



Before the
National Telecommunications and Information Administration, U.S. Department of
Commerce Washington, D.C.

Notice of Opportunity for Public Input)	
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Implementation of the National Spectrum Strategy)	Document: 88 FR 85266
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NSSimplementationplan@ntia.gov)	Document Number: 2023-26810
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COMMENTS OF ASSOCIATION FOR UNCREWED VEHICLE SYSTEMS INTERNATIONAL

The Association for Uncrewed Vehicle Systems International (“AUVSI”) herby submits the following comments in response to the National Telecommunications and Information Administration (“NTIA” or “Administration”) above-captioned National Spectrum Strategy on the issues related to studying and enabling broader uses of spectrum related to unmanned/uncrewed aerial system (“UAS”) and other novel and autonomy enabled aircraft.

I. INTRODUCTION

AUVSI is the world's largest nonprofit organization dedicated to the advancement of uncrewed systems and robotics, representing corporations and professionals from more than sixty countries involved in industry, government, and academia.

We applaud NTIA for planned study on spectrum opportunities, specifically those for UAS operations.¹ We, along with our members, commend NTIA for including the following in the Strategy:

¹ See *The National Spectrum Strategy*, Public Release, https://www.ntia.gov/sites/default/files/publications/national_spectrum_strategy_final.pdf (rel. Nov. 13, 2023) (“Strategy”).



5030-5091 MHz: The [Federal Communications Commission] (“FCC”), in coordination with NTIA and the Federal Aviation Administration, is expected to take near-term action to facilitate limited deployment of UAS in this band. Thereafter, this 61 megahertz of

spectrum will be studied so that the FCC can optimize UAS spectrum access across the band while avoiding harmful interference to other protected in-band and adjacent-band operations.²

The Strategy was developed with strong stakeholder and public feedback, and we look forward to the implementation of it. Providing protected spectrum for mission critical operations will afford safety and certainty for operators while also ensuring equity and improved access to the benefits of drone enabled use cases for rural and underserved communities, and other communities around the country. As UAS operations move beyond visual line of sight of the remote pilot or operator and the number of operations continues to expand and scale in our National Airspace System, unlicensed spectrum remains a valuable avenue, but providing a licensed option for command and control (“C2”) will continue to move the industry towards expanded operations.

We are encouraged that this notice suggests a final order in the FCC’s UAS proceeding may be imminent, and also that there may be some formal study after the order comes out on how the rules could be optimized in the future. There does not appear to be reference to a study in the FCC’s Notice of Proposed Rulemaking (“NPRM”) on the 5030-5091 MHz band (AUVSI filed [comments](#) to this NPRM) but the NPRM did tee up the creation of some type of multi-stakeholder group to “help develop the requirements and processes applicable to the [frequency managers for the band], as well as to study standards and interference issues associated with UAS operations in the band.” The reference to a study in the Strategy suggests that the FCC may be likely to move ahead with this proposal, which excites AUVSI and our members.

² *Id.* at 6.



As explained below, the Administration should not only work to make C-Band spectrum available for UAS operations, but it should also actively explore other potential spectrum options for UAS. Alongside these new options, use of unlicensed spectrum and cellular bands for vehicle-to-vehicle (“V2V”) and C2 communication should continue. Generally, allowing flexibility, to use the best spectrum option, for a given environment, will encourage the industry to keep safely growing.

II. NTIA SHOULD NOT LIMIT 5030-5091 AS THE ONLY VIABLE SPECTRUM

UAS operators should not be required to only operate within the proposed C-Band, but rather should be able to select the frequency best suited for their concept of operations. Recognizing that having specific protected spectrum is important, it is not always the right path in each environment and therefore operators should not be forced to always use it.

Having a healthy menu of spectrum options supporting growing UAS operations nationwide will optimally position the industry to best address varying geographic and interference characteristics. Our members currently operate in urban, rural, maritime, and other settings. Ensuring access to C-Band, while also establishing the roadmap to more spectrum option and flexible use, will provide certainty for operators to continue expansion.

III. PERFORMANCE BASED, INDUSTRY INFORMED BAND PLAN

Industry should be involved in informing the band plan. The ability to provide technical analysis and spectral assessments for varying use cases will account for interference and understanding where guard bands may be needed. As such, RTCA and other industry groups, including AUVSI, should be used to perform fundamental engineering analyses.

UAS requirements in the C-Band should be performance-based and limited to use of the frequencies within the band. Accomplishing the goal of broad international use in the band, as shown by allocations of permissible use, means not promulgating overly restrictive or prescriptive rules around its implementation that would be required for other frequencies.



The Administration should work further with the FCC and should dedicate contiguous spectrum for V2V communications to be nationally licensed by rule. As airspace usage increases, V2V communication will become an increasing safety benefit and need. Allocating a dedicated block of spectrum will spur development across industry to ensure safer operations.

To best promulgate service rules, the FCC should delegate the task to appropriate UAS industry technical bodies. Standards development organizations have proven effective at finding consensus and combining it with technical expertise to produce effective rules that can be adhered to by industry and enforced by the FCC.

IV. RULES AROUND AVIATION TRAINING AND LICENSING REQUIREMENTS SHOULD BE DEVELOPED BY FEDERAL AVIATION ADMINISTRATION (“FAA”) ALONGSIDE WORKING GROUP COORDINATION

The FCC has vast knowledge and expertise in the planning, assessment, and management of spectrum, but given the aviation critical nature of command and control, training and licensing should be handled by FAA. Air navigation training and safety are best housed within FAA. Many operators that would use C-Band in their platforms are already closely working with FAA on safety, certification, and training across all facets of their use cases.

Another way to foster collaboration is to establish a formalized working group with FAA to examine spectrum issues. This way, as both groups develop rules, the FCC will ensure interoperability and ease of administration. Additionally, AUVSI is pushing to ensure there is dedicated, flexible spectrum for UAS usage in the upcoming FAA Reauthorization

V. CONCLUSION

AUVSI commends NTIA for commencing this important Strategy and we are committed to working with you on the final products that come from it. The Administration can set the future of UAS spectrum policy on the right path with this rulemaking and the ones that will surely follow. Contemplating the varied uses within the band, understanding the importance of V2V communication, delegating tasks, and authority where best suited, and allowing for continued use of the appropriate



spectrum for each operation places the Commission as a strategic partner in the advancement of drones in the United States. Many of our members have or will also file substantive comments, and we look forward to their measured consideration.

Respectfully Submitted,

Michael Robbins

Michael Robbins
Chief Advocacy Officer
AUVSI
3100 Clarendon Blvd. Ste. 1200
Arlington, VA 22201

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