

2.4G Antenna

MODEL: TH-90A



1. GENERAL DESCRIPTION

Model No
TH90A-SMA-M

Below is a table summarizing the antenna design specification.

1.1 Electrical Properties

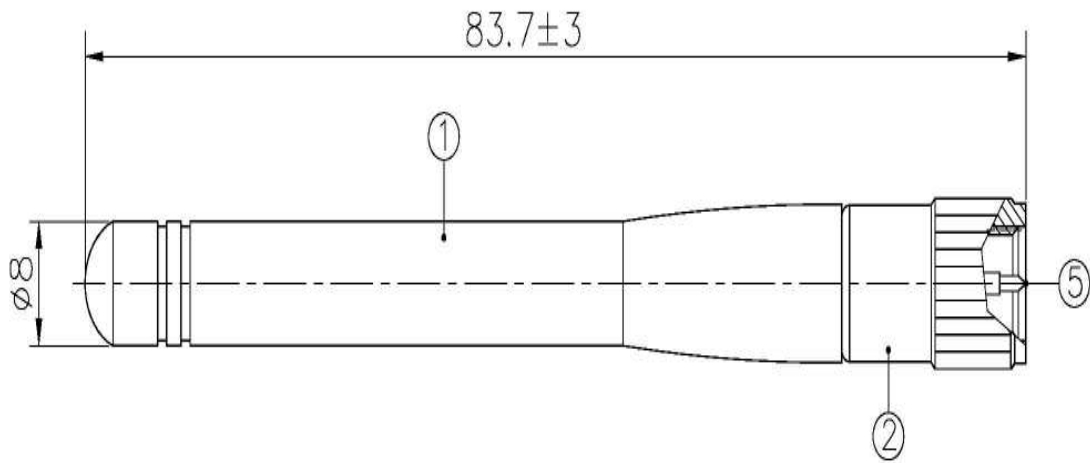
Parameter	Description
Frequency Band	2.4 GHz
Nominal Impedance	50 ohm
Polarization	Vertical
Return Loss	Please See Data-1
V.S.W.R	2.0:1


1.2 Mechanical Properties

Parameter	Description
Antenna Type	External Antenna
Antenna Cover	TPE
Touch Type	Screw Type
Connector Type	SMA 180°(Male)
Antenna Dimensions	83.7mm±3
Antenna Color	Black
Operating Temperature Range	-20°C~+60°C
Storage Temperature Range	-30°C~+70°C

