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CONNECTING PEOPLE WITH INTEGRITY

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May 13, 2016

**VIA ELECTRONIC FILING**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

**Re: Written *Ex Parte* Presentation**

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

Straight Path appreciates that, in the above-referenced proceeding, the Commission must respect existing allocations while promoting the use of millimeter wave band spectrum for fifth generation, or “5G” terrestrial systems. In particular, the Commission has inquired how it can accommodate fixed satellite service (“FSS”) operations in the bands proposed for mobile terrestrial use.<sup>1/</sup> To achieve those goals, the Commission should maintain the rules that currently govern the “soft segmentation” approach to use of the 37.5-40 GHz band (the “39 GHz band”).<sup>2/</sup> If it deviates from today’s approach, the Commission should adopt rules that protect terrestrial 5G operations and allow FSS operators to secure additional protection through the auction and secondary market processes.

***The Commission Should Retain the Current Relationship Between FSS and Terrestrial Operations at 39 GHz***

Straight Path strongly supports the Commission’s proposals to retain the protections already in its rules that permit FSS use of the 37.5-40 GHz band. Those current regulations, which should be retained, contain the following:

- A limitation on FSS use to ground gateway stations.
- A satellite PFD limit of -117 dBW/m<sup>2</sup>/MHz.

<sup>1/</sup> See *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.*, Notice of Proposed Rulemaking, 30 FCC Rcd. 11878, 11916–27 ¶¶ 124–165 (2015) (“*NPRM*”).

<sup>2/</sup> See *NPRM* at ¶¶ 38, 125 & n.264.

- A requirement that FSS operators obtain a Part 101 license in order to deploy a ground station.

These essential features of the soft segmentation approach should continue. Unfortunately, representatives of the satellite industry have urged the Commission to abandon these parameters in order to create the opportunity for the type of FSS operations in the 39 GHz band that the Commission never envisioned.<sup>3/</sup> If the Commission accedes to these requests, it would significantly jeopardize U.S. leadership in 5G, harm the prospects for a successful 5G deployment in the United States, and deprive the Nation of a gigabit mobile broadband infrastructure that can become an economic driver for decades to come.

### ***Any Change to FSS Rules Must Adequately Protect 5G Terrestrial Operations***

If the Commission makes any changes to the current rules governing satellite use of the 39 GHz band, it must adhere to the following two principles in order to protect 5G terrestrial operations. *First*, only gateway stations must be allowed. *Second*, the PFD limit should be maintained at -117 dBW/m<sup>2</sup>/MHz. In particular, if FSS gateway stations are not separately licensed under Part 101, they must be required to the following requirements:

1. The number of gateway stations that can be deployed within a geographic service area must be limited, as originally envisioned under the soft segmentation approach to use of the band. One gateway station per Economic Area should be permitted (for a total 175 gateway stations for the country).
2. An FSS/Upper Microwave Flexible User Service (“UMFUS”) interference coordination zone of no more than 1 kilometer surrounding the gateway station should be clearly defined with a strip of no more than 10 kilometers along the pointing direction to the satellite (a total area size of approximately 25 km<sup>2</sup>). Areas where heavy 5G traffic is expected should be excluded as potential FSS/UMFUS interference coordination zones. In particular, census tracts with population density greater than 25 people/km<sup>2</sup> should be excluded. Based on the 2010 U.S. census data,<sup>4/</sup> less than 20% of the land area in the United States would be excluded, meaning that gateway stations can be located in approximately 80% of the U.S. land area. An example of FSS/UMFUS interference coordination zone is shown in Figure 1, below. The FSS operator should include the required interference coordination from terrestrial licensees in an application request submitted under Part 25 of the rules and the Commission should issue a Public

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<sup>3/</sup> See, e.g., Letter from Jennifer A. Manner, Vice President, Regulatory Affairs, EchoStar Corporation, and Stacey G. Black, Assistant Vice President – Federal Regulatory, AT&T Services, Inc. to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177, *et al.* (Apr. 6, 2016) (proposing framework for mobile and satellite spectrum sharing in the 28 GHz and 39 GHz bands); Letter from Petra A. Vorwig, Senior Legal & Regulatory Counsel, SES Americom, Inc., and Donna Bethea-Murphy, Senior Vice President, Inmarsat Mobile Networks, Inc. to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177 (Apr. 26, 2016).

<sup>4/</sup> See 2010 U.S. Census Data, U.S. Census Bureau, *available at* <http://www.census.gov/data/data-tools.html> and various websites with links therein.

