

RoHS 承認書

RoHS APPROVAL SHEET

精英電腦股份有限公司
Elitegroup Computer Systems Co., Ltd

廠商名稱

Vendor Name 鴻呈(VSO)

ECS 料 號

ECS Part No. 13-130-F62011

ECS 品 名

ANTENNA R.15.4...W/CABLE...

ECS Description 330..LEAD-FREE.VSO

廠商型號

Vendor Part No. 82-101-01210080

廠商聯絡人

Windows 王志偉

Vendor Address:

Phone: (02)32343038

Fax: (02)32343056

Mobile: 0963-322-105

E-mail: samwang@vso.com.tw

Web: vso.com.tw

西元

2006 年

03月

06日

INDEX

<i>Item</i>	<i>Content</i>	<i>Page</i>
1.	天線規格表	 1
2.	工程圖	 2~3
3.	電性測試報告	 4~17
4.	Cable材質證明與SGS報告	 18~25
5.	Conn#材質證明與SGS報告	 26~42
6.	洋白銅材質證明與SGS報告	 43~45
7.	錫條材質證明與SGS報告	 46~49
8.	套管材質證明與UL卡	 50~51
9.	其他資料	 52~61

ECSM P/N : 13-130-F62011

Specification

1.Electical Properties

- 1.1 Frequency Range 2.4~2.5GHz ; 5.15~5.85GHz
1.2 Impedance 50
1.3 VSWR 2.0 max
1.4 Return Loss -10 dB max
1.5 Gain

Pattern	Average			Peak		
頻率	Ex	Ey	Ex+Ey	Ex	Ey	Ex+Ey
2.40 GHz	-8.58	-9.35	-5.94	-2.69	-0.78	1.379
2.45 GHz	-9.53	-8.69	-6.08	-4.62	-0.32	1.052
2.50 GHz	-10.6	-8.43	-6.37	-4.26	-0.22	1.224
5.15 GHz	-11.52	-3.78	-6.97	-8.85	-2.47	-0.07
5.55 GHz	-11.50	-5.31	-8.03	-10.62	-2.31	-0.55
5.85 GHz	-10.91	-3.86	-6.76	-8.87	-1.36	0.58

2.Physical Properties

- 2.1 Cable Type ϕ 1.13 Coaxial
2.2 Cable Color Gray
2.3 Cable Attenuations 3.0 dB/m @2.0GHz
3.6 dB/m @2.5GHz
3.9 dB/m @3.0GHz
4.8 dB/m @4.0GHz
5.4 dB/m @5.0GHz
6.2 dB/m @6.0GHz

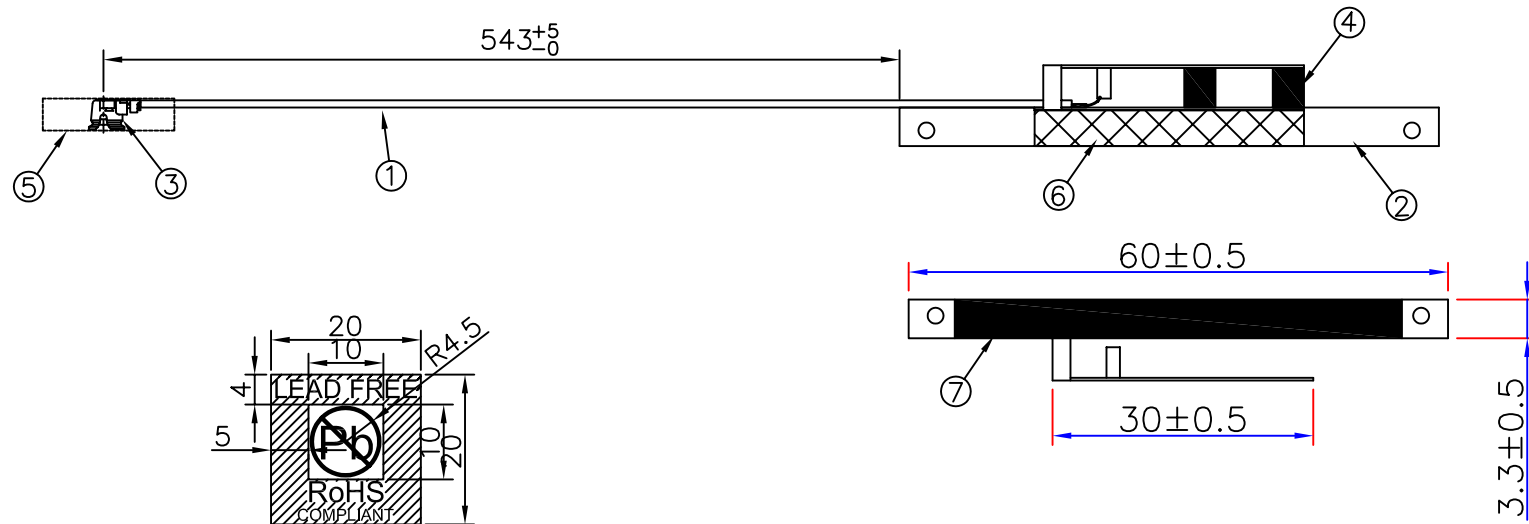
2.4 Cable Connector I-PEX
2.5 PIFA Metal 洋白銅
2.6 Operating Temperature -20℃ ~ +65℃
2.7 Storage Temperature -30℃ ~ +75℃

DRAW ID
CD

THIS DRAWING IS CONTROLLED DOCUMENT
FOR VSO LTD IT IS SUBJECT TO CHANGE
AND THE CONTROLLING ENGINEERING ORGANIZATION
SHOULD BE CONTACTED FOR THE LATEST REVISION

THIS INFORMATION IS CONFIDENTIAL AND IS DISCLOSED TO
YOU ON CONDITION THAT NO FURTHER DISCLOSURE IS MADE
BY YOU TO OTHER THAN VSO LTD PERSONNEL WITHOUT WRITTEN
AUTHORIZATION FROM VSO LTD

REVISION			
REV.	DESCRIPTION	APPROVAL	DATE
D	變更為環保料,增加條碼與環保貼紙		06.03.16



NOTE:
1.TEXT STYLE:ARIAL
2."LEAD FREE" TEXT HIGH:2.5mm
3."ROHS" TEXT HIGH:2.8mm
4."Pb" TEXT HIGH:4.5mm
5."COMPLIANT" TEXT HIGH:1.6mm
6.陰影部分綠底白字,空白部分白底綠字

