

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

In the Matter of)	
)	
Petitions Regarding the Use of Signal)	WT Docket No. 10-4
Boosters and Other Signal Amplification)	
Techniques Used with Wireless Services)	

Reply Comments of ACUTA

ACUTA – The Association for Information Communications Technology Professionals in Higher Education (“ACUTA”) respectfully submits these reply comments in response to the Federal Communications Commission’s (“FCC”) public notice requesting comment on several petitions concerning the use of signal boosters on frequencies licensed under Parts 22, 24, 27 and 90 of the Commission’s rules.¹ ACUTA files these reply comments to highlight the specific issues of concern to the higher education community and, more generally, to institutions that operate in campus environments.

I. Introduction

ACUTA is a non-profit association whose members include approximately 750 institutions of higher education within the United States. ACUTA members include both large and small non-profit institutions of higher education, ranging from institutions with

¹ Public Notice, *Wireless Telecommunications Bureau Seeks Comment on Petitions Regarding the Use of Signal Boosters and Other Signal Amplification Techniques Used with Wireless Services*, WT Docket No. 10-4, DA 10-14, rel. Jan. 6, 2010. The reply comment period was extended by the Commission to March 8. See Public Notice, *Wireless Telecommunications Bureau Extends Period to File Reply Comments on Petitions Regarding the Use of Signal Boosters and Other Signal Amplification Techniques Used with Wireless Services*, WT Docket No. 10-4, DA 10-266, rel. Feb. 18, 2010.

several hundred students to major research and teaching institutions with greater than 25,000 students. ACUTA member representatives are responsible for managing voice, data and video communications technology services for students, faculty and staff on college and university campuses. As such, they have on-site expertise in many of these areas, including wireless, and/or have established relationships with the appropriate vendors and carriers.

ACUTA supports clarification of the rules concerning repeaters, boosters and other technologies that can extend the coverage of wireless networks. As mobile services become more and more central to modern communication, it is important that all interested parties know what they can and cannot do.

At the same time, ACUTA urges the Commission to recognize the needs of institutions, including colleges and universities, that operate in campus environments, where the varied wireless end-user customer base may use any or all of the available carriers in the area. As described below, these institutions have good reasons for needing to be able to extend wireless coverage, using their own expertise in the process, and depending on carriers only to the extent determined through the institutions' project planning process.

II. Colleges and Universities Have a Significant Interest in Maintaining the Ability to Extend Wireless Coverage on Their Campuses.

From ACUTA's perspective, the key considerations in this proceeding are that colleges and universities need to have wireless services available across their campuses and that distributed antenna systems ("DAS"), boosters and repeaters are important tools in creating the coverage they need. The reality is that, absent the availability of these tools, mobile communication on campus often is compromised.

ACUTA members have found that their campuses often do not have adequate wireless coverage. Sometimes the entire campus lacks adequate coverage, particularly for colleges and universities in remote areas; frequently just a portion of the campus is affected. Similarly, sometimes no carrier has adequate coverage but in other cases the issue is limited to a specific provider. In many cases, the coverage problems are particularly acute in tunnels, mechanical rooms and locations deep inside buildings; however, many campuses have coverage limitations even in areas that appear to have plain sight access to signals because of buildings or other obstructions. In practice, many of these coverage issues cannot be addressed through the deployment of conventional wireless towers and antenna systems. This is particularly true in areas with difficult terrain or where signals are blocked by buildings or other physical obstructions.

There is no question that it is inconvenient for campus users who do not have wireless coverage, but the concerns are more significant than that. Colleges and universities increasingly rely on mobile devices for a variety of purposes, ranging from communication with workers about maintenance needs or about work assignments to alerting students, faculty and staff in emergency situations.² The growth of smart phones has led students, faculty and staff to use these devices for many curricular and operational purposes. These uses include providing and obtaining access to educational content, scheduling meetings and conferences, interaction during classes and even checking on the schedules for campus shuttle buses.³ At the same time, campus environments often host

² These kinds of mobile alerts have become much more common since the Virginia Tech incident in 2007.

³ The use of mobile devices for curricular purposes is likely to become even more common as devices like the iPad and Kindle, which are designed to provide wireless access to books and other media, become integrated into the campus environment.

large numbers of visitors, both on a daily basis and for special events like football games and concerts, and both the visitors and the campus staff involved in running those events require access to wireless services during those times. Thus, good wireless coverage across the entire campus is very important, both to ongoing operations and to meeting critical safety-related needs.

Over the past several years, colleges and universities increasingly have begun to adopt integrated, interoperable solutions to address the issues raised by lack of wireless coverage. Because the issues vary from campus to campus, so do the solutions. In general, colleges and universities adopt solutions that address their specific needs, often in collaboration with individual carriers. Solutions also depend on the nature of the issue and the extent to which the campus is affected. If the problem affects much of the campus, it may be most effective to construct a DAS that covers the campus as a whole.⁴ In other cases, a repeater may address a specific coverage deficiency in a building or other facility.

Some solutions adopted by colleges and universities depend on carrier cooperation or installation by a third party, while others may not. A particularly complex solution, for instance, may be implemented by third parties or through carriers if the college or university lacks the expertise or funding to develop the solution itself. In other cases, either because the solution is simpler or because the college or university has the necessary expertise and resources, it can be more desirable not to directly involve carriers or other third parties, particularly if the need is immediate. Today, colleges and universities make individual determinations based on their needs and resources, and in

⁴ See Comments of the American Association of State Highway and Transportation Officials at 3 (discussing benefits of DAS deployments).

this way they can assure that the solutions they adopt are best adapted to their specific situations.

