

EXHIBIT 15.13
SPECIAL NIGHTTIME STUDY TOWARDS WTIC, HARTFORD, CT
Protecting WTIC (non-directional)

| | | Freq. | Power | Pat-Mult | Theo-RMS | Standard | Pat-RSS | Q | | | | | |
|---------|---------|--------|---------|----------|----------|--------------------------|----------|----------|---------|-------|-----------|-------|-------|
| | | kHz | (kW) | (mV/m) | (mV/m) | RMS-mV/m | (mV/m) | Factor | | | | | |
| | | 1080 | 0.650 | 519.63 | 231.39 | 243.78 | 761.23 | 19.0306 | | | | | |
| | | | | | | | | | | | | | |
| | | Twr | Field | Phase | Spacing | Orient | Twr | TL/ | Elec-Ht | TL(B) | TL(C) | TL(D) | |
| | | No. | Ratio | Deg. | Deg. | Deg. | Ref | Sec | in Deg. | Deg. | Deg. | Deg. | |
| | | 1 | 0.388 | -155.0 | 0.0 | 0.0 | 0 | 0 | 77.4 | 0.0 | 0.0 | 0.0 | |
| | | 2 | 1.000 | 0.0 | 70.0 | 170.0 | 1 | 0 | 77.4 | 0.0 | 0.0 | 0.0 | |
| | | 3 | 0.943 | 154.5 | 70.0 | 170.0 | 1 | 0 | 77.4 | 0.0 | 0.0 | 0.0 | |
| | | 4 | 0.326 | -51.0 | 70.0 | 170.0 | 1 | 0 | 77.4 | 0.0 | 0.0 | 0.0 | |
| | | | | | | | | | | | | | |
| Towards | Azimuth | Kilo- | **SWF** | Crit. | Angle | -----Radiations at:----- | | | | RSS | Max. Rad. | Perm. | Prop. |
| | Deg-Tru | meters | Field | LO | HI | HO Angle | LO Angle | HI Angle | | Limit | Allowed | Limit | Limit |
| WTIC180 | 119.2 | 1570.2 | 0.01798 | 1.7 | 5.1 | 23.67 | 23.66 | 23.56 | 25.85 | 139.0 | 0.50 | 0.09 | |
| WTIC185 | 120.9 | 1507.7 | 0.01944 | 2.1 | 5.6 | 23.53 | 23.51 | 23.41 | 23.76 | 128.6 | 0.50 | 0.09 | |
| WTIC190 | 122.6 | 1442.3 | 0.02113 | 2.4 | 6.2 | 23.27 | 23.25 | 23.14 | 21.56 | 118.3 | 0.50 | 0.10 | |
| WTIC195 | 124.1 | 1374.1 | 0.02307 | 2.9 | 6.8 | 22.96 | 22.94 | 22.83 | 19.43 | 108.3 | 0.50 | 0.11 | |
| WTIC200 | 125.4 | 1303.5 | 0.02534 | 3.4 | 7.4 | 22.66 | 22.63 | 22.52 | 17.45 | 98.7 | 0.50 | 0.11 | |
| WTIC205 | 126.6 | 1231.0 | 0.02799 | 3.9 | 8.2 | 22.37 | 22.33 | 22.21 | 15.64 | 89.3 | 0.50 | 0.13 | |
| WTIC210 | 127.6 | 1156.9 | 0.03110 | 4.5 | 9.1 | 22.13 | 22.08 | 21.94 | 14.05 | 80.4 | 0.50 | 0.14 | |
| WTIC215 | 128.3 | 1081.9 | 0.03477 | 5.1 | 10.0 | 21.97 | 21.91 | 21.74 | 14.70 | 71.9 | 0.50 | 0.15 | |
| WTIC220 | 128.7 | 1006.4 | 0.03913 | 5.9 | 11.1 | 21.89 | 21.80 | 21.60 | 11.94 | 63.9 | 0.50 | 0.17 | |
| WTIC225 | 128.7 | 931.1 | 0.04431 | 6.7 | 12.3 | 21.89 | 21.78 | 21.54 | 10.98 | 56.4 | 0.50 | 0.19 | |
| WTIC230 | 128.2 | 856.7 | 0.05048 | 7.6 | 13.7 | 21.99 | 21.86 | 21.57 | 11.37 | 49.5 | 0.50 | 0.22 | |
| WTIC235 | 127.2 | 784.1 | 0.05780 | 8.6 | 15.2 | 22.22 | 22.05 | 21.69 | 10.31 | 43.2 | 0.50 | 0.25 | |
| WTIC240 | 125.4 | 714.6 | 0.06641 | 9.8 | 16.9 | 22.66 | 22.41 | 21.89 | 10.24 | 37.6 | 0.50 | 0.30 | |
| WTIC245 | 122.7 | 649.3 | 0.07631 | 11.0 | 18.7 | 23.25 | 22.84 | 21.99 | 10.26 | 32.8 | 0.50 | 0.35 | |
| WTIC250 | 118.9 | 590.2 | 0.08728 | 12.4 | 20.7 | 23.69 | 22.97 | 21.61 | 10.89 | 28.6 | 0.50 | 0.40 | |
| WTIC255 | 113.8 | 539.4 | 0.09864 | 13.7 | 22.7 | 23.28 | 22.19 | 20.32 | 10.97 | 25.3 | 0.50 | 0.44 | |
| WTIC260 | 107.4 | 499.3 | 0.10907 | 15.0 | 24.4 | 21.56 | 20.31 | 18.44 | 10.49 | 22.9 | 0.50 | 0.44 | |
| WTIC265 | 99.8 | 472.5 | 0.11669 | 15.9 | 25.8 | 20.17 | 19.17 | 17.68 | 10.64 | 21.4 | 0.50 | 0.45 | |
