



June 29, 2016

VIA ELECTRONIC FILING

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: Ex Parte Presentation, Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, GN Docket No. 14-177; IB Docket No. 15-256; RM-11664, WT Docket No. 10-112; IB Docket No. 97-95.

Dear Ms. Dortch,

CTIA continues to support the Commission's forward-thinking efforts in the above-captioned proceedings and urges the Commission to act quickly to make high-band spectrum available to support America's leadership in 5G and the Internet of Things. CTIA strongly disagrees with recent filings made by the Satellite Industry Association ("SIA") and the Boeing Company ("Boeing") concerning the 37 to 40 GHz band that would undermine this goal.

SIA and Boeing appear to believe that additional time is necessary to determine the sharing parameters between terrestrial and satellite operations in the 37 to 40 GHz band and that terrestrial parties will not utilize their licensed spectrum to provide service throughout the country.¹ Neither of these arguments is availing and CTIA urges the Commission to reject them and move forward expeditiously to adopt new rules governing the use of this spectrum by terrestrial licensees (both incumbents and future entrants).

¹ See Letter from Tom Stroup, SIA to Marlene H. Dortch, FCC, GN Docket No. 14-177, at 2 (filed June 3, 2016) ("*June 3 SIA Ex Parte*") (arguing that "the record is incomplete with respect to spectrum sharing measures and other regulatory requirements" and that the Commission "should seek further comment before adopting regulatory provisions in these bands"); Letter from Bruce A. Olcott, Counsel to Boeing to Marlene H. Dortch, FCC, GN Docket No. 14-177, at 4 (filed May 27, 2016) ("*May 27 Boeing Ex Parte*") (asserting that "the Commission should provide sufficient time for the satellite and wireless industries to develop effective and non-burdensome spectrum sharing arrangements that will permit both terrestrial and satellite mmW services to rapidly develop").



Importantly, both satellite and terrestrial providers have documented in the public record the expected operating characteristics of their systems. Boeing has provided extensive simulation data, modeling both satellite and terrestrial mobile systems.² Similarly, a variety of terrestrial proponents have provided link budgets and other operating characteristics, as well as their own modeling of the interference environment into the record.³ The Commission therefore has significant technical documentation and data to reach a decision on the technical parameters associated with future terrestrial and satellite operations in the 37 to 40 GHz band and should move forward with establishing a licensing framework for the band based upon the existing technical record.

Calls for delay of these bands are particularly inapposite given that *no* satellite operations exist in the 37-40 GHz band to model, despite the satellite industry having several decades of opportunity to launch and deploy earth stations in those bands. Moreover, these calls are no more credible when accompanied by eleventh hour Fixed Satellite Service (“FSS”) filings that could frustrate Upper Microwave Flexible Use (“UMFU”) licensees’ ability to deploy service in the bands.⁴ It is therefore particularly appropriate and important for the Commission to move forward quickly to establish the operating parameters for mobile broadband services so that satellite providers, when designing their new systems, will have an understanding of the operating environment.

² Letter from Bruce A. Olcott, Counsel to Boeing to Marlene H. Dortch, FCC, GN Docket No. 14-177, (filed June 6, 2016).

³ See, e.g., Comments of Straight Path Communications, Inc., GN Docket No. 14-177, et al., at Appendix A (filed Jan. 27, 2016) (including link budget analyses of 5G systems at 39 GHz) (“Straight Path Comments”); Reply Comments of Nokia, GN Docket No. 14-177, et al., at Appendix (filed Feb. 26, 2016); Letter from Robert Kubik, Director, Public Policy, Engineering and Technology, Samsung Electronics Washington Office, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177, et al., at Attachment “Spectrum Frontiers” (filed Mar. 11, 2016).

