



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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Email & Skype: info@chipsmall.com Web: www.chipsmall.com

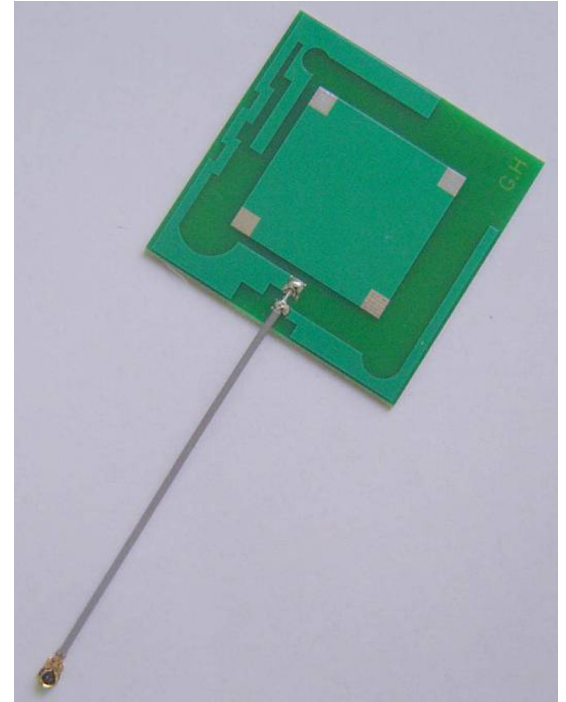
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## 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



