

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
Washington D.C. 20554**

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

**OPPOSITION TO PETITION FOR RECONSIDERATION**

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## Summary

Nextivity respectfully submits this Opposition to the Petition for Reconsideration of V-COMM, L.L.C., Verizon Wireless and Wilson Electronics of the Commission's Report and Order issued in the above-referenced proceeding. The request to prohibit consumers from using carrier-specific signal boosters in mobile applications, if adopted, will undermine the Commission's carefully balanced framework established to promote consumer access to an array of well-designed signal boosters and foster continued competition in technology innovation and improved consumer services, all while providing unconditional carrier network protection. Petitioners' proposed modification of the rule is not only unnecessary to protect against interference, it would also place the United States at odds with forward looking global regulatory and technology trends contrary to the U.S. public interest. The Petitioners have not demonstrated any actual interference problems, and the existing rule framework contains numerous safeguards that would prevent interference from mobile booster use. As such, the relief requested by the Petition is unnecessary and would not serve the public interest, and therefore should be rejected.

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**OPPOSITION TO PETITION FOR RECONSIDERATION**

Nextivity, Inc. (“Nextivity”), by its undersigned counsel and pursuant to Section 1.429(f) of the Commission’s Rules, respectfully submits this Opposition to the Petition for Reconsideration of V-COMM, L.L.C., Verizon Wireless and Wilson Electronics<sup>1</sup> (“Petitioners”) of the Commission’s Report and Order issued in the above-referenced proceeding.<sup>2</sup> Nextivity is a U.S.-based, leading developer of advanced signal booster technology, currently in operation in over 115 mobile networks in more than 50 countries worldwide, which optimizes the experience of wireless consumers and increases radio frequency network capacity for wireless operators.<sup>3</sup> Nextivity urges the Commission to reject the Petitioners’ request to modify the rules to prohibit mobile use of carrier-specific signal boosters. This request, if adopted, will undermine the Commission’s carefully balanced framework established to promote consumer access to an array

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<sup>1</sup> See Petition for Reconsideration of V-COMM, L.L.C., Verizon Wireless and Wilson Electronics, WT Docket No. 10-4 (filed May 13, 2013) (“Petition”).

<sup>2</sup> See *Amendment of Parts 1, 2, 22, 24, 27, 90 and 95 of the Commission’s Rules to Improve Wireless Coverage Through the Use of Signal Boosters*, Report and Order, WT Docket No. 10-4 (rel. Feb. 20, 2013) (“Report and Order”).

<sup>3</sup> With a significant commitment of capital in research and development, Nextivity has developed high quality, innovative operator-specific band select booster technology (the “Cel-Fi Consumer Booster”). Nextivity’s equipment incorporates advanced technology to provide superlative expanded coverage to consumers using 3G and beyond cellular networks (*i.e.*, UMTS, CDMA and LTE). As discussed herein, the technology meets the Commission’s Rules by adjusting booster gain in real-time to adapt to local environments thereby delivering higher quality service to consumers with no risk of harmful interference to carrier networks.

of well-designed signal boosters and foster continued competition in technology innovation and improved consumer services, all while providing unconditional carrier network protection. Further, Petitioners' proposed modification of the rule is not only unnecessary to protect against interference, it would also place the United States at odds with forward looking global regulatory and technology trends contrary to the U.S. public interest.

**I. Petitioners Have Not Met The Burden to Show Why The Commission Should Look Back and Create New Limits in the Signal Booster Rules**

Nextivity supports the Commission's framework for signal boosters adopted in the Report and Order. Nextivity shares the Commission's objectives, evident in the new signal booster rules, to foster an open market for signal boosters, enable continued innovation by carriers and manufacturers, and ensure interference protection for wireless networks. Developed in the context of a complex and lengthy proceeding, involving numerous stakeholders working together and thousands of pages of record input, the rules successfully achieve a flexible framework which incorporates numerous checks and balances carefully designed to ensure that carriers are protected even as networks expand and technologies evolve, curbing the need for constant specific revision to the Commission's rules in the future. The rights and obligations contained in the rules also ensure that no party can game the system; manufacturers cannot introduce unsafe boosters into the market and carriers cannot unduly restrict the use of safe boosters on their networks.

