

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

In the Matter of)	
)	
Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band)	WT Docket No. 08-166
)	
Public Interest Spectrum Coalition, Petition for Rulemaking Regarding Low Power Auxiliary Stations, Including Wireless Microphones, and the Digital Television Transition)	WT Docket No. 08-167
)	

COMMENTS OF VERIZON WIRELESS

Verizon Wireless respectfully submits these comments in response to the Commission’s *Notice of Proposed Rulemaking and Order* (“NPRM”), which proposes amendments to the Commission’s rules to make clear that the operation of low power auxiliary stations will not be permitted in the 698-806 MHz (“700 MHz”) band after television stations are transitioned to digital technology on February 17, 2009 (“DTV transition date”).¹ Verizon Wireless supports the Commission’s proposal, and urges it to take all steps necessary to ensure that such devices cease operations in the 700 MHz band and that the spectrum is fully available to public safety and commercial licensees at the end of the DTV transition.

¹*In the Matter of Revisions to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band (WT Docket No. 08-166)*, Notice of Proposed Rulemaking and Order (“NPRM”), FCC 08-188 (rel. Aug. 21, 2008).

I. Introduction and Summary

The DTV transition promises to bring substantial benefits to the public in the form of better television, advanced wireless services, and improved communications for first responders. Some public safety agencies have already begun to deploy new interoperable emergency communications systems in the 700 MHz band, and more will benefit from additional systems deployed in the future. Earlier this year, the FCC conducted an auction for licenses in the portion of the band set aside for commercial use. That auction, which raised more than \$19 billion for the U.S. Treasury, provides important spectrum resources that will promote the deployment of advanced 4th generation (“4G”) wireless technologies and services in the next few years.² Because of its favorable propagation characteristics, the 700 MHz spectrum will enable commercial operators and public safety agencies to deploy systems that provide more extensive coverage, including in areas where there is limited or no service available today.

The Commission previously concluded that it is required to “take all the steps necessary to make this spectrum effectively available both to public safety as well as commercial wireless services,”³ and this obligation was reaffirmed in the NPRM.⁴ However, the Commission cannot accomplish this objective if low power auxiliary

² Verizon Wireless acquired 109 licenses in the 700 MHz band at a cost of \$9.4 billion, and plans to use the spectrum to deploy 4G services beginning with testing in 2009 and continuing with wide-scale commercial deployment in 2010.

³ *In the Matter of Service Rules for the 698-746, 747-762 and 777-792 MHz Bands (WT Docket No. 06-150)*, Report and Order and Further Notice of Proposed Rulemaking (“700 MHz First Report and Order”), *FCC 07-72 (rel. Apr. 27, 2007)* at ¶2.

⁴ *NPRM* at ¶1 and ¶9.

stations are allowed to continue to operate in the 700 MHz band because such operations would create a significant risk of harmful interference that would diminish the use of the spectrum for both commercial and public safety purposes. As a result, we support the Commission's clarification that operations will not be permitted after the end of the DTV transition. We also support the Commission's related proposals, which include (1) a prohibition on the manufacture, import, sale, offer for sale, or shipment of low power auxiliary stations operating in the 700 MHz band; and (2) modification of existing licenses authorizing such devices, to stipulate that operation in the band is no longer permitted.

II. Operation of Low Power Auxiliary Stations in the 700 MHz Band Would Cause Harmful Interference to Commercial and Public Safety Systems.

There is a significant potential for low power devices operating in the 700 MHz band to cause harmful interference to existing and planned public safety and commercial systems operating in the band. The Commission recognized this interference potential when it adopted an order prohibiting the operation of unlicensed TV band ("White Space") devices in the 700 MHz band,⁵ and reaffirmed its intent to prohibit incompatible licensed uses of the spectrum (including low power auxiliary stations) in two other proceedings related to the DTV transition.⁶

⁵ *In the Matter of Unlicensed Operation in the TV Broadcast Bands (ET Docket No. 04-186)*, First Report and Order and Further Notice of Proposed Rulemaking ("White Space Order"), FCC 06-156 (rel. Oct. 18, 2006).

