HOLUND ELEKTRONIKK AS

Art.no:202-908

Specification

1. Product: C05A+MT44+316U+SMA M

2. Frequency:698~960/1710~2170/2300~2700 MHz

3. VSWR: 4.0:1

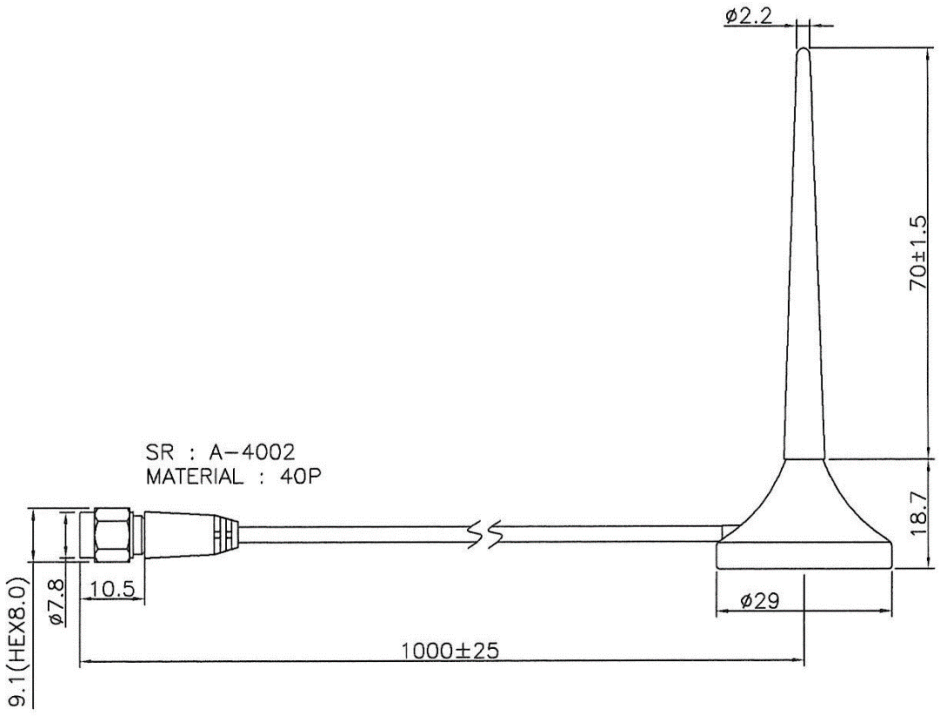
4. Gain:0~3dB

5. Impendance:50Ω

6. Cable: RG316U

7. Connector: SMA M

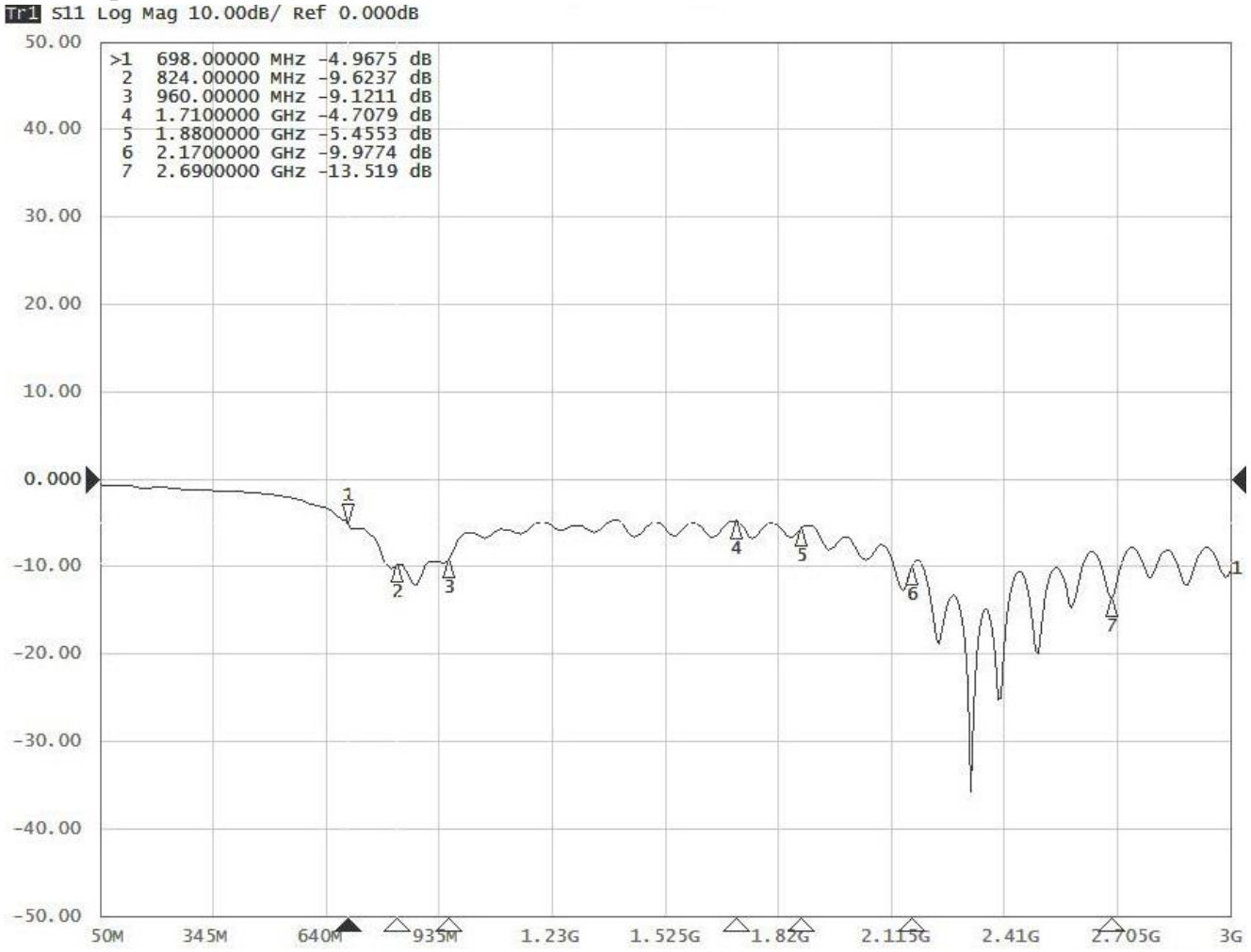
※RoHS Compliant

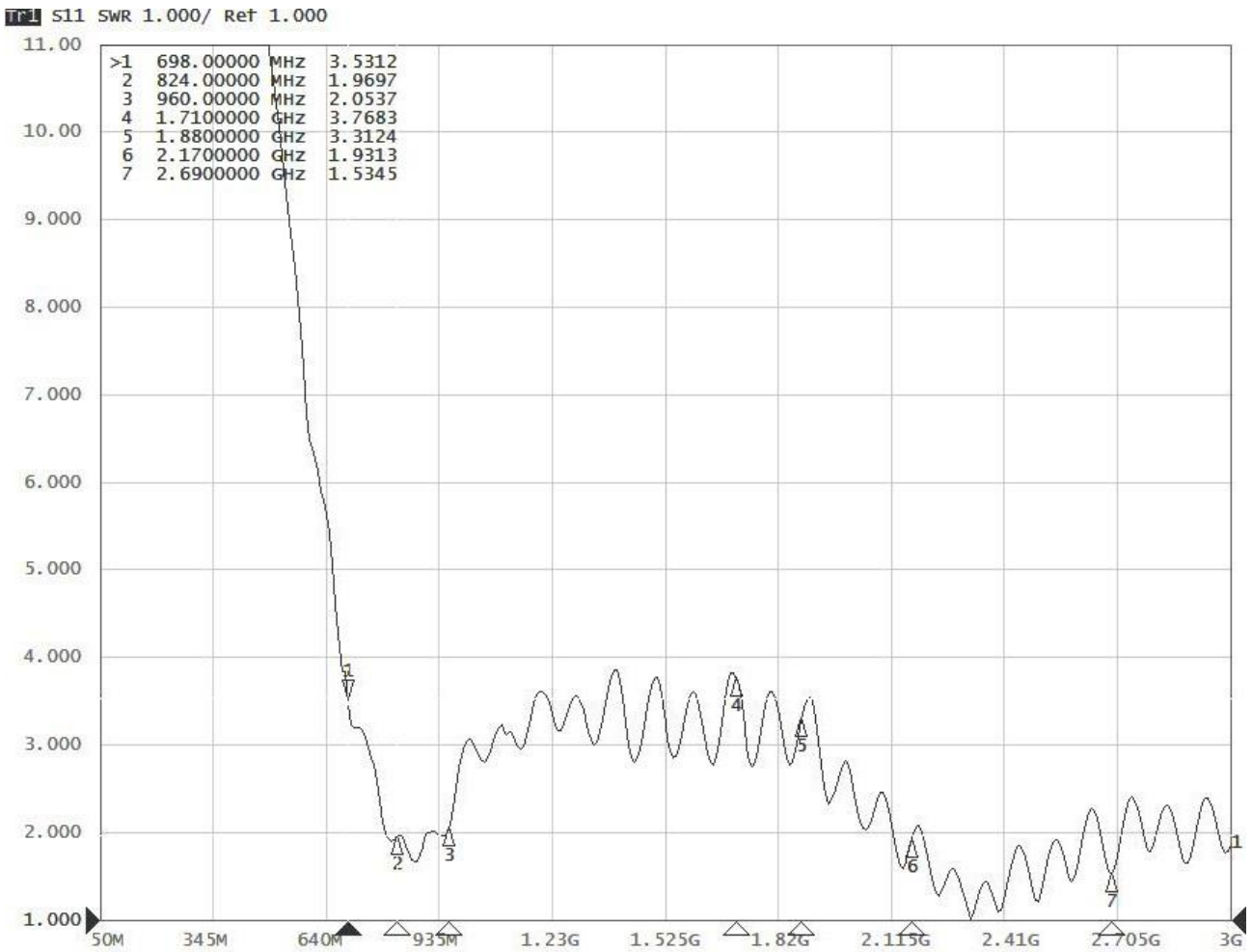


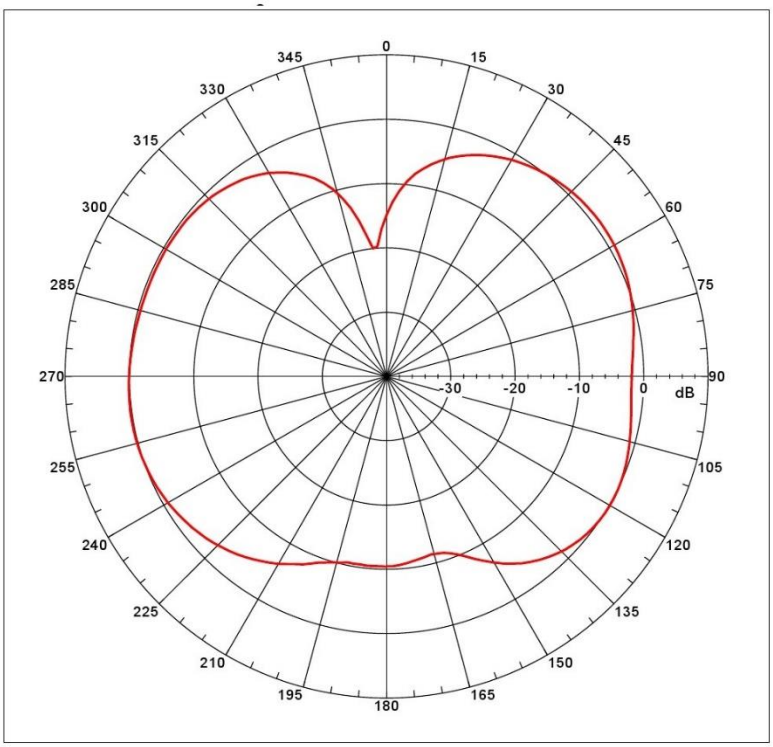
ELECTRICAL

Frequency (MHz)	**Return Loss (dB)**	**VSWR (dB)**	H-plane **(dB)**	E-plane (dB)
698	-4.96	3.53	-------	-------
824	-9.62	1.96	-------	-------
850	------	------	1.16	0.97
960	-9.12	2.05	0.79	2.15
1710	-4.70	3.76	-0.21	1.05
1800	-------	-------	-0.55	1.23
1880	-5.45	3.31	-------	-------
