

CARL T. JONES
CORPORATION

**ENGINEERING EXHIBIT
IN SUPPORT OF AN APPLICATION FOR
MODIFICATION OF CONSTRUCTION PERMIT
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Applicant: Buckley Broadcasting Corporation

AUGUST, 2006

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**STATEMENT OF JAMES D. SADLER
IN SUPPORT OF AN APPLICATION
FOR MODIFICATION OF CONSTRUCTION PERMIT
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Applicant: Buckley Broadcasting Corporation

I am a Technical Consultant, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My experience as a technical consultant is a matter of record with the Federal Communications Commission.

Buckley Broadcasting Corporation ("Buckley"), licensee of Station WOR, holds outstanding Construction Permit No. BP-20020131AAF, granted March 24, 2003. The Construction Permit authorizes WOR to relocate the transmitter site and modify the directional antenna pattern employed during daytime and nighttime hours (DA-1).

This office has been authorized by Buckley to prepare this engineering statement, Section III-A of FCC Form 301, and the associated figures in support of an Application for Modification of Construction Permit. By means of this minor change application, Buckley proposes a minor modification to the directional antenna pattern by adding augmentation over four spans. Data provided in the Application for License supports the proposed directional antenna pattern modifications. No other changes are proposed. No actual construction is proposed in the instant application.

DIRECTIONAL ANTENNA PATTERN AUGMENTATION

During the antenna adjustment process, it was determined that the radiation on the 40, 176.5, 289, and 344 degree radial bearings could not be reduced below the standard pattern values authorized in the construction permit. The fact that the radiation could not be further reduced on these bearings, without further distortion of the antenna pattern, is believed to be directly attributable to re-radiation from several structures which are located in close proximity to the station. As a result, it is necessary to augment the directional antenna pattern in the following manner:

| <u>Central Azimuth (deg. T.)</u> | <u>Span (deg. T.)</u> | <u>Authorized Radiation (mV/m)</u> | <u>Proposed Radiation (mV/m)</u> |
|--|---------------------------|--|--|
| 40 | 20 | 2239 | 2402 |
| 176.5 | 20 | 1728 | 2017 |
| 289 | 20 | 144.0 | 918.2 |
| 344 | 20 | 214.7 | 544.2 |

The horizontal plane modified standard pattern radiation has been calculated in accordance with the equations set forth in Section 73.150 and Section 73.152 of the FCC's Rules. A polar plot of the proposed horizontal plane modified standard radiation pattern is contained in Figure 1. The horizontal and vertical plane theoretical, standard and proposed modified standard pattern values are tabulated on Figure 2, Sheets 1 through 13.

DAYTIME ALLOCATION STUDY

With the exception of the augmentation span centered on the 176.5 degree radial, the proposed pattern augmentation will not create an increase of the pertinent protected and/or interfering contours beyond the respective licensed contours. There are no pertinent stations requiring protection in the 176.5 degree radial span. Therefore, the proposed pattern augmentation will have no impact on the daytime allocation situation as currently authorized.

NIGHTTIME ALLOCATION STUDY

A nighttime allocation study was performed in the proposed spans of augmentation to determine if the proposed nighttime pattern modification would result in an increase of the 25 or 50 percent RSS nighttime limit of any station or pending application. The only stations requiring particular study in the spans of augmentation are Station CHYR, Leamington, Ontario, Canada; Station HJNX, Medellin 6, Columbia; Station WGN, Chicago, Illinois; and Station KIRO, Seattle, Washington. As shown on Figure 3, the proposed modification does not increase the 50 percent RSS nighttime limit beyond the currently licensed value toward CHYR or HJNX. The proposed limit toward WGN will not enter the 25 percent RSS. With respect to KIRO, the proposed 0.025 mV/m 10 percent interfering contour will not overlap with the 0.5 mV/m 50 percent protected contour of KIRO as shown on Figure 4. Therefore, the proposed pattern modification complies with 47 CFR 73.182 with respect to all existing stations and pending applications.

ENVIRONMENTAL CONSIDERATIONS

There are no physical modifications proposed to the authorized facility; therefore, the proposal is categorically excluded from environmental processing per Section 47 CFR 1.1306 of the Rules.

SUMMARY

It is submitted that this statement, FCC Form 301, Section III-A, and the attached exhibits comply with the Rules and Regulations of the Federal Communications Commission, that they were prepared by me or under my direct supervision and are believed to be true and correct.

DATED: August 31, 2006

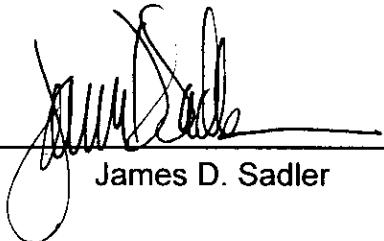
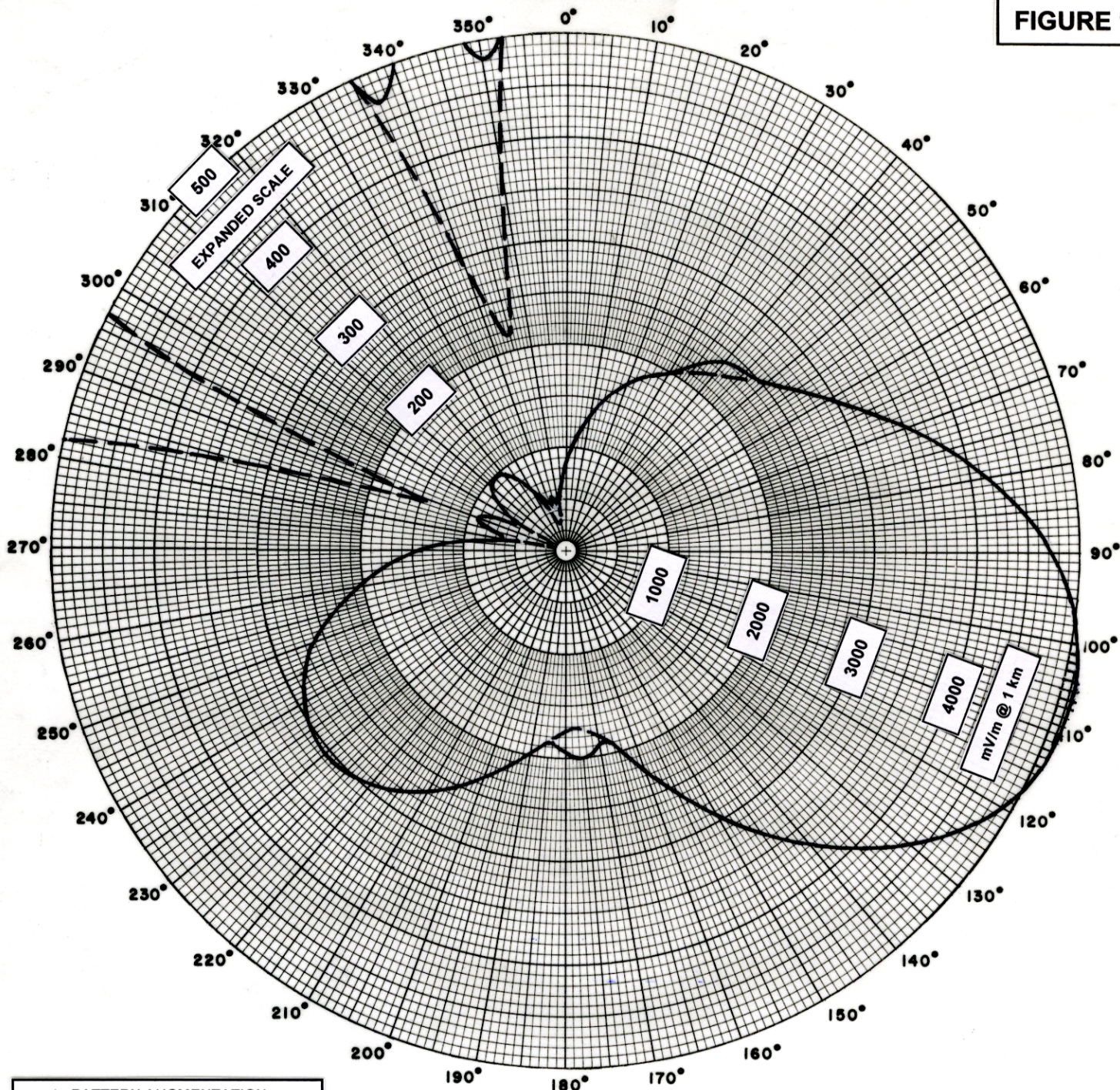

