



6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 2, 90, and 97

[WT Docket No. 19-348; FCC 20-138; FRS 17120]

Facilitating Shared Use in the 3100-3550 MHz Band

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Commission adopts changes to its rules to prepare the 3.45-3.55 GHz band for commercial wireless services. It removes the secondary, non-federal allocations in the 3.3-3.55 GHz band for radiolocation services and the amateur radio service. These services will continue in alternate spectrum; radiolocation operations will be moved to the 2.9-3.0 GHz band, already home to similar operations, and amateur licensees will be able to relocate their operations to other frequencies already available for amateur operations. Clearing this band of secondary services will allow the Commission to auction the 3.45-3.55 GHz band for commercial wireless services on a co-primary basis with federal radionavigation and radiolocation operations.

DATES: Effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]

FOR FURTHER INFORMATION CONTACT: Joyce Jones, Wireless Telecommunications Bureau, Mobility Division, (202) 418-1327 or joyce.jones@fcc.gov, or Ira Keltz, Office of Engineering and Technology, (202) 418-0616 or ira.keltz@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the *Report and Order* in WT Docket No. 19-348, FCC 20-138, adopted September 30, 2020, and released October 2, 2020. The full text of the *Report and Order* is available for public inspection at the following internet address:

<https://docs.fcc.gov/public/attachments/FCC-20-138A1.pdf>. Alternative formats are available for people with disabilities (Braille, large print, electronic files, audio format), by sending an email to

FCC504@fcc.gov or calling the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice) or 202-418-0432 (TTY).

Final Regulatory Flexibility Analysis

The Regulatory Flexibility Act of 1980, as amended (RFA), requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that “the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities.”

Accordingly, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) concerning the possible impact of the rule changes contained in this *Report and Order* on small entities. As required by the Regulatory Flexibility Act, an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rulemaking (NPRM)* released in December 2019 in this proceeding (85 FR 3579, January 22, 2020). The Commission sought written public comment on the proposals in the *NPRM*, including comments on the IRFA. No comments were filed addressing the IRFA. This FRFA conforms to the RFA. The Commission will send a copy of the *Report and Order, Order of Proposed Modification, and Orders*, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

Paperwork Reduction Act

This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995, 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).

Congressional Review Act

The Commission will send a copy of the *Report and Order* to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

Synopsis

I. Introduction

1. In the *Report and Order* the Commission continues to execute its comprehensive strategy to Facilitate America's Superiority in 5G Technology (the 5G FAST Plan). It builds on efforts to unleash additional much-needed mid-band spectrum for flexible use, focusing on the 3100-3550 MHz band. Continued technological developments make 3 GHz spectrum ideal for next generation wireless services, including 5G, and the repurposing of 3.5 GHz and 3.7 GHz band spectrum presents an opportunity to make a large contiguous block of mid-band spectrum available for commercial use. Collectively, the 3.45-3.55 GHz band and neighboring 3.5 GHz and 3.7 GHz bands could offer 530 megahertz of mid-band spectrum for flexible use.

2. The Commission therefore acts now to prepare the 3.45-3.55 GHz band for such future use. The *Report and Order* adopts the Commission's 2019 proposal to remove the secondary, non-federal allocations from the 3.3-3.55 GHz band as a first step toward future sharing between federal incumbents and commercial operations. It expects that this action, in tandem with continued work by the Department of Defense (DoD) and other federal partners, will allow for agencies to file transition plans no later than April 2021, and for commercial operations to begin in early 2022.

II. Background

3. The lower 3 GHz band—and the 3450 MHz to 3550 MHz portion of the band (3.45-3.55 GHz band) in particular—has been targeted as spectrum to support 5G both here and abroad, and assessed within the federal government, across the legislative and executive branches, as well as within the Commission. The National Telecommunications and Information Administration (NTIA) identified the 3450-3550 MHz spectrum band as a potential candidate for shared use between federal incumbents and commercial services two years ago. In 2018, Congress passed the Fiscal Year 2018 omnibus spending bill, which directed NTIA to work with the Commission on identifying sharing opportunities in the 3.1-3.55 GHz band.

