



深圳市艾特诺通讯设备有限公司
SHENZHEN ATN COMMUNICATION EQUIPMENT CO.,LTD

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承 认 书

SPECIFICATION FOR APPROVL

客 户:
CUSTOMER: ChengYue

客 户 编 号:
CUSTOMER P/N: WM01-6976 (R)

本 厂 编 号:
OUR MODEL NO: ATN1280-2

规 格:
SPECIFICATIONS: 2.4G-2.48G

样 品 数:
Q'TY: 1 pcs

日 期:
DATE: 2024.05.27

深圳市艾特诺通讯设备有限公司 ATN			客 户 CUSTOMER		
工程 Engineering	品保 Quality	核准 Approved	工程 Engineering	品保 Quality	核准 Approved

地址：深圳市宝安区新安街道留仙二路美生创谷科技园夏谷 504-505 室

Address: 504-505, XiaGu, Wonderful life creative valley, Xinan, Baoan, ShenZhen

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变更记录 Change Record				
日期 date	变更原因 reason	变更内容 content	版本 version	备注 Remarks
2021.10.13	初版发行 Initial release	新版发行 Initial release	A1.0	
2021.11.10	优化天线 optimize performance	外形线路修改 Modify structure and route	A1.1	
2024.05.27	增加内容 add to the content	2.1 天线类型 Antenna type 4.3 Radiation patten (unit:dBi)	A2	

一、测试设备 Test Equipment&Conditions

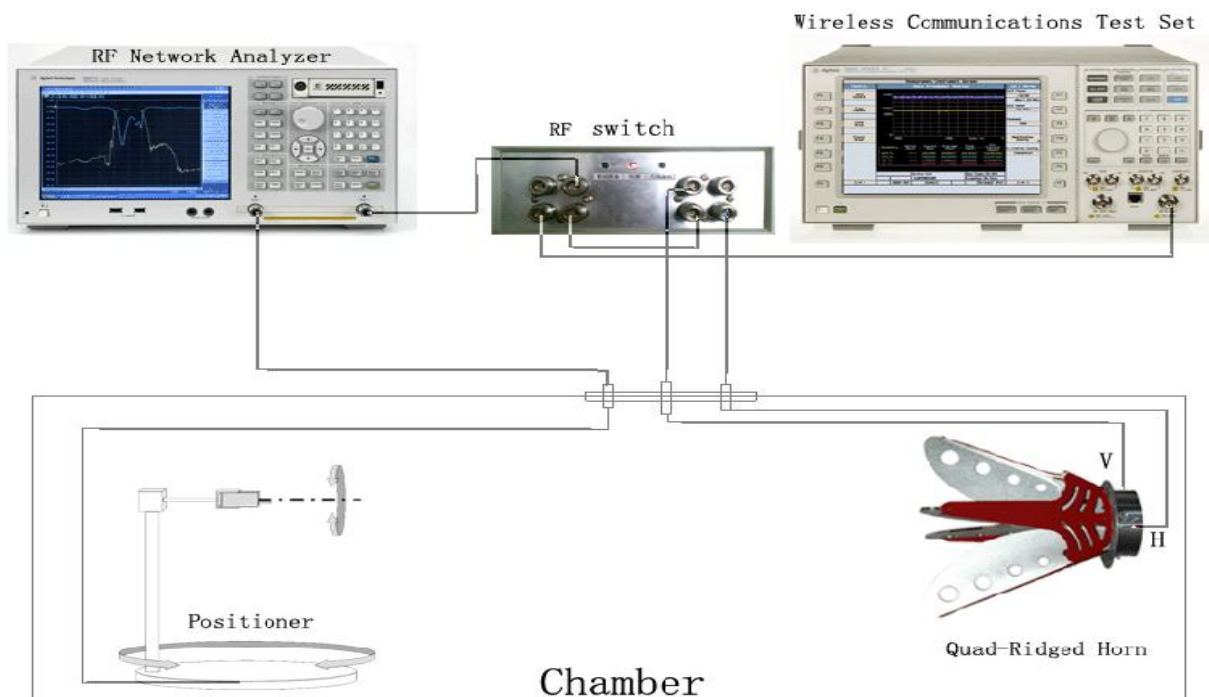
1. 网络分析仪 (Network Analyzers)

Agilent Technologies E5071B

2. 综合测试仪 (Communications Test Set)