James D. Sadler

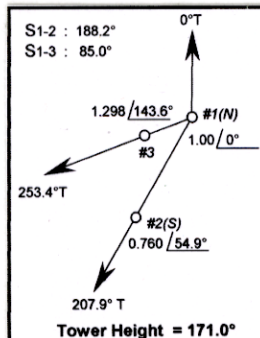
FIGURE 1



PATTERN AUGMENTATION

| AZ (deg. T) | SPAN (deg.) | FIELD (mV/m @ 1 km) |
|----------------|----------------|------------------------|
| 40 | 20 | 2402 |
| 176.5 | 20 | 2017 |
| 289 | 20 | 918.2 |
| 344 | 20 | 544.2 |

— MODIFIED PATTERN
 - - - STANDARD PATTERN



THEORETICAL RMS : 2613 mV/m @ 1 km
 STANDARD RMS : 2745 mV/m @ 1 km
 MODIFIED STANDARD RMS : 2760 mV/m @ 1 km
 THEORETICAL RSS : 3448 mV/m @ 1 km

COORDINATES NAD-27

NORTH LATITUDE: 40° 47' 50"
 WEST LONGITUDE: 74° 05' 24"

**PROPOSED HORIZONTAL PLANE
 MODIFIED STANDARD RADIATION PATTERN**
 STATION WOR - NEW YORK, NEW YORK
 710 kHz - 50 kW, U, DA-1
 AUGUST, 2006

