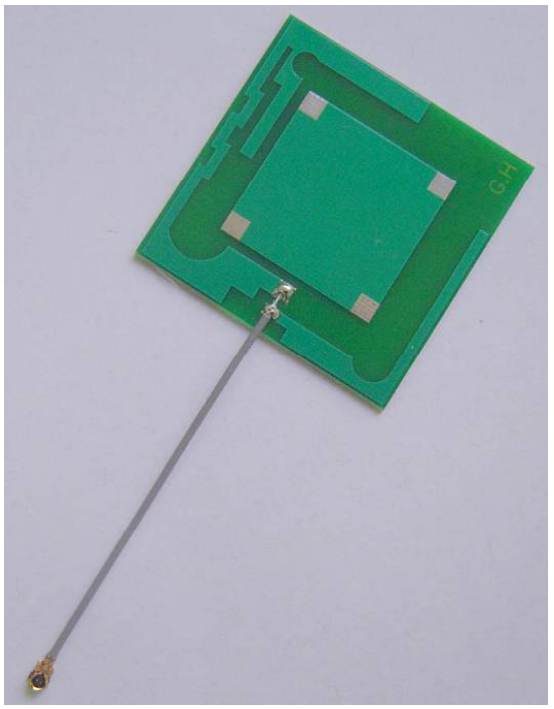
GSM Penta Band Antenna

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

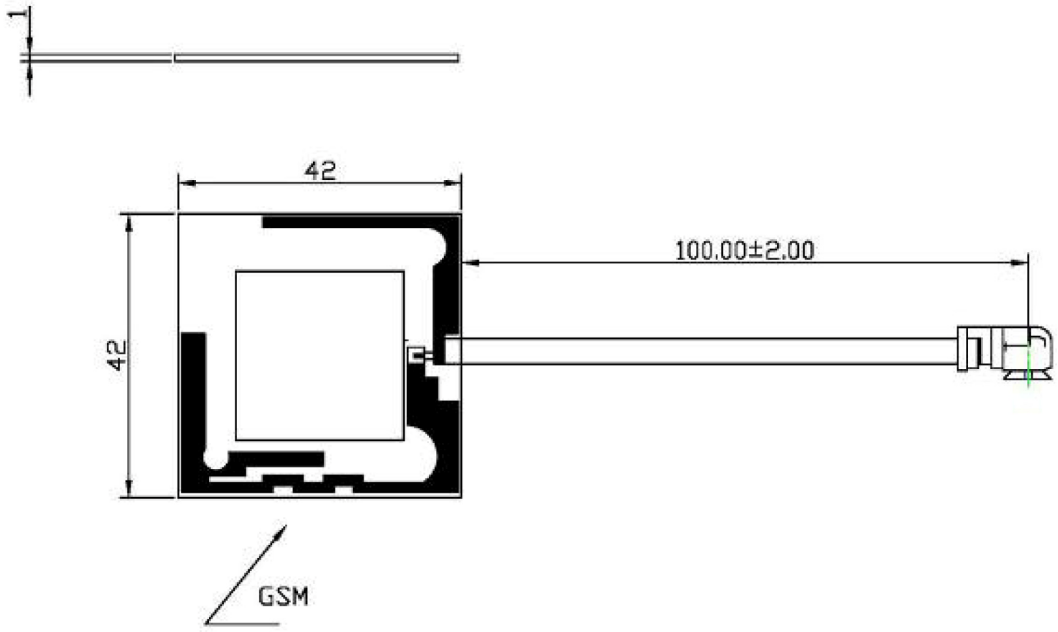
Applications

- Embedded GSM Systems
- For World-wide Use

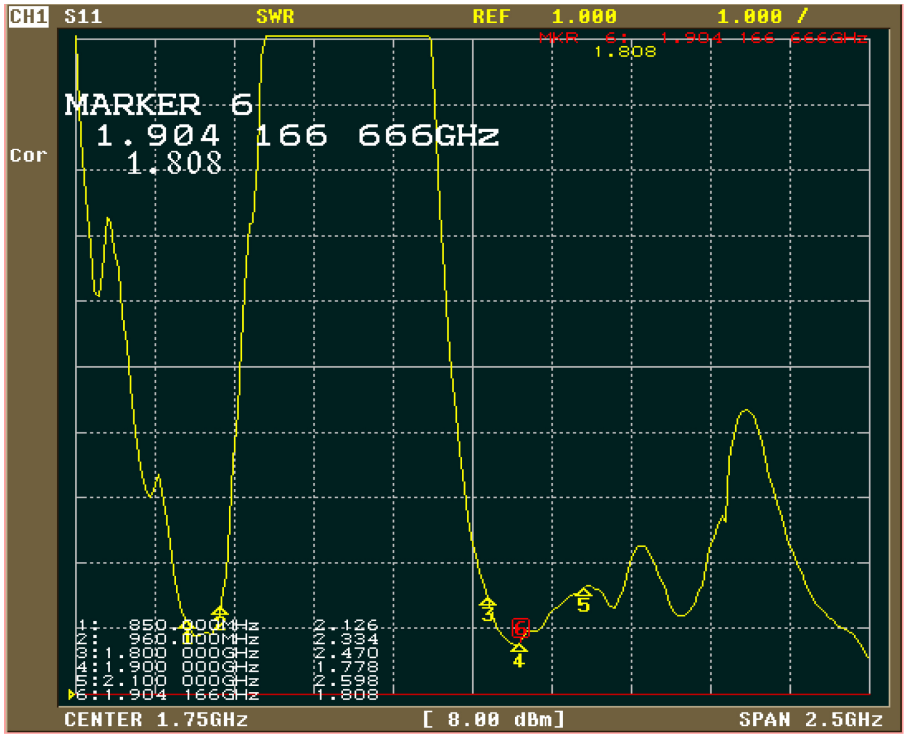
Ordering Information

PART No	Description
ANT-PCB4242-FL	Miniature PCB Penta Band Antenna

