

Specification

PART NUMBER:C14

1.0 SCOPE

chinmore customized **Embedded Penta-band Antenna** covers the GSM850 、GSM900 、DCS 1800 、PCS 1900 、WCDMA 2100 .

2.0 Name of the product

This product is named **Embedded Penta-band Antenna**.

3.0 ANTENNA CHARACTERISTICS

3.1 High Temp. Storage

Expose the antenna to +70°C,RH95% for 24hours soak then check it against our specifications.

3.2 Low Temp. Storage

Expose the antenna to -30°C for 24hours soak then check it against our specifications.

3.3 Low-temperature Operation

Expose the specimen to -30°C for 16 hours and then to normal temperature/humidity for 24 hours or more.

After that examine the appearance and functions.

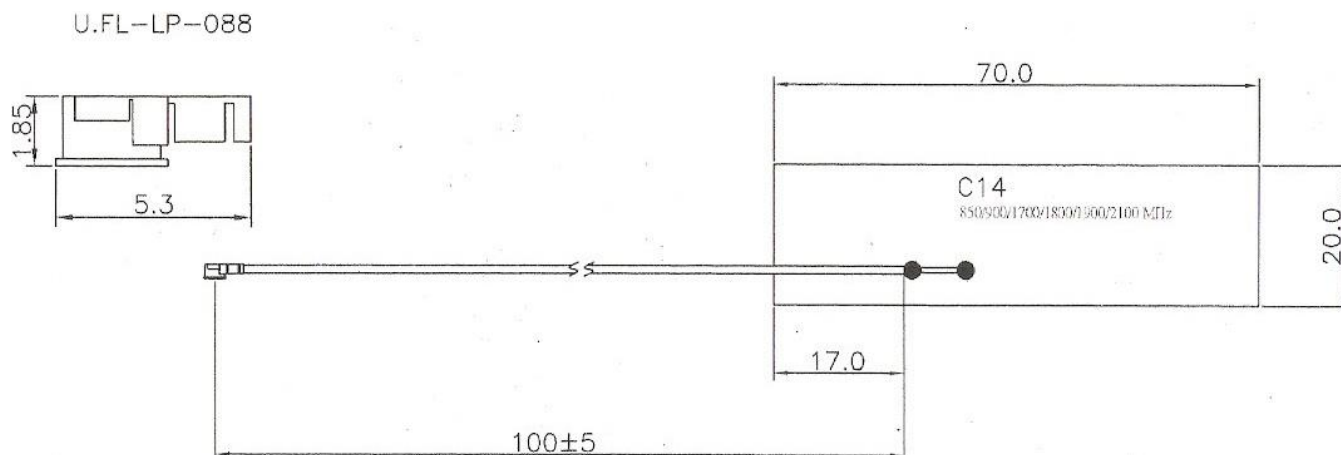
3.4 High-temperature Operation

Expose the specimen to +80°C for 16 hours and then to normal temperature/humidity for 24 hours or more.

After that examine the appearance and functions.

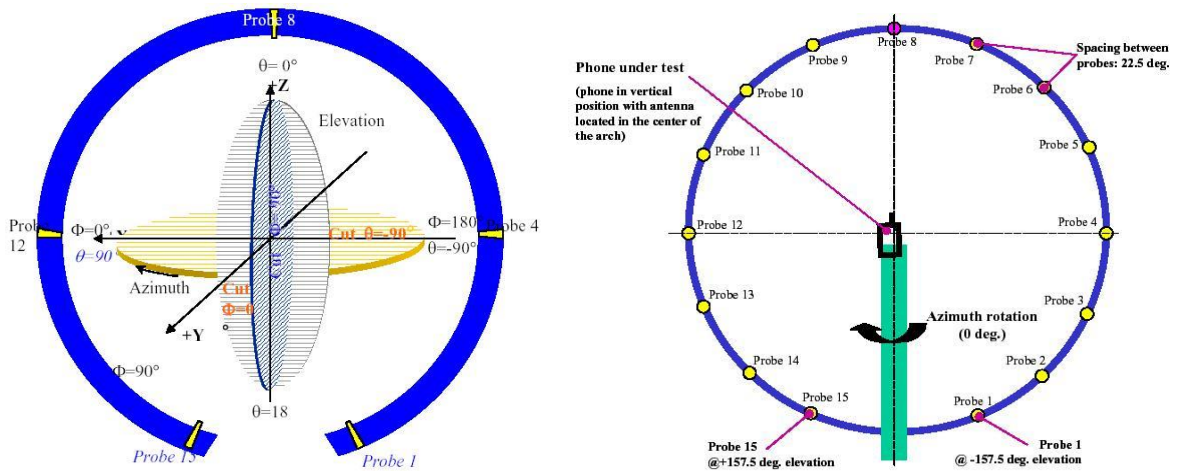


Technical Drawing:



