

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Amendment of Section 15.247(a)(1)(ii))
of the Commission's Rules on)
Spread Spectrum Operation)

RM 8608

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REPLY

AT&T respectfully submits the following reply to comments regarding the Petition for Rulemaking ("Petition") filed by Symbol Technologies, Inc. ("Symbol").

The comments¹ demonstrate that the Commission should not issue a Notice of Proposed Rulemaking ("NPRM") based on Symbol's proposal. AT&T and Aironet showed that, because the Commission's decision in ET Docket 94-32² reserved the 2402-2417 MHz band for use by Part 15 devices (and the Amateur service), rather than allocating it to licensed services as Symbol had thought possible, there is

¹ In addition to AT&T's Opposition, comments were filed by Aironet Wireless Communications, Inc. ("Aironet"), Apple Computer, Inc. ("Apple"), Norand Corporation ("Norand"), SpectraLink Corporation ("SpectraLink"), and Tel-A-Tech Communications, Inc. ("Tel-A-Tech"). Moreover, Symbol filed a "Clarification" of its Petition, which is in fact a major modification.

² Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, First Report and Order, FCC 95-47, released February 7, 1995.

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no need for the proposed rule. Nothing in the filings of other parties undercuts the force of this point.

Symbol's clarification has, however, addressed the point made by AT&T (pp. 3-4), Aironet (p. 2) and Apple (fn. 8) that the increased bandwidth and thus increased data rate at the moment of transmission arising from the rule proposed by Symbol is entirely offset by the reduced channel occupancy time required by that rule, producing no increase in data throughput.³ Symbol (p. 2) now explains that, although its proposed rule could be read to permit each of the 15 channels to be occupied for as much as two seconds before hopping to another channel,⁴ it had no such intent. As clarified, Symbol's proposed rule would permit each channel to be occupied for 0.4 seconds out of each 6-second period instead of each 30-second period (p. 2).⁵ This new

³ The rule proposed by Symbol provided that each of the 15 channels could be occupied for no more than 0.4 seconds out of 30 seconds, thus permitting the system to transmit only 6 seconds out of each 30 (15 x 0.4 second = 6 seconds). The present rule, allowing each of 75 channels to be occupied 0.4 seconds out of 30 seconds, permits the system to transmit for the entire 30 seconds (75 x 0.4 second = 30 seconds).

⁴ SpectraLink read Symbol's proposal in this way.

⁵ SpectraLink urged this "minor modification" to Symbol's proposal and supported it as so modified (p. 2).

version means that the system can transmit for the entire 30 second period.⁶

Although Symbol's clarification responds to one of the flaws in its original proposal, it does not respond to the demonstration by AT&T (pp. 4-5) and Aironet (p. 2) that the wider bandwidth proposed by Symbol creates a potential for interference to other users of the 2400-2483 MHz band, including wideband spread spectrum systems and other frequency-hopping systems. Even Symbol's nominal supporters recognize this potential problem with the Petition. Apple, although asserting that Symbol's proposal "merits further study in the context of an NPRM," (p. 3) also noted that the wideband channels proposed by Symbol can make the 2400-2483.5 MHz band unavailable to direct sequence devices (id.). Apple added that adoption of Symbol's proposal could adversely affect on-going efforts to develop an industry-wide standard for spread spectrum wireless local area networks in this band (id.).⁷

Apple (p. 4) nonetheless urges a very different NPRM to consider permitting faster data rates without adversely affecting other users, by reducing the number of

⁶ Each of the 15 channels can be occupied for 0.4 second in a 6-second period, which means five different times during each 30-second period (15 x 0.4 second x 5 = 30 seconds).

⁷ This point also applies to the clarified proposal.

hopping channels from 75 to some number greater than the 15 proposed by Symbol; imposing constraints on minimum or maximum bandwidths or power differentials; and taking into account the Commission's recent allocation of 2390-2400 MHz for data PCS⁸ and the Commission's proposal to allocate spectrum above 40 GHz for unlicensed use.⁹ However, neither the original nor clarified version of Symbol's proposal addressed these issues, and Apple's comments do not at this time present ideas developed sufficiently to justify an NPRM. Apple is, of course, free to develop its proposal further and then petition the Commission to institute a rulemaking.

Norand (p. 3) also nominally supports Symbol, but proposes a reduction in the number of hopping channels to 20 instead of 15¹⁰ and imposition of output power limits to the extent bandwidth is allowed to increase. Norand does not, however, address the key issue of the time each channel can

⁸ See note 2, supra.

⁹ Amendment of Parts 2 and 15 of the Commission's Rules to Permit Use of Radio Frequencies Above 40 GHz for New Radio Applications, FCC 94-273, released November 9, 1994. The pleading cycle on this NPRM closed last month.

¹⁰ Norand (p. 3) joined AT&T (p. 3) and Aironet (p. 3) in pointing out that the reason for 15 channels disappeared as a result of the Commission's decision in ET Docket 94-32. See note 2, supra. Apple (fn. 7) noted that that decision made Symbol's concern about the unavailability of the 2402-2417 MHz band "moot".

be occupied and thus does not establish that its proposal will increase data throughput. Nor does Norand provide any support for its concurrence with Symbol's position that the proposed changes will not create additional interference to other users. As discussed above, AT&T and other commenters demonstrated the contrary.

Respectfully submitted,

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CERTIFICATE OF SERVICE

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