

7 Bay TFLHO 98.1MHz

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General data of antenna System

| | |
|---|--------|
| TX station | |
| Site Name | |
| System of coordinates | WGS84 |
| Longitude | |
| Latitude | |
| Ground level a.s.l. (m) | 1.0 |
| Antenna system height (m) | 20.0 |
| Transmitter power(Watt) | 1.000 |
| Carrier wave frequency (MHz) | 98.100 |
| Antenna system central frequency (MHz) | 98.100 |
| Antenna base diagrams type 1 | TFLHO |
| Polarization (H/V/C/X) | H |
| Transmitting cable attenuation (dB) | 0.0 |
| Additional attenuations(dB) | 0.0 |
| Base diagrams sectors (T = All, F = Front) | T |
| Velocity factor of cables to Antennas (0÷1) | 1.00 |
| Coordinate System(C = cartesian, P = polar) | P |
| Mast side / diameter(cm) | 0.0 |
| Mast cross section (T/Q/C) | Q |
| Structure rotation w.r.t. North (°) | 0.0 |
| Mast rotation w.r.t. North (°) | 0.0 |

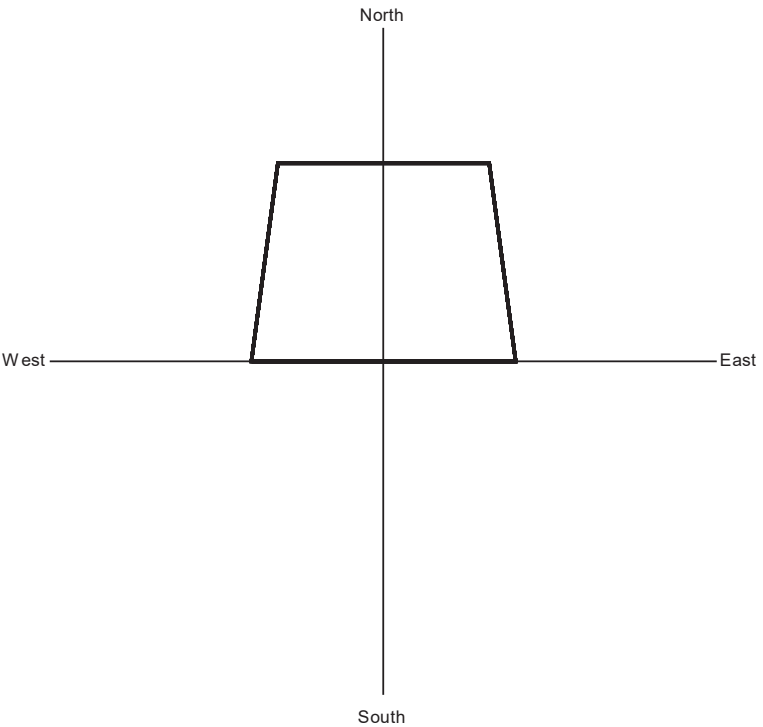
Information about antennas used in the System

| | |
|-------------------------|---------|
| | Antenna |
| Manufacturer | Telecom |
| Antenna model | TFLHO |
| Band start(MHz) | 87 |
| Band stop(MHz) | 108 |
| diagrams Frequency(MHz) | 98.10 |
| Polariz (H/V/C/X) | H |
| Vertical dist (cm) | 100 |
| Height (cm) | 6 |
| Width (cm) | 80 |
| Thickness (cm) | 60 |
| Weight (Kg) | 1 |
| Maximum power (KW) | 0.4 |
| Gain (dBd) | -0.36 |
| North E.C. (cm) | 0 |
| East E.C. (cm) | 0 |
| Return loss (dB) | 0 |
| R.C.Phase (°) | 0 |

Geometr. and electrical data of antenna System

| | <i>Power (%)</i> | <i>Tilt (°)</i> | <i>Az. (°/N)</i> | <i>Phase (°)</i> | <i>V dist. (m)</i> | <i>Scr-d (cm)</i> | <i>Scr-Az (°/N)</i> | <i>Rot. (1÷4)</i> | <i>Type (1÷2)</i> | <i>L cables (cm)</i> | <i>Car. phase (°)</i> |
|---|----------------------|---------------------|----------------------|----------------------|------------------------|-----------------------|-------------------------|-----------------------|-----------------------|--------------------------|---------------------------|
| 1 | 14.286 | 0 | 0 | 0 +0.0 | 7.80 | 0.0 | 0.0 | 1 | 1 | 0.0 | 0.0 |
| 2 | 14.286 | 0 | 0 | 0 +0.0 | 5.20 | 0.0 | 0.0 | 1 | 1 | 0.0 | 0.0 |
| 3 | 14.286 | 0 | 0 | 0 +0.0 | 2.60 | 0.0 | 0.0 | 1 | 1 | 0.0 | 0.0 |
| 4 | 14.286 | 0 | 0 | 0 +0.0 | 0.00 | 0.0 | 0.0 | 1 | 1 | 0.0 | 0.0 |
| 5 | 14.286 | 0 | 0 | 0 +0.0 | -2.60 | 0.0 | 0.0 | 1 | 1 | 0.0 | 0.0 |
| 6 | 14.286 | 0 | 0 | 0 +0.0 | -5.20 | 0.0 | 0.0 | 1 | 1 | 0.0 | 0.0 |
| 7 | 14.286 | 0 | 0 | 0 +0.0 | -7.80 | 0.0 | 0.0 | 1 | 1 | 0.0 | 0.0 |

Plan of antenna system



Side of antenna system



Antennas arrays data

Note: calculation of single antennas arrays data (without taking into account mutual effects)

| | |
|----------------------------------|--------|
| A. Antennas array azimuth (°/N) | 0 |
| B. Number of antennas | 7 |
| C. Nominal power supply (W) | 1.00 |
| D. Losses (addit. + cables) (dB) | 0.0 |
| E. Effective power supply (W) | 1.00 |
| F. Theor. maximum gain (dBd) | 8.09 |
| G. Distribution losses (dB) | 0.00 |
| H. Nominal max gain F - G (dBd) | 8.09 |
| I. Compensation losses (dB) | 0.00 |
| J. Effec. max gain H - I (dBd) | 8.09 |
| K. Effec. max gain (times) | 6.44 |
| L. Effec. max power E * K (KW) | 0.0064 |
| M. Max power depr. angle (°) | 0.0 |
| N. Max power az. angle (°) | 0 |

