

Product Number: AN2450-5006WRS

Product Name: Antenna



1. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz 5150 ~ 5850 MHz
S.W.R.	≤ 2.0 @ 2400 ~ 2500 MHz ≤ 2.0 @ 5150 ~ 5850 MHz The data is tested with 1M cable
Peak Gain	1.92 dBi @ 2400 ~ 2500 MHz 3.40dBi @ 5150 ~ 5850 MHz
Efficiency	70 % @ 2400 ~ 2500 MHz 85 % @ 5150 ~ 5850 MHz
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Material of Plastic	Body: TPEE Hinge: ABS Holder: ABS
Cable Type	RG-178
Connector Type	SMA Male Reverse
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C

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2. 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	OK
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	OK
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 $\leq 5\%$	OK
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 $\leq 5\%$	OK
		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		OK
		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	GB / T2423.28-2005	Tin evenly on full	N/A

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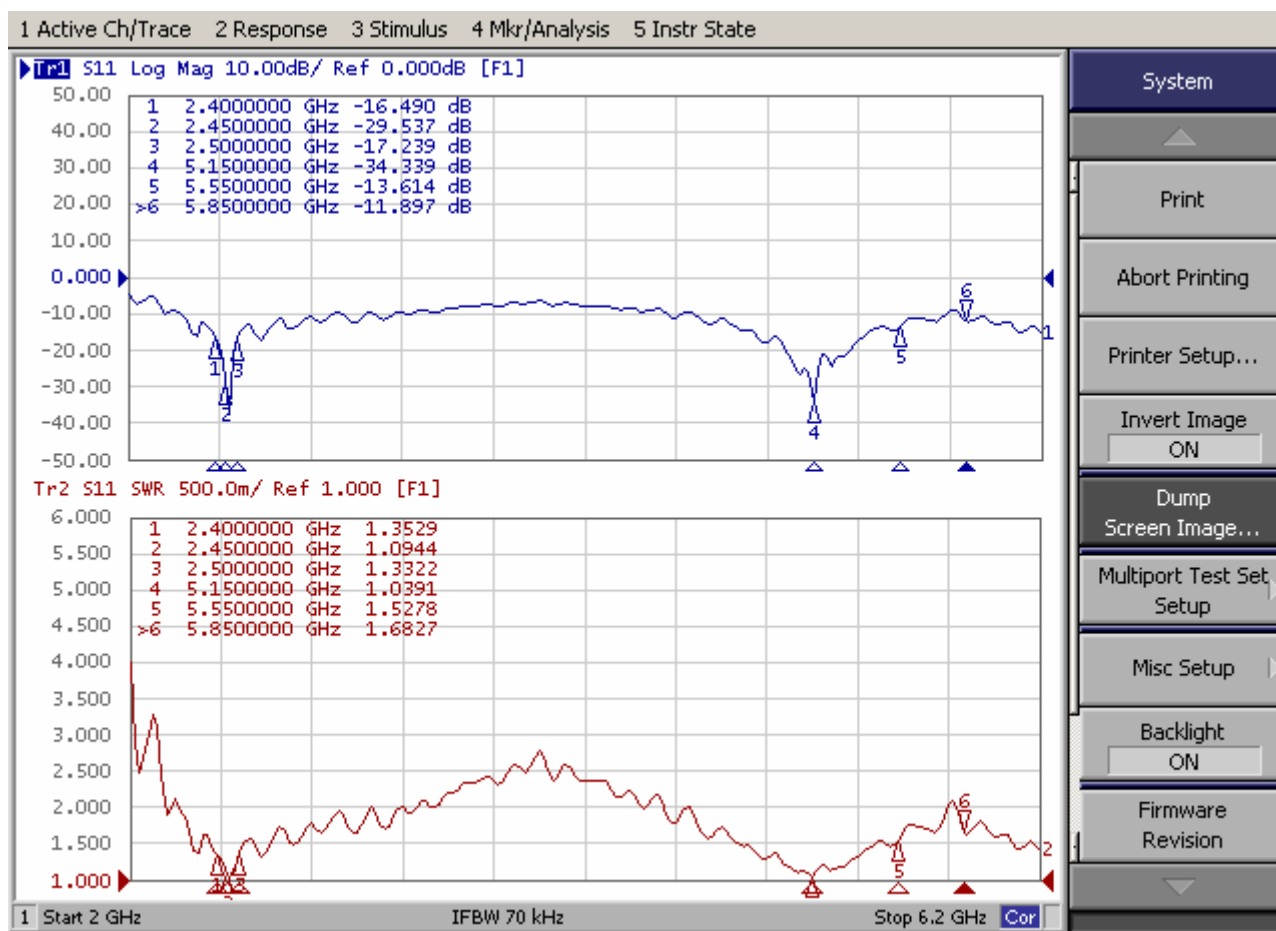
	可焊性	Temp: 260±5° C;Duration: 5 seconds 溫度 260±5° C;持續 5 秒	上錫均勻飽滿	
M4	Pull Test 拉力	Holding with individual specification; force applied to axis of terminal .單獨定義產品端子拉力	1. Directive DUT specification 2. Frequency Tol.≤5% 符合待測物規範;頻率偏移≤5%	OK
M5	Torque Test 扭力	Holding with individual specification; applied 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.≤ 5% 符合待測物規範;頻率偏移≤5%	OK
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	OK
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: ≥ 95%; NaCl solution: ≥ 5%;Time: 24H 溫度 35°C ; 濕度≥95%;鹽水濃度≥5% ; 測試 24H	1. No Visual Damage 2. Frequency Tol.≤5% 無明顯外觀不良;頻率偏移≤5%	OK
E3	Temperature and Humidity Chamber 恒溫恒濕	GB / T 2423.3-2006 Temp: 80°C / 12 H; -40°C / 12H RH: ≥ 90%; Time: 24H 溫度 80°C 測試 12H 轉-40°C 測試 12H; 濕度≥ 90% ; 時間 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.≤5% 恢復 2H 后, 無明顯外觀不良;頻率偏移≤5%	OK
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 分爲一個週期; 共 24 週期	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.≤5% 恢復 2H 后, 無明顯外觀不良;頻率偏移≤5%	N/A
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.≤5% 無明顯外觀不良;頻率偏移≤5%	OK
E6	High Temp. 高溫	Temp. 270±10°C ; Times : 120 seconds 溫度 270±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	OK
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	OK