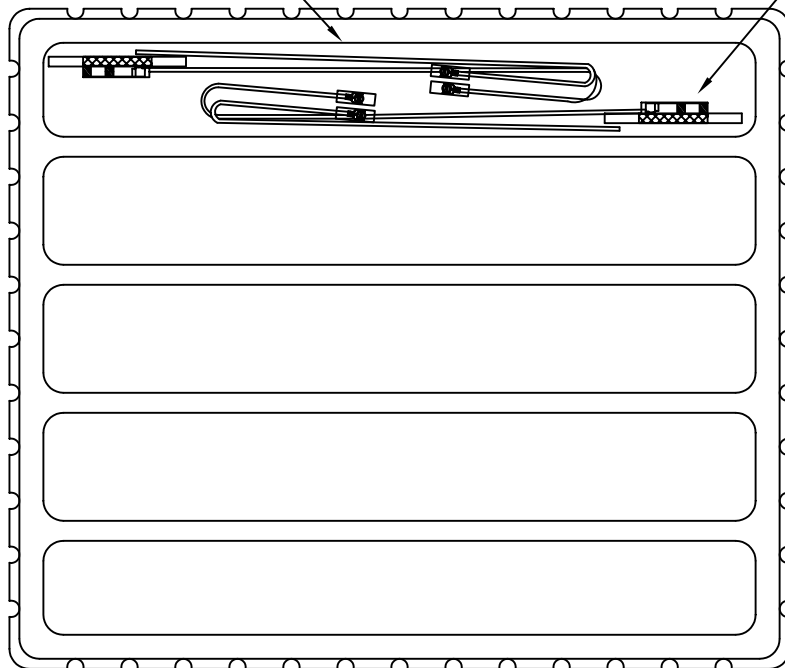
⑦	雙面膠	雙面膠:L54*W3.3*T0.14mm	1PCS
⑥	導電泡棉	導電泡棉:30*4*4mm	1PCS
⑤	TUBE	PVC透明套管:ø3.1*20mm	1PCS
④	支撐膠	EVA支撐膠, BLACK	2PCS
③	CONN	I-PEX TERM GOLD-PLATED	1PCS
②	PIFA BODY	洋白銅	1PCS
①	RF CABLE	CABLE:ø1.13 COAXIAL CABLE,COLOR:GRAY	1PCS
ITEM	DESCRIPTION		Q'TY

注:用網絡分析儀進行測試

RoHS COMPLIANT		VSO ELECTRIC CO.,LTD.		
XX.	±0.5	CUST. PN:	DRAW.:	
X.	±0.3	精英(13-130-F62011)		ENGIN:
.X	±0.1	TITLE:	PIFA ANTENNA	
.XX	±0.05	VSO P/N:	CHECK:	
82-101-01210080		UNITS	DWG. NO.:	PAGE:
mm				1/3
REV.		APPR.:		
D				

20PCS一格

10PCS一把



吸塑盤底盤



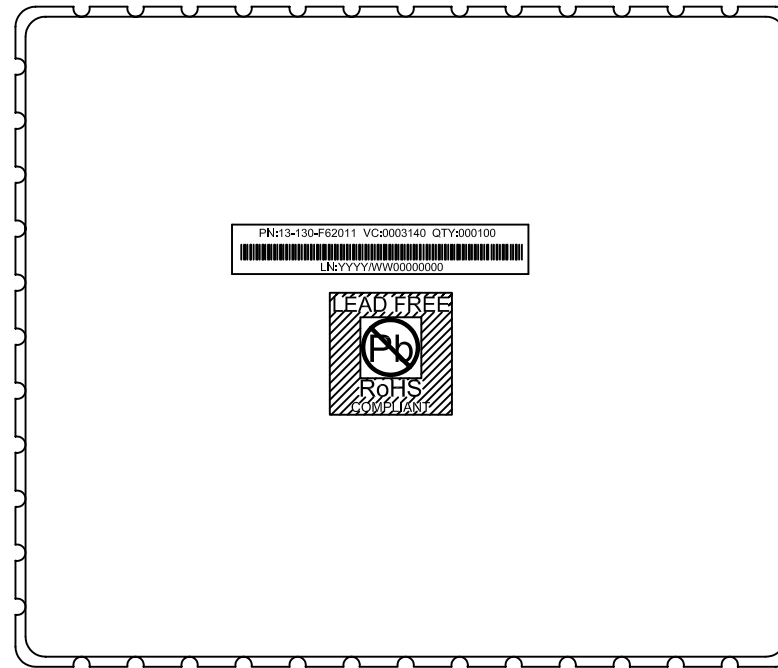
貼於紙箱上

NOTE:

- 1.吸塑盤規格:L540*W310*H25mm,紙箱規格:L550*W320*H220mm
- 2.10PCS用橡皮筋捆成一把,一格可放2把20PCS成品
- 3.一個吸塑盤分五格,可放100PCS成品,一箱放八個吸塑盤可裝800PCS成品
- 4.貼紙貼在吸塑盤上蓋中間,用量1

REVISION

REV.	DESCRIPTION	APPROVAL	DATE
B	增加條碼與環保貼紙		06.03.16



吸塑盤上蓋



VSO

ELECTRIC CO.,LTD.

XX.	±0.5	CUST. P/N: 精英(13-130-F62011)		DRAW.:	
X.	±0.3	TITLE: 包裝圖		ENGIN:	
.X	±0.1	VSO P/N: 82-101-01210080		CHECK:	
.XX	±0.05	UNITS mm	DWG. NO.:	PAGE: 3/3	REV. B
		APPR.:			