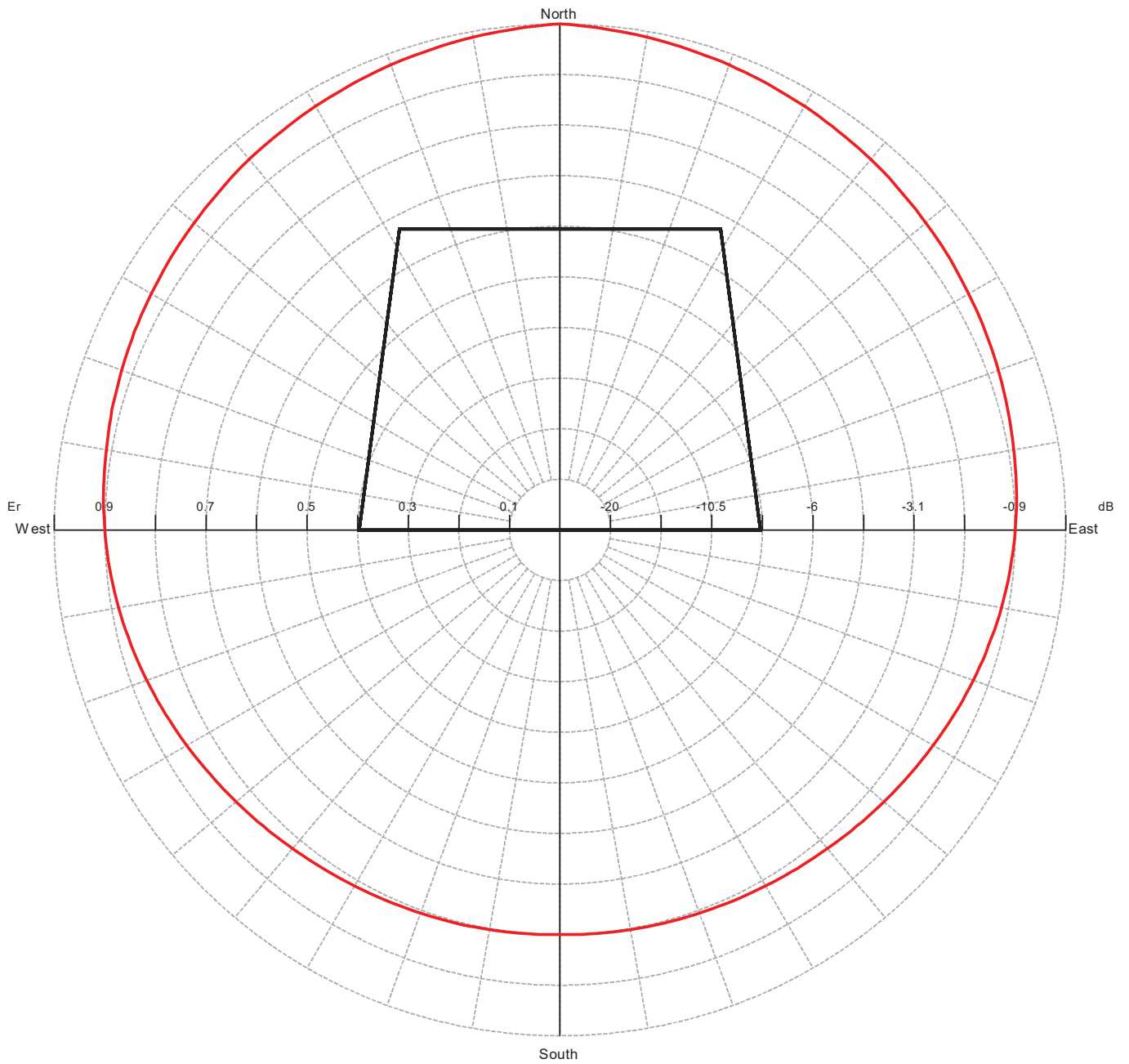
Diagram in dBK calculated at horizon

| Az. (°/N) | dBK | Az. (°/N) | dBK | Az. (°/N) | dBK | Az. (°/N) | dBK |
|-----------|-------|-----------|-------|-----------|-------|-----------|-------|
| 0 | -21.9 | 90 | -22.8 | 180 | -23.8 | 270 | -22.8 |
| 10 | -22.0 | 100 | -23.0 | 190 | -23.8 | 280 | -22.7 |
| 20 | -22.1 | 110 | -23.1 | 200 | -23.8 | 290 | -22.6 |
| 30 | -22.2 | 120 | -23.3 | 210 | -23.7 | 300 | -22.5 |
| 40 | -22.3 | 130 | -23.5 | 220 | -23.6 | 310 | -22.4 |
| 50 | -22.4 | 140 | -23.6 | 230 | -23.5 | 320 | -22.3 |
| 60 | -22.5 | 150 | -23.7 | 240 | -23.3 | 330 | -22.2 |
| 70 | -22.6 | 160 | -23.8 | 250 | -23.1 | 340 | -22.1 |
| 80 | -22.7 | 170 | -23.8 | 260 | -23.0 | 350 | -22.0 |

Diagram in dBK calculated at horizon (without -20dB's lower limit vs maximum power)

| Az. (°/N) | dBK | Az. (°/N) | dBK | Az. (°/N) | dBK | Az. (°/N) | dBK |
|-----------|-------|-----------|-------|-----------|-------|-----------|-------|
| 0 | -21.9 | 90 | -22.8 | 180 | -23.8 | 270 | -22.8 |
| 10 | -22.0 | 100 | -23.0 | 190 | -23.8 | 280 | -22.7 |
| 20 | -22.1 | 110 | -23.1 | 200 | -23.8 | 290 | -22.6 |
| 30 | -22.2 | 120 | -23.3 | 210 | -23.7 | 300 | -22.5 |
| 40 | -22.3 | 130 | -23.5 | 220 | -23.6 | 310 | -22.4 |
| 50 | -22.4 | 140 | -23.6 | 230 | -23.5 | 320 | -22.3 |
| 60 | -22.5 | 150 | -23.7 | 240 | -23.3 | 330 | -22.2 |
| 70 | -22.6 | 160 | -23.8 | 250 | -23.1 | 340 | -22.1 |
| 80 | -22.7 | 170 | -23.8 | 260 | -23.0 | 350 | -22.0 |

Horizontal diagram at 0.0° tilt (Total Antenna)



