

# Jonesboro, AR – KJSA(FM) STA

## Compliance with Radiofrequency Radiation Guidelines

The RF Compliance Study for this KJSA(FM) – Jonesboro, AR STA Request has been evaluated for human exposure to non-ionizing radiofrequency radiation at the transmitter site. The potential for human exposure to non-ionizing radiofrequency radiation at the proposed transmitter site has been evaluated with regards to §1.1310 concerning contributions for single source sites. There are no other sources of RF radiation within 315 meters of this site.

The proposed STA facility will operate on CH209C3 (89.7 MHz) with a maximum effective radiated power (ERP) of 0.025 kW circular polarization. The facility will operate with a one (1) bay R.V.R. Model ACPO antenna mounted 14.6 meters above ground level (AGL) or 8.5 meters above roof grade. The spacing for the element will be  $1.0 \lambda$  (wavelength). For purposes of this RF Compliance Study, a worst case EPA type 1 element as defined by FCC program FM Model Version 2.10b<sup>1</sup> has been assumed.

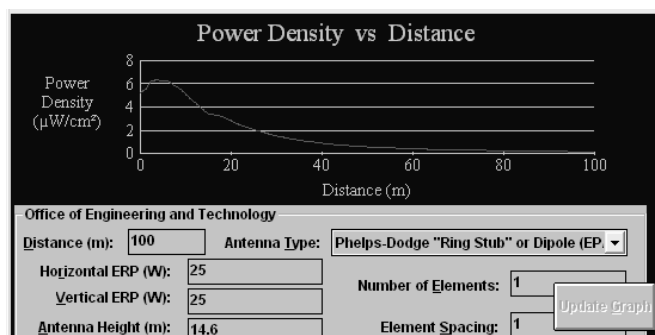
To evaluate the total exposure to non-ionizing radio-frequency radiation with regards to the single source contribution rules at the publicly accessible ground level, the individual contribution may be expressed directly in  $\mu\text{W}/\text{cm}^2$  units relative to the maximum permissible uncontrolled environment limit of  $200 \mu\text{W}/\text{cm}^2$ . If the resulting contribution is less than or equal to  $200 \mu\text{W}/\text{cm}^2$ , the exposure is concluded to be within the guidelines of OET Bulletin No. 65 (Edition 97-01) and §1.1310 for the more restrictive uncontrolled limit.

To evaluate the total exposure to non-ionizing radio-frequency radiation with regards to the single source contribution rules at the restricted access roof level, the individual contribution may be expressed directly in  $\mu\text{W}/\text{cm}^2$  units relative to the maximum permissible uncontrolled environment limit of  $1000 \mu\text{W}/\text{cm}^2$ . If the resulting contribution is less than or equal to  $1000 \mu\text{W}/\text{cm}^2$ , the exposure is concluded to be within the guidelines of OET Bulletin No. 65 (Edition 97-01) and §1.1310 for the controlled limit on the restricted access roof.

Inspection of the graph below shows the maximum contribution for the uncontrolled environment to be less than  $200 \mu\text{W}/\text{cm}^2$  as set forth by §1.1310 at ground level and less than  $1000 \mu\text{W}/\text{cm}^2$  as set forth by §1.1310 at the restricted access roof level. Therefore, the facility is in compliance with FCC guidelines. In addition to the protection afforded by the proposed antenna height above ground, the facility is or will be properly marked with signs, and/or entry to the facility will be restricted by means of fencing with locked doors and/or gates if required. Any other means that may be required to protect employees and the general public will also be employed.

In the event work is required in proximity to the antenna(s) such that the person or persons working in the area will be potentially exposed to fields in excess of the current guidelines, an agreement signed by all broadcast parties at the site will be in effect for the offending transmitter(s) to reduce power, or cease operation during the critical period.

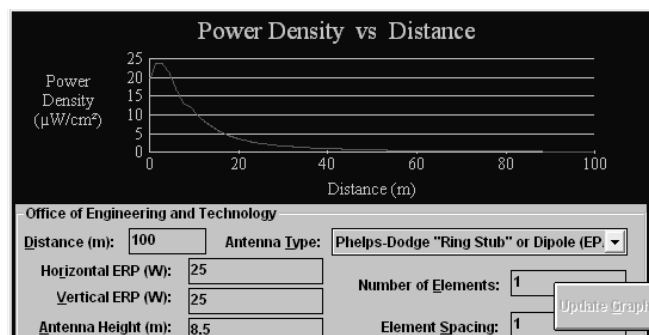
### Uncontrolled Environment Study $200 \mu\text{W}/\text{cm}^2$ Limit at Ground Level



The Max Power Density was found to be  $6.33238288488826 \mu\text{W}/\text{cm}^2$  at 3.4 meters.

Note: Graph resolution is 500 points.

### Controlled Environment Study $1000 \mu\text{W}/\text{cm}^2$ Limit at Roof Level



The Max Power Density was found to be  $23.7910150972985 \mu\text{W}/\text{cm}^2$  at 1.8 meters.

Note: Graph resolution is 500 points.

1. FM Model Version 2.1b employs the standards as detailed in OET Bulletin No. 65 (Edition 97-01). FM radiofrequency radiation levels have been predicted using both the array pattern, the calculations of which are based on the number of bays in the antenna and wavelength spacing between the bays, and the element pattern. The element pattern has been determined by using measured element data prepared by the EPA and published in "An Engineering Assessment of the Potential Impact of Federal Radiation Protection Guidance on the AM, FM and TV Services," by Paul C. Gailey and Richard Tell - April 1985, U.S. Environmental Protection Agency.