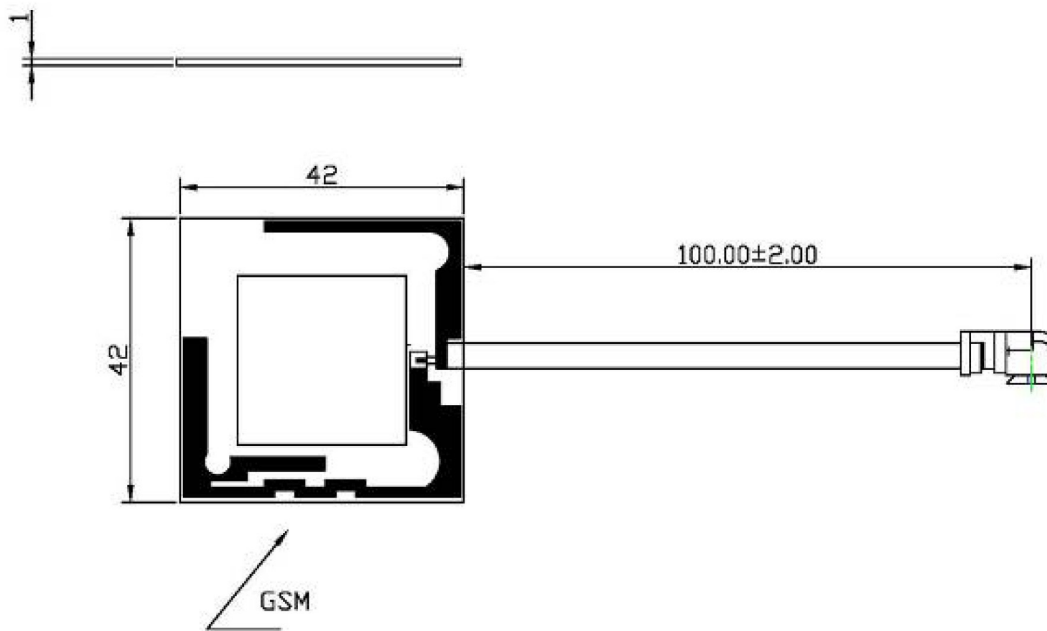
### Applications

- Embedded GSM Systems
- For World-wide Use

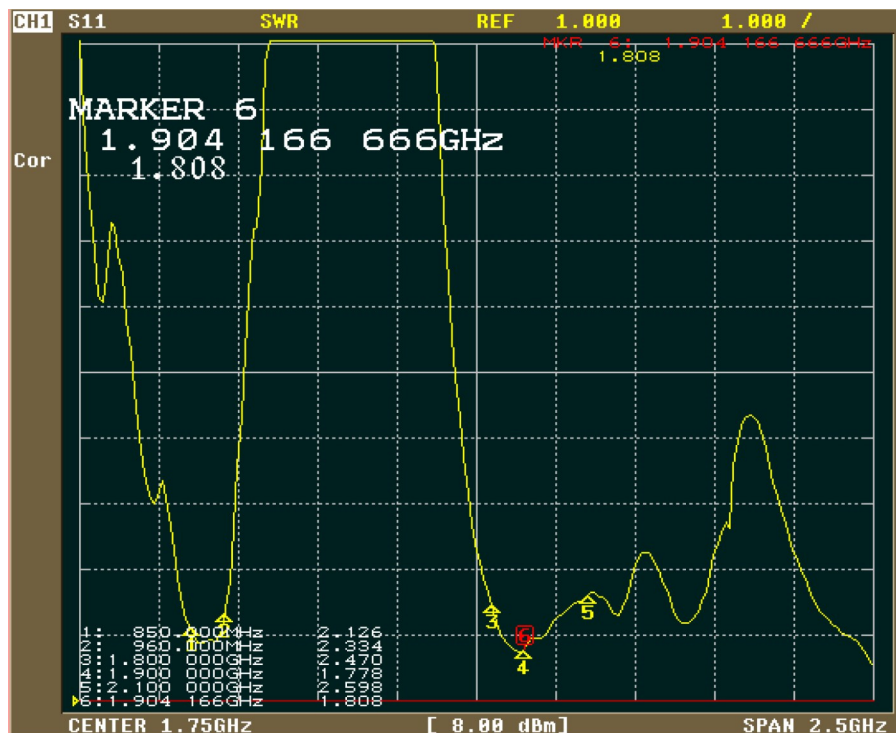
### Ordering Information

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

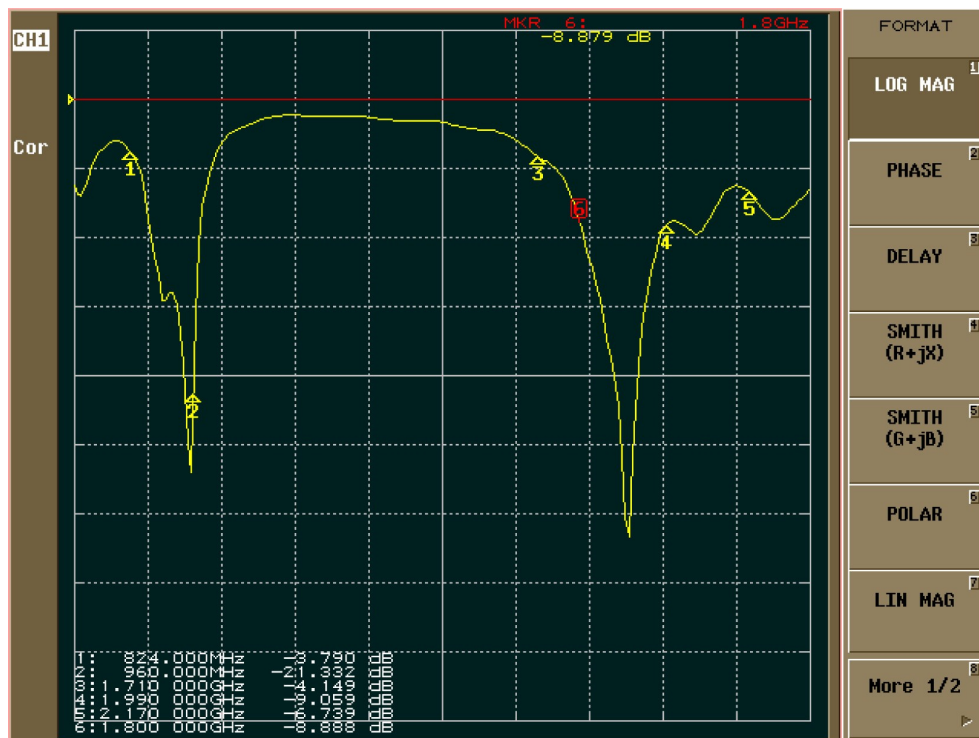
## Mechanical Detail



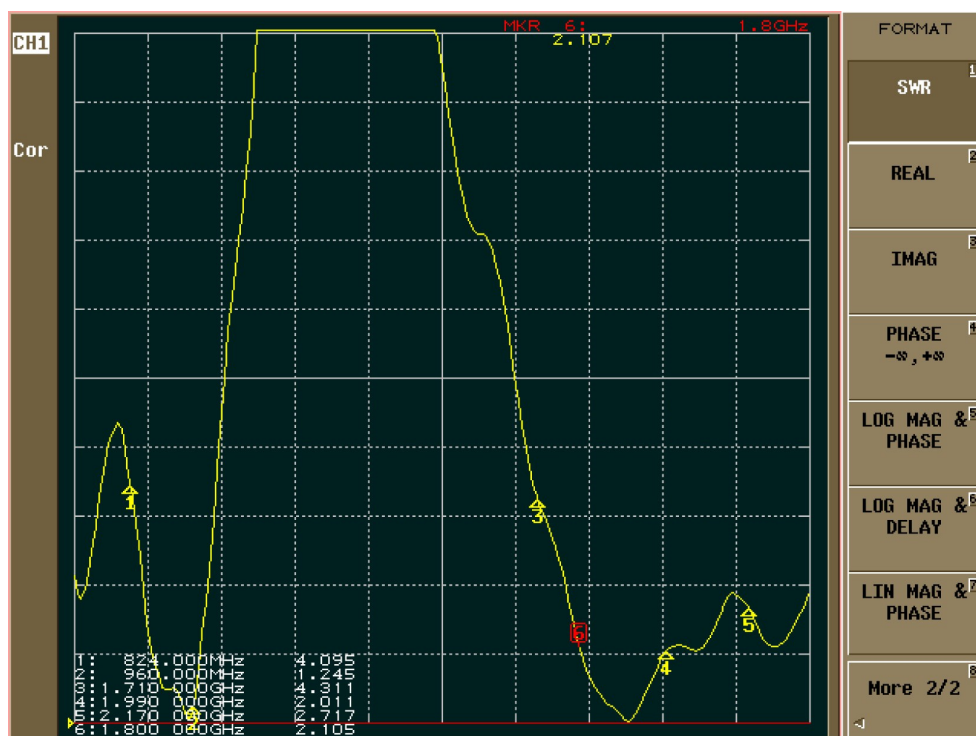
## Performance Data – TEST VSWR



## Performance Data – VSWR

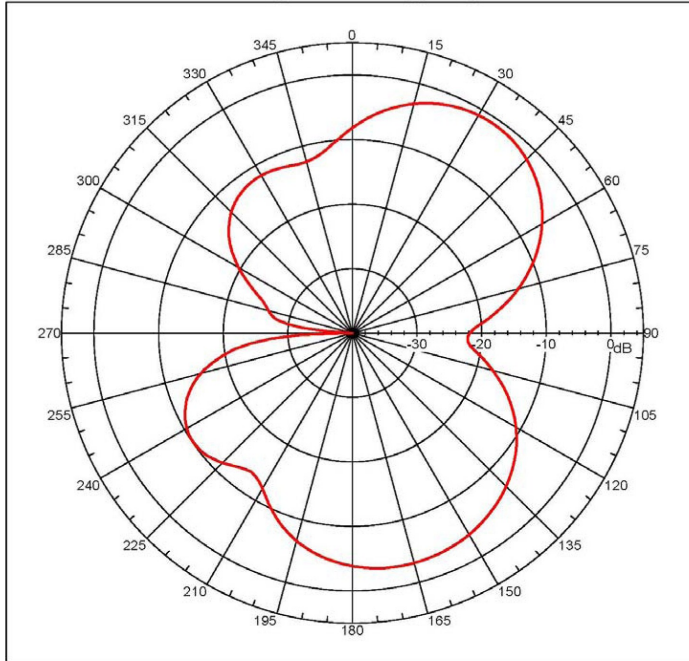


## Performance Data – RETURN LOSS



## Performance Data—Smith Chart @ 880MHz

Far-field amplitude of gps+gsm01.nsi



