

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

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

COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

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SUMMARY

CTIA – The Wireless Association® (“CTIA”) submits these comments in response to the Public Notice issued by the Office of Engineering and Technology and Wireless Telecommunications Bureau seeking comment on the steps the Commission can take to best promote wireless broadband deployment in spectrum bands recently identified by the National Telecommunications and Information Administration (“NTIA”) for accommodating wireless broadband.

CTIA applauds the FCC and NTIA for their efforts thus far in implementing the National Broadband Plan’s and Administration’s spectrum allocation goals. The Public Notice represents another important step toward making additional spectrum available for mobile broadband services. In these comments, CTIA emphasizes:

- The 1755-1780 MHz and 1780-1850 MHz bands are ideally suited for mobile broadband and their deployment should be made a high priority;
- CTIA also generally supports additional examination of other bands below 3 GHz for mobile broadband services;
- CTIA believes that spectrum above 3 GHz may be useful for wireless services in the future, although not well-suited for mobile broadband deployment at this time.

As Chairman Genachowski recently observed, “[t]he world is going mobile.” Mobile broadband is being adopted and used at a staggering rate, and brings with it the potential to “spur economic growth, create jobs, enhance our global competitiveness, and improve our quality of life.” However, this explosive growth has brought with it a critical need for additional spectrum to support mobile broadband services. The efforts undertaken by the Commission and NTIA are essential to ensuring the continued success of mobile broadband.

CTIA emphasizes that the most logical and promising spectrum band for reallocation is the 1755-1780 MHz band. The 1710-1885 MHz band has been identified by the International Telecommunications Union for commercial wireless uses, meaning that its selection would promote international spectrum harmonization. This is a key component in selecting spectrum for mobile broadband deployment, and brings with it the advantages of economies of scale with respect to equipment development. The adjacency of this spectrum to the 1710-1755 MHz AWS-1 band also makes it well-suited for mobile broadband. Moreover, the wireless industry recently has developed a great deal of experience in working with federal incumbents in AWS-1 spectrum, which would serve to ease the transition of the 1755-1780 MHz spectrum from federal to commercial use. Indeed, many of the federal users in the 1755-1780 MHz band are the same parties involved in relocation from the AWS-1 spectrum, and the wireless industry has developed strong and current relationships with the affected parties. While CTIA supports the reallocation of the 1755-1780 MHz band generally, as described in these comments, it strongly supports the pairing of this band with the 2155-2180 MHz spectrum, and believes that this pairing would be highly beneficial.

CTIA also addresses other bands identified for potential mobile broadband use, and agrees with NTIA's assessment that spectrum between 1780 and 1850 MHz should be a high priority band for study. The 1780-1850 MHz spectrum shares with the 1755-1780 MHz band many of the same characteristics that are highly sought for mobile broadband spectrum.

CTIA also supports additional investigation of other bands below 3 GHz for mobile broadband services, and notes that the Public Notice has asked for comment on the suitability of the 1675-1710 MHz band, with particular focus on spectrum between 1695 and 1710 MHz. As CTIA has noted previously, this spectrum clearly has the characteristics necessary and desired for mobile broadband service. However, there are also drawbacks to this band, particularly with respect to its suitability for pairing with AWS-3 spectrum. CTIA encourages the Commission to consider a formal rulemaking proceeding to seek comment on optimal pairing of this band, reallocation requirements, and technical and service rules.

CTIA commends the work done by NTIA and the Commission to identify additional spectrum for wireless broadband deployment and is committed to working cooperatively to identify the spectrum resources necessary to ensure continued wireless innovation and the consumer and economic benefits that flow from a robust mobile wireless ecosystem.

