

Specification For Approval

Date: 2013 / 10 / 22

File No.: 131022005

Version: 1.0

Customer : 福升通訊股份有限公司

Customer P/N : /

INVAX P/N : AN2400-06168BO

Description : Antenna

Cortec Checked By:

R@D Dept
2013.10.23
Jack

Customer Approved By:



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1. Revision History

Revision	Date	Change Notification	Description
1.0			

Product Number: AN2400-06168BO

Product Name: Antenna



2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
S.W.R.	≤ 2.0
Antenna Gain	$2.5 \pm 0.5\text{dBi}$ @ 2450 MHz
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	CU
Cable Type	OD 1.13mm
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C

Product Number: AN2400-06168BO

Product Name: Antenna



3. Characteristics and Reliability Test

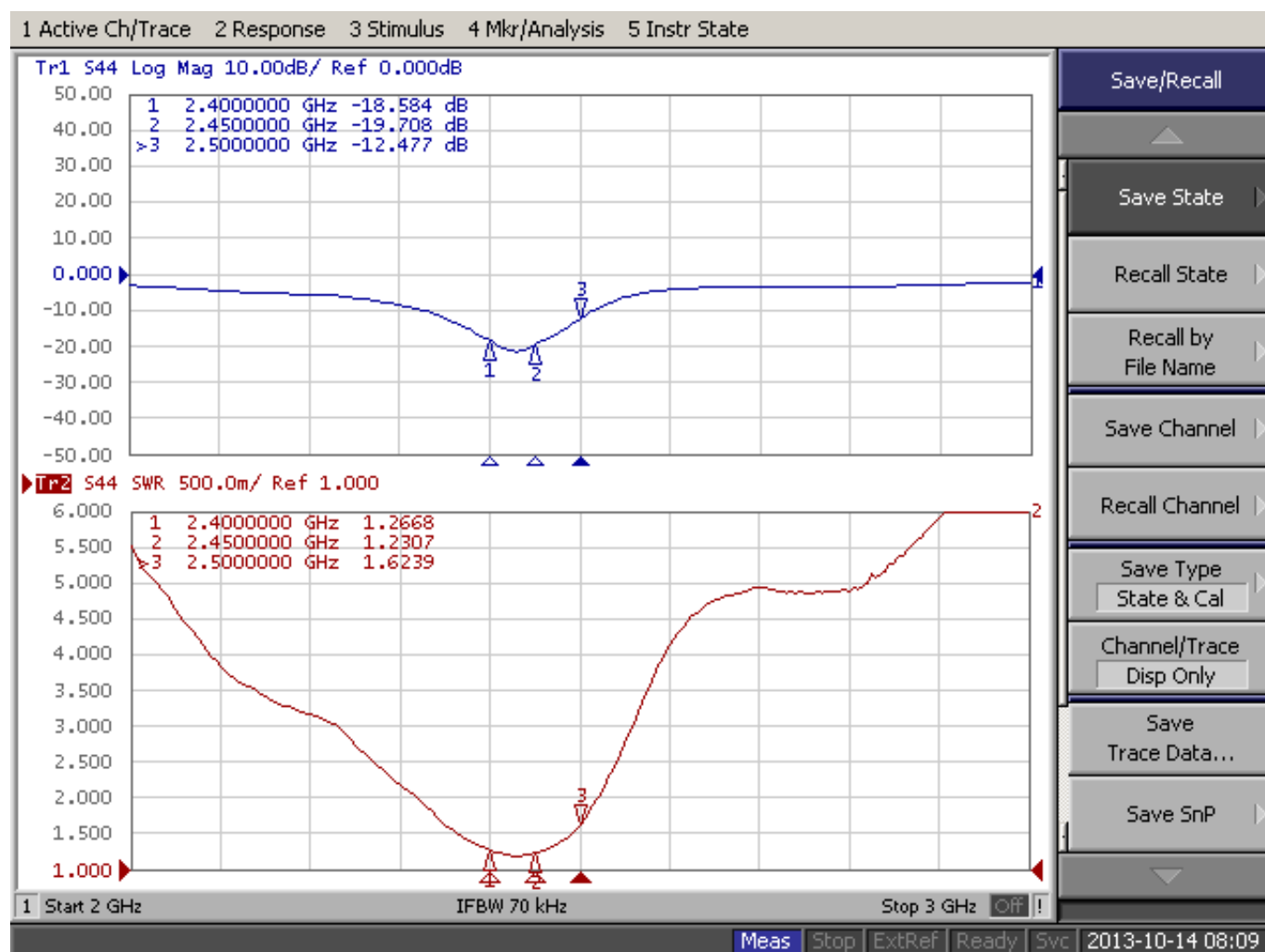
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	GB / T2423.8-1995 Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	GB / T 2423 . 17- 93 Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	GB / T 2423 . 22 - 87 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	GB / T 2423 . 2 - 89 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2011/65/EU
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC
R3	PFOA	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