— 0.0° Tilt (Total Antenna), Gain (dBd): 8.09

ERP T.Max(KW): 0.006 ERP E.Max(KW): 0.006

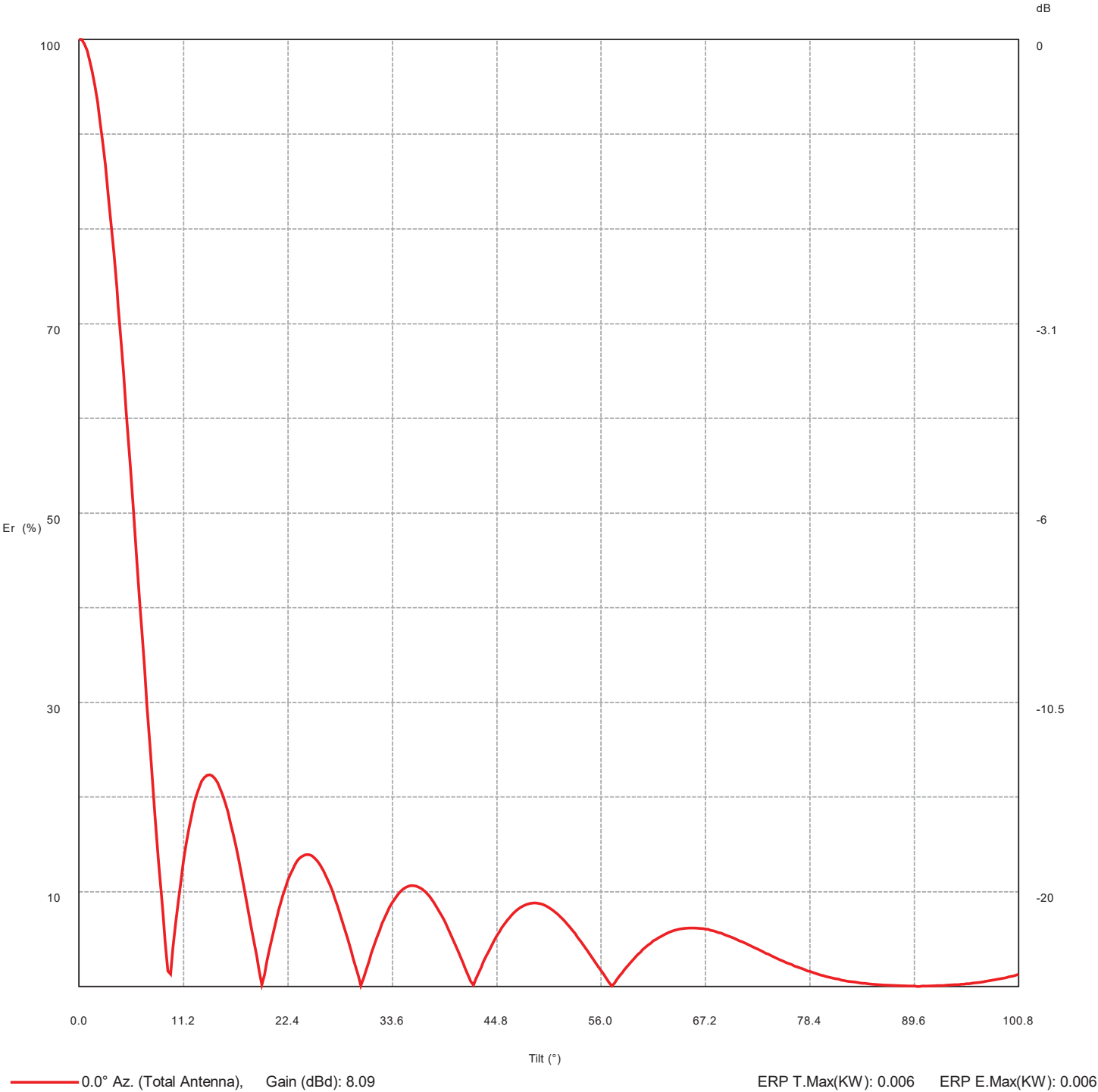
Horizontal diagram at 0.0° tilt (Total Antenna)

