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Questions Of Reliability Color White Space Debate

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Two new developments add fuel to the ongoing controversy over whether unlicensed devices should be able to operate on vacant TV channels – often called “white space” spectrum.

Personal/Portable Use

Much of the dispute centers on the wisdom of allowing handset-type units that a consumer can carry around, sometimes called personal/portable devices, that use TV frequencies. Unless these can be made smart enough to identify and avoid occupied TV channels when taken from one place to another, they will threaten interference to viewers’ off-the-air reception. Designing in adequate protection is difficult because a large outdoor TV antenna can receive signals too weak for detection by a hand-held device. Proponents have yet to satisfy the FCC that non-interfering personal/portable devices are feasible.

Motorola, which hopes to make money selling the handsets, recently proposed to simplify the problem by dividing the personal/portables into two categories. The more common consumer units would use relatively simple technologies for avoiding occupied TV channels: they would monitor directly for TV signals, and also receive a local beacon signal that identifies vacant channels in the area. To minimize any residual risk of interference, these would operate only at low power, below that of typical Wi-Fi units. Higher-powered units, intended for rural areas and commercial or enterprise use, would have to add a GPS receiver and a look-up table for determining the vacant frequencies at any location. They would operate at maximum Wi-Fi power.

As we go to press, the broadcasters have not yet responded to this proposal.

Fixed Use

Less controversial is the use of unlicensed white space spectrum for communicating among fixed points, as for broadband Internet delivery to homes and businesses. An industry standards group has proposed technical guidelines that even the broadcasters concede would adequately protect off-the-air viewers. The FCC has already approved fixed use in principle, and is widely expected to adopt these standards or something similar.

Recently two entities – FiberTower Corporation and the Rural Telecommunications Group, Inc. – urged the FCC to put fixed white space use on a *licensed* basis, either by auction or by charging fees for individual links. The broadcasters generally like this idea. Entities that had looked forward to accessing free spectrum do not. The opinions of those who matter most, the five FCC Commissioners, are not yet known.