PROFESSOR TECHNOLOGY CO.,LTD.

INTRODUCTION
LTE Omni antenna 450~2600MHz

This document provides a Omni/Dipole Antenna design .

1.. GENERAL DESCRIPTION

Model No	Professor P/N
CPD477-450/LTE-N/F	YG-17A-450/LTE

Below is a table summarizing the antenna design specification.

1.1 Electrica Properties

Parameter	Description
Frequency Band	452~468/790~960/1710~2170/2500~2700MHz/
Nominal Impedance	50 ohm
Polarization	Vertical
Antenna Gain	3.5~7.0dBi
V.S.W.R	1.5:1
Note: Gain includes the cable loss	

1.2 Mechanical Properties

Parameter	Description
Antenna Type	Omni /Dipole Antenna
Material	Fiberglass
Touch Type	Screw Type
Connector Type	N connector (Female)
Antenna Dimensions	477 mm ±10
Antenna Color	White
Operating Temperature Range	-30°C~+70°C
Storage Temperature Range	-40°C~+80°C

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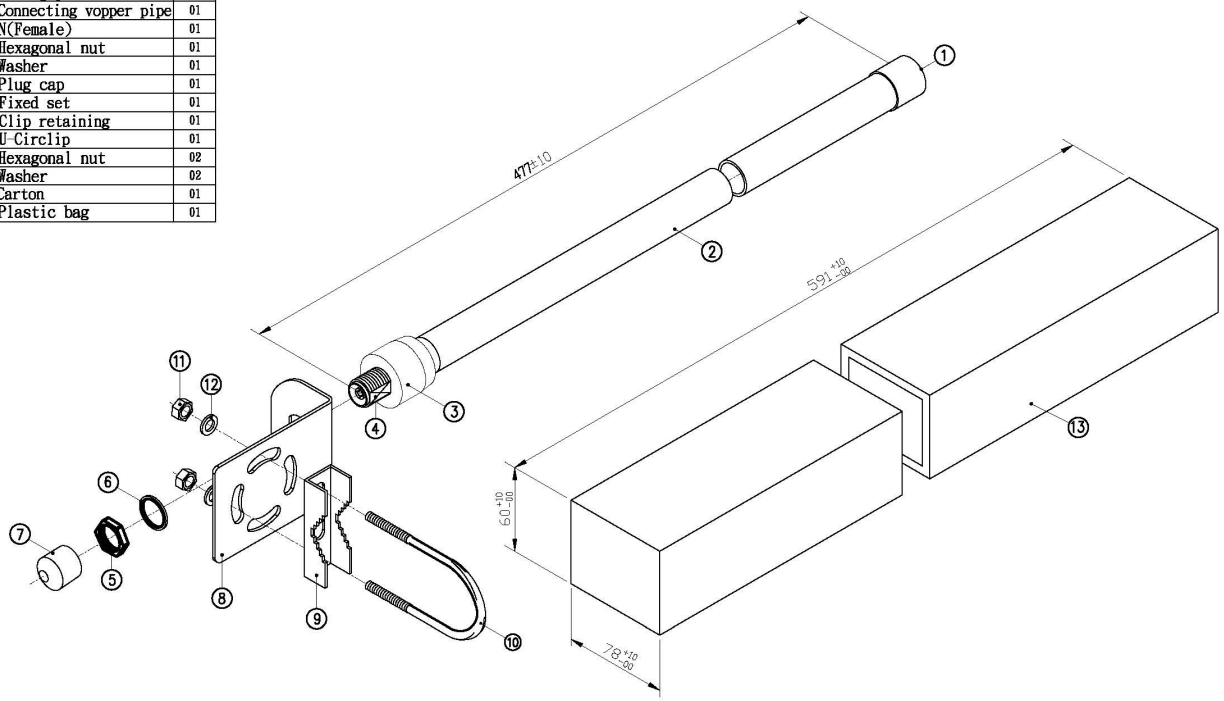
NO.	圖　名	用量
01	Top cap	01
02	Tubing plastic	01
03	Connecting vopper pipe	01
04	N(Female)	01
05	Hexagonal nut	01
06	Washer	01
07	Plug cap	01
08	Fixed set	01
09	Clip retaining	01
10	U-Circlip	01
11	Hexagonal nut	02
12	Washer	02
13	Carton	01
14	Plastic bag	01



Third angle projection	CUSTOMER'S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
				800/900/1800/1900/2100MHz	M/M		20090622	1
PROFESSOR 普傑國際股份有限公司	TOLERANCE	X.XX±0.15	NAME	PARTS NUMBER	APPROVED	CHECKED	DRAWING	DESIGNED
	SURFACE ROUGHNESS	S	APPEARANCE	CPD890-477mm				

