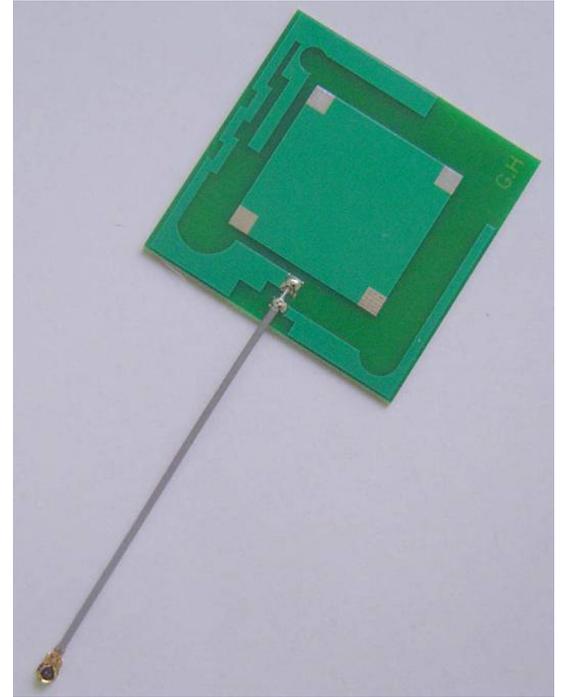# ANT-PCB4242

Features

- 800/900/1800/1900/2100MHz

- Omni Directional 1/2 Wave

- Miniature 42 x 42 x 1mm

- VSWR <3.0

- RG178 Coax 50Ω Impedance

- 2-3dBi Gain (nominal)

