

ADS-B Omni Antenna

Model : TH1090



1. GENERAL DESCRIPTION

Model No
TH1090-N(F)

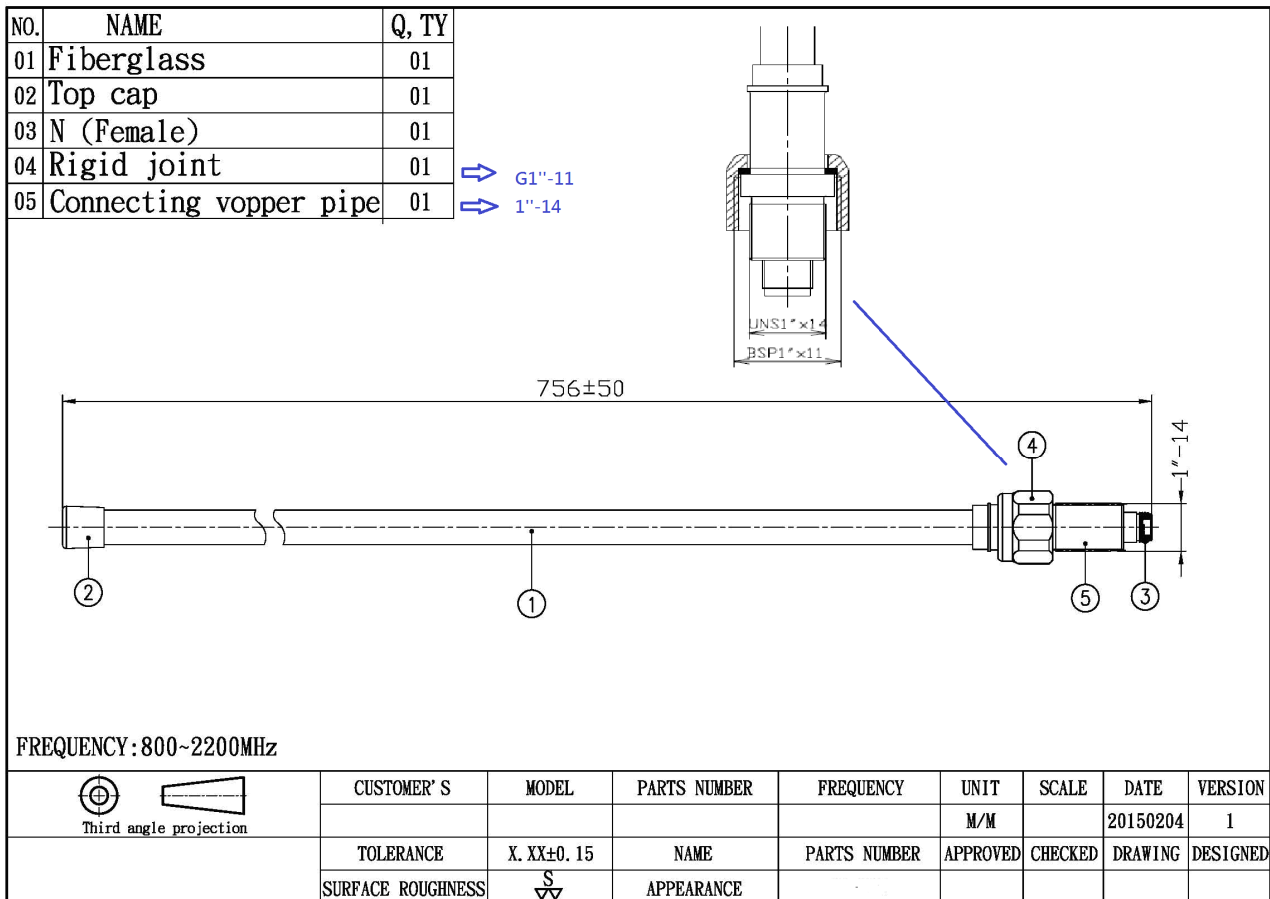
1.1 Electrical Properties

Parameter	Description
Frequency Band	1090±10MHz
Nominal Impedance	50 ohm
Polarization	Vertical
Return Loss	Please See Data-1
V.S.W.R	2.0:1
Gain	3dbi

