

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

In the Matter of)	
)	
Amendment of Parts 2 and 25 of the)	IB Docket No. 17-95
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)	
)	

REPLY COMMENTS OF VIASAT, INC.

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REPLY COMMENTS OF VIASAT, INC.

ViaSat, Inc. ("ViaSat") replies to comments filed in the above-captioned proceeding regarding proposals to facilitate licensing earth stations in motion ("ESIMs") in the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz and 29.25-30.0 GHz portions of the Ka-band, and to reorganize and consolidate the Commission's existing rules regarding earth stations on vessels ("ESVs") in the C- and Ku-bands, and vehicle-mounted earth stations ("VMESs") and earth stations aboard aircraft ("ESAAs") in the Ku-band.¹

I. INTRODUCTION AND SUMMARY

As a provider of satellite-delivered broadband services and a developer of technology—both fixed and on mobile platforms—ViaSat has extensive experience regarding the ability of satellite services to operate on mobile platforms within Fixed Satellite Service ("FSS") spectrum

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, Notice of Proposed Rulemaking, FCC 17-56 (rel. May 19, 2017) ("Notice").

without adversely changing the operating environment. ViaSat and other satellite service providers have demonstrated over more than a decade that mobile applications of the FSS can coexist with other spectrum users, in the C- and Ku-bands covered by the Commission's existing rules, as well as in the Ka-band through the grant of waivers of the Ka-band band plan and the U.S. Table of Frequency Allocations ("U.S. Table"). Thus, ViaSat supports the proposals in the *Notice* to consolidate and streamline the ESIM rules, and also to extend the rules to facilitate routine licensing of ESIMs in the proposed Ka-band frequencies.

Commenters in this proceeding overwhelmingly favor adopting the consolidated and streamlined ESIM rules proposed. In fact, no commenter opposes the consolidation of the existing ESIM rules, the adoption of uniform antenna performance requirements, or the elimination of the antenna pointing and data logging requirements. ViaSat supports those commenters who also propose to allow ESIM applicants to certify compliance with automatic shutdown capabilities rather than providing a detailed technical showing to demonstrate such capabilities. ViaSat also supports proposals to afford greater flexibility to ESIMs by allowing ESAA operations within non-U.S. airspace at parameters authorized by the applicable administration. However, ViaSat opposes Telesat's request to eliminate the requirement that the aggregate off-axis EIRP spectral density of ESIM networks employing variable power control be monitored and controlled by a network control and monitoring center. Maintaining those capabilities is essential to protect adjacent satellite network operations.

Several commenters agree with ViaSat's support for expanding the ESIM rules to the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz and 29.25-30.0 GHz portions of the Ka-band. ViaSat urges the Commission to include all of these proposed bands, including the 29.25-29.3 GHz and the 18.6-18.8 GHz band segments, which Iridium and the National Academy of

Sciences' Committee on Radio Frequencies ("CORF"), respectively, seek to exclude. As ViaSat and other commenters have explained, ESIM transmissions at 29.25-29.3 GHz are no different than the VSAT uses of that band segment that have been permitted for 15 years and can be coordinated with Iridium feeder links through the same mechanism that has long existed for fixed GSO FSS earth stations in this band segment. Similarly, the operation of ESIM receivers in the 18.6-18.8 GHz band segment is no different than the VSAT uses of that band segment that have been permitted for almost 20 years. In fact, because the nature of the satellite downlinks in this band segment is unaffected by whether the earth station operates while moving, earth exploration satellite services at 18.6-18.8 GHz cannot even conceivably be adversely impacted by the operation of ESIM receivers in this band segment.

In addition, the existing out-of-band-emission limit in Section 25.202(f) is adequate to protect adjacent band operations from satellite earth station transmissions at 28.35-28.6 GHz, and no changes to those existing limits are required on account of ESIM operations. Finally, the proposals of Elefante Group, Inc. ("Elefante") regarding stratospheric platforms in the Ka-band, which it acknowledges is a terrestrial service, are outside of the scope of this proceeding and should not be considered here.

