

Product Number: AN2400-0331RS

Product Name: Antenna



## 2. Specification

Sample Photo	
 A photograph of a black, cylindrical antenna with a connector at one end, lying horizontally on a light-colored surface.	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
S.W.R.	$\leq 2.0$
Antenna Gain	$3.0 \pm 0.7\text{dBi}$
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Material of Plastic	Body: TPEE Hinge: ABS Holder: ABS
Cable Type	RG-178
Connector Type	SMA Male Reverse
Connector Pull Test	$\geq 5\text{ Kg}$
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

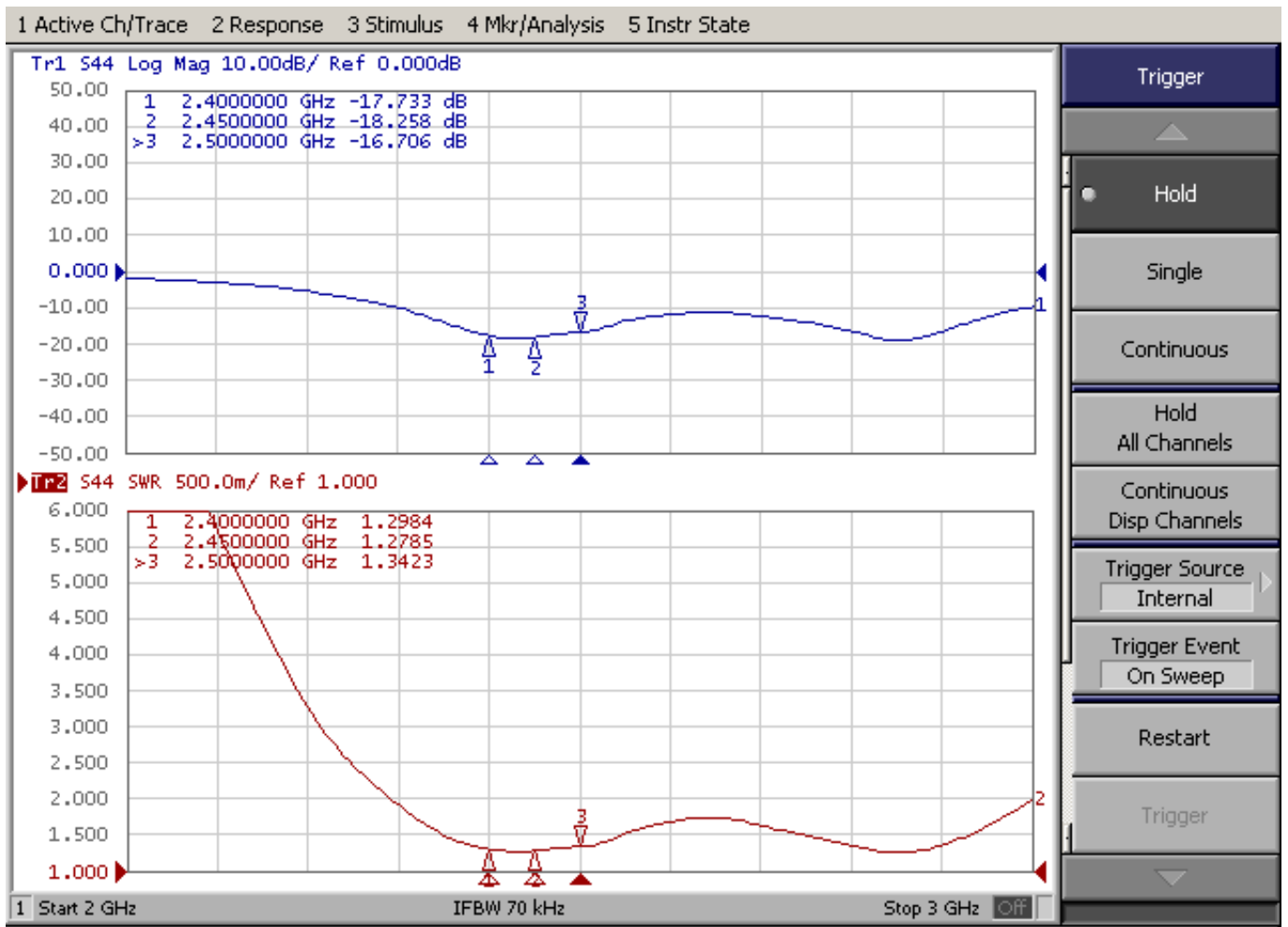
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 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

