6712-01

This document is scheduled to be published in the Federal Register on 03/07/2025 and available online at **https://federalregister.gov/d/2025-02961**, and on **https://govinfo.gov**

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 2 and 26

[ET Docket No. 13-115; FCC 24-132; FR ID 273296]

Allocation of Spectrum for Non-Federal Space Launch Operations

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) implements certain provisions of the Launch Communications Act (LCA) enacted September 26, 2024, governing the authorization and facilitation of commercial space operations in the 2025-2110 MHz, 2200-2290 MHz, and 2360-2395 MHz bands (collectively, the LCA bands). To meet this statutory mandate, the Commission builds upon its action in the September 2023 *Second Report and Order* which, among other things, reallocated the 2025-2110 MHz and 2200-2290 MHz bands for non-Federal Space Operation on a secondary basis and adopted, for these two bands, space launch licensing framework. Specifically, the Commission reallocates the 2360-2395 MHz band on a secondary basis for Space Operation. Next, the Commission incorporates the 2360-2395 MHz band into its existing part 26 space launch regulatory framework that includes, for example, space launch licensing and frequency coordination rules. In order to protect critical Federal and non-Federal flight testing operations, we incorporate into our certain technical rules from our current. Finally, the Commission confirms that the specific licensing, registration, frequency coordination, and frequency coordinator selection procedures, to be refined by the Wireless Telecommunications Bureau (Bureau or WTB) on delegated authority, will apply to the LCA bands.

DATES: The rules are effective **[INSERT DATE 30 DAYS AFTER FEDERAL REGISTER PUBLICATION]**, except for amendatory instruction 9 (adding § 26.202(d)), which is indefinitely delayed. The Federal Communications Commission will publish a document in the **Federal Register** announcing the effective date of this rule section.

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FOR FURTHER INFORMATION CONTACT: For additional information on this proceeding, contact Nicholas Oros of the Office of Engineering and Technology, at Nicholas.Oros@fcc.gov or 202-418-0636; Mark DeSantis of the Wireless Telecommunications Bureau at Mark.Desantis@fcc.gov or 202-418-0678; or Julia Malette of the Space Bureau, at Julia.Malette@fcc.gov or 202-418-2453.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Third Report and Order in ET Docket No. 13-115; FCC 24-132, adopted on December 23, 2024, and released on December 31, 2024. The full text of this document is available for public inspection online at https://www.fcc.gov/document/fcc-expands-reliable-spectrum-resources-commercial-space-launches.

SYNOPSIS

1. The LCA directs the Commission, within 90 days of enactment, to complete any proceeding in effect as of the date of the LCA's enactment relating to the adoption of service rules for access to the 2025-2110 MHz, 2200-2290 MHz, and 2360-2395 MHz bands for "commercial space launches and commercial space reentries . . . ." As an initial matter, we find that the Commission's actions in the *Second Report and Order*, published at 89 FR 63296, August 5, 2024, satisfy our LCA obligations regarding the 90-day requirement for the 2025-2110 MHz and 2200-2290 MHz bands, as we not only allocated these two frequency bands for Space Operation, but also created the part 26 regulatory framework, which includes service rules for space launch operations in those two bands, including "technical specifications, eligibility requirements, and coordination procedures to preserve the defense capabilities of the United States." In the *Third Report and Order*, the Commission modifies its rules to satisfy the LCA's 90-day directive with respect to the 2360-2395 MHz band.

2. Consistent with the LCA's requirements and the record developed in this proceeding, the Commission first modifies the U.S. Table and adopt a non-Federal secondary allocation for Space Operation in the 2360-2395 MHz band. Second, the Commission amends its current part 26 licensing and technical rules to incorporate the 2360-2395 MHz band, thereby leveraging a streamlined authorization and coordination framework that will apply to all part 26 applicants and licensees operating in the LCA bands. The Commission finds that this approach to authorizing space launch operations in the 2360-2395 MHz band will help ensure that incumbents, particularly Federal and non-Federal AMT flight test operators, are protected from harmful interference. The Commission's action in the *Third Report and*

Order not only fulfills the directives of the LCA to complete any proceeding in effect, but also provides regulatory certainty and improved efficiency for commercial space launch operations, and promotes continued innovation and investment in the United States commercial space launch industry.

3. The Commission recognizes that the LCA directs the Commission to "complete any proceeding" as it relates to a secondary allocation and adoption of services rules for "commercial space launches and commercial space reentries" in the LCA bands, and therefore clarify that its decision today does not complete the proceeding as it relates to other open issues raised in the *Second Further Notice*, published at 89 FR 6488, February 2, 2024. Specifically, the *Third Report and Order* does not address, among other things: three footnotes to the U.S. Table related to the use of spectrum by crewed and uncrewed spacecraft during space missions, as raised by NTIA; additional allocations and licensing needs for ISS-related space-to-space communications; spectrum allocation and licensing needs related to suborbital spaceflight; or the use of the 1435-1525 MHz band for space launch operations. These issues remain open and subject to possible future Commission action.

4. *Reallocating the 2360-2395 MHz Band for Space Operation Pursuant to the LCA*. The LCA requires, among other things, that the Commission "allocate on a secondary basis [the 2025-2110 MHz, 2200-2290 MHz, and 2360-2395 MHz bands] for commercial space launches and commercial space reentries." In the *Second Report and Order*, the Commission adopted a non-Federal secondary allocation for Space Operation in the 2025-2110 MHz band and enhanced the existing secondary allocation for Space Operation in the 2200-2290 MHz band, expanding it from four sub-channels to span the entire band. In the *Second Further Notice*, the Commission sought comment on several potential modifications to the U.S. Table that could continue our efforts to provide regulatory certainty and additional spectrum for space launch operations. Taking into account the clear Congressional directive in the LCA, which requires the Commission to "allocate [the 2360-2395 MHz band] on a secondary basis . . . for commercial space launches and commercial space reentries," as well as the record in response to the *Second Further Notice*, we find sufficient support and justification for adopting a new secondary allocation for Space Operation in the 2360-2395 MHz band.

5. In adopting the Space Operation allocations for the 2025-2110 MHz and 2200-2290 MHz bands, the Commission made space launch operations subject to various conditions, including limiting them to

pre-launch testing and space launch operations. In the *Second Report and Order*, the Commission defined "space launch operations" broadly, as "any activity that places a launch vehicle, whether an expendable launch vehicle or a reusable launch vehicle or a reentry vehicle used for launch, and any payload or human being from Earth in a suborbital trajectory in Earth orbit, or otherwise in outer space, including pre-launch testing and recovery or reentry of the launch vehicle." The Space Operation allocations the Commission adopted for these bands therefore permit use for both commercial space launches and commercial space reentries. Accordingly, the Commission concludes that the actions taken in *Second Report and Order* satisfy the requirements of § 2(a)(1)(B) of the LCA with respect to allocations of the 2025-2110 MHz and 2200-2290 MHz bands. In the *Third Report and Order*, the Commission addresses the allocation for the 2360-2395 MHz band and thereby satisfy the requirements of § 2(a)(1)(B) of the LCA with respect to this band. To clearly reflect the extent of the activities permitted under the Space Operation allocations for the LCA bands, the Commission adds the definition of "space launch operations" that the Commission adopted in the *Second Report and Order* into part 2 of our rules.

6. In the *Third Report and Order*, the Commission notes that "Space Operation Service" is defined in the U.S. Table as "a radiocommunication service concerned exclusively with the operation of spacecraft, in particular space tracking, space telemetry, and space telecommand." The LCA, however, does not refer to an allocation for "Space Operation." Rather, it requires a secondary allocation for "frequencies for commercial space launches and commercial space reentries," which it defines as a launch or reentry licensed under chapter 509 of title 51, United States Code. The Commission finds that the Space Operation allocation is sufficient to cover frequencies for the launches and reentries that are licensed under chapter 509 of title 51, United States Code, as referenced in the LCA. The Commission also notes that § 2(a)(3) of the LCA provides that "[a]ccess to the frequencies . . . in accordance with the service rules" and the "allocation of such frequencies" adopted under the specified provisions of the LCA "shall be limited to the use of such frequencies for commercial space launches and commercial space reentries." The Commission reads this language as specifying what the Commission is required to adopt and allocate under the LCA, not as a limitation on our authority to take actions in the public interest to

carry out the provisions of the Communications Act, consistent with our authority under Title III, outside of the mandates of the LCA.

7. In the *Second Further Notice*, the Commission sought further comment on expanding use of the 2360-2395 MHz band, both in the context of additional uses to the band as well as expanding use in the band beyond the three frequencies currently designated. The Commission sought comment on whether to add a primary Space Operation allocation to the band, subject to the same restrictions that apply to these operations under the current Mobile allocation. The Commission received limited comment on these issues.

