Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Unleashing Unlicensed Spectrum for Direct-to-Device	)	ET Docket No. 26-169
	)	
	)	

COMMENTS OF THE ASSOCIATION FOR COMPETITIVE TECHNOLOGY

TABLE OF CONTENTS

SUMMARY 2

I. Introduction and Statement of Interest 3

II. The Commission Should Adopt the Proposed Earth-to-Space Allocation on the Terms Proposed 4

III. Licensing by Rule Will Let Consumers and Developers Use the Devices They Already Have 6

IV. Any Downlink Framework Should Rest on Technical Evidence and Keep the Terrestrial Unlicensed Environment Stable 8

V. Comments on the Initial Regulatory Flexibility Analysis 10

VI. Conclusion 11

SUMMARY

The Association for Competitive Technology (ACT) represents small software and connected-device companies whose products depend on Wi-Fi, Bluetooth, and other unlicensed connectivity, and whose customers often live, work, and travel where terrestrial mobile coverage is thin or absent. ACT supports the Commission's proposal to allow devices that meet the existing Part 15 technical rules to communicate with Commission-authorized satellites, and it urges the Commission to adopt the Earth-to-space framework on the terms proposed, with the integrity of existing Part 15 operations as its foundational principle.

The Commission should add the proposed uplink allocation in the 2400-2483.5 MHz and 5725-5850 MHz bands on an unprotected, non-interference basis, retain the current power, antenna-gain, and other technical rules for Part 15 devices, permit no more uplink power than Part 15 allows today, and confirm in its order that the rules governing terrestrial Part 15 operations in those bands are unchanged. User equipment should be licensed by rule, as terrestrial handsets are under the Supplemental Coverage from Space framework, so that consumers can use the devices they already own, and any Part 25 certification for that equipment should require no new testing and leave existing Part 15 authorizations in place.

The Commission has proposed no rules for satellite downlinks, which raise harder questions than uplinks. Any future proposal for downlinks, or for satellite operations in the 6 GHz band and other U-NII bands, should come in a further notice with specific technical parameters and rest on technical evidence that terrestrial unlicensed devices will continue to operate as they do today. A rule based on technical findings in the record would provide greater certainty, lessen the need for waivers, lower entry costs for small entities, and leave room for emerging low-power direct-to-orbit Internet of Things designs, while helping the Commission keep new compliance steps for small device makers to a minimum.

I. Introduction and Statement of Interest

The Association for Competitive Technology (ACT) submits these comments in response to the Notice of Proposed Rulemaking on expanding direct-to-device (D2D) communications in spectrum available to unlicensed devices.[1] ACT is a not-for-profit trade association that represents the global small business technology developer community. Its members build software applications and connected devices used by consumers, businesses, and public institutions across the United States and around the world, and nearly all of those products either run on or are themselves devices that use Wi-Fi or Bluetooth connectivity in the 2.4 GHz and 5 GHz bands.

Many of the products that ACT members build are most useful where terrestrial coverage is weakest. Asset and fleet trackers, agricultural and environmental sensors, outdoor safety and navigation tools, and remote monitoring devices often operate on farms, ranches, worksites, and roads far from the nearest cell site or Wi-Fi access point, and when such a device loses its connection, the customer is unlikely to distinguish a coverage gap from a flaw in the product. ACT therefore has a direct interest in rules that extend the reach of unlicensed devices, and an equally direct interest in keeping the sharing environment in the unlicensed bands predictable, because its members rely on that environment for nearly everything they ship.

The Commission states that technological neutrality and regulatory humility will guide this proceeding, that it intends to preserve the operational status quo for incumbent services and for the terrestrial Part 15 devices that consumers and businesses use every day, and that it does not intend to lock in prescriptive technical rules before the record and industry practice have

[1] *Unleashing Unlicensed Spectrum for Direct-to-Device*, Notice of Proposed Rulemaking, ET Docket No. 26-169, FCC 26-51 (rel. Aug. 7, 2026), 91 Fed. Reg. 57110 (Sept. 8, 2026) (*NPRM*).

matured.[2] ACT agrees with that approach and asks the Commission to treat the integrity of existing Part 15 operations as the foundational principle of this proceeding. The recommendations below apply that principle to the questions in the *NPRM*.