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### 4. Antenna - S Parameter Test Data



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## 5. Antenna - Radiation Pattern Test Data

### Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

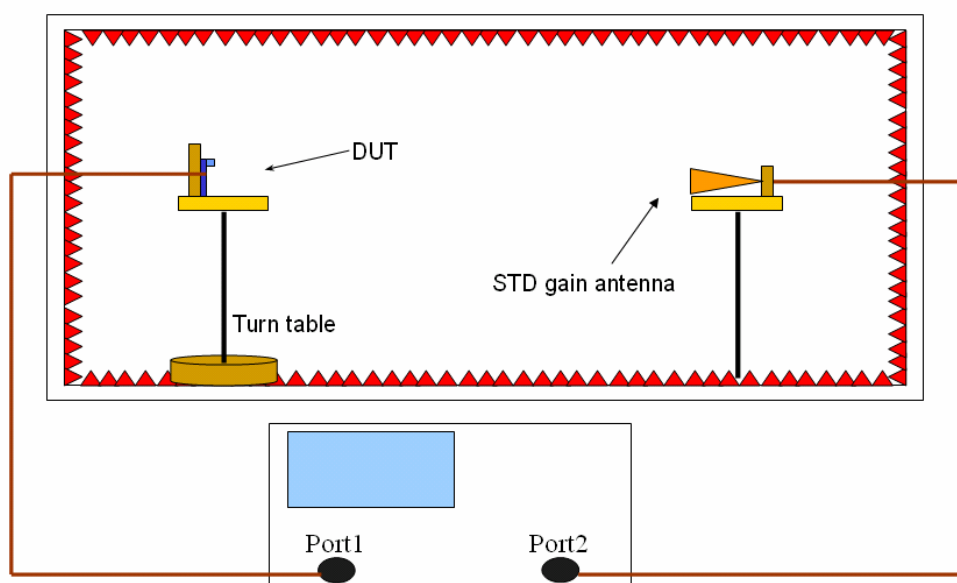
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna



