

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

In the Matter of	)	ICFS File Nos.:
)	
AST & Science, LLC	)	SAT-LOA-20200413-00034
	)	SAT-AMD-20200727-00088
Application to Launch and Operate a Non-	)	SAT-AMD-20201028-00126
geostationary Fixed-satellite and Mobile-satellite	)	SAT-AMD-20230717-00172
Service System	)	SAT-AMD-20240311-00053
)	
Application to Add Supplemental Coverage from	)	SAT-MOD-20250612-00145
Space Authority	)	SAT-AMD-20250718-00181
	)	SAT-AMD-20250903-00248
)	
Application to Modify the Orbital Parameters of the	)	SAT-MOD-20251205-00370
FM-2 Space Station	)	SAT-AMD-20251211-00379
)	
Application to Modify the Orbital Parameters of the	)	SAT-MOD-20260121-00037
Constellation)	
)	
Space Bureau Accepts for Filing AST & Science,	)	SB Docket No. 25-201
LLC Modification Application)	
	)	Call Sign: S3065

AUTHORIZATION AND ORDER

Adopted: April 21, 2026


Released: April 21, 2026

By the Chief, Space Bureau, Chief, Wireless Telecommunications Bureau, Chief, Office of Engineering Technology, and Chief, Public Safety and Homeland Security Bureau:

GRANT

AST & Science, LLC

ICFS File Nos. SAT-LOA-20200413-00034; SAT-AMD-20200727-00088; SAT-AMD-20201028-00126; SAT-AMD-20230717-00172; SAT-AMD-20240311-00053; SAT-MOD-20250612-00145; SAT-AMD-20250718-00181; SAT-AMD-20250903-00248; SAT-MOD-20251205-00370; SAT-AMD-20251211-00379; SAT-MOD-20260121-00037

ICFS File No(s):	SAT-LOA-20200413-00034; SAT-AMD-20200727-00088; SAT-AMD-20201028-00126; SAT-AMD-20230717-00172; SAT-AMD-20240311-00053; ¹ SAT-MOD-20250612-00145; SAT-AMD-20250718-00181; SAT-AMD-20250903-00248; ² SAT-MOD-20251205-00370; SAT-AMD-20251211-00379; ³ SAT-MOD-20260121-00037 ⁴	<p>GRANTED –</p> <p>With Conditions</p> 
Licensee/Grantee:	AST & Science, LLC (AST)	
Call Sign:	S3065	
Satellite Name:	AST SpaceMobile	
Orbital Location: (required station-keeping tolerance)	Non-geostationary orbit (NGSO). 248 satellites. 5 satellites operating in 1 plane at an apogee of 520 km (± 30 km) and perigee of 515 km (± 30 km) with an	

¹ This application, as amended in the first instance, was placed on public notice on October 2, 2020. *Satellite Policy Branch Information, Space Station Applications Accepted for Filing*, Public Notice, Report No. SAT-01501 (Oct. 2, 2020). This application, as amended in the second instance, was placed on public notice on November 6, 2020. *Satellite Policy Branch Information, Space Station Applications Accepted for Filing*, Public Notice, Report No. SAT-01509 (Nov. 6, 2020). This application, as amended in the third and fourth instances, was placed on public notice and was accepted for filing in part on April 5, 2024. *Satellite Licensing Division and Satellite Programs and Policy Division Information, Space Station Applications Accepted for Filing*, Report No. SAT-01812 (Apr. 5, 2024).

² This application was placed on public notice in part on June 20, 2025. *Space Bureau Accepts For Filing AST & Science, LLC Modification Application*, Public Notice, DA 25-532 (June 20, 2025); *see also Satellite Licensing Division and Satellite Programs and Policy Division Information RE: Applications Accepted for Filing*, Report No. SAT-01931 (Jul. 3, 2025). The remainder of this application and the associated SCS lease applications and SCS agreement were placed on public notice on September 5, 2025. *Space Bureau, Wireless Telecommunications Bureau, and Public Safety and Homeland Security Bureau Accept for Filing Applications of AST & Science, LLC And AT&T, Verizon, and FirstNet Requesting Supplemental Coverage from Space Authorization and Seek Comment on Waiver Requests*, Public Notice, DA 25-815 (Sept. 5, 2025). AST and various indirect subsidiaries of AT&T (AT&T) and AST and Celco Partnership d/b/a Verizon Wireless and its affiliates (Verizon) filed long-term spectrum manager lease notifications for the provision of SCS. With the consent of both AT&T and Verizon, Commission staff manually updated the lease expiration dates in ULS. AST and the First Responder Network Authority (FirstNet) filed an administrative update to FirstNet’s for the provision of SCS. Earlier today, the Commission granted AST and AT&T’s, Verizon’s, and FirstNet’s applications for AST’s SCS leases of AT&T’s and Verizon’s spectrum and for the contractual agreement for AST to use FirstNet’s spectrum. *See Application of AST and AT&T for Spectrum Manager Leasing Arrangement*, ULS File No. 0010538493 (Lead) (filed May 10, 2023, last amended Aug. 15, 2025; granted Apr. 21, 2026) (AST and AT&T SCS Lease Application); *Application of AST and Celco Partnership d/b/a Verizon Wireless and its affiliates (Verizon) for Spectrum Manager Leasing Arrangement*, ULS File No. 0011607666 (Lead) (filed June 12, 2025, last amended Aug. 15, 2025; granted Apr. 21, 2026) (AST and Verizon SCS Lease Application); *Application of AST and FirstNet for SCS*, ULS File No. 0011654129 (filed Jul. 18, 2025) (AST and FirstNet SCS ULS Application; granted Apr. 21, 2026).

³ This application, as amended, was placed on public notice on December 19, 2025. *Satellite Licensing Division and Satellite Programs and Policy Division Information RE: Applications Accepted for Filing*, Report No. SAT-01960 (Dec. 19, 2025).

⁴ This application was a minor modification and did not go on public notice. 47 CFR § 25.151(c)(1).

	<p>inclination of 53 degrees (± 2 degrees). Operations down to an altitude as low as 425 km.⁵</p> <p>22 satellites deployed to an altitude of 520-530 km and operating in 6 planes at an apogee of 520 km (± 30 km) and perigee of 515 km (± 30 km) with an inclination of 53 degrees (± 2 degrees).⁶</p> <p>1 satellite deployed to and operating at an apogee and perigee of 460 km (± 30 km) with an inclination of 50 degrees (± 2 degrees).</p> <p>192 satellites deployed to an altitude of 530 km and operating each in 1 plane at an apogee of 690 km (± 30 km) and perigee of 685 km (± 30 km) with an inclination of 53 degrees (± 2 degrees). Operations down to an altitude of approximately 530 km.⁷</p> <p>28 satellites deployed to an altitude of 530 km and operating in 2 planes at an apogee of 685 km (± 30 km) and perigee of 680 km (± 30 km) with an inclination of 98.1318 degrees (± 2 degrees). Operations down to an altitude of approximately 530 km.⁸</p>	<p style="text-align: center;">Space Bureau</p> <p style="text-align: center;">Wireless Telecommunications Bureau</p> <p style="text-align: center;">Office of Engineering Technology</p> <p style="text-align: center;">Public Safety and Homeland Security Bureau</p>
Administration:	United States of America ⁹	
Nature of Service:	Supplemental Coverage from Space (SCS); Mobile-Satellite Service (MSS); Fixed-Satellite Service (FSS); Space Operation	
Scope of Grant:	Authority to deploy 223 additional low-Earth orbit NGSO space stations and to perform SCS and direct-to-cell operations, as well as feeder link and telemetry, tracking, and command (TT&C) operations.	

⁵ *AST&Science LLC Application to Launch and Operate a Non-Geostationary Orbit V-band System*, ICFS File Nos. SAT-LOA-20200413-00034, SAT-AMD-20200727-00088, SAT-AMD-20201028-00126, SAT-AMD-20230717-00172, SAT-AMD-20240311-00053, Order and Authorization, 39 FCC Rcd 8558, 8561, para. 6 (2024) (*AST First Partial Grant*).

⁶ The FM-1 satellite was previously authorized and launched pursuant to part 5. *See* ELS File No. 0284-EX-CN-2025; Letter from Jennifer A. Manner, Senior Vice President, Regulatory Affairs and International Strategy, AST, to Marlene H. Dortch, Secretary, FCC (dated Dec. 30, 2025) (AST December 30 Letter). We clarify that the FM-1 satellite is now authorized via this grant pursuant to part 25.

⁷ *See* Letter from Jennifer A. Manner, Senior Vice President, Regulatory Affairs and International Strategy, AST, to Marlene H. Dortch, Secretary, FCC (dated June 18, 2025), Annex D at 8, 16 (Orbital Debris Assessment Report (ODAR)).

⁸ *See id.*

⁹ AST’s European partner Vodafone and AST have announced that AST’s satellite operations center will be located in Germany. *See* Letter from Joseph Bissonnette, Principal, Satellite Policy, SpaceX, to Marlene H. Dortch, Secretary, FCC at 1 (dated Jan. 6, 2026); Press Release, Vodafone, Vodafone and AST SpaceMobile Announce New EU Satellite Constellation and Select Germany for European Sovereign Satellite Operations Centre (Nov. 6, 2025), <https://www.vodafone.com/news/newsroom/technology/vodafone-ast-space-mobile-announce-european-sovereign-satellite-operations-centre>. The location of AST’s satellite operations center remains subject to the outcome of any future Commission rulemakings.

Previous Grant(s):	Authority to deploy and operate 5 low-Earth orbit NGSO space stations. ¹⁰ Authority to deploy 20 additional low-Earth orbit NGSO space stations and to perform TT&C operations using those satellites. ¹¹
Service Area(s):	CONUS in accordance with conditions 2 and 4, Hawaii in accordance with condition 4, and earth stations in accordance with condition 1(d).
Frequencies¹²:	<p><u>SCS:</u>¹³</p> <p>698-716 MHz (Earth-to-space) 728-746 MHz (space-to-Earth) 758-768 MHz (space-to-Earth) 788-798 MHz (Earth-to-space) 824-849 MHz (Earth-to-space) 869-894 MHz (space-to-Earth)</p> <p><u>MSS (outside the U.S. only):</u></p> <p>617-652 MHz (space-to-Earth) 663-748 MHz (Earth-to-space) 728-821 MHz (space-to-Earth) 777-798 MHz (Earth-to-space) 807-862 MHz (Earth-to-space) 852-894 MHz (space-to-Earth) 880-915 MHz (Earth-to-space) 902-960 MHz (space-to-Earth)¹⁴</p>

¹⁰ *AST First Partial Grant*. These satellites are known as the Bluebird 1-5 satellites. *See id.*

¹¹ ICFS File Nos. SAT-MOD-20250612-00145; SAT-AMD-20250718-00181 (granted-in-part/deferred-in-part Aug. 29, 2025) (AST Modification Grant).

