

Specification For Approval

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Customer : 宇智網通科技股份有限公司

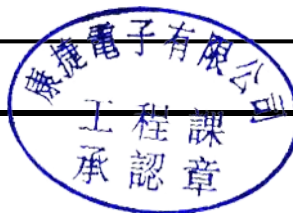
Customer P/N : /

INVAX P/N : AN2450-5505BRS

Description : Antenna

Cortec Checked By:

R&D Dept
2014.03.19
Jack



Customer Approved By:



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Product Number: AN2450-5505BRS

Product Name: Antenna



1. Revision History

Revision	Date	Change Notification	Description
1.0			

Product Number: AN2450-5505BRS

Product Name: Antenna



2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz 5150 ~ 5850 MHz
S.W.R.	≤ 2.0 @ 2400 ~ 2500 MHz ≤ 2.5 @ 5150 ~ 5850 MHz
Antenna Gain	3 +/- 0.5 dBi @ 2400 ~ 2500 MHz 3 +/- 0.5 dBi @ 5150 ~ 5850 MHz
Efficiency(%)	70~80% @ 2400~2500 MHz 60~70% @ 5150~5850 MHz
Radiation Pattern	Omni-Directional
Max Input Power	≥ 2 W
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	CU
Material of Plastic	Body: TPEE Hinge: ABS Holder: POM
Cable Type	RG-178U
Connector Type	SMA Male Reverse
Connector Pull Test	≥ 3 Kg
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C
Antenna Color Storage life	< 2 year

Product Number: AN2450-5505BRS

Product Name: Antenna



3. Characteristics and Reliability Test

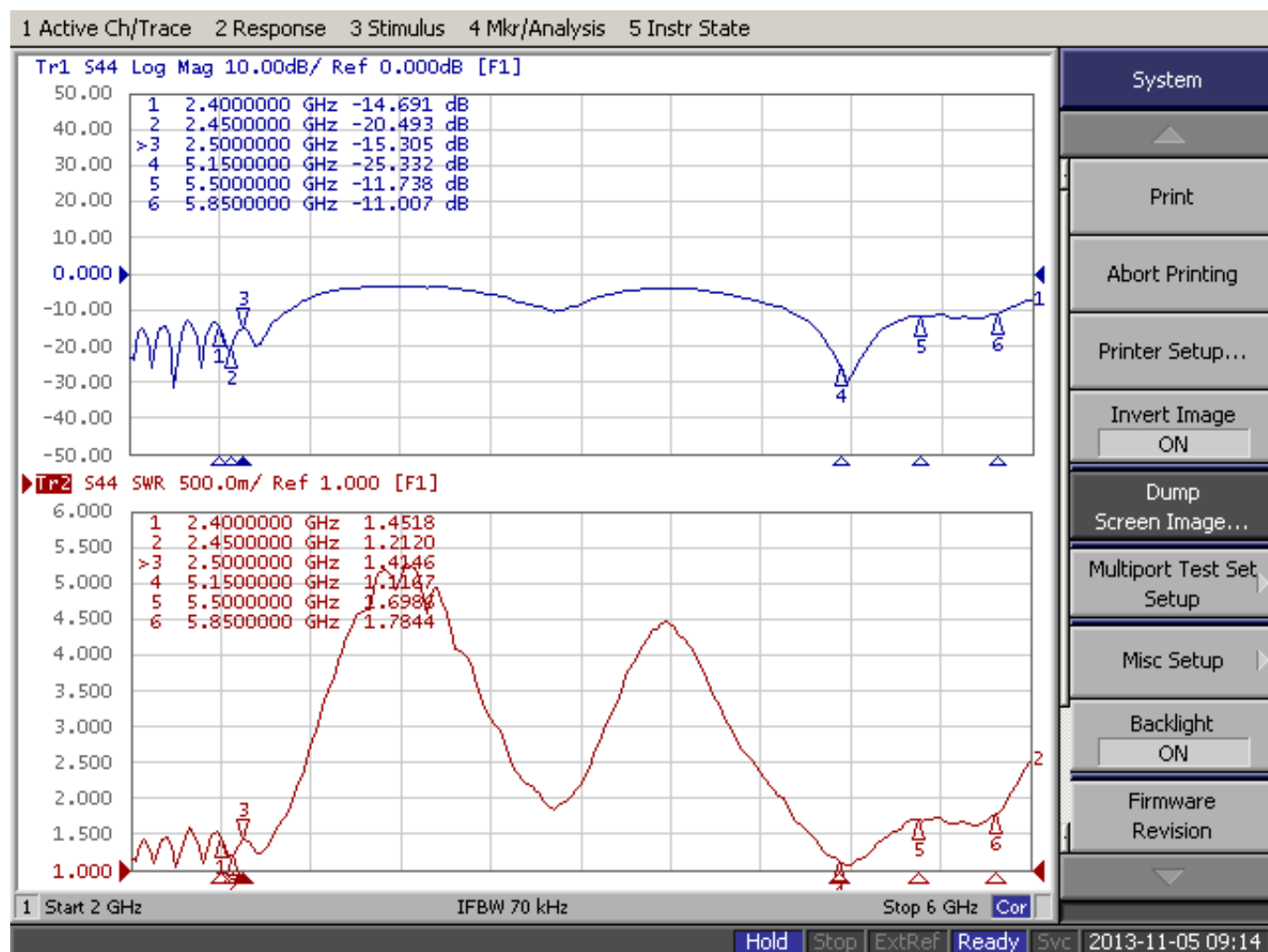
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 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: AN2450-5505BRS

