

# Marine GSM/3G Antenna

Model : GSM100G



## 1. GENERAL DESCRIPTION

Model No
GSM100G-N(F)

### 1.1 Electrical Properties

Parameter	Description
Frequency Band	824~2170 MHz
Nominal Impedance	50 ohm
Polarization	Vertical
Return Loss	Please See Data-1
V.S.W.R	3.0:1
Gain	5dbi

## 1.2 Mechanical Properties

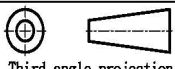
Parameter	Description
Antenna Type	Base Antenna
Antenna Cover	Fiber
Connector Type	N (Female)
Antenna Dimensions	756mm ±50
Antenna Color	White
Operating Temperature Range	-20°C~+60°C
Storage Temperature Range	-30°C~+70°C

## 2. Appearance

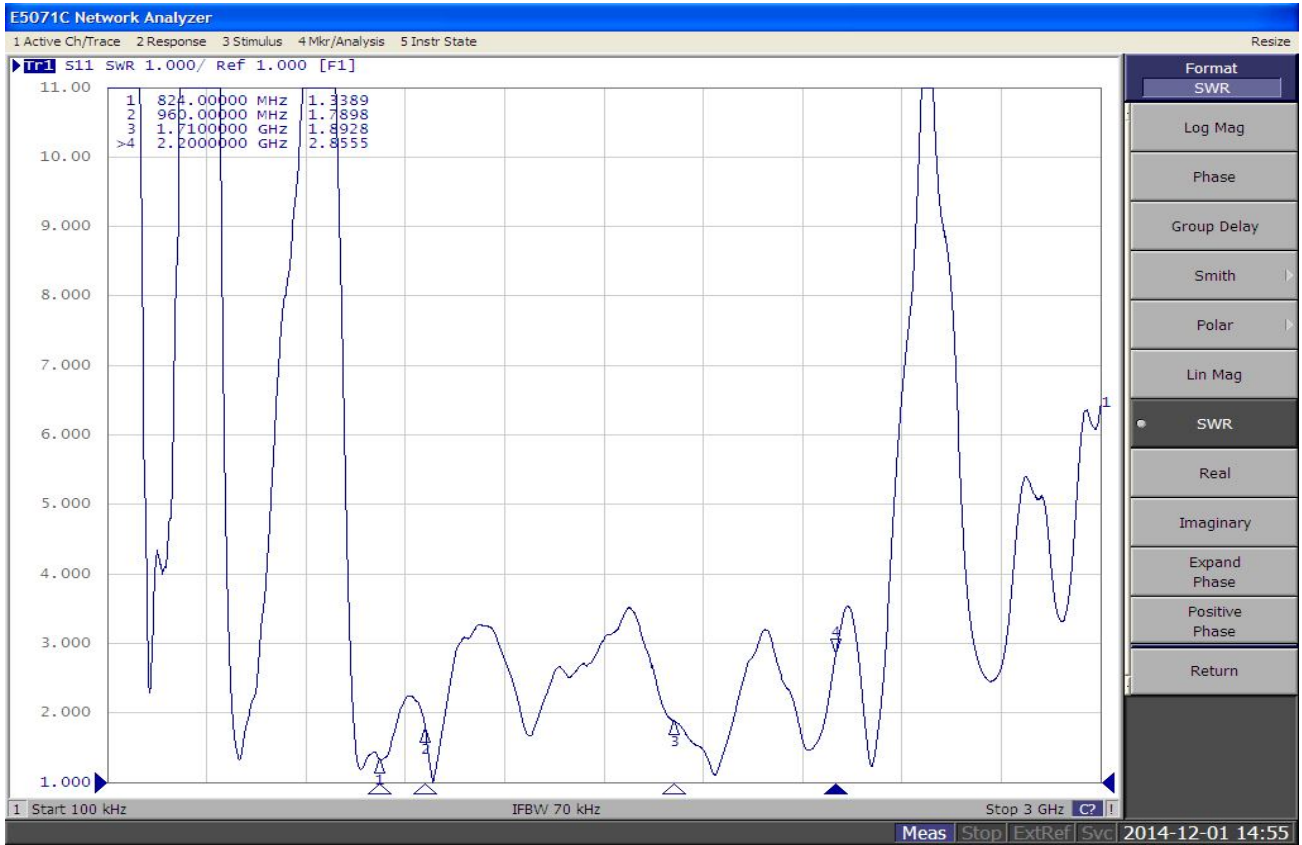
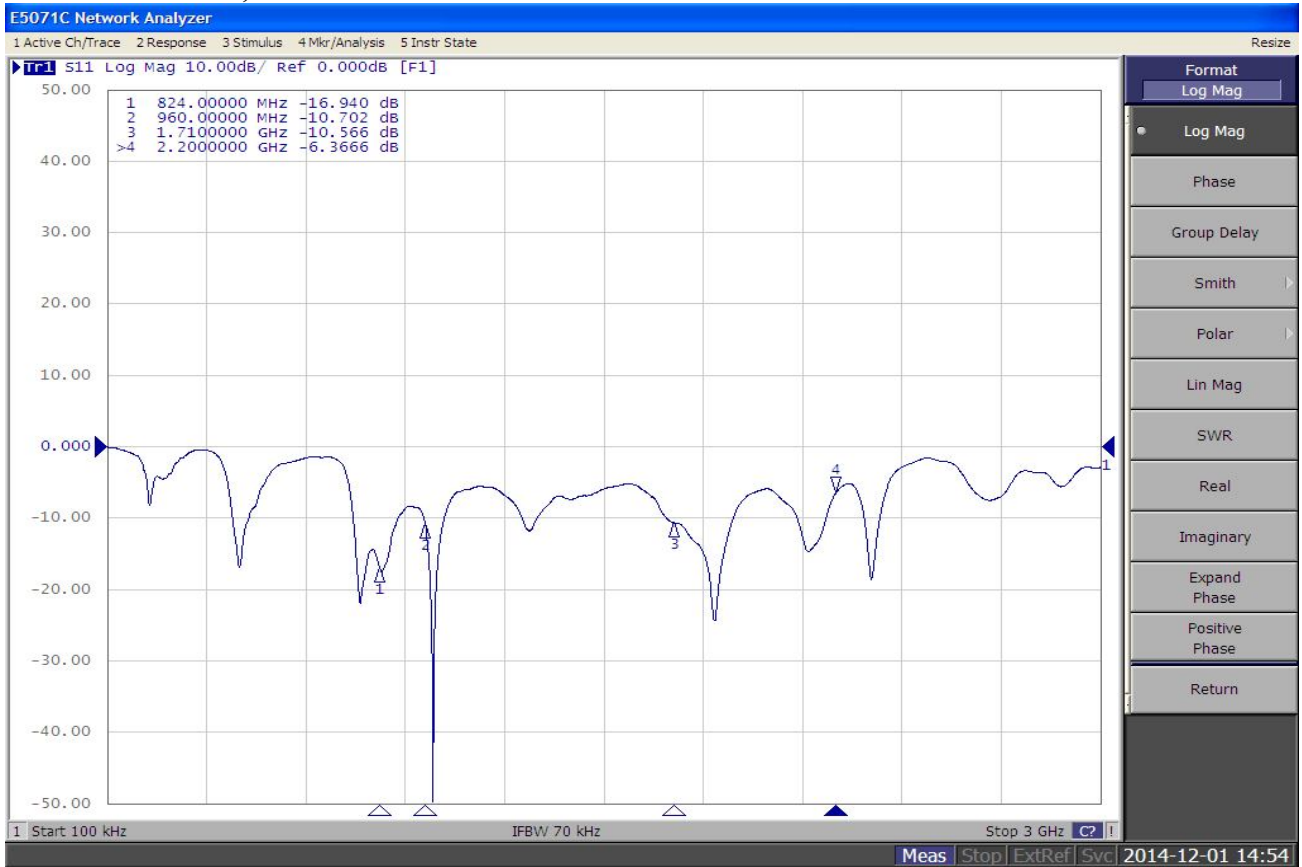
NO.	NAME	Q, TY
01	Fiberglass	01
02	Top cap	01
03	N (Female)	01
04	Rigid joint	01
05	Connecting vopper pipe	01