¹² AST previously requested waivers of sections 2.106, 25.102(a), and 25.115(a)(1)(i) of the Commission's rules, 47 CFR §§ 2.106, 25.102(a), and 25.115(a)(1)(i), for its proposed operations in bands allocated to terrestrial services. However, because the *SCS R&O* has since been adopted, and AST subsequently modified its request for such operations, we DISMISS these waiver requests as moot. Similarly, given that AST filed its initial application before adoption and release of the *SCS R&O*, some petitioners and commenters raised concerns about operations in terrestrial bands generally. However, we will not revisit general issues about SCS raised in the record that were already addressed in the *SCS R&O*. *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, at 2635-36, 2651-52, 2657-61, paras. 28-31, 65, 78-87 (2024) (*SCS R&O*). Relatedly, since we are granting AST's application for SCS following the release of the *SCS R&O*, we see no reason to address arguments about whether we can grant such operations before the rulemaking concludes. For these same reasons, we also DISMISS as moot arguments in the Petitions to Deny filed by CTIA and T-Mobile that address operations in terrestrial bands, *see AST First Partial Grant*, 39 FCC Rcd at 8579, para. 42, and find moot related comments filed with regard to these operations that were filed before adoption of the *SCS R&O*.

¹³ *See also* Letter from Jennifer A. Manner, SVP, Regulatory Affairs and International Strategy, AST, to Marlene H. Dortch, Secretary, FCC (dated Apr. 17, 2026).

¹⁴ Internationally, there is an allocation for amateur operations in Region 2 on a secondary basis. Some members of the amateur radio community express concerns about the possibility of interference from AST's operations in the 902-928 MHz band. *See* Comments of Laurence Brett Glass and Douglas Datwyler. First, we note that this license does not constitute approval for AST to perform direct-to-cell operations in the 902-928 MHz band outside the United States, and AST will submit the necessary certifications and showing when it has received authority to perform such operations in another country. *See infra* para. 1; *SCS R&O*, 39 FCC Rcd at 2723-25, paras. 234-35. Given that there is not an MSS allocation in the 902-928 MHz band in the International Table of Frequency Allocations, any potential operations in this band shall be in accordance with No. 4.4 of the ITU Radio Regulations requiring it to avoid causing harmful interference to stations operating in accordance with the ITU Radio Regulations. *See* ITU Radio Regulation No. 4.4. AST also acknowledges this obligation. *See* ICFS File No. SAT-

(continued...)

	<p><u>Feeder Link and Nominal TT&C Operations:</u> 37.5-42.0 GHz (center frequencies 38.75 GHz, bandwidth 2.5 GHz; 39.75 GHz, bandwidth 4.5 GHz; 40.25 GHz, bandwidth 0.5 GHz; 41.0 GHz, bandwidth 2.0 GHz) (space-to-Earth)¹⁵ 45.5-47 GHz (center frequency 46.25 GHz, bandwidth 1.5 GHz) (Earth-to-space) (outside the U.S. only) 47.2-50.2 GHz (center frequency 48.7 GHz, bandwidth 3.0 GHz) (Earth-to-space) 50.4-51.4 GHz (center frequency 50.9 GHz, bandwidth 1.0 GHz) (Earth-to-space)¹⁶</p> <p><u>TT&C (for launch and early orbit operations (LEOP) and Emergency Operations only):</u> 2025-2110 MHz (center frequencies 2047.0 MHz, 2048.0 MHz, 2056.0 MHz, 2057.0 MHz, 2058.0 MHz, and 2077.0 MHz, each with 192 kHz bandwidth) (Earth-to-space) (outside the U.S. only) 2200-2290 MHz (center frequencies 2225.0 MHz, 2226.0 MHz, 2234.0 MHz, 2235.0 MHz, 2236.0 MHz, and 2244.0 MHz, each with 768 kHz bandwidth) (space-to-Earth) (outside the U.S. only)¹⁷</p> <p><u>TT&C (for Emergency Operations only) (Bluebird 1-5 satellites):</u>¹⁸ 430-440 MHz (center frequencies of 430.5 MHz, 432.3 MHz, 434.1 MHz, 435.9 MHz,</p>
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MOD-20250612-00145, Technical Annex at 10. We therefore do not find that at this time there is a risk of AST's operations causing harmful interference to amateur operations within this band.

¹⁵ In response to comments from SpaceX, AST provided corrections to the PFD level calculations in the 37.5-40.0 GHz frequency band in faded conditions, for the 520 km and 690 km orbital altitudes, as well as the FM-2 satellite's updated altitude of 460 km, which we find demonstrate compliance with applicable PFD limits under 47 CFR § 25.208(r) for rain-fade and other conditions. *See* Letter from Ben Wagner, Director, Regulatory Engineering, AST, to Marlene H. Dortch, Secretary, FCC, Attach. 1 (dated Mar. 3, 2026) (AST March 3 Letter). *But see* Letter from Joseph Bissonnette Principal, Satellite Policy, SpaceX, to Marlene H. Dortch, Secretary, FCC at 1-2 (dated Feb. 2, 2026) (SpaceX February 2 Letter); SpaceX December Reply at 6; SpaceX July Comments at 7-8. AST has explained that it is able to adjust EIRP values to ensure compliance at all operational altitudes and elevation angles. *See* Letter from Ben Wagner, Director, Regulatory Engineering, AST, to Marlene H. Dortch, Secretary, FCC at 2 (dated Jan. 28, 2026). Given that AST is able to show compliance with the more stringent PFD limits in 47 CFR § 25.208(r), we similarly find that AST is able to meet the PFD limits in 47 CFR § 25.208(s)&(t) for operations in the 40.0-42.0 GHz band. *See* AST March 3 Letter, Attach. 1. *But see* SpaceX February 2 Letter at 2.

¹⁶ *See also* *AST First Partial Grant*, 39 FCC Rcd at 8563, para. 8 n.27. AST has provided a V-band interference analysis for the updated orbital parameters of the full 248-satellite constellation. *See* ICFS File No. SAT-MOD-20250612-00145, Annex C. AST has also filed a Schedule S with updated PFD and maximum EIRP density values for V-band operations. ICFS File Nos. SAT-MOD-20260121-00037; *see also* *AST First Partial Grant*, para. 10. In addition, like we found in the *AST First Partial Grant*, we decline to consider arguments in this application for a space station license regarding consideration of arguments related to earth station siting. We therefore DISMISS the arguments in T-Mobile's and CTIA's Petitions to Deny related to this issue and invite those parties to raise those arguments when we are reviewing individual earth station applications. *See* *AST First Partial Grant*, 39 FCC Rcd at 8564-65, para. 11; CTIA Petition at 8; T-Mobile Petition at 14-16.

¹⁷ These center frequencies and bandwidths are the result of coordination with Federal operators. With respect to those frequency bands shared with Federal spectrum users, Federal operators have indicated that Federal missions brought into use after issuance of this grant may prevent future modification or renewal. *See also* Letter from Jennifer Manner, Senior Vice President, Regulatory Affairs and International Strategy, AST, to Marlene H. Dortch, Secretary, FCC at 1 (dated Aug. 6, 2025).

¹⁸ *See* *AST First Partial Grant*, 39 FCC Rcd at 8565-66, para. 14. Although some commenters raised concerns that AST's already operational satellites have caused harmful interference to other operators, the Commission has also not received complaints of any such occurrences. *See, e.g.,* Petition to Deny of Mario Lorenz at 8; Kimberly Chase Comments; Union de Radioaficionados Espanoles Comments; Radioamateur Society of Macedonia Comments at 1.

	<p>and 439.5 MHz, each with 50 kHz bandwidth) (space-to-Earth and Earth-to-space) (outside the U.S. only)</p> <p><u>TT&C (Emergency Operations only for a period not to exceed 24 hours) (243 satellites):</u>¹⁹ 430-440 MHz (center frequencies of 430.5 MHz, 432.3 MHz, 434.1 MHz, 435.9 MHz, and 439.5 MHz, each with 50 kHz bandwidth) (space-to-Earth and Earth-to-space) (outside the U.S. only)</p> <p><u>Receive-only center frequencies for positioning, navigation, and timing:</u>²⁰ 1575.42 MHz (Global Positioning System (GPS) L1) and 1176.45 MHz (GPS L5)</p>
<p>Operations under this grant must comport with the legal and technical specifications and commitments set forth by the applicant or petitioner and with the Federal Communications Commission's rules not waived herein. This grant is also subject to the following conditions:</p> <ol style="list-style-type: none"> 1. AST's SCS operations in the United States and direct-to-cell operations outside the United States are subject to the following conditions: <ol style="list-style-type: none"> a. When conducting direct-to-cell operations in the licensed frequency bands (space-to-Earth and Earth-to-space) outside the United States, AST shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Constitution, the Convention, and the ITU Radio Regulations.²¹ b. AST's SCS operations in the United States shall not cause harmful interference to other countries' operations and AST must address and eliminate any harmful interference cases immediately. c. For SCS in the United States and direct-to-cell operations outside the United States, AST may only operate on a non-harmful interference basis to cross-border operations. Cross-border coordination and any negotiated technical parameters must be mutually acceptable to all involved, including U.S. counterpart agencies who oversee or regulate spectrum use in other countries. d. As directed by the Commission in paragraph 235 in the <i>SCS R&O</i> (FCC 24-28), prior to conducting any direct-to-cell operations with earth stations outside the United States, AST must submit a certification to the Space Bureau and Office of International Affairs (OIA).²² 2. AST, AT&T, and Verizon's (jointly, SCS providers) request for a waiver of sections 1.9047(d) and 25.125(a) of the Commission's rules, 47 CFR §§ 1.9047(d) and 25.125(a), which require that AST have lease arrangements with one or more terrestrial wireless licensee(s) that hold, collectively or individually, all co-channel licenses throughout a geographically independent area (GIA), IS GRANTED for the authorized 700 MHz and 800 MHz frequency bands in CONUS, subject to the following conditions:²³ <ol style="list-style-type: none"> a. The aggregate field strength at the earth's surface produced by all visible beams and satellites within each satellite constellation providing SCS as the beams move over any given point or area at all locations outside of the leased areas must not exceed 40 dBμV/m unless 	

¹⁹ See *infra* n.29.

²⁰ See Letter from Jennifer A. Manner, Senior Vice President, Regulatory Affairs and International Strategy, AST, to Marlene H. Dortch, Secretary, FCC at 2 (dated Aug. 15, 2025) (August 15 Letter).

²¹ See ITU Radio Regulation No. 4.4; see also *SCS R&O*, 39 FCC Rcd at 2723-2724, paras. 224-36.

²² *SCS R&O*, 39 FCC Rcd at 2724-26, paras. 235, 239.

²³ See *infra* Order at paras. 9-17; ICFS File No. SAT-MOD-20250612-00145, Narrative at 15-20; AST and AT&T SCS Lease Application, Exh. 1 at 3-7; AST and Verizon SCS Lease Application, Exh. 1 at 5-8.

