

东莞市信博联电子科技有限公司

Dongguan Sinbolin Electronic Technology Co.,Ltd.

Adress: Xiaobian Xinhe Industrial Zone, Chang 'an Town, Dongguan
City, Guangdong Province, China

样品承认规格书

PART SHEET FOR APPROVAL

制造商名称: Manufacturer:	东莞市信博联电子科技有限公司 Dongguan Sinbolin Electronic Technology Co.,Ltd.
供应商名称 Supplier::	东莞市信博联电子科技有限公司 Dongguan Sinbolin Electronic Technology Co.,Ltd.
产品名称: Part Description:	WIFI金属片天线 WIFI Metal Antenna
规格型号: Model No:	JSP-175680603-14BN
物料编码: Cust P/N:	360100281
日期: Issued Date:	2022.05.12

供应商确认 Supplier confirmation

承办 Made By	审核 Engineer	批准 Approver
曹涌	向瑞盛	程志超

承认原因: Approval Reason:	<input type="checkbox"/> 新物料 New Part <input type="checkbox"/> 替代料 Substitute Part		
承办 Made By	审核 Engineer		批准 Approver
	品质 Quality	研发 R&D	业务 Sales

备注: 签名表明提交样品获得承认, 图纸规格已经受控。Note: Signature indicates that the submitted sample is approved and the drawing/specification is now the controlling document.

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Address: Xiaobian Xinhe Industrial Zone, Chang 'an Town, Dongguan City, Guangdong Province, China

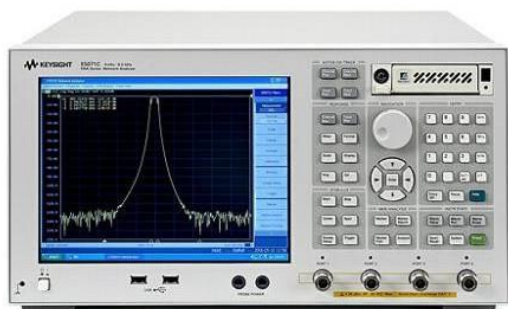
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1. 产品规格 (Product Specification)

产品图片 (Product Photo)	
	
A. 电性参数 (Electrical Characteristics)	
频率 (Frequency)	2400 ~ 2500 MHz & 5150 ~ 5850 MHz
电压驻波比 (V.S.W.R)	≤ 2.0 @ 2400 ~ 2500 MHz & 5150 ~ 5850 MHz
返回损失 (Return Loss)	$\leq -10\text{dB}$ @ 2400 ~ 2500 MHz & 5150 ~ 5850 MHz
天线增益 (Max Antenna Gain)	1.92dBi @ 2400 ~ 2500 MHz 3.35dBi @ 5150 ~ 5850 MHz
辐射效率 (Max Radiation Efficiency)	60.67 % @ 2400 ~ 2500 MHz 63.24 % @ 5150 ~ 5850 MHz
阻抗 (Impedance)	50 Ohm
极化方式 (Polarization)	线性 (Linear)
天线类型 (Antenna Type)	PIFA
B. 材质及机械特性 (Material & Mechanical Characteristics)	
辐射材质 (Material of Radiator)	SUS430
C. 环境因素 (Environmental)	
工作温度 (Operation Temperature)	- 40 °C ~ + 75 °C
储存温度 (Storage Temperature)	- 40 °C ~ + 85 °C