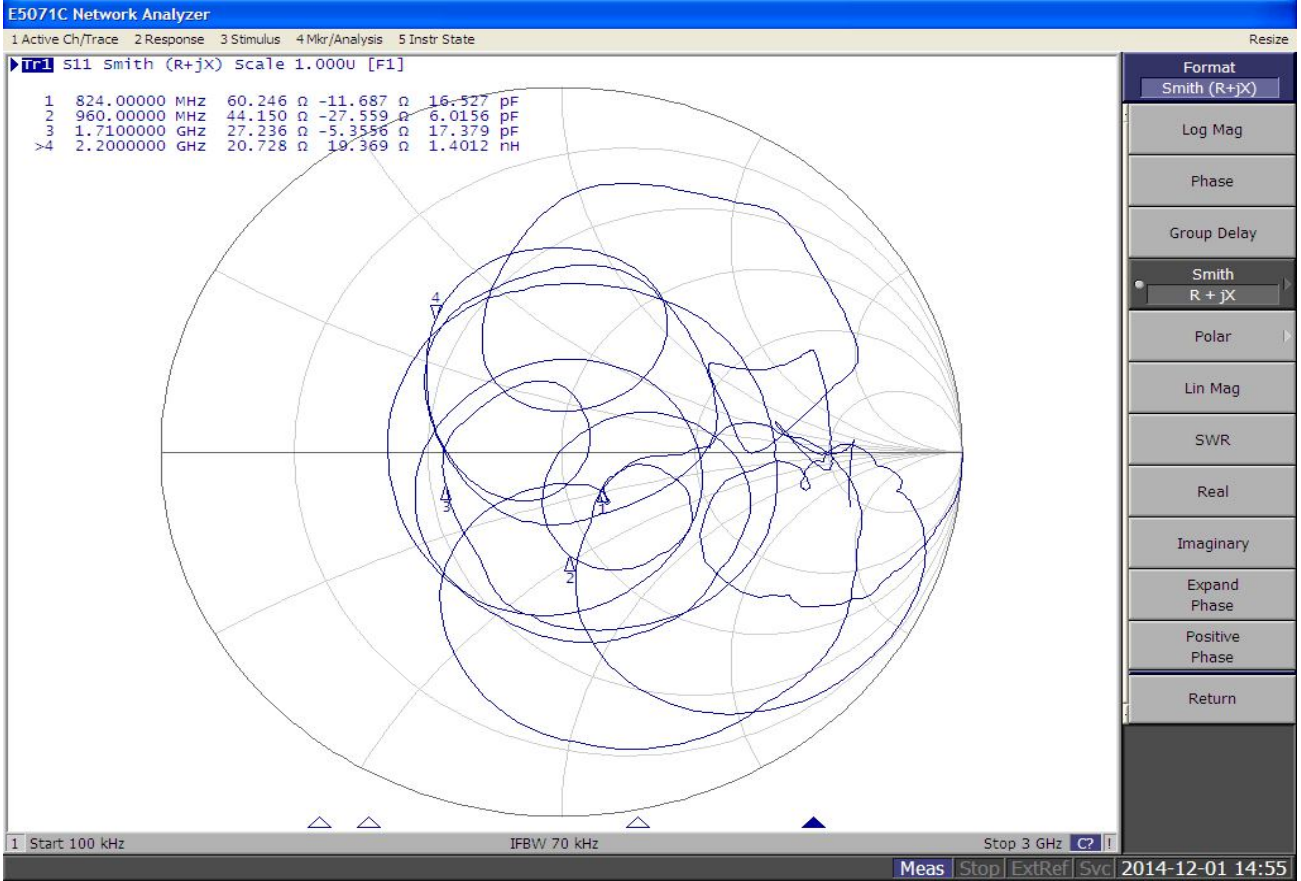
⇒ G1"-11  
⇒ 1"-14

FREQUENCY: 800~2200MHz

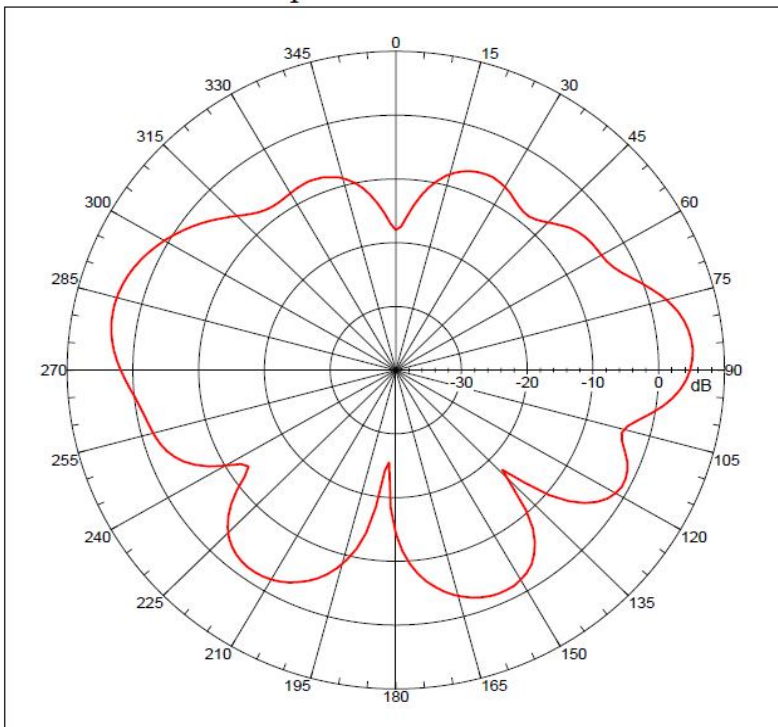
 Third angle projection	CUSTOMER'S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
						M/M		20150204
	TOLERANCE	X. XX±0.15	NAME	PARTS NUMBER	APPROVED	CHECKED	DRAWING	DESIGNED
	SURFACE ROUGHNESS	$\frac{S}{\nabla}$	APPEARANCE					

### 3. Return Loss, V.S.W.R. and Smith Chart





Far-field amplitude of GSM-100G-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 5.2792 dBi  
 Max far-field (global) = -37.46907 dB, Max far-field (plot) = -37.4691 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Rpeak at: 85.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

GSM-100G

NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\Y.  
 H.T\GSM-100G\GSM-100G-E.nsi

Measurement date/time: 3/4/2015 9:11:20 AM, Filetype: NSI-97

Far-field Cut Analysis:  
 Avg value: -3.194 dB  
 -3. dB beam width: 21.81 deg  
 -6. dB beam width: 31.17 deg  
 -10. dB beam width: 74.09 deg  
 Left Sidelobe: -11.62 dB at 27.151 deg  
 Right Sidelobe: -6.34 dB at 119.665 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

