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Product Number: AB2400-7702BSM

Product Name: Antenna



## 1. Revision History


Revision	Date	Change Notification	Description
1.0	2015.01.27	初版	

Product Number: AB2400-7702BSM

Product Name: Antenna



## 2. Specification

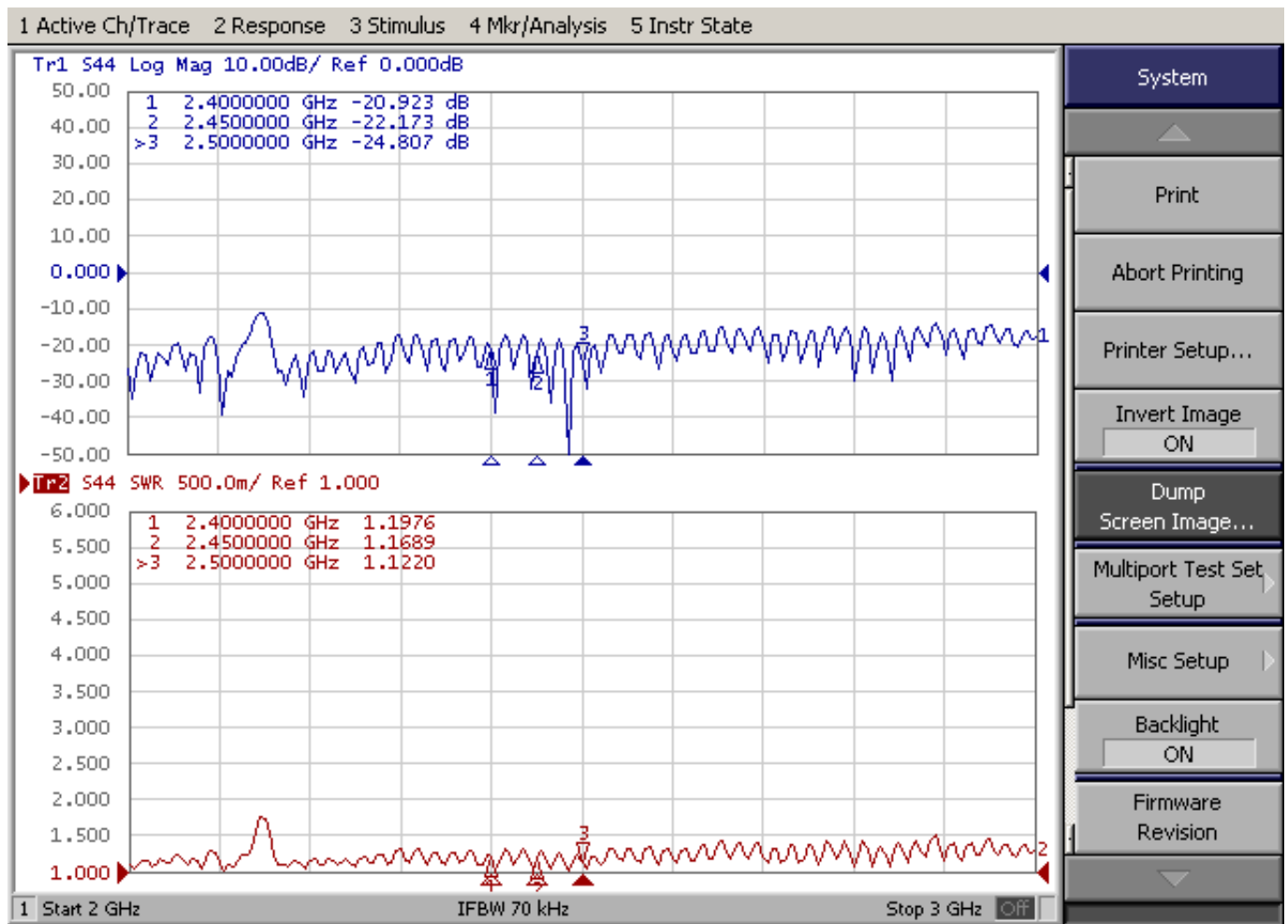
Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400~ 2500 MHz
S.W.R.	$\leq 2.0$
Antenna Gain	$-3.5 \pm 0.7\text{dBi}$
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	PCB
Material of Plastic	Body: ABS
Cable Type	RG-174
Connector Type	SMA Male
Connector Pull Test	$\geq 3\text{ Kg}$
C. Environmental	
Operation Temperature	$- 40\text{ }^{\circ}\text{C} \sim + 65\text{ }^{\circ}\text{C}$
Storage Temperature	$- 40\text{ }^{\circ}\text{C} \sim + 80\text{ }^{\circ}\text{C}$

