

Specification For Approval

Date: 2022 / 07 / 07

File No.: 220707001

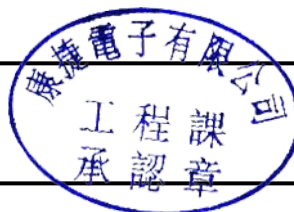
Version: 1.4

Customer : 得琦電子股份有限公司

Customer P/N : /

INVAX P/N : AN0500-13M01BBN

Description : Antenna



Cortec Checked By:	R/D 2022.07.07 SF
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. Revision History / Page 3**
- 2. Specification / Page 4**
- 3. Characteristics and Reliability Test / Page 5**
- 3. Antenna - S Parameter Test Data / Page 6**
- 4. Antenna - Radiation Pattern Test Data / Page 7**
- 5. Mechanical and Packing Drawing / Page 8 ~ 9**
- 6. Material Description and RoHS Test Report / Page 10 ~ end**

Product Number: AN0500-13M01BBN

Product Name: Antenna



1. Revision History

Revision	Date	Change Notification	Description
1.0	2017.08.04	初版	
1.1	2018.06.08	修正資料	BNC 接頭材質改為鋅合金
1.2	2018.08.09	增加印字	天線連接筒增加頻段(470~530MHz) 印字
1.3	2020.01.18	增加數據	增加增益測試數據
1.4	2022.07.07	更新材質	連接頭連接筒材質由 ABS 改為 PC

Product Number: AN0500-13M01BBN

Product Name: Antenna



2. Specification

Sample Photo	
 白色印字 470~530MHz	
A. Electrical Characteristics	
Frequency	470 ~ 530 MHz
V.S.W.R.	≤ 2.0 @ 500 MHz
Peak Gain	0.8 dBi
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	CU
Material of Plastic	TPEE / ABS
Cable Type	RG-316U
Connector Type	BNC PLUG
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C

Product Number: AN0500-13M01BBN

Product Name: Antenna



3. Characteristics and Reliability Test

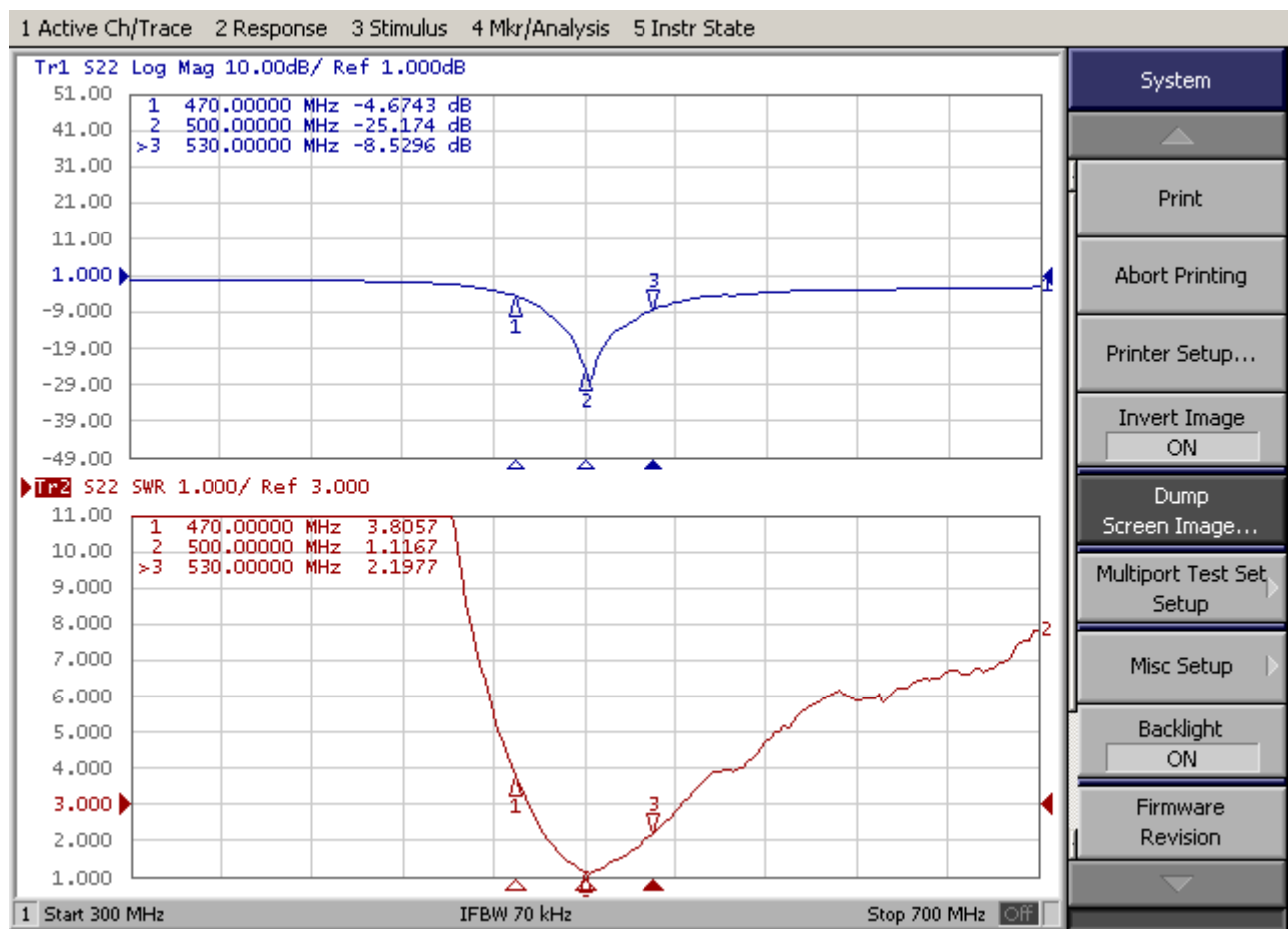
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 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: AN0500-13M01BBN

