

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

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

**REPLY COMMENTS OF THE DAS FORUM (A MEMBERSHIP SECTION OF PCIA—
THE WIRELESS INFRASTRUCTURE ASSOCIATION)**

I. INTRODUCTION

The DAS Forum, a membership section of PCIA—The Wireless Infrastructure Association, hereby submits these reply comments to the Federal Communications Commission’s (“FCC” or “Commission”) *Notice of Proposed Rulemaking*¹ in the above-captioned proceeding. The DAS Forum – whose membership includes virtually every major neutral host outdoor and indoor distributed antenna system (“DAS”²) provider, as well as manufacturers of equipment used in the wireless service sectors, several commercial mobile radio service (“CMRS”) carriers currently deploying DAS as part of their networks, and many wireless infrastructure industry representatives – supports the Commission’s goal to “create appropriate incentives for carriers and manufacturers to collaboratively develop robust signal boosters that do not harm the network.”³

¹ In re 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*, FCC 11-53, WT Docket No. 10-4 (Apr. 5, 2011) (“*NPRM*”).

² DAS is a network of spatially separated antenna nodes connected to a common source via a transport medium that provides wireless service within a geographic area or structure. DAS antenna elevations are generally at or below the clutter level and node installations are compact. See <http://thedasforum.org/>, last visited August 24, 2011.

³ *NPRM* at ¶ 2.

However, we caution the Commission, as it considers possible rules and regulations on the manufacture and operation of signal boosters, to recognize the pronounced differences in signal boosters and their use beyond mere mobile and fixed boosters. The DAS industry, which utilizes professionally installed and operated fixed boosters in both outdoor and in-building DAS deployments, continues to coordinate with licensees on the installation and operation of boosters in order to mitigate interference and ensure the highest quality service for its customers. A one-size-fits-all regime for fixed boosters fails to account for this coordination and may ultimately upset an efficient and effective industry-wide standard. In light of this important balance, The DAS Forum urges the Commission to adopt a more tailored approach to licensing and regulation of professionally installed and operated boosters.

II. THE RECORD CONFIRMS THAT THE COMMISSION SHOULD DISTINGUISH PROFESSIONALLY INSTALLED AND OPERATED FIXED BOOSTERS

As The DAS Forum indicated in its initial comments, the Commission's rules must differentiate between professionally installed and operated fixed boosters used in enterprise-level applications and consumer, end-user applications for fixed boosters.⁴ Several commenters argue, and The DAS Forum agrees, that the Commission must take action to curb the damaging interference to wireless networks caused by unauthorized signal boosters.⁵ However, the Commission must precisely delineate between problematic, unauthorized boosters and professionally installed and operated fixed boosters, such as those commonly used in DAS networks.

⁴ See Comments of The DAS Forum, WT Docket 10-4, at 5 (filed July 25, 2011) ("July 25 DAS Forum Comments").

⁵ See, e.g., Comments of CommScope, WT Docket 10-4, at 2-3 (filed July 25, 2011) ("Commscope Comments"); Comments of CTIA-The Wireless Association, WT Docket 10-4, at 2-12 (filed July 25, 2011) ("CTIA Comments").

As The DAS Forum notes, professionally installed and operated boosters are coordinated with the licensee whose signal will be retransmitted, and are, therefore, not unauthorized.⁶ Accordingly, The DAS Forum's proposed mandatory Industry Code of Conduct reflects a DAS industry-wide coordination process that has been effective in assisting licensees and fixed booster operators in managing wireless networks and mitigating harmful interference.⁷ Similar to The DAS Forum proposal, Verizon Wireless and Wilson Electronics, Inc. argue in their Joint Proposal that the regulation of consumer boosters and professionally installed and operated fixed boosters must be differentiated.⁸

Specifically, the Joint Proposal outlines separate regulatory frameworks for "Certified Engineered and Operated" ("CEO") boosters and consumer boosters.⁹ Defined as larger, higher powered signal boosters designed for large offices, campuses, and similar settings that require professional installation and close carrier coordination,¹⁰ CEO boosters mirror those utilized by DAS providers in both in-building and outdoor DAS networks and referred to in these comments as professionally installed and operated boosters. Conversely, consumer boosters are defined as both small fixed and mobile signal devices that can be purchased, installed and used by consumers.¹¹ These end-user applications for fixed boosters should be delineated from professionally installed and operated boosters.

As Verizon Wireless and Wilson Electronics argue and the DAS Forum agrees, professionally installed and operated fixed boosters, such as CEO boosters, are best left to

⁶ See *supra* section III.A; see also July 25 DAS Forum Comments at 5-6.