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4. Antenna - S Parameter Test Data

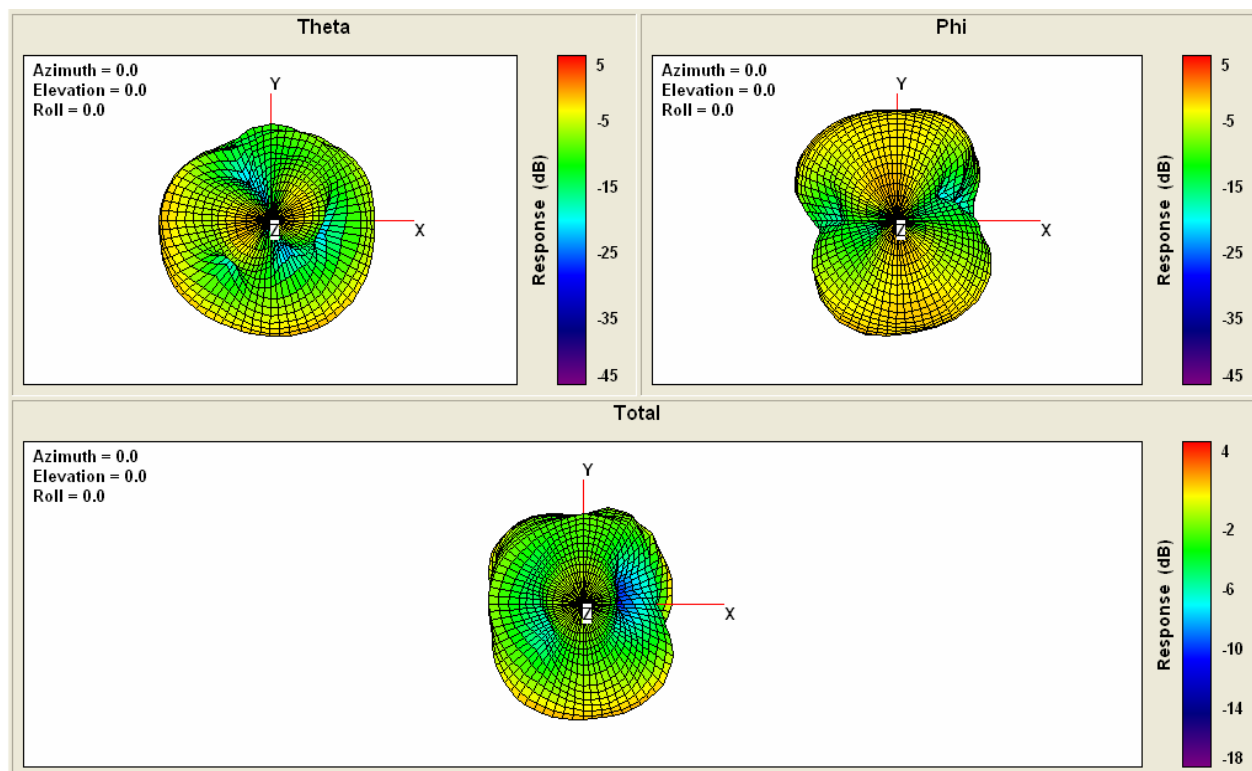


Product Number: AN2450-5505BRS

Product Name: Antenna



5. Antenna - Radiation Pattern Test Data



Frequency (MHz)	2400	2450	2500	4900	5150	5250	5350	5450	5550	5650	5750	5850
Point Values												
Ant. Port Input Pwr. (dBm)	0	0	0	0	0	0	0	0	0	0	0	0
Tot. Rad. Pwr. (dBm)	-1.42	-1.49	-1.36	-2.26	-3.41	-2.74	-2.03	-1.94	-1.93	-2.47	-3.93	-5.05
Peak EIRP (dBm)	2.27	2.67	2.89	3.27	1.34	2.13	3.14	3.21	3.58	2.87	0.73	-0.17
Directivity (dBi)	3.69	4.16	4.25	5.52	4.75	4.87	5.17	5.16	5.51	5.34	4.66	4.88
Efficiency (dB)	-1.42	-1.49	-1.36	-2.26	-3.41	-2.74	-2.03	-1.94	-1.93	-2.47	-3.93	-5.05
Efficiency (%)	72.18	70.92	73.13	59.46	45.56	53.23	62.65	63.90	64.05	56.65	40.45	31.28
Gain (dBi)	2.27	2.67	2.89	3.27	1.34	2.13	3.14	3.21	3.58	2.87	0.73	-0.17

