

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 2 and 25 of the)	
Commission's Rules to Facilitate the Use)	
of Earth Stations in Motion)	IB Docket No. 17-95
Communicating with Geostationary Orbit)	
Space Stations in Frequency Bands)	
Allocated to the Fixed Satellite Service)	
)	

REPLY COMMENTS OF VIASAT, INC. TO FURTHER NOTICE

Viasat, Inc. ("Viasat") replies to the comments filed in connection with the Further Notice of Proposed Rulemaking in the above-captioned proceeding regarding the operation of earth stations in motion ("ESIMs") with geostationary orbit ("GSO") fixed-satellite service ("FSS") satellites. The *Further Notice* presents proposals that are limited in scope and that simply seek to extend the Commission's recently adopted GSO ESIM rules to apply also to all of the frequency bands in which GSO FSS earth stations at fixed locations can be blanket licensed.¹ Accordingly, the comments reflect the non-controversial nature of the proposals and strong support for the adoption of rules that would allow GSO FSS ESIMs in the 10.7-10.95 GHz and 11.2-11.45 GHz portions of the Ku band, and the 17.8-18.3 GHz, 18.8-19.3 GHz, 19.3-19.4 GHz, 19.6-19.7 GHz and 28.6-29.1 GHz portions of the Ka band, pursuant to the same relative status as GSO FSS blanket licensed earth stations, vis-à-vis NGSO FSS and fixed service ("FS") operations.

¹ *Amendment of Parts 2 and 25 of the Commission's Rules to Facilitate the Use of Earth Stations in Motion Communicating with Geostationary Orbit Space Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 17-95, Report and Order and Further Notice of Proposed Rulemaking, FCC 18-138 ¶ 91 (rel. Sept. 27, 2018) ("*Report and Order*" or "*Further Notice*").

The supporting comments by Boeing, Hughes, Inmarsat, Panasonic, and SES and O3b reflect broad agreement in the industry that adding the proposed frequencies to the GSO ESIM rules is fully consistent with the Commission's actions in this proceeding to streamline and facilitate deployment of ESIMs, which have been demonstrated to be capable of operating without adversely changing the operating environment created by fixed FSS earth stations.² Like Viasat, Boeing agrees that interference from FS into downlink bands can be avoided by switching to other frequencies or otherwise avoiding interference.³ SES and O3b also confirm Viasat's experience that ESIMs are transitory by nature and thus, existing terrestrial uses of downlink bands, such as 17.8-18.3 GHz, are unlikely to materially impact ESIM operations.⁴ Further, Boeing and Inmarsat cite other techniques for managing interference, such as the use of a database of FS transmitter locations or interference detection capabilities.⁵

The National Academy of Sciences, through its Committee on Radio Frequencies ("CORF"), raises concerns regarding potential interference from satellite downlinks to protected passive scientific observations at 10.6-11.7 GHz and 18.6-18.8 GHz.⁶ CORF acknowledges that the ITU Radio Regulations and footnotes in the U.S. Table of Frequency Allocations ("U.S. Table") already afford "significant protection" to the RAS observations and remote sensing EESS operations in these bands.⁷ Notwithstanding these existing protections, CORF suggests

² See Boeing Comments at 1-2; Hughes Comments at 2-3; Inmarsat Comments at 2; Panasonic Comments at 2; SES/O3b Comments at 1.

³ See Boeing Comments at 4.

⁴ See SES/O3b Comments at 2-3.

⁵ See Inmarsat Comments at 2-3; Boeing Comments at 5.

⁶ See CORF Comments at 7-11.

⁷ See *id.* at 7, 9.

that the Commission modify the technical standards for ESIMs to identify specific measures for protecting passive services through guard bands and stringent out-of-band emission masks.⁸

Such requirements are wholly unnecessary given the Commission's current rules and designations in the U.S. Table, which already address GSO FSS operations in these bands and exist to protect the radio astronomy and remote sensing operations that CORF identifies. Moreover, any GSO ESIM operations within the 10.6-11.7 GHz and 18.6-18.8 GHz bands are in the downlink direction, *i.e.*, from the satellite down to the Earth. Therefore, ESIMs would only be operating in receive mode. Whether earth station terminals are fixed or mobile has no impact on the satellite downlink transmissions, and deployment of ESIMs would not warrant any new operational conditions.

For the foregoing reasons and as set forth in Viasat's comments, Viasat urges the Commission to adopt its proposals to expand the GSO FSS ESIM rules to allow operations in each of the bands identified in the *Further Notice*.

Respectfully submitted,

/s/

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⁸ *See id.* at 8-9.