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Finally! -- New 5 GHz Procedures Are Ready

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The FCC's long-running effort to expand the 5.7 GHz U-NII band has at last reached a successful end.

Back in 2003, the FCC added 255 MHz to the unlicensed U-NII bands, which then consisted of three 100 MHz segments. The new spectrum, located at 5.47-5.725 GHz, was supposed to take pressure off the heavily-used Wi-Fi band at 2.4 GHz in the face of escalating demand for unlicensed spectrum.

The freshly added spectrum, however, is shared with radars operated by the federal government. The FCC's 2003 order included rules to protect those radars – in particular, a requirement that an unlicensed device in the band be able to monitor for the radars and, if it finds one, avoid the frequencies the radar is using. Separately, to help accommodate more users, the FCC required that unlicensed devices be able to automatically turn down their output power to the minimum needed for communication.

In setting up the new rules, the FCC had to specify criteria for testing whether a device satisfies the technical requirements. That proved to be much harder than expected, in part because the federal government was reluctant to disclose certain details about the radars it wanted protected. It took more than two years – until earlier this year – for the FCC, an industry group, and the federal government (via the National Telecommunications Information Administration) to agree on a compliance test procedure. Now the FCC has adopted that procedure, a dense 40 pages of technical detail.

At the same time, the FCC disposed of several requests for clarification and reconsideration left over from the original 2003 order. The FCC made clear that transmitters limited to sufficiently low power need not implement automatic power control. It declined to answer a complicated question on frequency avoidance by networks of interconnected radio devices, saying it preferred to handle such issues on a case-by-case basis. And it responded to other outstanding questions by inserting appropriate provisions in the compliance test procedure.

The new rules on frequency avoidance and automatic power control govern not only the newly allocated 255 MHz, but also a pre-existing U-NII segment at 5.25-5.35 GHz. They apply to all products for these bands whose certification applications are filed on or after July 20, 2006, or that are imported or marketed on or after July 20, 2007.

