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Via Electronic Filing

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W., Room TW-A325
Washington, D.C. 20554

Re: ***Notice of Ex Parte Presentation: Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions***, GN Docket No. 12-268

Dear Ms. Dortch:

On January 3, 2014, Lawrence R. Krevor, Sprint Vice President, Legal and Government Affairs – Spectrum, and I spoke by telephone with Gary Epstein, Special Advisor and Chair of the Incentive Auction Task Force; Roger Sherman, Chief, Wireless Telecommunications Bureau; and John Leibovitz and Chris Helzer also of the Wireless Telecommunications Bureau. This conversation served as a follow-up to previous discussions with Commission staff on December 11, 2013 and December 19, 2013 regarding 600 MHz band plan alternatives.¹

Sprint continues to believe that an unpaired, time-division duplexing (TDD) band plan for 600 MHz best meets the Commission's goals of maximizing competitive opportunities and ensuring the most efficient use of spectrum obtained from the upcoming 600 MHz incentive auction. Sprint has supported a TDD band plan because an unpaired spectrum allocation would maximize the amount of bi-directional spectrum available for auction, as compared to a frequency-division duplexing (FDD) band plan, regardless of the amount of spectrum that broadcasters ultimately make available – thereby likely providing more competitors the opportunity to obtain broadband-enhancing low-band spectrum.² Similarly, Sprint has opposed band plans that would result in large amounts of supplemental downlink

¹ See *Notice of Ex Parte Presentation*, Sprint Corporation, GN Docket 12-268 (Dec. 13, 2013) and *Notice of Ex Parte Presentation*, Sprint Corporation, GN Docket 12-268 (Dec. 23, 2013).

² See Comments of Sprint Nextel Corporation, GN Docket No. 12-268, at 20 (filed Jan. 25, 2013).

(SDL), as that outcome would likely depress spectrum values and thus prospective auction revenue, while unduly advantaging carriers that have spectrally-proximate low-band spectrum to pair with it.³

Sprint recognizes, however, that the extensive record in this proceeding contains substantially more support for a 600 MHz FDD band plan than a TDD allocation.⁴ Accordingly, consistent with maximizing the amount of bi-directional spectrum the auction produces, and to facilitate broad consensus on a 600 MHz band plan, Sprint now supports a 600 MHz FDD band plan structured to maximize auctionable bi-directional paired spectrum, thereby enhancing the ability of wireless competitors to offer robust, sustainable wireless broadband competition to consumers.

The Commission has before it several FDD band plans, including plans from Ericsson, T-Mobile USA/Verizon, and AT&T.⁵ These plans vary significantly in the amounts of paired spectrum each would produce under different broadcast television clearing scenarios. Sprint submits that the Commission should not adopt any one of them in its entirety; rather, the Commission should use them as references in fashioning and adopting a 600 MHz band plan providing the most paired spectrum given the amount of broadcast spectrum the two-sided auction produces in major markets on a near-nationwide basis. For example, if the Commission determines that the reverse auction and subsequent repacking is likely to clear 120 megahertz on a near-nationwide basis, the Commission, using the Ericsson FDD plan as a model, should adopt a band plan that provides 50 + 50 megahertz of paired FDD spectrum, thereby generating the most 5 + 5 megahertz paired blocks for auction to multiple competitors, as indicated below.⁶

³ Comments of Sprint Nextel Corporation, GN Docket No. 12-268, at 20 (filed Jan. 25, 2013) (noting that supplemental downlink could actually “magnify spectrum aggregation problems and depress auction revenues” because “supplemental downlink within an FDD allocation makes sense only for operators already possessing spectrum with similar propagation characteristics – that is, only operators that have either acquired a paired 600 MHz license or that have 700 MHz licenses.”); Reply Comments of Sprint Nextel Corporation, GN Docket No. 12-268, at 14-15 (filed March 12, 2013) (arguing that supplemental downlink fails to expand competitive opportunities in the 600 MHz band); Comments of Sprint Nextel Corporation, GN Docket No. 12-268, at 9-10 (filed June 14, 2013) (noting that carrier aggregation opportunities for 600 MHz supplemental downlink are limited and that devotion of spectrum to supplemental downlink could thwart interoperability, deter entry, and reduce auction revenue); Reply Comments of Sprint Nextel Corporation, GN Docket No. 12-268, at 11-13 (filed June 28, 2013) (describing the ways in which significant downlink-only allocations, without meaningful competitive opportunities involving paired spectrum, result from a number of salient FDD band plans contained in the record).