- Vertical Polarization

- Admitted Radiation Power 1W

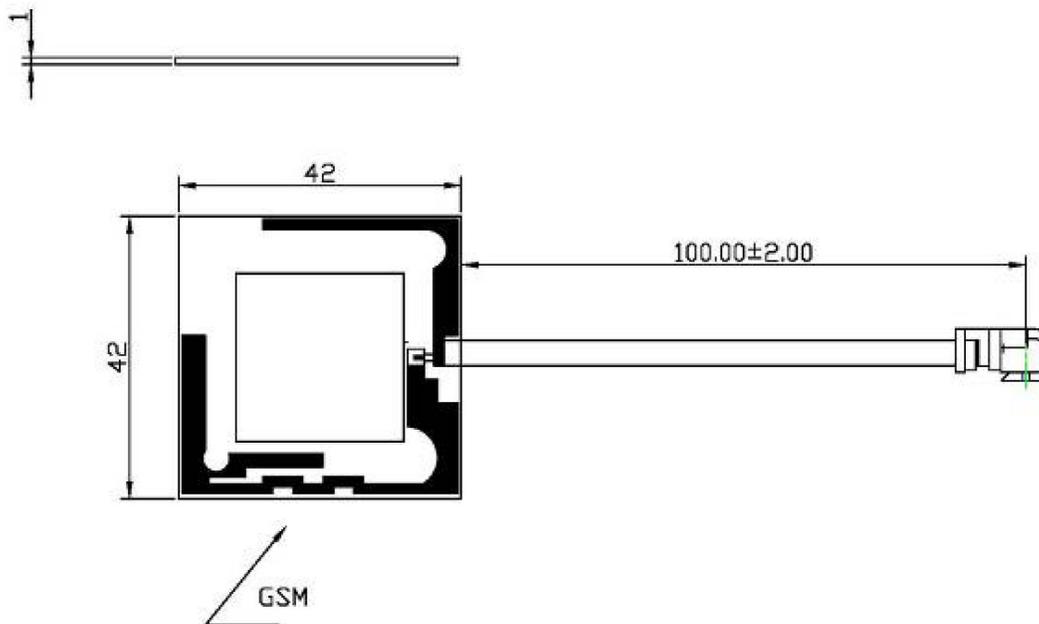- iPex/UFL Connector

- Operating temp −40 to +70°C

Applications

- Embedded GSM Systems
- For World-wide Use

Ordering Information

Part Number	Description
ANT-PCB4242-FL	Miniature PCB Penta Band Antenna

www.rfsolutions.co.uk

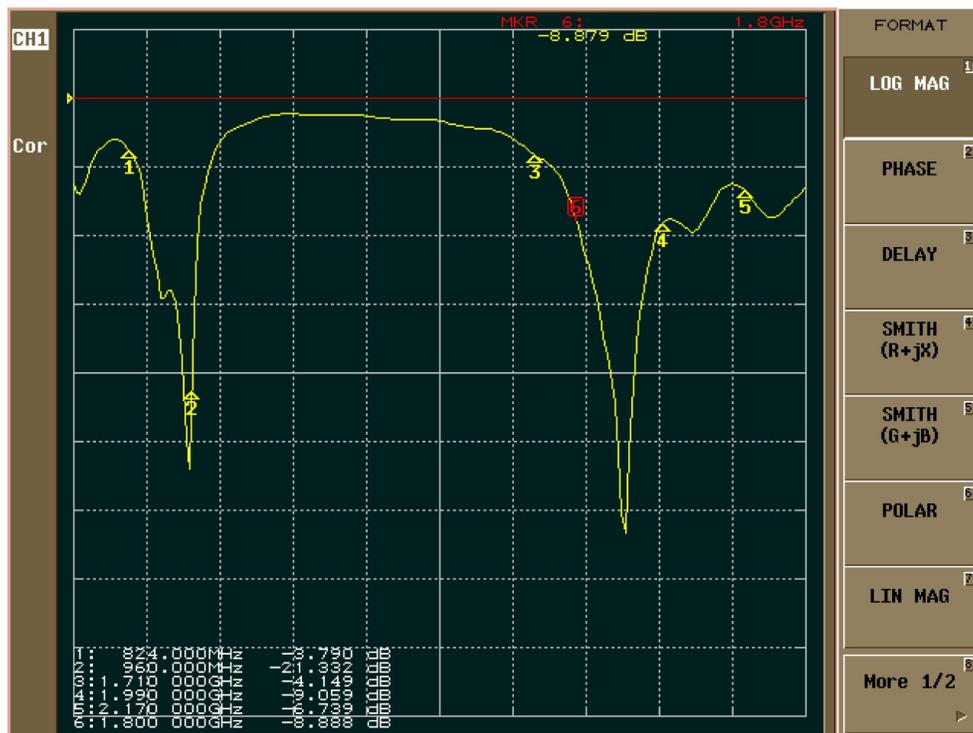FM76316

ANT-PCB4242

Mechanical Detail

Performance Data — TEST VSWR

ANT-PCB4242
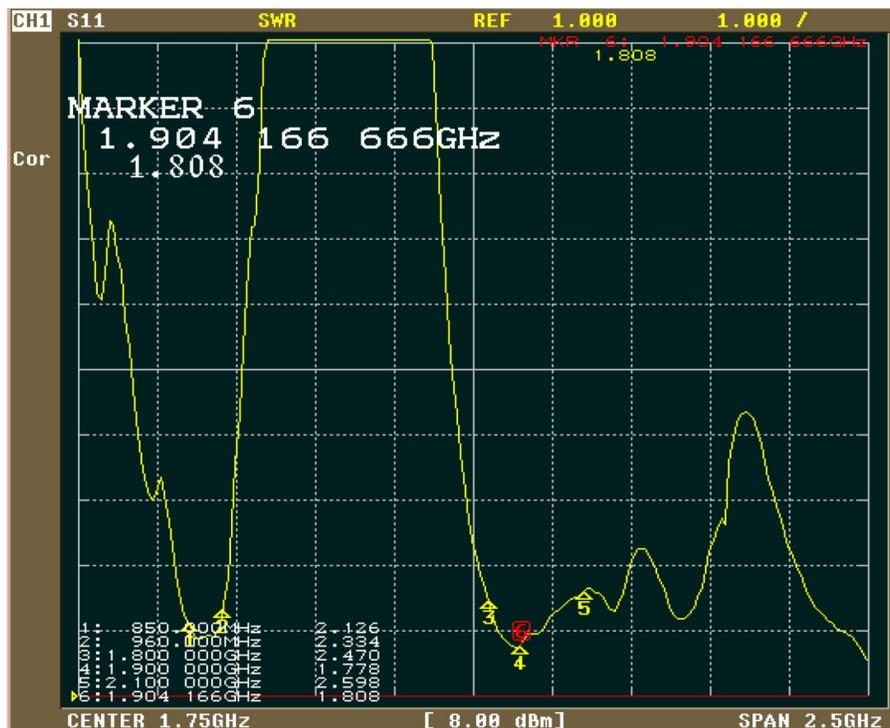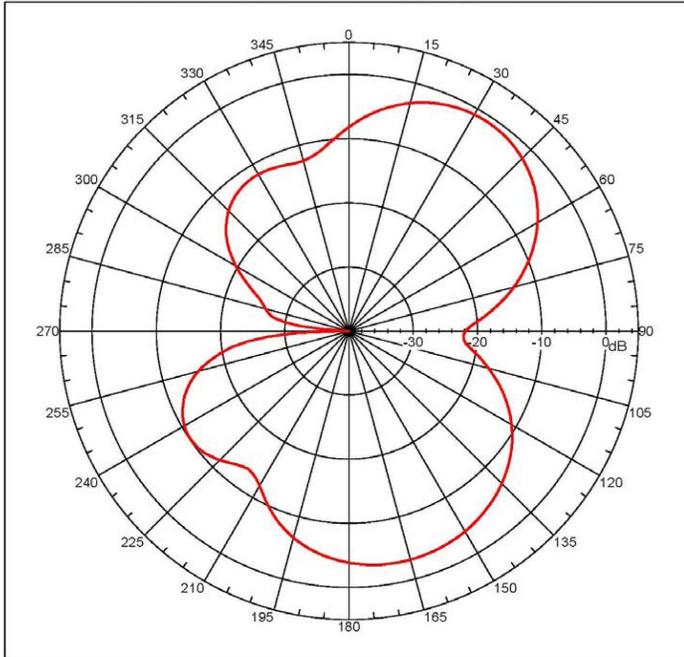
Performance Data — VSWR

Performance Data — RETURN LOSS

Performance Data—Smith Chart @ 880MHz

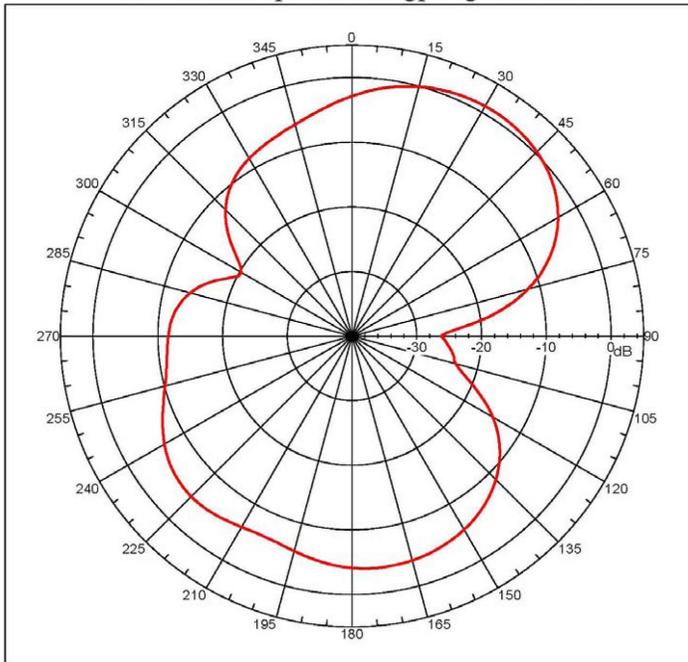### Far-field amplitude of gps+gsm01.nsi


```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = -0.93756  dBi
Max far-field (global) = -34.95309  dB, Max far-field (plot) =
-34.95309  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 214.000  deg, Vpeak at: 0.000  deg
Plot centering: On

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\
Desktop\bill\gps+gsm01.nsi
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97
Far-field Cut Analysis:
    Avg value: -8.754 dB
    -3. dB beam width: 41.64 deg
    -6. dB beam width: 59.14 deg
    -10. dB beam width: 78.02 deg
    Left Sidelobe: -9.20 dB at -123.687  deg
    Right Sidelobe: -2.13 dB at 167.933  deg
Far-field display setup
    Azimuth (deg)
        Span = 360.00001  deg, Center = 180.00001  deg, #pts = 181
        Start= 0.000  deg, Stop = 360.00001  deg, Delta = 2.000  deg
    Elevation (deg)
        Center = 0.000  deg, #pts = 1

Selected beam(s) 1 of 9
Beam   Frequency   Azimuth  Elevation  Pol
----   ---------   -------  ---------  ---
1      0.880  GHz  Azimuth  Elevation  Single-pol
```

