

May 1, 2008

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 **Major League Baseball (MLB), the National Association for Stock Car Auto Racing (NASCAR), the National Basketball Association (NBA), the National Collegiate Athletic Association (NCAA), the National Football League (NFL), the National Hockey League (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 major U.S. professional and collegiate sports leagues and organizations, and the major national sports programming distributor engaged in the creation, production and distribution of sporting events and other sports-related programming vital to tens of millions of Americans. We are writing to express concern over recent statements made in this proceeding regarding the role of the Commission’s prototype device testing, and recent proposals submitted that prod the Commission to trade one unproven spectrum sensing technology for another.

At the outset, we commend the Commission for undertaking a process of testing and study of technologies promised to prevent interference with existing users of the television frequencies, including wireless microphones. Any “solutions” offered to prevent interference by new devices operating in the “white spaces” must be thoroughly examined and demonstrated to guarantee protection to incumbent services.

We are deeply troubled by the very serious disruption and harm that portable device interference will cause to sport broadcast programming, whether pre-recorded or live, and the conduct of the games themselves. 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. Wireless microphones, including intercoms, are used extensively by television and radio journalists to conduct interviews with athletes and coaches, by coaches to communicate with each other and athletes, and by referees to announce penalties and calls. In fact, at some large events, like the NCAA Basketball Championship Tournament, the Daytona 500, the NBA All-Star Game, and the Super Bowl, more than 300 wireless microphones might be used at a single venue. 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.

Recent statements made by the White Spaces Coalition and others would have the Commission believe that the use of unlicensed portable devices in the “white spaces” is a foregone conclusion and that the sole purpose of the Commission’s second round of prototype device testing in this proceeding is merely for “data gathering” purposes.¹ We recognize that prototype devices submitted for testing are not the actual devices that will be marketed to U.S. consumers. We also recognize, that, of course, the testing will provide the Commission with additional information that will be considered in assessing the interference potential of white space devices.² However, it should be obvious that a primary purpose of the testing is specifically to determine whether spectrum sensing technology in the TV bands reliably detects and protects wireless microphone operations.³ It is unreasonable to argue otherwise.

The results of these tests -- and not the sophistry of the White Spaces Coalition -- should be the foundation for the Commission’s decision whether or not to move forward and, if so, under what approach. Given the complexity of interference problems raised by “white space” proposals and the importance of what’s at stake -- modern production and broadcasting of American sports events, not to mention other important interests -- the Commission must stand by its commitment to the process. If a failsafe environment for incumbent wireless microphones cannot be demonstrated, the Commission must be prepared to rule that the current state of technology simply does not justify moving forward with the portable white space proposals at this time. Moreover, if the Commission decides to explore a set of proposed interference

¹ See, e.g., Letter from Letter from Edmond J. Thomas, Advisor to the White Spaces Coalition, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-186, at 1 (dated Feb. 28, 2008) (“observing that Commission’s testing process is data gathering effort to obtain information helpful to the Commission’s efforts in determining the appropriate operating parameters for white space devices.”); Letter from Edmond J. Thomas, Advisor to Microsoft Corp. and Philips Electronics North America Corp., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-186, at 1 (dated Mar. 21, 2008) (Mr. Thomas observed that “the purpose of field measurements is to collect data in support of the Commission rulemaking.”); see also, Wireless Innovation Alliance, Press Release, “FCC Testing on Microsoft ‘White Spaces’ Prototype Successful,” (Feb. 11, 2008) (“The FCC will use results from the various devices to learn which technologies work better than others, which will help it set the ‘rules of the road’ for later testing and certification of consumer-grade devices.”).

² See *Unlicensed Operation in the TV Broadcast Bands*, First Report and Order and Further Notice of Proposed Rulemaking, FCC 06-156, at ¶ 15 (2006).

