

# **RF Antenna**

## **Performance Parameter**

### **Testing Report**

***Date: 2010-06-03***

***Tester: Zhao Yao Rong***

***Approval: Wang Sheng / Grant. Lin***

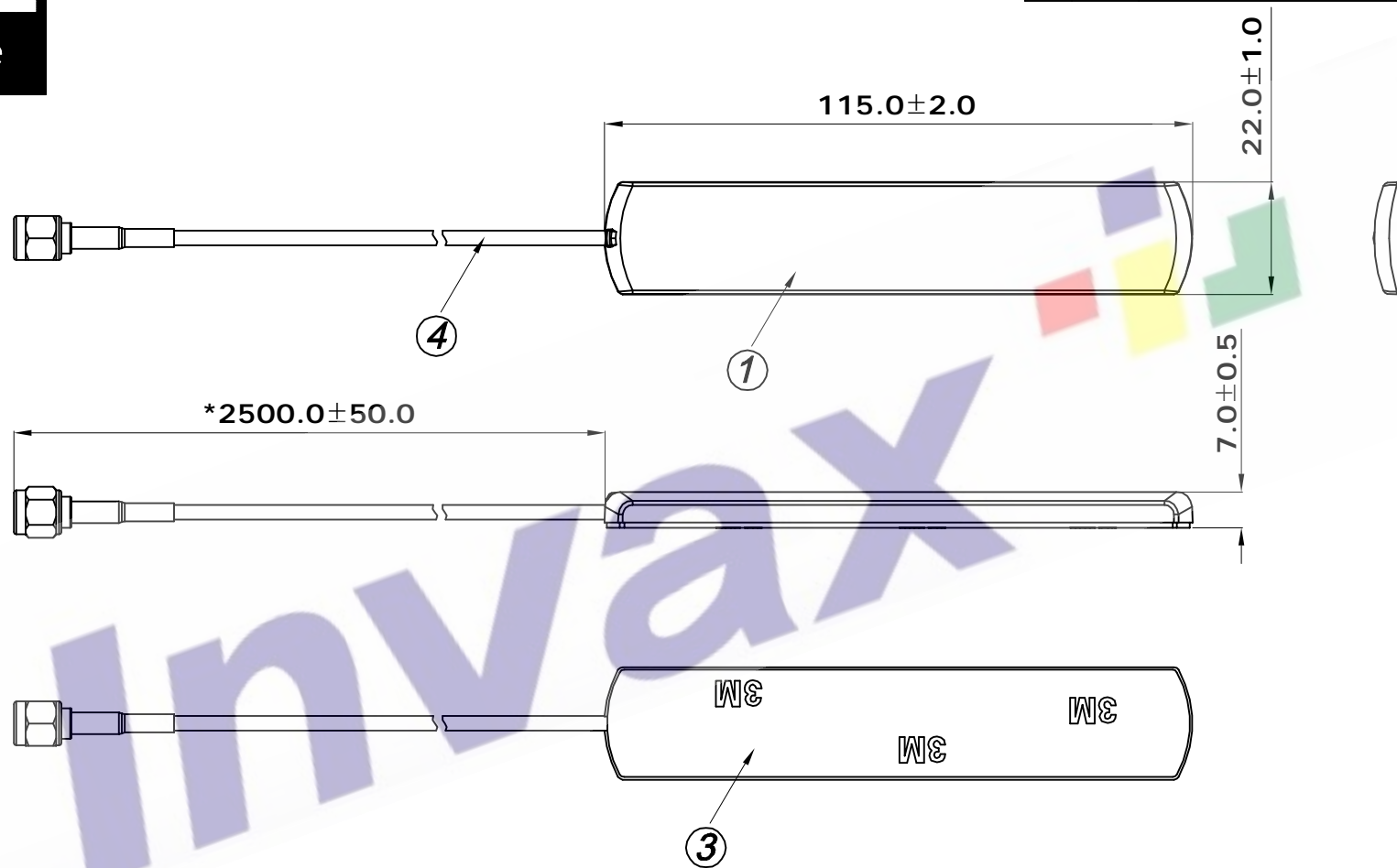
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- 1. Testing Item & Equipments**
- 2. S Parameter Test & Gain Test**
- 3. Test Results**

# RoHS

## Compatible

SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			

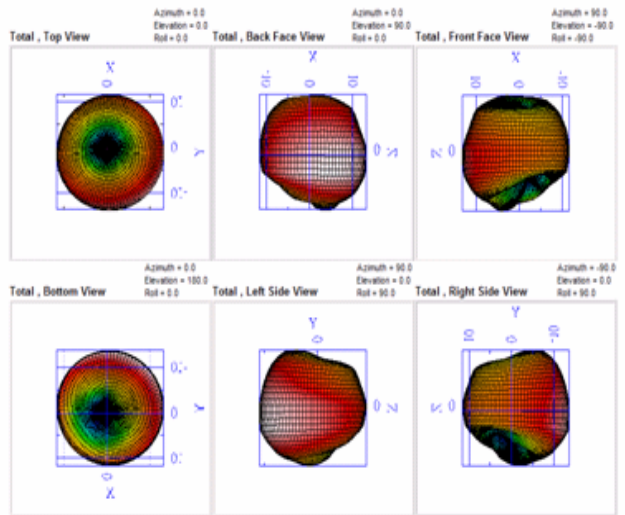
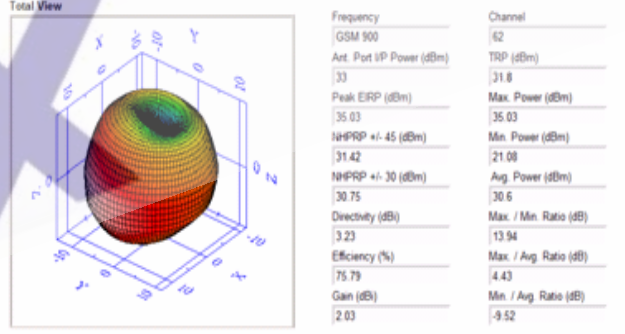
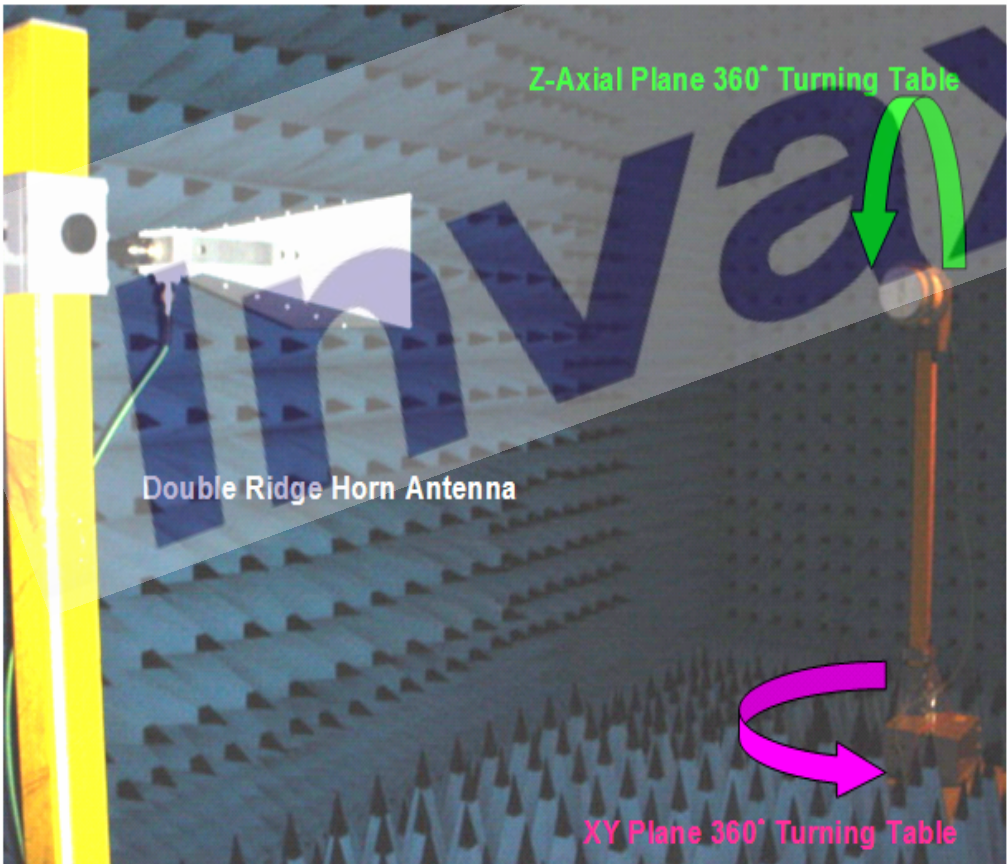
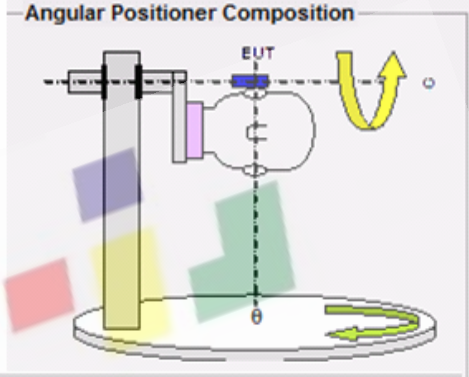
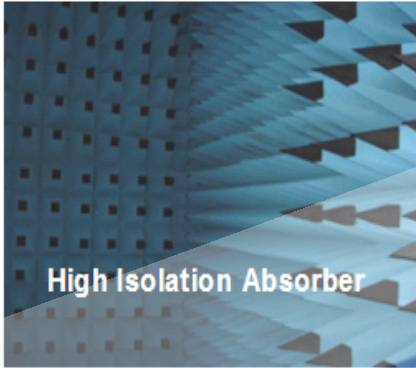