8. The Commission concludes that adopting a non-Federal secondary Space Operation allocation for the 2360-2395 MHz band is necessary in order to satisfy the requirements of the LCA. The Commission also believes that making this band available for space launch operations and increasing spectrum capacity beyond the 2025-2110 MHz and 2200-2290 MHz bands will provide additional regulatory certainty and promote innovation and investment as the United States' commercial space launch industry continues to grow. In making this determination, the Commission acknowledges the concerns AFTRCC raises regarding potential interference to AMT flight test operations from expanding use of the 2360-2395 MHz band for space launch operations. However, the Space Operation allocation that the Commission adopts today pursuant to the LCA directive is on a secondary basis, and thus, space launch operations conducted under this allocation will be prohibited from causing harmful interference to AMT flight test operations in the 2360-2395 MHz band. The Commission also recognizes that the 2390-2395 MHz portion of the band has a co-primary allocation for the Amateur Service. Commercial space launch operations conducted under this allocation therefore will be prohibited from causing harmful interference to entities operating pursuant to the Amateur Service allocation.

9. The Commission also finds it appropriate to impose restrictions on this Space Operation allocation similar to those imposed on the Mobile allocation in this band and on the Space Operation allocations for the 2025-2110 MHz and 2200-2290 MHz bands. Space Operations in the 2360-2395 MHz band will therefore be limited to telemetering and associated telecommand operations during pre-launch testing and space launch operations. Space Operations in this band will also be subject to coordination prior to each launch, as discussed in detail below, allowing parties to make necessary adjustments to their

operations to both avoid causing and receiving harmful interference. However, unlike the co-primary Mobile allocation limiting telemetering and associated telecommand operations of expendable and re-usable launch vehicles to three frequencies, as specified in footnote US276 of the U.S. Table, the secondary Space Operation allocation we adopt here covers the entire 2360-2395 MHz band. The Commission also notes that the existing co-primary allocation for Mobile operations in this band remains unchanged, which will enable commercial space launch operators seeking interference protection from flight test operations to continue to seek authorization to use the three frequencies identified in §87.303(d)(1) of the Commission's rules and in footnote US276 of the U.S. Table under existing conditions.

10. *Licensing Space Launch Operations in the 2360-2395 MHz Band*. In the *Second Report and Order*, the Commission established part 26 of the Commission's rules to implement a regulatory framework authorizing space launch operations under a new standalone rule part, rather than integrating those rules into multiple existing Commission rule subparts. In so doing, the Commission sought to establish a nationwide licensing framework that would provide prospective space launch licensees with greater certainty through streamlined access and use of the 2200-2290 MHz and 2025-2110 MHz bands. In the *Second Further Notice*, the Commission sought general comment on administering space launch operations in the 2360-2395 MHz band.

11. After review of the record, the Commission believes that expanding our current part 26 rules to allow eligible entities to utilize the 2360-2395 MHz band for space launch operations not only satisfies the Congressional mandate to complete any proceeding in effect related to the adoption of specified service rules for access to frequencies in this band in the required near-term timeframe, but also furthers key Commission goals by providing regulatory certainty to licensees and leveraging efficiencies of scale and scope that will spur innovation, investment, and rapid deployment of space launch operations. The Commission also finds it in the public interest to build upon the Commission's action in the *Second Report and Order* in which it created a standalone rule part that will enable more efficient regulation and authorization of space launch operations, while also protecting incumbent operations from harmful interference. As such, the Commission finds that expanding the part 26 rules to include the 2360-2395

MHz band is the most efficient and cost-effective way to harmonize our approach to authorizing space launch operations across the LCA bands and also to reduce administrative burdens.

12. Given the LCA's clear directive to establish near-term access to the 2360-2395 MHz band for space launch operations, the Commission finds that the most practical and efficient way to satisfy that mandate is to incorporate the 2360-2395 MHz band into the part 26 licensing framework. The Commission also finds it unnecessary to require a conventional cost-benefit analysis since our action today is fulfilling a Congressional mandate. In addition, the Commission finds that there are multiple public interest benefits that flow from expanding the part 26 space launch licensing framework to incorporate the 2360-2395 MHz band, including establishing a clear set of rules for authorizing and coordinating spectrum access for space launch operations, and maximizing the overall use of the 2360-2395 MHz band. Further, the Commission concludes that integrating the 2360-2395 MHz band into the current part 26 licensing framework will offer commercial space launch operators the flexibility to accommodate and account for future expansion in the space launch industry, without having to extensively rely on the site-by-site, temporary part 5 experimental STA process. Such expansion includes not only the construction of more launch sites (Federal or non-Federal) and a growing number of entities conducting space launch operations in the LCA bands, but also the introduction of new and improved launch vehicle technologies.

13. *Part 26 Nationwide License and Eligibility*. In expanding the current part 26 licensing framework, the Commission clarifies that an eligible entity seeking to conduct space launch operations may apply for a nationwide, non-exclusive license to operate in any of the LCA bands. The grant of a license under part 26 to operate in any or all of the LCA bands will continue to serve as a prerequisite for registering launch sites and operational parameters, space launch vehicle stations, and itinerant stations needed to support a launch. In developing the part 26 licensing framework, the Commission found that "[n]ationwide licensing offers the advantages of a simpler, more streamlined application process that shifts the burden of information coordination from the licensing stage to post-licensing site registration and per-launch coordination with the relevant [f]ederal and non-[f]ederal entities." Expanding the Commission's part 26 rules to include the 2360-2395 MHz band aligns with the Congressional mandate to adopt regulations that streamlines the process for granting access to all of the authorized LCA bands

for space launch operations in a manner that is efficient and flexible for prospective part 26 licensees, while also protecting incumbent operations in each of the bands.

14. In addition to creating a more streamlined application process for the 2360-2395 MHz band, expanding our nationwide, non-exclusive licensing framework to this band results in part 26 licensees having "equal rights to the use of the spectrum [in all three of the LCA bands] as long as they comply with all applicable licensing, service, and operating rules" while also establishing the "mutual obligation to cooperate and avoid causing harmful interference to other users in the band[s]." In the *Second Report and Order*, the Commission reasoned that offering access to the 2025-2110 MHz and 2200-2290 MHz bands on a shared, non-exclusive basis would offer a more "predictable, collaborative, and flexible means of gaining access to the spectrum," and we believe that this reasoning applies equally to our extension of this licensing regime to the 2360-2395 MHz band. Moreover, given the potential for many different launch vehicle operators to use a given launch facility, the Commission continues to believe that authorizing space launch operations on a shared and cooperative basis is a reasonable approach for providing spectrum access to multiple space launch entities.

15. The Commission recognizes that incumbents conduct critical operations in the LCA bands, and as further discussed herein, the Commission will continue to require all part 26 licensees to abide by their mutual obligation to cooperate with and avoid causing harmful interference to other users in these bands. The Commission believes that its part 26 space launch operations licensing framework, including the post-license grant, per-launch frequency coordination requirement, will aid in ensuring that co-channel entities operating in the LCA bands, whether Federal or non-Federal, are protected from harmful interference. The Commission therefore finds it in the public interest to apply the part 26 framework to the 2360-2395 MHz band.

16. *Scope of Service*. In integrating the 2360-2395 MHz band into the part 26 regulatory framework consistent with the *Second Report and Order*, the Commission also continues to limit the scope of operations. In adopting the part 26 rules, the Commission limited the definition of commercial "space launch operations" to activities associated only with the launch and recovery or reentry of a launch vehicle, which excludes payload and other on-orbit communications. The Commission, however, found that this definition was sufficiently broad and therefore it did not need to include "an exhaustive list of

permissible operations or defin[e] a launch by stages given that operations may vary from launch to launch." The Commission also found that this definition was similar to the definition applied to the term "launch" in both the Commercial Space Launch Act, as amended, and the Federal Aviation Administration's (FAA) commercial space transportation rules. Given the LCA's mandate to provide access to the 2360-2395 MHz band for commercial space launches and reentries, including its specific use of the terms "commercial space launch" and "commercial space reentry" as defined in § 2(e) of the LCA, we continue to believe that the Commission's definition of "space launch operations" is appropriate and therefore apply it to part 26 operations in the 2360-2395 MHz band. The Commission also notes that its decision today aligns with AFTRCC's proposal that the Commission continue to limit the scope of operations in this way. Accordingly, in expanding our part 26 licensing framework to include an additional band, the Commission maintains the scope of space launch operations to activities associated only with launch, recovery, and reentry of a launch vehicle.

17. *Permissible Operations.* In addition to establishing the part 26 scope of service to exclude on-orbit and payload communications, the Commission, in the *Second Report and Order* explained that certain communications are authorized only during space launch operations, which includes preparation for launch, launch of the launch vehicle, the launch vehicle's flight path, release of payload, and recovery or reentry of the launch vehicle. The Commission also clarified that on-orbit communications after a launch vehicle separates from its payload are not permitted pursuant to the part 26 framework. It then tailored specific use limitations that acknowledged the limits of the allocation in each respective band (e.g., Earth-to-space, space-to-Earth). In particular, the Commission limited use of the 2025-2110 MHz band to ground-to-launch vehicle telecommand uses necessary to support space launch operations, and also limited use of the 2200-2290 MHz band to launch vehicle-to-ground communications associated with telemetry and tracking operations.

