

# 產品規格承認書

## Specification For Approval

日期： 2008 / 07 / 16

Date

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Revision

承認廠商： 研華股份有限公司

Manufacturer

製造廠商： 英碩科技股份有限公司

Manufacturer

型號品名： **2.4 GHz Antenna**

Part Number

Description

**INVAX P/N: R-AN2400-5701RS**

廠商審核：

Approved By

### *Invax*

英碩科技股份有限公司  
台北市忠孝東路五段 815 號 4 樓  
Tel: 886-2-2788-5218 Fax: 886-2-2783-1658

### *Cortec*

東莞康捷電子有限公司  
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Tel: 86-769-85388261 Fax: 86-769-85397133

Product Number: R-AN2400-5701RS

Product Name: 2.4 GHz Antenna



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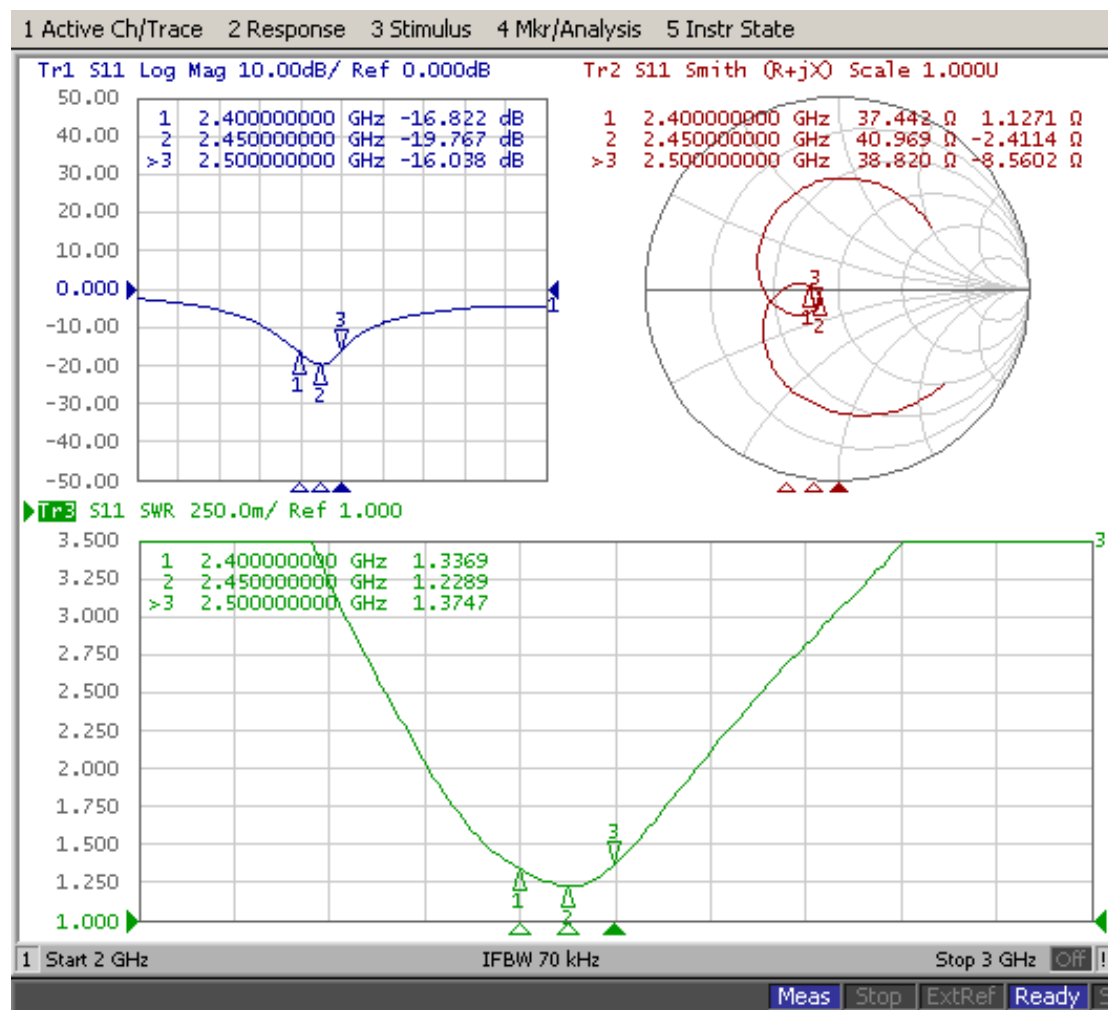
## 1. Reliability Testing