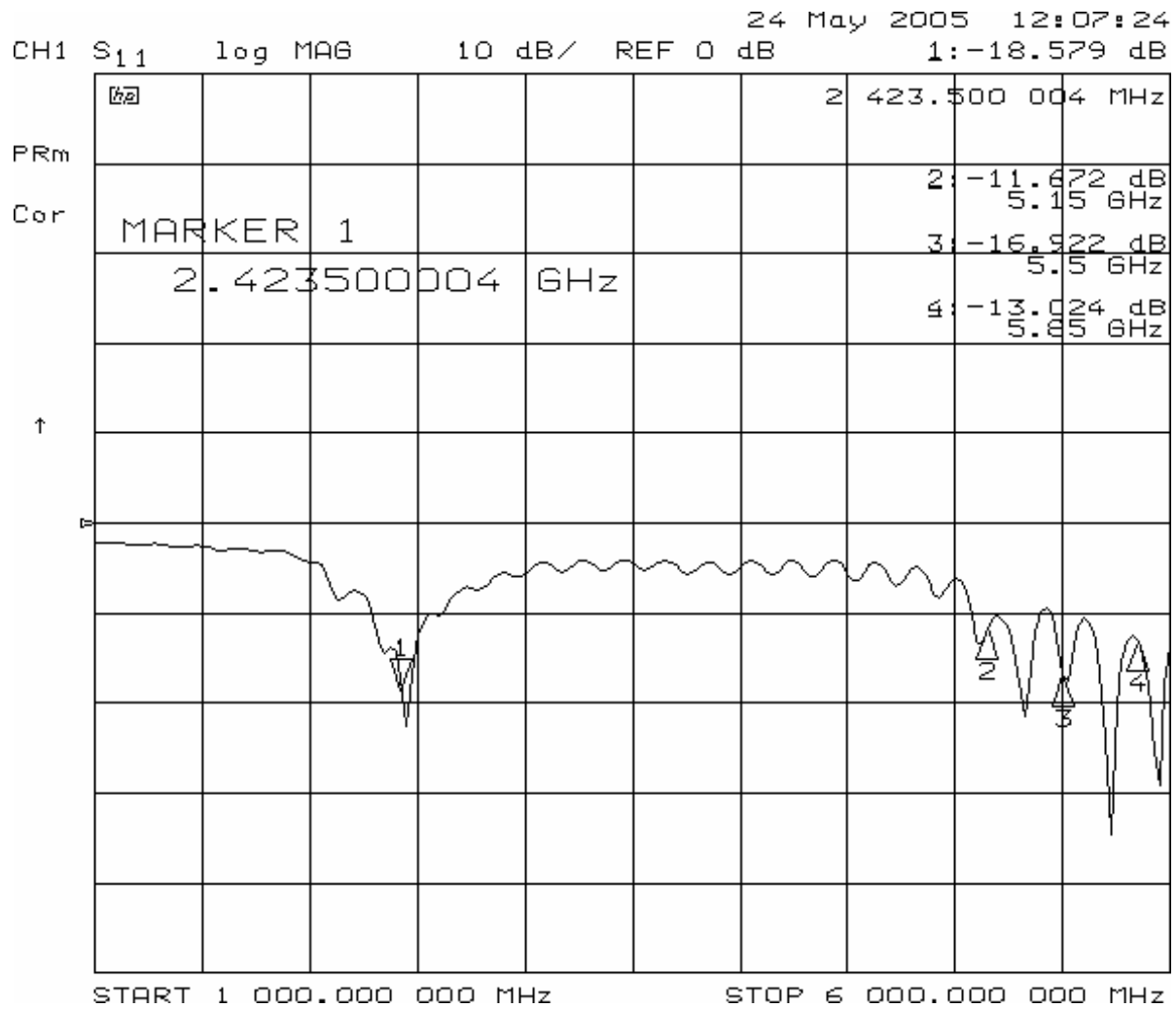
4

3

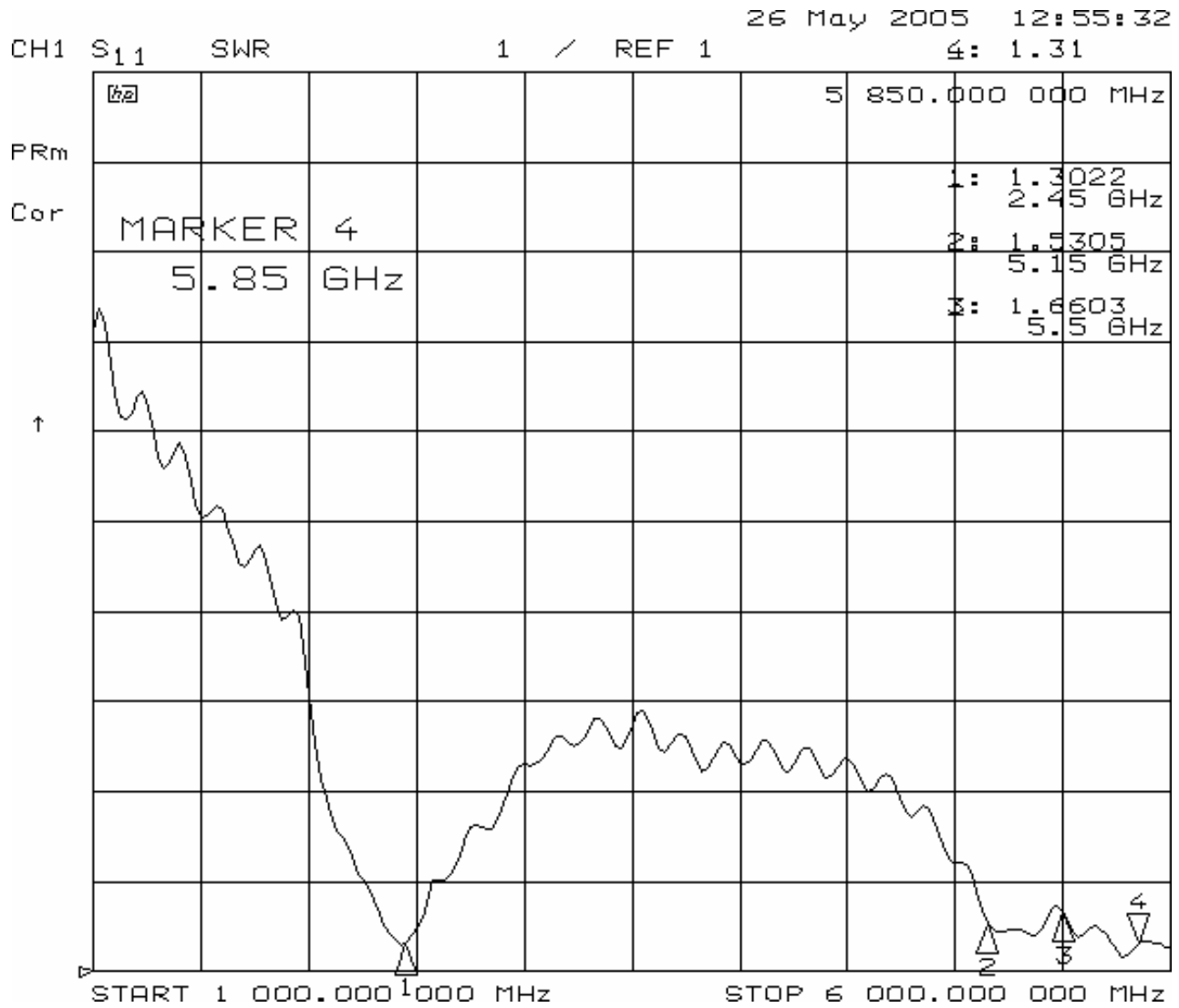
2

1

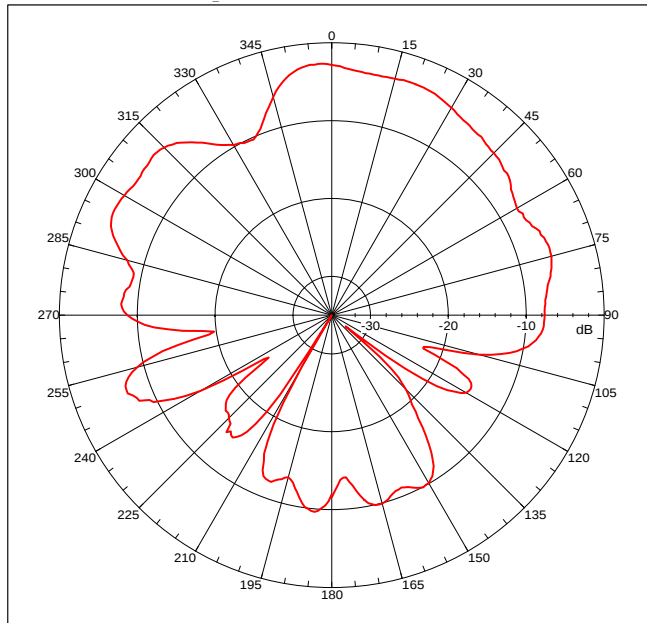
G330-Gray RETURN LOSS



G330-Gray VSWR



Far-field amplitude of G300-2.4G-Ex.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -2.69088 dBi
 Max far-field (global) = -49.23862 dB, Max far-field (plot) = -49.23862 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -3.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

