VERTICAL AVIATION INTERNATIONAL

February 11, 2026

Federal Aviation Administration
ATTN: Brandon Roberts, Executive Director, Office of Rulemaking
800 Independence Avenue SW
Washington, DC 20591

Submitted via https://www.regulations.gov only

RE: Docket No. FAA-2025-1908
Comments of Vertical Aviation International on Normalizing UAS Beyond Visual Line of Sight Operations; Reopening of Comment Period

Dear Mr. Roberts:

I. Introduction

Vertical Aviation International (VAI) respectfully submits these comments in response to the Federal Aviation Administration's (FAA) Normalizing Unmanned Aircraft Systems (UAS) Beyond Visual Line of Sight (BVLOS) Operations; Reopening of Comment Period (proposed rulemaking referred to herein as Part 108).

VAI is the global trade association for the civil vertical aviation industry, representing more than 1,100 businesses and 18,000 professionals across more than 70 nations, including operators of helicopters, UAS, and next-generation vertical aircraft. VAI is dedicated to fueling the growth of the vertical aviation industry through safety, advocacy, and education so that communities around the world are strengthened by the power of vertical flight.

VAI is unique among aviation associations in representing both manned and unmanned vertical lift aircraft stakeholders; our perspective is based on an accurate and comprehensive picture of operations below 400 feet above ground level (AGL). In the U.S., our operator members carry out hundreds of thousands of flight hours annually in the airspace below 400 feet AGL, safely conducting a wide range of time-critical missions that provide important national security and public benefits, such as inspections, aerial firefighting, utility work, and medical transport.

VAI unequivocally supports the growth of unmanned aircraft systems as an essential part of the aviation ecosystem, recognizing that scalable BVLOS operations are key to unlocking their safety, efficiency, and economic potential worldwide. This progress must be grounded in the highest levels of safety to ensure seamless integration across the U.S. National Airspace System (NAS). Furthermore, growth must be pursued in a way that protects and strengthens the NAS, which is already regarded as one of the safest and most efficient in the world. By doing so, we have an opportunity to create a robust regulatory framework for UAS while simultaneously enhancing the safety, reliability, and efficiency of our existing airspace users.

VAI values the opportunity to provide further feedback, guidance, and insight through the below responses to FAA's queries regarding electronic conspicuity (EC) and right-of-way topics. VAI appreciates the FAA's engagement on these questions and its collaborative approach to incorporating industry input as it exercises its regulatory responsibilities.

II. Responses to Questions Posed

1. Are there alternate EC devices capable of complying with proposed § 108.195(a)(2)(ii) that are available today? What are the names and manufacturers of those devices?

VAI assumes that the term "EC device" (ECD) refers specifically to portable, low-cost, low-power, anonymous, air-to-air deconfliction devices capable of broadcasting a signal on Universal Access Transceiver (UAT) operating on the Radio Frequency 978 Megahertz (MHz), that is not permanently or semi-permanently installed Automatic Dependent Surveillance-Broadcast (ADS-B) Out equipment and does not meet the design and performance requirements of § 91.227. Currently, the primary ECD solution on the market capable of complying with § 108.195(a)(2)(ii) is uAvionix's SkyEcho.[1]

Where are the devices currently approved for use and for what purpose(s)?

The SkyEcho is approved for use as a low-powered, air-to-air ECD by the UK Civil Aviation Authority (UK CAA) and by Australia's Civil Aviation Safety Authority (CASA). The ECD is considered a voluntary, non-certified safety enhancement that does not satisfy the requirements for air traffic control (ATC) surveillance or authorization to operate in controlled airspace. Note that the SkyEcho's low power (tens of watts) transmittance makes it ineligible for FCC licensing under the existing

[1] SkyEcho is a portable ADS-B IN / OUT transceiver Electronic Conspicuity Device (ECD). SkyEcho transmits aircraft position, altitude, course, and speed on 1090 MHz ADS-B. uAvionix also produced a 978 MHz SkyEcho prototype to align with U.S. low-altitude operational considerations and to comply with anticipated § 108.195(a)(2)(ii) requirements.
uAvionix. *SkyEcho Data Sheet, UAX-90034-04 Rev. E*. Aug. 2025, uavionix.com/wp-content/uploads/dlm_uploads/2025/08/SkyEcho-Data-Sheet-UAX-90034-04-Rev-E.pdf. Accessed Feb. 2, 2026.

ADS-B Out framework. Any authorization for use in the United States would depend on explicit FAA support for an EC-specific authorization approach by the FCC.