18. After review of the record, the Commission finds it appropriate to rely on our prior decision in the *Second Report and Order*, as well as the current part 87 rule limitations applicable to space launches, to establish the scope of permissible uses in the 2360-2395 MHz band. As an initial matter, consistent with the Commission's decision in the *Second Report and Order* applicable to the 2025-2110 MHz and 2200-2290 MHz bands, the Commission finds that a part 26 licensee may only operate in the 2360-2395 MHz

band during space launch operations. The Commission also finds that on-orbit communications in the 2360-2395 MHz band after a launch vehicle separates from its payload are not permitted, other than incidental use to the extent necessary to successfully complete a launch operation, as provided in § 26.3(c) of our rules. Although the Commission recognizes that some stakeholders advocate for an expanded range of permissible uses in the 2360-2395 MHz band, we find that expanding operations in this band in the manner specified by stakeholders is inappropriate at this time. This approach is consistent with the LCA's directive to the Commission to limit access to the 2360-2395 MHz band pursuant to the secondary allocation that the Commission adopts today for Space Operations, which includes "commercial space launches and commercial space reentries." Applying this limitation to the 2360-2395 MHz band also aligns with the Commission's decision in the *Second Report and Order* to permit part 26 space launch operations in a manner that aids in ensuring that incumbent operations are adequately protected. Further, while the Commission expands access for part 26 space launch operations to the entire 2360-2395 MHz band per the LCA's directive, we find it appropriate to pattern our approach after the relevant part 87 permissible use limitations applicable to the three frequencies in the 2360-2395 MHz band currently available for space launch operations. Accordingly, the Commission amends its part 26 rules to specifically permit the use of the entire 2360-2395 MHz band for ground-to-launch vehicle and launch vehicle-to-ground communications associated with telemetry and telecommand uses necessary to support space launch operations. This approach ensures that part 26 licensees can access the 2360-2395 MHz band in a manner that promotes co-existence with current operations in the band.

19. In incorporating the 2360-2395 MHz band into the part 26 framework, the Commission seeks to align space launch operations with current operations in that band. This conforms with the approach taken in the *Second Report and Order*, which maintained the pre-existing Federal Space Operation allocations' restrictions relating to uplink or downlink for two of the LCA bands, as follows: 2025-2110 MHz band (Earth-to-space) and 2200-2290 MHz band (space-to-Earth). The 2360-2395 MHz band is currently available, through a primary Mobile allocation that is not limited to uplink or downlink, for AMT flight testing for telemetry and telecommand of launch vehicles in the three specific frequencies as discussed. As stated, in this *Third Report and Order* the Commission allocates the 2360-2395 MHz band for secondary Space Operation (Earth-to-space and space-to-Earth). Accordingly, the Commission finds

it appropriate to permit part 26 licensees in the 2360-2395 MHz band to use the Space Operation allocation for either uplink or downlink, consistent with the scope of operations and permissible uses discussed above, specifically for ground-to-launch vehicle and launch vehicle-to-ground communications associated with telemetry and telecommand uses necessary to support space launch operations.

20. *License Term, Renewal, Discontinuance of Service Rules, and Performance Requirements.* Consistent with the LCA, which requires the Commission to complete any proceeding in effect related to adoption of service rules for the LCA bands for commercial space launch and reentry, the Commission finds it appropriate to apply the rules previously adopted for the 2025-2110 MHz and 2200-2290 MHz bands to the 2360-2395 MHz band. Although the Commission received no comments addressing these specific service rule issues, for administrative efficiency and to provide regulatory certainty to applicants and licensees, the Commission applies the current license term and renewal rules. All part 26 space launch licenses will be issued for an initial license term of ten years. In addition, a part 26 licensee will be eligible for a subsequent license term of 10 years upon successful demonstration by the licensee that it qualifies for license renewal. A licensee will also be entitled to renewal if it remains otherwise qualified and can certify that it has: (1) operated and is continuing to operate consistent with Commission rules and the terms of its existing authorization; and (2) complied with the required coordination throughout its license term. The Commission continues to believe that imposing this requirement will aid the Commission in verifying that part 26 licensees are operating within licensed parameters, thereby helping to manage use and prevent interference within congested bands. Due to the nature of space launch operations and to maintain consistency with the part 26 framework governing the 2025-2110 MHz and 2200-2290 MHz bands, the Commission will not apply our permanent discontinuance rules to space launch operations in the 2360-2395 MHz band. Further, consistent with the approach taken in the *Second Report and Order*, which noted the "variable nature of space launch operations," including the fact that "a space launch operator might not have ground facilities," the Commission declines to impose a construction requirement on part 26 licensees operating in the 2360-2395 MHz band.

21. *Secondary Markets Limitations.* Finally, the Commission clarifies that once an entity receives a license for space launch operations, including in the 2360-2395 MHz band, it may assign or transfer its part 26 license pursuant to § 1.948 of the Commission's rules. Consistent with the Commission's

approach in the *Second Report and Order* relating to the 2025-2110 MHz and 2200-2290 MHz bands, however, the Commission finds that licensees in the 2360-2395 MHz band will only be permitted to assign or transfer their part 26 nationwide, non-exclusive license in full, and shall not be permitted to partition or disaggregate. Similarly, as the Commission is applying our non-exclusive licensing framework to the 2360-2395 MHz band, such licensees are not permitted to lease spectrum pursuant to part 1, subpart X of our rules, which provides for leasing arrangements involving exclusive spectrum. The Commission finds that its streamlined approach in the *Second Report and Order*, as extended in today's action, coupled with the required post-grant, per-launch coordination, will nonetheless permit a high degree of access and spectrum re-use in these bands by multiple users.

22. *Part 26 License and Registration Filing Requirements.* In the *Third Report and Order*, the Commission incorporates the 2360-2395 MHz band into our streamlined part 26 licensing and registration process, consistent with the decision to expand our overall part 26 regulatory framework. The part 26 rules established in the *Second Report and Order* include a licensing framework designed to allow applicants to request authorization covering all launches within their license terms and to allow access to various spectrum bands on a non-exclusive basis. Those rules require an eligible space launch operator to first apply for a part 26 license by submitting a FCC Form 601 in ULS through which it will provide administrative details and certify regarding its eligibility. The Commission found that space launch operators need only provide the administrative information and eligibility certifications in the application for a nationwide, non-exclusive license, and would later register data associated with specific coordinated launches after license grant. By adding the 2360-2395 MHz band to the part 26 regulatory framework, the Commission applies the same application filing requirement for eligible entities interested in applying for a part 26 nationwide license that includes this band.

23. Similarly, the Commission also applies its part 26 launch site, station, and launch registration requirements for space launch operations in the 2360-2395 MHz band. In particular, the Commission will require a space launch operator that has been granted a part 26 license for operations in any of the LCA bands to then register in ULS its launch sites and operational parameters, space launch vehicle stations, and itinerant stations needed to support each launch. Following initial registration of stations and launch sites, a licensee, through a third party frequency coordinator, must coordinate specific launch parameters

with NTIA and other non-Federal users. Following successful coordination, a licensee must then register in ULS the specific technical and operating parameters associated with the coordinated launch. A licensee is only authorized for space launch operations after it has registered the coordinated technical and operational parameters in ULS, subject to the condition that the licensee re-register, if necessary, and re-coordinate the launch if technical or operational details change. A licensee must also maintain and update the registered sites and stations, including deleting any unused or superseded launch site or station information.

24. In the *Third Report and Order* the Commission finds that expanding our part 26 application and registration process to include the 2360-2395 MHz band is the appropriate mechanism for fulfilling Congress' directive, and we agree with SpaceX that using our part 26 application process for the 2360-2395 MHz band would result in a more flexible and efficient licensing process. Specifically, the mechanism created in the *Second Report and Order* with respect to the 2025-2110 MHz and 2200-2290 MHz bands, and extended through today's action to the 2360-2395 MHz band, will ultimately replace the STA approach that requires space launch operators to submit an application for each launch. The Commission believes that integrating the 2360-2395 MHz band into the part 26 regulatory framework satisfies the LCA directives by streamlining the process for granting authorizations to the LCA bands that includes, among other things, multiple uses of multiple frequency bands for multiple launches. Accordingly, the Commission applies its part 26 application and registration process for authorizing space launch operations in the 2360-2395 MHz band.

25. *ITU Process*. The International Telecommunication Union (ITU) Radio Regulations are treaty provisions binding on the United States, and require that no transmitting station may be established or operated by a private person or by any enterprise without a license by or on behalf of the government of the country to which the station in question is subject. Section 303 of the Communications Act authorizes the Commission to take actions to implement the ITU Radio Regulations. In the *Second Report and Order*, recognizing its duty to carry out the United States' treaty obligations, the Commission opted to require part 26 licensees, on a case-by-case basis, to submit appropriate draft documentation for submission to the ITU if the scope and nature of the space launch operations would have the potential to cause harmful interference in another country. Consistent with the LCA's directive to streamline the

authorization process, as well as the Commission's action taken in the *Second Report and Order*, in this *Third Report and Order* the Commission will also require draft ITU submission(s) on a case-by-case basis for the 2360-2395 MHz band, rather than adopting a blanket requirement.

