

2.4G ANTENNA

MODEL: MA-240



1. GENERAL DESCRIPTION

Model No	P/N
MA240	MA240-1.5M-RPSMA-M

Below is a table summarizing the antenna design specification.

1.2 Electrica Properties

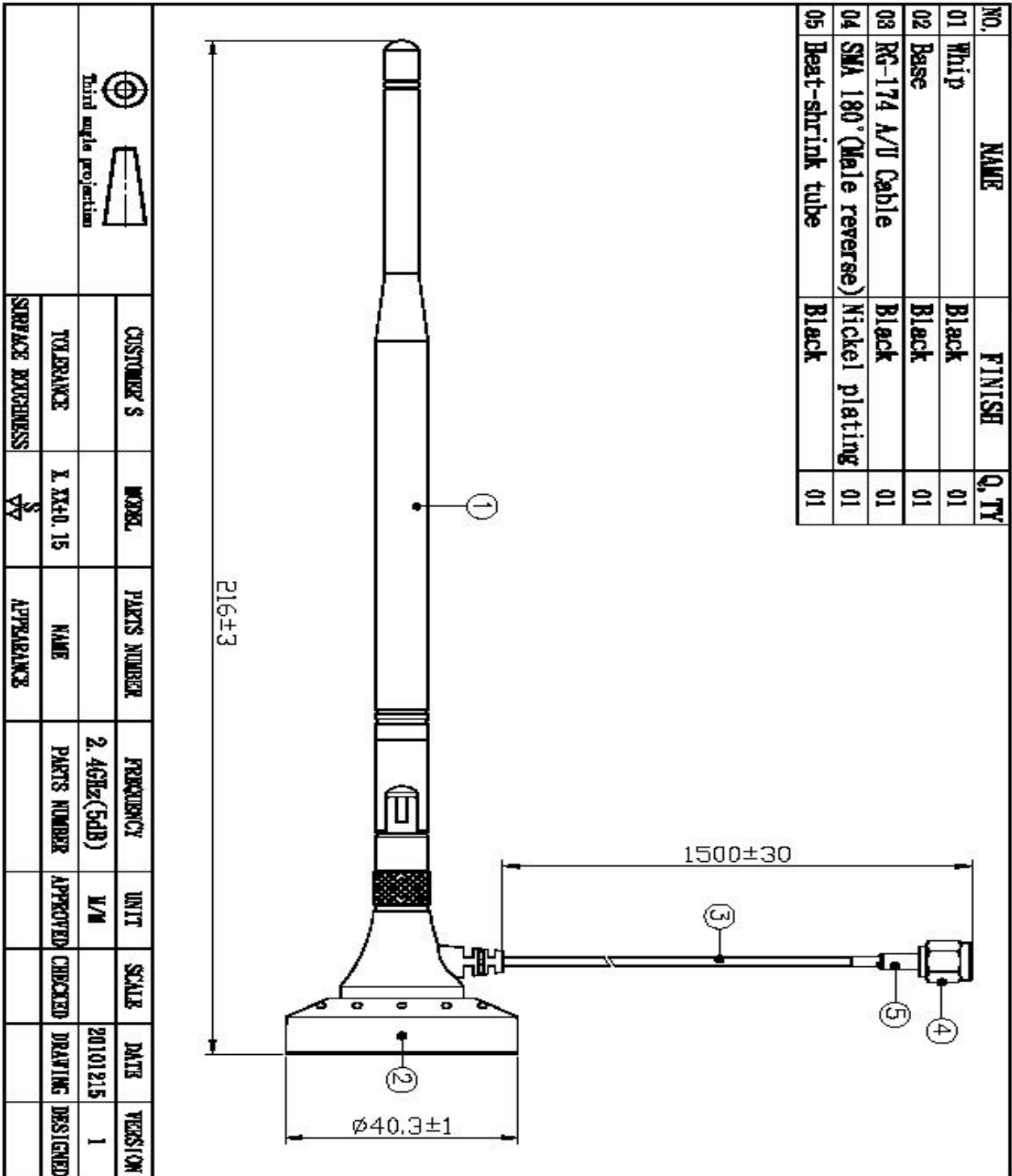
Parameter	Description
Frequency Band	2.4 ~2.5Ghz
Nominal Impedance	50 ohm
Polarization	Vertical
Electrical Wave	1 /2 λ Dipole
Return Loss	-10db
V.S.W.R	2.0:1
Antenna Average Gain	5.0dBi
Note: Gain includes the cable loss	

