



ENGINEERING STATEMENT
OF
JOHN F.X. BROWNE, P.E.
IN SUPPORT OF AN APPLICATION FOR
MINOR CHANGE IN LICENSED FACILITY
WCPO-DT
CINCINNATI, OH

Background

Scripps Howard Broadcasting Company (Scripps) is the licensee of WCPO which has been authorized to operate its post-transition DTV facility on Channel 10 (BMPCDT-20080618ABE^{1/}) at Cincinnati, OH, with an ERP of 19 kW at an HAAT of 305m. The tower is located at the following coordinates:

(NAD27)
39° 07' 30" N
84° 29' 56" W

As it has received numerous viewer comments on DTV reception, Scripps now wishes to "maximize" the post-transition facility ERP to 28 kW. All other facility parameters will remain the same.

^{1/} WCPO filed a license application for its authorized post-transition facility on July 21, 2009 and, therefore, this application is being filed as a minor change in a licensed facility rather than a minor modification of construction permit.



Site

The proposed facility is located within the Canadian border zone and coordination with the Canadian government is requested to the extent necessary in light of the FCC's ongoing negotiations with the Canadian administration.

Antenna System and Tower

WCPO is proposing to continue using its existing directional digital antenna, a Dielectric THV-9A10/CP-R 3C120 (specifications attached hereto as Figure 1a - Figure 1f), for the proposed maximized facility. The antenna stack has been placed on the tower (ASR#1013618) at the coordinates specified above. The structure has a new overall height of 523.5m AMSL (with appurtenances) which is 9.5m lower than the previous overall tower height of 533m AMSL and the antenna has center of radiation of 514m AMSL (with a calculated HAAT of 305m). Construction of the authorized WCPO post-transition facility was recently completed and Scripps is in the process of notifying the FAA of the reduction in height of the existing structure and amending the ASR accordingly.

The proposed WCPO facility will incorporate circular polarization (equal horizontally and vertically polarized ERP) of 28 kW.

Coverage

The entire principal community of Cincinnati, OH is well within the predicted F(50,90) 43 dBu contour based on the proposed 28 kW ERP.



Interference

Studies were conducted with the proposed parameters using software that emulates the software used by the FCC (OET-69 analysis). The results of the study indicate that there are now no post-transition stations that would receive more than the allowable 0.5% new interference from the proposed WCPO facility.

While the results do show that the proposed facility would cause new interference above 0.5% to the WTHI Appendix B facility (Ch. 10 at Terre Haute, IN), WTHI has completed construction on its authorization for a maximized facility (BMPCDT-20080619AEM) which has a larger coverage area than its Appendix B facility. WTHI has filed for a license to cover this permit (BLCDT20090622ACG).

In Paragraph 155 of the Report and Order on the Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, the Commission announced that it would protect the Appendix B facilities of stations for up to approximately a year after lifting the filing freeze. Nevertheless, where, as here, the affected station (WTHI) has completed the maximization of its post-transition facility and expanded service beyond that provided by the Appendix B facility, there appears to be no reason to protect any longer the supplanted Appendix B facility.

Environmental/RFR

The proposed construction does not require preparation of an Environmental Assessment as it does not involve any of the factors listed in Section 1.1306.

The additional ground level RFR contributed to the site by this proposal in public areas is calculated to be 0.000562 mW/cm² which is less than 5% of the MPE for public exposure (0.20 mW/cm²) at the proposed frequency and, therefore, the proposal is excluded from further consideration.



Scripps agrees to comply with the Commission's requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers will be encouraged to wear personal RFR monitors when on the structure. The tower base is enclosed by a locked security fence and appropriate signage warning of RFR hazards is posted.

Certification

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

A handwritten signature in black ink, appearing to read 'John F. X. Browne', written over a horizontal line.