⁴ Indeed, after the Commission formally announced its intention to consider a Report and Order and Further Notice of Proposed Rulemaking addressing the 37 to 40 GHz bands and other millimeter wave spectrum, Boeing sought authorization to actually deploy a satellite system in these bands. See Boeing Petition for Rulemaking for Allocation and Authorization of Additional Spectrum for the Fixed-Satellite Service in the 50.4-51.4 GHz and 51.4-52.4 GHz Bands (filed June 22, 2016). Boeing’s filing reveals its transparent attempt “to be grandfathered in and potentially seek operating restrictions upon future terrestrial systems...” Monica Allevan, *Boeing Seeks Permission to Launch Satellite Constellation in Same V-Band Spectrum as 5G Systems*, FierceWirelessTech (June 22, 2016) (citing satellite industry consultant observations), <http://www.fiercewireless.com/tech/story/boeing-seeks-permission-launch-satellite-constellation-same-v-band-spectrum/2016-06-27>.



Additionally, Boeing's claim that the wireless industry will be slow to roll out 5G services to consumers is belied by the record of real-world investment, competition, and infrastructure deployment that are the hallmarks of the wireless ecosystem. The U.S. wireless industry today competes vigorously for customers and network capacity, which has had the effect of driving lower prices, better networks, and more functionality for wireless consumers. Indeed, competitive pressures resulted in the nation's wireless industry investing nearly \$32 billion in capital expenditures in 2015 alone⁵—that's more per capita than anywhere else in the world. There is no reason to doubt that the U.S. wireless industry will similarly deploy next-generation 5G services expeditiously. As the record in this docket demonstrates, U.S. wireless providers have already announced implementation and testing plans for 5G.⁶ While initial deployments may focus on dense urban areas, there are myriad other potential uses of the millimeter wave spectrum, including in suburban and rural areas.⁷ The capital expenditures and track record of the mobile broadband ecosystem demonstrate that while services may start in denser areas of population, future rollout of next-generation services will begin quickly and continue throughout the country.

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The 37 to 40 GHz band holds great promise for future terrestrial mobile broadband services, especially for 5G. The Commission should not delay consideration of new rules for this spectrum band and should instead rely upon the substantial technical record to establish a framework for future use by consumers.

⁵ See Comments of CTIA, WT Docket No. 16-137, at 16 (filed May 31, 2016).

⁶ See, e.g., Press Release, T-Mobile and Ericsson partner for 5G pre-standard trials, Ericsson (Feb. 23, 2016), <http://www.ericsson.com/news/1988513>; White Paper, 5G Vision, Samsung Electronics Co., Ltd., at 13 (Feb. 2015), <http://www.samsung.com/global/businessimages/insights/2015/Samsung-5G-Vision-0.pdf>; Press Release, Brooklyn 5G Summit showcases Nokia innovations accelerating 5G and the evolution of the Internet of Things, Nokia.com (Apr. 18, 2016), <http://networks.nokia.com/news-events/pressroom/press-releases/brooklyn-5g-summit-showcases-nokia-innovations-accelerating-5g-and-the-evolution-of-the-in>; Letter from Maggie McCready, Vice President, Federal Regulatory and Legal Affairs, Verizon to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177, ET Docket No. 15-105 at 1 (filed Dec. 18, 2015); Press Release, AT&T Unveils 5G Roadmap Including Trials In 2016, AT&T (Feb. 12, 2016), http://about.att.com/story/unveils_5g_roadmap_including_trials.html; Dan Meyer, T-Mobile 5G plans look to maintain pace with AT&T and Verizon, [industrialiot5g.com](http://industrialiot5g.com/20160415/5g/t-mobile-5g-plans-lookmaintain-pace-att-verizon) (Apr. 15, 2016), <http://industrialiot5g.com/20160415/5g/t-mobile-5g-plans-lookmaintain-pace-att-verizon>.

⁷ See Letter from Davidi Jonas, CEO and President, Straight Path Communications, Inc., to Marlene H. Dortch, FCC, at 4 (filed June 1, 2016).



Pursuant to Section 1.1206 of the Commission's rules, a copy of this letter is being filed in ECFS. Please do not hesitate to contact the undersigned with any questions.

Sincerely,

/s/ Brian M. Josef

Assistant Vice President, Regulatory Affairs
CTIA