

## 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



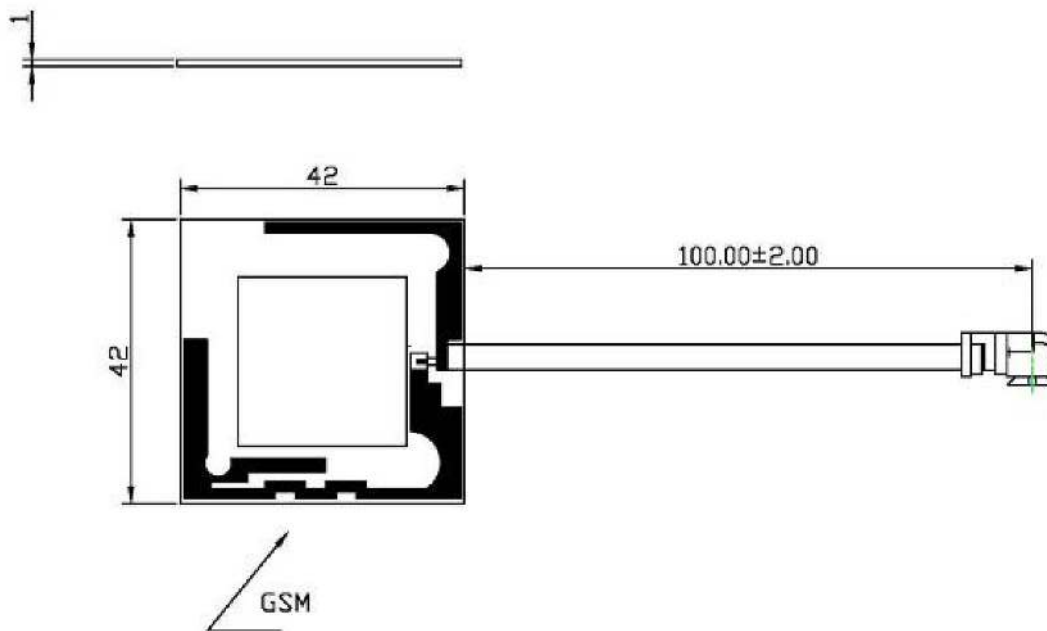
### Applications

- Embedded GSM Systems
- For World-wide Use

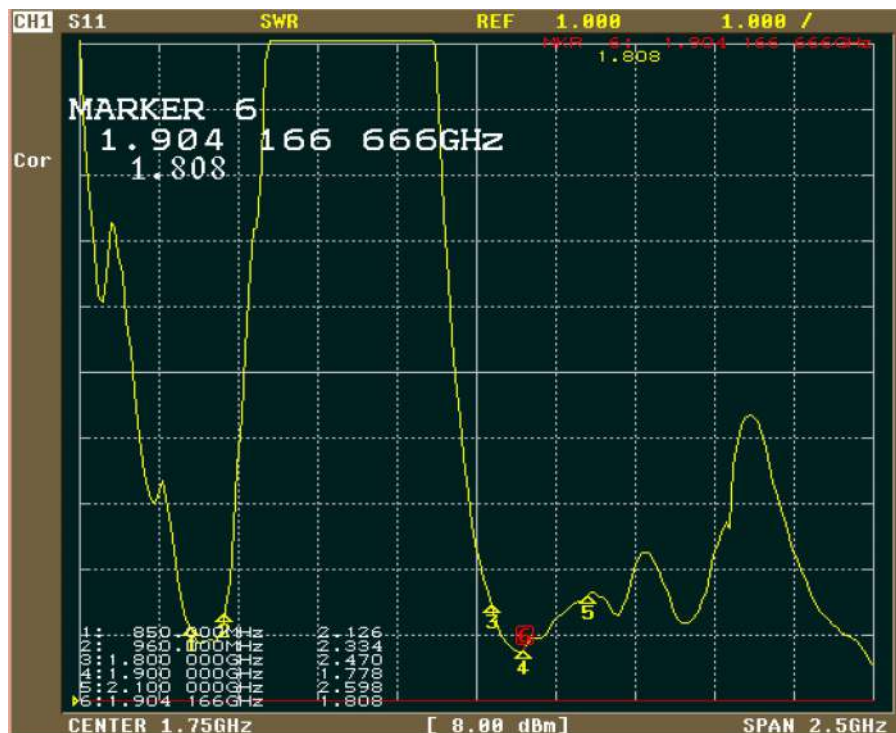
### Ordering Information

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

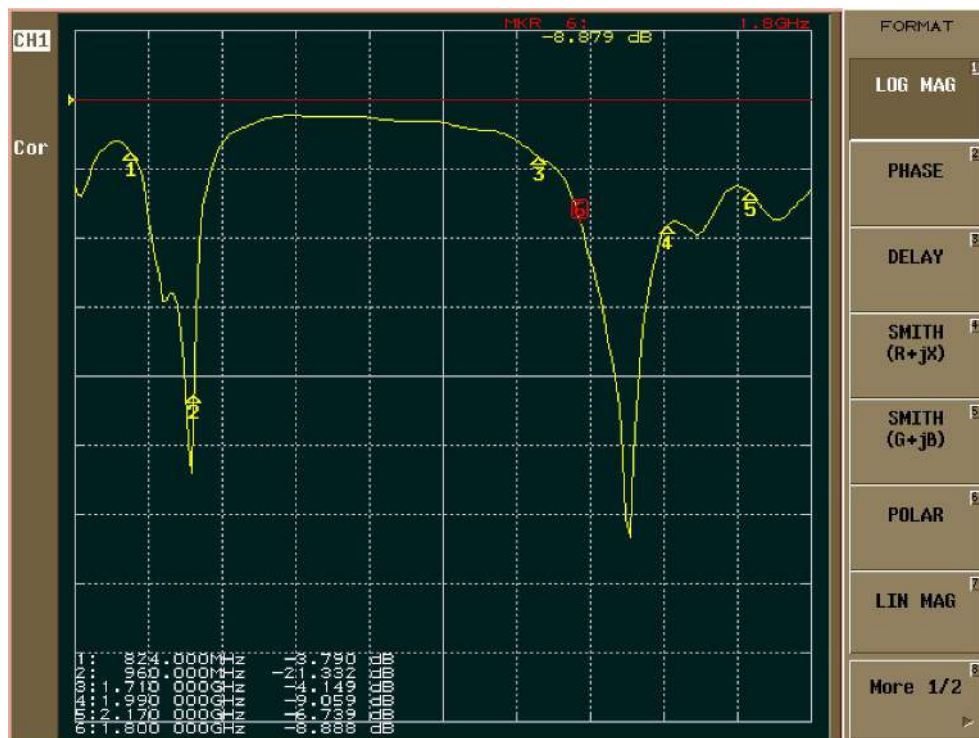
## Mechanical Detail



## Performance Data — TEST VSWR



## Performance Data — VSWR

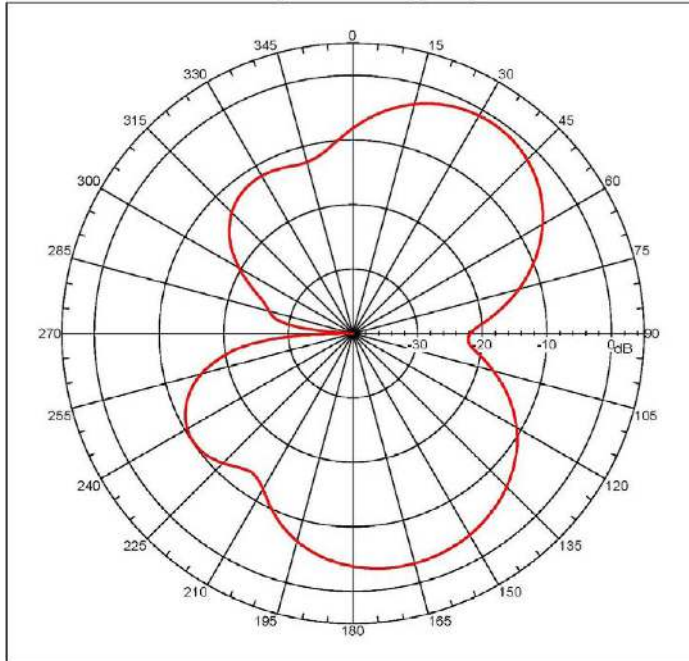


