

May 19, 2016

**BY ELECTRONIC FILING**

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

Re: *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.*, GN Docket No. 14-177, IB Docket Nos. 15-256 and 97-95; RM-11664; and WT Docket No. 10-112

Dear Ms. Dortch:

In this proceeding, AT&T and EchoStar Satellite Operating Corporation, Hughes Network Systems, LLC and Alta Wireless, Inc. (collectively “EchoStar”) previously submitted a potential framework for sharing the 28 GHz band and the 37.0-40.0 GHz band among Fixed-Satellite Service (“FSS”) licensees and new Upper Microwave Flexible Use (“UMFU”) licensees.<sup>1</sup> At that time, details of the coordination guidelines were still being developed.

AT&T and EchoStar have now drafted the first portion of such guidelines, under which UMFU licensees would accommodate post-auction deployment of individually-licensed FSS earth stations communicating with geostationary orbit satellites in the 28 GHz band. Among other things, these guidelines include:

1. a process for standard coordination of proposed FSS earth stations, including the timing for submissions and the sorts of information to be exchanged;
2. an option for long-range coordination of proposed FSS earth stations, designed to provide FSS operators the certainty they need in advance of the multi-year process of designing and building a satellite; and
3. a two-tiered safe harbor approach, one of which may be invoked by an FSS applicant as of right and the other of which may be invoked on a more limited basis if attempts to coordinate have failed.<sup>2</sup>

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<sup>1</sup> See Letter from Stacey Black and Jennifer Manner to Marlene H. Dortch, GN Docket No. 14-177, *et al.*, Exhibit 2 (Apr. 6, 2016).

<sup>2</sup> Although AT&T and EchoStar have agreed on the conceptual approach for the safe harbor, they have not yet been able to agree on the population density cut-offs that would apply to each tier. Accordingly, those cut-off levels have been left blank for the time being.

The parties believe that these guidelines will allow FSS and UMFU licensees to fairly share the 28 GHz band spectrum outside of the protected “urban core” areas, and thereby enable both satellite and mobile services to make intensive and productive use of these valuable spectrum resources in a manner that does not unduly restrict the development of either service.

Respectfully submitted,

*/s/ Stacey Black*

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*/s/ Jennifer Manner*

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Attachment

cc: Michael Ha  
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Brian Regan  
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## **GSO Coordination Guidelines**

### **28 GHz Band**

#### **UMFU Licensee Accommodation of Post-Auction FSS Deployment**

##### General Rules:

- Outside of urban cores, UMFU sites and FSS individually-licensed earth stations are co-primary.
- Consistent with the co-primary nature of this band: (1) a party that has already begun operations shall be entitled to protection of its operational sites; and (2) where neither party has yet begun operations, the first of either the initiation of deployment of UMFU site in a given area or the filing of an application for an FSS individually-licensed earth station in a given area shall have protection against subsequent UMFU or FSS deployments.
- Individually-licensed FSS earth stations shall operate in this band with a maximum EIRP density toward the horizon of 12.2dBm/MHz or as agreed by the parties.

##### Long Range Coordination:

- A prospective applicant for an individually-licensed earth station in the 27.5-28.35 GHz band may request from any UMFU license holder in the same frequency band that holds an area license for the geographic area in which the earth station is to be located or holds an area license for an immediately adjacent geographic area within 1km of the proposed FSS earth station site information on the anticipated deployment of UMFU sites in those geographic areas over the next five years.
- Each UMFU licensee that receives such a request shall make this information available to the FSS party within 60 days. The UMFU licensee may require a non-disclosure agreement.
- Based on this information, the parties shall negotiate in good faith in an effort to coordinate a location for deployment of the individually-licensed FSS earth station.
- If the parties reach agreement on such a location, and the FSS party files an application for an individually-licensed earth station consistent with that agreement within five years, the earth station shall be deemed coordinated.

