ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC.

P.O. Box 9897
4100 Wisconsin Avenue, NW
Washington, DC 20016

Tel (202) 966-1956
Fax (202) 966-9617

December 8, 2009

VIA ELECTRONIC FILING

Julius P. Knapp
Chief, Office of Engineering and Technology
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20054

Re: Written Ex Parte Presentation; ET Docket Nos. 02-380 and 04-186; WT Docket Nos. 08-166 and 08-167

Dear Mr. Knapp:

On November 30, 2009, Shure Incorporated (Shure) filed an analysis of the October 26, 2009, *ex parte* filing made by Microsoft, Inc., including a report it funded by Shared Spectrum Company. The Association for Maximum Service Television, Inc. strongly supports Shure's technical analysis and conclusions.

As Shure effectively points out, the Microsoft/Shared Spectrum Report is replete with inaccuracies and incorrect assumptions that underestimate interference from unlicensed devices and overestimates the received microphone signals. The assertion that the protection zone for wireless microphones can be reduced to 130 meters is based on faulty technical data and is without merit.

First, the Microsoft/Shared Spectrum document asserts that wireless microphones are used in areas with high man-made noise and that they will require artificially high microphone signal levels to achieve reliable service. They then argue that, since the microphones will operate at higher signal levels, they are therefore more immune to interference from White Space Devices (WSDs). Yet their own data show that at two of the four locations where wireless microphones are likely to be used, namely at a church and at Wolf Trap concert hall, the noise level was more than 10 dB "quieter" than assumed in their analysis: a more than 10 dB error in the calculation of their 130 meter protection zone. Moreover, the Microsoft/Shared Spectrum document also failed to recognize that, in practice, microphone signals may operate at very low levels due to body absorption, low transmit power levels that conserve battery life, and the distance from the microphone receiver that can occur during normal operation.

Second, the Microsoft/Shared Spectrum document improperly assumes that interfering signals from unlicensed devices are always artificially low due to obstructions and other factors that limit propagation towards the microphone receiver. The document makes the false assumption that the microphone receiver is at six feet and that therefore emissions from an unlicensed device are highly attenuated due to ground reflections and other effects. This is misleading. In fact, microphone receive antennas, such as those used at Wolf Trap, sports arenas, and other venues, are placed high onstage, or at or near the top of a stadium. As a result, an unlicensed device in many instances would have clear line of sight to the antenna with the antenna providing a height gain advantage in receiving those interfering signals, resulting in another error of 10 dB or more in the Microsoft/Shared Spectrum analysis.

As Shure correctly concludes, the Microsoft/Shared Spectrum document provides no scientific justification to alter or reduce the Commission's 1 km wireless microphone protection zone. On the contrary, the data presented suggests that this protection is somewhat marginal for personal/portable devices and that protection should be increased for higher power fixed operations.

Sincerely,

David Donovan
President