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

ORDER ON RECONSIDERATION AND FURTHER NOTICE OF PROPOSED RULEMAKING

Adopted: September 19, 2014 **Released:** September 23, 2014

Comment Date: (30 days after date of publication in the Federal Register)
Reply Comment Date: (50 days after date of publication in the Federal Register)

By the Commission:

I. INTRODUCTION AND SUMMARY

1. In this *Order on Reconsideration and Further Notice of Proposed Rulemaking,* we address two Petitions for Reconsideration of the technical rules adopted in the Signal Boosters *Report and Order*[1] and seek comment on whether to retain the "personal use" restriction for Provider-Specific Consumer Signal Boosters.

2. As discussed below, we grant the Wi-Ex Petition and amend certain technical rules for Wideband Consumer Signal Boosters. These amendments will streamline the testing procedures for Wideband Consumer Signal Boosters and will benefit consumers by decreasing the costs and complexities associated with the manufacture and certification of such devices. We also grant in part, to the extent described below, and otherwise deny the Verizon Petition and amend certain technical rules for mobile Provider-Specific Consumer Signal Boosters. These amendments will ensure consumers have access to a wide variety of signal boosters while strengthening the technical protections for wireless networks.

3. In the *Further Notice*, we consider whether to retain the "personal use" restriction on the operation of Provider-Specific Consumer Signal Boosters.[2]

[1] 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, *Report and Order*, WT Docket No. 10-4, 28 FCC Rcd 1663 (2013) (*Report and Order*); Petition for Reconsideration of Wilson Electronics, LLC, V-COMM, L.C.C., and Wireless Extenders, Inc. (filed May 13, 2013) (Wi-Ex Petition); Amendment to Petition for Reconsideration of Wilson Electronics, LLC, V-COMM, L.C.C., and Wireless Extenders, Inc. (filed April 1, 2014) (Wi-Ex Amendment); Petition for Reconsideration of V-COMM, L.L.C., Verizon Wireless, and Wilson Electronics (filed May 13, 2013) (Verizon Petition); Letter from Michiel Lotter, Nextivity, Sean Haynberg, V-COMM, L.L.C., Russell D. Lukas, Counsel to Wilson Electronics, Inc., and John T. Scott and Andre Lachance, Verizon Wireless, to Marlene H. Dortch, Secretary, Federal Communications Commission (filed June 18, 2014) (Joint *Ex Parte* Statement).

[2] 47 C.F.R. §§ 20.21(a), (g).

II. ORDER ON RECONSIDERATION

A. Background

4. *Report and Order*. On February 20, 2013, the Commission adopted a new regulatory framework to allow consumers to realize the benefits of using signal boosters while preventing, controlling, and, if necessary, resolving interference to wireless networks.[3] In the *Report and Order*, the Commission adopted new technical, operational, and registration requirements for signal boosters.[4] The new rules created two classes of signal boosters – Consumer and Industrial – with distinct regulatory requirements for each.[5] For Consumer Signal Boosters, the Commission adopted a Network Protection Standard (NPS) – a flexible set of requirements for the design and manufacture of Consumer Signal Boosters, which are intended to couple signal booster innovation with sufficient safeguards to protect wireless networks from harmful interference.[6] In addition, the Commission adopted two sets of technical parameters, which it deemed to satisfy the NPS – one for Wideband Consumer Signal Boosters and a second for Provider-Specific Consumer Signal Boosters.[7] At issue in this *Order on Reconsideration* are certain technical requirements in the NPS for both Wideband and Provider-Specific Consumer Signal Boosters.

5. *Petitions for Reconsideration*. Three groups filed Petitions for Reconsideration seeking modifications to the *Report and Order*. Wilson Electronics, LLC, V-COMM, L.C.C., and Wireless Extenders, Inc. (Wi-Ex) (collectively "Wi-Ex Petitioners") ask the Commission to streamline the equipment certification process by amending certain technical requirements for Wideband Consumer Signal Boosters.[8]

6. V-COMM, L.L.C., Verizon Wireless, and Wilson Electronics, LLC (collectively "Verizon Petitioners"), ask the Commission to amend its Provider-Specific Consumer Signal Booster rules to protect wireless networks from interference stemming from mobile Provider-Specific Consumer Signal Boosters.[9] Likewise, the Verizon Petitioners ask the Commission to amend its booster antenna kitting rules for Provider-Specific Consumer Signal Boosters accordingly.[10] In addition, the Verizon Petitioners ask that Consumer Signal Boosters certified for fixed operation be labeled to notify consumers

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[3] *Report and Order*, 28 FCC Rcd at 1667, ¶ 9.

[4] Our use of the term "signal booster" in this *Order on Reconsideration* is intended to include all manner of amplifiers, repeaters, boosters, distributed antenna systems, and in-building radiation systems that serve to amplify signals between a device and a wireless network. Our use of the term "signal booster" does not include femtocells. Femtocells are different from signal boosters. Femtocells are similar to small base stations inside homes or offices and only work in a provider's licensed area. The connection between the handset and the femtocell is typically wireless using licensed frequencies or Wi-Fi, which uses unlicensed frequencies. Unlike signal boosters, which connect to a wireless network using licensed frequencies, femtocells connect to a wireless network using broadband Internet access in a home or office. Femtocells are not covered by the rules adopted in this *Order on Reconsideration*.

[5] Consumer Signal Boosters are devices which are designed to be used "out of the box" by individuals to improve their wireless coverage within a limited area such as a home, car, boat, or recreational vehicle.

[6] *Report and Order*, 28 FCC Rcd at 1682-93, ¶¶ 49-69.

[7] *Id.* at 1690-92, ¶¶ 70-74.

[8] Wi-Ex Petition at 4-5. Initially, the Wi-Ex Petitioners asked that we amend three sections of our rules. Subsequently, they withdrew their request to amend section 20.21(e)(8)(i)(C)(*1*) (Booster Gain Limits) because the revision was deemed unnecessary given the equivalent gain provisions of section 20.21(e)(8)(i)(B). Wi-Ex Amendment at 1.

[9] Verizon Petition at 2.

[10] *Id.* at 9.

that such devices may only be used in fixed, in-building locations.[11] The Enterprise Wireless Alliance also filed a Petition for Reconsideration, but it was subsequently withdrawn.[12]

7. *Responsive Pleadings.* On June 6, 2013, the Commission released a Public Notice seeking comment on the Petitions.[13] Oppositions to the Petitions were due on June 21, 2013, and Replies to Oppositions were due on July 1, 2013. Verizon filed in support of the Wi-Ex Petition; no parties opposed the Wi-Ex Petition.

