

## ANT-M4G3-SMA

### Features

- Frequency Range
  - 690-960
  - 1710-2170
  - 2400-2700MHz
- Omni Directional 3 dBi Gain
- Rugged plastic finish IP65 Rated.
- Wall Mount Bracket
- 50ohm Impedance
- 3m RG58U with SMA Male
- Vertical Polarization
- V.S.W.R  $\leq$ 2.5
- 270mm Long
- Operating Temp  $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$



### Applications

- 4G / LTE Applications
- GSM Applications
- WiFi

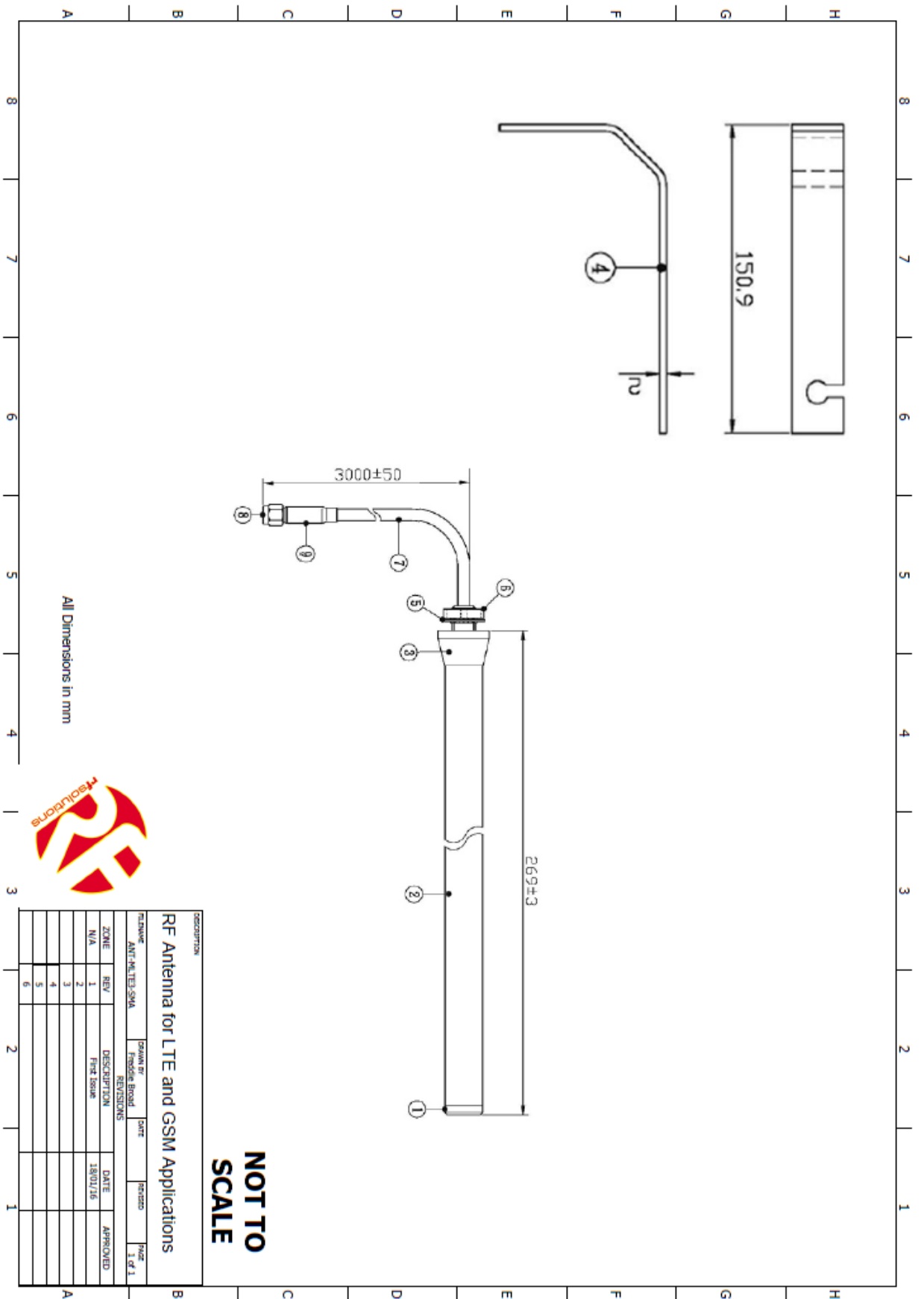
### Description

A wall mount LTE and GSM antenna supplied with a 3m RG58U cable and male SMA connector. This ready to operate antenna required no tuning and provides optimum range and reliability to your application.

### Ordering Information

Part No	Description
ANT-M4G3-SMA	4G LTE/GSM Outside antenna (IP65 Rated) with SMA Male Connector

## Mechanical Drawing

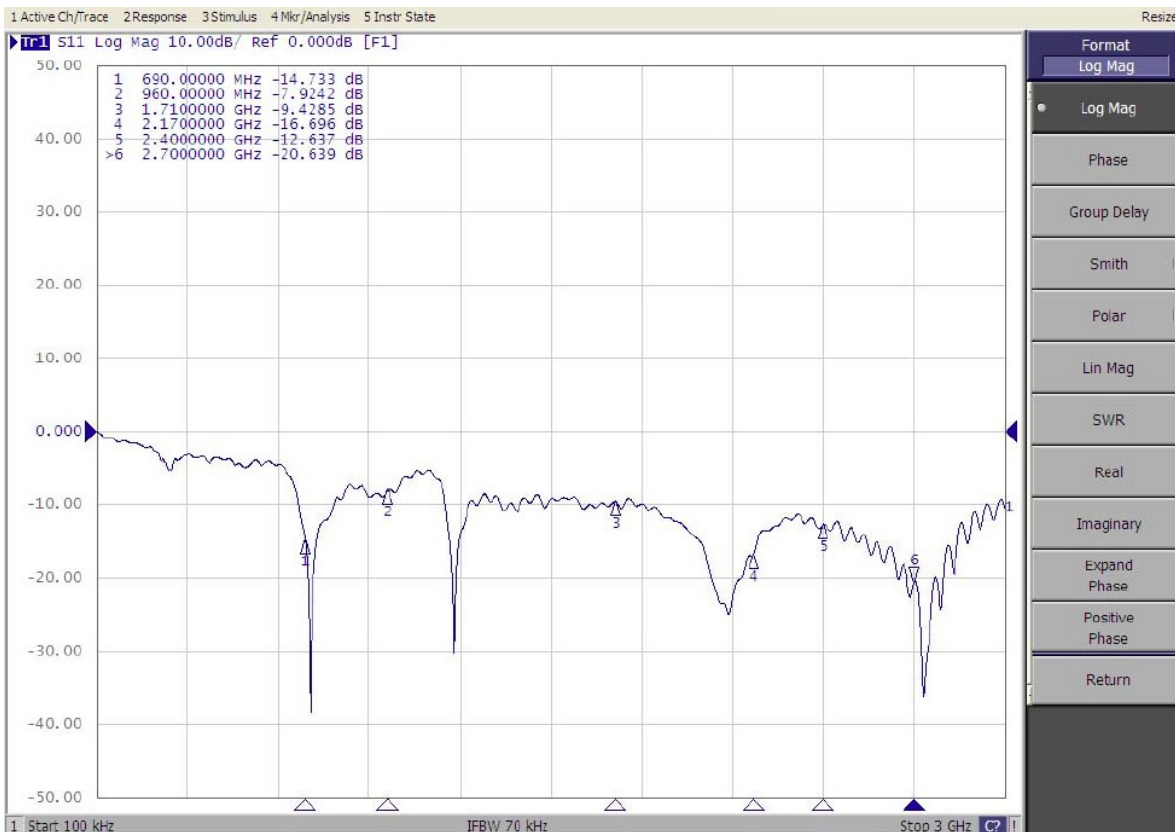


REVISIONS		DATE		PRICE	
REV	DESCRIPTION	DATE	APPROVED	PRICE	1 of 1
1	First Issue	18/07/16			
2					
3					
4					
5					
6					