2170	-9.97	1.93	-1.47	2.22
2600	-------	-------	-7.40	5.09
2690	-13.51	1.53	-------	-------

Test Repoet


Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB
>1 698.00000 MHz -4.9675 dB
2 824.00000 MHz -9.6237 dB
3 960.00000 MHz -9.1211 dB
4 1.7100000 GHz -4.7079 dB
5 1.8800000 GHz -5.4553 dB
6 2.1700000 GHz -9.9774 dB
7 2.6900000 GHz -13.519 dB
50.00
40.00
30.00
20.00
10.00
0.000
-10.00
-20.00
-30.00
-40.00
-50.00
50M
345M
640M
935M
1.23G
1.525G
1.82G
2.115G
2.41G
2.705G
3G


Tr1 S11 SWR 1.000/ Ref 1.000
>1 698.00000 MHz 3.5312
2 824.00000 MHz 1.9697
3 960.00000 MHz 2.0537
4 1.7100000 GHz 3.7683
5 1.8800000 GHz 3.3124
6 2.1700000 GHz 1.9313
7 2.6900000 GHz 1.5345
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
50M
345M
640M
935M
1.23G
1.525G
1.82G
2.115G
2.41G
2.705G
3G



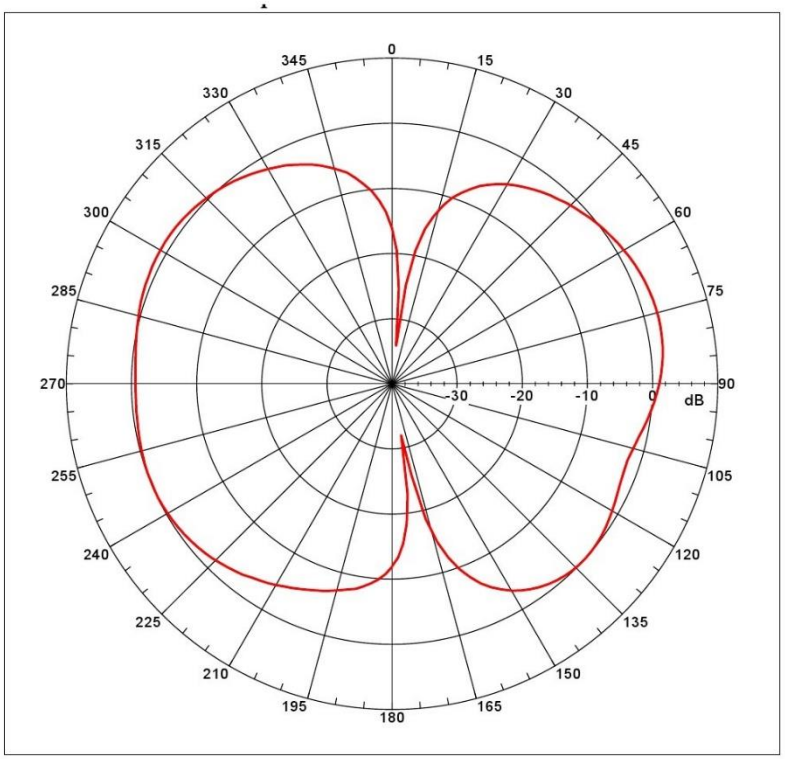
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 0.97802 dBi
Max far-field (global) = -40.55505 dB, Max far-field (plot) =
-40.55506 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 53.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:13:27 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -2.713 dB
-3. dB beam width: 112.12 deg
-6. dB beam width: 131.94 deg
-10. dB beam width: 149.41 deg
Left Sidelobe: -1.39 dB at -59.330 deg
Right Sidelobe: -0.88 dB at 121.676 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 10