## Performance Data — RETURN LOSS



## Performance Data—Smith Chart @ 880MHz

Far-field amplitude of gps+gsm01.nsi



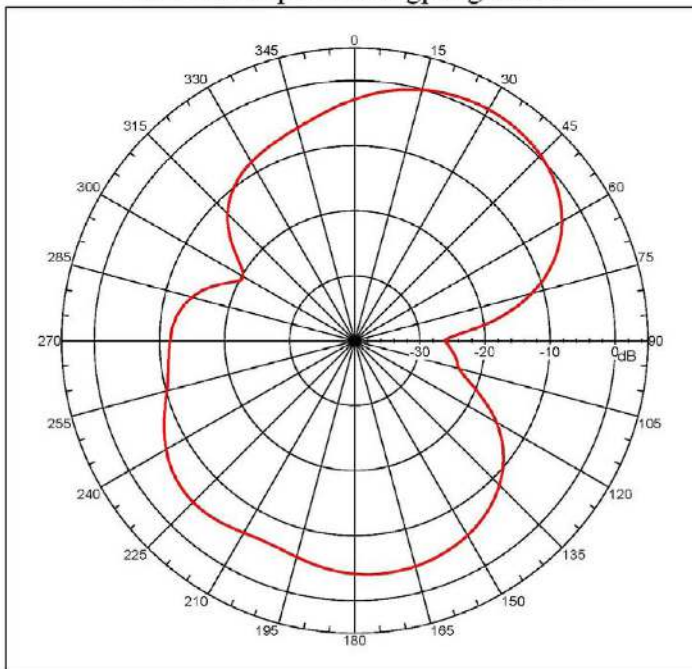
Far-field amplitude, E-principal: linear, Tau = 0.000 deg  
Gain = 0.0270 dBi  
Max far-field (global) = -34.95309 dB, Max far-field (plot) =  
-34.95309 dB  
Normalization: Reference, Network offset = 0.000 dB  
Peak at: 214.800 deg, Vpeak at: 0.000 deg  
Plot centering: on

NR2008 V4.0.116, Filename: C:\Documents and Settings\Administrator\  
Desktop\11\lpp\gsm01.nsi  
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97  
Far-field Cut Analysis:  
Azimuth (deg):  
-3. dB beam width: 41.64 deg  
-6. dB beam width: 59.14 deg  
-10. dB beam width: 73.02 deg  
Left sidelobe: -7.20 dB at -121.687 deg  
Right sidelobe: -2.13 dB at 167.853 deg  
Far-field display setup  
Azimuth (deg):  
Span = 368.00001 deg, Center = 180.00001 deg, #pts = 181  
Start = 0.000 deg, Stop = 368.00001 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