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COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

I. INTRODUCTION

CTIA – The Wireless Association® (“CTIA”) hereby submits these comments in response to the Public Notice issued by the Office of Engineering and Technology and Wireless Telecommunications Bureau seeking comment on the steps the Commission can take to best promote wireless broadband deployment in spectrum bands recently identified by the National Telecommunications and Information Administration (“NTIA”) for accommodating wireless broadband.¹ CTIA commends the work done by NTIA and the Commission to identify additional spectrum for wireless broadband deployment and emphasizes:

- The 1755-1780 MHz and 1780-1850 MHz bands are ideally suited for mobile broadband and their deployment should be made a high priority;
- CTIA also generally supports additional examination of other bands below 3 GHz for mobile broadband services;
- CTIA believes that spectrum above 3 GHz may be useful for wireless services in the future, although not well-suited for mobile broadband deployment at this time.

¹ *Spectrum Task Force Requests Information on Frequency Bands Identified by NTIA as Potential Broadband Spectrum*, Public Notice, ET Docket No. 10-123 (Mar. 8, 2011) (“Public Notice”). These bands include the 1695-1710 MHz, 1755-1850 MHz, 3550-3650 MHz, 4200-4220 MHz, and 4380-4400 MHz bands. Public Notice at 1.

As Chairman Genachowski recently observed, “[t]he world is going mobile.”² Mobile broadband is being adopted and used at a staggering rate, and brings with it the potential to “spur economic growth, create jobs, enhance our global competitiveness, and improve our quality of life.”³ However, this explosive growth has brought with it a critical need for additional spectrum to support mobile broadband services. The efforts undertaken by the Commission and NTIA are essential to ensuring the continued success of mobile broadband.

II. CTIA APPLAUDS THE NTIA AND FCC EFFORTS TO IDENTIFY AND REALLOCATE SPECTRUM FOR MOBILE BROADBAND

CTIA applauds the FCC and NTIA for their efforts thus far in implementing the National Broadband Plan’s and Administration’s spectrum allocation goals. The Public Notice represents another critical step toward making additional spectrum available for mobile broadband services. CTIA’s members have been at the forefront of mobile broadband’s tremendous growth and innovation, and CTIA has led the call for additional spectrum for mobile broadband services. These efforts are crucial to securing America’s continued role as a technology leader in the wireless space.

Recent metrics demonstrate the continued explosive growth of wireless broadband and the urgent need for additional spectrum to accommodate this demand. Rysavy Research projects that smartphone data consumption will increase from approximately 0.3 gigabytes per month per user to almost 10 times this amount by 2016.⁴ A recent report by Cisco found that 2010’s

² Remarks of FCC Chairman Julius Genachowski at the White House (April 6, 2011), *available at* http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0406/DOC-305593A1.pdf.

³ *Id.*

⁴ Rysavy Research, *The Spectrum Imperative: Mobile Broadband Spectrum and its Impacts for U.S. Consumers and the Economy, an Engineering Analysis*, at 11-12 (March 16, 2011), *available at* http://www.rysavy.com/Articles/2011_03_Spectrum_Effects.pdf.

mobile data traffic was three times the size of the total global internet in 2000, and that global mobile data traffic nearly tripled in 2010.⁵ Cisco’s latest projection is that mobile data traffic will grow at a compound annual growth rate of 92 percent from 2010 to 2015, reaching 6.3 exabytes per month by 2015.⁶ And, significantly, mobile data traffic growth in 2010 exceeded Cisco’s own projection,⁷ demonstrating the staggering pace at which mobile data usage can be expected to grow over the coming years.

This growth, while a sign of the transformative role played by wireless broadband, has also created a spectrum crunch – an October 2010 FCC technical paper forecast that a spectrum deficit approaching 300 MHz is likely by 2014.⁸ The following chart, produced by the FCC’s Omnibus Broadband Initiative team graphically illustrates this spectrum deficit:

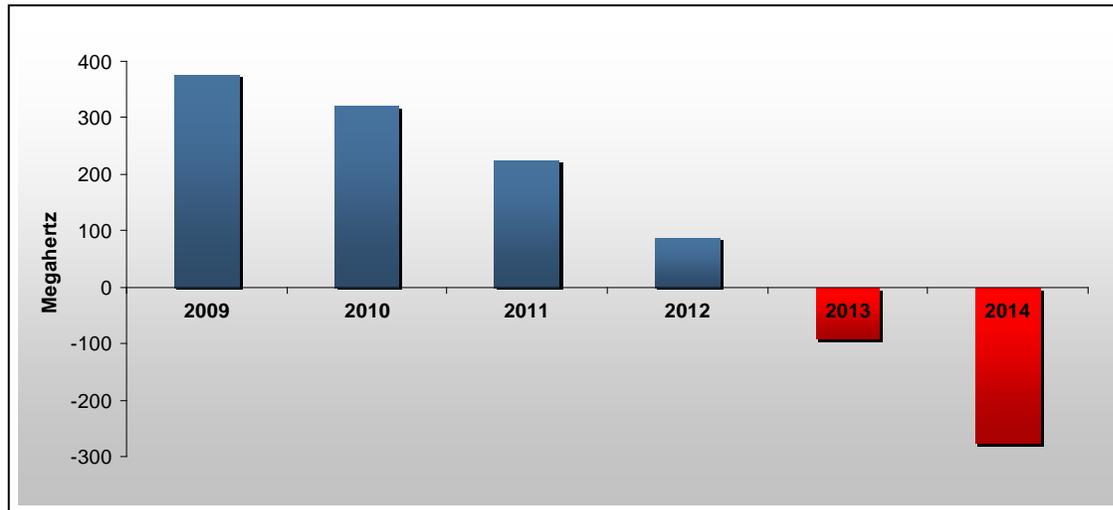
⁵ Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, at 1 2010-2015 (Feb. 1, 2011) (“2011 Cisco Report”), *available at* http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.pdf.

⁶ Telecommunications Industry Association, *Broadband Spectrum: The Engine for Innovation, Job Growth, and Advancement of Social Priorities* at 2 (March 2011) (“TIA White Paper”), *available at* http://www.tiaonline.org/gov_affairs/issues/spectrum/documents/TIASpectrumWhitePaperFINAL.pdf.

⁷ 2011 Cisco Report at 3.

⁸ FCC Staff Technical Paper, *Mobile Broadband: The Benefits of Additional Spectrum* at 26 (Oct. 2010) (“October 2010 Technical Paper”).

Spectrum Deficit



Source: FCC Spectrum Summit

America's wireless carriers have affirmed the surging growth in data traffic on their networks, fueled by a rise in the adoption of smartphones and tablets. In a recent filing, T-Mobile reported that the volume of data traffic on its network has doubled every seven months, and that customers using 4G devices now use more than 1 gigabyte of data per month on average.⁹ Meanwhile, AT&T recently stated that mobile data traffic on its network has grown by 8,000 percent over the past four years.¹⁰ The growth in popularity of smartphones is confirmed by data from Verizon Wireless that in the fourth quarter of 2010, 49 percent of Verizon Wireless' phone sales were smartphones, and 75 percent of net additions were

⁹ Comments of T-Mobile USA Inc., ET Docket No. 10-235, at 4 (Mar. 18, 2011).

¹⁰ John Donovan, AT&T, "Driving Innovation and Investment in Our Network" (Mar. 2, 2011), at <http://www.attinnovationspace.com/2011/03/02/driving-innovation-and-investment-in-our-network/>.

smartphone customers.¹¹ Meanwhile, Sprint has reported “exponential increases in the use of mobile data applications” and “the growing use of smartphones” on its network.¹²

In response to this tremendous growth, the White House last summer issued a Presidential Memorandum articulating the importance of spectrum to America’s future innovation. In so doing, the White House correctly found that “[f]ew technological developments hold as much potential to enhance America's economic competitiveness, create jobs, and improve the quality of our lives as wireless high-speed access to the Internet.”¹³

President Obama thus directed the Secretary of Commerce, through NTIA, as well as the FCC, to make available an additional 500 MHz of spectrum for mobile broadband over the next ten years.¹⁴ This directive echoed the National Broadband Plan’s recommendation that the FCC make 500 MHz newly available for broadband use within the next ten years, of which 300 MHz between 225 MHz and 3.7 GHz should be made newly available for mobile use within five years.¹⁵ Most recently, NTIA produced its Ten-Year Plan and Timetable for meeting this goal.¹⁶

¹¹ Kevin Fitchard, “With iPhone in the wings, Verizon mobile data growth continues unabated,” *Connected Planet* (Jan. 25, 2011), *at* <http://connectedplanetonline.com/3g4g/news/with-iphone-in-wings-verizon-mobile-data-growth-continues-0125/>.

