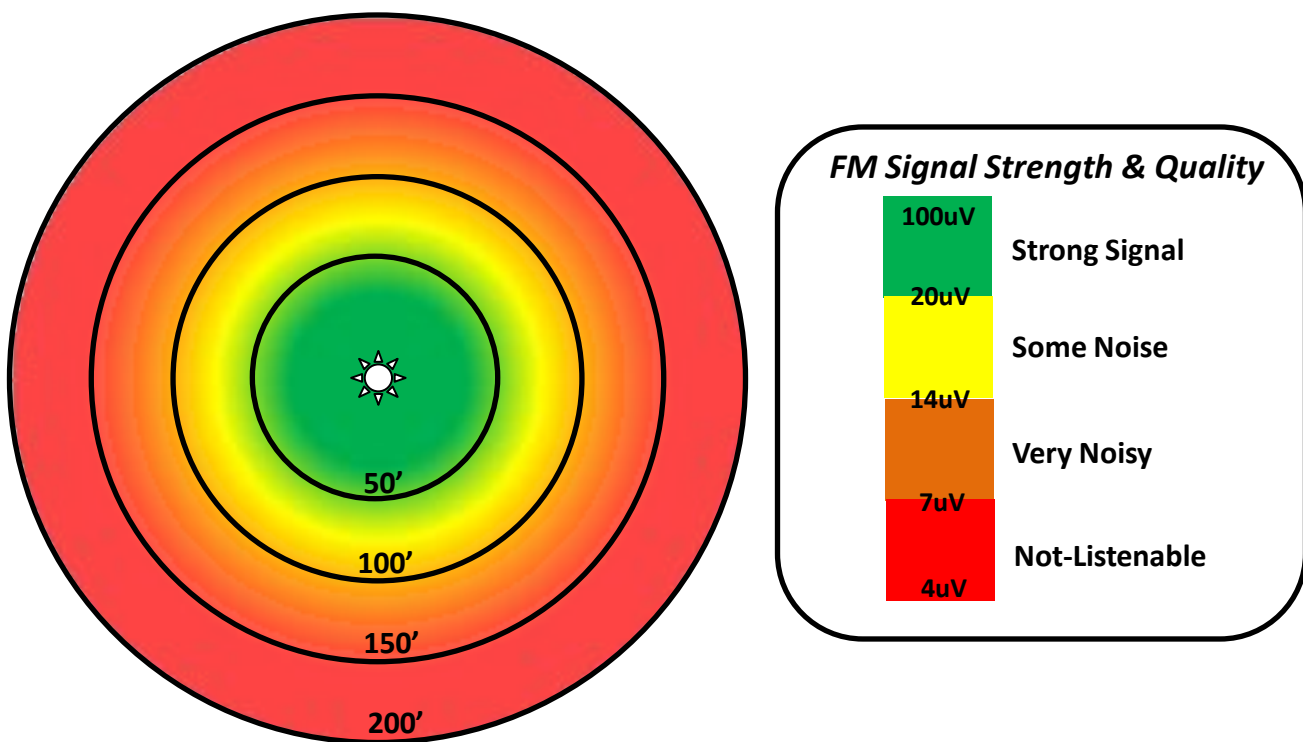


The Legal Range of FM Non-Licensed Transmitter Signals

FCC Part 15.239 contains the requirements for legal non-licensed transmitters in the FM broadcast band in the United States. The regulation imposes very strict limits on the maximum allowable signal intensity at a distance of 10 feet from the transmitting antenna. This results in very short reception ranges. The diagram below illustrates the effect of those limitations using the sensitivity of a typical car radio receiver as a benchmark.



The legal range of AM non-licensed transmitter signals is not as severely restricted because AM Transmitters enjoy a 5000:1 power advantage over their FM counterparts. Even accounting for the lower antenna efficiency, legal AM transmitters have a typical range of up to 2500 feet depending on the antenna mounting height and location