

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AXON ENTERPRISE, INC. and DEDRONE HOLDINGS, INC.,
Petitioner,

v.

AIRSPACE DEFENSE, INC.,
Patent Owner.

IPR2025-00530
Patent 10,249,199 B2

Before MICHAEL R. ZECHER, BARRY L. GROSSMAN, and
SCOTT C. MOORE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Denying Patent Owner's Revised Non-Contingent Motion to Amend
35 U.S.C. § 318(a)

I. INTRODUCTION

Axon Enterprise, Inc. and Dedrone Holdings, Inc. (“Petitioner”) filed a Petition (Paper 1) challenging the patentability of claims 1–9 of U.S. Patent No. 10,249,199 B2 (Ex. 1001, “the ’199 Patent”). We issued an Institution Decision (Paper 10) instituting an *inter partes* review on all grounds raised in the Petition.

Airspace Defense, Inc. (“Patent Owner”) filed a non-contingent motion to amend (Paper 15) and Petitioner filed an opposition (Paper 20). We issued Preliminary Guidance (Paper 22) concerning the initial motion to amend. Following the Preliminary Guidance, Patent Owner filed a revised, non-contingent motion to amend (Paper 25, “Motion” or “Mot.”), and Petitioner filed an opposition to the Motion (Paper 32, “Opposition” or “Opp.”). Patent Owner filed a reply to the Opposition (Paper 34, “Reply”), and Petitioner filed a sur-reply to the Reply (Paper 36, “Sur-reply”).

An oral hearing was held on August 25, 2026, for which the transcript was entered into the record (Paper 45).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues raised in the Motion and related briefing during the trial in this *inter partes* review. We treat the non-contingent Motion as a request to cancel original claims 1–9. *See Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15, 3 (PTAB Feb. 25, 2019) (precedential) (distinguishing between “[a] request to cancel claims [that] will not be regarded as contingent” and “a request to substitute claims [that] ordinarily will be treated as contingent,” and prescribing that “[a] patent owner should adopt a claim-by-claim approach to specifying the contingency of substitution”). Accordingly, we do not reach the grounds of unpatentability raised in the Petition.

We *deny* the Motion because the proposed substitute claims would impermissibly add new matter to the application that issued as the '199 Patent.

II. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies Axon Enterprise, Inc. and Dedrone Holdings, Inc. as the real parties-in-interest. Pet. 1. Patent Owner identifies Airspace Defense, Inc. as the real party-in-interest. Paper 17, 2.

B. *Related Matters*

The parties inform us that the '199 Patent has been asserted in *Airspace Systems, Inc. v. Dedrone Holdings, Inc.*, No. 1-24-cv-01625 (E.D. Va.). Pet. 1; Paper 17, 2. The parties also inform us of the following related *inter partes* review proceedings: IPR2025-00525 and IPR2025-00629. Paper 17, 2.

C. *Applied References*

Petitioner's Opposition relies on the references summarized in the table below.

Name	Reference	Exhibit
Viggiano	US 2007/0239986 A1, published Oct. 11, 2007	1007
Jarrell	US 9,087,451 B1, issued July 21, 2015	1025
Goodrich	US 2016/0023760 A1, published Jan. 28, 2016	1008
Pasko	US 2016/0125740, published May 5, 2016	1026
Gong637	WO2016/161637, published Oct. 13, 2016	1022

Name	Reference	Exhibit
Falk	US 9,805,238 B2, issued Oct. 31, 2017	1011
Whitmarsh	US 2019/0003807 A1, published Jan. 3, 2019	1005

Opp. ii–iii, 6.

D. Asserted Grounds

Petitioner asserts that proposed substitute claims 10–18 are unpatentable based on the following grounds:

Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
10–18	112	Indefiniteness
10–12, 14–18	103	Whitmarsh, Jarrell, Gong637 (Ground 7B)
10–12, 14–18	103	Whitmarsh, Jarrell, Gong637, Pasko (Ground 7C)
13	103	Whitmarsh, Falk, Jarrell, Gong637 (Ground 8B)
13	103	Whitmarsh, Falk, Jarrell, Gong637, Pasko (Ground 8C)
10–12, 14–18	103	Whitmarsh, Goodrich, Jarrell, Gong637 (Ground 9B)

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102, 103, 112, and 316 that became effective on March 16, 2013. Because the applications from which the ’199 Patent claims priority were all filed after this date, the post-AIA versions of §§ 102, 103, and 112 apply. *See* Ex. 1001, codes (22), (60).

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis
10–12, 14–18	103	Whitmarsh, Goodrich, Jarrell, Gong637, Pasko (Ground 9C)
13	103	Whitmarsh, Goodrich, Falk, Jarrell, Gong637 (Ground 10B)
13	103	Whitmarsh, Goodrich, Falk, Jarrell, Gong637, Pasko (Ground 10C)
10–12, 14–18	103	Whitmarsh, Viggiano, Gong637 (Ground 11)
13	103	Whitmarsh, Falk, Viggiano, Gong637 (Ground 12)
10–12, 14–18	103	Whitmarsh, Goodrich, Viggiano, Gong637 (Ground 13)
13	103	Whitmarsh, Goodrich, Falk, Viggiano, Gong637 (Ground 14)

Opp. 6.

Patent Owner asserts that Whitmarsh and Falk do not qualify as prior art, but does not dispute the prior art status of the remaining references. *See* Paper 44; *see generally* Reply.

