

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	



深圳市中天迅通信技术股份有限公司

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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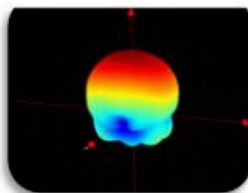
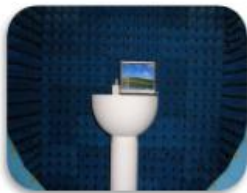
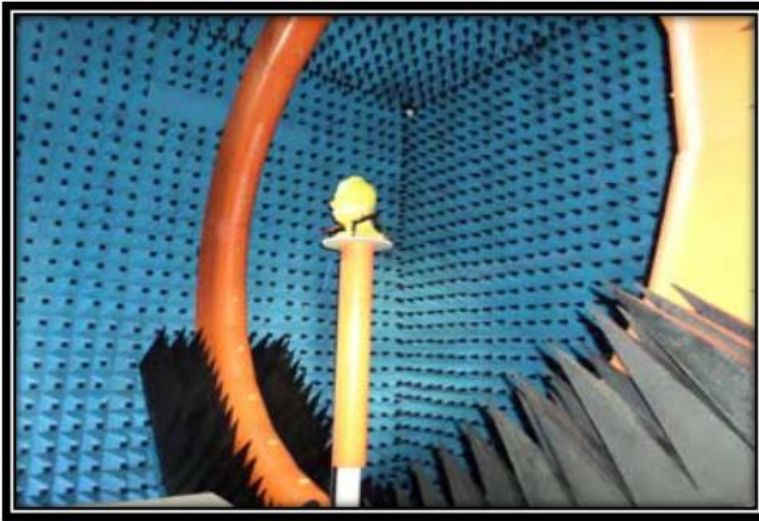
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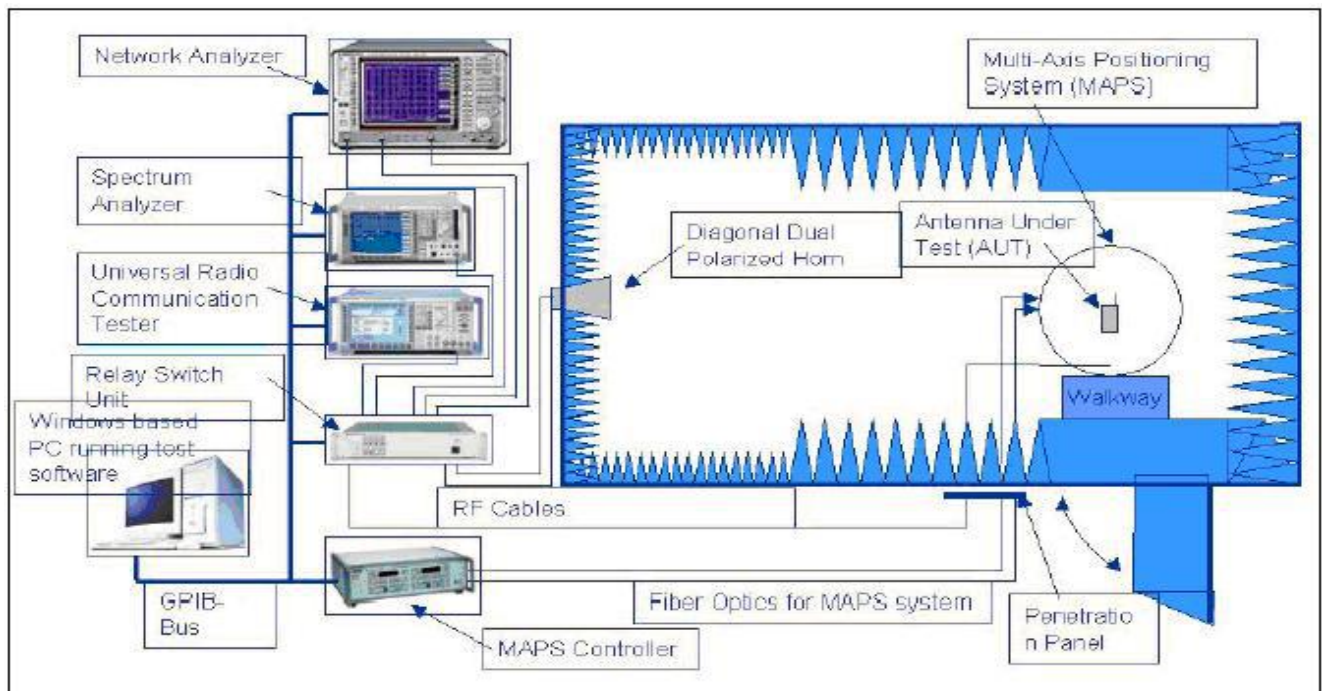
1. Test equipment