CMW500

3. 3D 暗室测试系统 (3D Chanber Test System)



二、产品规格 Product Specification

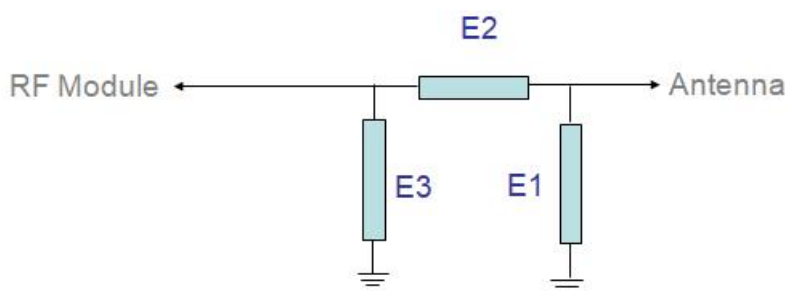
1、材料&物料性能 Material&Mechanical Characteristics

材料 Material	FPC
天线类型 Antenna type	FPC antenna
尺寸 Dimension	13.44*6.65mm

2、储存和使用温度 Storage and usage temperature

使用温度 Operation Temperature	-20°C~+80°C
储存温度 Storage Temperature	-20°C~+80°C

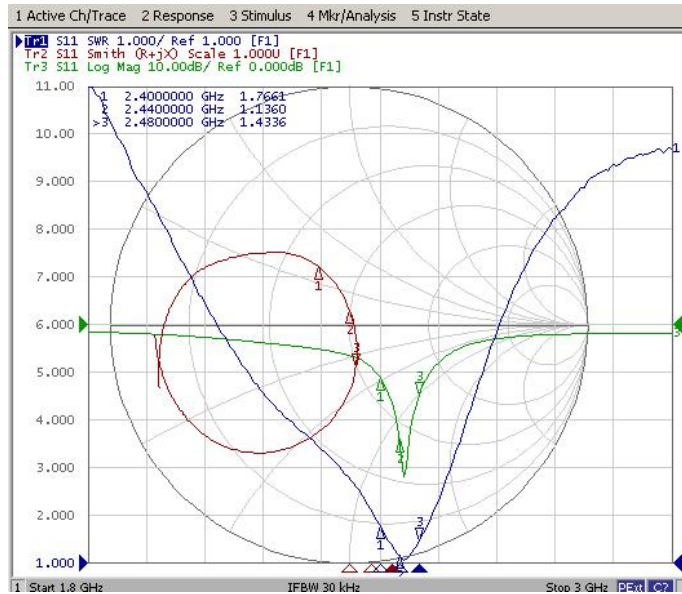
三、匹配电路 Matching circuit



Element	Value
E1(0201)	ESD
E2(0201)	0Ω
E3(0201)	2.4pF(GRM0335C1H1R8BA01D)
L/R匹配相同, 请使用上述相同规格物料	

四、性能测试数据 Test Data Report

4.1 S11 Parameter

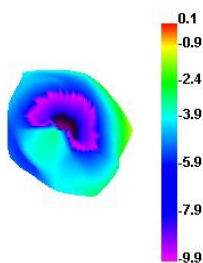


4.2 Gain&Efficiency

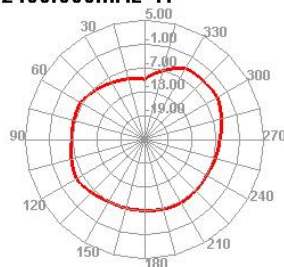
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	28.5	-5.45	0.07
2410	30.18	-5.2	0.41
2420	31.87	-4.97	0.67
2430	33.83	-4.71	0.72
2440	34.39	-4.64	0.59
2450	36.94	-4.32	0.88
2460	36.45	-4.38	0.33
2470	37.85	-4.22	0.68
2480	35.61	-4.48	0.41
Average	33.95	-4.71	0.52

4.3 Radiation patten (unit:dBi)

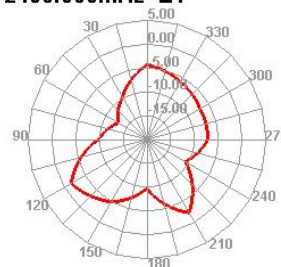
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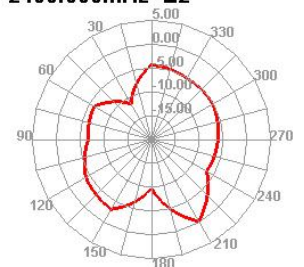
2400.000MHz H