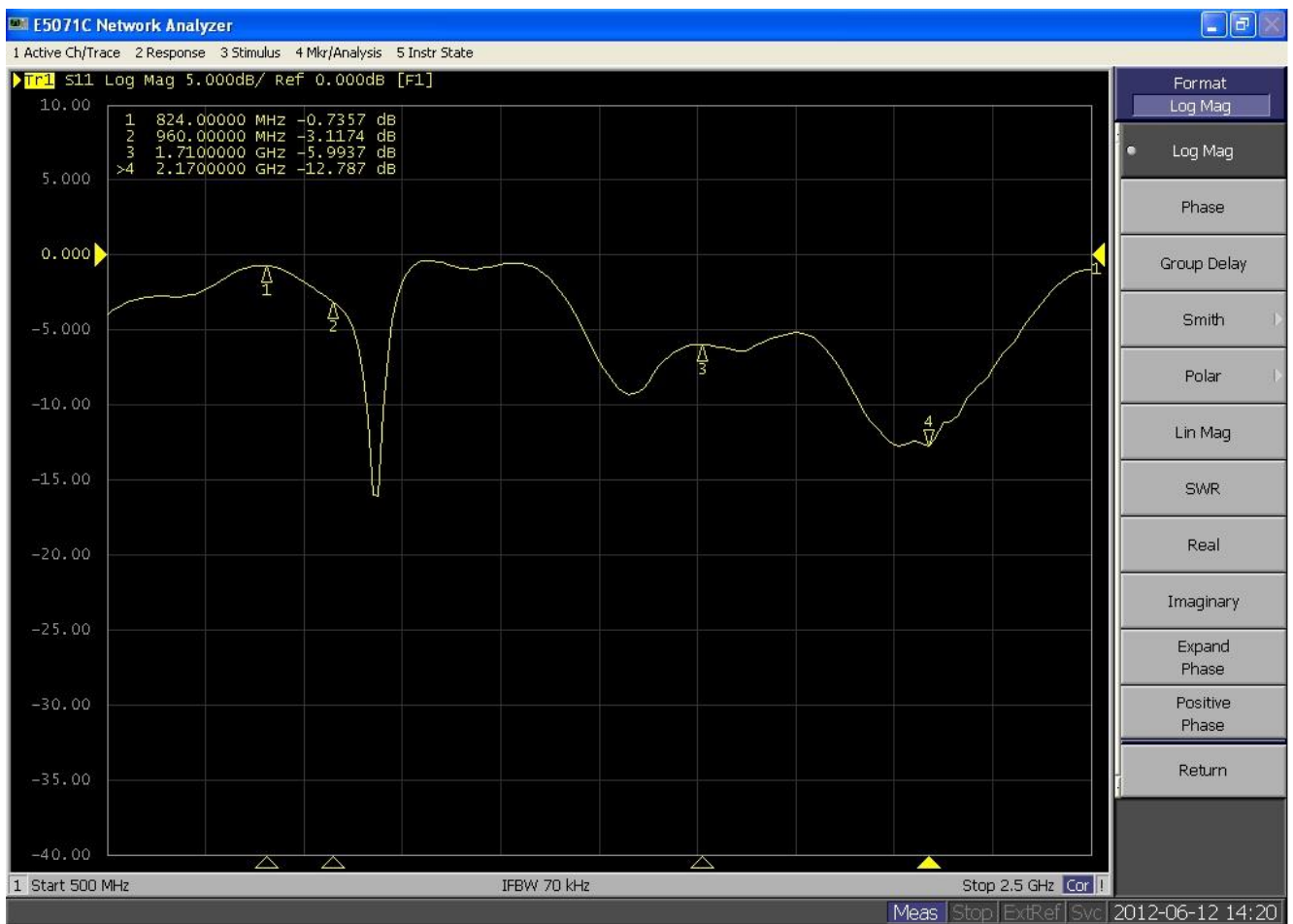
Parameter	Antenna Efficiency Summary					
Frequency(MHz)	850	900	1700	1800	1900	2100
Average Gain (dBi)	-8.39	-7.85	-2.62	-3.12	-3.17	-2.8
Efficiency(%)	14.48	16.39	54.63	48.66	48.17	52.38
Peak Gain (dBi)	-3.74	-3.11	1.85	1.2	1.3	1.27
Impedance	50 ohm					
VSWR	2.0:1					
Polarization	Linear					
Power Handled	5W					
Operation Temperature	-30°C~+70°C					
Storage Temperature	-30°C~+70°C					
Dimensions	70x20x0.1 mm					
Connector	U.FL(Sliver)					
Cable Standard	1.37					
Cable Length and color	100mm , Grey					
Rohs Compliant	YES					
Adhesive	3M 467					
Material	FPC					

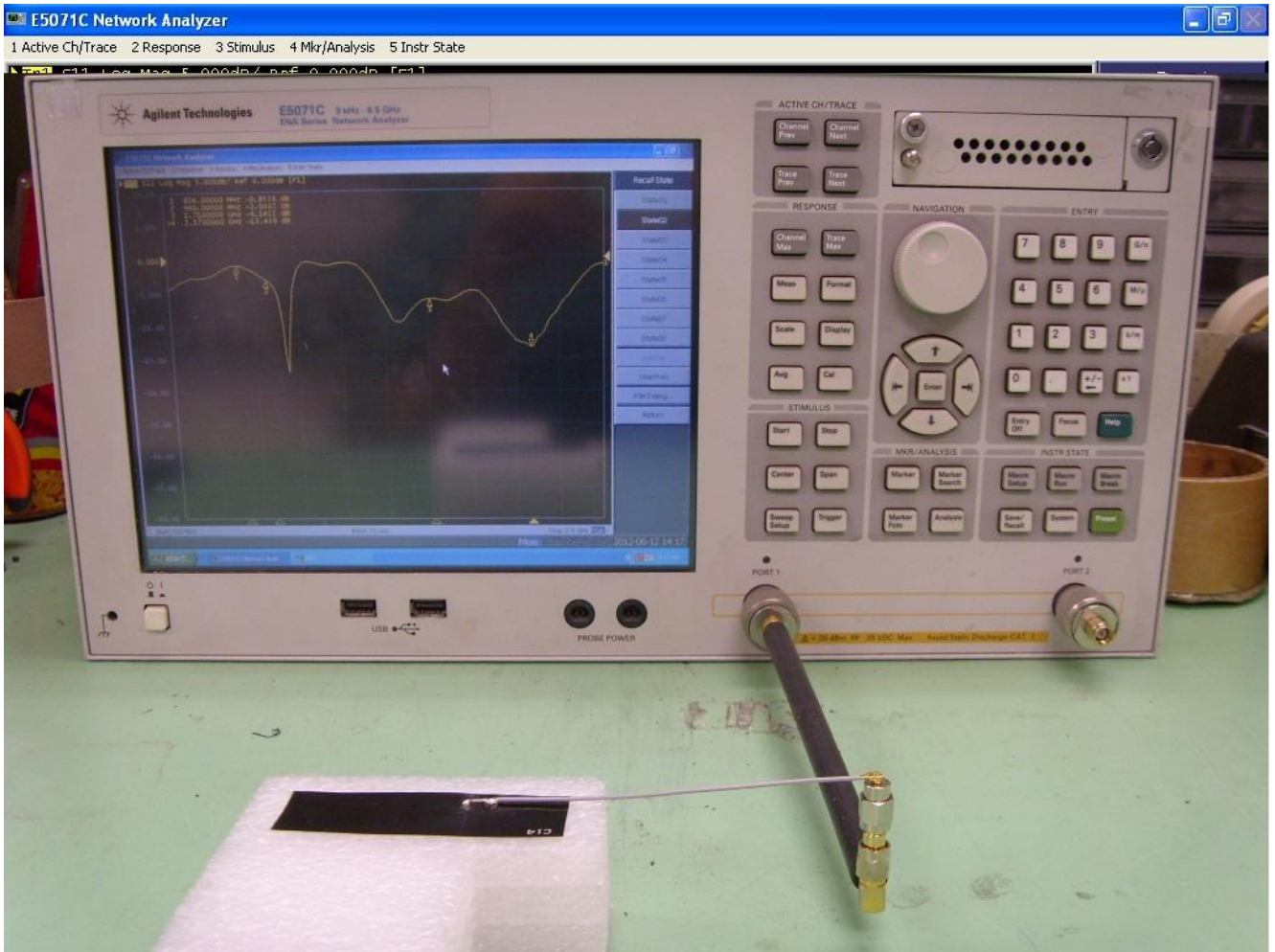
Test Chart:



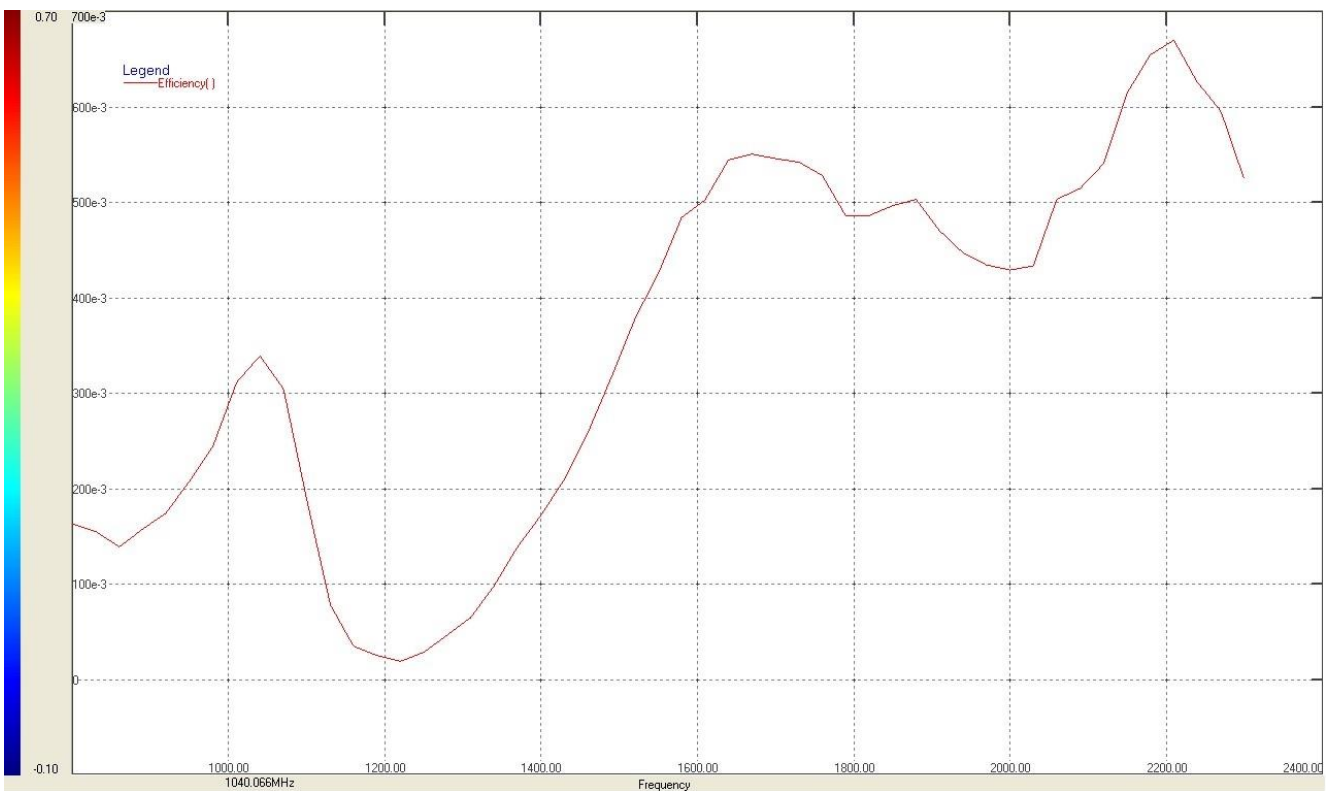
Test Data:

WIFI Antenna In C14 Housing Pattern S11 Return Loss Measurement

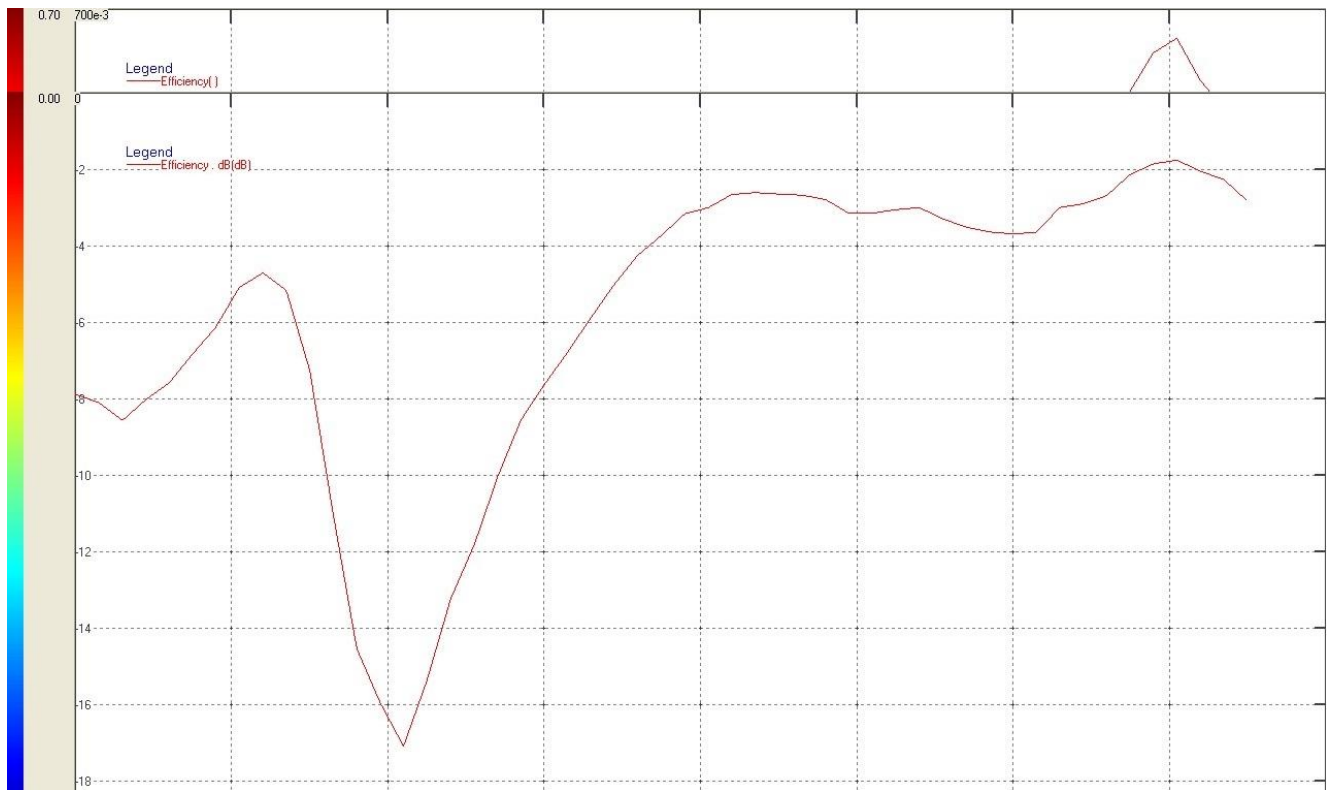




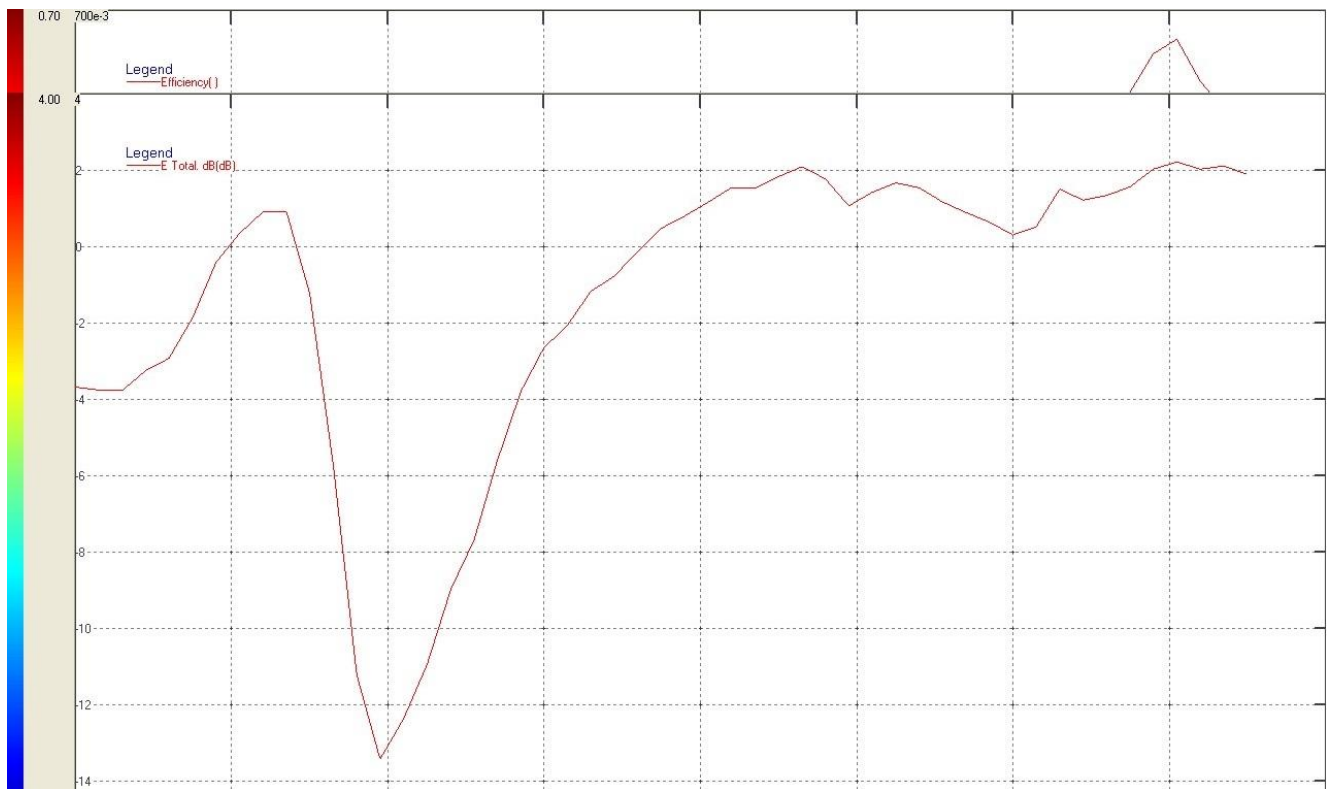
Efficiency



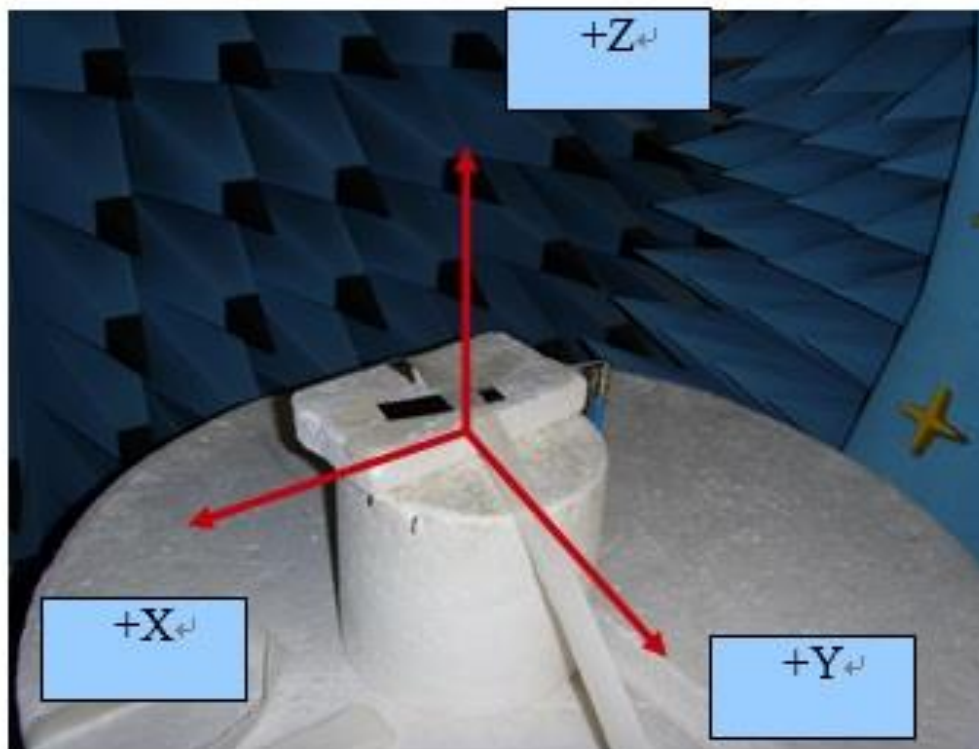
Average Gain



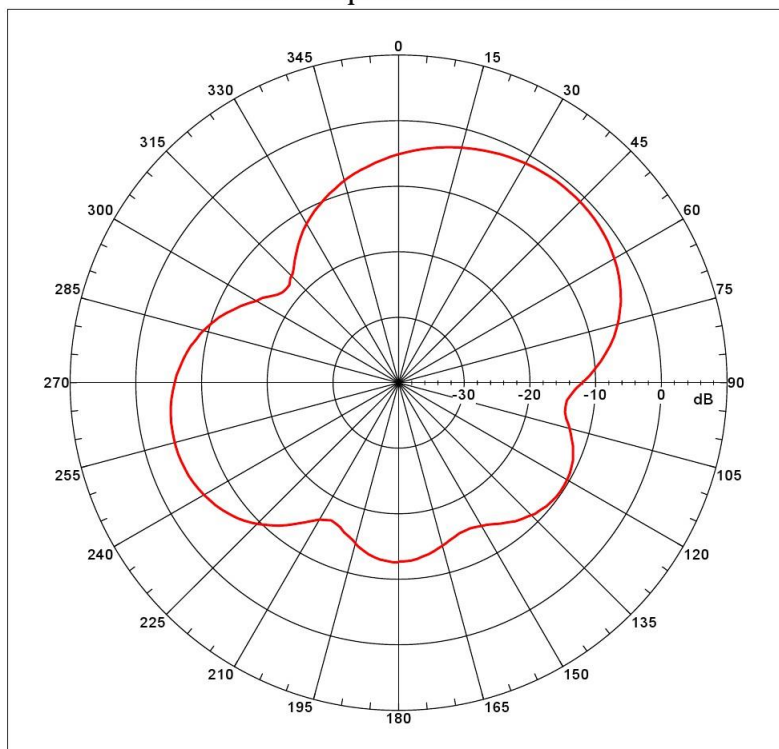
Peak Gain



3D Pattern



Far-field amplitude of C14-E.nsi

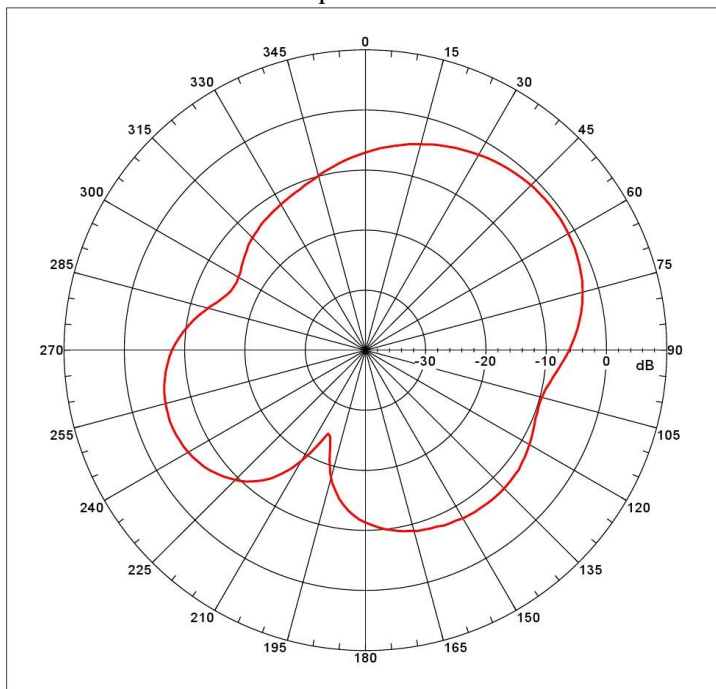


Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -0.89841 dBi
 Max far-field (global) = -42.19527 dB, Max far-field (plot) =
 -42.19528 dB
 Normalization: Reference, Network offset = 0.000 dB
 Hpeak at: 43.99959 deg, Vpeak at: 0.000 deg
 Plot centering: On

C14-E
 NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
 12 CHINMORE\C14-E\C14-E.nsi
 Measurement date/time: 6/13/2012 3:34:32 PM, Filetype: NSI-97
 Far-field Cut Analysis:
 Avg value: -7.972 dB
 -3 dB beam width: 62.16 deg
 -6 dB beam width: 88.83 deg
 -10 dB beam width: 114.67 deg
 Left Sidelobe: -3.94 dB at -107.598 deg
 Right Sidelobe: -9.40 dB at 125.898 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 Poi

 1 0.850 GHz Azimuth Elevation Single-pol

Far-field amplitude of C14-E.nsi



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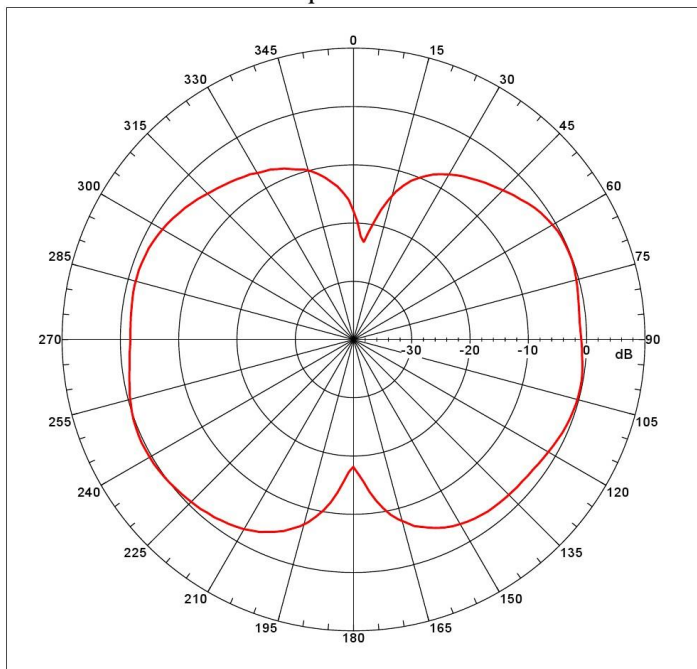
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -0.98831 dBi
Max far-field (global) = -42.54789 dB, Max far-field (plot) =
-42.548 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 31.88895 deg, Vpeak at: 0.000 deg
Plot centering: On

C14-E
NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
12\CHINMORE\C14-E.nsi
Measurement date/time: 6/13/2012 3:34:32 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -7.523 dB
-3. dB beam width: 63.71 deg
-6. dB beam width: 50.50 deg
-10. dB beam width: Not Found
Left Sidelobe: -4.45 dB at -105.600 deg
