

Shenzhen Sumeng Technology Co., Ltd.



PPS-2-PCBANT SPECIFICATION

On-Board PCB Antenna for PawPrints Wireless Button
sensor 2.0

2026-2-7

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1. General Information

1.1 Product Overview

The PPS-2-PCBANT is an on-board Inverted F Antenna (IFA) suitable for PCB applications, with a package size of 21.0mm × 4.4mm. It is designed for Bluetooth BLE and 2.4G near-field communication, with a center frequency of 2450MHz.

1.2 Scope of Application

This specification document is applicable only to the on-board antenna of the "PawPrints Wireless Button sensor 2.0" device's main-board. The performance parameters represent the characteristics of the complete host usage scenario.

1.3 Operating Environment Range

Operating temperature range: -20 to 65°C.

1.4 Storage Environment Requirements

Storage temperature range: -20 to 75°C.

2. Specification Parameters

No.	ITEMS	DETAILS
1	Applicable Models	PPS-2
2	Frequency Band	2402MHz~2480MHz
3	VSWR	≤ 1.4
4	Antenna Gain	0.74dbi
5	Antenna Impedance	50 Ω
6	Antenna Type	IFA
7	Implementation Form	On-Board PCB
8	Radiation Efficiency	54 $\pm$ 10%

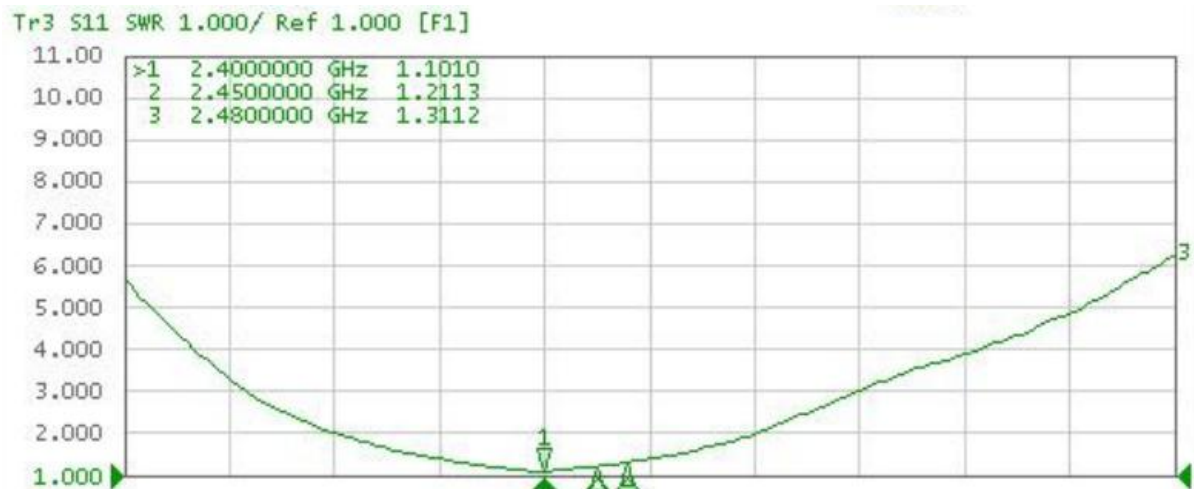


3. Test Setup



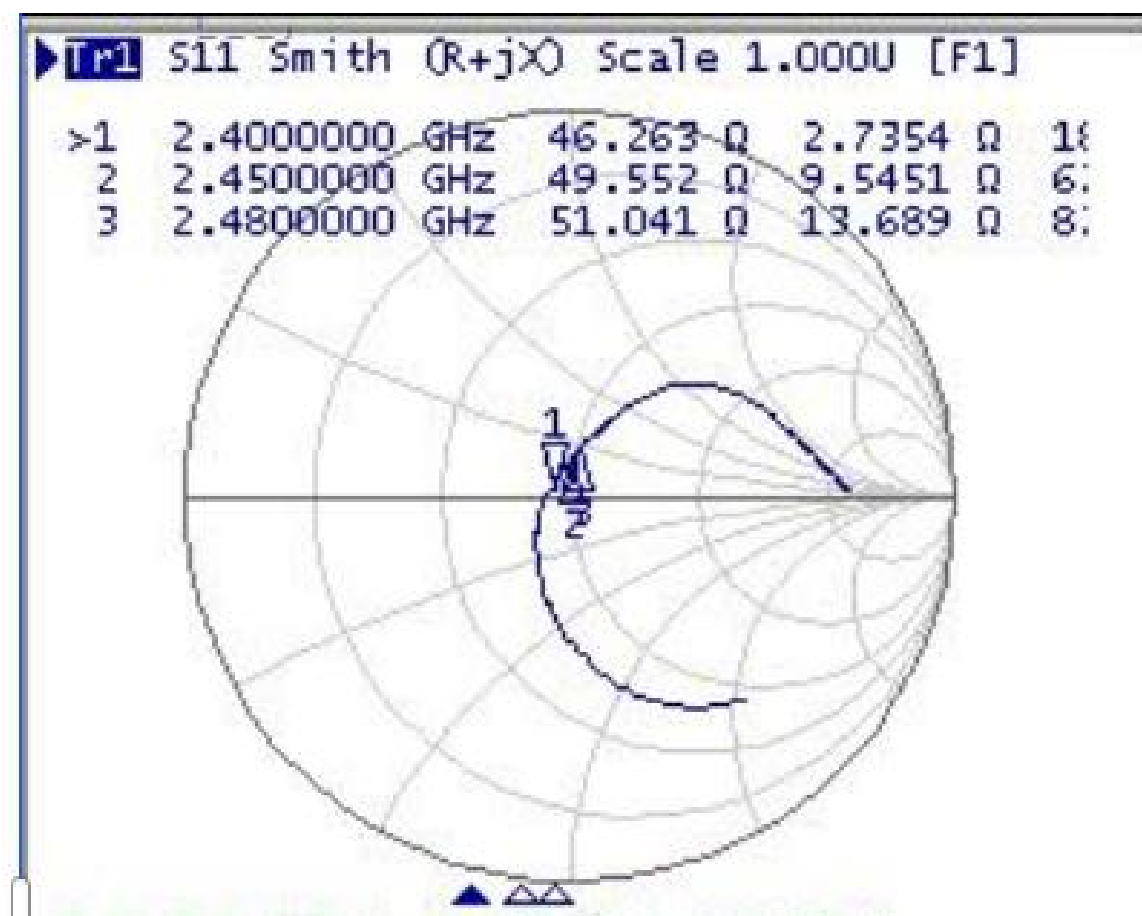
4. Antenna Characteristics

4.1 Voltage Standing Wave Ratio (VSWR)

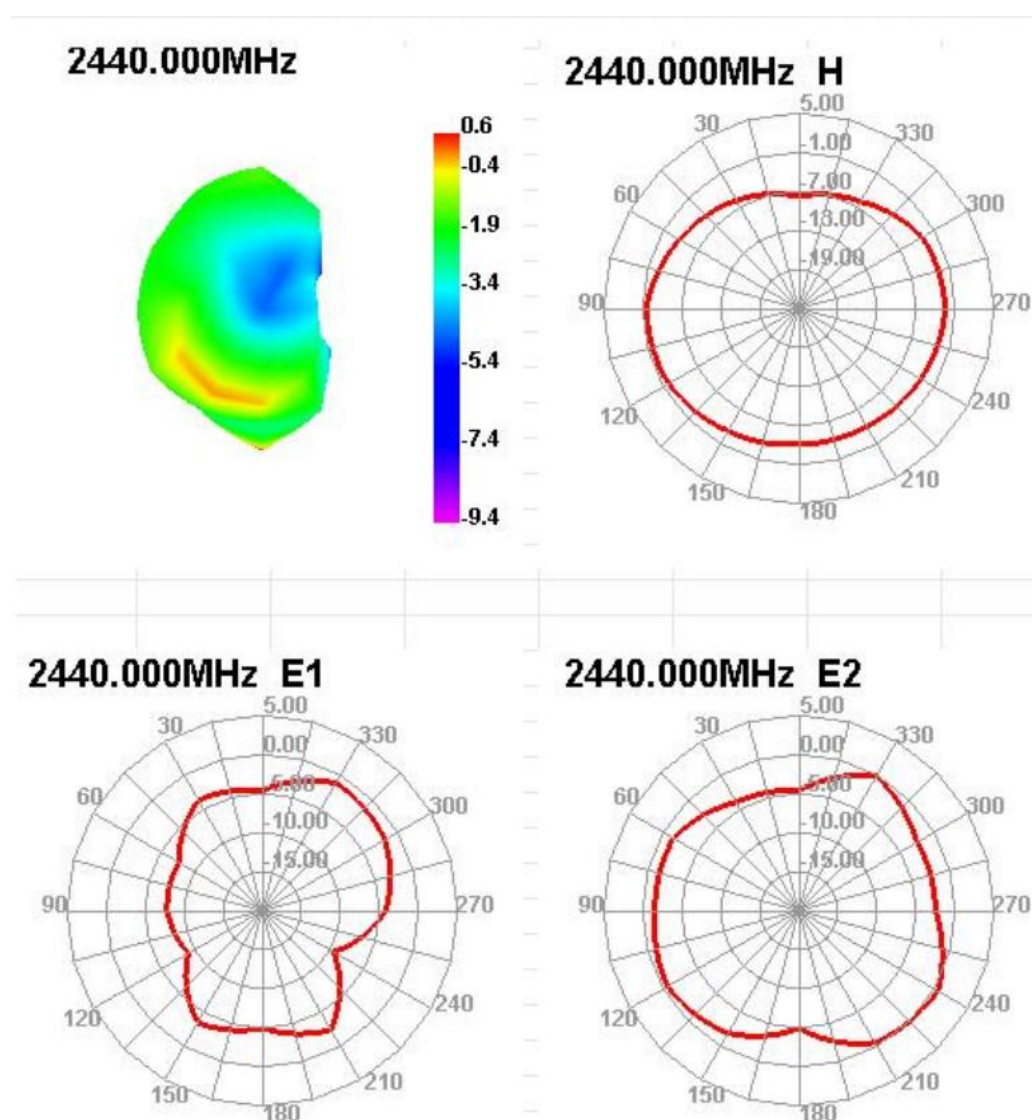


1.10(@2400MHz) ; 1.21(@2450MHz) ; 1.31(@2480MHz)

4.2 Smith chart



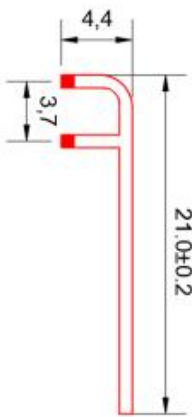
4.3 Radiation Pattern



4.4 Antenna Frequency-Gain Characteristics

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	52.51	-2.8	0.61
2410	51.93	-2.85	0.68
2420	48.98	-3.1	0.54
2430	49.62	-3.04	0.54
2440	51.45	-2.89	0.58
2450	53.71	-2.7	0.74
2460	55.97	-2.52	0.73
2470	56.6	-2.47	0.58
2480	58.51	-2.33	0.74
2490	59.24	-2.27	0.59
2500	56.48	-2.48	0.29

4.5 Structural Dimensions

										版本/版次			A/1			DATE											
PCB板天线; 										文件编号																	
										名称		WIFI 天线															
										料号																	
										产品规格																	
										比例		1:1															
技术要求:		1: 未注尺寸公差±0.1, 角度±0°.		绘图		审核		核准		金属材料				名称													
2: 表面无划伤和污渍.										表面处理				料号													
3: 注有“*”为重要控制尺寸.										塑胶/包胶材质		/		产品规格													
4: 板焊环应符合ROHS, REACH标准要求.										塑胶/包胶颜色		/															
5: 丝印48H										塑胶/包胶来源		/															
日期										检测方式				深圳市塑梦科技有限公司													

5. Document Revision History

Date	Version Number	Version Description
2025-4-20	0.1	Confirmation