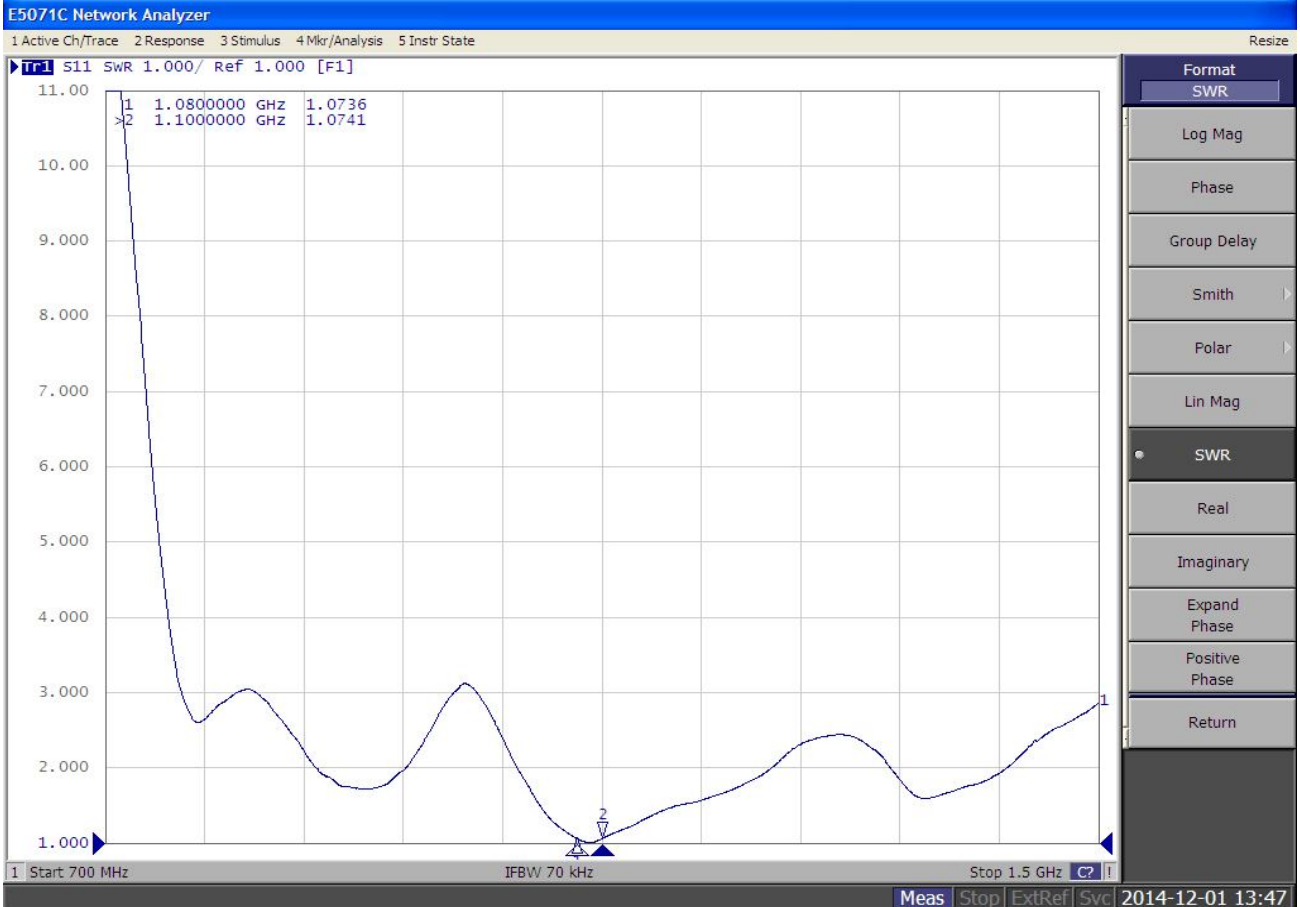
