

Specification For Approval

Date: 2013 / 05 / 13

File No.: 130513002

Version: 1.0

Customer : 勤毅

Customer P/N : /

INVAX P/N : AN2400-3304RARS

Description : Antenna

Cortec Checked By:

R@D Dept
2013.05.13
Jack

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 ~ 6**
- 5. Mechanical and Packing Drawing / Page 7 ~ 8**
- 6. Material Description and RoHS Test Report / Page 9 ~ end**

Product Number: AN2400-3304RARS

Product Name: Antenna



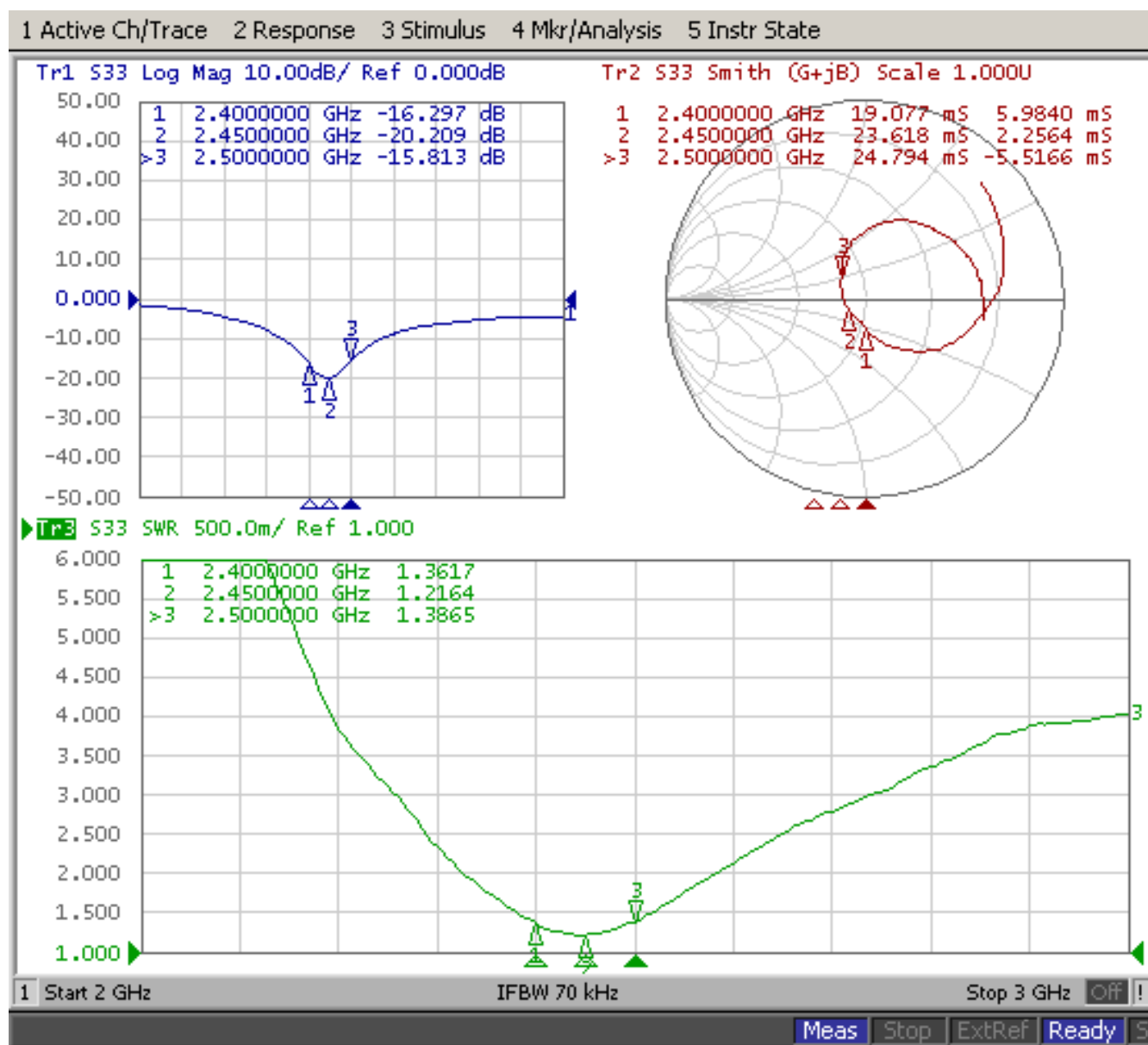
1. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
S.W.R.	≤ 2.0
Antenna Gain	$1.5 \pm 0.7\text{dBi}$
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Material of Plastic	Body: PC+ABS
Connector Type	RP-SMA Right Angle
Connector Pull Test	$\geq 3\text{ Kg}$
C. Environmental	
Operation Temperature	$-40\text{ }^{\circ}\text{C} \sim +65\text{ }^{\circ}\text{C}$
Storage Temperature	$-40\text{ }^{\circ}\text{C} \sim +80\text{ }^{\circ}\text{C}$