Performance Data—Smith Chart @ 920MHz

Far-field amplitude of gps+gsm01.nsi


```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 1.08571  dBi
Max far-field (global) = -33.66057  dB, Max far-field (plot) =
-33.66058  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 212.000  deg, Vpeak at: 0.000  deg
Plot centering: On

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\
Desktop\bill\gps+gsm01.nsi
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97
Far-field Cut Analysis:
    Avg value: -6.512 dB
    -3. dB beam width: 51.85 deg
    -6. dB beam width: 73.16 deg
    -10. dB beam width: 105.26 deg
    Left Sidelobe: -5.98 dB at -135.754  deg
    Right Sidelobe: -4.99 dB at 173.967  deg
Far-field display setup
    Azimuth (deg)
        Span = 360.00001  deg, Center = 100.00001  deg, #pts = 181
        Start= 0.000  deg, Stop = 360.00001  deg, Delta = 2.000  deg
    Elevation (deg)
        Center = 0.000  deg, #pts = 1

Selected beam(s) 1 of 9
Beam   Frequency   Azimuth  Elevation  Pol
----   ---------   -------  ---------  ---
2      0.920  GHz  Azimuth  Elevation  Single-pol
```

ANT-PCB4242

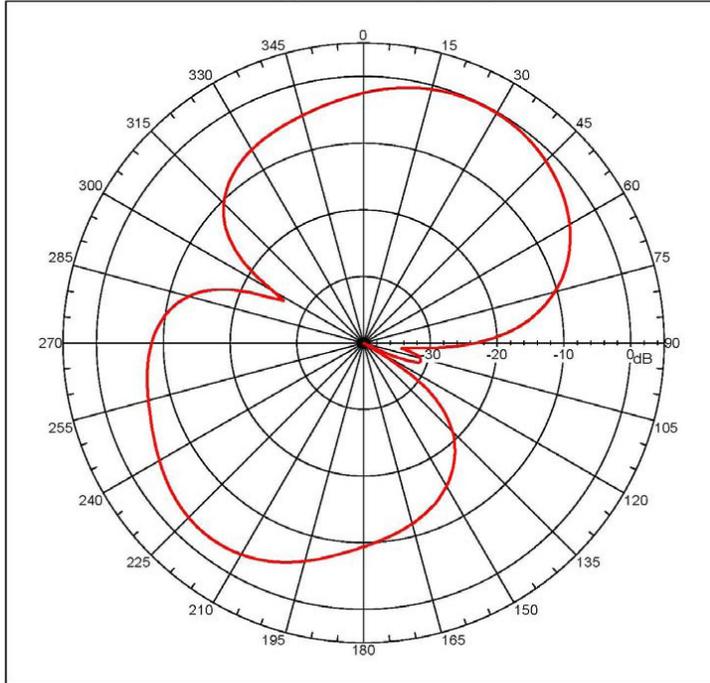## Performance Data—Smith Chart @ 960MHz
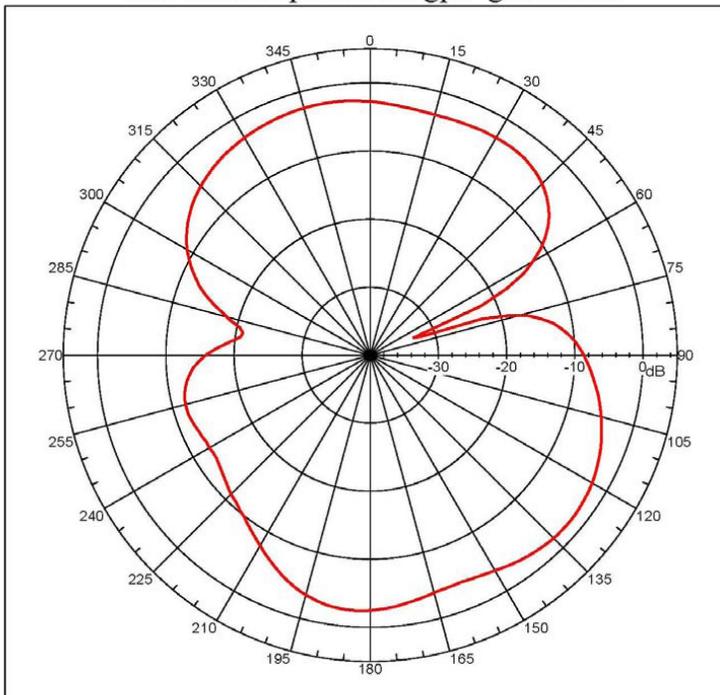

