



**6712-01**

**FEDERAL COMMUNICATIONS COMMISSION**

**47 CFR Parts 1 and 20**

**[WT Docket No. 10-4; FCC 14-138]**

**The Commission's Rules to Improve Wireless Coverage through the Use of Signal Boosters**

**AGENCY:** Federal Communications Commission

**ACTION:** Final rule; petition for reconsideration.

**SUMMARY:** In the Order on Reconsideration, the Commission addresses two Petitions for Reconsideration of the technical rules adopted in the Signal Boosters Report and Order, granting one petition and granting the other in part.

**DATES:** Effective [INSERT DATE 30 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER], except for the revision to 47 CFR 20.21(f)(1)(iv)(A)(2), which contains 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 this rule revision.

**FOR FURTHER INFORMATION CONTACT:** Amanda Huetinck of the Mobility Division, Wireless Telecommunications Bureau, at (202) 418-7090 or [Amanda.Huetinck@fcc.gov](mailto:Amanda.Huetinck@fcc.gov). For additional information concerning the Paperwork Reduction Act information collection requirements contained in this document, contact Cathy Williams at (202) 418-2918, or via the Internet at [PRA@fcc.gov](mailto:PRA@fcc.gov).

**SUPPLEMENTARY INFORMATION:** This is the Federal Communications Commission's Order on Reconsideration, in WT Docket No. 10-4, FCC 14-138, adopted September 19, 2014, and released September 23, 2014. The Further Notice of Proposed Rulemaking that was

adopted concurrently with the Order on Reconsideration is published elsewhere in this issue of the Federal Register.

The full text of that document is available for inspection and copying during normal business hours in the FCC Reference Center, 445 12th Street SW, Room CY-A257, Washington, DC 20554, or by downloading the text from the

Commission's website at

<http://www.fcc.gov/document/signal-boosters-order-reconsideration-and-fnprm>. The complete text also may be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., Portals II, 445 12th Street, SW, Suite CY-B402, Washington, DC 20554.

Alternative formats are available for people with disabilities (Braille, large print, electronic files, audio format), by sending an e-mail to [FCC504@fcc.gov](mailto:FCC504@fcc.gov) or calling the Consumer and Government Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY).

## **Synopsis**

### **I. INTRODUCTION AND BACKGROUND**

1. In the Order on Reconsideration, we address two Petitions for Reconsideration of the technical rules adopted in the Signal Boosters Report and Order.

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.

## II. ORDER ON RECONSIDERATION

### A. Background

3. 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. In the Report and Order, 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. At issue in this Order on Reconsideration are certain technical requirements in the NPS for both Wideband and Provider-Specific Consumer Signal Boosters.

4. 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.

5. 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. Likewise, the Verizon Petitioners ask the Commission to amend its booster antenna kitting rules for Provider-Specific Consumer Signal Boosters accordingly. In addition, the Verizon Petitioners ask that Consumer Signal Boosters certified for fixed operation be labeled to notify consumers that such devices may only be used in fixed, in-building locations. The Enterprise Wireless Alliance also filed a Petition for Reconsideration, but it was subsequently withdrawn.

6. Responsive Pleadings. On June 6, 2013, the Commission released a Public Notice seeking comment on the Petitions. 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.

7. AT&T supported the Verizon Petition, while Nextivity opposed it. 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. 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

- 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**

8. 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.

9. 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 in the rules. 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.

10. 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, the NPS included uplink and downlink noise limits. According to the Wi-Ex Petitioners, downlink transmitted noise power was included in § 20.21(e)(8)(i)(A)(1) of the Noise Limits technical requirement as a way to measure bidirectional capability, not specifically as a means to protect wireless networks. The Wi-Ex Petitioners contend that wireless networks are sufficiently protected with respect to downlink noise by the limitations in § 20.21(e)(8)(i)(A)(2) coupled with the operation of the “Transmit Power Off Mode” in § 20.21(e)(8)(i)(H).

11. The Wi-Ex Petitioners further argue that bidirectional capability can be effectively achieved and more easily measured by including downlink gain limits in §§ 20.21(e)(8)(i)(C)(1) (Booster Gain Limits) and 20.21(e)(8)(i)(H) (Transmit Power Off Mode). 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 § 20.21(e)(8)(i)(C)(1), and to clarify the limitation on downlink gain in the Transmit Power OFF Mode of operation.”

12. 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. 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. 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. Accordingly, we will remove the reference to downlink noise from § 20.21(e)(8)(i)(A)(1) of our Noise Limits technical requirement for Wideband Consumer Signal Boosters. As amended, § 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.

13. We also agree that downlink gain limits should be added to § 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 § 20.21(e)(8)(i)(H) of our Transmit Power Off Mode requirement for Wideband Consumer Signal Boosters. As amended, § 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.

## **2. Verizon Petition**

14. 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.

15. 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). AT&T, Sprint, Wi-Ex, and more than 90 small rural providers endorsed the Consolidated Proposal. In addition, the Competitive Carriers Association supported many elements of the Consolidated Proposal, including “affirmatively support[ing]” the provider-specific aspects of the proposal. 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, the Commission made such an option available in the NPS subject to carrier consent.

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

17. 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. 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. 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.

18. 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.

19. 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,” 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.”

