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ABSTRACT

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MOBILE BROADBAND AND SPECTRUM

April 2012

- *The rapid growth in the use of smart devices and tablets when coupled with the development of 4G mobile broadband technologies have led to an exponential escalation in the demands on our radio spectrum.*
- *Recent legislation granting the FCC authority to auction television broadcast spectrum, prospective new competitors utilizing MSS spectrum, innovative spectrum sharing technologies, and “super Wi-Fi” networks can help ensure the U.S. mobile broadband market remains robust, innovative, and competitive.*
- *Comprehensive spectrum policy reform should minimize barriers to entry and maximize innovation and the productivity of the spectrum itself. This ethos is reflected in the FCC’s National Broadband Plan.*

Background: The radio spectrum is the range of electromagnetic frequencies that radio transmitters can use to send audio, video, or data to receiving devices, enabling all forms of wireless communication. Spectrum is licensed and allocated by the Federal Government.

Historically, the U.S. government allocates certain spectrum frequency ranges for private sector use. Spectrum allocation responsibility is divided between the National Telecommunications and Information Administration (NTIA) and the FCC. NTIA manages Federal Government spectrum needs, while the FCC manages non-federal and commercial uses. Under this divided system, the FCC and NTIA must coordinate and cooperate in order to determine how to accommodate different entities competing for spectrum. Some frequencies remained unlicensed and have uses ranging from Wi-Fi to garage door openers.

The increased use of smartphones and tablets and the bandwidth intensive applications they enable have put much greater demands on already licensed spectrum. This trend will accelerate as mobile broadband technologies, devices, and applications continue to proliferate.

The FCC has conducted competitive auctions for spectrum since 1994. The auction approach is a market-based method for assuring that useful frequencies are being allotted to those that value them the most and ostensibly will use them most effectively. These auctions also return revenue to the U.S. Treasury.

Recent auctions actually have done little to spur competition in the telecommunications arena, and the process itself has often been manipulated through collusion and coercion by large telecom firms. The 700 MHz Auction, once looked on as the best hope for new competitive networks and services, saw Verizon and AT&T completely dominate the auction and solidify

their dominance of the wireless market, built on major market cellular licenses awarded in the 1980s at no charge, and legacy monopoly landline backhaul networks.

Recent Activity: The FCC's 2010 National Broadband Plan featured a detailed analysis of current use of radio spectrum and a slate of recommendations to increase spectrum availability and productivity.

The Plan called for the Federal Government to free up 500 MHz of spectrum for broadband within 10 years – including 300 MHz within 5 years. To meet this goal, the Plan called for repurposing 120 MHz of broadcast spectrum for mobile broadband via voluntarily incentive auctions; making 90 MHz of MSS spectrum available for mobile broadband use; auctioning spectrum in the WCS and AWS bands, as well as in the D-Block; and repurposing spectrum used by the Federal Government.

The Commission's progress toward meeting its goal of deploying more spectrum for mobile broadband use is mixed. Thus far Commission has failed to free up MSS spectrum for mobile broadband. While the FCC has taken positive steps to make additional spectrum available, such as its March 21, 2012 Notice of Proposed Rulemaking aimed at freeing up 40 MHz of MSS spectrum, its progress has been much too slow and negatively affected by incumbent providers seeking to delay entry by new competitors. For instance, the FCC has lost valuable time in failing to make over 90 MHz of MSS spectrum licensed to potential new market-entrants, DISH Network and LightSquared, available for mobile broadband use.

But there have been positive steps. In February 2012 legislation was enacted that will allow the FCC move forward with incentive auctions for television broadcast spectrum. And in March 2012 NTIA announced it found 95 MHz of spectrum currently used by Federal agencies that can be repurposed for mobile broadband by allowing commercial users to share those frequencies (1755 MHz – 1850 MHz) outside the geographic areas where the government uses them.

CCIA's Position: CCIA supports the Obama Administration's proposed policy reforms that seek to increase the amount of spectrum available for commercial use, both licensed and unlicensed and maximize competition, innovation, and the productivity of the spectrum itself.

Spectrum Auctions & Competition

CCIA believes that spectrum auctions must allow for competition to develop from new entrants and new technologies. Although auction success must not be measured solely by auction receipts, it should be acknowledged that Commission rules in prior auctions, put in place to facilitate additional bidders and new competition, led to increasing the number of bidders from two or three companies to five or more, and led to an over 90% increase in auction revenues.

The legislation authorizing spectrum incentive auctions bars the Commission from setting aside licenses for new entrants and competitors to the AT&T/Verizon duopoly; however, it does allow the FCC to set a cap for the amount of spectrum any carrier may hold and use its "spectrum screen" to prevent any carrier from winning auctioned spectrum that exceeds the cap. CCIA urges the Commission to establish spectrum caps that ensure new entrants, small regional and rural carriers, and competitive national carriers, are all encouraged to participate and attempt to meet their needs for additional spectrum.

Ensuring spectrum access for new entrants and existing, spectrum-starved carriers is particularly important in light of ongoing efforts by the largest carriers to stave off new competition and starve their existing competitors of essential inputs, like spectrum and data roaming agreements. For instance, AT&T and Verizon Wireless have been influential in prolonging DISH Network's entry as a competitive mobile broadband alternative and have lobbied against LightSquared's efforts to offer wholesale 4G LTE services. And in the last year both AT&T and Verizon have continued their attempts to amass all available spectrum – AT&T with its failed attempt to acquire T-Mobile and its successful spectrum acquisition from Qualcomm, and Verizon with its proposed acquisitions of nationwide AWS spectrum from multiple cable companies.

Spectrum Sharing, Increasing Efficiency, & Innovation

In addition to promoting competition, the FCC should encourage companies to experiment with new models of spectrum sharing. For example, new technology could allow a primary license holder certain rights while still reaping benefits from the spectrum when they are not using it by opening it up for use by secondary licensees. In this vein, Congress and the FCC should consider open access rules for spectrum that allow third parties (resellers) to lease wireless capacity from license holders on reasonable, non-discriminatory terms.

Spectrum sensing technologies could help utilize dormant spectrum, such as white spaces, to inject more competition into the mobile broadband marketplace. This would also spur innovation in the device markets by driving capital towards new technologies that use spectrum more efficiently.

White Spaces

CCIA supports expanding opportunities for more innovative spectrum access models. The National Broadband Plan's suggested strategies include establishing a contiguous nationwide band for unlicensed use, expediting deployment of TV "white spaces" that resulted from the digital television transition, for innovative new uses including mobile broadband, and initiating proceedings to enhance research and development that will encourage innovation in spectrum access technologies.

Recent legislation granting the FCC incentive auction authority ensures that there will be nationwide unlicensed TV white spaces. CCIA applauds this development, as innovation in TV white spaces, such as "super Wi-Fi" has the potential to deliver broadband to rural America, spur new innovation in technology and devices that utilize the white spaces, create additional competition in the mobile broadband market, and ease the nation's looming spectrum shortage.

Data Roaming

CCIA believes the FCC policy must enable smaller wireless carriers to compete and meet the needs of a marketplace where demand has grown exponentially. Data roaming is essential for independent regional carriers to compete with the incumbent, national carriers, but is too vulnerable to contracts of adhesion at exorbitant monopoly rates.

A year ago the FCC adopted an Order mandating that all mobile wireless carriers reach data roaming agreements on "commercially reasonable" terms. Strict enforcement of the FCC's rule could ensure that customers of all wireless carriers can get seamless nationwide smartphone service.