⁴ See *e.g.*, Comments of AT&T Inc., GN Docket No. 12-268, at 18-19 (filed Jan. 25, 2013); Comments of Motorola Mobility, GN Docket No. 12-268, at 10-12 (filed Jan. 25, 2013); Comments of National Cable & Telecommunications Association (NCTA), GN Docket No. 12-268, at 7-8 (filed Jan. 25, 2013); Comments of Qualcomm Inc., GN Docket No. 12-268, at 4-6 (filed Jan. 25, 2013); Comments of T-Mobile USA, GN Docket No. 12-268, at 10-12 (filed Jan. 25, 2013); Reply Comments of United States Cellular Corp., GN Docket No. 12-268, at 17-18 (filed March 12, 2013); Comments of Verizon and Verizon Wireless, GN Docket No. 12-268, at 5-6 (filed Jan. 25, 2013); *Ex Parte* Letter from Kathleen Ham, Vice President, Federal Regulatory, T-Mobile USA and Kathleen Grillo, Senior Vice President, Verizon, to Ruth Milkman, Chief, Wireless Telecommunications Bureau and Gary Epstein, Chief, Incentive Auction Task Force, FCC, GN Docket No. 12-268 (filed Sept. 16, 2103) (“Ham/Grillo Letter”).

⁵ See Comments of Ericsson, GN Docket No. 12-268, at 3-5 (filed June 14, 2013); Ham/Grillo Letter, *supra*. n. 4; Comments of AT&T Inc., at Exhibit 2 (filed June 14, 2013).

⁶ Sprint recognizes the concerns raised by Qualcomm regarding the challenges associated with developing device antennas that can operate throughout the 600 MHz band. See, for example, Comments of Qualcomm Inc., GN Docket No. 12-268, at 7-9 (filed June 14, 2013). Sprint believes, however, that advancements in device design achievable by the time the 600 MHz spectrum becomes available for use, will enable the use of antennas and filters that can tune throughout the



Alternatively, if the incentive auction and subsequent repacking is likely to clear 84 megahertz of spectrum on a near-nationwide basis, the Commission should adopt a band plan generally based on the T-Mobile USA/Verizon proposal yielding 35 + 35 megahertz of paired FDD spectrum, as shown below. Similarly, if the incentive auction proves likely to result in clearing of less than 84 MHz on a near-nationwide basis, the Commission can use the AT&T or Ericsson band plan as references to yield at least 25 + 25 megahertz of paired FDD spectrum.⁷ In other words, the Commission should endeavor to maximize the number of paired spectrum blocks, both above and below Channel 37, available for auction to commercial wireless competitors.⁸



Sprint has considered a number of other potential 600 MHz band plan alternatives, such as permitting FDD and TDD spectrum allocations above Channel 37, or a flexible use allocation for either TDD or SDL below TV Channel 37 combined with an FDD band plan above Channel 37. Sprint concludes, however, that these alternative band plans would not maximize the amount of bi-directional spectrum from the 600 MHz auction and thus are less likely to promote competition. Similarly, a flexible allocation below Channel 37 would be unlikely to result in a significant TDD allocation opportunity given uncertainty that sufficient spectrum to support such an allocation would be available – or, if available, would cost significantly more to clear than comparable paired spectrum above Channel 37. Creating a “TDD set-aside” comprised of the most costly spectrum will not provide opportunities

spectrum range encompassed by the 120 megahertz Ericsson FDD band plan. Indeed, recognizing the importance of maximizing the availability of bi-directional low-band spectrum at 600 MHz, particularly with little additional low-band spectrum available elsewhere, Sprint submits that neither industry nor the Commission should preclude spectrally efficient, pro-competitive band plan solutions simply because of perceived issues based on today’s design constraints – especially when they invite practical, technical solutions within a reasonable timeframe.

⁷ Under these scenarios, the T-Mobile USA/Verizon plan would provide only 20 + 20 megahertz or less of paired FDD spectrum.

⁸ Modifications to the near-nationwide band plan could then be applied to accommodate those outlier markets where more or less clearing can be achieved. The Commission should, of course, require 600 MHz band devices to be capable of operating across all paired blocks in the 600 MHz band, ensuring interoperability within the band.

for near-nationwide coverage or the scale needed for TDD to be a viable technology alternative in this band.⁹

Given all of these considerations, the public interest in promoting competition, by making additional high-value low-band spectrum available for wireless broadband service, is best served by a band plan that maximizes paired, bi-directional spectrum, while minimizing potential complexities that could increase interference risks or otherwise limit full and efficient use of this important spectrum. Sprint supports an FDD band plan that maximizes the amount of paired FDD spectrum for the amount of spectrum that broadcasters actually make available on a near-nationwide basis.¹⁰

Pursuant to section 1.1206(b) of the Commission's rules, this letter is being submitted for inclusion in the public record of the above-referenced proceeding. Please let me know if you have any questions.

Respectfully submitted,



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cc (via email): Gary Epstein, Roger Sherman, John Leibovitz, and Chris Helzer

⁹ Sprint also considered approaches that would have enabled bidders to determine whether a particular spectrum block is used for FDD or TDD operations. While highly attractive from an economic, academic and regulatory flexibility perspective, this approach would cause additional uncertainty and complexity in what will already be a very complex auction.

¹⁰ Sprint continues to believe, consistent with the Commission adopting a band plan that maximizes the amount of paired 600 MHz low-band spectrum to promote wireless competition, that the Commission should adopt a cap on spectrum holdings below 1 GHz, including potentially imposing a limit on the amount of spectrum any bidder can acquire in the 600 MHz auction – particularly for bidders already possessing undue concentration of low-band spectrum licenses.