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Paper 34
Date: January 28, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VERIZON CONNECT INC.,
Petitioner,

v.

OMEGA PATENTS, LLC,
Patent Owner.

IPR2023-01162
Patent 8,032,278 B2

Before BARRY L. GROSSMAN, AMBER L. HAGY, and BRENT M. DOUGAL, *Administrative Patent Judges*.

HAGY, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Verizon Connect Inc. ("Petitioner") filed a petition to institute *inter partes* review of claims 1–22 ("the challenged claims") of U.S. Patent No. 8,032,278 B2 (Ex. 1001, "the '278 patent"). Paper 2 ("Pet."). Omega Patents, LLC ("Patent Owner") filed a Preliminary Response. Paper 7 ("Prelim. Resp.").

We instituted trial on February 21, 2024. Paper 12 ("Dec." or "Institution Decision"). After institution of trial, Patent Owner filed a Patent Owner Response. Paper 16 ("PO Resp."). Thereafter, Petitioner filed a Reply to Patent Owner's Response (Paper 24, "Pet. Reply"), and Patent Owner filed a Sur-Reply (Paper 25, "PO Sur-Reply"). Oral argument for this proceeding was conducted on November 20, 2024, and the transcript of the hearing has been entered as Paper 33 ("Tr.").[1]

We have jurisdiction under 35 U.S.C. § 6 and issue this decision under 35 U.S.C. § 318(a). After considering the evidence and arguments of both parties, and for the reasons set forth below, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 1–22 are unpatentable.

[1] Petitioner filed objections to certain evidence submitted by Patent Owner (Papers 15, 17), and both parties filed objections to each other's demonstrative exhibits (Papers 31, 32). Neither party filed motions to exclude evidence, and therefore the objections were not preserved. 37 C.F.R. § 42.64(c).

II. BACKGROUND

A. Related Matters

Petitioner identifies the following district-court proceedings as "pending" related matters involving the '278 patent: *Omega Patents, LLC v. Geotab USA, Inc.*, Case No. 1:22-cv-01044-WCB (D. Del.); *Omega Patents, LLC v. Geotab USA, Inc.,* Case No. 1:23-cv-00382 (D. Del.); *Omega Patents, LLC v. Verizon Connect, Inc.*, Case No. 6:22-cv-02371-WGB-EJK (M.D. Fla.). Pet. 71; *see also* Paper 9, 2 (Patent Owner's Supplemental Mandatory Notices). Petitioner also identifies several other district-court proceedings as related matters. *See* Pet. 71 (noticing *Omega Patents, LLC v. Enfora, Inc.*, Case No. 1:13-cv-00646 (N.D. Ga.); *Omega Patents, LLC v. Enfora, Inc.*, Case No. 1:17-cv-02769 (N.D. Ga.); *Omega Patents, LLC v. CalAmp Corp.*, Case No. 6:13-cv-01950 (M.D. Fla.); *Omega Patents, LLC v. DEI Holdings, Inc.*, Case No. 6:20-cv-00693 (M.D. Fla.)).

The parties also identify an *inter partes* review involving the '278 patent: *Geotab USA, Inc. and Geotab, Inc. v. Omega Patents, LLC*, IPR2023-00504 (trial instituted July 25, 2023) ("the 504 IPR"). Pet. 71; Paper 9, 2. The Board issued its final written decision in that proceeding on July 18, 2024, finding claims 1–22 unpatentable over a different prior art combination than presented here. 504 IPR, Paper 45. That decision is currently on appeal to the Federal Circuit Court of Appeals. *Id.*, Paper 48.

Petitioner also states that the '278 patent was the subject of several *ex parte* reexamination proceedings: Serial No. 90/013,587; Serial No. 90/013,851; Serial No. 90/014,309; Serial No. 90/014,419; and Serial No. 90/014,675. Pet. 71–72. Patent Owner also identifies *ex parte*

reexamination Serial No. 90/014,419 as a related matter. Paper 9, 2–3; Paper 14, 2–3.

B. Real Parties in Interest

Petitioner identifies itself, Verizon Communications Inc., and Verizon Corporate Resources Group LLC as its real parties in interest. Pet. 70. Patent Owner identifies Omega Patents, LLC, as its real party in interest. Paper 3, 2 (Patent Owner's Mandatory Notices).

C. Overview of the '278 patent

The '278 patent, titled "Vehicle Tracking Unit with Downloadable Codes and Associated Methods," relates to multi-vehicle compatible tracking systems that can also remotely control various vehicle functions and/or read the status of various vehicle devices. Ex. 1001, codes (54), (57), 2:38–49. Figure 1, reproduced below, is a block diagram of a multi-vehicle compatible tracking system according to the '278 patent. *Id.* at 3:49–50.