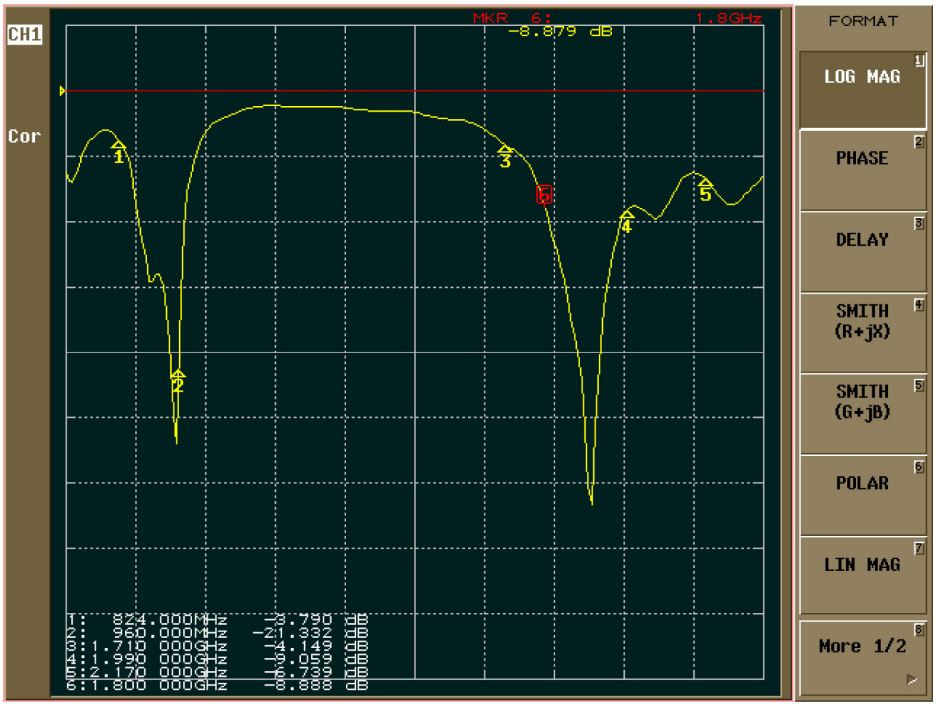
Mechanical Detail



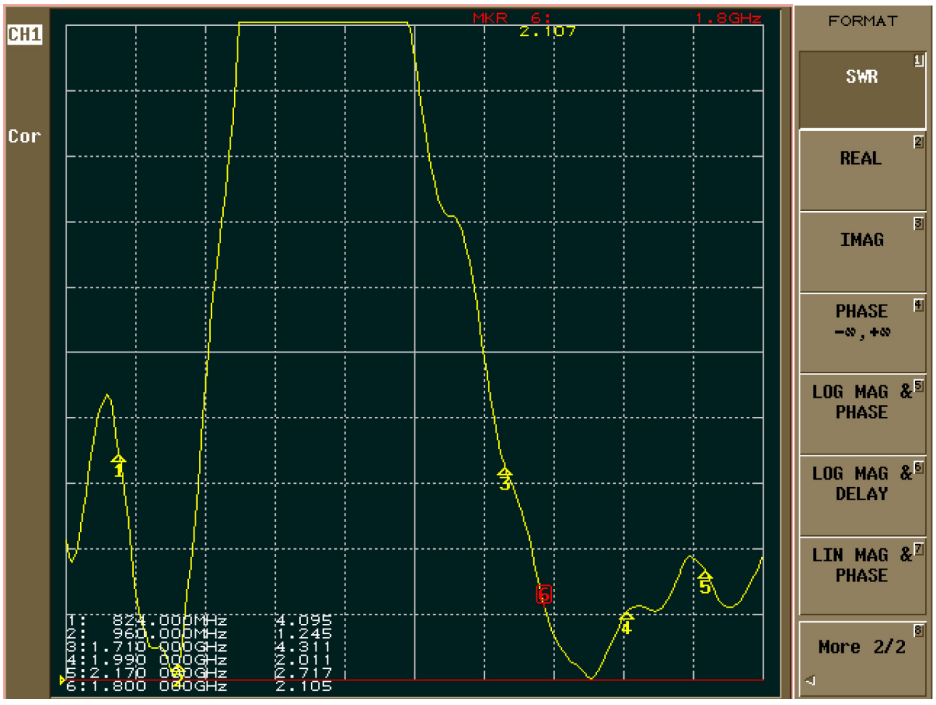
Performance Data — TEST VSWR



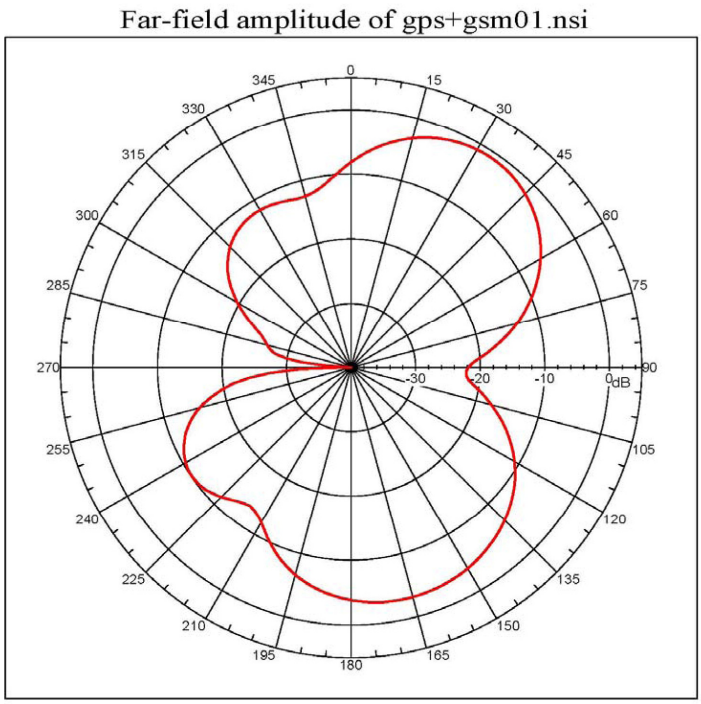
Performance



Performance Data — RETURN LOSS



Performance Data—Smith Chart @ 880MHz

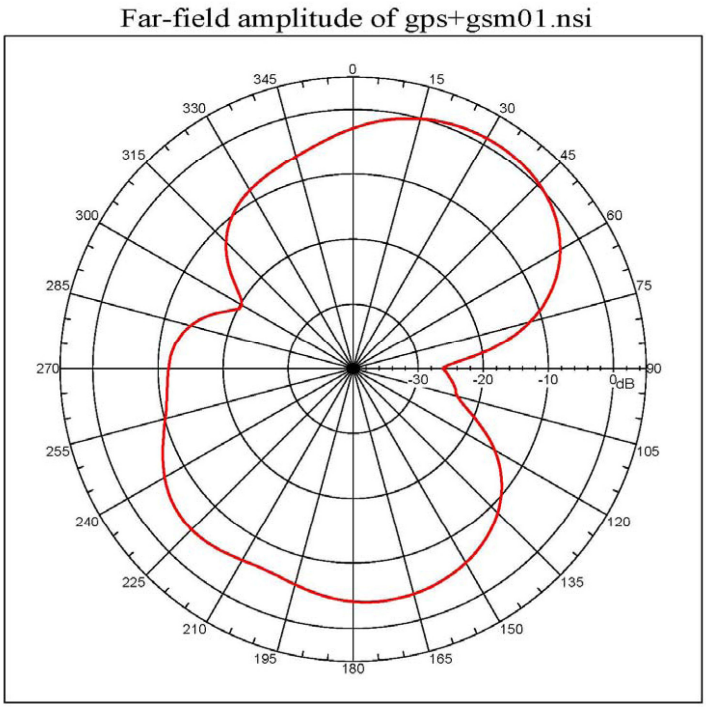