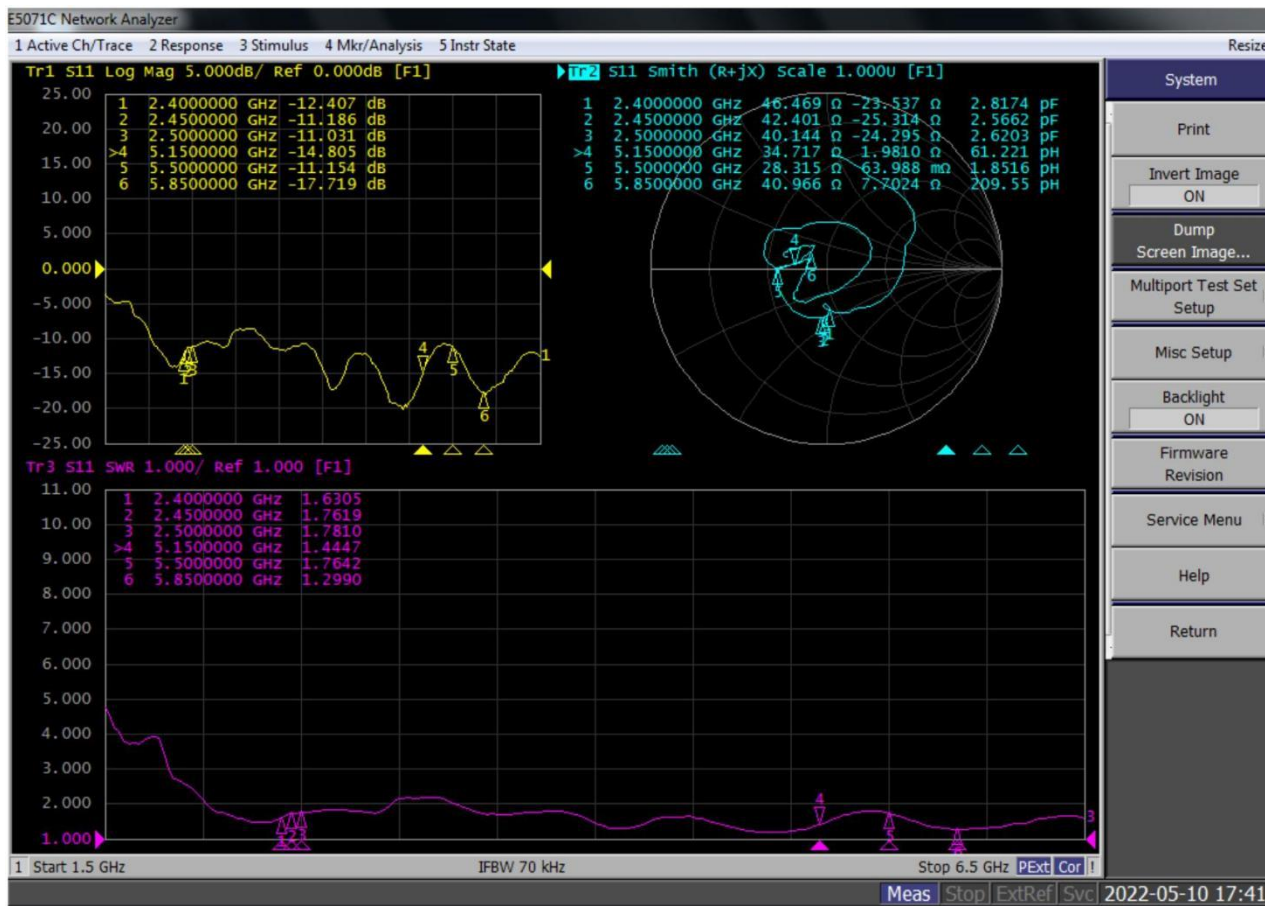
2. 网络参数测试数据 (S Parameter Test Data)



(Agilent Technologies) 安捷伦E5071C网络分析仪

测试频率范围: 300KHz-8.5GHz 测试能力: V. S. W. R

、Return Loss、Smith等



3. 天线辐射场型测试 (Antenna - Radiation Pattern Test)

