

Jean L. Kiddoo  
Direct Phone: (202) 373-6034  
Direct Fax: (202) 373-6482  
jean.kiddoo@bingham.com

June 15, 2012

**VIA ELECTRONIC FILING**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
The Portals  
445 12th Street, S.W.  
Washington, DC 20554

Re: WT Docket 12-4

Dear Ms. Dortch:

On behalf of T-Mobile USA, Inc. (“T-Mobile”), and pursuant to Section 1.1206 of the Commission’s Rules, 47 C.F.R. § 1.1206, the attached analysis is submitted for the record in response to the request of Commission Staff regarding the calculation of the spectrum capacity Herfindahl-Hirschman Index (“HHI”) based on the unencumbered spectrum that is available for LTE services.

The attached analysis, prepared by Professor Judith Chevalier and The Analysis Group, Inc., demonstrates that LTE overlay spectrum holdings are highly concentrated, as defined by the Department of Justice’s 2010 Horizontal Merger Guidelines. More specifically:

- Currently (*i.e.* without regard to the Verizon/CableCo transactions proposed in the above-referenced matter), 688 CMAs of 728 CMAs for which data are available have an HHI greater than 2,500. In other words, 95 percent of the CMAs are highly concentrated pre-acquisition;
- The Verizon/CableCo transactions would increase HHI by more than 200 points in 596 of the 688 highly concentrated CMAs;
- The Verizon/CableCo transactions would add 28 more CMAs to the highly concentrated category, making 716 of the 728 CMAs (98 percent) highly concentrated; and
- Focusing on just the very largest markets illustrates just how extensive the concentration of this spectrum is. Six of the top 10 markets – New York, Chicago, Philadelphia, Atlanta, Washington, D.C., and Detroit – would have HHI’s over 3500 post-transaction with an average increase in HHI in those markets of more than 500.

Boston  
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Bingham McCutchen LLP  
2020 K Street NW  
Washington, DC  
20006-1806

T +1.202.373.6000  
F +1.202.373.6001  
bingham.com

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This analysis makes it clear that Verizon's effort to acquire the large block of AWS spectrum held by SpectrumCo and Cox poses grave competitive concerns. The attached exhibits break out the HHIs for the top 100 CMAs, and the notes to the exhibits explain the assumptions, methodology, and data sources used in the analysis.

Should any additional information be required with respect to this filing, please do not hesitate to contact me.

Very truly yours,

*/s/ Jean L. Kiddoo*

Jean L. Kiddoo  
Counsel to T-Mobile USA, Inc.

Attachment

cc (by email): Jim Bird, Octavian Carare, Rick Kaplan, Evan Kwerel, Paul LaFontaine, Catherine Matraves, Virginia Metallo, Paul Murray, Tom Peters, Joel Rabinovitz, Eric Ralph, Jim Schlichting, Marius Schwartz, Susan Singer, Michael Smith, Tim Stelzig, Joel Taubenblatt, Thuy Tran, Melissa Tye, and Aleks Yankelevich

**Exhibit 1**  
**Spectrum Concentration Analysis**  
**Unweighted Shares of US LTE Spectrum (Overlay Only)**

	Number and Share of Highly Concentrated CMAs (HHI above 2500)			
	Pre Transaction	Post Transaction		Description of Base Case and Sensitivity to Base Case
		Base Case <sup>[1]</sup>	Sensitivity 1 <sup>[2]</sup>	
<b>Overlay Only</b>	688	716	712	699
<b>Share of CMAs (728 total)</b>	95%	98%	98%	96%

(a) LTE spectrum: Verizon (AWS, 700 MHz), AT&T (AWS, 700 MHz), Sprint (PCS-G), T-Mobile (AWS from AT&T-T-Mobile Break-up), Leap (AWS), MetroPCS (AWS, 700 MHz), and US Cellular (700 MHz).  
 (b) MetroPCS and Leap AWS LTE spectrum holdings are capped at 10 MHz in all CMAs.

**Notes:**

- [1] Post Transaction Base Case: Verizon acquires all of the Cable Companies' (Comcast, TWC, BHN, and Cox) AWS spectrum licenses and retains control of its 700MHz A Block and B Block licenses.
- [2] Post Transaction Sensitivity 1: Verizon acquires all of the Cable Companies' AWS spectrum licenses and sells its 700MHz A Block and B Block licenses to AT&T.
- [3] Post Transaction Sensitivity 2: Verizon acquires all of the Cable Companies' AWS spectrum licenses and sells its 700MHz A Block licenses to MetroPCS and B Block licenses to AT&T.

