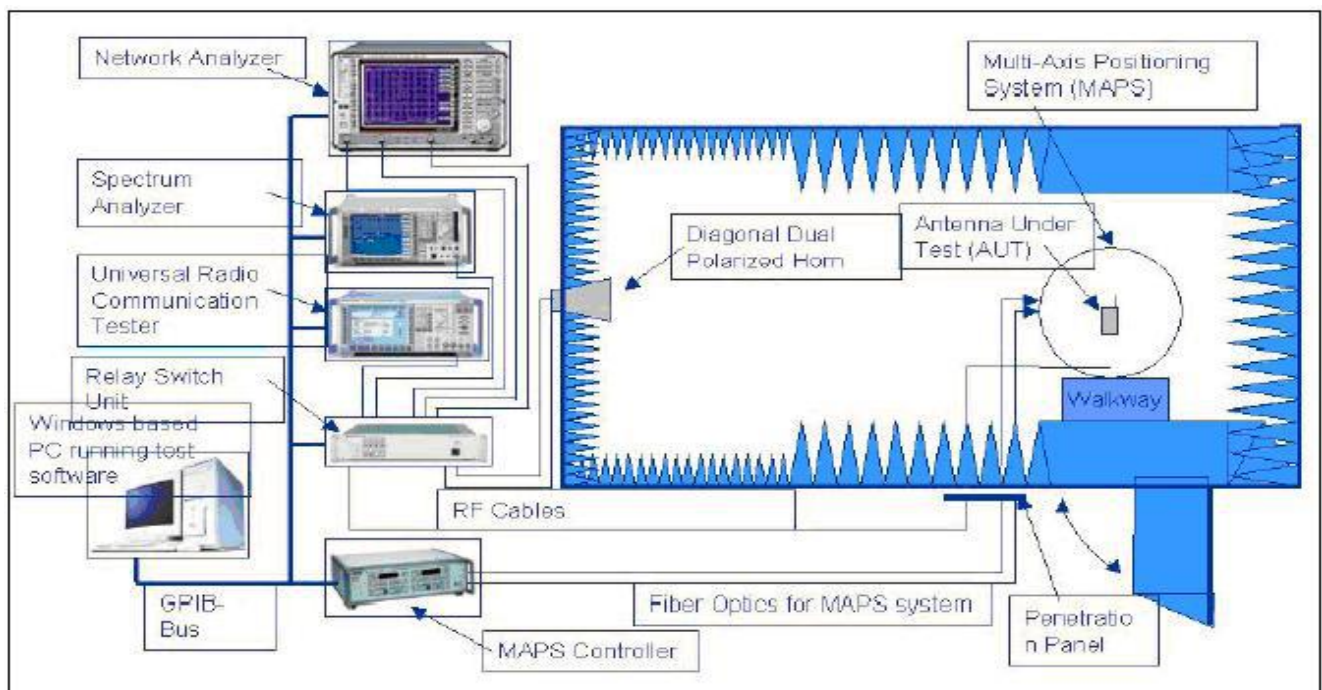
1. Test equipment



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 within 0.4-6G.