II. STRONG SUPPORT EXISTS FOR THE PROPOSED STREAMLINING AND CONSOLIDATION OF ESIM RULES

A. Broad Support Exists for Adopting ESIM Rules that Facilitate and Expedite Licensing

Satellite operators agree with ViaSat's comments that eliminating redundancy in the ESIM licensing framework and establishing uniform performance requirements for ESIMs that are consistent with the requirements for other FSS earth stations would improve the efficiency of

the licensing process.² Many of these commenters also agree that ESIM applicants should have the option to certify compliance with the antenna pattern specifications in Section 25.209 and the antenna input power density requirements in Section 25.212, as an alternative to meeting the off-axis EIRP density limits in 25.218.³ Like ViaSat, these commenters recognize that compliance with these requirements obviates the need for a separate antenna pointing accuracy requirement, because any off-axis power resulting from antenna mispointing would necessarily be constrained by these power density limits.⁴ Further, HNS, Gogo, Inmarsat, Kymeta, Intelsat and Boeing confirm ViaSat's experience and understanding that ESIM location information has been unnecessary because there does not appear to have been any suspected cases of interference, and urge that the data logging requirement currently in the rules should be eliminated.⁵ In fact, no commenter opposes the proposed consolidation of the rules, the adoption of uniform antenna performance requirements, or eliminating the antenna pointing and data logging requirements.

² See Comments of AC Bidco LLC, IB Docket No. 17-95, at 2-3 (July 31, 2017) ("Gogo Comments"); Comments of Hughes Network Systems, LLC, IB Docket No. 17-95, at 2-3 (July 31, 2017) ("HNS Comments"); Comments of Inmarsat Inc., IB Docket No. 17-95, at 2 (July 31, 2017) ("Inmarsat Comments"); Joint Comments of Kymeta Corporation and Intelsat License LLC, IB Docket No. 17-95, at 2-3 (July 31, 2017) ("Kymeta/Intelsat Comments"); Comments of SES S.A. and O3b Limited, IB Docket No. 17-95, at 3 (July 31, 2017) ("SES/O3b Comments"); Comments of Telesat Canada, IB Docket No. 17-95, at 2 (July 31, 2017) ("Telesat Comments"); Comments of The Boeing Company, IB Docket No. 17-95, at 4 (July 31, 2017) ("Boeing Comments").

³ See Gogo Comments at 3; Inmarsat Comments at 2; Kymeta/Intelsat Comments at 3; Boeing Comments at 4.

⁴ See HNS Comments at 3; Gogo Comments at 3-4; Inmarsat Comments at 3; Kymeta/Intelsat Comments at 4; Boeing Comments at 4.

⁵ See HNS Comments at 4; Gogo Comments at 4; Inmarsat Comments at 3; Kymeta/Intelsat Comments at 6; Telesat Comments at 6; Boeing Comments at 5.

The Commission's rules currently require ESIMs to cease emissions within 100 milliseconds if the system operator detects antenna mispointing.⁶ In the *Notice*, the Commission proposes to replace this requirement with one that requires automatic cessation or reduction of emissions within 100 milliseconds to ensure compliance with off-axis EIRP density limits (or, if applicable, the levels that have been coordinated with other satellite operators).⁷ In addition, the *Notice* proposes to add a requirement that ESIM applicants provide a technical demonstration of these shut-down capabilities.⁸ Kymeta and Intelsat in their joint comments, and Inmarsat explain that it would be unduly burdensome and unnecessary to require a detailed showing of these capabilities as proposed in the *Notice*, and that providing a certification of these capabilities would be more than adequate.⁹ ViaSat agrees that requiring a certification of shut-down capabilities is all that is needed. The current rules regarding the shut-down capabilities in the event of antenna mispointing require the provision of such a certification, and these requirements have been sufficient to ensure compliance and successful coexistence of ESIMs since the inception of the current ESIM rules. Furthermore, any requirement for a technical demonstration could require the provision of proprietary information regarding an operator's network technology and therefore could dissuade the use of the latest technology.

In addition, Inmarsat proposes that the Commission should not require operators of ESAAs installed on U.S.-registered aircraft to comply with Commission rules while operating in

⁶ 47 C.F.R. §§ 25.221(a)(1)(iii); 25.222(a)(1)(iii), 25.226(a)(1)(iii), 25.227(a)(1)(iii); *see also* *Notice* at ¶ 25.

⁷ *Notice* at ¶¶ 25, 26.

⁸ *Id.* at ¶¶ 25, 62.

⁹ Kymeta/Intelsat Comments at 4-5; Inmarsat Comments at 4.

a foreign territory.¹⁰ Inmarsat and SES/O3b also urge the Commission to allow ESIMs (ESAAs in particular) to operate without seeking a waiver of the U.S. Table outside of the U.S. and within the airspace of another administration where such operations are consistent with the local regulations.¹¹ ViaSat supports these proposals.

