

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

In the Matter of)
)
The Creation of a Spectrum Sharing) **ET Docket No. 06-89**
Innovation Test-Bed)
)

**REPLY COMMENTS OF
SHURE INCORPORATED**

Shure Incorporated ("Shure"), by its attorneys, is pleased to submit these Reply Comments in response to the Commission's Public Notice released June 8, 2006 in the above-captioned matter.¹ Shure is concerned that several commenters suggest the so-called "white spaces" in the television broadcast bands would be a viable location for the Test-Bed. This spectrum is already heavily populated with a variety of important incumbent users, posing significant challenges for deploying the Test-Bed there. Shure is also disturbed that a few commenters are trying to convert what is intended to be a safe haven for innovation into a spectrum giveaway. Finally, Shure has some additional comments on administration of the Test-Bed to increase its utility. Shure addresses these issues in greater detail below.

I. Many Hurdles Must Be Cleared to Establish a Test-Bed in the "White Spaces"

Several commenters suggest that the "white spaces" are a viable home for the Test-Bed.² However, these commenters have not thoroughly analyzed the incumbent services in these

¹ *Public Notice*, Federal Communications Commission Seeks Comment on the Creation of a Spectrum Sharing Innovation Test-Bed, FCC 06-77, rel. June 8, 2006 ("*Public Notice*").

² *See* Comments of M2Z Networks, Inc., filed in ET Docket No. 06-89 on July 11, 2006 at p 11; Comments of the Software Defined Radio Forum filed in ET Docket No. 06-89 on July 10 at p 7; Comments of Motorola, Inc., filed in ET Docket No. 06-89 on July 10, 2006 at p 6; Comments of Shared Spectrum Company filed in ET Docket No. 06-89 on July 10, 2006 in Appendix A; and Comments of Adapt4 LLC, filed in ET Docket No. 06-89 on July 10, 2006 at p 2.

bands. The “white spaces” are densely populated with important incumbents whose operations could be severely affected by the introduction of potentially high-powered experimental devices. In addition to broadcasters, the “white spaces” are occupied by low power television stations, television translators, television booster stations, and broadcast auxiliary devices such as those manufactured by Shure.³ Furthermore, grandfathered medical telemetry devices operate widely in channels 7 - 46, in certain markets Private Land Mobile Radio Service (“PLMRS”) and Commercial Mobile Radio Service (“CMRS”) devices occupy channels 14 – 20, and radio-control devices operate above 70 MHz throughout the “white spaces” with the exception of channel 37.⁴ Most of above referenced incumbents of the “white spaces” are particularly susceptible to interference because they are relatively low powered. Significant precautions would need to be taken to ensure that these important incumbent services and devices would not be disrupted or adversely affected in any way before designating any part of the “white spaces” spectrum for the Test-Bed.

Moreover, the transition to digital television (“DTV”) requires a continuing regrooming of the “white spaces.” Fundamental spectrum assignment issues and DTV operational issues are currently unsettled and in a state of flux, complicating finding available spectrum in the “white spaces.” Further, introducing the Test-Bed into the “white spaces” while on the cusp of the analog to digital television broadcast transition presents unknown and potentially serious risks. Assurance would be needed that any Test-Bed experiments would fully protect DTV transmissions and DTV receivers.

³ *Unlicensed Operation in the TV Broadcast Bands*, ET Docket Nos. 04-186, 02-380, Notice of Proposed Rulemaking (released May 25, 2004).

⁴ *Id.* at pp. 3-4.

To the extent that the “white spaces” are identified for the Test-Bed, their use should be conditioned on the Test-Bed experiments reasonably relating to “white spaces” spectrum-sharing issues. For example, the FCC has an open proceeding proposing to introduce unlicensed devices into the “white spaces,” ET Docket No. 04-186. Any use of the “white spaces” for the Test-Bed should be conditioned on using the Test-Bed either for spectrum-sharing issues raised by ET Docket No. 04-186, or for other spectrum-sharing issues specifically involving “white spaces” incumbents.

