

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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PROCON ANALYTICS, LLC,  
Petitioner,

v.

SPIREON, INC.,  
Patent Owner.

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PGR2019-00051  
Patent 10,089,598 B2

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Before MICHAEL R. ZECHER, JOHN P. PINKERTON, and  
JASON W. MELVIN, *Administrative Patent Judges*.

PINKERTON, *Administrative Patent Judge*.

DECISION  
Denying Institution of Post-Grant Review  
*35 U.S.C. § 324*

## I. INTRODUCTION

Procon Analytics, LLC (“Petitioner”) filed a Petition requesting a post-grant review of claims 1–14 of U.S. Patent No. 10,089,598 B2 (Ex. 1001, “the ’598 patent”). Paper 1 (“Pet.”). Spireon, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). Pursuant to the Order entered on October 1, 2019 (Paper 9), Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 10), and Patent Owner filed a Sur-Reply (Paper 11).

We have authority to determine whether to institute a post-grant review under 35 U.S.C. § 324 and 37 C.F.R. § 42.4(a). We may not institute a post-grant review unless “the information presented in the petition . . . , if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.” 35 U.S.C. § 324(a).

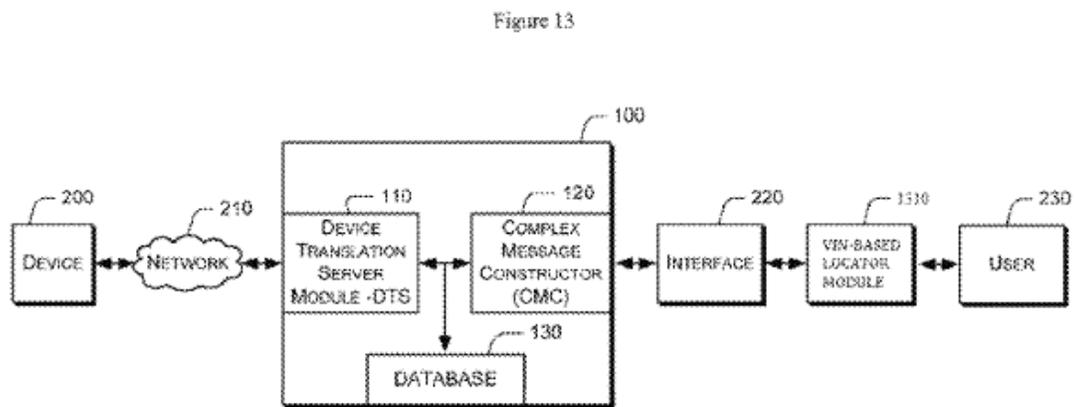
Applying that standard, and upon consideration of the information presented in the Petition and the Preliminary Response, and the parties’ additional briefs, we determine that the information presented fails to demonstrate it is more likely than not that at least 1 of the challenged claims of the ’598 patent is unpatentable. Accordingly, we deny institution of post-grant review of claims 1–14 of the ’598 patent.

### A. *The ’598 Patent*

The ’598 patent is titled “Methods and Apparatus for Monitoring and Control of Electronic Devices.” Ex. 1001, code (54). The ’598 patent generally relates to a vehicle inventory management system. *Id.*, 3:25–32, 4:21–32. The ’598 patent explains that the inventory management system may be used in conjunction with “a location device” configured to transmit a

vehicle identification number (“VIN”) and an identifier of the location device, which may be associated with each other by the system. *Id.*, 4:21–27. As described in the ’598 patent, the location device may comprise any suitable system for determining a physical location of the location device, such as a Global Positioning System (“GPS”) receiver, and for communicating the position to the inventory management system, such as a transceiver. *Id.*, 6:55–59, 7:11–43. The ’598 patent also describes that the location device may be configured to communicatively couple with a vehicle’s on-board diagnostic interface and “may comprise one or more sensors.” *Id.*, 7:44–47. The ’598 patent further states that “the location device may be configured to determine a state, voltage, and/or current of the vehicle battery.” *Id.* 7:53–55.

Figure 13 of the ’598 patent is reproduced below.



The ’598 patent states that Figure 13 “illustrates a VIN-based locator module according to an exemplary embodiment” of the ’598 patent. *Id.* at 5:59–61. Figure 13 depicts inventory management system 100, including configurable device translation server (“DTS”) module 110, configurable complex message constructor (“CMC”) 120, and database 130. *Id.* 8:28–33.

The '598 patent also states that “inventory management system 100 may be configured to manage a vehicle inventory for a car dealer.” *Id.*, 15:49–50.

The '598 patent explains that the location device is assigned a unique identifier, such as a serial number, and configured to retrieve the VIN of a vehicle when communicatively coupled to the vehicle. *Id.*, 15:66–16:3. The '598 patent also explains that the location device transmits the VIN and its own identifier to inventory management system 100, which then associates the device identifier and VIN in database 130. *Id.*, 16:3–11. In this way, the system can be configured to automatically associate or disassociate a vehicle or device with the dealer’s vehicle inventory. *Id.*, 15:49–16:34.

*B. Challenged Claims*

Petitioner challenges claims 1–14 of the '598 patent. Claim 1, which is the only independent claim 1, is illustrative of the challenged claims and reproduced below (with paragraph lettering and certain formatting added as in the Petition:

1. [pre] A method for managing a vehicle inventory for a dealer implemented by a computer having a processor and a memory, the method comprising:

[a] while a location device is not communicatively coupled with a vehicle, associating the location device with a dealer’s group of available location devices in the memory, wherein the dealer’s group of available location devices comprises *location devices owned by the dealer* that are not coupled with any vehicle;

[b] communicatively coupling the location device with a vehicle;

[c] in response to the location device becoming communicatively coupled with the vehicle, the location device

transmitting a connection notice over a network, the connection notice comprising a vehicle identifier and a location device identifier;

[d] receiving, by the computer, the connection notice from the location device over the network;

[e] in response to the connection notice received by the computer, the processor:

[e1] associating the location device identifier with the vehicle identifier in the memory; and

[e2] disassociating the location device from the dealer's group of available location devices in the memory; and

[f] receiving, by the computer, current location information from the location device.

