

**STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL**

Re: Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Infrastructure (U-NII) Devices in the 5 GHz Band, Notice of Proposed Rulemaking.

Last night, I had the privilege of attending the National Academy of Engineering Awards ceremony. There is no Nobel Prize for engineering, so these awards are intended to fill that gap. Included in the amazing array of honorees was my friend Marty Cooper, the inventor of the cell phone. Also in attendance was Dr. Robert Kahn, whom I also have gotten to know over the years. Dr. Kahn is the co-inventor of TCP/IP, the protocol that allows the Internet to work.

It ends up that Marty Cooper and Bob Kahn were fans of each other but had never met. Last night, I had the incredible honor of being able to introduce them to each other. Although I still haven't recovered from the awe of the moment where an Internet pioneer met the father of the cell phone – quite literally the personification of the Internet meeting mobility – I was able to ask each of them at once whether, at the time of their inventions, they had foreseen the incredible effect their work would have on the human condition. With characteristic honesty and humility, they both said “no.”

The point for all of us to learn from these great minds is that none of us can guess what innovations may be coming over the horizon or their potential to improve the lives of all human beings. Liberal arts majors who make public policy, such as myself, should learn to exercise regulatory humility and allow engineers to have the freedom to experiment. I am hopeful that this proceeding does just that.

Marty's and Bob's inventions are doing just fine. In fact, in 2012, U.S. mobile data traffic reached 207 petabytes per month, a 62 percent increase over the previous year. To put this amazing growth into context, processing 207 petabytes per month is equivalent to watching 52 million DVDs per month or sending 570 million text messages each second over our wireless networks.¹ And mobile usage will only continue to surge well into the future. It is estimated that mobile data traffic will grow nine fold in the next five years.² Furthermore, wireless devices are proliferating at an unprecedented rate. Fifty-one million new devices were connected to U.S. mobile networks in the last year alone to bring the total of American mobile-enabled devices to 424 million. It is estimated that 775 million wirelessly-connected devices will be used by Americans in 2017.³

To relieve congested cell networks, consumers are choosing to move wireless data to unlicensed systems. Last year, 96 percent of U.S. traffic associated with portable devices was carried on Wi-Fi networks at some point. Not only does this percentage include data that originated on Wi-Fi systems, but also the 47 percent of mobile data that was offloaded from cellular to Wi-Fi networks.⁴ What does this mean? The spectrum that is used for unlicensed Wi-Fi is also experiencing congestion, which will only

¹ *VNI Mobile Forecast Highlights, 2012-2017, United States – 2012 Year in Review*, CISCO SYSTEMS, http://www.cisco.com/web/solutions/sp/vni/vni_mobile_forecast_highlight/index.html (last visited Feb. 20, 2013) (filter by country to obtain information for the United States and select 2012 Year in Review).

² *VNI Mobile Forecast Highlights, 2012-2017, United States – 2017 Forecast Highlights*, CISCO SYSTEMS, http://www.cisco.com/web/solutions/sp/vni/vni_mobile_forecast_highlight/index.html (last visited Feb. 20, 2013) (filter by country to obtain information for the United States and select 2017 Forecast Highlights).

³ *VNI Mobile Forecast Highlights, 2012-2017, United States – Network Connections*, CISCO SYSTEMS, http://www.cisco.com/web/solutions/sp/vni/vni_mobile_forecast_highlight/index.html (last visited Feb. 20, 2013) (filter by country to obtain information for the United States and select 2017 Network Connections).

⁴ *Id.* (select Offload Traffic).

increase in the coming years if we do not make appropriate bands, like the 5 GHz band, more attractive for investment and innovation.

Accordingly, I am pleased to vote in support of this notice which initiates the review of the current requirements and takes steps to increase the amount of spectrum available for unlicensed use in the 5 GHz band. Our proposals to harmonize the rules and requirements across the 5 GHz band will make this spectrum more attractive to investors and innovators by providing certainty and consistency across a wide swath of spectrum. This initiative, combined with the proposal to permit unlicensed use on an additional 195 megahertz of spectrum, will make the 5 GHz band more attractive for the deployment of faster, more robust Wi-Fi networks using the latest industry standards that provide the greatest efficiencies on 80 to 160 megahertz slices of spectrum. I am also pleased that we specifically seek comment on international efforts to harmonize uses of the 5 GHz band.

Launching this proceeding is just the beginning, of course, and we have a lot of work ahead us. Federal and non-federal primary users are prevalent throughout the 5 GHz band – both in the bands where unlicensed use is already permitted, and in the 195 megahertz of spectrum we hope to open to such use. Today, we take the initial steps to fulfill Congress’s mandate in the Spectrum Act that we, along with NTIA, look into opening certain 5 GHz frequencies for unlicensed use.⁵ Although we seek comment on protecting incumbent licensees from harmful interference, the Commission, affected government agencies, Wi-Fi providers and others will have to work together to ensure the successful unlicensed deployment of this spectrum.

Although allowing unlicensed use in an additional 195 megahertz of spectrum will promote continued innovation and investment in unlicensed devices and wireless broadband systems, it does not mean that we can be complacent and stop advocating for additional federal spectrum to be auctioned for exclusive use licenses. The federal government, specifically the executive branch, needs to evaluate its spectrum usage with the goal of relinquishing bandwidth for exclusive and flexible private sector uses. Spectrum “sharing” and the auctioning of exclusive use licenses are not equivalent.

I thank the Chairman for prioritizing this important proceeding. I also thank the dedicated and tireless staff of the Office of Engineering and Technology for all of their work in preparing this notice and for all of their efforts to come in opening up the 5 GHz band for new and improved unlicensed use and opportunities that will benefit Americans.

⁵ See Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156 (2012).