CARL T. JONES
 CORPORATION

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 0°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 826.6 | 872.7 | | 180.0 | 1662.8 | 1748.3 | 1960.7 |
| 5.0 | 1053.8 | 1110.2 | | 185.0 | 1751.4 | 1841.1 | 1857.1 |
| 10.0 | 1262.4 | 1328.6 | | 190.0 | 1889.1 | 1985.6 | |
| 15.0 | 1448.9 | 1524.0 | | 195.0 | 2053.6 | 2158.2 | |
| 20.0 | 1612.7 | 1695.8 | | 200.0 | 2227.3 | 2340.4 | |
| 25.0 | 1756.2 | 1846.3 | | 205.0 | 2397.0 | 2518.5 | |
| 30.0 | 1884.7 | 1981.0 | | 210.0 | 2552.8 | 2681.9 | |
| 35.0 | 2006.0 | 2108.3 | 2196.3 | 215.0 | 2686.3 | 2822.1 | |
| 40.0 | 2130.3 | 2238.6 | 2402.0 | 220.0 | 2790.4 | 2931.3 | |
| 45.0 | 2268.6 | 2383.7 | 2461.9 | 225.0 | 2858.7 | 3003.0 | |
| 50.0 | 2431.0 | 2554.1 | | 230.0 | 2885.3 | 3030.9 | |
| 55.0 | 2624.8 | 2757.5 | | 235.0 | 2865.1 | 3009.8 | |
| 60.0 | 2852.5 | 2996.5 | | 240.0 | 2794.4 | 2935.5 | |
| 65.0 | 3111.7 | 3268.5 | | 245.0 | 2670.7 | 2805.6 | |
| 70.0 | 3394.5 | 3565.4 | | 250.0 | 2493.5 | 2619.8 | |
| 75.0 | 3689.6 | 3875.1 | | 255.0 | 2265.0 | 2380.0 | |
| 80.0 | 3982.9 | 4183.0 | | 260.0 | 1989.7 | 2091.1 | |
| 85.0 | 4259.0 | 4472.9 | | 265.0 | 1675.1 | 1761.2 | |
| 90.0 | 4502.9 | 4728.9 | | 270.0 | 1331.5 | 1401.0 | |
| 95.0 | 4700.2 | 4936.1 | | 275.0 | 971.7 | 1024.2 | |
| 100.0 | 4838.9 | 5081.7 | | 280.0 | 610.8 | 647.7 | 663.0 |
| 105.0 | 4909.8 | 5156.1 | | 285.0 | 270.9 | 298.5 | 792.0 |
| 110.0 | 4907.3 | 5153.5 | | 290.0 | 130.1 | 163.9 | 910.6 |
| 115.0 | 4829.5 | 5071.8 | | 295.0 | 375.3 | 404.4 | 669.0 |
| 120.0 | 4678.8 | 4913.6 | | 300.0 | 601.2 | 637.7 | |
| 125.0 | 4461.3 | 4685.2 | | 305.0 | 769.5 | 813.0 | |
| 130.0 | 4186.4 | 4396.6 | | 310.0 | 872.1 | 920.2 | |
| 135.0 | 3866.3 | 4060.6 | | 315.0 | 907.0 | 956.7 | |
| 140.0 | 3515.4 | 3692.2 | | 320.0 | 876.0 | 924.3 | |
| 145.0 | 3149.3 | 3308.0 | | 325.0 | 784.8 | 829.0 | |
| 150.0 | 2785.0 | 2925.6 | | 330.0 | 642.4 | 680.6 | |
| 155.0 | 2440.4 | 2564.0 | | 335.0 | 462.5 | 494.0 | 500.1 |
| 160.0 | 2134.8 | 2243.3 | | 340.0 | 272.3 | 299.9 | 503.6 |
| 165.0 | 1888.8 | 1985.3 | | 345.0 | 191.0 | 220.0 | 540.7 |
| 170.0 | 1722.2 | 1810.6 | 1890.5 | 350.0 | 354.4 | 383.0 | 482.8 |
| 175.0 | 1647.5 | 1732.2 | 2006.2 | 355.0 | 588.1 | 624.1 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 5°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 810.6 | 855.8 | | 180.0 | 1646.1 | 1730.7 | 1939.7 |
| 5.0 | 1033.3 | 1088.6 | | 185.0 | 1730.7 | 1819.5 | 1835.2 |
| 10.0 | 1238.2 | 1303.1 | | 190.0 | 1864.1 | 1959.3 | |
| 15.0 | 1421.8 | 1495.6 | | 195.0 | 2024.1 | 2127.2 | |
| 20.0 | 1583.7 | 1665.3 | | 200.0 | 2193.4 | 2304.8 | |
| 25.0 | 1726.1 | 1814.6 | | 205.0 | 2359.1 | 2478.7 | |
| 30.0 | 1854.1 | 1948.8 | | 210.0 | 2511.2 | 2638.2 | |
| 35.0 | 1975.5 | 2076.2 | 2163.2 | 215.0 | 2641.4 | 2774.9 | |
| 40.0 | 2100.0 | 2206.8 | 2368.2 | 220.0 | 2742.9 | 2881.4 | |
| 45.0 | 2238.4 | 2352.1 | 2429.3 | 225.0 | 2809.1 | 2950.9 | |
| 50.0 | 2400.5 | 2522.1 | | 230.0 | 2834.5 | 2977.5 | |
| 55.0 | 2593.0 | 2724.2 | | 235.0 | 2813.9 | 2956.0 | |
| 60.0 | 2818.6 | 2960.8 | | 240.0 | 2743.8 | 2882.4 | |
| 65.0 | 3074.3 | 3229.3 | | 245.0 | 2621.7 | 2754.3 | |
| 70.0 | 3352.9 | 3521.6 | | 250.0 | 2447.4 | 2571.3 | |
| 75.0 | 3643.0 | 3826.2 | | 255.0 | 2222.7 | 2335.6 | |
| 80.0 | 3930.9 | 4128.4 | | 260.0 | 1952.4 | 2051.9 | |
| 85.0 | 4201.9 | 4412.9 | | 265.0 | 1643.7 | 1728.2 | |
| 90.0 | 4440.9 | 4663.8 | | 270.0 | 1306.7 | 1374.9 | |
| 95.0 | 4634.2 | 4866.7 | | 275.0 | 954.0 | 1005.7 | |
| 100.0 | 4770.0 | 5009.3 | | 280.0 | 600.8 | 637.1 | 652.3 |
| 105.0 | 4839.3 | 5082.0 | | 285.0 | 269.8 | 297.0 | 782.6 |
| 110.0 | 4836.6 | 5079.2 | | 290.0 | 136.3 | 168.7 | 899.8 |
| 115.0 | 4760.2 | 4999.0 | | 295.0 | 371.3 | 399.9 | 660.8 |
| 120.0 | 4612.3 | 4843.7 | | 300.0 | 591.8 | 627.8 | |
| 125.0 | 4398.9 | 4619.7 | | 305.0 | 756.7 | 799.5 | |
| 130.0 | 4129.3 | 4336.7 | | 310.0 | 857.6 | 904.9 | |
| 135.0 | 3815.4 | 4007.1 | | 315.0 | 892.3 | 941.2 | |
| 140.0 | 3471.1 | 3645.8 | | 320.0 | 862.7 | 910.2 | |
| 145.0 | 3112.0 | 3268.8 | | 325.0 | 774.2 | 817.8 | |
| 150.0 | 2754.4 | 2893.5 | | 330.0 | 635.9 | 673.7 | |
| 155.0 | 2416.1 | 2538.4 | | 335.0 | 461.4 | 492.7 | 498.7 |
| 160.0 | 2115.7 | 2223.3 | | 340.0 | 278.6 | 305.8 | 502.9 |
| 165.0 | 1873.6 | 1969.3 | | 345.0 | 199.7 | 227.9 | 538.1 |
| 170.0 | 1708.6 | 1796.3 | 1874.8 | 350.0 | 351.9 | 380.1 | 478.2 |
| 175.0 | 1633.3 | 1717.3 | 1986.6 | 355.0 | 577.9 | 613.3 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 10°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 766.5 | 809.4 | | 180.0 | 1596.8 | 1678.9 | 1878.0 |
| 5.0 | 975.5 | 1027.9 | | 185.0 | 1670.5 | 1756.1 | 1771.2 |
| 10.0 | 1169.6 | 1231.1 | | 190.0 | 1791.1 | 1882.6 | |
| 15.0 | 1345.0 | 1414.9 | | 195.0 | 1938.1 | 2036.8 | |
| 20.0 | 1501.1 | 1578.5 | | 200.0 | 2094.9 | 2201.3 | |
| 25.0 | 1640.0 | 1724.2 | | 205.0 | 2248.8 | 2362.8 | |
| 30.0 | 1766.5 | 1856.8 | | 210.0 | 2390.2 | 2511.2 | |
| 35.0 | 1887.8 | 1984.0 | 2068.1 | 215.0 | 2511.2 | 2638.1 | |
| 40.0 | 2012.8 | 2115.2 | 2270.6 | 220.0 | 2604.9 | 2736.5 | |
| 45.0 | 2151.2 | 2260.4 | 2334.6 | 225.0 | 2665.3 | 2799.9 | |
| 50.0 | 2311.8 | 2428.9 | | 230.0 | 2687.1 | 2822.8 | |
| 55.0 | 2500.5 | 2626.9 | | 235.0 | 2665.6 | 2800.2 | |
| 60.0 | 2719.1 | 2856.3 | | 240.0 | 2597.3 | 2728.5 | |
| 65.0 | 2964.9 | 3114.3 | | 245.0 | 2480.1 | 2605.5 | |
| 70.0 | 3230.8 | 3393.4 | | 250.0 | 2313.9 | 2431.1 | |
| 75.0 | 3506.4 | 3682.7 | | 255.0 | 2100.6 | 2207.3 | |
| 80.0 | 3778.9 | 3968.8 | | 260.0 | 1844.6 | 1938.7 | |
| 85.0 | 4034.7 | 4237.3 | | 265.0 | 1553.0 | 1632.9 | |
| 90.0 | 4259.8 | 4473.6 | | 270.0 | 1235.2 | 1299.8 | |
| 95.0 | 4441.5 | 4664.3 | | 275.0 | 903.5 | 952.5 | |
| 100.0 | 4568.8 | 4798.0 | | 280.0 | 572.8 | 607.5 | 622.2 |
| 105.0 | 4633.4 | 4865.8 | | 285.0 | 268.4 | 294.6 | 755.5 |
| 110.0 | 4630.2 | 4862.5 | | 290.0 | 154.7 | 183.8 | 869.1 |
| 115.0 | 4557.8 | 4786.4 | | 295.0 | 360.9 | 388.6 | 637.6 |
| 120.0 | 4418.1 | 4639.8 | | 300.0 | 565.6 | 600.0 | |
| 125.0 | 4216.8 | 4428.4 | | 305.0 | 720.4 | 761.3 | |
| 130.0 | 3962.5 | 4161.5 | | 310.0 | 816.3 | 861.4 | |
| 135.0 | 3666.3 | 3850.6 | | 315.0 | 850.5 | 897.1 | |
| 140.0 | 3341.5 | 3509.6 | | 320.0 | 824.7 | 870.2 | |
| 145.0 | 3002.4 | 3153.6 | | 325.0 | 744.2 | 786.1 | |
| 150.0 | 2664.4 | 2799.0 | | 330.0 | 617.8 | 654.3 | |
| 155.0 | 2344.1 | 2462.8 | | 335.0 | 459.2 | 489.7 | 495.3 |
| 160.0 | 2059.1 | 2163.7 | | 340.0 | 297.0 | 323.4 | 501.8 |
| 165.0 | 1827.9 | 1921.2 | | 345.0 | 225.5 | 251.8 | 531.8 |
| 170.0 | 1668.1 | 1753.6 | 1827.9 | 350.0 | 347.7 | 375.0 | 467.3 |
| 175.0 | 1591.3 | 1673.1 | 1928.9 | 355.0 | 550.7 | 584.6 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 15°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 704.6 | 744.2 | | 180.0 | 1518.0 | 1595.9 | 1779.7 |
| 5.0 | 891.8 | 939.8 | | 185.0 | 1575.2 | 1655.9 | 1669.9 |
| 10.0 | 1068.5 | 1124.8 | | 190.0 | 1676.4 | 1762.1 | |
| 15.0 | 1230.7 | 1294.7 | | 195.0 | 1803.4 | 1895.2 | |
| 20.0 | 1377.3 | 1448.4 | | 200.0 | 1940.6 | 2039.3 | |
| 25.0 | 1510.3 | 1587.8 | | 205.0 | 2076.3 | 2181.6 | |
| 30.0 | 1633.7 | 1717.3 | | 210.0 | 2201.2 | 2312.7 | |
| 35.0 | 1753.9 | 1843.4 | 1922.6 | 215.0 | 2307.8 | 2424.5 | |
| 40.0 | 1878.6 | 1974.2 | 2120.0 | 220.0 | 2389.6 | 2510.4 | |
| 45.0 | 2015.9 | 2118.3 | 2187.6 | 225.0 | 2441.3 | 2564.6 | |
| 50.0 | 2173.0 | 2283.0 | | 230.0 | 2457.7 | 2581.8 | |
| 55.0 | 2354.3 | 2473.3 | | 235.0 | 2434.9 | 2557.9 | |
| 60.0 | 2561.2 | 2690.4 | | 240.0 | 2369.7 | 2489.5 | |
| 65.0 | 2790.7 | 2931.3 | | 245.0 | 2260.5 | 2374.9 | |
| 70.0 | 3036.5 | 3189.3 | | 250.0 | 2107.2 | 2214.0 | |
| 75.0 | 3289.2 | 3454.6 | | 255.0 | 1911.8 | 2009.0 | |
| 80.0 | 3537.7 | 3715.5 | | 260.0 | 1678.3 | 1764.1 | |
| 85.0 | 3769.9 | 3959.2 | | 265.0 | 1413.4 | 1486.2 | |
| 90.0 | 3973.4 | 4172.9 | | 270.0 | 1125.8 | 1184.9 | |
| 95.0 | 4137.2 | 4344.8 | | 275.0 | 827.0 | 872.1 | |
| 100.0 | 4251.5 | 4464.8 | | 280.0 | 532.0 | 564.4 | 578.3 |
| 105.0 | 4309.0 | 4525.1 | | 285.0 | 270.4 | 295.0 | 714.8 |
| 110.0 | 4305.2 | 4521.2 | | 290.0 | 184.3 | 209.5 | 822.0 |
| 115.0 | 4238.9 | 4451.6 | | 295.0 | 349.1 | 375.3 | 603.8 |
| 120.0 | 4111.9 | 4318.3 | | 300.0 | 528.0 | 560.2 | |
| 125.0 | 3929.3 | 4126.5 | | 305.0 | 666.9 | 704.8 | |
| 130.0 | 3698.6 | 3884.4 | | 310.0 | 754.4 | 796.2 | |
| 135.0 | 3430.1 | 3602.4 | | 315.0 | 787.6 | 830.9 | |
| 140.0 | 3135.2 | 3293.0 | | 320.0 | 767.7 | 810.1 | |
| 145.0 | 2827.1 | 2969.6 | | 325.0 | 699.5 | 738.9 | |
| 150.0 | 2519.6 | 2646.8 | | 330.0 | 591.5 | 626.3 | |
| 155.0 | 2227.5 | 2340.2 | | 335.0 | 457.5 | 487.0 | 492.0 |
| 160.0 | 1966.3 | 2066.1 | | 340.0 | 325.3 | 350.8 | 502.0 |
| 165.0 | 1752.3 | 1841.7 | | 345.0 | 265.3 | 290.0 | 525.6 |
| 170.0 | 1601.1 | 1683.1 | 1750.9 | 350.0 | 349.6 | 375.7 | 457.4 |
| 175.0 | 1522.9 | 1601.1 | 1835.8 | 355.0 | 516.3 | 548.1 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 20°