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3. Antenna - S Parameter Test Data

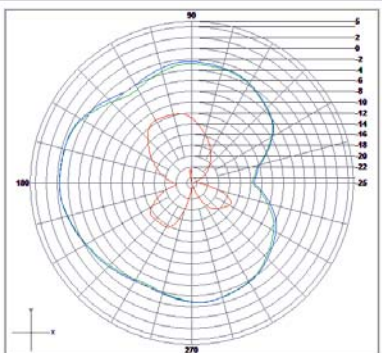
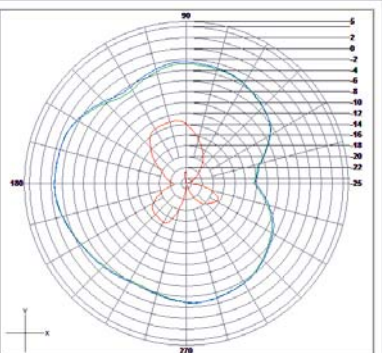
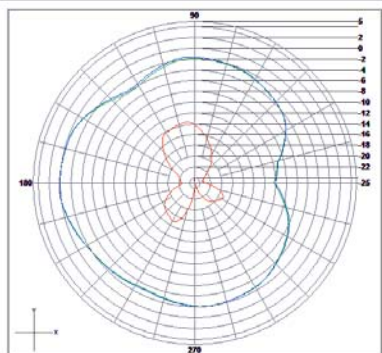
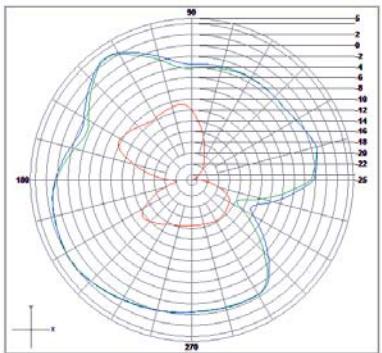
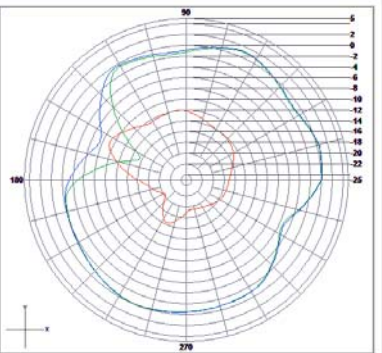
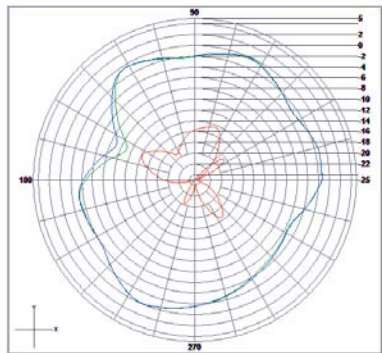