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



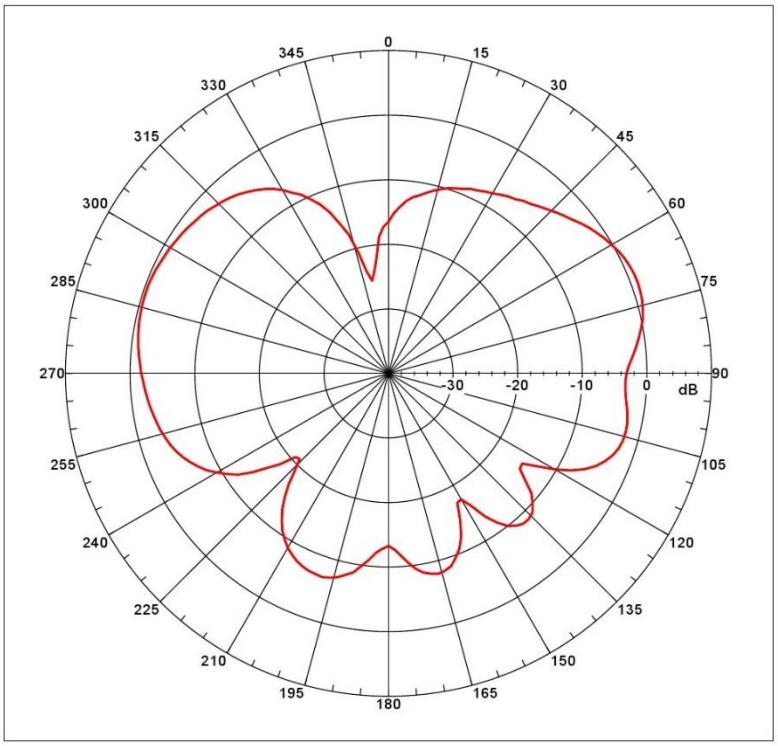
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 2.15852 dBi
Max far-field (global) = -40.47115 dB, Max far-field (plot) =
-40.47116 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 75.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:13:27 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -2.316 dB
-3. dB beam width: 52.93 deg
-6. dB beam width: 118.65 deg
-10. dB beam width: 136.71 deg
Left Sidelobe: -1.10 dB at -57.318 deg
Right Sidelobe: -2.17 dB at 133.743 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 10

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



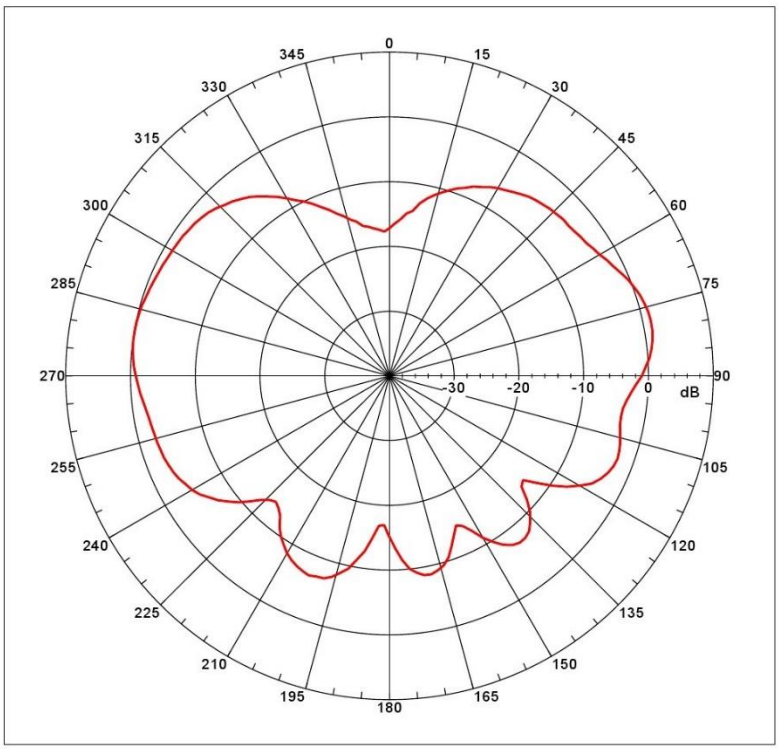
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.05773 dBi
Max far-field (global) = -44.13486 dB, Max far-field (plot) = -44.13488 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 69.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:13:27 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -5.825 dB
-3. dB beam width: 32.62 deg
-6. dB beam width: 71.60 deg
-10. dB beam width: 96.24 deg
Left Sidelobe: -1.45 dB at -69.385 deg
Right Sidelobe: -3.24 dB at 105.587 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 10