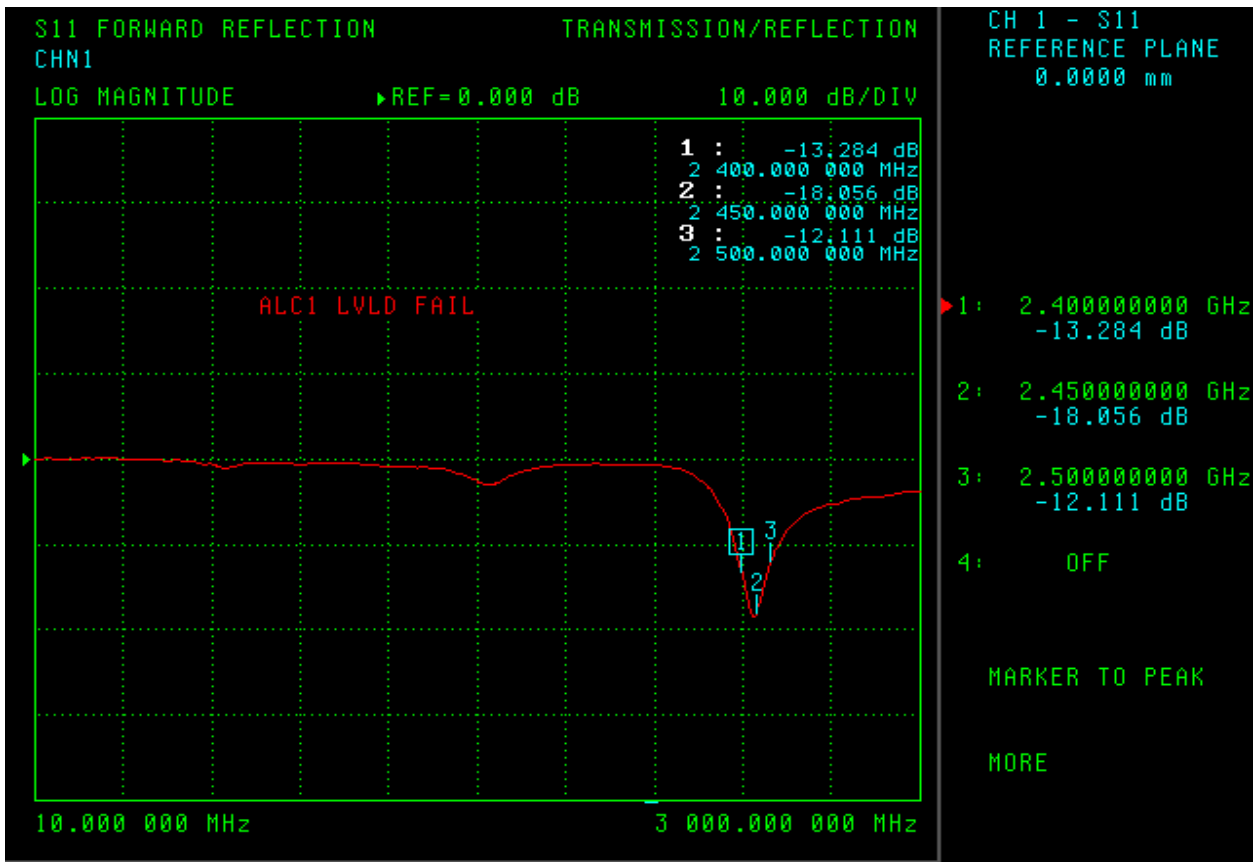
2. Appearance

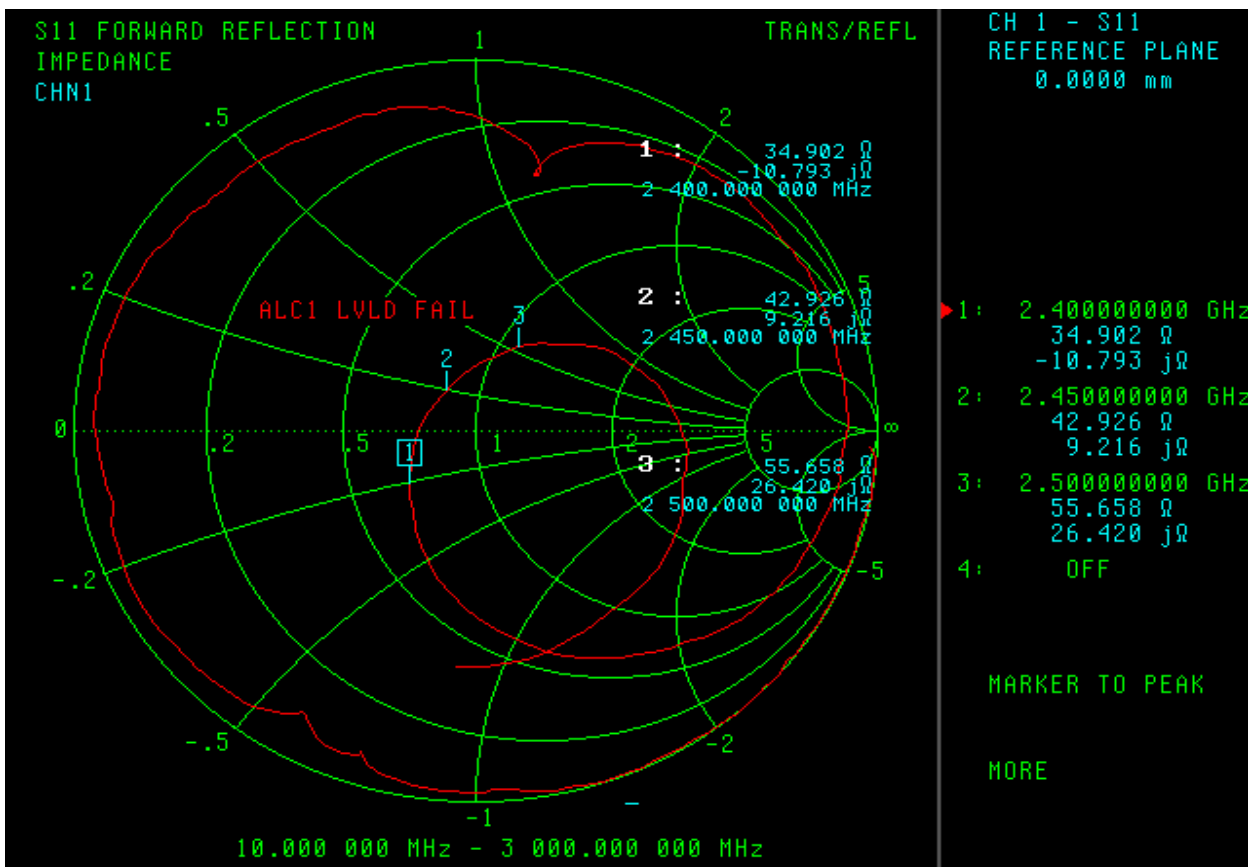
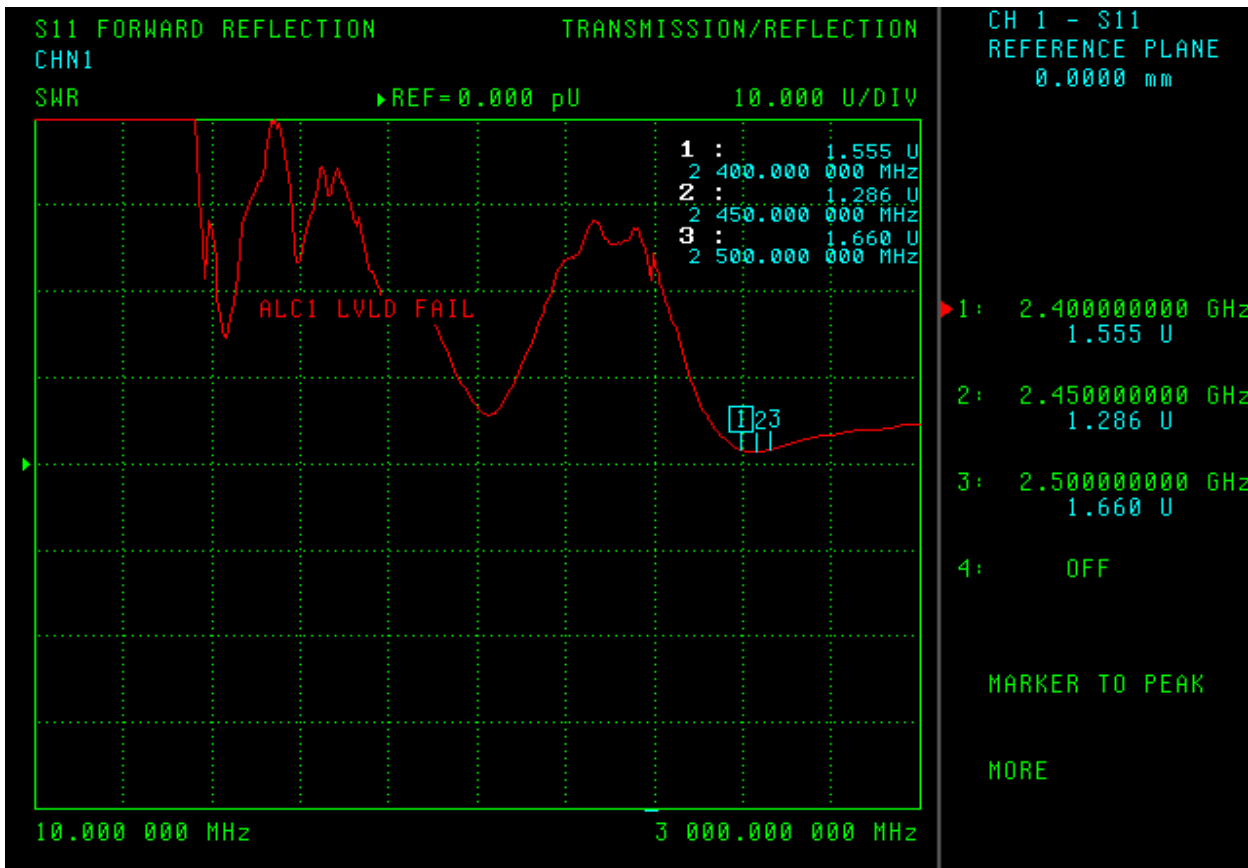
NO.	NAME	FINISH	Q, TY
01	Core tube	Black	01
02	Fixed beneath	Black	01
03	SMA-Connector(Male)	Chrom plating	01



