Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Single Network Future: Supplemental Coverage From Space, Space Innovation	)	GN Docket No. 23-65
	)	IB Docket No. 22-271

COMMENTS OF CTIA

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CTIA[1] respectfully submits these comments in response to the Federal Communications Commission's ("Commission") Notice of Proposed Rulemaking ("NPRM") on a proposed framework for authorizing Supplemental Coverage from Space ("SCS") operations and "incentiviz[ing] creative partnerships between terrestrial network and space station operations" to "close wireless coverage gaps, while retaining high service quality among our nation's 4G and 5G terrestrial networks, protecting spectrum usage rights, and avoiding harmful interference."[2] Adopting a practice of case-by-case waivers while ensuring the protection of other affected terrestrial mobile operations will allow the Commission to efficiently resolve the unique circumstances of each SCS proposal and help generate flexible, nuanced decisions that accelerate the deployment of this new technological innovation.

[1] CTIA —The Wireless Association® ("CTIA") (www.ctia.org) represents the U.S. wireless communications industry and the companies throughout the mobile ecosystem that enable Americans to lead a 21st century connected life. The association's members include wireless carriers, device manufacturers, suppliers as well as apps and content companies. CTIA vigorously advocates at all levels of government for policies that foster continued wireless innovation and investment. The association also coordinates the industry's voluntary best practices, hosts educational events that promote the wireless industry and co-produces the industry's leading wireless tradeshow. CTIA was founded in 1984 and is based in Washington, D.C.

[2] *Single Network Future: Supplemental Coverage from Space*, Notice of Proposed Rulemaking, GN Docket No. 23-65, IB Docket No. 22-271, FCC-23-22 ¶ 2 (rel. Mar. 17, 2023) ("NPRM").

I. INTRODUCTION & SUMMARY

CTIA thanks the Commission for once again taking a leadership role in promoting innovative uses of spectrum to expand access to existing communications services—this time with SCS.[3] As the Commission explains in the NPRM, SCS holds the potential to supplement mobile wireless coverage in remote or unserved areas across the country.[4] As these new technological solutions mature, wireless providers, working in commercial partnership with satellite providers, can leverage the wide-area coverage that satellite stations offer to enhance access to wireless services and to support reliable emergency communications for consumers and first responders in rural, remote, and disaster areas.[5]

CTIA supports the Commission's proposal to proceed incrementally and protect existing spectrum-use rights by focusing on how best to ensure prompt action for terrestrial licensees who have entered into spectrum lease agreements to supplement their wireless coverage.[6] While SCS technical solutions continue to evolve, CTIA encourages the Commission to use the record developed in this proceeding to establish transparent and predictable guidelines the Commission will use to evaluate any SCS applications brought to its attention, including applications for appropriate waivers. These guidelines, at minimum, should:

1. Limit consideration of SCS applications to those backed by a terrestrial licensee's voluntary agreement to use its licensed spectrum to supplement its wireless coverage through SCS, as demonstrated by a lease agreement and related Form 608;
2. Make rule waivers for the targeted band or bands available as necessary to support SCS operations, including, but not limited to, waivers of the Table of Frequency Allocations; and

[3] *See* NPRM ¶ 1.

[4] *Id.*; *see also id.* ¶ 42.

[5] *Id.* ¶ 1.

[6] *Id.* ¶¶ 46, 52.

3. Require technical and other demonstrations that the proposed satellite signal will not generate harmful interference or disrupt the co-channel and adjacent channel coexistence framework codified in the rules of the target band or bands.

A transparent and predictable set of guidelines for case-by-case evaluation of SCS operations, as opposed to making new mobile satellite service spectrum allocations, will preserve the flexibility the Commission needs to support SCS as it continues to develop while providing sufficient guidance and safeguards needed to prevent harmful interference. This approach will put the Commission in a better position to determine which rules, if any, would need to be amended to accommodate these business opportunities within the existing regulatory framework.