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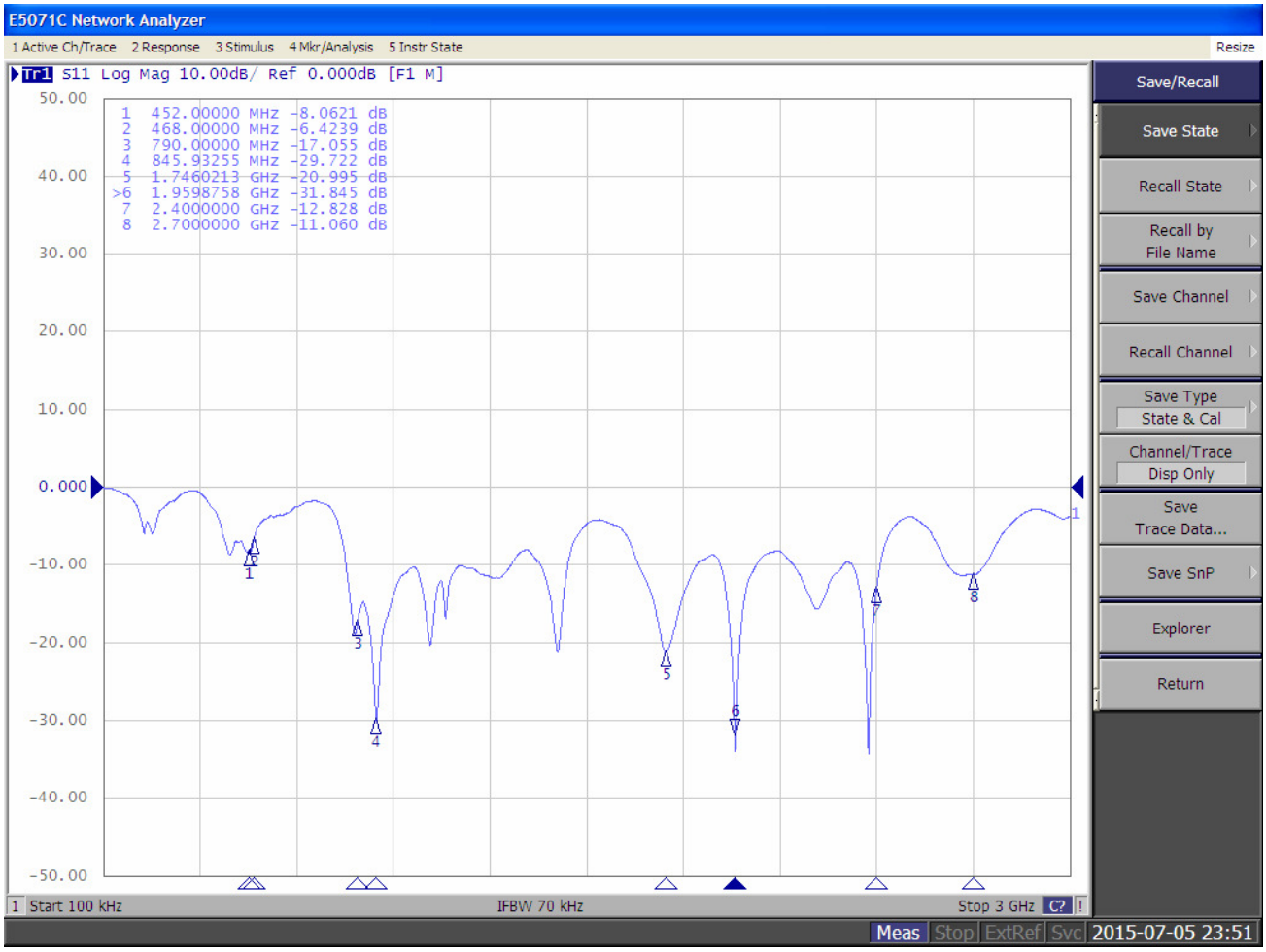

