

Vertical Radiation Pattern Freespace Interference Study for a Scala FMV

Scala FMV One Bay Antenna, Vertical Polarization

Power Output in Main Lobe 10 watts -20.0000 DBK

Contour in Volts per Meter 2.511887 V/m or 128 Dbu

Height of Ant Above Pt Roof

9 m

From
Antenna
Vert
Dist to

From
PT Roof
Level to

| Depr. Angle in Degr | Antenna Relative Field | Antenna Loss DBK | Total Power DBK | Total Power Watts | Slant Dist to 128 dBu | Horz Dist to Intercept | Vert Dist to 128 dBu | Level to 128 dBu |
|---------------------------|------------------------------|------------------------|-----------------------|-------------------------|-----------------------------|------------------------------|----------------------------|---------------------|
| 0 | 1 | 0.00 | -20 | 10 watts | 8.826 m | 8.826 m | 0.000 m | 9.000 m |
| 1 | 0.999 | 0.00 | -20 | 10 watts | 8.826 m | 8.824 m | 0.154 m | 8.846 m |
| 2 | 0.999 | -0.01 | -20.01 | 9.977001 watts | 8.815 m | 8.810 m | 0.308 m | 8.692 m |
| 3 | 0.998 | -0.02 | -20.02 | 9.954054 watts | 8.805 m | 8.793 m | 0.461 m | 8.539 m |
| 4 | 0.997 | -0.03 | -20.03 | 9.93116 watts | 8.795 m | 8.774 m | 0.614 m | 8.386 m |
| 5 | 0.995 | -0.04 | -20.04 | 9.908319 watts | 8.785 m | 8.752 m | 0.766 m | 8.234 m |
| 6 | 0.993 | -0.06 | -20.06 | 9.862795 watts | 8.765 m | 8.717 m | 0.916 m | 8.084 m |
| 7 | 0.991 | -0.08 | -20.08 | 9.817479 watts | 8.745 m | 8.679 m | 1.066 m | 7.934 m |
| 8 | 0.989 | -0.10 | -20.1 | 9.772372 watts | 8.725 m | 8.640 m | 1.214 m | 7.786 m |
| 9 | 0.985 | -0.13 | -20.13 | 9.7051 watts | 8.694 m | 8.587 m | 1.360 m | 7.640 m |
| 10 | 0.982 | -0.16 | -20.16 | 9.63829 watts | 8.665 m | 8.533 m | 1.505 m | 7.495 m |
| 11 | 0.977 | -0.20 | -20.2 | 9.549926 watts | 8.625 m | 8.466 m | 1.646 m | 7.354 m |
| 12 | 0.973 | -0.24 | -20.24 | 9.462372 watts | 8.585 m | 8.397 m | 1.785 m | 7.215 m |
| 13 | 0.967 | -0.29 | -20.29 | 9.354057 watts | 8.536 m | 8.317 m | 1.920 m | 7.080 m |
| 14 | 0.962 | -0.34 | -20.34 | 9.246982 watts | 8.487 m | 8.235 m | 2.053 m | 6.947 m |
| 15 | 0.956 | -0.39 | -20.39 | 9.141132 watts | 8.438 m | 8.151 m | 2.184 m | 6.816 m |
| 16 | 0.95 | -0.45 | -20.45 | 9.015711 watts | 8.380 m | 8.055 m | 2.310 m | 6.690 m |
| 17 | 0.942 | -0.51 | -20.51 | 8.892011 watts | 8.322 m | 7.959 m | 2.433 m | 6.567 m |
| 18 | 0.935 | -0.58 | -20.58 | 8.749838 watts | 8.256 m | 7.851 m | 2.551 m | 6.449 m |
| 19 | 0.927 | -0.66 | -20.66 | 8.590135 watts | 8.180 m | 7.734 m | 2.663 m | 6.337 m |
| 20 | 0.918 | -0.74 | -20.74 | 8.433348 watts | 8.105 m | 7.616 m | 2.772 m | 6.228 m |
| 21 | 0.909 | -0.83 | -20.83 | 8.260379 watts | 8.021 m | 7.489 m | 2.875 m | 6.125 m |
| 22 | 0.899 | -0.92 | -20.92 | 8.090959 watts | 7.939 m | 7.361 m | 2.974 m | 6.026 m |
| 23 | 0.889 | -1.02 | -21.02 | 7.906786 watts | 7.848 m | 7.224 m | 3.066 m | 5.934 m |
| 24 | 0.878 | -1.13 | -21.13 | 7.709035 watts | 7.749 m | 7.079 m | 3.152 m | 5.848 m |
| 25 | 0.867 | -1.24 | -21.24 | 7.516229 watts | 7.651 m | 6.935 m | 3.234 m | 5.766 m |
| 26 | 0.855 | -1.36 | -21.36 | 7.311391 watts | 7.546 m | 6.783 m | 3.308 m | 5.692 m |
| 27 | 0.842 | -1.49 | -21.49 | 7.095778 watts | 7.434 m | 6.624 m | 3.375 m | 5.625 m |
| 28 | 0.83 | -1.62 | -21.62 | 6.886523 watts | 7.324 m | 6.467 m | 3.438 m | 5.562 m |
| 29 | 0.816 | -1.76 | -21.76 | 6.668068 watts | 7.207 m | 6.303 m | 3.494 m | 5.506 m |
| 30 | 0.803 | -1.91 | -21.91 | 6.441693 watts | 7.083 m | 6.134 m | 3.542 m | 5.458 m |
| 31 | 0.788 | -2.07 | -22.07 | 6.20869 watts | 6.954 m | 5.961 m | 3.582 m | 5.418 m |
| 32 | 0.774 | -2.23 | -22.23 | 5.984116 watts | 6.827 m | 5.790 m | 3.618 m | 5.382 m |

