



Before the
United States House of Representatives
Committee on Small Business
Regarding
“Building on the Wireless Revolution: Opportunities and Barriers for Small Firms”
February 11, 2014
Statement of the
Computer & Communications Industry Association

The Computer & Communications Industry Association (CCIA) represents large, medium-sized, and small companies in the high technology products and services sectors, including computer hardware and software, electronic commerce, telecommunications and Internet products and services – companies that collectively generate more than \$250 billion in annual revenues.¹

CCIA applauds the Committee for convening this hearing. Small businesses in almost every industry sector from clean energy to agriculture to retailing are increasingly relying on fixed wireless connections including WiFi in their daily operations. Cisco predicts that by 2017, WiFi will handle a majority of all data that consumers access from the Internet.²

WiFi runs on unlicensed spectrum that anyone can use as long as they comply with FCC technical rules that prevent interference. Coffee shops, airports and libraries make WiFi available to customers. WiFi provides a platform for techies to “innovate without permission” in their garages and basement offices where start-up companies are often born.

WiFi offloading at the edges of carrier networks makes both wireline broadband and mobile cellular connections faster and more effective.

The exclusively licensed frequencies that mobile carriers use require huge sums for capital investment in spectrum acquisition and expensive and sophisticated regulatory operations that small businesses simply do not have. That’s why unlicensed WiFi is such a valuable alternative. The largest two carriers have already aggregated about three quarters of mobile

¹ A complete list of CCIA members is available at <http://www.ccianet.org/members>.

² Cisco Visual Networking Index, *Forecast and Methodology, 2012-2017* (May 2013), available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360_ns827_Networking_Solutions_White_Paper.html.

licensed spectrum all for themselves, making market dominance another barrier to entry even for mid-sized firms. That's why FCC limits on spectrum holdings are so important ahead of the 2015 incentive auctions of 600 MHz frequencies.

Wireless Internet Service Providers (WISPs) provide small businesses and consumers an independent option for local area broadband access using WiFi. WISPs are particularly popular in rural areas with little or no landline infrastructure. Regulation is minimal and rates are often very affordable.³

Unfortunately, WiFi is vulnerable to overcrowding and congestion from the deluge of data being consumed and sent by an ever-proliferating sea of devices from smartphones to tablets to industrial monitors and video game consoles.

Engineers are developing creative solutions for making more unlicensed spectrum available. Improving the availability of spectrum through the 5 GHz band can help. Some experts believe that the future of spectrum is about various forms of sharing.⁴ Cognitive radio applications that use smart transmitters and receivers that can detect other signals and avoid interference on the fly are a promising way to increase the efficiency of spectrum use. The FCC is in the process of harvesting spectrum from TV broadcasters who are willing to share a channel with others, move to less valuable frequencies or go off the air and deliver their programming online only. Two Los Angeles TV stations recently announced their testing of a new channel sharing arrangement.⁵

Another promising opportunity is the reallocation of spectrum currently assigned to federal agencies for commercial use instead. Spectrum sharing arrangements could allow for occasional mission critical government uses, while freeing up capacity most of the time for private sector uses. The 3.5 GHz band, for example, is currently underutilized by the military and could be made available for civilian use in many geographic areas.

³ Richard Thanki, *The Economic Significance of Licence-Exempt Spectrum to the Future of the Internet* (June 2012), available at <http://download.microsoft.com/download/A/6/1/A61A8BE8-FD55-480B-A06F-F8AC65479C58/Economic%20Impact%20of%20License%20Exempt%20Spectrum%20-%20Richard%20Thanki.pdf>.

⁴ Kevin Werbach & Aalok Mehta, *The Spectrum Opportunity: Sharing as the Solution to the Wireless Crunch*, 8 INT'L J. COMM. 128 (2014), available at <http://ijoc.org/index.php/ijoc/article/view/2239/1054>.

⁵ Joe Flint, *Two Los Angeles TV stations to test sharing spectrum*, L.A. TIMES, Jan. 28, 2014, available at <http://www.latimes.com/entertainment/envelope/cotown/la-et-ct-two-los-angeles-tv-stations-to-test-sharing-spectrum-20140128,0,5373030.story>.

We urge the Committee to support the FCC and other federal agencies as they preserve existing unlicensed spectrum designations, clear new spectrum for unlicensed use, and adopt simple rules for unlicensed uses that small businesses can rely on when making investments and designing products and systems.