

OUTSIDE GSM ANTENNA

MODEL: GSM-100A

Fiber Glass Antenna

850/900/1800/1900/2170/2700Mhz



一. **ELECTRONICAL:**

1. **ANTENNA TYPE** 天線型式: Base Station Antenna
2. **FREQUENCY** 頻率: 800/900/1800/1900/2100 MHz/2600/2700MHz
3. **IMPEDANCE** 阻抗: 50 Ohm
4. **POLARISATION** 極: Vertical
5. **GAIN:** 6.1dBi
6. **SWR:** 2.0:1
7. **MAX.POWER** 最大功率: 50W

二. MECHANICAL:

1. MATERIALS 材質: Fiberglass
2. COLOR 顏色: White
3. TOTAL HEIGHT 總長度: 756m/m ±10
4. WEIGHT 重量: 875 g

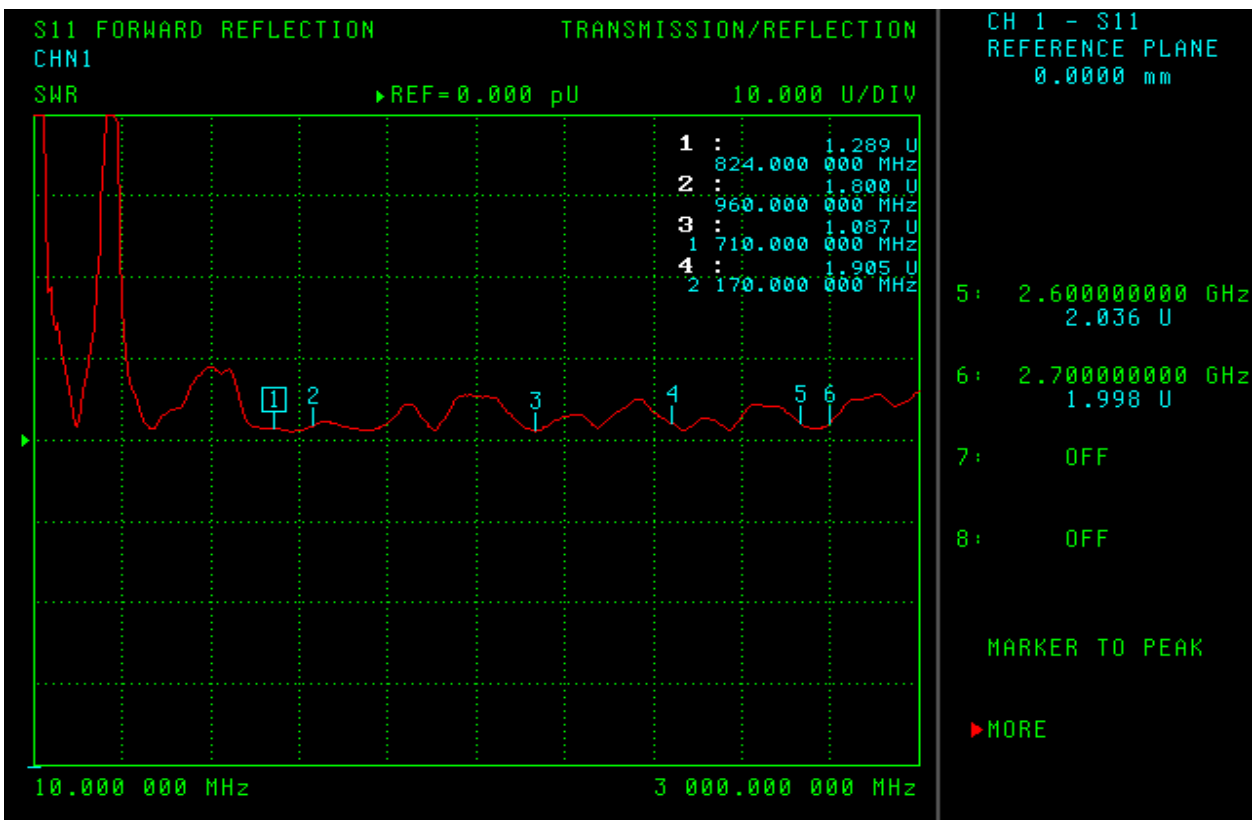
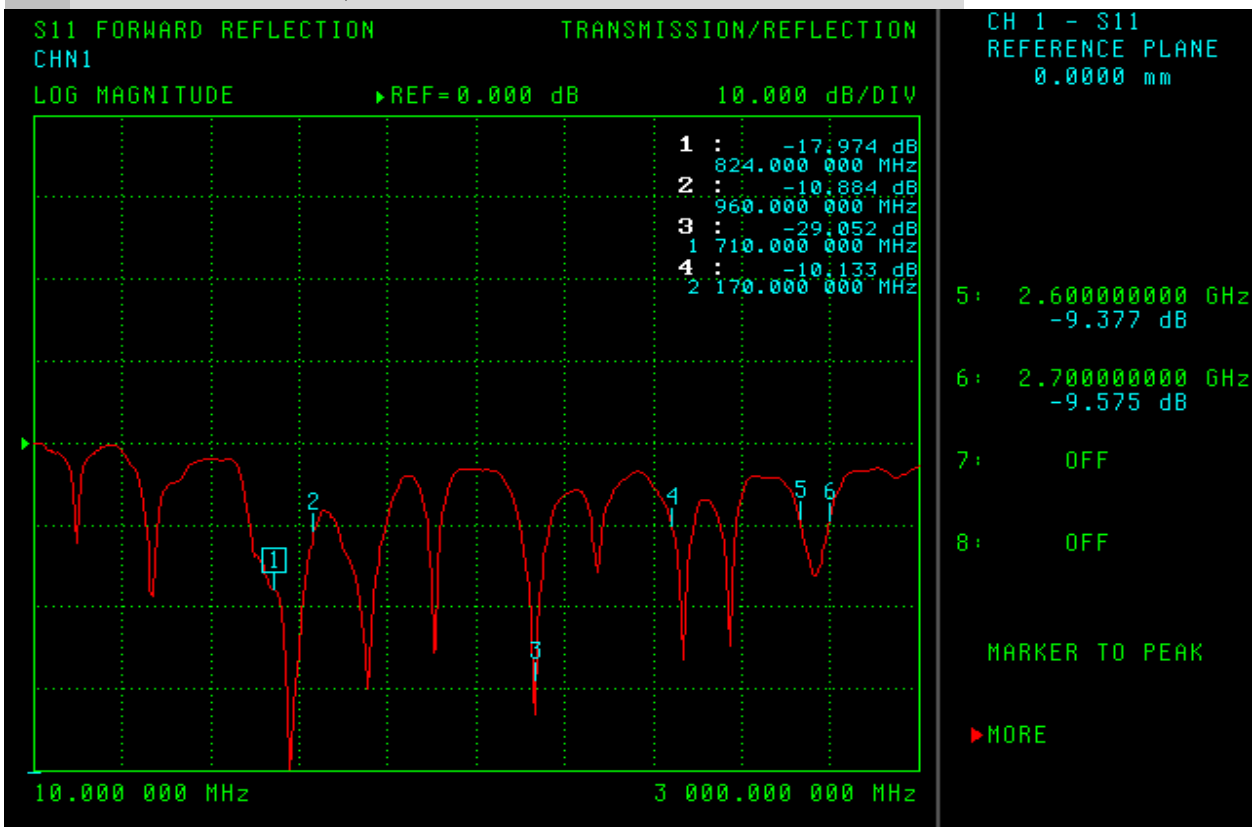
三. APPEARANCE:

NO.	NAME	Q. TY
01	Body	01
02	Cap	01
03	Tube aluminium	01
04	Round iron washer	01
05	Hexagonal nut	01
06	Clip retaining	02
07	U-Circlip	02
08	Hexagonal nut	02
09	Round iron washer	04
10	Hexagonal nut	04
11	Hexagonal plate hand	01
12	N (Female)	01

FREQUENCY: 800/900/1800/1900/2100MHz/2600/2700MHz

 Third angle projection	CUSTOMER' S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
	TOLERANCE	X. XX±0. 15	NAME	PARTS NUMBER	APPROVED	CHECKED	DRAWING	DESIGNED
SURFACE ROUGHNESS	$\frac{S}{\nabla}$	APPEARANCE						

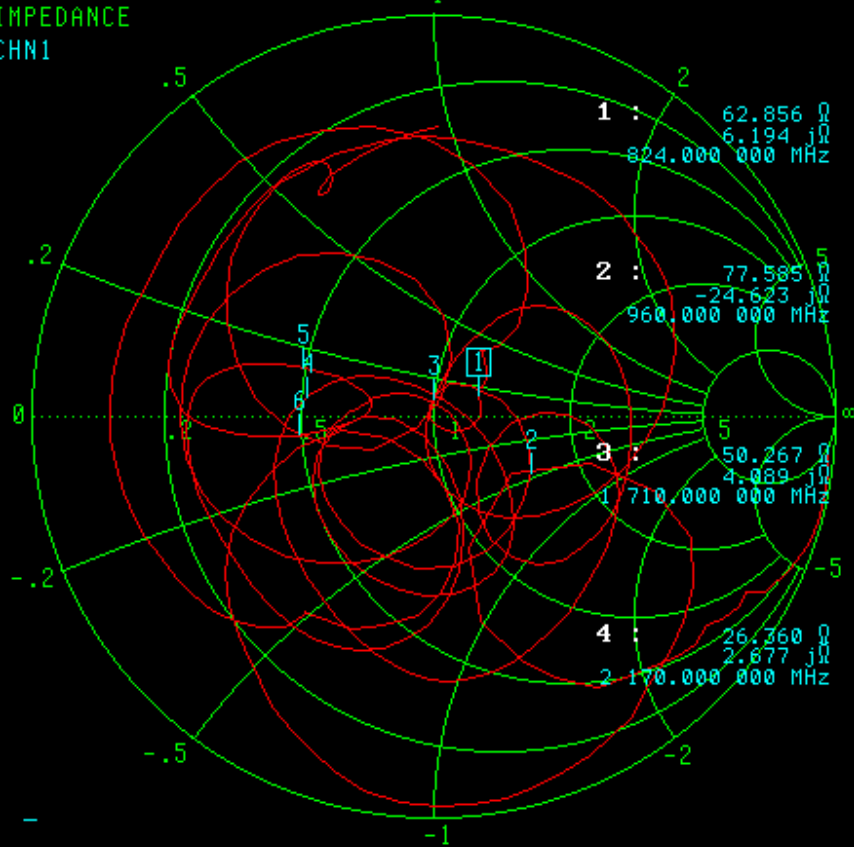
四.Return Loss, V.S.W.R. and Smith Chart



S11 FORWARD REFLECTION
IMPEDANCE
CHN1

TRANS/REFL

CH 1 - S11
REFERENCE PLANE
0.0000 mm



5: 2.600000000 GHz
25.189 Ω
6.566 $j\Omega$

6: 2.700000000 GHz
25.168 Ω
-2.870 $j\Omega$

7: OFF

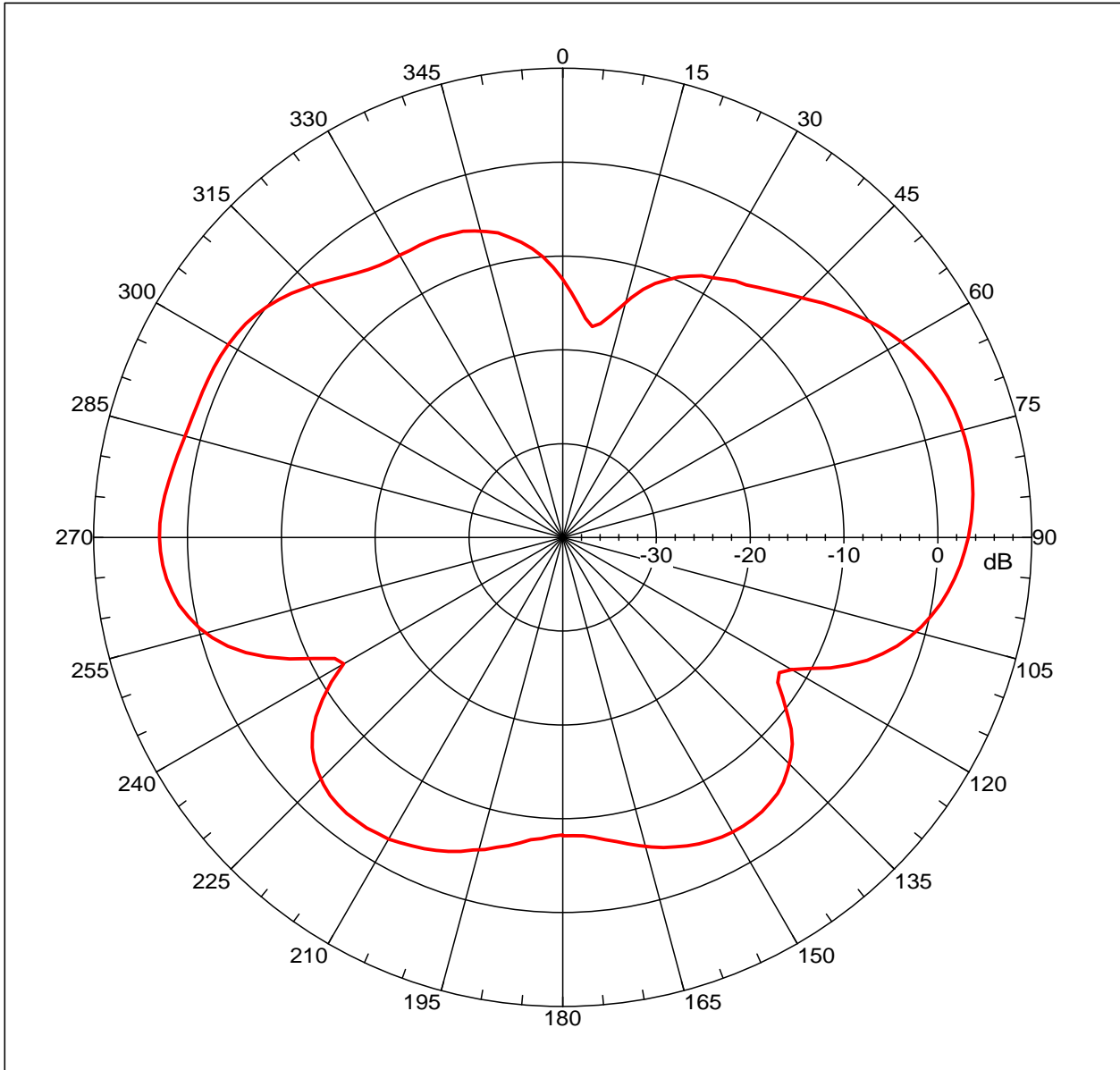
8: OFF

MARKER TO PEAK

▶ MORE

10.000 000 MHz - 3 000.000 000 MHz

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 4.19456 dBi
 Max far-field (global) = -38.80478 dB, Max far-field (plot) = -38.8048 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 78.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi

Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -2.676 dB
 -3. dB beam width: 40.74 deg
 -6. dB beam width: 56.63 deg
 -10. dB beam width: 74.10 deg
 Left Sidelobe: -9.52 dB at -25.140 deg
 Right Sidelobe: -7.92 dB at 149.832 deg

Far-field display setup

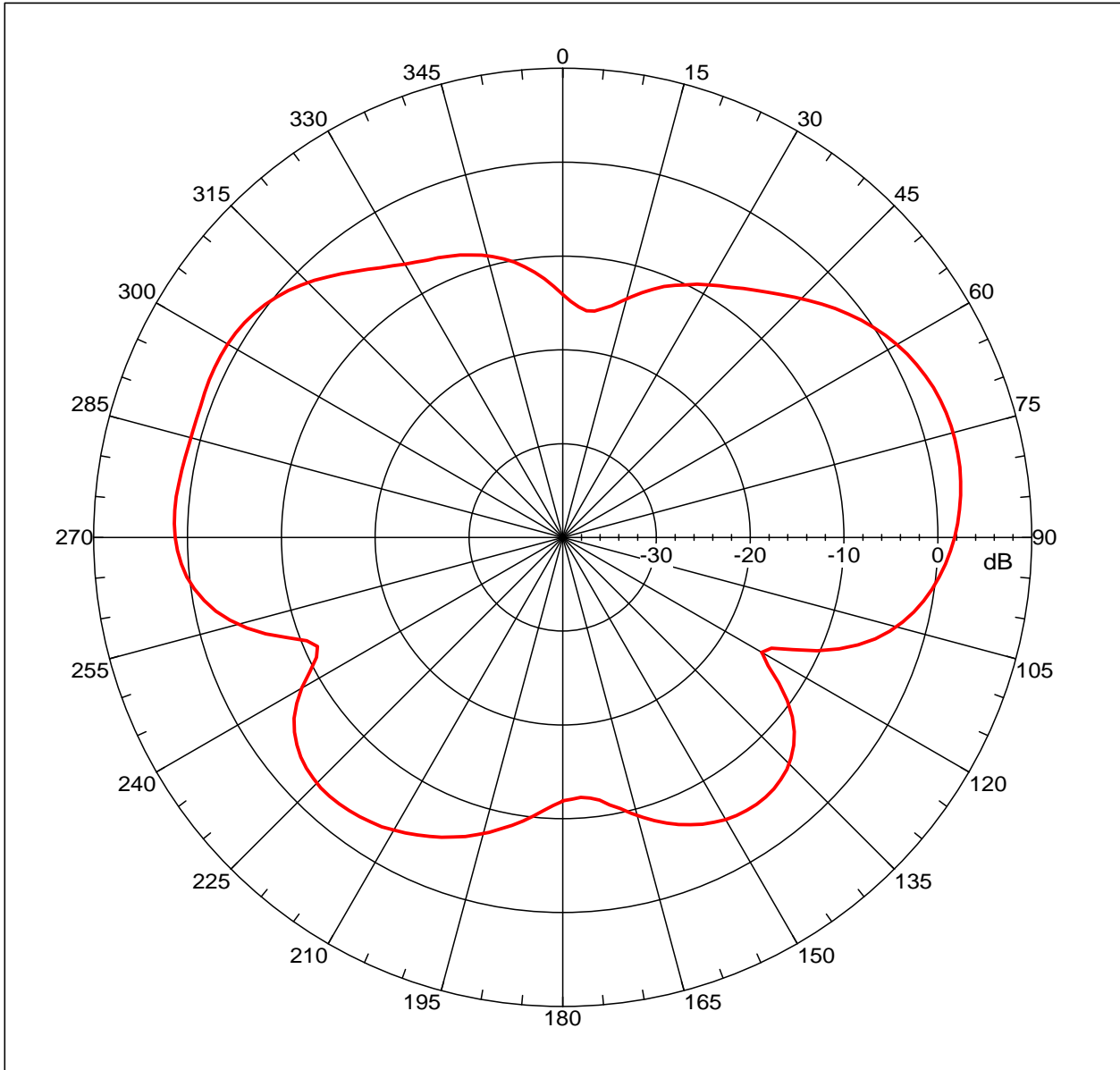
Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000

deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
1	0.824 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 3.08963 dBi
 Max far-field (global) = -38.16723 dB, Max far-field (plot) = -38.16724 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 75.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi
 Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

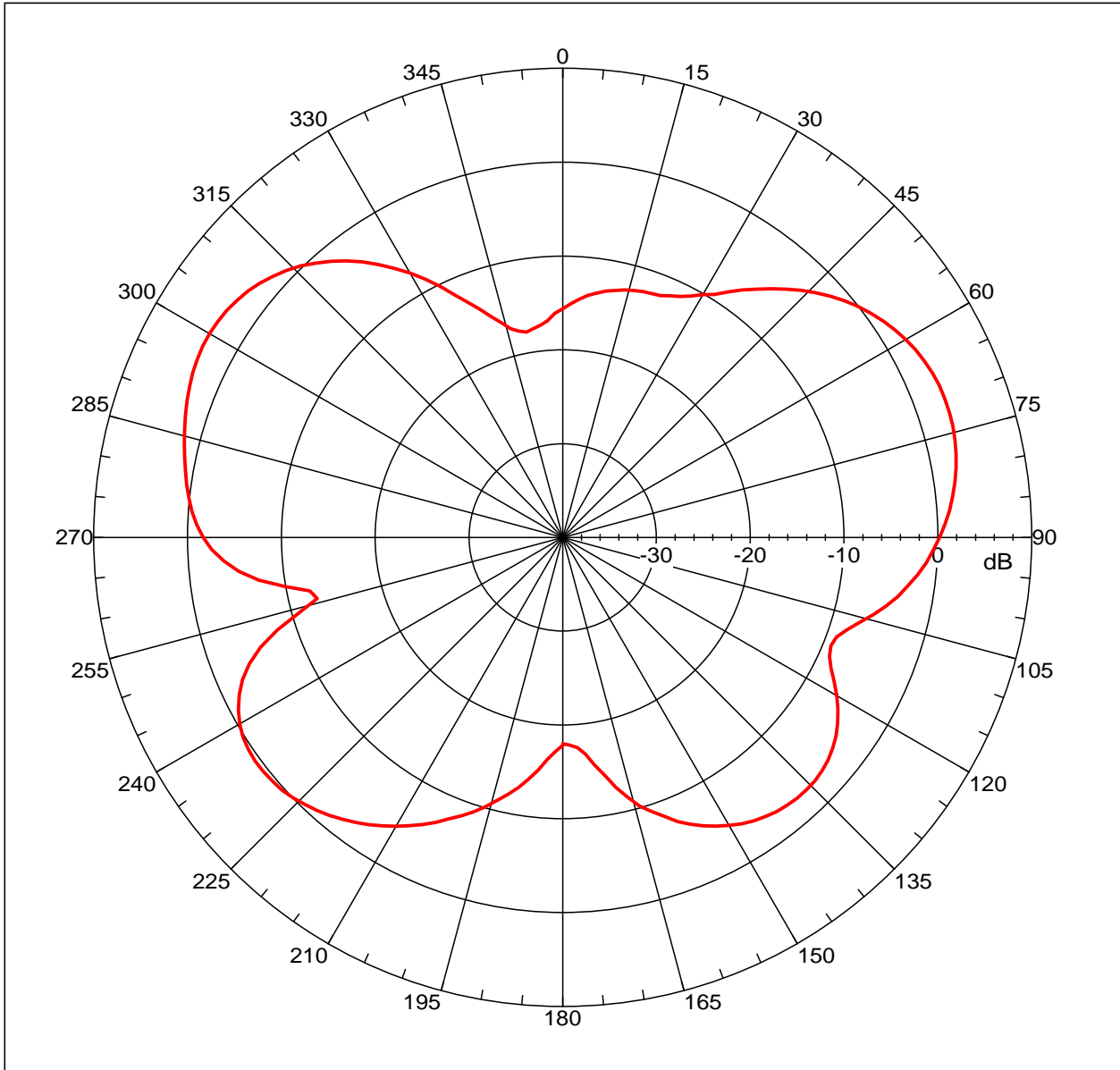
Far-field Cut Analysis:
 Avg value: -3.746 dB
 -3. dB beam width: 40.75 deg
 -6. dB beam width: 56.94 deg
 -10. dB beam width: 73.89 deg
 Left Sidelobe: -1.83 dB at -61.341 deg
 Right Sidelobe: -7.92 dB at 145.810 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
2	0.850 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 3.44358 dBi
 Max far-field (global) = -38.1161 dB, Max far-field (plot) = -38.11613 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -60.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi
 Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

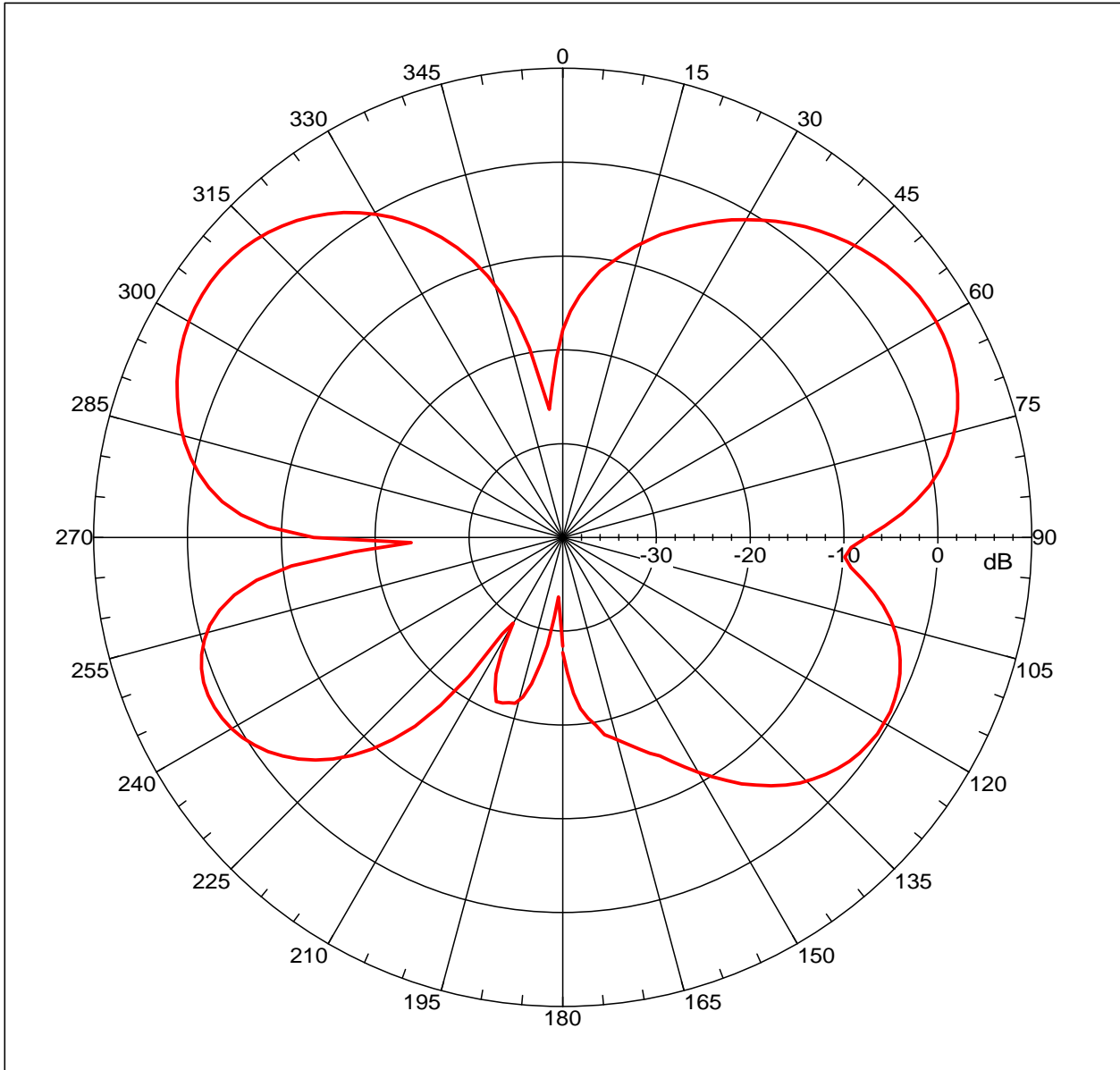
Far-field Cut Analysis:
 Avg value: -3.429 dB
 -3. dB beam width: 37.61 deg
 -6. dB beam width: 54.13 deg
 -10. dB beam width: 66.19 deg
 Left Sidelobe: -2.93 dB at -125.698 deg
 Right Sidelobe: -0.13 dB at 73.408 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
3	0.900 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 6.3588 dBi
 Max far-field (global) = -36.27087 dB, Max far-field (plot) = -36.27089 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -54.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

