

# LUKAS, NACE GUTIERREZ & SACHS

CHARTERED

1650 TYSONS BOULEVARD, SUITE 1500

MCLEAN, VIRGINIA 22102

703 584 8678 • 703 584 8696 FAX

WWW.FCCLAW.COM

RUSSELL D. LUKAS\*  
DAVID L. NACE\*  
THOMAS GUTIERREZ\*  
ELIZABETH R. SACHS\*  
GEORGE L. LYON, JR.  
PAMELA L. GIST\*  
DAVID A. LAFURIA  
B. LYNN F. RATNAVALE\*  
TODD SLAMOWITZ\*  
STEVEN M. CHERNOFF\*

CONSULTING ENGINEERS  
ALI KUZEHKANANI  
LEROY A. ADAM  
LEILA REZANAVAZ  
SUMEET K. BHALOTIA  
—  
OF COUNSEL  
JOHN J. MCAVOY\*  
J.K. HAGE III\*  
LEONARD S. KOLSKY\*  
HON. GERALD S. MCGOWAN\*

\*NOT ADMITTED IN VA

Writer's Direct Dial:  
(202) 828-9470  
tgutierrez@fcclaw.com

September 30, 2008

## *Via Electronic Filing*

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

**Re: Ex Parte Notice  
ET Docket No. 04-186**

Dear Ms. Dortch:

On September 30, 2008, Charles Townsend and the undersigned, both representing Aloha Partners, L.P. ("Aloha"), met with Commissioner Tate and Wayne Leighton of Commissioner Tate's office and discussed matters in the enclosed handouts.

Pursuant to 47 C.F.R. § 1.1206(b)(2), this notice is being submitted electronically in the above-referenced docket. In addition, one copy of this notice is being transmitted via e-mail to Wayne Leighton.

Very truly yours,

/s/ Thomas Gutierrez  
*Counsel for Aloha Partners, L.P.*

Enclosure

cc: Wayne Leighton, Esq.

# White Space Presentation

Commissioner Tate  
September 30, 2008

**By: Charles Townsend**  
**Aloha Partners**

**Tom Gutierrez**  
**Lukas, Nace, Gutierrez, & Sachs**

# White Space Auction Revenue Estimates

<u>Protected Channels</u>	<u>Aloha Partners Est.</u>	<u>Brattle Group Est.</u>
<b>Co Channel Only</b>	<b>\$15 Billion</b>	<b>\$25 Billion</b>
<b>Co &amp; Adjacent Channels</b>	<b>\$8 Billion</b>	<b>\$12 Billion</b>

# White Space Clear Spectrum Estimates

## Minimum Bandwidth of White Space\*

<u>MTA</u>	<u>Co - Channel Only</u>	<u>Co &amp; Adjacent Channel</u>	<u>Difference</u>
New York	66 MHz	0 MHz	-66 MHz
Los Angeles	60 MHz	6 MHz	-54 MHz
Chicago	114 MHz	18 MHz	-96 MHz
San Francisco	72 MHz	18 MHz	-54 MHz
Dallas- Fort Worth	132 MHz	18 MHz	-116 MHz
Top 5 Wt. Average	66 MHz	10 MHz	-56 MHz
6-10 Wt. Average	115 MHz	25 MHz	-90 MHz
11-30 Wt. Average	140 MHz	40 MHz	-100 MHz
Rural Wt. Average	170 MHz	60 MHz	-110 MHz
<b>U.S. Average</b>	<b>120 MHz</b>	<b>30 MHz</b>	<b>-90 MHz</b>

\*Note: Minimum MHz/MTA  
based on Brattle Group Study

# White Space Rural Coverage Comparison

	<u>Power Level</u>	<u>Cell Radius</u>	<u>Square Miles Covered</u>	<u># Cells per 10,000 Sq. Mi.</u>
<u>Licensed Spectrum</u>	1 kW	30 Miles	2825 Sq. Mi.	<b>3.5 Cells</b>
<u>Unlicensed Spectrum</u>	1 W	4 Miles	50 Sq. Mi.	<b>200 Cells</b>