¹² Press Release, Sprint Nextel, “Smartphones Drive Wireless Data Explosion” (Jan. 18, 2011), *available at* http://newsroom.sprint.com/article_display.cfm?article_id=1771.

¹³ Presidential Memorandum: Unleashing the Wireless Broadband Revolution (June 28, 2010), *available at* <http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution>.

¹⁴ *Id.*

¹⁵ Federal Communications Commission, *Connecting America: The National Broadband Plan* at 84 (2010) (“*National Broadband Plan*”).

¹⁶ National Telecommunications and Information Administration, *Plan and Timetable to Make Available 500 MHz of Spectrum for Wireless Broadband* (November 15, 2010), *available at* http://www.ntia.doc.gov/reports/2010/TenYearPlan_11152010.pdf.

CTIA is a strong supporter of efforts by the President, Congress, NTIA, and the Commission to identify and allocate more radio spectrum to accommodate the explosive growth in demand for mobile broadband services. Indeed, CTIA has been at the forefront of discussing the need for additional spectrum for mobile broadband. CTIA first forecast a gathering spectrum storm and looming spectrum drought in September 2009, when it urged U.S. policymakers to “immediately launch an effort to identify and allocate significant amounts of additional spectrum for commercial wireless services if the U.S. wants mobile providers to continue expanding their wireless networks and services to meet rapidly expanding demand.”¹⁷ Since that time, CTIA has been a major contributor to the Commission’s spectrum proceedings, and countless others have echoed CTIA’s call for additional spectrum. CTIA welcomes this additional opportunity to take part in Commission efforts to allocate additional spectrum to mobile broadband.

III. THE 1755-1780 MHZ SPECTRUM BAND IS IDEALLY SUITED FOR RAPID DEPLOYMENT OF MOBILE BROADBAND SERVICES

As CTIA has argued for the past several years, the most logical and promising band of federal spectrum for reallocation is the 1755-1780 MHz band. This band is particularly well-suited for mobile broadband services, and while this band brings with it the challenge of relocating federal incumbents, this is an area where the wireless industry has significant recent experience. Further, recent data suggests that reallocating the 1755-1780 MHz band and pairing it with the AWS-3 spectrum will significantly enhance the value of this spectrum, helping to achieve the Commission’s objective of putting spectrum to its best and most highly valued use.

¹⁷ Letter from Christopher Guttman-McCabe to Chairman Julius Genachowski et al, Federal Communications Commission, GN Docket No. 09-51, at 5 (Sept. 29, 2009).

There are several significant benefits to using the 1755-1780 MHz band for the deployment of mobile broadband services. As an initial matter, the 1710-1885 MHz band has been identified by the International Telecommunications Union (“ITU”) for commercial wireless uses.¹⁸ Therefore, selecting the 1755-1780 MHz band for mobile broadband deployment will promote international spectrum harmonization. CTIA has previously highlighted the international harmonization potential as a key component in selecting spectrum for mobile broadband deployment, and the Commission has specifically requested feedback on frequencies that would be beneficial from an international harmonization perspective.¹⁹ Further, international harmonization brings with it the advantages of economies of scale with respect to equipment development.²⁰ The adjacency of this spectrum to the 1710-1755 MHz AWS-1 band also makes it well-suited for mobile broadband. Moreover, the wireless industry recently has developed a great deal of experience in working with federal incumbents in AWS-1 spectrum, which would serve to ease the transition of the 1755-1780 MHz spectrum from federal to commercial use. Indeed, many of the federal users in the 1755-1780 MHz band are the same parties involved in relocation from the AWS-1 spectrum, and the wireless industry has developed strong and current relationships with the affected parties.