⁷ See Comments of the DAS Forum, WT Docket 10-4, at app. A (filed Feb. 5, 2010); See Petition of the DAS Forum, WT Docket 10-4, at app. A (filed Oct. 23, 2009) ("DAS Forum Petition") (The Code of Conduct "reflect[s] the licensee coordination process that takes place between licensees and DAS providers at each installation").

⁸ See Ex Parte Letter of Verizon Wireless and Wilson Electronics, Inc., WT Docket 10-4, at 1-2 (filed July 25, 2011).

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

industry standards and practices, including the coordination of their use with licensees.¹² For this reason, The DAS Forum's Code of Conduct, outlining and expanding upon current industry standards and practices for professionally installed and operated boosters, allow the industry to work together to ensure that harmful interference is prevented or mitigated. A rigid regulatory regime that dictates technical requirements for professionally installed and operated fixed boosters is not in the public interest as it will burden the deployment of DAS networks that rely on such boosters. For these reasons, The DAS Forum urges the Commission to carefully delineate between those boosters in need of regulation and those currently thriving under industry standards, such as professionally installed and operated fixed boosters.

III. COORDINATION WITH LICENSEES IS THE MOST EFFECTIVE METHOD TO MITIGATE INTERFERENCE AND ENSURE COMPETITION

As The DAS Forum highlighted in its filings in this proceeding, effective coordination between professional installers and operators of fixed boosters and licensees allays most of the concerns over the use of fixed booster in DAS networks.¹³ Any regulation that grants licensees significant authority in the use of boosters may also, in effect, grant de facto market power and anti-competitive advantages in an otherwise robust and competitive DAS market. Consistent with its recent action to remove unnecessary regulations,¹⁴ the Commission should not create regulations for professionally installed and operated fixed boosters that would supplant established, effective industry practices.

¹² *Id.*

¹³ *Id.* at 3; Comments of the DAS Forum, WT Docket 10-4, at app. A (filed Feb. 5, 2010); DAS Forum Petition at app. A.

¹⁴ *See, e.g.*, FCC News Release, FCC Chairman Genachowski Continues Regulatory Reform To Ease Burden on Businesses; Announces Elimination of 83 Outdated Rules, (rel. Aug. 22, 2011)(citing Improving Regulation and Regulatory Review, Executive Order No. 13,563, 76 F.R. No. 14 at 3821-3823 (January 21, 2011).

A. Commission Regulations Should Reflect Existing, Effective DAS Industry Coordination

Commenters argue that licensee consent is necessary to operate a signal booster, including fixed boosters.¹⁵ The DAS Forum notes, and others echo, coordination of the installation and operation of a fixed booster with a licensee constitutes consent.¹⁶ As a matter of routine business practices, DAS providers coordinate the use of fixed boosters with the licensee whose signal they then retransmit. Should the Commission find that licensee consent is required for the operation of a professionally installed and operated fixed booster, The DAS Forum urges the Commission to do so in a manner that captures the existing and effective coordination practice prevalent in the industry. When professionally manufactured fixed signal boosters are installed and operated by professionals, licensee consent can include a letter, email, or other record sent from a licensee or agent of a licensee to an operator, owner, or installer of a fixed signal booster acknowledging that the fixed signal booster will retransmit the specified frequency bands of the licensee. The DAS Forum detailed this process in its Industry Code of Conduct, which “is rooted in long-standing industry practices that can be implemented without resorting to a lengthy process of creating complex technical standards.”¹⁷ As noted above, the Code applies to professionally installed and operated fixed boosters.

Citing interference from boosters, a few commenters also express concern over a licensee’s ability to manage its network and urge the Commission to grant licensees complete control over boosters.¹⁸ Once more, effective coordination typical to the DAS industry obviates the need for costly and burdensome requirements. Through coordination with the operator, the licensee will have sufficient control over professionally installed and operated fixed boosters.

¹⁵ See, e.g., Commscope at 3. See also Ex Parte Letter of the DAS Forum, WT Docket 10-4, at 1-2 (filed Jan. 20, 2011) (“DAS Forum Ex Parte”).

¹⁶ DAS Forum Ex Parte at 1-2. See, e.g., CommScope at 6-7;

¹⁷ DAS Forum Petition at 6.

¹⁸ CTIA Comments at 15.

