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MAY 13 2013

Federal Communications Commission
Office of the Secretary

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

In the Matter of	)	
	)	
Amendment of Parts 1, 2, 22, 24, 27, 90 and 95 of the Commission's Rules to Improve Wireless Coverage Through the Use of Signal Boosters	)))	WT Docket No. 10-4

PETITION FOR RECONSIDERATION OF WILSON ELECTRONICS, LLC, V-COMM, L.C.C., AND WIRELESS EXTENDERS, INC.

Wilson Electronics, LLC ("Wilson"), V-COMM, L.C.C. ("V-COMM"), and Wireless Extenders, Inc. ("Wi-Ex"), pursuant to § 1.429(a) of the Commission's Rules ("Rules"), hereby jointly request that the Commission reconsider and amend § 20.21(e)(8) of the Rules promulgated in the above-captioned rulemaking proceeding. *See Amendment of Parts 1, 2, 22, 24, 27, 90 and 95 of the Commission's Rules to Improve Wireless Coverage Through the Use of Signal Boosters*, 28 FCC Rcd 1663 (2013) ("*Booster Order*").[1] In particular, Wilson, V-COMM, and Wi-Ex ("Joint Petitioners") request that the Network Protection Standard ("NPS") be revised to make the downlink noise and gain requirements for Wideband Consumer Signal Boosters ("Wideband Boosters") more effective.

INTRODUCTION AND STANDING

Wilson and Wi-Ex filed extensive comments and reply comments in this proceeding.[2] Moreover, Wilson and V-COMM were among the five industry stakeholders that proposed a set of rules that would apply to all consumer-targeted signal boosters – the so-called "Consolidated

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[1] The *Booster Order* was published in the Federal Register on April 11, 2013. *See* 78 Fed. Reg. 21,555 (2013). Accordingly, this petition is timely filed. *See* 47 C.F.R. §§ 1.4(b)(2), 1.429(d).

[2] *See Booster Order*, 28 FCC Rcd at 1759-60. Wilson and Wi-Ex are leading manufacturers of signal boosters

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Proposal" – that included the two "safe harbors" that formed the basis of the NPS that the Commission codified at § 20.21(e) of the Rules.[3] As parties to this rulemaking proceeding, Joint Petitioners have standing to seek Commission reconsideration and revision of three of the technical specifications for Wideband Boosters set forth in § 20.21(e)(8). *See* 47 U.S.C. § 405(a) (providing that "any party ... may petition for reconsideration").

Joint Petitioners are currently working with the Office of Engineering and Technology ("OET") and the ANSI C63 working group to develop testing procedures that will be used by the Commission to certify that Wideband Boosters meet the NPS. The development of such procedures has been complicated by the fact that special test equipment is necessary to determine whether Wideband Boosters meet the downlink noise limit in § 20.21(e)(8)(i)(A)(*1*) of the Rules. That determination requires filtering equipment that includes the variable tunable bandpass filtering and notches necessary to measure the downlink noise in the presence of downlink signals through the booster. Most of the OET labs and the Telecommunication Certification Bodies currently do not have the necessary filtering equipment.

To more appropriately achieve equivalent uplink and downlink gain for Wideband Boosters, Joint Petitioners determined that §§ 20.21(e)(8)(i)(C)(*1*) and 20.21(e)(8)(i)(H) of the Rules should be amended to include downlink gains, and § 20.21(e)(8)(i)(A)(*1*) should be revised to exclude downlink noise. Because the need for the rule changes only became apparent to Joint Petitioners after they began working with the OET and the ANSI C63 working group, they had no opportunity to propose the new downlink noise and gain requirements to the

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[3] *See Booster Order*, 28 FCC Rcd at 1668 (¶ 11), 1690 (¶ 71). V-COMM is a wireless engineering consulting firm with significant experience in CMRS network design, performance, testing, and interference evaluations with commercial wireless technologies and services. It was instrumental in the development of the Consolidated Proposal's technical requirements that were adopted by the Commission.

Commission prior to its adoption of the *Booster Order*. Accordingly, the Commission may consider the facts and arguments set forth below in support of the requested rule changes. *See* 47 C.F.R. § 1.429(b)(2).