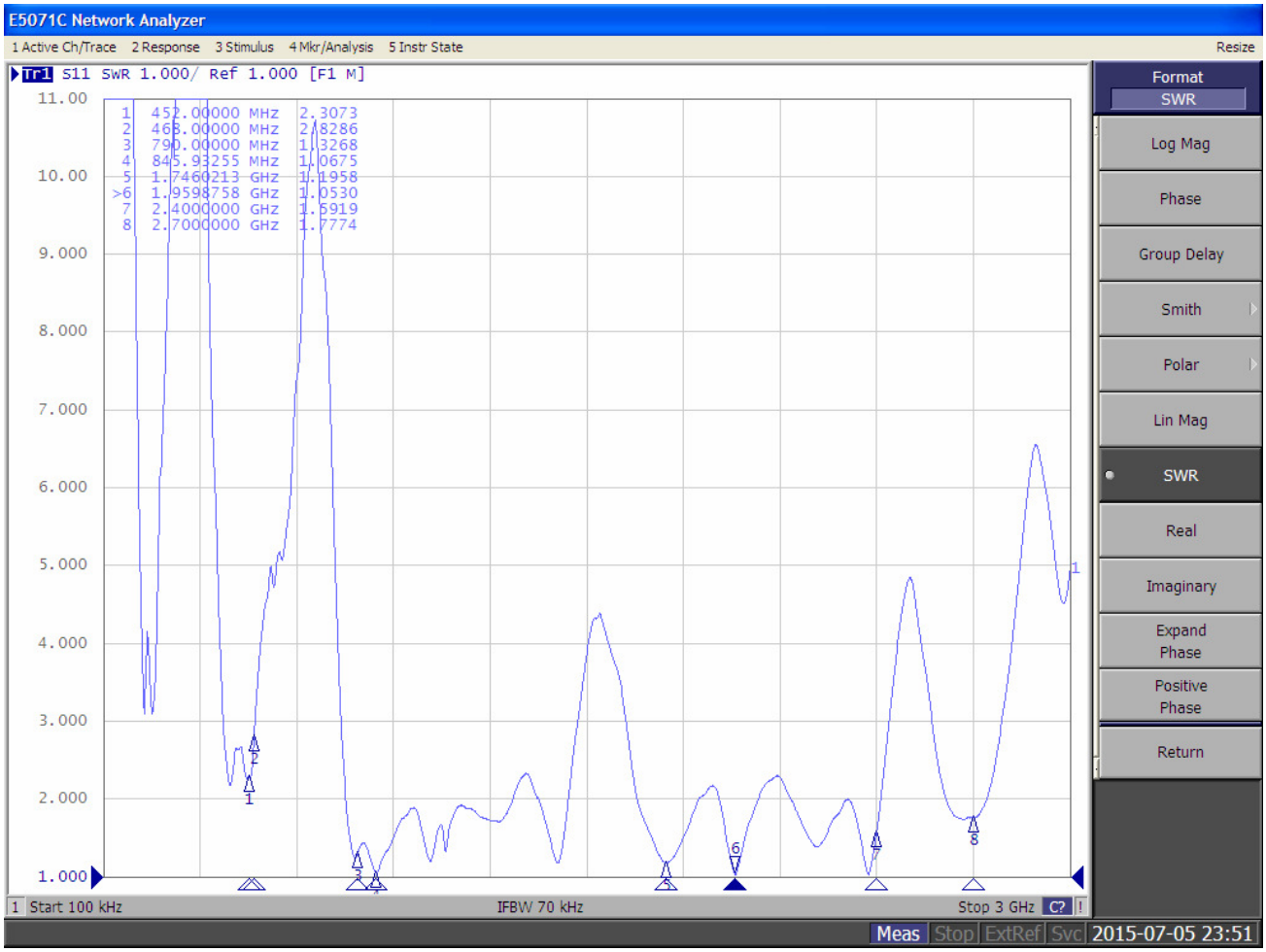
E5071C Network Analyzer
1 Active Ch/Trace
2 Response
3 Stimulus
4 Mkr/Analysis
5 Instr State
Resize
Tr1 S11 SWR 1.000/ Ref 1.000 [F1 M]
1 452.00000 MHz 2.3073
2 468.00000 MHz 2.8286
3 790.00000 MHz 1.3268
4 845.93255 MHz 1.0675
5 1.7460213 GHz 1.1958
>6 1.9598758 GHz 1.0530
7 2.4000000 GHz 1.5919
8 2.7000000 GHz 1.7774
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
Format
SWR
Log Mag
Phase
Group Delay
Smith
Polar
Lin Mag
SWR
Real
Imaginary
Expand Phase
Positive Phase
Return
1 Start 100 kHz
IFBW 70 kHz
Stop 3 GHz
Meas
Stop
ExtRef
Svc
2015-07-05 23:51