```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = -0.93756  dBi
Max far-field (global) = -34.95309  dB, Max far-field (plot) =
-34.95309  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 214.000  deg, Vpeak at: 0.000  deg
Plot centering: On


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: 78.82 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

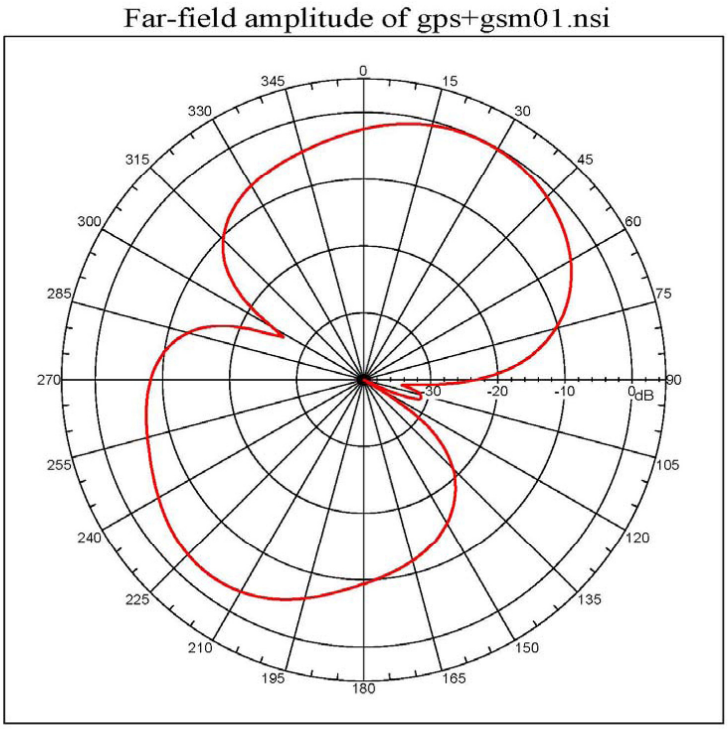



```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 1.08571  dBi
Max far-field (global) = -33.66057  dB, Max far-field (plot) =
-33.66058  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 212.000  deg, Vpeak at: 0.000  deg
Plot centering: On