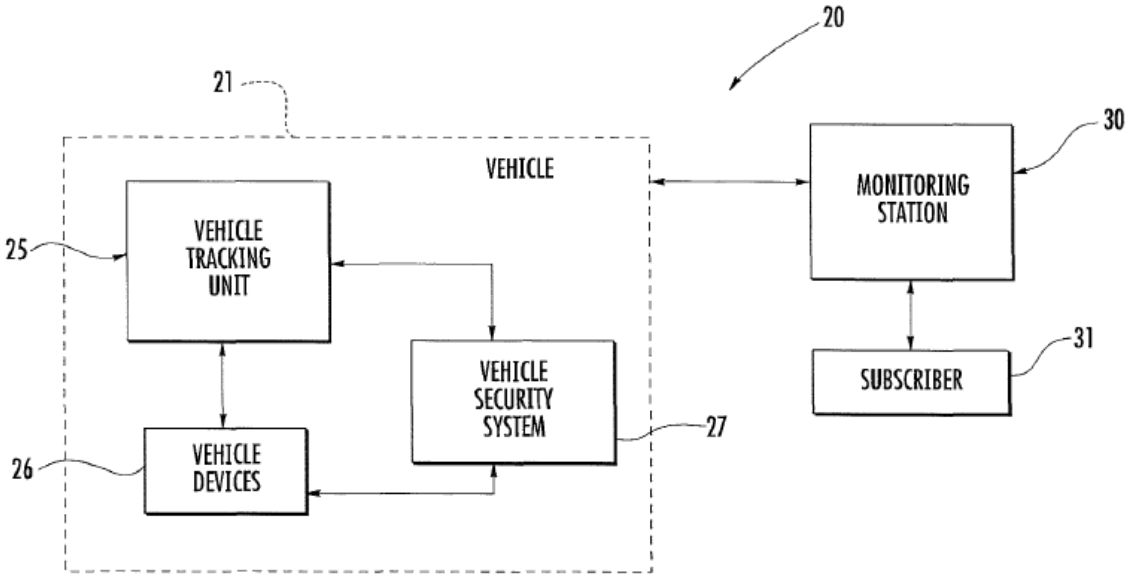

Fig. 1 is a block diagram of a multi-vehicle tracking system according to the '278 patent. Ex. 1001, 3:49–50.

As shown in Figure 1, the multi-vehicle tracking system 20 includes a vehicle tracking unit 25 mounted onto a vehicle 21 and a remote monitoring station 30. *Id.* at 4:32–37. The vehicle tracking unit may interact with various vehicle devices 26 to provide information about the vehicle to the monitoring station. *Id.* at 4:37–40.

Figure 10, reproduced below, provides a block diagram of a multi-vehicle compatible tracking unit according to one embodiment of the '278 patent. *Id.* at 4:4–5.