Beam	Frequency	Azimuth	Elevation	Pol
5	1.710 GHz	Azimuth	Elevation	Single-pol



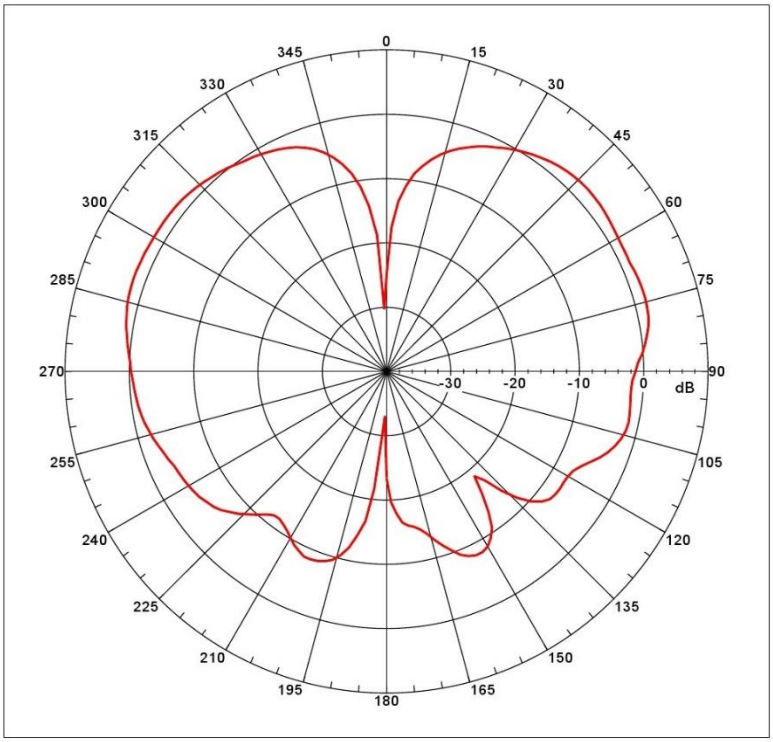
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.23208 dBi
Max far-field (global) = -45.58996 dB, Max far-field (plot) = -45.590 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 78.000 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:13:27 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -5.385 dB
-3. dB beam width: 29.08 deg
-6. dB beam width: 79.40 deg
-10. dB beam width: 101.94 deg
Left Sidelobe: -1.31 dB at -77.430 deg
Right Sidelobe: -3.75 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 10

Beam	Frequency	Azimuth	Elevation	Pol
6	1.800 GHz	Azimuth	Elevation	Single-pol



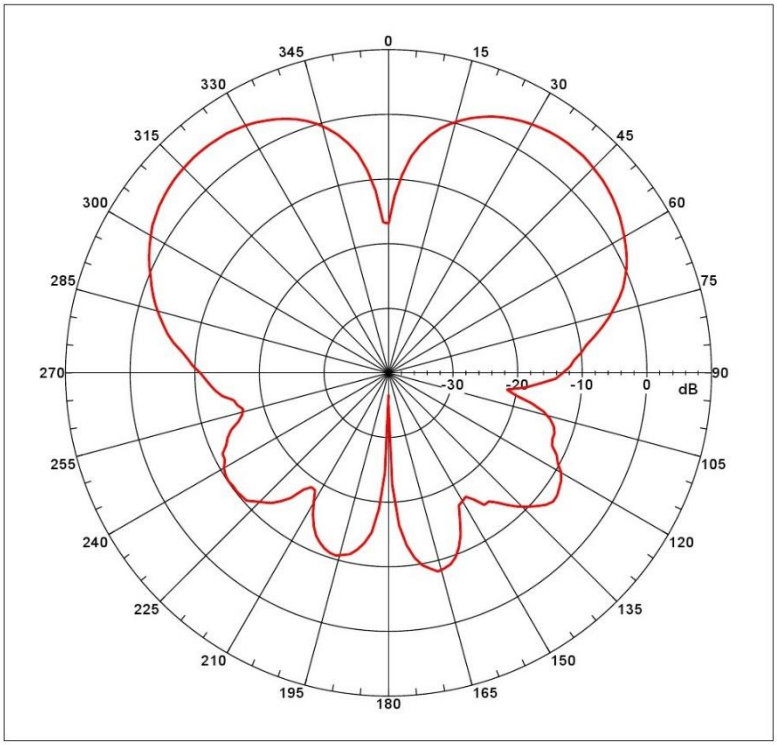
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 2.22169 dBi
Max far-field (global) = -45.31042 dB, Max far-field (plot) = -45.31043 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 47.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:13:27 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -3.155 dB
-3. dB beam width: 60.36 deg
-6. dB beam width: 94.04 deg
-10. dB beam width: 119.02 deg
Left Sidelobe: -0.37 dB at -63.352 deg
Right Sidelobe: -10.40 dB at 153.855 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 10