| Az (°) | Er (%) | ERP (W) | Az (°) | Er (%) | ERP (W) | Az (°) | Er (%) | ERP (W) |
|--------|--------|---------|--------|--------|---------|--------|--------|---------|
| 0.0 | 100.0 | 6.4 | 60.0 | 93.3 | 5.6 | 120.0 | 85.2 | 4.7 |
| 1.0 | 99.9 | 6.4 | 61.0 | 93.2 | 5.6 | 121.0 | 85.0 | 4.7 |
| 2.0 | 99.8 | 6.4 | 62.0 | 93.1 | 5.6 | 122.0 | 84.9 | 4.6 |
| 3.0 | 99.6 | 6.4 | 63.0 | 93.0 | 5.6 | 123.0 | 84.7 | 4.6 |
| 4.0 | 99.5 | 6.4 | 64.0 | 92.9 | 5.6 | 124.0 | 84.5 | 4.6 |
| 5.0 | 99.4 | 6.4 | 65.0 | 92.8 | 5.5 | 125.0 | 84.3 | 4.6 |
| 6.0 | 99.3 | 6.4 | 66.0 | 92.7 | 5.5 | 126.0 | 84.2 | 4.6 |
| 7.0 | 99.2 | 6.3 | 67.0 | 92.6 | 5.5 | 127.0 | 84.0 | 4.6 |
| 8.0 | 99.1 | 6.3 | 68.0 | 92.4 | 5.5 | 128.0 | 83.9 | 4.5 |
| 9.0 | 99.0 | 6.3 | 69.0 | 92.3 | 5.5 | 129.0 | 83.8 | 4.5 |
| 10.0 | 98.9 | 6.3 | 70.0 | 92.2 | 5.5 | 130.0 | 83.6 | 4.5 |
| 11.0 | 98.8 | 6.3 | 71.0 | 92.1 | 5.5 | 131.0 | 83.5 | 4.5 |
| 12.0 | 98.7 | 6.3 | 72.0 | 92.0 | 5.5 | 132.0 | 83.3 | 4.5 |
| 13.0 | 98.5 | 6.3 | 73.0 | 91.9 | 5.4 | 133.0 | 83.2 | 4.5 |
| 14.0 | 98.4 | 6.2 | 74.0 | 91.8 | 5.4 | 134.0 | 83.0 | 4.4 |
| 15.0 | 98.3 | 6.2 | 75.0 | 91.7 | 5.4 | 135.0 | 82.9 | 4.4 |
| 16.0 | 98.2 | 6.2 | 76.0 | 91.6 | 5.4 | 136.0 | 82.7 | 4.4 |
| 17.0 | 98.1 | 6.2 | 77.0 | 91.5 | 5.4 | 137.0 | 82.6 | 4.4 |
| 18.0 | 98.0 | 6.2 | 78.0 | 91.3 | 5.4 | 138.0 | 82.5 | 4.4 |
| 19.0 | 97.9 | 6.2 | 79.0 | 91.2 | 5.4 | 139.0 | 82.4 | 4.4 |
| 20.0 | 97.8 | 6.2 | 80.0 | 91.1 | 5.3 | 140.0 | 82.2 | 4.4 |
| 21.0 | 97.7 | 6.1 | 81.0 | 91.0 | 5.3 | 141.0 | 82.1 | 4.3 |
| 22.0 | 97.6 | 6.1 | 82.0 | 90.9 | 5.3 | 142.0 | 82.0 | 4.3 |
| 23.0 | 97.4 | 6.1 | 83.0 | 90.8 | 5.3 | 143.0 | 81.9 | 4.3 |
| 24.0 | 97.3 | 6.1 | 84.0 | 90.7 | 5.3 | 144.0 | 81.8 | 4.3 |
| 25.0 | 97.2 | 6.1 | 85.0 | 90.6 | 5.3 | 145.0 | 81.7 | 4.3 |
| 26.0 | 97.1 | 6.1 | 86.0 | 90.5 | 5.3 | 146.0 | 81.6 | 4.3 |
| 27.0 | 97.0 | 6.1 | 87.0 | 90.4 | 5.3 | 147.0 | 81.5 | 4.3 |
| 28.0 | 96.9 | 6.0 | 88.0 | 90.2 | 5.2 | 148.0 | 81.4 | 4.3 |
| 29.0 | 96.8 | 6.0 | 89.0 | 90.1 | 5.2 | 149.0 | 81.3 | 4.3 |
| 30.0 | 96.7 | 6.0 | 90.0 | 90.0 | 5.2 | 150.0 | 81.3 | 4.3 |
| 31.0 | 96.6 | 6.0 | 91.0 | 89.9 | 5.2 | 151.0 | 81.2 | 4.2 |
| 32.0 | 96.5 | 6.0 | 92.0 | 89.7 | 5.2 | 152.0 | 81.1 | 4.2 |
| 33.0 | 96.3 | 6.0 | 93.0 | 89.6 | 5.2 | 153.0 | 81.0 | 4.2 |
| 34.0 | 96.2 | 6.0 | 94.0 | 89.5 | 5.2 | 154.0 | 81.0 | 4.2 |
| 35.0 | 96.1 | 6.0 | 95.0 | 89.3 | 5.1 | 155.0 | 80.9 | 4.2 |
| 36.0 | 96.0 | 5.9 | 96.0 | 89.2 | 5.1 | 156.0 | 80.8 | 4.2 |
| 37.0 | 95.9 | 5.9 | 97.0 | 89.1 | 5.1 | 157.0 | 80.8 | 4.2 |
| 38.0 | 95.8 | 5.9 | 98.0 | 88.9 | 5.1 | 158.0 | 80.7 | 4.2 |
| 39.0 | 95.7 | 5.9 | 99.0 | 88.8 | 5.1 | 159.0 | 80.7 | 4.2 |
| 40.0 | 95.6 | 5.9 | 100.0 | 88.6 | 5.1 | 160.0 | 80.6 | 4.2 |
| 41.0 | 95.5 | 5.9 | 101.0 | 88.5 | 5.0 | 161.0 | 80.6 | 4.2 |
| 42.0 | 95.4 | 5.9 | 102.0 | 88.3 | 5.0 | 162.0 | 80.5 | 4.2 |
| 43.0 | 95.2 | 5.8 | 103.0 | 88.1 | 5.0 | 163.0 | 80.5 | 4.2 |
| 44.0 | 95.1 | 5.8 | 104.0 | 88.0 | 5.0 | 164.0 | 80.4 | 4.2 |
| 45.0 | 95.0 | 5.8 | 105.0 | 87.8 | 5.0 | 165.0 | 80.4 | 4.2 |
| 46.0 | 94.9 | 5.8 | 106.0 | 87.6 | 4.9 | 166.0 | 80.4 | 4.2 |
| 47.0 | 94.8 | 5.8 | 107.0 | 87.5 | 4.9 | 167.0 | 80.3 | 4.2 |
| 48.0 | 94.6 | 5.8 | 108.0 | 87.3 | 4.9 | 168.0 | 80.3 | 4.2 |
| 49.0 | 94.5 | 5.8 | 109.0 | 87.1 | 4.9 | 169.0 | 80.3 | 4.2 |
| 50.0 | 94.4 | 5.7 | 110.0 | 87.0 | 4.9 | 170.0 | 80.2 | 4.1 |
| 51.0 | 94.3 | 5.7 | 111.0 | 86.8 | 4.9 | 171.0 | 80.2 | 4.1 |
| 52.0 | 94.2 | 5.7 | 112.0 | 86.6 | 4.8 | 172.0 | 80.2 | 4.1 |
| 53.0 | 94.1 | 5.7 | 113.0 | 86.4 | 4.8 | 173.0 | 80.2 | 4.1 |
| 54.0 | 94.0 | 5.7 | 114.0 | 86.2 | 4.8 | 174.0 | 80.1 | 4.1 |
| 55.0 | 93.9 | 5.7 | 115.0 | 86.0 | 4.8 | 175.0 | 80.1 | 4.1 |
| 56.0 | 93.8 | 5.7 | 116.0 | 85.9 | 4.8 | 176.0 | 80.1 | 4.1 |
| 57.0 | 93.7 | 5.7 | 117.0 | 85.7 | 4.7 | 177.0 | 80.1 | 4.1 |
| 58.0 | 93.5 | 5.6 | 118.0 | 85.5 | 4.7 | 178.0 | 80.0 | 4.1 |
| 59.0 | 93.4 | 5.6 | 119.0 | 85.4 | 4.7 | 179.0 | 80.0 | 4.1 |