Do any of them have the capability to inform the user that the device is not working properly?

While the SkyEcho does have a lighting system to indicate whether the device is powered and transmitting, it does not have the capability to notify the user if the device is otherwise not functioning or broadcasting properly.

2. **Are these EC devices approved for the same purpose as ADS-B Out?**

The above-referenced ECD is not approved for the same purposes as ADS-B Out. This is appropriate given the unique air-to-air deconfliction solution that EC provides, which is distinct from the ATC separation functionality of ADS-B Out. ECDs should not be positioned as equivalents to certified ADS-B Out systems, as they serve very different purposes. Where ATC surveillance or authorization to operate is required, aircraft must be equipped with higher-power, fully certified transponders and ADS-B Out systems, even if also using a SkyEcho device.

Do these alternate EC devices provide other benefits beyond what ADS-B Out offers?

In addition to broadcasting capabilities, the SkyEcho also provides dual-frequency ADS-B In capability.

Additional benefits of ECDs include their relatively low acquisition cost and their ability to be readily deployed across multiple aircraft within a fleet, both of which are critical drivers of widespread adoption. By lowering financial and operational barriers to utilization, these devices encourage broader participation among operators who might not otherwise adopt the technology, thereby strengthening the overall safety ecosystem.

Moreover, ECDs provide a meaningful system-wide safety enhancement by improving electronic visibility among all categories of manned aircraft, enabling more comprehensive and timely situational awareness in shared airspace. Because these devices operate through direct air-to-air broadcast and do not depend on ground-based infrastructure, they are particularly valuable in remote, rural, and low-altitude environments where ADS-B coverage is limited or inconsistent. In these areas, portable ECDs can help close persistent visibility gaps, support more reliable deconfliction, and enhance operational confidence for both manned and unmanned aircraft operators.

Are existing alternate EC devices used for, or capable of providing, anonymity?

The SkyEcho is capable of supporting anonymous addressing, assuming this aligns with applicable regulatory requirements.

3. **If not currently available, how quickly can alternate EC devices be available to the U.S. market once an approved standard is available?**

   VAI is aware that uAvionix currently has active portable ECD designs under development that are awaiting finalization of an FAA-accepted technical standard and associated approval framework. Once such a standard and approval pathway are established, uAvionix has indicated that it expects to be able to bring compliant ECDs to the U.S. market within approximately six months.

4. **Would the performance requirements of § 91.227 applicable to ADS-B Out also be appropriate for alternate EC devices? Why or why not?**

   The performance requirements of §91.227 applicable to ADS-B Out *would not* be appropriate for ECDs.

   Section 91.227 establishes performance requirements for installed ADS-B Out avionics that support ATC surveillance and separation services. These requirements are appropriately rigorous for that purpose but are not well aligned with the intended air-to-air deconfliction role of portable ECDs.

   Applying §91.227 wholesale to ECDs would improperly:

   - Impose certification, installation, and cost burdens inconsistent with portability and voluntary utilization;
   - Require transmitter power levels optimized for ground-based surveillance rather than air-to-air awareness;
   - Tie compliance to Technical Standard Orders (TSOs) designed for installed avionics; and
   - Undermine the affordability and scalability of EC adoption.

   In addition, §91.227 permits operation on both 1090 MHz and 978 MHz, while proposed §108.195(a)(2)(ii) appropriately limits ECDs to 978 MHz. This approach preserves capacity in the congested 1090 MHz band and enables efficient use of underutilized UAT spectrum for low-power air-to-air conspicuity.

   Similarly, §91.227 GPS performance standards are tailored to installed surveillance equipment and would impose unnecessary cost and complexity if applied to portable ECDs. The performance thresholds proposed in §108.195(a)(2)(ii) more appropriately reflect low-altitude right-of-way and detect-and-avoid needs.

Accordingly, VAI recommends that the FAA establish a dedicated, performance-based standard for portable ECDs that selectively draws from §91.227 where appropriate[2], rather than applying surveillance-focused requirements wholesale.

5. RTCA has a standard for electronic conspicuity (RTCA DO-282C). Are there any reasons why applying this standard for alternate EC devices in the U.S. not be feasible or appropriate?

VAI supports the use of RTCA DO-282C (DO-282C) as a baseline foundational technical standard for portable ECDs, although creation of a separate and distinct standard for ECDs is encouraged.