II. The Commission Should Adopt the Proposed Earth-to-Space Allocation on the Terms Proposed

The Commission proposes a new footnote to the Table of Frequency Allocations that would permit mobile-satellite service in the Earth-to-space direction in the 2400-2483.5 MHz and 5725-5850 MHz bands on an unprotected, non-interference basis. It also proposes no increase in the maximum permissible power or antenna gain, and no change to the other technical rules, for Part 15 devices in those bands.[3] ACT supports the proposal. Today, a company that wants a satellite to receive signals from Part 15-compliant devices in these bands must obtain a waiver of the Table of Frequency Allocations, as Hubble Network did, and the waiver it received was limited to infrequent use from a single location in the United States.[4] A case-by-case waiver process adds legal cost and delay and gives investors, partners, and customers little basis on which to plan around a service, and those costs fall hardest on small companies. A clear rule would mitigate the need for a continuing series of regulatory waivers and would let a new entrant design a product knowing in advance what the Commission will allow. The conditions in that rule should rest on technical findings in the record instead of terms carried over from individual waivers or experimental authorizations, which were written around a single operator's system. This would allow the rule to offer an appropriate and data-driven

[2] *NPRM* ¶ 4.

[3] *NPRM* ¶¶ 19, 39; *see id.* App. A (proposed 47 CFR § 2.106(d)(36), footnote NG36).

[4] *NPRM* ¶¶ 17, 19.

level of flexibility for emerging low-power direct-to-orbit IoT designs that operate within the Part 15 limits.

The proposal would also let developers build on the technology they already use. Because the framework relies on the existing Part 15 technical rules and on protocols such as Wi-Fi and Bluetooth Low Energy, a developer can add satellite connectivity to a product built on widely available, standards-based chipsets instead of designing around a proprietary radio. That lowers the cost of entry for small firms and widens the set of devices that can reach a satellite when no terrestrial network is available, which the Commission expects to be most useful for Internet of Things (IoT) services and in rural, underserved, and unserved areas.[5]

The proposal works because it preserves the integrity of existing Part 15 operations by keeping the non-interference condition and the current technical rules. Terrestrial Part 15 devices in these bands share spectrum successfully because every device operates under the same technical limits, and the *NPRM* leaves those limits in place whether a device transmits to another terrestrial device or to a satellite.[6] ACT asks that the order adopting the allocation state expressly that it does not change the rules governing terrestrial Part 15 operations in the 2400-2483.5 MHz and 5725-5850 MHz bands.[7]

The *NPRM* also asks whether the Commission should permit power above 4 watts EIRP, different antenna requirements, or devices that use more power when communicating with a

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[5] *NPRM* ¶ 14; 91 Fed. Reg. at 57123 (discussing the expected value of uplink capabilities for IoT services, especially in rural areas).

[6] *NPRM* ¶¶ 19, 39.

[7] Reply Comments of the Association for Competitive Technology, Kuiper Systems LLC, Application for Authority to Launch and Operate a Non-Geostationary Satellite Orbit System Providing Direct-to-Device Services (Amazon Leo D2D System), ICFS File No. SAT-LOA-20260601-00224, at 6 (filed Oct. 5, 2026) (*ACT Amazon Leo Reply*).

satellite and revert to current limits for terrestrial links.[8] ACT supports the proposal to retain the current Part 15 limits. ACT requests that the Commission not permit more power on the uplink than Part 15 allows today, whether through a higher EIRP limit, different antenna requirements, or a separate power level for satellite links. Every device in these bands shares spectrum under the same limits, and letting satellite-linked devices exceed them holds the prospect of putting the integrity of existing Part 15 operations at risk.

