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October 31, 2018

VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, D.C. 20554

RE: Consolidated Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, WT Docket No. 18-197

Dear Ms. Dortch:

In accordance with Protective Order (DA 18-624) in the above-captioned proceeding, the Communications Workers of America (“CWA”) submits the attached public, redacted version of CWA’s Reply Comments, including supporting exhibits. CWA has indicated with the legend “**REDACTED**” where Highly Confidential Information has been redacted. A Highly Confidential version of this filing is being filed with the Commission on this date and will be made available pursuant to the terms of the Protective Order.

Please contact me with any questions.

Sincerely,



Allen P. Grunes
Counsel to Communications Workers of America

Attachment

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Applications of T-Mobile US, Inc.,)	
)	WT Docket No. 18-197
and)	
)	
Sprint Corporation)	
)	
For Consent to Transfer Control of the Licenses)	
and Authorizations)	

**Reply Comments of
Communications Workers of America**

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EXECUTIVE SUMMARY

The Communications Workers of America (“CWA”) submitted initial Comments in this proceeding which overwhelmingly demonstrated that the proposed merger between T-Mobile and Sprint as currently structured would result in substantial public interest harm while offering no countervailing verifiable, merger-related public interest benefits. Applicants’ Joint Opposition fails to refute any of the points raised by CWA. When merger-related harms are predictable and the benefits speculative, the merger fails the public interest test.

The Applicants fail to refute CWA’s well-documented evidence that the merger will result in substantial job losses through the consolidation of duplicative retail stores and headquarters functions. In our initial comments, we estimated that the proposed merger would result in the loss of more than 28,000 jobs. CWA’s initial analysis was, if anything, too conservative. We have refined our analysis with additional data, and show in these Reply Comments that the merger is likely to eliminate 30,000 jobs. In a feeble attempt to refute CWA’s methodology, Applicants claim that CWA’s analysis did not account for expanded staffing at stores that would remain open following the merger and for planned store growth in rural areas. This claim is demonstrably false, as CWA’s analysis clearly (and repeatedly) addressed expanded staffing at surviving stores and in rural areas. Moreover, Applicants do not rebut CWA’s estimate of the number of jobs that would be eliminated as a result of the proposed transaction, nor do they provide alternative detailed calculations. The omission is hardly accidental, as the Applicants have publicly suggested, even after CWA’s comments were filed, that store closures are likely if the merger takes place.

The Commission should not approve the merger without verifiable and enforceable commitments by the Applicants to ensure that the transaction does not cause a reduction in U.S.

employment, that no employees of T-Mobile or Sprint will lose a job as a result of this transaction, that the Applicants will return all overseas customer call center jobs to the U.S., and that the Applicants commit to abide by all labor and employment laws and to maintain neutrality in allowing their employees to form a union of their own choosing, free from any interference by the employer.

The Applicants fail to refute the overwhelming evidence that the proposed horizontal merger of T-Mobile and Sprint is anticompetitive and illegal. Under well-established merger analysis and case law, the transaction is presumed to be anticompetitive. Applicants do not dispute the most critical facts. The merger would eliminate substantial head-to-head competition between two close rivals. It would result in 92 percent of the population of the United States – or more than 284 million people – living in counties in which the new T-Mobile’s spectrum holdings – a key input for wireless networks – would substantially exceed the Commission’s spectrum screen. And it would increase concentration in what the Department of Justice and Federal Trade Commission’s *2010 Horizontal Merger Guidelines* consider “highly concentrated markets” to levels far in excess of the thresholds that the *Guidelines* presume to be “likely to enhance market power.”

The Applicants appear to concede that mobile telephony/broadband services is a relevant market. That, at least, seems uncontested as of now. However, they argue that the Commission should not evaluate the merger for its impact in the narrower market for prepaid wireless retail services. Their opposition fails to account for the many ways prepaid and postpaid are different products from a pricing, features, sales, marketing, advertising, and customer care perspective. The Applicants also fail to answer the relevant question under the *Horizontal Merger Guidelines*, which is whether postpaid plans act as a pricing constraint on prepaid plans. In fact, the

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Applicants' Joint Opposition suggests that most prepaid customers switch between prepaid plans, providing further support for defining a separate prepaid market in this transaction.

The Applicants seriously misrepresent the Commission's methodology for determining market concentration and power – the Herfindahl-Hirschman Index and the spectrum screen – even as they avoid producing detailed information on either score. They ignore stubborn facts that tend to prove T-Mobile and Sprint are each other's closest competitors for a significant number of consumers.

In an effort to overcome the presumption of illegality, the Applicants rely primarily on economic theory. But there are glaring inconsistencies between Applicants' own experts on critical issues. To give three examples:

- Applicants, using one group of economists, have created a merger simulation model which is premised on the predictability of events three to five years down the road. This group of economists claims to be able accurately to predict prices, quality and consumer demand several years from now. But using another group of economists, Applicants construct a different economic model to argue why the market is so unpredictable and dynamic as to prevent the remaining competitors from coordinating after the merger takes place. They claim that the four national competitors cannot determine their rivals' prices, quality and consumer demand today, much less predict what will happen three to five years from now.
- One of Applicants' economists argues that consumers are highly price sensitive and will quickly switch mobile providers. Another group of Applicants' economists argue that "consumer stickiness" makes consumers reluctant to switch providers.
- One of Applicants' economists repeatedly claims that Sprint's poor coverage "limits its attractiveness to subscribers." But other economists, relying on "ordinary course documents," project increases in Sprint's market share over a period of years.

These and other inconsistencies reflect something more than a lack of communication between the Applicants' experts. As the Commission staff noted in *AT&T/T-Mobile*, benefits expected to occur only in the distant future may be discounted or dismissed because, among

other things, predictions about the distant future are inherently more speculative than predictions that are expected to occur closer to the present.

The infirmities in the Applicants' economic models underscore the reality that no one (not even a PhD economist) can really or reliably predict efficiencies three to five or more years in the future, particularly when those efficiencies are premised on numerous assumptions about future technology, unproven business cases, and overcoming significant integration challenges. Applicants already have had to back-pedal on their modeling because it was overly optimistic on network congestion. The disagreement between their economists illustrates that the exercise of predicting what will happen multiple years in the future is inherently speculative.

The Applicants have not come close, by any stretch of the imagination, to providing the kind of evidence that is sufficiently rigorous and well documented to satisfy the Commission's high evidentiary standard to prove verifiable public interest benefits that will result from the merger. Applicants do not rebut Dr. Andrew Afflerbach's Declaration that was submitted in our initial Comments. In that Declaration, Dr. Afflerbach describes a number of basic engineering problems associated with providing 5G services in a rural setting. Applicants do not take issue with Dr. Afflerbach's conclusion that for the great majority of rural Americans, "the level of coverage and capacity would be similar for the merged New T-Mobile network and the stand-alone T-Mobile network." In connection with these Reply Comments, Dr. Afflerbach provides a Supplemental Declaration based on his review and analysis of the Applicants' internal engineering documents. His Supplemental Declaration confirms the conclusion in his original Declaration and adds additional reasons that New T-Mobile would only marginally improve rural service relative to a standalone T-Mobile.

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In their Joint Opposition, Applicants fail to address, much less refute, CWA’s arguments that Sprint is a viable firm and is not “failing.” In our comments, CWA cited analyst reports which conclude that Sprint continues to be an effective competitor as well as Sprint management’s own assertions that it “very, very well positioned” for 5G. Not only do Applicants fail to refute this assessment of Sprint’s competitive viability, but indeed, Applicants’ own model for a standalone Sprint projects that the company’s key financial measures will grow throughout the model’s prediction period. Today, on its third quarter 2018 earnings call, Sprint CEO Michael Combes touted Sprint’s “strong momentum” adding subscribers, growing revenue and earnings, with substantial investment in its network.

Finally, Applicants plead amnesia when confronted with statements that standalone T-Mobile and standalone Sprint are each well positioned to build a nationwide 5G network. As recently as yesterday (October 30, 2018), CEO John Legere on T-Mobile’s third quarter 2018 earnings call reaffirmed that standalone T-Mobile will build 5G in “hundreds of cities” across the U.S. in 2018 and will have a national 5G mobile network by 2020. And just today (October 31, 2018), CEO Michael Combes on Sprint’s third quarter 2018 earnings call explained that Sprint is far along in its network build for 5G, with plans to launch in the first half of 2019.

The Applicants fail to show how their merger will strengthen U.S. national security.

Applicants fail to clarify how technological leadership in 5G directly translates to a net benefit to national security. These claims also conveniently ignore the extensive ties between the Applicants’ parent companies and Chinese government-owned entities in matters related to 5G development, an area the applicants claim as directly relevant to U.S. national security interests. Applicants’ argument is also in tension with U.S. lawmakers’ continued characterization of Huawei as a national security threat. The Commission should not move forward in its review of

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the instant transaction until after (i) the Committee on Foreign Ownership in the United States (CFIUS) has ensured that Sprint fully complied with the 2013 Softbank/Sprint/Clearwire merger National Security Agreement, (ii) the Applicants make binding commitments to terminate any existing relationships with vendors that pose potential security threats, and (iii) the Applicants remove all equipment from these vendors operations. Furthermore, the Commission should require the Applicants to participate in regular national security audits to ensure compliance with Commission standards, in addition to any national security agreement required by CFIUS.

In summary, Applicants fail to demonstrate that the proposed transaction is in the public interest.

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I. INTRODUCTION

Numerous commentators representing consumer organizations, industry participants, antitrust experts, and workers all agree: the proposed merger between T-Mobile and Sprint as currently structured raises serious competitive concerns with no countervailing public interest benefits.¹

The transaction would likely lead to as many as 30,000 jobs lost. The transaction is anticompetitive under the 2010 *Horizontal Merger Guidelines* and controlling case law in at least two relevant antitrust product markets: mobile telephony/broadband services and prepaid wireless retail services. It would result in the elimination of the substantial head-to-head competition between Sprint and T-Mobile, leading to considerable consumer harm in the form of higher prices and less innovation in service offerings. And it would result in an unprecedented concentration of licensed spectrum in the hands of a single entity.

Rural America would see little if any benefit from the merger in terms of coverage and capacity relative to the stand-alone T-Mobile network.² Moreover, as numerous commentators have demonstrated, the merger is not necessary for the rollout of 5G services, as both T-Mobile and Sprint have been touting their 5G plans for well over a year and have been making

¹ See Comments of Communications Workers of America, *Applications of T-Mobile US, Inc., and Sprint Corporation For Consent to Transfer Control of the Licenses and Authorizations*, WT Docket No. 18-197, Aug. 27, 2018 (“CWA Comments”); Petition to Deny of NTCA-The Rural Broadband Association, WT Docket No. 18-197, Aug. 27, 2018 (“NTCA Petition”); Petition to Deny of the American Antitrust Institute, WT Docket No. 18-197, Aug. 27, 2018 (“AAI Petition”); Petition to Deny of the Rural Wireless Association, Inc., WT Docket No. 18-187, Aug. 27, 2018 (Rural Wireless Association Petition”); Petition to Deny of Common Cause, Consumers Union, New America’s Open Technology Institute, Public Knowledge, and Writers Guild of America, West, Inc., WT Docket No. 18-197, Aug. 27, 2018 (“Consumers Coalition Petition”); Petition to Deny of Free Press, WT Docket No. 18-197, Aug. 27, 2018 (“Free Press Petition”); Cellular South, Inc., Petition to Condition, or in the Alternative, Deny and Grant of the Sprint/T-Mobile Application, WT Docket No. 18-197, Aug. 27, 2018 (“Cellular South Petition”); Altice Petition to Condition or Deny, WT Docket No. 18-197, Aug. 27, 2018; Petition to Deny, Greenlining Institute, WT Docket No. 18-197, Aug. 27, 2018 (“Greenlining Petition”); Comments of Frontier Communications and Windstream Services LLC, WT Docket No. 18-197, Aug. 27, 2018 (“Frontier/Windstream Comments”), Petition to Deny of DISH Network Corporation, WT Docket No. 18-197, Aug. 27, 2018 (“DISH Petition”).

² CWA Comments, pp. 47-51 and Appendix A: Declaration of Andrew Afflerbach, PhD., P.E.; Consumer Coalition Petition, pp. 44-46; DISH Petition, pp. 5-6; Rural Wireless Association Petition, pp. 7-16; NCTA Petition, pp. 7-8.

investments in anticipation of its arrival.³ Further, Applicants' claims that Sprint is no longer a viable competitor are without merit. Sprint does not qualify as a "failing firm" under either the case law or 2010 Horizontal Merger Guidelines.⁴ Finally, given the Applicants' past history and the present business interests of their controlling shareholders, there are serious national security risks associated with the transaction.

The Applicants are fully aware that their proposed merger is presumptively illegal under well-established antitrust case law. Despite having multiple opportunities to do so, Applicants have failed to overcome this legal presumption.

II. THE PROPOSED MERGER WOULD RESULT IN THE LOSS OF 30,000 JOBS

Applicants claim that their merger will increase the number of jobs.⁵ As with all claimed benefits, the Applicants bear the burden of proving that claimed job creation is merger-specific, quantifiable and verifiable. CWA in its Comments performed a comprehensive analysis based on detailed location data for all the retail locations involved in the proposed transaction.⁶ Its analysis found that the proposed T-Mobile/Sprint merger will result in the loss of more than 28,000 jobs. As discussed below, we have updated the analysis and now find that the proposed merger will result in the loss of 30,000 retail and headquarters jobs.

In the Applicants' Joint Opposition, they do not address directly CWA's estimate of jobs that will be eliminated as a result of the proposed transaction, nor do they provide alternative calculations. Instead, their arguments seek to misrepresent our methodology and attack our

³ CWA Comments, pp. 38-40; Consumer Coalition Petition, pp. 32-29; DISH Petition, pp. 12-16; Free Press Petition, pp. 51-55.

⁴ *See infra* pp. 32-34 and Appendix B. *See also* CWA Comments, pp. 40-46; Consumer Coalition Petition, pp. 19-25.

⁵ *See* T-Mobile and Sprint, Description of Transaction, Public Interest Statement, and Related Demonstrations, WT Docket No. 18-197, June 18, 2018, pp. 80-83 ("PIS").

⁶ CWA Comments, pp. 54-71.

credibility in order to distract from the basic fact that the proposed merger will involve significant consolidation of retail and headquarters operations that will cause massive job losses.

a. Applicants misrepresent CWA’s job loss methodology

The applicants argue that CWA’s prior estimate of 28,000 retail jobs lost “strains credulity because Sprint has approximately that many employees total today.”⁷ The implication of this argument is that CWA’s analysis is limited to direct corporate employees of the Applicants. This misrepresents CWA’s methodology, which clearly and explicitly includes jobs at both corporate and authorized dealer retail stores.⁸ In contrast, when advancing their own claims regarding employment growth, the Applicants are happy to claim so-called “direct external” employees, i.e., those employed by vendors and authorized dealers.⁹

The Applicants claim that CWA’s analysis has not accounted for expanded staffing at stores that remain open following the merger and planned store growth in rural areas.¹⁰ This claim is demonstrably false, as CWA’s previous comments clearly and repeatedly address expanded staffing at surviving stores and in rural areas, giving the Applicants credit for more than 12,000 new positions (revised to 11,000, as discussed below) that would offset our estimate of jobs lost through store closures.¹¹ If CWA had not included these offsetting job gains, our total estimate of retail jobs lost from the transaction would have been 36,500 rather than the original estimate of 24,400 (revised to 25,500).

⁷ Joint Opposition, p. 111.

⁸ CWA Comments, pp. 61-65 and Appendix D.

⁹ PIS, Appendix C, 8.

¹⁰ Joint Opposition, p. 113.

¹¹ CWA Comments, pp. 63, 65 and Appendix D.

b. CWA's revised methodology estimates the transaction will result in 30,000 jobs lost

CWA's initial estimate of 24,400 retail jobs lost was overly conservative.¹² Upon further refinement of our model, we now estimate that the merger could result in the loss of 25,500 retail jobs. CWA's initial estimate assumed that employment at all the postpaid retail stores that remained open after the transaction would increase by about 20 percent to accommodate the increase in customer volume from consolidation of nearby T-Mobile and Sprint stores. CWA's initial methodology assumed that job growth would occur in all stores, including stores located in urban areas where an increase in volume after the transaction is unlikely to occur. For example, there are seven Sprint stores and zero T-Mobile stores in the Davenport, Iowa, Urbanized Area. CWA's initial calculation assumed that the seven current Sprint stores would remain open and increase employment following the transaction, even though there is no need to consolidate retail operations with T-Mobile in this area. CWA's revised estimate assumes that employment in these types of urban areas will be unchanged from the status quo.

This improvement to our methodology does not affect our estimate that the transaction will result in the elimination of 4,500 headquarters and administrative positions, primarily in Washington, Kansas and Missouri, the locations of the Applicants' current headquarters. We note that the Applicants do not question our estimate in this area nor provide an alternative number for headquarters and administrative job losses.

Following the updated methodology, CWA's analysis estimates that the transaction could eliminate as many as 30,000 U.S. jobs, including 25,500 retail jobs (net of rural store openings and staffing expansion) and 4,500 headquarters and administrative jobs.

¹² *Id.*

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Summary of Estimated Job Losses from Proposed Transaction	
Type of Work	Net Job Loss
Retail – Postpaid (T-Mobile, Sprint)	13,700
Retail – Prepaid (Boost, MetroPCS)	11,800
Headquarters	4,500
Total	30,000
Source: CWA calculations of retail job loss. See CWA Comments Appendix D for detailed methodology, revised as described above.	

c. Applicants’ claim of enterprise job growth is not merger specific

The Applicants claim that the merged company would “add approximately 1,000 new jobs to take advantage of . . . enhanced competitiveness in the enterprise sector.”¹³ Contrary to the Applicants’ contention that the merger will facilitate a newly aggressive strategy targeting business customers, T-Mobile executives recently boasted about the standalone company’s growth in the enterprise wireless category. When describing the company’s Q2 2017 results, CEO John Legere told analysts that T-Mobile@Work, the carrier’s business services segment, “contributed its highest share of postpaid customers ever...and over 40% of Fortune 1000 companies are now T-Mobile customers.”¹⁴ T-Mobile CFO Braxton Carter was very confident in the company’s ability to compete for enterprise customers, saying, “given where our network is today, there’s no reason we can’t have our fair share of that marketplace.”¹⁵ These statements run counter to the Applicants’ current claims that a standalone T-Mobile lacks the “network, sales and support and technology platforms to offer competitive services across the breadth of

¹³ Joint Opposition, p. 113.

¹⁴ TMUS Q2 2017 Earnings Call Transcript (<https://seekingalpha.com/article/4088888-t-mobile-us-tmus-ceo-john-legere-q2-2017-results-earnings-call-transcript?part=single>).

¹⁵ Adam Levy, “2 Big Opportunities for T-Mobile: T-Mobile can still grow customers by expanding its retail business and getting into more enterprises,” Motley Fool, June 6, 2017, accessed via: <https://www.fool.com/investing/2017/06/06/2-big-opportunities-for-t-mobile.aspx>.

the enterprise segment.”¹⁶ The Applicants further state that the merger will enable New T-Mobile to deliver services and features that businesses demand today, “but with Un-carrier benefits.”¹⁷ T-Mobile has already been marketing its enterprise products this way. In March 2015, the company introduced a corporate plan, which it called the Un-carrier for Business.¹⁸ In September 2018, T-Mobile partnered with Apple to launch a device leasing program for business customers.¹⁹

As a standalone company, Sprint has also continued to innovate in its service offerings for business customers. In August 2017, Sprint unveiled the Sprint MultiLine, which allows businesses to add a company-owned phone number to employees’ personal phones, regardless of device and carrier.²⁰ In February 2018, Sprint tapped Synchronoss to create a streamlined online portal for enterprise customers.²¹ In October 2018, Sprint announced “Sprint Secure Mobile VPN” technology for business customers. The solution creates a virtual private network between mobile devices across different types of networks, such as 4G/LTE, LAN, and Wi-Fi.²²

¹⁶ Joint Opposition, p. 113.

¹⁷ Joint Opposition, p.104.

¹⁸ Bonnie Cha, “T-Mobile Offers Its 'Un-carrier' Deal for Business Customers Now, Will Pay Off Leased Equipment for Switchers”, ReCode, March 18, 2015, accessed via: <https://www.recode.net/2015/3/18/11560462/t-mobile-offers-its-uncarrier-deal-for-business-customers-now-will>.

¹⁹ Kendra Chamberlain, “T-Mobile launches Apple device leasing program for business customers,” FierceWireless, Sep’t 5, 2018, accessed via: <https://www.fiercewireless.com/wireless/t-mobile-launches-apple-device-leasing-program-for-business-customers>.

²⁰ Zacks Equity Research, “Sprint's Unveils MultiLine Venture for Improved Businesses”, Zacks.com, Aug. 27, 2017, accessed via: <https://www.nasdaq.com/article/sprints-unveils-multiline-venture-for-improved-businesses-cm835896>.

²¹ Kelly Hill, “Sprint taps Synchronoss to revamp enterprise digital strategy,” RCR Wireless News, Feb. 26, 2018, accessed via: <https://www.rcrwireless.com/20180226/software/sprint-taps-synchronoss-to-revamp-enterprise-digital-strategy-tag6>.

²² Sprint press release, “Sprint Secure Mobile VPN: Offering A New Take on Network Roaming and Application Persistence,” PR Newswire, Oct. 2, 2018, accessed via: <https://www.prnewswire.com/news-releases/sprint-secure-mobile-vpn-offering-a-new-take-on-network-roaming-and-application-persistence-300722538.html>.

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Prior to the announcement of the proposed merger, T-Mobile expressed great confidence in its continued ability to compete for enterprise customers as a standalone entity. The expansion of enterprise sales jobs that the Applicants promise would be entirely in keeping with the aggressive growth that T-Mobile executives projected in 2017. The 1,000 jobs the Applicants promise are therefore not merger-specific and do not support their efficiencies argument.

d. Applicants offer no support for the claim that they will not consolidate MetroPCS and Boost Mobile post-merger

Applicants claim that they plan to retain multiple prepaid brands and their associated retail stores “because each brand has its own identity and caters to somewhat different customer segments.”²³ This is in contrast to the extensive record of head-to-head competition between Boost Mobile and MetroPCS that CWA documents in our initial comments, which suggests that the “somewhat different” customer segments targeted by the Applicants are in fact each other’s customers.²⁴

In a recent presentation to Sprint headquarters employees, T-Mobile CEO John Legere acknowledged that “there will be retail consolidation,” “there will less stores” following the merger, and that store closure decisions will be made in part on foot traffic and sales volume targets.²⁵ Yet, Mr. Legere and the Applicants somehow continue to argue that store closures will only happen on the postpaid side of the business.

²³ Joint Opposition, p. 114.

²⁴ CWA Comments, pp. 28-30.

²⁵ John Legere, Comments to Sprint employee town hall, October 5, 2018, audio transcript filed with the U.S. Securities and Exchange Commission and accessed via <https://www.sec.gov/Archives/edgar/data/101830/000119312518302090/d624553d425.htm>.

Our analysis of Boost Mobile and MetroPCS store location data finds that half of all Boost Mobile stores are located less than one-third of a mile from the closest MetroPCS store.²⁶ It appears that the Applicants would like us to believe that while proximity and foot traffic may drive store consolidation among postpaid stores, none of the same rules apply to the highly competitive prepaid market because two prepaid stores across the street from each other target “somewhat different customer segments.”

e. The Commission should not give credence to Applicants’ use of post-merger MetroPCS job growth as precedent for the employment impacts of this transaction

In their Joint Opposition, the Applicants restate their claim that the MetroPCS/T-Mobile merger provides a past example of job growth following merger activity.²⁷ They dispute CWA’s argument that MetroPCS’s expansion from a regional player to a national player is not comparable to the relatively limited geographic growth opportunities available to the proposed Sprint/T-Mobile.²⁸

In this case, the Applicants seem to hope that the Commission is unable do basic math. In 2013, when it merged with T-Mobile, MetroPCS had an estimated 4,700 branded retail locations.²⁹ MetroPCS claimed to have 11,300 branded stores as of year-end 2017.³⁰ Since 2013, MetroPCS has grown by approximately 6,600 locations, expanding from its previous

²⁶ CWA analysis of store location data collected from MetroPCS and Boost Mobile’s websites in May 2018, as discussed in CWA Comments, p.64.

²⁷ Joint Opposition, p. 117.

²⁸ CWA Comments, pp. 57-60.

²⁹ Calculated by subtracting T-Mobile’s reported 3,350 branded locations as of 2013 (<https://www.t-mobile.com/news/t-mobile-usa-opens-1000th-t-mobile-premium-retailer-store>) from T-Mobile and MetroPCS’s combined total of 8,000 branded locations as of Q4 2013 (<https://www.sec.gov/Archives/edgar/data/1283699/000128369914000012/tmus12312013form10k.htm>).

³⁰ T-Mobile Investor Factbook, Feb. 8 2018, <https://www.sec.gov/Archives/edgar/data/1283699/000128369918000010/tmus12312017ex992.htm>.

footprint in only 15 local markets to a national presence in 46 states.³¹ The Applicants argue that their purported plans to open 600 new stores in rural areas is comparable to MetroPCS's growth following the 2013 merger, an expansion that was ten times larger. At the time of its merger with T-Mobile, MetroPCS was a regional carrier with a limited footprint, whereas the Applicants both already have comprehensive, overlapping national retail distribution systems and have no need to add thousands of additional stores. Our analysis estimates that following the proposed merger, the Applicants will close more than 7,100 postpaid and prepaid stores. Nowhere in their opposition do the Applicants directly address this estimate or provide an alternate number of store closures.³²

In our initial comments, CWA offered a more appropriate case study in the case of iWireless, in which T-Mobile acquired an Iowa-based regional carrier and closed its call centers along with 72 percent of its corporate stores and 93 percent of its authorized dealer stores.³³ The Applicants do not address the iWireless transaction anywhere in their Joint Opposition, suggesting that they would prefer not to talk about this very relevant case.

f. Applicants misrepresent CWA's history representing workers' concerns over job loss during prior FCC transaction review

CWA takes seriously our obligation to protect good, family-supporting jobs and workers' rights in the context of the Commission's transaction review. Yet, the Applicants attempt to discredit our concern over potential job loss in the instant transaction by misrepresenting CWA's past record of raising concerns about the negative employment impact of transactions.³⁴

³¹ T-Mobile Press Release, "MetroPCS Opens New Doors in 10 New Markets & Celebrates by Giving Customers More High-Speed Data" (Sept. 3, 2014). CWA analysis of store location data collected from the MetroPCS website in April and May 2018.

³² CWA Comments, Appendix D.

³³ CWA Comments, p. 59.

³⁴ Joint Opposition, pp. 116-117.

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Ironically, the Applicants critique themselves. For example, Applicants attack CWA's citation of an input-output analysis conducted by the Economic Policy Institute (EPI) on the employment impact of the proposed AT&T-T-Mobile merger.³⁵ The EPI study employed a similar input-output (I/O) methodology as the one used by Sprint's consultant Dr. Jeffrey Eisenach to estimate the employment impact of the T-Mobile/Sprint transaction.³⁶ The Applicants cannot have it both ways – endorsing the predictive value of Dr. Eisenach's I/O model while criticizing EPI's analysis in *AT&T/T-Mobile* based on a similar methodology.³⁷

The Applicants also misrepresent the Commission's actions to protect jobs in the T-Mobile/MetroPCS transaction. During the course of Commission review of that merger, the evidentiary record documented T-Mobile's plans to reduce employment after the transaction closed.³⁸ In response to this evidence, T-Mobile pledged on the record *that it would not move call centers offshore, reduce employment at those centers, or reduce retail stores or retail positions*.³⁹ In approving the merger, Commissioners Jessica Rosenworcel and Mignon Clyburn

³⁵ Joint Opposition, p. 116.

³⁶ PIS, pp. 83-84 and Appendix I: Declaration of Dr. Jeffrey A. Eisenach, PhD; Joint Opposition, pp. 115-116 and Appendix K: Supplemental Declaration of Dr. Jeffrey A. Eisenach.

³⁷ An input-output (I/O) model applies employment "multipliers" to changes in economic activity to measure direct, indirect, and induced employment that would result from a proposed transaction. The predictive value of an I/O model is speculative, and depends upon the accuracy of the underlying economic data used to calculate the changes in economic activity. Dr. Eisenach applies the IMPLAN I/O model to economic data provided by the Applicants on post-merger capital expenditures, synergies, and new business opportunities. The accuracy of Dr. Eisenach's predictions therefore depends upon the validity of the underlying economic assumptions provided by the Applicants. See Declaration of Dr. Jeffrey A. Eisenach, attached as Appendix I to Public Interest Statement.

In the AT&T/T-Mobile review, EPI used an I/O model to translate a given amount of investment spending into the number of direct, indirect, and induced jobs that would result from that investment. EPI relied upon AT&T's claim that after the merger it would increase investment by \$8 billion. See Ethan Pollack, *The Jobs Impact of Telecom Investment*, Policy Memorandum #185, Economic Policy Institute, May 31, 2011 (attached as Exhibit A in CWA Comments, *Applications of AT&T and Deutsche Telekom AG for Consent to Assign and Transfer Control of Licenses and Authorizations*, WT Docket No. 11-65, May 31, 2011).

³⁸ See Letter from Monica S. Desai, CWA Counsel, to Marlene H. Dortch, *Applications of Deutsche Telekom AG, T-Mobile USA, Inc. and MetroPCS Communications Inc. for Consent to Transfer Control and Assign Licenses and Authorizations*, WT Docket No. 12-301, March 5, 2013.

³⁹ Letter from Nancy J. Victory to Marlene H. Dortch, *T-Mobile/MetroPCS*, WT Docket No. 12-301, March 8, 2013.

cited to those commitments, and Chair Julius Genachowski subsequently reaffirmed his expectation that the merged T-Mobile would abide by its commitments.⁴⁰

As the Commission has repeatedly recognized, quality service depends upon adequate staffing by skilled, dedicated frontline employees.⁴¹ Moreover, as the Commission has also recognized, verifiable, merger-related commitments to grow good jobs in the United States represent a public interest benefit to be taken into account in the review of proposed mergers.⁴² Correspondingly, the Commission has acknowledged that job losses do not serve the public interest.⁴³

⁴⁰ See *T-Mobile/MetroPCS Order* (Statement of Commissioner Jessica Rosenworcel, March 12, 2013: The parties have pledged to me that they have no plans to close any domestic call centers, to move them offshore, to close any retail stores, or to reduce retail positions as a result of this deal...I expect the company will keep its word – and live up to these promises.”); (Statement of Commissioner Mignon Clyburn, March 12, 2013: “T-Mobile and MetroPCS made a statement that they have no plans to move call centers offshore or to reduce employment levels at T-Mobile call centers....I hope that the new company, in fact, pursues a course that increases employment opportunities.”); (Letter from Chairman Julius Genachowski to Congressman Michael Michaud, April 4, 2013: “During our review T-Mobile USA told the Commission that they plan to preserve and grow U.S. jobs, and I expect them to live up to these commitments.”).

⁴¹ See *AT&T/T-Mobile Staff Analysis and Findings* ¶ 231 (lowering the number of representatives per customer and reducing the level of service that customers would experience “are, of course, not a public benefit . . .”); *Ameritech/SBC Order*, 14 FCC Rcd 14712, 14947 ¶ 567 (1999) (“Evidence in the record reveals that SBC has increased its commitments to improving service quality by hiring more employees . . .”).

⁴² See, e.g., *AT&T/BellSouth Order*, 22 FCC Rcd 5662, Appendix F (2007) (finding that a commitment to provide high quality employment opportunities in the U.S. by repatriating jobs previously outsourced outside the U.S. would serve the public interest). See also *AT&T/T-Mobile Staff Analysis and Findings* at ¶ 259 (stating that “the Applicants have the burden of proof regarding merger specificity, qualification, and verification” regarding claims of job creation).

⁴³ See *Verizon/Frontier Order*, Statement of FCC Chairman Julius Genachowski (“I take seriously concerns that have been expressed about the risks this transaction poses for consumers, employees, and competitors”); Joint Statement of Commissioner Michael Copps and Mignon Clyburn (“Lastly, we understand—and fully expect—that approving this transaction will maintain and potentially expand much-needed quality jobs in these rural communities. We continue to be hopeful that Frontier will soon reach an equitable agreement with the Communications Workers of America, ensuring that the needs of Frontier’s employees are respected”). See also *T-Mobile/MetroPCS Order* (Statement of Commissioner Jessica Rosenworcel: “Nonetheless, I have expressed to the parties my concern that as they move ahead, American workers do not get left behind. Major job losses are not in the public interest.”) (Statement of Commissioner Mignon Clyburn: “I hope that the new company, in fact, pursues a course that increases employment opportunities.”) (Letter from Chairman Julius Genachowski to Congressman Michael Michaud: “During our review T-Mobile USA told the Commission that they plan to preserve and grow U.S. jobs, and I expect them to live up to these commitments.”). See also *WorldCom-MCI Order* ¶ 213 (considering the impact of that merger on employment); *SBC-Ameritech Order* ¶ 567 (citing SBC’s commitment to “improving service quality by hiring more employees”); *Puerto Rico-GTE Order* ¶ 57 (noting that employee commitments are a merger-related public interest benefit).

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In response to CWA's analysis that estimates widespread retail job losses driven by the proposed merger, the Applicants have chosen to distract from CWA's substantive arguments and dissemble. Applicants misrepresent CWA's methodology and attack CWA's credibility by misrepresenting the history and effects of CWA's engagement in prior proceedings. The Applicants utterly fail to respond to CWA's detailed account of the Applicants' long track record of offshoring jobs to the Philippines, Guatemala, Honduras, India, Mexico, Canada, Panama, the Dominican Republic, Costa Rica, and Canada.⁴⁴ Nor do the Applicants offer any explanation for the long history of violation of workers' rights, including multiple findings of T-Mobile illegal activity by the federal courts, the National Labor Relations Board, and an Administrative Law Judge.⁴⁵

At no point have the Applicants provided a credible substantive response to CWA's analysis. These attempts at deflection and distraction are all the more reason that the Commission should require clear and enforceable commitments regarding employment protections and labor rights should it allow this transaction to proceed.

g. The Commission should not approve the proposed transaction without strong verifiable commitments from the Applicants to preserve U.S. employment and respect workers' rights

In order to conduct a thorough analysis of the jobs impact of the proposed transaction, the Commission should require the Applicants to respond to a comprehensive information request. There is ample precedent for such a request.⁴⁶ At a minimum, the employment data request

⁴⁴ CWA Comments, pp. 60-61.

⁴⁵ T-Mobile has been guilty of violating U.S. labor law six times since 2015 and has been subject to approximately 40 unfair labor practice charges since 2011. These violations are detailed in CWA Comments, pp. 67-71.

⁴⁶ See Letter from Rick Kaplan to Richard L. Rosen, Applications of AT&T Inc. and Deutsche Telekom for Consent to Assign or Transfer Control of Licenses and Authorizations., WTB Docket No. 11-65, Oct. 13, 2011 (requesting all analyses, reports, data or other documents in AT&T's possession, custody or control that analyze the size and location of AT&T's workforce both before and as anticipated after the merger. The detailed data request asks for

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should require the Applicants to submit their “internal analysis” of projected employment growth as part of the record in this proceeding so that the Commission and the public can properly evaluate the job impacts of this transactions; require the Applicants to provide current and projected employment (full-time equivalents, FTEs) for each T-Mobile and Sprint call center, including internal, domestic outsourced, and offshore call centers; and require the Applicants to provide current and projected employment at all retail stores, both corporate and authorized dealers, for prepaid and postpaid brands. CWA reserves the right to supplement this initial list of items in future communication with the Commission.