Ex. 1001, 27:5–32.

*C. Asserted Grounds of Unpatentability*

The application that led to the '598 patent was filed on April 21, 2015, as a continuation-in-part of U.S. application no. 12/505,325, filed on July 17, 2009 (“the parent '325 application”). Ex. 1001, codes (22), (63). Although the '598 patent claims priority to the parent '325 application, Petitioner asserts that the parent '325 application does not provide sufficient written description support to entitle the challenged claims of the '598 patent to the benefit of priority to the parent '325 application's filing date of July 17, 2009. Pet. 2, 4 (*citing* Ex. 1003 (a redline comparison of U.S. publication 2011/0016514 A1 of the parent '325 application with the text of the '598 patent)). Thus, Petitioner asserts that the challenged claims “should be

treated as [America Invents Act]<sup>1</sup> claims having an effective filing date of April 21, 2015,” that are eligible for post-grant review. *Id.* at 2, 7, 20.

Petitioner contends that the challenged claims are unpatentable based on the following grounds:

<b>Claims Challenged</b>	<b>35 U.S.C. §</b>	<b>Reference(s)</b>
1, 2–4, 6, 11–13	102(a), <sup>2</sup> 103	Boling <sup>3</sup>
3, 4, 5	103	Boling, Zlojutro, <sup>4</sup> Jefferies <sup>5</sup>
7–10, 13, 14	103	Boling, Lee, <sup>6</sup> Zlojutro

*Id.* at 4.

Petitioner supports its challenges with citations to the references, the prosecution history of the challenged patent (Ex. 1002), and declaration testimony of Ralph V. Wilhelm, Jr., Ph.D. (Ex. 1029).

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<sup>1</sup> See Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011).

<sup>2</sup> Petitioner asserts that the cited references qualify as prior art under 35 U.S.C. § 102(a)(1) or (2). Pet. 7.

<sup>3</sup> U S 8,452,673 B2, issued May 28, 2013. Ex. 1005.

<sup>4</sup> U S Patent Application Publication No. 2013/0033386 A1, published February 7, 2013. Ex. 1006.

<sup>5</sup> U S 8,768,565 B2, issued July 1, 2014. Ex. 1007.

<sup>6</sup> U S 9,635,518 B2, issued April 25, 2017. Ex. 1008.

## II. ANALYSIS

### A. *Eligibility for Post-Grant Review*

As a threshold matter, we must determine whether the '598 patent is eligible for post-grant review. The post-grant review provisions set forth in Section 6(d) of the AIA apply only to patents subject to the first-inventor-to-file provisions of the AIA. *See* AIA § 6(f)(2)(A). Patents subject to the first-inventor-to-file provisions are those that issue from applications “that contain[ ] or contained at any time . . . a claim to a claimed invention that has an effective filing date as defined in section 100(i) of title 35, United States Code, that is on or after” March 16, 2013. AIA § 3(n)(1). The “effective filing date” for a claim is either the application’s actual filing date or the filing date of the earliest application that supports the claim. 35 U.S.C. § 100(i). In addition, “[a] petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be).” 35 U.S.C. § 321(c).

Petitioner has the burden of demonstrating eligibility for post-grant review. *See Mylan Pharms. Inc. v. Yeda Res. & Dev. Co.*, PGR2016-00010, Paper 9 at 10 (PTAB Aug. 15, 2016). To show that the '598 patent is eligible for post-grant review, Petitioner must prove that at least one of the challenged claims of the '598 patent was “not disclosed in compliance with the written description and enablement requirements of § 112(a) in the earlier application for which the benefit of an earlier filing date prior to March 16, 2013 was sought.” *Inguran, LLC v. Premium Genetics (UK) Ltd.*, PGR2015-00017, Paper 8 at 11 (PTAB Dec. 22, 2015).

1. *Petitioner's Position*

As discussed *supra*, Petitioner asserts that the claims of the '598 patent are not entitled to claim the benefit of priority to the parent '325 application's filing date of July 17, 2009, because the parent '325 application did not provide sufficient written description support under 35 U.S.C. § 112(a). Pet. 4 (*citing* 35 U.S.C. § 120). In particular, Petitioner argues, *inter alia*, that the parent '325 application “does not disclose the steps recited in the challenged claims” and “does not mention the features of determining vehicle ownership information or monitoring vehicle battery voltage recited in the challenged dependent claims.” *Id.* at 5 (*citing* Ex. 1004 (U.S. publication 2011/0016514 A1 (of the parent '325 application), published January 20, 2011)). Thus, Petitioner contends “for all challenged claims, the effective filing date is April 21, 2015,” the filing date of the application that led to the '598 patent.<sup>7</sup> *Id.* at 7, 20.

2. *Patent Owner's Position*

Patent Owner contends that Petitioner fails to meet its burden of establishing that one claim of the '598 patent is entitled only to the April 21, 2015 actual filing date, and not the parent '325 application's pre-AIA filing date of July 17, 2009. Prelim. Resp. 2–3. Patent Owner argues that Petitioner does not “discuss or identify a specific claim allegedly lacking written description support in the '325 application,” and this purported defect is fatal to the Petition. *Id.* at 3–4, 10–11. Patent Owner also argues that Petitioner's redline comparison (*see* Ex. 1003) is flawed because “[t]he question is not whether the material added by the [continuation-in-part]

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<sup>7</sup> By coincidence, the application number for the '598 patent is U.S. Patent Application No. 14/692,598. Ex. 1001, code (21).

