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Experimental License Application:

A description of the nature of the research project being conducted.

IPMobileNet designs and manufactures land mobile communications equipment providing wireless data solutions to the public safety market. Our products include mobile radios, base stations and network controllers. Our current equipment utilizes a 4 level FSK modulation scheme and operates at data rates up to 32 kbps. Using this technique occupies a 25 kHz bandwidth. We are planning to increase our data rate to 105 kbps by utilizing a QPSK modulation scheme while continuing to occupy the same 25 kHz bandwidth.

IPMobileNet requests an experimental radio license to operate base and mobile radios on several land mobile channels in the Los Angeles and Orange County area of California. These channels would be used to verify the effectiveness of the design, compare performance between technologies and to improve the efficiency of the data radio systems.

IPMobileNet's data communication system design is aimed at making significant improvements to transmission speed allowing higher data rates without increasing bandwidth requirements.

Experiments planned include

- Characterization of system performance.
- Determine effects of multipath and signal fading.
- Development of algorithms for channel handoff.
- Optimize channel loading in multi-channel systems
- Determine further improvements to reduce the required bandwidth.