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

In the matter of	)	
	)	
Spectrum Task Force Requests Information on Frequency Bands Identified by NTIA as Potential Broadband Spectrum	)	ET Docket No. 10-123
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	)	

COMMENTS OF T-MOBILE USA, INC.

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TABLE OF CONTENTS

I. INTRODUCTION AND SUMMARY 1

II. SPECTRUM SHOULD BE REALLOCATED AS QUICKLY AS POSSIBLE BASED UPON CERTAIN GUIDING PRINCIPLES 4

A. Spectrum Reallocation and Licensing Efforts Should Be Guided by Certain Principles 4

1. Mobile Broadband Technologies Work Best Below 3 GHz Using Large Contiguous Spectrum Blocks 4

2. U.S. Spectrum Allocations Should Be Harmonized With International Allocations 4

3. Mobile Broadband Spectrum Should Be Paired, With Steps Taken to Mitigate Harmful Interference 6

B. The 1755-1780 MHz Band Should Be Reallocated As Soon As Possible, Followed by the 1780-1850 MHz and 1695-1710 MHz Bands 7

III. THE REALLOCATED SPECTRUM MUST BE MUST SUITABLE FOR COMMERCIAL SERVICES 9

A. The Use of Exclusion Zones Should Be Minimized 10

B. Advanced Sharing Techniques Negate the Need for Exclusion Zones 12

IV. CONCLUSION 15

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T-Mobile USA, Inc. ("T-Mobile") responds to the above referenced Spectrum Task Force Public Notice seeking comment on how the Federal Communications Commission ("FCC" or "Commission") can best promote wireless broadband deployment in certain spectrum bands identified by the National Telecommunications and Information Administration ("NTIA").[1]

I. INTRODUCTION AND SUMMARY

T-Mobile enthusiastically supports the continuing efforts of NTIA[2] and the Commission to make more spectrum available for competitive mobile broadband services.[3] As Chairman

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[1] *Spectrum Task Force Requests Information on Frequency Bands Identified by NTIA as Potential Broadband Spectrum*, Public Notice, 26 FCC Rcd 3486 (OET/WTB 2011) ("Spectrum Task Force Public Notice").

[2] *See* Gary Locke and Lawrence E. Strickling, Dep't of Commerce, *Plan and Timetable to Make Available 500 MHz of Spectrum for Wireless Broadband*, , (Oct. 2010), *available at* http://www.ntia.doc.gov/reports/2010/TenYearPlan_11152010.pdf ("NTIA Ten Year Plan"); Gary Locke and Lawrence E. Strickling, Dep't of Commerce, *An Assessment of the Near-Term Viability of Accommodating Wireless Broadband Systems in the 1675-1710 MHz, 1755-1780 MHz, 3500-3650 MHz, and 4200-4220 MHz, 4380-4400 MHz Bands* (Oct. 2010), *available at* http://www.ntia.doc.gov/reports/2010/FastTrackEvaluation_11152010.pdf ("NTIA Fast Track Report"); Gary Locke and Lawrence E. Strickling, Dep't of Commerce, *First Interim Progress Report on the Ten-Year Plan and Timetable* (Apr. 2011), *available at* http://www.ntia.doc.gov/reports/2011/First_Interim_Progress_Report_04012011.pdf ("NTIA First Progress Report").

Genachowski correctly noted, spectrum is the "oxygen" of mobile broadband services, and additional spectrum is necessary to promote jobs, growth, education, and a range of other fundamental social and economic goals.[4] The spectrum allocation and licensing process, however, is notably slow, and as Chairman Genachowski recently stated, "the clock is ticking on our mobile future."[5] On average, it takes more than six years to allocate, auction and issue licenses, then it typically takes 18 to 24 months before commercial operations can be initiated.[6] In the meantime, the Commission has estimated that "mobile data demand [in the United States] is likely to exceed capacity under current spectrum availability in the near-term"[7] and that the spectrum deficit will likely approach 300 MHz by 2014 based on the estimate that mobile data traffic will grow 35 times the level of traffic in 2009.[8]

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[3] The National Broadband Plan recommends that 500 MHz of additional spectrum be made available by 2020, of which 300 MHz between 225 MHz and 3.7 GHz be made available by 2015. *See* FCC, *Connecting America: The National Broadband Plan*, at 84 (March 16, 2010) ("National Broadband Plan"), *available at* http://download.broadband.gov/plan/national-broadband-plan.pdf.