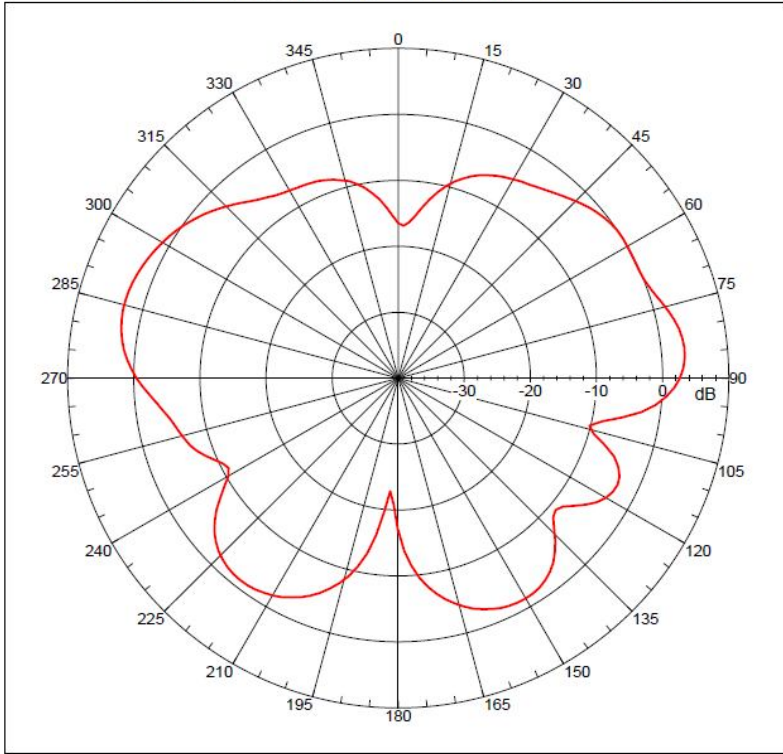
Elevation (deg)  
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 7

Beam	Frequency	Azimuth	Elevation	Pol
1	0.806 GHz	Azimuth	Elevation	Single-pol



### Far-field amplitude of GSM-100G-E.nsi



```

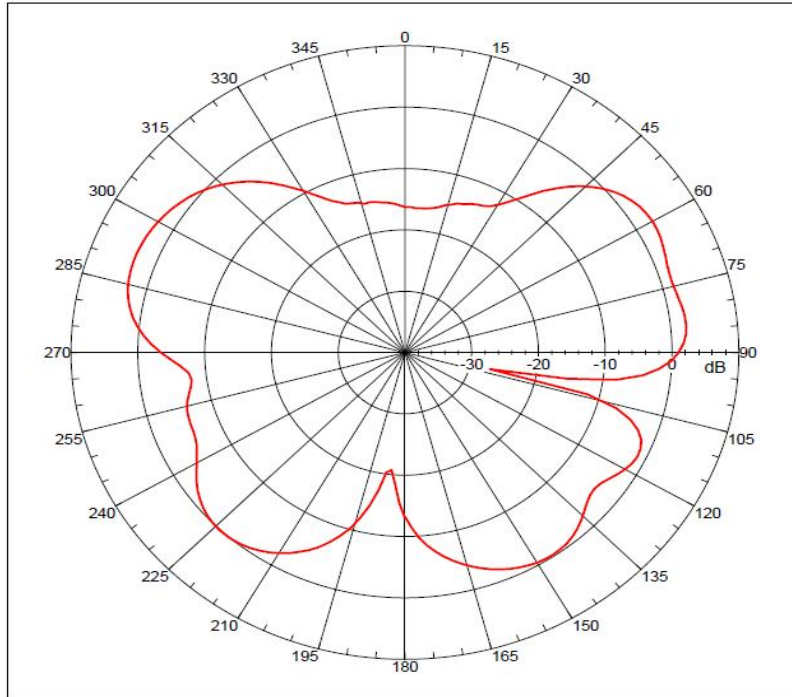
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 3.51449 dB
Max far-field (global) = -38.01858 dB, Max far-field (plot) =
-38.01863 dB
Normalization: Reference, Network offset = 0.000 dB
Peak at: 84.000 deg, Vpeak at: 0.000 deg
Plot centering: On

GSM-100G

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.
H.T\GSM-100G\GSM-100G-E.nsi
Measurement date/time: 3/4/2015 9:11:20 AM, Filetype: NSI-97
Far-field Cut Analysis:
  Avg value: -3.393 dB
  -3. dB beam width: 23.77 deg
  -6. dB beam width: 54.50 deg
  -10. dB beam width: 77.64 deg
  Left Sidelobe: -0.43 dB at 75.419 deg
  Right Sidelobe: -6.61 dB at 117.654 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 7
Beam  Frequency  Azimuth  Elevation  Pol
----  -
2      0.850 GHz  Azimuth  Elevation  Single-pol
    
```

