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

In the Matter of	)	
	)	
Unleashing Licensed Spectrum for Direct-to-Device	)	GN Docket No. 26-281
	)	
	)	
Single Network Future: Supplemental Coverage from Space	)	GN Docket No. 23-65

NOTICE OF PROPOSED RULEMAKING

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I. INTRODUCTION

1. Today, we take a major step to unleash American innovation and investment in next-generation connectivity by exploring opportunities to modernize our rules for Direct-to-Device (D2D) over licensed spectrum and dismantle regulatory barriers to converged networks. In 2024, the Commission adopted the first-of-its kind Supplemental Coverage from Space (SCS) framework, which took an incremental step toward opening up terrestrial wireless spectrum for satellite service to wireless subscribers.[1] That initial SCS framework, coupled with other Commission actions to free up spectrum for wireless use and modernize satellite licensing, paved the way for substantial improvements in wireless service quality and coverage. The regulatory and technical restrictions the Commission adopted in the SCS rules were inherently cautious, however, given the novelty of introducing satellite communications to terrestrial spectrum at the time of the rules' adoption. As a result, every authorized SCS network operates using waiver-based relief.[2] Further, while both the Commission's Mobile-Satellite Service (MSS) and SCS rules can be used to provide satellite connectivity to consumer handsets, the rules governing MSS and SCS operations differ in ways that impact opportunities and incentives to maximize use of scarce spectrum.

2. With this *Notice*, we seek to ensure that the Commission's rules keep pace with the rapid advancements in D2D technology by unlocking new spectrum, relaxing restrictions that constrain innovation, and harmonizing the SCS and MSS rules to allow for more flexible terrestrial, satellite, and hybrid business arrangements.[3] The proposals in this *Notice* aim to leverage the principle of technological neutrality and enable FCC spectrum licensees to adapt their networks, strike deals to maximize use of spectrum resources, and take advantage of new technological capabilities in real time. These proposals will provide new opportunities to integrate space assets and ground infrastructure, and support continuous coverage, network resiliency, and Internet of Things (IoT) expansion, which will realize enormous benefits for the American public and support U.S. leadership globally by laying the regulatory foundation for delivering the seamless, ubiquitous connectivity envisioned for 6G.

3. This *Notice* proposes to modernize and relax the Commission's SCS framework, informed by our experience with SCS authorizations and waivers since the rules' adoption. *First*, we intend to bring spectrum abundance to D2D. We seek comment on making up to an additional 482 megahertz available for SCS, while expanding opportunities for the existing 344 megahertz already included in the framework. *Second*, we move away from a rigid SCS framework that routinely requires waivers, and toward a set of rules grounded in flexibility, operational ease, and the practical realities of how wireless and satellite networks operate. We propose to eliminate the burdensome SCS requirement that satellite operators must enter into leases with terrestrial licensees that hold all co-channel licenses throughout a geographically independent area (GIA), such as the contiguous United States.[4] Instead, we propose to maximize flexibility by allowing SCS applicants to establish custom-sized license areas covering only the areas they will serve, and to enter into coexistence agreements with terrestrial licensees.

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[1] *Single Network Future: Supplemental Coverage from Space, Space Innovation*, GN Docket No. 23-65, IB Docket 22-271, Report and Order and Further Notice of Proposed Rulemaking, 39 FCC Rcd 2622 (2024) (*SCS Report and Order*).

[2] *See infra*, para. 7.

[3] We note that D2D is an informal term that encompasses a range of consumer device-to-satellite services including: (1) use of terrestrial spectrum under the SCS framework; (2) use of internationally harmonized satellite spectrum under the MSS framework; and (3) use of unlicensed spectrum under the framework proposed in July. *See generally Unleashing Unlicensed Spectrum for Direct-to-Device*, ET Docket No. 26-169, Notice of Proposed Rulemaking, FCC 26-51 (rel. Aug. 7, 2026) (*Unlicensed Spectrum D2D Notice*). While the present *Notice* is focused on further developing the first two kinds of services, the *Unlicensed Spectrum D2D Notice* proposes, for the first time, the third form of D2D service.

[4] *SCS Report and Order*, 39 FCC Rcd at 2661–65, paras. 92–104.

We propose amended SCS service and technical rules designed to protect geographic and spectral neighbors. *Finally*, we explore tailored requirements to make D2D a trusted and reliable lifeline for the American public. Given SCS's critical role in expanding service to unserved areas, including in emergencies, we seek comment on ensuring robust public safety capabilities from SCS operations, and seek feedback informed by real-world experience with these technologies.

4. This *Notice* also considers measures to modernize the Commission's service rules in MSS-primary bands, which we have not updated in decades. We explore reforms to promote parity between SCS and MSS services. We seek input on the appropriate performance requirements to incentivize high-quality D2D service to consumers that could apply uniformly. As MSS bands continue to attract significant investment and deal flow, the time is ripe to refresh our expectations for licensees to maximize the use of spectrum to the benefit of consumers. We also seek comment on confirming the exclusive nature of MSS bands to promote innovation and regulatory certainty consistent with exclusive-use terrestrial spectrum used for SCS.

5. Today, we will also consider a companion item that proposes to make spectrum available for new terrestrial wireless operations in the 1675–1695 MHz and 2020–2025 MHz bands and seeks comment on how best to promote D2D availability in the bands.[5] The companion *1675 MHz and 2020 MHz Auction FNPRM* proposes service rules for commercial wireless licenses in the 1675–1695 MHz and 2020–2025 MHz bands, with a secondary MSS allocation for SCS in the United States. We anticipate that the SCS proposals in this *Notice* will apply to the two spectrum bands proposed for auction in the companion *FNPRM*. Both this *Notice* and the companion *FNPRM* intend to maximize flexibility so operators can provide terrestrial mobile service, D2D, or a hybrid of both services. In both items, we seek to establish rules and policies that will enable access to advanced terrestrial fixed and mobile wireless services and space-based D2D communications.

II. BACKGROUND

6. *Supplemental Coverage from Space.* In March 2024, the Commission adopted the *Single Network Future: Supplemental Coverage from Space Report and Order* (*SCS Report and Order*), allowing terrestrial wireless licensees to lease access to their spectrum rights to participating satellite operators.[6] SCS is limited by rule to five flexible-use spectrum bands.[7] Satellite operators must satisfy certain entry criteria to provide SCS. Generally, to provide SCS, a satellite operator must certify that: (1) it has entered into one or more leasing arrangement(s) or agreement(s) with the terrestrial wireless licensee(s) that hold, collectively or individually, all co-channel licenses throughout a GIA; (2) it seeks to provide SCS in the same geographic areas covered in the relevant GIA; and (3) the terrestrial devices qualify as "licensed-by-rule" under the SCS framework.[8] Further, to protect in-band neighbors, the SCS rules limit signal levels at and beyond the terrestrial operator's GIA to the same levels as terrestrial license area boundaries in each respective band.[9] In addition, the *SCS Report and Order* adopted a

[5] *Auctioning the 1675–1695 MHz and 2020–2025 MHz Bands*, WT Docket No. 26-284, GN Docket No. 26-281, WT Docket No. 19-116, Further Notice of Proposed Rulemaking, FCC 26-70 (2026) (*1675 MHz and 2020 MHz Auction FNPRM*).

[6] *See generally SCS Report and Order*, 39 FCC Rcd 2622.

[7] 47 CFR § 2.106(d)(33)(i).

[8] *See id.* § 100.113.

[9] *Id.* § 100.212(a) (limiting "aggregate field strength at the earth's surface produced by all visible beams and satellites within each satellite constellation providing SCS service as they move over any given point or area . . . [to] (1) 40 dBμV/m for the 600 MHz, 700 MHz, and 800 MHz bands; and (2) 47 dBμV/m for the AWS and PCS bands").

uniform aggregate out-of-band emission (OOBE) power flux-density (PFD) limit of -120 dBW/m^2/MHz at 1.5 meters above ground level.[10]

7. Since the Commission adopted the SCS framework in 2024, the Space Bureau and Wireless Telecommunications Bureaus (SB and WTB, respectively) have granted four SCS authorizations.[11] Each SCS authorization includes waiver relief to allow for the provision of SCS in situations that do not neatly fit within the SCS framework. In three instances, SB and WTB have provided conditional waiver relief to permit SCS where the arrangement did not include all licenses in a GIA.[12] In March 2025 and again in October 2026, SB and WTB granted SpaceX's waiver request to permit SpaceX to operate its D2D satellites at a higher OOBE limit than permitted by the SCS rules.[13] SB and the Office of Engineering and Technology (OET) waived SCS end-user device certification requirements for SpaceX and AST SpaceMobile and then issued a one-year blanket waiver of these rules.[14] In another instance, SB and WTB granted waiver of cellular service area boundary rules to allow for the joint provision of SCS across the Continental United States (CONUS) and Hawaii while promoting coexistence with other terrestrial licenses.[15] In addition, SB and WTB have granted a waiver of the requirement that SpaceX have a lease arrangement with one or more terrestrial wireless licensees for the provision of SCS in certain bands.[16]

8. *Mobile-Satellite Services*. MSS spectrum can accommodate the deployment of D2D services because it uses globally harmonized frequency bands. The MSS rules also allow satellites to communicate directly with consumer handsets. Even with the explosive interest in D2D recently, each of the primary MSS allocations in the United States—the Big LEO bands, the L-band, and the 2 GHz MSS—operate under service rules that were codified decades ago and have not been updated since.

9. *Big LEO Bands*. "Big LEO" refers to low-Earth orbit (LEO) MSS above 1 GHz. The 1610–1626.5 MHz and 2483.5–2500 MHz bands have been designated through Commission rulemaking

[10] *Id.* § 100.213(c)(1).

[11] *Space Exploration Holdings, LLC Request for Deployment and Operating Authority for the SpaceX Gen2 NGSO Satellite System*, ICFS File Nos. SAT-LOA-20200526-00055 et al., Order and Authorization, 39 FCC Rcd 12550 (SB 2024) (*SpaceX-T-Mobile SCS Authorization*); *Satellite Licensing Division and Satellite Programs and Policy Division Information Actions Taken*, Report No. SAT-01916, Public Notice, DA No. 25-385, 1 (May 2, 2025); ICFS File No. SAT-MOD-20240108-00006 et al.; ULS File No. 0011316969 (*Lynk-Docomo SCS Authorization*); *AST & Science, LLC et al.*, ICFS File Nos. SAT-LOA-20200413-00034 et al., SB Docket No. 25-201, Authorization and Order, DA 26-391 (SB/WTB/OET/PSHSB Apr. 21, 2026) (*AST-Verizon-AT&T-FirstNet SCS Authorization*); *Space Exploration Holdings, LLC, For Authority to Launch and Operate the SpaceX NGSO MSS System*, ICFS File Nos. SAT-LOA-20250916-00282 and SAT-AMD-20251125-00339, GN Docket No. 25-340, Authorization and Order, DA 26-1078 (SB/WTB Oct. 6, 2026) (*SpaceX D2D Authorization*).

[12] *Lynk-Docomo SCS Authorization*; *AST-Verizon-AT&T-FirstNet SCS Authorization*; *SpaceX D2D Authorization*.

[13] *SpaceX-T-Mobile 2025 Waiver Order*, 40 FCC Rcd at 1521, 1525–26, paras. 1, 11–14; *SpaceX D2D Authorization* at 12–14, paras. 29–37.

[14] *T-Mobile USA, Inc. and Space Exploration Holdings, LLC Request for Waiver of Parts 2 and 25 of the Commission's Rules*, GN Docket Nos. 23-65 and 23-135, Order, 40 FCC Rcd 4321 (SB/OET 2025); *AST-Verizon-AT&T-FirstNet SCS Authorization*; *Single Network Future: Supplemental Coverage from Space*, GN Docket No. 23-65, Order, DA 26-380 (SB/OET Apr. 22, 2026).

[15] *AST & Science, LLC et al.*, ICFS File Nos. SAT-LOA-20200413-00034 et al., SB Docket No. 25-201, Authorization and Order, DA 26-391 (SB/WTB/OET/PSHSB Apr. 21, 2026). The rules at issue in this waiver relief govern 800 MHz Cellular operations that underpin the AST-Verizon-AT&T SCS leasing arrangement.

[16] *SpaceX D2D Authorization* at 6–7, paras. 12–16; 47 CFR § 100.113(a)&(b).

proceedings in the 1990s for use by NGSO MSS Big LEO systems.[17] In the United States, for both federal and non-federal operations, the 1610.6–1613.8 MHz band is allocated to MSS uplink on a primary basis. The 1613.8–1626.5 MHz band is allocated for MSS uplink on a primary basis and also to MSS downlink on a secondary basis for both federal and non-federal operations. The full 1610–1626.5 MHz band is shared with radio astronomy, radio determination-satellite, and aeronautical radionavigation services, which also have primary allocations. In addition, the 2483.5–2500 MHz band is allocated to MSS downlink on a primary basis for non-federal operations. The 2483.5–2495 MHz portion of the band is shared with radiodetermination-satellite downlink, which has a primary allocation. The 2495–2500 MHz portion of the band is shared with radiodetermination-satellite downlink, fixed service, and mobile service, all of which have a primary allocation. The full 2483.5–2500 MHz band has a parallel primary MSS downlink allocation and primary radionavigation satellite downlink allocation for federal operations. There are only two licensed systems in the Big LEO MSS bands—Globalstar and Iridium. Globalstar is exclusively licensed for a code division multiple access (CDMA) system in the 1610–1617.775 MHz/2483.5–2500 MHz band, and Iridium is exclusively licensed in the 1618.725–1626.5 MHz band for time-division multiple access (TDMA (bi-directional)) operations.[18] The 1617.775–1618.725 MHz portion of the band is assigned to both Globalstar and Iridium to be used on a coordinated basis.[19] On October 27, 2026, SB, OET, and the Office of International Affairs approved the applications filed by Globalstar and Amazon, for consent to the assignment and transfer of control of Globalstar's space station licenses, earth station licenses, domestic and international section 214 authorizations, and experimental license to Amazon.[20] Amazon has separately requested authority to deploy and operate a D2D system in the bands.[21]

10. *L-Band.* "L-band" refers to the entire frequency range from one to two gigahertz. In this *Notice*, however, the term "L-band" denotes the so-called "upper L-band" (1545–1559 MHz and 1646.5–1660.5 MHz) and "lower L-band" (1525–1544 MHz and 1626.5–1645.5 MHz). The 1525–1559 MHz band is allocated for solely MSS downlink on a primary basis both Federally and non-Federally in the United States.[22] The 1626.5–1660.5 MHz band is allocated solely for MSS uplink both Federally and non-Federally, except for in the 1660–1660.5 MHz portion of the band, which is also allocated for radio astronomy observation on a co-primary basis both Federally and non-Federally.[23] There are also two one-megahertz segments at 1544–1545 MHz and 1645.5–1646.5 MHz that are allocated exclusively for safety services. L-band operations in the United States are pursuant to a 1996 Mexico City Memorandum of Understanding and related Operating Agreements (MOU) originally signed by the United States, Canada,

[17] *Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610–1626.5/2483.5–2500 MHz Frequency Bands*, Report and Order, 9 FCC Rcd 5936, para. 43 (1994) (*Big LEO Order*).

[18] *Globalstar Licensee LLC, GUSA Licensee LLC and Iridium Constellation LLC, Iridium Satellite LLC, Iridium Carrier Services LLC, Modification of Authority to Operate a Mobile Satellite System in the 1.6 GHz Frequency Band*, Order of Modifications, 23 FCC Rcd 15207 at 15221, para. 44 (2008) (*Globalstar Modification Order*). *See also Modification of Licenses held by Iridium Constellation, LLC*, Order, 18 FCC Rcd 20023, 20028 (Sat. Div., IB 2003).

[19] *Globalstar Modification Order,* 23 FCC Rcd at 15208, para. 2.

[20] *FCC Approves Amazon Leo's Acquisition of Globalstar*, GN Docket No. 26-134, Order, DA 26-1160 (Oct. 27, 2026); *see also* Application for Consent to Assign and Transfer Control of Licenses and Authorizations, ICFS File No. ITC-T/C20260417-00114 (filed May 26, 2026) (Application); ICFS File Nos. SAT-T/C-20260426-00174, SATT/C-20260426-00138, SAT-T/C-20260426-00137; ELS File Nos. 0080-EX-TU-2026, 0069-EX-TC-2026 (filed May 26, 2026).

[21] ICFS File No. SAT-LOA-20260601-00224.

[22] 47 CFR § 2.106.

[23] *Id*.

Mexico, Russia, and the then intergovernmental organization Inmarsat, and covering all of North America.[24] The parties to the MOU last formally revised the assignments in 1999. Currently, Ligado, a U.S.-licensed operator, and Inmarsat, a U.K.-licensed operator, operate in the L-band in the United States pursuant to the MOU.[25]

11. *2 GHz MSS Bands.* The 2000–2020 MHz (Earth-to-space) and 2180–2200 MHz (space to-Earth) bands are allocated on a co-primary basis to the fixed, mobile, and mobile-satellite services and are licensed for both MSS and AWS-4 terrestrial wireless services.[26] Through a series of Commission and Bureau licensing and regulatory decisions, EchoStar Corporation held exclusive licenses of the terrestrial 2 GHz MSS and AWS-4 licenses.[27] WTB and the SB recently approved an assignment of the AWS-4 and 2 GHz MSS earth station licenses, along with other wireless spectrum licenses, from EchoStar Corporation to SpaceX through a two-step transaction.[28] In addition, SpaceX was recently authorized to deploy and operate—with conditions—a new D2D constellation.[29]

III. NOTICE OF PROPOSED RULEMAKING

12. In this *Notice*, we propose substantial amendments to the SCS framework governing D2D in terrestrial bands that will increase the spectrum available for this purpose and enhance opportunities for licensees. While the first SCS proceeding started the process of integrating satellite and terrestrial networks on terrestrial spectrum, we now look to relax the initial SCS rules to increase flexibility of spectrum use and support new network configurations. As the Commission noted in the *SCS Report and Order*, the first set of rules represented "an initial step to encourage[] the development of [D2D] while minimizing the risks of harmful interference to existing terrestrial and satellite networks that support non-

[24] The U.K. Administration replaced Inmarsat as a party to the MOU when Inmarsat was privatized. Under the MOU, L-band spectrum for operation via certain satellites was to be dynamically assigned pursuant to successive annual arrangements among the respective satellite operators licensed by the signatory Administrations. Furthermore, rather than creating permanent assignments of specific spectrum, the MOU was designed to permit operators' assignments to change from year to year based on their marketplace needs.

[25] When we discuss Ligado in this Order we also refer to its "predecessor." This is not a reference to a singular licensee, but for ease of reference, an acknowledgment that the Commission action took place with regard to different entities whose authorization Ligado currently holds. In addition, when we refer to "Inmarsat," we refer to Inmarsat Global Limited and Inmarsat PLC interchangeably. In 2023, Viasat, which provides voice, video, and data MSS services using GSO satellites acquired Inmarsat. *Viasat, Inc. and Connect Topco Limited,* Memorandum Opinion and Order and Declaratory Ruling, 38 FCC Rcd 4776 (2023).

[26] 47 CFR § 2.106.

[27] For a complete history of the Commission's regulatory and licensing decisions covering the 2000–2020 MHz and 2180–2200 MHz bands, *see Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands*, IB Docket No. 01-185, ET Docket No. 95-18, Notice of Proposed Rulemaking, 16 FCC Rcd 15532 (2001); *Use of Returned Spectrum in the 2 GHz Mobile Satellite Service Frequency Bands*, Order, 20 FCC Rcd 19696, para. 2 (2005); *New DBSD North America, Inc. Debtor-in-Possession; New DBSD Satellite Services G.P., Debtor-in-Possession, Pendrell Corporation, Transferor, and TerreStar Licensee Inc., Debtor-In-Possession, Request for Rule Waivers and Modified Ancillary Terrestrial Component Authority,* Order, 27 FCC Rcd 2250 (IB 2012); *Service Rules for Advanced Wireless Services in the 2000–2020 MHz and 2180–2200 MHz Bands*, Report and Order and Order of Proposed Modification, 27 FCC Rcd 16102 (2012) (*AWS-4 Report and Order*); *DISH Network Corporation*, Memorandum Opinion and Order, 28 FCC Rcd 16787 (WTB 2013); *AWS-4 Report and Order*; *Service Rules for Advanced Wireless Services in the 2000–2020 MHz and 2180–2200 MHz Bands*, Order of Modification, 28 FCC Rcd 1276 (Sat. Div, IB; BD; WTB 2013). An exception is in Puerto Rico, where Liberty Latin America holds the AWS-4 licenses.

[28] *Applications of Spectrum Business Trust 2025-1, Space Exploration Technologies Corp., and EchoStar Corporation for Consent to Assign Spectrum and Earth Station Licenses*, GN Docket No. 25-302, Memorandum Opinion and Order, DA 26-471, paras. 1, 12 (WTB, SB, May 12, 2026) (*SpaceX-EchoStar Transaction Order*).

[29] *See SpaceX D2D Authorization*.

federal and federal users."[30] Thus, the initial SCS framework included a GIA requirement to minimize coexistence challenges with multiple geographic neighbors,[31] mandated leasing arrangements between the satellite operator and a terrestrial partner (or partners),[32] and only covered certain prime low- and mid-band spectrum,[33] among other restrictions. With the experience of successful D2D deployments and evolution of technology, supported by waivers of aspects of the SCS rules,[34] we have gained confidence that industry can protect terrestrial incumbents.

13. Now, we propose to expand SCS to most bands used in wireless handsets today, including the five bands currently allocated for SCS and six additional bands, while seeking comment on whether to allow SCS in another two bands, and propose to replace the strict lease requirements with flexible coexistence agreements between the SCS license applicant and any terrestrial licensees. We propose to eliminate the burdensome GIA requirement and allow an SCS license applicant to establish its own custom-sized license area, maximizing business opportunities for licensees. We propose service and technical rules that increase operational flexibility and ensure appropriate protections for geographic and spectral neighbors. We seek comment on whether changes are needed to the existing interim 911 requirements for SCS given real-world experience with 911 access using SCS service. We also seek comment on D2D performance requirements for both SCS and MSS licenses to increase parity among similarly-situated operations and to incentivize high quality, consumer-oriented D2D service. We propose that existing SCS operations must come into compliance with the modernized SCS rules and licensing framework, which ensures regulatory consistency. Throughout, we broadly seek comment on any reforms that would best promote investment, innovation, and competitive entry among U.S. companies. These considerations in mind, we believe the proposals outlined in this *Notice* will infuse new spectrum and new opportunities into the burgeoning D2D market, continue America's leadership in D2D, and benefit American consumers.

A. D2D on Wireless Radio Service Bands

1. Allocation

14. We propose to revise footnote NG33A to the United States Table of Frequency Allocations (U.S. Table). Footnote NG33A established a secondary MSS allocation limited to the provision of SCS domestically in certain terrestrial bands.[35] The footnote authorizes bi-directional, secondary MSS in certain bands with a terrestrial flexible-use allocation, limited to the provision of SCS. The *SCS Report and Order* introduced SCS in a limited number of bands, noting that such an approach would enable the benefits of SCS to be rapidly realized while minimizing the risks of harmful interference

[30] *SCS Report and Order*, 39 FCC Rcd at 2623, para. 3.

[31] *Id.* at 2646–47, para. 56 (addressing SCS commenters' arguments that a GIA is unnecessary if a satellite operator demonstrates to the Commission that it will not cause harmful interference to adjacent licensees and noting that the Commission's decision to include the GIA requirement).

[32] *Id.* at 2660–65, paras. 88–104 (requiring SCS providers to enter a leasing agreement with a terrestrial provider(s) to enable access to the terrestrial spectrum).

[33] *Id.* at 2634–35, para. 28 (including the 600 MHz, 700 MHz, 800 MHz, Broadband PCS, and AWS-H Block spectrum).

[34] *See e.g.*, *Lynk-Docomo SCS Authorization* (waiving the GIA requirement); *AST-Verizon-AT&T-FirstNet SCS Authorization* (waiving the GIA requirement); *SpaceX D2D Authorization* (waiving the GIA requirement); *SpaceX-T-Mobile 2025 Waiver Order*, 40 FCC Rcd at 1521, 1525–26, paras. 1, 11–14 (waiving the SCS OOBE limit to permit higher OOBE levels); *AST & Science, LLC et al.*, ICFS File Nos. SAT-LOA-20200413-00034 et al., SB Docket No. 25-201, Authorization and Order, DA 26-391 (SB/WTB/OET/PSHSB Apr. 21, 2026) (waiving the cellular service area boundary rules to allow for the joint provision of SCS across CONUS and Hawaii).

[35] 47 CFR § 2.106(a), (d)(33)(i) (non-Federal Government Footnote NG33A in the U.S. Table); *see also SCS Report and Order*, 39 FCC Rcd at 2634–35, para. 28.

as the technology develops.[36] Now, informed by our experience with SCS deployment since the rules' adoption and alongside proposed technical rules to mitigate harmful interference, we propose to expand the number of bands where SCS is authorized to provide new opportunities for innovation in the provision of wireless services. We propose to revise footnote NG33A to identify 11 bands instead of only the five existing SCS bands, and refer to part 100 of the Commission's rules instead of part 25, as follows:[37]

> (i) NG33A The secondary MSS operations in the bands 614–652 MHz, 663–769 MHz, 775–799 MHz, 805–806 MHz, 817–824 MHz, 824–849 MHz, 862–869 MHz, 869–894 MHz, 896–901 MHz, 935–940 MHz, 1390–1395 MHz, 1432–1435 MHz, 1670–1675 MHz, 1695–1780 MHz, 1850–1920 MHz, 1930–2000 MHz, 2110–2180 MHz, are limited to Supplemental Coverage from Space (SCS) and are subject to the Commission's SCS rules in part 100 of this chapter.

We also seek comment, below, on whether to add such a footnote to the 2.5 GHz and 3.45 GHz bands, given the potential challenges with incorporating SCS operations in those bands. In the *SCS Report and Order*, the Commission determined that establishing a limited secondary MSS allocation by footnote provided a "predictable framework and environment" for a new service to flourish.[38] We seek comment on revising the NG33A footnote as proposed and on alternatives. Commenters suggesting a different approach for the proposed MSS allocation to permit SCS in additional spectrum bands should explain their support for an alternative.

15. The Table of Frequency Allocations consists of the International Table of Frequency Allocations (International Table) and the U.S. Table.[39] The Commission's rules require the use of frequencies and frequency bands to be in accordance with the U.S. Table. Where use is inconsistent with the International Table, operations must be on a non-interference basis, meaning that such operations cannot cause harmful inference to, nor claim protection from, services that operate in accordance with ITU regulations in other countries.[40] Insofar as SCS conflicts with ITU Radio Regulations and the International Table, we note that SCS operations must be on an unprotected, non-harmful interference basis and SCS operations must accept interference from, and not cause harmful interference to, any stations that are operating in accordance with the Table of Frequency Allocations.[41] Upon receiving a documented report of harmful interference, any operations causing the harmful interference must immediately cease until the harmful interference is eliminated, pursuant to ITU Radio Regulations Article 4.4. We seek comment on this approach.

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[36] *See SCS Report and Order*, 39 FCC Rcd at 2638, para. 39.

[37] The Commission recently adopted a new part 100 to replace the part 25 rules that govern space communications. *Space Modernization for the 21st Century*, SB Docket No. 25-306, Report and Order and Further Notice of Proposed Rulemaking, FCC 26-47 (rel. Jul. 23, 2026) (*Space Modernization Report and Order and FNPRM*). Although those rule changes are not yet effective, in this *Notice,* we will refer to the Commission's new part 100 rules when proposing changes to, or asking questions about, rules governing space communications.

[38] *SCS Report and Order*, 39 FCC Rcd at 2644, para. 51.

[39] The International Table is described in 47 CFR § 2.104 and the U.S. Table is described in 47 CFR § 2.105. The International Telecommunication Union (ITU) has divided the world into three geographic Regions (Region 1, Region 2, and Region 3). As a member administration, the United States is included in Region 2. *See List of ITU Member States*, https://www.itu.int/en/ITU-R/terrestrial/fmd/pages/administrations_members.aspx (last visited Oct. 6, 2026); *see also* 47 CFR §§ 2.104(b), 2.105(a). The U.S. Table is subdivided into the Federal Table of Frequency Allocations, displaying allocations for federal use, and the non-Federal Table of Frequency Allocations, displaying the allocations for non-federal use that the Commission administers. The U.S. Table applies to the use of radio frequencies in those areas subject to the jurisdiction of the United States.

[40] *See* ITU Radio Regulations Article 4.4.

[41] 47 CFR § 2.106(a).

2. Spectrum Bands

a. General Considerations

16. We propose to add a U.S. Table footnote allocation authorizing MSS for the provision of SCS on a secondary basis in six spectrum bands allocated on a primary basis to Wireless Radio Services and seek comment on whether to add such a footnote allocation for two additional bands. We intend to add a footnote allocation only to those bands identified as appropriate for SCS following the development of a record,[42] and note that the Commission may not identify all additional bands for SCS in a single decision. We also propose new or amended service rules authorizing SCS under that allocation for the existing SCS bands and the additional bands considered in this *Notice*. Below, we describe the current allocations in each potential SCS band and seek comment on specific issues unique to certain bands. In addition to these band-specific questions, we seek comment on the following general considerations. For each potential SCS band, we seek comment on the benefits and feasibility of using that particular band for D2D. Are there any legal, technical, or other challenges or complexities with allowing D2D in any of the potential SCS bands? If so, how should we address those challenges and complexities? Are there other Table of Allocations-related rule changes that we should consider in order to effectuate D2D in the proposed SCS bands? What other factors should we consider with regard to each potential SCS band?

17. We seek to minimize in-band and adjacent band coexistence challenges. For each potential SCS band, what are the possible coexistence challenges and what are the best approaches for addressing them? For each band with existing limits and protections to guard against harmful interference (e.g., power limits, emissions controls, field strength limits, notice, or coordination requirements), would the existing limits and protections impact the band's use for D2D? If so, are there solutions we should consider to enable the use of the band for D2D? For example, how should we address bands, like the AWS-3 band, that require that mobile and portable stations can only operate when under the control of an enabling base station, in the D2D context?[43] How can we ensure protections for incumbent users while maximizing the potential for D2D in each potential SCS band? In particular, where there are public safety-related operations in or adjacent to the potential SCS bands, do the technical rules described below provide sufficient protections? Should any SCS operations in bands with public safety operations be required to comply with existing protection requirements applicable to terrestrial operations? How would these protection requirements that are designed for terrestrial operations be applied to satellite operations? To facilitate our evaluation of potential coexistence challenges, commenters should provide information on current and any anticipated future use in the potential SCS bands, including detailed information on how incumbents are currently using each band.