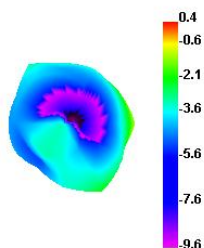
2400.000MHz E1



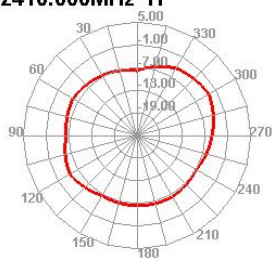
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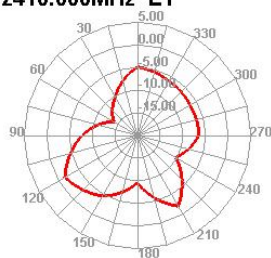
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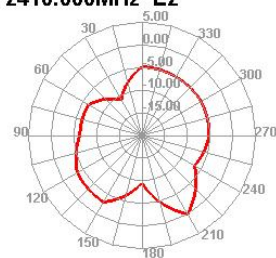
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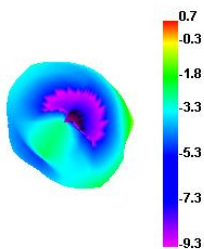
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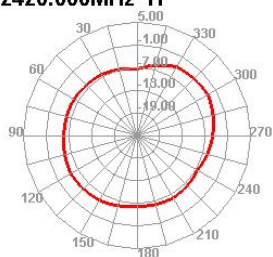
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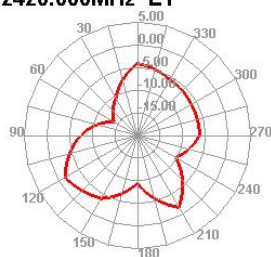
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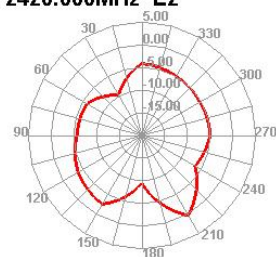
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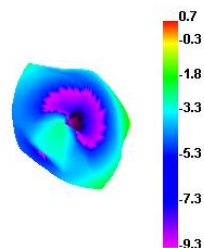
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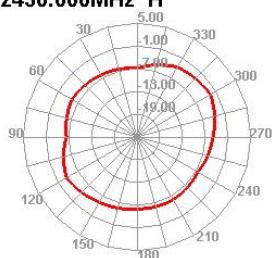
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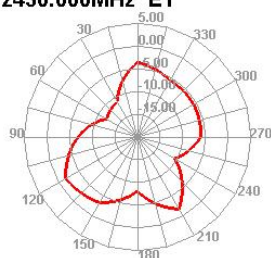
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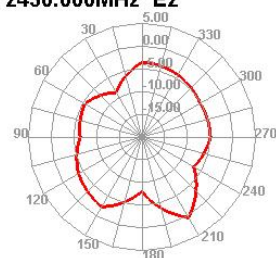
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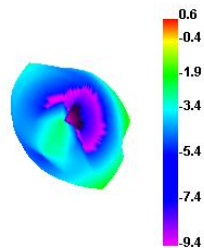
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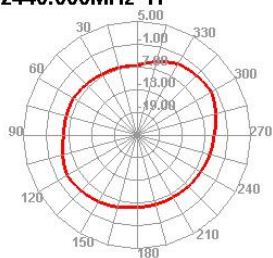
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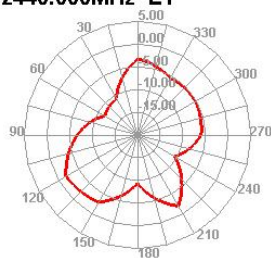
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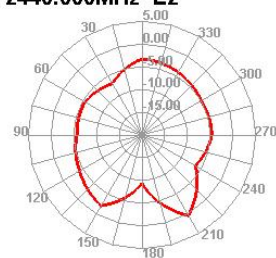
2440.000MHz H