测试设备规格 (Testing Equipment Specification) :

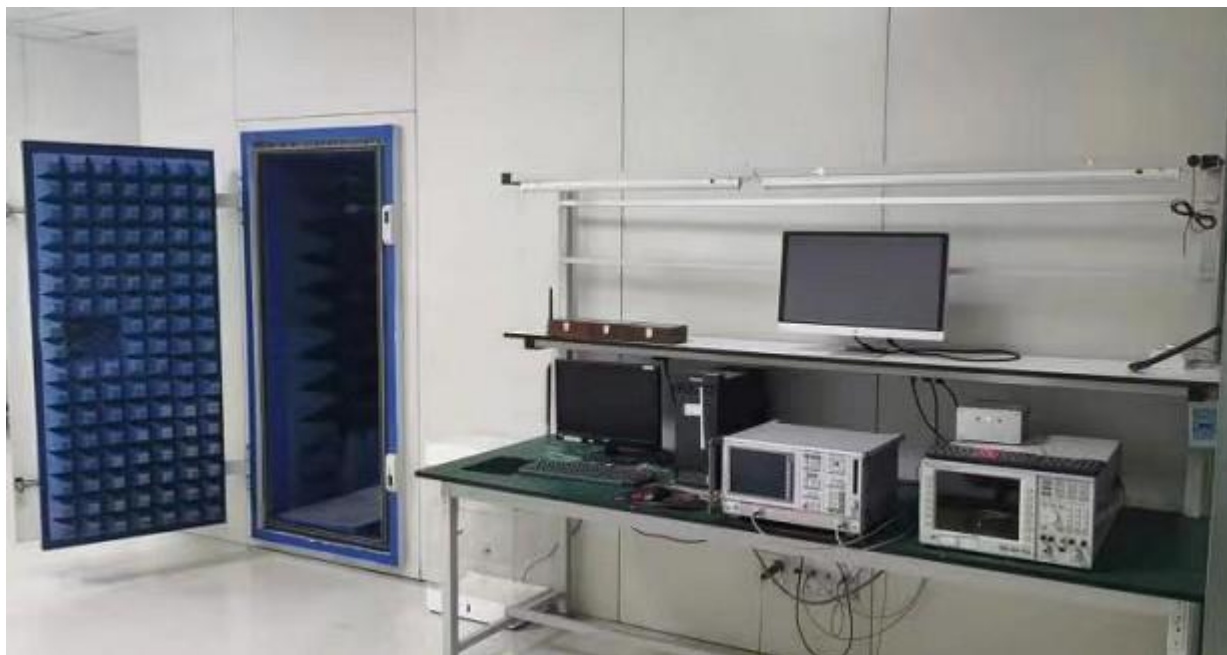
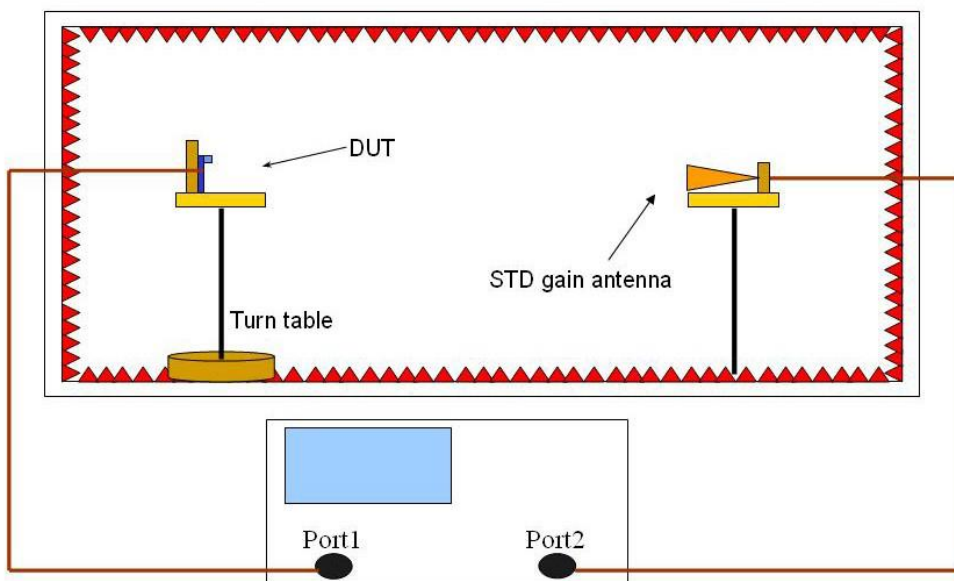
天线微波暗室尺寸 (Antenna Anechoic Chamber Dimension) : 6 x 3 x 3 米 (m)