| WTIC270 | 91.5 | 460.9 | 0.11969 | 16.3 | 26.4 | 21.45 | 20.41 | 18.80 | 11.85 | 20.9 | 0.50 | 0.49 | |
| WTICB01 | 90.4 | 460.2 | 0.11981 | 16.3 | 26.4 | 21.67 | 20.60 | 18.94 | 11.84 | 20.9 | 0.50 | 0.49 | |
| WTICB02 | 90.0 | 469.7 | 0.11649 | 16.0 | 25.9 | 21.74 | 20.70 | 19.08 | 12.07 | 21.5 | 0.50 | 0.48 | |
| WTICB03 | 88.3 | 510.6 | 0.10353 | 14.6 | 23.9 | 21.98 | 21.07 | 19.60 | 13.08 | 24.1 | 0.50 | 0.44 | |
| WTICB04 | 85.4 | 551.6 | 0.09225 | 13.4 | 22.2 | 22.04 | 21.24 | 19.90 | 13.80 | 27.1 | 0.50 | 0.39 | |
| WTICB05 | 83.8 | 598.7 | 0.08138 | 12.2 | 20.4 | 21.86 | 21.19 | 20.04 | 15.15 | 30.7 | 0.50 | 0.34 | |
| WTICB06 | 82.2 | 635.1 | 0.07407 | 11.3 | 19.2 | 21.53 | 20.97 | 19.94 | 16.67 | 33.8 | 0.50 | 0.31 | |
| WTICB07 | 80.3 | 677.6 | 0.06657 | 10.5 | 17.9 | 21.04 | 20.57 | 19.70 | 18.82 | 37.6 | 0.50 | 0.27 | |
| WTICB08 | 77.7 | 721.7 | 0.05971 | 9.7 | 16.7 | 20.51 | 20.12 | 19.38 | 21.82 | 41.9 | 0.50 | 0.24 | |
| WTICB09 | 76.1 | 732.6 | 0.05801 | 9.5 | 16.4 | 20.60 | 20.21 | 19.47 | 24.04 | 43.1 | 0.50 | 0.23 | |
| WTICB10 | 74.4 | 722.2 | 0.05918 | 9.6 | 16.7 | 21.39 | 20.94 | 20.05 | 24.10 | 42.2 | 0.50 | 0.25 | |
| WTICB11 | 72.7 | 726.1 | 0.05842 | 9.6 | 16.6 | 23.21 | 22.64 | 21.55 | 24.09 | 42.8 | 0.50 | 0.26 | |
| WTICB12 | 72.6 | 781.4 | 0.05150 | 8.7 | 15.2 | 23.36 | 22.88 | 21.93 | 27.74 | 48.5 | 0.50 | 0.24 | |
| WTICB13 | 73.1 | 813.0 | 0.04811 | 8.2 | 14.5 | 22.68 | 22.28 | 21.47 | 30.76 | 52.0 | 0.50 | 0.21 | |
| WTICB14 | 74.8 | 891.1 | 0.04103 | 7.2 | 13.0 | 21.12 | 20.88 | 20.33 | 40.14 | 60.9 | 0.50 | 0.17 | |
| WTICB15 | 71.0 | 946.4 | 0.03620 | 6.5 | 12.0 | 26.26 | 25.91 | 25.10 | 51.49 | 69.1 | 0.50 | 0.19 | |
| WTICB16 | 69.6 | 957.2 | 0.03524 | 6.4 | 11.9 | 29.74 | 29.32 | 28.30 | 53.17 | 70.9 | 0.50 | 0.21 | |
| WTICB17 | 68.5 | 992.6 | 0.03271 | 6.0 | 11.3 | 33.08 | 32.63 | 31.52 | 59.15 | 76.4 | 0.50 | 0.21 | |
| WTICB18 | 65.8 | 1086.9 | 0.02697 | 5.1 | 9.9 | 43.33 | 42.86 | 41.57 | 71.63 | 92.7 | 0.50 | 0.23 | |
| WTICB19 | 66.7 | 1163.4 | 0.02355 | 4.4 | 9.0 | 39.60 | 39.29 | 38.31 | 86.86 | 106.2 | 0.50 | 0.19 | |
| WTICB20 | 67.5 | 1240.4 | 0.02066 | 3.8 | 8.1 | 36.54 | 36.33 | 35.60 | 95.23 | 121.0 | 0.50 | 0.15 | |
| WTICB21 | 68.2 | 1317.1 | 0.01823 | 3.3 | 7.3 | 34.07 | 33.93 | 33.38 | 92.76 | 137.1 | 0.50 | 0.12 | |
| WTICB22 | 67.3 | 1401.4 | 0.01577 | 2.7 | 6.5 | 37.28 | 37.17 | 36.66 | 76.05 | 158.5 | 0.50 | 0.12 | |
| WTICB23 | 64.8 | 1467.6 | 0.01387 | 2.3 | 5.9 | 47.82 | 47.71 | 47.10 | 60.11 | 180.2 | 0.50 | 0.13 | |
| WTICB24 | 62.2 | 1511.2 | 0.01262 | 2.0 | 5.6 | 61.08 | 60.96 | 60.21 | 48.76 | 198.1 | 0.50 | 0.15 | |
| WTICB25 | 61.2 | 1542.8 | 0.01188 | 1.9 | 5.3 | 66.75 | 66.63 | 65.88 | 43.95 | 210.5 | 0.50 | 0.16 | |
| WTICB26 | 59.8 | 1590.6 | 0.01084 | 1.6 | 5.0 | 75.18 | 75.09 | 74.31 | 37.71 | 230.7 | 0.50 | 0.16 | |

Full protection is afforded to WTIC-NDA. Study points shown represent 5° arc intervals. Twenty-six (26) additional points representing the US-Canadian boarder have also been included. No interference over the combined WTIC-NDA 0.5 mV/m protected Skywave Contour and relevant boarder will occur. The complete tabulation and vertical radiation section graphs for the entire protected contour will be supplied upon request.

