

Answer to Question 7 of FCC Form 442, Application 0049-EX-PL-2000

A. The complete program of research and experimentation proposed including description of equipment and theory of operation.

This program examines the utility of 802.11b communications equipment in frequency bands other than the ISM bands, and in the 5.7 GHz ISM band, for potential U.S. military airborne applications. The transmit power levels are appropriate to communications ranges of up to 100 miles. Only air-to-air or air-to-ground communications will be tested at the higher power ranges. Any necessary ground-to-ground testing will require less than 100 watts ERP.

Equipment used will consist of (1) Lucent Technologies' WaveLAN wireless local area network interface cards and access points, (2) experimental frequency shifters (ISM to other bands specified in FCC Form 442 Application), (3) experimental amplifiers, and (4) experimental antennas.

The experiment will operate by shifting the WaveLAN radio output to other specified frequency bands, transmitting to the remote site, receiving the transmission, and shifting the received signal back to the ISM band for the use of the receiving WaveLAN radio.

B. The specific objectives sought to be accomplished.

This program will provide a proof-of-concept prototype(s) for evaluation by industry and the U.S. military.

C. How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion or utilization of the radio art, or is along line not already investigated.

This program, if successful, will allow the military the capability of very-high-data-rate communications, both air-to-air and air-to-ground without impacting the general availability of the ISM band.