

Product Number: AN2400-48A12BX
Product Name: Antenna



Specification For Approval

Date: 2010 / 12 / 31

File No.: 101231004

Version: 1.0

Customer : 宇智網通股份有限公司

Customer P/N : /

INVAX P/N : AN2400-48A12BX

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
<http://www.invaxsystem.com>



Cortec Technology Inc.
Xian-Xi Industrial, Sha-Tou Administration Zone,
Chang-An Town, Dong-Guan City, Guangdong
Province, China

TEL:86-769-85388261 FAX:86-769-85317869
<http://www.cortec.com.cn>

Index:

- 1. Specification / Page 2**
- 2. Characteristics and Reliability Test / Page 3**
- 3. Antenna - S Parameter Test Data / Page 4**
- 4. Antenna - Radiation Pattern Test Data / Page 5 ~ 7**
- 5. Mechanical and Packing Drawing / Page 8 ~ 9**
- 6. Material Description and RoHS Test Report / Page 10 ~ end**

Product Number: AN2400-48A12BX

Product Name: Antenna



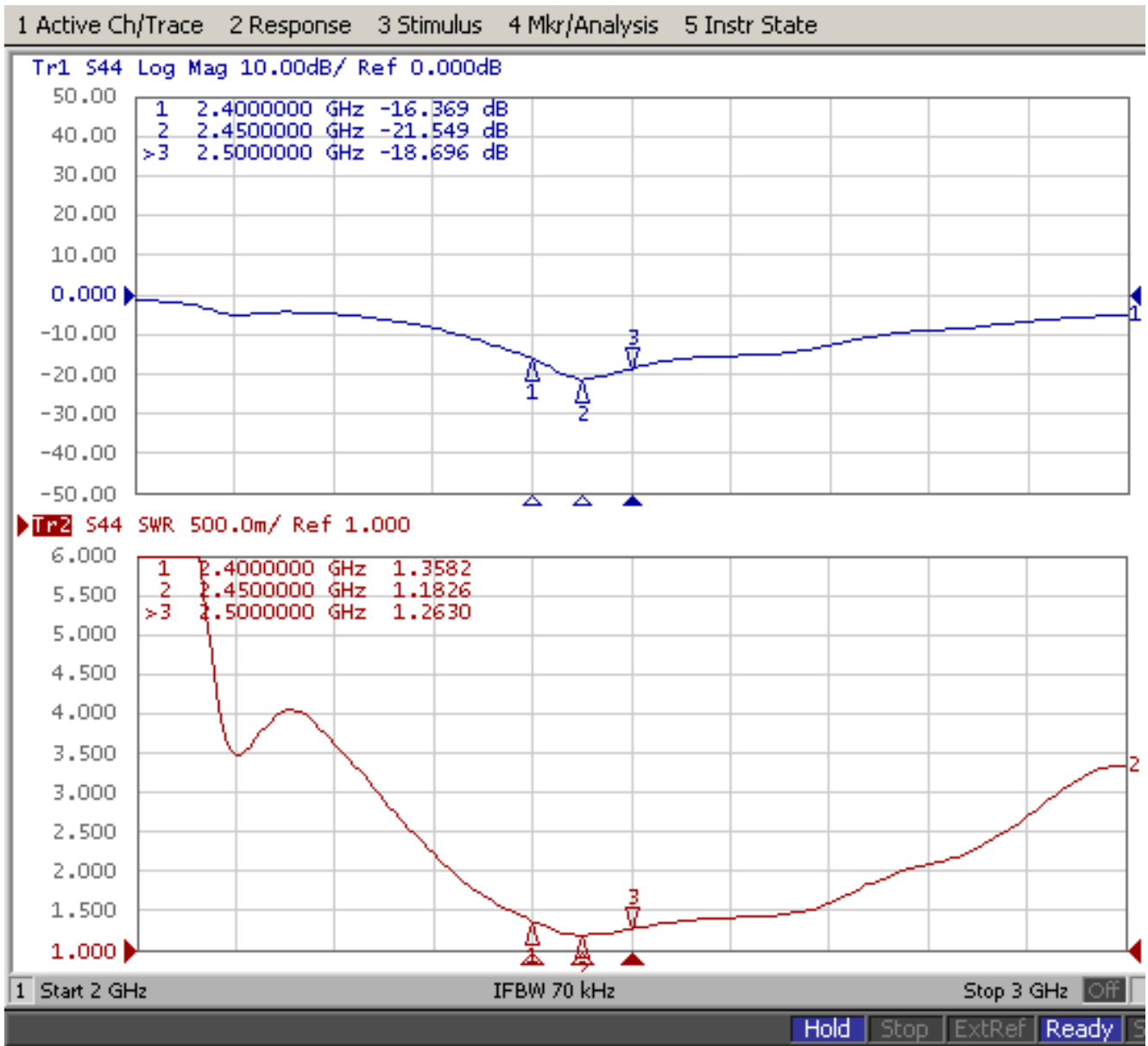
1. Specification (omni)

