UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Axon Enterprise, Inc. and Dedrone Holdings, Inc.

Petitioners,

v.

Airspace Defense, Inc.

Patent Owner

Case No. IPR2025-00530

U.S. Patent No. 10,249,199

PATENT OWNER'S NON-CONTINGENT REVISED MOTION TO AMEND

TABLE OF CONTENTS

I. INTRODUCTION 1

II. LEVEL OF ORDINARY SKILL IN THE ART 1

III. SUBSTITUTE CLAIMS COMPLY WITH 37 C.F.R. §42.121, *LECTROSONICS*, PAPER 15, AND THE TPG 1

IV. PROPOSED SUBSTITUTE CLAIMS ARE PATENTABLE 19

V. CONCLUSION 20

CLAIMS APPENDIX 1

List of Patent Owner Exhibits

Exhibit No.	Description
EX2001	Declaration of Nikolaos Papanikolopoulos, Ph.D., in support of First Motion to Amend
EX2002	U.S. Patent Application No. 15/598,303 (from which U.S. Patent No. 10,249,199 issued) (annotated to include page and line nos.) (the "'303 App.")
EX2003	U.S. Provisional Patent Application No. 62/309,838 (the "'838 Prov.")
EX2004	Curriculum Vitae of Dr. Nikolaos Papanikolopoulos

I. INTRODUCTION

Patent Owner Airspace Defense, Inc. respectfully moves under 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121(f) to amend challenged claims 1-9 of U.S. Patent No. 10,249,199 (the '199 patent). This revised motion, proposing substitute claims 10-18, is non-contingent with respect to all of the challenged claims. As discussed below, this revised motion complies with all of the requirements of 37 C.F.R. §§ 42.121(a) and (f), *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 (PTAB Feb. 25, 2019) identified in the Scheduling Order, and with the Trial Practice Guide (TPG).

II. LEVEL OF ORDINARY SKILL IN THE ART

Patent Owner does not dispute Petitioner's formulation regarding the level of ordinary skill in the art that was adopted by the Board. EX2001 ¶¶ 50-53.

III. SUBSTITUTE CLAIMS COMPLY WITH 37 C.F.R. § 42.121, *LECTROSONICS*, PAPER 15, AND THE TPG

A reasonable number of substitute claims: Per 37 C.F.R. § 121(a)(3), for each of the challenged claims 1-9, Patent Owner proposes only a single corresponding substitute claim.

Responsive to a Ground of Unpatentability and Petitioners' Opposition: Proposed independent substitute claim 10 is amended to add limitations that none of Petitioners' Grounds, including those in the Opposition, teaches or suggests. Specifically, proposed substitute claim 10 recites "an identification receiver …

configured to receive: … a second identifier from a computing system that is remote relative to the discrimination system." None of the new Grounds in the Opposition (or any in the Petition) teaches or suggests this limitation. *See infra* § IV. Proposed dependent substitute claims 11-18 depend from proposed substitute claim 10. As such, the proposed substitute claims respond to one or more new Grounds of unpatentability per 37 C.F.R. § 42.121(f)(2).

No enlargement the scope of the challenged claims: Proposed substitute claim 10 retains all of the limitations of the corresponding challenged claim 1 and adds further limitations. In proposed dependent substitute claims 11-18, only the dependencies are amended. As such, per 37 C.F.R. § 121(a)(2)(ii), no proposed substitute claim enlarges the scope of the challenged claims.

No new matter; supported in the original disclosure: Per 37 C.F.R. § 42.121(a)(2)(ii) and (b), proposed substitute claims do not introduces new subject matter and are fully supported by the original disclosure of the '199 patent, as shown in the claim charts below. To show support in the "original disclosure of the application, as filed," Patent Owner cites the relevant portions of the '303 App. and the '838 Prov.[1] *Lectrosonics*, Paper 11 at 7-8; 37 C.F.R. § 42.121(b)(1)-(2).

[1] The relevant portions of the '303 App. are quoted; the corresponding portions of the '838 Prov. and the '199 patent are cited.

Claim Element	Support in the Specification
[[1]]10[.pre] A discrimination system comprising:	EX2002 at 1, Title (**System** and Method **for** Aerial System **Discrimination** and Action), at 1:8-10 ("a new and useful **aviation discrimination** and action **system**"), at 2:5 ("FIGURE 1 is a schematic representation of the **aerial system discrimination system**"), at 2:18-23 ("[a]s shown in FIGURE 1, the aerial system discrimination system [] includes an aerial system disruption system 105, an aerial system identification system 111, and a permissions module 103. The discrimination system [] can additionally include or use an identifier transmission system 101 configured to mount to, or be embedded in, an aerial system 100. The discrimination system 110 functions to determine whether an aerial system 100 is authorized or unauthorized to be in the airspace"), FIGURE 1; EX2003, Title, ¶¶ 1, 5, 12, FIGURE 1; EX1001, Title, 1:13-15, 1:40-41, 1:60-2:1, FIGURE 1. Thus, the '303 App. and the '838 Prov. both teach a discrimination system for determining whether an aerial system is authorized to be in an airspace.
[10.a] an identifier transmission system coupled to an unmanned aerial system, wherein the identifier transmission system is configured to broadcast an aerial system identifier signal comprising a first identifier unique to the unmanned aerial system;	EX2002 at 2:18-22 ("[a]s shown in FIGURE 1, the aerial system discrimination system [] includes an aerial system disruption system 105, an aerial system identification system 111, and a permissions module 103. The discrimination system [] can additionally include or use an **identifier transmission system 101** configured to **mount to, or be embedded in, an aerial system 100**"), FIGURE 1; EX2003, ¶ 12, FIGURE 1; EX1001, 1:60-65, FIGURE 1. EX2002 at 5:16-22 ("All or part of the discrimination system 110 is preferably used with an aerial system 100. An aerial system 100 is preferably an aircraft (e.g., a manned or **unmanned aircraft**)" and "[e]xamples of aerial systems 100 include … unmanned aerial vehicles (UAVs)"); EX2003, ¶16, EX1001, 3:25-32. EX2002 at 4:8-11 ("in some variations, the identifier transmission system 101 includes a wireless communication chipset 605 (e.g., WiFi, BLE, or LTE