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supports the claims; it is whether the *original* '325 [a]pplication supports the claims.” *Id.* at 6. According to Patent Owner, because the parent '325 application is not an exhibit in this proceeding, “[o]n that fact alone [Petitioner] has failed to meet its burden.” *Id.*; *see also* Sur-Reply 1–2. Patent Owner further argues that the redline comparison is between the U.S. Patent Application Publication No. 2011/0016514 of the parent '325 application and the '598 patent, but Petitioner provides no evidence that this publication has the same disclosure as the originally filed '325 application. *Id.* at 6–7. In addition, Patent Owner argues that, even though Petitioner states that the Examiner applied rejections based on post-AIA prior art (*see* Pet. 6), Petitioner downplays the fact that the Examiner explicitly stated that the application for the '598 patent was a pre-AIA application. *Id.* at 9 (*citing* Ex. 1002, at 271). In that regard, Patent Owner argues that we may consider pre-AIA status designations during prosecution, but acknowledges “that alone is not conclusive” or “dispositive.” *Id.* at 10 (*citing Collegium Pharm., Inc. v. Purdue Pharma L.P.*, Case PGR2019-00048, 2018 WL 5266405, at \*5 (PTAB Oct. 4, 2018)). Instead, Patent Owner argues, we are to examine “the merits of Petitioner’s arguments as to why the challenged claims are not entitled to the benefit of an earlier priority application,” and here Petitioner fails to show any specific claim is not supported by the parent '325 application. *Id.* at 10–11 (*quoting Collegium*, at \*5).

### 3. *Analysis*

We agree with Petitioner that the '598 patent is eligible for post-grant review for several reasons. To begin with, we determine Petitioner met its burden to show that at least one claim of the '598 patent is lacking written description support in the parent '325 application. Petitioner asserts in the

Petition that the parent '325 application “does not mention the features of determining *vehicle ownership information* or monitoring *vehicle battery voltage* recited in the challenged dependent claims.”<sup>8</sup> Pet. 5 (*citing* Ex. 1004) (emphasis added). A review of the challenged claims reflects that at least dependent claims 3 and 10 each recite “ownership information for the vehicle” and that at least dependent claims 7 and 9 each recite “determining a voltage of the vehicle battery.” *See* Ex. 1001, 27:44–45; 28:22–23; 28:44–45; 28:55–56. Although Petitioner did not identify these dependent claims by number in the Petition, we determine that Petitioner identified at least one specific claim lacking written description support in the parent '325 application, i.e., at least one of dependent claims 3, 7, 9, and 10, by identifying in the Petition specific features or limitations of these dependent claims that are not mentioned or supported in the parent '325 application.<sup>9</sup>

We are not persuaded by Patent Owner’s argument that Petitioner failed to meet its burden because the parent '325 application is not an exhibit

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<sup>8</sup> Petitioner argues, and we agree, that Patent Owner does not address this argument in its Preliminary Response. Reply 2.

<sup>9</sup> In its Sur-Reply, Patent Owner argues that Petitioner “now identifies specific dependent claims in its reply,” but “these appear nowhere in the Petition.” Sur-Reply 3 (*citing* Reply, 2–3 (identifying dependent claims 3–5, 7–10, 13, 14)). To the extent Petitioner identifies claims by claim number in the Reply as lacking written description support in the parent '325 application, we agree with Patent Owner that the specific claim numbers do not appear in the Petition and that we did not authorize Petitioner to make new factual assertions in the Reply. However, in this Decision, we do not rely on Petitioner’s identification of dependent claims in the Reply that Petitioner contends lack written description support.

in this proceeding. Prelim. Resp. 6; Sur-Reply 1–2. Although the originally filed parent '325 application is not an exhibit, we disagree with Patent Owner that this “fact alone” shows Petitioner has failed to meet its burden. Petitioner relies on the U.S. publication of the parent '325 application (U.S. Patent Application Publication No. 2011/0016514 A1, published on January 20, 2011)<sup>10</sup> (Ex. 1004), and Patent Owner does not argue or present evidence that the disclosure in the U.S. publication of the parent '325 application is different in any respect from the disclosure of the originally filed parent '325 application. Thus, the fact that Petitioner did not include the parent '325 application as an exhibit in this proceeding is not dispositive with respect to Petitioner meeting its burden here because we determine U.S. Patent Application Publication No. 2011/0016514 A1 (Exhibit 1004) is an accurate and complete substitute for the parent '325 application.

We also are not persuaded by Patent Owner's argument that Petitioner's reliance on the redline comparison of the U.S. publication of the parent '325 application to the text of the '598 patent (i.e., Ex. 1003) is flawed. Prelim Resp. 6. The redline comparison highlights in red, and underlines, terms in the text of the '598 patent, which was filed as a continuation-in-part application of the parent '325 application, that were added to, and do not appear in, the disclosure of the parent '325 application. For example, the redline highlights in red, and underlines, the terms “vehicle

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<sup>10</sup> 35 U.S.C. § 122(b)(1)(A) provides that, subject to certain exceptions, “each application for a patent shall be published, in accordance with procedures determined by the Director, promptly after the expiration of a period of 18 months from the earliest filing date for which a benefit is sought under this title.”

battery,” “voltage,” “battery voltage,” and “ownership.” Ex. 1003, 9, 17, 19, 20. Contrary to Patent Owner’s argument, we determine the redline comparison is not flawed as merely showing material added to support the claims of the ’598 patent, because it also shows that the U.S. publication of the parent ’325 application, which Patent Owner does not dispute has the same disclosure as the parent ’325 application, did not include the highlighted and underlined terms. In other words, the redlining clearly identifies terms in the ’598 patent for which there is no written description support in the parent ’325 application.

