

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of	)	
	)	
Petition To Adopt Service Rules for	)	RM-11798
Unmanned Aircraft Systems	)	
("UAS") Command and Control in	)	
the 5030-5091 MHz Band	)	
	)	

To: The Commission

**REPLY OF  
THE AEROSPACE INDUSTRIES ASSOCIATION**

The Aerospace Industries Association ("AIA") submits these reply comments to the Federal Communications Commission ("FCC" or "Commission") to address comments filed in response to its Petition for Rulemaking ("Petition") to adopt licensing and service rules for Control and Non-Payload Communications ("CNPC") links for command and control ("C2") operations in the 5030-5091 MHz band. These proposed licensing and service rules will allow for the continued development and ensure the safe implementation of Unmanned Aircraft Systems ("UAS") in the National Airspace System ("NAS").

AIA is the nation's most authoritative and influential voice of the aerospace and defense industry and represents more than 100 leading aerospace and defense manufacturers, along with a supplier base of nearly 200 associate members, many of which are at the forefront of UAS development. AIA's members are in support of the Petition, and remain committed to seeing the Commission initiate a rulemaking cycle.

In the meantime, AIA uses this opportunity to provide some general clarifications in reply to comments submitted seeking additional detail about the objectives of the Petition. Chief among these is that there is no expectation that all UAS must use the 5030-5091 MHz band for C2 operations, nor that this frequency band could reasonably be the only band authorized by the Commission for UAS C2 operations. To the contrary, the C-band that is the subject of the Petition is but one piece of a broader spectrum plan that must emerge to ensure the safe integration of UAS into the NAS.

As it stated at the outset, AIA's Petition focuses on the creation of defined rules for spectrum use only within the 5030-5091 MHz frequency band. AIA understands that a variety of spectrum bands and frequency assignment mechanisms are currently being contemplated for different UAS use cases. Indeed, it agrees with commenters that the C-band would never be sufficient, even under the most efficient dynamic frequency assignment mechanism, to support CNPC links for the broad array of projected UAS operations. Instead, the modest objectives of the Petition are intended to bring into use one spectrum resource and, thereby, to catalyze the development of a broad regulatory framework to support CNPC operations of UAS in the United States.

AIA appreciates the wide range of feedback that has been submitted in response to its Petition. The participation of multiple industry stakeholders serves to reinforce the view that the time is right for the FCC to act. Accordingly, AIA and its members urge the Commission to initiate a Notice of Proposed Rulemaking ("NPRM"). While a small number of comments advocated that certain issues be addressed that the Petition did not specifically raise, these are matters that can be addressed in the context of the rulemaking itself. Different viewpoints and recommendations about what shape the regulatory framework should take will naturally emerge in a rulemaking cycle, and

the entire UAS industry will benefit from such an opportunity. Thus, it is abundantly clear that action is required now in order to ensure the continued safe development and implementation of UAS within the NAS on both a short-term and long-term basis.

AIA uses the remainder of this Reply to address the specific concerns of two parties: CTIA and the Small UAV Coalition

## **I. RESPONSE TO THE COMMENTS OF THE SMALL UAV COALITION**

In its comments, the Small UAV Coalition (“the Coalition”) raised concerns, particularly about the suggested requirement for a Commercial Radio Operator license and that operations in the 5030-5091 MHz band be limited to safety-of-life communications.<sup>1</sup>

AIA clarifies that the need for a Commercial Radio Operator license would be solely for a Pilot in Command (“PIC”) operating a UAS that utilizes the 5030-5091 MHz band. AIA also reiterates the above statement that there is no expectation that all UAS CNPC operators must have a Commercial Radio Operator license, only for UAS CNPC operations utilizing the 5030-5091 MHz band.

As to the concerns that the Coalition expresses about the allocation, the Commission has already formally allocated the 5030-5091 MHz band exclusively for line-of-sight C2 communications.<sup>2</sup> Accordingly, it is appropriate that AIA’s Petition is limited to initiating a rulemaking to develop service rules for the 5030-5091 MHz band that will provide industry with an opportunity to access this limited band under the allocation that governs its use.

## **II. RESPONSE TO THE COMMENTS OF CTIA**

The comments submitted by CTIA raise many of the same questions as those submitted

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<sup>1</sup> See Comments of the Small UAV Coalition, RM-11798 (May 29, 2018).

<sup>2</sup> See Amendment of Parts 2, 15, 80, 90, 97, and 101 of the Commission’s Rules Regarding Implementation of the Final Acts of the World Radiocommunication Conference (Geneva, 2012) (WRC-12), Other Allocation Issues, and Related Rule Updates, ET Docket No. 15-99, *Report and Order*, FCC 17-33 ¶41 (rel. Mar. 29, 2017).

by the Small UAV Coalition, such as whether all UAS must utilize the 5030-5091 MHz band for C2 communications, as well as limiting the band to safety-of-life operations.<sup>3</sup> As stated above, there is no expectation for all UAS operations to utilize the 5030-5091 MHz band for their C2 operations. However, this frequency band is allocated to the aeronautical mobile (route) service, a service specifically regulated as a safety service. Therefore, only communications providing safety-of-life capabilities should be permitted.

Regarding CTIA's concerns about avoiding a "one-size-fits-all" approach<sup>4</sup> and technology-neutral access to the identified spectrum band<sup>5</sup>, AIA first reiterates that the 5030-5091 MHz band is and should be only one of many bands available for UAS communications. Consequently, the Commission should find CTIA's argument against restricting the use of the 5030-5091 MHz band to UAS C2 safety-of-life operations unconvincing. Given that this band will not be the only band used for UAS operations and rather would be the first of potentially many frequency bands enabling command and control of UAS, limiting use to safety-of-life applications is necessary, prudent, and fully reasonable.

### **III. CONCLUSION**

AIA strongly recommends the Commission initiate a Notice of Proposed Rulemaking, during which a variety of technical questions can be more appropriately addressed. AIA and its members appreciate the requests for clarity on certain aspects of the Petition as filed, but find that requests to deny the Petition based on arguments that it is premature or overly restrictive to be without merit. Delay in establishing rules governing the 5030-5091 MHz band would frustrate much needed clarity for robust development and greater certainty in UAS platform development

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<sup>3</sup> See Comments of CTIA, RM-11798 (May 29, 2018)

<sup>4</sup> See *id.* at 5

<sup>5</sup> *Id.* at 10

and safety. To abandon this Petition is contrary to the eventual outcome that industry supports, namely a spectrum environment that simultaneously provides certainty for UAS developers, allows for the maximum utilization of spectrum for UAS operations within its bands, and ensures the safe integration of existing and future UAS within the NAS.

Respectfully submitted,

**AEROSPACE INDUSTRIES ASSOCIATION**

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