Far-field amplitude of gps+gsm01.nsi

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.12529 dBi
Max far-field (global) = -35.22531 dB, Max far-field (plot) =
-35.22531 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 208.000 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\
Desktop\bill\gps+gsm01.nsi
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97
Far-field Cut Analysis:
    Avg value: -7.296 dB
    -3. dB beam width: 59.19 deg
    -6. dB beam width: 93.33 deg
    -10. dB beam width: 119.50 deg
    Left Sidelobe: -2.66 dB at -139.777 deg
    Right Sidelobe: -30.90 dB at 109.609 deg
Far-field display setup
    Azimuth (deg)
        Span = 360.00001 deg, Center = 180.00001 deg, #pts = 181
        Start= 0.000 deg, Stop = 360.00001 deg, Delta = 2.000 deg
    Elevation (deg)
        Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 9
Beam   Frequency Azimuth   Elevation Pol
----   --------- -------   --------- ---
3   0.960 GHz Azimuth   Elevation Single-pol

Performance Data—Smith Chart @ 1710MHz

Far-field amplitude of gps+gsm01.nsi

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -1.89386 dBi
Max far-field (global) = -41.61911 dB, Max far-field (plot) =
-41.61913 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 309.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\
Desktop\bill\gps+gsm01.nsi
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97
Far-field Cut Analysis:
    Avg value: -5.957 dB
    -3. dB beam width: Not Found
    -6. dB beam width: Not Found
    -10. dB beam width: Not Found
    Left Sidelobe: -1.21 dB at 35.196 deg
    Right Sidelobe: Not Found
Far-field display setup
    Azimuth (deg)
        Span = 360.00001 deg, Center = 180.00001 deg, #pts = 181
        Start= 0.000 deg, Stop = 360.00001 deg, Delta = 2.000 deg
    Elevation (deg)
        Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 9
Beam   Frequency Azimuth   Elevation Pol
----   --------- -------   --------- ---
4   1.710 GHz Azimuth   Elevation Single-pol

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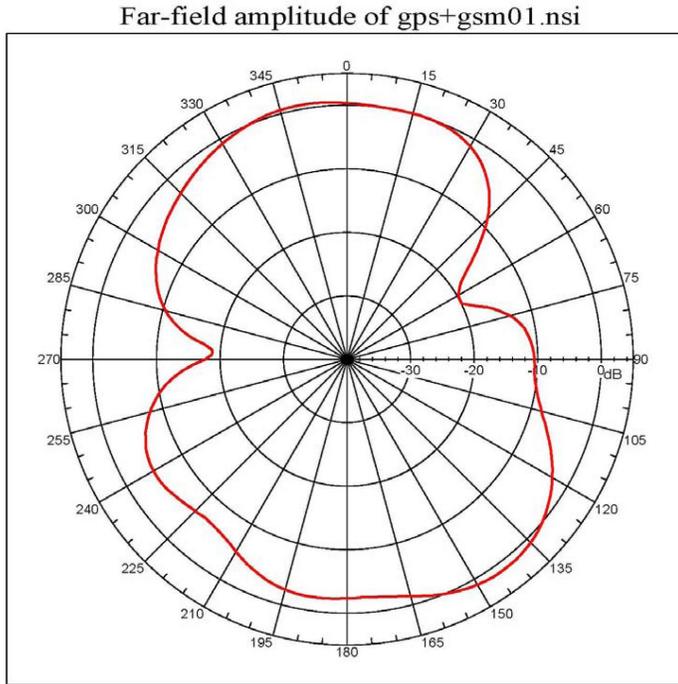## Performance Data—Smith Chart @ 1785MHz