Moreover, Patent Owner argues, and we agree, that we may consider the Examiner’s designation of the application for the ’598 patent as a pre-AIA application, but that alone is not conclusive or dispositive on the issue of whether the ’598 patent is ineligible for post-grant review. Prelim. Resp. 9–11 (*citing Collegium*). However, turning to the merits of Petitioner’s arguments that the challenged claims are not entitled to claim the benefit of priority to the parent ’325 application, for the reasons discussed *supra*, we disagree with Patent Owner’s argument that Petitioner fails to show any specific claim is not supported by the parent ’325 application. *Id.* at 10–11.

For these reasons, we determine Petitioner has sufficiently demonstrated that at least one of dependent claims 3, 7, 9, and 10 of the ’598 patent has an effective filing date of April 21, 2015, the actual filing date of the continuation-in-part application for the ’598 patent, which is after March 16, 2013. We also note that the ’598 patent issued on October 2, 2018 (*see* Ex. 1001, code (45)), and that the Petition in this proceeding was accorded a filing date of May 30, 2019 (*see* Paper 3). Thus, the Petition was filed less

than 9 months after the date of issuance of the '598 patent. Accordingly, we determine that the '598 patent is eligible for post-grant review.<sup>11</sup>

*B. Level of Ordinary Skill*

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (internal quotation and citation omitted).

Relying on the testimony of its declarant, Dr. Wilhelm, Petitioner asserts that a person of ordinary skill in the art at the time of the effective filing date of the '598 patent on April 21, 2015, would have had either: (1) “a bachelor’s degree in electrical engineering or an equivalent degree and two to five years of experience working on automotive telemetry network connectivity systems and devices,” or (2) “seven to ten years of experience working on automotive telemetry network connectivity systems and devices.” Pet. 8 (*citing* Ex. 1029 ¶¶ 49–56). Petitioner also asserts that a person of ordinary skill in the art “may have worked as part of a multidisciplinary team and drawn upon the skills of others on the team to solve a given problem.” *Id.* Currently, Patent Owner has not expressed a

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<sup>11</sup> Patent Owner also argues that the Petition should be denied for other reasons, including that it (1) does not identify the specific grounds of unpatentability, (2) sets forth numerous, undeveloped grounds, and (3) ignores the correct test for obviousness. Prelim. Resp. 11–28. We do not, however, address these arguments because they are moot in view of our decision *infra* to not institute post-grant review on any of the challenged claims.

position on the level of a person of ordinary skill in the art. Based on the current record, the subject matter at issue, and the prior art of record, we determine that, for purposes of this Decision, Petitioner’s proposed level of ordinary skill in the art is reasonable and supported by evidence of record. *See, e.g.*, Ex. 1029 ¶ 56. Thus, we adopt and apply Petitioner’s proposed level of ordinary skill in the art.

*C. Claim Construction*

*1. Applicable Law*

In this proceeding, in which the Petition was filed on May 30, 2019 (*see* Paper 3, 1), we construe the claims “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b).” 83 Fed. Reg. 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective Nov. 13, 2018).<sup>12</sup> Accordingly, we construe claim terms of the ’598 patent generally to have “[their] ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b); *see Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

Furthermore, only those terms in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vivid*

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<sup>12</sup> On October 11, 2018, the U.S. Patent and Trademark Office revised its rules to harmonize the Board’s claim construction standard with that used in federal district court. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51340 (Oct. 11, 2018). This rule change applies to petitions filed on or after November 13, 2018. *Id.*

*Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999); *see also Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (applying *Vivid Techs.* in the context of an AIA Trial proceeding).

## 2. *The Parties' Positions*

In the Petition, Petitioner asserts that the '598 patent does not expressly provide any construction or definition for any terms recited in the challenged claims and that, in setting forth its unpatentability grounds, Petitioner “applied the requisite construction—plain and ordinary meaning—of each claim term.” Pet. 23. Accordingly, Petitioner does not propose a specific construction for any claim term. Similarly, Patent Owner does not propose a specific construction for any claim term of the '598 patent. *See generally* Prelim. Resp. 28–42.

## 3. *Analysis*

Because the parties do not dispute the meaning of any claim terms of the '598 patent and have not proposed specific constructions for any of the claim terms, we determine it is not necessary to construe any claim terms of the '598 patent for purposes of this Decision. Accordingly, for purposes of this Decision, we give the claim terms of the '598 patent their ordinary and customary meaning, as understood by one of ordinary skill in the art, and in view of the prosecution history of the '598 patent.

### *D. Asserted Anticipation or Obviousness of Claims 1–4, 6, and 11–13 Over Boling*

Regarding independent claim 1, Petitioner contends that, as shown in the table comparing claim 1 of the '598 patent to claim 11 of Boling, “claim 1 of the '598 patent is almost identical to claim 11 of Boling, and Boling’s specification expressly describes each limitation not found in claim 11.”

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Pet. 23–26 (*comparing* Ex. 1001, 27:6–32, *with* Ex. 1005, 12:11–13:5).

Petitioner also provides an analysis of the limitations of claim 1 in view of Boling and concludes that “Boling discloses all of the limitations of claim 1 of the ’598 patent.” *Id.* at 33 (*citing* Ex. 1029 ¶ 85). Petitioner also asserts that, to the extent Patent Owner argues Boling does not anticipate claim 1 of the ’598 patent, a person of ordinary skill in the art “would have found claim 1 obvious over Boling” in view of the knowledge of a person of ordinary skill in the art. *Id.*

Patent Owner disputes Petitioner’s contentions regarding limitation 1[a] and contends that Boling does not disclose or render obvious “wherein the dealer’s group of available location devices comprises *location devices owned by the dealer* that are not coupled with any vehicle.” Prelim. Resp. 29–35. In particular, Patent Owner argues that, although the Petition twice addresses limitation 1[a], the Petition simply ignored the requirement that “the location devices are owned by the dealer”—the “ownership” requirement. *Id.* at 30. Patent Owner also contends that Boling does not disclose or render obvious “*associating* the location device with a dealer’s group of available location devices in the memory,” as recited in limitation 1[a], or “*disassociating* the location device from the dealer’s group of available location devices in the memory,” as recited in limitation 1[e]. *Id.* at 35–42.