Test Item	Procedure	Requirement
1. Visual inspection and Dimension Check	Applicable methods using x5 magnification	follow specification
2. Rapid Changing of Temperature	-40°C (30minutes) to 90°C (30minutes); 24 cycles	After 2 hours recovery: 1. no visible damage 2. Freq. Tol.: < ±5%
3. Damp Heat	24 hours at 60°C; 90 ~ 95% RH	After 2 hours recovery: 1. no visible damage 2. Freq. Tol. : < ±5%
4. Endurance	24 hours at 90°C	After 2 hours recovery: 1. no visible damage 2. Freq Tol.: < ±5%

## 2. Specification

A. Electrical Characteristics	
S.W.R.	$\leq 2.0$ @ 2400 - 2500 MHz
Antenna Gain	$2 \pm 0.5$ dBi
Radiation Pattern	360 Degree / Omni-Directional
Impedance	50 Ohm
B. Material	
Material of Plastic	PA + ABS
Material of Metal	Cu
C. Environmental	
Operation Temperature	- 30 °C ~ + 85 °C
Storage Temperature	- 30 °C ~ + 85 °C

## 3. S Parameter Test Data



Product Number: R-AN2400-5701RS

Product Name: 2.4 GHz Antenna



#### 4. Antenna Radiation Pattern

##### Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

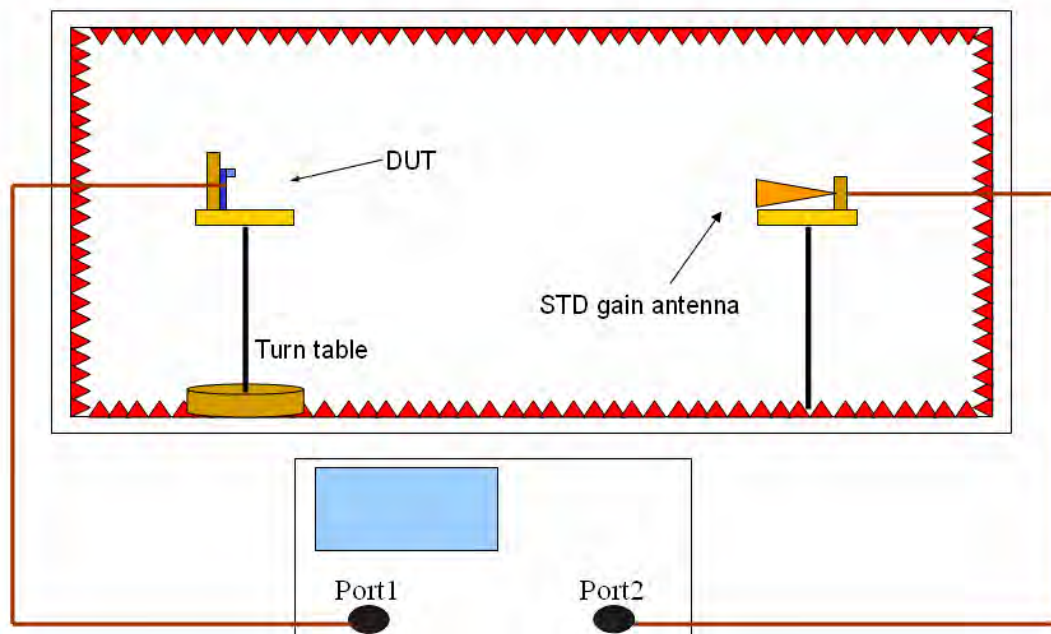
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna



