

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

In the Matter of)	
)	
Amendment of Part 27 of the)	
Commission’s Rules to Govern the)	WT Docket No. 07-293
Operation of Wireless Communications)	
Services in the 2.3 GHz Band)	
)	
Establishment of Rules and Policies for the)	IB Docket No. 95-91
Digital Audio Radio Satellite Service in the)	GEN Docket No. 90-357
2310-2360 MHz Frequency Band)	RM No. 8610
)	

REPLY COMMENTS OF WiMAX FORUM

I. Introduction

The WiMAX Forum respectfully submits these reply comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) Second Further Notice of Proposed Rulemaking and Notice of Proposed Rulemaking in the above captioned matter.¹ The WiMAX Forum submits this reply comment to reinforce the importance that 2.3 GHz band plays in meeting the increasing U.S. and international demand for mobility in the broadband spectrum space, and urges the Commission to revise its rules governing WCS and SDARS operations to allow reasonable co-existence between the services while allowing the WCS band to be put to its highest use, namely the provision of *mobile* broadband services.

¹ In the Matter of Amendment of Part 27 of the Commission’s Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, *Second Further Notice of Proposed Rulemaking and Notice of Proposed Rulemaking*, WT Docket No. 07-293 IB Docket No. 95-91 GEN Docket No. 90-357 RM No. 8610 (Dec. 18, 2007) (“WCS SDARS co-existence NPRM”).

As the WiMAX Forum explained in its previous comments in this proceeding, the 2.3 GHz band is an important frequency band for the global deployment of networks and services meeting the WiMAX™ standard, along with other mobile commercial wireless broadband services. The International Telecommunications Union's (ITU) World Radiocommunications conference recently identified 2.3-2.4 GHz as globally harmonized spectrum for International Mobile Telecommunications (IMT).² Interest in mobile WiMAX deployments is reinforced now that 802.16e is part of the IMT-2000 family of standards,³ and WiMAX Forum Certified mobile broadband products are becoming available.⁴ Given that WiMAX is a mobile standard, and mobility is in ever increasing demand, WiMAX Forum urges the Commission to adopt rules that will facilitate the deployment of mobile broadband services in the WCS band.

II. The Commission Should Adopt WCS and SDARS Rules that Promote Mobile Broadband Access for WCS Licensees – the Highest Use of the 2.3 GHz Band

The WiMAX Forum continues to support and commend the Commission's dedication to create rules that foster reasonable coexistence between WCS and SDARS services⁵ while allowing these valuable spectrum assets to be put to their highest and best uses. The Commission has thus far followed an even-handed approach to this issue, and the WiMAX Forum urges the same equity be shown in its final resolution. Accordingly, rules adopted in this

² ITU World Radiocommunication Conference concludes after four weeks – International treaty sets course for wireless, 16 November 2007, http://www.itu.int/newsroom/press_releases/2007/36.html.

³ International Telecommunications Union Approves WiMAX Technology as New IMT-2000 Standard, 19 October 2007, http://www.wimaxforum.org/news/pr/view?item_key=993a9f3e2bf2b5b6822364fd90738185f17f2de0.

⁴ WiMAX Forum® Announces Mobile WiMAX™ Certification Product Progress and Updates Technology Roadmap to Include 700 MHz – WiMAX Forum, Members Promote Mobile WiMAX at 2008 GSMA Mobile World Congress, 12 February 2008, http://www.wimaxforum.org/news/pr/view?item_key=138e1080657b96738a279a92a2c3f8c0ce240d0a; WiMAX Forum® Begins Certification Testing for Mobile WiMAX™ Products – WiMAX Forum Expects Shipment of Certified Mobile WiMAX Products for General Deployment in Early 2008, 23 January 2008, http://www.wimaxforum.org/news/pr/view?item_key=8d1130738624c45b0c0f7ca7956d0349178cc185.

⁵ *WCS SDARS co-existence NPRM* ¶ 13.

proceeding should recognize the equal footing upon which the WCS and SDARS licensees stand, rather than imposing unnecessary restrictions on one service to the exclusive benefit of the other (as proposed by the SDARS licensees), and provide the relief necessary to allow each service to operate in response to market demands.