## V.S.W.R Test Report

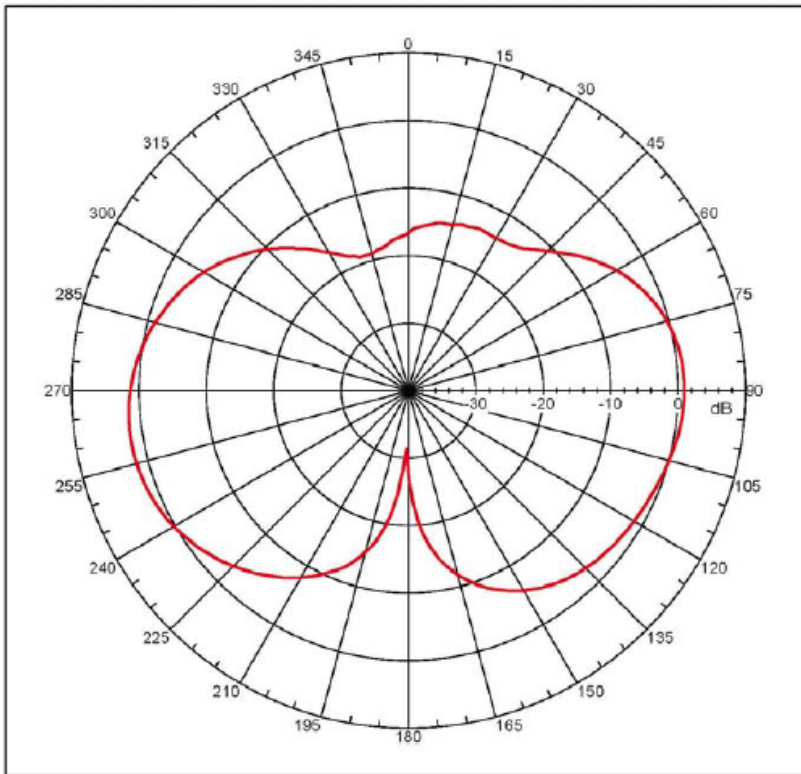


## S11 Test Report



## 2D Pattern—E Plane 824MHz: 1.81917 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



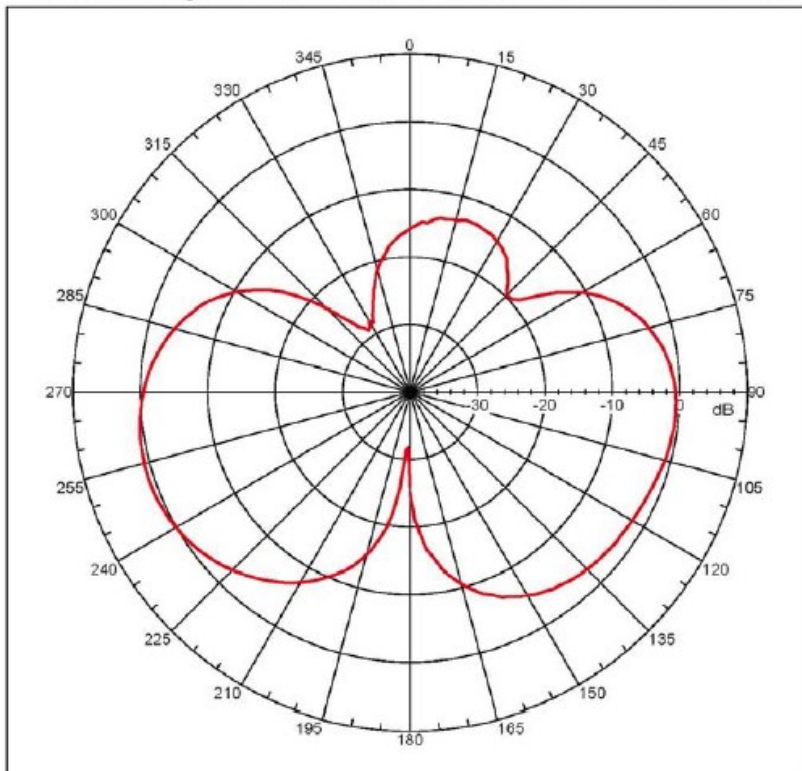
```

Far-field amplitude, E-principal: Linear, Ytu = 0.000 deg
Gain = 1.81917 dBi
Max far-field (global) = -41.18017 dB, Max far-field (plot) =
-42.18021 dB
Normalization: Reference, Network offset = 0.880 dB
Vpeak at: -100.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
NI22080 V4.9.124, Filename:C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NUI-97
Far-field Cut Analysis:
Avg value: -4.244 dB
-3. dB beam width: 22.53 deg
-6. dB beam width: 36.14 deg
-10. dB beam width: 100.16 deg
Left Side-lobe: Not Found
Right Side-lobe: -15.64 dB at 25.140 deg
Far-field display setup
Azimuth (deg)
Span = 260.00001 deg, Center = 0.000 deg, #pts = 101
Start = -150.00001 deg, Stop = 150.00001 deg, Delta = 2.069
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
2 0.824 GHz Azimuth Elevation Single-pol
    
```

## 2D Pattern—E Plane 850MHz: 0.84165 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



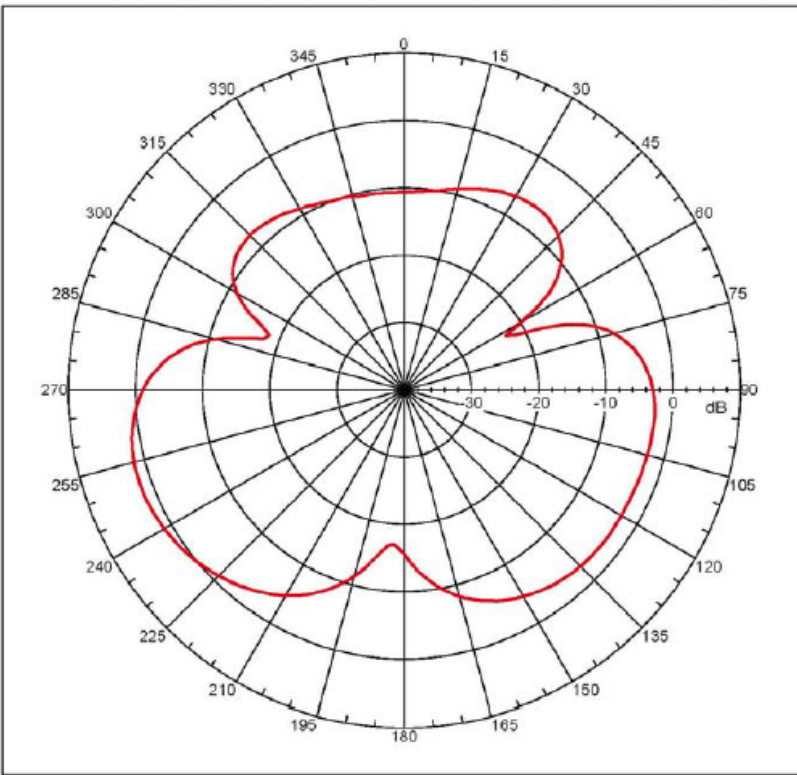
```

Far-field amplitude, E-principal: Linear, Ytu = 0.000 deg
Gain = 0.84165 dBi
Max far-field (global) = -40.41521 dB, Max far-field (plot) =
-40.41523 dB
Normalization: Reference, Network offset = 0.880 dB
Vpeak at: -100.000 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
NI22080 V4.9.124, Filename:C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NUI-97
Far-field Cut Analysis:
Avg value: -6.440 dB
-3. dB beam width: 21.87 deg
-6. dB beam width: 32.59 deg
-10. dB beam width: 92.00 deg
Left Side-lobe: Not Found
Right Side-lobe: -28.76 dB at -29.162 deg
Far-field display setup
Azimuth (deg)
Span = 260.00001 deg, Center = 0.000 deg, #pts = 101
Start = -150.00001 deg, Stop = 150.00001 deg, Delta = 2.069
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
3 0.850 GHz Azimuth Elevation Single-pol
    
```

## 2D Pattern—E Plane 900MHz: 1.72636 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



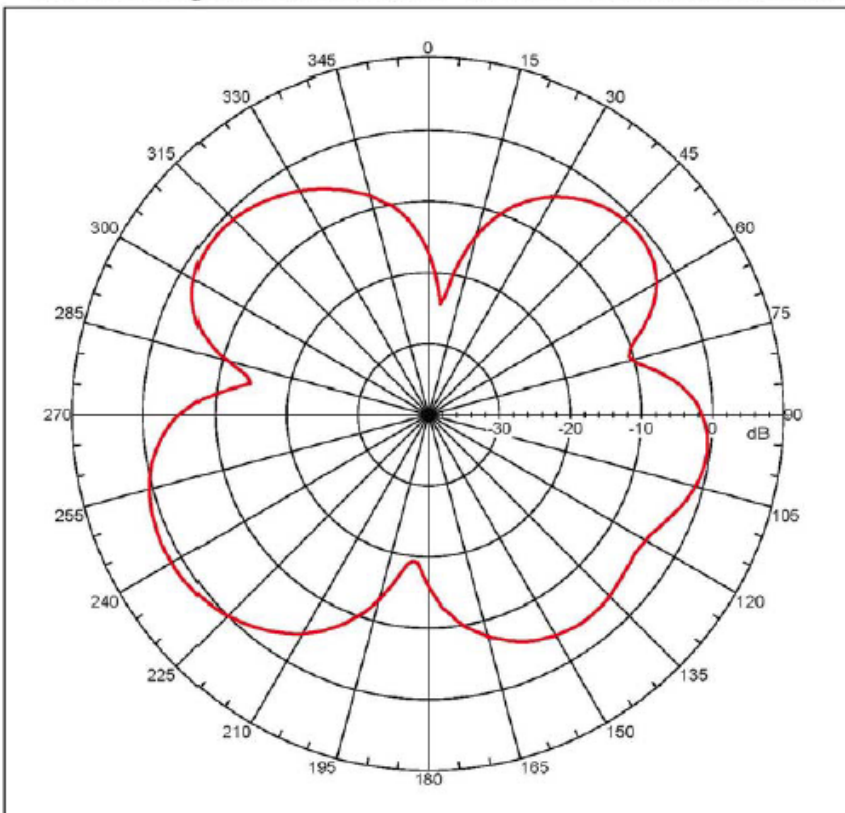
```

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.72636 dBi
Max far-field (global) = -39.83332 dB, Max far-field (plot) =
-39.83333 dB
Normalization: Reference, Network offset = 0.180 dB
Hpeak at: -180.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
NIST2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NII-97
Far-field Cut Analysis:
Avg values: -1.326 dB
-1. dB beam width: 67.34 deg
-6. dB beam width: 66.05 deg
-10. dB beam width: 82.91 deg
Left sidelobe: Not Found
Right sidelobe: -9.33 dB at -65.251 deg
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
4 0.900 GHz Azimuth Elevation Single-pol
    
```