4	SMA010-CGT574-A	SMA Male	Bronze	Gold plated	1
4	R-RG-174/U	Cable	RG-174	L=2520mmBlack	1
3	AB77-03	3M Adhesive	EVA(Red)	105.0*20.0*0.8mm	1
2	AB77-02	PCB		114.0*21.0*1.0mm	1
1	AB77-01	Antenna Body	ABS	Black	1
No.	Part Number	Description	Material	Finished	Qty

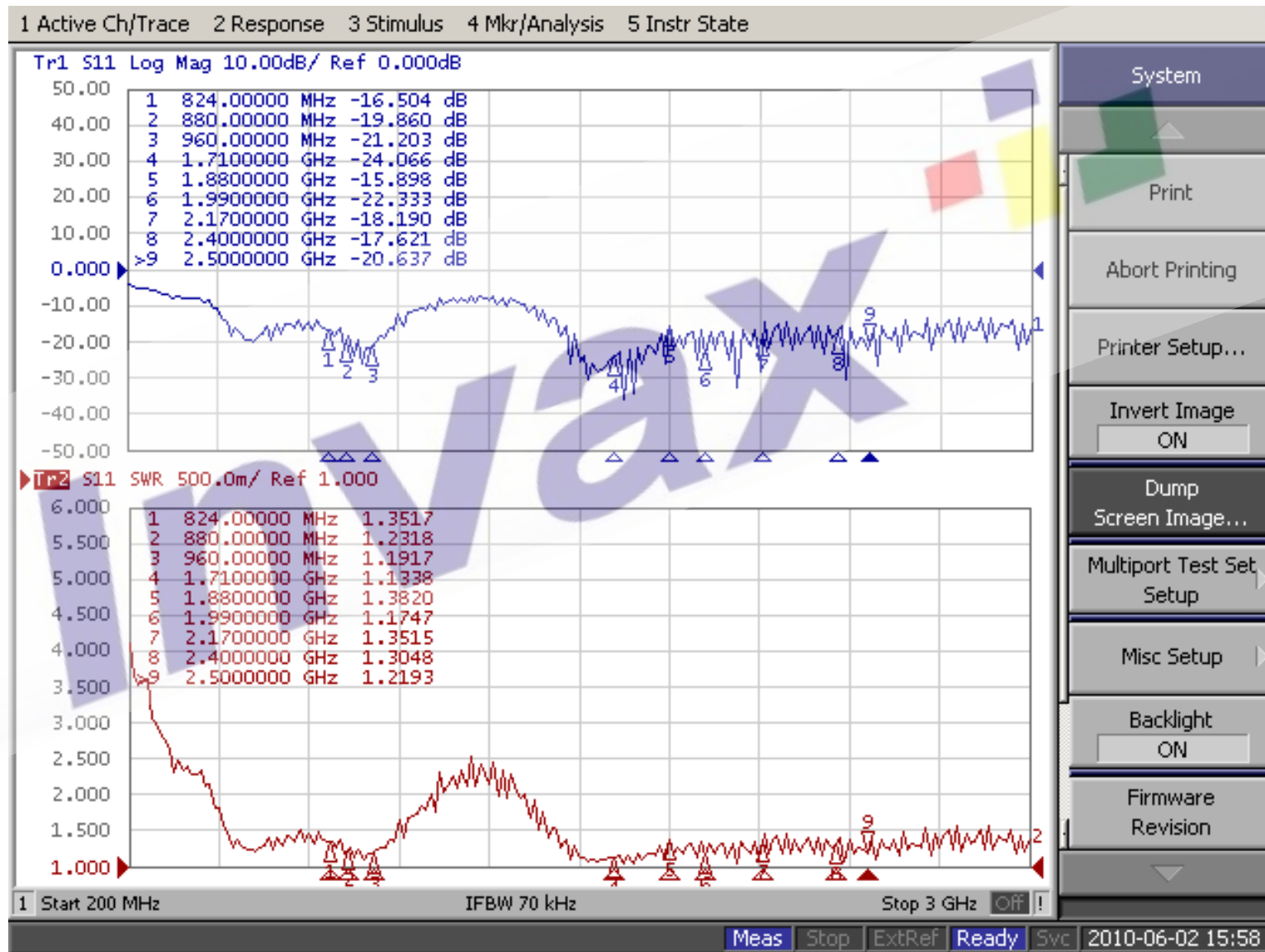
Invax System Group.		Cortec Technology Inc.	
<b>Cortec</b>		<a href="http://www.invaxsystem.com">Http://www.invaxsystem.com</a> E-mail: info@invax.com.tw	
Tel : 886-2-27885218		Fax: 886-2-27831658	
TITLE: AB77 Type Antenna			
PART NO.: AB0821S-7705SM		DWG NAME: AB0821S-7705SM.dwg	
APPROVED BY	CHECKED BY	DESIGNED BY	Tolerance
Grant	Li Kui	LiLiQun	UNITS: mm
2011.01.12	2011.01.12	2011.01.12	SCALE: 1/1
			REVISION: A
			X.X ±0.2
			X.XX ±0.1
			X° ±1°

# 1. Testing Item & Equipments

- .Chamber Size: 8 x 4 x 4 m<sup>3</sup>
- .Freq. Range: 0.7 ~ 6.0 GHz
- .Double Ridge Horn Antenna x 2
- .VNA: Agilent 5071B
- .GSM Tester: R&S CMU200 / Agilent 8960
- .3D Turning Table and Positioner
- .ADT Solution 3D Testing Software
- .CTIA 3D EIRP / 3D TRP / 3D TIS Testing