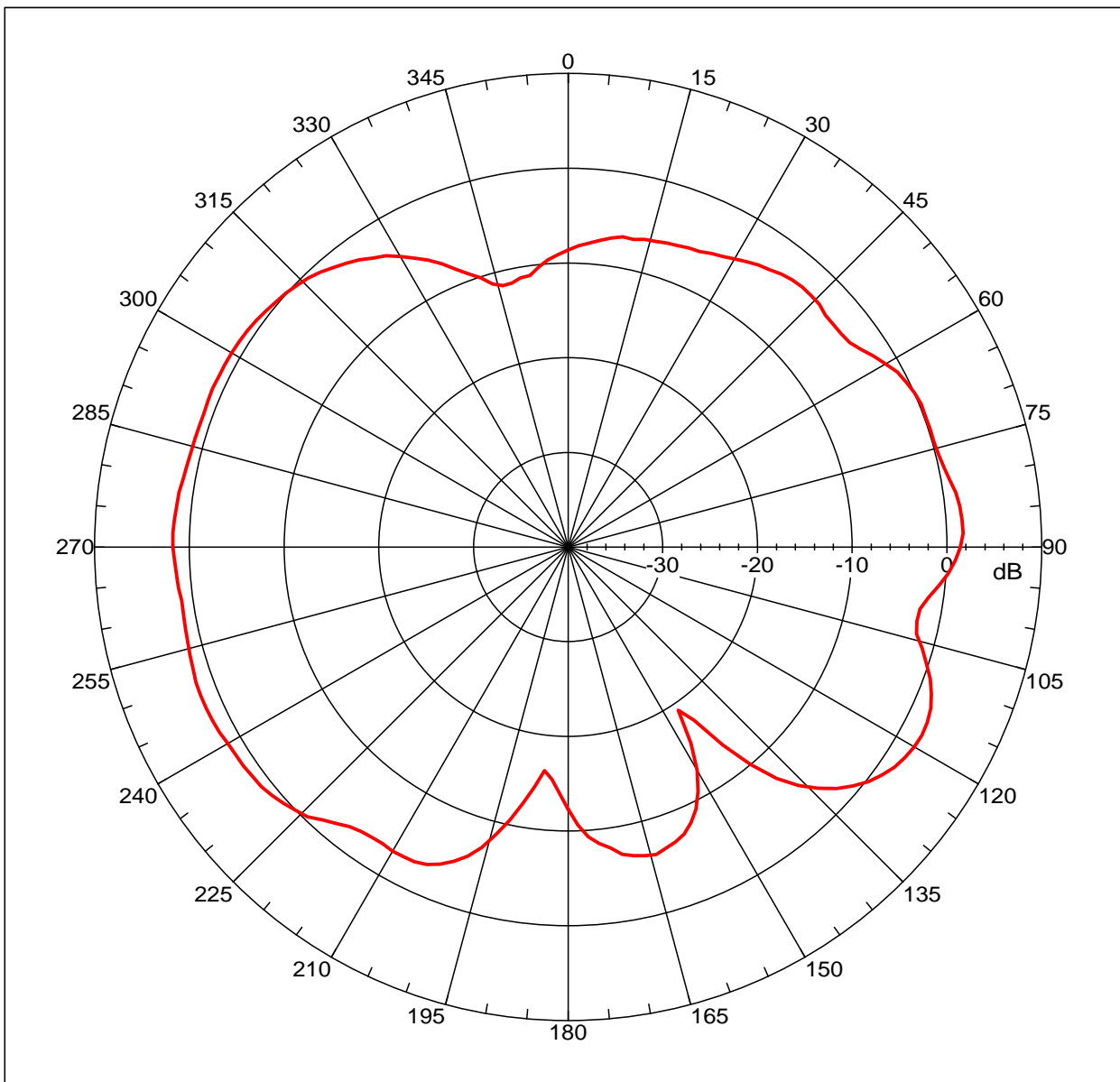
 Third angle projection	CUSTOMER'S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
				2.4GHz	M/M		20110310	1
	TOLERANCE	X. XX±0.15	NAME	PARTS NUMBER	APPROVED	CHECKED	DRAWING	DESIGNED
	SURFACE ROUGHNESS	$\frac{S}{\nabla}$	APPEARANCE					