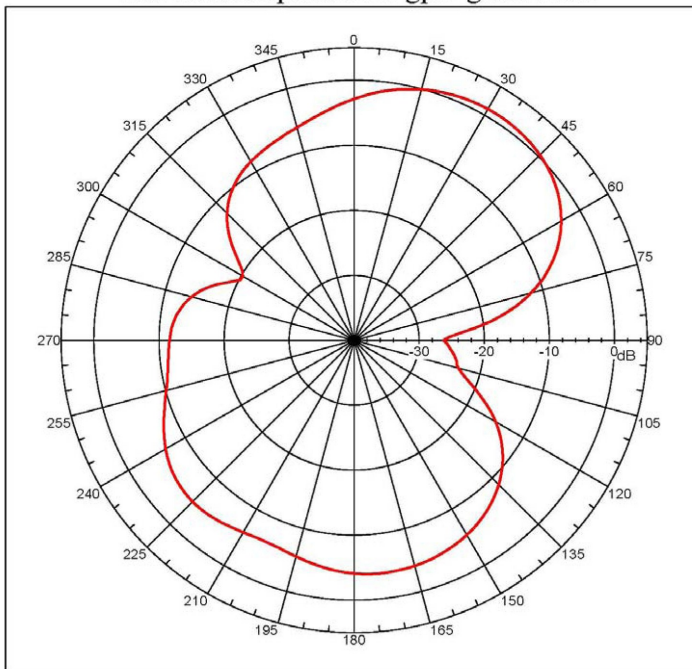
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = -0.93756 dBi  
 Max far-field (global) = -34.95309 dB, Max far-field (plot) =  
 -34.95309 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Hpeak at: 214.000 deg, Vpeak at: 0.000 deg  
 Plot centering: on

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: -9.754 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 -123.697 deg  
 Right sidelobe: -2.13 dB at 167.953 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

