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June 27, 2007

VIA ELECTRONIC FILING

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

Re: *Notice of Ex Parte Meetings of*
MLB, NASCAR, NBA, NCAA, NFL, NHL,
The PGA TOUR, and **ESPN, Inc.** as members of the
SPORTS TECHNOLOGY ALLIANCE

ET Docket No. 04-186; Unlicensed Operation in the TV Broadcast Bands

Dear Ms. Dortch:

On June 26th, 2007, representatives from the Sports Technology Alliance (the "Alliance") met with the Office of Engineering and Technology ("OET") to discuss Docket No. 04-186. Ira Keltz, Bruce Romano, Ron Chase, Rashmi Doshi, Hugh Van Tuyl, Ron Repasi, Le Hung Quang, Saurbh Chhabra, Harry Wong, and Nicholas Oros were in attendance on behalf of OET. Attending this meeting on behalf of the Alliance were the following individuals:

Jessica Batzell, Government Relations, **Major League Baseball**
Stu Albert, Director of Information Technology, **NASCAR Images**
Steve Stum, Director of Field Operations, **NASCAR Images**
Marcus Jadotte, Managing Director, Public Affairs, **NASCAR Images**
Michael Rokosa, Vice President, Engineering, **National Basketball Association ("NBA")**
Scott Bearby, Assoc. General Counsel, **National Collegiate Athletic Association ("NCAA")**
Glenn Adamo, Vice President, Media Operations, **National Football League ("NFL")**
Phil Hochberg, Counsel, **National Hockey League ("NHL")**
Steve Evans, Senior Vice President, Information Systems, **The PGA Tour**
Jeff Willis, Coordinating Technical Manager, Remote Operations, **ESPN, Inc.**

Also in attendance were, Bob Gabrielli, Senior Vice President, Programming Operations, DirecTV, Ken Kerschbaumer, Director of Information & Editorial Services, Sports Video Group, David Donovan, President, Association for Maximum Service Television, Inc., and Catherine Wang and Tim Bransford of Bingham McCutchen LLP, outside counsel.

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During this meeting, the Alliance discussed the critical and irreplaceable role that high-performance professional wireless microphones play in the production and live broadcast of sporting events enjoyed by hundreds of millions of passionate sports fans in the United States. The Alliance emphasized that the "white spaces" are already heavily utilized. Alliance members all strive to meet increasing public demand for innovative new features that enable fans at live events and viewers at home to immerse themselves in televised sports events. Among other developments, these innovations include in-car cameras, jersey or helmet mounted microphones, and robotic cameras. These innovations respond, in part, to public demand for advanced digital television features, including "surround sound" and higher quality audio. These innovations require numerous interference free microphone channels. The elaborate RF coordination effort necessary to ensure the audio features and quality for such events meet the viewers' expectations would be disrupted if uncoordinated devices commence operation on the same channels used by wireless microphones.

The Alliance expressed profound concern that a Commission decision to allow personal/portable devices to operate in the "white spaces" would create massive interference, and an environment where many of the advanced audio features sports fans have come to enjoy and expect would no longer be available. As a result, the Alliance urged the Commission to limit any future unlicensed operations in the "white spaces" to fixed applications. The Alliance also discussed with the Commission the urgent need to take further protective measures for wireless microphone operations, including maintaining "clean" spectrum free from unlicensed operations in adjacent channels and elsewhere in the broadcasting bands.

A summary of the Alliance's position and a letter submitted to the Commission regarding Docket No. 04-186 is attached to this filing. A short video presentation discussing the variety of ways in which wireless microphones are used at sporting events, and demonstrating the devastating effects of microphone interference at the 2007 Belmont Stakes will be filed concurrently at the Commission.

If you have any questions regarding these meetings, please do not hesitate to contact the undersigned.