Right Sidelobe: -6.42 dB at 135.777 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 0.500 GHz Azimuth Elevation Single-pol

```

Far-field amplitude of C14-E.nsi



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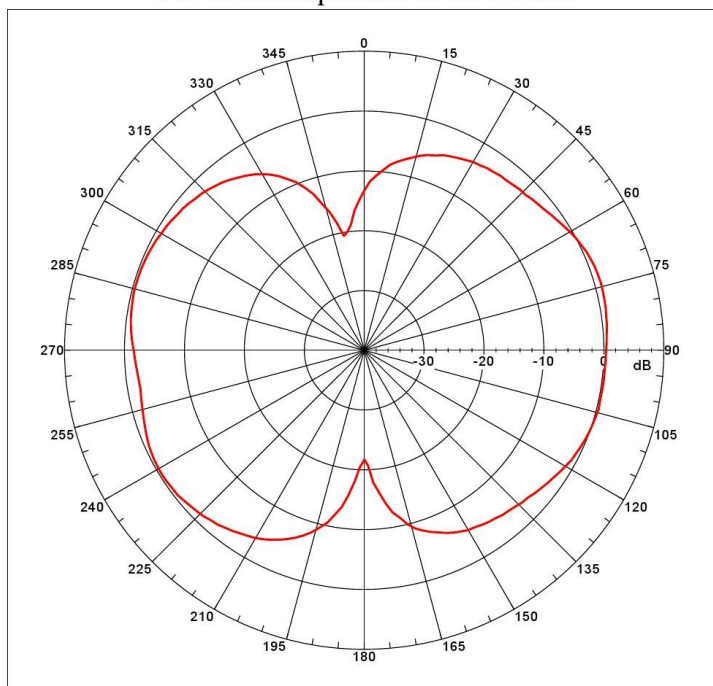
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 0.4134 dBi
Max far-field (global) = -44.77919 dB, Max far-field (plot) =
-44.77922 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: -116.000 deg, Vpeak at: 0.000 deg
Plot centering: On

C14-E
NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
12\CHINMORE\C14-E.nsi
Measurement date/time: 6/13/2012 3:34:32 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -3.560 dB
-3. dB beam width: 54.47 deg
-6. dB beam width: 113.18 deg
-10. dB beam width: 153.30 deg
Left Sidelobe: Not Found
Right Sidelobe: -0.54 dB at 65.385 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
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3 1.710 GHz Azimuth Elevation Single-pol

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Far-field amplitude of C14-E.nsi

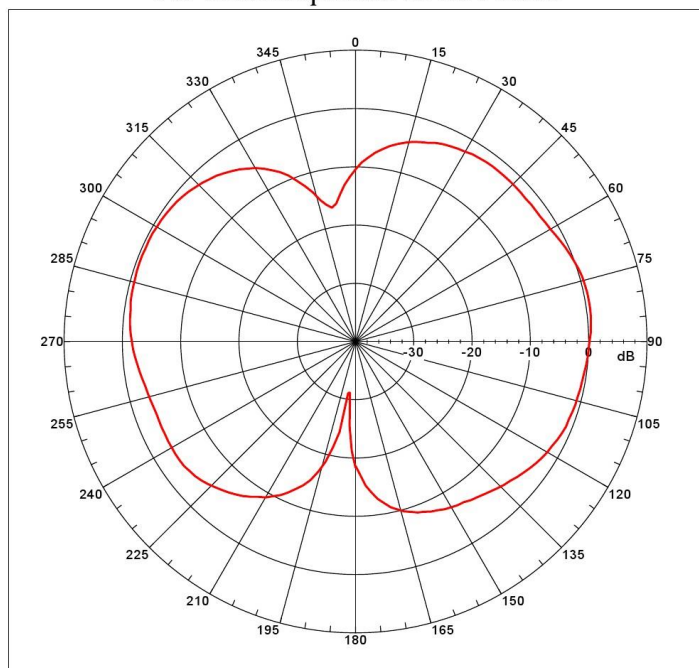


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Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.04555 dBi
Max far-field (global) = -45.77275 dB, Max far-field (plot) =
-45.77277 dB
Normalization: Reference, Network offset = 0.000 dB
Vpeak at: 73.59595 deg, Vpeak at: 0.000 deg
Plot centering: On

C14-E
NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
12 CHINMORE C14-E C14-E.nsi
Measurement date/time: 6/13/2012 3:34:32 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -3.261 dB
-3. dB beam width: 73.72 deg
-6. dB beam width: 126.12 deg
-10. dB beam width: 157.21 deg
Left Sidelobe: -1.44 dB at -69.385 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 6
Beam Frequency Azimuth Elevation Pol
----
4 1.900 GHz Azimuth Elevation Single-pol
  
