

承認書

APPROVAL SHEET

客戶名稱： 精英電腦股份有限公司
CUSTOMER
品 名： CABLE.ANTENNA L...400.VSO
DRAWING NAME
鴻呈料號： 82-101-01210120
VSO PART NO.
客戶料號： 14-211-F66041
CUSTOMER PART NO.

APPROVAL BY

業務部門
SALES DIV.:

品管部門
QC DIV.:

工程部門
TECHNIQUE DIV:

採購部門
PURCHASE DIV:

簡祥銓



吳淑美

洪麗雯

CUSTOMER APPROVEAL

業務部門
SALES DIV.:

品管部門
QC DIV.:

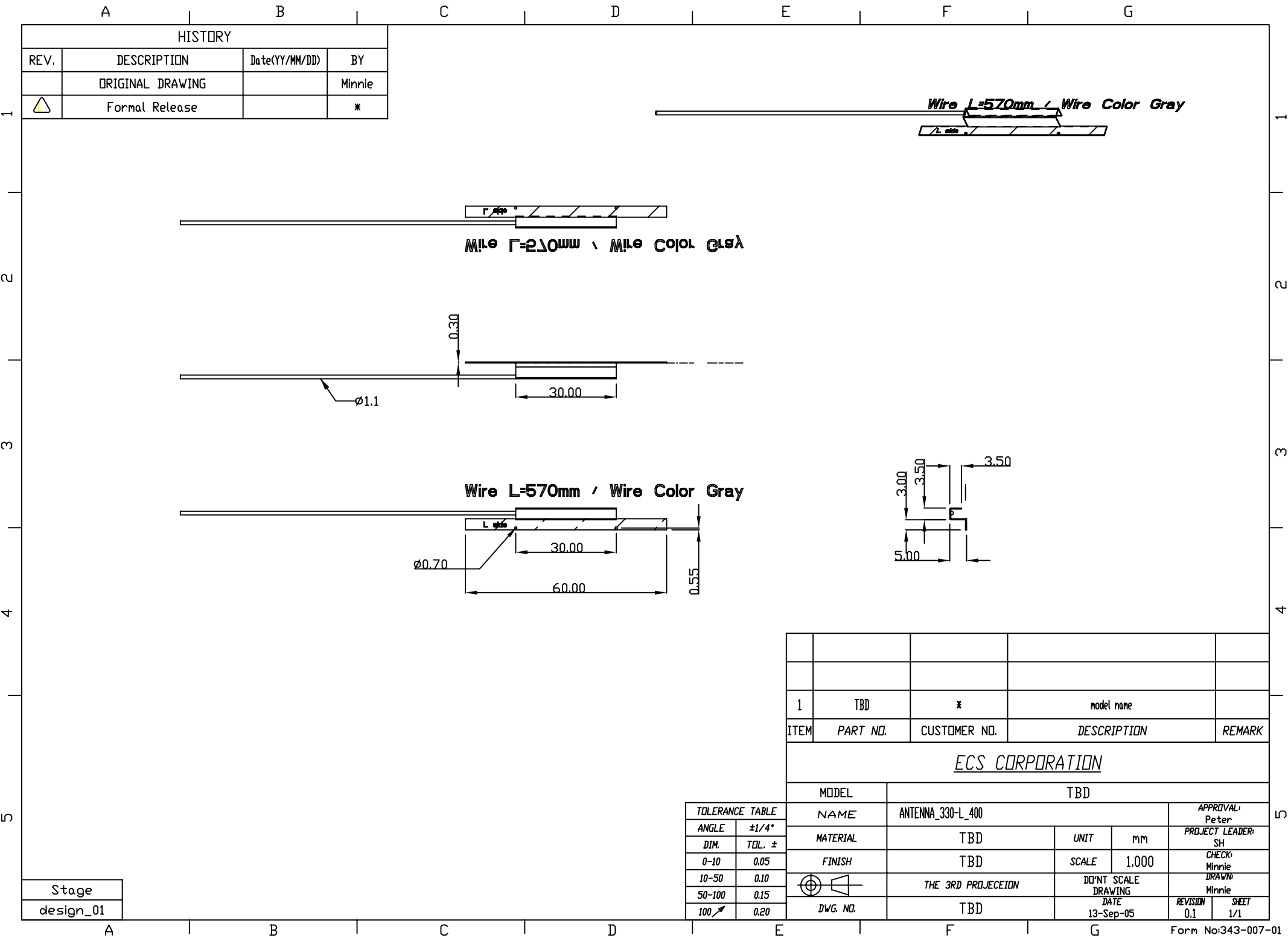
工程部門
TECHNIQUE DIV:

採購部門
PURCHASE DIV:

鴻呈實業股份有限公司

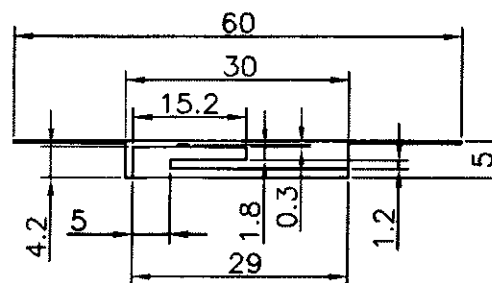
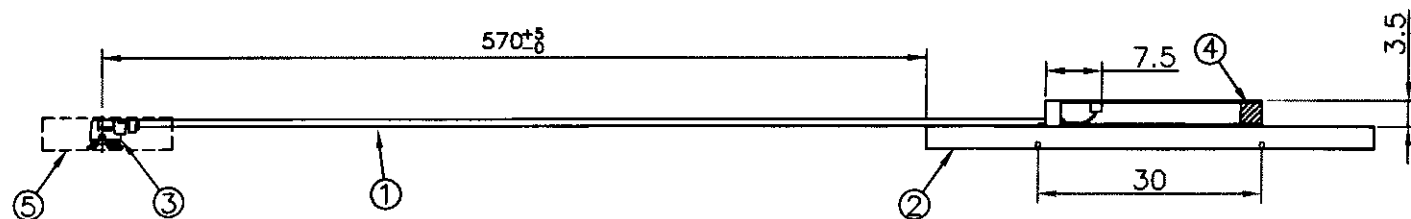
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DRAW ID
CDTHIS DRAWING IS CONTROLLED DOCUMENT
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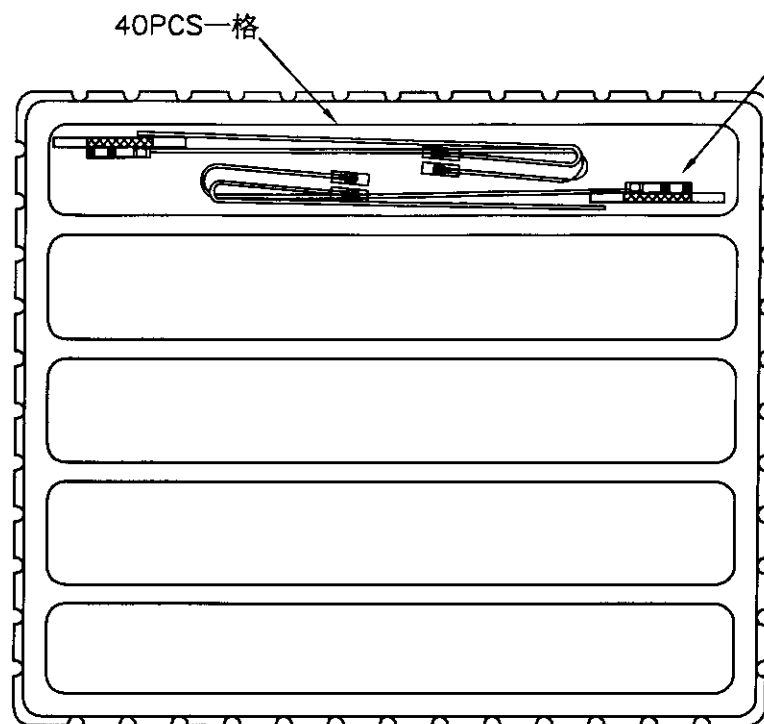
REVISION			
REV.	DESCRIPTION	APPROVAL	DATE
B	變更產品長度及裁線尺寸		05.11.09