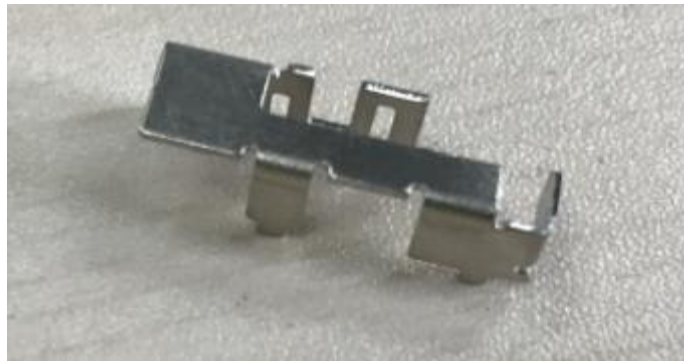
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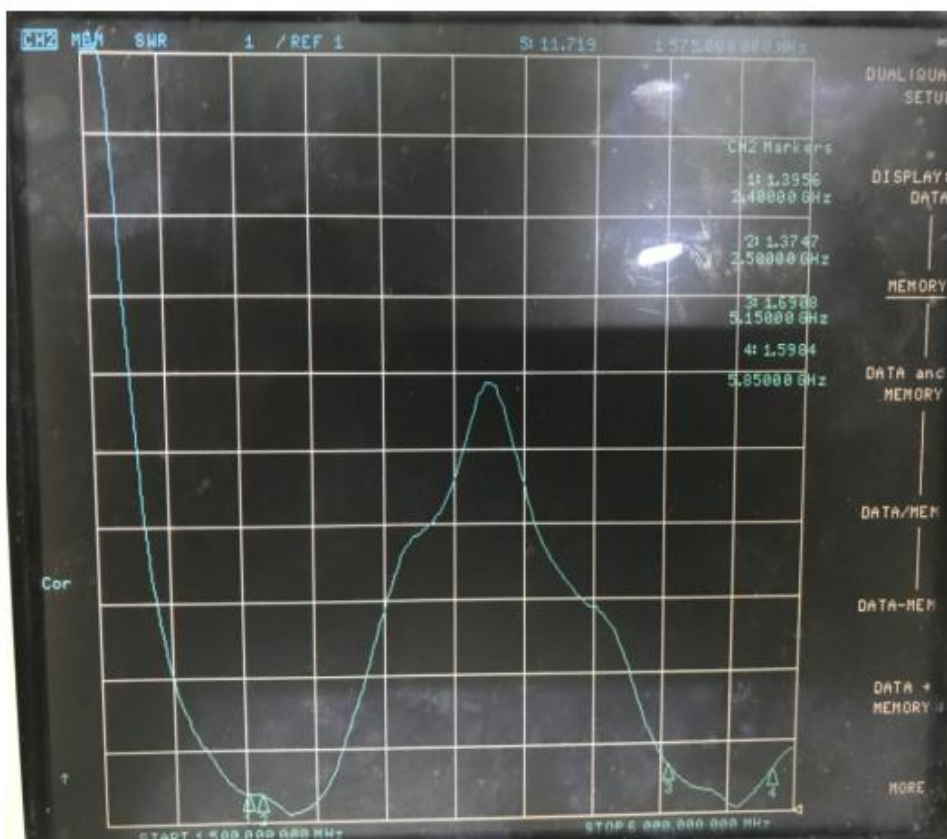
2.Product figure



