

Antenna Project

COMMUNICATIONS TECHNOLOGIES, INC.

TX station: *W284AQ*

Site Name: *TOWER REGISTRATION 1202687*

Frequency: *104.70 MHz*

Date: *18.05.2010*

General data of Antenna System

| | |
|---|--|
| TX station | W284AQ |
| Site Name | TOWER REGISTRATION 1202687 |
| System of coordinates | Geographic |
| Longitude | 74°46'48" |
| Latitude | 40°51'15" |
| Ground level a.s.l. (m) | 333.8 |
| Antenna system height (m) | 30.5 |
| Transmitter power(Watt) | 71.930 |
| Carrier wave frequency (MHz) | 104.700 |
| Antenna system central frequency (MHz) | 104.700 |
| Antenna base diagrams type 1 | Telecomunicazioni ALDENA-5 el. Log Periodic FM circular pol. |
| Antenna base diagrams type 2 | - |
| Polarization (H/V/C/X) | C |
| 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) | 0.88 |
| Coordinate System(C = cartesian, P = polar) | P |
| Mast side / diameter(cm): | 10.2 |
| Mast cross section (T/Q/C) | C |
| Structure rotation w.r.t. North (°) | 0.0 |
| Mast rotation w.r.t. North (°) | 0.0 |

Information about antennas used in the System

| | |
|-------------------------|-----------------------|
| | <i>Antenna type 1</i> |
| Manufacturer | Telecomunicazioni A |
| Antenna model | 5 el. Log Periodic F |
| Band start(MHz) | 87 |
| Band stop(MHz) | 107 |
| diagrams Frequency(MHz) | 105 |
| Polariz (H,V,C,X) | C |
| Vertical dist (cm) | 270 |
| Height (cm) | 172 |
| Width (cm) | 172 |
| Thickness (cm) | 150 |
| Weight (Kg) | 10 |
| Maximum power (KW) | 3 |
| Gain (dBd) | 5.44 |
| North E.C. (cm) | 0 |
| East E.C. (cm) | 0 |
| Return loss (dB) | -39.63 |
| R.C.Phase (°) | 0 |

TX station: W284AQ

Frequency: 104.70 MHz

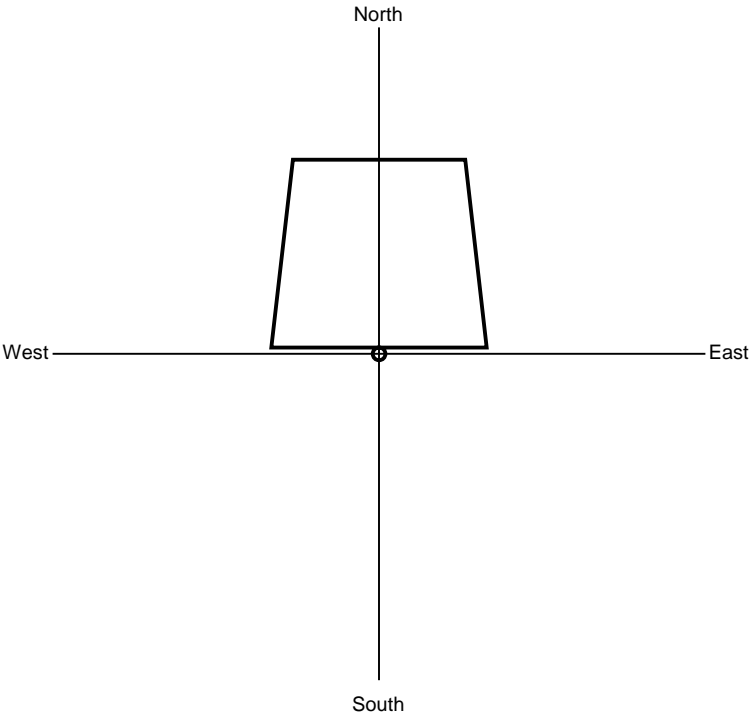
Gain solid integration : enabled

Site Name: TOWER REGISTRATION 1202687

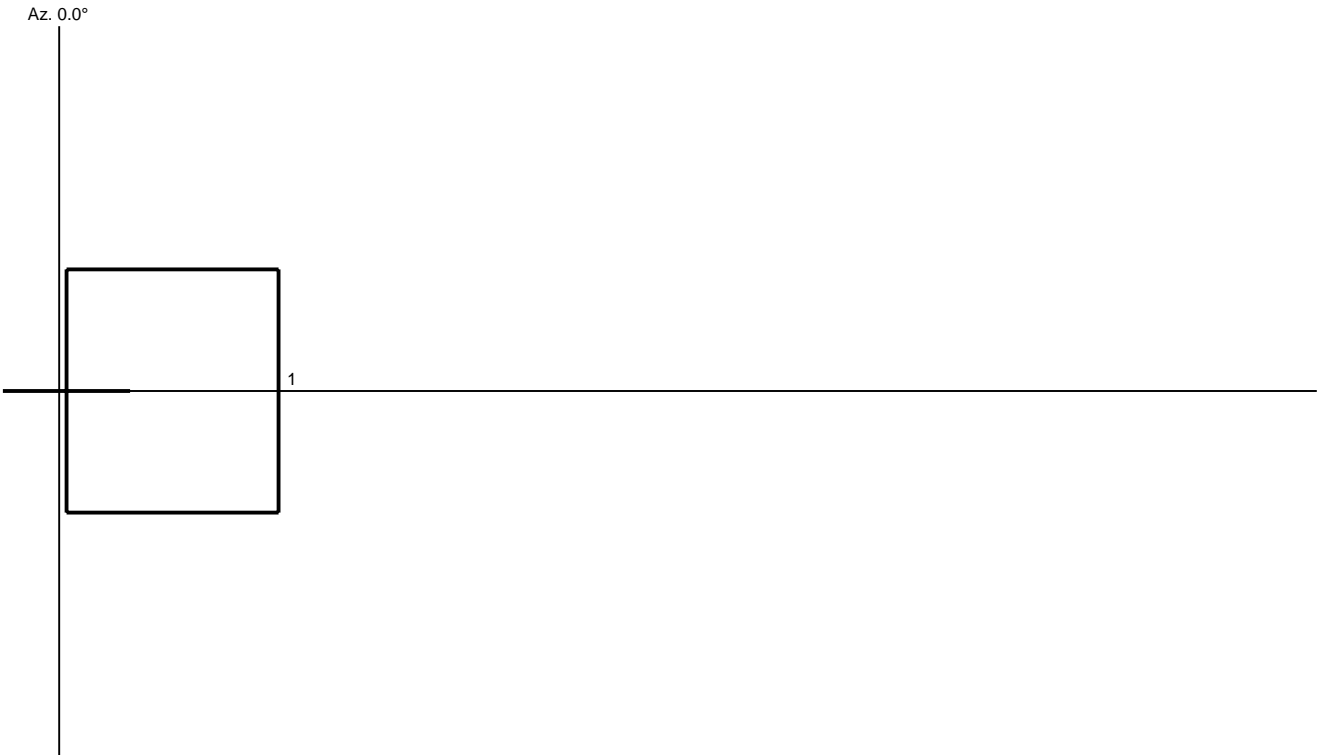
Geometr. and electrical data of Antenna System