# National Science Foundation Spectrum Utilization Analysis

<u>Name</u>	<u>location</u>	<u>Licensed (806-902)</u>	<u>Unlicensed (902-928)</u>	<u>Licensed (1850-1990)</u>	<u>Unlicensed (2390-2500)</u>
Tysons Corner	Suburban Virginia	41.2%	3.9%	12.7%	-
NSF Roof	Arlington Virginia	46.4%	8.7%	27.1%	12.4%
New York Penn Station	New York City	46.3%	22.9%	33.8%	14.5%
S.S.C. Roof	Vienna Virginia	40.0%	1.1%	19.3%	25.7%
IIT Lab	Chicago, IL	54.8%	9.3%	42.8%	29.1%
<b>Total</b>	<b>5 locations</b>	<b>45.7%</b>	<b>9.2%</b>	<b>27.1%</b>	<b>16.3%</b>

# Unlicensed Wi-Fi Experience

<u>City</u>	<u>Provider</u>	<u>Status</u>
Philadelphia	Earthlink	Shut Down
Portland	MetroFi	Shut Down
Sunnyvale	MetroFi	Shut Down
Milpitas	MetroFi	Shut Down
Cupertino	MetroFi	Shut Down
San Jose	MetroFi	Shut Down
Santa Clara	MetroFi	Shut Down
Foster City	MetroFi	Shut Down
Concord	MetroFi	Shut Down
San Francisco	Earthlink	Discontinued
New Orleans	Earthlink	Discontinued
Toronto	Earthlink	Discontinued

**Testimony of Charles Townsend  
Before the United States Senate Committee on Commerce,  
Science and Transportation, September 2008**

Mr. Chairman, I am Charles Townsend, and I am President and CEO of Atlantic Wireless limited partners. Atlantic Wireless has purchased over \$100 million of Advanced Wireless Spectrum (AWS) licenses and is the 9<sup>th</sup> largest owner of AWS licenses in the U.S. From 2002-2008, I was the President and CEO of Aloha Partners. Aloha Partners was the largest owner of 700MHz spectrum in the United States until the spring of 2008 when it sold all its licenses to AT&T. Aloha covered over 200 million people with 12MHz of spectrum on former UHF channels 54 & 59. I am submitting this written testimony to further the discussion on the importance of broadband to rural communities across America and the contribution that auctioning "white space" can make to ensuring that rural areas have access to high-speed connections.

**United States Lagging**

The public's airwaves are a vital national resource, and their use should always be geared toward improving the broad public interest. Sen. Inouye has said that "Broadband communications have become the great economic engine of our time" and I do not believe that anyone would disagree with him. The U.S. faces difficult challenges because the rest of the world has embraced broadband as a crucial part of their economic future. Various well-known studies have shown that the United States trails Japan, South Korea, Canada, France, Finland, and a host of other countries in Internet connectivity. One of the main reasons that the U.S. is not at the top of this list is its abundance of rural areas. It is estimated that between 15-20 percent of U.S. households cannot receive broadband service. The majority of these households are located in rural areas where it is too expensive to provide traditional broadband service.

A recent study by the Communications Workers of America concludes that "all too many Americans encounter a significant digital divide. Families in rural areas are much less likely to subscribe to broadband. According to surveys, while 57 percent of urban households subscribe to broadband, only 38 percent of rural households do.

The question is then, how do we maximize broadband access and specifically in rural areas. We need high-speed Internet for our homes, schools, hospitals, and workplaces. Speed defines what is possible on the Internet. It determines whether we will have the infrastructure required to create the jobs of the future, develop our economy, and support innovations in telemedicine, education, public safety, and public services to improve our lives and communities. High-speed Internet is even more crucial to underserved rural areas because it is the best and most realistic solution to the rural/urban technology divide. High-speed Internet offers the chance to revitalize rural economies faced with the ever increasing shift to an urban, technology-based economy. Wireless broadband offers a solution to the challenge facing us. Wireless broadband has the potential to cover large geographic areas at low cost.

## **“White Space” Auction Offers Solution**

The auctioning of “white space” would foster the development of wireless broadband in rural areas because over 200MHz of spectrum is available in those areas. To put this amount of spectrum in perspective, it is over 3 times the amount of spectrum as was auctioned in the recent 700Mhz auction. In addition, the licensed spectrum permits maximum power, and significantly reduces interference issues. The amount of spectrum and the power available make the “white space” extremely valuable in rural areas, as it would allow a licensed owner to provide service over a large geographic area at a low cost. Further, an auction of licensed spectrum could provide the collateral needed to finance wireless broadband build-outs in rural markets. Unlicensed spectrum will not. An additional benefit is the potential windfall for the federal government. A study done by the Brattle group states that that the government could receive \$12-24 billion by auctioning “white space.” Certainly, given the current economic climate and the position the government finds itself in, any significant source of additional federal revenue must be pursued.

