



May 5, 2008

By Electronic Mail

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW, TW – A325
Washington, DC 20554

Re: *Ex Parte* Submission in WT Docket No. 07-195 – Further Discussion of the Elements Necessary to Establish a Free Broadband Service in the 2155-2175 MHz Band

Dear Ms. Dortch:

M2Z Networks, Inc. (“M2Z”) hereby submits this *ex parte* letter in the above-captioned docket,¹ suggesting a framework for facilitating in the 2155-2175 MHz (or “AWS-3”) spectrum band the provision of a new, free, nationwide wireless broadband service — one that meets the Commission’s recently revised definition of broadband service.² This *ex parte* filing supplements our previous filings in this docket and does not modify our prior comments except as specifically stated herein.

¹ *Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band*, Notice of Proposed Rulemaking, 22 FCC Rcd 17035 (2007) (the “AWS-3 NPRM”).

² This submission supplements the record developed in response to the AWS-3 NPRM, adding information based on numerous developments and changes in the regulatory landscape such as the recently concluded 700 MHz auction and the Commission’s recent decision concerning the re-definition of broadband services as those at 768 kbps and above. *See Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data Interconnected Voice over Internet Protocol (VoIP)*, WC Docket No. 07-38, Report and Order, FCC 08-89 (adopted Mar. 19, 2008) (“*Broadband Data Development Order*”); *see also* Federal Communications Commission, “FCC Expands, Improves Broadband Data Collection,” Press Release (Mar. 19, 2008) (“*Broadband Data Development Press Release*”).

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INTRODUCTION AND SUMMARY

M2Z has long called for AWS-3 to be used as a platform for promoting the availability of a free, family-friendly broadband service – one that could be a true alternative to incumbent wireline broadband offerings and “achieve the goal of a nationwide third broadband pipe.”³ We also have called for service rules that would require the eventual AWS-3 licensee to embrace an open broadband platform and open applications requirement in order to enhance competition and choice for all consumers. To that end, in our initial comments and reply comments in response to the *AWS-3 NPRM*, M2Z proposed a specific set of service and technical rules that would foster new entry and allow this unpaired band to be used for the delivery of two-way broadband services using innovative time division duplexing (“TDD”) technologies.⁴

As outlined below, M2Z continues to believe that the Commission can establish service rules that would encourage use of the 2155-2175 MHz spectrum to achieve Congress’s and the Commission’s policy goals of increased broadband availability and affordability. The Commission recently determined that the definition of “broadband” should not be static and adopted a new methodology in which 768 kbps would serve as the standard for characterizing a broadband connection.⁵ This represents a nearly four-fold increase from the prior 200 kbps definition. Considering this revised definition of broadband, M2Z took a close look at whether there is a compelling demand for delivering a free broadband service at downstream speeds of 768 kbps that is competitive with wireline broadband services. Our conclusion is that such a service could be commercially viable assuming the proper service rules are put in place. To the extent that the Commission adopts the steps outlined herein, M2Z commits to bid actively for the 2155-2175 MHz license at auction, in order to facilitate entry of a new, nationwide wireless broadband competitor offering free and family-friendly broadband service at a minimum downstream speed of 768 kbps.⁶

³ *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Second Report and Order, 22 FCC Rcd 15289 (2007) (“700 MHz August 2007 Second Report and Order”) (Statement of Chairman Kevin J. Martin).

⁴ See, e.g., Comments of M2Z Networks, Inc., WT Docket No. 07-195, at 37-38 & App. B (filed Dec. 14, 2007) (“M2Z Comments”); Reply Comments of M2Z Networks, Inc., WT Docket No. 07-195, at 13 n.49 & App. A (filed Jan. 14, 2008).

⁵ See, e.g., *Broadband Data Development Order* (Statement of Chairman Kevin J. Martin).

⁶ M2Z’s commitment also is subject to its review of the final text of the *Broadband Data Development Order*, which had not yet been released as of May 5, 2008, the filing date of this *ex parte* presentation.

The key elements needed to establish such a service successfully in this proceeding are:

- A clear articulation of the contours of the free broadband service;
- The creation in the AWS-3 band of a single, nationwide license;
- The adoption of technical rules that permit full and flexible use of the 20 MHz spectrum block for two-way broadband services;
- The requirement that not more than 25% of the licensee's network capacity in the band be used to offer a free, family-friendly broadband service in order to promote ease of compliance with the service rules, manage consumer expectations concerning the availability of the free broadband service, and to enable the licensee to offer other competitive services that will generate vigorous retail and facilities-based competition in the broadband sector;
- The requirement for stringent but achievable service rules and build out obligations that provide for the AWS-3 licensee's network to reach 40% of the United States population within four years from its commencement of operations; 75% of the population within seven years of its commencement of operations; and 95% of the population within ten years of its commencement of operations to ensure that the broadband policy goals of Congress and the Commission are achieved in a timely manner;
- The adoption of an initial license term of fifteen years;
- The adoption of rules, policies, and enforcement mechanisms to ensure that the AWS-3 band can be used to provide broadband services, which only can be accomplished by protecting the eventual licensee from predatory or anti-competitive practices in which incumbent broadband providers (wireline and wireless) and their affiliates might engage to forestall nationwide broadband competition by limiting access to critical bottleneck facilities such as backhaul; and
- The use of auction rules that encourage new entry while discouraging the gaming of the auction process to prevent such entry.

In addition, the Commission must implement the following public interest requirements in order to facilitate a free and family, friendly service at 768 kbps.

- A rule clarifying that, at a date certain, the licensee may determine the modifications that should be made to the minimum speed of the free

broadband service, based on factors such as market conditions, the availability of more efficient technology, and/or the availability of compatible spectrum for increasing the network's capacity;

- A requirement that the licensee adhere to open platform and open application commitments for any retail subscription-based broadband services that the AWS-3 licensee itself directly provides to consumers; and
- A rule that provides for the transparent enforcement of the free service requirement based on the terms of service offered by the licensee to consumers.