| | <i>Power</i> (%) | <i>Tilt</i> (°) | <i>Az.</i> (°/N) | <i>Phase</i> (°) | <i>V dist.</i> (m) | <i>Scr-d</i> (cm) | <i>Scr-Az</i> (°/N) | <i>Rot.</i> (1÷4) | <i>Type</i> (1÷2) | <i>L cables</i> (cm) | <i>Car. phase</i> (°) |
|---|---------------------|--------------------|---------------------|---------------------|-----------------------|----------------------|------------------------|----------------------|----------------------|-------------------------|--------------------------|
| 1 | 100.000 | 0 | 0 | 0 +0.0 | 0.00 | 5.1 | 0.0 | 1 | 1 | 0.0 | 0.0 |

Plan of antenna system



Side of antenna system



Antennas arrays data

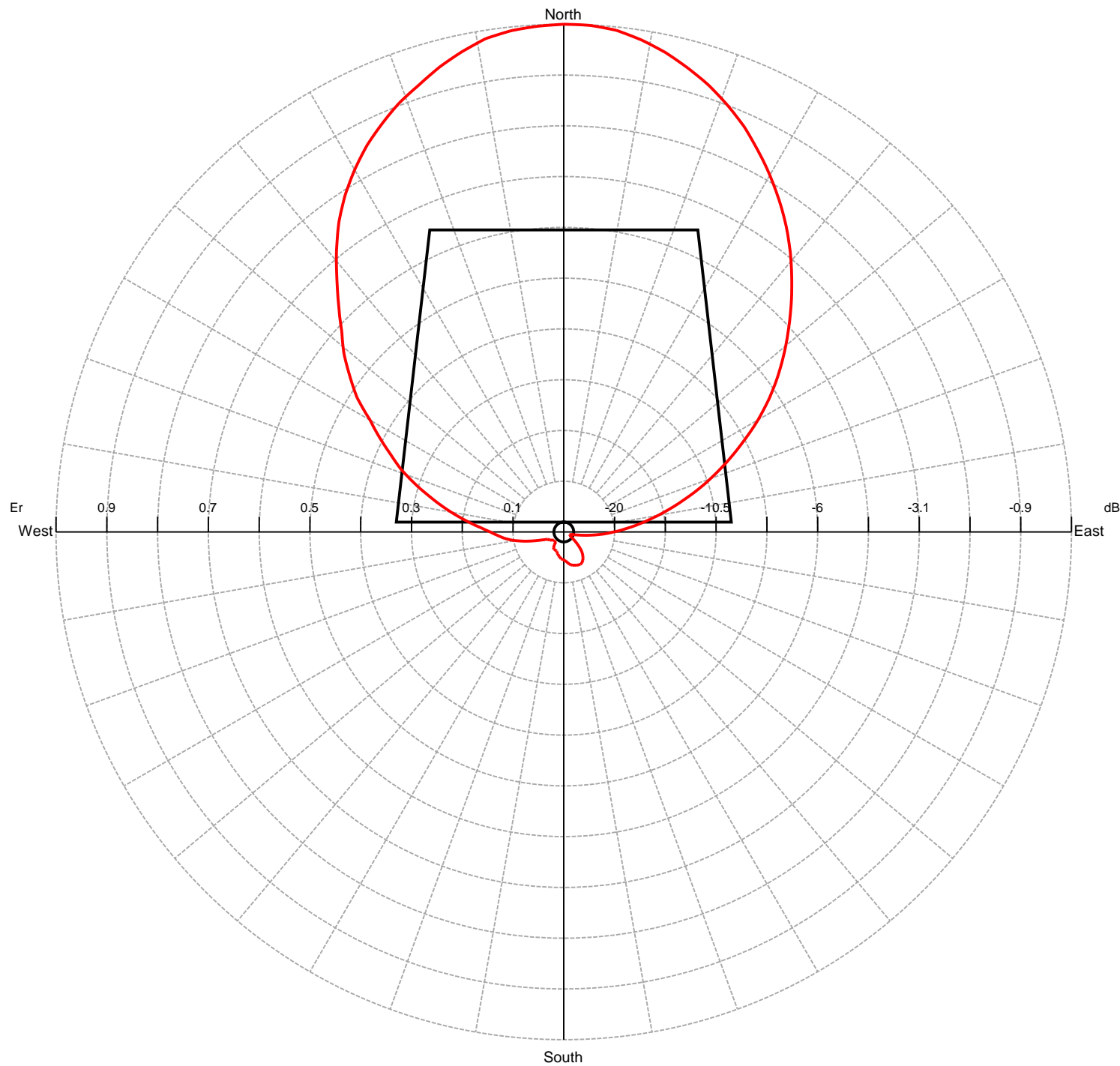
Note: calculation of single antennas arrays data (without taking into account mutual effects)

| | |
|-----------------------------------|--------|
| A. Antennas array azimuth (°/N) | 0 |
| B. Number of antennas | 1 |
| C. Nominal power supply (W) | 71.93 |
| D. Losses (addit. + cables) (dB) | 0.0 |
| E. Effective power supply (W) | 71.93 |
| F. Theor. maximum gain (dBd) | 5.44 |
| G. Distribution losses (dB) | 0.00 |
| H. Nominal max gain [F - G] (dBd) | 5.44 |
| I. Compensation losses (dB) | 0.03 |
| J. Effec. max gain [H - I] (dBd) | 5.41 |
| K. Effec. max gain (times) | 3.48 |
| L. Effec. max power [E * K] (KW) | 0.2501 |
| M. Max power depr. angle (°) | -1.0 |
| 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 | -6.0 | 90 | -26.0 | 180 | -26.0 | 270 | -22.8 |
| 10 | -6.2 | 100 | -26.0 | 190 | -26.0 | 280 | -19.0 |
| 20 | -6.9 | 110 | -26.0 | 200 | -26.0 | 290 | -15.6 |
| 30 | -7.8 | 120 | -26.0 | 210 | -26.0 | 300 | -13.1 |
| 40 | -9.2 | 130 | -26.0 | 220 | -26.0 | 310 | -10.9 |
| 50 | -10.9 | 140 | -26.0 | 230 | -26.0 | 320 | -9.2 |
| 60 | -13.1 | 150 | -26.0 | 240 | -26.0 | 330 | -7.7 |
| 70 | -16.3 | 160 | -26.0 | 250 | -26.0 | 340 | -6.8 |
| 80 | -20.5 | 170 | -26.0 | 260 | -26.0 | 350 | -6.2 |