[4] *See* Julius Genachowski, Chairman, FCC, Remarks as Prepared for Delivery at CTIA Wireless 2011, at 5, 8-9 (Mar. 22, 2011); *see also* Address Before a Joint Session of the Congress on the State of the Union, Daily Comp. Pres. Docs., 2011 DCPD No. 00047, at 6 (Jan. 25, 2011), *available at* http://www.gpo.gov/fdsys/pkg/DCPD-201100047/pdf/DCPD-201100047.pdf (noting that making additional spectrum available is a national priority).

[5] Julius Genachowski, Chairman, FCC, Remarks on Broadband, Mobile Future Forum: The Clock is Ticking, at 5 (Mar. 16, 2011), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-305225A1.pdf.

[6] *See* Letter from Kathleen O'Brien Ham, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-133 et al., at 2 (Jan. 6, 2011) ("T-Mobile January 6 Ex Parte").

[7] FCC, OBI Technical Paper Series, *Mobile Broadband: The Benefits of Additional Spectrum*, at 2 (Oct. 2010), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-302324A1.pdf.

[8] *Id.* at 2, 9; *see also* T-Mobile January 6 Ex Parte at 1-2; Comments of T-Mobile USA, Inc., ET Docket No. 10-235, at 3-7 (Mar. 18, 2011) (same); Reply Comments of T-Mobile USA, Inc. GN Docket No. 09-191, at 4-5 (Apr. 26, 2010) (observing that "[o]ne of the foremost challenges

It is thus critical that new spectrum be made available for mobile broadband services as promptly as possible. Reallocation efforts should take into consideration the following three factors: (1) mobile broadband technologies work best below 3 GHz using large contiguous spectrum blocks; (2) U.S. spectrum allocations should be harmonized with international allocations when feasible; and (3) mobile broadband spectrum should be paired and steps taken to prevent harmful interference, including from incompatible adjacent operations. Allocations and accompanying service rules that reflect these factors, where possible, would help promote investment and innovation, and maximize use of the spectrum. With this in mind, the Commission should support the prompt reallocation of the 1755-1780 MHz band for commercial broadband service, followed by the 1780-1850 MHz and 1695-1710 MHz bands.

It is equally important, however, that any reallocated spectrum is, in fact, usable for commercial broadband services. To that end, T-Mobile has supported improvements to the current relocation process based upon its experiences clearing the 1710-1755 MHz ("AWS-1") band of federal users.[9] If some incumbents cannot be relocated, NTIA and the Commission should provide for the use of advanced sharing techniques that would allow the incumbents and commercial operators to peacefully co-exist within the band, rather than automatically defaulting to exclusion zones that carve out large service areas for incumbents.

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facing wireless broadband providers is the critical need for additional spectrum," and noting how spectrum scarcity is converging with the continued development of bandwidth intensive applications).

[9] *See* 47 C.F.R. §§ 921 et seq.; *see also* Spectrum Relocation Improvement Act of 2011, S. 522, 112th Cong. (2011) ("Spectrum Relocation Improvement Act of 2011"); Spectrum Inventory and Auction Act of 2011, H.R. 911, 112th Cong. (2011) ("Spectrum Inventory and Auction Act of 2011").

II. SPECTRUM SHOULD BE REALLOCATED AS QUICKLY AS POSSIBLE BASED UPON CERTAIN GUIDING PRINCIPLES

A. Spectrum Reallocation and Licensing Efforts Should Be Guided by Certain Principles

In light of the scarcity of spectrum resources, it is important that efforts to identify, allocate and license additional spectrum for commercial broadband services ensure that the spectrum is put to the highest, most efficient, and best use. In this regard, T-Mobile believes that NTIA and the Commission should be guided by the following three principles.

