PUBLIC NOTICE

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FEDERAL COMMUNICATIONS COMMISSION DESIGNATES SPECTRUM AND PROVIDES GUIDANCE FOR PARTICIPATION IN A SPECTRUM SHARING INNOVATION TEST-BED

Commissioners Copps and Adelstein issuing separate statements.

ET Docket No. 06-89

The Federal Communications Commission announces that it has designated 10 megahertz of spectrum in the 470-512 MHz band as a Spectrum Sharing Innovation Test-Bed (Test-Bed) and identified procedures for interested parties to conduct technology tests in that band. The Test-Bed is intended to provide a venue for demonstrating techniques to provide for better sharing between Federal Government (federal) and non-federal radio users. The Commission takes this action in conjunction with similar action by the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) to designate the 410-420 MHz band and establish procedures for a Test-Bed, as required by the President's Spectrum Policy Initiative.

On May 29, 2003, the President established the "Spectrum Policy Initiative" by issuing an Executive Memorandum to initiate an examination of the existing legal and policy framework for spectrum management in order to better optimize the use of U.S. spectrum assets for federal and non-federal users.[1] The Commission was encouraged to participate in this review and to provide input to the NTIA on these issues.

In June 2004, the U.S. Department of Commerce issued two reports containing policy recommendations for improving spectrum management. One report addressed federal spectrum use and the other addressed commercial and state and local public safety spectrum use.[2] Both reports included a recommendation that the Commission and the NTIA develop a Spectrum Sharing Innovation Test-Bed for use in planning how spectrum can best be shared between federal and non-federal users.

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[1] See *Presidential Memorandum on Spectrum Policy for the 21st Century,* 69 Fed. Reg. 1568 (January 6, 2004).

[2] *Spectrum Policy for the 21st Century – The President's Spectrum Policy Initiative: Report 1 Recommendations of the Federal Government Spectrum Task Force (Recommendation 11)* and *Spectrum Policy for the 21st Century – The President's Spectrum Policy Initiative: Report 2 Recommendations From State and Local Governments and Private Sector Responders (Recommendation 6(b))*, NTIA, U.S. Department of Commerce (June 2004), available at http://www.ntia.doc.gov/reports.html/

In June 2006, the Commission released a Public Notice (PN) discussing the goals, implementation and evaluation of a Test-Bed program, and seeking public comment.[3] Concurrent with the release of the FCC Public Notice, NTIA released a Notice of Inquiry (NOI) also seeking comment on the creation of a Test-Bed.[4] Sixteen comments and nine reply comments were filed with the Commission, and fourteen comments were filed at the NTIA.[5]

The comments filed with the FCC were generally supportive of a Test-Bed and wide-ranging, discussing many different bands, licensing approaches, and methodologies that could be used in conducting a Test-Bed study. In its evaluation of the comments, NTIA focused on eight criteria.[6] Based on its analysis, NTIA concluded that Dynamic Spectrum Access (DSA) technologies satisfied all of the selection criteria and will be implemented in the Test-Bed.[7] In addition, NTIA identified the 410-420 MHz federal primary fixed, mobile and space research band for the federal portion of the Test-Bed. NTIA further specified that the Test-Bed program employing adaptive radio will be performed in three phases. In the first phase, the adaptive radio equipment will be sent to the NTIA Institute for Telecommunication Sciences (ITS) laboratory located in Boulder, Colorado for characterization measurements. In the second phase, the DSA capability of the adaptive radio will be evaluated. Only after successful completion of the first and second phases will the adaptive radio equipment be permitted to be operated in a field test on a controlled basis in the third phase of the Test-Bed.

We support NTIA in this Test-Bed initiative, and after Coordination discussions with NTIA conclude that a Test-Bed designation in the 470-512 MHz frequency band, which contains Television Broadcast Systems (TV channels 14-20) as well as Land Mobile Radio Systems, will provide the greatest benefits to meeting the goals set out in the President's Spectrum Initiative. This band will allow for evaluation of adaptive radio equipment in the presence of additional radio services and provides a reasonable separation from the 410-420 MHz federal band to allow tests which pair the federal and non-federal frequency bands.

Use of the 470-512 MHz band under the Test-Bed will be limited to 10-megahertz for any given test. This will allow for some guard band at the edges of the 6-megahertz wide TV channels. Non-federal

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[3] *See* Federal Communications Commission Seeks Public Comment On Creation of a Spectrum Sharing Innovation Test-Bed, ET Docket No. 06-89, *Public Notice*, FCC 06-77 (rel. Jun 8, 2006).

[4] *See* The President's Spectrum Policy Initiative Spectrum Sharing Innovation Test-Bed, Docket No. 060602142-6142-01, *Notice of Inquiry,* 71 FR 33282 (June 8, 2006) ("NTIA NOI").

[5] Several entities filed the same comments with both the Commission and the NTIA.