II. SCS IS AN EVOLVING MARKET INNOVATION THAT NEEDS FLEXIBILITY TO THRIVE.

CTIA's members share the Commission's vision for SCS and its goals of advancing SCS capabilities "as rapidly as possible, while minimizing the risk of harmful interference."[7] CTIA members are at the forefront of developing cross-industry partnerships with satellite operators to keep consumers connected, and CTIA members have invested heavily in the spectrum assets needed to provide coverage in unserved and underserved areas.[8] CTIA welcomes the Commission's actions to encourage these creative commercial partnerships, and CTIA encourages the Commission to develop a flexible, yet predictable regulatory pathway, one that relies on existing rules for secondary-market transactions and terrestrial network operators' voluntary agreements to use their licensed spectrum to supplement their wireless coverage through SCS. CTIA also appreciates the Commission's proposal to proceed incrementally and in a way that is

[7] *Id.* ¶ 42.

[8] *See, e.g.*, *id.* ¶¶ 7-9.

"intentionally limited in scope in order to enable prompt action, while reducing technical challenges" given the "nascent" state of the technology and "the complexity of this undertaking."[9]

The market is working. The Commission's existing rules and policies encourage secondary-market transactions and innovative spectrum use cases. Carriers are actively involved in the process of modifying and, in some cases, inventing, novel commercial service agreements to supplement their terrestrial network coverage with new satellite-based capabilities. The Commission's action in this proceeding is therefore both timely and relevant. Whatever regulatory framework the Commission adopts in this proceeding will benefit from allowing the market to continue to evolve existing supply contracts, network design agreements, and operator-to-operator traffic and interference-management agreements in a manner that supplements terrestrial network operators' existing capabilities with new SCS architectures. For SCS to flourish, in other words, mobile broadband service providers will need the flexibility to continue to innovate in using their licensed spectrum in a way that can support SCS operations without generating harmful interference that impairs consumer services and affected providers.

From a regulatory perspective, the Commission has a highly adaptable set of tools at its disposal to meet these goals and create the regulatory conditions for SCS to reach its full potential. Secondary-market transactions play a key role in "providing for continued technological advances" and "enabling more efficient and dynamic use of spectrum to the ultimate benefit of consumers throughout the country,"[10] while preserving the rights of licensees. The Commission can promote rapid development of SCS through a case-by-case evaluation of specific SCS proposals backed by

[9] *Id.* ¶¶ 1, 24, 46.

[10] *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking, WT Docket No. 00-230, 19 FCC Rcd 17503, 17505-06 ¶¶ 1-2 (2004).

the voluntary agreements between terrestrial network and space operators. In addition, spectrum leasing arrangements coupled with clear guidance for the accelerated disposition of targeted waivers needed for the specific band or bands involved in each use case will help promote innovative uses of spectrum resources.

Adopting new allocations for specific bands or other rules governing SCS operations would be premature at this stage. As the Commission recognizes in the NPRM, SCS operations are in their nascent phase of development.[11] Under these circumstances, one unintended consequence of devising a set of static SCS rules sufficiently detailed to provide relevant guidance may be to deprive the Commission of the regulatory flexibility and discretion the Commission—and commercial satellite and terrestrial businesses—need to respond to a fast-changing environment for these new supplementary space technologies, systems, and services.

Instead, CTIA encourages the Commission to use the record developed in this proceeding to establish transparent and predictable guidelines of the process the Commission will follow to address any SCS applications brought to its attention via waiver. This incremental approach will allow the Commission to develop a better understanding of which systems of SCS governance work well and which do not. A case-by-case approach also provides stakeholders the opportunity to gain real-world experience for identifying—and resolving—operational challenges of SCS that might lead to interference or service disruption. As SCS solutions continue to evolve, the Commission will be in a better position to determine which rules, if any, to amend to accommodate these business opportunities within the existing regulatory framework.[12]

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[11] NPRM ¶ 1.

[12] *See Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz, and 14.0-14.5 GHz Frequency Bands*, Notice of Proposed Rulemaking and Report and Order, IB Docket No. 12-376, FCC 12-161 ¶¶ 2-3 (2012) (employing case-by-case authorizations to permit Earth

