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**IEEE P802.11  
Wireless LANs**

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**Letter to Secretary of FCC on Microwave Lighting Devices**

**Date:** January 12, 1999

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**Abstract**

The proposed rules change now before the FCC would result in the proliferation of lighting devices which employ magnetrons as sources of RF energy. These devices would operate in the 2450 MHz band with no limit on RF emissions. IEEE 802.11 has previously filed comments in this matter and other Part 15 interests have been negotiating an RF emission limit on microwave lighting devices. A limit of 20 mV/meter at 3 meters is currently under discussion. The text for an additional letter to the Commission supporting this limit as a peak field strength limit is presented for discussion by the Working Group.

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**Draft Text**

January 12,1999

Magalie R. Salas, Esquire  
Secretary  
Federal Communications Commission  
1919 M Street NW  
Room 222  
Washington DC 20554

Re: Microwave Lighting Devices, Docket No. 98-42

Dear Ms. Salas:

IEEE 802, the LAN/MAN Standards Committee ("the Committee"), supports the efforts of the Part 15 interests with regard to establishing emission levels for microwave lighting devices.

The Institute of Electrical and Electronics Engineers, Inc. (IEEE) is a USA-based international professional organization with more than 325,000 members. The IEEE 802.11 Working Group has developed a standard for Wireless Local Area Networking (WLAN) in the 2400-2483.5 MHz band ("the 2450 MHz band"). Approximately 58 companies have participated in the generation of this standard and the committee submitted a list of 16 companies that plan to provide devices complying with the standard. The Committee estimated that there was in, July 1998, 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.

~~That t~~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 in-band emissions of the lighting devices be controlled. 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.

The Committee filed comments in the Commission's Notice of Proposed Rulemaking, ET Docket No. 98-42: 1998 Biennial Regulatory Review, Amendment of Part 18 of the Commission's Rules to Update Regulations for RF

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Lighting Devices in July 1998. The Committee also submitted a subsequent letter on the matter in November. The comments and subsequent letter requested that the Part 15 interests and the microwave lighting interests work together to establish in-band limits for the microwave lighting.

The committee understands that there has been further study of the possibility of controlling microwave lighting emissions and that an emission level of 20 mV/meter at 3 meters is achievable without limiting the benefits of the microwave lighting technology. The Committee feels that a limit as high as 20 mV/meter peak field strength represents a good balance between the competing interests of the manufacturers of Part 15 equipment and the promoters of RF lighting devices.

The Committee thus recommends that an emission limit be required by the rules and that the limit be 20 mV/meter peak field strength.

Respectfully,

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