

**Index:**

- 1. Revision History / Page 3**
- 2. Specification / Page 4**
- 3. Characteristics and Reliability Test / Page 5**
- 4. Antenna - S Parameter Test Data / Page 6**
- 5. Antenna - Radiation Pattern Test Data / Page 7 ~ 9**
- 6. Mechanical and Packing Drawing / Page 10 ~ 11**
- 7. Material Description and RoHS Test Report / Page 12 ~ end**

Product Number: AB0821F-46A01BSM

Product Name: Antenna



## 1. Revision History

Revision	Date	Change Notification	Description
1.0	2013.07.18		

Product Number: AB0821F-46A01BSM

Product Name: Antenna



## 2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	824 ~ 960 MHz 1710 ~ 2170 MHz
S.W.R.	$\leq 2.0$
Antenna Gain	- $3.0 \pm 0.7$ dBi @ 824 ~ 960 MHz - $4.0 \pm 0.7$ dBi @ 1710 ~ 2170 MHz
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	PCB
Material of Plastic	Body: ABS
Cable Type	LMR100
Connector Type	SMA Male
Connector Pull Test	$\geq 3$ Kg
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C

### 3. Characteristics and Reliability Test

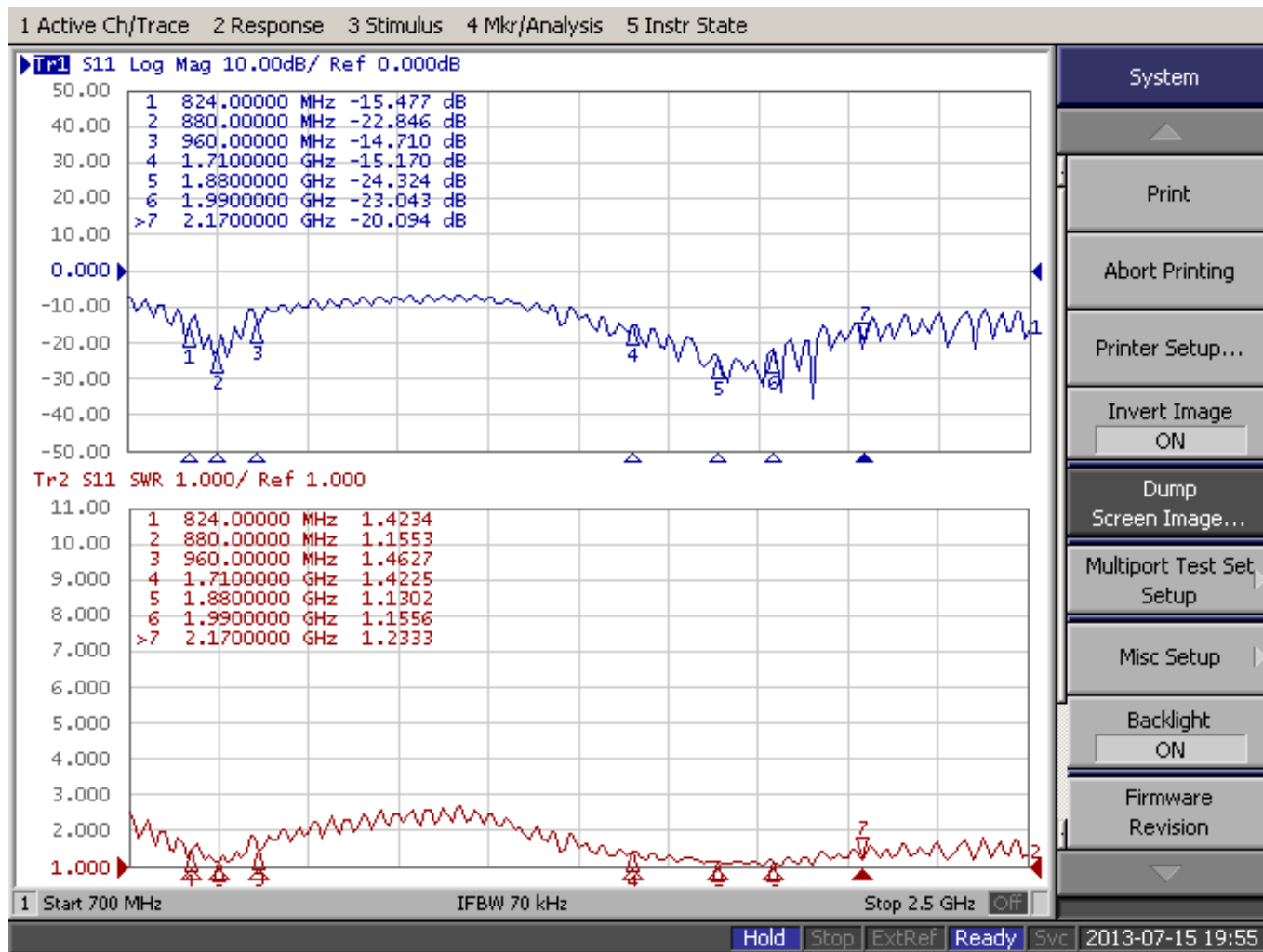
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 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: AB0821F-46A01BSM