Product Number: AN2400-06168BO

Product Name: Antenna



4. Antenna - S Parameter Test Data

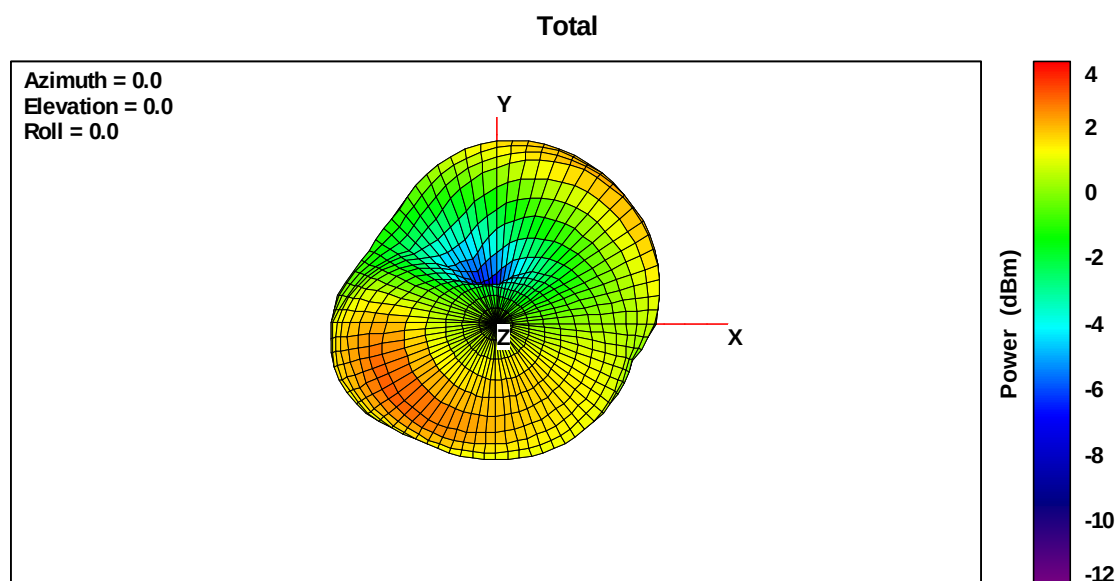


Product Number: AN2400-06168BO

Product Name: Antenna



5. Antenna - Radiation Pattern Test Data



Point Values	Ant. Port Input Pwr. (dBm)	Tot. Rad. Pwr. (dBm)	Peak EIRP (dBm)	Directivity (dBi)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
Frequency (MHz)							
2400	0	-1.5702	3.27899	4.84919	-1.5702	69.6595	3.27899
2410	0	-1.61561	3.17575	4.79136	-1.61561	68.9349	3.17575
2420	0	-1.58347	3.14953	4.733	-1.58347	69.447	3.14953
2430	0	-1.74084	2.91783	4.65867	-1.74084	66.9756	2.91783
2440	0	-1.795	2.73975	4.53475	-1.795	66.1455	2.73975
2450	0	-1.77068	2.64278	4.41346	-1.77068	66.5169	2.64278
2460	0	-1.71942	2.61169	4.33111	-1.71942	67.3067	2.61169
2470	0	-1.65389	2.54288	4.19677	-1.65389	68.3299	2.54288
2480	0	-1.72479	2.38454	4.10934	-1.72479	67.2234	2.38454
2490	0	-1.67292	2.36082	4.03373	-1.67292	68.0313	2.36082
2500	0	-1.81926	2.14934	3.9686	-1.81926	65.7769	2.14934

6. Mechanical Drawing

See attached files

7. Material Description and RoHS Test Report

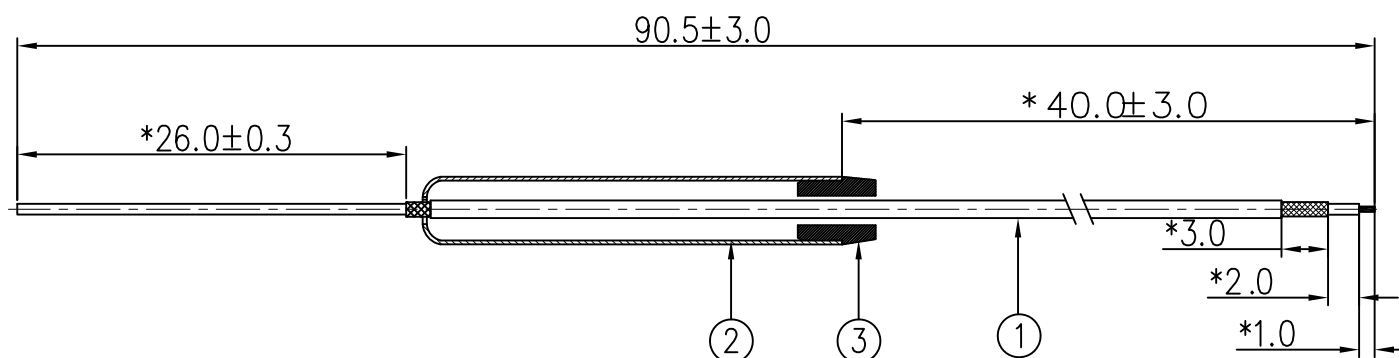
See attached files

RoHS

Compatible



SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



備註:

1. 標 “*” 尺寸為重點控制尺寸。
2. 未注公差參照標準公差。

3	R-AN0104-04N	Plug	PE	ø5.0*6.0mm	1
2	R-AN4424517S	Tube	Brass	ø4.4*24.5mm	1
1	R-CB-113B	Cable		ø1.13 BLACK	1
No.	Part Number	Name	Material	Finish	Q'ty

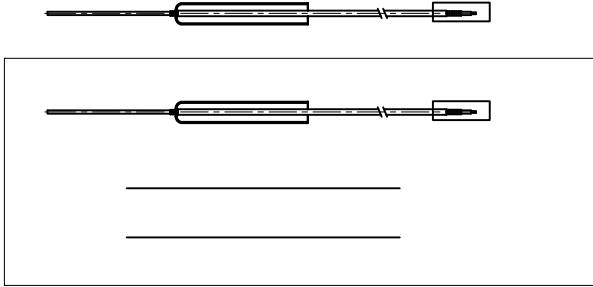
Invax System Group. Cortec				Cortec Technology Inc. Http://www.invaxsystem.com E-mail:info@invax.com.tw				Tel :886-2-27885218 Fax:886-2-27831658			
TITLE: 2.4GHz ANTENNA											
PART NO.: AN2400-06168BO					CUSTOMER P/N: /						
APP BY		CHK BY		RF BY		DES BY				Tolerance	
Grant		Jack		DUAN		wangwei		UNITS: mm		X.X ±0.5	
2013.10.16		2013.10.16		2013.10.16		2013.10.16		SCALE: 1/1		X.XX ±0.2	
								REVISION: A		X° ±1	

Date:2013.10.22

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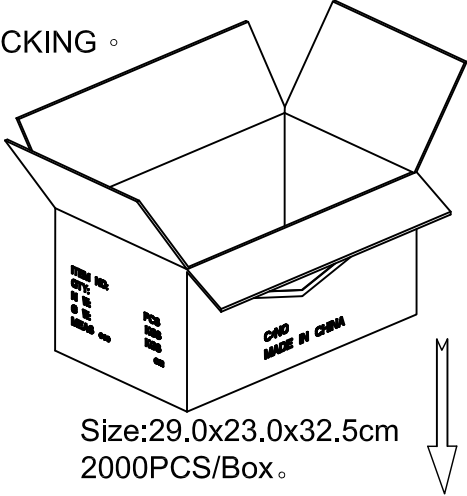
Part Number : AN2400-06168BO	Revision : A
Name: 2.4GHz ANTENNA	Customer : ALL

1 . Enter PE bag。



10PCS/ PE bag。

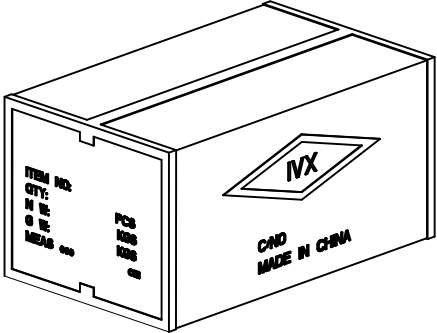
2.PACKING 。



Size:29.0x23.0x32.5cm
2000PCS/Box。

Cardboard :2pcs/BOX。

3. SEALING 。



SIDE

ITEM NO: ###
QTY: ### PCS
N.W: ### KGS
G.W: ### KGS
MEAS 29.0x23.0x32.5 cm

FRONT

IVX
C/NO
MADE IN CHINA

APPROVED BY : Grant CHECKED BY : Jack DESIGNED 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：AN2400-06168BO

序號	物料型號	物料各構成名稱	各構成物料的材質	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	R-AN4424517S	Tube	CU	N.D.	14	N.D.	Negative	N.D.	N.D.	CANML1216541101	2012.12.05	C2700	SGS
2	R-AN0104-04N	Plug	POM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1302200003	2013.03.01	POM	SGS
3	R-CB-113B	Cable	黑色色母	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	HKGEC1201335502	2012.11.16	FCM H-1372 BLACK	SGS
			FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RHS05F011891001E	2013.08.26	电线电缆料	CTI
			鍍錫銅	N.D.	N.D.	N.D.	Negative	N.D.	N.D.	RHS05F011891003E	2013.08.26	电线电缆料	CTI
			鍍銀銅	N.D.	N.D.	N.D.	Negative	N.D.	N.D.	RHS05F011891004E	2013.08.26	电线电缆料	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%、鋁含量達0.4%、銅合金中的鉛含量達4%