E. The '199 Patent

The '199 Patent describes an “aerial system discrimination system.” Ex. 1001, code (57). An “aerial system” is “preferably an aircraft (e.g., a manned or unmanned aircraft)” such as “gliders, rotorcraft, human-powered aircraft (HPA), unmanned aerial vehicles (UAVs), planes, drones, or any other suitable aerial system.” *Id.* at 3:25–32. The discrimination system

“functions to determine whether an aerial system is authorized or unauthorized to be in the airspace,” which, in turn, allows for “selective removal from and/or permission into [an] airspace.” *Id.* at code (57), 1:34–36.

The discrimination system includes an “identification system,” a “permissions module,” and a “disruption system.” Ex. 1001, 1:60–63, Fig. 1. In operation, the identification system “receives an aerial system identifier 300 broadcast from a [sic] aerial system 100.” *Id.* at 2:10–12. The permissions module “determines whether the [received] aerial system identifier 300 is associated with an authorized or unauthorized UAV.” *Id.* at 2:12–15. If unauthorized, the disruption system may become “unlocked” and, subsequently, “launch [an] interdiction module 304 toward the UAV” to “immobilize the motive mechanism of the aerial system 100.” *Id.* at 2:15–26.

III. ANALYSIS OF PROPOSED SUBSTITUTE CLAIMS 10–18

Patent Owner’s Motion proposes to add substitute claims 10–18 to the ’199 Patent. We determine that the proposed addition of claims 10–18 seeks to add new matter to the application that issued as the ’199 Patent, and we therefore deny the Motion.

A. Claim 10

Proposed substitute independent claim 10 is reproduced below, with underlined language showing subject matter added to original claim 1, and with double-bracketed language showing subject matter removed from original claim 1. Patent Owner’s designations of claim elements are indicated by single brackets.

- [10.p] 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.

Mot., Claims App.

B. Legal Standard

Petitioner bears the burden of persuasion to show that any proposed substitute claim is unpatentable by a preponderance of the evidence. *Lectrosonics*, IPR2018-01129, Paper 15; 37 C.F.R. § 42.121(d)(2). “Before considering the patentability of any substitute claims, however, the Board first must determine whether the motion to amend meets the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121.” *Lectrosonics*, Paper 15 at 4–8. Patent Owner bears the burden of persuasion to show by a preponderance of the evidence that the motion to amend complies with these requirements. 37 C.F.R. § 42.121(d)(1). Specifically, a patent owner must make an initial showing to demonstrate the following: (1) that a “reasonable number of substitute claims” have been proposed for each challenged claim (35 U.S.C. § 316(d)(1)(B)); (2) that the proposed amendments respond to a ground of unpatentability involved in the trial (37 C.F.R. § 42.121(a)(2)(i)); and (3) the amendments do not seek to enlarge the scope of the claims and do not introduce new matter (35 U.S.C. § 316(d)(3)). *Lectrosonics*, Paper 15 at 4–8.

C. Compliance with the Legal Requirements Set Forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121

Patent Owner bears the burden to ensure that its Motion complies with the legal requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121. *Lectrosonics*, Paper 15 at 4, 7–8. For the reasons that follow, we determine that Patent Owner has not satisfied that burden.

1. Proposal of a Reasonable Number of Substitute Claims

A motion to amend must “propose a reasonable number of substitute claims.” 35 U.S.C. § 316(d)(1)(B); *see also* 37 C.F.R. § 42.121(a)(3) (“A motion to amend may cancel a challenged claim or propose a reasonable number of substitute claims.”). “There is a rebuttable presumption that a reasonable number of substitute claims per challenged claim is one (1) substitute claim.” *Lectrosonics*, IPR2018-01129, Paper 15 at 4; *see also* 37 C.F.R. § 42.121(a)(3). Patent Owner has shown it proposes a reasonable number of substitute claims by proposing a single substitute claim for each of challenged claims 1–9. Mot. 1, Claims App. Petitioner does not argue otherwise. *See generally* Opp.

We determine that Patent Owner meets this requirement.

2. Amendments Respond to a Ground of Unpatentability

“A motion to amend may be denied where. . . [t]he amendment does not respond to a ground of unpatentability involved in the trial.” 37 C.F.R. § 42.121(a)(2)(i). Patent Owner has responded to the grounds of unpatentability involved in this proceeding by amending the claims in response to the Petition’s asserted prior art. *See* Mot. 1–2, Claims App. Petitioner does not argue otherwise. *See generally* Opp.

We determine that Patent Owner meets this requirement.

3. No Enlargement of the Scope of the Claims

An amendment may not seek to enlarge the scope of the claims of the patent. 35 U.S.C. § 316(d)(3); 37 C.F.R. §§ 42.121(b)(1)–(b)(2). Patent Owner asserts that the amendments in the Motion do not enlarge the scope of the claims of the patent because “[p]roposed substitute claim 10 retains all of the limitations of the corresponding challenged claim 1 and adds further

limitations.” *See* Mot. 2, Claims App. Petitioner does not argue otherwise. *See generally* Opp.

We determine that Patent Owner meets this requirement.

4. *No Introduction of New Matter*

An amendment may not introduce new matter. 35 U.S.C. § 316(d)(3); 37 C.F.R. §§ 42.121(b)(1)–(b)(2). New subject matter is any addition to the claims that lacks sufficient support in the subject patent’s original disclosure. *See TurboCare Div. of Demag Delaval Turbomach. Corp. v. Gen. Elec. Co.*, 264 F.3d 1111, 1118 (Fed. Cir. 2001) (“When [an] applicant adds a claim . . . , the new claim[] . . . must find support in the original specification.”). Patent Owner is required to show written description support in “the original disclosure of the patent for each claim that is . . . amended,” and in “an earlier-filed disclosure for each claim for which benefit of the filing date of the earlier filed disclosure is sought.” 37 C.F.R. §§ 42.121(b)(1)–(b)(2).