Product Name: Antenna



### 4. Antenna - S Parameter Test Data



Product Number: AB0821F-46A01BSM

Product Name: Antenna



## 5. Antenna - Radiation Pattern Test Data

### Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

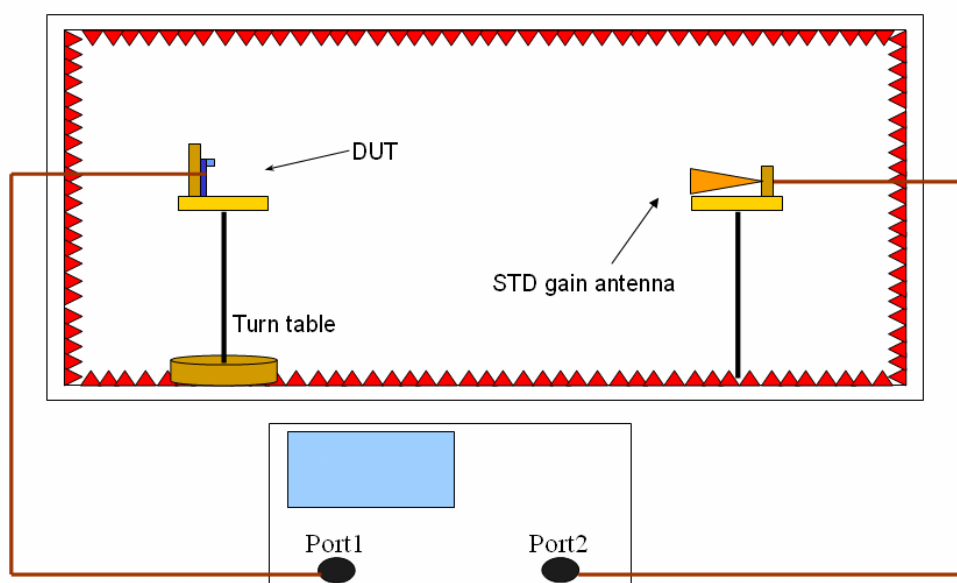
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna



## 6. Mechanical Drawing

See attached files

## 7. Material Description and RoHS Test Report

See attached files



Mode: 3G Antenna  
Remark: H-Plane\ V-Pol  
Tested by: CORTEC Antenna 3D Lab

Location: **Chamber**

Date: **2013/7/16**

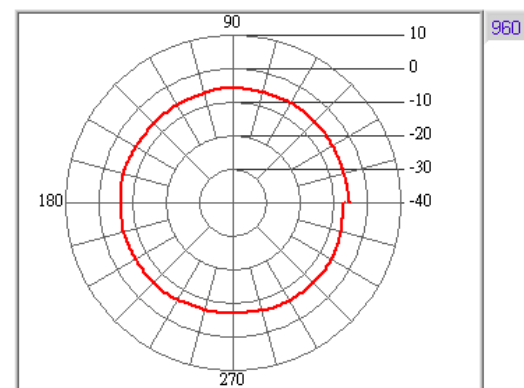
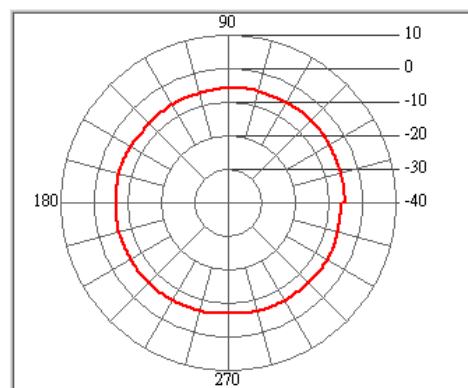
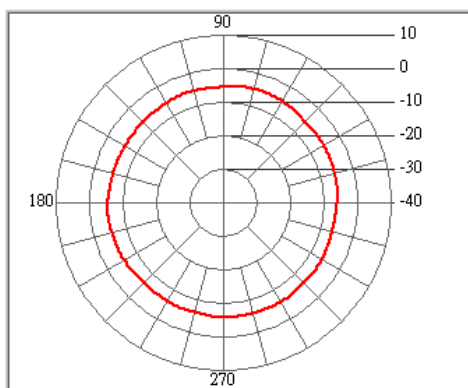
