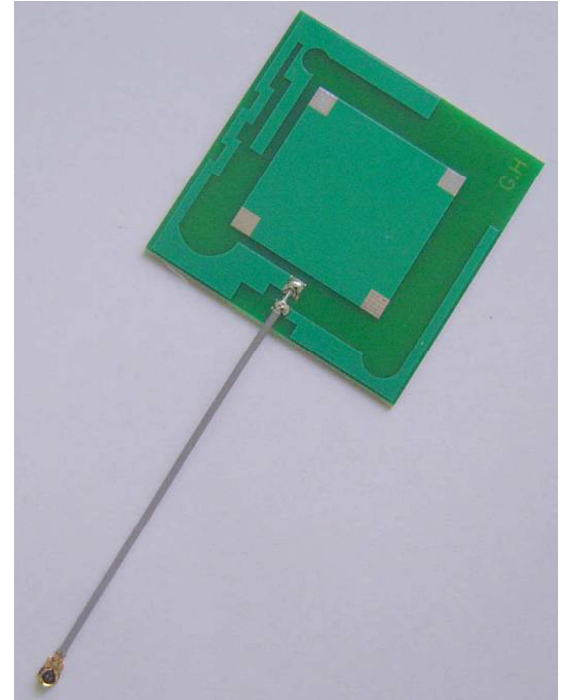




## ANT-PCB4242

### 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



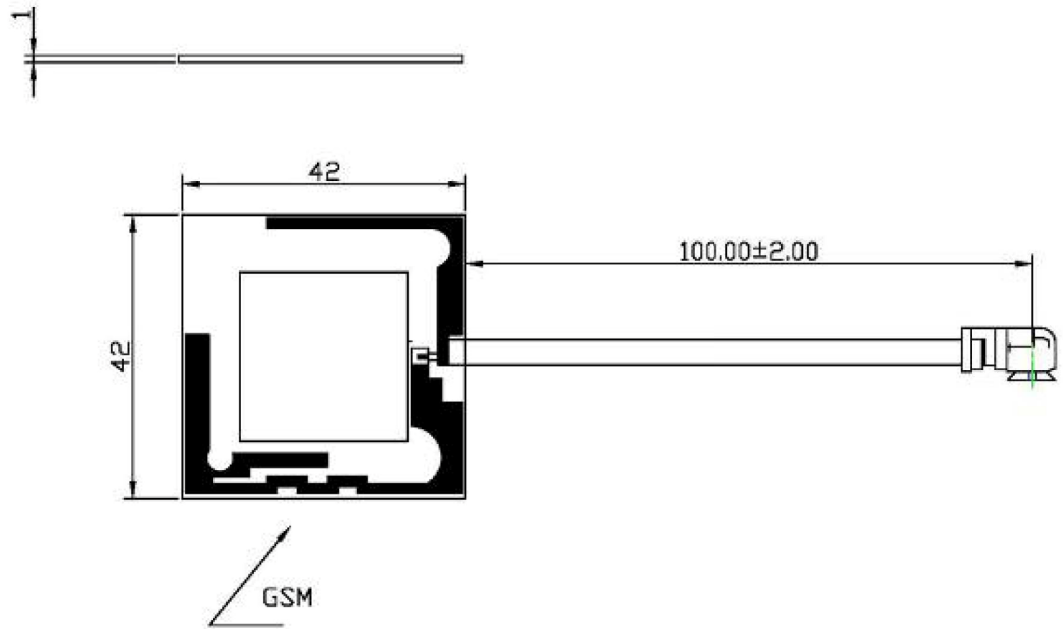
### Applications

- Embedded GSM Systems
- For World-wide Use

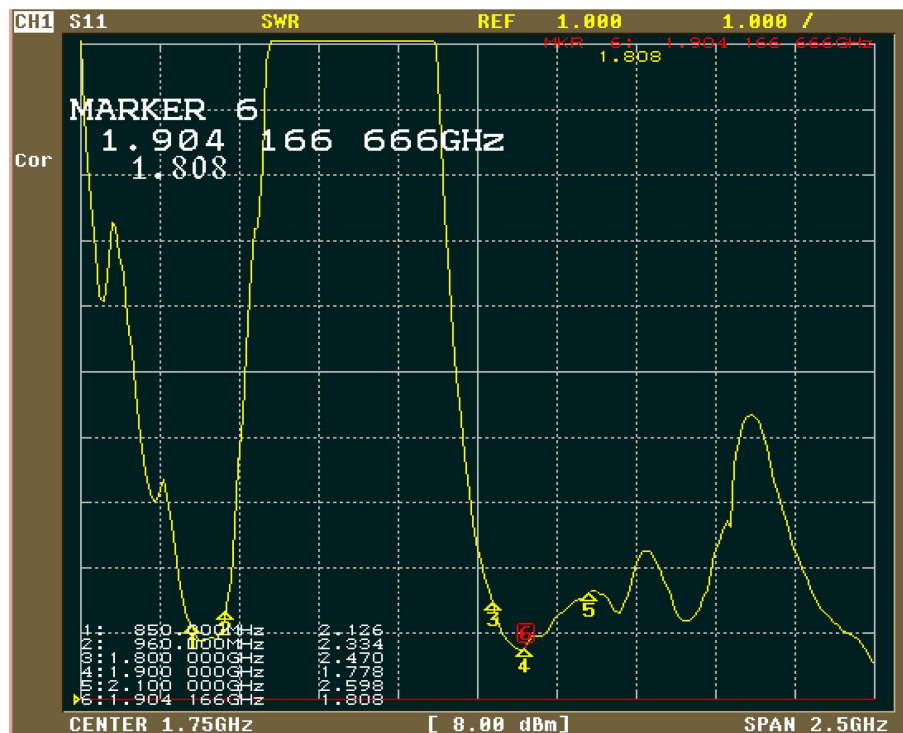
### Ordering Information

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

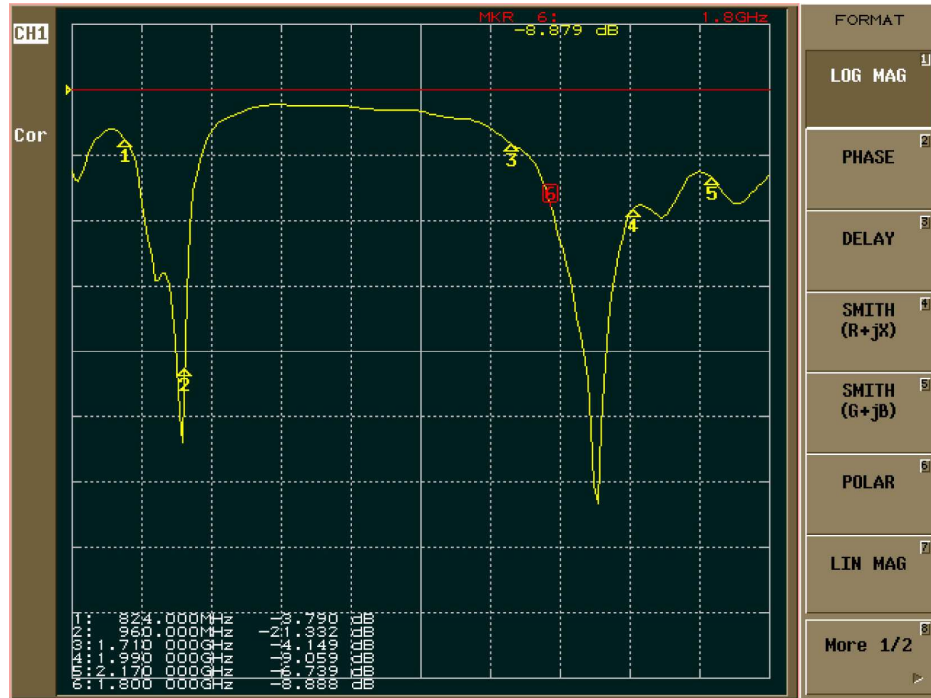
## Mechanical Detail



## Performance Data — TEST VSWR



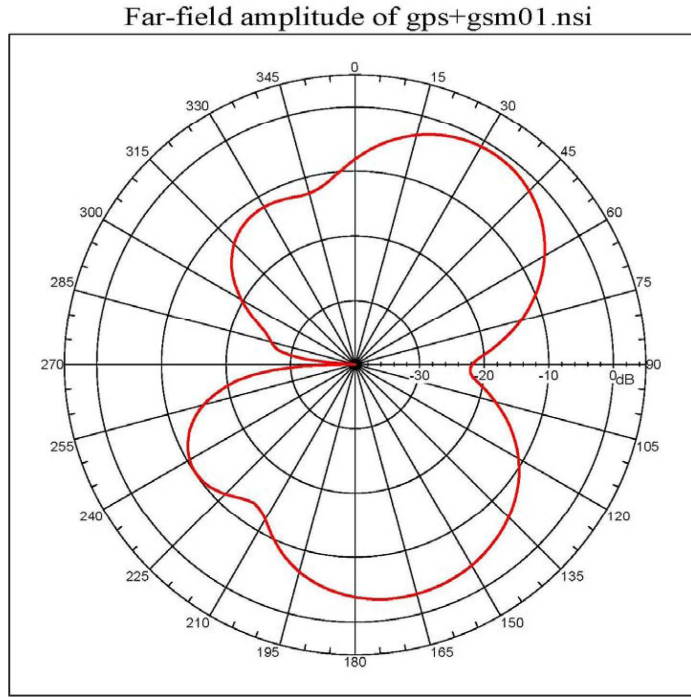