## 2. S Parameter Test & Gain Test



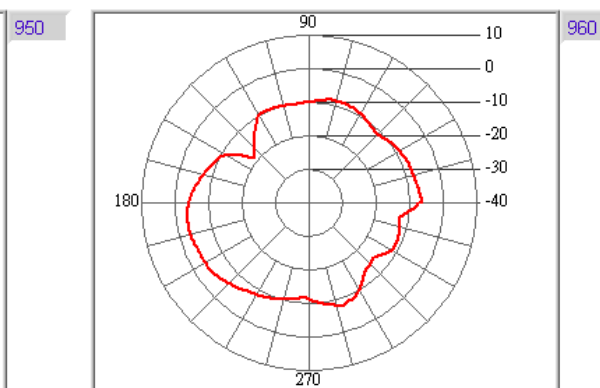
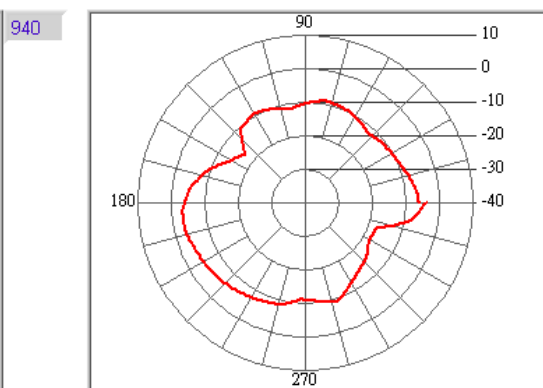
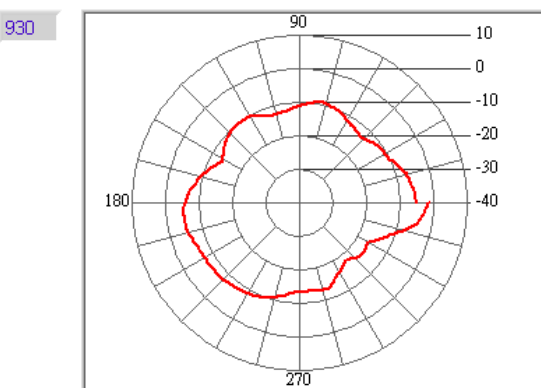
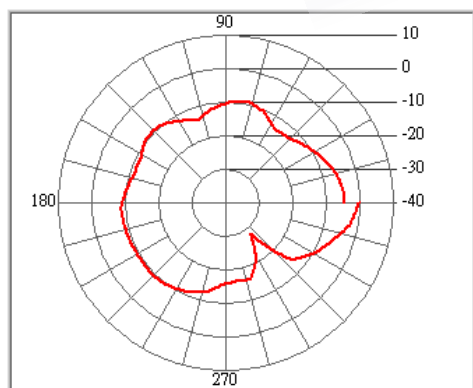
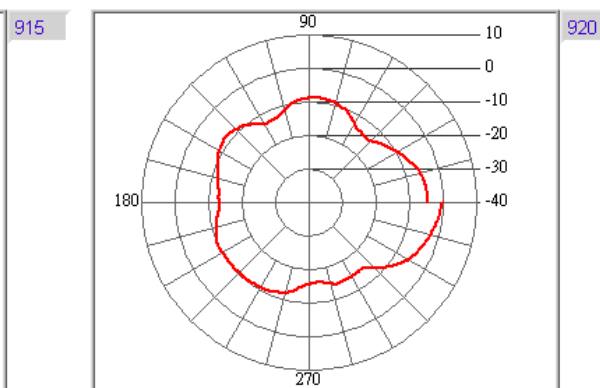
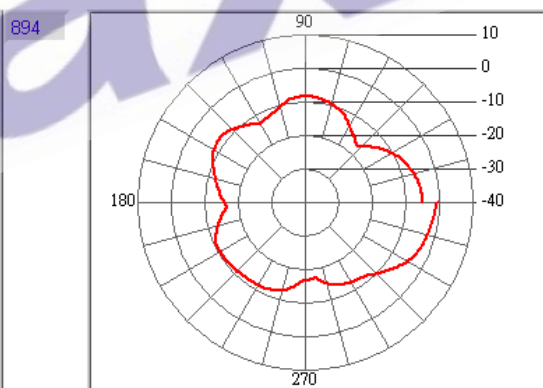
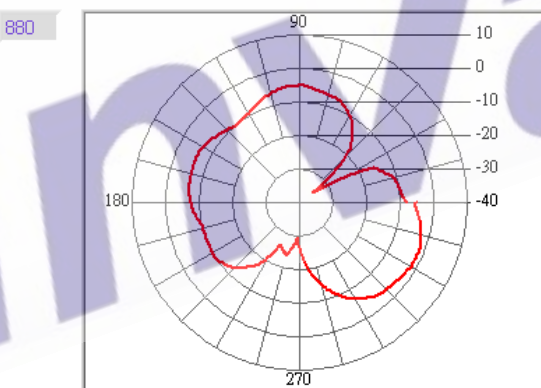
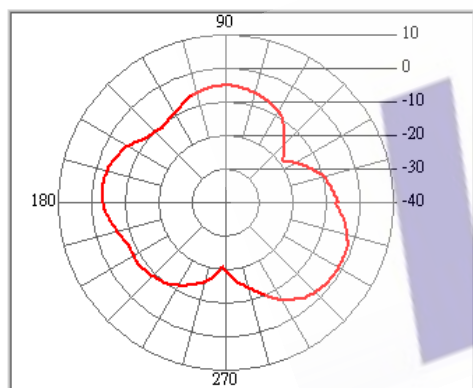
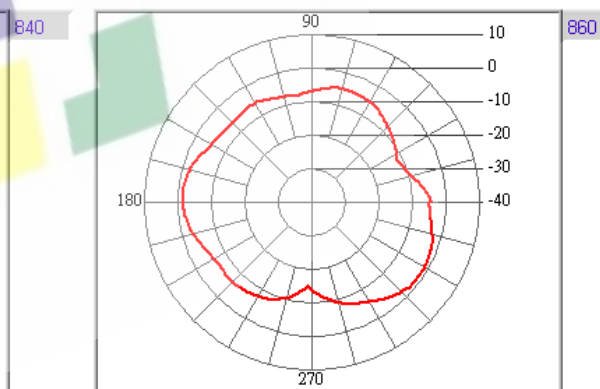
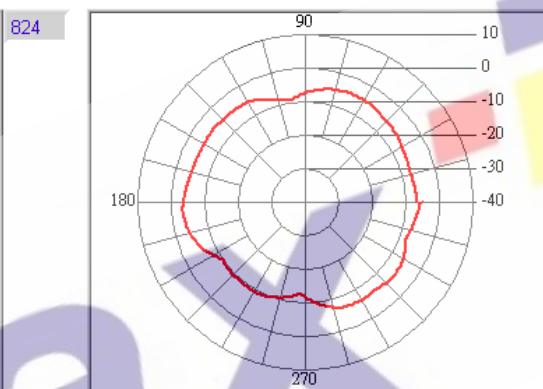
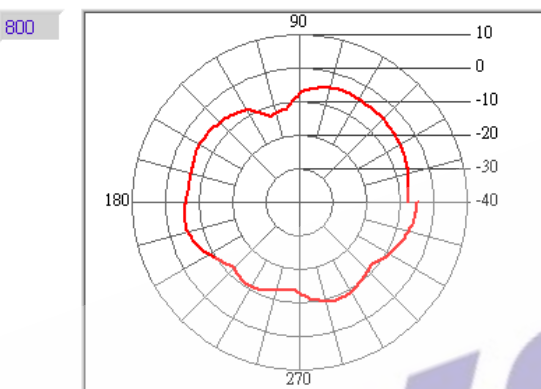
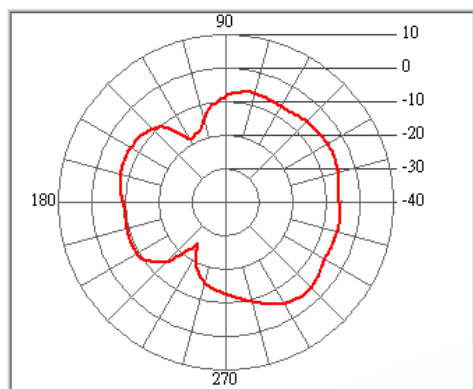
Model : 3G+2.4GHz Antenna  
 Remark : E-Plane // H-Pol  
 Tested by : CORTEC Antenna Lab // Zhao Yao Rong

Location: **Chamber**  
 Temperatur (°C): **22.00**

Date: **2010/6/2**  
 Humidity (%): **55.00**

Time: **下午 04:14:58**  
 Approved by:

Freq. (MHz)	800	824	840	860	880	894	915	920	930	940	950	960
Peak Gain (dBi)	-3.9	-4.28	-3.38	-1.19	-1.18	-1.56	-0.77	-0.27	-0.54	-1.62	-3.36	-3.34
Peak Degree	309	67	183	330	331	340	360	360	359	360	193	193
AV Gain (dBi)	-7.73	-7.32	-6.42	-5.19	-6.43	-7.55	-8.77	-8.73	-9.29	-9.2	-8.47	-8.29





Cortec Technology Inc.