- the affected neighboring co-channel terrestrial licensee agrees to a different field strength.
- b. SCS providers must notify co-channel terrestrial licensees where SCS is provided within 50 miles of the neighboring co-channel terrestrial license boundary. Notification must include a point of contact for reporting and resolving interference.
 - c. SCS providers must investigate claims of interference, and quickly address instances of actual interference, or else cease transmissions in the affected area until interference is resolved.
 - d. SCS must be limited to (a) the spectrum and geography associated with the 700 MHz and 800 MHz licenses identified in the request, and (b) spectrum and geography associated with 700 MHz and 800 MHz licenses associated with future leases to achieve the same purpose.
 - e. AST may not provide 800 MHz service to airborne devices.²⁴
 - f. SCS operations must comply with the public safety licensee protection requirements for 800 MHz operations and 700 MHz operations.²⁵
3. AST's request for waiver of sections 2.805(a), 25.115(q)(1), 25.125(c), and 25.125(d)(3) of the Commission's rules, 47 CFR §§ 2.805(a), 25.115(q)(1), 25.125(c), and 25.125(d)(3), containing the SCS device certification rules, IS GRANTED.²⁶
 4. AST, AT&T, and Verizon's requests for a waiver of sections 22.165(e) and 22.912(a) of the Commission's rules, 47 CFR §§ 22.165(e) and 22.912(a), which establish procedures for the expansion of 800 MHz Cellular service area boundaries (SABs), IS GRANTED, subject to the following conditions:²⁷
 - a. SCS is authorized in Cellular Unserved Areas within CONUS and Hawaii on a strictly non-interference, unprotected basis in the Unserved Areas adjacent to license areas held by AT&T or Verizon and covered by an SCS leasing arrangement. Such service must not cause interference to primary or secondary operations by other co-channel licensees. Such service cannot be used as a basis for expanding terrestrial service in AT&T or Verizon's Cellular Geographic Service Area.
 - b. SCS providers must make a good faith attempt to identify and notify 800 MHz Cellular licensees operating on a secondary basis in Cellular Unserved Areas. Notification must acknowledge that SCS operations cannot interfere with secondary Unserved Area operations, and must include a point of contact for reporting and resolving interference.
 5. Space-to-Earth and Earth-to-space operations other than those in bands authorized for SCS shall be strictly limited to durations when the AST space stations referenced within this license request are visible to the corresponding earth station locations listed in Appendix A of this grant, noting any additional restrictions within this grant.
 6. AST's operations in the licensed 430-440 MHz and 45.5-47 GHz bands shall not cause harmful interference to current and future operational U.S. Federal systems operating pursuant to primary Federal allocations.²⁸ AST shall coordinate through mutual exchange of system information, to the extent possible consistent with national security requirements, in good faith, and on an ongoing basis, with potentially affected U.S.

²⁴ See also 47 CFR § 22.925.

²⁵ 47 CFR §§ 22.970, 22.971, 22.972, 22.973, 27.303.

²⁶ See ICFS File Nos. SAT-MOD-20250612-00145, SAT-AMD-20250718-00181, Request for Waiver. In addition, we dismiss AST's request for waiver of the PFD limits in parts 22 and 27 with regard to its SCS operations. See *infra* Order at para. 30.

²⁷ See *infra* Order at paras. 21-29; AST and AT&T SCS Lease Application, Exh. 1 at 3, 7-8; AST and Verizon SCS Lease Application, Exh. 1 at 5-6, 9-12.

²⁸ AST has coordinated with NTIA for use of and is accordingly operating the 25 previously authorized satellites. See *generally* AST Modification Grant.

Federal systems to ensure protection of operational U.S. Federal Systems. In all cases, AST must provide all necessary system information and technical parameters to the affected Federal entities to allow those entities to conduct their required interference analysis. AST shall maintain sufficient information to timely investigate and resolve documented instances of harmful interference and make available such information to affected Federal entities upon request. AST shall adjust its operations to accommodate future operational U.S. Federal systems and aggregate effects into U.S. Federal systems. Upon receiving a documented report of harmful interference from an affected U.S. Federal system, AST shall immediately cease the operation causing the harmful interference until the issue is resolved and coordination with the affected Federal entity is complete.

7. AST must complete coordination with potentially affected Federal Agencies and Services engaged in national security or safety-of-life services, through mutual exchange of system information to the extent possible consistent with national security requirements, prior to operating in the 2025-2110 MHz, 2200-2290 MHz, 37.5-42.0 GHz, 47.2-50.2 GHz, and 50.4-51.4 GHz bands, which are allocated on a primary or co-primary basis to Federal services or are adjacent to primary Federal allocations. AST shall operate in accordance with any coordination agreements with the Federal Agencies. AST shall notify the Commission within 30 days after completion of coordination, with a copy to NTIA and the relevant Federal entity. Notification shall be submitted to the FCC's ICFS. Two weeks prior to the start of any operations for such bands, AST must provide contact information for a 24/7 point of contact for the resolution of any harmful interference to contacts provided by NTIA.
8. Earth station transmissions to space stations in the 2025-2110 MHz band must be coordinated with fixed and mobile stations in the 2025-2110 MHz band (e.g., via the Society of Broadcast Engineers (SBE)).
9. AST may only conduct backup TT&C operations for the Bluebird 1-5 satellites and in the 430-440 MHz band using the center frequencies and bandwidths set forth in this grant and only during emergency (non-earth pointing) situations for the Bluebird 1-5 satellites. AST may only conduct emergency (non-earth pointing) TT&C operations for the additional 243 satellites authorized herein in the 430-440 MHz band using the center frequencies and bandwidths set forth in this grant for a period not to exceed 24 hours.²⁹
10. AST shall notify the Commission of the initial orbital parameters (e.g., operating altitudes, inclination angle) for each satellite within 30 days following deployment.
11. Unless extended by the Commission for good cause shown, this authorization will become null and void in the event the AST space stations are not constructed and launched in accordance with the schedule set forth in section 25.164 of the Commission's rules, as follows:

²⁹ See ITU Radio Regulation No. 4.4. See AST Modification Grant n.15. For the same reasons the Satellite Programs and Policy Division found in the AST Modification Grant, we find that AST is capable of operating pursuant to ITU Radio Regulation No. 4.4 for the additional 223 satellites. AST has demonstrated that it will operate pursuant to ITU Radio Regulation No. 4.4 for the full requested 248-satellite constellation. *But see* Comments of Laurence Brett Glass. AST has shown that harmful interference from AST's transmissions to other authorized operations, including to amateur operations, in the 430-440 MHz band is extremely unlikely, and, if such interference, should occur, AST is capable of ceasing such transmissions. See Consolidated Response of AST at 3-4 (filed Aug. 5, 2025) (AST August Consolidated Response); Annex E Revision 1. AST also confirms that it will coordinate with federal government and other authorized operations in the band. See Letter from Phuong N. Pham, Vice President, Regulatory Affairs, AST, to Kathryn Medley, Chief, Satellite Licensing Division, Space Bureau, FCC at 1-2 (dated June 19, 2025). Regarding objections and concerns raised by members of the amateur radio community, see AST Modification Grant n.15, we have continued to not receive any complaints of harmful interference for AST's already-authorized operations in the 430-440 MHz band. In addition, we will continue to limit AST operations in the band to emergency operations when no other bands are available for the 223 additional satellites authorized herein for a period not to exceed 24 hours. We find that this will further mitigate any possibility of harmful interference. We also note that the FM-1 satellite, which AST has launched pursuant to part 5 authority, has completed LEOP operations prior to the date of this grant and will not be operating in the 430-440 MHz band pursuant to part 25 for that purpose. See ELS File No. 0284-EX-CN-2025 (granted Jul. 11, 2025); AST December 30 Letter.

- a. AST posted a surety bond in satisfaction of 47 CFR §§ 25.165(a)(1) & (b) on August 27, 2024,³⁰ and must maintain on file a surety bond requiring payment in the event of a default in an amount, at minimum, determined according to the formula set forth in 47 CFR § 25.165(a)(1); and
 - b. AST must launch 50 percent of the maximum number of space stations, place them in the assigned orbits, and operate them in accordance with this grant no later than **August 2, 2030** and must launch the remaining space stations necessary to complete its authorized service constellation, place them in their assigned orbits, and operate them in accordance with the authorization no later than **August 2, 2033**. 47 CFR § 25.164(b).
 - c. Failure to post and maintain a surety bond will render this grant null and void automatically, without further Commission action. Failure to meet the milestone requirements of 47 CFR § 25.164(b) may result in AST's authorization being reduced to the number of satellites in use at the milestone date. Failure to comply with the milestone requirements of 47 CFR § 25.164(b) will also result in forfeiture of AST's surety bond. By **August 17, 2030**, AST must either demonstrate compliance with this milestone requirement or notify the Commission in writing that the requirement was not met. 47 CFR § 25.164(f).³¹
12. AST must provide a semi-annual report, by January 1 and July 1 each year, covering the preceding six-month period, respectively, from June 1 to November 30 and December 1 to May 31.³² The report should include the following information:
- a. The number of conjunction events identified for AST satellites during the reporting period, and the number of events that resulted in an action (maneuver or coordination with another operator), as well as any difficulties encountered in connection with the collision avoidance process and any measures taken to address those difficulties,
 - b. Satellites that, for purposes of disposal, were removed from operation or screened from further deployment at any time following initial deployment, and identifying whether this occurred less than five years after the satellite began regular operations or were available for use as an on-orbit replacement satellite,
 - c. Satellites that re-entered the atmosphere,
 - d. Satellites for which there was a disposal failure, i.e. a satellite that loses the capability to maneuver effectively, including a discussion of any assessed cause of the failure and remedial actions, and
 - e. Identification of any collision avoidance system outages or unavailability, either on a systemwide basis or for individual satellites. An "outage" would include any individual satellite anomaly that results in a satellite not achieving targeted risk mitigation via maneuver.³³

³⁰ See Letter from Tim Bransford & Denise Wood, Counsel, AST, to Marlene H. Dortch, Secretary, FCC (dated Aug. 27, 2024).

³¹ We note that although we authorize AST to operate in additional frequencies on its AST SpaceMobile satellites and with an additional 223 satellites, we retain the current milestones for the AST SpaceMobile system. See 47 CFR § 25.164(h).

³² We continue to find AST's orbital debris analysis sufficient to grant operations for 223 additional satellites. See *infra* Order at paras. 31-34.

³³ NASA notes the potential for satellite constellations to negatively affect ground-based astronomical observations, and initial analyses by NASA indicate that projected light pollution from the AST constellation exceeds thresholds recommended by the astronomical community outlined in International Astronomical Union's Dark and Quiet Skies best practice guidance and the Conjunction Assessment Risk Analysis (CARA) Handbook. See Letter from Lauren E. Morgan, NASA Representative to the Commercial Transportation Interagency Group Space Operation Mission Directorate, Launch Services Office, NASA, to Marlene H. Dortch, Secretary, FCC at 1-2 (dated Jul. 21, 2025) (NASA Letter). In addition, we continue to acknowledge the National Radio Astronomy Observatory's (NRAO)

(continued....)

Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

This action is taken pursuant to Sections 0.241, 0.261, 0.331, and 0.392 of the Commission's rules on delegated authority, 47 CFR §§ 0.241, 0.261, 0.331, and 0.392, and is effective upon release.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

Action Date:	April 21, 2026
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Term Dates	From: April 21, 2026	To: September 19, 2039 ³⁴
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Approved:

Jay A. Schwarz
Chief, Space Bureau

Joel Taubenblatt
Chief, Wireless Telecommunications Bureau

Andrew Hendrickson
Chief, Office of Engineering and Technology

Zenji Nakazawa
Chief, Public Safety and Homeland Security Bureau

concerns regarding the size of the AST satellites and those of various commenters who filed in the docket for the SCS proceeding expressing concerns over the size of AST's satellites and the impact of the brightness of AST's satellites on the night sky. *See* NRAO Comments at 5 (filed Dec. 1, 2020); ECFS Docket No. 23-65. AST has reached a preliminary coordination agreement with NSF and has filed a copy with the Commission covering optical ground-based astronomy and radio astronomy per Footnote US211 of the U.S. Table of Frequency Allocations. *See* ICFS File Nos. SAT-LOA-20200413-00034, SAT-AMD-20200727-00088, SAT-AMD-20201028-00126, SAT-AMD-20230717-00172, SAT-AMD-20240311-00053, Coordination Agreement Between AST SpaceMobile and the U.S. National Science Foundation (NSF) for the Protection of Ground-Based Astronomy Observations Supported by the United States of America (filed May 9, 2025); *AST First Partial Grant*, 39 FCC Rcd at 8578-79, para. 33; *see also* SpaceX July Comments at 6. Furthermore, as part of NASA's Space Act Agreement with AST, NASA's CARA Program and AST are meeting regularly to address concerns regarding light pollution. *See* NASA Letter at 2. AST also is working with the NRAO on developing data transfer protocols, and provides updates to the Commission on efforts to mitigate the impact of its authorized satellites on optical astronomy. *See* Letter from Jennifer A. Manner, Senior Vice President, Regulatory Affairs and International Strategy, AST, to Marlene H. Dortch, Secretary, FCC (dated Jan. 2, 2026). We therefore find that, given AST's efforts to mitigate its impact on optical astronomy, grant of authority to deploy additional satellites weighs in the public interest.

³⁴ *See* August 15 Letter at 3 (indicating that the first Bluebird satellite launched on September 12, 2024).

ORDER

AST & Science, LLC

ICFS File Nos. SAT-LOA-20200413-00034; SAT-AMD-20200727-00088; SAT-AMD-20201028-00126; SAT-AMD-20230717-00172; SAT-AMD-20240311-00053; SAT-MOD-20250612-00145; SAT-AMD-20250718-00181; SAT-AMD-20250903-00248; SAT-MOD-20251205-00370; SAT-AMD-20251211-00379; SAT-MOD-20260121-00037

I. INTRODUCTION

1. Today, we grant, with conditions, authority to AST & Science, LLC (AST) to deploy and operate its full requested 248-satellite constellation for the provision of supplemental coverage from space (SCS) in the United States and direct-to-cell operations outside the United States.¹ This action allows AST to dramatically improve services in the United States and globally allowing AST, in collaboration with its mobile partners and the First Responder Network Authority (FirstNet), to provide ubiquitous connectivity directly to consumer devices in areas not covered by terrestrial networks. AST's SCS network will expand the reach of communications services, particularly emergency services, spur advancements and competition in cutting-edge, space-based technologies, and continue the Commission's efforts to promote the innovative and efficient use of our nation's spectrum resources. This Order provides the basis for grant of AST's application.

II. BACKGROUND

2. *Partial Grants.* This grant builds on two previous partial grants of AST's SpaceMobile system, as AST iteratively develops, deploys, and operates new satellites.²

3. *Application for SCS Modification.* On June 12, 2025, AST filed an application for modification of its license to add authority to provide SCS and direct-to-cell services using its requested 248-satellite constellation.³ More specifically, in the continental United States and in Hawaii, AST seeks to operate using AT&T's 800 MHz (A and B blocks) and Lower 700 MHz (A, B and C blocks) spectrum, as well as Verizon's 800 MHz (A and B blocks) spectrum pursuant to lease arrangements with AT&T and Verizon.⁴ Outside the United States, AST seeks authority to use certain spectrum to perform direct-to-cell operations.⁵ In addition to the frequency bands granted for use for feeder link and TT&C operations with the first five satellites, AST seeks to perform feeder link and TT&C operations outside the United States in the 45.5-47 GHz (Earth-to-space) band.⁶ On July 21, 2025, AST filed an amendment to also request to perform SCS using the 700 MHz terrestrial spectrum licensed to FirstNet pursuant to an agreement with

¹ Operations outside the United States shall be pursuant to ITU Radio Regulation No. 4.4.

² *AST&Science LLC Application to Launch and Operate a Non-Geostationary Orbit V-band System*, ICFS File Nos. SAT-LOA-20200413-00034, SAT-AMD-20200727-00088, SAT-AMD-20201028-00126, SAT-AMD-20230717-00172, SAT-AMD-20240311-00053, Order and Authorization, 39 FCC Rcd 8558, 8561, para. 6 (2024) (*AST First Partial Grant*); ICFS File Nos. SAT-MOD-20250612-00145; SAT-AMD-20250718-00181 (granted-in-part/deferred-in-part Aug. 29, 2025) (AST Modification Grant). For a description of AST's application as filed prior to issuance of the first partial grant, see *AST&Science LLC Application to Launch and Operate a Non-Geostationary Orbit V-band System*, ICFS File Nos. SAT-LOA-20200413-00034, SAT-AMD-20200727-00088, SAT-AMD-20201028-00126, SAT-AMD-20230717-00172, SAT-AMD-20240311-00053, Order and Authorization, 39 FCC Rcd 8558, 8559-60, paras. 2-5 (2024) (*AST First Partial Grant*).

³ ICFS File No. SAT-MOD-20250612-00145.

⁴ ULS File No. 0010538493 (Lead) (filed May 10, 2023, last amended Aug. 15, 2025; granted Apr. 21, 2026); ULS File No. 0011607666 (Lead) (filed June 12, 2025, last amended Aug. 15, 2025; granted Apr. 21, 2026); see ICFS File No. SAT-MOD-20250612-00145, Narrative at 13.

⁵ See ICFS File No. SAT-MOD-20250612-00145, Narrative at 11.

⁶ See *id.* at 9. AST also requested to operate in the 400-410 MHz band for TT&C and orbit-raising maneuvers outside the U.S., but subsequently withdrew that request. See *id.*; AST August Consolidated Response at 3.

FirstNet.⁷ On September 3, 2025, AST filed a second amendment to update technical information in its application.⁸ On September 5, 2025, SB, the Wireless Telecommunications Bureau, and Public Safety and Homeland Security Bureau accepted for filing the AST applications for SCS authority and established a pleading cycle for public comment.⁹

4. *Applications for Modification Related to Orbital Parameters.* On December 5, 2025, AST filed an application to modify the orbital parameters for one planned satellite, to be known as the FM-2.¹⁰ On December 11, 2025, AST filed an amendment to update technical information in its application.¹¹ On January 23, 2026, AST filed an application to modify the orbital parameters for the other planned 247 satellites in its constellation.¹²

III. DISCUSSION

5. Below we address certain waiver requests and provide additional reasoning to support this grant.¹³

A. SCS Operations

6. AST seeks to provide SCS in the United States in accordance with the Commission's rules adopted in the *SCS R&O*.¹⁴ In the *SCS R&O*, the Commission adopted entry criteria for NGSO operators that seek to apply for or modify an existing part 25 license to operate satellites in bands allocated for SCS in the United States and its territories.¹⁵ Specifically, the SCS framework allows satellite operators to apply to modify or apply for a part 25 license to include SCS where the satellite operator certifies that: (1) one or more leasing notification(s) or application(s), or in the case of FirstNet, a Form 601, is on file with the Commission to access the spectrum allocated for mobile-satellite service (MSS) provision of SCS from a single terrestrial licensee or multiple licensees that hold, collectively or individually, all co-channel licenses throughout a geographically independent area (GIA); (2) the part 25 space station licensee for NGSO satellite operation seeks modification of authority to provide SCS in the same geographic areas covered in the relevant GIA; and (3) the terrestrial devices involved in SCS qualify as "licensed by rule" earth stations under the new provisions of part 25.¹⁶

7. Here, AST meets some of the SCS criteria and requests waivers of other elements. Generally, the Commission may waive any rule for good cause shown.¹⁷ Waiver is appropriate only if both (1) special circumstances warrant a deviation from the general rule, and (2) such deviation better

⁷ ICFS File No. SAT-AMD-20250718-00181; ULS File No. 0011654129 (filed July 18, 2025; granted Apr. 21, 2026).

⁸ ICFS File No. SAT-AMD-20250903-00248.

⁹ *Space Bureau, Wireless Telecommunications Bureau, and Public Safety and Homeland Security Bureau Accept for Filing Applications of AST & Science, LLC And AT&T, Verizon, and FirstNet Requesting Supplemental Coverage from Space Authorization and Seek Comment on Waiver Requests*, Public Notice, DA 25-815 (Sept. 5, 2025).

¹⁰ ICFS File No. SAT-MOD-20251205-00370.

¹¹ ICFS File No. SAT-AMD-20251211-00379.

¹² ICFS File No. SAT-MOD-20260121-00037.

¹³ As conditioned in the grant stamp, AST and its terrestrial partners must ensure compliance with the public safety licensee protection requirements for 800 MHz operations (Sections 22.970, 22.971, 22.972, and 22.973) and 700 MHz operations (Section 27.303). *Supra* Grant Stamp at para. 2.f.

¹⁴ 47 CFR § 25.125.

¹⁵ *Id.* § 25.125(b).

¹⁶ *Id.* § 25.125.

¹⁷ *Id.* § 1.3.

serves the public interest.¹⁸ In making this determination, we may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis.¹⁹ For rules governing the Wireless Radio Services, the Commission may grant a waiver pursuant to this general good cause standard in section 1.3 of the Commission's rules or under the standard set forth in section 1.925 of the Commission's rules. Under section 1.925, the Commission may grant a request for waiver of a rule governing the Wireless Radio Services where it is shown that: (i) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or (ii) in view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.²⁰

8. Each of the bands in which AST seeks to provide SCS has a secondary SCS allocation in the U.S. Table of Frequency Allocations.²¹ Moreover, AST has on file with the Commission leasing notifications with partners AT&T and Verizon, who hold most co-channel licenses for SCS bands in CONUS and Hawaii. AST also has on file with the Commission a Form 601 for the agreement with FirstNet, who holds a nationwide license for the 758-768 MHz (space-to-Earth) and 788-798 MHz (Earth-to-space) bands in CONUS and Hawaii.²² Furthermore, AST seeks to provide SCS in CONUS and Hawaii. AST also certifies that the SCS earth stations using AT&T or Verizon spectrum will qualify as "licensed by rule" earth stations under section 25.115(q) of the Commission's rules.²³ However, grant of AST's application and associated SCS leases with AT&T and Verizon requires consideration of requests for waiver of Commission's rules. First, AST seeks waiver of the requirement that its lease arrangements with AT&T and Verizon cover all co-channel licenses throughout a GIA, i.e., in this case, CONUS. Second, AST seeks waiver of the SCS earth station rules under section 25.115(q) as well as related rules, which require the authorization of SCS end user devices for those devices certified prior to June 29, 2024. Third, AT&T and Verizon seek waiver of the requirements related to the expansion of 800 MHz Cellular service area boundaries. Fourth, AST requests to waive, to the extent necessary, the power flux-density (PFD) limits.