## Performance



## Performance Data — RETURN LOSS



## Performance Data—Smith Chart @ 880MHz

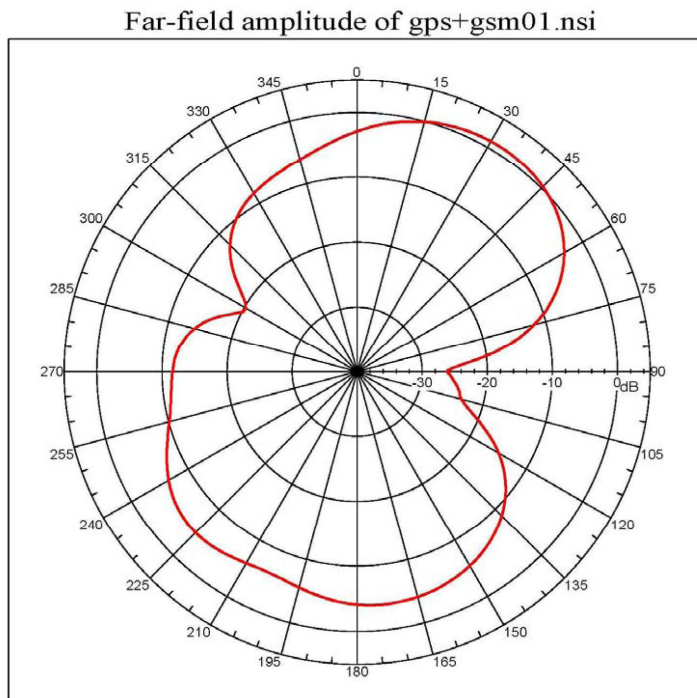


Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = -2.93756 dB  
 Max far-field (global) = -34.95309 dB, Max far-field (plot) = -34.95309 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Mpeak at: 214.000 deg, Vpeak at: 0.000 deg  
 Plot centering: on