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
S.W.R.	≤ 2.0
Antenna Gain	2.9 dBi
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Material of Plastic	Body: TPE Hinge: PC+ABS Holder: PC+ABS
Cable Type	O.D. 1.13mm
Connector Type	Mini Connector
Connector Pull Test	≥ 1.0 Kg
Connector Torque Test	/
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C

2. 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	MIL-STD-202G, 201A Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	Height: 1.5 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	MIL-STD-202G, 211A, cond. E 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	MIL-STD-202G, 101E, cond. B Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	MIL-STD-202G, 103B, cond. B Temp: 40°C; RH: >= 95%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	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.)	MIL-STD-202G, 108A, cond. A Temp: 85°C; Time: 96 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 2002/95/EC
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

3. Antenna - S Parameter Test Data



Product Number: AN2400-48A12BX

Product Name: Antenna



4. Antenna - Radiation Pattern Test Data

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

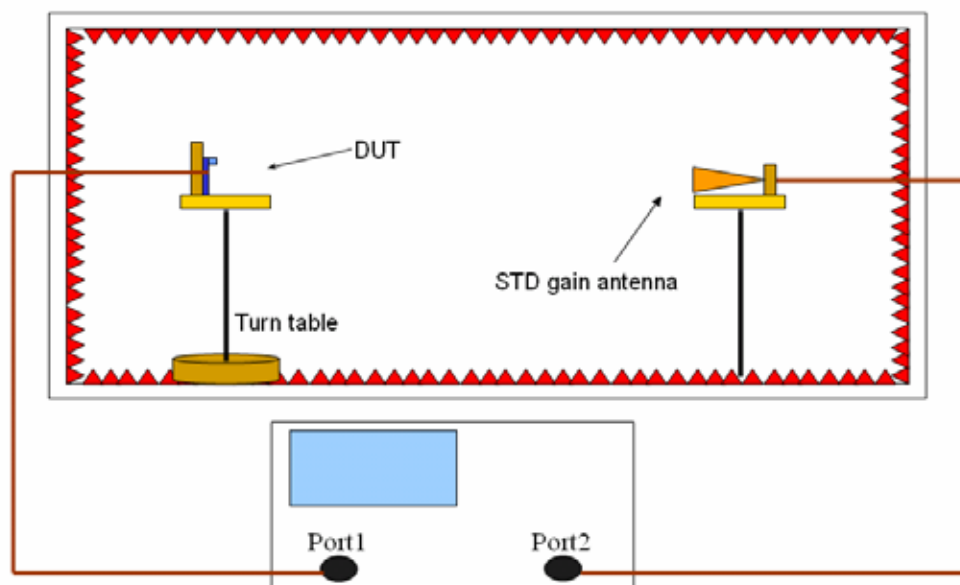
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna



5. Mechanical Drawing

See attached files

6. Material Description and RoHS Test Report

See attached files



Model : 2.4GHz Antenna
Remark : H-Plane // V-Pol
Tested by : CORTEC Antenna Lab // Zhao Yao Rong