Horizontal diagram at 0.0° depres. (Total Antenna)



0.0° depres. (Total Antenna), Gain (dBd): 5.41

ERP T.Max(KW): 0.25 ERP E.Max(KW): 0.25

TX station: W284AQ

Frequency: 104.70 MHz

Gain solid integration : enabled

Site Name: TOWER REGISTRATION 1202687

Horizontal diagram at 0.0° depres. (Total Antenna)

| Az (°) | Er (%) | ERP (W) | Az (°) | Er (%) | ERP (W) | Az (°) | Er (%) | ERP (W) |
|--------|--------|---------|--------|--------|---------|--------|--------|---------|
| 0.0 | 100.0 | 250.0 | 60.0 | 44.2 | 48.8 | 120.0 | 1.4 | 0.0 |
| 1.0 | 100.0 | 249.9 | 61.0 | 42.8 | 45.7 | 121.0 | 1.5 | 0.1 |
| 2.0 | 99.9 | 249.7 | 62.0 | 41.4 | 42.7 | 122.0 | 1.6 | 0.1 |
| 3.0 | 99.9 | 249.6 | 63.0 | 39.9 | 39.9 | 123.0 | 1.7 | 0.1 |
| 4.0 | 99.7 | 248.7 | 64.0 | 38.6 | 37.3 | 124.0 | 1.8 | 0.1 |
| 5.0 | 99.5 | 247.7 | 65.0 | 37.3 | 34.7 | 125.0 | 2.0 | 0.1 |
| 6.0 | 99.3 | 246.8 | 66.0 | 35.9 | 32.3 | 126.0 | 2.1 | 0.1 |
| 7.0 | 98.9 | 244.7 | 67.0 | 34.6 | 30.0 | 127.0 | 2.4 | 0.1 |
| 8.0 | 98.5 | 242.6 | 68.0 | 33.3 | 27.8 | 128.0 | 2.6 | 0.2 |
| 9.0 | 98.1 | 240.6 | 69.0 | 32.0 | 25.6 | 129.0 | 2.8 | 0.2 |
| 10.0 | 97.6 | 238.0 | 70.0 | 30.8 | 23.7 | 130.0 | 3.1 | 0.2 |
| 11.0 | 97.0 | 235.4 | 71.0 | 29.5 | 21.8 | 131.0 | 3.4 | 0.3 |
| 12.0 | 96.5 | 232.9 | 72.0 | 28.3 | 20.0 | 132.0 | 3.7 | 0.3 |
| 13.0 | 95.9 | 229.8 | 73.0 | 27.0 | 18.2 | 133.0 | 4.0 | 0.4 |
| 14.0 | 95.2 | 226.7 | 74.0 | 25.8 | 16.6 | 134.0 | 4.3 | 0.5 |
| 15.0 | 94.6 | 223.6 | 75.0 | 24.5 | 15.0 | 135.0 | 4.6 | 0.5 |
| 16.0 | 93.9 | 220.3 | 76.0 | 23.3 | 13.6 | 136.0 | 4.8 | 0.6 |
| 17.0 | 93.2 | 217.1 | 77.0 | 22.2 | 12.3 | 137.0 | 5.1 | 0.7 |
| 18.0 | 92.5 | 213.9 | 78.0 | 21.0 | 11.1 | 138.0 | 5.4 | 0.7 |
| 19.0 | 91.7 | 210.1 | 79.0 | 20.0 | 10.0 | 139.0 | 5.6 | 0.8 |
| 20.0 | 90.8 | 206.4 | 80.0 | 18.9 | 8.9 | 140.0 | 5.8 | 0.8 |
| 21.0 | 90.0 | 202.7 | 81.0 | 17.8 | 7.9 | 141.0 | 5.9 | 0.9 |
| 22.0 | 89.1 | 198.7 | 82.0 | 16.8 | 7.1 | 142.0 | 6.1 | 0.9 |
| 23.0 | 88.3 | 194.7 | 83.0 | 15.9 | 6.3 | 143.0 | 6.3 | 1.0 |
| 24.0 | 87.4 | 190.8 | 84.0 | 14.9 | 5.5 | 144.0 | 6.4 | 1.0 |
| 25.0 | 86.3 | 186.4 | 85.0 | 14.0 | 4.9 | 145.0 | 6.6 | 1.1 |
| 26.0 | 85.3 | 181.9 | 86.0 | 13.1 | 4.3 | 146.0 | 6.7 | 1.1 |
| 27.0 | 84.3 | 177.6 | 87.0 | 12.2 | 3.7 | 147.0 | 6.8 | 1.2 |
| 28.0 | 83.2 | 173.2 | 88.0 | 11.4 | 3.2 | 148.0 | 6.9 | 1.2 |
| 29.0 | 82.2 | 169.0 | 89.0 | 10.6 | 2.8 | 149.0 | 7.0 | 1.2 |
| 30.0 | 81.2 | 164.7 | 90.0 | 9.8 | 2.4 | 150.0 | 7.1 | 1.3 |
| 31.0 | 80.1 | 160.3 | 91.0 | 9.1 | 2.1 | 151.0 | 7.1 | 1.3 |
| 32.0 | 79.0 | 156.0 | 92.0 | 8.4 | 1.8 | 152.0 | 7.1 | 1.3 |
| 33.0 | 77.9 | 151.7 | 93.0 | 7.7 | 1.5 | 153.0 | 7.2 | 1.3 |
| 34.0 | 76.8 | 147.3 | 94.0 | 7.1 | 1.3 | 154.0 | 7.1 | 1.3 |
| 35.0 | 75.6 | 143.0 | 95.0 | 6.4 | 1.0 | 155.0 | 7.1 | 1.3 |
| 36.0 | 74.5 | 138.8 | 96.0 | 5.7 | 0.8 | 156.0 | 7.1 | 1.3 |
| 37.0 | 73.3 | 134.3 | 97.0 | 5.2 | 0.7 | 157.0 | 7.1 | 1.2 |
| 38.0 | 72.1 | 130.0 | 98.0 | 4.7 | 0.5 | 158.0 | 7.0 | 1.2 |
| 39.0 | 70.9 | 125.6 | 99.0 | 4.1 | 0.4 | 159.0 | 7.0 | 1.2 |
| 40.0 | 69.6 | 121.2 | 100.0 | 3.7 | 0.3 | 160.0 | 7.0 | 1.2 |
| 41.0 | 68.4 | 116.8 | 101.0 | 3.2 | 0.3 | 161.0 | 6.9 | 1.2 |
| 42.0 | 67.1 | 112.6 | 102.0 | 2.8 | 0.2 | 162.0 | 6.9 | 1.2 |
| 43.0 | 65.8 | 108.4 | 103.0 | 2.5 | 0.2 | 163.0 | 6.8 | 1.2 |
| 44.0 | 64.6 | 104.3 | 104.0 | 2.3 | 0.1 | 164.0 | 6.8 | 1.2 |
| 45.0 | 63.3 | 100.3 | 105.0 | 2.0 | 0.1 | 165.0 | 6.8 | 1.1 |
| 46.0 | 62.1 | 96.3 | 106.0 | 1.9 | 0.1 | 166.0 | 6.7 | 1.1 |
| 47.0 | 60.8 | 92.4 | 107.0 | 1.7 | 0.1 | 167.0 | 6.7 | 1.1 |
| 48.0 | 59.5 | 88.6 | 108.0 | 1.5 | 0.1 | 168.0 | 6.6 | 1.1 |
| 49.0 | 58.3 | 84.9 | 109.0 | 1.5 | 0.1 | 169.0 | 6.5 | 1.1 |
| 50.0 | 57.1 | 81.4 | 110.0 | 1.4 | 0.0 | 170.0 | 6.4 | 1.0 |
| 51.0 | 55.8 | 77.9 | 111.0 | 1.3 | 0.0 | 171.0 | 6.4 | 1.0 |
| 52.0 | 54.6 | 74.5 | 112.0 | 1.3 | 0.0 | 172.0 | 6.2 | 1.0 |
| 53.0 | 53.3 | 71.1 | 113.0 | 1.3 | 0.0 | 173.0 | 6.1 | 0.9 |
| 54.0 | 52.1 | 67.8 | 114.0 | 1.3 | 0.0 | 174.0 | 5.9 | 0.9 |
| 55.0 | 50.8 | 64.5 | 115.0 | 1.3 | 0.0 | 175.0 | 5.9 | 0.9 |
| 56.0 | 49.5 | 61.3 | 116.0 | 1.3 | 0.0 | 176.0 | 5.8 | 0.8 |
| 57.0 | 48.2 | 58.2 | 117.0 | 1.3 | 0.0 | 177.0 | 5.7 | 0.8 |
| 58.0 | 46.9 | 55.0 | 118.0 | 1.3 | 0.0 | 178.0 | 5.6 | 0.8 |
| 59.0 | 45.5 | 51.8 | 119.0 | 1.4 | 0.0 | 179.0 | 5.6 | 0.8 |

