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Before the
Federal Communications Commission
Washington, D.C. 20554

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In the Matter of)	
)	WT Docket No. 97-12
Amendment of the Amateur Service)	
Rules to Provide For)	RM-8737
Greater Use of Spread)	
Spectrum Communication)	
Technologies)	

To: The Commission

Reply Comments of Thomas C. McDermott, N5EG

June 4, 1997

Introduction

I respectfully submit these reply comments to the Commission regarding the Notice of Proposed Rulemaking that proposes to change certain rules governing spread spectrum operation in the Amateur Radio Service (ARS). I am a licensed Amateur Radio Operator, callsign N5EG, co-founder and registered agent of the Texas Packet Radio Society, Inc. (TPRS), a member of the American Radio Relay League, Inc. (ARRL), and an employee of Alcatel Network Systems, Inc., however the opinions expressed herein are strictly my own and do not represent the opinions of TPRS, ARRL, or Alcatel.

Overview

In comments regarding RM-8737 and Docket 97-12, several organizations oppose fundamentally the proposed rule making on the grounds that spread spectrum emissions would encroach into other band users long established frequency usage. It is difficult to see how the changes proposed by the Commission degrade, in a technical sense, the impact of currently authorized amateur spread spectrum emissions on these users.

Several commenters essentially propose that Amateur spread spectrum emissions be restricted to somebody else's spectrum. However these restrictions, if implemented jointly, would eliminate a significant amount of spectrum from consideration. Such a ruling would be a significant reduction of the existing spread spectrum authorizations, seriously jeopardizing the possibility of effective experimental use of spread spectrum by amateurs.

One commenter suggests difficulty in realization of an power control algorithm well suited to amateur usage, a comment agreed to by this author.

One commenter indicates that detailed record keeping requirements imposed by 97.119(5) will discourage experimental effort. The author agrees with these comments, and wonders how such detailed records would assist the Commission. Records such as the station log, retained for one year's time would provide equal ability to trace reported cases of interference as those contained in the current rule making.

Discussion

The comments of several organizations, notably, the Southern California Repeater and Remote Base Association (SCRRBA), the Mid-America Coordination Council (MACC) , and the Part 15 Coalition express concern at the possibility of interference if the proposed rulemaking is adopted. The proposal by the Commission does not degrade the protection already afforded current occupants of spectrum as outlined in 97.311 (b).

The relevant technical changes to the regulations are 1) removal of restrictions on spread spectrum emission types and, and 2) elimination of restrictions on spreading codes. These two changes, in and of themselves, do not affect the characteristics of the spread spectrum signal in a way that changes, either adversely or beneficially, the potential of interference to existing spectrum occupants. Thus such comments appear not to accurately reflect on the proposed rulemaking. This author believes that the Commission's proposed rules in this regard are adequate and do not degrade the potential of interference.

The comments of the Part 15 Coalition suggest excluding the spectrum from 902-928 MHz from use by amateurs utilizing spread spectrum emissions. The comments of George R. Isely suggest allowing such operation only in the 902-928 MHz. band. Comments of William R. Tynan suggest small amounts of spectrum, 219-220 MHz, conditional use of 435-438 MHz. but only for satellite usage, 904-928 MHz, and larger sections of spectrum at higher frequencies. Comments of the San Bernardino Microwave Society (SBMS), and the Mid-America Coordination Council (MACC) suggest the use of local coordinators to assign frequencies to experimenters. Given the desire of each local group to protect certain different frequencies, and given the conflicting nature of the

proposed frequency assignments, it is not likely that such coordination would lead to adequate contiguous spectral width for experimental purposes, nor would they be reasonably forthcoming. Thus the frequency assignments currently contained in the Commission's rules (and not proposed to be altered by the proposed rule making) are the only effective way to assure access to spectrum for these purposes; this author agrees with the Commission's plans in this regard. Ultimately, use of spread spectrum emissions for existing services could lead to significant improvements in amateur spectrum utilization, and one essence of experimentation is to pave the way for this eventuality.

Lyle V. Johnson comments on the difficulty in providing an effective power control mechanism among different experimenters who are not bound to a common protocol. Further, he explains that in multi-point usage, it may not be possible to determine a unique value for minimum acceptable power. In comments on this same subject, William A. Tynan contends that Automatic Power Control is not practical in the Amateur Radio Service (ARS), and questions whether it would be effective, even if it could be implemented. This author agrees with these comments, and requests that 97.311(g) be retained as specified under the current rules, rather than modified as in the proposed rule making. There is no existing evidence that the current regulations have led to harmful interference. Further, spread spectrum emissions may not cause harmful interference according to part 97.311(b), and so 97.311(g) as proposed in the current rulemaking seems redundant, while probably not practical to implement in the ARS anyway.

Lyle V. Johnson comments that detailed record keeping requirements imposed by 97.119(b)(5) will discourage experimental effort, and that the record-keeping imposed by this section exceeds that required of any other amateur mode. The author agrees with these comments, and wonders how such detailed records would assist the Commission. Records such as the station log, retained for one year's time would provide equal ability to trace reported cases of interference as those contained in the current rule making. This author agrees with the commenter that Part 97.311(e) be rewritten as described by Lyle V. Johnson: "Logs and notebooks pertaining to technical investigations in spread spectrum on amateur radio frequencies be retained by the licensee for a period of one year following the date of last entry."

Conclusion

The current proposed rule making does not degrade the possibility of interference, as compared to current regulations. The spectrum needed for effective experimentation should not be reduced from that already authorized. The power control requirements of section 97.311(g) in the proposed rulemaking should be eliminated as being impractical and probably ineffective. The record keeping requirements of 97.311(e) should be simplified to be in concert with existing record keeping requirements of the Amateur Radio Service.

Respectfully submitted,

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