As discussed above, CWA’s well-documented research in this instant transaction raises considerable concern that as many as 30,000 jobs may be at risk. Therefore, to protect the public interest in good jobs and quality service, the Commission should not approve the merger without verifiable and enforceable commitments by the Applicants to ensure that the transaction does not cause a reduction in U.S. employment, that no employees of T-Mobile or Sprint will lose a job as a result of this transaction, that the Applicants will return all overseas customer call center jobs to the U.S., and that the Applicants commit to abide by all labor and employment laws and to maintain neutrality in allowing their employees to form a union of their own choosing, free from any interference by the employer.

employment data for the past five years and projections for three years after the merger, broken down by employment location and type of employee); *See also* Question 33 in Information and Discovery Request for Deutsche Telekom AG, *T-Mobile/MetroPCS*, WT Docket No. 11-65 (“provide all plans, analyses, and reports discussing the creation or loss of jobs if the Proposed Transaction were to be consummated.”)

III. COMPETITIVE ANALYSIS

a. **Market Definition – Mobile telephony/broadband services and prepaid wireless retail services are relevant antitrust markets**

As CWA and others have suggested, the transaction should be evaluated for its competitive effects in at least two relevant markets: the overall mobile telephony/broadband services market and the narrower prepaid wireless retail services market.⁴⁷ Applicants appear to concede that mobile telephony/broadband services is an appropriate antitrust market.⁴⁸ They also do not appear to dispute that the appropriate geographic markets are both national and local.⁴⁹

However, Applicants question whether prepaid wireless services is a separate relevant antitrust market. Applicants' expert Glenn Woroch argues that prepaid and postpaid plans have been "converging" in certain respects in recent years, that some postpaid plans no longer require a two-year plan, and there is a greater ability for customers to keep their own phones when they switch carriers. They also argue that past wireless reviews have not found it necessary to define a narrower market than mobile telephony/broadband services, implying that there is precedent against doing so here.

⁴⁷ CWA Comments, p. 9; DISH Petition, p. 43-45; Free Press, p.13.

⁴⁸ See Joint Opposition, p. 99 n. 373 (stating that "the Commission traditionally reviews wireless transaction using a combined mobile telephone/mobile broadband services product market"); Woroch Decl. p. 1 ("This transaction should be evaluated in terms of its competitive effects on the combined 'mobile telephony/broadband services' market.").

⁴⁹ See, e.g., Joint Opposition, p. 30 ("The Applicants have provided extensive data in their initial filing addressing factors relevant to competitive review. While the context of that discussion was the national market, the unilateral and coordinated effects discussions in the PIS are equally compelling with respect to a local market review."); Woroch Decl. p. 26 ("There is general agreement that Sprint's network lags in quality the other national carriers. It is known to cover a smaller population and less square mileage than any of the other three."); Joint Opposition, p. 25 (noting that the Commission conducts its competitive analysis "on a local-market-by-local-market basis"); Joint Opposition, p. 28 ("The FCC has repeatedly held that the relevant geographic markets for its local competitive analysis are CMAs").

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This argument fails for two separate reasons. First, there are, and remain, key differences in how prepaid and postpaid services are priced, branded, advertised, marketed and sold. In addition to being branded differently, sold in different stores, and subject to different promotions, prepaid is differentiated from postpaid in terms of features such as data allowances and customer care. Prepaid tends to be targeted at more price-sensitive and lower data usage customers, including lower income customers. Applying the so-called *Brown Shoe* factors, these “practical indicia” show that prepaid retail services are sufficiently distinct from postpaid services to constitute a separate market.⁵⁰ Only by cherry-picking one or two characteristics where there has been some modest change in recent years can the Applicants suggest otherwise.

Not only do the *Brown Shoe* factors undercut the Applicants’ arguments, under the *Horizontal Merger Guidelines*, prepaid wireless services also is likely to be a separate relevant market. Applying the agencies’ hypothetical monopolist test, it is highly probable that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future seller of prepaid wireless services likely would impose at least a small but significant and non-transitory increase in price (“SSNIP”).⁵¹ Many prepaid wireless service customers

⁵⁰ In the *Brown Shoe* decision, the Supreme Court identified several “practical indicia,” which agencies and courts could rely upon to determine the boundaries of a product submarket for purposes of antitrust analysis:

The outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it. However, within this broad market, well-defined submarkets may exist which, in themselves, constitute product markets for antitrust purposes. The boundaries of such a submarket may be determined by examining such practical indicia as industry or public recognition of the submarket as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors.

Brown Shoe Co. v. United States, 370 U.S. 294, 325 (1962). Courts thereafter have relied on these indicia in defining markets. *See, e.g.*, *Fed. Trade Comm’n v. Sysco Corp.*, 113 F. Supp. 3d 1, 27 (D.D.C. 2015) (“Courts look to two main types of evidence in defining the relevant product market: the ‘practical indicia’ set forth by the Supreme Court in *Brown Shoe* and testimony from experts in the field of economics.”).

⁵¹ 2010 Merger Guidelines § 4.1.1.

would likely shift between prepaid carriers if they faced a SSNIP and they would be unlikely to select some outside option which would make the SSNIP unprofitable. To be sure, Applicants' expert Glenn Woroch has not conducted a *Merger Guidelines* analysis in his declaration. Indeed, to the extent that he focuses on prepaid substitution for any reason (price included), he is curiously silent on whether the substitution is to other prepaid plans or not. However, even Professor Woroch appears to suggest on pages 12-13 that prepaid customers in general are more likely to switch to other prepaid providers rather than to other possible substitutes.⁵²

We note that this merger in particular would impact prepaid services and thus could be expected to have a competitive impact on that market. We are unaware of any "precedent" that prohibits the Commission or the Antitrust Division from assessing a market that is particularly relevant in a given merger.

b. Concentration

i. Contrary to Applicants' claims, the HHIs indicate that the proposed transaction is presumptively anticompetitive and violates the Clayton Act

The Applicants in their voluminous Public Interest Statement never provide national or local Herfindahl-Hirschman Index ("HHI") calculations. Instead they claimed at the time that they did not have access to the necessary NRUF/LNP data to do so.⁵³ As we pointed out, this was at best disingenuous, as the same economists, then working for Sprint, were able to estimate HHIs as part of Sprint's opposition to the AT&T/T-Mobile merger.⁵⁴

Not surprisingly, even with access to NRUF/LNP data, Applicants still do not provide HHI calculations. Nor do they claim that CWA or others (such as DISH) have miscalculated HHIs. CWA estimated national HHIs in two ways: First, based on the number of wireless

⁵² Wolroch Decl. pp. 12-13.

⁵³ PIS at 135.

⁵⁴ CWA Comments, p. 17.

connections reported by AT&T, Sprint, T-Mobile, Verizon and U.S. Cellular as of the end of the second quarter of 2018, and second, based on revenues for wireless services for the same firms in 2017.⁵⁵ Both measures confirm what the Commission earlier found, using NRUF/LNP data, in its *20th Mobile Wireless Competition Report*, namely that the national retail wireless market is already “highly concentrated” under the 2010 Horizontal Merger Guidelines.⁵⁶ Given that the merger would further increase concentration far above levels that trigger the Guidelines’ presumption that the merger is “likely to enhance market power,” one would expect the Applicants to acknowledge this reality.

Instead, the Applicants try a different tack. Now they suggest that HHIs are merely a preliminary screen that may trigger a “routine competitive review” by the Commission.⁵⁷ We, and the courts, respectfully disagree.⁵⁸

Likewise, the Applicants fail to discuss the likely anticompetitive effects of the transaction upstream in labor markets. As CWA pointed out, recent scholarly literature suggests

⁵⁵ CWA Comments, p. 18 (calculating post-merger HHI of 3281 with a change of 519, based on wireless connections and a post-merger HHI of 3243 with a change of 432, based on revenues).

⁵⁶ FCC, *Twentieth Wireless Competition Report*, WT Docket No. 17-69, ¶ 33 and fn. 103 (“The Commission’s initial HHI screen identifies, for further case-by-case market analysis, those markets in which, post-transaction: (1) the HHI would be greater than 2800 and the change in HHI would be 100 or greater; or (2) the change in HHI would be 250 or greater, regardless of the level of the HHI.”).

⁵⁷ Joint Opposition, p. 25.

⁵⁸ See, e.g., *United States v. Anthem, Inc.*, 855 F.3d 345, 349 (D.C. Cir.), *cert. dismissed*, 137 S. Ct. 2250, 198 L. Ed. 2d 676 (2017); *Saint Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke’s Health Sys., Ltd.*, 778 F.3d 775, 788 (9th Cir. 2015); *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 715–16 (D.C. Cir. 2001); *Fed. Trade Comm’n v. Tronox Ltd.*, No. 1:18-CV-01622 (TNM), 2018 WL 4353660, at *13 (D.D.C. Sept. 12, 2018) (merger would increase HHI from 2,320 to 3,046; since the merger “would increase the HHI score by well over 200 points, and because it would result in a highly concentrated market, the proposed transaction is presumptively anticompetitive under the Merger Guidelines”); *United States v. Energy Sols., Inc.*, 265 F. Supp. 3d 415, 440 (D. Del. 2017) (government can establish a *prima facie* case of anticompetitive effects by showing that the merger would produce a firm controlling an undue percentage of the relevant market and result in a significant increase in market concentration); *United States v. Aetna Inc.*, 240 F. Supp. 3d 1, 43 (D.D.C. 2017); *Fed. Trade Comm’n v. Sysco Corp.*, 113 F. Supp. 3d 1, 52 (D.D.C. 2015) (noting that a merger that results in highly concentrated markets that involve an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power); *United States v. H & R Block, Inc.*, 833 F. Supp. 2d 36, 72 (D.D.C. 2011) (finding a presumption of anticompetitive effects where the combined firm would have a market share of 28.4%); see also FCC Staff Analysis and Findings in ATT-T-Mobile at 9.

that the failure to analyze these labor markets, particularly in highly concentrated industries, has been an error that should be corrected.⁵⁹ As CWA also pointed out, absent collective bargaining as a means to counter concentrated employer power, retail wireless workers will likely be worse off if the number of national wireless retail employers is reduced from four to three.⁶⁰ Not surprisingly, the Applicants fail to calculate the pre-merger and post-merger HHI levels of the upstream labor markets, or even address how the merger would improve (or affect) competition in these labor markets.

In summary, under the facts present here, there is little question that the merger is presumptively anticompetitive and likely violates the Clayton Act. In terms of the scope of the public interest inquiry, as the Commission has observed, “A transaction that violates the Clayton Act would not be in the public interest.”⁶¹

ii. Contrary to Applicants’ claims, the unprecedented number of markets that trigger the Commission’s spectrum screen provides further evidence of anti-competitive harm

As CWA has noted, the Applicants’ combined spectrum holdings – almost 300 MHz on an average basis – would vastly exceed the Commission’s spectrum screen and the holdings of any other wireless carrier.⁶² In their Joint Opposition, the Applicants continue to minimize concerns about spectrum aggregation, still refusing even to name the markets in which they will exceed the screen, much less providing individualized competitive analyses for those markets. Instead, the Applicants give a description of the screen and its application that is wildly at variance with the Commission’s precedents.

⁵⁹ CWA Comments, p. 66.

⁶⁰ CWA Comments, p. 67.

⁶¹ AT&T/TMO staff memo at ¶ 5. *See also* Verizon Wireless-ALLTEL Order, 23 FCC Rcd at 17468 ¶ 39.

⁶² CWA Comments, pp. 21-23.

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The Applicants claim that the Commission uses the spectrum screen (and other measures, including HHI) “to identify the local geographic areas that can be excluded from its review of the competitive effects of a proposed wireless transaction.”⁶³ This is simply wrong. In fact, “the Commission has not limited its consideration of potential competitive harms solely to markets identified by its initial screen.”⁶⁴ The *Softbank/Sprint Order*,⁶⁵ the *AT&T/WCS Order*,⁶⁶ and the *Verizon Wireless/SpectrumCo Order*⁶⁷ all support the proposition that markets that do not trigger the screen still can be subject to competitive review.

The Applicants also continue to refuse to state in a straightforward fashion where they exceed the spectrum screen and by how much, as though this were an unimportant detail. In fact, Commission precedent suggests that the magnitude of screen overages is crucial in determining whether “the ability of other significant providers to expand capacity or deploy new and innovative services would likely be harmed by the amount of spectrum held by the merged entity.”⁶⁸ T-Mobile itself has noted the competitive harms that can result from disparate

⁶³ Joint Opposition, p. 23.

⁶⁴ Applications of Cricket License Company, LLC, Leap Wireless International, Inc., and AT&T Inc. for Consent to Transfer Control and Assignment of Authorizations, WT Docket No. 13-193, Memorandum Opinion and Order, DA14-349, 29 FCC Rcd 2735 (WTB, IB 2014) (“AT&T/Leap Order”), at ¶¶ 20 & 39.

⁶⁵ Applications of Sprint Nextel Corp. and SoftBank Corp. and Starburst II, Inc. for Consent to Transfer Control of Licenses and Authorizations, IB Docket No. 12-343, Memorandum Opinion and Order, Declaratory Ruling, and Order on Reconsideration, 28 FCC Rcd 9642 (2013) (“Softbank/Sprint Order”), at ¶ 35.

⁶⁶ Applications of AT&T Mobility Spectrum LLC, New Cingular Wireless PCS, LLC, Comcast Corporation, Horizon Wi-Com, LLC, NextWave Wireless, Inc., and San Diego Gas & Electric Company for Consent to Assign and Transfer Licenses, WT Docket No. 12-240, Memorandum Opinion and Order, 27 FCC Rcd 16459 (2012) (“AT&T/WCS Order”), at ¶ 21.

⁶⁷ Applications of Cellco Partnership d/b/a Verizon Wireless and SpectrumCo LLC and Cox TMI, LLC for Consent to Assign AWS-1 Licenses, WT Docket No. 12-4, Memorandum Opinion and Order and Declaratory Ruling, 27 FCC Rcd 10698 (2013) (“Verizon Wireless/SpectrumCo Order”), at ¶¶ 49-50.

⁶⁸ AT&T Leap Order ¶ 95. In the AT&T/Leap Order, with respect to Spokane, Reno, Kansas 5, Nevada 3, and Lake Charles, the FCC found that “AT&T would hold significantly more spectrum than the other significant providers.” The FCC continued: “AT&T’s post-transaction spectrum holdings would be 1.4 to 3.3 times as great as the other significant providers in [Spokane, Reno, and Nevada 3].” In Lake Charles, “AT&T’s post-transaction spectrum holdings would be 1.7 to 2.5 times as great as the other significant providers.” *Id.* ¶¶ 101-102.

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spectrum holdings among carriers. In its Petition to Deny the *Verizon Wireless/SpectrumCo* transaction, T-Mobile observed that, in some markets, “Verizon Wireless’ spectrum holdings would be more than twice, and in some nearly three times, T-Mobile’s.”⁶⁹

The Applicants also claim – without citing any authority – that “the number of markets subject to review is not a factor in the competitive analysis.”⁷⁰ In fact, the AT&T/T-Mobile Staff Report reached exactly the opposite conclusion: “the unprecedented number of markets in which the spectrum screen is triggered” is one of the reasons why the transaction “is *presumed* to create or enhance market power.”⁷¹ The AT&T/T-Mobile Staff Report found that the proposed transaction would have caused the screen to be triggered for 66 percent of the U.S. population, while the next highest transaction – Cingular/AT&T Wireless – had triggered the screen for just less than 15 percent of the U.S. population.⁷² As CWA has shown, this transaction blows *AT&T/T-Mobile* out of the water. On a national basis, 92% of the population of the United States – or more than 284 million people – live in counties in which the spectrum screen would be exceeded post-merger.⁷³

The AT&T/T-Mobile Staff Report went on to say that “the unprecedented number of markets in which the spectrum screen is triggered,” *when combined with the magnitude of the*

⁶⁹ Applications of Cellco Partnership d/b/a Verizon Wireless and SpectrumCo LLC and Cox TMI, LLC for Consent to Assign AWS-1 Licenses, WT Docket No. 12-4, Petition to Deny of T-Mobile, USA, Inc., (filed Feb. 21, 2012), at 13.

⁷⁰ Joint Opposition, p. 25.

⁷¹ AT&T/T-Mobile Staff Report ¶¶ 46 & 47 (emphasis added).

⁷² *Id.* ¶ 45.

⁷³ CWA Comments, p. 23.

spectrum screen overages and the increase in market concentration,⁷⁴ meant that the transaction was “presumed to create or enhance market power or facilitate its exercise, creating significant potential for competitive harm in most retail mobile wireless services markets, to the detriment of consumers.”⁷⁵ None of this authority goes away merely because the Applicants fail to acknowledge that it exists.

Finally, as the Commission has noted, the mobile wireless marketplace is highly concentrated, and with continually increasing consumer demand for mobile broadband, and “in order for there to be robust competition, multiple competing service providers must have access to or hold sufficient spectrum to be able to enter a marketplace or expand output rapidly in response to any price increase or reduction in quality, or other change that would harm consumer welfare.”⁷⁶ In other words, spectrum is relevant to both entry and expansion.

See Appendix C. showing State Spectrum Screens by County.

c. Unilateral competitive effects

i. Applicants fail to address evidence of head-to-head competition

The Applicants cannot rely on “modern case law,” as it creates a legal presumption against this merger, which they have failed to overcome. So they purport to rely on “modern economic analysis.” But here too the Applicants ignore a key part of that analysis, namely the evidence of substantial head-to-head competition between Sprint and T-Mobile for prepaid and postpaid wireless customers. As one district court recently noted, “[m]ergers that eliminate head-to-head competition between close competitors often result in a lessening of

⁷⁴ AT&T/T-Mobile Staff Report ¶ 46.

⁷⁵ *Id.* ¶ 47.

⁷⁶ In the Matter of Use of Spectrum Bands Above 24 Ghz for Mobile Radio Servs., 31 F.C.C. Rcd. 8014 (2016) (internal quotation omitted).

competition.”⁷⁷ Likewise, the *2010 Horizontal Merger Guidelines* highlight “Substantial Head-to-Head Competition” as key evidence of anticompetitive effects: “The Agencies consider whether the merging firms have been, or likely will become absent the merger, substantial head-to-head competitors. Such evidence can be especially relevant for evaluating adverse unilateral effects, which result directly from the loss of that competition.”⁷⁸

CWA provided numerous examples of how Sprint and T-Mobile have aggressively and successfully targeted each other for years through pricing, promotions, service, handset offerings and other competitive moves and responses.⁷⁹ In response, the Applicants could have supplied factual or testimonial evidence, win/loss reports, evidence from discount approval processes, customer switching patterns, and surveys of their customers to show that Sprint and T-Mobile are not close competitors.

But the Applicants avoid this relevant inquiry. Their omissions are telling – particularly given that the Commission staff in *AT&T/T-Mobile* specifically noted the closeness between Sprint and T-Mobile.⁸⁰ This is because internal day-to-day business documents would almost certainly confirm that Sprint and T-Mobile are close competitors and consumers have benefited from this direct head-to-head competition. The merger, in ending the head-to-head competition, can be expected to lead to significant price effects.

The Applicants never refute the fact that Sprint and T-Mobile are particularly close competitors. Instead, they rely on their merger simulation model. Facts about how many customers switch and to what products and services they switch are relevant considerations in a

⁷⁷ Fed. Trade Comm’n v. Staples, Inc., 190 F. Supp. 3d 100, 131 (D.D.C. 2016).

⁷⁸ 2010 Merger Guidelines § 2.1.4.

⁷⁹ CWA Comments, pp. 24-30.

⁸⁰ CWA Response at 32, quoting AT&T/T-Mobile Staff Analysis and Findings at ¶ 83.

merger simulation. The Applicants’ economists claim their diversion ratios are based on “survey data that T-Mobile uses in the ordinary course of business.”⁸¹ Even this is questionable, as it appears that they used only *one* Sprint Brand IQ survey and *one* particular Harris Mobile Insights survey for their modeling.⁸²

Tellingly, the Applicants’ merger simulation model is not based on actual switching data – namely the porting data that the FCC relies upon in calculating diversion ratios.⁸³ The FCC noted in *AT&T-T-Mobile* that in the mobile wireless market, the Local Number Portability (“LNP”) data is one source for estimating this measure of buyer substitution.⁸⁴ The LNP data track the number of customers who port their mobile wireless telephone number from one provider to another in each month by rate center. While the FCC recognized that the porting data could have some potential shortcomings for measuring diversion ratios, it found the data overall reliable.⁸⁵ So why don’t the Applicants use the actual porting data? The porting data likely confirm what the substantial evidence of head-to-head competition already reveals, namely that many consumers switch between T-Mobile and Sprint.⁸⁶ This would also show that the loss in head-in-head competition would likely make consumers worse off. So rather than use actual porting data, which the FCC reliably used in the past, the Applicants instead looked at what appears to be two surveys, for an unstated period of time, that had significantly lower diversion ratios.

⁸¹ Israel et al. Decl. ¶ 43.

⁸² Israel et al. Decl. ¶ 178 n. 181.

⁸³ Israel et al. Decl. ¶ 173.

⁸⁴ *AT&T-T-Mobile Staff Analysis and Findings* at C-4 ¶ 9.

⁸⁵ *AT&T-T-Mobile Staff Analysis and Findings* at C-4-5 ¶ 10 (“we have no evidence that those who port their numbers are systematically different from those who do not, and no evidence that those who port would react differently to a price increase than those who do not”).

⁸⁶ Israel et al. Decl. ¶ 177.

When, as here, the record is replete with evidence that Sprint and T-Mobile do indeed compete vigorously with each other and that this competition effectively constrains prices, the Applicants' estimate of a low degree of substitutability between them "is simply not credible."⁸⁷

At the same time that they downplay their own head-to-head competition, Applicants instead emphasize the "increasingly competitive impact" of Comcast, Charter, and DISH on the wireless industry.⁸⁸ CWA and other commentators have noted that Comcast and Charter are not real competitors in the wireless sector, as they control an extremely small portion of the wireless market, are MVNOs reliant on Verizon's network, and sell their wireless service only to their existing customers as part of a bundle plan designed to reduce churn.⁸⁹ DISH has indicated its intent to enter the wireless market, but it currently does not offer any services, lacks network infrastructure, appropriate spectrum, and will initially focus on providing wireless services in support Internet of Things (IoT) applications.⁹⁰

ii. Applicants' economic evidence is inconsistent and, at times, unsupported

When, as here, the merger eliminates substantial competition between two significant rivals, vastly exceeds the spectrum screen, and increases concentration to levels that trigger a presumption under the *Merger Guidelines*, the merger raises serious competitive concerns. The Applicants must overcome the strong presumption that their merger is illegal under Section 7 of the Clayton Act, with very strong evidence to the contrary. Despite having multiple opportunities to meet their burden, the Applicants never show why market shares and other evidence give "an inaccurate prediction of the proposed acquisition's probable effect on

⁸⁷ In Re Echo Star Commc'ns Corp., 17 F.C.C. Rcd. 20559, 20622 (2002).

⁸⁸ Joint Opposition, pp. 31-32.

⁸⁹ CWA Comments, pp. 10-12; Consumers Coalition Petition, p. 12-15; Free Press Petition, p. 47; Dish Petition, p. 48-51.

⁹⁰ CWA Comments, pp. 12-13; Consumers Coalition Petition, p. 15; DISH Petition, pp. 51-52 ("...DISH plans to deploy a NB-IoT network by March 2020 as Phase 1 of its wireless plans.").

competition.”⁹¹ Thus, in order to prevail, Applicants must rebut the presumption of anticompetitive effects in each of the local markets as well as the national market.

Rather than make this showing, T-Mobile and Sprint instead try to shift their heavy burden to others. They claim, for example, that DISH is “the only opponent that has even attempted to make an economic showing” regarding the merger.⁹² Moreover, the Applicants’ idea of the “economic showing” they need to make appears to be based largely on models and theories, whose reliability and accuracy are unknown, which are based on information fed to them by the parties and accepted at face value. Not only is this evidence not “well-documented,” it is internally inconsistent and therefore hardly “robust.”

We can start with the Applicants’ merger simulation model. As the Commission noted in 2015, the “question posed in any merger simulation is essentially: ‘Assuming that all industry participants’ product offerings remain the same, what price changes arise from the changed pricing incentives created by the proposed transaction?’”⁹³ Merger simulation, as a well-respected DOJ economist noted in 2004, can be helpful in predicting near-term effects when “[t]he product attributes and marketing strategies are held constant [and] brands compete just on price.”⁹⁴ The ability of merger simulation models to accurately predict the long-run evolution of an industry is far less clear.⁹⁵ As the DOJ economist noted, merger simulation “cannot say much about entry or product repositioning; it cannot say much about changes in marketing strategy. It

⁹¹ *Chicago Bridge & Iron Co. N.V. v. Fed. Trade Comm’n*, 534 F.3d 410, 426 (5th Cir. 2008) (quoting *Fed. Trade Comm’n v. Staples*, 970 F. Supp. 1066, 1083 (D.D.C.1997) (“To meet [its] burden, the defendants must show that the market-share statistics give an inaccurate prediction of the proposed acquisition’s probable effect on competition.”)).

⁹² Joint Opposition, p. 6.

⁹³ In the Matter of Applications of AT&T Inc. & DirecTV, 30 F.C.C. Rcd. 9131, 9167 (2015).

⁹⁴ Gregory J. Werden, Senior Economic Counsel, U.S. Department of Justice, *Merger Simulation Disciplined by Daubert*, 2004 WL 230744, at *1 (January 29, 2004).

⁹⁵ *Whither Merger Simulation? An ABA Section of Antitrust Law “Brown Bag” Program Held January 29, 2004*, Antitrust Source (May 2004) (comments of Greg Werden).

indicates only relatively short-term effects: how prices will be adjusted by the merging firms after the merger, and how the non-merging firms will respond to those prices.”⁹⁶ Thus, the basic intuition is that a merger simulation model is more accurate predicting competitive behavior with and without the merger in the near future, where one can reliably estimate demand and all or most of the key variables.

The Applicants’ merger simulation model, however, does not focus on short-term effects. Instead, the Applicants’ model is making predictions about industry demand, revenues, non-network costs, network costs, and churn while the industry is rolling out 5G and far into the future.⁹⁷ It is one thing whether the economic model jibes with today’s economic reality. It is quite another to predict industry trends and consumer demand in 2021 and 2024, while competitors are each attempting to roll out 5G.

Applicants, through another group of outside economists, argue how industry participants’ product offerings will likely change in unpredictable ways in the next few years. The Applicants argue that the transition from 4G LTE to 5G will be disruptive, will create “dynamic demand,” and will induce the three remaining post-merger carriers to “experiment” with “new service packages” that “emphasize each carrier’s unique combination of assets.”⁹⁸ They also stress the complexity of the current package of services offered by the Big Four.⁹⁹

Perhaps each set of economists serves its purpose: the Applicants trot out their merger simulation model premised on the predictability of the arrival of 5G and the predictability of the nature of the product offerings, consumer demand, and efficiencies to argue why the merger is pro-competitive. Applicants then trot out a different economic model to argue why the “overall

⁹⁶ *Id.*

⁹⁷ Israel et al. Decl. ¶¶ 165, 172.

⁹⁸ Salop & Sarafidis Decl. ¶¶ 14, 17, 18.

⁹⁹ *Id.* ¶ 32.

disruption brought about by the arrival of 5G” is so destabilizing as to prevent the three remaining competitors from colluding if the merger takes place.¹⁰⁰ Applicants argue that the nature, prices, and quality of the products, once 5G is rolled out over different times in different local markets, are unpredictable, as “each carrier will be searching for the right competitive positioning, given the characteristics of its own 5G network.”¹⁰¹ The Applicants claim that the competitors cannot even today determine their rivals’ prices, quality and consumer demand, much less predict what will happen in five years.¹⁰²

To put it mildly, it is difficult to reconcile the Applicants’ positions. The Applicants suggest, on the one hand, that the industry demand for different wireless services will be sufficiently predictable to forecast industry demand as 5G is being rolled out. But the Applicants elsewhere argue the contrary: that the prices and services are so complex that even competitors today have a hard time determining what each is offering, and the industry is so dynamic and unpredictable that competitors cannot tacitly or expressly collude.

Another component of the Applicants’ economic modeling is industry elasticity, which measures “the percentage change in total industry output given a one percent change in every firm’s price.”¹⁰³ For the model to be accurate, the elasticity must reflect *current and future behavior* (i.e., when 5G is rolled out).

On the one hand, the Applicants’ merger simulation model uses an industry elasticity of -0.3, and then considers industry elasticities of -0.1 and -0.5 as a robustness check. (Israel et al. Decl. ¶¶ 35 & 180.) The Applicants’ economists, however, did not derive these elasticities from

¹⁰⁰ Salop & Sarafidis Decl. ¶ 23.

¹⁰¹ *Id.* ¶ 23

¹⁰² *See Id.* Decl. ¶¶ 32-33 (arguing that given the complexity of wireless plans and difficulty in comparing prices, this “product differentiation and complexity would complicate efforts to coordinate”).

¹⁰³ *See Id.* ¶ 179.

current industry data or the Applicants' internal documents.¹⁰⁴ Rather they looked at the elasticities used in some academic papers that are 7 to 15 years old, which ranged between -0.3 and -1.8, and then picked -0.3 as their baseline. The economists cannot say if this number accurately reflects the current industry elasticity. More importantly, Applicants do not explain how their number will reflect the industry elasticity once some rivals release 5G and other services. These economists argue, however, that their approach is conservative as their lower elasticity will lead their model, all else being equal, to predict larger post-merger price increases. (Israel et al. Decl. ¶ 35.)

But if this is true, it draws into question why another economist for the Applicants simply made up a much higher elasticity of demand for in-home broadband services.¹⁰⁵ He simply assumed it to be -1.¹⁰⁶ This economist notes that if the elasticity of demand is lower (like the elasticity of demand that the Applicants' other economists use for mobile services), then "the change in consumer surplus would be less."¹⁰⁷ Basically, some of the claimed benefits from this merger, under his model, would shrink.

We see this throughout the Applicants' analysis. Applicants, through one economist, argue that consumers are highly price sensitive and will quickly switch providers.¹⁰⁸ Applicants elsewhere, through other economists, argue that "consumer stickiness" make switching between providers less likely. They point out the "time and psychological ('hassle') costs" in

¹⁰⁴ In *Re Echo Star Commc'ns Corp.*, 17 F.C.C. Rcd. 20559, 20623 (2002) (Commission "highly skeptical of the Applicants' estimated own-price elasticity of demand" especially when the Applicants did not obtain these estimates directly from direct broadcast satellite demand data).

¹⁰⁵ Furchtgott-Roth Decl. ¶ 2.

¹⁰⁶ *Id.* ("let's say the elasticity of demand . . . is -1.0"). In a footnote, he notes that did not find contemporary estimates of own-price elasticities of demand for in-home broadband service, so he simply assumed it to be -1. *Id.* at ¶ 2 n.12.

¹⁰⁷ *Id.*

¹⁰⁸ Woroch Decl. ¶ 11.

switching.¹⁰⁹ The only consistency is that whatever assumption Applicants choose, it enables their competing economists to maintain that the merger will be a good thing. Applicants already have had to back-pedal on their modeling because it was overly optimistic on network congestion. The inconsistencies between their own economists illustrates how hard it is for Applicants to carry their heavy burden.

IV. APPLICANTS FAIL TO PROVE EXTRAORDINARY EFFICIENCIES TO REBUT THE STRONG PRESUMPTION OF ANTICOMPETITIVE HARM

The Federal Circuit Courts have commented on the complexities associated with the evaluation of an efficiency defense.¹¹⁰ As the Ninth Circuit recently noted,

It is difficult enough in § 7 cases to predict whether a merger will have future anticompetitive effects without also adding to the judicial balance a prediction of future efficiencies. Indeed, even then-Professor Bork, a sharp critic of Clayton Act enforcement actions, see, e.g., Robert H. Bork and Wade S. Bowman, Jr., *The Crisis in Antitrust*, 65 COLUM. L. REV. 363, 373 (1965), rejected the efficiencies defense, calling it “spurious” because it “cannot measure the factors relevant to consumer welfare, so that after the economic extravaganza was completed we would know no more than before it began,” ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 124 (1978). Judge Richard Posner has regularly expressed similar views. See RICHARD A. POSNER, *ANTITRUST LAW* 133 (2d ed. 2001) (“I said back then that there should be no general defense of efficiency. I still think this is right. It is rarely feasible to determine by the methods of litigation the effect of a merger on the costs of the firm created by the merger.”); RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 112 (1976) (“I would not allow a generalized defense of efficiency.”); cf. Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 39 (1984) (“[N]either judges nor juries are particularly good at handling complex economic arguments....”).¹¹¹

Especially when markets are or will become highly concentrated through a merger, courts are skeptical. As the D.C. Circuit noted, mergers that lead to highly concentrated industries

¹⁰⁹ (Salop & Sarafidis Decl. ¶ 41).

¹¹⁰ See, e.g., *Anthem*, 855 F.3d at 353; *Fed. Trade Comm’n v. Penn State Hershey Med. Ctr.*, 838 F.3d 327, 347–48 (3d Cir. 2016); *Saint Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke’s Health Sys., Ltd.*, 778 F.3d 775, 790 (9th Cir. 2015).

¹¹¹ *Saint Alphonsus Med. Ctr.-Nampa Inc.*, 778 F.3d at 790.

“complicate the determination of whether [an efficiencies defense] should be permitted.”¹¹²

Thus, in cases where there is high concentration, the merging parties must present “proof of extraordinary efficiencies” to rebut the presumption of anticompetitive harm.¹¹³ To date, there has never been a case where the merging parties have successfully rebutted the government’s prima facie case on the strength of the efficiencies.¹¹⁴

Applicants are well aware of this. The showing that must be made by the Applicants has been aptly described by their own economists in a published article: “if the merger’s acceptability requires a showing of substantial efficiencies, the support for those efficiencies must be rigorous and consistent with past firm practices, well documented, able to survive at least simple and obvious robustness checks, and carefully integrated with the competitive effects analysis.”¹¹⁵

As already noted, Applicants’ claimed efficiencies, if they are realized at all, would only be realized many years in the future. As the Commission staff noted in *AT&T/T-Mobile*, “[b]enefits expected to occur only in the distant future may be discounted or dismissed because, among other things, predictions about the distant future are inherently more speculative than predictions that are expected to occur closer to the present.”¹¹⁶ This seems particularly true when those efficiencies are premised on numerous assumptions about future technology, unproven business cases, and significant integration challenges.

¹¹² Fed. Trade Comm’n v. Heinz, H.J. Co., No. 00-5362, 2000 WL 1741320, at *2 (D.C. Cir. Nov. 8, 2000) (citing PHILLIP E. AREEDA ET AL., ANTITRUST LAW ¶ 971f (1998) (supporting efficiencies defense but requiring “extraordinary” efficiencies where the “HHI is well above 1800 and the HHI increase is well above 100”)).

¹¹³ Fed. Trade Comm’n v. Sysco Corp., 113 F. Supp. 3d 1, 81–82 (D.D.C. 2015).

¹¹⁴ *Id.*

¹¹⁵ CWA Response at 36, quoting Stanley M. Besen, Stephen D. Kletter, Serge X. Moresi, Steven C. Salop & John R. Woodbury, *An Economic Analysis of the AT&T-T-Mobile USA Wireless Merger*, 9 JOURNAL OF COMPETITION LAW & ECONOMICS 23, 46 (2013).

¹¹⁶ In the Matter of Applications of AT&T Inc. & Deutsche Telekom AG, 26 F.C.C. Rcd. 16184, 16247 (2011).