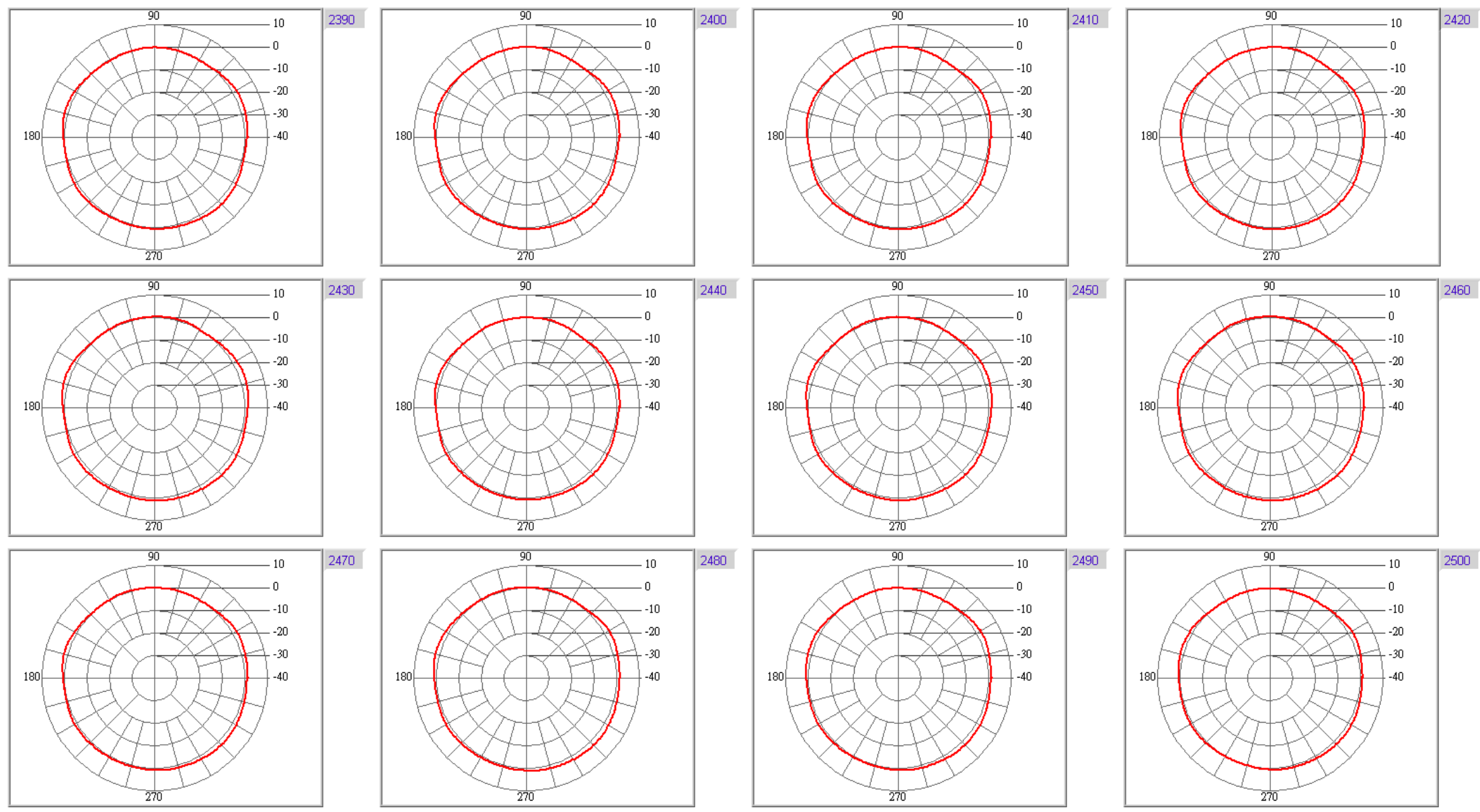
#### 5. Mechanical Drawing

#### 6. MSDS & SGS Report

Model : 2.4 GHz Antenna  
 Remak : H-Plane // Vertical Polarization  
 Tested by : CORTEC Antenna 3D Lab // Wang Sheng

Location: **Chamber**      Date: **2008/7/16**      Time: **上午 11:22:35**  
 Temperatur (°C): **22.00**      Humidity (%): **55.00**      Approved by:

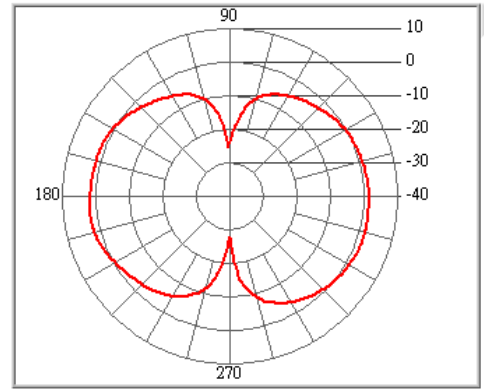
Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	2.04	2.07	2.05	2.02	2.37	1.99	2.1	2.26	1.97	2.32	2.2	1.99
Peak Degree	23	319	23	23	17	17	17	319	29	23	23	23
AV Gain (dBi)	0.73	0.86	0.81	0.77	1.14	0.79	1.03	1.18	0.88	1.12	0.9	0.66