1. GIA Waiver

9. AST, AT&T, and Verizon request waiver of the SCS GIA requirement in order to provide SCS in CONUS pursuant to AST's lease arrangements with AT&T and Verizon.²⁴ Sections 1.9047(d) and 25.125(a) require the SCS terrestrial partner(s) to hold, collectively or individually, all co-

¹⁸ *NetworkIP, LLC v. FCC*, 548 F.3d 116, 125-128 (D.C. Cir. 2008) (citing *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990)).

¹⁹ *Northeast Cellular*, 897 F.2d at 1166 ("[A] waiver is appropriate only if special circumstances warrant a deviation from the general rule and such deviation will serve the public interest. The agency must explain why deviation better serves the public interest and articulate the nature of the special circumstances to prevent discriminatory application and to put future parties on notice as to its operation"); *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969) ("The agency's discretion to proceed in difficult areas through general rules is intimately linked to the existence of a safety valve procedure for consideration of an application for exemption based on special circumstances.").

²⁰ 47 CFR § 1.925.

²¹ *Id.* § 2.106(d)(33A).

²² Earlier today, the Commission granted AST and AT&T's, Verizon's, and FirstNet's applications for AST's SCS leases of AT&T's and Verizon's spectrum and for the contractual agreement for AST to use FirstNet's spectrum. ULS File No. 0010538493 (Lead) (filed May 10, 2023, last amended Aug. 15, 2025; granted Apr. 21, 2026); ULS File No. 0011607666 (Lead) (filed June 12, 2025, last amended Aug. 15, 2025; granted Apr. 21, 2026); ULS File No. 0011654129 (filed July 18, 2025; granted Apr. 21, 2026).

²³ ICFS File No. SAT-MOD-20250612-00145, Narrative at 13; 47 CFR § 25.115(q).

²⁴ See ICFS File No. SAT-MOD-20250612-00145, Narrative at 13-18; AST and AT&T SCS Lease Application, Exh. 1 at 3-7; AST and Verizon SCS Lease Application, Exh. 1 at 5-8.

channel licenses throughout a GIA.²⁵ AT&T does not hold all co-channel licenses in the Lower 700 MHz A, B, and C blocks across the CONUS GIA, and AT&T and Verizon do not hold all 800 MHz Cellular co-channel licenses in the CONUS GIA.²⁶ For the reasons described below, we conclude that there is good cause to waive sections 1.9047(d) and 25.125(a) of the Commission's rules, subject to conditions.

10. The GIA requirement is designed to minimize the risk of harmful interference to geographically-adjacent co-channel licensees.²⁷ In the *SCS R&O*, the Commission found that there are “novel technical challenges at play when introducing satellite communications to terrestrial spectrum” and that the GIA requirement “minimizes the risk of potential interference to geographically-adjacent, co-channel license areas.”²⁸ However, the Commission made clear that it was adopting a hybrid approach to SCS licensing by which parties could either satisfy the entry criteria, including the GIA requirement, adopted in the rules or seek a waiver to permit other implementations.²⁹ The Commission specifically invited GIA-waiver-based proposals that demonstrate the proposed SCS operations will not cause harmful interference to geographically-adjacent co-channel licensees, and committed to expeditiously consider all complete SCS proposals that address technical and legal considerations.³⁰

11. *Special Circumstances.* Here, consistent with the Commission's hybrid waiver- and rules-based approach in the *SCS R&O*, we find that the circumstances before us warrant a deviation from the general requirement that SCS terrestrial partners must collectively hold all co-channel licenses in a GIA. AT&T and Verizon hold the majority of the relevant 700 MHz and 800 MHz licenses in the CONUS GIA.³¹ Specifically, Verizon and AT&T hold more than 83 percent of the relevant licenses in each of the Lower 700 MHz B and C blocks and 800 MHz A and B blocks, and would hold more than 90 percent of each block if all pending transactions are consummated.³² Together, these license holdings cover over 99 percent of CONUS in the aggregate, and individual block holdings cover between 81 and 87 percent of CONUS.³³ These substantial holdings limit the number of geographically-adjacent co-

²⁵ 47 CFR § 1.9047(d); 47 CFR § 25.125(a).

²⁶ See ICFS File No. SAT-MOD-20250612-00145, Narrative at 17.

²⁷ See *SCS R&O*, 39 FCC Rcd at 2645-46, paras. 53-55; see also 47 CFR § 1.9047(d).

²⁸ See *SCS R&O*, 39 FCC Rcd at 2645-46, paras. 53-55.

²⁹ See *id.* at 2646-47, para. 56.

³⁰ See *id.*

³¹ See AST and AT&T SCS Lease Application, Exh. 1 at 4-8; AST and Verizon SCS Lease Application, Exh. 1 at 6-8.

³² Application of Northern New Mexico Telecom, Inc. and New Cingular Wireless PCS, LLC (New Cingular Wireless) For Consent to Assign Licenses, ULS File No. 0011836845 (filed Dec. 23, 2025) (New Cingular Wireless is a subsidiary of AT&T); Application of DISH Wireless and AT&T for Spectrum Manager Leasing Arrangement, ULS File No. 0011311736 (filed Sept. 23, 2025); Application of Cellco Partnership d/b/a Verizon Wireless and its affiliates (Verizon) and United States Cellular Corporation (UScellular) For Consent to Assign Licenses, WT Docket No. 25-192, ULS File No. 0011491372 (lead) (filed April 1, 2025).

³³ AT&T holds a small number of 700 MHz A Block licenses that can be used in conjunction with the larger portfolio of AT&T and Verizon's co-channel 700 MHz and 800 MHz Cellular licenses across CONUS, providing additional coverage and capacity options in limited areas. The AT&T 700 MHz A Block licenses are one part of AT&T and Verizon's footprint of licenses for this SCS application. We include AT&T 700 MHz A Block in the GIA waiver relief because AST, AT&T, and Verizon will integrate it into the SCS system, which is premised upon multiple scenarios that jointly enable coverage across all of the CONUS GIA using a mix of frequencies and because AST, Verizon, and AT&T anticipate using AST's advanced technology to facilitate “fast beam roll-off outside of the service area, permit digital beam forming, and enable complete over beam on/off switching.” Thus, AST can nimbly switch between spectrum blocks, as envisioned in the five scenarios presented in the application. See AST and Verizon SCS Lease Application, Exh. 1 at 4 (as quoted in this footnote, regarding AST's technology); AST and Verizon SCS Lease Application, Exh. 1 at 2; see also AST and AT&T SCS Lease Application, Exh. 1, at

(continued....)

channel license areas, which in turn reduces the number of areas with the potential for harmful interference to other licensees' terrestrial operations. In addition, AST indicates that its current technology allows for precise beam forming and power management to avoid harmful interference.³⁴ Each AST satellite employs a large, phased array antenna that allows for precise, simultaneous operation of thousands of electronically steerable beams.³⁵ The large size of the antenna aperture produces narrow primary beams and low sidelobe power levels. AST will actively control beam shape and size to match the geographic footprints of authorized service areas and avoid interference with neighboring licensees.³⁶ AST can also dynamically turn off beams to avoid harmful interference. As discussed above, the Commission anticipated that waivers of the GIA requirement would be appropriate if applicants demonstrate that the proposed parameters of their operations would protect geographically-adjacent co-channel neighbors.³⁷ We find that AST's specialized technology and ability to adjust beams in real time, coupled with Verizon's and AT&T's significant holdings in the bands, present a special circumstance that warrants deviation from the GIA requirement. AST specifically designed its satellite technology "to protect co-channel and adjacent channel licensed operators" from harmful interference.³⁸ Further, AST's willingness to rapidly address claims of interference to co-channel licensees, reinforced by the conditions on this waiver, warrant deviation from the GIA rule in this circumstance.

12. *Public Interest Considerations.* AST, AT&T, and Verizon's SCS operations will expand connectivity across the country, advance the leadership of the United States in space-based technologies, and promote the efficient use of spectrum resources.³⁹ Waiver of the GIA requirement in this instance bridges connectivity gaps within the United States and furthers the goals the Commission identified in the *SCS R&O* without increasing the risk of harmful interference.⁴⁰ We also find that the GIA waiver is appropriate in this circumstance because AST, AT&T, and Verizon's SCS operations will provide reliable communications to unmodified end user devices in critical moments such as emergencies and natural disasters.⁴¹ In addition, Americans living in unserved and underserved areas, including in rural

2-3 (describing potential service scenarios based on geographic area and spectrum holdings). We also note that the condition placed upon this GIA waiver relief requires that SCS is limited to the spectrum and geography associated with the licenses in this application. *Supra* Grant Stamp at para. 2.d.

³⁴ ICFS File No. SAT-MOD-20250612-00145, Narrative at 18-20 ("The implementation of dynamic beam-forming and complementary interference mitigations will enable AST SpaceMobile's constellation to meet applicable field strength limits, without causing harmful interference to non-partner licensee service areas, or neighboring countries, Mexico and Canada.").

³⁵ ICFS File No. SAT-MOD-20250612-00145, Technical Annex at 2.

³⁶ *Id.* at 8.

³⁷ *See SCS R&O*, 39 FCC Rcd at 2646-47, para. 56.

³⁸ ICFS File No. SAT-MOD-20250612-00145, Narrative at 3, 18 ("AST SpaceMobile's ability to shape and contour beams enables comprehensive protection of co-channel terrestrial incumbent spectrum operators."); *see also* ICFS File No. SAT-MOD-20250612-00145, Technical Annex at 12.

³⁹ *See* ICFS File No. SAT-MOD-20250612-00145, Narrative at 22; Verizon Reply at 2-3; *SCS R&O*, 39 FCC Rcd at 2623, 2630, paras. 1-2, 18.

⁴⁰ *See* ICFS File No. SAT-MOD-20250612-00145, Narrative at 3; AST Consolidated Response at 14 (rec. Dec. 1, 2025); AST and AT&T SCS Lease Application, Exh. 1 at 6-8 (explaining that SCS service will provide "additional connectivity and redundancy for AT&T's customers" and allow AT&T to expand its coverage, including into Cellular Unserved Areas); AST and Verizon SCS Lease Application, Exh. 1 at 8 (stating that SCS service will enhance Verizon's ability to offer "even more reliable and expansive network experience to its customers").