Consistent with The DAS Forum’s Code of Conduct, when harmful interference is detected the licensee can quickly determine the location of the problem and contact the operator to address the problem.¹⁹ The information exchanged as part of the coordination process facilitates this cooperation, which in turn addresses any instance of interference caused by a professionally installed and operated fixed booster.²⁰

Building owners and neutral host DAS providers are similarly concerned about any interference issues that signal boosters may cause. Interference with a licensee’s network ultimately defeats both the capacity- and coverage- improving purpose of DAS networks. In turn, the vital service provided by the in-building DAS owner to its customers – whether licensees on its system, building owners, or building occupants – will be compromised to the detriment of its business. In sum, neutral host DAS providers, building owners, and others that use professionally installed and operated fixed boosters have an incentive to continue coordination with the licensee on the operation of fixed boosters.

B. The Commission Must Not Allow Interference with Effective Competition

In the in-building DAS market, licensees, neutral host DAS providers and building owners may all build their own DAS networks and lease space to CMRS providers seeking to address coverage and capacity concerns. While coordination with licensees is currently an efficient process for DAS providers and licensees, it is possible for licensee consent to be used as a tool for market manipulation or anti-competitive behavior. Because the success of any in-building neutral host DAS network is reliant on licensee coordination and consent for operation,

¹⁹ DAS Forum Petition at 8.

²⁰ As noted by CommScope and by The DAS Forum in its Petition for Rulemaking, the information necessary for effective coordination with licensees is minimal. It should include the FCC certification number of the fixed booster, the location of the booster, and the 24-hour contact information of the operator. *See* CommScope at 6.

it is possible that the opportunity may arise for a licensee to require unreasonable or unfair terms, or otherwise withhold consent.

In light of this possible market advantage for licensees, the Commission should clarify what constitutes effective coordination.²¹ The record reflects the need for such clarification. For example, CommScope suggests the FCC require “a specific coordination process that includes a form of notice that should be provided to carriers to initiate the coordination process and a pre-defined set of information required to be provided between the parties.”²² CommScope also notes that “[t]he information that should be coordinated should be the minimum necessary to ensure efficient coordination.”²³ The DAS Forum agrees that any mandated coordination process should clearly set information requirements at the minimal amount necessary and provide guidance throughout the process.²⁴

As part of that guidance, The DAS Forum urges the Commission to establish timelines for the coordination process between licensees and professional booster installers and operators. Timelines ensure vital wireless infrastructure is not unnecessarily delayed and mitigate a licensee’s ability to use its consent as a market advantage. Consistent with DAS industry practices and outlined in The DAS Forums filings in this proceeding and the comments of CommScope, the information necessary for effective coordination with licensees should include the FCC certification number of the fixed booster, the location of the booster, and the 24-hour contact information of the operator. Informational requirements that go significantly beyond what is necessary for effective coordination may again give an unfair competitive advantage in a highly competitive DAS marketplace.

²¹ NPRM at ¶42.

²² CommScope at 6.

²³ *Id.*

²⁴ *See* DAS Forum Petition at 4.

IV. The Commission Should Allow for the Continued Use of Existing Professionally Installed and Operated Fixed Boosters

Requiring professional installers and operators to sunset existing fixed boosters from the enterprise systems they operate will not serve the public interest. Rather, the Commission should allow existing professionally installed and operated fix boosters that have been coordinated with the licensee to continue to provide wireless coverage and capacity. Contrary to the arguments of certain commenters,²⁵ forcing providers to replace equipment across their networks will add significant cost and compromise to the deployment of new systems that will deliver wireless services, including broadband to the public. To mandate a wholesale replacement of existing equipment would not only be highly costly to consumers and DAS providers, but it would also effectively take them offline while an unnecessary re-coordination is performed. Accordingly, The DAS Forum urges the Commission to allow existing boosters to continue to provide their vital services.

V. CONCLUSION

As the docket demonstrates, the wireless industry is best suited to implement standards for the use and coordination of professionally installed and operated fixed boosters, such as those used in DAS networks. However, the Commission must not implement rules that will allow one segment of the wireless industry an unfair competitive advantage over another. The current DAS industry practice of coordination with licensees is the most effective manner to mitigate harmful interference caused by malfunctioning professionally installed and operated boosters, and the Commission should recognize as much by adopting The DAS Forum's proposed Code of Conduct, which outlines the industry standard.

²⁵ CTIA Comments at 5, 11-12. Comments of Blooston Licensees, WT Docket 10-4, at 11-12 (filed July 25, 2011).

Respectfully submitted,

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OF PCIA – THE WIRELESS INFRASTRUCTURE
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August 24, 2011