The test for satisfying the written description requirement “is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). In its Motion, Patent Owner provides citations to Application No. 15/598,303 (Ex. 2002) (“the ’303 application”), from which the ’199 Patent issued, as well as citations to Provisional Application No. 62/309,838 (Ex. 2003) (“the ’838 provisional”), to which the ’303 application claims priority. *See* Mot. 2–19; Ex. 1001, codes (21), (60); Ex. 2002, 1:3–5.

Petitioner contends there is no written description support in the ’303 application for limitation [10.d], specifically, an identification receiver

“configured to receive . . . a second identifier from a computing system that is remote relative to the discrimination system.” Opp. 1. Petitioner argues that the only source of a second identifier described in the ’303 application is the transmission system of the UAV, which is part of the discrimination system itself, and thus not remote from the discrimination system. *Id.*

Patent Owner points to disclosure indicating that an “aerial system identifier can be generated on-board the aerial system” or “generated remotely . . . at a remote computing system.” Mot. 7 (citing Ex. 2002, 14:23–15:2; Ex. 2003 ¶ 45). Patent Owner argues that the claim language “receive . . . from a computing system that is remote” is broad enough to encompass an identifier that was generated at such a remote computing system and subsequently transmitted to the identification receiver from the UAV. *See* Reply 1–2. In Patent Owner’s words, “a [person of ordinary skill in the art (POSITA)] would understand the claim to encompass second identifiers originating *from* the remote computing system, regardless of whether they are transmitted to the identification receiver directly or indirectly (e.g. through the UAV which has ‘updated in-flight’ with the new dynamic ID).” *Id.* at 2.

Petitioner responds by arguing that the cited disclosure does not indicate whether the remote computing system at which an aerial system identifier may be generated is remote from the entire discrimination system, as claimed, as opposed to merely being remote from the aerial system within the discrimination system. Sur-reply 1; *see also id.* at 4. Petitioner also argues that Patent Owner’s “assertion that a POSITA would understand the claim to encompass identifiers routed ‘indirectly (e.g., *through the UAV*)’ is

a fatal architectural admission that is unsupported by the intrinsic record.”
Id. at 4.

On the record before us, we determine Patent Owner has not shown that either the ’303 application or the ’838 provisional contain adequate written description support for the disputed feature of limitation [10.d]. Though the disclosures cited by Patent Owner indicate that a secondary identifier can be used to aid in verification of a UAV, these disclosures also make clear that both first and second identifiers are transmitted by and received from the UAV. *See, e.g.*, Ex. 2002, 4:15–17, 30:24–31:6; Ex. 2003 ¶¶ 14, 66. Patent Owner’s reliance on disclosure characterized as transmitting an identifier from a remote computing system “through the UAV” (Reply 2) is not persuasive. The cited disclosures from the ’303 application and ’838 provisional generally disclose that the identifiers transmitted by a UAV can be “generated remotely,” such as by a “remote computing system.” Ex. 2002, 14:23–15:2; Ex. 2003 ¶ 45. But Patent Owner has not identified disclosure indicating that a remote computing system may transmit an identifier to the identification receiver. In the ’303 application and ’838 provisional, only the UAV (which is part of the discrimination system, and thus not “remote”) actually transmits identifiers to the identification receiver.

Patent Owner is correct in its assertion that an “**aerial system identifier** can be generated on-board the aerial system” or “**generated remotely . . . at a remote computing system.**” Mot. 7 (citing Ex. 2002, 14:23–15:2; Ex. 2003 ¶ 45). But even if a UAV’s identifier was at some time in the past generated by a remote computing system, the subsequent transmission of that identifier from the UAV to the identification receiver

would not satisfy the plain language of limitation [10.d]. The claim language “receive ... a second identifier from a computing system that is remote to the discrimination system” requires the receipt of a transmission of the second identifier from a remote computing system. This claim language limits the source of the received transmission (i.e., where the particular transmission is “receive[d] ... from”). Thus, the relevant issue is from where was the recited second identifier received. The relevant is *not* where the second identifier was originally generated.

One could envision a hypothetical system in which a remote computing system could transmit an identifier to an identification receiver, using a UAV to relay the transmission. In such a system, one could argue that the identification receiver received the transmission from the remote computing system because the remote computing system initiated the transmission. But this hypothetical system bears little resemblance to the disclosures of the ’303 application and ’838 provisional. These disclosures describe identifiers that are transmitted by and received from the UAV. There is no disclosure of a remote computer that is aware of the identification receiver, much less of a remote computer that directly, or even indirectly, transmits an identifier to the disclosed identification receiver.

On this record, we agree with Petitioner and determine that the ’303 application and ’838 provisional do not “reasonably convey[] to those skilled in the art that the inventor had possession of” the subject matter of limitation [10.d] “as of the filing date” of the ’838 provisional or the ’303 application. *See Ariad*, 598 F.3d at 1351; *see also* Ex. 1024 ¶¶ 42–47. Accordingly, Patent Owner has not shown adequate written description support for limitation [10.d].

Petitioner also contends there is no written description support for limitation [10.e2], which recites that the identification system is configured “to provide the authenticated first identifier . . . to the permission module.” Petitioner argues that the ’303 application “describes ‘raw or processed’ signals, decrypted signals, and verification of identifier 310” being provided to the permission module, but never describes an “authenticated first identifier” being provided to the permission module. Opp. 3.