##### Standard Coordination:

- In the absence of Long Range Coordination, an applicant for operation of an individually-licensed FSS earth station in the 27.5-28.35 GHz band shall, prior to the filing of its application with the FCC, send a coordination request directly, or via a third party or equivalent method, to all UMFU license holders in the same frequency band who hold an area license for the same geographic area in which the earth station is to be located or hold an area license for an immediately adjacent geographic area within 1 km of the proposed FSS earth station site.

- If the FSS earth station applicant does not move forward with its FCC application, it shall provide reasonable notice to the UMFU license holders and the coordination shall be deemed cancelled.
- This coordination request shall include the following technical data for the proposed earth station, for use in assessing the potential interference scenario:
  - Station coordinates
  - Frequencies and polarizations
  - Maximum effective isotropic radiated power
  - Emission designators
  - Antenna center line height(s) above ground level and ground elevation above mean sea level.
  - Antenna maximum EIRP towards the horizon
  - Proposed techniques to mitigate interference
  - Antenna pattern
  - Antenna pointing angle in terms of azimuth and elevation
  - The coordination request will include a point of contact from the FSS operator.
- Each notified UMFU license holder will have up to 30 days to provide responses to the standard coordination request once all the technical data has been received. The UMFU license holder can request an extension of no more than 30 days, approval of which will not be unreasonably withheld.
- If a notified UMFU license holder does not respond within the response period, and the UMFU licensee has not received an approved extension of time, the proposed FSS earth station is deemed to be coordinated with that license holder.
- A notified UMFU operator can only raise a concern in response to a coordination notice if it has an actual deployment in operation that will be adversely affected or the initiation of UMFU site deployment has begun that will be adversely affected. As used herein, “initiation of UMFU site deployment” has occurred where the UMFU licensee can demonstrate verifiable progress toward deployments, such as seeking appropriate zoning approval, purchasing or leasing land or tower space, or equipment procurement.
- This response should provide relevant technical information on the interference concern.
- If the concern relates to a planned deployment site (as opposed to an existing site), the UMFU licensee must provide the lat/long coordinates and the operational parameters of the planned deployment site.
- For actual UMFU sites and those where initiation of UMFU site deployment has begun, the parties will complete coordination within thirty days after the response to the coordination request (unless an extension is requested and approved). In performing coordination, the parties should first endeavor to minimize the impact to each proposed or actual operation.

- All technical problems that come to light during coordination must be resolved unless a statement is included with the FSS earth station application to the effect that the applicant is unable to resolve the conflict and briefly the reason therefore or the applicant chooses to deploy consistent with the Tier 1 safe harbor.
- The FCC, in acting on such a notice, shall take into account, inter alia, the impact on actual and potential UMFU customers, whether other solutions are technically and economically feasible, and the economic considerations for both parties.

Safe Harbors:

- Tier 1 Safe Harbor
  - For those cases where the GSO FSS earth station applicant and UMFU licensee engaged in, but could not successfully complete, a good faith coordination agreement, an individual GSO FSS earth station with a maximum EIRP density toward the horizon of 12.2dBm/MHz may be deployed provided that the population density (based on the 2012 Census Tracts) is below [\_\_\_] persons per square mile and there is no current UMFU deployment within that area. No more than 2 FSS uplink locations per individual satellite network shall be deployed under this Tier 1 Safe Harbor approach in a given UMFU license area. Notice shall be provided to the UMFU licensee of the FSS earth station deployment, and the FSS earth station shall be identified as a Tier 1 Safe Harbor deployment in the FCC application.
- Tier 2 Safe Harbor
  - For those cases where an individual GSO FSS earth station with a maximum EIRP density toward the horizon of 12.2dBm/MHz is to be deployed without engaging in good faith coordination, the population density (based on the 2012 Census Tracts) within the area around the earth station must be below [\_\_\_] persons per square mile. No more than 2 FSS earth stations per individual satellite network shall be deployed under this Tier 2 Safe Harbor approach in a given UMFU license area. Notice shall be provided to the UMFU licensee of the FSS earth station deployment, and the FSS earth station shall be identified as a Tier 2 Safe Harbor deployment in the FCC application.