

EXHIBIT 31

RF EXPOSURE ANALYSIS

The proposed transmitting antenna will be located on an existing tower which is already hosting a cellular transmitter. This analysis investigates the combined power density of the two transmitters and compares it to FCC limits. As there are no structures in the vicinity of the tower, the power densities are computed at two meters above ground level.

The parameters of the proposed antenna system are shown in Table 1. Those parameters were input into the FCC's FM Model software to predict the resulting power density at 2 meters above ground level at various distances from the base of the tower. As can be seen from the results shown in Figure 1, the highest predicted power density is less than $137 \mu\text{W}/\text{cm}^2$, which is less than 69% of the $200 \mu\text{W}/\text{cm}^2$ uncontrolled/general population limit.

Table 1: Proposed antenna system parameters.

Antenna Type	Jampro "Double V"
Number of Bays	3
Bay Spacing	1λ
Horizontal ERP	13.5 kW
Vertical ERP	13.5 kW
Height above Ground	34 meters



Figure 1: Power density output of the FM Model software.

The tower hosts an existing cellular transmitter with the parameters shown in Table 2. Assuming a worst-case point source radiator, the power density at two meters above ground at the base of the tower is computed as follows:

$$\frac{33.4 \times 300}{41^2} = 6 \mu\text{W}/\text{cm}^2$$

Table 2: Existing cellular system parameters.

ERP	300 W
Frequency	1900 MHz
Height above Ground	43 meters

The predicted power density of 6 μW/cm² is less than 1% of the 1000 μW/cm² uncontrolled/general population limit for a 1900 MHz radiator.

When 69% of the power density limit for the proposed FM radiator is combined with 1% of the power density limit for the existing cellular transmitter, the combined system is 70% of the overall power density limit indicating compliance with FCC rules for uncontrolled/general population exposure.

Additionally, the base of the tower is a controlled area and transmitter power will be reduced or suspended as necessary to protect workers at the site or on the tower.