6. Mechanical Drawing

See attached files

7. Material Description and RoHS Test Report

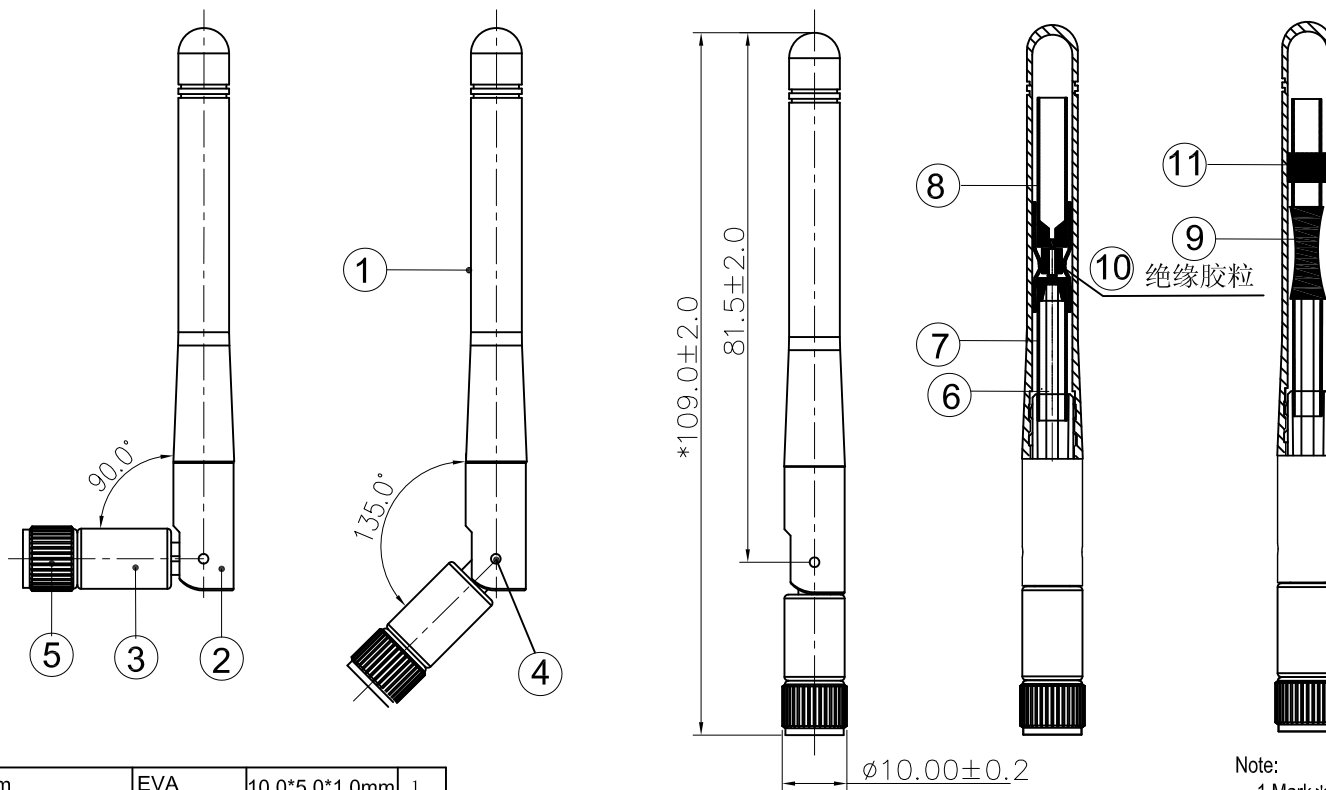
See attached files

RoHS

Compatible



SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



Note:

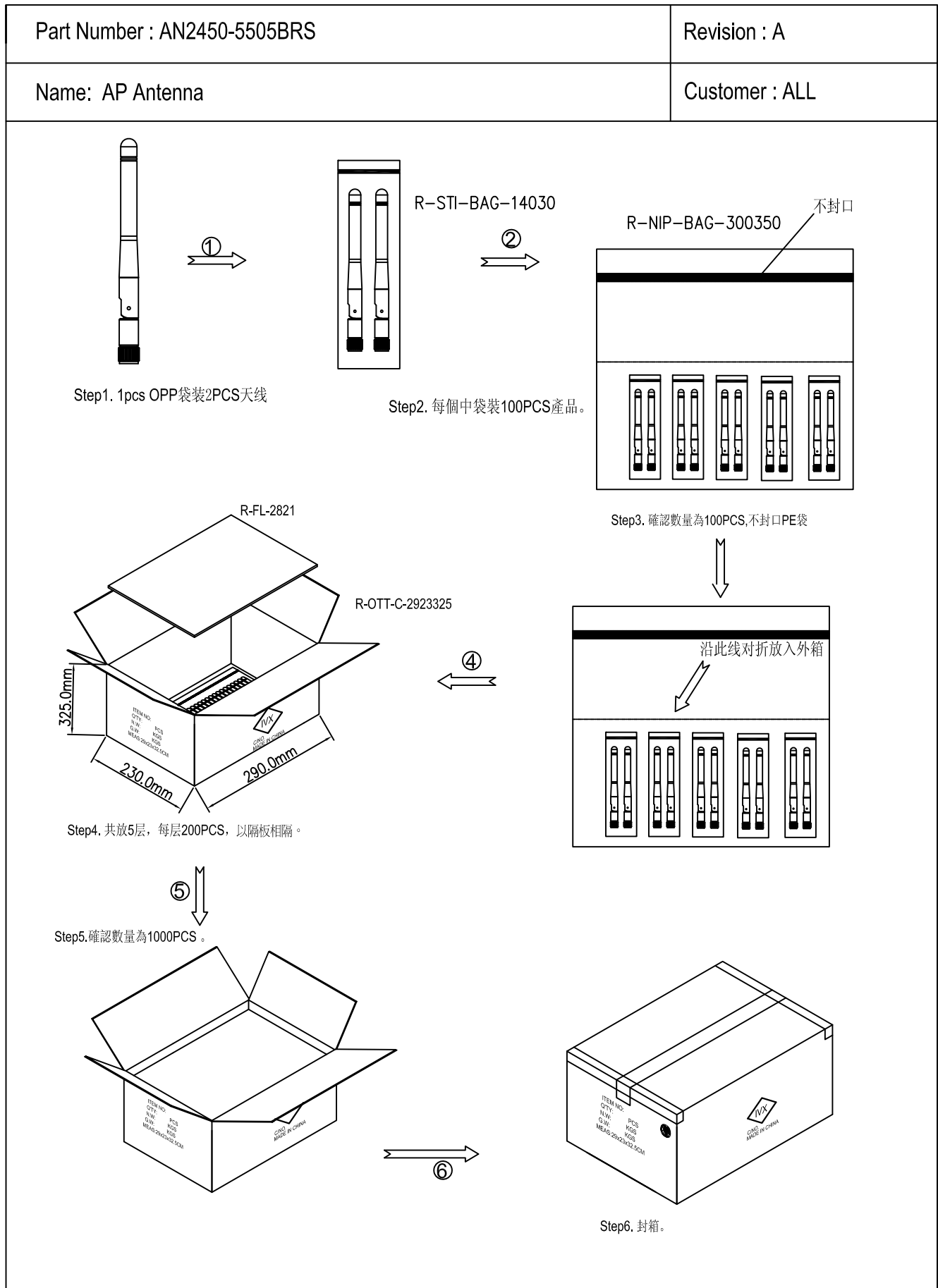
- 1.Mark * is important dimension;"CpK "Identify for process control(CpK $\geq$ 1.33).
- 2.Tolerance:Unmarked tolerance refer to the standard tolerance please.
- 3.Pay attention to the direction of the connector.