| <u>Azimuth (deg)</u> | <u>Theoretical (mV/m)</u> | <u>Standard (mV/m)</u> | <u>Modified (mV/m)</u> | <u>Azimuth (deg)</u> | <u>Theoretical (mV/m)</u> | <u>Standard (mV/m)</u> | <u>Modified (mV/m)</u> |
|--------------------------|-------------------------------|----------------------------|----------------------------|--------------------------|-------------------------------|----------------------------|----------------------------|
| 0.0 | 639.1 | 675.0 | | 180.0 | 1414.1 | 1486.6 | 1650.7 |
| 5.0 | 797.6 | 840.6 | | 185.0 | 1451.7 | 1526.1 | 1538.7 |
| 10.0 | 951.4 | 1001.7 | | 190.0 | 1529.3 | 1607.5 | |
| 15.0 | 1095.9 | 1153.0 | | 195.0 | 1631.4 | 1714.5 | |
| 20.0 | 1229.7 | 1293.3 | | 200.0 | 1744.2 | 1832.9 | |
| 25.0 | 1354.0 | 1423.6 | | 205.0 | 1857.0 | 1951.2 | |
| 30.0 | 1472.2 | 1547.6 | | 210.0 | 1961.2 | 2060.5 | |
| 35.0 | 1589.4 | 1670.4 | 1743.0 | 215.0 | 2049.8 | 2153.5 | |
| 40.0 | 1711.6 | 1798.6 | 1931.5 | 220.0 | 2117.0 | 2224.1 | |
| 45.0 | 1845.1 | 1938.8 | 2001.7 | 225.0 | 2157.9 | 2267.0 | |
| 50.0 | 1995.3 | 2096.3 | | 230.0 | 2168.1 | 2277.7 | |
| 55.0 | 2165.3 | 2274.7 | | 235.0 | 2144.2 | 2252.6 | |
| 60.0 | 2355.4 | 2474.3 | | 240.0 | 2083.5 | 2188.9 | |
| 65.0 | 2563.0 | 2692.2 | | 245.0 | 1984.9 | 2085.4 | |
| 70.0 | 2782.5 | 2922.6 | | 250.0 | 1848.3 | 1942.1 | |
| 75.0 | 3006.0 | 3157.1 | | 255.0 | 1675.8 | 1761.1 | |
| 80.0 | 3224.0 | 3386.0 | | 260.0 | 1471.2 | 1546.5 | |
| 85.0 | 3426.5 | 3598.6 | | 265.0 | 1240.3 | 1304.3 | |
| 90.0 | 3603.2 | 3784.0 | | 270.0 | 991.2 | 1043.3 | |
| 95.0 | 3744.6 | 3932.5 | | 275.0 | 734.6 | 774.8 | |
| 100.0 | 3842.7 | 4035.5 | | 280.0 | 486.0 | 515.5 | 528.1 |
| 105.0 | 3891.5 | 4086.7 | | 285.0 | 278.6 | 301.6 | 665.5 |
| 110.0 | 3887.1 | 4082.2 | | 290.0 | 220.5 | 242.8 | 763.9 |
| 115.0 | 3828.6 | 4020.7 | | 295.0 | 340.8 | 365.3 | 565.0 |
| 120.0 | 3717.6 | 3904.1 | | 300.0 | 486.6 | 516.1 | |
| 125.0 | 3558.2 | 3736.9 | | 305.0 | 604.4 | 638.8 | |
| 130.0 | 3357.3 | 3525.9 | | 310.0 | 680.9 | 718.7 | |
| 135.0 | 3123.2 | 3280.2 | | 315.0 | 712.4 | 751.6 | |
| 140.0 | 2866.0 | 3010.2 | | 320.0 | 699.5 | 738.1 | |
| 145.0 | 2596.9 | 2727.7 | | 325.0 | 646.6 | 682.8 | |
| 150.0 | 2327.7 | 2445.1 | | 330.0 | 561.4 | 594.0 | |
| 155.0 | 2070.9 | 2175.7 | | 335.0 | 457.3 | 485.7 | 489.8 |
| 160.0 | 1840.0 | 1933.4 | | 340.0 | 358.6 | 383.6 | 504.2 |
| 165.0 | 1648.4 | 1732.4 | | 345.0 | 312.7 | 336.4 | 522.2 |
| 170.0 | 1509.0 | 1586.1 | 1645.9 | 350.0 | 363.3 | 388.4 | 455.4 |
| 175.0 | 1430.5 | 1503.8 | 1712.1 | 355.0 | 486.6 | 516.2 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 25°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 582.7 | 615.3 | | 180.0 | 1290.4 | 1356.5 | 1498.4 |
| 5.0 | 708.3 | 746.5 | | 185.0 | 1308.4 | 1375.4 | 1386.4 |
| 10.0 | 835.4 | 879.5 | | 190.0 | 1361.0 | 1430.5 | |
| 15.0 | 958.8 | 1008.8 | | 195.0 | 1436.0 | 1509.2 | |
| 20.0 | 1076.6 | 1132.3 | | 200.0 | 1522.0 | 1599.4 | |
| 25.0 | 1189.3 | 1250.5 | | 205.0 | 1609.5 | 1691.2 | |
| 30.0 | 1299.3 | 1365.9 | | 210.0 | 1690.8 | 1776.5 | |
| 35.0 | 1410.3 | 1482.2 | 1546.6 | 215.0 | 1759.7 | 1848.8 | |
| 40.0 | 1526.5 | 1604.2 | 1721.5 | 220.0 | 1811.0 | 1902.7 | |
| 45.0 | 1652.5 | 1736.3 | 1791.6 | 225.0 | 1840.5 | 1933.6 | |
| 50.0 | 1791.6 | 1882.3 | | 230.0 | 1844.4 | 1937.7 | |
| 55.0 | 1945.7 | 2044.1 | | 235.0 | 1819.9 | 1912.0 | |
| 60.0 | 2114.7 | 2221.4 | | 240.0 | 1765.1 | 1854.5 | |
| 65.0 | 2295.9 | 2411.6 | | 245.0 | 1679.0 | 1764.1 | |
| 70.0 | 2484.7 | 2609.8 | | 250.0 | 1561.9 | 1641.3 | |
| 75.0 | 2674.8 | 2809.3 | | 255.0 | 1415.6 | 1487.8 | |
| 80.0 | 2858.7 | 3002.3 | | 260.0 | 1243.7 | 1307.5 | |
| 85.0 | 3028.1 | 3180.2 | | 265.0 | 1051.4 | 1105.9 | |
| 90.0 | 3175.0 | 3334.4 | | 270.0 | 845.9 | 890.6 | |
| 95.0 | 3292.0 | 3457.2 | | 275.0 | 637.4 | 672.4 | |
| 100.0 | 3372.5 | 3541.7 | | 280.0 | 441.6 | 468.2 | 479.1 |
| 105.0 | 3411.8 | 3583.0 | | 285.0 | 291.9 | 313.3 | 612.5 |
| 110.0 | 3407.0 | 3578.0 | | 290.0 | 256.8 | 277.3 | 699.8 |
| 115.0 | 3357.2 | 3525.7 | | 295.0 | 338.1 | 360.9 | 525.8 |
| 120.0 | 3263.9 | 3427.7 | | 300.0 | 447.7 | 474.6 | |
| 125.0 | 3130.4 | 3287.6 | | 305.0 | 541.5 | 572.2 | |
| 130.0 | 2962.3 | 3111.1 | | 310.0 | 605.1 | 638.6 | |
| 135.0 | 2766.4 | 2905.5 | | 315.0 | 633.9 | 668.8 | |
| 140.0 | 2551.0 | 2679.3 | | 320.0 | 628.2 | 662.8 | |
| 145.0 | 2325.1 | 2442.2 | | 325.0 | 591.5 | 624.4 | |
| 150.0 | 2098.5 | 2204.4 | | 330.0 | 530.6 | 560.9 | |