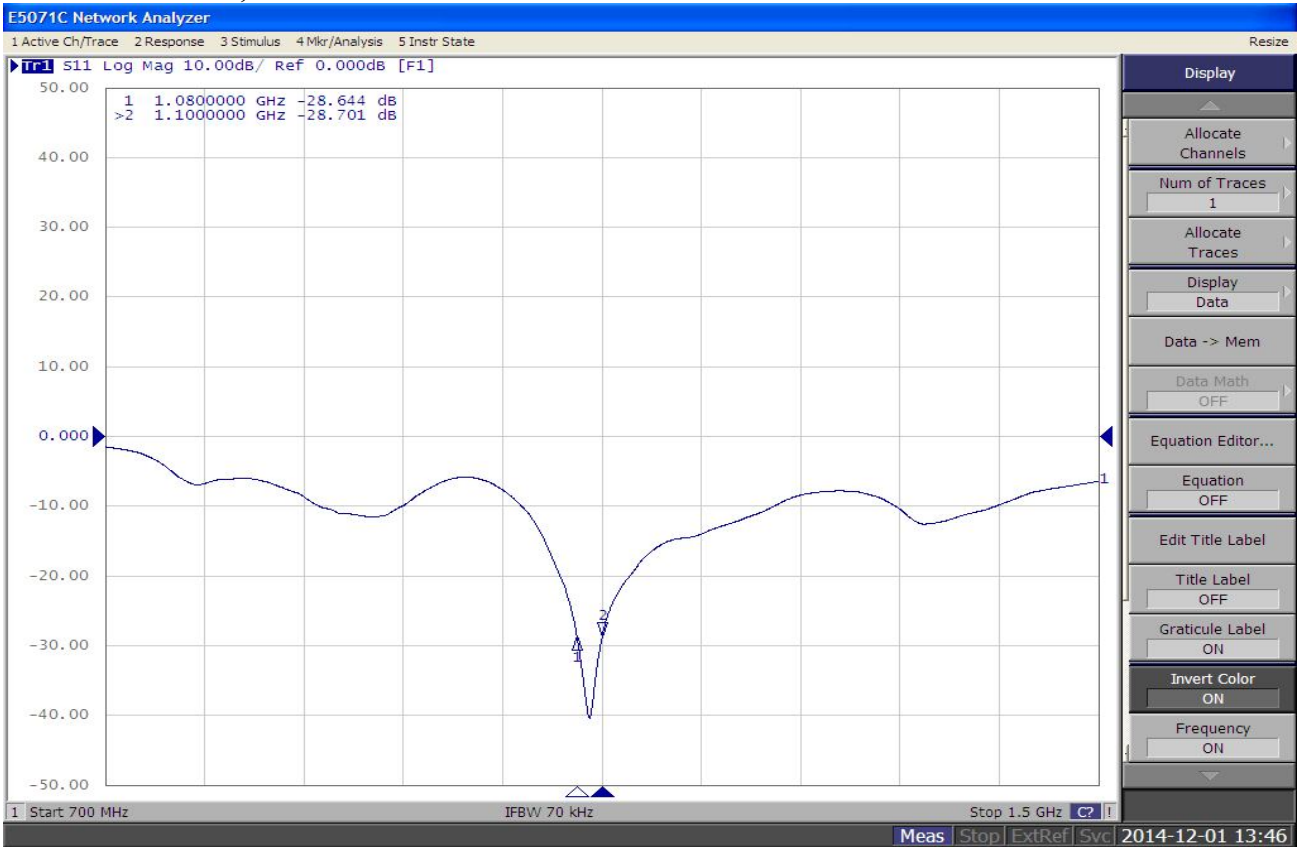
1.2 Mechanical Properties