Horizontal diagram at 0.0° tilt (Total Antenna)

| Az (°) | Er (%) | ERP (W) | Az (°) | Er (%) | ERP (W) | Az (°) | Er (%) | ERP (W) |
|--------|--------|---------|--------|--------|---------|--------|--------|---------|
| 180.0 | 80.0 | 4.1 | 240.0 | 85.2 | 4.7 | 300.0 | 93.3 | 5.6 |
| 181.0 | 80.0 | 4.1 | 241.0 | 85.4 | 4.7 | 301.0 | 93.4 | 5.6 |
| 182.0 | 80.0 | 4.1 | 242.0 | 85.5 | 4.7 | 302.0 | 93.5 | 5.6 |
| 183.0 | 80.1 | 4.1 | 243.0 | 85.7 | 4.7 | 303.0 | 93.7 | 5.7 |
| 184.0 | 80.1 | 4.1 | 244.0 | 85.9 | 4.8 | 304.0 | 93.8 | 5.7 |
| 185.0 | 80.1 | 4.1 | 245.0 | 86.0 | 4.8 | 305.0 | 93.9 | 5.7 |
| 186.0 | 80.1 | 4.1 | 246.0 | 86.2 | 4.8 | 306.0 | 94.0 | 5.7 |
| 187.0 | 80.2 | 4.1 | 247.0 | 86.4 | 4.8 | 307.0 | 94.1 | 5.7 |
| 188.0 | 80.2 | 4.1 | 248.0 | 86.6 | 4.8 | 308.0 | 94.2 | 5.7 |
| 189.0 | 80.2 | 4.1 | 249.0 | 86.8 | 4.9 | 309.0 | 94.3 | 5.7 |
| 190.0 | 80.2 | 4.1 | 250.0 | 87.0 | 4.9 | 310.0 | 94.4 | 5.7 |
| 191.0 | 80.3 | 4.2 | 251.0 | 87.1 | 4.9 | 311.0 | 94.5 | 5.8 |
| 192.0 | 80.3 | 4.2 | 252.0 | 87.3 | 4.9 | 312.0 | 94.6 | 5.8 |
| 193.0 | 80.3 | 4.2 | 253.0 | 87.5 | 4.9 | 313.0 | 94.8 | 5.8 |
| 194.0 | 80.4 | 4.2 | 254.0 | 87.6 | 4.9 | 314.0 | 94.9 | 5.8 |
| 195.0 | 80.4 | 4.2 | 255.0 | 87.8 | 5.0 | 315.0 | 95.0 | 5.8 |
| 196.0 | 80.4 | 4.2 | 256.0 | 88.0 | 5.0 | 316.0 | 95.1 | 5.8 |
| 197.0 | 80.5 | 4.2 | 257.0 | 88.1 | 5.0 | 317.0 | 95.2 | 5.8 |
| 198.0 | 80.5 | 4.2 | 258.0 | 88.3 | 5.0 | 318.0 | 95.4 | 5.9 |
| 199.0 | 80.6 | 4.2 | 259.0 | 88.5 | 5.0 | 319.0 | 95.5 | 5.9 |
| 200.0 | 80.6 | 4.2 | 260.0 | 88.6 | 5.1 | 320.0 | 95.6 | 5.9 |
| 201.0 | 80.7 | 4.2 | 261.0 | 88.8 | 5.1 | 321.0 | 95.7 | 5.9 |
| 202.0 | 80.7 | 4.2 | 262.0 | 88.9 | 5.1 | 322.0 | 95.8 | 5.9 |
| 203.0 | 80.8 | 4.2 | 263.0 | 89.1 | 5.1 | 323.0 | 95.9 | 5.9 |
| 204.0 | 80.8 | 4.2 | 264.0 | 89.2 | 5.1 | 324.0 | 96.0 | 5.9 |
| 205.0 | 80.9 | 4.2 | 265.0 | 89.3 | 5.1 | 325.0 | 96.1 | 6.0 |
| 206.0 | 81.0 | 4.2 | 266.0 | 89.5 | 5.2 | 326.0 | 96.2 | 6.0 |
| 207.0 | 81.0 | 4.2 | 267.0 | 89.6 | 5.2 | 327.0 | 96.3 | 6.0 |
| 208.0 | 81.1 | 4.2 | 268.0 | 89.7 | 5.2 | 328.0 | 96.5 | 6.0 |
| 209.0 | 81.2 | 4.2 | 269.0 | 89.9 | 5.2 | 329.0 | 96.6 | 6.0 |
| 210.0 | 81.3 | 4.3 | 270.0 | 90.0 | 5.2 | 330.0 | 96.7 | 6.0 |
| 211.0 | 81.3 | 4.3 | 271.0 | 90.1 | 5.2 | 331.0 | 96.8 | 6.0 |
| 212.0 | 81.4 | 4.3 | 272.0 | 90.2 | 5.2 | 332.0 | 96.9 | 6.0 |
| 213.0 | 81.5 | 4.3 | 273.0 | 90.4 | 5.3 | 333.0 | 97.0 | 6.1 |
| 214.0 | 81.6 | 4.3 | 274.0 | 90.5 | 5.3 | 334.0 | 97.1 | 6.1 |
| 215.0 | 81.7 | 4.3 | 275.0 | 90.6 | 5.3 | 335.0 | 97.2 | 6.1 |
| 216.0 | 81.8 | 4.3 | 276.0 | 90.7 | 5.3 | 336.0 | 97.3 | 6.1 |
| 217.0 | 81.9 | 4.3 | 277.0 | 90.8 | 5.3 | 337.0 | 97.4 | 6.1 |
| 218.0 | 82.0 | 4.3 | 278.0 | 90.9 | 5.3 | 338.0 | 97.6 | 6.1 |
| 219.0 | 82.1 | 4.3 | 279.0 | 91.0 | 5.3 | 339.0 | 97.7 | 6.1 |
| 220.0 | 82.2 | 4.4 | 280.0 | 91.1 | 5.3 | 340.0 | 97.8 | 6.2 |
| 221.0 | 82.4 | 4.4 | 281.0 | 91.2 | 5.4 | 341.0 | 97.9 | 6.2 |
| 222.0 | 82.5 | 4.4 | 282.0 | 91.3 | 5.4 | 342.0 | 98.0 | 6.2 |
| 223.0 | 82.6 | 4.4 | 283.0 | 91.5 | 5.4 | 343.0 | 98.1 | 6.2 |
| 224.0 | 82.7 | 4.4 | 284.0 | 91.6 | 5.4 | 344.0 | 98.2 | 6.2 |
| 225.0 | 82.9 | 4.4 | 285.0 | 91.7 | 5.4 | 345.0 | 98.3 | 6.2 |
| 226.0 | 83.0 | 4.4 | 286.0 | 91.8 | 5.4 | 346.0 | 98.4 | 6.2 |
| 227.0 | 83.2 | 4.5 | 287.0 | 91.9 | 5.4 | 347.0 | 98.5 | 6.3 |
| 228.0 | 83.3 | 4.5 | 288.0 | 92.0 | 5.5 | 348.0 | 98.7 | 6.3 |
| 229.0 | 83.5 | 4.5 | 289.0 | 92.1 | 5.5 | 349.0 | 98.8 | 6.3 |
| 230.0 | 83.6 | 4.5 | 290.0 | 92.2 | 5.5 | 350.0 | 98.9 | 6.3 |
| 231.0 | 83.8 | 4.5 | 291.0 | 92.3 | 5.5 | 351.0 | 99.0 | 6.3 |
| 232.0 | 83.9 | 4.5 | 292.0 | 92.4 | 5.5 | 352.0 | 99.1 | 6.3 |
| 233.0 | 84.0 | 4.6 | 293.0 | 92.6 | 5.5 | 353.0 | 99.2 | 6.3 |
| 234.0 | 84.2 | 4.6 | 294.0 | 92.7 | 5.5 | 354.0 | 99.3 | 6.4 |
| 235.0 | 84.3 | 4.6 | 295.0 | 92.8 | 5.5 | 355.0 | 99.4 | 6.4 |
| 236.0 | 84.5 | 4.6 | 296.0 | 92.9 | 5.6 | 356.0 | 99.5 | 6.4 |
| 237.0 | 84.7 | 4.6 | 297.0 | 93.0 | 5.6 | 357.0 | 99.6 | 6.4 |
| 238.0 | 84.9 | 4.6 | 298.0 | 93.1 | 5.6 | 358.0 | 99.8 | 6.4 |
| 239.0 | 85.0 | 4.7 | 299.0 | 93.2 | 5.6 | 359.0 | 99.9 | 6.4 |