屏蔽性能 (Isolation) : >100dB @ 1 MHz ~ 10 GHz

测试设备 (Testing Equipment) : (ROHDE&SCHWARZ) ZVL 矢量网络分析仪

接收天线 (Received Antenna) : 0.7 ~ 6.0 GHz 双极喇叭校准天线

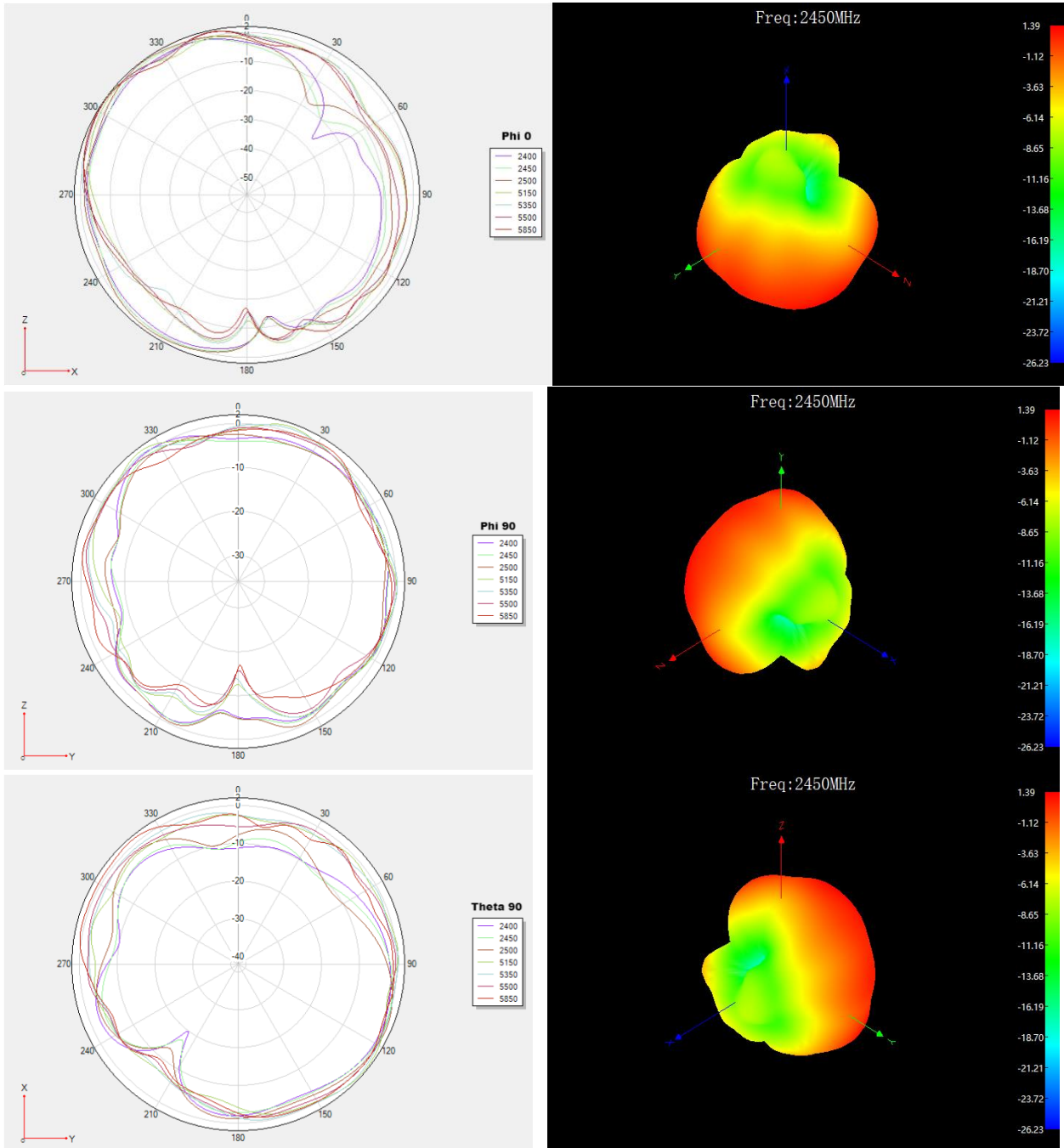
(0.7 ~ 6.0 GHz for Gain Calibration Double Ridged Horn Antenna)