1.2 Mechanical Properties

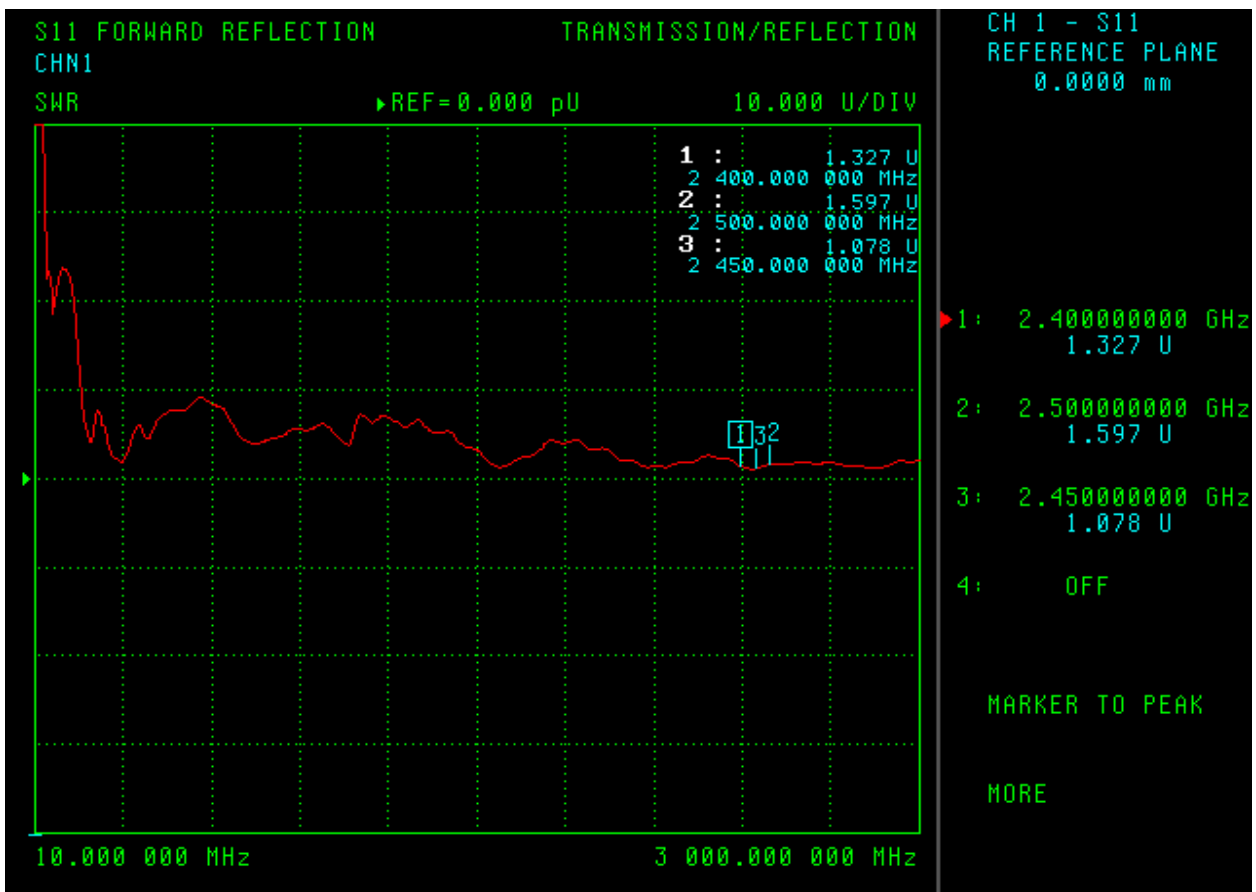
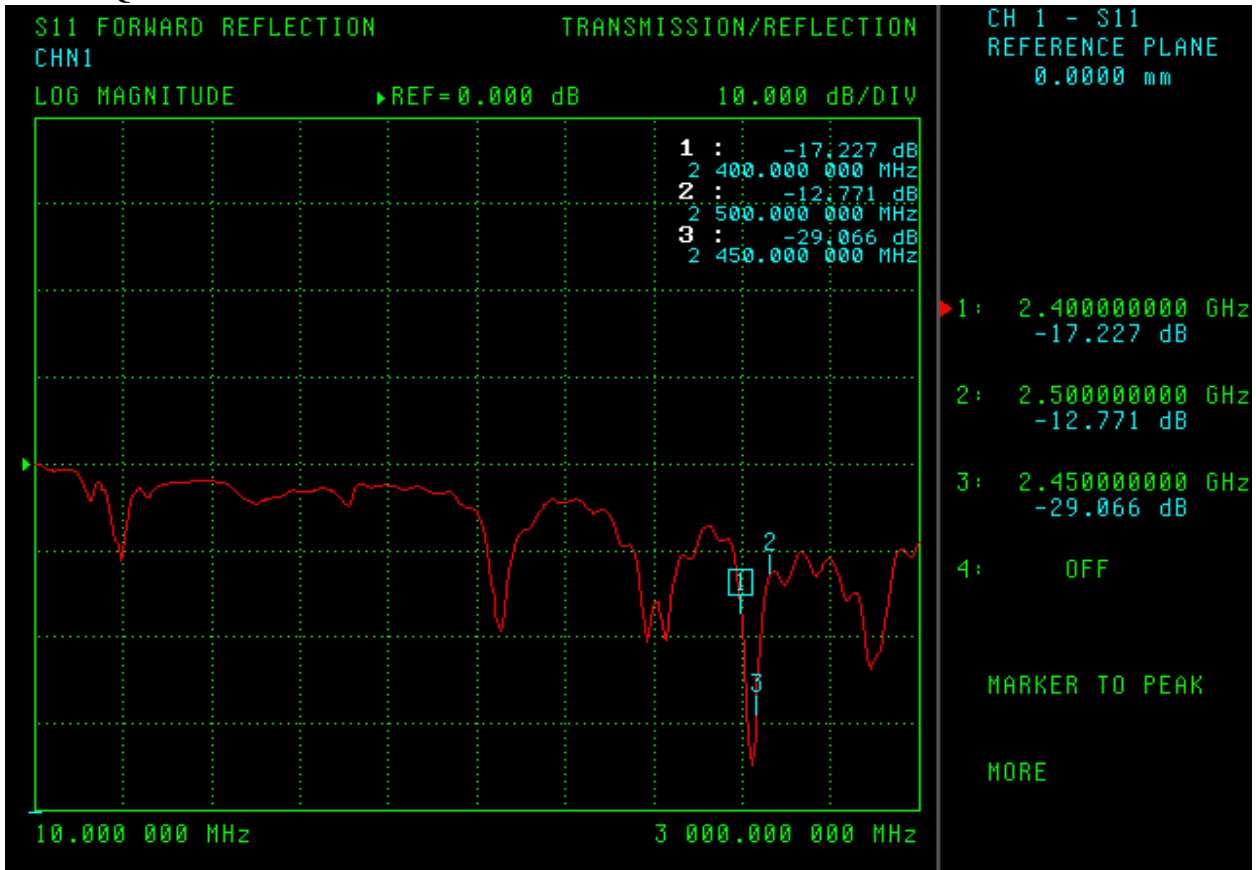
Parameter	Description
Antenna Type	External Antenna
Antenna Material	TPR
Touch Type	Magnet Type
Connector Type	RPSMA–Type