Claim Element	Support in the Specification
	chipset), which **broadcasts the aerial system identifier 300** over a long geographic distance"), at 6:12-14 ("[t]he aerial system identifier **signal 300** can be **globally unique, locally unique** (e.g., to a geographic location, to an aerial system manufacturer or type, etc.), or generic"), at 3:8-10 ("[t]he aerial system identifier 300 is checked against the permissions module 103, which determines whether the **aerial system identifier 300 is associated with an authorized or unauthorized UAV**"), EX2003, ¶¶ 14, 17, 13; EX1001, 2:47-51, 3:50-53, 2:12-15. EX2002 at 14:13-16 ("[t]he identifier transmission system 101 preferably periodically or constantly broadcasts the aerial system identifier signal 300, but can alternatively display the aerial system identifier 310, send the aerial system identifier signal 300 in response to receipt of a request for the aerial system identifier 310, or otherwise **transmit the aerial system identifier 310**. The aerial system identifier 310 preferably identifies an aerial system 100, and is preferably **globally unique**, but can alternatively be **unique for a geographic region, unique for a period of time**, generic, or otherwise related to other aerial system identifiers"); EX2003, ¶¶ 44-45; EX1001, 7:51-62. EX2002 at 3:3-8 ("[i]n a specific example, the discrimination system 110 includes: a disruption system 105 including a launcher 303 and an interdiction module 304; an **identification system 111 including a wireless communication system**; and a permissions module 103 connected to the wireless communication system. In operation, the wireless communication system **receives an aerial system identifier signal 300 broadcast from a aerial system 100**"), at 8:21-9:1 ("the identification receiver 102 is a wireless communication module including an antenna array 607 and chipset 608 …. The antenna array 607 of the identification receiver 102 functions to **receive broadcast signals from an aerial system 100**"), FIGURES 1, 3, 6; EX2003, ¶ 13 (referring to the wireless communication system as a radio and the aerial system as a

Claim Element	Support in the Specification
	UAV), ¶ 31, FIGURES 1, 3, 6; EX1001, 2:5-12, 4:64-5:2, FIGURES 1, 3, 6. Thus, the ’303 App. and the '838 Prov. both disclose an identifier transmission system mounted to or embedded in, i.e., coupled to, an aerial system. The identifier transmission system broadcasts the aerial transmitter signal. The signal is globally or locally unique, and is used to determine whether the UAV, i.e., the aerial vehicle, is authorized, and is thus unique to the aerial system. The discrimination system includes and identification system for receiving signals, including the aerial system identifier signal, broadcast from an aerial system.
[10.b] <u>an identification system comprising</u> an identification receiver;	EX2002 at 2:18-20 (“[a]s shown in FIGURE 1, the aerial system discrimination system [] includes an aerial system disruption system 105, an aerial system **identification system 111**, and a permissions module 103”), at 3:3-6 (“[i]n a specific example, the discrimination system 110 includes: a disruption system 105 including a launcher 303 and an interdiction module 304; an **identification system 111 including a wireless communication system**”), at 8:7-8 (“[t]he identification system 111 of the discrimination system 110 **functions to receive** the aerial system identifier signal 300 from the aerial system 100”), FIGURE 1; EX2003, ¶¶ 12, 13, 29, FIGURE 1; EX1001, 1:60-63, 2:5-10, 4:44-46, FIGURE 1. EX2002 at 8:16-9:1 (“[t]he identification system 111 can include an **identification receiver 102**, which functions to **receive** the aerial system **identifier signal 300**. The identification receiver 102 can be passive (e.g., **receive information broadcast by the aerial system 100**) …. In a first variation, as shown in FIGURE 6, the **identification receiver 102 is a wireless communication module** including an antenna array 607 and **chipset 608** …. The antenna array 607 of the identification **receiver 102** functions to **receive broadcast signals from an aerial system 100**), FIGURE 6; EX2003, ¶¶ 30-32, FIGURE 6; EX1001, 4:57-5:2, FIGURE 6.