### Far-field amplitude of GSM-100G-E.nsi



```

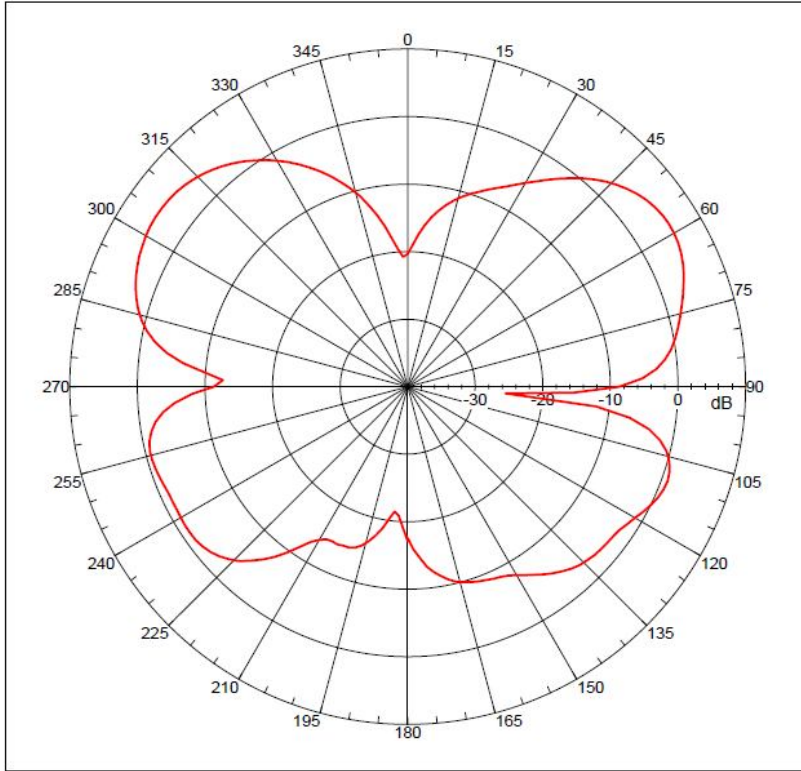
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 3.269 dB
Max far-field (global) = -38.29068 dB, Max far-field (plot) =
-38.29072 dB
Normalization: Reference, Network offset = 0.000 dB
Peak at: -88.000 deg, Vpeak at: 0.000 deg
Plot centering: On

GSM-100G

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.
H.T\GSM-100G\GSM-100G-E.nsi
Measurement date/time: 3/4/2015 9:11:20 AM, Filetype: NSI-97
Far-field Cut Analysis:
  Avg value: -3.145 dB
  -3. dB beam width: 24.83 deg
  -6. dB beam width: 47.40 deg
  -10. dB beam width: 60.26 deg
  Left Sidelobe: -3.37 dB at 135.754 deg
  Right Sidelobe: -0.48 dB at 61.341 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 7
Beam  Frequency  Azimuth  Elevation  Pol
----  -
3      0.900 GHz  Azimuth  Elevation  Single-pol
    
```

### Far-field amplitude of GSM-100G-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 5.53456 dBi  
 Max far-field (global) = -37.09541 dB, Max far-field (plot) = -37.09544 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Rpeak at: 57.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

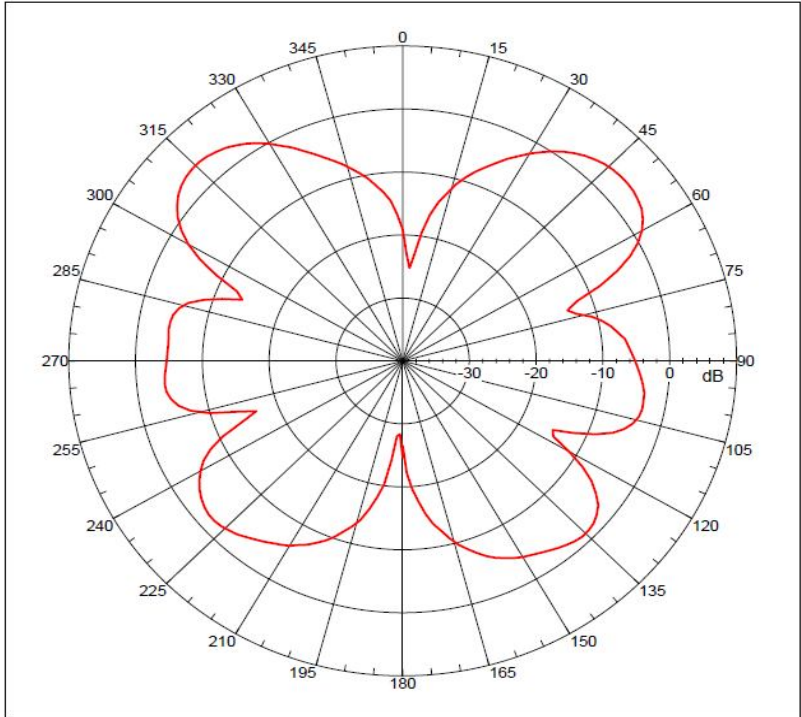
GSM-100G

NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\Y.H.T\GSM-100G\GSM-100G-E.nsi  
 Measurement date/time: 3/4/2015 9:11:20 AM, Filetype: NSI-97  
 Far-field Cut Analysis:  
 Avg value: -2.156 dB  
 -3. dB beam width: 28.10 deg  
 -6. dB beam width: 43.11 deg  
 -10. dB beam width: 56.11 deg  
 Left Sidelobe: -0.57 dB at -55.307 deg  
 Right Sidelobe: -4.61 dB at 111.620 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 7

Beam	Frequency	Azimuth	Elevation	Pol
4	0.960 GHz	Azimuth	Elevation	Single-pol

### Far-field amplitude of GSM-100G-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 3.90965 dBi  
 Max far-field (global) = -42.91239 dB, Max far-field (plot) = -42.91243 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Rpeak at: 49.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