### 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	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. 在絕緣部分測試電壓,或指定接地面之間	Max Voltage $\geq$ 500 V or directive material specification 最大電壓 $\geq$ 500V 或符合材料規範	N/A
C5	Insulation Resistance 絕緣阻抗	Set Voltage: 500 $\pm$ 50V; between the insulated portions, or between ground as specified. 設置電壓 500 $\pm$ 50V,在絕緣部份測試或指定接地面之間	Resistance $\geq$ 500 M ohm or directive material specification 阻抗 $\geq$ 500M 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%	N/A
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 可焊性	GB / T2423.28-2005 Temp: 260±5° C; Duration: 5 seconds 溫度 260±5° 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. ≤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%	N/A
M6	Dimension 尺寸	Inspection of dimension, color, material, package, surface process. 檢查尺寸, 顏色, 材料, 包裝, 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

#### 4. Antenna - S Parameter Test Data



#### 5. Antenna - Radiation Pattern Test Data

#### 6. Mechanical Drawing

See attached files

#### 7. Material Description and RoHS Test Report

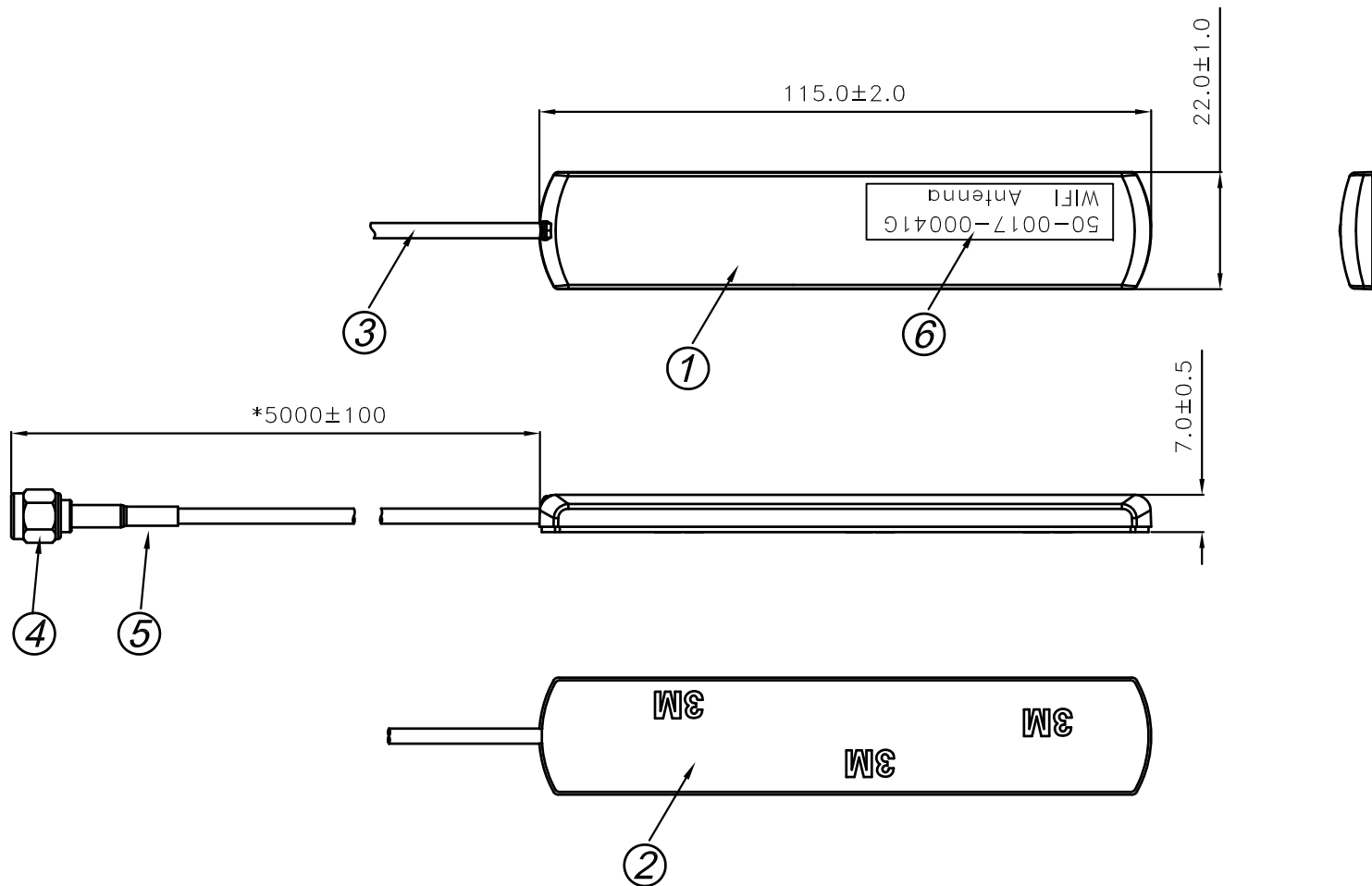
See attached files

# RoHS

## Compatible



SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			

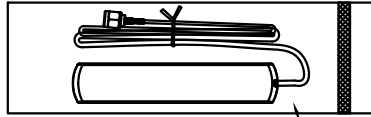


6	LABEL-AB77-002	标签	铜板纸		1
5	R-HATUBE-004T	Heat Shrink TUBE	EVA	φ4.0*20mm	1
4	SMA010-CGT574-A	SMA 公头公针	Cu	Gold plated	1
3	R-RG-174/U	Cable	RG-174	Black	1
2	AB77-03	3M Adhesive	EVA	105.0*20.0*0.8mm	1
1	AB77-01	Antenna Body	ABS	Black	1
No.	Part Number	Description	Material	Finished	Q'ty

Invax System Group.				Cortec Technology Inc.	
<b>Cortec</b>				<small>Http://www.invaxsystem.com Tel:886-2-27885218 E-mail:info@invax.com.tw Fax:886-2-27831658</small>	
TITLE: AB77 Type LTE Antenna					
PART NO.: AB2400-7702BSM			CUSTOMER P/N: /		
APP BY	CHK BY	RF BY	DES BY		Tolerance
Grant	JACK	SIFEI	LJHUA		UNITS: mm X.X ±0.5 SCALE: 2/3 X.XX ±0.2 REVISION: A X° ±1
2015/01/27	2015/01/27	2015/01/27	2015/01/27		

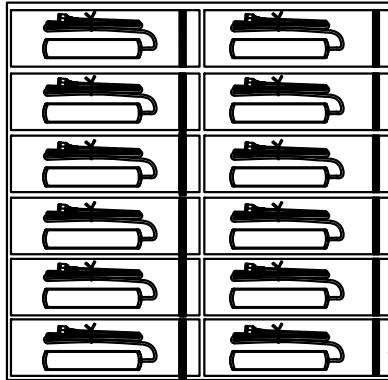
Part Number : AB2400-7702BSM	Revision : A
Name: AB77 Type Antenna	Customer :