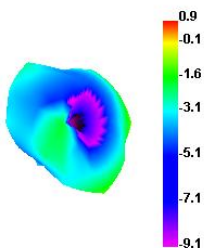
2440.000MHz E1



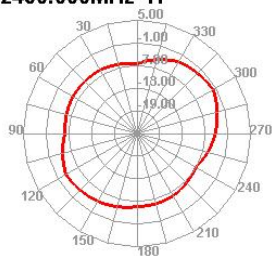
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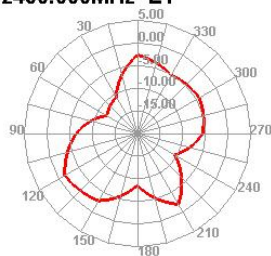
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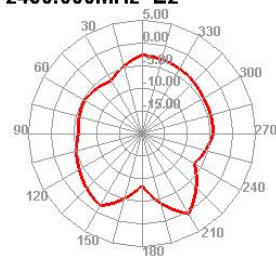
2450.000MHz H



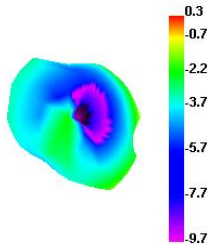
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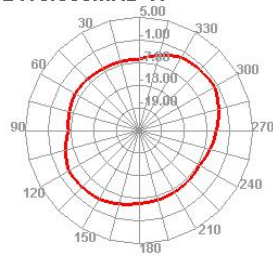
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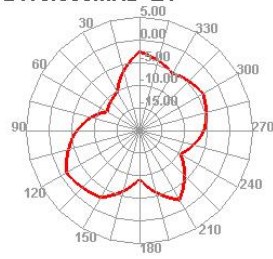
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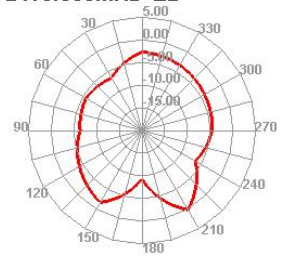
2460.000MHz H



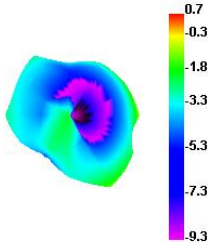
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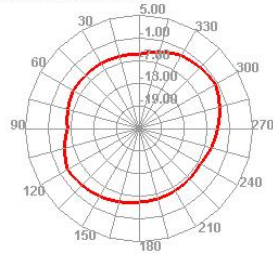
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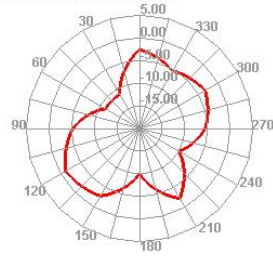
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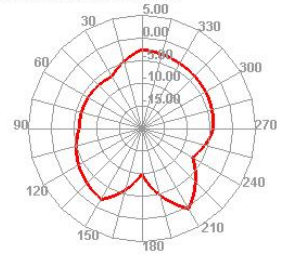
2470.000MHz H



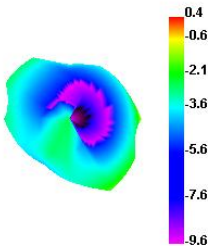
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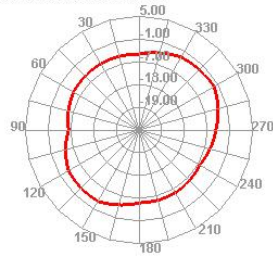
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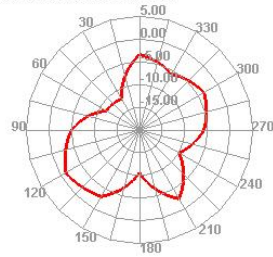
2480.000MHz



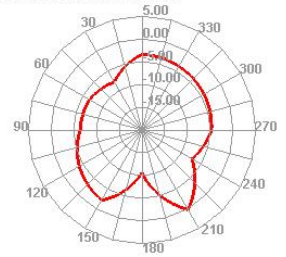
2480.000MHz H



2480.000MHz E1



2480.000MHz E2



4.4 OTA 测试数据 OTA Test Data

band	channel	TRP (dBm)	TIS (dBm)
Bluetooth BR	0	-1.6	-81.6
	39	0.7	-82.7
	78	2.6	-83.0