20. 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 § 20.21(e)(9)(i)(H) with the word “all.”

21. 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. The Verizon Petitioners state that this additional labeling requirement is necessary to inform purchasers of fixed Consumer Signal Boosters that they may not lawfully be installed and operated in a moving vehicle or outdoor location. 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. 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."

22. 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.

### **3. Other Issues**

23. 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 CFR 20.21 and remove a series of asterisks in 47 CFR 20.3. In addition, we correct a typographical error in 47 CFR 1.1307(b)(1) regarding radio frequency exposure labeling requirements for Consumer Signal Boosters.

## **III. PROCEDURAL MATTERS**

### **A. Paperwork Reduction Act**

24. The Order on Reconsideration contains modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA). 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, we previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees.

25. 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 below.

#### **B. Regulatory Flexibility Analysis**

26. The Regulatory Flexibility Act (RFA) 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.”

27. 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 below.

### **C. Congressional Review Act**

28. The Commission will send a copy of this Order on Reconsideration to Congress and the Government Accountability Office pursuant to the Congressional Review Act.

### **IV. SUPPLEMENTAL FINAL REGULATORY FLEXIBILITY ANALYSIS**

29. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), 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). No comments were filed addressing the IRFA. In addition, a Final Regulatory Flexibility Analysis (FRFA) was incorporated in the Report and Order. Because we amend the rules in the Order on Reconsideration, we have included this Supplemental Final Regulatory Flexibility Analysis (SFRFA). This present SFRFA conforms to the RFA.

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

30. The Order on Reconsideration addresses two Petitions for Reconsideration of the technical rules adopted in the Signal Boosters Report and Order. 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.

31. 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.

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

32. No public comments were filed concerning the IRFA.

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

33. 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**

34. 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**

35. 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. The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act. 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. Below, we describe and estimate the number of small entity licensees that may be affected by the adopted rules.

36. 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. Additionally, a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.” Nationwide, as of 2007, there were approximately 1,621,315 small organizations. 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.” Census Bureau data for 2007 indicate that there were 89,527 governmental jurisdictions in the United States. We estimate that, of this total, as many as 88,761 entities may

qualify as “small governmental jurisdictions.” Thus, we estimate that most governmental jurisdictions are small.

37. 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.” The SBA has developed a small business size standard for firms in this category, which is: all such firms having 750 or fewer employees. According to Census Bureau data for 2010, there were a total of 810 establishments in this category that operated for the entire year. Of this total, 787 had employment of fewer than 500, and an additional 23 had employment of 500 to 999. Thus, under this size standard, the majority of firms can be considered small.

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

38. 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**

39. 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 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.

40. 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**

41. None.

**I. Report to Congress**

42. 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. 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.

**VI. ORDERING CLAUSES**

43. 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 §§ 1.412, 1.425, and 1.429 of the Commission's rules, 47 CFR 1.412, 1.425, 1.429, the Order on Reconsideration IS HEREBY ADOPTED.

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 § 1.429(a) of the Commission's rules, 47 CFR 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.

45. 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 § 1.429(a) of the Commission's rules, 47 CFR 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.

46. IT IS FURTHER ORDERED that parts 1 and 20 of the Commission's rules as ARE AMENDED as set forth below, effective [30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER] except for 47 CFR 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.

47. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this Order on Reconsideration to Congress and the Government Accountability Office pursuant to the Congressional Review Act.

48. 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, including the Supplemental Final Regulatory Flexibility Analysis to the Chief Counsel for Advocacy of the Small Business Administration.

**List of Subjects**

47 CFR Part 1

Administrative practice and procedure

47 CFR Part 20

Communications common carriers, Communications equipment, Radio.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch,  
Secretary.

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR parts 1 and 20 as 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(i), 154(j), 155, 157, 225, 227, 303(r), 309, 1403, 1404, 1451, and 1452.

2. Section 1.1307 is amended in paragraph (b)(1) 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:
<p>* * *</p> <p>Commercial Mobile Radio Services (part 20)</p> <p>* * *</p>	<p>* * * *</p> <p>Non-building-mounted antennas: height above ground level to lowest point of antenna &lt; 10 m and power &gt; 1000 W ERP (1640 W EIRP).            Building-mounted antennas: power &gt; 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:</p> <p style="padding-left: 40px;">(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</p> <p style="padding-left: 40px;">(2) references the applicable FCC-adopted limits for radiofrequency exposure specified in §1.1310.</p> <p>* * * *</p>

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**PART 20 – COMMERCIAL MOBILE SERVICES**

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

AUTHORITY: 47 U.S.C. 151, 152, 154(i), 201(b), 225, 301, 303(b), 303(g), 303(r), 316, 403, 615a, 615a-1, 615b, and 47 U.S.C. 615c.

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  $-102.5 \text{ dBm/MHz} + 20 \text{ Log}_{10}(\text{Frequency})$ , where Frequency is the uplink mid-band frequency of the supported spectrum bands in MHz.

(ii) Mobile booster maximum noise power shall not exceed  $-59 \text{ dBm/MHz}$ .

(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 exceed  $19.5 \text{ dB} + 20 \text{ Log}_{10}(\text{Frequency})$ , 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.

\* \* \* \* \*

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