

**List of Subjects in 39 CFR Part 111**

Administrative practice and procedure, Postal Service.

Accordingly, 39 CFR part 111 is proposed to be amended as follows:

**PART 111—GENERAL INFORMATION ON POSTAL SERVICE**

■ 1. The authority citation for 39 CFR part 111 continues to read as follows:

**Authority:** 5 U.S.C. 552(a); 13 U.S.C. 301–307; 18 U.S.C. 1692–1737; 39 U.S.C. 101, 401–404, 414, 416, 3001–3018, 3201–3220, 3401–3406, 3621, 3622, 3626, 3629, 3631–3633, 3641, 3681–3685, and 5001.

■ 2. Revise the *Mailing Standards of the United States Postal Service*, Domestic Mail Manual (DMM) as follows:

**Mailing Standards of the United States Postal Service, Domestic Mail Manual (DMM)**

\* \* \* \* \*

**500 Additional Mailing Services**

\* \* \* \* \*

**507 Mailer Services****1.0 Treatment of Mail**

\* \* \* \* \*

**1.5 Treatment for Ancillary Services by Class of Mail****1.5.1 First-Class Mail, USPS Ground Advantage—Retail, USPS Ground Advantage—Commercial, and Priority Mail**

Undeliverable-as-addressed First-Class Mail (including postcards), USPS Ground Advantage—Retail, USPS Ground Advantage—Commercial, and Priority Mail pieces are treated under Exhibit 1.5.1, with these additional conditions:

\* \* \* \* \*

e. “Change Service Requested” is not permitted for the following:

[Revise item e by adding a new item e4 to read as follows:

\* \* \* \* \*

4. “Change Service Requested”, Option 1, is not valid for Ballot Mail.

\* \* \* \* \*

**Exhibit 1.5.1 Treatment of Undeliverable First-Class Mail, USPS Ground Advantage—Retail, USPS Ground Advantage—Commercial and Priority Mail**

| Mailer endorsement | USPS treatment of UAA pieces |
|--------------------|------------------------------|
|--------------------|------------------------------|

|   |   |   |   |   |
|---|---|---|---|---|
| * | * | * | * | * |
|---|---|---|---|---|

Change Service Requested.

| Mailer endorsement | USPS treatment of UAA pieces |
|--------------------|------------------------------|
|--------------------|------------------------------|

|   |   |   |   |   |
|---|---|---|---|---|
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*Restrictions (for Options 1 and 2).*

The following restrictions apply:

[Revise the “Change Service Requested” “Restrictions” section by adding a new number 3 to read as follows:]

3. “Change Service Requested”, Option 1, is not valid for Ballot Mail.

\* \* \* \* \*

**1.5.3 USPS Marketing Mail and Parcel Select Lightweight**

Undeliverable-as-addressed (UAA) USPS Marketing Mail and Parcel Select Lightweight pieces are treated as described in Exhibit 1.5.3, with these additional conditions:

\* \* \* \* \*

[Revise the text of item c to read as follows:]

c. The endorsement “Change Service Requested” is not permitted for the following:

1. USPS Marketing Mail or Parcel Select Lightweight pieces containing hazardous materials under 601.8.0. USPS Marketing Mail or Parcel Select Lightweight pieces containing hazardous materials must bear the endorsement “Address Service Requested,” “Forwarding Service Requested,” or “Return Service Requested.”

2. “Change Service Requested”, Option 1, is not valid for Ballot Mail.

\* \* \* \* \*

**Exhibit 1.5.3 Treatment of Undeliverable USPS Marketing Mail and Parcel Select Lightweight**

| Mailer endorsement | USPS treatment of UAA pieces |
|--------------------|------------------------------|
|--------------------|------------------------------|

|   |   |   |   |   |
|---|---|---|---|---|
| * | * | * | * | * |
|---|---|---|---|---|

“Change Service Requested”<sup>14</sup>. Option 1.

|   |   |   |   |   |
|---|---|---|---|---|
| * | * | * | * | * |
|---|---|---|---|---|

*Restrictions:*  
The following restrictions apply:

|   |   |   |   |   |
|---|---|---|---|---|
| * | * | * | * | * |
|---|---|---|---|---|

[Revise the “Change Service Requested” Option 1 “Restrictions” section by adding a new number 3 to read as follows:]

3. “Change Service Requested”, Option 1, is not valid for Ballot Mail.

\* \* \* \* \*

**Colleen Hibbert-Kapler,**

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[FR Doc. 2023–21318 Filed 9–28–23; 8:45 am]

**BILLING CODE P**

**FEDERAL COMMUNICATIONS COMMISSION****47 CFR Parts 2, 25, 74, 78, 90, 97, and 101**

[ET Docket No. 23–120; FCC 23–26; FR ID 163738]

**Implementation of the Final Acts of the 2015 World Radio Communication Conference**

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** In this document, the Federal Communications Commission (Commission) proposes implementation of certain allocation decisions from the Final Acts of the World Radiocommunication Conference 2015 (*WRC-15 Final Acts*) concerning portions of the radio spectrum between 5330.5 kHz and 29.5 GHz, other spectrum allocation changes, and related updates to the Commission’s service rules.

**DATES:** Interested parties may file comments on or before October 30, 2023; and reply comments on or before November 28, 2023. All filings must refer to ET Docket No. 23–120.

**ADDRESSES:** Comments may be submitted, identified by ET Docket No. 23–120, by any of the following methods:

- **Electronic Filers:** Comments may be filed electronically using the internet by accessing the Commission’s Electronic Comment Filing System (ECFS): <https://apps.fcc.gov/ecfs/>. See *Electronic Filing of Documents to Rulemaking Proceedings*, 63 FR 24121 (1998).

- **Paper Filers:** Parties who choose to file by paper must file an original and one copy of each filing.

- Filings can be sent 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.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.

• U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street NE, Washington, DC 20554.

• Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19. See FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy, Public Notice, DA 20-304 (March 19, 2020). <https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

Alternative formats are available for people with disabilities (braille, large print, electronic files, audio format), by sending an email to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or calling the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

**FOR FURTHER INFORMATION CONTACT:** For additional information on this proceeding, contact Patrick Forster of the Office of Engineering and Technology, Policy and Rules Division, Spectrum Policy Branch, at (202) 418-7061 or [Patrick.Forster@fcc.gov](mailto:Patrick.Forster@fcc.gov).

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission's Notice of Proposed Rulemaking (NPRM) in ET Docket No. 23-120; FCC 23-26, adopted on April 18, 2023, and released on April 21, 2023. The full text of this document is available for public inspection online at <https://docs.fcc.gov/public/attachments/FCC-23-26A1.pdf>.

**Paperwork Reduction Act.** This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4).

**Initial Regulatory Flexibility Analysis.** As required by the Regulatory Flexibility Act of 1980, as amended (RFA), the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities of the proposals addressed in this NPRM. The full IRFA is found in Appendix C at <https://docs.fcc.gov/public/attachments/FCC-23-26A1.pdf>. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing

deadlines for comments on the NPRM, and they should have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of the NPRM, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the RFA.

**Ex Parte Rules—Permit but Disclose.** Pursuant to § 1.1200(a) of the Commission's rules, this Notice of Proposed Rulemaking (NPRM) shall be treated 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.

### Synopsis

In the Notice of Proposed Rulemaking (NPRM), the Commission proposes to:

(1) implement certain WRC-15 allocation decisions not previously addressed; (2) make other allocation changes that are not related to WRC-15 implementation; and (3) revise parts 2, 25, 74, 78, 90, 97, and 101 of the rules to reflect the proposed allocation changes. Proposals that are not related to WRC-15 implementation are: (1) restricting the use of the mobile-satellite service (Earth-to-space) in the frequency bands designated for use by the Automatic Identification System (AIS 1-4) to non-Federal space station reception of AIS messages; (2) deleting the broadcasting service allocation from the 700 MHz band; (3) updating the rules to recognize that the transition period for the reallocation of the 18.3-19.3 GHz band from the fixed service to the fixed-satellite service (space-to-Earth) has concluded; and (4) removing eight inactive call signs from § 2.106(d)(62) (footnote NG62 or NG62).

### A. Satellite Issues

#### 1. Protection of Search and Rescue Satellites Receiving in the 406-406.1 MHz Band

The Commission proposes to adopt new § 2.106(c)(265) (footnote US265 or US265) for the 403-410 MHz band to protect satellite-based search and rescue systems operating in the 406-406.1 MHz band from out-of-band emissions originating from operations in adjacent bands, as provided in Resolution 205 (Rev.WRC-19). The Commission's rules authorize Emergency Position-Indicating Radio Beacon, Emergency Locator Transmitter, and Personal Locator Beacon transmissions to Federal Government satellites that carry Search and Rescue Satellite (SARSAT) receivers. The National Oceanic and Atmospheric Administration (NOAA) operates polar orbiting and geostationary satellites that carry payloads providing distress alert and location information to appropriate public safety rescue authorities for maritime, aviation, and land users in distress. 47 CFR 80.209(a)(7), 80.905(a)(3)(vi), (a)(4)(vi), 80.1077, 80.1129(c), 87.139(h), 87.147(e), 87.173(b), 87.187(m), 87.195(a), 87.199, 95.2963, and 95.2971. Proposed US265 would prohibit new frequency assignments within the 405.9-406.0 MHz and 406.1-406.2 MHz bands under the mobile and fixed services allocations. Assignment (of a radio frequency or radio frequency channel) is defined as an authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions. 47 CFR 2.1(c). In general, the assignment of

frequencies and frequency bands must be in accordance with the Allocation Table. 47 CFR 2.102(a). The radio frequency devices authorized pursuant to 47 CFR part 15 are not based on allocated radio services. Note 1 to paragraph (e) of § 2.105. The term “short-range radiocommunication devices” is intended to cover radio transmitters that have low capability of causing interference to other radio equipment. In general, such devices are permitted to operate on a non-interference, no-protection-from-interference basis. Simple licensing requirements may be applied, *e.g.* general licenses or general frequency assignments or even license exemption. See Recommendation ITU-R SM.1538–1, Annex 1, p. 2 at 2 (Definition of short-range radiocommunication devices). Medical Device Radio Communications (MedRadio) devices, similar to part 15 devices, are short-range devices.

For radiosonde applicants that seek to operate in the 403–410 MHz band, proposed US265 would require that the frequency drift characteristics of radiosondes be taken into account when selecting operating frequencies above 405 MHz to avoid transmitting in the 406–406.1 MHz band and that all practical steps be taken to avoid the operating frequency drifting close to 406 MHz. The 403–406 MHz band is a Federal/non-Federal shared band that is allocated to the meteorological aids service (radiosonde) on a primary basis. The Commission licenses radiosondes under its part 5 experimental radio service; however, there are currently no active licenses for non-Federal radiosonde use of the 403–406 MHz band. 47 CFR part 5. Proposed US265 seeks to address concerns that aggregate levels of electromagnetic interference, including interference from transmissions in adjacent frequency bands, may present a risk of satellite emergency transmissions being undetected, or delayed in reception, or lead to reduced accuracy of the calculated locations. The Commission seeks comment on this proposal.

Currently, non-Federal use of the fixed and mobile services in the adjacent 403–406 MHz and 406.1–410 MHz bands is permitted pursuant to 47 CFR 2.106(c)(13), (55), (64) (footnotes US13, US55, and US64, or US13, US55, and US64). Footnote US64 states, *inter alia*, that the 401–406 MHz band is allocated to the mobile, except aeronautical mobile, service on a secondary basis, and that non-Federal use is limited to medical device radiocommunication service (MedRadio) operations. MedRadio is an ultra-low power radio service that is

associated with medical implant devices and medical body-worn devices. MedRadio stations are licensed-by-rule and operate in accordance with part 95, subpart I of the rules, so the Commission does not issue individual station licenses for MedRadio devices. Hence, the Commission tentatively concluded that continued operations of MedRadio devices are consistent with proposed US265. The Commission seeks comment on this tentative conclusion.

Section 2.106(c)(13) (footnote US13 or US13) and § 90.265 of the Commission’s rules make 48 channels available for transmitting hydrological and meteorological data (Hydro channels), including channels with center frequencies 406.125 MHz and 406.175 MHz. The Commission proposes to revise §§ 2.106 and 90.265 to state that, after the effective date of final rules in this proceeding, no assignments for the frequencies 406.1250 MHz and 406.1750 MHz will be made, and that existing stations may continue to operate indefinitely on these frequencies as they are currently licensed. As of April 18, 2023, 63 licenses in the Commission’s Universal Licensing System authorized operation in the 406.125–406.175 MHz band. This NPRM does not modify those licenses. By no longer issuing licenses for the frequencies 406.1250 MHz and 406.1750 MHz, the Commission would ensure consistency with proposed new footnote US265 and protect satellite-based search and rescue systems operating in the adjacent 406–406.1 MHz band from out-of-band emissions originating on those frequencies. The Commission seeks comment on these proposals.

Section 2.106(c)(55) (footnote US55 or US55) provides that the Commission may authorize public safety use of 40 Federal Interoperability Channels that are designated in section 4.3.16 of the *NTIA Manual*. However, because section 4.3.16 of the *NTIA Manual* does not include frequencies within the 406.1–406.2 MHz sub-band, it is not necessary to amend the language of this footnote. Finally, the Commission proposes to update § 2.106(c)(117) (footnote US117 or US117) to properly reflect that non-Federal use of the 406.1–410 MHz band is limited to the radio astronomy service and as provided by footnotes US13 and US55, as shown in the proposed rules. This proposed revision of US117 was overlooked when the Commission originally adopted US55. The Commission seeks comment on these proposals, including any estimates of the costs and benefits of implementation.

2. Space Research Service (Space-to-Space) in the 410–420 MHz Band

The Commission proposes to allocate the 410–420 MHz band to the space research service (space-to-space) on a secondary basis for non-Federal use, and add § 2.106(b)(268) (footnote 5.268) to the non-Federal Table of Allocations in the 410–420 MHz band, which would limit use of this added space research service allocation to communication links with an orbiting, manned space vehicle and require compliance with a power flux-density limit at the Earth’s surface to protect existing and future licensees. Footnote 5.268 limits the power flux-density (PFD) at the surface of the Earth to maximum specified values (–153 to –148 dBW/m<sup>2</sup> in a 4 kilohertz bandwidth) depending on the angle of arrival and prohibits stations in the space research service from claiming protection from, or constraining the use and development of, stations of the fixed and mobile services. 47 CFR 2.106(b)(268). The 410–420 MHz band is currently allocated to the fixed, mobile, and space research (space-to-space) services on a primary basis for Federal use; the 413–419 MHz segment is allocated to the mobile, except aeronautical mobile, service on a secondary basis, with non-Federal use limited to part 95 MedRadio operations. 47 CFR 2.106(a). The National Aeronautics and Space Administration (NASA) operates systems in support of extra-vehicular activity communications for the manned space program and other space related efforts in this band. The systems are used for communications between crew members and for relaying telemetry data to the main spacecraft. Non-Federal use is limited to MedRadio operations, hydrological/meteorological data, and public safety. The Commission expects that the additional non-Federal use would be similar to the current Federal uses and would occur because of increasing space exploration by private companies. The Commission requests comment on these proposals, including information on the costs and benefits.

3. Global Flight Tracking for Civil Aviation (1087.7–1092.3 MHz)

The Commission proposes to allocate the 1087.7–1092.3 MHz band to the aeronautical mobile-satellite (route) service (Earth-to-space) on a primary basis, limited to space station reception of automatic dependent surveillance-broadcast (ADS-B) emissions from aircraft. If adopted, the Commission would implement this proposed allocation by referencing § 2.106(b)(328)(ii) (footnote 5.328AA) in

the 960–1164 MHz band within the U.S. Table. The 960–1164 MHz band is currently allocated to the aeronautical mobile (route) and aeronautical radionavigation services on a primary basis for Federal and non-Federal use. Aircraft currently transmit ADS-B signals to report their position to ground-based receivers in a 4.6-megahertz wide band centered on 1090 MHz under the existing aeronautical mobile (route) service allocation. This proposed allocation would extend reception of ADS-B signals beyond terrestrial line-of-sight to facilitate reporting the position of aircraft located anywhere in the world. The Commission tentatively concluded that providing for satellite reception of ADS-B signals would ensure the efficient management of air traffic in oceanic, polar, and remote airspace. Further, the Commission tentatively concluded that this proposed allocation would support the Federal Aviation Administration's rules regarding aircraft location information. The Commission also proposes to add new paragraph (a)(13) to § 25.202 of the Commission's rules to permit the licensing of space stations that can receive ADS-B emissions from aircraft. The Commission seeks comment on these proposals.

Further, as recommended by the National Telecommunications and Information Administration (NTIA), the Commission proposes to add new paragraph (78) to § 2.106(c) (footnote US78 or US78) to the 960–1164 MHz band to recognize Federal use by military Identification Friend or Foe (IFF) systems on center frequencies 1030/1090 MHz. The Commission proposes this use would be subject to the condition that harmful interference would not be caused to the aeronautical radionavigation service or the aeronautical mobile (R) service. Finally, the Commission proposes to revise § 2.106(c)(224) (footnote US224 or US224) to require that Federal systems utilizing spread spectrum techniques for terrestrial communication, navigation, and identification in the 960–1215 MHz band be authorized on the condition that harmful interference not be caused to the aeronautical mobile (R) and aeronautical radionavigation services in the 960–1164 MHz band, military IFF systems on center frequencies 1030/1090 MHz, aeronautical mobile-satellite (R) service (Earth-to-space) in the 1087.7–1092.3 MHz band, and the aeronautical radionavigation and radionavigation-satellite (space-to-Earth) (space-to-space) services in the 1164–1215 MHz band. The Commission requests comment on these proposals,

including whether any modifications to the part 87 rules for aviation services would be necessary to implement these proposals.

#### 4. Satellite Uplinks in the 7190–7250 MHz Band

As recommended by NTIA, the Commission seeks comment on whether to provide additional spectrum on a secondary basis for non-Federal Earth-to-space operations in the Earth exploration-satellite service in the 7190–7250 MHz band and space research service in the 7190–7235 MHz band. In the U.S. Table, the 7190–7250 MHz band is allocated to the Earth exploration-satellite (Earth-to-space) and fixed services, both on a primary basis and exclusively for Federal use. The 7190–7235 MHz portion of the band is also allocated on a primary basis to the space research service (Earth-to-space) exclusively for Federal use.

Consistent with NTIA's recommendation, should the Commission make these Federal uplink bands available for non-Federal use on a secondary basis for Earth-to-space operations in the Earth exploration-satellite and space research services, respectively, by adding the provisions of proposed §§ 2.106(c)(460) and (460)(i) (footnote US460 or US460; footnote US460A or US460A) to the 7190–7235 MHz band and footnote US460A to the 7235–7250 MHz band? Footnote US460 would provide a secondary non-Federal allocation in the 7190–7235 MHz band for the space research service (Earth-to-space) and would prohibit emissions from such systems intended for deep space. Footnote US460A would allocate the 7190–7250 MHz band to the Earth exploration-satellite service (Earth-to-space) on a secondary basis for non-Federal use, limited to tracking, telemetry, and command (TT&C) for the operation of spacecraft. The restrictions in footnotes US460 and US460A are based on international §§ 2.106(b)(460), (460)(i) (footnotes 5.460 and 5.460A, or 5.460 and 5.460A). In both cases, should the Commission explicitly require that authorizations be subject to a case-by-case electromagnetic compatibility (EMC) analysis and approval? Qualcomm urged the Commission to seek comment on whether such allocations would “remain in line with the Commission's present spectrum priorities,” noting that the Chairwoman has identified the 7–15 GHz spectrum range, and some stakeholders, other administrations, and regional organizations are considering the 7190–7250 MHz band for the next generation wireless technology. The Commission

requests comment on these recommendations.

#### 5. Earth Exploration-Satellite Service (Active) in the 9.2–9.3 GHz and 9.9–10.4 GHz Bands

The Commission seeks comment on allocating the 9.2–9.3 GHz and 9.9–10.4 GHz bands to the Earth exploration-satellite service (active) on a primary basis for Federal use and on a secondary basis for non-Federal use, subject to §§ 2.106(b)(474)(i), (b)(474)(ii), (b)(474)(iii), and proposes § 2.106(c)(474) (footnotes 5.474A, 5.474B, 5.474C, and US474D, or 5.474A, 5.474B, 5.474C, and US474D, respectively). Footnote US474D is based on the text in § 2.106(b)(474)(iv) (international footnote 5.474D or 5.474D), except that the radiolocation service is not included in the 9.2–9.3 GHz band because this allocation has secondary status in both the Federal and non-Federal Tables, and the radionavigation service is not included in the 9.9–10 GHz band because that allocation only applies in the countries listed in § 2.106(b)(478) (footnote 5.478 or 5.478). This would implement WRC-15's expansion of the current worldwide Earth exploration-satellite service (active) allocation in the 9.3–9.9 GHz band by allocating 600 megahertz of additional spectrum in the adjacent bands to this service, which would support the growing demand for greater radar image resolution to satisfy global environmental monitoring requirements. Spaceborne radars operating in this band support a large number of scientific and geoinformation applications, such as disaster relief and humanitarian aid, land use, and large area coastal surveillance. The Commission requests comment on these potential allocations.