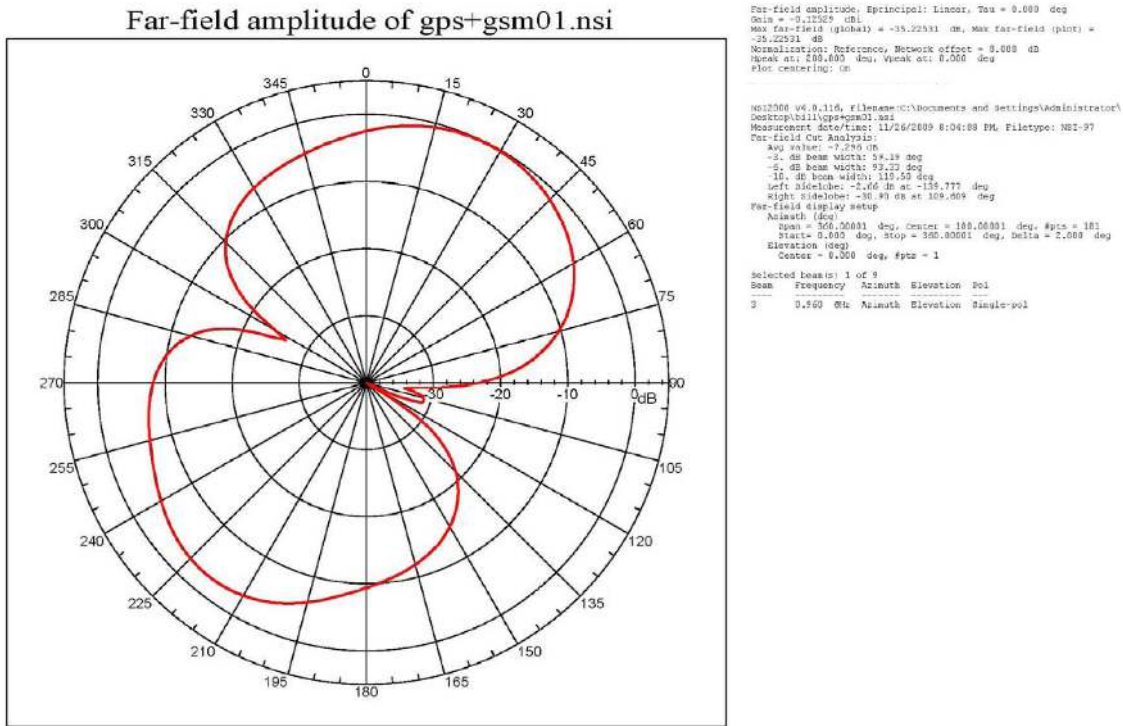
Far-field amplitude, E-principal: linear, Tau = 0.000 deg  
Gain = 1.00571 dBi  
Max far-field (global) = -33.66057 dB, Max far-field (plot) =  
-33.66056 dB  
Normalization: Reference, Network offset = 0.000 dB  
Peak at: 232.600 deg, Vpeak at: 0.000 deg  
Plot centering: on

NR2008 V4.0.116, Filename: C:\Documents and Settings\Administrator\  
Desktop\11\lpp\gsm01.nsi  
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97  
Far-field Cut Analysis:  
Azimuth (deg):  
-3. dB beam width: 51.83 deg  
-6. dB beam width: 71.16 deg  
-10. dB beam width: 105.26 deg  
Left sidelobe: -5.98 dB at -125.754 deg  
Right sidelobe: -1.99 dB at 173.567 deg  
Far-field display setup  
Azimuth (deg):  
Span = 368.00001 deg, Center = 180.00001 deg, #pts = 181  
Start = 0.000 deg, Stop = 368.00001 deg, Delta = 2.000 deg  
Elevation (deg):  
Center = 0.000 deg, #pts = 1

