

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

In the Matter of)	
)	
Amendment of the Commission's)	GEN Docket No. 90-314
Rules to Establish New Personal)	ET Docket No. 92-100
Communications Services)	
)	

To: The Commission

REPLY COMMENTS OF IEEE PROJECT 802
LOCAL AND METROPOLITAN AREA NETWORK STANDARDS
COMMITTEE

Filed July 20, 1993

The IEEE Project 802 Local and Metropolitan Area Network Standards Committee¹ (the "Committee") offers the following brief

¹ The Institute of Electrical and Electronics Engineers, Inc (IEEE) is a USA based international professional organization with more than 320,000 members representing a broad segment of the computer and communications industries. IEEE 802 is chartered by the IEEE to produce standards for Local, Metropolitan and Integrated Voice/Digital communications networks. These standards provide for data transfer between computers and/or computer terminals at data rates of 1 to 20 Mbit/s on wire, optical and radio media.

To date, IEEE 802 has developed several widely recognized standards. Many of these have been forwarded to the International Organization for Standardization (ISO) and have been accepted subsequently as International Standards.

comments on the filings of the Wireless Information Networks Forum ("WINForum") and the Unlicensed PCS Ad Hoc Committee for 2 GHz Microwave Transition and Management ("UTAM"), and the comments with respect thereto which were filed on June 21, 1993.

IEEE 802 now has work under way to prepare a Local Area Network standard for data communication over a radio medium. The Committee's members have been engaged since September 1990, in an effort to develop standards and protocols for wireless LANs. The Committee has a vital interest in the Commission's implementation of Emerging Technologies Bands in the 2 GHz region of the radio spectrum, and has participated in the earlier rounds of comments and reply comments in these proceedings.

The proposed 10 MHz of spectrum for asynchronous data is a necessary and welcome allocation for initial Data PCS requirements. The committee also believes that there is an immediate need for 70 MHz of radio spectrum and that up to 140 MHz of radio spectrum will be required to satisfy the foreseeable demand for wireless LAN services. Accordingly, the Committee urges the Commission to allocate, from the outset, a more suitable amount of spectrum to fully enable wireless LAN technology.

The WINForum Etiquette

The Committee supports the efforts of WINForum to develop a spectrum etiquette that would provide a fair spectrum sharing method which satisfies the needs of a diverse set of unlicensed PCS users. The Committee also appreciates the FCC's proposal to allocate spectrum for the combined needs of both asynchronous data services and isochronous voice services.²

The Committee is currently developing standard wireless network protocols that could utilize the proposed User PCS spectrum allocation. The primary data transfer technology used is asynchronous packet data (with additional

² The NPRM defines the services eligible for the User PCS spectrum as "cordless telephones, wireless PBXs and wireless communications between computing devices." See NPRM at ¶42.

provisions for support of isochronous information). This approach is consistent with existing computer networks and is driven by technical issues (including the need to minimize latency).

The Committee is particularly concerned that the Commission could inappropriately consider devoting the band exclusively to isochronous services.³ In that case, the band could not be utilized in the manner proposed in the WINForum etiquette and the band would be useless for wireless data LAN applications.

The Committee strongly disagrees with any determination that would not provide explicitly for asynchronous wireless data operation. An asynchronous packet data service is a prerequisite for the committee's wireless LAN standards. Any allocation in which only isochronous operation is permitted simply cannot meet the needs of the industry interests represented within IEEE 802.

The UTAM Proposal

Wireless LANs have distinctive spectrum requirements and operating characteristics that must be accommodated in the 2 GHz emerging technologies band. As described in previous filings by the Committee, many Committee participants are interested in nomadic Data-PCS devices (and fixed location devices). In general, there is no realistic means of permitting sharing between **mobile, nomadic** computing devices and fixed microwave stations on a basis which guarantees that the operations of the fixed stations will not be adversely affected.

The Committee would like to point out that for a spectrum allocation to be viewed as investment-worthy by the computer industry, adequate amounts of spectrum (cleared of existing microwave users), should be made available in the most timely and cost effective manner possible.

Therefore, the Committee supports the recent Report of the House Appropriations Committee which states that:

³See, e.g., Comments of The Ericsson Corporation dated June 21, 1993

"Personal Communications Services. - The Committee understands that with the rapidly increasing portability and mobility of computers, it is essential that we rely on the radio spectrum to enable people using computers to communicate broad streams of data text and images anytime and anyplace. In this way, the US. will get the full benefit of the convergence of computing and communications technology. The rapid, cost-effective introduction of this technology, called data personal communications services (PCS), requires the allocation of adequate spectrum resources. In addition, it is necessary that a frequency plan be adopted that promotes efficient use of the radio spectrum by all forms of PCS users, as well as the microwave stations that share the spectrum with them. Recognizing the legitimate concerns of existing users, the Committee encourages the FCC, as expeditiously as possible, to make every effort to accommodate the spectrum requirements of this emerging service industry."

Respectfully submitted,

IEEE Project 802

Local and Metropolitan Area Networks Standards Committee

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July 20, 1993