Very truly yours,

/s/

Catherine Wang
Timothy L. Bransford

cc (by email): Ron Chase
Bruce Romano
Ira Keltz
Rashmi Doshi
Hugh Van Tuyl
Ron Repasi
Le Hung Quang
Saurbh Chhabra
Harry Wong
Nicholas Oros

June 26, 2007

VIA ELECTRONIC FILING

Chairman Kevin J. Martin
Commissioner Jonathan S. Adelstein
Commissioner Michael J. Copps
Commissioner Robert M. McDowell
Commissioner Deborah Taylor Tate
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Ex Parte* Comments of **MLB, NASCAR, NBA, NCAA, NFL, NHL, The PGA TOUR,** and **ESPN** as members of the **SPORTS TECHNOLOGY ALLIANCE**

Introduction of Unlicensed Devices in the "White Spaces"
ET Docket No. 04-186

Dear Chairman Martin and Commissioners Adelstein, Copps, McDowell and Tate:

The undersigned are representatives of major U.S. professional and collegiate sports leagues and organizations and the major national sports programming distributor that are actively engaged in the high-quality creation, production, and distribution of sporting events and other sports-related programming enjoyed by tens of millions of Americans. Sports programming relies extensively on wireless microphones and related audio equipment in its production and distribution. In addition, these wireless communications systems have become an important infrastructure element in the conduct of the games themselves. Any interference caused by new devices operating in the "white spaces" spectrum will seriously impair U.S. sports event programming and deny the American public full enjoyment of their passion for sports.

As noted below, we urge the Commission to carefully consider the impact on existing wireless microphone users and other wireless communications devices as it moves forward to resolve issues in this proceeding. The overwhelming majority of wireless microphones, wireless video assist devices and related audio equipment use the TV "white space" channels for communications.

Wireless microphones, including intercoms, are used extensively by television and radio journalists to conduct event-site interviews with athletes and coaches. For many sports events, these frequencies are used by coaches to communicate with each other or their athletes, and even by officials to announce penalties and calls. In fact, at some large events, like the Super Bowl,

BCS College Football Championship, the Daytona 500, or the NBA Finals, hundreds of wireless microphones may be used at a single venue. Today, sports leagues and programmers already face a difficult challenge to find sufficient available wireless spectrum to support their events. In most major metropolitan areas where many sporting events are held, the TV spectrum is not actually "white" or vacant but is, in fact, used to support these events.

Typically, major sporting events require significant advance planning and extensive professional frequency coordination of wireless microphones to ensure that the players, coaches, officials, broadcasters, and fans have the high-quality audio needed to make the event a success. Wireless microphones are sensitive high-end professional equipment and any radio interference could cause a loss of audio or quickly degrade audio quality beyond tolerable limits. Such interference would have a devastating effect on program producers, organizers, teams, coaches, and live spectators at an event as well as the millions of viewers watching on television. Imagine the public complaints and outcry from fans if audio was lost during a decisive call or key play during a televised playoff or national championship.

As a first step towards ensuring protection for existing services, we urge the Commission to limit its action in this proceeding to "fixed" TV band devices for rural broadband services. The location of these fixed devices should be known to incumbent users. The radiofrequency environment in the TV channels is already difficult for frequency coordinators and producers and to add millions of portable new TV band radio devices in the same spectrum would make interference conditions intolerable. New portable TV band devices should not be permitted to operate on the so-called "white spaces."

We also strongly encourage the Commission to conduct both laboratory and field testing of the ability of all devices to protect wireless microphones and related audio equipment. It is particularly important to conduct field tests that assess the interference cases in real-world conditions. Real world testing will allow the Commission to determine whether proposed interference solutions will protect all incumbent devices and services. The advocates of new devices in the TV frequencies bear the burden of demonstrating that no interference will occur to existing operations and should be prepared to demonstrate that their devices detect and protect all incumbents, including wireless microphones.

We urge the Commission to adopt effective interference avoidance measures. In particular, we support requirements that would prohibit these new TV band devices from operating in spectrum adjacent to assigned TV channels and in some modest number of channels in rural areas. We also support the adoption of other measures that may be necessary to meaningfully protect wireless microphone operations from interference in super-scale venues such as major televised sporting events. New TV band devices will need to be located in areas where they will not interfere with incumbent users. A system based on using geolocation to locate fixed base stations in areas where there will be no interference appears to be the best approach.