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 side-lobe: -9.20 dB at -123.687 deg  
 Right side-lobe: -2.13 dB at 107.933 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



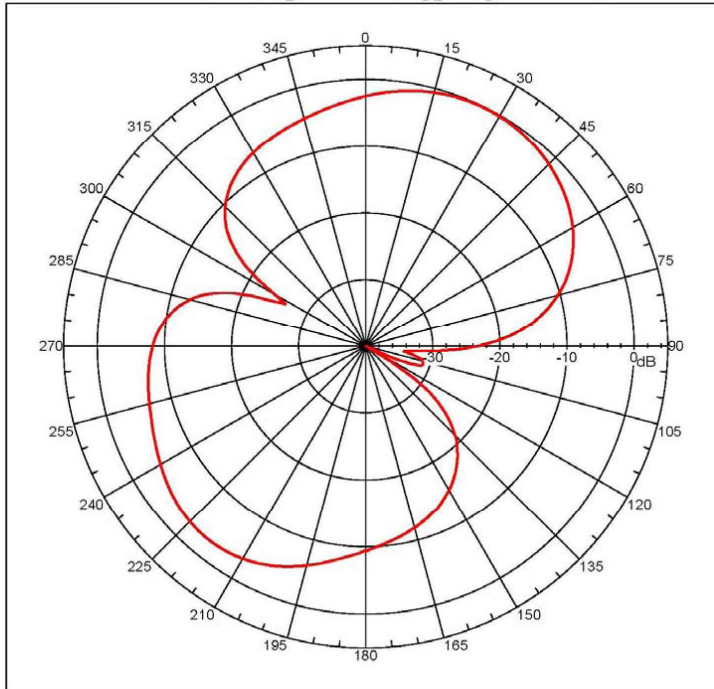
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 1.08571 dB  
 Max far-field (global) = -33.66057 dB, Max far-field (plot) = -33.66058 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Mpeak at: 212.000 deg, Vpeak at: 0.000 deg  
 Plot centering: on