The Petitioners specifically request that the rules be modified to prohibit consumers from using carrier-specific signal boosters in mobile settings, instead restricting their use to fixed in-building applications only.<sup>4</sup> However the Petitioners fail to provide any specific justification for

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<sup>4</sup> See Petition, at 2. Relatedly, the Petition seeks to eliminate the separate requirement for booster antenna kitting rules for mobile boosters, and to modify the booster labeling requirements to state that boosters may only be used in fixed environments. See *id.*

reworking the carrier-specific rules. The Petition offers no new facts for Commission consideration on the use of boosters in a mobile setting; it fails to set forth any details of any potential interference or demonstrate any actual and specific instances of interference warranting such a significant reversal in Commission approach. Petitioners also fail to set forth any policy justification for why consumers should be forbidden from using advanced signal booster devices that their service providers have authorized, after appropriate scrutiny and testing, for use with their networks.

The Commission fully considered a range of industry proposals and industry input with regard to booster usage and ultimately established rules that contemplated both mobile and fixed usage. As detailed below, the Commission accounted for mobile usage in the requirements adopted for both wideband and carrier-specific rules. The rules fully ensure that carrier-specific boosters can operate in a mobile environment without causing interference to carrier networks. The rules build in many safeguards to prevent interference in the first instance as well as to address interference that could potentially arise in the context of mobile operations. A grant of the requested change would significantly undermine the balanced approach adopted by the Commission, deny consumers the full benefit of expanded wireless services made available through signal booster technology, and inhibit future service and device innovation. Banning the use of mobile boosters as proposed by the Petitioners, therefore, would not serve the public interest and the Petition should be rejected.

**II. Carrier and End User Demand for Fixed and Mobile Signal Booster Technology is Soaring and New Limitations Will Not Serve the Public Interest**

The new rules have already generated benefits for consumers, license holders, and booster manufacturers as evidenced by AT&T's comprehensive testing and compliance effort. Cel-Fi, Nextivity's provider-specific consumer signal booster, has completed the Technical

Approval process and the company has been advised that formal authorization for the use of Cel-Fi on the AT&T network is imminent. This has followed an extensive, rigorous technical evaluation and lengthy carrier trial period. The typical months-long authorization process, undertaken to comply with the carrier-specific rules, evidences the carriers' commitment to ensuring that boosters introduced into the market will not cause interference in a variety of operating environments.

As a market leader in advanced signal booster technology, Nextivity is witnessing a rapid increase in consumer demand for fixed and mobile carrier-specific signal boosters in a wide variety of applications. Regulators in other countries have responded by allowing carriers to provide their customer with authorized booster devices. Many countries currently permit the use of fixed carrier-specific signal boosters (Nextivity's fixed technology has been accepted by major operators in over 50 countries) and a number of countries are quickly moving towards incorporation of such devices into mobile usage. In Australia, for example, operators are intensely interested in incorporating carrier-specific signal boosters in public rail systems to provide better network coverage for train travelers.<sup>5</sup> In another example, the automobile industry is intensely interested in incorporating carrier-specific signal booster technology inside future automobile models.<sup>6</sup> Manufacturers are facing growing pressure to address environmental concerns by incorporating metal oxide reflective glass in each car to keep interiors cool, reducing the need for air conditioning and the overall emission footprint of the car. It is predicted that in a

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<sup>5</sup> Today, the ACMA has only authorized Nextivity's carrier specific signal boosters for deployment in Australia.

