

**STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY**

Re: *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*

Today's item magnifies the importance of unlicensed spectrum in our modern communications landscape. In my time working for Senator John Sununu, I had the privilege of working with Senator Maria Cantwell and her great staff to advance a number of unlicensed measures, including opening up the television white spaces. The beauty of unlicensed spectrum, I learned, is that no one can predict with certainty what it will ultimately be used for, but it is a very safe bet that some uses will far exceed expectations or even become game changers.

If you want to meet the true innovators and entrepreneurs in spectrum policy, talk to the men and women in the unlicensed community. They can literally turn trash into treasure. Take, for example, the former so-called "garbage bands" at 900 MHz, 2.4 GHz, and 5.8 GHz. Once thought unusable, the FCC opened these bands up to unlicensed use in the 1980s and today they are some of the most valuable bands in the world, hosting popular wireless services, the most notable being Wi-Fi and Bluetooth, but also include baby monitors, cordless phones, garage door openers. Wireless broadband providers use these bands to expand broadband services to harder to reach parts of America, and some cable operators are devoting substantial funds to deploy Wi-Fi networks to provide consumers with fast, reliable broadband service.

To put these contributions into perspective, consider the following. By some estimates, unlicensed spectrum generates as much as \$220 billion in value annually to the economy.¹ And, in 2013, approximately .5 exabytes, or 57 percent, of mobile data was offloaded onto Wi-Fi networks each month. By 2018, this monthly offload is expected to reach 4.8 exabytes and make up 64 percent of all mobile data traffic.²

As Americans demand more mobile data at faster speeds, the Commission will have to find additional unlicensed spectrum to accommodate the growth in Wi-Fi. The 5 GHz band's propagation characteristics and new 802.11ac standard make it ideal for this purpose. That is why the Middle Class Tax Relief and Job Creation Act of 2012, which I joined others in some late nights working on, directed the Commission to advance unlicensed use in 5 GHz and that is why I am pleased to join my colleagues in approving this order.

The action we take today will permit outdoor use in the U-NII-1 band and harmonize power levels with those in the U-NII-3 band. This harmonization will allow consumers to benefit from the new Wi-Fi standard that will increase data speeds. Along with the enhanced use of the U-NII-1 band, the item provides safeguards that will facilitate corrective action should large deployments result in harmful interference to licensed services.

¹ *New study released by WifiForward finds unlicensed spectrum generated \$222 billion in value to the U.S. economy in 2013 and contributed \$6.7 billion to U.S. GDP*, WiFiFORWARD, <http://www.wififorward.org/wp-content/uploads/2014/01/Value-of-Unlicensed-Spectrum-to-the-US-Economy-overview.pdf> (last visited Mar. 26, 2014).

² *See Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update*; Letter from Paul J. Sinderbrand, Counsel to Cisco Systems, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, ET Docket No. 13-49 (Mar. 7, 2014).

The order also takes additional steps to ensure that harmful interference does not occur to incumbent 5 GHz licensees. First, manufacturers are required to implement security measures to prevent unauthorized software changes to their equipment. We cannot allow rogue use of devices and everyone should be on notice that it will not be tolerated. Second, we modify certain technical requirements for devices operating in the U-NII-2 bands to provide additional protections to FAA weather and other radar systems.

It is important to remember that more work remains in other parts of the band to further increase unlicensed use, and I hope to see a separate order on this point soon. This will have to be done in cooperation with the primary federal and non-federal users, including the intelligent transportation systems program (ITS) at the Department of Transportation. I hope that we can count on them to work expeditiously with us to resolve any remaining hurdles.

Finally, I would like to express my appreciation to the staff in the Office of Engineering and Technology (OET). We ask a lot of OET in many different contexts. Here, OET acted as negotiator, mediator and referee, carefully analyzing, accepting, and dismissing, as appropriate, select arguments relating to the U-NII-1 band. For a number of months, there was a very contentious debate between parties presenting studies with conflicting technical parameters and assumptions. The dedicated staff was able to steer the parties to an acceptable outcome, as well as address other issues pertaining to the 5 GHz band, and I thank them for their work.