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



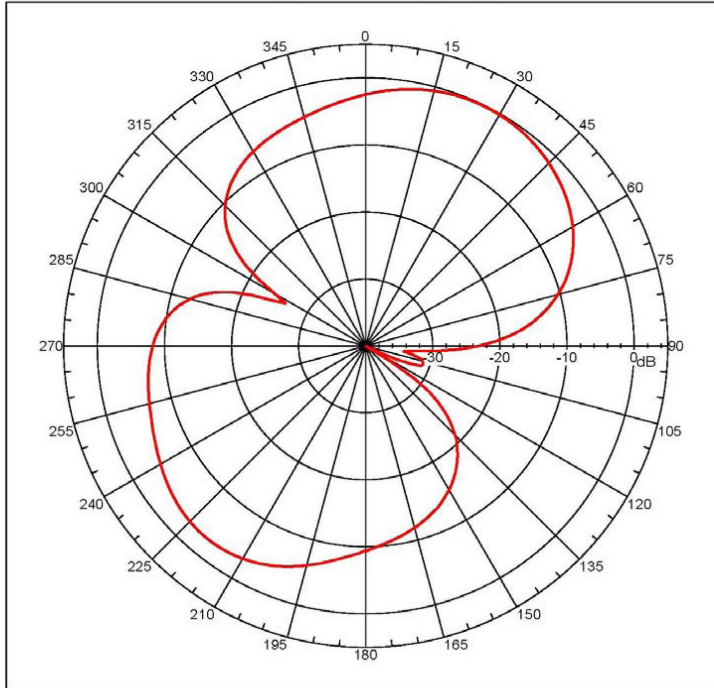
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 1.08571 dBi  
 Max far-field (global) = -33.66057 dB, Max far-field (plot) =  
 -33.66056 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Hpeak at: 212.000 deg, Vpeak at: 0.000 deg  
 Plot centering: on

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: -6.212 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