4.5 实测距离 Measured data

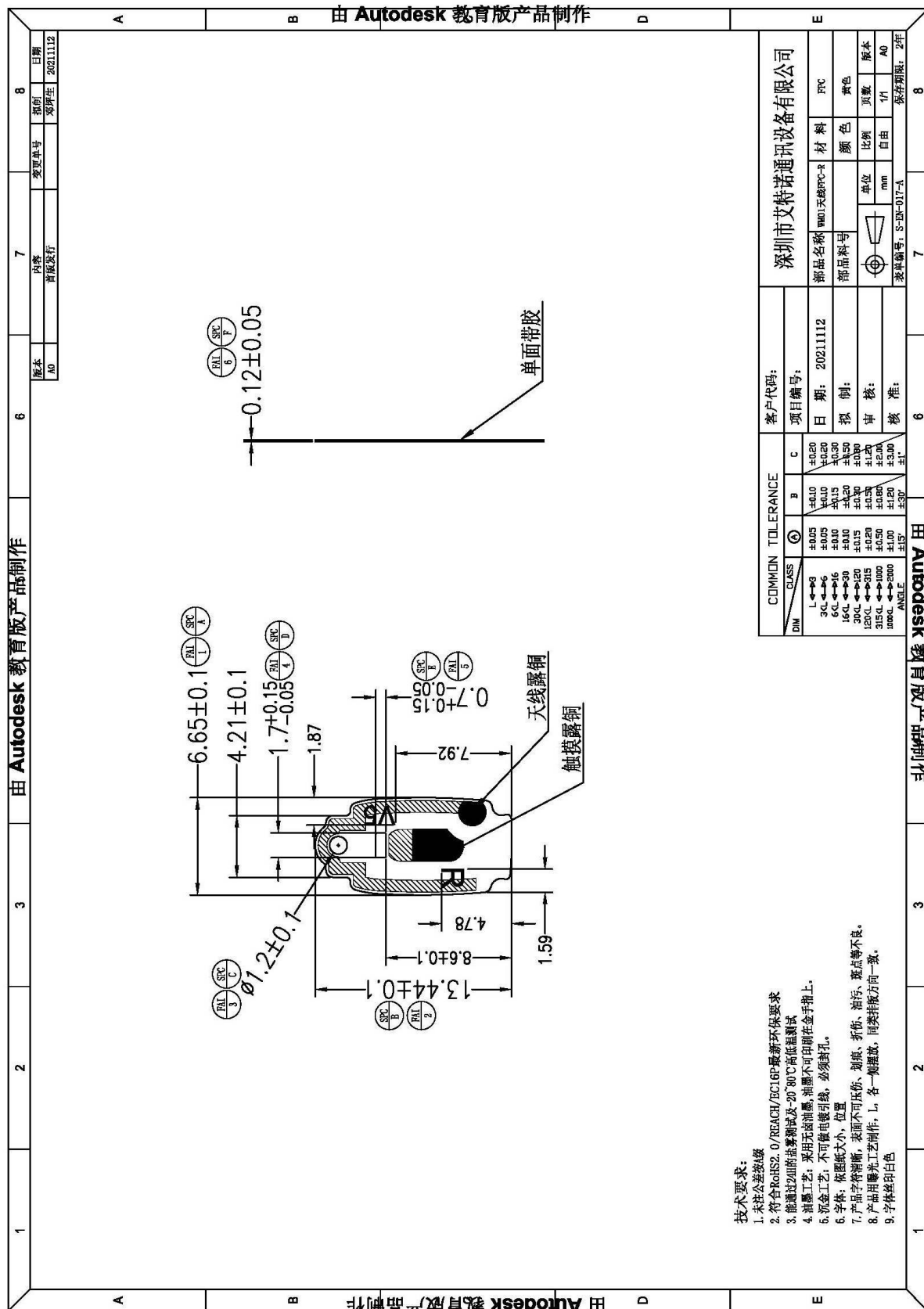
测试地点：美生创谷南门隆昌路

测试手机	苹果6s	三星S8
听音乐全向 (m)	20	12

五、装配要求 Assembly requirements

1	无
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六、工程图纸 Product Drawing



七、盐雾测试报告 Salt spray test report

项目 project	WM01-6976	品名 Product Name:	蓝牙天线		
试样情况 Sample information	试样数量 quantity: 5PCS				
	材质 material quality: 电解铜 Electrolytic copper	镀层 Coating: 镀金 1U"Gold plating1U"			
试验条件 Test conditions	盐溶液 Salt solution: 5%	PH:7.0			
	试验温度 Test temperature: 35°C	相对湿度 relative humidity: 5%			
	喷雾方式 Spray mode: ☒ 连续 ☐ 间歇	压缩空气压力 air pressure: 1kg/cm ²			
	盐雾沉降率 Salt spray settling rate:	雾液收集 Mist collection: PH7.0nac			
	试验周期 Test cycle: __1__个循环	喷雾时间 Spray time: 24 h			
试验结果 test result	试验后的外观: 外观完整无损, 无明显变化。 Appearance after test: the appearance is intact without obvious change				
	镀层: 无剥落、无锈蚀 Coating: no peeling and corrosion				
	表面喷涂、丝印: 无脱落、无气泡。 Surface spraying and silk screen printing: no falling off and bubble				
试验判定 Test judgment	OK				
说明 Notes: 1、盐雾试验作业标准依照中华人民共和国国家标准 GB/T2423.17-2008 执行。 The operation standard of salt spray test shall be in accordance with the national standard of the people's Republic of China GB / t2423 17-2008 implementation. 2、试件结果判定标准依照中华人民共和国国家标准 GB/T6461-02 执行。 The judgment standard of test piece results shall be in accordance with the national standard of the people's Republic of China GB / t6461-02.					

