

## Standards Working Group IEEE 802

Local and Metropolitan Area Network Standards Committee  
Homepage at <http://grouper.ieee.org/groups/802/>



November 16, 1999

Magalie R. Salas, Esquire  
Secretary  
Federal Communications Commission  
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Reply to: Vic Hayes, Chair, IEEE P802.11  
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### Reply Comments

Re: Amendment of Part 15 of the Commission's Rules for Spread Spectrum  
Devices, ET Docket No. 99-231

### Reference:

First ex-parte letter from Jim Carlo etc. dated July 19, 1999, filed August 19, 1999  
Second ex-parte letter from Jim Carlo etc. dated Oct. 2, 1999, filed October 4, 1999  
Third ex-parte letter from Jim Carlo etc. dated Oct. 2, 1999, filed October 4, 1999

Dear Ms. Salas:

The Regulatory Ad-Hoc Group (RAHG<sup>1</sup>) of the IEEE 802.11 Working Group<sup>2</sup> convened during the plenary meeting of IEEE 802, 8-12 November, 1999 and studied the comments received in this proceeding. None of the comments gave reason to change the position of the three previous ex-parte letters from IEEE 802.

The first and second ex-parte letters opposed the proposed Part 15 rule changes to increase the maximum bandwidth allowed for frequency hopping devices in response to the Commission's Notice of Proposed Rulemaking regarding unlicensed spread spectrum devices. The third ex-parte letter agreed that the existing rules for direct sequence systems are adequate, with the additional requirement as proposed by the Commission that a processing gain calculation be included for systems which have fewer than 10 chips per symbol. This letter also

<sup>1</sup> At the November 1999 meeting, the ad-hoc Regulatory Group to the Wireless LAN Working Group IEEE 802.11 consisted of 7 individuals.

<sup>2</sup> The 802.11 Working Group approved to file this letter with 25 Approve, 0 Dis-approve, 1 Abstain. The Executive Committee of IEEE LMSC approved the filing with a vote of 6 Approve, 0 Dis-approve and 6 Abstaining.

advised the Commission of our concerns regarding the alternative Gaussian noise test as proposed.

The second ex-parte letter provided extensive analysis showing that the proposed rules change permitting wide bandwidth frequency hopping systems would result in increased interference to systems complying with the current rules even with the lowered power level restraints proposed. Some commenters asserted that there would be no increase in interference<sup>3</sup> while some commenters agreed with the second ex-parte letter that there would be an increase in interference<sup>4</sup>. Intersil and Nokia supplied analysis in addition to that of the second ex-parte letter from IEEE 802 showing increased interference. There was no analysis from commenters supporting the claim that the proposal would not increase interference.

Most commenters agreed that the CW jammer test requirement is sufficient to qualify direct sequence systems. However, some commenters proposed that only a Gaussian noise qualification test is sufficient for direct sequence systems with fewer than 10 chips per symbol<sup>5</sup>. The commenters in favor of such a test did not address the complexities that the third ex-parte letter described. The third ex-parte letter asserted that the CW jammer test provides sufficient assurance that a direct sequence system meets the spreading rules indicated by the calculation and declaration. The RAHG believes that the proposed alternative Gaussian noise jamming test should be excluded, until a detailed test procedure specifically designed for evaluating processing gain is developed. Inclusion of this test even as an option without an accompanying test procedure invites inaccurate and widely variable test results.

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<sup>3</sup> See for example, the comments of Proxim at C, HomeRF at 3 and Breezecom at 5.

<sup>4</sup> See for example, the comments of Nokia at II, Intersil comments of September 3, 1999 and Aironet at 3.

<sup>5</sup> See the comments of Aironet at 5 and Proxim at 6.

In summary the RAHG found no comments which effectively disputed its claim of increased interference if wideband frequency hopping is permitted, nor any compelling evidence that the CW jammer test in conjunction with a mathematical declaration was insufficient for demonstrating direct sequence processing gain. The RAHG thus urges the Commission to reject the proposed increase in frequency hopping bandwidth and not to impose the Gaussian noise test requirement on direct sequence systems.

Respectfully,

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