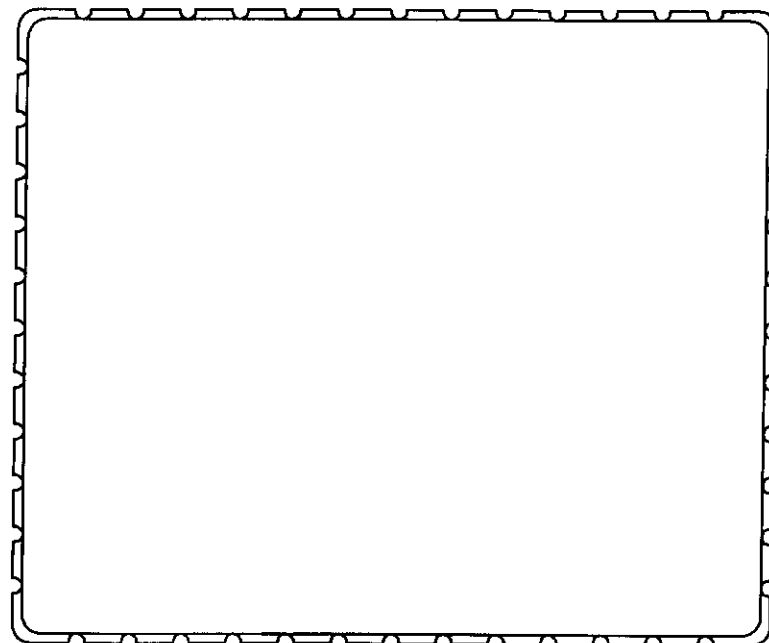
NOTE: 用網絡分析義測試

⑥	雙面膠	雙面膠:L60*W3.3*T0.05mm	1PCS
⑤	TUBE	PVC透明套管:ø3.1*20mm	1PCS
④	支撐膠	EVA支撐膠, BLACK	1PCS
③	CONN	I-PEX TERM GOLD-PLATED	1PCS
②	PIFA BODY	洋白銅, 左	1PCS
①	RF CABLE	CABLE:ø1.13 COAXIAL CABLE,COLOR:GRAY	1PCS
ITEM		DESCRIPTION	Q'TY

VSO ELECTRIC CO.,LTD.					
XX.	±0.5	CUST. PN: 精英 14-211-F66041		DRAW.:	
X.	±0.3	TITLE: PIFA ANTENNA		ENGIN:	
.X	±0.1	VSO PN: 82-101-01210120		CHECK: 李智強	
.XX	±0.05	UNITS mm		DWG. NO.: RF0003	
		PAGE: 1/3		REV. B	
		APPR.:		APPR.:	



吸塑盤底盤



吸塑盤上蓋

REVISION			
REV.	DESCRIPTION	APPROVAL	DATE

VSO

ELECTRIC CO.,LTD.

CUST. P/N:

精英 14-211-F66041

DRAW:

jerry

TITLE:

包裝圖

ENGIN:

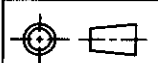
VSO P/N:

82-101-01210120

CHECK:

劉子豪

XX.	±0.5
X.	±0.3
.X	±0.1
.XX	±0.05

UNITS
mm

DWG. NO.:

PAGE:

3/3

REV.

A

APPR.:

劉子豪

NOTE:

1. 吸塑盤規格:L380*W320*H40mm,紙箱規格:L390*W330*H240mm
2. 20PCS用橡皮筋捆成一把,一格可放2把40PCS成品
3. 一個吸塑盤分五格,可放200PCS成品,一箱放五個吸塑盤可裝1000PCS成品