Location: **Chamber**

Date: **2010/3/17**

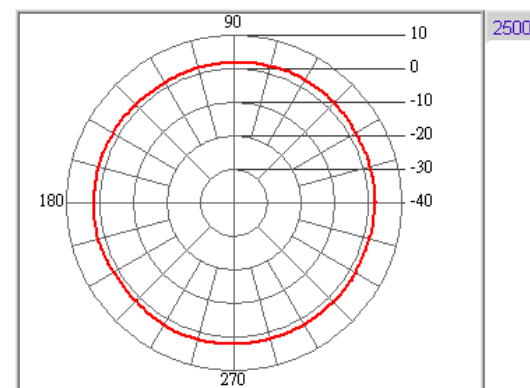
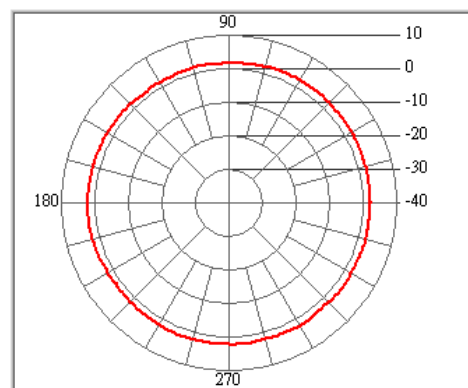
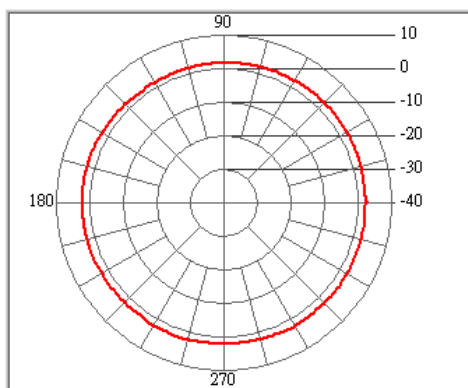
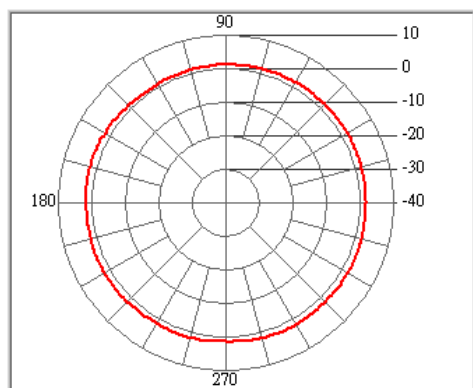
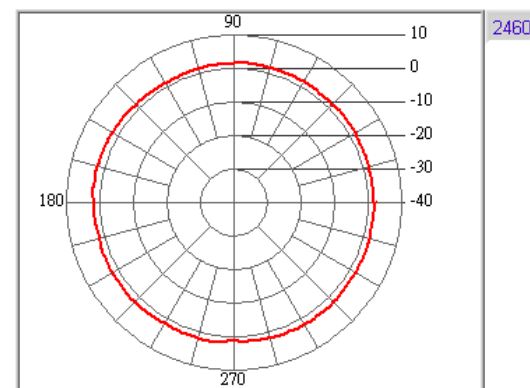
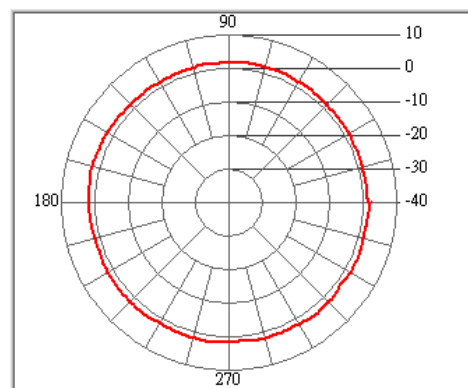
