

Product Number: AGP-I240501SMR

Product Name: Antenna

Address: No. 16, Lane 167, Jing an Rd., Jhonghe Dist., New Taipei City 23571, Taiwan

Manufacturer: APM Co Ltd



Specification For Approval

Date: 2018 / 02 / 26

File No.: 180226003

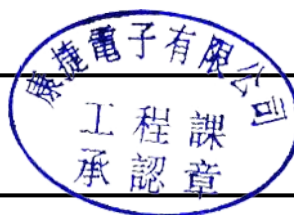
Version: 1.0

Customer : _____

Customer P/N : /

INVAX P/N : AGP-I240501SMR

Description : Antenna



Cortec Checked By:



Customer Approved By:



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1. Revision History

Revision	Date	Change Notification	Description
1.0	2018.02.26	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 ≤ 3.0 @ 5150 ~ 5850 MHz The data is tested with 1M cable
Peak Gain	2.48 dBi @ 2400 ~ 2500 MHz 2.0 dBi @ 5150 ~ 5850 MHz
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	CU
Material of Plastic	ABS / POM
Cable Type	RG-178U
Connector Type	SMA Male Reverse
C. Environmental	
Operation Temperature	- 40 °C ~ + 70 °C
Storage Temperature	- 40 °C ~ + 80 °C
Antenna Color Storage life	≤ 2 year

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3. Characteristics and Reliability Test

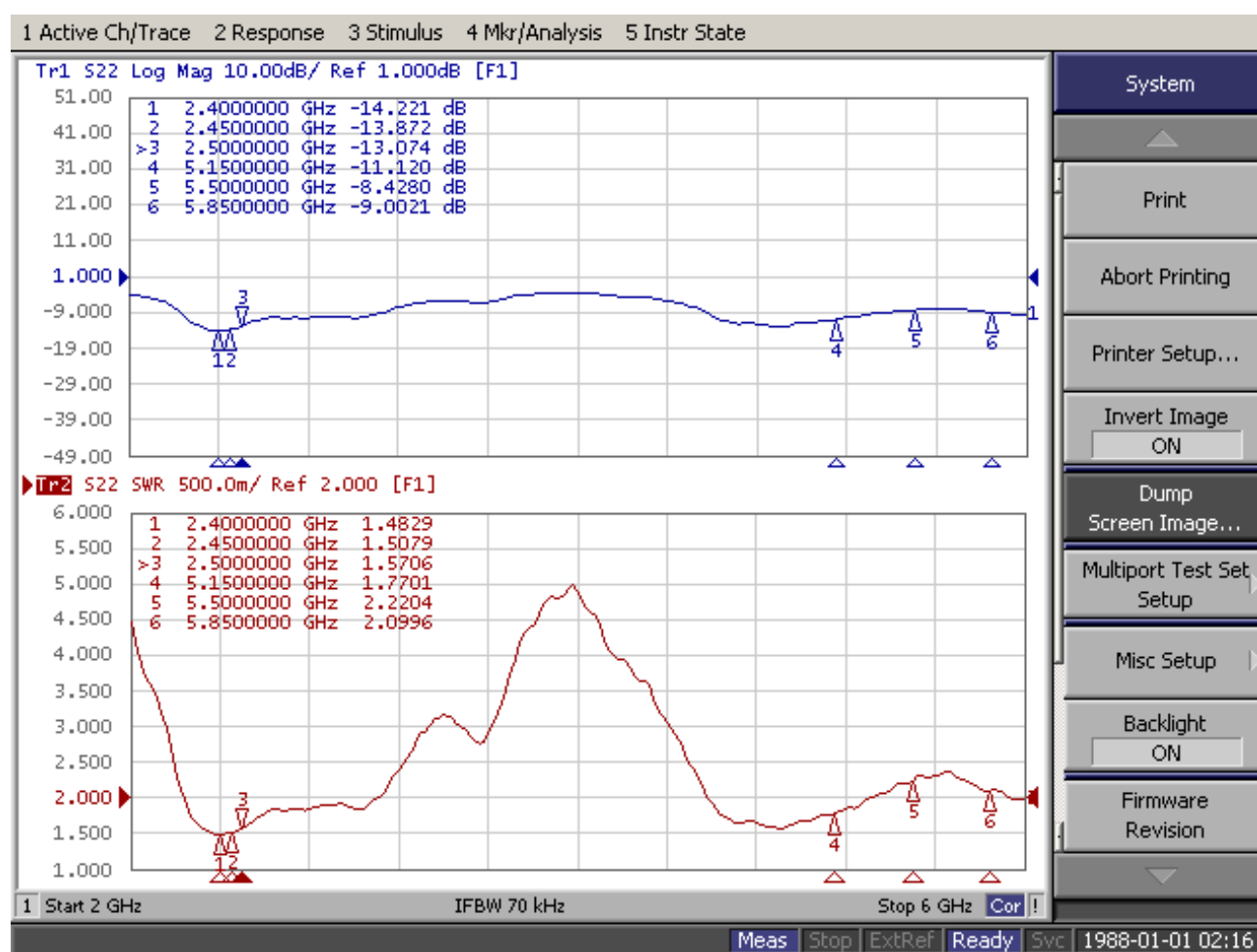
Test Items 測試項目		Test Condition and Procedure 測試方法	Requirements 要求	Result 結果
C1	V.S.W.R. 電壓駐波比	Set DUT on Network Analyzer; make individual calibration to test 設置網路分析儀參數進行測試	Directive DUT specification 符合待測物規範	PASS
C3	Antenna Gain 天線增益	Set DUT on Antenna Chamber; make individual calibration to test 設置天線暗室參數進行測試	Directive DUT specification 符合待測物規範	PASS
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.≤5% 無明顯外觀不良;頻率偏移≤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.≤5% 產品無脫落、斷裂;頻率偏移≤5%	PASS
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%	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
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%	PASS
E5	Aging test 老化	GB / T 2423.2 - 2008 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage	PASS