1. Mobile Broadband Technologies Work Best Below 3 GHz Using Large Contiguous Spectrum Blocks

Propagation characteristics, among other factors, make certain spectrum bands generally more suitable for particular types of wireless services than others. Mobile broadband technologies work best in spectrum below 3 GHz because that portion of spectrum allows for more throughput over larger areas with fewer base stations, is less affected by atmospheric and topographic factors, and penetrates structures more effectively.[10] Moreover, wider, contiguous spectrum blocks are more suitable for mobile broadband services, such as High Speed Packet Access Plus ("HSPA+") and Long Term Evolution ("LTE"). Larger blocks also minimize the need for guard bands and maximize the efficient use of the spectrum.

2. U.S. Spectrum Allocations Should Be Harmonized With International Allocations

Harmonizing spectrum allocations in the United States with international allocations, where feasible, would result in significant benefits that could promote more rapid deployment of broadband services. In particular, international harmonization facilitates investment and

[10] *See, e.g.*, Comments of CTIA – The Wireless Association, GN Docket No. 09-51, at 18 (Oct. 23, 2009).

innovation by creating important economies of scope and scale.[11] U.S. service providers would be able to leverage the significant research, design and development costs for mobile broadband devices and network infrastructure with operators in other countries utilizing the same bands, bringing more affordable services and devices to U.S. consumers and enabling U.S. service providers to better compete in the global marketplace. Economic studies show that the production of equipment with internationally identified common frequency bands can result in tremendous cost benefits to consumers and operators.[12]

In contrast, unharmonized spectrum requires U.S. manufacturers and service providers to dedicate additional resources to adapting existing services and equipment, or develop entirely new products and technologies that are limited to the United States. Not only does this lengthen the period of time between allocation and actual commercial use, it also hampers companies' ability to apportion research and development costs across multiple jurisdictions. U.S. service providers could not benefit from innovations and developments in other markets, and companies in the United States would have fewer export opportunities for new services and technologies. The increased costs to U.S. companies could, in turn, adversely affect retail pricing, delay availability of products and services to U.S. consumers, and divert resources away from improving and expanding networks.

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[11] *See, e.g.*, Comments of 3G Americas – National Broadband Plan Public Notice #6, GN Docket Nos. 09-47, 09-51, 09-137, at 9-10 (filed Oct. 23, 2009) ("3G Americas NBP Comments"); 3G Americas, *3GPP Technology Approaches for Maximizing Fragmented Spectrum Allocations*, at 15-16, 32 (July 2009), appended as Attachment A to 3G Americas NBP Comments.

[12] *See, e.g.*, GSM Association, *The Advantages of Common Frequency Bands for Mobile Handset Production – Technical Note* (Nov. 2008), *available at* http://www.gsmworld.com/documents/advantages.htm.

3. Mobile Broadband Spectrum Should Be Paired, With Steps Taken to Mitigate Harmful Interference

Mobile broadband service providers around the globe, including T-Mobile, are adopting more spectrally efficient 4G technologies that use Frequency Division Duplex ("FDD") technology. This type of duplex scheme requires paired spectrum to allow the uplink and downlink transmissions of a wireless communications system to occur simultaneously. Accordingly, reallocation efforts should focus on pairing spectrum bands that would allow service providers to most effectively utilize 4G technologies.

Steps also should be taken to ensure that incompatible adjacent operations do not result in harmful interference that would degrade the value or usefulness of the spectrum. T-Mobile and other industry members repeatedly have highlighted the interference problems that can be caused by allowing unpaired Time Division Duplex ("TDD") operations in bands directly adjacent to other bands that are used for mobile broadband services.[13] Similarly, adjacent high power broadcast or other operations could cause harmful interference that significantly undermines the utility of commercial mobile services. Spectrum reallocations that do not take into consideration the potential for harmful interference with other licensees fail to reflect the most effective and efficient use of the spectrum.

