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

In the Matter of	)	
	)	
Wireless Operation in the 3650-3700 MHz Band	)	ET Docket No. 04-151
	)	
Rules for Wireless Broadband Services in the 3650-3700 MHz Band	)	WT Docket No. 05-96
	)	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band	)	ET Docket No. 02-380
	)	
Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band	)	ET Docket No. 98-237

COMMENTS OF VERIZON ON PETITIONS FOR RECONSIDERATION

There is consensus among the majority of petitioners that the Commission should replace its "non-exclusive" licensing approach with one that relies primarily on "exclusive use" licenses.[1] Verizon agrees with the majority of petitioners that the Commission's recently established rules for operations in the 3650-3700 MHz band will not facilitate the efficient and effective use of this spectrum, because they will result in substantial interference among competing "non-exclusive" licensees. As a result, the adopted rules will undermine the Commission's goal of promoting the deployment of broadband and other wireless services. As

[1] Petitions for reconsideration were filed by Enterprise Wireless Alliance ("EWA"), Intel Corporation / Redline Communications Inc. / Alvarion, Inc. ("Intel"), Motorola, Inc. ("Motorola"), the Satellite Industry Association ("SIA"), WiMax Forum, and the Wireless Communications Association International, Inc. ("WCA"). EWA, Intel, Motorola, Wimax Forum, and WCAI all raise concerns with the Commission's non-exclusive licensing approach.

discussed below, the Commission should grant these petitions for reconsideration in order to provide for exclusive use licenses in the 3650-3700 MHz band.

The Commission should reject the petition filed by SIA, which proposes significant changes to the out-of-band emissions ("OOBE") limit adopted by the Commission for 3650-3700 MHz operations. The restrictive OOBE limit proposed by SIA would severely undermine the use of the 3650-3700 MHz band for broadband wireless and other advanced services, and SIA has provided no valid rationale for modifying the current rule.

I. THE COMMISSION SHOULD REPLACE ITS "LIGHT LICENSING" SCHEME WITH ONE THAT RELIES PRIMARILY ON "EXCLUSIVE USE" LICENSING

The Commission's stated goals in this proceeding are to make additional spectrum available to support the rapid deployment of broadband and other advanced wireless services, including in rural areas where fewer options for such services are available today. The Commission also seeks to make such spectrum available with low upfront costs and minimal burdens to the licensees.[2] In pursuit of these goals, the Commission established a new licensing model in which the Commission would "license" all 50 MHz of spectrum in the 3650-3700 MHz band to an unlimited number of nationwide "non-exclusive" licensees. To facilitate band sharing among these licensees and to manage the significant harmful interference that would inevitably result from such an approach, the Commission's new rules require that all licensees employ a "contention-based protocol" and that all fixed and base stations be registered in an FCC database.

Unfortunately, as most of the petitioners describe in significant detail, the interference protection mechanisms that are at the heart of the Commission's new "light licensing" approach

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[2] *Wireless Operations in the 3650-3700 MHz Band,* ET Docket No. 04-151, Report and Order and Memorandum Opinion and Order ¶ 2, rel. Mar. 16, 2005 ("*Report and Order*").

are unlikely to manage the interference among competing licensees effectively, and as a result, cannot assure operators they will be able to provide their customers with high quality wireless services. This is because contention-based protocols require wireless systems and devices to "listen" before transmitting so they can ascertain whether a channel is being used and ensure that transmission occurs only when the channel is clear. While this protocol works well for wireless systems designed to work in small areas, such as WiFi systems that cover small local "hot spots," it would not work well for communication systems that are designed to operate over long distances, such as those anticipated for the 3650-3700 MHz band. Over long distances, it would be very difficult to determine whether a specific channel is clear and available for use. Moreover, there is a much greater probability that multiple users will attempt to access the spectrum at the same time, resulting in significant harmful interference.

