

Appendix C

Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

**KMDS
&
KMDZ**

Las Vegas, New Mexico

**Report of Measurements & Conclusions
November 4, 2015**

This report details radio frequency radiation (RFR) measurements made on November 4, 2015, at the KMDS transmitter site, Las Vegas, New Mexico. KMDS is an FM broadcast station operating on 107.1 MHz with 6kW ERP. This report addresses Special Operating Conditions on the KMDS Construction Permit, BMPH-20150918ABJ.

The measurement equipment used consists of a Potomac Instruments FIM-71 FM Field Strength meter with the Potomac Instruments ANT-71 antenna used in accordance with the instruction manual. The instrument reads in V/m. The published antenna factor was multiplied times the field meter reading to determine the absolute field strength. The RF power density was determined from the formula:

RF Power Density = E squared divided by 3770 in milliwatts/square centimeter.

Measurement techniques used are consistent with generally accepted practices. Steps and procedures used in making these measurements are similar to those printed in Section 3 of OET Bulletin 65, Edition 97-01, August 1997, published by the FCC Office of Engineering and Technology.

The site consists of one tower with two FM antennas mounted near the top. The transmitter building is located near the tower. Chain link fences surround the tower bases and the transmitter building. All gates are secured with chain and locks. Appropriate RF Exposure caution signs are posted on all of the tower enclosure fences and at the site entry gate. The site is in an industrial storage area on the outskirts of Las Vegas, New Mexico.

The Maximum Permissible Exposure (MPE) limits for the General Population for the range of FM frequencies in which KMDS operates is as follows:

Frequency	Electric Field (V/m)		Power Density (mW/cm ²)
88 – 108 MHz	27.45		0.200

Measurements were made only while each station was operating with the authorized ERP; 6.5kW for KMDZ and 6kW for KMDS. All fence lines around the towers and transmitter building were surveyed. The highest observed RFR density was 0.072 for KMDS in the East quadrant from the tower while the highest RFR observed for KMDZ was 0.060 in the East quadrant from the tower. The highest readings for the two stations did not occur in the same quadrant around the tower so that the total RF power density did not exceed 0.1mW at any one location.

The primary conclusion of this engineering study is that no areas around the KMDS tower have levels of radio frequency radiation which exceed the General Population/Uncontrolled MPE either inside or outside of the tower fence.

Here is a listing of the highest E Field readings and computed RFR contributions observed in each quadrant around the tower.

FM Frequency	North Quadrant E-Field V/m/ RFR(mW/cm²)	East Quadrant E-Field V/m/ RFR(mW/cm²)	South Quadrant E-Field V/m/ RFR(mW/cm²)	West Quadrant E-Field V/m/ RFR(mW/cm²)
KMDS 107.1	14.4/0.055	16.5/0.066	12.3/0.040	12.3/0.040
KMDZ 96.7	13.6/0.049	9.7/0.025	15.1/0.060	10.9/0.32

All measurements were made by an experienced radio broadcast engineer.