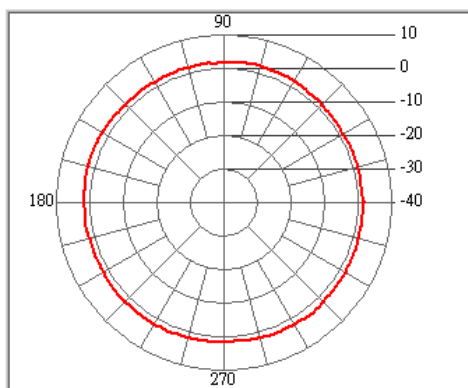
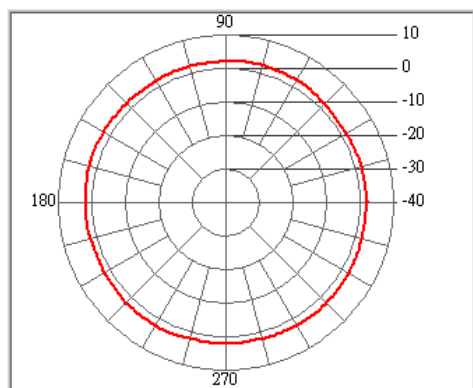
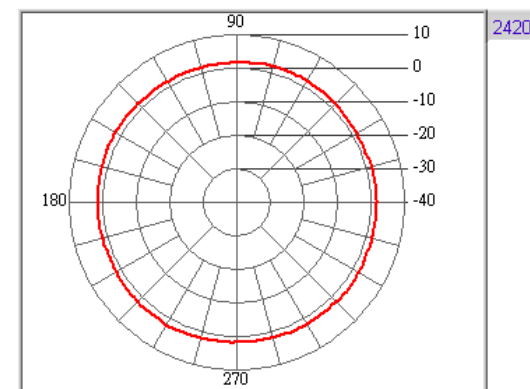
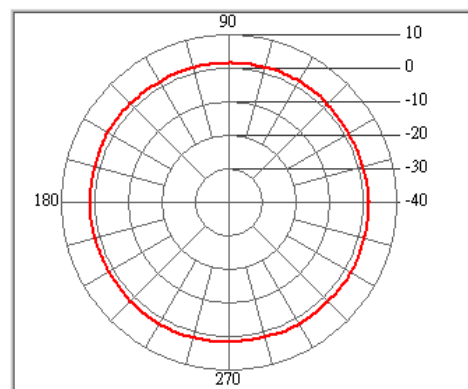
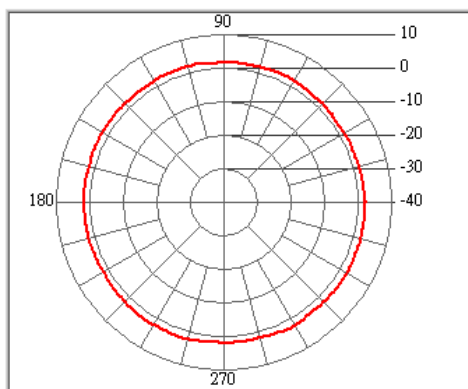
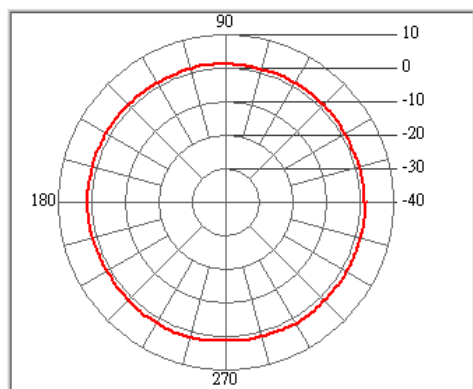
Time: **上午 10:33:00**