8. AT&T supported the Verizon Petition,[14] while Nextivity opposed it.[15] Subsequently, however, Nextivity and the Verizon Petitioners reached an agreement on how to address the issues that Verizon raised in its petition and both parties jointly filed an *Ex Parte* Statement proposing revised, strengthened technical rules for the manufacture and operation of mobile Provider-Specific Consumer Signal Boosters.[16] The Joint *Ex Parte* Statement recommends that the Commission:

- Require that mobile Provider-Specific Consumer Signal Boosters meet the same noise limits as mobile Wideband Consumer Signal Boosters;
- Require that mobile Provider-Specific Consumer Signal Boosters that are directly connected to the device or that use direct contact coupling (*e.g.*, cradle-type boosters) meet the same gain limits that apply to similarly connected Wideband Consumer Signal Boosters;
- Require that the maximum booster gain for mobile Provider-Specific Consumer Signal Boosters that use an inside antenna and that have both automatic gain adjustment based on isolation measurements between booster donor and server antenna and automatic feedback cancellation not exceed 58 dB and 65 dB for frequencies below and above 1 GHz, respectively;
- Amend the antenna kitting rule for all Provider-Specific Consumer Signal Boosters to be the same as the current antenna kitting rule applicable to Wideband Consumer Signal Boosters; and

[11] *Id.* at 9-10.

[12] Petition for Clarification and/or Reconsideration of the Enterprise Wireless Alliance (filed May 13, 2013); Voluntary Withdrawal of Petition for Clarification and/or Reconsideration of the Enterprise Wireless Alliance (filed Feb. 4, 2014).

[13] Petition for Reconsideration of Action in Rulemaking Proceeding, WT Docket No. 10-4, Report. No. 2979, 78 FR 34015 (June 6, 2013).

[14] AT&T Response to Petition for Reconsideration of V-COMM, L.L.C., Verizon Wireless and Wilson Electronics at 3.

[15] Nextivity Opposition to Petition for Reconsideration (filed June 21, 2013) (Nextivity Opposition).

[16] Joint *Ex Parte* Statement at 2. Following the filing of the Joint *Ex Parte* Statement, CellAntenna Corporation (CellAntenna) filed two letters describing its difficulty in obtaining the consent from the wireless carriers to install Industrial Signal Boosters. Letter from Marjorie K. Conner, Counsel to CellAntenna Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission (filed July 31, 2014); Letter from Marjorie K. Conner, Counsel to CellAntenna Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission (filed August 8, 2014). CellAntenna therefore asked that the Commission revise section 20.21(c)(1), which addresses Industrial Signal Boosters, to require that "licensee consent may be withheld only based on credible concerns about harmful interference from the proposed Industrial Signal Booster." This request is beyond the scope of the issues raised on reconsideration. CellAntenna's request for rule change is essentially a late-filed petition for reconsideration of the *Report and Order* and will not be considered herein. *See* 47 C.F.R. §§ 1.4(b)(1), 1.429(d). Joint *Ex Parte* Statement at 2.

- Amend the booster labeling requirements to require that all consumer boosters, both Provider-Specific and Wideband, certified for fixed, in-building use include language stating: "This device may ONLY be operated in a fixed location for in-building use."

B. Discussion

1. Wi-Ex Petition

9. For the reasons discussed below, we find that the Wi-Ex Petitioners' requested amendments to certain technical rules for Wideband Consumer Signal Boosters are warranted and amend our rules accordingly. As stated above, the Wi-Ex Petition is supported by Verizon and is unopposed by any party in the proceeding.

10. The Wi-Ex Petitioners explain that the development of testing procedures to certify Wideband Consumer Signal Boosters was complicated by the need for special test equipment to determine compliance with the downlink noise limit[17] in the rules.[18] Specifically, the Wi-Ex Petitioners state that, during the course of meetings between the Office of Engineering and Technology (OET) and the ANSI ASC C63® working group, it was determined that filtering equipment that includes variable tunable bandpass filtering and notches was necessary to measure the downlink noise in the presence of downlink signals through the booster. The Wi-Ex Petitioners state that the OET lab and most Telecommunications Certification Bodies (TCBs) do not have such equipment, thus complicating device testing.[19]

11. The Wi-Ex Petitioners argue that their requested amendments will not affect the safeguards in our rules designed to protect wireless networks. The Wi-Ex Petitioners explain that, in order to satisfy the bidirectional capability requirements in our Wideband Consumer Signal Booster rules,[20] the NPS included uplink and downlink noise limits.[21] According to the Wi-Ex Petitioners, downlink transmitted noise power[22] was included in section 20.21(e)(8)(i)(A)(*1*)[23] of the Noise Limits technical requirement as a way to measure bidirectional capability, *not* specifically as a means to protect wireless networks.[24] The Wi-Ex Petitioners contend that wireless networks are sufficiently protected with respect to downlink noise by the limitations in section 20.21(e)(8)(i)(A)(*2*) coupled with the operation of the "Transmit Power Off Mode" in section 20.21(e)(8)(i)(H).[25]

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[17] 47 C.F.R. § 20.21(e)(8)(i)(A)(*1*).

[18] Wi-Ex Petition at 2.

[19] *Id.* The Wi-Ex Petitioners maintain that the need for the rule changes only became apparent during the course of discussions with OET and the ANSI ASC C63® working group and thus they had no opportunity to request such changes prior to the adoption of the *Report and Order*. *Id.*

[20] 47 C.F.R. § 20.21(e)(8)(i)(B). Section 20.21(e)(8)(i)(B) requires that Wideband Consumer Boosters be able to provide equivalent uplink and downlink gain and conducted uplink power output that is at least 0.05 watts. This rule, along with the other technical requirements the Commission implemented in the *Report and Order*, helps to ensure that Wideband Consumer Boosters will not cause harmful interference to wireless networks. *See Report and Order*, 28 FCC Rcd at 1691, ¶ 73.

[21] Wi-Ex Petition at 4.

[22] Downlink transmitted noise power is based on the downlink received signal strength indication (RSSI) at the booster from all base stations operating in the band. 47 C.F.R. § 20.21(e)(8)(i)(A)(*1*).

[23] The Wi-Ex Petitioners explain that the uplink and downlink noise limit of section 20.21(e)(8)(i)(A)(*1*) is dependent on the downlink RSSI at the booster from all base stations operating in the band.

[24] Wi-Ex Petition at 4.

