

Product Number: AN2450-33BS01BRARS
Product Name: Antenna



Specification For Approval

Date: 2024 / 08 / 01

File No.: 240801002

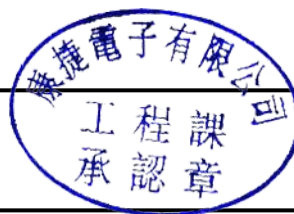
Version: 1.0

Customer : ZW

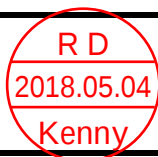
Customer P/N : /

INVAX P/N : AN2450-33BS01BRARS

Description : Antenna



Cortec Checked By:



Customer Approved By:



INVAX System Technology Corp.
4F. No. 815.Chung Hsiao East Rd.,Sec.5
Taipei, TAIWAN

TEL:886-2-2788-5218 FAX:886-2-2783-1658
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1. Revision History

Revision	Date	Change Notification	Description
1.0	2024.08.01	初版	

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2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz 5150 ~ 5850 MHz
V.S.W.R.	≤ 2.0 @ 2400 ~ 2500 MHz ≤ 2.3 @ 5150 ~ 5850 MHz The data is tested with 1M cable
Peak Gain	2.42 dBi @ 2400 ~ 2500 MHz 5.33 dBi @ 5150 ~ 5850 MHz
Radiation Pattern	Omni-Directional
Max Input Power	≥ 2 W
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	PCB
Material of Plastic	PP
Cable Type	RG178-03
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		N/A
		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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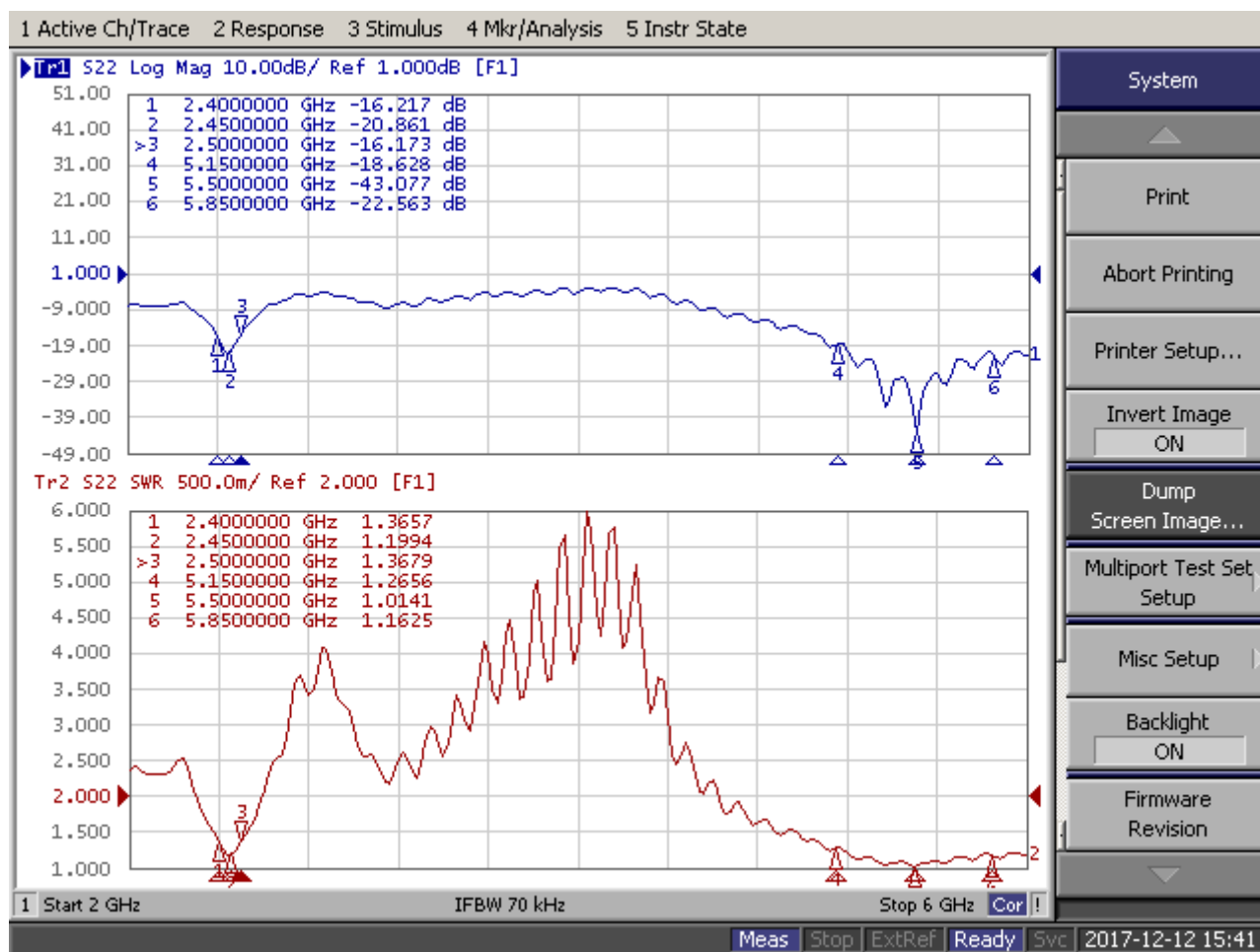
	可焊性	Temp: 260±5° C;Duration: 5 seconds 溫度 260±5° C;持續 5 秒	上錫均勻飽滿	
M4	Pull Test 拉力	Holding with individual specification; force applied to axis of terminal .單獨定義產品端子拉力	1. Directive DUT specification 2. Frequency Tol.≤5% 符合待測物規範;頻率偏移≤5%	PASS
M5	Torque Test 扭力	Holding with individual specification; applied 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%	N/A
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: ≥ 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%	N/A
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%	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.≤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%	PASS
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	PASS

