

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

In the Matter of	)	
	)	
International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act	)	GN Docket No. 09-47
	)	
A National Broadband Plan For Our Future	)	GN Docket No. 09-51
	)	
Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act	)	GN Docket No. 09-137
	)	
	)	

**REPLY COMMENTS - NBP PUBLIC NOTICE # 6  
OF  
T-MOBILE USA, INC.**

**I. INTRODUCTION AND SUMMARY.**

T-Mobile USA, Inc. (“T-Mobile”) submits these reply comments regarding the above-captioned public notice on spectrum for broadband.<sup>1</sup> The initial comments on *Public Notice # 6* demonstrate overwhelming support for allocating a substantial quantity of additional spectrum

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<sup>1</sup> See FCC Public Notice, *Comment Sought on Spectrum for Broadband, NBP Public Notice # 6*, GN Docket Nos. 09-47, 09-51, 09-137, DA 09-2100 (Sept. 23, 2009) (“*Public Notice # 6*”). All references to comments on *Public Notice # 6* filed October 23, 2009 herein are short cited.

below 3.7 GHz for commercial mobile broadband services.<sup>2</sup> T-Mobile, for example, supported CTIA’s call for an additional 800 MHz of spectrum for commercial mobile broadband, and urged the Commission to make 50 MHz of that allocation available as a “down payment” by 2012.<sup>3</sup>

These reply comments address three issues raised in the comments. First, the Commission should not be swayed by one wireless carrier’s (Sprint Nextel’s) misguided argument that proposals to provide major additional quantities of spectrum for mobile broadband overstate the needs of the industry. Second, the Commission, the U.S. government, and the industry should proceed with the spectrum reallocation process as quickly as possible, while continuing to streamline and improve relocation procedures. And, third, T-Mobile wholeheartedly supports the Commission’s stated intentions to consider a wide variety of options for identifying new spectrum suitable for mobile broadband, including spectrum currently used by broadcasters.

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<sup>2</sup> See, e.g., AT&T Comments at 10 (supporting CTIA’s proposal that the U.S. will need at least an additional 800 MHz for commercial wireless services within the next six years); CTIA Comments at 2 (urging the Commission to identify and allocate at least 800 MHz of spectrum for licensed commercial use within the next six years to meet rapidly accelerating demand for mobile wireless broadband services); Verizon Wireless Comments at 3 (noting that “while sufficient spectrum may be available to support broadband wireless services in the near term, significant amounts of additional spectrum will be needed to support future demand”); 3G Americas Comments at 4 (arguing that while network technologies must enable more efficient use of spectrum, the Commission also must supply the spectrum needed for the industry to meet the needs of consumers). See also MetroPCS Comments at 3-7; Clearwire Comments at 4; Covad Comments at 4; WCS Coalition Comments at 2; Motorola Comments at 3; and QUALCOMM Comments at 23-24.

<sup>3</sup> T-Mobile recommended that, as a near-term solution to help meet rapidly expanding consumer demand for bandwidth intensive mobile wireless services and applications, the Commission and the National Telecommunications and Information Administration (“NTIA”) should work together to reallocate for commercial use and auction within the next two to three years at least 25 MHz of contiguous spectrum located in the 1755-1810 MHz government band, which can be paired with the existing commercial allocation of 25 MHz at 2155-2180 MHz (the “extended” AWS-3 band). See T-Mobile Comments at 13-17.

## II. CTIA'S PROPOSAL FOR 800 MHZ OF NEW SPECTRUM ACCURATELY REFLECTS NEEDED RESOURCES TO SUPPORT DEMAND FOR MOBILE SERVICES AND IS PRO-COMPETITIVE.

T-Mobile disagrees with Sprint Nextel that calls for substantial amounts of additional spectrum for commercial wireless broadband services “may overstate the true need for more spectrum allocations.”<sup>4</sup> Rather than supporting sustainable growth in the market for mobile broadband by ensuring that all carriers and new entrants have adequate spectrum to meet the needs of their customers, Sprint Nextel instead recommends relying on “advances in technology . . . [to] help increase spectrum supply, thereby moderating the need for new allocations.”<sup>5</sup>

Contrary to Sprint Nextel’s unsupported claims, there is a sound basis for CTIA’s request for an additional 800 MHz of spectrum for mobile use.<sup>6</sup> The record shows that increases in efficiency of spectrum use will not permit carriers to meet the skyrocketing demand for mobile bandwidth. Indeed, T-Mobile uses a variety of strategies, including cell splits and investments in enhanced 3G technologies such as HSPA+, to use spectrum as efficiently as possible, but as Alcatel-Lucent has noted, spectrum usage is growing at such a rate that, without additional large blocks of spectrum, the industry will not be able to keep up.<sup>7</sup> AT&T notes that “[t]echnological measures, such as cell splitting and antenna sectorization . . . cannot overcome the extensive growth in demand” for mobile wireless services.<sup>8</sup> Verizon Wireless similarly acknowledges that “wireless carriers employ a variety of frequency reuse techniques including antenna

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<sup>4</sup> See Sprint Nextel Comments at 23 (discussing proposals to identify up to 1 GHz of additional spectrum).

<sup>5</sup> See *id.*

<sup>6</sup> See, e.g., T-Mobile Comments at 12-13; AT&T Comments at 8-10; CTIA Comments at 16-20; MetroPCS Comments at 3-7; Bright House Networks at 7-10.

<sup>7</sup> See T-Mobile Comments at 11, *citing* National Broadband Plan Workshop: Aug. 13 Technology/Wireless Tr. at 26 (statement of Tom Anderson, Alcatel-Lucent).