Patent Owner asserts that in the ’303 application, “‘the identification receiver 102’ includes a ‘chipset 608,’ that ‘preferably interprets the signal 300 into the aerial system identifier 310.’” Reply 3 (citing Ex. 2002, 8:16–17, 8:21–23, 9:14–17). Patent Owner further asserts that “[d]etermining an aerial system identifier 310 can optionally include verifying the authenticity of the aerial system identifier 310.” *Id.* (citing Ex. 2002, 30:17–18). Thus, Patent Owner argues, “chipset 608 can verify identifier 310’s authenticity, yielding an *authenticated* identifier.” *Id.* (citing Ex. 2005 ¶ 85). Additionally, Patent Owner asserts that “‘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.’” *Id.* (citing Ex. 2002, Fig. 1, 9:20–22). Based on this disclosure, Patent Owner reasons that “a POSITA would understand that the processed signal 300 sent to the permissions module includes the identifier 310, which has been authenticated.” *Id.* (citing Ex. 2005 ¶¶ 85–88).

We agree with Patent Owner that the ’303 application provides written description support for limitation [10.e2]. Figure 1 clearly depicts identification receiver 102 providing aerial system identifier 310 to permission module 103, and Patent Owner’s cited portions of the ’303

application disclose that the identification receiver can verify the authenticity of the aerial system identifier. Petitioner's arguments do not rebut Patent Owner's showing regarding this disclosure. Although Petitioner asserts that Patent Owner's showing improperly relies on obviousness (*see* Sur-reply 5), we find the '303 application reasonably conveys the claimed subject matter to one of ordinary skill in the art, without resort to obviousness.

For example, the '303 application discloses that "chipset 608 preferably interprets the signal 300 into the aerial system identifier 310," which means it "decrypts the signal, etc.," "interpret[s] the signal 300 into a set of data indicative of the identifier 310, or otherwise interpret[s] the signal 300." Ex. 2002, 9:13–17. More broadly, "chipset 608 can . . . perform any other suitable functionality." *Id.* at 9:17–18. As Patent Owner notes, the '303 application provides that "[d]etermining an aerial system identifier 310 can optionally include verifying the authenticity of the aerial system identifier 310." *Id.* at 30:17–18. Further, "the chipset 608 sends the raw or processed signal to the permissions module 103 for permissions determination." *Id.* at 9:21–22.

We agree with Patent Owner and determine one of ordinary skill in the art would have understood this disclosure to convey that chipset 608 can determine identifier 310 as part of its interpretation of signal 300, or as part of the "any other suitable functionality" attributed to chipset 608, after which chipset 608 sends identifier 310 to permissions module 103. Figure 1 confirms that determination of identifier 310, which optionally includes authentication, can occur at the identification receiver 102 containing chipset 608, given that signal 300 is depicted as input to the receiver, and identifier

310 is output from the receiver. *See id.*, Fig. 1. Although the '303 application may not expressly state that authentication is performed by the chipset 608 of the receiver, the identified textual portions and Figure 1 together reasonably convey such operation as a disclosed embodiment. *See Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010) (noting that “the description requirement does not demand any particular form of disclosure, or that the specification recite the claimed invention *in haec verba*”) (citing *Carnegie Mellon Univ. v. Hoffman-LaRoche Inc.*, 541 F.3d 1115, 1122 (Fed. Cir. 2008); *Lockwood*, 107 F.3d at 1571–72)).

Though we determine Patent Owner has shown adequate written description support for limitation [10.e2], we determine based on the shortcomings discussed above regarding limitation [10.d], that Patent Owner has not sufficiently shown written description support for proposed substitute claim 10. Thus, this claim impermissibly introduces new matter. For the same reasons, we determine proposed substitute claims 11–18, which depend from claim 10, also lack written description support and impermissibly introduce new matter.²

² As noted above, the proposed substitute claims are not adequately supported by *either* the '838 provisional *or* the '303 application. Moreover, the portions of '303 application that Patent Owner cited as providing written description support for disputed limitation [10.d] are substantively similar to disclosures that Patent Owner cited in the '838 provisional. *Compare* Ex. 2002, 4:15–17, 14:23–15:2, and 30:24–31:6, *with* Ex. 2003 ¶¶ 14, 45, and 66, respectively. Thus, this is not a case where some potentially relevant disclosure was added in the '303 application, rendering it possible for Patent Owner to contend that the proposed substitute claims might be entitled to the May 17, 2017, effective filing date of the '303 application.

5. *Summary*

For the reasons discussed above, Patent Owner has not satisfied its burden to show that the proposed substitute claims 10–18 comply with the applicable statutory and regulatory requirements. *See* 35 U.S.C. § 316(d); 37 C.F.R. § 42.121(d)(1); §§ III.C.1–III.C.4, *supra*. Accordingly, the motion to amend is denied as to substitute claims 10–18.

D. Unpatentability of Proposed Substitute Claims

Petitioner contends that 1) proposed substitute claims 10–18 are indefinite, and 2) proposed substitute claims 10–18 would have been obvious over several different combinations of primary art references. Opp. 3–25. Although we determine Patent Owner has not met its burden to show adequate written description support for proposed substitute claims 10–18, we address Petitioner’s asserted grounds of unpatentability for completeness.

1. Indefiniteness

In post-grant proceedings the Board applies the indefiniteness standard set forth in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014). *See* Memorandum: Approach to Indefiniteness Under 35 U.S.C. § 112 in AIA Post-Grant Proceedings (Jan. 6, 2021)³. Under *Nautilus*, a claim is indefinite if fails to “inform those skilled in the art about the scope of the invention with reasonable certainty.” 572 U.S. at 910.