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4. Antenna - S Parameter Test Data

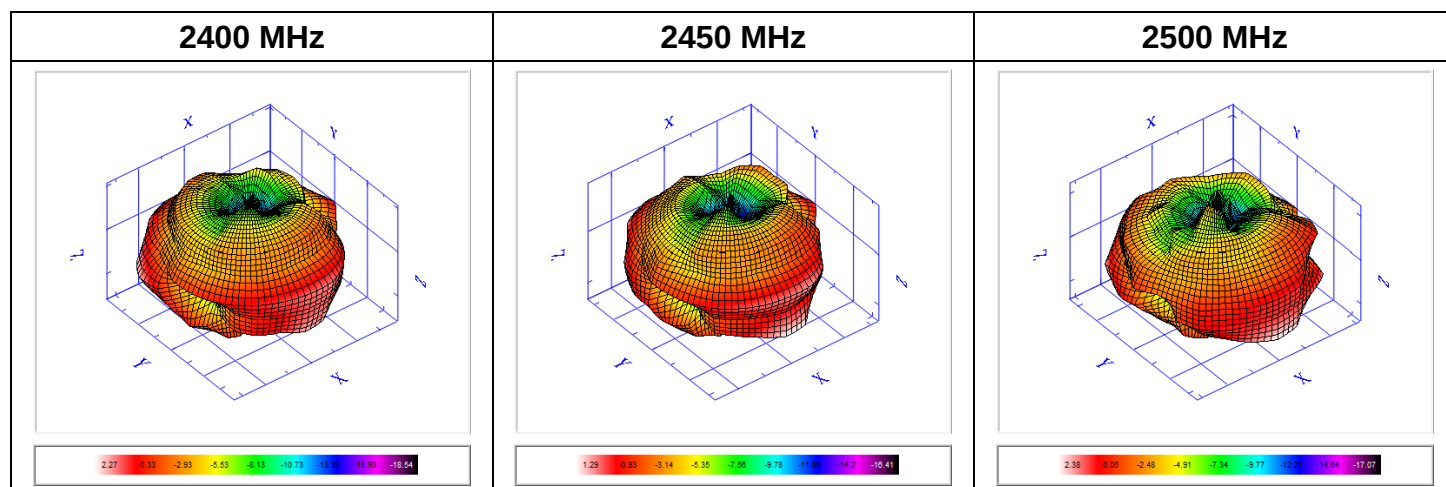


Product Number: AN2450-33BS01BRARS

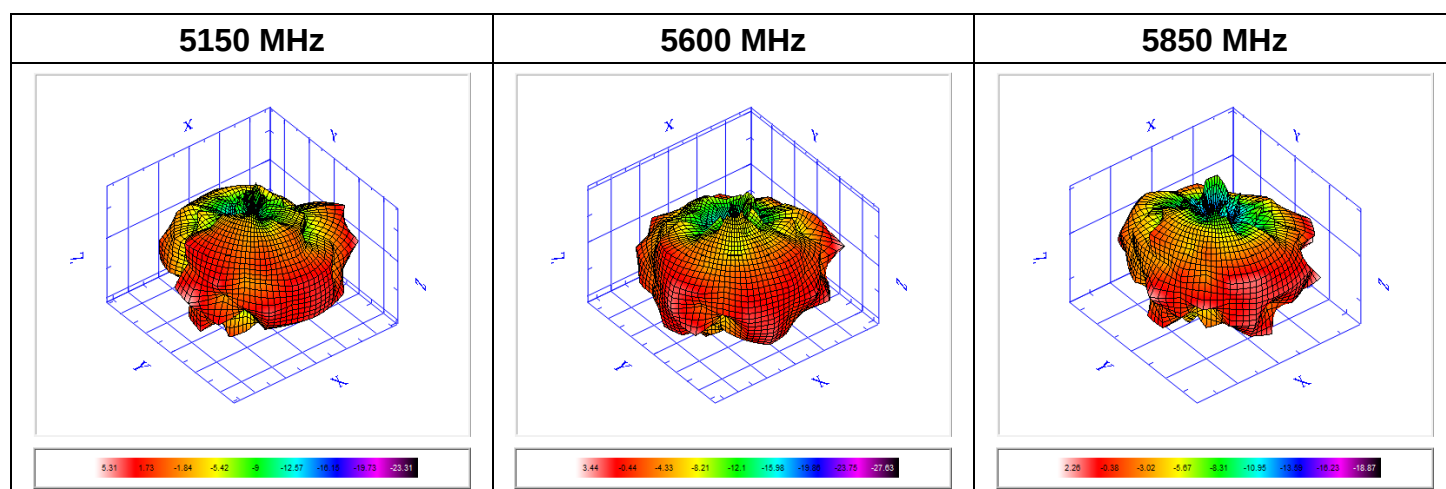
Product Name: Antenna



5. Antenna - Radiation Pattern Test Data



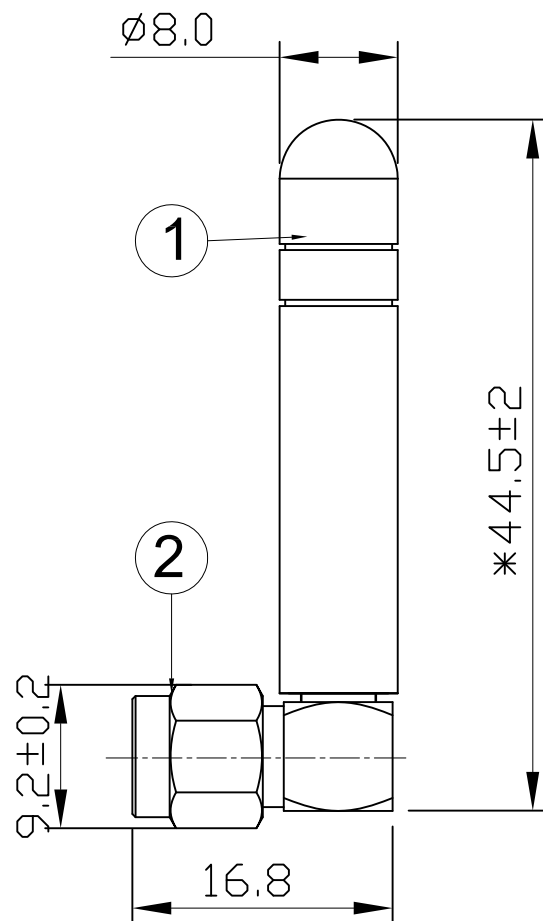
Frequency	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
E-Total Peak Gain (dBi)	2.27	2.31	2.02	1.52	1.09	1.29	1.72	2.11	2.34	2.42	2.38
Efficiency (%)	49.12	47.19	49.33	49.3	45.74	46.09	45.84	47.58	52.1	50.88	50.75
Average Gain (dB)	-3.09	-3.26	-3.07	-3.07	-3.4	-3.36	-3.39	-3.23	-2.83	-2.93	-2.95