4

3

2

1

D

C

B

A

ECSM P/N : 14-211-F66041

Specification

1. Electrical Properties

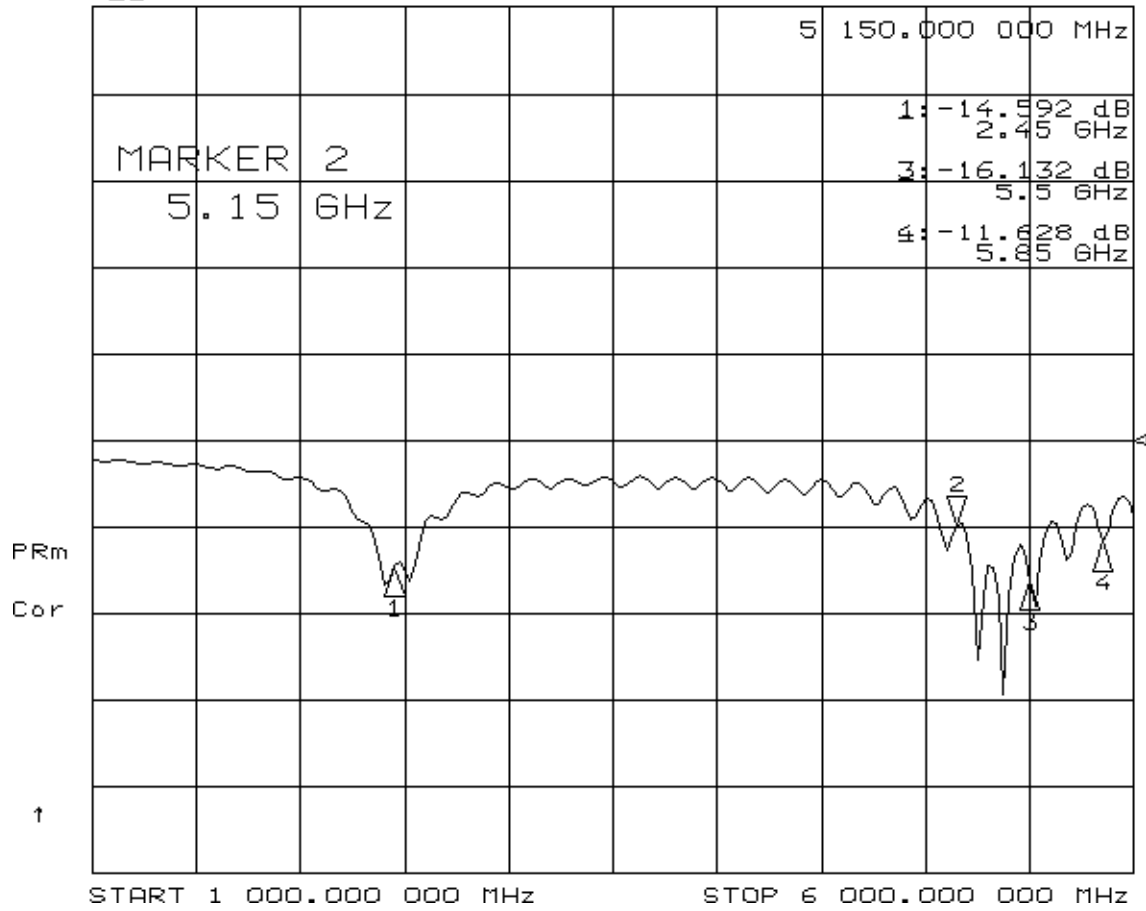
- 1.1 Frequency Range 2.4~2.5GHz ; 5.15~5.85GHz
1.2 Impedance 50
1.3 VSWR 2.0 max
1.4 Return Loss -10 dB max
1.5 Gain

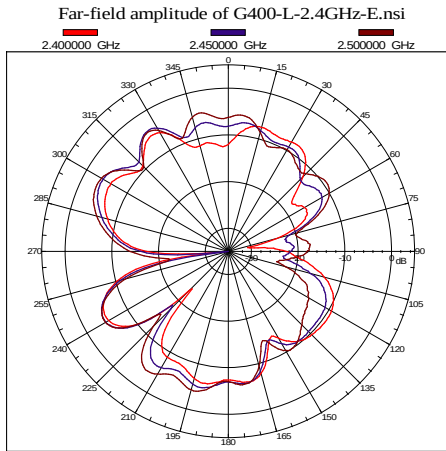
Pattern	Average			Peak		
頻率	Ex	Ey	Ex+Ey	Ex	Ey	Ex+Ey
2.40 GHz	-6.12	-10.16	-4.68	-1.86	-5.19	-0.20
2.45 GHz	-5.87	-9.26	-4.23	-1.55	-3.90	0.44
2.50 GHz	-5.93	-8.88	-4.15	-1.58	-3.39	0.62
5.15 GHz	-8.75	-9.29	-6.00	-2.33	-0.85	1.48
5.55 GHz	-7.61	-9.42	-5.41	-2.57	-4.07	-0.25
5.85 GHz	-11.44	-11.6	-8.51	-5.79	-5.93	-2.85