18. In addition, commenters should provide information on factors that could impact deploying D2D in each potential SCS band, and the type of technology needed to support D2D. For example, we recognize that D2D implementations in bands using Time Division Duplexing (TDD) create significant coexistence challenges with respect to existing in-band and adjacent band systems, including

[42] Such a record might be developed in this proceeding, the companion *1675 MHz and 2020 MHz Auction FNPRM* proceeding, or other future rulemakings.

[43] *See, e.g.*, *Amendment of the Commission's Rules with Regard to Commercial Operations in the 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz Bands*, GN Docket No. 13-185, Report and Order, 29 FCC Rcd 4610, 4648, paras. 100–102 (2014) (requiring that "uplink/mobile devices in the 1695–1710 MHz and 1755–1780 MHz bands must be under the control of, or associated with, a base station as a means to facilitate shared use of the band and prevent interference to Federal operations"). Where such restrictions have been waived previously, the Commission conditioned the waiver on SCS operations being unprotected and on a non-interference basis and requiring the satellite operator to successfully coordinate before operating or enabling devices within the AWS-3 band's protection zones. *SpaceX D2D Authorization*, condition 1-c (finding that such waiver, as conditioned, would serve the public interest by facilitating SCS service while still achieving the purpose of the rule to protect federal incumbent operations in the band).

challenges related to maintaining synchronization among these different systems.[44] Accordingly, we seek comment on whether to include the 2.5 GHz and 3.45 GHz bands, in which nationwide commercial wireless networks operate in a TDD scheme today, in the SCS framework. To the extent TDD bands are included in our revised SCS framework, we propose limiting eligibility to terrestrial licensees that have a sufficient footprint (both spectrally and geographically) to overcome technical challenges, and we seek comment on whether and to what extent this proposed limitation provides administrable means to enable more flexibility in the TDD bands.[45] We also recognize that bands other than the 2.5 GHz and 3.45 GHz bands or portions of bands may be unpaired[46] or used in a TDD configuration, and we seek comment on whether it is possible to overcome these challenges in each band including any possible technical and regulatory solutions (e.g., limiting to uplink or downlink use).[47] In particular, we seek comment on any adjustments that might be needed to the SCS rules to address synchronization of timeslots with other operators.

19. We seek comment on whether there are other Wireless Radio Service bands, beyond those proposed in this *Notice* for D2D operations, that may also be suitable. What specific additional bands should we consider? For any additional band(s) that commenters suggest, what are the potential coexistence challenges and what approaches should we consider to address those challenges? What is the extent of usage by incumbents in the band? For each additional band, commenters should recommend any rule changes necessary to authorize D2D and describe the challenges with regard to each suggested band, including potential conditions, restrictions, protections, and limitations.

b. Band-by-Band Discussion

20. *SCS Bands*. U.S. Table Footnote NG33A currently allows for SCS on a secondary basis in the following bands: 600 MHz (614–652 MHz, 663–698 MHz); 700 MHz (698–769 MHz, 775 MHz–799 MHz, 805–806 MHz); 800 MHz (824–849 MHz and 869–894 MHz); Broadband PCS (1850–1915

[44] Because TDD uses time delay instead of spectral separation between uplink and downlink, SCS licensees must protect both terrestrial base stations and receivers across the entire band. *See* Letter from Thomas Dombrowsky, Vice President, Engineering and Technology Policy, T-Mobile USA, Inc. to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 26-281, 23-65, at 2 (filed Oct. 21, 2026) (T-Mobile Oct. 21 *Ex Parte*) (describing coexistence challenges between satellite and terrestrial operations in a TDD scheme and noting that "a satellite's signal must travel hundreds of kilometers from space before it is received on Earth, resulting in an inherent delay which renders synchronization with terrestrial signals extremely complex."); *see also* Letter from Scott K. Bergmann, Senior Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 26-281, 23-65, at 1 (filed Oct. 22, 2026) (CTIA Oct. 22 2-Page *Ex Parte*) (objecting to SCS operations in the 2.5 and 3.45 GHz bands that use TDD "given the well-recognized synchronization and interference risks"); Additional Letter from Scott K. Bergmann, Senior Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 26-281, 23-65, at 2 (filed Oct. 22, 2026) (CTIA Oct. 22 10-Page *Ex Parte*) (arguing that "D2D operations into TDD bands, irrespective of satellite beam size, raises fundamental technical and interference challenges that the Commission accounted for in 2024 and that remain unresolved today.").

[45] *See* CTIA Oct. 22 10-Page *Ex Parte* at 1 (urging the Commission to exclude the 2.5 GHz and 3.45 GHz bands from the SCS framework "given their significant role in the 5G networks on which millions of Americans rely and the technical infeasibility of these bands for SCS service"). *See* Section III.A.3, *infra*, seeking comment on potential adjustments to the framework to address coexistence with geographically adjacent licensees in bands using TDD, including whether to require sufficient geographic or spectral continuity, or whether to permit licensees in TDD bands to demarcate smaller license areas.

[46] We note that SpaceX is authorized to operate in the AWS-3 unpaired band from 1695–1710 MHz (Earth-to-space) and, though we ask about directionality, we would not envision changing what has already been authorized. *See SpaceX D2D Authorization*.

[47] *See* Letter from Michael John Carlson, Senior Corporate Counsel, Kuiper Systems, LLC, an Amazon subsidiary, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 26-281, 23-65, at 4 (filed Oct. 23, 2026) (Amazon Leo Oct. 23 *Ex Parte*).

MHz and 1930–1995 MHz) and AWS-H Block (1915–1920 MHz and 1995–2000 MHz).[48] The Commission initially targeted these bands for SCS deployment because there are no primary, non-flexible-use incumbents, thus, they present less technically complex interference protection scenarios.[49] We believe these bands are suitable to include in the updated SCS framework to enable D2D, because while the new SCS framework is more flexible, the anticipated uses and technical risks are largely consistent with those of existing SCS operations. For certain of these bands, in the *SCS Notice*, the Commission sought comment on the potential risk of harmful interference to adjacent and near adjacent bands.[50] We seek comment on the costs and benefits of including the existing SCS bands in the revised SCS framework. Are there any risks? Following SCS implementation in these bands, has there been any specific harmful interference to adjacent and/or nearby bands? Are there any lessons learned from deploying SCS in these bands that should be applied to the SCS framework to avoid harmful interference to in-band and/or out of band services?

21. *800 MHz Enhanced Specialized Mobile Radio Service Band*. We propose a secondary MSS allocation to permit SCS in the 800 MHz Enhanced Specialized Mobile Radio Service (ESMR) band (817–824 MHz (uplink) and 862–869 MHz (downlink)), and we seek comment on this proposal. We note that the approval of the Grain-T-Mobile transaction provides incentives for Grain to partner with D2D operators on the 800 MHz ESMR band in the near term,[51] and we note that Grain and SpaceX recently filed an application for SpaceX to acquire this spectrum.[52] The 800 MHz ESMR band is part of a broader range of 36 megahertz of paired spectrum at 806–824 MHz (uplink) and 851–869 MHz (downlink). This range includes: National Public Safety Planning Advisory Committee (NPSPAC) at 806–809 MHz and 851–854 MHz; interleaved public safety, Business, Industrial, and Land Transportation (B/ILT), and non-cellular Specialized Mobile Radio (SMR) at 809–817 MHz and 854–862 MHz; and ESMR at 817–824 MHz and 862–869 MHz. While this band plan represents most of the United States, the 800 MHz band plan varies by region. For example, the band plan differs in the Southeastern United States and the U.S./Canadian border region.[53] The adjacent bands are allocated for 700 MHz and 800 MHz Cellular, including SCS, at 824–849 MHz uplink and 869–894 MHz downlink and 805–806 MHz, 824–849 MHz, and 775–799 MHz, secondary low power TV stations and TV translator at 698–806 MHz, aeronautical mobile service (849–851 MHz), and other public safety and specialized mobile radio uses (799–805 MHz and 769–775 MHz). We seek comment on any impacts in-band and adjacent band operations may have on SCS operations permitted by the proposed secondary MSS allocation, and on any impacts that SCS operations may have on such in-band and adjacent band operations.

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[48] 47 CFR § 2.106(a), (d)(33)(i); *see also SCS Report and Order*, 39 FCC Rcd at 1634–35, para. 28.

[49] *SCS Report and Order*, 39 FCC Rcd at 2640, para. 44.

[50] *Single Network Future: Supplemental Coverage from Space, Space Innovation*, Notice of Proposed Rulemaking, GN Docket No. 23-65, IB Docket No. 22-271, 38 FCC Rcd 2790, 2805–07, paras. 34–36 (2023) (*SCS Notice*). Specifically, the Commission identified the following potential interference issues: 600 MHz—radio astronomy operations at 608–614 MHz; 700 MHz—federal fixed, mobile, space allocations, and extensive federal uses (1780–1850 MHz) and federal fixed, mobile, space operation, space research, and Earth exploration-satellite allocations and numerous federal uses, along with substantial commercial wireless operations (2025–2110 MHz). To minimize the potential for harmful interference, the Commission required geographical separation between SCS and terrestrial coverage, and limited SCS authorizations to geographically independent areas. *SCS Report and Order*, 36 FCC Rcd at 2646–47, paras. 54–56. In section 3, we propose to eliminate these geographical separation requirements and instead use other measures to minimize the potential for harmful interference.

[51] *Applications of T-Mobile USA, Inc. and Grain Management, LLC For Consent to Assign Licenses*, WT Docket No. 25-178, Memorandum Opinion and Order, DA 26-653 (WTB July 1, 2026) (*Grain-T-Mobile Order*).

[52] *Applications of Starlink Spectrum Holdings, LLC and NewLevel IV, L.P. for Consent to Transfer Control of Prism License Co. 1 LLC and Prism License Co 2 LLC*, ULS File No. 0012212612 (lead) (filed Oct. 9, 2026).

[53] 47 CFR §§ 90.617, 90.619.

22. *900 MHz Band*. We propose a secondary MSS allocation to permit SCS in the 900 MHz band (896–901 MHz (uplink) and 935–940 MHz (downlink)) and seek comment on this proposal. Anterix and Lynk Global have tested D2D under an experimental license,[54] and we seek comment on the benefits, capabilities, and challenges experienced in that D2D trial as we consider a proposed secondary MSS allocation for the provision of SCS in this band. The 900 MHz band is currently allocated for flexible, non-federal use on a co-primary basis for fixed and mobile (except aeronautical mobile) broadband services.[55] The 900 MHz band can be configured on a county basis in three ways: (1) ten megahertz of broadband consisting of two paired five-megahertz broadband channels (5/5 broadband license); (2) one six-megahertz broadband segment consisting of two paired three-megahertz channels and two narrowband segments with a total of 159 narrowband channels; and (3) a "legacy" configuration with 20 wideband channels interleaved with 200 narrowband channels.[56]

23. While our rules permit three configurations in the 900 MHz band, we assume that the 5/5 configuration is the most suitable for D2D. We seek comment on this assumption and the potential benefits and challenges of authorizing D2D in the band for the 5/5 configuration, the 3/3 configuration, or both. The Association of American Railroads (AAR) holds a nationwide ribbon license in the narrowband segments, at 896–896.125 MHz and 935–935.125 MHz, to support railroad safety systems surrounding railroad rights-of-way in the CONUS.[57] Would AAR's nationwide ribbon license present any challenges for coexistence with D2D, and if so, how should we address those challenges? Are there specific considerations relevant to ensuring compatibility with existing operations? The adjacent bands are allocated for narrowband Personal Communications Service (PCS) (901–902 MHz and 940–941 MHz), Commercial Air-Ground Radiotelephone Service (894–896 MHz downlink), and common carrier and private fixed point-to-point links (932.5–935 MHz). We seek comment on whether any in-band configurations and operators or adjacent band operations pose particular challenges for proposing a secondary MSS allocation to enable D2D in the 900 MHz band.

24. *1.4 GHz Band*. We propose a secondary MSS allocation in the 1.4 GHz band (1390–1395 MHz and 1432–1435 MHz) to permit SCS, and seek comment on this proposal. The 1.4 GHz band includes unpaired spectrum (1390–1392 MHz) and paired spectrum (A block, 1392–1393.5 MHz paired with 1432–1433.5 MHz, and B block, 1393.5–1395 MHz paired with 1433.5–1435 MHz).[58] This band is governed under the Commission's flexible use rules and is currently allocated on a primary basis for fixed or mobile (except aeronautical mobile) services.[59] Portions of the band fall within 1370–1400 MHz,

[54] FCC Experimental License System, File No. 0381-EX-CN-2026 (June 8, 2026) (granting experimental licenses for both the 896–901 MHz and 935–940 MHz segments of this band).

[55] 47 CFR §§ 2.106, 27.2(a); *Review of the Commission's Rules Governing the 896–901/935–940 MHz Band*, WT Docket No. 24-99, Report and Order, FCC 26-9, at 11, para. 25 (2026) (*5/5 900 MHz Order*). While the 900 MHz band is currently subject to a freeze on acceptance of new or expanded 900 MHz operations, in February 2026, the Commission delegated authority to and established a framework and timeframes for WTB to eventually move towards fully lifting the freeze. 5/5 *900 MHz Order*, at 36, para. 101.

[56] 900 MHz licensees in the 896–901/935–940 MHz band can also be used in a given county on a "legacy" configuration with 20 wideband channels interleaved with 200 narrowband channels or one six-megahertz broadband segment consisting of two paired three-megahertz channels and two narrowband segments with a total of 159 narrowband channels. 5/5 *900 MHz Order*, at 2–3, para. 3.

[57] *See* AAR, call sign WPSF894; *5/5 900 MHZ Order*, at 3, para. 5. The Commission adopted measures for railroad users to be moved to the 220 MHz band (conditioned on several factors) to support widespread deployment of 5/5 broadband in the 900 MHz band. 5*/5 900 MHz Order*, at 37–38, para. 106.

[58] 47 CFR § 2.106. *SCS Report and Order*, 39 FCC Rcd at 2639, para. 43.

[59] 47 CFR §§ 2.106, 27.802. WTB recently sought comment on authorizing 1.4 GHz spectrum, and other bands for which aeronautical mobile use are currently prohibited, for unmanned aircraft systems (UAS). *FCC Seeks Comment on Unleashing American Drone Dominance*, GN Docket No. 26-274, WT Docket Nos. 22-323, 24-629, Public Notice, DA 26-314 (Apr. 1, 2026).

which is allocated on a secondary basis among federal services to federal space research (passive) and earth exploration-satellite services (passive); 1350–1400 MHz, which is allocated on a secondary basis for federal radio astronomy; and 1350–1400 MHz, which is allocated to federal radio astronomy use on a secondary basis.[60] MidWave Wireless holds the one nationwide license within this band and is required to "use a significant portion of spectrum associated with each of its Licenses for the deployment of [Wireless Medical Telemetry Service (WMTS)] operations"[61] and to provide for WMTS use in at least 2,000 health care facilities nationwide. This band is adjacent to spectrum that is also used for WMTS and related medical services (1395–1400 MHz);[62] federal space-to-Earth use on a primary basis (1369.05–1390 MHz); the Federal Radiolocation Service (1350–1390 MHz); non-medical, industrial telemetry operations (1427–1432 MHz); safety-of-flight federal and non-federal aeronautical mobile telemetry operations (1435–1525 MHz); and low power auxiliary stations (1435–1525 MHz).[63] To protect federal operations, airborne and space-to-Earth operations are prohibited in the 1390–1400 MHz and 1427–1432 MHz portions of the band.[64] The Commission limits the predicted or measured field strength into the 1395–1400 MHz band from operations in the 1392–1395 MHz band.[65] For licenses in the 1432–1435 MHz band, coordination requirements apply prior to the operation of fixed sites within the specified radii of certain government sites[66] and unwanted emissions limits in the 1400–1427 MHz band are recommended.[67] How does the combination of these factors, which is unique to this band, interplay with our proposed D2D framework and impact the feasibility of using this band for D2D? We note that there is a prohibition on aeronautical and space-to-Earth operations in a portion of this band. Are there any rule changes we can and should consider to improve the feasibility of this band for D2D? Are there specific considerations relevant to ensuring compatibility with existing operations?

25. *1670–1675 MHz Band*. We propose a secondary MSS allocation in the 1670–1675 MHz band to permit SCS, and seek comment on this proposal. The 1670–1675 MHz band consists of five megahertz of unpaired spectrum that is allocated on a co-primary basis for non-federal, flexible use for fixed and mobile (except aeronautical mobile) services.[68] This band is licensed on a nationwide basis, and currently only Ligado is authorized to operate in the band.[69] This band is adjacent to bands allocated for federal use for radio astronomy service (1660–1670 MHz), space research service (1660.5–1668.4 MHz, passive), and meteorological aids service (1668.4–1670 MHz). We note that this band is being used as TDD and that there is a prohibition on aeronautical mobile operations. We seek comment on whether this band is suitable for D2D and whether there are any challenges for adopting a secondary MSS allocation in this band.

[60] 47 CFR § 2.106.

[61] *Terrestar Corporation Request for Temporary Waiver of Substantial Service Requirements for 1.4 GHz Licenses*, Order on Reconsideration, 35 FCC Rcd, 4354, 4370, para. 35 (WTB Apr. 30, 2020).

[62] 47 CFR § 2.106; *SCS Report and Order*, 39 FCC Rcd at 2639–40, para. 43 & n.123. The Commission established three WMTS bands in 2000, allocating 14 megahertz to WMTS on a primary basis: 608–614 MHz, 1395–1400 MHz, and 1427–1432 MHz. *See SCS Report and Order*, 39 FCC Rcd at 2639–40, para. 43 & n.123. The channels in 1427–1432 MHz are shared by WMTS and non-WMTS devices such as utility telemetry devices. *See id. See also* 47 CFR §§ 90.259(b), 95.2363(a)(3).

[63] 47 CFR § 2.106.

[64] *Id.* § 2.106(c)(79)(i).

[65] *Id.* § 27.804.

[66] *Id.* §§ 2.106(c)(83), 27.803(b)(4).

[67] *Id.* § 2.106(d)(338).

[68] *See id.* § 2.106.

[69] Crown Castle is the licensee, and a Ligado subsidiary is currently authorized to operate in this band under a long-term *de facto* transfer spectrum lease arrangement. *See* ULS File No. 011391012.

26. *AWS-1 Band*. We propose a secondary MSS allocation in the AWS-1 band (paired 1710–1755 MHz (uplink) and 2110–2155 MHz (downlink)) to enable SCS, and seek comment on this proposal. The AWS-1 band is allocated for non-federal, primary, flexible use for fixed and mobile service.[70] The AWS-1 band is used by AT&T, Verizon, and T-Mobile for mobile wireless, and also hosts some legacy federal operations at 1710–1755 MHz and 2110–2120 MHz on a co-primary basis. AWS-1 operators are required to protect certain federal operations and accept interference from federal operations at certain locations in these bands.[71] Except for the DoD facilities in Yuma, Arizona, and Cherry Point, North Carolina, all of the DoD facilities listed in section 27.1134(a), and all of the non-DoD facilities listed in section 27.1134(b) have relocated or ceased operating in the 1710–1755 MHz band.[72] AWS-1 licensees operating fixed stations in the 1710–1755 MHz band, if notified that such stations are causing interference to meteorological-satellite earth receivers operating in the Meteorological-Satellite Service in the 1675–1710 MHz band, are required to modify the stations' location and/or technical parameters as necessary to eliminate the interference.[73] Operators in the AWS-1 band must also locate and coordinate, as applicable, with existing licensees for the broadcast auxiliary service (BAS) or cable television radio service (CARS) in the adjacent 2025–2110 MHz band.[74] NASA is authorized to use the 2110–2120 MHz band on a primary basis for Space Research Service (Earth-to-space) (deep space).[75]

27. The adjacent AWS-3 band at 1755–1780 MHz has both federal and non-federal users and the Commission has adopted protection and coordination requirements to protect federal operations in the 1755–1780 MHz band.[76] Authorized uses in other adjacent bands include federal meteorological satellite (space-to-Earth, 1695–1710 MHz),[77] non-federal meteorological-satellite operations (1675–1710 MHz),[78] broadband radio service (BRS) (secondary, 2150–2162 MHz), fixed microwave (secondary, 2160–2180 MHz),[79] and federal Earth-exploration satellite service, space research service, and space operation

[70] *See* FCC Advanced Wireless Services, https://www.fcc.gov/wireless/bureau-divisions/broadband-division/advanced-wireless-services-aws; FCC, Advanced Wireless Services (AWS-1) Band Plan, https://www.fcc.gov/sites/default/files/wireless/services/aws/data/AWS1bandplan.pdf.

[71] 47 CFR §§ 2.106(c)(252), (c)(346), (c)(378), 27.1134(a)–(f) (outlining protection requirements and requirements to accept harmful interference from federal operations in the 1710–1755 MHz and 2110–2120 MHz bands). In the 1718.8–1722.2 MHz band, radio astronomy observations may be made on an unprotected basis. 47 CFR § 2.106(c)(385).

[72] *See* National Telecommunications and Information Administration (NTIA), Commercial Spectrum Enhancement Act—Annual Progress Report for 2024 at 1 (2025), ntia.gov/sites/default/files/2025-12/2024-csea-report.pdf.

[73] 47 CFR § 27.1135. *See also* 47 CFR § 27.1134(c)(6) (similar provision for AWS licensees operating fixed stations in 1710–1755 MHz if notified that such stations are causing interference to radiosonde receivers operating in the Meteorological Aids Service in the 1675–1700 MHz band or a meteorological-satellite earth receiver operating in the Meteorological-Satellite Service in the 1675–1710 MHz band). 47 CFR § 27.1135.

[74] 47 CFR §§ 27.1133, 2.106(c)(91)(ii), (c)(92), (c)(94). Non-federal Earth-to-space and space-to-space transmissions may be authorized on a secondary basis in the bands allocated to Space Research Service and Earth-exploration-satellite service (2025–2110 MHz) subject to coordination requirements, requirements to protect federal and non-federal stations in this band, and conditions as may be applied on a case-by-case basis. 47 CFR § 2.106(c)(94), (c)(347).

[75] 47 CFR § 2.106(c)(252).

[76] 47 CFR §§ 2.106(e)(42), 27.1134(f). The federal fixed and tactical radio system is authorized either on a primary or secondary basis depending on location. 47 CFR § 2.106(c)(378). Non-federal base stations in the 1755–1780 MHz band must accept harmful interference caused by the operation of federal earth stations in this band. 47 CFR § 2.106(c)(91).

[77] *Id.* § 2.106.

[78] *Id.* §§ 2.106, 27.1135.

[79] *Id.* § 2.106(d)(41).

service (Earth-to-space, space-to-space, 2025–2110 MHz).[80] The Commission's rules include protection requirements for the other adjacent AWS-3 bands including federal operations (1675–1710 MHz),[81] non-federal government meteorological-satellite operations (1675–1710 MHz, requires coordination with NTIA),[82] and mobile satellite services (2000–2020 MHz and 2180–2200 MHz).[83] We seek comment on whether there are unique challenges associated with adopting a secondary MSS allocation for SCS in the AWS-1 band.

28. *AWS-3 Band*. We propose a secondary MSS allocation in the AWS-3 band (1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz) to permit SCS and seek comment on this proposal. SpaceX is authorized to provide SCS in the unpaired AWS-3 band,[84] and we seek comment on the effect this should have on our consideration of this proposed secondary MSS allocation for SCS operations. The AWS-3 band is authorized for flexible use for the following federal and non-federal services: fixed/mobile operations and various federal and non-federal radio system, satellite, and training system use (unpaired 1695–1710 MHz (uplink) and paired 1755–1780 MHz (uplink)); and fixed mobile/operations (paired 2155–2180 MHz (downlink)).[85] Today, paired AWS-3 spectrum is primarily held by AT&T, Verizon, and T-Mobile for mobile wireless service. The FCC auction of additional AWS-3 licenses through Auction 113 concluded on June 23, 2026.[86] Commercial operators of spectrum in the 1695–1710 MHz and 1755–1780 MHz bands are subject to coordination and protection requirements with incumbent federal operators prior to operating in designated protection zones.[87] The Commission has also adopted requirements for AWS-3 licensees to protect adjacent band users: 1675–1710 MHz (Meteorological-Satellite Service, federal and non-federal) and 1710–1755 MHz (federal operations).[88] The adjacent bands, 1780–1850 MHz and 1780–1842 MHz, are authorized for federal fixed microwave

[80] *Id.* § 2.106(a).

[81] 47 CFR § 27.1134(c), (f); 47 CFR § 2.106(c)(91) (outlining the coordination requirements for non-federal use of the 1755–1780 MHz band by base stations that enable AWS mobile and portable stations).

[82] *Id.* § 27.1135.

[83] *Id.* § 27.1136. The AWS-3 section of this Notice fully describes the coordination, protection and other requirements in the AWS-3 band.

[84] *See SpaceX D2D Authorization*.

[85] *See* 47 CFR § 2.106; *Amendment of the Commission's Rules with Regard to Commercial Operations in the 1695–1710 MHz, 1755–1780 MHz and 2155–2180 MHz* Bands, GN Docket No. 13-185, Report and Order, 29 FCC Rcd 4610, 4619–21, 4630–31, paras. 19, 41, 43–44 (2014). SpaceX will hold nearly all unpaired AWS-3 spectrum after the consummation of the second step of the recently approved SpaceX-EchoStar transaction. *See generally Applications of Spectrum Business Trust 2025-1, Space Exploration Technologies Corp., and EchoStar Corporation for Consent to Assign Spectrum and Earth Station Licenses*, GN Docket No. 25-302, Memorandum Opinion and Order, DA 26-471, (WTB/SB May 12, 2026) (*SpaceX-EchoStar Order*).

[86] FCC, Press Release, *FCC Announces Close of Successful Wireless Auction: Spectrum Demand is Strong as Proceeds Exceed Expectations* (June 23, 2026), https://docs.fcc.gov/public/attachments/DOC-422512A1.pdf.

[87] 47 CFR §§ 2.106(c)(88), (c)(91), 27.1134(c), (f). *See also Auction of Advanced Wireless Services (AWS-3) Licenses Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction* 113, DA 25-1075, AU Docket No. 25-117, paras. 12, 13, 89 (explaining that the 1695–1710 MHz band includes federal meteorological-satellite data users, the 1755–1780 MHz band includes some federal incumbents authorized indefinitely and others that have or will relocate out of the band) (OEA Dec. 18, 2025). AWS-3 licenses in the 1755–1780 MHz band must also agree to accept interference from incumbent federal users authorized to operate in that band. *The Federal Communications Commission and the National Telecommunications and Information Administration: Coordination Procedures in the 1695–1710 MHz and 1755–1780 MHz Bands,* DA 14-1023 (FCC/NTIA 2014); NTIA, *AWS-3 Coordination Procedures* (Oct. 1, 2025), https://www.ntia.gov/other-publication/2025/aws-3-coordination-procedures.

[88] 47 CFR §§ 27.1134(a)–(c).

service mobile service, and space operations, respectively.[89] We seek comment on whether the AWS-3 band is suitable for a secondary MSS allocation to support D2D.

29. *2.5 GHz Band*. We seek comment on whether to add a secondary MSS allocation in the 2500–2690 MHz portion of the 2.5 GHz band.[90] The 2.5 GHz band consists of unpaired spectrum that is assigned to two services—the Broadband Radio Service (BRS) and the Educational Broadband Service (EBS).[91] Both services currently have open eligibility,[92] geographic area licensing,[93] and flexible technical rules under part 27 of our rules. BRS has a two-tiered licensing structure—incumbent licenses with a circular geographic service area (GSA) with 35-mile radii, and overlay licenses issued on a Rand McNally Basic Trading Area (BTA) basis.[94] EBS has a three-tiered licensing structure: 35-mile radius GSA incumbent licenses, with the first overlay consisting of Rural Tribal Priority Window licenses issued over eligible Tribal land, and the second overlay consisting of county-based licenses auctioned in 2022.[95] Under the rules, if an incumbent license is cancelled or terminated, the rights to operate in that GSA on the frequencies automatically reverts to the overlay BTA, Tribal, or county license.[96] Currently, T-Mobile holds long-term *de facto* leases and licenses for most of the 2.5 GHz spectrum, which is used in a TDD mode.[97] Other authorized uses in the 2.5 GHz band include: federal and non-federal MSS (space-to-Earth) and radiodetermination satellite (space-to-Earth) (2495–2500 MHz); industrial, scientific and medical applications (2400–2500 MHz); federal and non-federal mobile and radiodetermination satellite (space-to-Earth) and federal radiolocation service (2483.5–2500 MHz); fixed and mobile use (except aeronautical mobile) (2500–2655 MHz); fixed mobile aeronautical with secondary federal and non-federal operations for Earth exploration-satellite (passive); fixed and mobile use (except aeronautical

[89] *See id.* § 2.106.

[90] The 2.5 GHz band runs from 2496–2690 MHz, but there is already a co-primary MSS allocation in the 2496–2500 MHz portion of the band, so we do not propose to change the allocation for that spectrum. 47 CFR § 2.106.

[91] *See* 47 CFR § 2.106; *Transforming the 2.5 GHz Band*, WT Docket No. 18-120, Report and Order, 34 FCC Rcd 5446, 5450, paras. 13–14 (2019) (*2.5 GHz Order*). Broadband Radio Service (BRS) licenses in the 2.5 GHz band are adjacent, not co-channel, to 2.5 GHz licenses for Channels 1 and 2, and those BRS licenses that cover frequencies that separate two pairs of Channel 3 are not co-channel with those operations. *SCS Notice*, 38 FCC Rcd at 2843, para. 143 & n.291; FCC, *2.5 GHz Band Plan*, https://www.fcc.gov/25-ghz-band-plan (last visited Oct. 6, 2026). Certain spectrum in the 2.5 GHz band was awarded to Tribal licensees, and can be put to use by other licensees if the Tribal licensees do not meet their build out requirements. Approximately half of the Tribal licensees are subject to final build out deadlines in October 2026. *See, e.g., Guidance to 2.5 GHz Rural Tribal Window Licensees on Demonstrating Compliance With Final Performance Requirements*, Public Notice, DA 26-394 (WTB Apr. 22, 2026).