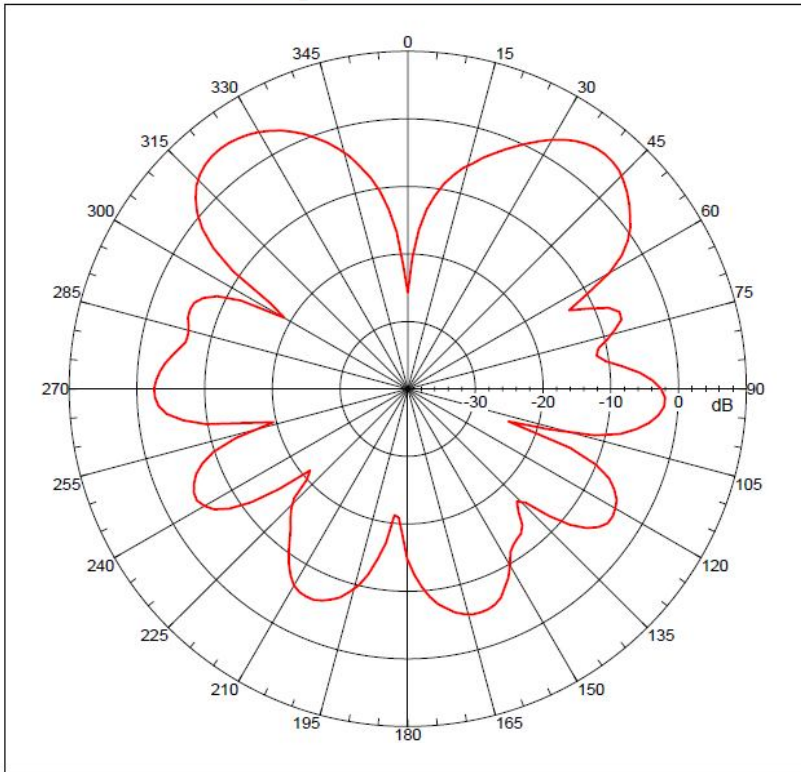
GSM-100G

NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\Y.H.T\GSM-100G\GSM-100G-E.nsi  
 Measurement date/time: 3/4/2015 9:11:20 AM, Filetype: NSI-97  
 Far-field Cut Analysis:  
 Avg value: -4.447 dB  
 -3. dB beam width: 29.05 deg  
 -6. dB beam width: 34.28 deg  
 -10. dB beam width: 43.74 deg  
 Left Sidelobe: -2.04 dB at 43.240 deg  
 Right Sidelobe: -7.23 dB at 103.575 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 7

Beam	Frequency	Azimuth	Elevation	Pol
5	1.800 GHz	Azimuth	Elevation	Single-pol

### Far-field amplitude of GSM-100G-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 5.34751 dB  
 Max far-field (global) = -41.68945 dB, Max far-field (plot) = -41.68945 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Peak at: 39.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

GSM-100G

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.  
 E.T\GSM-100G\GSM-100G-E.nsi  
 Measurement date/time: 3/4/2015 9:11:20 AM, Filetype: NSI-97

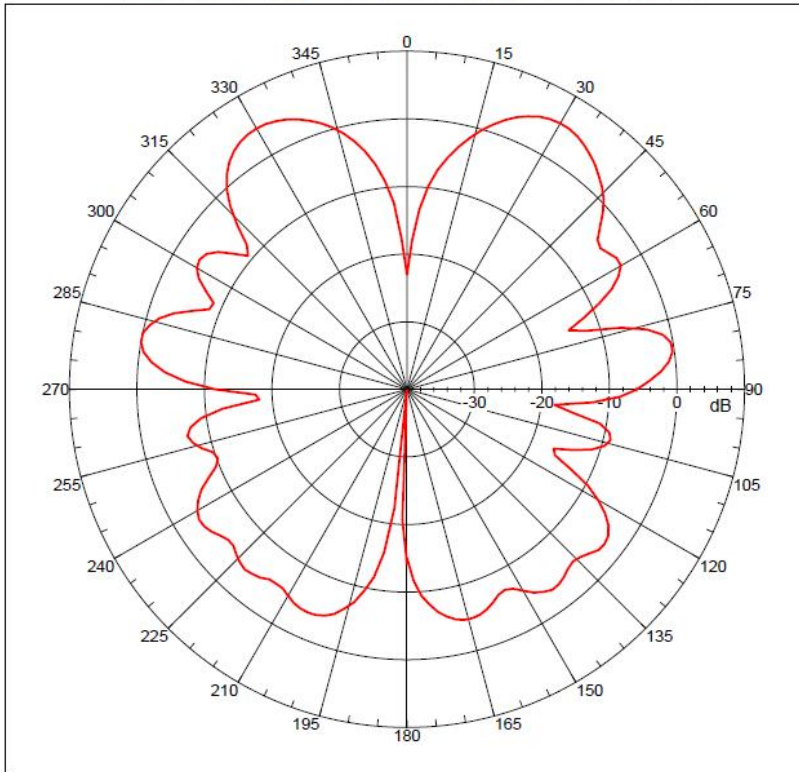
Far-field Cut Analysis:  
 Avg value: -4.525 dB  
 -3. dB beam width: 21.25 deg  
 -6. dB beam width: 31.92 deg  
 -10. dB beam width: 42.56 deg  
 Left Sidelobe: -0.29 dB at -37.207 deg  
 Right Sidelobe: -12.96 dB at 71.397 deg

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 7

Beam	Frequency	Azimuth	Elevation	Pol
6	1.900 GHz	Azimuth	Elevation	Single-pol

### Far-field amplitude of GSM-100G-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 5.40464 dB  
 Max far-field (global) = -42.12747 dB, Max far-field (plot) = -42.12747 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Peak at: 29.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

GSM-100G

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.  
 E.T\GSM-100G\GSM-100G-E.nsi  
 Measurement date/time: 3/4/2015 9:11:20 AM, Filetype: NSI-97

Far-field Cut Analysis:  
 Avg value: -3.613 dB  
 -3. dB beam width: 22.09 deg  
 -6. dB beam width: 32.20 deg  
 -10. dB beam width: 51.65 deg  
 Left Sidelobe: -0.89 dB at -29.162 deg  
 Right Sidelobe: -8.81 dB at 59.330 deg