CTIA agrees that it is important for the Commission's evaluation of SCS applications, including petitions for waiver of the Table of Frequency Allocations, to meet the Commission's twin goals of rapid consideration and careful assessment of the key interference concerns at issue. A framework that relies on secondary-market transactions and requires technical and other demonstrations that SCS operations will not cause harmful interference obviates the need to identify in advance the specific bands that will be suitable for SCS operations. The Wireless Telecommunications Bureau (the "Wireless Bureau") can assess any specifics within the SCS application in conjunction with the Space Bureau, and in light of the considerations that are relevant to the specific bands at issue. The Wireless Bureau is best positioned to protect terrestrial operators and consumers of terrestrial services against potential interference from SCS operations. To that end, assessment by the Wireless Bureau would be the most effective way to achieve the Commission's goals with respect to terrestrial interference issues, given the Bureau's expertise with the unique terrestrial co-channel and adjacent-channel interference environments. The Commission's guidelines can therefore make clear that it will approve applications only if it is satisfied that the proposed SCS operations will preserve the relevant bands' established coexistence frameworks.

A robust and predictable waiver process with clear benchmarks that terrestrial wireless operators must satisfy may best balance the flexibility and certainty needed to drive spectrum-leasing arrangements, which are indispensable for SCS and play a critical role in achieving spectrum efficiencies and making creative use cases possible.

Station Aboard Aircraft applications for fixed satellite service for over a decade before proposing allocations, technical rules, and licensing requirements).

An approach that relies on spectrum leasing and targeted waivers will allow the Commission to act quickly to enable SCS projects as they emerge, while providing necessary safeguards for other licensees and consumers. That measured approach is consistent with the Commission's traditional use of incremental tools like rule waivers—including party-specific waivers of the Table of Frequency Allocations where the potential for harmful interference is minimal. As the Commission has remarked in the past, "[p]arty specific waivers of the Table of Frequency Allocations are neither prohibited nor particularly unusual,"[13] and the Commission has explained in similar contexts that "[t]he Commission may grant a waiver of the Table of Allocations for non-conforming uses of spectrum when there is little potential for interference into any service authorized under the Table of Allocations."[14] Coupling the use of targeted rule waivers with transparent and predictable guidelines the Commission will use to evaluate SCS applications is also fully consistent with the Commission's traditional use of policy statements "to guide public considerations and to advance spectrum management pursuits."[15]

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[13] *Reconrobotics, Inc.*, Order on Reconsideration, WP Docket No. 08-63, 26 FCC Rcd 5895, 5897 ¶ 7 (2011).

[14] *Orbcomm License Corp.*, Order and Authorization, File No. SAT-MOD-2007531-00076, 23 FCC Rcd 4804 (2008) (noting that "[t]he Commission may grant a waiver of the Table of Allocations for non-conforming uses of spectrum when there is little potential for interference into any service authorized under the Table of Allocations" and waiving the Table of Frequency Allocations "to the extent necessary to permit Orbcomm to launch and operate satellites capable of receiving the requested AIS frequencies"); *Echostar Satellite Operating Corp.*, Order and Authorization, File No. SAT-MOD-20130227-00026, 29 FCC Rcd 9615, 9620-21 ¶ 17 (2014) (waiving the Table of Frequency Allocations on the Commission's own motion to permit requested EchoStar 6 operations); *Richtec, Inc.*, Order and Authorization, File Nos. SES-LIC-20020228-0042 & SES-AMD-20020611-00981, 18 FCC Rcd 3295, 3928 ¶ 9 (2003) (granting waiver request to permit operation of MSS operations in the lower L-band); *Application of Constellation Communications, Inc.*, Order and Authorization, File Nos. 17-DSS-P-91, CSS-91-013, 10- SAT-AMEND-95 & 159-SAT-AMEND-96, 12 FCC Rcd 9651, 9658 ¶ 19 (1997) (waiving rule requiring operating frequencies to be assigned consistently with the U.S. Table of Frequency Allocations); *L/Q Licensee, Inc.*, Order and Authorization, File Nos. 88-SAT-WAIV-96 & 90-SAT-ML-96, DA 96-16 (1996).