On this record, and for the reasons discussed below, we determine Petitioner fails to demonstrate that it is more likely than not to prevail on its challenge to claim 1 of the ’598 patent.

1. *Applicable Law*

To establish anticipation under 35 U.S.C. § 102, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). Each element of the challenged claim must be found, either expressly or inherently, in the single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). While the elements must be arranged or combined in the same way as in the claim, “the reference need not satisfy an *ipsissimis verbis* test,” i.e., identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Thus, the dispositive question is whether one skilled in the art would have reasonably understood or inferred from a prior art reference that every claim element is disclosed in that reference. *Eli Lilly v. Los Angeles Biomedical Research Inst. at Harbor–UCLA Med. Ctr.*, 849 F.3d 1073, 1074–75 (Fed. Cir. 2017).

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the subject matter sought to be patented and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective evidence

of non-obviousness, i.e., secondary considerations.<sup>13</sup> *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

A patent claim “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. An obviousness determination requires finding “both ‘that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.’” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367–68 (Fed. Cir. 2016) (citation omitted); *see KSR*, 550 U.S. at 418 (for an obviousness analysis, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does”). Further, an assertion of obviousness “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (*quoting In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)); *see In re Nuvasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016) (a finding of a motivation to combine “must be supported by a ‘reasoned explanation’” (citation omitted)).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

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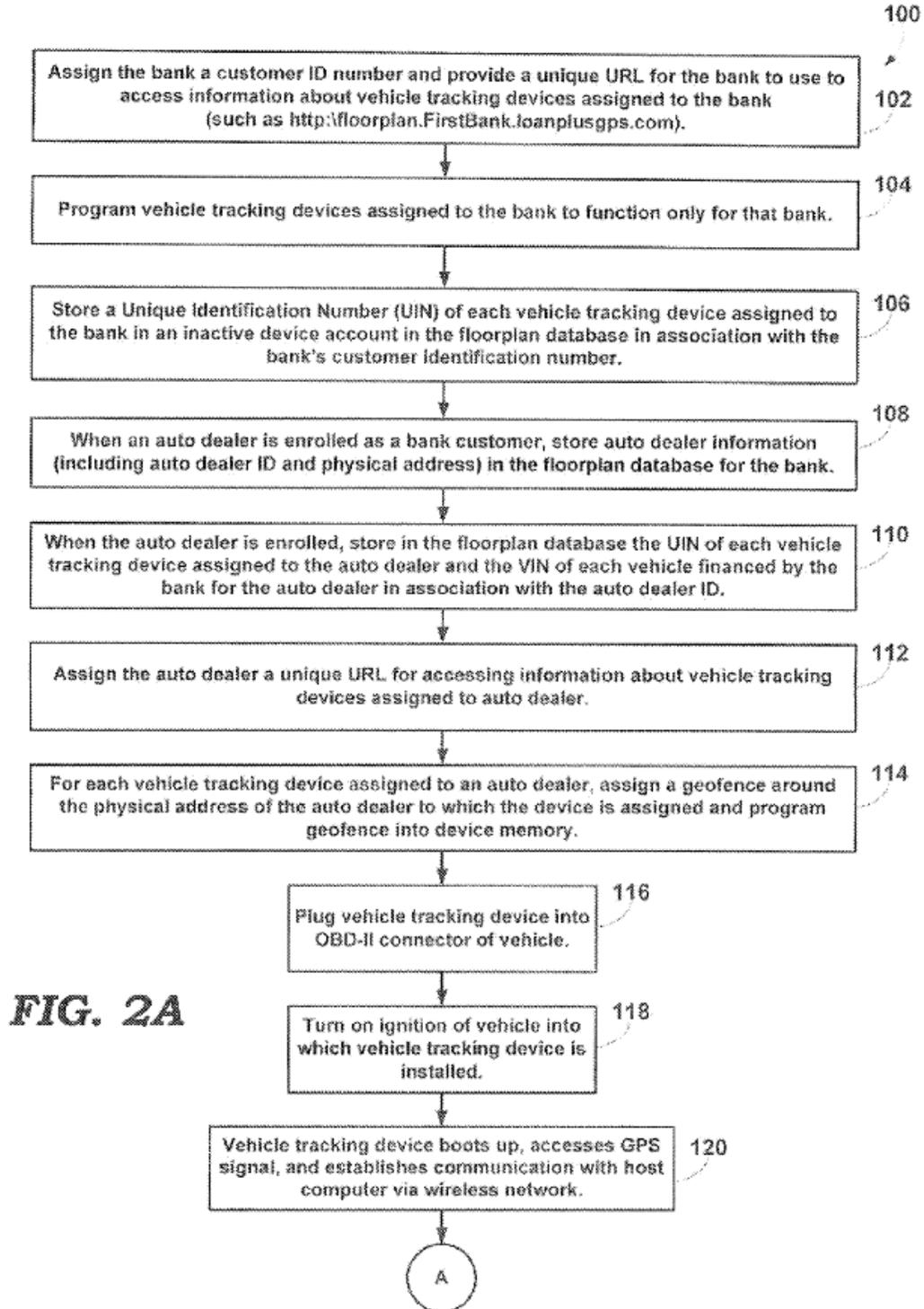
<sup>13</sup> The record here contains no arguments or evidence related to objective evidence of non-obviousness of the challenged claims.