Far-field amplitude of gps+gsm01.nsi

```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 1.31446  dBi
Max far-field (global) = -40.52198  dB, Max far-field (plot) =
-40.522  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 324.000  deg, Vpeak at: 0.000  deg
Plot centering: On

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\
Desktop\bill\gps+gsm01.nsi
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97
Far-field Cut Analysis:
     Avg value: -3.945 dB
     -3. dB beam width: 43.90 deg
     -6. dB beam width: Not Found
     -10. dB beam width: Not Found
     Left Sidelobe: -1.26 dB at 17.095 deg
     Right Sidelobe: Not Found
Far-field display setup
   Azimuth (deg)
     Span = 360.00001 deg, Center = 180.00001 deg, #pts = 181
     Start= 0.000 deg, Stop = 360.00001 deg, Delta = 2.000 deg
   Elevation (deg)
     Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 9
Beam   Frequency   Azimuth  Elevation  Pol
----   ---------   -------  ---------  ---
5      1.785  GHz  Azimuth  Elevation  Single-pol
```

Performance Data—Smith Chart @ 1850MHz

Far-field amplitude of gps+gsm01.nsi
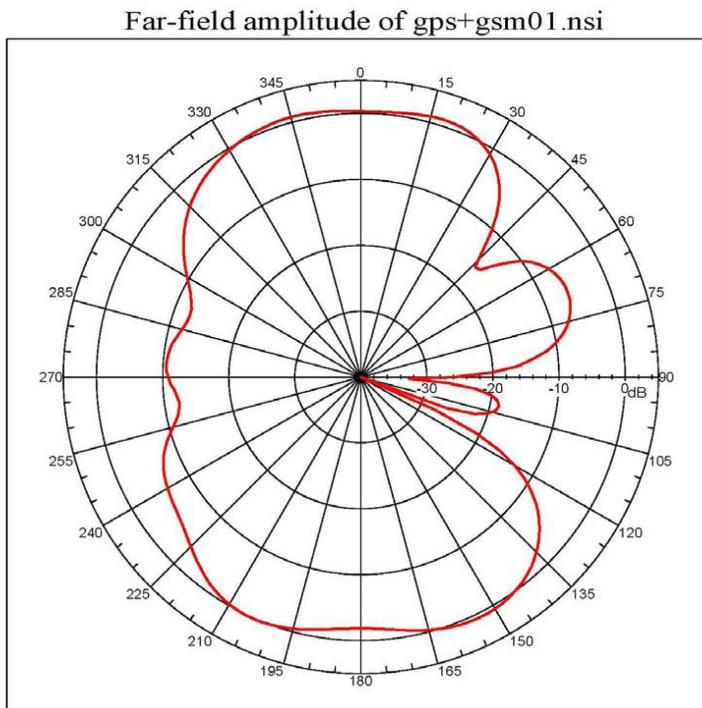
```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 0.97485  dBi
Max far-field (global) = -41.31947  dB, Max far-field (plot) =
-41.31947  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 198.000  deg, Vpeak at: 0.000  deg
Plot centering: On

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\
Desktop\bill\gps+gsm01.nsi
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97
Far-field Cut Analysis:
     Avg value: -4.054 dB
     -3. dB beam width: 72.51 deg
     -6. dB beam width: 86.92 deg
     -10. dB beam width: 99.95 deg
     Left Sidelobe: -11.50 dB at -85.475 deg
     Right Sidelobe: -7.14 dB at 67.374 deg
Far-field display setup
   Azimuth (deg)
     Span = 360.00001 deg, Center = 180.00001 deg, #pts = 181
     Start= 0.000 deg, Stop = 360.00001 deg, Delta = 2.000 deg
   Elevation (deg)
     Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 9
Beam   Frequency   Azimuth  Elevation  Pol
----   ---------   -------  ---------  ---
6      1.850  GHz  Azimuth  Elevation  Single-pol
```

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Performance Data—Smith Chart @ 1880MHz