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: 72.16 deg  
 -10. dB beam width: 105.26 deg  
 Left side-lobe: -5.88 dB at -135.754 deg  
 Right side-lobe: -4.99 dB at 113.967 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 of gps+gsm01.nsi



```

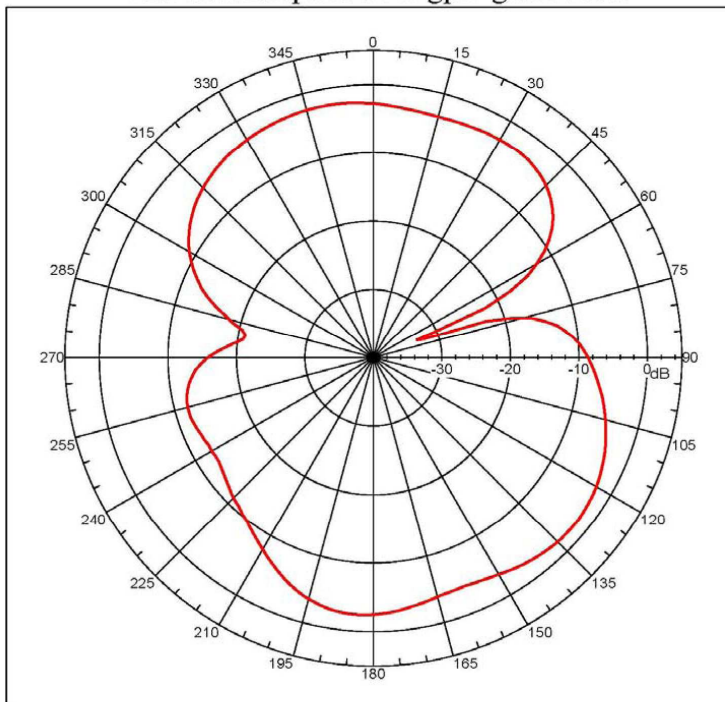
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -9.12529 dBi
Max far-field (global) = -35.22531 dB, Max far-field (plot) =
-35.22531 dB
Normalization: Reference, Network offset = 0.000 dB
Mpeak at: 208.000 deg, Vpeak at: 0.000 deg
Plot centering: On

-----
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: 93.19 deg
-6. dB beam width: 93.33 deg
-10. dB beam width: 119.50 deg
Left Sidelobe: -2.66 dB at -159.777 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



```

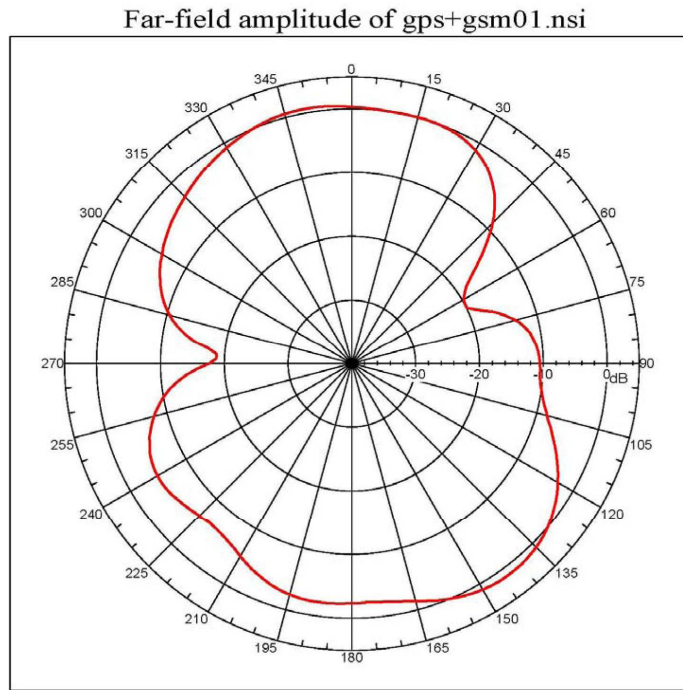
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -1.89386 dBi
Max far-field (global) = -41.61911 dB, Max far-field (plot) =
-41.61911 dB
Normalization: Reference, Network offset = 0.000 dB
Mpeak at: 309.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