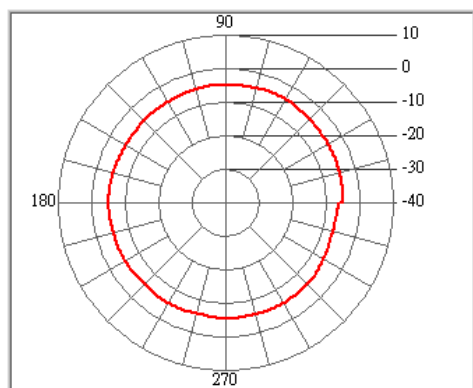
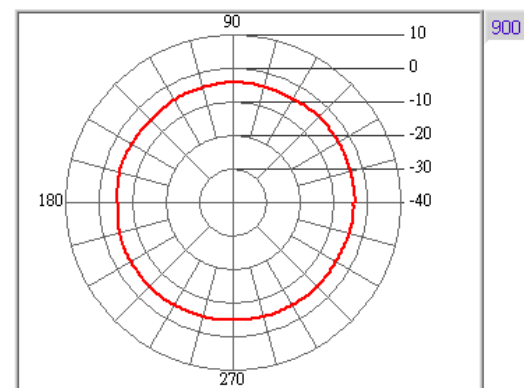
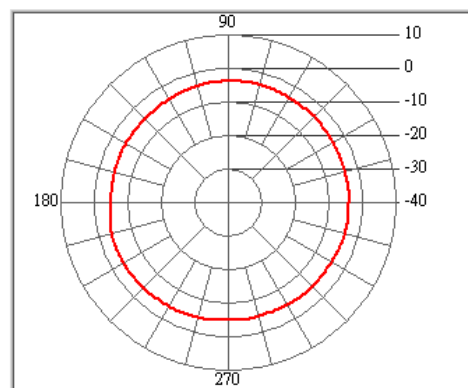
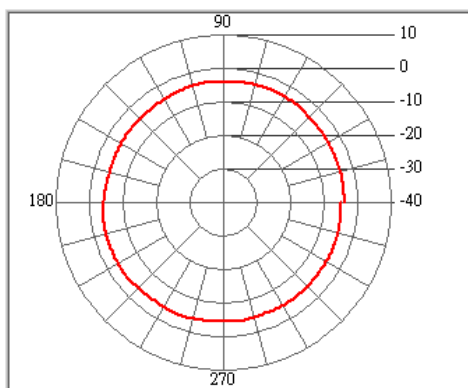
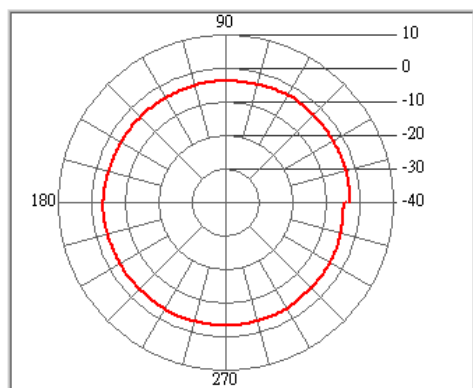
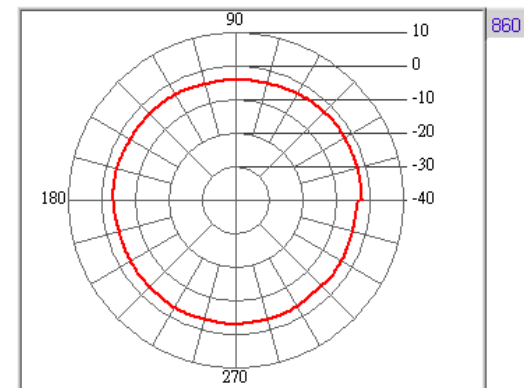
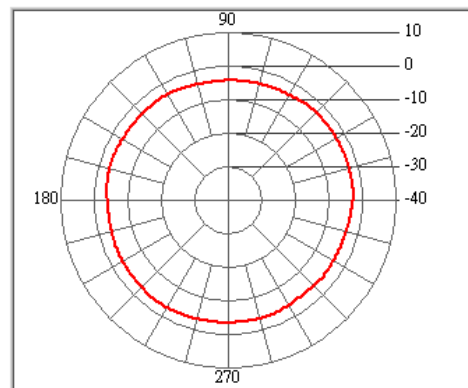
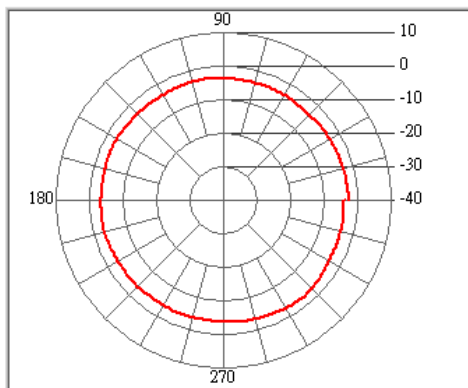
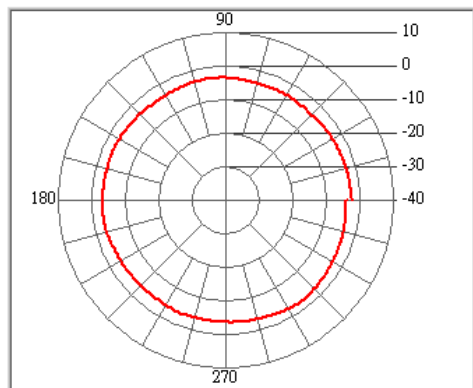
Time: **上午 11:23:38**