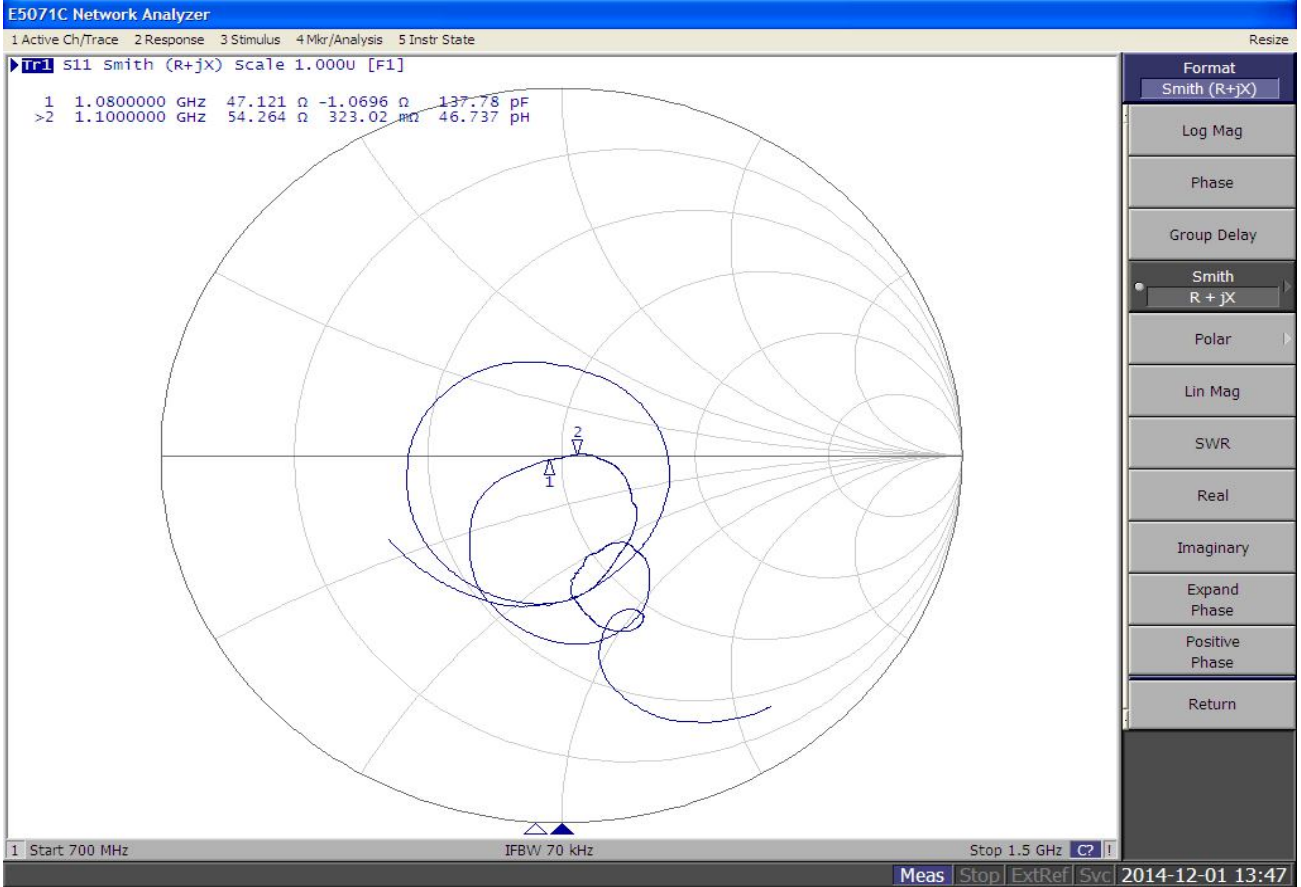
Parameter	Description
Antenna Type	Base Antenna
Antenna Cover	Fiber
Connector Type	N (Female)
Antenna Dimensions	756mm ±50
Antenna Color	White
Operating Temperature Range	-20°C~+60°C
Storage Temperature Range	-30°C~+70°C