TX station: W284AQ

Frequency: 104.70 MHz

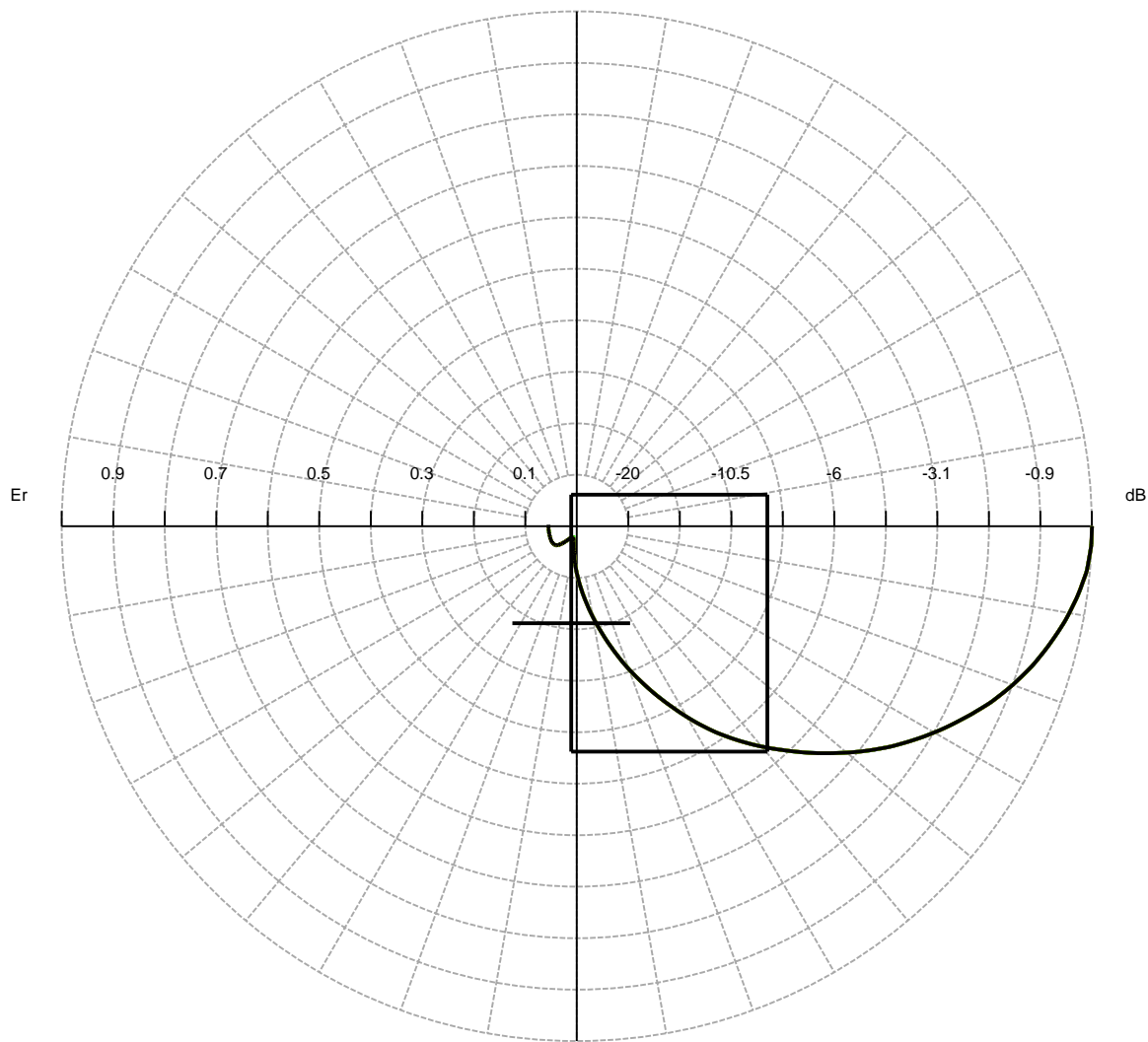
Gain solid integration : enabled

Site Name: TOWER REGISTRATION 1202687

Horizontal diagram at 0.0° depres. (Total Antenna)