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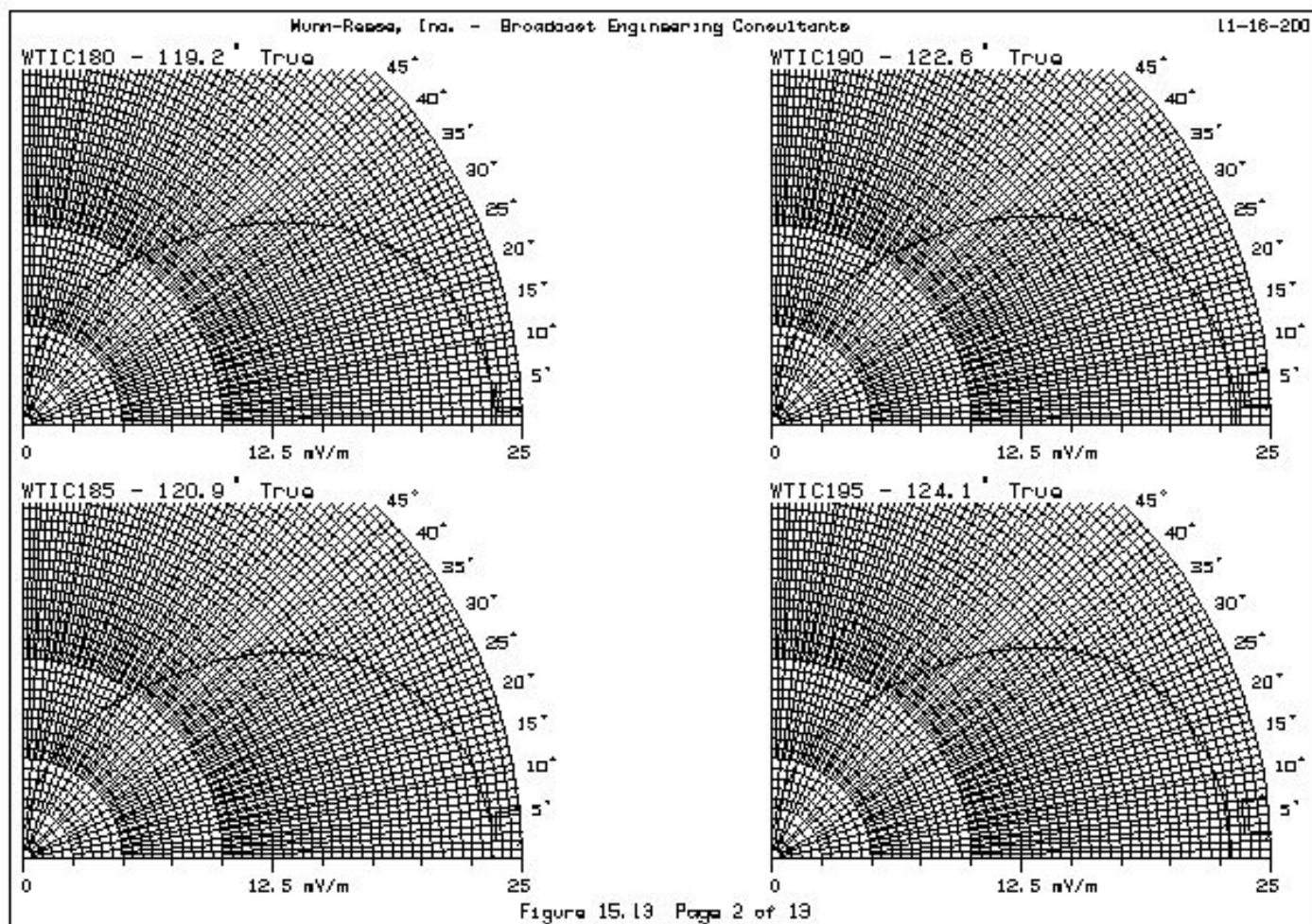


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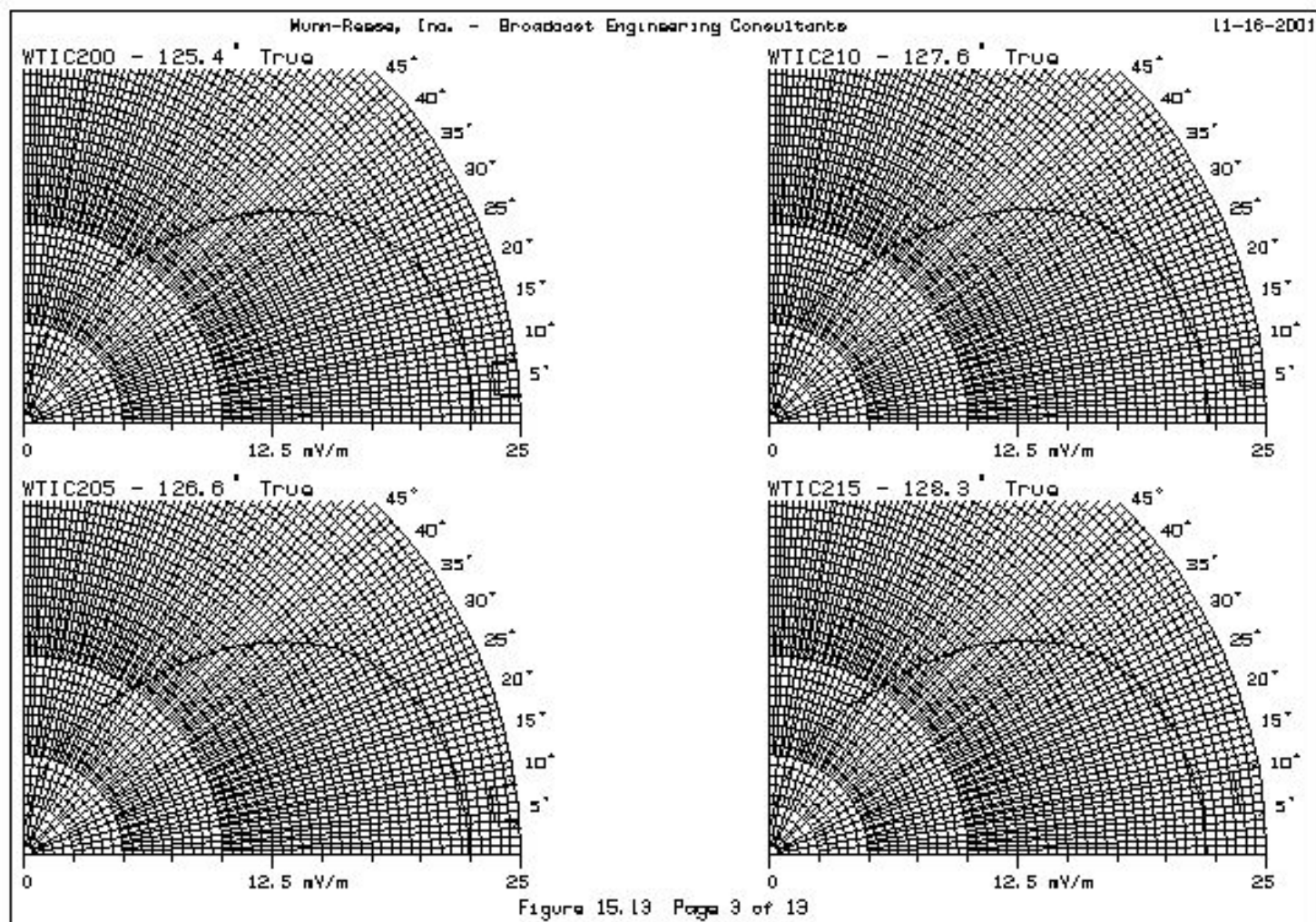


