

Exhibit B-17
KHHL(FM) Channel 255C2 Leander, TX
NIER Analysis

Facilities Proposed

The proposed operation will be on Channel 255C2 (98.9 MHz) with an effective radiated power of 25 kilowatts. Operation is proposed with a 4-element circularly-polarized omni-directional half-wave-spaced antenna. The antenna will be side-mounted on the Crown Castle tower at "Four Points" in Austin, Texas.

The antenna structure registration number for the tower is 1243735.

NIER Calculations

Study of the area within 1000 meters of the proposed site reveals no other likely sources of non-ionizing radiation. Thus, the ground level NIER values near the base of the proposed structure are believed to be negligible. Precise calculations are made only with regard to the levels from this proposal.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\text{mW} / \text{cm}^2) = \frac{33.40981 \times \text{AdjERP}(\text{Watts})}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

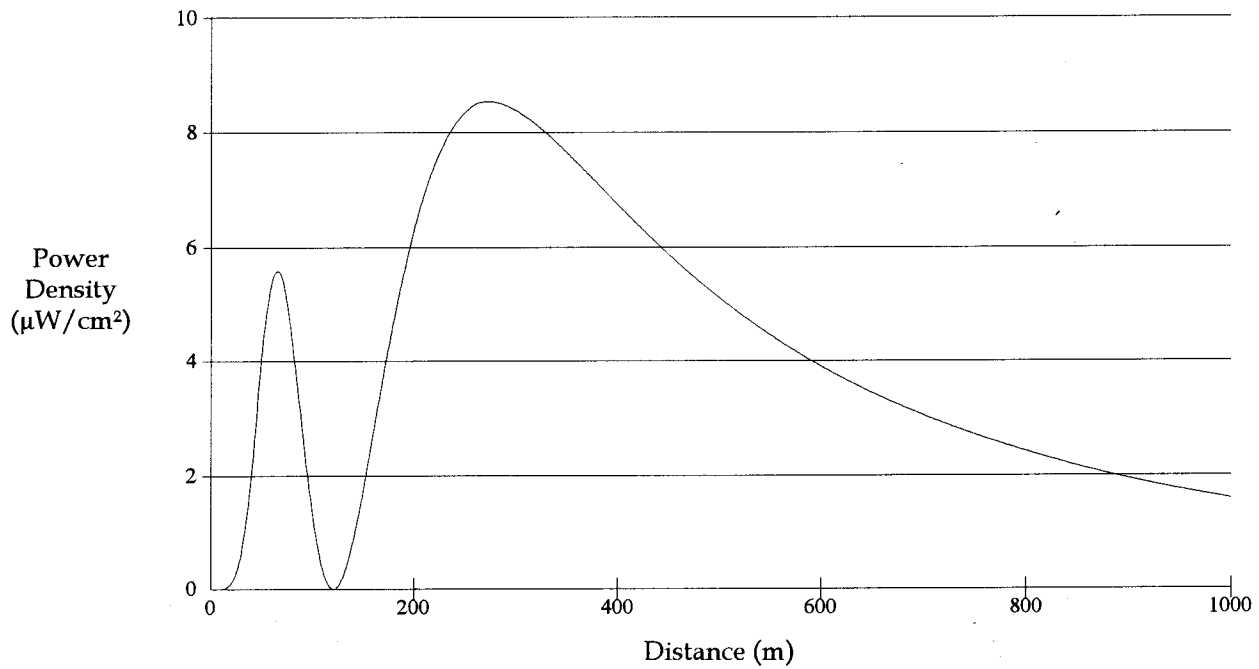
Calculations of the power density produced by the proposed antenna system assume a Type 3 element pattern, which is the element pattern for the “rototiller” antenna proposed for use. The highest calculated ground level power density occurs at a distance of 272 meters from the base of the antenna support structure. At this point the power density is calculated to be 8.5 $\mu\text{W}/\text{cm}^2$, which is 0.9% of 1000 $\mu\text{W}/\text{cm}^2$ (the FCC standard for controlled environments) and 4.3% of 200 $\mu\text{W}/\text{cm}^2$ (the FCC standard for uncontrolled environments).

Public access to the site is restricted and the antenna tower is posted with warning signs. Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

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The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency radiation in excess of FCC guidelines.

Power Density vs Distance



Ground-Level NIER Analysis

OET FMModel

KHHL(FM) Leander

Antenna Type: ERI or Jampro "rototiller"

Number of Elements: 4

Element Spacing: 0.5 wavelength

Distance: 1000 meters

Horizontal ERP: 25 kW

Vertical ERP: 25 kW

Antenna Height: 72 meters AGL

Maximum Power Density is $8.5 \mu\text{W}/\text{cm}^2$ at 272 meters from the antenna structure.

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