III. Licensing by Rule Will Let Consumers and Developers Use the Devices They Already Have

For user equipment, the Commission asks whether to license devices certified under Part 15 by rule as Part 25 earth stations, as it did for terrestrial wireless equipment under the Supplemental Coverage from Space (SCS) framework, or to authorize them under a blanket earth-station license.[9] ACT supports licensing by rule. D2D service delivers its full value only when consumers can use the devices they already own without a separate licensing step for each device, and a license-by-rule framework achieves that result for equipment that already meets the Part 15 technical rules.[10] A blanket license would raise the questions that the *NPRM* itself identifies, including who would hold the license for devices sold to the public and how that licensee would exercise operational control over them, and it would add filing costs that small device makers and app developers are poorly placed to bear.[11]

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[8] *NPRM* ¶ 41.

[9] *NPRM* ¶¶ 29-30; *see Single Network Future: Supplemental Coverage from Space; Space Innovation*, Report and Order and Further Notice of Proposed Rulemaking, GN Docket No. 23-65, IB Docket No. 22-271, FCC 24-28 (rel. Mar. 15, 2024) (*SCS Order*).

[10] *See ACT Amazon Leo Reply* at 5.

[11] *NPRM* ¶ 30.

The same reasoning applies to equipment authorization. The Commission proposes no change to the existing certification requirement for Part 15 intentional radiators. If it requires a Part 25 certification for devices intended to communicate with satellites, it proposes that no additional testing would be needed, that the requirement would apply only to new authorizations and permissive changes, and that equipment already certified under Part 15 could communicate with satellites under its existing authorization.[12] ACT supports those limits, which would let developers keep building on the same standards-based Wi-Fi and Bluetooth chipsets they use today without redesigning products around satellite-specific radios or test requirements. The equipment authorization process works well for the small companies that bring devices to market, and changes to it should not impair its effectiveness or add cost without a corresponding benefit.[13] If the Commission adopts a Part 25 certification requirement, ACT asks that it work as a simple extension of the Part 15 grant, in the same way as the streamlined process the Commission adopted for SCS equipment.[14]

For space stations, the Commission expects that most satellites using these bands will also operate in traditional satellite bands, and it proposes to require little information for those satellites beyond the added bands, power levels, and emissions, with a full Part 25 showing only for a satellite that would operate solely in the designated bands.[15] It also asks whether to maintain a public list of satellites authorized to communicate with Part 15 devices.[16] ACT

[12] *NPRM* ¶ 52.

[13] *See* Notice of Ex Parte Communication of ACT, EA Docket No. 21-233 *et al.*, at 3 (filed Sept. 24, 2021).

[14] *NPRM* ¶ 51; *see SCS Order*.

[15] *NPRM* ¶ 34.

[16] *NPRM* ¶ 37.

supports both. A short, predictable path for adding these bands to an existing authorization, together with a public list that device makers and developers can consult, would give the companies building products for this market the certainty they need to plan, and it would let the benefits of new capacity reach consumers sooner.[17]

IV. Any Downlink Framework Should Rest on Technical Evidence and Keep the Terrestrial Unlicensed Environment Stable

The *NPRM* proposes no rules for satellite transmissions to devices in the space-to-Earth direction. Instead, it seeks comment on the technical parameters that downlinks in the U-NII-3 band or other bands would require, such as power-flux-density limits, limits on beam size, aggregate emission limits, and contention-based protocols.[18] ACT agrees with the Commission's inclination to carefully and deliberately build a detailed record before proposing rules on downlinks. Downlinks raise harder questions than uplinks, because a satellite beam covers far more area than a terrestrial transmitter, and terrestrial Part 15 devices and the protocols they use to share spectrum were designed for short-range terrestrial operation.[19] Wi-Fi and Bluetooth in these bands support billions of consumer and business devices,[20] including nearly every product that ACT members make.

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[17] *See ACT Amazon Leo Reply* at 7.

[18] *NPRM* ¶¶ 42-49.

[19] *NPRM* ¶ 42.