¹⁸ Reply Comments of CTIA – The Wireless Association® On NBP Public Notice #6, Spectrum for Broadband, GN Docket No. 09-51, at 14 (Nov. 13, 2009).

¹⁹ Public Notice at 4.

²⁰ The Brattle Group, “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 12 (Apr. 11, 2011), attached to Letter from Coleman Bazelon, The Brattle Group to Marlene H. Dortch, FCC, ET Docket No. 10-123 (Apr. 11, 2011) (“Brattle Group Paper”) (also noting that “[m]any manufacturers are reluctant to develop equipment for non-harmonized band[s] because the demand is inherently limited. It is likely that equipment will be both more expensive, take longer to develop, and have fewer features”).

While CTIA supports the reallocation of the 1755-1780 MHz band generally, it particularly supports the pairing of this band with the 2155-2180 MHz spectrum, and believes that this pairing would be highly beneficial. Pairing the 1755-1780 MHz band with the 2155-2180 MHz band would enable the same duplexer gap between base and mobile stations that is present in the existing AWS-1 spectrum.²¹ Further, current AWS-1 base station receive antennas are optimized for receiving communications within the 1755-1780 MHz band and would require little to no modification to accommodate use of the 1755-1780 MHz band for mobile broadband. The end result is that significant economies of scale and production would be reaped through this pairing. Conversely, if spectrum other than the 1755-1780 MHz band was to be paired with the 2155-2180 MHz band, the result would be increased production costs, significant infrastructure modifications to base station antennas, and detrimental delays in time to market. While all of these results are detrimental to consumers, the time to market delays pose a particular concern. As the Commission has repeatedly made clear, its efforts must be focused on bringing mobile broadband spectrum to market as quickly as possible to alleviate the looming spectrum crunch.

A recent study performed by The Brattle Group affirmed the significant benefits of pairing the 1755-1780 MHz band with the 2155-2180 MHz band. In its study, The Brattle Group analyzed the economic underpinnings of spectrum value and compared the specific cost differences among four options: (1) leaving the AWS-3 band unpaired, (2) pairing the AWS-3 band with 20 MHz in the 1755 MHz band, (3) pairing the AWS-3 band with 20 MHz in the 1690

²¹ Comments of CTIA – The Wireless Association®, ET Docket No. 10-123, at 5 (June 28, 2010) (“CTIA 1675-1710 MHz Comments”). *See also* Brattle Group Paper at 14.

MHz band, and (4) creating an asymmetric pairing with a 15 MHz band of spectrum.²² The Brattle Group's findings are as follows:

- The study concluded that a pairing of AWS-3 spectrum with 20 MHz of spectrum in the 2155-2180 MHz band would result in considerable efficiencies and a valuation of \$12 billion for the combined 40 MHz of spectrum.²³ Specifically, the 40 MHz pairing would have a price of \$1.05/MHz-pop.²⁴
- To predict the value of unpaired AWS-3 spectrum, The Brattle Group analyzed the 2008 700 MHz auction results and the recent acquisition of unpaired Qualcomm spectrum by AT&T.²⁵ The study concluded that this unpaired spectrum band would have a value of \$0.63/MHz-pop, or just over \$3.6 billion.²⁶
- The study further found that a pairing with the 1690-1710 MHz band “will incrementally decrease [AWS-3 spectrum’s] value through increased costs and uncertainty regarding equipment, thereby diminishing cash flow, future profits, and present value.”²⁷ Specifically, the Brattle Group found that these costs would decrease the spectrum value for the paired 40 MHz band to \$7.3 billion.²⁸
- Finally, the Brattle Group study examined an asymmetric pairing of 20 MHz of AWS-3 spectrum and 15 MHz from the 1695-1710 band, finding that the combination of exclusion zones and equipment costs and uncertainties would reduce the value of the spectrum to \$5.3 billion.²⁹

With regard to this spectrum, the Commission has sought comment on whether establishing exclusion zones around the satellite Earth stations in this spectrum would result in the most efficient use of this spectrum.³⁰ CTIA cautions that this would not be a good option for

²² Brattle Group Paper at 1, 13-22.