3.Antenna test data

3-1 VSWR

2.4G	2.5G	5.15G	5.85G
1.39	1.37	1.69	1.59



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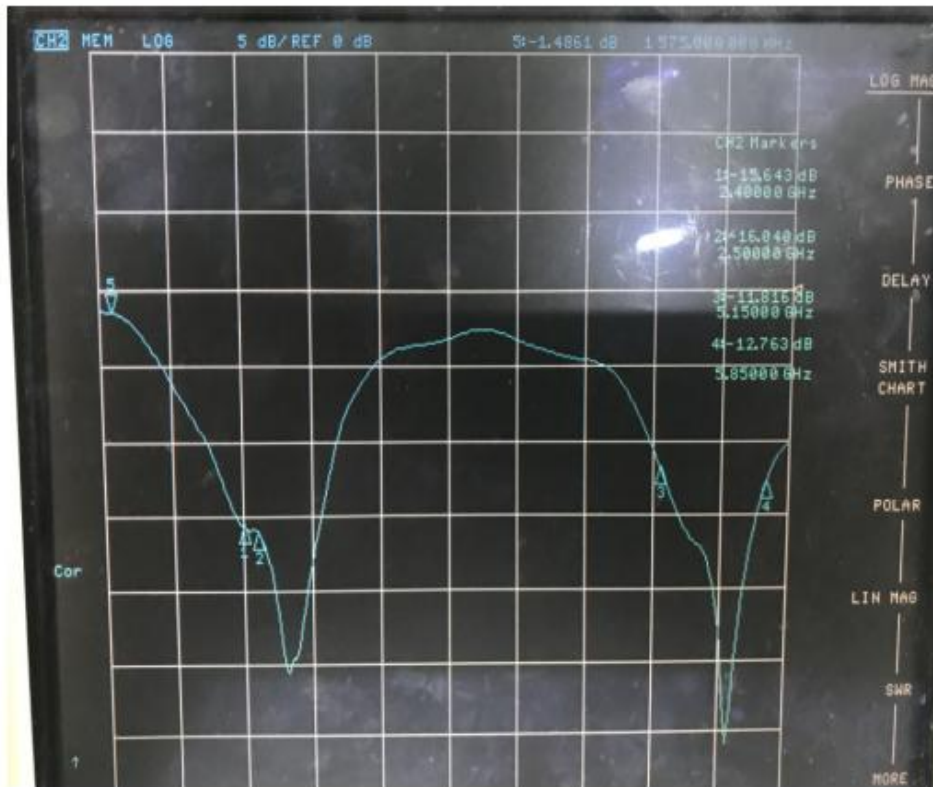
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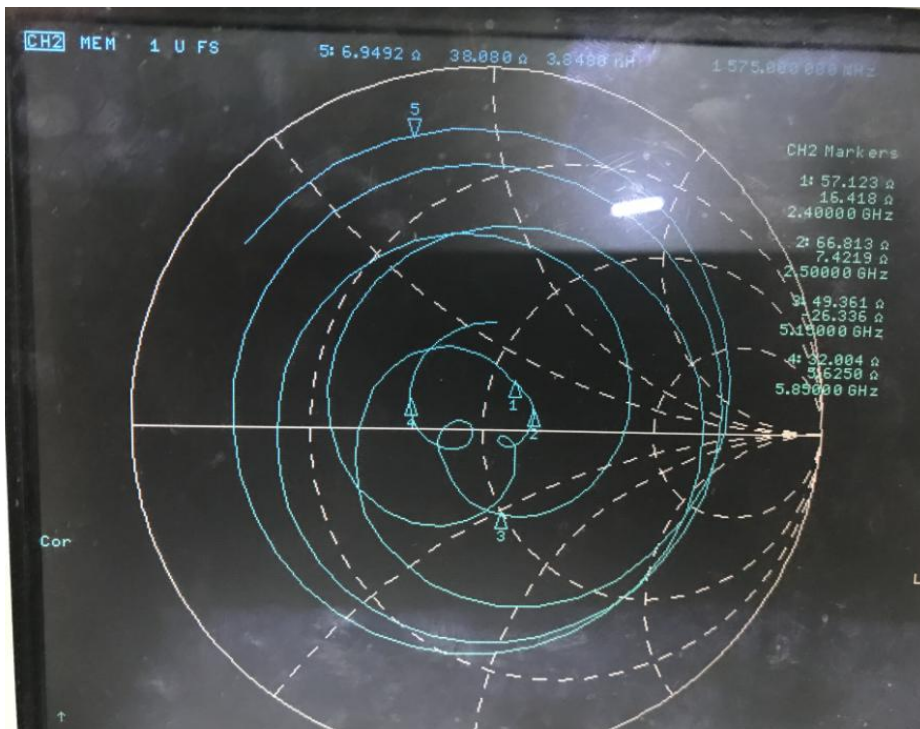
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3-2 Return loss plot

2.4G	2.5G	5.15G	5.85G
-15.6dB	-16.0dB	-11.8dB	-12.7dB



3-3 Smith Chart



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3-4 Matching circuit

N/A

3-5 No-source test data

Frequency	2.4G	2.42G	2.45G	2.47G	2.49G
Efficiency	59%	58%	57%	58%	57%
Gain.dB	2.53	2.92	2.86	2.87	2.96

Frequency	Efficiency	Efficiency . dB	Frequency	Gain . dB
2.4E+09	59%	-2.27028	2.4E+09	2.538545
2.41E+09	58%	-2.34515	2.41E+09	2.741231
2.42E+09	58%	-2.39054	2.42E+09	2.922523
2.43E+09	57%	-2.45035	2.43E+09	2.970949
2.44E+09	58%	-2.3768	2.44E+09	2.976098
2.45E+09	57%	-2.44196	2.45E+09	2.864206
2.46E+09	59%	-2.29193	2.46E+09	2.906926
2.47E+09	58%	-2.34219	2.47E+09	2.873983
2.48E+09	58%	-2.37285	2.48E+09	2.916145
2.49E+09	57%	-2.47035	2.49E+09	2.965443
2.5E+09	58%	-2.3868	2.5E+09	2.880728

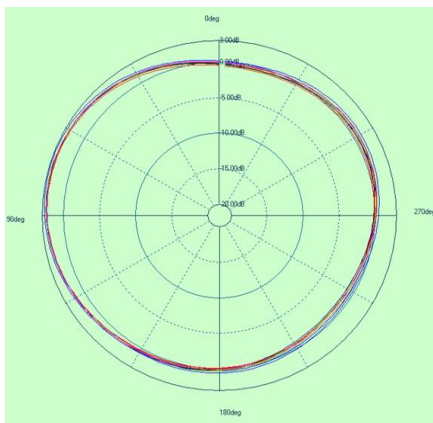
Frequency	5.15G	5.25G	5.75G	5.8G	5.85G
Efficiency	65%	60%	62%	58%	61%
Gain.dB	2.27	2.39	2.57	2.34	2.55