<sup>6</sup> The automotive industry is almost exclusively interested in carrier-specific technology reflecting that most other countries enabling signal booster technology permit carrier-specific technology but prohibit generic wideband booster devices. To date, to Nextivity's knowledge, only the U.S. has authorized wideband devices. Carrier-specific booster technology thus enables auto manufacturers to manufacture cars including signal booster technology on a global basis with confidence that all products will incorporate technology acceptable in all jurisdictions.

few years all cars may be required to incorporate window glazing for this purpose. At the same time, demand for in-car cell-phone and other communications connectivity is rising and is now a material factor in consumer purchasing decisions. However, metal oxide window glazing interferes with wireless signal strength.<sup>7</sup> Carmakers have made consideration of carrier-specific signal booster solutions a priority, as these are the only signal boosters that are legal for use in most territories world-wide and that will enable strong uninterrupted wireless signals within the car notwithstanding the increased shielding from window glazing. Nextivity notes that the carmakers proceed very cautiously before adding any new technologies to future models. The design, engineering, and supply chain in the automotive industry are complex, often resulting in years of development before new technologies are incorporated into automobile design.<sup>8</sup> A decision by the Commission to prohibit mobile carrier-specific boosters will impair this development, hindering technology innovation in the automotive sector, and carving out the U.S. market from the advancements enjoyed by consumers in other countries.

Nextivity submits that an arbitrary ban on the use of carrier-specific signal boosters in a mobile environment in the United States will unnecessarily inhibit technology development in the United States and leave the U.S. market and industry behind its foreign counterparts.

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<sup>7</sup> See Vince Bond Jr., *Apple's Connected Car Move Creates Challenge for Automakers, Analysts Say*, *Automotive News* (June 12, 2013), available at: <http://www.autonews.com/article/20130612/OEM10/130619937#axzz2WCacgneK>; *see also* *Cool Rule for Window Glazing Scrapped*, *Sacramento Bee* (Mar. 30, 2010), available at: <http://www.lung.org/associations/states/california/for-the-media/inthenews/cool-rule-for-car-window.html> (CA Air Resources Board defers mandatory window glazing for several years due to interference with wireless signals).

<sup>8</sup> *See* Lucas Mearian, *Here's Why New Car Tech is Four Years Out of Date*, *Computerworld* (May 6, 2013), available at: [http://www.computerworld.com/s/article/9238900/Here\\_s\\_why\\_new\\_car\\_tech\\_is\\_four\\_years\\_out\\_of\\_date?taxonomyId=128&pageNumber=1](http://www.computerworld.com/s/article/9238900/Here_s_why_new_car_tech_is_four_years_out_of_date?taxonomyId=128&pageNumber=1).

### **III. The Rules Already Contain Ample Safeguards to Ensure Only Safe, Properly Designed and Installed Boosters are Operated**

The Report and Order reflects the Commission's considered decision to distinguish boosters on the basis of whether they are applied in an industrial context, as defined, or in a consumer context rather than distinguishing between fixed and mobile boosters.<sup>9</sup> The Commission found that "both wideband and provider-specific consumer signal boosters can be either fixed or mobile."<sup>10</sup> This is because the Commission rightly concluded that the checks and balances built into the rules will adequately protect carrier networks from the risk of interference from either fixed or mobile boosters. In so doing, the Commission weighed the benefits and risks of signal boosters and established a set of network protection standards that apply to all types of signal boosters, regardless of whether they are used in a fixed or mobile environment, including:

1. Compliance with existing technical parameters for the applicable spectrum band of operation;
2. Automatic self-monitoring of certain operations and shut down if not in compliance with new technical rules;
3. Automatic detection and mitigation of oscillations in the uplink and downlink bands;
4. Automatic power down when a device is not needed;
5. Design to ensure that these features cannot be easily defeated; and
6. Incorporation of interference avoidance for wireless subsystems.<sup>11</sup>

These network protection standards apply to both provider-specific and wideband signal boosters. The technical requirements for wideband consumer signal boosters and provider-specific signal boosters provide essentially the same level of network protection and no distinction is made by the Commission within the adopted network protection standards for mobile boosters because no such separate standard is necessary. Nextivity agrees with the Commission's approach evidenced by the framework's distinction between industrial and

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<sup>9</sup> See *Report and Order*, n.20.

<sup>10</sup> *Report and Order*, ¶ 14.

consumer boosters that mobility is *not* the determining factor in whether a booster is safe for operation.