In the U.S. Table, the 9.2–9.3 GHz band is allocated to the maritime radionavigation service on a primary basis and to the radiolocation service on a secondary basis for Federal and non-Federal use, subject to §§ 2.106(b)(472), (b)(474), (c)(110), and (e)(59) (footnotes 5.472, 5.474, US110, and G59, or 5.472, 5.474, US110, and G59, respectively). The 9.9–10.5 GHz band is allocated to the radiolocation service on a primary basis for Federal use and on a secondary basis for non-Federal use. The 9.975–10.025 GHz band is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars. 47 CFR 2.106(b)(479). The 10–10.5 GHz and 10.45–10.5 GHz bands are allocated to the amateur and amateur-satellite services on a secondary basis, respectively. Five footnotes apply to the 10–10.5 GHz band: 47 CFR

2.106(b)(479), (c)(108), (c)(128), (d)(50), and (e)(32) (footnotes 5.479, US108, US128, NG50, and G32, or 5.479, US108, US128, NG50, and G32, respectively). The 2023 World Radiocommunication Conference will consider whether to identify the 10–10.5 GHz for International Mobile Telecommunications (IMT) in ITU Region 2.

The four footnotes on which the Commission seeks comment on adding to the 9.2–9.3 GHz and 9.9–10.4 GHz bands would limit their use to systems in the Earth exploration-satellite service (active) requiring a necessary bandwidth greater than 600 megahertz that cannot be fully accommodated within the 9.3–9.9 GHz band (5.474A (§ 2.106(b)(474)(i))); protect the radio astronomy service in the 10.6–10.7 GHz band from unwanted emissions (5.474B (§ 2.106(b)(474)(ii))); protect the space research service (space-to-Earth) in the 8.4–8.5 GHz band from unwanted emissions (5.474C (§ 2.106(b)(474)(iii))); and require that the Earth exploration-satellite service (active) not cause harmful interference to, or claim protection from, the maritime radionavigation service in the 9.2–9.3 GHz band and the radiolocation service in the 9.9–10.4 GHz band (proposed US474D (§ 2.106(c)(474))). Qualcomm urged the Commission to seek comment on whether the proposed allocations would “remain in line with the Commission’s present spectrum priorities,” noting that the Chairwoman has identified the 7–15 GHz spectrum range, and some stakeholders, other administrations, and regional organizations are considering the 9.2–9.3 GHz and 9.9–10.4 GHz bands for the next generation wireless technology.

The Commission also proposes to revise § 2.106(c)(128) (footnote US128 or US128) to support the Department of Defense’s development of pulsed emission systems in the 10–10.5 GHz band. Currently, US128 prohibits pulsed emissions in the 10–10.5 GHz band, except for weather radars on board meteorological satellites in the 10–10.025 GHz sub-band. Under footnote US128, the amateur, the amateur-satellite, and the non-Federal radiolocation services, which shall not cause harmful interference to the Federal radiolocation service, are the only non-Federal services permitted in the 10–10.5 GHz band, and the non-Federal radiolocation service is limited to survey operations as specified in § 2.106(c)(108) (footnote US108 or US108). NTIA states that the Department of Defense requires flexibility for development of pulsed systems in this band to meet future

system needs. The Commission seeks comment on all of the proposals in this section. In addition, it requests comment on whether the 9.2–9.8 GHz and 9.9–10.4 GHz bands should be allocated to the Earth exploration-satellite service (active) on a primary basis for non-Federal use, so the status of those non-Federal allocations would mirror the status of the Federal Earth exploration-satellite service (active) allocations in those bands.

#### 6. Revision of the 18.142–19.3 GHz, 28.5–29.1 GHz, and 29.25–29.5 GHz Bands

In this section, the Commission makes proposals and seeks comments on allocation and service rule changes that would clarify the status of grandfathered fixed stations in the 18.3–19.3 GHz band and permit a heavier use of the fixed-satellite service (FSS) in the 18.142–18.3 GHz, 28.5–29.1 GHz, and 29.25–29.5 GHz bands.

First, the Commission proposes to amend § 2.106(c)(139) (footnote US139 or US139) by stating that, in the 18.3–19.3 GHz band, earth station licensees in the fixed-satellite service (space-to-Earth) may require that licensees of grandfathered stations in the fixed service cease operations, consistent with the provisions in § 101.95 of the Commission’s rules. The Commission makes this proposal because, in the 18.3–19.3 GHz band, there is no fixed service allocation and there are no longer any primary grandfathered fixed stations. Specifically, § 101.85 states that fixed service operations in the 18.3–18.58 GHz and 18.58–19.3 GHz bands that remain co-primary under the provisions of §§ 74.502(c), 74.602(g), 78.18(a)(4), and 101.147(r) will continue to be co-primary with the fixed-satellite service (FSS) until dates that have long since passed, *i.e.*, these transition periods have concluded. In addition, § 101.95(a), which concerns the sunset provisions for the 18.3–19.3 GHz band, includes the following: Once the relocation rules sunset, an FSS licensee may require the incumbent to cease operations, provided that the FSS licensee intends to turn on a system within interference range of the incumbent, as determined by TIA Bulletin 10–F or any standard successor. FSS licensee notification to the affected FS (fixed service) licensee must be in writing and must provide the incumbent with no less than six months to vacate the spectrum. After the six-month notice period has expired, the FS licensee must turn its license back into the Commission, unless the parties have entered into an agreement that allows the FS licensee to continue to operate

on a mutually agreed upon basis. 47 CFR 101.85(b)(1) and (2), 101.95(a). Consequently, the Commission also proposes to revise §§ 74.502(c), 74.602(g), 78.18(a)(4), and 101.147(r) of the rules in order to update the introductory text and the frequencies that are available to applicants of aural broadcast auxiliary stations, television broadcast auxiliary stations, cable television relay service, and fixed microwave services, respectively. These proposals are consistent with the Commission’s previous decision concerning the re-channelization of the 17.7–18.3 GHz and 19.3–19.7 GHz bands for fixed microwave services under part 101 of the rules. While most of the proposed changes remove channels that are no longer allocated to the fixed service, in one instance the Commission proposes to add replacement channels, *i.e.*, the Commission proposes to replace the 12 frequency pairs in § 74.502(c)(1)(i) of the rules with the 5 megahertz channels from § 101.147(r)(5) in the proposed rules. The Commission also proposes to update §§ 101.95(a) and 101.147(a) to remove expired text and to remove six sections concerning expired policies governing fixed service relocation from the 18.3–19.3 GHz band, *i.e.*, §§ 101.83 through 101.91 and 101.97. The Commission requests comment on these proposals.

Second, the Commission proposes to revise § 2.106(d)(62) (footnote NG62 or NG62) to permit the fixed stations authorized pursuant to the 10 listed call signs to continue to operate indefinitely on a secondary basis. The Commission adopted footnote NG62 when it deleted the primary fixed and mobile service allocations from the 28.5–29.1 GHz and 29.25–29.5 GHz bands. Footnote NG62 states that, in the 28.5–29.1 GHz and 29.25–29.5 GHz bands, stations in the fixed-satellite service shall not cause harmful interference to, or claim protection from, stations in the fixed service operating under 18 listed call signs; however, only 10 of these call signs are currently active. The Commission noted that WRC–19 and the Commission’s rules permit earth stations in motion (ESIMs) to operate in these frequency bands. The proposed secondary status of these fixed stations would recognize that ESIMs, which may operate anywhere without coordination with the fixed stations, may cause intermittent interference to these fixed stations. The Commission requests comment on these proposals.

Third, the Commission requests comment on whether it should raise the non-Federal secondary fixed-satellite service (space-to-Earth) allocation in the

18.142–18.3 GHz band (158 megahertz) to primary status, *i.e.*, co-equal with the non-Federal primary fixed service allocation in the band. If adopted, this upgrade of allocation status would provide receiving earth stations with interference protection from later-licensed fixed stations that are used for part 74 and part 101 Multichannel Video Programming Distributor (MVPD) and part 78 cable television relay service (CARS) operations that operate in accordance with the proposed rules in this section. The Commission tentatively concluded this should result in significantly heavier earth station use of this band in the future, thereby enhancing spectrum efficiency. As background, the Commission noted that there are seven part 78 CARS licenses, which are located in three California counties and Maui Island, Hawaii; and 35 grandfathered fixed service licenses that authorize operations in the 18.142–18.3 GHz band. In contrast, as of August 26, 2022, there are 222 licenses for earth station reception in the 18.142–18.3 GHz band and there are 414 pending applications for earth stations that would receive in the band.

Finally, the Commission requests comment on whether it should allow the continued operation of existing CARS licenses that authorize operation in the 18.3–18.304 GHz and 18.3–18.334 GHz bands in Puu Nianiau, Hawaii, and Placerville, California, respectively, and revise § 2.106(c)(139) (footnote US139 or US139) to codify that these fixed station operations may continue to operate indefinitely under the existing conditions.

#### 7. Deletion of the Radionavigation-Satellite Service From the 149.9–150.05 MHz and 399.9–400.05 MHz Bands

Consistent with the *WRC-15 Final Acts*, the Commission proposes to delete the radionavigation-satellite service allocation from the 149.9–150.05 MHz and 399.9–400.05 MHz bands. *WRC-15* deleted this allocation because it had expired pursuant to footnote 5.224B. In the U.S. Table, the 149.9–150.05 MHz and 399.9–400.05 MHz bands are Federal/non-Federal shared bands that are allocated to the mobile-satellite service (Earth-to-space) and the radionavigation-satellite service on a primary basis. This proposal would make these two bands—totaling 300 kilohertz—exclusively allocated to the mobile-satellite service (Earth-to-space). The Commission seeks comment on this proposal.

#### B. Terrestrial Issues

##### 1. Amateur Service in the 5351.5–5366.5 kHz Band

The Commission proposes to allocate the 5351.5–5366.5 kHz band to the Amateur Radio Service on a secondary basis and seeks comment on whether the amateur service should keep the existing channels they use in the 60 meter band. During *WRC-15*, the International Telecommunication Union (ITU) allocated this band to the amateur service on a secondary basis in all ITU Regions. The ITU generally set the maximum radiated power at 15 watts (W) equivalent isotropically radiated power (EIRP), which is equivalent to 9.15 W effective radiated power (ERP).

These frequencies are currently part of the 5275–5450 kHz band, which is allocated for Federal/non-Federal shared use, on a primary basis, to the fixed service and, on a secondary basis, to the mobile except aeronautical mobile service. Section 2.106(c)(23) (footnote US23 or US23) currently provides a secondary allocation to the amateur service on five discrete channels—each with a maximum bandwidth of 2.8 kilohertz and centered on the frequencies 5332, 5348, 5358.5, 5373, and 5405 kHz. While footnote US23 does not have an explicit bandwidth limit, it limits use of these frequencies to specified emission types and designators, which in effect limit the bandwidth to a maximum of 2.8 kilohertz, *i.e.* phone (2K80J3E), data (2K80J2D), RTTY [narrow-band direct-printing telegraphy emissions having specified designators] (60H0J2B), and CW [International Morse code telegraphy emissions having specified designators] (150HA1A). 47 CFR 2.101, 2.102, 2.106(c)(23), 97.3(c)(1), (c)(7). However, pursuant to Commission rules, stations in the amateur service may transmit on these frequencies with a maximum radiated power of 100 W ERP—over ten times more powerful than *WRC-15*'s EIRP limit. Footnote US23 and § 97.313(i) of the Commission's rules state that amateur service use of these frequencies is restricted to a maximum ERP of 100 watts "PEP" and that no station may transmit with an ERP exceeding 100 watts "PEP," respectively. These requirements are inconsistent with the definitions in part 97 of the Commission's rules, *i.e.*, PEP is the average power supplied to the antenna transmission line by a transmitter during one RF cycle at the crest of the modulation envelope taken under normal operating conditions and ERP is the product of the power supplied to the antenna and its gain relative to a half-

wave dipole in a given direction. 47 CFR 97.3(b)(2), (3), (9). The Commission's review found that these rules were intended to limit the radiated power to 100 watts ERP based on the 2006 agreement between NTIA and the American Radio Relay League, the National Association for Amateur Radio (ARRL) and, to minimize confusion, the Commission refers to this limit in its discussion. Petition for Rule Making of ARRL, RM-11353, at Exhibit A (filed Oct. 10, 2006); 47 CFR 97.313(k), (l). NTIA recommended that the Commission conform footnote US23 to the *WRC-15 Final Acts* by allocating the 5351.5–5366.5 kHz band to the amateur service on a secondary basis, removing the four existing amateur channels outside this proposed new amateur band, and restricting the maximum radiated power of amateur operations in the band to 15 W EIRP. Federal agencies use the larger 5275–5450 kHz band for services that include military, law enforcement, disaster relief, emergency, and contingency operations. Most non-Federal operations in the 60 meter band are part 90 industrial business pool land mobile operations.

In 2017, ARRL filed a petition for rulemaking asking the Commission to allocate the 5351.5–5366.5 kHz band to the amateur service on a secondary basis, as provided in the *WRC-15 Final Acts*, and also to retain the four amateur service channels that are outside this band (*i.e.*, the frequencies 5332 kHz, 5348 kHz, 5373 kHz, and 5405 kHz). Further, ARRL supports using the same operating rules in terms of permitted emission types, power level, and access by class of amateur licensee for the new contiguous allocation that is currently applied to the existing five amateur channels. Essentially, ARRL supports extending the provisions of footnote US23 and § 97.303(h) of the Commission's rules that apply to the existing five amateur channels, including the 100 watt ERP limit, to the new allocation. Therefore, ARRL disagrees with applying the 15 W EIRP limit suggested in the *WRC-15 Final Acts*. While most commenters supported implementation of the ARRL Petition as filed, some commenters disagreed with various aspects of the ARRL Petition as addressed below. Some even argue that the entire 60 meter band should be opened for amateur use at higher power because they are not aware of any complaints of harmful interference. Finally, the Commission noted that Canada has essentially implemented the same rules as ARRL has requested.

The Commission proposes to modify footnote US23 and part 97 of its rules

to implement the new international allocation at 5351.5–5366.5 kHz, but also seeks comment on whether it should maintain the existing four channels at 5332, 5348, 5373, and 5405 kHz that are outside of the new allocation. Specifically, the Commission proposes to make the following amendments to part 97 of the rules: (1) replace the five center frequencies with the 5351.5–5366.5 kHz band in § 97.301(b) through (d) and 97.305(c); (2) simplify the frequency sharing requirements in § 97.303(h) by stating that amateur stations transmitting in the band must not cause harmful interference to, and must accept interference from, stations authorized by the United States and other nations in the fixed service; and other nations in the mobile except aeronautical mobile service; and (3) revise the emission standard in § 97.307(f)(14) by removing unneeded text, including the unneeded upper sideband and Morse telegraphy restrictions (as requested by ARRL in its petition).

Under this proposal, amateurs would have access to a contiguous 15 kilohertz-wide band. Allowing amateurs to use these internationally-harmonized frequencies could facilitate amateur communications across international borders. The Commission noted however, there is significant opposition from the amateur community regarding the removal of the four discrete channels at 5332, 5348, 5373, and 5405 kHz from amateur use, as requested by NTIA. An argument could be made that amateur operations should remain on harmonized international frequencies because of the long-range propagation of these frequencies. Further, amateur licensees also have access to other high frequency (HF) bands at 3 and 7 MHz, so the Commission believed there should be sufficient spectrum options for amateur operations without deviating from the internationally harmonized spectrum. However, some commenters contended that the amateur community has been using the four discrete channels at 5332, 5348, 5373, and 5405 kHz that fall outside of the proposed band for some time and argue that these channels are important in responding to disasters. The Commission seeks comment on this issue and what spectrum in the 60 meter band should be made available for amateur use.

Alternatively, the Commission seeks comment on whether the four discrete channels at 5332, 5348, 5373, and 5405 kHz should be kept available for limited amateur use under certain conditions or only in response to disasters. For example, could the channels be

authorized for amateur use during disasters as part of the Military Auxiliary Radio System (MARS) or SHARED RESources High Frequency Radio (SHARES) programs where participating amateur licensees can operate on Federal channels in coordination with the Department of Defense or Department of Homeland Security, respectively? Should the Commission permit amateur stations participating in established emergency communications programs such as the Amateur Radio Emergency Service (ARES) or the Radio Amateur Civil Emergency Service (RACES) to use the additional channels or operate at higher power during emergencies and drills? Could the discrete channels be maintained under lower power or under other conditions that might reduce their potential to interfere with primary allocation services in the band? If so, the Commission invites comment on whether the existing discrete channels should continue to be used for secondary amateur use and under what rules and conditions.

While many amateur commenters argued they should be permitted access to more of the 60 meter band because they are not aware of any complaints of interference arising from their current operations, the Commission noted there are a variety of important non-Federal and Federal fixed and mobile except aeronautical mobile service operations in the band where even rare instances of interference could endanger public safety. Therefore, the Commission tentatively finds that the spectrum requirements for the amateur service in the 5005–5450 kHz band should be met by the WRC-15 amateur band and that only the four existing amateur channels at 5332, 5348, 5373, and 5405 kHz that are outside this band should be considered in this proceeding. Nevertheless, the Commission seeks comment on this idea. Commenters that support expanded access to the 60 meter band should provide information regarding how heavily the five amateur frequencies in the 5275–5450 kHz band are used and why additional amateur spectrum in this frequency range is needed if the Commission adopts the proposed allocation.

**Power.** ARRL sought a maximum radiated power limit of 100 W ERP for the new secondary amateur allocation and to maintain the existing maximum radiated power limit of 100 W ERP for the existing discrete channels at 5332, 5348, 5373, and 5405 kHz. ARRL argued that such an implementation would support amateurs engaged in emergency and disaster relief communications to more reliably, flexibly, and capably

conduct those communications; that imposing a maximum radiated power limit of 15 W EIRP would render the band unsuitable for emergency and public service communications; that the lower power limit is insufficient to permit reliable communications on the paths that are most critical; and that this reduced radiated power limit is not necessary to protect primary services from interference.

Harold Ross Lambert and Michael Goltz argued that the power limit should be increased to 500 W to deal with propagation challenges in disaster communications; and Milton K. Miller supports 500 W power with the use of more efficient antennas. Phillip Finkle urged for at least 200 W of power designated as output power instead of ERP because ERP is difficult to measure. Janis Carson initially expressed concern over allowing U.S. amateurs to operate at much higher powers than the international standard, suggesting a compromise power of 30 W because digital modes are very effective at lower power and world-wide communications can be achieved at lower power levels like 5 W. However, in later comments Ms. Carson supported the ARRL proposal to allow 100 W for “more reliable communications in an environment of high static crashes.” William Springer urged the adoption of the 15 W power limit in the *WRC-15 Final Acts* because he contends that newer digital modes are more efficient, and so weaker signals are not an impediment to achieving communication. Finally Hugh Bahar cautioned that deviating from limits agreed to at the international level is unwise and could lead to other countries ignoring the standards and could be viewed as an act of bad faith.

Several commenters also argued for more flexibility in the types of antennas permitted in the 60 meter band. Scott Wright and George Dominick contend that antennas with gain greater than 0 dBi should be allowed since they are essential for efficient communications during an emergency. In contrast, Mathew Pitts does not support increasing the permitted antenna gain and contends the power should range between 15 and 30 W.

The Commission seeks comment on the appropriate power limit for the new internationally harmonized amateur allocation and for the discrete channels if they are maintained for amateur use. The Commission tentatively concludes that limiting the radiated power of amateur stations to 15 W EIRP would reduce the potential of harmful interference to incumbent primary operations, while maintaining

consistency with the power limits established internationally for amateur operations in this band. However, the majority of the amateur comments are opposed to lower power limits and neighboring countries in Region 2 permit power levels higher than 15 W EIRP. The Commission agrees with certain commenters that the long-range propagation capabilities of these frequencies is likely to allow efficient communications at low-power levels, but there may be instances where more power is needed to deal with propagation challenges.