Frequency	5150	5250	5350	5470	5600	5700	5725	5785	5800	5850
E-Total Peak Gain (dBi)	5.31	4.21	3.87	5.33	3.44	4.54	3.89	3.73	2.23	2.26
Efficiency (%)	70.43	62.27	59.16	69.21	46.89	59.98	63.95	51.23	45.24	42.95
Average Gain (dB)	-1.52	-2.06	-2.28	-1.6	-3.29	-2.22	-1.94	-2.9	-3.44	-3.67

RoHS

Compatible

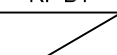


備註

1. 未標註公差參照標準公差。
2. 標 "※" 的尺寸為重點控制尺寸。

2	SMA342-ZGR5A33BS	SMA 90° 公头母针	铜+锌合金	镀金	1
1	BODY-AN33BS-01B	本体	PP	黑色	1
NO.	Part Nubmer	Description	Material	Finished	Q'ty

SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			

Invax System Group.			Cortec Technology Inc.		
Cortec			Http://www.invaxsystem.com E-mail:info@invax.com.tw		
			Tel :886-2-27885218 Fax:886-2-27831658		
TITLE: 2.4GHz/5GHz Antenna					
PART NO.: AN2450-33BS01BRARS					
APP BY	CHK BY	RF BY	DES BY		Tolerance
Grant	kenny		wangwei	UNITS: mm	X.X ±0.5
2018/05/04	2018/05/04		2018/05/04	SCALE: 2/1	X.XX ±0.3
			REVISION: A	X° ±1	

Date: 2018/05/04

Page: 1 of 1

Part Number : AN2450-33BS01BRARS

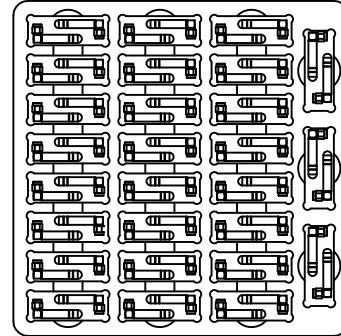
Revision : A

Name: 2.4GHz/5GHz Antenna

Customer : ALL



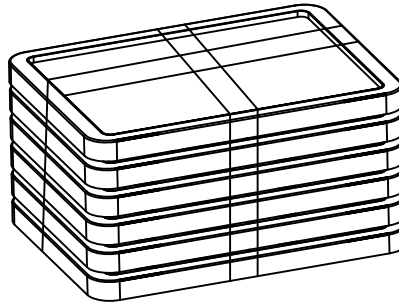
1. 將產品放入吸塑罩，54PCS/盤



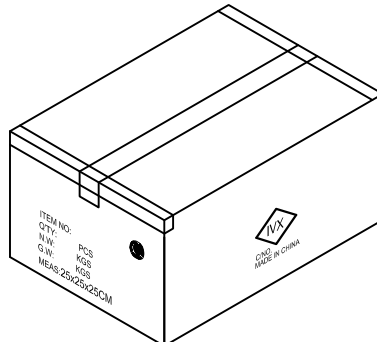
PM-AN33BS-2525P



2. 25盤(1350PCS)用PE膜扎好



3. 封箱，1350PCS每箱



R-OTT-C-252525

APPROVED BY : GrantCHECKED BY : kennyDESIGNED BY : wangwei

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：AN2450-33BS01BRARS

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	DBP	BBP	DIBP	DEHP				
1	SMA342-ZGR5A33BS	SMA90度公头母针	銅	24	28333	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANPC24009508910	2024.05.17	黃銅棒C3604	SGS
			鋅合金	4	21	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC24003196402	2024.03.04	HX 3# 鋅合金	SGS
			鍍金	N.D.	10	N.D.	N.D.							SZXEC23001825401	2023.08.11	鍍金	SGS
2	/	PCB	FR4	N.D.	8	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC23010851105	2023.10.11	FR-4.0 CCL&insulating	SGS
3	BODY-AN33BS-01B	Body	PP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	FS2024030017-77C	2024.03.13	聚炳烯	STQ

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2015/863/EU、鋼中合金元素中的鉛含量達0.35%、鋁含量達0.4%、銅合金中的鉛含量達4%