

FPC 天线样品承认书

The Main FPC Touch & Antenna Sample Confirmation

客户名称 Customer	深圳市科奈信科技有限公司/ShenZhen Cannice Technology Co.,Ltd.		
项目名称 Project Name	A1528-R		日期 Date 2025-5-09
物料编号 Project NO.	SN1320	备注 Notes	FPC 天线/FPC antenna
客户料号			
频段 Frequency Range	BT		
设计 Designed By	RF Engineer	Structural Engineer	
审核 Checked By	Engineering Manager		
客户确认 Client' s Approval			

设计单位: 司南微电子(深圳)有限公司

Designer: SINAWELL Electronics(Shenzhen) Co., Ltd.

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1. 规格书概述/Overview of the Specification

该规格书描述 A1528-R 内置式 FPC 天线的状况，其频段为 BT。
This specification describes the condition of the A1528-L built-in FPC antenna, whose frequency band is BT

2. FPC 天线外观/Appearance of FPC antenna



3. 电性能/Electrical performance

3.1. 天线频段/Antenna Frequency band

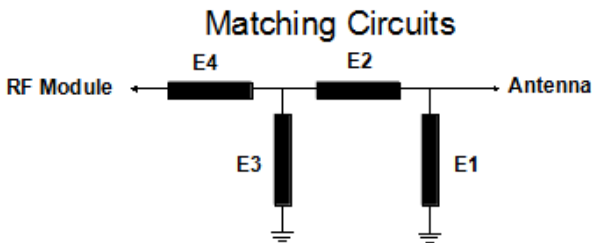
	BT
发射频段(MHz)	2400MHz-2500MHz

3.2. 匹配电路/Matching Circuit

测试点在天线连接器(射频测试口)后，见下图 (The test point is behind the antenna connector (RF test port), as shown in the following figure)

1. BT 天线匹配。 / BT antenna matching.

Element	Value
E1	NC
E2	0 欧姆
E3	NC
E4	0 欧姆

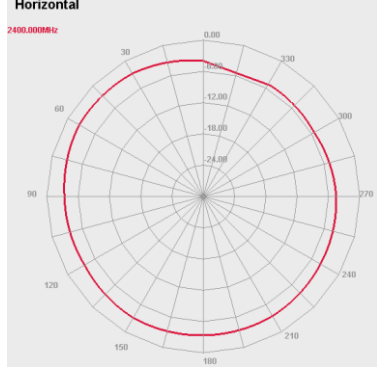
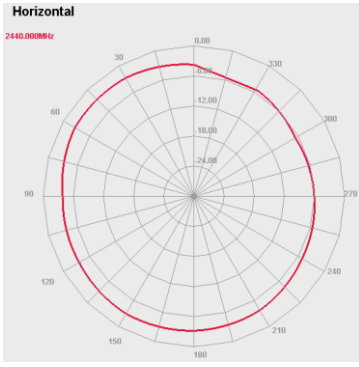
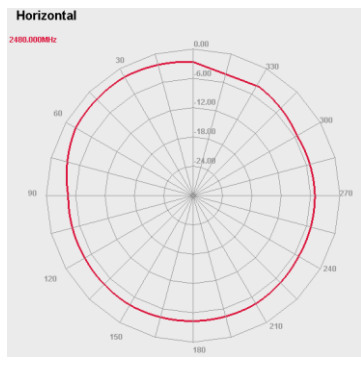


3.3. 回波损耗/Return loss

BT VSWR+ Return

	谐振点范围(MHz)	频点(MHz)/最大回波损耗(dB)		
	2400-2500		2400	2500
		VSWR	1.76	1.93
		Return loss	-11.202	-9.968

3.4. 天线增益/Antenna gain

Frequency	2420	2450	2480
Gain	-2.37dBi	-2.94dBi	-3.01dBi
Gain diagram	Horizontal 2400.000MHz 	Horizontal 2440.000MHz 	Horizontal 2480.000MHz 