⁴¹ *See* ICFS File No. SAT-MOD-20250612-00145, Narrative at 15, 16; AST and Verizon SCS Lease Application, Exh. 1.

communities, will be served by grant of this GIA waiver request.⁴²

13. Several commenters are concerned that AST's SCS operations will cause harmful interference and assert that AST has not sufficiently shown that its system will protect terrestrial licensees' operations from harmful interference.⁴³ AST indicates that its advanced technology allows for dynamic adjustments to protect co-channel and adjacent-channel terrestrial networks from harmful interference.⁴⁴ Further, AST, AT&T, and Verizon indicate that the satellite system will otherwise comply with part 25 rules, including the SCS field strength limits.⁴⁵ In addition, the GIA waiver conditions establish that other terrestrial license operations will be protected from potential harmful interference caused by AST, AT&T, and Verizon's SCS operations, just as they would today from AT&T and Verizon's traditional terrestrial operations.⁴⁶ The waiver conditions detail the permitted scope of AST's SCS operations, as well as requirements to protect neighboring co-channel terrestrial licensees from harmful interference, notify neighboring co-channel terrestrial licenses of SCS operations, and resolve interference quickly.⁴⁷ We find that AST's satellite technology, in conjunction with the safeguards set forth in the SCS rules and GIA waiver conditions, will minimize the risk of harmful interference and incentivize rapid resolution in the event that it occurs.⁴⁸

14. Commercial Mobile Wireless Carriers⁴⁹ and the Rural Wireless Association (RWA) argue that AST should negotiate and reach lease agreements with other co-channel licenses before deploying

⁴² See AST Consolidated Response at 14 (rec. Dec. 1, 2025); AST and AT&T SCS Lease Application, Exh. 1 at 4 (citing *SCS R&O*, 39 FCC Rcd at 2630-31, para. 18).

⁴³ See Carolina West Wireless, Inc., Cellular South Licenses, LLC, East Kentucky Network, LLC, et al. Comments at 3, 6 (Commercial Mobile Wireless Carriers Comments); RWA Comments at 3, 5; RWA Reply at 4, 6; SpaceX Comments at 2, 4; T-Mobile Comments at 1-2; see generally T-Mobile Reply. Additionally, CCA argues that AST's system could raise the noise floor in the band, but does not argue that such increased noise floor fails to comply with SCS rules or causes harmful interference. See CCA Opposition at 10. Commenters also specifically argue that AST has not provided sufficient information regarding anticipated SCS spectrum and geographic coverage, and some suggest that AST should make detailed maps publicly available. T-Mobile Comments at 3; Commercial Mobile Wireless Carriers Comments at 8; T-Mobile Reply at 4-5. AST, AT&T, and Verizon have submitted lease filings that list all licenses subject to its SCS arrangement, and the geographic coverage of such licenses is publicly available. See AST and AT&T SCS Lease Application; AST and Verizon SCS Lease Application. Thus, we decline to require that the applicants submit detailed coverage maps.

⁴⁴ See ICFS File No. SAT-MOD-20250612-00145, Narrative at 18-20; see also ICFS File No. SAT-MOD-20250612-00145, Technical Annex at 12-14; see also AST and AT&T SCS Lease Application, Annex B (SCS 700/850 MHz Interference Analysis); AST and Verizon SCS Lease Application, Annex B (SCS 700/850 MHz Interference Analysis); AST Reply at 7-10.

⁴⁵ See AST Reply at 9 (noting that AST's "field strength in the non-partner areas [will] at all times will be within applicable field strength limits"); 47 CFR § 25.208(w).

⁴⁶ *Supra* Grant Stamp at para. 2. The conditions are aligned with the SCS framework established by the SCS R&O, explaining that "it is in the public interest to require that [SCS] satellites protect terrestrial systems commensurate with the protections they are afforded from terrestrial-only systems." See *SCS R&O*, 39 FCC Rcd at 2713, para. 207.

⁴⁷ *Supra* Grant Stamp at para. 2.

⁴⁸ Pursuant to section 27.303 of our rules, operators must submit information about certain operations in the 776-787 MHz band to a public safety coordinator to ensure non-interference with operations in the public safety spectrum, which sits within the Upper 700 MHz band. 47 CFR § 27.303. Additionally, we note that pursuant to section 25.202(k)(2) of our rules if any emission from a transmitter operating in the SCS service results in harmful interference to users of another radio service, the FCC may require a greater attenuation of the emission. See 47 CFR § 25.202(k)(2).

⁴⁹ Carolina West Wireless, Inc., Cellular South Licenses, LLC, East Kentucky Network, LLC, Nex-Tech Wireless, LLC; Smith Bagley, Inc., Union Telephone Company, and United Wireless Communications, Inc. filed comments jointly as Commercial Mobile Wireless Carriers.

SCS.⁵⁰ We decline to require AST to enter into lease arrangements or agreements with other terrestrial providers, although additional terrestrial providers are not precluded from partnering with AST or any other satellite operator to provide SCS.⁵¹ AST indicates that it is open to engaging in discussions with individual carriers about mutually acceptable partnership arrangements,⁵² and we decline to impose requirements or restrictions on these agreements that are more appropriately left to private party negotiations.

15. The Competitive Carriers Association (CCA) and Commercial Mobile Wireless Carriers also raise concerns regarding competition in rural areas, but have not explained how the grant of the GIA waiver will adversely affect competition.⁵³ AST's operations in the bands will be limited to AT&T and Verizon's licensed areas and adjacent Cellular Unserved Areas, subject to conditions. Thus, we find that the competitive concerns of the Commercial Mobile Wireless Carriers, CCA, and RWA are merely speculative.⁵⁴

16. CCA claims that the grant of the GIA waiver will undermine roaming, and RWA states that grant of the GIA waiver will result in reduced roaming revenues for rural carriers from AT&T and Verizon, arguing that existing roaming agreements should be maintained.⁵⁵ This GIA waiver does not require any carrier to adjust a roaming agreement. The Commission in the *SCS R&O* contemplated applying the roaming rules in part 20 to satellite operators providing SCS and concluded that the roaming rules would not apply to satellite operators.⁵⁶ The Commission explained that it was premature to apply roaming requirements in early stages of SCS deployment and determined that doing so "could affect the development of SCS collaborations."⁵⁷ Here, as in the *SCS R&O*, we do not find that intervening in contractual arrangements between private parties serves the public interest, and we decline to impose roaming requirements within the context of the instant waiver. We find that CCA's claim with respect to the impact of the GIA waiver on roaming is merely speculative.

17. Accordingly, we conclude that it is in the public interest to waive the 47 CFR §§ 1.9047(d) and 25.125(a) SCS GIA requirement, subject to conditions.

2. SCS Device Certification Waiver

18. In addition, AST requests waiver of the SCS application requirement that AST receive a separate authorization for end user devices certified prior to June 29, 2024 in order for those devices to

⁵⁰ Commercial Mobile Wireless Carriers Comments at 11; RWA Reply at 6 ("AST could be required to enter into similar agreements with all wireless carriers licensed in the bands utilized for SCS service rather than the agreements being exclusive to AT&T and Verizon.").

⁵¹ See 47 CFR § 25.125.

⁵² See AST Consolidated Response at 10-11 (rec. Dec. 1, 2025); see also AST Consolidated Response at 1-2 (rec. Dec. 26, 2025).

⁵³ See CCA Opposition at 2-4, 5-7, 12; CCA Reply at 7-9; Commercial Mobile Wireless Carriers Comments at 11-13.

⁵⁴ Commercial Mobile Wireless Carriers Comments at 11-13 (arguing that the Commission should withhold the grant of AST's application in order to promote competition); RWA Reply at 6 (asserting that rural providers are subject to an unlevel playing field if the Commission grants the instant waivers); CCA Opposition at 4-7 (contending that rural customers and rural areas will face multiple harms if the instant waivers are granted); CCA Reply at 8-10 (arguing that AT&T and Verizon have coordinated to exclude other carriers, including rural carriers, and to harm wireless competition).

⁵⁵ See CCA Opposition at 5; RWA Comments at 3, 6-7 (claiming that "nationwide wireless carriers will cease allowing their respective customers to roam on rural carrier networks once SCS is established"); RWA Reply at 7.

⁵⁶ *SCS R&O*, 39 FCC Rcd at 2693-94, paras. 169, 172.

⁵⁷ *Id.* at 2694, para. 172.

receive in SCS bands from AST satellites.⁵⁸ The *SCS R&O* requires that terrestrial device equipment authorization grantees modify existing, or obtain new, equipment authorizations for previously certified terrestrial devices to reflect those devices' approval to operate under a part 25 MSS allocation and applicable SCS rules.⁵⁹ To minimize administrative burdens associated with modifying equipment certification for already certified devices, the Commission adopted a limited waiver of certain rules related to its permissive change requirements to permit device manufacturers to avail themselves of those procedures to add part 25 to existing equipment certifications.⁶⁰

19. The Commission, however, has previously considered and granted additional waiver of this certification requirement. Following a request for waiver from SpaceX and T-Mobile in a separate application to provide SCS, the Office of Engineering and Technology (OET) and SB found good cause to waive sections 2.805(a), 25.115(q)(1), 25.125(c), and 25.125(d)(3) of the Commission's SCS device certification rules.⁶¹ In that instance, OET and SB found that strict application of the SCS device certification rules would frustrate the Commission's underlying purpose in adopting those rules, which is to enable consumers and first responders to access services, such as wireless emergency alerts and limited text messaging, during a natural disaster or when in remote areas that lack terrestrial service.⁶²

20. AST argues that the same special circumstances exist for AST and its terrestrial partners as existed for SpaceX and T-Mobile when OET and SB granted this same waiver request. We agree and find that a waiver is justified. First, as previously found for T-Mobile, application of the rules would prevent AST's terrestrial partners' subscribers and first responders from accessing SCS through no fault of their own, because the holders of equipment authorizations for certain devices have failed to submit requests for waivers to allow those devices to access SCS.⁶³ In some cases, AST or its terrestrial partners may not hold primary responsibility for updating equipment certifications for devices that operate on their networks.⁶⁴ This could result in a delay of provision of SCS where manufacturers do not administratively update the equipment certifications in an exigent fashion even though AST and its terrestrial partners are prepared to provide connectivity in an otherwise unserved or underserved area. In addition, waiver of section 25.115(q)(1) of the Commission's rules in particular will allow the terrestrial partners' subscribers to communicate with AST satellites without the need for additional earth station licenses, keeping with the intent of the rule to provide maximum flexibility.⁶⁵ This waiver will ultimately serve the public interest by allowing the terrestrial partners' subscribers to access communications capability where they otherwise could not despite the Commission's efforts to authorize a new service.⁶⁶ This waiver further

⁵⁸ 47 CFR §§ 2.805(a), 25.115(q)(1), 25.125(c), and 25.125(d)(3); *see generally* AST Device Certification Waiver Request.