Temperatuer (°C): **22.00**

Humidity (%): **55.00**

Approved by:

Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	1.8	2.43	2.06	2.24	2.47	2.28	2.28	2.21	2.01	2.55	2.46	2.43
Peak Degree	299	299	330	243	310	310	167	167	334	299	52	66
AV Gain (dBi)	1.3	1.86	1.6	1.71	2.01	1.67	1.66	1.72	1.61	2.1	2.01	1.87



Model : 2.4GHz Antenna
 Remark : E-Plane // H-Pol
 Tested by : CORTEC Antenna Lab // Zhao Yao Rong

Location: **Chamber**

Date: **2010/3/17**

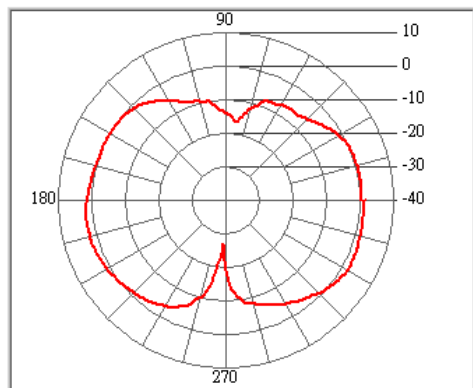
Time: **下午 04:27:34**

Temperature (°C): **22.00**

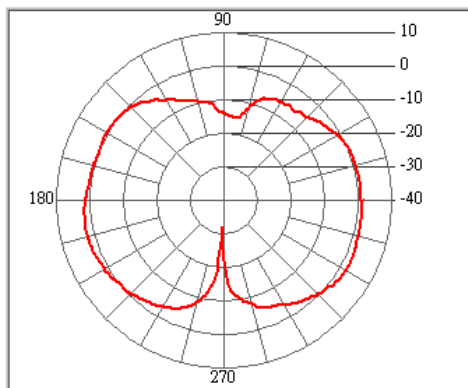
Humidity (%): **55.00**

Approved by:

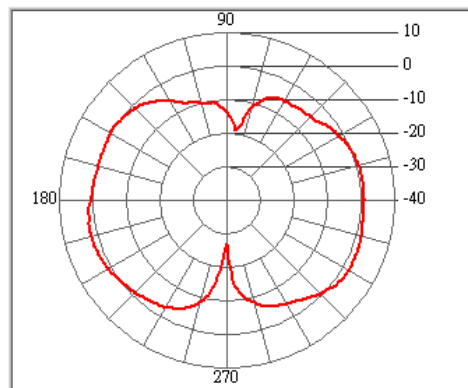
Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	1.94	2.1	2.01	1.91	2.46	2.25	2.68	2.8	2.49	2.9	2.69	2.4
Peak Degree	190	333	330	336	333	334	337	201	201	201	204	323
AV Gain (dBi)	-1.58	-1.38	-1.61	-1.59	-1.32	-1.53	-1.24	-1.09	-1.33	-1.06	-1.29	-1.57