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		溫度 80°C，測試 24H	2. Frequency Tol.≤5% 無明顯外觀不良;頻率偏移≤5%	
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

4. Antenna - S Parameter Test Data

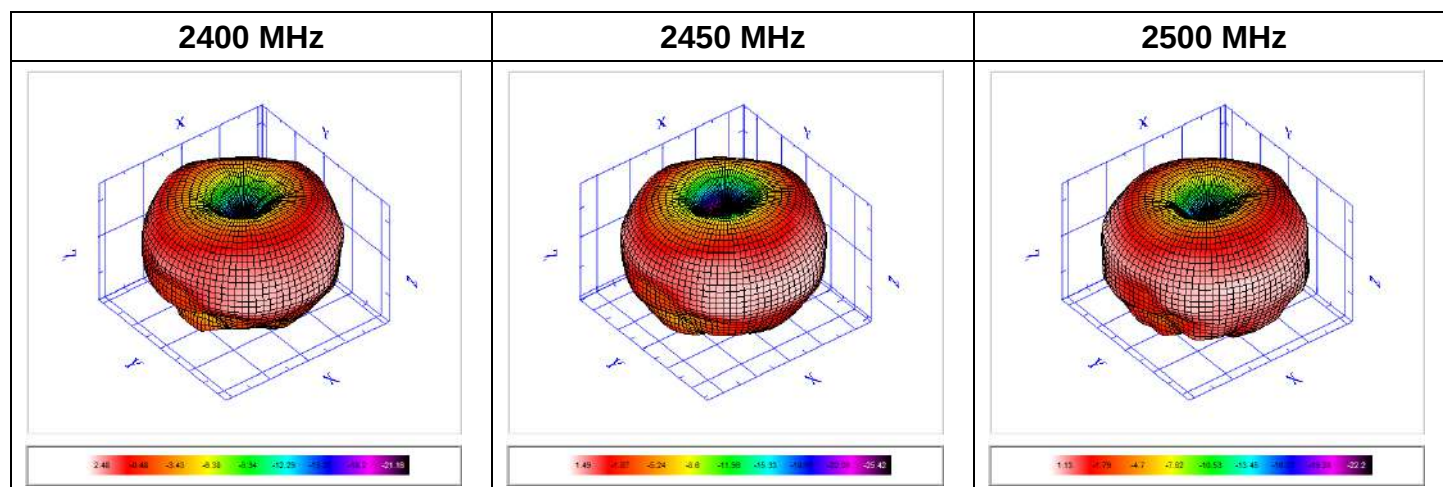


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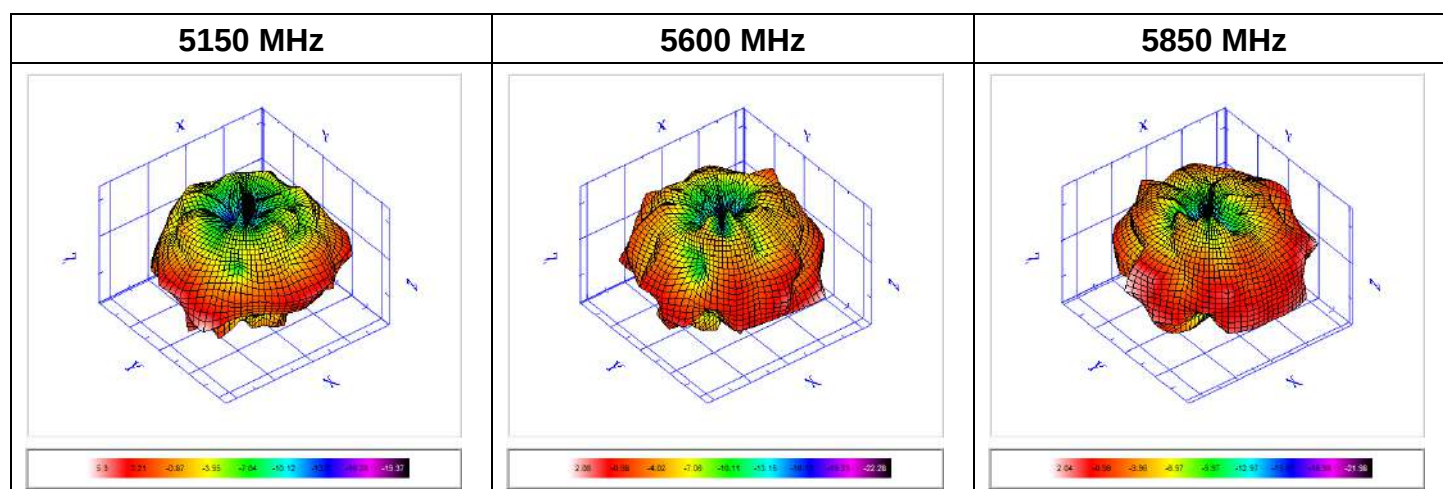
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5. Antenna - Radiation Pattern Test Data