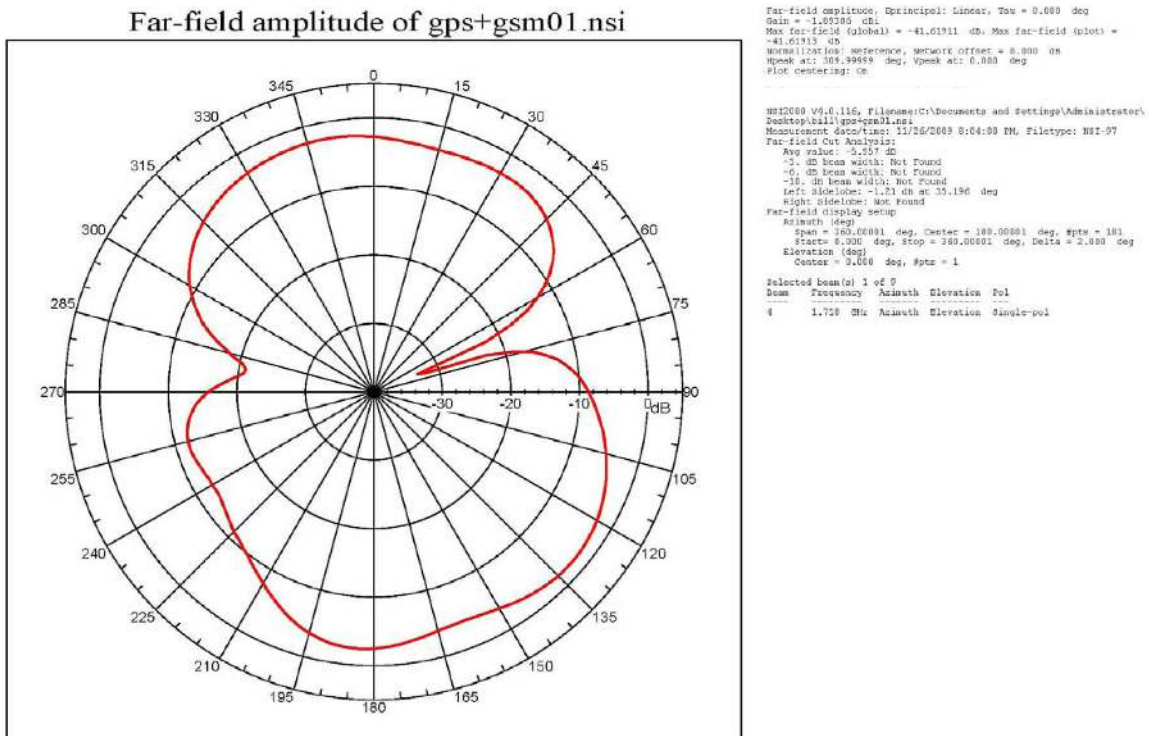
Selected beam(s) 1 of 9  
Beam Frequency Azimuth Elevation Pol  
1 0.920 GHz Azimuth Elevation Single-pol



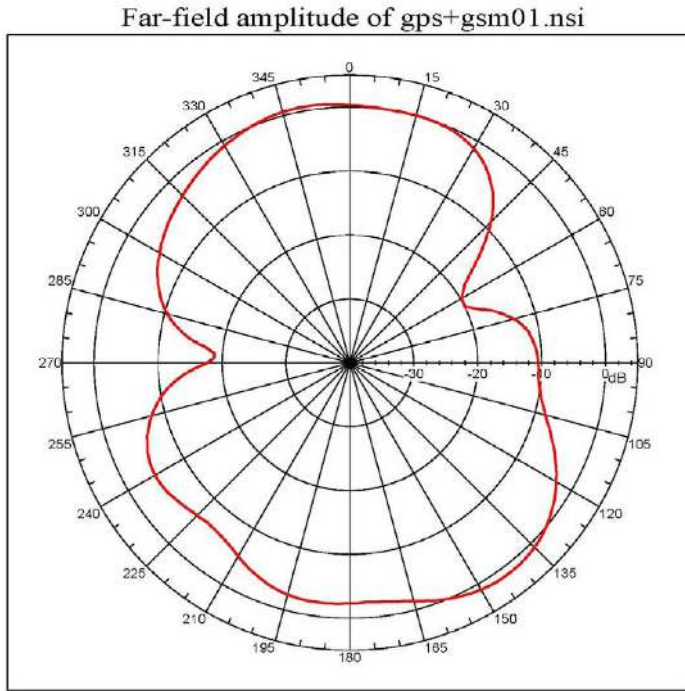
## Performance Data—Smith Chart @ 960MHz