The Applicants' claimed efficiencies are all far down the road, so the Commission, antitrust agencies and courts properly treat them as "inherently speculative."¹¹⁷ And, of course, speculation falls far short of the proof of extraordinary efficiencies that the Applicants need to rebut the strong presumption of anticompetitive harm.

a. The merger will not result in significant improvements to service in rural areas

In CWA's initial Comments, we showed that Applicants' claims of vastly improved rural service are not only speculative, but are contradicted by their own assessment.¹¹⁸ Dr. Andrew Afflerbach provided a Declaration describing a number of basic engineering problems associated with providing 5G services in a rural setting. Dr. Afflerbach concluded that for the great majority of rural Americans, "the level of coverage and capacity would be similar for the merged New T-Mobile network and the stand-alone T-Mobile network."¹¹⁹

The Applicants do not take issue with Dr. Afflerbach's analysis or his conclusions. Rather, in their Joint Opposition, they repeat their earlier claims that the proposed merger will incentivize New T-Mobile to expand service in rural areas to 59.4 million rural Americans served by 2024.¹²⁰ But the unavoidable fact remains that New T-Mobile would serve the rural United States mostly with low-band 600 MHz spectrum and with tower sites that exist or are

¹¹⁷ See, e.g., *In Re Echo Star Commc'ns Corp.*, 17 F.C.C. Rcd. 20559, 20634 (2002) ("More generally, many of the Applicants' efficiency claims are inherently speculative because they are not projected to occur until three or more years after consummation of the merger."); 2010 Merger Guidelines § 10 n. 15 ("Delayed benefits from efficiencies (due to delay in the achievement of, or the realization of customer benefits from, the efficiencies) will be given less weight because they are less proximate and more difficult to predict."); *Fed. Trade Comm'n v. CCC Holdings Inc.*, 605 F. Supp. 2d 26, 73 (D.D.C. 2009) (citing the Merger Guidelines, the court could not "place great weight on the predicted cost savings resulting from that consolidation because there is no telling when those savings might begin to accrue or whether they will actually materialize and not be absorbed in the consolidation effort").

¹¹⁸ CWA Comments, pp. 47-52.

¹¹⁹ CWA Comments, Declaration of Dr. Andrew Afflerbach, p. 3.

¹²⁰ Joint Opposition, p. 94.

already planned to be built by T-Mobile.¹²¹ Most of the rural U.S. population will already be served by T-Mobile infrastructure, and therefore the merger will not change their service.

Attached as Appendix A is the Supplemental Declaration of Dr. Afflerbach.

Dr. Afflerbach's Supplemental Declaration is based on his review and analysis of the Applicants' internal engineering documents. The Supplemental Declaration confirms the conclusions in his original Declaration and adds additional reasons to expect that "New T-Mobile" would at best only marginally improve rural service relative to a standalone T-Mobile. In summary, Dr. Afflerbach's technical review of the T-Mobile public interest statement and engineering documents finds that, for the majority of rural Americans, the proposed T-Mobile/Sprint merger does not improve service or coverage over standalone T-Mobile service. The main element of synergy coming from Sprint will be its mid-band spectrum. However the majority of rural Americans will only be served by the same low-band spectrum that they would receive from standalone T-Mobile, absent the merger.¹²²

b. Applicants' own submissions show that Sprint is a viable standalone firm

Perhaps as a last ditch effort, the Applicants claim that Sprint faces significant business challenges that limits its ability to compete effectively.¹²³ Sprint is not claiming that it is a failing firm under the Merger Guidelines and case law. To successfully assert the defense, Applicants bear the burden of showing "(1) that the resources of [Sprint] were 'so depleted and the prospect of rehabilitation so remote that it faced the grave probability of a business failure,'

¹²¹ See CWA Comments, Declaration of Dr. Andrew Afflerbach, pp. 3-6; See also Supplemental Declaration of Dr. Andrew Afflerbach, pp. 3, 6.

¹²² *Id.*

¹²³ Joint Opposition, p. ii.

and (2) that there was no other prospective purchaser for it.”¹²⁴ “Because the doctrine is narrow in scope, it rarely succeeds.”¹²⁵ Nor could it succeed here.

Significantly, the Applicants’ characterization of Sprint is contradicted by their own recent submissions in connection with the transaction. T-Mobile relies on a complex financial model which it currently refers to as “Build 9.”¹²⁶ The company writes that it was constructed “for the purpose of providing an estimate of the potential benefits and financing capability of the Transaction necessary for board approval.”

It is a highly detailed spreadsheet, with scores of tabs, which T-Mobile says that its Corporate Strategy & Analysis team began developing in the summer of 2017. The model was apparently set aside when the companies terminated their 2017 combination discussions, only to renew them in the spring of 2018. Build 9 is the most recent version of the company’s transaction-specific financial model.¹²⁷

According to T-Mobile’s September 5, 2018 response to the FCC’s information request, the Build 9 financial model has two primary inputs: “(1) the Company’s 2017 Long Range Plan” as modified through early 2018, and “(2) a construction of Sprint’s standalone business plan using a combination of average analyst projections, Sprint’s management plans, and adjustments by T-Mobile’s management based on their business judgment.”

While T-Mobile acknowledges that additional updates may be required in response to developments impacting both companies, it notes that it “is not aware of any new information that would substantially change the estimates of the core transaction benefits” and that any

¹²⁴ United States v. Greater Buffalo Press, Inc., 402 U.S. 549, 555 (1971).

¹²⁵ United States v. Energy Sols., Inc., 265 F. Supp. 3d 415, 444 (D. Del. 2017) (internal citations and quotations omitted).

¹²⁶ TMUS-FCC-025025996. The most recent iteration provided by T-Mobile is Version 14.

¹²⁷ Response to Information Request by T-Mobile US, Inc. September 5, 2018. See pp. 20-22 for descriptions of the evolution and scope of Build 9.

changes which may be made to Build 9 at this point “are not expected to materially alter the core Transaction benefits.”

The model’s projections for Sprint as a stand-alone company should put to rest any argument that the Applicants themselves believe that Sprint is a “failing firm” or is otherwise unable to compete in the evolving wireless market. Likewise, Applicants’ own experts at Compass Lexecon assert that documents generated in the ordinary course of business predict increases, not decreases, in Sprint’s share.¹²⁸

A fuller discussion is contained in Appendix B.

V. THE COMMISSION MUST ENSURE THAT THE PROPOSED MERGER DOES NOT CONSTITUTE A NATIONAL SECURITY RISK

a. Applicants’ and their parent companies’ ties to Chinese government-controlled entities raise serious national security concerns

The Applicants assert that the proposed transaction will strengthen U.S. national security by positioning the United States to lead in the 5G era.¹²⁹ Their argument is in tension with U.S. lawmakers’ continued characterization of Chinese-government controlled companies such as Huawei and ZTE as national security threats. This position is bipartisan in nature. For example, in October 2018, Republican Senator Marco Rubio and Democratic Senator Mark Warner wrote to Canadian Prime Minister Justin Trudeau, describing Huawei as a security risk that compromises intelligence sharing between the U.S. and Canada.¹³⁰

Other countries have recently made critical assessments of Huawei and ZTE. In July 2018, UK security officials stated they had only limited assurance that Huawei posed no threat to

¹²⁸ Joint Opposition, Israel et al. Decl. ¶ 170.

¹²⁹ Joint Opposition, p. 119.

¹³⁰ See Iain Morris, “US Senators Urge Canada to Ban Huawei,” *Light Reading* (Oct 15, 2018), <https://www.lightreading.com/mobile/5g/us-senators-urge-canada-to-ban-huawei---report/d/d-id/746808>.

national security.¹³¹ In August 2018, the Australian government banned Huawei and ZTE as suppliers of telecom equipment on national security grounds.¹³² In October 2018, Canadian security officials urged the government to bar Huawei from participating in the development of the country's 5G network, citing concerns over espionage.¹³³

The Applicants dismiss CWA's and Rural Wireless' concerns regarding potential national security risks posed by the transaction,¹³⁴ claiming there is no reason to believe that the parent companies Deutsche Telekom (DT) or SoftBank will be less careful stewards of New T-Mobile than they have been of T-Mobile and Sprint.¹³⁵ These claims, however, conveniently ignore the extensive ties between the Applicants' parent companies and Chinese government-controlled entities in matters related to 5G development, an area the Applicants claim is directly relevant to U.S. national security interests.

There is a wealth of evidence documenting DT's partnership with Huawei around the world. In September 2017, DT and Huawei tested a "pre-standard" live 5G connection in Germany.¹³⁶ In January 2018, DT and Huawei achieved what they claimed to be the world's first verification of 5G NR interoperability, the result of testing that took place in Shanghai.¹³⁷

¹³¹ See Jack Stubbs, "Britain Says Huawei 'shortcomings' expose new telecom networks risks," Reuters (July 19, 2018), <https://www.reuters.com/article/us-huawei-security-britain-exclusive/exclusive-britain-says-huawei-shortcomings-expose-new-telecom-networks-risks-idUSKBN1K92BX>.

¹³² See "Huawei and ZTE handed 5G network ban in Australia," BBC News (Aug. 23, 2018), <https://www.bbc.com/news/technology-45281495>.

¹³³ See "Former CSIS director, defence minister urge feds to bar Huawei from 5G," CTV News (Oct. 20, 2018), <https://www.ctvnews.ca/politics/former-csis-director-defence-minister-urge-feds-to-bar-huawei-from-5g-1.4142425>.

¹³⁴ CWA Comments, pp. 71-74; Rural Wireless Petition, pp. 23-29.

¹³⁵ Joint Opposition, p.118.

¹³⁶ See Christian Fischer, "DT and Huawei go live with Europe's first 5G connection," Deutsche Telekom, (Sep't 1, 2017), <https://www.telekom.com/en/media/media-information/archive/dt-and-huawei-go-live-with-europes-first-5g-connection-501660>.

¹³⁷ See Pia Hettinger, "Deutsche Telekom, Intel and Huawei achieve World's First 5G NR Interoperability in Operator Environment," Deutsche Telekom (Sep't 20, 2018), <https://www.telekom.com/en/media/media-information/archive/dt-and-partners-achieve-5g-nr-interoperability-515364>.

In May 2018, DT announced plans to deploy 5G antennas in Berlin, reportedly using commercial 5G equipment from Huawei.¹³⁸ In October 2018, DT announced that it planned on extending 5G coverage to 99 percent of the German population by 2025, supported by its equipment deal with Huawei.¹³⁹

SoftBank has also leaned on Huawei for support in its 5G efforts. In September 2017, SoftBank and Huawei jointly demonstrated 5G use cases in Japan¹⁴⁰ and two months later, SoftBank announced a partnership with Huawei to develop 5G-based smart robots.¹⁴¹ These appear to be only two examples within SoftBank's larger web of relationships with China. In addition to its investments in Chinese companies, SoftBank was reportedly in talks with state-owned China Investment Corporation (CIC), about joint investing with SoftBank's investment arm, the SoftBank Vision Fund.¹⁴² Reporters have opined that investing under the SoftBank name presents an opportunity for the CIC to circumvent the stiff regulatory scrutiny it has faced from the current Administration.¹⁴³

Given these connections, the Commission should weigh the merger's approval against the evidence showing DT and SoftBank's ties with state-owned Chinese entities in developing 5G across the world. While the Commission and other U.S. regulators may succeed in limiting the

¹³⁸ See Juan Pedro Tomas, "Deutsche Telekom deploys first antennas for 5G cluster in Berlin," *RCR Wireless* (May 4, 2018), <https://www.rcrwireless.com/20180504/5g/deutsche-telekom-deploys-first-antennas-5g-cluster-berlin-tag23>.

¹³⁹ See Iain Morris, "Deutsche Telekom Targets 99% 5G Coverage in Germany by 2025," *Light Reading* (Oct. 12, 2018), https://www.lightreading.com/mobile/5g/deutsche-telekom-targets-99--5g-coverage-in-germany-by-2025/d/d-id/746778?_mc=RSS_LR_EDT.

¹⁴⁰ See SoftBank and Huawei Demonstrate 5G Use Cases, SOFTBANK (Sep't 8, 2017), https://www.softbank.jp/en/corp/group/sbm/news/press/2017/20170908_02/.

¹⁴¹ See "SoftBank and Huawei's Wireless X Labs Sign Connected Robot MoU to Explore New Cloud Robotics," Huawei (Nov. 24, 2017), <https://www.huawei.com/en/press-events/news/2017/11/Huawei-Wireless-XLabs-SoftBank-MOU>.

¹⁴² See Theodore Schleifer, "China looked at investing in Softbank's \$100 billion tech fund," *Recode* (Mar 29, 2018), <https://www.recode.net/2018/3/29/17005148/china-investment-corporation-softbank-vision-fund-talks>.

¹⁴³ *Id.*

role of companies such as Huawei and ZTE in the build-out of 5G networks in the U.S., approving this merger could directly contribute to funding these companies expansion and innovation in overseas markets, undercutting the Applicants argument that the merger will help to advance U.S. 5G leadership.

b. The Applicants' claims run counter to their poor record of compliance with previous national security agreements and their affiliation with companies known to flout U.S. law

The Applicants dismiss concerns that their proposed merger threatens U.S. national security by citing their record of collaborating with the U.S. government.¹⁴⁴ The Applicants, however, do not directly address the concerns that CWA raised in our Comments, namely whether Sprint fully complied with the 2013 National Security Agreement approving its merger with Clearwire.¹⁴⁵ The Agreement required Sprint to purge Huawei equipment from Clearwire's network.¹⁴⁶ Three years later, Sprint admitted that it still had not done so.¹⁴⁷

Moreover, the Applicants' affiliation with ZTE compromises their claims that they have operated in consideration of national security interests for decades.¹⁴⁸ In October 2018, a U.S. judge found that ZTE violated probation originally imposed in March 2017, when the company pleaded guilty for illegally shipping U.S. goods to Iran, in violation of U.S. sanctions.¹⁴⁹ The

¹⁴⁴ Joint Opposition, p. 118.

¹⁴⁵ CWA Comments, pp. 72-73.

¹⁴⁶ See Michael J. de la Merced, "Sprint and SoftBank Pledge to Forego Huawei Equipment, Lawmaker Says," *The New York Times* (March 28, 2013) <https://dealbook.nytimes.com/2013/03/28/sprint-and-softbank-pledge-to-forgo-huawei-equipment-lawmaker-says/>.

¹⁴⁷ See Dan Jones, "Surprise! Sprint Still Has Huawei in Its Network," *Light Reading* (Jan. 25, 2016) <https://www.lightreading.com/mobile/4g-lte/surprise!-sprint-still-has-huawei-in-its-network/d/d-id/720373>.

¹⁴⁸ Joint Opposition, p. 118.

¹⁴⁹ See Karen Freifeld, "U.S. judge says China's ZTE violated probation; extends monitor's term," Reuters (Oct. 3, 2018), <https://www.reuters.com/article/us-usa-trade-china-zte/u-s-judge-says-chinas-zte-violated-probation-extends-monitors-term-idUSKCN1MD2RX>.

judge ordered the monitoring of ZTE’s compliance with U.S. export control laws to be extended until 2022.¹⁵⁰

The Applicants state that commentators have raised no issues that justify departure from the Commission’s long-standing practice of deferring to executive branch agencies on matters related to national security.¹⁵¹ This assertion ignores the Commission’s recent investigation to consider a provision that would bar recipients of Universal Service Fund subsidies from purchasing equipment from vendors, such as Huawei and ZTE, which pose national security risks. In describing the effort, the Commission explicitly affirmed its role in protecting U.S. communication networks, particularly as supply chains extend “far beyond U.S. borders.”¹⁵²

The national security risks of the proposed merger appear particularly acute in light of recent reports on China’s efforts to infiltrate U.S. supply chains through tampered motherboards. In October 2018, Bloomberg reported on a controversy involving Supermicro, a large supplier of server motherboards that contracts with manufacturers in China. The story describes the People’s Liberation Army’s intervention in the manufacturing process, whereby it coerced factory managers to plant microchips on motherboards bound for the U.S.¹⁵³ Investigators found that devices containing these compromised motherboards are at risk of being fed malicious code from remote devices, offering the Chinese government access to supply chains across the U.S.¹⁵⁴

Reports that the scheme affected the telecom industry provide grounds for the Commission to independently evaluate the national security risks of the proposed merger. The

¹⁵⁰ *Id.*

¹⁵¹ See Joint Opposition, p. 121.

¹⁵² Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs, Notice of Proposed Rulemaking, WC Docket No. 18-89 (rel. April 18, 2018) at 1.

¹⁵³ See Jordan Robertson and Michael Riley, “The Big Hack: How China Used a Tiny Chip to Infiltrate U.S. Companies,” *Bloomberg* (Oct. 4, 2018), <https://www.bloomberg.com/news/features/2018-10-04/the-big-hack-how-china-used-a-tiny-chip-to-infiltrate-america-s-top-companies>.

¹⁵⁴ See *id.*

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controversy demonstrates the alarming vulnerability of an industry controlling data from millions of mobile phones, computers, and other devices. Therefore, the Commission has an independent responsibility, working in cooperation with the Committee on Foreign Investment in the United States (CFIUS), to ensure that Sprint fully complied with the 2013 Softbank/Sprint/Clearwire National Security Agreement, that the Applicants make binding and verifiable commitments to terminate any existing relationships with vendors that pose potential security threats, and that the Applicants remove all equipment of these vendors from their operations. Furthermore, the Commission should require the Applicants to participate in regular national security audits to ensure compliance with Commission standards in addition to any national security agreement required by CFIUS. Such measures are particularly warranted in light of the Applicants' questionable record of complying with previous national security agreements and their parent companies' extensive relationships with Chinese government-owned suppliers.

VI. CONCLUSION

When, as here, a merger eliminates substantial competition between two significant rivals, leaves 92% of the population of the United States – or more than 284 million people – in counties in which the Commission's spectrum screen would be exceeded, and increases concentration to levels far in excess of the thresholds in the *Merger Guidelines*, the merger raises serious competitive concerns. The Applicants must overcome the strong presumption that their merger is illegal under Section 7 of the Clayton Act with very strong evidence to the contrary. Despite having multiple opportunities to meet their burden, the Applicants have failed to do so.

Accordingly, the Commission should not approve the proposed merger between T-Mobile and Sprint as currently structured. As an initial matter, the Commission should not approve the merger without verifiable and enforceable commitments by the Applicants to ensure

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that the transaction does not cause a reduction in U.S. employment, that no employees of T-Mobile or Sprint will lose a job as a result of this transaction, that the Applicants will return all overseas customer call center jobs to the U.S., and that the Applicants commit to abide by all labor and employment laws and to maintain neutrality in allowing their employees to form a union of their own choosing, free from any interference by the employer.

Further, the Commission should not move forward in its review of the instant transaction until after (i) CFIUS has ensured that Sprint fully complied with the 2013 Softbank/Sprint/Clearwire merger national security agreement, (ii) the Applicants make binding commitments to terminate any existing relationships with vendors that pose potential security threats, and (iii) the Applicants remove all equipment from these vendors from their operations. The Commission should also require the Applicants to participate in regular national security audits to ensure compliance with Commission standards in addition to any national security agreement required by CFIUS. Such measures are particularly warranted in light of the Applicants' questionable record of complying with previous national security agreements.

Respectfully submitted,

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WORKERS OF AMERICA*

October 31, 2018

APPENDIX A:
SUPPLEMENTAL DECLARATION OF
ANDREW AFFLERBACH, PH.D., P.E.
Chief Executive Officer and Chief Technology Officer,
CTC Technology & Energy

REDACTED

**APPENDIX B:
APPLICANTS' ANALYSES OF SPRINT AS
A STANDALONE COMPANY**

REDACTED

APPENDIX C:
STATE SPECTRUM SCREEN CHARTS BY COUNTY

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Alaska	702,772	-	0.0%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Matanuska-Susitna	AK	220.5	238.5	(18.00)	88,995
Anchorage	AK	220.5	238.5	(18.00)	291,826
Fairbanks North Star	AK	202.7	238.5	(35.80)	97,581
Yakutat	AK	131.5	238.5	(107.00)	662
Skagway	AK	131.5	238.5	(107.00)	968
Bristol Bay	AK	131.5	238.5	(107.00)	997
Lake and Peninsula	AK	131.5	238.5	(107.00)	1,631
Denali	AK	131.5	238.5	(107.00)	1,826
Hoonah-Angoon	AK	131.5	238.5	(107.00)	2,150
Wrangell	AK	131.5	238.5	(107.00)	2,369
Haines	AK	131.5	238.5	(107.00)	2,508
Aleutians East	AK	131.5	238.5	(107.00)	3,141
Petersburg	AK	131.5	238.5	(107.00)	3,815
Dillingham	AK	131.5	238.5	(107.00)	4,847
Prince of Wales-Hyder	AK	131.5	238.5	(107.00)	5,559
Aleutians West	AK	131.5	238.5	(107.00)	5,561
Yukon-Koyukuk	AK	131.5	238.5	(107.00)	5,588
Southeast Fairbanks	AK	131.5	238.5	(107.00)	7,029
Northwest Arctic	AK	131.5	238.5	(107.00)	7,523
Sitka	AK	131.5	238.5	(107.00)	8,881
North Slope	AK	131.5	238.5	(107.00)	9,430
Nome	AK	131.5	238.5	(107.00)	9,492
Valdez-Cordova	AK	131.5	238.5	(107.00)	9,636
Ketchikan Gateway	AK	131.5	238.5	(107.00)	13,477
Kodiak Island	AK	131.5	238.5	(107.00)	13,592
Bethel	AK	131.5	238.5	(107.00)	17,013
Juneau	AK	131.5	238.5	(107.00)	31,275
Kenai Peninsula	AK	131.5	238.5	(107.00)	55,400
Kusilvak	AK	131.5	238.5	(107.00)	#N/A

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Alabama	4,779,736	4,721,024	98.8%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Greene	AL	351.7	238.5	113.20	9,045
Perry	AL	341.7	238.5	103.20	10,591
Hale	AL	341.7	238.5	103.20	15,760
Bibb	AL	341.7	238.5	103.20	22,915
Lawrence	AL	341.7	238.5	103.20	34,339
Marshall	AL	341.7	238.5	103.20	93,019
Escambia	AL	339.7	238.5	101.20	38,319
Coosa	AL	333.9	238.5	95.40	11,539
Marengo	AL	333.9	238.5	95.40	21,027
Pickens	AL	331.9	238.5	93.40	19,746
Walker	AL	331.7	238.5	93.20	67,023
Tuscaloosa	AL	331.7	238.5	93.20	194,656
Baldwin	AL	329.7	238.5	91.20	182,265
Mobile	AL	329.7	238.5	91.20	412,992
Wilcox	AL	323.9	238.5	85.40	11,670
Marion	AL	323.9	238.5	85.40	30,776
Blount	AL	323.9	238.5	85.40	57,322
Limestone	AL	323.9	238.5	85.40	82,782
Morgan	AL	323.9	238.5	85.40	119,490
Madison	AL	323.9	238.5	85.40	334,811
Clarke	AL	321.9	238.5	83.40	25,833
Cleburne	AL	321.7	238.5	83.20	14,972
Jackson	AL	321.7	238.5	83.20	53,227
Sumter	AL	320.0	238.5	81.50	13,763
Choctaw	AL	320.0	238.5	81.50	13,859
Macon	AL	313.9	238.5	75.40	21,452
Talladega	AL	313.9	238.5	75.40	82,291
Lee	AL	308.9	238.5	70.40	140,247
Lowndes	AL	306.1	238.5	67.60	11,299
Clay	AL	306.1	238.5	67.60	13,932
Colbert	AL	306.1	238.5	67.60	54,428
Lauderdale	AL	306.1	238.5	67.60	92,709
Randolph	AL	303.9	238.5	65.40	22,913
Barbour	AL	298.9	238.5	60.40	27,457
Tallapoosa	AL	298.3	238.5	59.80	41,616
Bullock	AL	296.1	238.5	57.60	10,914
Franklin	AL	296.1	238.5	57.60	31,704
Autauga	AL	296.1	238.5	57.60	54,571
Elmore	AL	296.1	238.5	57.60	79,303
Montgomery	AL	296.1	238.5	57.60	229,363
St. Clair	AL	291.4	238.5	52.90	83,593
Shelby	AL	291.4	238.5	52.90	195,085
Jefferson	AL	291.4	238.5	52.90	658,466
Russell	AL	288.9	238.5	50.40	52,947
Winston	AL	288.3	238.5	49.80	24,484
Chilton	AL	288.3	238.5	49.80	43,643
Crenshaw	AL	286.1	238.5	47.60	13,906
Pike	AL	286.1	238.5	47.60	32,899
DeKalb	AL	286.1	238.5	47.60	71,109
Etowah	AL	286.1	238.5	47.60	104,430

Lamar	AL	285.3	238.5	46.80	14,564
Cherokee	AL	276.1	238.5	37.60	25,989
Fayette	AL	270.5	238.5	32.00	17,241
Henry	AL	270.5	238.5	32.00	17,302
Cullman	AL	270.5	238.5	32.00	80,406
Washington	AL	268.5	238.5	30.00	17,581
Monroe	AL	268.5	238.5	30.00	23,068
Calhoun	AL	266.1	238.5	27.60	118,572
Chambers	AL	263.3	238.5	24.80	34,215
Geneva	AL	260.5	238.5	22.00	26,790
Coffee	AL	260.5	238.5	22.00	49,948
Dale	AL	260.5	238.5	22.00	50,251
Houston	AL	260.5	238.5	22.00	101,547
Dallas	AL	252.7	238.5	14.20	43,820
Conecuh	AL	250.7	238.5	12.20	13,228
Butler	AL	232.7	238.5	(5.80)	20,947
Covington	AL	232.7	238.5	(5.80)	37,765

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Arkansas	2,915,918	2,465,977	84.6%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Arkansas	AR	352.5	238.5	114.00	19,019
Monroe	AR	334.7	238.5	96.20	8,149
Woodruff	AR	332.5	238.5	94.00	7,260
Montgomery	AR	332.5	238.5	94.00	9,487
Pike	AR	332.5	238.5	94.00	11,291
Grant	AR	332.5	238.5	94.00	17,853
Clark	AR	332.5	238.5	94.00	22,995
Hot Spring	AR	332.5	238.5	94.00	32,923
Lonoke	AR	332.5	238.5	94.00	68,356
Garland	AR	332.5	238.5	94.00	96,024
Saline	AR	332.5	238.5	94.00	107,118
Faulkner	AR	332.5	238.5	94.00	113,237
Washington	AR	332.5	238.5	94.00	203,065
Benton	AR	332.5	238.5	94.00	221,339
Cleveland	AR	322.5	238.5	84.00	8,689
Desha	AR	322.5	238.5	84.00	13,008
Lincoln	AR	322.5	238.5	84.00	14,134
Drew	AR	322.5	238.5	84.00	18,509
Jefferson	AR	322.5	238.5	84.00	77,435
Mississippi	AR	317.5	238.5	79.00	46,480
Perry	AR	314.7	238.5	76.20	10,445
Conway	AR	314.7	238.5	76.20	21,273
Pulaski	AR	314.7	238.5	76.20	382,748
Madison	AR	312.5	238.5	74.00	15,717
Poinsett	AR	312.5	238.5	74.00	24,583
Crittenden	AR	310.5	238.5	72.00	50,902
Carroll	AR	310.0	238.5	71.50	27,446
Ouachita	AR	306.9	238.5	68.40	26,120
Clay	AR	304.7	238.5	66.20	16,083
Lee	AR	302.7	238.5	64.20	10,424
Cross	AR	302.7	238.5	64.20	17,870
Phillips	AR	302.7	238.5	64.20	21,757
St. Francis	AR	302.7	238.5	64.20	28,258
Lafayette	AR	296.9	238.5	58.40	7,645
Prairie	AR	296.9	238.5	58.40	8,715
Stone	AR	296.9	238.5	58.40	12,394
Van Buren	AR	296.9	238.5	58.40	17,295
Cleburne	AR	296.9	238.5	58.40	25,970
White	AR	296.9	238.5	58.40	77,076
Greene	AR	294.7	238.5	56.20	42,090
Craighead	AR	294.7	238.5	56.20	96,443
Calhoun	AR	289.1	238.5	50.60	5,368
Columbia	AR	289.1	238.5	50.60	24,552
Union	AR	289.1	238.5	50.60	41,639
Jackson	AR	286.9	238.5	48.40	17,997
Independence	AR	286.9	238.5	48.40	36,647
Lawrence	AR	284.7	238.5	46.20	17,415
Randolph	AR	284.7	238.5	46.20	17,969
Nevada	AR	284.1	238.5	45.60	8,997
Hempstead	AR	271.3	238.5	32.80	22,609

Bradley	AR	269.1	238.5	30.60	11,508
Howard	AR	261.3	238.5	22.80	13,789
Dallas	AR	243.5	238.5	5.00	8,116
Izard	AR	243.5	238.5	5.00	13,696
Yell	AR	243.5	238.5	5.00	22,185
Johnson	AR	243.5	238.5	5.00	25,540
Baxter	AR	243.5	238.5	5.00	41,513
Pope	AR	243.5	238.5	5.00	61,754
Sevier	AR	241.3	238.5	2.80	17,058
Ashley	AR	238.5	238.5	-	21,853
Sharp	AR	233.5	238.5	(5.00)	17,264
Scott	AR	222.2	238.5	(16.30)	11,233
Polk	AR	222.2	238.5	(16.30)	20,662
Sebastian	AR	222.2	238.5	(16.30)	125,744
Little River	AR	218.8	238.5	(19.70)	13,171
Chicot	AR	213.5	238.5	(25.00)	11,800
Franklin	AR	213.5	238.5	(25.00)	18,125
Logan	AR	213.5	238.5	(25.00)	22,353
Crawford	AR	213.5	238.5	(25.00)	61,948
Miller	AR	213.3	238.5	(25.20)	43,462
Searcy	AR	176.0	238.5	(62.50)	8,195
Newton	AR	176.0	238.5	(62.50)	8,330
Marion	AR	176.0	238.5	(62.50)	16,653
Boone	AR	176.0	238.5	(62.50)	36,903
Fulton	AR	166.0	238.5	(72.50)	12,245

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
American Samoa	#N/A	#N/A	#N/A

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Eastern	AS	14.0	238.5	(224.50)	#N/A
Manu'a	AS	14.0	238.5	(224.50)	#N/A
Rose Island	AS	14.0	238.5	(224.50)	#N/A
Swains Island	AS	14.0	238.5	(224.50)	#N/A
Western	AS	14.0	238.5	(224.50)	#N/A

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Arizona	6,392,017	5,961,442	93.3%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Pinal	AZ	332.5	238.5	94.00	375,770
Pima	AZ	332.5	238.5	94.00	980,263
Maricopa	AZ	322.5	238.5	84.00	3,817,117
Mohave	AZ	304.7	238.5	66.20	200,186
La Paz	AZ	279.1	238.5	40.60	20,489
Cochise	AZ	269.1	238.5	30.60	131,346
Gila	AZ	261.3	238.5	22.80	53,597
Coconino	AZ	255.6	238.5	17.10	134,421
Yavapai	AZ	253.0	238.5	14.50	211,033
Graham	AZ	241.3	238.5	2.80	37,220
Santa Cruz	AZ	238.3	238.5	(0.20)	47,420
Greenlee	AZ	223.5	238.5	(15.00)	8,437
Yuma	AZ	219.8	238.5	(18.70)	195,751
Navajo	AZ	201.5	238.5	(37.00)	107,449
Apache	AZ	156.0	238.5	(82.50)	71,518

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
California	37,253,956	36,947,135	99.2%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Sierra	CA	332.5	238.5	94.00	3,240
Calaveras	CA	332.5	238.5	94.00	45,578
Kern	CA	332.5	238.5	94.00	839,631
Mariposa	CA	322.5	238.5	84.00	18,251
San Joaquin	CA	322.5	238.5	84.00	685,306
Santa Clara	CA	322.5	238.5	84.00	1,781,642
San Bernardino	CA	322.5	238.5	84.00	2,035,210
Riverside	CA	322.5	238.5	84.00	2,189,641
Alpine	CA	318.2	238.5	79.70	1,175
Tuolumne	CA	317.5	238.5	79.00	55,365
Orange	CA	316.5	238.5	78.00	3,010,232
Ventura	CA	314.7	238.5	76.20	823,318
San Diego	CA	313.0	238.5	74.50	3,095,313
Trinity	CA	312.5	238.5	74.00	13,786
Glenn	CA	312.5	238.5	74.00	28,122
Napa	CA	312.5	238.5	74.00	136,484
Butte	CA	312.5	238.5	74.00	220,000
Merced	CA	312.5	238.5	74.00	255,793
Solano	CA	312.5	238.5	74.00	413,344
Santa Barbara	CA	312.5	238.5	74.00	423,895
San Mateo	CA	312.5	238.5	74.00	718,451
Contra Costa	CA	312.5	238.5	74.00	1,049,025
Alameda	CA	312.5	238.5	74.00	1,510,271
Los Angeles	CA	311.8	238.5	73.30	9,818,605
Tehama	CA	310.5	238.5	72.00	63,463
Shasta	CA	310.5	238.5	72.00	177,223
Yuba	CA	307.8	238.5	69.30	72,155
Sutter	CA	307.8	238.5	69.30	94,737
Stanislaus	CA	307.5	238.5	69.00	514,453
Plumas	CA	304.7	238.5	66.20	20,007
Yolo	CA	303.0	238.5	64.50	200,849
Placer	CA	303.0	238.5	64.50	348,432
Sacramento	CA	303.0	238.5	64.50	1,418,788
Colusa	CA	302.5	238.5	64.00	21,419
Nevada	CA	302.5	238.5	64.00	98,764
El Dorado	CA	302.5	238.5	64.00	181,058
Santa Cruz	CA	302.5	238.5	64.00	262,382
San Luis Obispo	CA	302.5	238.5	64.00	269,637
Fresno	CA	302.5	238.5	64.00	930,450
Marin	CA	301.0	238.5	62.50	252,409
Amador	CA	297.8	238.5	59.30	38,091
Sonoma	CA	294.7	238.5	56.20	483,878
Tulare	CA	292.5	238.5	54.00	442,179
San Francisco	CA	292.3	238.5	53.80	805,235
Madera	CA	282.5	238.5	44.00	150,865
Lake	CA	276.9	238.5	38.40	64,665
San Benito	CA	276.7	238.5	38.20	55,269
Monterey	CA	271.7	238.5	33.20	415,057
Humboldt	CA	259.1	238.5	20.60	134,623
Mendocino	CA	249.1	238.5	10.60	87,841

Kings	CA	246.9	238.5	8.40	152,982
Inyo	CA	243.5	238.5	5.00	18,546
Mono	CA	233.5	238.5	(5.00)	14,202
Lassen	CA	233.5	238.5	(5.00)	34,895
Imperial	CA	228.0	238.5	(10.50)	174,528
Modoc	CA	221.5	238.5	(17.00)	9,686
Del Norte	CA	221.5	238.5	(17.00)	28,610
Siskiyou	CA	221.5	238.5	(17.00)	44,900

STATE
Colorado

TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
5,029,196	4,552,032	90.5%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Teller	CO	342.5	238.5	104.00	23,350
Weld	CO	342.5	238.5	104.00	252,825
El Paso	CO	342.5	238.5	104.00	622,263
Pueblo	CO	322.5	238.5	84.00	159,063
Larimer	CO	320.0	238.5	81.50	299,630
Park	CO	312.5	238.5	74.00	16,206
Boulder	CO	312.5	238.5	74.00	294,567
Huerfano	CO	302.5	238.5	64.00	6,711
Fremont	CO	302.5	238.5	64.00	46,824
Custer	CO	292.5	238.5	54.00	4,255
Delta	CO	286.9	238.5	48.40	30,952
Mesa	CO	286.9	238.5	48.40	146,723
Gilpin	CO	276.9	238.5	38.40	5,441
Clear Creek	CO	276.9	238.5	38.40	9,088
Broomfield	CO	276.9	238.5	38.40	55,889
Douglas	CO	276.9	238.5	38.40	285,465
Adams	CO	276.9	238.5	38.40	441,603
Jefferson	CO	276.9	238.5	38.40	534,543
Arapahoe	CO	276.9	238.5	38.40	572,003
Denver	CO	276.9	238.5	38.40	600,158
Garfield	CO	269.1	238.5	30.60	56,389
Grand	CO	266.9	238.5	28.40	14,843
Montrose	CO	251.3	238.5	12.80	41,276
Phillips	CO	249.1	238.5	10.60	4,442
Washington	CO	249.1	238.5	10.60	4,814
Logan	CO	239.1	238.5	0.60	22,709
Sedgwick	CO	237.1	238.5	(1.40)	2,379
Costilla	CO	231.3	238.5	(7.20)	3,524
Crowley	CO	231.3	238.5	(7.20)	5,823
Saguache	CO	231.3	238.5	(7.20)	6,108
Bent	CO	231.3	238.5	(7.20)	6,499
Conejos	CO	231.3	238.5	(7.20)	8,256
Rio Grande	CO	231.3	238.5	(7.20)	11,982
Alamosa	CO	231.3	238.5	(7.20)	15,445
Otero	CO	231.3	238.5	(7.20)	18,831
Ouray	CO	223.5	238.5	(15.00)	4,436
Rio Blanco	CO	223.5	238.5	(15.00)	6,666
Lake	CO	223.5	238.5	(15.00)	7,310
San Miguel	CO	223.5	238.5	(15.00)	7,359
Gunnison	CO	223.5	238.5	(15.00)	15,324
Pitkin	CO	223.5	238.5	(15.00)	17,148
Chaffee	CO	223.5	238.5	(15.00)	17,809
Summit	CO	223.5	238.5	(15.00)	27,994
Eagle	CO	223.5	238.5	(15.00)	52,197
Mineral	CO	213.5	238.5	(25.00)	712
Hinsdale	CO	213.5	238.5	(25.00)	843
Jackson	CO	213.5	238.5	(25.00)	1,394
Kiowa	CO	213.5	238.5	(25.00)	1,398
Cheyenne	CO	213.5	238.5	(25.00)	1,836
Baca	CO	213.5	238.5	(25.00)	3,788
Prowers	CO	213.5	238.5	(25.00)	12,551
Moffat	CO	213.5	238.5	(25.00)	13,795