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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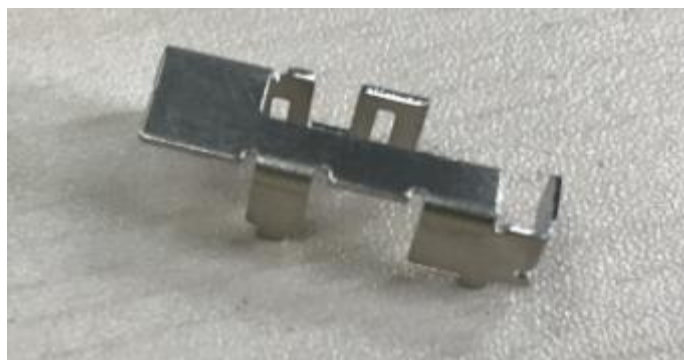
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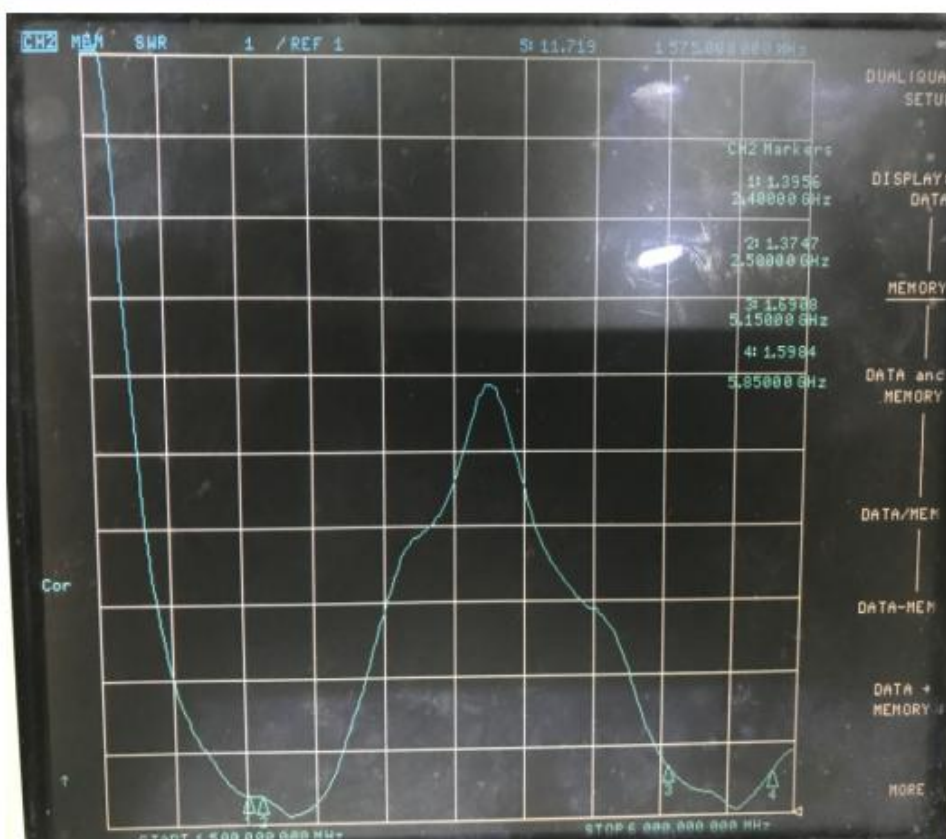
2.Product figure