## Performance Data—Smith Chart @ 1710MHz



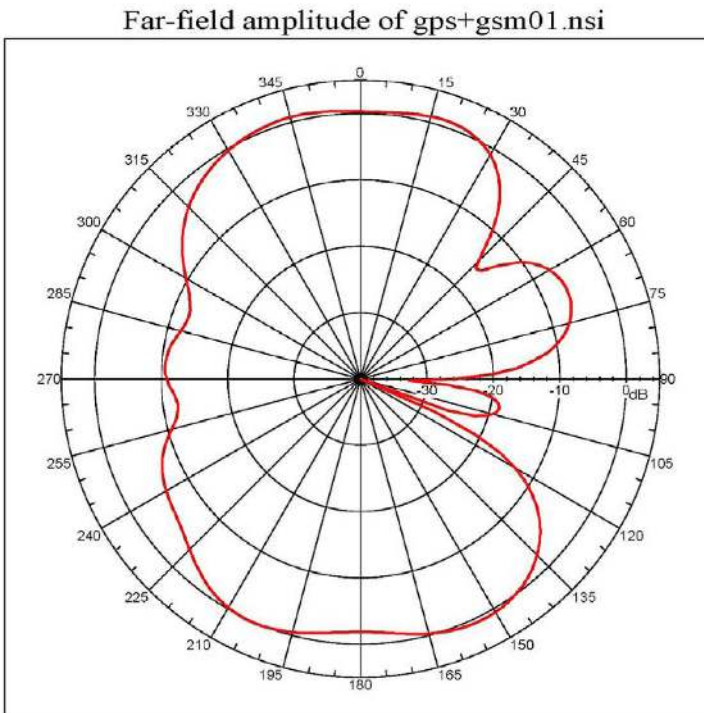
## Performance Data—Smith Chart @ 1785MHz



Far-field amplitude, Principal: Linear, Tau = 0.000 deg  
 Gain = 1.11485 dBi  
 Max far-field (global) = -40.52198 dB, Max far-field (plot) =  
 -40.527 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Hpeak at: 334.808 deg, Vpeak at: 0.000 deg  
 Plot centering: On

MSI2000 v4.0.116, Filepath: C:\Documents and Settings\Administrator\ Desktop\bill\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: 41.90 deg  
 -6 dB beam width: Not Found  
 -10 dB beam width: Not Found  
 Left sidelobe: -1.26 dB at 17.655 deg  
 Right sidelobe: Not Found  
 Far-field display setup:  
 Azimuth (deg):  
 Span = 360.0000 deg, Center = 180.0000 deg, Spts = 181  
 Start = 0.000 deg, Stop = 359.0000 deg, Delta = 2.000 deg  
 Elevation (deg):  
 Center = 0.000 deg, Spts = 1  
 Selected beam(s) 1 of 5  
 Beam Frequency Azimuth Elevation Pol  
 5 1.785 GHz Azimuth Elevation Single-pol