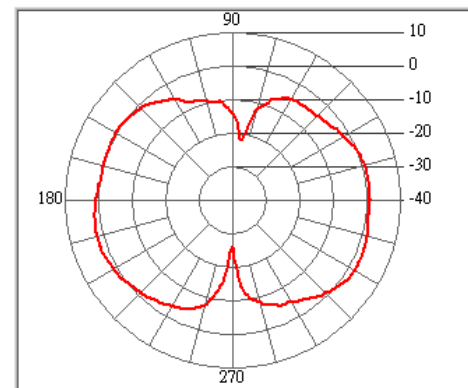
2390



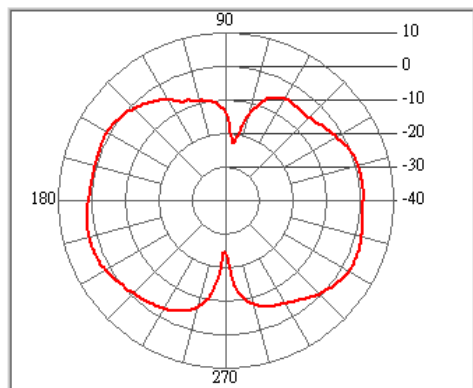
2400



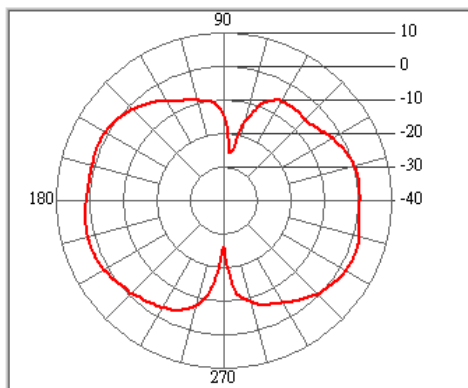
2410



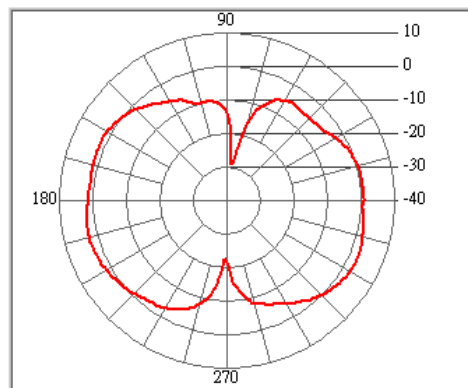
2420



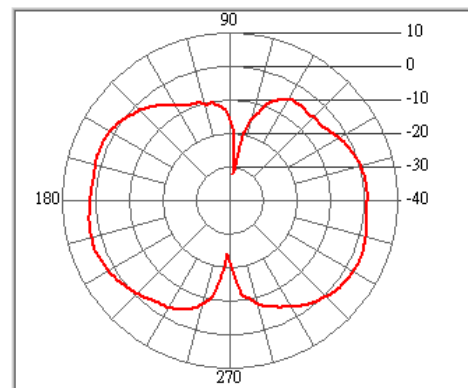
2430



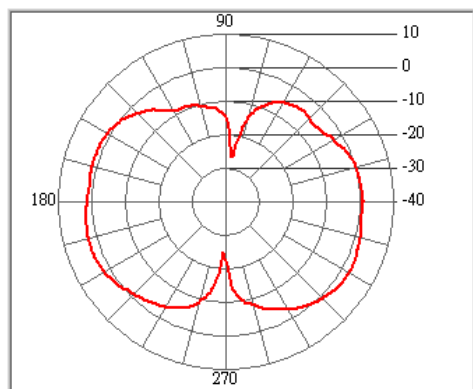
2440



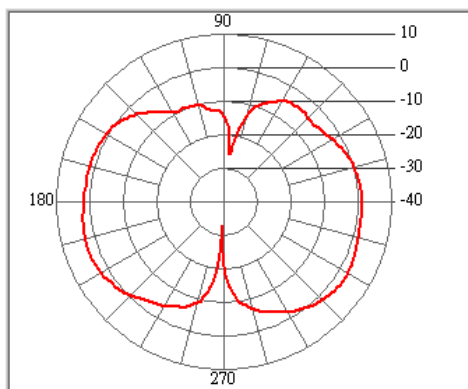
2450



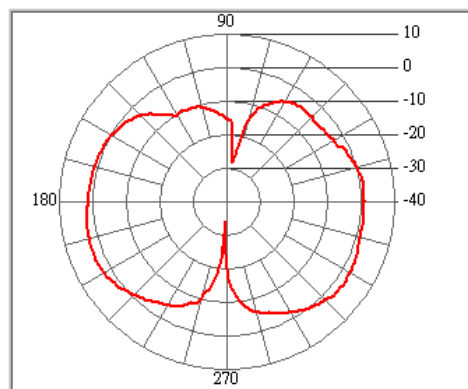
2460



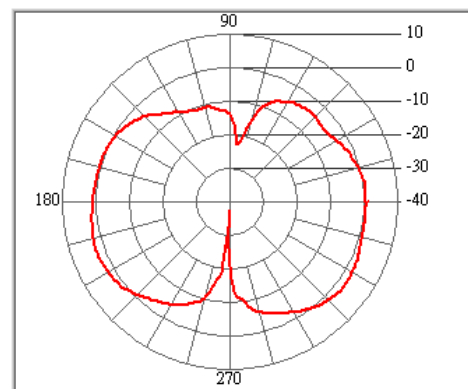
2470



2480



2490

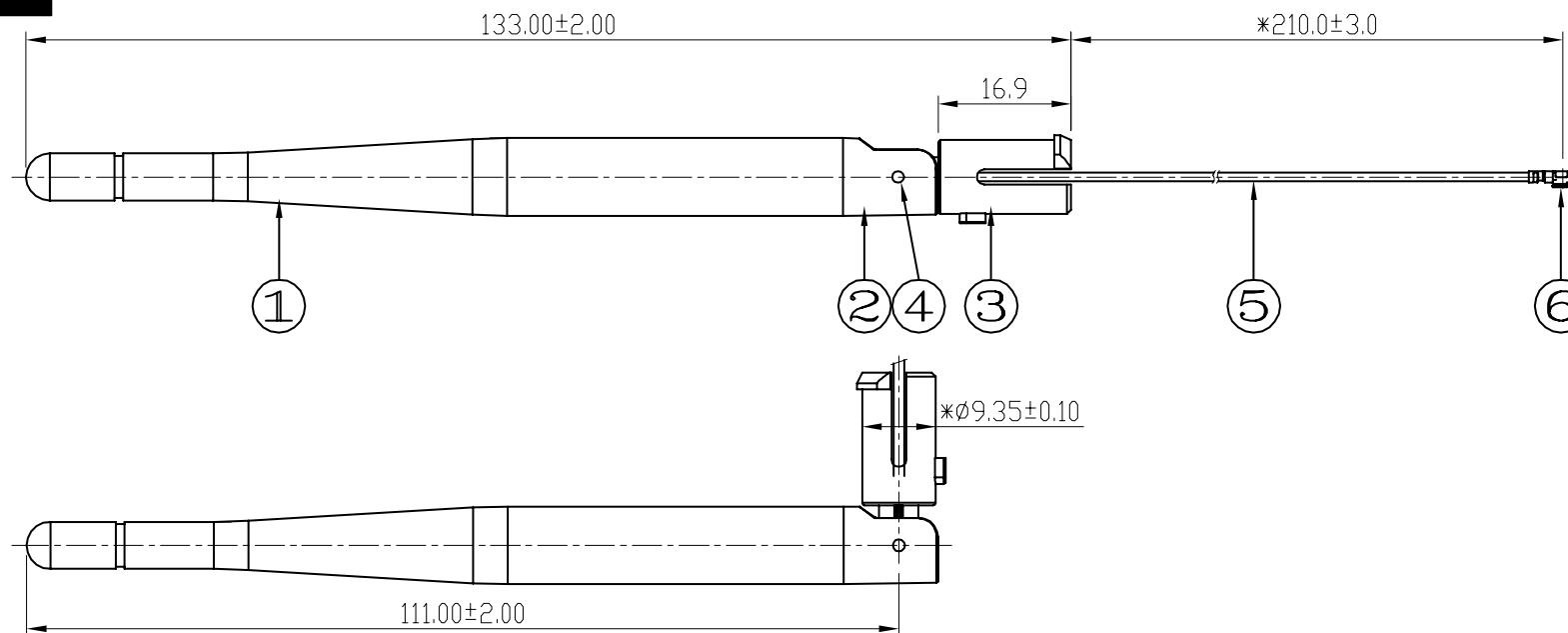


2500

RoHS

Compatible

SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



Note:

1. Dimension: Take * is the important dimension
2. Tolerance: Unmarked tolerance refer to the standard tolerance please