⁶ *In the Matter of Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)*, GN Docket No. 01-74, Report and Order, 17 FCC Rcd at 1037 ¶33 (2002); and *In the Matter of Revisions to Broadcast Auxiliary Service Rules in Part 74 and Conforming Technical Rules for Broadcast Auxiliary Service, Cable Television Relay Service and Fixed Services in Parts 74, 78, and 101 of the Commission's Rules*, Report and Order, 17 FCC Rcd 22979, 23035-37 ¶¶ 150-155.

If low power auxiliary stations are permitted to continue to operate at 700 MHz, there would be a significant risk of harmful interference to commercial and public safety mobile systems. Despite their “low power” status, the interfering signals from broadcast auxiliary devices (which are permitted to operate up to 250 milliwatts) would be strong enough to disrupt the operations of both mobile and base station receivers. While the impact of such interference would vary depending on a variety of factors, the potential impacted area could be extensive.

According to V-COMM, L.L.C., a wireless engineering consulting firm with expertise in mobile systems design and interference analysis, interference from low power auxiliary stations would result in very large “dead zones” around those auxiliary stations where service to mobiles and portables would not be possible.⁷ This would result in an effective lack of coverage for wireless communications systems. V-COMM predicts that interference to mobile receivers (either commercial or public safety) would occur even if the receivers were 400 meters (1300 feet) away from the low power auxiliary device.⁸ It notes that the potential for interference into base station receivers would be even more severe, with harmful interference occurring when the device is as far away as 3300 meters (approximately two miles) from the base station.⁹

V-COMM concludes that the 700 MHz band is extensively used by low power auxiliary devices such as wireless microphones, and that the risk of harmful interference is significant. This conclusion is supported by the *Informal Complaint and Petition for*

⁷ See Report of V-COMM, L.L.C., filed in response to NPRM, WT Docket No. 08-166 (“V-COMM Report”), filed October 1, 2008, at 7.

⁸ *Id* at 6.

⁹ *Id* at 7.

Rulemaking recently filed by the Public Interest Spectrum Coalition (“PISC”).¹⁰ In its petition, PISC observes that the use of the 700 MHz band by wireless microphones, especially unauthorized use by ineligible users, has become widespread. It concludes that such use “creates a danger to the public safety and commercial systems that will operate on Channels 52-69 following the transition to digital television,” because the users of these devices “will be unable to avoid operating on the same frequencies as public safety and commercial wireless services, even where they are aware of the danger and actively trying to avoid causing harmful interference.”¹¹

Verizon Wireless has not yet completed testing to determine the extent to which the 700 MHz band is utilized by low power auxiliary stations, or the specific impact that interference from operations of those stations would have on its planned operations of commercial mobile systems. However, the information provided by V-COMM and PISC suggest that the use of low power auxiliary devices at 700 MHz is extensive and would pose a significant risk of harmful interference to Verizon Wireless’ planned operations in the 700 MHz band.

III. The Commission Should Prohibit Operations of Low Power Auxiliary Stations in the 700 MHz Band.

Given the significant potential for harmful interference, we concur with the Commission’s proposal to prohibit the operation of low power auxiliary stations in the 700 MHz band. It is simply not sufficient to rely on the secondary status of these devices

¹⁰ See Informal Complaint and Petition for Rulemaking, Public Interest Spectrum Coalition, (filed July 16, 2008) (“PISC Petition”).

¹¹ *PISC Petition* at iv.

to ensure that they operate on a non-interfering basis. Given the irregular and nomadic operations of these devices and the inherent difficulty in identifying the source and location of the interference, the only way to prevent harmful interference is to prohibit their operations in the 700 MHz band altogether.