The Commission acknowledges that valid arguments may exist for adopting power limits above 15 W up to 100 W. For example, § 2.106(b)(133)(ii) (footnote 5.133B or 5.133B), which addresses this international allocation, outlines a power limit of 20 W EIRP for Mexico and 25 W EIRP for all Latin American countries and for many Caribbean countries/territories. Further, a review of the Commission's licensing database indicates other licenses with higher allocation status operating at power levels ranging from 15 W up to as high as 5000 W. Accordingly, the Commission seeks to build a more comprehensive record on the appropriate power limit for 60-meter band amateur operations. Interested parties seeking a power limit above the proposed 15 W EIRP limit should explain how much power would be appropriate, and how higher power limits would affect other operations in the 60-meter band? For example, should the Commission allow the higher power allowed in other countries in ITU Region 2, such as Mexico and most Caribbean countries? Should the Commission allow higher power during times of emergency drills/response or as part of programs where Amateur licensees support Federal emergency response? Should higher power only be permitted during disasters or drills supporting disaster relief? If, going forward, the discrete channels are permitted to be used by amateur operators under certain parameters or during disasters, what power limits should apply and when? What other conditions or considerations should be applied to amateur use of the 60 meter band?

Further, the Commission seeks comment on how the limit should be specified in the rules. Specifically, should the power limit be defined in terms of EIRP to be consistent with the WRC-15 recommendation, or through some other means, such as ERP or transmitter output power? While some commenters argue that radiated power limits are difficult to calculate for

certain types of antennas, the Commission finds that amateur licensees are supposed to study the radio arts and should be capable of determining their operating power. The Commission seeks comment on the pros and cons of various power limit alternatives and which method is best for the 60 meter band. If the Commission adopts a radiated power limit, it does not propose to adopt antenna limitations because a radiated power limit would ensure that excess power is not used, and flexibility in antenna choices may lead to spectrum efficiencies because the signal will propagate in its intended direction. Nevertheless, the Commission seeks comment on whether, and, if so what, antenna limitations are appropriate for amateur operations in this band using these different power limit measurements and how the Commission's decision could affect how these frequencies would be used by the amateur community.

**Channelization.** ARRL and several commenters argued that the new allocation should not designate sub-bands for various modes of operation to enable maximum flexibility to avoid interference with other operations. Janis Carson contended channelization is wasteful because narrowband modes can operate at less than three kilohertz and flexibility is needed to address prevailing circumstances. She added that a maximum bandwidth of 500 Hertz should be allowed in the new contiguous allocation. Charles Powell supported the ARRL request and contends that amateur equipment is not designed to maintain a high level of frequency accuracy and that such a design change would make equipment prohibitively expensive. However, William Springer argued that the new allocation should be channelized into five 3 kilohertz channels to promote efficiency and avoid overlapping transmissions. Benjamin Russell also supported five discrete channels, but suggests creating ten overlapping channels for narrowband carrier wave (CW) use. Ronald F Henry contends that channelization would facilitate sharing with Federal users and, given there are several bands available for amateur use, the "60 Meter band must be set aside for emergency communications as the primary use and as such, channelization is desired to protect both the primary and secondary user."

The Commission proposes that the 5351.5–5366.5 kHz band should not be channelized or have sub-bands. Due to the wide variety of potential applications and the need to protect other communications, dividing the

band into channels may lead to inefficient spectrum use. However, the Commission agrees with commenters who state that some wideband digital emissions could create spectrum sharing problems, and so the Commission proposes a maximum emission bandwidth of 2.8 kilohertz for amateur operations in this band. The Commission seeks comment on this proposal and whether there are other limits or technical rule changes necessary to ensure reliable and efficient use of this band.

**Station Class and Permitted Uses.** ARRL and certain other commenters stated that only amateurs with a General Class license or higher should be allowed to use the new allocation, because Technician Class license holders may not have the experience to operate consistent with the interference avoidance protocols needed for the band. William Springer opposed the allowance of CW transmissions in the band because he contends that they are outdated and inefficient, but supported the use of any commonly-available, unencrypted digital transmission mode limited by a maximum occupied bandwidth that fits within the channel. Scott Wright supported the allowance of CW, arguing that several CW emissions can fit within a small amount of bandwidth. Janis Carson and Hugh Bahar opposed the allowance of automatically controlled digital stations and wideband digital modes that could block the entire allocation and could cause interference without busy channel detection. In her reply comments, Ms. Carson added that the new allocation should be used for narrowband digital or CW and that the discrete channels, along with the one 3 kHz channel contained within the new allocation, could remain for use of single-side band (SSB) voice or wider digital modes. Ms. Carson also suggested not allowing any automatic store and forward email systems in the 60 meter band, claiming that these systems have a high potential to cause interference due to the "hidden transmitter" effect, where the offshore initiating station cannot hear a primary user in the skip zone of the shore based relay station. Finally, W. Lee McVey contended that the 60 meter band rules should ensure that only publicly documented digital codes operate in the band to prohibit encrypted communications.

Consistent with the current amateur class requirements for the 60 meter band (see 47 CFR 97.301), the Commission proposes to permit amateurs holding a General Class license or higher to use the 5351.5–5366.5 kHz band. The Commission agrees with commenters

that the long-range propagation characteristics in the band combined with the need to protect important safety of life communications by Federal operations potentially requires a higher level of radio knowledge to ensure the spectrum is properly shared. The Commission seeks comment on this proposal. Further, if the Commission maintains the four existing discrete channels at 5332, 5348, 5373, and 5405 kHz outside of the international allocation, the Commission proposes that those channels also be permitted for General Class licensees or higher. The Commission seeks comment on this proposal and other alternatives. For example, if the Commission adopts the new allocation and keeps the existing discrete channels, should different amateur classes be permitted on the new allocation versus the discrete channels? If the Commission allows station classes below General Class licensees to access the 60 meter band, what conditions should be applied? For example, should certain classes be permitted to operate in certain modes (*i.e.*, voice vs. digital) or at certain times (*e.g.*, only in response to a disaster)? Given the limited spectral resource at issue, commenters supporting more flexible use should support their comments with suggested safeguards or ideas on how the spectrum can be efficiently used without interfering with primary allocation operations.

At this time, the Commission does not propose to preclude CW or any other radio technique currently permitted in the 60 meter band because the record is inconclusive on whether certain modulation methods should be prohibited. However, the Commission notes that the amateur rules generally preclude encrypted operations, and so seeks comment on whether the 60 meter band rules need to be clearer on what types of digital operations are permitted. As discussed above, the Commission proposes to limit the emission bandwidth to 2.8 kilohertz, which may limit some techniques. The Commission

seeks comment on these proposals and encourages the amateur community to attempt to reach consensus on what radio techniques should be permitted, given the limited amount of spectrum available, the need to use this spectrum efficiently, and the importance of ensuring that the primary users are protected from harmful interference.

## 2. Amateur Service in the 420–450 MHz Band

Based on a request from NTIA, the Commission proposes to update the coordination and contact information in § 2.106(c)(270) (footnote US270 or US270) for the areas wherein the peak envelope power of an amateur station operating in the 420–450 MHz (70 cm) band is generally limited to 50 watts, and to revise the cross reference to footnote US270 in § 97.313(f) of the rules. The Commission requests comment on these proposals.

## 3. Maritime On-Board Communication Stations (457/467 MHz)

The Commission proposes to revise § 2.106(c)(288) (footnote US288 or US288) to make a limited number of narrowband channels from the international channel plan adopted at WRC-15 available for use by on-board communication stations. An on-board communication station is a low-powered mobile station in the maritime mobile service used for internal communications on board a ship, or between a ship and its lifeboats and life rafts during lifeboat drills or operations, or for communication within a group of vessels being towed or pushed, as well as for line handling and mooring instructions. The Commission's proposals are intended to benefit the maritime industry by making available a subset of the internationally-harmonized narrowband channels for on-board communication use while ships are in U.S. territorial waters. The Commission's overarching goals in making these proposals are to minimize the potential for intermittent and

harmful interference to stations in the land mobile and fixed services that operate on the same or adjacent frequencies to on-board communication stations and to promote more efficient and effective use of the available spectrum, while fully meeting the operational requirements of ship station licensees for on-board communication stations.

Sections 2.106(c)(288) and 80.373(g) of the rules make seven internationally-harmonized frequencies in the 457.5125–457.5875 MHz and 467.5125–467.5875 MHz bands (150 kilohertz) and five other frequencies available for use by on-board communication stations in U.S. territorial waters (275 kilohertz in total). Specifically, § 80.373(g)(1) states that the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, and 457.600 MHz may be used by on-board repeater stations and by unpaired on-board mobile stations (*i.e.*, single-frequency simplex operation) and that four frequencies in the 467.7375–467.8375 MHz band (*i.e.*, 467.750, 467.775, 467.800, and 467.825 MHz) may be used by on-board mobile stations in two-frequency repeater systems. In addition, § 80.373(g)(2) states that, where needed, equipment designed for 12.5 kilohertz channel spacing using the additional frequencies 457.5375 MHz, 457.5625 MHz, 467.5375 MHz, and 467.5625 MHz (*i.e.*, channels 12, 14, 22, and 24) may be introduced for on-board communications; however, no use of these channels is currently authorized.

WRC-15 revised the international channel plan for on-board communication stations to provide for 6.25 kilohertz channels. This new channel plan, shown in table 1 below, specifies 40 frequencies that support the use of equipment designed to operate on 25, 12.5, or 6.25 kilohertz channels. Channels 1, 2, 3, 12, 14, 22, and 24 as shown in Table 1 indicate the internationally-harmonized channels that are currently available for use under the Commission's rules.

| Table 1: International vs. United States Channels for On-Board Communication Stations |         |          |          |          |            |                     |         |          |            |          |                                                                   |                                                                                |
|---------------------------------------------------------------------------------------|---------|----------|----------|----------|------------|---------------------|---------|----------|------------|----------|-------------------------------------------------------------------|--------------------------------------------------------------------------------|
| International Footnote 5.287 and Recommendation ITU-R M.1174-4                        |         |          |          |          |            |                     |         |          |            |          | US1-US3<br>(25/25 kHz<br>with the lower<br>channel<br>harmonized) |                                                                                |
| Lower Band Channels                                                                   |         |          |          |          |            | Upper Band Channels |         |          |            |          |                                                                   |                                                                                |
| 25 kHz                                                                                |         | 12.5 kHz |          | 6.25 kHz |            | 25 kHz              |         | 12.5 kHz |            | 6.25 kHz |                                                                   |                                                                                |
| Ch                                                                                    | MHz     | Ch       | MHz      | Ch       | MHz        | Ch                  | MHz     | Ch       | MHz        | Ch       | MHz                                                               |                                                                                |
| 1                                                                                     | 457.525 | -        | -        | 102      | 457.515625 | 4                   | 467.525 | -        | -          | 202      | 467.515625                                                        | US1 consists<br>of channel 1<br>and a channel<br>centered on<br>467.750 MHz    |
|                                                                                       |         | 11       | 457.5250 | 111      | 457.521875 |                     |         | 21       | 467.5250   | 211      | 467.521875                                                        |                                                                                |
|                                                                                       |         |          |          | 112      | 457.528125 |                     |         |          |            | 212      | 467.528125                                                        |                                                                                |
|                                                                                       |         |          |          | 121      | 457.534375 |                     |         |          |            | 221      | 467.534375                                                        |                                                                                |
| 2                                                                                     | 457.550 | 12       | 457.5375 | 122      | 457.540625 | 5                   | 467.550 | 22       | 467.5375   | 222      | 467.540625                                                        | US2 consists of<br>channel 2 and a<br>channel<br>centered on<br>467.775 MHz    |
|                                                                                       |         | 13       | 457.5500 | 131      | 457.546875 |                     |         | 23       | 467.5500   | 231      | 467.546875                                                        |                                                                                |
|                                                                                       |         |          |          | 132      | 457.553125 |                     |         |          |            | 232      | 467.553125                                                        |                                                                                |
|                                                                                       |         |          |          | 141      | 457.559375 |                     |         |          |            | 241      | 467.559375                                                        |                                                                                |
| 3                                                                                     | 457.575 | 14       | 457.5625 | 142      | 457.565625 | 6                   | 467.575 | 24       | 467.5625   | 242      | 467.565625                                                        | US3 consists of<br>channel 3 and a<br>channel<br>centered<br>on 467.800<br>MHz |
|                                                                                       |         | 15       | 457.5750 | 151      | 457.571875 |                     |         | 25       | 467.5750   | 251      | 467.571875                                                        |                                                                                |
|                                                                                       |         |          |          | 152      | 457.578125 |                     |         |          |            | 252      | 467.578125                                                        |                                                                                |
|                                                                                       |         |          |          | -        | -          |                     |         | 161      | 457.584375 |          |                                                                   |                                                                                |

To permit the deployment of more spectrally efficient narrowband equipment, the Commission proposes to revise footnote US288 by authorizing on-board communication stations to use 12.5 and 6.25 kilohertz channels in the territorial waters of the United States as described in the following paragraphs.

First, the Commission proposes to revise footnote US288 to authorize: (1) nationwide use of channels 11–15, which are internationally-harmonized 12.5 kilohertz channels, for on-board repeater stations and on-board mobile stations used for single-frequency simplex operation; (2) on-board mobile stations to operate nationwide on five non-harmonized frequencies that are 10.225 megahertz higher in frequency than the center frequency of their associated on-board repeater stations

(frequencies shown in table 2, below); and (3) on-board repeater stations to operate on channels 12 and 14 and associated on-board mobile stations operating on channels 22 and 24, respectively, in the Territorial Sea of the United States and at coastal ports and the inland ports of Baton Rouge, Houston, and Portland, and on the waterways and at other ports between these inland ports and the ocean. The Commission requests comment on these proposals. The Commission's proposal would make two new frequencies (467.7625 and 467.7875 MHz) available for use by on-board communication stations and would authorize the use of eight existing frequencies with twice the power spectral density (PSD) in their narrower authorized bandwidth, which increases the potential for harmful

interference to nearby stations of the fixed and land mobile services that also operate on these frequencies. PSD is defined as the “power of an emission in the frequency domain, such as in terms of ERP or EIRP, stated per unit bandwidth, *e.g.*, watts/MHz.” 47 CFR 22.99. Currently, the part 80 rules limit the ERP of on-board communication stations in the 456–468 MHz band to 2 watts in a 25 kilohertz channel (80 mW/kHz). If the Commission authorizes the same ERP in 6.25 kilohertz, then the PSD would double (160 mW/kHz), thereby increasing the potential for harmful interference over the signal's bandwidth because the signal's power is concentrated over a narrower bandwidth. The Commission intends to address the PSD issue in any subsequent service rules proceeding.

TABLE 2—CENTER FREQUENCIES FOR 12.5 KILOHERTZ ON-BOARD PAIRED CHANNELS

| Channel    | On-board repeater station     | On-board mobile station |
|------------|-------------------------------|-------------------------|
| US11 ..... | Channel 11—457.5250 MHz ..... | 467.7500 MHz.           |
| US12 ..... | Channel 12—457.5375 MHz ..... | 467.7625 MHz.           |
| US13 ..... | Channel 13—457.5500 MHz ..... | 467.7750 MHz.           |
| US14 ..... | Channel 14—457.5625 MHz ..... | 467.7875 MHz.           |
| US15 ..... | Channel 15—457.5750 MHz ..... | 467.8000 MHz.           |

Second, the Commission proposes to revise footnote US288 to authorize on-board repeater stations and on-board mobile stations used for single-frequency simplex operation to operate

on the 6.25 kilohertz channels 102, 121, 122, 141, and 142 and for on-board mobile stations operating with a repeater station to operate on the 6.25 kilohertz channels 202, 221, 222, 241,

and 242, respectively, in the Territorial Sea of the United States and at coastal ports and the inland ports of Baton Rouge, Houston, and Portland, and on the waterways and at other ports

between these inland ports and the ocean. The Commission requests comment on this proposal, noting that eight of these channels overlap the 12.5 kilohertz channels that the Commission is proposing in the previous paragraph (*i.e.*, channels 12, 14, 22, and 24) and that channels 102 and 202 are between low-power part 90 channels. The Commission requests comment on these proposals, noting that the use of 6.25 kilohertz channels with center frequencies that are offset from the frequencies used by stations in the fixed and land mobile services by 6.25 kilohertz are expected to enhance spectrum sharing. The Commission also solicits comment on whether it should authorize the use of channel pairs 121/221 on those waterways in the contiguous United States that the Department of Transportation has designated as part of America's Marine Highway.

The Commission also proposes to revise the text of footnote US288 to state that, in the territorial waters of the United States, § 2.106(b)(287) (footnote 5.287 or 5.287) applies, except that on-board communication stations must transmit only on the listed frequencies and must operate as specified herein. On-board repeater stations and mobile stations used for single-frequency simplex operation currently may transmit only in the band 457.5125–457.6125 MHz. The Commission proposes that the preferred frequencies for repeater systems would be 457.525 MHz (channel 1 or 11), 457.5375 MHz (channel 12), 457.550 MHz (channel 2 or 13), 457.5625 MHz (channel 14), 457.575 MHz (channel 3 or 15), and 457.600 MHz paired, respectively, with 467.750 MHz, 467.7625 MHz, 467.775 MHz, 467.7875 MHz, 467.800 MHz, and 467.825 MHz; and the preferred frequencies for single-frequency operations would be those designated as channels 1–3, 11–15, and 121. Finally, the Commission proposes that use of channels 122, 141, and 142 and channel pairs 12/22, 14/24, 102/202, 121/221, 122/222, 141/241, and 142/242 would be authorized at coastal ports and the inland ports of Houston, Baton Rouge, and Portland, and along the waterways and at other ports between these inland ports and the ocean; however, on-board communication stations would not be able to transmit on these channels while in port and not underway or preparing to get underway. The Commission seeks comment on these proposals.

Finally, the Commission proposes to revise § 2.106(c)(287) (footnote US287 or US287) by allocating the 457.5125–457.6125 MHz, 467.512375–467.518625 MHz, 467.55625–467.56875 MHz,

467.53125–467.54375 MHz, and 467.7375–467.8375 MHz bands (231.25 kilohertz) to the maritime mobile service on a primary basis, by limiting the use of these allocations to on-board communication stations, and by stating that, in these frequency bands, stations in the fixed and land mobile services may not claim protection from interference caused by on-board communication stations operating in accordance with US288 and that on-board communication stations may not claim protection from stations in the fixed and land mobile services. Alternatively, the Commission requests comment on whether existing part 90 Private Land Mobile and part 95 Personal Radio Service licensees operating in the 456–470 MHz band should be afforded any protection from interference caused by on-board communication stations operating in accordance with US288. The Commission observes that the 456–470 MHz band is allocated to the mobile service on a primary basis in all ITU Regions, and requests comment on the public interest benefits of both the Commission's proposal and the alternative.

#### *4. Deletion of the Broadcasting Service From the 700 MHz Band*

The Commission proposes to delete the broadcasting service allocation in the 698–758 MHz, 775–788 MHz, and 805–806 MHz bands from the non-Federal Table and to revise § 2.106(d)(159) (footnote NG159 or NG159) by removing the reference to part 74, subpart G. Between 1998 and 2010, the Commission transitioned the 698–806 MHz (700 MHz) band from television broadcasting use (*i.e.*, TV channels 52–69) to public safety and mobile broadband uses. Currently, the entire 700 MHz band is allocated to the fixed and mobile services on a primary basis, but the broadcasting service allocation still remains in the 698–758 MHz, 775–788 MHz, and 805–806 MHz portions on a primary basis, and licensees in those bands have the flexibility to provide broadcast services, if they choose. The Commission requests comment on the Commission's proposal. In the event that the Commission deletes the broadcast allocation as proposed, the Commission seeks comment on whether, and which, part 27 service rules should be modified to reflect the change (*e.g.*, §§ 27.3 (Other Applicable Rule Parts), 27.4 (Terms and Definitions), 27.10 (Regulatory Status), 27.13 (License Period), 27.50 (Power Limits and Duty Cycle), and 27.55 (Power Strength Limits)).

#### *5. Deletion of Footnote NG155*

The Commission proposes to remove § 2.106(d)(155) (footnote NG155 or NG155) from the rules because the frequencies and frequency bands to which it applies are not authorized in part 80 of the Commission's rules. The ITU has identified the frequencies that can generally be used worldwide for intership communications. Thus, the Commission tentatively concludes that there is no need to specify any other frequencies for intership use. The Commission notes that, in the Second Report and Order in PR Docket No. 92–257 that added footnote NG155 to the Commission's rules, the Commission declined to adopt the proposed rules for part 80 regarding maritime sharing of private land mobile radio frequencies for intership communications. The Commission requests comments on this proposal.

#### *C. Other Matters*

As a result of discussions regarding the protection of near-Earth operations of deep space missions, WRC–15 added a provision in Article 4 of the Radio Regulations (No. 4.24) to describe the use of space research service (deep space) allocations. Similarly, the Commission proposes to add a new paragraph to § 2.102 of the Commission's rules to clarify that: "Space research systems intended to operate in deep space may also use the space research service (deep space) allocations, with the same status as those allocations, when the spacecraft is near the Earth, such as during launch, early orbit, flying by the Earth and returning to the Earth." The Commission requests comment on this proposal.

The Commission proposes to amend § 2.1(c) of the rules to add or revise the definitions for the terms "meteorological aids land station," "meteorological aids mobile station," and "coordinated universal time" in accordance with the WRC–15 adopted definitions. The Commission also proposes to add a definition for the term "frequency band" based on that term's ITU definition. The Commission seeks comment on these definitions.