Frequency	Efficiency	Efficiency . dB	Frequency	Gain . dB
5.15E+09	65%	-1.85252	5.15E+09	2.274527
5.2E+09	62%	-2.0823	5.2E+09	2.314546
5.25E+09	60%	-2.18393	5.25E+09	2.391462
5.3E+09	61%	-2.1755	5.3E+09	2.468697
5.35E+09	61%	-2.14496	5.35E+09	2.405616
5.4E+09	60%	-2.22463	5.4E+09	2.422098
5.45E+09	61%	-2.11757	5.45E+09	2.781158
5.5E+09	61%	-2.15105	5.5E+09	2.714014
5.55E+09	66%	-1.8314	5.55E+09	2.572588
5.6E+09	67%	-1.7071	5.6E+09	2.690885
5.65E+09	67%	-1.74773	5.65E+09	2.804433
5.7E+09	64%	-1.91613	5.7E+09	2.800621
5.75E+09	62%	-2.10672	5.75E+09	2.572987
5.8E+09	58%	-2.34557	5.8E+09	2.347272
5.85E+09	61%	-2.12044	5.85E+09	2.550763

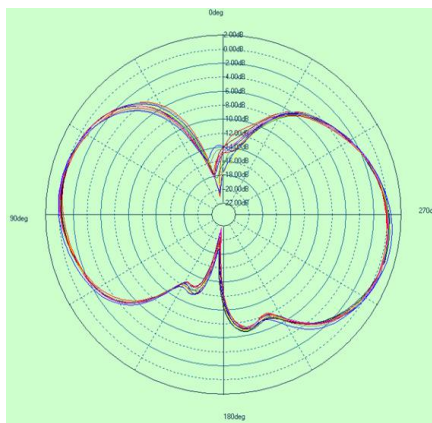
3-6 Environment treatment

N/A

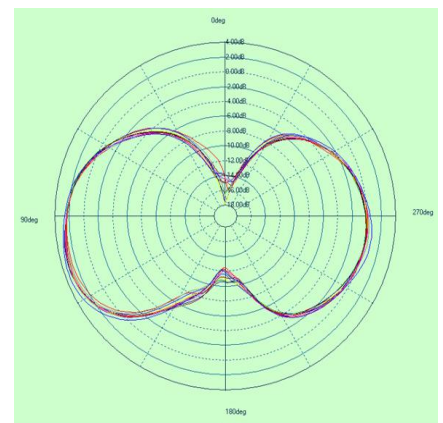
3-7 Directional drawing of horizontal plane of (2.4G)



Theta 90deg



Phi 0deg



Phi 90deg

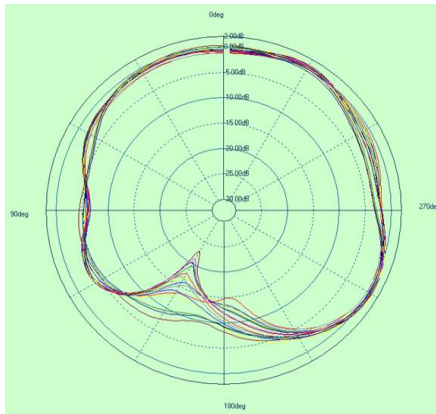
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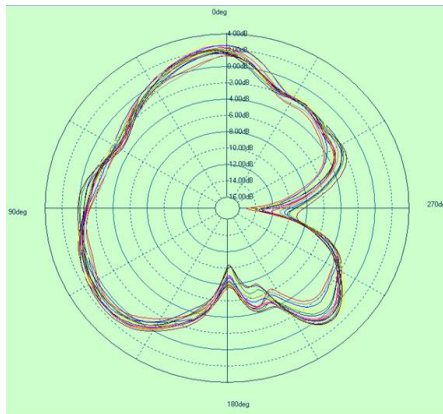
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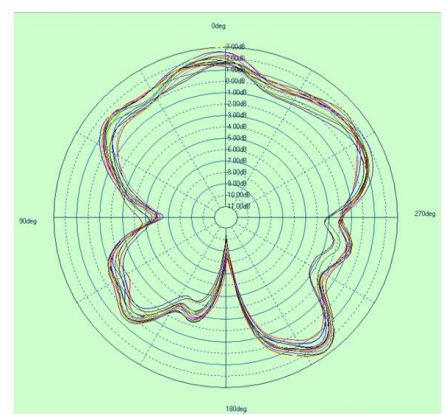
(5G)