2. Physical Properties

- 2.1 Cable Type ϕ 1.13 Coaxial ; L : 545 mm
2.2 Cable Color Gray
2.3 Cable Attenuations 1.8 dB/m @1.0GHz
2.6 dB/m @2.0GHz
3.7 dB/m @3.0GHz
4.8 dB/m @4.0GHz
5.2 dB/m @5.0GHz
6.4 dB/m @6.0GHz

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

CH2 S₂₂ log MAG 10 dB/ REF 0 dB 2: -9.7372 dB



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -5.19471 dBi
Max far-field (global) = -51.85083 dB, Max far-field (plot) = -51.85084 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -34.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-2.4GHz-E

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-2.4GHz-E.nsi
Measurement date/time: 9/30/2005 12:09:26 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -10.158 dB
-3. dB beam width: 18.43 deg
-6. dB beam width: 63.61 deg
-10. dB beam width: 136.66 deg
Left Sidelobe: -0.75 dB at -59.666 deg
Right Sidelobe: -2.24 dB at 14.540 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, Eprincipal: Linear, Tau = 0.000 deg
Gain = -3.89814 dBi
Max far-field (global) = -51.06732 dB, Max far-field (plot) = -51.06734 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -33.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-2.4GHz-E

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-2.4GHz-E.nsi
Measurement date/time: 9/30/2005 12:09:26 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -9.264 dB
-3. dB beam width: 17.52 deg
-6. dB beam width: 118.79 deg
-10. dB beam width: 153.98 deg

Left Sidelobe: -0.03 dB at -61.671 deg
Right Sidelobe: -3.04 dB at -11.532 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, Eprincipal: Linear, Tau = 0.000 deg
Gain = -3.38882 dBi
Max far-field (global) = -50.80662 dB, Max far-field (plot) = -50.80664 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -63.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-2.4GHz-E

NSI2000 V4.0.116, Filename:C:\KUO\New Folder\G400-L-2.4GHz-E.nsi
Measurement date/time: 9/30/2005 12:09:26 PM, Filetype: NSI-97

Far-field Cut Analysis:

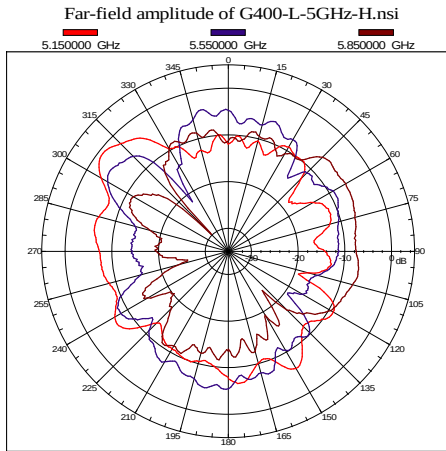
Avg value: -8.878 dB
-3. dB beam width: 24.14 deg
-6. dB beam width: 35.52 deg
-10. dB beam width: 156.33 deg
Left Sidelobe: -1.15 dB at -117.827 deg
Right Sidelobe: -0.74 dB at -33.593 deg

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, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.84897 dBi
Max far-field (global) = -56.67969 dB, Max far-field (plot) = -56.67972 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -52.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-5GHz-H

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-5GHz-H.nsi

Measurement date/time: 9/30/2005 12:30:13 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -9.286 dB

-3. dB beam width: 21.57 deg

-6. dB beam width: 31.90 deg

-10. dB beam width: 107.73 deg

Left Sidelobe: -4.98 dB at -78.719 deg

Right Sidelobe: -11.68 dB at -14.540 deg

Far-field display setup

Azimuth (deg)