[92] 47 CFR § 27.12. During the EBS Rural Tribal Priority Window, only federally recognized American Indian Tribes or Alaska Native Village; or entities owned and controlled by a federally recognized Tribe or a consortium of federally recognized Tribes, could apply for a license. *See* 47 CFR § 27.1204(b)(1). Such licenses may be assigned only after the licensee meets its performance requirements. *See Transforming the 2.5 GHz Band*, WT Docket No. 18-120, Report and Order, 34 FCC Rcd 5446, 5468–69, para. 64 (2019).

[93] *See* 47 CFR § 27.1208.

[94] *See id.* § 27.1207(a).

[95] *See id.* § 27.1207(b); Auction 108 web page at https://www.fcc.gov/auction/108.

[96] 47 CFR § 27.1206.

[97] *See, e.g.*, *SCS Notice*, 38 FCC Rcd at 2843, para. 143 (explaining that many EBS licensees lease their spectrum rights to T-Mobile, and T-Mobile may hold most licenses for a given co-channel block in some GIAs); Richard Marsden, NERA, An Opportunity for Schools Across the United States: Unlocking the Real Value of Their EBS Licenses at 2.5 GHz (Mar. 16, 2026), https://www.nera.com/insights/publications/2026/an-opportunity-for-schools-across-the-united-states--unlocking-t.html?lang=en (stating T-Mobile is by far the biggest lessee of the EBS spectrum licenses).

mobile) with secondary federal and non-federal use for earth exploration-satellite service (passive), radio astronomy, and space research (passive) (2650–2690 MHz).[98] Protection and coordination requirements apply to mobile-satellite and radiodetermination satellite services in the 2483.5–2500 MHz band.[99] The adjacent bands are authorized for federal and non-federal MSS (space-to-Earth) and radiodetermination satellite (space-to-Earth) (2483.5–2495 MHz) and earth exploration (passive), radio astronomy, and space research (passive) (2690–2700 MHz).[100] The Commission has previously acknowledged the wide range of uses in the 2.5 GHz band.[101] Stakeholders also have asserted that the multi-tier overlay licensing structure, limited radius of existing licenses, irregular geographic shapes, and use of the band in a TDD mode present unique challenges for allocating this spectrum for D2D.[102] The Commission declined to authorize the 2.5 GHz band for SCS in 2024 because of the number of users and licensing complexities, instead focusing on authorizing SCS in less complex bands.[103] As discussed above, we acknowledge that there are unique technical challenges with introducing D2D operations in this band, including because the band is used in a TDD configuration, and we seek comment on these challenges and whether it is possible to resolve them. We also note the secondary allocation for radioastronomy in a portion of the band and the primary allocation for radioastronomy adjacent to the band, and we seek comment on whether the provision of SCS in the 2.5 GHz band would introduce particular challenges for coexistence with radio astronomy services.

30. *3.45 GHz Band.* We seek comment on whether to add a secondary MSS allocation in the 3.45 GHz band (3450–3550 MHz). We note that CTIA raises concerns about the inclusion of this band in the SCS framework because the band is deployed terrestrially to support wireless network operations in a TDD mode.[104] The 3.45 GHz band consists of unpaired spectrum that is authorized for non-federal fixed and mobile service (except aeronautical mobile) on a nationwide basis, federal radiolocation on a primary basis, and citizens broadband.[105] Certain federal operations in the 3.45 GHz band must be protected by non-federal operations, and coordination requirements between federal and non-federal users apply in some geographic areas.[106] The adjacent bands are authorized for federal radiolocation service (3300–3450 MHz), the amateur radio service (secondary, 3300–3450 MHz), non-federal fixed and mobile service

[98] *See* 47 CFR § 2.106(a), (b)(150). Radio communication service operating in the 2400–2500 MHz band must accept harmful interference caused by industrial, scientific and medical applications in this band. *Id.*

[99] *See id.* § 2.106(b)(150), (b)(402). Federal MSS stations shall be limited to earth stations operating with non-federal space stations. *See id.* § 2.106(c)(319). Broadcast-satellite service in the bands between 2500 MHz and 2609 MHz are urged to take all necessary steps to protect the radio astronomy service in the adjacent 2690–2700 MHz band, and this band is also protected from unwanted emissions meeting specific criteria. *Id.* § 2.106(b)(413), (c)(74).

[100] *Id.* § 2.106.

[101] *2.5 GHz Order*, 34 FCC Rcd at 5449, 5473, paras. 10, 77.

[102] *See* T-Mobile Oct., 21, 2026 *Ex Parte* at 1–2 (arguing against inclusion of the 2.5 GHz band in the SCS framework, and noting that the band "has several distinct features, including two different radio services with different licensing structures, several incumbent licensees with 35-mile radius geographic service areas (many of which consist of irregular shapes), and a three-tiered overlay structure where spectrum rights can automatically revert to a different licensee if a pre-existing license is cancelled or terminated[,]" and that the band is deployed terrestrially in a TDD scheme, which T-Mobile argues poses problems for satellite operations in the band.); *see also* CTIA Oct. 22, 2026 10-Page *Ex Parte* at 2–3.

[103] In the SCS proceeding, the Commission previously considered, and TechFreedom advocated for, authorizing 2.5 GHz spectrum for SCS. *SCS Report and Order*, 39 FCC Rcd at 2641–42, para. 45.

[104] *See* CTIA Oct. 22 10-Page *Ex Parte* at 2 (arguing against inclusion of the 3.45 GHz band in the SCS framework given use of TDD in the band).

[105] 47 CFR § 2.106(c)(431).

[106] *Id.* § 2.106(c)(431).

(except aeronautical mobile), citizens broadband radio service (3550–3700) and federal radiolocation service (primary at three sites, 3550–3600 MHz).[107] Today, AT&T is the primary holder of 3.45 GHz licenses.[108] We seek comment on how the in-band federal protection and coordination mechanisms, use of the band in a TDD mode, and the adjacent band operations present unique challenges for D2D in this band.

c. Other Bands

31. *AWS-4/2 GHz MSS Band.* We propose to make no change to the allocation for the AWS-4/2 GHz MSS band because 2 GHz MSS can already support D2D. SpaceX is authorized to use the 2000–2020 MHz for MSS downlink in certain geographic areas,[109] and we seek comment on the impact of this on our proposal for no action on this band. The AWS-4/2 GHz band is located at 2000–2020 MHz (uplink) and 2180–2200 MHz (downlink) and is allocated for co-primary flexible fixed and mobile operations and MSS.[110] AWS-4 licensees in these bands must protect 2 GHz MSS operations from harmful interference and must accept any interference from duly authorized MSS operations in these bands.[111] AWS-4 licensees in the 2180–2200 MHz band are subject to default emission limits to protect Federal operations in 2200–2290 MHz, unless they reach agreement with the Federal entities.[112] We seek comment on whether this proposal for no action on the AWS-4/2 GHz MSS band is the appropriate path and any potential alternatives we might consider. For example, we seek comment on whether changes to the Table of Frequency Allocations or other rules regarding the AWS-4/2 GHz MSS service are necessary to bring the waivers SpaceX obtained in this band into conformance with our rules.

32. *1675–1695 MHz and 2020–2025 MHz Bands*. In a companion *1675 MHz and 2020 MHz Auction FNPRM* today, we consider proposed rules to make spectrum available for new terrestrial wireless operations in the 1675–1695 MHz and 2020–2025 MHz bands.[113] We seek comment in the companion item on whether it would be appropriate to apply the amended SCS rules proposed here to the 1675–1695 MHz and 2020–2025 MHz bands. Any particular support or potential concerns regarding SCS in these two spectrum bands should be addressed in the companion rulemaking proceeding.

3. Service Rules

33. We propose to amend the SCS rules, modernizing the existing framework to provide new opportunities for innovation. In the *SCS Report and Order*, the Commission acknowledged that it took a "hybrid approach of adopting rule changes . . . while continuing to actively monitor the nascent SCS marketplace to consider modifications and to address proposals that do not fit neatly within our framework by waiver."[114] Informed by our experience with SCS deployments and waivers since the introduction of the SCS framework, we now propose to increase flexibility in the framework, reducing regulatory burdens and promoting innovation in wireless and space connectivity. We propose amended eligibility criteria for SCS licenses that maximize flexible spectrum use, including potentially novel combinations of terrestrial and satellite services. To this end, we propose to replace the rigid SCS GIA

[107] *Id.* § 2.106. Stations in the amateur radio service may be required to cease operations if they cause harmful interference to flexible-use authorizations. *Id.* § 2.106(c)(103).

[108] *See AT&T-UScellular Order*, para. 35 (discussing AT&T's 3.45 GHz spectrum holdings after the AT&T UScellular).

[109] *See SpaceX D2D Authorization*, condition 1 and paras. 5–7.

[110] *See* 47 CFR § 2.106.

[111] *Id.* § 27.1136.

[112] *See id.* § 27.1134(e).

[113] *See 1675 MHz and 2020 MHz Auction FNPRM*.

[114] *See SCS Report and Order*, 39 FCC Rcd at 2632, para. 22.

and lease requirements with adaptable geographic license areas and coexistence agreement requirements that accommodate SCS operators' particular circumstances. We seek, with these changes, to adopt rules that are realistic and implementable for regulated industry and avoid the need for routine waivers. To promote regulatory certainty and consistency, we further propose transitioning current SCS authorizations to the modernized SCS framework. We seek comment on these proposals and alternatives, as well as associated costs and benefits, in more detail below.

34. We seek to establish eligibility criteria for SCS licenses that maximize operational flexibility, foster the growth of D2D services, and facilitate the rapid deployment of such services. Accordingly, we propose a new SCS eligibility framework requiring: (1) demarcation of the geographic area to be served; (2) certification of a coexistence agreement or agreements between the SCS satellite operator and primary terrestrial licensee(s) of the relevant spectrum in the demarcated geographic area to be served or a certification that circumstances exist to make an SCS coexistence agreement unnecessary; and (3) identification of the spectrum band(s) to be used for SCS operations in a part 100 license application. As we consider eligibility for participation in the SCS framework, we seek comment on whether we should consider any requirements to ensure that the benefits of the SCS framework accrue only to entities that have used spectrum efficiently to provide robust service to consumers.

35. *Geographic License Area.* We propose to eliminate the GIA requirement and to require that prospective SCS operators demarcate the geographic area intended to be served in their SCS applications. We believe this approach will minimize regulatory burdens, allow SCS licensees flexibility in D2D service deployments, enable consistent application of potential D2D performance requirements, and thereby promote widespread D2D service across the United States. Accordingly, we propose that prospective applicants that otherwise satisfy our service and technical rules would be eligible for an SCS license by demarcating any geographic area that is (1) within the geographic area of the jurisdiction of the United States and (2) covered by the applicable SCS coexistence agreement(s). We seek comment on the pros and cons of the proposal to allow SCS operators to demarcate the geographic areas they intend to serve.

36. We propose that a prospective SCS operator does not need to demarcate a contiguous geographic license area and does not need to align its SCS geographic license area with a terrestrial licensee's geographic area boundaries. We propose to issue a single SCS license to each applicant in a given spectrum band, covering the entire geographic area the prospective SCS licensee intends to serve in that band, rather than issuing multiple licenses that conform to terrestrial license areas. We further propose that after grant, the SCS licensee can apply to modify its license to expand the licensed geographic area within the jurisdiction of the United States, as long as the SCS licensee has entered into the applicable coexistence agreements. We anticipate that this flexibility in choosing the geographic area to be served will make D2D agreements more appealing for terrestrial licensees that do not hold all co-channel licenses throughout a band, as well as for satellite operators capable of providing D2D service to a targeted area. We seek comment on this approach and on any alternative approaches. We request that where commenters suggest alternative approaches to defining the SCS geographic license area, commenters specify how the area should be defined and explain the basis for proposed alternatives as well as associated benefits and costs.

37. In addition, we seek comment on how to address the potential use of terrestrial licenses in the FCC's inventory as part of an SCS geographic license area.[115] In this *Notice*, we seek to expand the amount of spectrum available for SCS consistent with market-based principles and we note that routinely granting access to inventory spectrum is not consistent with those goals. Nor do we wish to encumber inventory spectrum in a way that would constrain our flexibility in future inventory auctions. We

[115] The Bureaus have granted narrow waivers in two SCS authorizations permitting SCS operations in areas where terrestrial licenses are in the FCC's inventory. *See Lynk-Docomo SCS Authorization*; *AST-Verizon-AT&T-FirstNet SCS Authorization*.

recognize, however, that limited, secondary SCS access to inventory spectrum could benefit consumers by increasing coverage to rural areas or areas that are difficult for terrestrial licensees to serve. We seek comment on whether to adopt rules to standardize the inclusion of limited geographic areas where terrestrial licenses are in the FCC's inventory in SCS license areas or whether to continue to consider any future requests to access inventory spectrum through a waiver-based process.[116] To the extent we permit SCS operations on inventory spectrum on a case by case basis or under the rules, we seek comment on the factors to consider and appropriate guardrails around such use. For example, should we permit access only where the prospective SCS operator has coexistence agreements covering all license areas surrounding the sought-after geographic area that is in the Commission's inventory? Beyond filling in holes in SCS coverage, are there other circumstances in which we should consider allowing access to inventory spectrum? In the event we permit SCS licensee to operate on inventory spectrum, we propose to require an SCS operator to immediately cease operating in any areas later assigned to a terrestrial licensee unless and until it reaches a coexistence agreement with the primary licensee(s).

38. We also seek comment on how prospective SCS operators should demarcate the geographic license area in their applications. We propose to require a map to be uploaded with the SCS application. To demarcate the SCS geographic license area, should we require applicants to submit a shapefile or KML file to display the planned D2D deployment in spatial coordinates (e.g., latitude and longitude); if so, are there other data fields in such a map that should be noted? We seek comment on the best procedure to implement our proposal that applicants demarcate the SCS geographic license area and the associated costs and benefits.

39. In Section III.B of this *Notice*, we propose to establish D2D performance requirements, seek comment on the applicability of such requirements, and seek comment on specific performance metrics. In the event that we adopt performance requirements, we propose to evaluate whether metrics have been met, and to enforce penalties, with respect to the SCS geographic license area as a whole. We believe that this approach will allow for the D2D performance requirements to be predictably applied and enforced. We also believe that evaluating progress toward meeting performance requirements with respect to the entire SCS geographic license area will incentivize widespread, robust coverage across the license area. We seek comment on this approach, and whether the D2D performance requirements should be evaluated on a different basis. Should the D2D performance requirements instead be based on the size of the geographic area covered by each terrestrial license within an SCS geographic license area?

40. We recognize that the SCS licensee may seek to modify its coverage area over time. Accordingly, we propose that a licensee would be eligible to seek modification of its SCS license to expand its SCS geographic license area if the SCS licensee has entered into applicable coexistence agreements. We further propose that such an expansion would not affect potential performance requirement deadlines; if D2D performance requirements are adopted, SCS licensees would be required to meet the D2D performance requirements by the deadlines set upon initial grant of the license, even in the expanded area. We believe this approach is appropriate, and not unduly burdensome, because geographic coverage of satellites is readily adjustable. We seek comment on this proposal, the procedures by which an SCS licensee would expand its geographic license area, and our belief that it is appropriate to measure the D2D performance against the expanded license area in the event an SCS license is modified. Are there circumstances where the public interest would benefit from instead granting an existing SCS

[116] We note that in establishing the GIA requirement in the *SCS Report and Order*, the Commission stated that the GIA requirement would not be met in circumstances in which a significant portion of the GIA's geography remains in the Commission's inventory. *SCS Report and Order*, 39 FCC Rcd at 2646, para. 55. The Commission stated that in scenarios in which only a small portion of a GIA is not licensed, it would assess the facts of a particular SCS application on a case-by-case basis to determine whether application covers the "functional equivalent" of the entire GIA. *Id.* at 2646, para. 55, n. 175. If so, the Commission stated that it will consider the GIA requirement to be satisfied but would require the parties to demonstrate how they will ensure terrestrial devices connecting to the SCS network only operate within the boundaries of the licensed areas of the GIA. *Id.*

licensee a second SCS license for the same spectrum in a different geographic area, with its own performance requirements? We also seek comment on whether to allow an SCS licensee to reduce its license area after initial grant, the implications this would have on meeting performance milestones, and how to prevent gaming of the rules if such reductions in SCS geographic license area are permitted. For example, if we permit reductions in license area after initial grant, what rules or requirements can be established to prevent an SCS licensee from reducing its license area in order to meet a performance milestone? We seek comment on how a modified SCS geographic license area should be demarcated and filed with the Commission and we urge commenters to identify any alternatives that they believe are appropriate.

41. During a terrestrial network outage, D2D service can be particularly beneficial to consumers.[117] We seek comment regarding how to enable temporary authority for SCS licensees to serve areas outside of their SCS geographic license area, including following natural disasters and other emergencies. Should SCS licensees be permitted to temporarily expand or adjust their coverage areas to provide emergency service? Should the Commission grant SCS licensees Special Temporary Authority (STA) under these circumstances? How could the authorization process be streamlined while ensuring temporary service during emergencies does not present interference concerns? We seek comment on the process and conditions under which we could authorize a temporary expansion of the SCS geographic license area. What circumstances should trigger potential emergency SCS operating authority? Should SCS licensees be required to proactively file a request to provide temporary service in anticipation of weather or other events that may result in terrestrial network outages? What are the criteria that should dictate whether an SCS licensee qualifies for temporary expansion? We seek comment on authorizing service outside of the SCS license area on a temporary or emergency basis, including the associated costs and benefits, as well as the requirements, limits, and conditions that should be imposed if we adopt such a process.

42. We propose that the SCS geographic license area would replace the GIA requirement. Recognizing that the GIA requirement was intended to provide protection to adjacent terrestrial services, we also seek comment on new and revised technical rules, below, to address concerns of harmful interference. In particular, the proposed technical rules aim to address geographically adjacent, co-channel harmful interference that the GIA requirement was initially established to prevent. Are there terrestrial or satellite licensees for which the GIA requirement was a significant barrier to commercial activity? Are there any additional concerns that the GIA requirement addressed that cannot be resolved through the proposed technical rules? We also recognize that integration of SCS for bands operating in a TDD configuration may pose technical challenges, as discussed above, including coexistence with geographically adjacent licensees. We seek comment on potential adjustments to the framework in these circumstances to facilitate SCS. For example, should we consider requiring sufficient geographic or spectral contiguity, or should we permit licensees in TDD bands to demarcate smaller license areas? We seek comment on these questions and any unforeseen implications that could result from eliminating the SCS GIA requirement.

43. *Coexistence Agreement Certification*. We tentatively conclude that the SCS lease requirement is unnecessarily restrictive and that the goals underlying the SCS lease arrangement can be met for the SCS framework through coexistence agreements and proposed technical requirements, and seek comment on these tentative conclusions. In the *SCS Report and Order*, the Commission recognized that leases provide regulatory certainty, serve as a protection mechanism for licensee's exclusive use rights, and have the added value of providing transparency and public notice because they are viewable by the general public.[118] The Commission concluded in the *SCS Report and Order* that "the clear rights

[117] *See e.g.*, Letter from Ira Keltz, Acting Chief, Office of Engineering and Technology, and Kerry Murray, Deputy Bureau Chief and Chief of Staff, Space Bureau, to Space Exploration Technologies Corp., 40 FCC Rcd 321 (Jan. 10, 2025) (authorizing SpaceX to provide emergency relief via SCS in response to Southern California wildfires).

[118] *SCS Report and Order*, 39 FCC Rcd at 2653–54, 2668–69 paras. 72–73, 112.

and responsibilities" established through the leasing process outweighed "any purported additional flexibility of alternatives." However, this finding specifically acknowledged that this decision was "necessary *at this early stage of SCS development*."[119] Now, with the benefit of a maturing SCS market, and with the goal of ensuring more flexible rules for future SCS development, we propose that a single certification, and accompanying technical rules, would be sufficient to ensure that consent was obtained and effective coexistence measures are in place under the modernized SCS framework. In other words, we believe it is not necessary for the Commission to prescribe the exact format of the consent-based arrangement between a satellite operator and terrestrial wireless licensees. Accordingly, we propose that to obtain an SCS license, a satellite applicant must certify either that (1) it has a coexistence agreement with the relevant terrestrial licensee(s) covering the full geographic area the applicant seeks to serve; or (2) it holds the terrestrial license(s). We seek comment on this tentative conclusion and our related proposals for consent-based arrangements. If a coexistence agreement is terminated, we propose that the SCS licensee must cease operations in the portion of the SCS geographic license area at issue, and file a modification of its license accordingly, and we seek comment on this proposal. We also seek comment on how such a modification would affect the evaluation of performance against potential performance milestones. We seek comment on the certification requirement and on any alternatives. We emphasize that in proposing to relax the SCS lease requirement in favor of a coexistence agreement certification, our intent is to enable additional flexibility—including the continued ability to enter into SCS lease arrangements if preferred—while ensuring that terrestrial licensees retain control and the authority to consent to any SCS operations in spectrum licensed to them.[120] Nothing in our proposal to replace the lease requirement with the proposed certification requirement is intended to undermine a primary terrestrial wireless licensee's exclusive rights.[121] We seek comment on how leasing arrangements have worked under the existing SCS framework and on attendant benefits or costs that might result from the proposed changes and any alternatives.

44. We propose to require only a certification and that the exact terms of any coexistence agreement need not be reported to the Commission. We note that a coexistence agreement could be memorialized in the form of a lease, contract, or in some other written arrangement that demonstrates the terrestrial licensee's assent for the satellite operator to use the spectrum in question. We seek comment on this approach. Should any detailed information be provided to the Commission about a coexistence agreement, or is our proposal that an SCS applicant certify that it has a coexistence agreement sufficiently reliable to determine consent of the terrestrial licensee?[122] If details should be provided to the Commission, what is the appropriate form and manner for this information to be provided? For example, could this information be provided in a shape file accompanying the SCS license application? Commenters should explain what information they believe should be reported and the benefit of such information. We propose that the SCS applicant make its certification in its SCS application filed in ICFS. We seek comment on this approach to filing the information. Additionally, we further propose that a terrestrial licensee's participation in one SCS coexistence agreement need not necessarily prevent participation in another under the Commission's rules, though parties may privately bargain for such exclusivity. We seek comment on this proposal. Are there reasons to limit terrestrial licensees' ability to participate in multiple SCS coexistence agreements, for example, within a given band and geographic area? Are there benefits that could result from multiple coexistence agreements, such as increased competition, better services for consumers, or more resilient service offerings? While we intend to

[119] *Id.* at 2654, para. 73 (emphasis added).

[120] *See* CTIA Oct. 22 10-Page *Ex Parte* at 5 (arguing that the Commission should "preserve the consent-based foundation of SCS and seek comment on what protections are needed to ensure that terrestrial licensees retain meaningful consent, control, termination rights, and access to the Commission's enforcement remedies").

[121] CTIA Oct. 22 10-Page *Ex Parte* at 4–5.

[122] We emphasize that the Commission's rules prohibit material misstatements or omissions of fact by "[a]ny applicant for any Commission authorization." 47 CFR § 1.17(b)(1).

maximize the parties' flexibility to reach mutually agreeable arrangements, we anticipate that the SCS operators would be subject to, and must account for, any performance requirements proposed *infra*, to the extent such requirements are adopted.[123] We propose that SCS operators and terrestrial licensees maintain the ability to terminate coexistence agreement(s) in accordance with the terms of their coexistence agreement(s). Would allowing a terrestrial licensee or satellite operator to terminate their coexistence agreement(s) pose challenges? Would restricting terminability of the coexistence agreement interfere with parties' ability to make reasonable business decisions for their operations? Does allowing D2D operators, or terrestrial licensee partners, to cancel or amend their coexistence agreements at any time expose the D2D framework to potential gaming of the rules?

45. We recognize that in some cases, the satellite operator itself may not hold the relevant terrestrial license(s), but that the satellite operator and terrestrial licensee may be under common control. We seek comment on whether to allow, in these instances, an SCS applicant to certify that it holds the relevant terrestrial licenses rather than certifying that it has a coexistence agreement. We seek comment on how to define common control in this context. For example, real party-in-interest could be used to define common control.[124] We seek comment on this approach to defining common control and on any alternatives. We also seek comment on whether any details should be reported to the Commission where a coexistence agreement is not required, and if so, what information should be reported.

46. We seek comment generally on our proposed coexistence agreement requirement. How can the need for regulatory certainty be balanced with the need for flexibility in making business decisions? What role, if any, should the Commission play in validating the terrestrial licensee's consent? Could service requirements be evaded and/or minimized by manipulating the terms of the coexistence agreement as potential D2D performance milestones approach? For example, how can we address the potential transfer of primary terrestrial licenses to a new party, which could reduce the SCS licensee's geographic license area and thus change the service area for purposes of measuring performance? Similarly, how should we address circumstances in which the primary terrestrial licenses that are subject to a coexistence agreement are terminated and return to the Commission's inventory? Should we consider allowing—either under the rules or through a waiver-based approach—the SCS licensee to continue its operations in the area that is no longer licensed, to promote continuity of these potentially life-saving services? In the event we permit SCS licensees to operate on inventory spectrum, we propose to require an SCS operator to immediately cease operating in any areas later assigned to a terrestrial licensee unless and until it reaches a coexistence agreement with the primary licensee(s).

47. We believe that coexistence agreements are best left to private parties to negotiate, amend, and enforce as necessary without Commission intervention, and we seek comment on this approach. We also seek comment on any potential unintended effects of allowing an SCS application to be filed without a formal spectrum management lease in place. Recognizing that the SCS framework itself does not specifically require the underlying lease to be reviewed and approved by the Commission, are there any protections afforded by the lease requirement under the existing SCS rules that may be lost in the updated SCS framework? Would coexistence agreements reduce burdens associated with facilitating SCS, or could they create more administrative burdens than our current approach favoring lease arrangements? We seek comment on these questions and on any other related issues.

48. Given the secondary nature of proposed SCS licenses, we note that our proposal would not prohibit two or more eligible applicants from obtaining overlapping SCS licenses for the same geographic area and same spectrum where both have requisite coexistence agreements with relevant primary terrestrial licensees. However, we understand that multiple satellite systems cannot currently

[123] *See infra* Section III.B. D2D Performance Requirements, Discontinuance, and License Renewal.

[124] FCC Form 603 defines "real party-in-interest" as an entity that "has an ownership interest, or will be in a position to actually or potentially control the operation of the station." *See also Astroline Communications Co. Ltd. v. FCC*, 857 F.2d 1556, 1564 (D.C. Cir. 1988).

serve the same geographic area at the same time on the same spectrum due to interference challenges.[125] If the parties do not negotiate for spectral or geographic exclusivity, and multiple SCS licensees are authorized to operate D2D systems using the same spectrum in overlapping geographic areas, we propose that the relevant parties be free to conduct operations through alternative coordination and private business arrangements. We seek comment on our assumptions that multiple satellite systems cannot effectively serve the same geographic area at the same time on the same spectrum, and that the market will effectively address technical challenges. Would coordination among SCS licensees differ from coordination between SCS and terrestrial licensees? Would performance requirements proposed *infra* serve as a check against technically infeasible business arrangements? We seek comment on our approach to defining service areas for SCS licenses, including the associated challenges and opportunities presented by our proposal.

49. The proposed framework offers SCS operators immense flexibility to tailor their D2D operations to match their business needs and plans. This flexibility includes the ability to adjust coexistence agreements as Wireless Radio Services licenses change hands and to expand the size of the geographic area to be served under an SCS license. In order to enable such flexibility while still maintaining an up-to-date awareness of the extent of D2D services being offered, we propose limited ongoing obligations on SCS licensees to update the Commission when certain parameters change.[126] Specifically, we propose to create an affirmative duty for SCS licensees to certify when a new or revised coexistence agreement has been executed. For example, we propose to require an SCS operator to file a certification when new or different parties hold the primary terrestrial license(s) within the SCS geographic license area. In the absence of a coexistence agreement with the applicable primary terrestrial licensee, the SCS licensee would be required to cease operations in the portion of the SCS geographic license area at issue, and file a license modification to exclude the area held by the non-partner terrestrial licensee. We seek comment on this proposal and urge commenters to identify an appropriate timeframe in which updated certifications must be made. We seek comment on other possible mechanisms that could be used to ensure that SCS licensees acknowledge the current operating environment as underlying terrestrial licenses shift hands. Specifically, we seek comment on potential mechanisms to ensure that an SCS licensee always has an up-to-date coexistence agreement certification on file with the Commission during the SCS license term.

50. *Satellite Licensing Requirement*. Consistent with the existing SCS rules, we propose as a prerequisite that a prospective SCS licensee must hold a part 100 license or seek a part 100 license for the satellites which will provide SCS and must comply with the relevant rules governing non-geostationary orbit (NGSO) and geostationary satellite orbit (GSO) space stations and earth stations. In addition to the requirements specified for NGSO and GSO space station applications,[127] we propose to require identification of the frequencies requested for SCS use and relevant technical details, a demarcation of the SCS geographic license area, and a certification of either a coexistence agreement with a terrestrial licensee(s) or the proposed-rule-based reason for no coexistence agreement. Fundamentally, these proposed requirements reflect the key elements in the existing SCS framework, with adjustments to reflect the enhanced flexibility of the proposed modernized framework. We anticipate that this approach would facilitate the rapid development of SCS operations. We seek comment on these proposals, and on whether there is additional information that we should require from SCS license applicants.

51. *Competition Policies.* Spectrum is a necessary input for the provision of mobile wireless services, and the Commission has developed policies to ensure that spectrum is assigned in a manner that

[125] We recognize that where MSS is the primary allocation, the Commission has a longstanding policy of MSS exclusivity to promote regulatory certainty and harmonized global operations. *See Space Exploration Holdings LLC et al.,* Order, DA 26-398 (SB Apr. 23, 2026) at 2, 10, paras. 2–3, 22 (*MSS Clarification Order)*.

[126] *See also* 47 CFR § 1.65 (imposing an ongoing duty on licensees to promptly update pending applications).