Petitioner contends that the language “a computing system remote relative to the discrimination system” in limitation [10.d] renders proposed substitute claim 10 indefinite. Opp. 3–4. Specifically, Petitioner argues that the requirement in limitation [10.d] of receiving the second identifier from

³ Available at <https://www.uspto.gov/sites/default/files/documents/IndefinitenessMemo.pdf>.

“a computing system remote relative to the discrimination system” irreconcilably contradicts the fact that “the **only** source of the *second identifier functioning as a second factor identifier* is the identifier transmission system” that is part of the discrimination system itself. *Id.* at 4.

Patent Owner asserts that “Petitioners misread the claim and specification in concluding that ‘the only source of the second identifier functioning as a second factor identifier is the identifier transmission system.’” Reply 4. According to Patent Owner, “the claim is consistent with the specification, which provides that identifiers can originate from a remote computer system.” *Id.*

We determine that the disputed language in limitation [10.d] is not indefinite. There is no recitation in proposed substitute claim 10 that the second identifier is transmitted solely from the identifier transmission system. Thus, the alleged irreconcilable contradiction cited by Petitioner is not recited in the claims. Petitioner’s position appears to rest on the fact that the ’303 application and ’838 provisional do not disclose receiving the second identifier from a remote computing system. *See* Sur-reply 6 (“To manufacture written description support, [Patent Owner] argues the claim encompasses identifiers routed ‘through the UAV.’”). Though we agree that limitation [10.d] lacks adequate written description support, this defect does not render the claim indefinite because the scope of limitation [10.d] is otherwise reasonably certain based on its plain language. *See supra* § III.C.4.

Petitioner also contends that limitation [10.g] renders proposed substitute claim 10 indefinite. Opp. 4–6. Limitation [10.g] includes the recitation that “the disruption system is preemptively enabled based on the

received aerial system identifier signal.” Petitioner asserts that the Specification does not provide any insight into the meaning of “preemptively enabled,” mainly because it “does not differentiate between the meaning of ‘*preemptively enabled*’ and ‘*enabled*.’” *Id.* at 4. Petitioner focuses on the Specification’s “only reference to ‘*preemptively enabled*’” (*id.* at 5), which is present in the following description:

certain scenarios may require the disruption system 105 to be ready to engage on short notice. As depicted in FIG. 5, the disruption system 105 may thus be preemptively enabled if certain conditions are met (e.g. aerial system detected w/o an identifier 500, identifier is received but is invalid 501, identifier is valid but is not permissioned 502, etc.). Such a configuration would minimize any delays associated with powering on the disruption system 105 and thus allow the system to respond to fast moving aerial systems 100.

Ex. 1001, 19:15–24. Petitioner contends that in the sequence of steps 500–503 depicted in the flow chart of Figure 5, only transitions from steps 500 or 501 to the step labeled “Enable disruption system 503” amount to preemptive enablement. *See* Opp. 5. Petitioner asserts that “for condition 502 (‘identifier is valid but is not permissioned’), the disruption system goes directly to being ‘enable[d]’ at step 503 and does not show anything that is ‘*preemptively enabled*.’” *Id.* According to Petitioner, “[t]he specification is thus unclear on if ‘*preemptively enabled*’ is the same or different to ‘enabled.’” *Id.* at 5–6.

Patent Owner argues that “the plain and ordinary meaning of ‘preemptive’ and the disclosures of the specification, clearly delineates a non-preemptive enablement of a disruption system (e.g., based on a UAV being deemed not permitted, and after the exercise of one or more less aggressive option), and a preemptive enablement of the disruption system (e.g., without

exercising the less aggressive options).” Reply 5. Patent Owner points to Figure 5 and asserts that a skilled artisan “would understand from the dotted lines that the general flow can be short-circuited such that the disruption system is preemptively enabled, i.e., the check for the condition 502 can be omitted, if condition 501 is met,” or “[i]f condition 500 in Figure 5 is met for example, the checks for both conditions 501, 502 can be omitted – forestalling and precluding the steps that are otherwise performed in different scenarios and thus preemptively enabling the disruption system.” *Id.* at 5–6.

Petitioner responds that “Figure 5 shows the three ‘conditions’ 500, 501, and 502 that the specification says can cause disruption system 105 to be ‘*preemptively enabled*,’” while at the same time Figure 5 indicates that “for condition 502 (‘identifier is valid but is not permissioned’),” “the disruption system is directly ‘enable[d]’ at step 503 and does not show anything that could be ‘*preemptively enabled*.’” Sur-reply 6–7. Petitioner argues that Patent Owner fails to confront this alleged contradiction, i.e., the fact that the Specification refers to different scenarios with different conditions being met as preemptively enabling the disruption system, but Figure 5 shows that only some of those scenarios result in the disruption system being preemptively enabled. *See id.*

We are not persuaded that limitation [10.g] renders proposed substitute claim 10 indefinite. As highlighted above, the Specification describes the disruption system as being “preemptively enabled” if any of the conditions in steps 500, 501, or 502 are not met. Although the Figure 5 flow chart does not use the term “preemptively” in the box illustrating step 503, the flow chart shows that the “Enable disruption system 503” step

occurs prior to the “Disrupt aerial system operation 505” step. When considered in combination with the Specification, it is apparent that the enabling of the disruption system in step 503 of the Figure 5 embodiment is preemptive in that it anticipates and precedes actual disruption of an aerial system in step 505: “certain scenarios may require the disruption system 105 to be ready to engage on short notice”; “[the Figure 5] configuration would minimize any delays associated with powering on the disruption system 105.” Ex. 1001, 19:15–24. The scope of the language “preemptively enabled” would thus have been reasonably certain to a skilled artisan.