**Exhibit 2**  
**Share of Total Covered Population (314 million)**  
**in Highly Concentrated Markets**

	Pre Transaction		Post Transaction	
	Base Case	Sensitivity 1	Sensitivity 1	Sensitivity 2
Overlay Only (728 CMAs)	95%	98%	98%	93%

**Exhibit 3**  
**Number and Share of CMAs by Concentration Classification**

	Pre Transaction		Post Transaction Base Case	
	Moderately Concentrated	Highly Concentrated	Moderately Concentrated	Highly Concentrated
Overlay Only (728 CMAs)	40 (5.5%)	688 (94.5%)	12 (1.6%)	716 (98.4%)

**Notes:**

The Horizontal Merger Guidelines define Moderately Concentrated as an HHI between 1500 and 2500.

The Horizontal Merger Guidelines define Highly Concentrated as an HHI greater than 2500.

See Exhibit 1 for additional notes and sources.

**Exhibit 4**  
**Change in Concentration**  
**(Pre to Post Transaction Base Case)**

	HHI Increase of 100 - 200				HHI Increase of more than 200			
	HHI Increase of less than 100		Highly Concentrated to Highly Concentrated		Moderately Concentrated to Moderately Concentrated		Highly Concentrated to Highly Concentrated	
	Moderately Concentrated	Highly Concentrated	Moderately Concentrated	Highly Concentrated	Moderately Concentrated	Highly Concentrated	Moderately Concentrated	Highly Concentrated
<b>Overlay Only (728 CMAs)</b>	7	3	1	12	8	27	27	569

**Note:**  
Cable companies do not hold AWS licenses in 98 of the CMAs examined. HHI decreases in 3 CMAs, but remain highly concentrated.

**Exhibit 5**  
**Spectrum Concentration (Overlay Only)**  
**Pre Transaction and Post Transaction (Base Case)**  
**(Top 100 CMAs)**

Pop Rank	CMA	Population	Pre Transaction	Post Transaction Base Case
1	Los Angeles, CA	17,174,570	3,022	3,363
2	New York, NY	16,808,740	3,646	4,125
3	Chicago, IL	8,507,569	3,749	4,340
4	Dallas-Forth Worth, TX	6,557,576	2,582	2,849
5	Houston, TX	5,637,211	2,666	3,444
6	Philadelphia, PA	5,289,675	3,133	3,608
7	Atlanta, GA	4,914,273	3,713	4,277
8	Washington, DC-MD-VA	4,809,723	3,167	3,718
9	Detroit/Ann Arbor, MI	4,733,459	3,998	4,542
10	Boston-Lowell-Brockton-Lawrence-Haverhill, MA-NH	4,508,380	2,600	2,971
11	San Francisco-Oakland, CA	4,371,435	2,752	3,133
12	Miami-Fort Lauderdale-Hollywood, FL	4,302,210	4,843	5,385
13	Phoenix, AZ	4,087,980	2,380	2,663
14	Minneapolis-St. Paul, MN-WI	3,131,944	4,673	5,090
15	San Diego, CA	3,086,346	2,504	2,849
16	Denver-Boulder, CO	2,804,706	2,582	2,849
17	Baltimore, MD	2,653,604	3,167	3,718
18	Seattle-Everett, WA	2,652,469	3,656	4,222
19	St. Louis, MO-IL	2,636,325	2,781	2,781
20	Tempe-St. Petersburg, FL	2,593,519	3,713	4,277
21	San Juan-Caguas, PR	2,271,749	6,122	6,122
22	Portland, OR-WA	2,119,028	2,380	2,663
23	Sacramento, CA	1,973,687	2,666	3,167
24	Pittsburgh, PA	1,959,627	3,384	3,941
25	Las Vegas, NV	1,926,570	2,108	2,443
26	San Antonio, TX	1,926,040	2,666	3,167
27	Kansas City, MO-KS	1,867,083	3,167	3,718
28	San Jose, CA	1,813,429	2,752	3,133
29	Orlando, FL	1,781,599	3,713	4,277
30	Cleveland, OH	1,781,739	4,712	5,259
31	Indianapolis, IN	1,715,519	4,832	4,983
32	Cincinnati, OH-KY-IN	1,689,049	3,902	3,902
33	Salt Lake City-Ogden, UT	1,654,325	2,344	2,602
34	Austin, TX	1,643,645	2,666	3,167
35	Columbus, OH	1,360,339	4,376	4,930
36	Milwaukee, WI	1,568,884	2,781	3,309
37	Nashville-Davidson, TN	1,521,132	3,384	3,941
38	Charlotte-Gastonia, NC	1,349,794	3,635	4,086
39	Jacksonville, FL	1,339,750	3,041	3,523
40	Raleigh-Durham, NC	1,333,905	3,059	3,503
41	West Palm Beach-Boca Raton, FL	1,290,147	4,845	5,385
42	Greensboro-Winston-Salem-High Point, NC	1,237,144	3,635	4,086
43	Hartford-New Britain-Easton, CT	1,200,820	3,646	4,125
44	Memphis, TN-AR-MO	1,197,246	3,635	4,086
45	Oklahoma City, OK	1,193,409	2,970	3,397
46	Buffalo, NY	1,123,559	2,462	2,462
47	Norfolk-Virginia Beach-Portsmouth, VA-NC	1,099,797	2,602	3,067
48	New Orleans, LA	1,092,335	3,384	3,941
49	Louisville, KY-IN	1,046,107	3,384	3,941
50	Rochester, NY	1,037,977	3,131	3,581
51	Tucson, AZ	1,030,571	2,344	2,602
52	Birmingham, AL	1,015,257	3,575	4,368
53	Richmond, VA	991,532	2,849	3,389
54	Providence-Warwick-Pawtucket, RI	973,016	2,600	2,971
55	Fresno, CA	927,403	2,382	2,849
56	Tulsa, OK	926,026	2,504	2,849
57	Honolulu, HI	912,397	3,041	3,523