Claim Element	Support in the Specification
[10.c] a permission module,	EX2002 at 2:18-20 ("[a]s shown in FIGURE 1, the aerial system discrimination system [] includes an aerial system disruption system 105, an aerial system identification system 111, and **a permissions module 103**"), FIGURE 1; EX2003, ¶ 12, FIGURE 1; EX1001, 1:60-63, FIGURE 1. EX2002 at 3:3-6 ("[i]n a specific example, the discrimination system 110 includes: a disruption system 105 including a launcher 303 and an interdiction module 304; an identification system 111 including a wireless communication system; and a **permissions module 103** connected to the wireless communication system. In operation, the wireless communication system receives an aerial system identifier signal 300 broadcast from a aerial system 100. The aerial system identifier 300 is checked against the **permissions module 103**, which **determines whether the aerial system identifier 300 is associated with an authorized or unauthorized UAV**"), FIGURE 1; EX2003, ¶ 13, FIGURE 1; EX1001, 2:5-15, FIGURE 1. EX2002 at 18:8-13 ("[a]s shown in FIGURE 3, the **permissions module 103** of the discrimination system 110 functions to **store permissions** for the physical volume and/or individual aerial systems. The permissions module 103 can additionally function to **determine whether the aerial system 100 has permission** for a physical volume (e.g., restricted airspace 301ab), and/or **generate operation permissions for the disruption mechanism 105** based on whether the aerial system identifier 310 is permitted"), FIGURE 3; EX2003, ¶ 40, FIGURE 3; EX1001, 9:53-61, FIGURE 3. Thus, the '303 App. and the '838 Prov. each discloses a permission module that stores permissions for the physical volume of an airspace and an aerial system, and determines whether a particular aerial system has the permission to enter a particular airspace.
[10.d] wherein the identification receiver is	EX2002 at 8:16-9:1 ("[t]he identification system 111 can include an **identification receiver 102**, which functions to **receive** the aerial system **identifier signal 300**. The

Claim Element	Support in the Specification
configured to receive: (i) the aerial system identifier signal comprising the first identifier from the unmanned aerial system, and (ii) a second identifier from a computing system that is remote relative to the discrimination system, the second identifier functioning as a second factor identifier for the unmanned aerial system;[[and]	identification receiver 102 can be passive (e.g., **receive information broadcast by the aerial system 100**) …. In a first variation, as shown in FIGURE 6, the **identification receiver 102 is a wireless communication module** including an antenna array 607 and **chipset 608** but can alternatively include any other suitable component. The antenna array 607 of the identification **receiver 102** functions to **receive broadcast signals from an aerial system 100**), FIGURE 6; EX2003, ¶¶ 30-31, FIGURE 6; EX1001, 4:57-5:2, FIGURE 6. EX2002 at 9:13-17 ("The **chipset 608 of the identification receiver 102** functions to interpret the received aerial system identifier signal 300. The chipset 608 preferably **interprets the signal 300 into the aerial system identifier 310** (e.g., decrypts the signal, etc.)"), at 28, ll. 8-9 ("[t]he aerial system identifier 310 is preferably determined by the identification receiver 102"); EX2003, ¶¶ 32, 59; EX1001, 5:20-27, 14:60-64. EX2002 at 14:16-17 ("The aerial system identifier 310 is preferably dynamic, but can alternatively be static"); *Id.* at 14:23-15: ("The dynamic **aerial system identifier** can be generated onboard the aerial system 100, **generated remotely (e.g., at a remote computing system**, etc.; updated in-flight or when connected to a predetermined communication connection type, etc.), or generated by any other suitable system."); EX2003 ¶ 45; EX1001, 8:5-10. EX2002 at 30:17-18 ("**[d]etermining** an aerial system identifier 310 can optionally include **verifying the authenticity of the aerial system identifier 310**"), at 30:24-31:1 ("[i]n a second variation, authentication is accomplished by using a **secondary identifier**"), at 4:15-20 ("in some variations, the aerial system 100 can include a first and **second identifier, transmitted by** a first and **second identifier transmission system**, respectively, wherein the second identifier can **function as** … a **second factor** identifier for the aerial system 100 (e.g., as a **secondary authenticator for the aerial system** to prevent

Claim Element	Support in the Specification
	tampering and/or identifier reproduction)"); EX2003, ¶¶ 14, 66; EX1001, 2:57-64, 16:6-8, 16:17-18. Thus, the '303 App. and the '838 Prov. both disclose that the identification receiver receives the identifier signal, "information broadcast by the aerial system" and "broadcast signals from an aerial system," which include the first identifier from the unmanned aerial system. Both the '303 App. and the '838 Prov. also teach that the identification receiver interprets the identifier signal to determine the aerial system identifier from the identifier signal. The "receiver 102 is a wireless communication module" that can also receive a "second identifier, transmitted by a … second identifier transmission system," such as "the **aerial system identifier** … **generated remotely (e.g., at a remote computing system**." Moreover, according to the '199 patent, determining the identifier includes "verifying the authenticity" of the aerial system identifier, which is accomplished where the second identifier functioning as and used as a second factor can be used for authentication.
[10.e1] <u>wherein the identification system is configured to determine the first identifier from the aerial system identifier signal, and verify an authenticity of the first identifier using the second identifier, and to provide an authenticated first identifier of the</u>	EX2002 at 30:17-18 ("**[d]etermining** an aerial system identifier 310 can optionally include **verifying the authenticity of the aerial system identifier 310**"), at 30:24-31:1 ("[i]n a second variation, authentication is accomplished by using a **secondary identifier**"), at 4:15-20 ("in some variations, the aerial system 100 can include a first and **second identifier**, transmitted by a first and second identifier transmission system, respectively, wherein the second identifier can **function as** … a **second factor** identifier for the aerial system 100 (e.g., as a **secondary authenticator for the aerial system** to prevent tampering and/or identifier reproduction)"); EX2003, ¶¶ 14, 66; EX1001, 2:57-64, 16:6-8, 16:17-18.