The Commission proposes to amend § 2.105(d) of the rules by stating that the footnote references which appear in the United States Table below the allocated service or services apply to more than one of the allocated services, or to the whole of the allocation concerned, and that the footnote references which appear to the right of the name of a service are applicable only to that particular service. See the proposed

rules for the proposed text of § 2.105(d)(6) through (8), where the text in paragraph (d)(6) has been moved to paragraph (d)(8).

In response to NTIA's recommendation that the Commission add a subset of the international footnotes that identify spectrum for International Mobile Telecommunications (IMT) to the non-Federal Table, the Commission directed the Chief, Office of Engineering and Technology to maintain a "Mobile Broadband Spectrum in the United States" file on the "Radio Spectrum Allocation" web page. The Commission requests comment on whether this file meets the public's needs.

**Digital Equity and Inclusion.** Finally, the Commission, as part of its continuing effort to advance digital equity for all, including people of color, persons with disabilities, persons who live in rural or Tribal areas, and others who are or have been historically underserved, marginalized, or adversely affected by persistent poverty or inequality, invites comment on any equity-related considerations and benefits (if any) that may be associated with the proposals and issues discussed herein. Specifically, the Commission seeks comment on how its proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well as the scope of the Commission's relevant legal authority.

#### Ordering Clauses

Accordingly, it is ordered that, pursuant to sections 1, 4(i), 4(j), 7, 301, 303(c), 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154(i), 154(j), 157, 301, 303(c), 303(f), and 303(r), this Notice of Proposed Rulemaking is hereby adopted.

It is further ordered pursuant to § 1.407 of the Commission's rules, 47 CFR 1.407, that the petition for rulemaking filed by the American Radio Relay League, Incorporated, Amendment of Parts 2 and 97 of the Commission's Rules Regarding Implementation of the Final Acts of the World Radiocommunication Conference (Geneva, 2015) to Allocate the Band 5351.5–5366.5 kHz to the Amateur Radio Service, RM–11785, is granted in part.

It is further ordered that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Order and Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

#### List of Subjects

##### 47 CFR Part 2

Radio services, Spectrum allocations.

##### 47 CFR Part 25

Satellite communications (satellites, earth stations).

##### 47 CFR Part 74

Experimental radio, auxiliary, special broadcast, and other program distributional services.

##### 47 CFR Part 78

Cable television relay service.

##### 47 CFR Part 90

Private land mobile radio services.

##### 47 CFR Part 97

Amateur radio service.

##### 47 CFR Part 101

Fixed microwave radio services. Federal Communications Commission.

**Katura Jackson,**

*Federal Register Liaison Officer.*

#### Proposed Rules

For the reasons stated in the preamble, the Federal Communications Commission proposes to amend 47 CFR parts 2, 25, 74, 78, 90, 97, and 101 as follows:

#### PART 2—FREQUENCY 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. Amend § 2.1(c) by revising the definition for "Coordinated Universal Time (UTC)", and adding, in alphabetical order, definitions for "Frequency band (Band)", "Meteorological aids land station", and "Meteorological aids mobile station", to read as follows:

##### § 2.1 Terms and definitions.

\* \* \* \* \*

(c) \* \* \*

**Coordinated Universal Time (UTC).** Time scale, based on the second (SI), as described in Resolution 655 (WRC–15). (RR)

\* \* \* \* \*

**Frequency band (Band).** A contiguous set of frequencies lying between two specified limiting frequencies. A frequency band is characterized by two values which define its position in the frequency spectrum, for example, its lower and upper limiting frequencies.

\* \* \* \* \*

**Meteorological aids land station.** A station in the meteorological aids service not intended to be used while in motion. (RR)

**Meteorological aids mobile station.** A station in the meteorological aids service intended to be used while in motion or during halts at unspecified points. (RR)

\* \* \* \* \*

- 3. Amend § 2.102 by adding paragraph (i) to read as follows:

##### § 2.102 Assignment of frequencies.

\* \* \* \* \*

(i) Space research systems intended to operate in deep space may also use the space research service (deep space) allocations, with the same status as those allocations, when the spacecraft is near the Earth, such as during launch, early orbit, flying by the Earth and returning to the Earth.

- 4. Amend § 2.105 by revising paragraph (d)(6) and adding paragraphs (d)(7) and (8) to read as follows:

##### § 2.105 United States Table of Frequency Allocations.

\* \* \* \* \*

(d) \* \* \*

(6) The footnote references which appear in the United States Table below the allocated service or services apply to more than one of the allocated services, or to the whole of the allocation concerned.

(7) The footnote references which appear to the right of the name of a service are applicable only to that particular service.

(8) The coordinates of latitude and longitude that are listed in United States, Federal, and non-Federal footnotes are referenced to the North American Datum of 1983 (NAD 83).

\* \* \* \* \*

- 5. Amend § 2.106 by:

- a. Revising paragraph (a) Allocation Table pages 22, 24, 26 through 30, 32, 45, 47, and 48;
- b. Revising paragraphs (c)(13) and (23);
- c. Adding paragraph (c)(78);
- d. Revising paragraphs (c)(117), (128), (139), and (224);
- e. Adding paragraph (c)(265);
- f. Revising paragraphs (c)(270), (287), and (288);
- g. Adding paragraphs (c)(460), (460)(i), and (474);
- h. Revising paragraph (d)(62);
- i. Removing and reserving paragraph (d)(155); and
- j. Revising paragraph (d)(159).

The revisions and additions read as follows:

## § 2.106 Table of Frequency Allocations.

BILLING CODE 6712-01-P

|                                                                                                                                                                                                                                                                                    |                                                                                     |                                                                                   |                                                                                                                                                                                           |                                                                        |                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------|
| 137.825-138<br>SPACE OPERATION (space-to-Earth) 5.203C<br>METEOROLOGICAL-SATELLITE (space-to-Earth)<br>SPACE RESEARCH (space-to-Earth)<br>Fixed<br>Mobile except aeronautical mobile (R)<br>Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209<br>5.204 5.205 5.206 5.207 5.208 |                                                                                     |                                                                                   | 137.825-138<br>SPACE OPERATION (space-to-Earth)<br>METEOROLOGICAL-SATELLITE (space-to-Earth)<br>SPACE RESEARCH (space-to-Earth)<br>Mobile-satellite (space-to-Earth) US319 US320<br>5.208 |                                                                        |                               |
| 138-143.6<br>AERONAUTICAL MOBILE (OR)                                                                                                                                                                                                                                              | 138-143.6<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Space research (space-to-Earth)    | 138-143.6<br>FIXED<br>MOBILE<br>Space research (space-to-Earth)<br>5.207 5.213    | 138-144<br>FIXED<br>MOBILE                                                                                                                                                                | 138-144                                                                |                               |
| 5.210 5.211 5.212 5.214                                                                                                                                                                                                                                                            |                                                                                     |                                                                                   |                                                                                                                                                                                           |                                                                        |                               |
| 143.6-143.65<br>AERONAUTICAL MOBILE (OR)<br>SPACE RESEARCH (space-to-Earth)                                                                                                                                                                                                        | 143.6-143.65<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>SPACE RESEARCH (space-to-Earth) | 143.6-143.65<br>FIXED<br>MOBILE<br>SPACE RESEARCH (space-to-Earth)<br>5.207 5.213 |                                                                                                                                                                                           |                                                                        |                               |
| 5.211 5.212 5.214                                                                                                                                                                                                                                                                  |                                                                                     |                                                                                   |                                                                                                                                                                                           |                                                                        |                               |
| 143.65-144<br>AERONAUTICAL MOBILE (OR)                                                                                                                                                                                                                                             | 143.65-144<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Space research (space-to-Earth)   | 143.65-144<br>FIXED<br>MOBILE<br>Space research (space-to-Earth)<br>5.207 5.213   |                                                                                                                                                                                           |                                                                        |                               |
| 5.210 5.211 5.212 5.214                                                                                                                                                                                                                                                            |                                                                                     |                                                                                   | G30                                                                                                                                                                                       |                                                                        |                               |
| 144-146<br>AMATEUR<br>AMATEUR-SATELLITE<br>5.216                                                                                                                                                                                                                                   |                                                                                     |                                                                                   | 144-148                                                                                                                                                                                   | 144-146<br>AMATEUR<br>AMATEUR-SATELLITE                                | Amateur Radio (97)            |
| 146-148<br>FIXED<br>MOBILE except aeronautical mobile (R)                                                                                                                                                                                                                          | 146-148<br>AMATEUR<br>5.217                                                         | 146-148<br>AMATEUR<br>FIXED<br>MOBILE<br>5.217                                    |                                                                                                                                                                                           | 146-148<br>AMATEUR                                                     |                               |
| 148-149.9<br>FIXED<br>MOBILE except aeronautical mobile (R)<br>MOBILE-SATELLITE (Earth-to-space) 5.209                                                                                                                                                                             | 148-149.9<br>FIXED<br>MOBILE<br>MOBILE-SATELLITE (Earth-to-space) 5.209             |                                                                                   | 148-149.9<br>FIXED<br>MOBILE<br>MOBILE-SATELLITE<br>(Earth-to-space) US319<br>US320 US323 US325                                                                                           | 148-149.9<br>MOBILE-SATELLITE<br>(Earth-to-space) US320<br>US323 US325 | Satellite Communications (25) |
| 5.218 5.218A 5.219 5.221                                                                                                                                                                                                                                                           | 5.218 5.218A 5.219 5.221                                                            |                                                                                   | 5.218 5.219 G30                                                                                                                                                                           | 5.218 5.219 US319                                                      |                               |
| 149.9-150.05<br>MOBILE-SATELLITE (Earth-to-space) 5.209 5.220                                                                                                                                                                                                                      |                                                                                     |                                                                                   | 149.9-150.05<br>MOBILE-SATELLITE (Earth-to-space) US319 US320                                                                                                                             |                                                                        |                               |
| 150.05-153<br>FIXED<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br>5.149                                                                                                                                                                                               | 150.05-154<br>FIXED<br>MOBILE<br>5.225                                              |                                                                                   | 150.05-150.8<br>FIXED<br>MOBILE<br>US73 G30                                                                                                                                               | 150.05-150.8<br>US73                                                   |                               |

|                                                    |                                                    |                                          |                                                    |                                           |                                                                                        |
|----------------------------------------------------|----------------------------------------------------|------------------------------------------|----------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------|
| 5.226                                              | 161.9375-161.9625                                  | 5.226                                    | 161.9375-161.9625                                  | 157.4S-161.575                            | Public Mobile (22)<br>Remote Pickup (74D)<br>Maritime (80)<br>Private Land Mobile (90) |
| FIXED                                              | MOBILE except aeronautical mobile                  | FIXED                                    | MOBILE                                             | FIXED                                     |                                                                                        |
| Maritime mobile-satellite (Earth-to-space) 5.228AA | Maritime mobile-satellite (Earth-to-space) 5.228AA | MOBILE                                   | Maritime mobile-satellite (Earth-to-space) 5.228AA | LAND MOBILE NG28 NG111 NG112              |                                                                                        |
| 5.226                                              | 161.9625-161.9875                                  | 5.226                                    | 161.9625-161.9875                                  | 5.226 NG6 NG70 NG124 NG148                |                                                                                        |
| FIXED                                              | AERONAUTICAL MOBILE (OR)                           | 5.226                                    | 161.9625-161.9875                                  | 161.575-161.625                           | Public Mobile (22)<br>Maritime (80)                                                    |
| MOBILE except aeronautical mobile                  | MARITIME MOBILE                                    | MOBILE                                   | MARITIME MOBILE                                    | MARITIME MOBILE                           |                                                                                        |
| Mobile-satellite (Earth-to-space) 5.228F           | MOBILE-SATELLITE (Earth-to-space)                  | MOBILE                                   | MOBILE                                             | 5.226 US52 NG6 NG17                       |                                                                                        |
| 5.226 5.228A 5.228B                                | 5.228C 5.228D                                      | 5.226                                    | 5.226                                              | 161.625-161.775                           | Public Mobile (22)<br>Remote Pickup (74D)<br>Low Power Auxiliary (74H)                 |
| 161.9875-162.0125                                  | 161.9875-162.0125                                  | 5.226                                    | 161.9875-162.0125                                  | LAND MOBILE NG6                           |                                                                                        |
| FIXED                                              | MOBILE                                             | 5.226                                    | 161.9875-162.0125                                  | 5.226                                     | Maritime (80)<br>Private Land Mobile (90)                                              |
| MOBILE except aeronautical mobile                  | Maritime mobile-satellite (Earth-to-space) 5.228AA | MOBILE                                   | MOBILE except aeronautical mobile                  | 161.775-161.9825                          |                                                                                        |
| Maritime mobile-satellite (Earth-to-space) 5.228AA | 5.226                                              | MOBILE                                   | MOBILE                                             | MOBILE except aeronautical mobile         |                                                                                        |
| 5.226 5.229                                        | 5.226                                              | 5.226                                    | 5.226                                              | US266                                     |                                                                                        |
| 162.0125-162.0375                                  | 162.0125-162.0375                                  | 162.0125-162.0375                        | 162.0125-162.0375                                  | 5.226                                     | Satellite<br>Communications (25)<br>Maritime (80)                                      |
| FIXED                                              | AERONAUTICAL MOBILE (OR)                           | MARITIME MOBILE                          | MARITIME MOBILE                                    | 161.9875-162.0125                         |                                                                                        |
| MOBILE except aeronautical mobile                  | MARITIME MOBILE                                    | Aeronautical mobile (OR) 5.228E          | Aeronautical mobile (OR) 5.228E                    | MOBILE except aeronautical mobile         |                                                                                        |
| Mobile-satellite (Earth-to-space) 5.228F           | MOBILE-SATELLITE (Earth-to-space)                  | Mobile-satellite (Earth-to-space) 5.228F | Mobile-satellite (Earth-to-space) 5.228F           | 161.9875-162.0125                         |                                                                                        |
| 5.226 5.228A 5.228B 5.229                          | 5.228C 5.228D                                      | 5.226                                    | 5.226                                              | 161.9875-162.0125                         | Maritime (80)                                                                          |
| 162.0375-174                                       | 162.0375-174                                       | 5.226                                    | 5.226                                              | MOBILE except aeronautical mobile         |                                                                                        |
| FIXED                                              | MOBILE                                             | 5.226                                    | 5.226                                              | 162.0125-162.0375                         | Satellite<br>Communications (25)<br>Maritime (80)                                      |
| MOBILE except aeronautical mobile                  | MOBILE                                             | MOBILE                                   | MOBILE                                             | AERONAUTICAL MOBILE (OR) (AIS 2)          |                                                                                        |
| 5.226 5.228A 5.228B 5.229                          | 5.228C 5.228D                                      | 5.226                                    | 5.226                                              | MARITIME MOBILE (AIS 2)                   |                                                                                        |
| 162.0375-174                                       | 162.0375-174                                       | 5.226                                    | 5.226                                              | MOBILE-SATELLITE (Earth-to-space) (AIS 2) |                                                                                        |
| FIXED                                              | MOBILE                                             | 5.226                                    | 5.226                                              | 5.228C US32                               |                                                                                        |
| MOBILE except aeronautical mobile                  | MOBILE                                             | 5.226                                    | 5.226                                              | 162.0375-173.2                            | Remote Pickup (74D)<br>Private Land Mobile (90)                                        |
| 5.226 5.228A 5.228B 5.229                          | 5.228C 5.228D                                      | 5.226                                    | 5.226                                              | 162.0375-173.2                            |                                                                                        |
| 162.0375-174                                       | 162.0375-174                                       | 5.226                                    | 5.226                                              | FIXED                                     |                                                                                        |
| FIXED                                              | MOBILE                                             | 5.226                                    | 5.226                                              | MOBILE                                    |                                                                                        |
| MOBILE except aeronautical mobile                  | MOBILE                                             | 5.226                                    | 5.226                                              | US8 US11 US13 US55 US73 US300 US312 G5    |                                                                                        |
| 5.226 5.228A 5.228B 5.229                          | 5.228C 5.228D                                      | 5.226                                    | 5.226                                              | US8 US11 US13 US55 US73 US300 US312 G5    |                                                                                        |
| 162.0375-174                                       | 162.0375-174                                       | 5.226                                    | 5.226                                              | 173.2-173.4                               | Private Land Mobile (90)                                                               |
| FIXED                                              | MOBILE                                             | 5.226                                    | 5.226                                              | 173.2-173.4                               |                                                                                        |
| MOBILE except aeronautical mobile                  | MOBILE                                             | 5.226                                    | 5.226                                              | FIXED                                     |                                                                                        |
| 5.226 5.228A 5.228B 5.229                          | 5.228C 5.228D                                      | 5.226                                    | 5.226                                              | Land mobile                               |                                                                                        |
| 162.0375-174                                       | 162.0375-174                                       | 5.226                                    | 5.226                                              | 173.4-174                                 |                                                                                        |
| FIXED                                              | MOBILE                                             | 5.226                                    | 5.226                                              | 173.4-174                                 |                                                                                        |
| MOBILE except aeronautical mobile                  | MOBILE                                             | 5.226                                    | 5.226                                              | FIXED                                     |                                                                                        |
| 5.226 5.228A 5.228B 5.229                          | 5.228C 5.228D                                      | 5.226                                    | 5.226                                              | MOBILE                                    |                                                                                        |
| 162.0375-174                                       | 162.0375-174                                       | 5.226                                    | 5.226                                              | G5                                        |                                                                                        |
| FIXED                                              | MOBILE                                             | 5.226                                    | 5.226                                              |                                           | Page 24                                                                                |
| MOBILE except aeronautical mobile                  | MOBILE                                             | 5.226                                    | 5.226                                              |                                           |                                                                                        |

|                                                             |  |           |  |  |  |
|-------------------------------------------------------------|--|-----------|--|--|--|
| 272-273<br>SPACE OPERATION (space-to-Earth)<br>FIXED        |  | GZT G100  |  |  |  |
| MOBILE                                                      |  | 322-328.6 |  |  |  |
| 5.254                                                       |  | FIXED     |  |  |  |
| 273-312                                                     |  | MOBILE    |  |  |  |
| FIXED                                                       |  |           |  |  |  |
| MOBILE                                                      |  |           |  |  |  |
| 5.254                                                       |  |           |  |  |  |
| 312-315                                                     |  |           |  |  |  |
| FIXED                                                       |  |           |  |  |  |
| MOBILE                                                      |  |           |  |  |  |
| Mobile-satellite (Earth-to-space) 5.254 5.255               |  |           |  |  |  |
| 315-322                                                     |  |           |  |  |  |
| FIXED                                                       |  |           |  |  |  |
| MOBILE                                                      |  |           |  |  |  |
| RADIO ASTRONOMY                                             |  |           |  |  |  |
| 5.149                                                       |  |           |  |  |  |
| 328-6-335.4                                                 |  |           |  |  |  |
| AERONAUTICAL RADIONAVIGATION 5.258                          |  |           |  |  |  |
| 5.259                                                       |  |           |  |  |  |
| 335.4-387                                                   |  |           |  |  |  |
| FIXED                                                       |  |           |  |  |  |
| MOBILE                                                      |  |           |  |  |  |
| 5.254                                                       |  |           |  |  |  |
| 387-390                                                     |  |           |  |  |  |
| FIXED                                                       |  |           |  |  |  |
| MOBILE                                                      |  |           |  |  |  |
| Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.254 5.255 |  |           |  |  |  |
| 390-399.9                                                   |  |           |  |  |  |
| FIXED                                                       |  |           |  |  |  |
| MOBILE                                                      |  |           |  |  |  |
| 5.254                                                       |  |           |  |  |  |
| 399.9-400.05                                                |  |           |  |  |  |
| MOBILE-SATELLITE (Earth-to-space) 5.209 5.220               |  |           |  |  |  |
| 400.05-400.15                                               |  |           |  |  |  |
| STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz)    |  |           |  |  |  |
| 5.261 5.262                                                 |  |           |  |  |  |