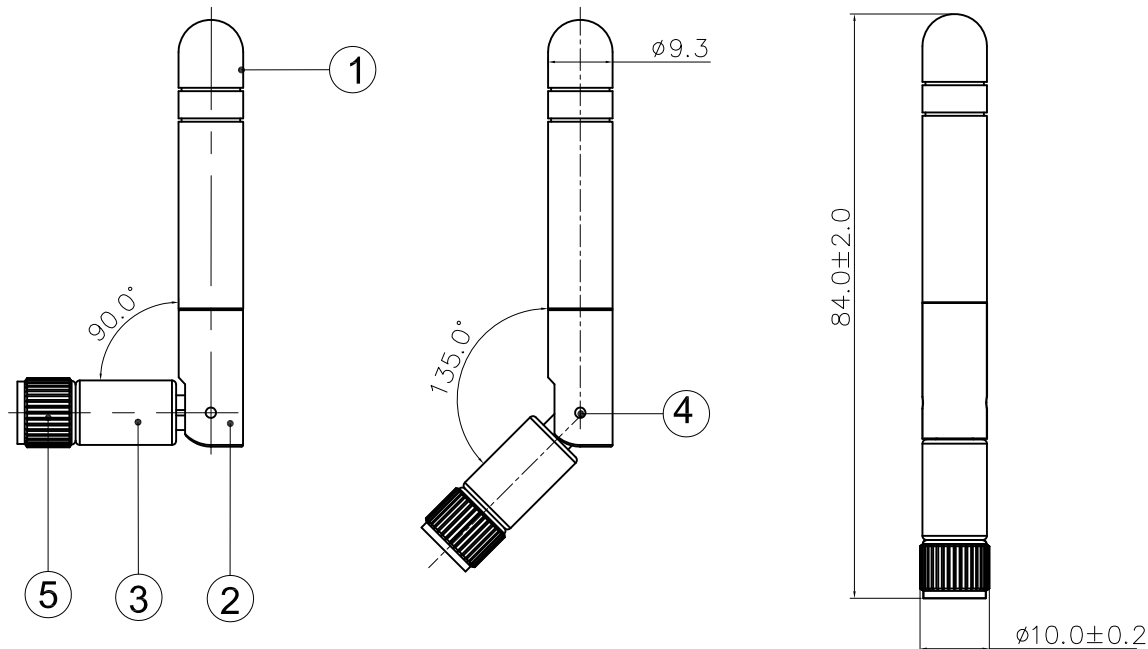
Frequency	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
E-Total Peak Gain (dBi)	2.48	2.14	2.34	2.11	1.72	1.49	1.34	1.57	1.7	1.41	1.13
Efficiency (%)	77.41	77.24	82.11	81.85	77.49	75.3	74.53	74.79	77.66	71.83	69.9
Average Gain (dB)	-1.11	-1.12	-0.86	-0.87	-1.11	-1.23	-1.28	-1.26	-1.1	-1.44	-1.56



Frequency	5150	5250	5350	5470	5600	5700	5725	5785	5800	5850
E-Total Peak Gain (dBi)	5.3	2.57	2.28	1.68	2.06	0.77	0.05	1.28	1.39	2.04
Efficiency (%)	62.43	47.12	45.42	32.22	38.26	27.45	29.96	37.99	36.87	42.96
Average Gain (dB)	-2.05	-3.27	-3.43	-4.92	-4.17	-5.62	-5.24	-4.2	-4.33	-3.67

RoHS

Compatible



Note:

1.Take " * "is the important dimension.

2.Tolerance:Unmarked tolerance refer to the standard tolerance please.

5	SMA805-CBR5A57-A	SMA公头母针	C3604	黑色	1
4	RVT-AN55-01PB	定位柱	POM	黑色	2
3	BODY1-AN57-01B	連接頭	ABS	黑色	1
2	HINGE-AN57-07B	連接筒	ABS	黑色	1
1	BODY-AN57C-01B	塑膠本體	ABS	黑色	1
NO.	Part Number	Description	Material	Finish	Q'ty

TITLE: Antenna					
PART NO.: AGP-I240501SMR			CUSTOMER P/N: /		
APP BY	CHK BY	RF BY	DES BY		Tolerance
Grant	Kenny	SF	HC		X.X ±0.5
2018/02/23	2018/02/23	2018/02/23	2018/02/23		X.XX ±0.2
				UNITS: mm	X° ±1
				SCALE: 1/1	
				REVISION: A	