

**Before the
Federal Communications Commission
Washington, DC 20554**

In Re)
)
Petitions Regarding The Use of Signal) **WT 10-4**
Boosters and Offer Signal Amplification)
Techniques Used with Wireless Services)

**Reply Comments of
United States Cellular Corporation**

United States Cellular Corporation ("USCC") hereby files its Reply Comments in the above-captioned proceeding. In our Comments, USCC asked the FCC to act expeditiously against the proliferation of unlawful wireless "boosters" by adopting rules which provide that signal boosters may only be deployed with the express written consent of wireless licensees. The comments filed in this proceeding provide overwhelming support for swift FCC action against signal boosters.

I. The Comments Demonstrate That Booster Interference Is A Large and Increasing Problem

USCC, in our Comments¹ described how boosters interfere with wireless service by increasing the "noise floor" of cell sites, and why FCC "certification" of boosters is not a sufficient safeguard against such interference, as well as providing eleven specific examples of destructive booster interference to USCC network operations. Other commenters echo those points.

Verizon Wireless provides an extensive discussion of the deleterious impact of boosters, describing how even properly designed and correctly functioning boosters will cause interference to wireless networks unless the boosters have been previously integrated into such networks. Verizon Wireless also demonstrates how its own networks have been harmed by destructive

¹ See Comments of United States Cellular Corporation ("USCC"), pp. 2-4, 5-8, filed February 4, 2010.

interference from boosters, referring to multiple instances of interference in different regions of the country.²

AT&T also sheds light on the severe problem of booster interference, citing 83 separate incidents of it in South Florida alone.³ AT&T also calls attention to the mobility of many signal boosters, which compounds the detection problem, and makes interference incidents difficult to track and document.⁴ The comments also provide evidence that the means put forward by such manufacturers as Wilson Electronics to prevent interference, such as oscillation and amplification control, do not reliably work.⁵

CTIA, in its Comments and accompanying scientific paper, makes the case that the damage from unauthorized boosters has proliferated since the filing of the petitions giving rise to this proceeding, underscoring the need for action.⁶ Further, CTIA places the booster controversy in a larger context, linking the booster issue to recent FCC proceedings dealing with other sources of interference with wireless network operation, such as signal "jamming devices" and low power auxiliary devices in the 700 MHz band, as well as describing other emerging interference threats to wireless networks, such as the "Magic Jack" product.⁷

Moreover, boosters operating in the 800 MHz band have also caused major problems for public safety entities charged with the duty to protect people's lives. Numerous public safety entities, including APCO and NENA, have filed comments expressing alarm at the threat posed

² Comments of Verizon Wireless, filed February 4, 2010, pp. 6-9, 14-17.

³ Comments of AT&T, Inc., filed February 5, 2010, pp. 30-31.

⁴ *Ibid.*

⁵ Verizon Wireless Comments, pp. 14-15.

⁶ Comments of CTIA-The Wireless Association, pp. 4-6, 9-12 and attached paper by Charles Jackson, *passim*.

⁷ CTIA Comments, pp. 6-9.

by improperly installed 800 MHz boosters and generally support the approach to booster regulation proposed by CTIA.⁸

The common thread in all those comments is that public safety and commercial wireless networks now face new and unprecedented levels of interference from interfering radiators operating on frequencies exclusively licensed, in theory, to public safety entities and wireless carriers. Such interference, unfortunately, cannot be dealt with merely by adopting "best practices" and by encouraging "cooperation," desirable as such actions are. Rules and enforcement action are also required to protect the integrity of those networks.

With respect to commercial wireless carriers, it is ironic that at a time when the demands on carriers to meet both public safety (e.g. E911) and customer service requirements, particularly with respect to data transmission, have never been greater, the amount of unlawful interference with which they must cope continues to increase. This situation has created an urgent need for FCC action to enable wireless carriers to provide the services which the public has a right to expect.

II. The FCC Can And Must Act Now To Protect Wireless Spectrum

In our Comments (pp. 4-5), USCC urged the FCC to adopt a declaratory ruling requiring written consent by wireless carriers to booster operations. That position has received overwhelming support in the comments.⁹ That breadth of support, among companies and trade associations representing diverse industry groups, and public safety entities, is itself impressive.

⁸ See, e.g., Comments of Association of Public Safety Communications Officials International, Inc. ("APCO Comments"), filed February 5, 2010, p. 3; Comments of National Emergency Number Association ("NENA Comments"), filed February 5, 2010; Comments of the County of San Bernardino, California, filed February 5, 2010; Comments of King County, Washington Regional Communications Board, filed February 5, 2010, pp. 2-3; Comments of Massachusetts State Police, filed February 5, 2010.

