August 6, 2013

Via Electronic Filing

Acting Chairwoman Mignon Clyburn
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

Re: Ex Parte Communication: *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, GN Dkt. 12-354

Dear Chairwoman Clyburn:

Opening up the 3550-3650 MHz ("3.5 GHz") band for commercial wireless use has significant potential to increase the availability of broadband and allow network operators to meet increasing spectrum demands. The Commission's rules for the 3.5 GHz band, however, will trigger widespread licensed and unlicensed deployment only if they provide predictability and allow operational flexibility. AT&T and Google therefore jointly offer the following principles for the Commission's consideration in framing its rules.

We support the three-tiered framework for use proposed by the President's Council of Advisors on Science and Technology (PCAST) in the 3.5 GHz band, which must be shared with incumbent federal users. In July 2012, PCAST issued a report recommending that policymakers implement spectrum sharing between government users and commercial users in order to meet the nation's growing demand for spectrum resources.[1] In particular, the PCAST report recommended that sharing be implemented using a three-tiered framework, where government users would remain the primary incumbents, secondary exclusive users would be required to protect government users, and general access users would be permitted access to the spectrum when it is not used by either government or secondary exclusive users. We believe this model should be implemented in the 3.5 GHz band, and will protect incumbents, ensure secondary exclusive use for those with a need for especially reliable, uninterrupted access, and permit innovative unlicensed access where 3.5 GHz spectrum is not otherwise in use.

The Commission should establish broad eligibility for the secondary exclusive tier. The Commission's Notice of Proposed Rulemaking proposes to limit the secondary exclusive tier to "critical users."[2] AT&T and Google disagree with this approach. Limiting access to this tier based on prejudgment of what uses are sufficiently "critical" would undermine the

[1] Executive Office of the President, President's Council of Advisors on Science and Technology, *Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth*, Report to the President (July 2012) (PCAST Report).

[2] *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Notice of Proposed Rulemaking and Order, GN Docket No. 12-354 (rel. Dec. 12, 2012) ("NPRM"), ¶¶ 70-73.

Commission's goal of bringing mass-market, commercial-scale technologies to the 3.5 GHz band. It would also limit users' and service providers' flexibility to adapt to changing conditions and market opportunities. In order to encourage the widespread deployment of wireless systems in the 3.5 GHz band, the Commission should open up the secondary exclusive tier to any applicant that commits to a substantial service requirement.

A spectrum access database can effectively manage the three tiers of users. In the NPRM opening this proceeding, the Commission recognizes that a spectrum access system can enable a three-tier framework of use in this band.[3] Appropriate device certification and registration along with existing database technologies can be used to assign frequencies dynamically and mitigate interference where incumbent uses are geographically known. A new iteration of database technology administered by commercial entities can improve on this system, allowing maximum utilization of the band while protecting incumbent operations and providing service data to support enforcement of substantial service and other license requirements.

The Commission should calculate exclusion zones based on small-cell deployment scenarios. The National Telecommunications and Information Association assumed in its Fast Track report that the 3.5 GHz band would be used for traditional commercial macrocells, and it recommended substantial exclusion zones to accommodate those macrocell deployments.[4] We agree with the Commission and commenters that the propagation characteristics of the band make it ideal for small-cell use, instead.[5] Unlike macrocells, small cells have low antenna heights and low transmit power. NTIA's proposed zones are overprotective in the small-cell context, and the FCC can reduce exclusion zones dramatically if it designates the band for use by small cells rather than macrocells.

Geographic exclusion zones should protect incumbent users rather than new entrants. The Commission should calculate protection zones based only on the interference tolerance of incumbent operations, not the tolerance of potential new operations. While incumbents in the 3.5 GHz band have a need for protection from harmful interference, new entrants should be allowed to choose to operate in environments where they may encounter interference. Codifying current assumptions about the levels of interference commercial

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[3] NPRM at ¶ 95.

[4] National Telecommunications and Information Administration (NTIA), *An Assessment of Near-Term Viability of Accommodating Wireless Broadband Systems in the 1675-1710 MHz, 1755-1780 MHz, 3500-3650 MHz, and 4200-4220 MHz, 4380-4400 MHz Bands* (October 2010) ("NTIA Fast Track Report").

[5] NPRM at ¶¶ 20-21; Comments of Qualcomm Incorporated at i ("Qualcomm Comments"); PISC.

[5] Comments at 7-11; Comments of Wi-Fi Alliance at 4; Comments of PCIA—The Wireless Infrastructure Association and the DAS Forum, a Membership Section of PCIA at 2-5; Nokia Siemens Comments at 5; Comments of Microsoft Corporation at 3 ("Microsoft Comments"); CEA Comments at 8; Comments of Allied Communications, LLC at 2; Alcatel-Lucent Comments at 1-3; Comments of WiMAX at 1; Comments of the National Cable & Telecommunications Association at 2; AT&T Comments at i, 3-4; Comments of White Space Alliance at 2; Comments of Spectrum Bridge, Inc. at 4 ("Spectrum Bridge Comments"); Comments of SITA at 2.

operations can tolerate also would undermine innovation. If commercial users have an incentive to develop and deploy improved technologies that better withstand interference, they will do so.

To the extent auctions are needed in this band to resolve mutually exclusive demands for spectrum licenses, lightweight, fast, and flexible auction mechanisms should be used. This proceeding provides the Commission with a platform to develop an auction mechanism that is less costly and less complex than the current system. Just as this proceeding provides an opportunity to explore innovative sharing techniques, it also provides an opportunity for testing new auction techniques that are well-suited to different license characteristics or operating parameters. A more streamlined auction process would be appropriate for small cell deployment in this dynamic band. The Commission should seize that opportunity.

AT&T and Google believe that small cell use in the 3.5 GHz band holds great potential for successful spectrum sharing that meets the demands of wireless broadband users, and we hope the Commission will expeditiously adopt rules that fulfill this potential. Our companies look forward to working with the Commission to free up this and additional spectrum for wireless broadband uses.

Sincerely,

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