NAB TV TechCheck

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FCC Announces Spectrum Sharing Innovation Test-Bed

On February 5, 2008 the FCC's Office of Engineering and Technology issued a Public Notice (*Notice*) announcing that it has designated 10 megahertz of spectrum in the 470-512 MHz band (TV channels 14 - 20) as a Spectrum Sharing Innovation Test-Bed (Test-Bed) and set forth procedures for interested parties to conduct technology tests in that band.

The Notice stated that 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 took this action in conjunction with similar action by the National Telecommunications and Information Administration (NTIA) who designated the 410-420 MHz band and established procedures for its Test-Bed, as required by the President's Spectrum Policy Initiative. The NTIA announcement is here: http://www.ntia.doc.gov/ntiahome/press/2008/Testbed_020508.html

In order to better optimize the use of U.S. spectrum assets for federal and non-federal users, on May 29, 2003, the President issued an Executive Memorandum which established the "Spectrum Policy Initiative" that initiated an examination of the existing legal and policy framework for spectrum management in the U.S. In response the NTIA issued two reports containing policy recommendations for improving spectrum management including a recommendation that the FCC 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.

In June 2006, the Commission released a Public Notice seeking comment on the goals, implementation and evaluation of a Test-Bed program. At the same time NTIA released a Notice of Inquiry also seeking comment on the creation of a Test-Bed. Based on its analysis of the comments filed and on input from the FCC, NTIA concluded that Dynamic Spectrum Access (DSA) technologies satisfied all of the selection criteria and will be implemented in the Test-Bed.

DSA, as described in the comments, is a frequency adaptive technology, which senses the RF signal environment to identify available frequencies for transmitting on a non-interference basis and instructs the device to stop transmitting on a frequency if a RF signal is detected. However, NTIA has stated that they will also consider equipment employing other adaptive techniques such as geo-location sensing.

NTIA identified the 410-420 MHz federal primary fixed, mobile and space research band for the federal portion of the Test-Bed and has specified that the DSA Test-Bed program will be performed in three phases: (1) lab tests at NTIA's Institute for Telecommunication Sciences (ITS) laboratory in Boulder, Colorado for characterization measurements; (2) an evaluation of the DSA capability of the adaptive radio and, after successful completion of the first and second phases, the adaptive radio device will be permitted to be operated in a field test on a controlled basis.

The FCC stated in the Notice that they support NTIA's Test-Bed initiative, and after coordination discussions with NTIA have concluded that a designation in the 470-512 MHz frequency band, which contains TV channels 14-20 as well as Land Mobile Radio Systems would be an appropriate Non-federal Test-Bed. Test-Bed projects will be limited to 10-megahertz for any given test allowing for some guard band at the edges of the 6-megahertz wide TV channels.

The Notice invites non-federal entities interested in conducting tests using this Test-Bed spectrum to obtain an experimental license under Part 5 of the Commission's rules (47 C.F.R. Part 5). They will be required to abide by the requirements set out by NTIA, including participation in specific tests and evaluations carried out at NTIA's Colorado laboratories. The FCC further stated that, 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 NTIA established February 29, 2008 as a deadline for interested parties to express their interest to participate in the Test-Bed. The FCC similarly invites interested parties to begin submitting proposals for participation in the Test-Bed program using the existing Part 5 application procedures.

A copy the FCC public notice is available here: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-295A1.pdf. For questions concerning the Test-Bed, contact Saurbh Chhabra, (202) 418-2266 (saurbh.chhabra@fcc.gov) or Jeff Dygert (202) 418-7300 (jeffrey.dygert@fcc.gov).

ATSC Digital VSB Measurements Seminar

Monday, March 10, 2008
Great Lakes Broadcasting Conference
Grand Rapids, Mich.

A one-day seminar on the ATSC's digital television (DTV) vestigial sideband (VSB) transmission system measurement methodologies will be presented on March 10 in Grand Rapids, Mich. Presented by DTV transmission engineer, Gary Sgrignoli, the seminar identifies and describes the pieces of test equipment needed for VSB testing in the laboratory, at transmitter sites and at remote field sites.

For additional information contact Gary Sgrignoli, Meintel, Sgrignoli & Wallace at (847) 259-3352 or Gary.Sgrignoli@IEEE.org.

TV TechCheck will not be published on February 18 but will return on February 25.