Notice before approving such an application so that terrestrial operators can review and respond to the interference coordination request.

3. Terrestrial operators should not be required to modify existing operations or degrade current service due to an interference coordination request. Satellite industry representatives have asserted that FSS operations are possible in the millimeter wave bands because terrestrial services will not be widely deployed.<sup>5/</sup> If that is the case, there will be many options for FSS station operation outside of the area where terrestrial services have already initiated service. In addition, since FSS operators can use 80% of the land area in the U.S. to locate gateway stations (should the Commission adopt this proposal), there is no reason why they have to deploy in a location that requires interference coordination with ongoing terrestrial operations.
4. Terrestrial operators should protect existing gateway stations that are in operation at the time of deploying new terrestrial base stations in the interference coordination zone of those gateway stations.

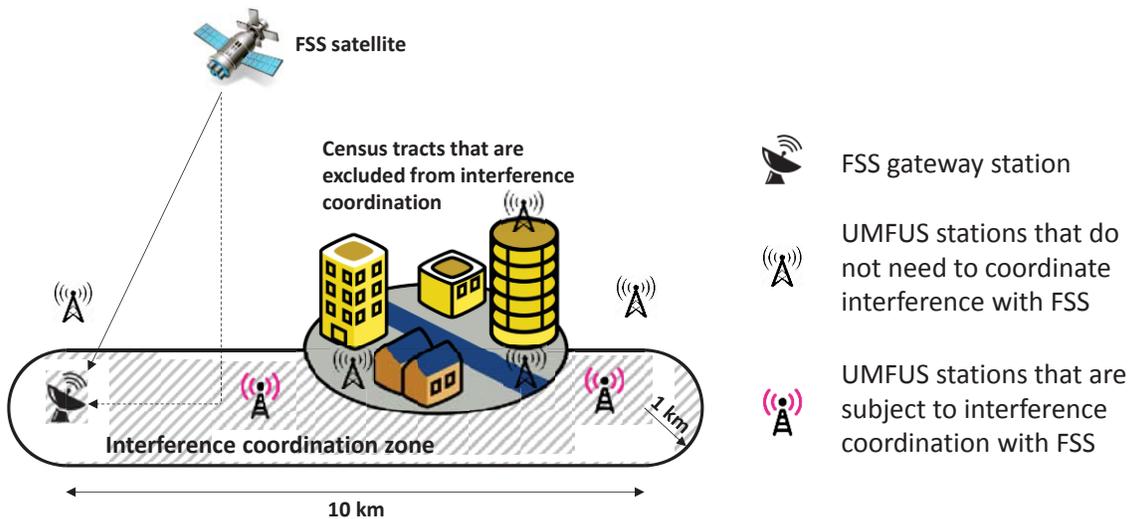


Figure 1. Illustration of an FSS/UMFUS interference coordination zone

### ***Auction Participation Should Remain an Option***

In addition to the foregoing, the Commission should still allow FSS operators to secure even greater rights to use millimeter wave spectrum through auction of those bands. It should also adopt flexible rules that would promote disaggregation and partitioning and a

<sup>5/</sup> See, e.g., Letter from John P. Janka and Elizabeth R. Park, counsel for ViaSat to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177, *et al.*, at 3 (Apr. 21, 2016) (stating that ViaSat expects “5G deployment will occur in a manner that is focused on densely populated areas and/or in places where large numbers of people regularly congregate,” and that “even inside ‘urban cores,’ there are likely to be large numbers of pockets that will not be part of a 5G base station coverage area.”); Letter from Petra A. Vorwig, Senior Legal & Regulatory Counsel, SES Americom, Inc. to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177 (May 5, 2016).

vibrant secondary market. That will permit FSS operators, along with other interested parties, to engage in market based transactions to meet their spectrum needs.

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The foregoing approach can help achieve the balance the Commission seeks between promoting the terrestrial 5G operations that will allow the United States to maintain its leadership in the mobile wireless industry and protecting FSS operations. Straight Path looks forward to working with all interested stakeholders to produce a timely resolution of this proceeding. Should there be any questions, the Commission is asked to contact the undersigned directly. Pursuant to Section 1.1206(b)(2) of the Commission's rules, a copy of this letter has been submitted in the record of the above-referenced proceeding.

Respectfully submitted,

/s/ Davidi Jonas

Davidi Jonas  
CEO and President  
Straight Path Communications, Inc.