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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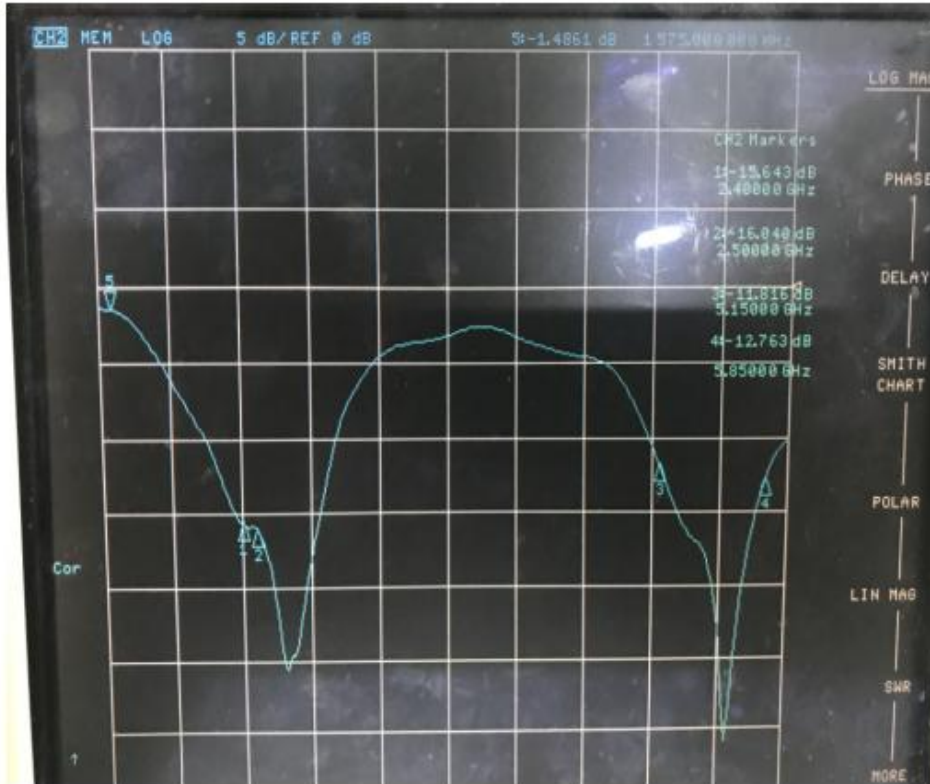
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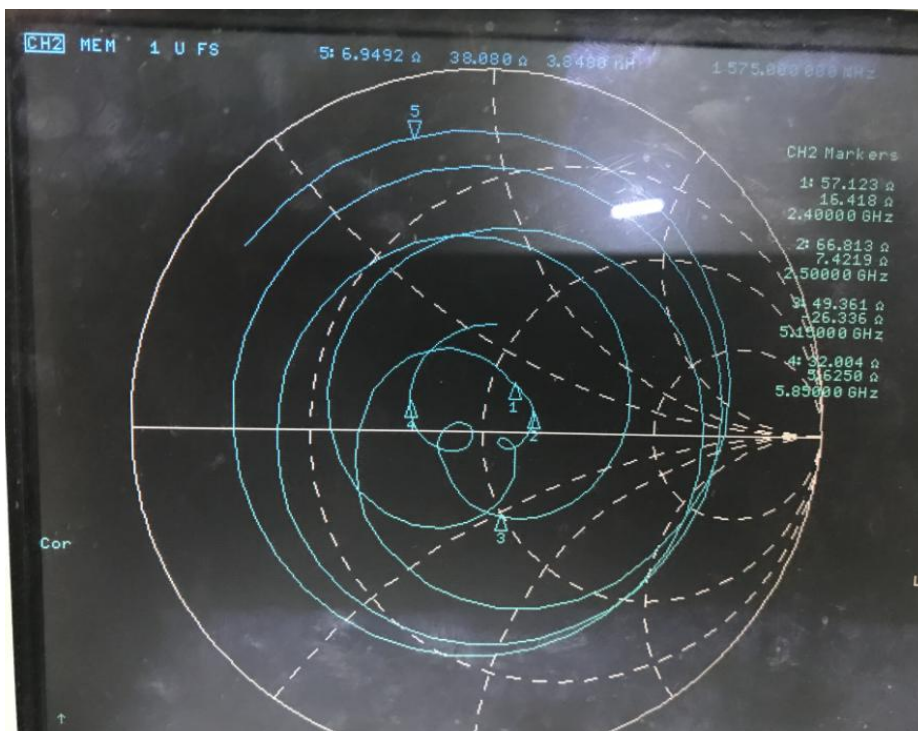
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3-2 Return loss plot

