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SUBMITTED ELECTRONICALLY VIA ECFS

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

Re: **Notice of *Ex Parte* Presentation**

GN Docket No. 14-177, *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*

Dear Ms. Dortch:

AT&T Services, Inc. (“AT&T”) and EchoStar Corporation (“EchoStar”) recently submitted guidelines under which the Commission would permit use of earth stations operating in the 28 GHz band as part of the rules adopted in the above referenced proceeding.^{1/} T-Mobile strongly opposes the AT&T/EchoStar formulation, which elevates satellite use to primary status in the 28 GHz band, unnecessarily constrains deployment of 5G services and threatens the success of terrestrial mobile broadband use of the spectrum. Instead, the Commission should permit additional satellite earth station use of the 28 GHz band in non-urban areas only on a secondary basis, using the technical parameters developed by wireless industry representatives (the “Technical Working Group”).^{2/}

^{1/} See AT&T Services, Inc. and EchoStar Corporation *Ex Parte*, GN Dkt. No. 14-177, IB Dkt. Nos. 15-256 and 97-95, RM-11664, and WT Dkt. No. 10-112 (filed May 19, 2016) (“AT&T/EchoStar Proposal”).

^{2/} See AT&T Services, Inc., Nokia, Samsung Electronics America, T-Mobile USA, Inc., and Verizon *Ex Parte*, GN Dkt. No. 14-177, IB Dkt. No. 15-256 (filed May 6, 2016). As discussed below, AT&T is a member of the Technical Working Group and contributed to the development of these technical parameters.

The AT&T/EchoStar Proposal Is a Threat to 5G

The primary purpose of this proceeding is to evaluate how spectrum in the millimeter wave bands can be made available for terrestrial mobile broadband to support 5G operations.^{3/} The AT&T/EchoStar proposal threatens that goal by affording satellite operations primary status, allowing nearly unlimited expansion of satellite earth station deployments notwithstanding the terrestrial operator's plans, and even in some instances superseding the rights of a terrestrial operator without coordination or regard to potential interference.^{4/} These rights are not only well in excess of any rights currently enjoyed by satellite operators, but essentially make the terrestrial operators secondary to satellite operations in many cases.

While the Commission should respect current use of the 28 GHz band by earth stations and promote flexible spectrum use where appropriate, it should not deviate so significantly from the principal purpose of this proceeding that it undermines the utility of the millimeter wave bands for terrestrial mobile broadband operations. The AT&T/EchoStar proposal would do just that. As maps recently filed by Nextlink Wireless, LLC demonstrate, the AT&T/EchoStar proposal would grant co-primary status in massive swaths of areas with high population density, causing significant damage to deployment of terrestrial services.^{5/} Moreover, the AT&T/EchoStar proposal fails to meaningfully address the technical parameters that would govern any satellite earth station operations in the 28 GHz band – surprising, because AT&T is a member of the Technical Working Group. Any proposal for use of the band for satellite operations is incomplete without an understanding of the operational parameters under which those stations would be required to operate.

^{3/} *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services; Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band; Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0- 38.0 GHz and 40.0-40.5 GHz for Government Operations*, Notice of Proposed Rulemaking, 30 FCC Rcd. 11878, ¶ 1 (2015) (“[W]e identify specific spectrum bands above 24 GHz that appear to be suitable for mobile service, and we seek comment on proposed service rules that would authorize mobile and other operations in those bands. This development of service rules for mobile use of the millimeter wave (mmW) bands occurs in the context of our efforts to develop a regulatory framework that will help facilitate so-called Fifth Generation (5G) mobile services.”).

^{4/} The AT&T/EchoStar proposal provides for a two-tiered “safe harbor” approach, under which satellite operators can deploy earth stations even when they do not successfully coordinate their operations with terrestrial users. For both tiers, the safe harbor allows for deployment of up to two FSS earth stations per license area *and* per individual satellite network, with a maximum EIRP density toward the horizon of 12.2dBm/MHz. The tiers are based on population density. *See* AT&T/EchoStar Proposal at Attachment p.3.

^{5/} *See* Nextlink Wireless, LLC *Ex Parte*, GN Dkt. No. 14-177, IB Dkt. Nos. 15-256 and 97-95, RM-11664, and WT Dkt. No. 10-112 (filed May 24, 2016).

Contrary to the AT&T/EchoStar proposal, satellite operators should have no primary rights to use the 28 GHz band, whether inside or outside the urban core, unless they obtain those rights through auction or the secondary market. As noted above, satellite operators have never had rights to use the spectrum on a primary basis and could not have had any reasonable expectation that they would secure those rights in the future. They merely seek to take advantage of a regulatory opportunity to expand the properly limited rights they have today.

