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VIA ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Room TW-A325
Washington, D.C. 20554

Re: Use of Spectrum Bands Above 24 GHz For Mobile Radio Services; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band; GN Docket No. 14-177 and RM-11664

Dear Ms. Dortch:

O3b Limited hereby submits this *ex parte* letter regarding the upcoming NPRM in this proceeding.¹ O3b 12-satellite non-geostationary satellite constellation operates in spectrum identified in the Spectrum Frontiers NOI for its commercial service, both domestically and abroad. As O3b approaches the final stages of securing financing for its next 8 satellites, it has a number of concerns regarding the upcoming NPRM in this proceeding. Here, O3b poses questions the Commission should ask in order to fully address all the complications involved in allocating the frequency bands identified in the Spectrum Frontiers NOI for mobile services. The Spectrum Frontiers NOI raises complex technical and policy matters that will affect numerous U.S. telecommunications stakeholders. The Commission must be prepared to address the issues that are relevant to all stakeholders prior to a rulemaking in this proceeding.

Specifically, as identified below, O3b believes that there are many critical questions and issues that the Commission has not yet addressed in this proceeding. O3b urges the Commission to include the issues raised by the below questions in any future Notice of Proposed Rulemaking:

- 1) In the Spectrum Frontiers NOI, the FCC discussed several licensing models, including exclusive licenses, shared licenses, and unlicensed use:
 - For each type of potential licensing regime, how should the current and future operations of incumbent operators be protected?

¹ See *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services; Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.00 GHz Bands; Implementation of Section 309(j) of the Communications Act—Competitive Bidding, 37.0-38.6 GHz and 38.6- 40.0 GHz Bands; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band*, Notice of Inquiry, 29 FCC Rcd 13020 (2014) (“*Spectrum Frontiers NOI*”).

- To the extent certain 5G proposals assume exclusive licensing, how will such schemes protect existing services? When identifying the LMDS band as a potential candidate for 5G services, are the sharing solutions being evaluated with FSS growth needs in mind?
 - In the lower LMDS band, are there public interest benefits to elevating FSS operations to co-primary status? What would a possible sharing environment look like?
 - What technical and regulatory requirements would ensure that Fixed-Satellite Service (“FSS”) operators could operate on a co-primary basis in the LMDS band?
- 2) The information provided in the NOI indicated that 5G technology may be best suited for dense urban and suburban areas rather than a nationwide coverage scheme.
- What sort of middle-mile infrastructure is necessary to support 5G services and how will that affect how 5G is deployed?
 - Have there been any technological developments suggesting that 5G services can be deployed to more sparsely populated areas?
 - How will 5G achieve universal service coverage to remote, isolated, rural, or island populations?
- 3) Similarly, with respect to terrestrial operations, the Commission would need to obtain data to better understand potential cumulative interference from 5G systems to other operations, including answers to the following types of questions:
- What compatibility models or studies are available or have been conducted to analyze the potential cumulative interference of 5G systems (e.g., from all base stations or all mobile stations in a particular frequency band) to systems operating in other services in the same or adjacent frequency bands for 5G use? What technical assumptions were made about the technical and operational parameters of FSS and fixed-service systems for those models or studies? Were these assumptions based on publicly available information, including in FCC FSS applications, license filings etc.?
 - What impact would 5G terminals will have on the operation of FSS uplinks? What is the expected aggregate interference to FSS satellites (GSO and NGSO) from the operation of 5G terminals? Is it based on the anticipated deployment of 5G within the anticipated lifetime of FSS satellites currently operating in operation (i.e., through at least 2025)?

Please direct any questions to the undersigned.

Sincerely,

 /s/ Suzanne Malloy

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