Beam	Frequency	Azimuth	Elevation	Pol
8	2.170 GHz	Azimuth	Elevation	Single-pol



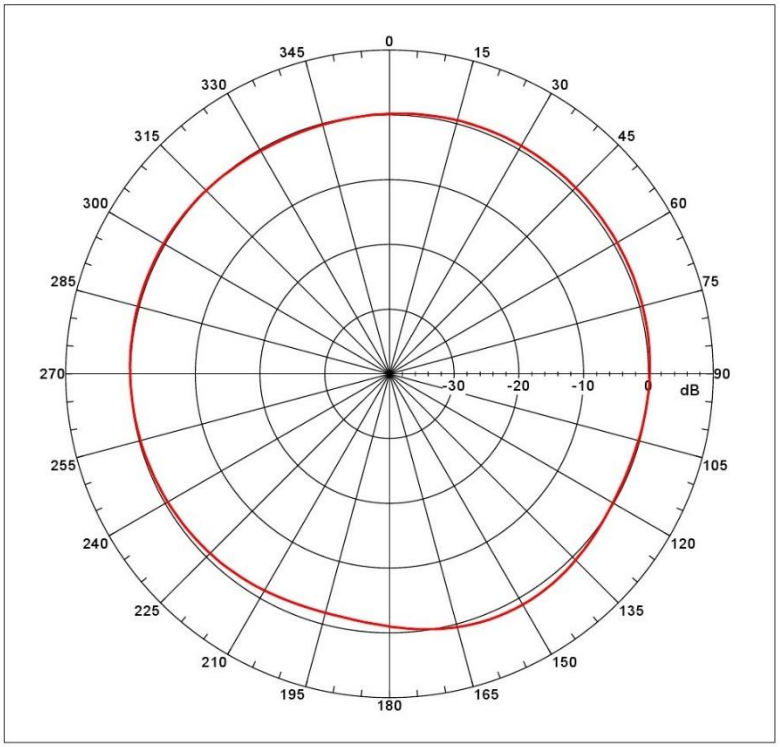
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 5.09888 dBi
Max far-field (global) = -45.21791 dB, Max far-field (plot) = -45.21791 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 41.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:13:27 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -3.538 dB
-3. dB beam width: 40.50 deg
-6. dB beam width: 56.47 deg
-10. dB beam width: 69.00 deg
Left Sidelobe: -0.16 dB at -39.218 deg
Right Sidelobe: -12.75 dB at 129.721 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 10

Beam	Frequency	Azimuth	Elevation	Pol
10	2.600 GHz	Azimuth	Elevation	Single-pol



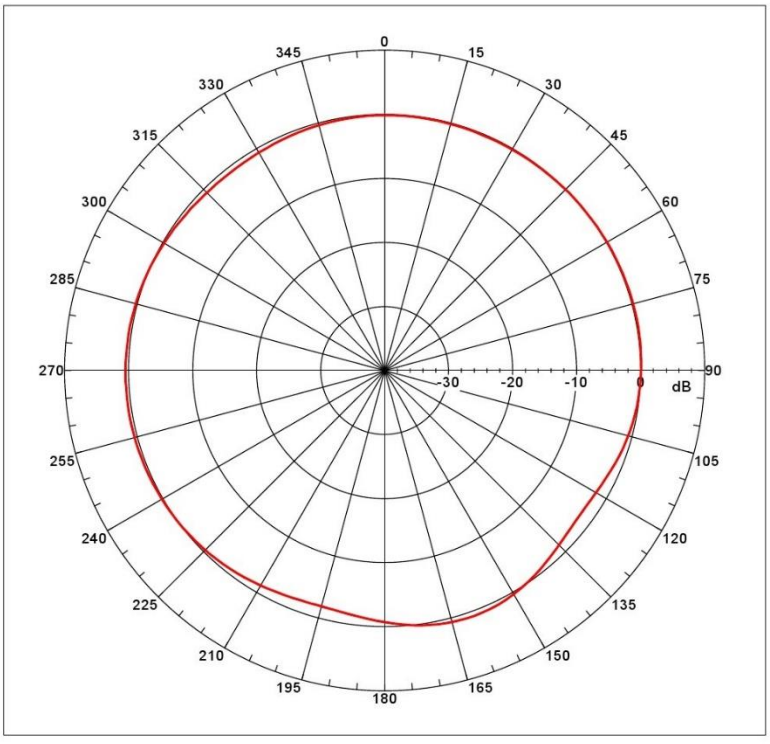
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.16322 dBi
Max far-field (global) = -40.09364 dB, Max far-field (plot) =
-40.09367 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 148.000 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:02:38 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: 0.008 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: 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 10