Sports leagues and organizations, owners, teams, players, broadcasters, sportscasters, webcasters, and consumer technology providers all share an interest in the development of

technical and regulatory requirements that prevent harm to sports production and programming distribution. This shared interest is driven by the demand of millions of American sports fans that view live and broadcast events and expect high-quality audio as part of the overall consumer sports experience. Wireless microphone equipment plays a crucial role in delivering that sports experience to American consumers.

It is essential that the Commission not allow new portable devices to operate in the TV spectrum. Further, we urge the Commission to designate certain spectrum "off limits" to new TV band devices, adopt technical solutions (such as those proposed by the IEEE 802.22) to prevent interference at super-scale sporting events, use geolocation to insure that fixed devices do not cause interference, and test all technical solutions under consideration to assess whether they will, in fact, protect wireless microphones under real-world conditions.

Sincerely,

Members of the **SPORTS TECHNOLOGY ALLIANCE**

MAJOR LEAGUE BASEBALL ("MLB")

NATIONAL ASSOCIATION OF STOCK CAR AUTO RACING ("NASCAR")

NATIONAL BASKETBALL ASSOCIATION ("NBA")

NATIONAL COLLEGIATE ATHLETIC ASSOCIATION ("NCAA")

NATIONAL FOOTBALL LEAGUE ("NFL")

NATIONAL HOCKEY LEAGUE ("NHL")

THE PGA TOUR

ESPN

THE SPORTS TECHNOLOGY ALLIANCE

PLACING UNLICENSED "PORTABLE" TRANSMITTING DEVICES IN THE TELEVISION BAND IMPAIRS MAJOR SPORTING EVENTS AND THE TELEVISION COVERAGE OF THOSE EVENTS BY INTERFERING WITH LICENSED WIRELESS MICROPHONES

UNLICENSED DEVICE PROPONENTS WANT TO OPERATE UNLICENSED TRANSMITTING DEVICES IN THE SO-CALLED "VACANT" WHITE SPACES IN THE TV BAND

Proponents of unlicensed devices assert that there are "vacant" channels in the television band that may be used for unlicensed devices. These so-called vacant channels are adjacent to the channels used for local television broadcasts. For example, one may find TV stations broadcasting on channels 7, 9 and 11 in a market. Unlicensed proponents assume you can operate unlicensed devices on channels 8 and 10.

THESE CHANNELS ARE NOT VACANT! THEY ARE USED EXTENSIVELY IN THE PRODUCTION OF LIVE SPORTING EVENTS

Sports productions as well as many other video production entities operate wireless microphones and video assist devices on these channels.

- Sports broadcasters use wireless microphones and video assist devices for in-stadium interviews, locker room interviews, and for providing unique camera angles during games.

- Major sports leagues and conferences, including the MLB, NASCAR, NCAA, NBA, NHL, The PGA TOUR and sports producers, rely extensively on licensed wireless microphones to provide the type of coverage demanded by viewers.

Wireless communications have become an important infrastructure element to the game itself. For example, wireless "coach communications" are used in every NFL game. NASCAR depends on wireless communications between drivers and pit crews. The PGA TOUR relies extensively on wireless communications to cover large geographic areas to bring the American public live coverage.

THESE FREQUENCIES ARE HEAVILY USED AND REQUIRE EXTENSIVE FREQUENCY COORDINATION

Wireless microphones and video assist devices use these frequencies extensively, especially in major markets. As a result, frequency use is subject to extensive frequency coordination by the engineers, such as the Society of Broadcast Engineers.

- For many major sporting events, hundreds of wireless microphone frequencies must be coordinated to avoid interference.

- It takes several months to coordinate frequencies for major events such as the Super Bowl, World Series, NBA Finals, Daytona 500, and the Masters. The same is true for news events such as the political conventions.

- Frequencies are pre-coordinated in every television market to avoid interference among news departments when covering live sporting events.