Antenna Dimensions	OD40.3 x 216 mm
Antenna Cable Total Length	1500mm ± 10
Antenna Color	Black
Operating Temperature Range	-20°C~+60°C
Storage Temperature Range	-30°C~+70°C

2. Appearance



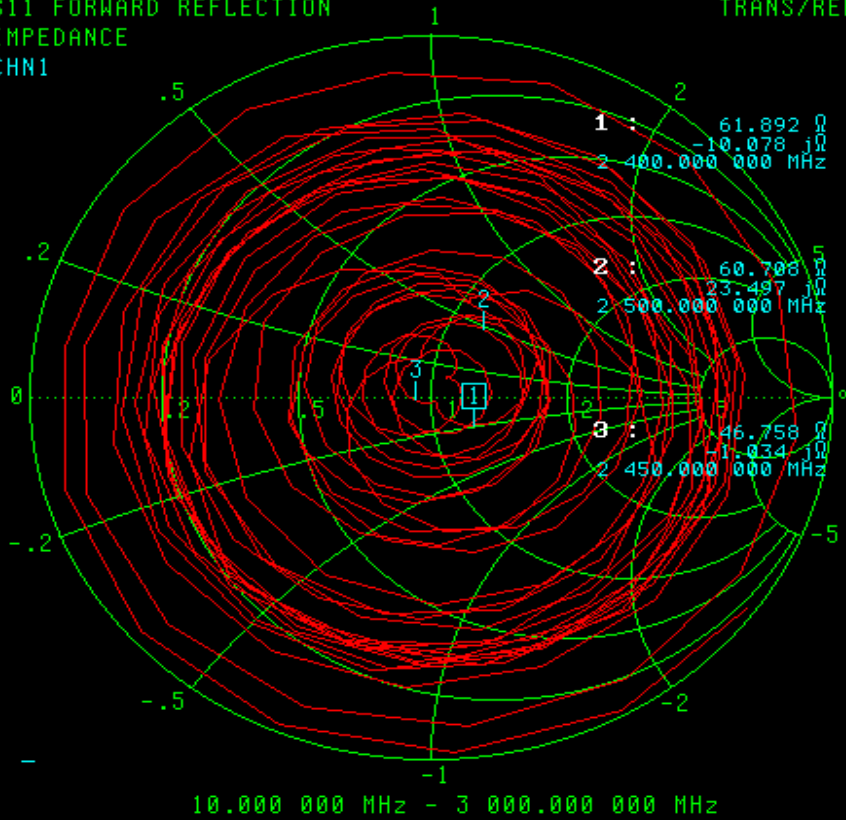
3. FREQUENCY



S11 FORWARD REFLECTION
IMPEDANCE
CHN1

TRANS/REFL

CH 1 - S11
REFERENCE PLANE
0.0000 mm

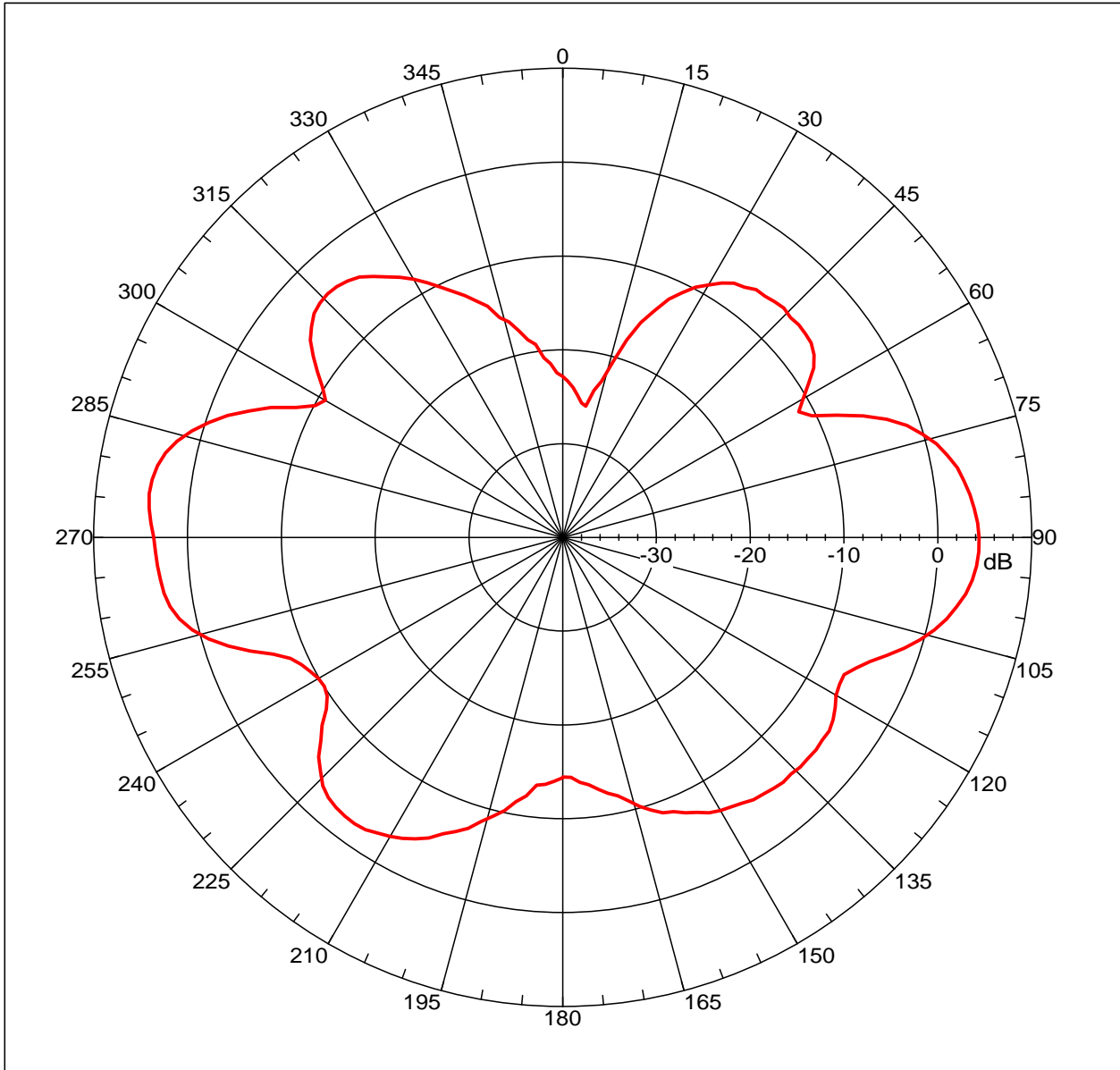


- 1: 2.400000000 GHz
61.892 Ω
-10.078 $j\Omega$
- 2: 2.500000000 GHz
60.708 Ω
23.497 $j\Omega$
- 3: 2.450000000 GHz
46.758 Ω
-1.034 $j\Omega$
- 4: OFF

MARKER TO PEAK

MORE

Far-field amplitude of 20110425 MA240 2.4GHZ E-PLANE.nsi



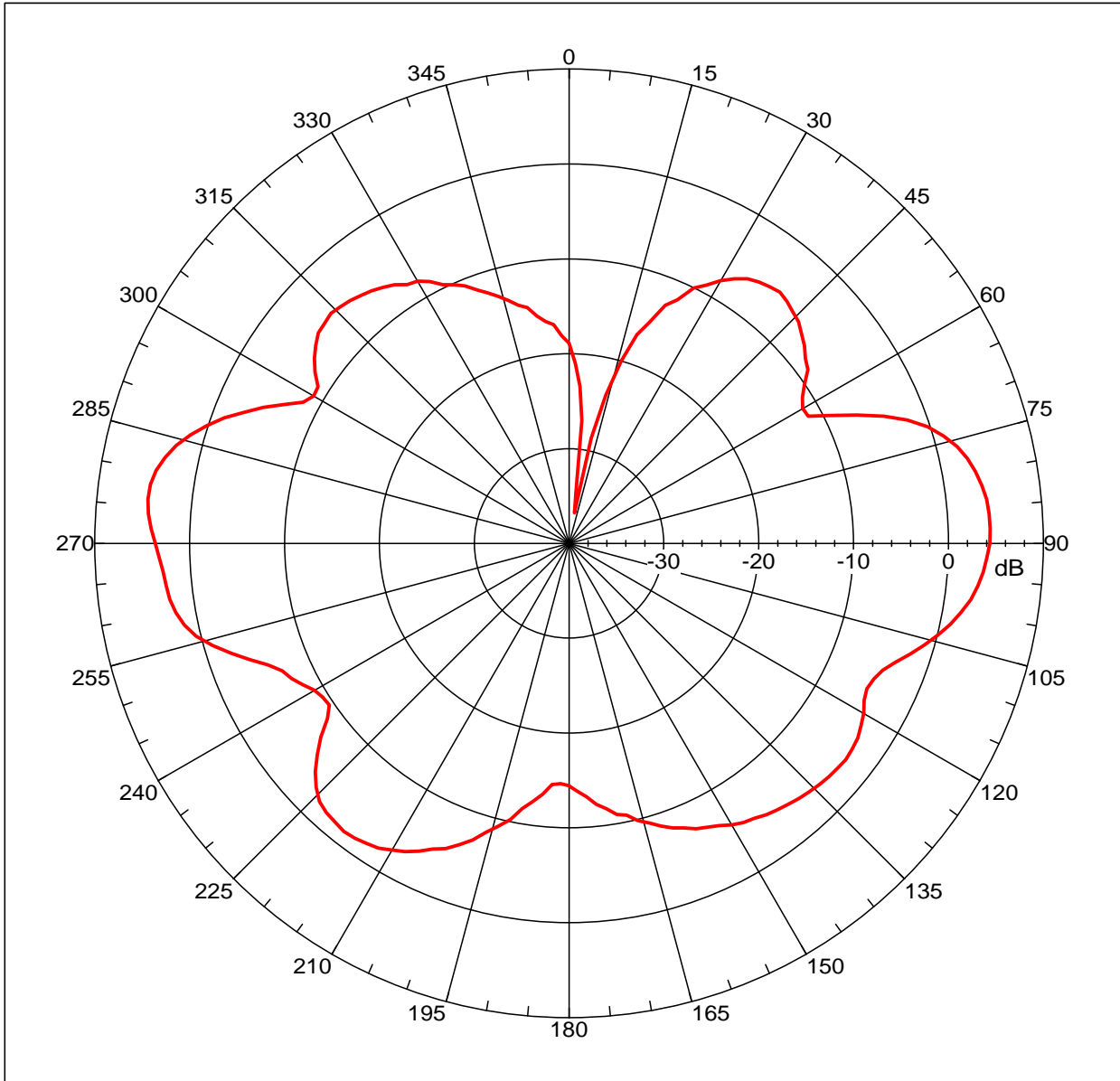
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 4.39006 dBi
 Max far-field (global) = -44.61757 dB, Max far-field (plot) = -44.6177 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 91.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110425 MA240 2.4GHZ E-PLANE
 NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110425 MA240 2.4GHZ E-PLANE.nsi
 Measurement date/time: 4/25/2011 10:53:37 AM, Filetype: NSI-97
 Far-field Cut Analysis:
 Avg value: -4.467 dB
 -3. dB beam width: 26.33 deg
 -6. dB beam width: 36.27 deg
 -10. dB beam width: 46.11 deg
 Left Sidelobe: -10.53 dB at 49.274 deg
 Right Sidelobe: -9.26 dB at 127.710 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 3