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





Far-field amplitude of 20100129 TH90A 2.4GHZ E-Plane.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 2.30136 dBi
 Max far-field (global) = -46.70627 dB, Max far-field (plot) = -46.70634 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 117.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

2.4ghz

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20100129 TH90A 2.4GHZ E-Plane.nsi

Measurement date/time: 1/29/2010 2:09:49 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -2.233 dB
 -3. dB beam width: 23.07 deg
 -6. dB beam width: 98.33 deg
 -10. dB beam width: 134.42 deg
 Left Sidelobe: -0.58 dB at 89.497 deg
 Right Sidelobe: -8.51 dB at 165.922 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

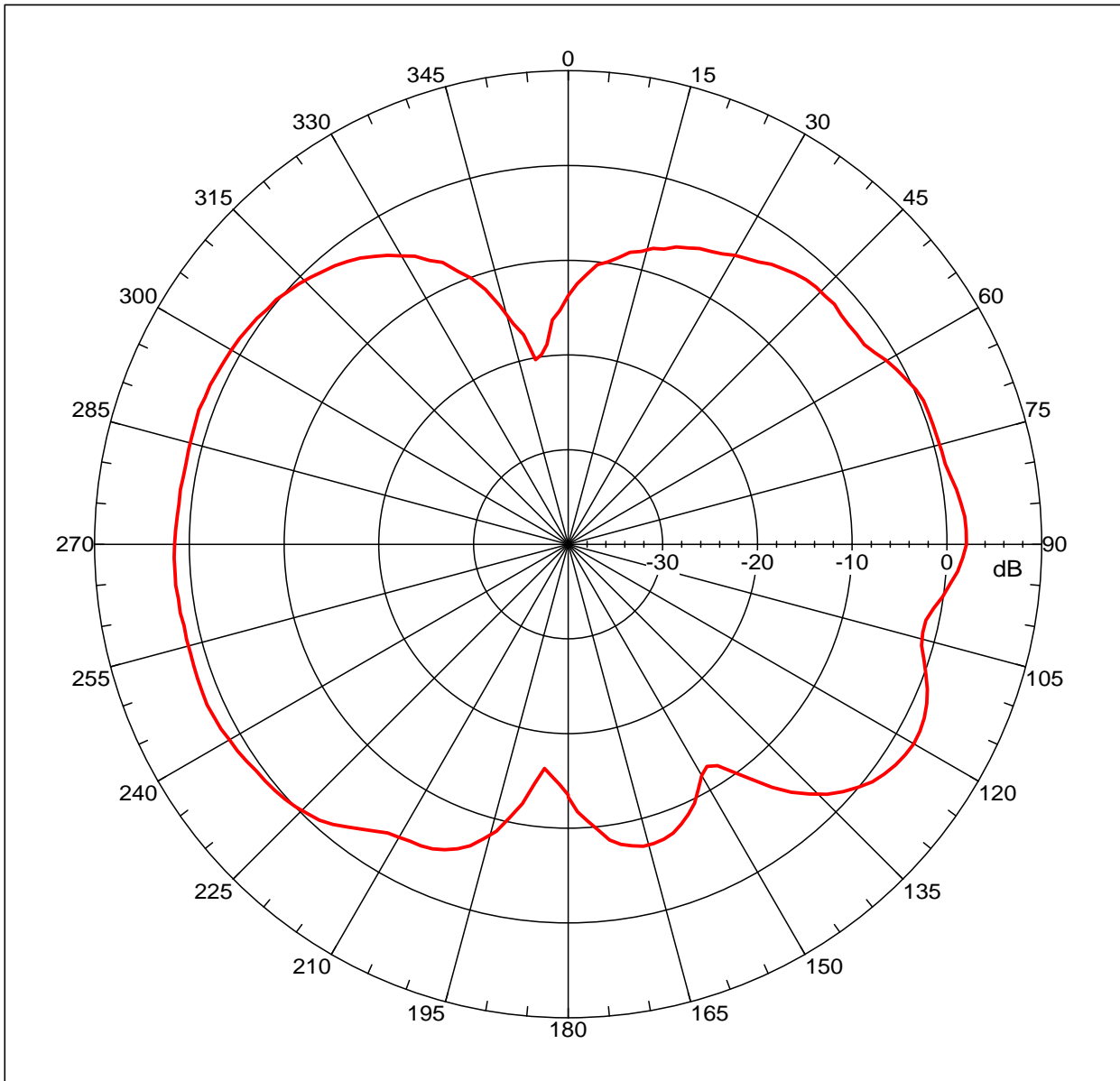
deg

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

Selected beam(s) 1 of 3

Beam	Frequency	Azimuth	Elevation	Pol
1	2.400 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20100129 TH90A 2.4GHZ E-Plane.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 2.13601 dBi
 Max far-field (global) = -47.84214 dB, Max far-field (plot) = -47.84219 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 119.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

2.4ghz

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20100129 TH90A 2.4GHZ E-Plane.nsi

Measurement date/time: 1/29/2010 2:09:49 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -2.291 dB

-3. dB beam width: 25.01 deg

-6. dB beam width: 102.65 deg

-10. dB beam width: 127.26 deg

Left Sidelobe: -0.10 dB at 89.497 deg

Right Sidelobe: -9.27 dB at 167.933 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

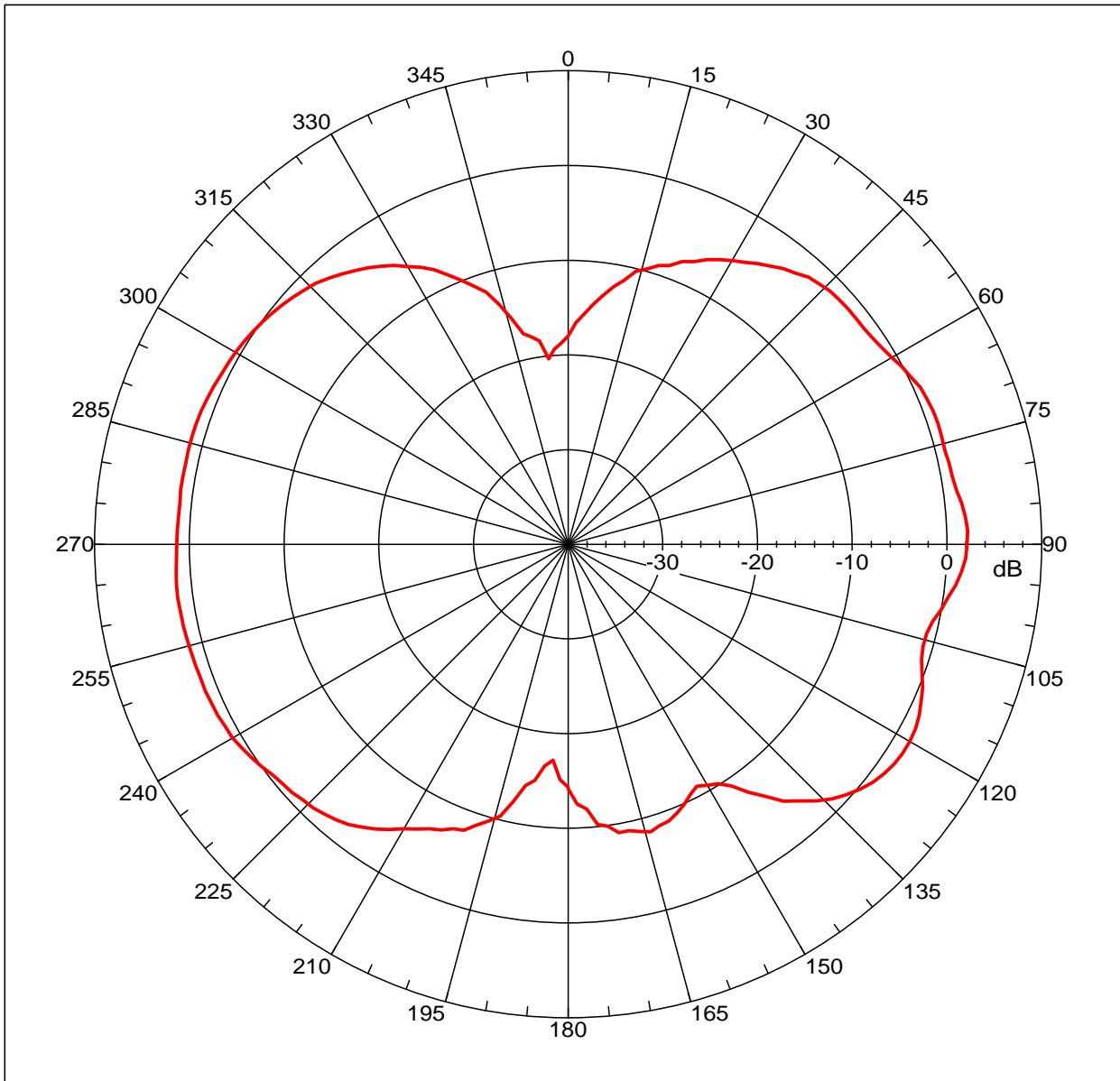
Elevation (deg)

Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 3

Beam	Frequency	Azimuth	Elevation	Pol
2	2.450 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20100129 TH90A 2.4GHZ E-Plane.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 2.18335 dBi
 Max far-field (global) = -47.95264 dB, Max far-field (plot) = -47.95274 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 87.99999 deg, Vpeak at: 0.000 deg
 Plot centering: On

2.4ghz

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20100129 TH90A 2.4GHZ E-Plane.nsi

Measurement date/time: 1/29/2010 2:09:49 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -2.581 dB

-3. dB beam width: 44.61 deg

-6. dB beam width: 103.54 deg

-10. dB beam width: 122.92 deg

Left Sidelobe: -0.88 dB at -75.419 deg

Right Sidelobe: -0.52 dB at 121.676 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

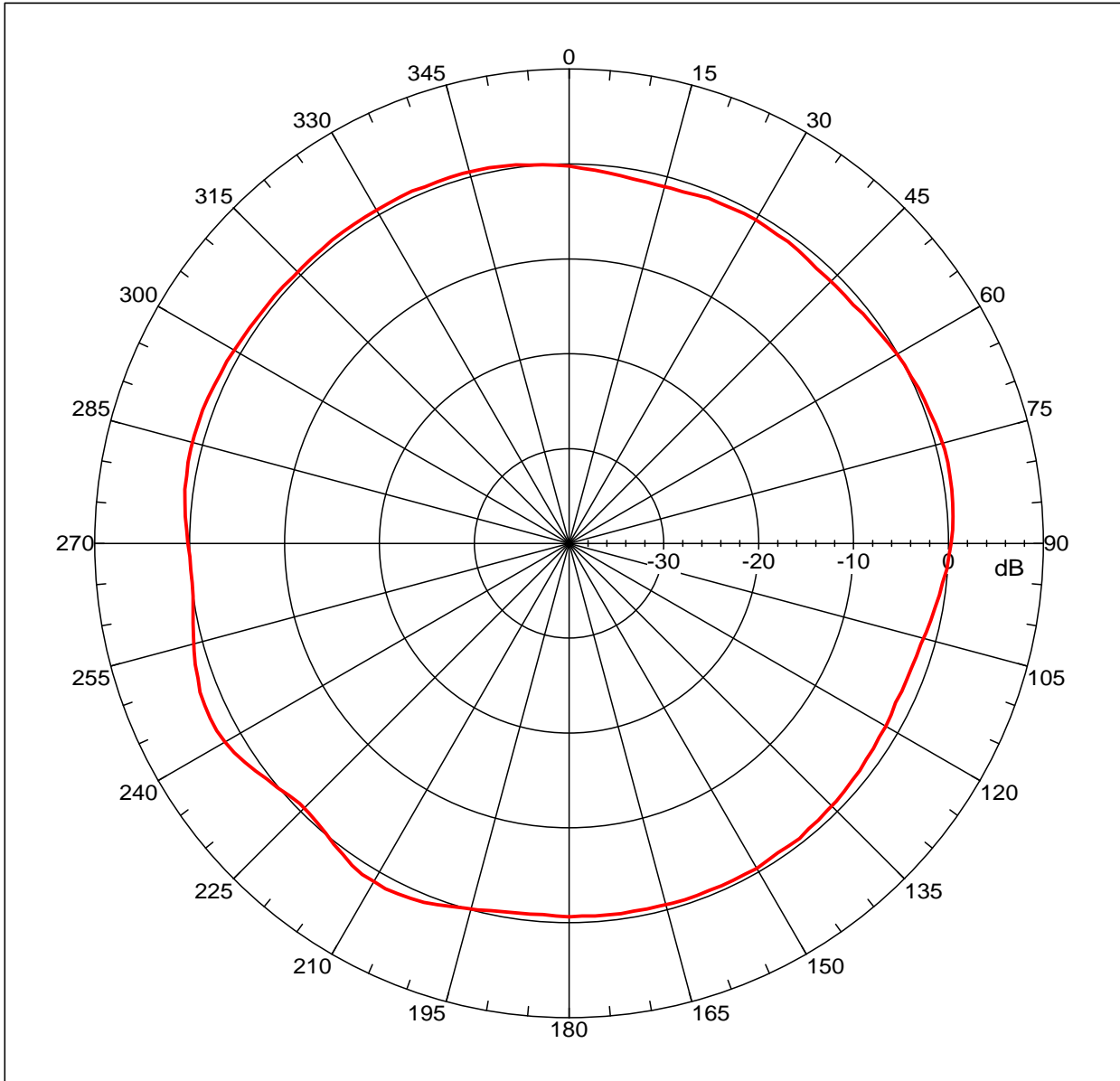
Elevation (deg)

Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 3

Beam	Frequency	Azimuth	Elevation	Pol
3	2.500 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20100129 TH90A 2.4GHZ H-Plane01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 2.06538 dBi
 Max far-field (global) = -46.94225 dB, Max far-field (plot) = -46.94229 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -116.000 deg, Vpeak at: 0.000 deg
 Plot centering: On

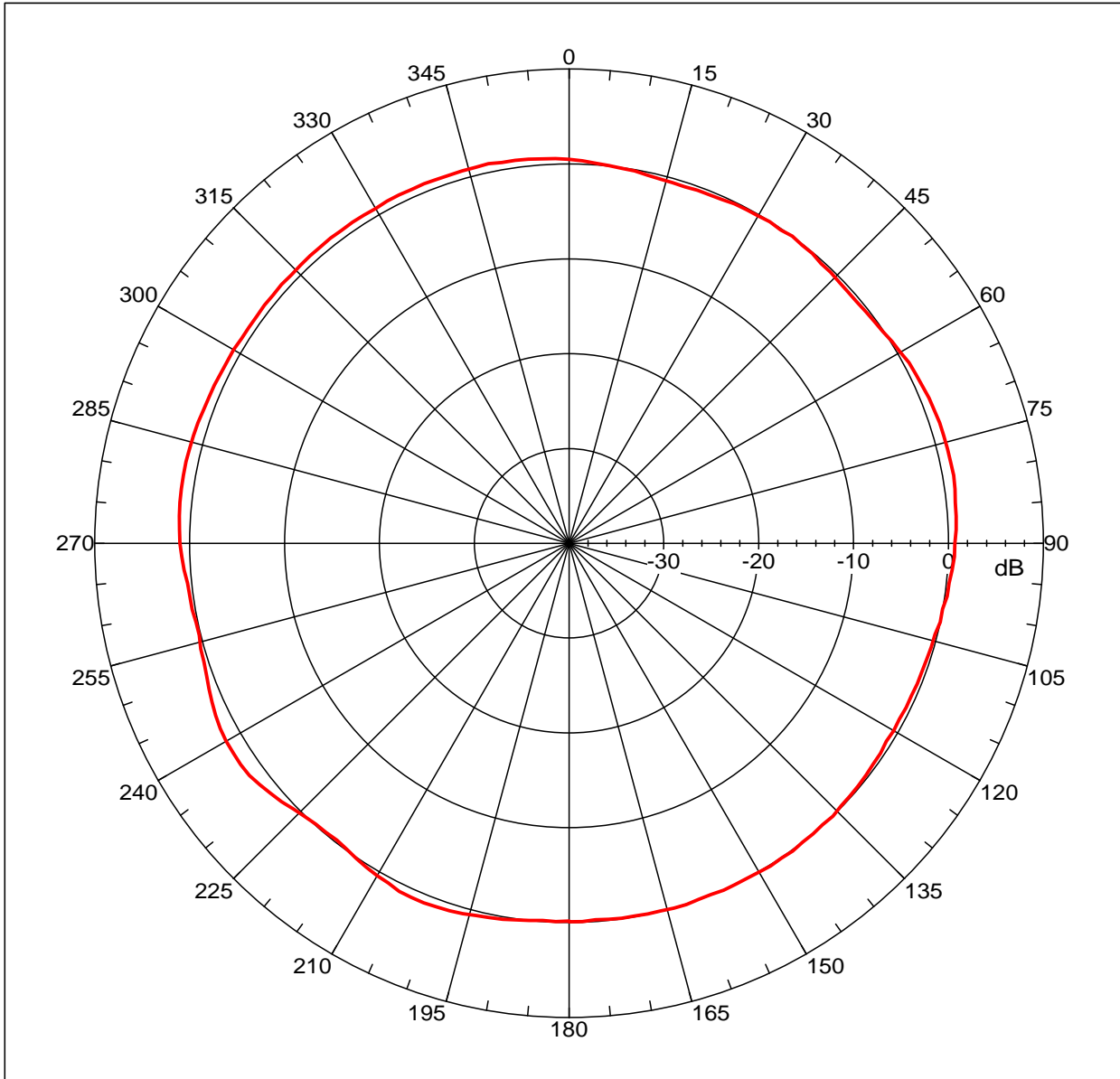
2.4ghz

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20100129 TH90A
 2.4GHZ H-Plane01.nsi
 Measurement date/time: 1/29/2010 2:12:48 PM, Filetype: NSI-97
 Far-field Cut Analysis:
 Avg value: 0.017 dB
 -3. dB beam width: Not Found
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -0.91 dB at -147.821 deg
 Right Sidelobe: -0.97 dB at -73.408 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 3