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	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

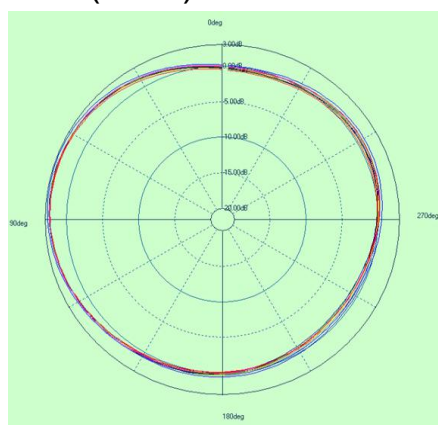
Frequency	Efficiency	Efficiency . dB	Frequency	Gain . dB
2.4E+09	59%	-2.27028	2.4E+09	2.538545
2.41E+09	58%	-2.34515	2.41E+09	2.741231
2.42E+09	58%	-2.39054	2.42E+09	2.922523
2.43E+09	57%	-2.45035	2.43E+09	2.970949
2.44E+09	58%	-2.3768	2.44E+09	2.976098
2.45E+09	57%	-2.44196	2.45E+09	2.864206
2.46E+09	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	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

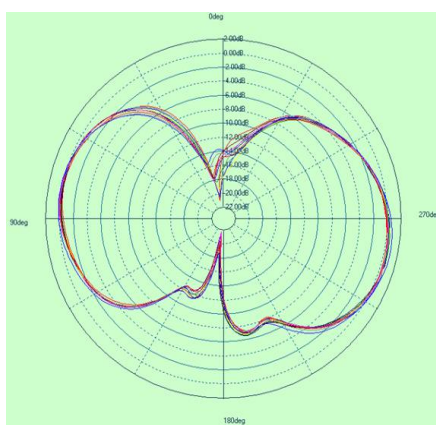
3-6 Environment treatment

N/A

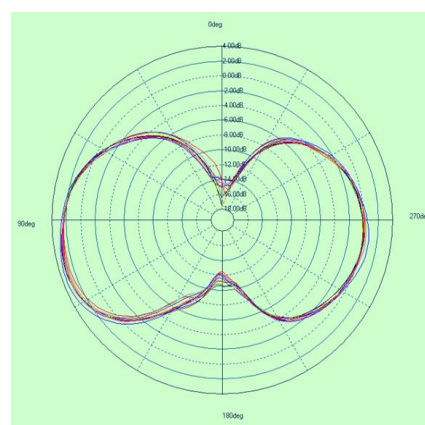
3-7 Directional drawing of horizontal plane of (2.4G)