6	CR-113	Mini Conn	Cu	RF Conn	1
5	R-CB-113B	Cable		∅1.13 Black	1
4	R-AN01-1213Z	Hinge Pin	Cu	Black Zn Plated	2
3	AN3701-02B	Body3	PC+ABS	Black	1
2	AN48A-05B	Body2	PC+ABS	Black	1
1	AN48A-01B	Body1	TPE	Black	1
No.	Part Number	Description	Material	Finish	Q'ty

Invox System Group.

Cortec

Cortec Technology Inc.

Http://www.invoxsystem.com Tel: 886-2-27885218
E-mail: info@invox.com.tw Fax: 886-2-27831658

PART NAME: ANTENNA-2.4GHz-2dBi

PART NO.: AN2400-48A12BX

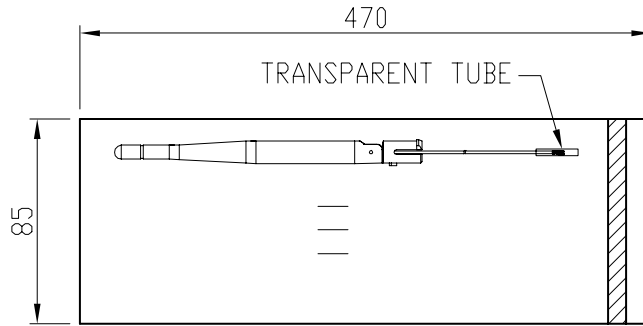
DWG NAME: AN2400-48A12BX.dwg

APPROVED BY	CHECKED BY	DESIGNED BY	Tolerance
Grant	Jack	Simon	X.X ±0.30
2010.12.27	2010.12.27	2010.12.27	X.XX ±0.15
			X° ±3°

