

**October 2008**  
**FM Translator K225AC**  
**Grants Pass, OR Channel 225D**  
**NIER Analysis**

**Facilities**

The facility operates on Channel 225D (92.9 MHz) with an effective radiated power of 200 watts. Operation is with a composite Scala, CL-FM log periodic antenna.

**NIER Calculations**

Study of the area within 1000 meters of the proposed site reveals no likely sources of non-ionizing radiation other than K225AC. FM translators K288CP and K205BD are also at the site and operate with an effective radiated power of 50 watts and 47 watts respectively. Since these translators operate with an effective radiated power of less than 100 watts they are excluded from this study pursuant to section 1.1307(b)(1) of the Commission's Rules.

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.

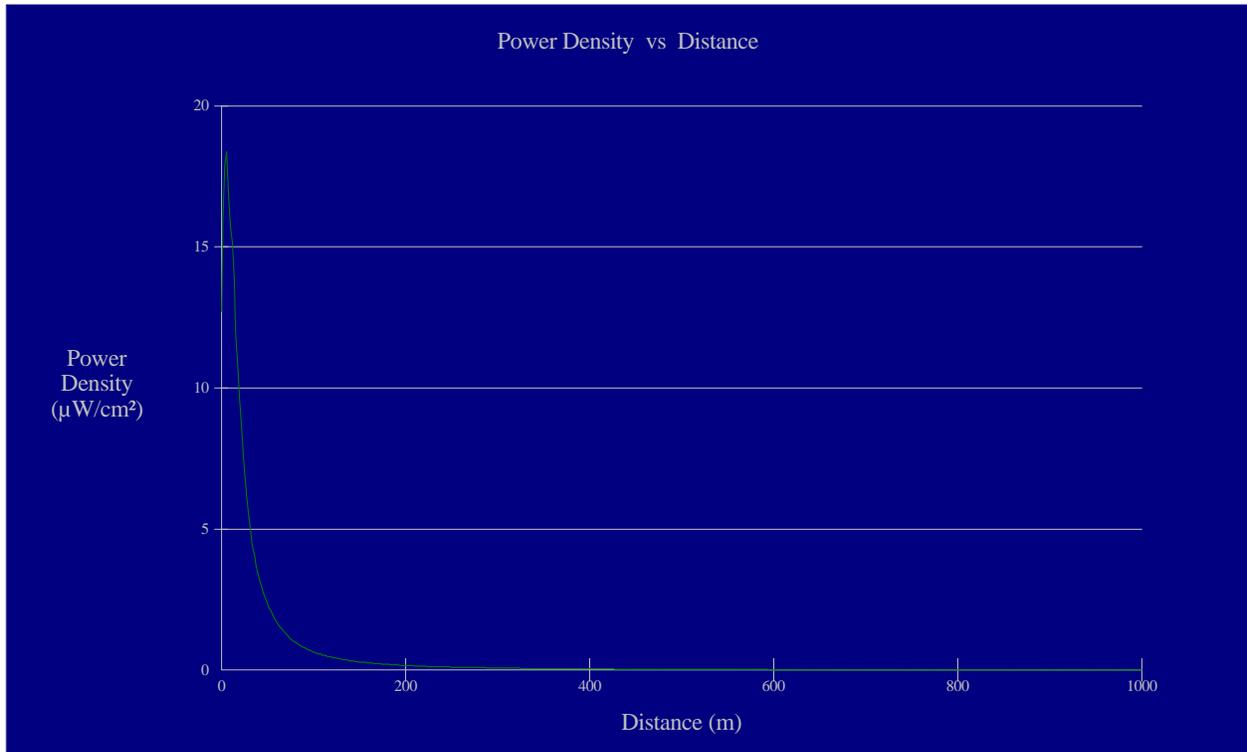
*D* is the distance in meters from the center of radiation to the calculation point.

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 K225AC antenna system assume "worst case" using a "Ring Stub" element pattern. The highest calculated ground level power density occurs at a distance of 6 meters from the base of the antenna support structure. At this point the power density is calculated to be 18.4  $\mu\text{W}/\text{cm}^2$ , which is 1.8% of 1000  $\mu\text{W}/\text{cm}^2$  (the FCC standard for controlled environments at FM frequencies) and 9.2% of 200  $\mu\text{W}/\text{cm}^2$  (the FCC standard for uncontrolled environments).

Public access to the site is restricted by a locked gate 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.

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.



**Ground-Level NIER**

**OET FMModel**

K225AC Grants Pass

Antenna Type: "Ring Stub"  
 No. of Elements: 1  
 Element Spacing: 1.0 wavelength

Distance: 1000 meters  
 Horizontal ERP: 200 W  
 Vertical ERP: 0 W

Antenna Height: 12 meters AGL

Maximum Power Density is 18.4  $\mu\text{W}/\text{cm}^2$  at 6 meters from the antenna structure.