Beam	Frequency	Azimuth	Elevation	Pol
1	2.400 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110425 MA240 2.4GHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 4.612 dBi
 Max far-field (global) = -45.36615 dB, Max far-field (plot) = -45.36628 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -84.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110425 MA240 2.4GHZ E-PLANE

NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110425 MA240 2.4GHZ E-PLANE.nsi
 Measurement date/time: 4/25/2011 10:53:37 AM, Filetype: NSI-97

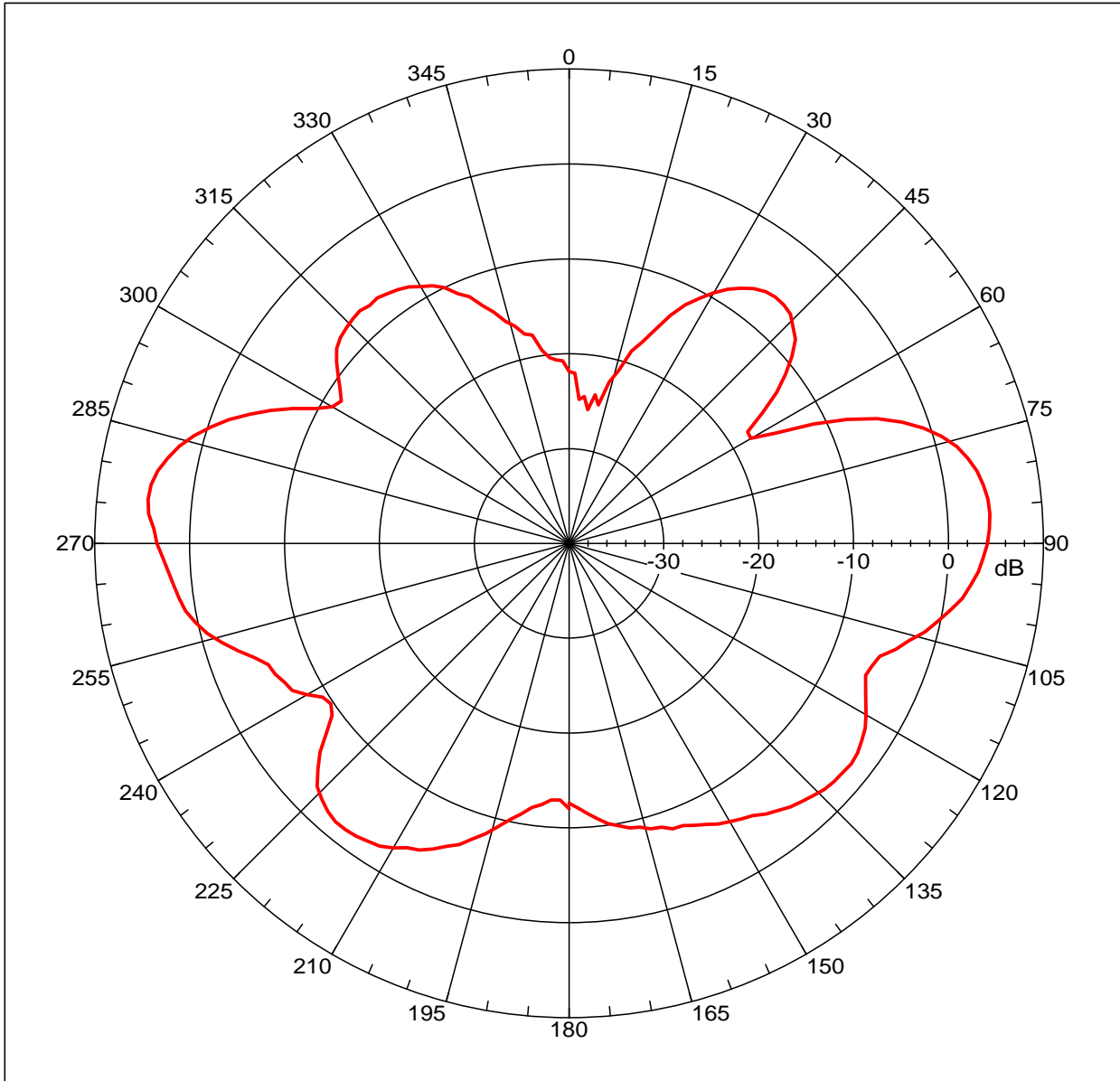
Far-field Cut Analysis:
 Avg value: -4.111 dB
 -3. dB beam width: 27.38 deg
 -6. dB beam width: 36.79 deg
 -10. dB beam width: 46.44 deg
 Left Sidelobe: -6.07 dB at -141.788 deg
 Right Sidelobe: -9.74 dB at -45.251 deg