[15] *Promoting Efficient Use of Spectrum Through Improved Receiver Interference Immunity Performance*, Notice of Inquiry, ET Docket No. 22-137 ¶ 110 (Apr. 21, 2022); *see also Promoting Efficient Use of Spectrum and Opportunities for New Services*, Policy Statement, ET Docket Nos. 23-122, 22-137 ¶ 3 (Apr. 21, 2023) (adopting guidance "on how the Commission intends to manage spectrum efficiently and effectively going forward" through the adoption of "core principles that will help inform the Commission's future actions and stakeholder expectations"); *Principles for Reallocation of Spectrum to Encourage Development of Telecommunications Technologies for the New Millennium*, Policy Statement, 14 FCC Rcd 19868 (1999) (adopting policy statement to promote greater efficiency in spectrum

III. ESTABLISHING A PREDICTABLE PROCESS, THAT INCLUDES RULE WAIVERS, TO AUTHORIZE PLANNED SCS WOULD FURTHER THE COMMISSION'S VISION FOR RAPID CONSIDERATION AND APPROVAL OF SCS.

CTIA supports the Commission's goals of putting valuable spectrum to its highest and best use by "pav[ing] the way for new spectrum use cases that promote spectrum efficiencies and serve the public interest," including for SCS.[16] As the NPRM recognizes, the introduction of SCS in various bands raises a host of nuanced technical and service issues that the Commission should address with a flexible, yet predictable, process for case-by-case determinations, particularly while technological solutions and the marketplace continue to develop.[17] The Commission has a long history of adapting its rules and policies to the demands of changing circumstances and, for this reason, has exercised considerable caution when adopting new service rules. As the Commission has noted when considering the development of new services for consumers, it is also advantageous for the Commission's approach to remain flexible to allow for continued growth and innovation, as opposed to developing rules that could constrain the development of solutions to address technically complex and evolving issues.[18] The Commission, therefore, has used policy

markets to support growth of wireless services); *Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets*, Policy Statement, 15 FCC Rcd 24178 (2000) (adopting policy statement to promote secondary markets for spectrum usage rights, including facilitating spectrum leasing, joint operating agreements, and improving the conditions for transferability of spectrum usage rights through partitioning or disaggregation).

[16] NPRM ¶ 24.

[17] NPRM ¶¶ 1, 34-38, 96-97.

[18] *Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadband Service*, Further Notice of Proposed Rulemaking and Notice of Inquiry, MM Docket No. 99-325, 19 FCC Rcd 7505 ¶ 1 (2004) (concluding that digital audio content control and international issues, though important to consider, "are not appropriate subjects for a rulemaking at this stage of the DAB conversion process"); *Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band*, Report and Order of Proposed Rulemaking, IB Docket No. 06-123, 22 FCC Rcd 8842 ¶ 58 (2007) (declining to revisit BSS and FS sharing in the 17.7-17.8 GHz band because "examination of such a technically complex issue would only result in a protracted and contentious rulemaking," which would "disserve our goal" of adopting service rules for 17/24 GHz BSS in a timely manner) ("*17.3-17.7 GHz Order*"); *see also Implementation of Section 304 of the Telecommunications Act*, Report and Order, CS Docket No. 97-80, 13 FCC Rcd 14775, 14789 ¶ 37 (1998) ("We are reluctant at this time to attempt to enumerate

statements,[19] waivers (including waivers of the Table of Frequency Allocations),[20] and other incremental measures as part of its process of "learning by doing" when facing rapidly evolving technologies and services.

In an area as rapidly developing as SCS, the public will benefit from regulatory approaches that preserve the Commission's latitude to revisit, rethink, and revise its regulatory approach to changing technology and evolving service agreements. That cautious approach is consistent with a long line of Commission precedent, and the Commission has every reason to adopt the same cautious approach here with respect to allocations for SCS.

Moreover, many of the technical considerations at issue in this proceeding are highly band-specific, which makes it challenging to strike the right balance between flexibility and protection from harmful interference through *ex ante* rulemaking, and which favors a more case-by-case approach to evaluate specific SCS operations as they emerge. In the NPRM, the Commission identifies six different bands that may be suitable for SCS operations.[21] But as the Commission observes, each of these bands has different characteristics, different geographic license area sizes, different allocations and service rules, and different interference environments.[22] Specifically:

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in detail what" circumstances may cause harm to an MVPD's network for the purposes of the Commission's navigation device rules. "As technology and services are continually evolving, we do not think we can replicate in our rules the proper balance."); *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure*, Report and Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking, WC Docket No. 17-84, 32 FCC Rcd 11128, 11167 ¶ 103 (2017) ("We decline to extend these streamlined comment and auto-grant periods to *all* applications to discontinue any type of grandfathered services, as Verizon suggests. We prefer to proceed incrementally and legacy data services present the most obvious case for the streamlining reforms we adopt given declines in usage and competitive options available. As reflected in the Further Notice, we will explore in greater depth whether to adopt further streamlining reforms for other legacy services.").