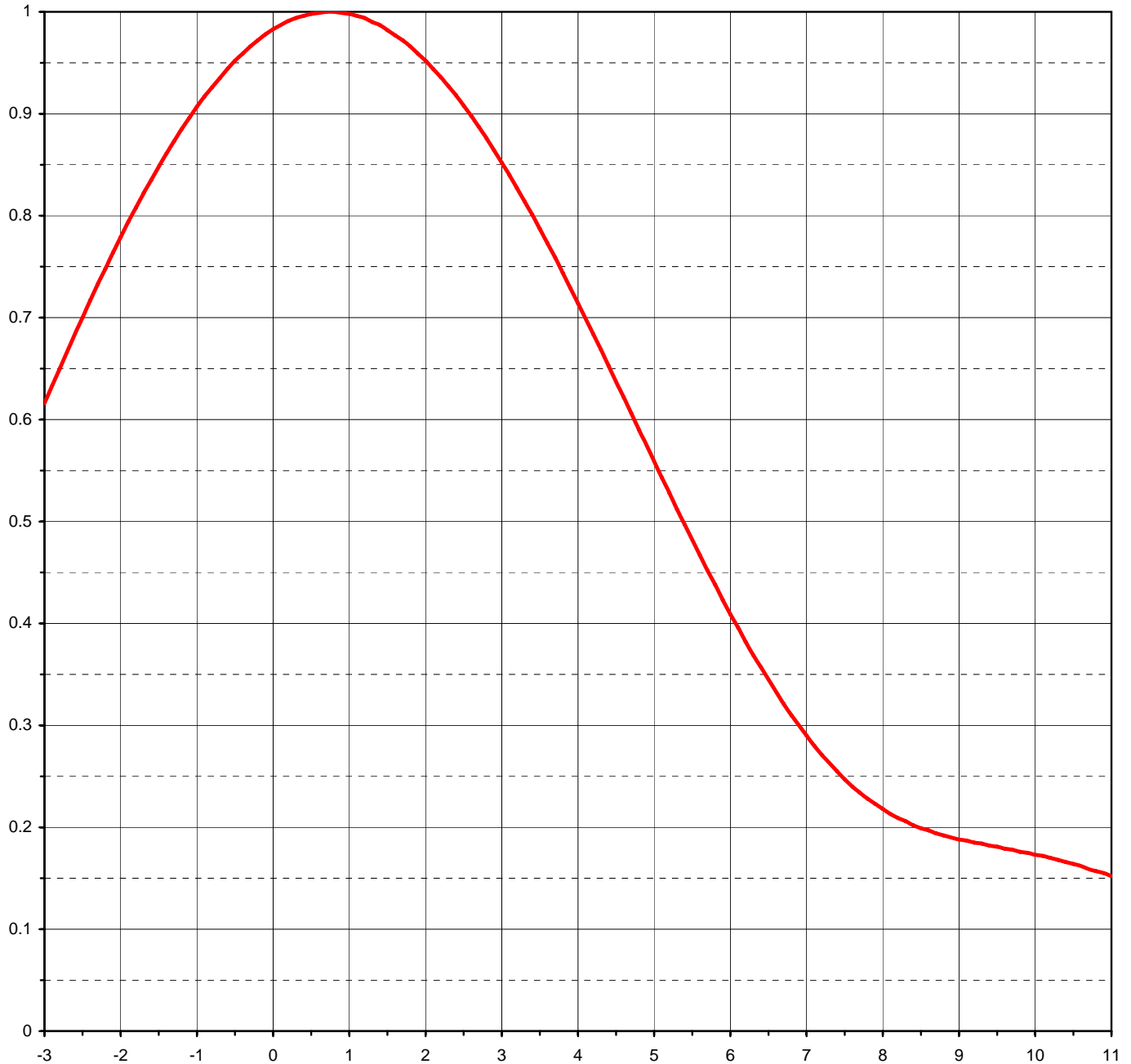
John F. X. Browne, P.E.
July 22, 2009



| | | | |
|-----------------|----------------------------|---------|-----------|
| Proposal Number | C-01659 | | |
| Date | 18-Jul-07 | | |
| Call Letters | WCPO-DT | Channel | 10 |
| Location | Cincinnati, OH | | |
| Customer | | | |
| Antenna Type | THV-9A10/CP-R 3C120 | | |

ELEVATION PATTERN

| | | | | |
|------------------------|-------------------|--------------------|-----------|-------------------|
| RMS Gain at Main Lobe | 9.00 | (9.54 dB) | Beam Tilt | 0.75 deg |
| RMS Gain at Horizontal | 8.70 | (9.40 dB) | Frequency | 195.00 MHz |
| Calculated / Measured | Calculated | | Drawing # | 09V090075 |



Degrees Below Horizontal

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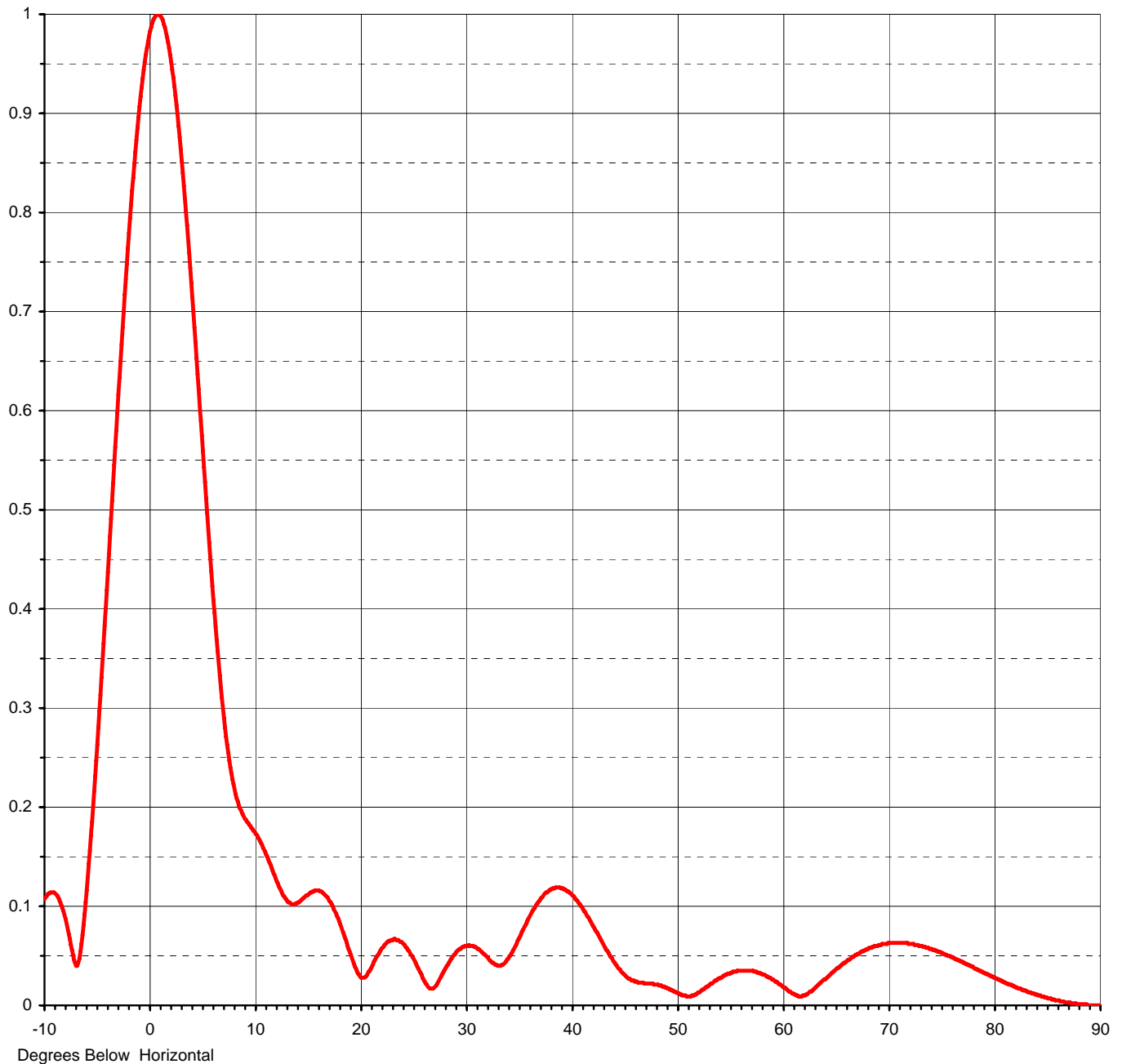
Figure 1a