| 155.0 | 1881.4 | 1976.6 | | 335.0 | 457.2 | 484.5 | 487.7 |
| 160.0 | 1684.6 | 1770.0 | | 340.0 | 390.3 | 415.0 | 506.4 |
| 165.0 | 1518.7 | 1596.0 | | 345.0 | 358.6 | 382.1 | 521.1 |
| 170.0 | 1393.9 | 1465.0 | 1516.1 | 350.0 | 386.6 | 411.1 | 462.0 |
| 175.0 | 1317.2 | 1384.6 | 1563.4 | 355.0 | 469.2 | 496.9 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 30°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 540.8 | 570.6 | | 180.0 | 1153.0 | 1211.9 | 1330.7 |
| 5.0 | 633.7 | 667.7 | | 185.0 | 1153.7 | 1212.7 | 1222.0 |
| 10.0 | 732.8 | 771.5 | | 190.0 | 1182.8 | 1243.2 | |
| 15.0 | 833.2 | 876.6 | | 195.0 | 1231.5 | 1294.3 | |
| 20.0 | 932.6 | 980.8 | | 200.0 | 1290.8 | 1356.5 | |
| 25.0 | 1030.9 | 1083.9 | | 205.0 | 1353.0 | 1421.7 | |
| 30.0 | 1129.4 | 1187.2 | | 210.0 | 1411.3 | 1483.0 | |
| 35.0 | 1230.2 | 1293.0 | 1348.0 | 215.0 | 1460.6 | 1534.6 | |
| 40.0 | 1336.3 | 1404.2 | 1504.2 | 220.0 | 1496.3 | 1572.1 | |
| 45.0 | 1450.1 | 1523.7 | 1570.7 | 225.0 | 1514.8 | 1591.5 | |
| 50.0 | 1573.8 | 1653.4 | | 230.0 | 1513.2 | 1589.8 | |
| 55.0 | 1708.1 | 1794.4 | | 235.0 | 1489.1 | 1564.6 | |
| 60.0 | 1852.4 | 1945.8 | | 240.0 | 1441.2 | 1514.3 | |
| 65.0 | 2004.4 | 2105.4 | | 245.0 | 1368.9 | 1438.4 | |
| 70.0 | 2160.5 | 2269.2 | | 250.0 | 1272.6 | 1337.4 | |
| 75.0 | 2315.7 | 2432.1 | | 255.0 | 1154.0 | 1213.0 | |
| 80.0 | 2464.3 | 2588.1 | | 260.0 | 1016.3 | 1068.6 | |
| 85.0 | 2600.1 | 2730.7 | | 265.0 | 864.1 | 909.0 | |
| 90.0 | 2717.1 | 2853.5 | | 270.0 | 703.9 | 741.2 | |
| 95.0 | 2809.5 | 2950.5 | | 275.0 | 545.3 | 575.3 | |
| 100.0 | 2872.5 | 3016.7 | | 280.0 | 403.3 | 427.2 | 436.1 |
| 105.0 | 2902.6 | 3048.3 | | 285.0 | 305.5 | 325.7 | 559.1 |
| 110.0 | 2897.6 | 3043.0 | | 290.0 | 286.7 | 306.2 | 633.6 |
| 115.0 | 2856.8 | 3000.2 | | 295.0 | 338.6 | 360.0 | 488.4 |
| 120.0 | 2781.5 | 2921.1 | | 300.0 | 414.7 | 439.0 | |
| 125.0 | 2674.3 | 2808.5 | | 305.0 | 484.2 | 511.5 | |
| 130.0 | 2539.4 | 2666.9 | | 310.0 | 534.0 | 563.5 | |
| 135.0 | 2382.2 | 2501.9 | | 315.0 | 559.4 | 590.1 | |
| 140.0 | 2209.1 | 2320.2 | | 320.0 | 560.0 | 590.6 | |
| 145.0 | 2027.1 | 2129.2 | | 325.0 | 538.3 | 567.9 | |
| 150.0 | 1844.0 | 1937.0 | | 330.0 | 499.9 | 527.9 | |
| 155.0 | 1667.6 | 1751.8 | | 335.0 | 453.9 | 479.9 | 482.4 |
| 160.0 | 1506.0 | 1582.3 | | 340.0 | 413.3 | 437.6 | 504.3 |
| 165.0 | 1367.5 | 1437.0 | | 345.0 | 394.4 | 417.9 | 517.9 |
| 170.0 | 1259.4 | 1323.6 | 1365.8 | 350.0 | 410.5 | 434.6 | 471.2 |
| 175.0 | 1187.3 | 1247.9 | 1396.5 | 355.0 | 462.5 | 488.9 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 35°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 509.4 | 536.9 | | 180.0 | 1007.7 | 1059.1 | 1155.4 |
| 5.0 | 574.4 | 604.9 | | 185.0 | 995.5 | 1046.4 | 1054.0 |
| 10.0 | 647.5 | 681.5 | | 190.0 | 1005.2 | 1056.5 | |
| 15.0 | 725.1 | 762.8 | | 195.0 | 1030.8 | 1083.4 | |
| 20.0 | 805.1 | 846.6 | | 200.0 | 1066.2 | 1120.5 | |
| 25.0 | 886.8 | 932.3 | | 205.0 | 1105.1 | 1161.3 | |
| 30.0 | 970.7 | 1020.3 | | 210.0 | 1142.4 | 1200.5 | |
| 35.0 | 1057.8 | 1111.7 | 1157.0 | 215.0 | 1173.7 | 1233.3 | |
| 40.0 | 1149.7 | 1208.1 | 1290.2 | 220.0 | 1195.3 | 1256.0 | |
| 45.0 | 1247.5 | 1310.7 | 1349.3 | 225.0 | 1204.3 | 1265.4 | |
| 50.0 | 1352.2 | 1420.6 | | 230.0 | 1198.4 | 1259.2 | |
| 55.0 | 1463.9 | 1537.8 | | 235.0 | 1175.9 | 1235.5 | |
| 60.0 | 1581.7 | 1661.4 | | 240.0 | 1135.6 | 1193.3 | |
| 65.0 | 1703.7 | 1789.5 | | 245.0 | 1077.4 | 1132.3 | |
| 70.0 | 1827.2 | 1919.1 | | 250.0 | 1001.9 | 1053.0 | |
| 75.0 | 1948.4 | 2046.4 | | 255.0 | 910.6 | 957.3 | |
| 80.0 | 2063.3 | 2167.0 | | 260.0 | 806.2 | 847.8 | |
| 85.0 | 2167.4 | 2276.2 | | 265.0 | 692.8 | 729.0 | |
| 90.0 | 2256.2 | 2369.5 | | 270.0 | 576.2 | 606.8 | |
| 95.0 | 2325.9 | 2442.6 | | 275.0 | 464.8 | 490.3 | |
| 100.0 | 2372.9 | 2492.0 | | 280.0 | 371.4 | 392.8 | 399.7 |
| 105.0 | 2394.7 | 2514.8 | | 285.0 | 313.6 | 332.6 | 506.3 |
| 110.0 | 2389.7 | 2509.6 | | 290.0 | 305.1 | 323.8 | 567.4 |
| 115.0 | 2357.6 | 2476.0 | | 295.0 | 337.2 | 357.1 | 452.2 |
| 120.0 | 2299.3 | 2414.8 | | 300.0 | 386.4 | 408.5 | |
| 125.0 | 2216.8 | 2328.1 | | 305.0 | 434.4 | 458.6 | |
| 130.0 | 2113.2 | 2219.3 | | 310.0 | 471.2 | 497.0 | |
| 135.0 | 1992.4 | 2092.6 | | 315.0 | 492.5 | 519.3 | |
| 140.0 | 1859.2 | 1952.7 | | 320.0 | 497.5 | 524.5 | |
| 145.0 | 1718.8 | 1805.4 | | 325.0 | 487.9 | 514.5 | |
| 150.0 | 1576.9 | 1656.4 | | 330.0 | 467.8 | 493.4 | |