DO-282C reflects a well-established, operationally proven framework built around 978 MHz UAT and already integrated throughout the NAS. Equipment transmitting in accordance with this standard is routinely received by a wide range of certified avionics, ATC systems, and third-party platforms, including those supporting UAS operations. As a result, reliance on DO-282C would allow the FAA to build on existing infrastructure and prior public investment, rather than requiring development of new receiver networks.

From an operational standpoint, DO-282C is well suited to the air-to-air safety role envisioned for portable EC. It is designed for use on protected aviation spectrum and supports transmission power levels compatible with battery-powered, non-installed equipment. This enables effective electronic visibility without introducing the installation, certification, and surveillance assumptions associated with traditional ADS-B systems.

While FAA guidance would be needed to define specific configuration parameters and message elements, the standard itself provides sufficient flexibility to accommodate EC-specific implementation. The underlying architecture has demonstrated reliability in service and remains compatible with the existing ADS-B equipage framework.

Are there other existing industry consensus standards for EC that the FAA should consider accepting?

VAI is not aware of alternative standards that currently offer a comparable combination of interoperability, operational maturity, and safety benefit for portable EC.

6. What would be the potential downside(s) of requiring EC devices to include some sort of indicator (*e.g.,* visual or audio) to notify the pilot that the device is not working properly?

[2] Certain elements of §§91.227(d) and (e), addressing message content and continuity, are generally consistent with EC objectives and may serve as useful references.

VAI assumes the phrase “not working properly” refers to a state in which the device is not effectively broadcasting its position.

Requiring ECDs to indicate malfunction or degraded performance could introduce minor human factors challenges, including pilot distraction and alert fatigue.

Given that a UAS’s ability to detect and avoid could be wholly dependent upon reliable broadcasting provided by an ECD, VAI believes that these minor challenges are overcome by the considerable safety benefits presented by having a failure indicator.

VAI therefore recommends that any required failure indication prioritize an audible alert, as the effectiveness of a visual alert would be wholly dependent upon the placement of the ECD in the cockpit and whether the device was located within sight of the pilot. Further, VAI suggests that failure-indication expectations, including scope, conditions, and limitations, be addressed in an approved EC standard and accompany advisory guidance to ensure consistent implementation and drive pilot comprehension. VAI also suggests that if an ECD would be a single point of failure in initiating a UAS avoidance maneuver, FAA should consider alternatives for UAS traffic separation in the event of EC failure, such as the phased approach referenced in the answer to Question 7 below.

7. Are there other methods or technologies that the FAA should consider allowing manned operators to use to be electronically detectable besides ADS-B Out or alternate EC devices?

Other non-ADS-B-based technologies exist, primarily deployed in Europe, which provide EC or similar situational awareness benefits[3]. None of these systems provide interoperable, aviation-grade solutions suitable for broad adoption in the United States.

As referenced in VAI’s comments to FAA’s original Part 108 Notice of Proposed Rulemaking (NPRM), redundant UAS systems should be required as part of a phased approach to ensure safe reliance upon UAS detect and avoid capabilities. These redundant systems could include UAS onboard broadcast-receiving capabilities and passive systems such as optical or acoustic detection to inform avoidance system decision-making.

III. Conclusion

VAI continues to support the safe and responsible expansion of BVLOS operations as a critical element of the evolving aviation ecosystem. However, as reflected in our original Part 108 comments, successful integration must be grounded in accurate assumptions about the low-altitude operating environment, recognition of existing

[3] Including FLARM, PilotAware, ADS-L, and other various application-based solutions.

manned aviation activity, and reliance on systems that are proven, interoperable, and trusted by all airspace users. The proposals addressed in this reopened comment period directly affect how right-of-way and detect-and-avoid obligations will function in practice. Without reliable, scalable, and appropriately tailored electronic conspicuity standards, these obligations cannot be exercised safely or consistently in the complex airspace below 400 feet AGL.

Accordingly, VAI urges the FAA to adopt a performance-based framework that supports portable electronic conspicuity, preserves manned aircraft right-of-way, and encourages broad voluntary utilization. As emphasized in our prior comments, layered, interoperable solutions remain essential. By aligning EC standards with real-world operations, existing infrastructure, and established safety principles, the FAA can enable BVLOS growth while maintaining the integrity of the NAS. VAI and its members remain committed to working collaboratively with the agency to achieve a framework that advances innovation without compromising aviation's longstanding safety record.

VAI's point of contact for these comments is Amber Harrison, Director of Regulatory Affairs. She can be reached at amberh@verticalavi.org.

With kindest regards,

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