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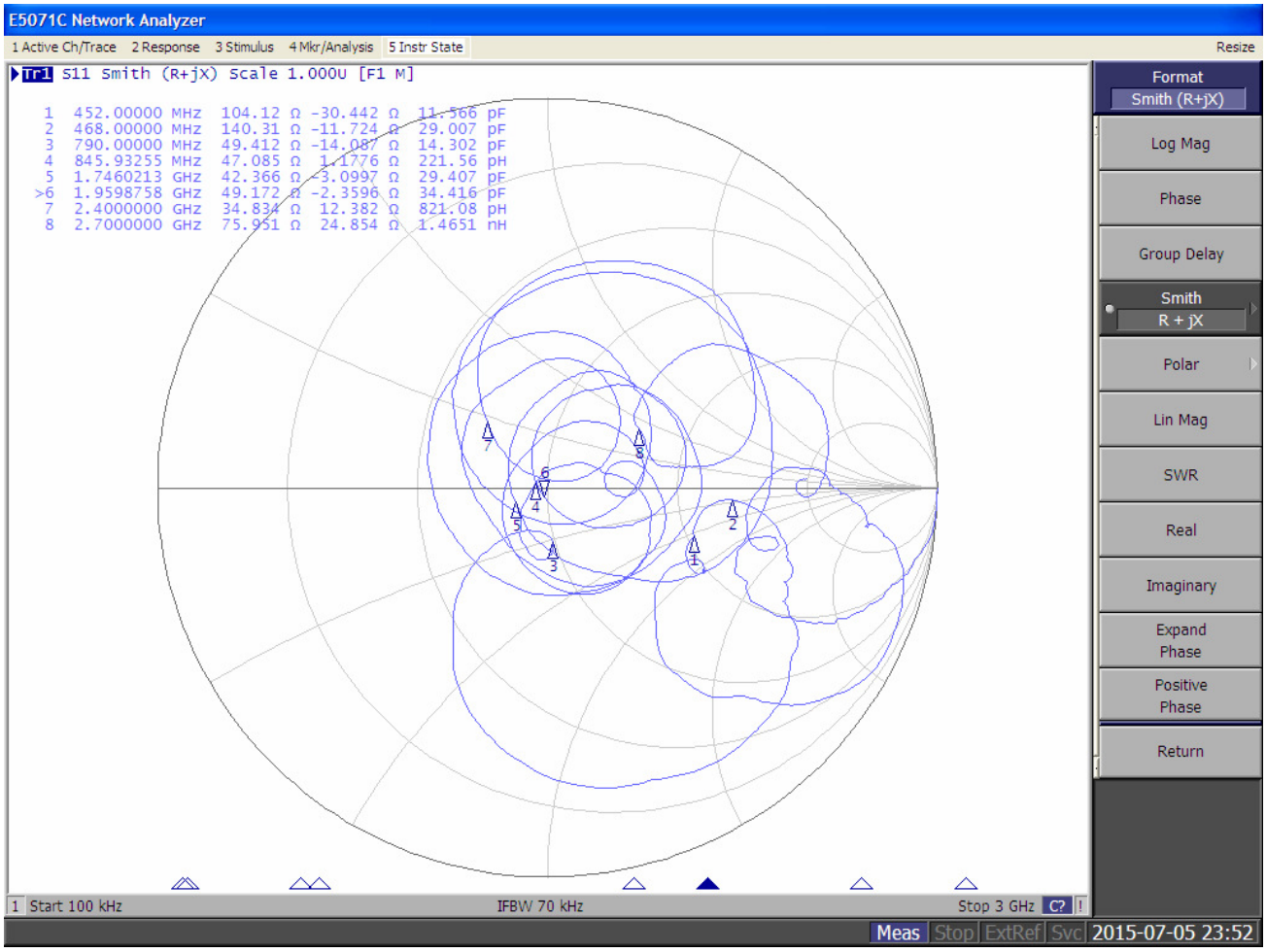
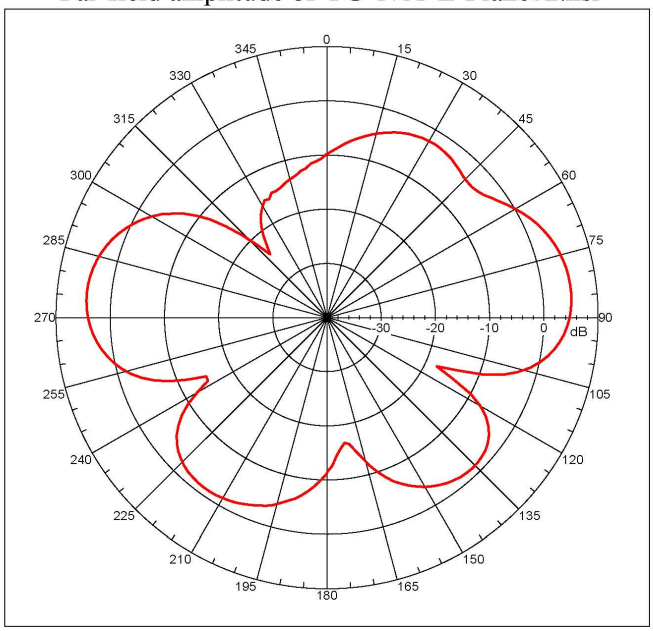