| | | |
|-----------------|----------------------------|-------------------|
| Proposal Number | C-01659 | |
| Date | 18-Jul-07 | |
| Call Letters | WCPO-DT | Channel 10 |
| Location | Cincinnati, OH | |
| Customer | | |
| Antenna Type | THV-9A10/CP-R 3C120 | |

ELEVATION PATTERN

| | | | |
|------------------------|-------------------------|-----------|---------------------|
| RMS Gain at Main Lobe | 9.00 (9.54 dB) | Beam Tilt | 0.75 deg |
| RMS Gain at Horizontal | 8.70 (9.40 dB) | Frequency | 195.00 MHz |
| Calculated / Measured | Calculated | Drawing # | 09V090075-90 |



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Figure 1b



Proposal Number **C-01659**
 Date **18-Jul-07**
 Call Letters **WCPO-DT** Channel **10**
 Location **Cincinnati, OH**
 Customer
 Antenna Type **THV-9A10/CP-R 3C120**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **09V090075-90**

| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -10.0 | 0.107 | 2.4 | 0.918 | 10.6 | 0.164 | 30.5 | 0.060 | 51.0 | 0.009 | 71.5 | 0.063 |
| -9.5 | 0.113 | 2.6 | 0.898 | 10.8 | 0.159 | 31.0 | 0.058 | 51.5 | 0.010 | 72.0 | 0.062 |
| -9.0 | 0.113 | 2.8 | 0.876 | 11.0 | 0.155 | 31.5 | 0.054 | 52.0 | 0.013 | 72.5 | 0.061 |
| -8.5 | 0.104 | 3.0 | 0.852 | 11.5 | 0.142 | 32.0 | 0.049 | 52.5 | 0.016 | 73.0 | 0.060 |
| -8.0 | 0.087 | 3.2 | 0.827 | 12.0 | 0.128 | 32.5 | 0.043 | 53.0 | 0.020 | 73.5 | 0.058 |
| -7.5 | 0.061 | 3.4 | 0.801 | 12.5 | 0.116 | 33.0 | 0.040 | 53.5 | 0.024 | 74.0 | 0.057 |
| -7.0 | 0.040 | 3.6 | 0.773 | 13.0 | 0.107 | 33.5 | 0.041 | 54.0 | 0.027 | 74.5 | 0.055 |
| -6.5 | 0.062 | 3.8 | 0.744 | 13.5 | 0.102 | 34.0 | 0.047 | 54.5 | 0.030 | 75.0 | 0.053 |
| -6.0 | 0.116 | 4.0 | 0.714 | 14.0 | 0.103 | 34.5 | 0.056 | 55.0 | 0.032 | 75.5 | 0.050 |
| -5.5 | 0.185 | 4.2 | 0.684 | 14.5 | 0.107 | 35.0 | 0.067 | 55.5 | 0.034 | 76.0 | 0.048 |
| -5.0 | 0.263 | 4.4 | 0.653 | 15.0 | 0.111 | 35.5 | 0.078 | 56.0 | 0.035 | 76.5 | 0.046 |
| -4.5 | 0.348 | 4.6 | 0.622 | 15.5 | 0.115 | 36.0 | 0.089 | 56.5 | 0.035 | 77.0 | 0.043 |
| -4.0 | 0.437 | 4.8 | 0.590 | 16.0 | 0.116 | 36.5 | 0.098 | 57.0 | 0.035 | 77.5 | 0.041 |
| -3.5 | 0.527 | 5.0 | 0.559 | 16.5 | 0.113 | 37.0 | 0.106 | 57.5 | 0.034 | 78.0 | 0.038 |
| -3.0 | 0.616 | 5.2 | 0.528 | 17.0 | 0.107 | 37.5 | 0.113 | 58.0 | 0.032 | 78.5 | 0.035 |
| -2.8 | 0.650 | 5.4 | 0.497 | 17.5 | 0.097 | 38.0 | 0.117 | 58.5 | 0.029 | 79.0 | 0.033 |
| -2.6 | 0.684 | 5.6 | 0.467 | 18.0 | 0.085 | 38.5 | 0.119 | 59.0 | 0.026 | 79.5 | 0.030 |
| -2.4 | 0.717 | 5.8 | 0.438 | 18.5 | 0.070 | 39.0 | 0.118 | 59.5 | 0.023 | 80.0 | 0.028 |
| -2.2 | 0.748 | 6.0 | 0.409 | 19.0 | 0.054 | 39.5 | 0.116 | 60.0 | 0.019 | 80.5 | 0.025 |
| -2.0 | 0.779 | 6.2 | 0.382 | 19.5 | 0.039 | 40.0 | 0.112 | 60.5 | 0.015 | 81.0 | 0.023 |
| -1.8 | 0.808 | 6.4 | 0.357 | 20.0 | 0.029 | 40.5 | 0.106 | 61.0 | 0.012 | 81.5 | 0.021 |
| -1.6 | 0.835 | 6.6 | 0.333 | 20.5 | 0.029 | 41.0 | 0.099 | 61.5 | 0.009 | 82.0 | 0.018 |
| -1.4 | 0.861 | 6.8 | 0.310 | 21.0 | 0.037 | 41.5 | 0.090 | 62.0 | 0.010 | 82.5 | 0.016 |
| -1.2 | 0.885 | 7.0 | 0.290 | 21.5 | 0.048 | 42.0 | 0.081 | 62.5 | 0.013 | 83.0 | 0.014 |
| -1.0 | 0.907 | 7.2 | 0.271 | 22.0 | 0.057 | 42.5 | 0.072 | 63.0 | 0.017 | 83.5 | 0.012 |
| -0.8 | 0.926 | 7.4 | 0.255 | 22.5 | 0.063 | 43.0 | 0.062 | 63.5 | 0.022 | 84.0 | 0.011 |
| -0.6 | 0.944 | 7.6 | 0.240 | 23.0 | 0.066 | 43.5 | 0.053 | 64.0 | 0.026 | 84.5 | 0.009 |
| -0.4 | 0.959 | 7.8 | 0.228 | 23.5 | 0.066 | 44.0 | 0.044 | 64.5 | 0.032 | 85.0 | 0.007 |
| -0.2 | 0.972 | 8.0 | 0.218 | 24.0 | 0.063 | 44.5 | 0.037 | 65.0 | 0.037 | 85.5 | 0.006 |
| 0.0 | 0.983 | 8.2 | 0.209 | 24.5 | 0.056 | 45.0 | 0.031 | 65.5 | 0.041 | 86.0 | 0.005 |
| 0.2 | 0.991 | 8.4 | 0.202 | 25.0 | 0.048 | 45.5 | 0.027 | 66.0 | 0.045 | 86.5 | 0.004 |
| 0.4 | 0.996 | 8.6 | 0.197 | 25.5 | 0.037 | 46.0 | 0.024 | 66.5 | 0.049 | 87.0 | 0.003 |
| 0.6 | 0.999 | 8.8 | 0.192 | 26.0 | 0.026 | 46.5 | 0.023 | 67.0 | 0.052 | 87.5 | 0.002 |
| 0.8 | 1.000 | 9.0 | 0.188 | 26.5 | 0.018 | 47.0 | 0.022 | 67.5 | 0.055 | 88.0 | 0.001 |
| 1.0 | 0.998 | 9.2 | 0.185 | 27.0 | 0.018 | 47.5 | 0.022 | 68.0 | 0.057 | 88.5 | 0.001 |
| 1.2 | 0.994 | 9.4 | 0.182 | 27.5 | 0.026 | 48.0 | 0.021 | 68.5 | 0.059 | 89.0 | 0.000 |
| 1.4 | 0.987 | 9.6 | 0.179 | 28.0 | 0.036 | 48.5 | 0.020 | 69.0 | 0.061 | 89.5 | 0.000 |
| 1.6 | 0.977 | 9.8 | 0.178 | 28.5 | 0.045 | 49.0 | 0.018 | 69.5 | 0.062 | 90.0 | 0.000 |
| 1.8 | 0.966 | 10.0 | 0.175 | 29.0 | 0.052 | 49.5 | 0.015 | 70.0 | 0.063 | | |
| 2.0 | 0.952 | 10.2 | 0.172 | 29.5 | 0.057 | 50.0 | 0.013 | 70.5 | 0.063 | | |
| 2.2 | 0.936 | 10.4 | 0.168 | 30.0 | 0.060 | 50.5 | 0.010 | 71.0 | 0.063 | | |

