

Product Number: SNT2400-J156RS

Name: 2.4G 胶棒天线



Suzhou Sinoster electronics Co.,Ltd
苏州新尔斯特电子有限公司

Specification For Approval

Date: 2020-10-27

HF CODE : 10A01TXS008

Version : 2.0

Customer : 上海汉枫电子科技有限公司

Project Name : 2.4G 胶棒天线版本

Sinoster P/N : SNT2400-J156RS

Description : 2.4G 胶棒天线，总长 155mm，SMA 内螺纹内孔

Sinoster Checked By :

Customer Approved By :



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1. Revision History

Revision	Date	Change Notification	Description
1.0	2020.10.27	初版	
2.0	2023.02.14	第二版	首页添加 HF CODE

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2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
S.W.R.	≤ 2.0
Antenna Gain	3.0 dBi
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Material of Plastic	TPE / ABS
Cable Type	RG178
Connector Type	SMA Male Reverse
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C
Antenna Color Storage life	< 2 year

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3. Characteristics and Reliability Test

Test Items 測試項目		Test Condition and Procedure 測試方法	Requirements 要求	Result 結果
C1	V.S.W.R. 電壓駐波比	Set DUT on Network Analyzer; make individual calibration to test 設置網路分析儀參數進行測試	Directive DUT specification 符合待測物規範	PASS
C2	Insertion Loss 插入損失	Set DUT on Network Analyzer; make individual calibration to test 設置網路分析儀參數進行測試	Directive DUT specification 符合待測物規範	N/A
C3	Antenna Gain 天線增益	Set DUT on Antenna Chamber; make individual calibration to test 設置天線暗室參數進行測試	Directive DUT specification 符合待測物規範	PASS
C4	Voltage Breakdown 耐電壓	Test voltage should be applied between insulated portions, or between ground as specified. 在绝缘部分测试电压,或指定接地面之间	Max Voltage ≥ 500 V or directive material specification 最大電壓 ≥ 500 V 或符合材料規範	N/A
C5	Insulation Resistance 絕緣阻抗	Set Voltage: 500 ± 50 V; between the insulated portions, or between ground as specified. 設置電壓 500 ± 50 V,在绝缘部份測試或指定接地面之间	Resistance ≥ 500 M ohm or directive material specification 阻抗 ≥ 500 M ohm 或符合材料規範	N/A
C6	Contact Resistance 接觸阻抗	Air Temp: 26°C ; measured with test equipment 室溫 26°C , 指定量測設備	Directive material specification 符合材料規範	N/A
M1	Vibration 震動	GB / T2423.48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction 振幅 1.5mm; 頻率 20~80~20Hz; 3 個方向各 2H	1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 無明顯外觀不良; 頻率偏移 $\leq 5\%$	PASS
M2	Random Drop 跌落	GB / T2423.8-1995 Single: Height: 1.0 Meter; 3 directions; 1 time for each direction 單支天線, 高 1m; 3 個方向各 1 次	1. No parts separated、fracture 2. Frequency Tol. $\leq 5\%$ 產品無脫落、斷裂; 頻率偏移 $\leq 5\%$	PASS
		Packing: Height: 0.76 Meter; 1 corner, 3 edges, 6 surface 包裝: 高 0.76m, 一角、三棱、六面各一次		PASS
		Antenna+Machine: Height: 0.76 Meter; 1 corner, 3 edges, 6 surface. 整機: 高 0.76m, 一角、三棱、六面各一次		N/A
M3	Solderability 可焊性	GB / T2423.28-2005 Temp: $260 \pm 5^{\circ}\text{C}$; Duration: 5 seconds 溫度 $260 \pm 5^{\circ}\text{C}$; 持續 5 秒	Tin evenly on full 上錫均勻飽滿	N/A
M4	Pull Test 拉力	Holding with individual specification; force applied to axis of terminal . 單獨定義產品端子拉力	1. Directive DUT specification 2. Frequency Tol. $\leq 5\%$ 符合待測物規範; 頻率偏移 $\leq 5\%$	PASS