M2Z discusses below each of these key components for realizing a free 768 kbps wireless broadband service in the 2155-2175 MHz spectrum band.

THE CONTOURS OF THE FREE 768 KBPS BROADBAND SERVICE

M2Z respectfully proposes that the AWS-3 licensee be required as a condition of its license to offer a free, family-friendly broadband service in the 2155-2175 MHz spectrum band. In addition to meeting this requirement, the AWS-3 licensee should be required to offer service pursuant to the remaining service rules discussed below. Moreover, the eventual licensee should be determined according to the auction procedures outlined below, which are designed to spur the entry of a new, nationwide wireless broadband competitor. Before turning to those service rules and auction procedures, however, it is important to delineate the parameters of the free broadband service by explaining the meaning of the terms “free” and “broadband.”

The service rules for the 2155-2175 MHz band should require the eventual AWS-3 licensee to offer a wireless broadband service that is free from any recurring airtime charges or user fees to individual residential consumers. As explained in greater detail below, the service rules also should obligate the licensee to dedicate not more than 25% of its deployed network capacity to the provision of the free broadband service. Finally, the Commission's service rules for this band should require the free service to be provided at downstream speeds of at least 768 kbps⁷ – a data rate that would meet at the service's inception the Commission's new standard for broadband – thereby creating a

⁷ Because there are various methods that may be deployed by a carrier to arrive at the minimum data speed, the Commission should make clear that the eventual licensee shall specify the manner in which the minimum data speed will be met and measured in the licensee's terms of service for the free service offering, and that the licensee's failure to comply with such terms could result in enforcement action by the Commission.

consumer wireless broadband service that would be comparable to, truly competitive with, and a direct substitute for residential wireline broadband offerings.

In keeping with the unfettered and borderless nature of the Internet, and to take advantage of the personal freedom that wireless services can bring to broadband access, the AWS-3 service rules also should require the free service to be provided to consumers as rapidly as possible and with the highest degree of convenience. The very essence of the free broadband service is that – similar to free, over-the-air television – it does not entail any billing or payment relationship between the licensee and the individual using the network. Thus, it is logical that there should be no requirement for consumers to provide the licensee with personal information, such as a credit card number or permanent address information that is not otherwise required by law, in order for consumers to use the free service. Simplifying access to the Internet in such a manner is in the public interest because it would make broadband available to a class of users that today cannot easily access or afford such services, and the Commission should make such rapid and convenient access a requirement of the license. The millions of individuals that cannot access broadband services today because they do not have the credit or domiciliary status necessary for obtaining wireline broadband services are among those that would benefit the most from simplified and free access to broadband.⁸

M2Z therefore proposes that the Commission require the AWS-3 licensee to utilize for the free broadband service a minimal registration process for individual consumers, similar to the process used for a variety of free communications services on the Internet such as email accounts, social networks, and chat services. M2Z specifically proposes that the Commission require the AWS-3 licensee to use a registration process that requires consumers to provide only a valid email address or telephone number, and a specific machine address for the certified customer premises equipment (“CPE”) that he or she will use to access the free service.⁹ Once registered in this manner, users could

⁸ See, e.g., Statement of Federal Communications Commission Chairman Kevin J. Martin before the United States Senate Commerce, Science, and Transportation Committee (Feb. 1, 2007) (discussing how broadband can make the Internet “an invaluable tool for educating our children, treating patients, and giving a voice and creative outlet to individuals from all walks of life”); Statement of Commissioner Deborah Taylor Tate, Federal Communications Commission, before the United States Senate Commerce, Science, and Transportation Committee (Feb. 1, 2007) (“Broadband promises unprecedented business, educational, and healthcare opportunities for all of us, no matter where we choose to live.”); Pew Internet & American Life Project, *Home Broadband Adoption 2006*, at 11 (May 2006) (reporting that households with annual incomes of less than \$30,000 are significantly less likely to have broadband Internet access than households with annual incomes over \$75,000).

⁹ As discussed below, adoption of the open platform requirements proposed by M2Z would make it possible for multiple vendors to provide CPE for use in the band, so long as these vendors produced CPE

access the free broadband service in any geographic area where the licensee had constructed its network, commenced service, and provided network capacity in compliance with the Commission's service rules. The information provided by individual consumers under this registration process would be largely unverifiable, potentially impacting the manner in which the AWS-3 licensee would operate the network to comply with other laws and Commission regulations designed to monitor and curb illegal and unlawful uses of the service. Nevertheless, the public interest benefits from providing highly affordable and convenient broadband access to millions of Americans would far outweigh any such ramifications associated with this registration process.

Beyond the requirements specified herein, however, no AWS-3 licensee willing to commit to providing a free broadband service should be subject to technically inflexible and potentially non-technologically neutral regulations. Any such measures would harm the licensee's ability to provide a nationwide broadband service, and would place it at a competitive disadvantage in the market. The AWS-3 licensee should instead be required to achieve its initial data rates and any future data rates according to the reasonable terms of service that it offers to end-users of the free service. Provision of the free broadband service also should not impinge upon the AWS-3 licensee's ability to offer a premium or pay service, either alone or in conjunction with other vendors, resellers, or partners using portions of the available spectrum and network capacity that the licensee develops within the 2155-2175 MHz band. To the extent subscription services are provided by parties other than the AWS-3 licensee, these parties should not be subject to any public interest obligations described herein. Requiring these non-facilities-based competitors to fulfill obligations associated with the underlying license would unduly inhibit their flexibility to provide innovative services.