Passive Test For										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)
2400	31.3	-5.04	-2.4	-4.68	15.467	15.835	-2.53	-16.07	5.04	120
2410	31.07	-5.08	-2.53	-4.78	15.095	15.976	-2.63	-16.43	5.08	60
2420	32.54	-4.88	-2.37	-4.36	15.512	17.029	-2.21	-16.48	4.88	120
2430	31.42	-5.03	-2.42	-4.38	14.769	16.651	-2.23	-16.59	5.03	60
2440	30.62	-5.14	-2.75	-4.59	14.404	16.211	-2.44	-16.81	5.14	120
2450	29.69	-5.27	-2.94	-4.75	13.975	15.714	-2.6	-16.55	5.27	120
2460	29.8	-5.26	-2.9	-4.55	13.993	15.802	-2.4	-15.22	5.26	120
2470	27.04	-5.68	-3.03	-4.76	12.475	14.563	-2.61	-14.58	5.68	120
2480	28.01	-5.53	-3.01	-4.12	12.664	15.35	-1.97	-14.35	5.53	90
2490	22.8	-6.42	-3.35	-4.48	10.035	12.766	-2.33	-15.17	6.42	30
2500	21.53	-6.67	-3.42	-4.53	9.013	12.512	-2.38	-15.05	6.67	30

4. 外观结构/Appearance structure

4.1. FPC 天线材质/FPC antenna material FPC

5. 备注/Remarks

(电性能测试报告)/(Electrical Performance Test Report)

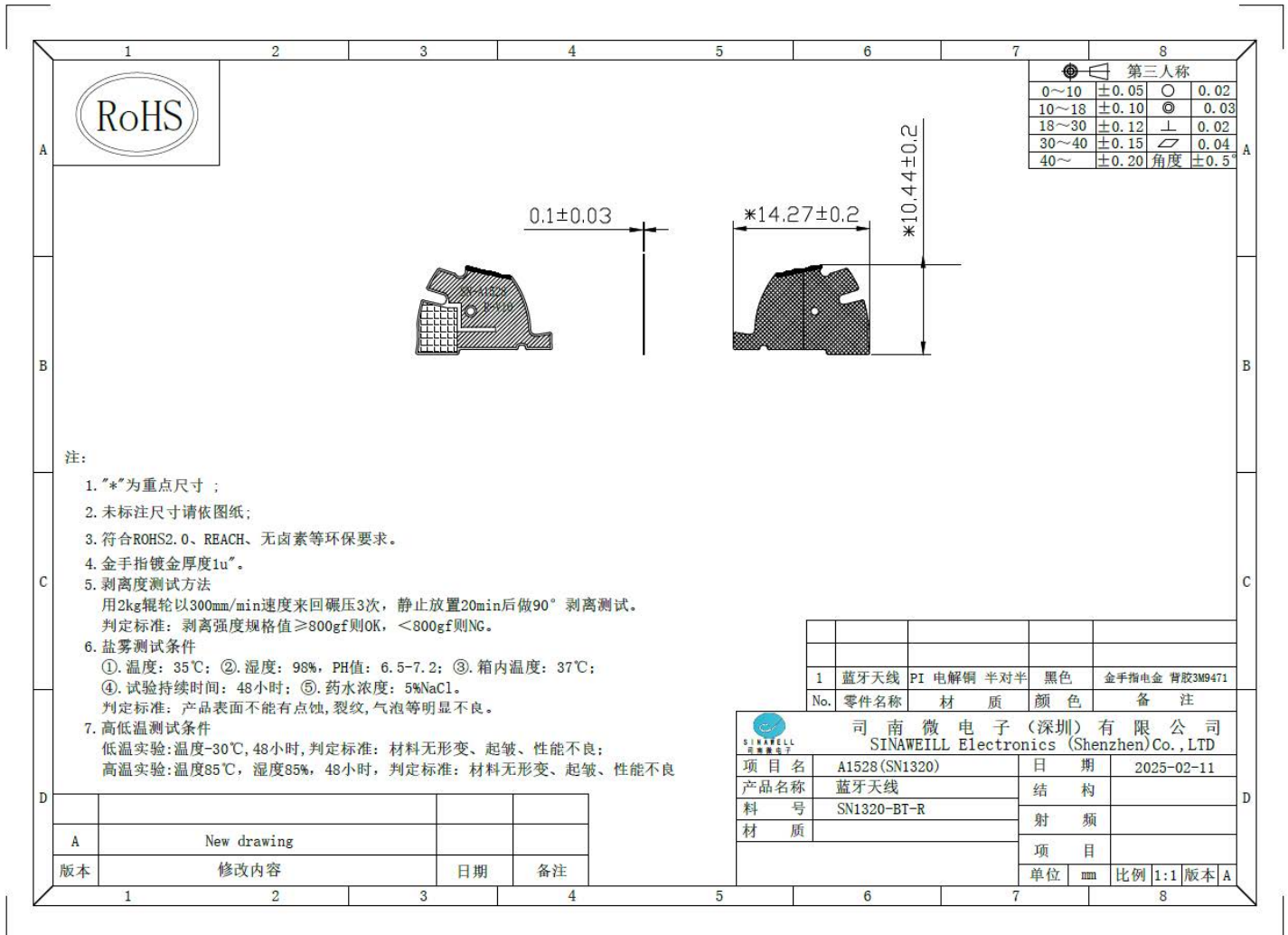
电性能测试报告中，为厂家提供的 3D 暗室数据， /In the electrical performance test report, the 3D anechoic chamber data provided for the manufacturer

