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July 7, 2009

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

Re: WT Docket No. 08-166, *Revision to Rules Authorizing the Operation of Low Power Auxiliary Stations in the 698-806 MHz Band*

WT Docket No. 08-167, *Public Interest Spectrum Coalition, Petition for Rulemaking*

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.¹

Sennheiser supports Shure Incorporated² in opposing the recent proposals of Verizon Wireless³ and Public Knowledge.⁴ Those parties would either authorize wireless microphones

¹ 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.

² Ex Parte Comments of Shure Incorporated (filed June 29, 2009).

³ Letter from John T. Scott, III to Marlene H. Dortch (filed Jun. 8, 2009).

under Part 15 on a co-equal status with TV band devices (TVBDs),⁵ with no interference protection, or else on a license-by-rule basis under Part 95, again on a co-equal status with TVBDs without interference protection.⁶

As Shure has demonstrated, even the offer of co-equal status is illusory. Either proposal, in theory, would require wireless microphones and TVBDs to accept one another's interference. In practice, however, the arrangement would greatly impair wireless microphones while leaving TVBDs almost unaffected.⁷

Verizon and Public Knowledge are setting up a classic bait-and-switch. The premise of this proceeding from the very start has been proponents' promise to make productive use of vacant TV-band spectrum without affecting the incumbents. The Commission's initial Notice of Inquiry put it plainly:

[W]e believe it may now be possible to operate unlicensed transmitters under certain circumstances on TV channels *without causing interference to any authorized services* in the TV bands⁸

Of course the Commission mentioned wireless microphones among the authorized users.⁹

That was then. Now, after a Commission ruling gave them very limited use of the band, the TVBD proponents move on to Step 2: improving their status as against the incumbents they agreed to protect. This is like a houseguest who not only rearranges the furniture, but changes the locks to keep out the rightful occupants.

It would be bad policy for the Commission to undermine the long-proven value of wireless microphones in hopes of a purely speculative benefit from TVBDs. Wireless microphones have established their public interest over decades of productive use. TVBDs exist

⁴ Letter from Harold Feld to Marlene H. Dortch (filed Jun. 18, 2009).

⁵ Verizon at 4-5; Public Knowledge at 1.

⁶ Verizon at 3-4.

⁷ Shure at 4-6.

⁸ *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band* (Notice of Inquiry), 17 FCC Rcd 25632 at ¶ 14 (2002) (emphasis added).

⁹ *Id.* at ¶ 13.

only as PowerPoint slides and laboratory prototypes. And even the prototypes have not fared well.¹⁰

Wireless microphones are licensed to virtually all broadcast, cable, and motion picture content production operations. They are also reportedly in wide use in Broadway theaters, music venues, sports arenas, houses of worship, business centers, and convention sites. These units are essential to the production of virtually all non-studio broadcast events and many studio-produced programs as well. Routine uses include professional and college team sports, from local college broadcasts up to the Super Bowl, the World Series, the Final Four, and the Stanley Cup; the Democratic and Republican political conventions; the Oscar, Emmy, and Grammy shows; events such as the Olympics, NASCAR races, the Kentucky Derby, and major golf and tennis tournaments; and news reporting from the scene – broadcasts that attract millions of viewers.

American consumers expect the very highest standards of production quality in television, radio, film, and live entertainment. Driven by this demand, U.S. news and entertainment content is globally acknowledged as the best in the world. Thanks to its widespread popularity, entertainment content is one of the nation's leading exports.

Tampering with proven success is always unwise. Especially during the current economic difficulties, the United States must protect its exports. The link between audio quality and export demand may not be obvious. After all, consumers overseas are buying video and music, not wireless microphone output. Yet clean and accurate sound is one of the features that distinguishes a thoroughly professional production from lesser work. Impairments in audio cut deeply into the overall quality of a production, and hence into the reputation of its producers. This is not the time for regulatory changes that risk the integrity of a major U.S. export.

Wireless microphones must be able to function in the TV bands because they have nowhere else to go. They are designed and manufactured to demanding technical standards, permitting only negligible latency (delay in throughput) and no dropouts (interruptions in transmission), in addition to extreme frequency range, dynamic range, and low-distortion specifications. The broadcast of a major sporting event or awards show can require upwards of 100 microphone channels. Only the TV bands provide the needed propagation characteristics, along with adequate radio bandwidth, to meet these requirements.

¹⁰ *E.g., Evaluation of the Performance of Prototype TV-Band White Space Devices*, ET Docket No. 04-186, Executive Summary at 3 (released Oct. 15, 2008) (“In the presence of DTV signals in adjacent channels, the detection threshold was degraded such that it affected the ability of the devices to reliably detect the microphone signals.”)

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In short, wireless microphone have a proven track record. They are entitled to retain their long-held interference protection from unlicensed devices, including TVBDs. The Commission must reject efforts to reduce the interference status of wireless microphones relative to TVBDs.

Please do not hesitate to contact me with any questions.

Respectfully submitted,

Mitchell Lazarus
Counsel for Sennheiser Electronic Corporation

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