Exhibit 5

Spectrum Concentration (Oversay Only)  
Pre Transaction and Post Transaction (Base Case)  
(Top 100 CMAs)

Pop Rank	CMA	Population	Pre Transaction	Post Transaction Base Case
58	Bridgeport-Stamford-Norwalk-Danbury, CT	908,013	3,646	4,125
59	Albany-Schenectady-Troy, NY	878,242	3,408	3,811
60	Grand Rapids, MI	874,925	3,117	3,608
61	Cresville-Spartanburg, SC	870,102	3,384	3,384
62	New Haven-West Haven-Waterbury-Meriden, CT	850,446	3,646	4,125
63	Deyton, OH	833,080	2,849	3,389
64	Toledo, OH-MI	823,674	3,224	3,733
65	Allentown-Bethlehem-Easton, PA-NJ	820,344	3,646	4,125
66	Bakersfield, CA	817,668	2,752	3,133
67	Ontario-Simi Valley-Ventura, CA	811,194	2,752	3,133
68	Worcester-Fitchburg-Leominster, MA	808,034	3,100	3,339
69	Tucson, AZ	806,575	2,108	2,443
70	New Brunswick-Forth Amboy-Sayreville, NJ	796,151	3,646	4,125
71	Albuquerque, NM	779,123	2,504	2,849
72	Omaha, NE-IA	764,391	2,344	2,602
73	El Paso, TX	764,182	2,504	2,849
74	McAllen-Edinburg-Mission, TX	761,090	2,504	2,849
75	Florida 4 - Citrus	707,277	3,713	4,277
76	Wilmington, DE-NC-MD	706,341	3,133	3,608
77	Akron, OH	699,922	4,712	5,239
78	Baton Rouge, LA	693,642	3,384	3,941
79	Northeast Pennsylvania, PA	689,033	3,646	4,125
80	Stockton, CA	686,968	2,752	3,133
81	Charleston-North Charleston, SC	671,197	3,384	3,941
82	Little Rock-North Little Rock, AR	666,956	3,384	3,941
83	Gary-Hammond-East Chicago, IN	659,872	2,849	3,389
84	Knoxville, TN	659,053	3,384	3,941
85	Syracuse, NY	647,164	2,443	2,932
86	Long Beach-Asbury Park, NJ	646,346	3,646	4,125
87	Columbia, SC	639,077	3,384	3,941
88	Colorado Springs, CO	635,478	2,666	3,167
89	Springfield-Chicopee-Holyoke, MA	629,238	3,646	4,125
90	Mobile, AL	597,841	3,384	3,941
91	Lakeland-Winter Haven, FL	586,526	3,713	4,277
92	Fort Myers, FL-Columbia - Lee	583,109	3,384	3,941
93	North Carolina 15 - Cabarrus	580,086	3,384	3,941
94	New Jersey 2 - Ocean	577,699	3,628	3,997
95	Wichita, KS	564,135	2,280	2,454
96	Provo-Orem, UT	560,866	2,108	2,443
97	New Bedford-Fall River, MA	549,047	2,600	2,971
98	Des Moines, IA	545,659	3,425	4,022
99	Vallejo-Fairfield-Napa, CA	543,889	2,752	3,133
100	Harrisburg, PA	540,033	3,384	3,941
Total Population		194,616,998	3,215	3,648
HH Average			100	100
Total CMAs			91	95
CMAs Where HH>2100				



