

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

In the Matter of	)	
	)	
Amendment of Part 15 of the Commission's	)	
Rules Regarding Spread Spectrum Devices	)	
	)	ET Docket No. 99-231
Wi-LAN, Inc.	)	
Application for Certification of an Intentional	)	
Radiator Under Part 15 of the Commission's	)	
Rules	)	

**REPLY COMMENTS OF XM RADIO INC.**

XM Radio Inc. ("XM"), by its attorneys, hereby files these reply comments in the above-captioned proceeding in which the Commission is considering amending its Part 15 rules to facilitate the development of new unlicensed wireless devices operating in the 2.4 GHz band (2400 - 2483.5 MHz).<sup>1</sup>

**Background**

In 1995, the Commission allocated spectrum in the 2.3 GHz band to the satellite Digital Audio Radio Service ("DARS"). XM and Sirius Satellite Radio Inc. ("Sirius") were the winning bidders in the DARS licensing auction in April 1997, together committing nearly \$170 million to the U.S. Treasury. In October 1997, the Commission licensed XM and Sirius to provide DARS

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<sup>1</sup> Amendment of Part 15 of the Commission's Rules Regarding Spread Spectrum Devices, *Further Notice of Proposed Rulemaking and Order*, ET Docket No. 99-231 (May 11, 2001) ("FNPRM").

in the United States.<sup>2</sup> Since that time, both XM and Sirius have successfully launched their satellites.

DARS will provide high-quality, continuous, nationwide multichannel audio service. The availability of DARS will increase the variety of programming available to the listening public, offering an unprecedented variety of music and information, including in areas of the country that have traditionally been underserved by terrestrial radio stations.<sup>3</sup>

In over 99% of the coverage area, reception of DARS depends on the transmission of a signal from a satellite to a very small antenna and a very sensitive receiver, operating in a mobile environment. In only a small area of the United States (principally in urban areas where signals are likely to be blocked by buildings), XM will supplement its satellite signal with terrestrial repeaters.

In the above-captioned proceeding, the Commission is considering amending its Part 15 rules to facilitate the development and deployment of new unlicensed wireless devices operating in the 2.4 GHz band (2400 - 2483.5 MHz). The Commission seeks comments on proposed amendments to its rules designed to improve spectrum sharing by unlicensed devices in the 2.4 GHz band, provide for introduction of new digital transmission technologies, and eliminate certain regulations for spread spectrum systems.<sup>4</sup>

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<sup>2</sup> American Mobile Radio Corporation, 13 FCC Rcd 8829 (Int'l Bur., 1997); Satellite CD Radio, 13 FCC Rcd 7971 (Int'l Bur., 1997). XM is licensed to provide DARS in the 2332.5 – 2345 MHz band.

<sup>3</sup> Report and Order, Memorandum Opinion and Order, Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, 12 FCC Rcd 5754, ¶ 1 (1997) (“*DARS Order*”).

<sup>4</sup> FNPRM at ¶ 1.

In comments filed in this proceeding, one party, Sirius, raised concerns about whether the out-of-band emission limit applicable to Part 15 devices operating in the 2.4 GHz band is adequate to protect DARS receivers.<sup>5</sup> Under the Commission's current rules, 2.4 GHz devices are not permitted to emit a signal with a field strength exceeding 500 uV/m at 3 meters into the DARS band. 47 C.F.R. §§ 15.209, 15.247. Sirius argues that the Commission should limit the field strength into the DARS band to no greater than (i) 14.6 dBuV/m at 3 meters from a single Part 15 device; and (ii) 18.6 dBuV/m at 3 meters from multiple Part 15 devices.<sup>6</sup>

### **Discussion**

XM Radio agrees with the general concern presented by Sirius that the current out-of-band emission limit applicable to Part 15 devices operating in the 2.4 GHz band does not adequately protect DARS.<sup>7</sup> The Commission has a fundamental obligation to protect licensed services such as DARS from interference by emissions from unlicensed devices. Section 15.5 of the Commission's rules establishes an absolute requirement that operators of unlicensed devices avoid causing harmful interference to licensed services.<sup>8</sup> As the Commission recently stated, "[T]he most basic principle of Part 15 operation is the requirement to function in a non-interfering manner in the midst of licensed devices."<sup>9</sup>

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<sup>5</sup> Comments of Sirius Satellite Radio Inc. ("Sirius") (August 27, 2001).

<sup>6</sup> Comments of Sirius at 3-4.

<sup>7</sup> Comments of Sirius at 3.

<sup>8</sup> 47 C.F.R. § 15.5(b) (stating that as a general condition of operation, "an intentional, unintentional, or incidental radiator is subject to the conditions that no harmful interference is caused . . .").

<sup>9</sup> Amendment of Part 15 of the Commission's Rules Regarding Spread Spectrum Devices, First Report and Order, 15 FCC Rcd 16244, ¶ 25 (August 31, 2000).

Given the proximity of the 2.4 GHz band to licensed DARS spectrum as well as the likelihood that unlicensed 2.4 GHz band devices will operate in mobile environments close to DARS receivers, XM is concerned with the potential interference threat presented by the proliferation of unlicensed 2.4 GHz band devices operating pursuant to the Commission's current out-of-band emission limit. While the adequacy of the current out-of-band emission limit applicable to Part 15 devices operating in the 2.4 GHz band may be beyond the scope of this proceeding, XM urges the Commission to reexamine the present limit in light of the development of DARS.

### **Conclusion**

Based on the foregoing, XM urges the Commission to act consistently with the views expressed herein.

Respectfully submitted,

**XM RADIO INC.**

/s/

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