26. *Frequency Coordination.* Through this part 26 regulatory framework, the Commission requires the licensee to initiate coordination by filing a frequency coordination request with the frequency coordinator after it has registered its station(s) and launch site information associated with the launch in ULS. After verifying that the operator is licensed, the frequency coordinator must initiate coordination by submitting the licensee's site and station registration to NTIA with the licensee's corresponding technical and operating parameters. To assist NTIA's review, the frequency coordinator may provide a showing that the operational and technical parameters of a proposed launch are consistent with a prior successful coordination and that the space launch licensee continues to comply with any conditions or agreements resulting from such prior coordination, or that its proposed launch is covered by an applicable coordination agreement with co-frequency entities. Further, the current part 26 framework requires the frequency coordinator to coordinate with non-Federal users in the 2025-2110 MHz through the local BAS frequency coordinator.

27. *Federal Coordination in the 2360-2395 MHz Band.* As directed by the LCA and consistent with the Commission's decision in the *Second Report and Order* regarding Federal coordination of space launch operations, we extend our part 26 NTIA coordination framework to the 2360-2395 MHz band and will require part 26 licensees seeking access to that band to complete NTIA coordination through the space launch frequency coordinator. The Commission finds that continuing this approach, as first implemented in the *Second Report and Order* for the 2025-2110 MHz and 2200-2290 MHz bands, meets the LCA's directive to adopt ". . . coordination procedures to preserve the defense capabilities of the United States." More specifically, to protect Federal incumbents in the 2360-2395 MHz band, we will require the part 26 frequency coordinator to conduct a post-grant, per-launch coordination with NTIA by providing the part 26 licensee's site and station registration with the licensee's corresponding technical and operational parameters to initiate the coordination process for each proposed launch. To assist NTIA's review, the space launch frequency coordinator may provide a showing that the operational and technical parameters of a proposed launch are consistent with a prior successful coordination, and that the

space launch licensee continues to comply with any conditions or agreements resulting from such prior coordination, or that its proposed launch is covered by an applicable coordination agreement(s) with co-frequency entities.

28. The Commission believes that extending this existing post-grant coordination process to the 2360-2395 MHz band will provide space launch operators access to needed spectrum and relief from the administrative burdens associated with the current launch-by-launch part 5 experimental STA authorization process. Post-grant coordination will also give space launch operators the operational flexibility to modify their launch parameters (e.g., frequencies, antenna height, trajectory, power level) closer in time to the launch event and the latitude to adjust their services to accommodate demand as it arises. Accordingly, the Commission extends its part 26 NTIA coordination framework to the 2360-2395 MHz band consistent with the LCA.

29. *Non-Federal Coordination in the 2360-2395 MHz Band.* The Commission also amends its part 26 rules to incorporate a post-grant, per-launch coordination requirement with AFTRCC for part 26 licensees seeking access to the 2360-2395 MHz band. In the *Second Further Notice*, the Commission acknowledged that the 2360-2395 MHz band is heavily used for AMT flight test purposes and sought comment on how it should revise the part 26 rules, including the provisions related to coordination, to facilitate increased use of space launch operations in that band. The Commission acknowledges AFTRCC's position that it not prematurely incorporate the 2360-2395 MHz band into our part 26 regulatory framework. The Commission finds, however, that expanding its current part 26 rules to allow eligible entities to utilize the 2360-2395 MHz band for space launch operations satisfies the clear Congressional mandate in the required near-term timeframe, and is supported by the record. The Commission also believes that adopting certain coordination procedures specific to the 2360-2395 MHz band will provide additional regulatory certainty to licensees, while also ensuring that space launch operations in the band can occur without causing harmful interference to part 87 incumbent operations.

30. Given the incumbent uses in the 2360-2395 MHz band, including critical AMT for flight testing, the Commission will continue to require all part 26 licensees to abide by their mutual obligation to cooperate with and avoid causing harmful interference to other users in this band. In addition, taking into account AFTRCC's concerns regarding the potential for harmful interference, the Commission adopts a

post-grant, per-launch coordination requirement with AFTRCC, as the part 87 coordinating committee, for space launch operations in the 2360-2395 MHz band based upon the coordination procedures adopted above relating to protection of Federal and non-Federal users in the band. In establishing these requirements, the Commission also takes into consideration the coordination procedures provided by AFTRCC in its comments as well as certain relevant aspects of § 87.305 of the Commission's rules. The Commission declines, however, to require part 26 licensees to first seek access to the 2025-2110 MHz and 2200-2290 MHz bands prior to seeking access to the 2360-2395 MHz band. The Commission believes that doing so is inconsistent with the LCA directive to provide access to the entire 2360-2395 MHz band, could unnecessarily restrict use of the band, and reduce incentives to innovate and invest in the United States' commercial space launch industry. The Commission likewise declines to adopt requirements related to the interoperability of equipment used for part 26 space launch operations. Although AFTRCC states that this requirement could "maximize flexibility to respond" to coordination requests, the Commission believes that imposing this requirement departs from the Commission's longstanding adherence to technology-neutral policies. The Commission also finds that adopting such a requirement could lead to fewer equipment options, thereby stifling innovation and potentially raising equipment costs.

31. The Commission finds it in the public interest to require the part 26 frequency coordinator to conduct a post-grant, per-launch coordination with AFTRCC by providing the part 26 licensee's site and station registration with the licensee's corresponding technical and operational parameters to initiate the coordination process for each proposed launch. To assist AFTRCC's review, the space launch frequency coordinator may provide a showing that the operational and technical parameters of a proposed launch are consistent with a prior successful coordination and that the part 26 licensee continues to comply with any conditions or agreements resulting from such prior coordination or that its proposed launch is covered by an applicable coordination agreement(s) with co-frequency entities.

32. The Commission believes that adopting this post-grant, per-launch coordination requirement for the 2360-2395 MHz band in part 26 of the Commission's rules, rather than in part 87, will aid in streamlining the space launch authorization process by creating regulatory and administrative certainty for part 26 licensees, as compared to the current part 87 coordination framework. For the following reasons,

the Commission finds that the part 26 authorization framework is more appropriate to govern the coordination of space launch operations. The Commission believes that the part 26 framework creates a more efficient regulatory process by allowing a space launch operator to apply for and receive a license from the Commission that includes access to the LCA bands for a ten-year term without imposing lengthy, prior coordination requirements that could potentially delay the entity's initial entry into those bands. The part 26 framework also utilizes a post-grant, per-launch coordination process that provides the licensee, after it receives the license, the opportunity and flexibility to register specific areas of operation (site location, launch vehicle, in-flight trajectories, power levels, etc.) for each individual launch event. The Commission also notes that utilizing this post-grant, per-launch coordination process for space launch operations in the 2360-2395 MHz band will increase efficiencies and is generally supported by AFTRCC.

33. In contrast, the current part 87 licensing framework requires each entity seeking authorization for space launch operations to pre-coordinate all of its technical and operational parameters prior to submitting a new or modification application. Pursuant to part 1 of the Commission's rules, all applications, including part 87 applications and modifications, require prior Commission approval where that application requires frequency coordination pursuant to the Commission's rules, or requests to add a frequency or frequency block for which the applicant is not currently authorized. Thus, if the space launch operator were required to utilize the part 87 framework for space launch authorizations in the 2360-2395 MHz band, the operator would have to submit an application for a modification to its existing license seeking prior Commission approval each time it seeks to add to or modify the requested frequencies, power levels, emissions, antenna height, antenna location, and/or area of operation.

34. After review of the record, the Commission finds that the part 26 framework not only aids in protecting incumbents from harmful interference, but also furthers the Commission's goals of ensuring that we implement a coordination process that is not overly burdensome and that provides certainty as to spectrum access. For purposes of administrating licensing of space launch operations, the Commission believes that the part 87 pre-coordination framework is arguably less efficient, and may not fully account for the complicated logistics surrounding space launch operations, including multi-factored variability of launch elements that are beyond the licensee's control, as well as changes in the operational environment

on and around Federal ranges and other sites that are likely to occur over time. Moreover, adopting the coordination framework for the 2360-2395 MHz band in part 26 is consistent with the Commission's decision today to adopt or apply similar part 26 rules across all three LCA bands. Accordingly, the Commission applies its part 26 post-grant, per-launch coordination framework to non-Federal coordination in the 2360-2395 MHz band, and amend our rules to require that part 26 licensees seeking to operate in the 2360-2395 MHz band coordinate with part 87 frequency coordinating committee through the third party frequency coordinator.

35. *Delegation of Authority and Required Bureau Public Notices.* Although the Commission in the *Second Report and Order* adopted rules relating to application filing, licensing, registration and frequency coordination, it delegated authority to the Bureau to issue public notices seeking comment on, and to subsequently finalize, issues related to refining the application process and accommodating frequency coordination, including information required for license registrations and frequency coordination requests. In addition, the Commission delegated authority to the Bureau to adopt specific procedures for effectuating that coordination and selecting a frequency coordinator through public notices, including seeking comment on, and finalizing, a mechanism and criteria for selecting the space launch frequency coordinator.