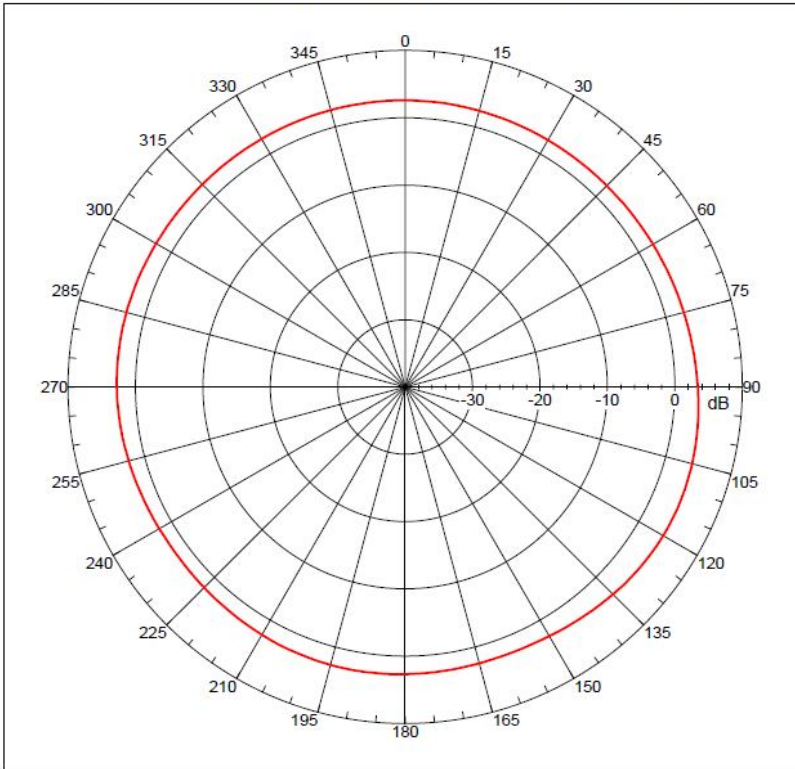
Far-field display setup  
 Azimuth (deg)  
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181  
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg  
 Elevation (deg)  
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 7

Beam	Frequency	Azimuth	Elevation	Pol
7	2.170 GHz	Azimuth	Elevation	Single-pol



### Far-field amplitude of GSM-100G-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 4.22049 dBi  
 Max far-field (global) = -38.51778 dB, Max far-field (plot) = -38.5178 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Rpeak at: 113.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

GSM-100G-H

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.H.T\GSM-100G\GSM-100G-H.nsi  
 Measurement date/time: 3/4/2015 9:18:17 AM, Filetype: NSI-97

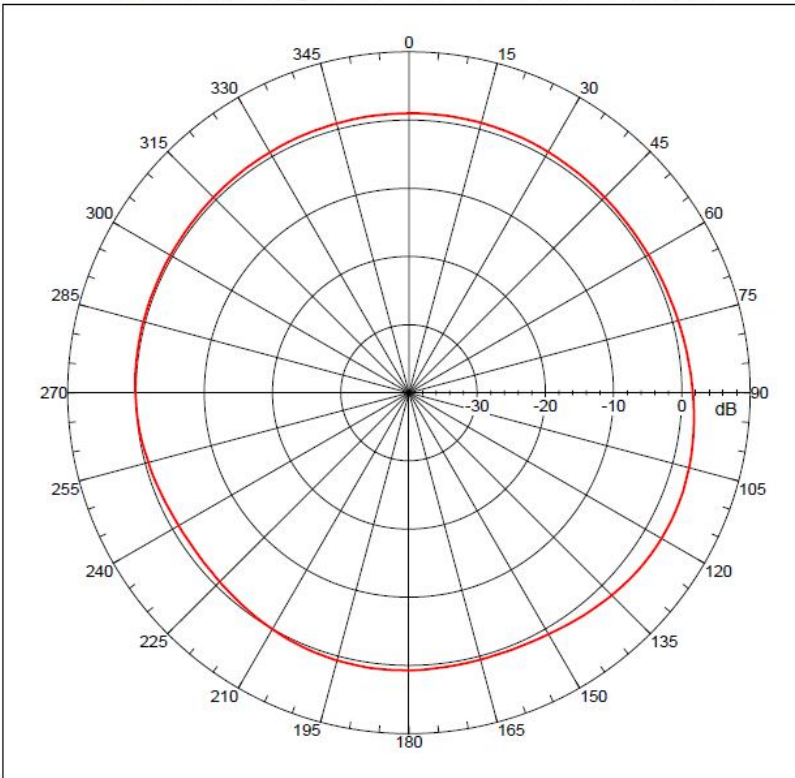
Far-field Cut Analysis:  
 Avg value: 2.761 dB  
 -3. dB beam width: Not Found  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: Not Found  
 Right Sidelobe: Not Found

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 7

Beam	Frequency	Azimuth	Elevation	Pol
1	0.806 GHz	Azimuth	Elevation	Single-pol

### Far-field amplitude of GSM-100G-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 2.77203 dBi  
 Max far-field (global) = -38.76004 dB, Max far-field (plot) = -38.76005 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Rpeak at: 116.000 deg, Vpeak at: 0.000 deg  
 Plot centering: On

GSM-100G-H

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.H.T\GSM-100G\GSM-100G-H.nsi  
 Measurement date/time: 3/4/2015 9:18:17 AM, Filetype: NSI-97

Far-field Cut Analysis:  
 Avg value: 0.739 dB  
 -3. dB beam width: Not Found  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: -2.01 dB at -171.955 deg  
 Right Sidelobe: Not Found

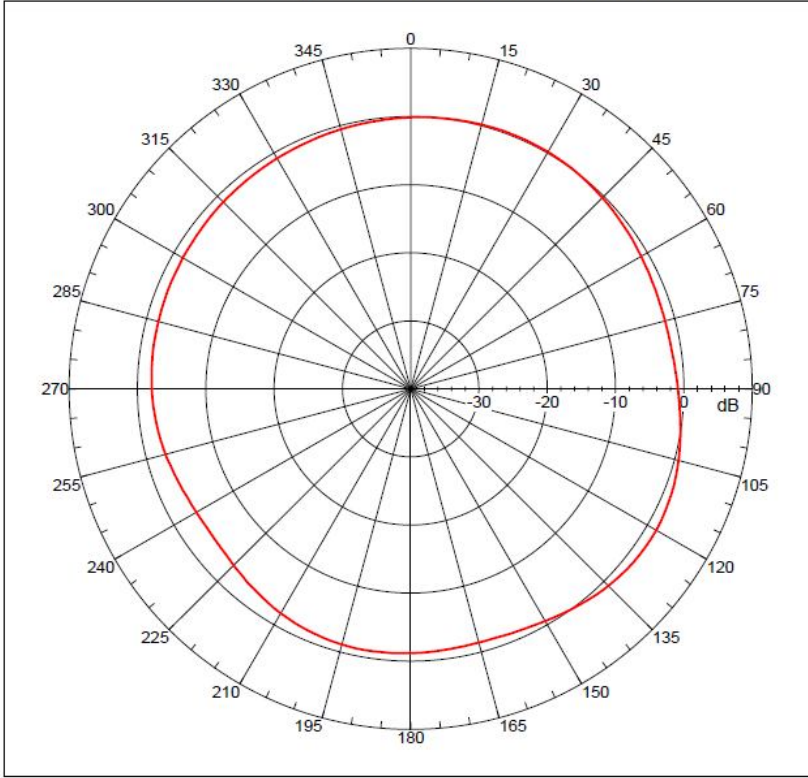
Far-field display setup  
 Azimuth (deg)  
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181  
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg  
 Elevation (deg)  
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 7

