6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 2 and 25

[IB Docket No. 18-315; FCC 18-160]

Earth Stations in Motion to Include NGSO Satellite Systems

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Federal Communications Commission proposes to amend its rules to establish a regulatory framework for earth stations in motion (ESIMs) communications with non-geostationary-satellite orbit (NGSO), fixed-satellite service (FSS) satellite systems that would be analogous to that which currently exists for ESIMs communicating with geostationary-satellite orbit (GSO) FSS systems.

DATES: Comments are due on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Reply comments are due on or before **[INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit comments, identified by IB Docket No. 18-160, by any of the following methods:

- Federal Communications Commission's Web Site: http://apps.fcc.gov/ecfs. Follow the instructions for submitting comments.
- People with Disabilities: Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by e-mail: FCC504@fcc.gov or phone: 202-418-0530 or TTY: 202-418-0432.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Cindy Spiers, 202-418-1593.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rulemaking (NPRM), FCC 18-160, adopted November 15, 2018, and released November 16, 2018. The full text of the NPRM is available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-18-160A1.pdf. The NPRM is also available for inspection and copying during business hours in the FCC Reference Information Center, Portals II, 445 12th Street SW., Room CY-A257, Washington, DC 20554. To request materials in accessible formats for people with disabilities, send an email to FCC504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

Comment Filing Requirements

Interested parties may file comments and reply comments on or before the dates indicated in the DATES section above. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS).

- Electronic Filers. Comments may be filed electronically using the Internet by accessing the ECFS, http://apps.fcc.gov/ecfs.
- Paper Filers. Parties who file by paper must include an original and four copies of each filing.

  Filings may be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th Street, SW, Room TW-A325, Washington, DC 20554. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

- Persons with Disabilities. To request materials in accessible formats for persons with disabilities (braille, large print, electronic files, audio format), or to request reasonable accommodations for filing comments (accessible format documents, sign language interpreters, CART, etc.), send an email to fcc504@fcc.gov or call 202-418-0530 (voice) or 202-418-0432 (TTY).

Ex Parte Presentations

The Commission will treat this proceeding as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules. Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all

data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

Paperwork Reduction Act

This document contains proposed new and modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, the Commission seeks specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees.

Synopsis

In this Notice of Proposed Rulemaking (NPRM), the Commission seeks comment on

whether to establish a regulatory framework for ESIMs communications with NGSO FSS systems that would be analogous to that which currently exists for ESIMs communicating with GSO FSS systems. First, the Commission seeks comment on allowing ESIMs to communicate with NGSO FSS systems in many of the same conventional Ku-band, extended Ku-band, and Ka-band frequencies that were discussed in the ESIMS Report and Order and Further Notice, with the exception of the frequency bands 18.6-18.8 GHz and 29.25-29.5 GHz. Second, the Commission seeks comment on extending blanket earth station licensing, which is available to ESIMs communicating with GSO FSS systems, to ESIMs communicating with NGSO FSS systems. Finally, the Commission seeks comment on revisions to specific provisions in our rules to implement these changes.

Proposal Overview

The Commission believes that now is the appropriate time to seek comment on rules governing ESIMs communicating with NGSO FSS systems. Currently, there is only one NGSO FSS system - O3b Limited (O3b) - communicating with earth stations in the United States, and communications between O3b and ESVs have already been authorized, although on a non-protected non-interference basis given that no rules allowing such communications exist. However, given the large number of applications for NGSO FSS systems that intend to provide service to earth stations at fixed locations as well as to ESIMs, it is important that the possibility of having rules for NGSO FSS ESIMs operations be considered. A regulatory framework covering such communications would provide certainty for both NGSO FSS operators and their customers. In addition, comments in response to the ESIMs NPRM expressed concern that delaying consideration and adoption of rules governing communications between ESIMs and NGSO FSS systems could place U.S. customers at a disadvantage when other countries are

moving ahead on these matters. Commenters in response to the ESIMs NPRM state that antenna manufacturers, ESIM operators, and ultimately U.S. consumers would all benefit from development of Commission rules that define operating parameters for communications between ESIMs and both NGSO and GSO satellites. In addition, commenters note the advantages of allowing communications between ESIMs and NGSO FSS systems, such as robust and uninterrupted coverage of polar regions where international air traffic is increasingly concentrated and which are not adequately covered by GSO satellites. The Commission agrees with commenters that the time is ripe to evaluate whether the Commission should implement rules for ESIMs communicating with NGSO FSS systems.

