

RF Radiation Study KNGA License Application

The purpose of this study was to document the level of RF radiation present at two meters above ground level following the replacement of the KNGA transmitting antenna. KNGA's eight section Dielectric antenna was replaced with an ERI eight section 'Rototiller' type antenna.

There are two other FM radio stations located on the same tower as KNGA. The radio stations on the tower are KNGA, KDOG, and KGAC. KNGA utilizes an ERI eight section one wavelength spaced antenna. KNGA transmits with 75,000 watts horizontally polarized and 75,000 watts vertically polarized.

KDOG utilizes a two section, one wavelength spaced ERI Rototiller type antenna. KDOG transmits with 4,000 watts horizontally polarized and 4,000 watts vertically polarized.

KGAC utilizes a three section, one wavelength spaced ERI vertically polarized antenna. KGAC transmits with 8,500 watts vertically polarized.

By using the FCC FM Model software it was determined that the maximum power density under worst case conditions for the site was under $10 \mu\text{watts}/\text{cm}^2$. The maximum limit for an uncontrolled site is $200 \mu\text{watts}/\text{cm}^2$. Thus, this site is within the FCC limits for an uncontrolled access site.

Michael Hendrickson
Minnesota Public Radio

April 29, 2012