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	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

3. Antenna - S Parameter Test Data



Product Number: AN2400-3304RARS

Product Name: Antenna



4. Antenna - Radiation Pattern Test Data

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

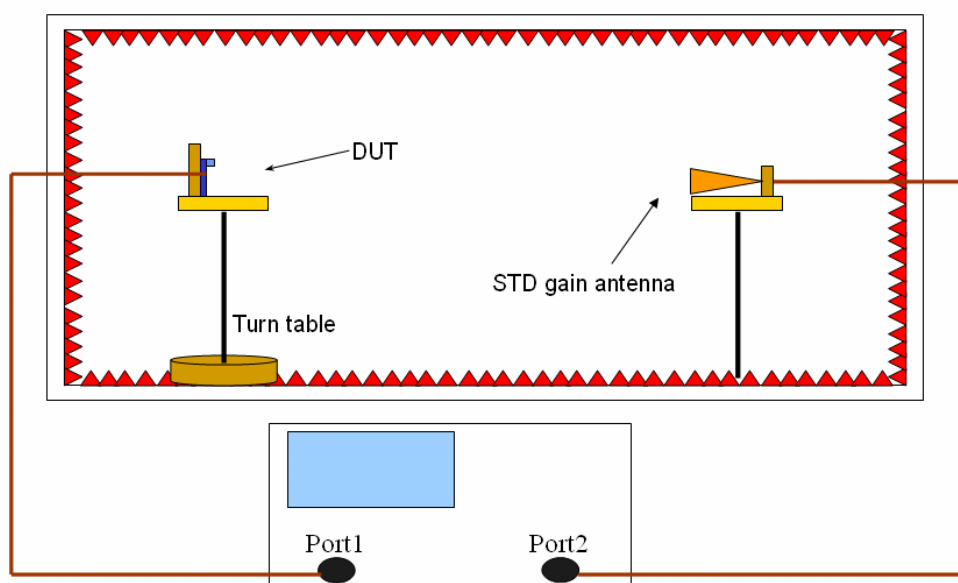
Quiet Zone: 600mm @1 GHz

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



Cortec Technology Inc.