| Az (°) | Er (%) | ERP (W) | Az (°) | Er (%) | ERP (W) | Az (°) | Er (%) | ERP (W) |
|--------|--------|---------|--------|--------|---------|--------|--------|---------|
| 180.0 | 5.5 | 0.8 | 240.0 | 3.2 | 0.3 | 300.0 | 44.0 | 48.5 |
| 181.0 | 5.5 | 0.7 | 241.0 | 3.2 | 0.3 | 301.0 | 45.5 | 51.9 |
| 182.0 | 5.4 | 0.7 | 242.0 | 3.3 | 0.3 | 302.0 | 47.0 | 55.3 |
| 183.0 | 5.4 | 0.7 | 243.0 | 3.3 | 0.3 | 303.0 | 48.5 | 58.9 |
| 184.0 | 5.4 | 0.7 | 244.0 | 3.4 | 0.3 | 304.0 | 49.7 | 61.8 |
| 185.0 | 5.3 | 0.7 | 245.0 | 3.4 | 0.3 | 305.0 | 50.9 | 64.7 |
| 186.0 | 5.3 | 0.7 | 246.0 | 3.5 | 0.3 | 306.0 | 52.0 | 67.7 |
| 187.0 | 5.2 | 0.7 | 247.0 | 3.7 | 0.4 | 307.0 | 53.3 | 70.9 |
| 188.0 | 5.1 | 0.7 | 248.0 | 4.0 | 0.4 | 308.0 | 54.5 | 74.2 |
| 189.0 | 5.0 | 0.6 | 249.0 | 4.2 | 0.4 | 309.0 | 55.7 | 77.6 |
| 190.0 | 5.0 | 0.6 | 250.0 | 4.6 | 0.5 | 310.0 | 56.8 | 80.5 |
| 191.0 | 4.9 | 0.6 | 251.0 | 5.0 | 0.6 | 311.0 | 57.8 | 83.5 |
| 192.0 | 4.8 | 0.6 | 252.0 | 5.4 | 0.7 | 312.0 | 58.8 | 86.5 |
| 193.0 | 4.7 | 0.6 | 253.0 | 5.9 | 0.9 | 313.0 | 60.1 | 90.3 |
| 194.0 | 4.6 | 0.5 | 254.0 | 6.4 | 1.0 | 314.0 | 61.4 | 94.2 |
| 195.0 | 4.5 | 0.5 | 255.0 | 6.9 | 1.2 | 315.0 | 62.7 | 98.2 |
| 196.0 | 4.4 | 0.5 | 256.0 | 7.5 | 1.4 | 316.0 | 64.0 | 102.5 |
| 197.0 | 4.4 | 0.5 | 257.0 | 8.0 | 1.6 | 317.0 | 65.4 | 106.9 |
| 198.0 | 4.3 | 0.5 | 258.0 | 8.6 | 1.8 | 318.0 | 66.8 | 111.4 |
| 199.0 | 4.2 | 0.4 | 259.0 | 9.2 | 2.1 | 319.0 | 68.2 | 116.4 |
| 200.0 | 4.1 | 0.4 | 260.0 | 9.7 | 2.4 | 320.0 | 69.7 | 121.4 |
| 201.0 | 4.0 | 0.4 | 261.0 | 10.3 | 2.7 | 321.0 | 71.1 | 126.6 |
| 202.0 | 4.0 | 0.4 | 262.0 | 10.8 | 2.9 | 322.0 | 72.6 | 131.6 |
| 203.0 | 4.0 | 0.4 | 263.0 | 11.3 | 3.2 | 323.0 | 74.0 | 136.8 |
| 204.0 | 3.9 | 0.4 | 264.0 | 11.8 | 3.5 | 324.0 | 75.4 | 142.0 |
| 205.0 | 3.9 | 0.4 | 265.0 | 12.2 | 3.7 | 325.0 | 76.6 | 146.8 |
| 206.0 | 3.9 | 0.4 | 266.0 | 12.6 | 4.0 | 326.0 | 77.9 | 151.6 |
| 207.0 | 3.9 | 0.4 | 267.0 | 13.0 | 4.3 | 327.0 | 79.1 | 156.4 |
| 208.0 | 3.9 | 0.4 | 268.0 | 13.5 | 4.6 | 328.0 | 80.2 | 160.8 |
| 209.0 | 4.0 | 0.4 | 269.0 | 14.0 | 4.9 | 329.0 | 81.3 | 165.2 |
| 210.0 | 4.0 | 0.4 | 270.0 | 14.5 | 5.2 | 330.0 | 82.4 | 169.7 |
| 211.0 | 3.9 | 0.4 | 271.0 | 15.1 | 5.7 | 331.0 | 83.4 | 173.9 |
| 212.0 | 3.8 | 0.4 | 272.0 | 15.7 | 6.2 | 332.0 | 84.4 | 178.2 |
| 213.0 | 3.7 | 0.3 | 273.0 | 16.4 | 6.7 | 333.0 | 85.4 | 182.5 |
| 214.0 | 3.5 | 0.3 | 274.0 | 17.2 | 7.4 | 334.0 | 86.3 | 186.2 |
| 215.0 | 3.3 | 0.3 | 275.0 | 18.0 | 8.1 | 335.0 | 87.2 | 189.9 |
| 216.0 | 3.2 | 0.3 | 276.0 | 18.8 | 8.9 | 336.0 | 88.0 | 193.7 |
| 217.0 | 3.0 | 0.2 | 277.0 | 19.8 | 9.8 | 337.0 | 88.9 | 197.4 |
| 218.0 | 2.7 | 0.2 | 278.0 | 20.7 | 10.7 | 338.0 | 89.7 | 201.1 |
| 219.0 | 2.5 | 0.2 | 279.0 | 21.6 | 11.6 | 339.0 | 90.5 | 204.8 |
| 220.0 | 2.5 | 0.2 | 280.0 | 22.5 | 12.7 | 340.0 | 91.2 | 207.8 |
| 221.0 | 2.5 | 0.2 | 281.0 | 23.5 | 13.8 | 341.0 | 91.8 | 210.9 |
| 222.0 | 2.5 | 0.2 | 282.0 | 24.5 | 15.0 | 342.0 | 92.5 | 214.0 |
| 223.0 | 2.5 | 0.2 | 283.0 | 25.5 | 16.2 | 343.0 | 93.3 | 217.5 |
| 224.0 | 2.4 | 0.1 | 284.0 | 26.5 | 17.6 | 344.0 | 94.0 | 221.0 |
| 225.0 | 2.4 | 0.1 | 285.0 | 27.5 | 18.9 | 345.0 | 94.8 | 224.5 |
| 226.0 | 2.5 | 0.2 | 286.0 | 28.6 | 20.5 | 346.0 | 95.4 | 227.6 |
| 227.0 | 2.6 | 0.2 | 287.0 | 29.8 | 22.2 | 347.0 | 96.0 | 230.6 |
| 228.0 | 2.7 | 0.2 | 288.0 | 30.9 | 23.9 | 348.0 | 96.7 | 233.7 |
| 229.0 | 2.7 | 0.2 | 289.0 | 32.0 | 25.6 | 349.0 | 97.2 | 236.4 |
| 230.0 | 2.6 | 0.2 | 290.0 | 33.2 | 27.5 | 350.0 | 97.8 | 239.2 |
| 231.0 | 2.5 | 0.2 | 291.0 | 34.3 | 29.4 | 351.0 | 98.4 | 242.0 |
| 232.0 | 2.6 | 0.2 | 292.0 | 35.3 | 31.1 | 352.0 | 98.7 | 243.5 |
| 233.0 | 2.6 | 0.2 | 293.0 | 36.2 | 32.8 | 353.0 | 99.0 | 245.0 |
| 234.0 | 2.7 | 0.2 | 294.0 | 37.2 | 34.6 | 354.0 | 99.3 | 246.4 |
| 235.0 | 2.8 | 0.2 | 295.0 | 38.3 | 36.8 | 355.0 | 99.4 | 247.2 |
| 236.0 | 2.9 | 0.2 | 296.0 | 39.5 | 38.9 | 356.0 | 99.6 | 248.0 |
| 237.0 | 2.9 | 0.2 | 297.0 | 40.6 | 41.2 | 357.0 | 99.7 | 248.7 |
| 238.0 | 3.0 | 0.2 | 298.0 | 41.7 | 43.6 | 358.0 | 99.8 | 249.2 |
| 239.0 | 3.1 | 0.2 | 299.0 | 42.9 | 46.0 | 359.0 | 99.9 | 249.6 |