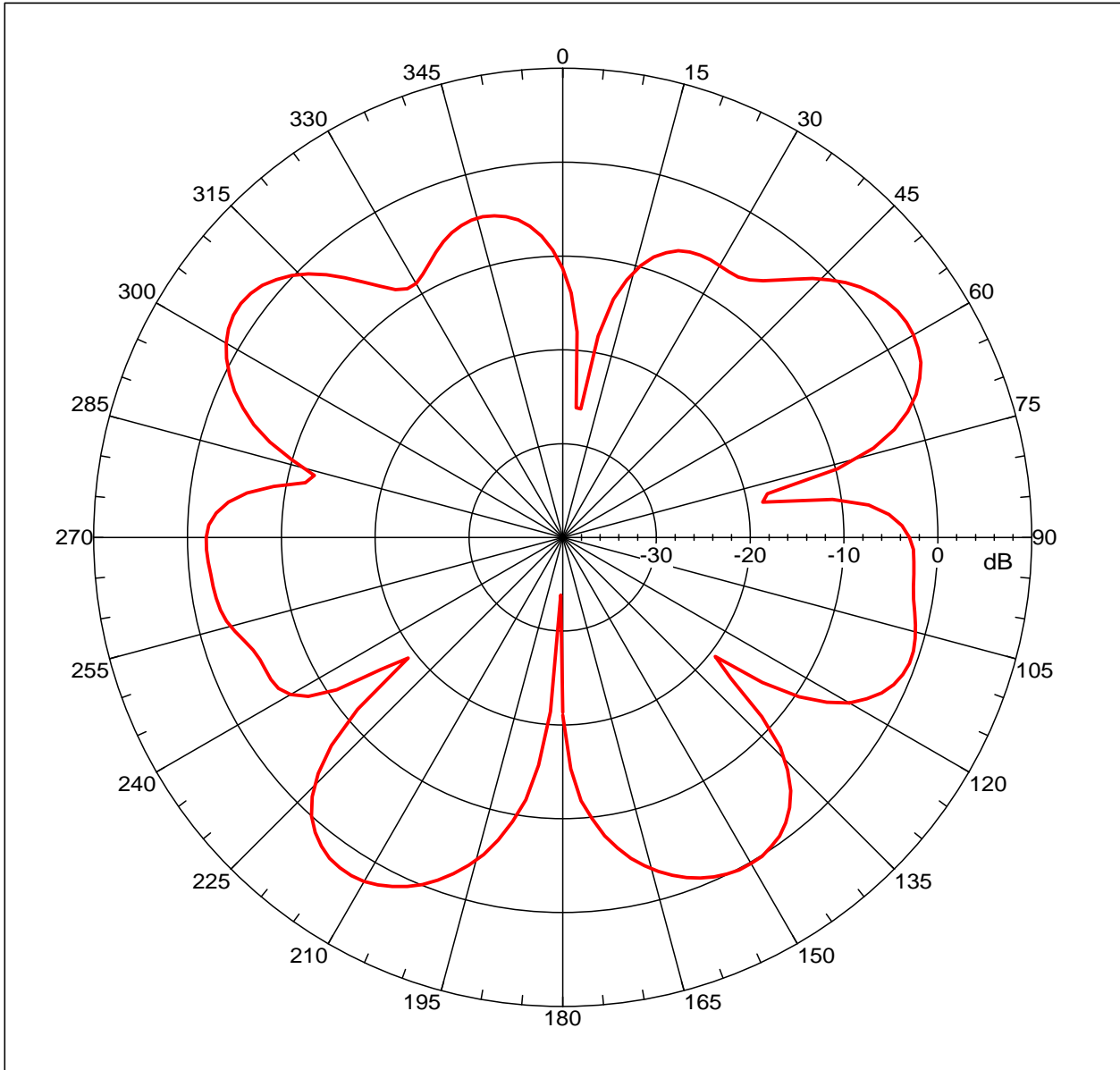
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 Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

Far-field Cut Analysis:
 Avg value: -2.131 dB
 -3. dB beam width: 33.32 deg
 -6. dB beam width: 47.32 deg
 -10. dB beam width: 59.89 deg
 Left Sidelobe: -4.99 dB at -113.631 deg
 Right Sidelobe: -0.39 dB at 61.341 deg
 Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
4	0.960 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 3.21255 dBi
 Max far-field (global) = -41.98004 dB, Max far-field (plot) = -41.98009 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 57.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi
 Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

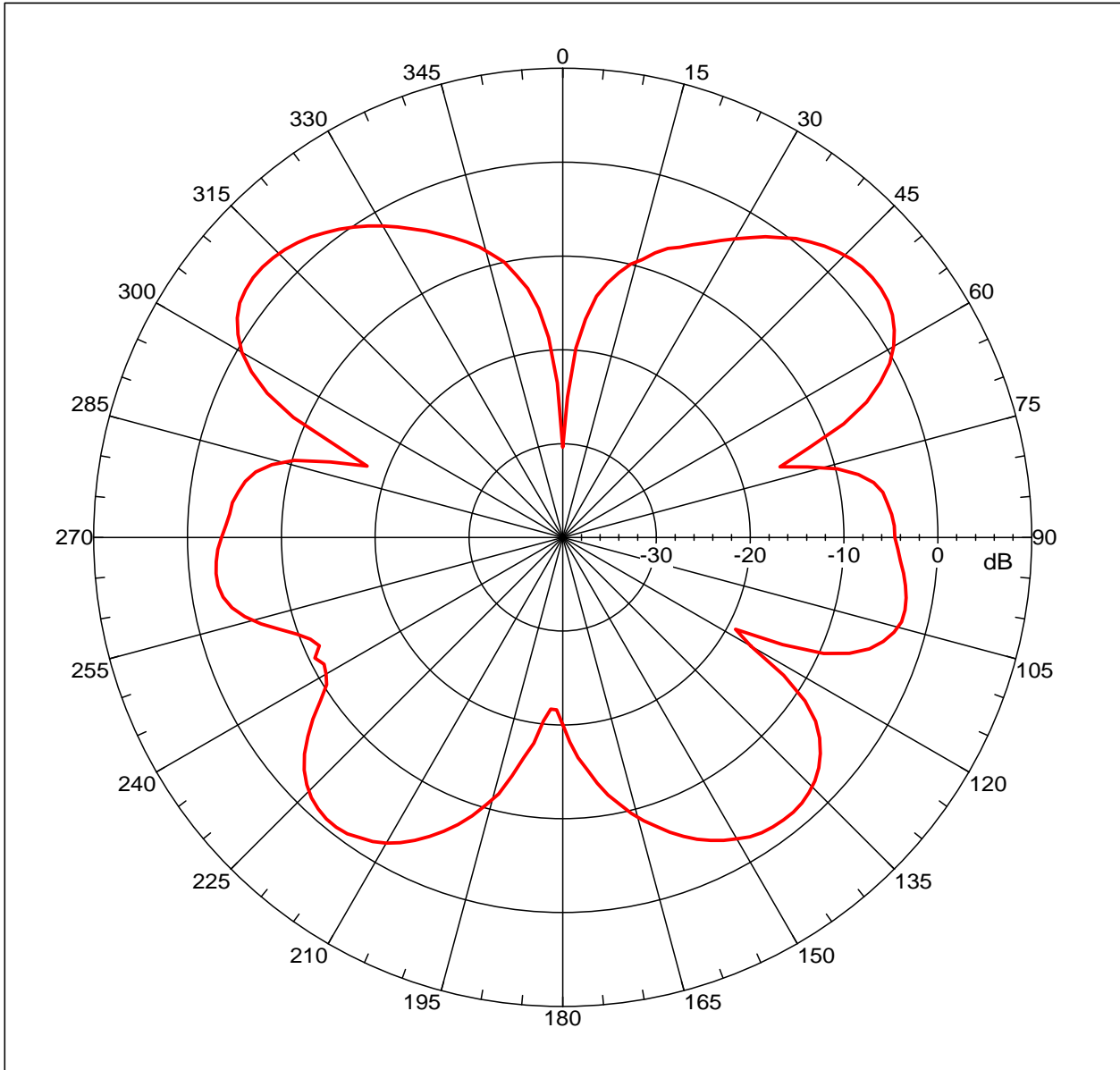
Far-field Cut Analysis:
 Avg value: -3.564 dB
 -3. dB beam width: 21.36 deg
 -6. dB beam width: 29.82 deg
 -10. dB beam width: 51.35 deg
 Left Sidelobe: -8.00 dB at -13.073 deg
 Right Sidelobe: -3.87 dB at 111.620 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
6	1.710 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 3.0873 dBi
 Max far-field (global) = -43.73474 dB, Max far-field (plot) = -43.73478 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 49.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

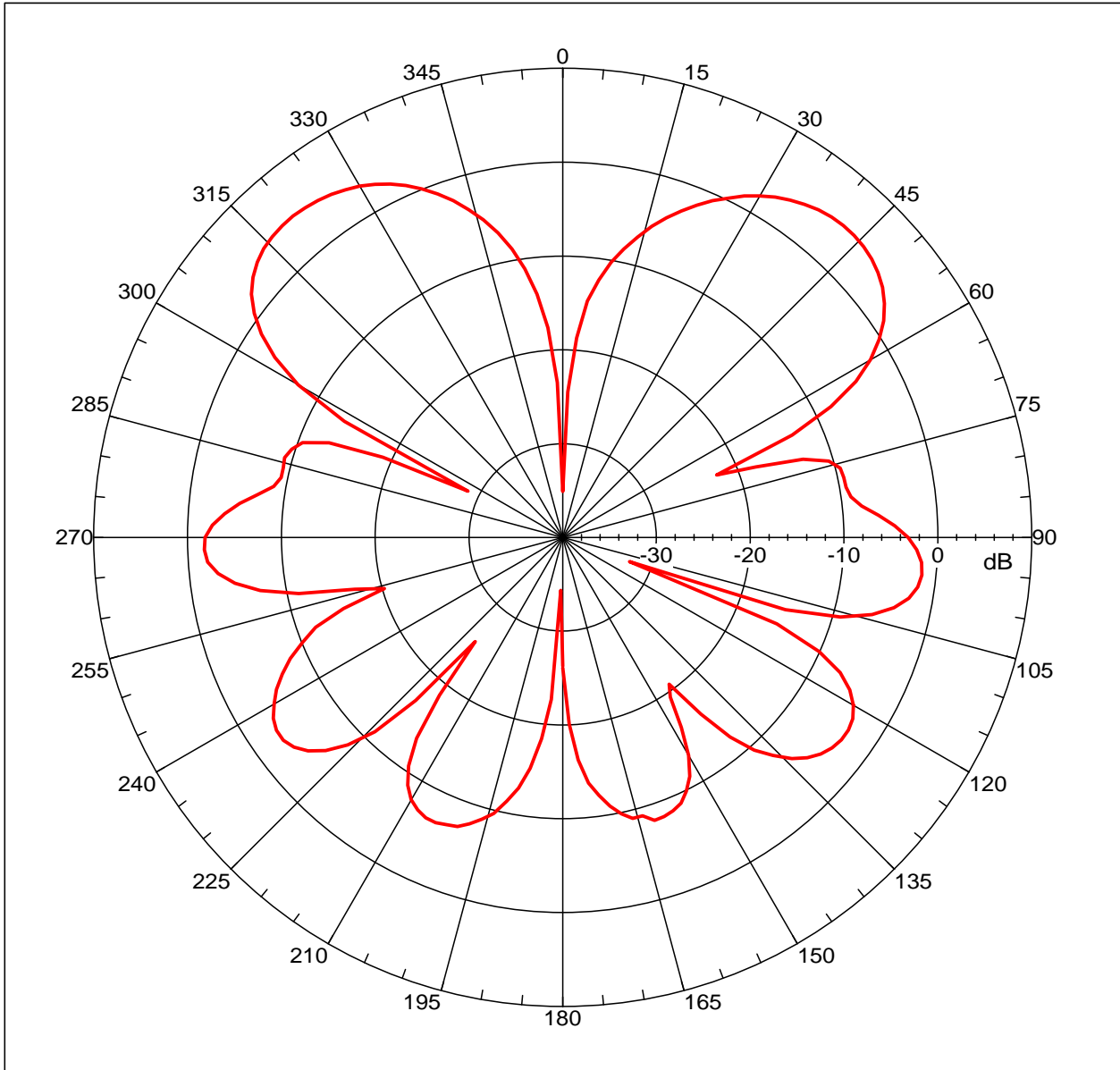
20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE
 NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi
 Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

Far-field Cut Analysis:
 Avg value: -4.470 dB
 -3. dB beam width: 23.85 deg
 -6. dB beam width: 33.96 deg
 -10. dB beam width: 46.62 deg
 Left Sidelobe: -0.03 dB at -49.274 deg
 Right Sidelobe: -5.80 dB at 103.575 deg
 Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
7	1.800 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 4.71905 dBi
 Max far-field (global) = -41.94952 dB, Max far-field (plot) = -41.94954 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 43.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi
 Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