Beam	Frequency	Azimuth	Elevation	Pol
1	2.400 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20100129 TH90A 2.4GHZ H-Plane01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 1.73467 dBi
 Max far-field (global) = -48.24348 dB, Max far-field (plot) =
 -48.24348 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -124.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

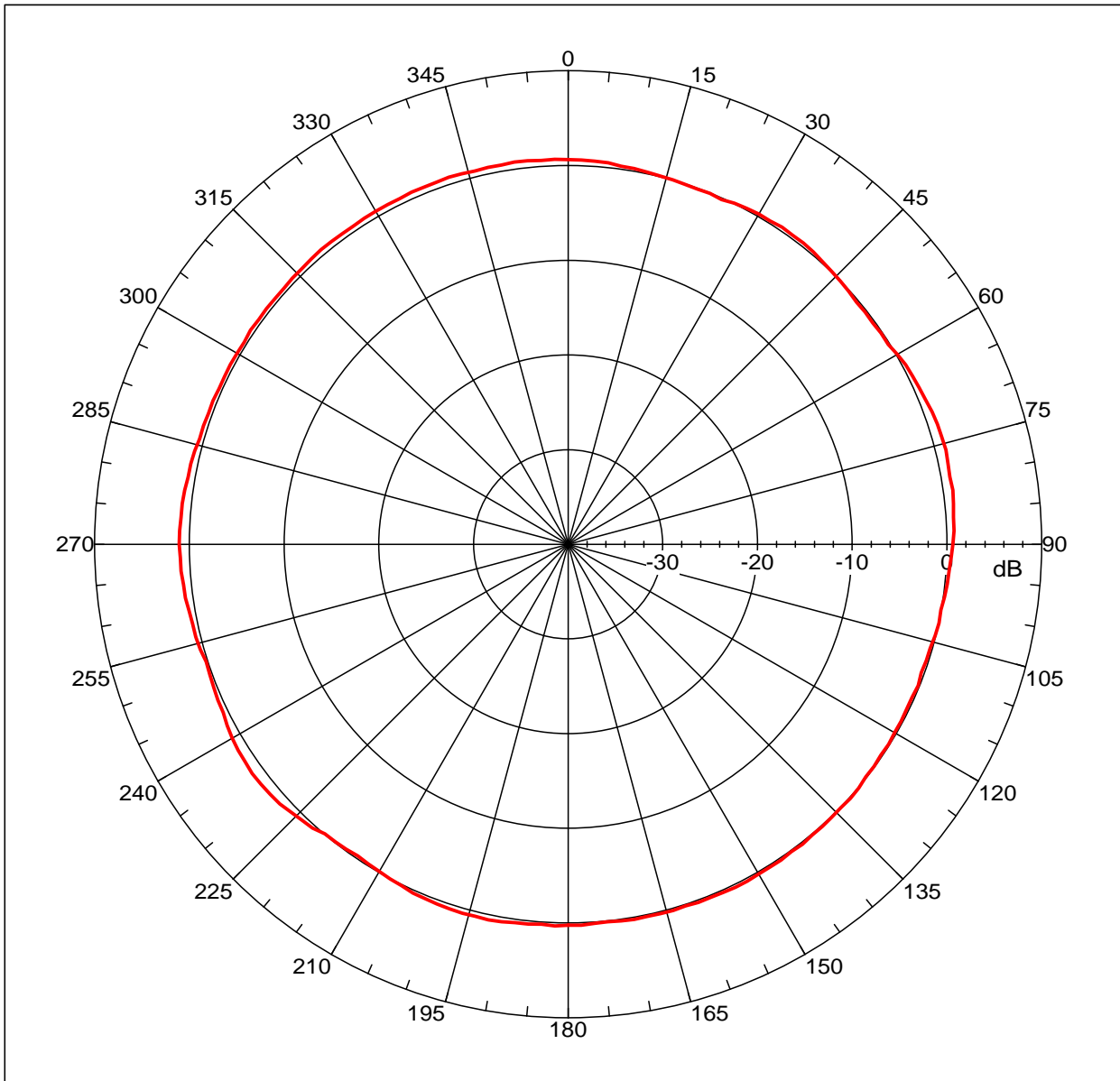
2.4ghz

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20100129 TH90A
 2.4GHZ H-Plane01.nsi
 Measurement date/time: 1/29/2010 2:12:48 PM, Filetype: NSI-97
 Far-field Cut Analysis:
 Avg value: 0.404 dB
 -3. dB beam width: Not Found
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -0.83 dB at -157.877 deg
 Right Sidelobe: -0.46 dB at -77.430 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 3

Beam	Frequency	Azimuth	Elevation	Pol
2	2.450 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of 20100129 TH90A 2.4GHZ H-Plane01.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = 1.20355 dBi
 Max far-field (global) = -48.93244 dB, Max far-field (plot) = -48.9325 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: -126.00001 deg, Vpeak at: 0.000 deg
 Plot centering: On

2.4ghz

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\20100129 TH90A 2.4GHZ H-Plane01.nsi

Measurement date/time: 1/29/2010 2:12:48 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: 0.375 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: -0.09 dB at 77.430 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 3

Beam	Frequency	Azimuth	Elevation	Pol
3	2.500 GHz	Azimuth	Elevation	Single-pol