36. On December 6, 2024, the Bureau released the *Licensing Procedures Public Notice*, published at 89 FR 104502 on December 23, 2024, proposing data requirements to be included in frequency coordination requests, and seeking comment on the specific procedures relating to launch site, station, and launch registrations through ULS. This included the technical data to be provided to the Commission for purposes of registering launch sites, corresponding stations, and coordinated launches under a part 26 space launch license, and the required procedures and data submissions for part 26 licensees to coordinate each individual launch with both Federal and non-Federal users via a third-party frequency coordinator to be selected at a later date. On the same date, the Bureau also released the *Frequency Coordinator Procedures Public Notice* published at 89 FR 104499 on December 23, 2024, on delegated authority proposing criteria and procedures for selecting a space launch frequency coordinator. We note that the delegation of authority through the *Second Report and Order* was necessarily limited, given its scope, to procedures relating to the 2025-2110 MHz and 2200-2290 MHz bands. However, the Bureau's

December Public Notices acknowledge the recent passage of the LCA, including the requirement that the Commission conclude any "proceeding in effect" within 90 days of enactment that relates to the adoption of specified service rules for access to frequencies in the LCA bands, including the 2360-2395 MHz band. The Bureau's *December Public Notices* also acknowledge that § 2(b)(5) of the LCA requires the Commission to improve coordination by the Commission with NTIA in the LCA bands, by increasing the speed of review of applications for authorizations, including coordination to increase automation similar to our 70/80/90 GHz service rules. Accordingly, both of the Bureau's *December Public Notices* include proposals relating not only to the 2025-2110 and 2200-2290 MHz bands, but also to the 2360-2395 MHz band.

37. We affirm the Bureau's proposals in the *December Public Notices* and, building upon the express delegation afforded through the *Second Report and Order*, hereby delegate authority to the Bureau to: (1) specify, among other things, application, licensing, registration, and frequency coordination procedures, including the data requirements to be included in frequency coordination requests for space launch registrations for all three of the LCA bands: 2025-2110 MHz, 2200-2290 MHz, and 2360-2395 MHz; and (2) establish a mechanism and criteria for the Bureau to select the space launch frequency coordinator responsible for coordinating requests to operate in the LCA bands.

38. *Technical Rules for Space Launch Operations in the 2360-2395 MHz Band.* To facilitate space launch operations in the 2360-2395 MHz band in a manner that will support the evolving interests and requirements of commercial space entities, while also minimizing harmful interference between Federal and non-Federal operations, we adopt technical specifications—modeled after the part 87 technical specifications currently governing the band—that we will incorporate into our part 26 rules. After reviewing the record, the Commission adopts part 26 technical requirements that mirror the part 87 rules for space launch operations in the 2360-2395 MHz band. The Commission finds that organizing our space launch-related rules into a single rule part, as suggested by SpaceX, will promote administrative efficiencies and regulatory certainty. The Commission also notes that the LCA requires the Commission to act in the first instance by December 25, 2024, and thus, the Commission believes that employing a wait-and-see approach to gain extensive experience with the part 26 technical rules is not practicable. The Commission does find merit, however, in AFTRCC's view that the Commission should implement

the existing part 87 technical rules for 2360-2395 MHz space launch operations, given the multi-decade track record of facilitating coexistence in the band. This approach will not only facilitate interoperability and greater predictability in the band, but will also minimize harmful interference to incumbent operations, specifically, primary AMT flight test operations. Moreover, the Commission believes that adopting a technical framework reliant on coordination with Federal and non-Federal users that are subject to similar emissions and power limits will also promote co-existence between commercial space launch operations and other users in the band. For these reasons, the Commission incorporates certain part 87 technical rules for the 2360-2395 MHz band into our part 26 regulatory framework.

39. *Authorized Bandwidth.* Based upon our review of the record, the Commission finds it in the public interest to apply the part 26 limitation of 5 megahertz authorized bandwidth to commercial space launch operations to the 2360-2395 MHz band, while permitting submission of case-by-case justifications to exceed this bandwidth limit. This approach is not only consistent with the Commission's action in the *Second Report and Order* for the 2025-2110 MHz and 2200-2290 MHz bands, but also aligns with AFTRCC's proposal, since the current part 87 rules governing the band allows bandwidths in excess of 5 megahertz upon adequate justification. As stated in the *Second Report and Order*, the Commission cautions that the applicant's justification for exceeding 5 megahertz will be carefully assessed and will not be routinely granted. The Commission also notes that a licensee's ability to operate in excess of 5 megahertz is dependent on its ability to coordinate such a bandwidth, which may be difficult given the congested nature of, and the existence of critical AMT incumbent operations in, the 2360-2395 MHz band. Accordingly, the Commission extends its part 26 regulatory framework to launch operators seeking access to the 2360-2395 MHz band, such that we will allow them to choose any bandwidth, up to 5 megahertz, and to exceed a 5 megahertz bandwidth where they can demonstrate why a larger bandwidth is necessary for a specific space launch operation, including an explanation of why the licensee's requirements cannot be satisfied using a bandwidth of 5 megahertz or less.

40. *Emission Limits.* In the *Second Further Notice*, the Commission sought comment on whether it should continue to apply the technical rules that currently apply to space launch operations in the 2360-2395 MHz band, and also sought comment on whether and how it should harmonize those rules with the part 26 rules. As previously mentioned, none of the commenters to the *Second Further Notice* addressed

the issue of which emission mask should apply to space launch operations in the 2360-2395 MHz band, and commenters were divided on the broader issue of how to harmonize the 2360-2395 MHz band with the two other bands authorized for part 26 space launch operations. Though the record is sparse on this issue, the Commission finds it appropriate to incorporate the part 87 emission mask for space launch operations in the 2360-2395 MHz band into our part 26 rules. The Commission believes that this approach aligns with AFTRCC's proposal to the extent that we are not amending the underlying part 87 rules governing space launch operations. The Commission agrees with AFTRCC that there is merit to relying on the existing part 87 technical framework for this congested band, which already provides for space launch operations on three frequencies in the band, and particularly in light of the near-term timeframes established for compliance with the LCA and the decades-long track record in the band of successfully facilitating coexistence among different users.

41. For these reasons, the Commission adds a new emission mask specific to the 2360-2395 MHz band to our part 26 rules, modeled after the Commission's current rule § 87.139(e) and (f) that specifies the emission mask that currently applies to the 2360-2395 MHz band. The Commission notes that the mask in § 87.139 differs depending on the authorized bandwidth and requires attenuation based on frequency instead of necessary bandwidth. The mask also applies uniformly throughout the operation, in contrast to the dual mask approach adopted for the 2200-2290 MHz band.

For authorized bandwidths in the 2360-2395 MHz band less than or equal to 1 megahertz, emissions must be attenuated as follows: (1) On any frequency removed from the assigned frequency by more than 100% of the authorized bandwidth up to and including 100% plus 0.5 megahertz, the attenuation must be at least 60 decibels, when measured in a 3.0 kilohertz bandwidth. This signal needs not be attenuated more than 25 decibels below 1 milliwatt; and (2) on any frequency removed from the assigned frequency by more than 100% of the authorized bandwidth plus 0.5 megahertz, the attenuation must be at least $55 + 10 \log_{10}$ pY dB when measured in a 3.0 kilohertz bandwidth. For authorized bandwidths greater than 1 megahertz, emissions must be attenuated as follows: (1) on any frequency removed from the assigned frequency by more than 50% of the authorized bandwidth plus 0.5 megahertz up to and including 50% of the authorized bandwidth plus 1.0 megahertz, the attenuation must be 60 decibels, when measured in a 3.0 kilohertz bandwidth. The signal need not be attenuated more than 25 decibels below 1 milliwatt; and (2) on any

frequency removed from the assigned frequency by more than 50 percent of the authorized bandwidth plus 1.0 megahertz, the attenuation must be at least $55 + 10 \log_{10}$ pY dB, when measured in a 3.0 kilohertz bandwidth.

42. *Power Limits.* In the *Second Further Notice*, the Commission sought comment on whether to use our part 26 space launch technical framework or the part 87 technical framework currently governing operations in the band. The Commission received no comments specifically addressing the appropriate power limits for space launch operations in the 2360-2395 MHz band. The Commission believes that utilizing the part 87 power limits that currently govern space launch operations in the 2360-2395 MHz band and incorporating those limits into our part 26 regulatory framework is appropriate at this time. The Commission relies on the existing part 87 technical limits for this congested band, as these limits already provide parameters for space launch operations on three frequencies in the 2360-2395 MHz band. Moreover, given the successful track record of facilitating coexistence in the band using part 87 technical parameters, the Commission finds it in the public interest to take the same approach to power limits as we do herein for emission limits. Section 87.131 of the Commission's rules limits power for flight testing operations in the 2360-2395 MHz band to 25 watts, provided that transmitter power may be increased to overcome line and duplexer losses. Accordingly, the Commission adopts a power limit of 25 watts for the part 26 space launch operations the 2360-2395 MHz band. As with the part 87 flight test technical rules, the Commission will allow transmitter power to be increased above that 25-watt limit to overcome line and duplexer losses, so long as the power delivered to the antenna does not exceed 25 watts.