4. In December 2019, the Commission adopted a *Notice of Proposed Rulemaking* that proposed to clear non-federal secondary allocations from the 3.3-3.5 GHz band as a preliminary step toward potential future shared use between federal incumbents and commercial users of the band. In June 2020, pursuant to its

obligations under the Commercial Spectrum Enhancement Act, the Commission notified the NTIA of its plan to commence an auction in December 2021 for licenses in 100 megahertz of the 3400-3550 MHz band. There has also been a broad and consistent effort by international governing bodies and global standards setting organizations to review the suitability of several frequency bands for next generation 5G wireless services, including the lower 3 GHz band. The Commission's continued efforts to promote flexible use licensing in the band will help to promote international harmonization.

5. In 2020, the White House and the DoD formed America's Mid-Band Initiative Team (AMBIT) with the goal of making 100 megahertz of contiguous mid-band spectrum available in the 3.45-3.55 GHz band for full commercial use. Under the agreement that was reached as part of the AMBIT study process, the DoD expects to enable commercial 5G systems to operate at full power throughout almost all the contiguous United States. The DoD would also require access to the spectrum during times of national emergency.

6. Currently, the entire 3.1-3.55 GHz band is allocated for both federal and non-federal radiolocation services, with non-federal users operating on a secondary basis to primary federal radiolocation services. The DoD operates high-powered defense radar systems on fixed, mobile, shipborne, and airborne platforms in this band. From 3.1-3.3 GHz, the band is also allocated for federal and non-federal space research (active) and earth exploration satellite (active) in addition to radiolocation services.

7. There are 17 non-federal radiolocation licenses in the portion of the band below 3.3 GHz, which are held by power companies and municipalities. Between 3.3 GHz and 3.55 GHz, there are only eight active non-federal radiolocation licenses, which are being used for a variety of commercial and industrial radiolocation services. In addition, non-federal amateur services operate in the 3.3-3.5 GHz portion of the band pursuant to a secondary allocation and must not cause harmful interference to operations such as radio astronomy stations and stations authorized by other nations for radiolocation service. The 3.5-3.55 GHz portion of the band is also allocated for federal aeronautical radionavigation services. In addition, the Radio Astronomy Service makes use of 3260-3267 MHz, 3332-3339 MHz, and 3345.8-3352.5 MHz. Also among the non-federal users operating in the 3.1-3.55 GHz band are holders of hundreds of non-

federal experimental licenses, including special temporary authorizations (STAs). These experimental licenses and STAs are issued pursuant to part 5 of the Commission's rules and may be granted for a broad range of research and experimentation purposes, but experimental licenses and STAs must operate on a non-interference basis.

8. The band immediately above 3.1-3.55 GHz is authorized for commercial wireless operations. In 2015, the Commission established the Citizens Broadband Radio Service in the 3.55-3.7 GHz band (3.5 GHz band) for shared use between new commercial wireless operations and incumbent operations—including military radar systems, non-federal FSS earth stations, and, for a limited time, grandfathered wireless broadband licensees in the 3.65-3.7 GHz band. The primary allocation for federal radiolocation operations continues below 3.1 GHz, with secondary non-federal radiolocation operations in this spectrum as well.

III. Report and Order

A. Clearing the 3.3-3.55 GHz Band of Secondary, Non-Federal Allocations

9. In its December 2019 *Notice of Proposed Rulemaking*, the Commission proposed to eliminate the non-federal radiolocation service allocations in the 3.3-3.55 GHz band, as well as the non-federal amateur allocation in the 3.3-3.5 GHz band. Both are secondary users of the band. The Commission finds that removing the existing secondary non-federal allocations from the 3.3-3.55 GHz band and clearing these non-federal operations from the band is in the public interest, and therefore adopts this proposal. Because the DoD and NTIA agree that commercial users operating pursuant to flexible use licenses can be accommodated in the 3.45-3.55 GHz band at full power, and given continued interest in the 3.3-3.45 GHz band for future sharing for flexible use licenses, retaining the secondary non-federal allocations across this spectrum would hinder the Commission's ability to offer flexible use licensing in the future and would undermine the intensive and efficient use of valuable mid-band spectrum. The Commission will allow secondary non-federal licensees operating as of the effective date of this Report and Order to continue to operate in the 3.45-3.55 GHz band while it finalizes plans to reallocate spectrum in the band. Authorization for these operations will sunset on a date consistent with the first possible grant of flexible

use authorizations to new users in that portion of the band. The Commission revises the Table of Allocations accordingly.