At the same time, rules should not preclude licensees from making the highest commercial use of limited spectrum resources. WCS operators have determined that use to be mobile broadband access.⁶ As discussed further below, technological advances and consumer demand dictate that limitations on such use of the WCS band will not be supportive of the broader U.S. policy encouraging facilities-based competition and ubiquitous broadband access to the American public. Rules that take account of these forces and facilitate the introduction of mobile broadband services in the WCS band are therefore supportive of the public interest.

The Commission's even-handed approach to addressing this difficult problem is commendable. The WiMAX Forum urges the Commission to promote the highest use of the 2.3 GHz band through rules that allow both the WCS service and adjacent SDARS repeaters to co-exist reasonably.

III. The Commission Should Reject Any Rule Formulation that Relegates the WCS Band to Non-mobile Uses

a. U.S. Consumers Increasingly Demand Mobile Broadband on Spectrum Resources that are Limited

In a recent speech on broadband opportunities in the United States, one FCC Commissioner noted that “wireless broadband is the wave of the future.... [C]oncrete steps should [be taken by] the Commission [] to further accelerate adoption of mobile multi-media broadband

⁶ See Comments of WCS Coalition, WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357 and RM No. 8610, at 4, 5 n.10 (filed Feb. 14, 2008).

technologies.” He went further to suggest that the Commission should strive “to seize every opportunity to move our country forward and continue to drive up the rate of wireless broadband penetration” by, among other things, acting “expeditiously [] on requests from Commission licensees seeking regulatory relief to facilitate broadband deployment.”⁷ Today’s broadband consumer increasingly demands unplugged access to bandwidth hungry applications,⁸ but the physical limitations of the airwaves remains constant. The FCC must act to meet expanding consumer demand by providing the regulatory relief necessary to allow mobile operations in the WCS band.

SDARS operators would have the Commission believe that opportunities for mobile broadband are abound and that, as such, WCS operations should be limited to fixed applications in order to provide SDARS with an interference-free environment.⁹ According to a recent WiMAX Forum™ white paper, however, demand for mobile broadband is outpacing supply, and “cannot be met by cellular technologies like Third Generation (3G) alone.”¹⁰ As consumer demand for mobile broadband access in the United States continues to rise, adoption of new

⁷ Robert M. McDowell, Comm’r, Fed. Commc’ns Comm’n, Keynote Address at the Institute for Communications Law Studies at The Catholic University of America, Columbus School of Law Symposium, Broadband Deployment in a Multimedia World: Moving Beyond the myths to Seize the Opportunities (March 15, 2007) (“*Seizing Broadband Opportunities*”) in COMMLAW CONSPECTUS, Spring 2007, at 334-35, available at http://commlaw.cua.edu/articles/v15/15_2/Commissioner%20Speech.pdf.

⁸ See Empowering mobile broadband – The role of regulation in bringing mobile broadband to the mass market at 2, March 2007 (“*Empowering Mobile Broadband*”), http://www.wimaxforum.org/technology/downloads/Empowering_Mobile_Broadband_March_2007.pdf. See also *Seizing Broadband Opportunities* at 333 (noting that today’s broadband “consumers expect faster transport of ever-larger bandwidth-intensive files.”), available at http://commlaw.cua.edu/articles/v15/15_2/Commissioner%20Speech.pdf.

⁹ See, e.g., Comments of XM Radio Inc., WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357 and RM No. 8610, at 10 (filed Feb. 14, 2008); Comments of Sirius Satellite Radio Inc., No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357 and RM No. 8610, at A4 (filed Feb. 14, 2008).

¹⁰ See *Empowering Mobile Broadband* at 2 (noting that regulators should act in a timely fashion to enable operators to meet the “pent-up demand” for mobile broadband that exists in the market today).

broadband technologies is happening at rates that are unprecedented.¹¹ The FCC recently reported that the number of mobile wireless broadband lines in the United States increased more than 57 fold over an 18 month period.¹² These statistics reinforce the fact that every megahertz of spectrum is precious; the array of uses for each band should be limited only by the realities of the technology deployed there.