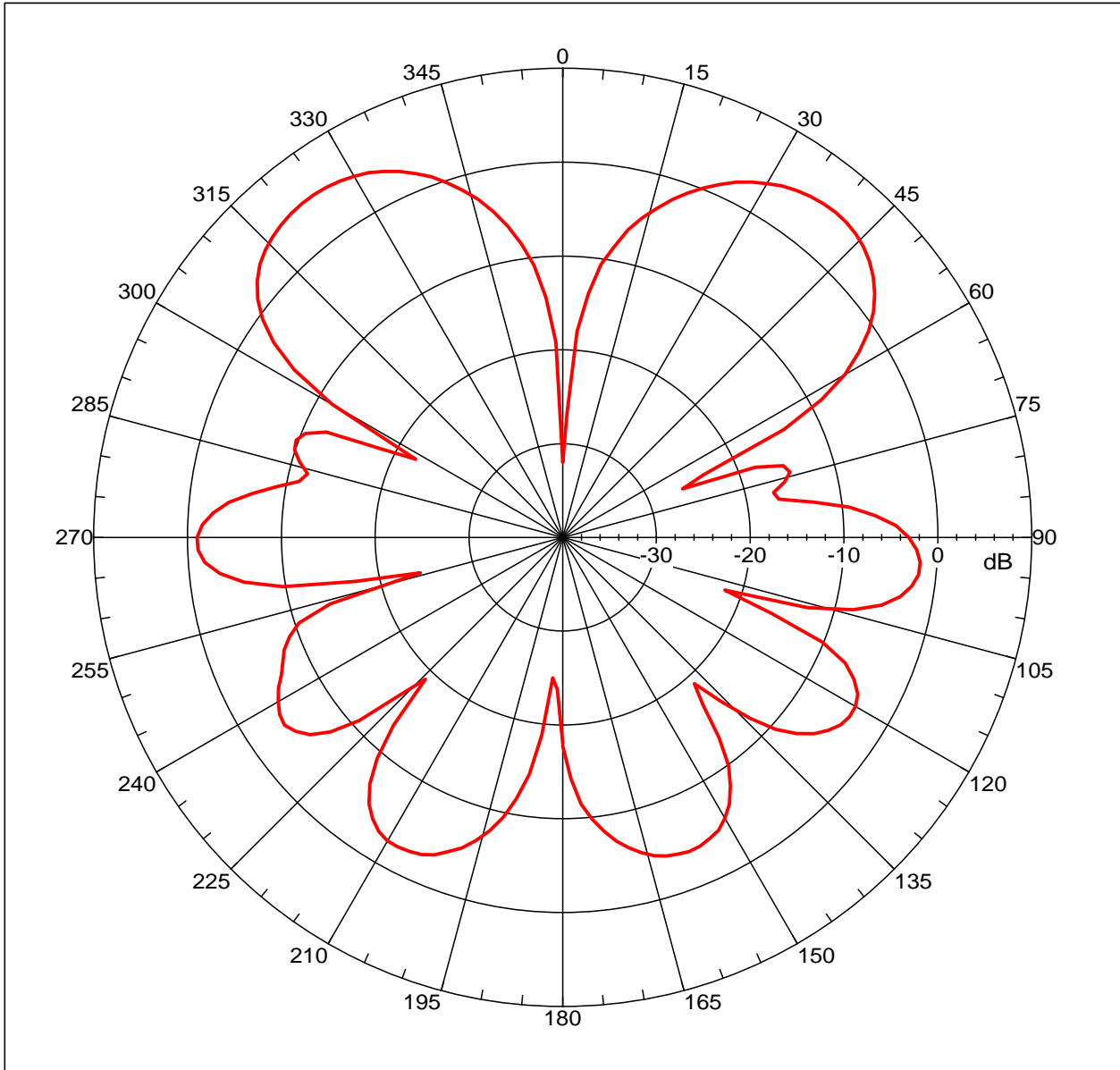
Far-field Cut Analysis:
 Avg value: -4.468 dB
 -3. dB beam width: 26.05 deg
 -6. dB beam width: 36.31 deg
 -10. dB beam width: 46.26 deg
 Left Sidelobe: -0.03 dB at -39.218 deg
 Right Sidelobe: -6.22 dB at 97.542 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
8	1.880 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 5.235 dBi
 Max far-field (global) = -41.80196 dB, Max far-field (plot) = -41.80199 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 39.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi

Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -3.837 dB
 -3. dB beam width: 25.76 deg
 -6. dB beam width: 35.99 deg
 -10. dB beam width: 45.67 deg
 Left Sidelobe: -0.12 dB at -37.207 deg
 Right Sidelobe: -20.03 dB at 75.419 deg

Far-field display setup

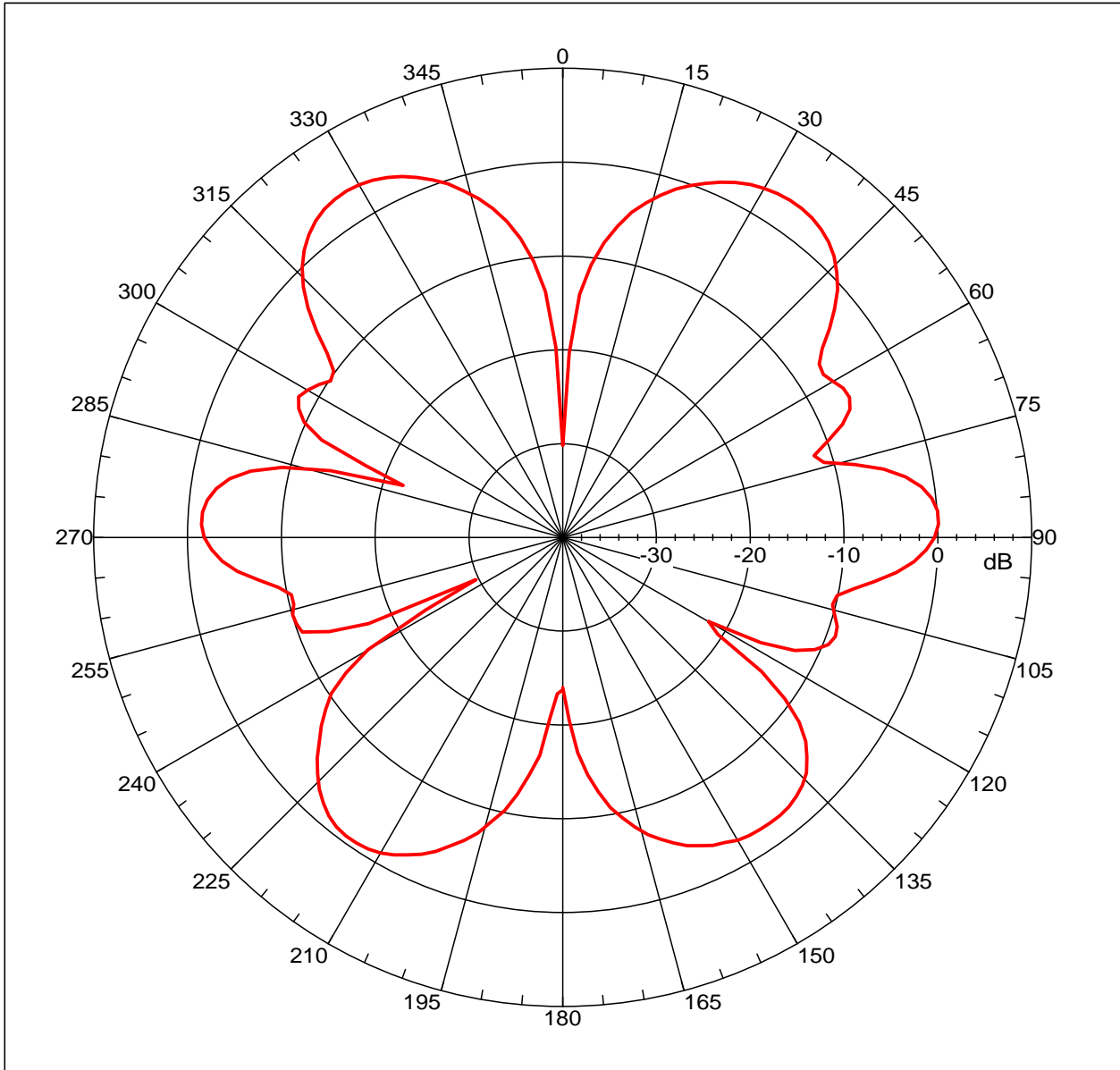
Azimuth (deg)
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 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000

deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
9	1.900 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 3.50807 dBi
 Max far-field (global) = -44.29803 dB, Max far-field (plot) = -44.29806 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -32.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi

Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -4.320 dB
 -3. dB beam width: 23.26 deg
 -6. dB beam width: 32.67 deg
 -10. dB beam width: 41.52 deg
 Left Sidelobe: -11.63 dB at -61.341 deg
 Right Sidelobe: -0.17 dB at 35.196 deg

Far-field display setup

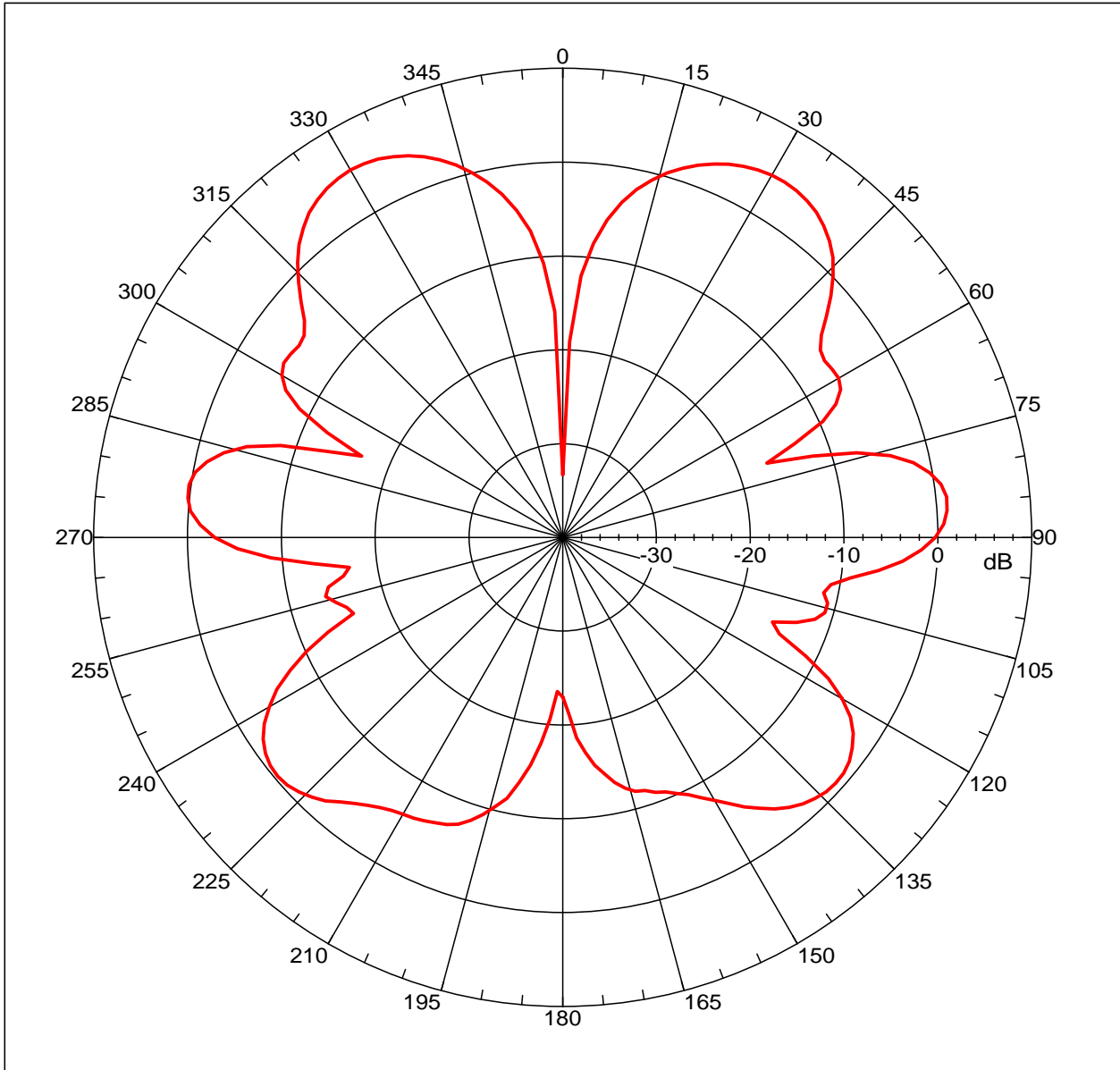
Azimuth (deg)
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 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000

deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
10	1.990 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 5.20003 dBi
 Max far-field (global) = -42.12667 dB, Max far-field (plot) = -42.12669 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -30.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi
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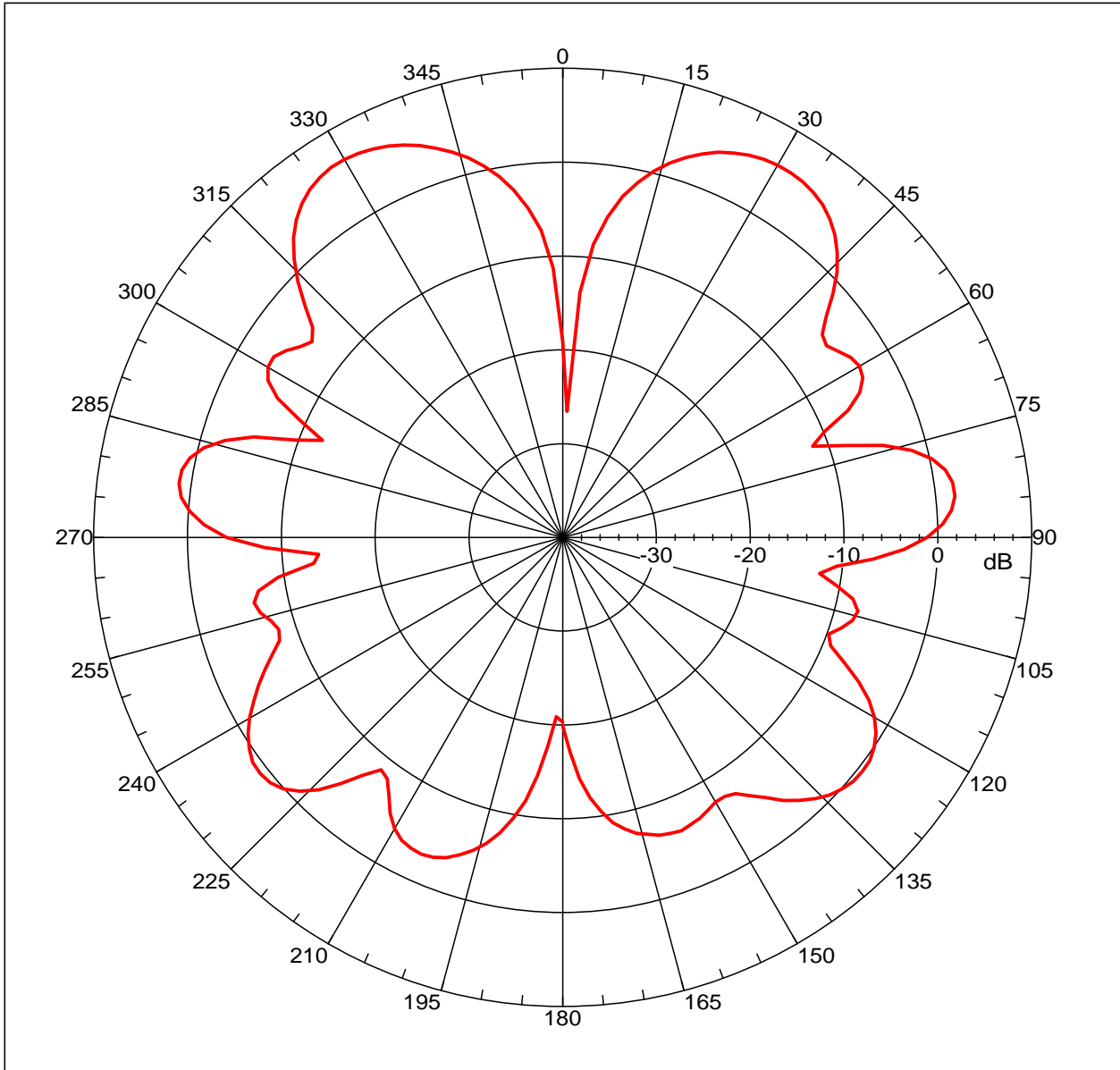
Far-field Cut Analysis:
 Avg value: -3.375 dB
 -3. dB beam width: 23.89 deg
 -6. dB beam width: 33.34 deg
 -10. dB beam width: 43.70 deg
 Left Sidelobe: -5.00 dB at -81.453 deg
 Right Sidelobe: -0.56 dB at 33.184 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
11	2.100 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 6.51273 dBi
 Max far-field (global) = -41.01938 dB, Max far-field (plot) = -41.01939 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -32.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi

Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -1.997 dB
 -3. dB beam width: 23.34 deg
 -6. dB beam width: 32.81 deg
 -10. dB beam width: 41.45 deg
 Left Sidelobe: -10.20 dB at -57.318 deg
 Right Sidelobe: -0.68 dB at 33.184 deg

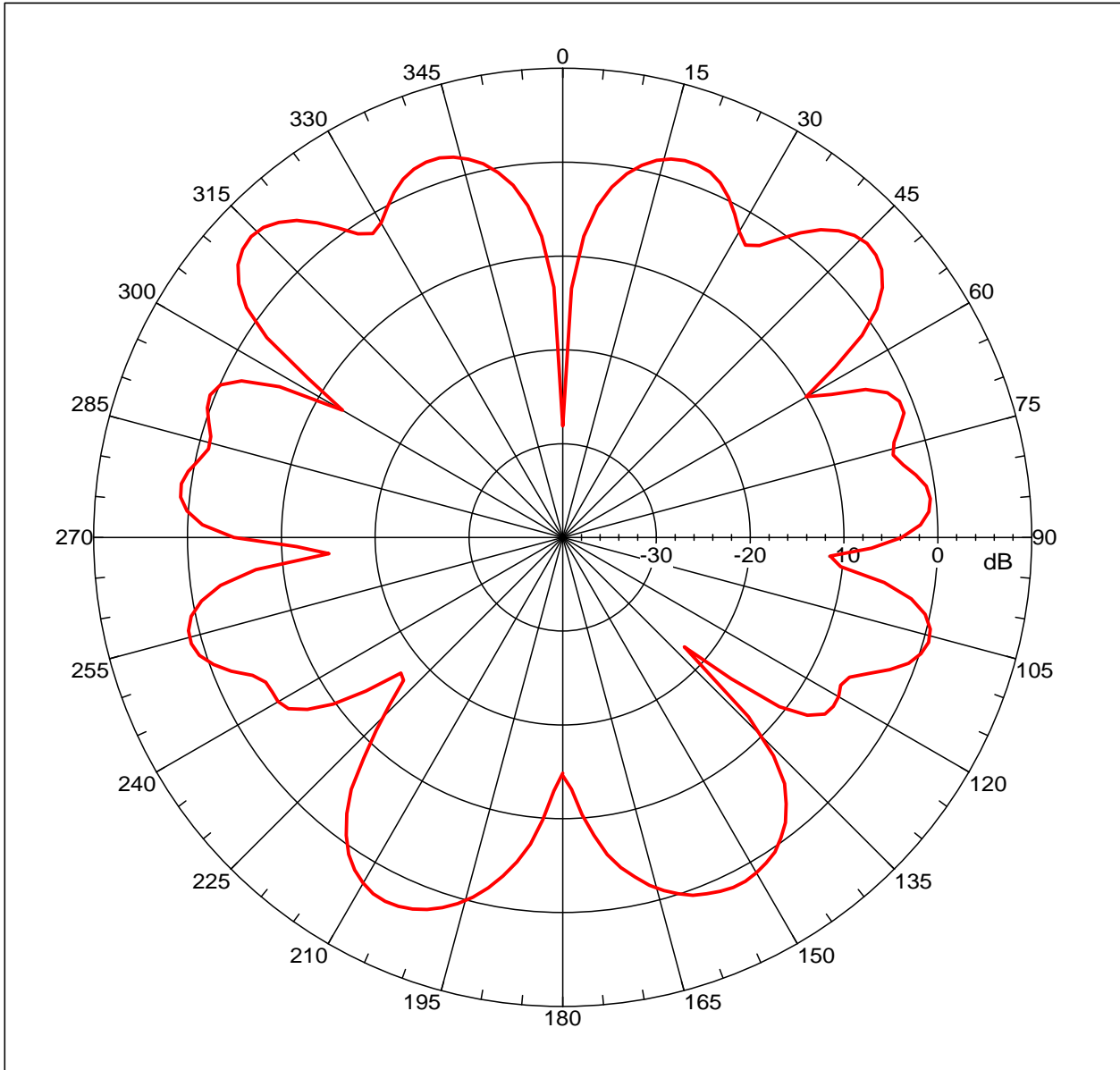
Far-field display setup

Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
12	2.170 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 6.14207 dBi
 Max far-field (global) = -44.17472 dB, Max far-field (plot) = -44.17479 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -46.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE

NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ E-PLANE.nsi

Measurement date/time: 6/10/2011 1:13:07 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -1.332 dB
 -3. dB beam width: 13.91 deg
 -6. dB beam width: 19.66 deg
 -10. dB beam width: 50.39 deg
 Left Sidelobe: -5.62 dB at -67.374 deg
 Right Sidelobe: -3.59 dB at -19.106 deg

Far-field display setup

Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000

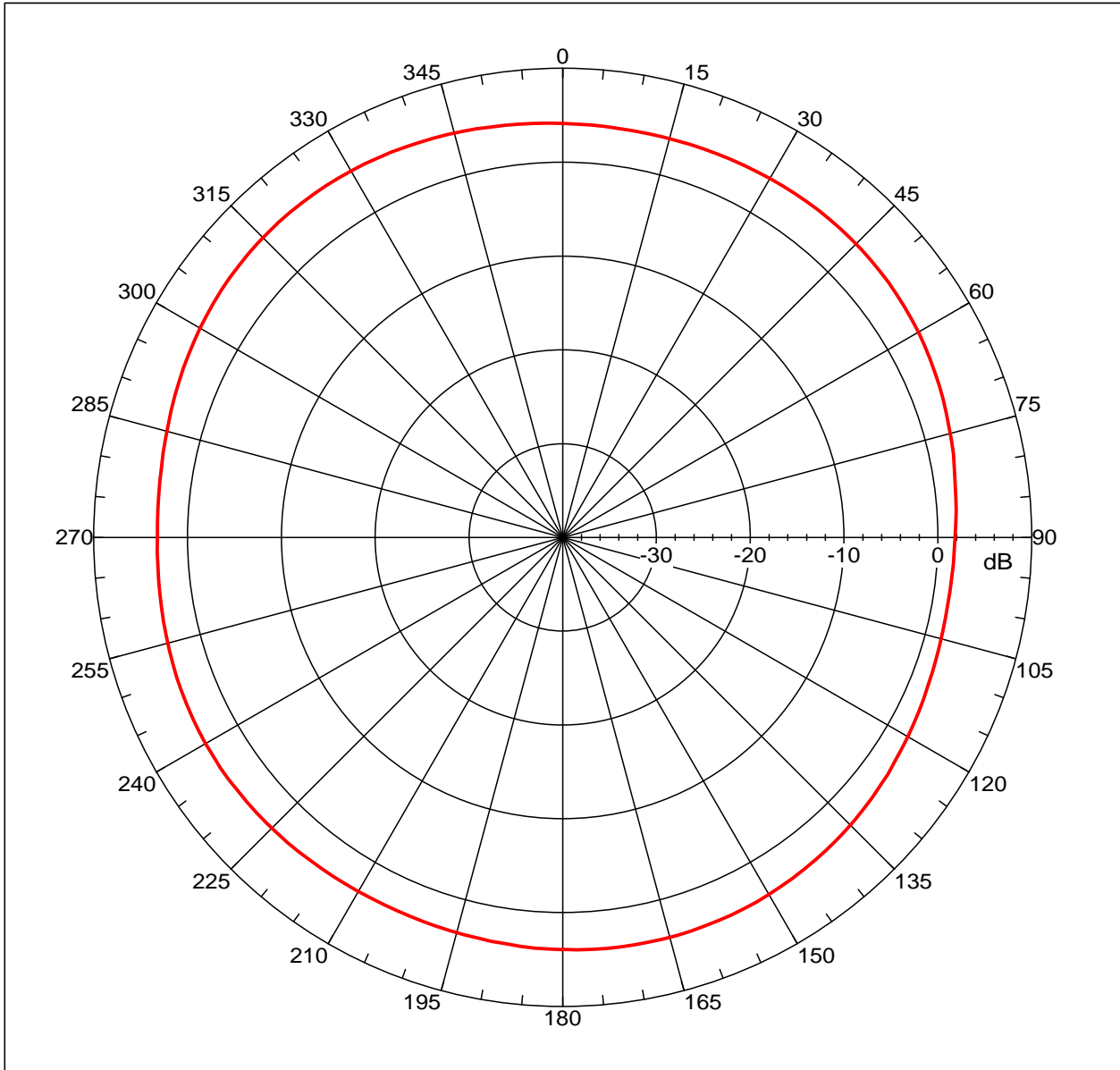
deg

Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
13	2.600 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 5.21192 dBi
 Max far-field (global) = -37.78742 dB, Max far-field (plot) = -37.78742 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -40.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

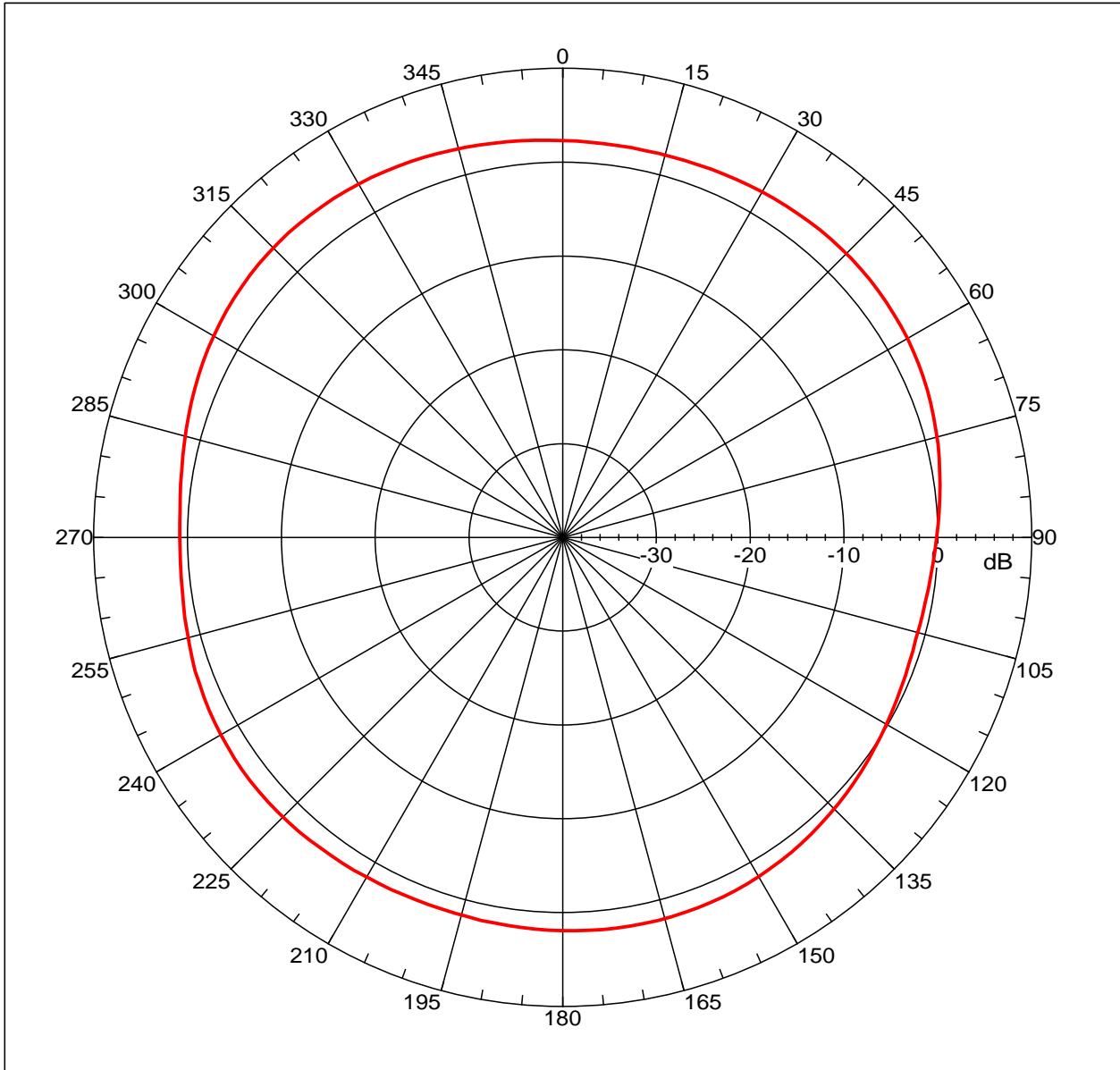
Far-field Cut Analysis:
 Avg value: 3.762 dB
 -3. dB beam width: Not Found
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: Not Found
 Right Sidelobe: -1.08 dB at 165.922 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
1	0.824 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 3.64782 dBi
 Max far-field (global) = -37.60904 dB, Max far-field (plot) = -37.60905 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -40.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