<sup>8</sup> See AT&T Comments at 12.

sectorization, cell splitting, and the use of picocells and femtocells,” but argues that decreasing the size of each cell requires carriers to undertake substantial upfront costs associated with building additional sites and constructing backhaul facilities to each of those sites, incur substantial recurring costs associated with operating and maintaining those facilities, and face substantial delays and regulatory hurdles associated with obtaining local approval to construct such facilities.<sup>9</sup>

Even if Sprint Nextel is satisfied with the extent of its own spectrum holdings for purposes of serving its customer base, the record demonstrates that the mobile industry as a whole faces ever-increasing demand from its customers for innovative high-bandwidth products and services. The Commission and the National Telecommunications and Information Administration (“NTIA”), accordingly, should proceed with identifying and reallocating 800 MHz of new spectrum for mobile broadband as expeditiously as possible.

### **III. THE COMMISSION AND NTIA SHOULD TAKE THE OPPORTUNITY TO REFINE AND IMPROVE SPECTRUM RELOCATION PROCEDURES.**

Given the ever-increasing demand for mobile broadband services, a portion of the spectrum required to be reallocated obviously must come from current federal government holdings. As an initial step, T-Mobile proposes reallocating at least 25 MHz of contiguous spectrum from government frequencies above 1755 MHz, such as from the 1755-1810 MHz band, and pairing it with the 2155-2180 MHz band, which would require relocation of incumbent government users of the 1.7 GHz band. U.S. Cellular agrees that “T-Mobile’s proposal has merit,” but then raises concerns that the “complexity of completing Commission proceedings to

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<sup>9</sup> See Verizon Wireless Comments at 7.

implement this reconfiguration underscores the challenges the Commission will have in attempting to supplement mobile broadband spectrum resources in the near term.”<sup>10</sup>

While U.S. Cellular correctly notes the challenges associated with relocating federal users, the Commission, NTIA, other federal agencies, and the wireless industry have gained substantial experience in reallocating spectrum and moving incumbents. Indeed, the recent experience of relocating government users in the 1710-1755 MHz band demonstrates that the process works and can serve as a model for future relocation efforts. To overcome many of the challenges U.S. Cellular notes, the Commission should work with NTIA and Congress to adopt enhanced administrative procedures for federal agencies to identify appropriate spectrum and relocate existing federal users expeditiously.<sup>11</sup>

#### **IV. T-MOBILE SUPPORTS THE COMMISSION’S CONSIDERATION OF REALLOCATING BROADCAST SPECTRUM FOR COMMERCIAL MOBILE USE.**

T-Mobile applauds the Commission’s plans to study and consider reallocation of non-federal spectrum below 3.7 GHz for commercial mobile where such spectrum is not being put to its highest and best use. In particular, the FCC Broadband Task Force’s inquiry into ways to “recover” broadcast spectrum is an innovative example of seeking out marketplace solutions worthy of serious evaluation and consideration.<sup>12</sup> As T-Mobile noted, parties that obtain

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<sup>10</sup> See U.S. Cellular Comments at 4.

<sup>11</sup> See T-Mobile Comments at 16. See also Spectrum Relocation Improvement Act of 2009, H.R. 3019, 111th Cong. (2009), introduced by Rep. Inslee and co-sponsored by Chairman Boucher and Rep. Upton.

<sup>12</sup> See “FCC Broadband Initiative Staffers Eye Other Uses for Spectrum,” COMMUNICATIONS DAILY (Oct. 29, 2009). See also Kim McAvoy, *FCC Floats Cash-For-TV-Spectrum Scheme*, TVNEWSCHECK (Oct. 21, 2009), available at <http://www.tvnewscheck.com/articles/2009/10/21/daily.4/> (last visited Nov. 12, 2009) (reporting that Blair Levin, Executive Director, Omnibus Broadband Initiative, met with the board of the Association for Maximum Service Television and discussed the possibility of broadcasters

spectrum other than through auctions may not possess incentives to use spectrum efficiently.<sup>13</sup>

CTIA agrees that all spectrum options should be on the table to meet growing demand for mobile wireless broadband services, including the highly valuable spectrum currently used by broadcasters for digital television.<sup>14</sup>

According to a white paper submitted by the Consumer Electronics Association (“CEA”) in this proceeding, the total market value of U.S. broadcasters’ spectrum would be about \$62 billion if that spectrum were auctioned for wireless broadband uses.<sup>15</sup> The white paper suggests that further study could be appropriate to determine the highest value and use of broadcast spectrum. As the Commission pursues reallocation initiatives to meet the needs of mobile broadband consumers in the longer term, T-Mobile supports the Commission’s interest in reallocating broadcast spectrum for commercial mobile use.

## V. CONCLUSION.

Engineering tactics alone will not suffice to meet the rapidly expanding demand for mobile broadband services, or to keep broadband growth and investment on the right track to benefit all consumers and the U.S. economy. For the foregoing reasons, T-Mobile urges the Commission to move aggressively to make more spectrum available for commercial mobile

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“returning their spectrum in exchange for a share in the billions of dollars that would come from the auction of the spectrum to the wireless industry”).

<sup>13</sup> See T-Mobile Comments at 19 (noting that “spectrum fees may be an appropriate way to introduce market discipline” for such spectrum).

<sup>14</sup> See CTIA Comments at 30.

<sup>15</sup> See Coleman Bazelon, The Brattle Group, “The Need for Additional Spectrum for Wireless Broadband: The Economic Benefits and Costs of Reallocations,” White Paper, at 2, 13-14 (Oct. 23, 2009), *attach. to* CEA Comments.

broadband, and to embrace market-based measures that will ensure that spectrum is put to its highest and best use.

Respectfully submitted,

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November 13, 2009