B. Network Monitoring Capability Requirements Are Necessary to Ensure Compliance with Aggregate Off-Axis EIRP Density Limits

In the *Notice*, the Commission proposes to apply to all types of ESIMs a requirement currently applicable only to ESAAs, that each remote terminal must be monitored and controlled by a network control and monitoring center (“NCMC”) or equivalent facility.¹² ViaSat agrees that this capability is particularly critical in ESIM networks employing variable power density control of individual transmitters, which are required to meet the off-axis EIRP spectral density limits in the aggregate.¹³

In fact, maintaining this capability is essential for satisfying the existing requirement that all ESIMs using variable power density control have the capability to cease or reduce emissions within 100 milliseconds of receiving a command to do so if the aggregate off-axis EIRP spectral densities of the transmitters operating within the network exceed the relevant limits. In such networks, individual earth stations must be controlled by an NCMC because the remotely deployed earth stations typically do not have information about the EIRP density levels and off-axis performance of other earth stations in the network, and thus, the mechanism for controlling individual earth stations to manage aggregate off-axis EIRP density must reside with the NCMC.

¹⁰ Inmarsat Comments at 7.

¹¹ *Id.* at 7-8; SES/O3b Comments at 6-7.

¹² *See Notice* at ¶ 31.

¹³ *See id.* at ¶ 64.

In its comments, Telesat asserts that specific NCMC capability requirements regarding aggregate off-axis EIRP spectral density limits are unnecessary and suggests that one possible approach for network operators to ensure compliance with aggregate off-axis EIRP spectral density limits is through the methodology in ITU Resolution 156.¹⁴ Under this methodology, compliance with the aggregate limit would be maintained by limiting the power density of each individual earth station by $10 \log(N)$ dB, where N is the “number of earth stations in motion that are in the receive satellite beam of the associated satellite and that are expected to transmit simultaneously on the same frequency.”¹⁵ Thus, Telesat argues that network designers and operators should decide whether to monitor aggregate off-axis spectral density limits, but should not be required to do so.

Telesat’s proposal falls short principally because Resolution 156 is premised on a requirement that an NCMC would be required to notify individual terminals to cease operations through “disable transmission” commands. As discussed above, individual earth stations must be controlled by an NCMC in any event. Even assuming an ESIM network operator relies on the Resolution 156 methodology for apportioning power density, the NCMC would need to be able to monitor the aggregate off-axis EIRP spectral density of each of the “N” earth stations to ensure it is below the “expected” level. Thus, the mechanism for controlling individual earth stations to manage aggregate off-axis EIRP density still is necessary under Resolution 156, both to calculate the appointed power levels based on the number of operating terminals and to monitor the aggregate of the apportioned values, and command earth stations to adjust their levels or cease transmitting as required.

¹⁴ Telesat Comments at 7, *citing* ITU Resolution 156, Annex 1, n.3 (WRC-15).

¹⁵ Telesat Comments at 7 n. 19.

Notably, the capability of NCMCs to command individual ESIMs to cease or reduce emissions within 100 milliseconds if the aggregate off-axis EIRP density limits are being exceeded is already required in the separate service rules for each type of ESIM and has not been a barrier to ESIM deployment.¹⁶ Thus, incorporating a requirement into the consolidate rule to monitor the aggregate power density levels of all ESIMs in the network would not increase regulatory burdens or otherwise impede future deployment of ESIMs. To the contrary, this requirement is necessary to ensure that ESIM networks that use variable power control are capable of complying with the off-axis EIRP density limits in the aggregate, and thus ensuring that adjacent satellite networks are adequately protected.

III. COMMENTERS SUPPORT AUTHORIZING ESIMS IN ALL PROPOSED KA-BAND FREQUENCIES

ViaSat and other satellite operators agree that ESIMs should be authorized in the proposed Ka-band frequencies. There is no need to exclude certain portions of these band segments from the ESIM rules as Iridium and CORF propose, and there is no need to for additional limitations on out-of-band emissions to protect adjacent services.

A. Other Commenters Support Routine Licensing of ESIMs in the Ka-Band

Inmarsat, Telesat, Boeing and SES/O3b echo ViaSat's comments urging the Commission to adopt ESIM rules for the proposed portions of the Ka-band; namely the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz and 29.25-30.0 GHz band segments.¹⁷ These commenters agree that the interference risk from ESIMs would be no different than from currently-operating earth stations in these frequency bands, and that additional constraints in the ESIM rules are

¹⁶ See 47 C.F.R. §§ 25.221(b)(3)(iv); 25.222(b)(3)(iv); 25.226(b)(3)(iv); 25.227(b)(3)(iv).