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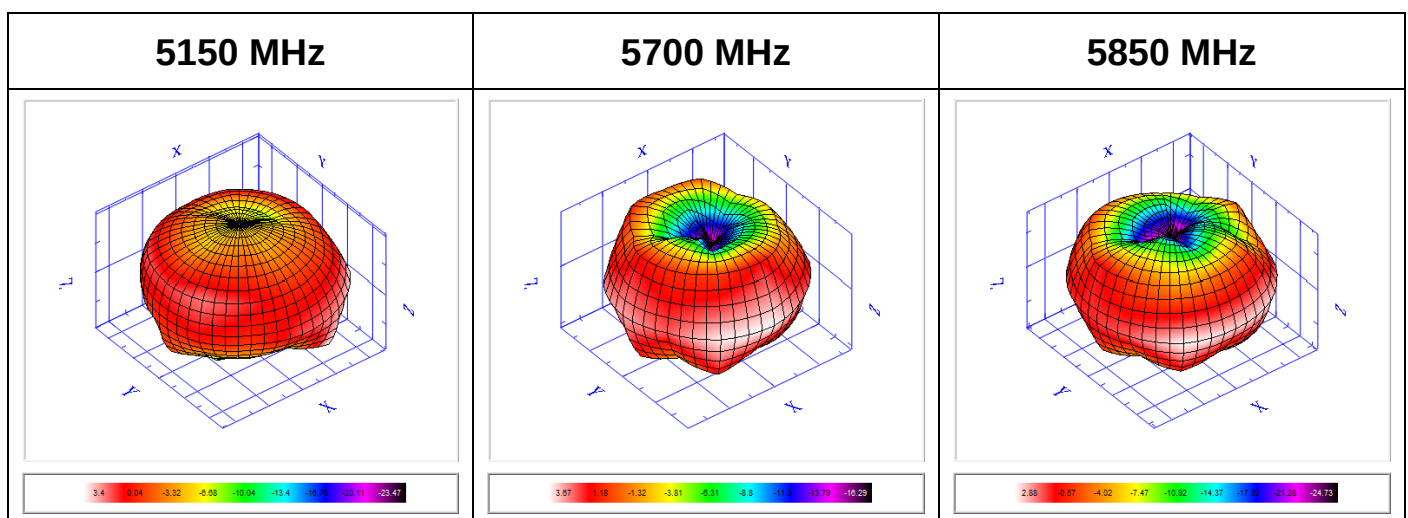
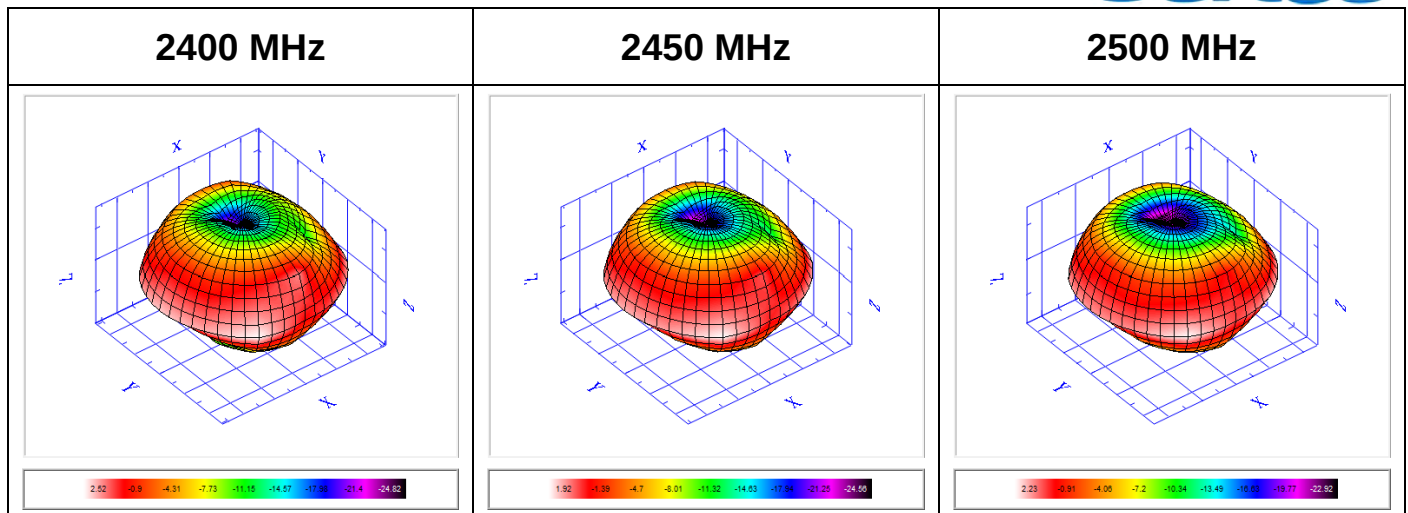


