Before the
United States Federal Communications Commission
Washington, D.C.

In the Matter of Satellite Spectrum Abundance	SB Docket No. 25-180 GN Docket No. 22-352 WT Docket No. 23-158 GN Docket No. 14-177

COMMENTS OF
THE COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION (CCIA)

Computer & Communications Industry Association ("CCIA")[1] is pleased to respond to the Further Notice of Proposed Rulemaking issued by the Federal Communications Commission ("FCC" or "Commission") in the above-named dockets[2] to express its support for authorizing more spectrum for satellite-based communications.

Opening additional spectrum bands on a co-primary basis for next-generation satellite services is crucial for widespread gigabit-speed broadband access across the United States. Furthermore, the swift adoption of these co-primary Non-Geostationary (NGSO) Fixed-Satellite Service (FSS) allocations would solidify the Commission's leadership in space and spectrum management. This move would represent a vital step toward opening these greenfield bands for more intensive and efficient use within the U.S., potentially encouraging similar actions from other administrations globally.

[1] CCIA is an international nonprofit membership organization representing companies in the computer, Internet, information technology, and telecommunications industries. Together, CCIA's members employ nearly half a million workers and generate approximately a quarter of a trillion dollars in annual revenue. CCIA promotes open markets, open systems, open networks, and full, fair, and open competition in the computer, telecommunications, and Internet industries. A complete list of CCIA members is available at http://www.ccianet.org/members.
[2] SB Docket No. 25-180, *et al*., Further Notice of Proposed Rulemaking, FCC 25-29 (rel. May 27, 2025), published at 90 Fed. Reg. 27499 (June 27, 2025) (the "FNPRM").

INTRODUCTION

In March of 2025, CCIA established its new Space and Spectrum Policy Center to advocate for sensible policies that will enable growth and competition in the Low Earth Orbit (LEO) Broadband sector.[3] CCIA's Space and Spectrum Center identified over 43 million Americans without access to reliable broadband and LEO Broadband as one of the key parts of connecting the American people.[4] CCIA commends the Commission, and particularly the Space Bureau, for moving forward with considering the 42 GHz, 51.4-52.4 GHz, and W bands for authorization. CCIA encourages the Commission to license these bands for non-geostationary (NGSO) satellites, to ensure all Americans have access to gigabit-speed broadband. Enabling these bands will help boost America's space economy and advance Chairman Carr's "Build America Agenda."[5]

I. THE COMMISSION SHOULD ALLOCATE THE 42 GHz BAND FOR NGSOs ON A COPRIMARY BASIS.

CCIA encourages the Commission to allocate the 42 GHz band for NGSOs on a coprimary basis to ensure efficient use of the band.[6] The 42 GHz band in the U.S. is currently designated for non-federal fixed satellite (FS) and mobile satellite (MS) use, with no existing satellite service allocations, service rules, or incumbent licenses.

In 2010, the Commission considered aligning with the international spectrum allocations

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[3] *See* CCIA Space and Spectrum Policy Center, https://ccianet.org/hub/space-spectrum-policy-center/.

[4] CCIA Research Center, Low Earth Orbit (LEO) Satellite Broadband Facts and Stats (Mar. 5, 2025), https://ccianet.org/research/stats/low-earth-orbit-leo-satellite-broadband-facts-and-stats/ (last visited July 10, 2025).

[5] Chairman Carr, "A Build Agenda for America" (July 2, 2025), https://www.fcc.gov/document/chairman-carr-build-agenda-america-speech (last visited July 10, 2025).

[6] The Commission "seek(s) comment on whether granting access to the 42 GHz band by satellite communications would allow for most efficient spectrum use through adding an allocation for FSS (space-to-Earth) on a secondary basis, as proposed by the comments for a satellite operator, or through an allocation for FSS (space-to-Earth) on a primary basis." FNPRM ¶ 48.

by adding primary allocations for space-to-Earth (FSS) satellite communications. However, in 2016, the Commission determined that they would not adopt this allocation.[7] Rather, the Commission reserved the 42.0-42.5 GHz portion for Upper Microwave Flexible Service (UMFUS).[8] In 2018, the Commission released a Notice of Propose Rulemaking regarding 3.7-4.2 GHz for 5G communications.[9] In 2023, the Commission set forward another rulemaking to provide access to the 42GHz band for small wireless providers.[10]

Since these actions were taken, the need for spectrum for satellite communications has greatly increased.[11] From January to April 2025, there was a 50% increase in NGSO satellites in orbit compared to the same period last year.[12] In the next five years, projections indicate a rough estimate of 70,000 NGSO satellites are expected to launch.[13] The growth of industry and the demand to provide internet connectivity to the American public make the need for spectrum greater than ever before.