[127] 47 CFR §§ 100.111, 100.112, 100.114, and 100.115.

promotes competition, innovation, and efficient use.[128] In evaluating the potential competitive effects of spectrum aggregation in secondary market transactions, including long-term spectrum leasing arrangements, the Commission uses a spectrum screen to help it identify, on a case-by-case basis, those local markets that may warrant further competitive analysis.[129] The spectrum screen trigger is approximately one-third of the total spectrum that the Commission has determined is suitable and available for mobile voice/mobile broadband use.[130] Further, below-1-GHz spectrum concentration is an enhanced factor in the Commission's review if, post-transaction, the acquiring entity would hold more than one-third of the currently available and suitable spectrum below 1 GHz.[131] Commission rules and policies specify how spectrum holdings are attributed to particular entities, including the attribution of spectrum holdings to both a lessor and lessee.[132]

52. In the *SCS Report and Order*, the Commission declined to make changes to its existing spectrum aggregation or its roaming policies in the context of SCS,[133] and we similarly do not propose to do so here. Instead, we again seek comment on whether to apply our existing spectrum holdings policies to our proposed revised SCS framework in this *Notice* in light of any relevant changes to market

[128] The Communications Act requires the Commission to examine closely the impact of spectrum aggregation on competition, innovation, and the efficient use of spectrum to ensure that spectrum is assigned in a manner that serves the public interest, convenience, and necessity. *See* 47 U.S.C. §§ 303(g), 307, 308(b), 310. Section 309(j)(3) of the Act provides that, in designing systems of competitive bidding, the Commission must "include safeguards to protect the public interest in the use of the spectrum," and must seek to promote various objectives, including "promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants," and promoting the "efficient and intensive use" of spectrum. *Id.* § 309(j)(3). In addition, Congress did not intend, in limiting the Commission's ability to deny licenses to auction winners who meet the required licensed qualifications, to "affect any authority the Commission has to adopt and enforce rules of general applicability, including rules concerning spectrum aggregation that promote competition." *Id.* § 309(j)(17)(B).

[129] *Policies Regarding Mobile Spectrum Holdings Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, WT Docket No. 12-269, GN Docket No. 12-268, Report and Order, 29 FCC Rcd 6133, 6221–22, paras. 225, 245 n.656 (2014) (*Mobile Spectrum Holdings Report and Order*); *see also 2024 Communications Marketplace Report,* 39 FCC Rcd 14116, 14172–73, para. 68 (2024 Communications Marketplace Report). The Commission has explained that the main purpose of the spectrum screen is to act as an analytical tool in identifying markets where: (1) there could be an increased likelihood that rival service providers or potential new entrants would be foreclosed from expanding capacity, deploying mobile broadband technologies, or entering the market; and (2) rivals' costs could be increased to the extent that they would be less likely to compete robustly. *See, e.g.*, *Facilitating Shared Use in the 3100–3550 MHz Band,* WT Docket No. 19-348, Second Report and Order, Order on Reconsideration, and Order of Proposed Modification, 36 FCC Rcd 5987, 6026, para. 109 (2020).

[130] *2024 Communications Marketplace Report* at 39 FCC Rcd 14173–74, para. 69 & n.188, Fig. II.B.11. The Commission has listed the following bands as included in the spectrum screen: 600 MHz, 700 MHz, Cellular, SMR, Broadband PCS, AWS-1, AWS-3, AWS-4, H Block, WCS, BRS, EBS, 3.7 GHz, and 3.45 GHz. The Upper C-Band (3.98–4.14 GHz) will be added to the spectrum screen once the Upper C-band auction closes. *See Upper C-band (3.98–4.2 GHz); Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, GN Docket Nos. 25-59 and 18-222, Report and Order, Order of Proposed Modification, and Order on Reconsideration, FCC 26-46 at 28, para. 58 (July 24, 2026). We note that certain bands we propose for allocation to SCS in this Notice are not included in the spectrum screen and, where applicable, enhanced factor review.

[131] *Mobile Spectrum Holdings Report and Order*, 29 FCC Rcd at 6240, paras. 282–88. With respect to 600 MHz licenses acquired in the Broadcast Incentive Auction, the Commission adopted rules prohibiting secondary market transactions within a specified time period. *Mobile Spectrum Holdings Report and Order*, 29 FCC Rcd at 6212, paras. 197–98; 47 CFR § 20.22(c).

[132] *Mobile Spectrum Holdings Report and Order*, 29 FCC Rcd at 6228, para. 246 n.656, paras. 301–02; 47 CFR § 20.22(b)(5).

[133] *SCS Report and Order*, 39 FCC Rcd at 2689–90, paras. 157–61.

conditions or technological advancements. Commenters should specify how they would address particular competition issues related to the proposed SCS framework.

4. Secondary Markets

53. One goal of this proceeding is to ensure D2D operators have the flexibility to exercise control over their licensed spectrum. To that end, we seek comment on applying certain Wireless Radio Service secondary market rules to SCS. Because the *SCS Report and Order* used derivative rights under the existing leasing framework to provide satellite operators access to terrestrial spectrum,[134] the Commission did not address secondary markets for SCS licenses. We now seek comment on expanding our secondary market rules to provide additional flexibility for SCS and make progress towards aligning terrestrial and satellite secondary markets. As the Commission recognized when it adopted the first set of comprehensive secondary market rules, there are immense public interest benefits derived from permitting "additional spectrum users to gain ready access to spectrum," including "the provision of new and diverse services and applications to help meet the ever-changing needs of the public."[135] Maximizing access to the secondary market aligns with the Commission's public interest objectives of permitting spectrum to flow more freely among users and uses in response to changing demand.[136]

54. Under our secondary market policies, terrestrial licensees can lease, assign, transfer, partition, and disaggregate their licenses.[137] We seek comment on allowing SCS operators to lease, assign, and transfer control of SCS authorizations, but not partition or disaggregate them as explained below. Leases, assignments, and transfers of control each afford licensees methods to allow other parties to operate the licensed spectrum, on both a time-limited basis and permanently.[138] We reiterate that at all times, SCS operators must have coexistence agreements with terrestrial licensees; in this regard, we emphasize that if SCS operators are permitted to lease, assign, or transfer control of SCS authorizations, such secondary market arrangements would be governed by the underlying business arrangements with terrestrial licenses. We seek comment on whether any restrictions are needed to ensure SCS eligibility criteria continue to be met on an ongoing basis. Are there conditions or scenarios under which Commission rules should prohibit operators from leasing, assigning, or transferring SCS licenses?

55. We seek comment on whether the rule governing SCS assignments and transfers of control should be included in section 1.948, section 100.145, or if a new rule section is appropriate. We acknowledge that there may be a more appropriate place for the rule than section 1.948, because the proposed SCS license would not be considered a Wireless Radio Service license and because certain portions of these rules would not apply to the SCS proposals. Are there similar considerations with regard to section 100.145? In addition to where we should house the rule governing SCS license assignments and transfers, how should we require applications to be filed? For instance, should SCS licensees file FCC Form 312 and Schedule A or FCC Form 603? How should we require submission of updated coexistence agreements and demarcated geographic areas in proposed assignments and transfers?

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[134] *Id.* at 2660–65, 2690, paras. 88–104, 158 (authorizing SCS based on a lease arrangement between one or more terrestrial licensees and one or more satellite operators). Notably, the *SCS Report and Order* did not address the issue of transacting the SCS authorization itself in the secondary market but rather addressed the practicalities of enabling SCS authorizations based on lease arrangements.

[135] *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, WT Docket No. 00-230, Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd 20604, 20619, para. 32 (2003).

[136] *See, e.g.*, *SCS Report and Order*, 39 FCC Rcd at 2660–61, para. 91; *see also Principles for Promoting Efficient Use of Spectrum by Encouraging the Development of Secondary Markets*, Policy Statement, 15 FCC Rcd 24178 (2000).

[137] *See* 47 CFR §§ 1.9020, 1.9030, 1.9035, 1.948, 27.15.

[138] *See id.* §§ 1.9020, 1.9030, 1.9035, 1.948.

56. We propose that, if such transactions are permitted, then SCS assignees, transferees, and lessees must certify that they are operating in accordance with a coexistence agreement, if applicable, in light of the SCS eligibility requirements. If leases, assignments, and transfers of control are permitted for SCS authorizations, we seek comment on whether there should be any limitations on or requirements for such transactions. We seek comment on the costs and benefits of enabling SCS secondary market transactions and whether any limitations on SCS secondary market transactions would disincentivize the offering of D2D service. We also seek comment on how SCS secondary market transactions could be enabled. Should the existing Wireless Radio Service application processes for leases, assignments, and transfers of control be applied to SCS licenses? Are any adjustments to these processes needed to account for differences between the proposed SCS licenses and existing terrestrial Wireless Radio Service licenses? We seek comment on the possible permutations of secondary market transactions and whether there are practical justifications for not allowing SCS licensees to access the secondary market.

57. As noted in Section III.A.3 of this *Notice*, we propose that prospective SCS applicants and licensees can choose, and seek further modification of, the geographic area to be served in a particular spectrum band to provide D2D service. Such flexibility by the proposed SCS rules obviates the need for geographic partitioning or spectrum disaggregation. Geographic partitioning refers to the assignment of geographic portions of a license to another licensee along geopolitical or other boundaries. Spectrum disaggregation refers to the assignment of a discrete amount of spectrum under the license to another entity. Given the underlying flexibility inherent in the D2D framework, we believe that creating pathways for SCS licensees to partition or disaggregate their licenses would needlessly require more government oversight, countermand the secondary nature of their SCS authorizations, and impose regulatory impairments on terrestrial licenses. In order to provide potential SCS licensees as much flexibility as possible while minimizing the amount of unnecessary regulatory review, we tentatively conclude that partitioning and disaggregation are unnecessary for SCS and should remain the exclusive prerogative of the primary terrestrial licensee. We seek comment on this conclusion and any potential costs and benefits of instead allowing partitioning and disaggregation.

5. Technical Rules

58. Technical rules must be carefully calibrated to create a regulatory framework that balances the technical safeguards necessary to promote coexistence between SCS operations and existing users while fostering and facilitating the growth of D2D service. Such rules are needed to ensure coexistence between SCS operations and both adjacent band users and in-band users and to prevent harmful disruptions to existing operations in the Wireless Radio Service Bands. In the *SCS Report and Order*, the Commission adopted conservative technical safeguards to provide a smooth initial deployment of SCS operations.[139] With the benefit of real-world experience in SCS deployments, we now propose to update certain of these safeguards to allow more flexibility in operations and to account for other proposed updates herein, i.e., the elimination of the GIA requirement. In particular, we propose to establish a revised PFD limit for signal strength at the license boundary, and seek comment on whether to relax the existing aggregate OOBE PFD limit and whether an in-band power limit is needed to protect adjacent licensees. To increase flexibility and enable consent-based approaches to the provision of SCS, we also propose to allow parties to establish alternative technical measures through negotiated private contractual arrangements and seek comment on how best to achieve this goal and which technical rules should be subject to this proposal. Together, we anticipate that our proposed changes would reduce prospective SCS operators' reliance on the Commission's waiver process, enable more robust SCS deployments, and ultimately hasten wider deployment of SCS service.

59. A nuanced understanding of satellite operations and the underlying D2D technology is key to establishing appropriate technical rules for the existing and potential SCS bands. As such, we seek comment on a range of issues to achieve a more complete understanding of satellite operations as they

[139] *See SCS Report and Order*, 39 FCC Rcd at 2706–19, paras. 193–223.

exist now and the advancements expected in the future. We also seek comment broadly on technological improvements, standards-setting developments, and coexistence capabilities that have become commonplace since our initial SCS rules were adopted in 2024. Specifically, we seek comment on the state of satellite antenna technology and how well antennas can focus beams on the ground. What are the current limits on the size of a useable beam on the ground and are advancements being made to shrink that size? How fast does the energy decrease as you move away from the center of the beam? How precisely can the beam be maintained on the ground as satellites traverse the sky? How much geographic overlap is there among multiple beams from the same or different satellites? We seek further comment on how nimble a beam can be in terms of shapeability and steerability. How quickly can a beam be turned off or the signal strength adjusted? Critically, we also seek comment on how these capabilities are expected to change and develop in the near-, mid-, and long-term. Below, we propose technical rules to guide the deployment of D2D operations and seek comment on additional facets of the interactions between satellite operations and terrestrial operations and how best to create a harmonious operating environment for both services. We seek comment on the costs and benefits of our proposed technical rules.

60. *Out-of-Band Emissions Limits.* In the *SCS Report and Order*, the Commission established a uniform OOBE limit for all SCS bands expressed as a terrestrial aggregate OOBE PFD limit of -120 dBW/m^2/MHz measured 1.5 meters above ground level to mitigate the potential for harmful interference to existing terrestrial services in adjacent bands.[140] This aggregate PFD limit was established in recognition that strong, wide area satellite transmissions may produce large amounts of undesired signal energy into adjacent bands, potentially affecting terrestrial networks' operations.[141] Using an aggregate measure allows for all visible beams and satellites within each satellite constellation providing SCS service to be accounted for as they move over any given point or area.[142] At the time, the Commission found that the selected limit reflected a reasonable middle ground between existing terrestrial OOBE limits and satellite-based limits and accounted for the inherent difference in propagation effects when the signal is generated from a multibeam satellite constellation compared to when it is transmitted from a terrestrial base station.[143] SpaceX filed a Petition for Reconsideration challenging the aggregate OOBE PFD limit of -120 dBW/m^2/MHz measured 1.5 meters above ground level, seeking to replace this single number with band-specific metrics.[144]

61. SpaceX has been granted two waivers allowing it to operate SCS with an aggregate OOBE PFD up to -110.6 dBW/m^2/MHz in the PCS G Block and AWS-H Block.[145] In its waiver requests,

[140] 47 CFR § 100.213(c)(1); *SCS Report and Order*, 39 FCC Rcd at 2712, para. 205. We note that while the Commission initially proposed to apply OOBE limits consistent with those required for terrestrial operations in the particular bands proposed for SCS, the Commission ultimately adopted a uniform aggregate OOBE limit based on the views expressed in the record and the Commission's "preference for straightforward requirements." *See SCS Report and Order*, 39 FCC Rcd at 2710, para. 202.

[141] *See SCS Report and Order*, 39 FCC Rcd at 2710, para. 203.

[142] *See SCS Report and Order*, 39 FCC Rcd at 2710, 2712–13, paras. 203, 205–06; 47 CFR § 100.278(g).

[143] *SCS Report and Order*, 39 FCC Rcd at 2710, para. 203.

[144] *See* Petition for Reconsideration of SpaceX, GN Docket No. 23-65, IB Docket 22-271 (filed May 31, 2024), https://www.fcc.gov/ecfs/search/search-filings/filing/105311484428351 (arguing that band-dependent OOBE PFD limits better achieve the ITU's interference protection threshold for terrestrial networks of -6 dB I/N). The Petition for Reconsideration was subsequently put out on Public Notice for comment. *See Petition for Reconsideration of Action in Proceeding*, GN Docket No. 23-65, IB Docket 22-271, Public Notice, Report No. 3214 (Jun. 14, 2024).

[145] *Space Bureau and Wireless Telecommunications Bureau Seek Comment on Filings of SpaceX and T-Mobile Requesting to Establish Supplemental Coverage from Space*, *Application for Authority for Modification of the SpaceX NGSO Satellite System to Add a Direct to Cellular System*, ICFS File Nos. SAT-MOD-20230207-00021, SAT-AMD-20240322-00061, GN Docket No. 23-135, Order, 40 FCC Rcd 1521, 1526–27, para. 15 (SB/WTB

(continued….)

SpaceX argued that such waivers would benefit the public interest by enabling faster and more reliable 911 emergency calling connectivity in remote locations.[146] SpaceX also explained that "as it approaches a satellite deployment point of about 1,500 satellites, it will need to take compensatory measures to comply with [the OOBE limits], including reducing the number of active beams on a satellite, reducing the power of those beams, or a combination of the two, and estimated that the power suppression methodology could result in a 20% network throughput reduction."[147] SB and WTB jointly granted conditional waivers for the PCS G Block and AWS-H Block in March 2025 and again in October 2026.[148] The waiver relief was supported by SpaceX's engineering analyses demonstrating that operations at these OOBE levels (given the particular band of operation and SpaceX's system configuration and capabilities) were unlikely to cause harmful interference.[149] The waiver relief is conditioned upon SpaceX not causing harmful interference to authorized terrestrial licensees, and requires SpaceX to cease operations under the waivers—and comply with the -120 dBW/m^2/MHz limit in the rules—if interference is caused.[150]

62. We seek comment on the appropriate OOBE limit for SCS services going forward, with a preference for relaxing the existing aggregate OOBE PFD limit of -120 dBW/m^2/MHz to provide greater flexibility across existing and potential SCS bands adjacent to frequency bands used by terrestrial services. In doing so, we seek comment on whether the circumstances that allow SpaceX to operate by waiver with a -110.6 dBW/m^2/MHz PFD OOBE limit in the PCS G and AWS-H Blocks would be applicable to other SCS operations in any or all of the bands discussed in this *Notice*. In its Petition for Reconsideration, SpaceX argues that using a single OOBE limit across the SCS bands imposes a significantly greater restriction on higher frequency bands, such as the PCS G Block, in comparison to lower frequency bands that have been authorized for SCS.[151] We seek comment on whether to apply the OOBE limit as a uniform metric for all SCS bands or whether to apply band-specific OOBE limits as SpaceX suggests.

63. If aggregate OOBE PFD is retained as a uniform benchmark for all bands, we seek comment on the appropriate level. For example, would it appropriately balance the goals of facilitating SCS while protecting incumbents to apply an aggregate OOBE PFD limit of -114 dBW/m^2/MHz measured 1.5 meters above ground level for the existing and potential SCS bands? The previously adopted SCS OOBE limit relied on relatively conservative assumptions, recognizing the potential risks of introducing a new service within highly utilized terrestrial bands.[152] Given the success thus far in SCS operations and further technical consideration of multiple factors contributing to the aggregate received

(Continued from previous page)
2025) (*Space Bureau and Wireless Telecommunications Bureau Grant SpaceX Waiver Request*); *SpaceX D2D Authorization* at 12–14, paras. 29–37.

[146] *See* Letter from David Goldman, Vice President of Space Policy, Space Exploration Technologies Corp., to Merissa Velez, Chief, Satellite Programs and Policy Division, Space Bureau, FCC, Space Exploration Holdings LLC, GN Docket No. 23-135 et al., at 1, 4, 6, and 8 (rec. Sept. 16, 2024) (SpaceX Sept. 13, 2024 Supplemental Letter).

[147] *Space Bureau and Wireless Telecommunications Bureau Grant SpaceX Waiver Request*, 40 FCC Rcd at 1522–23, para. 3.

[148] *Space Bureau and Wireless Telecommunications Bureau Grant SpaceX Waiver Request*, 40 FCC Rcd 1521, 1526–27, para. 15; *SpaceX D2D Authorization* at 12–14, paras. 29–37.

[149] *Space Bureau and Wireless Telecommunications Bureau Grant SpaceX Waiver Request*, 40 FCC Rcd at 1525–26, para. 11; *SpaceX D2D Authorization* at 13, para. 33.

[150] *Space Bureau and Wireless Telecommunications Bureau Grant SpaceX Waiver Request*, 40 FCC Rcd at 1526–27, paras. 12, 15; *SpaceX D2D Authorization*, condition 1-d.

[151] *Space Bureau and Wireless Telecommunications Bureau Grant SpaceX Waiver Request*, 40 FCC Rcd at 1522–23, para. 3 (citing SpaceX Sept. 13, 2024 Supplemental Letter at 1, n.1).

[152] *SCS Report and Order*, 39 FCC Rcd at 2712–13, paras. 205–07.

signal strength, we believe that a more relaxed aggregate OOBE limit would sufficiently protect adjacent band terrestrial operations from future SCS operations. We intend to consider a less restrictive and more realistic and likely combination of factors, such as user devices' receiver performance in terms of required I/N and noise figure as well as receive antenna gains and orientations, e.g., typical vs. skyward, while taking into account the variability across different device types and use cases expected in these bands. We seek comment on whether the current -120 dBW/m^2/MHz limit measured 1.5 meters above ground level has burdened operators in any way or restricted their operational flexibility. We also seek comment on whether an aggregate OOBE PFD limit of -114 dBW/m^2/MHz measured 1.5 meters above ground level would be appropriate for all potential SCS bands discussed in this *Notice*. Would another limit or measure be more appropriate to avoid harmful interference to terrestrial and space services in adjacent bands?

64. Alternatively, should we adopt specific OOBE limits for particular bands or groups of bands? For example, should we adopt one OOBE limit for the bands already authorized under footnote NG33A and another OOBE limit for the potential SCS bands? Some of the bands currently in footnote NG33A have the benefit of successful deployments and experience, and all are FDD bands. Would it be appropriate to adopt a stricter limit for certain or all of the potential SCS bands? For the new potential SCS bands, are there differences in terms of device antenna gain and interference environments that could affect the determination of an appropriate OOBE PFD limit? Would a limit that scales with frequency provide more consistent protection for adjacent-band receivers than a single value?[153] Commenters supporting a band-by-band approach should provide specific OOBE PFD levels for each band, the assumptions leading to those limits, and a reasoned explanation for why a band-by-band approach would be appropriate. In addition, we seek comment on whether there are other metrics better suited to maintaining an equilibrium across adjacent bands than PFD limits when managing both satellite and terrestrial services in a single band.

65. We seek comment on the impacts that the relaxation of the OOBE limit could have on adjacent channel services, especially for the potential SCS spectrum bands that use TDD instead of FDD.[154] We seek comment on the type, scope, and extent of any potential harms. Commenters supporting different OOBE limits for satellite downlinks should make specific proposals, supported by technical justifications and analyses on how the SCS emissions would affect adjacent channel operations.

66. *Power Limits.* We seek comment on whether to impose an aggregate fundamental PFD power limit of -80 dBW/m^2/MHz measured 1.5 meters above ground level for SCS operations and urge commenters to explain whether such a limit is needed and how such a limit, or another limit, would provide protection to neighboring receivers.[155] The PFD power limit would apply to all visible beams and satellites within each satellite constellation providing SCS service as they move over any given point or area. In the *SCS Report and Order*, the Commission assumed the in-band PFD of satellite beams on the ground would be too weak to cause blocking of mobile or portable receivers in adjacent bands. However,

[153] Amazon Leo Oct. 23 *Ex Parte* at 4, Attachment B; Letter from Alison Minea, Satellite Policy Director, Space Exploration Technologies Corp., to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 26-281, 23-65 et al., at 1–2 (filed Oct. 23, 2026) (SpaceX Oct. 23 Ex Parte) (noting that frequency is a key factor in determining protection criteria for other services).

[154] For instance, Iridium is the only satellite operator using a TDD configuration, and we seek comment on how TDD should inform adoption of appropriate adjacent channel protections.

[155] *See* Space Exploration Holdings, LCC, GN Docket No. 23-135, Amendment to Application of Space Exploration Holdings, LLC for Modification of Authorization for the SpaceX Gen2 NGSO Satellite System to Add a Direct-to-Cellular System, Exhibit A, at A-1 (filed Mar. 22, 2024) ("SpaceX presents five link budget variants below for a PFD on the ground ranging from -89 dBW/m^2/MHz up to -80 dBW/m^2/MHz. This variation accounts for the fact that at lower satellite counts, SpaceX may deploy higher PFD levels that comply with the requirements of ITU R.R. 4.4. SpaceX requests authority to deploy up to its maximum PFD at its full requested satellite count, and can adjust its PFD levels as necessary to prevent harmful interference to other users.").

modern satellites use large antenna arrays with high main-beam gain and high total radiated power to generate stronger downlink PFD which could result in high total PFD at ground level. Although the Commission initially determined that an in-market downlink PFD limit was not necessary in the *SCS Report and Order* due to the ability of satellite operators and terrestrial licensees to reach private contractual agreements regarding protections,[156] the expanded scope of satellite deployment has increased the potential for high signal levels from satellite constellations. These potentially high signal levels could result in receiver desensitization in adjacent bands. The Commission has authorized SCS to operate with a -80 dBW/m^2/MHz maximum PFD value, which has supported services without interference thus far.[157] We seek comment on whether a fundamental -80 dBW/m^2/MHz maximum PFD power limit would sufficiently protect neighboring receivers and urge commenters to identify an appropriate power level, either for all SCS bands or on a band-by-band basis, and to provide technical support for such suggestions.

67. Given the large mix of services and receiver characteristics in bands adjacent to the existing and potential SCS bands, we seek additional data on the in-band, on-ground PFD limits necessary to avoid blocking of incumbent receiver systems operating in adjacent frequency bands. We recognize that many terrestrial receivers have skyward antenna gain to receive weak desired signals from space (e.g., AMT, aviation/GPS, radio astronomy, radars), and this trend leads to more sensitive receiver noise floors, for example, -142.6 dBW/MHz.[158] We seek comment on the state of varying services and receiver performance thresholds in bands adjacent to existing and potential SCS bands and any precautions that must be taken to coexist with these services and receivers. We seek comment on the potential need for band-specific limits depending on an SCS band's spectral location and the adjacent services. We urge commenters to submit specific technical support for any proposed PFD power limits or any alternative protection mechanisms that could be used instead of a PFD limit.

68. *Signal Strength at License Boundary.* We propose to establish an aggregate -76 dBm/m^2/MHz PFD limit for signal strength at license boundaries at the earth's surface produced by all visible beams and satellites within each satellite constellation providing SCS service as they move over any given point or area. We seek comment on whether this proposed PFD limit will protect geographically adjacent in-band terrestrial licensees. In the *SCS Report and Order*, the Commission did not establish SCS-specific limits at license boundaries due to the inherent protections afforded by the GIA coverage requirement.[159] In the inchoate stages of SCS, there was minimal risk of a satellite signal interfering with geographically adjacent co-channel operators because the SCS framework required a single terrestrial licensee or terrestrial partners to hold all licenses for a GIA, and to lease such spectrum covering a GIA to a satellite operator, such that there were no other operators on the other side of the terrestrial license boundaries. Now that we propose to eliminate the GIA coverage requirement, we open the possibility of multiple terrestrial and satellite operators operating on the same spectrum channel in adjacent geographies, which makes it critical that we establish appropriate technical rules to ensure the coexistence of geographically adjacent co-channel operations. In the *SCS Report and Order*, for international borders, the Commission applied the existing field strength limits for each band to SCS

[156] *See SCS Report and Order*, 39 FCC Rcd at 2708, para. 196.

[157] *See Space Bureau and Wireless Telecommunications Bureau Grant SpaceX Waiver Request*, 40 FCC Rcd at 1525–27, paras. 11–15. *See also* Space Exploration Holdings, LLC, Application for Modification of Authorization, ICFS File No. SAT-MOD-20230207-00021 (filed Feb. 7, 2023).

[158] *See* Consolidated Opposition to Petition and Response to Comments of Ligado Networks Subsidiary LLLC, ICFS File No. SAT-MOD-20251206-00374, Technical Exhibit at 12–13 (March 17, 2026) (discussing the characteristics and protection criteria for receiving earth stations in the radio-navigation-satellite service (space-to-Earth) and receivers in the aeronautical radionavigation service operating in the band 1559–1610 MHz and the assumptions made regarding skyward antenna gain and protection levels).

[159] *SCS Report and Order*, 39 FCC Rcd at 2709, paras. 197–198.

operations in those bands as a simple solution relying on established limits to overcome the potential for co-channel harmful interference.[160]

69. We propose using PFD as a measure to limit signal levels at SCS license boundaries, including U.S. international boundaries. We tentatively conclude that this metric provides clarity because it is straightforward to calculate and it scales with channel bandwidth. The -76 dBm/m^2/MHz PFD limit at the SCS geographic license area boundary is consistent with recent Commission actions governing full power commercial use of midband spectrum.[161] This proposed PFD limit, which is normalized to bandwidth, reflects a modern approach to establishing technical limitations for signal strength at the license boundary. We propose to apply the limit to all SCS operations, regardless of the band being used, and seek comment on whether this limit would adequately protect co-channel terrestrial licensees given the technological differences between satellite and terrestrial operations discussed below.[162]

70. We recognize that terrestrial field strength or PFD limits at service boundaries in the Commission's rules provide a signal level adequate for service and may not guarantee protection of co-channel operations across service boundaries if applied to satellite downlinks. This is in part because, in the context of terrestrial-only operations, the field strength and PFD limits are used as a baseline to encourage terrestrial and primary licensees to evaluate signal levels and, if needed, mutually agree on alternative preferred levels. Also, as noted in the *SCS Report and Order*, "a co-channel satellite transmission into an adjacent market is not as likely to drop off in strength as a terrestrial transmission, and is less affected by terrain-based mitigation factors commonly experienced by terrestrial systems."[163] Because we propose that SCS operations would be secondary to existing terrestrial operations, they would be required to protect primary operations under all circumstances. Given these considerations, we seek comment on whether a PFD limit lower than the proposed aggregate -76 dBm/m^2/MHz PFD limit, or if other technical guardrails, would better promote coexistence, avoid interference, and facilitate mutually beneficial arrangements between licensees at license boundaries.[164] We seek comment on the appropriate PFD value to be used and whether this limit should apply across all SCS bands or be applied on a band-specific basis. If a band-specific number is utilized, should it be based on the equivalent terrestrial limits, or determined on some other basis? We urge commenters to provide technical details and justifications for their positions.

71. We propose that the -76 dBm/m^2/MHz PFD limit should be applied to aggregate power received from all the visible beams from satellite constellations offering D2D service in each potential SCS band. This is especially critical as satellite operators must account for time varying signal levels and multiple overlapping and changing satellites or beams covering the same areas, as well as leakage and interference from antenna sidelobes.[165] We seek comment on this approach and any necessary adjustments and clarifications needed to apply this limit to SCS operations. In particular, we seek comment on whether PFD is the appropriate unit for evaluating aggregate effects or whether other metrics

[160] *Id.* at 2721–22, para. 229.

[161] 47 CFR § 27.55(d), (e); *see also Upper C-band (3.98–4.2 GHz)*, GN Docket No. 25-59, Report and Order, Order of Proposed Modification, and Order on Reconsideration, FCC 26-46, at 39, para. 79 (rel. Jul. 24, 2026); *Facilitating Shared Use in the 3100–3550 MHz Band*, WT Docket No. 19-348, Report and Order, Order on Reconsideration, and Order Proposing Modification, 36 FCC Rcd 5987, 6020, para. 93 (2021); *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Docket No. 18-122, Report and Order and Order of Proposed Modification, 35 FCC Rcd 2343, 2473, para. 354 (2020).

[162] CTIA Oct. 22 10-Page *Ex Parte* at 4, 9.

[163] *SCS Report and Order*, 39 FCC Rcd at 2640–41, para. 44.