²³ *Id.* at 14.

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.* at 16.

²⁷ *Id.*

²⁸ *Id.* at 22.

²⁹ *Id.*

³⁰ Public Notice at 4.

wireless broadband customers and licensees, as there would be significant negative impacts from such exclusion zones, particularly in urban areas. CTIA believes that NTIA should make every effort to utilize the current technical parameters for next generation wireless systems into account when determining any such exclusion zones. In particular, Long Term Evolution (“LTE”) and Worldwide Interoperability for Microwave Access (“WiMAX”) technologies are emerging as the most prominent and well-supported air interface standards for mobile networks. As such, CTIA recommends that any interference modeling attempted by NTIA take into account the technical parameters established for the LTE and WiMAX standards, with an eye as well toward the continuous cycle of innovation that has occurred in the wireless industry. Indeed, the rapid and regular pace development of new mobile wireless network standards counsels against overreliance on exclusion zones as a long-term solution.

Given the significant downside to exclusion zones, CTIA urges NTIA and the FCC to work cooperatively to ensure that such preclusive restrictions are limited. Moreover, a cooperative partnership between NTIA, FCC and the wireless industry will best enable the most effective and efficient determinations for spectrum reallocation. CTIA is encouraged with the ongoing efforts made by NTIA and the FCC in this regard and strongly supports further attempts to make spectrum reallocation a collaborative, transparent process.

IV. THE 1780-1850 MHZ BAND SHOULD ALSO BE A HIGH PRIORITY BAND FOR STUDY

The Commission also seeks comment on issues related to possible broadband deployment in the 1755-1850 MHz band.³¹ Earlier this year, NTIA announced that it would undertake a detailed evaluation of the 1755-1850 MHz band, citing industry interest in the band and its

³¹ *Id.* at 3.

potential use within ten years.³² CTIA agrees with NTIA's assessment that spectrum between 1780 and 1850 MHz should be a high priority band for study.

The 1780-1850 MHz spectrum shares with the 1755-1780 MHz band many of the same characteristics that are highly sought for mobile broadband spectrum. This band would be adjacent to both the PCS spectrum at 1850-1900 MHz and the 1710-1780 MHz bands. Further, this spectrum has propagation characteristics that make it well-suited for mobile broadband use. As noted above, the 1710-1885 MHz band has been identified by the ITU for commercial wireless uses.³³ CTIA also notes that the 1705-1780 and 1805-1880 MHz bands are a part of 3GPP Band 3, with standards developed for LTE deployment in this spectrum.³⁴ This will facilitate development of equipment to serve this band and an accelerated deployment of services to consumers.

V. CTIA SUPPORTS ADDITIONAL INVESTIGATION OF OTHER BANDS BELOW 3 GHZ FOR MOBILE BROADBAND SERVICES

The Public Notice also has asked for comment on the suitability of the 1675-1710 MHz band, with particular focus on spectrum between 1695 and 1710 MHz.³⁵ As CTIA has noted previously, this spectrum clearly has the characteristics necessary and desired for mobile

³² News Release, NTIA, "NTIA Takes Next Step in 500 MHz Wireless Broadband Initiative: Agency to Conduct a Detailed Analysis of the 1755-1780 MHz Band" (Jan. 31, 2011), available at http://www.ntia.doc.gov/press/2011/500mhzstatement_02012011.html.

³³ Reply Comments of CTIA – The Wireless Association® On NBP Public Notice #6, Spectrum for Broadband, GN Docket No. 09-51, at 14 (Nov. 13, 2009).

³⁴ 3G Americas, *Transition to 4G: 3GPP Broadband Evolution to IMT-Advanced* at 68 (Sept. 2010), available at http://www.4gamericas.org/documents/3G_Americas_RysavyResearch_HSPA-LTE_Advanced_FINALv1.pdf.