[6] The Test-Bed evaluation criteria included: 1. How well does the proposed technology achieve the goal of the Test-Bed? 2. How readily available is the equipment proposed for the Test-Bed? 3. How well does the proposed technology explore creative and original concepts in spectrum sharing? 4. For the proposed technology, can the results of the Test-Bed be disseminated broadly to enhance scientific and technologic understanding? 5. How well does the proposed technology address the potential impact on the incumbent spectrum user(s)? 6. Can the proposed technology be adapted for a variety of services and applications, including broadband, military/homeland security, and public safety? 7. Are there any technical factors that limit the proposed technology to a specific frequency range? 8. Will the necessary technical support be provided to assure performance of the equipment during the Test-Bed? *See* NTIA NOI.

[7] The dynamic spectrum access technology described in the comments to the NOI and PN is frequency adaptive, where sensing of the RF signal environment is performed to identify available frequencies for transmitting on a non-interference basis and to instruct the device to stop transmitting on a frequency if a RF signal is detected. However, equipment employing other adaptive techniques (*e.g.*, geo-location sensing) will also be considered.

entities interested in conducting tests using this Test-Bed spectrum will be required to obtain an experimental license under Part 5 of the Commission's rules (47 C.F.R. Part 5) and to abide by the requirements set out by NTIA (*i.e.*, to satisfy each phase of the Test-Bed program), including participation in specific tests and evaluations that NTIA expects to carry out at its Colorado laboratories. We may also require periodic progress reports documenting each stage and the results of any tests conducted under the Test-Bed. Finally, because the use of the 470-512 MHz band varies by geographic area, Test-Bed proposals must identify the 10 megahertz portion of the 470-512 MHz band and the geographic area where tests will be conducted. The proposals will be reviewed by the Commission on a case-by-case basis to ensure that incumbent users in or near the test bands do not incur harmful interference. In this regard, we note that all operations under the Part 5 experimental rules are on a non-interference basis.

The Test-Bed initiative offers a unique opportunity to embark on a cooperative effort with NTIA to seek additional methods for promoting more intensive sharing among spectrum users. On February 5, 2008, NTIA issued a Notice of Solicitation of Participation establishing February 29, 2008 as a deadline for interested parties to express their interest to participate in the Test Bed.[8] We similarly invite interested parties to begin submitting proposals for participation in the Test-Bed program using our existing Part 5 application procedures.

For questions concerning the Test-Bed, please contact Saurbh Chhabra, (202) 418-2266, e-mail saurbh.chhabra@fcc.gov or Jeff Dygert (202) 418-7300, e-mail jeffrey.dygert@fcc.gov.

Office of Engineering and Technology

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[8] See NTIA Notice, Docket No. 080129095-8096-01, 73 FR 6710, February 5, 2008.

STATEMENT OF
COMMISSIONER MICHAEL J. COPPS

Re: Federal Communications Commission Designates Spectrum and Provides Guidance for Participation in a Spectrum Sharing Innovation Test Bed; ET Docket No. 06-89

I am a big believer in government doing all it can to encourage innovation. A critical part of this mission is making spectrum available for our nation's engineers and inventors to develop the next generation of wireless devices. That is why I wholeheartedly support the Department of Commerce's 2004 recommendation that NTIA and the FCC jointly develop a spectrum test-bed.

Nevertheless, I must register my concern (as I did back in 2006) that at each step of the process, the U.S. Government is falling behind the timeframe originally envisioned in 2004. It is now abundantly clear that we will not achieve the June 2008 target for completing this project. I hope that, despite the late start, we are able to accelerate the pace of this proceeding so that American citizens will be able to benefit from this basic research as quickly as possible.

STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN

Re: Federal Communications Commission Designates Spectrum and Provides Guidance for Participation in a Spectrum Sharing Innovation Test Bed; ET Docket No. 06-89

It is welcome news that we finally are moving forward with the National Telecommunications and Information Administration on designating spectrum and identifying procedures for a joint test-bed. I have long stressed the importance of keeping the Commission on the leading edge of spectrum-based technology and policy. It was June of 2006 when we first sought comment on creating a Spectrum Sharing Innovation Test-Bed (Test-Bed). But just because we've made the bed, doesn't mean it's time to rest. Instead, it's high time that we rouse from our nearly two-year slumber and get this initiative underway.

The Test-Bed is an important vehicle for considering and developing new spectrum management innovations for federal and non-federal use and operations in the future**.** I am pleased that the Test-Bed operations will allow for an objective evaluation of new technologies for facilitating sharing between federal and non-federal spectrum users. It is equally important that we protect incumbent spectrum users, so I am pleased that the test operations will incorporate three discrete phases to address any potential interference.

This initiative offers us an invaluable opportunity to consider new methods for intensive sharing spectrum and other important spectrum management issues in the coming years. I encourage all interested parties to take part in this important initiative.