11	R-GS-SP1005001	Foam	EVA	10.0*5.0*1.0mm	1
10	AN226010P	Stopper	PTFE	ϕ 2.2*5.70mm	1
9	R-HSTUBE-006N	HSTUBE		ϕ 6.0*15mm	1
8	ASM-TUBE-452310	Tube	Cu	ϕ 4.5*23mm	1
7	ASM-TUBE-452218	Tube	Cu	ϕ 4.5*22mm	1
6	R-RG-178U	Cable	RG178	L=74.8mm	1
5	SMA806-CCR5A56-A	SMA Male Reverse	Cu	Eletrodeposition	1
4	AN01-1217CZ	Hinge Pin	Cu	Black Zn Plated	2
3	AN57-12B-1	Body3	POM	Black	1
2	AN5704-02B	Body2	ABS	Black	1
1	AN5501-01B	Body1	TPEE	Black	1
NO.	Part Number	Description	Material	Finish	Q'ty

Invax System Group.			Cortec Technology Inc.			
Cortec			Http://www.invaxsystem.com E-mail:info@invax.com.tw			
			Tel :886-2-27885218 Fax:886-2-27831658			
TITLE: Antenna 2.4-2.5GHz, 5.15-5.825GHz						
PART NO.: AN2450-5505BRS			CUSTOMER P/N: /			
APP BY	CHK BY	RF BY	DES BY		Tolerance	
Grant	Jack	SF	HC		UNITS: mm	X.X ±0.5
2014/03/19	2014/03/19	2014/03/19	2014/03/19		SCALE: 1/1	X.XX ±0.2
					REVISION: A	X° ±1

Date: 2014.03.19

Page: 1 of 1

APPROVED BY : GrantCHECKED BY : JackDESIGNED BY : HC

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：AN2450-5505BRS

序號	物料型號	物料各構成名稱	各構成物料的材料	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	AN5501-01B	Body-1	TPEE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	GZ1308413502/CHEM	2013.08.12	TPEE 63D	SGS
2	AN5704-02B	Body-2	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	10044908 034	2014.01.02	ABS-757	TuvRheinland
3	AN57-12B-1	Body-3	POM	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1304512483	2013.04.27	POM F20-03	SGS
4	AN01-1217CZ	PIN	銅	60	31000	N.D.	Negative			CE/2013/73960	2013.07.25	REECUTTINGBRASSBAI	SGS
5	SMA806-CCR5A56-A	SMA Male Reverse	銅	60	31000	N.D.	Negative			CE/2013/73960	2013.07.25	REECUTTINGBRASSBAI	SGS
6	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
7			PTFE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RHS05F011891002E	2013.08.26	电线电缆料	CTI
8			鍍銀銅	N.D.	N.D.	N.D.	Negative	N.D.	N.D.	RHS05F011891004E	2013.08.26	电线电缆料	CTI
9	AN226010P	Stoppar	PTFE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1303565401	2013.04.01	PTFE Rod	SGS
10	R-HSUBE-006N	HSTUBE	EVA	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1303661001	2013.03.28	HEAT SHRINKABLE	SGS
11	ASM-TUBE-452310 ASM-TUBE-45218	TUBE	銅	N.D.	7	N.D.	Negative	N.D.	N.D.	SHAEC1302817501	2013.03.02	BRASS TUBE	SGS
12	R-GS-SP1005001	Foam	EVA+背膠	N.D.	62	N.D.	N.D.	N.D.	N.D.	CANEC1303102105	2013.03.19	EVA+gum.	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%