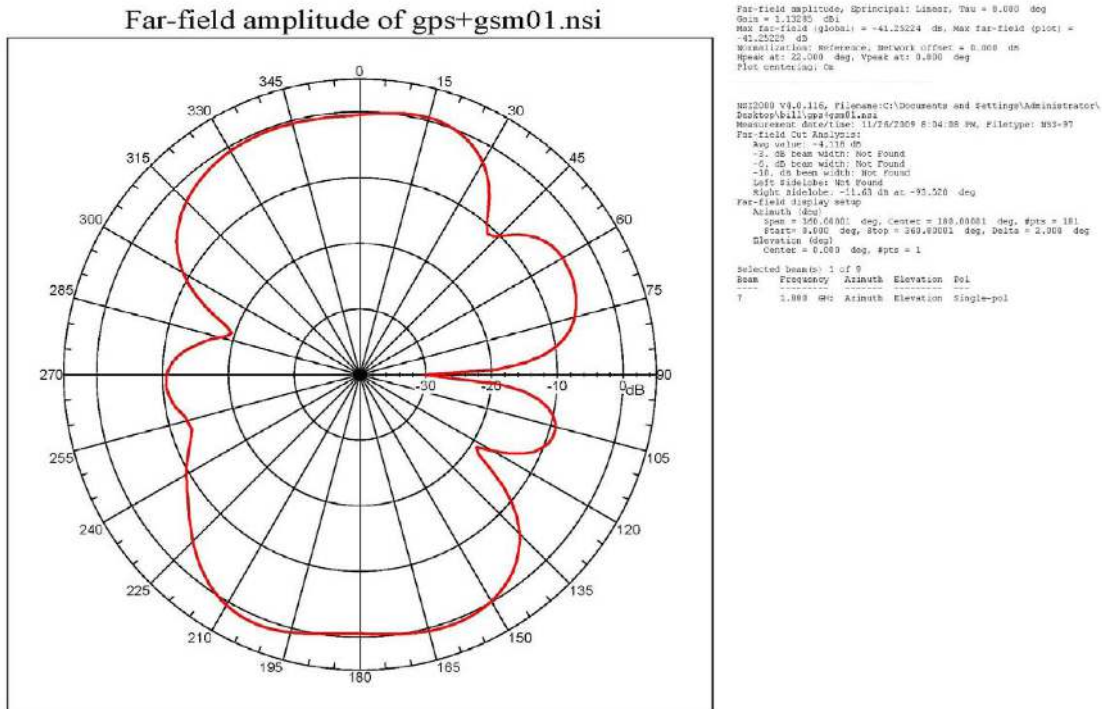
## Performance Data—Smith Chart @ 1850MHz



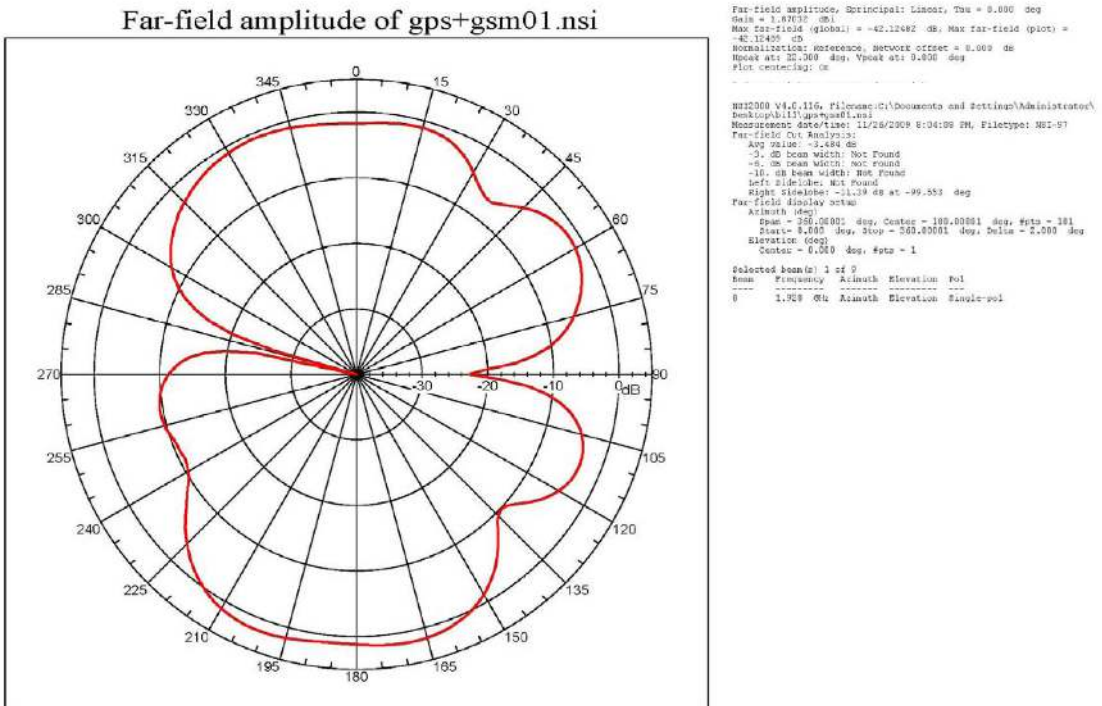
Far-field amplitude, Principal: Linear, Tau = 0.000 deg  
 Gain = 0.97405 dBi  
 Max far-field (global) = -41.31947 dB, Max far-field (plot) =  
 -41.21047 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Hpeak at: 186.808 deg, Vpeak at: 0.000 deg  
 Plot centering: On

