

Mission Research Corporation (MRC) is planning to perform some scientific propagation experiments for research and development purposes in the 59-64 GHz band, allocated by the FCC for general purpose, unlicensed operations. MRC emission equipment to be used for this experiment includes an upconverter, and one or more antennas. All transmissions will be at or below FCC-authorized power levels. By FCC directive, the power density of any emission shall not exceed 9 uW/cm² at a distance of 3 meters. The power density of any emissions outside the 59-64 GHz band shall consist solely of spurious emissions and shall not exceed 90 pW/cm² at a distance of 3 meters. The power measurements will be average measurements based on a 1 MHz bandwidth.

Specific objectives of the experiment is to measure attenuation due to water and oxygen in the 59-64 GHz band, and to experiment with alternate signal processing approaches to improve signal reception with very low power signals.

The 59-64 GHz band is a FCC-designated R&D band. There are no existing commercial facilities that can be utilized to perform this experiment.