[25] *Id.*

12. The Wi-Ex Petitioners further argue that bidirectional capability can be effectively achieved and more easily measured by including downlink gain limits in sections 20.21(e)(8)(i)(C)(*1*) (Booster Gain Limits) and 20.21(e)(8)(i)(H) (Transmit Power Off Mode).[26] In addition, the Wi-Ex Petitioners maintain that including downlink gain in the Transmit Power Off Mode requirement will "serve to provide relief for Wideband Boosters in very high received signal strength indication (RSSI) conditions that require very low downlink gain operation pursuant to section 20.21(e)(8)(i)(C)(*1*), and to clarify the limitation on downlink gain in the Transmit Power OFF Mode of operation."[27]

13. We agree with the Wi-Ex Petitioners and find that the requested amendments to our rules will facilitate the test procedures and equipment certification process for Wideband Consumer Signal Boosters without diminishing the safeguards in our rules designed to protect wireless networks.[28] We also agree that the requested rule changes will benefit consumers by decreasing the costs and complexities associated with the manufacture and certification of Wideband Boosters while continuing to achieve the objectives of the NPS.[29] We recognize that it is difficult to design a compliance test to measure downlink noise levels in the presence of an introduced signal (representing RSSI) within the same frequency band, particularly when RSSI is also assumed to be broadband noise. Moreover, we do not believe that it is necessary to limit downlink noise as a function of RSSI in this section of our rules in order to protect base stations from interference as a signal booster approaches a base station. Downlink noise limits are included in other sections of our rules.[30] Accordingly, we will remove the reference to downlink noise from section 20.21(e)(8)(i)(A)(*1*) of our Noise Limits technical requirement for Wideband Consumer Signal Boosters. As amended, section 20.21(e)(8)(i)(A)(*1*) now provides:

> The transmitted noise power in dBm/MHz of consumer boosters at their uplink port shall not exceed -103 dBm/MHz – RSSI. RSSI (received signal strength indication expressed in negative dB units relative to 1 mW) is the downlink composite received signal power in dBm at the booster donor port for all base stations in the band of operation.

14. We also agree that downlink gain limits should be added to section 20.21(e)(8)(i)(H) (Transmit Power Off Mode). Adding a downlink gain requirement to our Transmit Power Off Mode rule will ensure gain equivalency as required by our Bidirectional Capability rule without creating complications for our test procedures. In addition, it will benefit signal booster manufacturers by setting a floor on the permissible downlink gain when in proximity to one or more base station transmitters (*i.e.,* high RSSI levels). Accordingly, we will add a reference to downlink noise in section 20.21(e)(8)(i)(H) of our Transmit Power Off Mode requirement for Wideband Consumer Signal Boosters. As amended, section 20.21(e)(8)(i)(H) now provides:

> 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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[26] *Id.*

[27] *Id.*

[28] We note that in the absence of specialized filtering equipment, the FCC Lab developed suitable alternative methods to certify equipment under our rules. Since the Wi-Ex Petitioners filed their Petition, the FCC Lab has acquired filtering equipment to measure band pass and band stop. We nonetheless find that the requested amendments will facilitate the test procedures and equipment certification process for Wideband Consumer Signal Boosters.

[29] Wi-Ex Petition at 4-5.

[30] *See* 47 C.F.R. §§ 20.21(e)(8)(i)(A)(2) and 20.21(e)(8)(i)(H).

2. Verizon Petition

15. The Verizon Petitioners ask that we revise our rules regarding mobile Provider-Specific Consumer Signal Boosters. We conclude that the recommendations in the Verizon Petition coupled with those in the Joint *Ex Parte* Statement are in the public interest, striking the right balance between ensuring consumers continue to have access to a wide-variety of signal boosters to best suit their needs while still protecting wireless networks. We therefore grant in part, as described below, and otherwise deny the Verizon Petition, consistent with the recommendations in the Joint *Ex Parte* Statement, and amend our rules accordingly.

16. *Noise Limits for Provider-Specific Consumer Signal Boosters*. The current Provider-Specific Consumer Signal Booster rules are part of the NPS, which is largely based on the "Consolidated Proposal" — a comprehensive, consensus-based technical proposal developed by wireless providers (Verizon, T-Mobile) and equipment manufacturers (Wilson, Nextivity).[31] AT&T, Sprint, Wi-Ex, and more than 90 small rural providers endorsed the Consolidated Proposal.[32] In addition, the Competitive Carriers Association supported many elements of the Consolidated Proposal, including "affirmatively support[ing]" the provider-specific aspects of the proposal.[33] In light of the overwhelming support in the record for the Consolidated Proposal, the Commission adopted the NPS. Although the Consolidated Proposal did not include a technical specification for mobile Provider-Specific Consumer Signal Boosters, in an effort to provide manufactures with optimal flexibility,[34] the Commission made such an option available in the NPS subject to carrier consent.[35]

17. The Verizon Petitioners argue that the Provider-Specific Consumer Signal Booster technical requirements were not designed for mobile use scenarios and thus do not adequately protect against harmful interference.[36] In its Opposition, Nextivity argues that mobile Provider-Specific Consumer Signal Boosters will not harm wireless networks and opposes the Verizon Petition on a variety of technical, legal, and policy grounds.[37] In their Joint *Ex Parte* Statement proposing to resolve the matter, the Verizon Petitioners and Nextivity suggest strengthening the technical rules for mobile Provider-Specific Consumer Signal Boosters, thus facilitating the manufacture and operation of mobile

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[31] On July 25, 2011, Verizon Wireless, Wilson Electronics, and V-COMM submitted a joint proposal with technical specifications for consumer-targeted boosters. The joint proposal garnered substantial support from wireless providers, manufacturers, and industry associations and was followed by additional proposals and suggested modifications. On June 8, 2012, Verizon Wireless, Wilson Electronics, T-Mobile, Nextivity, and V-COMM submitted the Consolidated Proposal consisting of a set of proposed rules that would apply to all consumer-targeted boosters, including two separate "Safe Harbors" for provider-specific and wideband boosters. *Report and Order,* 28 FCC Rcd at 1683-84, ¶¶ 52-53.

[32] *Id.* at 1684, ¶ 54.

[33] *Id.*

[34] When the Commission adopted the NPS, it sought to "provide manufacturers with sufficient flexibility to design innovative products to meet consumer needs," while providing them "with sufficient certainty to enable them to design products which they will be confident will satisfy our rules." *Id.* at 1690, ¶ 70.