test-20060406

NSI2000 V4.0.174, Filename: C:\PIFA\ECESM\G300\Data\G300-2.4G-Ex-2.nsi
 Measurement date/time: 4/6/2006 4:57:04 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -8.581 dB
 -3. dB beam width: 62.11 deg
 -6. dB beam width: 117.26 deg
 -10. dB beam width: 197.83 deg
 Left Sidelobe: -1.53 dB at -47.632 deg
 Right Sidelobe: -3.49 dB at 68.691 deg

Far-field display setup

Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 361
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 1.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

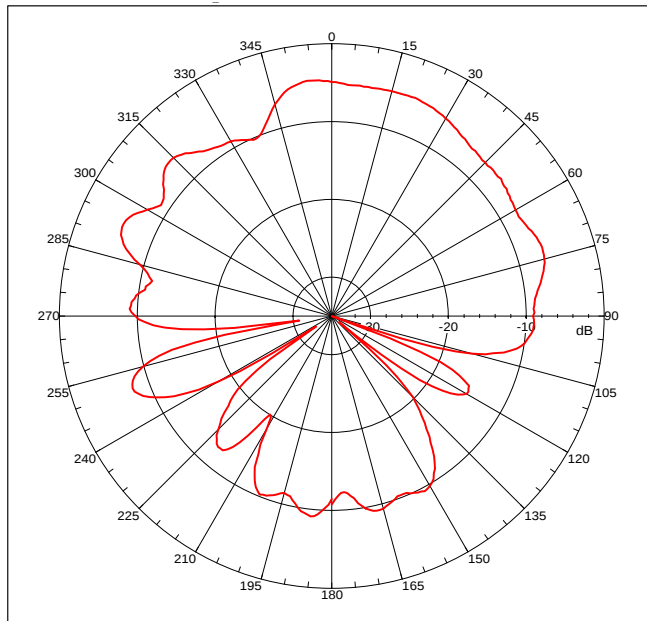
Selected beam(s) 1 of 3

Beam Frequency Azimuth Elevation Pol

1 2.400 GHz Azimuth Elevation Single-pol

=====

Far-field amplitude of G300-2.4G-Ex.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -4.62222 dBi
 Max far-field (global) = -52.14963 dB, Max far-field (plot) = -52.14963 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -6.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

test-20060406

NSI2000 V4.0.174, Filename: C:\PIFA\ECSM\G300\Data\G300-2.4G-Ex-2.nsi
 Measurement date/time: 4/6/2006 4:57:04 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -9.529 dB
 -3. dB beam width: 75.15 deg
 -6. dB beam width: 176.81 deg
 -10. dB beam width: 199.02 deg
 Left Sidelobe: -1.59 dB at -45.627 deg
 Right Sidelobe: -1.94 dB at 72.702 deg

Far-field display setup

Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 361
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 1.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

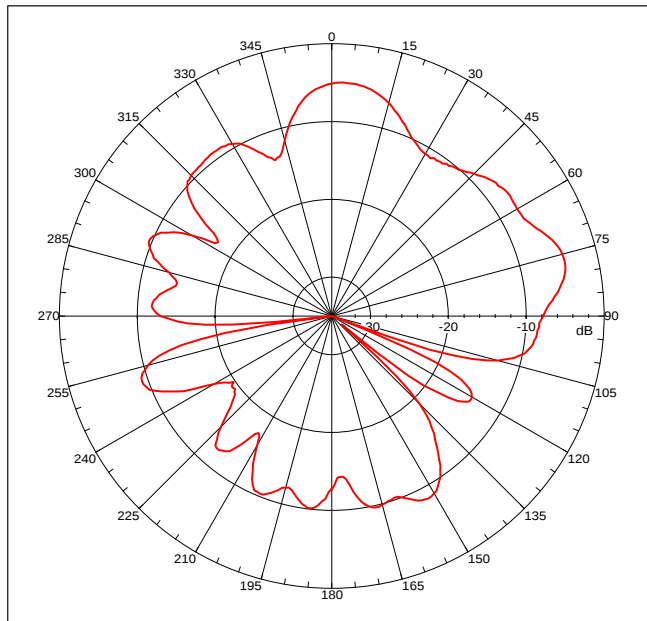
Selected beam(s) 1 of 3

Beam Frequency Azimuth Elevation Pol

2 2.450 GHz Azimuth Elevation Single-pol

=====

Far-field amplitude of G300-2.4G-Ex.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -4.26204 dBi
 Max far-field (global) = -52.0764 dB, Max far-field (plot) = -52.07645 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 75.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

test-20060406

NSI2000 V4.0.174, Filename: C:\PIFA\ECSM\G300\Data\G300-2.4G-Ex-2.nsi
 Measurement date/time: 4/6/2006 4:57:04 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -10.600 dB
 -3. dB beam width: 24.40 deg
 -6. dB beam width: 62.64 deg
 -10. dB beam width: 159.81 deg
 Left Sidelobe: -0.77 dB at 6.518 deg
 Right Sidelobe: -9.88 dB at 121.839 deg

Far-field display setup

Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 361
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 1.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