**Exhibit 6**  
**US LTE Deployment Spectrum Bands**

<b>Carrier</b>	<b>Spectrum Band</b>
Verizon	AWS, 700MHz
AT&T	AWS, 700MHz
Sprint	PCS-G
T-Mobile	AWS
Leap	AWS
MetroPCS	AWS, 700MHz
US Cellular	700MHz

## Notes and Sources

### Notes:

- [1] No CMAs have an HHI less than 1500.
- [2] CMAs 306, 730-734 excluded from analysis due to lack of data. A total of 728 CMAs were included in the analysis.
- [3] Spectrum holdings by Cellular Market Area (CMA) calculated as the population-weighted average of spectrum holdings by county within each CMA.
- [4] Verizon and Leap spectrum holdings reflect spectrum swap pending approval by the FCC.
- [5] AT&T spectrum holdings reflect acquisition of Qualcomm licenses, which was approved by the FCC on December 22, 2011.
- [6] AT&T and T-Mobile total spectrum holdings reflect AT&T's transfer of spectrum to T-Mobile.
- [7] Analysis includes all Cable Company licenses, regardless of whether spectrum is cleared.

### Sources:

- [A] FCC license database.
- [B] Verizon Wireless-SpectrumCo and Verizon Wireless-Cox Application materials are available at <http://transition.fcc.gov/transaction/verizonwireless-spectrumcocox.html>.
- [C] AT&T and Qualcomm WT Docket No. 11-18, available at <http://transition.fcc.gov/transaction/att-qualcomm.html>.
- [D] T-Mobile License and AT&T Mobility WT Docket No. 12-21, available at <http://transition.fcc.gov/transaction/tmobilelicense-attmobility.html>.
- [E] Verizon Wireless and Leap Wireless spectrum swap materials are available at [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2012/db0119/DA-12-69A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0119/DA-12-69A1.pdf).
- [F] Verizon Press Release, Verizon Wireless To Conduct Spectrum License Sale, April 18, 2012, Available at <http://newscenter.verizon.com/press-releases/verizon/2012/verizon-wireless-to-conduct.html>.
- [G] Fiercewireless, Analysis: AT&T, MetroPCS might purchase Verizon's 700 MHz spectrum, April 18, 2012, Available at <http://www.fiercewireless.com/story/analysis-att-metropcs-might-purchase-verizons-700-mhz-spectrum/2012-04-18>.
- [H] In the Matter of Applications of Celco Partnership d/b/a Verizon Wireless and Atlantis Holdings LLC for Consent to Transfer Control of Licenses, Authorizations, and Spectrum Manager and De Facto Transfer Leasing Arrangements and Petition for Declaratory Ruling that the Transaction is Consistent with Section 310(b)(4) of the Communications Act, Memorandum Opinion and Order and Declaratory Ruling, WT Docket No. 08-95, available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-08-258A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-258A1.pdf).
- [I] J. P. Morgan, Wireless services : The Fourth Generation of Mobile - US mobile data monetization will remain superior, March 16, 2012, p. 47.
- [J] FierceWireless, Sprint to deploy LTE in iDEN spectrum in 2014, April 12, 2012, Available at <http://www.fiercewireless.com/story/sprint-targets-2014-use-800-mhz-lte/2012-04-12>.
- [K] Deutsche Bank Research, MetroPCS Comm. : Expecting Stable Trends Ahead of Full LTE Transition, February 24, 2012, p. 4.
- [L] Fiercewireless, Analysis: AT&T, MetroPCS might purchase Verizon's 700 MHz spectrum, April 18, 2012, Available at <http://www.fiercewireless.com/story/analysis-att-metropcs-might-purchase-verizons-700-mhz-spectrum/2012-04-18>.