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



```

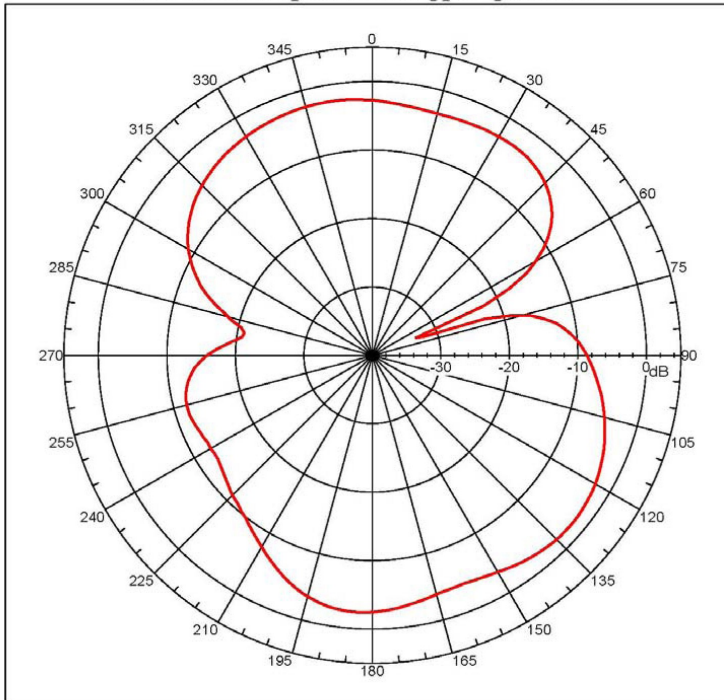
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.12529 dBi
Max far-field (global) = -35.22531 dB, Max far-field (plot) =
-35.22531 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 208.000 deg, Vpeak at: 0.000 deg
Plot centering: on

-----
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: 119.58 deg
Left Side-lobe: -2.66 dB at -139.777 deg
Right Side-lobe: -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



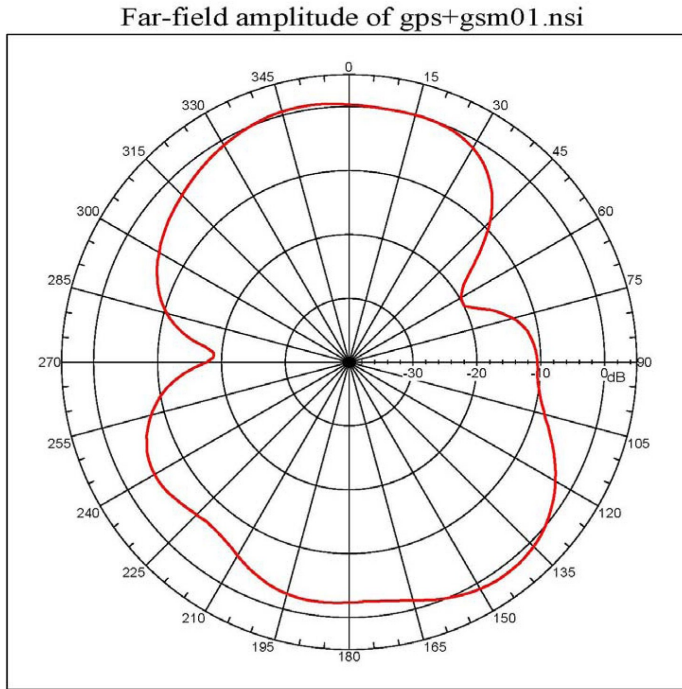
```

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -41.61911 dBi
Max far-field (global) = -41.61911 dB, Max far-field (plot) =
-41.61911 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: -3.357 dB
-3. dB beam width: Not Found
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Side-lobe: -1.21 dB at 33.196 deg
Right Side-lobe: 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
    