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 = 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
----    ---------   -------  ---------  ---
2       0.920  GHz  Azimuth  Elevation  Single-pol
```

Performance Data—Smith Chart @ 960MHz

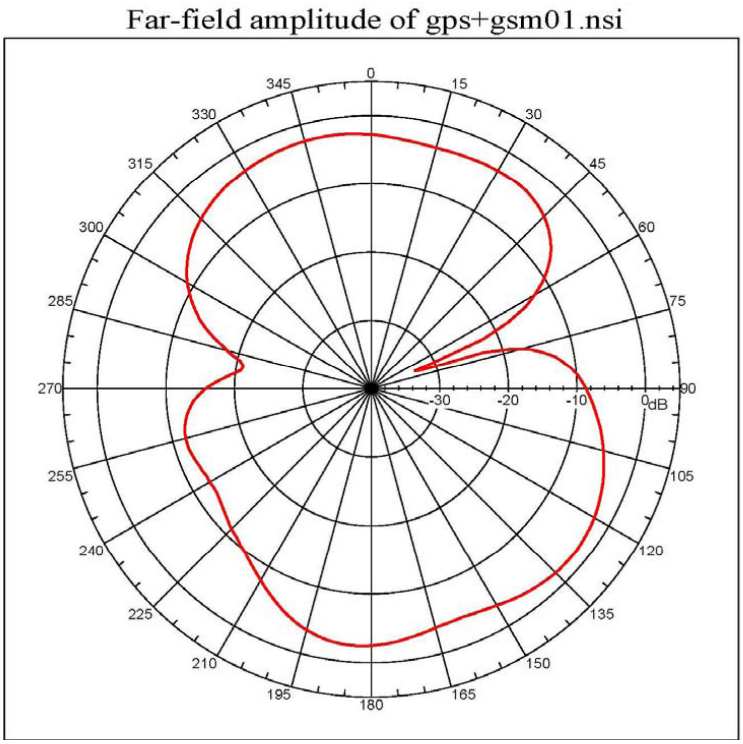



```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = -0.12529  dBi
Max far-field (global) = -35.22531  dB, Max far-field (plot) =
-35.22531  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 208.000  deg, Vpeak at: 0.000  deg
Plot centering: On


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

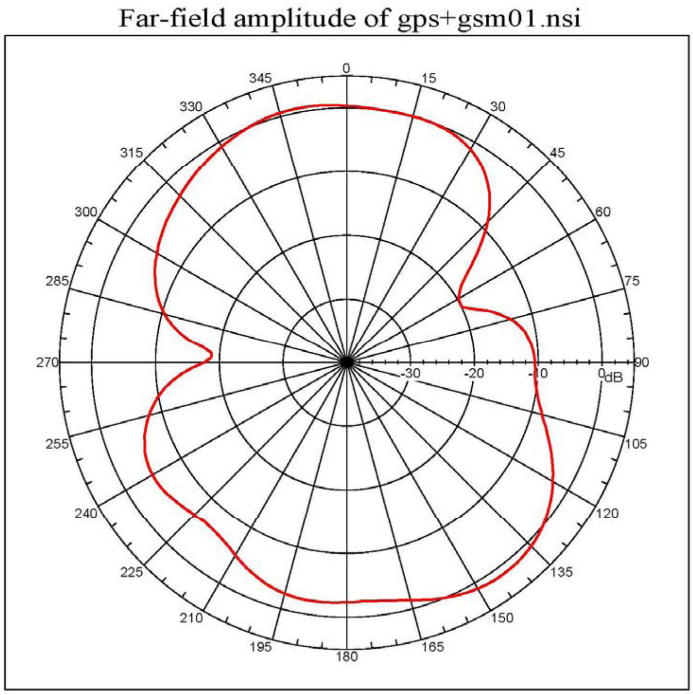



```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = -1.89386  dBi
Max far-field (global) = -41.61911  dB, Max far-field (plot) =
-41.61913  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 309.99999  deg, Vpeak at: 0.000  deg
Plot centering: On


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
```