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[7] IB Docket No. 97-95, Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5–38.5 GHz, 40.5–41.5 GHz and 48.2–50.2 GHz Frequency Bands, FCC 10-186, Notice of Proposed Rulemaking, FCC 25 FCC 10-186, published at 75 Fed. Reg. 71064 (November 22, 2010).

[8] UMFUS encompasses terrestrial wireless service, including fixed, temporary fixed, mobile, and Internet of Things (IoT) applications. See https://www.fcc.gov/wireless/bureau-divisions/broadband-division/upper-microwave-flexible-use-service-umfus.

[9] GN Docket No. 18-122, Expanding Flexible Use of the 3.7 to 4.2 GHz Band, Final Rule, FCC 20-22 (rel. March 3, 2020), published at 85 Fed. Reg. 22804 (April 23, 2020).

[10] WT Docket No. 23–158 and GN Docket No. 14–177, Shared Use of the 42-42.5 GHz Band, Notice of Proposed Rulemaking, FCC 23-51 (rel. June 9, 2023), published at 88 Fed. Reg. 49423 (July 29, 2023).

[11] "Do deployments since 2016 by satellite and terrestrial operators in other high-band spectrum bands justify a fresh look at the potential use of the 42 GHz band?" FNPRM ¶ 47.

[12] Orbital Today, *Satellite Launches Soar to Record Levels in 2025 as New Players Join the Race*, (June 16, 2025), https://orbitaltoday.com/2025/06/16/satellite-launches-soar-to-record-levels-in-2025-as-new-players-join-the-race/ (last visited July 10, 2025).

[13] Goldman Sachs *The global satellite market is forecast to become seven times bigger* (March 5, 2025) https://www.goldmansachs.com/insights/articles/the-global-satellite-market-is-forecast-to-become-seven-times-bigger (last visited July 10, 2025).

CCIA believes the use of this band will allow better and more efficient use of the high-band spectrum.[14] Millimeter wave transmission, like those in the 42 GHz band, have a shorter propagation range and are easily blocked. These characteristics make it so the band is easy to reuse or channel within smaller geographic areas. Moreover, new technologies like multiple-input multiple-output (MIMO) and beamforming antennas enhance the potential for spectrum reuse among various operators.

II. THE COMMISSION SHOULD AUTHORIZE SATELLITE OPERATIONS IN THE 51.4-52.4 GHz BAND.

CCIA believes allowing satellite operations in the 51.4-52.4 GHz band will advance the goal of achieving more efficient and intensive use of this spectrum for FSS.[15] While concerns have been raised about increased propagation loss at higher elevation angles and the effects of rain attenuation, substantial technical evidence supports the feasibility of allocating this band for FSS use with appropriate safeguards.[16]

ITU-R report S.2461 confirms that adding 1 GHz of contiguous uplink spectrum to the existing 50.4-51.4 GHz band would create a continuous 2 GHz block (50.4-52.4 GHz).[17] This would simplify system design and improve performance.[18] The additional bandwidth would also

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[14] "[The Commission] seek[s] comment on whether granting access to the 42 GHz band by satellite communications might better ensure that this high-band spectrum is used more efficiently and intensively." FNPRM ¶ 46.

[15] "[The Commission] seek[s] comment on whether its proposal to grant access to the 51.4-52.4 GHz band by satellite operators would advance its goal for more efficient and intensive use of the band in the Earth-to-space direction." FNPRM ¶ 59.

[16] *Id*.

[17] International Telecommunication Union, Spectrum needs for the fixed-satellite service in the 51.4-52.4 GHz band, ITU-R Report S.2461 at 6 (July 2019), https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-S.2461-2019-PDF-E.pdf (last visited July 10, 2025).