广东省东莞市长安镇振安路沙头段咸西工业区

Model : 3G+2.4GHz Antenna  
Remark : H-Plane // V-Pol  
Tested by : CORTEC Antenna Lab // Zhao Yao Rong

Location: Chamber

Date: 2010/6/2

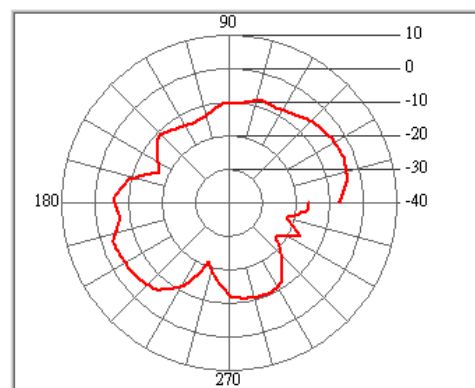
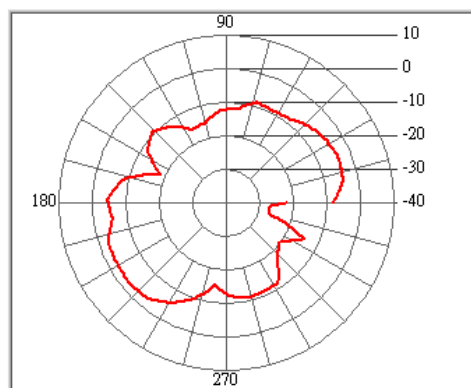
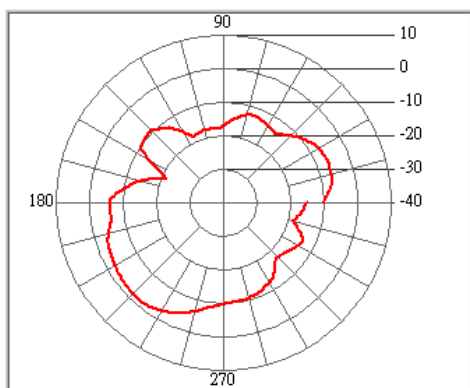
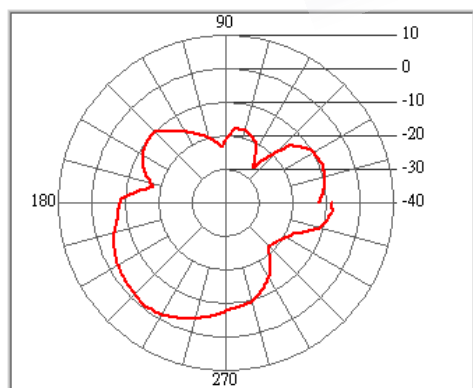
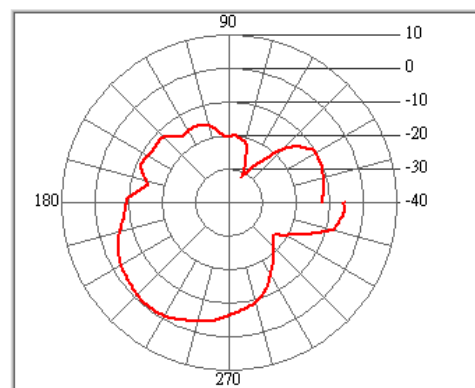
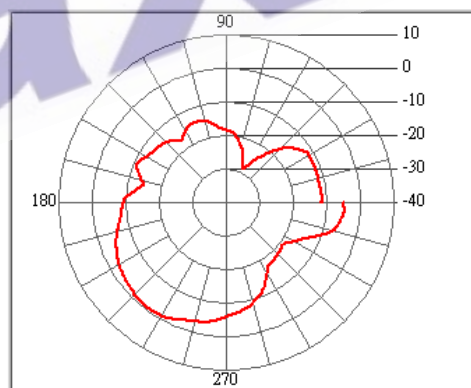
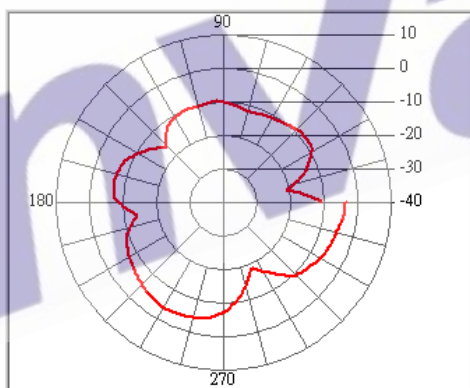
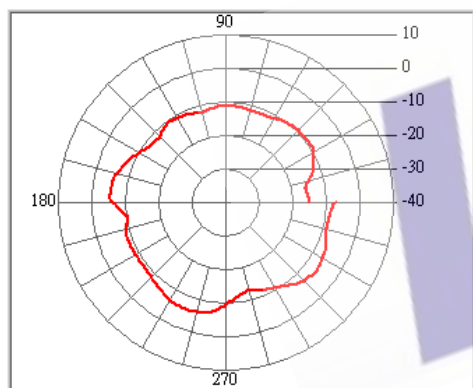
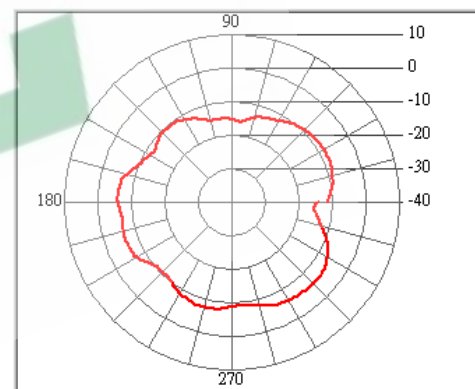
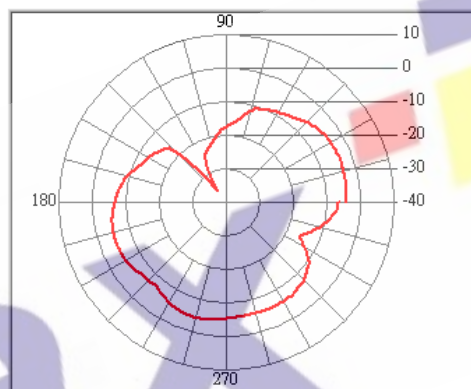
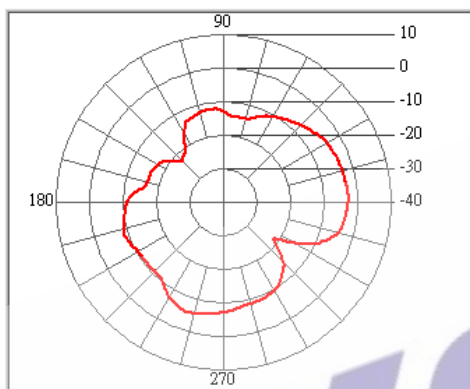
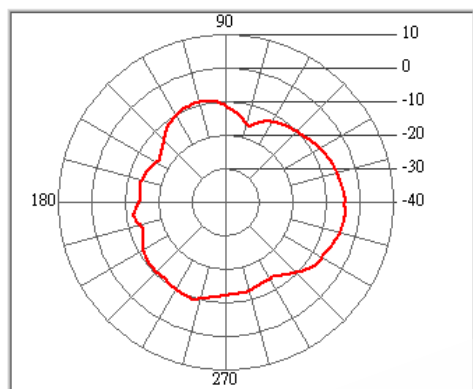
Time: 下午 04:01:56

Temperature (°C): 22.00

Humidity (%): 55.00

Approved by:

Freq. (MHz)	800	824	840	860	880	894	915	920	930	940	950	960
Peak Gain (dBi)	-4.08	-2.46	-3.61	-5.82	-5.44	-3.52	-0.83	-0.73	-0.88	-1.54	-2.54	-3.18
Peak Degree	358	1	21	314	177	356	231	231	231	230	220	21
AV Gain (dBi)	-9.6	-8.36	-7.26	-8.89	-9.06	-8.33	-7.77	-7.79	-8.12	-8.07	-7.81	-8.38



Model : 3G+2.4GHz Antenna  
 Remark : E-Plane // H-Pol  
 Tested by : CORTEC Antenna Lab // Zhao Yao Rong

