



TELECOMMUNICATIONS

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White Space Spectrum: “Prime Real Estate” for Super Wi-Fi?

Last week the FCC adopted the Second Memorandum Opinion and Order (Second MO&O) to make vacant airwaves between TV channels—so called “white spaces”—available for unlicensed broadband wireless devices. Touted as the first significant block of “prime real estate” spectrum made available for unlicensed use in more than 20 years that will create jobs, investment, innovation and unleash a host of new technologies such as super Wi-Fi and other diverse applications, this spectrum is attractive because it allows signals to reach farther with better penetration of structures. According to the FCC, this spectrum could promote “super Wi-Fi hot spots” with extended range and speed while improving broadband access to schools, rural areas, and campus networks to promote streaming video and other applications. But will it live up to these promises and, if so, under what terms and conditions? The MO&O provides additional details and addresses several technical and legal issues. Specifically, among other things, the FCC through the MO&O:

- Modified the protection criteria for low power auxiliary stations such as wireless microphones to reduce the required separation between such devices and unlicensed personal/portable devices that rely on geo-location and database access to determine available channels at its location;
- Modified the definition of the receive sites entitled to protection outside of a television station’s service area to include all multi-channel video programming distributors as defined by its rules;

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- Reserved two vacant UHF channels for wireless microphones and other low power auxiliary service devices across the country;
- Allowed operators of event and production/show venues using large numbers of unlicensed wireless microphones that cannot be accommodated in the two reserved or other available channels to register those venue sites on TV bands databases to receive the same geographic spacing protections afforded licensed wireless microphones;
- Restricted fixed TV bands devices from operating on locations where the ground level is more than 76 meters above the average terrain level;
- Eliminated the requirement that TV bands devices incorporating geo-location and database access must also listen (sense) to detect the signals of TV stations and low power auxiliary service stations (wireless microphones);
- Adopted power spectral density limits for unlicensed TV bands devices;
- Modified the rules governing measurement of adjacent channel emissions;
- Restricted fixed TV bands devices from operating at locations where the height above average terrain of the ground level is greater than 76 meters;
- Required that communications between TV bands devices and TV bands databases, as well as between multiple databases, are secure.
- Required that all information required by the Commission's rules to be in the TV bands databases be publicly available; and
- Amended the FCC's rules to protect Canadian and Mexican stations in the border areas by including those stations in the TV bands database as protected services.

Critics of the FCC's actions argue that unlicensed wireless devices using this spectrum will cause interference problems, particularly to incumbent communications. Others argue that there is no need for the spectrum sensing requirements and request that they be eliminated, particularly the requirement to sense wireless microphones. Other concerns relate to the time and expense of detecting low power auxiliary signals at extremely weak levels, and possible delays because unlicensed device operators must first access a database to obtain a list of the permitted channels before operating and then re-check the database at least once daily. This database will be established and administered by a third party, or parties, to be selected through a public notice process to solicit interested entities.

Will making “prime real estate” white spaces available for unlicensed broadband wireless devices foster super Wi-Fi, create jobs, spur innovation and promote broadband access? While it is too early to tell, making this spectrum available is a critical step toward this end.

We welcome your thoughts! Please feel free to comment at our interactive blog at blog.tlgdc.com.

If you have questions about this issue, or if we may be of assistance to you, please feel free to contact us.

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