4. Antenna - Radiation Pattern Test Data

2400 MHz	2450 MHz	2500 MHz																																				
X-Y Plane	X-Y Plane	X-Y Plane																																				
 <table><tr><th></th><th>Vertical</th><th>Horizontal</th><th>Total</th></tr><tr><td>Avg. Gain</td><td>-16.36</td><td>-3.55</td><td>-3.33</td></tr><tr><td>Peak Gain</td><td>-11.42</td><td>-0.38</td><td>-0.35</td></tr></table>		Vertical	Horizontal	Total	Avg. Gain	-16.36	-3.55	-3.33	Peak Gain	-11.42	-0.38	-0.35	 <table><tr><th></th><th>Vertical</th><th>Horizontal</th><th>Total</th></tr><tr><td>Avg. Gain</td><td>-17.79</td><td>-3.57</td><td>-3.41</td></tr><tr><td>Peak Gain</td><td>-13.18</td><td>-0.53</td><td>-0.51</td></tr></table>		Vertical	Horizontal	Total	Avg. Gain	-17.79	-3.57	-3.41	Peak Gain	-13.18	-0.53	-0.51	 <table><tr><th></th><th>Vertical</th><th>Horizontal</th><th>Total</th></tr><tr><td>Avg. Gain</td><td>-18.23</td><td>-2.67</td><td>-2.55</td></tr><tr><td>Peak Gain</td><td>-13.38</td><td>0.22</td><td>0.24</td></tr></table>		Vertical	Horizontal	Total	Avg. Gain	-18.23	-2.67	-2.55	Peak Gain	-13.38	0.22	0.24
	Vertical	Horizontal	Total																																			
Avg. Gain	-16.36	-3.55	-3.33																																			
Peak Gain	-11.42	-0.38	-0.35																																			
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	Vertical	Horizontal	Total																																			
Avg. Gain	-18.23	-2.67	-2.55																																			
Peak Gain	-13.38	0.22	0.24																																			
5150 MHz	5700 MHz	5850 MHz																																				
X-Y Plane	X-Y Plane	X-Y Plane																																				
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Avg. Gain	-18.22	-2.27	-2.16																																			
Peak Gain	-13.63	0.13	0.18																																			

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Freq (MHz)	Effi (%)	Gmin (dBi)
2400	48.75	1.26
2450	42.27	1.92
2500	43.05	1.83
5150	52.77	2.29
5350	54.20	2.49
5500	50.12	2.54
5650	51.88	2.02
5750	46.89	2.99
5850	53.05	3.40