⁵⁹ *SCS R&O*, 39 FCC Rcd at 2718, para. 217.

⁶⁰ *Id.* at 2719-20, para. 221.

⁶¹ 47 CFR §§ 2.805(a), 25.115(q)(1), 25.125(c), and 25.125(d)(3); *see generally* *T-Mobile USA, Inc. and Space Exploration Holdings, LLC Request for Waiver of Parts 2 and 25 of the Commission's Rules*, Order, DA 25-566, para. 6 (Jul. 1, 2025) (*T-Mobile and SpaceX Device Certification Waiver Order*); AST Device Certification Waiver Request at 3.

⁶² *See id.*

⁶³ *See T-Mobile USA, Inc. and Space Exploration Holdings, LLC Request for Waiver of Parts 2 and 25 of the Commission's Rules*, Order, DA 25-566, para. 6 (Jul. 1, 2025) (*T-Mobile and SpaceX Device Certification Waiver Order*); AST Device Certification Waiver Request at 3.

⁶⁴ *See T-Mobile and SpaceX Device Certification Waiver Order*, para. 6; AST Device Certification Waiver Request at 3.

⁶⁵ 47 CFR § 25.115(q)(1); *see T-Mobile and SpaceX Device Certification Waiver Order*, para. 6; AST Device Certification Waiver Request at 3.

⁶⁶ *See T-Mobile and SpaceX Device Certification Waiver Order* at para. 5; *see also* AST Device Certification Waiver Request at 3.

serves the Commission's goals as outlined in the *SCS R&O* of expanding the reach of communications services, particularly emergency services, so that connectivity and assistance is available in more remote places.⁶⁷ Accordingly, we grant a waiver of the device certification rules in sections 2.805(a), 25.115(q)(1), 25.125(c), and 25.125(d)(3) of the Commission's rules.⁶⁸

3. CGSA Waiver

21. AST, AT&T, and Verizon request waiver of the 800 MHz Cellular service area boundary (SAB) expansion rules to allow for the lease of spectrum to AST for SCS operations, on a secondary basis, beyond 50 contiguous square miles (130 contiguous square kilometers) in Unserved Areas without application.⁶⁹ For the reasons described below, we conclude that in view of unique circumstances, application of the rules would be contrary to the public interest, and therefore waive section 22.912(a), and, to the extent necessary, section 22.165(e), subject to conditions.

22. The 800 MHz Cellular Geographic Service Area (CGSA) is a unique service area defined by the specific geographic footprint of a terrestrial wireless provider that can be expanded in accordance with Commission rules. The 800 MHz CGSA is unlike many wireless terrestrial licensed operations, which operate in predefined geographic areas. Initial 800 MHz Cellular licensees had five years to construct cellular networks. Initial 800 MHz Cellular licensees retained a CGSA licensed area entitled to protection where they built and returned any area not built out to the Commission for re-licensing via an iterative process.⁷⁰ The remaining areas are "Unserved Areas." Cellular Unserved Areas have been available to 800 MHz Cellular licensees and new entrants via an open, rolling application process for decades, and the few remaining Unserved Areas are sparsely populated and geographically isolated. In the *SCS R&O*, the Commission recognized the unique 800 MHz licensing structure results in some Unserved Areas being ineligible for SCS.⁷¹ AT&T and Verizon indicate that the unique features of the 800 MHz CGSA rules, combined with the particular service areas of their 800 MHz Cellular licenses, make some areas of the CONUS and Hawaii GIAs ineligible for SCS without waiver.⁷² AT&T and Verizon therefore request waivers to permit SCS, on a secondary basis, across both GIAs in areas that are currently unserved.

23. Under section 22.912(a) of the Commission's rules, 800 MHz Cellular licensees have exclusive rights within their licensed CGSAs and are permitted to serve Unserved Areas within 50 contiguous square miles on a secondary, unprotected basis, indefinitely, without FCC filings.⁷³ To

⁶⁷ See *SCS R&O*, 39 FCC Rcd at 2623, para. 2.

⁶⁸ 47 CFR §§ 2.805(a), 25.115(q)(1), 25.125(c), and 25.125(d)(3).

⁶⁹ AST and AT&T SCS Lease Application, Exh. 1 at 7; AST and Verizon SCS Lease Application, Exh. 1, at 9 (requesting waiver of 47 CFR §§ 22.165(e), 22.911, and 22.912(a)). While the parties include a request for waiver of section 22.911, 47 CFR § 22.911, we do not believe it is necessary to waive this rule under the circumstances. Section 22.911 describes how to determine the CGSA and contemplates only fixed transmitter locations; it is not applicable to AST's SCS system.

⁷⁰ See *Amendment of Parts 1 and 22 of the Commission's Rules with Regard to the Cellular Service, Including Changes in Licensing of Unserved Area, et al.*, WT Docket No. 12-40, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 14100, 14103-04, para. 6 (2014) (Cellular R&O and Further Notice) (adding reforms to the original 1980s licensing regime and adding significant opportunities for licensees to expand their service coverage without prior authorization).

⁷¹ *SCS R&O*, 39 FCC Rcd at 2664, para. 96, n.291.

⁷² AST and AT&T SCS Lease Application, Exh. 1 at 3, 7-8; AST and Verizon SCS Lease Application, Exh. 1, at 5-6, 9-12.

⁷³ 47 CFR § 22.912(a). A licensee may not claim the secondary service in the Unserved Area as part of its CGSA. *Amendment of Parts 1 and 22 of the Commission's Rules with Regard to the Cellular Service, Including Changes in Licensing of Unserved Area, et al.*, WT Docket 12-40, Second Report and Order, Report and Order, and Second Further Notice of Proposed Rulemaking, 32 FCC Rcd 2518, 2548, para. 81 (2017).

expand service into an Unserved Area at or beyond the 50 contiguous square mile limit, incumbent licensees must file FCC Form 601 seeking prior approval from the Commission.⁷⁴ The part 22 rules allow adjustments to transmitter locations and technical parameters without the burden of filing an application for each SAB expansion, but require prior Commission authorization to expand operations beyond the specified 50-mile limit.⁷⁵ Unserved areas of at least 50 contiguous square miles are also available to applicants seeking to establish a new Cellular system.⁷⁶ The rules are calibrated to encourage coverage improvements in 800 MHz Cellular licensed areas and some expansion into Unserved Areas while minimizing the risk of harmful interference to geographically-adjacent co-channel licensees.

24. *Unique Circumstances.* Here, unique circumstances support waiver of the SAB expansion rules. AT&T and Verizon currently hold most of the licenses adjacent to Unserved Areas, limiting the number of areas where AST must avoid harmful interference with other terrestrial licensees' operations. In addition, AST indicates that its satellite system is agile and can dynamically protect against harmful interference to other co-channel licensees.⁷⁷ Satellite service also is unique in that waiver of the SAB expansion rules in this instance would enable AST to provide service in Unserved Areas without traditional terrestrial wireless network buildout. As conditioned, SCS in Unserved Areas is subordinate to all other licenses; this waiver does not provide AT&T and Verizon additional terrestrial rights or limit any other providers from expansion into Unserved Areas.

25. *Public Interest Considerations.* We find that waiver is warranted because strict application of the 800 MHz Cellular SAB expansion rules in this instance would be contrary to the public interest, and because unique circumstances exist. Waiver of the SAB expansion rules extends connectivity to Unserved Areas and provides better coverage for consumers in rural and remote areas where 800 MHz Cellular service does not exist.⁷⁸ We note that many of the remaining Unserved Areas where AST seeks to provide service fall in sparsely-populated, challenging terrain where terrestrial providers lack the ability or business incentive to construct. We therefore find waiver of the SAB expansion rules in this instance is in the public interest because it will improve connectivity in areas where consumers travel and in the places where new wireless services are needed most.⁷⁹

26. In Unserved Areas, AST's SCS operations will operate on a subordinate basis to other terrestrial-based 800 MHz Cellular secondary operations. Moreover, other 800 MHz Cellular licensees are not precluded from expanding into Unserved Areas within 50 contiguous square miles of their service areas. The SAB expansion rules are not otherwise affected by this waiver grant.⁸⁰ In this light, grant of waiver does not disadvantage any terrestrial cellular licensee and they retain all mechanisms for expanding 800 MHz Cellular Service into Unserved Areas either on a primary or secondary basis.

27. We also find that strict application of the rules in this unique circumstance would be contrary to the public interest because the SAB expansion rules contemplate traditional terrestrial wireless deployments and this request is for space-based expansion of the 800 MHz CGSA. Further, absent this waiver of the SAB expansion rules, AT&T and Verizon would need to file hundreds of applications with waivers to achieve the same outcome of SCS-based expansion into currently Unserved Areas, which is not a reasonable alternative. Waiver of the SAB expansion rules establishes a more efficient process for

⁷⁴ 47 CFR § 22.165(e).

⁷⁵ *Id.*; see also *id.* § 22.953 Content and form of applications for Cellular Unserved Area authorizations.

⁷⁶ 47 CFR § 22.949; *Amendment of Parts 1 and 22 of the Commission's rules with Regard to the Cellular Service, Including Changes in Licensing of Unserved Area, et. al.*, WT Docket 12-40, Second Report and Order, Report and Order, and Second Further Notice of Proposed Rulemaking, 32 FCC Rcd 2518, 2559, para. 113 (2017).

⁷⁷ See ICFS File No. SAT-MOD-20250612-00145, Technical Annex at 7-8.

⁷⁸ See AST and Verizon SCS Lease Application, Exh. 1 at 11.

⁷⁹ *Id.*

⁸⁰ 47 CFR §§ 22.165, 22.912.

expanding SCS connectivity into Unserved Areas than application of the rule in this case. The waiver conditions ensure that AST will not cause harmful interference to other terrestrial providers and require AST to cease operations if interference occurs in Unserved Areas.

28. One commenter contends that SCS in Unserved Areas may limit terrestrial carriers' expansion into Unserved Areas.⁸¹ We find that such contentions are unfounded. AST's prospective SCS operations do not impose any limits on terrestrial providers' current operations or potential expansions. Other 800 MHz Cellular licensees are not precluded from expanding into Unserved Areas within 50 contiguous square miles of their service areas, as permitted by the Commission's rules. Such licensees also are not precluded from filing applications to expand service into Unserved Areas beyond 50 contiguous square miles, as permitted by the Commission's rules. As conditioned, AST's SCS operations in Unserved Areas will be subordinate to terrestrial 800 MHz licensees that are operating in Unserved Areas on a secondary basis.⁸² AST, Verizon, and AT&T also must protect from harmful interference the terrestrial operations of another third-party 800 MHz licensee operating a terrestrial service in an Unserved Area on a secondary basis.⁸³

29. We grant waiver of 47 CFR § 22.912(a), allowing for expansion of 800 MHz Service Area Boundaries beyond 50 contiguous square miles adjacent to AT&T and Verizon's license areas, to allow AST to provide SCS on a secondary basis in these Unserved Areas. We also grant waiver of § 22.165(e), to the extent necessary, to enable expansion of service into these Unserved Areas without the need to file an application and receive approval with FCC Form 601.