Vertical diagram at an azimuth of 0.0°



Vertical diagram at an azimuth of 0.0°

| Dep (°) | Er (%) | ERP (W) | Dep (°) | Er (%) | ERP (W) | Dep (°) | Er (%) | ERP (W) |
|---------|--------|---------|---------|--------|---------|---------|--------|---------|
| 0.0 | 100.2 | 6.4 | 16.8 | 14.9 | 0.1 | 33.6 | 8.9 | 0.1 |
| 0.3 | 100.0 | 6.4 | 17.1 | 13.5 | 0.1 | 33.9 | 9.3 | 0.1 |
| 0.6 | 99.6 | 6.4 | 17.4 | 12.1 | 0.1 | 34.2 | 9.7 | 0.1 |
| 0.8 | 98.9 | 6.3 | 17.6 | 10.7 | 0.1 | 34.4 | 10.0 | 0.1 |
| 1.1 | 97.9 | 6.2 | 17.9 | 9.2 | 0.1 | 34.7 | 10.2 | 0.1 |
| 1.4 | 96.7 | 6.0 | 18.2 | 7.7 | 0.0 | 35.0 | 10.4 | 0.1 |
| 1.7 | 95.2 | 5.8 | 18.5 | 6.2 | 0.0 | 35.3 | 10.6 | 0.1 |
| 2.0 | 93.4 | 5.6 | 18.8 | 4.7 | 0.0 | 35.6 | 10.6 | 0.1 |
| 2.2 | 91.4 | 5.4 | 19.0 | 3.2 | 0.0 | 35.8 | 10.6 | 0.1 |
| 2.5 | 89.2 | 5.1 | 19.3 | 1.7 | 0.0 | 36.1 | 10.6 | 0.1 |
| 2.8 | 86.8 | 4.8 | 19.6 | 0.2 | 0.0 | 36.4 | 10.5 | 0.1 |
| 3.1 | 84.2 | 4.6 | 19.9 | 1.2 | 0.0 | 36.7 | 10.3 | 0.1 |
| 3.4 | 81.3 | 4.2 | 20.2 | 2.6 | 0.0 | 37.0 | 10.1 | 0.1 |
| 3.6 | 78.3 | 3.9 | 20.4 | 4.0 | 0.0 | 37.2 | 9.9 | 0.1 |
| 3.9 | 75.2 | 3.6 | 20.7 | 5.2 | 0.0 | 37.5 | 9.6 | 0.1 |
| 4.2 | 71.8 | 3.3 | 21.0 | 6.4 | 0.0 | 37.8 | 9.2 | 0.1 |
| 4.5 | 68.4 | 3.0 | 21.3 | 7.6 | 0.0 | 38.1 | 8.8 | 0.0 |
| 4.8 | 64.8 | 2.7 | 21.6 | 8.6 | 0.0 | 38.4 | 8.4 | 0.0 |
| 5.0 | 61.1 | 2.4 | 21.8 | 9.6 | 0.1 | 38.6 | 7.9 | 0.0 |
| 5.3 | 57.3 | 2.1 | 22.1 | 10.4 | 0.1 | 38.9 | 7.4 | 0.0 |
| 5.6 | 53.4 | 1.8 | 22.4 | 11.2 | 0.1 | 39.2 | 6.9 | 0.0 |
| 5.9 | 49.4 | 1.6 | 22.7 | 11.9 | 0.1 | 39.5 | 6.3 | 0.0 |
| 6.2 | 45.5 | 1.3 | 23.0 | 12.5 | 0.1 | 39.8 | 5.7 | 0.0 |
| 6.4 | 41.5 | 1.1 | 23.2 | 13.0 | 0.1 | 40.0 | 5.1 | 0.0 |
| 6.7 | 37.6 | 0.9 | 23.5 | 13.4 | 0.1 | 40.3 | 4.5 | 0.0 |
| 7.0 | 33.6 | 0.7 | 23.8 | 13.6 | 0.1 | 40.6 | 3.8 | 0.0 |
| 7.3 | 29.7 | 0.6 | 24.1 | 13.8 | 0.1 | 40.9 | 3.2 | 0.0 |
| 7.6 | 25.9 | 0.4 | 24.4 | 13.9 | 0.1 | 41.2 | 2.5 | 0.0 |