```

Far-field amplitude of C14-E.nsi

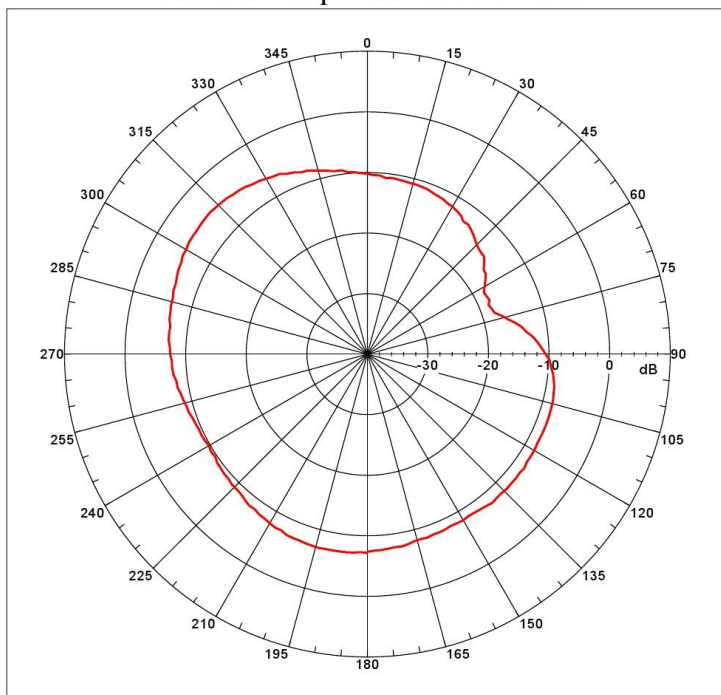


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Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 0.45334 dBi
Max far-field (global) = -46.35462 dB, Max far-field (plot) =
-46.35463 dB
Normalization: Reference, Network offset = 0.000 dB
Vpeak at: 75.59595 deg, Vpeak at: 0.000 deg
Plot centering: On