Theta 90deg



Phi 0deg



Phi 90deg

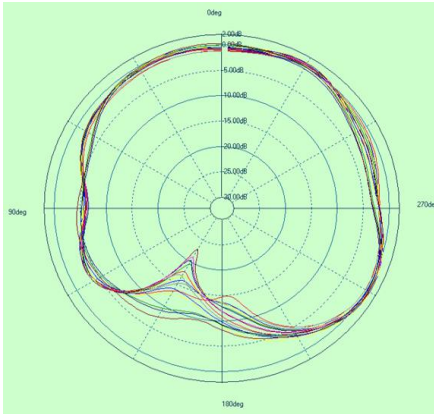
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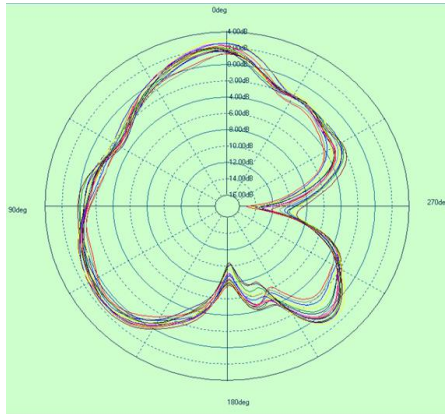
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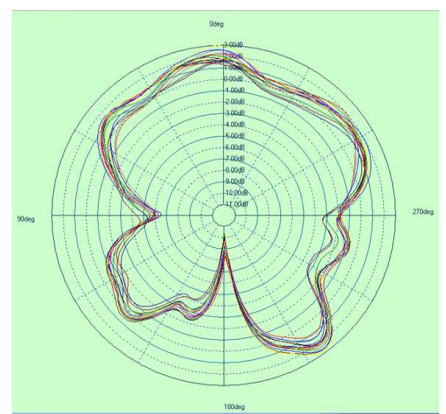
(5G)



Theta 90deg

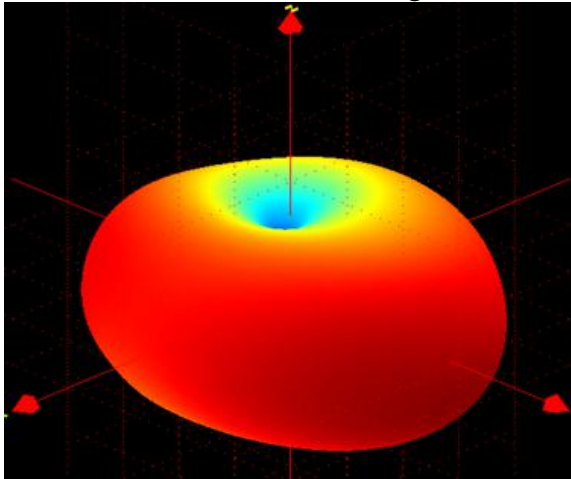


Phi 0deg

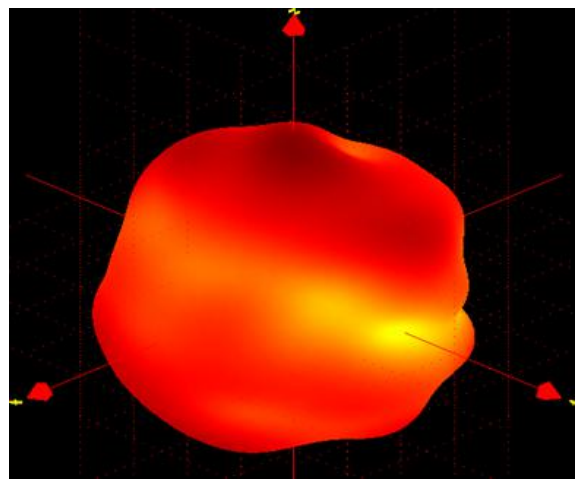


Phi 90deg

3-8 3D radiation drawing



(2.4G)