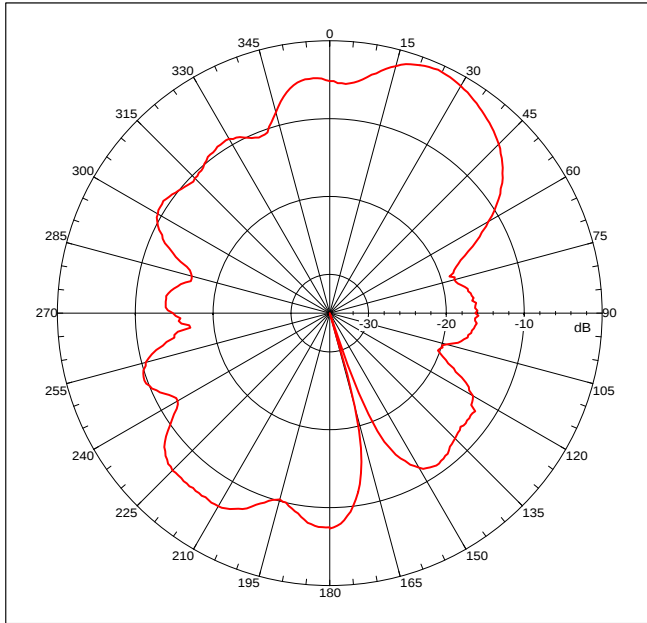
Selected beam(s) 1 of 3

Beam Frequency Azimuth Elevation Pol

3 2.500 GHz Azimuth Elevation Single-pol

=====

Far-field amplitude of G300-2.4G-Ey.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.77614 dBi
Max far-field (global) = -47.32388 dB, Max far-field (plot) = -47.3239 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 23.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

test-20060406

NSI2000 V4.0.174, Filename: C:\PIFA\ECSM\G300\Data\G300-2.4G-Ey-2.nsi
Measurement date/time: 4/6/2006 5:04:22 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -9.351 dB
-3. dB beam width: 32.52 deg
-6. dB beam width: 64.58 deg
-10. dB beam width: 123.72 deg
Left Sidelobe: -8.32 dB at -30.585 deg
Right Sidelobe: -15.65 dB at 84.735 deg

Far-field display setup

Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 361
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 1.000 deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

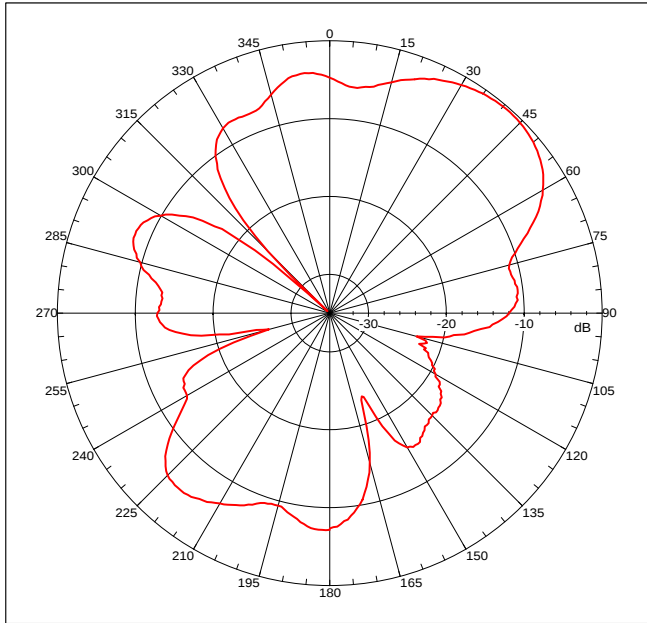
Selected beam(s) 1 of 3

Beam	Frequency	Azimuth	Elevation	Pol
------	-----------	---------	-----------	-----

1	2.400 GHz	Azimuth	Elevation	Single-pol
---	-----------	---------	-----------	------------

=====

Far-field amplitude of G300-2.4G-Ey.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.31879 dBi
Max far-field (global) = -47.8462 dB, Max far-field (plot) = -47.84621 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 41.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

test-20060406

NSI2000 V4.0.174, Filename: C:\PIFA\ECSM\G300\Data\G300-2.4G-Ey-2.nsi
Measurement date/time: 4/6/2006 5:04:22 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -8.689 dB
-3. dB beam width: 41.13 deg
-6. dB beam width: 82.23 deg
-10. dB beam width: 109.28 deg
Left Sidelobe: -3.66 dB at -5.515 deg
Right Sidelobe: -21.60 dB at 107.800 deg

Far-field display setup

Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 361
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 1.000 deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

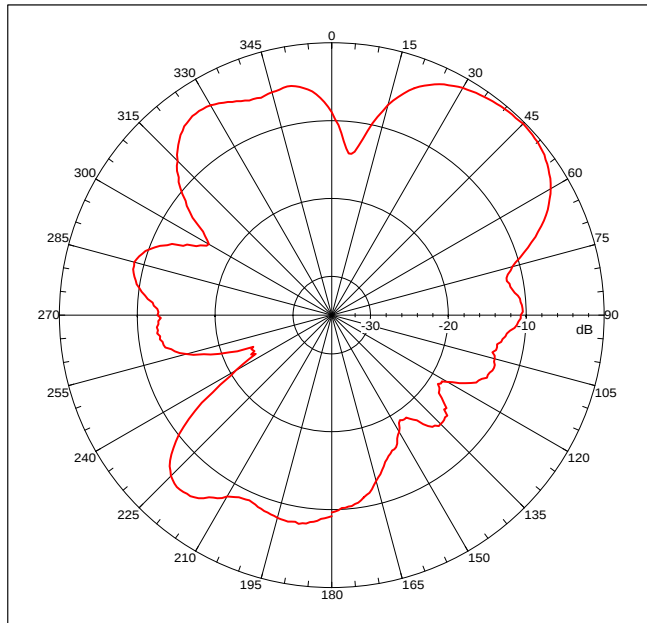
Selected beam(s) 1 of 3

Beam	Frequency	Azimuth	Elevation	Pol
------	-----------	---------	-----------	-----

2	2.450 GHz	Azimuth	Elevation	Single-pol
---	-----------	---------	-----------	------------

=====

Far-field amplitude of G300-2.4G-Ey.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.22392 dBi
Max far-field (global) = -48.03828 dB, Max far-field (plot) = -48.03832 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 44.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

test-20060406

NSI2000 V4.0.174, Filename: C:\PIFA\ECSM\G550\Data\G300-2.4G-Ey-2.nsi
Measurement date/time: 4/6/2006 5:04:22 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -8.425 dB
-3. dB beam width: 39.98 deg
-6. dB beam width: 51.69 deg
-10. dB beam width: 62.25 deg
Left Sidelobe: -4.85 dB at -10.529 deg
Right Sidelobe: -10.22 dB at 89.749 deg

Far-field display setup

Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 361
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 1.000 deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 3