Adoption of these minimum requirements, and of the other service and technical rules discussed in detail herein, would facilitate the rapid deployment of an eminently affordable wireless broadband service, free of recurring airtime or service charges of any kind, and comparable to other retail or consumer-grade broadband services currently offered by wireline broadband providers. As M2Z has reported throughout this proceeding and in the earlier proceeding regarding its license application, economists have estimated the consumer benefits of a free, nationwide wireless broadband network at \$18 to \$32 billion dollars.¹⁰ Those estimates were developed on the basis of a service

certified according to published, non-discriminatory standards. The CPE could be used by individual consumers to access the free service or by wholesale partners of the AWS-3 licensee as a standalone service or in conjunction with other services.

¹⁰ See, e.g., Consolidated Opposition of M2Z Networks, Inc. to Petitions to Deny, WT Docket Nos. 07-16 and 07-30, at 15-16 (filed Mar. 26, 2007).

that was expected to be offered at downstream speeds much lower than 768 kbps, meaning that the expected consumer benefits of the 768 kbps downstream service proposed herein should be commensurately greater.¹¹ The Commission should not pass up the economic, consumer, and public interest benefits that would result from facilitating entry of a nationwide wireless broadband competitor offering free service at 768 kbps in this long fallow band. The best method for facilitating such entry would be the Commission's adoption of the parameters and enforceable commitments outlined above for the free service to be provided by the eventual licensee, coupled with adoption of the service rules described below.

PROPOSED SERVICE RULES FOR AWS-3

Creation of a Single, Nationwide 20 MHz License

The Commission has recognized repeatedly, in the AWS-1 and 700 MHz proceedings and elsewhere, the benefits of licensing large spectrum blocks on a nationwide basis. Chief among these advantages is the potential for facilitating a new, nationwide broadband provider with a sufficient amount of spectrum and technical flexibility to provide services that are direct or near substitutes for existing wireline broadband offerings.¹² As the Commission has stated in several recent proceedings, rules that allow licenses to be awarded in large spectrum blocks and over large geographic areas “enable a broader range of broadband services (including Internet access at faster speeds), accommodate future higher data rates, and provide operators with additional capacity and, importantly, flexibility.”¹³ Moreover, by awarding the entire 20 MHz block of spectrum in one license, the Commission would be allowing the eventual 2155-

¹¹ See, e.g., Connected Nation, Inc., “The Economic Impact of Stimulating Broadband Nationally,” at 3-5 (Feb. 21, 2008) (finding that increased broadband penetration would result in a \$134 billion positive yearly direct economic impact for the United States, yielded by the economic benefits that would flow from the creation of new jobs, reduced transportation costs, and reduced healthcare costs), available at http://www.connectednation.com/documents/2008_02_21_TheEconomicImpactofStimulatingBroadbandNationally_AConnectedNationReport_008.pdf.

¹² See *Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands; Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, Notice of Proposed Rulemaking, 19 FCC Rcd 19263, ¶ 29 (2004) (“AWS 1915-1920 MHz NPRM”) (noting that “licensing the spectrum at issue in [that] proceeding on a nationwide basis . . . might provide the opportunity for a variety of advanced wireless services to be implemented . . . through the entry of a new nationwide competitor”).

¹³ *700 MHz August 2007 Second Report and Order* ¶ 69 (citing *Service Rules for Advanced Wireless Services in the 1.7 and 2.1 GHz Bands*, Order on Reconsideration, 20 FCC Rcd 14058, ¶ 15 (2005)); see also *Service Rules for Advanced Wireless Services in the 1.7 and 2.1 GHz Bands*, Report and Order, 18 FCC Rcd 25162, ¶ 44 (2003) (“AWS-1 Report and Order”).

2175 MHz licensee enough spectrum capacity to fulfill open platform/open applications requirements using this spectrum (as discussed below), while at the same time preserving that licensee's ability to offer a robust broadband service free of recurring airtime charges for consumers that have waited far too long for this type of innovation. Nationwide licensing of the 20 MHz spectrum block in AWS-3, along with other rules and regulations that promote new entry, would make it possible for a viable new entrant to emerge and provide a new third broadband pipe to consumers.

As M2Z and other commenters noted earlier in this proceeding, assigning the AWS-3 band as a single nationwide license also would greatly ease network deployment in the band, as it would eliminate any potential for co-channel interference. More importantly, it would make it easier to mitigate and minimize the potential for harmful interference to adjacent channel users by creating a uniform interference environment in the AWS-3 band that would simplify coordination and synchronization with operations in adjacent bands. Dividing the AWS-3 spectrum into several small license areas would create a number of geographic service boundaries requiring coordination, whereas “[r]elying on larger geographic service areas [would limit] the number of geographic service boundaries where signal strength and height benchmarking limitations would need to be considered” by an AWS-3 licensee, no matter the technology it might use.¹⁴

Nationwide licensing also would allow for the most cost-effective and speedy deployment of a newly constructed network in the AWS-3 band and provide incentives for faster rollout of the free broadband service and other innovative services. Carriers commenting in this proceeding and several other Commission proceedings over the past decade have agreed that nationwide licensing provides the quickest path to rolling out promising and vital new services such as wireless broadband.¹⁵ Nationwide licensing of the full 20 MHz of spectrum available in the AWS-3 band is essential to realizing these goals because it would remove the spectrum aggregation risk that new entrants would encounter if the Commission were to adopt smaller license areas. Finally, nationwide licensing of the full 20 MHz would avoid the perils of predatory bidding and other gaming tactics to which incumbents might resort in order to drive up spectrum

¹⁴ Comments of Sprint Nextel Corporation, WT Docket No. 07-195, at 15 (filed Dec. 14, 2007) (“Sprint Nextel Comments”).