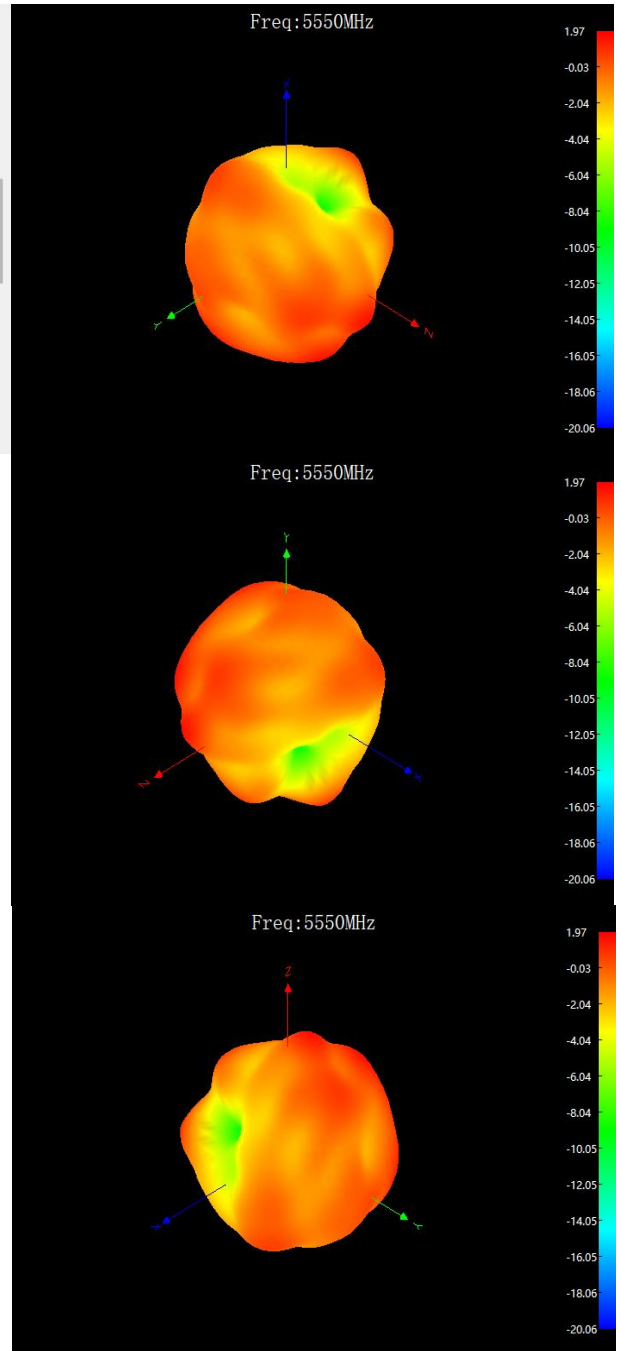
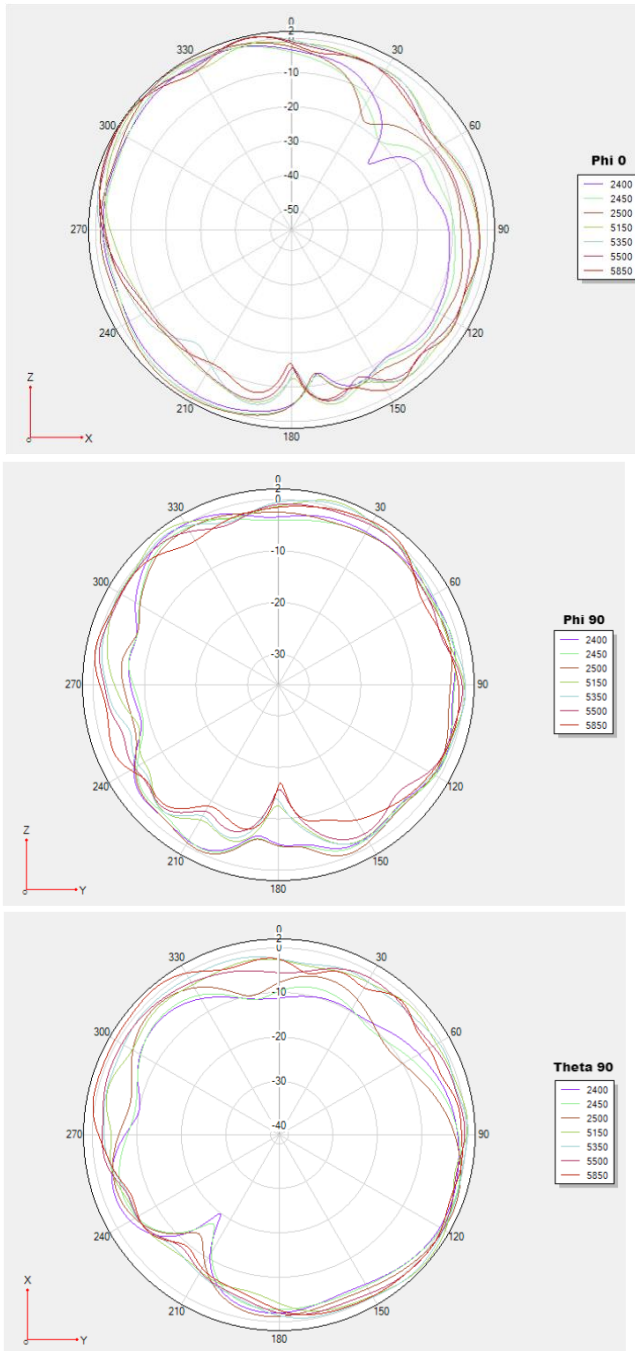
4. 效率及增益测试数据 (Efficiency and Gain Test Data)