Claim Element	Support in the Specification
aerial system identifier signal when the authenticity has been verified, and	
[10.e2] to provide the authenticated first identifier of the aerial system identifier signal to the permission module, and	*See supra* element [1.b] (describing that the identification module determines the aerial system identifier from the aerial system identifier signal, and that the determination includes verifying the authenticity of the aerial system identifier). EX2002 at 3:3-6 ("the discrimination system 110 includes: … an identification system 111 including a wireless communication system; and **a permissions module 103 connected to the wireless communication system**"), FIGURE 1; EX2003, ¶ 13, FIGURE 1; EX1001, 2:5-10, FIGURE 1. EX2002 at 9:13-17 ("The **chipset 608 of the identification receiver 102** functions to interpret the received aerial system identifier signal 300. The chipset 608 preferably **interprets the signal 300 into the aerial system identifier 310** (e.g., decrypts the signal, etc.)"), at 30:17-18 ("**[d]etermining** an aerial system identifier 310 can optionally include **verifying the authenticity of the aerial system identifier 310**"); EX2003, ¶¶ 32, 66; EX1001, 5:20-27. EX2002 at 9:20-22 ("[t]he chipset 608 can be **connected to the permissions module 103**, wherein the chipset 608 **sends** the raw or **processed signal to the permissions module 103 for permissions determination**"), at 18:13-16 ("[t]he **permissions module** 103 is preferably connected to, and **receives information from, the identification receiver 102**"), FIGURES 3, 6; EX2003, ¶¶ 32, 40, FIGURES 3, 6; EX1001, 5:31-34, 9:61-64, FIGURES 3, 6. Thus, the '303 App. and the '838 Prov. disclose that the identification receiver provides the determined and verified, i.e., authenticated, aerial system identifier that was

Claim Element	Support in the Specification
	determined from an aerial system identifier signal to the permission module for permissions determination.
[10.f] wherein the permission module is configured to determine that the unmanned aerial system associated with the authenticated first identifier of the aerial system identifier signal is not permitted to be in an airspace; and	EX2002 at 3:6-10 ("[t]he aerial system identifier 300 is checked against the **permissions module 103**, which **determines whether the aerial system identifier 300 is associated with an authorized or unauthorized UAV**"), at 18:8-13 ("[t]he permissions module 103 can additionally function to **determine whether the aerial system 100 has permission for** a physical volume (e.g., **restricted airspace 301ab**), and/or generate operation permissions for the disruption mechanism 105 based on whether the aerial system identifier 310 is permitted"), FIGURES 1, 3; EX2003, ¶¶ 13, 40, FIGURES 1, 3; EX1001, 2:12-15, 9:55-61, FIGURES 1, 3. EX2002 at 32:20-22 ("[d]etermining a **set of permissions** associated with the restricted airspace functions to identify metrics by which to **determine whether the aerial system 100 is permitted** within the airspace"), at 35:3-10 ("[d]etermining whether the aerial system parameters are permitted based on the set of permissions functions to **determine: whether the aerial system is permitted within the airspace** …. The aerial system parameters can be: permitted, **prohibited**, partially permitted"), at 35:17-20 ("**the aerial system is deemed not permitted** when the aerial system lacks an identifier, the identifier is not on the list of permitted aerial system identifiers for the airspace, or the identifier is on a list of prohibited aerial system identifiers for the airspace"); EX2003, ¶¶ 69, 74, 75; EX1001, 17:13-16, 18:21-31, 18:42-47. The '303 App. and the '838 Prov. teach that the permission module can determine that the aerial system associated with the authenticated aerial system identifier from an aerial system identifier signal is not permitted to be in an airspace.
[10.g] a disruption system configured to disrupt an operation of the	EX2002 at 2:18-20 ("[a]s shown in FIGURE 1, the aerial system discrimination system [] includes an aerial system **disruption system 105**"), at 3, ll. 3-6 ("the discrimination system 110 includes: a **disruption system 105** including a