¹⁵ *See, e.g.*, Letter from Donald C. Brittingham, Director of Wireless Matters, Bell Atlantic, to Ms. Magalie Roman Salas, Secretary, Federal Communications Commission, WT Docket No. 99-168, at 2 (filed Nov. 16, 1999) (“Nationwide licensing will promote increased operating efficiencies and lower priced services without the expense and delay of aggregating smaller geographic areas through the secondary market.”); *see also* Opposition of EchoStar Satellite L.L.C., WT Docket No. 07-16, at 1 (filed Mar. 2, 2007) (“EchoStar Opposition”) (calling upon the Commission to auction the 2155-2175 MHz band “as a single nationwide license in an expedited manner”).

acquisition costs for potential new entrants. The risk of such activity would be greater if the Commission were to adopt smaller license areas or employ a largely untested package bidding scheme.

Traditionally, the Commission has tried to provide for a mix of geographic license sizes and spectrum blocks in the context of large spectrum auctions. However, in this instance, the public interest demands that the Commission auction and assign the 2155-2175 MHz band on a nationwide basis, due to the compelling need for new and rapid nationwide broadband competition, as well as the unique characteristics of this unpaired band and the attendant difficulties associated with managing interference coordination on a regional basis. The Commission should seize upon the opportunity afforded by the AWS-3 band and license it as a nationwide, 20 MHz spectrum block.

Permitting Flexible and Full Use of the 20 MHz Spectrum Block for Two-Way Broadband Services

In addition to establishing a single, nationwide license in the 2155-2175 MHz spectrum block, the Commission should permit the licensee to make full and flexible use of the spectrum. As M2Z and the vast majority of interested parties have suggested in this proceeding, the Commission should adopt rules for the AWS-3 band that allow the maximum amount of flexibility regarding the licensee's operations and services under a technologically neutral regime.¹⁶ Compared to an overly restrictive band plan that has been suggested by only a handful of commenters (most of whom were existing terrestrial spectrum license holders), a plan that allows for full technical flexibility would encourage more efficient and intensive use of the 2155-2175 MHz band for the benefit of consumers. The recent upward revision of the definition of broadband to 768 kbps makes it even more imperative for the Commission to provide the licensee with full technical flexibility to operate in the AWS-3 band. Therefore, the AWS-3 licensee should be provided with the same technical flexibility to conduct any combination of uplink and/or downlink operations that the Commission granted to commercial licensees in the 700 MHz band, subject, as such other licensees are, to limitations regarding out-of-band emissions, adjacent channel coordination, and power spectral density.¹⁷

¹⁶ See M2Z Comments at 32-38.

¹⁷ See, e.g., *700 MHz August 2007 Second Report and Order* ¶ 95 & n.215; cf. *AWS-1 Report and Order* ¶ 46 (declining to facilitate unpaired uses of spectrum in the AWS-1 band while committing to allocate spectrum for unpaired uses in future proceedings); see also *In the Matter of Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27 and 90 to Streamline and Harmonize Various Rules Affecting Wireless*

The technical rules for the AWS-3 band should be based on the rules adopted in 2007 for the Upper 700 MHz C Block. Thus, for example, emissions outside the band should be attenuated below the transmitter power (P) by at least $43 + 10 \log (P)$ dB. The base station power limit should be 1000 watts/MHz ERP (2000 watts/MHz ERP in rural areas), mobile stations should be limited to 30 watts ERP, and portable/hand-held devices should be limited to 3 watts ERP. These values resemble those that apply to two-way base and mobile operations in the commercial blocks in the 700 MHz band. M2Z opposes the imposition of additional restrictions on out-of-band emissions and power limits on both base and mobile operations beyond those specified in the 700 MHz blocks designated for two-way commercial broadband services as such restrictions would degrade significantly the AWS-3 licensee's ability to provide competitive broadband services, including a free service at the data rate of 768 kbps.

The Commission also should impose mutual harmful interference protection obligations on the AWS-3 licensee and adjacent-band licensees. The record in this proceeding demonstrates that there are many technological solutions available to mitigate harmful interference (including coordination of base station siting, adaptive antenna technology, power control, and receiver and transmitter enhancements such as improved filtering and antenna polarization).¹⁸ The Commission should adopt technical rules that facilitate the use of these reasonable mechanisms, rather than resorting to prescriptive, outdated command and control techniques. In avoiding harmful mobile-to-mobile interference between the 2155-2175 MHz licensee and adjacent band users, the Commission should employ a probabilistic interference analysis for anticipating or addressing concerns. The Commission also should encourage market-based, cooperative solutions to base station-to-base station interference resolution by establishing standard cooperation and coordination requirements for the AWS-3 licensee and adjacent-band users. Given the litany of available interference mitigation techniques previously described in the record by M2Z and others,¹⁹ the Commission should refrain from imposing mandatory internal or external guard bands, and should allow the licensee to determine the most appropriate strategy for avoiding harmful interference. This

Radio Services, Third Report and Order, WT Docket No. 03-264, FCC 08-85, ¶ 4 (rel. Mar. 21, 2008) (establishing regulatory parity for wideband spectral services) (2008).

¹⁸ See M2Z Comments at 46 n.155.

¹⁹ See Letter from Uzoma C. Onyeije, M2Z Networks, Inc., to Ms. Marlene H. Dortch, Federal Communications Commission, WT Docket No. 07-195, at 1-2 (filed Mar. 31, 2008); Letter from Trey Hanbury, Sprint Nextel Corporation, to Ms. Marlene H. Dortch, Federal Communications Commission, WT Docket No. 07-195 (filed Mar. 5, 2008); see also Sprint Nextel Comments at 4-6; Comments of ArrayComm LLC, WT Docket No. 07-195, at 4-7 (filed Dec. 14, 2007); Comments of QUALCOMM Incorporated, WT Docket No. 07-195, at 3-6 (filed Dec. 14, 2007).

flexibility, along with strong and transparent enforcement by the Commission of the AWS-3 service rules and other relevant rules, would create an incentive for the AWS-3 licensee and adjacent band licensees to cooperate and maximize the efficient use of their respective licenses to deliver services to consumers.

