IEEE P802.11
Wireless LANs

Proposed Reply Comments of IEEE 802 on FCC Docket 99-231 on Modifying the Rules for Spread Spectrum Devices

Date: November 10, 1999

Author: Regulatory Ad-Hoc Study Group of p802.11

Summary

Attached is a proposal for reply comments to the FCC NPRM in OET Docket 99-231. The document is a proposed reply referencing comments received by the FCC in the first phase of the proceding.

The text was generated by the 802.11 regulatory ad-hoc group, based on submissions and discussions held at the November 1999 802 meeting.

November 11, 1999

Magalie R. Salas, Esquire
Secretary
Federal Communications Commission
445 12th St. SW
Washington DC 20554

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

Dear Ms. Salas:

The Local and Metropolitan Area Networks Standards Committee of the Institute of Electrical and Electronics Engineers (IEEE-LMSC) submitted comments opposing 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. IEEE-LMSC 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. IEEE-LMSC also advised the Commission of our concerns regarding the alternative Gaussian noise test as proposed.

IEEE-LMSC 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. A number of commenters asserted that there would be no increase in interference[1] while a number agreed with IEEE LMSC that there would be an increase in interference[2]. Intersil and Nokia supplied analysis in addition to that of the IEEE-LMSC showing increased interference. There was no analysis presented supporting the claim that the proposal would not increase interference.

[1] See for example, the comments of Proxim at C, HomeRF at 3 and Breezecom at 5.
[2] See for example, the comments of Nokia at II, Intersil comments of September 3, 1999 and Aironet at 3.

Most commenters agreed that the CW jammer test requirement was 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[3]. The commenters in favor of such a test did not address the complexities that IEEE-LMSC described. IEEE LMSC continues to assert that the CW jammer test provides sufficient assurance that a direct sequence system meets the spreading rules indicated by the calculation and declaration. IEEE-LMSC 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.

In summary the IEEE-LMSC found no comments which effectively disputed it's claim of increased interference if wideband frequency hopping is permitted, nor any compelling evidence that the CW jammer test in conjunction with a mathametical declaration was insufficient for demonstrating direct sequence processing gain. The IEEE-LMSC 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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[3] See the comments of Aironet at 5 and Proxim at 6.