| Table of Frequency Allocations                        |  |  |  |  | 400.15-456 MHz (UHF)                         |  | United States Table                          |  | Page 27                                             |  |
|-------------------------------------------------------|--|--|--|--|----------------------------------------------|--|----------------------------------------------|--|-----------------------------------------------------|--|
| International Table                                   |  |  |  |  | Region 3 Table                               |  | Federal Table                                |  | Non-Federal Table                                   |  |
| Region 1 Table                                        |  |  |  |  | Region 2 Table                               |  | Federal Table                                |  | Non-Federal Table                                   |  |
| 400.15-401                                            |  |  |  |  | 400.15-401                                   |  | 400.15-401                                   |  | 400.15-401                                          |  |
| METEOROLOGICAL AIDS                                   |  |  |  |  | METEOROLOGICAL AIDS                          |  | METEOROLOGICAL AIDS                          |  | METEOROLOGICAL AIDS                                 |  |
| METEOROLOGICAL-SATELLITE (space-to-Earth)             |  |  |  |  | (radiosonde) US70                            |  | (radiosonde) US70                            |  | (radiosonde) US70                                   |  |
| MOBILE-SATELLITE (space-to-Earth) 5.2084 5.2088 5.209 |  |  |  |  | METEOROLOGICAL-SATELLITE                     |  | METEOROLOGICAL-SATELLITE                     |  | MOBILE-SATELLITE (space-to-Earth) US319 US320 US324 |  |
| SPACE RESEARCH (space-to-Earth) 5.263                 |  |  |  |  | MOBILE-SATELLITE (space-to-Earth)            |  | MOBILE-SATELLITE (space-to-Earth)            |  | SPACE RESEARCH                                      |  |
| Space operation (space-to-Earth)                      |  |  |  |  | Earth) US319 US320 US324                     |  | Earth) US319 US320 US324                     |  | (space-to-Earth) 5.263                              |  |
|                                                       |  |  |  |  | Space operation (space-to-Earth) 5.263       |  | Space operation (space-to-Earth)             |  | Space operation (space-to-Earth)                    |  |
| 5.262 5.264                                           |  |  |  |  | 5.264                                        |  | 5.264                                        |  | 5.264                                               |  |
| 401-402                                               |  |  |  |  | 401-402                                      |  | 401-402                                      |  | 401-402                                             |  |
| METEOROLOGICAL AIDS                                   |  |  |  |  | METEOROLOGICAL AIDS                          |  | METEOROLOGICAL AIDS                          |  | METEOROLOGICAL AIDS                                 |  |
| SPACE OPERATION (space-to-Earth)                      |  |  |  |  | (radiosonde) US70                            |  | (radiosonde) US70                            |  | (radiosonde) US70                                   |  |
| EARTH EXPLORATION-SATELLITE (Earth-to-space)          |  |  |  |  | SPACE OPERATION                              |  | SPACE OPERATION                              |  | SPACE OPERATION                                     |  |
| METEOROLOGICAL-SATELLITE (Earth-to-space)             |  |  |  |  | (space-to-Earth)                             |  | (space-to-Earth)                             |  | (space-to-Earth)                                    |  |
| Fixed                                                 |  |  |  |  | EARTH EXPLORATION-SATELLITE (Earth-to-space) |  | EARTH EXPLORATION-SATELLITE (Earth-to-space) |  | Earth exploration-satellite                         |  |
| Mobile except aeronautical mobile                     |  |  |  |  | SATELLITE (Earth-to-space)                   |  | SATELLITE (Earth-to-space)                   |  | (Earth-to-space)                                    |  |
|                                                       |  |  |  |  | METEOROLOGICAL-SATELLITE                     |  | METEOROLOGICAL-SATELLITE                     |  | Meteorological-satellite                            |  |
|                                                       |  |  |  |  | (Earth-to-space)                             |  | (Earth-to-space)                             |  | (Earth-to-space)                                    |  |
| US64 US384                                            |  |  |  |  | US64 US384                                   |  | US64 US384                                   |  | US64 US384                                          |  |
| 402-403                                               |  |  |  |  | 402-403                                      |  | 402-403                                      |  | 402-403                                             |  |
| METEOROLOGICAL AIDS                                   |  |  |  |  | METEOROLOGICAL AIDS                          |  | METEOROLOGICAL AIDS                          |  | METEOROLOGICAL AIDS                                 |  |
| EARTH EXPLORATION-SATELLITE (Earth-to-space)          |  |  |  |  | (radiosonde) US70                            |  | (radiosonde) US70                            |  | (radiosonde) US70                                   |  |
| METEOROLOGICAL-SATELLITE (Earth-to-space)             |  |  |  |  | EARTH EXPLORATION-SATELLITE                  |  | EARTH EXPLORATION-SATELLITE                  |  | Earth exploration-satellite                         |  |
| Fixed                                                 |  |  |  |  | SATELLITE (Earth-to-space)                   |  | SATELLITE (Earth-to-space)                   |  | (Earth-to-space)                                    |  |
| Mobile except aeronautical mobile                     |  |  |  |  | METEOROLOGICAL-SATELLITE                     |  | METEOROLOGICAL-SATELLITE                     |  | Meteorological-satellite                            |  |
|                                                       |  |  |  |  | (Earth-to-space)                             |  | (Earth-to-space)                             |  | (Earth-to-space)                                    |  |
| US64 US384                                            |  |  |  |  | US64 US384                                   |  | US64 US384                                   |  | US64 US384                                          |  |
| 403-406                                               |  |  |  |  | 403-406                                      |  | 403-406                                      |  | 403-406                                             |  |
| METEOROLOGICAL AIDS                                   |  |  |  |  | METEOROLOGICAL AIDS                          |  | METEOROLOGICAL AIDS                          |  | METEOROLOGICAL AIDS                                 |  |
| Fixed                                                 |  |  |  |  | (radiosonde) US70                            |  | (radiosonde) US70                            |  | (radiosonde) US70                                   |  |
| Mobile except aeronautical mobile                     |  |  |  |  | US64 US265 G6                                |  | US64 US265 G6                                |  | US64 US265                                          |  |
| 5.265                                                 |  |  |  |  | 406-406.1                                    |  | 406-406.1                                    |  | 406-406.1                                           |  |
| MOBILE-SATELLITE (Earth-to-space)                     |  |  |  |  | MOBILE-SATELLITE (Earth-to-space)            |  | MOBILE-SATELLITE (Earth-to-space)            |  | MOBILE-SATELLITE (Earth-to-space)                   |  |
| 5.265 5.266 5.267                                     |  |  |  |  | 5.265 5.266 5.267                            |  | 5.265 5.267 US265                            |  | 5.265 5.267 US265                                   |  |
| 406-1-410                                             |  |  |  |  | 406-1-410                                    |  | 406-1-410                                    |  | 406-1-410                                           |  |
| FIXED                                                 |  |  |  |  | FIXED                                        |  | FIXED                                        |  | FIXED                                               |  |
| MOBILE except aeronautical mobile                     |  |  |  |  | MOBILE                                       |  | MOBILE                                       |  | MOBILE                                              |  |
| RADIO ASTRONOMY                                       |  |  |  |  | RADIO ASTRONOMY US74                         |  | RADIO ASTRONOMY US74                         |  | RADIO ASTRONOMY US74                                |  |
| 5.149 5.265                                           |  |  |  |  | US13 US55 US117 US265 G5 G6                  |  | US13 US55 US117 US265                        |  | US13 US55 US117 US265                               |  |
| 410-420                                               |  |  |  |  | 410-420                                      |  | 410-420                                      |  | 410-420                                             |  |
| FIXED                                                 |  |  |  |  | FIXED                                        |  | FIXED                                        |  | FIXED                                               |  |
| MOBILE except aeronautical mobile                     |  |  |  |  | MOBILE                                       |  | MOBILE                                       |  | MOBILE                                              |  |
| SPACE RESEARCH (space-to-space) 5.268                 |  |  |  |  | SPACE RESEARCH                               |  | SPACE RESEARCH                               |  | Space research (space-to-space)                     |  |
|                                                       |  |  |  |  | (space-to-space) 5.268                       |  | (space-to-space) 5.268                       |  | 5.268                                               |  |
| US13 US55 US64 G5                                     |  |  |  |  | US13 US55 US64 G5                            |  | US13 US55 US64 G5                            |  | US13 US55 US64                                      |  |
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| 420-430<br>FIXED<br>MOBILE except aeronautical mobile<br>Radiolocation<br>5.269 5.270 5.271                   |                                                                                              | 420-430<br>RADIOLOCATION G2 G129              | 420-450<br>Amateur US270                   | Private Land Mobile (90)<br>MedRadio (95i)<br>Amateur Radio (97)                               |
| 430-432<br>AMATEUR<br>RADIOLOCATION<br>5.271 5.274 5.275 5.276 5.277                                          | 430-432<br>RADIOLOCATION<br>Amateur<br>5.271 5.276 5.277 5.278 5.279                         |                                               |                                            |                                                                                                |
| 432-438<br>AMATEUR<br>RADIOLOCATION<br>Earth exploration-satellite (active)<br>5.279A                         | 432-438<br>RADIOLOCATION<br>Amateur<br>Earth exploration-satellite (active) 5.279A           |                                               |                                            |                                                                                                |
| 5.138 5.271 5.276 5.277 5.280<br>5.281 5.282                                                                  | 5.271 5.276 5.277 5.278 5.279 5.281 5.282                                                    |                                               |                                            |                                                                                                |
| 438-440<br>AMATEUR<br>RADIOLOCATION<br>5.271 5.274 5.275 5.276<br>5.277 5.283                                 | 438-440<br>RADIOLOCATION<br>Amateur<br>5.271 5.276 5.277 5.278 5.279                         |                                               |                                            |                                                                                                |
| 440-450<br>FIXED<br>MOBILE except aeronautical mobile<br>Radiolocation<br>5.269 5.270 5.271 5.284 5.285 5.286 |                                                                                              | 5.285 US64 US87 US230<br>US269 US270 US397 G8 | 5.282 5.285 US64 US87 US230<br>US269 US397 |                                                                                                |
| 450-455<br>FIXED<br>MOBILE 5.286AA                                                                            |                                                                                              | 450-454                                       | 450-454<br>LAND MOBILE                     | Remote Pickup (74D)<br>Low Power Auxiliary (74H)<br>Private Land Mobile (90)<br>MedRadio (95i) |
|                                                                                                               |                                                                                              | 5.285 US64 US87                               | 5.285 US64 US87 NG112 NG124                | Public Mobile (22)<br>Maritime (80)<br>MedRadio (95i)                                          |
|                                                                                                               |                                                                                              | 454-456                                       | 454-455<br>FIXED<br>LAND MOBILE            |                                                                                                |
| 5.209 5.271 5.285 5.286A 5.286B 5.286C 5.286D 5.286E                                                          |                                                                                              |                                               | US64 NG32 NG112 NG148                      | Remote Pickup (74D)<br>Low Power Auxiliary (74H)<br>MedRadio (95i)                             |
| 455-456<br>FIXED<br>MOBILE 5.286AA                                                                            | 455-456<br>FIXED<br>MOBILE 5.286AA<br>MOBILE-SATELLITE (Earth-to-space) 5.286A 5.286B 5.286C |                                               | 453-456<br>LAND MOBILE                     |                                                                                                |
| 5.209 5.271 5.286A 5.286B<br>5.286C 5.286E                                                                    | 5.209<br>5.209 5.271 5.286A 5.286B<br>5.286C 5.286E                                          | US64                                          | US64                                       |                                                                                                |

| Table of Frequency Allocations                          |                                                                                                                                                                                                                |                                                                                                                                                                                                                                         |                                                                                            | 456-894 MHz (UHF)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                             | FCC Rule Part(s) |  |
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| International Table                                     |                                                                                                                                                                                                                | United States Table                                                                                                                                                                                                                     |                                                                                            | FCC Rule Part(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                             |                  |  |
| Region 1 Table                                          | Region 2 Table                                                                                                                                                                                                 | Region 3 Table                                                                                                                                                                                                                          | Federal Table                                                                              | Non-Federal Table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | FCC Rule Part(s)                                                                                                                                                                                                                                                                                                                                            |                  |  |
| 456-459<br>FIXED<br>MOBILE 5.286AA<br>5.271 5.287 5.288 | 459-460<br>FIXED<br>MOBILE 5.286AA<br>MOBILE-SATELLITE (Earth-to-space) 5.286A 5.286B 5.286C 5.209                                                                                                             | 459-460<br>FIXED<br>MOBILE 5.286AA<br>5.209 5.271 5.286A 5.286B 5.286C 5.286E                                                                                                                                                           | 456-459<br>FIXED<br>LAND MOBILE<br>US64 US287 US288<br>459-460                             | 456-460<br>FIXED<br>LAND MOBILE<br>US64 US287 US288 NG32 NG112 NG124 NG148<br>460-462 5375<br>FIXED<br>LAND MOBILE<br>US209 US289 NG124<br>462 5375-462.7375<br>LAND MOBILE<br>US289<br>462.7375-467.5375<br>FIXED<br>LAND MOBILE<br>US73 US209 US287 US288 US289 NG124<br>467.5375-467.7375<br>LAND MOBILE<br>US287 US288 US289<br>467.7375-470<br>FIXED<br>LAND MOBILE<br>US73 US209 US287 US288 NG124<br>470-512<br>FIXED<br>LAND MOBILE<br>BROADCASTING<br>NG5 NG14 NG366 NG115 NG149<br>512-608<br>BROADCASTING<br>NG5 NG14 NG115 NG149 | Public Mobile (22)<br>Maritime (80)<br>Private Land Mobile (90)<br>MedRadio (95)                                                                                                                                                                                                                                                                            |                  |  |
| 5.287 5.288 5.289 5.290<br>470-694<br>BROADCASTING      | 470-512<br>BROADCASTING<br>Fixed Mobile<br>5.292 5.293 5.295<br>512-608<br>BROADCASTING<br>5.295 5.297<br>608-614<br>RADIO ASTRONOMY<br>Mobile-satellite except aeronautical mobile-satellite (Earth-to-space) | 470-585<br>FIXED<br>MOBILE 5.296A<br>BROADCASTING<br>5.291 5.298<br>585-610<br>FIXED<br>MOBILE 5.296A<br>BROADCASTING<br>RADIO NAVIGATION<br>5.149 5.305 5.306 5.307<br>610-890<br>FIXED<br>MOBILE 5.296A 5.313A 5.317A<br>BROADCASTING | US73 US209 US287 US288 US289<br>470-608                                                    | 470-512<br>FIXED<br>LAND MOBILE<br>BROADCASTING<br>NG5 NG14 NG366 NG115 NG149<br>512-608<br>BROADCASTING<br>NG5 NG14 NG115 NG149                                                                                                                                                                                                                                                                                                                                                                                                             | Maritime (80)<br>Private Land Mobile (90)<br>Maritime (80)<br>Private Land Mobile (90)<br>Public Mobile (22)<br>Broadcast Radio (TV)(73)<br>LPTV, TV Translator/Booster (74G)<br>Low Power Auxiliary (74H)<br>Private Land Mobile (90)<br>Broadcast Radio (TV)(73)<br>LPTV, TV Translator/Booster (74G)<br>Low Power Auxiliary (74H)<br>Personal Radio (95) |                  |  |
|                                                         |                                                                                                                                                                                                                |                                                                                                                                                                                                                                         | 608-614<br>LAND MOBILE (medical telemetry and medical telecommand)<br>RADIO ASTRONOMY US74 | 608-614<br>LAND MOBILE (medical telemetry and medical telecommand)<br>RADIO ASTRONOMY US74                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                             |                  |  |
|                                                         |                                                                                                                                                                                                                |                                                                                                                                                                                                                                         | US246                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                             |                  |  |

|                                                                                                                                                |                                         |                                                                                                                                      |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.149 5.291A 5.294 5.296<br>5.300 5.304 5.306 5.311A<br>5.312<br>604-790<br>MOBILE except aeronautical<br>mobile 5.312A 5.317A<br>BROADCASTING | 5.149 5.305 5.306 5.307<br>5.311A 5.320 | 5.149-898<br>BROADCASTING<br>Fixed<br>Mobile<br>5.293 5.308 5.308A 5.309 5.311A<br>698-806<br>MOBILE 5.317A<br>BROADCASTING<br>Fixed | 5.149-890                               | 5.149-898<br>FIXED<br>MOBILE<br>NG5 NG14 NG33 NG115 NG149<br>698-738<br>FIXED<br>MOBILE<br>NG159<br>738-775<br>FIXED<br>MOBILE<br>NG34 NG159<br>775-788<br>FIXED<br>MOBILE<br>NG159<br>788-805<br>FIXED<br>MOBILE<br>NG34 NG159<br>805-806<br>FIXED<br>MOBILE<br>NG159<br>805-809<br>LAND MOBILE<br>809-849<br>FIXED<br>LAND MOBILE<br>849-851<br>AERONAUTICAL MOBILE<br>851-854<br>LAND MOBILE<br>854-894<br>FIXED<br>LAND MOBILE | RF Devices (15)<br>Wireless Communications (27)<br>LPTV, TV Translator/Booster (74G)<br>Low Power Auxiliary (74H)<br>Wireless Communications (27)<br>LPTV and TV Translator (74G)<br>Public Safety Land Mobile (90R)<br>Wireless Communications (27)<br>LPTV and TV Translator (74G)<br>Public Safety Land Mobile (90R)<br>Wireless Communications (27)<br>LPTV and TV Translator (74G)<br>Public Safety Land Mobile (90R)<br>Wireless Communications (27)<br>LPTV and TV Translator (74G)<br>Public Safety Land Mobile (90S)<br>Public Mobile (22)<br>Private Land Mobile (90)<br>Public Mobile (22)<br>Public Safety Land Mobile (90S)<br>Public Mobile (22)<br>Private Land Mobile (90) |
| 5.312 5.319<br>862-890<br>FIXED<br>MOBILE except aeronautical<br>mobile 5.317A<br>BROADCASTING 5.322<br>5.319 5.323                            | 5.317 5.318                             | 5.293 5.309 5.311A<br>808-890<br>FIXED<br>MOBILE 5.317A<br>BROADCASTING                                                              | 5.149 5.305 5.306 5.307<br>5.311A 5.320 | US116 US268                                                                                                                                                                                                                                                                                                                                                                                                                        | Page 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                                                 |                      |               |                                                                     |                                                                    |                                    |
|---------------------------------------------------------------------------------|----------------------|---------------|---------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------|
|                                                                                 |                      |               |                                                                     | 939-5-940<br>FIXED<br>LAND MOBILE<br>US116 US268                   | Private Land Mobile (90)           |
|                                                                                 |                      |               |                                                                     | 940-941<br>FIXED<br>MOBILE<br>US116 US268                          | Personal<br>Communications (24)    |
| 5.323                                                                           | 5.325                | 5.327         | US116 US268 G2                                                      |                                                                    |                                    |
| 942-960                                                                         | 942-960              | 942-960       | 941-944                                                             | 941-944                                                            |                                    |
| FIXED                                                                           | FIXED                | FIXED         | FIXED                                                               | FIXED                                                              | Public Mobile (22)                 |
| MOBILE except aeronautical<br>mobile 5.317A                                     | MOBILE 5.317A        | MOBILE 5.317A | US84 US268 US301 G2                                                 | US84 US268 US301 NG30 NG35                                         | Aural Broadcast<br>Auxiliary (74E) |
| BROADCASTING 5.322                                                              |                      | BROADCASTING  | 944-960                                                             | 944-960                                                            | Low Power Auxiliary<br>(74H)       |
| 5.323                                                                           |                      | 5.320         |                                                                     | NG35                                                               | Fixed Microwave (101)              |
| 960-1164                                                                        |                      |               | 960-1164                                                            |                                                                    | Aviation (87)                      |
| AERONAUTICAL MOBILE (R) 5.327A                                                  |                      |               | AERONAUTICAL MOBILE (R) 5.327A                                      |                                                                    |                                    |
| AERONAUTICAL RADIONAVIGATION 5.328                                              |                      |               | AERONAUTICAL RADIONAVIGATION 5.328                                  |                                                                    |                                    |
| 5.328AA                                                                         |                      |               | 5.328AA US78 US224                                                  |                                                                    |                                    |
| 1164-1215                                                                       |                      |               | 1164-1215                                                           |                                                                    |                                    |
| AERONAUTICAL RADIONAVIGATION 5.328                                              |                      |               | AERONAUTICAL RADIONAVIGATION 5.328                                  |                                                                    |                                    |
| RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B              |                      |               | RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space)         |                                                                    |                                    |
| 5.328A                                                                          |                      |               | 5.328A US224                                                        |                                                                    |                                    |
| 1215-1240                                                                       |                      |               | 1215-1240                                                           | 1215-1240                                                          |                                    |
| EARTH EXPLORATION-SATELLITE (active)                                            |                      |               | EARTH EXPLORATION-SATELLITE (active)                                | Earth exploration-satellite (active)                               |                                    |
| RADIOLOCATION                                                                   |                      |               | RADIOLOCATION G56                                                   | Space research (active)                                            |                                    |
| RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A |                      |               | RADIONAVIGATION-SATELLITE<br>(space-to-Earth) (space-to-space) G132 |                                                                    |                                    |
| SPACE RESEARCH (active)                                                         |                      |               | SPACE RESEARCH (active)                                             |                                                                    |                                    |
| 5.330 5.331 5.332                                                               |                      |               | 5.332                                                               |                                                                    |                                    |
| 1240-1300                                                                       |                      |               | 1240-1300                                                           | 1240-1300                                                          | Amateur Radio (97)                 |
| EARTH EXPLORATION-SATELLITE (active)                                            |                      |               | EARTH EXPLORATION-SATELLITE (active)                                | AERONAUTICAL RADIONAVIGATION                                       |                                    |
| RADIOLOCATION                                                                   |                      |               | RADIOLOCATION G56                                                   | Amateur                                                            |                                    |
| RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A |                      |               | SPACE RESEARCH (active)                                             | Earth exploration-satellite (active)                               |                                    |
| SPACE RESEARCH (active)                                                         |                      |               | AERONAUTICAL RADIONAVIGATION                                        | Space research (active)                                            |                                    |
| Amateur                                                                         |                      |               | 5.332 5.335                                                         | 5.282                                                              |                                    |
| 5.282 5.330 5.331 5.332 5.335 5.335A                                            |                      |               | 1300-1350                                                           | 1300-1350                                                          | Aviation (87)                      |
| 1300-1350                                                                       |                      |               | AERONAUTICAL RADIONAVIGATION 5.337                                  | AERONAUTICAL<br>RADIONAVIGATION 5.337                              |                                    |
| RADIOLOCATION                                                                   |                      |               | Radiolocation G2                                                    |                                                                    |                                    |
| AERONAUTICAL RADIONAVIGATION 5.337                                              |                      |               | US342                                                               | US342                                                              |                                    |
| RADIONAVIGATION-SATELLITE (Earth-to-space)                                      |                      |               |                                                                     |                                                                    |                                    |
| 5.149 5.337A                                                                    |                      |               | 1350-1390                                                           | 1350-1390                                                          |                                    |
| 1350-1400                                                                       | 1350-1400            |               | FIXED                                                               |                                                                    |                                    |
| FIXED                                                                           | RADIOLOCATION 5.338A |               | MOBILE                                                              |                                                                    |                                    |
| MOBILE                                                                          |                      |               | RADIOLOCATION G2                                                    |                                                                    |                                    |
| RADIOLOCATION                                                                   |                      |               | 5.334 5.339 US342 US385 G27 G114                                    | 5.334 5.339 US342 US385                                            |                                    |
|                                                                                 |                      |               | 1390-1395                                                           | 1390-1395                                                          | Wireless<br>Communications (27)    |
|                                                                                 |                      |               | 5.339 US79 US342 US385                                              | MOBILE except aeronautical mobile<br>5.339 US79 US342 US385 NG338A |                                    |
|                                                                                 |                      |               | 1395-1400                                                           |                                                                    |                                    |
|                                                                                 |                      |               | LAND MOBILE (medical telemetry and medical telecommand)             |                                                                    | Personal Radio (95)                |
| 5.149 5.338 5.338A 5.339                                                        | 5.149 5.334 5.339    |               | 5.339 US79 US342 US385                                              |                                                                    | Page 32                            |