[19] *See supra* at 7 & n.15.

[20] *See supra* at 7 & n.14.

[21] NPRM ¶ 29.

[22] *Id.* ¶¶ 17-23, 34-38.

600 MHz: The NPRM proposes to allow SCS in the 600 MHz band but to exclude the duplex gap to accommodate wireless microphones and to require full coordination with radio astronomy operations on TV channel 37.[23]

Broadband PCS: For the Broadband PCS band, the Commission seeks comment on whether to permit SCS given the presence of extensive federal uses in adjacent bands.[24]

700 MHz: The Commission also seeks comment on whether to permit SCS operations in 700 MHz spectrum that is not currently licensed for service to consumer handsets.[25]

AWS-H: For the AWS-H block, the Commission proposes to authorize SCS but notes that SCS operations would need to comply with current AWS service rules that require the use of specific frequencies for downlink and uplink operations.[26]

WCS: Although the Commission proposes to authorize SCS in the WCS band, it notes that such operations would face "a variety of restrictions to protect adjacent-band operations," including some that preclude mobile operations altogether in specific portions of the band.[27]

800 MHz: For the 800 MHz Cellular Radiotelephone Service, the Commission proposes to allow SCS while recognizing that "existing legacy licensing rules might complicate the provision of SCS" because unserved areas beyond a licensee's coverage remain unlicensed.[28]

A flexible approach that relies on secondary-market transactions like spectrum leases and incremental tools like rule waivers is well suited to address the interference concerns that are specific to a given band. That way, the Commission can provide rapid consideration and approval of SCS in a way that is tailored to the needs of specific bands by establishing a waiver process with clear guideposts for interested stakeholders, evaluating specific SCS operations on their own merits, and making waivers available when these operations do not materially increase the risk of harmful interference in a given environment.

[23] *Id.* ¶ 34.

[24] *Id.* ¶ 35.

[25] *Id.* ¶ 35.

[26] *Id.* ¶ 36.

[27] *Id.* ¶ 37.

[28] *Id.* ¶ 38.

By promoting a flexible approach to explore the new systems and technologies on a case-by-case basis, including the specific challenges that different bands, geographies, and operator-to-operator arrangements may pose, the Commission can develop the expertise it needs to make informed judgments about how SCS should fit into the current wireless regulatory structure. Case-by-case treatment does not prejudge SCS development, but rather lays the foundation for regulatory arrangement that accelerates technical innovation and sustains it over time. For example, in 2003, the Commission adopted a flexible-use allocation for mobile satellite service ("MSS") providers in the 2 GHz MSS band, the L-Band, and the Big LEO bands so that these entities could integrate ancillary terrestrial components ("ATC") into their networks.[29] The Commission's goal was essentially the same as the one driving this NPRM for SCS, but with the modalities reversed: enabling providers of mobile satellite services to expand the reach of their services by using their licensed spectrum for terrestrial operations.[30] With the benefit of several years of experience, the Commission ultimately extended its flexible spectrum-leasing policies to MSS/ATC in order to provide "greater consistency, regulatory parity, predictability, and transparency with respect to spectrum leasing arrangements."[31]

In a novel market segment characterized by rapid technical and business innovation, adopting a flexible case-by-case approach promises to give the Commission the ability to respond quickly and efficiently to changing conditions. A case-by-case approach would also help clear a pathway for new uses of spectrum resources and new technologies while avoiding the kind of

[29] *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*, Order, IB Docket Nos. 01-185 & 02-364, 18 FCC Rcd 1962 (2003).

[30] *Id.* at 1964 ¶¶ 1-2.

[31] *See Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz and 2000-2020 MHz and 2180-2200 MHz*, Report and Order, GN Docket No. 10-159, 26 FCC Rcd 5710,5712-5714 ¶¶ 6-7, 5716 ¶ 14 (2011).

"protracted and contentious rulemaking[s]"[32] that can delay investment and hamstring innovation. In short, adopting a transparent and predictable framework for the Commission's individualized consideration of SCS applications would further the Commission's vision for rapid consideration of interference-free operations of SCS.