Motorola, Intel, WCA, and WiMax Forum all note significant flaws associated with the Commission's "contention-based protocol" requirement.[3] In addition to making it extremely difficult to operate wireless communications systems over longer distances, the Commission's requirement to employ a "contention-based protocol" could substantially limit a licensee's flexibility in deploying a given wireless technology because it could force operators to employ technologies that use only those protocols employed by existing operators.[4] This could ultimately deter innovation and delay the introduction of valuable advanced services to the public. For these reasons, Verizon agrees with the majority of the Petitioners that the Commission should eliminate its requirement to use "contention-based protocols."

The Commission's requirement that licensees register their fixed and base stations in an

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[3] Motorola Petition at 4-5; Intel Petition at 7-18; WCA Petition at 2-10; WiMax Forum Petition at 10.

[4] *See* WCA Petition at 5-10.

FCC database also provides little solace to the licensee that it can effectively deploy a high quality broadband wireless service. This station registration information may be helpful to a licensee as it builds out its network. However, the problem with the Commission's registration process is that it affords no rights to any licensee and no interference protection to any registered facility, regardless of when the facility was constructed. In fact, the Commission's rules impose equal obligation on all licensees to resolve harmful interference, and as a result, would require existing facilities to be modified (perhaps substantially) to accommodate new installations. The risks associated with such a requirement would act as a significant deterrent to investment in communications systems that operate in the band.

The fundamental flaw in the Commission's "light licensing" approach is that it relies on the assumption that a "non-exclusive" band sharing approach is an effective means to deploy high quality wireless broadband services over a wide area. The substantial evidence presented by the Petitioners and the practical realities of the marketplace make clear that that assumption is incorrect. The wireless industry has been enormously successful in deploying wireless services for the benefit of the public, including broadband and other advanced wireless services, precisely because commercial licensees have exclusive rights to the use of their spectrum. These "exclusive use" licenses facilitate the deployment of high quality wireless services, without the risk of harmful interference, and create the incentives for companies to invest substantial sums of money in the construction of wireless networks. Consequently, Verizon agrees with the majority of the Petitioners that an "exclusive use" licensing approach is necessary to promote the deployment of high quality broadband wireless services, including in rural areas, and is the only way to ensure the effective and efficient use of the 3650-3700 MHz band in markets where

demand for access to the spectrum is expected to be high.[5]

There is no dispute among the majority of petitioners that "exclusive use" licenses are the best means for licensing spectrum in urban and other high density areas. The potential for harmful interference in those areas is simply too great to rely on a "non-exclusive" band sharing approach. However, the availability of high quality broadband wireless services is no less important in rural areas.[6] While there may be less demand for access to the 3650-3700 MHz spectrum in those areas, operators still need assurance that they can provision the spectrum in a way that facilitates high quality service to their customers. Consequently, Motorola's proposal to license the entire 3650-3700 MHz band on an "exclusive use" basis is reasonable and worthy of the Commission's consideration. While Verizon disagrees with Intel and WiMax Forum that "exclusive use" licensing is not needed in rural areas, it acknowledges that some operators may place a greater importance on expeditious, low cost access to spectrum, and may be willing to accept the significant risks associated with sharing spectrum on a "non-exclusive" basis. Consequently, WCA's recommendation to license half of the spectrum (25 MHz) in rural areas on an "exclusive use" basis and half on a "non-exclusive" basis may represent a reasonable compromise. However, the Commission should not hold out more than 25 MHz of spectrum in rural areas for licensing under a "non-exclusive" approach.[7] And, as discussed above, all 50 MHz should be licensed on an "exclusive use" basis outside of these rural areas.

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[5] Motorola Petition at 2-3; Intel Petition at 20-23; WCA Petition at 12-14.

[6] The record demonstrates that many operators, including small rural wireless ISPs, intend to use the spectrum as "backhaul" for their communications networks. The need for highly reliable backhaul communications is even more important given that the performance of such systems would affect a large number of customers.

[7] Licensing at least half of the spectrum in rural areas on an "exclusive use" basis will afford opportunities for companies that wish to provide high quality service without the risk of harmful interference.

