

Comments in support of additional unlicensed spectrum in the 700 Mhz region

As a technologist and consultant with many years of experience, I appreciate this opportunity to make my views known. I believe that there is a compelling argument in favor of opening up some of the frequencies below 900 Mhz to unlicensed data use. The case for doing so in rural areas has been well presented by others. However, I believe that an equally compelling case can be made for such use in urban and suburban settings, and for increasing the power levels permitted at 2.4 gigahertz as well.

Currently, access to itinerant 802.11b wireless services in urban and suburban areas is the subject of much discussion and publicity. But the promise of easy, unfettered access to such services at the flick of a laptop remains very elusive, even in areas where it really ought to be easily available, such as most airport public areas, convention centers, malls, and so forth. Despite the efforts of such companies and organizations as Wayport, Personalcelco, Joltage, and Boingo, (often coupled with elaborate web-based maps that display many, many supposedly publicly available access points), really usable 802.11b connectivity still is nonexistent in many of these locations.

Why is there still such a gap between promise and reality? Of course there are many reasons, including the predictably poor result of trying to re-purpose consumer-grade "wireless routers" into micro-ISP duty (such as is attempted by Joltage or Personalcelco), and the severe limitations that result from truly puny power levels that current regs allow in the 2.4 gigahertz unlicensed spectrum, even using enterprise-grade equipment. Another important reason has nothing to do with technology- and everything to do with turf-minding. The managers of malls, airports, convention centers, etc. often don't really understand the technology, or view it as overly invasive, and they either withhold permissions or tack on huge fees for antennas necessary to distribute internet connectivity to the end users. And the reality is that today's low power levels combined with the physical characteristics of 2.4 gigahertz, can indeed result in installations that resemble a porcupine in terms of required densities of access points and antennas to obtain acceptable performance in larger urban or public settings. As a result, the would-be provider backs away from the opportunity under vanishingly-thin margins.

However, it is within the FCC's ability to readily address the problems outlined above. Certainly, opening up a portion of the sub-900 Mhz region to these services, would greatly improve the performance of low-power unlicensed devices, dramatically reducing the need for high-density access-point and antenna deployment within the area of interest, reducing the need for time-consuming site-surveys, and the cost of the hardware as well. In addition, allowing ISP's to run at higher power levels in the 2.4 gigahertz band could accomplish some of the same benefits without requiring the design of an entirely new family of hardware specific to the new spectrum. The best solution in my opinion- do both and let the marketplace decide.

Accordingly, I believe the ability of a prospective WISP to provide much needed enhancements to connectivity options in urban areas, can best be addressed by (a) increasing the power levels available to 802.11 unlicensed spectrum to a level more appropriate for the kind of hi-reliability and easy-to-use itinerant services we'd all like to see, and (b) opening up a sub-900 Mhz band to the same kinds of services.

Respectfully submitted,

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