```

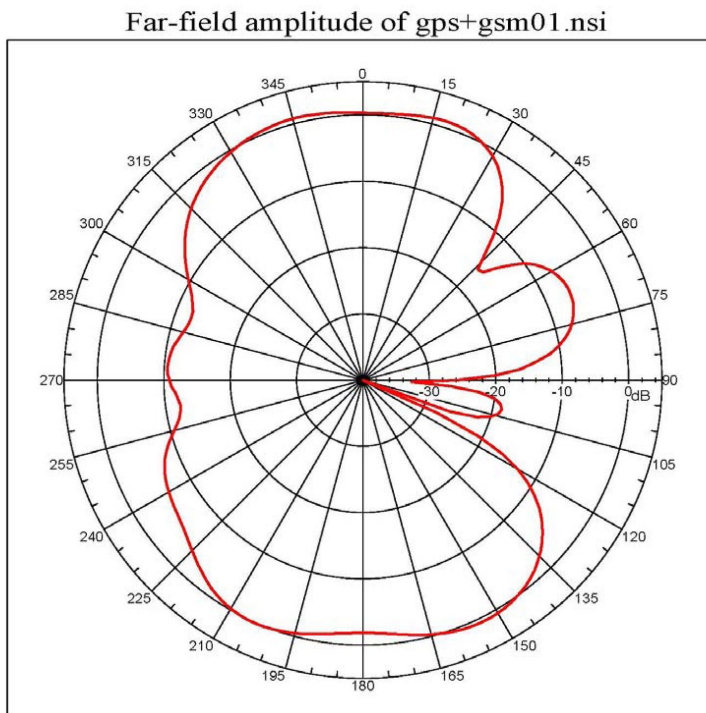
## Performance Data—Smith Chart @ 1785MHz



Far-field amplitude, Spherical: Linear, Tau = 0.000 deg  
 Gain = 1.31460 dBi  
 Max far-field (global) = -40.52198 dB, Max far-field (plot) =  
 -41.522 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Mpeak 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: 43.99 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

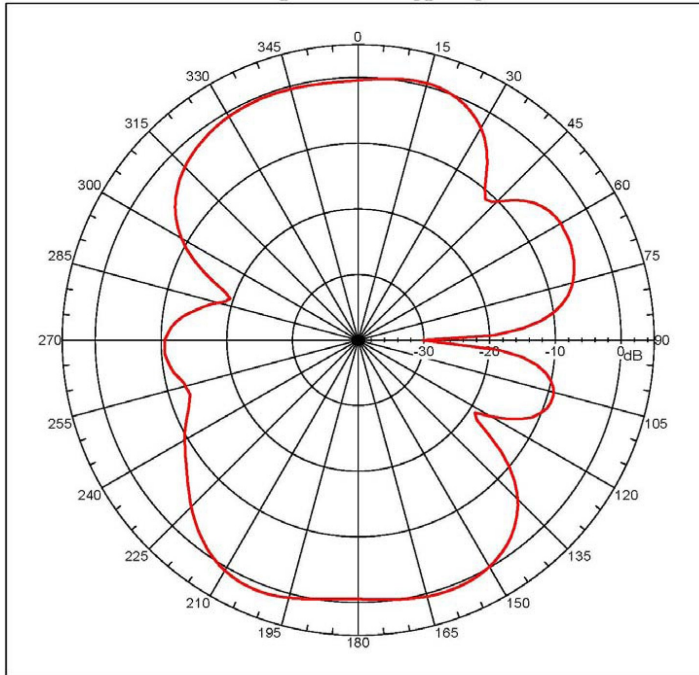


Far-field amplitude, Spherical: Linear, Tau = 0.000 deg  
 Gain = 0.97485 dBi  
 Max far-field (global) = -41.31947 dB, Max far-field (plot) =  
 -41.31947 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Mpeak at: 198.000 deg, Vpeak at: 0.000 deg  
 Plot centering: on

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: 97.85 deg  
 Left Sidelobe: -11.50 dB at -65.475 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 of gps+gsm01.nsi



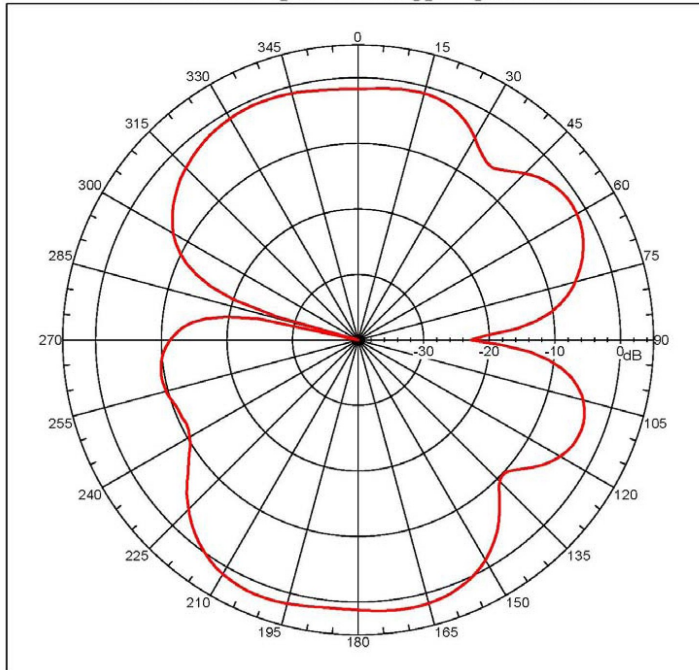
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
Gain = 1.13285 dBi  
Max far-field (global) = -41.25224 dB, Max far-field (plot) =  
-41.25229 dB  
Normalization: Reference, Network offset = 0.000 dB  
Hpeak at: 22.000 deg, Vpeak at: 0.000 deg  
Plot centering: on

NSI2000 v4.0.116, Filename:C:\Documents and Settings\Administrator\  