Claim Element	Support in the Specification
unmanned aerial system (i) when it is determined by the permission module that the unmanned aerial system associated with the authenticated first identifier is not permitted to be in the airspace, or (ii) when the authenticity of the first identifier is not verified, wherein the disruption system is preemptively enabled based on the received aerial system identifier signal.	launcher 303 and an interdiction module 304"), at 20:9-14 ("[i]n one variation, shown in FIGURE 3, the **disruption system 105** can include a launching system 303 and an interdiction module 304, which cooperatively function to intercept, then interdict, the aerial system 100"), FIGURES 1, 3; EX2003, ¶¶ 12, 13, 21, FIGURES 1, 3; EX1001, 1:60-63, 2:5-10, 10:56-59, FIGURES 1, 3. EX2002 at 3:10-17 ("[t]he **disruption system 105** can be automatically disabled (e.g., locked) in response to determination that the UAV is authorized, and/or automatically activated (e.g., **unlocked) in response to determination that the UAV is unauthorized (e.g., reporting an unauthorized identifier**, not reporting an identifier, etc.). When the disruption system 105 is in an **unlocked state, the launcher 303 can launch** the interdiction module 304 toward the UAV, wherein the interdiction module 304 can immobilize the motive mechanism of the aerial system 100 (e.g., by disabling the power system, entangling the motive mechanism, etc.)"); EX2003, ¶ 13; EX1001, 2:15-26. EX2002 at 30:17-20 ("[d]etermining an aerial system identifier 310 can optionally include **verifying the authenticity** of the aerial system identifier 310. This functions to **identify** aerial systems 100 with **fake identifier** transmission systems, wherein such systems can be **treated as unauthorized** or otherwise treated"), at 2:22-3:2 ("[t]he discrimination system 110 functions to determine whether an aerial system 100 is authorized or unauthorized to be in the airspace. The discrimination system no can additionally function to **prevent**, disrupt, **remove**, or otherwise interact with an **unauthorized aerial system** within the airspace"); EX2002 ¶¶ 12, 66; EX1001, 1:66-2:4, 16:6-10. EX2002 at 36:20-37:2 ("certain scenarios may require the disruption system 105 to be **ready to engage on short notice**. **As depicted in FIGURE 5**, the disruption system 105 may thus be **preemptively enabled** if certain

Claim Element	Support in the Specification
	conditions are met (e.g. aerial system detected w/o an identifier 500, **identifier is received but is invalid 501**"), at 24:4-5 ("[t]he discrimination system 110 can additionally include a control system 104 that functions to selectively activate or deactivate disruption system operation"), at 24:10-15 ("[t]he control system 104 is preferably operable between a **locked and unlocked mode** …. The control system 104 preferably locks or otherwise disables disruption system 105 operation in the locked mode, and **unlocks or otherwise enables disruption system 105 operation in the unlocked mode**"), FIGURE 5 (depicting that the disruption system is enabled for disrupting an aerial system upon determining that the aerial system does not have permission); EX2003, ¶ 42, FIGURE 5; EX1001, 12:54-56, 12:63-13:3, 19:15-21, FIGURE 5. EX2002 at 26:9-15 ("[a]s shown in FIGURE 2, the method for aerial system discrimination and action includes: determining that an aerial system has entered restricted airspace 200, determining an aerial system identifier 300 for the aerial system 201, determining a set of permissions associated with the restricted airspace 202, and determining whether the aerial system parameters are permitted based on the set of permissions 203. Further, if the **aerial system is not permitted, enabling a disruption system 204**, and disrupting the operation of the aerial system 205"), FIGURE 2; EX2003, ¶ 54, FIGURE 2; EX1001, 13:62-14:4, FIGURE 2. EX2002 at 36:4-6 ("[t]he method can optionally include controlling disruption system operation based on the aerial system permission determination, which functions to **selectively enable or disable** the disruption system"), at 36:8-14 ("[c]ontrolling disruption system operation can include: selecting a disruption system operation mode based on the determined aerial system permission and controlling the disruption system operation to meet the selected mode. Selecting a disruption system operation mode based on the determined aerial system permission preferably includes: **selecting an enabled operation mode**

Claim Element	Support in the Specification
	in response to aerial system classification as not permitted (e.g., prohibited) and selecting a disabled operation mode in response to aerial system classification as permitted"); EX2003, ¶ 76; EX1001, 18:57-60, 18:63-19:6. Thus, the '303 App. and the '838 Prov. each discloses a disruption system 105 that is preemptively enabled, i.e., enabled for disrupting an aerial system upon determining that the aerial system does not have permission, or is unauthorized, e.g., because its identifier was not authenticated, where such determination is made e.g., when the aerial system identifier determined from the received aerial system identifier signal is found to be invalid.
[[2]11. The system of claim 10, wherein the identifier transmission system and the identification receiver communicate using a radio chipset that is compatible with a communication protocol selected from the following: WiFi, LTE, or Bluetooth.	EX2002 at 4:8-11 ("the **identifier transmission system** 101 includes a wireless communication **chipset 605** (e.g., WiFi, BLE, or LTE chipset), which broadcasts the aerial system identifier 300 over a long geographic distance"), at 8:21-23 ("as shown in FIGURE 6, the **identification receiver** 102 is a **wireless communication module** including an antenna array 607 and **chipset 608**"), FIGURES 1, 3, 6; EX2003, ¶¶ 14, 31, FIGURES 1, 3, 6; EX1001, 2:48-51, 4:64-67, FIGURES 1,3, 6. *See also*, EX2002 at 30, ll. 17-18 ("[d]etermining an aerial system identifier 310 can optionally include verifying the authenticity of the aerial system identifier 310"), at 31:1-7 ("the authenticity of the identifier transmission system 101 can be verified when a first aerial system identifier signal 300 received from a WiFi transmitter (e.g., removably couplable to the aerial system) is associated with a second aerial system identifier" or with "a communications network interface identifier (e.g., MAC address)"), at 40 (claim 2); EX2003, ¶ 66,; EX1001, 16:6-8, 16:18-27. Thus, the '303 App. and the '838 Prov. disclose an identifier transmission system having a WiFi, BLE (i.e., Bluetooth Low Energy), or LTE chipset, and an identification receiver that is a wireless communication module that includes a chipset 608 and that receive a aerial system identifier signal