Far-field amplitude of YG-17A E-Plane02.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 5.2667 dBi
Max far-field (global) = -37.73264 dB, Max far-field (plot) =
-37.73267 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 84.000 deg, Vpeak at: 0.000 deg
Plot centering: On

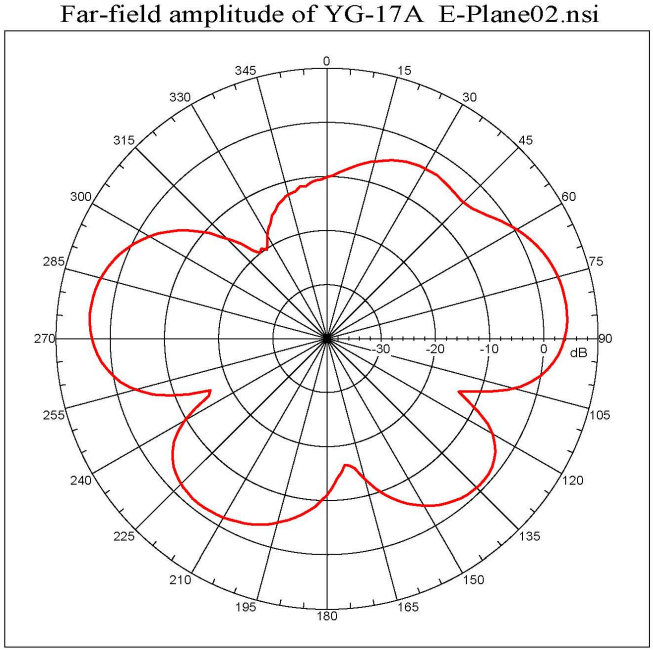
YG-17A E-Plane cut scan. Feeding cable at bottom side around RJC
been covered by absorber to reduce possible coupling with
AUT.

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\YG-17A E-Plane02.nsi
Measurement date/time: 6/5/2008 1:40:54 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -2.780 dB
-3. dB beam width: 32.71 deg
-6. dB beam width: 45.13 deg
-10. dB beam width: 92.09 deg
Left Sidelobe: -7.61 dB at 33.184 deg
Right Sidelobe: -6.63 dB at 137.765 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 6

Beam	Frequency	Azimuth	Elevation	Pol
1	0.024 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of YG-17A E-Plane02.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 4.55292 dBi
Max far-field (global) = -37.28778 dB, Max far-field (plot) =
-37.28783 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 81.99999 deg, Vpeak at: 0.000 deg
Plot centering: On

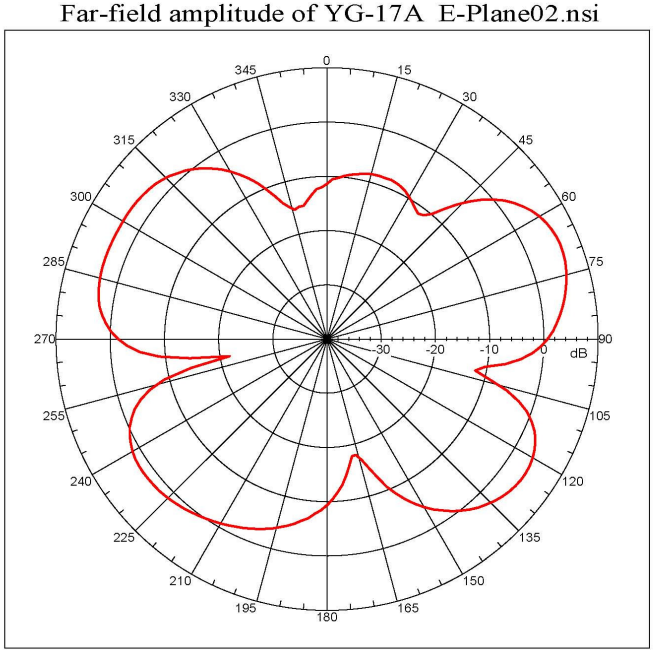
YG-17A E-Plane cut scan. Feeding cable at bottom side around RJC
been covered by absorber to reduce possible coupling with
AUT.