¹⁷ See Inmarsat Comments at 5; Telesat Comments at 2; Boeing Comments at 6-7; SES/O3b Comments at 9.

unnecessary in these bands.¹⁸ Indeed, the successful, non-interfering ESIM operations on Ka-band frequencies that have been authorized through waivers confirms that this is the case. Therefore, ViaSat reiterates its support for adopting the Commission’s proposal to adopt rules that facilitate routine licensing of ESIMs in these band segments.

B. There Is No Need to Exclude Portions of the Proposed Band Segments as Iridium and CORF Propose

Iridium and CORF each propose that certain segments of the Ka-band be excluded from the ESIM rules. Specifically, Iridium asks that the Commission exclude the 29.25-29.3 GHz band segment,¹⁹ and CORF asks to exclude the 18.6-18.8 GHz band segment and also to restrict ESIM use of frequencies adjacent to this band segment.²⁰ As discussed below, the existing rule regarding coordination between GSO FSS earth stations and Iridium’s feeder link operations is sufficient to facilitate coexistence. Moreover, GSO FSS operations at 18.6-18.8 GHz are only in the downlink direction, and the addition of ESIM receivers will not change the operating environment in that band segment.

1. Existing Coordination Requirements Are Sufficient to Facilitate Coexistence with Iridium NGSO MSS Feeder Link Operations at 29.25-29.3 GHz

Iridium’s request to preclude ESIM operations at 29.25-29.3 GHz is based on its concern that authorizing ESIMs in this band would “create a uniquely complex and unpredictable interference environment that cannot be managed by established spectrum sharing strategies,”

¹⁸ See Inmarsat Comments at 5-6; SES/O3b Comments at 9; Telesat Comments at 4-5; Boeing Comments at 6.

¹⁹ Comments of Iridium Satellite LLC, IB Docket No. 17-95, at 1 (July 31, 2017) (“Iridium Comments”).

²⁰ Comments of the National Academy of Sciences’ Committee on Radio Frequencies, IB Docket No. 17-95, at 10 (July 31, 2017) (“CORF Comments”).

asserting that coordination “would be burdensome and likely impossible.”²¹ Notably, Iridium unsuccessfully made the same argument in seeking to exclude this band segment from consideration for ESIM use in the *Notice*, and the Commission declined to do so.²²

Significantly, Iridium recognizes that coordination with Iridium’s feeder link earth stations can be effectuated by defining a zone around the feeder link station within which GSO FSS earth stations could avoid operating at 29.25-29.3 GHz.²³ Moreover, GSO FSS earth stations could also compatibly operate within this zone at different frequencies or in different polarizations.

Outside of this established zone, there are no in-line events between GSO FSS earth stations and Iridium satellite beam coverage toward its feeder link station, and thus, GSO FSS earth stations operating outside of the zone could not possibly impact Iridium’s operations. As such, protecting Iridium’s operations at most may require GSO FSS earth stations from not operating on a co-channel, co-polarization basis within the region around the Iridium earth station that is potentially affected. Indeed, Inmarsat and SES/O3b each confirm that coordination with Iridium’s limited feeder link operations is feasible and can be effectuated by establishing such a perimeter.²⁴

ESIM platforms typically are capable of tracking the location of each earth station within the network and rely on databases on the terminal that are updated by the NCMC to identify zones where earth station transmissions are not permitted. For example, in ViaSat’s ESIM networks, each individual ESIM checks the database each time it enters the network, and the

²¹ Iridium Comments at 1, 9.

²² See Iridium Satellite LLC, *Ex Parte* Letter, IB Docket No. 17-95 (filed May 8, 2017); *Notice* at ¶ 54.

²³ See Iridium Comments at 12.

²⁴ See Inmarsat Comments at 5-6; SES/O3b Comments at 9-10.

database is updated dynamically over the air as required during mobile operations. These network control capabilities have enabled successful coordination and coexistence of ESIM transmissions with other services, such as radio astronomy in the 14.47-14.5 GHz portion of the Ku-band transmit band and NASA's TDRSS earth stations. ViaSat's Ku-band ESIM operations have been coordinated with NASA and NSF to protect their sites for over a decade and have demonstrated the ability to protect NASA and radio astronomy operations without incident. Thus, ViaSat's experience belies Iridium's suggestion that maintaining suitable exclusion zones for ESIMs around Iridium feeder link stations would be too complex.