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[13] *See, e.g.,* Comments of T-Mobile USA, Inc., ET Docket No. 10-123, at 4-5 (June 28, 2010) ("T-Mobile June 28 Comments"); Comments of T-Mobile USA, Inc. WT Docket No. 07-195 et al., at 6 (Apr. 10, 2009); Comments of T-Mobile USA, Inc., WT Docket No. 07-195, at 3-7 (Dec. 14, 2007); Letter from Steve Largent, CTIA – The Wireless Association, to Julius Genachowski, Chairman, FCC, WT Docket No. 09-51 et al., at 4 (May 27, 2010); Letter from David J. Redl, CTIA – The Wireless Association, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-195, et al., at 4-5 (Mar. 4, 2010); Letter from David Shively, AT&T, Charles Jackson, CTIA – The Wireless Association, Ahmad Armand, MetroPCS, Randy Leenerts, Nokia, and Yasmin Karimli, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-195, at 1 (Sept. 10, 2008); Comments of Motorola, Inc., WT Docket No. 07-195, at 7-8 (Dec. 14, 2007).

B. The 1755-1780 MHz Band Should Be Reallocated As Soon As Possible, Followed by the 1780-1850 MHz and 1695-1710 MHz Bands

Of the spectrum bands identified in the Spectrum Task Force Public Notice, the 1755-1850 MHz band and, to a lesser extent, the 1695-1710 MHz band are the most promising options for mobile broadband services that meet the criteria listed above. The 1755-1850 MHz and 1695-1710 MHz bands are below 3 GHz and have propagation characteristics that are ideal for mobile broadband technologies. Conversely, the spectral location of the 3550-3650 MHz, 4200-4220 MHz and 4380-4400 MHz bands make them less suitable for mobile broadband applications.

Moreover, the International Telecommunication Union (ITU) 2000 World Radiocommunication Conference (WRC-2000) identified the 1710-1885 MHz band for mobile broadband systems.[14] Mexico recently opened an inquiry to extend the AWS-1 band to include the 1755-1770 MHz band.[15] Thus, the 1755-1850 MHz band, which is used internationally for commercial mobile services, presents a significant opportunity for harmonization in the Americas and around the world. Further, as noted above, harmonization promotes valuable economies of scale and scope in the development of infrastructure and mobile devices.

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[14] *See* 47 C.F.R. § 2.106, footnote 5.384A (The band 1710-1885 MHz is "identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC-07).") *See also* WRC 2000 Final Acts S5.317A: WRC-2000 Final Acts Res. 223 (identifying the 1710-1885 MHz band for International Mobile Telecommunications-2000 standards).

[15] *See* Comisión Federal de Telecomunicaciones, Cuestionario para la banda 1.7/2.1 GHz (Nov. 11, 2010) (Mexico), *available at* http://www.cft.gob.mx/es/Cofetel_2008/Cuestionario_para_la_banda_1721_GHz. All respondents expressed interest in the band, though several did note outstanding questions including the importance of harmonization and the disposition of AWS-3 in the United States. *See* Reporte de la Consulta Pública sobre Aspectos Técnicos y Regulatorios Aplicables a las Bandas 700 MHz, 1.7/2.1 GHz y 3.4.-3.7 GHz, *available at* http://www.cft.gob.mx/es/Cofetel_2008/Reporte_Consulta_Publica_Espectro (summary of comments received).

As the wireless industry has long advocated and the Commission acknowledged in the National Broadband Plan, the location of the 1755-1850 MHz band also makes it ideal for pairing with other spectrum – in particular, pairing the 1755-1780 MHz band with the 2155-2180 MHz ("AWS-3") spectrum band that already has been identified for auction for commercial broadband services.[16] In considering the future use of the 1755-1850 MHz band as a whole, pairing the AWS-3 band with spectrum at 1755-1780 MHz is a priority.[17] Pairing the AWS-3 band with spectrum at 1755-1780 MHz would result in an allocation contiguous to the existing AWS-1 allocation, which would allow the spectrum to be deployed more effectively. Specifically, "[b]y utilizing a spectrum pairing that has the same separation between base and mobile operations as is present in the AWS-1 band (400 MHz between base and mobile), wireless [equipment] manufacturers will be able to design and deploy new devices more quickly."[18] The sooner the 1755-1780 MHz band is paired with the AWS-3 band, the quicker manufacturers and providers can incorporate it into equipment and infrastructure being developed today. In fact, a recent economic study performed by the Brattle Group demonstrates that pairing the 1755 MHz band with the AWS-3 band provides substantially greater value and

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[16] *See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems*, Eighth Report and Order, Fifth Notice of Proposed Rulemaking and Order, 20 FCC Rcd 15866 (2005).