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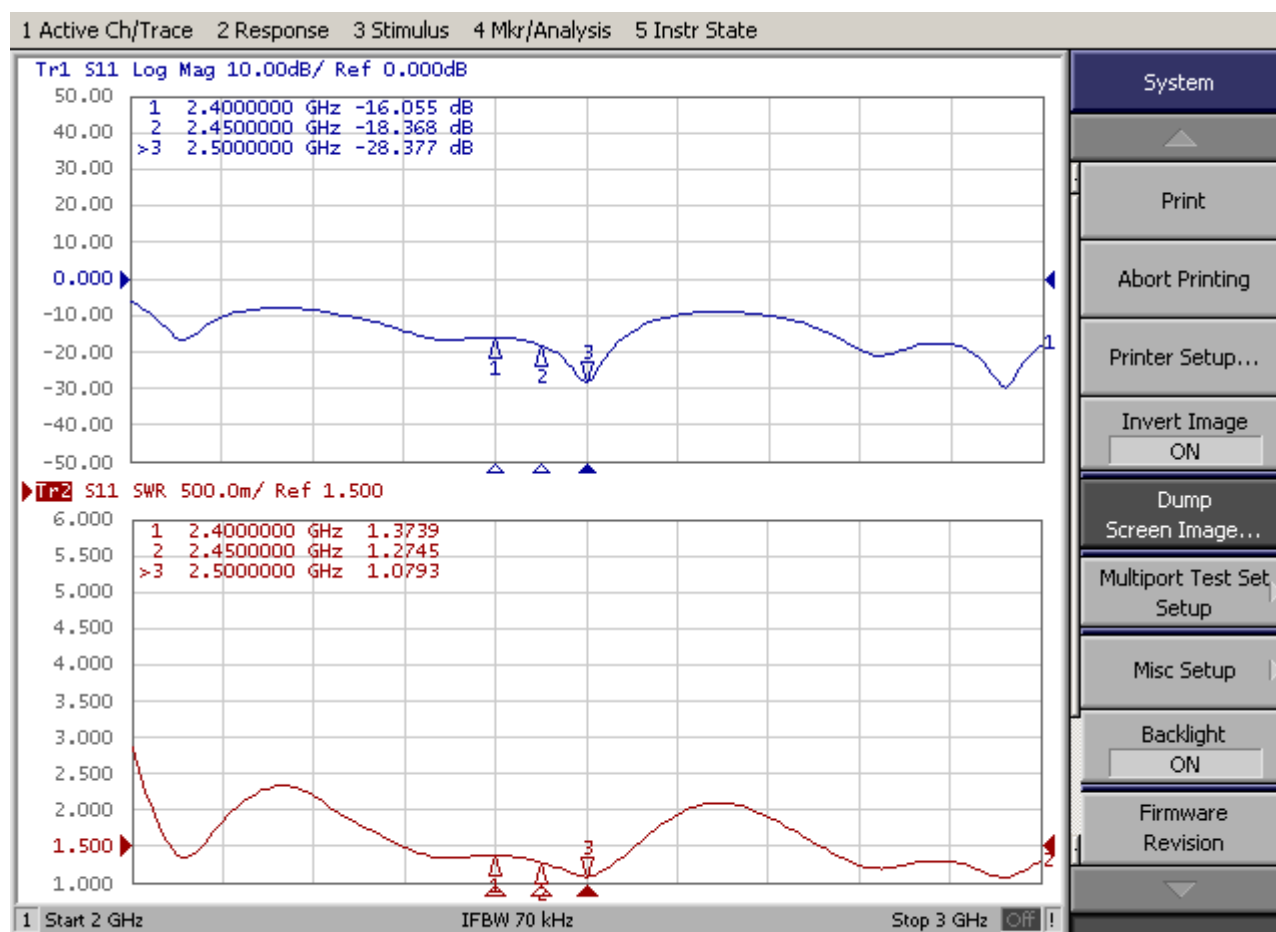
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M5	Torque Test 扭力	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal 單獨定義產品端子之順時針及逆時針扭力	1. Directive DUT specification 2. Frequency Tol. $\leq 5\%$ 符合待測物規範; 頻率偏移 $\leq 5\%$	PASS
M6	Dimension 尺寸	Inspection of dimension, color, material, package, surface process. 检查尺寸, 颜色, 材料, 包装, 表面處理	Directive DUT specification 符合待測物規範	PASS
E1	Waterproof 防水	With Reference to IEC 60529 // IP Code Definition 參考 IEC60529 IP 定義	Directive DUT specification 符合待測物規範	N/A
E2	Salt Spray 鹽霧	GB / T 2423.17-2008 Temp: 35°C; RH: $\geq 95\%$; NaCl solution: $\geq 5\%$; Time: 24H 溫度 35°C; 濕度 $\geq 95\%$; 鹽水濃度 $\geq 5\%$; 測試 24H	1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 無明顯外觀不良; 頻率偏移 $\leq 5\%$	PASS
E3	Temperature and Humidity Chamber 恒溫恒濕	GB / T 2423.3-2006 Temp: 80°C / 12 H; -40°C / 12H RH: $\geq 90\%$; Time: 24H 溫度 80°C 測試 12H 轉 -40°C 測試 12H; 濕度 $\geq 90\%$; 時間 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 恢復 2H 后, 無明顯外觀不良; 頻率偏移 $\leq 5\%$	PASS
E4	Thermal Shock 冷熱衝擊	GB / T 2423.22 - 2008 - 40° C (30 minutes) to + 80° C (30 minutes); Cycles: 24 - 40° C 測試 30 分轉 80° C 測試 30 分為一個週期; 共 24 週期	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 恢復 2H 后, 無明顯外觀不良; 頻率偏移 $\leq 5\%$	PASS
E5	Aging test 老化	GB / T 2423.2 - 2008 Temp: 80°C; Time: 24 hours 溫度 80° C, 測試 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 無明顯外觀不良; 頻率偏移 $\leq 5\%$	PASS
E6	High Temp. 高溫	Temp. 270 $\pm$ 10° C; Times: 120 seconds 溫度 270 $\pm$ 10° C, 測試時間 120 秒	No Visual Damage 無明顯外觀不良	N/A
R1	RoHS	With Reference to IEC 62321:2008 with flow chart 參考 IEC 62321 測試流程	Directive RoHS 2011/65/EU 符合 RoHS 2011/65/EU 標準	PASS
R2	PFOS	With Reference to USA EPA 3550C:1996 by LC/MS 參考 USA EPA 3550C 測試流程	Directive RoHS 2006/122/EC 符合 RoHS 2011/65/EU 標準	PASS

