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December 28, 2009

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

**Re: ET Docket Nos. 04-186, 02-380, *Unlicensed Operation in the TV  
Broadcast Bands*  
Ex Parte Communication**

Dear Ms. Dortch:

On behalf of Sennheiser Electronic Corporation, pursuant to Section 1.1206(b)(1) of the Commission's Rules, I am electronically filing this written *ex parte* communication.<sup>1</sup>

Sennheiser has studied the report authored by Shared Spectrum Company (“SSC”) and filed in this docket by Microsoft, Inc. on October 26, 2009.

Sennheiser agrees with and supports the November 30, 2009, filing of Shure Incorporated that criticized the SSC report. We will not clutter the record by repeating the list of flaws set out by Shure. Sennheiser does, however, wish to draw the Commission’s attention to the following additional deficiencies:

- In assuming a single value for received power at the wireless microphone receiver, SSC fails to address the fact that received signal strength routinely varies by up to 40 dB during a performance, regardless of whether the transmitter is hand held or body worn.

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<sup>1</sup> Sennheiser Electronic Corporation is a wholly-owned subsidiary of Sennheiser electronic GmbH & Co. KG, headquartered in Germany. The parent company is a global leader in microphone technology, RF-wireless and infrared sound transmission, headphone transducer technology, and active noise cancellation. The U.S. subsidiary, based in Old Lyme, Connecticut, represents Sennheiser products in the United States and distributes a variety of other professional audio lines.

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- Calculating the parameters for interference-free operation of wireless microphone systems requires consideration of the worst-case instantaneous combinations of signal level and external noise, rather than the averaging approach adopted by SSC.

These considerations are important because wireless microphones, unlike most other wireless devices, must operate continuously with no dropouts and negligible latency.

Please do not hesitate to contact me with any questions.

Respectfully submitted,

Mitchell Lazarus  
Counsel for Sennheiser Electronic Corporation

cc: Chairman Julius Genachowski  
Commissioner Michael J. Copps  
Commissioner Robert McDowell  
Commissioner Mignon Clyburn  
Commissioner Meredith Attwell Baker  
Julius P. Knapp, Chief, Office of Engineering and Technology  
Walter Johnston, Chief, Electromagnetic Compatibility Division  
Catherine Wang, Counsel to Shure Incorporated  
Edmond Thomas, representative of Microsoft Corp.