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Re: FCC Notice of Proposed Rule Making (NPRM): 47CFR Part 15; ET Docket 04-186; Unlicensed Operation in the Television Broadcast Bands.

What has happened?

In May 2004, the Commission proposed new rules that would allow unlicensed devices to use spectrum in the so-called "white" (open) spaces between local television channels. However, television broadcasters and television set manufacturers are worried that the uncontrolled deployment of millions of unlicensed devices in the hands of the public might cause harmful interference that would threaten the transition from analog to digital television (DTV).

Why is this important to Shure?

Shure Incorporated is also very concerned, because this same "vacant" spectrum is currently being used by wireless microphone and other types of wireless audio systems, such as wireless in ear monitors, IFB, and wireless intercoms.

Wireless microphones and wireless audio systems play a vital role in broadcast, theatrical, and entertainment applications, and they are also widely used in many public venues. These include schools, houses of worship, sporting events, theme parks, and commercial and government facilities. As the "front end" of the audio chain, the sound wireless microphones deliver must be clear and free of noise and interference. Large events like the national political conventions or the Super Bowl have hundreds of wireless audio systems in simultaneous operation. This, in turn, requires a significant amount of "open" RF television spectrum.

What has Shure done about this problem?

Shure initiated an extensive study of the effects of interference from unlicensed devices on wireless microphone operation. In order to do these tests under "real world" conditions, Shure obtained a Part 5 Experimental license that permits us to transmit a simulated Wi-Fi signal in the UHF TV band. From the study, we learned that wireless microphones cannot operate successfully in the presence of co-channel interference from unlicensed devices. **Therefore, unlicensed devices must avoid TV channels that are in use by wireless microphones at a particular venue.**

What must the FCC do to protect wireless microphones and wireless audio systems?

Shure is supportive of using television spectrum for new services, as long as they do not cause harmful interference to existing licensed users, including wireless microphones:

1. In the NPRM, the FCC suggested the possibility of designating several "**exempt**" TV channels in each market, in which unlicensed devices would not operate. **Based on our experimental work, we feel that this is an absolute necessity, particularly if Fixed/Access Point devices are permitted to use power levels significantly in excess of the 1 Watt level proposed in the NPRM (as some proponents are suggesting).**
2. Large wireless microphone installations, such as a major political convention, require many more wireless audio channels (200 or more) than will fit within a few TV channels. Shure is participating on an IEEE work group (802.22) to determine practical solutions to this problem. **The Commission must take a deliberate approach and adopt new unlicensed technologies only after they are proven.**
3. The IEEE is a standards-based organization, and standards created by the 802.22 group will be voluntary. Therefore, **it is mandatory that the FCC include minimum protection requirements for wireless microphones and audio devices** in the new Rules permitting unlicensed devices to operate in the TV bands when they are issued.