In most major markets, there is already significant overcrowding of these frequencies. The proliferation of new sports and news channels has increased the number of licensed wireless microphones used and will place greater pressure on the frequencies used by these devices. The demand for these frequencies will increase. As congestion increases, frequency coordination among licensed users becomes more important and much more complex.

For coordination to work, all parties must be willing to work within the frequency coordination process. Because these are all "live" events, the wireless communications cannot fail. There are no second chances when covering live events.

THE INTRODUCTION OF "PERSONAL AND PORTABLE" UNLICENSED DEVICES IN THE BAND WILL CAUSE HARMFUL INTERFERENCE

Unlicensed device proponents urge deployment of "personal and portable" unlicensed devices in the band that operate at 100 milliwatts. These unlicensed devices could be anything such as a wireless laptop, an in-home networking system, or a PDA.

A 100 milliwatt device may cause interference over a significant area. These devices will likely be designed to communicate with other laptops down the street or base stations kilometers away.

These devices intend on sharing the same frequencies that are being used by wireless microphones. To avoid interference, proponents of unlicensed devices intend to use "sensing" technology to avoid operating on a channel that is in use by a wireless microphone. *Sensing, by itself, will not prevent interference.*

- There is no evidence that sensing technology can detect the signals from wireless microphones to avoid interference. This technology has never been tested in a real-world situation. The problems are substantial.

- An unlicensed device operating down the street or hundreds of meters away from a licensed wireless microphone would be unable to detect the signal of the microphone. As a result, the unlicensed device would commence operating on these frequencies and interfere with the microphone.

- Wireless microphones do not operate on specific frequencies 24 hours a day. However, when a live sports event begins, the frequencies must be available. This will be impossible if unlicensed devices are already operating on these frequencies.

- IEEE 802.22, a working group from the leading engineering standards organization in the world, concluded that "sensing alone" is not sufficient to protect licensed users in the TV band from interference from unlicensed devices.

PLACING PERSONAL AND PORTABLE UNLICENSED DEVICES IN THE BAND MAKES FREQUENCY COORDINATION IMPOSSIBLE

Unlicensed devices are intended to be consumer products. It would be impossible to coordinate wireless microphone frequencies if thousands of unlicensed transmitting devices are being used in or near a sports venue. It will be almost impossible to cover events such as the PGA tour or Boston Marathon, which cover broad geographic areas.

Because these events are live, the harm occurs in an instant and without warning. It cannot be corrected in real time. If interference occurs and the microphone does not work, the live interview or event is lost. *Post hoc* remedies are ineffective.

Since these are unlicensed consumer products, it will be impossible to track down or recall interfering devices. Consumers using these devices will not know they are causing such interference.

ALLOWING PERSONAL AND PORTABLE UNLICENSED DEVICES TO "SHARE" THESE FREQUENCIES CONFLICTS WITH SOUND SPECTRUM MANAGEMENT

We urge the Commission and Congress to adopt effective interference avoidance measures. In particular, we support requirements that would prohibit these new TV band devices from operating in spectrum adjacent to assigned TV channels and in some modest number of channels in rural areas. We also support the adoption of other measures that may be necessary to meaningfully protect wireless microphone operations from interference in super-scale venues such as major televised sporting events. New TV band devices will need to be located in areas where they will not interfere with incumbent users. A system based on using geolocation to locate fixed base stations in areas where there will be no interference appears to be the best approach.

The Commission should not allow new portable devices to operate in the TV spectrum. Further, we urge the Commission to designate certain spectrum "off limits" to new TV band devices, adopt technical solutions (such as those proposed by the IEEE 802.22) to prevent interference at super-scale sporting events, use geolocation to insure that fixed devices do not cause interference, and test all technical solutions under consideration to assess whether they will, in fact, protect wireless microphones under real-world conditions.

The Sports Technology Alliance i, comprised of major professional and collegiate U.S. sports leagues, including Major League Baseball (MLB), NASCAR, the National Basketball Association (NBA), the NCAA, the National Football League (NFL), the National Hockey League (NHL), the PGA TOUR and ESPN.

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