Vertical diagrams



- 0.0° Az. (Total Antenna), Gain (dBd): 5.41
- 0.0° Az. (Total Antenna), Gain (dBd): 5.41
- 0.0° Az. (Total Antenna), Gain (dBd): 5.41
- 0.0° Az. (Total Antenna), Gain (dBd): 5.41
- 0.0° Az. (Total Antenna), Gain (dBd): 5.41

TX station: W284AQ

Frequency: 104.70 MHz

Gain solid integration : enabled

Site Name: TOWER REGISTRATION 1202687

Vertical diagrams

| Dep (°) | Er (%) | ERP (W) | Dep (°) | Er (%) | ERP (W) | Dep (°) | Er (%) | ERP (W) |
|---------|--------|---------|---------|--------|---------|---------|--------|---------|
| 0.0 | 100.0 | 250.0 | 30.5 | 79.6 | 158.3 | 61.0 | 41.4 | 42.9 |
| 0.5 | 100.0 | 249.9 | 31.0 | 79.0 | 156.1 | 61.5 | 40.7 | 41.4 |
| 1.0 | 100.0 | 249.9 | 31.5 | 78.5 | 153.9 | 62.0 | 40.0 | 40.0 |
| 1.5 | 100.0 | 249.8 | 32.0 | 77.9 | 151.8 | 62.5 | 39.3 | 38.6 |
| 2.0 | 100.0 | 249.7 | 32.5 | 77.4 | 149.5 | 63.0 | 38.6 | 37.3 |
| 2.5 | 99.9 | 249.2 | 33.0 | 76.8 | 147.3 | 63.5 | 37.9 | 36.0 |
| 3.0 | 99.8 | 248.8 | 33.5 | 76.2 | 145.1 | 64.0 | 37.3 | 34.7 |
| 3.6 | 99.7 | 248.3 | 34.0 | 75.6 | 143.0 | 64.5 | 36.6 | 33.5 |
| 4.1 | 99.6 | 247.8 | 34.5 | 75.1 | 140.8 | 65.0 | 35.9 | 32.2 |
| 4.6 | 99.5 | 247.3 | 35.1 | 74.5 | 138.6 | 65.5 | 35.2 | 31.1 |
| 5.1 | 99.4 | 246.7 | 35.6 | 73.9 | 136.4 | 66.0 | 34.6 | 29.9 |
| 5.6 | 99.1 | 245.7 | 36.1 | 73.3 | 134.1 | 66.5 | 33.9 | 28.8 |
| 6.1 | 98.9 | 244.6 | 36.6 | 72.6 | 131.9 | 67.1 | 33.3 | 27.6 |
| 6.6 | 98.7 | 243.6 | 37.1 | 72.0 | 129.7 | 67.6 | 32.6 | 26.6 |
| 7.1 | 98.5 | 242.5 | 37.6 | 71.4 | 127.5 | 68.1 | 31.9 | 25.5 |
| 7.6 | 98.3 | 241.5 | 38.1 | 70.8 | 125.3 | 68.6 | 31.3 | 24.5 |
| 8.1 | 98.1 | 240.4 | 38.6 | 70.1 | 123.0 | 69.1 | 30.7 | 23.5 |
| 8.6 | 97.8 | 239.1 | 39.1 | 69.5 | 120.8 | 69.6 | 30.0 | 22.5 |
| 9.1 | 97.5 | 237.7 | 39.6 | 68.9 | 118.5 | 70.1 | 29.4 | 21.6 |
| 9.7 | 97.3 | 236.4 | 40.1 | 68.2 | 116.3 | 70.6 | 28.8 | 20.7 |
| 10.2 | 97.0 | 235.1 | 40.6 | 67.6 | 114.2 | 71.1 | 28.1 | 19.8 |
| 10.7 | 96.7 | 233.8 | 41.1 | 66.9 | 112.0 | 71.6 | 27.5 | 18.9 |
| 11.2 | 96.4 | 232.5 | 41.7 | 66.3 | 109.9 | 72.1 | 26.8 | 18.0 |
| 11.7 | 96.1 | 230.9 | 42.2 | 65.7 | 107.8 | 72.6 | 26.2 | 17.2 |
| 12.2 | 95.8 | 229.3 | 42.7 | 65.0 | 105.7 | 73.2 | 25.6 | 16.3 |