## 6. Mechanical Drawing

See attached files

## 7. Material Description and RoHS Test Report

See attached files



Mode: 2.4GHz Antenna  
Remark: H-Plane\W-V-Pol

Tested by: CORTEC Antenna 3D Lab

Location: Chamber

Date: 2013/1/28

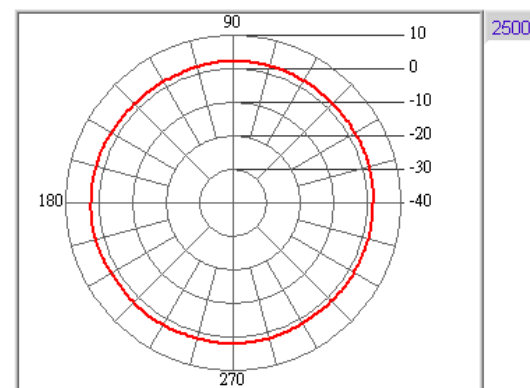
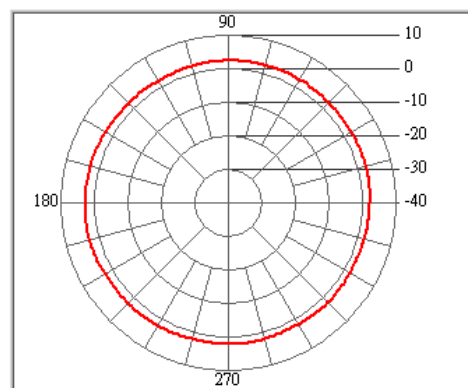
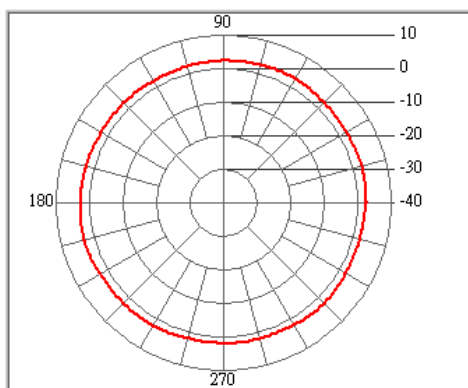
