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**NYCwireless Testimony to the New York City Council  
Regulation and Use of the Unallocated Portion of the Radio Spectrum, Also Known as White Spaces**

Ladies and Gentlemen of the New York City Council and friends and guests, thank you for inviting me to speak. My name is Dana Spiegel, and I am the Executive Director of the non-profit NYCwireless, which builds free, public Wi-Fi hotspots in public spaces throughout New York City.

I come today not to talk about the FCC's plans or the facts about white space devices. I also will not speak about Broadway and Off-Broadway, which is an important cultural resource for this great city. Nor will I speak about the company Shure and other wireless microphone manufacturers, who have admitted to spreading false information about the impact of white space devices on existing equipment. Other presenters here today will speak extensively about these subjects.

I wish to speak solely about the value of such white space devices for all of New York City, and draw some parallels to a similar technology, Wi-Fi, and its history. I believe there are enough similarities between white space devices and Wi-Fi that we can draw some realistic conclusions about what might actually happen when white space spectrum becomes available.

Wi-Fi uses radio frequency spectrum covered under the FCC's Part 15, which allows companies to manufacture and sell certified devices that operate in the 2.4Ghz frequency range, and allows anyone to purchase such devices and operate them without applying for an FCC broadcast license. If you use Wi-Fi in your home, office or park, you are using a Part 15 device. The same goes for bluetooth headsets used with mobile phones, and baby monitors, garage door openers, and some cordless phones.

The precursor to 802.11 technology was invented in 1991, and since then has enjoyed tremendous success. You'd be hard pressed to find a computer user today who hasn't used Wi-Fi at some point. But it was never imagined to be such a ubiquitous or widely used technology. It was always originally expected that Wi-Fi devices would be used in large office buildings only, and consumer use was never considered.

In 2000, in New York and a few other cities like Boston and Seattle, technologists started to use the Wi-Fi devices to do the unimaginable: share the internet with their neighbors. NYCwireless was founded in 2001 with the pioneering purpose of using this technology to broadcast internet access to local neighborhoods. One of the first public hotspots in the world was in our own Tompkins Square Park.

Back then, devices were neither easy to use nor cheap to purchase for consumers. If you had a laptop, you could buy a Wi-Fi card and access point each for a few hundred dollars. But if you went to Tompkins Square Park or Bryant Park, you could do something that no one else in the world could do: sit under a tree and surf the internet.

Since 2000, New York City has seen dozens of parks lit up by NYCwireless and others, and each year more parks and public spaces are brought online. New York City was host to the first ever wireless arts festival, called Spectropolis, in 2003 and 2004, held in City Hall Park. NYCwireless and others have lit up dozens of affordable housing residences, providing residents the ability to get online and have a critically important lifeline. None of these achievements would have been possible without the FCC enabling the free, unlicensed use of the 2.4Ghz spectrum range.

But even more impressive than these achievements has been the explosion of Wi-Fi usage throughout New York City. Just about every business, both big and small, makes use of Wi-Fi. Cafés, restaurants, bars, and coffee shops offer Wi-Fi to their customers, and a significant percentage of the over 8 million residents in this city use Wi-Fi in their homes.

With all of these people using Wi-Fi and Bluetooth, you don't often hear about interference issues. Just about everyone makes use of Wi-Fi in their homes and businesses without issue. Bluetooth headsets work everywhere you walk. Baby monitors and cordless phones, devices that use the same tiny sliver of 2.4Ghz spectrum, work just fine too.

With all of its success, its surprising that Wi-Fi is in part utterly unlike the types of devices that the FCC is considering for use of white space frequencies. The biggest difference is that the proposed FCC rules for white space devices ensure they won't interfere with existing spectrum users, and that devices will contain technology to move around the white space spectrum to ensure that they never interfere. These tested devices have successfully proved that such technology is achievable, as have Bluetooth devices which contain similar intelligence.

In discussing this history of Wi-Fi, and highlighting its achievements, I hope to paint a picture for the Council about what white space devices may mean for New York City. Such devices have the possibility of enabling larger scale internet broadcast, providing inexpensive or free access to whole neighborhoods from the central anchor of a park. More buildings will be able to be retrofitted with internet access, a current challenge for a number of older NYCHA buildings. Schools and libraries will become internet hubs for their neighbors. In short, the amazing things we've done with Wi-Fi will be amplified with the availability of white space devices.

The FCC already has proposed white space device rules in place that ensure non-interference. Indeed, New York City, and Broadway (who makes use of Wi-Fi in their theaters to provide internet access to stage and production staff), stand to benefit enormously from white space devices, even while continuing to use their existing technology. Imagine if, instead of just using wireless microphones for audio, we could have videos of performances could be broadcast and entire neighborhoods could participate in such events.

### **Additional Reading**

**New America Foundation Wireless Future Program:** [http://www.newamerica.net/programs/wireless\\_future](http://www.newamerica.net/programs/wireless_future)

**Free Press, White Spaces: Bringing the Internet to Everyone:** <http://www.freepress.net/whitespaces>

**GigaOm:** <http://gigaom.com/2008/09/24/the-devil-is-in-the-details-in-white-space-debate/> and  
<http://gigaom.com/2008/07/21/will-the-fcc-play-lollapalooza/>

**People's Production House:** <http://www.peoplesproductionhouse.org/dei/endorsewhitespaces>