

# memorandum

DATE: September 11, 2008

TO: Jim Schlichting and George Dillon

CC: Kris Monteith, Martin Leibman, Mary Bucher, Doug Miller, Alan Stillwell, Ira Keltz, Bruce Romano, Rashmi Doshi, William Hurst, Steve Jones, Tom Philips, Geraldine Matisse, Hugh VanTuyl, and Robert Weller

FROM: Julius Knapp, Chief, Office of Engineering and Technology

SUBJECT: Peer Review of Sensing Devices Phase II Study

OET has conducted a second phase of its study of hardware development devices with capabilities for operating on an unlicensed basis in the TV bands as part of the “TV white spaces” proceeding, ET Docket No. 04-186 and prepared a report on its findings (Phase II Study and Report). This second phase study examined four development devices and follows our initial study of TV white space development devices that was released July 31, 2007, *see* “Initial Evaluation of the Performance of Prototype TV-Band White Space Devices,” OET Report FCC/OET 07-TR-1006 (Phase I Report).<sup>1</sup> The devices examined in this second phase study were submitted by industry in response to an OET public notice inviting submittal of additional prototype white space devices and are actually product development platforms rather than models of products that could be marketed. One of these devices has both transmitting and spectrum sensing capabilities; the other three have only spectrum sensing capability. Each of the devices has unique spectrum sensing capabilities. Our study examined each of these devices in the Laboratory and the field with respect to its ability to detect the presence of digital TV, analog TV, and Part 74 wireless microphone signals, depending on their sensing capabilities. It also examined the device with a transmitter for its potential to cause interference to reception of digital television signals and cable service.

The results of this study are set forth in the attached draft OET Report FCC/OET 08-TR-1005, entitled “Evaluation of the Performance of Prototype Television Band White Space Devices – Phase II.” We undertook this second phase effort to obtain additional understanding of the performance of these types to operate on an unlicensed basis on unused frequencies in the TV bands. We plan to publish the report and invite public comment in the same manner as the Phase I Report. The information we glean from the tests and comments will be used along with other information in the record of the TV white spaces in making final decisions in this matter. .

Under the Information Improvement Act, OMB requires that influential scientific assessments be subject to peer review to enhance the quality and credibility of the government’s scientific information. I request that you provide appropriate staff for a panel to conduct a peer review of OET’s Phase II Device Study

---

<sup>1</sup> Five devices were submitted for this phase of testing; however, one of the devices stopped working after a few tests were performed on it and the reports contain only partial data for that device.

and Report. This review should address the following subject areas, given the limited availability of devices and practical and technical limitations of these devices:

- Whether the scope of testing in terms of spectrum sensing abilities and signal conditions examined was appropriate and sufficient;
- Whether the measurement methodologies used in the testing of the prototype devices spectrum sensing abilities was appropriate;
- Whether the scope of testing of the device with transmitting capability for its potential to cause interference to digital TV, analog TV, and wireless microphone signals was appropriate.
- Whether the various tests performed were properly conducted consistent with the selected methodologies.

I also ask that you provide a brief written report of your review, findings and recommendations with regard to this study. We will provide a date when the report is needed when distribute the report.

Thank for you assistance in this matter.

Attachment