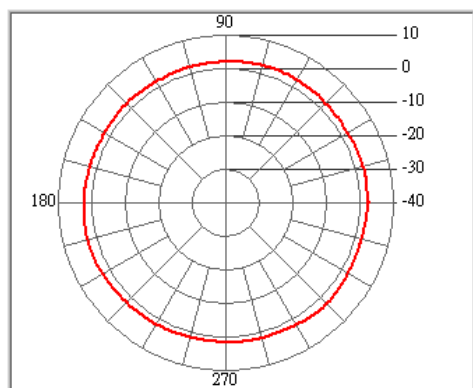
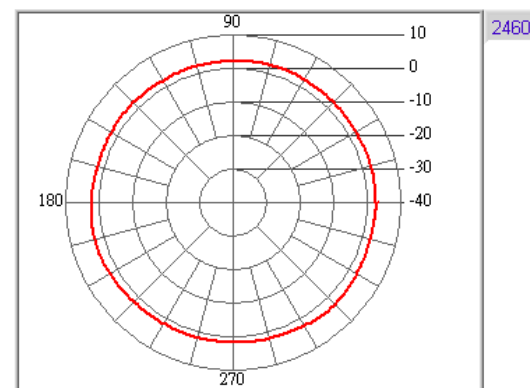
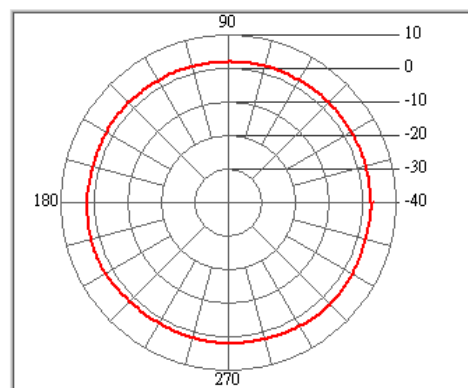
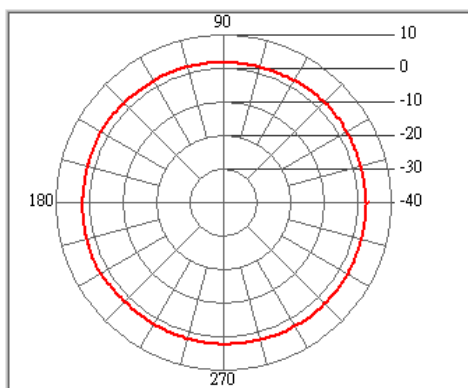
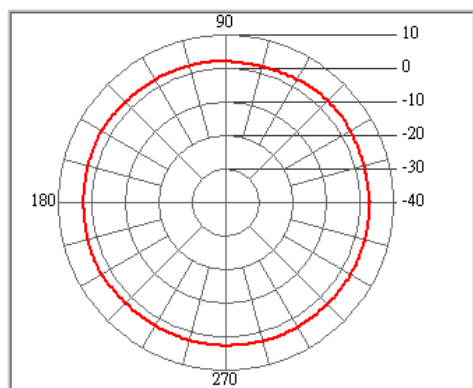
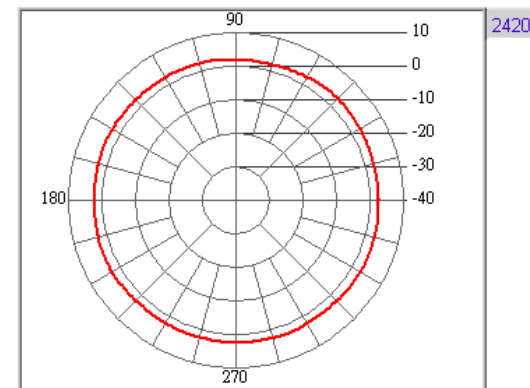
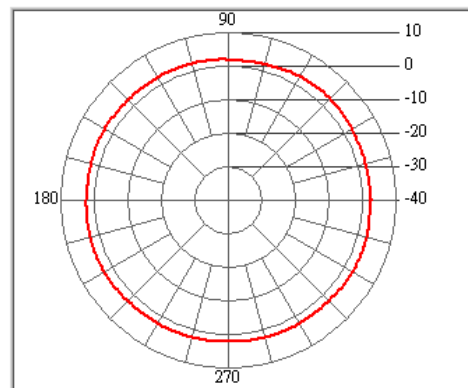
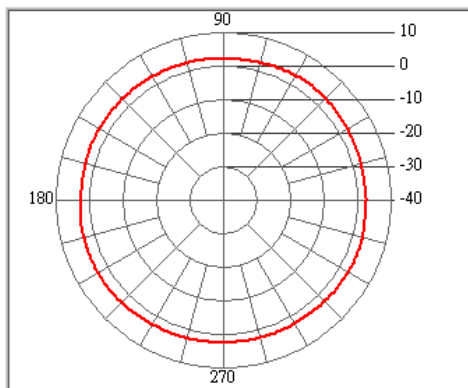
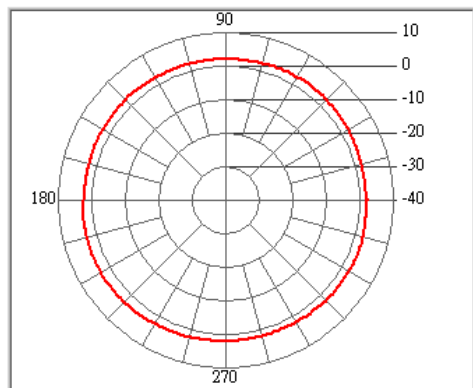
Time: 下午 03:12:48