10. The Commission considers clearing spectrum for flexible use to be a priority when it is feasible to do so. Spectrum that has been cleared to the greatest extent possible provides maximum flexibility in future uses, ensuring intensive and efficient use of that spectrum going forward. Spectrum encumbrances, on the other hand, constrain the potential of future uses of that spectrum, deter investment in the band, and undermine the public interest benefits of the relicensing process. Given the ever-increasing demand for wireless spectrum for broadband access and the particular need for additional mid-band spectrum for those services, such spectrum should be made available for exclusive, as opposed to shared, non-federal use where possible.

11. The Commission has broad authority under the Communications Act to modify its rules governing use of radio spectrum, and specific authority to allocate spectrum so as to provide flexibility of use. Under the Commission's rules, secondary spectrum users cannot claim protection from primary operations, including those subsequently licensed by the Commission, and they are subject to losing their spectrum rights if the primary operations in the band change at a later date.

12. From a technical perspective, the removal of secondary, non-federal licensees from the 3.3-3.55 GHz band is necessary given the incompatibility of radiolocation and amateur operations with ubiquitous mobile and fixed broadband services, which are likely the primary uses pursuant to flexible use licenses. Existing federal use of this band is sporadic and geographically localized, which has created a spectral environment well-suited to the coexistence of radiolocation and amateur operations. By contrast, nationwide broadband services operate at all times in virtually all areas and would provide these secondary operations with little opportunity for meaningful, interference-free operations. Further, we expect that, if the incumbents were to try to maintain some degree of secondary operations, the dense and growing deployment of base stations providing wide area mobile services on a primary basis using all frequencies in the band would make such efforts on the part of secondary, co-channel systems too tenuous. Commenters agree that we should not permit continued secondary operations if flexible use

licenses are to be used for 5G and other forms of nationwide wireless broadband. The Commission concludes that such secondary. Secondary systems could not operate without creating significant interference risks both to their own operations and to primary flexible use services.

13. Clearing this band of encumbrances will ensure that it is used intensely and efficiently, create a spectral environment that will support wireless broadband operations, and promote commercial interest and investment in the band. Current non-federal secondary radiolocation uses—particularly high-power weather radar systems—are incompatible with the anticipated future use of the band, so our actions today are a necessary predicate to repurposing the 3.45-3.55 GHz band for flexible use services. Sunsetting the secondary non-federal allocations will prevent adjacent-channel issues and preserve the possibility of additional clearing for flexible use licensing below 3.45 GHz, furthering the public interest. Deciding to relocate these non-federal users at this time will facilitate timely advance planning to accommodate the needs of all existing and future federal and non-federal users—a complex undertaking posing technical and financial issues that the Commission will need to work with relevant stakeholders to resolve. This action will increase investment in communications services and systems and technological development by providing maximum opportunities for deployment of flexible use services, while continuing to provide spectrum for these secondary operations.

14. This decision notwithstanding, secondary non-federal radiolocation licensees and amateur license holders operating as of the effective date of this Report and Order may continue operating while the Commission finalizes plans to reallocate spectrum in the 3.45-3.55 GHz band. Authorization for these operations will sunset on a date consistent with the first possible grant of flexible use authorizations to new users in that portion of the band. For example, if we adopt a licensing scheme that will result in an auction to assign licenses, secondary use would sunset within 90 days of the close of the auction. The Table of Allocations is revised accordingly. There are hundreds of experimental licenses, including experimental STAs, active throughout the 3.1-3.55 GHz band at any given time. Going forward, these operations will be permitted here under the same limitations as they are in other bands licensed for flexible use—including that they must operate on a non-interference basis.