Eleven years ago, the FCC noted that the strict OOB limits placed on WCS mobiles might limit mobile operation in the band for “at least in the foreseeable future.”¹³ The Commission then recognized that the technologies to be deployed by WCS licensees were unknown and made rules in favor of SDARS licensees that assumed a worst case interference scenario.¹⁴ Even then, however, it was recognized that as more was known about the specific technology to be deployed in the WCS band, relief would follow.¹⁵ Equipment technology for the WCS band is now known, and its interference potential understood. No longer need the Commission rely on worst case assumptions to justify rules that are overly protective of SDARS. Instead, the Commission can concentrate on technological realities and, in designing rules for reasonable co-existence between mobile WCS and SDARS operations, account for the low probability of SDARS interference from mobile WCS operations.

¹¹ See *Seizing Broadband Opportunities* at 334 (noting that “broadband has had the fastest penetration rate of any technology in modern history. That is to say, broadband has been deployed faster than: electricity, radios, TVs, VCRs, DVD players, PCs, and every other technology in American history.”).

¹² See High-Speed Services for Internet Access: Status as of December 31, 2006, Table 1, FCC Wireline Competition Bureau, Oct. 2007 (indicating the number of Mobile Wireless High-Speed Lines increased from 379,536 in June 2005 to 21,910,340 in December 2006).

¹³ See Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service, *Report and Order*, 12 FCC Rcd 10785, 10787 ¶ 3 (1997).

¹⁴ See Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (“WCS”), *Memorandum Opinion and Order*, 12 FCC Rcd 3977, 3991 ¶ 25 (1997).

¹⁵ See *id.* ¶ 26.

b. International Harmonization of the 2.3 GHz Band for Mobile Use Supports U.S. Telecommunications and Broadband Policy

The unprecedented speed with which consumers have adopted and demanded next generation mobile technologies is not unique to the United States. As noted above, the 2.3 GHz band has been identified for mobile broadband access internationally,¹⁶ making for economies of scale in the equipment market for potential U.S. market entrants. These capital cost savings will reduce increase the likelihood of multiple new players entering the mobile broadband access market offering services at attractive subscriber prices.¹⁷ Thus, fostering mobility in the U.S. WCS band will provide a three-fold benefit: increased competition, competitive pricing, and movement toward the broader goal of ubiquitous, low-cost broadband access for American consumers.

As demand for freedom and bandwidth rises, spectrum resources remain unchanged, thus fueling the need for technical rules that do not effectively preclude mobile broadband in the WCS band. Because of the existence of known WCS equipment, increasing consumer demand, and for reasons supportive of competition and broadband policy, any suggestion that the valuable WCS spectrum space be relegated to fixed use, as proposed by the SDARS licensees, should be immediately and forcefully rejected. The WiMAX Forum thus asks that the Commission deny the SDARS “other mobile opportunities” argument, update the WCS mobile rules to reflect the known operating parameters of WCS equipment, and formulate rules for the WCS spectrum that will help meet the growing demand for mobile broadband in the United States.

¹⁶ See ITU documents at nn. 2-3 *supra*.

¹⁷ See *Empowering Mobile Broadband at 19* (discussing how the “contained infrastructure costs and efficient spectrum utilization [of WiMAX Forum compliant products] allow network operators to address demand from the mass market by offering personal broadband services at a price point that both business and consumer users will find attractive.

IV. Conclusion

For the reasons stated above, the WiMAX Forum urges the Commission to modify its rules governing WCS and SDARS to allow WCS operators to meet the growing demand for mobile broadband services, while facilitating co-existence of the two services. As the Commission expected, technology has evolved to the point that mobile WCS equipment specifications are now known, allowing the Commission to consider realities, rather than worst case scenarios, when formulating the rules for mobile broadband operations in the WCS band. WCS operators have determined this use to be the highest for the band, and mobility will promote ubiquitous deployment, competition, and economies of scale in the provision of broadband in the 2.3 GHz band to the ultimate benefit of the American consumer. The time is ripe to adjust the WCS and SDARS rules to keep up with changes in technology and consumer demand, and allow Americans to benefit from increased facilities-based broadband competition and penetration through mobility – the future of wireless broadband.

Respectively submitted,

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