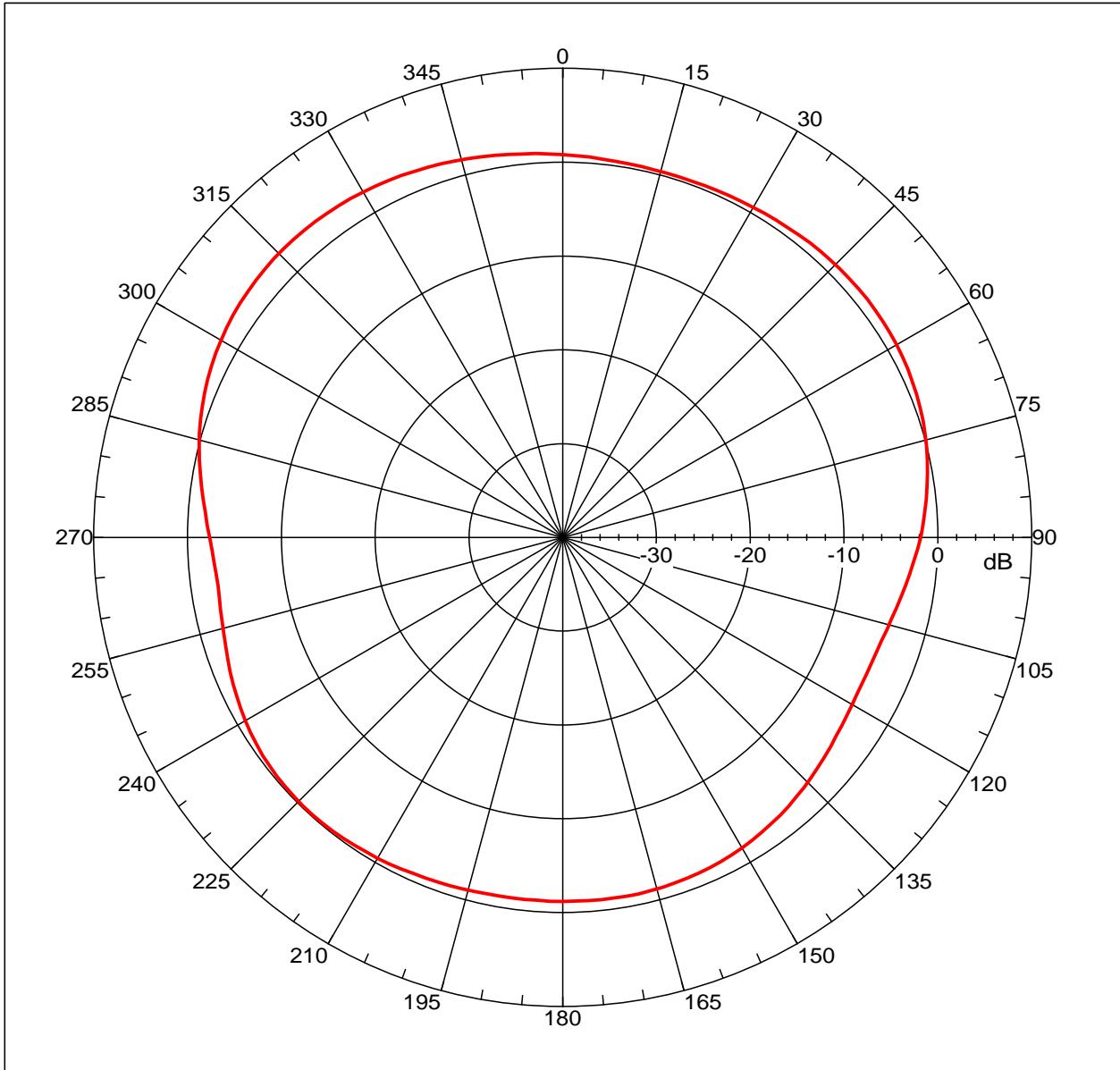
Far-field Cut Analysis:
 Avg value: 1.874 dB
 -3. dB beam width: Not Found
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -1.43 dB at -125.698 deg
 Right Sidelobe: -1.58 dB at 167.933 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
2	0.850 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 2.78176 dBi
 Max far-field (global) = -38.77792 dB, Max far-field (plot) = -38.77792 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -42.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

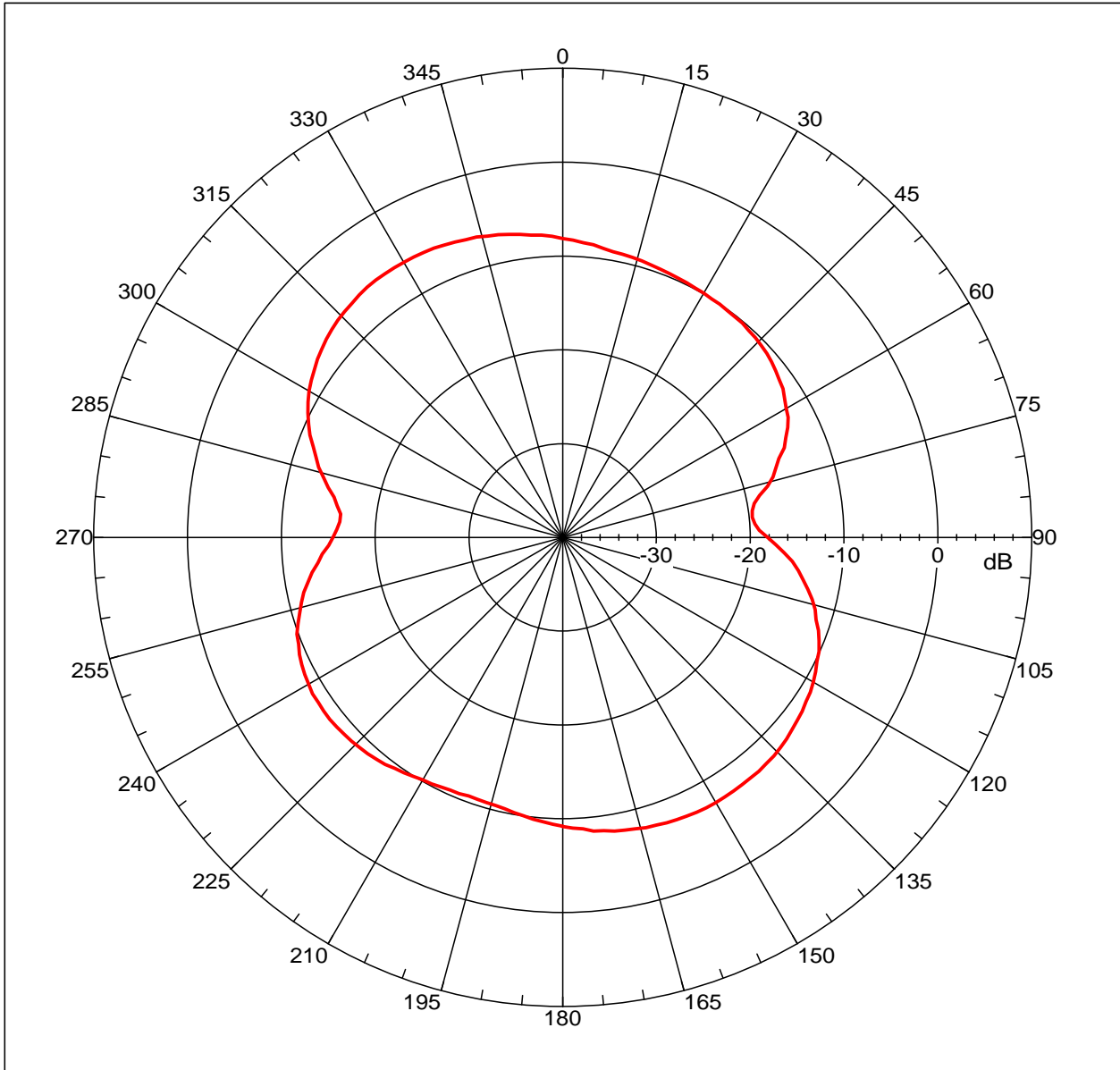
Far-field Cut Analysis:
 Avg value: -0.300 dB
 -3. dB beam width: 155.35 deg
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -2.97 dB at -137.765 deg
 Right Sidelobe: -3.93 dB at 169.944 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
3	0.900 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -6.11688 dBi
 Max far-field (global) = -48.74655 dB, Max far-field (plot) = -48.74656 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -34.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

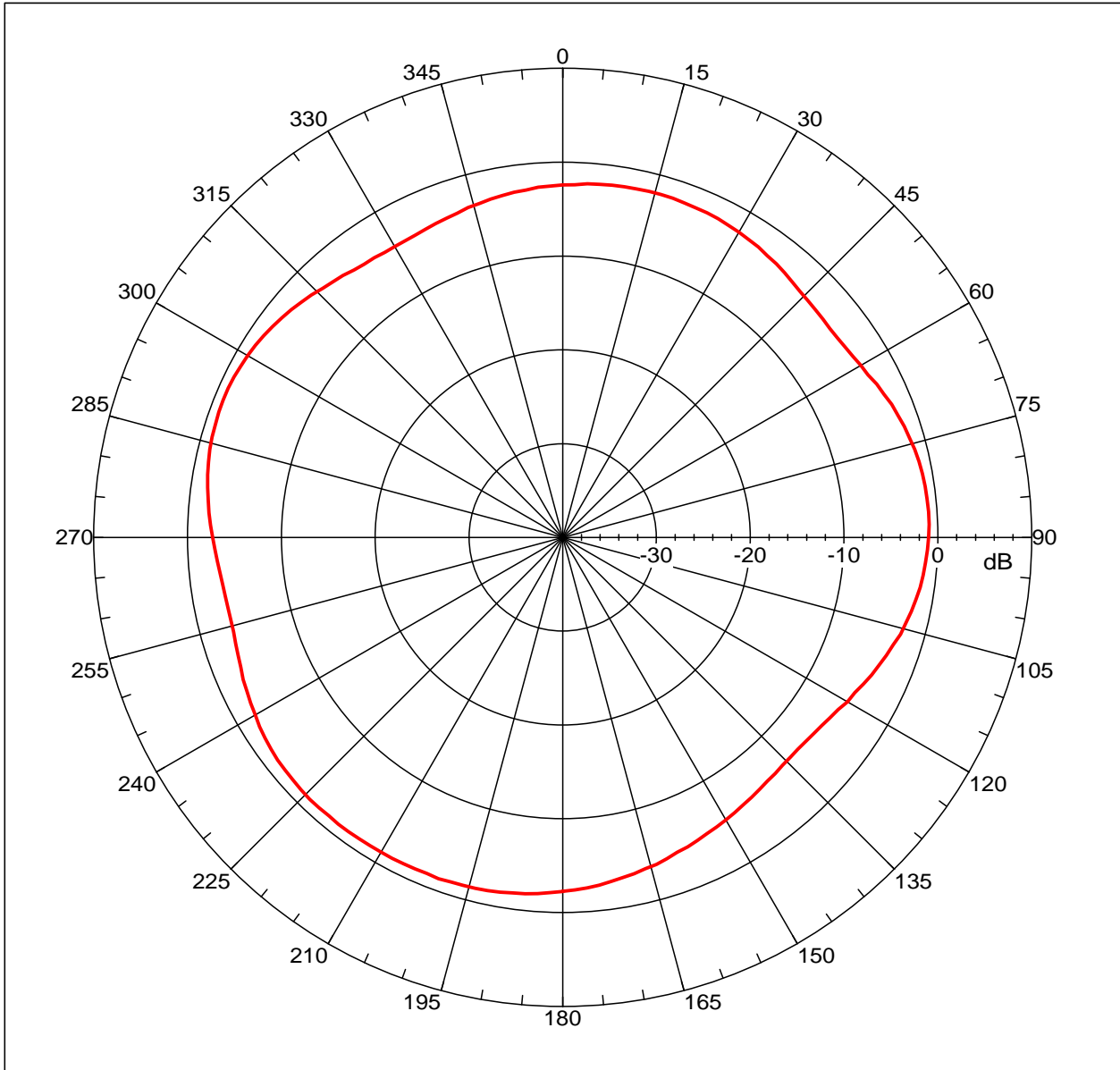
Far-field Cut Analysis:
 Avg value: -9.754 dB
 -3. dB beam width: 71.98 deg
 -6. dB beam width: 130.00 deg
 -10. dB beam width: 156.55 deg
 Left Sidelobe: -2.43 dB at -121.676 deg
 Right Sidelobe: -1.33 dB at 143.799 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
4	0.960 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -0.90253 dBi
 Max far-field (global) = -46.09512 dB, Max far-field (plot) = -46.09513 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 85.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