[164] For example, CTIA asserts additional study is needed to assess appropriate protections for co-channel wireless operations at license boundaries. CTIA Oct. 22 10-Page *Ex Parte* at 4.

[165] *Id.* at 2709–10, para. 200.

are more appropriate. Are there benefits or costs associated with particular metrics that weigh in favor of or against their use? We also seek comment on how best to calculate aggregate power received from all beams transmitted by a satellite and on any additional interference measures that should be assessed to account for the technological differences between satellite and terrestrial operations. We acknowledge that the proposed -76 dBm/m^2/MHz PFD limit for the signal strength at the license boundary is more relaxed than some of the potential aggregate OOBE PFD limits discussed (e.g., -114 dBW/m^2/MHz, -120 dBW/m^2/MHz) when converted to a common unit.[166] We invite comment on the relationship of the signal strength at the license boundary limit to the aggregate OOBE PFD limit and how best to address the respective purpose of the OOBE limit to protect spectrally adjacent users and purpose of the signal strength at license boundary limit to protect co-channel geographically adjacent licensees from harmful interference. Are there operational differences—for example added path loss due to geographic separation beyond license boundaries—that weigh in favor of more relaxed limits at license boundaries than across adjacent bands? Finally, we seek comment on whether additional limits are needed to afford adequate protection and urge the filing of technical showings demonstrating any such need for additional protections.

72. *Alternative Technical Measures*. In this section, we seek comment on appropriate technical rules including an aggregate OOBE PFD, in-band power limits, and signal strength at the license boundary. To further the goals in this proceeding to allow for maximum flexibility and consent-based approaches to the provision of SCS, we propose adopting rules allowing parties to establish alternative technical measures through negotiated private contractual arrangements and seek comment on how best to achieve this goal and the specific technical measures to which these rules should apply. For example, should we allow SCS operators and geographically adjacent terrestrial licensees to negotiate a higher PFD limit in SCS coexistence agreements or otherwise—because a different limit would mean the parties would not be bound to unnecessarily restrictive technical rules if an SCS operator seeks to provide coverage in only a portion of the terrestrial wireless service area? We seek comment on providing SCS licensees a choice of either complying with the rule-based technical limits or complying with alternate limit(s) established through private voluntary agreements with other affected licensees. As a threshold matter, we reinforce that under a consent or negotiated based approach, any agreements would be private and voluntary, and even if the Commission does not enforce such private agreements between the parties, we have an interest in ensuring that consent is obtained from licensees whose services are otherwise protected by, or the intended beneficiaries of, our technical rules. For each SCS technical rule, we seek comment on the following questions: How should we define the other affected parties?[167] Once the class of affected licensees is identified, how should such an agreement be formalized and memorialized? For example, should the Commission request SCS licensees to file proof of alternative measures through the submission of an agreement between the SCS licensee and the affected licensee(s), or a certification thereto? How should the Commission address changes in the affected class of licensees, including changes due to secondary market license transfers? How should we ensure that such a policy does not unnecessarily constrain future changes to SCS rules? We ask that commenters recommending or cautioning against such an approach for given technical rules provide specific details to support their positions.

73. *Coordination and Interference Resolution.* The Commission seeks to establish a streamlined mechanism to address coordination and interference issues among prospective SCS licensees, adjacent band operators, and co-channel operators. We seek comment on any band-specific coordination

[166] *See* Amazon Leo Oct. 23 *Ex Parte* at 4, Attachment B.

[167] The answers to each of these questions are expected to be different for the different technical parameters. For example, the universe of potentially affected parties is straightforward for the signal strength at the license boundary (geographically adjacent licensees, for example, could be identified using the FCC's Universal Licensing System (ULS) database), but might be much more challenging for the aggregate OOBE PFD limits, due to uncertainty as to potentially affected parties, particularly in bands with heterogenous licensing models.

issues that may arise for operators in the bands adjacent to potential SCS bands or for operators that are co-channel with potential SCS bands. We also seek comment on mechanisms to prevent and resolve any instances of adjacent band or co-channel interference. Recognizing that each potential SCS band has its own incumbent licensees and use cases, are there specific circumstances regarding coordination and interference resolution that must be considered before enabling SCS operations in these bands? We propose that prospective SCS operators must not cause harmful interference to authorized, primary co-channel terrestrial licensee(s), including the SCS operator's terrestrial partner(s). If D2D operations cause harmful interference, then the SCS operator must address the situation in a timely manner, or else cease D2D operations until the situation is addressed. We seek comment on this approach and any others that may effectively address interference concerns. We also seek comment on whether the procedure outlined in section 100.202(i)(1) provides an effective process for determining the source of harmful interference and remedying the problem.

74. *Time Division Duplexing*. We note that terrestrial TDD systems are deployed in or adjacent to some of the potential SCS bands in this *Notice*. We seek comment on technical challenges associated with possible impacts of D2D transmissions in the downlink or in TDD mode on other systems, as well as potential solutions to mitigate these challenges. What are the potential coexistence challenges, and feasibility of solving them, to allow D2D services to be introduced without harming existing systems' operations? One such challenge is the potential need for timing synchronization that is typically used across terrestrial TDD systems to avoid cross link, i.e., downlink to uplink or uplink to downlink interference. We seek comment on whether it is technically possible to achieve such timing synchronization between SCS downlink and uplink transmission with those applied by terrestrial systems in the same or adjacent bands. We seek comment on possible solutions to achieve and maintain such timing synchronization. We also seek comment on whether and how impacts on existing terrestrial TDD systems and operations can be avoided in the absence of such synchronization.

75. In addition, given the nature of TDD operations, SCS operations would need to protect not only user devices but also base station receivers in each band where TDD systems are deployed from potential interference caused by SCS transmissions. We note that both in-band power/emission and OOBE limits proposed in this *Notice* are based on protection of user devices from SCS transmissions in the downlink. The in-band power/emission and OOBE limits needed to protect TDD base stations may be different from what we have proposed to protect user devices across all bands. The appropriate technical rule protection may depend on such factors as base station antenna gain, configuration and orientation, receiver performance, and other factors varying by deployment. Therefore, we seek further comment, backed by detailed technical evaluation, on technical rule protections that would be appropriate to include for any TDD bands that may be included in the SCS framework in order to protect existing and future terrestrial base stations, and on whether such limits are feasible and practically viable for SCS systems to meet.

6. Public Safety

76. *Interim 911 Requirements*. We continue to expect robust emergency response and public safety capabilities from SCS providers. To that end, we seek comment on whether to revisit the existing interim 911 call and text routing requirements established in the *SCS Report and Order*, including whether to extend the requirements directly to satellite operators in light of the changes to the SCS framework contemplated in this item. We recognize, however, that D2D is merely one of a host of new technologies whose roles in the 911 ecosystem we are exploring in the September *911 Scope NOI* docket.[168] The record generated in the *911 Scope NOI* docket, in combination with the responses to the

[168] *Modernizing the 911 Framework*, PS Docket 26-197, Notice of Inquiry, FCC 26-63 (rel. Oct. 1, 2026) (*911 Scope NOI*) (seeking broad comment on how to update the 911 rules to address new and emerging technologies, including D2D, as part of modernizing the FCC's 911 framework and facilitating the transition to Next Generation 911.)

SCS Further Notice of Proposed Rulemaking,[169] may lead to a subsequent notice proposing new requirements for satellite D2D operators that could subsume and supersede any changes to the interim rules we consider herein. For that reason, we seek comment on updating the interim 911 SCS rules rather than proposing permanent rules.

77. In the *SCS Notice*, the Commission broadly sought comment on "how best to facilitate access to our nation's emergency response system for consumers using SCS."[170] The Commission noted that terrestrial Commercial Mobile Radio Service (CMRS) providers are subject to 911 requirements under section 9.10, including requirements to support basic 911 and Enhanced 911 (E911), outdoor and indoor location accuracy, and text-to-911.[171] In contrast, MSS licensees are "required to support emergency call center service to the extent that they offer two-way interconnected voice service."[172] The Commission specifically sought comment on whether to require both SCS partners, individually or together, to comply with all or some of the CMRS 911 and E911 rules,[173] in addition to seeking detailed information about the technical feasibility of satellite provider compliance with section 9.10 rules.[174]

78. Ultimately, there was no consensus in the record regarding the feasibility of applying all terrestrial 911 requirements in the SCS context, and the Commission adopted interim 911 routing and reporting requirements.[175] The Commission found that this "interim approach presents the fewest practical and technical complexities and provides the most efficient path for enabling the public safety benefits of SCS service in the near-term during disasters and emergencies in remote areas."[176] The Commission did not apply these requirements to SCS satellite operators, but solely to terrestrial SCS partners, in recognition that some terrestrial 911 requirements may not be feasible at that time.[177] Specifically, the interim 911 requirements required terrestrial providers to either transmit all SCS 911 voice calls and texts[178] to a Public Safety Answering Point (PSAP) using automatic, device-based location information or, alternatively, use an emergency call center to route SCS calls and texts.[179] The Commission also required terrestrial providers to transmit location information and the user's phone number to facilitate dispatch and callback capabilities at the receiving PSAP.[180] Terrestrial providers also

[169] *SCS Report and Order*, 39 FCC Rcd at 2725–29, paras. 241–51 (seeking comment on, *inter alia,* revising the interim SCS 911 requirements for routing SCS 911 voice calls and 911 text messages, including whether to require the use of location-based routing to route 911 SCS voice calls directly to an appropriate PSAP, if technically feasible, before routing 911 calls through an emergency call center).

[170] *SCS Notice*, 38 FCC Rcd at 2824, para. 83.

[171] *Id.* at 2824, para. 83 (citing 47 CFR § 9.10).

[172] *Id.* at 2824, para. 83.

[173] *Id.* at 2824, para. 85.

[174] *Id.* at 2825, paras. 87–90.

[175] *SCS Report and Order*, 39 FCC Rcd at 2705–06, para. 192 (noting the division in the record regarding the technical feasibility of extending 911 and WEA requirements to SCS, given the early stage of SCS deployments).

[176] *Id.* at 2700, para. 182.

[177] *Id.* at 2695–2706, paras. 173–92.

[178] *See* 47 CFR § 9.10(t)(1) (defining SCS 911 calls). For purposes of this proceeding, we use the phrase "SCS 911" voice calls to refer to 911 calls as defined in section 9.3 of the rules. A "911 call" refers to "[a]ny call initiated by an end user by dialing 911 for the purpose of accessing an emergency service provider." 47 CFR § 9.3. A "911 text message" refers to "a message, consisting of text characters, sent to the short code '911' and intended to be delivered to a PSAP by a covered text provider, regardless of the text messaging platform used." 47 CFR § 9.10(q)(9).

[179] *SCS Report and Order*, 39 FCC Rcd at 2698–99, para. 179.

[180] *See id.* at 2698–99, para. 179; 47 CFR § 9.10(t)(2)(i).

must submit an annual report to the Commission via the Electronic Comment Filing System by October 15th of each year regarding SCS 911 voice calls and SCS 911 text messages, and emergency call center data, current as of September 30th of that year.[181] Further, CMRS providers that use SCS arrangements to expand their coverage areas for providing service to their end-user subscribers must certify on a one-time basis that neither they nor any third party they rely on to obtain location information or associated data used for compliance with the interim 911 requirements will use such location information or associated data for any non-911 purpose, except with prior express consent or as otherwise permitted or required by law.[182] Finally, CMRS providers that use SCS to provide service to their end-user subscribers, must advise every subscriber, both new and existing, prominently and in plain language, of the circumstances under which 911 service for calls or texts may not be available through SCS or may, in some way, be limited by comparison to traditional E911 service.[183]

79. Here, we believe that an update of the rules is appropriate and necessary, because proposals such as the elimination of the lease requirement and the ability for a satellite licensee to directly hold terrestrial licenses would necessarily change the existing paradigm—in which the terrestrial lessee holds responsibility for a reduced suite of 911 responsibilities. Thus, we broadly seek comment on whether and how the section 9.10(t) interim SCS 911 rules should be adjusted, and whether technology improvements or other factors, including real-world experience with SCS operations, could change the balance of factors that initially led the Commission to arrive at its interim rules. Is it now feasible to subject satellite operators directly to the interim SCS 911 requirements? Should SCS satellite operators be held to all requirements that CMRS providers must follow under section 9.10(t)? Commenters should include information on the burdens, costs, and benefits of extending the interim 911 provisions to SCS satellite operators.

80. *Wireless Emergency Alerts (WEA).* In the *SCS Report and Order*, the Commission found that it was premature to determine how satellite operators providing SCS should fit within the Commission's WEA regulatory framework given the nascent nature of SCS at the time and technical challenges that would need to be resolved prior to their implementation of WEA.[184] The Commission is considering WEA-related issues, including technical issues that may be relevant to those challenges, in its *Modernization of the Nation's Alerting Systems* rulemaking proceeding.[185] Parties wishing to address satellite operators' ability to support WEA should do so in that proceeding.

81. *Prioritization and Roaming.* In light of the nascent state of SCS service at the time, the Commission recognized in the *SCS Report and Order* that terrestrial roaming arrangements, where available, may continue to be a better tool to promote access to E911 services.[186] To the extent that SCS deployments are not technically capable of fully complying with the Commission's E911 requirements as they apply to wireless providers, or the existing WEA requirements, and where wireless service otherwise is available, including pursuant to a roaming agreement, the Commission encouraged terrestrial providers to prioritize connection to wireless networks over SCS arrangements for purposes of transmitting 911

[181] 47 CFR § 9.10(t)(3); *Public Safety And Homeland Security Bureau Announces Office Of Management And Budget Approval For 911 Information Collection Requirements Associated With Supplemental Coverage From Space*, GN Docket No. 23-65, IB Docket No. 22-271, PS Docket No. 24-318, *Public Notice*, 39 FCC Rcd 11005 (PSHSB 2024). Four reports have been filed with the Commission to date. *See* PS Docket No. 24-318.

[182] 47 CFR § 9.10(t)(4).

[183] *Id.* § 9.10(t)(5).

[184] *SCS Report and Order*, 39 FCC Rcd at 2705, paras. 190–91.

[185] *Modernization of the Nation's Alerting Systems et al.*, Docket No. 25-224 et al., Report and Order and Further Notice of Proposed Rulemaking, FCC 26-38 (June 25, 2026).

[186] *SCS Report and Order*, 39 FCC Rcd at 2705–06, para. 192 (noting the division in the record regarding the technical feasibility of extending 911 and WEA requirements to SCS, given the early stage of SCS deployments).

calls and distributing WEA messages.[187] We seek comment on whether any of our proposals impact the ability of service providers to prioritize connection to a wireless network over SCS for purposes of transmitting 911 calls or WEA messages, and whether we should consider any other incentives or best practices to support robust 911 and WEA access.

82. *Lawful Electronic Surveillance*. We seek comment on whether the proposed changes to the SCS framework, including the elimination of the lease requirement, may have implications with respect to the continuity of lawful interception under the Communications Assistance for Law Enforcement Act (CALEA).[188] We seek comment on preserving capabilities necessary to execute lawfully authorized electronic surveillance. We also seek comment on defining clear division of responsibility for compliance with CALEA and other similar legal requirements where terrestrial wireless carriers, satellite operators, and other network providers collaborate to provide D2D service.[189]

7. International Coordination

83. *International Obligations.* Proposed D2D operations, in many cases, would not conform with the ITU's current International Table of Allocations. As discussed in the *SCS Report and Order,* operations that are not in conformance with the International Table are subject to ITU Radio Regulations Article 4.4 outside of the United States.[190] Although the Commission's SCS rules limit authorization to services provided within the jurisdiction of the United States, satellite systems operate globally, and we would expect that D2D satellite operators will design their networks with the capability to operate outside U.S. borders. Therefore, in authorizing a space station for operations as a U.S.-licensed space station, we will take into consideration all operations of that satellite facility, which will include all frequencies utilized for transmission and reception on the satellite, including where such frequencies will ultimately be used to communicate with earth stations located outside of the United States, subject to additional approvals of the relevant countries where such earth stations will be located.

84. To ensure that we meet all of our obligations as a notifying administration for SCS operations outside the United States, in the *SCS Report and Order*, the Commission adopted a framework to ensure that a U.S. operator providing SCS outside of the United States would not cause harmful interference to stations in other countries operating in conformity with the ITU Radio Regulations, and ensure that SCS operations would be duly authorized by the relevant administrations and will be subject to laws, regulations, and requirements applicable to such operations in the territories of the authorizing administrations.[191] We seek comment on whether SCS operations should continue to meet these requirements with some minor adjustments.

85. As a general licensing requirement under the Commission's part 100 rules, a U.S. satellite operator must first obtain a U.S. space station license that covers all the frequencies on the satellite, including the frequency bands that they propose to operate with U.S. earth stations, as well as those to be used internationally. We propose that the space station licensee ensure that all of its operations, including any D2D operations, are duly authorized by the country in which such communications will occur, and that it will satisfy all terms and conditions of any foreign license or authorization, including but not limited to any transmit power, out of band emission, geographic, or other limits. We propose that prior to communicating with earth stations outside of the United States, a satellite

[187] *Id.* at 2705–06, para. 192.

[188] 47 U.S.C. § 1001 *et seq*.

[189] *Id.* § 1002(d) (CMRS providers that allow their subscribers to "redirect, hand off, or assign their wire or electronic communications to . . . another service provider" must identify that service provider to the government when providing intercepts).

[190] ITU Radio Regulations Article 4.4.

[191] *SCS Report and Order*, 39 FCC Rcd at 2654–55, 2719–20, paras. 74, 224–226.

operator licensed to provide SCS should certify that it has obtained all necessary authorizations from the relevant country prior to initiation of communications with earth stations in that country. We also seek comment on whether this certification should include, as we have currently been requiring of SCS operators: (1) a copy of the authorization, including an English translation, or a letter from the licensing authority stating that it has granted this authority, (2) a letter from any terrestrial partner regarding their agreement for the use of the spectrum for SCS,[192] (3) the frequencies of operation, and (4) the measures that the U.S. licensee will take to eliminate any harmful interference immediately, if it is notified of harmful interference resulting from such SCS operations. Currently, an SCS licensee may begin operations outside of the United States once it has filed the certification with SB. SB will review the certifications and will accept them upon review or contact the licensee if additional information is needed.

86. We seek comment on the extent to which each of these certification requirements and parts of the certification and approval process is necessary to ensure we are meeting our obligations as the notifying administration at the ITU. Is there a better way to ensure that the Commission meets its obligations under ITU Radio Regulations Article 4.4 other than a certification demonstrating foreign authority for SCS operations? Should we require a letter from the terrestrial partner, if applicable, as part of the certification? Should we adjust any of these requirements where an applicant seeks special temporary authority to provide service in an emergency?

87. In Section III.A.5 of this *Notice*, we propose a PFD limit of -76 dBm/m^2/MHz at the license boundary, and propose to allow licensees to voluntarily agree to alternatives. We propose to add the limit to section 100.212(a)(1) of the rules. Section 100.212(a)(3) of the rules, which we do not propose to change, makes clear that "[l]icensees must comply with all applicable provisions and requirements of treaties and other international agreements between the United States Government and the governments of other countries, including Canada and Mexico. Absent specific international agreements regarding SCS, licensees must comply with the limits provided in this section." Accordingly, consistent with that rule, we propose that this limit would apply to SCS operations along U.S. international borders, absent a controlling international agreement. We tentatively conclude that our PFD proposal is consistent with the obligations of ITU Radio Regulations Article 4.4 and seek comment on this conclusion.

8. End-User Device Authorization

88. Any device that is intended to communicate with a satellite or space station is considered an earth station and therefore must be licensed as such.[193] Accordingly, we propose to extend the license-by-rule approach for certain handsets operating as earth stations to all devices operating pursuant to the proposed SCS rules.

89. Following Bureau-level decisions to grant waivers to both SpaceX and AST of the initial SCS end-user device rules, OET and SB waived generally, on their own motion, the SCS rules to permit customers using end-user devices that have not yet been authorized for use under part 25 but that were otherwise authorized for use on or before June 29, 2024, to connect to SCS services for a period of one year.[194] Then in the *Space Modernization for the 21st Century Report and Order and Further Notice of Proposed Rulemaking (Space Modernization Report and Order and FNPRM)*, we codified the expanded

[192] 47 CFR § 1.355.

[193] *See* ITU Radio Regulations, Article 1.63 (Defining Earth Station as "A station located either on the earth's surface or within the major portion of earth's atmosphere and intended for communication: (1) With one or more space stations; or (2) With one or more stations of the same kind by means of one or more reflecting satellites or other objects in space"); *see also* 47 CFR § 2.1 (Incorporating the ITU definition of Earth Station into the Commission's rules explicitly).

[194] 47 CFR §§ 2.805(a), 25.115(q)(1), 25.125(c), 25.125(d)(3); *Single Network Future: Supplemental Coverage from Space*, Order, GN Docket No. 23-65, DA 26-380 (OET & SB Apr. 22, 2026).

license-by-rule framework for all devices licensed under at least one of either part 22, part 24, or part 27 that seek to operate as earth stations, subject to any equipment certification requirements.[195] In addition, we extended this license-by-rule approach to "hybrid" handsets that seek to operate in both terrestrial and MSS frequencies, as well as pure MSS handsets.[196] To differentiate from SCS, we established this licensing by rule framework is limited to frequencies that are not subject to spectrum leasing.[197] In addition, we noted that, similar to SCS, in many cases terrestrial operators are unaware of the type of mobile device being used on their networks, thus making licensing them as earth stations an impractical and additional burden on both applicants and the Commission, which would otherwise have to process such a large volume of ever changing applications.[198] We now propose that this license-by-rule framework extend to end-user devices whether the device is being used on the ground, in a vehicle, on a vessel at sea, or aboard aircraft. Furthermore, we tentatively conclude that the same reasoning applies to the proposed SCS operations under the revised framework.

90. We propose changes to part 100 earth station rules to be consistent with the proposed revisions to the SCS framework. For instance, in the *Space Modernization Report and Order and FNPRM* and in the part 100 earth station rules, we assumed a lease arrangement with a wireless carrier for the provision of SCS.[199] Since the proposed SCS framework would eliminate the lease requirement, we propose to revise the SCS earth station rules accordingly. To that end, in this *Notice*, we propose updates to part 100 earth station rules to reflect the proposed SCS framework. We seek comment on this proposal and invite comment on any necessary changes to the proposal.

9. Unmanned Aircraft Systems and Other End-User Devices

91. While the *SCS Report and Order* focused on operations on the ground, we recognize that airborne operations continue to grow rapidly. In particular, the use of unmanned aircraft systems (UAS) has proliferated widely across many industries with a multitude of use cases and deployments. To support this continued growth and U.S. leadership in drone technology, we clarify that UAS operations are permitted under the existing SCS framework in bands where there are no airborne prohibitions under the terrestrial rules. We note that 3GPP has defined standards specifications for UAS support and independently developed 5G-based standards to support non-terrestrial network (NTN) and D2D use cases.[200] We recognize that additional standardization and coexistence analysis, which may be specific to some bands, satellite deployments, and configurations, may still be needed.

92. As the Commission noted in its recent *Space Modernization Report and Order and FNPRM*, "a drone may qualify as an ESIM [earth station in motion] and utilize eligible spectrum . . . to the extent it sends or receives RF signals to or from an authorized FSS satellite system."[201] At the same time, the Commission explained that its past decisions have not "specifically considered UAS as a discrete species of ESIM, whether an [earth station aboard aircraft] or [Vehicle-Mounted Earth Station] or some other category . . . ."[202] The Commission seeks comment in the *Space Modernization Report and Order and FNPRM* on whether to classify UAS under the ESIM framework or a different earth station

[195] *Space Modernization Report and Order and FNPRM* at 35–37, paras. 93–96.

[196] *Id.*

[197] *Id.*

[198] *Id.*

[199] *Id.*

[200] 3GPP TS 23.256 Support of Uncrewed Aerial Systems (UAS) connectivity, identification and tracking; Stage 2 (Release 19.5.0).

[201] *See Space Modernization Report and Order and FNPRM*, at 137, para. 361.

[202] *Id.*

framework.[203] We do not seek or invite comment on those questions here. Instead, recognizing that UAS could qualify as an ESIM generally, we clarify that UAS operations are permitted under the existing SCS framework.

93. Additionally, we propose to enable UAS operations using SCS in all SCS bands that lack airborne restrictions. Likewise, we propose a license-by-rule approach that recognizes end-user devices as earth stations, regardless of whether they are operating on the ground, in a vehicle, on a vessel at sea, or in an airplane, as long as operations are within the authorized parameters.[204] Are there legal, technical, or policy issues related to particular spectrum bands that would make such service challenging? As the proposed technical rules for SCS are primarily concerned with signal strength and OOBE on the ground, are additional constraints, limits, or guardrails needed for UAS operations specifically or for terrestrial providers' subscriber devices operating in airborne or maritime scenarios? Would service to UAS or to end-user devices in airborne or maritime settings present interference challenges to terrestrial base stations? We seek comment on whether additional rules, policies, or safeguards are necessary to accommodate UAS using SCS and the full range of operational settings for end-user devices. We also seek comment on specific use cases in order to develop a more complete record to evaluate potential issues. We ask commenters to identify any potential issues that may be encountered in including such operations in the new SCS framework, including any limits on our authority to enable such operations via the new SCS framework.

10. Transition to the Revised SCS Framework

94. Existing SCS operators, including those operating under waivers of SCS rules, will be expected to fully comply with any new SCS rules and operate under the new SCS licensing framework. We believe that this approach offers increased flexibility for existing SCS operators, promotes regulatory consistency, and eliminates the need to maintain different regulations and requirements for ongoing SCS operations and future SCS deployments. As such, we propose that each of the four existing SCS licensees, as well as any prospective SCS operators, must come into compliance with new SCS rules, if adopted, once the rules are effective. We seek comment on the transition of existing SCS authorizations to the revised SCS framework, including whether to allow for a transition period and on how best to ensure that existing SCS operations can continue to provide services to the benefit of consumers. While we believe that opening up the most spectrum as quickly as possible under our proposed SCS rules serves the public interest, we seek comment on any considerations that might inform a sequenced approach.

95. The proposed amendments to the SCS rules would relax the existing SCS requirements in most ways.[205] In some ways, the proposed rules essentially conform with the conditional waiver relief provided in SCS authorizations.[206] We believe it would not be burdensome for operators to comply with the proposed SCS rules and licensing framework, if adopted, and we seek comment on this belief. We

[203] *See id.* at 137, paras. 361–363.

[204] *See supra* Section III.A.8. End-User Device Authorization.

[205] For example, the proposed SCS eligibility requirements do not require a lease or a GIA requirement like the existing SCS eligibility criteria, and the proposed OOBE limit would be higher than the existing OOBE limit. The proposed OOBE limit is lower, however, than the limit at which SpaceX is permitted to operate under waiver in the PCS G Block and AWS-H Block. *See Space Bureau and Wireless Telecommunications Bureau Grant SpaceX Waiver Request*, 40 FCC Rcd 1521, 1526–27, para. 15; *SpaceX D2D Authorization* at 12–14, paras. 29–37.

[206] For example, SB and WTB conditionally waived the SCS GIA requirement in CONUS for both the SpaceX SCS authorization on unpaired AWS-3 licenses and for AST-Verizon-AT&T. In each instance, the GIA waiver conditions have the same effect as the SCS eligibility and technical requirements proposed herein that essentially impose coordination, notification, and technical requirements to ensure coexistence with co-channel licenses. *SpaceX D2D Authorization*, condition 1-c; *AST-Verizon-AT&T-FirstNet SCS Authorization*, condition 2. Moreover, the lease waiver for the recent SpaceX SCS authorization is similar to the coexistence requirement we propose in this *Notice*. *SpaceX D2D Authorization*, condition 1-b.

seek comment on what process, if any, might be necessary for existing authorizations to come into conformance with any new or amended rules adopted in this proceeding. How should we consider previously granted waiver relief of rules that are modified or deleted; would the waiver relief be considered moot upon transition to the new governing SCS framework? Subject to other considerations, we believe ensuring that waivers and conditions do not conflict with new SCS rules can advance the interests of regulatory uniformity and transparency. The D2D performance requirements, if adopted, would impose a new obligation on three of the four SCS operators.[207] We seek comment generally on the costs and benefits associated with requiring existing SCS operators to update SCS authorizations and comply with potential D2D performance requirements.

96. We specifically seek comment on the appropriate process to manage the transition of existing SCS authorizations to the revised SCS framework. Should we consider preexisting SCS leasing arrangements to comply with the new rules, to the extent the parties certify that such arrangements comply with our revised SCS rules? Alternatively, should we require satellite licensees to make a filing to modify existing SCS authorizations within a certain time period of the effective date of the SCS rules to come into compliance with the updated SCS framework? If so, what is an appropriate timeframe? If we require existing SCS operators to file to modify authorizations, we tentatively conclude that a short transition period, such as 60 days, would be appropriate. Would the proposals we seek comment on result in updates that would be largely ministerial with minimal changes to operational parameters and technology? Alternatively, are there changes in the proposed new SCS framework that may inform more substantive changes to existing SCS business arrangements and that may require a longer transition period to implement? For example, are there instances where an SCS licensee may wish to negotiate a new coexistence agreement or adjust its license areas following the effective date of the SCS rules? We seek comment on these considerations, and ask that commenters arguing for longer transition period provide details about why a longer transition period for existing SCS authorizations is needed. We further seek comment on how the Commission should treat an SCS satellite provider that does not modify its SCS authorization in the timeframe we adopt; for instance, should the Commission direct SB and WTB to terminate such an SCS authorization?

97. We also seek comment on what demonstration or attestation the satellite licensee must make in order to modify its SCS authorization to become licensed under the revised framework. If a satellite licensee's transition to the revised SCS framework entails no change in the ongoing operations, we seek comment on whether the modification application must demonstrate or attest only that the transitioning authorization satisfies the proposed SCS license eligibility. We seek comment on any additional measures needed to ensure a smooth transition of the four existing SCS authorizations to the proposed SCS framework.