Product Name: Antenna



4. Antenna - S Parameter Test Data

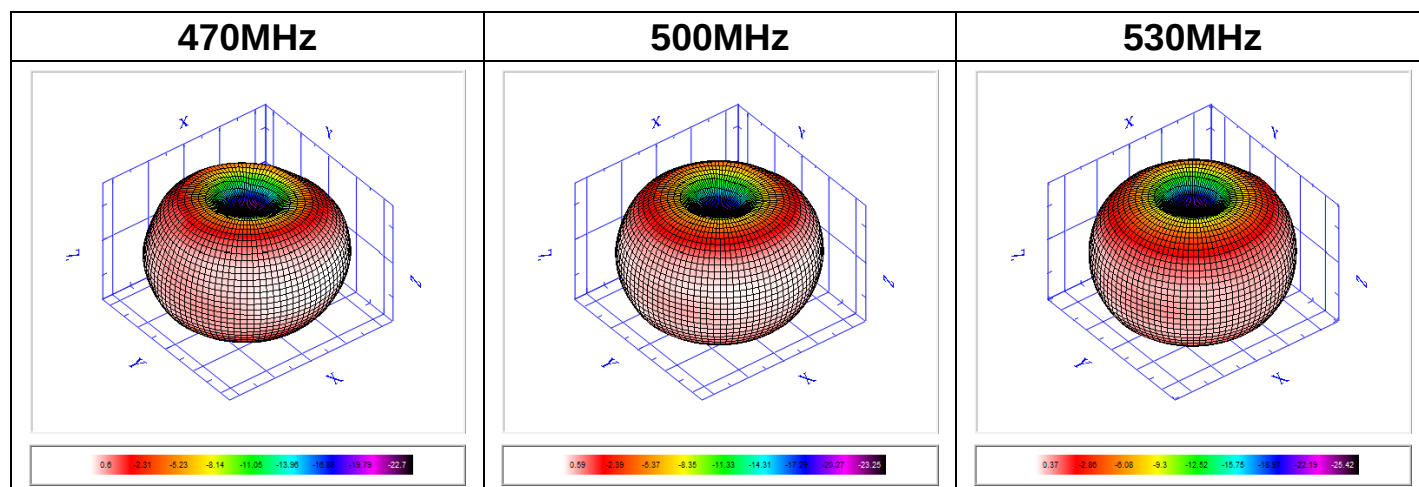


Product Number: AN0500-13M01BBN

Product Name: Antenna



5. Antenna - Radiation Pattern Test Data



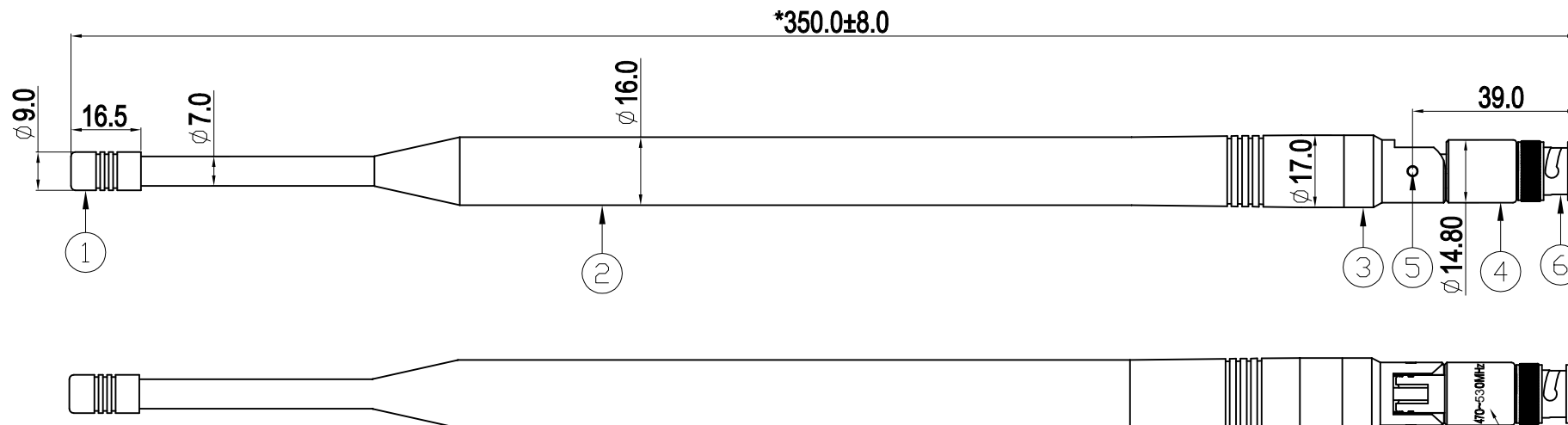
Frequency	470	480	490	500	510	520	530
E-Total Peak Gain (dBi)	0.6	0.68	0.83	0.59	0.51	0.8	0.37
Efficiency (%)	76.69	78.58	81.62	76.2	73.89	77.94	68.73
Average Gain (dB)	-1.15	-1.05	-0.88	-1.18	-1.31	-1.08	-1.63

RoHS

Compatible



SIGN	DATE	DESCRIPTION	APPROVER
△	2018/06/08	修正資料，接頭材質改為鋅合金	WANGWEI
△	2018/08/09	天線連接筒加印頻段印字	XRS
△	2022/07/05	變更連接筒連接頭材質為PC	JF



Note:

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

2.2 17.4
470~530MHz

“白色印字”（比例3：1）

此面印字



6	BNC062-CC8MNAN13M-C	BNC PLUG	Zn-Alloy	電著黑色	1
5	RVT-AN13M-01BC	定位柱	CU	Black Cr Plated	2
4	BODY1-AN13M-02B-500	连接头	PC	Black	1
3	HINGE-AN13M-01B-PC	連接筒	PC	Black	1
2	BODY-AN13M-01B	本體	TPEE	Black	1
1	R-AB87-02	天線帽	ABS	Black	1
NO.	Part Number	Description	Material	Finished	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: 470~530MHZ ANTENNA					
PART NO.: AN0500-13M01BBN			CUSTOMER P/N: /		
APP BY	CHK BY	RF BY	DES BY		Tolerance X.X ±0.5 X.XX ±0.2 X" ±1
SF 2022/07/05	YANG 2022/07/05		JF 2022/07/05	UNITS: mm	
			SCALE: 1/1		
			REVISION: D		

