Environmental Protection Act

The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments)

The facility is located at the apex of a hill in unoccupied mountainous terrain. The closest rise in terrain is 17 meters which is 585 meters from the site. The closest residence is 504 meters northeast of the site, at an elevation 99 meters lower than the base of the tower. There are other significant emitters of radio frequency energy in the area. The transmitter and tower are enclosed within a locked fence. The site is located on a private communications site. Access to the site is available only to authorized technical and maintenance personnel by an unimproved private road with a locked gate 1.3 km from the site.

Page three of this Exhibit is a printout from the Commission's FM Model for Windows software for the licensee's FM antenna with 28.0 kW Horizontally polarization only at 31 m AGL. As shown, at ground level RF exposure will be less than 19 µW/cm², or 9.5% of the general population/uncontrolled exposure limit of 200 µW/cm² and 1.9% of the occupational/controlled exposure limit of 1,000 µW/cm for FM broadcast frequencies.

Also on the same tower is KUID-DT's top-mounted channel 12 Digital antenna with 128.5 kW ERP H at 89 m AGL. By reference to Table 1 of the Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65 Supplement A, Evaluating Compliance With FCC Guidelines For Human Exposure to Radio Frequency Electromagnetic Fields, using equation #2 in Section 3, Television Broadcast Stations, the calculated power density at ground level for a VHF antenna with a relative field factor of 0.2 is 21.7 µW/cm², or 10.85% of the general population/uncontrolled exposure limit of 200 µW/cm² and 2.17% of the occupational/controlled exposure limit of 1,000 µW/cm for TV channel 12 broadcast frequencies.

On the same tower as is KUID-TV's side-mounted channel 35 Andrew antenna which is operating with an ERP of 75 kW at 45.1 m AGL. By reference to Table 1 of the Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65 Supplement A, Evaluating Compliance With FCC Guidelines For Human Exposure to Radio Frequency Electromagnetic Fields, using equation #2 in Section 3, Television Broadcast Stations, the calculated power density at ground level for the UHF antenna with a relative field factor of 0.1 is 6.16 µW/cm², or 1.6% of the general population/uncontrolled exposure limit of 397 µW/cm² and 0.31% of the occupational/controlled exposure limit of 1,987 µW/cm for channel 32.

At a site 90 meters to the southwest is KZZL-FM's 6-bay side-mounted antenna with 81 kW ERP CP at 72 m AGL. Page four of this Exhibit is a printout from the Commission's FM Model for Windows software for KZZL-FM's FM antenna. As shown, at ground at the KRFA-FM site level RF exposure will be less than 10 µW/cm², or 5.0% of the general population/uncontrolled exposure limit of 200 µW/cm² and 1.0% of the occupational/controlled exposure limit of 1,000 µW/cm for FM broadcast frequencies.

At the same site 90 meters to the southwest is KFFR-FM's side-mounted antenna with 0.65 kW ERP CP at 56 m AGL. Page five of this Exhibit is a printout from the Commission's FM Model for Windows software for KFFR-FM's FM antenna. As shown, at ground at the KRFA-FM site level RF exposure will be less than 0.1 µW/cm², or 0.05% of the general population/uncontrolled exposure limit of 200 µW/cm² and 0.01% of the occupational/controlled exposure limit of 1,000 µW/cm for FM broadcast frequencies.

At a site 290 meters to the southwest is KZFN-FM's side-mounted antenna with 63 kW ERP CP at 22 m AGL. Page six of this Exhibit is a printout from the Commission's FM Model for Windows software for KZFN-FM's FM antenna. As shown, at ground at the KRFA-FM site level RF exposure will be less than 50 µW/cm², or 25.0% of the general population/uncontrolled exposure limit of 200 µW/cm² and 5.0% of the occupational/controlled exposure limit of 1,000 µW/cm for FM broadcast frequencies.