98. We further propose that if the SCS rules are adopted, parties with pending SCS applications and/or waiver requests under the initial SCS framework must amend their applications and waiver requests as necessary to account for the new SCS rules and requirements. We seek comment on the appropriate process for this and whether to require that such amendments be filed within a specific timeframe of the effective date of the new and amended SCS rules. We intend to continue to process SCS applications and waiver requests under the existing rules during the pendency of this rulemaking and believe that our proposed approach will ensure that there is minimal interruption or delay in the deployment of innovative D2D service that may have been initially planned under the SCS authorization

[207] For the MSS and SCS authorization granted in October 2026, SpaceX must comply with D2D performance requirements that are similar to what we propose in this *Notice*. *SpaceX D2D Authorization*, condition 17-d. The SpaceX performance obligations are a condition on the AWS-3, AWS-H, and AWS-4 licenses SpaceX acquired from EchoStar. *SpaceX-EchoStar Transaction Order*, paras. 57, 82, Appx. C. WTB and SB did not impose performance obligations on the SCS authorizations for SpaceX-T-Mobile SCS, AST-Verizon-AT&T-FirstNet, or Lynk-Docomo because no performance requirements are imposed by rule upon SCS operations. *See also infra* Section III.B. D2D Performance Requirements, Discontinuance, and License Renewal.

process. We seek comment on this proposal and seek input on how to most effectively ensure that planned operations can be authorized under the new SCS rules.

99. We propose to eliminate the existing SCS rules that are not otherwise modified by the proposed SCS rules once the new and amended SCS rules become effective. Eliminating the SCS rules that do not comport with the revised SCS framework would set clear expectations for existing and prospective operators and avoid a confusing regulatory environment in which we have two sets of rules following any transition period.[208] We seek comment on this proposal to update the SCS rules and the costs and benefits of this approach.

100. We seek comment on how best to effectuate the transition to the revised SCS framework in the Commission's rules. The proposed rules appendix provides a potential approach to update the SCS framework, which reflects our objective in this *Notice* to provide increased flexibility and opportunity for D2D operations in terrestrial bands. We recognize, however, that a transition process may require that we maintain two sets of SCS rules for a specified transition period. We seek comment on that approach, and on any adjustments to the language of the proposed rules needed to ensure the existing SCS rules remain in effect long enough to effectuate a smooth transition.

B. D2D Performance Requirements, Discontinuance, and License Renewal

101. We propose establishing D2D performance requirements to ensure that D2D service provides meaningful consumer benefits. We seek comment on specific D2D performance requirements and applying performance requirements to existing and future SCS licensees and MSS D2D operators.[209] We also seek comment on applying discontinuance rules and renewal requirements to SCS licensees and MSS D2D operators.[210] Ultimately, we believe that performance requirements, discontinuance rules, and renewal requirements tailored to D2D service will ensure that spectrum is used intensively and continuously and will lead to reliable connectivity across the country, especially in rural and remote areas that will benefit most from more robust wireless services. We seek comment on the costs and benefits of this approach.

102. We propose that any performance requirements for SCS licensees would be distinct from—and would not displace—the existing performance requirements for primary terrestrial licensees in the potential SCS bands, which serve as the backbone of America's wireless networks. We propose that any performance requirements for MSS D2D operators also would be in addition to existing part 100 requirements. By MSS D2D operators, we intend to include satellite operators that provide consumer-oriented, D2D service using MSS spectrum in the United States.[211] We seek comment on how to distinguish MSS D2D operators from satellite licensees generally, and on any criteria that demonstrate a

[208] For example, if adopted, there would be no need for the rules governing SCS leasing arrangements and agreements in section 1.9047 because the proposed SCS rules do not require a lease and replace this requirement with the coexistence agreement certification requirement. Rules governing the current SCS entry criteria, application requirements, and SCS obligations would be updated with rules consistent with the new SCS framework, and other existing SCS rules would be updated to remove assumptions of an SCS lease or SCS GIA. *See*, *e.g.*, 47 CFR §§ 9.10, 100.5, 100.112, 100.120, 100.212, 100.213, 100.277, 100.302.

[209] SCS licensees and MSS D2D operators include existing SCS operators who we propose will comply with the revised SCS framework, future SCS licensees, and existing and future MSS D2D operators. We seek comment herein on how to define MSS D2D operator.

[210] We note that in the *Space Modernization Report and Order and FNPRM*, we separately sought comment on whether we should consider a single renewal standard, including several specific certifications in applications for renewal of space station and earth station authorizations. *See Space Modernization Report and Order and FNPRM*, para. 389. Accordingly, we ask that parties file comments related to that particular issue in SB Docket No. 25-306.

[211] Amazon Leo argues that the proposed D2D performance requirements are not suitable for "some services[,] such as messaging, Internet of Things, or geostationary satellite offerings." Amazon Leo Oct. 23 *Ex Parte* at 2, Attachment B.

satellite licensee is an MSS D2D operator. We also seek comment on whether the D2D performance requirements should apply to all MSS operators providing service in the United States.

103. The Commission generally establishes performance requirements for licensees to promote investment in and deployment of innovative technologies and services, encouraging efficient and intensive use of spectrum.[212] Terrestrial licensees are subject to performance and license renewal requirements to ensure that service meets quality metrics, is deployed in a timely manner, and is provided continuously over the license term. Performance requirements tailored to D2D service should help to meet these same goals, ensuring reliable two-way communications and meaningful widespread outdoor coverage. Satellite operators also must meet deployment milestones to ensure that prospective satellite licensees are prepared to implement proposed operations and deploy systems in a timely fashion.[213]

104. We seek comment on D2D performance requirements that will embody the same goals of the terrestrial performance requirements. We recognize that current satellite systems are inherently different from terrestrial networks. In particular, current D2D technologies differ in terms of capacity, coverage, and performance compared to 5G terrestrial wireless systems using the same amount of spectrum. Further, we acknowledge that D2D deployment involves different fixed and variable costs compared with terrestrial deployment, in addition to different technical limitations and capabilities. For example, a constellation of satellites deployed in space can provide coverage over a wide and readily adjustable geographic area, while terrestrial networks rely on ground infrastructure, including construction of towers and fiber to serve a fixed geographic area. We also note that other factors, such as launch availability, the development of 3GPP NTN standards, band-specific encumbrances, and other considerations may impact D2D service availability,[214] and we seek general comment on the relationship between these factors, our proposed D2D performance requirements, and our satellite deployment milestones. We seek comment on these differences and how they can continue to inform our approach to establishing performance metrics and evaluating performance. In addressing our underlying assumptions, the performance requirements, and related rules, commenters should discuss the costs and benefits associated with the obligations outlined below and any alternatives that commenters propose. We also tentatively conclude that any performance requirements adopted in this proceeding would be obligations in addition to the recently updated milestone requirements that we adopted for space stations.[215]

105. *D2D Performance Metrics*. We seek comment on the appropriate D2D performance metrics for SCS and MSS D2D licenses. We emphasize that the D2D performance requirements are separate and distinct from terrestrial performance obligations. Further, we propose they not be used as an alternative to terrestrial construction, recognizing that, particularly in workhorse terrestrial 5G bands, consumers depend on robust terrestrial coverage and capacity. We seek comment on the foregoing. We also seek comment on requiring SCS operators and MSS D2D licensees to meet minimum performance metrics by specified deadlines to ensure the high-quality D2D service expectations are met in a timely manner, with the objectives of achieving reliable two-way communications and efficient use of spectrum.

106. For both MSS D2D offerings and SCS, we specifically seek comment on requiring minimum metrics for downlink quality of service measured by Signal-to-Interference-Plus-Noise Ratio (SINR), uplink user throughput measured by kbps/MHz in the uplink, and spectral efficiency measured by kbps/MHz/beam in the downlink (see Fig. 1 for details). We seek comment on whether these metrics are appropriate for measuring performance.[216] We also seek comment on whether D2D service must meet

[212] *See* 47 U.S.C. § 309; *see also* CTIA Oct. 22 10-Page *Ex Parte* at 3.

[213] *See Space Modernization Report and Order and FNPRM* at 91, paras. 224–225; 47 CFR § 100.146.

[214] Amazon Leo Oct. 23 *Ex Parte* at 3, Attachment B.

[215] *See* 47 CFR § 100.146.

[216] We note that CTIA argues that the metrics "do not meaningfully measure the capacity that consumers need." CTIA Oct. 22 10-Page *Ex Parte* at 3.

milestones for service availability, measured based on the percentage of time when service is available across a percentage of the geographic area of each SCS license.[217] We seek comment on requiring that these metrics be met at two-, four-, and nine-year deadlines. We seek comment generally on D2D performance requirements, including whether these time periods are appropriate to ensure services are deployed in a timely manner. Are these requirements sufficiently technology-neutral and agnostic to the amount of spectrum licensed to a particular D2D operator? We recognize that these requirements may not be appropriate for D2D service using satellites operating in geostationary satellite (GSO) orbit and seek comment on what performance requirements should be adopted for D2D operators using GSO satellites.

Fig. 1

Potential Performance Requirements[218]

	First Interim (2 years)	Second Interim (4 years)	Final (9 years)
Minimum Downlink Quality of Service	SINR: 5 dB	SINR: 5 dB	SINR: 10 dB
Minimum Uplink User Throughput (5th Percentile)	100 kbps/MHz	200 kbps/MHz	300 kbps/MHz
Minimum Spectral Efficiency	Downlink: 300 kbps/MHz/beam Uplink: 100 kbps/MHz/beam	N/A	Downlink: 600 kbps/MHz/beam Uplink: 200 kbps/MHz/beam
Minimum Service Availability	70% of the time in 90% of the geographic area of each license	80% of the time in 90% of the geographic area of each license	90% of the time in 90% of the geographic area of each license

107. We note that the metrics for minimum downlink quality of service and minimum uplink user throughput are subject to the minimum service availability requirements at each milestone. We further clarify that the 5th percentile user throughput metric means that at least 95 percent of throughput must meet or exceed the metrics at each milestone. We seek comment on whether to specify a time period for measuring the minimum service availability requirement, and, if so, what time period would be appropriate, with a justification.

[217] "Service Availability" is a user receiving the signal (SINR) or a user transmitting the signal (uplink user throughput) at a point in the covered geographic area at the applicable percentage of the time (as detailed herein), when the user is outdoors.

[218] The metrics discussed in this *Notice* align with those imposed by SB and WTB as conditions in the SpaceX-EchoStar transaction and separately as the basis for an alternative deployment requirement in the Grain-T-Mobile transaction. *See SpaceX-EchoStar Order* at 24–25, paras. 55–57; *Grain-T-Mobile Order* at 18–22, para. 48 & n.113. We note that while the performance metrics discussed in this *Notice* are consistent with the performance requirements in the *SpaceX-EchoStar Order* and *Grain-T-Mobile Order*, these orders are distinct from the performance requirements discussed herein. The transactions were unique in that they involved underutilized spectrum bands, in contrast to bands proposed in this *Notice*, and the performance requirements in those orders provided a path to substitute terrestrial wireless service with D2D service, which we do not propose herein. In the context of the transactions, the conditions established D2D performance milestones for terrestrial license areas, which is not what we propose in this *Notice*. *See SpaceX-EchoStar Order* at 2, 24–25, paras. 3–4, 55–57; *Grain-T-Mobile Order* at 19, para. 48. The deadlines and penalties on which we seek comment herein also align with those included in the *SpaceX-EchoStar Order* and *Grain-T-Mobile Order*. *See SpaceX-EchoStar Order* at 24–25, paras. 55–57; *Grain-T-Mobile Order* at 19–22, para. 48.

108. Regarding penalties, we seek comment on the acceleration of performance deadlines for failure to meet a performance milestone. If an MSS D2D operator or an SCS licensee fails to meet its First Interim Performance Requirement, then we propose for the deadline for the Final Performance Requirement to be accelerated by one year.[219] If an MSS operator or an SCS licensee fails to meet the Second Interim Performance Requirement, then we propose the deadline for the Final Performance Requirement would be accelerated by two years, cumulative to any acceleration if the First Interim Performance Requirement was not met.[220] We seek comment on these acceleration penalties.

109. Consistent with the approach to terrestrial license performance obligations, we seek comment on whether an SCS license should terminate automatically, without Commission action, for failure to meet the Final Performance Requirement by the deadline. We also seek comment on whether an SCS licensee whose license terminates for failure to meet the Final Performance by the deadline should be ineligible to regain the license, as is the case in other bands.[221] How would a similar rule apply in the proposed SCS licensing context, where the licensee would define the SCS license area? Should a licensee be ineligible to regain an SCS license for the band in any geographical area within the license area of the SCS license for which performance requirements are not met? We seek comment generally on barring a licensee from regaining a license and how to prevent gaming of the rules if such a penalty is or is not imposed. We also seek comment on whether an MSS D2D operator's license should terminate automatically for failure to meet the Final Performance Requirement by the deadline. In addition, we seek comment on how the consequences for failing to meet the proposed D2D performance obligations would interact with the consequences for failing to meet part 100 milestones.[222]

110. In light of our proposal to permit prospective SCS licenses to demarcate their intended SCS geographic license area, we seek comment on requiring that performance requirements be met over the total SCS geographic license area. We seek comment on this approach to measuring performance. Is it appropriate to measure performance based on geographic coverage in outdoor areas, instead of measuring performance based on population, given the potential for D2D to more effectively and efficiently provide coverage in rural and remote areas? We request that where commenters suggest alternative approaches to evaluating performance, commenters identify the reasons that would justify another approach. We also seek comment on the appropriate geographic area for MSS D2D operators' performance requirements.

111. We also seek comment on what information must be filed to demonstrate that D2D performance requirements have been met such that the Commission has sufficient information to verify performance. We seek comment on whether a technical narrative with a link budget would be sufficient to demonstrate compliance. We seek comment on whether such a filing would be sufficient to demonstrate satellite link performance, including but not limited to SINR and 5th percentile user throughput of the service being provided, system parameters (transmit powers, antenna gains, receive sensitivity, noise figures, orbit altitude, minimum elevation angle, etc.) and link degradations (attenuation, atmosphere noise, etc.), carrier-to-noise ratio, energy-per-bit density, and percentage of time performance. Should we collect any other information regarding performance parameters? We also seek comment on whether these requirements could be appropriately applied to MSS D2D providers and SCS licensees. Should licensees be required to provide electronic maps and supporting data to demonstrate compliance with performance requirements based on service assumptions, equipment specifications, and link budgets? Alternatively, or in addition to electronic maps and supporting data, should licensees demonstrate that the requirements have been met by providing system observations and network logs,

[219] *SpaceX-EchoStar Order* at 25, para. 57.

[220] *Id.*

[221] *See, e.g.*, 47 CFR § 27.14 (indicating that failure to meet final performance milestone results in forfeiture of the license and that "the licensee will be ineligible to regain it").

[222] Amazon Leo Oct. 23 *Ex Parte* at 3, Attachment B.

crowdsourced data, or on-the-ground test results? We seek comment on the benefits and costs of different approaches, including whether the benefit of requiring additional information is substantial compared to the costs of collecting and providing additional details and documentation.

112. We seek comment generally on whether and to what extent the performance metrics, deadlines, and penalties for failing to meet milestones discussed herein are appropriate to ensure services are deployed in a timely manner, sufficiently technology-neutral, and agnostic to the amount of spectrum licensed to a particular SCS licensee or MSS D2D operator. We recognize that the potential performance metrics align with those applied by SB and WTB in the SpaceX-EchoStar and Grain-T-Mobile transactions, and note that these transactions presented unique factual circumstances that may not be present as we consider generally applicable rules.[223] We intend to impose metrics normalized to licensed bandwidth that ensure (1) efficient use of the spectrum, (2) robust downlink performance, (3) robust uplink performance, and (4) support for advanced services. Metrics for efficient use of spectrum could include measures of total throughput per beam (e.g., bps/Hz/beam in downlink and uplink), demonstrating how efficiently a network uses spectrum to deliver service to consumers. Metrics for robust downlink could include SINR or measures of data rate (e.g., Mbps). Metrics for robust uplink performance could include Effective Isotropic Radiated Power (EIRP) or measures of data rate (e.g., Mbps). User throughput metrics for downlink and uplink could indicate the actual signal quality and speeds consumers experience when using a network to download and upload data. Metrics for demonstrating the ability to support advanced services could include coverage and availability, latency, and reliability, among other potential metrics. Are there other metrics we should consider? Commenters suggesting metrics should explain the reasons why the metrics should be adopted as performance requirements. In discussing potential metrics, we ask that commenters describe the metrics and identify the policy goals that the metrics support. We invite commenters to identify specific combinations of metrics that, together, could achieve our policy goals of ensuring efficient spectrum utilization, widespread and reliable coverage, and robust D2D performance.

113. *D2D and Permanent Discontinuance*. We seek comment on applying a permanent discontinuance rule to SCS licenses, similar to the Wireless Radio Service discontinuance rules. Section 1.953 of the Commission's rules provides that "[a terrestrial geographic] licensee's authorization will automatically terminate, without specific Commission action, if the licensee permanently discontinues service or operations under the license during the license term."[224] Permanent discontinuance for geographic licenses is defined as 180 consecutive days during which a licensee does not provide service.[225] Permanent discontinuance for site-based licenses and public safety licenses is defined as 365 consecutive days without service or operation.[226] The purpose of the Commission's permanent discontinuance rule, in combination with construction and renewal obligations, is "to ensure that licensees provide service in a timely manner, continue to provide service over the term of the license, and do not discontinue service for such an extended period of time that it should be deemed permanent."[227]

114. Currently, automatic termination of SCS authorization occurs after "failure to provide any SCS on all or some of the SCS authorized frequencies for more than 90 days . . . with respect to the

[223] Amazon Leo argues the Commission should explore if "these performance metrics are appropriate outside the transaction-approval and service-substitution contexts" presented in the SpaceX-EchoStar and Grain-T-Mobile transactions. *Id.* at 2–3.

[224] 47 CFR § 1.953(a).

[225] *Id.* § 1.953(b).

[226] *Id.* § 1.953(c)&(d).

[227] *See Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 to Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services*, WT Docket No. 10-112, Second Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 8874, 8894 (2017).

relevant frequencies on which SCS has not been operational for more than 90 days in the United States."[228] For part 100 satellite operators that are not included in processing rounds, including D2D operations, the Commission also has adopted an automatic termination rule.[229] Under the rule, a failure to operate at least one satellite in accordance with the space station authorization for a continuous period of 90 days within seven years of grant, results in the automatic termination of the authorization if no authorized space station is functional in orbit.[230] In addition, a failure to launch and operate ten percent of the maximum number of satellites authorized within nine years of grant or a failure to launch and operate 50 percent of the maximum number of satellites authorized for service within 12 years of grant, as long as at least one space station is functional in orbit, also results in automatic termination of the authorization for any satellites not in orbit as of the milestone date.[231]

115. Consistent with the permanent discontinuance policy for flexible use, geographic terrestrial licenses,[232] we seek comment on whether an SCS license should be deemed to have permanently discontinued service if no service exists within the SCS geographic license area for more than 180 consecutive days or if we should use a different time period. If an SCS licensee permanently discontinues service or operations under the SCS license during the license term for more than 180 consecutive days, should the SCS license terminate automatically? Is 90 days a more appropriate timeframe for permanent discontinuance, because that is the timeframe that the Commission established for a correlated automatic termination rule in the existing SCS rules?[233] We seek comment on how to define service for purposes of discontinuance in the SCS license context. Given the different practical and technical considerations associated with satellite service compared to the terrestrial wireless services, should a shorter or longer time period be used to define permanent discontinuance in the SCS context? To what extent should continued service to only a small geographic area within the total licensed area be considered service for purposes of discontinuance? What level of service should be permitted to avoid permanent discontinuance in terms of intermittency? For example, should service for a percentage of each day be required? Should continued operation of a minimum number of satellites or percentage of the maximum number of NGSO space stations authorized, or meeting the five-year GSO schedule milestone, be considered service for purposes of discontinuance? We seek comment generally on establishing a discontinuance requirement for SCS licenses. We also seek comment on rules regarding filing requirements and extension requests. In addition, we seek comment on whether it would be appropriate to apply an SCS license permanent discontinuance rule to MSS D2D operators. We urge commenters to indicate the appropriate time period for defining permanent discontinuance, and to help us understand the interplay of the Wireless Radio Service automatic termination rule and part 100 automatic termination rule in the D2D context.

116. *D2D and Renewal Standard*. We seek comment on establishing a renewal standard that includes a safe harbor for SCS licenses, in the event we adopt D2D performance requirements. Section 1.949 of the Commission's rules provides that a Wireless Radio Service licensee seeking renewal must file a renewal application and satisfy a renewal standard.[234] As a condition of renewal, a terrestrial licensee must demonstrate a level of service over the course of the license term by meeting a safe harbor

[228] 47 CFR § 100.302(a)(6).

[229] *See id.* § 100.302.

[230] *Id.* § 100.302(a)(1); *see also id.* § 100.146(b)(3)(i).

[231] *Id.* § 100.302(a)(1); *see also id.* § 100.146(b)(3)(ii).

[232] *See id.* § 1.953.

[233] *See id.* § 100.302(a)(6).

[234] *See* 47 CFR § 1.949(d).

or by making a renewal showing.[235] In addition, a failure of a terrestrial licensee to meet the renewal standard results in denial of the renewal application and termination of the license.[236]

117. Consistent with the permanent discontinuance policy for flexible use, geographic terrestrial licenses,[237] we seek comment on allowing an SCS licensee to meet the safe harbor if at renewal it certifies that it continues to provide at least the level of service required by its final performance milestone and has never permanently discontinued service. We seek comment on whether applying this safe harbor is appropriate. We also seek comment on requiring an SCS licensee to make a renewal showing if the SCS licensee does not meet the safe harbor requirement. We further seek comment on whether an SCS licensee's failure to either meet the renewal safe harbor requirements or make a renewal showing should result in termination of the SCS license. We seek comment generally on applying this standard to SCS licenses. We also seek comment on whether to apply this renewal standard to MSS D2D operators, and specific comment on the procedure if so.

118. *Existing SCS Authorizations*. To the extent we adopt D2D performance requirements, we propose to apply the obligations to existing SCS arrangements.[238] We seek comment, particularly from satellite and terrestrial licensees currently in SCS partnerships, regarding the implications of this proposal. What special circumstances exist that affect the applicability of new D2D performance requirements on already authorized SCS operations? We seek comment on the appropriate deadlines for existing SCS operators to satisfy the potential D2D performance requirements. For example, we seek comment on whether the D2D performance requirement deadlines should be triggered by the initial SCS authorization grant date or a later date. If commenters support a later date, should we trigger the deadlines off of the effective date of the D2D performance requirements, after all SCS authorizations have been modified to reflect the proposed SCS rules, or on a case-by-case basis? In addition, we seek comment on how the proposed transition to the revised SCS framework impacts the proposed D2D performance metrics and deadlines imposed as conditions upon SpaceX in approval of the SpaceX-EchoStar transaction and separately imposed upon Grain in approval of the Grain-T-Mobile transaction, if a satellite partner is selected accordingly. Alternatively, should we apply D2D performance requirements only to prospective SCS operations? For example, are there scenarios that make it too burdensome to apply performance requirements to existing SCS arrangements?

119. *Future Considerations*. We understand that at this time, D2D satellite beams and terrestrial base stations cannot effectively serve the same geographic area at the same time on the same spectrum, due to substantial interference challenges and operational limitations. However, we recognize that potential future hybrid networks, in which terrestrial and satellite components are intertwined and indistinguishable, may require a new approach to applying performance requirements. Where terrestrial and satellite networks provide completely integrated service, performance obligations distinct from those proposed in this *Notice* may be more appropriate to evaluate networks and ensure quality service over the license term. We seek comment on the underlying assumptions guiding our proposed framework. In addition, we seek comment on future hybrid networks and what rules, if any, should be considered to support development and deployment of these networks. If networks utilize both satellite and terrestrial infrastructure and such networks provide D2D service, how should the Commission apply performance requirements? Should such hybrid networks be required to meet shared obligations, for which terrestrial and satellite operators would be jointly responsible? We seek comment on reconciling performance obligations for future networks that may use satellite and terrestrial systems to deliver service across the

[235] *See id.* § 1.949(f)

[236] *See id.* § 1.949(h).

[237] *See id.* § 1.949(e)(2).

[238] The arrangements may be subject to modification in accordance with the transition process on which we seek comment. *See supra* Section III.A.10. Transition to the Revised SCS Framework.

same geographic licensed areas.[239] Would elements of our proposed D2D framework apply in these scenarios? How could the proposed framework or the application of terrestrial and D2D performance requirements evolve to support novel network configurations? We seek comment on performance requirements for such hybrid services.

120. In addition, we acknowledge that if we adopt D2D performance requirements for SCS operations, separate and distinct performance obligations would apply in the same band; one set of requirements for terrestrial services and another set of obligations for SCS operations. Generally, we believe that today's 5G terrestrial networks are currently best positioned to provide reliable wireless service in the potential SCS bands, and that our rules should facilitate robust service and should not incentivize reduced capabilities (for example by substituting today's SCS capabilities for today's 5G service).[240] We also recognize that D2D technology and capabilities continue to improve, and that satellite service could someday deliver enhanced levels of service, similar to those offered by 5G networks today. In that light, we seek comment on whether scenarios exist now, or may exist in the future, where it would be in the public interest to allow terrestrial licensees to rely on SCS service for purposes of meeting terrestrial performance requirements. Commenters describing such scenarios should explain why a policy permitting reliance would be in the public interest, how it would maintain or improve existing levels of service, and how the Commission could address such scenarios. More broadly, as D2D services and potential hybrid service offerings evolve, we seek comment on any other considerations limited to the scope of this proceeding to ensure that wireless and satellite technologies best serve American consumers?[241]

C. International Fora

121. At the International Telecommunication Union's (ITU) World Radio Conference 2023 (WRC-23), the conference approved an agenda item (Agenda Item 1.13) for WRC-27 to study matters related to the implementation of the mobile-satellite service for direct connectivity to the mobile cell phone (IMT) user equipment (DC-MSS-IMT) to complement the terrestrial mobile network coverage. The studies cover possible allocations to MSS between 694/698 MHz and 2.7 GHz focusing on identified IMT frequency arrangements.[242] These studies assume that these D2D systems will operate with existing IMT user equipment (UEs) and thus the interference environment on the uplink will not change. Given this, the sharing and compatibility studies for DC-MSS-IMT are being conducted only for downlink operations. These studies are ongoing and are expected to conclude by the end of 2026. We are continuing to monitor these ongoing studies.

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[239] SpaceX Oct. 23 *Ex Parte* at 2.

[240] In the *SCS Report and Order*, the Commission found that it would be premature to permit reliance on SCS service for terrestrial performance obligations because of the nascent state of D2D technology and services, and the risk that such reliance would frustrate the purpose of terrestrial performance requirements. *SCS Report and Order*, 39 FCC Rcd at 2673–77, paras. 123–26 (reasoning, in part, that SCS services are "more limited than the wireless services expected by consumers" and therefore that it was "too soon to allow SCS-based construction and performance activities to fulfill the terrestrial licensees' obligations"); *see*, *e.g.*, 47 CFR § 1.9047(g). In the *SpaceX-EchoStar Order*, which included a waiver of terrestrial construction requirements and provided alternative D2D deployment milestones, WTB and SB noted that the unique circumstances of the transaction had "the potential to lead to more intensive use of [the] AWS-4, AWS-H Block, and AWS-3 spectrum" at issue and that SpaceX's proposed network could potentially "increase competition in the mobile wireless marketplace." *SpaceX-EchoStar Order* at 18–20, paras. 42–43. The Bureaus found, given the unique circumstances, including that the spectrum was underutilized and that SpaceX would be both the terrestrial licensee and satellite operator, that "the public interest would not be served by retaining buildout requirements designed for traditional terrestrial wireless services." *SpaceX-EchoStar Order* at 21, para. 47.

[241] *See* CTIA Oct. 22 10-Page *Ex Parte*.

[242] *See* ITU, *ITU-R Preparatory Studies for WRC-27*, https://www.itu.int/en/ITU-R/study-groups/rcpm/Pages/wrc-27-studies.aspx (last visited Oct. 6, 2026)

122. The 3GPP standards group is undertaking standardization efforts related to integrating NTN and terrestrial network operations to support satellite-to-handset connectivity and service continuity.[243] We seek comment and stakeholder input on the relevance and impact of work completed, underway, and anticipated by 3GPP to address NTN and terrestrial operations and otherwise facilitate satellite-to-handset technologies as it relates to the proposals in this *Notice*.[244] We note that the current 3GPP standards for NTN focus mainly on FDD, rather than TDD, implementations, and seek comment on any implications for this *Notice*, particularly related to D2D band selection. We further seek input on specific 3GPP reports or products that the Commission should incorporate or otherwise consider in this proceeding.

D. Clarification of MSS Regulatory Framework

123. Given that we are modernizing many aspects of the SCS and greater D2D frameworks herein, we further seek comment on clarifying the MSS regulatory framework to ensure most efficient use of the MSS bands. In April 2026, SB reaffirmed the Commission's finding that existing MSS licensees have exclusive rights to use certain MSS spectrum bands by dismissing the requests of several operators to enter those same bands as well as dismissing two petitions for rulemaking addressing access to the same spectrum.[245] We seek comment on codifying the exclusive use framework, whether domestically, internationally, or both, or otherwise clarify that these same rights exist for all operators licensed to provide MSS in the United States in bands allocated for primary MSS in the U.S. Table.

E. Coexistence with Radio Astronomy

124. In the *SCS Further Notice of Proposed Rulemaking*, the Commission inquired about the possible impact of the proposed SCS services on radio astronomy.[246] Similarly, here, we ask whether the

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[243] *See, e.g.*, 3GPP TS 38.300 V19.3.0 (2026-06) NR; NR and NG-RAN Overall Description; Stage 2 (Release 19); *see also* 3GPP, *Non-Terrestrial Networks (NTN)*, https://www.3gpp.org/technologies/ntn-overview (July 4, 2025) (describing 3GPP NTN developments through Release 19); 3GPP, *Release 20* (describing 3GPP Release 20 work areas), https://www.3gpp.org/specifications-technologies/releases/release-20; *SCS Report and Order* at 39 FCC Rcd 2625, para. 10 (describing 3GPP NTN developments through Release 17); Letter from Thomas Sullivan, Chief, Office of International Affairs, Joel Taubenblatt, Chief, Wireless Telecommunications Bureau, Jay Schwarz, Chief, Space Bureau, Federal Communications Commission, to Dr. Younsun Kim, Chair, 3GPP TSG RAN (June 1, 2026) (RP-2060862), https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_112/LSin/RP-260862.zip (recognizing 3GPP's standardization work related New Radio (NR)-NTN technology).

[244] We note, for example, that Amazon Leo suggests 3GPP standards development should factor into the D2D performance requirements we discuss in this *Notice*. Amazon Leo Oct. 23 *Ex Parte* at 3.