Frequency Bands for NGSO FSS ESIMs and Associated Rule Changes. The Commission seeks comment on, to the extent feasible, allowing ESIMs to communicate with NGSO FSS systems in the Ku- and Ka-bands where the Commission's rules allow ESIM communications with GSO FSS space stations, with the exception of the frequency bands 18.6-18.8 GHz and 29.25-29.5 GHz.

The Commission proposes to allow ESIMs to communicate with NGSO FSS systems on a primary basis in the following frequency bands: 11.7-12.2 GHz (space-to-Earth); 14.0-14.5 GHz (Earth-to-space); 18.3-18.6 GHz (space-to-Earth); 19.7-20.2 GHz (space-to-Earth); 28.35-28.6 GHz (Earth-to-space); and 29.5-30.0 GHz (Earth-to-space). There are no allocations to terrestrial services in any of these bands. Accordingly, the Commission seeks comment on adding paragraph (c) to footnote NG527A to indicate that ESIMs can operate with NGSO FSS space stations in these six frequency bands provided that such operations do not cause harmful interference to, or claim protection from, GSO FSS networks. There is also a secondary allocation to the Space Research service in the band 14-14.2 GHz. In order to ensure

compatibility between NGSO ESIM and Space Research operations, the Commission seeks comment on modifying 47 CFR 25.228(j)(1) to extend to NGSO FSS systems conditions that currently apply to ESIM operation with GSO FSS space stations.

The Commission also proposes to allow ESIMs to communicate with NGSO FSS systems on a primary basis in the 18.8-19.3 GHz (space-to-Earth), and the 28.6-29.1 GHz (Earth-to-space) frequency bands. In these bands, there are no terrestrial allocations and GSO FSS operations are secondary with respect to NGSO FSS. Accordingly, the Commission seeks comment on adding paragraph (e) to footnote NG527A to indicate that ESIMs can operate both with a GSO FSS space station and with NGSO FSS systems in these two frequency bands. Also, in these bands, GSO FSS operations must not cause harmful interference to, or claim protection from, NGSO FSS networks.

The Commission seeks comment on allowing ESIMs to receive signals from NGSO FSS space stations in the 10.7-11.7 GHz (space-to-Earth) frequency bands, on an unprotected basis, with respect to transmissions from non-Federal fixed service (FS) stations. FSS and FS are co-primary in these frequency bands and receive terrestrial stations will be protected by imposing on space station transmissions the appropriate power-flux density limits. Accordingly, the Commission seeks comment on revising paragraph (a) of footnote NG527A to indicate that ESIMs can operate on a non-protected basis with regard to non-Federal fixed service in this frequency band, both with a GSO FSS space station and with NGSO FSS systems. Also, in this band, NGSO FSS operations must not cause harmful interference to, or claim protection from, GSO FSS networks.

Similarly, the Commission seeks comment on allowing ESIMs to receive signals from NGSO FSS space stations in the 19.3-19.4 GHz (space-to-Earth) and 19.6-19.7 GHz (space-to-

Earth) frequency bands, on an unprotected basis, with respect to transmissions from non-Federal fixed service stations. FSS and FS are co-primary in these frequency bands and receive terrestrial stations will be protected by imposing on space station transmissions the appropriate power-flux density limits. Accordingly, the Commission seeks comment on adding paragraph (f) to footnote NG527A to indicate that ESIMs can operate with NGSO FSS systems in these two frequency bands on a non-protected basis with regard to non-Federal fixed service. Also, in these frequency bands, NGSO FSS operations must not cause harmful interference to, or claim protection from, GSO FSS networks.