| 12.7 | 95.4 | 227.7 | 43.2 | 64.4 | 103.6 | 73.7 | 24.9 | 15.5 |
| 13.2 | 95.1 | 226.2 | 43.7 | 63.8 | 101.6 | 74.2 | 24.3 | 14.8 |
| 13.7 | 94.8 | 224.6 | 44.2 | 63.1 | 99.6 | 74.7 | 23.7 | 14.1 |
| 14.2 | 94.5 | 223.0 | 44.7 | 62.5 | 97.5 | 75.2 | 23.1 | 13.4 |
| 14.7 | 94.1 | 221.3 | 45.2 | 61.8 | 95.5 | 75.7 | 22.6 | 12.7 |
| 15.2 | 93.7 | 219.7 | 45.7 | 61.2 | 93.5 | 76.2 | 22.0 | 12.1 |
| 15.7 | 93.4 | 218.0 | 46.2 | 60.5 | 91.6 | 76.7 | 21.4 | 11.4 |
| 16.3 | 93.0 | 216.4 | 46.7 | 59.9 | 89.6 | 77.2 | 20.8 | 10.8 |
| 16.8 | 92.7 | 214.7 | 47.2 | 59.2 | 87.7 | 77.7 | 20.3 | 10.3 |
| 17.3 | 92.3 | 212.9 | 47.8 | 58.6 | 85.9 | 78.2 | 19.7 | 9.7 |
| 17.8 | 91.9 | 211.0 | 48.3 | 58.0 | 84.0 | 78.7 | 19.2 | 9.2 |
| 18.3 | 91.5 | 209.1 | 48.8 | 57.4 | 82.2 | 79.2 | 18.6 | 8.7 |
| 18.8 | 91.1 | 207.2 | 49.3 | 56.7 | 80.5 | 79.8 | 18.1 | 8.2 |
| 19.3 | 90.6 | 205.3 | 49.8 | 56.1 | 78.7 | 80.3 | 17.6 | 7.7 |
| 19.8 | 90.2 | 203.5 | 50.3 | 55.5 | 76.9 | 80.8 | 17.1 | 7.3 |
| 20.3 | 89.8 | 201.5 | 50.8 | 54.8 | 75.2 | 81.3 | 16.6 | 6.9 |
| 20.8 | 89.3 | 199.5 | 51.3 | 54.2 | 73.5 | 81.8 | 16.1 | 6.5 |
| 21.3 | 88.9 | 197.4 | 51.8 | 53.6 | 71.8 | 82.3 | 15.6 | 6.1 |
| 21.8 | 88.4 | 195.4 | 52.3 | 52.9 | 70.1 | 82.8 | 15.1 | 5.7 |
| 22.4 | 88.0 | 193.4 | 52.8 | 52.3 | 68.4 | 83.3 | 14.6 | 5.3 |
| 22.9 | 87.5 | 191.5 | 53.3 | 51.7 | 66.7 | 83.8 | 14.1 | 5.0 |
| 23.4 | 87.0 | 189.3 | 53.8 | 51.0 | 65.1 | 84.3 | 13.7 | 4.7 |
| 23.9 | 86.5 | 187.0 | 54.4 | 50.4 | 63.4 | 84.8 | 13.2 | 4.4 |
| 24.4 | 86.0 | 184.7 | 54.9 | 49.7 | 61.8 | 85.3 | 12.8 | 4.1 |
| 24.9 | 85.5 | 182.5 | 55.4 | 49.1 | 60.2 | 85.9 | 12.3 | 3.8 |
| 25.4 | 84.9 | 180.3 | 55.9 | 48.4 | 58.6 | 86.4 | 11.9 | 3.5 |
| 25.9 | 84.4 | 178.1 | 56.4 | 47.7 | 56.9 | 86.9 | 11.5 | 3.3 |
| 26.4 | 83.9 | 175.9 | 56.9 | 47.0 | 55.3 | 87.4 | 11.1 | 3.1 |
| 26.9 | 83.4 | 173.7 | 57.4 | 46.4 | 53.7 | 87.9 | 10.7 | 2.9 |
| 27.4 | 82.8 | 171.5 | 57.9 | 45.7 | 52.1 | 88.4 | 10.3 | 2.7 |
| 27.9 | 82.3 | 169.3 | 58.4 | 45.0 | 50.6 | 88.9 | 9.9 | 2.5 |
| 28.4 | 81.8 | 167.1 | 58.9 | 44.3 | 49.0 | 89.4 | 9.5 | 2.3 |
| 29.0 | 81.2 | 165.0 | 59.4 | 43.6 | 47.5 | 89.9 | 9.2 | 2.1 |
| 29.5 | 80.7 | 162.8 | 59.9 | 42.9 | 45.9 | 90.4 | 8.8 | 1.9 |
| 30.0 | 80.1 | 160.5 | 60.5 | 42.1 | 44.4 | 90.9 | 8.4 | 1.8 |