**A. Structural Provisions Provide Significant Network Interference Protection to Carriers**

There are a number of “structural” provisions outlined in the Report and Order that provide significant carrier protections against interference, from both fixed and mobile booster usage. First, as made plain in the Report and Order, signal boosters may only be operated on a secondary, non-interference basis, and must be shut down if such interference occurs.<sup>12</sup> Once a subscriber is notified of an interference event by a wireless provider, the subscriber is required to shut down the device immediately or as soon as practical.<sup>13</sup> If the consumer fails to do so, carriers are authorized to shut off a subscriber’s service.<sup>14</sup> Further, if a consumer continues to operate a booster after they have been instructed by the Commission to cease its use, any such further operation would be in violation of Section 301 of the Communications Act and would expose the subscriber to sanctions.<sup>15</sup> Through this framework, carriers retain control over their networks and have a number of options to ensure that consumers operate signal boosters appropriately on a non-interference basis.

The Commission also retains authority to revoke the equipment authorization of any consumer signal booster found to repeatedly cause interference with wireless networks.<sup>16</sup> In the Report and Order, the Commission pledged to monitor any repeated complaints of interference

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<sup>11</sup> See *id.*, at ¶ 57.

<sup>12</sup> See *Report and Order*, ¶ 3.

<sup>13</sup> See *Report and Order*, ¶ 29.

<sup>14</sup> See *id.*

<sup>15</sup> See *Report and Order*, n.102.

<sup>16</sup> See *Report and Order*, ¶ 137.

caused by a signal booster model, and to take appropriate action, including where warranted, revocation of equipment authorization.<sup>17</sup> Likewise, the Enforcement Bureau has authority to investigate, track and resolve complaints involving consumer signal booster interference, and can utilize the expertise of the Commission’s field engineers to obtain relevant data.<sup>18</sup> As such, there are several additional means by which harmful interference caused by a mobile consumer signal booster can be detected and mitigated directly by the Commission.

The FCC’s rules require that consumers register their boosters with their mobile carrier prior to use.<sup>19</sup> Providers can use that process to ensure that they know which boosters will be used in a fixed location, and which will be used in a mobile environment. As the Commission found, “registration will assist providers in locating problematic boosters in the event interference occurs and will facilitate consumer outreach.”<sup>20</sup> The Commission also encourages carriers to share registration information with one another to ensure that they can address interference not only from boosters used on their own networks, but boosters used on other networks as well.<sup>21</sup> Through such a collaborative process, the carriers have the means to collectively address interference caused by any consumer signal booster used, regardless of the network the device is intended to operate on. The registration process also informs consumers of the need to operate such devices on a non-interference basis and in compliance with FCC and carrier requirements, which is likely to further reduce the likelihood of interference caused by mobile consumer signal boosters used in an unauthorized manner.

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<sup>17</sup> *See id.*

<sup>18</sup> *See Report and Order*, ¶ 138.

<sup>19</sup> *Report and Order*, ¶ 35.

<sup>20</sup> *Report and Order*, ¶ 35.

<sup>21</sup> *See Report and Order*, ¶ 108.

Finally, in the Report and Order, the Commission directed the Wireless Telecommunications Bureau to issue a Public Notice before March 1, 2016, to request comment on additional technologies that may enhance the interference-mitigating features of signal boosters already required under the new framework.<sup>22</sup> Given that the potential for interference by consumer boosters in a mobile environment is an entirely theoretical issue at this time, Nextivity respectfully submits that the Commission can address any *actual* interference problems caused by mobile booster usage as part of that forthcoming Public Notice. This will allow time for the new rules to be fully implemented, and to give all parties involved the opportunity to address any interference problems that may arise in the mobile context, if any, without necessitating additional Commission rulemaking. If at that time real problems exist with signal boosters used in a mobile environment (which Nextivity does not believe will be the case), the Petitioners will have a ready-made Commission proceeding in which to raise any legitimate concerns.