Claim Element	Support in the Specification
	broadcast by the identifier transmission system. As such, the identifier transmission system and the identification receiver can communicate using radio chipsets that are compatible with WiFi, LTE, or Bluetooth.
[[3]]12. The system of claim 10, wherein the identification receiver is a mobile device.	EX2002 at 11:15-18 ("the identification reader 102 is mounted to a **mobile mounting point** (e.g., the disruption system, second aerial system, etc.)"), at 8:14-17 ("the identification system 111 can be part of a secondary system, such as a user device 405 (e.g., a **smartphone, tablet**, etc.)" and "can include an identification receiver 102"), 40 (claim 4); EX2003, ¶ 36; EX1001, 6:25-30. Thus, both the '303 App. and the '838 Prov. disclose that the identification reader / receiver 102 can be mounted to a mobile mounting point, or may be included in a smartphone or tablet. As such, the '303 App. and the '838 Prov. both teach an identification receiver that is a mobile device.
[[4]]13. The system of claim 10, wherein the identifier transmission system is configured to be reassigned from a first aerial system to a second aerial system.	EX2002 at 14:17-23 (" [d]ynamic aerial system identifiers can be generated, re-assigned, … in response to the occurrence of a trigger event (e.g., upon user **reassignment of the identifier transmission system 101 to a different aerial system**)"), at 16:23-17:3 ("[t]he coupling mechanism of the identifier transmission system 101 functions to couple the identification transmitter to the aerial system 100. The coupling mechanism … can … be removable (e.g., transient), such that the **identifier transmission system 101 can be moved between different aerial systems 100**"); EX2003, ¶¶ 45, 50; EX1001, 7:63-8:5, 9:6-12. EX2002 at 37:21-38:4 ("[a]s shown in FIGURE 4 the method can optionally include **reassigning identifier transmission systems** 101 to different aerial systems …. Reassigning the identifier transmission system 101 can include: detecting a reassignment event 401 … detecting an assignment event for a second aerial system 402"), at 38, ll. 5-8 ("reassignment event can include: physical identifier transmission system 101 **removal from the first aerial system** 401"), at 38, ll. 16-21 ("[t]he assignment event can

Claim Element	Support in the Specification
	be: physical identifier transmission system 101 **coupling to a second aerial system** 402"); EX2003, ¶ 78; EX1001, 19:51-67, 20:11-19. Thus, the '303 App. and the '838 Prov. both disclose reassigning an identifier transmission system by removing it form one aerial system and coupling and assigning it to another aerial system.
[[5]]14. The system of claim 10, wherein when the disruption system is enabled the aerial system is caused to be removed from the airspace.	EX2002 at 43 (Abstract) ("[t]he discrimination system can additionally function to prevent, disrupt, **remove**, or otherwise interact with **an unauthorized aerial system within the airspace**"), at 2, l. 23 to 3, l. 3 (stating the same), at 41 (claim 7); EX2003, ¶ 12, EX1001, Abstract. EX2002 at 3:10-17 ("[t]he **disruption system 105** can be … automatically activated (e.g., **unlocked) in response to determination that the UAV is unauthorized (e.g., reporting an unauthorized identifier**, not reporting an identifier, etc.). When the disruption system 105 is in an **unlocked state, the launcher 303 can launch the interdiction module 304** toward the UAV, wherein the interdiction module 304 can immobilize the motive mechanism of the aerial system 100 (e.g., by disabling the power system, entangling the motive mechanism, etc.)"); EX2003, ¶ 13; EX1001, 2:15-26. EX2002 at 20:9-14 (as "shown in FIGURE 3, the disruption system 105 can include a launching system 303 and an **interdiction module 304**, which cooperatively function to intercept, then **interdict, the aerial system 100**. However, the disruption system 105 can include a jamming system, an electromagnetic disruption system, a buckshot system …, an ablation system, a projectile net system, or any other suitable mechanism capable of interfering with aerial system operation"), at 21:12-19 ("[t]he interdiction module 304 of the disruption system 105 functions to **interfere with aerial system 100 traversal through airspace**. The interdiction mechanism 304 preferably interferes with aerial system 100 **motive mechanism operation**, but can additionally or alternatively interfere with the aerial system