| | | | | | | | | |
|----|-------|--------|--------|----------------|---------|---------|---------|---------|
| 33 | 0.758 | -2.40 | -22.4 | 5.754399 watts | 6.695 m | 5.615 m | 3.646 m | 5.354 m |
| 34 | 0.743 | -2.58 | -22.58 | 5.520774 watts | 6.558 m | 5.436 m | 3.667 m | 5.333 m |
| 35 | 0.727 | -2.77 | -22.77 | 5.284453 watts | 6.416 m | 5.255 m | 3.680 m | 5.320 m |
| 36 | 0.711 | -2.96 | -22.96 | 5.058247 watts | 6.277 m | 5.078 m | 3.689 m | 5.311 m |
| 37 | 0.695 | -3.16 | -23.16 | 4.830588 watts | 6.134 m | 4.899 m | 3.692 m | 5.308 m |
| 38 | 0.678 | -3.37 | -23.37 | 4.602566 watts | 5.987 m | 4.718 m | 3.686 m | 5.314 m |
| 39 | 0.662 | -3.59 | -23.59 | 4.375221 watts | 5.838 m | 4.537 m | 3.674 m | 5.326 m |
| 40 | 0.645 | -3.81 | -23.81 | 4.159106 watts | 5.692 m | 4.360 m | 3.659 m | 5.341 m |
| 41 | 0.628 | -4.05 | -24.05 | 3.935501 watts | 5.537 m | 4.179 m | 3.632 m | 5.368 m |
| 42 | 0.61 | -4.29 | -24.29 | 3.723917 watts | 5.386 m | 4.002 m | 3.604 m | 5.396 m |
| 43 | 0.593 | -4.54 | -24.54 | 3.515604 watts | 5.233 m | 3.827 m | 3.569 m | 5.431 m |
| 44 | 0.575 | -4.80 | -24.8 | 3.311311 watts | 5.079 m | 3.653 m | 3.528 m | 5.472 m |
| 45 | 0.558 | -5.07 | -25.07 | 3.111716 watts | 4.923 m | 3.481 m | 3.481 m | 5.519 m |
| 46 | 0.541 | -5.34 | -25.34 | 2.924152 watts | 4.772 m | 3.315 m | 3.433 m | 5.567 m |
| 47 | 0.523 | -5.63 | -25.63 | 2.735269 watts | 4.616 m | 3.148 m | 3.376 m | 5.624 m |
| 48 | 0.506 | -5.92 | -25.92 | 2.558586 watts | 4.464 m | 2.987 m | 3.318 m | 5.682 m |
| 49 | 0.489 | -6.22 | -26.22 | 2.387811 watts | 4.313 m | 2.829 m | 3.255 m | 5.745 m |
| 50 | 0.472 | -6.53 | -26.53 | 2.22331 watts | 4.161 m | 2.675 m | 3.188 m | 5.812 m |
| 51 | 0.455 | -6.85 | -26.85 | 2.06538 watts | 4.011 m | 2.524 m | 3.117 m | 5.883 m |
| 52 | 0.438 | -7.18 | -27.18 | 1.914256 watts | 3.861 m | 2.377 m | 3.043 m | 5.957 m |
| 53 | 0.421 | -7.52 | -27.52 | 1.770109 watts | 3.713 m | 2.235 m | 2.965 m | 6.035 m |
| 54 | 0.404 | -7.87 | -27.87 | 1.633052 watts | 3.567 m | 2.096 m | 2.885 m | 6.115 m |
| 55 | 0.388 | -8.22 | -28.22 | 1.506607 watts | 3.426 m | 1.965 m | 2.806 m | 6.194 m |
| 56 | 0.372 | -8.59 | -28.59 | 1.383566 watts | 3.283 m | 1.836 m | 2.722 m | 6.278 m |
| 57 | 0.356 | -8.96 | -28.96 | 1.270574 watts | 3.146 m | 1.713 m | 2.638 m | 6.362 m |
| 58 | 0.341 | -9.35 | -29.35 | 1.161449 watts | 3.008 m | 1.594 m | 2.551 m | 6.449 m |
| 59 | 0.326 | -9.75 | -29.75 | 1.059254 watts | 2.872 m | 1.479 m | 2.462 m | 6.538 m |
| 60 | 0.31 | -10.16 | -30.16 | 0.963829 watts | 2.740 m | 1.370 m | 2.373 m | 6.627 m |
| 61 | 0.296 | -10.57 | -30.57 | 0.877001 watts | 2.614 m | 1.267 m | 2.286 m | 6.714 m |
| 62 | 0.282 | -11.01 | -31.01 | 0.792501 watts | 2.485 m | 1.166 m | 2.194 m | 6.806 m |
| 63 | 0.268 | -11.45 | -31.45 | 0.716143 watts | 2.362 m | 1.072 m | 2.104 m | 6.896 m |
| 64 | 0.254 | -11.92 | -31.92 | 0.642688 watts | 2.237 m | 0.981 m | 2.011 m | 6.989 m |
| 65 | 0.24 | -12.40 | -32.4 | 0.57544 watts | 2.117 m | 0.895 m | 1.919 m | 7.081 m |
| 66 | 0.226 | -12.90 | -32.9 | 0.512861 watts | 1.999 m | 0.813 m | 1.826 m | 7.174 m |
| 67 | 0.214 | -13.41 | -33.41 | 0.456037 watts | 1.885 m | 0.736 m | 1.735 m | 7.265 m |
| 68 | 0.201 | -13.95 | -33.95 | 0.402717 watts | 1.771 m | 0.663 m | 1.642 m | 7.358 m |
| 69 | 0.188 | -14.50 | -34.5 | 0.354813 watts | 1.662 m | 0.596 m | 1.552 m | 7.448 m |
| 70 | 0.176 | -15.08 | -35.08 | 0.310456 watts | 1.555 m | 0.532 m | 1.461 m | 7.539 m |
| 71 | 0.164 | -15.69 | -35.69 | 0.269774 watts | 1.450 m | 0.472 m | 1.371 m | 7.629 m |
| 72 | 0.152 | -16.34 | -36.34 | 0.232274 watts | 1.345 m | 0.416 m | 1.279 m | 7.721 m |
| 73 | 0.141 | -17.01 | -37.01 | 0.199067 watts | 1.245 m | 0.364 m | 1.191 m | 7.809 m |
| 74 | 0.13 | -17.73 | -37.73 | 0.168655 watts | 1.146 m | 0.316 m | 1.102 m | 7.898 m |
| 75 | 0.119 | -18.49 | -38.49 | 0.141579 watts | 1.050 m | 0.272 m | 1.014 m | 7.986 m |
| 76 | 0.108 | -19.33 | -39.33 | 0.116681 watts | 0.953 m | 0.231 m | 0.925 m | 8.075 m |
| 77 | 0.098 | -20.21 | -40.21 | 0.09528 watts | 0.861 m | 0.194 m | 0.839 m | 8.161 m |
| 78 | 0.087 | -21.20 | -41.2 | 0.075858 watts | 0.769 m | 0.160 m | 0.752 m | 8.248 m |
| 79 | 0.077 | -22.27 | -42.27 | 0.059293 watts | 0.680 m | 0.130 m | 0.667 m | 8.333 m |