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



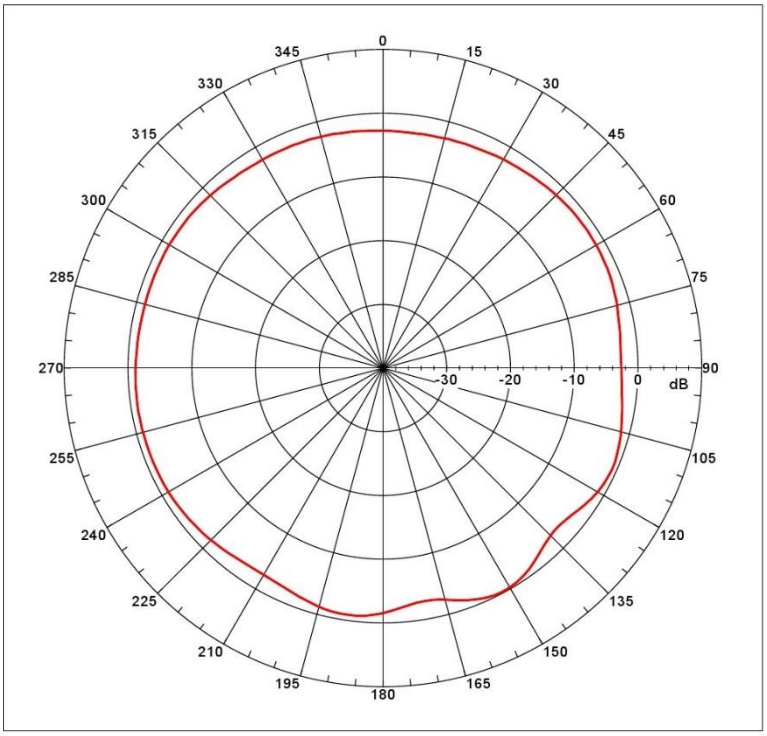
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 0.79185 dBi
Max far-field (global) = -41.83782 dB, Max far-field (plot) =
-41.83784 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 160.000 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:02:38 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -0.310 dB
-3. dB beam width: Not Found
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: -0.61 dB at 85.475 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 10

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



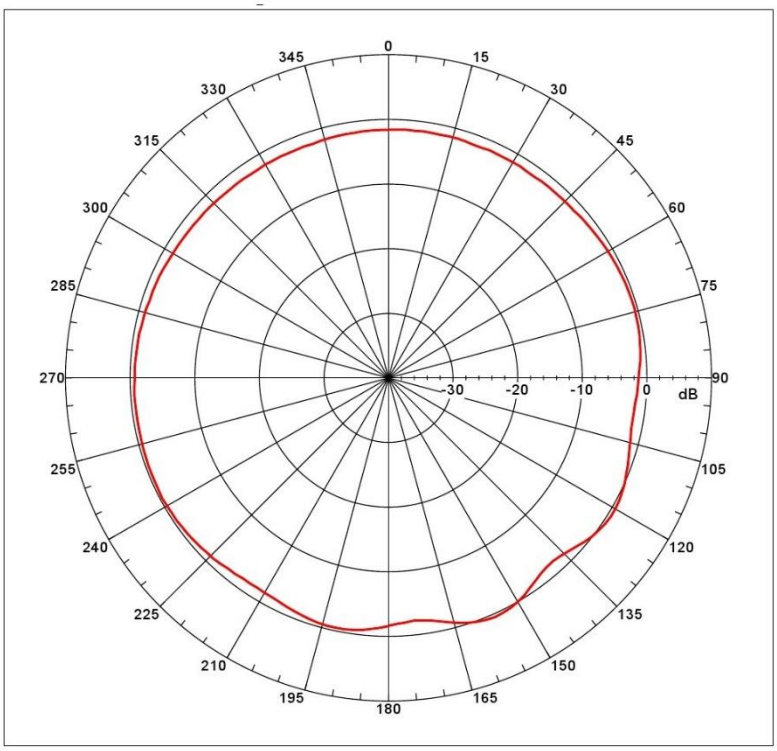
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.21048 dBi
Max far-field (global) = -45.40307 dB, Max far-field (plot) = -45.4031 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 151.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:02:38 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -1.763 dB
-3. dB beam width: Not Found
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: -0.50 dB at 115.643 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 10