Las Animas	CO	213.5	238.5	(25.00)	15,507
Elbert	CO	213.5	238.5	(25.00)	23,086
Routt	CO	213.5	238.5	(25.00)	23,509
Morgan	CO	203.5	238.5	(35.00)	28,159
Lincoln	CO	183.5	238.5	(55.00)	5,467
Kit Carson	CO	183.5	238.5	(55.00)	8,270
Yuma	CO	152.0	238.5	(86.50)	10,043
San Juan	CO	146.0	238.5	(92.50)	699
Dolores	CO	146.0	238.5	(92.50)	2,064
Montezuma	CO	146.0	238.5	(92.50)	25,535
La Plata	CO	146.0	238.5	(92.50)	51,334
Archuleta	CO	136.0	238.5	(102.50)	12,084

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Connecticut	3,574,097	3,574,097	100.0%

Name	ST	CALCULATIONS			
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
New Haven	CT	322.5	238.5	84.00	862,477
Litchfield	CT	312.5	238.5	74.00	189,927
Fairfield	CT	312.5	238.5	74.00	916,829
Windham	CT	304.7	238.5	66.20	118,428
Middlesex	CT	303.4	238.5	64.90	165,676
Hartford	CT	303.4	238.5	64.90	894,014
Tolland	CT	294.7	238.5	56.20	152,691
New London	CT	284.7	238.5	46.20	274,055

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Delaware	897,934	897,934	100.0%

Name	ST	CALCULATIONS			
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
New Castle	DE	322.5	238.5	84.00	538,479
Sussex	DE	261.3	238.5	22.80	197,145
Kent	DE	251.3	238.5	12.80	162,310

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
District of Columbia	601,723	601,723	100.0%

		CALCULATIONS			
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
District of Columbia	DC	312.5	238.5	74.00	601,723

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Florida	18,801,310	18,701,023	99.5%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Collier	FL	352.5	238.5	114.00	321,520
Sarasota	FL	352.5	238.5	114.00	379,448
Manatee	FL	347.8	238.5	109.30	322,833
Monroe	FL	342.5	238.5	104.00	73,090
Lee	FL	342.5	238.5	104.00	618,754
Palm Beach	FL	342.5	238.5	104.00	1,320,134
Broward	FL	342.5	238.5	104.00	1,748,066
Okeechobee	FL	337.8	238.5	99.30	39,996
Miami-Dade	FL	337.0	238.5	98.50	2,496,435
Glades	FL	332.5	238.5	94.00	12,884
Baker	FL	332.5	238.5	94.00	27,115
Hendry	FL	332.5	238.5	94.00	39,140
Indian River	FL	332.5	238.5	94.00	138,028
St. Johns	FL	332.5	238.5	94.00	190,039
Clay	FL	332.5	238.5	94.00	190,865
Duval	FL	332.5	238.5	94.00	864,263
Columbia	FL	328.2	238.5	89.70	67,531
Osceola	FL	327.8	238.5	89.30	268,685
Seminole	FL	327.8	238.5	89.30	422,718
Orange	FL	327.8	238.5	89.30	1,145,956
Walton	FL	327.0	238.5	88.50	55,043
Martin	FL	323.0	238.5	84.50	146,318
St. Lucie	FL	323.0	238.5	84.50	277,789
Union	FL	322.5	238.5	84.00	15,535
Bradford	FL	322.5	238.5	84.00	28,520
DeSoto	FL	322.5	238.5	84.00	34,862
Highlands	FL	322.5	238.5	84.00	98,786
Charlotte	FL	322.5	238.5	84.00	159,978
Alachua	FL	322.5	238.5	84.00	247,336
Pasco	FL	322.5	238.5	84.00	464,697
Pinellas	FL	322.5	238.5	84.00	916,542
Hillsborough	FL	322.5	238.5	84.00	1,229,226
Okaloosa	FL	322.2	238.5	83.70	180,822
Nassau	FL	318.7	238.5	80.20	73,314
Levy	FL	317.8	238.5	79.30	40,801
Putnam	FL	312.5	238.5	74.00	74,364
Santa Rosa	FL	309.2	238.5	70.70	151,372
Escambia	FL	309.2	238.5	70.70	297,619
Lake	FL	307.8	238.5	69.30	297,052
Brevard	FL	304.7	238.5	66.20	543,376
Jefferson	FL	303.9	238.5	65.40	14,761
Sumter	FL	303.0	238.5	64.50	93,420
Marion	FL	303.0	238.5	64.50	331,298
Hardee	FL	302.5	238.5	64.00	27,731
Gilchrist	FL	300.4	238.5	61.90	16,939
Polk	FL	300.0	238.5	61.50	602,095
Hernando	FL	298.2	238.5	59.70	172,778
Citrus	FL	293.0	238.5	54.50	141,236
Wakulla	FL	286.1	238.5	47.60	30,776
Gadsden	FL	286.1	238.5	47.60	46,389

Leon	FL	286.1	238.5	47.60	275,487
Lafayette	FL	279.1	238.5	40.60	8,870
Hamilton	FL	279.1	238.5	40.60	14,799
Suwannee	FL	279.1	238.5	40.60	41,551
Bay	FL	273.6	238.5	35.10	168,852
Volusia	FL	273.5	238.5	35.00	494,593
Liberty	FL	268.3	238.5	29.80	8,365
Calhoun	FL	263.6	238.5	25.10	14,625
Gulf	FL	263.6	238.5	25.10	15,863
Madison	FL	250.5	238.5	12.00	19,224
Flagler	FL	249.1	238.5	10.60	95,696
Holmes	FL	248.3	238.5	9.80	19,927
Washington	FL	243.6	238.5	5.10	24,896
Dixie	FL	233.5	238.5	(5.00)	16,422
Franklin	FL	232.7	238.5	(5.80)	11,549
Taylor	FL	232.7	238.5	(5.80)	22,570
Jackson	FL	230.5	238.5	(8.00)	49,746

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Georgia	9,687,653	9,184,077	94.8%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Lincoln	GA	361.7	238.5	123.20	7,996
Columbia	GA	361.7	238.5	123.20	124,053
Richmond	GA	361.7	238.5	123.20	200,549
Baker	GA	343.9	238.5	105.40	3,451
Calhoun	GA	343.9	238.5	105.40	6,694
McDuffie	GA	343.9	238.5	105.40	21,875
Mitchell	GA	343.9	238.5	105.40	23,498
Decatur	GA	333.9	238.5	95.40	27,842
Charlton	GA	331.7	238.5	93.20	12,171
Camden	GA	331.7	238.5	93.20	50,513
Glascok	GA	323.9	238.5	85.40	3,082
Warren	GA	323.9	238.5	85.40	5,834
Randolph	GA	323.9	238.5	85.40	7,719
Jenkins	GA	323.9	238.5	85.40	8,340
Turner	GA	323.9	238.5	85.40	8,930
Terrell	GA	323.9	238.5	85.40	9,315
Jefferson	GA	323.9	238.5	85.40	16,930
Putnam	GA	323.9	238.5	85.40	21,218
Worth	GA	323.9	238.5	85.40	21,679
Burke	GA	323.9	238.5	85.40	23,316
Lee	GA	323.9	238.5	85.40	28,298
Dougherty	GA	323.9	238.5	85.40	94,565
Twiggs	GA	321.7	238.5	83.20	9,023
Hancock	GA	321.7	238.5	83.20	9,429
Wilkinson	GA	321.7	238.5	83.20	9,563
Johnson	GA	321.7	238.5	83.20	9,980
Pulaski	GA	321.7	238.5	83.20	12,010
Crawford	GA	321.7	238.5	83.20	12,630
Bleckley	GA	321.7	238.5	83.20	13,063
Banks	GA	321.7	238.5	83.20	18,395
Washington	GA	321.7	238.5	83.20	21,187
Dodge	GA	321.7	238.5	83.20	21,796
Dawson	GA	321.7	238.5	83.20	22,330
Monroe	GA	321.7	238.5	83.20	26,424
White	GA	321.7	238.5	83.20	27,144
Peach	GA	321.7	238.5	83.20	27,695
Jones	GA	321.7	238.5	83.20	28,669
Lumpkin	GA	321.7	238.5	83.20	29,966
Habersham	GA	321.7	238.5	83.20	43,041
Baldwin	GA	321.7	238.5	83.20	45,720
Laurens	GA	321.7	238.5	83.20	48,434
Barrow	GA	321.7	238.5	83.20	69,367
Walton	GA	321.7	238.5	83.20	83,768
Rockdale	GA	321.7	238.5	83.20	85,215
Newton	GA	321.7	238.5	83.20	99,958
Fayette	GA	321.7	238.5	83.20	106,567
Douglas	GA	321.7	238.5	83.20	132,403
Houston	GA	321.7	238.5	83.20	139,900
Paulding	GA	321.7	238.5	83.20	142,324
Bibb	GA	321.7	238.5	83.20	155,547

Forsyth	GA	321.7	238.5	83.20	175,511
Hall	GA	321.7	238.5	83.20	179,684
Henry	GA	321.7	238.5	83.20	203,922
Clayton	GA	321.7	238.5	83.20	259,424
Cobb	GA	321.7	238.5	83.20	688,078
DeKalb	GA	321.7	238.5	83.20	691,893
Gwinnett	GA	321.7	238.5	83.20	805,321
Fulton	GA	321.7	238.5	83.20	920,581
Catoosa	GA	316.7	238.5	78.20	63,942
Walker	GA	316.7	238.5	78.20	68,756
Oglethorpe	GA	311.7	238.5	73.20	14,899
Madison	GA	311.7	238.5	73.20	28,120
Oconee	GA	311.7	238.5	73.20	32,808
Jackson	GA	311.7	238.5	73.20	60,485
Whitfield	GA	311.7	238.5	73.20	102,599
Carroll	GA	311.7	238.5	73.20	110,527
Clarke	GA	311.7	238.5	73.20	116,714
Coweta	GA	311.7	238.5	73.20	127,317
Webster	GA	306.7	238.5	68.20	2,799
Sumter	GA	306.7	238.5	68.20	32,819
Crisp	GA	303.9	238.5	65.40	23,439
Butts	GA	303.9	238.5	65.40	23,655
Grady	GA	303.9	238.5	65.40	25,011
Bartow	GA	303.9	238.5	65.40	100,157
Cherokee	GA	303.9	238.5	65.40	214,346
Spalding	GA	301.7	238.5	63.20	64,073
Franklin	GA	300.2	238.5	61.70	22,084
Stephens	GA	300.2	238.5	61.70	26,175
Gilmer	GA	296.1	238.5	57.60	28,292
Pickens	GA	296.1	238.5	57.60	29,431
Gordon	GA	296.1	238.5	57.60	55,186
Taliaferro	GA	293.9	238.5	55.40	1,717
Jasper	GA	293.9	238.5	55.40	13,900
Greene	GA	293.9	238.5	55.40	15,994
Morgan	GA	293.9	238.5	55.40	17,868
Haralson	GA	293.9	238.5	55.40	28,780
Murray	GA	293.9	238.5	55.40	39,628
Wilkes	GA	290.5	238.5	52.00	10,593
Stewart	GA	288.9	238.5	50.40	6,058
Chattahoochee	GA	288.9	238.5	50.40	11,267
Heard	GA	288.9	238.5	50.40	11,834
Harris	GA	288.9	238.5	50.40	32,024
Troup	GA	288.9	238.5	50.40	67,044
Muscogee	GA	288.9	238.5	50.40	189,885
Colquitt	GA	288.3	238.5	49.80	45,498
McIntosh	GA	286.4	238.5	47.90	14,333
Meriwether	GA	283.9	238.5	45.40	21,992
Dade	GA	281.1	238.5	42.60	16,633
Miller	GA	280.5	238.5	42.00	6,125
Seminole	GA	280.5	238.5	42.00	8,729
Early	GA	280.5	238.5	42.00	11,008
Bacon	GA	276.1	238.5	37.60	11,096
Brantley	GA	276.1	238.5	37.60	18,411
Pierce	GA	276.1	238.5	37.60	18,758
Ware	GA	276.1	238.5	37.60	36,312
Elbert	GA	272.4	238.5	33.90	20,166
Hart	GA	272.4	238.5	33.90	25,213
Chattooga	GA	271.1	238.5	32.60	26,015
Clay	GA	270.5	238.5	32.00	3,183
Glynn	GA	268.6	238.5	30.10	79,626
Thomas	GA	268.3	238.5	29.80	44,720

Wayne	GA	266.1	238.5	27.60	30,099
Polk	GA	266.1	238.5	27.60	41,475
Floyd	GA	266.1	238.5	27.60	96,317
Irwin	GA	252.7	238.5	14.20	9,538
Tift	GA	252.7	238.5	14.20	40,118
Echols	GA	250.5	238.5	12.00	4,034
Taylor	GA	250.5	238.5	12.00	8,906
Macon	GA	250.5	238.5	12.00	14,740
Dooly	GA	250.5	238.5	12.00	14,918
Brooks	GA	250.5	238.5	12.00	16,243
Towns	GA	242.7	238.5	4.20	10,471
Ben Hill	GA	242.7	238.5	4.20	17,634
Union	GA	242.7	238.5	4.20	21,356
Fannin	GA	242.7	238.5	4.20	23,682
Clinch	GA	240.5	238.5	2.00	6,798
Screven	GA	240.5	238.5	2.00	14,593
Bryan	GA	240.5	238.5	2.00	30,233
Effingham	GA	240.5	238.5	2.00	52,250
Liberty	GA	240.5	238.5	2.00	63,453
Bulloch	GA	240.5	238.5	2.00	70,217
Chatham	GA	240.5	238.5	2.00	265,128
Schley	GA	235.5	238.5	(3.00)	5,010
Marion	GA	235.5	238.5	(3.00)	8,742
Treutlen	GA	232.7	238.5	(5.80)	6,885
Wheeler	GA	232.7	238.5	(5.80)	7,421
Wilcox	GA	232.7	238.5	(5.80)	9,255
Lanier	GA	232.7	238.5	(5.80)	10,078
Rabun	GA	232.7	238.5	(5.80)	16,276
Telfair	GA	232.7	238.5	(5.80)	16,500
Cook	GA	232.7	238.5	(5.80)	17,212
Berrien	GA	232.7	238.5	(5.80)	19,286
Lowndes	GA	232.7	238.5	(5.80)	109,233
Evans	GA	230.5	238.5	(8.00)	11,000
Long	GA	230.5	238.5	(8.00)	14,464
Upton	GA	230.5	238.5	(8.00)	27,153
Atkinson	GA	222.7	238.5	(15.80)	8,375
Montgomery	GA	222.7	238.5	(15.80)	9,123
Jeff Davis	GA	222.7	238.5	(15.80)	15,068
Appling	GA	222.7	238.5	(15.80)	18,236
Emanuel	GA	222.7	238.5	(15.80)	22,598
Toombs	GA	222.7	238.5	(15.80)	27,223
Coffee	GA	222.7	238.5	(15.80)	42,356
Quitman	GA	217.7	238.5	(20.80)	2,513
Talbot	GA	215.5	238.5	(23.00)	6,865
Candler	GA	212.7	238.5	(25.80)	10,998
Pike	GA	212.7	238.5	(25.80)	17,869
Lamar	GA	212.7	238.5	(25.80)	18,317
Tattnall	GA	212.7	238.5	(25.80)	25,520

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Hawaii	1,360,301	1,293,210	95.1%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Honolulu	HI	330.0	238.5	91.50	953,207
Maui	HI	314.7	238.5	76.20	154,834
Hawaii	HI	265.0	238.5	26.50	185,079
Kalawao	HI	261.3	238.5	22.80	90
Kauai	HI	198.6	238.5	(39.90)	67,091

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Idaho	1,567,582	1,279,906	81.6%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Ada	ID	342.5	238.5	104.00	392,365
Boise	ID	332.5	238.5	94.00	7,028
Gem	ID	332.5	238.5	94.00	16,719
Payette	ID	332.5	238.5	94.00	22,623
Canyon	ID	332.5	238.5	94.00	188,923
Benewah	ID	312.5	238.5	74.00	9,285
Lincoln	ID	275.0	238.5	36.50	5,208
Gooding	ID	275.0	238.5	36.50	15,464
Minidoka	ID	275.0	238.5	36.50	20,069
Jerome	ID	275.0	238.5	36.50	22,374
Cassia	ID	275.0	238.5	36.50	22,952
Twin Falls	ID	275.0	238.5	36.50	77,230
Kootenai	ID	267.5	238.5	29.00	138,494
Lewis	ID	266.9	238.5	28.40	3,821
Clearwater	ID	266.9	238.5	28.40	8,761
Latah	ID	266.9	238.5	28.40	37,244
Nez Perce	ID	266.9	238.5	28.40	39,265
Owyhee	ID	243.5	238.5	5.00	11,526
Elmore	ID	243.5	238.5	5.00	27,038
Jefferson	ID	239.4	238.5	0.90	26,140
Madison	ID	239.4	238.5	0.90	37,536
Bingham	ID	239.4	238.5	0.90	45,607
Bonneville	ID	239.4	238.5	0.90	104,234
Adams	ID	233.5	238.5	(5.00)	3,976
Valley	ID	233.5	238.5	(5.00)	9,862
Washington	ID	233.5	238.5	(5.00)	10,198
Franklin	ID	233.5	238.5	(5.00)	12,786
Boundary	ID	223.5	238.5	(15.00)	10,972
Shoshone	ID	223.5	238.5	(15.00)	12,765
Idaho	ID	223.5	238.5	(15.00)	16,267
Bonner	ID	223.5	238.5	(15.00)	40,877
Clark	ID	186.0	238.5	(52.50)	982
Camas	ID	186.0	238.5	(52.50)	1,117
Butte	ID	186.0	238.5	(52.50)	2,891
Power	ID	186.0	238.5	(52.50)	7,817
Teton	ID	186.0	238.5	(52.50)	10,170
Fremont	ID	186.0	238.5	(52.50)	13,242
Blaine	ID	186.0	238.5	(52.50)	21,376
Bannock	ID	186.0	238.5	(52.50)	82,839
Oneida	ID	176.0	238.5	(62.50)	4,286
Custer	ID	174.0	238.5	(64.50)	4,368
Lemhi	ID	174.0	238.5	(64.50)	7,936
Bear Lake	ID	154.0	238.5	(84.50)	5,986
Caribou	ID	154.0	238.5	(84.50)	6,963

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Illinois	12,830,632	12,521,768	97.6%

Name	ST	CALCULATIONS			
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Iroquois	IL	332.5	238.5	94.00	29,718
McLean	IL	332.5	238.5	94.00	169,572
Kane	IL	322.5	238.5	84.00	515,269
Will	IL	322.5	238.5	84.00	677,560
Lake	IL	322.5	238.5	84.00	703,462
Whiteside	IL	320.5	238.5	82.00	58,498
Madison	IL	320.5	238.5	82.00	269,282
Wayne	IL	314.7	238.5	76.20	16,760
Crawford	IL	314.7	238.5	76.20	19,817
Ford	IL	312.7	238.5	74.20	14,081
Douglas	IL	312.7	238.5	74.20	19,980
Calhoun	IL	310.5	238.5	72.00	5,089
Moultrie	IL	310.5	238.5	72.00	14,846
Piatt	IL	310.5	238.5	72.00	16,729
Jo Daviess	IL	310.5	238.5	72.00	22,678
Jersey	IL	310.5	238.5	72.00	22,985
Monroe	IL	310.5	238.5	72.00	32,957
St. Clair	IL	310.5	238.5	72.00	270,056
Boone	IL	307.2	238.5	68.70	54,165
Winnebago	IL	307.2	238.5	68.70	295,266
Lee	IL	305.0	238.5	66.50	36,031
Stephenson	IL	305.0	238.5	66.50	47,711
Ogle	IL	305.0	238.5	66.50	53,497
McHenry	IL	304.7	238.5	66.20	308,760
Hamilton	IL	302.7	238.5	64.20	8,457
Jefferson	IL	302.7	238.5	64.20	38,827
DuPage	IL	300.0	238.5	61.50	916,924
Cook	IL	300.0	238.5	61.50	5,194,675
Clark	IL	296.9	238.5	58.40	16,335
Grundy	IL	296.9	238.5	58.40	50,063
Kankakee	IL	296.9	238.5	58.40	113,449
Kendall	IL	296.9	238.5	58.40	114,736
Champaign	IL	294.9	238.5	56.40	201,081
Edwards	IL	294.7	238.5	56.20	6,721
White	IL	294.7	238.5	56.20	14,665
Lawrence	IL	294.7	238.5	56.20	16,833
DeKalb	IL	293.4	238.5	54.90	105,160
Carroll	IL	292.5	238.5	54.00	15,387
Coles	IL	288.9	238.5	50.40	53,873
Livingston	IL	286.9	238.5	48.40	38,950
Alexander	IL	284.9	238.5	46.40	8,238
Randolph	IL	284.9	238.5	46.40	33,476
De Witt	IL	284.7	238.5	46.20	16,561
Gallatin	IL	282.7	238.5	44.20	5,589
Saline	IL	282.7	238.5	44.20	24,913
Franklin	IL	282.7	238.5	44.20	39,561

Williamson	IL	282.7	238.5	44.20	66,357
Vermilion	IL	282.7	238.5	44.20	81,625
Richland	IL	279.1	238.5	40.60	16,233
Macon	IL	277.1	238.5	38.60	110,768
Pulaski	IL	275.5	238.5	37.00	6,161
Edgar	IL	274.9	238.5	36.40	18,576
Shelby	IL	274.9	238.5	36.40	22,363
Henry	IL	274.9	238.5	36.40	50,486
Jasper	IL	271.1	238.5	32.60	9,698
Cumberland	IL	271.1	238.5	32.60	11,048
Hardin	IL	264.9	238.5	26.40	4,320
Henderson	IL	264.9	238.5	26.40	7,331
Marshall	IL	264.9	238.5	26.40	12,640
Hancock	IL	264.9	238.5	26.40	19,104
Montgomery	IL	264.9	238.5	26.40	30,104
Fulton	IL	262.7	238.5	24.20	37,069
Woodford	IL	262.7	238.5	24.20	38,664
Sangamon	IL	261.6	238.5	23.10	197,465
Wabash	IL	259.1	238.5	20.60	11,947
Mercer	IL	258.7	238.5	20.20	16,434
Clay	IL	257.1	238.5	18.60	13,815
Macoupin	IL	257.1	238.5	18.60	47,765
LaSalle	IL	256.9	238.5	18.40	113,924
Logan	IL	254.9	238.5	16.40	30,305
Effingham	IL	251.1	238.5	12.60	34,242
Washington	IL	249.3	238.5	10.80	14,716
Stark	IL	247.1	238.5	8.60	5,994
Union	IL	247.1	238.5	8.60	17,808
Christian	IL	247.1	238.5	8.60	34,800
Warren	IL	244.9	238.5	6.40	17,707
McDonough	IL	244.9	238.5	6.40	32,612
Knox	IL	244.9	238.5	6.40	52,919
Tazewell	IL	244.9	238.5	6.40	135,394
Peoria	IL	244.9	238.5	6.40	186,494
Rock Island	IL	240.9	238.5	2.40	147,546
Bond	IL	239.3	238.5	0.80	17,768
Fayette	IL	239.3	238.5	0.80	22,140
Clinton	IL	239.3	238.5	0.80	37,762
Marion	IL	239.3	238.5	0.80	39,437
Putnam	IL	239.1	238.5	0.60	6,006
Bureau	IL	239.1	238.5	0.60	34,978
Massac	IL	231.9	238.5	(6.60)	15,429
Menard	IL	226.0	238.5	(12.50)	12,705
Pope	IL	219.9	238.5	(18.60)	4,470
Johnson	IL	219.9	238.5	(18.60)	12,582
Brown	IL	217.1	238.5	(21.40)	6,937
Mason	IL	217.1	238.5	(21.40)	14,666
Pike	IL	217.1	238.5	(21.40)	16,430
Scott	IL	212.1	238.5	(26.40)	5,355
Cass	IL	212.1	238.5	(26.40)	13,642
Greene	IL	212.1	238.5	(26.40)	13,886
Morgan	IL	212.1	238.5	(26.40)	35,547
Perry	IL	211.5	238.5	(27.00)	22,350
Jackson	IL	211.5	238.5	(27.00)	60,218
Schuyler	IL	207.1	238.5	(31.40)	7,544
Adams	IL	181.5	238.5	(57.00)	67,103

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Indiana	6,483,802	6,459,525	99.6%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Wells	IN	340.5	238.5	102.00	27,636
Whitley	IN	340.5	238.5	102.00	33,292
Adams	IN	340.5	238.5	102.00	34,387
DeKalb	IN	340.5	238.5	102.00	42,223
St. Joseph	IN	340.5	238.5	102.00	266,931
Allen	IN	340.5	238.5	102.00	355,329
Crawford	IN	332.5	238.5	94.00	10,713
Newton	IN	332.5	238.5	94.00	14,244
White	IN	332.5	238.5	94.00	24,643
Jasper	IN	332.5	238.5	94.00	33,478
Miami	IN	332.5	238.5	94.00	36,903
Cass	IN	332.5	238.5	94.00	38,966
Harrison	IN	332.5	238.5	94.00	39,364
Starke	IN	330.5	238.5	92.00	23,363
Tipton	IN	322.5	238.5	84.00	15,936
Carroll	IN	322.5	238.5	84.00	20,155
Jefferson	IN	322.5	238.5	84.00	32,428
Clinton	IN	322.5	238.5	84.00	33,224
Morgan	IN	322.5	238.5	84.00	68,894
Floyd	IN	322.5	238.5	84.00	74,578
Howard	IN	322.5	238.5	84.00	82,752
LaPorte	IN	322.5	238.5	84.00	111,467
Steuben	IN	320.5	238.5	82.00	34,185
Huntington	IN	320.5	238.5	82.00	37,124
LaGrange	IN	320.5	238.5	82.00	37,128
Noble	IN	320.5	238.5	82.00	47,536
Elkhart	IN	320.5	238.5	82.00	197,559
Marshall	IN	318.0	238.5	79.50	47,051
Washington	IN	314.7	238.5	76.20	28,262
Porter	IN	314.7	238.5	76.20	164,343
Lake	IN	314.7	238.5	76.20	496,005
Benton	IN	312.5	238.5	74.00	8,854
Martin	IN	312.5	238.5	74.00	10,334
Pike	IN	312.5	238.5	74.00	12,845
Brown	IN	312.5	238.5	74.00	15,242
Rush	IN	312.5	238.5	74.00	17,392
Perry	IN	312.5	238.5	74.00	19,338
Orange	IN	312.5	238.5	74.00	19,840
Spencer	IN	312.5	238.5	74.00	20,952
Owen	IN	312.5	238.5	74.00	21,575
Posey	IN	312.5	238.5	74.00	25,910
Clay	IN	312.5	238.5	74.00	26,890
Greene	IN	312.5	238.5	74.00	33,165
Montgomery	IN	312.5	238.5	74.00	38,124
Dubois	IN	312.5	238.5	74.00	41,889
Jackson	IN	312.5	238.5	74.00	42,376
Shelby	IN	312.5	238.5	74.00	44,436
Lawrence	IN	312.5	238.5	74.00	46,134
Dearborn	IN	312.5	238.5	74.00	50,047
Warrick	IN	312.5	238.5	74.00	59,689

Hancock	IN	312.5	238.5	74.00	70,002
Bartholomew	IN	312.5	238.5	74.00	76,794
Monroe	IN	312.5	238.5	74.00	137,974
Tippecanoe	IN	312.5	238.5	74.00	172,780
Vanderburgh	IN	312.5	238.5	74.00	179,703
Gibson	IN	308.2	238.5	69.70	33,503
Marion	IN	305.0	238.5	66.50	903,393
Scott	IN	304.7	238.5	66.20	24,181
Putnam	IN	304.7	238.5	66.20	37,963
Clark	IN	304.7	238.5	66.20	110,232
Fulton	IN	302.7	238.5	64.20	20,836
Kosciusko	IN	302.7	238.5	64.20	77,358
Ohio	IN	302.5	238.5	64.00	6,128
Warren	IN	302.5	238.5	64.00	8,508
Switzerland	IN	302.5	238.5	64.00	10,613
Fountain	IN	302.5	238.5	64.00	17,240
Franklin	IN	302.5	238.5	64.00	23,087
Randolph	IN	302.5	238.5	64.00	26,171
Ripley	IN	302.5	238.5	64.00	28,818
Henry	IN	302.5	238.5	64.00	49,462
Boone	IN	302.5	238.5	64.00	56,640
Johnson	IN	302.5	238.5	64.00	139,654
Hendricks	IN	302.5	238.5	64.00	145,448
Hamilton	IN	302.5	238.5	64.00	274,569
Blackford	IN	300.5	238.5	62.00	12,766
Jay	IN	300.5	238.5	62.00	21,253
Sullivan	IN	294.7	238.5	56.20	21,475
Decatur	IN	294.7	238.5	56.20	25,740
Jennings	IN	294.7	238.5	56.20	28,525
Daviess	IN	294.7	238.5	56.20	31,648
Knox	IN	294.7	238.5	56.20	38,440
Delaware	IN	292.5	238.5	54.00	117,671
Madison	IN	292.5	238.5	54.00	131,636
Wabash	IN	290.5	238.5	52.00	32,888
Grant	IN	290.5	238.5	52.00	70,061
Union	IN	286.5	238.5	48.00	7,516
Wayne	IN	286.5	238.5	48.00	68,917
Vermillion	IN	276.9	238.5	38.40	16,212
Parke	IN	276.9	238.5	38.40	17,339
Vigo	IN	276.9	238.5	38.40	107,848
Pulaski	IN	249.3	238.5	10.80	13,402
Fayette	IN	225.0	238.5	(13.50)	24,277

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Iowa	3,046,355	1,675,830	55.0%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Story	IA	310.5	238.5	72.00	89,542
Grundy	IA	300.5	238.5	62.00	12,453
Boone	IA	296.2	238.5	57.70	26,306
Iowa	IA	292.7	238.5	54.20	16,355
Marshall	IA	292.7	238.5	54.20	40,648
Jackson	IA	290.5	238.5	52.00	19,848
Hardin	IA	282.7	238.5	44.20	17,534
Franklin	IA	276.7	238.5	38.20	10,680
Hamilton	IA	276.7	238.5	38.20	15,673
Adair	IA	274.9	238.5	36.40	7,682
Guthrie	IA	274.9	238.5	36.40	10,954
Jasper	IA	274.9	238.5	36.40	36,842
Des Moines	IA	274.9	238.5	36.40	40,325
Pottawattamie	IA	274.9	238.5	36.40	93,158
Wright	IA	272.4	238.5	33.90	13,229
Tama	IA	270.2	238.5	31.70	17,767
Benton	IA	270.2	238.5	31.70	26,076
Muscatine	IA	270.2	238.5	31.70	42,745
Butler	IA	263.2	238.5	24.70	14,867
Cedar	IA	260.2	238.5	21.70	18,499
Linn	IA	260.2	238.5	21.70	211,226
Webster	IA	259.3	238.5	20.80	38,013
Madison	IA	258.4	238.5	19.90	15,679
Poweshiek	IA	257.1	238.5	18.60	18,914
Marion	IA	257.1	238.5	18.60	33,309
Jones	IA	254.9	238.5	16.40	20,638
Buchanan	IA	252.4	238.5	13.90	20,958
Clinton	IA	248.7	238.5	10.20	49,116
Warren	IA	248.4	238.5	9.90	46,225
Dallas	IA	248.4	238.5	9.90	66,135
Polk	IA	248.4	238.5	9.90	430,640
Clarke	IA	247.1	238.5	8.60	9,286
Louisa	IA	247.1	238.5	8.60	11,387
Dubuque	IA	247.1	238.5	8.60	93,653
Washington	IA	242.7	238.5	4.20	21,704
Delaware	IA	242.4	238.5	3.90	17,764
Harrison	IA	237.1	238.5	(1.40)	14,928
Allamakee	IA	234.9	238.5	(3.60)	14,330
Mills	IA	234.9	238.5	(3.60)	15,059
Greene	IA	233.7	238.5	(4.80)	9,336
Black Hawk	IA	232.9	238.5	(5.60)	131,090
Johnson	IA	232.7	238.5	(5.80)	130,882
Scott	IA	230.9	238.5	(7.60)	165,224
Henry	IA	229.3	238.5	(9.20)	20,145
Shelby	IA	219.3	238.5	(19.20)	12,167
Fremont	IA	217.1	238.5	(21.40)	7,441

Bremer	IA	215.1	238.5	(23.40)	24,276
Lyon	IA	215.0	238.5	(23.50)	11,581
Sioux	IA	213.0	238.5	(25.50)	33,704
Audubon	IA	211.5	238.5	(27.00)	6,119
Decatur	IA	211.5	238.5	(27.00)	8,457
Cass	IA	211.5	238.5	(27.00)	13,956
Lee	IA	211.5	238.5	(27.00)	35,862
Chickasaw	IA	210.2	238.5	(28.30)	12,439
Osceola	IA	207.6	238.5	(30.90)	6,462
Howard	IA	205.9	238.5	(32.60)	9,566
Fayette	IA	204.6	238.5	(33.90)	20,880
Union	IA	201.5	238.5	(37.00)	12,534
Carroll	IA	201.5	238.5	(37.00)	20,816
Keokuk	IA	197.4	238.5	(41.10)	10,511
Clayton	IA	195.9	238.5	(42.60)	18,129
Adams	IA	191.5	238.5	(47.00)	4,029
Ringgold	IA	191.5	238.5	(47.00)	5,131
Wayne	IA	191.5	238.5	(47.00)	6,403
Lucas	IA	191.5	238.5	(47.00)	8,898
Crawford	IA	191.5	238.5	(47.00)	17,096
Winneshiek	IA	191.5	238.5	(47.00)	21,056
Taylor	IA	181.5	238.5	(57.00)	6,317
Montgomery	IA	181.5	238.5	(57.00)	10,740
Page	IA	181.5	238.5	(57.00)	15,932
Emmet	IA	177.8	238.5	(60.70)	10,302
Dickinson	IA	177.8	238.5	(60.70)	16,667
Mahaska	IA	176.2	238.5	(62.30)	22,381
Palo Alto	IA	161.8	238.5	(76.70)	9,421
Winnebago	IA	161.8	238.5	(76.70)	10,866
Kossuth	IA	161.8	238.5	(76.70)	15,543
Jefferson	IA	161.8	238.5	(76.70)	16,843
Cerro Gordo	IA	158.4	238.5	(80.10)	44,151
Floyd	IA	152.7	238.5	(85.80)	16,303
Clay	IA	151.8	238.5	(86.70)	16,667
Pocahontas	IA	144.0	238.5	(94.50)	7,310
Van Buren	IA	144.0	238.5	(94.50)	7,570
Worth	IA	144.0	238.5	(94.50)	7,598
Monroe	IA	144.0	238.5	(94.50)	7,970
Davis	IA	144.0	238.5	(94.50)	8,753
Calhoun	IA	144.0	238.5	(94.50)	9,670
Humboldt	IA	144.0	238.5	(94.50)	9,815
Mitchell	IA	144.0	238.5	(94.50)	10,776
Hancock	IA	144.0	238.5	(94.50)	11,341
Appanoose	IA	144.0	238.5	(94.50)	12,887
Wapello	IA	144.0	238.5	(94.50)	35,625
Sac	IA	134.0	238.5	(104.50)	10,350
Buena Vista	IA	134.0	238.5	(104.50)	20,260
Woodbury	IA	129.0	238.5	(109.50)	102,172
Ida	IA	124.0	238.5	(114.50)	7,089
Cherokee	IA	124.0	238.5	(114.50)	12,072
O'Brien	IA	124.0	238.5	(114.50)	14,398
Plymouth	IA	124.0	238.5	(114.50)	24,986
Monona	IA	119.0	238.5	(119.50)	9,243

