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ATTORNEYS AT LAW

January 18, 2008

Ex Parte

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186

Dear Ms. Dortch:

The White Spaces Coalition¹ looks forward to additional white space device testing by the Office of Engineering and Technology, which will help establish the final rules for white space operations.² Coalition members continue to support the technical parameters previously proposed by the Coalition, and believe they will amply protect incumbent licensees from harmful interference. Although the Coalition's proposed parameters are well documented in this proceeding, the Coalition briefly addresses below some of these recommendations in light of the next round of OET tests and the recent flurry of *ex parte* submissions.

First, one of the primary aims of additional OET testing should be to confirm the feasibility—to the extent any doubt remains—of the detection threshold of -114 dBm proposed by the Coalition for personal/portable devices.³ While Coalition and non-Coalition members alike have observed

¹ The White Spaces Coalition's members include Dell, Inc., Google Inc., Hewlett-Packard Co., Intel Corp., Microsoft Corp., Palm, Inc., Philips Electronics North America Corp., and TDK Corp.

² See Public Notice: Office of Engineering and Technology Announces Plans for Conducting Measurements of Additional Prototype TV White Space Devices (Jan. 17, 2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-118A1.pdf.

³ Although the Coalition has focused on operating parameters for personal/portable devices, the Commission's rules should be broad enough to accommodate a number of fixed, portable, or hybrid "fixed/portable" deployments to ensure the most efficient use of white space spectrum. See, e.g., *Ex Parte* letter of Google Inc. at 2-3, ET Docket Nos. 04-186, 02-380 (filed Dec. 17, 2007) ("Dec. 17 Google *Ex Parte*").

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that detection at lower thresholds is possible,⁴ this does not suggest that the -114 dBm level is insufficient to protect incumbent licensees.⁵ Rather, the ability to detect signal strengths below -114 dBm further confirms the technical reality that devices can successfully and reliably detect at the Coalition's proposed threshold. Though technically feasible, lower detection thresholds are not only overly protective and unnecessary for over the air TV, but will greatly increase the probability of "false positives" (falsely identifying a channel as occupied when it is in fact vacant), thereby greatly diminishing the use of the spectrum. This would needlessly hinder operation of the devices and cause harm to the public.

Second, although parties have weighed in on whether certain spectrum scan times are sufficient for white space devices,⁶ there is no need for the Commission to specify a period of time over which scanning and detection of vacant channels in the band must occur.⁷ Scanning time in the test devices will not be indicative of the performance of actual devices, which will be able to take advantage of improvements in processing power as well as efficiencies when designs are reduced to production. For example, Google has observed that sensing and processing of multiple signals simultaneously could be implemented even in relatively low cost devices, reducing processing time considerably.⁸ Moreover, as the Coalition previously has explained, the optimum check time for each device cannot be achieved with a one-size-fits-all requirement, but rather should be dictated by the specific algorithms implemented by manufacturers.⁹

Finally, as the Coalition has made clear throughout this proceeding, adopting flexible operating parameters will be essential if the Commission is to realize its goal of enabling a number of different innovative and affordable broadband services in the white spaces. In this regard, the Coalition notes that several interference avoidance approaches already on the record fit comfortably within its recommended operating parameters. For example, Google, Microsoft, and Philips have pursued different detection schemes, each capable of detecting TV signals at

⁴ See, e.g., *Ex Parte* letter of Google Inc. at 1, ET Docket Nos. 04-186, 02-380 (filed Dec. 5, 2007); Adaptrum WSD Prototype ATSC Sensitivity Measurement Report at 2, ET Docket No. 04-186 (filed Dec. 28, 2007) ("Adaptrum Report").

⁵ Indeed, the Public Interest Spectrum Coalition and the New America Foundation have concluded that the -114 dBm threshold is "overly stringent." See *Ex Parte* letter of the Public Interest Spectrum Coalition and the New America Foundation at 1-2, ET Docket No. 04-186 (filed Oct. 2, 2007).

⁶ See, e.g., Adaptrum Report at 2.

⁷ See Comments of Dell Inc., Google Inc., The Hewlett-Packard Company, Intel Corp., Microsoft Corp., and Philips Electronics North America Corp. at 13, ET Docket Nos. 04-186 and 02-380 (filed Jan. 31, 2007) ("Coalition FNPRM Comments"). With respect to move time after an incumbent licensee's presence is detected in a particular channel, the Coalition believes that the period of 10 seconds proposed by the Commission is sufficient. See *id.*

⁸ Dec. 17 Google *Ex Parte* at 2-3.

⁹ See Coalition FNPRM Comments at 13.

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-114 dBm. Similarly, as Google has noted, devices could further mitigate the risk of harmful interference using short burst transmissions.¹⁰ The Coalition's proposed operating parameters are broad enough to allow manufacturers to implement that option, while always protecting TV signals at the levels proposed by the Coalition.

* * *

In sum, we believe that operating rules must be flexible enough to accommodate a number of interference avoidance techniques, and to keep the door open for future innovation. The Coalition looks forward to further confirmation by OET of the feasibility of spectrum sensing using its proposed operating parameters, and stands ready to provide the Commission with any additional assistance it requires to craft final operating rules for white space devices.

Yours truly,



Edmond J. Thomas
Senior Technology Policy Advisor

¹⁰ See Google TV White Spaces Spectrum Sharing Technology Demonstration at 12-21, ET Docket Nos. 04-186 and 02-380 (filed Dec. 5, 2007).