B. Relocation of Secondary, Non-Federal Radiolocation Operations

15. The Commission removes the secondary, non-federal radiolocation allocation in the 3.3-3.55 GHz band. In relocating these operations, their current 50-megahertz allocation will be continued, along with their secondary status. Secondary, non-federal radiolocation licensees operating as of the effective date of this Report and Order may, however, continue to operate in this band until authorization for such operations are sunset as described above. Radiolocation authorization will sunset on a date consistent with the first possible grant of flexible use authorizations to new users in that portion of the band (e.g., 90 days from the close of the auction if the Commission adopts a licensing scheme that will result in an auction to assign licenses).

16. Although spectrum above 3.45 GHz is the current focus for flexible use operations, secondary non-federal radiolocation operations will not be allowed to continue in the spectrum between 3.3 GHz and 3.45 GHz. Rather, in order to prevent cross-service, adjacent channel interference to new operations and to prepare the band for future relicensing, all secondary radiolocation operations in the 3.3-3.55 GHz band will be required to relocate to the 2.9-3.0 GHz band by a date certain that will be set by subsequent Commission action in this proceeding. Spectrum below 3.0 GHz is the preferable location for these operations, and will allow radiolocation operators to provide the same S-band (2-4 GHz) radar services as they do at 3.3-3.55 GHz and will minimize adjacent channel interference to potential future flexible use licenses.

17. Commenters currently holding these radiolocation licenses agree with relocation below 3.1 GHz, and no commenters object or offer any alternative means by which flexible use licensing could move forward in this band. Given the ongoing consideration of the entire 3.1-3.55 GHz band for future flexible use licenses, the Commission finds it is unwise to relocate secondary radiolocation operations to the lower portion of this band, i.e., 3.1-3.3 GHz. We also agree with commenters that identified spectrum below 3.1 GHz as a preferable location for these operations. In order to minimize adjacent channel interference to potential future flexible use licenses, however, we find that moving these operations to spectrum below 3.0 GHz is preferable to placing them in the 3.0-3.1 GHz band. Since the 2.9-3.0 GHz band already hosts

non-federal radiolocation operations on a secondary basis, including the NEXRAD weather radar system operated by the National Weather Service, the band should be able to accommodate these relocated operations without running the risk of causing adjacent channel interference to flexible use licenses. NBCUniversal agrees with this conclusion, and no commenter disagrees. There is also no dispute in the record that existing equipment can be upgraded to support operations in this lower S-band spectrum, which should reduce the expense and complexity involved in the relocation. In relocating these operations, we will preserve their current 50-megahertz allocation and retain their secondary status.

C. Sunset of Secondary Amateur Allocation

18. The Commission removes the amateur allocation from the 3.3-3.5 GHz band. As it did with radiolocation operations, the Commission adopts changes to its rules today that provide for the sunset of the secondary amateur allocation in the band, but allow continued use of the band for amateur operations, pending resolution of the issues raised in the Further Notice. Secondary non-federal amateur licensees operating in this band as of the effective date of this Report and Order may continue while the Commission finalizes plans to reallocate spectrum in the 3.45-3.55 GHz band. Authorizations will sunset on a date consistent with the first possible grant of flexible use authorizations to new users in that portion of the band—for example, 90 days after the close of the auction if the Commission adopt a licensing scheme that will result in an auction to assign licenses. The Table of Allocations is revised accordingly.

19. Clearing all secondary operations, including amateur operations, from this spectrum will allow us to maximize the band for potential flexible use operations in the future. Further, to prevent adjacent-channel issues and to preserve the possibility of additional clearing for flexible use licensing below 3.45 GHz, sunsetting the secondary amateur allocation from the entire 3.3-3.5 GHz portion of the band is in the public interest. Amateur stations in this band are licensed on a shared basis. However, only amateur service operators with privileges for transmitting in this band based on their license class may operate stations on this spectrum. The class of a given operator's license determines on which of the many amateur frequencies it may operate, and amateurs with access to the 3.3-3.5 GHz band also have access to a large number of other bands. These include bands with similar characteristics and operations such as

the 2.39-2.45 GHz and 5.65-5.925 GHz bands, as well as dozens of others. Due to the unique nature of the licensing of the amateur service, the Commission does not provide for relocation of these operations in the same way as for radiolocation operations. Instead, amateur operators may choose for themselves whether to continue these operations in alternate spectrum, and which available spectrum to use.