| 7.8 | 22.1 | 0.3 | 24.6 | 13.9 | 0.1 | 41.4 | 1.9 | 0.0 |
| 8.1 | 18.4 | 0.2 | 24.9 | 13.8 | 0.1 | 41.7 | 1.2 | 0.0 |
| 8.4 | 14.8 | 0.1 | 25.2 | 13.6 | 0.1 | 42.0 | 0.5 | 0.0 |
| 8.7 | 11.3 | 0.1 | 25.5 | 13.3 | 0.1 | 42.3 | 0.1 | 0.0 |
| 9.0 | 7.9 | 0.0 | 25.8 | 13.0 | 0.1 | 42.6 | 0.8 | 0.0 |
| 9.2 | 4.7 | 0.0 | 26.0 | 12.5 | 0.1 | 42.8 | 1.4 | 0.0 |
| 9.5 | 1.6 | 0.0 | 26.3 | 12.0 | 0.1 | 43.1 | 2.0 | 0.0 |
| 9.8 | 1.3 | 0.0 | 26.6 | 11.4 | 0.1 | 43.4 | 2.6 | 0.0 |
| 10.1 | 4.1 | 0.0 | 26.9 | 10.8 | 0.1 | 43.7 | 3.2 | 0.0 |
| 10.4 | 6.6 | 0.0 | 27.2 | 10.0 | 0.1 | 44.0 | 3.8 | 0.0 |
| 10.6 | 9.0 | 0.1 | 27.4 | 9.3 | 0.1 | 44.2 | 4.3 | 0.0 |
| 10.9 | 11.2 | 0.1 | 27.7 | 8.5 | 0.0 | 44.5 | 4.8 | 0.0 |
| 11.2 | 13.2 | 0.1 | 28.0 | 7.6 | 0.0 | 44.8 | 5.3 | 0.0 |
| 11.5 | 15.0 | 0.1 | 28.3 | 6.7 | 0.0 | 45.1 | 5.8 | 0.0 |
| 11.8 | 16.6 | 0.2 | 28.6 | 5.8 | 0.0 | 45.4 | 6.2 | 0.0 |
| 12.0 | 18.0 | 0.2 | 28.8 | 4.9 | 0.0 | 45.6 | 6.6 | 0.0 |
| 12.3 | 19.2 | 0.2 | 29.1 | 3.9 | 0.0 | 45.9 | 7.0 | 0.0 |
| 12.6 | 20.2 | 0.3 | 29.4 | 3.0 | 0.0 | 46.2 | 7.3 | 0.0 |
| 12.9 | 21.0 | 0.3 | 29.7 | 2.0 | 0.0 | 46.5 | 7.6 | 0.0 |
| 13.2 | 21.6 | 0.3 | 30.0 | 1.1 | 0.0 | 46.8 | 7.9 | 0.0 |
| 13.4 | 22.1 | 0.3 | 30.2 | 0.1 | 0.0 | 47.0 | 8.1 | 0.0 |
| 13.7 | 22.3 | 0.3 | 30.5 | 0.8 | 0.0 | 47.3 | 8.3 | 0.0 |
| 14.0 | 22.4 | 0.3 | 30.8 | 1.8 | 0.0 | 47.6 | 8.5 | 0.0 |
| 14.3 | 22.2 | 0.3 | 31.1 | 2.6 | 0.0 | 47.9 | 8.6 | 0.0 |
| 14.6 | 22.0 | 0.3 | 31.4 | 3.5 | 0.0 | 48.2 | 8.7 | 0.0 |
| 14.8 | 21.5 | 0.3 | 31.6 | 4.3 | 0.0 | 48.4 | 8.8 | 0.0 |
| 15.1 | 20.9 | 0.3 | 31.9 | 5.1 | 0.0 | 48.7 | 8.8 | 0.0 |
| 15.4 | 20.2 | 0.3 | 32.2 | 5.9 | 0.0 | 49.0 | 8.8 | 0.0 |
| 15.7 | 19.4 | 0.2 | 32.5 | 6.6 | 0.0 | 49.3 | 8.8 | 0.0 |
| 16.0 | 18.4 | 0.2 | 32.8 | 7.2 | 0.0 | 49.6 | 8.7 | 0.0 |
| 16.2 | 17.3 | 0.2 | 33.0 | 7.8 | 0.0 | 49.8 | 8.6 | 0.0 |
| 16.5 | 16.1 | 0.2 | 33.3 | 8.4 | 0.0 | 50.1 | 8.5 | 0.0 |