[17] *See* NTIA First Progress Report at 5.

[18] T-Mobile June 28 Comments at 8. Although the 1675-1710 MHz band is adjacent to the 1710-1755 MHz band (the current uplink spectrum for the AWS-1 band), the wireless industry and Commission agree that it would be better to pair the 1755-1780 MHz band with the AWS-3 band. *See id.* at 4, 8-9. If, however, the 1755-1780 MHz band ultimately is not paired with the AWS-3 band, T-Mobile would be open to considering pairing the 1675-1710 MHz band with the AWS-3 band.

revenue to a possible pairing with spectrum between 1675 MHz and 1710 MHz or leaving the 1755 MHz band unpaired.[19]

Given the tremendous need for spectrum and the lengthy timeframe to reallocate and license spectrum, relocate incumbents as necessary, and initiate operations on any of these spectrum bands, the Commission should urge NTIA to make the 1755-1780 MHz band available as quickly as possible. NTIA then should promptly reallocate the 1780-1850 MHz and 1695-1710 MHz bands.

III. THE REALLOCATED SPECTRUM MUST BE MUST SUITABLE FOR COMMERCIAL SERVICES

Relocating federal incumbent users in a timely fashion to alternative spectrum would best ensure maximum use of the reallocated spectrum. The Commission and NTIA should continue to explore potential relocation bands for federal users, including spectrum bands that already may be allocated for federal use but which may not be fully utilized.[20] To that end, T-Mobile supports Congressional efforts to provide NTIA and affected federal agencies sufficient funding for studying and implementing reallocation and relocation efforts.[21] If federal incumbents cannot be relocated or there will be delays in relocating, however, T-Mobile believes that

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[19] *See* Colman Bazelon, The Brattle Group, Inc., *The Economic Basis of Spectrum Value: Pairing AWS-3 with the 1755 MHz Band is More Valuable than Pairing it with Frequencies from the 1690 MHz Band*, at 8-22 (Apr. 11, 2011) ("Brattle Group Study"), attached to Letter from Coleman Bazelon, The Brattle Group, Inc., to Marlene H. Dortch, Secretary, FCC, ET Docket No. 10-123 et al. (Apr. 11, 2011).

[20] For example, Department of Defense uplink earth stations at 11 sites have primary access to the 2025-2110 MHz band to support military space operations on a co-equal basis with stations in the incumbent television Broadcast Auxiliary Service and Cable Television Relay Service. *See* 47 C.F.R. § 2.106, Federal Table for 2025-2110 MHz and U.S. Note 346.

[21] *See, e.g.*, Spectrum Relocation Improvement Act of 2011; Spectrum Inventory and Auction Act of 2011; RADIOS Act, S. 455, 112th Cong. (2011).

advanced sharing techniques should be used to facilitate commercial operations in the reallocated spectrum bands rather than exclusion zones.

A. The Use of Exclusion Zones Should Be Minimized

T-Mobile has serious reservations about the Spectrum Task Force Public Notice's suggestion that exclusion zones might be employed to protect incumbent users if any bands are reallocated for commercial use.[22] Exclusion zones can significantly reduce the utility of spectrum for mobile broadband services and should be used – if at all – only sparingly and where absolutely necessary. Use of exclusion zones, if necessary, should be focused on rural areas, thereby minimizing the impact on the provision of nationwide commercial services and ensuring the availability of the spectrum in dense urban markets where it is needed most.