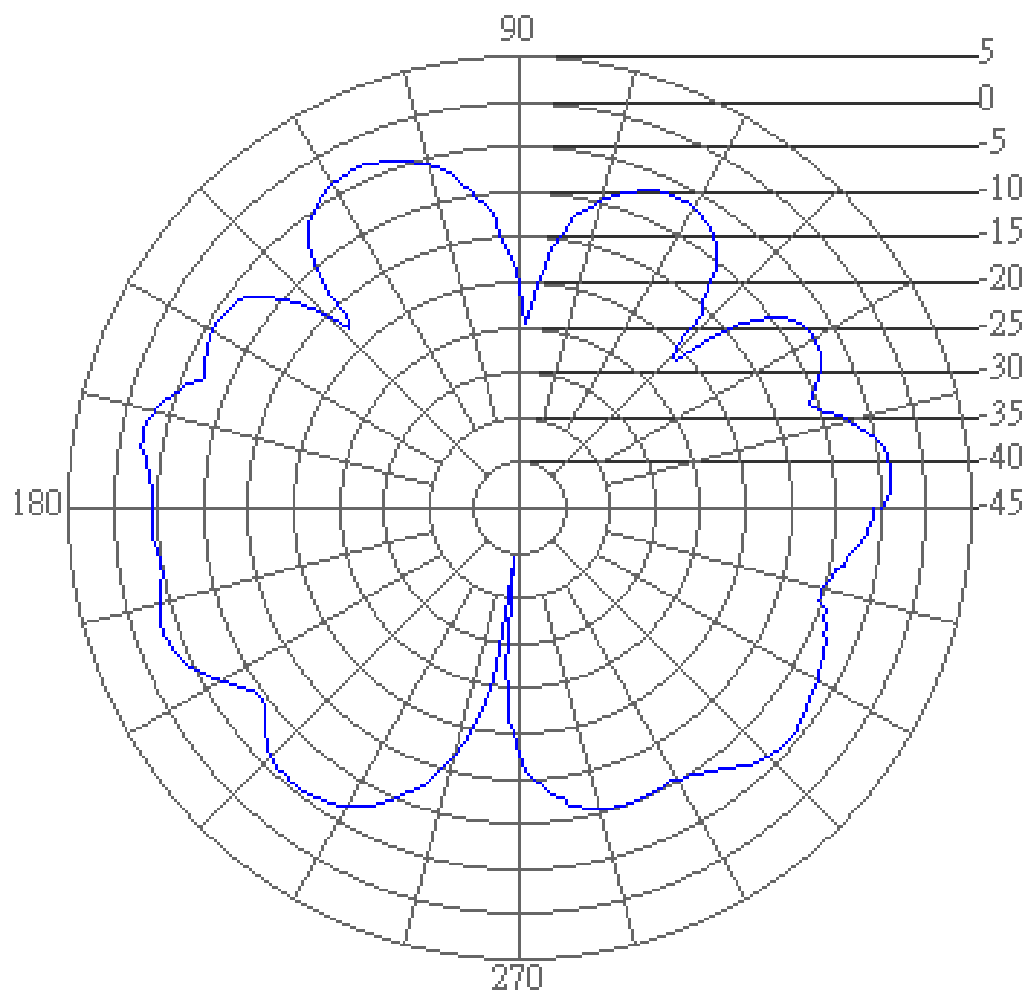
Beam Frequency Azimuth Elevation Pol

3 2.500 GHz Azimuth Elevation Single-pol

=====

C&C LABORATORY CO.,LTD

E Plane



Frequency 5150.00 MHz

Average Gain= -8.85

Max Gain= -2.47

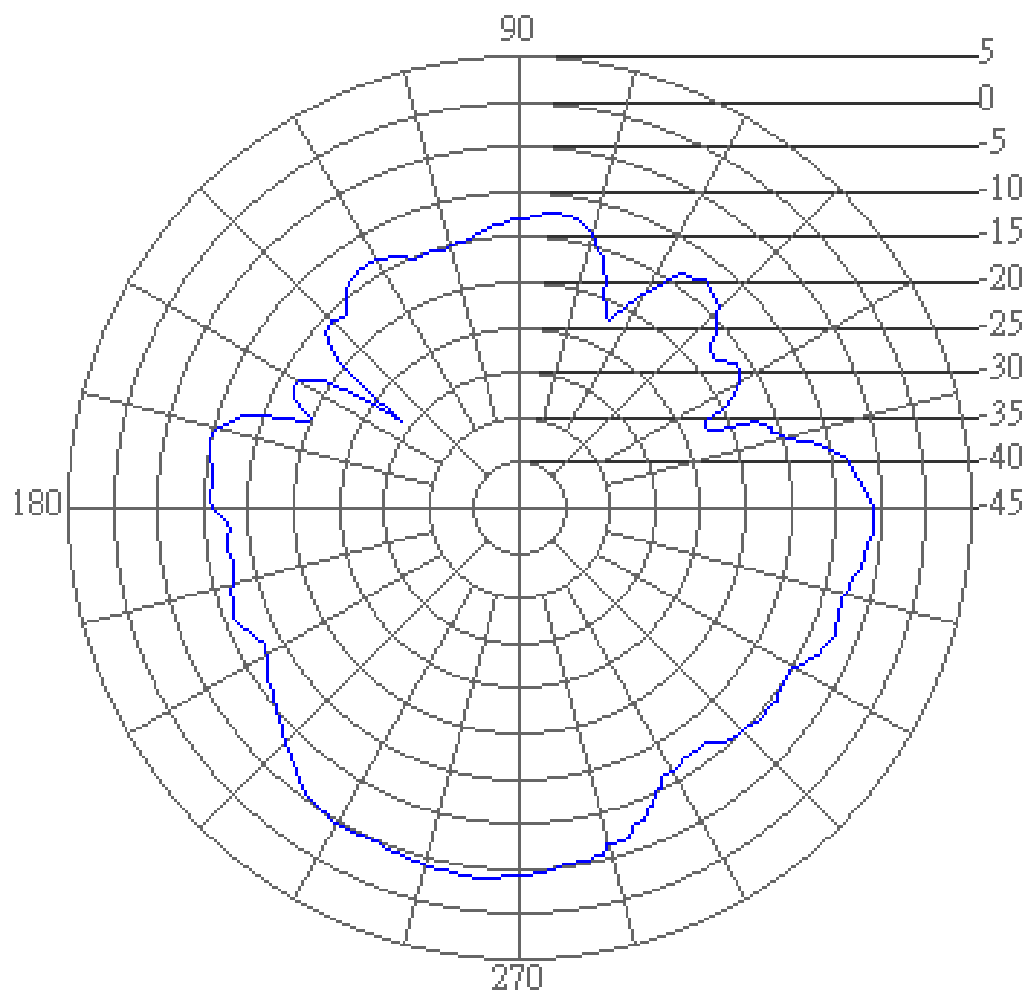
Min Gain= -39.64

Custom Name: 鴻呈-0526

Model Name: G330-G-2450_0

C&C LABORATORY CO.,LTD

H Plane



Frequency 5150.00 MHz

Average Gain= -11.52

Max Gain= -3.78