The Commission seeks comment on allowing ESIMs to receive signals from NGSO FSS systems on a secondary basis in the 17.8-18.3 GHz (space-to-Earth) frequency band. This frequency band is allocated to the FS on a primary basis and, given the FSS secondary status, ESIM receive earth stations will not be entitled to protection. Protection of terrestrial operations in this band will be ensured by imposing on space station transmissions the appropriate power-flux density limits. Accordingly, the Commission seeks comment on adding paragraph (d) to footnote NG527A to indicate that ESIMs can operate on a non-protected basis with regard to non-Federal fixed service in this frequency band, both with a GSO FSS space station and with NGSO FSS systems. Also, in this band, NGSO FSS operations must not cause harmful interference to, or claim protection from, GSO FSS networks.

The Commission will not consider allowing ESIMs to communicate with NGSO FSS systems in bands where communications with NGSO FSS space stations are not permitted under the U.S. Table of Frequency Allocations because the Commission believes the reasons for such limitations are also valid for ESIMs operating with NGSO FSS systems. Specifically, the Commission would not allow NGSO FSS ESIMs to operate in the 18.6-18.8 GHz (space-to-

Earth) and 29.25-29.5 GHz (Earth-to-space) frequency bands.

Blanket Licensing. The Commission seeks comment on permitting blanket earth station licensing of ESIMs operating with NGSO FSS systems. Such blanket licensing would further maximize efficient spectrum use for the increased provision of broadband access and additional flexibility for FSS systems in bands where blanket licensing is already available for earth stations operating at fixed locations. The Commission believes that blanket licensing is appropriate given that ESIMs' communications with NGSO FSS systems would be limited to frequency bands in which NGSO FSS systems have a primary status, or have been found to be able to operate on a secondary or non-conforming basis, without causing interference to primary users of those bands. The Commission seeks comment on extending blanket licensing to ESIMs operating with NGSO FSS space stations.

Other Rule Revisions. In the paragraphs below, the Commission addresses other changes to our rules, in addition to those discussed above in connection with the frequency bands being proposed for NGSO FSS ESIM operation. The Commission seeks comment on these changes, and on any others necessary to implement the ESIM NGSO FSS operation described here.

First, the Commission seeks comment on amending the list of frequencies available to ESIMs in Sections 25.202(a)(8) and (a)(10) to reflect these changes.

Second, the Commission seeks comment on changes to Part 25 of the Commission's rules governing satellite communications to allow ESIM NGSO FSS operation as described above. Specifically, Sections 25.115(l)-(n) contain requirements in paragraphs (1), (2), and (3)(i) that pertain to the two-degree spacing rules for ESIMs communicating with GSO FSS space stations, which are not applicable to NGSO systems. The requirements in paragraphs (3)(ii)-(iv) of this section, however, are also appropriate for ESIMs operating in NGSO FSS systems. The

Commission seeks comment on adding a new paragraph (o) to Section 25.115 to codify these requirements for ESIMs that communicate with NGSO FSS space stations. The Commission also seeks comment on changing the cross-references contained in the information requirements for earth station applications set forth in Section 25.115 for earth stations communicating with GSO and NGSO FSS space stations.

Third, Section 25.228 contains requirements in paragraphs (a), (b), (c), that codify the two-degree spacing requirements for ESIMs communicating with GSO FSS satellite networks, but are not specifically worded to apply only to such ESIMs. The Commission seeks comment on stating that these paragraphs apply only to ESIMs communicating with GSO FSS satellite networks. The requirements in the remaining paragraphs of Section 25.228 are equally applicable for ESIMs communicating with GSO FSS systems and NGSO FSS systems, and therefore the Commission does not consider any changes to them. Paragraph (j) of Section 25.228 is explicitly limited to ESIMs transmitting to GSO FSS satellites, and the Commission seeks comment on revising the language of the rule to apply to Ku-band ESIMs communicating with NGSO FSS space stations as well.

Fourth, consistent with these changes, the Commission would amend our definitions of ESV, VMES, and ESAA in Section 25.103, which restrict communications to "geostationary-orbit FSS space stations." Pursuant to what was described above, communications between ESVs, VMESs, and ESAAs would also be permitted in NGSO FSS systems. Accordingly, the Commission seeks comment on removing the word "geostationary-orbit" from these definitions.

