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## ABSTRACT

Computer & Communications Industry Association

### MOBILE BROADBAND AND SPECTRUM REFORM

May 2011

- *The rapid growth in the use of smart devices and tablets when coupled with the development of 3G and 4G mobile broadband technologies have led to an exponential escalation in the demands on our radio spectrum. The Obama Administration plans to make 500 megahertz of spectrum available for wireless within 10 years, of which 300 megahertz should be available for mobile broadband use within five years, so that U.S. mobile broadband remains robust and competitive.*
- *Comprehensive spectrum policy reform should maximize competition, innovation and the productivity of the spectrum itself. This ethos is reflected in the FCC's National Broadband Plan.*

**I. The radio spectrum is the range of different 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.**

**Background:** Historically, the U.S. government allocates certain spectrum frequency ranges for private sector use. The current legal framework for spectrum management divides responsibility for spectrum allocation between the National Telecommunications and Information Administration (NTIA) and the FCC. The NTIA manages federal government spectrum needs, while the FCC manages non-federal and commercial uses. Under this divided system, both 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.

Currently, the increased use of cell phones and smart devices and the exponential increases in spectrum usage associated with them is putting much greater demands on already licensed spectrum. This trend will accelerate as mobile broadband technologies, including the new 4G family of standards, proliferate.

**II. The FCC's National Broadband Plan features a detailed analysis of the current use of the radio spectrum and a slate of recommendations to increase the availability and productivity of wireless spectrum.**

#### **Auctions and allocation**

The FCC has been conducting competitive auctions for spectrum since 1994 rather than assigning licenses through comparative hearings for the best public use. In this, the FCC is not alone. Countries throughout the world are now using competitive auctions to assign spectrum. Generally perceived as a step in the right direction, the auction approach is a market-based

method for assuring that useful frequencies are being allotted to those that value them the most and (at least as the FCC believes) will use them most effectively. Also, these auctions provide governments with additional revenue; however, these spectrum auctions have not been without their detractors. Recently, auctions 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 (contributing \$16 billion of the total \$19.6 billion in auction receipts) and solidify their dominance of the wireless market.

In March 2010 the FCC released the National Broadband Plan. The incentive auctions proposed within the Plan would allow broadcasters who voluntarily agree to give up some or all of their spectrum to share in the proceeds of the FCC's auction of that spectrum. This is one way in which the Obama Administration hopes to free up 500 megahertz of spectrum for broadband within 10 years. Additionally, an incentive auction would generate significant revenues for the Treasury. Unfortunately, the recent announcement of AT&T's intention to purchase T-Mobile greatly reduces the short-term need of spectrum for AT&T and eliminates T-Mobile as a bidder in any spectrum auction. This decreased demand for spectrum amongst two of the largest potential bidders lessens revenues both broadcasters and the Treasury could expect from any auction and likely delays much-needed spectrum from coming to market, stresses already overburdened mobile broadband networks, and makes it difficult for smaller carriers to keep up with consumer demand.

***CCIA's Position:*** CCIA supports the Obama Administration's proposed spectrum policy reforms that seek to maximize competition, innovation and the productivity of the spectrum itself.

Future auctions must be reformed to allow for competitive entrants and new technologies. Although well-designed auctions are a useful way to allocate spectrum, CCIA believes that the rapid pace of technological innovation has created a new paradigm that necessitates updated models of spectrum management and allocation. Auction success must not be measured solely by auction receipts, as many in Congress tend to do. Instead, policymakers must take into account all the costs and benefits, and strive to ensure this valuable resource is used to its fullest potential. Furthermore, companies should be encouraged 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 the 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.

Currently, innovation in wireless technology has far outpaced the evolution of wireless policy. Policymakers must revise the current framework governing spectrum allocation and management in order to pave the way for competition and wireless innovation.

## ***Current Status:***

### **National Broadband Plan**

In March 2010, the FCC released its National Broadband Plan, which featured a detailed analysis of the current use of the radio spectrum and a slate of recommendations to increase the availability and productivity of the spectrum. Some highlights include:

- Focusing on increased transparency in spectrum allocation and utilization. This includes the establishment of an online “spectrum dashboard” that more clearly delineates who is allocated which spectrum and the conditions of its use.
- Deploying a nationwide public safety network using proceeds from auctioning the 10 megahertz swath of spectrum known as the “D-Block”. Ten years after September 11, 2001 the federal government has failed to deploy a nationwide, interoperable public safety and homeland security mobile broadband network that would allow first responders to send and receive video and data, ensure that all Americans can access emergency services, and improve the way Americans are informed about emergencies. While Senator Rockefeller has re-introduced the Public Safety Spectrum and Wireless Innovation Act to meet this need and the President has voiced his support, it continues to be unclear where funding will come from for the public safety network. Various stakeholders, including a coalition known as Connect Public Safety Now, support auctioning the D-Block to fund this vital nationwide public safety network.
- Encouraging Congress to expand the range of incentives and mechanisms at the FCC’s disposal to ensure that spectrum ends up being used productively. These mechanisms include “incentive auctions” as well as “spectrum fees” where license holders retain their allotted spectrum but face fees levied by the FCC and NTIA to better align their incentives with the actual value of the spectrum.
- Expanding the opportunities for more innovative spectrum access models. The suggested strategies include establishing a contiguous nationwide band for unlicensed use, expediting the current TV white spaces, proceeding to make available the recently freed spectrum 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.
- Enabling smaller wireless carriers to compete and meet the needs of a marketplace where demand has grown exponentially. Rule changes that allow increased spectrum sharing and greater flexibility in order to improve wireless backhaul are critical for smaller carriers facing an explosion in demand. Data roaming is essential for independent regional carriers to compete with the incumbent, national carriers. In April the FCC adopted roaming rules designed to allow smaller carriers to offer seamless data service so that they may continue to compete in the mobile broadband market.

**Radio Spectrum Inventory:** Although the Radio Spectrum Inventory Act was not ultimately adopted by the 111<sup>th</sup> Congress, the FCC and NTIA are currently moving forward to inventory

commercial wireless spectrum. A comprehensive inventory of commercial spectrum is vital in developing spectrum policies that will drive innovation, investment, and deployment of next-generation wireless networks and the technologies and applications that will rely on those advanced networks.