5. Mechanical Drawing
See attached files

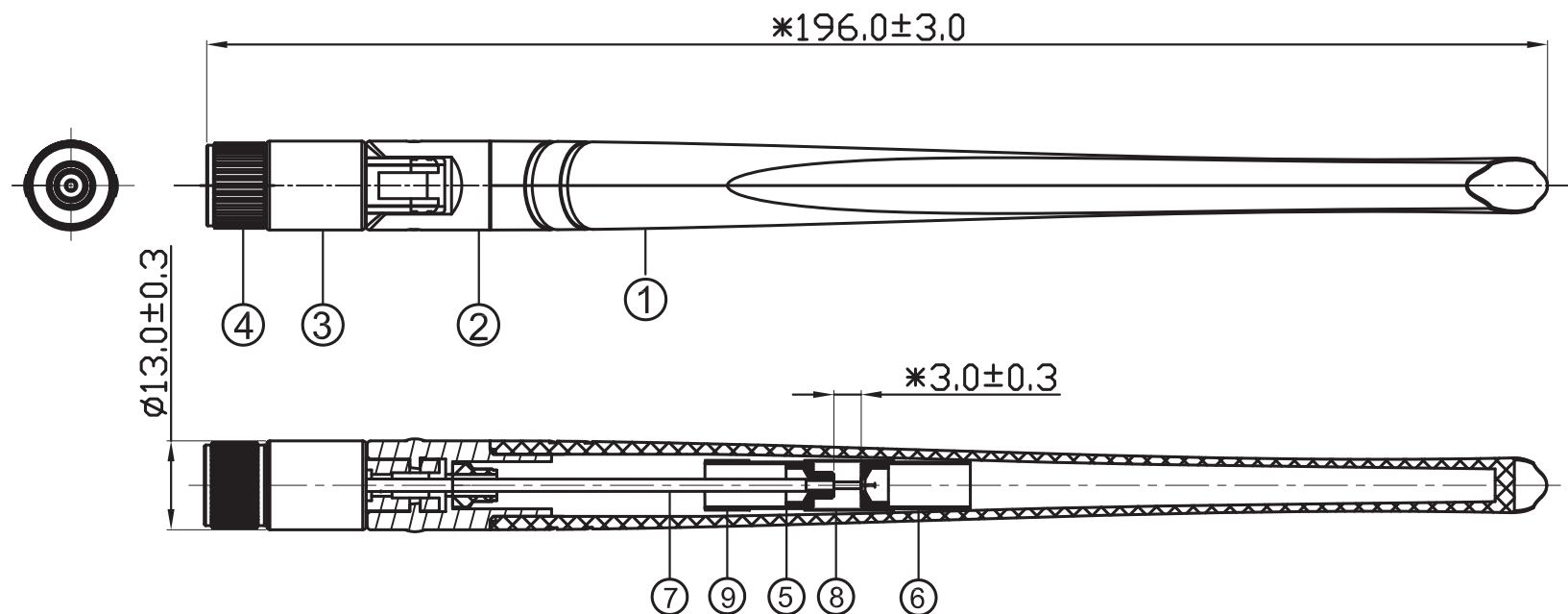
6. Material Description and RoHS Test Report
See attached files

RoHS

Compatible



SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



備註:

1. 未注公差參照標準公差,
2. 注*尺寸為重點管控尺寸.

9	R-GS-SP2001001	泡棉	EVA	20*10mm	1
8	R-HSTUBE-070W	熱縮套管 (白色)	HSTUBE	φ7.0*16.0mm	1
7	R-RG178U-03	線材	RG178	L=90.0mm	1
6	ASM-TUBE-682010	銅管+銅帽	銅	φ6.8*20.0mm	1
5	ASM-TUBE-68235175	銅管+銅帽	銅	φ6.8*23.5mm	1
4	SMA309-CPR5ANT-W13	SMA公頭母針	POM	白色	1
3	AN0304-T07W13	連接頭	ABS	白色	1
2	AN9201-07W13	連接筒	ABS	白色	1
1	BODY-AN50-01W13	天線塑膠外套	TPEE	白色	1
No.	Part Number	Description	Material	Finished	Q'ty