-----
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

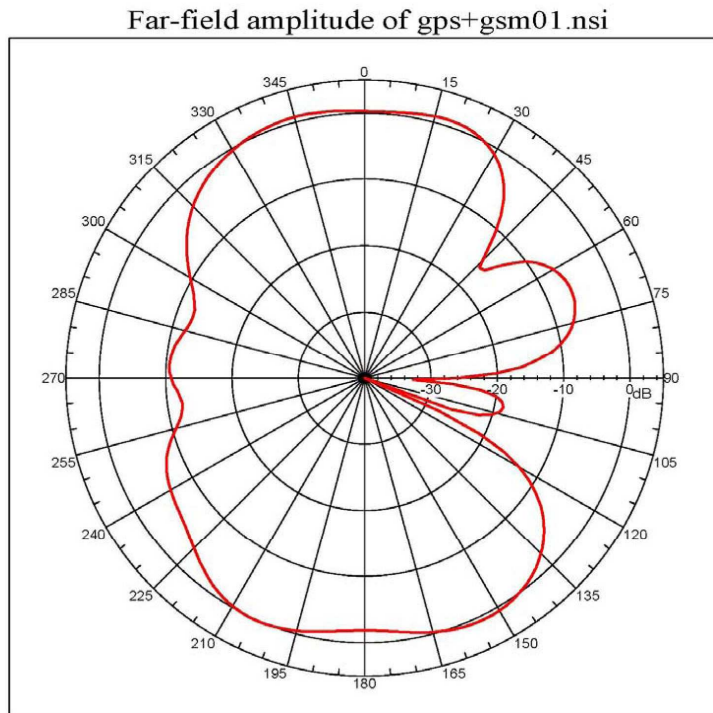


Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 1.31446 dBi  
 Max far-field (global) = -40.52198 dB, Max far-field (plot) = -40.522 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Wpeak at: 324.000 deg, Vpeak at: 0.000 deg  
 Plot centering: On

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: -3.940 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

## Perfor

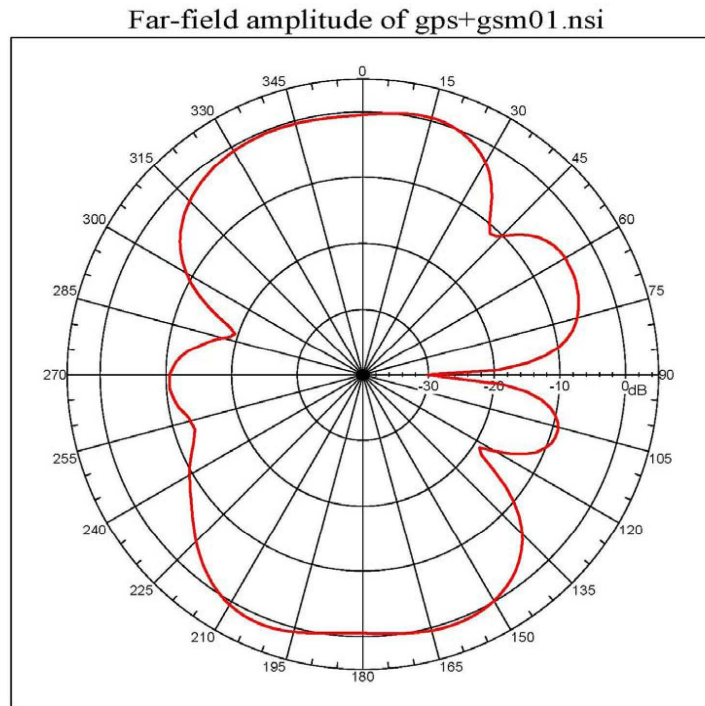


Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 0.97485 dBi  
 Max far-field (global) = -41.31947 dB, Max far-field (plot) = -41.31947 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Wpeak at: 198.000 deg, Vpeak at: 0.000 deg  
 Plot centering: On

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 -25.475 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