Accordingly, we conclude that Petitioner has not proven by a preponderance of the evidence that proposed substitute claim 10 is indefinite. For the same reasons, we conclude Petitioner has not proven claims 11–17 are indefinite.

Petitioner additionally contends that the recitation of “the control system” in proposed substitute claim 18 lacks antecedent basis and therefore renders the claim indefinite. Opp. 6. Patent Owner does not respond to this contention. *See* Reply 4–6; Sur-reply 8. Because there is no prior recitation of a “control system,” we determine that one of ordinary skill in the art would not understand with reasonable certainty the scope of the logging system in claim 18, which records activity of either “the identification receiver, the permission module, or the control system.”

Accordingly, we conclude that Petitioner has proven proposed substitute claim 18 is indefinite. We, thus, deny the Motion as to proposed substitute claim 18 for this additional reason.

2. *Obviousness*

a) *Prior Art Status of Whitmarsh*

The '199 Patent issued from the '303 application, which was filed on May 17, 2017. Ex. 1001, codes (21), (22). The '199 Patent, however, claims priority to the March 27, 2016, filing date of the '838 provisional. *See id.* at code (60). In the Petition, Petitioner “assume[s] without conceding that the priority date of the '199 Patent is March 17, 2016.” Pet. 5. Petitioner maintains the same assumption in briefing filed after Patent Owner filed its Motion. *See, e.g.*, Opp. 7 (“the '199 Patent’s earliest claimed priority date of March 17, 2016”).

All of the grounds of obviousness set forth in the Petition and Opposition rely on the Whitmarsh reference. *See* Pet. 10; Opp. 6. Whitmarsh, a U.S. patent application publication, was originally filed on December 8, 2016. Ex. 1003, code (22). This filing date does not antedate the March 17, 2016, priority date the '199 Patent; however, Whitmarsh also contains priority claims to Provisional U.S. Patent Applications 62/339,210 (filed May 20, 2016) and 62/267,393 (Ex. 1006, the “'393 provisional,” filed Dec. 15, 2015). *Id.* at code (60). Petitioner contends that Whitmarsh is prior art to the '199 Patent under 35 U.S.C. § 102(a)(2) because Whitmarsh is entitled to the December 15, 2015, filing date of the '393 provisional pursuant to 35 U.S.C. § 102(d)(2). Pet. 6–7. Petitioner never alleges that Whitmarsh would constitute prior art to the '199 Patent absent entitlement to the December 15, 2015, filing date of the '393 provisional. *See generally* Pet., Opp., Sur-reply, Paper 43.

On August 10, 2026, the Court of Appeals for the Federal Circuit issued its opinion in *Dental Monitoring SAS v. Align Tech.*, 184 F.4th 1376 (Fed. Cir. 2026), holding that a patent or published patent application is not

entitled to the effective filing date of a provisional patent application under 35 U.S.C. § 102(d)(2) unless the provisional application provides written description support for at least one claim in the patent or published patent application. *Id.* at 1381.

Petitioner brought this issue to our attention for the first time during the August 25, 2026, oral hearing, explaining that the Federal Circuit’s *Dental Monitoring* holding potentially impacted the prior art status of the Whitmarsh and Falk⁴ references in this proceeding, and the Beard reference in IPR2025-00525. *See* Paper 45, 12:10–13:19, 66: 9–22. Petitioner proposed to resolve this issue by allowing it to “present a claim chart in the next few days” that shows “the [relevant] provisional supports a claim in the [relevant] non-provisional” application. *Id.* at 14, 8–13. We took Petitioner’s request for additional briefing under advisement. *Id.* at 117:4–6.

Two days after the hearing, we issued an Order granting Petitioner’s request. *See* Paper 42. We specifically authorized Petitioner to identify one claim of each impacted reference, and to file a claim chart explaining how the relevant provisional application provides adequate written description support for that claim. *Id.* at 2–3. We also ordered Patent Owner to subsequently inform us of whether it contested Petitioner’s contentions, and if so, to file a short response explaining why. *Id.* at 3.

On September 1, 2026, Petitioner filed a submission (“*Dental Monitoring* submission”) purportedly demonstrating how claim 19 of Whitmarsh was supported by the ’393 provisional, such that Whitmarsh

⁴ Patent Owner subsequently elected not to challenge Petitioner’s contentions regarding Falk’s priority date. *See generally* Papers 43, 44. The parties contentions concerning Whitmarsh are addressed below.

qualifies as prior art to the '199 Patent under 35 U.S.C. § 102(a)(2) as of the December 15, 2015, filing date of the '393 Provisional. Paper 43, 1 (citing Opp. 6–7, Pet. 5). Patent Owner subsequently filed a responsive submission (“*Dental Monitoring* response”) explaining Patent Owner’s contentions that the '393 provisional does not provide adequate written description support for the claim selected by Petitioner. *See* Paper 43. We provide a brief overview of Whitmarsh’s disclosure, and then address the specific disputes raised by Patent Owner regarding Whitmarsh’s claim 19.