Invax System Group.			Cortec Technology Inc.		
Cortec			Http://www.invaxsystem.com		Tel :886-2-27885218
			E-mail:info@invax.com.tw		Fax:886-2-27831658
TITLE: 2.4/5GHz Antenna					
PART NO.: AN2450-5006WRS			CUSTOMER P/N: /		
APP BY	CHK BY	RF BY	DES BY		Tolerance
Grant	Jack		張耿銳	UNITS: mm	X.X ±0.3
2014.12.11	2014.12.11		2014.12.11	SCALE: 1/1	X.XX ±0.2
				REVISION: A	X° ±1

Date: 2014.12.10

Part Number : AN2450-5006WRS	Revision : A
Name: 2.4/5GHz Antenna	Customer : All

1.Enter OPP bag ◦

R-STI-BAG-25040
1PCS/bag

R-NIP-BAG-250320
50PCS/bag

2.PACKING ◦

SIZE:29.0x23.0x32.5cm
300PCS/CARTON

3. SEALING ◦

SIDE

FRONT

APPROVED BY : _____ CHECKED BY : _____ DESIGNED BY : ZGR

SGS 台灣網站 → http://twap.sgs.com/sgsrsts/chn/cheres_tw.asp
 SGS 大陸網站 → http://rsts.cn.sgs.com/chn/cheres_cn.asp
 SGS 韓國網站 → http://rohs.kr.sgs.com/sgsrsts/en/cheres_en.asp

COR/F-G-47a

請輸入以下報告正確資料及檢查碼以便查核

1. 報告編號
2. 報告日期 (YYYY/MM/DD)
3. 產品名稱 (輸入前 10 個字不含空白)
4. 圖示檢查碼 (依指示畫面)



物料中HSF對象物質含量調查表

康捷電子有限公司	
填表：	時麗
部門：	研發部
職務：	文員

物料名稱：AN2450-5006WRS

序號	物料型號	物料各構成名稱	各構成物料的材料	測試報告裡RoHS對應物質測試結果						檢測報告編號	測試日期	測試名稱	測試機構名稱
				Cd	Pb	Hg	Cr(VI)	PBBs	PBDEs				
1	BODY-AN50-01W13	Body1	TPEE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANML1702363001	2017.02.27	TPEE	SGS
2	AN9201-07W13	Body2	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SCL01J017327001E	2017.03.28	BS塑膠粒	CTI
3	AN0304-T07W13	Body3	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SCL01J017327001E	2017.03.28	BS塑膠粒	CTI
4	SMA309-CPR5ANT-W13	SMA Male Reverse	銅	19	26246	N.D.	N.D.	N.D.	N.D.	SHAMLP1702061602	2017.02.16	鉛黃銅棒.	SGS
5			POM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	KA201740749	2017.04.19	POM	SGS
6	ASM-TUBE-68235175 ASM-TUBE-682010	Tube	銅	N.D.	17	N.D.	N.D.			CANEC1722589401	2017.11.15	(C2700)H65.	SGS
7		Copper Hat	銅	19	26246	N.D.	N.D.	N.D.	N.D.	SHAMLP1702061602	2017.02.16	鉛黃銅棒.	SGS
8	R-HSTUBE-070W	白色套管	XLPE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	A001R20170824018-3	2017.08.28	熱縮套管	鑫宇環
9	R-GS-SP2001001	EVA	EVA	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1705835501	2017.04.14	EVA(EVA+gum).	SGS
10	R-RG-178U-03	線材	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	NGBML1800155002	2018.01.17	聚全氟乙丙烯樹脂.	SGS
11			PTFE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	NGBML1800151702	2018.01.16	聚四氟乙烯分散樹脂.	SGS
12			鍍銀銅	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SHAEC1703852402	2017.03.16	鍍銀圓銅線.	SGS
13			鍍錫銅	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ECL01J018689001C	2017.04.08	鍍錫圓銅線	CTI

根據測試報告如實填寫鉛、鎘、汞、六價鉻、PBBs和PBDEs六項禁用物質的含量

包裝材料中鉛、鎘、汞、六價鉻總含量不超過100ppm，鎘的允許濃度為5ppm

歐盟ROHS指令豁免條款2009/95/BC、鋼中合金元素中的鉛含量達0.35%、鉛含量達0.4%、銅合金中的鉛含量達4%