

Analysis of Non Ionizing RF Radiation

In accordance with the order of Docket 79-144, as adopted January 1, 1986, the following analysis of human exposure to non ionizing RF radiation has been performed. All calculations were made using the worst case formulas prescribed by OST Bulletin Number 65 at a point 2 meters above the tower base. The calculations assume the worst case of 100% downward radiation.

I. Facilities

New 228	KMXL (FM)
93.5 MHz	95.1 MHz
0.250 kW H&V	50.0 kW H&V
126 m AGL	139 m AGL

No other facilities are proposed nor are considered.

II. Calculations

New 228

$$s = \frac{(0.64)(\text{EIRP})}{\pi R^2}$$

$$s = \frac{(0.64)(1.64)(250+250)(1000)}{\pi((124)(100))^2}$$

$$s = 0.0011 \text{ mW/cm}^2$$

$$\text{ANSI Max C 95.1 (1992)} = 0.2 \text{ mW/cm}^2$$

$$\% \text{ of ANSI C 95.1 (1992) Max} = 0.55\%$$

KMXL

$$s = \frac{(0.64)(\text{EIRP})}{\pi R^2}$$

KMXL (continued)

$$s = \frac{(0.64)(1.64)(50,000+50,000)(1000)}{\pi((137)(100))^2}$$

$$s = 0.1780 \text{ mW/cm}^2$$

$$\text{ANSI Max C 95.1 (1992)} = 0.2 \text{ mW/cm}^2$$

$$\% \text{ of ANSI C 95.1 (1992) Max} = 89.00\%$$

component is 0.036 A/m based on 1 kW. Normalized to 0.78 kW the components are 57.4 V/m and 0.032 A/m respectively.

Site Total

New 228D	0.55% ANSI maximum
<u>KMXL</u>	<u>89.00% ANSI maximum</u>

Site Total 89.55% ANSI maximum

III. Conclusion

As the above calculations indicate, the worst case power density at a point 2 meters above the tower base falls below the maximums established under ANSI C 95.1 (1992). This effectively precludes inadvertent passive overexposure by members of the public. So as to discourage trespassers from putting themselves at risk additional precautions are in place, signs warning of hazards due to High Voltage and RF Radiation are posted on the site. Upon completion of construction, plans will be developed based on the downward radiation characteristics of the FM broadcast antennas, so as to establish minimum safe distances at various power levels so as to protect agents and employees of the licensee from occupational overexposure.

Carthage Broadcasting Company, Inc. will coordinate tower maintenance with all users of the structure and any tower maintenance will be performed only after sufficient power reductions are made so as to protect workers or work will be scheduled at night when a complete cessation of the operations can be accomplished.