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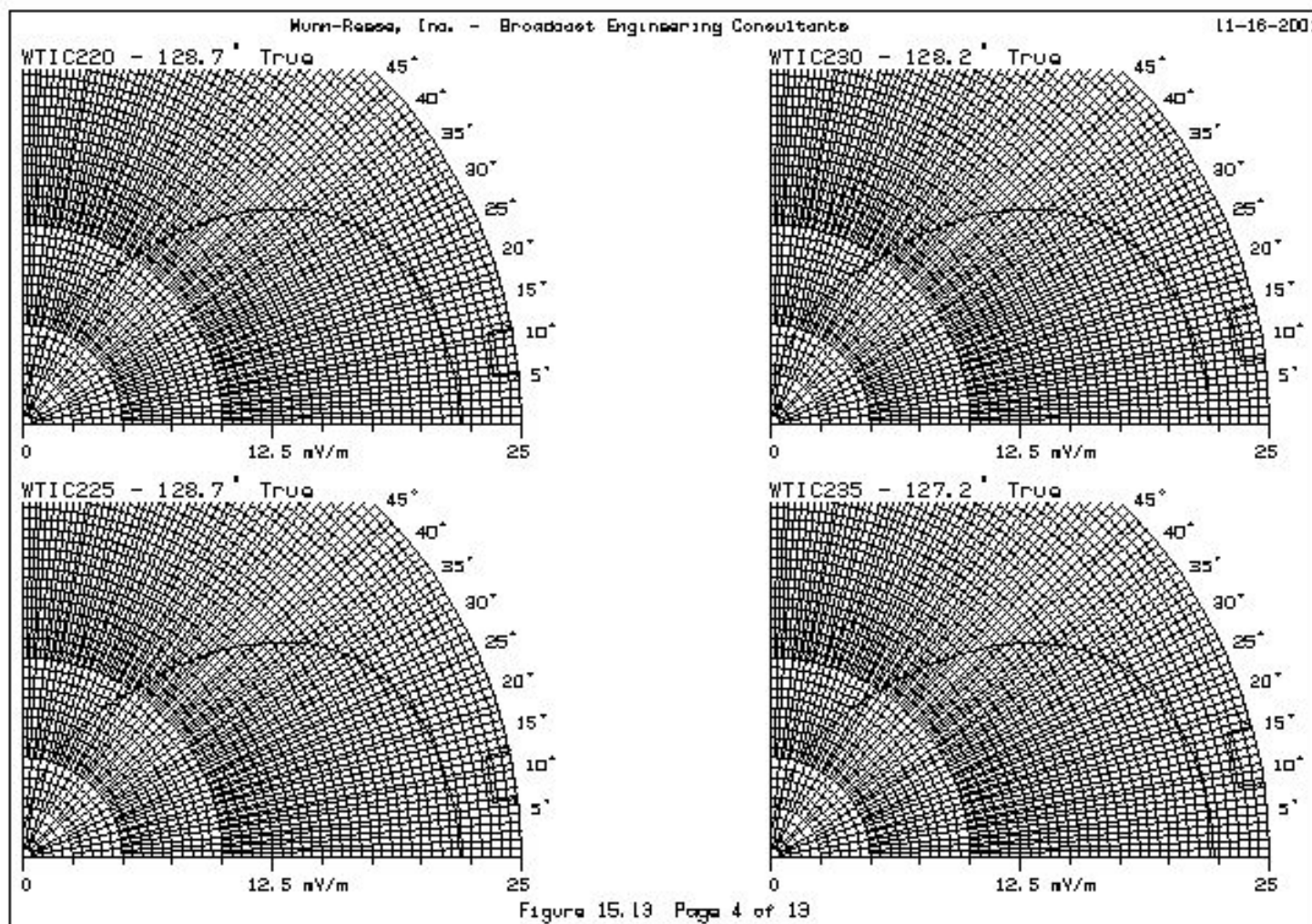




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