2. Appearance

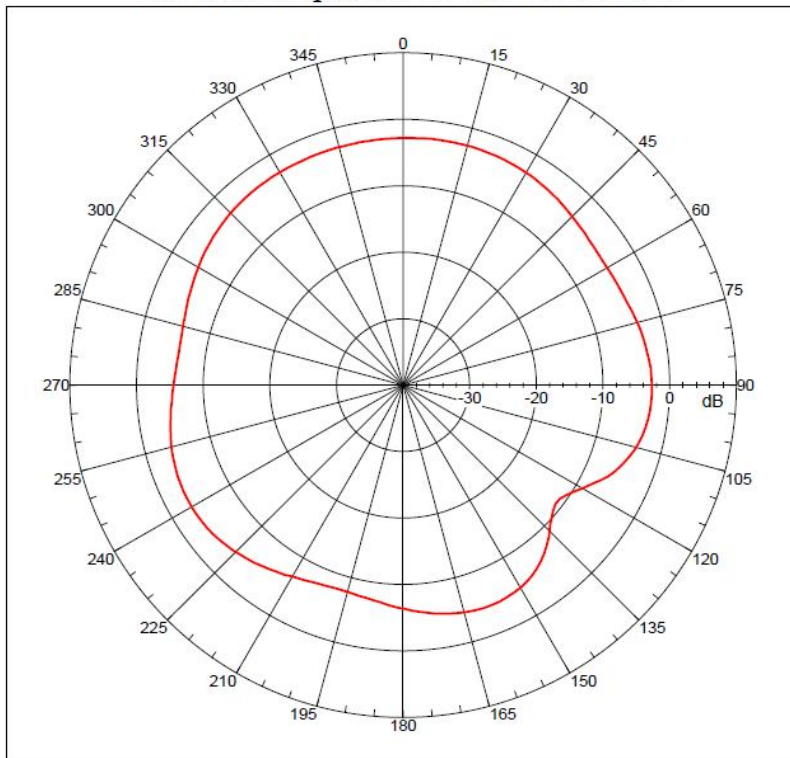


3. Return Loss, V.S.W.R. and Smith Chart





Far-field amplitude of TH-1090-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -2.64007 dB
Max far-field (global) = -45.90821 dB, Max far-field (plot) = -45.90823 dB
Normalization: Reference, Network offset = 0.000 dB
Rpeak at: 91.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

AIR-Wave FFC-700 800F-10 Measurement System ATP with SG430, dual-pol test.

NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\TH-1090-H.nsi
Measurement date/time: 3/4/2015 2:07:36 PM, Filetype: NSI-97

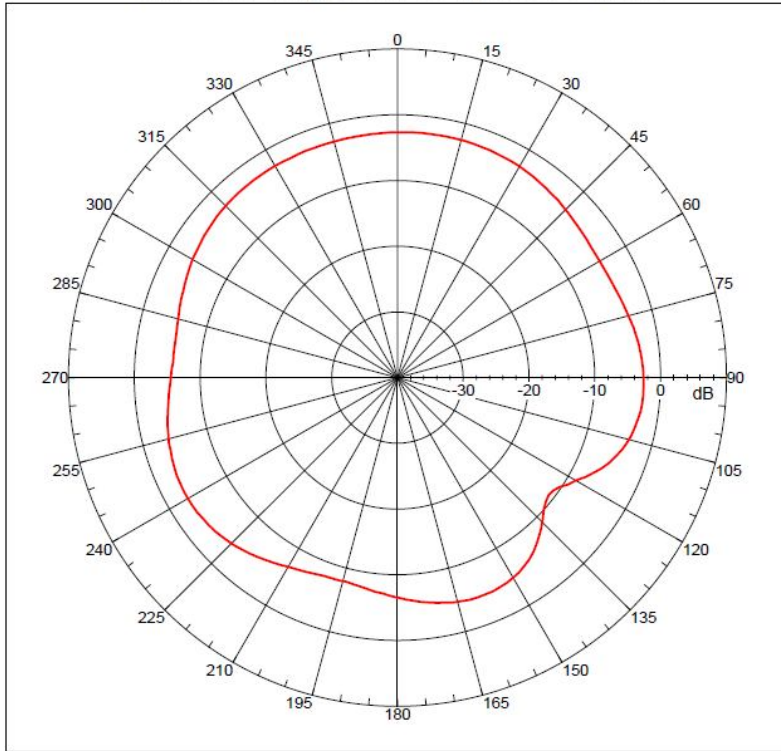
Far-field Cut Analysis:
Avg value: -4.530 dB
-3. dB beam width: 184.89 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: -0.16 dB at 23.129 deg
Right Sidelobe: -1.70 dB at 161.899 deg

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 4

Beam	Frequency	Azimuth	Elevation	Pol
1	1.080 GHz			Single-pol
2	1.100 GHz			Single-pol

Far-field amplitude of TH-1090-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -2.55787 dB
 Max far-field (global) = -46.09031 dB, Max far-field (plot) = -46.09032 dB
 Normalization: Reference, Network offset = 0.000 dB
 Rpeak at: 83.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

AIR-Wave FFC-700 800F-10 Measurement System ATP with SG430, dual-pol test.

