

Impact of Unlicensed Devices on Wireless Microphones, ET Docket 02-380 SHURE INCORPORATED; October 29, 2003

Why is Shure opposed to allowing unlicensed devices in the TV bands?

- Shure Incorporated is the leading manufacturer of wireless microphones in the U.S.
- Allowing unlicensed devices in the TV bands would cause an unstable interference environment, jeopardizing continued operation of wireless microphones in this spectrum.

Why are wireless microphones important?

- Professional wireless microphones are a vital part of nearly every broadcast production for all types of entertainment and news programs, and are the standard by which a variety of events and programming are delivered to the viewing public.
- Examples of use include news gathering and production (disaster coverage), sports events such as the Super Bowl, major political conventions, major televised entertainment events such as the Academy Awards, Broadway and motion picture productions, and studio and on-location video productions. They are also widely used by touring concerts and shows, houses of worship, schools, corporate events, and by governmental bodies.
- There is no functionally equivalent substitute for wireless microphones.

Where do wireless microphones operate?

- They operate on vacant TV channels under 47 C.F.R. § 74.861, are classified by the FCC as Low Power Auxiliary Stations, and are licensed secondary users of TV spectrum.
- Wireless microphones have established a long history of successfully sharing this spectrum with television broadcasters, and therefore already constitute an efficient use of spectrum.

What type of conditions do wireless microphones need to operate effectively?

- Users of wireless microphones expect them to work just as well as a comparable wired model. Dropouts and interference cannot be tolerated on the air, or on stage. Thus, a known, stable interference environment is required so that interference can be predicted and avoided.
- Wireless microphone frequencies are normally coordinated very carefully, so they will not interfere with each other or with television broadcasts.

How would unlicensed devices in the TV spectrum adversely affect wireless microphones?

- The addition of millions of new unlicensed devices within the TV spectrum would cause harmful interference to wireless microphones, significantly impairing their operation.
- Unlicensed device uses are by nature unpredictable; it would be virtually impossible to plan a work-around, or remedy interference once devices are sold to the public.
- "Listen before talk" technology would not prevent harmful interference to wireless microphones, and would not be able to resolve interference when it occurs. Wireless microphone operations are too intermittent and real-time for "listen before talk" to effectively mitigate interference.
- Consumers of unlicensed devices expect products to work properly with minimal intervention, and they are not equipped to resolve interference issues. It would be infeasible to require consumers to limit their operation of unlicensed devices in order to protect licensed services.
- The amount of unused TV spectrum is very limited in major metropolitan areas, leaving little room for additional devices and heightening the potential for interference.

Allowing unlicensed devices in TV spectrum will jeopardize operation of wireless microphones.

- While unlicensed devices are a Commission and consumer success story, unlicensed devices are not well-suited for all spectrum. Unlicensed devices in the TV bands would cause major interference problems for current licensed wireless microphone users, jeopardizing their use.
- The ability of "listen before talk" to prevent interference to analog and DTV reception in widespread use is unproven. A better, lower risk solution would be to locate new unlicensed devices in a separate, contiguous band that could operate effectively under the "spectrum commons" model, such as the 3.6 GHz band.

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