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FCC Seeks New Spectrum for Unlicensed Use

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Noting the tremendous success of unlicensed devices such as Wi-Fi and Bluetooth, the FCC has launched a search for spectrum to house new unlicensed operations. The unlicensed regime authorizes the equipment, not the user. Once approved as complying with the FCC's technical rules, an unlicensed device can be used by anyone in the U.S. jurisdiction for any purpose. (Some in the industry call their operations "license exempt" rather than "unlicensed," to emphasize their lawfulness under appropriate conditions.)

The current Notice of Inquiry asks for comment on two possible bands for unlicensed use. Where most bands permit unlicensed devices at only a very small fraction of a watt, the FCC hopes to find room for new operations at the relatively high power of a full watt, or possibly more.

One band under consideration is the TV broadcast channels, but only at geographic locations where a particular TV channel is unused. Because TV stations operating on the same channel, or even adjacent channels, must be spaced tens to hundreds of miles apart to avoid interference, every location necessarily has many vacant channels. The FCC now asks whether an unlicensed device, transmitting at far lower power than a TV station, can operate safely in places where a TV station cannot. To avoid the TV frequencies actually used in a given area, the unlicensed device might be required to monitor the channel before using it, or to ascertain its own position with a built-in GPS locator and consult a database. The FCC seeks comment on whether such approaches can feasibly prevent interference to local TV reception, and on the exact degree of protection TV stations would require. Also up for discussion is whether TV channels 2, 3, and 4 may need special protection because they are used for (or are adjacent to) the output from VCRs and other set-top boxes, and how to protect radio astronomy operations on channel 37. But any proposals for unlicensed use of the TV spectrum are expected to meet strong opposition from the broadcast industry.

The other band of interest is at 3650-3700 MHz. Recently transferred from the federal government, it is largely vacant except for some fixed-satellite international downlink earth stations and just three government sites. The FCC seeks comment on how these sites might be protected from interference, and on what power levels and antenna gains are appropriate for unlicensed operation.

The FCC is also open to suggestions for other bands that might be appropriate for unlicensed operation, without causing interference to licensed services.