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\TH-1090-H.nsi
 Measurement date/time: 3/4/2015 2:07:36 PM, Filetype: NSI-97

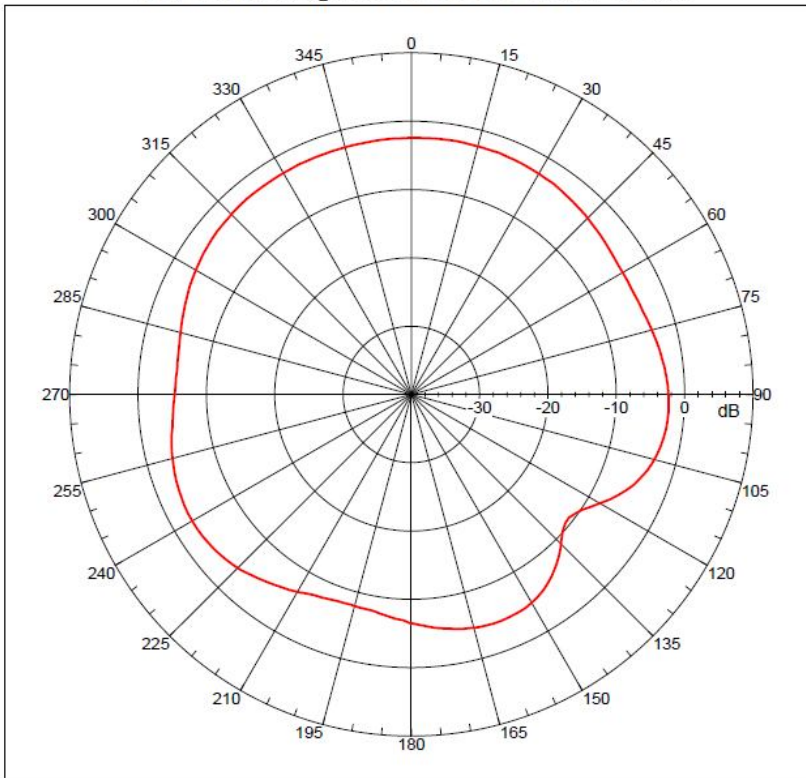
Far-field Cut Analysis:
 Avg value: -4.457 dB
 -3. dB beam width: 189.41 deg
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -0.10 dB at 23.129 deg
 Right Sidelobe: -1.83 dB at 157.877 deg

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 4

Beam	Frequency	Azimuth	Elevation	Pol
3	1.090 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of TH-1090-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -2.28664 dB
 Max far-field (global) = -46.27538 dB, Max far-field (plot) = -46.2754 dB
 Normalization: Reference, Network offset = 0.000 dB
 Rpeak at: 83.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

AIR-Wave FFC-700 800F-10 Measurement System ATP with SG430, dual-pol test.

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\TH-1090-H.nsi
 Measurement date/time: 3/4/2015 2:07:36 PM, Filetype: NSI-97