Moreover, even accepting for the sake of argument that some exclusion zones might be required around existing Iridium feeder link earth stations, Iridium's own depiction of this zone illustrates that wide swaths of the United States that would be wholly unaffected by ESIM operations under any conceivable set of facts.²⁵ Thus, excluding 29.25-29.3 GHz entirely from the ESIM rules is unnecessary to protect Iridium's limited operations in this band segment and would result in a dramatic underutilization of the spectrum.

Furthermore, as the Commission acknowledges, Iridium and ESIM applicants and licensees operating in the 29.25-29.3 GHz band segment would be required to coordinate pursuant to Section 25.258 of the Commission's rules,²⁶ just as Iridium has had to coordinate with VSAT applicants for the past 15 years. Notably, coordination based on Iridium's actual operating parameters and the operational characteristics of specific ESIM networks likely would reduce the size of the exclusion zone depicted in Iridium's comments.

²⁵ See Iridium Comments at 12.

²⁶ 47 C.F.R. § 25.258; *Notice* at ¶ 53 n.56.

2. Earth Exploration Satellite Service (“EESS”) at 18.6-18.8 GHz Will Be Unaffected by ESIM Receivers

CORF’s suggestion that preserving scientific use of the 18.6-18.8 GHz band segment requires precluding ESIM use of this band and adjacent frequencies²⁷ is based on a fundamentally flawed premise: that ESIMs in this band are transmitting, when they in fact passively receive existing satellite downlink signals. For instance, CORF expresses concern that ESIMs on airplanes are much closer to the earth’s surface than satellites “and therefore, their signals will have less attenuation due to a shorter atmospheric path,” and that “the number of airborne (ESIM) *transmitters* would further exacerbate the aggregate RFI effects on EESS sensors data.”²⁸

As the Commission is well aware, GSO FSS operations in the 18.6-18.8 GHz band segment occur only in the downlink direction (*i.e.*, from the satellite to the earth). The nature and number of earth stations, whether fixed or mobile, has no impact on satellite downlink transmissions. Moreover, those existing satellite downlink operations are already subject to power flux density limits, both in the United States and internationally, that expressly were designed to protect EESS in this band segment.²⁹ Based on these longstanding limits, the ITU working party evaluating the compatibility of ESIMs with EESS (Working Party 7C) concluded

²⁷ CORF Comments at 10.

²⁸ *Id.* at 9 (emphasis added).

²⁹ See 47 C.F.R. § 2.106 n.US255 (“In addition to any other applicable limits, the power flux-density across the 200 MHz band 18.6-18.8 GHz produced at the surface of the Earth by emissions from a space station under assumed free-space propagation conditions shall not exceed -95 dB(W/m²) for all angles of arrival. This limit may be exceeded by up to 3 dB for no more than 5% of the time.”); *id.* at n.5.522A (“The emissions of the fixed service and the fixed-satellite service in the band 18.6-18.8 GHz are limited to the values given in Nos. 21.5A and 21.16.2, respectively”); ITU Rad. Reg. No. 21.16.2 (establishing the same limit on FSS as in 47 C.F.R. § 2.106 n.US255).

that no further sharing studies were required in the case of 18.6-18.8 GHz GSO FSS downlinks serving ESIMs that are technically equivalent to the satellite downlinks serving non-moving FSS earth stations.³⁰ Therefore, no further limitations or requirements on ESIMs are necessary to protect EESS at 18.6-18.8 GHz.

C. No Additional Limitations Are Necessary to Protect Adjacent Band Operations

The Global Mobile Suppliers Association (“GMSA”) raises concerns regarding the potential for out-of-band emissions from 28.35-28.6 GHz earth stations into terrestrial mobile operations in the adjacent 27.5-28.35 GHz band.³¹ GMSA contends that “ESIMs could potentially transmit (as proposed in the NPRM) at off-axis transmission levels such that interference into the adjacent channel is plausible depending on out-of-band emissions (OOBE) characteristics.”³² GMSA claims that it has derived ESIM OOBE from “a combination of the off-axis EIRP proposed in the NPRM and 25.202(f) for earth stations, and preliminary analysis shows that such levels will not adequately protect terrestrial operations in certain scenarios.”³³ GMSA does not provide any analysis or demonstration to support this statement, nor does it provide any information regarding the specifications of the terrestrial operations that allegedly would be impacted.

As an initial matter, transmissions from earth stations, whether fixed or in motion, are directed upward toward satellites, and thus, energy directed toward terrestrial receivers

³⁰ See ITU Radiocommunication Study Groups, Working Party 7C, WRC-19 agenda item 1.5, Res. 158 (WRC-15), Document 4A/204-E (Nov. 3, 2016).