Beam	Frequency	Azimuth	Elevation	Pol
5	1.710 GHz	Azimuth	Elevation	Single-pol



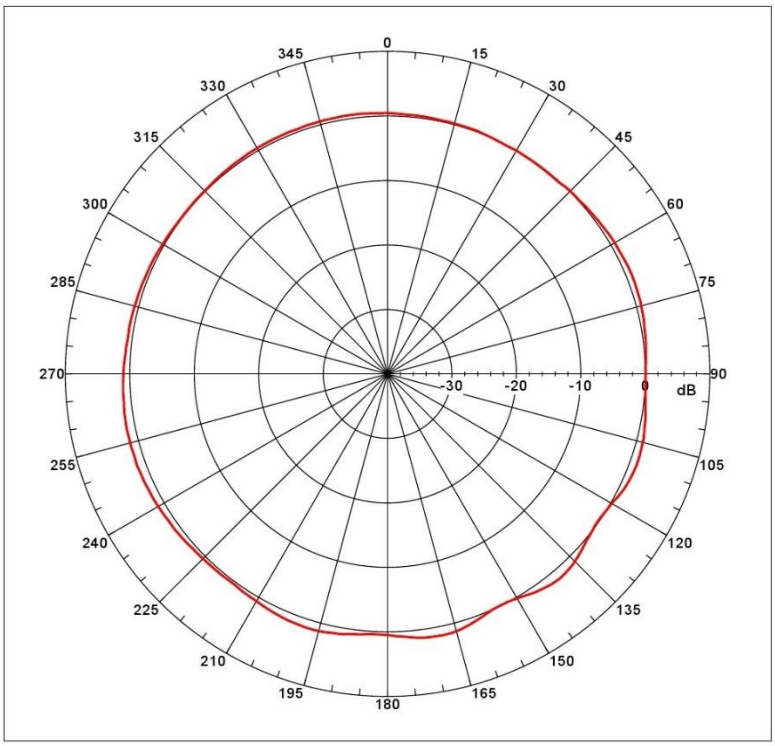
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 0.55141 dBi
Max far-field (global) = -46.27063 dB, Max far-field (plot) = -46.27065 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 121.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:02:38 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -1.069 dB
-3. dB beam width: Not Found
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: -1.00 dB at 75.419 deg
Right Sidelobe: -0.04 dB at 157.877 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 10

Beam	Frequency	Azimuth	Elevation	Pol
6	1.800 GHz	Azimuth	Elevation	Single-pol

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Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 1.47389  dBi
Max far-field (global) = -46.05822  dB, Max far-field (plot) =
-46.05827  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 140.000  deg, Vpeak at: 0.000  deg
Plot centering: On


NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:02:38 PM, Filetype: NSI-97
Far-field Cut Analysis:
   Avg value: 0.595 dB
   -3. dB beam width: Not Found
   -6. dB beam width: Not Found
   -10. dB beam width: Not Found
   Left Sidelobe: -0.32 dB at 111.620  deg
   Right Sidelobe: -0.05 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 10
Beam    Frequency   Azimuth  Elevation  Pol
----    ---------   -------  ---------  ---
8       2.170  GHz  Azimuth  Elevation  Single-pol
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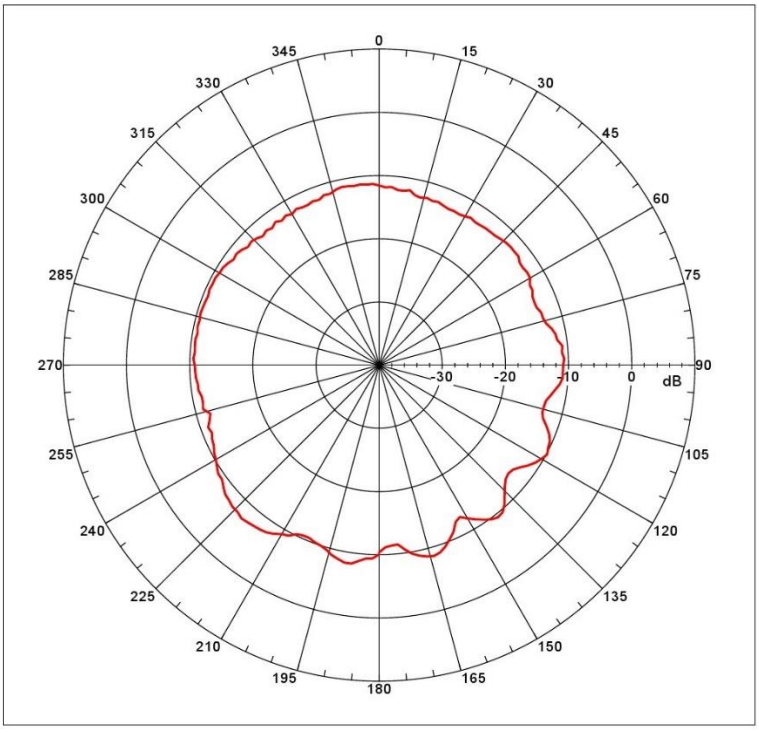


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Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = -7.40289  dBi
Max far-field (global) = -57.71968  dB, Max far-field (plot) =
-57.71989  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: -138.00001  deg, Vpeak at: 0.000  deg
Plot centering: On


NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop

Measurement date/time: 5/26/2014 2:02:38 PM, Filetype: NSI-97
Far-field Cut Analysis:
   Avg value: -11.030 dB
   -3. dB beam width: 37.20 deg
   -6. dB beam width: Not Found
   -10. dB beam width: Not Found
   Left Sidelobe: -0.89 dB at -169.944  deg
   Right Sidelobe: -3.72 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 10
Beam    Frequency   Azimuth  Elevation  Pol
----    ---------   -------  ---------  ---
10      2.600  GHz  Azimuth  Elevation  Single-pol
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