## 2D Pattern—E Plane 960MHz: 1.60164 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



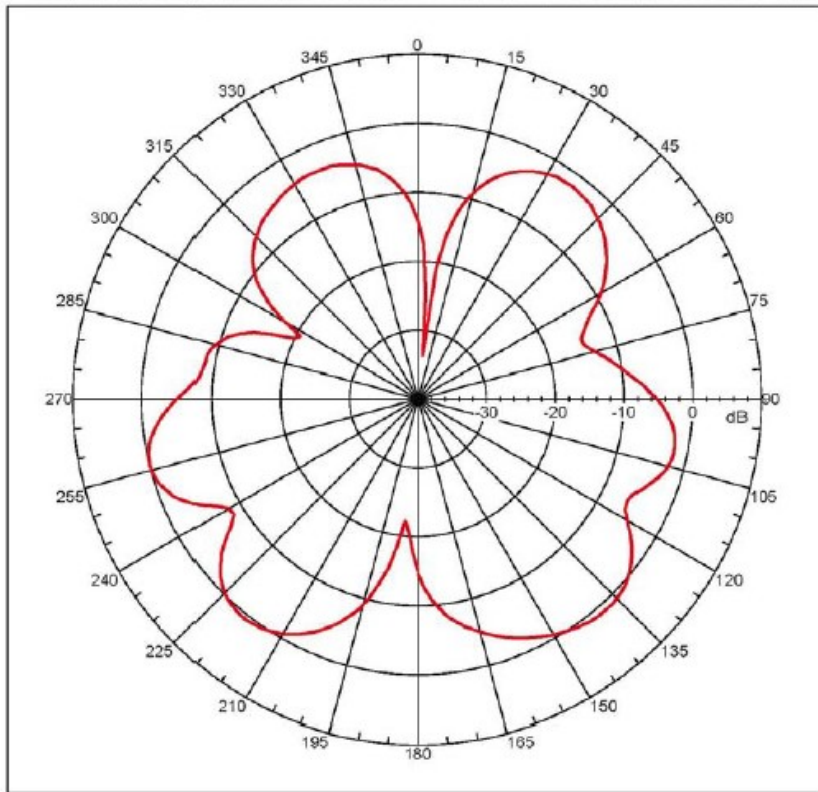
```

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.60164 dBi
Max far-field (global) = -41.82803 dB, Max far-field (plot) =
-41.82805 dB
Normalization: Reference, Network offset = 0.060 dB
Hpeak at: -180.00000 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
NIST2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NII-97
Far-field Cut Analysis:
Avg values: -4.728 dB
-1. dB beam width: 41.05 deg
-6. dB beam width: 51.00 deg
-10. dB beam width: 72.67 deg
Left sidelobe: Not Found
Right sidelobe: -2.56 dB at -49.274 deg
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
5 0.960 GHz Azimuth Elevation Single-pol
    
```

## E-Plane 1710MHz: 1.06143 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



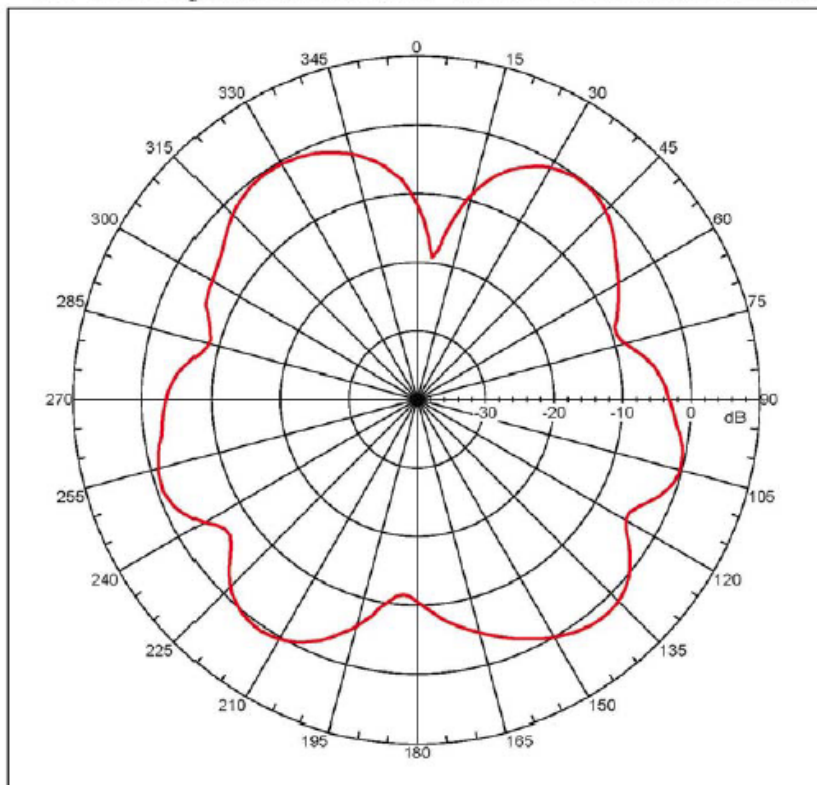
```

Far-field amplitude, E-principal: Linear, Tau = 0.000 deg
Gain = 1.06143 dBi
Max far-field (global) = -44.13116 dB, Max far-field (plot) =
-44.13123 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 128.900 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
NSI2000 V4.0.324, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -4.254 dB
-1. dB beam width: 38.87 deg
-6. dB beam width: 45.75 deg
-10. dB beam width: 59.20 deg
Left side-lobe: -2.99 dB at 102.375 deg
Right side-lobe: Not Found
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 182
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
1 1.710 GHz Azimuth Elevation Single-pol
    
```

## E-Plane 1800MHz: 1.76763 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



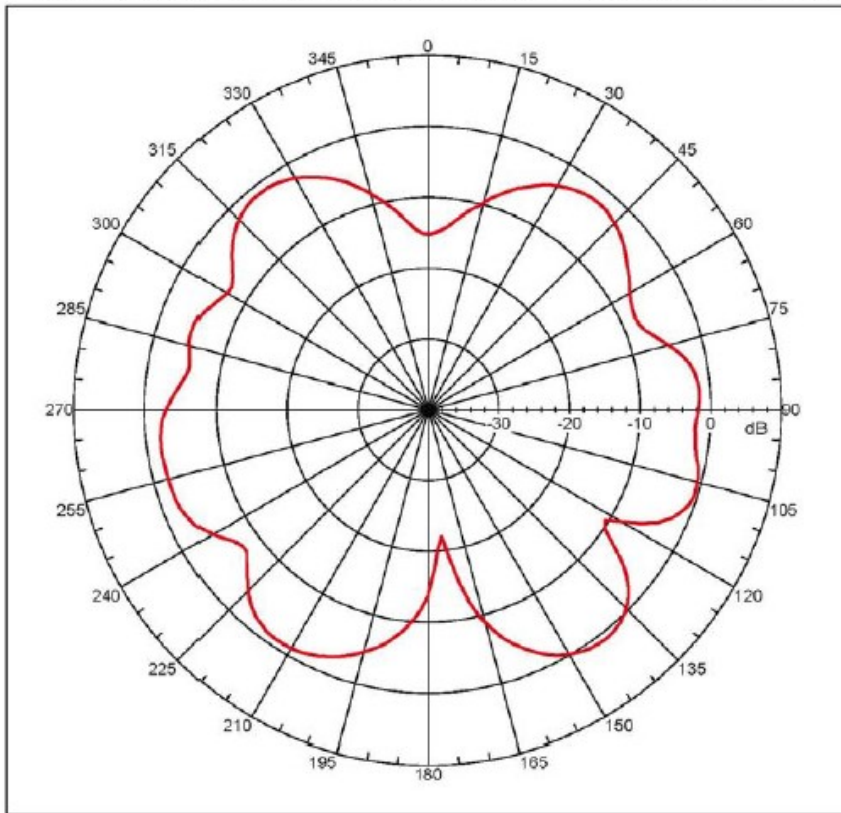
```

Far-field amplitude, E-principal: Linear, Tau = 0.000 deg
Gain = 1.76763 dBi
Max far-field (global) = -45.85441 dB, Max far-field (plot) =
-45.85440 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 128.900 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
NSI2000 V4.0.324, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -3.262 dB
-1. dB beam width: 21.47 deg
-6. dB beam width: 41.10 deg
-10. dB beam width: 59.37 deg
Left side-lobe: -2.05 dB at 105.507 deg
Right side-lobe: Not Found
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 182
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
10 1.800 GHz Azimuth Elevation Single-pol
    
```