Temperature (°C): **25.00**

Humidity (%): **65.00**

Approved by:

Freq. (MHz)	824	830	850	860	870	880	890	900	920	930	950	960
Peak Gain (dBi)	-2.25	-2.46	-2.4	-2.29	-2.74	-3.5	-3.57	-3.4	-4.3	-4.76	-4.99	-5.21
Peak Degree	0	0	0	0	0	59	0	0	58	69	0	0
AV Gain (dBi)	-3.44	-3.5	-3.52	-3.42	-3.58	-4.2	-4.28	-4.53	-5.31	-5.76	-6.08	-6.28





# Cortec Technology Inc.

广东省东莞市长安镇振安路沙头段咸西工业区

Mode: 3G Antenna  
Remark: H-Plane\ V-Pol  
Tested by: CORTEC Antenna 3D Lab

Location: **Chamber**

Date: **2013/7/16**

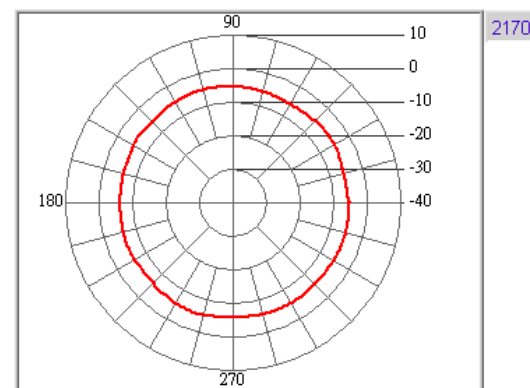
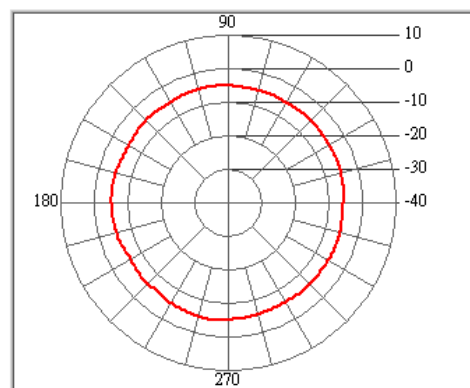
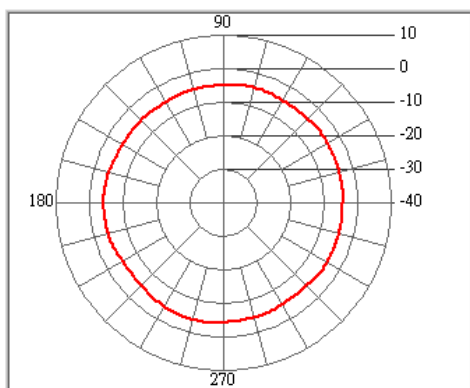
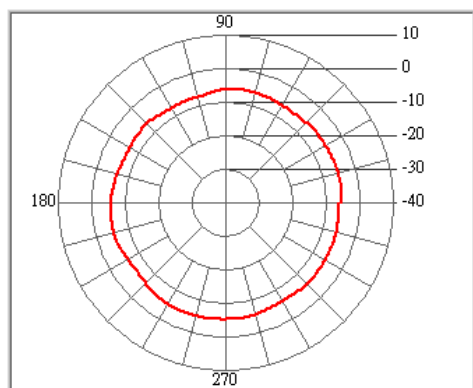
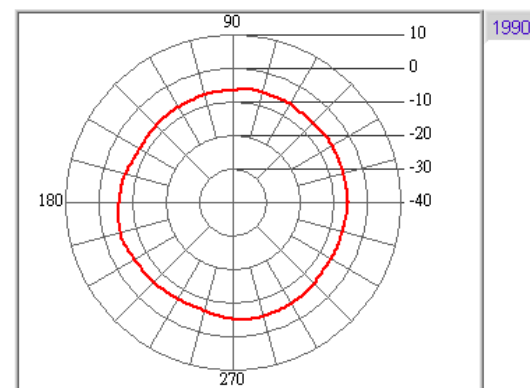
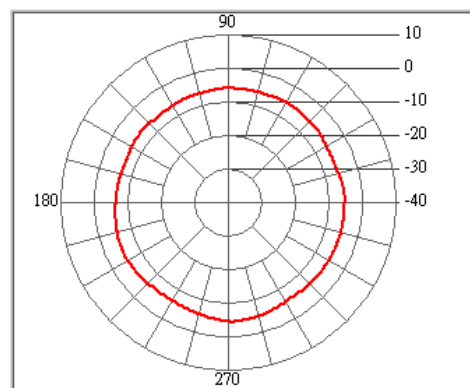
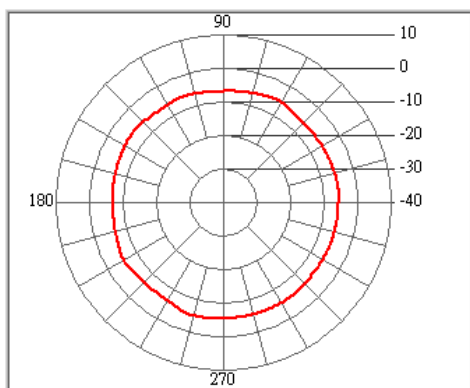
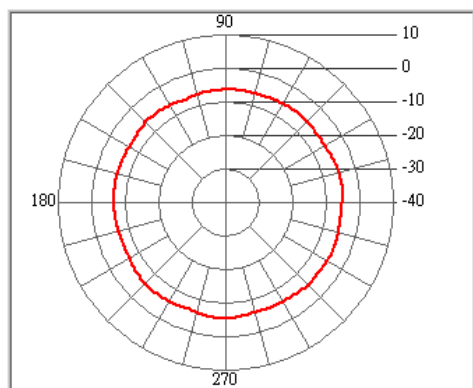
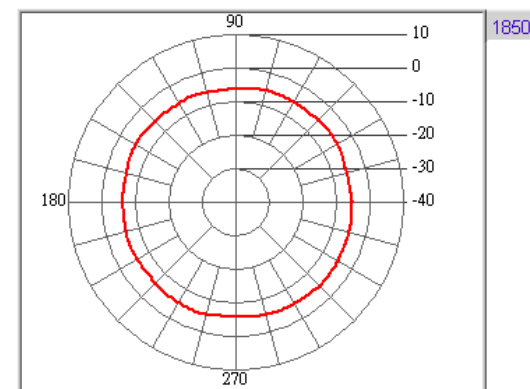
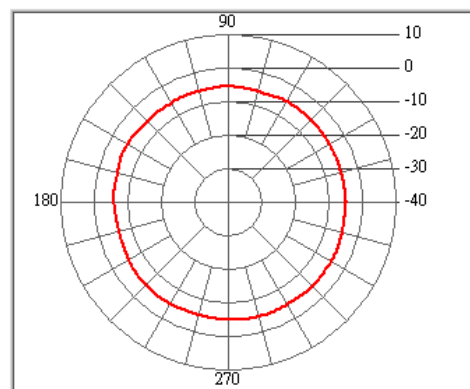
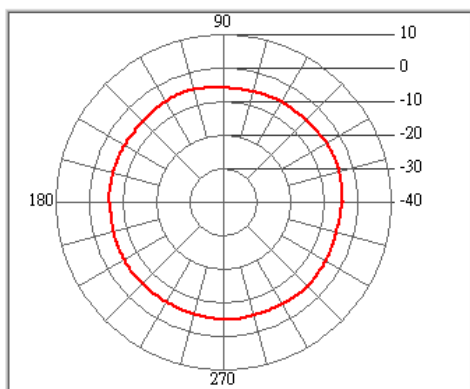
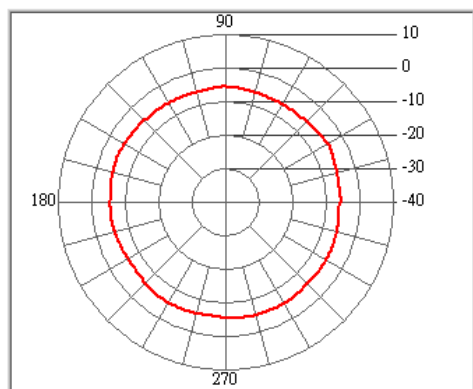
Time: **上午 11:30:35**