Temperature (°C): 25.00

Humidity (%): 65.00

Approved by:

Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	3.05	3.23	2.92	2.97	3.1	2.73	2.87	2.96	2.63	2.94	2.92	2.41
Peak Degree	212	209	49	49	350	360	318	315	198	197	194	187
AV Gain (dBi)	2.33	2.7	2.43	2.47	2.59	2.2	2.18	2.25	2.07	2.3	2.28	1.96



Mode: 2.4GHz Antenna  
Remark: E-Plane\H-Pol

Tested by: CORTEC Antenna 3D Lab

Location: Chamber

Date: 2013/1/28

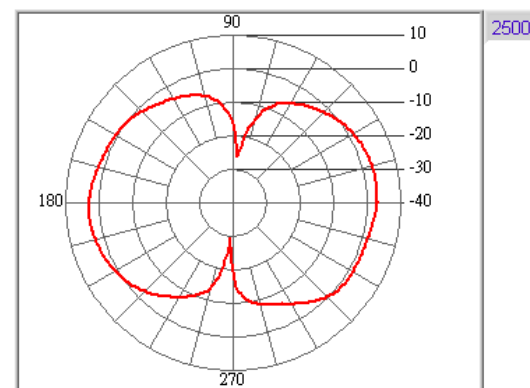