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Kansas	2,853,118	2,238,770	78.5%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Osage	KS	352.5	238.5	114.00	16,295
Jefferson	KS	334.7	238.5	96.20	19,126
Wyandotte	KS	332.5	238.5	94.00	157,505
Johnson	KS	332.5	238.5	94.00	544,179
Douglas	KS	324.7	238.5	86.20	110,826
Doniphan	KS	322.5	238.5	84.00	7,945
Leavenworth	KS	322.5	238.5	84.00	76,227
Jackson	KS	314.7	238.5	76.20	13,462
Butler	KS	310.5	238.5	72.00	65,880
Sedgwick	KS	310.5	238.5	72.00	498,365
Atchison	KS	304.7	238.5	66.20	16,924
Sumner	KS	300.5	238.5	62.00	24,132
Brown	KS	294.7	238.5	56.20	9,984
Miami	KS	294.7	238.5	56.20	32,787
Labette	KS	292.7	238.5	54.20	21,607
Cowley	KS	290.5	238.5	52.00	36,311
Harvey	KS	286.2	238.5	47.70	34,684
Kingman	KS	281.8	238.5	43.30	7,858
Shawnee	KS	281.3	238.5	42.80	177,934
Anderson	KS	276.9	238.5	38.40	8,102
Linn	KS	276.9	238.5	38.40	9,656
Franklin	KS	276.9	238.5	38.40	25,992
McPherson	KS	272.7	238.5	34.20	29,180
Chautauqua	KS	268.6	238.5	30.10	3,669
Ellsworth	KS	264.9	238.5	26.40	6,497
Nemaha	KS	262.7	238.5	24.20	10,178
Saline	KS	257.1	238.5	18.60	55,606
Montgomery	KS	250.8	238.5	12.30	35,471
Wabaunsee	KS	249.3	238.5	10.80	7,053
Chase	KS	248.0	238.5	9.50	2,790
Dickinson	KS	247.1	238.5	8.60	19,754
Reno	KS	247.1	238.5	8.60	64,511
Rice	KS	244.9	238.5	6.40	10,083
Marion	KS	241.5	238.5	3.00	12,660
Stafford	KS	241.3	238.5	2.80	4,437
Barber	KS	241.3	238.5	2.80	4,861
Morris	KS	239.3	238.5	0.80	5,923
Russell	KS	239.3	238.5	0.80	6,970
Pratt	KS	239.3	238.5	0.80	9,656
Lyon	KS	239.3	238.5	0.80	33,690
Cherokee	KS	238.4	238.5	(0.10)	21,603
Kiowa	KS	233.5	238.5	(5.00)	2,553
Edwards	KS	233.5	238.5	(5.00)	3,037
Trego	KS	231.3	238.5	(7.20)	3,001
Rush	KS	231.3	238.5	(7.20)	3,307
Pawnee	KS	231.3	238.5	(7.20)	6,973
Barton	KS	231.3	238.5	(7.20)	27,674
Ellis	KS	231.3	238.5	(7.20)	28,452
Coffey	KS	229.3	238.5	(9.20)	8,601
Comanche	KS	223.5	238.5	(15.00)	1,891

Bourbon	KS	223.5	238.5	(15.00)	15,173
Neosho	KS	221.5	238.5	(17.00)	16,512
Lincoln	KS	219.3	238.5	(19.20)	3,241
Ottawa	KS	219.3	238.5	(19.20)	6,091
Cloud	KS	219.3	238.5	(19.20)	9,533
Pottawatomie	KS	219.3	238.5	(19.20)	21,604
Greenwood	KS	218.0	238.5	(20.50)	6,689
Ness	KS	213.5	238.5	(25.00)	3,107
Allen	KS	211.5	238.5	(27.00)	13,371
Geary	KS	211.5	238.5	(27.00)	34,362
Crawford	KS	211.5	238.5	(27.00)	39,134
Osborne	KS	211.3	238.5	(27.20)	3,858
Rooks	KS	211.3	238.5	(27.20)	5,181
Harper	KS	209.3	238.5	(29.20)	6,034
Clay	KS	209.3	238.5	(29.20)	8,535
Wilson	KS	206.5	238.5	(32.00)	9,409
Elk	KS	201.5	238.5	(37.00)	2,882
Jewell	KS	201.5	238.5	(37.00)	3,077
Republic	KS	201.5	238.5	(37.00)	4,980
Mitchell	KS	201.5	238.5	(37.00)	6,373
Riley	KS	201.5	238.5	(37.00)	71,115
Gray	KS	201.3	238.5	(37.20)	6,006
Sheridan	KS	193.5	238.5	(45.00)	2,556
Graham	KS	193.5	238.5	(45.00)	2,597
Gove	KS	193.5	238.5	(45.00)	2,695
Logan	KS	193.5	238.5	(45.00)	2,756
Smith	KS	193.5	238.5	(45.00)	3,853
Phillips	KS	193.5	238.5	(45.00)	5,642
Norton	KS	193.5	238.5	(45.00)	5,671
Sherman	KS	193.5	238.5	(45.00)	6,010
Thomas	KS	193.5	238.5	(45.00)	7,900
Woodson	KS	191.5	238.5	(47.00)	3,309
Washington	KS	191.5	238.5	(47.00)	5,799
Marshall	KS	191.5	238.5	(47.00)	10,117
Wallace	KS	183.5	238.5	(55.00)	1,485
Hodgeman	KS	183.5	238.5	(55.00)	1,916
Clark	KS	183.5	238.5	(55.00)	2,215
Cheyenne	KS	183.5	238.5	(55.00)	2,726
Morton	KS	183.5	238.5	(55.00)	3,233
Meade	KS	183.5	238.5	(55.00)	4,575
Stevens	KS	183.5	238.5	(55.00)	5,724
Seward	KS	183.5	238.5	(55.00)	22,952
Ford	KS	183.5	238.5	(55.00)	33,848
Kearny	KS	133.8	238.5	(104.70)	3,977
Haskell	KS	133.8	238.5	(104.70)	4,256
Scott	KS	133.8	238.5	(104.70)	4,936
Grant	KS	133.8	238.5	(104.70)	7,829
Finney	KS	133.8	238.5	(104.70)	36,776
Greeley	KS	116.0	238.5	(122.50)	1,247
Lane	KS	116.0	238.5	(122.50)	1,750
Wichita	KS	116.0	238.5	(122.50)	2,234
Stanton	KS	116.0	238.5	(122.50)	2,235
Rawlins	KS	116.0	238.5	(122.50)	2,519
Hamilton	KS	116.0	238.5	(122.50)	2,690
Decatur	KS	116.0	238.5	(122.50)	2,961

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Kentucky	4,339,367	3,272,803	75.4%

Name	ST	CALCULATIONS			
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Meade	KY	342.5	238.5	104.00	28,602
Spencer	KY	332.5	238.5	94.00	17,061
Nelson	KY	332.5	238.5	94.00	43,437
Hardin	KY	332.5	238.5	94.00	105,543
Bullitt	KY	322.5	238.5	84.00	74,319
Jefferson	KY	322.5	238.5	84.00	741,096
Nicholas	KY	314.7	238.5	76.20	7,135
Bath	KY	314.7	238.5	76.20	11,591
Garrard	KY	314.7	238.5	76.20	16,912
Bourbon	KY	314.7	238.5	76.20	19,985
Woodford	KY	314.7	238.5	76.20	24,939
Montgomery	KY	314.7	238.5	76.20	26,499
Boyle	KY	314.7	238.5	76.20	28,432
Clark	KY	314.7	238.5	76.20	35,613
Scott	KY	314.7	238.5	76.20	47,173
Jessamine	KY	314.7	238.5	76.20	48,586
Madison	KY	314.7	238.5	76.20	82,916
Fayette	KY	314.7	238.5	76.20	295,803
Carlisle	KY	312.5	238.5	74.00	5,104
Hancock	KY	312.5	238.5	74.00	8,565
McLean	KY	312.5	238.5	74.00	9,531
Webster	KY	312.5	238.5	74.00	13,621
Ohio	KY	312.5	238.5	74.00	23,842
Henderson	KY	312.5	238.5	74.00	46,250
Daviess	KY	312.5	238.5	74.00	96,656
Breckinridge	KY	306.9	238.5	68.40	20,059
Trimble	KY	304.7	238.5	66.20	8,809
Owen	KY	304.7	238.5	66.20	10,841
Harrison	KY	304.7	238.5	66.20	18,846
Mercer	KY	304.7	238.5	66.20	21,331
Anderson	KY	304.7	238.5	66.20	21,421
Lincoln	KY	304.7	238.5	66.20	24,742
Shelby	KY	304.7	238.5	66.20	42,074
Franklin	KY	304.7	238.5	66.20	49,285
Oldham	KY	304.7	238.5	66.20	60,316
Campbell	KY	302.5	238.5	64.00	90,336
Boone	KY	302.5	238.5	64.00	118,811
Kenton	KY	302.5	238.5	64.00	159,720
Todd	KY	294.7	238.5	56.20	12,460
Powell	KY	294.7	238.5	56.20	12,613
Estill	KY	294.7	238.5	56.20	14,672
Logan	KY	294.7	238.5	56.20	26,835
Hickman	KY	292.5	238.5	54.00	4,902
Gallatin	KY	292.5	238.5	54.00	8,589
Grayson	KY	289.1	238.5	50.60	25,746
Caldwell	KY	286.9	238.5	48.40	12,984

Henry	KY	286.9	238.5	48.40	15,416
Lyon	KY	276.9	238.5	38.40	8,314
Calloway	KY	276.9	238.5	38.40	37,191
Pendleton	KY	274.7	238.5	36.20	14,877
Grant	KY	274.7	238.5	36.20	24,662
Carroll	KY	269.1	238.5	30.60	10,811
Crittenden	KY	266.9	238.5	28.40	9,315
Trigg	KY	266.9	238.5	28.40	14,339
Graves	KY	266.9	238.5	28.40	37,121
Christian	KY	266.9	238.5	28.40	73,955
Edmonson	KY	259.1	238.5	20.60	12,161
Butler	KY	259.1	238.5	20.60	12,690
Lewis	KY	259.1	238.5	20.60	13,870
Simpson	KY	259.1	238.5	20.60	17,327
Muhlenberg	KY	259.1	238.5	20.60	31,499
Warren	KY	259.1	238.5	20.60	113,792
Fulton	KY	256.9	238.5	18.40	6,813
Mason	KY	249.1	238.5	10.60	17,490
Allen	KY	249.1	238.5	10.60	19,956
Barren	KY	249.1	238.5	10.60	42,173
Greenup	KY	247.1	238.5	8.60	36,910
Robertson	KY	243.5	238.5	5.00	2,282
Menifee	KY	243.5	238.5	5.00	6,306
Larue	KY	243.5	238.5	5.00	14,193
Fleming	KY	243.5	238.5	5.00	14,348
Rockcastle	KY	243.5	238.5	5.00	17,056
Rowan	KY	243.5	238.5	5.00	23,333
Leslie	KY	233.5	238.5	(5.00)	11,310
Washington	KY	233.5	238.5	(5.00)	11,717
Martin	KY	233.5	238.5	(5.00)	12,929
Magoffin	KY	233.5	238.5	(5.00)	13,333
Morgan	KY	233.5	238.5	(5.00)	13,923
Marion	KY	233.5	238.5	(5.00)	19,820
Johnson	KY	233.5	238.5	(5.00)	23,356
Floyd	KY	233.5	238.5	(5.00)	39,451
Hopkins	KY	233.5	238.5	(5.00)	46,920
Pike	KY	233.5	238.5	(5.00)	65,024
Ballard	KY	231.9	238.5	(6.60)	8,249
Livingston	KY	231.9	238.5	(6.60)	9,519
Marshall	KY	231.9	238.5	(6.60)	31,448
McCracken	KY	231.9	238.5	(6.60)	65,565
Bracken	KY	231.3	238.5	(7.20)	8,488
Owsley	KY	223.5	238.5	(15.00)	4,755
Wolfe	KY	223.5	238.5	(15.00)	7,355
Lee	KY	223.5	238.5	(15.00)	7,887
Green	KY	223.5	238.5	(15.00)	11,258
Jackson	KY	223.5	238.5	(15.00)	13,494
Breathitt	KY	223.5	238.5	(15.00)	13,878
Union	KY	223.5	238.5	(15.00)	15,007
Lawrence	KY	223.5	238.5	(15.00)	15,860
Knott	KY	223.5	238.5	(15.00)	16,346
Hart	KY	223.5	238.5	(15.00)	18,199
Adair	KY	223.5	238.5	(15.00)	18,656
Taylor	KY	223.5	238.5	(15.00)	24,512
Perry	KY	223.5	238.5	(15.00)	28,712
Clinton	KY	213.5	238.5	(25.00)	10,272
Bell	KY	213.5	238.5	(25.00)	28,691
Harlan	KY	213.5	238.5	(25.00)	29,278
Elliott	KY	211.5	238.5	(27.00)	7,852
Carter	KY	211.5	238.5	(27.00)	27,720
Boyd	KY	211.5	238.5	(27.00)	49,542

Cumberland	KY	203.5	238.5	(35.00)	6,856
Metcalfe	KY	203.5	238.5	(35.00)	10,099
Monroe	KY	203.5	238.5	(35.00)	10,963
Letcher	KY	203.5	238.5	(35.00)	24,519
Pulaski	KY	176.0	238.5	(62.50)	63,063
Casey	KY	166.0	238.5	(72.50)	15,955
Wayne	KY	166.0	238.5	(72.50)	20,813
Laurel	KY	166.0	238.5	(72.50)	58,849
Russell	KY	156.0	238.5	(82.50)	17,565
McCreary	KY	156.0	238.5	(82.50)	18,306
Clay	KY	156.0	238.5	(82.50)	21,730
Knox	KY	156.0	238.5	(82.50)	31,883
Whitley	KY	156.0	238.5	(82.50)	35,637

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Louisiana	4,533,372	4,017,079	88.6%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
De Soto	LA	332.5	238.5	94.00	26,656
Webster	LA	324.7	238.5	86.20	41,207
Bossier	LA	324.7	238.5	86.20	116,979
Caddo	LA	324.7	238.5	86.20	254,969
St. Helena	LA	322.5	238.5	84.00	11,203
Tangipahoa	LA	322.5	238.5	84.00	121,097
Bienville	LA	314.7	238.5	76.20	14,353
Claiborne	LA	314.7	238.5	76.20	17,195
Sabine	LA	314.7	238.5	76.20	24,233
St. Landry	LA	314.7	238.5	76.20	83,384
Plaquemines	LA	312.5	238.5	74.00	23,042
Allen	LA	312.5	238.5	74.00	25,764
Beauregard	LA	312.5	238.5	74.00	35,654
St. Bernard	LA	312.5	238.5	74.00	35,897
St. John the Baptist	LA	312.5	238.5	74.00	45,924
St. Charles	LA	312.5	238.5	74.00	52,780
Lafourche	LA	312.5	238.5	74.00	96,318
Livingston	LA	312.5	238.5	74.00	128,026
St. Tammany	LA	312.5	238.5	74.00	233,740
Orleans	LA	312.5	238.5	74.00	343,829
Jefferson	LA	312.5	238.5	74.00	432,552
St. Mary	LA	304.7	238.5	66.20	54,650
Calcasieu	LA	304.7	238.5	66.20	192,768
Washington	LA	302.5	238.5	64.00	47,168
Red River	LA	296.9	238.5	58.40	9,091
Evangeline	LA	296.9	238.5	58.40	33,984
Natchitoches	LA	296.9	238.5	58.40	39,566
St. Martin	LA	296.9	238.5	58.40	52,160
Vermilion	LA	296.9	238.5	58.40	57,999
Acadia	LA	296.9	238.5	58.40	61,773
Iberia	LA	296.9	238.5	58.40	73,240
Lafayette	LA	296.9	238.5	58.40	221,578
Cameron	LA	294.7	238.5	56.20	6,839
Jefferson Davis	LA	294.7	238.5	56.20	31,594
Union	LA	281.9	238.5	43.40	22,721
West Feliciana	LA	276.9	238.5	38.40	15,625
Pointe Coupee	LA	276.9	238.5	38.40	22,802
Franklin	LA	274.1	238.5	35.60	20,767
Tensas	LA	271.3	238.5	32.80	5,252
Catahoula	LA	271.3	238.5	32.80	10,407
Winn	LA	269.1	238.5	30.60	15,313
Rapides	LA	268.2	238.5	29.70	131,613
Avoyelles	LA	266.9	238.5	28.40	42,073
Caldwell	LA	264.1	238.5	25.60	10,132
Ouachita	LA	264.1	238.5	25.60	153,720
Jackson	LA	259.1	238.5	20.60	16,274
St. James	LA	259.1	238.5	20.60	22,102
Assumption	LA	259.1	238.5	20.60	23,421
Iberville	LA	259.1	238.5	20.60	33,387
Lincoln	LA	259.1	238.5	20.60	46,735

Ascension	LA	259.1	238.5	20.60	107,215
Terrebonne	LA	259.1	238.5	20.60	111,860
East Feliciana	LA	258.3	238.5	19.80	20,267
East Carroll	LA	256.3	238.5	17.80	7,759
West Carroll	LA	256.3	238.5	17.80	11,604
Richland	LA	256.3	238.5	17.80	20,725
Morehouse	LA	256.3	238.5	17.80	27,979
Madison	LA	253.5	238.5	15.00	12,093
La Salle	LA	249.1	238.5	10.60	14,890
Grant	LA	249.1	238.5	10.60	22,309
Concordia	LA	246.3	238.5	7.80	20,822
Vernon	LA	231.3	238.5	(7.20)	52,334
West Baton Rouge	LA	223.5	238.5	(15.00)	23,788
East Baton Rouge	LA	223.5	238.5	(15.00)	440,171

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Maine	1,328,361	-	0.0%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Penobscot	ME	226.5	238.5	(12.00)	153,923
Piscataquis	ME	221.5	238.5	(17.00)	17,535
Knox	ME	221.5	238.5	(17.00)	39,736
Washington	ME	211.5	238.5	(27.00)	32,856
Lincoln	ME	211.5	238.5	(27.00)	34,457
Sagadahoc	ME	211.5	238.5	(27.00)	35,293
Waldo	ME	211.5	238.5	(27.00)	38,786
Hancock	ME	211.5	238.5	(27.00)	54,418
Aroostook	ME	211.5	238.5	(27.00)	71,870
York	ME	211.5	238.5	(27.00)	197,131
Cumberland	ME	211.5	238.5	(27.00)	281,674
Somerset	ME	201.5	238.5	(37.00)	52,228
Androscoggin	ME	201.5	238.5	(37.00)	107,702
Kennebec	ME	201.5	238.5	(37.00)	122,151
Franklin	ME	191.5	238.5	(47.00)	30,768
Oxford	ME	191.5	238.5	(47.00)	57,833

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Maryland	5,957,620	5,681,601	95.4%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Cecil	MD	322.5	238.5	84.00	101,108
Prince George's	MD	312.5	238.5	74.00	863,420
Montgomery	MD	312.5	238.5	74.00	971,777
Carroll	MD	302.5	238.5	64.00	167,134
Howard	MD	302.5	238.5	64.00	287,085
Anne Arundel	MD	302.5	238.5	64.00	537,656
Kent	MD	292.5	238.5	54.00	20,197
Queen Anne's	MD	292.5	238.5	54.00	47,798
Calvert	MD	292.5	238.5	54.00	88,737
Frederick	MD	292.5	238.5	54.00	233,385
Charles	MD	290.0	238.5	51.50	146,551
Harford	MD	280.0	238.5	41.50	244,826
Baltimore	MD	280.0	238.5	41.50	805,029
Baltimore	MD	280.0	238.5	41.50	805,029
Washington	MD	278.2	238.5	39.70	147,430
Talbot	MD	256.9	238.5	18.40	37,782
Somerset	MD	254.4	238.5	15.90	26,470
Worcester	MD	241.3	238.5	2.80	51,454
Wicomico	MD	241.3	238.5	2.80	98,733
Allegany	MD	232.6	238.5	(5.90)	75,087
St. Mary's	MD	225.7	238.5	(12.80)	105,151
Garrett	MD	223.5	238.5	(15.00)	30,097
Dorchester	MD	221.3	238.5	(17.20)	32,618
Caroline	MD	221.3	238.5	(17.20)	33,066

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Massachusetts	6,547,629	6,305,034	96.3%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Franklin	MA	332.5	238.5	94.00	71,372
Berkshire	MA	332.5	238.5	94.00	131,219
Hampshire	MA	324.7	238.5	86.20	158,080
Hampden	MA	324.7	238.5	86.20	463,490
Worcester	MA	313.4	238.5	74.90	798,552
Bristol	MA	310.0	238.5	71.50	548,285
Plymouth	MA	307.8	238.5	69.30	494,919
Norfolk	MA	307.8	238.5	69.30	670,850
Suffolk	MA	303.0	238.5	64.50	722,023
Essex	MA	303.0	238.5	64.50	743,159
Middlesex	MA	303.0	238.5	64.50	1,503,085
Dukes	MA	231.3	238.5	(7.20)	16,535
Barnstable	MA	231.3	238.5	(7.20)	215,888
Nantucket	MA	213.5	238.5	(25.00)	10,172

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Michigan	9,883,640	8,889,631	89.9%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Van Buren	MI	352.5	238.5	114.00	76,258
Kalamazoo	MI	352.5	238.5	114.00	250,331
Jackson	MI	347.5	238.5	109.00	160,248
Shiawassee	MI	342.5	238.5	104.00	70,648
Ottawa	MI	342.5	238.5	104.00	263,801
Kent	MI	342.5	238.5	104.00	602,622
Cass	MI	340.5	238.5	102.00	52,293
St. Joseph	MI	340.5	238.5	102.00	61,295
Barry	MI	337.5	238.5	99.00	59,173
Calhoun	MI	337.5	238.5	99.00	136,146
Ionia	MI	332.5	238.5	94.00	63,905
Lenawee	MI	332.5	238.5	94.00	99,892
Monroe	MI	332.5	238.5	94.00	152,021
St. Clair	MI	332.5	238.5	94.00	163,040
Macomb	MI	332.5	238.5	94.00	840,978
Oakland	MI	332.5	238.5	94.00	1,202,362
Wayne	MI	332.5	238.5	94.00	1,820,584
Berrien	MI	330.5	238.5	92.00	156,813
Genesee	MI	324.7	238.5	86.20	425,790
Livingston	MI	323.8	238.5	85.30	180,967
Washtenaw	MI	323.8	238.5	85.30	344,791
Lapeer	MI	323.4	238.5	84.90	88,319
Clinton	MI	322.5	238.5	84.00	75,382
Eaton	MI	322.5	238.5	84.00	107,759
Allegan	MI	322.5	238.5	84.00	111,408
Ingham	MI	322.5	238.5	84.00	280,895
Branch	MI	321.9	238.5	83.40	45,248
Huron	MI	312.5	238.5	74.00	33,118
Sanilac	MI	312.5	238.5	74.00	43,114
Tuscola	MI	312.5	238.5	74.00	55,729
Hillsdale	MI	311.9	238.5	73.40	46,688
Bay	MI	294.7	238.5	56.20	107,771
Saginaw	MI	294.7	238.5	56.20	200,169
Gratiot	MI	292.5	238.5	54.00	42,476
Montcalm	MI	292.5	238.5	54.00	63,342
Midland	MI	284.7	238.5	46.20	83,629
Arenac	MI	266.9	238.5	28.40	15,899
Antrim	MI	259.1	238.5	20.60	23,580
Charlevoix	MI	259.1	238.5	20.60	25,949
Emmet	MI	259.1	238.5	20.60	32,694
Otsego	MI	239.1	238.5	0.60	24,164
Cheboygan	MI	239.1	238.5	0.60	26,152
Muskegon	MI	239.1	238.5	0.60	172,188
Montmorency	MI	234.8	238.5	(3.70)	9,765
Presque Isle	MI	234.8	238.5	(3.70)	13,376
Gladwin	MI	231.3	238.5	(7.20)	25,692
Kalkaska	MI	227.9	238.5	(10.60)	17,153
Leelanau	MI	227.9	238.5	(10.60)	21,708
Ontonagon	MI	223.5	238.5	(15.00)	6,780
Lake	MI	223.5	238.5	(15.00)	11,539

Missaukee	MI	223.5	238.5	(15.00)	14,849
Gogebic	MI	223.5	238.5	(15.00)	16,427
Benzie	MI	223.5	238.5	(15.00)	17,525
Osceola	MI	223.5	238.5	(15.00)	23,528
Manistee	MI	223.5	238.5	(15.00)	24,733
Wexford	MI	223.5	238.5	(15.00)	32,735
Grand Traverse	MI	223.5	238.5	(15.00)	86,986
Oceana	MI	221.3	238.5	(17.20)	26,570
Newaygo	MI	221.3	238.5	(17.20)	48,460
Mackinac	MI	217.0	238.5	(21.50)	11,113
Alcona	MI	213.5	238.5	(25.00)	10,942
Ogemaw	MI	213.5	238.5	(25.00)	21,699
Iosco	MI	213.5	238.5	(25.00)	25,887
Mason	MI	213.5	238.5	(25.00)	28,705
Clare	MI	213.5	238.5	(25.00)	30,926
Keweenaw	MI	203.5	238.5	(35.00)	2,156
Luce	MI	203.5	238.5	(35.00)	6,631
Oscoda	MI	203.5	238.5	(35.00)	8,640
Baraga	MI	203.5	238.5	(35.00)	8,860
Iron	MI	203.5	238.5	(35.00)	11,817
Crawford	MI	203.5	238.5	(35.00)	14,074
Roscommon	MI	203.5	238.5	(35.00)	24,449
Dickinson	MI	203.5	238.5	(35.00)	26,168
Alpena	MI	203.5	238.5	(35.00)	29,598
Houghton	MI	203.5	238.5	(35.00)	36,628
Chippewa	MI	203.5	238.5	(35.00)	38,520
Mecosta	MI	203.5	238.5	(35.00)	42,798
Marquette	MI	203.5	238.5	(35.00)	67,077
Isabella	MI	203.5	238.5	(35.00)	70,311
Menominee	MI	191.5	238.5	(47.00)	24,029
Alger	MI	183.5	238.5	(55.00)	9,601
Schoolcraft	MI	116.0	238.5	(122.50)	8,485
Delta	MI	116.0	238.5	(122.50)	37,069

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Minnesota	5,303,925	4,976,440	93.8%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Le Sueur	MN	332.5	238.5	94.00	27,703
Jackson	MN	322.5	238.5	84.00	10,266
Watonwan	MN	322.5	238.5	84.00	11,211
Cottonwood	MN	322.5	238.5	84.00	11,687
Nobles	MN	322.5	238.5	84.00	21,378
Brown	MN	322.5	238.5	84.00	25,893
Isanti	MN	322.5	238.5	84.00	37,816
Chisago	MN	322.5	238.5	84.00	53,887
Carver	MN	322.5	238.5	84.00	91,042
Wright	MN	322.5	238.5	84.00	124,700
Scott	MN	322.5	238.5	84.00	129,928
Washington	MN	317.0	238.5	78.50	238,136
Anoka	MN	317.0	238.5	78.50	330,844
Dakota	MN	317.0	238.5	78.50	398,552
Ramsey	MN	317.0	238.5	78.50	508,640
Hennepin	MN	317.0	238.5	78.50	1,152,425
Otter Tail	MN	315.6	238.5	77.10	57,303
Faribault	MN	314.7	238.5	76.20	14,553
Sibley	MN	314.7	238.5	76.20	15,226
Waseca	MN	314.7	238.5	76.20	19,136
Nicollet	MN	314.7	238.5	76.20	32,727
Blue Earth	MN	314.7	238.5	76.20	64,013
Rice	MN	314.7	238.5	76.20	64,142
Murray	MN	312.5	238.5	74.00	8,725
Sherburne	MN	302.5	238.5	64.00	88,499
Wilkin	MN	296.9	238.5	58.40	6,576
Meeker	MN	296.9	238.5	58.40	23,300
Steele	MN	296.9	238.5	58.40	36,576
Redwood	MN	294.7	238.5	56.20	16,059
Lyon	MN	288.7	238.5	50.20	25,857
Becker	MN	286.9	238.5	48.40	32,504
Goodhue	MN	286.9	238.5	48.40	46,183
Olmsted	MN	284.9	238.5	46.40	144,248
Clay	MN	284.7	238.5	46.20	58,999
Stearns	MN	284.7	238.5	46.20	150,642
Freeborn	MN	279.1	238.5	40.60	31,255
Morrison	MN	279.1	238.5	40.60	33,198
McLeod	MN	279.1	238.5	40.60	36,651
Pope	MN	277.8	238.5	39.30	10,995
Dodge	MN	274.9	238.5	36.40	20,087
Fillmore	MN	274.9	238.5	36.40	20,866
Wabasha	MN	274.9	238.5	36.40	21,676
Todd	MN	270.0	238.5	31.50	24,895
Renville	MN	269.1	238.5	30.60	15,730
Mille Lacs	MN	269.1	238.5	30.60	26,097
Benton	MN	266.9	238.5	28.40	38,451

Pipestone	MN	263.5	238.5	25.00	9,596
Carlton	MN	261.3	238.5	22.80	35,386
Kandiyohi	MN	261.3	238.5	22.80	42,239
Mower	MN	257.1	238.5	18.60	39,163
Cass	MN	252.2	238.5	13.70	28,567
Douglas	MN	252.2	238.5	13.70	36,009
Swift	MN	251.3	238.5	12.80	9,783
Chippewa	MN	251.3	238.5	12.80	12,441
Rock	MN	251.0	238.5	12.50	9,687
Hubbard	MN	248.5	238.5	10.00	20,428
Lincoln	MN	245.0	238.5	6.50	5,896
Winona	MN	244.9	238.5	6.40	51,461
Grant	MN	243.5	238.5	5.00	6,018
Aitkin	MN	243.5	238.5	5.00	16,202
Crow Wing	MN	243.5	238.5	5.00	62,500
Wadena	MN	242.2	238.5	3.70	13,843
Lake	MN	241.3	238.5	2.80	10,866
St. Louis	MN	241.3	238.5	2.80	200,226
Norman	MN	239.1	238.5	0.60	6,852
Houston	MN	234.9	238.5	(3.60)	19,027
Stevens	MN	233.5	238.5	(5.00)	9,726
Kanabec	MN	233.5	238.5	(5.00)	16,239
Pine	MN	233.5	238.5	(5.00)	29,750
Beltrami	MN	228.5	238.5	(10.00)	44,442
Martin	MN	225.4	238.5	(13.10)	20,840
Cook	MN	223.5	238.5	(15.00)	5,176
Koochiching	MN	223.5	238.5	(15.00)	13,311
Itasca	MN	223.5	238.5	(15.00)	45,058
Clearwater	MN	218.5	238.5	(20.00)	8,695
Mahnomen	MN	203.5	238.5	(35.00)	5,413
Traverse	MN	156.0	238.5	(82.50)	3,558
Big Stone	MN	156.0	238.5	(82.50)	5,269
Yellow Medicine	MN	156.0	238.5	(82.50)	10,438
Lac qui Parle	MN	146.0	238.5	(92.50)	7,259
Polk	MN	146.0	238.5	(92.50)	31,600
Lake of the Woods	MN	136.0	238.5	(102.50)	4,045
Red Lake	MN	136.0	238.5	(102.50)	4,089
Kittson	MN	136.0	238.5	(102.50)	4,552
Marshall	MN	136.0	238.5	(102.50)	9,439
Pennington	MN	136.0	238.5	(102.50)	13,930
Roseau	MN	136.0	238.5	(102.50)	15,629

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Mississippi	2,967,297	2,337,934	78.8%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Benton	MS	310.5	238.5	72.00	8,729
DeSoto	MS	310.5	238.5	72.00	161,252
Tunica	MS	300.5	238.5	62.00	10,778
Tate	MS	300.5	238.5	62.00	28,886
Marshall	MS	300.5	238.5	62.00	37,144
Tishomingo	MS	300.2	238.5	61.70	19,593
Pearl River	MS	291.7	238.5	53.20	55,834
Jackson	MS	289.7	238.5	51.20	139,668
George	MS	279.7	238.5	41.20	22,578
Marion	MS	265.5	238.5	27.00	27,088
Greene	MS	263.3	238.5	24.80	14,400
Humphreys	MS	261.3	238.5	22.80	9,375
Jefferson Davis	MS	260.5	238.5	22.00	12,487
Clay	MS	260.5	238.5	22.00	20,634
Simpson	MS	260.5	238.5	22.00	27,503
Copiah	MS	260.5	238.5	22.00	29,449
Madison	MS	260.5	238.5	22.00	95,203
Rankin	MS	260.5	238.5	22.00	141,617
Hinds	MS	260.5	238.5	22.00	245,285
Covington	MS	255.5	238.5	17.00	19,568
Grenada	MS	255.5	238.5	17.00	21,906
Tippah	MS	255.5	238.5	17.00	22,232
Itawamba	MS	255.5	238.5	17.00	23,401
Prentiss	MS	255.5	238.5	17.00	25,276
Union	MS	255.5	238.5	17.00	27,134
Pontotoc	MS	255.5	238.5	17.00	29,957
Alcorn	MS	255.5	238.5	17.00	37,057
Lee	MS	255.5	238.5	17.00	82,910
Hancock	MS	254.1	238.5	15.60	43,929
Choctaw	MS	250.5	238.5	12.00	8,547
Webster	MS	250.5	238.5	12.00	10,253
Noxubee	MS	250.5	238.5	12.00	11,545
Clarke	MS	250.5	238.5	12.00	16,732
Winston	MS	250.5	238.5	12.00	19,198
Wayne	MS	250.5	238.5	12.00	20,747
Yazoo	MS	250.5	238.5	12.00	28,065
Oktibbeha	MS	250.5	238.5	12.00	47,671
Lowndes	MS	250.5	238.5	12.00	59,779
Wilkinson	MS	247.5	238.5	9.00	9,878
Sharkey	MS	246.3	238.5	7.80	4,916
Yalobusha	MS	246.3	238.5	7.80	12,678
Tallahatchie	MS	246.3	238.5	7.80	15,378
Washington	MS	246.3	238.5	7.80	51,137
Montgomery	MS	245.5	238.5	7.00	10,925
Perry	MS	245.5	238.5	7.00	12,250
Calhoun	MS	245.5	238.5	7.00	14,962