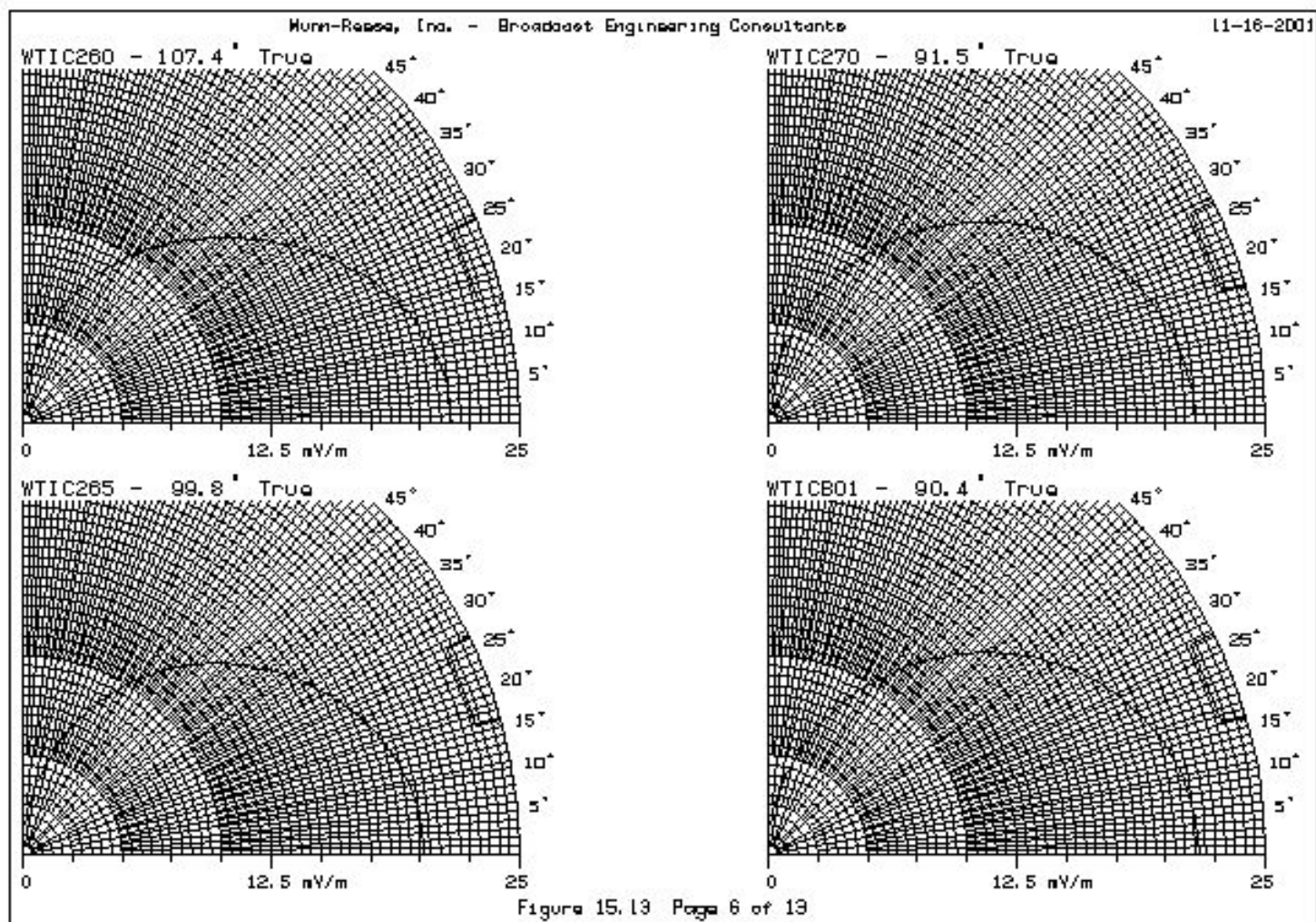


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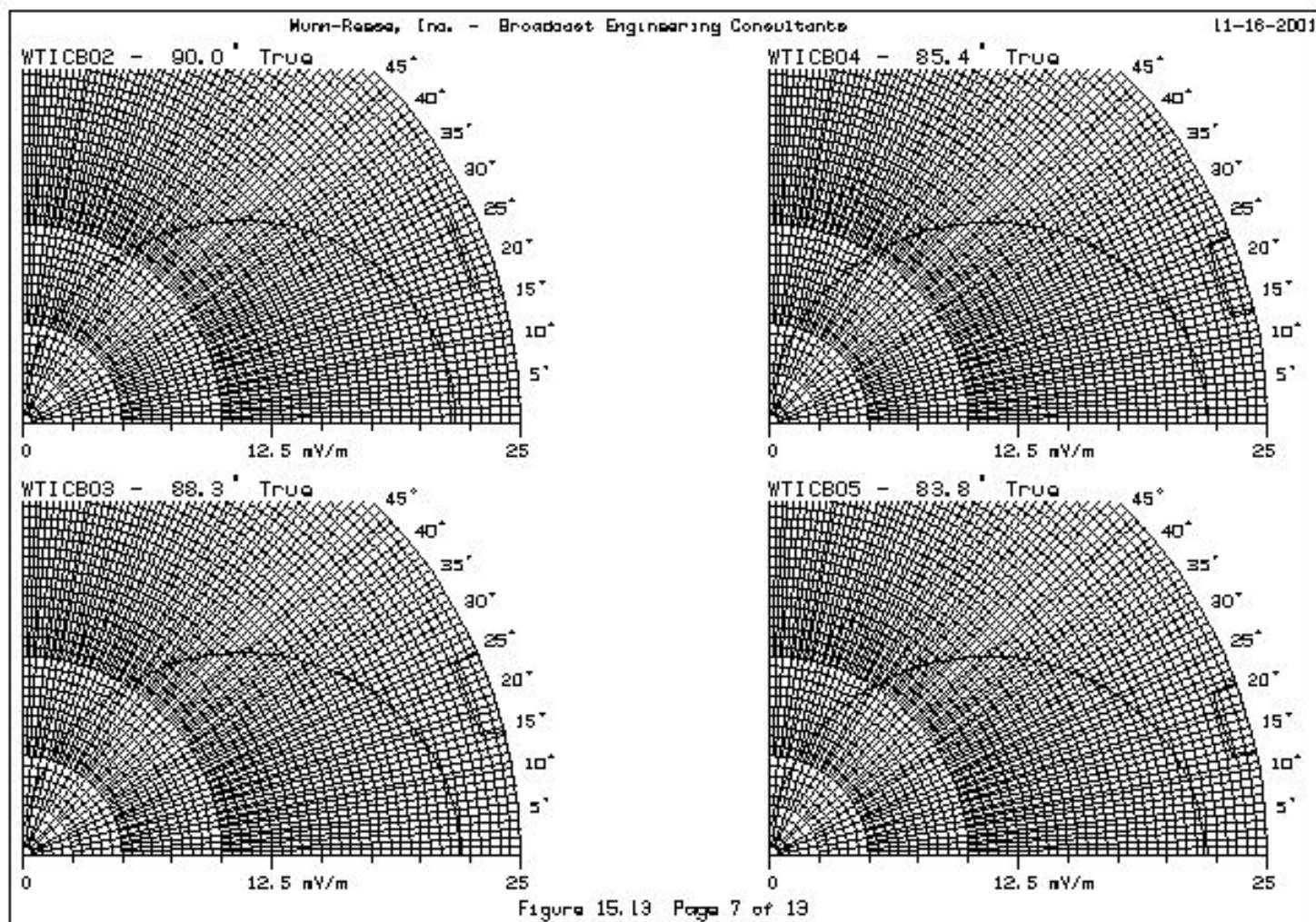