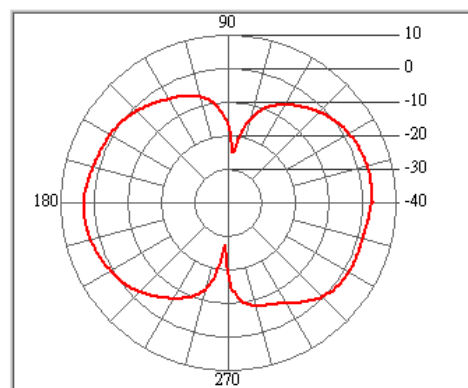
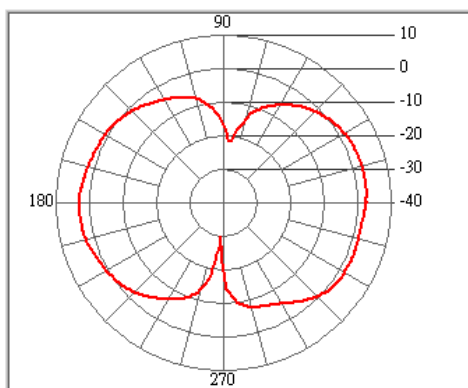
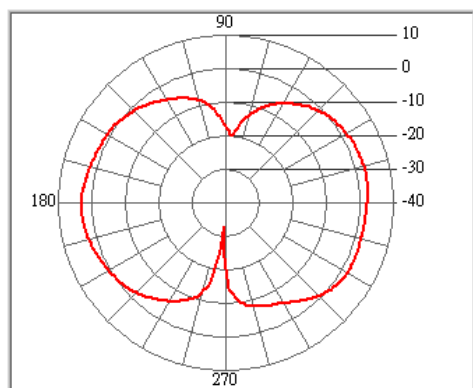
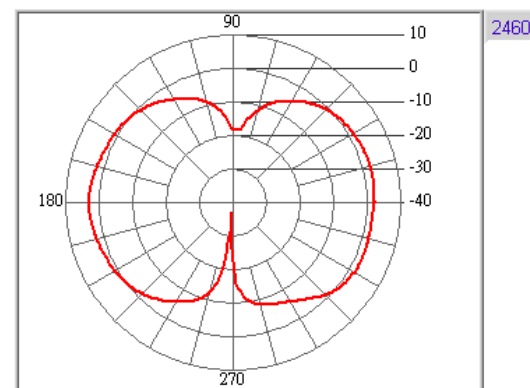
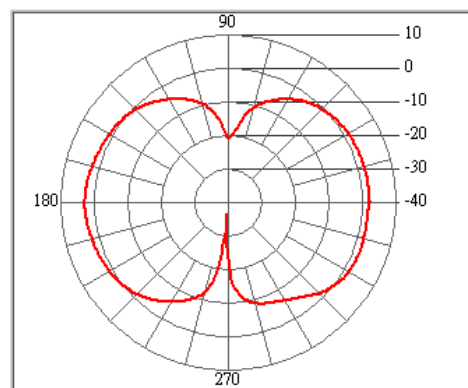
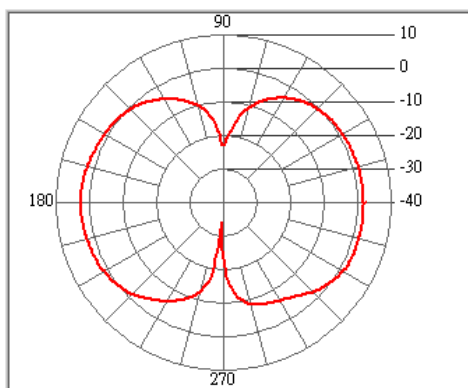
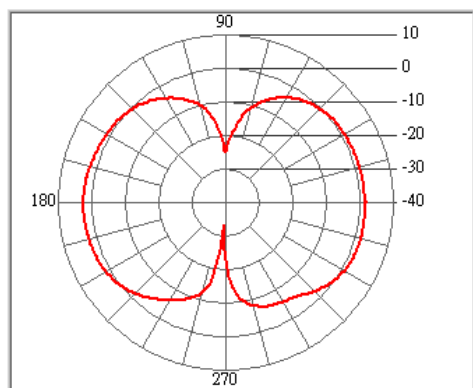
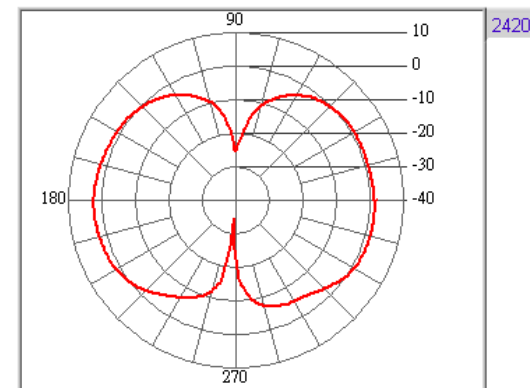
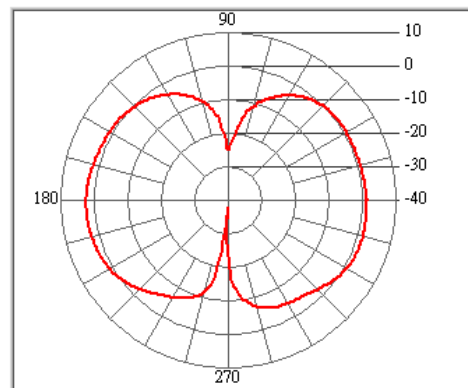
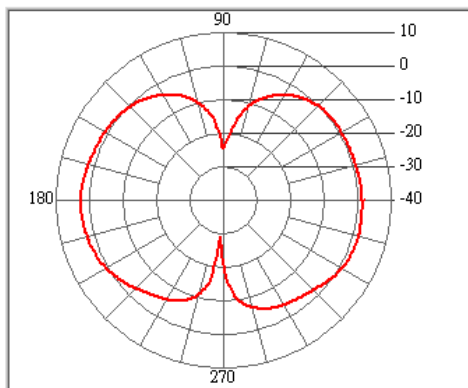
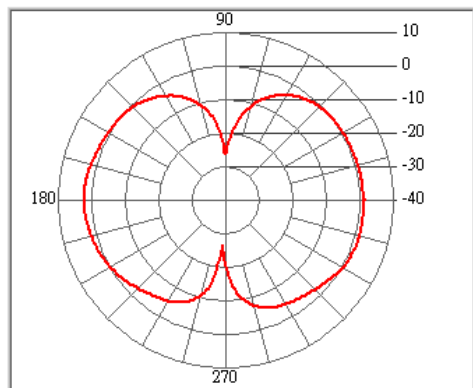
Time: 下午 03:19:30