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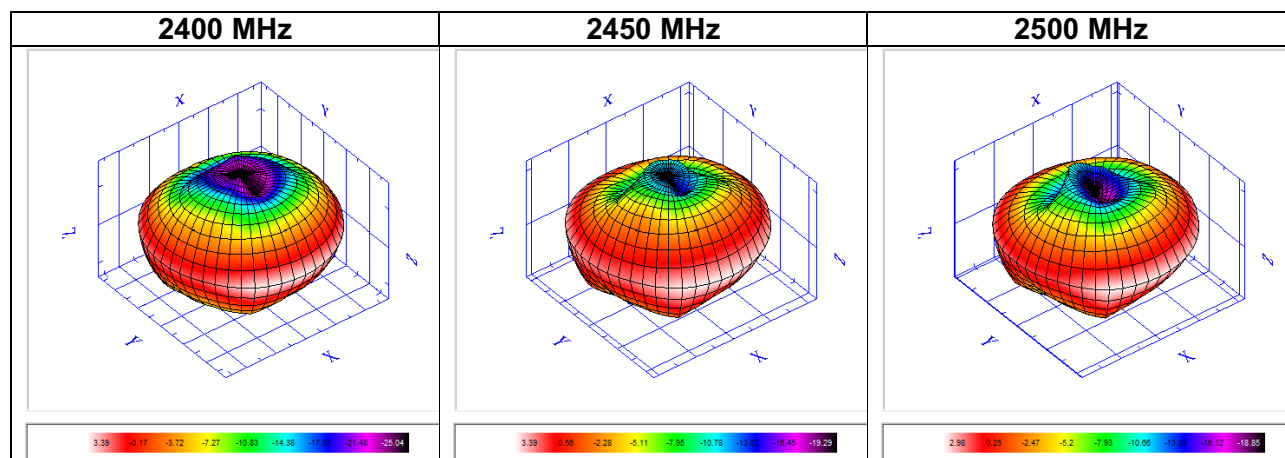
4. Antenna - S Parameter Test Data



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5. Antenna - Radiation Pattern Test Data



Frequency	2400	2450	2500
TRP (dBm)	-1.05	-0.95	-1.39
Peak EIRP (dBm)	3.39	3.39	2.98
NHPRP +/- 45 (degree)	-1.1	-1.01	-1.41
NHPRP +/- 30 (degree)	-1.23	-1.14	-1.63
E-Theta Peak Gain (dBi)	-10.83	-10.03	-8.99
E-Phi Peak Gain (dBi)	3.34	3.36	2.9
E-Total Peak Gain (dBi)	3.39	3.39	2.98
Directivity (dBi)	4.44	4.35	4.37
Efficiency (%)	78.45	80.3	72.61

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6. Mechanical Drawing