1 2 3 4 5 6 7 8

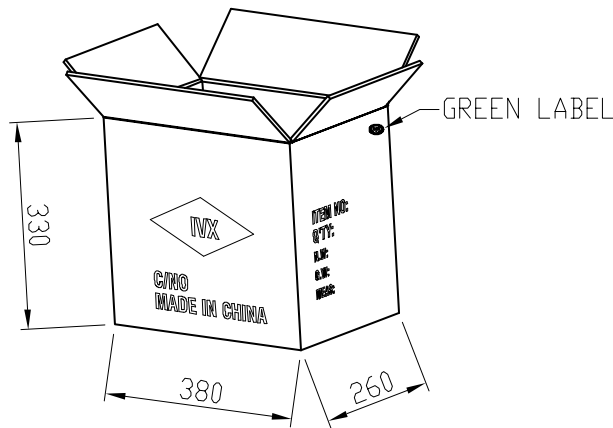
Part Number : AN2400-48A12BX	Revision : A
Name: AP ANTENNA	Customer : ALL

一. WITH THE ANT INTO THE PE BAG



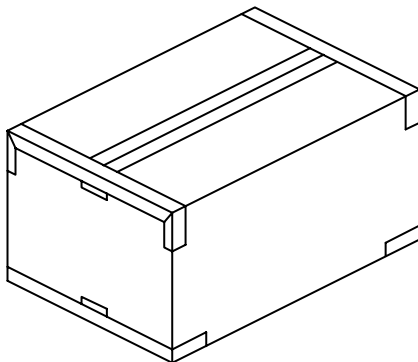
10 PCS/PE BAG

二. PACKING

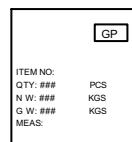


1000PCS / CARTON

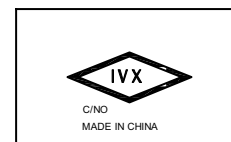
三. SEALING



SIDE



FRONT



UNITS: mm

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

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：AN2400-48A12BX

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	AN48A-01B	Body1	TPE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RLSZC000730820001	2010.11.11	TPEE	CTI
2	AN48A-05B	Body2	PC+ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1001721801	2010.04.28	PC/ABS	大陸SGS
3	R-AN3701-02A	Body3	PC+ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1001721801	2010.04.28	PC/ABS	大陸SGS
4	R-AN01-1213Z	PIN	CU	45	29700	N.D.	Negative			CE/2010/20213	2010.02.06	FREE CUTTING	臺北SGS
5	R-AN94-02S	Tube	CU	45	29700	N.D.	Negative			CE/2010/20213	2010.02.06	FREE CUTTING	臺北SGS
6	R-CB-113B	Cable O.D.1.13	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SHR10042031341003	2010.04.24	Coaxial-cable	大陸CTI
7			FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SHR10042031341003	2010.04.24	Coaxial-cable	大陸CTI
8			鍍錫銅線	N.D.	N.D.	N.D.	Negative			SHR10042031341003	2010.04.24	Coaxial-cable	大陸CTI
9			鍍銀銅線	N.D.	N.D.	N.D.	Negative			SHR10042031341003	2010.04.24	Coaxial-cable	大陸CTI
10	CR-113	Mini Connector CR-113	PBT黑色	N.D	N.D	N.D	N.D	N.D	N.D	CE/2010/25212	2010.03.03	POLYBUTYLENE	臺北SGS
11			銅鍍金	N.D	N.D	N.D	Negative			RLSZC000523300011	2010.04.22	Phosphorus Bronz	大陸CTI
12			銅鍍金	N.D	N.D	N.D	Negative			RLSZC000523300011	2010.04.22	Phosphorus Bronz	大陸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