Exclusion zones can significantly lower the commercial value and usability of spectrum by carving substantial geographic areas out of a communications network.[23] The considerable holes in network coverage caused by exclusion zones can inhibit the widespread and efficient use of spectrum for mobile broadband and leave significant portions of the population without service in the frequency band of interest. In fact, if an exclusion zone is applied to one half of a paired spectrum block, it strands the corresponding paired frequencies. Depending upon the scope of these network holes, exclusion zones could make it difficult or even impossible to form viable business plans and attract and maintain customers. For example, NTIA's proposal that non-Federal users be prohibited from operating on the 3550-3650 MHz band for as much as 570 kilometers (approximately 354 miles) from the United States coastline and in ten other locations

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[22] *See* Spectrum Task Force Public Notice at 2.

[23] *See, e.g.,* Brattle Group Study at 12-13, 22.

would exclude approximately 60 percent of the U.S. population.[24] Similarly, NTIA also recommends exclusion zones of 72 to 121 kilometers around 18 Federal earth station sites to protect against interference in the 1695-1710 MHz band, which covers more than 12 percent of the U.S. population.[25] These carve outs – particularly those near metropolitan, suburban or other heavy use areas – prevent the use of that frequency band (and any paired frequencies) in several capacity-strained regions where additional spectrum is needed most. Thus, if exclusion zones must be used, they should cover as small of a geographic area as possible so that they do not result in inefficient spectrum use.

Moreover, establishment of exclusion zones limits flexibility to implement alternative, more efficient sharing techniques. Federal spectrum users should be incentivized to work with commercial operators to reduce or even eliminate exclusion zones if the parties are able to reach alternative arrangements. Similarly, when commercial service providers would be the potential "victim" of interference from existing federal users, commercial service providers should have the flexibility to determine the amount of interference their systems can reasonably tolerate without being constrained by mandatory exclusion zones.

Based upon T-Mobile's extensive experiences in relocating government spectrum users in the AWS-1 band, T-Mobile believes that, in many instances, commercial operators and government entities can work together to resolve operational and interference issues without resorting to exclusion zones. In fact, T-Mobile's practices in the AWS-1 band demonstrate that these collaborative efforts can reduce the size and necessity of exclusion zones, facilitating prompt relocation of federal users, and more efficient spectrum use. For example, close

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[24] *See* NTIA Fast Track Report at 1-6 and 4-84, Table 4-66, Figures 5-2 and 5-3, and App. B.

[25] *See id.* at 1-6, Table 4-68, and App. H.

collaboration and cooperation with federal users (including the Department of Energy, Department of Interior, National Park Service, Department of Housing and Urban Development, Department of Treasury, U.S. Postal Inspection Service, Department of Justice and Department of Homeland Security) allowed T-Mobile to overcome significant coordination issues and access spectrum in multiple markets well in advance of established deadlines.[26]

To the extent the Commission and NTIA conclude that exclusion zones are necessary in certain areas, their use could be limited to a certain period of time (*e.g.*, five years), which would help encourage the auction and deployment of the spectrum. This period also would provide licensees and incumbents time to transition to more effective spectrum sharing techniques, although that transition still should occur as quickly as possible. Time-based exclusion zones (*e.g.*, limiting commercial use of the spectrum during the night when there is less commercial traffic) also might be explored. Importantly, different circumstances will exist at each incumbent user's site, thus flexibility to implement different sharing techniques is key to ensuring maximum use of the spectrum.

B. Advanced Sharing Techniques Negate the Need for Exclusion Zones

Advanced sharing techniques, including dynamic spectrum access technologies, hold promise for making more productive use of valuable spectrum resources. In fact, some commercial operators already use dynamic spectrum access techniques to manage their own spectrum resources.[27] A cooperative process between federal users and commercial operators

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[26] *See, e.g.*, Comments of T-Mobile USA, Inc., Dep't of Commerce Docket No. 0906231085-91085-01, at 5-7 (Aug. 21, 2009), *available at* http://www.ntia.doc.gov/comments/2009/CSEA/T-Mobile_CSEA_NOI_Comments_8-21-09.pdf.

[27] *See, e.g.*, Comments of CTIA – The Wireless Association, ET Docket No. 10-237 at 2-3 (Feb. 28, 2011).

similarly would yield the most efficient and effective spectrum sharing and maximize spectrum use.