We support the Commission's immediate imposition of a freeze on the filing of new license applications that seek to operate on any 700 MHz band frequencies after the end of the DTV transition and on granting any request for equipment authorization of low power auxiliary station devices using the 700 MHz band.¹² And, we support the Commission's decision to hold in abeyance, until the conclusion of this proceeding, any pending license applications and equipment authorization requests that involve use of the 700 MHz band by such devices.¹³

However, given the claim made by PISC (which V-COMM's analysis confirms) that there are a substantial number of unauthorized low power auxiliary stations operating in the 700 MHz band, freezing the FCC's licensing process is not likely to be sufficient to curtail the proliferation of such devices or the significant risk of harmful interference to commercial and public safety systems. It is imperative that the Commission take action promptly to prohibit the use of the 700 MHz band beyond the DTV transition date by any authorized or unauthorized low power auxiliary station. Consequently, in addition to modifying the existing licenses of those authorized to operate such stations – to stipulate that operations is no longer permitted in the 700 MHz band – the Commission should expressly prohibit the manufacture, import, sale, offer for sale, or shipment of low power

¹² *NPRM* at ¶3.

¹³ *Ibid.*

auxiliary stations operating at 700 MHz, and should be prepared to take swift enforcement action against those that violate those prohibitions.

The PISC Petition contends that the wide proliferation of unauthorized wireless microphones in the 700 MHz band is a direct result of the illegal practices of certain manufacturers of wireless microphones who have marketed and sold such devices to unauthorized users (such as houses of worship, theaters and corporate event venues) for ineligible purposes in violation of Part 74, Subpart H of the Commission's rules.¹⁴ PISC asks the Commission to begin an investigation of the activities of those manufacturers and, if appropriate, to require them to replace all illegal low power auxiliary devices with devices designed to operate outside the 700 MHz band.¹⁵ It notes that such action is necessary to prevent harmful interference to public safety or commercial licensees.

Verizon Wireless cannot attest to the claims made by the PISC against certain manufacturers of wireless microphones. However, we agree with PISC that there is a substantial risk of harmful interference from the continued operations of wireless microphones and other low power auxiliary devices in the 700 MHz band, and that any manufacturer that promoted unauthorized uses of such devices in violation of the law should be held accountable. As already noted, deployment has already begun for some public safety communications systems utilizing the 700 MHz spectrum, and full scale commercial deployment is expected to begin soon after the DTV transition is completed early next year. It is imperative that the Commission take prompt action to ensure that all authorized and unauthorized uses of the spectrum by low power auxiliary stations ceases

¹⁴ *PISC Petition* at v-vi.

¹⁵ *Id* at i.

once that transition has occurred, to avoid any harmful interference to commercial and public safety systems. PISC's suggested approach, which would hold culpable manufacturers accountable for remedying the situation and replacing illegal wireless microphones with new devices that are designed to operate using spectrum outside the 700 MHz band, would appear to be the only effective remedy for accomplishing the Commission's overarching objective in this proceeding.

IV. CONCLUSION

Verizon Wireless urges the Commission to promptly adopt rules that would prohibit the manufacture, import, sale, offer for sale, or shipment of low power auxiliary stations operating in the 700 MHz band, and to modify existing licenses held by those authorized to use such devices, to stipulate that operation in the band is no longer permitted. In addition, we urge the Commission to investigate the illegal marketing and sales practices of manufacturers that may have misled users of unauthorized wireless microphones and to require those manufacturers responsible for such practices to replace existing equipment with equipment that operates outside of the 700 MHz band.

Respectfully submitted,

By: /s/ John T. Scott, III
John T. Scott, III
Vice President and Deputy
General Counsel – Regulatory Law
Verizon Wireless
1300 I Street, N.W., Suite 400W
Washington, DC 20005
(202) 589-3760

/s/ Donald C. Brittingham
Donald C. Brittingham
Assistant Vice President – Spectrum
& Wireless Policy
1300 I Street, N.W., Suite 400W
Washington, DC 20005
(202) 589-3785

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