| | | | | | | | | |
|----|-------|--------|--------|----------------|---------|---------|---------|---------|
| 80 | 0.067 | -23.49 | -43.49 | 0.044771 watts | 0.591 m | 0.103 m | 0.582 m | 8.418 m |
| 81 | 0.057 | -24.86 | -44.86 | 0.032659 watts | 0.504 m | 0.079 m | 0.498 m | 8.502 m |
| 82 | 0.047 | -26.48 | -46.48 | 0.022491 watts | 0.419 m | 0.058 m | 0.414 m | 8.586 m |
| 83 | 0.038 | -28.42 | -48.42 | 0.014388 watts | 0.335 m | 0.041 m | 0.332 m | 8.668 m |
| 84 | 0.028 | -30.91 | -50.91 | 0.00811 watts | 0.251 m | 0.026 m | 0.250 m | 8.750 m |
| 85 | 0.019 | -34.30 | -54.3 | 0.003715 watts | 0.170 m | 0.015 m | 0.169 m | 8.831 m |
| 86 | 0.01 | -39.94 | -59.94 | 0.001014 watts | 0.089 m | 0.006 m | 0.089 m | 8.911 m |
| 87 | 0.01 | -40.00 | -60 | 0.001 watts | 0.088 m | 0.005 m | 0.088 m | 8.912 m |
| 88 | 0.01 | -40.00 | -60 | 0.001 watts | 0.088 m | 0.003 m | 0.088 m | 8.912 m |
| 89 | 0.017 | -35.56 | -55.56 | 0.00278 watts | 0.147 m | 0.003 m | 0.147 m | 8.853 m |
| 90 | 0.025 | -31.89 | -51.89 | 0.006471 watts | 0.225 m | 0.000 m | 0.225 m | 8.775 m |