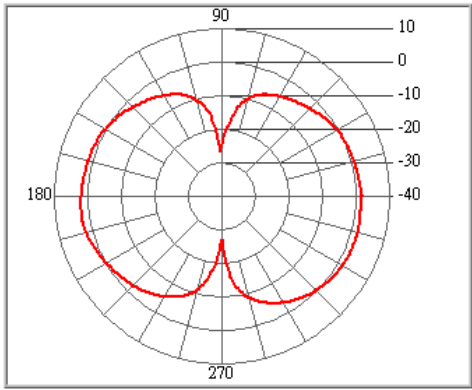
Model : 2.4 GHz Antenna  
 Remak : E-Plane // Horizontal Polarization  
 Tested by : CORTEC Antenna 3D Lab // Wang Sheng

Location: **Chamber**      Date: **2008/7/16**      Time: **上午 11:37:45**  
 Temperatur (°C): **22.00**      Humidity (%): **55.00**      Approved by:

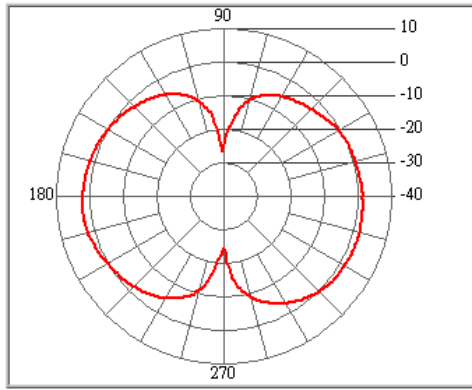
Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	1.94	2.13	2.21	2.08	1.85	1.51	1.47	1.77	2.17	2.19	2.18	2.21
Peak Degree	190	190	190	184	184	344	345	345	345	344	344	191
AV Gain (dBi)	-1.54	-1.43	-1.37	-1.37	-1.38	-1.61	-1.81	-1.81	-1.67	-1.73	-1.58	-1.44