20. Notwithstanding the utility of amateur operations in this band, operators that chose to construct networks in this band did so despite the fact that the amateur allocation was secondary and entirely subject to current or future primary operations. As part 97 of our rules makes clear, amateur operations are a noncommercial, voluntary service. Amateur stations are permitted to operate in many different bands; amateur stations operating in the 3 GHz band have several other nearby bands available to them with similar propagation characteristics, such as the nearby 2 GHz band and the 5 GHz band. After the authorization to operate sunsets for secondary amateur licensees here, amateur stations will continue to have available these and other bands that are allocated for amateur use.

VI. Ordering Clauses

21. IT IS ORDERED, pursuant to sections 1, 4(i), 157, 301, 303, 307, 308, 309, 310, and 316, of the Communications Act of 1934, as amended, as well as the MOBILE NOW Act, Pub. L. 115-141, 132 Stat. 1098, Div. P, Title VI, § 603 (Mar. 23, 2018), 47 U.S.C. §§ 151, 154(i), 157, 301, 303, 307, 308, 309, 310,

22. IT IS FURTHER ORDERED that the amendments of parts 2, 90, and 97 of the Commission's rules, as set forth in Appendix A, ARE ADOPTED, effective thirty (30) days after publication in the Federal Register.

23. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order and Further Notice of Proposed Rulemaking, including the Final and Initial Regulatory Flexibility Analyses, to the Chief Counsel for Advocacy of the Small Business Administration.

24. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this Report and Order in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, see 5 U.S.C. 801(a)(1)(A).

Lists of Subjects in 47 CFR Parts 2, 90, and 97

Frequency allocations, Private land mobile radio services, the Amateur radio service,

Federal Communications Commission.

Marlene Dortch,

Secretary, Federal Communications Commission.

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. Section 2.106, the Table of Frequency Allocations, is amended as follows:

- a. Revise pages 40 and 41.
- b. In the list of United States (US) Footnotes, revise footnote US108.

The revisions read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

2670-2690 FIXED 5.410 MOBILE except aeronautical mobile 5.384A Earth exploration-satellite (passive) Radio astronomy Space research (passive)	2670-2690 FIXED 5.410 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.208B 5.415 MOBILE except aeronautical mobile 5.384A Earth exploration-satellite (passive) Radio astronomy Space research (passive)	2670-2690 FIXED 5.410 FIXED-SATELLITE (Earth-to-space) 5.415 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (Earth-to-space) 5.351A 5.419 Earth exploration-satellite (passive) Radio astronomy Space research (passive)			
5.149 5.412	5.149	5.149	US205	US385	
2690-2700 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)			2690-2700 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY US74 SPACE RESEARCH (passive)		
5.340 5.422			US246		
2700-2900 AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation			2700-2900 METEOROLOGICAL AIDS AERONAUTICAL RADIONAVIGATION 5.337 US18 Radiolocation G2	2700-2900	Aviation (87)
5.423 5.424			5.423 G15	5.423 US18	
2900-3100 RADIOLOCATION 5.424A RADIONAVIGATION 5.426			2900-3100 RADIOLOCATION 5.424A G56 MARITIME RADIONAVIGATION	2900-3100 MARITIME RADIONAVIGATION Radiolocation US44	Maritime (80) Private Land Mobile (90)
5.425 5.427			5.427 US44 US316	5.427 US316	
3100-3300 RADIOLOCATION Earth exploration-satellite (active) Space research (active)			3100-3300 RADIOLOCATION G59 Earth exploration-satellite (active) Space research (active)	3100-3300 Earth exploration-satellite (active) Space research (active) Radiolocation	Private Land Mobile (90)
5.149 5.428			US342	US342	
3300-3400 RADIOLOCATION	3300-3400 RADIOLOCATION Amateur Fixed Mobile	3300-3400 RADIOLOCATION Amateur	3300-3500 RADIOLOCATION G2	3300-3500	
5.149 5.429 5.429A 5.429B 5.430	5.149 5.429C 5.429D	5.149 5.429 5.429E 5.429F			
3400-3600 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.430A Radiolocation	3400-3500 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.431A 5.431B Amateur Radiolocation 5.433	3400-3500 FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile 5.432 5.432B Radiolocation 5.433			
5.431	5.282	5.282 5.432A	US108 US342	US108 US342	