Claim Element	Support in the Specification
	electronics and controls, disrupt the electrical connections between the control system and the motive mechanism … to **disrupt aerial system traversal through airspace**"), FIGURE 3; EX2003, ¶ 21, 23, FIGURE 3; EX1001, 10:56-64, 11:28-39, FIGURE 3. EX2002 at 21:20-21 ("the interdiction module 304 includes **a net that entangles the aerial system motive mechanism**"), at 22:9-11 ("the interdiction module 304 includes a **set of masses (e.g., bullets)** that physically **intercept the aerial system motive mechanism and/or electronics**"), at 22:18-20 ("the interdiction module 304 includes collated light (e.g., **a laser**) that physically intercepts and **burns the aerial system motive mechanism and/or electronics**"); EX2003, ¶¶ 24-26; EX1001, 11:40-41, 11:58-60, 12:4-7. Thus, both the '303 App. and the '838 Prov. disclose that the disruption system can remove "an unauthorized aerial system within the airspace." To this end, the '303 App. and the '838 Prov. both disclose that the disruption system is automatically unlocked and enabled upon determining the presence of an unauthorized aerial vehicle in the airspace. The '303 App. and the '838 Prov. each also describes that the disruption system can interfere with the motive, electronics, and/or controls of the unauthorized aerial system. Instruments such as a net, bullets, and a laser can be used for causing the interference. Interference with the motive, electronics and/or controls would cause the unauthorized aerial vehicle to be removed from the airspace.
[[6]]15. The system of claim 10, wherein the disruption system comprises of a projectile launcher and an interdiction module.	EX2002 at 20:9-14 (as "shown in FIGURE 3, the disruption system 105 can include a launching system 303 and an **interdiction module** 304, which cooperatively function to intercept, then interdict, the aerial system 100. However, the disruption system 105 can include a jamming system, an electromagnetic disruption system, **a buckshot system** (e.g., a system that fires buckshot), an ablation system, **a projectile net system**"), at 21:20-21 ("the interdiction

Claim Element	Support in the Specification
	module 304 includes **a net** that entangles the aerial system motive mechanism"), 22, ll. 4-8 ("the net can be part of a two-stage system, wherein the net is encapsulated within an airframe. The **airframe is launched** from the launching mechanism 303, and the **net is subsequently launched from the airframe** while the airframe is in flight. However, the net can be otherwise propelled **toward the target**"), at 41 (claim 8), FIGURE 3; EX2003, ¶¶ 21, 24, FIGURE 3; EX1001, 10:56-64, 11:40-41, 11:52-57, FIGURE 3. Thus, the '303 App. and the '838 Prov. disclose a "projectile net" that can be launched from an airframe, i.e., a projectile launcher. The airframe itself can be launched from a launcher included in the interdiction module.
[[7]]16. The system of claim 10, wherein the disruption system comprises of an interceptor drone coupled with an interdiction module.	EX2002 at 20:9-14 (as "shown in FIGURE 3, the **disruption system** 105 can include a launching system 303 and an **interdiction module** 304, which cooperatively function to intercept, then interdict, the aerial system 100"), at 23:16-18 ("the **interdiction module** 304 is propelled from a second aerial system (e.g. an **interceptor drone**) towards a target aerial system 100 when the target aerial system 100 is in ra[n]ge of the second aerial system"), FIGURE 3; EX2003, ¶ 21, FIGURE 3; EX1001, 10:56-59, 12:37-40, FIGURE 3.
[[8]]17. The system of claim 10, further comprising a control system for controlling the disruption system.	EX2002 at 24:4-5 ("[t]he discrimination system 110 can additionally include a **control system** 104 that functions to selectively **activate or deactivate disruption system** operation"), at 24:12-15 ("[t]he control system 104 preferably locks or otherwise **disables disruption system** 105 operation in the locked mode, and unlocks or otherwise **enables disruption system** 105 operation in the unlocked mode"), at 41 (claim 10), FIGURE 1; EX2003, ¶ 42, FIGURE 1; EX1001, 12:54-56, 12:66-13:3, FIGURE 1. *See also* supra element [10.d] (describing the control, including enabling and disabling of the disruption system by the control system). The '303 App. and the '838 Prov. each discloses that by

Claim Element	Support in the Specification
	activating / deactivating and/or enabling / disabling the disruption system, the control system controls the disruption system.
[[9]]18. The system of claim [[8]]10, further comprising a logging system that is configured to record activity of at least one of the identification receiver, the permission module, or the control system.	EX2002 at 25:13-21 ("[t]he discrimination system 110 can additionally include a **logging system 106** that functions to store and/or provide **histories** for aerial system identifiers 310 (e.g., generated by the identifier transmission system 101, static identifier for the aerial system 100, etc.), airspace volume, an entity associated with a set of airspaces, an entity associated with a set of aerial systems, or any other suitable history. The history can include: operation history (e.g., SOC, flight velocity, etc.), parameters for aerial system collocation within a given volume of airspace (e.g., airspace identifier, timestamps, concurrent weather proximal the airspace, etc.), or any other suitable historic parameter"), FIGURE 1; EX2003, ¶ 43, FIGURE 1; EX1001, 13:34-45, FIGURE 1. EX2002, at 25:21-26:7 ("[t]he **history is preferably generated (automatically, etc.) in response to aerial system identification within the airspace** (e.g., wherein the logging system can be **coupled to the identification receiver**), in response to determination of unauthorized aerial system presence within the airspace (e.g., wherein the logging system can be **coupled to the permissions module**) …. The history can be used to predict aerial system action given a set of current operation parameters (e.g., using machine learning algorithms), to verify that the aerial system was within restricted airspace, to identify or verify the aerial system (e.g., wherein the discrimination system can query the aerial system for historic information, and verifies the aerial system upon receipt of the correct historic information)"), at 41 (claim 11), FIGURE 1; EX2003, ¶ 43, FIGURE 1; EX1001, 13:45-60, FIGURE 1. Thus, the '303 App. and the '838 Prov. each discloses a discrimination system that includes a logging system that is coupled to the identification receiver and/or the permission module, for recording histories, i.e., activity of these

Claim Element	Support in the Specification
	modules. At the permission module, "in response to determination of unauthorized aerial system presence within the airspace," the activity of the control system, e.g., in disabling / activating the disruption system is recorded.