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 3

Beam	Frequency	Azimuth	Elevation	Pol
2	2.450 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110425 MA240 2.4GHZ E-PLANE.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 4.60329 dBi
 Max far-field (global) = -45.5327 dB, Max far-field (plot) = -45.53284 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -84.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110425 MA240 2.4GHZ E-PLANE

NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110425 MA240 2.4GHZ E-PLANE.nsi
 Measurement date/time: 4/25/2011 10:53:37 AM, Filetype: NSI-97

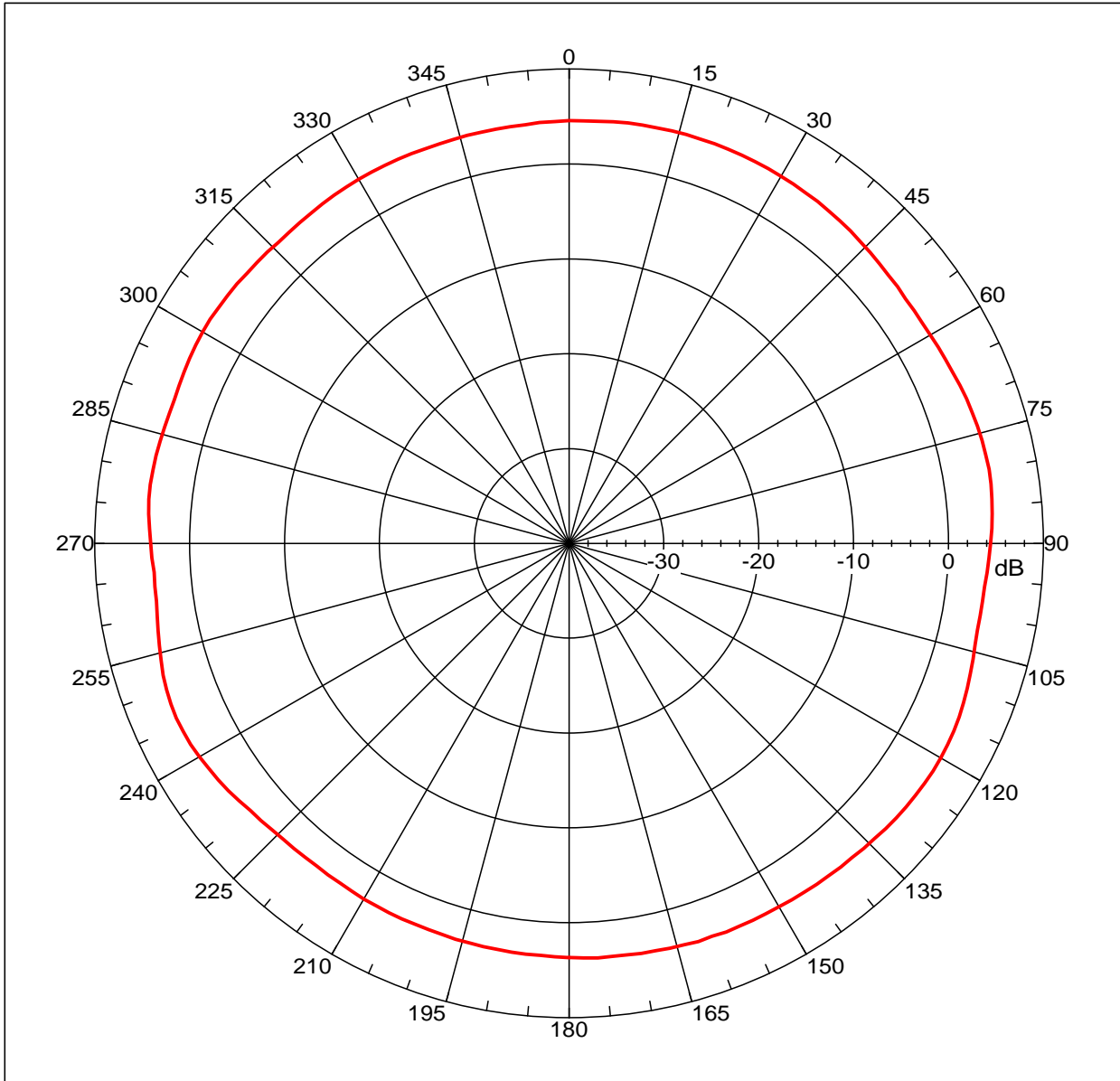
Far-field Cut Analysis:
 Avg value: -4.599 dB
 -3. dB beam width: 22.80 deg
 -6. dB beam width: 34.66 deg
 -10. dB beam width: 45.29 deg
 Left Sidelobe: -6.31 dB at -139.777 deg
 Right Sidelobe: -11.65 dB at -41.229 deg