³⁵ Public Notice at 2-3.

broadband service.³⁶ However, there are also drawbacks to this band, particularly with respect to its suitability for pairing with AWS-3 spectrum.

The 1675-1710 MHz band possesses several characteristics that CTIA has cited as desirable for mobile broadband. As an initial matter, this spectrum is adjacent to AWS-1 spectrum, and CTIA believes that there may be a viable path to pairing the 1675-1710 band with other spectrum. The 1675-1710 MHz band also shares the favorable propagation and throughput characteristics associated with lower band spectrum. CTIA currently is working with members of the service provider and vendor communities to determine the most beneficial pairing for the 1675-1710 MHz band.

This spectrum does, however, have drawbacks. First, the 1675-1710 MHz band is not internationally harmonized for mobile broadband use. As CTIA noted above, international harmonization brings with it considerable efficiencies in equipment development, efficiencies that would not be available with this band. Conversely, a lack of harmonization creates risks associated with equipment development. As the Brattle Group study noted, “[w]hether equipment manufacturers find the required R&D worth undertaking, and on what time table, is susceptible to industry risk.”³⁷ The equipment developed will likely “be both more expensive, take longer to develop, and have fewer features.”³⁸ The Brattle Group study also highlights the difficulties associated with pairing the 1675-1710 MHz band with AWS-3 spectrum. This pairing will require additional or modified network infrastructure, and will require exclusion

³⁶ See CTIA 1675-1710 MHz Comments.

³⁷ Brattle Group Paper at 19.

³⁸ *Id.* at 12.

zones covering 12 percent of the U.S. population – reducing the value and utility of this spectrum.³⁹

While the 1675-1710 MHz band does have drawbacks, particularly as a pairing for AWS-3, CTIA urges the reallocation of this band with another appropriate band of paired spectrum, and reiterates its position that pairing options should be considered through a formal rulemaking proceeding seeking comment on optimal pairing of this band, reallocation requirements, and technical and service rules.⁴⁰

VI. SPECTRUM ABOVE 3 GHZ IS USEFUL FOR WIRELESS SERVICES BUT NOT MOBILE BROADBAND AT THIS TIME

The Commission has also requested input on various spectrum bands above 3 GHz, including the 3550-3650 MHz, 4200-4220 MHz, and 4380-4400 MHz bands.⁴¹ CTIA previously has recommended that the Commission focus on spectrum below 3 GHz, as this spectrum has superior propagation characteristics, allows for more throughput over larger areas, penetrates buildings more effectively, and suffers less attenuation from trees, foliage, and variations in land.⁴² For these reasons, CTIA once again asks that the Commission focus its spectrum reallocation efforts on bands below 3 GHz.

While these bands are unlikely to be useful for mobile services due to propagation issues in the near-term, they are not without utility. CTIA believes that bands above 3 GHz remain valuable for fixed broadband services and should be investigated for reallocation. Further, while this spectrum may not be available for a greenfield mobile broadband build in the near-term,

³⁹ *Id.* at 8, 17.

⁴⁰ *See* CTIA 1675-1710 MHz Comments at 9-10.

⁴¹ *See* Public Notice.

⁴² *See, e.g.,* Comments of CTIA – The Wireless Association® NBP Public Notice #6, GN Docket No. 09-51, at 18 (Oct. 23, 2009).

heterogeneous buildout may be possible for these bands in the future via the use of femtocells and picocells. CTIA encourages the Commission, NTIA, and the wireless industry to continue exploring options for this spectrum.

VII. CONCLUSION

CTIA is encouraged by the Commission's efforts to implement the NTIA's "fast track" review of additional spectrum for mobile broadband. CTIA once again urges the Commission to prioritize the reallocation of the 1755-1780 MHz band as a pairing for the AWS-3 spectrum. By taking this action, and by continuing to explore mobile broadband deployments in other bands, as described herein, the Commission will help to ensure continued wireless innovation and consumer and economic benefits reaped by the wireless industry.

Respectfully submitted,

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