[35] *See* 47 C.F.R. § 20.3. Section 20.3 states that "Provider-Specific Consumer Signal Boosters may only operate on the frequencies and in the market areas of the specified licensee(s)." Further "Provider-Specific Consumer Signal Boosters may only be certificated and operated with the consent of the licensee(s) whose frequencies are being amplified by the device." *Id.*

[36] Verizon Petition at 4; Joint *Ex Parte* Statement at 1-2. In the Verizon Petition, Verizon initially asked the Commission to amend its rules to require that Provider-Specific Consumer Signal Boosters be operated in fixed, in-building locations only. Verizon Petition at 8.

[37] Nextivity Opposition at 2-3; Joint *Ex Parte* Statement at 2.

Provider-Specific Consumer Signal Boosters, as Nextivity desires, while protecting wireless networks from harmful interference, thus addressing the Verizon Petitioners' concern.[38]

18. To provide adequate protection to wireless networks as well as consistency with the noise and gain limits already in place for mobile Wideband Consumer Signal Boosters, the parties to the Joint *Ex Parte* Statement (collectively "Joint Petitioners") recommend that the Commission require that all mobile Provider-Specific Consumer Signal Boosters meet the same noise limits as mobile Wideband Consumer Signal Boosters and that mobile Provider-Specific Consumer Signal Boosters that are directly connected to the device or that use direct contact coupling (*e.g.*, cradle-type boosters) meet the same gain limits that apply to similarly connected Wideband Consumer Signal Boosters.[39] For mobile Provider-Specific Consumer Signal Boosters that use an inside antenna and that have both automatic gain adjustment based on isolation measurements between booster donor and server antenna and automatic feedback cancellation, the Joint Petitioners recommend that the Commission require that the maximum booster gain not exceed 58 dB and 65 dB for frequencies below and above 1 GHz, respectively.[40] We find that these proposed noise and gain limits are reasonable for signal booster manufacturers to implement, while also adequately protecting against interference to wireless networks. Accordingly, we will adopt these modified, strengthened noise and gain limits for mobile Provider-Specific Consumer Signal Boosters.

19. *Antenna Kitting Requirements*. The Verizon Petitioners also ask that the Commission harmonize the antenna kitting rule for all Provider-Specific Consumer Signal Boosters with the booster antenna kitting rules for Wideband Consumer Signal Boosters.[41]

20. Currently, the antenna kitting rule for Wideband Consumer Signal Boosters provides that *"[a]ll* consumer boosters must be sold together with antennas, cables, and/or coupling devices that meet the requirements of this section,"[42] while the rule for Provider-Specific Consumer Signal Boosters states that "*[m]obile* consumer boosters must be sold together with antennas, cables, and/or coupling devices that meet the requirements of this section."[43]

21. We agree with the Joint Petitioners that a conforming change to the language of this rule is warranted in light of the above rule amendments. We therefore will amend the rule for mobile Provider-Specific Consumer Signal Boosters to mirror the current antenna kitting rule for Wideband Consumer Signal Boosters by replacing the word "mobile" in section 20.21(e)(9)(i)(H) with the word "all."

22. *Labeling Requirements*. Finally, in addition to the above technical rule modifications, the Verizon Petitioners ask the Commission to require that all Consumer Signal Boosters certified for fixed, in-building operation include a label directing consumers that the device may only be operated in a fixed, in-building location.[44] The Verizon Petitioners state that this additional labeling requirement is necessary

[38] Joint *Ex Parte* Statement at 1-2.

[39] *Id.* at 2.

[40] *Id.*

[41] Verizon Petition at 9-10; Joint *Ex Parte* Statement at 1-2. While the Verizon Petitioners in the Verizon Petition ask that we eliminate the separate antenna kitting requirement for mobile Provider-Specific Consumer Signal Boosters, consistent with their request that Provider-Specific Consumer Signal Boosters be allowed to operate in fixed, in-building locations only, the Joint Petitioners in the Joint *Ex Parte* Statement recommend that the Commission amend the rule for mobile Provider-Specific Consumer Signal Boosters to be the same as the current antenna kitting rule applicable to Wideband Consumer Signal Boosters.

[42] 47 C.F.R. § 20.21(e)(8)(i)(G) (emphasis added).

[43] 47 C.F.R. § 20.21(e)(9)(i)(H) (emphasis added).

[44] Verizon Petition at 9-10; Joint *Ex Parte* Statement at 2. The Verizon Petitioners in the Verizon Petition ask that we require this label for fixed Wideband Consumer Signal Boosters and for all Provider-Specific Consumer Signal

(continued….)

to inform purchasers of fixed Consumer Signal Boosters that they may not lawfully be installed and operated in a moving vehicle or outdoor location.[45] We agree that such a requirement is appropriate to ensure that consumers are properly informed about which devices are suitable for their use and how to comply with our rules. We recognize that our labeling requirement imposes additional costs on entities that manufacture Consumer Signal Boosters; consistent with our previous decision in the *Report and Order* to implement labeling requirements, however, on balance, we find that such costs are outweighed by the benefits of ensuring that consumers purchase appropriate devices.[46] Accordingly, all fixed Consumer Signal Boosters, both Provider-Specific and Wideband, manufactured or imported on or after one year from the effective date of the rule change must include the following advisory (1) in on-line point-of-sale marketing materials, (2) in any print or on-line owner's manual and installation instructions, (3) on the outside packaging of the device, and (4) on a label affixed to the device: "This device may be operated ONLY in a fixed location for in-building use."

23. *Conclusion.* Like the Consolidated Proposal, the recommendations in the Verizon Petition and Joint *Ex Parte* Statement have been considered and drafted by industry experts, who are well-qualified to determine what devices are cost-effective for manufacturers to produce, as well as whether such devices may cause interference and negatively affect service quality. We believe that the Verizon Petition, in accordance with the recommendations in the Joint *Ex Parte* Statement, appropriately balances the need to protect wireless networks with the need to provide consumers with a variety of affordable signal booster options. Accordingly, we grant in part, as described above, and otherwise deny the Verizon Petition.[47]

3. Other Issues

24. We also correct typographic errors in the rules adopted in the *Report and Order* at this time. Specifically, we correct a reference to the Federal Register in 47 C.F.R. § 20.21 and remove a series of asterisks in 47 C.F.R. § 20.3. In addition, we correct a typographical error in 47 C.F.R. § 1.1307(b)(1) regarding radio frequency exposure labeling requirements for Consumer Signal Boosters.