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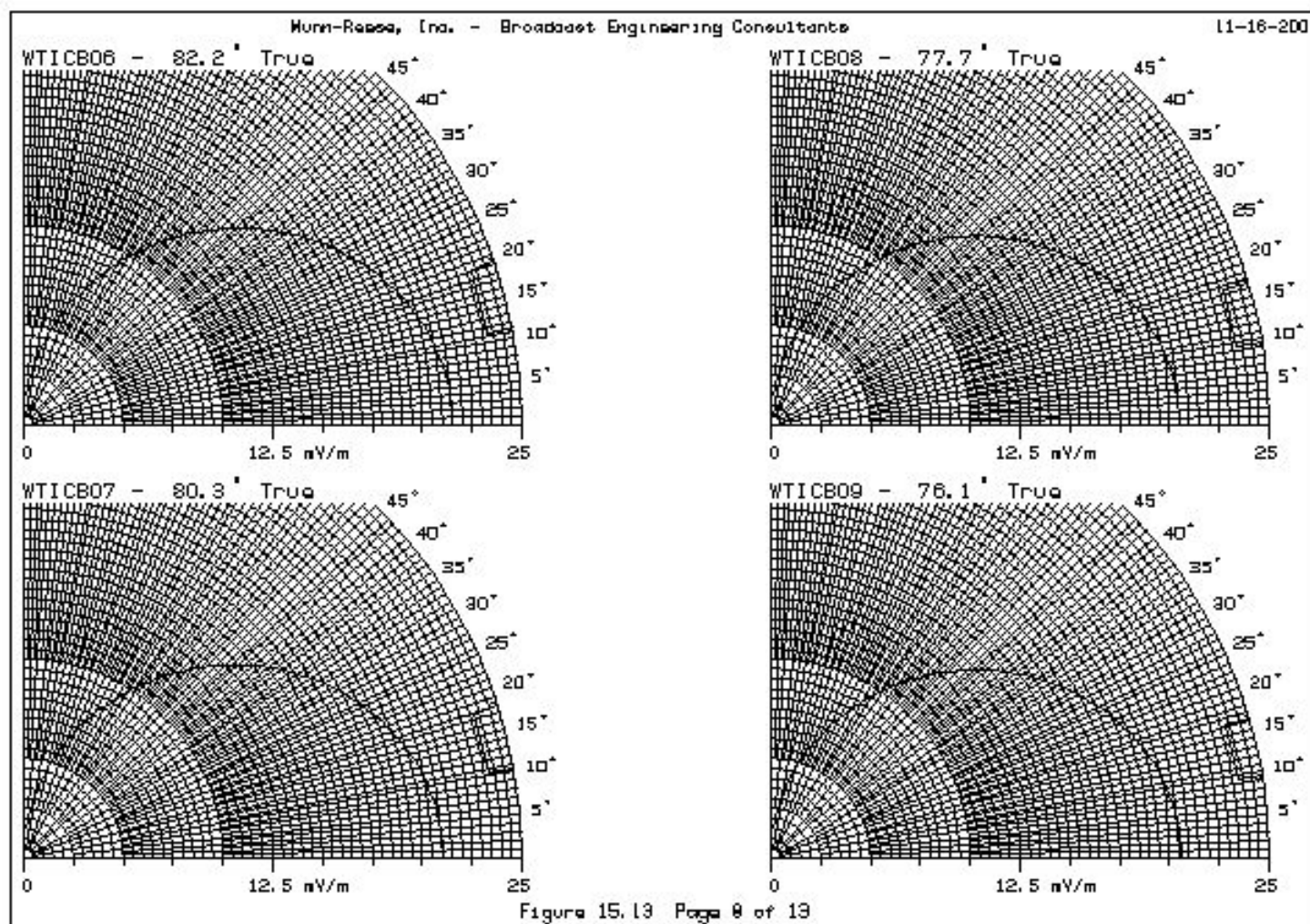


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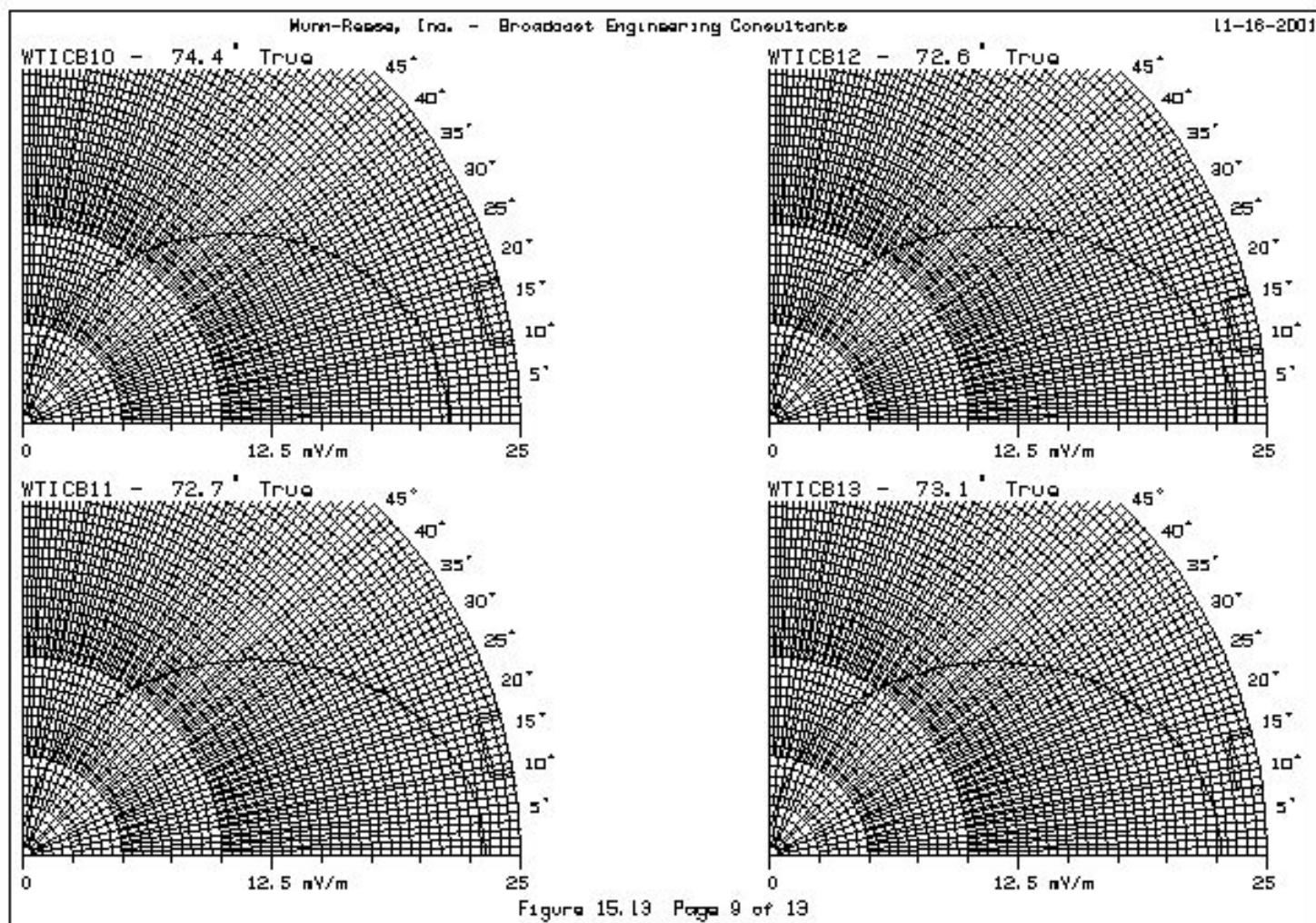