Temperature (°C): 25.00

Humidity (%): 65.00

Approved by:

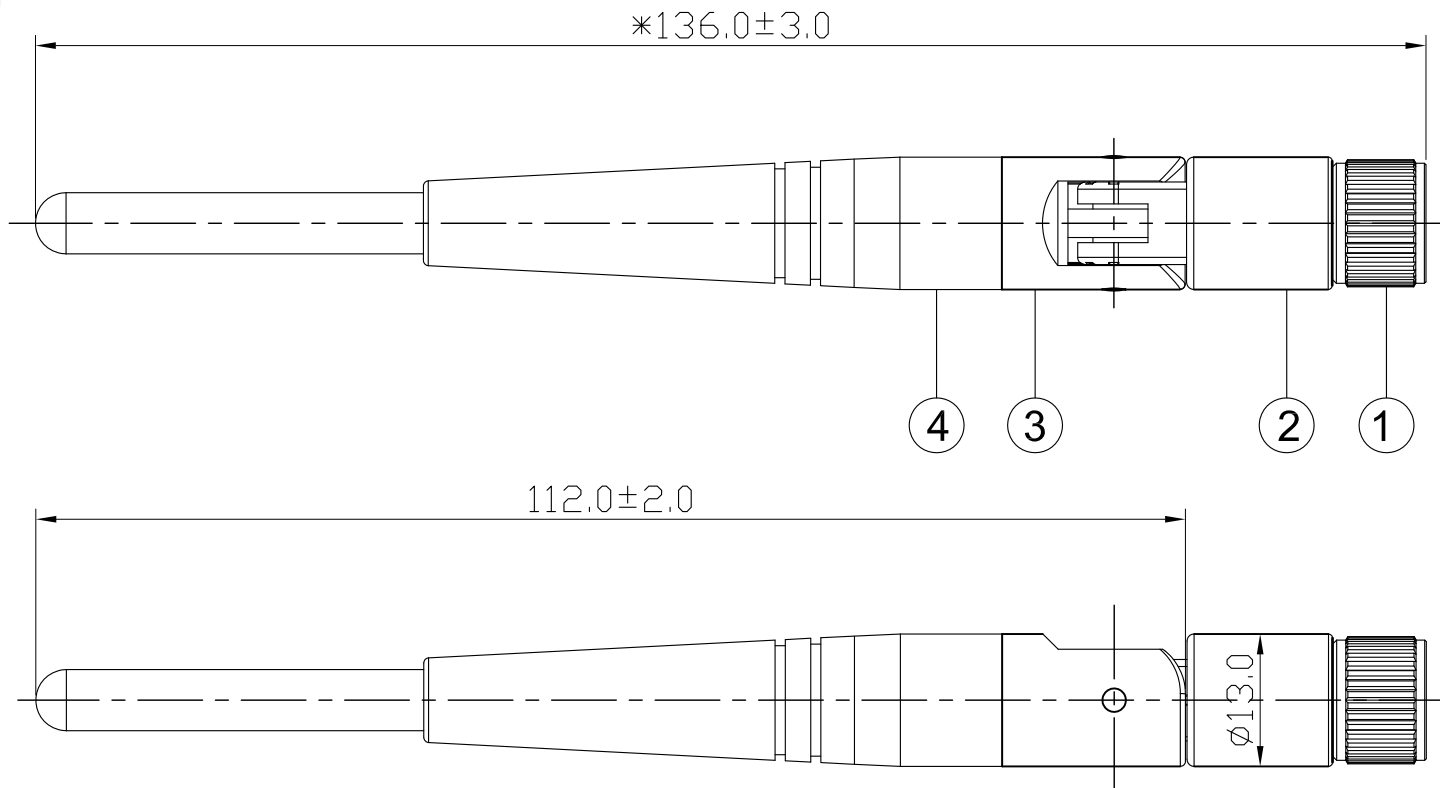
Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	2.24	2.55	2.4	2.38	2.48	2.59	2.77	2.91	2.98	2.93	3.1	3.2
Peak Degree	176	181	182	182	181	181	181	181	181	182	12	6
AV Gain (dBi)	-1.39	-1.09	-1.13	-1.11	-1.01	-0.93	-0.84	-0.76	-0.75	-0.75	-0.74	-0.78



# RoHS

## Compatible

SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



4	AN0301-01B	Body-1	TPE	Black	1
3	AN9201-06B	Body-3	ABS	Black	1
2	AN03-T07B	Body-2	ABS	Black	1
1	SMA194-CCT5AN19	SMA Male Reverse	Cu	Eletrodeposition	1
NO.	Part Number	Description	Material	Finished	Q'ty

*Invax System Group.*  
**Cortec** Cortec Technology Inc.  
 Http://www.invaxsystem.com Tel:886-2-27885218  
 E-mail:info@invax.com.tw Fax:886-2-27831658

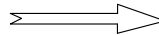
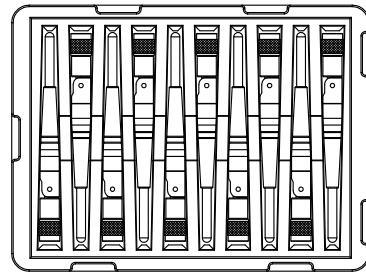
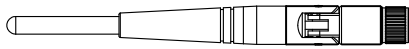
TITLE: 2.4GHz 3dBi Antenna  
 PART NO.: AN2400-0331RS DWG NAME: AN2400-0331RS.dwg