4. PFD Limits

30. In addition, AST requests to waive, to the extent necessary, the PFD limits in sections 22.913(b) and 27.55(b) of the Commission's rules. Relatedly, a commenter argues that AST needs to demonstrate that any energy spillover would be kept within tolerances consistent with the Commission's part 27 rules.⁸⁴ However, waiver of terrestrial PFD limits is unnecessary because there is a different limit that applies to SCS. In the *SCS R&O*, the Commission adopted a uniform PFD limit for OOB for SCS across the various bands which provides a simple requirement for satellite operator compliance.⁸⁵ That limit is contained in section 25.202(k)(1) of the Commission's rules, with which AST will comply.⁸⁶ In addition, the Commission similarly adopted an aggregate field strength at the earth's surface produced by all visible beams and satellites within each satellite constellation providing SCS. This limit is contained in section 25.208(w), and AST must comply with this requirement.⁸⁷ Therefore, AST meets the applicable PFD limits for SCS operations, and we accordingly dismiss AST's request to waive the requested PFD limits.

B. Orbital Debris Mitigation

31. Furthermore, we find that AST's orbital debris mitigation showing is sufficient to

⁸¹ See CCA Opposition at 11.

⁸² AST and AT&T SCS Application, Exh. 1, at 7; *see also* AST and Verizon SCS Lease Application, Exh. 1, at 10-11; Letter from Henry Gola, Counsel for AT&T Services, Inc., to Marlene Dortch, Secretary, FCC, SB Docket No. 25-201, at 1 (filed Jan. 23, 2026); *supra* Grant Stamp at paras. 3.a.-b.

⁸³ AST and AT&T SCS Application, Exh. 1, at 7-8; *supra* Grant Stamp at paras. 3.a.-b. Additionally, we note that pursuant to section 25.202(k)(2) of our rules if any emission from a transmitter operating in the SCS service results in harmful interference to users of another radio service, the FCC may require a greater attenuation of the emission. *See* 47 CFR § 25.202(k)(2).

⁸⁴ *See* CCA Reply at 4.

⁸⁵ *See SCS R&O*, 39 FCC Rcd at 2639, para. 40.

⁸⁶ 47 CFR § 25.202(k)(1).

⁸⁷ *Id.* § 25.208(w); ICFS File No. SAT-MOD-20250612-00145, Technical Annex at 11-12.

authorize the deployment and operation of 223 additional satellites.⁸⁸ AST has not changed its orbital debris assessment report (ODAR), which contemplates a full 248-satellite constellation, since the Satellite Programs and Policy Division (Division) issued the AST Modification Grant and which the Division found acceptable under the Commission's rules.⁸⁹ While we generally will not revisit the conclusions in the AST Modification Grant, in light of the grant of 223 additional satellites to AST's constellation, we will consider arguments regarding two issues, below.⁹⁰

32. *Deorbit Plan.* In the AST Modification Grant, the Division found that AST's disposal plans were sufficient to grant authority to deploy and operate an additional 20 satellites.⁹¹ AST's disposal plans have remained unchanged regarding the additional 223 satellites. AST plans to deorbit spacecraft in a high-drag, gravity-gradient stable orientation and will employ random tumbling as a last resort contingency.⁹² Further, while two parties express concerns about AST's decision for satellites to tumble during deorbit,⁹³ such a practice is not inherently prohibited by the Commission's rules. AST provides a large object collision risk analysis for the post-mission phase using random tumbling for the passive decay period.⁹⁴ In addition, AST will maintain spacecraft controllability for purposes of collision avoidance throughout the entire mission lifetime until three days prior to atmospheric reentry.⁹⁵ In the event that AST needs to perform a collision avoidance maneuver, AST will be able to detumble and achieve orientation required to perform collision avoidance within a mean time of 6.09 hours and maximum time of 24.00 hours.⁹⁶

33. Likewise, as the Division found in the AST Modification Grant, AST continues to engage with NASA and in ephemeris data sharing practices.⁹⁷ AST continues to mitigate the risk of collision during disposal of its satellites by maintaining a Space Act Agreement with NASA.⁹⁸ AST has also continued to work with NASA to develop an improved drag-deorbit plan that will increase predictability of the deorbiting satellite's orbit and shorten collision-avoidance response times.⁹⁹ Furthermore, AST will register each satellite with the 18th Space Control Squadron and will share ephemeris data with them

⁸⁸ See generally ICFS File No. SAT-MOD-20250612-00145, Orbital Debris Assessment Report (filed June 18, 2025) (ODAR). But see Comments of Space Exploration Holdings, LLC at 1-5 (filed Jul. 21, 2025) (SpaceX July Comments); Letter from James E. Dunstan, General Counsel, TechFreedom, to Marlene H. Dortch, Secretary, FCC at 1-4 (dated Nov. 2, 2020) (expressing concerns about the size and number of AST's satellites).

⁸⁹ See generally AST Modification Grant.

⁹⁰ See SpaceX November Comments at 4; AST November Consolidated Response at 12.

⁹¹ See AST Modification Grant, para. 17 n.19.

⁹² See Letter from Phuong N. Pham, Vice President, Regulatory Affairs, AST, to Marlene H. Dortch, Secretary, FCC at 1-2 (dated Feb. 20, 2026) (AST February 20 Letter).

⁹³ See SpaceX Comments at 4; Comments of Darren S. Knight.

⁹⁴ 47 CFR § 25.114(d)(14)(iv)(A)(1); see ODAR at 15-17; see also Letter from Jennifer A. Manner, Senior Vice President, Regulatory Affairs & International Strategy, AST, to Marlene H. Dortch, Secretary, FCC at 1-2 (dated Aug. 27, 2025) (August 27 Letter).

⁹⁵ See August 15 Letter at 3.

⁹⁶ See *id.*

⁹⁷ AST Modification Grant, para. 17 n.19; see also AST February 20 Letter at 1.

⁹⁸ See Letter from Lauren E. Morgan, NASA Representative to the Commercial Transportation Interagency Group Space Operation Mission Directorate, Launch Services Office, NASA, to Marlene H. Dortch, Secretary, FCC at 1 (dated Jul. 21, 2025) (NASA Letter).

⁹⁹ AST Consolidated Response at 13 (rec. Dec. 1, 2025).

and with other operators flying at the same orbital altitude.¹⁰⁰ To further mitigate collision risk during deorbit, AST will publicly share ephemeris data as Two-Line Element (TLE) sets through the CelesTrak website.¹⁰¹ We accordingly find that AST continues to meet our rules with regard to the deorbit of the additional 223 satellites.

34. *100 Post-Failure Object Years.* As the Division found previously in the AST Modification Grant, we continue to find that AST's grant for a total authorized constellation of 248 satellites does not require imposition of a 100 object year metric.¹⁰² Although, we are increasing AST's license by 223 additional satellites, SB has previously declined to adopt this condition where the system is early in the development phase.¹⁰³ We find that such is the case for AST, which has previously only been licensed for up to 25 commercial satellites and which is herein licensed for an additional 223 satellites.¹⁰⁴ We therefore continue to find the facts for AST similar to those of Kuiper Systems LLC, on which SB did not impose an object year metric when SB granted 3,236 satellites compared to AST's comparatively smaller grant of 248 total satellites.

IV. ORDERING CLAUSES

35. Accordingly, IT IS ORDERED that the applications filed by AST & Science, LLC are GRANTED, with conditions, to the extent set forth above and in the attached grant stamp.

36. This action is taken under delegated authority pursuant to sections 0.51, 0.131, 0.241, 0.261, 0.331, and 0.392 of the Commission's rules, 47 CFR §§ 0.51, 0.131, 0.241, 0.261, 0.331, and 0.392, and section 309(a) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(a).

¹⁰⁰ 47 CFR § 25.114(d)(14)(v); *see* ODAR at 14. *But see* Comments of Darren S. Knight. AST will also share ephemeris data as needed during nominal operations of the spacecraft and take the necessary steps to mitigate collision risks. 47 CFR § 25.114(d)(14)(v); *see also* SpaceX November Comments at 4 (arguing that the Commission explicitly require AST to maintain propellant to complete propulsive maneuvers to lower their apogee below inhabitable space stations).

¹⁰¹ 47 CFR § 25.114(d)(14)(v); *see* ODAR at 14.

¹⁰² AST Modification Grant, para. 22 n.22; *See Kuiper Systems LLC Request for Modification of the Authorization for the Kuiper NGSO Satellite System*, Order Authorization, DA 24-224, para. 17 (Mar. 8, 2024).

¹⁰³ *See id.*

¹⁰⁴ *See generally* AST Modification Grant.

37. IT IS FURTHER ORDERED that the remainder of the Petitions to Deny filed by T-Mobile USA and CTIA, Inc. are DISMISSED.

FEDERAL COMMUNICATIONS COMMISSION

Jay A. Schwarz
Chief
Space Bureau

Joel Taubenblatt
Chief
Wireless Telecommunications Bureau

Andrew Hendrickson
Chief
Office of Engineering and Technology

Zenji Nakazawa
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APPENDIX A
Earth Station Locations¹
Coordinated with Federal Agencies

S-band 2025-2110 MHz (Earth-to-space) and 2200-2290 (space-to-Earth)

1. Punta Arenas, Chile
2. Awarua, New Zealand
3. Hartebeesthoek, South Africa
4. Puertollano, Spain
5. Mingenew, Australia
6. Jeju, South Korea
7. Port Louis, Mauritius
8. Vimercate, Italy
9. Santa Maria, Azores, Portugal
10. Shetland, UK
11. Peterborough – Australia
12. Nangetty – Australia²
13. Kandy, Sri Lanka
14. Absheron, Azerbaijan
15. Plana, Bulgaria
16. Blönduós, Iceland
17. Athens, Greece
18. La Paz, Mexico
19. Abidjan, Ivory Coast
20. Santiago, Chile

Q band 37.5-42.0 GHz (space-to-Earth) and V band 47.2-50.2 GHz and 50.4-51.4 GHz (Earth-to-space)³

1. Catawissa, PA
2. Midland, TX
3. Brewster, WA
4. Kapolei, HI
5. Thomaston, GA

UHF 430-440 MHz (Earth-to-space) (space-to-Earth)

1. Wilde, Argentina
2. Perth, Australia
3. Vinogradets, Bulgaria
4. Knoll Fort, St. Helena
5. Jeju, South Korea

¹ See ICFS File No. SAT-MOD-20250612-00145, Technical Annex, Annex A. This list of earth stations is the result of coordination with Federal operators, with the exception of the 47.2-50.2 GHz and 50.4-51.4 GHz bands, which are to be coordinated pursuant to *supra* Grant Stamp at para. 7.

² We encourage AST to coordinate with the Commonwealth Scientific and Industrial Research Organisation in Australia prior to commencing operations with the Australian earth stations in Mingenew, Peterborough, and Nangetty.

³ See *supra* n.1.