## E-Plane 1900MHz: 0.96073 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



```

Far-field amplitude, E-principal: Linear, Tau = 0.000 deg
Gain = 0.96073 dBi
Max far-field (global) = -46.97623 dB, Max far-field (plot) =
-46.97623 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 141.99999 deg, Vpeak at: 0.000 deg
Plot centering: on

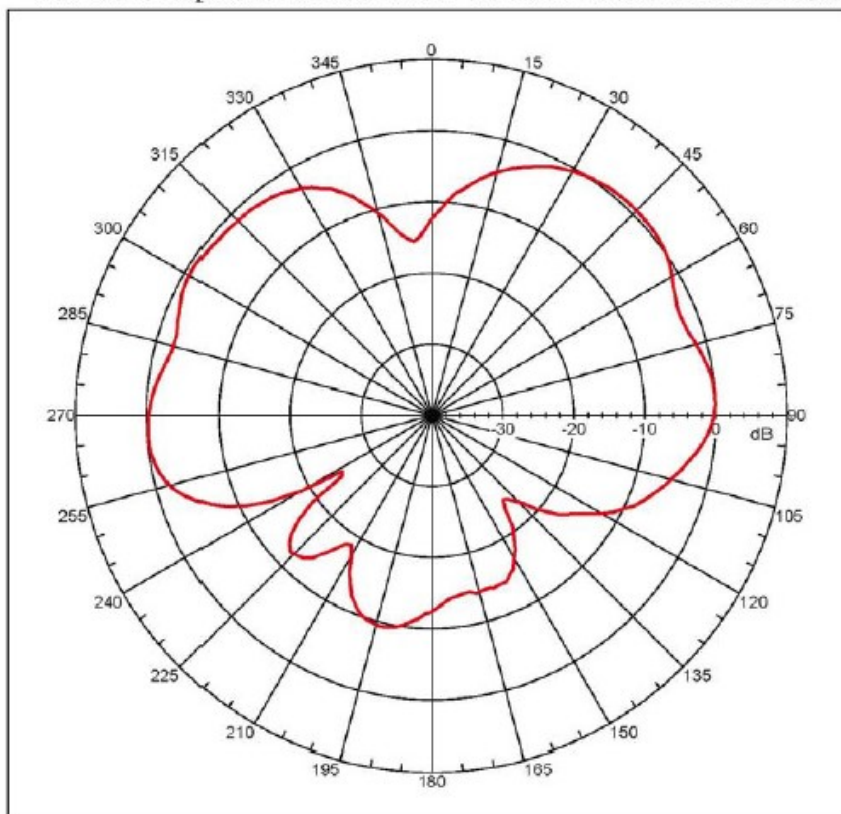
20150701-4G ANT+CALBE-3.5M-E

NI2200 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NII-97
Far-field Cut Analysis:
Avg value: -4.289 dB
-1. dB beam width: 21.40 deg
-2. dB beam width: 21.25 deg
-10. dB beam width: 48.59 deg
Left side-lobe: -1.40 dB at 109.609 deg
Right side-lobe: Not found
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
11 1.900 GHz Azimuth Elevation Single-pol
    
```

## E-Plane 2170MHz: 0.72134 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



```

Far-field amplitude, E-principal: Linear, Tau = 0.000 deg
Gain = 0.72134 dBi
Max far-field (global) = -46.91077 dB, Max far-field (plot) =
-46.91077 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 42.99999 deg, Vpeak at: 0.000 deg
Plot centering: on

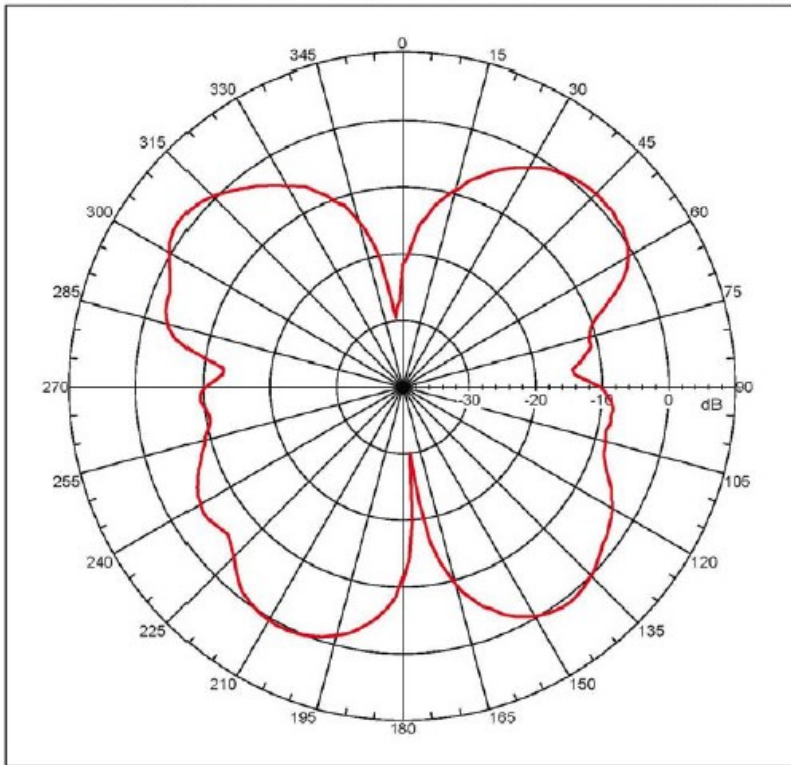
20150701-4G ANT+CALBE-3.5M-E

NI2200 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NII-97
Far-field Cut Analysis:
Avg value: -5.247 dB
-1. dB beam width: 45.11 deg
-2. dB beam width: 32.49 deg
-10. dB beam width: 110.41 deg
Left side-lobe: -1.27 dB at -57.210 deg
Right side-lobe: -0.77 dB at 87.486 deg
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
12 2.170 GHz Azimuth Elevation Single-pol
    
```

## E-Plane 2400MHz: 1.73269 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



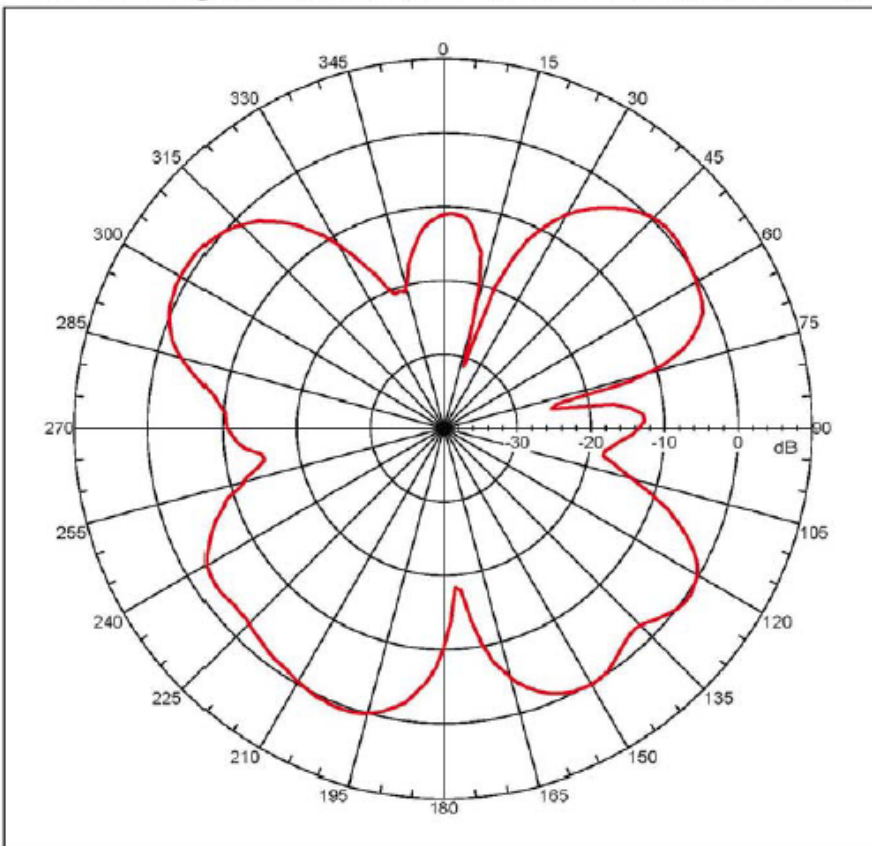
```

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.73269 dBi
Max far-field (global) = -47.27494 dB, Max far-field (plot) =
-47.27496 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -54.000 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -4.254 dB
-1. dB beam width: 21.86 deg
-6. dB beam width: 44.51 deg
-10. dB beam width: 57.59 deg
Left side-lobe: -11.48 dB at -92.520 deg
Right side-lobe: -0.06 dB at 47.203 deg
Far-field display setup
Azimuth (deg)
Span = 268.00001 deg, Center = 0.000 deg, #pts = 181
Start = -190.00001 deg, Stop = 190.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
-----
12 2.400 GHz Azimuth Elevation Single-pol
    
```