III. FURTHER NOTICE OF PROPOSED RULEMAKING

25. The underlying purpose of the *Report and Order* was to broaden the availability of signal boosters while ensuring that these boosters do not adversely affect wireless networks.[48] In the above *Order on Reconsideration*, we adopted rule amendments that advance this goal by making Provider-Specific Consumer Signal Booster safer to wireless networks. Consistent with that purpose, we now consider whether to further expand consumer access to signal boosters. We therefore seek comment on whether to remove the "personal use" restriction on the operation of Provider-Specific Consumer Signal Boosters.[49]

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Boosters, as the Verizon Petition asks us to allow only fixed Provider-Specific Consumer Signal Boosters. Consistent with their other recommendations, the Joint Petitioners in the Joint *Ex Parte* Statement recommend that we require this label for fixed Wideband Consumer Signal Boosters and fixed Provider-Specific Consumer Signal Boosters.

[45] Verizon Petition at 10.

[46] *See Report and Order*, 28 FCC Rcd at 1705, ¶ 119.

[47] We note that the Verizon Petition initially asked the Commission to prohibit all mobile Provider-Specific Consumer Signal Boosters. The Joint *Ex Parte* Statement, however, provided a compromise proposal to permit mobile Provider-Specific Consumer Signal Boosters so long as certain technical standards are met. We therefore deny the Verizon Petition to the extent that it seeks to prohibit all mobile Provider-Specific Consumer Signal Boosters.

[48] *See Report and Order*, 28 FCC Rcd at 1664, ¶ 1.

[49] Section 20.21(a) states that "[a] subscriber in good standing of a commercial mobile radio service system may operate a Consumer Signal Booster for *personal use* under the authorization held by the licensee providing service

(continued….)

26. To facilitate broader access to signal boosters, in the *Report and Order*, we developed a streamlined process for authorizing Consumer Signal Boosters by requiring consumers to obtain the consent of their wireless carrier and register their Consumer Signal Booster with that carrier.[50] We found that this licensing framework would best facilitate the rapid introduction of Consumer Signal Boosters while enabling wireless operators to maintain sufficient control of their networks.[51] By incorporating the restriction that Consumer Signal Boosters may be operated only for "personal use," we also made it possible for consumers to seek consent from and register their devices only with the wireless carrier to which they subscribe.[52] This restriction is particularly relevant for Wideband Consumer Signal Boosters, as they are capable of operating on spectrum licensed to multiple wireless providers.[53]

27. With Provider-Specific Consumer Signal Boosters, however, we question whether this "personal use" restriction remains necessary, as the device operates only on a single provider's spectrum. Because the consumer will have obtained consent from and registered with that single carrier, any transmissions from the Signal Booster are therefore authorized.

28. We therefore ask whether we should eliminate the "personal use" restriction for Provider-Specific Consumer Signal Boosters (but not for Wideband Consumer Signal Boosters). Would removing this restriction for Provider-Specific Consumer Signal Boosters be in the public interest? What are the costs and benefits of removing the restriction? What are the costs and benefits of maintaining the restriction?

IV. PROCEDURAL MATTERS

A. Paperwork Reduction Act

29. The *Order on Reconsideration* contains modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA).[54] It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002,[55] we previously sought specific comment on how the Commission might

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to the subscriber provided that the subscriber complies with [the Commission's rules]" (emphasis added). 47 C.F.R. § 20.21(a). In addition, section 20.21(g) states that "Consumer Signal Boosters may only be sold to members of the general public for their *personal use*." 47 C.F.R. §20.21(g) (emphasis added).

[50] Consumer Signal Boosters are authorized under provider licenses subject to certain requirements. Specifically, subscribers must obtain some form of licensee consent to operate the booster; register the booster with their provider; use a booster that meets the Network Protection Standard and is FCC certificated; and operate the booster on a secondary, non-interference basis and shut it down if it causes harmful interference. *Report and Order*, 28 FCC Rcd at 1665, ¶ 4.

[51] *See id.* at 1671, ¶ 22.

[52] In the *Report and Order*, we addressed a corollary to this matter in our discussion of *de minimis*, third-party use of Wideband Consumer Signal Boosters. *Id.* at 1681-82, ¶ 48. There, we recognized that Wideband Consumer Signal Booster use will not necessarily be limited to the purchaser of the device, and the device therefore may be used on the spectrum of a wireless carrier for whom the device was not registered. We sought to maintain flexibility for consumers while mitigating the impact to wireless carriers by authorizing *de minimis*, *i.e.*, occasional, incidental use of a Consumer Signal Booster by a third party under the license of the third party's wireless provider. *Id.*

[53] If a consumer registers a Wideband Consumer Signal Booster with her service provider and properly operates it in her home or car, the signal booster will only be operated on that provider's spectrum. In this way, the "personal use" restriction ensures that the signal booster is not normally used (in an unauthorized fashion) on other providers' spectrum.

[54] Pub. L. No. 104-13; 44 U.S.C. § 3501 *et seq*.

[55] Pub. L. No. 107-198; *see* 44 U.S.C. § 3506(c)(4).

further reduce the information collection burden for small business concerns with fewer than 25 employees.[56]

30. In the *Order on Reconsideration*, we assessed the effects of the policies adopted in the *Order on Reconsideration* with regard to information collection burdens on small business concerns, and find that these policies will benefit many companies with fewer than 25 employees because the rule modifications we adopt should provide small entities with access to the coverage enhancing benefits of signal boosters that do not harm wireless networks. In addition, we have described impacts that might affect small businesses, which includes most businesses with fewer than 25 employees, in the Supplemental Final Regulatory Flexibility Analysis (SFRFA) in Appendix B.

31. The *Further Notice of Proposed Rulemaking* document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA).[57] Therefore the *Further Notice of Proposed Rulemaking* does not contain any new or modified information collection burdens for small businesses with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002.[58]

B. Regulatory Flexibility Analysis

32. The Regulatory Flexibility Act (RFA)[59] requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."[60]

33. Accordingly, we have prepared a Supplemental Final Regulatory Flexibility Analysis concerning the possible impact of the rule changes contained in the *Order on Reconsideration* on small entities. The Supplemental Final Regulatory Flexibility Analysis is set forth in Appendix B.

34. In addition, we hereby certify that the *Further Notice of Proposed Rulemaking* will not have a significant economic impact on a substantial number of small entities. The Commission will send a copy of the *Further Notice of Proposed Rulemaking*, including this certification, to the Chief Counsel for Advocacy of the Small Business Administration.