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\YG-17A E-Plane02.nsi
Measurement date/time: 6/5/2008 1:40:54 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -3.092 dB
-3. dB beam width: 32.68 deg
-6. dB beam width: 46.76 deg
-10. dB beam width: 88.63 deg
Left Sidelobe: -8.58 dB at -83.464 deg
Right Sidelobe: -5.46 dB at 135.754 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 6

Beam	Frequency	Azimuth	Elevation	Pol
2	0.842 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of YG-17A E-Plane02.nsi



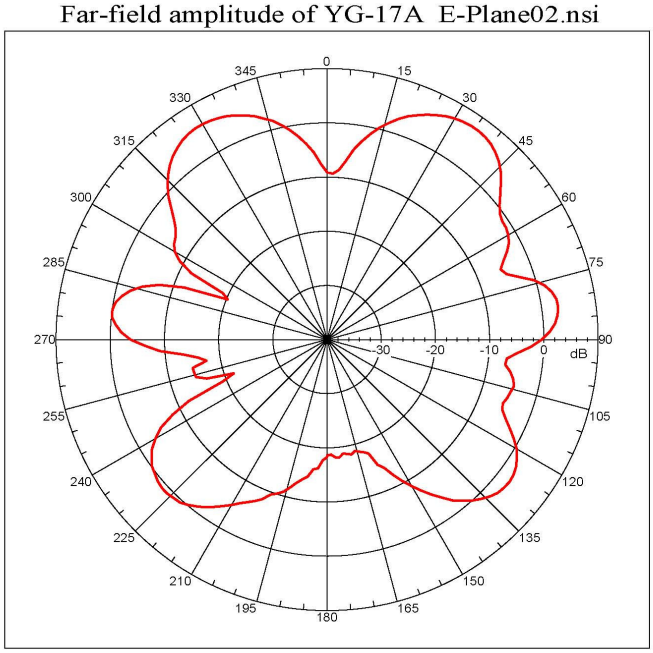

```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 6.40647  dBi
Max far-field (global) = -36.2232  dB, Max far-field (plot) =
-36.22324  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 67.99999  deg, Vpeak at: 0.000  deg
Plot centering: On

YG-17A  E-Plane cut scan. Feeding cable at bottom side around RJC
been covered by  absorber to reduce possible coupling with
AUT.

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\YG-17A  E-Plane02.nsi
Measurement date/time: 6/5/2008 1:40:54 PM, Filetype: NSI-97
Far-field Cut Analysis:
   Avg value: -1.177 dB
   -3. dB beam width: 28.20 deg
   -6. dB beam width: 40.08 deg
   -10. dB beam width: 49.80 deg
   Left Sidelobe: -14.80 dB at 23.129  deg
   Right Sidelobe: -2.20 dB at 125.698  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 6
Beam    Frequency   Azimuth  Elevation  Pol
----    ---------   -------  ---------  ---
3       0.960  GHz  Azimuth  Elevation  Single-pol
```

Far-field amplitude of YG-17A E-Plane02.nsi



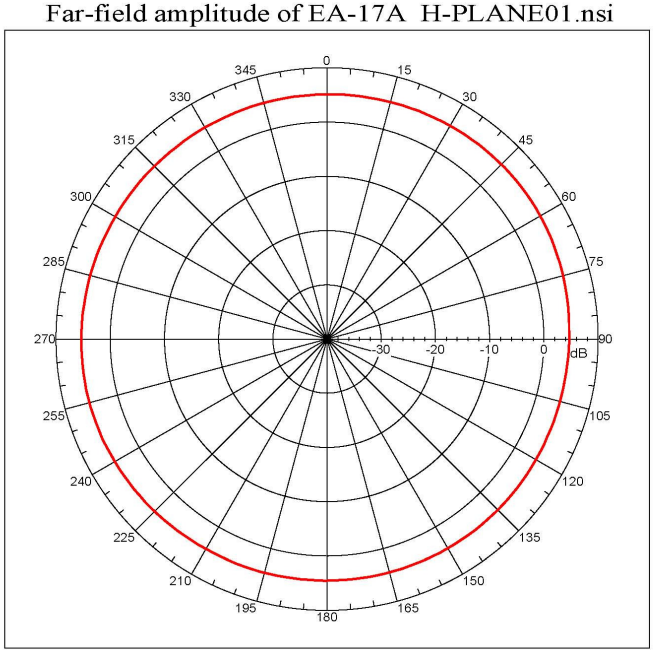

```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 7.55955  dBi
Max far-field (global) = -39.97256  dB, Max far-field (plot) =
-39.97259  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 35.99999  deg, Vpeak at: 0.000  deg
Plot centering: On

YG-17A  E-Plane cut scan. Feeding cable at bottom side around RJC
been covered by  absorber to reduce possible coupling with
AUT.

NSI2000 V4.0.124, Filename:C:\nsi2000\T.Y.HUS\YG-17A  E-Plane02.nsi
Measurement date/time: 6/5/2008 1:40:54 PM, Filetype: NSI-97
Far-field Cut Analysis:
   Avg value: -1.459 dB
   -3. dB beam width: 24.24 deg
   -6. dB beam width: 34.49 deg
   -10. dB beam width: 52.59 deg
   Left Sidelobe: -1.66 dB at -31.173  deg
   Right Sidelobe: -4.51 dB at 83.464  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 6
Beam    Frequency   Azimuth  Elevation  Pol
----    ---------   -------  ---------  ---
6       2.170  GHz  Azimuth  Elevation  Single-pol
```