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.13285 dBi
Max far-field (global) = -41.25224 dB, Max far-field (plot) = -41.25229 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 22.000 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\ Desktop\bill\gps+gsm01.nsi
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97
Far-field Cut Analysis:
　　Avg value: -4.118 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: -11.63 dB at -93.520 deg
Far-field display setup
　Azimuth (deg)
　　Span = 360.00001 deg, Center = 180.00001 deg, #pts = 181
　　Start= 0.000 deg, Stop = 360.00001 deg, Delta = 2.000 deg
　Elevation (deg)
　　Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 9
Beam　　Frequency　Azimuth　Elevation　Pol
----　　---------　-------　---------　---
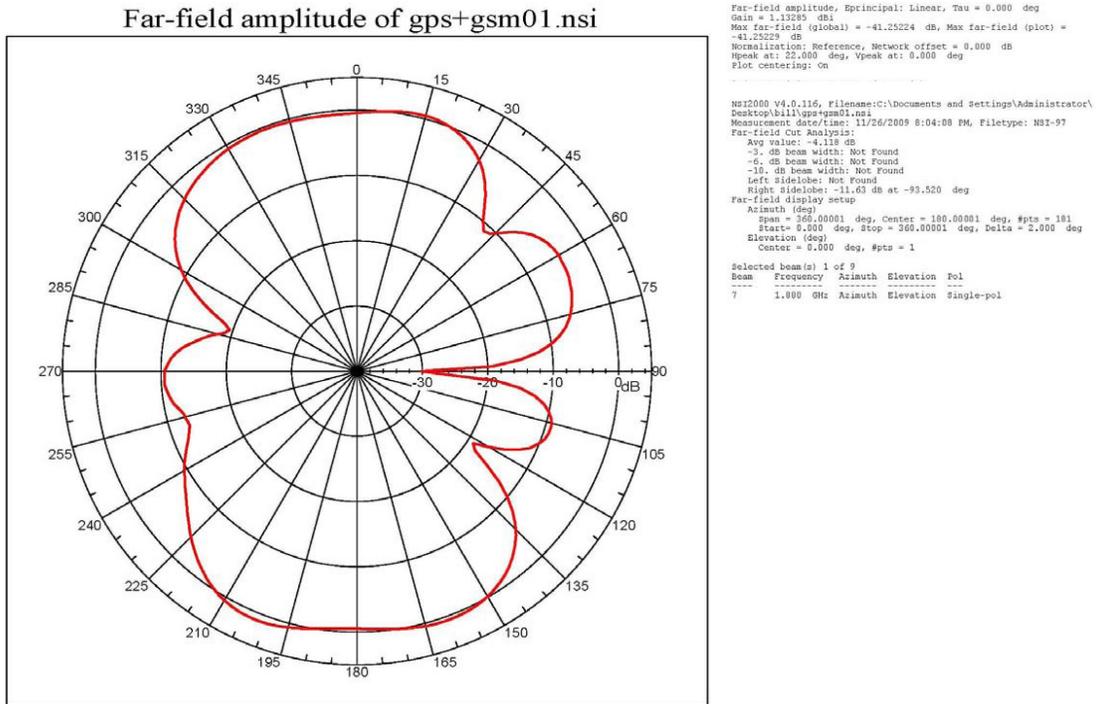7　　　1.880 GHz　Azimuth　Elevation　Single-pol

Performance Data—Smith Chart @ 1920MHz

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.87032 dBi
Max far-field (global) = -42.12482 dB, Max far-field (plot) = -42.12489 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 22.000 deg, Vpeak at: 0.000 deg
Plot centering: On

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\ Desktop\bill\gps+gsm01.nsi
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97
Far-field Cut Analysis:
　　Avg value: -3.484 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: -11.39 dB at -99.553 deg
Far-field display setup
　Azimuth (deg)
　　Span = 360.00001 deg, Center = 180.00001 deg, #pts = 181
　　Start= 0.000 deg, Stop = 360.00001 deg, Delta = 2.000 deg
　Elevation (deg)
　　Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 9
Beam　　Frequency　Azimuth　Elevation　Pol
----　　---------　-------　---------　---
8　　　1.920 GHz　Azimuth　Elevation　Single-pol