# A Changing Regulatory Climate

Want licensed or unlicensed spectrum? FCC is business-friendly but you can get burned.

By Robert D. Primosch ■ *Esq.*

***The choice between licensed and unlicensed spectrum may boil down to a fundamental economic question: Does the guarantee of interference protection justify the additional cost of acquiring a license, or is unprotected unlicensed spectrum "good enough" for the situation at hand?***

First, the good news: Federal regulators are more focused than ever on promoting wireless broadband service. Indeed, over the past five years the Federal Communications Commission has dramatically increased the amount of spectrum available for wireless broadband. The FCC also has given wireless broadband providers more freedom to offer services that respond directly to customer demand. While some regulatory loose ends have to be tied up, the climate for wireless broadband clearly is getting better, not worse.

Nonetheless, those entering the wireless broadband business must remain vigilant. For every investment opportunity, there will be technical and regulatory challenges that directly affect the business case. By and large, these challenges can be met and overcome if they are identified in advance and properly accounted for before service is launched. The following is an overview of the more significant challenges and how wireless broadband providers can address them during the planning process.

## Choice of Spectrum

Spectrum rarely is a "one size fits all" proposition. For example, different spectrum allocations will have better bandwidth or signal propagation than others. Some will be licensed, some not. The interference threats in each band are not identical, and thus may require different technical fixes that involve a variety of costs. The obligation to protect adjacent channel users (and vice versa) from out-of-band emissions may not be the same in all cases. There will be instances where a mix of wired and wireless technology may be superior to an end-to-end wireless solution. And, not every spectrum band is equally available in every market – in some cases (for example, the 700 MHz band and the Advanced Wireless Services spectrum at 1.7/2.1 GHz), most or all of the allocated spectrum has yet to be auctioned.

The precise technical and regulatory differences between the various spectrum bands (including the spectrum adjacent to them) are important and should be discussed with engineering or legal counsel before deployment. A few general trends, however, are worth noting. For licensed spectrum below 3 GHz, the FCC has gradually been moving toward a more unified approach, under which the various spectrum bands are governed by roughly the same regulatory principles. The cornerstone in all cases is "flexible use" – regardless of the spectrum involved, wireless broadband providers generally may deploy their spectrum however they want, provided that they do not cause harmful interference to other licensed users and offer enough service to justify license renewal.

The FCC has adopted a similarly business-friendly approach when regulating spectrum for which no license is required (most notably, the unlicensed 902-928 MHz, 2.4 GHz and 5.8 GHz bands that are often used for wide-area wireless broadband service). Again, the devil is in the details, so a thorough analysis of the relevant FCC rules should be undertaken ahead of deployment. Most significantly, however, the FCC has already adopted a variety of rule changes that give users of unlicensed spectrum more opportunities to use higher antenna gain. Unlicensed users also have more freedom to reconfigure their systems without having to repeat the FCC's equipment certification process. The FCC is actively considering additional rule changes that would permit operators of unlicensed point-to-multipoint systems to use significantly higher transmitter power if they satisfy certain interference mitigation requirements.

Ultimately, the choice between licensed and unlicensed spectrum may boil down to a fundamental economic question: Does the guarantee of interference protection justify the additional cost of acquiring a license, or is unprotected unlicensed spectrum "good enough" for the situation at hand?

The FCC recently took a novel approach to the problem when it made the 3650-3700 MHz band available for wireless broadband service. It is anticipated that this spectrum will be especially useful in less populated areas, particularly for backhaul. The FCC estimates that signal range in the band will be 8-9 miles. Under the FCC's new rules, all users of the 3650-3700 MHz band will receive a non-exclusive nationwide license and be required to register their base stations with the FCC.

This model is somewhat similar to that recently adopted for wireless broadband in the 70/80/90 GHz band, which provides a high-capacity alternative for links much shorter in length. At 70/80/90 GHz, however, prior frequency coordination is required, and "first in time" base station registrants have a clearer right to receive interference protection than do latecomers. The Wireless Communications Association International (WCA) is currently leading an industry effort to clarify the amount of interference protection users of the 3650-3700 MHz band will receive, and is exploring other solutions to promote investment in the band.

Lastly, the FCC is encouraging privately negotiated cooperation among all unlicensed users in local markets, so that users themselves can regulate any interference issues without FCC involvement. One suggested model is the BANC (Wireless Broadband Access Network Coordination) project in the San Francisco Bay area, which is discussed in greater detail in a recent report issued by the FCC's Wireless Broadband Access Task Force (see http://www.fcc.gov/wbatf/).

