

Hendersonville, North Carolina
Application for Modified Facilities for FM Translator W300CJ
On Channel 299
by
Radio Hendersonville, Inc.

Exhibit 17
Nonionizing Radio Frequency Radiation Analysis

October 2014

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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Exhibit 17, Nonionizing Radio Frequency Radiation Analysis, for Radio Hendersonville, Inc., and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.



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Narrative

This Exhibit supports an application for modified facilities for FM translator W300CJ, Hendersonville, North Carolina. The application proposes fill-in service with AM station WHKP (AM), Hendersonville, North Carolina.

This Exhibit shows that the proposed operation is in compliance with nonionizing radiation regulations.

Radio Frequency Radiation Evaluation

The proposed W300CJ facilities, when evaluated under worst case methods in OET-65¹, will create 0.00947 mW/cm² two meters above ground level. The worst case power density is less than 4.7% of the maximum permitted 0.20 mW/cm² for general population/uncontrolled exposure.

A two bay PSI PSIFML-2A-HR-DA antenna is proposed which reduces the power density at ground level as shown below. When the elevation pattern is considered, the power density at 2 meters above ground level will be .00151 mW/cm² at a distance of 26.2 meters from the tower base, less than 1% of the general population/uncontrolled limit. The vertical elevation pattern is shown as Figure 1. The power density at two (2) meters above ground level is shown as Figure 2.

¹Cleveland, Robert F., Jr., Sylvar, David M., and Ulcek, Jerry L., *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*, OET Bulletin 65, Edition 97-01.

AM Evaluation

The proposed tower is used for station WHKP (AM), with details are tabulated below.

Call Sign	WHKP (AM)
Facility ID	54615
Frequency	1450
Power	0.97 kW
Tower Height (degrees, wavelength)	99°, 0.275 λ

Supplement A to OET-65 tabulates safe distances to fences for AM facilities of different power, wavelength, and frequency. Table 2 provides distances for 0.25 wavelength towers and Table 3 provides distances for 0.5 wavelength towers. At the frequency and wavelength proposed, the safe distance for 1 kilowatt are 1 meters and 2 meters, respectively. The installed fence is at all points at least 8 feet (2.5 meters) from the tower, establishing compliance with OET-65 for the AM operation.

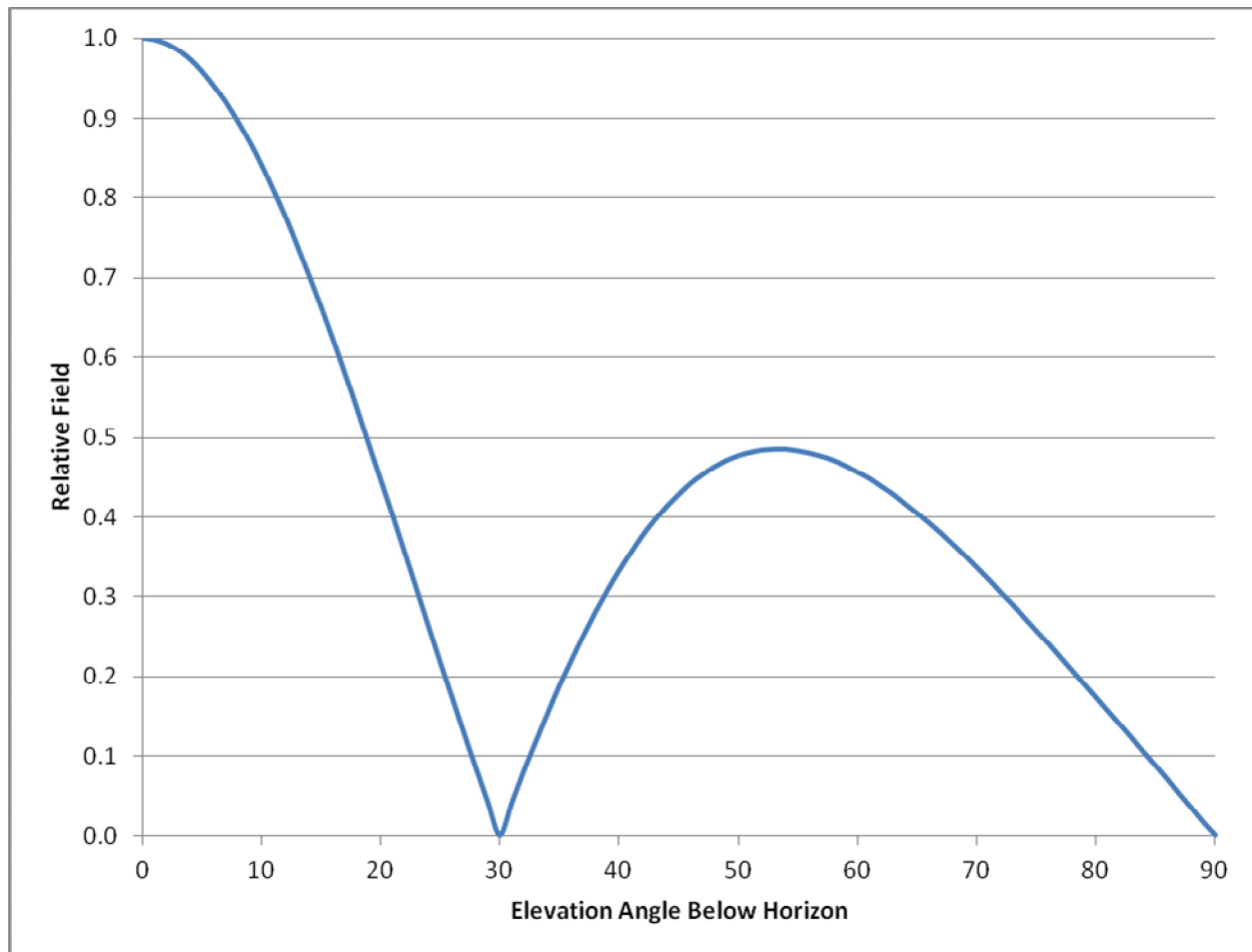
Figure 1: Antenna Vertical Elevation Pattern

Figure 2: Power Density at 2 meters above ground level