## E-Plane 2500 MHz: 1.04758 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



```

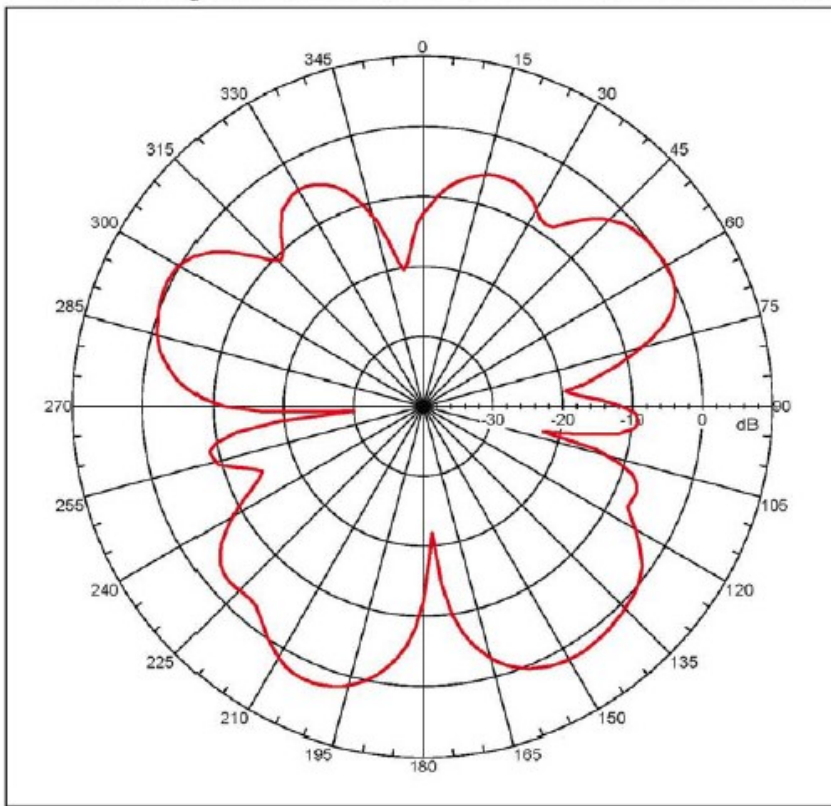
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.04758 dBi
Max far-field (global) = -49.88841 dB, Max far-field (plot) =
-49.88846 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -60.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -4.572 dB
-1. dB beam width: 28.25 deg
-6. dB beam width: 29.90 deg
-10. dB beam width: 59.99 deg
Left side-lobe: -2.43 dB at -125.699 deg
Right side-lobe: -11.55 dB at 3.917 deg
Far-field display setup
Azimuth (deg)
Span = 268.00001 deg, Center = 0.000 deg, #pts = 181
Start = -190.00001 deg, Stop = 190.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
-----
14 2.500 GHz Azimuth Elevation Single-pol
    
```



## E-Plane 2600MHz: 2.59262 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-E.nsi



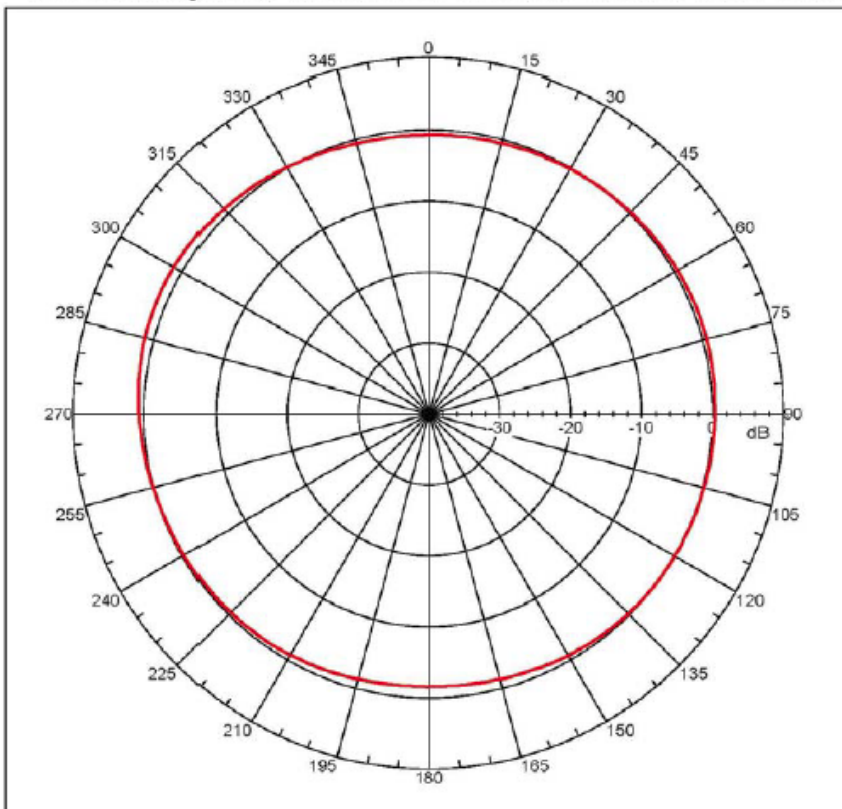
```

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 2.59262 dBi
Max far-field (global) = -47.72417 dB, Max far-field (plot) =
-47.72429 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -156.000 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-E
N32300 V4.0.124, Filename: C:\Documents and Settings\N31\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-E.nsi
Measurement date/time: 7/1/2015 3:51:23 PM, Filetype: NSI-57
Far-field Cut Analysis:
Avg value: -4.167 dB
-1. dB beam width: 23.08 deg
-6. dB beam width: 46.20 deg
-10. dB beam width: 76.30 deg
Left sidelobe: Not Found
Right sidelobe: -11.26 dB at -191.564 deg
Far-field display setup
Azimuth (deg)
Span = 269.00001 deg, Center = 0.000 deg, #pts = 181
Start = -190.00001 deg, Stop = 190.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
-----
1 2.600 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 806MHz: 1.37841 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



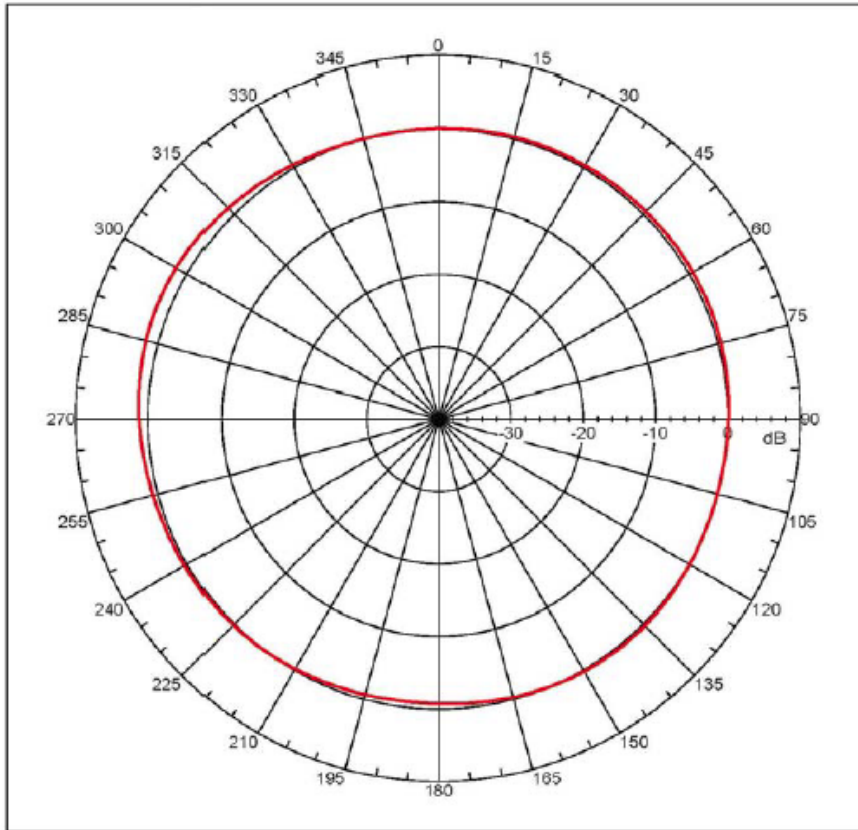
```

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.37841 dBi
Max far-field (global) = -41.30906 dB, Max far-field (plot) =
-41.30906 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -60.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H
N32300 V4.0.124, Filename: C:\Documents and Settings\N31\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement date/time: 7/1/2015 3:36:28 PM, Filetype: NSI-57
Far-field Cut Analysis:
Avg value: -0.077 dB
-1. dB beam width: Not Found
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left sidelobe: Not Found
Right sidelobe: -0.91 dB at 59.330 deg
Far-field display setup
Azimuth (deg)
Span = 269.00001 deg, Center = 0.000 deg, #pts = 181
Start = -190.00001 deg, Stop = 190.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
-----
1 0.806 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 824MHz: 1.77902 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



```

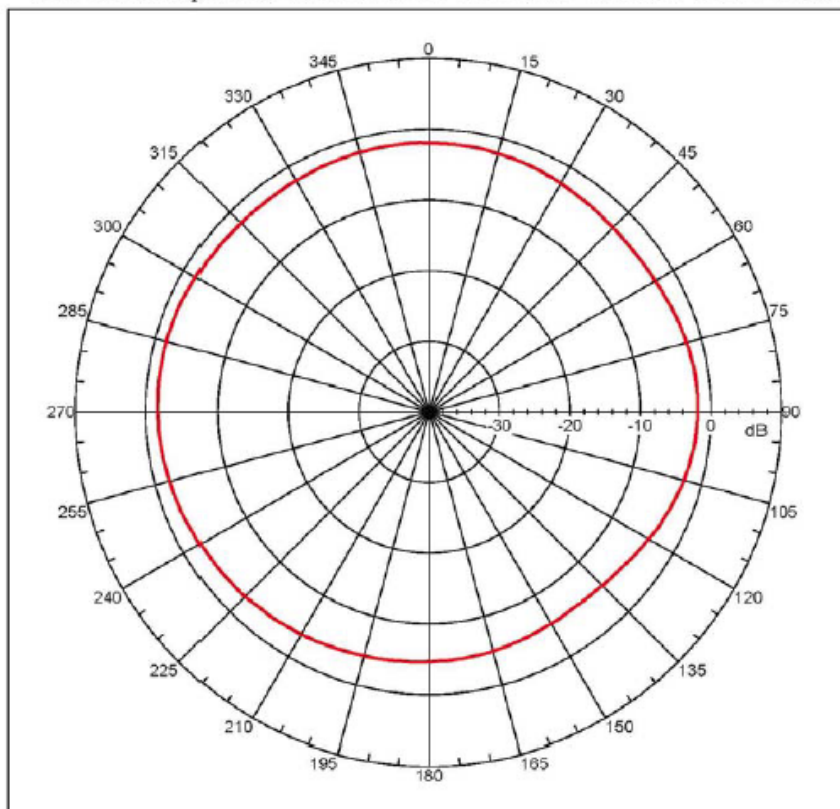
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.77902 dBi
Max far-field (global) = -41.22032 dB, Max far-field (plot) =
-41.22032 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -69.000 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H

N522000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement date/time: 7/1/2015 3:36:20 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: 0.271 dB
-1. dB beam width: Not Found
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: Not Found
Right Sidelobe: Not Found
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
-----
2 0.824 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 850 MHz: -1.60185 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