Finally, the Commission's Ka-band Plan has a secondary designation for NGSO-FSS in the 29.5-30.0 GHz band, as described in the *NGSO FSS Order*. The licensing provisions in Section 25.115(f) adopted in the *NGSO FSS Order*, however, inadvertently omitted the 29.5-30.0

GHz band. The Commission proposes to take this opportunity to extend the provisions of Section 25.115(f) to the 29.5-30.0 GHz band and seek comment on this proposal.

Other. The Commission recognizes that NGSO ESIM operations add a level of complexity in that both earth stations and space stations will be moving while communicating, and transitioning communications from one satellite to another will often be required. The Commission does not believe that these operational characteristics necessitate additional requirements on ESIM communications with NGSO FSS space stations beyond what the Commission has considered here because such operations are already being conducted. For example, O3b successfully provides broadband services to ESVs using an NGSO FSS constellation that was granted market access by the Commission through a waiver of the Table of Frequency Allocations and Ka-band Plan. In addition, several of the NGSO FSS constellations recently authorized or granted market access to the United States by the Commission intend to use earth stations in motion. For instance, OneWeb has recently joined an alliance of companies in the aviation sector focused on the provision of broadband communications to airplanes. The Commission invites comments on this conclusion, but also seek comment on the level of complexity that communications with ESIMs would introduce to the coordination between multiple NGSO FSS constellations under the Commission's rules and the potential for in-line interference as compared to that associated with the coordination between NGSO FSS constellations if communications were limited to fixed earth stations.

The Commission does not think there will be significant costs associated with these changes and the Commission invites comments that will help estimate costs and benefits of the rule changes. In addition, the Commission seeks comment on whether there are any other issues regarding the framework discussed for NGSO ESIMs operations that the Commission should

consider. The Commission also seeks comment on any possible effects ESIMs communicating with NGSO FSS space stations may have on existing or future services in these bands or adjacent frequency bands. For example, the Commission notes that the Commission has an open proceeding exploring additional uses of "mid-band spectrum," including bands considered for ESIM communication with NGSO FSS systems.

As required by the Regulatory Flexibility Act (RFA),[1] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this Notice. The Commission requests written public comments on this IRFA. Commenters must identify their comments as responses to the IRFA and must file the comments by the deadlines for comments on the Notice provided above in Section V.B. The Commission will send a copy of the Notice, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[2] In addition, the Notice and IRFA (or summaries thereof) will be published in the Federal Register.[3]

Initial Regulatory Flexibility Analysis

A. Need for, and Objectives of, the Proposed Rules

The Notice of Proposed Rulemaking proposes to allow ESIMs to communicate with NGSO FSS space stations in the Ku- and Ka-bands.

B. Legal Basis

The proposed action is authorized under Sections 4(i), 7(a), 10, 303, 308(b), and 316 of

[1] *See* 5 U.S.C. 603. The RFA, *see* 5 U.S.C. 601 *et seq*., has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See* 5 U.S.C. 603(a).

[3] *Id*.

the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 157(a), 160, 303, 308(b), 316.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules May Apply

The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the proposed rules, if adopted.[4] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[5] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[6] A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[7]

Satellite Telecommunications. This category comprises firms "primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications."[8] The category has a small business size standard of $32.5 million or less in average annual receipts, under SBA rules.[9] For this category, Census Bureau data for 2012 show that there were a total of 333 firms that operated for the entire

[4] 5 U.S.C. 603(b)(3).

[5] 5 U.S.C. 601(6).

[6] 5 U.S.C. 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. 601(3).

[7] Small Business Act, 15 U.S.C. 632 (1996).

[8] U.S. Census Bureau, 2012 NAICS Definitions, "517410 Satellite Telecommunications"; http://www.census.gov/naics/2007/def/ND517410.HTM.