| Table of Frequency Allocations |  |  |  | 7145-8650 MHz (SHF)                                                                                                                                                                       |                | United States Table |                                                                                                                                                                                                                               | FCC Rule Part(s)                |                 |
|--------------------------------|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------|
|                                |  |  |  | International Table                                                                                                                                                                       |                | Federal Table       |                                                                                                                                                                                                                               | Non-Federal Table               |                 |
|                                |  |  |  | Region 1 Table                                                                                                                                                                            | Region 2 Table | Region 3 Table      | 7145-7190                                                                                                                                                                                                                     | 7145-7190                       | RF Devices (15) |
| *                              |  |  |  | 7145-7190<br>FIXED<br>MOBILE                                                                                                                                                              |                |                     | FIXED<br>SPACE RESEARCH (deep space) (Earth-to-space) US262                                                                                                                                                                   |                                 |                 |
| *                              |  |  |  | 5.458 5.459<br>7190-7235                                                                                                                                                                  |                |                     | 5.458 G116<br>7190-7235                                                                                                                                                                                                       | 5.458 US262<br>7190-7235        |                 |
| *                              |  |  |  | EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A 5.460B<br>FIXED<br>MOBILE                                                                                                             |                |                     | EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A<br>5.460B<br>FIXED                                                                                                                                                        |                                 |                 |
|                                |  |  |  | SPACE RESEARCH (Earth-to-space) 5.460                                                                                                                                                     |                |                     | SPACE RESEARCH (Earth-to-space) 5.460                                                                                                                                                                                         |                                 |                 |
|                                |  |  |  | 5.458 5.459<br>7235-7250                                                                                                                                                                  |                |                     | 5.458 US460 US460A G134<br>7235-7250                                                                                                                                                                                          | 5.458 US460 US460A<br>7235-7250 |                 |
|                                |  |  |  | EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A<br>FIXED<br>MOBILE                                                                                                                    |                |                     | EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A<br>FIXED                                                                                                                                                                  |                                 |                 |
|                                |  |  |  | 5.458                                                                                                                                                                                     |                |                     | 5.458 US460A                                                                                                                                                                                                                  | 5.458 US460A                    |                 |
|                                |  |  |  | 7250-7300                                                                                                                                                                                 |                |                     | 7250-7300                                                                                                                                                                                                                     | 7250-8025                       |                 |
|                                |  |  |  | FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>MOBILE                                                                                                                                       |                |                     | FIXED-SATELLITE (space-to-Earth)<br>MOBILE-SATELLITE (space-to-Earth)<br>Fixed                                                                                                                                                |                                 |                 |
|                                |  |  |  | 5.461<br>7300-7375                                                                                                                                                                        |                |                     | G117<br>7300-7375                                                                                                                                                                                                             |                                 |                 |
|                                |  |  |  | FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile                                                                                                            |                |                     | FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>Mobile-satellite (space-to-Earth)                                                                                                                                                |                                 |                 |
|                                |  |  |  | 5.461<br>7375-7450                                                                                                                                                                        |                |                     | G117<br>7375-7450                                                                                                                                                                                                             |                                 |                 |
|                                |  |  |  | FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB                                              |                |                     | FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA<br>5.461AB<br>Mobile-satellite except maritime mobile-satellite (space-to-Earth)         |                                 |                 |
|                                |  |  |  | 7450-7550                                                                                                                                                                                 |                |                     | G117<br>7450-7550                                                                                                                                                                                                             |                                 |                 |
|                                |  |  |  | FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>METEOROLOGICAL-SATELLITE (space-to-Earth)<br>MOBILE except aeronautical mobile<br>MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB |                |                     | FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>METEOROLOGICAL-SATELLITE (space-to-Earth)<br>MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA<br>5.461AB<br>Mobile-satellite except maritime mobile-satellite (space-to-Earth) |                                 |                 |
|                                |  |  |  | 5.461A                                                                                                                                                                                    |                |                     | G104 G117                                                                                                                                                                                                                     |                                 |                 |

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| Region 1 Table                                             |  | Region 2 Table                                             |  | Region 3 Table                                             |  | United States Table                                        |  |
| 8.65-8.75                                                  |  | 8.65-8.75                                                  |  | 8.65-9                                                     |  | 8.65-9                                                     |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION G59                                          |  | RADIOLOCATION                                              |  |
| 5.468 5.469                                                |  | 5.468 5.469                                                |  | 5.468 5.469                                                |  | 5.468 5.469                                                |  |
| 8.75-8.85                                                  |  | 8.75-8.85                                                  |  | 8.75-8.85                                                  |  | 8.75-8.85                                                  |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  |
| AERONAUTICAL RADIONAVIGATION 5.470                         |  | AERONAUTICAL RADIONAVIGATION 5.470                         |  | AERONAUTICAL RADIONAVIGATION 5.470                         |  | AERONAUTICAL RADIONAVIGATION 5.470                         |  |
| 5.471                                                      |  | 5.471                                                      |  | 5.471                                                      |  | 5.471                                                      |  |
| 8.85-9                                                     |  | 8.85-9                                                     |  | 8.85-9                                                     |  | 8.85-9                                                     |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  |
| MARITIME RADIONAVIGATION 5.472                             |  | MARITIME RADIONAVIGATION 5.472                             |  | MARITIME RADIONAVIGATION 5.472                             |  | MARITIME RADIONAVIGATION 5.472                             |  |
| 5.473                                                      |  | 5.473                                                      |  | 5.473                                                      |  | 5.473                                                      |  |
| 9.9-2                                                      |  | 9.9-2                                                      |  | 9.9-2                                                      |  | 9.9-2                                                      |  |
| AERONAUTICAL RADIONAVIGATION 5.337                         |  | AERONAUTICAL RADIONAVIGATION 5.337                         |  | AERONAUTICAL RADIONAVIGATION 5.337                         |  | AERONAUTICAL RADIONAVIGATION 5.337                         |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  |
| 5.471 5.473A                                               |  | 5.471 5.473A                                               |  | 5.471 5.473A                                               |  | 5.471 5.473A                                               |  |
| 9.2-9.3                                                    |  | 9.2-9.3                                                    |  | 9.2-9.3                                                    |  | 9.2-9.3                                                    |  |
| EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  |  | EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  |  | EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  |  | EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  |
| MARITIME RADIONAVIGATION 5.472                             |  | MARITIME RADIONAVIGATION 5.472                             |  | MARITIME RADIONAVIGATION 5.472                             |  | MARITIME RADIONAVIGATION 5.472                             |  |
| 5.473 5.474 5.474D                                         |  | 5.473 5.474 5.474D                                         |  | 5.473 5.474 5.474D                                         |  | 5.473 5.474 5.474D                                         |  |
| 9.3-9.5                                                    |  | 9.3-9.5                                                    |  | 9.3-9.5                                                    |  | 9.3-9.5                                                    |  |
| EARTH EXPLORATION-SATELLITE (active)                       |  | EARTH EXPLORATION-SATELLITE (active)                       |  | EARTH EXPLORATION-SATELLITE (active)                       |  | EARTH EXPLORATION-SATELLITE (active)                       |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  |
| RADIONAVIGATION 5.475                                      |  | RADIONAVIGATION 5.475                                      |  | RADIONAVIGATION 5.475                                      |  | RADIONAVIGATION 5.475                                      |  |
| SPACE RESEARCH (active)                                    |  | SPACE RESEARCH (active)                                    |  | SPACE RESEARCH (active)                                    |  | SPACE RESEARCH (active)                                    |  |
| 5.427 5.474 5.475A 5.475B 5.476A                           |  | 5.427 5.474 5.475A 5.475B 5.476A                           |  | 5.427 5.474 5.475A 5.475B 5.476A                           |  | 5.427 5.474 5.475A 5.475B 5.476A                           |  |
| 9.5-9.8                                                    |  | 9.5-9.8                                                    |  | 9.5-9.8                                                    |  | 9.5-9.8                                                    |  |
| EARTH EXPLORATION-SATELLITE (active)                       |  | EARTH EXPLORATION-SATELLITE (active)                       |  | EARTH EXPLORATION-SATELLITE (active)                       |  | EARTH EXPLORATION-SATELLITE (active)                       |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  |
| RADIONAVIGATION                                            |  | RADIONAVIGATION                                            |  | RADIONAVIGATION                                            |  | RADIONAVIGATION                                            |  |
| SPACE RESEARCH (active)                                    |  | SPACE RESEARCH (active)                                    |  | SPACE RESEARCH (active)                                    |  | SPACE RESEARCH (active)                                    |  |
| 5.476A                                                     |  | 5.476A                                                     |  | 5.476A                                                     |  | 5.476A                                                     |  |
| 9.8-9.9                                                    |  | 9.8-9.9                                                    |  | 9.8-9.9                                                    |  | 9.8-9.9                                                    |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  |
| Earth exploration-satellite (active)                       |  | Earth exploration-satellite (active)                       |  | Earth exploration-satellite (active)                       |  | Earth exploration-satellite (active)                       |  |
| Fixed                                                      |  | Fixed                                                      |  | Fixed                                                      |  | Fixed                                                      |  |
| Space research (active)                                    |  | Space research (active)                                    |  | Space research (active)                                    |  | Space research (active)                                    |  |
| 5.477 5.478 5.478A 5.478B                                  |  | 5.477 5.478 5.478A 5.478B                                  |  | 5.477 5.478 5.478A 5.478B                                  |  | 5.477 5.478 5.478A 5.478B                                  |  |
| 9.9-10                                                     |  | 9.9-10                                                     |  | 9.9-10                                                     |  | 9.9-10                                                     |  |
| EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  |  | EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  |  | EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  |  | EARTH EXPLORATION-SATELLITE (active) 5.474A 5.474B 5.474C  |  |
| RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  | RADIOLOCATION                                              |  |
| Fixed                                                      |  | Fixed                                                      |  | Fixed                                                      |  | Fixed                                                      |  |
| 5.474D 5.477 5.478 5.479                                   |  | 5.474D 5.477 5.478 5.479                                   |  | 5.474D 5.477 5.478 5.479                                   |  | 5.474D 5.477 5.478 5.479                                   |  |
| FCC Rule Part(s)                                           |  | FCC Rule Part(s)                                           |  | FCC Rule Part(s)                                           |  | FCC Rule Part(s)                                           |  |
| Aviation (87)<br>Private Land Mobile (90)                  |  | Aviation (87)<br>Private Land Mobile (90)                  |  | Aviation (87)<br>Private Land Mobile (90)                  |  | Aviation (87)<br>Private Land Mobile (90)                  |  |
| Maritime (80)<br>Private Land Mobile (90)                  |  | Maritime (80)<br>Private Land Mobile (90)                  |  | Maritime (80)<br>Private Land Mobile (90)                  |  | Maritime (80)<br>Private Land Mobile (90)                  |  |
| Maritime (80)<br>Aviation (87)<br>Private Land Mobile (90) |  | Maritime (80)<br>Aviation (87)<br>Private Land Mobile (90) |  | Maritime (80)<br>Aviation (87)<br>Private Land Mobile (90) |  | Maritime (80)<br>Aviation (87)<br>Private Land Mobile (90) |  |
| Private Land Mobile (90)                                   |  | Private Land Mobile (90)                                   |  | Private Land Mobile (90)                                   |  | Private Land Mobile (90)                                   |  |

|                                                                                                                                                                   |                                                                                                                                                                   |                                                                                                                                                                   |                                                                                                                                             |                                                                                                            |                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| 10-10.4<br>EARTH EXPLORATION-SATELLITE<br>(active) 5.474A 5.474B 5.474C<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Amateur                                            | 10-10.4<br>EARTH EXPLORATION-SATELLITE<br>(active) 5.474A 5.474B 5.474C<br>RADIOLOCATION<br>Amateur                                                               | 10-10.4<br>EARTH EXPLORATION-SATELLITE<br>(active) 5.474A 5.474B 5.474C<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Amateur                                            | 10-10.5<br>EARTH EXPLORATION-SATELLITE<br>(active) 5.474A 5.474B 5.474C<br>RADIOLOCATION US108 G32                                          | 10-10.45<br>Amateur<br>Earth exploration-satellite (active)<br>5.474A 5.474B 5.474C<br>Radiolocation US108 | Private Land Mobile (90)<br>Amateur Radio (97)            |
| 5.474D 5.479<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Amateur                                                                                                       | 5.474D 5.479 5.480<br>10.4-10.45<br>RADIOLOCATION<br>Amateur                                                                                                      | 5.474D 5.479<br>10.4-10.45<br>FIXED<br>MOBILE<br>RADIOLOCATION<br>Amateur                                                                                         | 5.479 US128 US474D<br>10.5-10.55<br>RADIOLOCATION US59                                                                                      | 5.479 US128 US474D NG50<br>10.45-10.5<br>Amateur<br>Amateur-satellite<br>Radiolocation US108<br>US128 NG50 |                                                           |
| 10.45-10.5<br>RADIOLOCATION<br>Amateur<br>Amateur-satellite<br>5.481                                                                                              | 10.5-10.55<br>FIXED<br>MOBILE<br>RADIOLOCATION                                                                                                                    | 10.5-10.55<br>FIXED<br>MOBILE<br>RADIOLOCATION                                                                                                                    | 10.5-10.55<br>FIXED<br>MOBILE<br>RADIOLOCATION                                                                                              | 10.5-10.5<br>FIXED                                                                                         | Private Land Mobile (90)<br>Fixed Microwave (101)         |
| 10.6-10.68<br>EARTH EXPLORATION-SATELLITE (passive)<br>FIXED<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>Radiolocation | 10.6-10.68<br>EARTH EXPLORATION-SATELLITE (passive)<br>FIXED<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>Radiolocation | 10.6-10.68<br>EARTH EXPLORATION-SATELLITE (passive)<br>FIXED<br>MOBILE except aeronautical mobile<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>Radiolocation | 10.6-10.68<br>EARTH EXPLORATION-SATELLITE (passive)<br>FIXED US482<br>SPACE RESEARCH (passive)                                              | 10.6-10.68<br>EARTH EXPLORATION-SATELLITE (passive)<br>FIXED US482<br>SPACE RESEARCH (passive)             |                                                           |
| 10.68-10.7<br>EARTH EXPLORATION-SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)                                                                | 10.68-10.7<br>EARTH EXPLORATION-SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)                                                                | 10.68-10.7<br>EARTH EXPLORATION-SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)                                                                | US130 US131 US482<br>10.68-10.7<br>EARTH EXPLORATION-SATELLITE (passive)<br>RADIO ASTRONOMY US74<br>SPACE RESEARCH (passive)<br>US131 US246 | US130 US131<br>10.7-11.7<br>FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>5.441 US131 US211 NG52            | Satellite<br>Communications (25)<br>Fixed Microwave (101) |
| 10.7-10.95<br>FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>5.441 (Earth-to-space) 5.484<br>MOBILE except aeronautical mobile                                      | 10.7-10.95<br>FIXED<br>FIXED-SATELLITE (space-to-Earth) 5.441<br>MOBILE except aeronautical mobile                                                                | 10.7-10.95<br>FIXED<br>FIXED-SATELLITE (space-to-Earth) 5.441<br>MOBILE except aeronautical mobile                                                                | 10.7-11.7<br>FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>5.441 US131 US211 NG52                                                            | 10.7-11.7<br>FIXED<br>FIXED-SATELLITE (space-to-Earth)<br>5.441 US131 US211 NG52                           | Page 48                                                   |

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\* \* \* \*

(c) \* \* \*

(13)(i) US13 The following center frequencies in table 2 to paragraph (c)(13)(i), each with a channel

bandwidth not greater than 12.5 kHz, are available for assignment to non-Federal fixed stations for the specific

purpose of transmitting hydrological and meteorological data in cooperation with Federal agencies, subject to the

condition that harmful interference will not be caused to Federal stations:

TABLE 2 TO PARAGRAPH (C)(13)(i)

| Hydro Channels (MHz) |          |          |          |          |
|----------------------|----------|----------|----------|----------|
| 169.4250             | 170.2250 | 171.0250 | 171.8375 | 412.6625 |
| 169.4375             | 170.2375 | 171.0375 | 171.0500 | 412.6750 |
| 169.4500             | 170.2500 | 171.0500 | 171.8625 | 412.6875 |
| 169.4625             | 170.2625 | 171.0625 | 171.8750 | 412.7125 |
| 169.4875             | 170.2875 | 171.0875 | 171.9000 | 412.7375 |
| 169.5000             | 170.3000 | 171.1000 | 171.9125 | 412.7625 |
| 169.5125             | 170.3125 | 171.1125 | 171.9250 | 412.7750 |
| 169.5250             | 170.3250 | 171.1250 | 406.1250 | 415.1250 |
|                      |          | 171.8250 | 406.1750 | 415.1750 |

(ii) After [EFFECTIVE DATE OF FINAL RULE], no assignments on the frequencies 406.125 MHz and 406.175 MHz will be made, but stations with existing assignments may continue to operate on these frequencies.

\* \* \* \* \*

(23) US23 The band 5351.5–5366.5 kHz (60 m band) is allocated to the amateur service on a secondary basis. Amateur service use of the 60 m band frequencies must meet the requirements in part 97 of these rules. Amateur operators using the data and RTTY emissions must exercise care to limit the length of transmissions so as to avoid causing harmful interference to Federal stations.

\* \* \* \* \*

(78) US78 Military systems used for Identification, Friend or Foe (IFF) operations are authorized to operate in the band 960–1164 MHz on center frequencies 1030 MHz for interrogators and 1090 MHz for transponders on the condition that harmful interference will not be caused to the aeronautical radionavigation service (ARNS) or the aeronautical mobile (R) service (AM(R)S). These IFF systems will be evaluated on a case-by-case basis using DoD and FAA mutually agreed upon methodologies, technical criteria, and characteristics for calculating potential interference between ARNS/AM(R)S systems and systems used for military or other National defense IFF operations. This will include using DoD and FAA mutually agreed upon methodologies and criteria for considering the aggregation of civil and military systems in the 1030 and 1090 MHz bands in the evaluation.