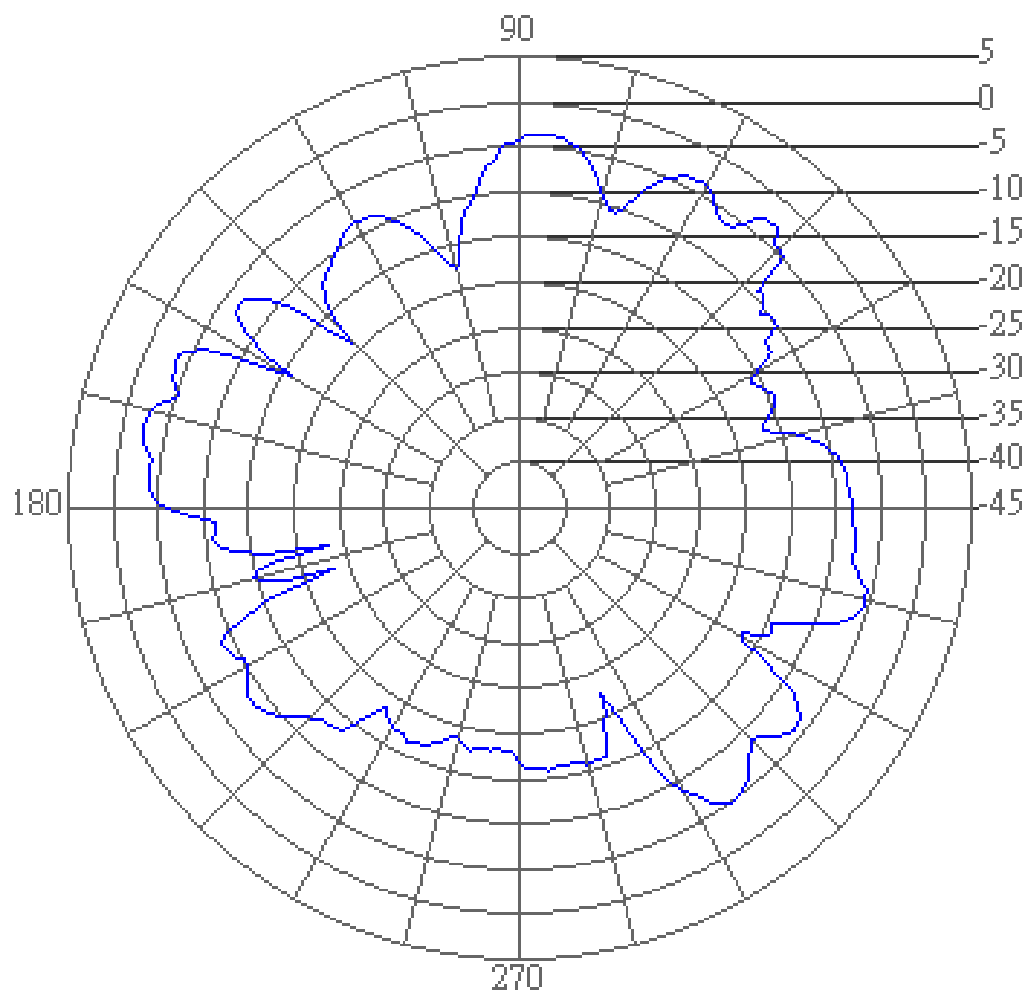
Min Gain= -28.61

Custom Name: 鴻呈-0526

Model Name: G330-G-5150_0

C&C LABORATORY CO.,LTD

E Plane



Frequency 5500.00 MHz

Average Gain= -10.62

Max Gain= -2.31

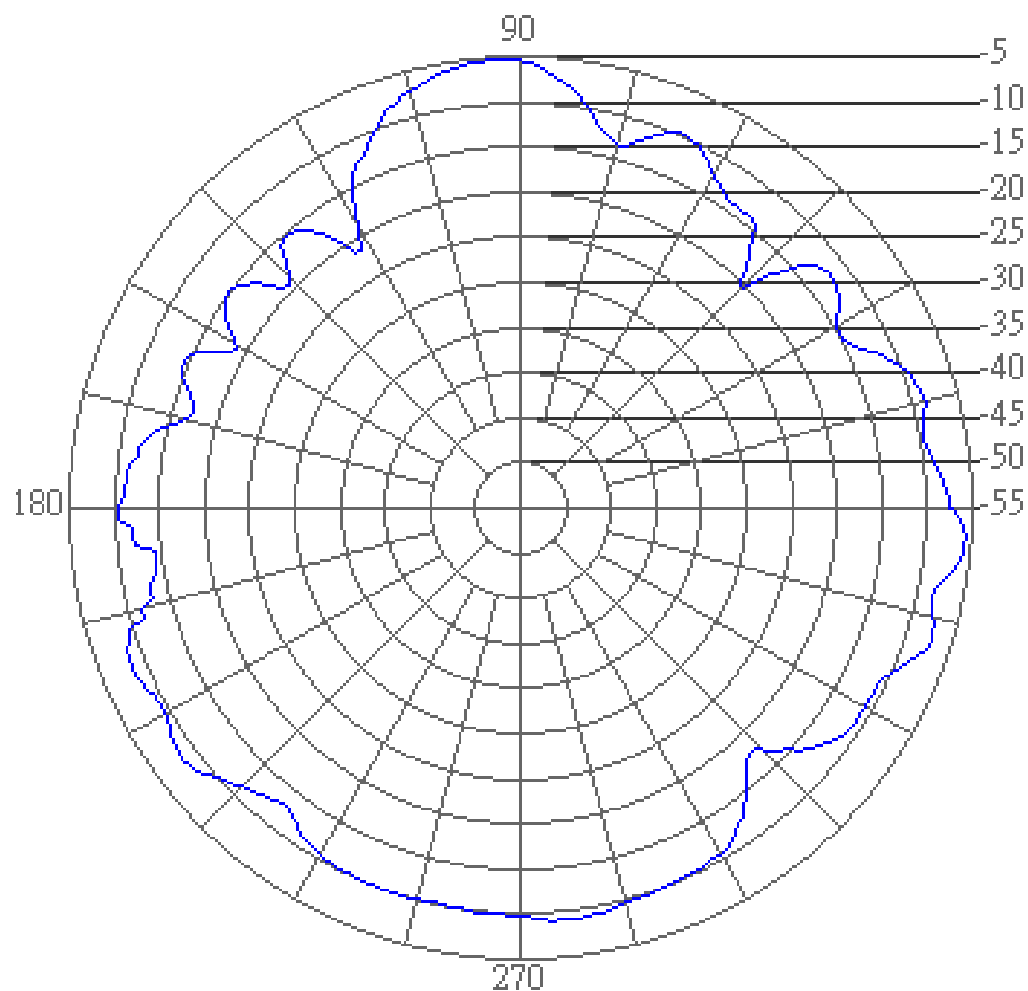
Min Gain= -23.48

Custom Name: 鴻呈-0526

Model Name: G330-G-5500_0

C&C LABORATORY CO.,LTD

H Plane



Frequency 5500.00 MHz

Average Gain= -11.50

Max Gain= -5.31

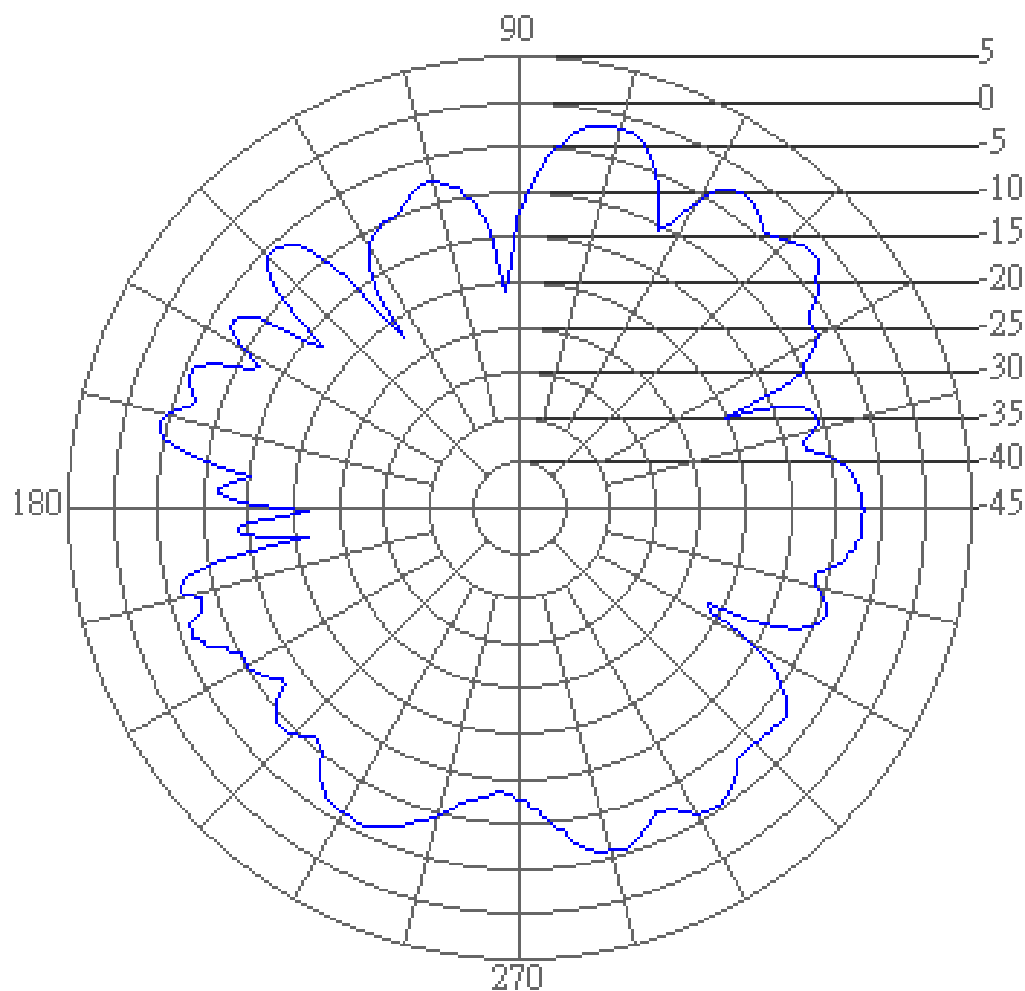