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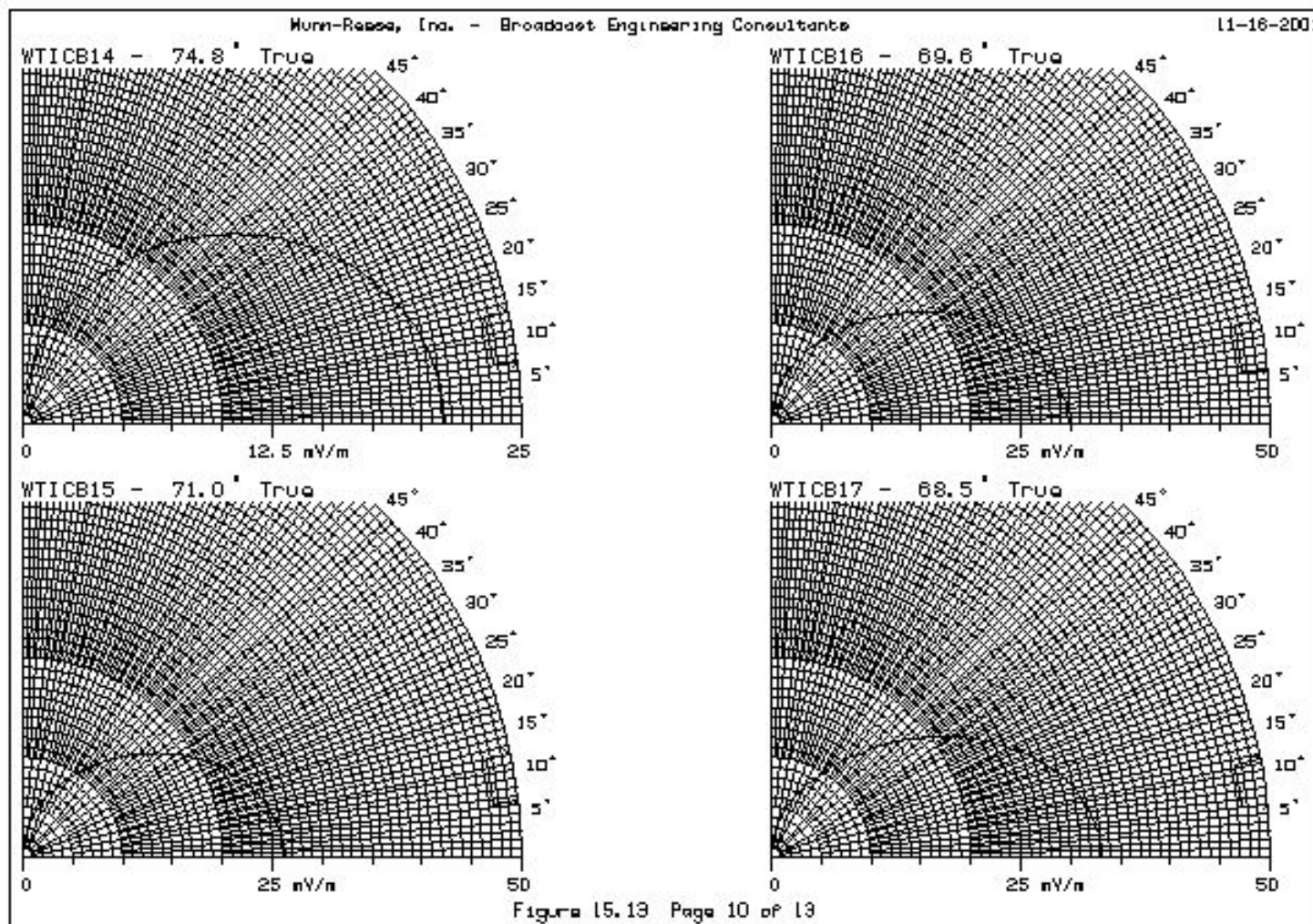


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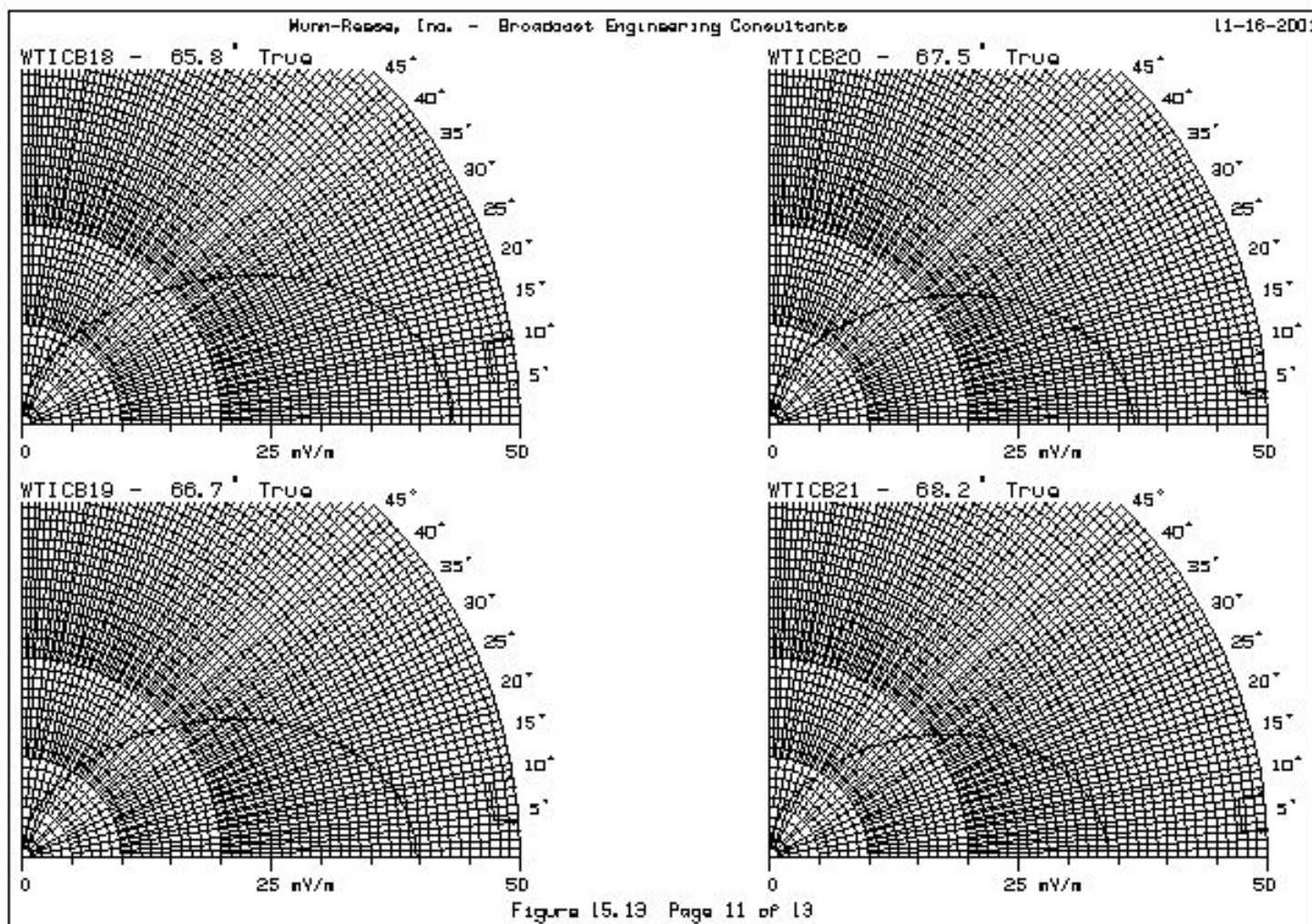