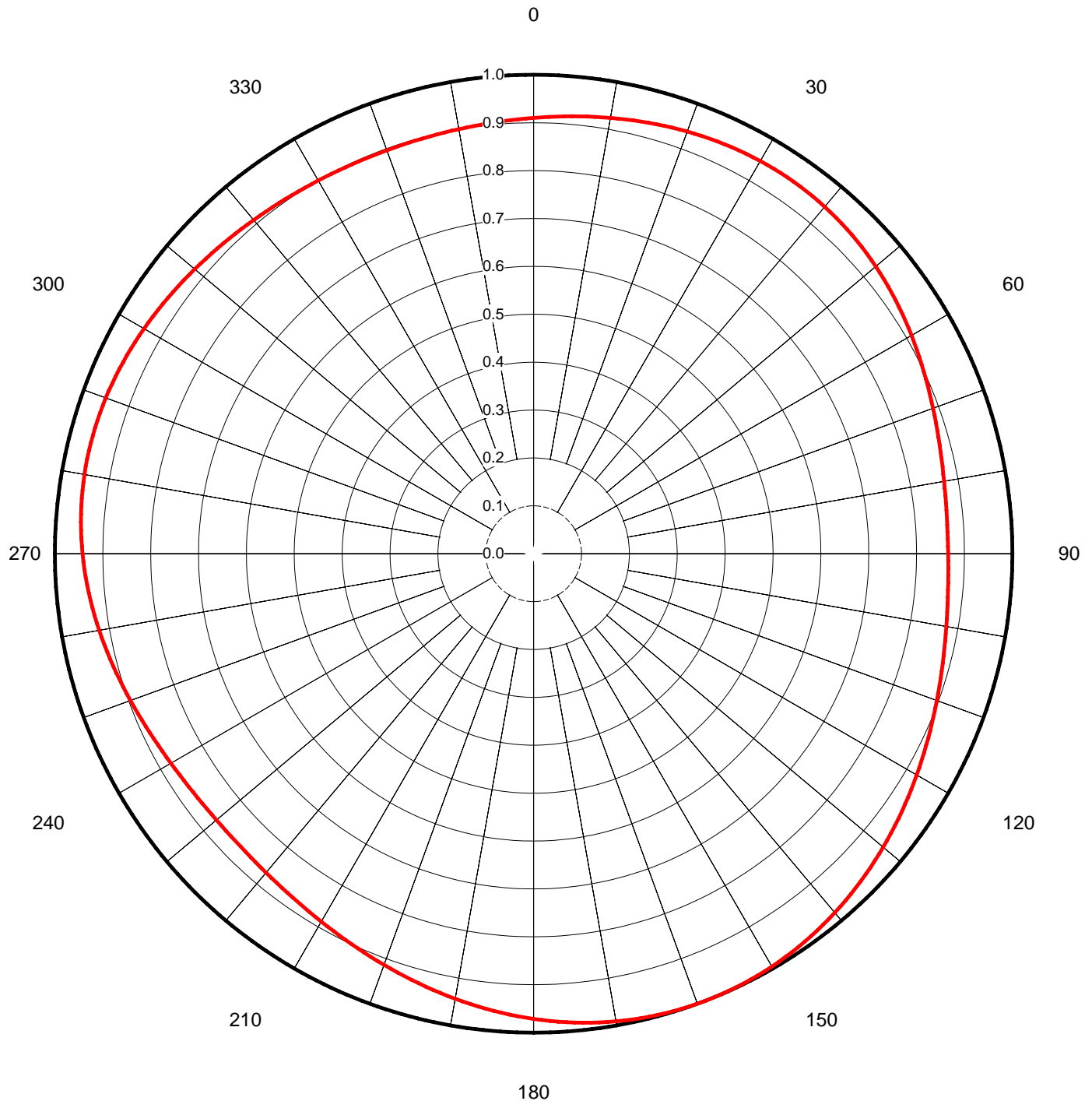
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| | | | |
|-----------------|----------------------------|---------|-----------|
| Proposal Number | C-01659 | | |
| Date | 18-Jul-07 | | |
| Call Letters | WCPO-DT | Channel | 10 |
| Location | Cincinnati, OH | | |
| Customer | | | |
| Antenna Type | THV-9A10/CP-R 3C120 | | |

AZIMUTH PATTERN

| | | |
|-----------------------|-------------------|-------------------|
| Gain | 1.20 | (0.79 dB) |
| Calculated / Measured | Calculated | |

| | |
|-----------|---------------------|
| Frequency | 195.00 MHz |
| Drawing # | THV-3C120-HP |





Proposal Number **C-01659**
Date **18-Jul-07**
Call Letters **WCPO-DT** Channel **10**
Location **Cincinnati, OH**
Customer
Antenna Type **THV-9A10/CP-R 3C120**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **THV-3C120-HP**

| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 0.910 | 45 | 0.941 | 90 | 0.866 | 135 | 0.967 | 180 | 0.971 | 225 | 0.865 | 270 | 0.942 | 315 | 0.916 |
| 1 | 0.911 | 46 | 0.939 | 91 | 0.866 | 136 | 0.969 | 181 | 0.969 | 226 | 0.865 | 271 | 0.944 | 316 | 0.915 |
| 2 | 0.913 | 47 | 0.938 | 92 | 0.867 | 137 | 0.972 | 182 | 0.966 | 227 | 0.865 | 272 | 0.945 | 317 | 0.914 |
| 3 | 0.914 | 48 | 0.936 | 93 | 0.867 | 138 | 0.974 | 183 | 0.964 | 228 | 0.865 | 273 | 0.947 | 318 | 0.912 |
| 4 | 0.915 | 49 | 0.935 | 94 | 0.868 | 139 | 0.976 | 184 | 0.961 | 229 | 0.865 | 274 | 0.948 | 319 | 0.911 |
| 5 | 0.917 | 50 | 0.933 | 95 | 0.869 | 140 | 0.978 | 185 | 0.958 | 230 | 0.865 | 275 | 0.949 | 320 | 0.910 |
| 6 | 0.918 | 51 | 0.931 | 96 | 0.870 | 141 | 0.981 | 186 | 0.955 | 231 | 0.865 | 276 | 0.950 | 321 | 0.908 |
| 7 | 0.920 | 52 | 0.929 | 97 | 0.871 | 142 | 0.983 | 187 | 0.952 | 232 | 0.866 | 277 | 0.951 | 322 | 0.907 |
| 8 | 0.921 | 53 | 0.927 | 98 | 0.872 | 143 | 0.985 | 188 | 0.949 | 233 | 0.866 | 278 | 0.952 | 323 | 0.906 |
| 9 | 0.922 | 54 | 0.925 | 99 | 0.874 | 144 | 0.986 | 189 | 0.947 | 234 | 0.867 | 279 | 0.952 | 324 | 0.905 |
| 10 | 0.924 | 55 | 0.923 | 100 | 0.875 | 145 | 0.988 | 190 | 0.944 | 235 | 0.868 | 280 | 0.953 | 325 | 0.904 |
| 11 | 0.925 | 56 | 0.921 | 101 | 0.877 | 146 | 0.990 | 191 | 0.941 | 236 | 0.869 | 281 | 0.953 | 326 | 0.903 |
| 12 | 0.927 | 57 | 0.918 | 102 | 0.879 | 147 | 0.991 | 192 | 0.938 | 237 | 0.870 | 282 | 0.953 | 327 | 0.902 |
| 13 | 0.928 | 58 | 0.916 | 103 | 0.881 | 148 | 0.993 | 193 | 0.935 | 238 | 0.872 | 283 | 0.953 | 328 | 0.901 |
| 14 | 0.930 | 59 | 0.914 | 104 | 0.883 | 149 | 0.994 | 194 | 0.932 | 239 | 0.873 | 284 | 0.953 | 329 | 0.900 |
| 15 | 0.931 | 60 | 0.911 | 105 | 0.885 | 150 | 0.995 | 195 | 0.928 | 240 | 0.875 | 285 | 0.953 | 330 | 0.900 |
| 16 | 0.933 | 61 | 0.909 | 106 | 0.887 | 151 | 0.996 | 196 | 0.925 | 241 | 0.877 | 286 | 0.953 | 331 | 0.899 |
| 17 | 0.934 | 62 | 0.907 | 107 | 0.889 | 152 | 0.997 | 197 | 0.922 | 242 | 0.878 | 287 | 0.953 | 332 | 0.898 |
| 18 | 0.935 | 63 | 0.904 | 108 | 0.891 | 153 | 0.998 | 198 | 0.919 | 243 | 0.880 | 288 | 0.952 | 333 | 0.898 |
| 19 | 0.937 | 64 | 0.902 | 109 | 0.894 | 154 | 0.999 | 199 | 0.916 | 244 | 0.882 | 289 | 0.952 | 334 | 0.898 |
| 20 | 0.938 | 65 | 0.899 | 110 | 0.896 | 155 | 0.999 | 200 | 0.914 | 245 | 0.885 | 290 | 0.951 | 335 | 0.897 |
| 21 | 0.939 | 66 | 0.897 | 111 | 0.899 | 156 | 1.000 | 201 | 0.911 | 246 | 0.887 | 291 | 0.950 | 336 | 0.897 |