C. Congressional Review Act

35. The Commission will send a copy of this *Order on Reconsideration and Further Notice of Proposed Rulemaking* to Congress and the Government Accountability Office pursuant to the Congressional Review Act.[61]

D. Accessible Formats

36. Accessible formats of this *Order on Reconsideration and Further Notice of Proposed Rulemaking* (Braille, large print, electronic files, audio format) are available to persons with disabilities by sending an email to fcc504@fcc.gov or by calling the Consumer & Governmental Affairs Bureau at

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[56] *See Report and Order*, 28 FCC Rcd at 1733, ¶ 199; 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, *Notice of Proposed Rulemaking*, 26 FCC Rcd 5490, 5525, ¶ 98 (2011) (*NPRM*). No comments were filed in the *NPRM* or the *Report and Order* addressing the PRA.

[57] Pub. L. No. 104-13; 44 U.S.C. § 3501 *et seq*.

[58] Pub. L. No. 107-198; *see* 44 U.S.C. § 3506(c)(4).

[59] *See* 5 U.S.C. § 601–612. The RFA has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[60] 5 U.S.C. § 605(b).

[61] *See* 5 U.S.C. § 801 (a)(1)(A).

202-418-0530 (voice) 202-418-0432 (TTY). This *Order on Reconsideration and Further Notice of Proposed Rulemaking* can also be downloaded at http://www.fcc.gov.

E. Ex Parte Presentations

37. *Permit-But-Disclose*. We will continue to treat this proceeding as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[62] Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral ex parte presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during ex parte meetings are deemed to be written ex parte presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written ex parte presentations and memoranda summarizing oral ex parte presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (*e.g.*, .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

F. Filing Requirements

38. *Comments and Replies*. Pursuant to sections 1.415 and 1.419 of the Commission's rules,[63] interested parties may file comments and reply comments concerning the *Further Notice* on or before the dates indicated on the first page of this document. **All filings related to this *Further Notice* should refer to WT Docket No. 10-4**. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS).[64]

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://fjallfoss.fcc.gov/ecfs2/.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. Because more than one docket number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket number.

- Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

    - All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of *before* entering the building.

[62] 47 C.F.R. §§ 1.1200 *et seq.*

[63] 47 C.F.R. §§ 1.415, 1.419.

[64] *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

39. *People with Disabilities*. To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

40. *Availability of Documents*. Comments, reply comments, and ex parte submissions will be publically available online via ECFS.[65] These documents will also be available for public inspection during regular business hours in the FCC Reference Information Center, which is located in Room CY-A257 at FCC Headquarters, 445 12th Street, SW, Washington, DC 20554. The Reference Information Center is open to the public Monday through Thursday from 8:00 a.m. to 4:30 p.m. and Friday from 8:00 a.m. to 11:30 a.m.

41. *Additional Information*. For additional information on this proceeding, please contact Amanda Huetinck of the Wireless Telecommunications Bureau at Amanda.Huetinck@fcc.gov or (202) 418-7090.

V. ORDERING CLAUSES

42. Accordingly, IT IS ORDERED that, pursuant to the authority of Sections 1, 4(i), 7, 10, 201, 202, 208, 214, 301, 302, 303, 308, 309(j), 310, and 710 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 160, 201, 202, 208, 214, 301, 302a, 303, 308, 309(j), 310, and 610, and sections 1.412, 1.425, and 1.429 of the Commission's Rules, 47 C.F.R. §§ 1.412, 1.425, 1.429, this *Order on Reconsideration and Further Notice of Proposed Rulemaking* IS HEREBY ADOPTED.

43. IT IS FURTHER ORDERED that, pursuant to Sections 1, 4(i), 4(j), 301, 302, 303(f), 303(r), and 405(a) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 301, 302a, 303(f), 303(r), and 405(a), and section and 1.429(a) of the Commission's Rules, 47 C.F.R. § 1.429(a), that the Petition for Reconsideration filed by Wilson Electronic, LLC, V-COMM, L.L.C., and Wireless Extenders, Inc., WT Docket No. 10-4, on May 13, 2013, IS GRANTED.

44. IT IS FURTHER ORDERED that, pursuant to Sections 1, 4(i), 4(j), 301, 302, 303(f), 303(r), and 405(a) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 301, 302a, 303(f), 303(r), and 405(a), and section 1.429(a) of the Commission's Rules, 47 C.F.R. § 1.429(a), that the Petition for Reconsideration filed by V-COMM, L.L.C., Verizon Wireless, and Wilson Electronics, WT Docket No. 10-4, on May 13, 2013, IS GRANTED IN PART, as described above, and OTHERWISE DENIED.

45. IT IS FURTHER ORDERED that Parts 1 and 20 of the Commission's rules as ARE AMENDED as set forth in Appendix A, effective 30 days after publication in the Federal Register except for 47 C.F.R. § 20.21(f)(1)(iv)(A)(*2*), which contain information collection requirements subject to the Paperwork Reduction Act of 1995, Public Law 104-13, that are not effective until after approval by the Office of Management and Budget. The Federal Communications Commission will publish a document in the Federal Register announcing OMB approval and the effective date of these rule revisions.

46. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this *Order on Reconsideration and Further Notice of Proposed Rulemaking* to Congress and the Government Accountability Office pursuant to the Congressional Review Act.[66]

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[65] Documents will generally be available electronically in ASCII, Microsoft Word, and/or Adobe Acrobat.

[66] *See* 5 U.S.C. § 801 (a)(1)(A).

47. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Order on Reconsideration and Further Notice of Proposed Rulemaking*, including the Supplemental Final Regulatory Flexibility Analysis to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Final Rules

Parts 1 and 20 of the Code of Federal Regulations are amended as follows:

Part 1 – PRACTICE AND PROCEDURE

1. The authority citation for Part 1 continues to read as follows:

AUTHORITY: 15 U.S.C. 79 *et seq*.; 47 U.S.C. 151, 154(j), 160, 201, 225 and 303.

2. Section 1.1307 is amended by revising Table 1 Commercial Mobile Radio Services (part 20) as follows:

§ 1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.
* * * * *
(b) * * *
(1) * * *
Table 1 – Transmitters, Facilities and Operations Subject to Routine Environmental Evaluation

Service (title 47 CFR rule part)	Evaluation required if:
* * * * *	* * * * *
Commercial Mobile Radio Services (part 20)	Non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and power > 1000 W ERP (1640 W EIRP). Building-mounted antennas: power > 1000 W ERP (1640 W EIRP). Consumer Signal Booster equipment grantees under the Commercial Mobile Radio Services provisions in part 20 are required to attach a label to Fixed Consumer Booster antennas that: (1) provides adequate notice regarding potential radiofrequency safety hazards, *e.g.,* information regarding the safe minimum separation distance required between users and transmitting antennas; and (2) references the applicable FCC-adopted limits for radiofrequency exposure specified in §1.1310.
* * * * *	* * * * *

PART 20 – COMMERCIAL MOBILE SERVICES

1. The authority citation for Part 20 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 160, 201, 251-254, 301-303 and 332 unless otherwise noted.