Temperatuer (°C): **25.00**

Humidity (%): **65.00**

Approved by:

Freq. (MHz)	1710	1750	1800	1850	1880	1900	1950	1990	2050	2100	2150	2170
Peak Gain (dBi)	-4.83	-4.16	-4.59	-4.77	-4.86	-5.07	-4.31	-4.78	-5.09	-3.9	-4.73	-5.05
Peak Degree	28	18	335	324	8	252	272	282	252	261	262	29
AV Gain (dBi)	-5.63	-5.32	-5.28	-5.57	-6	-6	-5.82	-6.17	-5.98	-4.63	-5.41	-5.65



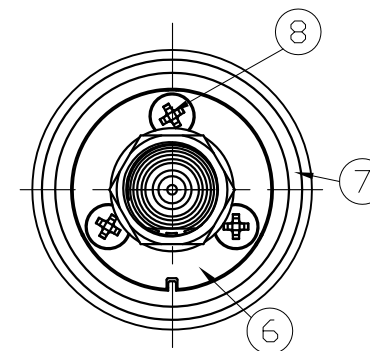
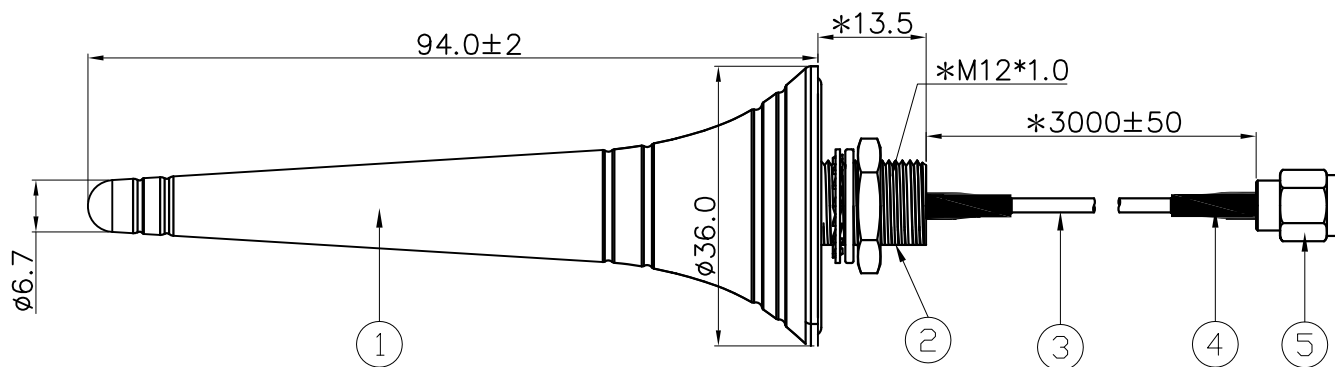


# RoHS

## Compatible



SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



8	AB82G-M2-6	Screw	Steel	ST2.6mm	3
7	AB46-RU-283325	Enclosing	Rubber	Black	1
6	AB46-02	Bottom Cover	Stainless Steel	φ25.6*2.0mm	1
5	SMA010-CGT574-A	SMA Male	Cu	Au Plating	1
4	R-HSTUBE-004T	Hot Shrink Tube	EVA	Ø4.0*20mm	2
3	R-CB-LMR100B-01	Cable	LMR-100	Black	1
2	CT005-CNAB46-A	Adapter	Cu	Ni Plating	1
1	AB46-01	Body	ABS	Black	1
No.	Part Number	Name	Material	Finish	Q'ty

Note:

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

APP BY		CHK BY	RF BY	DES BY	Tolerance
Grant		Jack		王偉	
2013/07/10		2013/07/10		2013/07/10	X.XX ±0.2
					X° ±1

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

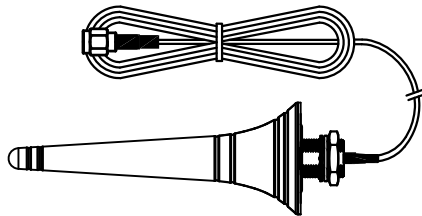
TITLE: 824~960/1710~2170MHz Antenna

PART NO.: AB0821F-46A01BSM CUSTOMER P/N: /

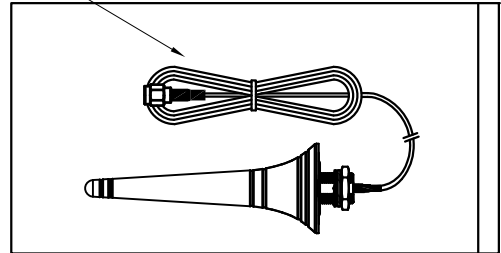
UNITS: mm  
 SCALE: 1/1  
 REVISION:A

Part Number : AB0821F-46A01BSM	Revision : A
Name: 824~960/1710~2170MHz Antenna	Customer : All

