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Product Number: NB1183-H170BF
Product Name: Antenna



1. Revision History

Revision	Date	Change Notification	Description
1.0	2021.08.10	初版	

Product Number: NB1183-H170BF

Product Name: Antenna

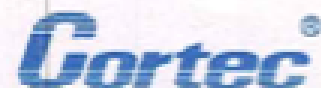


2. Specification

Sample Photo		
		
A. Electrical Characteristics		
Frequency	2400 ~ 2500 MHz 5150 ~ 5850 MHz	
V.S.W.R.	≤ 2.0 @ 2400 ~ 2500 MHz ≤ 2.0 @ 5150 ~ 5850 MHz Test data from the model test	
Peak Gain	2.69dBi @ 2400 ~ 2500 MHz 4.85 dBi @ 5150 ~ 5850 MHz	
Efficiency	55.39 % @ 2400 ~ 2500 MHz 39.7 % @ 5150 ~ 5850 MHz	
Polarization	Linear	
Impedance	50 Ohm	
B. Material & Mechanical Characteristics		
Material of Radiator	PCB	
Cable Type	OD1.13mm	
Connector Type	Mini Connector	
C. Environmental		
Operation Temperature	- 40 °C ~ + 65 °C	
Storage Temperature	- 40 °C ~ + 80 °C	

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3. Characteristics and Reliability Test