[9] 13 CFR 121.201, NAICS code 517410.

year.[10] Of this total, 299 firms had annual receipts of less than $25 million.[11] Consequently, the Commission estimates that the majority of satellite telecommunications providers are small entities.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

The NPRM proposes to allow ESIMs to communicate with NGSO FSS space stations in the Ku- and Ka-bands. This would reduce paperwork costs for such satellite operators who would no longer need to file separate application materials for these systems. Operators will also no longer need to request waivers for operations that would be covered under specific regulations.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rules for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such

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[10] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ4, Information: Subject Series - Estab and Firm Size: Receipts Size of Firms for the United States: 2012, NAICS code 517410 http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ4&prodType=table.

[11] *Id.*

small entities."[12]

The NPRM proposes to allow ESIMs to communicate with NGSO FSS space stations in the Ku- and Ka-bands. This would reduce the economic and other impacts for these service providers by reducing the regulatory burden. Specifically, providers would no longer have to file applications that are outside of the standard rule provisions. However, the Commission invites comment on this change and any alternatives.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

None.

List of Subjects

47 CFR Part 2

Radio, Table of Frequency Allocations.

47 CFR Part 25

Administrative practice and procedure, Earth stations, Satellites.

FEDERAL COMMUNICATIONS COMMISSION

Cecilia Sigmund,
Federal Register Liaison Officer,
Office of the Secretary.

[12] 5 U.S.C. 603(c)(1) - (c)(4).

Proposed Rules

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR parts 2 and 25 as follows:

PART 2 – FREQUNCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation for part 2 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

§ 2.106 [Amended].

2. Amend § 2.106, the Table of Frequency Allocations, as follows:

a. Revise footnote NG527A in the list of Non-Federal Government (NG) Footnotes.

b. Revise paragraph (a) and paragraphs (c) through (f).

The revisions and additions read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

Non-Federal Government (NG) Footnotes

* * * * *

NG527A Earth Stations in Motion (ESIMs), as regulated under 47 CFR part 25, are an application of the fixed-satellite service (FSS) and the following provisions shall apply:

(a) In the 10.7-11.7 GHz band, ESIMs may be authorized for the reception of FSS emissions from both geostationary and non-geostationary satellites, subject to the conditions that these earth stations may not claim protection from transmissions of nonFederal stations in the fixed service and that non-geostationary-satellite systems not cause unacceptable interference to, or claim protection from, geostationary-satellite networks.

* * * * *

(c) In the bands 11.7-12.2 GHz (space-to-Earth), 14.0-14.5 GHz (Earth-to-space), 18.3-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 28.35-28.6 GHz (Earth-to-space), and 29.5-30.0 GHz (Earth-to-space), ESIMs may be authorized to communicate with non-geostationary satellites, subject to the condition that nongeostationary-satellite systems may not cause unacceptable interference to, or claim protection from, geostationary-satellite networks.

(d) In the band 17.8-18.3 GHz (space-to-Earth), ESIMs may be authorized for the reception of FSS emissions from geostationary satellites on a secondary basis. In this band, ESIMs may also be authorized for the reception of FSS emissions from non-geostationary-satellites on a secondary basis, subject to the condition that non-geostationary-satellite systems not cause unacceptable interference to, or claim protection from, geostationary-satellite networks.

(e) In the bands 18.8-19.3 GHz and 28.6-29.1 GHz, ESIMs may be authorized to communicate with both geostationary and non-geostationary satellites, subject to the condition that geostationary-satellite networks may not cause unacceptable interference to, or claim protection from, non-geostationary satellite systems in the fixed-satellite service.

(f) In the 19.3-19.4 GHz, and 19.6-19.7 GHz bands, ESIMs may be authorized for the reception of FSS emissions from non-geostationary satellites, subject to the conditions that these earth stations may not claim protection from transmissions of nonFederal stations in the fixed service and not cause unacceptable interference to, or claim protection from, geostationary-satellite networks.

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PART 25 – SATELLITE COMMUNICATIONS

3. The authority citation for part 25 continues to read as follows:

Authority: 47 U.S.C. 154, 301, 302, 303, 307, 309, 310, 319, 332, 605, and 721, unless otherwise noted.