Jasper	MS	245.5	238.5	7.00	17,062
Chickasaw	MS	245.5	238.5	7.00	17,392
Monroe	MS	245.5	238.5	7.00	36,989
Lamar	MS	245.5	238.5	7.00	55,658
Jones	MS	245.5	238.5	7.00	67,761
Forrest	MS	245.5	238.5	7.00	74,934
Walthall	MS	242.2	238.5	3.70	15,443
Kemper	MS	240.5	238.5	2.00	10,456
Smith	MS	240.5	238.5	2.00	16,491
Holmes	MS	240.5	238.5	2.00	19,198
Attala	MS	240.5	238.5	2.00	19,564
Newton	MS	240.5	238.5	2.00	21,720
Leake	MS	240.5	238.5	2.00	23,805
Scott	MS	240.5	238.5	2.00	28,264
Neshoba	MS	240.5	238.5	2.00	29,676
Lauderdale	MS	240.5	238.5	2.00	80,261
Jefferson	MS	239.4	238.5	0.90	7,726
Quitman	MS	236.3	238.5	(2.20)	8,223
Sunflower	MS	236.3	238.5	(2.20)	29,450
Leflore	MS	236.3	238.5	(2.20)	32,317
Bolivar	MS	236.3	238.5	(2.20)	34,145
Panola	MS	236.3	238.5	(2.20)	34,707
Lafayette	MS	236.3	238.5	(2.20)	47,351
Carroll	MS	235.5	238.5	(3.00)	10,597
Stone	MS	235.5	238.5	(3.00)	17,786
Warren	MS	235.5	238.5	(3.00)	48,773
Harrison	MS	235.5	238.5	(3.00)	187,105
Issaquena	MS	229.3	238.5	(9.20)	1,406
Adams	MS	226.3	238.5	(12.20)	32,297
Franklin	MS	225.5	238.5	(13.00)	8,118
Claiborne	MS	225.5	238.5	(13.00)	9,604
Coahoma	MS	211.5	238.5	(27.00)	26,151
Lawrence	MS	188.0	238.5	(50.50)	12,929
Amite	MS	168.0	238.5	(70.50)	13,131
Lincoln	MS	168.0	238.5	(70.50)	34,869
Pike	MS	168.0	238.5	(70.50)	40,404

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Missouri	6,668,587	5,450,268	81.7%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Andrew	MO	337.8	238.5	99.30	17,291
Buchanan	MO	337.8	238.5	99.30	89,201
Ray	MO	332.5	238.5	94.00	23,494
Platte	MO	332.5	238.5	94.00	89,322
Cass	MO	332.5	238.5	94.00	99,478
Clay	MO	332.5	238.5	94.00	221,939
Jackson	MO	332.5	238.5	94.00	674,158
Carroll	MO	322.5	238.5	84.00	9,295
Caldwell	MO	322.5	238.5	84.00	9,424
Clinton	MO	322.5	238.5	84.00	20,743
McDonald	MO	322.5	238.5	84.00	23,083
Saline	MO	322.5	238.5	84.00	23,370
Lafayette	MO	322.5	238.5	84.00	33,381
Johnson	MO	322.5	238.5	84.00	52,595
Ste. Genevieve	MO	320.5	238.5	82.00	18,145
Washington	MO	320.5	238.5	82.00	25,195
Warren	MO	320.5	238.5	82.00	32,513
Lincoln	MO	320.5	238.5	82.00	52,566
Gentry	MO	312.5	238.5	74.00	6,738
Daviess	MO	312.5	238.5	74.00	8,433
DeKalb	MO	312.5	238.5	74.00	12,892
Benton	MO	312.5	238.5	74.00	19,056
Henry	MO	312.5	238.5	74.00	22,272
Nodaway	MO	312.5	238.5	74.00	23,370
Pettis	MO	312.5	238.5	74.00	42,201
Gasconade	MO	310.5	238.5	72.00	15,222
Franklin	MO	310.5	238.5	72.00	101,492
Jefferson	MO	310.5	238.5	72.00	218,733
St. Charles	MO	310.5	238.5	72.00	360,485
St. Louis	MO	310.5	238.5	72.00	998,954
St. Louis	MO	310.5	238.5	72.00	998,954
Harrison	MO	302.5	238.5	64.00	8,957
Montgomery	MO	300.5	238.5	62.00	12,236
Douglas	MO	300.5	238.5	62.00	13,684
Dallas	MO	300.5	238.5	62.00	16,777
Pike	MO	300.5	238.5	62.00	18,516
Polk	MO	300.5	238.5	62.00	31,137
Stone	MO	300.5	238.5	62.00	32,202
Taney	MO	300.5	238.5	62.00	51,675
Dunklin	MO	294.7	238.5	56.20	31,953
Ripley	MO	292.7	238.5	54.20	14,100
Barry	MO	291.8	238.5	53.30	35,597
Osage	MO	290.5	238.5	52.00	13,878
Callaway	MO	290.5	238.5	52.00	44,332
Pemiscot	MO	289.7	238.5	51.20	18,296
Mississippi	MO	284.9	238.5	46.40	14,358
Scott	MO	284.9	238.5	46.40	39,191
Cape Girardeau	MO	284.9	238.5	46.40	75,674
Webster	MO	284.0	238.5	45.50	36,202
Christian	MO	284.0	238.5	45.50	77,422

Greene	MO	284.0	238.5	45.50	275,174
Dade	MO	282.7	238.5	44.20	7,883
Audrain	MO	280.5	238.5	42.00	25,529
Bates	MO	276.9	238.5	38.40	17,049
New Madrid	MO	274.9	238.5	36.40	18,956
Lawrence	MO	274.0	238.5	35.50	38,634
Cooper	MO	264.9	238.5	26.40	17,601
Stoddard	MO	264.9	238.5	26.40	29,968
Bollinger	MO	249.3	238.5	10.80	12,363
Wright	MO	247.1	238.5	8.60	18,815
Newton	MO	247.1	238.5	8.60	58,114
Holt	MO	236.6	238.5	(1.90)	4,912
Livingston	MO	233.5	238.5	(5.00)	15,195
Madison	MO	231.5	238.5	(7.00)	12,226
Perry	MO	231.5	238.5	(7.00)	18,971
Crawford	MO	231.5	238.5	(7.00)	24,696
St. Francois	MO	231.5	238.5	(7.00)	65,359
Laclede	MO	229.3	238.5	(9.20)	35,571
Jasper	MO	229.3	238.5	(9.20)	117,404
Worth	MO	223.5	238.5	(15.00)	2,171
St. Clair	MO	223.5	238.5	(15.00)	9,805
Vernon	MO	223.5	238.5	(15.00)	21,159
Carter	MO	221.5	238.5	(17.00)	6,265
Reynolds	MO	221.5	238.5	(17.00)	6,696
Maries	MO	221.5	238.5	(17.00)	9,176
Iron	MO	221.5	238.5	(17.00)	10,630
Wayne	MO	221.5	238.5	(17.00)	13,521
Dent	MO	221.5	238.5	(17.00)	15,657
Morgan	MO	221.5	238.5	(17.00)	20,565
Phelps	MO	221.5	238.5	(17.00)	45,156
Pulaski	MO	221.5	238.5	(17.00)	52,274
Mercer	MO	213.5	238.5	(25.00)	3,785
Chariton	MO	213.5	238.5	(25.00)	7,831
Grundy	MO	213.5	238.5	(25.00)	10,261
Linn	MO	213.5	238.5	(25.00)	12,761
Clark	MO	211.5	238.5	(27.00)	7,139
Hickory	MO	211.5	238.5	(27.00)	9,627
Barton	MO	211.5	238.5	(27.00)	12,402
Miller	MO	211.5	238.5	(27.00)	24,748
Texas	MO	211.5	238.5	(27.00)	26,008
Butler	MO	211.5	238.5	(27.00)	42,794
Camden	MO	211.5	238.5	(27.00)	44,002
Cedar	MO	203.5	238.5	(35.00)	13,982
Macon	MO	203.5	238.5	(35.00)	15,566
Howard	MO	201.5	238.5	(37.00)	10,144
Moniteau	MO	201.5	238.5	(37.00)	15,607
Cole	MO	201.5	238.5	(37.00)	75,990
Boone	MO	201.5	238.5	(37.00)	162,642
Putnam	MO	193.5	238.5	(45.00)	4,979
Sullivan	MO	193.5	238.5	(45.00)	6,714
Atchison	MO	191.5	238.5	(47.00)	5,685
Monroe	MO	191.5	238.5	(47.00)	8,840
Randolph	MO	191.5	238.5	(47.00)	25,414
Ralls	MO	186.3	238.5	(52.20)	10,167
Shelby	MO	181.5	238.5	(57.00)	6,373
Lewis	MO	181.5	238.5	(57.00)	10,211
Marion	MO	171.5	238.5	(67.00)	28,781
Knox	MO	152.0	238.5	(86.50)	4,131
Shannon	MO	144.0	238.5	(94.50)	8,441
Ozark	MO	144.0	238.5	(94.50)	9,723
Oregon	MO	144.0	238.5	(94.50)	10,881

Howell	MO	144.0	238.5	(94.50)	40,400
Schuyler	MO	142.0	238.5	(96.50)	4,431
Adair	MO	142.0	238.5	(96.50)	25,607
Scotland	MO	140.0	238.5	(98.50)	4,843

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Montana	989,415	-	0.0%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Flathead	MT	233.5	238.5	(5.00)	90,928
Granite	MT	229.2	238.5	(9.30)	3,079
Mineral	MT	229.2	238.5	(9.30)	4,223
Ravalli	MT	229.2	238.5	(9.30)	40,212
Missoula	MT	229.2	238.5	(9.30)	109,299
Lewis and Clark	MT	225.5	238.5	(13.00)	63,395
Lincoln	MT	223.5	238.5	(15.00)	19,687
Lake	MT	217.2	238.5	(21.30)	28,746
Wheatland	MT	213.5	238.5	(25.00)	2,168
Broadwater	MT	213.5	238.5	(25.00)	5,612
Jefferson	MT	213.5	238.5	(25.00)	11,406
Garfield	MT	208.5	238.5	(30.00)	1,206
Valley	MT	208.5	238.5	(30.00)	7,369
Petroleum	MT	203.5	238.5	(35.00)	494
Golden Valley	MT	203.5	238.5	(35.00)	884
Carter	MT	203.5	238.5	(35.00)	1,160
McCone	MT	203.5	238.5	(35.00)	1,734
Powder River	MT	203.5	238.5	(35.00)	1,743
Daniels	MT	203.5	238.5	(35.00)	1,751
Fallon	MT	203.5	238.5	(35.00)	2,890
Sheridan	MT	203.5	238.5	(35.00)	3,384
Musselshell	MT	203.5	238.5	(35.00)	4,538
Richland	MT	203.5	238.5	(35.00)	9,746
Roosevelt	MT	203.5	238.5	(35.00)	10,425
Judith Basin	MT	199.4	238.5	(39.10)	2,072
Cascade	MT	199.4	238.5	(39.10)	81,327
Treasure	MT	193.5	238.5	(45.00)	718
Prairie	MT	193.5	238.5	(45.00)	1,179
Sweet Grass	MT	193.5	238.5	(45.00)	3,651
Dawson	MT	193.5	238.5	(45.00)	8,966
Stillwater	MT	193.5	238.5	(45.00)	9,117
Rosebud	MT	193.5	238.5	(45.00)	9,233
Carbon	MT	193.5	238.5	(45.00)	10,078
Custer	MT	193.5	238.5	(45.00)	11,699
Big Horn	MT	193.5	238.5	(45.00)	12,865
Park	MT	191.6	238.5	(46.90)	15,636
Gallatin	MT	191.6	238.5	(46.90)	89,513
Chouteau	MT	189.4	238.5	(49.10)	5,813
Teton	MT	189.4	238.5	(49.10)	6,073
Wibaux	MT	183.5	238.5	(55.00)	1,017
Beaverhead	MT	166.0	238.5	(72.50)	9,246
Powell	MT	158.0	238.5	(80.50)	7,027
Sanders	MT	156.0	238.5	(82.50)	11,413
Phillips	MT	151.0	238.5	(87.50)	4,253
Yellowstone	MT	147.5	238.5	(91.00)	147,972
Meagher	MT	146.0	238.5	(92.50)	1,891
Liberty	MT	146.0	238.5	(92.50)	2,339
Blaine	MT	146.0	238.5	(92.50)	6,491
Madison	MT	146.0	238.5	(92.50)	7,691
Deer Lodge	MT	146.0	238.5	(92.50)	9,298

Glacier	MT	146.0	238.5	(92.50)	13,399
Silver Bow	MT	146.0	238.5	(92.50)	34,200
Toole	MT	136.0	238.5	(102.50)	5,324
Pondera	MT	136.0	238.5	(102.50)	6,153
Fergus	MT	136.0	238.5	(102.50)	11,586
Hill	MT	136.0	238.5	(102.50)	16,096

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Nebraska	1,826,341	779,851	42.7%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
York	NE	270.5	238.5	32.00	13,665
Sarpy	NE	266.2	238.5	27.70	158,840
Douglas	NE	266.2	238.5	27.70	517,110
Seward	NE	248.4	238.5	9.90	16,750
Nuckolls	NE	246.7	238.5	8.20	4,500
Clay	NE	246.7	238.5	8.20	6,542
Cass	NE	245.3	238.5	6.80	25,241
Washington	NE	244.9	238.5	6.40	20,234
Merrick	NE	242.0	238.5	3.50	7,845
Hamilton	NE	242.0	238.5	3.50	9,124
Cedar	NE	236.9	238.5	(1.60)	8,852
Saunders	NE	236.2	238.5	(2.30)	20,780
Lancaster	NE	231.9	238.5	(6.60)	285,407
Otoe	NE	226.2	238.5	(12.30)	15,740
Dodge	NE	226.2	238.5	(12.30)	36,691
Webster	NE	224.2	238.5	(14.30)	3,812
Howard	NE	224.2	238.5	(14.30)	6,274
Adams	NE	224.2	238.5	(14.30)	31,364
Buffalo	NE	224.2	238.5	(14.30)	46,102
Hall	NE	224.2	238.5	(14.30)	58,607
Saline	NE	221.9	238.5	(16.60)	14,200
Gage	NE	221.9	238.5	(16.60)	22,311
Burt	NE	219.3	238.5	(19.20)	6,858
Johnson	NE	212.8	238.5	(25.70)	5,217
Dawson	NE	208.4	238.5	(30.10)	24,326
Polk	NE	208.0	238.5	(30.50)	5,406
Boone	NE	208.0	238.5	(30.50)	5,505
Butler	NE	208.0	238.5	(30.50)	8,395
Colfax	NE	208.0	238.5	(30.50)	10,515
Platte	NE	208.0	238.5	(30.50)	32,237
Franklin	NE	204.2	238.5	(34.30)	3,225
Kearney	NE	204.2	238.5	(34.30)	6,489
Cherry	NE	193.5	238.5	(45.00)	5,713
Banner	NE	192.1	238.5	(46.40)	690
Sioux	NE	192.1	238.5	(46.40)	1,311
Morrill	NE	192.1	238.5	(46.40)	5,042
Scotts Bluff	NE	192.1	238.5	(46.40)	36,970
Stanton	NE	191.5	238.5	(47.00)	6,129
Antelope	NE	191.5	238.5	(47.00)	6,685
Pierce	NE	191.5	238.5	(47.00)	7,266
Cuming	NE	191.5	238.5	(47.00)	9,139
Wayne	NE	191.5	238.5	(47.00)	9,595
Madison	NE	191.5	238.5	(47.00)	34,876
Knox	NE	183.5	238.5	(55.00)	8,701
Arthur	NE	181.5	238.5	(57.00)	460
Blaine	NE	181.5	238.5	(57.00)	478
McPherson	NE	181.5	238.5	(57.00)	539
Thomas	NE	181.5	238.5	(57.00)	647
Hooker	NE	181.5	238.5	(57.00)	736
Keya Paha	NE	181.5	238.5	(57.00)	824

Rock	NE	181.5	238.5	(57.00)	1,526
Boyd	NE	181.5	238.5	(57.00)	2,099
Pawnee	NE	181.5	238.5	(57.00)	2,773
Perkins	NE	181.5	238.5	(57.00)	2,970
Brown	NE	181.5	238.5	(57.00)	3,145
Thayer	NE	181.5	238.5	(57.00)	5,228
Fillmore	NE	181.5	238.5	(57.00)	5,890
Jefferson	NE	181.5	238.5	(57.00)	7,547
Keith	NE	181.5	238.5	(57.00)	8,368
Holt	NE	181.5	238.5	(57.00)	10,435
Nemaha	NE	171.5	238.5	(67.00)	7,248
Richardson	NE	171.5	238.5	(67.00)	8,363
Sherman	NE	167.4	238.5	(71.10)	3,152
Custer	NE	167.4	238.5	(71.10)	10,939
Nance	NE	157.0	238.5	(81.50)	3,735
Kimball	NE	156.5	238.5	(82.00)	3,821
Frontier	NE	153.4	238.5	(85.10)	2,756
Gosper	NE	147.4	238.5	(91.10)	2,044
Harlan	NE	147.4	238.5	(91.10)	3,423
Phelps	NE	147.4	238.5	(91.10)	9,188
Grant	NE	136.0	238.5	(102.50)	614
Sheridan	NE	136.0	238.5	(102.50)	5,469
Dawes	NE	134.0	238.5	(104.50)	9,182
Cheyenne	NE	134.0	238.5	(104.50)	9,998
Box Butte	NE	134.0	238.5	(104.50)	11,308
Dundy	NE	126.0	238.5	(112.50)	2,008
Garden	NE	124.0	238.5	(114.50)	2,057
Logan	NE	120.0	238.5	(118.50)	763
Deuel	NE	120.0	238.5	(118.50)	1,941
Lincoln	NE	120.0	238.5	(118.50)	36,288
Dakota	NE	119.0	238.5	(119.50)	21,006
Loup	NE	114.0	238.5	(124.50)	632
Wheeler	NE	114.0	238.5	(124.50)	818
Garfield	NE	114.0	238.5	(124.50)	2,049
Greeley	NE	114.0	238.5	(124.50)	2,538
Chase	NE	114.0	238.5	(124.50)	3,966
Valley	NE	114.0	238.5	(124.50)	4,260
Dixon	NE	99.0	238.5	(139.50)	6,000
Thurston	NE	99.0	238.5	(139.50)	6,940
Hayes	NE	94.0	238.5	(144.50)	967
Hitchcock	NE	94.0	238.5	(144.50)	2,908
Furnas	NE	94.0	238.5	(144.50)	4,959
Red Willow	NE	94.0	238.5	(144.50)	11,055

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Nevada	2,700,551	2,639,859	97.8%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Storey	NV	332.5	238.5	94.00	4,010
Douglas	NV	332.5	238.5	94.00	46,997
Lyon	NV	332.5	238.5	94.00	51,980
Carson City	NV	332.5	238.5	94.00	55,274
Washoe	NV	332.5	238.5	94.00	421,407
Clark	NV	310.5	238.5	72.00	1,951,269
Nye	NV	261.3	238.5	22.80	43,946
Lincoln	NV	253.5	238.5	15.00	5,345
Esmeralda	NV	243.5	238.5	5.00	783
White Pine	NV	243.5	238.5	5.00	10,030
Elko	NV	243.5	238.5	5.00	48,818
Eureka	NV	233.5	238.5	(5.00)	1,987
Lander	NV	233.5	238.5	(5.00)	5,775
Churchill	NV	233.5	238.5	(5.00)	24,877
Mineral	NV	223.5	238.5	(15.00)	4,772
Pershing	NV	223.5	238.5	(15.00)	6,753
Humboldt	NV	223.5	238.5	(15.00)	16,528

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
New Jersey	8,791,894	8,791,894	100.0%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Salem	NJ	322.5	238.5	84.00	66,083
Gloucester	NJ	322.5	238.5	84.00	288,288
Burlington	NJ	322.5	238.5	84.00	448,734
Camden	NJ	322.5	238.5	84.00	513,657
Hunterdon	NJ	312.5	238.5	74.00	128,349
Mercer	NJ	312.5	238.5	74.00	366,513
Cape May	NJ	304.7	238.5	66.20	97,265
Atlantic	NJ	304.7	238.5	66.20	274,549
Cumberland	NJ	294.7	238.5	56.20	156,898
Somerset	NJ	290.0	238.5	51.50	323,444
Morris	NJ	290.0	238.5	51.50	492,276
Passaic	NJ	290.0	238.5	51.50	501,226
Monmouth	NJ	290.0	238.5	51.50	630,380
Hudson	NJ	290.0	238.5	51.50	634,266
Essex	NJ	290.0	238.5	51.50	783,969
Middlesex	NJ	290.0	238.5	51.50	809,858
Bergen	NJ	290.0	238.5	51.50	905,116
Ocean	NJ	284.7	238.5	46.20	576,567
Warren	NJ	270.4	238.5	31.90	108,692
Union	NJ	267.5	238.5	29.00	536,499
Sussex	NJ	254.8	238.5	16.30	149,265

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
New Hampshire	1,316,470	979,594	74.4%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Hillsborough	NH	333.0	238.5	94.50	400,721
Rockingham	NH	323.0	238.5	84.50	295,223
Merrimack	NH	312.5	238.5	74.00	146,445
Cheshire	NH	286.5	238.5	48.00	77,117
Belknap	NH	241.3	238.5	2.80	60,088
Sullivan	NH	235.0	238.5	(3.50)	43,742
Strafford	NH	231.3	238.5	(7.20)	123,143
Grafton	NH	217.2	238.5	(21.30)	89,118
Carroll	NH	213.5	238.5	(25.00)	47,818
Coos	NH	201.3	238.5	(37.20)	33,055

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
New Mexico	2,059,179	1,395,410	67.8%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Dona Ana	NM	300.9	238.5	62.40	209,233
Santa Fe	NM	300.5	238.5	62.00	144,170
Sandoval	NM	291.5	238.5	53.00	131,561
Bernalillo	NM	291.5	238.5	53.00	662,564
Otero	NM	286.9	238.5	48.40	63,797
Torrance	NM	271.5	238.5	33.00	16,383
Valencia	NM	271.5	238.5	33.00	76,569
Taos	NM	247.1	238.5	8.60	32,937
Rio Arriba	NM	247.1	238.5	8.60	40,246
Los Alamos	NM	242.4	238.5	3.90	17,950
Mora	NM	206.1	238.5	(32.40)	4,881
San Miguel	NM	196.1	238.5	(42.40)	29,393
Guadalupe	NM	179.6	238.5	(58.90)	4,687
Colfax	NM	176.0	238.5	(62.50)	13,750
Catron	NM	166.0	238.5	(72.50)	3,725
Union	NM	166.0	238.5	(72.50)	4,549
Sierra	NM	166.0	238.5	(72.50)	11,988
Socorro	NM	166.0	238.5	(72.50)	17,866
Eddy	NM	159.6	238.5	(78.90)	53,829
Harding	NM	156.0	238.5	(82.50)	695
Hidalgo	NM	156.0	238.5	(82.50)	4,894
Quay	NM	156.0	238.5	(82.50)	9,041
Lincoln	NM	156.0	238.5	(82.50)	20,497
Cibola	NM	156.0	238.5	(82.50)	27,213
Grant	NM	156.0	238.5	(82.50)	29,514
McKinley	NM	156.0	238.5	(82.50)	71,492
San Juan	NM	153.8	238.5	(84.70)	130,044
Luna	NM	153.0	238.5	(85.50)	25,095
De Baca	NM	146.0	238.5	(92.50)	2,022
Roosevelt	NM	146.0	238.5	(92.50)	19,846
Curry	NM	146.0	238.5	(92.50)	48,376
Lea	NM	144.0	238.5	(94.50)	64,727
Chaves	NM	136.0	238.5	(102.50)	65,645

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
New York	19,378,102.00	18,887,395.00	97.5%

Name

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Seneca	NY	342.5	238.5	104.00	35,251
Yates	NY	342.5	238.5	104.00	25,348
Albany	NY	332.5	238.5	94.00	304,204
Erie	NY	332.5	238.5	94.00	919,040
Livingston	NY	332.5	238.5	94.00	65,393
Monroe	NY	332.5	238.5	94.00	744,344
Niagara	NY	332.5	238.5	94.00	216,469
Ontario	NY	332.5	238.5	94.00	107,931
Orleans	NY	332.5	238.5	94.00	42,883
Rensselaer	NY	332.5	238.5	94.00	159,429
Saratoga	NY	332.5	238.5	94.00	219,607
Schenectady	NY	332.5	238.5	94.00	154,727
Wayne	NY	332.5	238.5	94.00	93,772
Montgomery	NY	328.2	238.5	89.70	50,219
Cayuga	NY	322.5	238.5	84.00	80,026
Chenango	NY	322.5	238.5	84.00	50,477
Cortland	NY	322.5	238.5	84.00	49,336
Madison	NY	322.5	238.5	84.00	73,442
Onondaga	NY	322.5	238.5	84.00	467,026
Oswego	NY	322.5	238.5	84.00	122,109
Schoharie	NY	322.5	238.5	84.00	32,749
Tompkins	NY	322.5	238.5	84.00	101,564
Fulton	NY	318.2	238.5	79.70	55,531
Columbia	NY	312.5	238.5	74.00	63,096
Genesee	NY	312.5	238.5	74.00	60,079
Greene	NY	312.5	238.5	74.00	49,221
Suffolk	NY	312.5	238.5	74.00	1,493,350
Tioga	NY	312.5	238.5	74.00	51,125
Wyoming	NY	302.5	238.5	64.00	42,155
Nassau	NY	299.5	238.5	61.00	1,339,532
Broome	NY	294.7	238.5	56.20	200,600
Bronx	NY	290.0	238.5	51.50	1,385,108
Kings	NY	290.0	238.5	51.50	2,504,700
New York	NY	290.0	238.5	51.50	1,585,873
Queens	NY	290.0	238.5	51.50	2,230,722
Delaware	NY	284.7	238.5	46.20	47,980
Putnam	NY	280.9	238.5	42.40	99,710
Oneida	NY	276.9	238.5	38.40	234,878
Orange	NY	273.1	238.5	34.60	372,813
Westchester	NY	272.2	238.5	33.70	949,113
Schuyler	NY	269.1	238.5	30.60	18,343
Lewis	NY	267.8	238.5	29.30	27,087
Richmond	NY	267.5	238.5	29.00	468,730
Rockland	NY	267.5	238.5	29.00	311,687
Dutchess	NY	260.9	238.5	22.40	297,488
Herkimer	NY	259.1	238.5	20.60	64,519
Ulster	NY	257.8	238.5	19.30	182,493
St. Lawrence	NY	254.4	238.5	15.90	111,944

New York

19,378,102.00	18,887,395.00	97.5%
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Name		CALCULATIONS			
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Jefferson	NY	250.0	238.5	11.50	116,229
Chemung	NY	249.1	238.5	10.60	88,830
Otsego	NY	249.1	238.5	10.60	62,259
Sullivan	NY	247.8	238.5	9.30	77,547
Cattaraugus	NY	247.0	238.5	8.50	80,317
Steuben	NY	239.1	238.5	0.60	98,990
Chautauqua	NY	237.0	238.5	(1.50)	134,905
Allegany	NY	233.5	238.5	(5.00)	48,946
Hamilton	NY	233.5	238.5	(5.00)	4,836
Warren	NY	233.5	238.5	(5.00)	65,707
Washington	NY	233.5	238.5	(5.00)	63,216
Franklin	NY	205.9	238.5	(32.60)	51,599
Clinton	NY	172.7	238.5	(65.80)	82,128
Essex	NY	168.3	238.5	(70.20)	39,370

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
North Carolina	9,535,483	9,006,061	94.4%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Polk	NC	332.5	238.5	94.00	20,510
Davidson	NC	314.0	238.5	75.50	162,878
Cumberland	NC	313.5	238.5	75.00	319,431
Anson	NC	312.5	238.5	74.00	26,948
Stanly	NC	312.5	238.5	74.00	60,585
Lincoln	NC	312.5	238.5	74.00	78,265
Cleveland	NC	312.5	238.5	74.00	98,078
Rowan	NC	312.5	238.5	74.00	138,428
Iredell	NC	312.5	238.5	74.00	159,437
Currituck	NC	308.3	238.5	69.80	23,547
Cabarrus	NC	307.8	238.5	69.30	178,011
Stokes	NC	304.0	238.5	65.50	47,401
Randolph	NC	304.0	238.5	65.50	141,752
Forsyth	NC	304.0	238.5	65.50	350,670
Guilford	NC	304.0	238.5	65.50	488,406
Alamance	NC	302.5	238.5	64.00	151,131
Orange	NC	300.5	238.5	62.00	133,801
Union	NC	300.5	238.5	62.00	201,292
Gaston	NC	300.5	238.5	62.00	206,086
Camden	NC	298.3	238.5	59.80	9,980
Gates	NC	298.3	238.5	59.80	12,197
Pasquotank	NC	298.3	238.5	59.80	40,661
Rutherford	NC	297.8	238.5	59.30	67,810
Mecklenburg	NC	295.8	238.5	57.30	919,628
Durham	NC	291.0	238.5	52.50	267,587
Wake	NC	291.0	238.5	52.50	900,993
Chatham	NC	290.5	238.5	52.00	63,505
Bladen	NC	288.3	238.5	49.80	35,190
Robeson	NC	288.3	238.5	49.80	134,168
Bertie	NC	287.8	238.5	49.30	21,282
Lee	NC	285.8	238.5	47.30	57,866
Catawba	NC	285.8	238.5	47.30	154,358
Hertford	NC	285.2	238.5	46.70	24,669
Hoke	NC	283.5	238.5	45.00	46,952
Sampson	NC	281.5	238.5	43.00	63,431
Greene	NC	281.0	238.5	42.50	21,362
Lenoir	NC	281.0	238.5	42.50	59,495
Harnett	NC	281.0	238.5	42.50	114,678
Wayne	NC	281.0	238.5	42.50	122,623
Nash	NC	280.5	238.5	42.00	95,840
Caswell	NC	280.0	238.5	41.50	23,719
Richmond	NC	277.4	238.5	38.90	46,639
Alexander	NC	276.3	238.5	37.80	37,198
Burke	NC	276.3	238.5	37.80	90,912
Rockingham	NC	276.0	238.5	37.50	93,643
McDowell	NC	275.8	238.5	37.30	44,996

Vance	NC	275.8	238.5	37.30	45,422
Edgecombe	NC	275.8	238.5	37.30	56,552
Franklin	NC	275.8	238.5	37.30	60,619
Wilson	NC	275.8	238.5	37.30	81,234
Scotland	NC	272.7	238.5	34.20	36,157
Moore	NC	271.4	238.5	32.90	88,247
Yancey	NC	271.0	238.5	32.50	17,818
Martin	NC	271.0	238.5	32.50	24,505
Beaufort	NC	271.0	238.5	32.50	47,759
Granville	NC	271.0	238.5	32.50	59,916
Pitt	NC	271.0	238.5	32.50	168,148
Transylvania	NC	270.5	238.5	32.00	33,090
Henderson	NC	270.5	238.5	32.00	106,740
Johnston	NC	263.2	238.5	24.70	168,878
Swain	NC	261.0	238.5	22.50	13,981
Madison	NC	261.0	238.5	22.50	20,764
Haywood	NC	261.0	238.5	22.50	59,036
Buncombe	NC	261.0	238.5	22.50	238,318
Jackson	NC	260.2	238.5	21.70	40,271
Pender	NC	258.0	238.5	19.50	52,217
Columbus	NC	258.0	238.5	19.50	58,098
Caldwell	NC	256.3	238.5	17.80	83,029
Perquimans	NC	254.4	238.5	15.90	13,453
Chowan	NC	254.4	238.5	15.90	14,793
Brunswick	NC	253.2	238.5	14.70	107,431
New Hanover	NC	253.2	238.5	14.70	202,667
Warren	NC	248.5	238.5	10.00	20,972
Northampton	NC	248.5	238.5	10.00	22,099
Halifax	NC	248.5	238.5	10.00	54,691
Duplin	NC	245.4	238.5	6.90	58,505
Onslow	NC	245.4	238.5	6.90	177,772
Jones	NC	243.2	238.5	4.70	10,153
Craven	NC	243.2	238.5	4.70	103,505
Dare	NC	242.4	238.5	3.90	33,920
Person	NC	240.2	238.5	1.70	39,464
Montgomery	NC	239.6	238.5	1.10	27,798
Davie	NC	230.7	238.5	(7.80)	41,240
Yadkin	NC	228.7	238.5	(9.80)	38,406
Mitchell	NC	227.1	238.5	(11.40)	15,579
Avery	NC	227.1	238.5	(11.40)	17,797
Carteret	NC	225.4	238.5	(13.10)	66,469
Tyrrell	NC	222.4	238.5	(16.10)	4,407
Washington	NC	222.4	238.5	(16.10)	13,228
Wilkes	NC	210.8	238.5	(27.70)	69,340
Watauga	NC	208.8	238.5	(29.70)	51,079
Pamlico	NC	207.6	238.5	(30.90)	13,144
Graham	NC	202.7	238.5	(35.80)	8,861
Clay	NC	202.7	238.5	(35.80)	10,587
Cherokee	NC	202.7	238.5	(35.80)	27,444
Macon	NC	202.7	238.5	(35.80)	33,922
Hyde	NC	191.5	238.5	(47.00)	5,810
Surry	NC	190.7	238.5	(47.80)	73,673
Ashe	NC	151.8	238.5	(86.70)	27,281
Alleghany	NC	134.0	238.5	(104.50)	11,155

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
North Dakota	672,591	281,283	41.8%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Kidder	ND	274.0	238.5	35.50	2,435
Morton	ND	271.1	238.5	32.60	27,471
Burleigh	ND	271.1	238.5	32.60	81,308
Traill	ND	249.1	238.5	10.60	8,121
Cass	ND	249.1	238.5	10.60	149,778
Logan	ND	247.5	238.5	9.00	1,990
McIntosh	ND	247.5	238.5	9.00	2,809
Emmons	ND	247.5	238.5	9.00	3,550
Oliver	ND	239.1	238.5	0.60	1,846
Steele	ND	239.1	238.5	0.60	1,975
Sheridan	ND	233.5	238.5	(5.00)	1,321
Richland	ND	229.1	238.5	(9.40)	16,321
Wells	ND	227.5	238.5	(11.00)	4,207
Adams	ND	223.5	238.5	(15.00)	2,343
Eddy	ND	223.5	238.5	(15.00)	2,385
Foster	ND	223.5	238.5	(15.00)	3,343
Stutsman	ND	223.5	238.5	(15.00)	21,100
McLean	ND	216.6	238.5	(21.90)	8,962
Grant	ND	203.5	238.5	(35.00)	2,394
Mercer	ND	203.5	238.5	(35.00)	8,424
Griggs	ND	193.5	238.5	(45.00)	2,420
Sargent	ND	193.5	238.5	(45.00)	3,829
LaMoure	ND	193.5	238.5	(45.00)	4,139
Dickey	ND	193.5	238.5	(45.00)	5,289
Ransom	ND	193.5	238.5	(45.00)	5,457
Barnes	ND	193.5	238.5	(45.00)	11,066
Sioux	ND	171.5	238.5	(67.00)	4,153
Pierce	ND	146.0	238.5	(92.50)	4,357
Rolette	ND	146.0	238.5	(92.50)	13,937
Grand Forks	ND	146.0	238.5	(92.50)	66,861
Towner	ND	136.0	238.5	(102.50)	2,246
Renville	ND	136.0	238.5	(102.50)	2,470
Nelson	ND	136.0	238.5	(102.50)	3,126
Cavalier	ND	136.0	238.5	(102.50)	3,993
McHenry	ND	136.0	238.5	(102.50)	5,395
Bottineau	ND	136.0	238.5	(102.50)	6,429
Benson	ND	136.0	238.5	(102.50)	6,660
Pembina	ND	136.0	238.5	(102.50)	7,413
Walsh	ND	136.0	238.5	(102.50)	11,119
Ramsey	ND	136.0	238.5	(102.50)	11,451
Ward	ND	136.0	238.5	(102.50)	61,675
Slope	ND	126.0	238.5	(112.50)	727
Billings	ND	126.0	238.5	(112.50)	783
Golden Valley	ND	126.0	238.5	(112.50)	1,680
Hettinger	ND	126.0	238.5	(112.50)	2,477
Bowman	ND	126.0	238.5	(112.50)	3,151
Stark	ND	126.0	238.5	(112.50)	24,199
Burke	ND	124.0	238.5	(114.50)	1,968
Divide	ND	124.0	238.5	(114.50)	2,071
McKenzie	ND	124.0	238.5	(114.50)	6,360

Mountrail	ND	124.0	238.5	(114.50)	7,673
Williams	ND	124.0	238.5	(114.50)	22,398
Dunn	ND	114.0	238.5	(124.50)	3,536