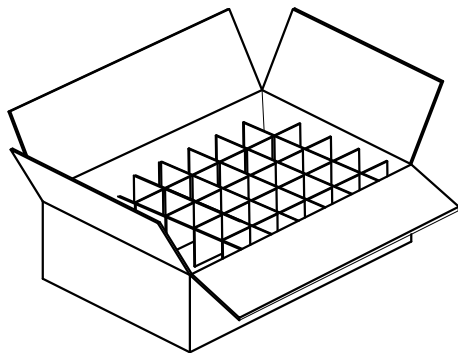
1. 1PCS/per Bag



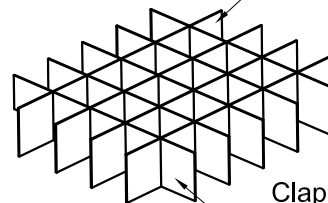
Bag:  
R-NIP-BAG-85200



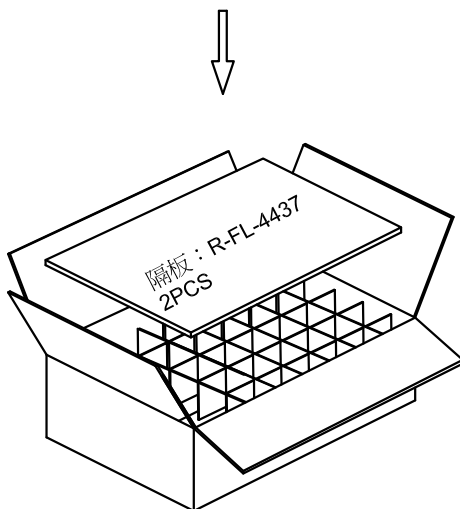
2. 60PCS/per Carton



Clapboard:  
R-FL-4414(4PCS)

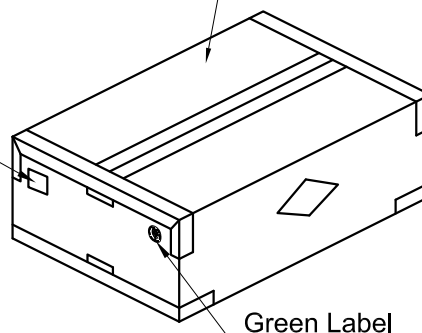


Clapboard:  
R-FL-3714(5PCS)



Carton: R-OTT-C-453818

Carton Label



Green Label

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)



康捷電子有限公司	
填表：	時麗
部門：	研發部
職務：	文員

## 物料中HSF對象物質含量調查表

物料名稱：AB0821F-46A01BSM

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	AB46-01	Body	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	KA/2012/C1575	2013.01.02	ACRYLONITRILE	SGS
2	AB46-03	PCB	FR4	N.D.	7	N.D.	N.D.	N.D.	N.D.	CANEC1210051902	2012.08.03	KB-6160	SGS
3	AB46-RU-283325	Enclosing	橡膠	2	29	N.D.	N.D.	N.D.	N.D.	CANEC1303102102	2013.03.19	rubber+gum	SGS
4	SMA010-CGT574-A	SMA Male	銅	66	31000	N.D.	Negative			CE201314616	2013.01.28	REECUTTINGBRASSBA	SGS
5			鍍金層	N.D.	N.D.	N.D.	Negative			RLSZE001484960001	2012.11.16	金鍍層	CTI
6	CT005-CNAB46-A	Adapter	銅	66	31000	N.D.	Negative			CE201314616	2013.01.28	REECUTTINGBRASSBA	SGS
7			鍍鎳	N.D.	10	N.D.	Negative			CANML1307214802	2013.05.22	Ni terminal	SGS
8	AB46-02	Bottom Cover	鋼	N.D.	N.D.	N.D.	Negative			CANML1302117201	2013.02.27	SUS304 不銹鋼絲.	SGS
9	AB82G-M2-6	Screw	鋼	N.D.	N.D.	N.D.	Negative			CANML1302117201	2013.02.27	SUS304 不銹鋼絲.	SGS
10	R-HSTUBE-004T	Shrink Tube	EVA	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1303661001	2013.03.28	HEAT SHRINKABLE	SGS
11	R-CB-LMR100B-01	Cable	外被PVC	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1304137802	2013.04.03	PVC GRAIN	SGS
			PE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RLSZE001352160001	2012.07.19	PE/XLPE/FPE	CTI
			Bare Copper	N.D.	9	N.D.	Negative	N.D.	N.D.	CANEC1304043401	2013.04.02	BA	SGS
			Al	N.D.	15	N.D.	N.D.	N.D.	N.D.	CANEC1302401401	2013.03.06	Aluminum foil	SGS
			TINNED COPPER	N.D.	20	N.D.	Negative	N.D.	N.D.	CANEC1304043402	2013.04.02	TA	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%、鋁含量達0.4%、銅合金中的鉛含量達4%