

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

In the Matter of)	
)	
Petition for Rulemaking of the Wireless)	
Ethernet Compatibility Alliance To Permit)	RM-10371
Unlicensed National Information Infrastructure)	
Devices To Operate in the 5.470-5.725 GHz)	
Band)	

To: The Commission

Comments of Agere Systems in Support of the WECA Petition

Agere Systems (“Agere”) is a leading manufacturer of Wireless Local Area Network (“WLAN”)¹ devices and systems. Agere also actively participates in the IEEE 802.11 Wireless Local Area Network Standards Working Group, which develops industry standards for systems that operate as Unlicensed National Information Infrastructure devices (“U-NII”) under Subpart E of Part 15 of the Commission’s rules².

As such, Agere is an interested party in this proceeding and appreciates the opportunity to present these timely filed comments in support of the above-referenced Petition for Rulemaking (“the Petition”) submitted by the Wireless Ethernet Compatibility Alliance (“WECA”).

¹ *Equivalently referred to in the ITU-R and herein as Radio Local Area Network (“RLAN”)*

² *See Sections 15.401 through 15.407 of the Commission’s rules.*

More Spectrum is Necessary to Meet the Future Needs of RLAN Users

1. The Commission must be commended for the timely allocation of a total of 300 MHz of spectrum in the 5 GHz frequency range for the use of U-NII devices in 1997. As a result of the Commission's early understanding of the allocation needs, the IEEE 802.11 working groups were able to develop an interoperability standard that enabled the development of a large and competitive market for affordable RLAN devices. However, both RLAN technology and user demand for the services provided by RLAN technology have advanced at an unforeseeable pace since 1997. Due to the unforeseeable demands for RLAN technology the spectrum currently available for 5 GHz RLANs will soon be insufficient to adequately meet the needs of the public.

2. As pointed out in the Petition, studies have shown that the projected spectrum requirement for RLANs in the 5 GHz range is 540 MHz by 2010³. While the referenced study considered spectrum requirements within the European Union using HIPERLAN/2 technology, based on Agere's extensive experience in global and United States markets, we believe the spectrum requirements for RLAN in the 5 GHz band are likely to exceed the spectrum requirements projected by the referenced study. We respectfully submit that the RLAN industry, and the public who employ RLANs, will face a spectrum shortage on the order of at least 240 MHz in the United States.

³ See the Petition at III.

Globally Harmonized Spectrum Allocations are Necessary to Meet the Needs of the RLAN Industry and RLAN Users

3. In addition to the need for additional spectrum allocation, Agere believes that the spectrum allocated for RLAN devices should be globally harmonized. Currently, differences exist in which bands are available for RLAN use in different regions of the world⁴. The need for “region-specific” devices with different technical capabilities and limitations complicates the situation for the manufacturers of RLAN devices and results in increased prices for the users of RLAN equipment. Additionally, the lack of harmonized spectrum allocations makes “roaming” with RLAN devices unnecessarily complex and problematic, similar to the problems experienced when a cell phone user roams from one country to another.

4. Agere contends that globally harmonized spectrum allocations are extremely important to both the RLAN industry and to its users.

5. Globally harmonized spectrum allocations allow manufacturers of RLAN devices to leverage economies of scale in manufacturing and test by building “universal” versions of products without regard to where they are ultimately sold. This reduces manufacturing, testing, and inventory costs, thereby resulting in increased availability of equipment at lower prices for consumers.

⁴ For example, in the United States, the “U-NII” bands cover 5150-5350, and 5725-5825 MHz, whereas in Europe, the available bands are 5150-5350, and 5470-5725 MHz. Thus, in Europe, 255 MHz is available which is not currently available for RLAN use in the United States. Conversely, in the United States, 100 MHz is available which is not available for compatible RLAN usage in Europe.

6. Globally harmonized spectrum allocations also facilitate “roaming” by users by assuring that products purchased in one country or region of the world will both function and meet local regulatory requirements as the user travels. This is particularly valuable, for example, to business users and others who travel frequently and depend on their RLAN devices for easy, “go anywhere” access to vital business data, e-mail communications, etc. The value of the resulting productivity increases and savings in direct costs is believed to be enormous.

7. The International Telecommunications Union (“ITU”) recognized these needs when it stated at its most recent World Radiocommunication Conference (Istanbul, 2000) (“WRC-2000”) *“that there is a need to provide globally harmonized frequencies in the bands 5 150-5 350 MHz and 5 470-5725 MHz for the mobile services for wireless access systems including radio local area networks (RLANs).”*⁵ The ITU at the WRC-2000 also determined that the next World Radiocommunications Conference (“WRC-03”) *“(should consider) ... allocation of frequencies to the mobile service in the bands 5 150- 5 350 MHz and 5 470-5725 MHz for the mobile services for the implementation of wireless access systems including radio local area networks (RLANs).”*⁶

⁵ See RESOLUTION 736 (WRC-2000), at “considering a)”

⁶ See RESOLUTION 736 (WRC-2000), at “resolves 1”

Summary and Conclusion

8. Agere agrees with the assertions made in the Petition regarding the need for the provision of additional spectrum in the 5470-5725 MHz band for RLANs.
9. Agere also agrees that the simplest way to meet the need at this time is, as the Petition suggests, through relatively minor modifications to the Commission's rules to extend the U-NII bands to include the 5470-5725 MHz band.
10. Therefore, we respectfully urge the Commission to act promptly in response to the Petition by issuing a Notice of Proposed Rulemaking proposing the changes to the Commission's rules requested by WECA in the Petition.
11. Agere also encourages the Commission to take note of the aforementioned recognition by the International Telecommunications Union that additional, globally harmonized spectrum allocations are needed in the 5 GHz band for RLANs and to support the formulation of national policies in support of that end in preparation for WRC-03.

Respectfully submitted,

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