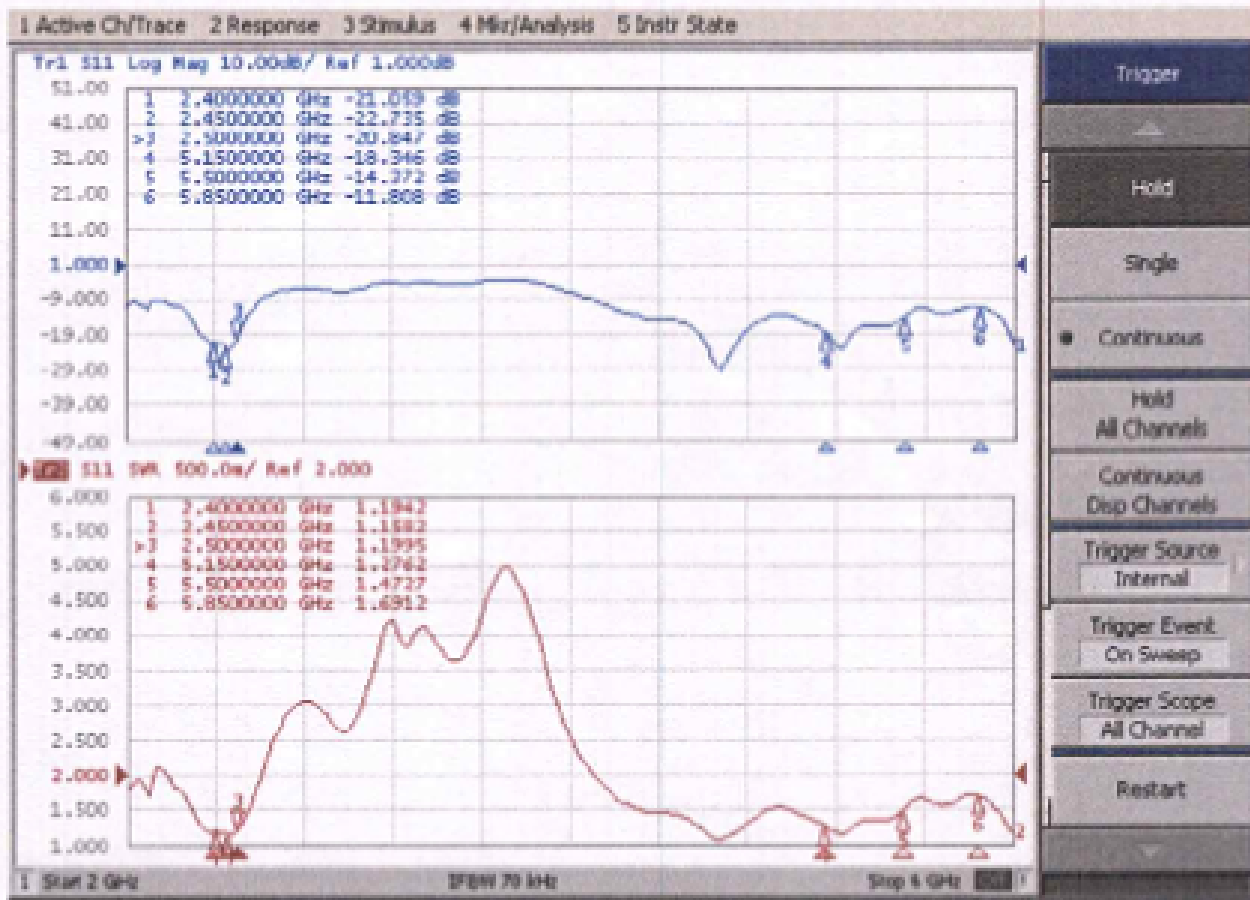
Test Items 測試項目		Test Condition and Procedure 測試方法	Requirements 要求	Result 結果
C1	V.S.W.R. 電壓駐波比	Set DUT on Network Analyzer; make individual calibration to test 設置網路分析儀參數進行測試	Directive DUT specification 符合待測物規範	PASS
C3	Antenna Gain 天線增益	Set DUT on Antenna Chamber; make individual calibration to test 設置天線暗室參數進行測試	Directive DUT specification 符合待測物規範	PASS
M1	Vibration 震動	GB / T2423.48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction 振幅 1.5mm : 頻率 20~80~20Hz : 3 個方向各 2H	1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 無明顯外觀不良; 頻率偏移 $\leq 5\%$	PASS
M3	Solderability 可焊性	GB / T2423.28-2005 Temp: $260 \pm 5^{\circ}\text{C}$; Duration: 5 seconds 溫度 $260 \pm 5^{\circ}\text{C}$; 持續 5 秒	Tin evenly on full 上錫均勻飽滿	PASS
M4	Pull Test 拉力	Holding with individual specification; force applied to axis of terminal 單獨定義產品端子拉力	1. Directive DUT specification 2. Frequency Tol. $\leq 5\%$ 符合待測物規範; 頻率偏移 $\leq 5\%$	PASS
M6	Dimension 尺寸	Inspection of dimension, color, material, package, surface process. 檢查尺寸, 顏色, 材料, 包裝, 表面處理	Directive DUT specification 符合待測物規範	PASS
E3	Temperature and Humidity Chamber 恒溫恒濕	GB / T 2423.3-2006 Temp: 80°C / 12 H; -40°C / 12H RH: $\geq 90\%$; Time: 24H 溫度 80°C 測試 12H 轉 -40°C 測試 12H; 濕度 $\geq 90\%$; 時間 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 恢復 2H 后, 無明顯外觀不良; 頻率偏移 $\leq 5\%$	PASS
E5	Aging test 老化	GB / T 2423.2 - 2008 Temp: 80°C ; Time: 24 hours 溫度 80°C · 測試 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$ 恢復 2H 后, 無明顯外觀不良; 頻率偏移 $\leq 5\%$	PASS
R1	RoHS	With Reference to IEC 62321:2008 with flow chart 參考 IEC 62321 測試流程	Directive RoHS 2015/863/EU 符合 RoHS 2015/863/EU 標準	PASS

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4. Antenna - S Parameter Test Data