2. *Prior Art*

a. *Boling (Ex. 1005)*

Boling describes a system for maintaining an inventory of vehicles that serve as collateral for loans provided by a lending entity, the system including a vehicle monitoring device, a database, and a central vehicle data server. Ex. 1005, code (57). Boling explains that the “lending entity” may be a bank, a credit union, or “an automotive financing institution associated with a vehicle manufacturer, such as [General Motors Acceptance Corporation] GMAC.” *Id.* at 5:61–65. Boling also explains that an entity that sells a vehicle to a consumer is referred to as the “auto dealer,” which may include an original equipment manufacturer automotive dealership offering new and used cars. *Id.* 5:65–6:2. Boling’s system stores vehicle information in a database in association with a lending entity identifier, including VINs that uniquely identify vehicles for which the lending entity has provided financing. *Id.* at 1:48–53. The system also stores a unique identification number (“UIN”) for each vehicle monitoring device assigned to the lending entity. *Id.* at 1:55–58. The vehicle monitoring devices include a wireless modem, processor, GPS receiver, vehicle diagnostics interface connector, and memory. *Id.* at 2:65–3:1.

Figure 2A of Boling is reproduced below.



Ex. 1005, Fig. 2A. Figure 2A depicts a functional flow diagram of a method of processing vehicle data to monitor inventory of vehicles for vehicle

financing entities. *Id.* at 2:55–57. When a bank subscribes to the vehicle tracking and inventory services, the bank is assigned a customer identification number (“ID number”) and a uniform resource locator (“URL”) for a secure webpage on which the bank may access information regarding vehicle tracking devices assigned to the bank. *Id.* at 6:4–9 (Fig. 2A, step 102). The UIN of each vehicle tracking device assigned to the bank is stored in an inactive device account in the database in association with the bank’s customer ID number. *Id.* 6:22–26 (Fig. 2A, step 106). When an auto dealer is enrolled as a bank customer to receive financing for vehicles on the dealer’s lot, the dealer is assigned an ID number, which is stored in the database and associated with the bank’s customer ID number. *Id.* at 6:29–33 (Fig. 2A, step 108). The UIN of each vehicle tracking device and the VIN of each vehicle financed by the bank for the dealer are also stored in the database in association with the dealer’s ID number. *Id.* at 6:33–40 (Fig. 2A, step 110). The auto dealer is also assigned a URL for a secure webpage on which the auto dealer may access information from vehicle tracking devices assigned by the bank to the auto dealer. *Id.* at 6:40–44 (Fig. 2A, step 112). A “geofence” is assigned to the auto dealer to define a boundary around the physical address of the location where vehicles are kept prior to purchase and stored in the database in association with the dealer’s ID number and in the memory of each vehicle tracking device assigned to the dealer. *Id.* at 6:62–7:3 (Fig. 2A, step 114). When the tracking device is plugged into a vehicle’s on-board diagnostics (“OBD”) connector and the ignition of the vehicle is turned on, the device acquires the vehicle’s VIN and transmits the VIN, UIN of the device, and the GPS location coordinates to the central data server via the wireless network. *Id.*

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at 7:7–21 (Fig. 2A, steps 116, 118, and 120). If the VIN is found in the database associated with the auto dealer’s ID number, the central server determines whether the location coordinates of the vehicle are within the “geofence” for the dealer; and, if so, the UIN of the tracking device is removed from the bank’s inactive device account and associated with the vehicle’s VIN in the database along with the auto dealer’s ID number. *Id.* at 7:25–38 (Fig. 2B, steps 126, 128, 132).

*b. Jefferies (Ex. 1007)*

Jefferies describes a rental/car-share (“RCS”) vehicle access and management system that utilizes barcodes, GPS, and a mobile app coupled with a wireless network to enable customers to bypass the reservation desk and pickup and drop off reserved RCS vehicles using a mobile device. Ex. 1007, code (57). Jefferies’s system includes an onboard control module wirelessly connected to a remote server. *Id.* at 4:29–7:14. The onboard control module, which is associated with a unique identifier, includes GPS and wireless networking hardware. *Id.* at 5:56–6:29, 6:63–7:14. The control module connects to a vehicle’s onboard diagnostic unit, permitting the module to obtain information, including the VIN of the vehicle. *Id.* at 5:15–55. Jefferies’s system provides a method of dynamically pairing a customer’s information with a specific RCS vehicle during the rental period, as well as enabling RCS companies to perform location-based inventory remotely. *Id.* at 2:34–40, 3:15–22. The remote server maintains an association between the vehicles, control modules, installers, and customers that is created when a user rents a vehicle or makes a reservation. *Id.* at 8:4–25. For example, when picking up a vehicle, a customer can use a mobile app to obtain a vehicle identifier that is uploaded along with the customer’s

identifier to a remote server via the mobile device's wireless network connection. *Id.* at 16:40–54. The remote server verifies that the customer is a valid customer and then checks for a valid reservation. *Id.* at 16:56–17:1. Upon return of the vehicle, the server can process the rental charges on the credit card of the customer's account and send a receipt to the email address associated with the customer's account. *Id.* at 16:33–38.

### 3. *Analysis*

Regarding Petitioner's contention that Boling anticipates claim 1 of the '598 patent, Petitioner argues that, as shown in its table comparing claim 1 to claim 11 of Boling, claim 1 is "almost identical" to claim 11 of Boling, and Boling expressly describes each limitation not found in claim 11. Pet. 23. We are not persuaded by Petitioner's argument. Instead, we agree with Patent Owner that Petitioner fails to show that Boling discloses or teaches "location devices owned by the dealer," as recited in limitation 1[a]. Prelim. Resp. 29–30.

As Patent Owner argues, and we agree, the excerpted language in the table from claim 11 of Boling, which is compared with limitation 1[a] of the '598 patent, "mentions neither ownership nor a dealer," but refers only to "monitoring devices assigned to each of the lending entities []." *Id.* at 31. Petitioner's assertion that Boling describes each limitation not found in claim 11 is not persuasive because it is conclusory and unsupported with any citation to Boling itself. Mere attorney arguments and conclusory statements that are unsupported by factual evidence are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984).