**B. The Carrier Certification Process Is Designed to Protect the Entire Mobile Environment**

The FCC's carrier consent requirement mandates significant carrier involvement in the certification and approval process for consumer signal boosters. In Nextivity's experience, this process often takes months of significant testing and coordination by numerous stakeholders within each carrier's organization. This process results in a robust review of each device which necessarily ensures that: 1) the device meets the technical operating requirements established in the FCC's rules; and 2) the device meets other technical requirements that may be imposed by the carrier, including ensuring that the device does not cause interference to adjacent channels. Carrier mobile networks are growing and evolving all the time, so carriers have a very clear incentive to ensure that the booster under review not only works in the channels it is intended to

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<sup>22</sup> See Report and Order, ¶ 78.

operate in, but that it also does not cause interference in other channels that the carrier may utilize in other locations, now or in the future. Thus, the carrier certification process not only protects the carrier's own network, but necessarily also ensures that devices are not placed in the market that could harm other networks.

Further, as carriers (including Verizon) provided "blanket" authorizations for the use of signal boosters on their networks, they each reserved the right to withdraw their authorization for any booster that causes harmful interference or fails to operate properly.<sup>23</sup> They can do the same for any booster that they authorize and later find to cause harmful interference. As such, the carriers ultimately retain full control over their networks, possess the means to investigate and address interference problems, and the ability to order an immediate cessation of use of any booster found to cause interference, including those used in a mobile environment.

### **C. The Commission's Technical Requirements Also Ensure That Boosters Will Be Safe in the Mobile Environment**

The Commission's framework defines safe operating levels with respect to the input Received Signal Strength Indicator (RSSI) measured at the booster donor port. The input RSSI was chosen as the relevant factor because it is a proxy for the coupling loss between the network and the booster donor port. The use of RSSI is appropriate regardless of whether the booster is mobile or fixed, and as such both wideband and provider-specific signal boosters, operating at the specifications contained in the Report and Order are safe to use in both fixed and mobile

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<sup>23</sup> See *Ex Parte* Letter from Andre J. Lachance, Assistant General Counsel, Verizon, to Marlene Dortch, Secretary, Federal Communications Commission, at 1 (Jan. 29, 2013); *Ex Parte* Letter from Steve Sharkey, Chief, Engineering and Technology Policy, T-Mobile, USA, to Marlene H. Dortch, Secretary, Federal Communications Commission, at 1-2 (Jan. 30, 2013); *Ex Parte* Letter from Richard B. Engelman, Director, Spectrum Resources, Sprint Nextel Corporation, to Marlene Dortch, Secretary, Federal Communications Commission, at 1-2 (Feb. 8, 2013); *Ex Parte* Letter from Jeanine Poltronieri, AT&T, to Marlene H. Dortch, Secretary, Federal Communications Commission, at 1 (Feb. 13, 2013); *Ex Parte* Letter from Caressa D. Bennet, General Counsel, RTG, to Marlene H. Dortch, Secretary, Federal Communications Commission, at 1 (Feb. 13, 2013).

contexts. Pursuant to the Commission's rules, signal boosters constantly change their operating parameters and adjust their gain. Thus, devices automatically and constantly balance themselves in order to operate within the technical parameters set by the Commission as the environment changes (based on the RSSI). This system is specifically designed to prevent the type of interference that the Petition contemplates. Mobile boosters are not afforded more leeway in the provision of a non-interfering service than fixed boosters, and the current requirements are more than sufficient to ensure adequate protection of licensee networks.

The Petitioners state that wideband consumer boosters in mobile applications have a noise limit of -59dBm/MHz compared to -37dBm/MHz for carrier specific and wideband consumer signal boosters,<sup>24</sup> and that this will interfere with mobile users in the vicinity of a car with a signal booster. However, placing a booster in a car versus in a fixed location has no relevance to the protection of the licensees' networks. The Petitioners agreed with Nextivity in the Joint Proposal that a downlink noise level of -37dBm/MHz is safe. Further, the Petitioners state that wideband consumer signal boosters in mobile settings have a noise limit of -59dBm/MHz compared to up to -3dBm/MHz for provider-specific signal boosters depending on downlink RSSI measurements, and that this distinction has the potential to cause noise rise at the base station.<sup>25</sup> However, a noise level of -3dBm/MHz is not allowed under the network protection requirements established in the Report and Order -- the out-of-band emission limit applies to the transmissions outside the passband of provider-specific signal boosters. For provider-specific consumer signal boosters, this limit is equal to the well-established FCC limits

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<sup>24</sup> See Petition, at 4-6.