³ See *Initial Evaluation of the Performance of Prototype TV-Band White Space Devices*, OET Report, FCC/OET 07-TR-1006, at iv (rel. July 31, 2007) (“Report”); *The Office of Engineering and Technology Announces Additional Testing of TV White Space Devices*, ET Docket No. 04-186, Public Notice, DA 07-4179 (rel. Oct. 5, 2007).

protection measures other than spectrum sensing, further laboratory and field testing of those methods, whatever they may be, must be required before the FCC can develop rules that permit white spaces devices to operate on television spectrum.

It is a disappointing fact that only two of the five submitted devices purport to protect incumbent wireless microphone operations. The results of the Commission's Phase II testing of these devices have so far demonstrated that the prototypes, "built largely to demonstrate detection and protection capabilities,"⁴ are simply not working. According to Microsoft, during the Commission's testing of one of Microsoft's prototypes, "it just stopped working."⁵ In fact, the devices submitted have yet to demonstrate that they can detect and sense wireless microphone transmissions at real-world, field tested levels -- a necessary prerequisite for any sort of spectrum cohabitation arrangement. Given this track record of performance, we see no reason to be confident that the spectrum sensing technologies intended for use in portable devices can provide significant dependable interference protection to wireless microphones and other incumbent users in the band.⁶

Now is not the time for the Commission to be distracted by proposals that rely on unproven, yet-to-be-developed technical fixes. Google's proposal, similar to a plan earlier offered by Motorola, is particularly unhelpful. Google suggests that wireless microphone users purchase and install "beacons" in order to jam white space device transmissions, rely on channels 36-38 for microphone transmissions and, as a last resort, should count on spectrum sensing for interference protection.

Each of these elements is flawed. Strapping together several deficient proposals under a new name, simply does not add up to a solution to this difficult problem.

First, the notion of a beacon, we believe, wrongly places the burden on existing users to provide an interference protection solution. In addition, the Commission should recognize that the notion of a beacon is still just a notion; we are not aware of any device that has been proposed for use in the sports world and certainly no device has been submitted to the FCC for testing. Moreover, a beacon approach is just another form of spectrum sensing, which has still yet to be proven reliable. Further, as proposed, some sports organizations may not have authorized access to such a beacon. Assuming such beacon technology becomes available, the proposal would require a beacon transmitter for every TV channel used which can be 6 to 10

⁴ Letter from Edmond J. Thomas, Advisor to Microsoft Corp., to Marlene H. Dortch, Secretary, FCC, ET Docket No. 04-186, at 1 (Feb. 7, 2008).

⁵ Stephen Lawson, *Another Microsoft Wireless Prototype Fails*, IDG News Service, March 29, 2008, <http://www.pcworld.com/article/id,143963/article> (noting that Microsoft's final prototype had "stopped working and been taken out of the process").

⁶ All of this should come as no surprise to the Commission since similar prototype devices performed poorly in the Phase I round of testing. There, the Commission found that the Phase I prototypes were "generally unable to sense wireless microphones," "incorrectly indicated a presence of a microphone" or "the device's ability to sense wireless microphones decreases somewhat as the location of the microphone signal is moved closer to the edge of the TV channel on which it operates." Report at viii-ix.

channels or more. This is especially true at large sporting events where every unoccupied white space channel may be required. Simply put, the beacon proposal is just not practical for use in sporting events. For example, beacons are not suited to work with roving camera crews such as those used to cover PGA TOUR events like THE PLAYERS Championship, or for electronic news gathering crews who perform on- and off-site interviews with athletes before, during, and after sporting events. Given the extensive use of wireless microphones in many sports, this proposal would result in significant additional expense to acquire new equipment merely to enable existing equipment to continue to function.

Second, especially in urban areas, the “safe harbor” channels Google suggests for wireless microphones is spectrum already occupied or off limits to wireless microphones and which, in any event, falls far short of an amount of spectrum that would be sufficient to support the extensive wireless microphone use by sports venues today. The ESPN Monday Night Football (“MNF”) broadcast alone requires 145 wireless frequencies for microphones, talkback and communications. Under current conditions, one TV channel is simply not enough bandwidth to sustain the MNF broadcaster’s needs.