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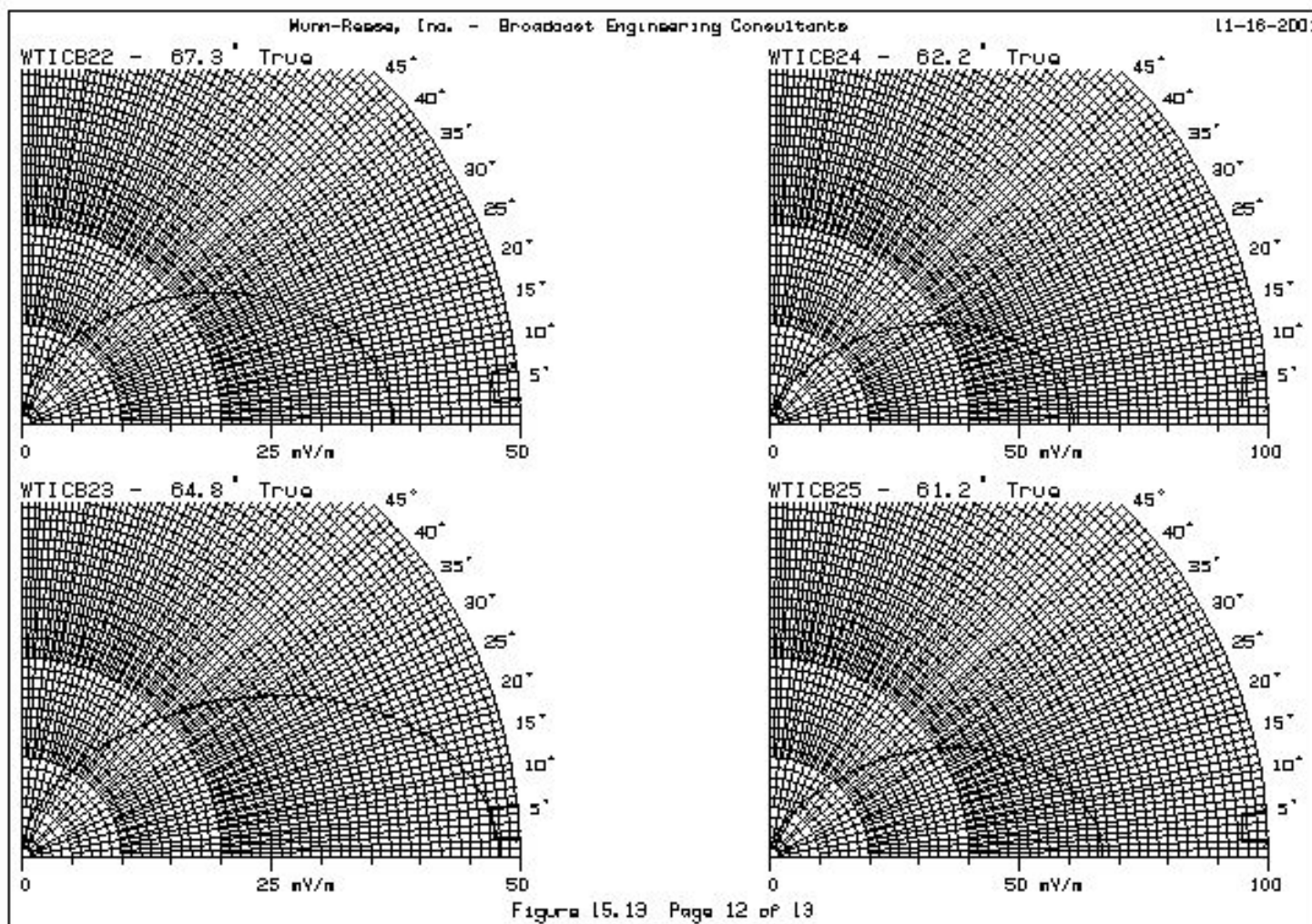


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