[18] FNPRM ¶ 48; IB Docket No. 97-95, Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5–38.5 GHz, 40.5–41.5 GHz and 48.2–50.2 GHz Frequency Bands, FCC 10-186, Notice of Proposed Rulemaking, FCC 25 FCC 10-186, published at 75 Fed. Reg. 71064 (November 22, 2010).

improve the efficiency of High Throughput Satellites (HTS), reduce system complexity, and lower cost per Gbit/s.[19] Propagation loss analysis further shows that the required feeder link budget increases are moderate (typically 6-12 dB) and can be mitigated by power control, higher antenna gain, and diversity techniques using multiple gateways.[20]

Moreover, existing commercial use of the band is minimal and companies like Amazon have welcomed the FCC's proposal to revisit and potentially allocate this spectrum.[21] Internationally, ITU-R Report S.2463 supports GSO FSS feeder link use of the band with reasonable protections[22], and WRC-23 Resolution 130 calls for further study of this allocation[23]. NTIA also notes that the current asymmetry between uplink and downlink allocations – 5 GHz downlink versus 4 GHz uplink – makes an additional uplink spectrum especially important.[24]

III. THE COMMISSION SHOULD ALSO AUTHORIZE THE W-BAND FOR SATELLITE COMMUNICATIONS.

CCIA supports opening the W-band for satellite communications, as it will advance the Commission's goal of promoting more efficient and intensive use of spectrum.[25] The proposed

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[19] "The Commission proposes to make the 51.4–52.4 GHz band more available for use by satellite communications, as requested by a satellite operator." FNPRM ¶ 57.
[20] ITU-R report S.2461 at 14-15.
[21] GN Docket Nos. 22-352, 14-177, WT Docket No. 23-158, Comments of Kuiper Systems LLC at 4 (May 13, 2025), https://www.fcc.gov/ecfs/document/105130317429050/1.
[22] International Telecommunication Union, Sharing with incumbent services in the 51.4-52.4 GHz band and adjacent and nearby bands, Report ITU-R S.2463-0 (July 2019) at 23, https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-S.2463-2019-PDF-E.pdf (last visited July 10, 2025).
[23] Resolution 130 (WRC-23), https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A0000110003PDFE.pdf (last visited July 10, 2025).
[24] Preliminary view on WRC-19 Agenda Item 9.1, Ussye 9.1.9, https://www.ntia.doc.gov/files/ntia/publications/ccpii-2017-30-4356-9-1-9_i.pdf (last visited July 10, 2025).
[25] "[The Commission] seek[s] comment on whether granting access to these W-band frequencies by satellite operators would advance its goal for more efficient and intensive use of spectrum." FNPRM ¶ 63.

frequency ranges – 92.0-94.0 GHz, 94.1-100 GHz, 102.0-109.5 GHz, and 111.8-114.25 GHz – are currently underutilized, with virtually no non-Federal or licensed commercial users.[26] This opens up a possibility for the W-band to be used for phased satellite deployment, particularly for individually licensed NGSO.[27] This would unlock a rare opportunity to expand bandwidth without displacing incumbent operations and promote U.S. leadership in frontier spectrum technologies.

There have been concerns about the W-band including spectral lines, which are critical for detecting the rotational transitions of molecules used to study the interstellar medium and star-forming regions.[28] This concern warrants careful attention and specific safeguards, but it should not preclude all satellite access to the W-band. The Commission can authorize use under strict conditions that limit interference with radio-quiet zones.[29]

CONCLUSION

For the reasons stated above, CCIA encourages the Commission to authorize the 42 GHz, 51.4-52.4 GHz, and W bands for use in satellite-based communications on a coprimary basis, and to begin licensing as soon as possible.

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Respectfully submitted,

COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION (CCIA)

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[26] "Commenters should also address current Federal and non-Federal uses of the band, opportunities for NGSO FSS deployment, and potential coexistence measures to efficiently protect incumbent services or potential future services in these, or adjacent, bands, particularly Federal operations." FNPRM ¶ 63.

[27] *Id.*

[28] SB Docket No. 25-180, Comments of Michael Ravnitzky (Jun 30, 2025). https://www.fcc.gov/ecfs/document/10628243148762/1

[29] "The Commission also seeks general comment on information or methodologies that may best inform the likelihood of harmful interference." FNPRM ¶ 63.

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