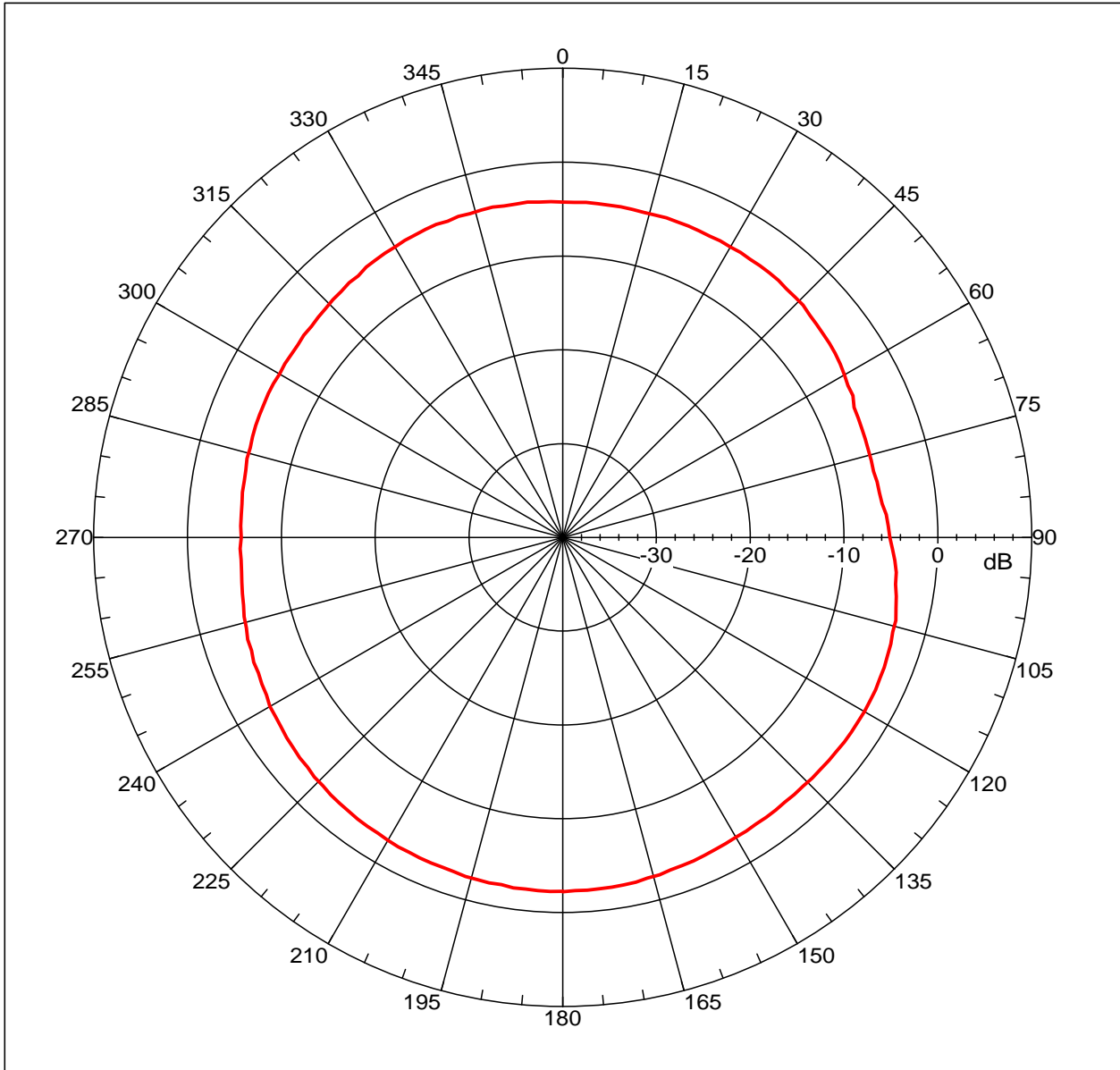
Far-field Cut Analysis:
 Avg value: -2.661 dB
 -3. dB beam width: 135.94 deg
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -1.10 dB at 17.095 deg
 Right Sidelobe: Not Found

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
6	1.710 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -2.23162 dBi
 Max far-field (global) = -49.05366 dB, Max far-field (plot) = -49.05374 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 179.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

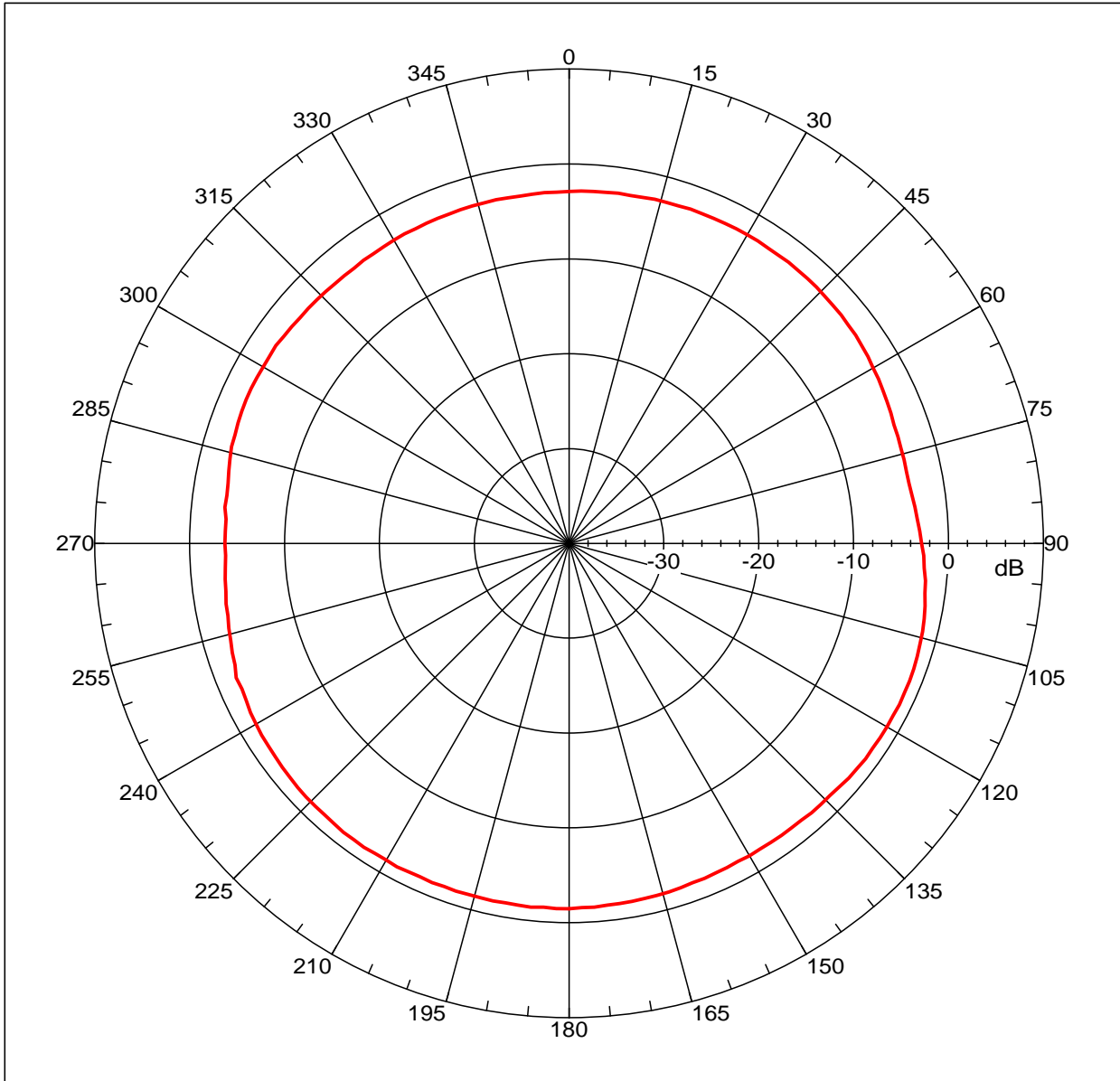
Far-field Cut Analysis:
 Avg value: -4.003 dB
 -3. dB beam width: Not Found
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: Not Found
 Right Sidelobe: -2.35 dB at -39.218 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
7	1.800 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -1.2411 dBi
 Max far-field (global) = -47.90967 dB, Max far-field (plot) = -47.90971 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 116.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

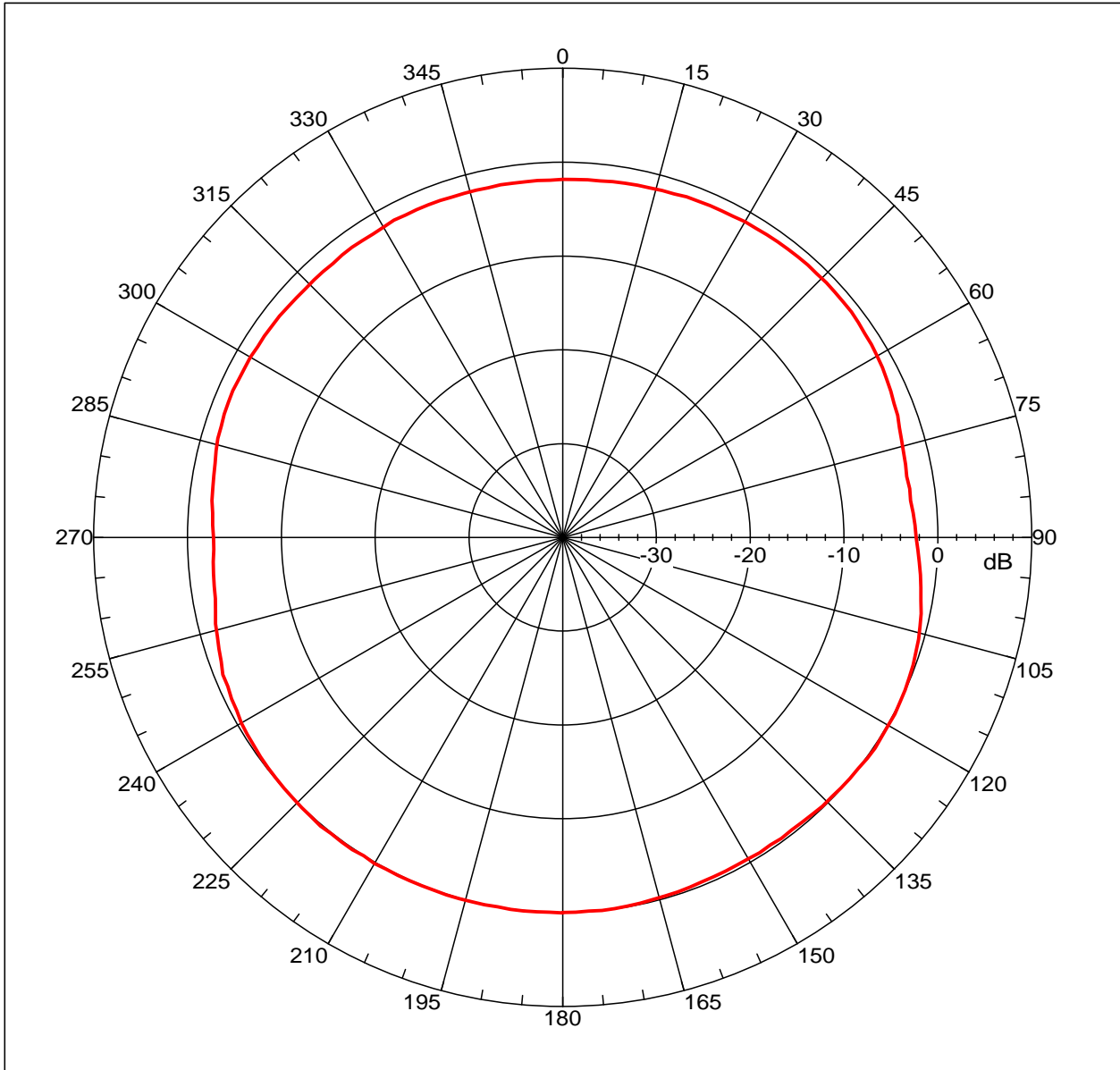
NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

Far-field Cut Analysis:
 Avg value: -2.387 dB
 -3. dB beam width: Not Found
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -1.20 dB at 43.240 deg
 Right Sidelobe: Not Found
 Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
8	1.880 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 0.15984 dBi
 Max far-field (global) = -46.87712 dB, Max far-field (plot) = -46.87719 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -140.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

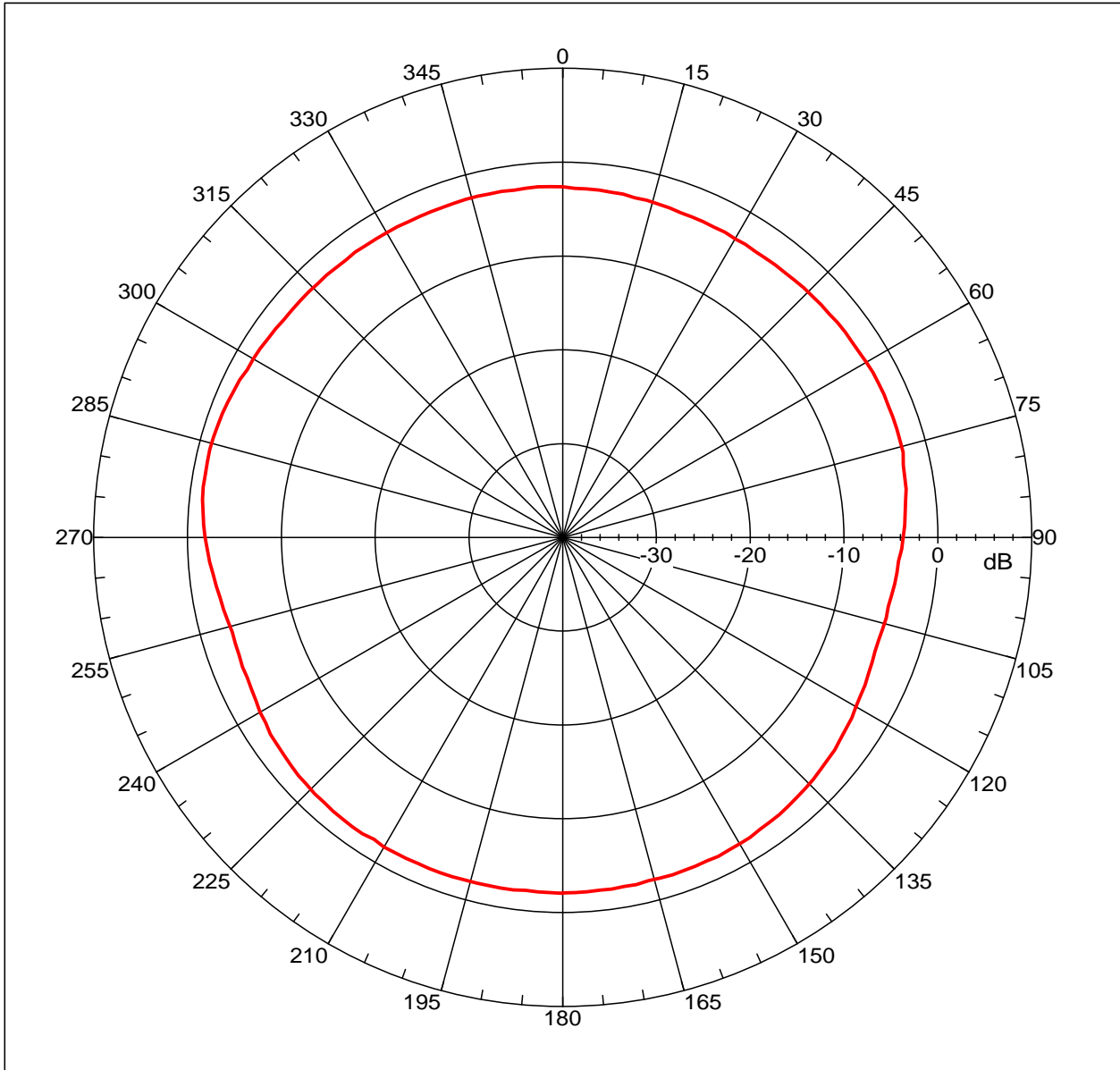
Far-field Cut Analysis:
 Avg value: -1.074 dB
 -3. dB beam width: Not Found
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: Not Found
 Right Sidelobe: -1.70 dB at -65.363 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
9	1.900 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -1.24913 dBi
 Max far-field (global) = -49.05523 dB, Max far-field (plot) = -49.05524 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -76.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