Finally, including spectrum sensing adds little to this set of impractical solutions since it cannot reliably protect wireless microphones. In our prior filings, we detailed significant technical issues with spectrum sensing and why it is not an adequate means of interference protection for wireless microphones.⁷ None of those issues has been resolved. As mentioned above, the Commission has not yet tested a spectrum sensing device that protects wireless microphones. Most of the prototype devices currently under test do not even attempt to address wireless microphones. One of the two devices that claimed to protect microphones has failed entirely and the remaining device still has not been shown to protect wireless microphones reliably. Although the Commission has not yet conducted field testing on any device, based on results so far, the prospects are grim that spectrum sensing will perform well in real-world, field tests. Despite having every opportunity over now two rounds of FCC testing, portable device advocates have not been able to demonstrate that the devices they are promoting live up to their assurances that spectrum sensing is a mature technology that provides “guaranteed” protection to incumbent services.⁸

⁷ See *Ex Parte* Comments of MLB, NBA, NCAA, NFL, NHL, the PGA TOUR and ESPN as members of the SPORTS TECHNOLOGY ALLIANCE, ET Docket No. 04-186 (filed Aug. 21, 2007). In those filings, we discussed a number of technical failings in any interference protection scheme based on unproven sensing technology, including: the failure of Microsoft and Philips prototypes to reliably detect wireless microphones and DTV signals in controlled tests in a quiet RF environment; the inherent inability of a sensing device to protect incumbents when transmit power permits unlicensed emissions to radiate beyond the device’s effective sensing range; and the inability of sensing technology to address hidden node problems that occur at real-world sporting events where wireless microphones and intercoms are used extensively.

⁸ The White Spaces coalition has stated that it “*guarantees* that incumbent licensees will be protected from harmful interference. Indeed, the Coalition is so certain of its analysis that it is the only participant in the docket who responded to the Commission’s request for a prototype.” Reply Comments of Dell, Inc., Google, Inc., the Hewlett-Packard Co., Intel Corp., Microsoft Corp., and Philips Electronics North America Corp., ET Docket No. 04-186, at 5 (filed Mar. 2, 2007) (emphasis added.)

According to the Consumer Electronics Association, sports fans are driving High Definition television sales since sports fans more readily adopt new technologies than non-sports fans.⁹ A significant factor in the adoption of HD is the consumer's desire for improved quality in viewing experiences. Part and parcel of these improved viewing experiences are the enhanced sounds that are integral to sports programming.¹⁰ High-quality sounds that viewers expect from their HD televisions such as the crack of the bat on opening day, to the roar of the engines in the Daytona 500, to the sound of a hard tackle in the Super Bowl, to the sounds of the energy of NBA coaches' play calling from the bench, are all in danger of being drowned-out if unlicensed, portable devices are allowed in the TV bands.

We urge the FCC to remain focused on requiring portable white space device proponents to demonstrate interference protection solutions that are here today and that provide effective, reliable protection to wireless microphones. If those solutions cannot be demonstrated, the Commission should, finally, reject these proposals and turn its attention to determining whether fixed services, with a clear adjacent channel plan along with other appropriate protections, can be implemented without causing interference to incumbent users.

Sincerely,

Members of the **SPORTS TECHNOLOGY ALLIANCE**

MAJOR LEAGUE BASEBALL (MLB)



⁹ See Consumer Electronics Association, Press Release, "Sports Fans Drive HD Television Sales According to New Survey," (Jan. 17, 2006).

¹⁰ See D. Carr, "Great Picture, So-So Sound," *BROADCASTING & CABLE*, at 21 (March 10, 2008) (in an HDTV world, consumers will expect high quality audio, not just HD picture, for sports and other programming).

NATIONAL ASSOCIATION FOR 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