WIFI-A JSP-175680603-14BN					
2.4G			5G		
Frequency / MHz	Gain/ dBi	Efficiency / %	Frequency / MHz	Gain/ dBi	Efficiency / %
2400	0.84	51.4	5150	3.35	63.24
2410	0.98	51.29	5200	3.27	62.81
2420	1.26	53.21	5250	3.11	62.52
2430	1.28	52	5300	2.72	60.67
2440	1.55	54.95	5350	2.52	62.37
2450	1.39	53.95	5400	2.27	61.38
2460	1.49	55.72	5450	2.04	59.70
2470	1.49	55.85	5500	1.84	57.15
2480	1.71	57.68	5550	1.97	59.70
2490	1.92	60.12	5600	1.78	57.41
2500	1.87	60.67	5650	1.56	56.10
			5700	1.91	56.62
			5750	2.18	55.46
			5800	2.06	52.84
			5850	2.26	53.33

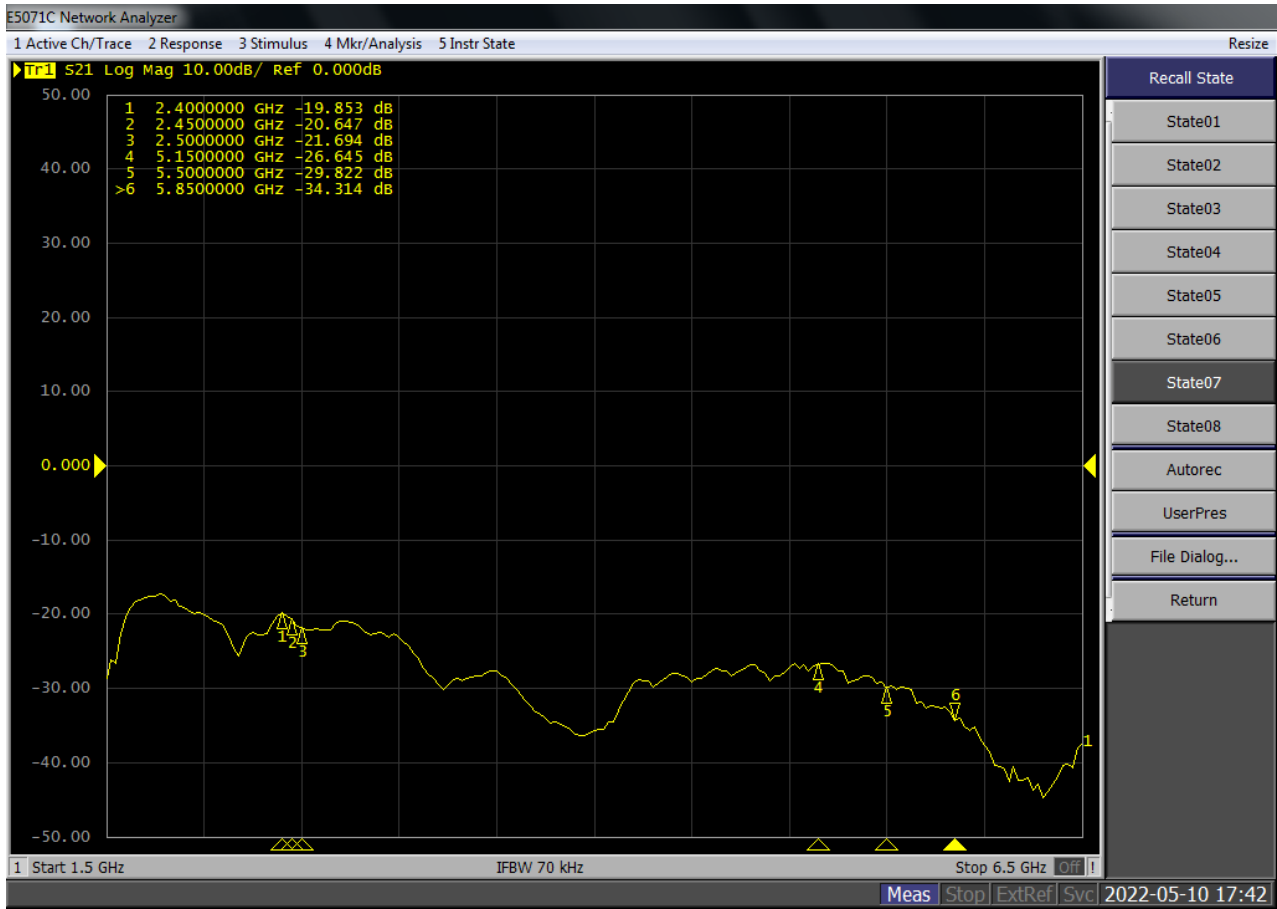
Antenna pattern - Wi-Fi A-2.4G Unit: dBi



Antenna pattern – Wi-Fi A-5.8G
Unit: dBi



4. 隔离度测试数据 (Isolation Test Data)



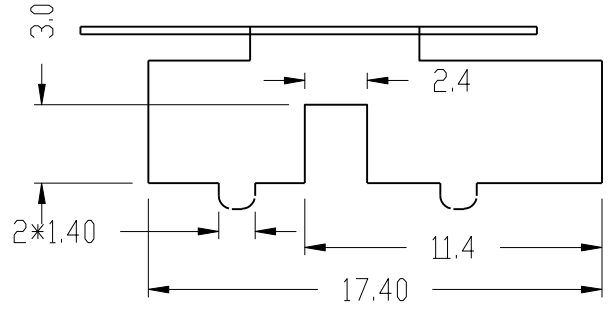
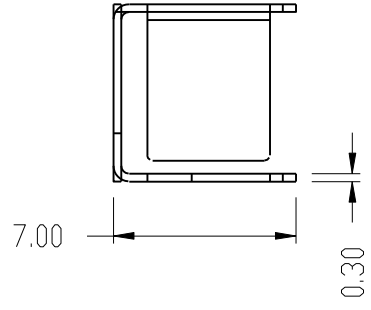
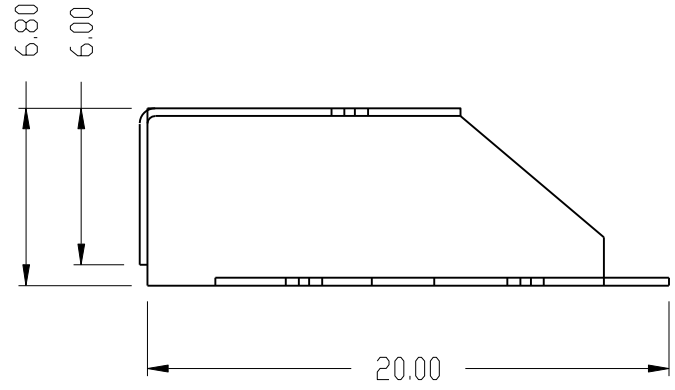
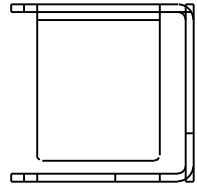
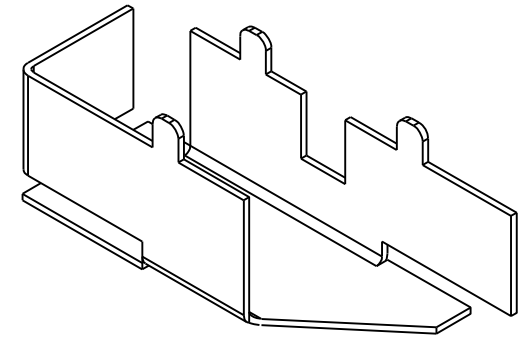
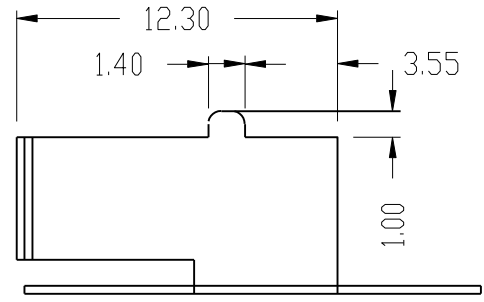
HF