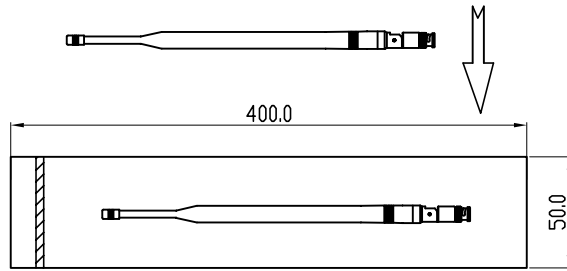
Part Number : AN0500-13M01BBN

Revision : C

Name: AP天線

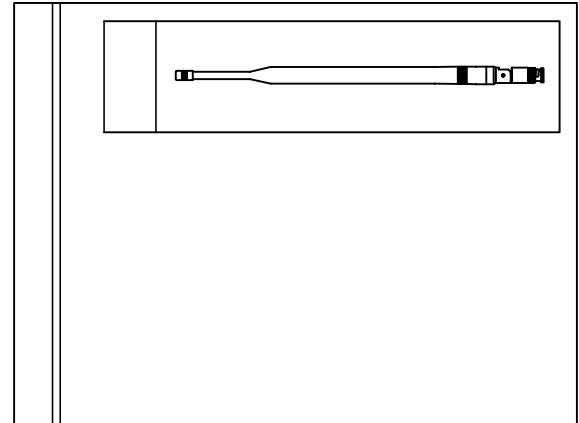
Customer : ALL

一.將產品裝入小PE袋，



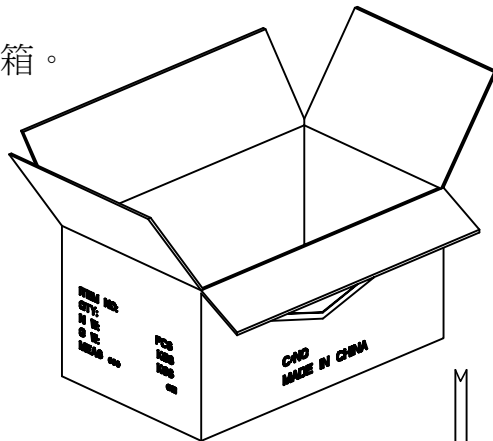
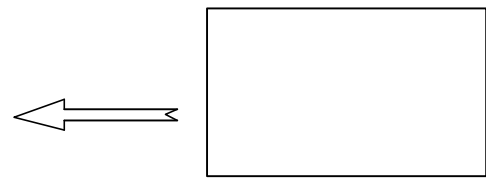
1PCS/袋

二.入PE袋。



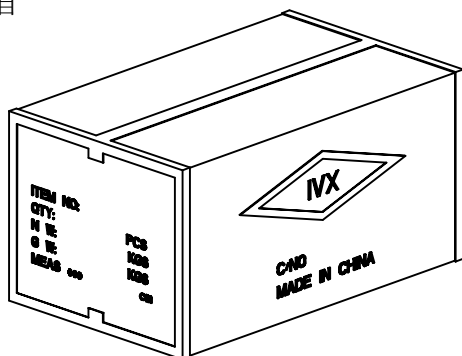
R-PE-BAG-380460 25PCS/袋

三.裝箱。

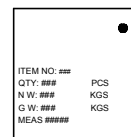
規格:38.0x26x33cm
(PN:R-OTT-C-382633)
250PCS/箱

隔板(P/N: R-FL-3323)共6PCS

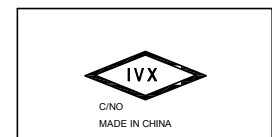
四. 封箱



側麥



正麥



外箱側麥右上角貼一張ROHS標籤。
須填寫產品品號/數量/淨重/毛重。
或以實際重量填寫。

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-47b

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：AN0500-13M01BBN

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RoHS2.0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	DBP	BBP	DIBP	DEHP				
1	R-AB87-02	天線帽	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANML2204785512	2022.03.30	HP171 NP.	SGS
2	BODY1-AN13M-01B-530 HINGE-AN13M-01B-PC	連接頭 连接筒	PC	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	242129932-02	2022.01.11	E-2000XX, E-2001XX	TuvRheinland
3	BODY-AN13M-01B	Body	TPEE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC2216302802	2022.08.03	TPEE	SGS
4	RVT-AN13M-01BC	定位柱	銅	22	28719	N.D.	N.D.							CANML2210125003	2022.05.30	黃銅棒C3604	SGS
5	TUBE-AN13M-1294CM	銅管	銅	N.D.	40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC2220161101	2022.09.23	Appy to H65(C2680,C2700)	SGS
6	BNC062-CC8MNAN13M	BNC PLUG	鋅合金	N.D.	24	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANML2201844702	2022.02.15	環保3# 鋅合金.	SGS
7	RG-316U	Cable	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	NGBML2200124301	2022.01.27	FLUORINATED ETHYLENE	SGS
			PTFE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	NGBML2200121507	2022.01.28	PTFE DISPERSIO	SGS
			鍍銀銅	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC2202119401	2022.02.23	Silver plated copper wire	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2015/863/EU、鋼中合金元素中的鉛含量達0.35%、鋁含量達0.4%、銅合金中的鉛含量達4%