Requiring That Not More Than 25% of the AWS-3 Licensee's Network Capacity Be Dedicated to Providing the Free Service

As suggested above in our description of the proper contours for the free service, M2Z proposes that the AWS-3 service rules require the licensee for this single, nationwide 20 MHz spectrum block to dedicate not more than 25% of its network capacity to provision of the free service in operational markets in order to provide regulatory certainty and manage consumer expectations. This commitment ensures a robust free wireless broadband offering, while also allowing the licensee the flexibility to manage its resources and accommodate subscriber growth over time as demand for the service increases. Establishing a bright-line benchmark would also give the licensee the ability to provide clear guidance, in the form of its published terms of service for this opt-in wireless broadband offering, to existing users and potential new users of the free service during and after commencement of operations in any market.

Crafting Reasonable Build Out Requirements that Promote Deployment While Recognizing the Unique Nature of the AWS-3 Band

The Commission has the authority to impose, and should impose, build out requirements on the AWS-3 licensee in order to promote network deployment and deter spectrum warehousing or other anti-competitive behavior that would otherwise keep this spectrum in its largely fallow and under-utilized state. These build out requirements should reflect the unique opportunities afforded by the band, however, and reflect its highest and best use as well as current realities affecting the financial markets that would have to be accessed in order to make full use of the spectrum.

In our initial application for use of this spectrum band and our earlier comments in this proceeding, M2Z advocated build out requirements that would facilitate swift, nationwide network deployment. Based on a variety of factors, including the significant record developed in the 700 MHz proceeding, the AWS-1 proceeding,²⁰ and the respective auctions conducted in those spectrum bands, M2Z continues to believe that an

²⁰ M2Z notes, however, that the Commission declined to establish any interim build out requirements for AWS-1 licensees, opting instead to require only a showing of substantial service by the end of any license term. See *AWS-1 Report and Order* ¶¶ 73-77.

aggressive build out requirement is consistent with the public interest. Thus, M2Z now suggests that the Commission adopt for the AWS-3 band build out obligations that are substantially similar to those implemented for the Upper 700 MHz C block.²¹ Specifically, the AWS-3 licensee's network should be required to reach 40% of the United States population within four years from its commencement of operations; 75% of the population within seven years of its commencement of operations; and 95% of the population within ten years of its commencement of operations.

Prior to the start of the time for measuring these build out milestones, the AWS-3 licensee should be afforded a maximum of two years to commence operations. By imposing build out requirements that are comparable to those adopted for the Upper 700 MHz C block, the Commission would be ensuring a degree of regulatory parity between licensees in similar services. Yet, it is important that the Commission adjust the build out requirements for AWS-3 so that the build out clock starts running only when the AWS-3 licensee has actually commenced operations. Assuming a license grant in 2009, and allowing two years before the commencement of operations consistent with this ambitious and massive undertaking, the first benchmark would have to be satisfied in 2015.²²

Although M2Z's proposed build out recommendation differs slightly from the build out requirements in other spectrum bands, in the aggregate these differences balance out. A longer build out timeline leading up to the first milestone in AWS-3 is necessary because equipment vendors need certainty regarding regulatory requirements, and thus far they have had none because service rules have not been established or even tentatively proposed for the band.²³ Thus, equipment suppliers will need sufficient time to ramp up production of base stations and CPE that will comply with the service rules

²¹ See *700 MHz August 2007 Second Report and Order* ¶¶ 162-64. The build out benchmarks we suggest today differ slightly from those we proposed in our initial comments in this proceeding. See M2Z Comments at 24. Nevertheless, they remain largely consistent with the build out requirements adopted for 700 MHz and AWS-1 licensees, as well as with M2Z's initial proposal.

²² This first benchmark compares to the 2013 first benchmark for the 700 MHz C Block. See *700 MHz August 2007 Second Report and Order* ¶ 153. By contrast, the adjacent AWS-1 licensees' build out benchmark is the loose "substantial service" showing at the end of the 15 year license term. See *AWS-1 Report and Order* ¶¶ 73-77.

²³ This is in sharp contrast to the 700 MHz and AWS-1 bands, which had service rules in place or proposed service rules under consideration for as many as five to seven years prior to the most recent auctions. See, e.g., *Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules*, First Report and Order, 15 FCC Rcd 476 (2000); *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*, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, 15 FCC Rcd 16043 (2001).

for the band that are adopted in this docket. Moreover, unlike the 700 MHz C Block (which caps mandated build out at 75%), M2Z's proposed stringent build out rules are more expansive covering at least 95% of the United States' population. Thus, on balance, the later start is more than made up for with the mandatory availability of service for a greater percentage of the population.

In sum, the uncertain status of AWS-3 has delayed the development of a vibrant equipment "ecosystem" for the band, and – coupled with the need to deploy service in the band that meets the Commission's new 768 kbps standard for broadband requires a longer window before the licensee can be expected to begin rolling out service. Moreover, depending on the technical rules adopted by the Commission, the design and production of base stations and end-user equipment that will operate efficiently in the band and achieve the data rates needed to meet the Commission's changed definition of "broadband" might require significant re-working and re-engineering of technological systems and solutions that were already under development for this band. For these reasons, M2Z's proposal, if adopted by the Commission, serves the public interest by requiring rapid construction of a network while at the same time recognizing the inherent difficulties of deploying facilities and commencing service in less than two years from license grant.