```

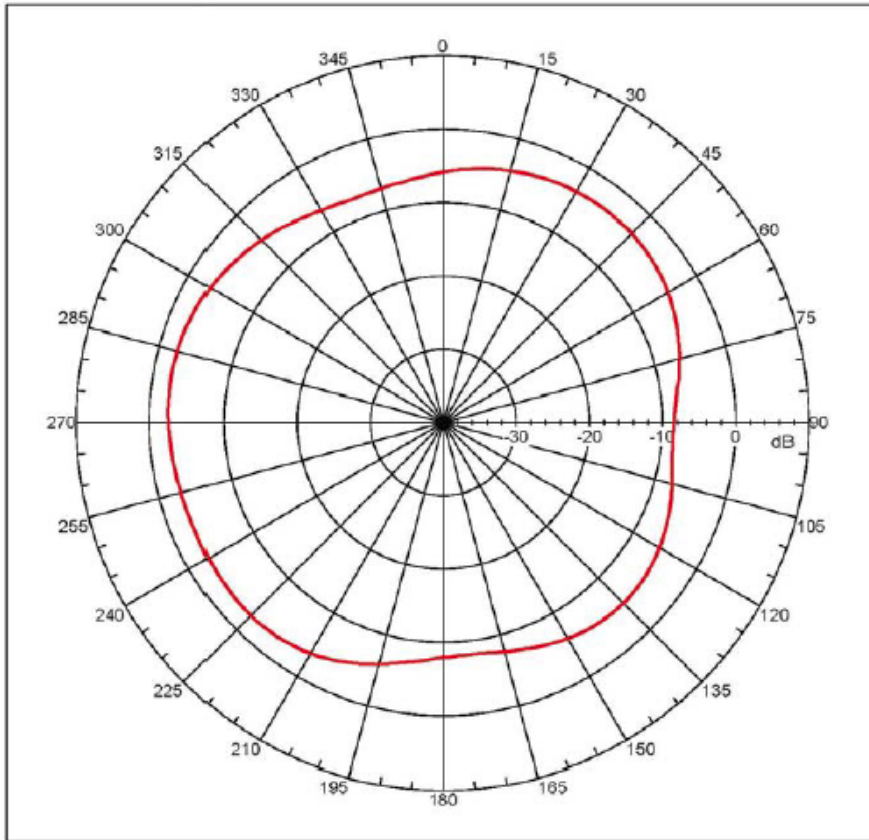
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -1.60185 dBi
Max far-field (global) = -42.85071 dB, Max far-field (plot) =
-42.85071 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -76.00001 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H

N522000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement date/time: 7/1/2015 3:36:20 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -2.107 dB
-1. dB beam width: Not Found
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: Not Found
Right Sidelobe: -0.24 dB at 87.486 deg
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
-----
2 0.850 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 900MHz: -2.47165 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



```

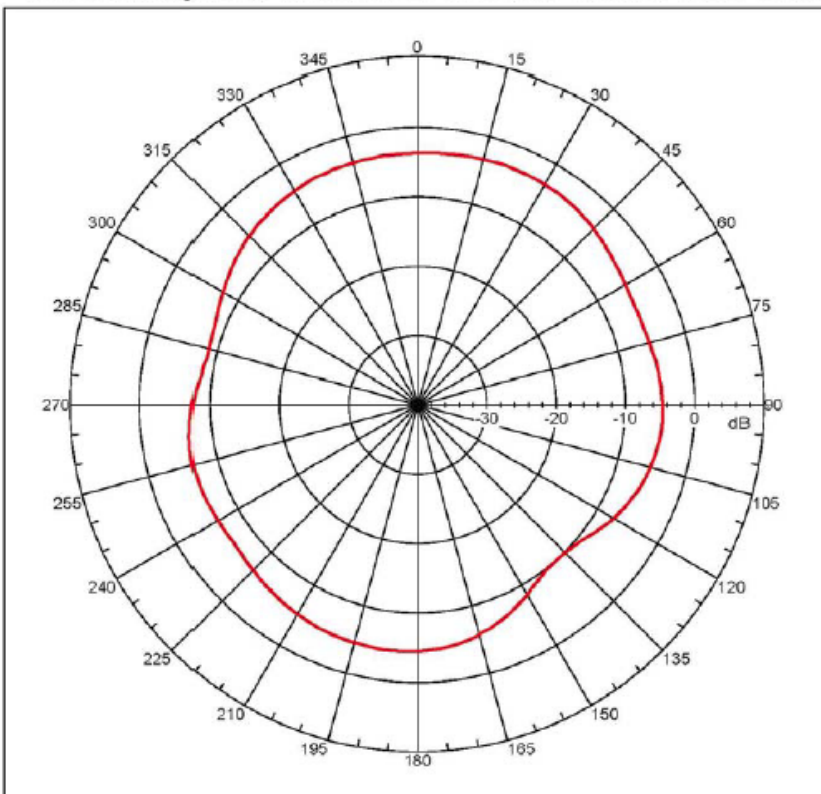
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -2.47165 dBi
Max far-field (global) = -44.93133 dB, Max far-field (plot) =
-44.93134 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -62.90001 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H

N32808 V4.0.324, Filename:C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement date/time: 7/1/2015 3:36:28 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg values: -1.539 dB
-1. dB beam width: 123.69 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left sidelobe: Not Found
Right sidelobe: -0.95 dB at 37.207 deg
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
-----
4 0.900 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 960MHz: -3.26146 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



```

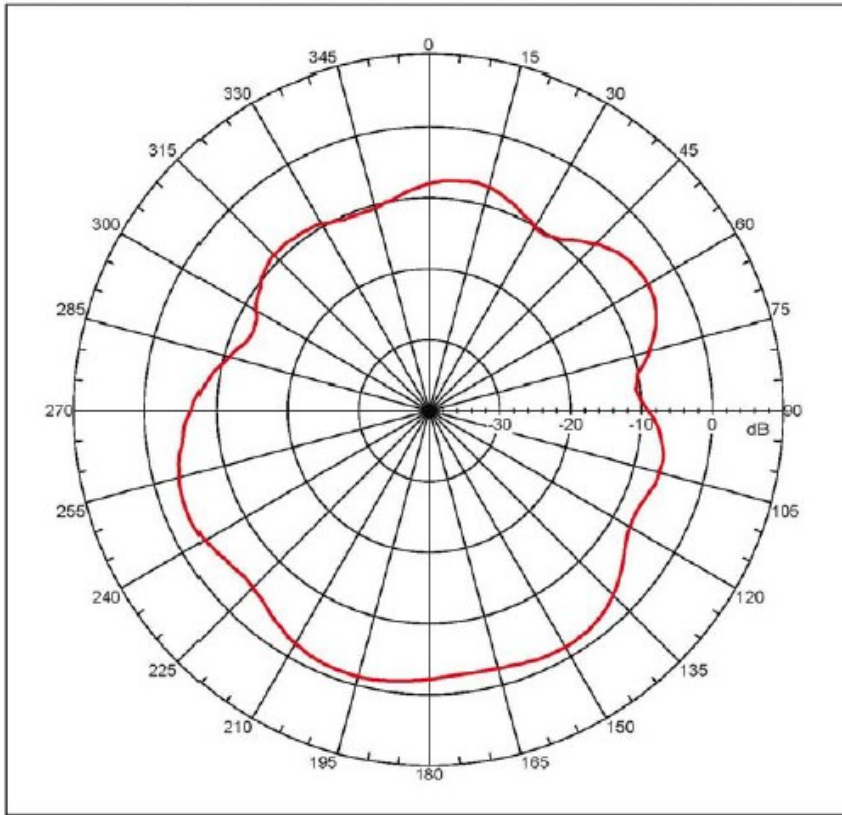
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -3.26146 dBi
Max far-field (global) = -45.89113 dB, Max far-field (plot) =
-45.89114 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 19.59999 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H

N32808 V4.0.324, Filename:C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement date/time: 7/1/2015 3:36:28 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg values: -3.182 dB
-1. dB beam width: 143.18 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left sidelobe: -3.19 dB at -105.397 deg
Right sidelobe: Not Found
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
-----
5 0.960 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 1710MHz -1.21375 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi

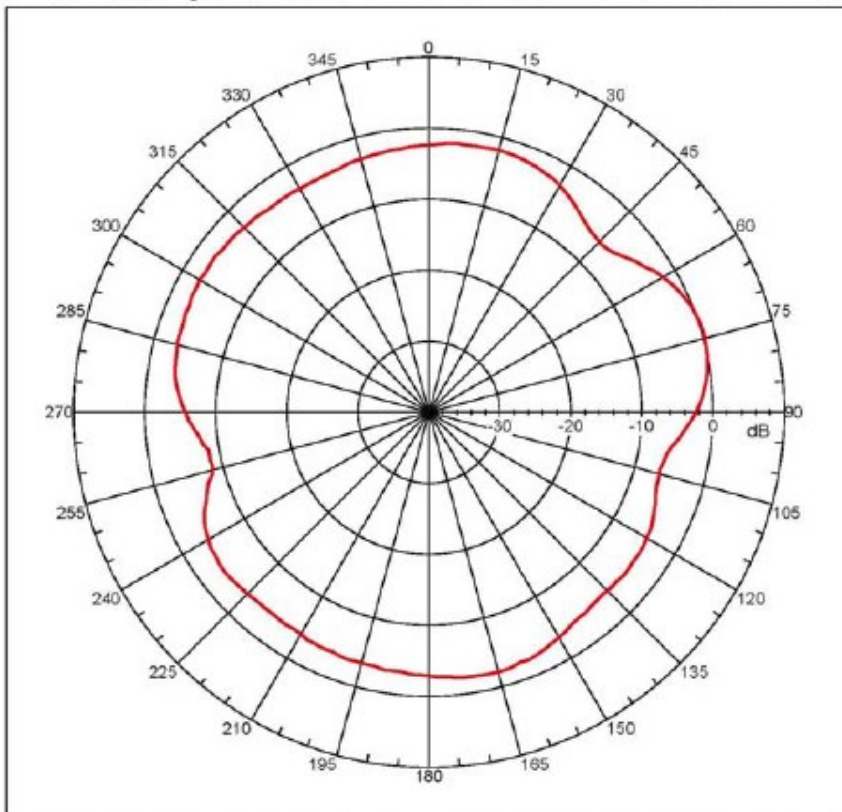


Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = -1.21375 dBi  
 Max far-field (global) = -46.40634 dB, Max far-field (plot) =  
 -46.40628 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Rpeak at: -164.000 deg, Vpeak at: 0.000 deg  
 Plot centering: On  
 20150701-4G ANT+CALBE-3.5M-H  
 NI22006 V4.0.124, Filename: C:\Documents and Settings\MSI\Desktop\20  
 150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi  
 Measurement date/time: 7/1/2015 3:36:28 PM, Filetype: NSI-97  
 Far-field Cut Analysis:  
 Avg value: -3.684 dB  
 -1. dB beam width: Not Found  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: Not Found  
 Right Sidelobe: -1.87 dB at -133.631 deg  
 Far-field display setup  
 Azimuth (deg)  
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181  
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000  
 deg  
 Elevation (deg)  
 Center = 0.000 deg, #pts = 1  
 Selected beam(s) 1 of 15  

Beam	Frequency	Azimuth	Elevation	Pol
9	1.710 GHz	Azimuth	Elevation	Single-pol

## H-Plane 1800MHz: 0.29161 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi

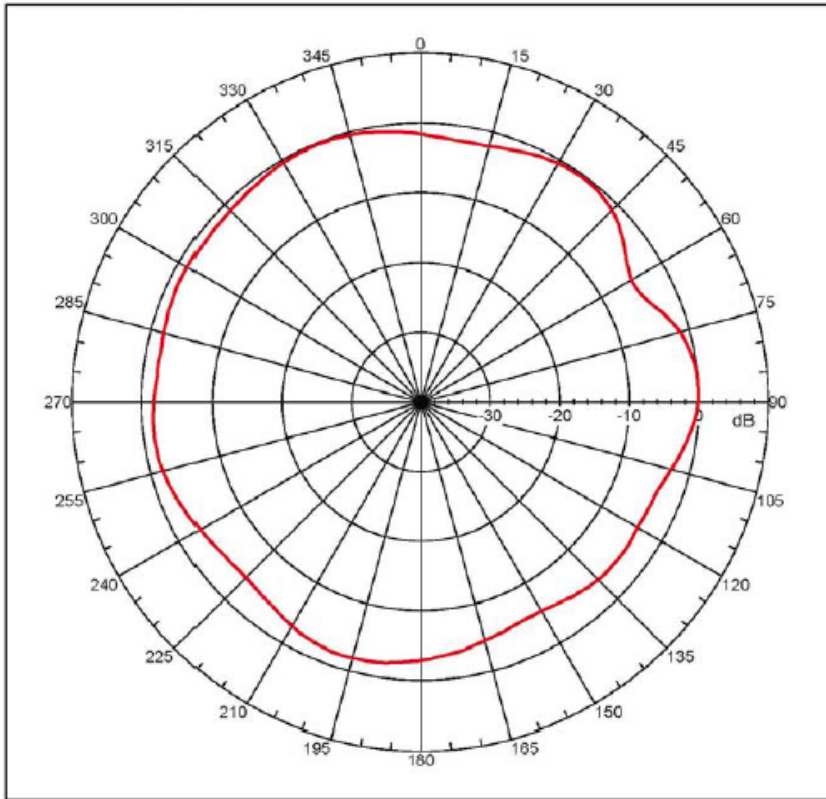


Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 0.29161 dBi  
 Max far-field (global) = -46.53043 dB, Max far-field (plot) =  
 -46.52648 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Rpeak at: 73.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On  
 20150701-4G ANT+CALBE-3.5M-H  
 NI22006 V4.0.124, Filename: C:\Documents and Settings\MSI\Desktop\20  
 150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi  
 Measurement date/time: 7/1/2015 3:36:28 PM, Filetype: NSI-97  
 Far-field Cut Analysis:  
 Avg value: -3.447 dB  
 -1. dB beam width: 23.46 deg  
 -6. dB beam width: 50.52 deg  
 -10. dB beam width: Not Found  
 Left Sidelobe: -2.12 dB at 125.094 deg  
 Right Sidelobe: -4.62 dB at 125.094 deg  
 Far-field display setup  
 Azimuth (deg)  
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181  
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000  
 deg  
 Elevation (deg)  
 Center = 0.000 deg, #pts = 1  
 Selected beam(s) 1 of 15  

Beam	Frequency	Azimuth	Elevation	Pol
10	1.800 GHz	Azimuth	Elevation	Single-pol

## H-Plane 1900MHz: -0.03944 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



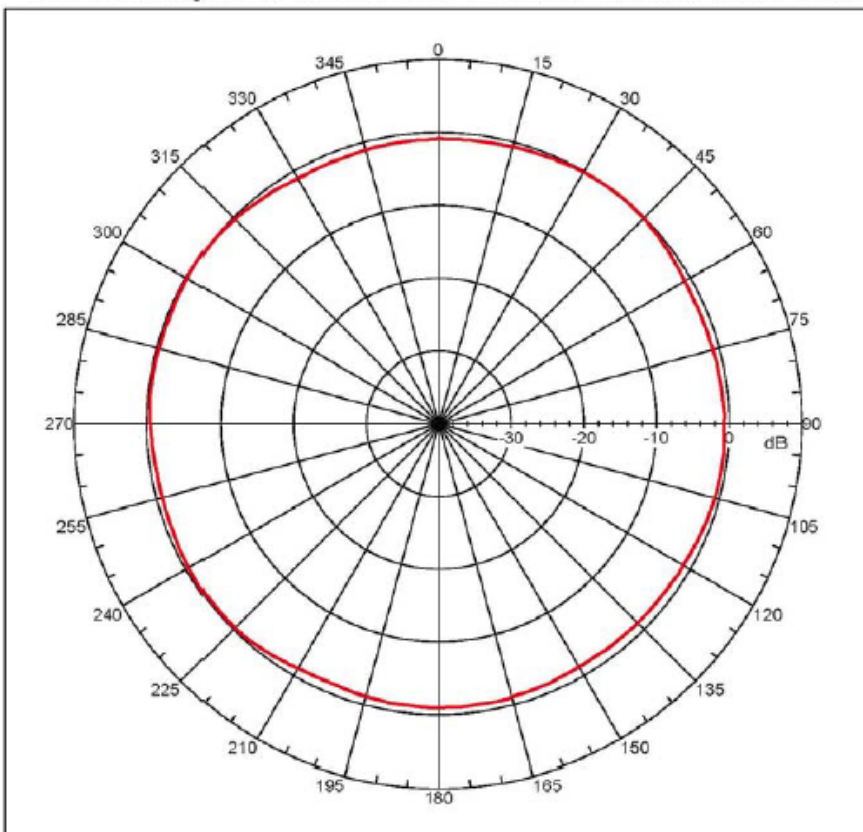
```

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.03944 dBi
Max far-field (global) = -47.9764 dB, Max far-field (plot) =
-47.9764 dB
Normalization: Reference, Network offset = 0.080 dB
Vpeak at: 85.9999 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H
NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement Date/Time: 7/1/2015 3:36:20 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -2.231 dB
-3. dB beam width: 37.22 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Side-lobe: -8.27 dB at 37.287 deg
Right Side-lobe: Not Found
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
11 1.900 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 2170MHz: 0.020 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



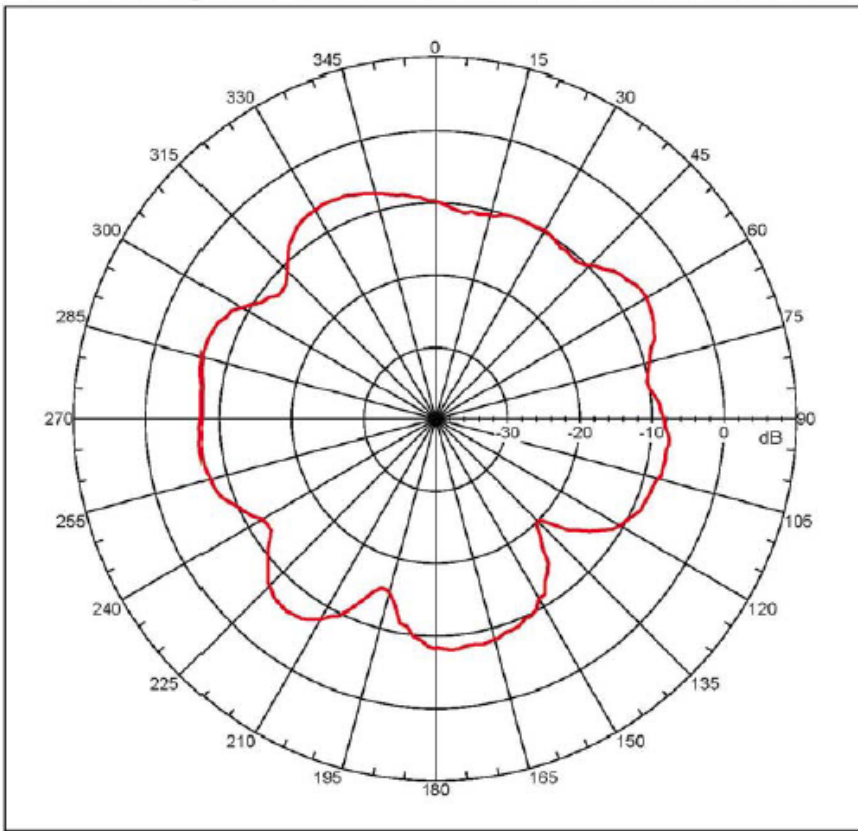
```

Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 0.020 dBi
Max far-field (global) = -47.51211 dB, Max far-field (plot) =
-47.51212 dB
Normalization: Reference, Network offset = 0.080 dB
Vpeak at: 29.9999 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H
NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement Date/Time: 7/1/2015 3:36:20 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -0.759 dB
-3. dB beam width: Not Found
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Side-lobe: -8.09 dB at -51.285 deg
Right Side-lobe: Not Found
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
----
12 2.170 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 2400MHz –6.23579 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



```

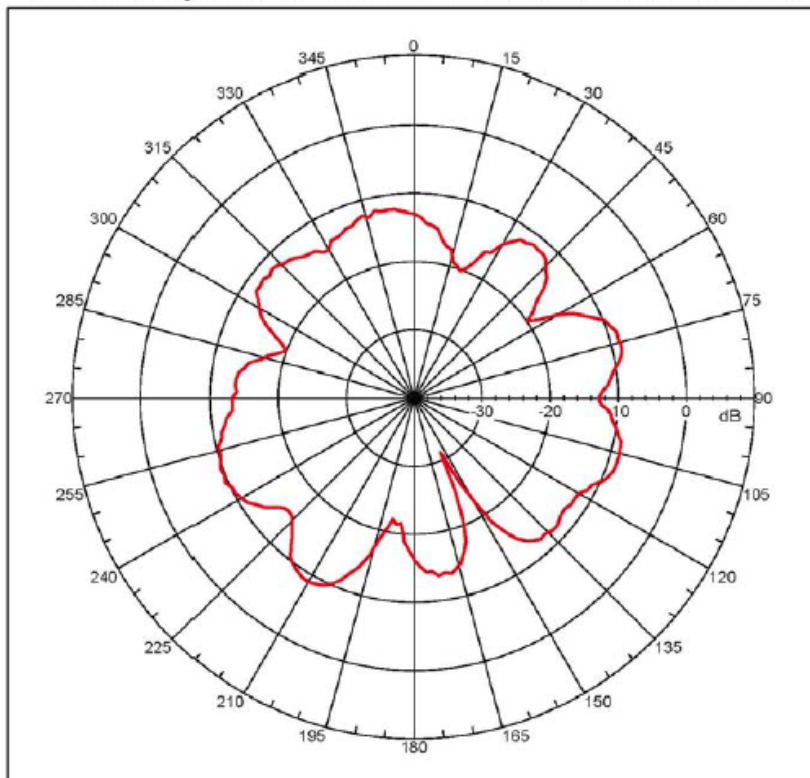
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -6.23579 dBi
Max far-field (global) = -55.24242 dB, Max far-field (plot) =
-55.24246 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 57.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H
NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement date/time: 7/1/2015 3:36:28 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -9.108 dB
-3. dB beam width: 28.34 deg
-6. dB beam width: 245.17 deg
-10. dB beam width: Not Found
Left Sidelobe: -9.32 dB at -21.117 deg
Right Sidelobe: -1.24 dB at 97.542 deg
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
---
12 2.400 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 2500MHz: -8.61832 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



```

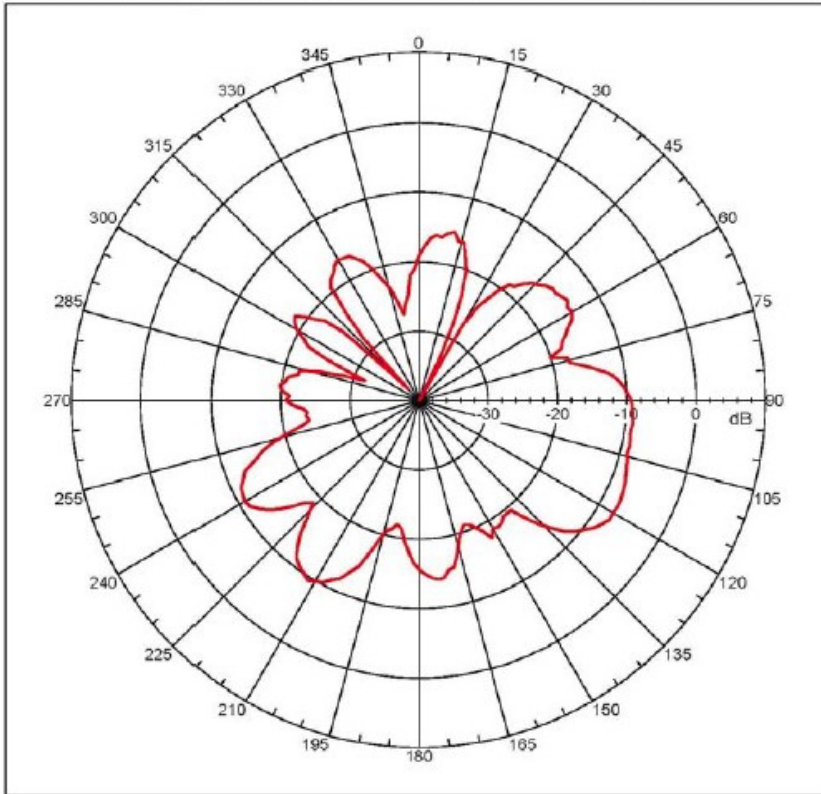
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -8.61832 dBi
Max far-field (global) = -59.75431 dB, Max far-field (plot) =
-59.75436 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 78.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H
NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement date/time: 7/1/2015 3:36:28 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -17.450 dB
-3. dB beam width: 21.28 deg
-6. dB beam width: 87.42 deg
-10. dB beam width: 99.70 deg
Left Sidelobe: -2.09 dB at 42.240 deg
Right Sidelobe: -0.07 dB at 107.599 deg
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
---
14 2.500 GHz Azimuth Elevation Single-pol
    
```

## H-Plane 2600MHz: -7.49977 dBi

Far-field amplitude of 20150701-4G ANT+CALBE-3.5M-H.nsi



```
Far-field amplitude, E-principal: Linear, Tau = 0.000 deg
Gain = -7.49977 dBi
Max far-field (global) = -57.93000 dB, Max far-field (plot) =
-57.91600 dB
Normalization: Reference, Network offset = 0.000 dB
Ypeak at: 117.99999 deg, Ypeak at: 0.000 deg
Plot centering: On

20150701-4G ANT+CALBE-3.5M-H

NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
150701-4G ANT+CALBE-3.5M\20150701-4G ANT+CALBE-3.5M-H.nsi
Measurement date/time: 7/1/2015 3:26:28 AM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -15.671 dB
-3. dB beam width: 44.15 deg
-6. dB beam width: 52.56 deg
-10. dB beam width: 62.50 deg
Left sidelobe: -7.01 dB at 61.341 deg
Right sidelobe: -10.84 dB at 153.855 deg
Far-field display setup
Azimuth (deg)
Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000
deg
Elevation (deg)
Center = 0.000 deg, #pts = 1
Selected beam(s) 1 of 15
Beam Frequency Azimuth Elevation Pol
15 2.600 GHz Azimuth Elevation Single-pol
```

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