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Ohio	11,536,504	10,738,473	93.1%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Sandusky	OH	354.5	238.5	116.00	60,944
Ottawa	OH	342.5	238.5	104.00	41,428
Fulton	OH	342.5	238.5	104.00	42,698
Jefferson	OH	342.5	238.5	104.00	69,709
Wood	OH	342.5	238.5	104.00	125,488
Lucas	OH	342.5	238.5	104.00	441,815
Erie	OH	335.4	238.5	96.90	77,079
Van Wert	OH	332.5	238.5	94.00	28,744
Fayette	OH	332.5	238.5	94.00	29,030
Preble	OH	332.5	238.5	94.00	42,270
Madison	OH	332.5	238.5	94.00	43,435
Union	OH	332.5	238.5	94.00	52,300
Pickaway	OH	332.5	238.5	94.00	55,698
Knox	OH	332.5	238.5	94.00	60,921
Geauga	OH	332.5	238.5	94.00	93,389
Miami	OH	332.5	238.5	94.00	102,506
Fairfield	OH	332.5	238.5	94.00	146,156
Portage	OH	332.5	238.5	94.00	161,419
Licking	OH	332.5	238.5	94.00	166,492
Medina	OH	332.5	238.5	94.00	172,332
Delaware	OH	332.5	238.5	94.00	174,214
Lake	OH	332.5	238.5	94.00	230,041
Montgomery	OH	332.5	238.5	94.00	535,153
Summit	OH	332.5	238.5	94.00	541,781
Franklin	OH	332.5	238.5	94.00	1,163,414
Cuyahoga	OH	327.8	238.5	89.30	1,280,122
Perry	OH	327.5	238.5	89.00	36,058
Lorain	OH	323.4	238.5	84.90	301,356
Paulding	OH	322.5	238.5	84.00	19,614
Henry	OH	322.5	238.5	84.00	28,215
Carroll	OH	322.5	238.5	84.00	28,836
Williams	OH	322.5	238.5	84.00	37,642
Defiance	OH	322.5	238.5	84.00	39,037
Champaign	OH	322.5	238.5	84.00	40,097
Wayne	OH	322.5	238.5	84.00	114,520
Clark	OH	322.5	238.5	84.00	138,333
Stark	OH	322.5	238.5	84.00	375,586
Hardin	OH	314.7	238.5	76.20	32,058
Greene	OH	314.7	238.5	76.20	161,573
Morrow	OH	312.5	238.5	74.00	34,827
Darke	OH	312.5	238.5	74.00	52,959
Tuscarawas	OH	312.5	238.5	74.00	92,582
Trumbull	OH	312.5	238.5	74.00	210,312
Mahoning	OH	312.5	238.5	74.00	238,823
Butler	OH	312.5	238.5	74.00	368,130
Huron	OH	308.9	238.5	70.40	59,626
Holmes	OH	304.7	238.5	66.20	42,366
Hancock	OH	304.7	238.5	66.20	74,782
Clermont	OH	302.5	238.5	64.00	197,363
Warren	OH	302.5	238.5	64.00	212,693

Hamilton	OH	302.5	238.5	64.00	802,374
Putnam	OH	296.9	238.5	58.40	34,499
Crawford	OH	296.9	238.5	58.40	43,784
Richland	OH	296.9	238.5	58.40	124,475
Seneca	OH	295.6	238.5	57.10	56,745
Ashland	OH	294.7	238.5	56.20	53,139
Wyandot	OH	286.9	238.5	48.40	22,615
Clinton	OH	284.7	238.5	46.20	42,040
Brown	OH	284.7	238.5	46.20	44,846
Pike	OH	284.1	238.5	45.60	28,709
Ross	OH	284.1	238.5	45.60	78,064
Columbiana	OH	281.0	238.5	42.50	107,841
Logan	OH	276.9	238.5	38.40	45,858
Jackson	OH	274.1	238.5	35.60	33,225
Scioto	OH	269.1	238.5	30.60	79,499
Ashtabula	OH	266.9	238.5	28.40	101,497
Adams	OH	249.1	238.5	10.60	28,550
Highland	OH	249.1	238.5	10.60	43,589
Hocking	OH	243.5	238.5	5.00	29,380
Washington	OH	241.5	238.5	3.00	61,778
Vinton	OH	238.5	238.5	-	13,435
Morgan	OH	238.5	238.5	-	15,054
Guernsey	OH	238.5	238.5	-	40,087
Athens	OH	238.5	238.5	-	64,757
Muskingum	OH	238.5	238.5	-	86,074
Auglaize	OH	229.4	238.5	(9.10)	45,949
Marion	OH	229.4	238.5	(9.10)	66,501
Allen	OH	229.4	238.5	(9.10)	106,331
Noble	OH	228.5	238.5	(10.00)	14,645
Meigs	OH	226.5	238.5	(12.00)	23,770
Coshocton	OH	223.5	238.5	(15.00)	36,901
Monroe	OH	218.5	238.5	(20.00)	14,642
Gallia	OH	211.5	238.5	(27.00)	30,934
Lawrence	OH	211.5	238.5	(27.00)	62,450
Shelby	OH	209.4	238.5	(29.10)	49,423
Mercer	OH	199.4	238.5	(39.10)	40,814
Harrison	OH	186.0	238.5	(52.50)	15,864
Belmont	OH	186.0	238.5	(52.50)	70,400

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Oklahoma	3,751,351	3,340,385	89.0%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Noble	OK	330.5	238.5	92.00	11,561
Lincoln	OK	310.5	238.5	72.00	34,273
Logan	OK	310.5	238.5	72.00	41,848
Payne	OK	307.2	238.5	68.70	77,350
Delaware	OK	302.5	238.5	64.00	41,487
McClain	OK	300.5	238.5	62.00	34,506
Osage	OK	300.5	238.5	62.00	47,472
Grady	OK	300.5	238.5	62.00	52,431
Pottawatomie	OK	300.5	238.5	62.00	69,442
Creek	OK	300.5	238.5	62.00	69,967
Wagoner	OK	300.5	238.5	62.00	73,085
Rogers	OK	300.5	238.5	62.00	86,905
Canadian	OK	300.5	238.5	62.00	115,541
Cleveland	OK	300.5	238.5	62.00	255,755
Tulsa	OK	300.5	238.5	62.00	603,403
Oklahoma	OK	300.5	238.5	62.00	718,633
Adair	OK	297.5	238.5	59.00	22,683
Pawnee	OK	295.0	238.5	56.50	16,577
Kingfisher	OK	290.5	238.5	52.00	15,034
Washington	OK	285.5	238.5	47.00	50,976
Grant	OK	284.9	238.5	46.40	4,527
Major	OK	282.7	238.5	44.20	7,527
Johnston	OK	280.5	238.5	42.00	10,957
Murray	OK	280.5	238.5	42.00	13,488
Hughes	OK	280.5	238.5	42.00	14,003
Seminole	OK	280.5	238.5	42.00	25,482
Garvin	OK	280.5	238.5	42.00	27,576
Okmulgee	OK	280.5	238.5	42.00	40,069
Kay	OK	277.1	238.5	38.60	46,562
Garfield	OK	274.9	238.5	36.40	60,580
Muskogee	OK	269.9	238.5	31.40	70,990
McIntosh	OK	267.7	238.5	29.20	20,252
Sequoyah	OK	266.9	238.5	28.40	42,391
Alfalfa	OK	264.9	238.5	26.40	5,642
Coal	OK	262.7	238.5	24.20	5,925
Okfuskee	OK	262.7	238.5	24.20	12,191
Craig	OK	262.7	238.5	24.20	15,029
Pontotoc	OK	262.7	238.5	24.20	37,492
Haskell	OK	261.9	238.5	23.40	12,769
Harmon	OK	260.2	238.5	21.70	2,922
Greer	OK	260.2	238.5	21.70	6,239
Cherokee	OK	259.9	238.5	21.40	46,987
Nowata	OK	257.7	238.5	19.20	10,536
Harper	OK	257.1	238.5	18.60	3,685
Ellis	OK	257.1	238.5	18.60	4,151
Woodward	OK	257.1	238.5	18.60	20,081
Custer	OK	257.1	238.5	18.60	27,469
Pittsburg	OK	254.9	238.5	16.40	45,837
Jackson	OK	250.2	238.5	11.70	26,446
Tillman	OK	249.1	238.5	10.60	7,992

Dewey	OK	247.1	238.5	8.60	4,810
Woods	OK	247.1	238.5	8.60	8,878
Kiowa	OK	247.1	238.5	8.60	9,446
Ottawa	OK	247.1	238.5	8.60	31,848
Bryan	OK	246.9	238.5	8.40	42,416
Love	OK	244.9	238.5	6.40	9,423
Atoka	OK	244.9	238.5	6.40	14,182
Marshall	OK	244.9	238.5	6.40	15,840
Carter	OK	244.9	238.5	6.40	47,557
Mayes	OK	242.4	238.5	3.90	41,259
Caddo	OK	238.0	238.5	(0.50)	29,600
Blaine	OK	237.1	238.5	(1.40)	11,943
Cotton	OK	235.8	238.5	(2.70)	6,193
Cimarron	OK	233.5	238.5	(5.00)	2,475
Beckham	OK	231.5	238.5	(7.00)	22,119
Choctaw	OK	226.9	238.5	(11.60)	15,205
Jefferson	OK	224.9	238.5	(13.60)	6,472
Le Flore	OK	222.2	238.5	(16.30)	50,384
Washita	OK	221.5	238.5	(17.00)	11,629
Stephens	OK	217.1	238.5	(21.40)	45,048
Comanche	OK	215.5	238.5	(23.00)	124,098
Roger Mills	OK	211.5	238.5	(27.00)	3,647
Latimer	OK	207.9	238.5	(30.60)	11,154
Pushmataha	OK	205.7	238.5	(32.80)	11,572
Beaver	OK	203.5	238.5	(35.00)	5,636
Texas	OK	203.5	238.5	(35.00)	20,640
McCurtain	OK	196.6	238.5	(41.90)	33,151

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Oregon	3,831,074	3,415,363	89.1%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Lane	OR	330.5	238.5	92.00	351,715
Polk	OR	322.5	238.5	84.00	75,403
Benton	OR	322.5	238.5	84.00	85,579
Linn	OR	322.5	238.5	84.00	116,672
Marion	OR	322.5	238.5	84.00	315,335
Columbia	OR	312.5	238.5	74.00	49,351
Yamhill	OR	312.5	238.5	74.00	99,193
Clackamas	OR	312.5	238.5	74.00	375,992
Washington	OR	312.5	238.5	74.00	529,710
Multnomah	OR	312.5	238.5	74.00	735,334
Josephine	OR	310.5	238.5	72.00	82,713
Douglas	OR	310.5	238.5	72.00	107,667
Jackson	OR	310.5	238.5	72.00	203,206
Umatilla	OR	287.7	238.5	49.20	75,889
Morrow	OR	277.7	238.5	39.20	11,173
Crook	OR	259.1	238.5	20.60	20,978
Deschutes	OR	259.1	238.5	20.60	157,733
Jefferson	OR	249.1	238.5	10.60	21,720
Wallowa	OR	234.3	238.5	(4.20)	7,008
Union	OR	234.3	238.5	(4.20)	25,748
Lake	OR	233.5	238.5	(5.00)	7,895
Malheur	OR	233.5	238.5	(5.00)	31,313
Sherman	OR	223.5	238.5	(15.00)	1,765
Harney	OR	223.5	238.5	(15.00)	7,422
Hood River	OR	223.5	238.5	(15.00)	22,346
Wasco	OR	223.5	238.5	(15.00)	25,213
Tillamook	OR	223.5	238.5	(15.00)	25,250
Clatsop	OR	223.5	238.5	(15.00)	37,039
Lincoln	OR	223.5	238.5	(15.00)	46,034
Grant	OR	221.5	238.5	(17.00)	7,445
Baker	OR	221.5	238.5	(17.00)	16,134
Curry	OR	221.5	238.5	(17.00)	22,364
Coos	OR	221.5	238.5	(17.00)	63,043
Klamath	OR	221.5	238.5	(17.00)	66,380
Wheeler	OR	211.5	238.5	(27.00)	1,441
Gilliam	OR	206.5	238.5	(32.00)	1,871

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Pennsylvania	12,702,379	11,965,898	94.2%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Juniata	PA	342.5	238.5	104.00	24,636
Perry	PA	342.5	238.5	104.00	45,969
Adams	PA	342.5	238.5	104.00	101,407
Lebanon	PA	342.5	238.5	104.00	133,568
Cumberland	PA	342.5	238.5	104.00	235,406
Dauphin	PA	342.5	238.5	104.00	268,100
York	PA	342.5	238.5	104.00	434,972
Huntingdon	PA	334.7	238.5	96.20	45,913
Blair	PA	334.7	238.5	96.20	127,089
Wayne	PA	332.5	238.5	94.00	52,822
Lancaster	PA	332.5	238.5	94.00	519,445
Mifflin	PA	324.7	238.5	86.20	46,682
Berks	PA	322.5	238.5	84.00	411,442
Chester	PA	322.5	238.5	84.00	498,886
Bucks	PA	322.5	238.5	84.00	625,249
Philadelphia	PA	322.5	238.5	84.00	1,526,006
Bedford	PA	316.9	238.5	78.40	49,762
Carbon	PA	314.7	238.5	76.20	65,249
Delaware	PA	313.8	238.5	75.30	558,979
Montgomery	PA	313.8	238.5	75.30	799,874
Snyder	PA	312.5	238.5	74.00	39,702
Columbia	PA	310.4	238.5	71.90	67,295
Lawrence	PA	307.5	238.5	69.00	91,108
Lehigh	PA	306.0	238.5	67.50	349,497
Pike	PA	304.7	238.5	66.20	57,369
Schuylkill	PA	304.7	238.5	66.20	148,289
Centre	PA	304.7	238.5	66.20	153,990
Lackawanna	PA	304.7	238.5	66.20	214,437
Luzerne	PA	304.7	238.5	66.20	320,918
Wyoming	PA	302.5	238.5	64.00	28,276
Susquehanna	PA	302.5	238.5	64.00	43,356
Fayette	PA	302.5	238.5	64.00	136,606
Beaver	PA	302.5	238.5	64.00	170,539
Washington	PA	302.5	238.5	64.00	207,820
Westmoreland	PA	302.5	238.5	64.00	365,169
Allegheny	PA	302.5	238.5	64.00	1,223,348
Union	PA	294.7	238.5	56.20	44,947
Monroe	PA	294.7	238.5	56.20	169,842
Greene	PA	292.5	238.5	54.00	38,686
Bradford	PA	292.5	238.5	54.00	62,622
Armstrong	PA	292.5	238.5	54.00	68,941
Butler	PA	292.5	238.5	54.00	183,862
Venango	PA	291.9	238.5	53.40	54,984
Fulton	PA	288.2	238.5	49.70	14,845
Franklin	PA	288.2	238.5	49.70	149,618
Mercer	PA	287.5	238.5	49.00	116,638
Clearfield	PA	284.7	238.5	46.20	81,642
Somerset	PA	281.3	238.5	42.80	77,742
Cambria	PA	281.3	238.5	42.80	143,679
Northampton	PA	279.1	238.5	40.60	297,735

Sullivan	PA	274.7	238.5	36.20	6,428
Clinton	PA	274.7	238.5	36.20	39,238
Northumberland	PA	272.6	238.5	34.10	94,528
Crawford	PA	261.9	238.5	23.40	88,765
Tioga	PA	249.1	238.5	10.60	41,981
Forest	PA	238.5	238.5	-	7,716
McKean	PA	233.5	238.5	(5.00)	43,450
Clarion	PA	228.5	238.5	(10.00)	39,988
Montour	PA	223.5	238.5	(15.00)	18,267
Elk	PA	223.5	238.5	(15.00)	31,946
Cameron	PA	213.5	238.5	(25.00)	5,085
Potter	PA	213.5	238.5	(25.00)	17,457
Warren	PA	213.5	238.5	(25.00)	41,815
Jefferson	PA	213.5	238.5	(25.00)	45,200
Lycoming	PA	213.5	238.5	(25.00)	116,111
Erie	PA	213.5	238.5	(25.00)	280,566
Indiana	PA	211.3	238.5	(27.20)	88,880

STATE
Puerto Rico

TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
3,725,789	3,725,789	100.0%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Patillas	PR	325.6	238.5	87.10	19,277
Arroyo	PR	325.6	238.5	87.10	19,575
Comerio	PR	325.6	238.5	87.10	20,778
Aibonito	PR	325.6	238.5	87.10	25,900
Catano	PR	325.6	238.5	87.10	28,140
Aguas Buenas	PR	325.6	238.5	87.10	28,659
Barranquitas	PR	325.6	238.5	87.10	30,318
Naranjito	PR	325.6	238.5	87.10	30,402
Salinas	PR	325.6	238.5	87.10	31,078
Corozal	PR	325.6	238.5	87.10	37,142
Dorado	PR	325.6	238.5	87.10	38,165
Vega Alta	PR	325.6	238.5	87.10	39,951
Coamo	PR	325.6	238.5	87.10	40,512
Cidra	PR	325.6	238.5	87.10	43,480
Guayama	PR	325.6	238.5	87.10	45,362
Cayey	PR	325.6	238.5	87.10	48,119
Vega Baja	PR	325.6	238.5	87.10	59,662
Toa Alta	PR	325.6	238.5	87.10	74,066
Trujillo Alto	PR	325.6	238.5	87.10	74,842
Toa Baja	PR	325.6	238.5	87.10	89,609
Guaynabo	PR	325.6	238.5	87.10	97,924
Caguas	PR	325.6	238.5	87.10	142,893
Bayamon	PR	325.6	238.5	87.10	208,116
San Juan	PR	325.6	238.5	87.10	395,326
Maunabo	PR	307.8	238.5	69.30	12,225
Loiza	PR	307.8	238.5	69.30	30,060
Morovis	PR	307.8	238.5	69.30	32,610
Yabucoa	PR	307.8	238.5	69.30	37,941
Las Piedras	PR	307.8	238.5	69.30	38,675
Juncos	PR	307.8	238.5	69.30	40,290
San Lorenzo	PR	307.8	238.5	69.30	41,058
Gurabo	PR	307.8	238.5	69.30	45,369
Canovanas	PR	307.8	238.5	69.30	47,648
Carolina	PR	307.8	238.5	69.30	176,762
Maricao	PR	290.0	238.5	51.50	6,276
Florida	PR	290.0	238.5	51.50	12,680
Ceiba	PR	290.0	238.5	51.50	13,631
Jayuya	PR	290.0	238.5	51.50	16,642
Ciales	PR	290.0	238.5	51.50	18,782
Guanica	PR	290.0	238.5	51.50	19,427
Adjuntas	PR	290.0	238.5	51.50	19,483
Luquillo	PR	290.0	238.5	51.50	20,068
Guayanilla	PR	290.0	238.5	51.50	21,581
Santa Isabel	PR	290.0	238.5	51.50	23,274
Orocovis	PR	290.0	238.5	51.50	23,423
Penuelas	PR	290.0	238.5	51.50	24,282
Barceloneta	PR	290.0	238.5	51.50	24,816
Sabana Grande	PR	290.0	238.5	51.50	25,265
Lajas	PR	290.0	238.5	51.50	25,753
Villalba	PR	290.0	238.5	51.50	26,073
Naguabo	PR	290.0	238.5	51.50	26,720
Lares	PR	290.0	238.5	51.50	30,753

Utua	PR	290.0	238.5	51.50	33,149
Fajardo	PR	290.0	238.5	51.50	36,993
Hatillo	PR	290.0	238.5	51.50	41,953
Yauco	PR	290.0	238.5	51.50	42,043
Manati	PR	290.0	238.5	51.50	44,113
Juana Diaz	PR	290.0	238.5	51.50	50,747
Rio Grande	PR	290.0	238.5	51.50	54,304
Humacao	PR	290.0	238.5	51.50	58,466
Arecibo	PR	290.0	238.5	51.50	96,440
Ponce	PR	290.0	238.5	51.50	166,327
Vieques	PR	272.2	238.5	33.70	9,301
Las Marias	PR	272.2	238.5	33.70	9,881
Rincon	PR	272.2	238.5	33.70	15,200
Hormigueros	PR	272.2	238.5	33.70	17,250
Quebradillas	PR	272.2	238.5	33.70	25,919
Anasco	PR	272.2	238.5	33.70	29,261
Camuy	PR	272.2	238.5	33.70	35,159
San German	PR	272.2	238.5	33.70	35,527
Moca	PR	272.2	238.5	33.70	40,109
Aguada	PR	272.2	238.5	33.70	41,959
San Sebastian	PR	272.2	238.5	33.70	42,430
Isabela	PR	272.2	238.5	33.70	45,631
Cabo Rojo	PR	272.2	238.5	33.70	50,917
Aguadilla	PR	272.2	238.5	33.70	60,949
Mayaguez	PR	272.2	238.5	33.70	89,080
Culebra	PR	254.4	238.5	15.90	1,818

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Rhode Island	1,052,567	1,052,567	100.0%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Washington	RI	318.7	238.5	80.20	126,979
Bristol	RI	310.0	238.5	71.50	49,875
Kent	RI	310.0	238.5	71.50	166,158
Providence	RI	310.0	238.5	71.50	626,667
Newport	RI	300.0	238.5	61.50	82,888

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
South Carolina	4,625,364	4,599,947	99.5%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Aiken	SC	361.7	238.5	123.20	160,099
Calhoun	SC	342.5	238.5	104.00	15,175
Laurens	SC	342.5	238.5	104.00	66,537
Orangeburg	SC	342.5	238.5	104.00	92,501
Edgefield	SC	341.7	238.5	103.20	26,985
Barnwell	SC	333.9	238.5	95.40	22,621
Saluda	SC	332.5	238.5	94.00	19,875
Union	SC	332.5	238.5	94.00	28,961
Newberry	SC	332.5	238.5	94.00	37,508
Cherokee	SC	332.5	238.5	94.00	55,342
Pickens	SC	332.5	238.5	94.00	119,224
Lexington	SC	332.5	238.5	94.00	262,391
Spartanburg	SC	332.5	238.5	94.00	284,307
Greenville	SC	332.5	238.5	94.00	451,225
Bamberg	SC	323.9	238.5	85.40	15,987
Sumter	SC	322.5	238.5	84.00	107,456
York	SC	322.5	238.5	84.00	226,073
Fairfield	SC	314.7	238.5	76.20	23,956
Richland	SC	314.7	238.5	76.20	384,504
Lancaster	SC	313.4	238.5	74.90	76,652
Lee	SC	304.7	238.5	66.20	19,220
Clarendon	SC	304.7	238.5	66.20	34,971
Kershaw	SC	304.7	238.5	66.20	61,697
Dorchester	SC	301.0	238.5	62.50	136,555
Allendale	SC	298.3	238.5	59.80	10,419
Marion	SC	297.7	238.5	59.20	33,062
Chester	SC	293.4	238.5	54.90	33,140
Florence	SC	290.5	238.5	52.00	136,885
McCormick	SC	285.2	238.5	46.70	10,233
Colleton	SC	283.2	238.5	44.70	38,892
Marlboro	SC	280.0	238.5	41.50	28,933
Horry	SC	279.9	238.5	41.40	269,291
Berkeley	SC	278.5	238.5	40.00	177,843
Charleston	SC	278.5	238.5	40.00	350,209
Anderson	SC	276.7	238.5	38.20	187,126
Hampton	SC	276.1	238.5	37.60	21,090
Jasper	SC	276.1	238.5	37.60	24,777
Beaufort	SC	276.1	238.5	37.60	162,233
Georgetown	SC	270.5	238.5	32.00	60,158
Chesterfield	SC	266.9	238.5	28.40	46,734
Darlington	SC	262.7	238.5	24.20	68,681
Greenwood	SC	256.4	238.5	17.90	69,661
Williamsburg	SC	245.5	238.5	7.00	34,423
Oconee	SC	241.1	238.5	2.60	74,273
Dillon	SC	240.2	238.5	1.70	32,062
Abbeville	SC	228.6	238.5	(9.90)	25,417

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
South Dakota	800,594	-	0.0%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Miner	SD	235.0	238.5	(3.50)	2,389
Minnehaha	SD	225.0	238.5	(13.50)	169,468
Moody	SD	215.0	238.5	(23.50)	6,486
Lake	SD	215.0	238.5	(23.50)	11,200
Brookings	SD	215.0	238.5	(23.50)	31,965
Lincoln	SD	215.0	238.5	(23.50)	44,828
McCook	SD	205.0	238.5	(33.50)	5,618
Turner	SD	205.0	238.5	(33.50)	8,347
Union	SD	200.2	238.5	(38.30)	14,399
Hanson	SD	189.4	238.5	(49.10)	3,331
Hutchinson	SD	189.4	238.5	(49.10)	7,343
Bon Homme	SD	184.4	238.5	(54.10)	7,070
Clay	SD	184.4	238.5	(54.10)	13,864
Yankton	SD	184.4	238.5	(54.10)	22,438
Jones	SD	183.8	238.5	(54.70)	1,006
Kingsbury	SD	181.6	238.5	(56.90)	5,148
Mellette	SD	166.0	238.5	(72.50)	2,048
Todd	SD	166.0	238.5	(72.50)	9,612
Sully	SD	163.8	238.5	(74.70)	1,373
Stanley	SD	163.8	238.5	(74.70)	2,966
Lyman	SD	163.8	238.5	(74.70)	3,755
Custer	SD	163.8	238.5	(74.70)	8,216
Hughes	SD	163.8	238.5	(74.70)	17,022
Lawrence	SD	163.8	238.5	(74.70)	24,097
Meade	SD	163.8	238.5	(74.70)	25,434
Pennington	SD	163.8	238.5	(74.70)	100,948
Haakon	SD	156.0	238.5	(82.50)	1,937
Jackson	SD	156.0	238.5	(82.50)	3,031
Bennett	SD	156.0	238.5	(82.50)	3,431
Harding	SD	146.0	238.5	(92.50)	1,255
Hyde	SD	146.0	238.5	(92.50)	1,420
Jerauld	SD	146.0	238.5	(92.50)	2,071
Sanborn	SD	146.0	238.5	(92.50)	2,355
Aurora	SD	146.0	238.5	(92.50)	2,710
Perkins	SD	146.0	238.5	(92.50)	2,982
Douglas	SD	146.0	238.5	(92.50)	3,002
Hand	SD	146.0	238.5	(92.50)	3,431
Gregory	SD	146.0	238.5	(92.50)	4,271
Brule	SD	146.0	238.5	(92.50)	5,255
Tripp	SD	146.0	238.5	(92.50)	5,644
Fall River	SD	146.0	238.5	(92.50)	7,094
Charles Mix	SD	146.0	238.5	(92.50)	9,129
Butte	SD	146.0	238.5	(92.50)	10,110
Beadle	SD	146.0	238.5	(92.50)	17,398
Davison	SD	146.0	238.5	(92.50)	19,504
Oglala Lakota	SD	146.0	238.5	(92.50)	
Campbell	SD	136.0	238.5	(102.50)	1,466
Buffalo	SD	136.0	238.5	(102.50)	1,912
Potter	SD	136.0	238.5	(102.50)	2,329
Ziebach	SD	136.0	238.5	(102.50)	2,801

Deuel	SD	136.0	238.5	(102.50)	4,364
Dewey	SD	136.0	238.5	(102.50)	5,301
Walworth	SD	136.0	238.5	(102.50)	5,438
Hamlin	SD	136.0	238.5	(102.50)	5,903
Grant	SD	136.0	238.5	(102.50)	7,356
Roberts	SD	136.0	238.5	(102.50)	10,149
Codington	SD	136.0	238.5	(102.50)	27,227
Marshall	SD	134.0	238.5	(104.50)	4,656
Day	SD	134.0	238.5	(104.50)	5,710
Clark	SD	126.0	238.5	(112.50)	3,691
Faulk	SD	124.0	238.5	(114.50)	2,364
McPherson	SD	124.0	238.5	(114.50)	2,459
Edmunds	SD	124.0	238.5	(114.50)	4,071
Spink	SD	124.0	238.5	(114.50)	6,415
Brown	SD	124.0	238.5	(114.50)	36,531
Corson	SD	104.0	238.5	(134.50)	4,050

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Tennessee	6,346,105	5,938,177	93.6%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Lincoln	TN	321.7	238.5	83.20	33,361
Hickman	TN	317.5	238.5	79.00	24,690
Monroe	TN	314.2	238.5	75.70	44,519
Unicoi	TN	313.0	238.5	74.50	18,313
Fayette	TN	310.5	238.5	72.00	38,413
Tipton	TN	310.5	238.5	72.00	61,081
Shelby	TN	310.5	238.5	72.00	927,644
Maury	TN	307.5	238.5	69.00	80,956
Crockett	TN	304.7	238.5	66.20	14,586
Gibson	TN	304.7	238.5	66.20	49,683
Madison	TN	304.7	238.5	66.20	98,294
Greene	TN	303.0	238.5	64.50	68,831
Claiborne	TN	302.5	238.5	64.00	32,213
Grundy	TN	299.7	238.5	61.20	13,703
Cannon	TN	299.7	238.5	61.20	13,801
Coffee	TN	299.7	238.5	61.20	52,796
Marion	TN	298.9	238.5	60.40	28,237
Marshall	TN	297.5	238.5	59.00	30,617
Bedford	TN	297.5	238.5	59.00	45,058
Lake	TN	294.7	238.5	56.20	7,832
Obion	TN	294.7	238.5	56.20	31,807
McNairy	TN	294.1	238.5	55.60	26,075
Haywood	TN	292.7	238.5	54.20	18,787
DeKalb	TN	289.7	238.5	51.20	18,723
Warren	TN	289.7	238.5	51.20	39,839
Cheatham	TN	287.5	238.5	49.00	39,105
Robertson	TN	287.5	238.5	49.00	66,283
Wilson	TN	287.5	238.5	49.00	113,993
Sumner	TN	287.5	238.5	49.00	160,645
Williamson	TN	287.5	238.5	49.00	183,182
Rutherford	TN	287.5	238.5	49.00	262,604
Davidson	TN	287.5	238.5	49.00	626,681
Houston	TN	286.9	238.5	48.40	8,426
Stewart	TN	286.9	238.5	48.40	13,324
Chester	TN	286.9	238.5	48.40	17,131
Henderson	TN	286.9	238.5	48.40	27,769
Carroll	TN	286.9	238.5	48.40	28,522
Wayne	TN	286.1	238.5	47.60	17,021
Morgan	TN	283.0	238.5	44.50	21,987
Campbell	TN	283.0	238.5	44.50	40,716
Roane	TN	283.0	238.5	44.50	54,181
Humphreys	TN	281.9	238.5	43.40	18,538
Meigs	TN	281.1	238.5	42.60	11,753
Bledsoe	TN	281.1	238.5	42.60	12,876
Sequatchie	TN	281.1	238.5	42.60	14,112
Rhea	TN	281.1	238.5	42.60	31,809
Hamilton	TN	281.1	238.5	42.60	336,463
Moore	TN	278.9	238.5	40.40	6,362
Giles	TN	278.9	238.5	40.40	29,485
Franklin	TN	278.9	238.5	40.40	41,052

McMinn	TN	278.6	238.5	40.10	52,266
Dyer	TN	276.9	238.5	38.40	38,335
Hardin	TN	276.3	238.5	37.80	26,026
Polk	TN	276.1	238.5	37.60	16,825
Bradley	TN	276.1	238.5	37.60	98,963
Hardeman	TN	274.9	238.5	36.40	27,253
Lauderdale	TN	274.9	238.5	36.40	27,815
Grainger	TN	273.0	238.5	34.50	22,657
Jefferson	TN	273.0	238.5	34.50	51,407
Hamblen	TN	273.0	238.5	34.50	62,544
Van Buren	TN	271.9	238.5	33.40	5,548
Union	TN	270.5	238.5	32.00	19,109
Loudon	TN	270.5	238.5	32.00	48,556
Anderson	TN	270.5	238.5	32.00	75,129
Blount	TN	270.5	238.5	32.00	123,010
Knox	TN	270.5	238.5	32.00	432,226
Decatur	TN	269.1	238.5	30.60	11,757
Hawkins	TN	269.1	238.5	30.60	56,833
Carter	TN	269.1	238.5	30.60	57,424
Washington	TN	269.1	238.5	30.60	122,979
Sullivan	TN	269.1	238.5	30.60	156,823
Montgomery	TN	266.9	238.5	28.40	172,331
Cocke	TN	263.5	238.5	25.00	35,662
Weakley	TN	259.1	238.5	20.60	35,021
Dickson	TN	251.9	238.5	13.40	49,666
Sevier	TN	250.5	238.5	12.00	89,889
Johnson	TN	247.1	238.5	8.60	18,244
Lewis	TN	236.3	238.5	(2.20)	12,161
Lawrence	TN	235.5	238.5	(3.00)	41,869
Perry	TN	228.5	238.5	(10.00)	7,915
Benton	TN	228.5	238.5	(10.00)	16,489
Smith	TN	228.5	238.5	(10.00)	19,166
Trousdale	TN	226.3	238.5	(12.20)	7,870
Cumberland	TN	223.8	238.5	(14.70)	56,053
Henry	TN	218.5	238.5	(20.00)	32,330
Clay	TN	208.5	238.5	(30.00)	7,861
Macon	TN	208.5	238.5	(30.00)	22,248
Hancock	TN	194.0	238.5	(44.50)	6,819
Scott	TN	194.0	238.5	(44.50)	22,228
White	TN	183.8	238.5	(54.70)	25,841
Pickett	TN	146.0	238.5	(92.50)	5,077
Jackson	TN	146.0	238.5	(92.50)	11,638
Fentress	TN	146.0	238.5	(92.50)	17,959
Overton	TN	146.0	238.5	(92.50)	22,083
Putnam	TN	146.0	238.5	(92.50)	72,321

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE
Texas

TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
25,145,561	23,810,019	94.7%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Hidalgo	TX	359.5	238.5	121.00	774,769
Bandera	TX	352.5	238.5	114.00	20,485
Medina	TX	352.5	238.5	114.00	46,006
Caldwell	TX	342.5	238.5	104.00	38,066
Wilson	TX	342.5	238.5	104.00	42,918
Bastrop	TX	342.5	238.5	104.00	74,171
Willacy	TX	341.5	238.5	103.00	22,134
Starr	TX	341.5	238.5	103.00	60,968
Refugio	TX	332.5	238.5	94.00	7,383
Freestone	TX	332.5	238.5	94.00	19,816
Colorado	TX	332.5	238.5	94.00	20,874
Limestone	TX	332.5	238.5	94.00	23,384
Austin	TX	332.5	238.5	94.00	28,417
Navarro	TX	332.5	238.5	94.00	47,735
Kaufman	TX	332.5	238.5	94.00	103,350
Ellis	TX	332.5	238.5	94.00	149,610
Hays	TX	332.5	238.5	94.00	157,107
Williamson	TX	332.5	238.5	94.00	422,679
Denton	TX	332.5	238.5	94.00	662,614
Collin	TX	332.5	238.5	94.00	782,341
Travis	TX	332.5	238.5	94.00	1,024,266
Dallas	TX	332.5	238.5	94.00	2,368,139
Lee	TX	324.7	238.5	86.20	16,612
San Patricio	TX	324.7	238.5	86.20	64,804
Nueces	TX	324.7	238.5	86.20	340,223
Cameron	TX	323.9	238.5	85.40	406,220
Jackson	TX	322.5	238.5	84.00	14,075
Henderson	TX	322.5	238.5	84.00	78,532
Real	TX	316.9	238.5	78.40	3,309
Aransas	TX	314.7	238.5	76.20	23,158
Panola	TX	314.7	238.5	76.20	23,796
Fayette	TX	314.7	238.5	76.20	24,554
Matagorda	TX	314.7	238.5	76.20	36,702
Wharton	TX	314.7	238.5	76.20	41,280
Hood	TX	314.7	238.5	76.20	51,182
Van Zandt	TX	314.7	238.5	76.20	52,579
Wise	TX	314.7	238.5	76.20	59,127
Harrison	TX	314.7	238.5	76.20	65,631
Rockwall	TX	314.7	238.5	76.20	78,337
Parker	TX	314.7	238.5	76.20	116,927
Johnson	TX	314.7	238.5	76.20	150,934
Tarrant	TX	314.7	238.5	76.20	1,809,034
El Paso	TX	313.9	238.5	75.40	800,647
Blanco	TX	312.5	238.5	74.00	10,497
Newton	TX	312.5	238.5	74.00	14,445
Waller	TX	312.5	238.5	74.00	43,205
Liberty	TX	312.5	238.5	74.00	75,643
Brazoria	TX	312.5	238.5	74.00	313,166
Montgomery	TX	312.5	238.5	74.00	455,746
Fort Bend	TX	312.5	238.5	74.00	585,375
Harris	TX	312.5	238.5	74.00	4,092,459
Comal	TX	310.0	238.5	71.50	108,472
Guadalupe	TX	310.0	238.5	71.50	131,533
Bexar	TX	310.0	238.5	71.50	1,714,773
Atascosa	TX	308.9	238.5	70.40	44,911
Gonzales	TX	306.9	238.5	68.40	19,807
Bosque	TX	304.7	238.5	66.20	18,212