RoHS

REACH

CONFIDENTIAL

SIGN	DATE	DESCRIPTION	APPROVER



技术要求:
 1. 材质为不锈钢.
 2. 颜色为镀镍.

东莞市信博联电子科技有限公司																	
TITLE: U形金属片DV9161 WIFI天线A		CUSTOMER P/N: /															
PART NO.: JSP-175680603-14BN		<table border="1"> <thead> <tr> <th colspan="2">Standard Tolerance</th> </tr> </thead> <tbody> <tr> <td>X.X ±0.2</td> <td>○ 0.02</td> </tr> <tr> <td>X.XX ±0.1</td> <td>◎ 0.03</td> </tr> <tr> <td>X° ±1</td> <td>▱ 0.05</td> </tr> <tr> <td>UNITS: mm</td> <td>// 0.03</td> </tr> <tr> <td>SCALE: 1/1</td> <td>⊥ 0.05</td> </tr> <tr> <td>REVISION: A</td> <td>≡ 0.05</td> </tr> </tbody> </table>		Standard Tolerance		X.X ±0.2	○ 0.02	X.XX ±0.1	◎ 0.03	X° ±1	▱ 0.05	UNITS: mm	// 0.03	SCALE: 1/1	⊥ 0.05	REVISION: A	≡ 0.05
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UNITS: mm	// 0.03																
SCALE: 1/1	⊥ 0.05																
REVISION: A	≡ 0.05																
APP BY	CHK BY	RF BY	DES BY														
City 2022/05/10	Yixin 2022/05/10		YJH 2022/05/10														

產品包裝規範

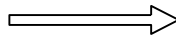
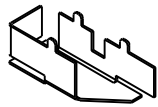
PACKING CRITERION

Date: 2022/05/10

Page: 1 of 1

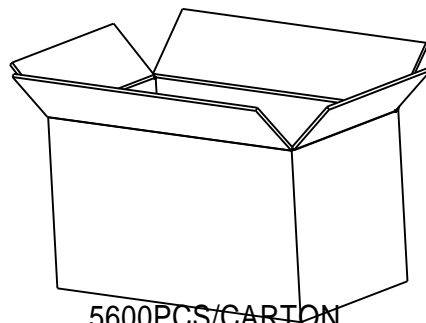
Part Number : JSP-175680603-14BN	Revision : A
Name: U形金属片DV9161 WIFI天线A	Customer :

一 . WITH THE ANT INTO THE PE BAG



700PCS/盘

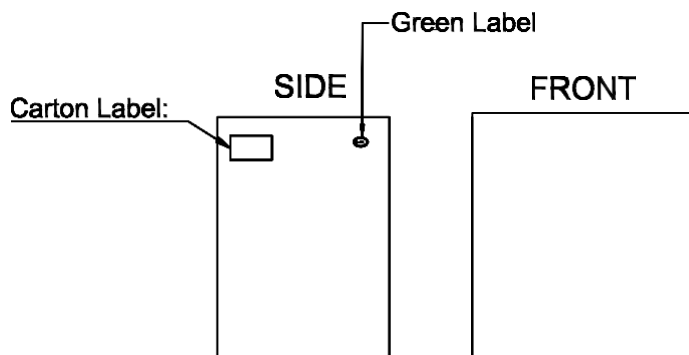
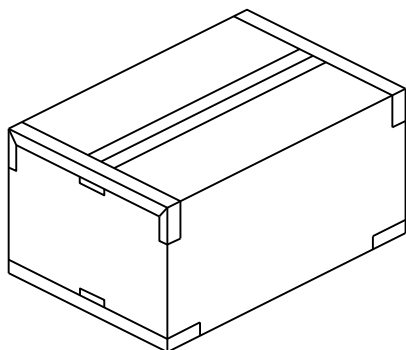
二. PACKING