TX station: W284AQ

Frequency: 104.70 MHz

Gain solid integration : enabled

Site Name: TOWER REGISTRATION 1202687

Vertical diagrams

| Dep (°) | Er (%) | ERP (W) | Dep (°) | Er (%) | ERP (W) | Dep (°) | Er (%) | ERP (W) |
|---------|--------|---------|---------|--------|---------|---------|--------|---------|
| 91.4 | 8.0 | 1.6 | 121.9 | 2.9 | 0.2 | 152.4 | 5.7 | 0.8 |
| 91.9 | 7.7 | 1.5 | 122.4 | 3.0 | 0.2 | 152.9 | 5.7 | 0.8 |
| 92.5 | 7.3 | 1.3 | 122.9 | 3.1 | 0.2 | 153.4 | 5.7 | 0.8 |
| 93.0 | 7.0 | 1.2 | 123.4 | 3.2 | 0.2 | 153.9 | 5.7 | 0.8 |
| 93.5 | 6.7 | 1.1 | 124.0 | 3.2 | 0.3 | 154.4 | 5.7 | 0.8 |
| 94.0 | 6.3 | 1.0 | 124.5 | 3.3 | 0.3 | 154.9 | 5.7 | 0.8 |
| 94.5 | 6.0 | 0.9 | 125.0 | 3.4 | 0.3 | 155.4 | 5.6 | 0.8 |
| 95.0 | 5.7 | 0.8 | 125.5 | 3.5 | 0.3 | 156.0 | 5.6 | 0.8 |
| 95.5 | 5.5 | 0.7 | 126.0 | 3.5 | 0.3 | 156.5 | 5.6 | 0.8 |
| 96.0 | 5.2 | 0.7 | 126.5 | 3.6 | 0.3 | 157.0 | 5.6 | 0.8 |
| 96.5 | 5.0 | 0.6 | 127.0 | 3.7 | 0.3 | 157.5 | 5.6 | 0.8 |
| 97.0 | 4.7 | 0.6 | 127.5 | 3.8 | 0.4 | 158.0 | 5.6 | 0.8 |
| 97.5 | 4.4 | 0.5 | 128.0 | 3.9 | 0.4 | 158.5 | 5.6 | 0.8 |
| 98.0 | 4.2 | 0.4 | 128.5 | 4.0 | 0.4 | 159.0 | 5.6 | 0.8 |
| 98.6 | 4.0 | 0.4 | 129.0 | 4.1 | 0.4 | 159.5 | 5.6 | 0.8 |
| 99.1 | 3.8 | 0.4 | 129.5 | 4.2 | 0.4 | 160.0 | 5.6 | 0.8 |
| 99.6 | 3.6 | 0.3 | 130.0 | 4.3 | 0.5 | 160.5 | 5.6 | 0.8 |
| 100.1 | 3.4 | 0.3 | 130.6 | 4.4 | 0.5 | 161.0 | 5.6 | 0.8 |
| 100.6 | 3.3 | 0.3 | 131.1 | 4.5 | 0.5 | 161.5 | 5.6 | 0.8 |
| 101.1 | 3.1 | 0.2 | 131.6 | 4.6 | 0.5 | 162.1 | 5.6 | 0.8 |
| 101.6 | 3.0 | 0.2 | 132.1 | 4.7 | 0.5 | 162.6 | 5.6 | 0.8 |
| 102.1 | 2.9 | 0.2 | 132.6 | 4.8 | 0.6 | 163.1 | 5.6 | 0.8 |
| 102.6 | 2.8 | 0.2 | 133.1 | 4.9 | 0.6 | 163.6 | 5.6 | 0.8 |
| 103.1 | 2.7 | 0.2 | 133.6 | 4.9 | 0.6 | 164.1 | 5.6 | 0.8 |
| 103.6 | 2.6 | 0.2 | 134.1 | 5.0 | 0.6 | 164.6 | 5.6 | 0.8 |
| 104.1 | 2.5 | 0.2 | 134.6 | 5.1 | 0.6 | 165.1 | 5.5 | 0.8 |
| 104.6 | 2.5 | 0.2 | 135.1 | 5.2 | 0.7 | 165.6 | 5.5 | 0.8 |
| 105.2 | 2.4 | 0.1 | 135.6 | 5.2 | 0.7 | 166.1 | 5.5 | 0.8 |
| 105.7 | 2.4 | 0.1 | 136.1 | 5.3 | 0.7 | 166.6 | 5.5 | 0.8 |
| 106.2 | 2.3 | 0.1 | 136.7 | 5.4 | 0.7 | 167.1 | 5.5 | 0.8 |
| 106.7 | 2.3 | 0.1 | 137.2 | 5.4 | 0.7 | 167.6 | 5.5 | 0.8 |
| 107.2 | 2.2 | 0.1 | 137.7 | 5.5 | 0.8 | 168.1 | 5.5 | 0.8 |
| 107.7 | 2.2 | 0.1 | 138.2 | 5.5 | 0.8 | 168.7 | 5.5 | 0.8 |
| 108.2 | 2.2 | 0.1 | 138.7 | 5.5 | 0.8 | 169.2 | 5.5 | 0.8 |
| 108.7 | 2.2 | 0.1 | 139.2 | 5.6 | 0.8 | 169.7 | 5.5 | 0.8 |
| 109.2 | 2.2 | 0.1 | 139.7 | 5.6 | 0.8 | 170.2 | 5.5 | 0.8 |
| 109.7 | 2.2 | 0.1 | 140.2 | 5.6 | 0.8 | 170.7 | 5.5 | 0.8 |
| 110.2 | 2.2 | 0.1 | 140.7 | 5.6 | 0.8 | 171.2 | 5.5 | 0.8 |
| 110.7 | 2.2 | 0.1 | 141.2 | 5.6 | 0.8 | 171.7 | 5.5 | 0.8 |
| 111.3 | 2.2 | 0.1 | 141.7 | 5.6 | 0.8 | 172.2 | 5.5 | 0.8 |
| 111.8 | 2.2 | 0.1 | 142.2 | 5.7 | 0.8 | 172.7 | 5.5 | 0.8 |
| 112.3 | 2.3 | 0.1 | 142.7 | 5.7 | 0.8 | 173.2 | 5.5 | 0.8 |
| 112.8 | 2.3 | 0.1 | 143.3 | 5.7 | 0.8 | 173.7 | 5.5 | 0.8 |
| 113.3 | 2.3 | 0.1 | 143.8 | 5.7 | 0.8 | 174.2 | 5.5 | 0.8 |
| 113.8 | 2.3 | 0.1 | 144.3 | 5.7 | 0.8 | 174.8 | 5.5 | 0.8 |
| 114.3 | 2.4 | 0.1 | 144.8 | 5.7 | 0.8 | 175.3 | 5.5 | 0.8 |
| 114.8 | 2.4 | 0.1 | 145.3 | 5.7 | 0.8 | 175.8 | 5.5 | 0.8 |
| 115.3 | 2.4 | 0.1 | 145.8 | 5.7 | 0.8 | 176.3 | 5.5 | 0.8 |
| 115.8 | 2.4 | 0.1 | 146.3 | 5.7 | 0.8 | 176.8 | 5.5 | 0.8 |
| 116.3 | 2.5 | 0.2 | 146.8 | 5.7 | 0.8 | 177.3 | 5.5 | 0.8 |
| 116.8 | 2.5 | 0.2 | 147.3 | 5.7 | 0.8 | 177.8 | 5.5 | 0.8 |
| 117.3 | 2.5 | 0.2 | 147.8 | 5.7 | 0.8 | 178.3 | 5.5 | 0.8 |
| 117.9 | 2.6 | 0.2 | 148.3 | 5.7 | 0.8 | 178.8 | 5.5 | 0.8 |
| 118.4 | 2.6 | 0.2 | 148.8 | 5.7 | 0.8 | 179.3 | 5.5 | 0.8 |
| 118.9 | 2.6 | 0.2 | 149.4 | 5.7 | 0.8 | 179.8 | 5.5 | 0.8 |
| 119.4 | 2.7 | 0.2 | 149.9 | 5.7 | 0.8 | 180.3 | 5.5 | 0.8 |
| 119.9 | 2.7 | 0.2 | 150.4 | 5.7 | 0.8 | 180.8 | 5.5 | 0.8 |
| 120.4 | 2.8 | 0.2 | 150.9 | 5.7 | 0.8 | 181.4 | 5.5 | 0.8 |
| 120.9 | 2.8 | 0.2 | 151.4 | 5.7 | 0.8 | 181.9 | 5.5 | 0.8 |
| 121.4 | 2.9 | 0.2 | 151.9 | 5.7 | 0.8 | 182.4 | 5.5 | 0.8 |