| 155.0 | 1439.3 | 1512.0 | | 335.0 | 443.1 | 467.7 | 469.4 |
| 160.0 | 1311.9 | 1378.3 | | 340.0 | 422.1 | 445.7 | 492.9 |
| 165.0 | 1200.5 | 1261.4 | | 345.0 | 413.6 | 436.9 | 506.8 |
| 170.0 | 1110.5 | 1166.9 | 1200.7 | 350.0 | 424.8 | 448.5 | 473.8 |
| 175.0 | 1045.6 | 1098.9 | 1218.5 | 355.0 | 457.7 | 482.9 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 40°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 479.0 | 504.4 | | 180.0 | 860.1 | 904.0 | 979.5 |
| 5.0 | 523.2 | 550.7 | | 185.0 | 840.3 | 883.2 | 889.2 |
| 10.0 | 575.0 | 605.0 | | 190.0 | 836.1 | 878.7 | |
| 15.0 | 632.3 | 665.0 | | 195.0 | 844.0 | 887.0 | |
| 20.0 | 693.5 | 729.2 | | 200.0 | 859.9 | 903.7 | |
| 25.0 | 758.0 | 796.8 | | 205.0 | 879.6 | 924.4 | |
| 30.0 | 825.5 | 867.7 | | 210.0 | 899.3 | 945.1 | |
| 35.0 | 896.6 | 942.2 | 977.8 | 215.0 | 915.6 | 962.1 | |
| 40.0 | 971.5 | 1020.8 | 1085.8 | 220.0 | 925.7 | 972.7 | |
| 45.0 | 1050.9 | 1104.1 | 1134.7 | 225.0 | 927.2 | 974.4 | |
| 50.0 | 1134.8 | 1192.2 | | 230.0 | 918.6 | 965.3 | |
| 55.0 | 1222.9 | 1284.7 | | 235.0 | 898.4 | 944.1 | |
| 60.0 | 1314.4 | 1380.7 | | 240.0 | 866.1 | 910.3 | |
| 65.0 | 1407.8 | 1478.6 | | 245.0 | 821.7 | 863.6 | |
| 70.0 | 1500.9 | 1576.4 | | 250.0 | 765.6 | 804.8 | |
| 75.0 | 1591.2 | 1671.2 | | 255.0 | 699.4 | 735.4 | |
| 80.0 | 1675.8 | 1760.1 | | 260.0 | 625.4 | 657.8 | |
| 85.0 | 1751.8 | 1839.8 | | 265.0 | 546.9 | 575.5 | |
| 90.0 | 1816.2 | 1907.3 | | 270.0 | 468.9 | 493.8 | |
| 95.0 | 1866.1 | 1959.8 | | 275.0 | 397.9 | 419.5 | |
| 100.0 | 1899.3 | 1994.6 | | 280.0 | 342.6 | 361.7 | 366.7 |
| 105.0 | 1914.1 | 2010.2 | | 285.0 | 311.8 | 329.6 | 453.7 |
| 110.0 | 1909.5 | 2005.4 | | 290.0 | 309.1 | 326.9 | 501.7 |
| 115.0 | 1885.3 | 1980.0 | | 295.0 | 328.7 | 347.2 | 414.6 |
| 120.0 | 1842.2 | 1934.7 | | 300.0 | 359.0 | 378.9 | |
| 125.0 | 1781.5 | 1871.0 | | 305.0 | 390.3 | 411.6 | |
| 130.0 | 1705.4 | 1791.1 | | 310.0 | 416.0 | 438.5 | |
| 135.0 | 1616.8 | 1698.0 | | 315.0 | 433.0 | 456.2 | |
| 140.0 | 1518.8 | 1595.2 | | 320.0 | 440.3 | 463.9 | |
| 145.0 | 1415.3 | 1486.5 | | 325.0 | 439.1 | 462.6 | |
| 150.0 | 1310.1 | 1376.1 | | 330.0 | 431.6 | 454.8 | |
| 155.0 | 1207.3 | 1268.2 | | 335.0 | 421.7 | 444.4 | 445.7 |
| 160.0 | 1110.9 | 1167.1 | | 340.0 | 413.8 | 436.2 | 468.9 |
| 165.0 | 1025.0 | 1077.0 | | 345.0 | 412.9 | 435.2 | 483.2 |
| 170.0 | 953.0 | 1001.4 | 1027.7 | 350.0 | 422.6 | 445.4 | 462.5 |
| 175.0 | 897.6 | 943.3 | 1036.7 | 355.0 | 444.7 | 468.6 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 45°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 441.2 | 464.2 | | 180.0 | 715.5 | 751.9 | 809.3 |
| 5.0 | 471.3 | 495.8 | | 185.0 | 693.0 | 728.3 | 732.9 |
| 10.0 | 507.2 | 533.5 | | 190.0 | 680.8 | 715.5 | |
| 15.0 | 548.0 | 576.2 | | 195.0 | 677.0 | 711.5 | |
| 20.0 | 592.7 | 623.1 | | 200.0 | 679.3 | 713.9 | |
| 25.0 | 640.9 | 673.6 | | 205.0 | 685.0 | 719.9 | |
| 30.0 | 692.2 | 727.4 | | 210.0 | 691.5 | 726.8 | |
| 35.0 | 746.6 | 784.5 | 811.5 | 215.0 | 696.6 | 732.1 | |
| 40.0 | 804.1 | 844.8 | 894.4 | 220.0 | 698.2 | 733.8 | |
| 45.0 | 864.6 | 908.3 | 931.8 | 225.0 | 694.7 | 730.1 | |
| 50.0 | 927.9 | 974.8 | | 230.0 | 684.9 | 719.8 | |
| 55.0 | 993.6 | 1043.7 | | 235.0 | 667.9 | 701.9 | |
| 60.0 | 1060.9 | 1114.3 | | 240.0 | 643.3 | 676.2 | |
| 65.0 | 1128.5 | 1185.4 | | 245.0 | 611.3 | 642.6 | |
| 70.0 | 1195.2 | 1255.3 | | 250.0 | 572.4 | 601.7 | |
| 75.0 | 1259.1 | 1322.4 | | 255.0 | 527.8 | 555.0 | |
| 80.0 | 1318.4 | 1384.6 | | 260.0 | 479.3 | 504.2 | |
| 85.0 | 1371.0 | 1439.9 | | 265.0 | 429.8 | 452.3 | |
| 90.0 | 1415.2 | 1486.2 | | 270.0 | 382.5 | 402.8 | |
| 95.0 | 1449.1 | 1521.8 | | 275.0 | 342.0 | 360.4 | |
| 100.0 | 1471.3 | 1545.1 | | 280.0 | 312.7 | 329.7 | 333.2 |
| 105.0 | 1480.7 | 1555.0 | | 285.0 | 298.1 | 314.5 | 400.1 |
| 110.0 | 1476.7 | 1550.8 | | 290.0 | 298.4 | 314.8 | 436.3 |
| 115.0 | 1459.3 | 1532.5 | | 295.0 | 310.3 | 327.2 | 373.4 |
| 120.0 | 1428.8 | 1500.5 | | 300.0 | 328.5 | 346.2 | |
| 125.0 | 1386.2 | 1455.9 | | 305.0 | 347.9 | 366.6 | |
| 130.0 | 1333.0 | 1400.0 | | 310.0 | 365.2 | 384.6 | |
| 135.0 | 1271.0 | 1334.9 | | 315.0 | 378.1 | 398.2 | |
| 140.0 | 1202.4 | 1262.9 | | 320.0 | 386.0 | 406.5 | |
| 145.0 | 1129.6 | 1186.5 | | 325.0 | 389.4 | 410.0 | |
| 150.0 | 1055.2 | 1108.4 | | 330.0 | 389.5 | 410.1 | |
| 155.0 | 981.9 | 1031.4 | | 335.0 | 388.4 | 409.0 | 409.8 |
| 160.0 | 912.3 | 958.4 | | 340.0 | 388.4 | 409.0 | 431.2 |