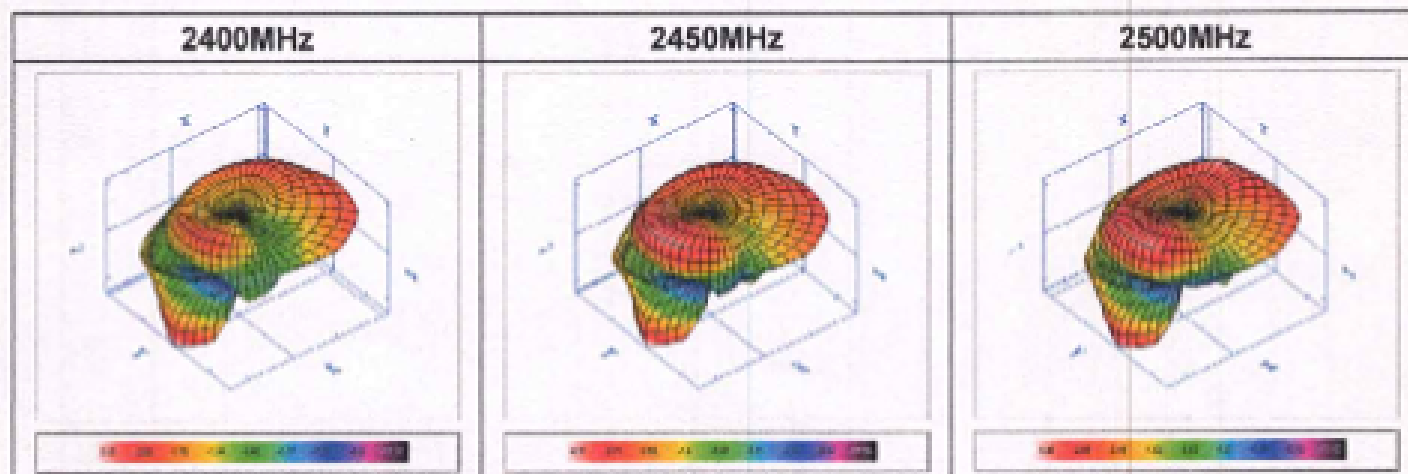


Product Number: NB1183-H170BF

Product Name: Antenna

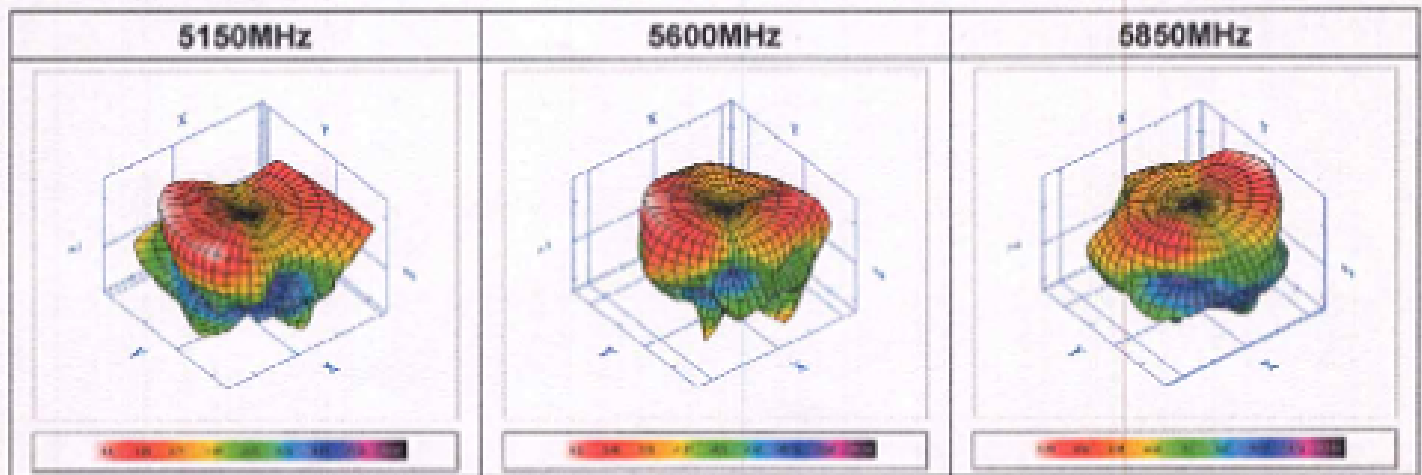


5. Antenna - Radiation Pattern Test Data



Frequency	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
TRP (dBm)	-2.85	-2.8	-2.94	-3.03	-3.02	-3.1	-2.86	-2.84	-2.83	-2.62	-2.57
Peak EIRP (dBm)	2.68	2.65	2.69	2.5	2.68	2.13	2.34	2.48	2.47	2.65	2.66
NHPRP +/- 45 (degree)	-3.7	-3.62	-3.76	-3.9	-3.88	-4	-3.74	-3.71	-3.74	-3.56	-3.55
NHPRP +/- 30 (degree)	-4.8	-4.78	-4.97	-5.06	-5.03	-5.11	-4.84	-4.89	-4.94	-4.75	-4.73
E-Theta Peak Gain (dBi)	-1.01	-0.99	-1.16	-1.1	-0.93	-1.43	-0.86	-1.03	-1.12	-0.83	-0.08
E-Phi Peak Gain (dBi)	1.7	1.89	2.01	1.81	1.76	1.64	1.38	1.66	1.81	2.06	2.04
E-Total Peak Gain (dBi)	2.68	2.65	2.69	2.5	2.68	2.13	2.34	2.48	2.47	2.65	2.66
Directivity (dBi)	5.53	5.46	5.63	5.53	5.7	5.23	5.2	5.32	5.31	5.26	5.23
Efficiency (%)	51.84	52.42	50.87	49.74	49.88	48.94	51.75	51.97	52.08	54.73	55.39

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Product Name: Antenna