Span = 360.000 deg, Center = 0.000 deg, #pts = 361

Start = -180.000 deg, Stop = 180.000 deg, Delta = 1.000 deg

Elevation (deg)

Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 8

Beam	Frequency	Azimuth	Elevation	Pol
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1	5.150 GHz	Azimuth	Elevation	Single-pol
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Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg

Gain = -4.06577 dBi

Max far-field (global) = -61.07156 dB, Max far-field (plot) = -61.07156 dB

Normalization: Reference, Network offset = 0.000 dB

Hpeak at: -11.00001 deg, Vpeak at: 0.000 deg

Plot centering: On

G400-L-5GHz-H

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-5GHz-H.nsi

Measurement date/time: 9/30/2005 12:30:13 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -9.423 dB

-3. dB beam width: 25.68 deg

-6. dB beam width: 60.19 deg

-10. dB beam width: 68.71 deg

Left Sidelobe: -1.46 dB at -47.632 deg
Right Sidelobe: -0.48 dB at -0.501 deg
Far-field display setup
Azimuth (deg)
Span = 360.000 deg, Center = 0.000 deg, #pts = 361
Start= -180.000 deg, Stop = 180.000 deg, Delta = 1.000 deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 8

Beam	Frequency	Azimuth	Elevation	Pol
5	5.550 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -5.92536 dBi
Max far-field (global) = -63.0876 dB, Max far-field (plot) = -63.08769 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 59.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-5GHz-H

NSI2000 V4.0.116, Filename:C:\KUO\New Folder\G400-L-5GHz-H.nsi
Measurement date/time: 9/30/2005 12:30:13 PM, Filetype: NSI-97

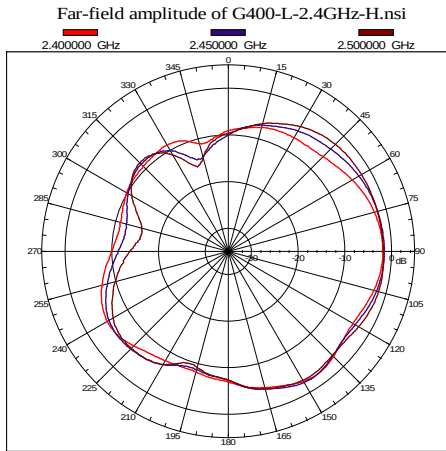
Far-field Cut Analysis:

Avg value: -11.600 dB
-3. dB beam width: 75.05 deg
-6. dB beam width: 98.38 deg
-10. dB beam width: 174.21 deg
Left Sidelobe: -3.14 dB at 20.557 deg
Right Sidelobe: -0.88 dB at 101.783 deg

Far-field display setup
Azimuth (deg)
Span = 360.000 deg, Center = 0.000 deg, #pts = 361
Start= -180.000 deg, Stop = 180.000 deg, Delta = 1.000 deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 8

Beam	Frequency	Azimuth	Elevation	Pol
8	5.850 GHz	Azimuth	Elevation	Single-pol



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -1.86413 dBi
Max far-field (global) = -48.52025 dB, Max far-field (plot) = -48.5203 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 90.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-2.4GHz-H

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-2.4GHz-H.nsi
Measurement date/time: 9/30/2005 11:54:47 AM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -6.123 dB
-3. dB beam width: 109.48 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: -6.75 dB at -31.588 deg
Right Sidelobe: -0.63 dB at 143.900 deg

Far-field display setup

Azimuth (deg)
Span = 360.000 deg, Center = 0.000 deg, #pts = 361
Start = -180.000 deg, Stop = 180.000 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, Eprincipal: Linear, Tau = 0.000 deg
Gain = -1.54486 dBi
Max far-field (global) = -48.71404 dB, Max far-field (plot) = -48.7141 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 88.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-2.4GHz-H

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-2.4GHz-H.nsi
Measurement date/time: 9/30/2005 11:54:47 AM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -5.874 dB
-3. dB beam width: 128.05 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found