Fannin	TX	304.7	238.5	66.20	33,915
Hardin	TX	304.7	238.5	66.20	54,635
Orange	TX	304.7	238.5	66.20	81,837
Hunt	TX	304.7	238.5	66.20	86,129
Jefferson	TX	304.7	238.5	66.20	252,273
Galveston	TX	302.5	238.5	64.00	291,309
McMullen	TX	301.1	238.5	62.60	707
Kendall	TX	300.5	238.5	62.00	33,410
Frio	TX	299.1	238.5	60.60	17,217
Uvalde	TX	299.1	238.5	60.60	26,405
Zapata	TX	298.1	238.5	59.60	14,018
Falls	TX	296.9	238.5	58.40	17,866
Palo Pinto	TX	296.9	238.5	58.40	28,111
Cherokee	TX	296.9	238.5	58.40	50,845
Coryell	TX	296.9	238.5	58.40	75,388
McLennan	TX	296.9	238.5	58.40	234,906
Bell	TX	296.9	238.5	58.40	310,235
Lynn	TX	294.7	238.5	56.20	5,915
Marion	TX	294.7	238.5	56.20	10,546
Terry	TX	294.7	238.5	56.20	12,651
DeWitt	TX	294.7	238.5	56.20	20,097
Cass	TX	294.7	238.5	56.20	30,464
Jasper	TX	294.7	238.5	56.20	35,710
Erath	TX	294.7	238.5	56.20	37,890
Jim Wells	TX	291.1	238.5	52.60	40,838
Zavala	TX	289.1	238.5	50.60	11,677
Burleson	TX	289.1	238.5	50.60	17,187
Victoria	TX	289.1	238.5	50.60	86,793
Armstrong	TX	286.9	238.5	48.40	1,901
Oldham	TX	286.9	238.5	48.40	2,052
Carson	TX	286.9	238.5	48.40	6,182
Franklin	TX	286.9	238.5	48.40	10,605
Camp	TX	286.9	238.5	48.40	12,401
Leon	TX	286.9	238.5	48.40	16,801
Lavaca	TX	286.9	238.5	48.40	19,263
Hutchinson	TX	286.9	238.5	48.40	22,150
Houston	TX	286.9	238.5	48.40	23,732
Titus	TX	286.9	238.5	48.40	32,334
Hopkins	TX	286.9	238.5	48.40	35,161
Upshur	TX	286.9	238.5	48.40	39,309
Anderson	TX	286.9	238.5	48.40	58,458
Randall	TX	286.9	238.5	48.40	120,725
Potter	TX	286.9	238.5	48.40	121,073
Webb	TX	286.1	238.5	47.60	250,304
Garza	TX	284.7	238.5	46.20	6,461
Red River	TX	284.7	238.5	46.20	12,860
Chambers	TX	284.7	238.5	46.20	35,096
Callahan	TX	279.1	238.5	40.60	13,544
Robertson	TX	279.1	238.5	40.60	16,622
Jones	TX	279.1	238.5	40.60	20,202
Washington	TX	279.1	238.5	40.60	33,718
Cooke	TX	279.1	238.5	40.60	38,437
Taylor	TX	279.1	238.5	40.60	131,506
Stephens	TX	276.9	238.5	38.40	9,630
Clay	TX	276.9	238.5	38.40	10,752
Morris	TX	276.9	238.5	38.40	12,934
Eastland	TX	276.9	238.5	38.40	18,583
Lampasas	TX	276.9	238.5	38.40	19,677
Live Oak	TX	273.3	238.5	34.80	11,531
Shackelford	TX	269.1	238.5	30.60	3,378
Goliad	TX	269.1	238.5	30.60	7,210
Madison	TX	269.1	238.5	30.60	13,664
Trinity	TX	269.1	238.5	30.60	14,585
Montague	TX	269.1	238.5	30.60	19,719
Calhoun	TX	269.1	238.5	30.60	21,381
San Jacinto	TX	269.1	238.5	30.60	26,384
Grimes	TX	269.1	238.5	30.60	26,604
Hill	TX	269.1	238.5	30.60	35,089

Walker	TX	269.1	238.5	30.60	67,861
Delta	TX	266.9	238.5	28.40	5,231
Lamar	TX	266.9	238.5	28.40	49,793
Borden	TX	262.7	238.5	24.20	641
Dawson	TX	262.7	238.5	24.20	13,833
Jim Hogg	TX	262.5	238.5	24.00	5,300
Bee	TX	261.3	238.5	22.80	31,861
Somervell	TX	259.1	238.5	20.60	8,490
Hamilton	TX	259.1	238.5	20.60	8,517
Sabine	TX	259.1	238.5	20.60	10,834
Wilbarger	TX	259.1	238.5	20.60	13,535
Milam	TX	259.1	238.5	20.60	24,757
Burnet	TX	259.1	238.5	20.60	42,750
Kenedy	TX	255.5	238.5	17.00	416
Brooks	TX	255.5	238.5	17.00	7,223
Duval	TX	255.5	238.5	17.00	11,782
Kleberg	TX	255.5	238.5	17.00	32,061
Llano	TX	254.4	238.5	15.90	19,301
La Salle	TX	253.5	238.5	15.00	6,886
Shelby	TX	251.3	238.5	12.80	25,448
Dimmit	TX	250.5	238.5	12.00	9,996
Maverick	TX	250.5	238.5	12.00	54,258
Gillespie	TX	247.1	238.5	8.60	24,837
Kerr	TX	247.1	238.5	8.60	49,625
Swisher	TX	243.5	238.5	5.00	7,854
Karnes	TX	243.5	238.5	5.00	14,824
Rusk	TX	243.5	238.5	5.00	53,330
Gregg	TX	243.5	238.5	5.00	121,730
Brazos	TX	243.5	238.5	5.00	194,851
Smith	TX	243.5	238.5	5.00	209,714
Archer	TX	241.3	238.5	2.80	9,054
Hockley	TX	241.3	238.5	2.80	22,935
Hale	TX	241.3	238.5	2.80	36,273
Wichita	TX	241.3	238.5	2.80	131,500
Lubbock	TX	241.3	238.5	2.80	278,831
Val Verde	TX	240.5	238.5	2.00	48,879
Grayson	TX	239.1	238.5	0.60	120,877
Hardeman	TX	236.6	238.5	(1.90)	4,139
Roberts	TX	233.5	238.5	(5.00)	929
Stonewall	TX	233.5	238.5	(5.00)	1,490
Briscoe	TX	233.5	238.5	(5.00)	1,637
Sherman	TX	233.5	238.5	(5.00)	3,034
Collingsworth	TX	233.5	238.5	(5.00)	3,057
Lipscomb	TX	233.5	238.5	(5.00)	3,302
Donley	TX	233.5	238.5	(5.00)	3,677
Knox	TX	233.5	238.5	(5.00)	3,719
Hemphill	TX	233.5	238.5	(5.00)	3,807
Fisher	TX	233.5	238.5	(5.00)	3,974
Wheeler	TX	233.5	238.5	(5.00)	5,410
Hansford	TX	233.5	238.5	(5.00)	5,613
Haskell	TX	233.5	238.5	(5.00)	5,899
Hartley	TX	233.5	238.5	(5.00)	6,062
Dallam	TX	233.5	238.5	(5.00)	6,703
Castro	TX	233.5	238.5	(5.00)	8,062
San Augustine	TX	233.5	238.5	(5.00)	8,865
Jack	TX	233.5	238.5	(5.00)	9,044
Mitchell	TX	233.5	238.5	(5.00)	9,403
Ochiltree	TX	233.5	238.5	(5.00)	10,223
Rains	TX	233.5	238.5	(5.00)	10,914
Nolan	TX	233.5	238.5	(5.00)	15,216
Scurry	TX	233.5	238.5	(5.00)	16,921
Deaf Smith	TX	233.5	238.5	(5.00)	19,372
Moore	TX	233.5	238.5	(5.00)	21,904
Gray	TX	233.5	238.5	(5.00)	22,535
Wood	TX	233.5	238.5	(5.00)	41,964
Polk	TX	233.5	238.5	(5.00)	45,413
Coleman	TX	232.2	238.5	(6.30)	8,895
Crosby	TX	231.3	238.5	(7.20)	6,059

Kinney	TX	230.5	238.5	(8.00)	3,598
Midland	TX	229.3	238.5	(9.20)	136,872
Comanche	TX	227.2	238.5	(11.30)	13,974
King	TX	223.5	238.5	(15.00)	286
Kent	TX	223.5	238.5	(15.00)	808
Foard	TX	223.5	238.5	(15.00)	1,336
Throckmorton	TX	223.5	238.5	(15.00)	1,641
Culberson	TX	223.5	238.5	(15.00)	2,398
Hall	TX	223.5	238.5	(15.00)	3,353
Hudspeth	TX	223.5	238.5	(15.00)	3,476
Baylor	TX	223.5	238.5	(15.00)	3,726
Childress	TX	223.5	238.5	(15.00)	7,041
Lamb	TX	223.5	238.5	(15.00)	13,977
Young	TX	223.5	238.5	(15.00)	18,550
Tyler	TX	223.5	238.5	(15.00)	21,766
Tom Green	TX	223.0	238.5	(15.50)	110,224
Martin	TX	219.3	238.5	(19.20)	4,799
Andrews	TX	219.3	238.5	(19.20)	14,786
Ector	TX	219.3	238.5	(19.20)	137,130
Motley	TX	213.5	238.5	(25.00)	1,210
Dickens	TX	213.5	238.5	(25.00)	2,444
Cochran	TX	213.5	238.5	(25.00)	3,127
Floyd	TX	213.5	238.5	(25.00)	6,446
Bailey	TX	213.5	238.5	(25.00)	7,165
Bowie	TX	213.3	238.5	(25.20)	92,565
Irion	TX	213.0	238.5	(25.50)	1,599
Coke	TX	213.0	238.5	(25.50)	3,320
Schleicher	TX	213.0	238.5	(25.50)	3,461
Concho	TX	213.0	238.5	(25.50)	4,087
Runnels	TX	213.0	238.5	(25.50)	10,501
Nacogdoches	TX	211.0	238.5	(27.50)	64,524
Angelina	TX	211.0	238.5	(27.50)	86,771
Cottle	TX	203.5	238.5	(35.00)	1,505
Loving	TX	201.5	238.5	(37.00)	82
Jeff Davis	TX	201.5	238.5	(37.00)	2,342
Upton	TX	201.5	238.5	(37.00)	3,355
Crane	TX	201.5	238.5	(37.00)	4,375
Winkler	TX	201.5	238.5	(37.00)	7,110
Yoakum	TX	201.5	238.5	(37.00)	7,879
Brewster	TX	201.5	238.5	(37.00)	9,232
Ward	TX	201.5	238.5	(37.00)	10,658
Reeves	TX	201.5	238.5	(37.00)	13,783
Pecos	TX	201.5	238.5	(37.00)	15,507
Terrell	TX	198.5	238.5	(40.00)	984
Presidio	TX	198.5	238.5	(40.00)	7,818
Glasscock	TX	191.5	238.5	(47.00)	1,226
Gaines	TX	191.5	238.5	(47.00)	17,526
Howard	TX	191.5	238.5	(47.00)	35,012
San Saba	TX	186.9	238.5	(51.60)	6,131
Kimble	TX	159.6	238.5	(78.90)	4,607
Edwards	TX	156.0	238.5	(82.50)	2,002
Mills	TX	156.0	238.5	(82.50)	4,936
Parmer	TX	156.0	238.5	(82.50)	10,269
Brown	TX	156.0	238.5	(82.50)	38,106
Sterling	TX	124.0	238.5	(114.50)	1,143
Menard	TX	124.0	238.5	(114.50)	2,242
Reagan	TX	124.0	238.5	(114.50)	3,367
Crockett	TX	124.0	238.5	(114.50)	3,719
Mason	TX	124.0	238.5	(114.50)	4,012
Sutton	TX	124.0	238.5	(114.50)	4,128
McCulloch	TX	124.0	238.5	(114.50)	8,283

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Utah	2,763,885	2,299,518	83.2%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Morgan	UT	322.5	238.5	84.00	9,469
Summit	UT	322.5	238.5	84.00	36,324
Tooele	UT	312.5	238.5	74.00	58,218
Davis	UT	312.5	238.5	74.00	306,479
Utah	UT	312.5	238.5	74.00	516,564
Salt Lake	UT	312.5	238.5	74.00	1,029,655
Wasatch	UT	269.1	238.5	30.60	23,530
Juab	UT	251.3	238.5	12.80	10,246
Box Elder	UT	243.5	238.5	5.00	49,975
Sanpete	UT	241.3	238.5	2.80	27,822
Weber	UT	241.3	238.5	2.80	231,236
Piute	UT	233.5	238.5	(5.00)	1,556
Millard	UT	233.5	238.5	(5.00)	12,503
Cache	UT	233.5	238.5	(5.00)	112,656
Grand	UT	223.5	238.5	(15.00)	9,225
Sevier	UT	223.5	238.5	(15.00)	20,802
Wayne	UT	213.5	238.5	(25.00)	2,778
Emery	UT	213.5	238.5	(25.00)	10,976
Duchesne	UT	213.5	238.5	(25.00)	18,607
Carbon	UT	213.5	238.5	(25.00)	21,403
Uintah	UT	213.5	238.5	(25.00)	32,588
Rich	UT	211.5	238.5	(27.00)	2,264
Daggett	UT	201.5	238.5	(37.00)	1,059
Beaver	UT	186.0	238.5	(52.50)	6,629
Iron	UT	186.0	238.5	(52.50)	46,163
Washington	UT	186.0	238.5	(52.50)	138,115
Garfield	UT	176.0	238.5	(62.50)	5,172
Kane	UT	124.0	238.5	(114.50)	7,125
San Juan	UT	114.0	238.5	(124.50)	14,746

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Vermont	625,741	81,638	13.0%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Bennington	VT	266.2	238.5	27.70	37,125
Windham	VT	241.5	238.5	3.00	44,513
Windsor	VT	235.0	238.5	(3.50)	56,670
Lamoille	VT	231.7	238.5	(6.80)	24,475
Caledonia	VT	231.7	238.5	(6.80)	31,227
Franklin	VT	231.7	238.5	(6.80)	47,746
Washington	VT	231.7	238.5	(6.80)	59,534
Chittenden	VT	231.7	238.5	(6.80)	156,545
Orange	VT	215.9	238.5	(22.60)	28,936
Grand Isle	VT	182.7	238.5	(55.80)	6,970
Orleans	VT	178.3	238.5	(60.20)	27,231
Addison	VT	178.3	238.5	(60.20)	36,821
Rutland	VT	169.6	238.5	(68.90)	61,642
Essex	VT	163.8	238.5	(74.70)	6,306

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Virginia	8,753,389	8,027,956	91.7%

Name

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Amelia	VA	324.7	238.5	86.20	12,690
Nottoway	VA	324.7	238.5	86.20	15,853
Shenandoah	VA	324.7	238.5	86.20	41,993
Rappahannock	VA	322.5	238.5	84.00	7,373
Brunswick	VA	320.5	238.5	82.00	17,434
Mecklenburg	VA	320.5	238.5	82.00	32,727
Dinwiddie	VA	317.8	238.5	79.30	28,001
Prince George	VA	317.8	238.5	79.30	35,725
Clarke	VA	316.0	238.5	77.50	14,034
Frederick	VA	316.0	238.5	77.50	78,305
Warren	VA	316.0	238.5	77.50	37,575
Winchester	VA	316.0	238.5	77.50	26,203
Cumberland	VA	314.7	238.5	76.20	10,052
Fauquier	VA	313.8	238.5	75.30	65,203
Gloucester	VA	313.0	238.5	74.50	36,858
Fairfax	VA	312.5	238.5	74.00	1,081,726
Loudoun	VA	312.5	238.5	74.00	312,311
Page	VA	310.9	238.5	72.40	24,042
Lunenburg	VA	310.5	238.5	72.00	12,914
Hopewell	VA	309.1	238.5	70.60	22,591
Petersburg	VA	309.1	238.5	70.60	32,420
Hampton	VA	308.3	238.5	69.80	137,436
Isle of Wight	VA	308.3	238.5	69.80	35,270
Newport News	VA	308.3	238.5	69.80	180,719
Poquoson	VA	308.3	238.5	69.80	12,150
Suffolk	VA	308.3	238.5	69.80	84,585
York	VA	308.3	238.5	69.80	65,464
Charles City	VA	307.8	238.5	69.30	7,256
New Kent	VA	307.8	238.5	69.30	18,429
Sussex	VA	304.8	238.5	66.30	12,087
Colonial Heights	VA	304.7	238.5	66.20	17,411
Chesapeake	VA	303.5	238.5	65.00	222,209
James City	VA	303.5	238.5	65.00	67,009
Norfolk	VA	303.5	238.5	65.00	242,803
Portsmouth	VA	303.5	238.5	65.00	95,535
Surry	VA	303.5	238.5	65.00	7,058
Virginia Beach	VA	303.5	238.5	65.00	437,994
Williamsburg	VA	303.5	238.5	65.00	14,068
Emporia	VA	300.5	238.5	62.00	5,927
Greensville	VA	300.5	238.5	62.00	12,243
Augusta	VA	299.7	238.5	61.20	73,750
Southampton	VA	299.6	238.5	61.10	18,570
King William	VA	297.8	238.5	59.30	15,935
Bedford	VA	296.3	238.5	57.80	68,676
Chesterfield	VA	294.7	238.5	56.20	316,236
Goochland	VA	294.7	238.5	56.20	21,717
Hanover	VA	294.7	238.5	56.20	99,863
Henrico	VA	294.7	238.5	56.20	306,935
Louisa	VA	294.7	238.5	56.20	33,153

Virginia

8,753,389

8,027,956

91.7%

Name

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Powhatan	VA	294.7	238.5	56.20	28,046
Richmond	VA	294.7	238.5	56.20	9,254
Botetourt	VA	291.5	238.5	53.00	33,148
Craig	VA	291.5	238.5	53.00	5,190
Floyd	VA	291.5	238.5	53.00	15,279
Franklin	VA	291.5	238.5	53.00	56,159
Montgomery	VA	291.5	238.5	53.00	94,392
Roanoke	VA	291.5	238.5	53.00	92,376
Salem	VA	291.5	238.5	53.00	24,802
Harrisonburg	VA	290.9	238.5	52.40	48,914
Rockingham	VA	290.9	238.5	52.40	76,314
Alexandria	VA	290.0	238.5	51.50	139,966
Arlington	VA	290.0	238.5	51.50	207,627
Fairfax	VA	290.0	238.5	51.50	1,081,726
Falls Church	VA	290.0	238.5	51.50	12,332
Manassas Park	VA	290.0	238.5	51.50	14,273
Manassas	VA	290.0	238.5	51.50	37,821
Prince William	VA	290.0	238.5	51.50	402,002
Madison	VA	286.9	238.5	48.40	13,308
Accomack	VA	286.5	238.5	48.00	33,164
Northampton	VA	286.5	238.5	48.00	12,389
Caroline	VA	284.7	238.5	46.20	28,545
Alleghany	VA	283.5	238.5	45.00	16,250
Staunton	VA	281.9	238.5	43.40	23,746
Waynesboro	VA	281.9	238.5	43.40	21,006
Giles	VA	281.5	238.5	43.00	17,286
Buckingham	VA	279.1	238.5	40.60	17,146
Covington	VA	274.8	238.5	36.30	5,961
Bristol	VA	269.1	238.5	30.60	17,835
Scott	VA	269.1	238.5	30.60	23,177
Washington	VA	269.1	238.5	30.60	54,876
Greene	VA	266.9	238.5	28.40	18,403
Mathews	VA	266.5	238.5	28.00	8,978
Rockbridge	VA	263.5	238.5	25.00	22,307
Lancaster	VA	261.8	238.5	23.30	11,391
Middlesex	VA	261.8	238.5	23.30	10,959
Pittsylvania	VA	260.6	238.5	22.10	63,506
Buena Vista	VA	259.1	238.5	20.60	6,650
Lexington	VA	259.1	238.5	20.60	7,042
Stafford	VA	259.1	238.5	20.60	128,961
King George	VA	257.8	238.5	19.30	23,584
Northumberland	VA	257.4	238.5	18.90	12,330
Westmoreland	VA	253.1	238.5	14.60	17,454
Orange	VA	251.3	238.5	12.80	33,481
Nelson	VA	249.1	238.5	10.60	15,020
Amherst	VA	247.1	238.5	8.60	32,353
Appomattox	VA	247.1	238.5	8.60	14,973
Campbell	VA	247.1	238.5	8.60	54,842
Lynchburg	VA	247.1	238.5	8.60	75,568
Charlotte	VA	243.5	238.5	5.00	12,586
Prince Edward	VA	243.5	238.5	5.00	23,368
Culpeper	VA	241.3	238.5	2.80	46,689
Fredericksburg	VA	241.3	238.5	2.80	24,286
Spotsylvania	VA	241.3	238.5	2.80	122,397
Patrick	VA	237.4	238.5	(1.10)	18,490

Virginia

8,753,389	8,027,956	91.7%
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Name

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
King and Queen	VA	235.3	238.5	(3.20)	6,945
Richmond	VA	235.3	238.5	(3.20)	9,254
Smyth	VA	233.5	238.5	(5.00)	32,208
Henry	VA	232.1	238.5	(6.40)	54,151
Essex	VA	230.9	238.5	(7.60)	11,151
Pulaski	VA	230.2	238.5	(8.30)	34,872
Radford	VA	230.2	238.5	(8.30)	16,408
Highland	VA	228.5	238.5	(10.00)	2,321
Bath	VA	223.5	238.5	(15.00)	4,731
Lee	VA	223.5	238.5	(15.00)	25,587
Carroll	VA	221.5	238.5	(17.00)	30,042
Galax	VA	221.5	238.5	(17.00)	7,042
Grayson	VA	221.5	238.5	(17.00)	15,533
Wythe	VA	221.5	238.5	(17.00)	29,235
Albemarle	VA	213.5	238.5	(25.00)	98,970
Charlottesville	VA	213.5	238.5	(25.00)	43,475
Fluvanna	VA	213.5	238.5	(25.00)	25,691
Danville	VA	208.5	238.5	(30.00)	43,055
Dickenson	VA	208.5	238.5	(30.00)	15,903
Norton	VA	208.5	238.5	(30.00)	3,958
Russell	VA	208.5	238.5	(30.00)	28,897
Wise	VA	208.5	238.5	(30.00)	41,452
Halifax	VA	192.0	238.5	(46.50)	36,241
Martinsville	VA	168.5	238.5	(70.00)	13,821
Bland	VA	146.0	238.5	(92.50)	6,824
Buchanan	VA	146.0	238.5	(92.50)	24,098
Tazewell	VA	146.0	238.5	(92.50)	45,078

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Washington	6,724,540	6,628,767	98.6%

CALCULATIONS

County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
San Juan	WA	352.5	238.5	114.00	15,769
Island	WA	352.5	238.5	114.00	78,506
Skagit	WA	352.5	238.5	114.00	116,901
Jefferson	WA	342.5	238.5	104.00	29,872
Whatcom	WA	342.5	238.5	104.00	201,140
Snohomish	WA	332.5	238.5	94.00	713,335
King	WA	332.5	238.5	94.00	1,931,249
Whitman	WA	327.5	238.5	89.00	44,776
Lincoln	WA	322.5	238.5	84.00	10,570
Skamania	WA	322.5	238.5	84.00	11,066
Pend Oreille	WA	322.5	238.5	84.00	13,001
Stevens	WA	322.5	238.5	84.00	43,531
Mason	WA	322.5	238.5	84.00	60,699
Kitsap	WA	322.5	238.5	84.00	251,133
Pierce	WA	322.5	238.5	84.00	795,225
Cowlitz	WA	312.5	238.5	74.00	102,410
Clark	WA	312.5	238.5	74.00	425,363
Walla Walla	WA	309.7	238.5	71.20	58,781
Douglas	WA	300.5	238.5	62.00	38,431
Kittitas	WA	300.5	238.5	62.00	40,915
Chelan	WA	300.5	238.5	62.00	72,453
Grant	WA	300.5	238.5	62.00	89,120
Yakima	WA	300.5	238.5	62.00	243,231
Garfield	WA	286.9	238.5	48.40	2,266
Asotin	WA	286.9	238.5	48.40	21,623
Franklin	WA	282.7	238.5	44.20	78,163
Benton	WA	282.7	238.5	44.20	175,177
Spokane	WA	277.5	238.5	39.00	471,221
Clallam	WA	253.5	238.5	15.00	71,404
Pacific	WA	251.3	238.5	12.80	20,920
Grays Harbor	WA	251.3	238.5	12.80	72,797
Lewis	WA	251.3	238.5	12.80	75,455
Thurston	WA	251.3	238.5	12.80	252,264
Columbia	WA	238.5	238.5	-	4,078
Ferry	WA	233.5	238.5	(5.00)	7,551
Wahkiakum	WA	223.5	238.5	(15.00)	3,978
Klickitat	WA	223.5	238.5	(15.00)	20,318
Adams	WA	211.5	238.5	(27.00)	18,728
Okanogan	WA	211.5	238.5	(27.00)	41,120

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Wisconsin	5,686,986	3,821,637	67.2%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
St. Croix	WI	322.5	238.5	84.00	84,345
Pierce	WI	302.5	238.5	64.00	41,019
Kenosha	WI	302.5	238.5	64.00	166,426
Jefferson	WI	290.5	238.5	52.00	83,686
Dodge	WI	290.5	238.5	52.00	88,759
Racine	WI	290.5	238.5	52.00	195,408
Rock	WI	283.8	238.5	45.30	160,331
Calumet	WI	280.5	238.5	42.00	48,971
Walworth	WI	280.5	238.5	42.00	102,228
Winnebago	WI	280.5	238.5	42.00	166,994
Outagamie	WI	271.4	238.5	32.90	176,695
Manitowoc	WI	270.5	238.5	32.00	81,442
Ozaukee	WI	270.5	238.5	32.00	86,395
Washington	WI	270.5	238.5	32.00	131,887
Brown	WI	270.5	238.5	32.00	248,007
Waukesha	WI	270.5	238.5	32.00	389,891
Milwaukee	WI	270.5	238.5	32.00	947,735
Fond du Lac	WI	265.8	238.5	27.30	101,633
Green	WI	260.5	238.5	22.00	36,842
Lafayette	WI	256.2	238.5	17.70	16,836
Kewaunee	WI	252.7	238.5	14.20	20,574
Sheboygan	WI	250.5	238.5	12.00	115,507
Columbia	WI	244.9	238.5	6.40	56,833
Pepin	WI	241.3	238.5	2.80	7,469
Sawyer	WI	241.3	238.5	2.80	16,557
Dunn	WI	241.3	238.5	2.80	43,857
Douglas	WI	241.3	238.5	2.80	44,159
Chippewa	WI	241.3	238.5	2.80	62,415
Eau Claire	WI	241.3	238.5	2.80	98,736
Buffalo	WI	234.9	238.5	(3.60)	13,587
Door	WI	234.9	238.5	(3.60)	27,785
Oconto	WI	234.9	238.5	(3.60)	37,660
Shawano	WI	234.9	238.5	(3.60)	41,949
Green Lake	WI	232.7	238.5	(5.80)	19,051
Rusk	WI	231.3	238.5	(7.20)	14,755
Washburn	WI	231.3	238.5	(7.20)	15,911
Barron	WI	231.3	238.5	(7.20)	45,870
Crawford	WI	224.9	238.5	(13.60)	16,644
Jackson	WI	224.9	238.5	(13.60)	20,449
Iowa	WI	224.9	238.5	(13.60)	23,687
Trempealeau	WI	224.9	238.5	(13.60)	28,816
Vernon	WI	224.9	238.5	(13.60)	29,773
Monroe	WI	224.9	238.5	(13.60)	44,673
Sauk	WI	224.9	238.5	(13.60)	61,976
La Crosse	WI	224.9	238.5	(13.60)	114,638
Bayfield	WI	219.3	238.5	(19.20)	15,014
Burnett	WI	213.5	238.5	(25.00)	15,457
Polk	WI	213.5	238.5	(25.00)	44,205
Dane	WI	209.7	238.5	(28.80)	488,073
Grant	WI	209.3	238.5	(29.20)	51,208

Waushara	WI	207.1	238.5	(31.40)	24,496
Waupaca	WI	207.1	238.5	(31.40)	52,410
Price	WI	201.5	238.5	(37.00)	14,159
Ashland	WI	201.5	238.5	(37.00)	16,157
Florence	WI	191.5	238.5	(47.00)	4,423
Iron	WI	191.5	238.5	(47.00)	5,916
Marinette	WI	191.5	238.5	(47.00)	41,749
Marquette	WI	189.3	238.5	(49.20)	15,404
Richland	WI	189.3	238.5	(49.20)	18,021
Menominee	WI	181.5	238.5	(57.00)	4,232
Juneau	WI	171.5	238.5	(67.00)	26,664
Taylor	WI	149.6	238.5	(88.90)	20,689
Lincoln	WI	149.6	238.5	(88.90)	28,743
Marathon	WI	149.6	238.5	(88.90)	134,063
Clark	WI	139.6	238.5	(98.90)	34,690
Portage	WI	139.6	238.5	(98.90)	70,019
Wood	WI	139.6	238.5	(98.90)	74,749
Langlade	WI	131.8	238.5	(106.70)	19,977
Adams	WI	131.8	238.5	(106.70)	20,875
Forest	WI	114.0	238.5	(124.50)	9,304
Vilas	WI	114.0	238.5	(124.50)	21,430
Oneida	WI	114.0	238.5	(124.50)	35,998

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
West Virginia	1,852,994	417,651	22.5%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Brooke	WV	342.5	238.5	104.00	24,069
Hancock	WV	342.5	238.5	104.00	30,676
Morgan	WV	323.8	238.5	85.30	17,541
Berkeley	WV	323.8	238.5	85.30	104,169
Hardy	WV	318.7	238.5	80.20	14,025
Hampshire	WV	296.0	238.5	57.50	23,964
Pendleton	WV	290.9	238.5	52.40	7,695
Jefferson	WV	286.0	238.5	47.50	53,498
Mineral	WV	259.1	238.5	20.60	28,212
Monroe	WV	247.5	238.5	9.00	13,502
Wirt	WV	241.5	238.5	3.00	5,717
Calhoun	WV	241.5	238.5	3.00	7,627
Wood	WV	241.5	238.5	3.00	86,956
Pocahontas	WV	233.5	238.5	(5.00)	8,719
Grant	WV	233.5	238.5	(5.00)	11,937
Pleasants	WV	231.5	238.5	(7.00)	7,605
Ritchie	WV	231.5	238.5	(7.00)	10,449
Mingo	WV	223.5	238.5	(15.00)	26,839
Webster	WV	221.5	238.5	(17.00)	9,154
Clay	WV	221.5	238.5	(17.00)	9,386
Braxton	WV	221.5	238.5	(17.00)	14,523
Roane	WV	221.5	238.5	(17.00)	14,926
Lincoln	WV	221.5	238.5	(17.00)	21,720
Boone	WV	221.5	238.5	(17.00)	24,629
Nicholas	WV	221.5	238.5	(17.00)	26,233
Mason	WV	221.5	238.5	(17.00)	27,324
Jackson	WV	221.5	238.5	(17.00)	29,211
Tyler	WV	218.5	238.5	(20.00)	9,208
Wayne	WV	211.5	238.5	(27.00)	42,481
Putnam	WV	211.5	238.5	(27.00)	55,486
Cabell	WV	211.5	238.5	(27.00)	96,319
Kanawha	WV	211.5	238.5	(27.00)	193,063
Fayette	WV	201.5	238.5	(37.00)	46,039
Wetzel	WV	196.0	238.5	(42.50)	16,583
Preston	WV	191.5	238.5	(47.00)	33,520
Monongalia	WV	191.5	238.5	(47.00)	96,189
Marshall	WV	186.0	238.5	(52.50)	33,107
Ohio	WV	186.0	238.5	(52.50)	44,443
Logan	WV	176.5	238.5	(62.00)	36,743
Tucker	WV	176.0	238.5	(62.50)	7,141
Randolph	WV	176.0	238.5	(62.50)	29,405
McDowell	WV	156.0	238.5	(82.50)	22,113
Gilmer	WV	154.0	238.5	(84.50)	8,693
Upshur	WV	154.0	238.5	(84.50)	24,254
Greenbrier	WV	146.0	238.5	(92.50)	35,480
Mercer	WV	146.0	238.5	(92.50)	62,264
Doddridge	WV	144.0	238.5	(94.50)	8,202
Lewis	WV	144.0	238.5	(94.50)	16,372
Wyoming	WV	144.0	238.5	(94.50)	23,796
Marion	WV	144.0	238.5	(94.50)	56,418

Summers	WV	134.0	238.5	(104.50)	13,927
Raleigh	WV	134.0	238.5	(104.50)	78,859
Barbour	WV	124.0	238.5	(114.50)	16,589
Taylor	WV	124.0	238.5	(114.50)	16,895
Harrison	WV	124.0	238.5	(114.50)	69,099

Analysis of New T-Mobile Post-Merger Spectrum Aggregation

STATE	TOTAL POPULATION	POPULATION ABOVE FCC SCREEN	PERCENT ABOVE SCREEN
Wyoming	563,626	126,968	22.5%

CALCULATIONS					
County	State	New T-Mobile Mhz	FCC Spectrum Screen	Difference	County Population
Converse	WY	290.5	238.5	52.00	13,833
Natrona	WY	290.5	238.5	52.00	75,450
Johnson	WY	276.9	238.5	38.40	8,569
Sheridan	WY	256.9	238.5	18.40	29,116
Sublette	WY	223.5	238.5	(15.00)	10,247
Carbon	WY	223.5	238.5	(15.00)	15,885
Fremont	WY	223.5	238.5	(15.00)	40,123
Sweetwater	WY	223.5	238.5	(15.00)	43,806
Uinta	WY	213.5	238.5	(25.00)	21,118
Lincoln	WY	211.5	238.5	(27.00)	18,106
Big Horn	WY	203.5	238.5	(35.00)	11,668
Niobrara	WY	201.5	238.5	(37.00)	2,484
Hot Springs	WY	201.5	238.5	(37.00)	4,812
Washakie	WY	201.5	238.5	(37.00)	8,533
Platte	WY	201.5	238.5	(37.00)	8,667
Albany	WY	201.5	238.5	(37.00)	36,299
Campbell	WY	201.5	238.5	(37.00)	46,133
Laramie	WY	201.5	238.5	(37.00)	91,738
Goshen	WY	192.1	238.5	(46.40)	13,249
Park	WY	181.0	238.5	(57.50)	28,205
Teton	WY	168.0	238.5	(70.50)	21,294
Crook	WY	124.0	238.5	(114.50)	7,083
Weston	WY	124.0	238.5	(114.50)	7,208

CERTIFICATE OF SERVICE

I, Allen P. Grunes, hereby certify that on October 31, 2018, I caused true and correct copies of the foregoing to be served by electronic mail upon the following:

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