Performance Data—Smith Chart @ 1785MHz

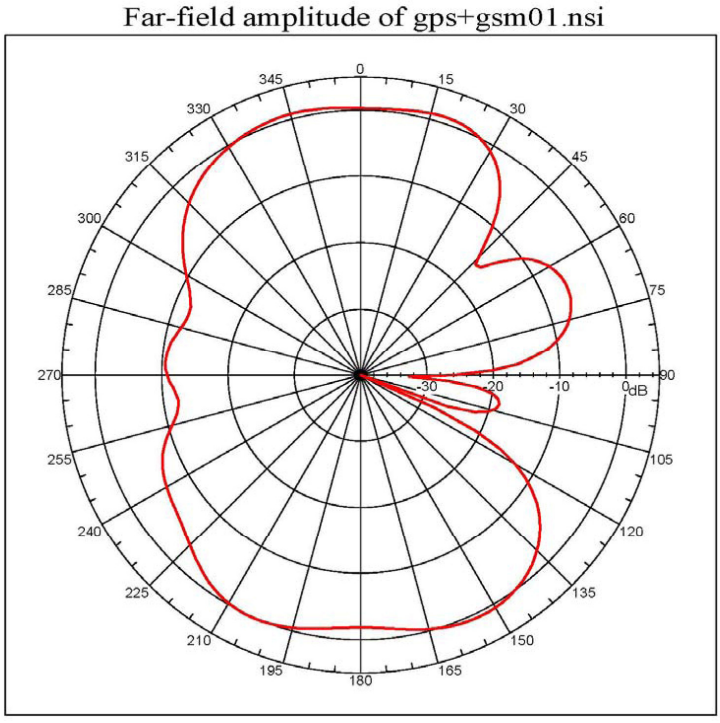



```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 1.31446  dBi
Max far-field (global) = -40.52198  dB, Max far-field (plot) =
-40.522  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 324.000  deg, Vpeak at: 0.000  deg
Plot centering: On

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       1.705  GHz  Azimuth  Elevation  Single-pol
```

Perfor

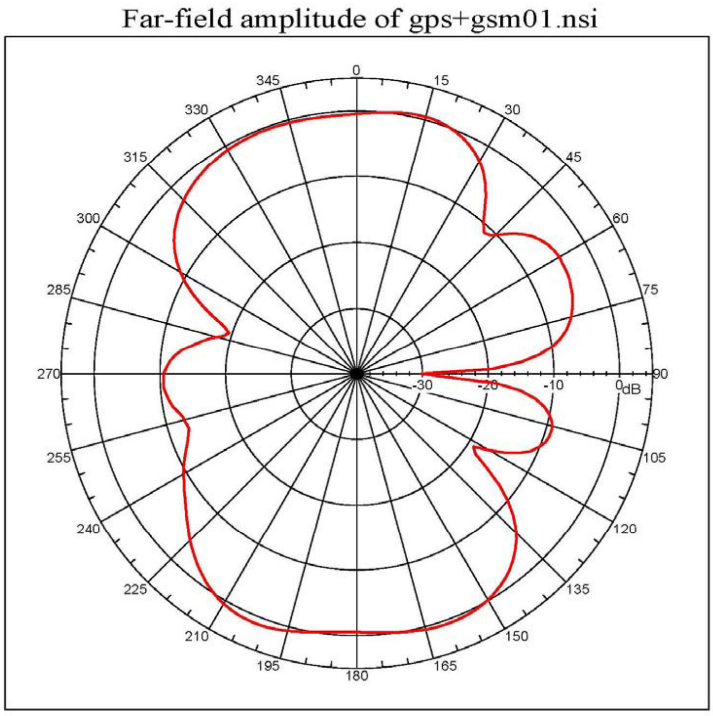



```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 0.97485  dBi
Max far-field (global) = -41.31947  dB, Max far-field (plot) =
-41.31947  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 198.000  deg, Vpeak at: 0.000  deg
Plot centering: On

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
```