Left Sidelobe: -7.05 dB at -38.607 deg
Right Sidelobe: -0.90 dB at 144.903 deg
Far-field display setup
Azimuth (deg)
Span = 360.000 deg, Center = 0.000 deg, #pts = 361
Start= -180.000 deg, Stop = 180.000 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, Eprincipal: Linear, Tau = 0.000 deg
Gain = -1.57962 dBi
Max far-field (global) = -48.99742 dB, Max far-field (plot) = -48.99744 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 98.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-2.4GHz-H

NSI2000 V4.0.116, Filename:C:\KUO\New Folder\G400-L-2.4GHz-H.nsi
Measurement date/time: 9/30/2005 11:54:47 AM, Filetype: NSI-97

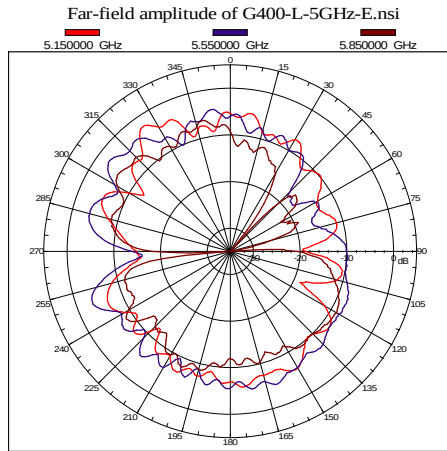
Far-field Cut Analysis:

Avg value: -5.925 dB
-3. dB beam width: 139.07 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: -6.58 dB at -41.616 deg
Right Sidelobe: Not Found

Far-field display setup
Azimuth (deg)
Span = 360.000 deg, Center = 0.000 deg, #pts = 361
Start= -180.000 deg, Stop = 180.000 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, Eprincipal: Linear, Tau = 0.000 deg
Gain = -2.33203 dBi
Max far-field (global) = -58.16275 dB, Max far-field (plot) = -58.16278 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -35.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-5GHz-E

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-5GHz-E.nsi

Measurement date/time: 9/30/2005 12:42:33 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -8.747 dB

-3. dB beam width: 18.37 deg

-6. dB beam width: 32.58 deg

-10. dB beam width: 112.86 deg

Left Sidelobe: -3.09 dB at -67.688 deg

Right Sidelobe: -5.09 dB at -12.535 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 8

Beam	Frequency	Azimuth	Elevation	Pol
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1	5.150 GHz	Azimuth	Elevation	Single-pol
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Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg

Gain = -2.56781 dBi

Max far-field (global) = -59.5736 dB, Max far-field (plot) = -59.57373 dB

Normalization: Reference, Network offset = 0.000 dB

Hpeak at: -53.00001 deg, Vpeak at: 0.000 deg

Plot centering: On

G400-L-5GHz-E

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-5GHz-E.nsi

Measurement date/time: 9/30/2005 12:42:33 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -7.605 dB

-3. dB beam width: 23.61 deg

-6. dB beam width: 59.71 deg

-10. dB beam width: 131.04 deg

Left Sidelobe: -1.15 dB at -73.705 deg
Right Sidelobe: -3.23 dB at -16.546 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 8

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

5	5.550 GHz	Azimuth	Elevation	Single-pol
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5	5.550 GHz	Azimuth	Elevation	Single-pol
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Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -5.79289 dBi
Max far-field (global) = -62.95513 dB, Max far-field (plot) = -62.95514 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -56.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

G400-L-5GHz-E

NSI2000 V4.0.116, Filename: C:\KUO\New Folder\G400-L-5GHz-E.nsi

Measurement date/time: 9/30/2005 12:42:33 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -11.444 dB
-3. dB beam width: 22.77 deg
-6. dB beam width: 87.32 deg
-10. dB beam width: 119.19 deg
Left Sidelobe: -2.73 dB at -72.702 deg
Right Sidelobe: -2.78 dB at -32.591 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 8

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

8	5.850 GHz	Azimuth	Elevation	Single-pol
---	-----------	---------	-----------	------------

8	5.850 GHz	Azimuth	Elevation	Single-pol
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