2. Section 20.21 is amended by revising paragraph (e)(8)(i)(A)(*1*), (e)(8)(i)(H), (e)(9)(i)(A)(*2*), (e)(9)(i)(C)(*2*), (e)(9)(i)(H), and (f)(1) to read as follows:
§20.21 Signal boosters.
* * * * *
(e) * * *

(8) * * *

(i) * * *

(A) *Noise Limits*. (*1*) The transmitted noise power in dBm/MHz of consumer boosters at their uplink port shall not exceed -103 dBm/MHz – RSSI. RSSI (received signal strength indication expressed in negative dB units relative to 1 mW) is the downlink composite received signal power in dBm at the booster donor port for all base stations in the band of operation.

* * * * *

(H) *Transmit Power Off Mode.* 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.

* * * * *

(9) * * *

(i) * * *

(A) * * *

* * * * *

(*2*)(*i*) Fixed booster maximum downlink noise power shall not exceed −102.5 dBm/MHz + 20 Log_{10} (Frequency), where Frequency is the uplink mid-band frequency of the supported spectrum bands in MHz.

(*ii*) Mobile booster maximum noise power shall not exceed -59 dBm/MHz.

(*iii*) Compliance with Noise limits will use instrumentation calibrated in terms of RMS equivalent voltage, and with booster input ports terminated or without input signals applied within the band of measurement.

* * * * *

(C) * * *

(2) The uplink and downlink maximum gain of a frequency selective consumer booster referenced to its input and output ports shall not exceed the following limits:

(*i*) Fixed Booster maximum gain shall not exceed19.5 dB + 20 Log_{10} (Frequency), or 100 dB for systems having automatic gain adjustment based on isolation measurements between booster donor and server antennas.

(*ii*) Where, Frequency is the uplink mid-band frequency of the supported spectrum bands in MHz.

(*iii*) Mobile Booster maximum gain shall not exceed 15 dB when directly connected (e.g., boosters with a physical connection to the subscriber device), 23 dB when using direct contact coupling (e.g., cradle-type boosters), or 50 dB when using an inside antenna (e.g., inside a vehicle). For systems using an inside antenna that have automatic gain adjustment based on isolation measurements between booster donor and server antenna and automatic feedback cancellation, the mobile booster maximum gain shall not exceed 58 dB and 65 dB for frequencies below and above 1 GHz, respectively.

* * * * *

(H) *Booster Antenna Kitting*. All consumer boosters must be sold with user manuals specifying all antennas and cables that meet the requirements of this section. All consumer boosters must be sold together with antennas, cables, and/or coupling devices that meet the requirements of this section. The grantee is required to submit a technical document with the application for FCC equipment authorization that shows compliance of all antennas, cables, and/or coupling devices with the requirements of this section, including any antenna or equipment upgrade options that may be available at initial purchase or as a subsequent upgrade.

* * * * *

(f) *Signal booster labeling requirements.* (1) Signal booster manufacturers, distributors, and retailers must ensure that all signal boosters marketed on or after March 1, 2014 include the following advisories:

(i) In on-line, point-of-sale marketing materials,

(ii) In any print or on-line owner's manual and installation instructions,

(iii) On the outside packaging of the device, and

(iv) On a label affixed to the device:

(A) For Consumer Signal Boosters:

(*1*) This is a CONSUMER device.

BEFORE USE, you MUST REGISTER THIS DEVICE with your wireless provider and have your provider's consent. Most wireless providers consent to the use of signal boosters. Some providers may not consent to the use of this device on their network. If you are unsure, contact your provider.

You MUST operate this device with approved antennas and cables as specified by the manufacturer. Antennas MUST be installed at least 20 cm (8 inches) from any person.

You MUST cease operating this device immediately if requested by the FCC or a licensed wireless service provider.

WARNING. E911 location information may not be provided or may be inaccurate for calls served by using this device.

(*2*) The label for Consumer Signal Boosters certified for fixed indoor operation also must include the following language:

This device may be operated ONLY in a fixed location for in-building use.

(B) For Industrial Signal Boosters:

WARNING. This is NOT a CONSUMER device. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device. Unauthorized use may result in significant forfeiture penalties, including penalties in excess of $100,000 for each continuing violation.

* * * * *

APPENDIX B

Supplemental Final Regulatory Flexibility Act Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] the Commission incorporated an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the *Notice of Proposed Rulemaking (NPRM)*.[2] No comments were filed addressing the IRFA. In addition, a Final Regulatory Flexibility Analysis (FRFA) was incorporated in the *Report and Order*.[3] Because we amend the rules in this *Order on Reconsideration*, we have included this Supplemental Final Regulatory Flexibility Analysis (SFRFA). This present SFRFA conforms to the RFA.[4]

A. Need for, and Objectives of, the Order on Reconsideration

2. The *Order on Reconsideration* addresses two Petitions for Reconsideration of the technical rules adopted in the Signal Boosters *Report and Order*.[5] The need for and objectives of the rules adopted in the *Order on Reconsideration* are the same as those discussed in the FRFA for the *Report and Order*. In the *Report and Order,* the Commission adopted a new regulatory framework to allow consumers to realize the benefits of using signal boosters while preventing, controlling, and, if necessary, resolving interference to wireless networks. The Commission adopted new technical, operational, and registration requirements for signal boosters. The new rules created two classes of signal boosters – Consumer and Industrial – with distinct regulatory requirements for each. For Consumer Signal Boosters, the Commission adopted a Network Protection Standard (NPS) – a flexible set of requirements for the design and manufacture of Consumer Signal Boosters, which are intended to couple signal booster innovation with sufficient safeguards to protect wireless networks from harmful interference. In addition, the Commission adopted two sets of technical parameters, which it deemed to satisfy the NPS – one for Wideband Consumer Signal Boosters and a second for Provider-Specific Consumer Signal Boosters.

3. In the *Order on Reconsideration*, we: 1) streamline the equipment certification process by amending certain technical requirements for Wideband Consumer Signal Boosters; 2) strengthen the gain and power limits for Provider-Specific Consumer Signal Boosters; 3) amend the booster antenna kitting rules for Provider-Specific Consumer Signal Boosters accordingly; 4) and require that Consumer Signal Boosters certified for fixed operation only be labeled to notify consumers that such devices may only be used in fixed, in-building locations. These changes will ensure consumer access to a wide variety of cost-efficient Consumer Signal Boosters while still protecting the wireless networks.