International Table			United States Table		FCC Rule Part(s)
Region 1 Table	Region 2 Table	Region 3 Table	Federal Table	Non-Federal Table	
(See previous page)	3500-3600 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.431B Radiolocation 5.433	3500-3600 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.433A Radiolocation 5.433	3500-3550 RADIOLOCATION G59 AERONAUTICAL RADIONAVIGATION (ground-based) G110 US108	3500-3550 US108	
			3550-3650 RADIOLOCATION G59 AERONAUTICAL RADIONAVIGATION (ground-based) G110	3550-3600 FIXED MOBILE except aeronautical mobile US105 US433	Citizens Broadband (96)
3600-4200 FIXED FIXED-SATELLITE (space-to-Earth) Mobile	3600-3700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.434 Radiolocation 5.433	3600-3700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation 5.435	US105 US107 US245 US433 3650-3700	3600-3650 FIXED FIXED-SATELLITE (space-to-Earth) US107 US245 MOBILE except aeronautical mobile US105 US433 3650-3700 FIXED FIXED-SATELLITE (space-to-Earth) NG169 NG185 MOBILE except aeronautical mobile US109 US349	Satellite Communications (25) Citizens Broadband (96)
	3700-4200 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile		3700-4200	3700-4000 FIXED MOBILE except aeronautical mobile NG182 NG457A 4000-4200 FIXED FIXED-SATELLITE (space-to-Earth) NG457A NG182	Wireless Communications (27) Satellite Communications (25)
4200-4400 AERONAUTICAL MOBILE (R) 5.436 AERONAUTICAL RADIONAVIGATION 5.438 5.437 5.439 5.440			4200-4400 AERONAUTICAL RADIONAVIGATION 5.440 US261		Aviation (87)
4400-4500 FIXED MOBILE 5.440A			4400-4940 FIXED MOBILE	4400-4500	
4500-4800 FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE 5.440A				4500-4800 FIXED-SATELLITE (space-to-Earth) 5.441 US245	
4800-4990 FIXED MOBILE 5.440A 5.441A 5.441B 5.442 Radio astronomy 5.149 5.339 5.443			US113 US245 US342 4940-4990	4800-4940 US113 US342 4940-4990 FIXED MOBILE except aeronautical mobile 5.339 US342 US385	Public Safety Land Mobile (90Y)
4990-5000 FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149			4990-5000 RADIO ASTRONOMY US74 Space research (passive) US246		

UNITED STATES (US) FOOTNOTES

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US108 In the band 3300-3550 MHz, notwithstanding removal of the non-Federal allocations from these bands in [insert FCC item number], secondary non-Federal radiolocation and secondary amateur license holders operating as of [insert the effective date the Commission's Report and Order] may continue to operate on a secondary basis while the Commission finalizes plans to reallocate spectrum in the 3.45-3.55 GHz band. Authorization for these operations will sunset on a future date certain, consistent with the first possible grant of flexible use authorizations to new users in that portion of the band. The date by which non-Federal stations in these services will be required to cease operations in the band 3300-3550 MHz will be set by the Commission in a subsequent decision in its proceeding. In the band 10-10.5 GHz, survey operations, using transmitters with a peak power not to exceed five watts into the antenna, may be authorized for Federal and non-Federal use on a secondary basis to other Federal radiolocation operations.

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PART 90—PRIVATE LAND MOBILE RADIO SERVICES

3. 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.

§ 90.103 [Amended]

4. In § 90.103, amend the table in paragraph (b) by removing the entries for the “3300 to 3500” MHz and “3500 to 3550” MHz bands.

PART 97—AMATEUR RADIO SERVICE

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

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

6. Amend §97.207 by revising paragraph (c)(2) to read as follows:

§ 97.207 Space station.

* * * * *

(c) * * *

(2) The 7.0-7.1 MHz, 14.00-14.25 MHz, 144-146 MHz, 435-438 MHz, 2400-2450 MHz, 5.83-5.85 GHz, 10.45-10.50 GHz, and 24.00-24.05 GHz segments.