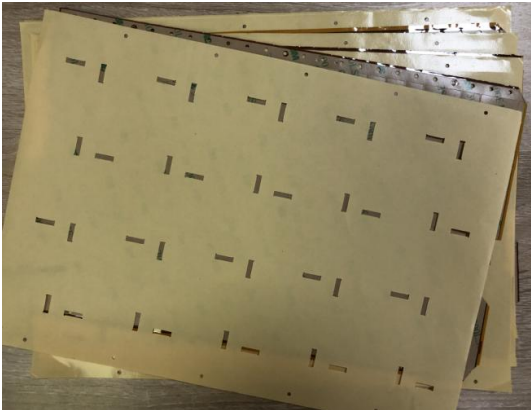
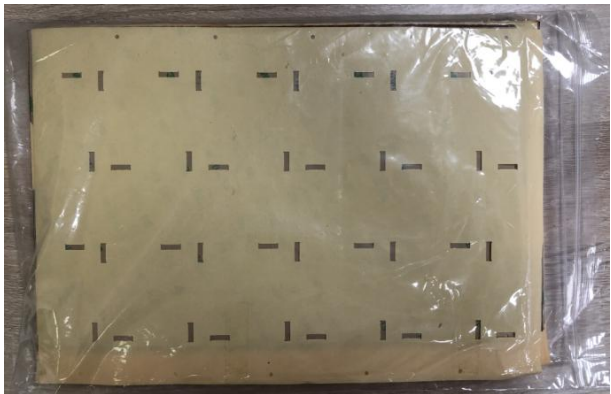
八、样品尺寸检测报告 Size test report

尺寸检验报告 Dimension test report

项目 project: WM01-6976			品名 Product Name: 蓝牙天线						
类别 category: FPC			数量 Quantity: 5 个			日期 Date: 2021.11.11			
检验依据标准: Inspection standards			☒ 工程图纸 Engineering drawings ☐ 标准样板 Standard template ☐ 其它 Other _____						
检验项目 Inspection basis and standard			样品测验值 test value					判定结果	备注
			1	2	3	4	5		
外观检验 Appearance inspection	1、油污划痕、压伤等		√	√	√	√	√	OK	
	2、其它 Other								
尺寸检验 Dimensional inspection	1	6.65±0.1	6.62	6.6	6.62	6.64	6.64	OK	
	2	13.44±0.1	13.44	13.46	13.4	13.42	13.44	OK	
	3	Ø1.2±0.1	Ø1.22	Ø1.2	Ø1.22	Ø1.24	Ø1.18	OK	
	4	1.7 +0.15/-0.05	1.72	1.7	1.68	1.72	1.74	OK	
	5	0.7 +0.15/-0.05	0.74	0.72	0.7	0.68	0.72	OK	
	6	0.12±0.05	0.14	0.12	0.14	0.14	0.12	OK	
	7								
	8								

九、包装方式 Packaging Information

产品包装 Product packaging

项目 project: WM01-6976		版本 edition: V1.0	页码 Page: 1/1
1. 离型纸隔层摆放保护天线 Barrier paper protection products		2. 密封袋封装效果 3. Sealing bag packaging effect	
			
3. 纸箱封箱效果 Carton sealing effect			
			