Frequency	5150	5250	5350	5470	5600	5725	5750	5800	5825	5850	5875
TRP (dBm)	4.54	4.63	4.68	4.57	5.28	4.43	-5.41	4.81	4.79	4.36	4.01
Peak EIRP (dBm)	3.35	3.08	3.95	4.07	3.6	3.29	3.1	3.22	4.07	4.5	4.85
NHPRP +/- 45 (degree)	-6.22	-5.99	-5.92	-6.16	-6.76	-6.26	-7.48	-6.72	-7.03	-6.42	-6.07
NHPRP +/- 30 (degree)	-6.58	-6.3	-6.25	-6.52	-7.21	-6.79	-7.92	-7.38	-7.45	-6.99	-6.64
E-Theta Peak Gain (dBi)	-1.45	-1.72	-2.93	-2.44	-1.07	-2.05	-4.13	-3.65	-3.66	-2.42	-2.07
E-Phi Peak Gain (dBi)	3.31	3.01	3.93	4.07	3.57	3.28	2.9	3.07	3.97	4.48	4.83
E-Total Peak Gain (dBi)	3.35	3.08	3.95	4.07	3.6	3.29	3.1	3.22	4.07	4.5	4.85
Directivity (dBi)	7.89	7.71	8.63	8.64	8.87	7.72	8.51	8.03	8.86	8.86	8.86
Efficiency (%)	35.18	34.46	34.03	34.91	29.68	36.1	28.77	33.05	33.18	36.62	39.7

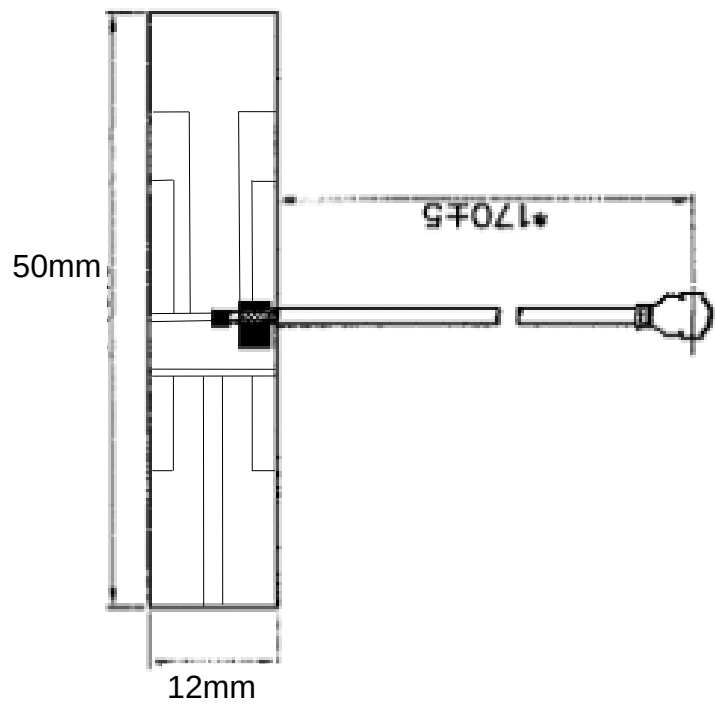
HF☐

RoHS☒

REACH☐

CONFIDENTIAL

DATE	DESCRIPTION	APPROVER
A		
A		
A		



Note:

- 1. The ϕ and Red Mark are Important; Cpk Identify for process control(Cpk ≥ 1.33).
- 2. Tolerance: Unmarked tolerance refer to the standard tolerance please.