C14-E
NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
12 CHINMORE C14-E C14-E.nsi
Measurement date/time: 6/13/2012 3:34:32 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -4.020 dB
-3. dB beam width: 52.39 deg
-6. dB beam width: 126.50 deg
-10. dB beam width: 161.55 deg
Left Sidelobe: -1.10 dB at -61.341 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 6
Beam Frequency Azimuth Elevation Pol
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5 1.900 GHz Azimuth Elevation Single-pol
  
```


Far-field amplitude of C14-E.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -5.0621 dB
 Max far-field (global) = -52.3888 dB, Max far-field (plot) = -52.3888 dB
 Normalization: Reference, Network offset = 0.000 dB
 Mpeak at: -40.000 deg, Ypeak at: 0.000 deg
 Plot centering: On

C14-E

NSI000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\2012\CHMORZ\C14-E\C14-E.nsi
 Measurement date/time: 6/13/2012 3:34:32 PM, Filetype: NSI-97

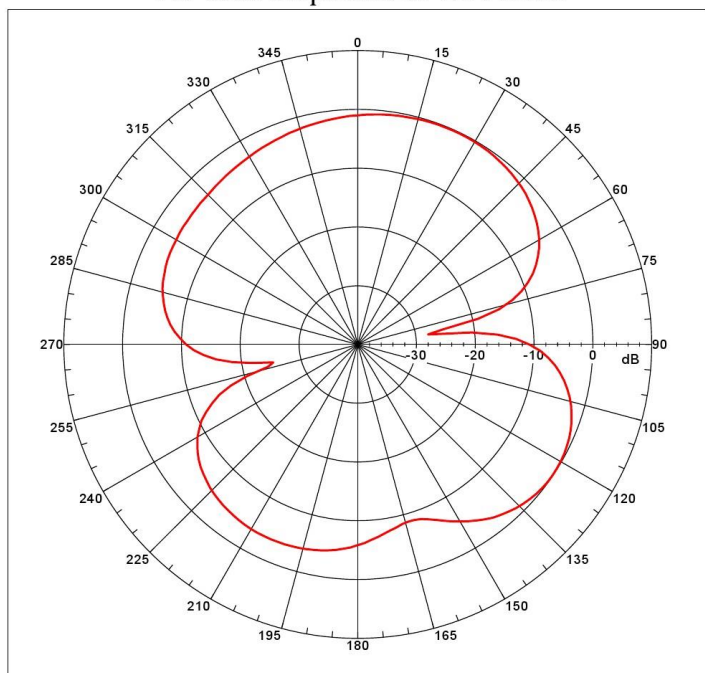
Far-field Cut Analysis:
 Avg value: -8.816 dB
 -3. dB beam width: 77.77 deg
 -6. dB beam width: Not Found
 -10. dB beam width: Not Found
 Left Sidelobe: -3.23 dB at -141.768 deg
 Right Sidelobe: -3.21 dB at 113.631 deg

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 6

Beam	Frequency	Azimuth	Elevation	Pol
6	2.100 GHz	Azimuth	Elevation	Single-pol

Far-field amplitude of C14-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
 Gain = -0.0769 dB
 Max far-field (global) = -41.33292 dB, Max far-field (plot) = -41.33294 dB
 Normalization: Reference, Network offset = 0.000 dB
 Mpeak at: 123.95959 deg, Ypeak at: 0.000 deg
 Plot centering: On

C14-H

NSI000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\2012\CHMORZ\C14-H\C14-H.nsi
 Measurement date/time: 6/13/2012 3:13:13 PM, Filetype: NSI-97

Far-field Cut Analysis:
 Avg value: -4.251 dB
 -3. dB beam width: 40.40 deg
 -6. dB beam width: 56.36 deg
 -10. dB beam width: Not Found
 Left Sidelobe: -0.08 dB at 27.151 deg
 Right Sidelobe: Not Found

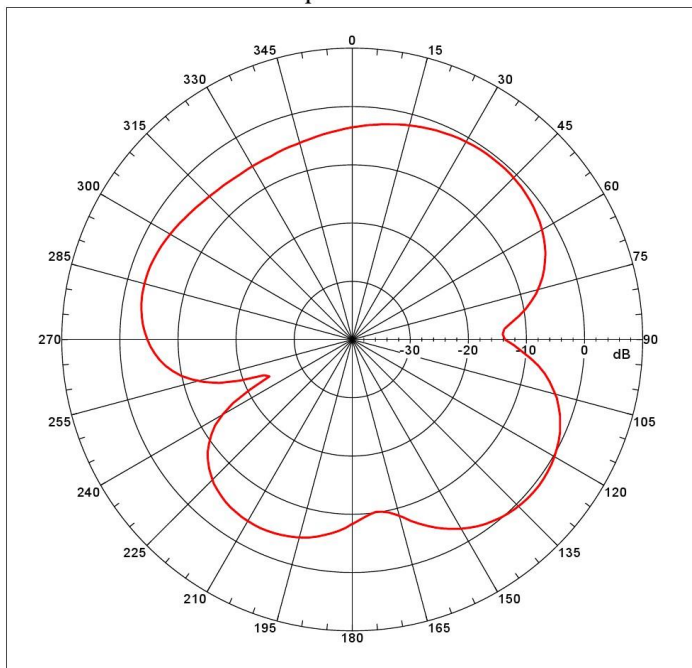
Far-field display setup
 Azimuth (deg)
 Span = 360.00001 deg, Center = 0.000 deg, #pts = 181
 Start = -180.00001 deg, Stop = 180.00001 deg, Delta = 2.000 deg
 Elevation (deg)
 Center = 0.000 deg, #pts = 1

Selected beam(s) 1 of 6

Beam	Frequency	Azimuth	Elevation	Pol
1	0.850 GHz	Azimuth	Elevation	Single-pol



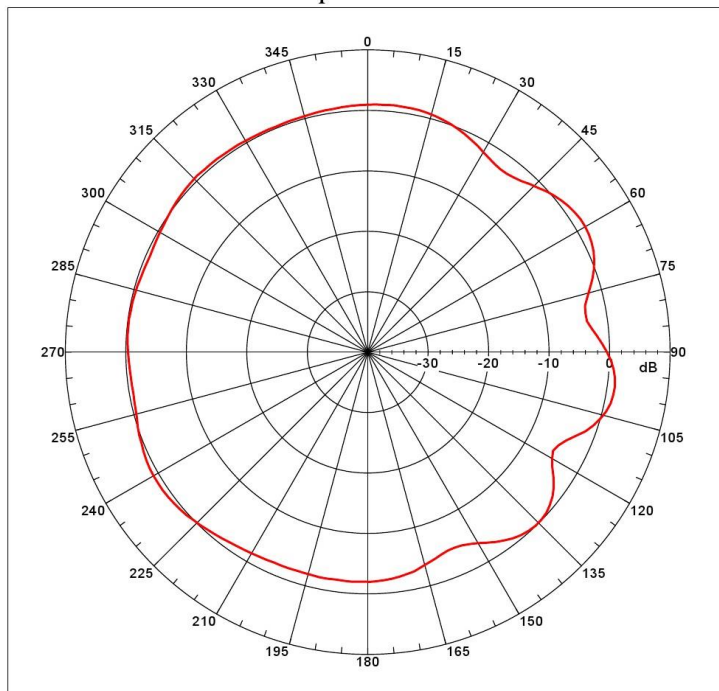
Far-field amplitude of C14-H.nsi



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Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 0.765 dBi
Max far-field (global) = -40.75166 dB, Max far-field (plot) =
-40.75174 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 128.000 deg, Vpeak at: 0.000 deg
Plot centering: On

C14-H
NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
12 CHMORP\C14-H\C14-H.nsi
Measurement date/time: 6/13/2012 3:13:13 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -4.303 dB
-3. dB beam width: 40.12 deg
-6. dB beam width: 55.61 deg
-10. dB beam width: 71.11 deg
Left Sidelobe: -1.29 dB at 43.240 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 6
Beam Frequency Azimuth Elevation Pol
-----
2 0.900 GHz Azimuth Elevation Single-pol
```

Far-field amplitude of C14-H.nsi

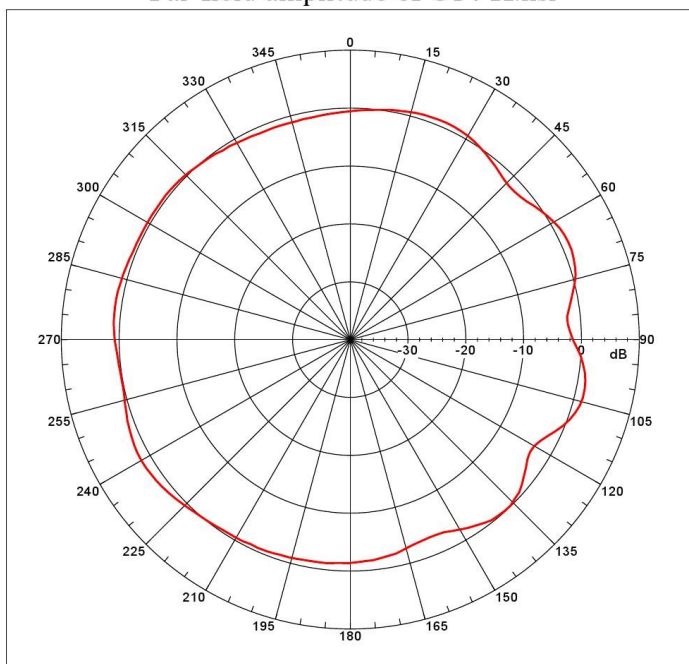


```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.51395 dBi
Max far-field (global) = -43.6786 dB, Max far-field (plot) =
-43.67861 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 89.55555 deg, Vpeak at: 0.000 deg
Plot centering: On

C14-H
NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\20
12 CHMORP\C14-H\C14-H.nsi
Measurement date/time: 6/13/2012 3:13:13 PM, Filetype: NSI-97
Far-field Cut Analysis:
Avg value: -0.657 dB
-3. dB beam width: 25.84 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: -0.47 dB at 7.039 deg
Right Sidelobe: -0.26 dB at 89.553 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 1.710 GHz Azimuth Elevation Single-pol
```