43. *Equipment Authorization.* In the *Second Report and Order*, the Commission, acknowledging the limited number of licensees conducting these operations, declined to require equipment used for part 26 space launch operations to be authorized under part 2, subpart J. The Commission continues to expect that this equipment will be deployed by a limited number of licensees that will be responsible for ensuring that their transmitters comply with our rules and, accordingly, the Commission does not believe there is utility in implementing an equipment authorization requirement for part 26 licensees operating in the

2360-2395 MHz band. This decision is consistent with the Commission's part 87 rules that exempt flight test transmitters used for limited periods from needing equipment certification.

PROCEDURAL MATTERS

Paperwork Reduction Act

44. The *Third Report and Order* may contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. All such requirements will be submitted to the Office of Management and Budget (OMB) for review under § 3507(d) of the PRA. OMB, the general public, and other Federal agencies will be invited to comment on any new or modified information collection requirements contained in this proceeding. In addition, the Commission notes that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. § 3506(c)(4), it previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees.

45. In this present document, the Commission has assessed the effects of incorporating the 2360-2395 MHz band into our part 26 regulatory framework, and find that it will have a small impact on small space launch operators, mainly related to the collection of information from part 26 licensees when submitting part 26 license applications and registrations for authorization to operate in the 2360-2395 MHz band. Due to the significant costs involved in space launch operations, the Commission anticipates that few entities impacted by this rulemaking would qualify as small businesses.

Final Regulatory Flexibility Analysis

46. The Regulatory Flexibility Act of 1980, as amended (RFA) requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities." Accordingly, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) concerning the possible impact of the rule changes contained in the *Third Report and Order* on small entities. The FRFA is set forth in Appendix C of the *Third Report and Order*.

Congressional Review Act

47. The Commission has determined, and the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, concurs, that this rule is non-major under the

Congressional Review Act, 5 U.S.C. § 804(2). The Commission will send a copy of the *Third Report and Order* to Congress and the Government Accountability Office pursuant to 5 U.S.C. § 801(a)(1)(A).

FINAL REGULATORY FLEXIBILITY ANALYSIS

48. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *First Further Notice of Proposed Rulemaking* (*First Further Notice*) released in April 2021, published at 86 FR 30860, June 10, 2021, and *Second Further Notice of Proposed Rulemaking* (*Second Further Notice*) released in September 2023, published at 89 FR 6488, February 2, 2024. The Federal Communications Commission (Commission) sought written public comment on the proposals in the *First* and *Second Further Notices*, including comment on the IRFA. No comments were filed addressing the IRFAs. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.

A. Need for, and Objectives of, the Report and Order

49. In the *Third Report and Order*, the Commission implements certain provisions of the recently enacted Launch Communications Act (LCA) governing the authorization and facilitation of commercial space operations in the 2025-2110 MHz, 2200-2290 MHz, and 2360-2395 MHz bands (collectively, LCA bands). The LCA directs the Commission, within 90 days of enactment, to allocate these three bands for commercial space launch operations on a secondary basis, and to complete any proceeding in effect related to the adoption of service rules for accessing these bands for space launch operations. To meet this statutory mandate, we build upon the Commission's action in the September 2023 *Second Report and Order*, published at 89 FR 63296, August 5, 2024, which reallocated the 2025-2110 MHz and 2200-2290 MHz bands for Space Operation on a secondary basis and adopted, for these two bands, the Commission's part 26 space launch licensing framework. Specifically, in the *Third Report and Order*, the Commission added a secondary non-Federal Space Operation allocation to the 2360-2395 MHz band, and incorporated this band into its part 26 rules that were adopted in the *Second Report and Order*.

50. The part 26 rules adopted by the Commission contain the licensing, operation and service rules for space launch services and serve to both clarify the rules as well as improve the ability of those seeking guidance in this regulatory area to more easily reference the applicable rules. The space launch licensees will receive non-exclusive nationwide licenses with a ten-year term, which will provide both certainty and

flexibility for space launch providers. Upon receiving their licenses, licensees may register their launch site and corresponding fixed, base, and itinerant stations as well as their mobile stations associated with the launch vehicles. The newly adopted part 26 technical rules for the 2360-2395 MHz band are similar to the current framework applicable to Federal operators in these bands, and also include emission mask and power limits that are consistent with the National Telecommunications and Information Administration's (NTIA) rules applicable to these bands.

51. The addition of a secondary Space Operation allocation to the 2360-2395 MHz band enables the Commission to issue licenses for use of this band during commercial space launches. This spectrum, which is regularly used by commercial space launch providers for sending control signals to launch vehicles, will be subject to the same coordination requirements that currently apply to Federal users and will also sufficiently address the regulatory needs of the commercial space launch industry while ensuring the protection of incumbents. This band requires coordination of its use, as it is utilized by part 87 licensees as well as Federal agencies.

52. Lastly, space launch licensees will be required to comply with post-license grant coordination requirements for each launch. The post-license grant coordination regime will be facilitated by a third-party space launch frequency coordinator in a two-part process: (1) for the 2360-2395 MHz band, a site-specific coordination of the operator's stations and launch parameters with part 87 operations that requires the operator to submit its registered sites and stations to a designated third-party coordinator to initiate a launch coordination request(s), and (2) for all of the authorized bands, coordination on a per-launch basis with NTIA unless not required by applicable coordination agreements with co-frequency entities or prior coordination. This will protect part 87 operations and previously coordinated Federal incumbents that share these bands. In short, the rules adopted in the *Third Report and Order* provide much-needed updates to spectrum allocation and licensing for commercial space launch operations that will enable the

Commission's objectives of fostering innovation, investment and growth in the United States commercial space launch industry.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

53. There were no comments filed that specifically addressed the proposed rules and policies presented in the IRFA.

C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

54. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules or policies in this proceeding.

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

55. The RFA directs agencies to provide a description of, and where feasible, an estimate of, the number of small entities that may be affected by the rules adopted herein. The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction." In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act. A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

56. *Small Businesses, Small Organizations, Small Government Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe, at the outset, three broad groups of small entities that could be directly affected herein. First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the Small Business Administration's (SBA) Office of Advocacy, in general a small business is

an independent business having fewer than 500 employees. These types of small businesses represent 99.9% of all businesses in the United States, which translates to 33.2 million businesses.

57. Next, the type of small entity described as a "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field." The Internal Revenue Service (IRS) uses a revenue benchmark of $50,000 or less to delineate its annual electronic filing requirements for small exempt organizations. Nationwide, for tax year 2022, there were approximately 530,109 small exempt organizations in the U.S. reporting revenues of $50,000 or less according to the registration and tax data for exempt organizations available from the IRS.

58. Finally, the small entity described as a "small governmental jurisdiction" is defined generally as "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand." U.S. Census Bureau data from the 2022 Census of Governments indicate there were 90,837 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States. Of this number, there were 36,845 general purpose governments (county, municipal, and town or township) with populations of less than 50,000 and 11,879 special purpose governments (independent school districts) with enrollment populations of less than 50,000. Accordingly, based on the 2022 U.S. Census of Governments data, we estimate that at least 48,724 entities fall into the category of "small governmental jurisdictions."

59. *Frequency Coordinators*. Frequency coordinators are entities or organizations certified by the Commission to recommend frequencies for use by licensees in the Private Land Mobile Radio Services (PLMR) that will most effectively meet the applicant's needs while minimizing interference to licensees already operating within a given frequency band. Neither the Commission nor the SBA have developed a small business size standard specifically applicable to spectrum frequency coordinators. Business Associations, which comprises establishments primarily engaged in promoting the business interests of their members, is the closest applicable industry with a SBA small business size standard.

60. The SBA small business size standard for Business Associations classifies firms with annual receipts of $15.5 million or less as small. For this industry, U.S. Census Bureau data for 2017 show that there were 14,540 firms that operated for the entire year. Of these firms, 11,215 had revenue of less than $5 million. Based on this data, the majority of firms in the Business Associations industry can be

considered small. However, the Business Associations industry is very broad and does not include specific figures for firms that are engaged in frequency coordination. Thus, the Commission is unable to ascertain exactly how many of the frequency coordinators are classified as small entities under the SBA size standard. According to Commission data, there are 13 entities certified to perform frequency coordination functions under part 90 of the Commission's rules. For purposes of this FRFA, the Commission estimates that a majority of the 13 FCC-certified frequency coordinators are small.