## Buying, Selling and Leasing of Spectrum

In 2003 the FCC adopted rules that permit spectrum leasing in virtually all commercial wireless services, along with a streamlined FCC approval process both for spectrum leases and license assignments and transfers. In 2004 the FCC completed the rules to address issues not covered by its 2003 decision. The rules are a significant improvement over the rules and policies that historically have applied to leases and license assignments or transfers involving Broadband Radio Service and Educational Broadband Service (BRS/EBS, formerly MDS/ITFS) spectrum in the 2.5 GHz band.

The old spectrum leasing rules that applied to BRS/EBS focused almost exclusively on the issue of whether the licensee/lessor was maintaining both legal and actual control (also referred to as "*de jure*" and "*de facto*" control, respectively) over its licensed facilities. Fortunately, as previously advocated by WCA, the FCC now recognizes that this "control over facilities" approach "imposes significant constraints . . . because it restricts the ability of licensees to make spectrum available for a defined period to third-party users that would prefer to construct and use their own facilities instead of being forced to rely on the licensees' facilities and technology."

The new rules permit (but do not require) parties to enter into long term or short term *de facto* transfer leases. The *de facto* transfer lease model is nearly a complete about-face from the more traditional lease model previously required of BRS/EBS. If the lease is written properly, licensees/lessors may retain *de jure* control of their licenses but transfer *de facto* control and associated day-to-day responsibilities to spectrum lessees. While licensees cannot surrender absolute control, they are not required to exercise the kind of operational oversight that was required under the old BRS/EBS leasing model. Spectrum users should explore the opportunities offered under the *de facto* transfer leasing model and the associated FCC approval process.

## Access to Customer Premises

After a long and difficult battle, WCA convinced the FCC to expand its antenna preemption or "OTARD" (Over-the-Air Reception Devices) rule to cover wireless broadband antennas on customer premises. As a result, customer antennas (including Wi-Fi access points) now enjoy broad protection from local government or property owner restrictions that impair installation, maintenance, or reception of wireless broadband service.

The FCC later clarified that local government and property owners may not impose their own professional installation requirements unless they comply with the OTARD rule's "safety exception." Under no circumstances may a local government or property owner impose its own professional installation requirement on grounds of RF safety.

In addition, OTARD applies where a subscriber premises antenna is used both to serve the subscriber and to relay signals to other subscribers (for example, in a mesh network). Conversely, the rule provides no protection where a wireless provider simply places a hub site on a subscriber's premises (the antenna must serve the subscriber as well).

While WCA's success in expanding OTARD was a significant win for the wireless broadband industry, it is important to understand what the rule does *not* cover, especially in multiple dwelling unit (MDU) environments. For instance, the rule generally does not give wireless broadband providers a right of access to common areas, such as the rooftop. Such access must therefore be negotiated with the property owner. While the FCC and some states have rules that may cover this situation, normally the property owner's roof is his castle.

Likewise, OTARD does not address a wireless broadband provider's right to install new wiring or piggyback on existing wiring in an MDU. Wiring issues often involve a complex interplay of FCC, state or contract law that should be consulted ahead of installation.

OTARD also does not cover tower siting and related local zoning issues. On that subject, wireless broadband providers should become familiar with Section 332(c)(7) of the Communications Act, which imposes certain limitations on state and local regulation of "personal wireless service facilities." Among other things, Section 332 (c)(7) provides that the regulation of the siting of personal wireless service facilities by a state or local government "(I) shall not unreasonably discriminate among providers of functionally equivalent services; and (II) shall not pro-

hibit or have the effect of prohibiting the provision of personal wireless services."

Finally, OTARD does not govern a wireless provider's right of access to utility poles. While providers of wireless services have a general right of access to poles under Section 224 of the Communications Act, the associated FCC rules afford pole owners certain rights that may limit or eliminate access in some cases.

## "Big Picture" Issues

In addition to the "nuts and bolts" discussed above, wireless broadband providers need to keep an eye on the following:

- The extent to which state PUCs may regulate VoIP services remains in flux. Although the FCC has already made some limited findings on the issue, further judicial and other regulatory developments may provide more clarity before the end of the year.
- The debate over whether telephone companies need local franchises to provide video services will intensify, with an aggressive push for federal legislation. If you are on the telephone side, the business issue here is obvious – telcos in a position to provide the "triple play" of voice, video and data (wired or wireless) stand to benefit from a statewide or national franchising system that permits faster market entry than does the local franchising model.
- As reflected in the May issue of Broadband Properties, municipal provision of broadband service remains a front burner issue that is not going away anytime soon. Municipalities will continue their efforts to self-provision broadband regardless of what happens on the regulatory front. ◆

### About the Author

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*Make sure to hear Robert D. Primosch at the Broadband Properties Summit! See pages 38 - 39.*