Worse, elevating satellite use to primary status under the AT&T/EchoStar proposal will defeat the purpose of the type of geographic licensing which the Commission has traditionally adopted for commercial wireless services and which it has proposed for millimeter wave band use. AT&T/EchoStar propose two types of coordination between terrestrial and satellite users – “standard” and “long-range” coordination approaches, backstopped by a “safe harbor” giving further rights to satellite operators in the event that their attempts to coordinate are not successful.^{6/}

This scheme is antithetical to the incredibly successful approach the Commission has used in the past to authorize commercial terrestrial services and that it has again proposed in this proceeding for 5G operations. Under the Commission’s usual formulation, commercial mobile operators are generally permitted to locate stations anywhere throughout their authorized geographic area, which provides them maximum flexibility to respond to consumer demand. Population centers are constantly shifting and developing, and holding a geographic area license enables commercial providers to respond to those changing demographics. The AT&T/EchoStar proposal, by preempting potential terrestrial use through prior coordination requirements, would strip mobile providers of necessary flexibility by creating areas in which they could not respond to future or changing needs.^{7/} Indeed, the AT&T/EchoStar coordination scheme is similar to the approach for earth station or microwave licensing under Parts 25 and 101 of the rules, where site-by-site spectrum use – and not flexible operations – is contemplated.

^{6/} See *supra* note 4.

^{7/} The later-submitted EchoStar proposal additionally defining the safe harbors that may be used without requiring successful coordination even further skews potential use of the 28 GHz band away from terrestrial operations. See EchoStar Corporation *Ex Parte*, GN Dkt. No. 14-177, IB Dkt. Nos. 15-256 and 97-95, RM-11664, and WT Dkt. No. 10-112 (filed May 23, 2016). This EchoStar proposal suggests that tier 1 of the safe harbor would cover areas with a population density below 1500 persons per square mile and that tier 2 would cover areas with a population density below 1000 persons per square mile. Therefore, if the Commission adopts partial economic area (“PEA”) licensing, as many have advocated, Class 1 satellite service (as defined by the Technical Working Group) could be permitted everywhere (if there was not yet terrestrial deployment) – there are no PEAs with more than 1500 people per square mile. And, if county level licensing was adopted, Class 1 satellite service would be permitted in counties containing approximately 80% of the US population and covering 99% of the geography (again, if there was not yet terrestrial deployment). By effectively permitting primary satellite earth station operations anywhere, the Commission would threaten mobile operators’ ability to use their authorized spectrum flexibly and in response to consumer and business demand.

The Commission Should Adopt the CTIA and Technical Working Group Approaches

T-Mobile therefore agrees with CTIA that there should be no additional use of the 28 GHz band by satellite operators within the urban areas CTIA identifies and that any additional satellite use outside the urban core should be on a secondary basis only.^{8/} CTIA’s approach – as supplemented by the technical parameters recommended by the Technical Working Group – appropriately recognizes that satellite operations must remain secondary in order to allow the full deployment of mobile broadband 5G operations in the 28 GHz band, while continuing to permit existing operations and providing other avenues for protection.

In particular, T-Mobile supports CTIA’s proposal to:

- Allow existing satellite licensees, wherever located, “operation rights” on a secondary basis. Those rights would mean that licensees could install new earth stations at existing locations and would not be required to relocate or modify existing facilities in order to accommodate mobile broadband terrestrial operations.
- Permit, for future operations, satellite earth stations on a secondary basis outside the top 150 cellular market areas (“CMAs”) identified by CTIA, subject to coordination requirements that continue to be developed. Inside the top 150 CMAs, no new facilities would be permitted unless the satellite operator secured rights to operate on a primary basis as described below. In particular, for locations both within and outside the top CMAs, satellite users could secure rights to operate on a primary basis in one of two ways. First, they could participate in an auction for 28 GHz spectrum and use that spectrum for satellite earth stations. Second, they could participate in the secondary market and secure rights to use spectrum based on commercial agreement.

CTIA’s approach must be informed by the parameters developed by the Technical Working Group that specify the appropriate operational limits for satellite earth stations.

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Pursuant to Section 1.1206(b)(2) of the Commission’s rules, an electronic copy of this letter is being filed for inclusion in the above-referenced docket. Please direct any questions regarding this filing to the undersigned.

Respectfully submitted,

/s/ Steve B. Sharkey

Steve B. Sharkey
Vice President, Government Affairs
Technology and Engineering Policy

^{8/} See CTIA *Ex Parte*, GN Dkt. No. 14-177, IB Dkt. Nos. 15-256 and 97-95, RM-11664, and WT Dkt. No. 10-112 (filed May 20, 2016).

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