| 165.0 | 848.9 | 891.8 | | 345.0 | 392.1 | 412.9 | 445.2 |
| 170.0 | 793.9 | 834.2 | 854.1 | 350.0 | 401.5 | 422.6 | 434.1 |
| 175.0 | 749.2 | 787.2 | 858.0 | 355.0 | 417.7 | 439.7 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 50°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 392.4 | 412.7 | | 180.0 | 578.4 | 607.8 | 650.0 |
| 5.0 | 413.2 | 434.5 | | 185.0 | 557.3 | 585.6 | 589.0 |
| 10.0 | 437.8 | 460.3 | | 190.0 | 542.3 | 569.9 | |
| 15.0 | 466.0 | 489.9 | | 195.0 | 532.6 | 559.7 | |
| 20.0 | 497.3 | 522.7 | | 200.0 | 527.0 | 553.9 | |
| 25.0 | 531.5 | 558.6 | | 205.0 | 524.1 | 550.8 | |
| 30.0 | 568.2 | 597.1 | | 210.0 | 522.3 | 548.9 | |
| 35.0 | 607.3 | 638.1 | 657.8 | 215.0 | 520.2 | 546.8 | |
| 40.0 | 648.6 | 681.4 | 718.0 | 220.0 | 516.6 | 543.0 | |
| 45.0 | 691.8 | 726.8 | 744.2 | 225.0 | 510.4 | 536.5 | |
| 50.0 | 736.7 | 773.9 | | 230.0 | 500.8 | 526.4 | |
| 55.0 | 782.7 | 822.2 | | 235.0 | 487.4 | 512.3 | |
| 60.0 | 829.3 | 871.1 | | 240.0 | 469.8 | 493.8 | |
| 65.0 | 875.6 | 919.7 | | 245.0 | 448.3 | 471.3 | |
| 70.0 | 920.6 | 967.0 | | 250.0 | 423.3 | 445.1 | |
| 75.0 | 963.4 | 1011.8 | | 255.0 | 395.8 | 416.2 | |
| 80.0 | 1002.5 | 1052.9 | | 260.0 | 367.1 | 386.1 | |
| 85.0 | 1037.0 | 1089.1 | | 265.0 | 338.9 | 356.6 | |
| 90.0 | 1065.6 | 1119.2 | | 270.0 | 313.4 | 329.9 | |
| 95.0 | 1087.3 | 1141.9 | | 275.0 | 292.8 | 308.3 | |
| 100.0 | 1101.3 | 1156.6 | | 280.0 | 279.0 | 293.9 | 296.2 |
| 105.0 | 1106.8 | 1162.4 | | 285.0 | 273.1 | 287.7 | 345.1 |
| 110.0 | 1103.6 | 1159.0 | | 290.0 | 274.6 | 289.3 | 371.2 |
| 115.0 | 1091.6 | 1146.4 | | 295.0 | 281.9 | 296.9 | 327.6 |
| 120.0 | 1071.1 | 1124.9 | | 300.0 | 292.6 | 308.1 | |
| 125.0 | 1042.8 | 1095.2 | | 305.0 | 304.4 | 320.5 | |
| 130.0 | 1007.5 | 1058.1 | | 310.0 | 315.7 | 332.3 | |
| 135.0 | 966.3 | 1014.9 | | 315.0 | 325.1 | 342.2 | |
| 140.0 | 920.7 | 967.0 | | 320.0 | 332.4 | 349.8 | |
| 145.0 | 872.1 | 916.0 | | 325.0 | 337.6 | 355.2 | |
| 150.0 | 822.1 | 863.5 | | 330.0 | 341.3 | 359.1 | |
| 155.0 | 772.3 | 811.3 | | 335.0 | 344.5 | 362.5 | 363.1 |
| 160.0 | 724.5 | 761.0 | | 340.0 | 348.5 | 366.7 | 381.4 |
| 165.0 | 680.0 | 714.3 | | 345.0 | 354.4 | 372.8 | 394.3 |
| 170.0 | 640.2 | 672.6 | 687.2 | 350.0 | 363.2 | 382.1 | 389.6 |
| 175.0 | 606.1 | 636.8 | 688.9 | 355.0 | 375.8 | 395.3 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 55°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 334.1 | 351.3 | | 180.0 | 452.8 | 475.8 | 505.9 |
| 5.0 | 348.5 | 366.3 | | 185.0 | 435.4 | 457.5 | 459.9 |
| 10.0 | 365.1 | 383.8 | | 190.0 | 421.3 | 442.7 | |
| 15.0 | 384.1 | 403.7 | | 195.0 | 410.3 | 431.2 | |
| 20.0 | 405.1 | 425.7 | | 200.0 | 401.8 | 422.2 | |
| 25.0 | 428.1 | 449.9 | | 205.0 | 395.0 | 415.1 | |
| 30.0 | 452.9 | 475.8 | | 210.0 | 389.3 | 409.2 | |
| 35.0 | 479.2 | 503.5 | 517.4 | 215.0 | 383.9 | 403.5 | |
| 40.0 | 506.9 | 532.5 | 558.6 | 220.0 | 378.0 | 397.3 | |
| 45.0 | 535.8 | 562.8 | 575.3 | 225.0 | 371.2 | 390.2 | |
| 50.0 | 565.5 | 594.0 | | 230.0 | 362.9 | 381.5 | |
| 55.0 | 595.6 | 625.7 | | 235.0 | 352.9 | 371.0 | |
| 60.0 | 625.8 | 657.3 | | 240.0 | 341.2 | 358.7 | |
| 65.0 | 655.5 | 688.5 | | 245.0 | 327.8 | 344.7 | |
| 70.0 | 684.1 | 718.5 | | 250.0 | 313.2 | 329.3 | |
| 75.0 | 710.9 | 746.6 | | 255.0 | 297.8 | 313.2 | |
| 80.0 | 735.2 | 772.2 | | 260.0 | 282.5 | 297.1 | |
| 85.0 | 756.4 | 794.4 | | 265.0 | 268.2 | 282.2 | |
| 90.0 | 773.8 | 812.7 | | 270.0 | 256.0 | 269.4 | |
| 95.0 | 786.8 | 826.3 | | 275.0 | 246.7 | 259.6 | |
| 100.0 | 794.9 | 834.8 | | 280.0 | 241.1 | 253.7 | 255.2 |
| 105.0 | 797.9 | 837.9 | | 285.0 | 239.2 | 251.8 | 289.1 |
| 110.0 | 795.4 | 835.4 | | 290.0 | 240.9 | 253.6 | 307.2 |
| 115.0 | 787.6 | 827.2 | | 295.0 | 245.4 | 258.3 | 278.1 |
| 120.0 | 774.7 | 813.6 | | 300.0 | 251.7 | 264.8 | |
| 125.0 | 756.8 | 794.9 | | 305.0 | 258.8 | 272.3 | |
| 130.0 | 734.7 | 771.6 | | 310.0 | 266.0 | 279.8 | |
| 135.0 | 708.9 | 744.6 | | 315.0 | 272.7 | 286.8 | |
| 140.0 | 680.2 | 714.5 | | 320.0 | 278.6 | 293.1 | |
| 145.0 | 649.6 | 682.3 | | 325.0 | 283.8 | 298.5 | |
| 150.0 | 617.8 | 648.9 | | 330.0 | 288.5 | 303.5 | |
| 155.0 | 585.9 | 615.4 | | 335.0 | 293.2 | 308.4 | 308.8 |
| 160.0 | 554.7 | 582.7 | | 340.0 | 298.4 | 313.8 | 323.4 |
| 165.0 | 525.2 | 551.7 | | 345.0 | 304.6 | 320.3 | 334.3 |
| 170.0 | 498.0 | 523.2 | 533.7 | 350.0 | 312.4 | 328.5 | 333.4 |
| 175.0 | 473.7 | 497.7 | 534.9 | 355.0 | 322.2 | 338.7 | |