Location: **Chamber**

Date: **2010/6/2**

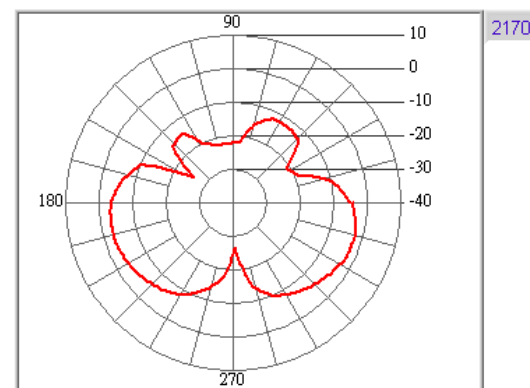
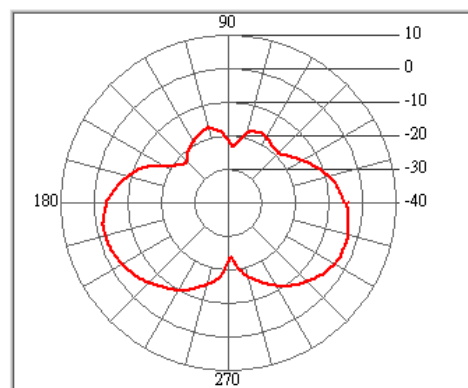
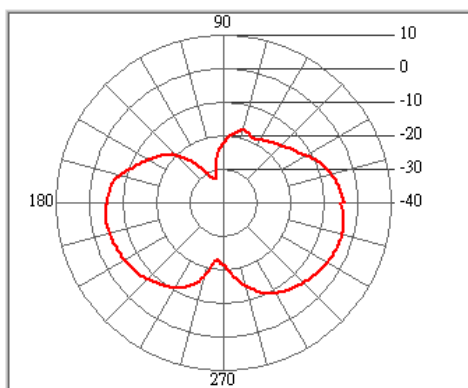
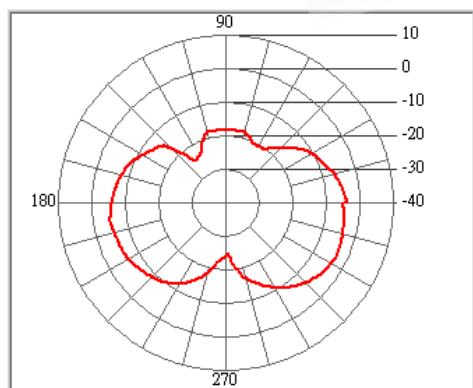
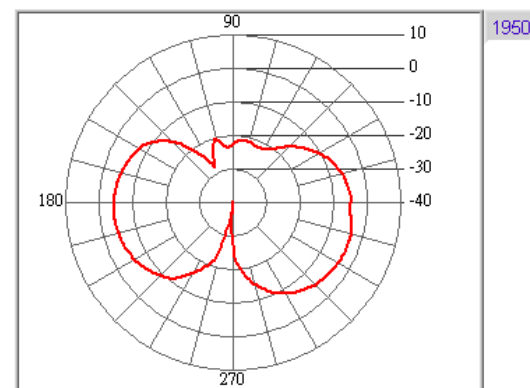
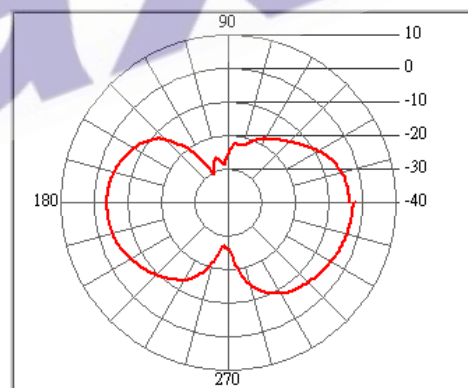
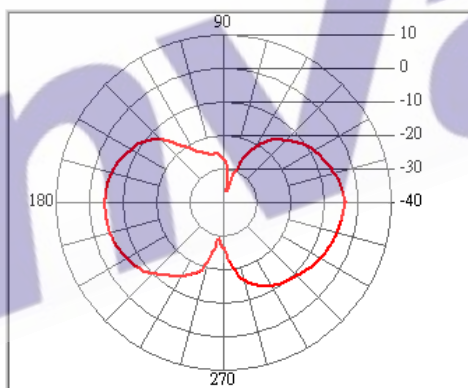
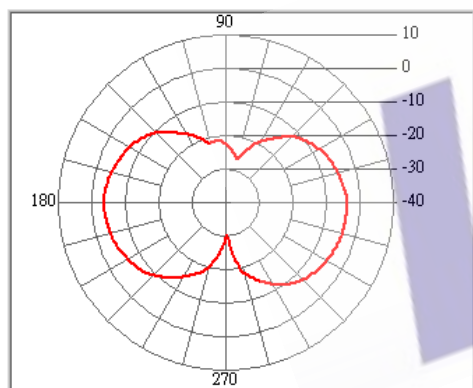
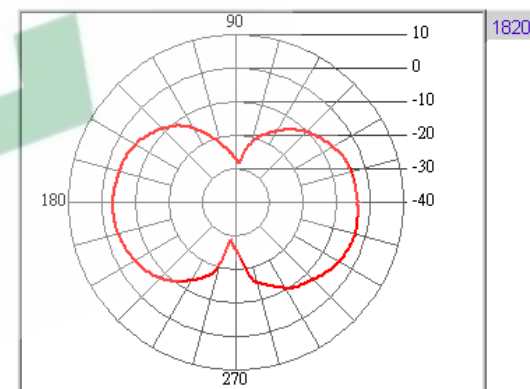
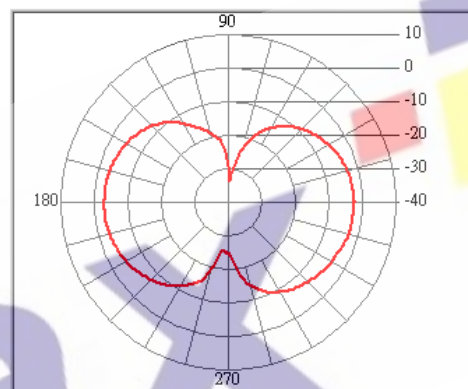
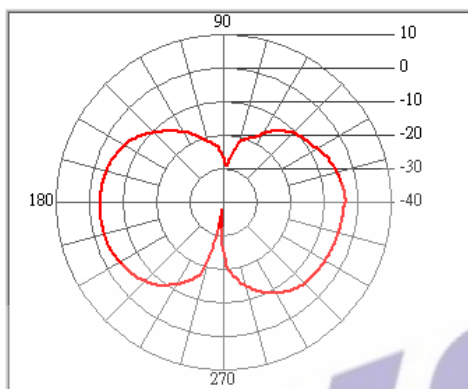
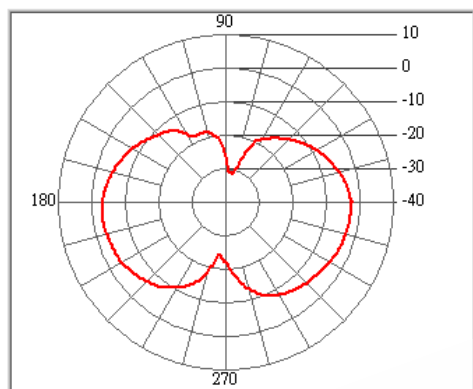
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Temperatuer (°C): **22.00**

Humidity (%): **55.00**

Approved by:

Freq. (MHz)	1710	1750	1790	1820	1860	1880	1920	1950	1990	2025	2100	2170
Peak Gain (dBi)	-2.34	-3.14	-2.32	-3.05	-3.65	-3.61	-2.67	-3.53	-3.28	-3.26	-2.12	-2.23
Peak Degree	360	180	2	345	0	360	360	345	335	345	190	345
AV Gain (dBi)	-7.11	-7.21	-6.52	-7.22	-8.07	-8.85	-7.82	-8.24	-8.79	-8.59	-7.96	-7.7





# Cortec Technology Inc.

广东省东莞市长安镇振安路沙头段咸西工业区

Model : 3G+2.4GHz Antenna  
Remark : H-Plane // V-Pol  
Tested by : CORTEC Antenna Lab // Zhao Yao Rong