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[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, (SBREFA) Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] 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, *Notice of Proposed Rulemaking*, 26 FCC Rcd 5490 (2011).

[3] 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, *Report and Order*, 28 FCC Rcd 1663 (2013) (*Report and Order*).

[4] *See* 5 U.S.C. § 604.

[5] Petition for Reconsideration of Wilson Electronics, LLC, V-COMM, L.C.C., and Wireless Extenders, Inc. (May 13, 2013) (Wi-Ex Petition); Amendment to Petition for Reconsideration of Wilson Electronics, LLC, V-COMM, L.C.C., and Wireless Extenders, Inc. (April 1, 2014) (Wi-Ex Amendment); Petition for Reconsideration of V-COMM, L.L.C., Verizon Wireless, and Wilson Electronics (May 13, 2013) (Verizon Petition); *Ex Parte* Letter from Michiel Lotter, Nextivity, Sean Haynberg, V-COMM, L.L.C., Russell D. Lukas, Counsel to Wilson Electronics, Inc., and John T. Scott and Andre Lachance, Verizon Wireless, to Marlene H. Dortch, Secretary, Federal Communications Commission (June 18, 2014) (Joint *Ex Parte*).

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA.

4. No public comments were filed concerning the IRFA.

C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration.

5. Pursuant to the Small Business Jobs Act of 2010, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

D. Legal Basis

6. The actions are authorized pursuant to sections 1, 4(i), 4(j), 301, 302, 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 301, 302, 303(f), and 303(r).

E. Description and Estimate of the Number of Small Entities To Which the Rules Will Apply

7. The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the rules adopted, herein.[6] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[7] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[8] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[9] Below, we describe and estimate the number of small entity licensees that may be affected by the adopted rules.

8. *Small Businesses, Small Organizations, and Small Governmental Jurisdictions.* As of 2009, small businesses represented 99.9% of the 27.5 million businesses in the United States, according to the SBA.[10] Additionally, a "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[11] Nationwide, as of 2007, there were approximately 1,621,315 small organizations.[12] Finally, the term "small governmental jurisdiction" is defined generally as "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[13] Census Bureau data for 2007 indicate

[6] 5 U.S.C. § 603(b)(3).

[7] 5 U.S.C. § 601(6).

[8] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[9] 15 U.S.C. § 632.

[10] *See* SBA, Office of Advocacy, "Frequently Asked Questions," *available at* http://web.sba.gov/faqs/faqindex.cfm?areaID=24 (last visited Dec. 11, 2012).

[11] 5 U.S.C. § 601(4).

[12] INDEPENDENT SECTOR, THE NEW NONPROFIT ALMANAC & DESK REFERENCE (2010).

[13] 5 U.S.C. § 601(5).

that there were 89,527 governmental jurisdictions in the United States.[14] We estimate that, of this total, as many as 88,761 entities may qualify as "small governmental jurisdictions."[15] Thus, we estimate that most governmental jurisdictions are small.

9. *Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing.* The Census Bureau defines this category as follows: "This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment."[16] The SBA has developed a small business size standard for firms in this category, which is: all such firms having 750 or fewer employees.[17] According to Census Bureau data for 2010, there were a total of 810 establishments in this category that operated for the entire year.[18] Of this total, 787 had employment of fewer than 500, and an additional 23 had employment of 500 to 999.[19] Thus, under this size standard, the majority of firms can be considered small.

F. Description of Projected Reporting, Recordkeeping, and other Compliance Requirements

10. The rule changes adopted in this proceeding will not alter any of the current reporting or recordkeeping requirements.

G. Steps taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

11. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its approach, which may include the following four alternatives (among others): (1) the

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[14] U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 2011, Table 427 (2007).

[15] The 2007 U.S Census data for small governmental organizations are not presented based on the size of the population in each such organization. There were 89,476 local governmental organizations in 2007. If we assume that county, municipal, township, and school district organizations are more likely than larger governmental organizations to have populations of 50,000 or less, the total of these organizations is 52,095. If we make the same population assumption about special districts, specifically that they are likely to have a population of 50,000 or less, and also assume that special districts are different from county, municipal, township, and school districts, in 2007 there were 37,381 such special districts. Therefore, there are a total of 89,476 local government organizations. As a basis of estimating how many of these 89,476 local government organizations were small, in 2011, we note that there were a total of 715 cities and towns (incorporated places and minor civil divisions) with populations over 50,000. CITY AND TOWNS TOTALS: VINTAGE 2011 – U.S. Census Bureau, *available at* http://www.census.gov/popest/data/cities/totals/2011/index.html. If we subtract the 715 cities and towns that meet or exceed the 50,000 population threshold, we conclude that approximately 88,761 are small. U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES 2011, Tables 427, 426 (Data cited therein are from 2007).

[16] U.S. Census Bureau, 2007 NAICS Definitions, "334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing"; http://www.census.gov/naics/2007/def/ND334220.HTM#N334220.

[17] 13 C.F.R. § 121.201, NAICS code 334220.

[18] U.S. Census Bureau, American FactFinder, 2010 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334220 (released June 26, 2012); http://factfinder.census.gov. The number of "establishments" is a less helpful indicator of small business prevalence in this context than would be the number of "firms" or "companies," because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses.

[19] *Id*. Eighteen establishments had employment of 1,000 or more.

establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[20]

12. Regarding our amending certain technical requirements for Wideband Consumer Signal Boosters to streamline the equipment certification process, we anticipate this change will actually decrease the costs and complexities associated with the manufacture and certification of such devices, thereby benefiting small businesses. In addition, as to our amending certain technical and labeling requirements for Provider-Specific Consumer Signal Boosters, the Commission does not believe that these changes vary enough from the rules adopted in the *Report and Order* to unduly burden small entities.

H. Federal Rules that May Duplicate, Overlap, or Conflict with the Rules

13. None.

I. Report to Congress

14. The Commission will send a copy of the *Report and Order*, including the FRFA, in a report to Congress pursuant to the Congressional Review Act.[21] In addition, the Commission will send a copy of the *Order on Reconsideration*, including SFRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the *Order on Reconsideration* and SFRFA (or summaries thereof) will be published in the Federal Register.[22]

[20] 5 U.S.C. § 604(a)(6).

[21] *See* 5 U.S.C. § 801(a)(1)(A). The Congressional Review Act is contained in Title II, § 251, of the CWAAA, *see* Pub. L. No. 104-121, Title II, § 251, 110 Stat. 868.

[22] *See* 5 U.S.C. § 604(b).