Far-field amplitude of EA-17A H-PLANE01.nsi



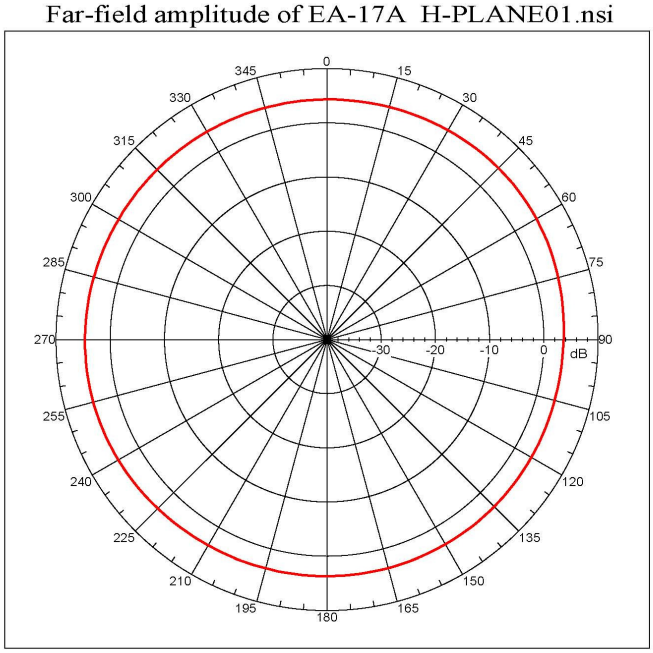

```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 5.51168  dBi
Max far-field (global) = -37.48766  dB, Max far-field (plot) =
-37.48766  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 45.99999  deg, Vpeak at: 0.000  deg
Plot centering: On

YG-17A  H-Plane cut scan. Feeding cable at bottom side around RJC
been covered by  absorber to reduce possible coupling with
AUT.

NSI2000 V4.0.124, Filename:C:\nsi2000\Data\EA-17A  H-PLANE01.nsi
Measurement date/time: 6/5/2008 1:55:58 PM, Filetype: NSI-97
Far-field Cut Analysis:
   Avg value: 4.955 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 6
Beam    Frequency   Azimuth  Elevation  Pol
----    ---------   -------  ---------  ---
1       0.824  GHz  Azimuth  Elevation  Single-pol
```