IV. ESTABLISHING GUIDELINES CENTERED AROUND SECONDARY-MARKET TRANSACTIONS, INCLUDING PREDICTABLE WAIVER AND TECHNICAL DEMONSTRATION REQUIREMENTS, WILL ENSURE FLEXIBILITY AND ROBUST PARTICIPATION.

Establishing guidelines centered around (1) secondary-market transactions, and voluntary agreements by terrestrial licensees in particular; (2) transparent and predictable waiver processes; and (3) technical and other showings of coexistence would promote promising new use cases for terrestrial spectrum while incentivizing mobile provider participation without unintentionally limiting the potential of SCS.

Secondary-Market Transactions. The Commission's framework should be reserved for proposed SCS operations that are driven by a spectrum lease agreement—and the related Form 608—between the terrestrial licensee and a satellite operator. CTIA agrees with the Commission that "it would not serve the public interest to propose to allow, absent a collaboration with a terrestrial licensee, a satellite operator to apply for, and be granted, an independent Part 25 co-channel authorization to use spectrum for SCS that is already exclusively licensed to a terrestrial licensee."[33] As the Commission points out, focusing on SCS applications that are backed by a terrestrial licensee's voluntary agreement to use its spectrum for SCS will protect the spectrum usage rights that terrestrial licensees have invested heavily to acquire and make available for

[32] *Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band*, Report and Order of Proposed Rulemaking, IB Docket No. 06-123, FCC 07-76 ¶ 58 (2007).

[33] NPRM ¶ 52.

wireless services,[34] and requiring a spectrum lease agreement to be in place will help mitigate the risk of harmful interference in a given terrestrial band, which will allow for a more streamlined authorization process for SCS operations. Such an approach would reinforce the Commission's decades-long commitment to supporting secondary-market transactions that allocate spectrum for its highest-value use and promote more intensive spectrum usage and rapid deployment of innovative technologies.[35] As the Commission has found, existing secondary-market rules provide ample flexibility for leasing arrangements,[36] and these rules can be used seamlessly for introducing new SCS operations.

Congress and the Commission have encouraged secondary-market transactions—such as spectrum lease agreements—to increase competition, put scarce spectrum resources to its highest and best use, and promote wireless deployment, all of which accelerate the goal of closing the digital divide. Last year, the Commission—in enacting Section 616 of the MOBILE NOW Act—established the Enhanced Competition Incentive Program ("ECIP"), which adopted incentives for wireless licensees to make spectrum available via spectrum leases and other secondary-market mechanisms to small carriers, Tribal Nations, and entities serving rural areas.[37]

Rule Waivers. Pursuant to each secondary-market transaction between a terrestrial provider and satellite entity, the Commission should make rule waivers available to the extent necessary to support the SCS operations. CTIA anticipates that the contents of waiver applications

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[34] *See id.*

[35] *See id.* ¶ 24 ("The Commission has a longstanding commitment to ensuring that the country's scarce and valuable spectrum resource is put to its highest and best use."); *Federal Communications Commission Strategic Plan FY 2003-FY 2008*, available at https://bit.ly/42l7yRp (indicating the Commission's general spectrum management goal is to "[e]ncourage the highest and best use of spectrum domestically and internationally in order to encourage the growth and rapid deployment of innovative and efficient communications technologies and services.").

[36] *See* NPRM ¶ 53 (citing 47 C.F.R. § 1.9003).

[37] *See Partitioning, Disaggregation, and Leasing of Spectrum*, Report and Order and Second Further Notice of Proposed Rulemaking, WT Docket No. 19-38, FCC 22-53 (2022).

will vary depending on the target band, but each such application would require a waiver of the Table of Frequency Allocations.

