

Much Ado About Spectrum

The FCC's "open platform" rules prohibiting licensees from requiring their customers to use specific devices, is good news for OEMs and designers.

By Frederick M. Joyce, Esq. and Ronald E. Quirk, Jr., Esq., Venable LLP

For decades, much appeared quiet on the wireless front. Most cell phones had few mobile applications, public safety and other wireless licensees operated traditional systems in their designated frequencies, and broadcasters enjoyed large swaths of lightly-used spectrum in the 700 MHz band.



COMPLIANCE UPDATE

That is about to change, and fast. The dawning of a new wireless age is upon us.


The FCC is actively fostering dramatic spectrum regulation changes that will speed new services to the public while significantly expanding the market for innovative mobile devices and other wireless equipment. Chief among these are "open access" in the 700 MHz C Block, "rebanding" in various portions of the spectrum, and "white space" proposals for unlicensed devices in broadcast frequencies.

FCC Opens the Door to Open Access

On March 18, 2008, the FCC concluded its auction of licenses to operate in the 698-806 ("700 MHz") band. The 700 MHz band, which for decades has been used for analog broadcasting channels and is now being "reclaimed" for other purposes, is ideal spectrum for wireless broadband services. Its propagation characteristics enable signals to reliably travel long distances and penetrate deep into thick-walled buildings. The FCC has implemented a "flexible use" policy, permitting new 700 MHz licensees to use the spectrum for a wide variety of services.

This spectrum garnered high bids by seminal wireless companies. Verizon Wireless ("VZ") bid \$9.4 billion; AT&T, Inc. ("AT&T") bid \$6.6 billion for a variety of nationwide, regional and local licenses. Verizon's 700 MHz footprint alone covers the entire U.S. except for Alaska. All told, nearly 1100 licenses were issued, at a cost of roughly \$20 billion.







Under the FCC's rules, since the "reserve price" of \$4.6 billion was met for the C Block (i.e., 22 MHz of paired spectrum comprised of 746-757, 776-787 MHz frequencies), that frequency block is subject to the FCC's "open platform" rules. These rules prohibit licensees from denying or restricting the ability of their customers to use devices or applications of their choice on the C Block networks, except where such uses would



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not comply with published standards necessary for the management or protection of the licensee's network, or in violation of statutory or regulatory requirements.

This is good news for wireless equipment manufacturers and designers for a number of reasons. First, AT&T, Verizon, and the other 700 MHz winners will have to invest quickly and substantially to build their networks and expand their network operations. The FCC's stringent construction rules require auction winners to rapidly launch services. The C Block winners, for example, must build networks covering 40% of their service areas populations within four years. Consequently, orders for new equipment, software, and services for 700 MHz systems will likely begin soon.

Additionally, the open access requirements will surely increase the market for new hardware options.

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As more sophisticated applications are deployed on the C Block network, the demand for new, advanced equipment will be strengthened. Wireless manufacturers will be able to more easily fill that demand, as they will not be restricted to designing devices or applications for just one carrier.

Verizon Wireless Launches Open Access

VZ has already embarked on open access; it recently announced a detailed process that would allow device makers and designers to directly access its network and its 65 million customers. Equipment makers and designers wishing to hop aboard VZ's network will need to register their devices and submit them for testing and approval at VZ's lab or an approved third-party lab. VZ will test for government-regulated phone features such as E911. VZ expects to be able to approve devices in less than a month, and it anticipates that its open access will be fully operational by the second half of 2008.

Rebanding: Displaced Incumbents and New Equipment Needs

The FCC's spectrum "rebanding" operations are in full swing. Several years ago, the FCC agreed to a rebanding plan to consolidate public safety frequencies in the lower part of the 800 MHz band, while moving some of the 800 MHz channels acquired by Sprint Nextel ("SN") and some other commercial users, to the higher end of that band.

SN also acquired certain spectrum rights in the 1.9 GHz band. A key provision in the FCC's rebanding agreement is that SN is required to provide, at its own expense, "comparable facilities" to public safety licensees in the 800 MHz band and 1.9 GHz incumbent licensees.

The FCC's deadline for completing the rebanding process is June 26, 2008. However, due to problems in negotiating frequency reconfiguration agreements with SN and other implementation difficulties, hundreds of public safety licensees and other incumbents have filed for extensions of the rebanding deadline. Many licensees have requested extensions for well into 2009.

The rebanding process has created a significant market for new wireless equipment, particularly transmitters, controllers, portable and mobile units. It frequently occurs that licensees' existing equip-

ment cannot be reprogrammed to operate on their new frequencies and must be replaced. In the case of public safety licensees, even if their equipment can be reprogrammed to work on new channels, they should be able to obtain new equipment so that their networks can interoperate with neighboring public safety agencies.

The FCC has also required rebanding in the 2496 to 2690 MHz band, currently occupied by Broadband Radio Service ("BRS") and Educational Broadband Service ("EBS") incumbents, in order to promote the deployment of commercial broadband wireless services. The rebanding of these frequencies is subject to complex FCC rules, which involve the preparation and filing of "transition" plans. For now, the deadline for completion of the BRS/EBS rebanding project is October 20, 2011.

While incumbents will be entitled to facilities comparable to those they now operate, they will receive less spectrum post-rebanding than they currently hold. This will free up additional spectrum for the provision of more advanced wireless services, including mobile services and wireless broadband. Accordingly, the BRS/EBS rebanding should benefit manufacturers and designers of broadband access devices.

White Space and Open Wireless Broadband Services

The congressionally-mandated digital TV conversion deadline is February 19, 2009. This conver-

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Broadcasters are concerned that unlicensed operations in the white space may cause harmful interference to their digital operations.

sion will create more space between digital TV channels, known as “white space.” Google and other high tech players such as Microsoft and Dell would like to use this white space to create an open wireless broadband service. In March of 2008,

Google submitted such a plan to the FCC.

The plan’s essentials include a vision of portable and fixed broadband devices with Google’s “Android” offering a low-cost operating system for such devices. In addition to working in the white

spaces, the devices are intended to work on the “open access” 700 MHz spectrum that Verizon purchased. While the fate of Google’s proposal is by no means certain, it appears to have the backing of FCC Chairman Kevin Martin. Martin recently told Congress that freeing up white space on an unlicensed basis would be far less complicated than licensing idle frequencies.

Broadcasters are concerned that unlicensed operations in the white space may cause harmful interference to their digital operations. The FCC is currently finishing up a second round of testing prototype white space devices. So far, the FCC’s tests have been inconclusive as to whether the white space devices can operate without causing interference to broadcasters’ operations.

Should Google’s proposal be adopted, it would be a boon to wireless designers and manufacturers. In addition to the new markets for services that could be created, Google has stated that it would help third-party device makers to design applicable equipment at no cost.

The Future is Now

The current whirlwind of activities in the wireless world presents numerous opportunities for wireless manufacturers and designers. In the relatively near future, when 700 MHz systems are in place, rebanding is completed, and white space is put to use in some capacity, the array of new services should be mind boggling. Wireless designers and manufacturers would be well-advised to keep abreast of these regulations and take advantage of these opportunities.

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