³¹ Comments of Global Mobile Suppliers Association, IB Docket No. 17-95, at 2 (July 31, 2017).

³² *Id.*

³³ *Id.*

predominantly would be from off-axis emissions, as GMSA recognizes,³⁴ and not the main beam of the earth station. Off-axis transmissions are constrained by the EIRP spectral density mask established in the Commission's rules, and thus emissions toward terrestrial receivers are significantly limited. Moreover, any OOBE from these off-axis transmissions in the 28.35-28.6 GHz band would be even lower, and in any event, are more than capable of meeting the Section 25.202(f) out-of-band limits.

Significantly, Section 25.202(f) OOBE limits have long been in place and have satisfactorily protected services in adjacent bands, including terrestrial services in the adjacent 27.5-28.35 GHz band segment. As the Commission has recognized and as ESIM operators commenting in this proceeding resoundingly agree, ESIMs are capable of performing pursuant to the same emissions envelope as fixed earth stations, and thus, there is no reason to subject ESIMs to different requirements.

IV. PROPOSALS REGARDING STRATOSPHERIC PLATFORMS ARE OUTSIDE OF THE SCOPE OF THIS PROCEEDING

Elefante, a proponent of stratospheric platforms, seeks to improperly include its proposed terrestrial system (operating at an altitude of 20 km) within the definition of "earth stations aboard aircraft," and also urges that ESIMs in the 18.3-18.8 GHz and 19.7-20.2 GHz downlink band segments should not inhibit deployment of stratospheric solutions in these bands.³⁵

As an initial matter, Elefante's proposed platform simply cannot be deemed an earth station on board an aircraft because it is not intended for communication with one or more space stations, or with "one or more stations of the same kind by means of one or more reflecting

³⁴ *Id.*

³⁵ Comments of Elefante Group, Inc., IB Docket No. 17-95, at 2, 3 & n.3 (July 31, 2017) ("Elefante Comments").

satellites or other objects in space.”³⁶ Elefante concedes that the operations of its proposed network will typically not involve communications with a satellite.³⁷ Therefore, the terrestrial-based service that Elefante proposes is entirely outside of the scope of this proceeding.

Furthermore, GSO FSS operations in the 18.3-18.8 GHz and 19.7-20.2 GHz band segments that Elefante proposes to use are only in the downlink direction. The introduction of ESIMs licensed on a routine basis has no impact on the satellite downlink transmissions in these bands, and thus, does not change the operating environment in any way. Any terrestrial service that Elefante may deploy would need to be designed to account for the satellite downlinks that have long operated in these bands. But in any event, as Elefante recognizes, there are no allocations in the U.S. Table for fixed or mobile services in the 18.3-18.8 GHz and 19.7-20.2 GHz band segments, which are allocated primarily for FSS, and designated primarily in the Commission’s Ka-band band plan specifically for GSO FSS.³⁸ Therefore, Elefante has no basis for claiming that stratospheric platforms providing a terrestrial service should be in any way protected or accommodated in these bands, especially as part of the instant proceeding. Therefore, ViaSat urges the Commission to reject Elefante’s request to consider stratospheric platforms in any part of the Ka-band being considered here for ESIMs.

V. CONCLUSION

For the foregoing reasons, ViaSat urges the Commission to adopt the proposals to consolidate and streamline the provisions for each type of mobile platform into a single ESIM rule, and to eliminate antenna pointing and data logging requirements, as overwhelmingly

³⁶ 47 C.F.R. § 25.103 (definition of “earth station”).

³⁷ See Elefante Comments at 4, 5 n.9.

³⁸ See *id.* at 6 n.10; see also 47 C.F.R. § 2.106.

supported by commenters in this proceeding. ViaSat supports comments that seek to afford greater flexibility to ESIMs, but opposes the proposal to eliminate network control capabilities for monitoring and assessment of aggregate off-axis power density, which are essential for protecting adjacent satellite network operations. Consistent with broad support in the record, ViaSat urges the Commission to allow routine licensing of ESIMs in the proposed Ka-band frequencies, including in the 29.25-29.3 GHz and 18.6-18.8 GHz band segments. In addition, no limitations other than the existing out-of-band-emission limit in Section 25.202(f) are necessary to protect adjacent band operations. Finally, the Commission should decline to consider in this proceeding Elefante's proposals regarding stratospheric platforms, which it acknowledges is a terrestrial service.

Respectfully submitted,

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