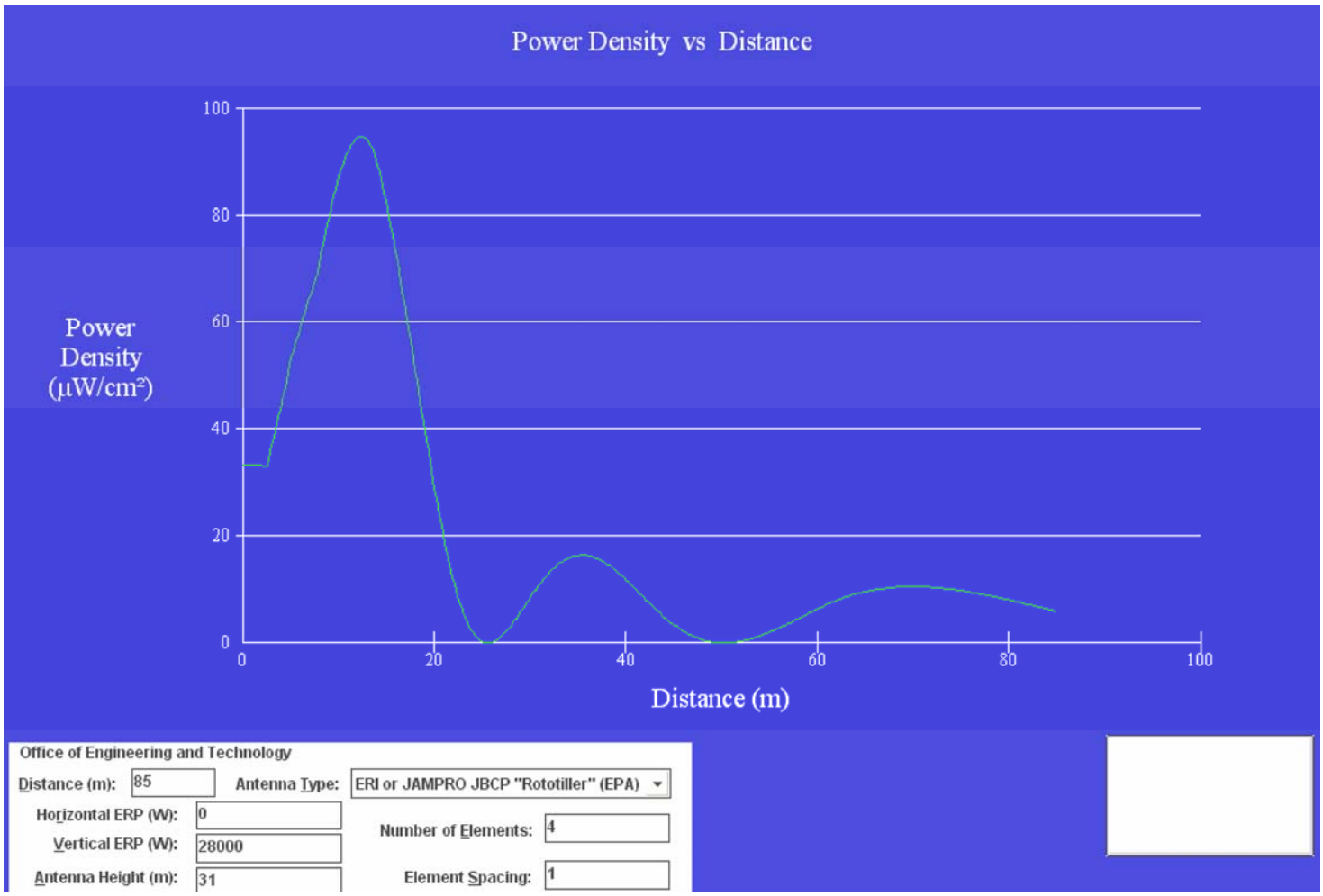
By adding the exposure results for all of the stations at and near the site, the total exposure can be determined. Even though the maximum exposure from all of the stations probably will never be this high in any one spot, this figure is used as a worst-case maximum. The total of the general population/uncontrolled exposure values is 52.0% and the total of the occupational/controlled exposure values is 8.49%.

These results show compliance with the MPE requirements in the frequency ranges in use at this site, as regards to occupational exposure at or near ground levels. Because of the large margin of safety, the applicant does not believe that on-site measurements of the radio frequency power density are necessary.

