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Via Electronic Filing

June 29, 2016

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Notice of Ex Parte Communication: In the Matter of Use of Spectrum Bands Above 24 GHz For Mobile Radio Services Notice of Proposed Rulemaking; GN Docket No. 14-177

Dear Ms. Dortch:

AT&T writes today to comment on the proposed spectrum aggregation rules in the above-referenced proceeding, as well as some of the other aggregation proposals advanced in this record.

At the outset we note that AT&T has supported UMFU licensee diversity in this docket, particularly in 28 GHz, which is a seminal band for 5G development and will be critical to early 5G deployment. Equipment development in 28 GHz is more advanced than in other bands and 28 GHz is likely to support the initial 5G deployments in the U.S. and worldwide. For this reason, AT&T proposed four 200 MHz licenses in this band, allowing the incumbent licensees to keep only what they were using for commercial service and allowing the other licenses to be auctioned for competitive and diverse 5G use.

While the proposed Order takes a different approach to transitioning the 28 GHz band, our position remains the same – 5G development and deployment in the U.S. would best be served by the presence of multiple licensees in 28 GHz.

The 37-39 GHz band stands in a slightly different posture. It sits approximately 10 GHz higher in the band and our preliminary calculations suggest that, to achieve the same performance results, a carrier using 37-39 GHz spectrum will require approximately 50 percent more spectrum than a carrier deploying in the 28 GHz band. These performance factors should be taken into consideration in formulating licensing and spectrum aggregation policies, as a uniform approach

AT&T



could produce unintended results that ultimately undermine competitive and innovative 5G deployment in the U.S.

Finally, AT&T believes that any spectrum aggregation policies should establish thresholds at most and should not be formulated as hard caps. While the industry needs clear guidance on what level of aggregation will be permissible in the bands -- particularly given the secondary market activity that has already been announced -- hard caps are a blunt instrument that deny the Commission the discretion to permit higher levels of aggregation where it finds no competitive harms. Caps also limit consideration of performance factors and other unique circumstances that may be relevant to the still-emerging 5G competitive landscape.

With these principles in mind, AT&T supports the following spectrum aggregation approach:

First, at this early stage of 5G development and deployment, AT&T supports the proposed overall aggregation threshold of 1250 MHz of licensed UMFU spectrum, applied ex-ante as a threshold that would trigger additional scrutiny and review should it be exceeded. The UMFU bands being authorized in this proceeding are proposed to have disparate channel sizes and geography which could create odd localized aggregation levels that may require additional review in the context of any individual acquisition.

Flexibility is also needed as any specific aggregation review should take into consideration the difference in performance factors, as outlined above, and any other relevant circumstances. For example, if one licensee's holdings are exclusively in the 37-39 GHz band, while another licensee has exclusively 28 GHz band licenses, applying the same threshold to both licensees could build in competitive advantages that should be taken into consideration.

We further support adoption of this specific threshold at this time as opposed to the 1/3 formulation proposed by others. Given open questions around whether and how some UMFU channels will be shared and whether shared channels should count in any threshold approach, adoption of a specific threshold in this Order would provide needed clarity.

As to band-specific aggregation policies, AT&T supports license diversity in 28 GHz. As noted above, this band is critically important to emerging 5G development efforts. Indeed, many experimental efforts are already underway in this band and equipment development in this band is the most mature. Given that



the FCC is proposing to authorize only two 425 MHz licenses in this band, AT&T supports an approach that would result in two distinct licensees and thus the potential for competitive deployments in each market in the band.

As to 37-39 GHz, AT&T also supports a diversity of licensees in the contiguous licensed blocks in 37-39 GHz that will make up this band (excluding the channels identified for shared use with the government). As noted above, a 37-39 GHz licensee will need to utilize over 600 MHz of spectrum to match the performance potential of a single 425 MHz license at 28 GHz. Any aggregation approach to this band, including any intraband limits should they be adopted, should take that into consideration and not artificially undermine or restrict the potential for competitive use of the band. Rather, any approach adopted by the Commission should ensure that 5G deployments in 37-39 GHz have an opportunity to compete on par with deployments in 28 GHz.

Finally, as to performance requirements, given that we are only in the early stages of 5G development, a flexible approach to meeting build requirements is warranted. And while AT&T supports robust build requirements to ensure that the licenses are put to productive use, such requirements must take into consideration the licensing characteristics of each band. The FCC proposes to license 28 GHz as county-based licenses, which will allow licensees to strategically focus on dense urban geographies where a POPs based requirement will be easier to meet than it would in less densely-populated areas.

The 37-39 GHz band, on the other hand, will be licensed as PEAs, and the license areas will in many instances include a mixture of urban, suburban and rural areas. Imposing identical POPs requirements for mobile deployments on both types of licenses is likely to have unintended results. It's not hard to imagine a 37-39 GHz deployment that is more robust in terms of small cell access points than a 28 GHz deployment, yet it fails to meet the POPs compliance threshold for the PEA while the 28 GHz deployment far surpasses it for the county. Likewise, a POPs requirement may be appropriate for urban counties, but will likely only discourage investment in both counties and PEAs that are predominantly rural.

For these reasons, AT&T supports continued evaluation of build requirements and how they should be used for the new UMFU licenses and recommends that any POPs based approach be applied, at least at this early stage, to only urban counties and the urban populations of any PEA licenses. AT&T also supports continued consideration of an access point/million requirement for UMFU licenses that would take into consideration not only total POPs in a license area but also population density in the license area.



In accordance with the Commission's rules, this letter is being filed electronically with the Secretary for inclusion in the public record.

Sincerely,

A handwritten signature in black ink, appearing to be 'JM', is written over a horizontal line.

Joan Marsh

cc: Jon Wilkins
Brian Regan