III. Whatever Other Steps the Commission Takes, It Should Ensure that Institutional Users Are Not Precluded from Addressing Coverage Issues on Their Campuses.

For the reasons described above, it is important for institutional users, and for colleges and universities in particular, to be able to address coverage issues in campus environments.

Consequently, whatever actions the Commission takes in this proceeding, it should ensure that institutional users retain the flexibility to adopt the best solutions for their specific situations.

A. The Commission Should Not Limit the Installation and Operation of Distributed Antenna Systems in Campus Environments.

First, it is important that the Commission not adopt any new regulations that limit the ability of institutional users to purchase, install and operate any DAS in a campus environment. DAS solutions are efficient and, critically, focused on the specific requirements of the locations where they are deployed. This is one reason that campus users increasingly are turning to DAS to solve their coverage needs. Many of these installations are carrier-neutral, intended to provide coverage for all carriers throughout the campus environment while minimizing the impact of antenna installation.

Whatever concerns are raised by the installation and operation of boosters and repeaters do not apply to installation and operation of a DAS. Most importantly, by definition, a DAS cannot operate without being interfaced with a carrier network, and therefore the operator of a DAS must collaborate with the carrier. Consequently, there is no meaningful risk of conflict between the operations of a DAS and the operations of a carrier's network.

While carriers necessarily are involved in the operation of a DAS, they should not be given approval or veto rights on the purchase and installation of a DAS, particularly a carrier-neutral DAS. There are several reasons to provide users with this freedom. Most important,

institutions are best suited to evaluate the needs of the users on their campuses and to balance those needs against other concerns about siting antennas, including aesthetics and safety issues. In addition, while it often is preferable to work with carriers from the outset, it is not always feasible or economically reasonable to do so.⁵ Moreover, because carriers may have different priorities than colleges or universities, requiring cooperation may result in delays in deployment or implementation. It also is the case that the level of carrier involvement required for an installation may vary widely, as will the timing. Notably, in neutral, multi-carrier DAS installations, full deployment may take several years as carriers are added. Requiring full carrier sign-off in these circumstances may effectively prevent the DAS from being deployed at all. Indeed, some carriers may have incentives to slow down deployment of a carrier-neutral DAS if they believe they have competitive advantages in specific locations.

Finally, whatever regulations the Commission adopts should encourage the deployment of a carrier-neutral DAS. A carrier-neutral DAS is much more efficient than having to deploy multiple carriers' own solutions. Carrier-neutral DAS also permits users to tailor the deployment to their specific needs and to focus coverage and capacity where they are needed most. In addition, a carrier-neutral DAS minimizes disruption during construction and deployment and ensures that all carriers have the opportunity to provide full coverage of the campus environment.

B. Any Other Regulations Should Focus on Actual Interference.

Much of the analysis in this proceeding centers on questions about the potential for interference from boosters and other similar devices. ACUTA submits that the Commission's focus should be on actual, not potential interference, and that any rules should be designed to address situations in which interference occurs, rather than situations in which it might occur.

⁵ See Comments of DAS Forum at 4-5 (describing considerations for DAS installations).

First, the Commission's rules should not presume that interference will result from the deployment of boosters and similar devices. Boosters and DAS that are installed and maintained properly and following appropriate consultations with carriers are unlikely to cause interference. There is little reason to assume that they are the source of interference problems. Moreover, during pre-installation consultations, discussions should be limited to the specific installation, and carriers should not be permitted to make approval contingent on some other action by the user.⁶

Carriers should not be allowed to force campus users to shut down signal-enhancing installations merely by claiming interference. Rather, if an apparent interference issue arises after installation, the parties should be required to collaborate and share information that will assist them in identifying and resolving the source of interference. It is important in this context to recognize that colleges, universities and other institutions have significant incentives to avoid interference because interference affects their users. Thus, they will address any legitimate interference issues. On the other hand, carriers' interests, which include seeking competitive advantages and controlling their assigned spectrum, may not be fully aligned with user interests. Consequently, it is important not to give their claims preclusive effect.

In addition, the Commission should consider whether to presume compliance if users conform to the DAS Forum code of conduct.⁷ The code provides a comprehensive approach to deployment of DAS, and addresses all of the relevant issues raised by carriers in this proceeding. As a result, compliance with the code effectively eliminates the risk of harmful interference. In

⁶ For instance, ACUTA is aware of anecdotal accounts of carriers implying that they will claim potential interference from existing installations to sway discussion over which type of wireless coverage solution should be employed.

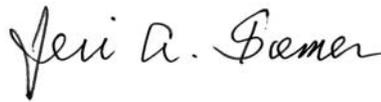
⁷ See Comments of DAS Forum at Appendix A.

that context, it is entirely appropriate for the Commission to presume that an installation that conforms to the code is non-interfering and compliant with the Commission's rules.

IV. Conclusion

For all of these reasons, the ACUTA respectfully requests that the Commission act in accordance with these reply comments.

Respectfully submitted,

A handwritten signature in black ink that reads "Jeri A. Semer". The signature is written in a cursive style with a large initial 'J' and a distinct 'S'.

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