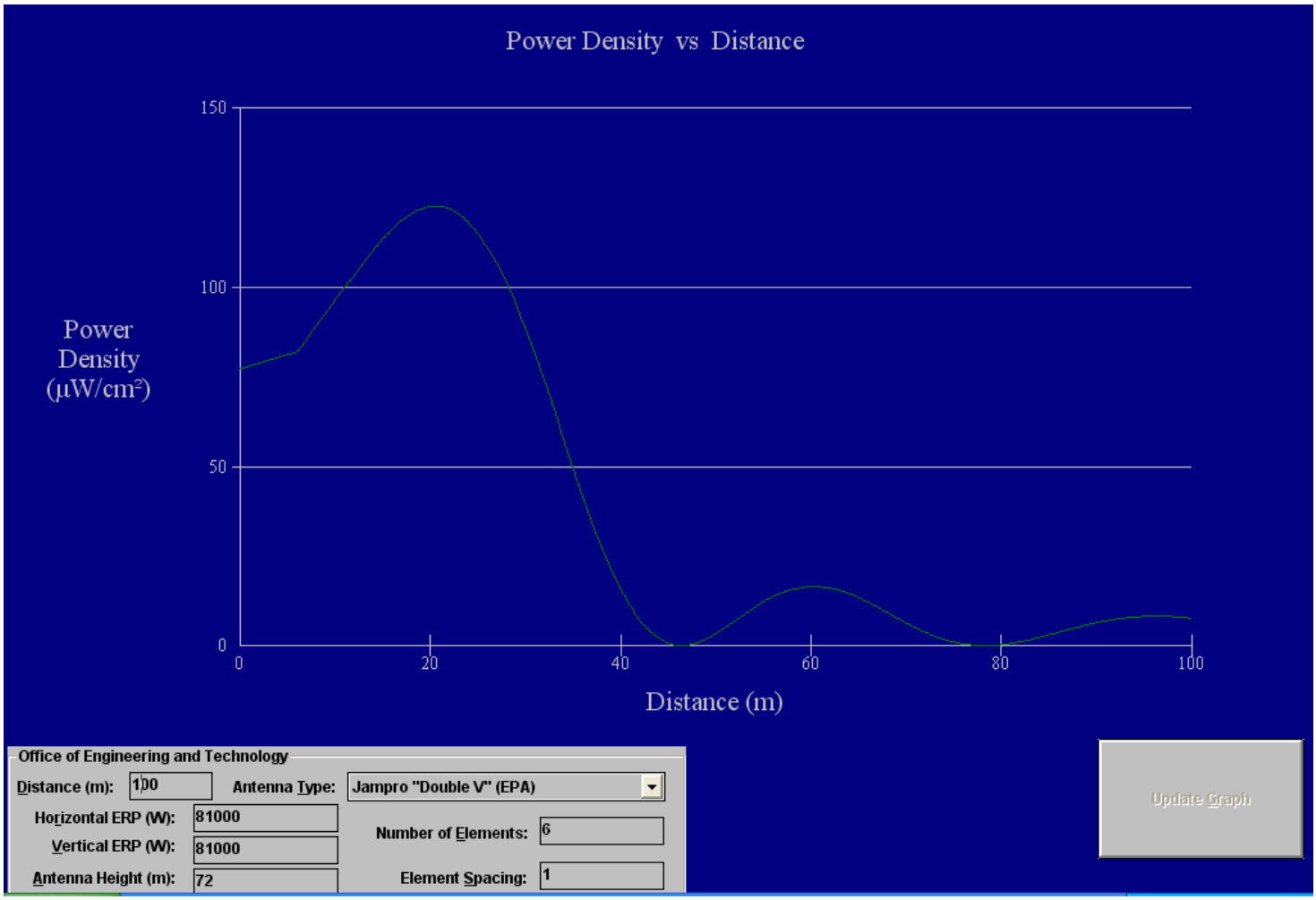
The applicant is cognizant of its responsibility to protect those workers whose duties require that they be in the vicinity of the antenna from exposure to radio frequency fields in excess of those outlined above. To that end, signage is posted at the site warning all workers of the potential for harmful exposure and directing them to contact the responsible person at the proposed broadcast station. That person will ascertain whether the worker will be in areas where there is an exposure hazard, and if so, arrange to shut down the transmitter. It will be assumed that an exposure hazard may exist on the antenna support structure at elevations above 10 meters, AGL.

For these reasons, the applicant believes that a Commission grant of this renewal would not have a significant environmental effect.