Location: **Chamber**

Date: **2010/6/2**

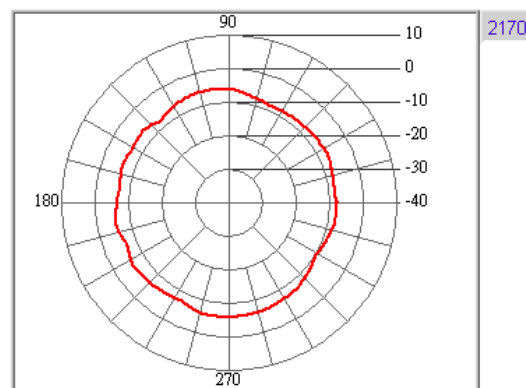
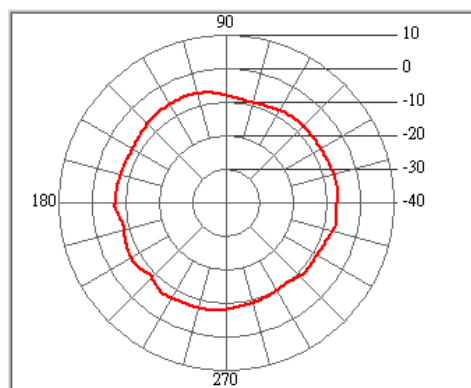
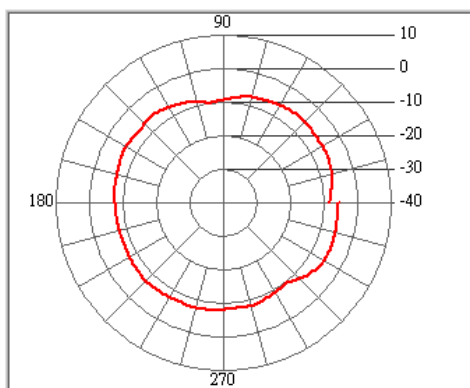
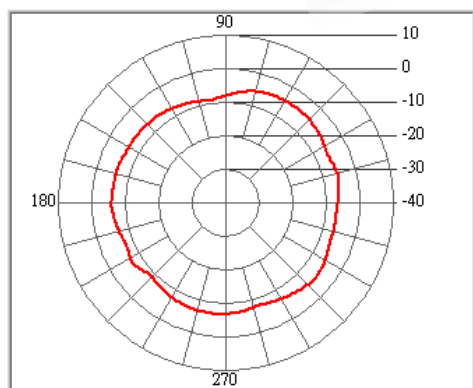
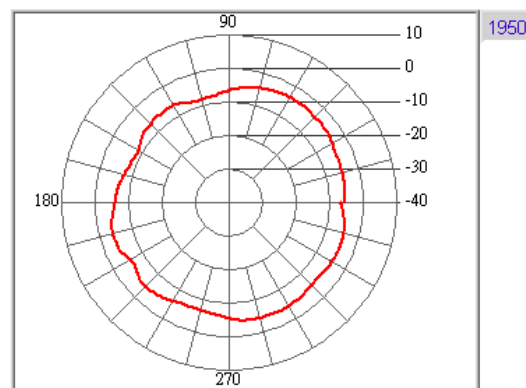
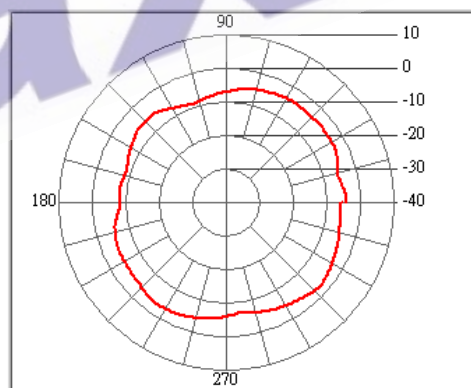
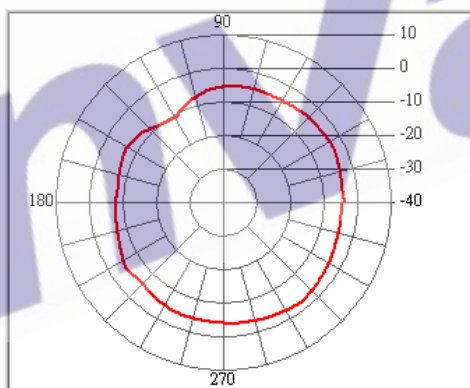
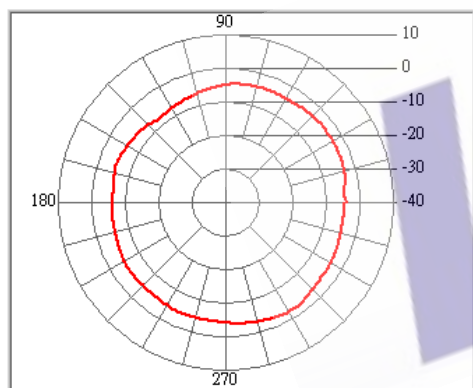
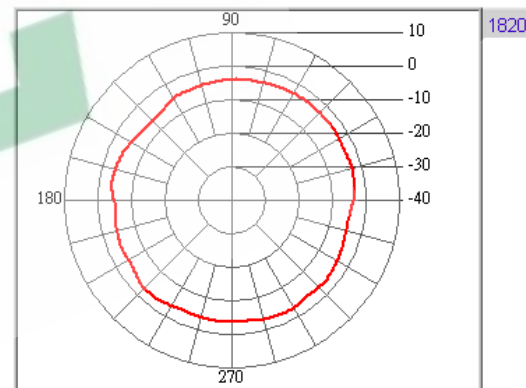
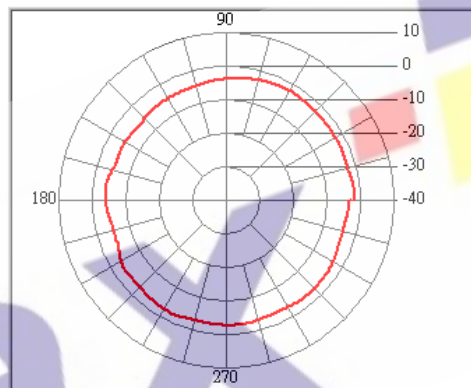
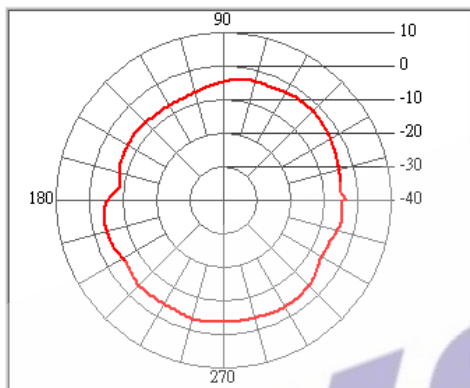
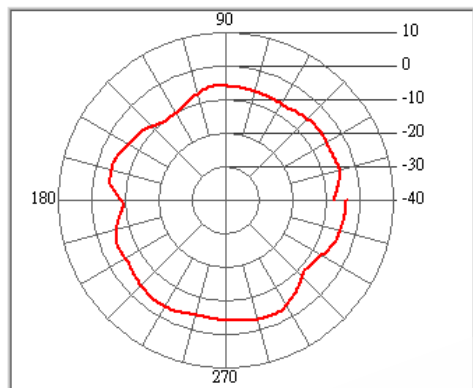
Time: **下午 04:04:21**

Temperature (°C): **22.00**

Humidity (%): **55.00**

Approved by:

Freq. (MHz)	1710	1750	1790	1820	1860	1880	1920	1950	1990	2025	2100	2170
Peak Gain (dBi)	-3.01	-2.28	-1.49	-2.77	-2.38	-2.34	-2.5	-3.67	-4.75	-5.3	-6	-5.76
Peak Degree	287	46	4	14	298	308	319	56	46	339	109	192
AV Gain (dBi)	-5.52	-4.51	-3.42	-3.89	-4.52	-5.01	-5.14	-5.39	-6.55	-7.15	-7.63	-7.04







Model : 3G+2.4GHz Antenna  
Remark : E-Plane // H-Pol  
Tested by : CORTEC Antenna Lab // Zhao Yao Rong