Performance Data—Smith Chart @ 1880MHz

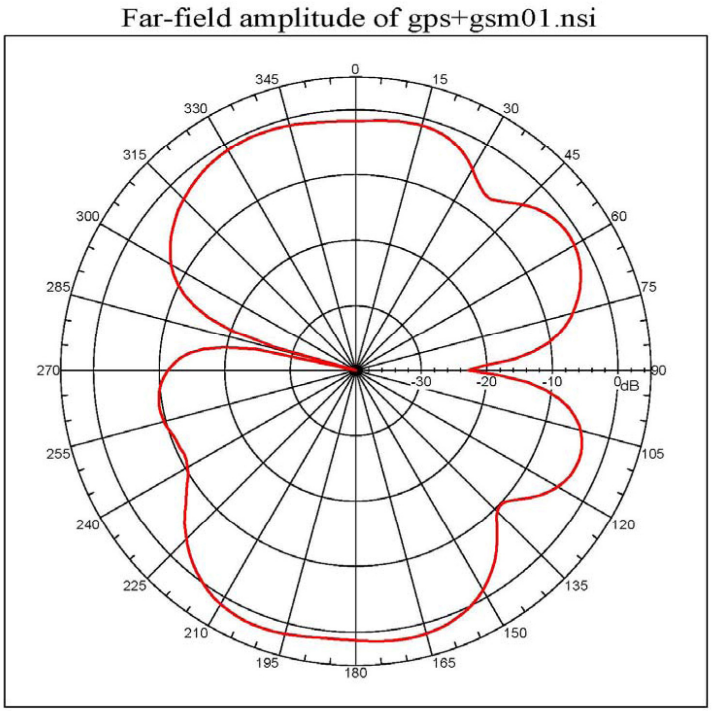



```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 1.13285  dBi
Max far-field (global) = -41.25224  dB, Max far-field (plot) =
-41.25229  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 22.000  deg, Vpeak at: 0.000  deg
Plot centering: On

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



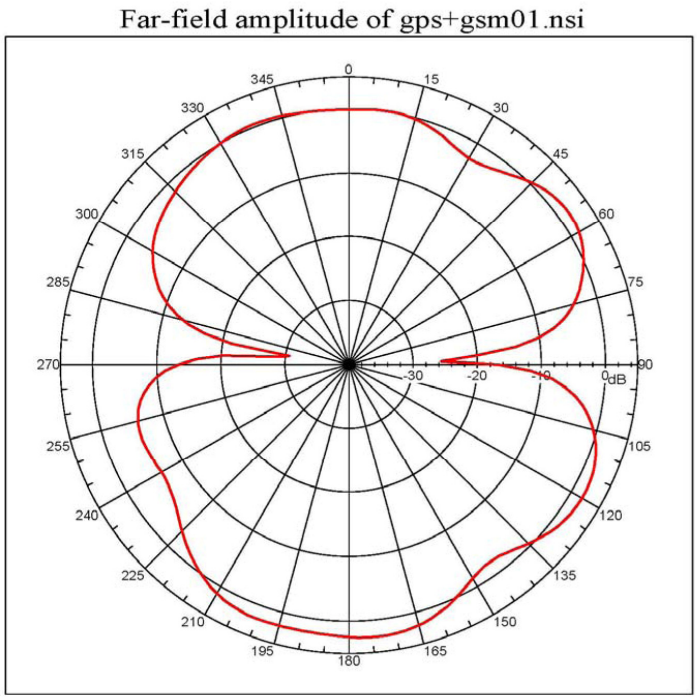

```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 1.87032  dBi
Max far-field (global) = -42.12482  dB, Max far-field (plot) =
-42.12489  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 22.000  deg, Vpeak at: 0.000  deg
Plot centering: On

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
----    ---------   -------  ---------  ---
0       1.920  GHz  Azimuth  Elevation  Single-pol
```

Antenna PCB4242

Performance Data—Smith Chart @ 1990MHz




```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 2.62187  dBi
Max far-field (global) = -42.6254Z  dB, Max far-field (plot) =
-42.6255  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 352.000  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: -1.459 dB
   -3. dB beam width: Not Found
   -6. dB beam width: Not Found
   -10. dB beam width: Not Found
   Left Sidelobe: -0.68 dB at 121.676  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
----    ---------   -------  ---------  ---
9       1.990  GHz  Azimuth  Elevation  Single-pol
```

RF Solutions Ltd RECYCLING NOTICE
rfsolutions.co.uk Meets the following EC Directives
DO NOT Discard with normal waste, please recycle.
ROHS Directive **2002/95/EC** Specifies certain limits for hazardous substances.
WEEE Directive **2002/96/EC** Waste Electrical & Electronic Equipment. This product must be disposed of through a licensed WEEE collection point. RF Solutions Ltd fulfils its WEEE obligations by membership of an approved compliance scheme. Environment Agency producer registration number WEE/JB0104WV
Waste Batteries and Accumulators Directive **2006/66/EC** Where batteries are fitted, before recycling the product, the batteries must be removed and disposed of at a licensed collection point.

RF Solutions Ltd
Unit 21 Cliffe Industrial Estate, Lewes, East Sussex, United Kingdom, BN8 6JL
Tel. Sales: +44 (0)1273 898 000 • Tech. Support: +44 (0)1273 898 007