Desktop\b111\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  
-----  
1 1.880 GHz Azimuth Elevation Single-pol

## Performance Data—Smith Chart @ 1920MHz

Far-field amplitude of gps+gsm01.nsi



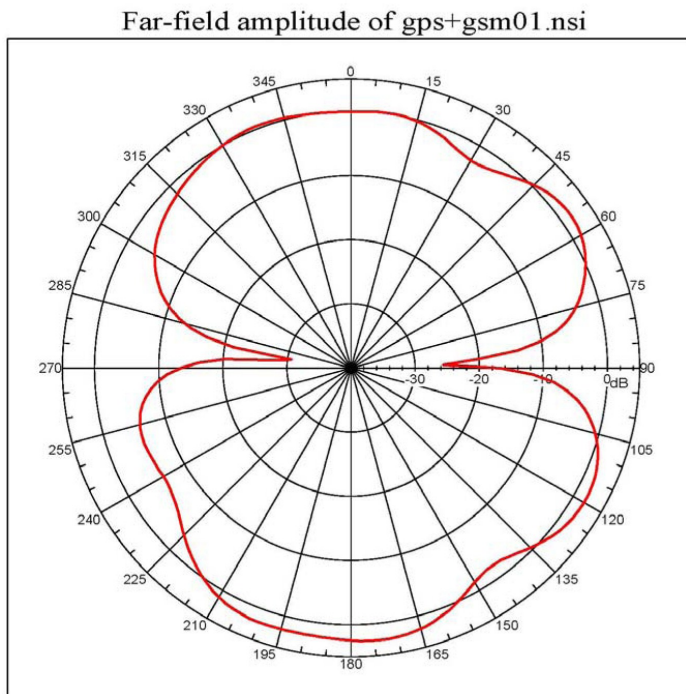
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
Gain = 1.87032 dBi  
Max far-field (global) = -42.12482 dB, Max far-field (plot) =  
-42.12489 dB  
Normalization: Reference, Network offset = 0.000 dB  
Hpeak at: 22.000 deg, Vpeak at: 0.000 deg  
Plot centering: on

NSI2000 v4.0.116, Filename:C:\Documents and Settings\Administrator\  
Desktop\b111\gps+gsm01.nsi  
Measurement date/time: 11/26/2009 8:04:08 PM, Filetype: NSI-97  
Far-field Cut Analysis:  
Avg value: -3.494 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



## Performance Data—Smith Chart @ 1990MHz



Far-field amplitude, Spherical: Linear, Tau = 0.000 deg  
Gain = 2.02187 dBi  
Max far-field (global) = -42.62542 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 centerings: 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: -8.68 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

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.

### 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.

Environment Agency producer registration number: WEE/JB0104WV.

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