Min Gain= -21.65

Custom Name: 鴻呈-0526

Model Name: G330-G-5500_0

C&C LABORATORY CO.,LTD

E Plane



Frequency 5850.00 MHz

Average Gain= -8.87

Max Gain= -1.36

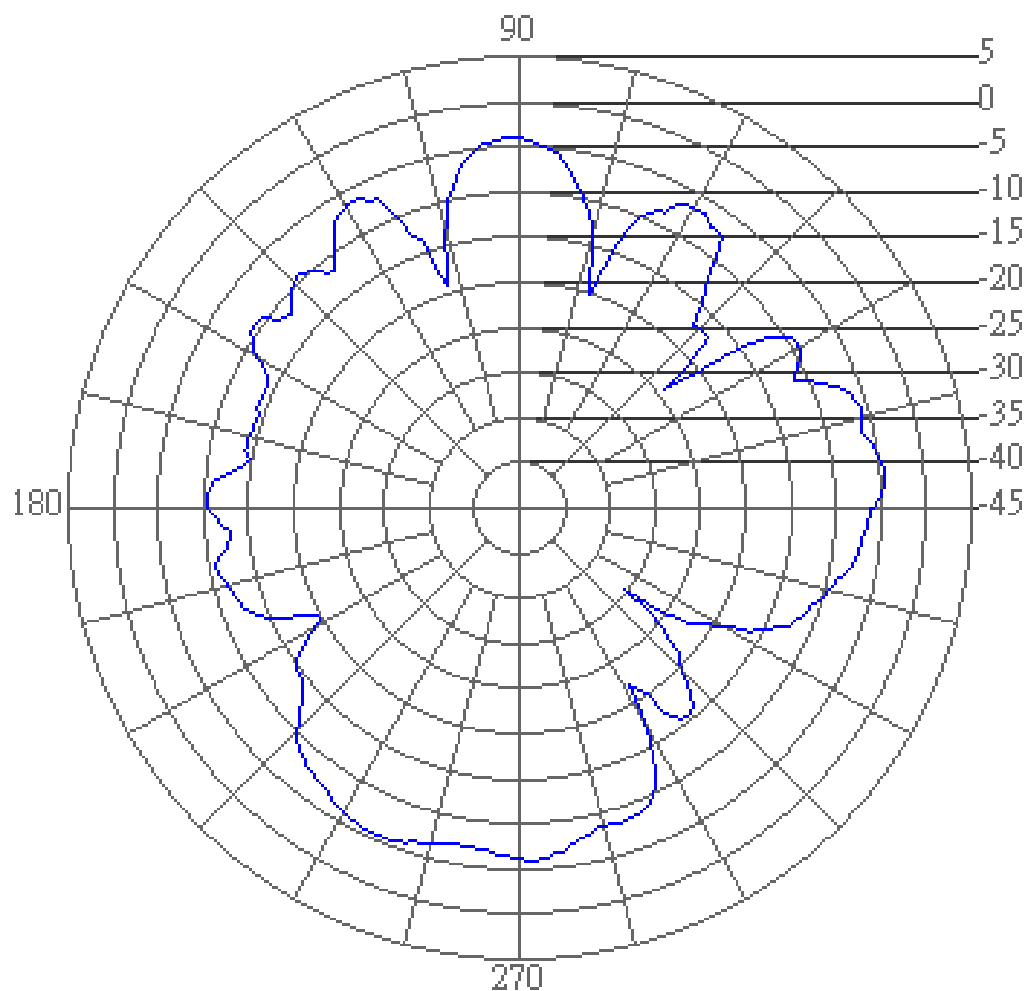
Min Gain= -22.19

Custom Name: 鴻呈-0526

Model Name: G330-G-5850_0

C&C LABORATORY CO.,LTD

H Plane



Frequency 5850.00 MHz

Average Gain= -10.91

Max Gain= -3.86

Min Gain= -30.36

Custom Name: 鴻呈-0526

Model Name: G330-G-5850_0