The Need for a Fifteen Year Initial License Term

The Commission should set the initial term for the single, nationwide AWS-3 license at fifteen years. This length of term is essential to allowing the licensee an opportunity to recoup the costs of providing a free broadband service and to recover the cost of deploying a network capable of providing the service according to the aggressive build out schedule described above.²⁴ A fifteen year initial license term also would provide certainty for equipment manufacturers and users of the services to be offered in this band. Such a license term therefore would allow sufficient time for a 2155-2175 MHz equipment ecosystem to develop, and would provide a sufficient period to unleash the full potential of the open platform/open applications obligations discussed below. Without the stability and certainty that comes with a fifteen year initial license term, the service rules would not contain the proper incentives for spurring investment in the band, either in terms of facilitating new entry and construction of broadband infrastructure or maximizing the potential benefits from innovations made possible by open platform/open applications requirements.

²⁴ A fifteen year license is appropriate here, where the licensee would have already met a significant build out milestone (coverage of 95% of the population of the United States) in the tenth year after commencing service.

Preserving Special Access and Preventing Predatory Bidding

The Commission should also adopt appropriate safeguards to ensure that the AWS-3 licensee has access to the essential inputs needed to provide broadband services at 768 kbps. Thus, in addition to the significant build out requirements and other service rules discussed above, the Commission should commit to vigorous oversight in the special access market to facilitate the deployment of a free, family-friendly nationwide broadband service and prevent incumbent broadband providers from derailing AWS-3 deployment through anti-competitive conduct. Specifically, it should require local exchange carriers to offer high-capacity backhaul services, which will be necessary to provide wireless broadband services using the AWS-3 spectrum, based on non-discriminatory, just, and reasonable rates, terms, and conditions. It also should investigate expeditiously any complaints made by the AWS-3 licensee (or others) asserting that the providers of high-capacity backhaul, or of any other special access services essential for providing wireless broadband services, are violating these requirements.

As commenters have indicated in the Commission's pending special access proceeding, there is a lack of competition in the market for special access services, and incumbent local exchange carriers are charging supra-competitive rates for such services.²⁵ Because the AWS-3 licensee will be required to provide broadband services at a minimum of 768 kbps, it will need access to high-capacity backhaul services from wireless towers to the public switched network. Such high-capacity backhaul will be particularly crucial to ensuring the robustness of the free wireless broadband service offered by the AWS-3 licensee once consumers and public safety users begin relying on this free service as part of their day-to-day communications infrastructure. A free 768 kbps broadband service will compete directly with the retail broadband offerings of incumbent wireline providers that compete nationally (*e.g.*, AT&T and Verizon) and that also control critical and essential elements of the backhaul infrastructure. It is imperative that the Commission recognize and address the fact that such providers will have the incentive and means to exert their market power over an unaffiliated AWS-3 licensee by potentially increasing the rates for high capacity backhaul services, unduly delaying access to these essential facilities, and taking other anti-competitive actions. The Commission therefore should strengthen its special access enforcement and act promptly to ward off the potential for such anti-competitive behavior.

²⁵ *See, e.g.*, Comments of Sprint Nextel Corporation, WC Docket No. 05-25 (filed Aug. 8, 2007); Comments of T-Mobile USA, Inc., WC Docket No. 05-25 (filed Aug. 8, 2007).

To further prevent anti-competitive conduct, the Commission also should ensure that bidders in the AWS-3 auction do not engage in predatory bidding designed to keep new entrants out of the market. The Commission can accomplish this through eligibility restrictions, spectrum caps,²⁶ new entrant bidding credits, low minimum opening bids, and other means.

The Use of a Reasonable Minimum Opening Bid and Other Auction Rules

Consistent with prior auctions, the Commission should establish a reasonable minimum opening bid for the AWS-3 license to increase participation in the auction and ensure that a diverse array of parties are afforded a “meaningful” opportunity to compete for the license. The current environment in the credit and equity markets has made it difficult for many parties – especially potential new entrants and competitive carriers – to raise financing for spectrum acquisition and build out. Because an increase in the minimum opening bid would increase the amount of upfront payment that an auction applicant would need to submit in advance of the auction, establishing an unreasonably high minimum opening bid risks creating an artificial financial barrier that would deter potential bidders from participating in the AWS-3 auction, reduce auction revenues, and ultimately lessen broadband competition.

For the AWS-3 license, M2Z recommends that the Commission establish a minimum opening bid that is \$0.01 per MHz-pop or less. This formula for determining the minimum opening bid is consistent with the formula used in prior auctions for geographically large blocks of unpaired spectrum, including the nationwide license for the 1670-1675 MHz band in Auction 46²⁷ and the D Block EAG licenses in Auction 49 (Lower 700 MHz band auction),²⁸ as well as the recent 2007 auction of the unpaired 1390-1392 MHz block in Auction 69.²⁹ In most instances, the Commission’s use of a

²⁶ M2Z renews its call for the Commission to establish threshold eligibility requirements for the assignment of the AWS-3 band to limit the ability of incumbent wireless and wireline broadband competitors to block new entry. The Commission should restrict eligibility to hold a license in the AWS-3 band to entities that are neither incumbent terrestrial wireless licensees nor broadband providers nor affiliates of such entities.

²⁷ See *1670-1675 MHz Band Auction Scheduled for October 30, 2002*, Public Notice, DA 02-1871, 23-24 (Aug. 5, 2002).

²⁸ See *Auction of Licenses in the Lower 700 MHz Band Scheduled for May 28, 2003*, Public Notice, DA 03-567, 33-35 (Mar. 4, 2003). Although the Commission initially set a minimum opening bid of \$0.025/MHz-pop for the D Block licenses in Auction 44, five of the six licenses received no bids in Auction 44 and were re-auctioned successfully (at a minimum opening bid of \$0.01/MHz-pop) in Auction 49.

²⁹ See *Auction of 1.4 GHz Band Licenses Scheduled for February 7, 2007*, Public Notice, DA 06-2014, 33-35 (Nov. 2, 2006). The 1390-1392 MHz band auction established a minimum opening bid of \$0.005/MHz-pop. In addition, M2Z notes that the Commission auctioned unpaired WCS and BRS (then MDS/MMDS) spectrum without minimum opening bids, although those auctions took place before

low minimum opening bid or reserve price has led to vibrant competition for the spectrum and made it possible for the market to reach a market-clearing price without setting artificially high barriers that deter new entrants.