<sup>25</sup> See Petition, at 4-6.

on mobile emissions at -13dBm/MHz.<sup>26</sup> In other words, provider-specific consumer signal boosters are no more likely to cause interference on the uplink than a standard handset.

Further, the Petitioners state that the maximum gain allowed for carrier specific signal boosters is up to 100dB, which is much higher than the 15, 23 or 50 dB of gain allowed for mobile wideband signal boosters.<sup>27</sup> Petitioners assume that such high gain levels will allow the signal to be broadcast over a much greater footprint than just the car which will lead to co-channel interference. Again, this assertion is not correct. In fact, for all boosters the rules impose an overriding “gain limiter” that requires all carrier specific consumer boosters to have anti-oscillation protection.<sup>28</sup> The only way oscillation can be prevented is by reducing gain such that the system does not suffer from positive feedback. In other words, for a carrier specific signal booster to have 100 dB of gain, there needs to be at least 100 dB of isolation between donor and server antennas. Within the confines of a car, such isolation cannot be reached, and hence the achieved gains in a mobile application must be much lower.<sup>29</sup> Therefore, as noted above, network safety is determined by *coupling losses* and not mobility, and the Report and Order and new rules were clearly established with this fact in mind.

Most importantly, the new rules require that consumer signal boosters detect and mitigate oscillation and gain limits, with automatic self-monitoring and/or shutdown features.<sup>30</sup> The Commission determined that such measures will “substantially minimize the potential for

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<sup>26</sup> See Report and Order, ¶ 176.

<sup>27</sup> See Petition, at 5.

<sup>28</sup> See Report and Order, ¶ 61 (applying anti-oscillation and self-monitoring requirements on all boosters).

<sup>29</sup> If the gain exceeds the artificial cap of 50 dB that is imposed on wideband mobile signal boosters, then it has to be because the coupling losses are greater than 50 dB between the donor antenna (typically mounted on the outside of the car) and the server antenna (typically mounted on the inside of the car) which in turn justifies the higher gain.

harmful interference to wireless networks.”<sup>31</sup> Both Nextivity and Wilson stated that each is “comfortable that consumer boosters that meet [the Commission’s technical standards], if operating properly and in accordance with all of the requirements of protection standards, will not cause harmful interference to either the service provider *or adjacent* wireless networks.”<sup>32</sup> Therefore, the Petitioners’ request to disallow the use of mobile provider-specific consumer signal boosters should be rejected as wholly unnecessary.

**D. Operational Shut Down Requirements Also Ensure That Boosters Will Be Safe in the Mobile Environment**

The Commission’s rules also require that consumer signal boosters used in mobile applications power down or shut down as they approach any wireless network base station with which it is communicating.<sup>33</sup> Going further, the Report and Order also requires that signal boosters power or shut down as the approach “any affected base station” (*i.e.*, those to which it is not communicating but is nonetheless approaching).<sup>34</sup> This safeguard is intended to protect not only the network of the operator that the subscriber is using, but adjacent networks as well. As such, the Commission has already recognized and mitigated the potential for interference by boosters in a mobile environment where the most harm could potentially be caused: close proximity to wireless base stations. As a result of these requirements, mobile consumer signal boosters by their design will not be operating in densely populated areas that are well covered by multiple providers and their networks. Instead, boosters will operate “only in areas where wireless coverage is weak or non-existent (*i.e.*, rural areas and indoors),” where the risk of

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<sup>30</sup> See Report and Order, ¶ 61.

<sup>31</sup> *Id.*

<sup>32</sup> Report and Order, ¶ 53 (emphasis added).

<sup>33</sup> See Report and Order, ¶ 66.