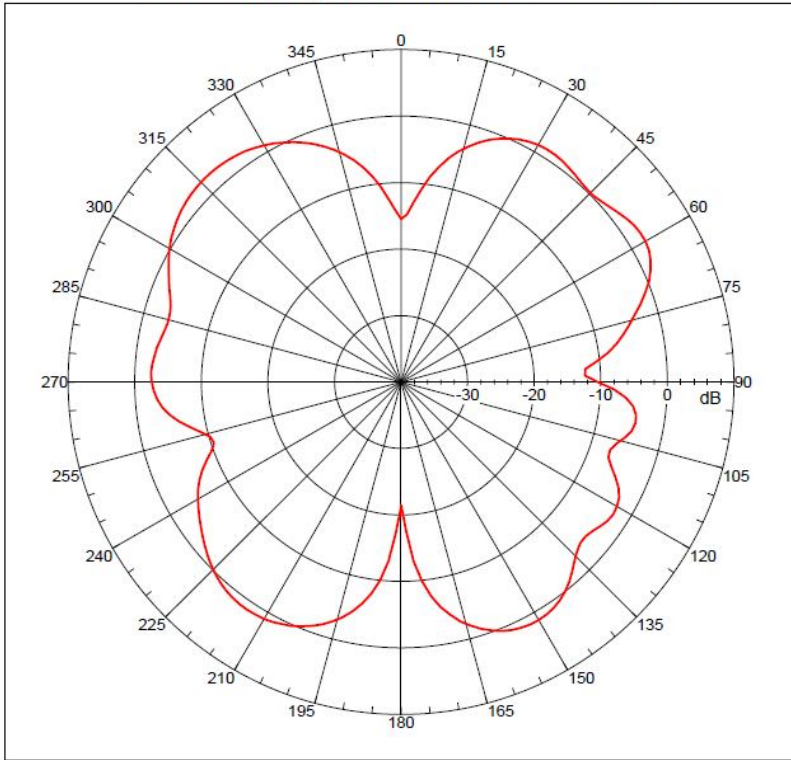
Far-field Cut Analysis:
 Avg value: -4.183 dB
 -3. dB beam width: 192.42 deg
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -0.51 dB at 35.196 deg
 Right Sidelobe: -2.06 dB at 159.888 deg

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 4

Beam	Frequency	Azimuth	Elevation	Pol
4	1.100 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of TH-1090-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 2.49381 dB
 Max far-field (global) = -40.77433 dB, Max far-field (plot) = -40.77433 dB
 Normalization: Reference, Network offset = 0.000 dB
 Rpeak at: -42.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

AIR-Wave FFC-700 800F-10 Measurement System ATP with SG430, dual-pol test.

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\TH-1090-E.nsi
 Measurement date/time: 3/4/2015 2:33:23 PM, Filetype: NSI-97

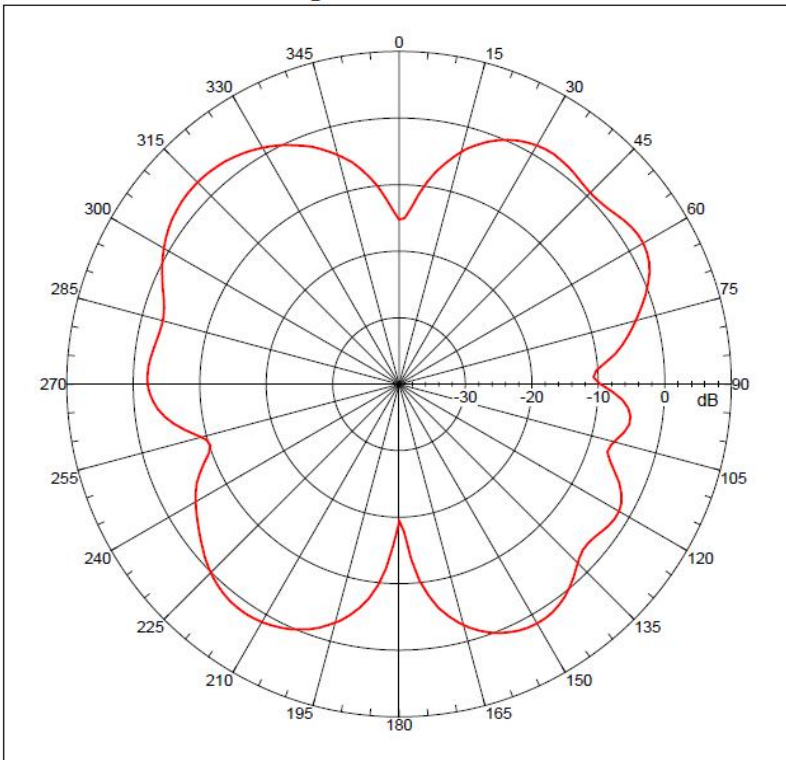
Far-field Cut Analysis:
 Avg value: -2.234 dB
 -3. dB beam width: 38.20 deg
 -6. dB beam width: 55.37 deg
 -10. dB beam width: 91.87 deg
 Left Sidelobe: -4.95 dB at -87.486 deg
 Right Sidelobe: -1.22 dB at 33.184 deg

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 4
 Beam Frequency Azimuth Elevation Pol

 2 1.080 GHz Azimuth Elevation Single-pol

Far-field amplitude of TH-1090-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 2.86856 dB
 Max far-field (global) = -40.66408 dB, Max far-field (plot) = -40.6641 dB
 Normalization: Reference, Network offset = 0.000 dB
 Rpeak at: -44.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

AIR-Wave FFC-700 800F-10 Measurement System ATP with SG430, dual-pol test.