一. 一个PE袋包装一个产品，并热封。



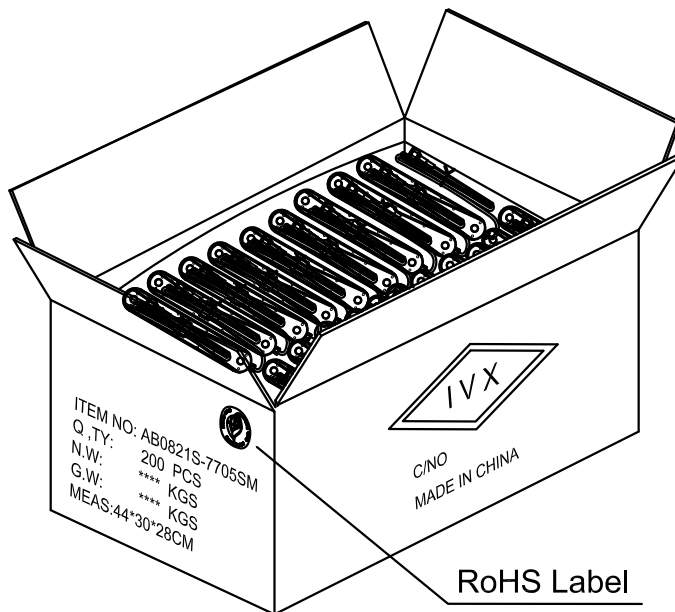
R-PE-BAG-80180

二. 50 个产品放一个大PE袋, 并热封.



R-PE-BAG-350440

三. 一个外箱放200个产品



RoHS Label



SGS 台灣網站 → [http://twap.sgs.com/sgsrsts/chn/cheres\\_tw.asp](http://twap.sgs.com/sgsrsts/chn/cheres_tw.asp)

SGS 大陸網站 → [http://rsts.cn.sgs.com/chn/cheres\\_cn.asp](http://rsts.cn.sgs.com/chn/cheres_cn.asp)

SGS 韓國網站 → [http://rohs.kr.sgs.com/sgsrsts/en/cheres\\_en.asp](http://rohs.kr.sgs.com/sgsrsts/en/cheres_en.asp)

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)



康捷電子有限公司	
填表：	時麗
部門：	研發部
職務：	文員

## 物料中HSF對象物質含量調查表

物料名稱：AB2400-7702BSM

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	AB77-01	Body	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANML1421267603	2014.12.29	ABS	SGS
2	AB77-03	3M Adhesive	EVA	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1401475801	2014.02.19	9448A	SGS
3	R-RG-174U	Cable	外被PVC	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1402177409	2014.03.06	BLACK PVC	SGS
			PE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1409066101	2014.06.17	HDPE/XLPE/FPE	SGS
			鍍錫銅線	N.D.	N.D.	N.D.	Negative	N.D.	N.D.	CANEC1403508801	2014.03.26	TA	SGS
4	R-HATUBE-004T	Heat Shrink Tube	EVA	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1402540003	2014.03.13	HEAT SHRINKABLE TUBING(BK)	SGS
5	AB77-02W	PCB	FR4	N.D.	9	N.D.	N.D.	N.D.	N.D.	SHAEC1425025605	2015.01.07	Laminate (FR-4)	SGS
6	LABEL-AB77-002	貼紙	銅版紙	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RHS03G000742002	2014.02.27	銅板紙	CTI
7	SMA010-CGT574-A	SMA Male	銅	36	26662	N.D.	Negative			CANEC1408043401	2014.05.30	C3604 Copper bar	SGS
			鍍金	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANML1410789606	2014.07.10	滾鍍:金溶液.

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%、鋁含量達0.4%、銅合金中的鉛含量達4%