Currently, very few wireless broadband networks operate in rural America today. The type and amount of spectrum needed for these wireless networks has not previously been available to rural wireless carriers. Outside of a licensed “white space” auction rural areas are unlikely to get broadband service because it is too expensive to build fixed networks.

Engineers have estimated that a licensed signal can travel up to 30 miles in rural areas, while an unlicensed signal can travel only up to 4 miles. (This calculation is based on a typical power of 1kW for the licensed spectrum compared to 1 W for the unlicensed spectrum.) This difference results in more than a 50-to-1 coverage advantage for the licensed spectrum. In other words, there would need to be roughly 50 unlicensed cell sites for every licensed cell site. The only way to succeed in providing broadband to rural areas is on a licensed basis so that power levels can be maximized and interference can be reduced.

The National Telecommunications Cooperative Association (NTCA) recently conducted a survey of its membership about wireless broadband issues in rural areas. NTCA represents over 580 small and rural telephone companies throughout the U.S. Seventy-three percent of NTCA’s members indicated that they would prefer access to additional licensed spectrum over additional unlicensed spectrum.

## **Unlicensed Spectrum Wasteful**

On the other side, opponents of licensing “white space” promote in-home networking and improved WiFi as likely uses of the spectrum, but using the spectrum for low-power, short-range services like these fails to take full advantage the “white space.” The widely cited Brattle group reply comments before the FCC state that the “white space” is “overqualified” for such low-power, short-range services. Using “white space” for this purpose would “amount to using land in downtown Tokyo to grow rice.”

Some spectrum utilization studies suggest that there are many licensed frequency bands that are underutilized. However, this initial conclusion is deceptive. Most of these are frequencies in the 1240-1710 MHz bands. Much of the spectrum in the 1240-1710 MHz bands is licensed to non-commercial operations. If you compare the unlicensed PCS band (2390-2500 MHz) to the licensed PCS band (1850-1990 MHz), the studies consistently come to the opposite conclusion. Licensed PCS frequencies are utilized significantly more than the unlicensed frequencies. In 2004 and 2005 the National Science Foundation studied spectrum utilization in seven different locations throughout the United States. In six of those seven locations, licensed PCS spectrum is utilized significantly more than unlicensed PCS spectrum. (Reference NSF report by name)

### **Unlicensed Spectrum Finds Few Customers**

A significant number of experiments with unlicensed WiFi in major Metropolitan areas have not worked. In every instance, including in San Francisco, Philadelphia, and New Orleans, these experiments have failed. A lack of funding was not the problem: EarthLink spent more than \$50 million building unlicensed WiFi operations in these cities. These experiments failed due to lack of demand. EarthLink expected over 100,000 customers in Philadelphia in the first year. In spite of extensive marketing, EarthLink attracted only 5,942 subscribers.

The reason for these consistent failures was simple ... no customers. Even in Google's own backyard, no one has attracted enough customers to make unlicensed WiFi viable. Since the unlicensed system has failed in these urban centers, claims that unlicensed usage of "white space" will lead to greater rural broadband access must be viewed with great skepticism.

**In conclusion, it is imperative that we bring broadband to rural America, and the only practical way to do that is through licensure of "white space."**

## **White Space Background**

The DTV Transition is similar to a gigantic game of musical chairs with the broadcasters changing channels all over the country. When the music stops on midnight February 17, 2009, many of these channels will no longer be occupied. These unoccupied channels are referred to as the “White Space” spectrum. Even in a big metropolitan area like New York City, experts estimate that 11 channels will not be occupied after February 17<sup>th</sup>.

A high-stakes debate has been simmering for the past year about what to do with all these unoccupied TV channels. The Wireless Innovation Alliance -- led by Google -- wants to use this spectrum for free, unlicensed access throughout the U.S., presumably so that the Wireless Innovation Alliance members can increase demand for their wireless devices and services without having to pay for the spectrum. The broadcasters fear that unlicensed use of the white space spectrum will create significant interference with consumers’ TV reception on the nearby television stations. Under the Google proposal, no one will be able to control where and when all these millions of new devices are used. So if consumers are having trouble with their TV reception because of unlicensed devices, there will be no way to fix it.