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7. Amend §97.209 by revising paragraph (b)(9) to read as follows:

§ 97.209 Earth station.

* * * * *

(b) * * *

(2) The 7.0-7.1 MHz, 14.00-14.25 MHz, 144-146 MHz, 435-438 MHz, 1260-1270 MHz and 2400-2450 MHz, 5.65-5.67 GHz, 10.45-10.50 GHz and 24.00-24.05 GHz segments.

8. Amend §97.211 by revising paragraph (c)(2) to read as follows:

§ 97.211 Space telecommand station.

* * * * *

(c) * * *

(2) The 7.0-7.1 MHz, 14.00-14.25 MHz, 144-146 MHz, 435-438 MHz, 1260-1270 MHz and 2400-2450 MHz, 5.65-5.67 GHz, 10.45-10.50 GHz and 24.00-24.05 GHz segments.

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9. In § 97.301, revise the table in paragraph (a) to read as follows:

§ 97.301 Authorized frequency bands.

* * * * *

(a) * * *

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements
VHF	MHz	MHz	MHz	<i>see</i> §97.303 (paragraph)
6 m	-	50-54	50-54	(a)

2 m	144-146	144-148	144-148	(a), (k)
1.25 m	-	219-220	-	(l)
Do	-	222-225	-	(a)
UHF	MHz	MHz	MHz	
70 cm	430-440	420-450	430-440	(a), (b), (m)
33 cm	-	902-928	-	(a), (b), (e), (n)
23 cm	1240-1300	1240-1300	1240-1300	(b), (d), (o)
13 cm	2300-2310	2300-2310	2300-2310	(d), (p)
Do	2390-2450	2390-2450	2390-2450	(d), (e), (p)
SHF	GHz	GHz	GHz	
5 cm	5.650-5.850	5.650-5.925	5.650-5.850	(a), (b), (e), (r)
3 cm	10.0-10.5	10.0-10.5	10.0-10.5	(a), (b), (k)
1.2 cm	24.00-24.25	24.00-24.25	24.00-24.25	(b), (d), (e)
EHF	GHz	GHz	GHz	
6 mm	47.0-47.2	47.0-47.2	47.0-47.2	
4 mm	76-81	76-81	76-81	(c), (f), (s)
2.5 mm	122.25-123.00	122.25-123.00	122.25-123.00	(e), (t)
2 mm	134-141	134-141	134-141	(c), (f)
1 mm	241-250	241-250	241-250	(c), (e), (f)
	Above 275	Above 275	Above 275	(f)

10. In § 97.303, revise paragraphs (b) and (f) and remove and reserve paragraph (q) to read as follows:

§ 97.303 Frequency sharing requirements.

* * * * *

(b) Amateur stations transmitting in the 70 cm band, the 33 cm band, the 23 cm band, the 5 cm

band, the 3 cm band, or the 24.05-24.25 GHz segment must not cause harmful interference to, and must accept interference from, stations authorized by the United States Government in the radiolocation service.

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(f) Amateur stations transmitting in the following segments must not cause harmful interference to radio astronomy stations: 76-81 GHz, 136-141 GHz, 241-248 GHz, 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz, or 926-945 GHz. In addition, amateur stations transmitting in the following segments must not cause harmful interference to stations in the Earth exploration-satellite service (passive) or the space research service (passive): 275-286 GHz, 296-306 GHz, 313-356 GHz, 361-365 GHz, 369-392 GHz, 397-399 GHz, 409-411 GHz, 416-434 GHz, 439-467 GHz, 477-502 GHz, 523-527 GHz, 538-581 GHz, 611-630 GHz, 634-654 GHz, 657-692 GHz, 713-718 GHz, 729-733 GHz, 750-754 GHz, 771-776 GHz, 823-846 GHz, 850-854 GHz, 857-862 GHz, 866-882 GHz, 905-928 GHz, 951-956 GHz, 968-973 GHz and 985-990 GHz.

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§ 97.305 [Amended]

11. In § 97.305, amend the table in paragraph (c) by removing the entry for the 9 cm band under SHF.