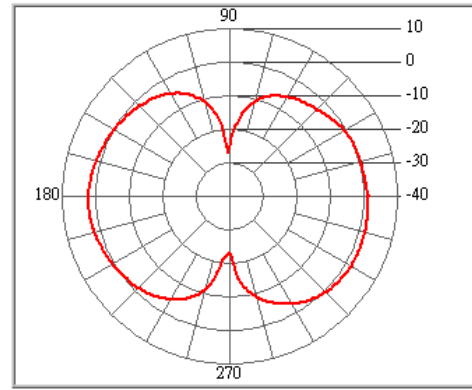
2390



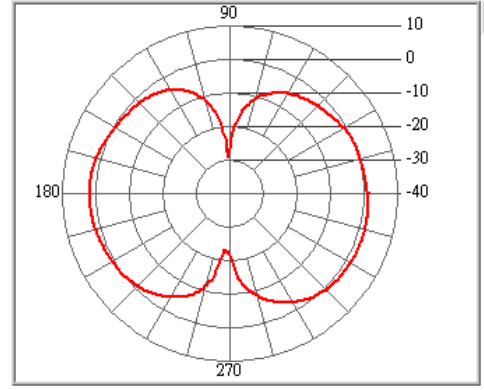
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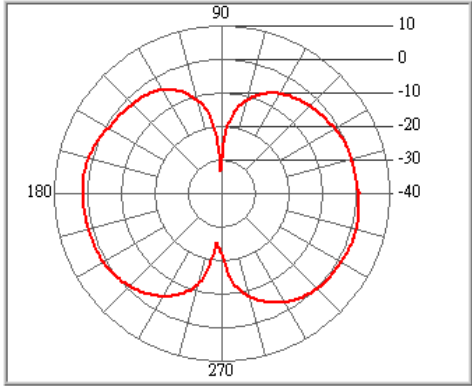
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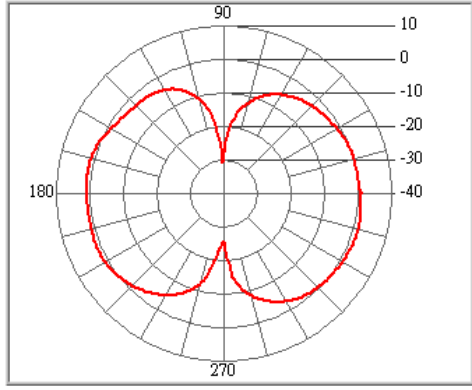
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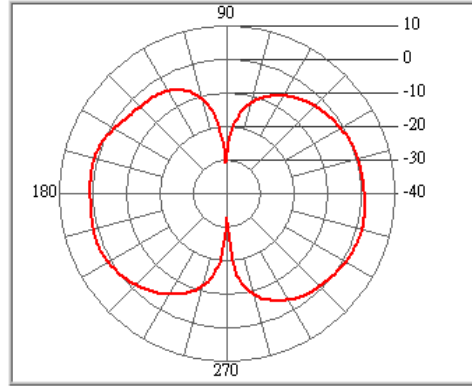
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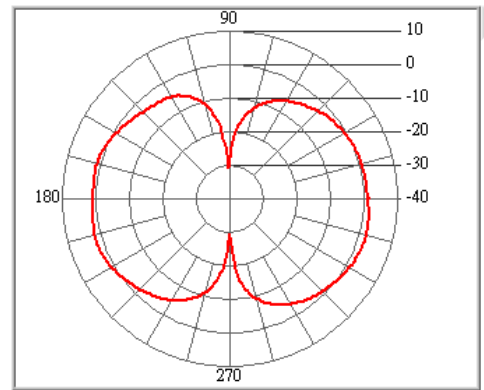
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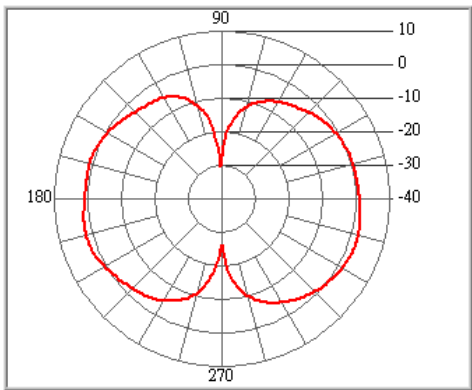
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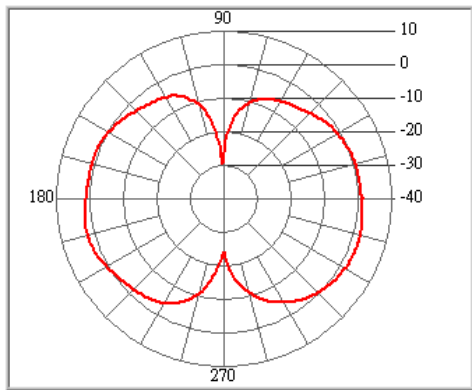
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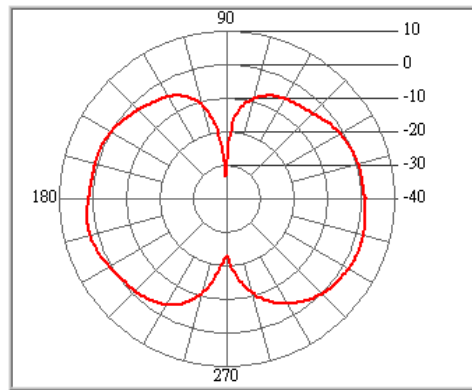
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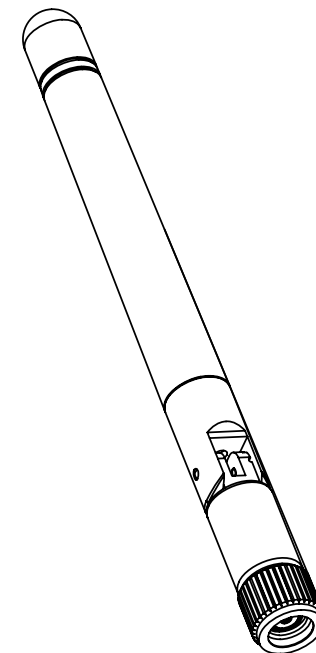
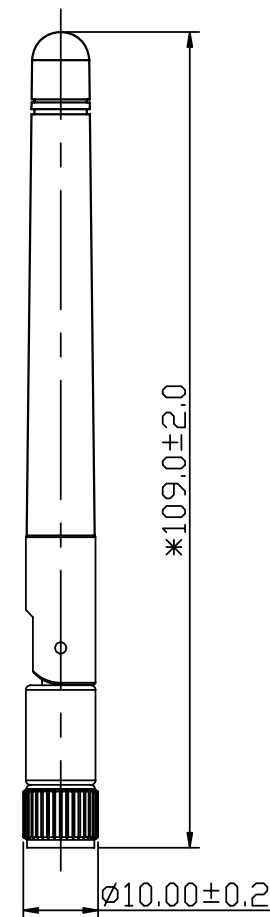
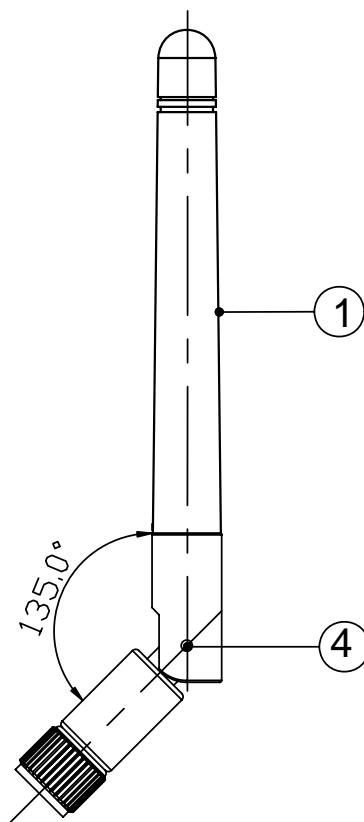
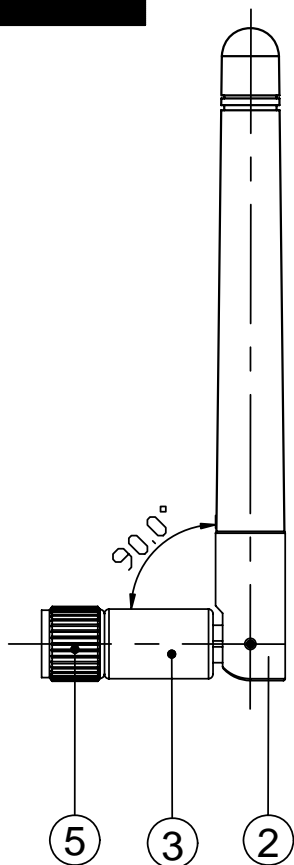
2490