To be successful, the proposed Test-Bed must be deployed in thoroughly qualified RF bands to prevent otherwise valuable experiments from creating harmful interference. The FCC and NTIA should strive to identify RF bands without significant incumbent users, and in the event that testing occurs in an already heavily occupied band like the “white spaces,” the FCC and NTIA must identify and protect all incumbent users. This is critical for whatever spectrum band is chosen for the Test-Bed, in order to avoid undermining the significant financial and other investments that manufacturers, operators and consumers have already made in existing spectrum uses.

II. The Test-Bed Is To Foster Innovation, Not Create a Spectrum Giveaway

The FCC and NTIA have clearly stated that the Test-Bed’s objective is to “evaluate innovative methods for spectrum sharing among disparate users to enable more intensive use of the finite radio spectrum.”⁵ The FCC and NTIA further elaborated that the Test-Bed should be an opportunity “to undertake one or more studies and experiments to test [spectrum sharing technologies].”⁶ Regrettably, despite these plainly stated objectives, some commenters appear to

⁵ *Public Notice*, at p. 1.

⁶ *Id.*

view the Test-Bed as a mechanism to reassign themselves highly desirable RF spectrum at little or no cost by completely bypassing long-standing federal and perhaps international regulatory processes.⁷ The FCC and NTIA should reject these attempts to convert the Test-Bed into a spectrum giveaway. The opportunity to use the Test-Bed for its intended purpose, *testing*, will motivate qualified parties to participate without further inducements or incentives.

III. Openness and Coordination Will Increase the Test-Bed's Utility

In its initial comments, Shure urged the FCC and NTIA to mandate open testing to minimize potential bias and to facilitate prompt use of results obtained through the Test-Bed for both current and future projects. In this vein, Shure recommends that the FCC and NTIA create a central database with documentation of all Test-Bed experimentation results. This will facilitate public access to test results, while keeping interested parties apprised of the experiments' status. The FCC and NTIA should also establish a process to avoid overlapping tests. Care should be taken to prevent multiple testers from operating in the same Test-Bed spectrum and causing interference to each other such that their results could be invalid or inconclusive. Instead, similar tests should be consolidated whenever possible. Similarly, FCC and NTIA should strive to coordinate testing among competing interests. For example, where a new entrant seeks access to spectrum used by an incumbent, coordinating testing between the

⁷ Commenter Adapt4 states that if its testing were successful, "it would seek the FCC's and NTIA's support in a rule change that would allow [Adapt4's] technology to be used on a permanent basis" in one of the bands Adapt4 identifies for the Test-Bed. *See* Comments of Adapt4 LLC, filed in ET Docket No. 06-89 on July 10, 2006 at p 13.

The Shared Spectrum Company ("SSC") suggests that the FCC and NTIA "allow[] long-term secondary access to certain [Test-Bed] bands beyond the two-year experimental license period" proposed by SSC. SSC further suggests that the FCC use "marketplace incentives" to encourage testing, and dismisses "concerns that allowing experimental field testing [in the Test-Bed] to progress to full-scale commercial deployment might inhibit other future uses of the band." *See* Comments of Shared Spectrum Company filed in ET Docket No. 06-89 on July 10, 2006 at p. 12.

new entrant and incumbent may help the parties reach an overall solution more quickly. All of these efforts will promote efficient testing and accurate reporting of test results, which will enhance the utility of the Test-Bed making it a more effective tool to promote efficient spectrum use.

IV. Conclusion

Shure supports the spectrum Test-Bed initiative and believes it may prove to be a valuable tool to promote more efficient use of spectrum. Shure cautions that the Test-Bed spectrum, especially any spectrum in the “white spaces,” must be chosen carefully to protect incumbent users and avoid interference to incumbent services. The FCC and NTIA must ensure that the purpose of the Test-Bed -- to test spectrum-sharing technologies -- is honored and not undermined by parties seeking to circumvent the regulatory process to obtain free spectrum. Finally, Shure urges the FCC and NTIA to adopt administrative procedures that promote open, efficient testing as described herein.

Respectfully submitted,

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