广东省东莞市长安镇振安路沙头段咸西工业区

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

Tested by: CORTEC Antenna 3D Lab

Location: **Chamber**

Date: **2013/4/18**

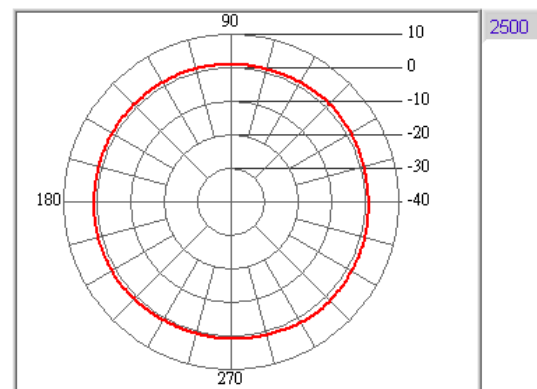
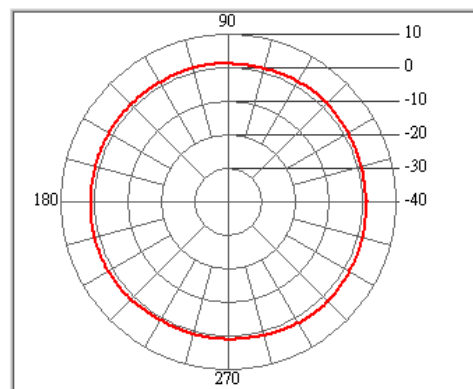
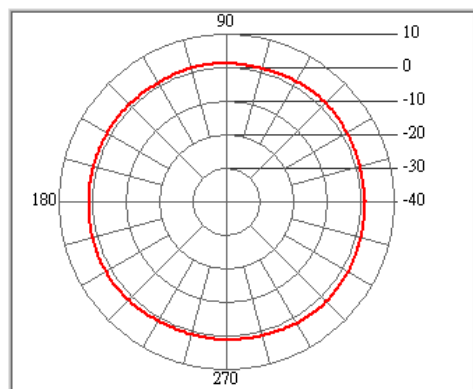
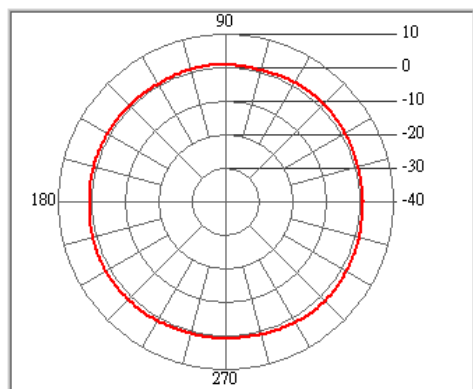
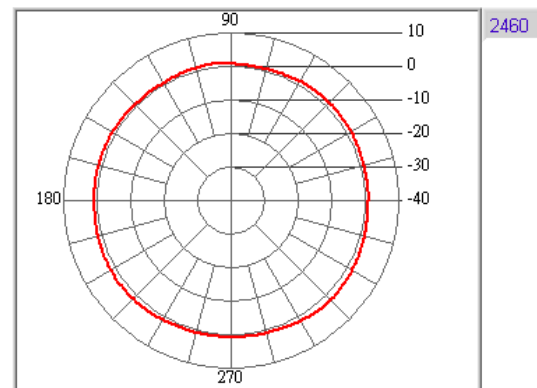
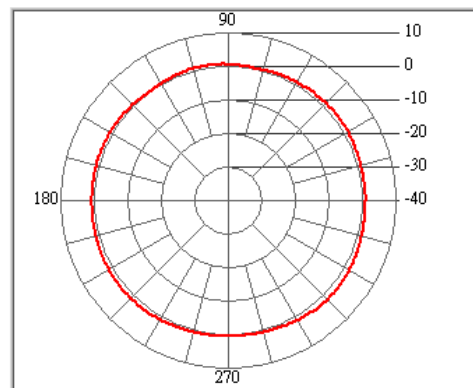
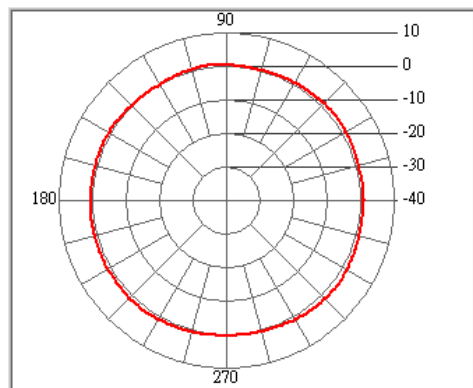
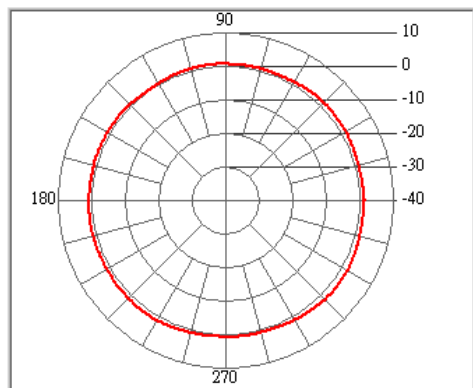
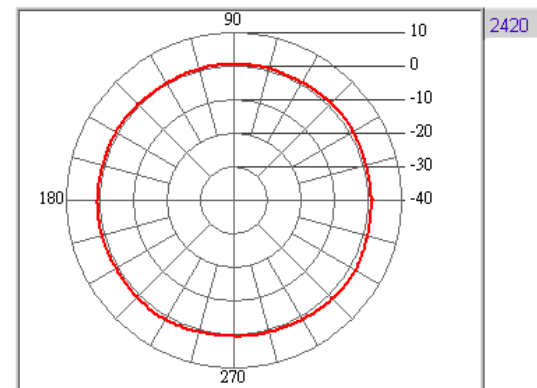
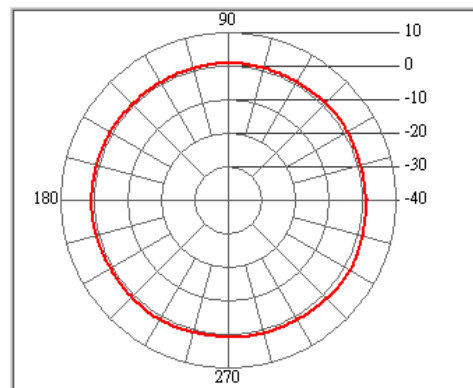
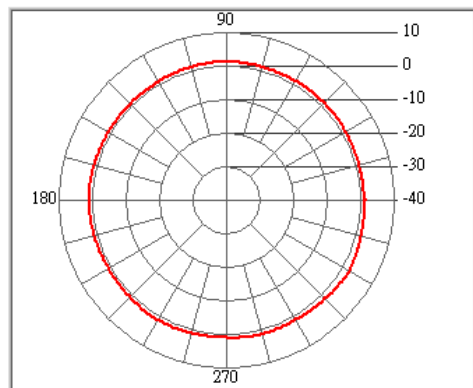
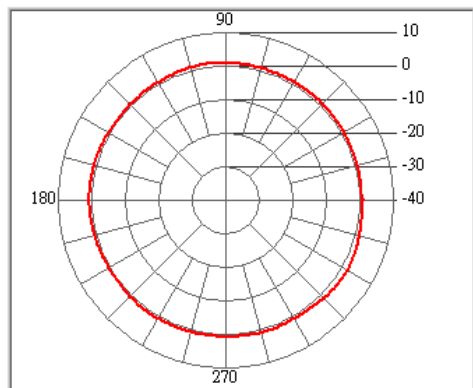
Time: **上午 11:01:32**