Fields in mV/m @ 1 Kilometer

**TABULATION OF PROPOSED HORIZONTAL AND VERTICAL PLANE
MODIFIED STANDARD RADIATION PATTERN
STATION WOR - NEW YORK, NEW YORK
710 kHz - 50 kW, U, DA-1**

Vertical Angle = 60°

| <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> | <u>Azimuth</u> <u>(deg)</u> | <u>Theoretical</u> <u>(mV/m)</u> | <u>Standard</u> <u>(mV/m)</u> | <u>Modified</u> <u>(mV/m)</u> |
|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| 0.0 | 270.8 | 284.6 | | 180.0 | 341.9 | 359.2 | 380.0 |
| 5.0 | 280.5 | 294.8 | | 185.0 | 329.1 | 345.8 | 347.4 |
| 10.0 | 291.5 | 306.3 | | 190.0 | 318.0 | 334.1 | |
| 15.0 | 303.7 | 319.2 | | 195.0 | 308.4 | 324.1 | |
| 20.0 | 317.2 | 333.3 | | 200.0 | 300.2 | 315.5 | |
| 25.0 | 331.8 | 348.6 | | 205.0 | 293.1 | 308.0 | |
| 30.0 | 347.5 | 365.1 | | 210.0 | 286.7 | 301.3 | |
| 35.0 | 364.1 | 382.5 | 392.0 | 215.0 | 280.7 | 295.1 | |
| 40.0 | 381.4 | 400.6 | 418.7 | 220.0 | 274.9 | 288.9 | |
| 45.0 | 399.3 | 419.4 | 428.2 | 225.0 | 268.9 | 282.6 | |
| 50.0 | 417.5 | 438.6 | | 230.0 | 262.5 | 275.9 | |
| 55.0 | 435.9 | 457.9 | | 235.0 | 255.7 | 268.8 | |
| 60.0 | 454.1 | 477.0 | | 240.0 | 248.4 | 261.1 | |
| 65.0 | 471.8 | 495.6 | | 245.0 | 240.7 | 253.0 | |
| 70.0 | 488.7 | 513.3 | | 250.0 | 232.8 | 244.7 | |
| 75.0 | 504.3 | 529.7 | | 255.0 | 224.9 | 236.5 | |
| 80.0 | 518.4 | 544.5 | | 260.0 | 217.6 | 228.8 | |
| 85.0 | 530.5 | 557.2 | | 265.0 | 211.1 | 222.0 | |
| 90.0 | 540.3 | 567.5 | | 270.0 | 205.8 | 216.5 | |
| 95.0 | 547.5 | 575.0 | | 275.0 | 202.1 | 212.6 | |
| 100.0 | 551.9 | 579.7 | | 280.0 | 200.2 | 210.6 | 211.5 |
| 105.0 | 553.3 | 581.1 | | 285.0 | 200.0 | 210.4 | 234.0 |
| 110.0 | 551.6 | 579.3 | | 290.0 | 201.4 | 211.9 | 246.0 |
| 115.0 | 546.8 | 574.3 | | 295.0 | 204.1 | 214.7 | 227.3 |
| 120.0 | 539.1 | 566.2 | | 300.0 | 207.8 | 218.6 | |
| 125.0 | 528.6 | 555.2 | | 305.0 | 212.1 | 223.0 | |
| 130.0 | 515.6 | 541.5 | | 310.0 | 216.6 | 227.7 | |
| 135.0 | 500.4 | 525.6 | | 315.0 | 221.1 | 232.5 | |
| 140.0 | 483.5 | 507.9 | | 320.0 | 225.5 | 237.1 | |
| 145.0 | 465.4 | 488.8 | | 325.0 | 229.8 | 241.7 | |
| 150.0 | 446.4 | 468.9 | | 330.0 | 234.2 | 246.2 | |
| 155.0 | 427.2 | 448.7 | | 335.0 | 238.6 | 250.9 | 251.1 |
| 160.0 | 408.2 | 428.8 | | 340.0 | 243.4 | 255.9 | 262.1 |
| 165.0 | 389.8 | 409.5 | | 345.0 | 248.8 | 261.6 | 270.5 |
| 170.0 | 372.4 | 391.2 | 398.5 | 350.0 | 255.1 | 268.1 | 271.3 |
| 175.0 | 356.4 | 374.4 | 400.2 | 355.0 | 262.4 | 275.8 | |

Fields in mV/m @ 1 Kilometer