

Environmental Protection

Human exposure to excess levels of radiofrequency radiation

The proposed facility is to be built using a 1-bay circularly polarized antenna mounted on a 6m pipe above the roofline of an existing building. The RF Radiation study was done with the consideration of RF exposure on the roofline level utilizing the Vertical Elevation Pattern of the Bext TFC2K antenna.

As can be seen in Exhibit 14-A, the maximum theoretical RF value would be $24.265 \mu\text{W}/\text{cm}^2$ at a distance of 10 meters from the tower, which is 12.13% of the $200 \mu\text{W}/\text{cm}^2$ permitted for public (uncontrolled) exposure, and 4.03% of the $1000 \mu\text{W}/\text{cm}^2$ permitted for worker (controlled) exposure.

Therefore, the proposed facility complies with the requirements of OET 65.

Applicant will fully cooperate with other future site users to temporarily reduce power or cease broadcasting, as necessary, to protect workers and others having access to the site from excessive levels of RF Radiation.

Specific Antenna RF Power Density Calculator

Based on Equation 10 of OET-65
Exhibit 14-A / Detailed Report

ERP 0.1 kW % of OET-65
Height above ground 6.0 meters 12.1% Uncontrolled
Height above head 4.0 meters 2.4% Controlled
Antenna Brand Bext
Antenna Model TFC2K-1

| Horizontal distance from tower (meters) | Angle (°) | Distance (m) | Field | Power (W) | Power Density (uW/cm ²) |
|---|-----------|--------------|-------|-----------|-------------------------------------|
| 0 | 90 | 4.0 | 0.104 | 10.4 | 2.258 |
| 10 | 22 | 10.8 | 0.918 | 91.8 | 24.265 |
| 20 | 11 | 20.4 | 0.982 | 98.2 | 7.742 |
| 30 | 8 | 30.3 | 1 | 100 | 3.646 |
| 40 | 6 | 40.2 | 1 | 100 | 2.067 |
| 50 | 5 | 50.2 | 1 | 100 | 1.328 |
| 60 | 4 | 60.1 | 1 | 100 | 0.924 |
| 70 | 3 | 70.1 | 1 | 100 | 0.679 |
| 80 | 3 | 80.1 | 1 | 100 | 0.521 |
| 90 | 3 | 90.1 | 1 | 100 | 0.412 |
| 100 | 2 | 100.1 | 1 | 100 | 0.333 |