Theta 90deg

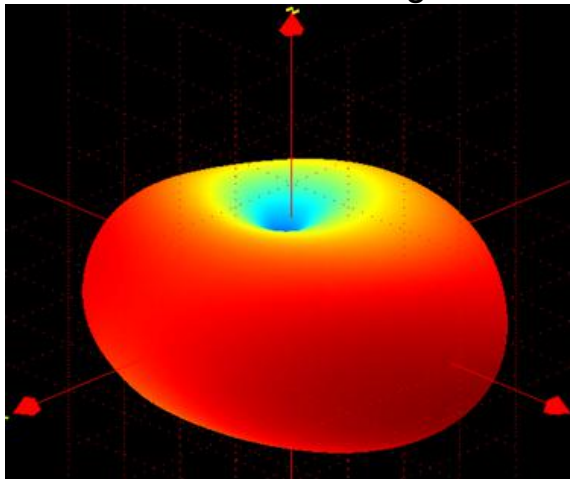


Phi 0deg

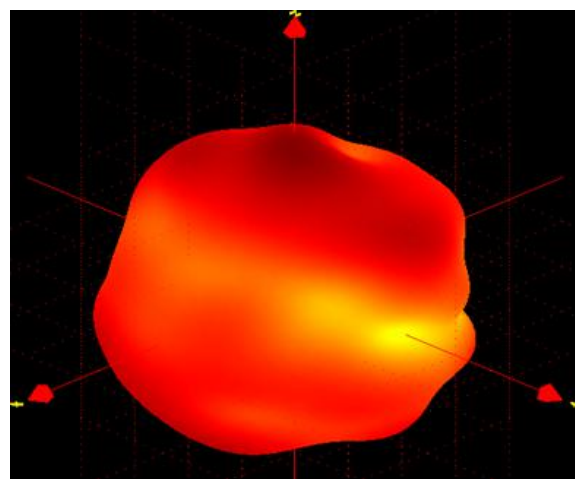


Phi 90deg

3-8 3D radiation drawing



(2.4G)



(5G)



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5. Size report

客户	高盛达	产品名称	WC0F 天线				数量	5PCS
产品材质	SUS304	材料颜色	/				日期	2017-09-13
产品类型: ☐ 新模样品 ☐ 改模样品 ☐ 量产 ☒ 其它 更换包装材质								
NO	工程图纸要求尺寸	实测尺寸					判定	备注
		1	2	3	4	5		
1	8.31±0.20	8.36	8.37	8.32	8.38	8.38	OK	
2	1.30±0.15	1.20	1.20	1.20	1.20	1.20	OK	
3	0.50±0.08	0.52	0.51	0.51	0.52	0.51	OK	
4	5.65±0.15	5.77	5.76	7.75	5.75	7.76	OK	
5	6.00±0.20	6.11	6.09	6.09	6.10	6.09	OK	
6	5.00±0.20	5.10	5.08	5.09	5.10	5.08	OK	
7	1.30±0.15	1.34	1.34	1.34	1.34	1.34	OK	
8	10.68±0.20	10.79	10.80	10.80	10.78	10.79	OK	
9	18.85±0.20	18.91	18.92	18.93	18.95	18.93	OK	
10	1.00±0.15	1.00	1.01	0.98	1.00	1.00	OK	
11	1.30±0.15	1.30	1.25	1.28	1.28	1.30	OK	
12	1.10±0.15	1.09	1.10	1.01	1.10	1.09	OK	
13								
外观: OK								
性能: OK								
总判定: ☒ OK ☐ NG								
批准: 童家柏 审核: 易爱玲 作成: 李伟								
备注:								