5600PCS/CARTON

以客人实际下单数量为准

三. SEALING



APPROVED BY : City CHECKED BY : Yixin DESIGNED BY : _____

DONGGUAN YEWANG METAL MATERIALS CO.,LTD.**HONGYIN IDTY PARK, FENGGANG TOWN, DONGGUAN GUANGDONG, P.R.C.****The following sample(s) was/were submitted and identified on behalf of the clients as: Stainless Steel430****SGS Job No. : RP22-000722 - SZ****Date of Sample Received : 13 Jan 2022****Testing Period : 13 Jan 2022 - 18 Jan 2022****Test Requested : Selected test(s) as requested by client.****Test Method : Please refer to next page(s).****Test Results : Please refer to next page(s).****Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.**Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch**Truly Ren**
Approved Signatory

scan to see the report



A40F2101



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Test Report

No. SZXEC2200123705

Date: 18 Jan 2022

Page 2 of 5

Test Results:

Test Part Description:

Specimen No.	SGS Sample ID	Description
SN1	SZX22-001237.003	Silver-gray metal sheet

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC62321-5:2013, IEC 62321-7-1:2015, IEC 62321-6:2015, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit	MDL	003
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm ²	0.10	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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Test Report

No. SZXEC2200123705

Date: 18 Jan 2022

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Test Item(s)	Limit	Unit	MDL	003
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25
- (3) ▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². The sample coating is considered to contain CrVI
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
 c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

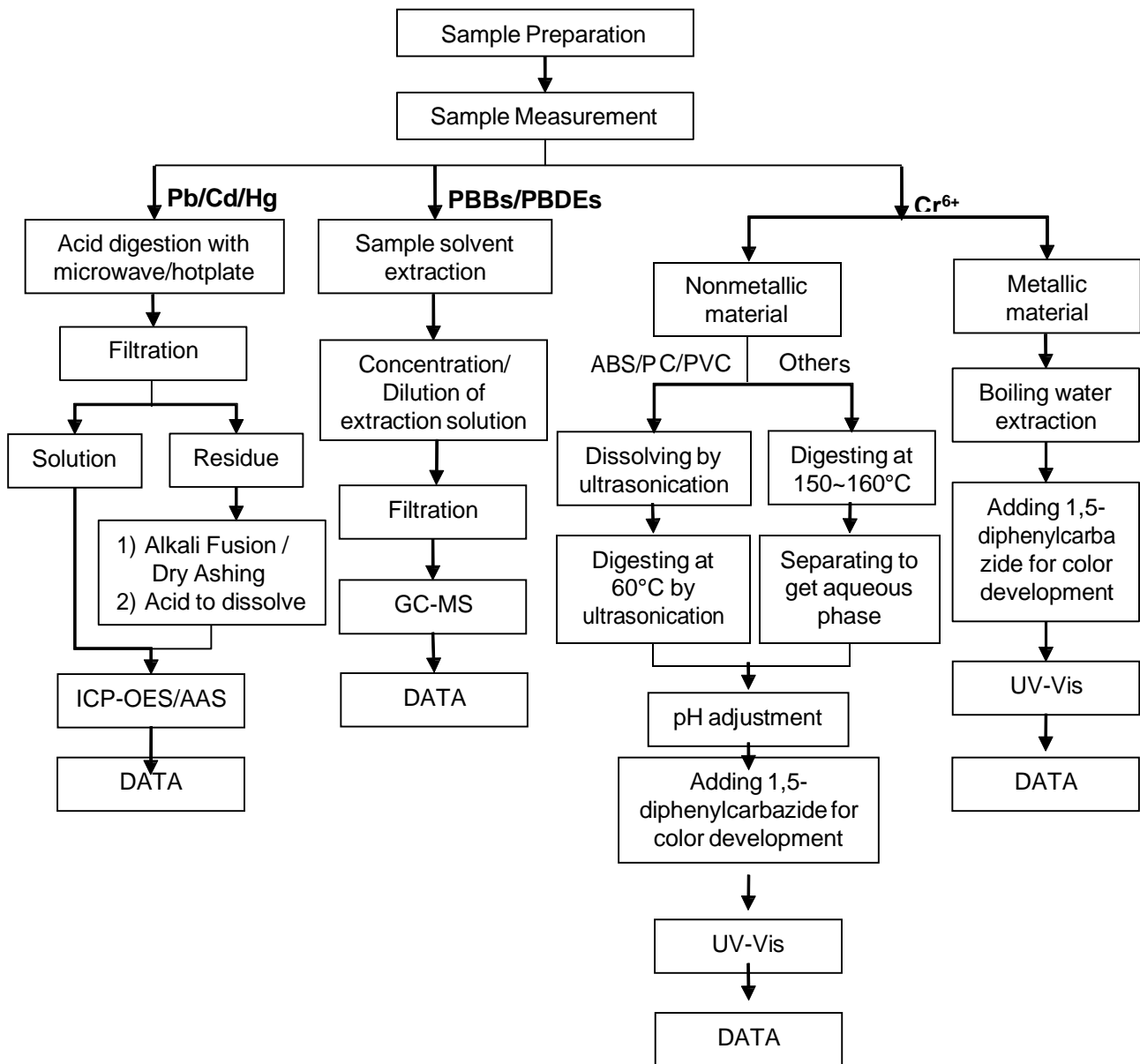


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ATTACHMENTS

Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).



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Sample photo:



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***** End of Report *****



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