| 22 | 0.940 | 67 | 0.895 | 112 | 0.901 | 157 | 1.000 | 202 | 0.908 | 247 | 0.889 | 292 | 0.949 | 337 | 0.897 |
| 23 | 0.941 | 68 | 0.892 | 113 | 0.904 | 158 | 1.000 | 203 | 0.905 | 248 | 0.891 | 293 | 0.948 | 338 | 0.897 |
| 24 | 0.942 | 69 | 0.890 | 114 | 0.907 | 159 | 1.000 | 204 | 0.902 | 249 | 0.894 | 294 | 0.947 | 339 | 0.896 |
| 25 | 0.943 | 70 | 0.888 | 115 | 0.910 | 160 | 1.000 | 205 | 0.899 | 250 | 0.896 | 295 | 0.946 | 340 | 0.896 |
| 26 | 0.944 | 71 | 0.886 | 116 | 0.912 | 161 | 1.000 | 206 | 0.897 | 251 | 0.899 | 296 | 0.945 | 341 | 0.896 |
| 27 | 0.945 | 72 | 0.884 | 117 | 0.915 | 162 | 0.999 | 207 | 0.894 | 252 | 0.901 | 297 | 0.944 | 342 | 0.897 |
| 28 | 0.946 | 73 | 0.882 | 118 | 0.918 | 163 | 0.999 | 208 | 0.892 | 253 | 0.904 | 298 | 0.942 | 343 | 0.897 |
| 29 | 0.946 | 74 | 0.880 | 119 | 0.921 | 164 | 0.998 | 209 | 0.889 | 254 | 0.906 | 299 | 0.941 | 344 | 0.897 |
| 30 | 0.947 | 75 | 0.878 | 120 | 0.924 | 165 | 0.997 | 210 | 0.887 | 255 | 0.909 | 300 | 0.940 | 345 | 0.897 |
| 31 | 0.947 | 76 | 0.876 | 121 | 0.927 | 166 | 0.996 | 211 | 0.885 | 256 | 0.911 | 301 | 0.938 | 346 | 0.898 |
| 32 | 0.947 | 77 | 0.875 | 122 | 0.930 | 167 | 0.995 | 212 | 0.883 | 257 | 0.914 | 302 | 0.937 | 347 | 0.898 |
| 33 | 0.948 | 78 | 0.873 | 123 | 0.933 | 168 | 0.994 | 213 | 0.881 | 258 | 0.917 | 303 | 0.935 | 348 | 0.899 |
| 34 | 0.948 | 79 | 0.872 | 124 | 0.936 | 169 | 0.993 | 214 | 0.879 | 259 | 0.919 | 304 | 0.934 | 349 | 0.899 |
| 35 | 0.948 | 80 | 0.871 | 125 | 0.939 | 170 | 0.991 | 215 | 0.877 | 260 | 0.921 | 305 | 0.932 | 350 | 0.900 |
| 36 | 0.947 | 81 | 0.869 | 126 | 0.942 | 171 | 0.990 | 216 | 0.875 | 261 | 0.924 | 306 | 0.931 | 351 | 0.901 |
| 37 | 0.947 | 82 | 0.868 | 127 | 0.945 | 172 | 0.988 | 217 | 0.873 | 262 | 0.926 | 307 | 0.929 | 352 | 0.902 |
| 38 | 0.947 | 83 | 0.868 | 128 | 0.947 | 173 | 0.986 | 218 | 0.872 | 263 | 0.929 | 308 | 0.927 | 353 | 0.902 |
| 39 | 0.946 | 84 | 0.867 | 129 | 0.950 | 174 | 0.985 | 219 | 0.871 | 264 | 0.931 | 309 | 0.926 | 354 | 0.903 |
| 40 | 0.946 | 85 | 0.866 | 130 | 0.953 | 175 | 0.983 | 220 | 0.869 | 265 | 0.933 | 310 | 0.924 | 355 | 0.904 |
| 41 | 0.945 | 86 | 0.866 | 131 | 0.956 | 176 | 0.980 | 221 | 0.868 | 266 | 0.935 | 311 | 0.923 | 356 | 0.905 |
| 42 | 0.944 | 87 | 0.866 | 132 | 0.959 | 177 | 0.978 | 222 | 0.867 | 267 | 0.937 | 312 | 0.921 | 357 | 0.906 |
| 43 | 0.943 | 88 | 0.866 | 133 | 0.961 | 178 | 0.976 | 223 | 0.866 | 268 | 0.939 | 313 | 0.919 | 358 | 0.908 |
| 44 | 0.942 | 89 | 0.866 | 134 | 0.964 | 179 | 0.974 | 224 | 0.866 | 269 | 0.941 | 314 | 0.918 | 359 | 0.909 |