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\TH-1090-E.nsi
 Measurement date/time: 3/4/2015 2:33:23 PM, Filetype: NSI-97

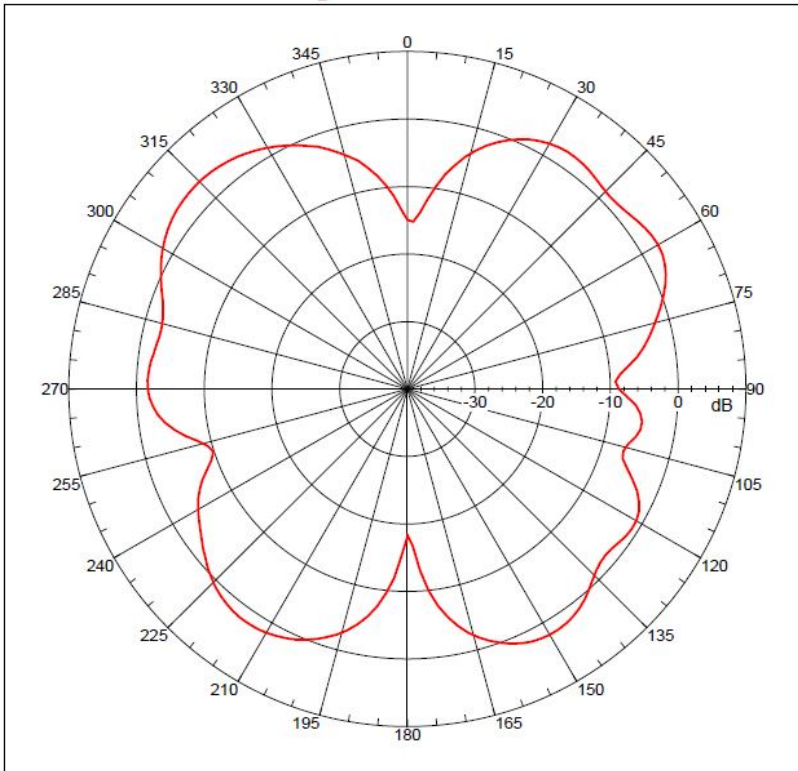
Far-field Cut Analysis:
 Avg value: -1.934 dB
 -3. dB beam width: 37.81 deg
 -6. dB beam width: 56.60 deg
 -10. dB beam width: 91.51 deg
 Left Sidelobe: -4.99 dB at -87.486 deg
 Right Sidelobe: -1.20 dB at 35.196 deg

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 4
 Beam Frequency Azimuth Elevation Pol

 3 1.090 GHz Azimuth Elevation Single-pol

Far-field amplitude of TH-1090-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 3.42003 dB
 Max far-field (global) = -40.55671 dB, Max far-field (plot) =
 -40.55672 dB
 Normalization: Reference, Network offset = 0.000 dB
 Rpeak at: -46.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

ATB-Wave FFC-700 800F-10 Measurement System ATP with SG430,
 dual-pol test.

NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\TH
 -1090-E.nsi
 Measurement date/time: 3/4/2015 2:33:23 PM, Filetype: NSI-97

Far-field Cur Analysis:

Avg value: -1.430 dB
 -3. dB beam width: 37.37 deg
 -6. dB beam width: 57.70 deg
 -10. dB beam width: 82.23 deg
 Left Sidelobe: -1.50 dB at -143.799 deg
 Right Sidelobe: -1.08 dB at 35.136 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 4

Beam	Frequency	Azimuth	Elevation	Pol
4	1.100 GHz	Azimuth	Elevation	Single-pol