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.

5	R-SMA260-ZC8MRANT	SMA Male Reverse	Metal	Eletrodeposition	1
4	R-AN01-1213Z	Pin	Metal	Zn Black plated	2
3	R-AN57-01	Body3	PA+ABS	Black	1
2	R-AN57-02	Body2	PA+ABS	Black	1
1	R-AN57-03	Body1	TPE	Black	1
NO.	Part Number	Description	Material	Finish	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 Antenna

PART NO.: R-AN2400-5701RS DWG NAME: R-AN2400-5701RS-Z.dwg

APPROVED BY	CHECKED BY	DESIGNED BY		Tolerance
Grant 2008/06/17	liukui 2008/06/17	yangxiaosu 2008/06/17		X.X ±0.1 X.XX ±0.05 X° ±1°
			UNITS: mm	
			SCALE:	
			REVISION: A	

## TPE Datasheet

物性項目 Property	單位 Unit	ASTM 試驗法 Test Method	TPE
比重 Specific Gravity	---	D792	0.88
模具收縮率 Shrinkage	%	D955	0.8-2.5
斷裂拉伸強度 Tensile Strength	Kg/ cm <sup>3</sup>	D638	3.1
扭曲強度 Flexural Strength	Kg/ cm <sup>3</sup>	D790	---
衝擊強度缺口 23°C Impact Strength	Kg om/om	D256	---
硬度 Hardness	A Shore	---	13
熱變形溫度 0.45 MPa Heat Deflection Temp.	°C	D648	80
熔融指數 Melt Flow Index	G/ min <sup>2</sup>	D1238	10
燃燒性 Flammability	---	UL94	HB
<p><b>Testing Data from</b></p> <p>東莞市合春塑料有限公司 Tel:86-0769-2774772</p> <p>台灣大雅國際股份有限公司 Tel:886-02-27775232</p>			