Location: **Chamber**

Date: **2010/6/2**

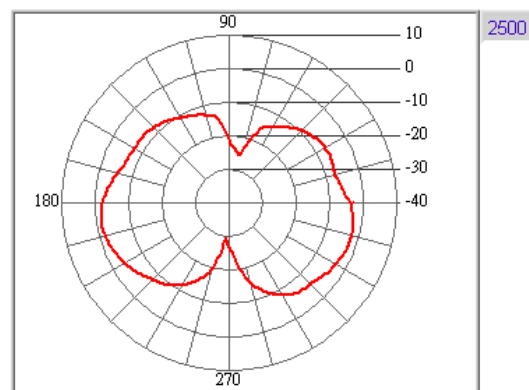
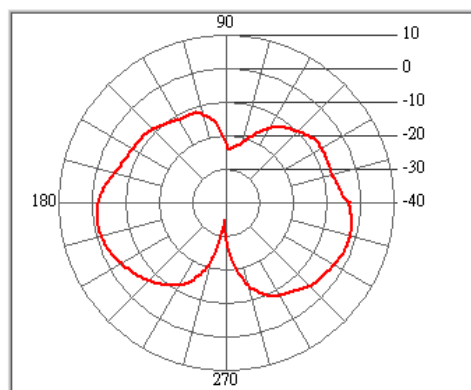
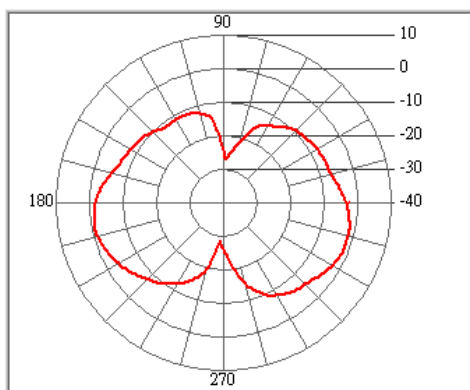
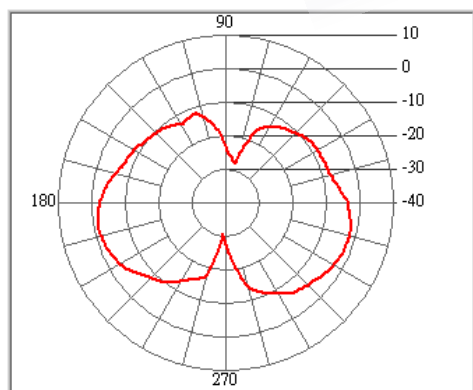
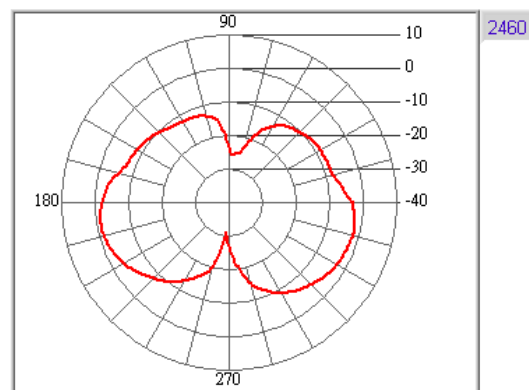
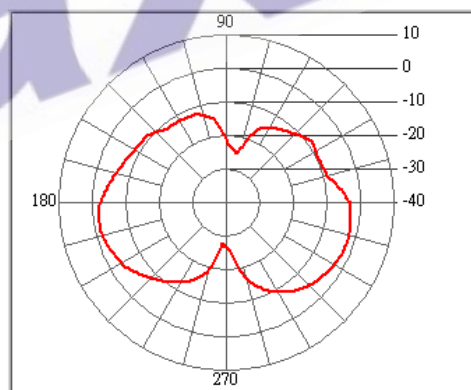
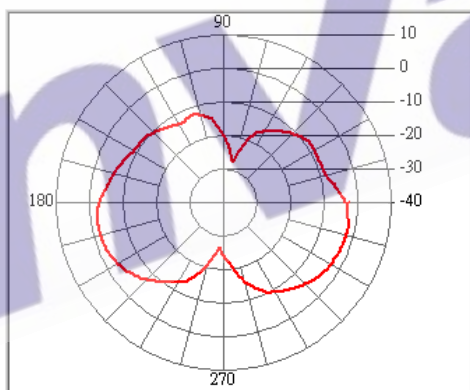
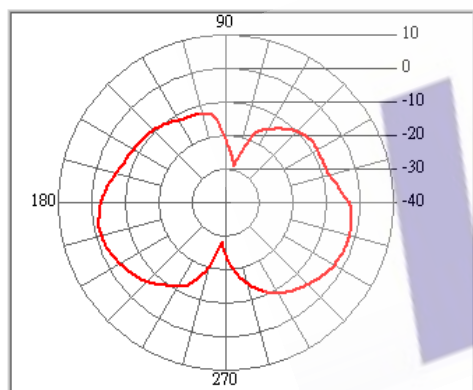
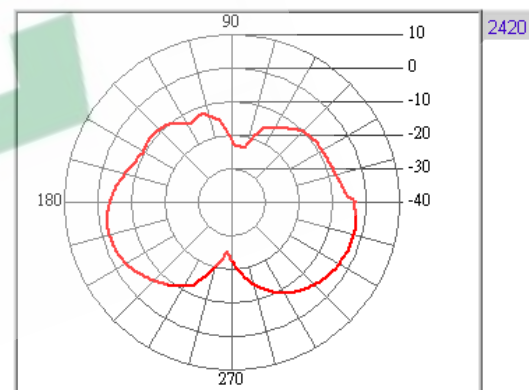
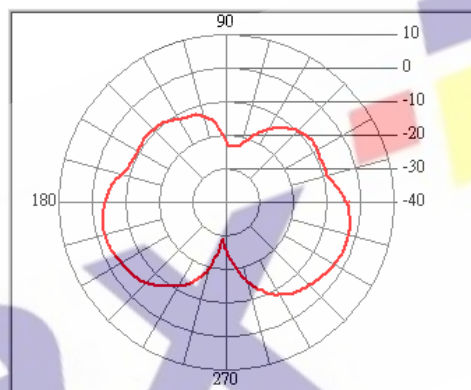
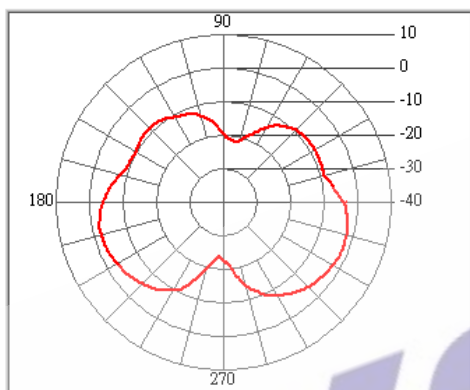
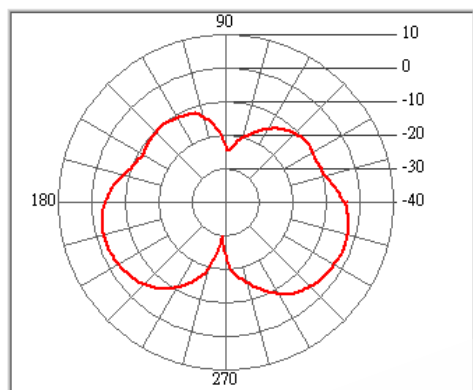
Time: **下午 04:10:41**

Temperature (°C): **22.00**

Humidity (%): **55.00**

Approved by:

Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	-2.12	-1.73	-2.1	-2.14	-1.48	-1.91	-1.63	-1.17	-1.38	-0.86	-1.15	-1.55
Peak Degree	338	338	338	192	192	348	192	192	192	192	192	192
AV Gain (dBi)	-7.11	-6.8	-7.06	-7.07	-6.68	-7.02	-6.9	-6.7	-6.78	-6.39	-6.44	-6.64





Model : 3G+2.4GHz Antenna  
Remark : H-Plane // V-Pol  
Tested by : CORTEC Antenna Lab // Zhao Yao Rong