如下表格格式/The following table format

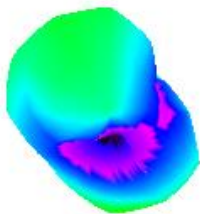
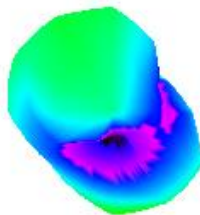
附录一：结构图纸/Appendix 1: Structural Drawings

附录二(电性能测试报告)/Appendix II (Electrical Performance Test Report)

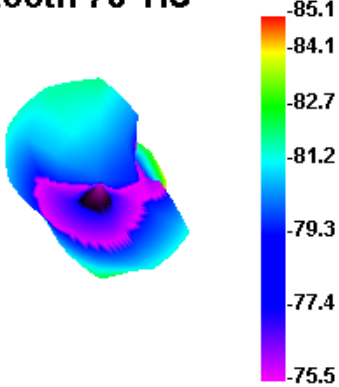
FPC 结构图纸/FPC structural drawing

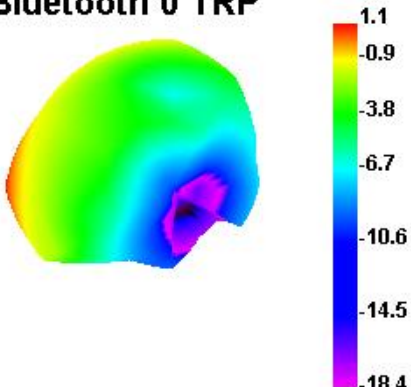


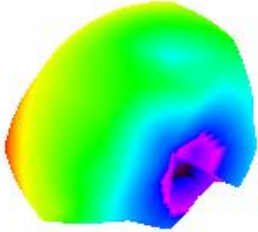
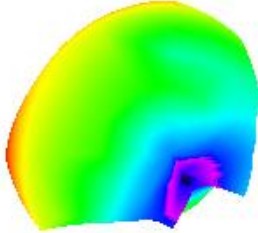
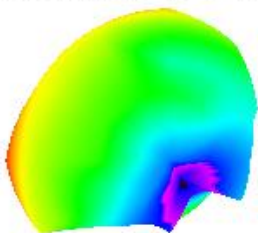
3D 测试报告

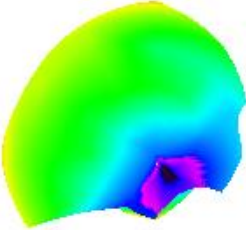
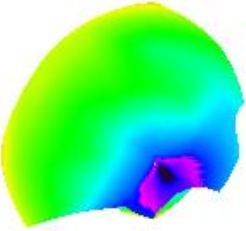
BT	Channel	3D 耦合测试	场强图
TRP	0	3. 39	Bluetooth 0 TRP 
TIS	0	-86. 49	Bluetooth 0 TIS 

TRP	39	3.76	Bluetooth 39 TRP
TIS	39	-87.06	Bluetooth 39 TIS
TRP	78	4.09	Bluetooth 78 TRP

TIS	78	-86.69	Bluetooth 78 TIS 
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BT	Channel	3D 耦合测试	场强图
TRP	0	-1.21	Bluetooth 0 TRP 

TIS	0	-80.58	Bluetooth 0 TIS  -84.6 -82.6 -79.7 -76.8 -72.9 -69.0 -65.1
TRP	39	-0.57	Bluetooth 39 TRP  2.7 0.9 -2.0 -4.8 -8.6 -12.4 -16.2
TIS	39	-81.18	Bluetooth 39 TIS  -86.9 -85.0 -82.2 -79.4 -75.6 -71.8 -68.0

TRP	78	-0.35	Bluetooth 78 TRP  4.2 2.3 -0.5 -3.4 -7.2 -11.0 -14.7
TIS	78	-80.73	Bluetooth 78 TIS  -85.9 -84.0 -81.1 -78.3 -74.5 -70.7 -66.9