IV. PROPOSED SUBSTITUTE CLAIMS ARE PATENTABLE

Patent Owner respectfully submits that the proposed substitute claims are patentable over the prior art cited in the Grounds asserted in this IPR proceeding, including those in the Opposition (the "IPR Prior Art"). In particular, proposed independent substitute claim 10 is patentable at least because it recites "an identification receiver … configured to receive: (i) the aerial system identifier signal comprising the first identifier from the unmanned aerial system, and (ii) a second identifier from a computing system that is remote relative to the discrimination system." Proposed substitute claim 10 also recites an "identification system [] configured to … verify an authenticity of the first identifier using the second identifier," and "to provide the authenticated first identifier of the aerial system identifier signal to the permission module,"

In the Opposition, Petitioners rely on the Whitmarsh-Viggiano combination (with Gong637 and, additionally, with Goodrich) to allege obviousness of substitute claim 10 presented in the first motion to amend. Petitioners state that Whitmarsh teaches the transmission of "a MAC address of the UAV" as the "aerial system identifier signal comprising an aerial system identifier." Opp. at 17.

Petitioners also state that in Viggiano, "a message authentication code formed from identification information of the UAV and a secret key of the UAV" teaches "a second factor identifier associated with the aerial system." *Id.* at 19.

In the Whitmarsh-Viggiano combination, the alleged aerial system identifier and the alleged second factor are both received from the UAV, and not from "a computing system that is remote relative to the discrimination system." Moreover, the authenticity of Whitmarsh's MAC address cannot be verified using Viggiano's message authentication code. All of the proposed combinations include the Whitmarsh-Viggiano combination, and as such, none of these combinations teaches or suggests at least the above-identified limitations of currently proposed substitute claim 10.

Therefore, currently proposed substitute claim 10, and proposed substitute claims 11-18, which depend from proposed substitute claim 10, are patentable.

V. CONCLUSION

In light of the foregoing, Patent Owner respectfully requests that the Board grant this revised motion to amend.

Respectfully submitted,

Dated: April 20, 2026

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CLAIMS APPENDIX

Proposed substitute claims are shown in the marked-up form below:

[[1]]10[.pre] A discrimination system comprising:

[10.a] an identifier transmission system coupled to an unmanned aerial system, wherein the identifier transmission system is configured to broadcast an aerial system identifier signal comprising a first identifier unique to the unmanned aerial system;

[10.b] an identification system comprising an identification receiver;

[10.c] a permission module,

[10.d] wherein the identification receiver is configured to receive: (i) the aerial system identifier signal comprising the first identifier from the unmanned aerial system, and (ii) a second identifier from a computing system that is remote relative to the discrimination system, the second identifier functioning as a second factor identifier for the unmanned aerial system;[[and]

[10.e1] wherein the identification system is configured to determine the first identifier from the aerial system identifier signal, and verify an authenticity of the first identifier using the second identifier, and to provide an authenticated first identifier of the aerial system identifier signal when the authenticity has been verified, and

[10.e2] to provide the authenticated first identifier of the aerial system identifier signal to the permission module, and

[10.f] wherein the permission module is configured to determine that the unmanned aerial system associated with the authenticated first identifier of the aerial system identifier signal is not permitted to be in an airspace; and

[10.g] a disruption system configured to disrupt an operation of the unmanned aerial system (i) when it is determined by the permission module that the unmanned aerial system associated with the authenticated first identifier is not permitted to be in the airspace, or (ii) when the authenticity of the first identifier is not verified, wherein the disruption system is preemptively enabled based on the received aerial system identifier signal.

[[2]]11. The system of claim 10, wherein the identifier transmission system and the identification receiver communicate using a radio chipset that is compatible with a communication protocol selected from the following: WiFi, LTE, or Bluetooth.

[[3]]12. The system of claim 10, wherein the identification receiver is a mobile device.

[[4]]13. The system of claim 10, wherein the identifier transmission system is configured to be reassigned from a first aerial system to a second aerial system.

[[5]]14. The system of claim 10, wherein when the disruption system is enabled the aerial system is caused to be removed from the airspace.

[[6]]15. The system of claim 10, wherein the disruption system comprises of a projectile launcher and an interdiction module.

[[7]]16. The system of claim 10, wherein the disruption system comprises of an interceptor drone coupled with an interdiction module.

[[8]]17. The system of claim 10, further comprising a control system for controlling the disruption system.

[[9]]18. The system of claim [[8]]10, further comprising a logging system that is configured to record activity of at least one of the identification receiver, the

permission module, or the control system.

Certificate of Service

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing Patent Owner's Revised Motion to Amend (not accompanied by any new Exhibits) was served via email on April 20, 2026 (per counsel's consent) to lead and backup counsel of record for Petitioners as follows:

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