Far-field amplitude of C14-H.nsi

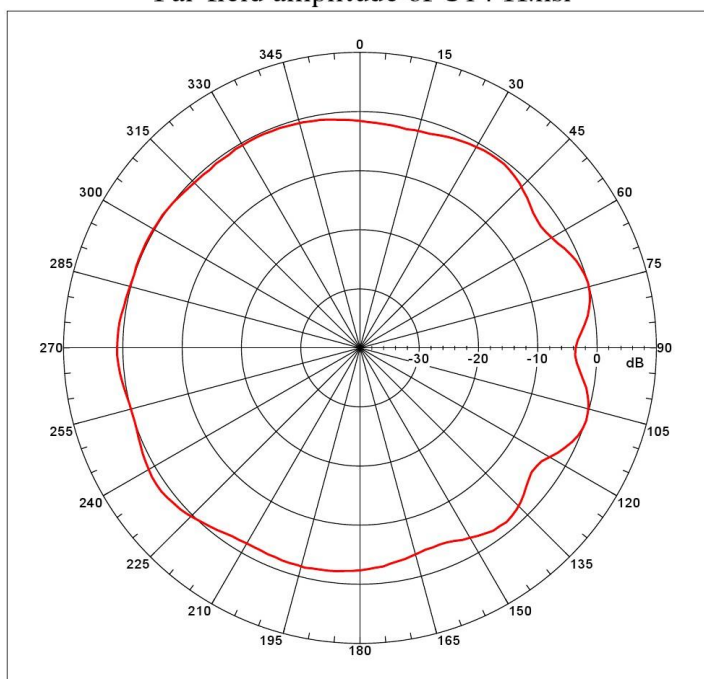


```
Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.74365 dB
Max far-field (global) = -45.07842 dB, Max far-field (plot) =
-45.07845 dB
Normalization: Reference, Network offset = 0.000 dB
Mpeak at: -120.000 deg, Vpeak at: 0.000 deg
Plot centering: 0m

C14-H
NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
12 CHINMORE C14 H C14-H.nsi
Measurement date/time: 6/13/2012 3:13:13 PM, Filetype: NSI-9?
Far-field Cut Analysis:
Avg value: -0.258 dB
-3. dB beam width: 218.08 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: Not Found
Right Sidelobe: -0.78 dB at 25.140 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 1.800 GHz Azimuth Elevation Single-pol
```

Far-field amplitude of C14-H.nsi



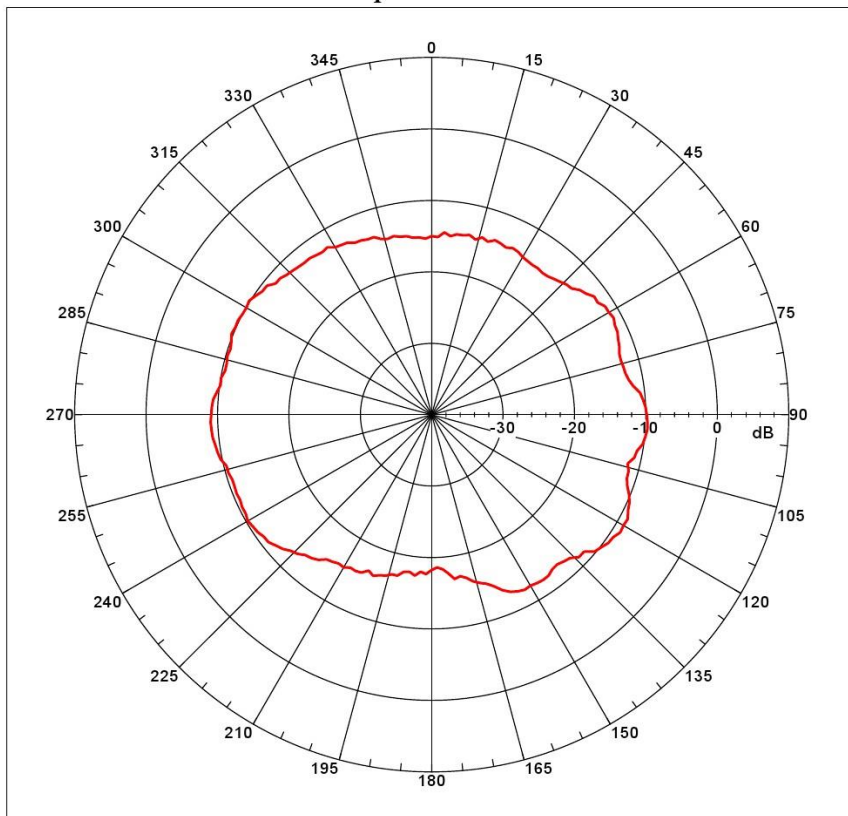
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Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = 1.36653 dB
Max far-field (global) = -45.67013 dB, Max far-field (plot) =
-45.67017 dB
Normalization: Reference, Network offset = 0.000 dB
Mpeak at: -124.00001 deg, Vpeak at: 0.000 deg
Plot centering: 0m

C14-H
NSI2000 V4.0.124, Filename:C:\Documents and Settings\NSI\Desktop\20
12 CHINMORE C14 H C14-H.nsi
Measurement date/time: 6/13/2012 3:13:13 PM, Filetype: NSI-9?
Far-field Cut Analysis:
Avg value: -1.056 dB
-3. dB beam width: 148.77 deg
-6. dB beam width: Not Found
-10. dB beam width: Not Found
Left Sidelobe: Not Found
Right Sidelobe: -0.41 dB at -89.497 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 1.500 GHz Azimuth Elevation Single-pol
```



Far-field amplitude of C14-H.nsi



Far-field amplitude, Eprincipal: Linear, Tau = 0.000 deg
Gain = -8.88429 dBi
Max far-field (global) = -56.21099 dB, Max far-field (plot) =
-56.21106 dB
Normalization: Reference, Network offset = 0.000 dB
Hpeak at: 121.95999 deg, Vpeak at: 0.000 deg
Plot centering: On

C14-H

NSI2000 V4.0.124, Filename: C:\Documents and Settings\NSI\Desktop\2012
12 CHINMORE\C14\H\C14-H.nsi

Measurement date/time: 6/13/2012 3:13:13 PM, Filetype: NSI-97

Far-field Cut Analysis:

Avg value: -12.327 dB

-3. dB beam width: 55.40 deg

-6. dB beam width: 156.18 deg

-10. dB beam width: Not Found

Left Sidelobe: -0.85 dB at 95.531 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 6

Beam	Frequency	Azimuth	Elevation	Pol
6	2.100 GHz	Azimuth	Elevation	Single-pol