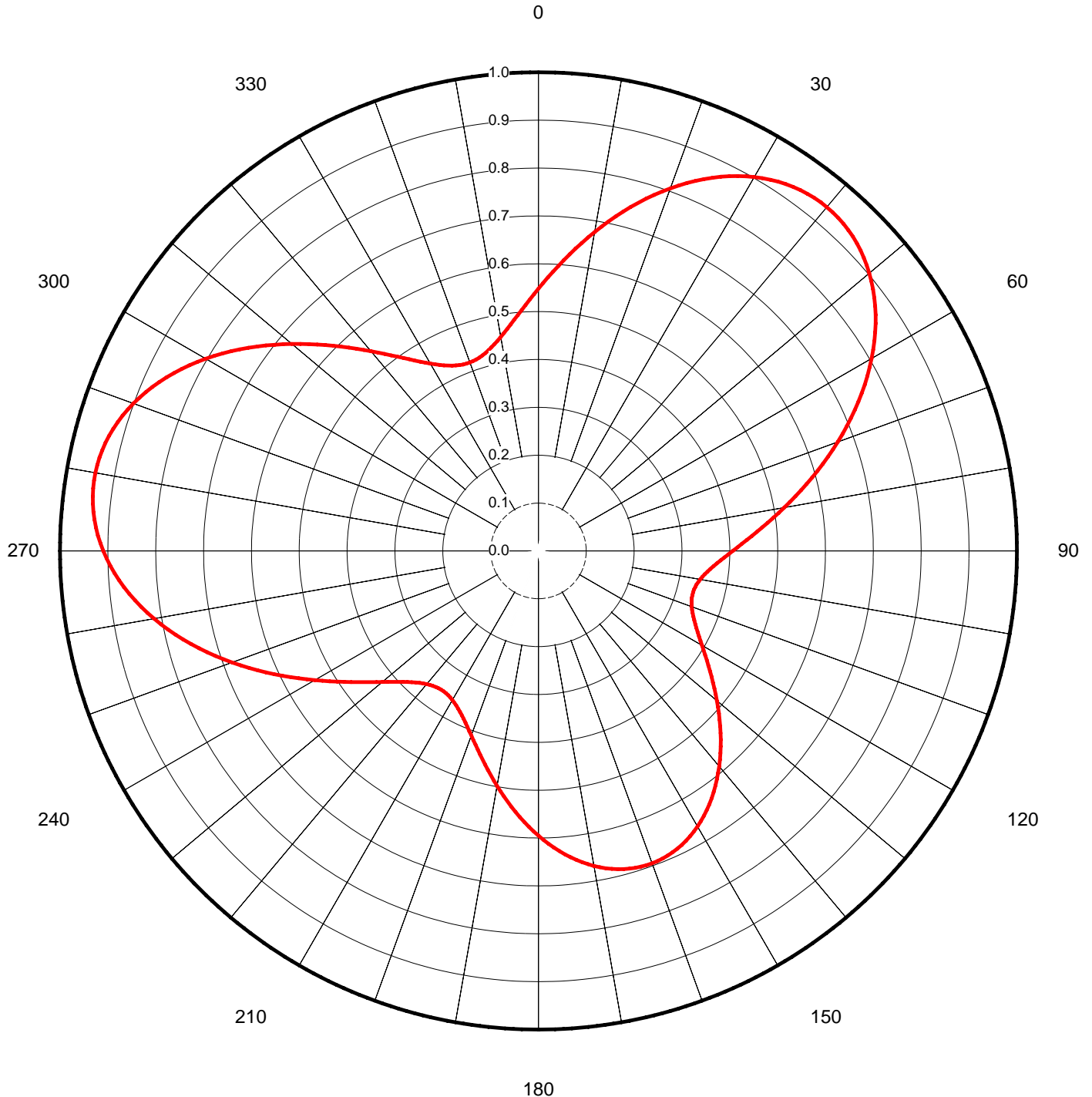
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| | | |
|-----------------|----------------------------|-------------------|
| Proposal Number | C-01659 | |
| Date | 18-Jul-07 | |
| Call Letters | WCPO-DT | Channel 10 |
| Location | Cincinnati, OH | |
| Customer | | |
| Antenna Type | THV-9A10/CP-R 3C120 | |