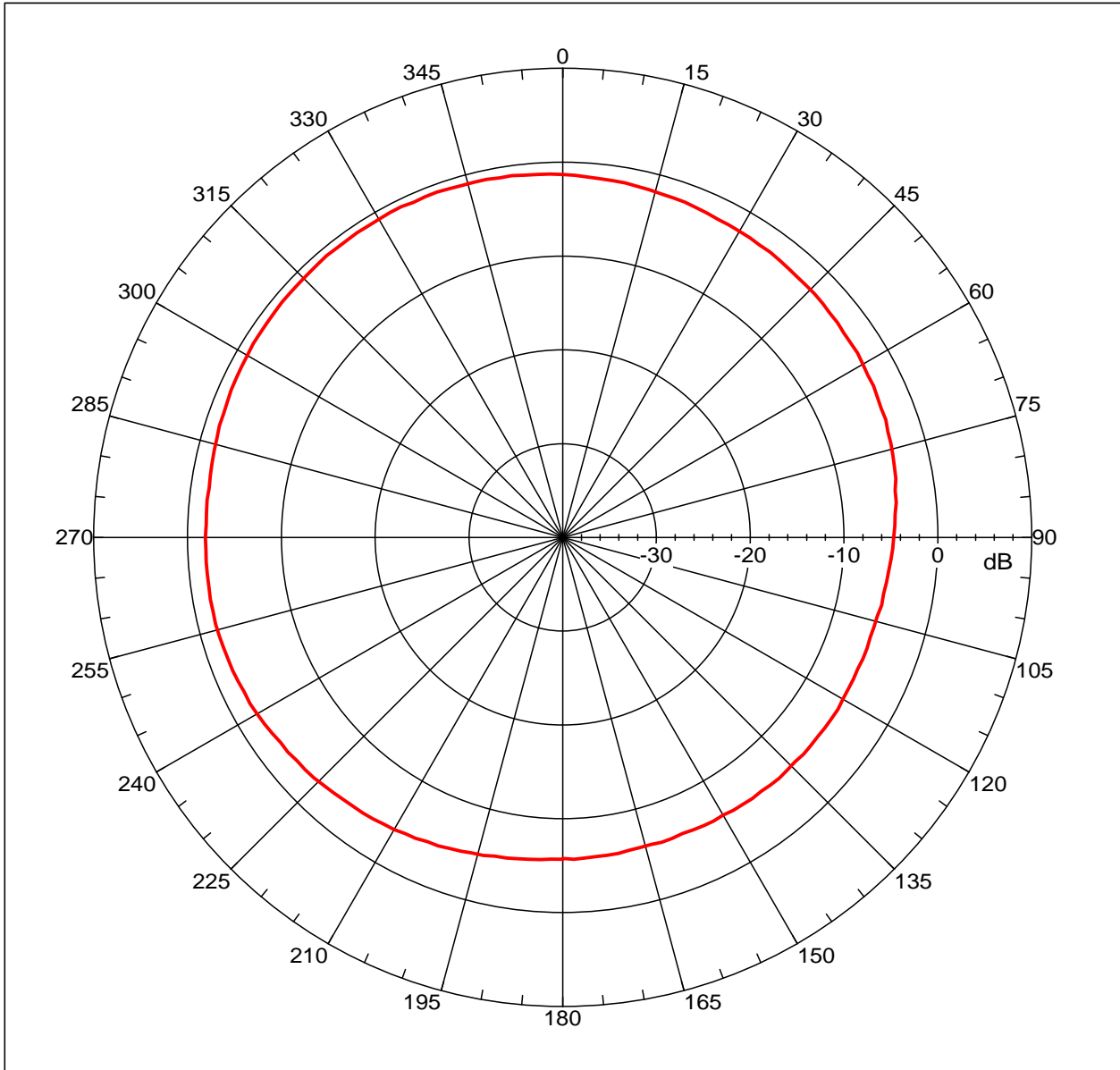
NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

Far-field Cut Analysis:
 Avg value: -2.616 dB
 -3. dB beam width: Not Found
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -0.73 dB at -135.754 deg
 Right Sidelobe: -0.93 dB at 155.866 deg
 Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
10	1.990 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -0.79049 dBi
 Max far-field (global) = -48.11719 dB, Max far-field (plot) = -48.11719 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -28.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

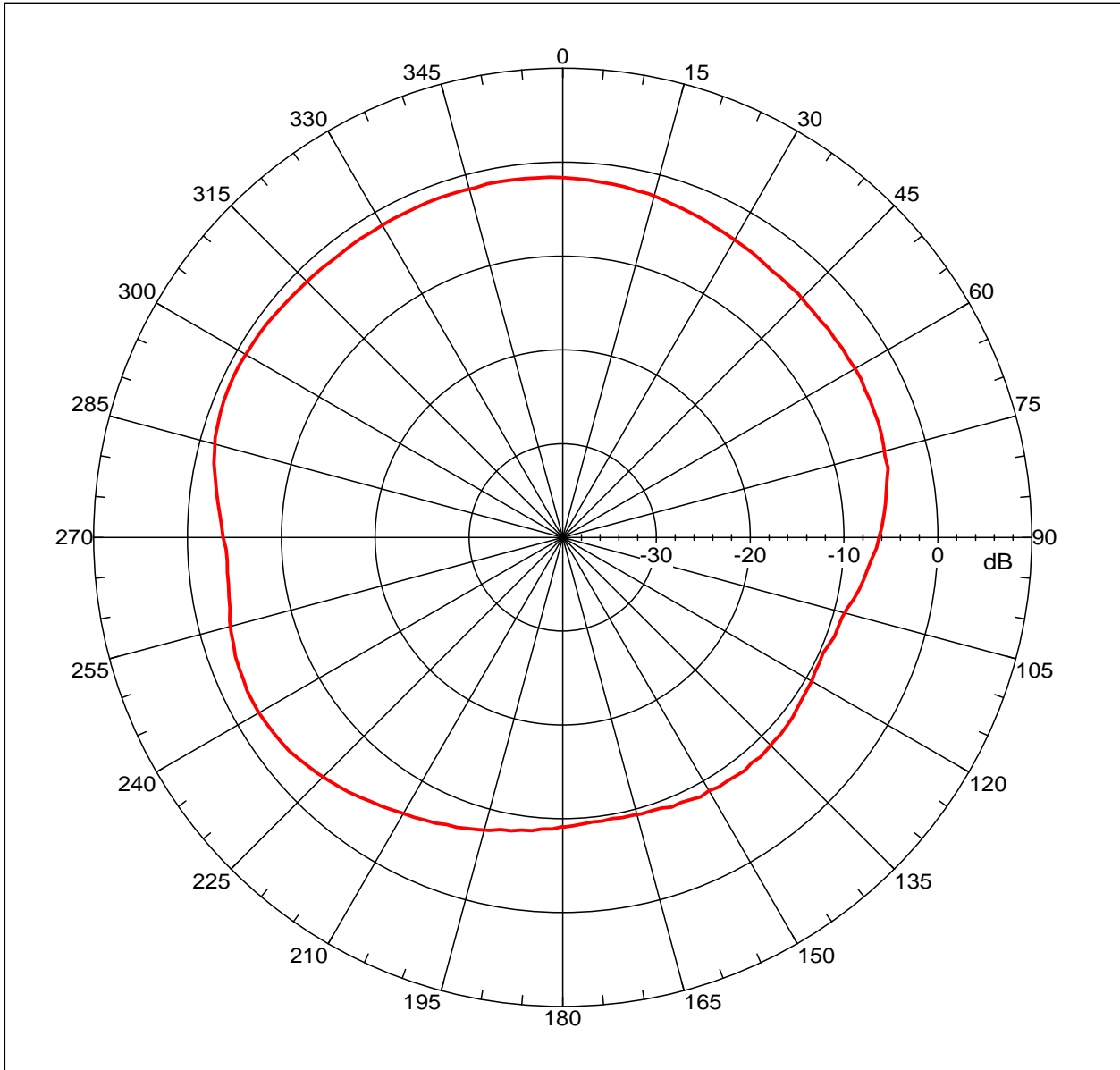
Far-field Cut Analysis:
 Avg value: -3.064 dB
 -3. dB beam width: 223.60 deg
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: Not Found
 Right Sidelobe: Not Found

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
11	2.100 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -0.94088 dBi
 Max far-field (global) = -48.47299 dB, Max far-field (plot) = -48.47302 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -62.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

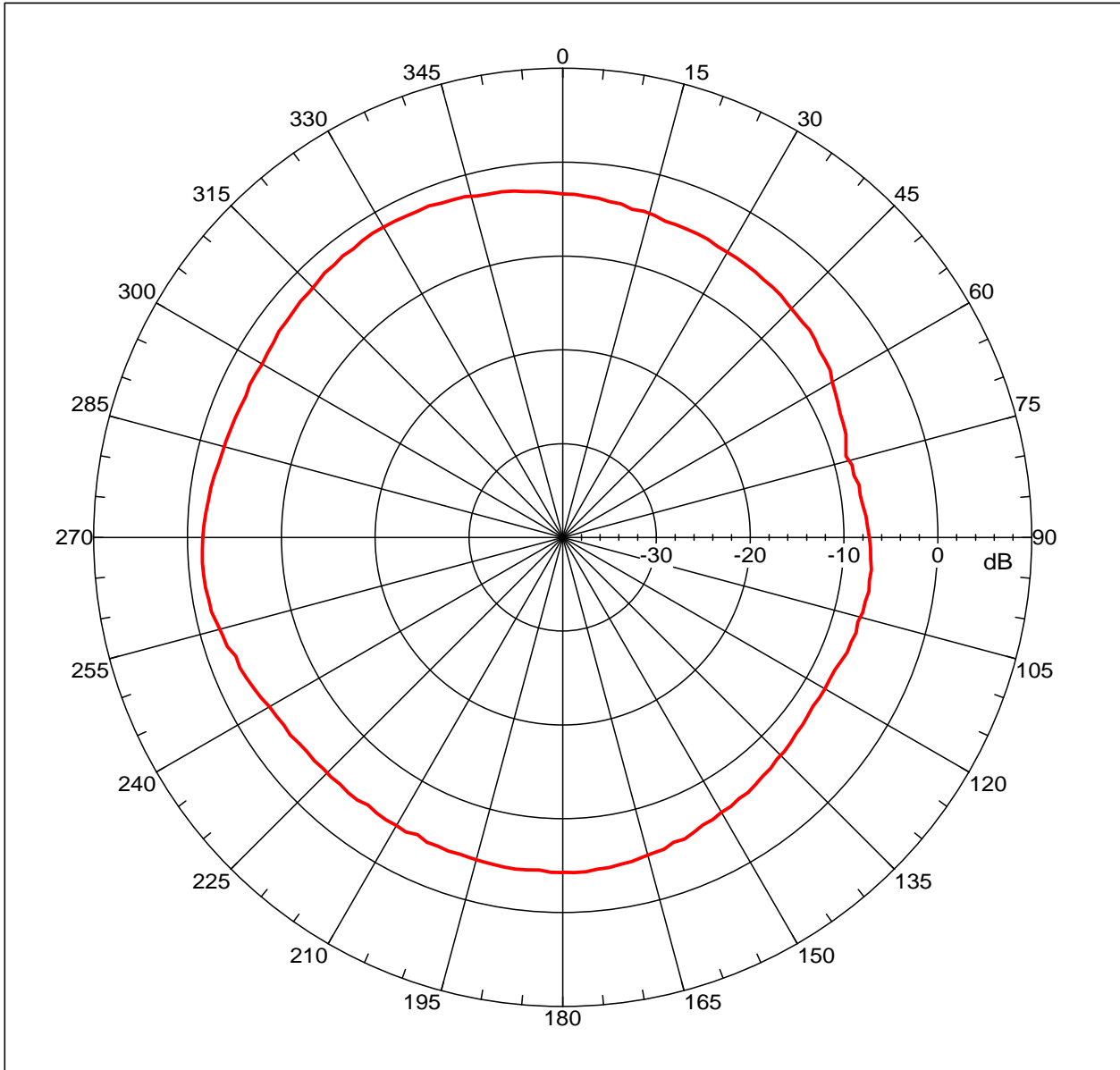
Far-field Cut Analysis:
 Avg value: -4.331 dB
 -3. dB beam width: 136.41 deg
 -6. dB beam width: 252.93 deg
 -10. dB beam width: Not Found
 Left Sidelobe: -1.65 dB at -115.643 deg
 Right Sidelobe: -7.56 dB at 139.777 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
12	2.170 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110610 GSM-100A 800-2100 2600-2700MHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -1.50548 dBi
 Max far-field (global) = -51.82227 dB, Max far-field (plot) = -51.82231 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -94.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20110610 GSM100A 800-2100 2600-2700MHZ H-PLANE01.nsi
 Measurement date/time: 6/10/2011 1:20:29 PM, Filetype: NSI-97

Far-field Cut Analysis:
 Avg value: -4.392 dB
 -3. dB beam width: 152.24 deg
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: Not Found
 Right Sidelobe: -0.44 dB at -37.207 deg

Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 13

Beam	Frequency	Azimuth	Elevation	Pol
13	2.600 GHz	Azimuth	Elevation	Single-pol