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 3

Beam	Frequency	Azimuth	Elevation	Pol
3	2.500 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110425 MA240 2.4GHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 5.29226 dBi
 Max far-field (global) = -43.71537 dB, Max far-field (plot) =
 -43.71541 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -114.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110425 MA240 2.4GHZ H-PLANE

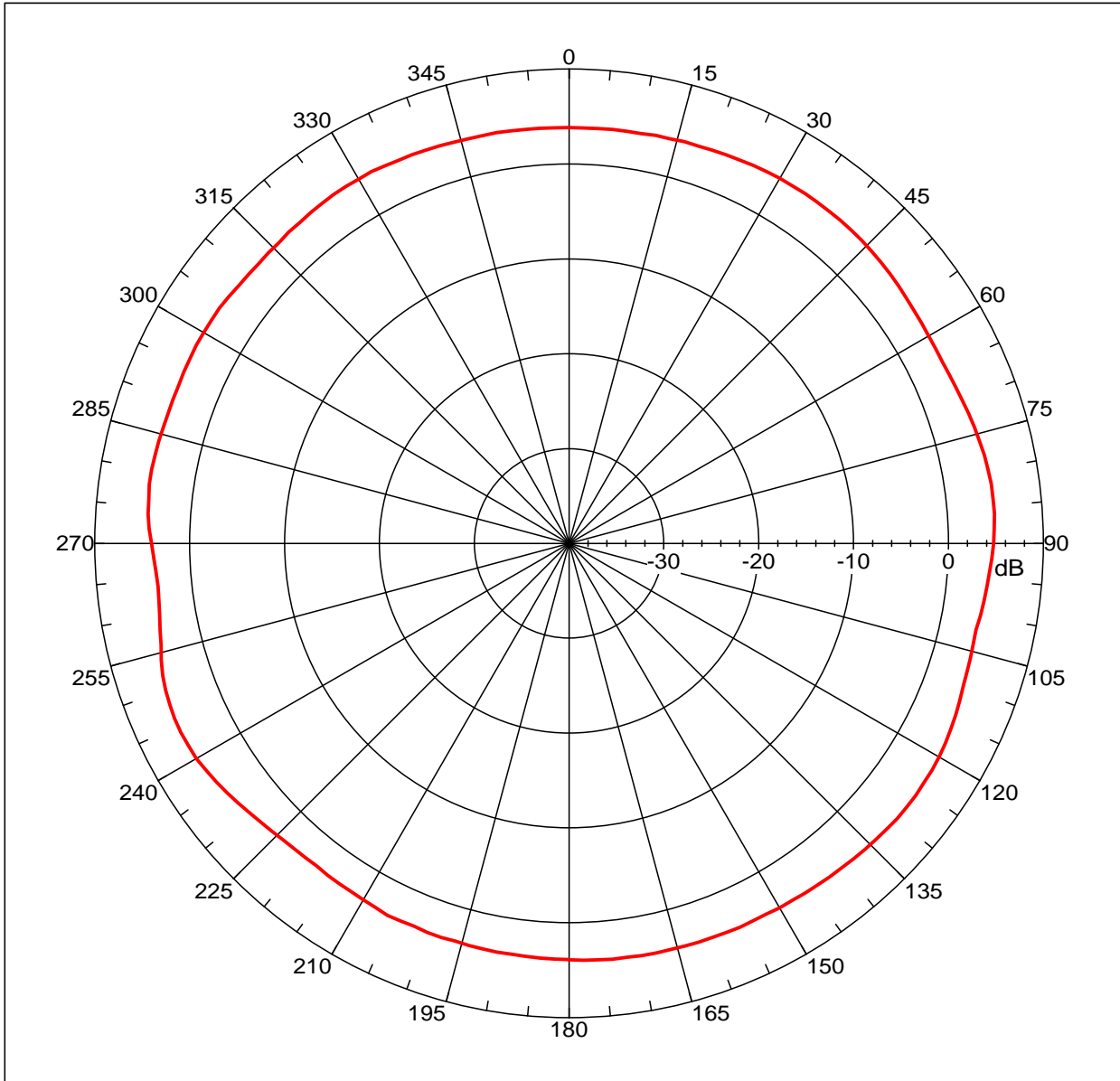
NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110425 MA240
 2.4GHZ H-PLANE01.nsi
 Measurement date/time: 4/25/2011 10:56:03 AM, Filetype: NSI-97