Beam	Frequency	Azimuth	Elevation	Pol
2	0.850 GHz	Azimuth	Elevation	Single-pol



### Far-field amplitude of GSM-100G-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = 1.50312 dBi  
 Max far-field (global) = -40.05656 dB, Max far-field (plot) = -40.05656 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Vpeak at: 121.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

GSM-100G-H

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.  
 H.T\GSM-100G\GSM-100G-H.nsi  
 Measurement date/time: 3/4/2015 9:18:17 AM, Filetype: NSI-97

Far-field Cut Analysis:  
 Avg value: -0.956 dB  
 -3. dB beam width: Not Found  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: -1.28 dB at 27.151 deg  
 Right Sidelobe: Not Found

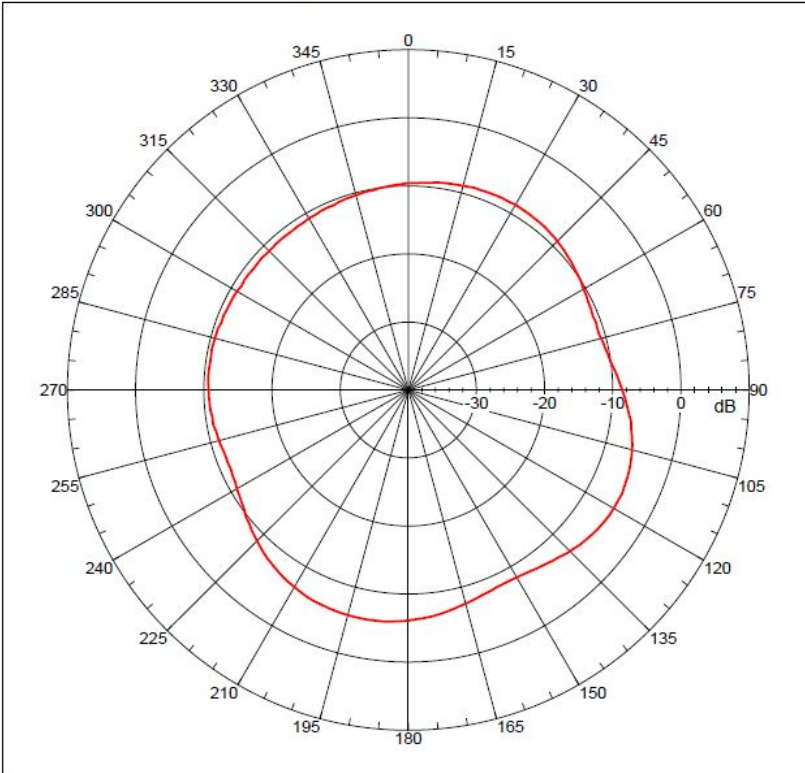
Far-field display setup

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 7

Beam	Frequency	Azimuth	Elevation	Pol
3	0.900 GHz	Azimuth	Elevation	Single-pol

### Far-field amplitude of GSM-100G-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = -8.14517 dBi  
 Max far-field (global) = -47.77484 dB, Max far-field (plot) = -47.77482 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Vpeak at: 116.000 deg, Vpeak at: 0.000 deg  
 Plot centering: On

GSM-100G-H

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.  
 H.T\GSM-100G\GSM-100G-H.nsi  
 Measurement date/time: 3/4/2015 9:18:17 AM, Filetype: NSI-97

Far-field Cut Analysis:  
 Avg value: -8.688 dB  
 -3. dB beam width: 57.23 deg  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: -3.42 dB at 31.173 deg  
 Right Sidelobe: Not Found

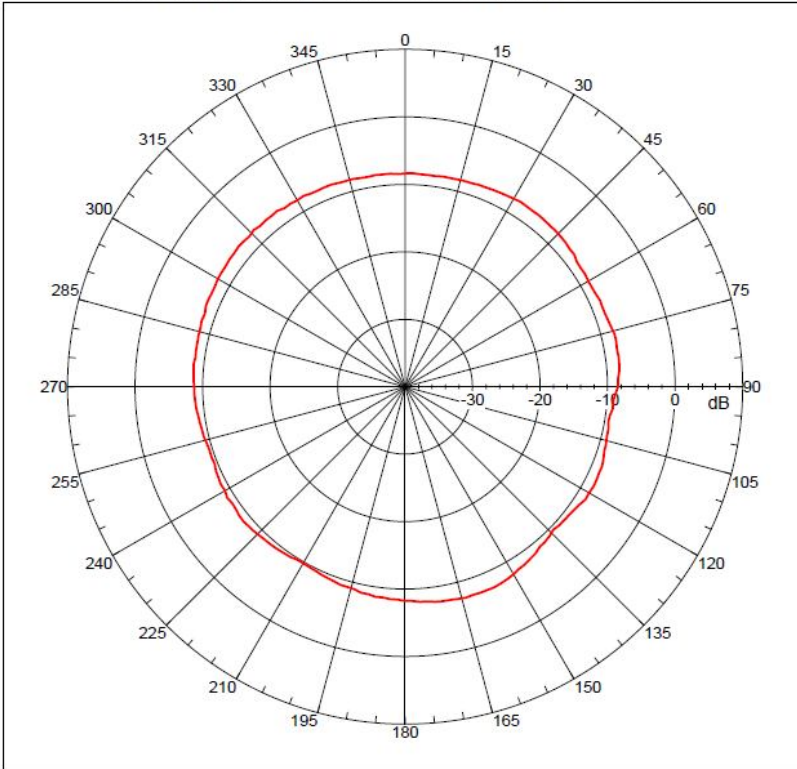
Far-field display setup

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 7

Beam	Frequency	Azimuth	Elevation	Pol
4	0.960 GHz	Azimuth	Elevation	Single-pol

### Far-field amplitude of GSM-100G-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = -7.45515 dB  
 Max far-field (global) = -54.27719 dB, Max far-field (plot) = -54.27725 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Peak at: 155.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