<sup>34</sup> *Id.* See also *id.*, ¶ 85.

interference to other subscribers and other networks is already highly mitigated given the already reduced level of operations in such areas.<sup>35</sup>

#### **IV. Mobile Boosters Will Improve, Not Reduce E911 Location Accuracy**

The Petitioners state that E911 location accuracy will be negatively affected by mobile carrier specific consumer signal boosters because the handset will receive more paths and hence the location determination will be impaired.<sup>36</sup> However, location determination using triangulation uses the first arriving path in time as a reference for location determination. The presence of a signal booster (wideband or provider-specific) in the context of a mobile implementation does not fundamentally alter this method of operation. Therefore, the potential impact on E911 location accuracy caused by a mobile booster is no different than the case of a fixed implementation – an issue which was already addressed by the Commission and for which adequate protections have been implemented.

The record in this proceeding shows that the use of signal boosters today have a negligible, if any, impact on E911 location accuracy.<sup>37</sup> Because the new rules will automatically limit the use of mobile consumer signal boosters in densely populated areas, and instead only operate in those locations where wireless coverage is weak or non-existent, the likelihood of location accuracy being substantially affected by a signal booster is already significantly mitigated. But for the use of a signal booster in such rural and remote areas, emergency calls may not be completed at all. In areas where wireless coverage is deficient or where a signal is

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<sup>35</sup> *Report and Order*, ¶ 85.

<sup>36</sup> *See* Petition, at 6-7.

<sup>37</sup> *See Report and Order*, ¶ 87.

blocked or shielded, signal boosters can enable the public to connect to 911 in an emergency where they may not have had such connectivity before.<sup>38</sup>

The record also shows that search and rescue teams often use signal boosters in mobile environments when on search and rescue missions, especially in rural and remote locations.<sup>39</sup> The proposals set forth in the Petition would necessarily limit such usage. Clearly, any potential problems that mobile consumer signal boosters may theoretically cause to 911 operations or E911 location accuracy are far outweighed by their demonstrated benefits to public safety. Any attempt to limit the use of consumer signal boosters in a mobile environment, therefore, would not be in the public interest.

**V. Antenna Kitting and Notice Requirements Should Not Be Modified**

The Petitioners also request that the Commission remove the separate requirement for antenna kitting for mobile provider-specific consumer signal boosters and modify the device labeling requirements based on the argument that such usage should not be allowed by the Commission.<sup>40</sup> For the reasons set forth above, the use of signal boosters in a mobile environment results in no more interference risk than they do in a fixed environment, and therefore, such usage should not be curtailed. As such, the Commission need not modify its antenna kitting or device labeling rules as proposed by the Petitioners. The Commission has already weighed all factors that impact the deployment of signal boosters and found that given the network protection standards it adopted, the use of carrier specific signal boosters is safe and of compelling benefit to consumers and licensees, regardless of whether such use is in a fixed or mobile setting.

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<sup>38</sup> See *Report and Order*, ¶ 85.

<sup>39</sup> See *Report and Order*, ¶ 8 and n.11 (describing public safety organizations' use of signal boosters to improve communications).

## VI. Conclusion

The rules contain a host of checks and balances, including numerous technical requirements, that will ensure that mobile carrier specific consumer signal boosters will be fundamentally safe and not cause harmful interference to carrier networks.<sup>41</sup> Licensees are adequately protected from interference by boosters in both fixed and mobile settings, and as such there is no reason to artificially limit the use of boosters in mobile settings. Nextivity respectfully urges that no changes are necessary to that framework for mobile boosters. Placing any further restrictions on such usage will not serve the public interest and will only serve to limit consumer choice and stifle innovation.

Respectfully submitted,

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Dated: June 21, 2013

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<sup>40</sup> See Petition, at 9-10.

<sup>41</sup> Further, the operation of signal boosters under the Report and Order is always on a secondary, non-interfering basis. See *Report and Order*, ¶ 43. Should interference be detected, license holders have established channels available to notify the Commission of such interference and for the Commission to take the necessary actions.

**Certificate of Service**

I, Jeffrey R. Strenkowski, hereby certify that on this 21st day of June 2013, a copy of the foregoing Opposition as filed with the Federal Communications Commission was sent via first class mail, postage prepaid, to the following:

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