As the Commission previously acknowledged, the suitability of dynamic sharing techniques depends on the specific characteristics of the spectrum subject to sharing.[28] T-Mobile recently discussed in response to the *Dynamic Spectrum Use NOI* that the 1755-1850 MHz band is a strong candidate for spectrum sharing if incumbents cannot be relocated in a timely fashion.[29] A number of the federal systems currently in this band could be relocated to other spectrum bands relatively quickly, freeing up spectrum and simplifying the radio environment in the band. Government satellite systems in the band may be more difficult and take longer to relocate, but dynamic sharing techniques would allow the spectrum to be made available in the time frame necessary to help meet the growing demand for commercial broadband services while still protecting incumbent users.[30] Specifically, the federal satellite uplinks in the band are limited to a relatively small number of fixed locations and operate for limited periods of time. Thus, use of the band by these operators should generally be predictable and even unscheduled events could be accommodated using dynamic technologies. This would allow commercial use of the band when satellite links are not operating, while ensuring that the spectrum remains available to federal users when needed. In this case, the potential for interference would result primarily from the satellite uplinks into commercial operators sharing the band, thus the risk of

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[28] *See Promoting More Efficient Use of Through Dynamic Spectrum Access Technologies*, Notice of Inquiry, 25 FCC Rcd 16632, 16642 (2010).

[29] *See* Comments of T-Mobile USA, Inc., ET Docket No. 10-237, at 7-8 (Feb. 28, 2011); *see also* Comments of Shared Spectrum Co., ET Docket No. 10-237, at 22-23 (Feb. 28, 2011); Comments of AT&T Inc., ET Docket No. 10-237, at 5 (Feb. 28, 2011); Comments of the Public Interest Spectrum Coalition, ET Docket No. 10-237, at 28-32 (Feb. 28, 2011).

[30] *See e.g.*, NTIA Fast Track Report at 1-5. NTIA estimates that satellite systems may continue until well past 2030. *Id.* at 3-25.

interference would be borne primarily by the commercial operators. While interference is always a concern, the likely impact in this case would be a reduction in data rates rather than a complete disruption of communications. Because commercial operators are likely to have systems operating in other bands (including the AWS-1 band), it will be possible for them to shift traffic to other spectrum bands in the event that certain channels of the shared spectrum are unavailable for limited periods.

The wireless industry is prepared to work with federal users to further investigate the feasibility of sharing spectrum in the 1755-1850 MHz band and other spectrum bands. T-Mobile already has conducted spectrum scans that monitored use of this band in eight markets around the country, including four located near known satellite uplink locations.[31] T-Mobile's scan indicates that the band holds promise for reallocation for commercial use and that the impact to commercial systems from government use will not be as extensive as previously anticipated.[32] Accordingly, T-Mobile is interested in exploring methods to coordinate with federal users to relocate and/or share the band with their operations.

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[31] *See, e.g.*, Letter from Kathleen O'Brien Ham, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 06-150, et al. (Aug. 16, 2010) (describing the results of T-Mobile's spectrum scan of the 1755-1850 MHz band) ("Spectrum Scan Ex Parte"); Letter from Steve Sharkey, T-Mobile, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 10-123, et al. (Sept. 17, 2010) (same). T-Mobile selected the eight cities for its spectrum scan based, in part, upon the locations of systems identified in the Department of Defense IMT-2000 Report. *See* Dep't of Defense, *Investigation of the Feasibility of Accommodating the International Mobile Telecommunications (IMT) 2000 within the 1755-1850 MHz Band* (Feb. 9, 2001), *available at* http://www.ntia.doc.gov/ntiahome/threeg/33001/dodassessment.pdf. *See also* NTIA Fast Track Report at Figure H-1 (showing that 14 sites would use the 1695-1770 MHz band in the continental United States).

[32] *See* Spectrum Scan Ex Parte.

IV. CONCLUSION

For the foregoing reasons, T-Mobile urges the Commission to support the reallocation of additional spectrum for competitive mobile broadband services consistent with these comments.

Respectfully submitted,

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