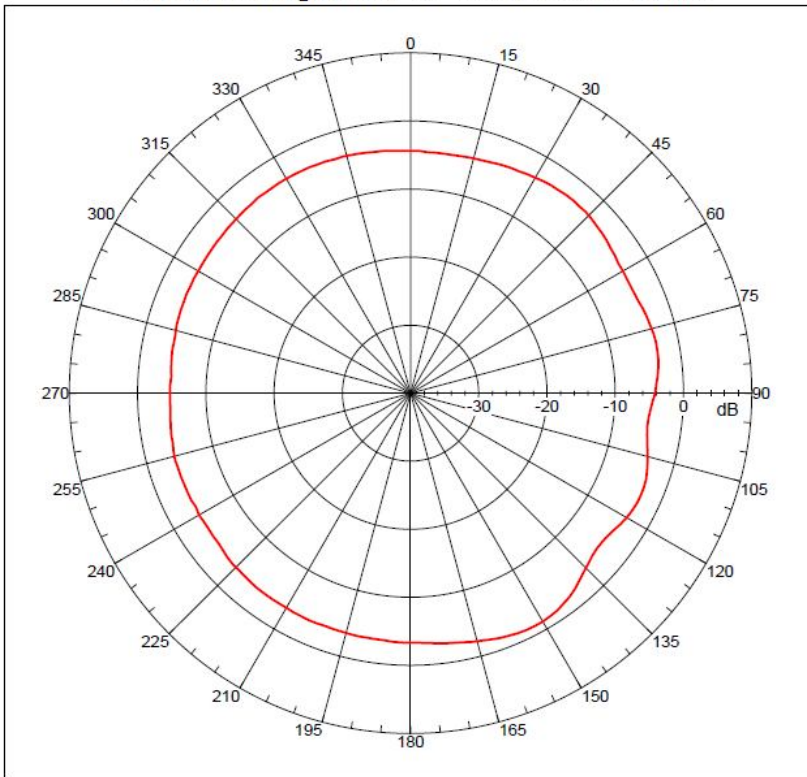
GSM-100G-H

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.  
 H.T\GSM-100G\GSM-100G-H.nsi  
 Measurement date/time: 3/4/2015 9:18:17 AM, Filetype: NSI-97  
 Far-field Cut Analysis:  
 Avg value: -8.458 dB  
 -3. dB beam width: Not Found  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: -0.96 dB at 119.665 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 7

Beam	Frequency	Azimuth	Elevation	Pol
5	1.800 GHz	Azimuth	Elevation	Single-pol

### Far-field amplitude of GSM-100G-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = -1.22508 dB  
 Max far-field (global) = -48.27204 dB, Max far-field (plot) = -48.27214 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Peak at: 150.000 deg, Vpeak at: 0.000 deg  
 Plot centering: On

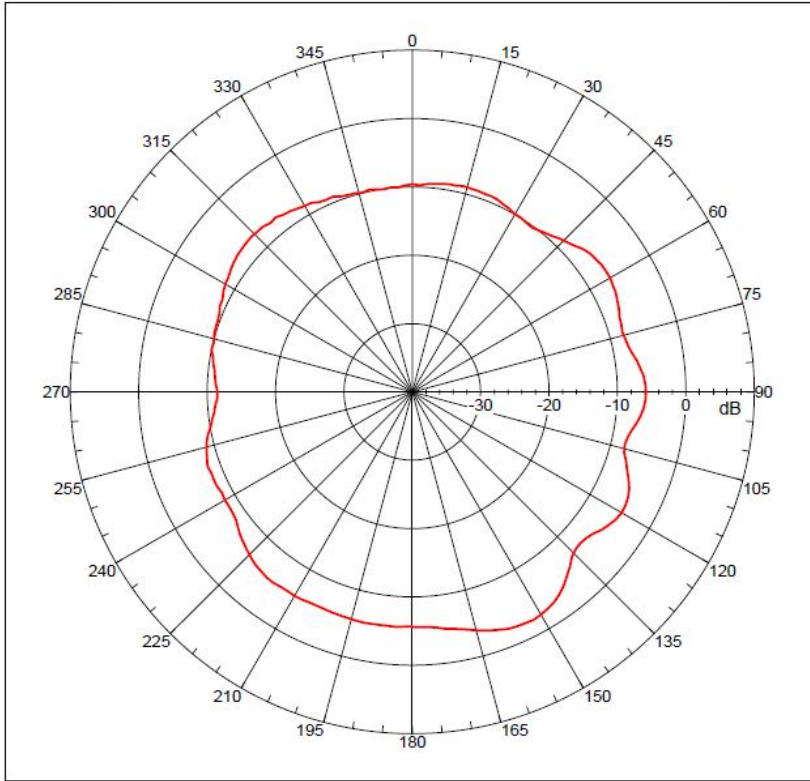
GSM-100G-H

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\Y.  
 H.T\GSM-100G\GSM-100G-H.nsi  
 Measurement date/time: 3/4/2015 9:18:17 AM, Filetype: NSI-97  
 Far-field Cut Analysis:  
 Avg value: -3.688 dB  
 -3. dB beam width: Not Found  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: -1.89 dB at 115.643 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 7

Beam	Frequency	Azimuth	Elevation	Pol
6	1.900 GHz	Azimuth	Elevation	Single-pol

# Far-field amplitude of GSM-100G-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg  
 Gain = -2.24547 dB  
 Max far-field (global) = -49.77758 dB, Max far-field (plot) =  
 -49.77759 dB  
 Normalization: Reference, Network offset = 0.000 dB  
 Peak at: 151.99999 deg, Vpeak at: 0.000 deg  
 Plot centering: On

GSM-100G-H

NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\Y.  
 H.T\GSM-100G\GSM-100G-H.nsi  
 Measurement date/time: 3/4/2015 9:18:17 AM, Filetype: NSI-97

Far-field Cut Analysis:  
 Avg value: -7.192 dB  
 -3. dB beam width: 34.74 deg  
 -6. dB beam width: Not Found  
 -10. dB beam width: Not Found  
 Left Sidelobe: -2.39 dB at 121.676 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 7

Beam	Frequency	Azimuth	Elevation	Pol
7	2.170 GHz	Azimuth	Elevation	Single-pol