4. Amend § 25.103 by revising the definitions of "Earth Station on Vessel," "Earth Stations Aboard Aircraft," and "Vehicle-Mounted Earth Station" to read as follows:

§ 25.103 Definitions.

* * * * *

Earth Station on Vessel (ESV). An earth station onboard a craft designed for traveling on water, receiving from and transmitting to Fixed-Satellite Service space stations.

Earth Stations Aboard Aircraft (ESAA). An earth station operating aboard an aircraft that receives from and transmits to Fixed-Satellite Service space stations.

* * * * *

Vehicle-Mounted Earth Station (VMES). An earth station, operating from a motorized vehicle that travels primarily on land, that receives from and transmits to Fixed-Satellite Service space stations and operates within the United States.

5. Amend § 25.115, as proposed to be amended on June 16, 2017 at 82 FR 27652, by revising paragraph (f) and adding paragraph (o) to read as follows:

* * * * *

(f) NGSO FSS earth stations in 10.7-30.0 GHz. (1) An application for an NGSO FSS earth station license in the 10.7-30.0 GHz band must include the certification described in §25.146(a)(2).

(2) Individual or blanket license applications may be filed for operation in the 10.7-12.7 GHz, 14-14.5 GHz, 17.8-18.6 GHz, 18.8-19.4 GHz, 19.6-20.2 GHz, 28.35-29.1 GHz, or 29.5-

30.0 GHz bands; however, blanket licensing in the 10.7-11.7 GHz, 17.8-18.3 GHz, 19.3-19.4 GHz, and 19.6-19.7 GHz bands is on an unprotected basis with respect to current and future systems operating in the fixed service.

(3) Individual license applications only may be filed for operation in the 12.75-13.15 GHz, 13.2125-13.25 GHz, 13.75-14 GHz, or 27.5-28.35 GHz bands.

* * * * *

(o) The requirements in this paragraph apply to applications for ESIMs operation with NGSO satellites in the Fixed-Satellite Service, in addition to the requirements in paragraphs (a)(1), (a)(5), (e)(2), and (i) of this section:

(1) An exhibit describing the geographic area(s) in which the ESIMs will operate.

(2) The point of contact information referred to in § 25.228(e)(2), (f), or (g)(1) as appropriate.

(3) Applicants for ESIMs that will exceed the guidelines in § 1.1310 of this chapter for radio frequency radiation exposure must provide, with their environmental assessment, a plan for mitigation of radiation exposure to the extent required to meet those guidelines.

6. Amend § 25.202 by removing and reserving paragraph (a)(8), revising paragraph (a)(10)(ii), and removing and reserving paragraph (a)(11) to read as follows:

§ 25.202 Frequencies, frequency tolerance, and emission limits.

(a) * * *

(10) * * *

(ii) The following frequencies are available for use by Earth Stations in Motion (ESIMs) communicating with NGSO FSS space stations, subject to the provisions in § 2.106 of this chapter:

10.7-11.7 GHz (space-to-Earth)

11.7-12.2 GHz (space-to-Earth)

14.0-14.5 GHz (Earth-to-space)

17.8-18.3 GHz (space-to-Earth)

18.3-18.6 GHz (space-to-Earth)

18.8-19.3 GHz (space-to-Earth)

19.3-19.4 GHz (space-to-Earth)

19.6-19.7 GHz (space-to-Earth)

19.7-20.2 GHz (space-to-Earth)

28.35-28.6 GHz (Earth-to-space)

28.6-29.1 GHz (Earth-to-space)

29.5-30.0 GHz (Earth-to-space)

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7. Amend § 25.228,, as proposed to be added on June 16, 2017 at 82 FR 27652, by revising the introductory text of paragraph (j) to read as follows:

§ 25.228 Operating and coordination requirements for earth stations in motion (ESIMs).

* * * * *

(j) The following requirements govern all ESIMs transmitting to GSO or non-GSO satellites in the Fixed-Satellite Service in the 14.0-14.5 GHz band.

* * * * *

[FR Doc. 2018-27974 Filed: 12/27/2018 8:45 am; Publication Date: 12/28/2018]