

**Two Recent Articles on “White Space” for Discussion**  
**Dr. William Radasky**  
**12 September 2008**

**Article from Interference Technology Web Magazine – 8/15/08**  
**Redskins Win, Wireless Prototypes Did Not Fare as Well**  
08/14/08

Courtesy of the National Football League, the Federal Communications Commission was invited to continue the testing of prototype wireless devices at FedEx Stadium in Landover, MD before the pre-season Redskins-Buffalo Bills game. The FCC has already completed laboratory testing on the so-called White Space devices that would operate in the bands separating the assigned frequencies of television broadcasters. The sports and entertainment industries rely heavily on wireless microphones during live events; hence their understandable interest in avoiding interference to these devices. Shure, a well-known manufacturer of wireless microphones, issued a press release on the Sunday following the game.

According to Mark Brunner, Shure, Inc.’s Senior Director for Public and Industry Relations, “The FCC’s tests of prototype white space devices at FedEx field prior to Saturday’s game between the Redskins and the Bills conclusively show that spectrum sensing white space devices will cause harmful interference to wireless microphones during live events. Simply stated, the prototype devices were unable to consistently identify operating wireless microphones or distinguish occupied from unoccupied TV channels. More troubling, the devices failed to detect the presence of wireless microphones when switched on – an occurrence that takes place multiple times during any NFL game. Given the poor performance of these sensing devices, there is no reason to believe that the other proposed protections, such as beacons, will be any more capable of providing reliable and robust interference protection to wireless microphone transmissions.”

eWeek.com

Topic: Wireless

FCC Wants Wireless Mics Out of 700 MHz

By Roy Mark

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**Led by Shure, the wireless microphone industry spent the summer protesting the use of white spaces devices designed to deliver unlicensed broadband and other advanced wireless services, claiming the unlicensed use of the spectrum would cause interference on wireless microphones. Google, Microsoft, Motorola and other tech companies claim spectrum-sensing technology will eliminate any interference issues in the 700 MHz spectrum. Turns out, most wireless microphone users are illegally using the spectrum in the first place. The Federal Communications Commission now wants them gone from the 700 MHz spectrum.**

So much for the wireless microphone industry's complaints about possible interference from white spaces devices: the FCC (Federal Communications Commission) is considering kicking all wireless microphones from the 700 MHz spectrum. Turns out, many of the wireless microphones are illegally operating in the spectrum in the first place.

Throughout the summer the wireless mic industry, led by Shure, Inc., has agitated against sharing its 700 MHz spectrum with the proposed white spaces devices that would exploit the interference buffer zones between television channels to deliver unlicensed wireless broadband and other advanced wireless services. The FCC is in the process of testing the white spaces devices for possible interference.

Google, Microsoft, Motorola and other tech companies want to move into the interference space after television broadcasters vacate the spectrum in February as part of the digital TV transition. Sports organizations like the NFL and MLB, along with show business operations, churches and nightclubs that use wireless microphones, maintain that the unlicensed use of white spaces will cause interference with the use their wireless microphones.

But on Aug. 21, the FCC ordered a freeze on the on the granting of any equipment authorization requests for wireless microphones that would operate in any of the 700 MHz Band frequencies. In addition, the FCC is considering a ban on any wireless microphones operating in the space.

"These actions would ensure that low power auxiliary operations do not cause harmful interference to new public safety and commercial wireless services in the band," the FCC order stated.

According to FCC rules, wireless microphones are permitted in the 700 MHz spectrum for broadcast applications only and must be licensed, but over the years a number of unlicensed wireless microphones have been operating in the space. The FCC's lack of enforcement of the rules prompted the Public Interest Spectrum Coalition to file an informal complaint with the agency last month. PISC members include the Media Access Project, Consumer Federation of America, Consumers Union, Free Press, New America Foundation and Public Knowledge.

The complaint contends "somewhere between 500,000 and 1 million unauthorized wireless microphone systems" operate in the 700 MHz band. The PISC complaint specifically targets Shure and other manufacturers of wireless microphones.

"Shure and others have engaged in extensive marketing to churches, theater groups, business centers, and other unauthorized users. In violation of FCC rules, manufacturers persuaded unauthorized users to buy expensive wireless microphones that manufacturers had no right to sell and the public has no right to use," PISC complains. "Shure and the other manufacturers have relied on the widespread use of wireless microphones to shield them from any enforcement action -- despite the risk of harmful interference with new public safety systems."

PISC wants the FCC to grant a general amnesty to unauthorized users, who the coalition claims are victims of Shure and other manufacturers' illegal marketing practices. PISC also wants licensed microphone users such as ESPN and the NFL to accept "secondary status" in the band to public safety.

"Failure to act on this complaint and Petition will expose public safety users and subscribers to commercial wireless services to the risk of harmful interference, threaten the public safety and undermine the expected digital dividend from the recent 700 MHz auction," the PISC complaint states.

Shure did not return a request for comment.