MSI2000 v4.0.116, Filepath: C:\Documents and Settings\Administrator\ Desktop\bill\gsm01.nsi  
 Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97  
 Far-field cut Analysis:  
 Avg value: -41.21047 dB  
 -3 dB beam width: 72.51 deg  
 -6 dB beam width: 84.92 deg  
 -10 dB beam width: 89.50 deg  
 Left sidelobe: -11.56 dB at -28.475 deg  
 Right sidelobe: -7.14 dB at 87.374 deg  
 Far-field display setup:  
 Azimuth (deg):  
 Span = 360.0000 deg, Center = 180.0000 deg, Spts = 181  
 Start = 0.000 deg, Stop = 359.0000 deg, Delta = 2.000 deg  
 Elevation (deg):  
 Center = 0.000 deg, Spts = 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

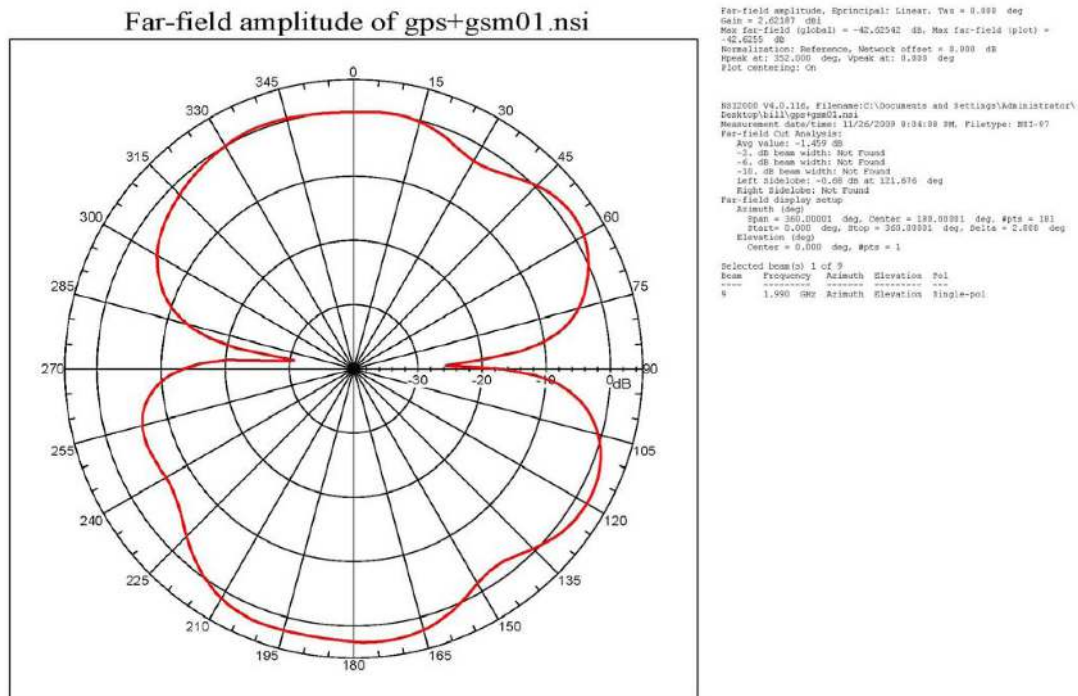


## Performance Data—Smith Chart @ 1920MHz





## Performance Data—Smith Chart @ 1990MHz



### RF Solutions Ltd. Recycling Notice

Meets the following EC Directives:

#### DO NOT

Discard with normal waste, please recycle.

#### ROHS Directive 2011/65/EU and amendment 2015/863/EU

Specifies certain limits for hazardous substances.

#### WEEE Directive 2012/19/EU

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.

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