Location: **Chamber**

Date: **2010/6/2**

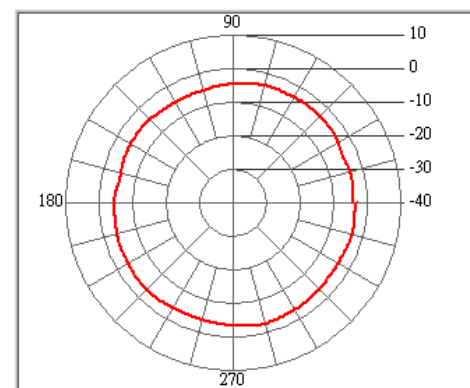
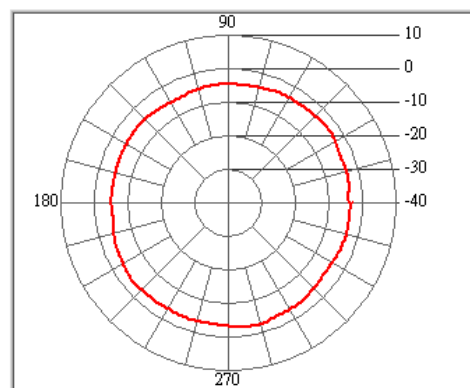
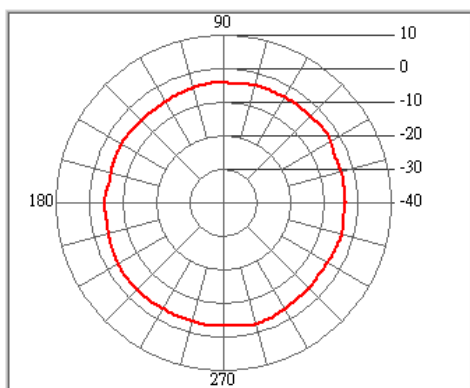
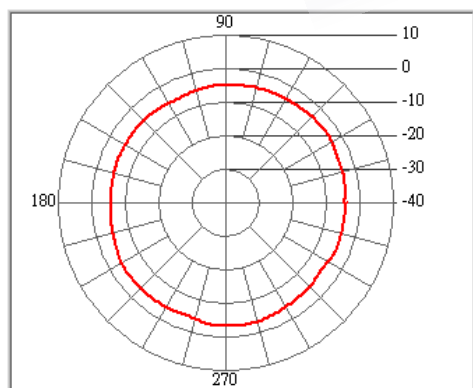
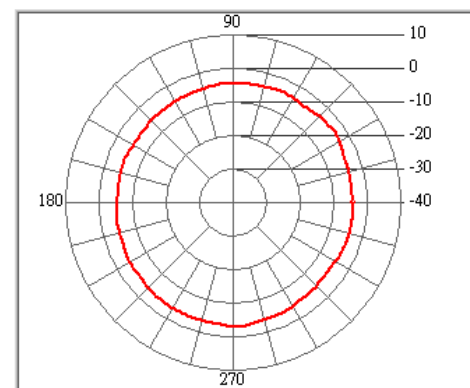
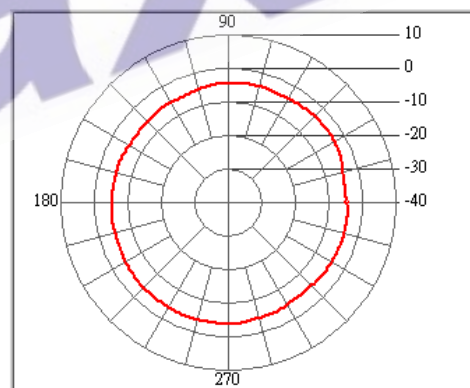
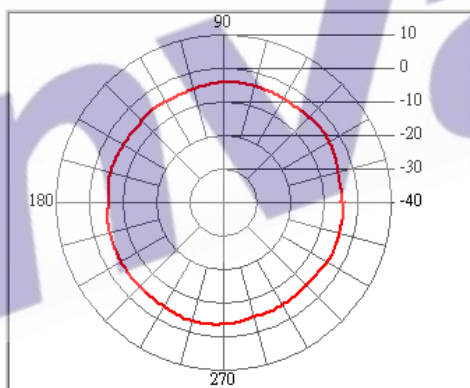
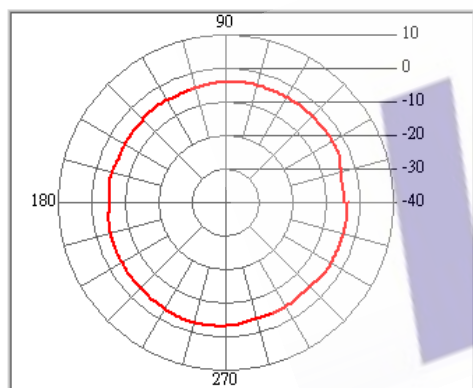
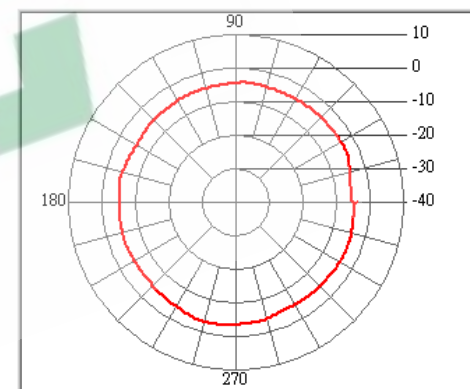
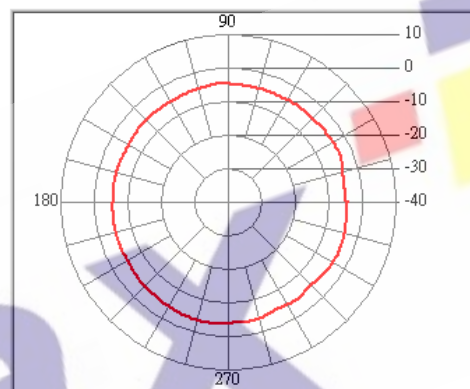
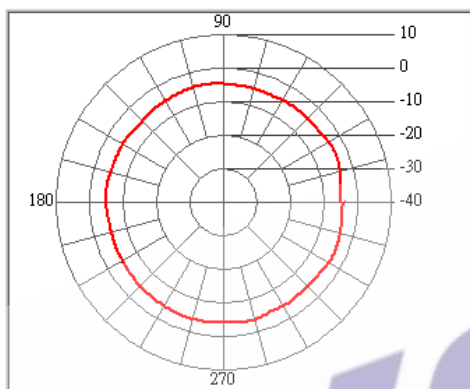
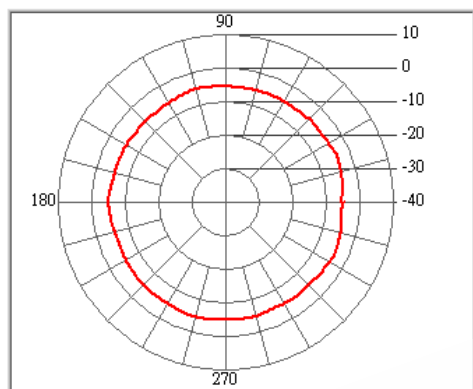
Time: **下午 04:07:35**

Temperature (°C): **22.00**

Humidity (%): **55.00**

Approved by:

Freq. (MHz)	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	-3.93	-3.36	-3.56	-3.09	-2.86	-3.32	-3.21	-2.71	-3.17	-2.54	-2.4	-2.61
Peak Degree	23	23	262	252	252	262	33	273	273	283	283	283
AV Gain (dBi)	-5.15	-4.58	-4.68	-4.55	-4.07	-4.51	-4.54	-4.37	-4.43	-3.91	-3.95	-3.96



### 3. Test Results

Frequency (MHz)		824 ~960	1710~2170	2400~2500
S.W.R		< 2.0	< 2.0	< 2.0
H-Plane Vertical Polarization	Peak Gain (dBi)	- 0.5 ~ - 5.5	- 1.5 ~ - 6.0	- 2.5 ~ - 4.0
	Average Gain (dBi)	- 7.5 ~ - 9.5	- 3.5 ~ - 7.5	- 4.0 ~ - 5.0
E-Plane Horizontal Polarization	Peak Gain (dBi)	- 0.5 ~ - 4.5	- 2.0 ~ - 3.5	- 0.5 ~ - 2.5
	Average Gain (dBi)	- 5.0 ~ - 9.5	- 6.5 ~ - 8.5	- 6.5 ~ - 7.5