[245] *See MSS Clarification Order*. One party filed an application for review of this decision which remains pending. Application for Review of Satelio IoT Services USA, Inc., ICFS File Nos. SAT-LOA-20200526-00055 et al. (filed May 26, 2026). The Commission may grant an application for review of action taken pursuant to delegated authority in whole or in part, or it may deny the application with or without specifying reasons therefor. 47 CFR § 1.115(g). To the extent the Commission resolves issues initially decided in SB's *MSS Clarification Order*, we intend to resolve Sateliot's application for review contemporaneously pursuant to 47 CFR § 1.115(g).

[246] *SCS Report and Order*, 39 FCC Rcd at 2729, para. 252. In response to the *SCS Further Notice of Proposed Rulemaking*, commenters echoed the importance of the discoveries and scientific advancements in the radio quiet zones and at observatories and the need to preserve the degree of quietness that is currently maintained. *See, e.g.*, Comments of the National Radio Astronomy Observatory at 5–6, GN Docket 23-65, IB Docket 22-271 (filed May 25, 2024) (NRAO Comments); Comments of Outer Space Institute at 1, GN Docket 23-65, IB Docket 22-271 (filed May 29, 2024) (Outer Space Institute Comments); Comments of National Academy of Sciences' Committee on Radio Frequencies at 3–4, GN Docket 23-65, IB Docket 22-271 (filed May 30, 2024) (CORF Comments); Comments of The American Astronomical Society Committee for the Protection of Astronomy and the Space Environment at 1–2, GN Docket 23-65, IB Docket 22-271 (filed May 30, 2024) (AAS COMPASSE Comments). Moreover, various commenters expressed concern about the potential negative impact of SCS on radio astronomy. *See generally, e.g.*, NRAO Comments; AAS COMPASSE Comments; Comments of International Astronomical Union, GN Docket 23-65, IB Docket 22-271 (filed May 30, 2024) (IAU Comments); Outer Space Institute

(continued….)

same concerns raised in response by commenters would continue to exist, or if there is cause for new concerns, regarding the proposed changes to the SCS framework. Accordingly, we seek further comment on the possible impact of the proposed SCS services on radio astronomy generally for all potential SCS bands, and specifically with respect to potential SCS bands above 2 GHz, noting that there is a secondary allocation for radio astronomy in the 2.5 GHz band and a primary allocation for radio astronomy services adjacent to that band. At the same time, we recognize that SCS operators have been successfully engaging with the radio astronomy community to coordinate in good faith and to develop different techniques to achieve dynamic spectrum sharing and spectrum coexistence on a case-by-case basis.[247] We ask for input regarding impacts and mitigations for the systems already operating SCS in the United States and seek comment on how to maintain and enhance the value of current coordination efforts, including with respect to the further development of mitigation techniques. We also seek comment on the National Radio Quiet Zone (NRQZ) obligations[248] and the implications of these NRQZ protections on the proposed changes to the SCS framework.

IV. PROCEDURAL MATTERS

125. *Ex Parte Presentations*. The proceeding this *Notice of Proposed Rulemaking* initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[249] 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

(Continued from previous page)
Comments. Notably, many commenters also emphasized the importance of good faith coordination. *See, e.g.*, Reply Comments of Space Exploration Holdings, LLC at 1–2, GN Docket 23-65, IB Docket 22-271 (filed July 1, 2024) (SpaceX Reply Comments); Reply Comments of AT&T Services, Inc. at 4, GN Docket 23-65, IB Docket 22-271 (filed July 1, 2024) (AT&T Reply Comments); Reply Comments of T-Mobile USA, Inc. at 6–8, GN Docket 23-65, IB Docket 22-271 (filed July 1, 2024) (T-Mobile Reply Comments); Reply Comments of AST SpaceMobile, Inc. at 5–6, GN Docket 23-65, IB Docket 22-271 (filed July 1, 2024) (AST Reply Comments); IAU Comments at 2; AAS COMPASSE Comments at 4; CORF Comments at 13–14. Several of these commenters argue that coordination under our current rules provides sufficient protection. *See, e.g.*, SpaceX Reply Comments at 1–4; AT&T Reply Comments at 4; T-Mobile Reply Comments at 6–7; AST Reply Comments at 5–6. However, the record was divided with some commenters supporting adopting further rules or coordination requirements to ensure protection of radio astronomy operations, *see, e.g.*, Outer Space Institute Comments at 1–2; CORF Comments at 11; AAS COMPASSE Comments at 4; NRAO Comments at 6 (citing to protections in Recommendation ITU-R RA.769); Comments of Matthew Coleman at 2, GN Docket 23-65, IB Docket 22-271 (filed May 30, 2024), and those arguing that doing so would be premature or unnecessary and that radio astronomy concerns can best be evaluated on a case-by-case basis, *see, e.g.*, AT&T Reply Comments at 4; T-Mobile Reply Comments at 6–8; AST Reply Comments at 5–6; Comments of T-Mobile at 10–12, GN Docket 23-65, IB Docket 22-271 (filed May 30, 2024); Comments of CTIA at 5–6, GN Docket 23-65, IB Docket 22-271 (filed May 30, 2024). *See also Space Modernization Report and Order and FNPRM*, at 152–53, para. 404 (seeking comment on best practices for coexisting with Radio Astronomy operations).

[247] The Commission has explained that good-faith coordination places obligations on both parties to promote spectral efficiency. *See Revising Spectrum Sharing Rules for Non-Geostationary Orbit, Fixed-Satellite Service Systems*, IB Docket No. 21-456, Report and Order and Further Notice of Proposed Rulemaking, 38 FCC Rcd 3699, 3712, para. 25 (2023).

[248] *See* 47 CFR § 1.924.

[249] 47 CFR § 1.200 *et seq*.

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.

126. *Comment Period and Filing Procedures*. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://www.fcc.gov/ecfs/.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing.
    - Filings can be sent by hand or messenger delivery, by commercial courier, or by the U.S. Postal Service. **All filings must be addressed to the Secretary, Federal Communications Commission.**
    - Hand-delivered or messenger-delivered paper filings for the Commission's Secretary are accepted between 8:00 a.m. and 4:00 p.m. by the FCC's mailing contractor at 9050 Junction Drive, Annapolis Junction, MD 20701. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
    - Commercial courier deliveries (any deliveries not by the U.S. Postal Service) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
    - Filings sent by U.S. Postal Service First-Class Mail, Priority Mail, and Priority Mail Express must be sent to 45 L Street NE, Washington, DC 20554.

127. *People with Disabilities*. To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at (202) 418-0530 (voice).

128. *Availability of Documents*. Comments, reply comments, and *ex parte* submissions will be publicly available online via ECFS. Documents will be available electronically in ACSII, Microsoft Word, and/or Adobe Acrobat.

129. *Regulatory Flexibility Act*. The Regulatory Flexibility Act of 1980, as amended (RFA),[250] requires that an agency prepare a regulatory flexibility analysis for notice-and-comment rulemaking proceedings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."[251] Accordingly, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA), concerning potential rule and policy changes contained in this *Notice of Proposed Rulemaking*. The IRFA is set forth in Appendix B. The Commission invites the general public, in particular small businesses, to comment on the IRFA. Comments must be filed by the deadlines for comments on the *Notice* indicated on the first page of this

[250] 5 U.S.C. § 601 *et seq.*, as amended by the Small Business Regulatory Enforcement and Fairness Act (SBREFA), Pub. L. No. 104-121, 110 Stat. 847 (1996).

[251] *Id.* § 605(b).

document, and must also have a separate and distinct heading designating them as responses to the IRFA.

130. *Paperwork Reduction Act Analysis*. This *Notice of Proposed Rulemaking* may contain proposed new or modified information collections. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on any information collections contained in this document, as required by the Paperwork Reduction Act of 1995, 44 U.S.C. §§ 3501–3521. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, 44 U.S.C. § 3506(c)(4), we seek specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

131. *Providing Accountability Through Transparency Act*. The Providing Accountability Through Transparency Act requires each agency, in providing notice of a rulemaking, to post online a brief plain-language summary of the proposed rule.[252] Accordingly, the Commission will publish the required summary of this *Notice of Proposed Rulemaking* on https://www.fcc.gov/proposed-rulemakings.

132. *Further Information*. For additional information on this proceeding, contact Alice Koethe of the Mobility Division, Wireless Telecommunications Bureau, at Alice.Koethe@fcc.gov or (202) 418-1022, or Stephanie Neville of the Space Bureau, at Stephanie.Neville@fcc.gov or (202) 418-1671.

V. ORDERING CLAUSES

133. IT IS ORDERED that, pursuant to sections 1, 4(i), 157, 301, 303, 307, 308, 309, and 310 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 301, 303, 307, 308, 309, and 310, and section 1.411 of the Commission's rules, 47 CFR § 1.411, this *Notice of Proposed Rulemaking* IS ADOPTED.[253]

134. IT IS FURTHER ORDERED that the Commission's Office of the Secretary, SHALL SEND a copy of this *Notice of Proposed Rulemaking*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for the Small Business Administration (SBA) Office of Advocacy.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

[252] 5 U.S.C. § 553(b)(4). The Providing Accountability Through Transparency Act, Pub. L. No. 118-9 (2023), amended section 553(b) of the Administrative Procedure Act.

[253] Pursuant to Executive Order 14215, 90 Fed. Reg. 10447 (Feb. 24, 2025), this regulatory action has been determined to be significant under Executive Order 12866, 58 Fed. Reg. 51735 (Oct 4, 1993).

APPENDIX A

Proposed Rules

For the reasons discussed in the document above, the Federal Communications Commission proposes to amend 47 CFR parts 1, 2, and 100 as follows:

PART 1 – PRACTICE AND PROCEDURE

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

Authority: 47 U.S.C. chs. 2, 5, 9, 13; 28 U.S.C. 2461 note; 47 U.S.C. 1754, unless otherwise noted.

2. Add § 1.9006 to read as follows:

§ 1.9006 Leasing to Supplemental Coverage from Space Operators

The spectrum leasing policies and rules of this subpart apply to Wireless Radio Services licenses in bands identified in § 2.106(d)(33)(i) of this chapter. A Wireless Radio Service licensee may enter into a spectrum manager or *de facto* transfer leasing or subleasing arrangement with an SCS operator for the provision of SCS, as defined in § 100.3 of this chapter, only in the bands identified in § 2.106(d)(33)(i) of this chapter.

§ 1.9047 [Removed]

3. Remove § 1.9047.

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

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

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

5. Amend § 2.106(a) by:

a. Revising pages 30, 31, 32, 33, 35, 36, and 37 of the Table of Frequency Allocations; and

b. Revising paragraph (d)(33)(i).

The revisions read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

5.149 5.291A 5.294 5.296 5.300 5.304 5.306 5.312 694-790 MOBILE except aeronautical mobile 5.312A 5.317A BROADCASTING	614-698 BROADCASTING Fixed Mobile 5.293 5.308 5.308A 5.309		614-890	614-698 FIXED MOBILE Mobile-satellite NG33A NG5 NG14 NG33 NG115 NG149	RF Devices (15) Satellite Communications (25) Wireless Communications (27) LPTV, TV Translator/Booster (74G Low Power Auxiliary (74H)
	698-806 MOBILE 5.317A BROADCASTING Fixed			698-758 FIXED MOBILE Mobile-satellite NG33A NG159	Satellite Communications (25) Wireless Communications (27) LPTV and TV Translator (74G)
				758-775 FIXED MOBILE Mobile-satellite NG33A NG34 NG159	Satellite Communications (25) Public Safety Land Mobile (90R)
				775-788 FIXED MOBILE Mobile-satellite NG33A NG159	Satellite Communications (25) Wireless Communications (27) LPTV and TV Translator (74G)
5.300 5.312 790-862 FIXED MOBILE except aeronautical mobile 5.316B 5.317A BROADCASTING				788-805 FIXED MOBILE Mobile-satellite NG33A NG34 NG159	Satellite Communications (25) Public Safety Land Mobile (90R)
				805-806 FIXED MOBILE Mobile-satellite NG33A NG159	Satellite Communications (25) Wireless Communications (27) LPTV and TV Translator (74G)
	5.293 5.309 806-890 FIXED MOBILE 5.317A BROADCASTING			806-809 LAND MOBILE	Public Safety Land Mobile (90S)
				809-849 FIXED LAND MOBILE Mobile-satellite NG33A	Public Mobile (22) Satellite Communications (25) Private Land Mobile (90)
				849-851 AERONAUTICAL MOBILE	Public Mobile (22)
				851-854 LAND MOBILE	Public Safety Land Mobile (90S)
5.312 5.319 862-890 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322				854-894 FIXED LAND MOBILE Mobile-satellite NG33A	Public Mobile (22) Satellite Communications (25) Private Land Mobile (90)
5.319 5.323	5.317 5.318	5.149 5.305 5.306 5.307 5.320		US116 US268	Page 30

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890-942	890-902	890-942	890-902	(See previous page)	
FIXED	FIXED	FIXED		894-896	
MOBILE except aeronautical mobile 5.317A	MOBILE except aeronautical mobile 5.317A	MOBILE 5.317A		AERONAUTICAL MOBILE	Public Mobile (22)
BROADCASTING 5.322	Radiolocation	BROADCASTING		US116 US268	
Radiolocation		Radiolocation		896-901	
				FIXED	
				MOBILE except aeronautical mobile	
				Mobile-satellite NG33A	Satellite Communications (25)
					Wireless Communications (27)
					Private Land Mobile (90)
				US116 US268	
				901-902	
				FIXED	Personal Communications (24)
				MOBILE	
	5.318 5.325		US116 US268 G2	US116 US268	
	902-928		902-928	902-928	
	FIXED		RADIOLOCATION G59		RF Devices (15)
	Amateur				ISM Equipment (18)
	Mobile except aeronautical mobile 5.325A				Private Land Mobile (90)
	Radiolocation				Amateur Radio (97)
	5.150 5.325 5.326		5.150 US218 US267 US275 G11	5.150 US218 US267 US275	
	928-942		928-932	928-929	Public Mobile (22)
	FIXED			FIXED	Private Land Mobile (90)
	MOBILE except aeronautical mobile 5.317A			US116 US268 NG35	Fixed Microwave (101)
	Radiolocation			929-930	
				FIXED	Private Land Mobile (90)
				LAND MOBILE	
				US116 US268	
				930-931	
				FIXED	Personal Communications (24)
				MOBILE	
				US116 US268	
				931-932	
				FIXED	Public Mobile (22)
				LAND MOBILE	
			US116 US268 G2	US116 US268	
			932-935	932-935	
			FIXED	FIXED	Public Mobile (22)
			US268 G2	US268 NG35	Fixed Microwave (101)
			935-941	935-940	
				FIXED	Satellite Communications (25)
				MOBILE except aeronautical mobile	Wireless Communications (27)
				Mobile-satellite NG33A	Private Land Mobile (90)
5.323	5.325	5.327	US116 US268 G2	US116 US268	

				940-941 FIXED MOBILE US116 US268	Personal Communications (24
			941-944 FIXED US84 US268 US301 G2	941-944 FIXED US84 US268 US301 NG30 NG35	Public Mobile (22) Aural Broadcast Auxiliary (74E) Low Power Auxiliary (74H) Fixed Microwave (101)
942-960 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.323	942-960 FIXED MOBILE 5.317A	942-960 FIXED MOBILE 5.317A BROADCASTING 5.320	944-960	944-960 FIXED NG35	
960-1164 AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328 5.328AA			960-1164 AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328 5.328AA US78 US224		Aviation (87)
1164-1215 AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.328A			1164-1215 AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328A US224		
1215-1240 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) 5.330 5.331 5.332			1215-1240 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION G56 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) G132 SPACE RESEARCH (active) 5.332	1215-1240 Earth exploration-satellite (active) Space research (active)	
1240-1300 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.282 5.330 5.331 5.332 5.335 5.335A			1240-1300 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION G56 SPACE RESEARCH (active) AERONAUTICAL RADIONAVIGATION 5.332 5.335	1240-1300 AERONAUTICAL RADIONAVIGATION Amateur Earth exploration-satellite (active) Space research (active) 5.282	Amateur Radio (97)
1300-1350 RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.337 RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A			1300-1350 AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation G2 US342	1300-1350 AERONAUTICAL RADIONAVIGATION 5.337 US342	Aviation (87)
1350-1400 FIXED MOBILE RADIOLOCATION	1350-1400 RADIOLOCATION 5.338A		1350-1390 FIXED MOBILE RADIOLOCATION G2 5.334 5.339 US342 US385 G27 G114	1350-1390 5.334 5.339 US342 US385	
			1390-1395 5.339 US79 US342 US385	1390-1395 FIXED MOBILE except aeronautical mobile Mobile-satellite NG33A 5.339 US79 US342 US385 NG338A	Satellite Communications (25) Wireless Communications (27)
5.149 5.338 5.338A 5.339	5.149 5.334 5.339		1395-1400 LAND MOBILE (medical telemetry and medical telecommand) 5.339 US79 US342 US385		Personal Radio (95)

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1427-1429 SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.341A 5.341B 5.341C 5.338A 5.341			1427-1429.5 LAND MOBILE (medical telemetry and medical telecommand) US350 5.341 US79	1427-1429.5 LAND MOBILE (telemetry and telecommand) Fixed (telemetry) 5.341 US79 US350 NG338A	Private Land Mobile (90) Personal Radio (95)
1429-1452 FIXED MOBILE except aeronautical mobile 5.341A 5.338A 5.341 5.342	1429-1452 FIXED MOBILE 5.341B 5.341C 5.343 5.338A 5.341		1429.5-1432 5.341 US79 US350	1429.5-1432 FIXED (telemetry and telecommand) LAND MOBILE (telemetry and telecommand) 5.341 US79 US350 NG338A	
			1432-1435 5.341 US83	1432-1435 FIXED MOBILE except aeronautical mobile Mobile-satellite NG33A 5.341 US83 NG338A	Satellite Communications (25) Wireless Communications (27)
1452-1492 FIXED MOBILE except aeronautical mobile 5.346 BROADCASTING BROADCASTING-SATELLITE 5.208B 5.341 5.342 5.345	1452-1492 FIXED MOBILE 5.341B 5.343 5.346A BROADCASTING BROADCASTING-SATELLITE 5.208B 5.341 5.344 5.345		1435-1525 MOBILE (aeronautical telemetry) US338A 5.341 US84 US343		Aviation (87)
1492-1518 FIXED MOBILE except aeronautical mobile 5.341A 5.341 5.342	1492-1518 FIXED MOBILE 5.341B 5.343 5.341 5.344	1492-1518 FIXED MOBILE 5.341C 5.341			
1518-1525 FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341 5.342	1518-1525 FIXED MOBILE 5.343 MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341 5.344	1518-1525 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341			
1525-1530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile except aeronautical mobile 5.349 5.341 5.342 5.350 5.351 5.352A 5.354	1525-1530 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Fixed Mobile 5.343 5.341 5.351 5.354	1525-1530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile 5.349 5.341 5.351 5.352A 5.354	1525-1535 MOBILE-SATELLITE (space-to-Earth) US315 US380		Satellite Communications (25) Maritime (80)

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Table of Frequency Allocations		1626.5-2110 MHz (UHF)			Page 35
International Table			United States Table		FCC Rule Part(s)
Region 1 Table	Region 2 Table	Region 3 Table	Federal Table	Non-Federal Table	
1626.5-1660 MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.357A 5.359 5.362A 5.374 5.375 5.376			1626.5-1660 MOBILE-SATELLITE (Earth-to-space) US308 US309 US315 US380 5.341 5.351 5.375		Satellite Communications (25) Maritime (80) Aviation (87)
1660-1660.5 MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.362A 5.376A			1660-1660.5 MOBILE-SATELLITE (Earth-to-space) US308 US309 US380 RADIO ASTRONOMY 5.341 5.351 US342		Satellite Communications (25) Aviation (87)
1660.5-1668 RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A			1660.5-1668.4 RADIO ASTRONOMY US74 SPACE RESEARCH (passive)		
1668-1668.4 MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A			5.341 US246		
1668.4-1670 METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E			1668.4-1670 METEOROLOGICAL AIDS (radiosonde) RADIO ASTRONOMY US74 5.341 US99 US342		
1670-1675 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.341 5.379D 5.379E 5.380A			1670-1675 5.341 US211 US362	1670-1675 FIXED MOBILE except aeronautical mobile Mobile-satellite NG33A 5.341 US211 US362	Satellite Communications (25) Wireless Communications (27)
1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.341			1675-1695 METEOROLOGICAL AIDS (radiosonde) METEOROLOGICAL-SATELLITE (space-to-Earth) US88 5.341 US211 US289		
1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 5.289 5.341 5.382	1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) 5.289 5.341 5.381		1695-1710 METEOROLOGICAL-SATELLITE (space-to-Earth) US88	1695-1710 FIXED MOBILE except aeronautical Mobile Mobile-satellite NG33A	Satellite Communications (25) Wireless Communications (27)

1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.289 5.341		1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.289 5.341 5.384	5.341	5.341 US88	
1710-1930 FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.386 5.387 5.388			1710-1761 5.341 US91 US378 US385	1710-1780 FIXED MOBILE Mobile-satellite NG33A 5.341 US91 US378 US385	
			1761-1780 SPACE OPERATION (Earth-to-space) G42 US91		
			1780-1850 FIXED MOBILE SPACE OPERATION (Earth-to-space) G42	1780-1850	
1930-1970 FIXED MOBILE 5.388A 5.388B 5.388	1930-1970 FIXED MOBILE 5.388A 5.388B Mobile-satellite (Earth-to-space) 5.388	1930-1970 FIXED MOBILE 5.388A 5.388B 5.388	1850-2025	1850-2000 FIXED MOBILE Mobile-satellite NG33A	RF Devices (15) Personal Communications (24) Satellite Communications (25) Wireless Communications (27) Fixed Microwave (101)
1970-1980 FIXED MOBILE 5.388A 5.388B 5.388					
1980-2010 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A 5.389B 5.389F					
				2000-2020 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space)	Satellite Communications (25) Wireless Communications (27)
2010-2025 FIXED MOBILE 5.388A 5.388B 5.388	2010-2025 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.388 5.389C 5.389E	2010-2025 FIXED MOBILE 5.388A 5.388B 5.388		2020-2025 FIXED MOBILE	
2025-2110 SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392			2025-2110 SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) SPACE RESEARCH (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 5.392 US90 US92 US222 US346 US347	2025-2110 FIXED NG118 MOBILE 5.391 Space Operation (Earth-to-space) US94 5.392 US90 US92 US222 US346 US347	Space Launch Services (26) TV Auxiliary Broadcasting (74F) Cable TV Relay (78) Local TV Transmission (101J)

Table of Frequency Allocations — 2110-2483.5 MHz (UHF) — Page 37

International Table			United States Table		FCC Rule Part(s)
Region 1 Table	Region 2 Table	Region 3 Table	Federal Table	Non-Federal Table	
2110-2120 FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (Earth-to-space) 5.388			2110-2120 US252	2110-2120 FIXED MOBILE Mobile-satellite NG33A US252	Public Mobile (22) Wireless Satellite Communications (25) Communications (27) Fixed Microwave (101)
2120-2170 FIXED MOBILE 5.388A 5.388B 5.388	2120-2160 FIXED MOBILE 5.388A 5.388B Mobile-satellite (space-to-Earth) 5.388 2160-2170 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.388 5.389C 5.389E	2120-2170 FIXED MOBILE 5.388A 5.388B 5.388	2120-2200	2120-2180 FIXED MOBILE Mobile-satellite NG33A NG41	
2170-2200 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A 5.388 5.389A 5.389F				2180-2200 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth)	Satellite Communications (25) Wireless Communications (27)
2200-2290 SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) 5.392			2200-2290 SPACE OPERATION (space-to-Earth) (space-to-space) US96 EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED (line-of-sight only) MOBILE (line-of-sight only including aeronautical telemetry, but excluding flight testing of manned aircraft) 5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) 5.392 US303	2200-2290 US96 US303	Space Launch Services (26)
2290-2300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)			2290-2300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	2290-2300 SPACE RESEARCH (deep space) (space-to-Earth)	
2300-2450 FIXED MOBILE 5.384A Amateur Radiolocation	2300-2450 FIXED MOBILE 5.384A RADIOLOCATION Amateur		2300-2305 G122	2300-2305 Amateur	Amateur Radio (97)
			2305-2310 US97 G122	2305-2310 FIXED MOBILE except aeronautical mobile RADIOLOCATION Amateur US97	Wireless Communications (27) Amateur Radio (97)

* * * * *

(d) * * *

(33) * * *

(i) NG33A The secondary MSS operations in the bands 614–652 MHz, 663–769 MHz, 775–799 MHz, 805–806 MHz, 817–824 MHz, 824–849 MHz, 862–869 MHz, 869–894 MHz, 896–901 MHz, 935–940 MHz, 1390–1395 MHz, 1432–1435 MHz, 1670–1675 MHz, 1695–1780 MHz, 1850–1920 MHz, 1930–2000 MHz, 2110–2180 MHz, are limited to Supplemental Coverage from Space (SCS) and are subject to the Commission's SCS rules in part 100 of this chapter.

* * * * *

PART 100 – SPACE AND EARTH STATION SERVICES

6. The authority citation for part 100 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 § 100.3 by:

a. Removing the definition of "*Geographically independent area (GIA)*";

b. Revising the definitions of "*Supplemental coverage from space (SCS)*" and "*SCS earth stations*"; and

c. Adding, in alphabetical order, the definitions of "*SCS coexistence agreement*," "*SCS geographic license area*," and "*SCS operator*."

The revisions read as follows:

§ 100.3 Definitions.

* * * * *

SCS coexistence agreement. The agreement between an SCS applicant or an SCS operator with co-channel Wireless Radio Service licensees that cover the same geographic area.

SCS earth stations. Any earth station used for the provision of supplemental coverage from space consistent with § 100.113.

SCS geographic license area. The geographic area within the United States where an SCS operator serves, as reflected in the SCS authorization.

SCS operator. Any NGSO or GSO operator authorized to provide SCS.

* * * * *

Supplemental coverage from space (SCS). The provision of space-based communications services to end-user devices in bands authorized by § 2.106(d)(33)(i) in the United States Table of Frequency Allocations. NGSO and GSO operators seeking to provide SCS must be in compliance with § 100.113 of this chapter.

* * * * *

8. Amend § 100.113 by:

a. Revising paragraphs (a), b(1)(i)–(iii), and (b)(2), and the introductory text of paragraph (b)(1);

b. Adding paragraph (b)(1)(iv); and

c. Removing and reserving paragraphs (b)(3), (b)(4), and (c)(2).

The revisions and additions read as follows:

§ 100.113 Applications for supplemental coverage from space.

(a) *SCS entry criteria.* This section applies only to applicants seeking to provide SCS. An applicant for an SCS space station authorization must hold either an existing NGSO or GSO license or grant of U.S. market access under this part, or must be seeking a NGSO or GSO license or grant of U.S. market access under this part, and must have an SCS coexistence agreement with one or more terrestrial wireless licensee(s), unless the satellite provider holds the underlying terrestrial license(s). Applicants for SCS space stations must comply with the requirements set forth in paragraph (b) of this section.

(b) * * *

(1) The application must include:

(i) A comprehensive proposal for the prospective SCS system filed in accordance with section 100.110;

(ii) An identification of the spectrum band(s) the SCS applicant seeks to use for its SCS services;

(iii) A demarcation of the SCS geographic area within the United States to be served, in a map uploaded with the application; and

(iv) A certification that in the SCS geographic license area to be served (1) the applicant has an SCS coexistence agreement with the terrestrial licensee(s) whose license(s) cover the SCS geographic license area the applicant seeks to serve; or (2) the applicant holds the terrestrial license(s) in the SCS geographic license area the applicant seeks to serve. One or both of the two certifications may be required, depending on the terrestrial license holdings in an SCS geographic license area.

(2) Applications to modify an authorization under this part to provide SCS and applications seeking to provide SCS in the bands identified in § 2.106(d)(33)(i) of this chapter will not be subject to the processing round procedures or first-come, first-served procedures in §§ 100.140 and 100.141 for the SCS frequencies.

(3) [Removed and reserved]

(4) [Removed and reserved]

(c) * * *

(2) [Removed and reserved];

* * * * *

9. Amend § 100.120 by:

a. Revising paragraphs (d)(2)(ii) and (d)(4)(i), and the introductory text of paragraphs (d)(2) and (d)(7); and

b. Removing and reserving paragraphs (d)(3) and (d)(4)(iii).

The revisions read as follows:

§ 100.120 Earth station licensing application requirements.

* * * * *

(d) * * *

(2) A satellite operator licensed under § 100.113 to provide SCS is permitted to communicate with all SCS earth stations that have been approved for such use under part 2 of this chapter.

(i) * * *

(ii) The device certification must show compliance with at least one of either part 22, 24, or 27 of this chapter, as applicable.

(3) [Removed and reserved]

(4) * * *:

(i) The service is provided during the valid duration of any SCS license term; and

(ii) * * *

(iii) [Removed and reserved]

* * * * *

(7) A handset or terrestrial device other than an SCS earth station authorized to operate pursuant to part 22, part 24, or part 27 of this chapter may communicate with a space station or satellite without the need for a separate earth station license or authorization so long as:

* * * * *

10. Amend § 100.212 by:

a. Revising the section heading;

b. Revising paragraph (a)(1) and the introductory text of paragraph (a); and

c. Removing and reserving paragraph (a)(2).

The revisions read as follows:

§ 100.212 Power flux-density limits.

(a) *Signal Strength Limits; SCS.*

(1) The aggregate power flux-density at the license boundary at the earth's surface produced by all visible beams and satellites within each satellite constellation providing SCS service as they move over any given point or area in bands authorized by NG33A in the United States Table of Frequency Allocations and § 100.113 of this chapter must not exceed −76 dBm/m^2/MHz.

(2) [Removed and reserved]

* * * * *

11. Add § 100.291 to read as follows:

§ 100.291 Supplemental coverage from space ongoing obligations.

(a) *Current SCS Certification Agreement.* An SCS licensee must ensure that its SCS coexistence agreement certification is current and accurately reflects the status of the terrestrial license holdings within its SCS geographic license area. To update its SCS coexistence agreement certification, an SCS licensee shall file a modification application of its SCS license.