In further arguing that Boling anticipates or renders obvious claim 1 of the '598 patent, Petitioner asserts, with respect to limitation 1[a], that Boling describes “storing in the database the UIN of each location device assigned to the auto dealer in association with a dealer identifier prior to plugging the location device into the OBD port.” Pet. 28 (*citing* Ex. 1005, Fig. 2A (steps 108, 110, 116); Ex. 1029 ¶¶ 72–73). Petitioner then argues as follows:

To the extent [Patent Owner] argues that Boling does not expressly disclose associating the location device with a *dealer's* group of available location devices, a [person of ordinary skill in the art] would have found this limitation obvious. *Id.* As Dr. Wilhelm explained, conventional vehicle inventory management systems associate information with a particular identifier; it does not matter whether that identifier represents a bank or dealer. *Id.* For example, Jefferies teaches that a location device may be marked as “available/in inventory” to be associated with a vehicle. *Id.* (*citing* Ex. 1007, 10:11–32). In view of these teachings, a [person of ordinary skill in the art] would have sought to manage various types of vehicle inventories for several types of owners, including dealers.

*Id.*

In response, Patent Owner argues that the Petition “does not explain (or even attempt to explain) that the location devices in Boling are owned by a dealer,” “[n]or does it argue it would have been obvious for the location devices to be owned by a dealer.” Prelim. Resp. 31. According to Patent Owner, the Petition and Dr. Wilhelm’s declaration testimony ignore “the claimed method’s requirement regarding ownership” of the dealer’s group of location devices by the dealer. *Id.* at 32. In view of Petitioner’s argument quoted above, we do not agree with Patent Owner that the “ownership”

requirement was ignored. For several reasons, however, we are not persuaded by Petitioner's argument.

First, Patent Owner argues, and we agree, that Boling does not disclose or teach that vehicle tracking devices are owned by the auto dealer. Prelim. Resp. 33–34. Boling discloses that, when a bank subscribes to the vehicle tracking and inventory system, “vehicle tracking devices [are] assigned to the bank.” *Id.* at 33 (*citing* Ex. 1005, 6:4–9). Boling also discloses that, when an auto dealer is enrolled as a bank customer to receive financing for vehicles on the dealer's lot, “vehicle tracking devices[s] [are] assigned by the bank to the auto dealer.” *Id.* at 33–34 (*citing* Ex. 1005, 6:29–40). Thus, Patent Owner argues, and we agree, that “Boling never describes these tracking devices as being owned by the auto dealer.” *Id.*

Second, Patent Owner argues, and we agree, that Jefferies is not included in the express grounds of unpatentability for claim 1 and, in any event, Petitioner “cites only a single section from Jefferies, which says nothing about ownership [of location devices].” *Id.* at 34 (*citing* Ex. 1007, 10:11–32). The cited portion of Jefferies discloses only that a control module may be moved between vehicles and may be marked as “available/in inventory” to be associated with another vehicle. Ex. 1007, 10:11–23. As Patent Owner also argues, and we agree, Jefferies is directed to a rental/car-share vehicle access and management system and “does not discuss ownership of location devices, whether by the rental/car-share service, a third-party service provider, or otherwise.” Prelim. Resp. 34.

Third, Petitioner's argument that a person of ordinary skill would have found the “location devices owned by the dealer” limitation to be obvious is not persuasive because, as Patent Owner argues, and we agree, it

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is conclusory and not supported by the evidence. Prelim. Resp. 32, 37–40. Petitioner’s argument relies on Dr. Wilhelm’s testimony, Jefferies, and the knowledge of a person of ordinary skill in the art. *See* Pet. 28. Dr. Wilhelm testifies that “[c]onventional vehicle inventory management systems associate information with a particular identifier; the systems are agnostic as to whether that identifier represents a financial institution or dealer.” Ex. 1029 ¶ 73. Based on this testimony, Petitioner argues “it does not matter whether that identifier represents a bank or dealer.” Pet. 28. Petitioner then argues Jefferies teaches that a location device may be marked as “available/in inventory” to be associated with a vehicle. *Id.* Finally, Petitioner argues that, in view of these teachings, a person of ordinary skill “would have sought to manage various types of vehicle inventories for several types of owners, including dealers.” *Id.*

As stated, we agree with Patent Owner that Petitioner’s argument that the “ownership” requirement would have been obvious is conclusory and not supported by the evidence of record. Initially, we note that Dr. Wilhelm’s testimony concerning conventional vehicle inventory management systems is conclusory and unsupported by factual evidence. Thus, we give little, if any, weight to Dr. Wilhelm’s opinion testimony that such systems are “agnostic” to whether equipment identifiers are associated with lending institutions or auto dealers. *See* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *see also In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (noting that “the Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations”). In any

event, Dr. Wilhelm's testimony adds nothing in this regard because, as discussed *supra*, Boling discloses equipment identifiers, such as UINs, are associated with the ID number of banks and auto dealers. *See* Ex. 1005, 6:22–26; 6:29–33.