Whitmarsh discloses “systems for defending against unauthorized incursions by unmanned aerial vehicles [UAVs].” Ex. 1005 ¶ 2. In an embodiment, a UAV defense system 10 monitors for periodic radio signal broadcasts of UAVs. *See id.* ¶¶ 19–20. A UAV 14 may broadcast information that “typically includes at least a beacon frame which contains certain information and data about the UAV 14, including its media access control address or MAC address.” *Id.* ¶ 20. When an identity and/or position of detected UAV 14 is determined, the system may develop an appropriate countermeasure. *Id.* ¶ 22. In particular, “by capturing the MAC address, which is unique to each UAV 14, the UAV defense system 10 will be able to specifically identify the detected UAV 14.” *Id.* ¶ 27. For example, by using a registry database, the system “may correlate the unique MAC addresses of UAV systems with information relating to the identity of the persons or entities that acquired the UAV 14.” *Id.* ¶ 29. The database can be updated “with information and data relating to prior detection and countermeasures activities, thereby allowing troublesome or suspect UAVs 14 to be identified so that appropriate action can be taken.” *Id.*

Claim 19 of Whitmarsh is reproduced below, with Petitioner's bracketed references added:

[19a]. A method of defending against an unmanned aerial vehicle, comprising:

[19b] monitoring a sensing area for the presence of the unmanned aerial vehicle;

[19c] detecting a radio signal broadcast by the unmanned aerial vehicle;

[19d] identifying the unmanned aerial vehicle;

[19e] developing a countermeasure based on the identity of the unmanned aerial vehicle; and

[19f] transmitting the developed countermeasure to the unmanned aerial vehicle, the unmanned aerial vehicle subsequently operating in accordance with the developed countermeasure.

Ex. 1005, 9; Paper 43, App. A. Patent Owner disputes Petitioner's contentions regarding limitations [19e] and [19f] (*see* Paper 44), so we focus on those limitations below.

With respect to limitation [19e], Petitioner contends that the '393 provisional discloses a "drone defense system [that] is capable of countering, mitigating, and/or interdicting" unmanned aerial vehicles. Paper 43, App. A at 14 (citing Ex. 1006 ¶ 6).⁵ This defense system includes a remote transmission security system (RTSS) that "identifie[es] and detect[s] unauthorized or hostile drones in and around the area or region to be detected." *Id.* (citing Ex. 1005 ¶ 9). In response to detection of an

⁵ Appendix A does not include page numbers, so we cite to pages within the Adobe Acrobat .pdf file of Petitioner's *Dental Monitoring* submission (Paper 43). For example, this citation to "Paper 43, App. A at 14" refers to the 14th page of the .pdf file that Petitioner submitted as Paper 43.

unauthorized or hostile drone, “specific countermeasures are applied to each zone” within the space protected by the drone defense system. *Id.*

The first process performed by the RTSS after detecting drones is “tracking and analyzing all signatures of the different devices, elements, and components within protected zones” in order to “determine[] threat level and identif[y] ... the drones.” Paper 43, App. A at 14–15 (citing Ex. 1006 ¶ 10). For example, the RTSS may “classif[y], and categorize the unauthorized drones by their signatures,” use signatures “to match the signature of a drone or device with its owner,” and record information about the behavior of unauthorized or hostile drones along with the signature identifications of the drones.” *Id.*, App. A at 15 (citing Ex. 1006 ¶ 10). Next, if the drone is identified as a threat, “Immediately, a series of processes are started to determine what rule of engagement will be applied on the intruding drone. The engagement responses are determined by the behavior of the hostile drone and other instructions.” *Id.*

In its *Dental Monitoring* Response, Patent Owner argues that Petitioner has not identified any written description support for the recitation in limitation [19e] of “developing a countermeasure based on the identity of the unmanned aerial vehicle.” Paper 44, 1. Patent Owner contends that in the Whitmarsh provisional, the RTSS uses the identity of a UAV solely to determine whether or not the UAV is a threat, and never considers the identity of the UAV when developing the countermeasure to be employed. *Id.* (citing Ex. 1006 ¶¶ 16–18. We agree with Patent Owner that the ’393 provisional does not contain adequate written description support for limitation [19e].

The Specification of the Whitmarsh reference discloses repeatedly that the disclosed UAV defense system “develops a countermeasure based on the identity of the unmanned aerial vehicle.” *See* Ex. 1005, Abst.; *see also id.* ¶¶ 4, 5, 6, 7, 17, 22, 44, 55, 60. Whitmarsh also discloses that the developed countermeasure, based on the identity of the unmanned aerial vehicle, may include, “a commandeering countermeasure that will cause the detected UAV 14 to follow commands issued by the UAV defense system,” a “disable countermeasure” that “may be used to disable the detected UAV,” or a command to a security vehicle “to intercept the detected UAV 14 in mid-flight.” *Id.* ¶¶ 24–25.

In contrast, the ’393 provisional never discloses that the described drone defense system may use the identity of a detected drone to develop a particular countermeasure. The disclosed RTSS certainly uses identity information to determine whether a drone is a threat. And if a threat is identified, the RTSS immediately starts “a series of processes ... to determine what rule of engagement will be applied on the intruding drone.” Ex. 1006 ¶ 10. The ’393 provisional discloses that the system may select a particular countermeasure based on (i) the particular zone within a protected area within which a drone is located, (ii) “the behavior of the hostile drone,” or (iii) “other instructions.” *Id.* ¶¶ 9, 10. But the ’393 provisional never discloses that these “other instructions” may include the identity of the drone.

The system disclosed in the ’393 provisional uses the identity of a drone to determine whether to activate the countermeasure system. *See id.* ¶¶ 16–18. But there is no disclosure in the ’393 provisional that the countermeasure system, once activated, uses the identity of the drone to

develop the particular countermeasure to be employed. *See generally* Ex. 1006. Thus, though the Whitmarsh reference itself contains ample written description support for limitation [19e], the earlier-filed '393 provisional does not. On this record, and having reviewed the '393 provisional in its entirety, we determine that the '393 provisional does not “reasonably convey[] to those skilled in the art that the inventor had possession of” the subject matter of limitation [19e] of Whitmarsh’s claim 19 “as of the filing date” of the '393 provisional. *See Ariad*, 598 F.3d at 1351.