4	GS-NB1183H-01SE	Adhesive	SONY-G98X0	40*8*5mm	1
3	PB-NB1183-08FB	PCB	FR4	40*8.5*1mm Black	1
2	R-CB-113B	Coaxial Cable	OD1.13	Black	1
1	CR-113-C4	Connector	Cu	Au Plating	1
No.	Part Number	Name	Material	Finish	QTY

www.cortec.com

Cortec

Cortec Technology Inc.
TEL: 0086 21 6043 1818
E-MAIL: sales@cortec.com

TITLE: 2.4G5.8GHz Embedded Antenna

PART NO.: NB1183-H170BF

CUSTOMER F.M. /

APP BY	CHK BY	RF BY	DES BY	Tolerance X.X ±0.5 X.XX ±0.3 X' ±1'
Grand 20210309	Kenny 20210309			
WS 20210309				REVISION: A

东完康捷电子有限公司

零部件尺寸检验报告

部品料号		NB1180-H1170EP			检验日期		2021.08.09			
部品名称		内置天线			校验阶段		☒ 试产		☐ 量产	
项次	尺寸	公差		测量数据(5个部件)					结果	
		+	-	#1	#2	#3	#4	#5	OK	NG
1	170	3	3	172	170	172	171	171	Y	
2	8.5	0.3	0.3	8.53	8.52	8.56	8.62	8.55	Y	
3	40	0.3	0.3	40.25	40.14	40.06	40.08	40.15	Y	
4	6.3	0.3	0.3	6.29	6.35	6.35	6.34	6.31	Y	
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检测人: 易凤莲

审核: 易凤莲

批准: 梁继峰

SGS 台灣網站 → http://tw.sgs.com/sgsrsts/cn/cheres_fw.asp
 SGS 大陸網站 → http://rsts.cn.sgs.com/cn/cheres_cn.asp
 SGS 韓國網站 → http://rsts.kr.sgs.com/sgsrsts/en/cheres_en.asp

CORIF-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 (YYYYMMDD)
3. 產品名稱 (輸入前 10 個字不含空白)
4. 顯示檢查碼 (按指示圖面)



原捷電子有限公司			
地址:	時間:		
部門:	研發部		
電話:	文書:		

物料中HSF對象物質含量調查表

物料名稱: NSI DK3-JH038P

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	DEHP	DIBP				
1	FR-4	PCB	FR4	N.D.	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC2104493214	2021.04.15	FR-4	SGS
2	GS-AG1180H0-SE	Poster	G9000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ETR21101402 ETR21200106	2021.01.14 2021.02.08	ADHESIVE	SGS
3			EVA	N.D.	6	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC2100688411	2021.01.14	Environment	SGS
4			黑色色母	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	A2210000465101003	2021.01.07	SGS-PLAS Color Master Batch	CTI
5			FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	SHAE2101969102	2021.02.03	完全無乙丙橡膠粉。	SGS
6			橡膠粉	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	TSNEC2002256103	2020.11.30	TPS PLATIN	SGS
7			橡膠粉	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	A0210000330101001C	2021.01.25	橡膠粉	CTI
8			PBT	N.D.	3.45	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ETR20000686	2020.12.30	POLYBUTYLENE	SGS
9	CR-113-G4	Cable	銅	N.D.	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC2102363601	2021.02.25	BRODGE CS216	SGS
10			鍍金膠	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	A2200375650101001	2020.10.31	Gold plating	CTI

根據測試報告如實填寫鉛、銅、汞、六價鉻、PBBs和PBDEs六項禁用物質的含量

包裝材料中鉛、銅、汞、六價鉻的含量不超過100ppm，銅的允許濃度為5ppm

歐盟RoHS指令豁免條款2015RoHS指令，銅中含金元素中的鉛含量達0.35%、銅含量達0.4%、銅合金中的鉛含量達4%