Far-field Cut Analysis:
 Avg value: 4.305 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: -0.33 dB at 81.453 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 3

Beam	Frequency	Azimuth	Elevation	Pol
1	2.400 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110425 MA240 2.4GHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 5.50921 dBi
 Max far-field (global) = -44.46894 dB, Max far-field (plot) =
 -44.46896 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -116.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110425 MA240 2.4GHZ H-PLANE

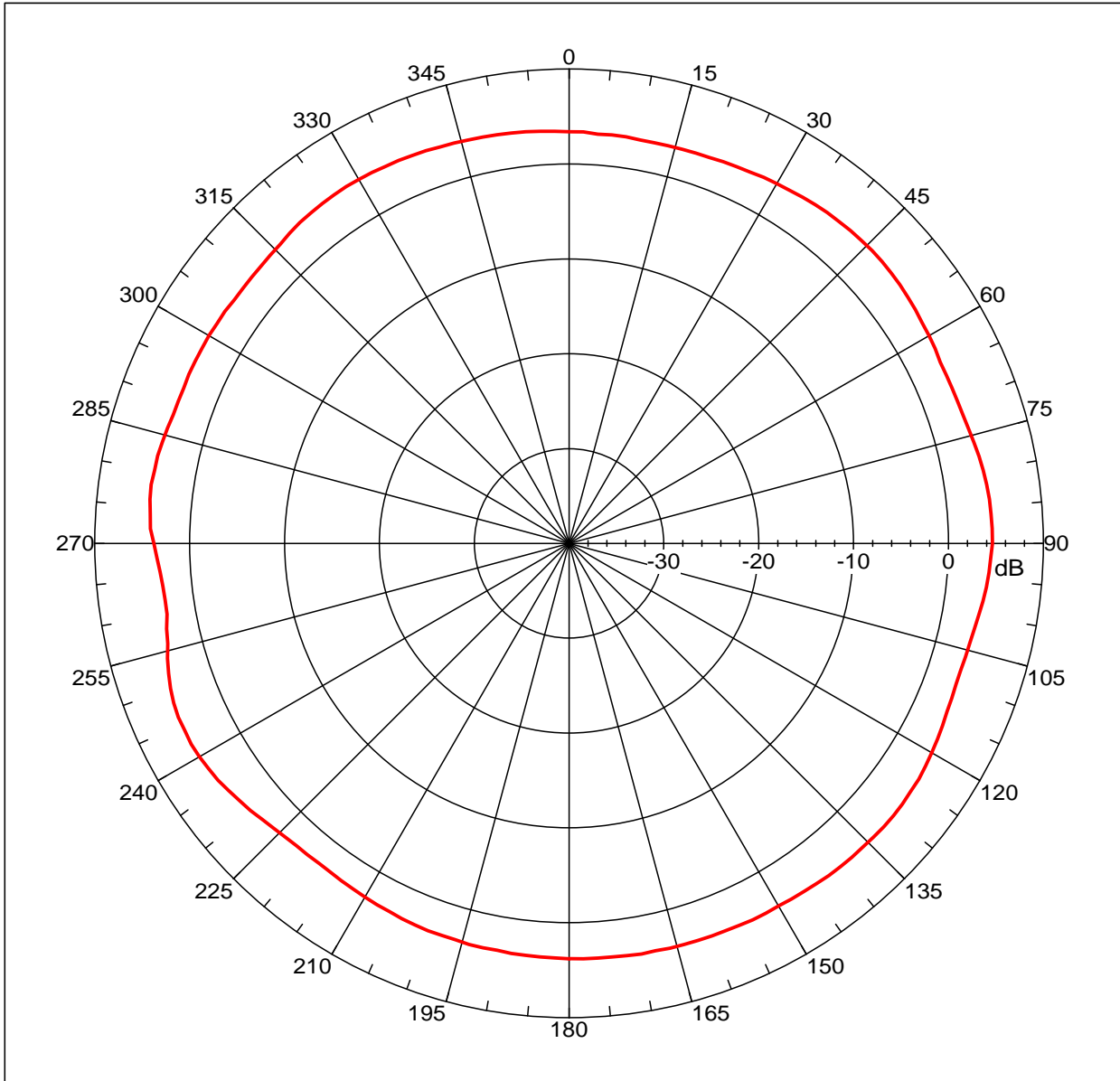
NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110425 MA240
 2.4GHZ H-PLANE01.nsi
 Measurement date/time: 4/25/2011 10:56:03 AM, Filetype: NSI-97

Far-field Cut Analysis:
 Avg value: 4.246 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: -0.84 dB at -79.441 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 3

Beam	Frequency	Azimuth	Elevation	Pol
2	2.450 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20110425 MA240 2.4GHZ H-PLANE01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 5.07556 dBi
 Max far-field (global) = -45.06043 dB, Max far-field (plot) = -45.06046 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -118.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

20110425 MA240 2.4GHZ H-PLANE

NSI2000 V4.0.124, Filename: C:\nsi2000\T.Y.HUS\20110425 MA240 2.4GHZ H-PLANE01.nsi

Measurement date/time: 4/25/2011 10:56:03 AM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: 3.898 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: -0.60 dB at -81.453 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 3

Beam	Frequency	Azimuth	Elevation	Pol
3	2.500 GHz	Azimuth	Elevation	Single-pol