Vertical diagram at an azimuth of 0.0°

| Dep (°) | Er (%) | ERP (W) | Dep (°) | Er (%) | ERP (W) | Dep (°) | Er (%) | ERP (W) |
|---------|--------|---------|---------|--------|---------|---------|--------|---------|
| 50.4 | 8.3 | 0.0 | 67.2 | 6.0 | 0.0 | 84.0 | 0.3 | 0.0 |
| 50.7 | 8.1 | 0.0 | 67.5 | 6.0 | 0.0 | 84.3 | 0.3 | 0.0 |
| 51.0 | 7.9 | 0.0 | 67.8 | 5.9 | 0.0 | 84.6 | 0.3 | 0.0 |
| 51.2 | 7.7 | 0.0 | 68.0 | 5.9 | 0.0 | 84.8 | 0.2 | 0.0 |
| 51.5 | 7.5 | 0.0 | 68.3 | 5.8 | 0.0 | 85.1 | 0.2 | 0.0 |
| 51.8 | 7.2 | 0.0 | 68.6 | 5.7 | 0.0 | 85.4 | 0.2 | 0.0 |
| 52.1 | 6.9 | 0.0 | 68.9 | 5.6 | 0.0 | 85.7 | 0.2 | 0.0 |
| 52.4 | 6.6 | 0.0 | 69.2 | 5.5 | 0.0 | 86.0 | 0.2 | 0.0 |
| 52.6 | 6.3 | 0.0 | 69.4 | 5.4 | 0.0 | 86.2 | 0.1 | 0.0 |
| 52.9 | 5.9 | 0.0 | 69.7 | 5.3 | 0.0 | 86.5 | 0.1 | 0.0 |
| 53.2 | 5.6 | 0.0 | 70.0 | 5.2 | 0.0 | 86.8 | 0.1 | 0.0 |
| 53.5 | 5.2 | 0.0 | 70.3 | 5.1 | 0.0 | 87.1 | 0.1 | 0.0 |
| 53.8 | 4.8 | 0.0 | 70.6 | 4.9 | 0.0 | 87.4 | 0.1 | 0.0 |
| 54.0 | 4.4 | 0.0 | 70.8 | 4.8 | 0.0 | 87.6 | 0.1 | 0.0 |
| 54.3 | 4.0 | 0.0 | 71.1 | 4.7 | 0.0 | 87.9 | 0.1 | 0.0 |
| 54.6 | 3.7 | 0.0 | 71.4 | 4.6 | 0.0 | 88.2 | 0.1 | 0.0 |
| 54.9 | 3.3 | 0.0 | 71.7 | 4.5 | 0.0 | 88.5 | 0.1 | 0.0 |
| 55.2 | 2.8 | 0.0 | 72.0 | 4.3 | 0.0 | 88.8 | 0.0 | 0.0 |
| 55.4 | 2.4 | 0.0 | 72.2 | 4.2 | 0.0 | 89.0 | 0.0 | 0.0 |
| 55.7 | 2.0 | 0.0 | 72.5 | 4.1 | 0.0 | 89.3 | 0.0 | 0.0 |
| 56.0 | 1.6 | 0.0 | 72.8 | 3.9 | 0.0 | 89.6 | 0.0 | 0.0 |
| 56.3 | 1.2 | 0.0 | 73.1 | 3.8 | 0.0 | 89.9 | 0.0 | 0.0 |
| 56.6 | 0.8 | 0.0 | 73.4 | 3.7 | 0.0 | 90.2 | 0.0 | 0.0 |
| 56.8 | 0.4 | 0.0 | 73.6 | 3.5 | 0.0 | 90.4 | 0.0 | 0.0 |
| 57.1 | 0.0 | 0.0 | 73.9 | 3.4 | 0.0 | 90.7 | 0.0 | 0.0 |
| 57.4 | 0.3 | 0.0 | 74.2 | 3.3 | 0.0 | 91.0 | 0.0 | 0.0 |
| 57.7 | 0.7 | 0.0 | 74.5 | 3.1 | 0.0 | 91.3 | 0.0 | 0.0 |
| 58.0 | 1.1 | 0.0 | 74.8 | 3.0 | 0.0 | 91.6 | 0.1 | 0.0 |
| 58.2 | 1.4 | 0.0 | 75.0 | 2.9 | 0.0 | 91.8 | 0.1 | 0.0 |
| 58.5 | 1.8 | 0.0 | 75.3 | 2.7 | 0.0 | 92.1 | 0.1 | 0.0 |
| 58.8 | 2.1 | 0.0 | 75.6 | 2.6 | 0.0 | 92.4 | 0.1 | 0.0 |
| 59.1 | 2.4 | 0.0 | 75.9 | 2.5 | 0.0 | 92.7 | 0.1 | 0.0 |
| 59.4 | 2.8 | 0.0 | 76.2 | 2.4 | 0.0 | 93.0 | 0.1 | 0.0 |
| 59.6 | 3.1 | 0.0 | 76.4 | 2.3 | 0.0 | 93.2 | 0.1 | 0.0 |
| 59.9 | 3.3 | 0.0 | 76.7 | 2.2 | 0.0 | 93.5 | 0.1 | 0.0 |
| 60.2 | 3.6 | 0.0 | 77.0 | 2.1 | 0.0 | 93.8 | 0.2 | 0.0 |
| 60.5 | 3.9 | 0.0 | 77.3 | 2.0 | 0.0 | 94.1 | 0.2 | 0.0 |
| 60.8 | 4.1 | 0.0 | 77.6 | 1.8 | 0.0 | 94.4 | 0.2 | 0.0 |
| 61.0 | 4.4 | 0.0 | 77.8 | 1.7 | 0.0 | 94.6 | 0.2 | 0.0 |
| 61.3 | 4.6 | 0.0 | 78.1 | 1.6 | 0.0 | 94.9 | 0.2 | 0.0 |
| 61.6 | 4.8 | 0.0 | 78.4 | 1.6 | 0.0 | 95.2 | 0.3 | 0.0 |
| 61.9 | 5.0 | 0.0 | 78.7 | 1.5 | 0.0 | 95.5 | 0.3 | 0.0 |
| 62.2 | 5.1 | 0.0 | 79.0 | 1.4 | 0.0 | 95.8 | 0.3 | 0.0 |
| 62.4 | 5.3 | 0.0 | 79.2 | 1.3 | 0.0 | 96.0 | 0.4 | 0.0 |
| 62.7 | 5.5 | 0.0 | 79.5 | 1.2 | 0.0 | 96.3 | 0.4 | 0.0 |
| 63.0 | 5.6 | 0.0 | 79.8 | 1.1 | 0.0 | 96.6 | 0.4 | 0.0 |
| 63.3 | 5.7 | 0.0 | 80.1 | 1.0 | 0.0 | 96.9 | 0.5 | 0.0 |
| 63.6 | 5.8 | 0.0 | 80.4 | 1.0 | 0.0 | 97.2 | 0.5 | 0.0 |
| 63.8 | 5.9 | 0.0 | 80.6 | 0.9 | 0.0 | 97.4 | 0.5 | 0.0 |
| 64.1 | 6.0 | 0.0 | 80.9 | 0.9 | 0.0 | 97.7 | 0.6 | 0.0 |
| 64.4 | 6.0 | 0.0 | 81.2 | 0.8 | 0.0 | 98.0 | 0.6 | 0.0 |
| 64.7 | 6.1 | 0.0 | 81.5 | 0.7 | 0.0 | 98.3 | 0.7 | 0.0 |
| 65.0 | 6.1 | 0.0 | 81.8 | 0.7 | 0.0 | 98.6 | 0.7 | 0.0 |
| 65.2 | 6.1 | 0.0 | 82.0 | 0.6 | 0.0 | 98.8 | 0.8 | 0.0 |
| 65.5 | 6.2 | 0.0 | 82.3 | 0.6 | 0.0 | 99.1 | 0.9 | 0.0 |
| 65.8 | 6.2 | 0.0 | 82.6 | 0.5 | 0.0 | 99.4 | 0.9 | 0.0 |
| 66.1 | 6.2 | 0.0 | 82.9 | 0.5 | 0.0 | 99.7 | 1.0 | 0.0 |
| 66.4 | 6.2 | 0.0 | 83.2 | 0.5 | 0.0 | 100.0 | 1.0 | 0.0 |
| 66.6 | 6.1 | 0.0 | 83.4 | 0.4 | 0.0 | 100.2 | 1.1 | 0.0 |
| 66.9 | 6.1 | 0.0 | 83.7 | 0.4 | 0.0 | 100.5 | 1.2 | 0.0 |