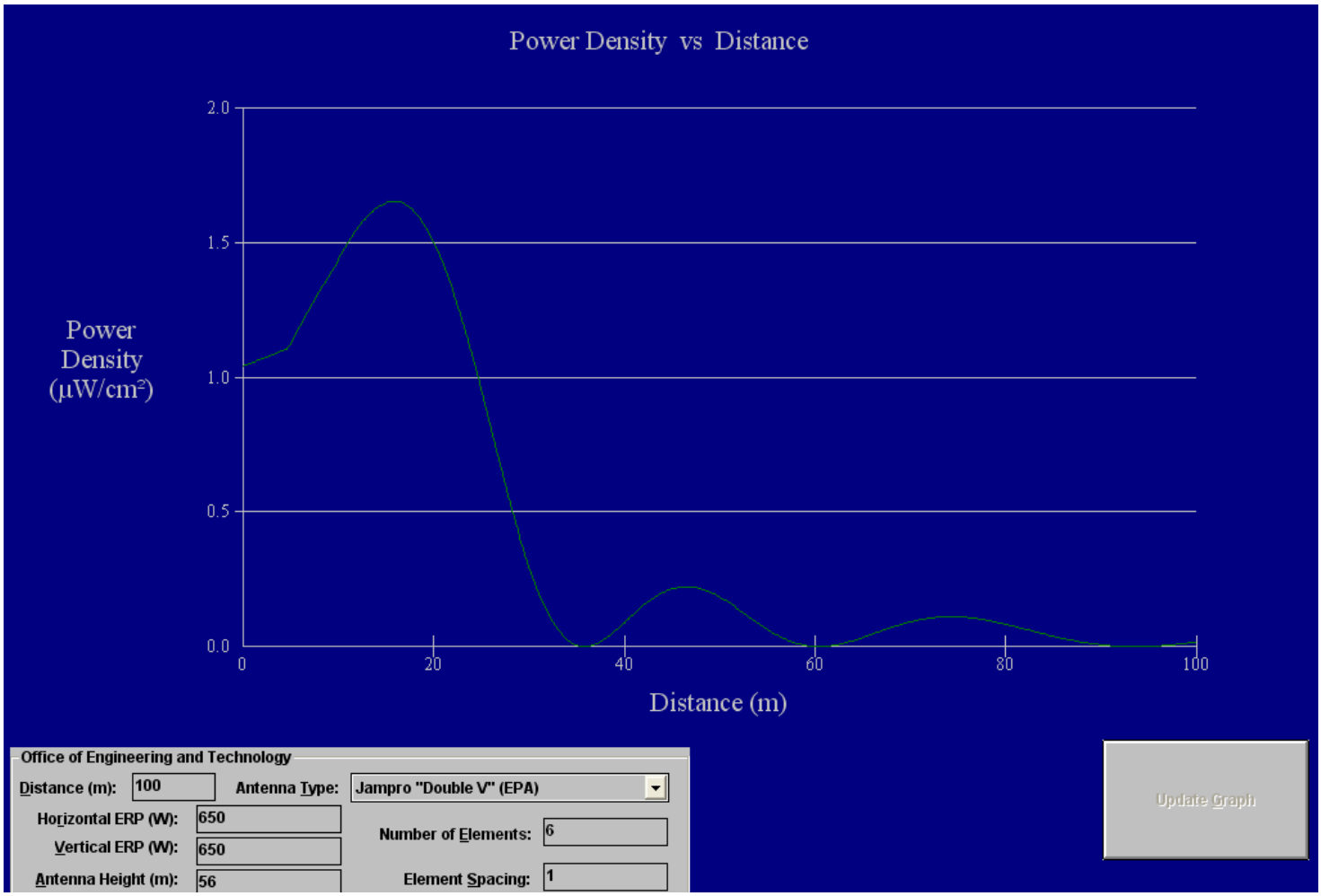
KRFA-FM


Power Density vs Distance
Power Density (μW/cm²)
100
80
60
40
20
0
0
20
40
60
80
100
Distance (m)
Office of Engineering and Technology
Distance (m): 85
Antenna Type: ERI or JAMPRO JBCP "Rototiller" (EPA)
Horizontal ERP (W): 0
Vertical ERP (W): 28000
Antenna Height (m): 31
Number of Elements: 4
Element Spacing: 1