[20] Wi-Fi Alliance, *Wi-Fi Alliance Celebrates 25 Years of Wi-Fi Innovation and Impact* (Feb. 15, 2024), https://www.wi-fi.org/news-events/newsroom/wi-fi-alliance-celebrates-25-years-of-wi-fi-innovation-and-impact (reporting more than 21 billion Wi-Fi devices in use); Bluetooth SIG, *2025 Bluetooth Market Update*, https://www.bluetooth.com/2025-market-update/trends/ (projecting that Bluetooth device shipments will surpass 5.3 billion units in 2025).

ACT therefore asks that any proposal for downlink operations be issued in a further notice with specific technical parameters, so that device makers, developers, and other stakeholders can evaluate those parameters against the way terrestrial devices actually operate. Rules for downlinks should rest on technical evidence developed in this record of coexistence with terrestrial Part 15 devices. Where the record shows a concrete risk of harmful interference to authorized services or of adverse effects on terrestrial unlicensed operations, the Commission should address that risk with targeted technical conditions.[21] The Commission's commitment to preserve the operational status quo for terrestrial Part 15 devices should guide that work in the same way it guides the uplink proposal.[22]

The Commission also asks whether satellite uplinks or downlinks could be added in other bands available to unlicensed devices, including the other U-NII bands in the 5 GHz and 6 GHz ranges, and it asks parties that suggest additional bands to show how satellite operations could work there without causing harmful interference to authorized services or adversely affecting terrestrial Part 15 devices.[23] The 6 GHz band supports unlicensed devices under rules that the Commission developed over several years to protect incumbent licensed services, including through automated frequency coordination.[24] ACT asks that any proposal for satellite operations in the 6 GHz band or the other U-NII bands be made in a separate notice, accompanied by the analysis the *NPRM* describes, so that commenters can assess how those operations would protect

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[21] *See ACT Amazon Leo Reply* at 5-6.

[22] *NPRM* ¶ 4.

[23] *NPRM* § III.B.1 (discussing other frequency bands).

[24] *Unlicensed Use of the 6 GHz Band; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 3852 (2020); *see* Notice of Ex Parte Communication of ACT, EA Docket No. 21-233 *et al.*, at 2-3 (filed Sept. 24, 2021).

both the terrestrial unlicensed devices in those bands and the incumbent services that the existing rules protect.

V. Comments on the Initial Regulatory Flexibility Analysis

The Commission invites comment on its Initial Regulatory Flexibility Analysis (IRFA), particularly from small businesses.[25] Many of ACT's members are small entities that design devices and applications that use unlicensed spectrum, and for them the proposals would reduce costs. Replacing case-by-case waivers of the Table of Frequency Allocations with a footnote allocation would lower the legal cost and the time needed to bring a satellite-connected product to market,[26] and licensing user equipment by rule would avoid an application burden that would otherwise fall on device makers or their partners.

The proposals impose no new obligations on small makers of terrestrial Part 15 devices, provided that existing equipment authorizations carry over and that any Part 25 certification requires no new testing. ACT asks the Commission to preserve that result in its final rules and to account in its Final Regulatory Flexibility Analysis for the waiver costs that the rules would avoid and for the cost to small entities of any additional certification, registration, labeling, or reporting requirement that it considers for devices that communicate with satellites.

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[25] *NPRM* App. B; 91 Fed. Reg. at 57111.

[26] *See NPRM* ¶ 17; 91 Fed. Reg. at 57123 (noting that Hubble and Spire obtained satellite licenses in the 2400-2483.5 MHz band through waivers and that the proposed rules could eliminate the need for such waivers and lower entry barriers).

VI. Conclusion

ACT appreciates the opportunity to submit these comments. ACT urges the Commission to adopt the proposed Earth-to-space allocation and a license-by-rule framework for user equipment, to preserve the integrity of existing Part 15 operations by confirming that the rules governing terrestrial Part 15 operations in the affected bands are unchanged and that uplink power will not exceed current Part 15 limits, and to develop any rules for downlinks and for other bands through a further notice grounded in technical evidence.

Respectfully submitted,

/s/ Brian Scarpelli
Brian Scarpelli
Senior Global Policy Counsel

Chapin Gregor
Global Policy Counsel

Association for Competitive Technology
1401 K St NW (Ste 501)
Washington, DC 20005
202-331-2130

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