(b) *Expanded SCS Geographic License Area*. An SCS licensee may apply to modify its license to expand the licensed geographic area. To expand its license area, an SCS licensee must file a modification application that:

(1) demarcates the expanded geographic license area within the United States the SCS licensee intends to serve, in a map uploaded with the application; and

(2) certifies that at least one of the following conditions applies:

(i) the SCS licensee has a coexistence agreement with the terrestrial licensee(s) whose licenses cover the geographic area the SCS licensee seeks to serve;

(ii) the SCS licensee holds the terrestrial license(s) in the geographic area the applicant seeks to serve; and/or

(iii) the terrestrial license(s) covering the geographic area the SCS licensee seeks to serve is in the Commission's inventory.

APPENDIX B

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] the Federal Communications Commission (Commission) has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the policies and rules proposed in the *Notice of Proposed Rulemaking* (*Notice*) assessing the possible significant economic impact on a substantial number of small entities. The Commission requests written public comments on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments specified on the first page of the *Notice*. The Commission will send a copy of the *Notice*, including this IRFA, to the Chief Counsel for the Small Business Administration (SBA) Office of Advocacy.[2] In addition, the *Notice* and IRFA (or summaries thereof) will be published in the Federal Register.[3]

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

2. In the *Notice*, the Commission continues its global leadership in Direct-to-Device (D2D) by proposing and seeking comment on rules that promote D2D connectivity and reflect today's convergence in terrestrial- and satellite-based connectivity. D2D describes a technology by which a space-based service communicates directly to unmodified end-user devices such as smartphones. The *Notice* proposes to revise and relax the rules introduced in the *Single Network Future: Supplemental Coverage from Space Report and Order and Further Notice of Proposed Rulemaking* (*SCS Report and Order*),[4] updating the SCS framework to realize flexibility across a wide range of spectrum bands, permitting terrestrial, satellite, and hybrid service in the specified bands. The Commission proposes to enable SCS on six additional spectrum bands and to amend the SCS rules for all SCS bands, modernizing technical requirements and eliminating unnecessary procedural burden. We also seek comment on whether to add such a footnote allocation for two additional bands. In addition, the Commission seeks input on the appropriate performance requirements to incentivize SCS and MSS operators to provide high-quality D2D service.

3. The issues discussed in the *Notice* relate to rules that would foster an accelerated pace of innovation in converged networks, continuing the Commission's efforts to free up spectrum for wireless use, enable hybrid networks, and modernize satellite licensing rules. The revised SCS framework ultimately intends to increase connectivity across the country. This proceeding will enable the wireless and space industries to consistently adapt and redefine their networks to fulfill evolving consumer expectations for reliable and continuous spectrum-based connectivity.

4. In the *Notice*, the Commission proposes to modernize the existing SCS framework. The Commission proposes to authorize SCS on a secondary basis in additional bands with a primary Wireless Radio Service (WRS), and to adopt service and technical rules for both existing and potential SCS bands that are designed to ensure protection of geographic and spectral neighbors. The proposed SCS rules are inherently flexible. The *Notice* discusses the incumbent operations in each band, as well as the operations in adjacent bands. In particular, we seek comment in the *Notice* regarding the benefits and feasibility of using each particular band for D2D, with the intent to minimize in-band and adjacent band coexistence

[1] 5 U.S.C. § 601 *et seq*., as amended by the Small Business Regulatory Enforcement and Fairness Act (SBREFA), Pub. L. No. 104-121, 110 Stat. 847 (1996).

[2] *Id.* § 603(a).

[3] *Id*.

[4] *See Single Network Future: Supplemental Coverage from Space, Space Innovation*, GN Docket No. 23-65, IB Docket 22-271, Report and Order and Further Notice of Proposed Rulemaking, 39 FCC Rcd 2622 (2024) (*SCS Report and Order*).

challenges. We also seek comment on whether there are other WRS bands, beyond those proposed in this *Notice*, that may be suitable for D2D operations.

5. To promote D2D, the Commission proposes to authorize satellite-to-terrestrial (uplink and downlink) operations by allowing an NGSO satellite operator with part 100 authorization to obtain an SCS license. The proposed allocation is limited to transmission between a space station and an end-user device that is licensed by rule under the Commission's part 100 earth station licensing rules. We propose applying the new and amended SCS service and technical rules generally to existing SCS authorizations as well as any prospective SCS operations. The proposed SCS rules permit D2D on 11 WRS bands, including the five bands currently allocated for SCS and six additional bands, and would be premised upon coexistence agreement with terrestrial licensees and protections for geographic and spectral neighbors. The Commission proposes to expand the number of bands with a non-federal mobile-satellite service footnote allocation:

- 600 MHz (614–652 MHz, 663–698 MHz)
- 700 MHz (698–769 MHz, 775 MHz–799 MHz, 805–806 MHz)
- 800 MHz (824–849 MHz and 869–894 MHz)
- 800 MHz ESMR (817–824 MHz, 862–869 MHz)
- 900 MHz Broadband (896–901 MHz, 935–940 MHz)
- 1.4 GHz (1390–1395 MHz, 1432–1435 MHz)
- 1670–1675 MHz
- AWS-1 (1710–1755 MHz, 2110–2155 MHz)
- AWS-3 (1695–1710 MHz, 1755–1780 MHz, 2155–2180 MHz)
- Broadband PCS (1850–1915 MHz and 1930–1995 MHz)
- AWS-H Block (1915–1920 MHz and 1995–2000 MHz)

6. The Commission also seeks comment on whether to add such a footnote to the 2.5 GHz and 3.45 GHz bands, recognizing potential challenges with incorporating SCS operations in those bands. We anticipate that the proposed revisions to the SCS framework will incentivize creative arrangements between terrestrial network and space station operators, and will provide additional tools to close wireless coverage gaps while at the same time retaining high service quality among 4G and 5G terrestrial networks, protecting spectrum usage rights, and avoiding harmful interference.

7. The *Notice* proposes service rules outlining the requirements for obtaining, and maintaining, an SCS license. The *Notice* also proposes technical rules, which require SCS operators to protect adjacent band operations. The Commission seeks comment on technical rules that establish out of band emissions limits, power limits, and field strength limits at the SCS geographic license area boundary. We also seek comment on coordination issues and interference resolution procedures. The *Notice* also seeks comment on whether to extend the interim 911 service requirements, adopted in the SCS proceeding, directly to satellite operators. To promote regulatory certainty and consistency, the *Notice* proposes transitioning SCS authorizations to the revised SCS framework and sunsetting SCS rules that are not otherwise modified by the proposed SCS rules.

8. Additionally, to ensure existing and future MSS operators and SCS licensees provide meaningful consumer benefits, the Commission seeks comment on D2D performance requirements. Consistent with the approach used for terrestrial licenses, the *Notice* outlines potential performance metrics, discontinuance rules, and renewal requirements for existing and prospective SCS licensees and MSS D2D operators. The *Notice* seeks comment on alternative performance metrics and details related to the proposed discontinuance rule and renewal requirements.

9. The proposed rules in the *Notice* go beyond current satellite and terrestrial rules to develop a harmonized opportunity across spectrum bands. In addition, the proposed rules aim to provide new opportunities to integrate space assets and ground infrastructure, enabling small and other licensees to adapt their networks as new technological capabilities are developed and to better serve consumers across the country.

B. Legal Basis

10. The proposed action is authorized pursuant to sections 1, 4(i), 157, 301, 303, 307, 308, 309, and 310 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 301, 303, 307, 308, 309, and 310, and section 1.411 of the Commission's rules, 47 CFR § 1.411.

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

11. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.[5] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[6] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[7] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[8] The SBA establishes small business size standards that agencies are required to use when promulgating regulations relating to small businesses; agencies may establish alternative size standards for use in such programs, but must consult and obtain approval from SBA before doing so.[9]

12. Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe three broad groups of small entities that could be directly affected by our actions.[10] In general, a small business is an independent business having fewer than 500 employees.[11] These types of small businesses represent 99.9% of all businesses in the United States, which translates to 34.75 million businesses.[12] Next, "small organizations" are not-for-profit enterprises that are independently owned and operated and not dominant in their field.[13] While we do not have data regarding the number of non-profits that meet that criteria, over 99 percent of nonprofits have fewer than 500 employees.[14] Finally, "small governmental jurisdictions" are defined as cities, counties, towns, townships, villages, school districts, or special districts with populations of less than fifty thousand.[15] Based on the 2022 U.S.

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[5] 5 U.S.C. § 603(b)(3).

[6] *Id*. § 601(6).

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

[8] 15 U.S.C. § 632.

[9] 13 CFR § 121.903.

[10] 5 U.S.C. § 601(3)–(6).

[11] *See* SBA, Office of Advocacy, *Frequently Asked Questions About Small Business* (July 23, 2024), https://advocacy.sba.gov/wp-content/uploads/2024/12/Frequently-Asked-Questions-About-Small-Business_2024-508.pdf.

[12] *Id*.

[13] 5 U.S.C. § 601(4).

[14] *See* SBA, Office of Advocacy, *Small Business Facts, Spotlight on Nonprofits* (July 2019), https://advocacy.sba.gov/2019/07/25/small-business-facts-spotlight-on-nonprofits/.

[15] 5 U.S.C. § 601(5).

Census of Governments data, we estimate that at least 48,724 out of 90,835 local government jurisdictions have a population of less than 50,000.[16]

13. The rules proposed in the *Notice* will apply to small entities in the industries identified in the chart below by their six-digit North American Industry Classification System (NAICS)[17] codes and corresponding SBA size standard.[18] Where available, the Commission also provides additional information regarding the number of potentially affected entities in the industries identified below.

Table 1. 2022 U.S. Census Bureau Data by NAICS Code

Regulated Industry (Footnotes specify potentially affected entities within a regulated industry where applicable)	NAICS Code	SBA Size Standard	Total Firms[19]	Total Small Firms[20]	% Small Firms
Other Communications Equipment Manufacturing[21]	334290	800 employees	310	294	94.84%
Wireless Telecommunications Carriers (except Satellite)[22]	517112	1,500 employees	1,184	1,081	91.30%
Satellite Telecommunications[23]	517410	$44 million	332	195	58.73%
All Other Telecommunications[24]	517810	$40 million	1,673	1,007	60.19%

[16] *See* U.S. Census Bureau, 2022 Census of Governments—Organization, https://www.census.gov/data/tables/2022/econ/gus/2022-governments.html, tables 1-11.

[17] The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. *See* www.census.gov/NAICS for further details regarding the NAICS codes identified in this chart.

[18] The size standards in this chart are set forth in 13 CFR § 121.201, by six digit North American Industrial Classification System (NAICS) code.

[19] *U.S. Census Bureau*, "*Selected Sectors: Employment Size of Firms for the U.S.: 2022*." Economic Census, ECN Core Statistics Economic Census: Establishment and Firm Size Statistics for the U.S., Table EC2200SIZEEMPFIRM, 2025, "*Selected Sectors: Sales, Value of Shipments, or Revenue Size of Firms for the U.S.: 2022*." Economic Census, ECN Core Statistics Economic Census: Establishment and Firm Size Statistics for the U.S., Table EC2200SIZEREVFIRM, 2025.

[20] *Id.*

[21] Affected Entities in this industry include Radio Frequency Equipment Manufacturers (Non-standard specialized equipment) and Vendors of Infrastructure Development Network Buildout.

[22] Affected Entities in this industry include 1.4 GHz Band Licensees, 1670–1675 MHz Services, 600 MHz Band, 700 Guard Band Licensees, Advanced Wireless Services - AWS Services, Broadband Personal Communications Service, Broadband Radio Service and Educational Broadband Service, Experimental Radio Service (Other Than Broadcast), Lower 700 MHz Band Licenses, Private Land Mobile Radio - 900 MHz Band, Public Safety Radio Licensees, Specialized Mobile Radio Licenses, Upper 700 MHz Band Licenses, Wireless Broadband Internet Access Service Providers, Wireless Carriers and Service Providers, Wireless Telephony.

[23] Affected Entities in this industry include Fixed Satellite Small Transmit/Receive Earth Stations, Fixed Satellite Very Small Aperture Terminal (VSAT) Systems, Mobile Satellite Earth Stations.

[24] Affected Entities in this industry include Earth Stations (except Satellite Telecommunications Carriers), Internet Service Providers (Non-Broadband), Non-Carrier RespOrgs, Non Licensee Owners of Towers and Other Infrastructure, Online Access Service Providers, Radar Station Operations, Satellite Telemetry Operations, Satellite

(continued….)

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

14. The RFA directs agencies to describe the economic impact of proposed rules on small entities, as well as projected reporting, recordkeeping and other compliance requirements, including an estimate of the classes of small entities which will be subject to the requirements and the type of professional skills necessary for preparation of the report or record.[25]

15. The proposed changes in the *Notice*, if adopted, may require small entities to hire attorneys, engineers, consultants, or other professionals to comply. Although the Commission cannot quantify the cost of compliance at this time, the proposed rule changes are largely consistent with existing policies and requirements in part 100 and provide increased flexibility by eliminating or revising elements of the SCS framework. Therefore, small entities familiar with the current SCS framework may already be familiar with proposed policies and requirements, and may have processes and procedures in place to facilitate compliance. We also anticipate that the comments we receive from small and other entities will assist the Commission in identifying and evaluating the extent of potential burdens on small entities, including compliance costs and other economic or administrative burdens that may result from the inquiries we make in the *Notice*. Below we provide an overview of proposals described in the *Notice* that may, if adopted, lead to modified or additional reporting, recordkeeping, or other compliance requirements for small entities.

16. In the *Notice*, the Commission proposes a new SCS eligibility framework requiring: (1) demarcation of the geographic area to be served; (2) certification of a coexistence agreement or agreements between the SCS satellite operator and primary terrestrial licensee(s) of the relevant spectrum in the demarcated geographic area to be served or a certification that circumstances exist to make an SCS coexistence agreement unnecessary; and (3) identification of the spectrum band(s) to be used for SCS operations in a part 100 license application. Consistent with the existing SCS framework, satellite operators authorized for NGSO satellite operation under part 100 will be eligible to provide D2D under the revised SCS framework. We seek comment on the details of determining the geographic area of the SCS license and the coexistence agreement certification requirement, as well as on the associated filing requirements.

17. The Commission also proposes to issue a single SCS license to each applicant in a given spectrum band, covering the entire geographic area the SCS licensee intends to serve in that band. The proposed license does not need to be contiguous and does not need to align with terrestrial license geographic area boundaries. In addition, the area can be modified to expand the SCS geographic license area if the SCS licensee has entered into applicable coexistence agreements. This approach minimizes regulatory burdens and allows increased flexibility in D2D service deployments. The *Notice* seeks comment on this geographic license area approach, including on data filed to demarcate the geographic license area.

18. Regarding the proposed coexistence agreement certification, the Commission finds that the SCS lease requirement is unnecessarily restrictive and proposes a certification requirement and accompanying technical rules. The *Notice* proposes that SCS licensees will certify that they have a valid coexistence agreement with the relevant terrestrial licensees. A certification that a coexistence agreement exists between the satellite operator and primary terrestrial licensee of the relevant spectrum is not required if either the SCS applicant also holds the underlying terrestrial license(s) or the underlying terrestrial license(s) is not held by a licensee. The exact terms of any coexistence agreement need not be reported to the Commission. If a coexistence agreement is terminated, the *Notice* proposes that the SCS

(Continued from previous page)
Tracking Stations, Telecommunications Relay Service (TRS) Providers, Telemetry and Tracking System Operations and VoIP Service Providers (via Client-Supplied Telecommunications Connections).

[25] 5 U.S.C. § 603(b)(4).

licensee must cease operations in the portion of the SCS geographic license area at issue, and file a modification of its license accordingly. We propose that the SCS applicant make its certification in its SCS application filed in the International Communications Filing System (ICFS) and seek comment on these requirements. The *Notice* also proposes that an SCS operator must hold a part 100 license to ensure compliance with the Commission's satellite regulatory framework.

19. The proposed SCS technical rules provide protection for adjacent terrestrial services and address general concerns of harmful interference. We seek comment on the technical rules, including out-of-band emissions (OOBE) limits for the existing and potential SCS bands. The Commission believes that limits will provide for effective and efficient adjacent band coexistence while still balancing the need for sufficient transmit power levels. We also seek comment on adopting a fundamental PFD power limit and establishing field strength limits at SCS geographic license area boundaries. We propose that the field strength limits be applied to aggregate power received from all the visible beams from satellite constellations offering D2D service in each existing and potential SCS band. Further, the *Notice* seeks comment on a streamlined mechanism to address coordination and interference issues among prospective SCS licensees, adjacent band operators, and co-channel operators. The *Notice* also seeks comment on whether to revisit the interim 911 call and text routing requirements adopted in the *SCS Report and Order*, including whether to apply these requirements directly to satellite operators in light of the changes to the SCS framework contemplated in this *Notice*. No Wireless Emergency Alerts (WEA) proposals are made in this *Notice*.

20. The *Notice* seeks comment on D2D performance requirements, a permanent discontinuance rule, and license renewal requirements for existing and prospective SCS and MSS D2D operators. If performance requirements are adopted, the *Notice* proposes that performance will be assessed based on the percentage of time when service is available across a percentage of the total geographic area of the license. The Commission seeks comment on milestones at two-, four-, and nine-year for demonstrating performance that meets or exceeds metrics. We also seek comment on penalties that would apply for failure to meet performance milestones. The *Notice* also seeks comment on the filings that should be required to demonstrate and verify compliance with the performance requirements, permanent discontinuance rule, and license renewal requirements. The rules and filing requirements discussed in the *Notice* are largely consistent with existing Commission rules.

21. Finally, the *Notice* seeks comment on the Commission's proposed approach, including the costs, benefits, and burdens associated with alternative methods of licensing to enable D2D service. The Commission expects the information received in comments including, where requested, cost and benefit analyses, to help the Commission identify and evaluate relevant compliance matters for small entities, including compliance costs and other burdens that may result if the proposals and associated requirements discussed in the Notice are adopted.

E. Discussion of Significant Alternatives Considered That Minimize the Significant Economic Impact on Small Entities

22. The RFA directs agencies to provide a description of any significant alternatives to the proposed rules that would accomplish the stated objectives of applicable statutes, and minimize any significant economic impact on small entities.[26] The discussion is required to include alternatives such as: "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities."[27]

[26] *Id.* § 603(c).

[27] *Id.* § 603(c)(1)–(4).

23. The Commission has a longstanding commitment to ensuring the country's scarce and valuable spectrum resource is put to its highest and best use. In developing our proposals and framing requests for comments in the *Notice*, the Commission considered the impact of its proposals on small entities, if adopted. We anticipate the flexibility introduced by the proposed SCS licensing rules, especially with respect to the existing SCS rules, will provide new opportunities for small entities and will streamline the compliance requirements of those who form arrangements to provide D2D service.

24. In the *Notice*, the Commission proposes to apply the SCS footnote to six additional WRS bands and seeks comment regarding the feasibility of D2D in those terrestrial bands. We recognize there may be small entities with ongoing operations in these bands and note that we intend to only implement D2D where there are no adverse impacts on small entities. In considering the proposals detailed in the *Notice* related to introducing the revised SCS framework, the Commission considers alternative approaches that could minimize significant economic impact on small entities. For example, the Commission's proposal to allow the SCS license applicant to select the geographic area to serve, removing the existing SCS geographically independent area (GIA) requirement, provides new opportunities for D2D arrangements. The *Notice* also seeks comment on this proposal and alternatives, including any associated costs and benefits. We expect that this increased flexibility will make D2D arrangements more appealing for terrestrial licensees that do not hold all co-channel licenses throughout a band, as well as for satellite operators capable of providing D2D service to a targeted area or areas.

25. In addition, the Commission considers alternatives to proposals throughout the *Notice*, including on the coexistence agreement certification, geographic license area, and technical rules for SCS licenses. The *Notice* also invites comment on alternative approaches to establishing performance requirements, measuring performance, and imposing penalties for failing to meet performance milestones.

26. The proposals in the *Notice* largely amend and update the existing rules related to the provision of SCS and introduce increased flexibility while reducing regulatory barriers and restrictions. Throughout the *Notice*, the Commission seeks comment on the costs and benefits, as well as opportunities and burdens on small and other entities, that may result from adoption of D2D rules. By seeking comment on these issues and the public interest concerns relevant to the proposals, the Commission will obtain the information required to consider the most appropriate approach to implementing a framework to enable D2D to increase spectrum usage and benefit consumers.

27. The Commission expects to more fully consider the economic impact and alternatives for small entities following the review of comments and costs and benefits analyses filed in response to the *Notice*. Alternative proposals and approaches from commenters could also help the Commission further minimize the economic impact on small entities. The Commission's evaluation of this information will shape the final alternatives it considers, the final conclusions it reaches, and any final actions it ultimately takes in this proceeding to minimize any significant economic impact of its actions on small entities.

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

28. None.

APPENDIX C

Regulatory Impact Analysis

I. NEED FOR REGULATORY ACTION

1. This *Notice* proposes to modernize the existing Supplemental Coverage from Space (SCS) framework, enabling and expanding opportunities to deploy direct-to-device (D2D) service on terrestrial Wireless Radio Service bands, including the five bands currently allocated by footnote on a secondary basis for Mobile Satellite Spectrum (MSS) for the provision of SCS. This proposed framework would allow providers to deploy D2D services to satellite, terrestrial, and hybrid consumers using a range of business models. It also explores tailored D2D performance requirements and seeks comment on confirming the exclusive nature of MSS bands to harmonize rules governing SCS and MSS operations, both of which can be used to provide satellite connectivity directly to consumer end user devices. While these proposals are expected to enable greater development and innovation across spectrum bands, the specific changes to the contours of the SCS and MSS frameworks are still to be determined, and the choice by providers to use spectrum for new services would be entirely voluntary.

II. BENEFITS

2. The proposals are intended to ensure that the spectrum is utilized intensively and continuously in a timely manner, and the benefits of the proposals primarily stem from increased opportunities for innovation and investment in D2D services as a result of the modernization of the SCS and MSS rules. At this stage, these benefits cannot be quantified due to the preliminary nature of the proposals.

III. COSTS

3. The potential costs of the proposals come from several sources. First, by enabling more SCS opportunities for spectrum usage, in-band and adjacent band coexistence challenges may arise. This *Notice* provides a detailed discussion of these potential technical concerns, seeking comment on proposed rules for out of band emissions limits, power limits, field strength at license boundary limits, and coordination and interference resolution. Second, given there are four existing SCS authorizations, there may be cost effects on these operators, who would be required to comply with updated SCS rules, if adopted. This *Notice* seeks comment on the costs associated with this transition, which are not expected be burdensome for operators. Third, this *Notice* proposes establishing D2D performance requirements, applicable to both MSS and SCS operators, which would ensure spectrum is used intensively. The *Notice* further seeks comment on the costs of these proposals. At this stage, these costs cannot be quantified due to the preliminary nature of the proposals.

IV. ALTERNATIVE POLICIES

4. Alternatively, the Commission could choose to retain the current regulatory framework. This would result in no changes in either the benefits or the costs, and consequently, the net effect is zero.

V. JUSTIFICATION DETERMINATION

5. Until we know the policies that the Commission ultimately adopts, we cannot estimate the economic effect of the *Notice*. However, there is a reasonable likelihood that the potential benefits from increased opportunities for spectrum usage, including increased consumer connectivity and network resiliency, will more than mitigate any costs that such policies may impose on spectrum licensees and providers.

STATEMENT OF
CHAIRMAN BRENDAN CARR

Re: *Unleashing Licensed Spectrum for Direct-to-Device; Single Network Future: Supplemental Coverage from Space*, GN Docket Nos. 26-281, 23-65, Notice of Proposed Rulemaking (October 29, 2026).

President Trump has made clear that America will lead the world in next-generation connectivity. And with today's proposal, we take our most comprehensive step yet to modernize the FCC's rules for direct-to-device or D2D. Specifically, we look to open up nearly 500 megahertz of licensed spectrum for satellite providers to access through commercial arrangements, such as leases.

During my first few months as Chairman, it became clear that the FCC needed a comprehensive strategy to enable and support emerging D2D services. We did not have enough spectrum available for these offerings. Our regulatory framework was not fit for enabling D2D offerings. And our buildout milestones made little sense for D2D services. This created a lot of uncertainty, which, in turn, translated into gamesmanship and attempts at regulatory arbitrage. Rather than investing billions of dollars and building new services, we entered 2025 with companies paying lawyers to file endless rounds of pleadings in an effort to block each other from using spectrum. It was not a recipe for America to lead the world in D2D.

We knew we had work to do. So we put together a comprehensive D2D plan focused on advancing American leadership and standing up a competitive, multi-player market. We have been executing on that plan ever since. For one, we have been freeing up more spectrum for D2D—including through auctions, secondary market transactions, and actions on unlicensed spectrum. For another, we have provided certainty about spectrum rights. We have approved applications from a range of providers for new D2D constellations at a rapid clip too. And we are working to establish performance requirements that make sense for D2D offerings. At bottom, we are replacing confusion and uncertainty with clear rules and spectrum abundance.

The market has responded: SpaceX acquired EchoStar's spectrum for over $19 billion. Amazon's LEO is acquiring Globalstar's spectrum for over $11 billion. Grain recently announced plans to sell its spectrum to a D2D provider for $8 billion. And Rocket Lab or RL Space has filed with the FCC to acquire Iridium for $8 billion. That is over $45 billion in D2D deal flow in the past year alone—all against the backdrop of the FCC's new regulatory framework. America now leads the world in D2D and U.S. consumers and businesses stand to benefit.

In all of this, we are constantly looking to remove regulatory restrictions that no longer serve a useful purpose. And that takes us to today's item. We are seeking comment on a comprehensive overhaul of our regulations to make it easier for wireless providers to strike win-win deals for D2D services on their spectrum—an arrangement known as Supplemental Coverage from Space or SCS.

Revisiting our SCS rules from first principles makes sense. After all, most D2D services in the United States are regulated under the SCS framework we adopted two years ago. But even during their short existence, it has become clear that those rules are out of date. For one, not enough spectrum is available for leasing. For another, our SCS leasing requirements are too restrictive. And what's more, we lack uniform performance requirements and consumer expectations for D2D services across different spectrum bands. Instead of an assembly line, we are stuck with regulations that require bespoke waivers.

So, today we take a fresh look at our SCS rules. As we do so, we keep several principles in mind. For starters, the frequencies we are considering are exclusively licensed for wireless services like 5G. In

this item, we intend to give D2D providers more flexibility to obtain new sources of spectrum, but we do so mindful of the unique technical considerations that prevail in some of these bands. Our decisions in this proceeding will be guided by the best engineering in the record. In the end, we will bring more D2D flexibility in a way that complement America's world-class 5G networks.

My thanks go to Joel Taubenblatt, Kamran Etemad, Kari Hicks, Alice Koethe, Justin McCuen, Roger Noel, Jess Quinley, and Andrew Ware from the Wireless Bureau; and Greg Coutros, Jennifer Gilsenan, Colin Harris, Stephanie Neville, and Sankar Persaud from the Space Bureau.

STATEMENT OF
COMMISSIONER ANNA M. GOMEZ

Re: *Unleashing Licensed Spectrum for Direct-to-Device; Single Network Future: Supplemental Coverage from Space*, GN Docket Nos. 26-281, 23-65, Notice of Proposed Rulemaking (October 29, 2026).

In 2024, the Commission established a regulatory framework to allow the provision of Direct-to-Device (D2D) service, which we called Supplemental Coverage from Space or SCS. The service was named Supplemental Coverage from Space because it really is supplemental. The United States has a robust cellular network, but it is not ubiquitous, and D2D could supplement existing communications services, particularly in remote areas.

Since the release of the SCS rules, and even though technical challenges exist, it has been exciting to see the development of converged satellite and terrestrial communications. That is why, today, the Commission begins to think about how our rules can best respond to a service and a market that are evolving.

With almost two years of experience authorizing D2D partnerships, we now ask how we can improve the authorization framework to make it easier for D2D providers to serve American consumers. We also seek comment on whether a total of 13 bands should include a secondary MSS allocation for D2D service.

I want our rules to support innovation, to meet consumer needs, and to promote competition. As we propose a more flexible authorization environment for D2D providers, I am paying close attention to how our proposals support competition in this market today and tomorrow. I want to ensure that our updates to this framework do not inadvertently allow one or two providers to dominate the market to the detriment of competition and consumer benefit. I am grateful the Office of the Chairman incorporated edits that address my desire to support competition in the D2D market, including regarding a spectrum screen.

I am also tracking the numerous spectrum bands for D2D on which this Notice of Proposed Rulemaking seeks comment. I want to make sure all firms, including new entrants, have the spectrum they need to provide the services consumers want and to continue to develop the technologies that have made us a global leader in wireless communications. Finally, I am also interested in whether it is technically possible for D2D and terrestrial mobile operators to co-exist in the TDD bands. I look forward to seeing the record develop.

STATEMENT OF
COMMISSIONER OLIVIA TRUSTY

Re: *Unleashing Licensed Spectrum for Direct-to-Device; Single Network Future: Supplemental Coverage from Space*, GN Docket Nos. 26-281, 23-65, Notice of Proposed Rulemaking (October 29, 2026).

For some Americans, losing cell service is an all-too-familiar experience. It happens on rural highways, while hiking in remote areas, and in communities where the deployment of terrestrial networks is physically or economically challenging.

The Commission's Supplemental Coverage from Space framework has helped to change consumer experiences by enabling direct-to-device services that allow mobile phones to connect directly to satellites when terrestrial coverage is unavailable.

Today's item proposes to update the Commission's SCS framework to keep pace with innovation and the scale of investment into D2D services that are expanding the benefits of connectivity to hard-to-reach places. In particular, this Notice of Proposed Rulemaking examines how our rules can further accommodate D2D technology, unlock additional investment, and facilitate greater collaboration between terrestrial and satellite operators.

The questions we ask in this item deserve careful consideration. I look forward to reviewing technical data and hearing from wireless licensees, federal incumbents, satellite operators, and others affected by these proposals.

That input will help the full Commission evaluate the tradeoffs, address interference concerns, and determine how to move forward.

Finally, it is worth noting that as we look toward 6G, one of several defining features of this next evolution of wireless innovation will be the seamless integration of terrestrial and non-terrestrial networks. In laying the groundwork for a 6G future, we should keep the practical benefits for Americans in focus: coverage in places that could not previously get a signal, dependable connections when needed, and reliable service that follows Americans wherever they go. Today's item advances our work on each of those fronts.

I thank the staff of the Wireless Telecommunications Bureau for their hard work on this item.