AZIMUTH PATTERN/VERTICAL POLARIZATION

| | | |
|-----------------------|-------------|-------------------|
| Gain | 2.10 | (3.22 dB) |
| Calculated / Measured | | Calculated |

| | |
|-----------|---------------------|
| Frequency | 195.00 MHz |
| Drawing # | THV-3C210 VP |



DIRECTIONAL ANTENNA DATA
WCPO-DT
dBk Table

| Actual Bearing | Pattern Azimuth | Relative Field | ERP (dBk) | CONTOURS(km) | |
|----------------|-----------------|----------------|-----------|--------------|--------|
| | | | | 43 dBu | 36 dBu |
| N000E | 0.00 | 0.910 | 13.65 | 86.7 | 99.1 |
| | 10.00 | 0.924 | 13.79 | | |
| | 20.00 | 0.938 | 13.92 | | |
| | 30.00 | 0.947 | 14.00 | | |
| | 40.00 | 0.946 | 13.99 | | |
| N045E | 45.00 | 0.941 | 13.94 | 86.2 | 98.6 |
| | 50.00 | 0.933 | 13.87 | | |
| | 60.00 | 0.911 | 13.66 | | |
| | 70.00 | 0.888 | 13.44 | | |
| | 80.00 | 0.871 | 13.27 | | |
| N090E | 90.00 | 0.866 | 13.22 | 88.0 | 100.6 |
| | 100.00 | 0.875 | 13.31 | | |
| | 110.00 | 0.896 | 13.52 | | |
| | 120.00 | 0.924 | 13.79 | | |
| | 130.00 | 0.953 | 14.05 | | |
| N135E | 135.00 | 0.967 | 14.18 | 89.8 | 102.6 |
| | 140.00 | 0.978 | 14.28 | | |
| | 150.00 | 0.995 | 14.43 | | |
| | 160.00 | 1.000 | 14.47 | | |
| | 170.00 | 0.991 | 14.39 | | |
| N180E | 180.00 | 0.971 | 14.22 | 89.2 | 101.9 |
| | 190.00 | 0.944 | 13.97 | | |
| | 200.00 | 0.914 | 13.69 | | |
| | 210.00 | 0.887 | 13.43 | | |
| | 220.00 | 0.869 | 13.25 | | |
| N225E | 225.00 | 0.865 | 13.21 | 85.6 | 97.9 |
| | 230.00 | 0.865 | 13.21 | | |
| | 240.00 | 0.875 | 13.31 | | |
| | 250.00 | 0.896 | 13.52 | | |
| | 260.00 | 0.921 | 13.76 | | |
| N270E | 270.00 | 0.942 | 13.95 | 86.4 | 98.8 |
| | 280.00 | 0.953 | 14.05 | | |
| | 290.00 | 0.951 | 14.04 | | |
| | 300.00 | 0.940 | 13.93 | | |
| | 310.00 | 0.924 | 13.79 | | |
| N315E | 315.00 | 0.916 | 13.71 | 85.4 | 97.9 |
| | 320.00 | 0.910 | 13.65 | | |
| | 330.00 | 0.900 | 13.56 | | |
| | 340.00 | 0.896 | 13.52 | | |
| | 350.00 | 0.900 | 13.56 | | |

Maximum: N160E 14.47 dBk

Minima: N225E 13.21 dBk
N230E 13.21 dBk