\* \* \* \* \*

(117) US117 In the band 406.1–410 MHz, the following provisions shall apply:

(i) Stations in the fixed and mobile services are limited to a transmitter output power of 125 watts, and new

authorizations for stations, other than mobile stations, are subject to prior coordination by the applicant in the following areas:

(A) Within Puerto Rico and the U.S. Virgin Islands, contact Spectrum Manager, Arecibo Observatory, HC3 Box 53995, Arecibo, PR 00612. Phone: 787–878–2612, Fax: 787–878–1861, Email: [prcz@naic.edu](mailto:prcz@naic.edu).

(B) Within 350 km of the Very Large Array (34°04'44" N, 107°37'06" W), contact Spectrum Manager, National Radio Astronomy Observatory, P.O. Box O, 1003 Lopezville Road, Socorro, NM 87801. Phone: 505–835–7000, Fax: 505–835–7027, Email: [nrao-rfi@nrao.edu](mailto:nrao-rfi@nrao.edu).

(C) Within 10 km of the Table Mountain Observatory (40°08'02" N, 105°14'40" W) and for operations only within the sub-band 407–409 MHz, contact Radio Frequency Manager, Department of Commerce, 325 Broadway, Boulder, CO 80305. Phone: 303–497–4619, Fax: 303–497–6982, Email: [frequencymanager@its.blrdoc.gov](mailto:frequencymanager@its.blrdoc.gov).

(ii) Non-Federal use is limited to the radio astronomy service and as provided by paragraphs (c)(13) and (c)(55) of this section.

\* \* \* \* \*

(128) US128 In the band 10–10.5 GHz, pulsed emissions are prohibited, except for the military services and for weather radars on board meteorological satellites in the sub-band 10–10.025 GHz. The amateur service, the amateur satellite service, and the non-Federal radiolocation service, which shall not cause harmful interference to the Federal radiolocation service, are the only non-Federal services permitted in this band. The non-Federal radiolocation service is limited to survey operations as specified in paragraph (c)(108) of this section.

\* \* \* \* \*

(139) US139 In the band 18.3–19.3 GHz, earth station licensees in the fixed-

satellite service (space-to-Earth) may require that licensees of grandfathered stations in the fixed service cease operations in accordance with the provisions in § 101.95 of this chapter.

\* \* \* \* \*

(224) US224 Federal systems utilizing spread spectrum techniques for terrestrial communication, navigation and identification may be authorized to operate in the band 960–1215 MHz on the condition that harmful interference will not be caused to the aeronautical mobile (R) and aeronautical radionavigation services in the band 960–1164 MHz, military Identification Friend or Foe (IFF) systems on center frequencies 1030/1090 MHz, aeronautical mobile-satellite (R) service (Earth-to-space) in the band 1087.7–1092.3 MHz, and the aeronautical radionavigation and radionavigation-satellite (space-to-Earth) (space-to-space) services in the band 1164–1215 MHz. These systems will be handled on a case-by-case basis. Such systems are subject to a review at the national level for operational requirements and electromagnetic compatibility prior to development, procurement or modification.

\* \* \* \* \*

(265) US265 In accordance with Resolution 205 (Rev.WRC–19), the following provisions apply in the band 403–410 MHz:

(i) New frequency assignments to stations in the fixed and mobile services will not be made within the bands 405.9–406.0 MHz and 406.1–406.2 MHz.

(ii) The frequency drift characteristics of radiosondes must be taken into account when selecting their operating frequencies above 405 MHz to avoid transmitting in the band 406–406.1 MHz and all practical steps must be taken to avoid frequency drifting close to 406 MHz.

\* \* \* \* \*

(270) US270 In the band 420–450 MHz, the following provisions shall apply to the amateur service:

(i) The peak envelope power of an amateur station shall not exceed 50

watts in the following areas, unless expressly authorized by the FCC after mutual agreement, on a case-by-case basis, between the Regional Director of

the applicable field office and the military area frequency coordinator at the applicable military base as listed in table 1 to paragraph (c)(270)(i).

TABLE 1 TO PARAGRAPH (c)(270)(i)

| Location                    | Geographic limitation                      | Coordination contact information                                                                                                                 |
|-----------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Arizona .....               | None (statewide) .....                     | DoD AFC AZ, (520) 538–6423.<br>DoD AFC AZ—DSN—879–6423.                                                                                          |
| New Mexico .....            | None (statewide) .....                     | DoD AFC WSMR—DSN—258–5417.                                                                                                                       |
| Texas .....                 | West of longitude 104° W .....             | DoD AFC WSMR, (575) 678–5417,<br><i>usarmy.wsmr.imcomcentral.list.dodafcc@mail.mil.</i>                                                          |
| California .....            | South of latitude 37°10' N .....           | DoD Western AFC, (760) 939–6832.<br>DoD Western—DSN—437–6832.                                                                                    |
| Nevada .....                | South of latitude 37°10' N .....           | Nevada AFC—DSN—875–0607.<br>Nevada AFC, (702) 679–0607, <i>dodafcc@nellis.af.mil</i><br><i>usaf.nellis.99-abw.mbx.dod-afccorg@mail.smil.mil.</i> |
| Point Mugu, CA .....        | Within 322 km of 34°09' N, 119°11' W ..... | NMCSO SW DSN 312–735–9889.<br>NMCSO SW at (619)545–9978, <i>Nctssdsdni_</i><br><i>nmcso_southwest@navy.mil.</i>                                  |
| Florida .....               | None (statewide) .....                     | DoD Eastern—DSN—467–8436.                                                                                                                        |
| Patrick AFB, FL .....       | Within 322 km of 28°21' N, 080°43' W ..... | DoD Eastern AFC, (321) 853–8426, <i>45sw.dodafcc@us.af.mil.</i>                                                                                  |
| Eglin AFB, FL .....         | Within 322 km of 30°30' N, 086°30' W ..... | DoD Gulf—DSN—875–5648.<br>DoD Gulf AFC, (850) 883–5982.                                                                                          |
| Beale AFB, CA .....         | Within 240 km of 39°08' N, 121°26' W ..... | HQ SpOC Spectrum Management Office, (719) 554–6400,<br><i>SpOC.SMO@us.af.mil.</i>                                                                |
| Goodfellow AFB, TX .....    | Within 200 km of 31°25' N, 100°24' W.      | HQ SpOC DSN—692–6400.                                                                                                                            |
| Warner Robins AFB, GA ..... | Within 200 km of 32°38' N, 083°35' W.      |                                                                                                                                                  |
| Clear AFS, AK .....         | Within 160 km of 64°17' N, 149°10' W.      |                                                                                                                                                  |
| Concrete, ND .....          | Within 160 km of 48°43' N, 097°54' W.      |                                                                                                                                                  |
| Otis AFB, MA .....          | Within 160 km of 41°45' N, 070°32' W.      |                                                                                                                                                  |

(ii) In the sub-band 420–430 MHz, the amateur service is not allocated north of Line A (def. § 2.1).

\* \* \* \* \*

(287) US287 The bands 457.5125–457.6125 MHz, 467.53125–467.54375 MHz, 467.512375–467.518625 MHz, 467.55625–467.56875 MHz, and 467.7375–467.8375 MHz are also allocated to the maritime mobile service on a co-equal, primary basis with the non-Federal fixed and land mobile services. Use of these frequency bands by the maritime mobile service is limited to on-board communication stations. In these frequency bands, stations in the fixed and land mobile services may not claim protection from interference caused by on-board communication stations operating in accordance with paragraph (c)(288) of this section and on-board communication stations may not claim protection from stations in the fixed and land mobile services.

(288) US288 In the territorial waters of the United States, footnote 5.287 applies, except that on-board communication stations must transmit only on the listed frequencies and must operate as specified herein. On-board repeater stations and mobile stations used for single-frequency simplex operation may transmit only in the band 457.5125–457.6125 MHz. The preferred

frequencies for repeater systems are 457.525 MHz (channel 1 or 11), 457.5375 MHz (channel 12), 457.550 MHz (channel 2 or 13), 457.5625 MHz (channel 14), 457.575 MHz (channel 3 or 15), and 457.600 MHz paired, respectively, with 467.750 MHz, 467.7625 MHz, 467.775 MHz, 467.7875 MHz, 467.800 MHz, and 467.825 MHz; and the preferred frequencies for single-frequency operations are channels 1–3, 11–15, and 121. Use of channels 122, 141, and 142 and channel pairs 12/22, 14/24, 102/202, 121/221, 122/222, 141/241, and 142/242 is also authorized at coastal ports and the inland ports of Houston, Baton Rouge, and Portland, and along the waterways and at other ports between these inland ports and the ocean; however, on-board communication stations must not transmit on these channels while in port and not underway or preparing to get underway.

\* \* \* \* \*

(460) US460 The band 7190–7235 MHz is also allocated to the space research service (Earth-to-space) on a secondary basis for non-Federal use. No emissions from space research service (Earth-to-space) systems intended for deep space may be effected in this frequency band. Authorizations are subject to a case-by-case electromagnetic compatibility analysis and approval.

(i) US460A The band 7190–7250 MHz is also allocated to the Earth exploration-satellite service (Earth-to-space) on a secondary basis for non-Federal use, limited to tracking, telemetry and command for the operation of spacecraft. Authorizations are subject to a case-by-case electromagnetic compatibility analysis and approval.

(ii) [Reserved]

\* \* \* \* \*

(474) US474D Stations in the Earth exploration-satellite service (active) must not cause harmful interference to, or claim protection from, stations of the maritime radionavigation service in the band 9.2–9.3 GHz and the radiolocation service in the band 9.9–10.4 GHz.

\* \* \* \* \*

(d) \* \* \*

(62) NG62 In the bands 28.5–29.1 GHz and 29.25–29.5 GHz, stations in the fixed service operating under the following call signs may operate indefinitely on a secondary basis: KIL20, KME49, KQG58, KQH74, KSA96, KSE73, KZS88, WML443, WMP367, and WSL69.

\* \* \* \* \*

(159) NG159 In the band 698–806 MHz, stations authorized under part 74, subpart F of this chapter may continue to operate indefinitely on a secondary

basis to all other stations operating in that band.

\* \* \* \* \*

## PART 25—SATELLITE COMMUNICATIONS

■ 6. 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.

■ 7. Amend § 25.202 by adding paragraph (a)(13) to read as follows:

### § 25.202 Frequencies, frequency tolerance, and emission limits.

(a) \* \* \*

(13) The 1087.7–1092.3 MHz band (center frequency 1090 MHz) is available for use by the aeronautical mobile-satellite (R) service (Earth-to-space) for the reception of Automatic Dependent Surveillance-Broadcast (ADS-B) emissions from aircraft.

\* \* \* \* \*

## PART 74—EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCAST AND OTHER PROGRAM DISTRIBUTIONAL SERVICES

■ 8. The authority citation for part 74 continues to read as follows:

**Authority:** 47 U.S.C. 154, 302a, 303, 307, 309, 310, 325, 336 and 554.

■ 9. Amend § 74.502 by revising paragraphs (c) introductory text and (c)(1)(i) to read as follows:

### § 74.502 Frequency assignment.

\* \* \* \* \*

(c) The following frequencies are available for assignment to aural broadcast STL and intercity relay stations. Licensees in the fixed-satellite service may require that licensees of grandfathered stations operating in the bands 18,760–18,820 MHz and 19,100–19,160 MHz cease operations in accordance with the provisions in § 101.95 of this chapter.

(1)(i) 5 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz)   | Receive<br>(transmit)<br>(MHz) |
|----------------------------------|--------------------------------|
| <b>1560 Megahertz Separation</b> |                                |
| 17702.5 .....                    | n/a                            |
| 17707.5 .....                    | n/a                            |
| 17712.5 .....                    | n/a                            |
| 17717.5 .....                    | n/a                            |
| 17722.5 .....                    | n/a                            |
| 17727.5 .....                    | n/a                            |
| 17732.5 .....                    | n/a                            |
| 17737.5 .....                    | n/a                            |
| 18062.5 .....                    | 19622.5                        |
| 18067.5 .....                    | 19627.5                        |

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| 18072.5 .....                  | 19632.5                        |
| 18077.5 .....                  | 19637.5                        |
| 18082.5 .....                  | 19642.5                        |
| 18087.5 .....                  | 19647.5                        |
| 18092.5 .....                  | 19652.5                        |
| 18097.5 .....                  | 19657.5                        |
| 18102.5 .....                  | 19662.5                        |
| 18107.5 .....                  | 19667.5                        |
| 18112.5 .....                  | 19672.5                        |
| 18117.5 .....                  | 19677.5                        |
| 18122.5 .....                  | 19682.5                        |
| 18127.5 .....                  | 19687.5                        |
| 18132.5 .....                  | 19692.5                        |
| 18137.5 .....                  | 19697.5                        |

\* \* \* \* \*

■ 10. Amend § 74.602 by:

■ a. Revising paragraph (g) introductory text;

■ b. Removing and reserving paragraph (g)(2); and

■ c. Revising paragraphs (g)(3) through (6);

The revisions read as follows:

### § 74.602 Frequency assignment.

\* \* \* \* \*

(g) The following frequencies are available for assignment to television STL, television relay stations and television translator relay stations. Licensees may use either a two-way link or one or both frequencies of a frequency pair for a one-way link and shall coordinate proposed operations pursuant to procedures required in § 101.103(d) of this chapter. Licensees in the fixed-satellite service may require that licensees of grandfathered stations operating in the 18.3–18.58 GHz and 19.26–19.3 GHz bands cease operations in accordance with the provisions in § 101.95 of this chapter.

(1) \* \* \*

(2) [Reserved]

(3) 10 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| <b>1560 MHz Separation</b>     |                                |
| 17705.0 .....                  | n/a                            |
| 17715.0 .....                  | n/a                            |
| 17725.0 .....                  | n/a                            |
| 17735.0 .....                  | n/a                            |
| 17745.0 .....                  | 19305.0                        |
| 17755.0 .....                  | 19315.0                        |
| 17765.0 .....                  | 19325.0                        |
| 17775.0 .....                  | 19335.0                        |
| 17785.0 .....                  | 19345.0                        |
| 17795.0 .....                  | 19355.0                        |
| 17805.0 .....                  | 19365.0                        |
| 17815.0 .....                  | 19375.0                        |
| 17825.0 .....                  | 19385.0                        |
| 17835.0 .....                  | 19395.0                        |
| 17845.0 .....                  | 19405.0                        |

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| 17855.0 .....                  | 19415.0                        |
| 17865.0 .....                  | 19425.0                        |
| 17875.0 .....                  | 19435.0                        |
| 17885.0 .....                  | 19445.0                        |
| 17895.0 .....                  | 19455.0                        |
| 17905.0 .....                  | 19465.0                        |
| 17915.0 .....                  | 19475.0                        |
| 17925.0 .....                  | 19485.0                        |
| 17935.0 .....                  | 19495.0                        |
| 17945.0 .....                  | 19505.0                        |
| 17955.0 .....                  | 19515.0                        |
| 17965.0 .....                  | 19525.0                        |
| 17975.0 .....                  | 19535.0                        |
| 17985.0 .....                  | 19545.0                        |
| 17995.0 .....                  | 19555.0                        |
| 18005.0 .....                  | 19565.0                        |
| 18015.0 .....                  | 19575.0                        |
| 18025.0 .....                  | 19585.0                        |
| 18035.0 .....                  | 19595.0                        |
| 18045.0 .....                  | 19605.0                        |
| 18055.0 .....                  | 19615.0                        |
| 18065.0 .....                  | 19625.0                        |
| 18075.0 .....                  | 19635.0                        |
| 18085.0 .....                  | 19645.0                        |
| 18095.0 .....                  | 19655.0                        |
| 18105.0 .....                  | 19665.0                        |
| 18115.0 .....                  | 19675.0                        |
| 18125.0 .....                  | 19685.0                        |
| 18135.0 .....                  | 19695.0                        |

(4) 20 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| <b>1560 MHz Separation</b>     |                                |
| 17710.0 .....                  | n/a                            |
| 17730.0 .....                  | n/a                            |
| 17750.0 .....                  | 19310.0                        |
| 17770.0 .....                  | 19330.0                        |
| 17790.0 .....                  | 19350.0                        |
| 17810.0 .....                  | 19370.0                        |
| 17830.0 .....                  | 19390.0                        |
| 17850.0 .....                  | 19410.0                        |
| 17870.0 .....                  | 19430.0                        |
| 17890.0 .....                  | 19450.0                        |
| 17910.0 .....                  | 19470.0                        |
| 17930.0 .....                  | 19490.0                        |
| 17950.0 .....                  | 19510.0                        |
| 17970.0 .....                  | 19530.0                        |
| 17990.0 .....                  | 19550.0                        |
| 18010.0 .....                  | 19570.0                        |
| 18030.0 .....                  | 19590.0                        |
| 18050.0 .....                  | 19610.0                        |
| 18070.0 .....                  | 19630.0                        |
| 18090.0 .....                  | 19650.0                        |
| 18110.0 .....                  | 19670.0                        |
| 18130.0 .....                  | 19690.0                        |

(5) 40 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| <b>1560 MHz Separation</b>     |                                |
| 17720.0 .....                  | n/a                            |

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| 17760.0 .....                  | 19320.0                        |
| 17800.0 .....                  | 19360.0                        |
| 17840.0 .....                  | 19400.0                        |
| 17880.0 .....                  | 19440.0                        |
| 17920.0 .....                  | 19480.0                        |
| 17960.0 .....                  | 19520.0                        |
| 18000.0 .....                  | 19560.0                        |
| 18040.0 .....                  | 19600.0                        |
| 18080.0 .....                  | 19640.0                        |
| 18120.0 .....                  | 19680.0                        |

(6) 80 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| <b>1560 MHz Separation</b>     |                                |
| 17740.0 .....                  | n/a                            |
| 17820.0 .....                  | 19380.0                        |
| 17900.0 .....                  | 19460.0                        |
| 17980.0 .....                  | 19540.0                        |
| 18060.0 .....                  | 19620.0                        |

\* \* \* \* \*

## PART 78—CABLE TELEVISION RELAY SERVICE

■ 11. The authority citation for part 78 continues to read as follows:

**Authority:** 47 U.S.C. 152, 153, 154, 301, 303, 307, 308, 309.

■ 12. Amend § 78.18 by:

■ a. Revising paragraph (a)(4) introductory text;

■ b. Removing and reserving paragraph (a)(4)(ii); and

■ c. Revising paragraphs (a)(4)(iii) through (vi).

The revisions read as follows:

### § 78.18 Frequency assignments.

(a) \* \* \*

(4) The Cable Television Relay Service is also assigned the following frequencies in the 17,700–18,300 MHz and 19,300–19,700 MHz bands. These frequencies are co-equally shared with stations in other services under parts 25, 74, and 101 of this chapter. Licensees in the fixed-satellite service may require that licensees of grandfathered stations operating in the 18.3–18.58 GHz and 19.26–19.3 GHz bands cease operations in accordance with the provisions in § 101.95 of this chapter.