We now move to limitation [19f], which recites “transmitting the developed countermeasure to the unmanned aerial vehicle, the unmanned aerial vehicle subsequently operating in accordance with the developed countermeasure.” Petitioner alleges that written description support for this limitation is provided by disclosures in the '393 provisional that exemplary countermeasures can include, for example, “Commandeer,” a countermeasure in which “the RTSS actually takes over control of the hostile or unauthorized drone,” and “Drone Destruct,” a countermeasure in which “the RTSS also takes over control or commandeers the hostile or unauthorized drone and may cause it to self-destruct or otherwise become inoperable.” Paper 43, App. A at 19 (citing Ex. 1006 ¶ 11).

Patent Owner argues in response that Whitmarsh does not explicitly disclose “transmitting” these countermeasures to the UAV, and that either of these countermeasures could be implemented without transmitting them to the UAV. Paper 44, 2–3. In particular, Patent Owner argues that a UAV could be “commandeered,” without transmitting that countermeasure to the UAV, by jamming the UAV’s GPS signals, “causing the UAV’s fail-safe mechanism to force the UAV to return ‘back to the sender.’” *Id.* at 3. Patent

Owner also argues that a UAV's signals could be spoofed, causing it to self-destruct without transmitting that countermeasure to the UAV. *Id.*

We are persuaded by Petitioner's arguments regarding limitation [19f]. The '393 provisional clearly provides that when implementing both the "Commandeer" and "Drone Destruct" countermeasures, the RTSS "takes over control of the hostile or unauthorized drone." *See* Ex. 1006 ¶ 11. In our view, these disclosures would reasonably convey to one of skill in the art that the inventor had possession of the concept of transmitting the control instructions of the developed countermeasure to the unmanned aerial vehicle. Accordingly, we determine that the '393 provisional contains adequate written description support for limitation [19f].

Notwithstanding our determination regarding limitation [19f], Whitmarsh is not entitled to the priority date of the '393 provisional under 35 U.S.C. § 102(d)(2) because the '393 provisional does not contain adequate written description support for limitation [19d]. Accordingly, on this record, Petitioner has failed to demonstrate that Whitmarsh is entitled to a priority date earlier than Whitmarsh's own December 8, 2016, filing date.⁶ *See* Ex. 1005, code (22).

b) Conclusion Regarding Obviousness

As discussed above, Petitioner premised its obviousness grounds on the assumption that if the proposed substitute claims met all other requirements for patentability, those claims would have been entitled to a

⁶ We note that the limitation of "develop[ing] a countermeasure based on the identity of the unmanned aerial vehicle" limitation is present in all of Whitmarsh's independent claims. *See* Ex. 1005 at 8–9, claims 1, 18, 19, 33. Thus, the deficiency described above is not limited to claim 19. None of Whitmarsh's claims is adequately supported by the '393 provisional.

priority date of March 17, 2016, for purposes of obviousness. *See* Pet. 5, Opp. 7. For the reasons discussed above, Petitioner has failed to demonstrate that Whitmarsh (filed on June 13, 2016), is entitled to an effective filing date earlier than March 17, 2016. Thus, Petitioner has failed to demonstrate that Whitmarsh constitutes prior art to the '199 Patent. Accordingly, all of the obviousness grounds set forth in Petitioner's Opposition necessarily fail.⁷

IV. CONCLUSION⁸

We deem original claims 1–9 canceled in view of the non-contingent Motion. We *deny* Patent Owner's request to add proposed substitute claims

⁷ Patent Owner never argued that the proposed substitute claims might have been entitled to the May 17, 2017, filing date of the '303 application if those claims were not adequately supported by the earlier '838 provisional. *See generally* Mot. Petitioner also never argued that in such a scenario, Whitmarsh might have been available as prior art as of its December 8, 2016, filing date. *See generally* Opp., Sur-reply. Thus, these issues are not before us. Moreover, as discussed above, this is not a case where one could plausibly argue that the proposed substitute claims might be entitled to the intermediate priority date of May 17, 2017. *See* n.2, *supra*. We decline to issue an unsolicited advisory opinion on the viability of Petitioner's obviousness grounds under this hypothetical and non-viable scenario that neither party addressed in the briefing.

⁸ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

10–18 to the '199 Patent. The result of this Decision is summarized by the following tables.

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–3, 5–9	103 ⁹	Whitmarsh		
4	103 ⁹	Whitmarsh, Falk		
1–3, 5–9	103 ⁹	Whitmarsh, Goodrich		
4	103 ⁹	Whitmarsh, Goodrich, Falk		
1–3, 5–9	103 ⁹	Viggiano, Goodrich		
4	103 ⁹	Viggiano, Goodrich, Falk		
Overall Outcome				

Motion to Amend Outcome	Claims
Original Claims Cancelled by Amendment	1–9
Substitute Claims Proposed in Amendment	10–18
Substitute Claims: Motion to Amend Granted	
Substitute Claims: Motion to Amend Denied	10–18
Substitute Claims: Not Reached	

⁹ Because original claims 1–9 were cancelled, we do not reach the grounds of unpatentability for these claims raised in the Petition.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that original claims 1–9 of the '199 Patent are canceled;

FURTHER ORDERED that Patent Owner's Motion is *denied* as to adding proposed substitute claims 10–18 to the '199 Patent; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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