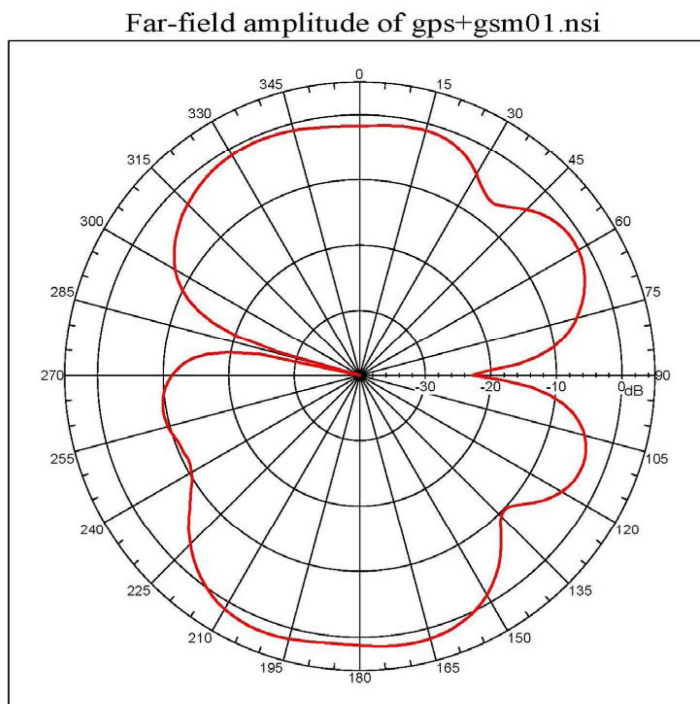
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 1.3285 dB  
 Max far-field (global) = -41.25224 dB, Max far-field (plot) = -41.25229 dB  
 Normalization: Reference, Network Offset = 0.000 dB  
 Hpeak at: 22.000 deg, Vpeak at: 0.000 deg  
 Plot centering: on

---

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\Desktop\ball\gps+gsm01.nsi  
 Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97  
 Far-field Cut Analysis:  
 Avg value: -4.119 dB  
 -3. dB beam width: Not Found  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Side-lobe: Not Found  
 Right Side-lobe: -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 dB  
 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

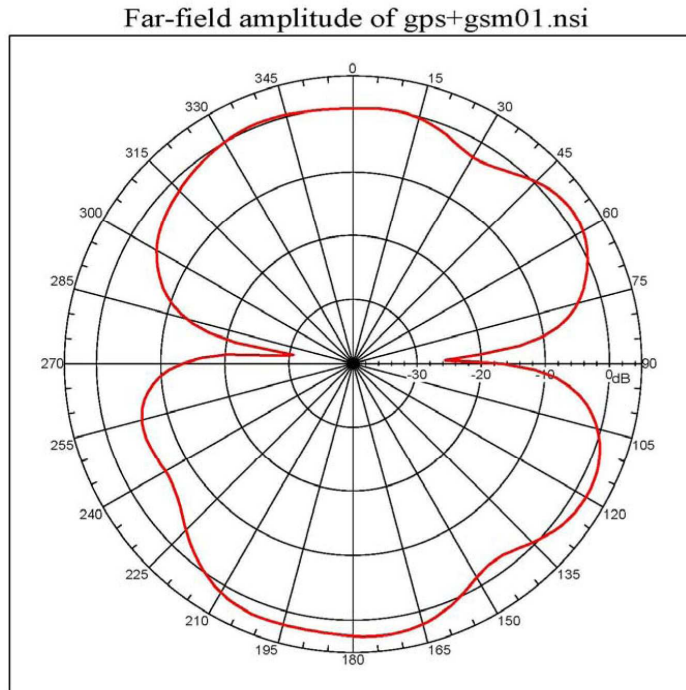
---

NSI2000 V4.0.116, Filename:C:\Documents and Settings\Administrator\Desktop\ball\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 Side-lobe: Not Found  
 Right Side-lobe: -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

# Antenna PCB4242

## Performance Data—Smith Chart @ 1990MHz




Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 2.62187 dBi  
 Max far-field (global) = -42.62542 dB, Max far-field (plot) = -42.6255 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Vpeak at: 292.000 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  
 -1. dB beam width: Not Found  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: -0.66 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

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 2002/95/EC**  
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 RF Solutions Ltd fulfils its WEEE obligations by membership of an approved compliance scheme.  
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