ASSOCIATION FOR **MAXIMUM SERVICE TELEVISION, INC.** MSTV

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

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

Via Electronic Filing
February 4, 2010

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

Re: Notice of Ex Parte Communication,
WT Docket Nos. 08-166, 08-167 and ET Docket No. 10-24

Dear Ms. Dortch:

On February 3, 2010, David Donovan, Victor Tawil and Bruce Franca of the Association for Maximum Service Television (MSTV) met with Mr. Julius Knapp and Mr. Alan Stillwell of the Office of Engineering and Technology (OET) and Mr. James Schlichting, Mr. Paul D'ari, Ms. Nese Guendelsberger, Mr. Paul Murray and Mr. William Stafford of the Wireless Technology Bureau.

MSTV discussed the Further Notice of Proposed Rule Making regarding wireless microphone operation. MSTV pointed out that the current proposal to create a new category of Part 15 devices is technically unsound and unworkable. MSTV pointed out the proposed definition and technical rules would result in new and additional interference to TV and cable viewers and authorized licensed Part 74 operations and similarly cause interference to and limit spectrum for broadband TV band devices.

MSTV states that a better solution to resolve the existing illegal wireless microphone problem would be a limited expansion of Part 74 eligibility rather than creating uncontrolled and unenforceable Part 15 device based rules. The attached power point slides were presented and discussed.

Respectfully submitted,

Bruce Franca
VP, Policy and Technology

cc: Julius Knapp
Alan Stillwell
Jim Schlichting
Paul D'ari
Nese Guendelsberger
Paul Murray
Bill Stafford

Wireless Microphone FNPRM Presentation

MSTV

February 3, 2010

Some Facts to Start

- R&O raised concern of Interference to 700 MHz wireless operations
- TV reception just as vulnerable (if not more vulnerable) to interference
  - DTV receivers and Wireless devices have similar thresholds
  - Larger more efficient TV antennas/lower operating signal levels tend to make DTVs more vulnerable

Some Facts to Start

- TV frequencies have historically been "restricted band" where Part 15 operation is prohibited
- TV White Space permits unlicensed operation with database and other technical safeguards
- Potential of DTV Interference well documented
  - White Space R&O noted Interference to Cable TV at signal levels as low as 6.3 dBm (at 2 m) and 15.3 dBm (at 10 m).
  - Both FCC and MSTV testing indicates out-of-band interference from Part 15 devices major cause of VHF DTV reception failure

Wireless Microphone Problem

- FCC has known about wireless microphone issue for many years
  - Motorola "Coach Com" was being used by ineligible High School and College football programs
  - Nuclear power plants
  - Broadway
  - FCC meetings

Proposed Part 15 Solution Unsound

- Solution should not make problem worse or create new problems
- Wireless microphone interference to TV has been manageable due to geographical separation between microphone use and TV viewing (and the relatively high cost of microphones)
- FCC should **not** permit Part 15 wireless microphone and other uncontrolled devices in TV band

Proposed Part 15 Solution Unsound

- Proposed Part 15 "Wireless Audio Device" definition and rules are unworkable and are technically unsound (*pun intended*)

Definition

- Proposed Part 15 Wireless Audio Device is defined as "*intentional radiator that is used to transmit voice, music or other audio material… Transmission of audio material to the public switched telephone and private and commercial wireless systems and network is not permitted.*"

What Devices Permitted

- Definition does **not** limit new Part 15 devices to existing unauthorized Part 74 wireless microphones
- Some devices that could meet definition:
  - Baby monitors
  - Voice-controlled RC toys
  - Home intercom systems
  - Wireless door chimes
  - Wireless speakers and surround sound systems
  - Wireless microphones for game consoles

Proposed Part 15 Solution Unsound

- Technical rules require unlicensed microphone users to be removed from co-channel TV operation by 60 to 80 miles
  - Requirement impossible to enforce or monitor
  - Consumers have little incentive to comply
  - Ignores Cable TV interference problems
  - Ignores multiple channel operation and impact on adjacent channel operation
  - Fails to protect licensed Part 74 operations

Proposed Part 15 Solution Unsound

- Technical Rules limit power to 50 mW but in practice will allow much higher energy to be placed in band
- Types of uses and limited available channels will result in multiple devices on each TV channel
  - 5.1 and 7.1 surround sound systems could have 6 to 8 audio channels on a single DTV channel
  - Game console could have 4 player wireless microphones
  - This is equivalent to 200 to 400 mW in an adjacent DTV channel
  - Limited frequency availability in many markets means multiple "wireless audio devices" likely on each TV channel

Proposed Part 15 Solution Unsound

- FCC DTV receiver tests show interference will increase with multiple signals
- Potential for multiple audio devices in each TV channel will also impact spectrum for and interference to TV band devices (TVBDs)
  - Multiple devices likely and conclusion that new audio devices/ TVBDs will have similar power and sharing potential is wrong

Proposed Part 15 Solution Unsound

- Out-of-band technical rules will not protect DTV reception
- Out-of-band requirements:
  - Attenuation of 43 +10 log P equals 30 dB
  - This means an out-of-band power level for 50mW (17 dBm) of -13 dBm and at 10 meters this is about - 61 dBm (a level more than 20 dB above a DTV receiver's TOV)
  - The possibility of multiple emitters and non-battery operation further increases the potential for interference

Recommendation

- Solution should not make problem worse or create new problems
- No increase in types of devices is needed (Other Part 15 bands available for such operations)
- Solution should be limited expansion of Part 74 eligibility for parties currently using Part 74 microphones
  - If FCC wants different protections for certain new eligible users (a position MSTV does not support) that can be still be done through the database protected entity registration process
- Maintains interference "status quo" and protects DTV viewers and existing authorized Part 74 operations
- Minimizes impact on new TVBDs and amount of White Space available