61. *Satellite Telecommunications.* This industry comprises firms "primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications." Satellite telecommunications service providers include satellite and earth station operators. The SBA small business size standard for this industry classifies a business with $44 million or less in annual receipts as small. U.S. Census Bureau data for 2017 show that 275 firms in this industry operated for the entire year. Of this number, 242 firms had revenue of less than $25 million. Consequently, using the SBA's small business size standard most satellite telecommunications service providers can be considered small entities. The Commission notes however, that the SBA's revenue small business size standard is applicable to a broad scope of satellite telecommunications providers included in the U.S. Census Bureau's Satellite Telecommunications industry definition. Additionally, the Commission neither requests nor collects annual revenue information from satellite telecommunications providers, and is therefore unable to more accurately estimate the number of satellite telecommunications providers that would be classified as a small business under the SBA size standard.

62. *All Other Telecommunications.* This industry is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Providers of Internet services (e.g. dial-up ISPs) or Voice over Internet Protocol (VoIP) services, via client-supplied telecommunications connections are also included in this industry. The SBA small business size standard for this industry classifies firms with annual receipts of $40 million or less as

small. U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year. Of those firms, 1,039 had revenue of less than $25 million. Based on this data, the Commission estimates that the majority of "All Other Telecommunications" firms can be considered small.

63. *Commercial Space Transportation*. Neither the Commission nor the SBA have developed a small business size standard for commercial space transport. Nonscheduled Charter Passenger Air Transportation is the closest industry with a SBA small business size standard. This U.S. industry comprises establishments primarily engaged in providing air transportation of passengers or passengers and cargo with no regular routes and regular schedules. This industry also includes air taxi services, aircraft charter passenger services and charter air passenger services which would encompass air space transportation. The SBA small business size standard for this industry classifies a business as small if it has 1,500 employees or less. U.S. Census Bureau data for 2017 indicates there were 1,148 firms in this industry that operated for the entire year. Of this number 1,129 firms had less than 250 employees. Thus, the major of Nonscheduled Charter Passenger Air Transportation firms can be considered small. We note however, that this category encompasses various types of commercial air transportation firms and does not exclusively represent the number of firms engaged in passenger space transport.

64. The Commission believes that the following business entities are the principle entities currently comprising the commercial space transportation launch operator industry in the United States: Blue Origin, Lockheed Martin Corporation, Northrup Grumman, Space Exploration Technologies (Space X), The Boeing Company, and Virgin Galactic. In May 2020, Space Exploration Technologies with NASA astronauts in a commercially built and operated spacecraft launched from American soil to the International Space Station for the first time in history. More recently, in July 2021, Virgin Galactic and Blue Origin both successful launched manned space flights. Additionally, The Boeing Company has been working with NASA on its commercial Starliner spacecraft to incorporate various lessons learned as it prepares for its second unmanned launch of the Starliner - Orbital Flight Test (OFT-2).

65. The commercial space industry is a nascent industry and the Commission does not have data on the size of these entities. We therefore cannot reach definite conclusions as to the number of small entities that will be affected by our actions in this proceeding, but due to the significant costs involved in space

launch operations, we anticipate that few entities impacted by this rulemaking would qualify as small businesses. NASA has agreements with two companies to design and develop human space flight capabilities: Space Exploration Technologies, and The Boeing Company.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

66. The Commission anticipates that the rule changes adopted in the *Third Report and Order* will create *de minimis* new compliance requirements for small entities. The Commission notes that the rules adopted in the *Third Report and Order* do not create any significant additional compliance requirements for small entities because the *Third Report and Order* is implementing compliance requirements for the 2360-2395 MHz band that was implemented by the *Second Report and Order* in the other two bands authorized for space launch operations. To the contrary, the framework adopted by the Commission streamlined the application process by allowing small and other entities to shift the burden of information collection from the licensing stage to post-licensing site registration and per-launch coordination with the relevant Federal and non-Federal entities. However, in assessing the cost of compliance for small entities, at this time the Commission is not in a position to determine whether these actions will require small entities to hire professionals to comply, and cannot quantify the cost of compliance with the rule changes that were adopted. Nevertheless, the Commission believes the benefits gained from the adopted rules by part 26 licensees and more optimized use of the band outweigh potential compliance costs incurred.

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities and Significant Alternatives Considered

67. The RFA requires an agency to provide, "a description of the steps the agency has taken to minimize the significant economic impact on small entities . . . including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected."

68. The Commission has considered the economic impact on small entities in reaching its final conclusions and through the actions we have taken in this proceeding. For example, in the *Third Report and Order*, the Commission adopted a secondary allocation in the 2360-2395 MHz band as well as

service rules for accessing these bands for commercial space launch operations. In addition, we considered proposed alternatives that would limit space launch operations for the use of the 2360-2395 MHz band to specified geographic sites and pre-licensing coordination. However, the actions we have taken in this proceeding will provide more efficient use of spectrum in those ranges, create a more certain regulatory regime, protect incumbent users from harmful interference and provide economic growth opportunities to small and other launch providers utilizing the bands.

69. Additionally, the *Third Report and Order* incorporated the 2360-2395 MHz band into the licensing and technical rules governing spectrum requirements for Space Launch Services that were adopted in the *Second Report and Order*. Prior to the adoption of these rules in the *Second Report and Order*, the Commission had granted special temporary authority (STA) under the part 5 experimental licensing rules for each individual launch. Rather than retaining a site-by-site STA process, which are only valid for a single launch and expire after six months, our decision to adopt a nationwide, non-exclusive licensing approach provides small and other space launch operators the efficiency of only having to file one license to cover a host of launch sites that are shared by multiple co-frequency operators. Further, small entities who manufacture and/or develop launch vehicles and spacecraft or conduct launches will benefit because they will be able to obtain licenses for spectrum to use during launches instead of being subject to the added burden and uncertainty of having to obtain STA licenses for each launch.

70. Lastly, with the incorporation of the 2360-2395 MHz band into the part 26 rules adopted in the *Second Report and Order*, the Commission can provide launch providers with ten-year term licenses, which serve the Commission's goals of minimizing administrative burdens to small and other entities and encouraging long-term investment in these services, while still allowing the Commission to retain proper oversight over commercial space launch operations. We gave consideration to comments suggesting a 15-year term in the *Second Report and Order*, however, we rejected such an approach as inefficient, given the congested nature of the bands at issue. Further, the adopted 10-year term will still provide small entities with a reduced administrative burden, while providing much-needed certainty to their operations, and incentivizing their ability to make longer term investments in their businesses. In addition, while coordination of each launch will still be required because of the other Federal and non-Federal operations

in these bands, the adopted rules take the step of establishing a coordination process that should streamline the process of providing access to spectrum during space launches, which will provide an economic benefit to small entities with limited human and economic resources that would otherwise have to navigate a less efficient approach to launch coordination.

G. Report to Congress

71. The Commission will send a copy of the *Third Report and Order*, including this FRFA, in a report to Congress pursuant to the Congressional Review Act. In addition, the Commission will send a copy of the *Third Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Third Report and Order*, and FRFA (or summaries thereof) will also be published in the *Federal Register*.

ORDERING CLAUSES

72. Accordingly, IT IS ORDERED that, pursuant to the authority found in §§ 1, 2, 4(i), 5(c), 301, 303(c), 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C §§ 151, 152, 154(i), 155(c), 301, 303(c), 303(f), and 303(r), and § 2 of the Launch Communications Act, Pub. L. No. 118-85, 138 Stat. 1546 § 2, this *Third Report and Order* IS HEREBY ADOPTED.

73. IT IS FURTHER ORDERED that this *Third Report and Order* SHALL BE EFFECTIVE 30 days after publication in the Federal Register.

74. IT IS FURTHER ORDERED that the amendments of parts 2 and 26 of the Commission's rules as set forth in Appendix B, ARE ADOPTED, effective thirty (30) days after publication in the Federal Register, except § 26.202, which may contain new or modified information collection requirements, and will not become effective until the Office of Management and Budget completes review of any information collection requirements that the Wireless Telecommunications Bureau determines is required

under the Paperwork Reduction Act. The Commission directs the Wireless Telecommunications Bureau to announce the effective date of this rule by subsequent Public Notice.

75. IT IS FURTHER ORDERED that the Commission's Office of the Secretary, SHALL SEND a copy of this *Third Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

76. IT IS FURTHER ORDERED that the Office of the Managing Director, Performance Program Management, SHALL SEND a copy of this *Third Report and Order* in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, see 5 U.S.C. § 801(a)(1)(A).

List of Subjects

47 CFR Part 2

Radio, Space transportation and exploration, telecommunications

47 CFR Part 26

Radio, Space transportation and exploration, Telecommunications.

Federal Communications Commission.

Marlene Dortch,

Secretary.

Final Rules

For the reasons discussed in the document above, the Federal Communications Commission amends 47 CFR parts 2 and 26 as follows:

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

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

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

2. Section 2.1 is amended by adding a definition for “Space Launch Operations” to paragraph (c) in alphabetical order to read as follows:

§ 2.1 Terms and definitions.

* * * * *

(c) * * *

Space Launch Operations. Any activity that places a launch vehicle, whether an expendable launch vehicle or a reusable launch vehicle or reentry vehicle used for launch, and any payload or human being from Earth in a suborbital trajectory, in Earth orbit, or otherwise in outer space, including pre-launch testing and recovery or reentry of the launch vehicle.