⁹ See, e.g., Comments of Wireless Communications Association ("WCAI"), filed February 5, 2010; Comments of Bird Technology Group ("BTG"), filed February 5, 2010; Ex Parte Letter of AT&T, Inc. ("AT&T Ex Parte Letter"), filed February 2, 2010, pp. 1-8; Comments of Sprint Nextel Corporation ("Sprint Comments"), filed February 5, 2010, pp. 1-9; NENA Comments; Verizon Wireless Comments, pp. 9-14, 19-24; CTIA Comments, pp. 9-27.

Moreover, the arguments made in those comments make a very strong case for the FCC's power and duty to act now.

For example, various commenters have shown that licensee consent is required under existing law to operate a signal booster.¹⁰ Section 301 of the Communications Act and Sections 1.903 and 22.3 of the FCC's Rules provide solid support for an FCC declaratory ruling on this point.¹¹ Moreover, the comments also demonstrate strong support in the statute and in FCC regulations that the sale of signal boosters to unauthorized persons should be declared illegal, based on years of Enforcement Bureau precedents.¹² The comments also provide definitive refutations of the arguments made by Wilson Electronics, Inc. in its Petition for Rulemaking to the effect that improved FCC certification methods will solve the problem of booster interference and that the FCC lacks sufficient authority to act now pursuant to its declaratory ruling authority.¹³

III. The FCC Should Act By Whatever Means Are Most Efficient

In our Comments, USCC urged the FCC to act against unauthorized wireless boosters in accordance with its existing statutory and regulatory authority. The comments cited above provide a strong legal underpinning for any action the FCC may wish to take now.

However, one commenter, also concerned with unlawful booster operation, believes that the FCC should institute a rulemaking proceeding to deal with this issue.¹⁴ Another commenter

¹⁰ CTIA Comments, pp. 12-17; WCAI Comments, pp. 12-14; AT&T Ex Parte Letter, pp. 3-5; Verizon Wireless Comments, pp. 9-14.

¹¹ 47 U.S.C. § 301 ("No person shall use or operate any apparatus for the transmission of energy or signals by radio ... except under and in accordance with this Act and with a license in that behalf granted under the provisions of this Act."); 47 CFR § 1.903, 22.3 (these sections provide that "stations" can "be used and operated only in accordance with valid authorization granted by the Commission.").

¹² CTIA Comments, pp. 17-22; Verizon Wireless Comments, pp. 19-22; Comments of Motorola, Inc., filed February 5, 2010, p. 1.

¹³ CTIA Comments 22-27; AT&T Ex Parte Opposition, pp. 1-8; Motorola Comments, pp. 2-4.

¹⁴ See e.g., Comments of DAS Forum, filed February 5, 2010, pp. 2-4.

has distinguished between CMRS frequency boosters and boosters on PMRS frequencies in determining whether a rulemaking is necessary.¹⁵

It may be that the Commission will consider it reasonable to commence a rulemaking proceeding, given the inevitable complexity of applying a new regime to FCC-certificated devices. However, if the FCC chooses to do this, we ask that the rulemaking be expedited and not be lost in the blizzard of rulemaking proceedings likely to follow the issuance of the FCC's Report on the National Broadband Plan on March 17, 2010. In any such proceeding, we also ask that the FCC amend its current regulations, if necessary, or adopt new regulations, grounded in the authority of Section 301 of the Act, to make it crystal clear that interference by wireless boosters with wireless network operations is unlawful and that booster operation must be subject to wireless carrier consent.

In assessing these issues, that FCC should be mindful that robust wireless networks, operating free of harmful interference, will be indispensable to achieving any and all of the FCC's goals for wireless broadband. Protecting and enhancing those networks should be the FCC's first task as a regulator of broadband access.

Boosters can enhance wireless network efficiency and help carriers provide better service to the public. However, they can do that if and only if their installation is subject to the consent of local wireless carriers. That is the lesson taught by the instructive and useful comments in this proceeding. Action on boosters is long overdue and the instant proceeding offers the FCC an opportunity, at last, to move forward. The Commission should take it.

¹⁵ Motorola Comments, pp. 1, 6-9.

Conclusion

For the foregoing reasons and those given in the comments we cite, the FCC should adopt a declaratory ruling or adopt new rules protecting wireless service from destructive interference by wireless signal "boosters."

Respectfully submitted,

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