For the Commission, the goal here should be the same as the goal set out in the Communications Act — the “recovery for the public of a portion of the value of the public spectrum resource.”³⁰ As demonstrated in previous auctions discussed above, setting a reasonable minimum opening bid would ensure that the public recovers a portion of the 2155-2175 MHz spectrum’s value. Moreover, as M2Z has previously indicated, the Communications Act empowers the Commission to consider a variety of different means by which a portion of the band’s value could be recovered (including instituting a spectrum usage fee) to promote new and diverse entry.

ADDITIONAL PUBLIC INTEREST REQUIREMENTS NECESSARY TO FACILITATING A FREE, FAMILY-FRIENDLY SERVICE AT 768 KBPS

Increasing the Speed of the Free Service Over Time

From the outset of the proceeding initiated by its license application and during the course of this rulemaking, M2Z has called for concrete public interest commitments from the AWS-3 licensee. Of course, tangible public interest commitments may need to be adjusted at the end or during the course of a license term, as technology evolves and economic circumstances change. M2Z has long been committed to offering a free, family-friendly wireless broadband service throughout the United States according to an aggressive build out schedule similar to the one proposed above. However, should the Commission decide to increase over time the minimum data rates required of the AWS-3 licensee’s free broadband service, such mandatory increases in speed should first be considered at license renewal, or in any event no earlier than the time by which the AWS-3 licensee must attain the 75% of population coverage benchmark proposed above – *i.e.*, the seventh year after commencement of operations.

Any adjustment in the baseline speed of the free broadband service to be offered by the AWS-3 licensee should be based on that licensee’s proposal for the next iteration of the free service during the relevant timeframe. That proposal should, in turn, rely upon the licensee’s analysis of the consumer demand for its free broadband service, the

Congress required the use of reasonable minimum opening bids and reserve prices as warranted by the public interest as part of the Balanced Budget Act of 1997.

³⁰ See 47 U.S.C. § 309(j)(3)(C).

competitive and pricing environment for broadband services, the availability of additional compatible spectrum for expanding the service, and the state of wireless technologies and the capacity limitations of the 2155-2175 MHz spectrum at the time the increase is considered. The timing and parameters proposed under this framework for the increased commitment would allow the AWS-3 licensee to first understand consumer usage patterns, market impact, and the take-rate for its free broadband service. This approach also would permit the AWS-3 licensee the opportunity and regulatory certainty to recoup its investment in deploying its competitive network and the initial free broadband offering before being required to modify its service.

Thus, while changes in the capacity and capabilities of any broadband service may indeed be necessary to keep pace with the market in the future, there should be no annual or periodic examination of the meaning of “broadband service” with respect to the AWS-3 licensee’s offerings. Any such constant re-opening of the AWS-3 public service commitments to provide a free broadband service would decrease the regulatory and investment certainty needed to make use of the AWS-3 spectrum to build a competitive and viable facilities-based broadband network

Open Platform and Open Applications Commitments

M2Z renews its call for adoption of open platform and open applications requirements for the AWS-3 spectrum band.³¹ As the Commission found when it promulgated the service rules for the Upper 700 MHz C Block, “there is evidence that wireless service providers [] block or degrade consumer-chosen hardware and applications without an appropriate justification.”³² For that reason, the Commission should likewise require the AWS-3 licensee “to allow customers, device manufacturers, third-party application developers, and others to use or develop the devices and applications of their choice,”³³ subject to the guidelines proposed below and subject at all times to the licensee’s use of reasonable network management and security practices intended to promote the effective and efficient use of the network.³⁴

For any service offered directly to consumers on a recurring subscription payment basis by the AWS-3 licensee in the 2155-2175 MHz spectrum band, the Commission should require the AWS-3 licensee to implement open platforms for devices and

³¹ See M2Z Comments at 21.

³² 700 MHz Second Report and Order ¶ 200.

³³ *Id.* ¶ 195.

³⁴ See, e.g., *id.* ¶ 222.

applications, similar to the rules adopted for the Upper 700 MHz C Block.³⁵ An open platform requirement for devices would obligate the AWS-3 licensee to certify, on the basis of published and non-discriminatory standards, any end-user mobile devices or CPE that meet the published standards. The Commission also should impose an open applications requirement on these subscription or premium services that the AWS-3 licensee itself offers directly to consumers, once again so long as these applications comply with the licensee's published and non-discriminatory standards.

Application of Open Access Commitments to the Free Broadband Service

Although M2Z proposes the imposition of open platform and device requirements on the free broadband service to be offered by the AWS-3 licensee, it believes that exempting the free broadband service from the requirement to provide an open applications environment is in the public interest because such an exemption would allow the licensee to prevent unlawful or illegal uses of the free wireless broadband service.

As explained at the outset of this submission, the AWS-3 licensee should be required to grant consumers access to the free wireless broadband service in a manner that is minimally intrusive, meaning that the AWS-3 licensee should not be permitted to require users of the service to first provide a billing address or information that might be used to verify the age, legal identity, or permanent address of the user.³⁶ Without an exemption from the open application requirement for the free broadband service, the AWS-3 licensee would be severely limited in its ability to empower parents or to prevent improper or unlawful use of the free service as required by various sections of the Communications Act, including Section 230, as well as by other laws and regulations such as the Digital Millennium Copyright Act.³⁷ Thus, it is essential to the public interest that the AWS-3 licensee be given the flexibility to develop reliable and consistent methods for preventing children from using its network to access indecent or obscene materials, and that the licensee also be given the tools and flexibility necessary to prevent

³⁵ *See id.* ¶ 195.

