

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

In the Matter of:

Creation of a Spectrum Sharing Innovation  
Test Bed

ET Doc. No. 06-89

**REPLY COMMENTS OF THE  
INFORMATION TECHNOLOGY INDUSTRY COUNCIL**

The Information Technology Industry Council (ITI) represents the nation's leading information technology companies, including computer hardware and software, Internet services, and wireline and wireless networking companies.<sup>1</sup> ITI is the voice of the high tech community, advocating policies that advance U.S. leadership in technology and innovation, open access to new and emerging markets, support e-commerce expansion, protect consumer choice, and enhance global competition.

ITI commends the Commission and the National Telecommunications and Information Administration for their decision "to evaluate innovative methods for spectrum sharing among disparate users to enable more intensive use of the finite radio spectrum,"<sup>2</sup> and enthusiastically supports the creation of a Spectrum Sharing Innovation Test Bed to further this goal. As the record in this proceeding and the parallel proceeding

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<sup>1</sup> ITI's members include Accenture, Agilent Technologies, Inc., AMD, Apple, Applied Materials, Canon USA Inc., Cisco Systems, Inc., Corning, Dell, Eastman Kodak Company, eBay, EMC, Hewlett-Packard, Honeywell, IBM, Intel, Lexmark International, Inc., Micron, Microsoft, National Semiconductor, NCR Corporation, Oracle, Panasonic, QUALCOMM, Inc., SAP, Sony Electronics Inc., Sun Microsystems, Symbol Technologies Inc., Tektronix, Inc., Time Warner, Unisys Corporation, and VeriSign.

<sup>2</sup> *Public Notice*, Federal Communications Commission Seeks Public Comment on Creation of a Spectrum Sharing Innovation Test-Bed, FCC 06-77 at 1 (rel. Jun. 8, 2006) ("*Public Notice*").

initiated by the NTIA<sup>3</sup> demonstrates, commercial enterprises, individuals, and public safety organizations have all endorsed the creation of a test bed to evaluate various technologies and services that could allow for more efficient spectrum use. ITI adds its voice to those comments urging the creation of a flexible test bed program with sufficient spectrum allocation to enable a variety of meaningful experiments.

ITI supports the dedication of at least 20 MHz of spectrum for the spectrum sharing innovation test bed, and proposes that the Commission allocate additional spectrum to help foster further innovation. As the Commission suggested in its *Public Notice*, the initial proposal of approximately 20 MHz of spectrum for a test bed program set forth by the Department of Commerce should be viewed as a “minimum” recommendation.<sup>4</sup> Although ITI recognizes the challenges facing the Commission and the NTIA in designating spectrum (particularly contiguous blocks of spectrum) for use in the test bed program, the lack of readily identifiable available spectrum today only underscores the importance of ensuring that the test bed program is available to help develop solutions to meet the ever-increasing spectrum demands of federal and non-federal users.<sup>5</sup>

The record in these proceedings amply supports a spectrum allocation of 20 or more MHz for the test bed. Both the Commission’s *Public Notice* and the NTIA’s *Notice of Inquiry* have identified a number of specific technologies and services that potentially

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<sup>3</sup> See The President’s Spectrum Policy Initiative Spectrum Sharing Innovations Test-Bed, NTIA Docket No. 060602142-6142-01, *Notice of Inquiry*, 71 Fed. Reg. 33282 (rel. Jun. 8, 2006) (“*Notice of Inquiry*”).

<sup>4</sup> See *Public Notice* at 3 (“As stated in the recommendation, a minimum of 20 MHz (10 MHz identified by the Commission and 10 MHz identified by NTIA) is suggested for the Test-Bed program.”).

<sup>5</sup> See *id.* at 1 (“Demand for spectrum by federal and non-federal users has been increasing and this trend is expected to continue as new and enhanced services and applications and new requirements are identified and developed.”).

could further the goal of spectrum sharing,<sup>6</sup> and these promising avenues should not go unexplored for want of testing resources. Moreover, as several comments have noted, allowing multiple users to conduct a variety of different experiments is necessary to ensure the success of the test bed.<sup>7</sup> Even in cases where a comment has focused on specific technologies or solutions, commenting parties have emphasized the need for an allocation at least 20 MHz of spectrum to the test-bed program.<sup>8</sup> ITI advocates a substantial spectrum allocation to ensure that meaningful testing is available for cognitive radio and other emerging technologies.

ITI also urges the Commission not to restrict testing of promising technologies because proposals for their use have not focused on spectrum sharing between federal and non-federal users. In particular, one commenter maintains that test beds should not “be focused on opportunistic sharing between licensed and unlicensed devices” and likewise “should not be utilized to evaluate the possibility of authorizing additional

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<sup>6</sup> See *id.*; *Notice of Inquiry*, 71 Fed. Reg. at 33283. As the NTIA noted, “[e]xamples of technologies/services that could be considered in the Test-Bed include: High-power broadband, public safety interoperability, adaptive technologies (geo-location, frequency avoidance, waveform detection), advanced antenna technologies, sharing between Federal and non-Federal mobile satellite systems, advanced modulation techniques, multiple input/multiple output systems, extensions to third generation wireless services for public safety and federal users, mobile mesh networking, and geographic sharing. The Test-Bed may also be used to evaluate new frequency assignment/coordination techniques such as the web-based capability in the 70/80/90 GHz bands or sharing using the interference temperature concept.” *Notice of Inquiry*, 71 Fed. Reg. at 33283.

<sup>7</sup> See, e.g., Comments of Motorola, Inc. at 10 (“[P]articipants should be provided maximum flexibility to experiment with a wide range of technologies.”); Comments of the Software Defined Radio Forum at 8 (“The Test-Bed holds great promise to develop increasingly spectrally efficient technologies. It is critical to experiment with a wide variety of technologies in order to maximize this promise.”); Comments of ArrayComm LLC at 4 (“Given the number of complex issues raised in the Commission Notice, ArrayComm believes the Test-Bed should encompass multiple experiments with different requirements. By necessity, a number of different variables and degrees of freedom will need examination...”).

<sup>8</sup> See, e.g., Comments of Shared Spectrum Company at 6 (advocating focus on dynamic spectrum sharing and cognitive radio technology, and noting that “at least 20 MHz should be identified for the test-bed”) (emphasis in original); Comments of the Los Angeles County Sheriff’s Department at 4 (test bed program to examine use of shared spectrum in 2.3 and 2.4 GHz bands for public safety airborne video should employ at least 20 MHz minimum spectrum to allow more than one simultaneous airborne video platform).

commercial operations into existing commercial allocations.”<sup>9</sup> But any such restrictions would be a mistake. Technical performance does not depend on whether the operator of a radio is a federal user. Nor does it depend upon whether the operator holds a license. Technology developed for one purpose is almost always used for other purposes. The technology that now allows unlicensed devices to share spectrum with military radar at 5 GHz, for example, was originally developed to promote sharing among unlicensed commercial devices. In short, the rules governing the test-bed program should allow a thorough exploration of a number of technologies to obtain greater value from both federal and non-federal spectrum.

Respectfully Submitted,

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<sup>9</sup> Comments of Cingular Wireless LLC at 1, 3 n.11.