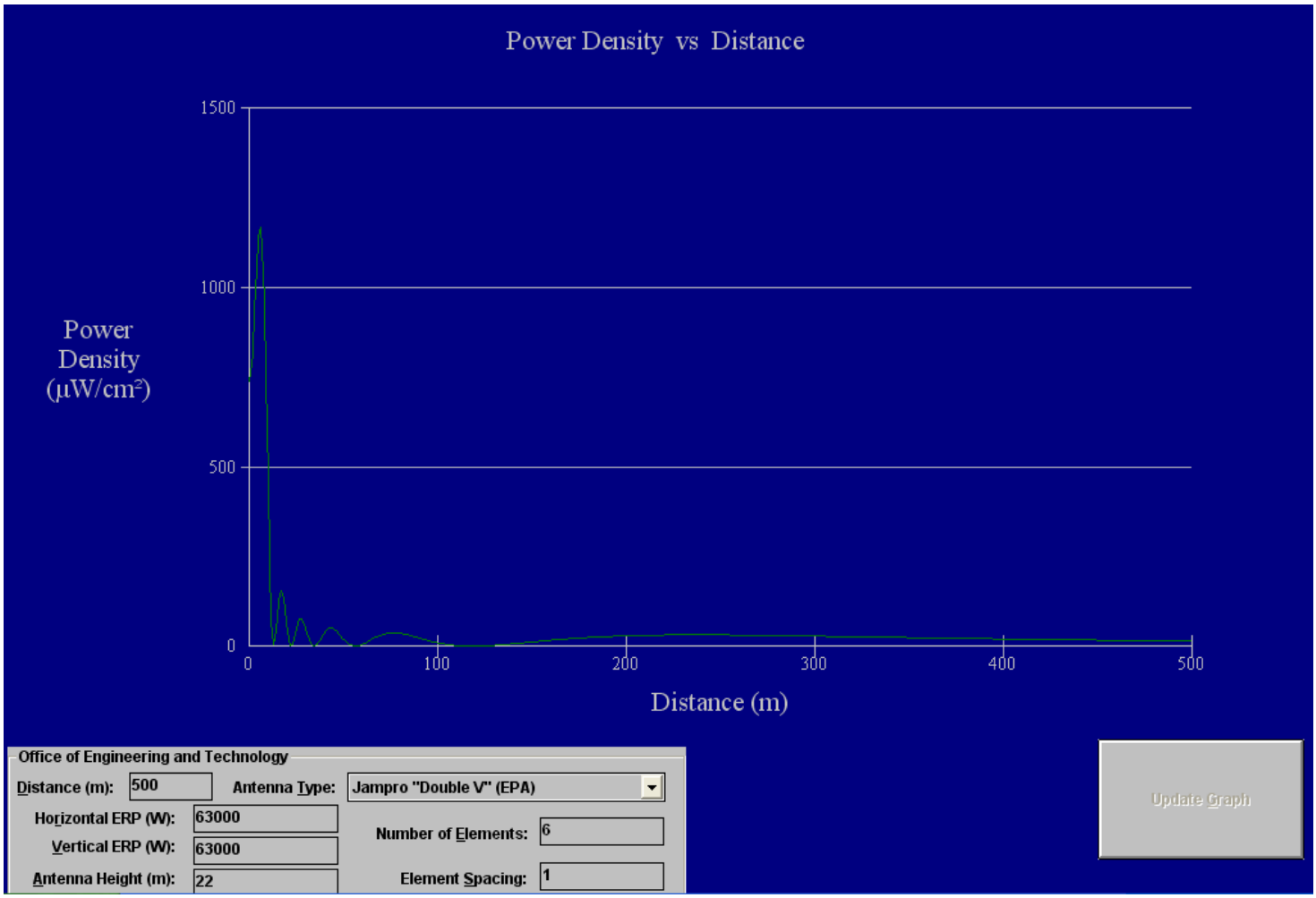
KZZL-FM


Power Density vs Distance
150
100
50
0
Power Density (μW/cm²)
0
20
40
60
80
100
Distance (m)
Office of Engineering and Technology
Distance (m): 100
Antenna Type: Jampro "Double V" (EPA)
Horizontal ERP (W): 81000
Vertical ERP (W): 81000
Antenna Height (m): 72
Number of Elements: 6
Element Spacing: 1
Update Graph

KFFR-FM


Power Density vs Distance
Power Density (μW/cm²)
2.0
1.5
1.0
0.5
0.0
0
20
40
60
80
100
Distance (m)
Office of Engineering and Technology
Distance (m): 100
Antenna Type: Jampro "Double V" (EPA)
Horizontal ERP (W): 650
Vertical ERP (W): 650
Antenna Height (m): 56
Number of Elements: 6
Element Spacing: 1
Update Graph

KZFN-FM


Power Density vs Distance
1500
1000
500
0
Power Density (μW/cm²)
0
100
200
300
400
500
Distance (m)
Office of Engineering and Technology
Distance (m): 500
Antenna Type: Jampro "Double V" (EPA)
Horizontal ERP (W): 63000
Vertical ERP (W): 63000
Antenna Height (m): 22
Number of Elements: 6
Element Spacing: 1
Update Graph