As a result, extensive testing is being conducted by the FCC that will measure the amount of interference that these millions of unlicensed devices might cause.

Regardless of what the FCC testing reveals, there is a much bigger issue looming on the horizon. This issue is whether the FCC should auction these unused TV channels or just give them away for free. Based on a study by the Boston- based Brattle Group, auctioning these unoccupied TV channels could raise between \$9-24 Billion for the Federal Government. A number of large wireless companies such as Qualcomm, T-Mobile, Sprint-Nextel, and Fibertower have expressed interest in purchasing this spectrum.

Aside from the forfeited auction revenues, another drawback to the Google proposal is that it would require the mobile devices to operate at very low power levels which would result in significantly shorter transmission range than licensed devices. As a result, the unlicensed Google proposal will require significantly more cell towers than the licensed approach. Lastly, almost all of the experiments using unlicensed spectrum for free municipal Wi-Fi service have been financial failures and have either been shut down or never started. A number of these experiments were in San Francisco and the surrounding suburbs. Google was even a partner in San Francisco. They have all been shut down. These failures suggest there is little demand for this type of service.

Recently, a group called Aloha Partners led by veteran Cellular and 700 MHz entrepreneur Charlie Townsend sent the FCC a series of letters advocating the benefits of licensing and auctions and explaining the drawbacks of unlicensed spectrum. Charlie Townsend has a proven track record of identifying wireless opportunities before they become obvious. In 1988, Townsend founded Atlantic Cellular which was one of the first cellular companies to focus on building the small, secondary cellular markets. The

big wireless companies were concentrating on buying top 100 markets like New York, Chicago and Los Angeles and did not care about rural Vermont or New Hampshire. Townsend was able to buy these licenses inexpensively and built a regional cellular network covering Vermont, New Hampshire and parts of Massachusetts and New York. Atlantic Cellular eventually became the fourth largest cellular operator in New England. In 1998, Atlantic Cellular was sold for \$230 million to Rural Cellular Corp.

In 2001, Charlie Townsend started Aloha Partners and acquired a significant number of UHF licenses for channels 54 and 59 in the original 700 MHz auctions. Most of industry experts felt that the DTV Transition would never happen and that these frequencies would be worthless. Townsend spent many days on Capital Hill explaining the benefits of the DTV Transition to Congress. Aloha Partners spent millions and millions of dollars demonstrating the potential uses of the DTV spectrum. Two of the most promising uses were wireless broadband and mobile TV to cellular phones. In early 2008, AT&T purchased the Aloha licenses for \$2.5 Billion.

Townsend continues to believe that mobile TV to cellular phones is a “golden opportunity” and wants the White Space to be licensed and auctioned so that he and his partners can buy some of it. Aloha agrees with the Brattle Group that the White Space should be auctioned, but is more conservative in its estimate of this spectrum’s value. Aloha estimates that the White Space could be worth between \$8-15 Billion.

The mainstream wireless industry has been surprisingly quiet on this issue. Some observers believe that this is due to the industry’s preoccupation with the 700 MHz auction up until March, 2008. Other observers believe that the big wireless companies do not want to see any more spectrum come to market that might compete with them and are hoping that the Broadcasters and High Tech companies can’t resolve the interference issues and that the FCC is stalemated. The cellular industry trade group, CTIA, gingerly put its toe in the water last March with a letter to the FCC advocating a combination of licensed and unlicensed spectrum

The licensed approach is starting to gain momentum. In June, CTIA modified its position with a second letter to the FCC that strongly advocated only licensed spectrum and auctions. The former Republican Chairman of the House Telecommunications Sub Committee, Representative Fred Upton, had always supported licensing and auctions. And in early August, the current Democratic House Energy and Commerce Committee Chairman, John Dingell, sent FCC Chairman Kevin Martin a letter urging him to consider “proposals to license some or all the available (White Space) spectrum.” Dingell acknowledged that “these particular bands of spectrum are extraordinarily valuable and offer potential for entirely new and innovative services.”

FCC Chairman Kevin Martin, however, who has strong ties to the High Tech community, seems enamored with the Google proposal. According to *The Wall Street Journal*, Martin expects to have the interference issues resolved by year’s end and will be in a position to set the rules for how the White Space will be used by the end of December.