Verizon also agrees with WCA that the Commission should modify its rules governing protection of grandfathered Fixed Satellite Service ("FSS") facilities.[8] The Commission acknowledges that its interference protection rules are conservative and that it is likely that FSS licensees and fixed licensees in the 3650-3700 MHz band will be able to share the spectrum within the specified "protection zones" under certain circumstances.[9] Yet, it established rules that would make it difficult to negotiate effective band sharing arrangements, and as a result, place unnecessary limitations on fixed licensees. Verizon concurs with WCA that use of the Commission's well-established Part 101 coordination rules would facilitate greater band sharing without the risk of harmful interference to FSS licensees, and as a result, would facilitate broader deployment of advanced wireless services and make more efficient use of the 3650-3700 MHz band.

II. THE COMMISSION SHOULD REJECT SIA'S PROPOSAL TO MODIFY THE OOBE LIMIT APPLICABLE TO 3650-3700 MHz OPERATIONS

SIA requests that the Commission modify its newly adopted OOBE limit to prevent harmful interference to FSS operations. It bases this request on two arguments. Both are without merit.

First, SIA argues that the OOBE limit established by the Commission would result in a significant potential for harmful interference to existing FSS operations, and that the Commission did not adequately consider this possibility. SIA is wrong. Moreover, its requested modification of the limit would impede deployment of broadband wireless services by imposing overly restrictive limits on 3650 MHz operations that would make it difficult to design and build economic wireless devices for use in the band. Contrary to SIA's claim, the Commission's

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[8] WCA Petition at 22-24.

[9] *Report and Order* at ¶ 59-66.

Report and Order includes a comprehensive assessment of the potential for interference to FSS operations. As a result of that assessment, the Commission concluded that its rules would provide adequate protections.[10] In fact, as discussed above, the rules established by the Commission to protect FSS are, by the Commission's own admission, very conservative. SIA provides no additional information that would lead the Commission to a different conclusion.

Second, SIA argues that the Commission's decision to establish such a limit is "based on a misplaced reliance upon an ephemeral distinction between 'licensed' and 'unlicensed' operations." According to SIA, the "light licensing" operations envisioned by the Commission "have more in common with unlicensed devices described in Part 15," and because they are "unlicensed" they should be regulated by a more restrictive limit. SIA's second argument is moot if the Commission grants the petition of the majority of the Petitioners to replace its "light licensing" approach with one that relies primarily on "exclusive use" licensing, as discussed above. As SIA noted in its petition, "it may be reasonable to set higher [OOBE] limits" for licensed services, and indeed, those less restrictive limits are necessary to facilitate the deployment of broadband and other advanced wireless services that is the Commission's primary goal in this proceeding.

Conclusion

The Commission should accept the recommendations of the majority of petitioners by replacing the newly adopted "light licensing" approach with a licensing approach that relies primarily on the "exclusive use" model that has been successfully employed by the Commission in numerous past instances. All 50 MHz of available spectrum should be licensed on an "exclusive use" basis in high density areas, and at least 25 MHz of spectrum should be licensed

[10] *Report and Order* at ¶ 59-66.

on an "exclusive use" basis in low density rural areas. The Commission should eliminate its requirement to employ a "contention-based protocol" for any shared, "non-exclusive" licenses that are issued. In addition, the Commission should modify its rules governing protection of grandfathered Fixed Satellite Service ("FSS") facilities by adopting its current Part 101 coordination rules.

The Commission should reject SIA's petition to modify the OOBE limit applicable to 3650-3700 MHz operations. The Commission adopted its current limit based on a thorough assessment of the potential for interference to FSS operations, and SIA's petition provides no new information that has not already been considered. Moreover, the limit established by the Commission, in conjunction with a licensing scheme based primarily on "exclusive use" licenses, is necessary to support the deployment of broadband wireless services.

Respectfully submitted,

/s/

Leslie V. Owsley
Verizon
1515 North Court House Road
Suite 500
Arlington, VA 22201
(703) 351-3158

Attorney for Verizon

Michael E. Glover
Of Counsel

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