Temperatuer (°C): **25.00**

Humidity (%): **65.00**

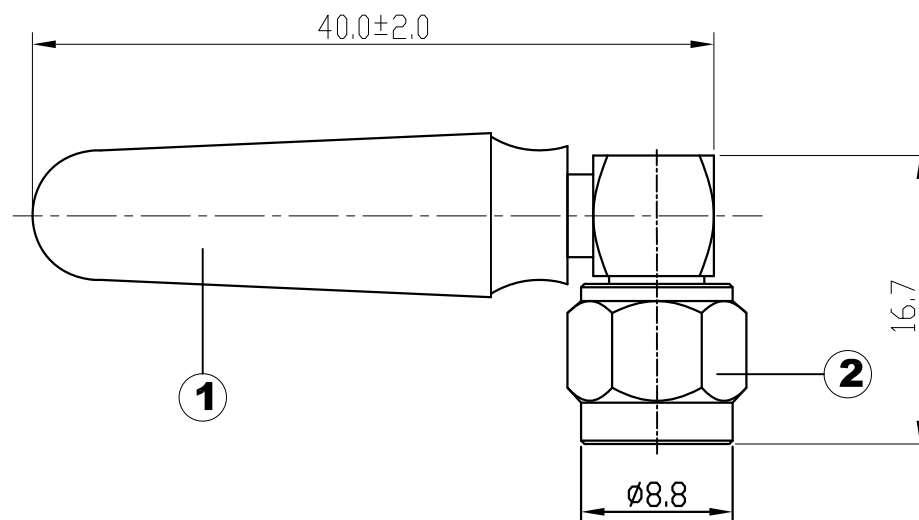
Approved by:

Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	1.94	2.23	1.97	1.8	1.92	1.59	1.77	1.93	1.79	2.08	1.99	1.78
Peak Degree	331	331	331	331	331	320	320	320	320	310	310	310
AV Gain (dBi)	0.78	1.12	0.94	0.83	1	0.72	0.91	1.07	1.01	1.34	1.26	1.1



RoHS

Compatible



Note:

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

2	SMA111-CG9MRANT	RP-SMA 90°	Cu	Au Plated	1
1	R-AN33-101	Body	PC+ABS	Black	1
No.	Part Number	Name	Material	Finish	Q'ty

SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			

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

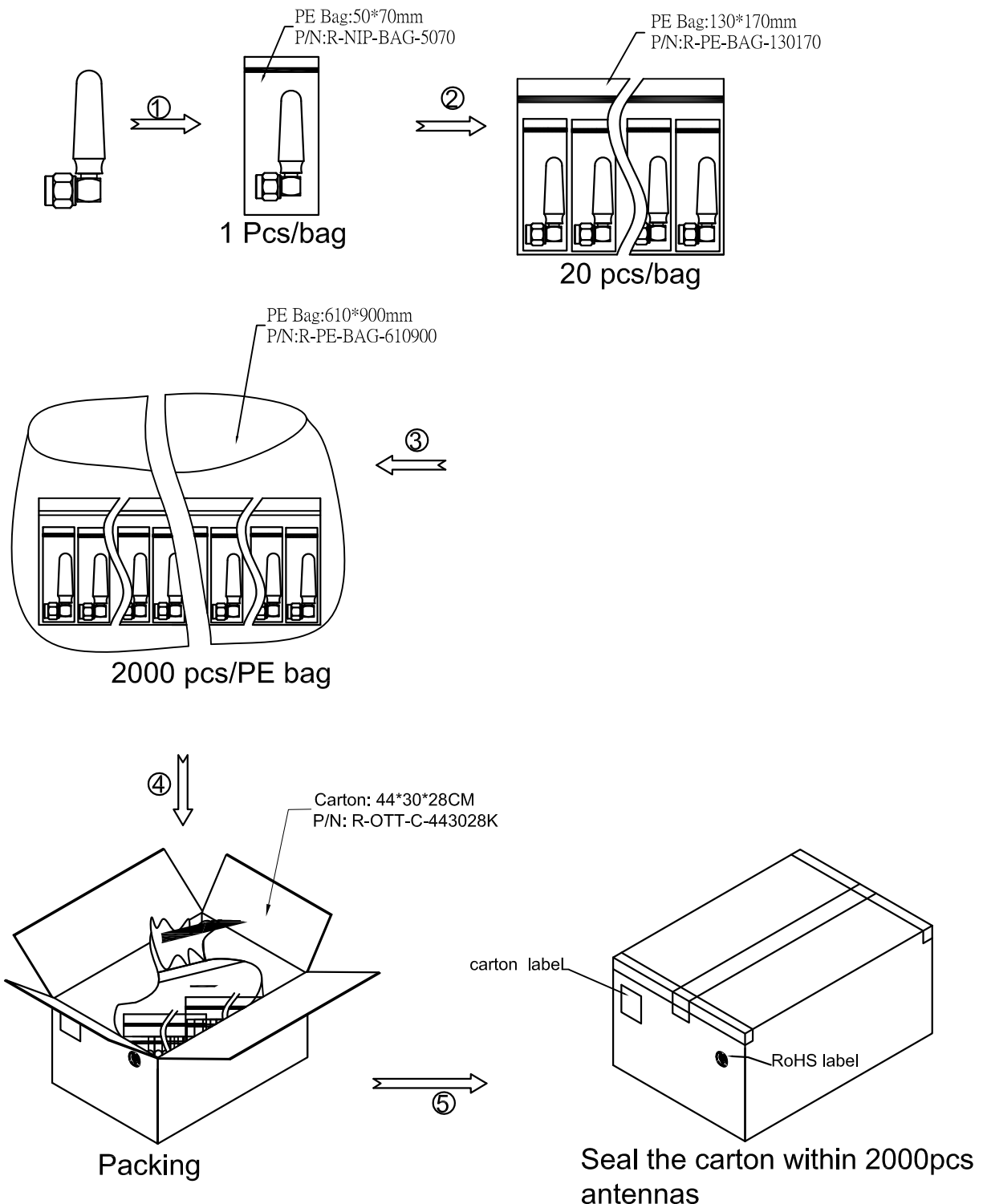
TITLE: 2.4GHz Antenna

PART NO.: AN2400-3304RARS

CUSTOMER P/N: /

APP BY	CHK BY	RF BY	DES BY		Tolerance
Grant 2013/05/13	Jack 2013/05/13		王偉 2013/05/13	UNITS: mm SCALE: 1/1 REVISION: A	X.X ±0.5 X.XX ±0.2 X° ±1

Part Number : AN2400-3304RARS	Revision : A
Name: Antenna	Customer : ALL



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)



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： AN2400-3304RARS

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-AN33-101	Body	PC+ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	KA/2012/C1662	2013.01.02	PC/ABSALLOY	SGS
2	AN33-4522	Metal	銅	19	33794	N.D.	Negative			CANEC1207370802	2012.06.13	C3604黃銅棒	SGS
3	SMA516-CG9MRAN33	RP-SMA	銅	19	33794	N.D.	Negative			CANEC1207370802	2012.06.13	C3604黃銅棒	SGS
			鍍金層	N.D.	N.D.	N.D.	Negative			RLSZE001484960001	2012.11.16	金鍍层	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%、鉛含量達0.4%、銅合金中的鉛含量達4%