REQUESTED RULE CHANGES

In accordance with § 1.429(c) of the Rules, Joint Petitioners request that the technical requirements of § 20.21(e)(8)(i) be amended as shown below in italics.

§ 20.21(e)(8)(i)(A)(*1*) Noise Limits

Current: "The transmitted noise power in dBm/MHz of consumer boosters at their uplink and downlink ports shall not exceed -103 dBm/MHz – RSSI ..."

Requested: "The transmitted noise power in dBm/MHz of consumer boosters at their uplink port shall not exceed -103 dBm/MHz – RSSI ..."[4]

§ 20.21(e)(8)(i)(C)(*1*) Booster Gain Limits

Current: "The uplink gain in dB of a consumer booster referenced to its input and output ports shall not exceed -34 dB – RSSI + MSCL."

Requested: "The uplink *and downlink* gain in dB of a consumer booster referenced to its input and output ports shall not exceed -34 dB – RSSI + MSCL."

§ 20.21(e)(8)(i)(H) Transmitter Power Off Mode

Current: "When the consumer booster cannot otherwise meet the noise and gain limits defined herein it must operate in 'Transmit Power OFF Mode.' In this mode of operation, the uplink and downlink noise power shall not exceed -70 dBm/MHz and uplink gain shall not exceed the lesser of 23 dB or MSCL."

Requested: "When the consumer booster cannot otherwise meet the noise and gain limits defined herein it must operate in 'Transmit Power OFF Mode.' In this mode of operation, the uplink and downlink noise power shall not exceed -70 dBm/MHz and *both* uplink *and downlink* gain shall not exceed the lesser of 23 dB or MSCL."

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[4] The requested change to § 20.21(e)(8)(i)(A)(*1*) is not shown in italics because it involves the exclusion of downlink noise.

ARGUMENT

The uplink and downlink noise limit of § 20.21(e)(8)(i)(A)(*1*) of the Rules is dependent on the downlink received signal strength indication (RSSI) at the booster from all base stations operating in the band. For downlink transmitted noise power, this RSSI-dependent limit was included in the Consolidated Proposal (and now the NPS) to achieve the equivalent uplink and downlink gain pursuant to the bidirectional capability requirements of § 20.21(e)(8)(i)(B).

The NPS sufficiently limits the downlink transmitted noise power in § 20.21(e)(8)(i)(A)(*2*), as well as by the operation in "Transmit Power OFF Mode" requirement of § 20.21(e)(8)(i)(H). Thus, downlink noise was not included in § 20.21(e)(8)(i)(A)(*1*) specifically to protect wireless networks, but as an alternate measure to provide equivalent uplink and downlink gain to meet the requirements of § 20.21(e)(8)(i)(B). Furthermore, the amount of noise generated on downlink spectrum bands for protection of nearby wireless devices depends upon the Wideband Booster's proximity to the devices, and is not a function either of the booster's proximity to a base station or the downlink received signal strength from the base station.

To more appropriately achieve equivalent uplink and downlink gain for Wideband Boosters, downlink noise should be excluded from § 20.21(e)(8)(i)(A)(*1*) and downlink gains be included in §§ 20.21(e)(8)(i)(C)(*1*) and 20.21(e)(8)(i)(H). Including downlink gain in § 20.21(e)(8)(i)(H) will also serve to provide relief for Wideband Boosters in very high RSSI conditions that require very low downlink gain operation pursuant to § 20.21(e)(8)(i)(C)(*1*), and to clarify the limitation on downlink gain in the Transmit Power OFF Mode of operation. Joint Petitioners submit that the implementation of these rule changes will benefit consumers by decreasing the costs and complexities associated with the manufacture and certification of

Wideband Boosters while meeting all the objectives of the NPS.

CONCLUSION

For all the foregoing reasons, Joint Petitioners respectfully request the Commission to reconsider and revise subsections (A)(*1*), (C)(*1*) and (H) of § 20.21(e)(8)(i) of the Rules as set forth herein.

Respectfully submitted,

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May 13, 2013

CERTIFICATE OF SERVICE

I, Russell D. Lukas, hereby certify that on this 13th day of May, 2013, copies of the foregoing PETITION FOR RECONSIDERATION were sent by e-mail, in pdf format, to the following:

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