As the Commission correctly points out, its rules require the use of frequencies and frequency bands to be in accordance with the Table of Frequency Allocations,[38] and mobile-satellite service operations are not authorized to operate in spectrum bands allocated only for fixed or mobile service.[39] The Commission has relied on its waiver process to allow new satellite use cases that would otherwise conflict with the Table of Frequency Allocations: for example, "[i]n 2017, the Commission's International Bureau and Office of Engineering and Technology granted Higher Ground LLC a waiver of the Table of Frequency Allocations and the fixed-satellite service coordination rules for the company to use satellites in the 6 GHz band to provide a commercially available text messaging service using a sleeve that attaches to smartphones."[40] The Commission has adopted similar context-sensitive waivers of the Table of Frequency Allocations on many other occasions.[41]

Adopting a transparent, predictable waiver process that is informed by lessons learned from relevant stakeholders aligns with the cautious approach the Commission has taken in the past when it comes to adopting new rules for rapidly developing technologies. This measured approach, which can include guideposts to provide transparency about the Commission's treatment of waiver applications, will accomplish the Commission's goals of rapid deployment of SCS while minimizing harmful interference, and without the inherent risks that come with *ex ante* rulemaking

[38] *See* NPRM ¶ 50.

[39] *See, e.g.*, *id.* ¶ 16.

[40] *Id.* ¶ 11 (citing *Higher Ground Application for Blanket Earth Station License*, Order and Authorization, File No. SES-LIC-20150616-00357, 32 FCC Rcd 728 (Jan. 18, 2017)).

[41] *See supra* note 14.

for nascent and rapidly developing technologies operating in a complex and ever-changing technical and regulatory landscape.

The Commission has relied on waiver frameworks previously, and waivers have become an instrumental tool for adopting new rules for rapidly developing technologies. For example, in the AWS-4 context, the Commission granted waivers to DISH to both modify its MSS licenses to add AWS-4 terrestrial authority and to use the lower AWS-4 band (2000-2020 MHz) either for downlink or uplink terrestrial operations.[42] And recently, the Commission granted a waiver request allowing automobile manufacturers and technology companies to operate roadside and on-board cellular-vehicle-to-everything technologies within the 5.9 GHz band in the United States. The waiver allows American road users, city planners, and highway administrators access to new technologies providing enhanced roadway safety and efficiency benefits.[43]

Technical and Other Demonstrations. Technical and other demonstrations that the proposed satellite signal will not disrupt the co-channel and adjacent channel coexistence framework codified in the rules of the target band(s) must precede any approval of SCS applications. Under these circumstances, a waiver of the minimal number of rules necessary to support SCS operations will serve the public interest if a technical showing establishes that cross-border, cross-market protections are no less robust than what is already required for mobile operations in the band at issue. The proposed technical and other demonstrations would harmonize with the Commission's current leasing rules, which "require all lessees to comply with rules

[42] *See generally Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands*, Order of Modification, WT Docket No. 12-70, 28 FCC Rcd 1276 (2013); DISH Petition for Waiver of Sections 27.5(j) and 27.53(h)(2)(ii) and Request for Extension of Time, WT Docket No. 13-225 (filed Sept. 9, 2013); *DISH Network Corporation Petition for Waiver of Sections 27.5(j) and 27.53(h)(2)(ii) of the Commission's Rules and Request for Extension of Time*, Memorandum Opinion and Order, WT Docket No. 13-225, 28 FCC Rcd 16787 (2013).

[43] *Request for Waiver of 5.9 GHz Band Rules to Permit Initial Deployment of Cellular Vehicle-to-Everything Technology*, Order, ET Docket No. 19-138, DA 23-343 (2023).

requiring responsibility for ensuring non-interference with co-channel and adjacent channel licensees applicable to the lessor/licensee under the license authorization."[44]

At this time, there is no urgency to define, *ex ante*, the bands where the framework should apply. Instead, any SCS application would be assessed on the basis that the coexistence framework of the target mobile band(s) is upheld.

V. CONCLUSION

CTIA commends the Commission for its leadership role in promoting innovative uses of spectrum to expand access to existing communications services, including supplementing mobile coverage through SCS operations. CTIA supports the Commission's goals of promoting rapid consideration of SCS in a way that minimizes the risk of harmful interference and encourages the Commission to use this proceeding to develop guidelines which will afford the Commission and the wireless industry the predictability and flexibility needed to adopt SCS technologies.

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[44] *See* NPRM ¶ 72; *see also Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 00-230, 18 FCC Rcd 20604, 20665 ¶ 142 (2003); 47 C.F.R. §§ 1.9010(b)(1)(ii), 1.9020(d)(1), 1.9030(d)(1), 1.9030(d).