
**IEEE P802.11
Wireless LANs**

Proposal for further comments to the FCC in Docket No. 98-42

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Bruce Kreamer and Jim Zyren alerted me that the comments we filed on Docket No. 98-42 did not achieve the goal. One of the possible actions could be to file a request to postpone the decision of the FCC pending further activities between the existing users (us) and the new users of the band to prevent deadly interference.

On my request, Don Johnson prepared a strawman proposal for a letter to the FCC. Jim understood that material filed before the End of Business on Friday, November 13, 1998 could be taken into consideration by the staff.

Please be prepared to participate in the decision and filing process during the Plenary meeting of November 1998.

DRAFT**FURTHER STATEMENT OF IEEE 802 LAN/MAN STANDARDS COMMITTEE.** on
ET Docket No. 98-42: 1998 Biennial Regulatory Review, Amendment of Part 18 of the
Commission's Rules to Update Regulations for RF Lighting Devices

IEEE 802, the LAN/MAN Standards Committee ("the Committee") submitted comments in the Commission's Notice of Proposed Rulemaking ("the Notice"), FCC 98-42 in July. The committee respectfully submits this further statement in the matter to address concerns of the members that have subsequently arisen.

It has become evident that there is some likelihood that microwave lighting devices will seriously interfere with wireless LAN systems and any decision permitting widespread operation of these devices should be postponed until the subject is further studied.

The Committee's standard on Wireless LAN Media Access Control and Physical Layer Specification, IEEE Std 802.11 - 1997, operates in the 2400-2483.5 MHz band (henceforth, the 2450 MHz ISM band) using spread spectrum procedures under 47 CFR 15.247. Thus, systems conforming to the Committee's standard will be affected by Part 18 devices in the 2450 MHz ISM band.

The Institute of Electrical and Electronics Engineers, Inc. (IEEE) is a USA-based international professional organization with more than 325,000 members representing a broad segment of the computer and communications industries. The number of individuals and corresponding company sponsorships in the IEEE P802.11 working group evidences the strong interest in wireless local area networking. The working group currently has 86 voting members employed by 58 companies. Attachment 1 is a partial list of the organizations in the working group that are already offering or have announced products which comply with the committee's standard. The committee estimated in July that there was then an installed base of approximately 6 million radios operating in this band and the current growth rate is 40 – 60 % annually. Previous experience with IEEE 802 indicates that the growth rate will increase with the introduction of the standard.

The committee's standard was developed with a clear understanding of the effects of current ISM devices on its operation. However, microwave lighting devices are likely to become much more pervasive than current ISM devices such as microwave ovens. These lighting devices will tend to operate a much larger percentage of the time, since they are left on many hours per day and operate at their full power setting all of the time. Therefore the two factors mitigating the impact of microwave ovens on such systems – first, that the ovens are only used intermittently, secondly, that they operate with less than 100% duty-cycle when not used at the full power setting – may not apply to microwave lighting devices.

The committee, in its comments, proposed that microwave lighting devices be controlled with respect to out-of-band emissions using the same strict rules that are applied to Part 15 intentional and unintentional radiators. In addition, the committee recommended that the microwave lighting interests be required to show what level of in-band emissions are necessary in order to achieve the benefits of the technology.

It has subsequently become clearer that there is a strong potential for interference from microwave lighting devices into wireless LANs. The potentially high proliferation of microwave lighting devices and the widespread use of wireless LANs makes it necessary that all possible efforts be made to assure that the emissions of the lighting devices better understood. The emissions should interfere no more with wireless LAN devices than is necessary consistent with the potential economic and environmental benefits which the Commission recognizes in the lighting technology.

More study is needed of the emission characteristics of microwave lighting devices and their effect on systems operating in conformance with the committee's standard. The committee recommends that a joint study of the characteristics of the emissions be undertaken before any decision permitting operation widespread operation of microwave lighting devices. Such a study would take about six months with the full cooperation of the microwave lighting industry.