\* \* \* \* \*

(iii) 10 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| <b>1560 MHz Separation</b>     |                                |
| 17705.0 .....                  | n/a                            |
| 17715.0 .....                  | n/a                            |
| 17725.0 .....                  | n/a                            |
| 17735.0 .....                  | n/a                            |
| 17745.0 .....                  | 19305.0                        |
| 17755.0 .....                  | 19315.0                        |
| 17765.0 .....                  | 19325.0                        |
| 17775.0 .....                  | 19335.0                        |
| 17785.0 .....                  | 19345.0                        |
| 17795.0 .....                  | 19355.0                        |
| 17805.0 .....                  | 19365.0                        |
| 17815.0 .....                  | 19375.0                        |
| 17825.0 .....                  | 19385.0                        |
| 17835.0 .....                  | 19395.0                        |
| 17845.0 .....                  | 19405.0                        |
| 17855.0 .....                  | 19415.0                        |
| 17865.0 .....                  | 19425.0                        |
| 17875.0 .....                  | 19435.0                        |
| 17885.0 .....                  | 19445.0                        |
| 17895.0 .....                  | 19455.0                        |
| 17905.0 .....                  | 19465.0                        |
| 17915.0 .....                  | 19475.0                        |
| 17925.0 .....                  | 19485.0                        |
| 17935.0 .....                  | 19495.0                        |
| 17945.0 .....                  | 19505.0                        |
| 17955.0 .....                  | 19515.0                        |
| 17965.0 .....                  | 19525.0                        |
| 17975.0 .....                  | 19535.0                        |
| 17985.0 .....                  | 19545.0                        |
| 17995.0 .....                  | 19555.0                        |
| 18005.0 .....                  | 19565.0                        |
| 18015.0 .....                  | 19575.0                        |
| 18025.0 .....                  | 19585.0                        |
| 18035.0 .....                  | 19595.0                        |
| 18045.0 .....                  | 19605.0                        |
| 18055.0 .....                  | 19615.0                        |
| 18065.0 .....                  | 19625.0                        |
| 18075.0 .....                  | 19635.0                        |
| 18085.0 .....                  | 19645.0                        |
| 18095.0 .....                  | 19655.0                        |
| 18105.0 .....                  | 19665.0                        |
| 18115.0 .....                  | 19675.0                        |
| 18125.0 .....                  | 19685.0                        |
| 18135.0 .....                  | 19695.0                        |

(iv) 20 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| <b>1560 MHz Separation</b>     |                                |
| 17710.0 .....                  | n/a                            |
| 17730.0 .....                  | n/a                            |
| 17750.0 .....                  | 19310.0                        |
| 17770.0 .....                  | 19330.0                        |
| 17790.0 .....                  | 19350.0                        |
| 17810.0 .....                  | 19370.0                        |
| 17830.0 .....                  | 19390.0                        |
| 17850.0 .....                  | 19410.0                        |
| 17870.0 .....                  | 19430.0                        |
| 17890.0 .....                  | 19450.0                        |
| 17910.0 .....                  | 19470.0                        |
| 17930.0 .....                  | 19490.0                        |
| 17950.0 .....                  | 19510.0                        |
| 17970.0 .....                  | 19530.0                        |
| 17990.0 .....                  | 19550.0                        |
| 18010.0 .....                  | 19570.0                        |

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| 18030.0 .....                  | 19590.0                        |
| 18050.0 .....                  | 19610.0                        |
| 18070.0 .....                  | 19630.0                        |
| 18090.0 .....                  | 19650.0                        |
| 18110.0 .....                  | 19670.0                        |
| 18130.0 .....                  | 19690.0                        |

(v) 40 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| <b>1560 MHz Separation</b>     |                                |
| 17720.0 .....                  | n/a                            |
| 17760.0 .....                  | 19320.0                        |
| 17800.0 .....                  | 19360.0                        |
| 17840.0 .....                  | 19400.0                        |
| 17880.0 .....                  | 19440.0                        |
| 17920.0 .....                  | 19480.0                        |
| 17960.0 .....                  | 19520.0                        |
| 18000.0 .....                  | 19560.0                        |
| 18040.0 .....                  | 19600.0                        |
| 18080.0 .....                  | 19640.0                        |
| 18120.0 .....                  | 19680.0                        |

(vi) 80 MHz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz) | Receive<br>(transmit)<br>(MHz) |
|--------------------------------|--------------------------------|
| <b>1560 MHz Separation</b>     |                                |
| 17740.0 .....                  | n/a                            |
| 17820.0 .....                  | 19380.0                        |
| 17900.0 .....                  | 19460.0                        |
| 17980.0 .....                  | 19540.0                        |
| 18060.0 .....                  | 19620.0                        |

\* \* \* \* \*

## PART 90—PRIVATE LAND MOBILE RADIO SERVICES

■ 13. The authority citation for part 90 continues to read as follows:

**Authority:** 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7), 1401–1473.

■ 14. Amend § 90.265 by revising paragraph (a)(8) to read as follows:

**§ 90.265 Assignment and use of frequencies in the bands allocated for Federal use.**

(a) \* \* \*

(8) After [EFFECTIVE DATE OF FINAL RULE], no assignments for the frequencies 406.1250 MHz and 406.1750 MHz will be made, but stations with existing assignments may continue to operate on these frequencies.

\* \* \* \* \*

**PART 97—AMATEUR RADIO SERVICE**

■ 15. The authority citation for part 97 continues to read as follows:

**Authority:** 47 U.S.C. 151–155, 301–609, unless otherwise noted.

■ 16. Amend § 97.301 by revising the entry for the “60 m” wavelength band in the table in paragraphs (b) through (d) to read as follows:

**§ 97.301 Authorized frequency bands.**

\* \* \* \* \*

(b) \* \* \*

| Wavelength band | ITU Region 1  | ITU Region 2  | ITU Region 3  | Sharing requirements<br>see § 97.303<br>(paragraph) |
|-----------------|---------------|---------------|---------------|-----------------------------------------------------|
| HF * * *        | *<br>MHz      | *<br>MHz      | *<br>MHz      | *                                                   |
| 60 m * * *      | 5.3515–5.3665 | 5.3515–5.3665 | 5.3515–5.3665 | (h). *                                              |
| * * *           | *             | *             | *             | *                                                   |

(c) \* \* \*

| Wavelength band | ITU Region 1  | ITU Region 2  | ITU Region 3  | Sharing requirements<br>see § 97.303<br>(paragraph) |
|-----------------|---------------|---------------|---------------|-----------------------------------------------------|
| HF * * *        | *<br>MHz      | *<br>MHz      | *<br>MHz      | *                                                   |
| 60 m * * *      | 5.3515–5.3665 | 5.3515–5.3665 | 5.3515–5.3665 | (h). *                                              |
| * * *           | *             | *             | *             | *                                                   |

(d) \* \* \*

| Wavelength band | ITU Region 1  | ITU Region 2  | ITU Region 3  | Sharing requirements<br>see § 97.303<br>(paragraph) |
|-----------------|---------------|---------------|---------------|-----------------------------------------------------|
| HF * * *        | *<br>MHz      | *<br>MHz      | *<br>MHz      | *                                                   |
| 60 m * * *      | 5.3515–5.3665 | 5.3515–5.3665 | 5.3515–5.3665 | (h). *                                              |
| * * *           | *             | *             | *             | *                                                   |

■ 17. Amend § 97.303 by revising paragraph (h) to read as follows:

**§ 97.303 Frequency sharing requirements.**

\* \* \* \* \*

(h) Amateur stations transmitting on frequencies in the 60 m band must not cause harmful interference to, and must

accept interference from, stations authorized by:

(1) The United States (NTIA and FCC) and other nations in the fixed service; and

(2) Other nations in the mobile except aeronautical mobile service.

\* \* \* \* \*

■ 18. Amend § 97.305 by revising the entry for the “60 m” wavelength band in the table in paragraph (c) to read as follows:

**§ 97.305 Authorized emission types.**

\* \* \* \* \*

(c) \* \* \*

| Wavelength band | Frequencies       | Emission types<br>authorized | Standards see<br>§ 97.307(f),<br>(paragraph) |
|-----------------|-------------------|------------------------------|----------------------------------------------|
| HF: * * *       | * * *             | * * *                        | *                                            |
| 60 m * * *      | 5.3515–5.3665 MHz | Phone, RTTY, data            | (14) *                                       |

| Wavelength band                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Frequencies | Emission types authorized | Standards see § 97.307(f), (paragraph) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------|----------------------------------------|
| *                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | *           | *                         | *                                      |
| <p>■ 19. Amend § 97.307 by revising paragraph (f)(14) to read as follows:</p> <p><b>§ 97.307 Emission standards.</b></p> <p>* * * *</p> <p>(f) * * *</p> <p>(14) In the 60 m band:</p> <p>(i) A station may transmit only phone, RTTY, data, and CW emissions. RTTY or data emissions shall meet the digital code specifications listed in § 97.309. Emissions shall not exceed a bandwidth of 2.8 kilohertz.</p> <p>(ii) The control operator of a station transmitting data or RTTY emissions must exercise care to limit the length of transmissions so as to avoid causing harmful interference to United States Government stations.</p> <p>■ 20. Amend § 97.313 by revising paragraphs (f) and (i) to read as follows:</p> <p><b>§ 97.313 Transmitter power standards.</b></p> <p>* * * *</p> <p>(f) No station may transmit with a transmitter power exceeding 50 W PEP on the UHF 70 cm band from an area specified in paragraph (i) of footnote US270 in § 2.106 of this chapter, unless expressly authorized by the FCC after mutual agreement, on a case-by-case basis, between the Regional Director of the applicable field facility and the military area frequency coordinator at the applicable military base. An Earth station or telecommand station, however, may transmit on the 435–438 MHz segment with a maximum of 611 W effective radiated power (1 kW equivalent isotropically radiated power) without the authorization otherwise required. The transmitting antenna elevation angle between the lower half-power (–3 dB relative to the peak or antenna bore sight) point and the horizon must always be greater than 10°.</p> <p>* * * *</p> <p>(i) No station may transmit on frequencies in the 60 m band with a radiated power exceeding 15 W (insert value at order stage). For the purpose of computing EIRP, the transmitter PEP will be multiplied by the antenna gain relative to an isotropic antenna. An isotropic antenna will be presumed to have a gain of 1 (0 dBi). Licensees must maintain in their station records either the antenna manufacturer's data on the antenna gain or calculations of the antenna gain.</p> <p>* * * *</p>       |             |                           |                                        |
| <p><b>PART 101—FIXED MICROWAVE SERVICES</b></p> <p>■ 21. The authority citation for part 101 continues to read as follows:</p> <p>Authority: 47 U.S.C. 154, 303.</p> <p><b>§ 101.83 [Removed and Reserved]</b></p> <p>■ 22. Remove and reserve § 101.83.</p> <p><b>§ 101.85 [Removed and Reserved]</b></p> <p>■ 23. Remove and reserve § 101.85.</p> <p><b>§ 101.89 [Removed and Reserved]</b></p> <p>■ 24. Remove and reserve § 101.89.</p> <p><b>§ 101.91 [Removed and Reserved]</b></p> <p>■ 25. Remove and reserve § 101.91.</p> <p>■ 26. Amend § 101.95 by revising the section heading and paragraph (a) to read as follows:</p> <p><b>§ 101.95 Provisions for grandfathered licensees in the 18.30–19.30 GHz band.</b></p> <p>(a) The transition period for the 18.30–19.30 GHz band has concluded and thus FSS licensees are not required to pay relocation costs. FSS licensees may require the incumbent to cease operations, provided that the FSS licensee intends to turn on a system within interference range of the incumbent, as determined by TIA Bulletin 10–F or any standard successor. FSS licensee notification to the affected FS licensee must be in writing and must provide the incumbent with no less than six months to vacate the spectrum. After the six-month notice period has expired, the FS licensee must turn its license back into the Commission, unless the parties have entered into an agreement which allows the FS licensee to continue to operate on a mutually agreed upon basis.</p> <p>* * * *</p> <p><b>§ 101.97 [Removed and Reserved]</b></p> <p>■ 27. Remove and reserve § 101.97.</p> <p>■ 28. Amend § 101.147 by:</p> <p>■ a. In paragraph (a):</p> <p>■ i. Revising the list of frequency bands; and</p> <p>■ ii. Removing note 30;</p> <p>■ b. Revising paragraph (r) introductory text;</p> <p>■ d. Removing and reserving paragraph (r)(4); and</p> <p>■ e. Revising paragraphs (r)(7), (8), (10), (12), and (13).</p> <p>The revisions read as follows:</p> <p><b>§ 101.147 Frequency assignments.</b></p> <p>(a) * * *</p>                                                                                                    |             |                           |                                        |
| <p>928.0–929.0 MHz (28)</p> <p>932.0–932.5 MHz (27)</p> <p>932.5–935 MHz (17)</p> <p>941.0–941.5 MHz (27)</p> <p>941.5–944 MHz (17) (18)</p> <p>952.0–960.0 MHz (28)</p> <p>1,850–1,990 MHz (20) (22)</p> <p>2,110–2,130 MHz (1) (3) (7) (20) (23)</p> <p>2,130–2,150 MHz (20) (22)</p> <p>2,160–2,180 MHz (1) (2) (20) (23)</p> <p>2,180–2,200 MHz (20) (22)</p> <p>2,450–2,500 MHz (12)</p> <p>2,650–2,690 MHz</p> <p>3,700–4,200 MHz (8) (14) (25)</p> <p>5,925–6,425 MHz (6) (14) (25)</p> <p>6,425–6,525 MHz (24)</p> <p>6,525–6,875 MHz (14) (33)</p> <p>6,875–7,125 MHz (10), (34)</p> <p>10,550–10,680 MHz (19)</p> <p>10,700–11,700 MHz (8) (9) (19) (25)</p> <p>11,700–12,200 MHz (24)</p> <p>12,200–12,700 MHz (31)</p> <p>12,700–13,200 (22), (34)</p> <p>13,200–13,250 MHz (4) (24) (25)</p> <p>14,200–14,400 MHz (24)</p> <p>17,700–18,300 MHz (5) (10) (15)</p> <p>19,300–19,700 MHz (5) (10) (15)</p> <p>21,200–22,000 MHz (4) (11) (12) (13) (24) (25) (26)</p> <p>22,000–23,600 MHz (4) (11) (12) (24) (25) (26)</p> <p>24,250–25,250 MHz</p> <p>29,100–29,250 MHz (5), (16)</p> <p>31,000–31,300 MHz (16)</p> <p>42,000–42,500 MHz</p> <p>71,000–76,000 MHz (5) (17)</p> <p>81,000–86,000 MHz (5) (17)</p> <p>92,000–94,000 MHz (17)</p> <p>94,100–95,000 MHz (17)</p> <p>(r) In the bands 17,700 to 19,700 and 24,250 to 25,250 MHz: Operation of stations using frequencies in these bands is permitted to the extent specified in this paragraph (r). Licensees, except 24 GHz band licensees, may use either a two-way link or one frequency of a frequency pair for a one-way link and must coordinate proposed operations pursuant to the procedures required in § 101.103. The use of the band 18.3–19.3 GHz is limited to grandfathered stations. Licensees in the fixed-satellite service may require that licensees of grandfathered stations operating in the bands 18.3–19.3 GHz cease operations in accordance with the provisions in § 101.95. (Note that stations authorized as of September 9, 1983, to use frequencies in the band 17.7–19.7 GHz may, upon proper application, continue to be authorized for such operations, consistent with the</p> |             |                           |                                        |

above conditions related to the 18.3–19.3 GHz band.) Applicants for one-way spectrum from 17.7–18.3 GHz for multichannel video programming distribution are governed by paragraph (r)(6) of this section. Licensees are also allowed to use one-way (unpaired) channels in the 17.7–17.74 GHz sub-band to pair with other channels in the FS portions of the 18 GHz band where, for example, the return pair is already in use and therefore blocked or in TDD systems. Stations used for MVPD operations in the 17.7–17.8 GHz band must coordinate with the Federal Government before operating in the zones specified in § 1.924(e) of this chapter.

\* \* \* \* \*

(7) 10 Megahertz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz)   | Receive<br>(transmit)<br>(MHz) |
|----------------------------------|--------------------------------|
| <b>1560 Megahertz Separation</b> |                                |
| 17705.0 .....                    | N/A                            |
| 17715.0 .....                    | N/A                            |
| 17725.0 .....                    | N/A                            |
| 17735.0 .....                    | N/A                            |
| 17745.0 .....                    | 19305.0                        |
| 17755.0 .....                    | 19315.0                        |
| 17765.0 .....                    | 19325.0                        |
| 17775.0 .....                    | 19335.0                        |
| 17785.0 .....                    | 19345.0                        |
| 17795.0 .....                    | 19355.0                        |
| 17805.0 .....                    | 19365.0                        |
| 17815.0 .....                    | 19375.0                        |
| 17825.0 .....                    | 19385.0                        |
| 17835.0 .....                    | 19395.0                        |
| 17845.0 .....                    | 19405.0                        |
| 17855.0 .....                    | 19415.0                        |
| 17865.0 .....                    | 19425.0                        |
| 17875.0 .....                    | 19435.0                        |
| 17885.0 .....                    | 19445.0                        |
| 17895.0 .....                    | 19455.0                        |
| 17905.0 .....                    | 19465.0                        |
| 17915.0 .....                    | 19475.0                        |
| 17925.0 .....                    | 19485.0                        |
| 17935.0 .....                    | 19495.0                        |
| 17945.0 .....                    | 19505.0                        |
| 17955.0 .....                    | 19515.0                        |
| 17965.0 .....                    | 19525.0                        |
| 17975.0 .....                    | 19535.0                        |
| 17985.0 .....                    | 19545.0                        |
| 17995.0 .....                    | 19555.0                        |
| 18005.0 .....                    | 19565.0                        |
| 18015.0 .....                    | 19575.0                        |
| 18025.0 .....                    | 19585.0                        |
| 18035.0 .....                    | 19595.0                        |
| 18045.0 .....                    | 19605.0                        |
| 18055.0 .....                    | 19615.0                        |
| 18065.0 .....                    | 19625.0                        |
| 18075.0 .....                    | 19635.0                        |
| 18085.0 .....                    | 19645.0                        |
| 18095.0 .....                    | 19655.0                        |
| 18105.0 .....                    | 19665.0                        |
| 18115.0 .....                    | 19675.0                        |
| 18125.0 .....                    | 19685.0                        |
| 18135.0 .....                    | 19695.0                        |

(8) 20 Megahertz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz)   | Receive<br>(transmit)<br>(MHz) |
|----------------------------------|--------------------------------|
| <b>1560 Megahertz Separation</b> |                                |
| 17710.0 .....                    | N/A                            |
| 17730.0 .....                    | N/A                            |
| 17750.0 .....                    | 19310.0                        |
| 17770.0 .....                    | 19330.0                        |
| 17790.0 .....                    | 19350.0                        |
| 17810.0 .....                    | 19370.0                        |
| 17830.0 .....                    | 19390.0                        |
| 17850.0 .....                    | 19410.0                        |
| 17870.0 .....                    | 19430.0                        |
| 17890.0 .....                    | 19450.0                        |
| 17910.0 .....                    | 19470.0                        |
| 17930.0 .....                    | 19490.0                        |
| 17950.0 .....                    | 19510.0                        |
| 17970.0 .....                    | 19530.0                        |
| 17990.0 .....                    | 19550.0                        |
| 18010.0 .....                    | 19570.0                        |
| 18030.0 .....                    | 19590.0                        |
| 18050.0 .....                    | 19610.0                        |
| 18070.0 .....                    | 19630.0                        |
| 18090.0 .....                    | 19650.0                        |
| 18110.0 .....                    | 19670.0                        |
| 18130.0 .....                    | 19690.0                        |

\* \* \* \* \*

(10) 40 Megahertz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz)   | Receive<br>(transmit)<br>(MHz) |
|----------------------------------|--------------------------------|
| <b>1560 Megahertz Separation</b> |                                |
| 17720.0 .....                    | N/A                            |
| 17760.0 .....                    | 19320.0                        |
| 17800.0 .....                    | 19360.0                        |
| 17840.0 .....                    | 19400.0                        |
| 17880.0 .....                    | 19440.0                        |
| 17920.0 .....                    | 19480.0                        |
| 17960.0 .....                    | 19520.0                        |
| 18000.0 .....                    | 19560.0                        |
| 18040.0 .....                    | 19600.0                        |
| 18080.0 .....                    | 19640.0                        |
| 18120.0 .....                    | 19680.0                        |

\* \* \* \* \*

(12) 80 Megahertz maximum authorized bandwidth channels:

| Transmit<br>(receive)<br>(MHz)   | Receive<br>(transmit)<br>(MHz) |
|----------------------------------|--------------------------------|
| <b>1560 Megahertz Separation</b> |                                |
| 17740.0 .....                    | N/A                            |
| 17820.0 .....                    | 19380.0                        |
| 17900.0 .....                    | 19460.0                        |
| 17980.0 .....                    | 19540.0                        |
| 18060.0 .....                    | 19620.0                        |

(13) The following frequencies on channels 35–39 are available for point-to-multipoint systems and are available by geographic area licensing in the 24 GHz Service to be used as the licensee

desires. The 24 GHz spectrum can be aggregated or disaggregated and does not have to be used in the transmit/receive manner shown except to comply with international agreements along the U.S. borders. Channels 35 through 39 are licensed in the 24 GHz Service by Economic Areas for any digital fixed service. Channels may be used at either nodal or subscriber station locations for transmit or receive but must be coordinated with adjacent channel and adjacent area users in accordance with the provisions of § 101.509. Stations also must comply with international coordination agreements.

| Channel No. | Nodal station frequency band (MHz) limits | User station frequency band (MHz) limits |
|-------------|-------------------------------------------|------------------------------------------|
| 35 .....    | 24,250–24,290                             | 25,050–25,090                            |
| 36 .....    | 24,290–24,330                             | 25,090–25,130                            |
| 37 .....    | 24,330–24,370                             | 25,130–25,170                            |
| 38 .....    | 24,370–24,410                             | 25,170–25,210                            |
| 39 .....    | 24,410–24,450                             | 25,210–25,250                            |

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## DEPARTMENT OF DEFENSE

### GENERAL SERVICES ADMINISTRATION

### NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

#### 48 CFR Parts 4, 19, and 52

[FAR Case 2020–016; Docket No. FAR–2020–0016; Sequence No. 1]

RIN 9000–A018

#### Federal Acquisition Regulation: Rerepresentation of Size and Socioeconomic Status

**AGENCY:** Department of Defense (DoD), General Services Administration (GSA), and National Aeronautics and Space Administration (NASA).

**ACTION:** Proposed rule.

**SUMMARY:** DoD, GSA, and NASA are proposing to amend the Federal Acquisition Regulation (FAR) to implement regulatory changes made by the Small Business Administration to order-level size and socioeconomic status rerepresentation requirements.

**DATES:** Interested parties should submit written comments to the Regulatory Secretariat Division at the address shown below on or before November 28, 2023 to be considered in the formation of the final rule.