(5G)

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4. Mechanical Specification

版本	说明	审核	日期	批准	日期
A2	4处插脚改模	黄小宇	2016.10.25		
A3	调整长度管控尺寸	黄小宇	2017.03.06		
A4	更改包装材料	黄小宇	2017.09.12		

*0.50±0.05

*5.65±0.15

3*1.30±0.15

4*1.00±0.15

1.10±0.15

*6.00±0.20

5.00±0.20

10.68±0.20

*18.85±0.20

1.30±0.15

立体图

粉红色线为折弯线

展开图

备注:

1. 角度尺寸模具设计时依图纸尺寸作参照, 样品及量产实配即可;
2. 打"*"为Cpk尺寸 (Cpk ≥ 1.67);
3. 材质说明: (SUS304 硬度270°-300° 厚度0.50mm);
4. 字码说明(采用宋体, 要求字迹清晰, 弹片无变形);
5. 产品不能有油污、毛刺、利边、缺料、变形、压印过深等不良;
6. 需通过48小时盐雾测试;
7. 包装方式载带包装, 运输过程中产品不能挤压碰撞等;
8. 未经过ZTY公司确认, 材料不能随意更改;

未注明公差		公差	材料	表面处理	检验标准
5-10	±0.08	mm	SUS304	镀镍	1:1
10-35	±0.10	mm	SUS304	镀镍	1:1
35-50	±0.12	mm	SUS304	镀镍	1:1
50-100	±0.15	mm	SUS304	镀镍	1:1
100 0VE	±0.18	mm	SUS304	镀镍	1:1
100 0VE	±0.20	mm	SUS304	镀镍	1:1

环保要求:		RoHS (PPM)	有害物质
MATTER	RoHS (PPM)	≤100	无
Cd	≤100	≤1000	无
Pb	≤1000	≤1000	无
Hg	≤1000	≤1000	无
Cr6+	≤1000	≤1000	无
PBB	≤1000	≤1000	无
PBDE	≤1000	≤1000	无

深圳市中天迅通信技术股份有限公司	
制图	黄小宇
审核	李方森
批准	龙秋霖
日期	2017.09.12
材料	SUS304
表面处理	镀镍
检验标准	1:1
零件号	1.01.00642
图号	WC0F (WIFI)
图名	ZTX-QR-RD-018

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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°C; 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: $90\sim 95\%RH$ 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




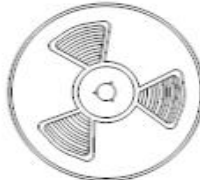
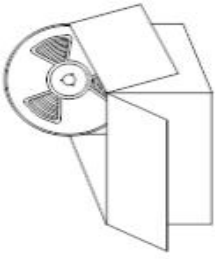

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10. The packing way

深圳市中天迅通信技术有限公司 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	工序号/名称	工序工时	日产量					
天线	WC0F	ZTX-QD-WI-082	A2	包装/装箱	/	/					
 <p>图1：载带包装</p>  <p>图2：900pcs/盘</p>  <p>图3：装箱</p>  <p>图4：贴外箱标签、封箱</p>				<p>作业方法（自检该工序作业合格后，方能流入下一道工序</p> <p>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）；</p> <p>2. 将产品装入箱内（每箱装19盘）尾数除外；</p> <p>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；</p> <p>4. 纸箱用胶纸以“工”字型封箱</p>				<p>注意事项</p> <p>注意标签有无贴错，漏贴，箱子有无破损</p>			
				物料名称	物料编码	用量	使用工具				
				防静电编带							
				纸箱							
				标签							
修订内容				修订日期							
版本				修订人							
A2				2017/9/13							
编制				批准							
龙秋霖				刘玉威							
审核				胡春梅							
易爱玲				品质确认							
编带材质改用防静电材质				胡春梅							