* * * * *

3. Section 2.106 is amended in paragraph (a) by revising page 38 and adding paragraph (d)(42) to read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

		2310-2320 Fixed Mobile US100 Radiolocation G2 US97 US327	2310-2320 FIXED MOBILE BROADCASTING-SATELLITE RADIOLOCATION US97 US100 US327	Wireless Communications (27)
		2320-2345 Fixed Radiolocation G2 US327	2320-2345 BROADCASTING-SATELLITE US327	Satellite Communications (25)
		2345-2360 Fixed Mobile US100 Radiolocation G2 US327	2345-2360 FIXED MOBILE US100 BROADCASTING-SATELLITE RADIOLOCATION US327	Wireless Communications (27)
		2360-2390 MOBILE US276 RADIOLOCATION G2 G120 Fixed US101	2360-2390 MOBILE US276 Space Operation (Earth-to-space) (space-to-Earth) NG42 US101	Space Launch Services (26) Aviation (87) Personal Radio (95)
		2390-2395 MOBILE US276 US101	2390-2395 AMATEUR MOBILE US276 Space Operation (Earth-to-space) (space-to-Earth) NG42 US101	Space Launch Services (26) Aviation (87) Personal Radio (95) Amateur Radio (97)
		2395-2400 US101 G122	2395-2400 AMATEUR US101	Personal Radio (95) Amateur Radio (97)
		2400-2417 5.150 G122	2400-2417 AMATEUR 5.150 5.282	RF Devices (15) ISM Equipment (18) Amateur Radio (97)
5.150 5.282 5.395	5.150 5.282 5.393 5.394	2417-2450 Radiolocation G2 5.150	2417-2450 Amateur 5.150 5.282	
2450-2483.5 FIXED MOBILE Radiolocation 5.150	2450-2483.5 FIXED MOBILE RADIOLOCATION 5.150	2450-2483.5 5.150 US41	2450-2483.5 FIXED MOBILE Radiolocation 5.150 US41	RF Devices (15) ISM Equipment (18) TV Auxiliary Broadcasting (74F) Private Land Mobile (90) Fixed Microwave (101) Page 38

* * * * *

(d) * * *

(42) *NG42*. The band 2360–2395 MHz is allocated to the space operation service (Earth-to-space and space-to-Earth) on a secondary basis for non-Federal use subject to the following conditions:

(i) Transmissions shall be restricted to telemetry and telecommand use for pre-launch testing and space launch operations;

(ii) Non-Federal stations shall not cause harmful interference to stations of primary services; and

(iii) Telemetry and telecommand use for pre-launch testing and space launch operations are subject to coordination with NTIA prior to each launch.

* * * * *

PART 26 – SPACE LAUNCH SERVICES

4. The authority citation for part 26 continues to read as follows:

Authority: 47 U.S.C. 151, 152, 154, 301, and 303, unless otherwise noted.

5. Section 26.1 is amended by revising paragraph (a) to read as follows:

§ 26.1 Basis and purpose.

* * * * *

(a) *Basis*. The rules for Space Launch Services in this part are promulgated under the provisions of the Communications Act of 1934, as amended, that vest authority in the Federal Communications Commission to regulate radio transmission and to issue licenses for radio stations, and the Launch Communications Act, Public Law 118-85, 138 Stat. 1546 (2024). All rules in this part are in accordance with applicable treaties and agreements to which the United States is a party.

* * * * *

6. Section 26.2 is revised to read as follows:

§ 26.2 Frequencies.

The following frequencies are available for assignment on a nationwide, non-exclusive basis for Space Launch Services:

(a) 2025–2110 MHz;

(b) 2200–2290 MHz; and

(c) 2360–2395 MHz.

7. Section 26.3 is amended by adding paragraph (a)(3) and revising paragraph (b) introductory text to read as follows:

§ 26.3 Scope of service.

(a) * * *

(3) *2360–2395 MHz band*. The use of Space Launch Services licenses in the 2360–2395 MHz band is restricted to ground-to-launch vehicle and launch vehicle-to-ground communications associated with telemetry and telecommand uses necessary to support space launch operations.

(b) Telemetry, tracking, and telecommand functions permissible as space launch operations, subject to the restrictions in paragraph (a) of this section, include, but are not limited to:

* * * * *

8. Section 26.103 is revised to read as follows:

§ 26.103 Licensing.

The 2025–2110 MHz, 2200–2290 MHz, and 2360–2395 MHz bands are authorized on a non-exclusive nationwide basis for Space Launch Services. Non-exclusive nationwide licenses will serve as a prerequisite for registering launch sites and individual fixed, base, itinerant and mobile stations, as well as individual coordinated launches. A Space Launch Services licensee cannot operate a launch site and corresponding fixed, base, itinerant or mobile stations before registering it under its license and may only operate a station after that station has been cleared to operate in a particular frequency band in connection with a particular launch pursuant to the post-grant frequency coordination process set forth in Subpart C of this part. Space Launch Services licensees must delete registrations for unused launch sites and unused fixed, base, itinerant and mobile stations to maintain database integrity and facilitate coordination with other users of the 2025–2110 MHz, 2200–2290 MHz, and 2360–2395 MHz bands.

9. Delayed indefinitely, § 26.202, added and delayed indefinitely at 89 FR 63926, is further amended by adding paragraph (d) to read as follows:

§ 26.202 Frequency coordinator requirements.

* * * * *

(d) In the 2360–2395 MHz band:

(1) Site-based local coordination.

(i) The space launch frequency coordinator must initiate a post-grant coordination request for site-specific coordination with the part 87 frequency coordinating committee as well as Federal entities that have completed coordination with that committee.

(ii) Upon request, the space launch frequency coordinator and/or the Space Launch Services licensee must provide any additional information requested by the part 87 frequency coordinating committee regarding a pending recommendation that it has processed but that has not yet been granted.

(iii) It is the responsibility of the space launch frequency coordinator to ensure that its frequency recommendations do not conflict with the frequency recommendations of the part 87 frequency coordinating committee. Should a conflict arise, the affected coordinators are jointly responsible for taking action to resolve the conflict, up to and including notifying the Commission and NTIA that a launch request must be denied.

(2) Per-launch coordination with the National Telecommunications and Information Administration (NTIA).

(i) To protect Federal users in the band, the space launch frequency coordinator shall conduct a post-grant, per-launch coordination with NTIA by providing the Space Launch licensee's site and station registration with their corresponding technical and operational parameters to initiate the coordination process for each proposed launch.

(ii) To assist NTIA's review, the space launch frequency coordinator may provide a showing that the operational and technical parameters of a proposed launch are consistent with a prior successful coordination and that the space launch licensee continues to comply with any conditions or agreements resulting from such prior coordination or that its proposed launch is covered by an applicable coordination agreement(s) with co-frequency entities.

10. Section 26.302 is amended by adding paragraph (c) to read as follows:

§ 26.302 Emission masks.

* * * * *

(c) *2360–2395 MHz*. (1) When using frequency modulation or digital modulation for telemetry or telecommand with an authorized bandwidth equal to or less than 1 MHz the emissions must be attenuated as follows:

(i) On any frequency removed from the assigned frequency by more than 100 percent of the authorized bandwidth up to and including 100 percent plus 0.5 MHz, the attenuation must be at least 60 dB, when measured in a 3.0 kHz bandwidth. This signal need not be attenuated more than 25 dB below 1 milliwatt.

(ii) On any frequency removed from the assigned frequency by more than 100 percent of the authorized bandwidth plus 0.5 MHz, the attenuation must be at least $55 + 10 \log_{10} pY$ dB when measured in a 3.0 kHz bandwidth.

(2) When using frequency modulation or digital modulation for telemetry or telecommand with an authorized bandwidth greater than 1 MHz, the emissions must be attenuated as follows:

(i) On any frequency removed from the assigned frequency by more than 50 percent of the authorized bandwidth plus 0.5 MHz up to and including 50 percent of the authorized bandwidth plus 1.0 MHz, the attenuation must be 60 dB, when measured in a 3.0 kHz bandwidth. The signal need not be attenuated more than 25 dB below 1 milliwatt.

(ii) On any frequency removed from the assigned frequency by more than 50 percent of the authorized bandwidth plus 1.0 MHz, the attenuation must be at least $55 + 10 \log_{10} pY$ dB, when measured in a 3.0 kHz bandwidth.

11. Section 26.303 is amended by adding paragraph (c) to read as follows:

§ 26.303 Power limits.

* * * * *

(c) *2360–2395 MHz*. The EIRP of any station in the 2360–2395 MHz band of the Space Launch Services shall not exceed 25 Watts and the transmitter output power shall not exceed 25 Watts. Transmitter power may be increased to overcome line and duplexer losses but must not exceed 25 Watts delivered to the antenna.

[FR Doc. 2025-02961 Filed: 3/6/2025 8:45 am; Publication Date: 3/7/2025]