表单编号:ZTX-QR-QA-016 版本: A1



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

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6. CPK Control Size

规格书标准	18.85 ± 0.20mm	5.65 ± 0.15mm	6.0 ± 0.20mm	0.5 ± 0.05mm
内控标准	18.85 ± 0.15mm	5.65 ± 0.10mm	6.0 ± 0.15mm	0.5 ± 0.03mm
序号	长	宽	高	厚
1	18.85	5.76	6.08	0.51
2	18.92	5.75	6.12	0.50
3	18.85	5.74	6.07	0.51
4	18.93	5.75	6.11	0.53
5	18.85	5.74	6.11	0.51
6	18.94	5.74	6.07	0.49
7	18.93	5.75	6.07	0.50
8	18.85	5.75	6.09	0.51
9	18.91	5.75	6.08	0.50
10	18.91	5.75	6.09	0.50
11	18.84	5.74	6.07	0.50
12	18.89	5.73	6.12	0.51
13	18.87	5.74	6.12	0.50
14	18.84	5.73	6.06	0.50
15	18.85	5.74	6.06	0.50
16	18.88	5.74	6.07	0.50
17	18.84	5.70	6.09	0.50
18	18.85	5.75	6.10	0.51
19	18.87	5.73	6.07	0.51
20	18.87	5.74	6.08	0.50
21	18.87	5.73	6.10	0.51
22	18.87	5.74	6.10	0.50
23	18.85	5.73	6.08	0.50
24	18.85	5.73	6.12	0.51
25	18.85	5.73	6.09	0.51
26	18.87	5.73	6.09	0.50
27	18.85	5.74	6.10	0.49
28	18.92	5.73	6.09	0.52
29	18.87	5.73	6.08	0.50
30	18.87	5.75	6.07	0.50
Avg	18.87	5.74	6.09	0.50
σ	0.03	0.01	0.02	0.01
USL	19.05	5.80	6.20	0.55
LSL	18.65	5.50	5.80	0.45
Cp	2.18	4.40	3.62	2.04
k	0.12	0.59	0.44	0.09
Cpk	1.92	1.80	2.02	1.86



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7.Salt-Spray test

客户	高盛达		产品名称	WC0F	日期	2017/9/13
产品材质	SUS304		试验时间	48H	数量	2pcs
时间段	测试条件		试验标准		结果	备注
0-6 小时	盐雾测试机:鹽液: NaCl (無水); 浓度 5%±1%; pH 值: 6.5~7.2; 试验室 溫度: 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; 鹽 霧持續時間: 48h,		产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落等不良现象		OK	2017. 9. 11 10:30AM 始
6-12 小时			产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落等不良现象		OK	
12-18 小时			产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落等不良现象		OK	
18-24 小时			产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落等不良现象		OK	
24-30 小时			产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落等不良现象		OK	
30-36 小时			产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落等不良现象		OK	
36-42 小时			产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落等不良现象		OK	
42-48 小时			产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落等不良现象		OK	2017. 9. 13 10:30AM 止
48 小时以上			产品表面无锈点、氧化、腐蚀、 镀(涂)层脱落≤1%产品面积			
结论	盐雾 OK					
试 验 员	李伟	审 核	易爱玲	批 准	童家柏	



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8. Environment Characteristic

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

9. ROHS material list

序号	材料（原料） 名称	第三方公证化学报 告测试编号	第三方公证化学 报告测试单位	第三方公证化学 报告测试日期	状态	文档
1	SUS304	SZXEC1700370001	SGS	2017/4/28	有效	 SUS304 SZXEC1700370001



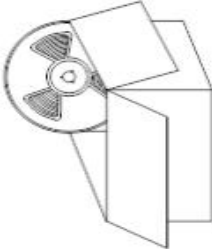
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10. The packing way

 深圳市中天迅通信股份有限公司 SHENZHEN ZHONGTIAN XUN Communication Technology Co., Ltd. 作业指导书									
产品名称	产品型号	文件编号	版本号	工序序号/名称	工序工时	日产量			
天线	WC0F	ZTX-QD-WI-082	A2	包装/装箱	/	/			
 图1：载带包装 图2：900pcs/盘 图3：装箱 图4：贴外箱标签、封箱					注意事项 注意标签有无贴错，漏贴，箱子有无破损				
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900PCS/盘，贴内标签，内标签包含（物料名称，物料型号，物料编码，数量）； 2. 将产品装入箱内（每箱装19盘）尾数除外； 3. 贴外箱标签，贴于外箱的右上角，标签内容包括（生产产家，型号，产品名称，客户编码，数量，订单号，日期，QA检验，客户所提供月份标RoHS等）不可有漏写，写错现象； 4. 纸箱用胶纸以“工”字型封箱					物料名称 防静电编带 纸箱 标签		物料编码	用量	使用工具
修订内容					修订日期	修订人			
版本					2017/9/13	龙秋霖			
A2					批准	刘玉威			
制订					胡春梅	刘玉威			