³⁶ As indicated in its prior submissions in this docket and in other Commission proceedings, M2Z believes that the AWS-3 licensee should provide service in compliance with all generally applicable regulations for broadband providers so long as those regulations are applied in a technologically neutral fashion.

³⁷ For example, the DMCA requires Internet service providers to remove or disable access to materials that infringe a copyright holder's rights upon receipt of sufficient information and notice from the copyright holder identifying the infringement. *See* 17 U.S.C. § 512(c). In order to comply with such removal requirements when providing the anonymous, free service required of the AWS-3 licensee under the service rules proposed herein, that licensee must have the flexibility to prevent access to certain types of applications that could violate copyright or otherwise allow users to engage in the transmission of unlawful content.

the use of the free broadband service for the transmission of illegal and otherwise unlawful content.³⁸ That flexibility would be diminished significantly if the open applications requirement applied to the free broadband service.

Moreover, M2Z also proposes that the Commission require the AWS-3 licensee to employ mandatory network-based filtering of indecent or obscene material when providing access to the free service. The licensee would accomplish this through a compulsory setting on the network utilizing state of the art filters, taking every reasonable and available step to block access to sites purveying pornographic, obscene or indecent material. This proposed requirement is in the public interest because it would make available the myriad benefits of broadband to the nation's children – and their parents – via a service that is not only affordable but also free from pornographic and other indecent material.

Granting the AWS-3 licensee the flexibility to deploy meaningful protections for children is consistent with and encouraged by Section 230 of the Communications Act, which takes a balanced approach to encouraging filtering technologies. As the Commission noted in its 2005 Broadband Policy Statement, when discussing this statute that sets forth Congress's Internet policies, "Congress states that it is the policy of the United States 'to preserve the vibrant and competitive free market that presently exists for the Internet' and 'to promote the continued development of the Internet.'"³⁹ The same statute also declares, however, that it is the policy of the United States "to remove disincentives for the development and utilization of blocking and filtering technologies that empower parents to restrict their children's access to objectionable or inappropriate online material."⁴⁰ The Commission's 2005 Broadband Policy Statement was designed to implement Section 230(b), but clearly does not obviate or nullify any portion of that statute. Requiring the AWS-3 licensee to provide free, family-friendly broadband service that is able to block indecent materials allows the Commission to comply with Section 230(b)(4)'s call to allow for the empowering of parents by means of blocking and filtering technologies.

³⁸ As indicated earlier, no subscription broadband services provided by parties other than the AWS-3 licensee should be subject to any public interest obligations associated with the underlying license, including the open platform and open application requirements proposed here in order to maximize consumer choice and non-facilities based retail competition.

³⁹ See *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Policy Statement, 20 FCC Rcd 14986 (2005) ("2005 Broadband Policy Statement") (quoting 47 U.S.C. § 230(b)(2) and (b)(1)).

⁴⁰ 47 U.S.C. § 230(b)(4)

Finally, the Commission should also conclude in the AWS-3 proceeding, to the extent it needs to consider this issue, that the AWS-3 licensee's obligation to use mandatory filtering technologies is not inconsistent with the Commission's 2005 Broadband Policy Statement mandate that "consumers are entitled to access the lawful Internet content of their choice."⁴¹ For the AWS-3 licensee to provide free broadband service capable of being used by Americans of all ages while complying with its statutory and regulatory obligations, and for the Commission to comply with the parental empowerment provisions of Section 230(b)(4), the Commission's service rules in this proceeding must grant the AWS-3 licensee this important flexibility.

Enforcement of Concrete Public Interest Requirements in the AWS-3 Service Rules

The Commission naturally should have the authority to enforce the rules imposed on the eventual AWS-3 licensee. However, in order to ensure that enforcement of the service rules does not result in inflexible and non-neutral micro-management of the free service offered using this spectrum, the Commission should look to the terms of service established by the eventual licensee in order to achieve compliance with the broadband speed and network capacity requirements outlined herein. Should the licensee fail to conform to its published terms of service setting forth its methodology for meeting these benchmarks, the Commission should step in to ensure that consumers opting to use the free service obtain all of the benefits possible from this nationwide and free wireless broadband service. In terms of measuring the AWS-3 licensee's compliance with the build out requirements proposed above, the Commission should use measurements the same as or similar to those it promulgated for the Upper 700 MHz C Block.⁴²

⁴¹ See Broadband Policy Statement ¶ 4.

⁴² See 700 MHz Second Report and Order ¶¶ 162-64.

Marlene H. Dortch

May 5, 2008

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CONCLUSION

In this submission, M2Z renews its commitment to providing free, family-friendly wireless broadband service in the 2155-2175 MHz spectrum band that meets the Commission's new definition of broadband, pursuant to rules such as those proposed herein. The Commission should adopt these service rules, technical rules, and auction rules in order to facilitate new entry and rapid build out of a network that will provide the social and consumer benefits associated with such a service. Adoption of these rules would lead to significant investment – by M2Z or another eventual licensee willing to make these important commitments – in the long-awaited third broadband pipe: a wireless broadband service on par with wireline broadband services available in the market today. For these reasons, M2Z respectfully requests that the Commission adopt service rules along the lines of those outlined above, in order to unleash the potential of the AWS-3 band and realize the tremendous economic and social welfare benefits that such a service would produce.

Sincerely,

A handwritten signature in black ink, appearing to read 'Uzoma C. Onyeije', with a long horizontal flourish extending to the right.

Uzoma C. Onyeije

cc: Aaron Goldberger; Bruce Gottlieb; Renee Crittendon; Wayne Leighton; Angela Giancarlo; Fred Campbell; Joel Taubenblatt; David Hu; Walt Strack; Marty Liebman; John Spencer; Peter Daronco; Paul Malmud; Brent Greenfield

Innovation. Freedom.