Far-field amplitude of EA-17A H-PLANE01.nsi



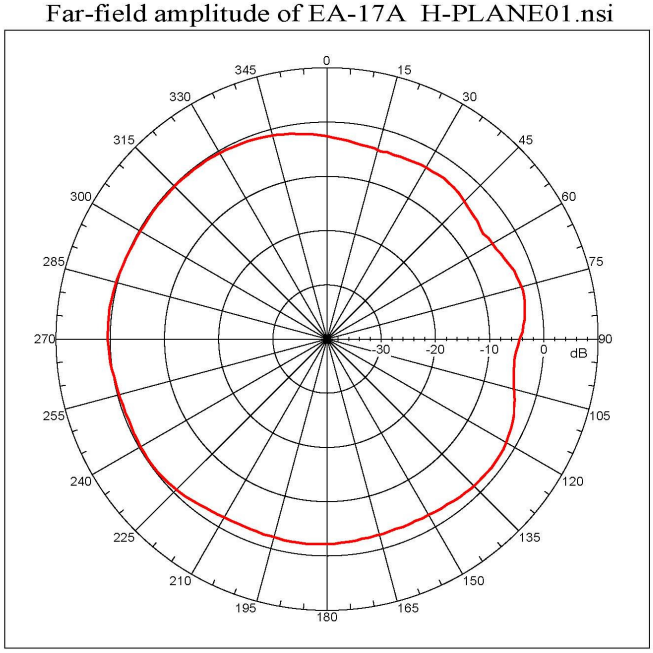

```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 4.73228  dBi
Max far-field (global) = -37.10842  dB, Max far-field (plot) =
-37.10842  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 41.99999  deg, Vpeak at: 0.000  deg
Plot centering: On

YG-17A  H-Plane cut scan. Feeding cable at bottom side around RJC
been covered by  absorber to reduce possible coupling with
AUT.

NSI2000 V4.0.124, Filename:C:\nsi2000\Data\EA-17A  H-PLANE01.nsi
Measurement date/time: 6/5/2008 1:55:58 PM, Filetype: NSI-97
Far-field Cut Analysis:
   Avg value: 4.134 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 6
Beam    Frequency   Azimuth  Elevation  Pol
----    ---------   -------  ---------  ---
2       0.842  GHz  Azimuth  Elevation  Single-pol
```

Far-field amplitude of EA-17A H-PLANE01.nsi



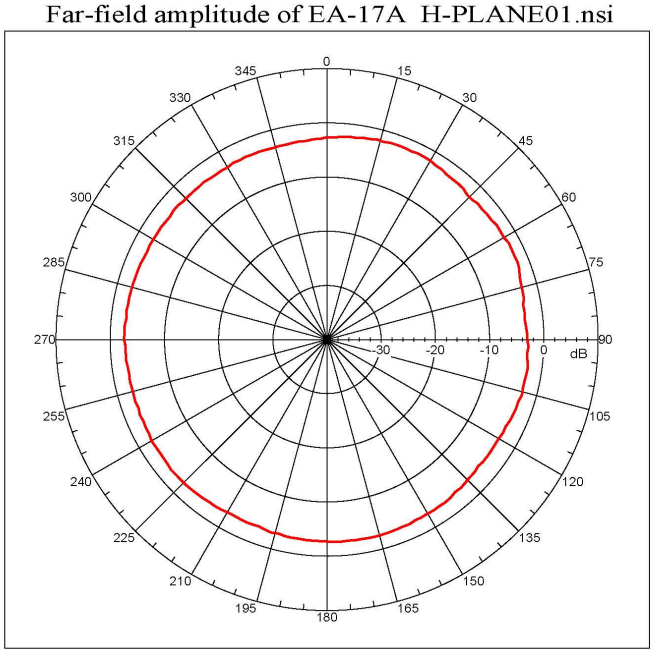

```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = 0.52962  dBi
Max far-field (global) = -44.66297  dB, Max far-field (plot) =
-44.66302  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: -82.00001  deg, Vpeak at: 0.000  deg
Plot centering: On

YG-17A  H-Plane cut scan. Feeding cable at bottom side around RJC
been covered by  absorber to reduce possible coupling with
AUT.

NSI2000 V4.0.124, Filename:C:\nsi2000\Data\EA-17A  H-PLANE01.nsi
Measurement date/time: 6/5/2008 1:55:58 PM, Filetype: NSI-97
Far-field Cut Analysis:
   Avg value: -1.879 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: -3.32 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 6
Beam    Frequency   Azimuth  Elevation  Pol
----    ---------   -------  ---------  ---
4       1.710  GHz  Azimuth  Elevation  Single-pol
```

Far-field amplitude of EA-17A H-PLANE01.nsi




```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000  deg
Gain = -1.79434  dBi
Max far-field (global) = -48.8313  dB, Max far-field (plot) =
-48.83132  dB
Normalization: Reference, Network offset = 0.000  dB
Hpeak at: 25.99999  deg, Vpeak at: 0.000  deg
Plot centering: On

YG-17A  H-Plane cut scan. Feeding cable at bottom side around RJC
been covered by  absorber to reduce possible coupling with
AUT.

NSI2000 V4.0.124, Filename:C:\nsi2000\Data\EA-17A  H-PLANE01.nsi
Measurement date/time: 6/5/2008 1:55:58 PM, Filetype: NSI-97
Far-field Cut Analysis:
   Avg value: -2.813 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: -0.75 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 6
Beam    Frequency   Azimuth  Elevation  Pol
----    ---------   -------  ---------  ---
5       1.900  GHz  Azimuth  Elevation  Single-pol
```