Also, we are not persuaded by Petitioner's argument that, in view of Dr. Wilhelm's testimony and Jefferies's teaching of location devices that are available to be associated with a vehicle, a person of ordinary skill in the art "would have sought to manage various types of vehicle inventories for several types of owners, including dealers" because it is not based on factual evidence, but instead is based merely on speculation or conjecture. As our reviewing court has explained, "legal determinations of obviousness . . . should be based on evidence rather than on mere speculation or conjecture." *Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1290 (Fed. Cir. 2006); *see also Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1375–76 (Fed. Cir. 2011) (noting that the prior art's "speculative and tentative disclosure of what 'might' or 'may' [explain the cause of a desired effect] does not sufficiently direct or instruct one of skill in this art"). Here, Petitioner's assertion about what a person of ordinary skill "would have sought" to do is based on speculation or conjecture because there is (1) no evidence or explanation of whether the "types of vehicle inventories" to be managed include "location devices," or only the vehicles, (2) no explanation of why it would matter in managing the inventories whether the location devices are owned by a third party and leased to the bank or auto dealer, and (3) no evidence concerning ownership of location devices by the auto dealer. In that regard, neither Dr. Wilhelm's testimony nor Jefferies discloses or teaches anything about managing vehicle inventories for an auto dealer in

which the “location devices [are] owned by the dealer,” as recited in limitation 1[a].

Lastly, although Petitioner’s obviousness argument quoted above is vague and imprecise, we understand Petitioner to argue that it would have been obvious for a person of ordinary skill to modify Boling to achieve the claimed “dealer’s group of location devices . . . owned by the dealer.” In appropriate circumstances, a single prior art reference, such as Boling, can render a claim obvious; “[h]owever, there must be a showing of a suggestion or motivation to modify the teachings of that reference to the claimed invention to support the obviousness conclusion.” *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1356 (Fed. Cir. 2000); *see also, KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)). Here, Petitioner has not provided evidence or sufficient reasoning to demonstrate that one of ordinary skill in the art would have had a reason to modify Boling so that the dealer’s group of tracking devices is “owned by the dealer,” rather than “assigned to the dealer” as disclosed in Boling. *See Ex. 1005*, 6:29–40.

Thus, for these reasons, Petitioner has failed to demonstrate that Boling anticipates claim 1 of ’598 patent because Petitioner has not shown that Boling discloses “location devices owned by the dealer,” as recited in limitation 1[a]. *See Verdegaal Bros.*, 814 F.2d at 631. Also, for these reasons, Petitioner has failed to demonstrate that it would have been obvious for a person of ordinary skill to modify Boling to obtain the claimed

“location devices owned by the dealer.” Accordingly, we determine that Petitioner fails to demonstrate it is more likely than not that claim 1 of the ’598 patent is unpatentable for anticipation or obviousness over Boling.

Regarding claims 2, 3, 6, 11, and 12, which depend directly from claim 1, Petitioner asserts that “Boling anticipates or renders obvious the method of claim 1.” Pet. 33, 35, 46, 48 (*citing id.* Section VII.A.1). We note that claim 4 depends directly from claim 3 (Ex. 1001, 27:51–52) and indirectly from claim 1, and that claim 13 depends directly from claim 11 (*id.*, 29:8) and indirectly from claim 1. For the reasons discussed *supra*, we have determined that Petitioner fails to demonstrate that claim 1 is unpatentable for anticipation or obviousness over Boling. Thus, by virtue of their direct or indirect dependency from claim 1, we also determine that Petitioner fails to demonstrate it is more likely than not that claims 2–4, 6, and 11–13 of the ’598 patent are unpatentable for anticipation or obviousness over Boling.

*E. Asserted Obviousness of Claims 3, 4, and 5 Over Boling in View of Zlojutro and/or Jefferies*

Regarding claims 3 and 5, which depend directly from claim 1, Petitioner asserts that “Boling anticipates the method of claim 1” and that “Boling anticipates or renders obvious the method of claim 1,” respectively. Pet. 52, 55 (*citing id.* Section VII.A.1). We note that claim 4 depends directly from claim 3 (Ex. 1001, 27:51–52) and indirectly from claim 1. For the reasons discussed *supra*, we have determined that Petitioner fails to demonstrate that claim 1 is unpatentable for anticipation or obviousness over Boling. Petitioner does not rely on the teachings of Zlojutro or Jefferies to remedy the deficiencies in Boling that we discuss above in the context of

claim 1. *See* Pet. 52–61. Thus, by virtue of their direct or indirect dependency from claim 1, we also determine that Petitioner fails to demonstrate it is more likely than not that claims 3, 4, and 5 of the ’598 patent are unpatentable for anticipation or obviousness over Boling in view of Zlojutro and/or Jefferies.

*F. Asserted Obviousness of Claims 7–10, 13, and 14 Over Boling in View of Lee and/or Zlojutro*

Regarding claims 7 and 9, which depend directly from claim 1, Petitioner asserts that “Boling anticipates or renders obvious the method of claim 1.” Pet. 62, 70 (*citing id.* Section VII.A.1). We note that claim 8 depends directly from claim 7 (Ex. 1001, 28:27–28) and indirectly from claim 1, that claim 10 depends directly from claim 9 (*id.*, 28:53–54) and indirectly from claim 1, that claim 13 depends directly from claim 11 (*id.*, 29:8) and indirectly from claim 1, and that claim 14 depends directly from claim 13 (*id.*, 29:21) and indirectly from claims 11 and 1. For the reasons discussed *supra*, we have determined that Petitioner fails to demonstrate that claim 1 is unpatentable for anticipation or obviousness over Boling.

Petitioner does not rely on the teachings of Lee or Zlojutro to remedy the deficiencies in Boling that we discuss above in the context of claim 1. *See* Pet. 62–80. Thus, by virtue of their direct or indirect dependency from claim 1, we also determine that Petitioner fails to demonstrate it is more likely than not that claims 7–10, 13, and 14 of the ’598 patent are unpatentable for anticipation or obviousness over Boling in view of Lee and/or Zlojutro.

### III. CONCLUSION

For the foregoing reasons, we determine Petitioner fails to demonstrate it is more likely than not that any of claims 1–14 of the '598 patent are unpatentable on the grounds asserted in the Petition.

### IV. ORDER

Accordingly, it is

ORDERED that the Petition is *denied*, and no post-grant review is instituted.

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