APPROVED BY	CHECKED BY	DESIGNED BY		Tolerance
Grant	Liu Kui	YD	UNITS: mm	X.X ±0.3
2011.07.14	2011.07.14	2011.07.14	SCALE: 1/1	X.XX ±0.1
			REVISION: A	X° ±1°

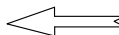
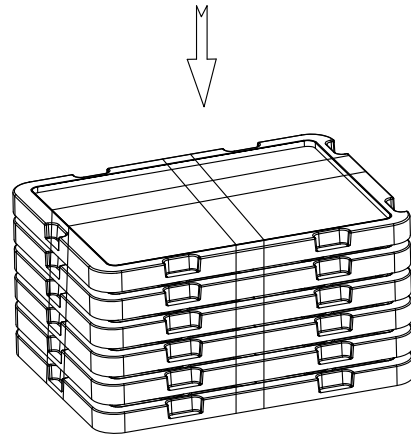
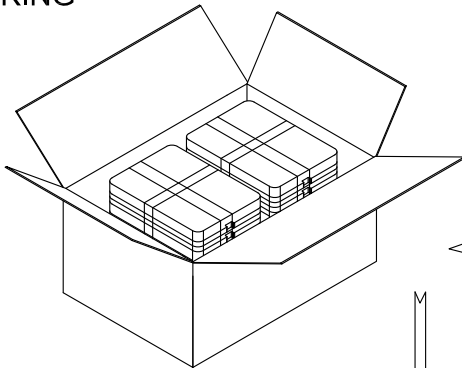
Part Number : AN2400-0331RS	Revision :A
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Name: 2.4GHz Antenna	Customer : ALL
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1.Enter the frame °



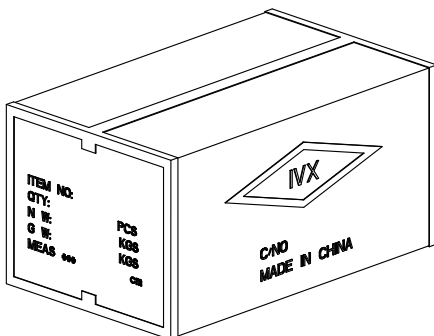
2.PACKING °



SIZE:38.0x26.0x33.0cm  
400PCS/BOX

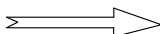
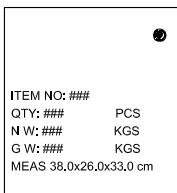


3 . SEALING °



SIDE

FRONT





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：AN2400-0331RS

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	AN0301-01B	Body-1	TPEE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	GZ1308413502/CHEM	2013.08.12	TPEE 63D	SGS
2	AN9201-06B	Body-3	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	KA/2012/C1575	2013.01.02	ACRYLONITRILE	SGS
3	AN03-T07B	Body-2	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	KA/2012/C1575	2013.01.02	ACRYLONITRILE	SGS
4	SMA194-CCT5AN19	SMA Male Reverse	CU	66	31000	N.D.	Negative			CE201314616	2013.01.28	REECUTTINGBRASSBA	SGS
5	R-RG-178U	Cable (RG178)	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RHS05F011891001E	2013.08.26	电线电缆料	CTI
6			PTFE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RHS05F011891002E	2013.08.26	电线电缆料	CTI
7			鍍銀銅	N.D.	N.D.	N.D.	Negative	N.D.	N.D.	RHS05F011891004E	2013.08.26	电线电缆料	CTI
8	R-AN4424517 /	Tube Copper Stick	CU	66	31000	N.D.	Negative			CE201314616	2013.01.28	REECUTTINGBRASSBA	SGS

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%、鉛含量達0.4%、銅合金中的鉛含量達4%；