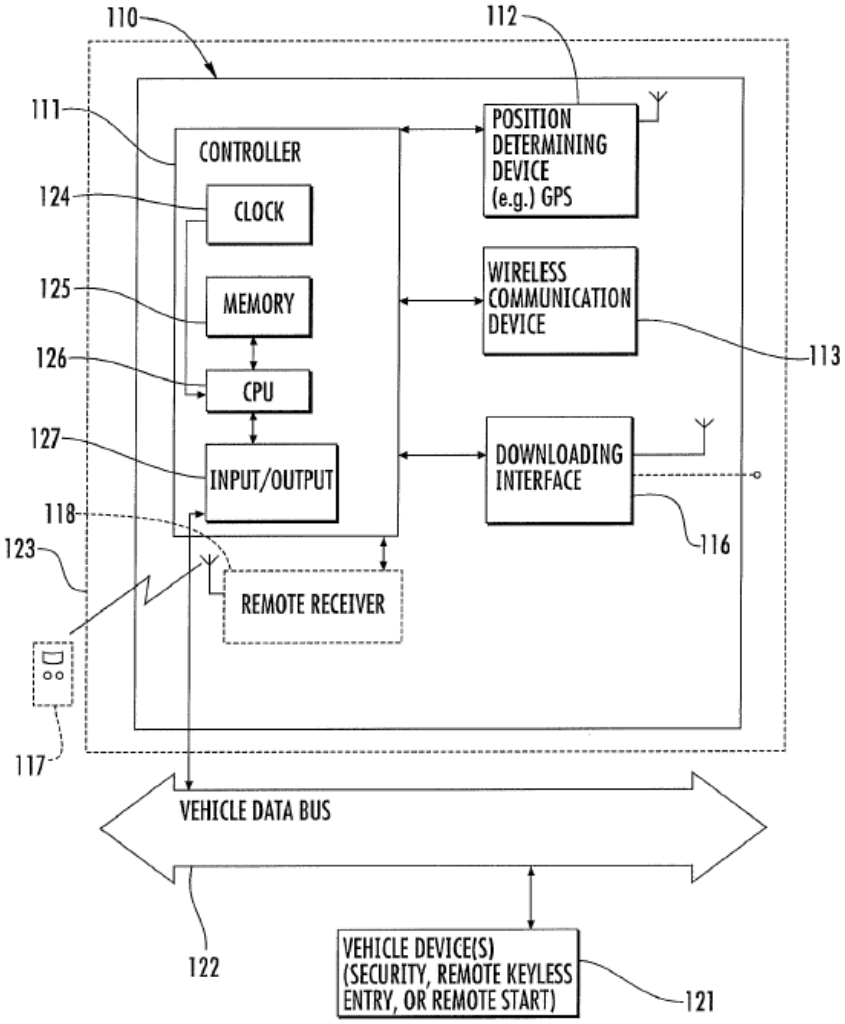

Fig. 10 is a simplified block diagram of a multi-vehicle compatible tracking unit according to the '278 patent. Ex. 1001, 4:5–6.

As shown in Figure 10, multi-vehicle compatible tracking unit 110 includes multi-vehicle compatible controller 111, vehicle position determining device 112 (e.g., GPS), wireless communications device 113, and downloading interface 116. *Id.* at 23:46–51, 24:4–8. The multi-vehicle compatible controller cooperates with vehicle position determining device 112 and wireless communication device 113 to send vehicle location information. *Id.* at 23:48–51.

Multi-vehicle compatible controller 111 is also coupled to vehicle data bus 122 (i.e., an internal communications network) extending throughout the vehicle. *Id.* at 23:43–46, 23:59–61. Multi-vehicle compatible controller 111 uses the vehicle data bus to communicate with vehicle device(s) 121. *Id.* at 23:59–61. Specifically, the multi-vehicle compatible controller sends "at least one corresponding vehicle device code from among a plurality thereof for different vehicles" to vehicle devices 121 over vehicle data bus 122. *Id.* at 23:61–67. The vehicle codes may be for reading from, and/or writing instructions to, the vehicle devices. *Id.* at 23:67–24:3.

To be compatible with multiple vehicles, the multi-vehicle compatible controller receives, selects, and/or generates vehicle codes by receiving "enabling data" downloads though downloading interface 116. *Id.* at 24:4–12. The enabling data "may be the vehicle device code or codes, an instruction to select a code or codes from among those already stored, or the data or sequence to allow the controller 111 to generate the vehicle device code or codes, for example." *Id.* at 24:8–13. The downloading interface may be in the form of a wireless signal downloading interface or a wired signal downloading interface. *Id.* at 24:14–18, 24:33–34.

D. Prior Proceedings Involving the '278 Patent

As noted *supra* Section II.A., the '278 patent has been asserted in several litigations and has been involved in several *ex parte* reexamination proceedings. Of note to the present proceeding are jury verdicts in trials between Patent Owner and CalAmp Corp. ("CalAmp") as well as some of the reexamination proceedings. We summarize briefly some of these proceedings for background, and then discuss relevant aspects in more detail in connection with Patent Owner's assertions of secondary considerations *infra* Section III.C.4.

Patent Owner asserted the '278 patent (and three other patents) against CalAmp in litigation starting in 2013 (generally referenced herein as the "CalAmp litigation"). *See* PO Resp. 11; *Omega Patents, LLC v. CalAmp Corp.*, Case No. 6:13-cv-01950 (M.D. Fla.). In a first trial, a jury concluded that claims of all four asserted patents were infringed and not invalid. Ex. 2032 (verdict form). On appeal, the Federal Circuit affirmed the jury's finding rejecting the invalidity challenge as to the '278 patent and the other asserted patents. *Omega Patents, LLC v. CalAmp Corp.*, 920 F.3d 1337, 1343 (Fed. Cir. 2019). The Federal Circuit also reversed and remanded the case for a new trial on select issues of infringement, willfulness, damages, and fees. *Id.* at 1354. On remand, the parties conducted a second trial, which resulted in a finding of direct infringement of the '278 patent and an award of damages for over 917,000 units of the accused CalAmp product that the jury found were infringing. Ex. 2033 (verdict form). On appeal, the Federal Circuit affirmed the finding of infringement of the '278 patent, but vacated the damages award and remanded for a third trial. *Omega Patents,*

LLC v. CalAmp Corp., 13 F.4th 1361, 1382 (Fed. Cir. 2021). According to Patent Owner, the case was resolved prior to a third trial. PO Resp. 12.

Meanwhile, in 2015, CalAmp filed a petition for *ex parte* reexamination, application 90/013,587, and the claims were confirmed. Ex. 2035. CalAmp filed another petition for *ex parte* reexamination in 2016, application 90/013,851, in which the claims were rejected, the decision was appealed, the Board reversed, and the claims of the '278 patent were confirmed. Ex. 2036; *Ex parte Omega Patents, LLC*, Appeal No. 2018-008119 (PTAB Nov. 3, 2018) ("*Omega Patents I*," Ex. 2005). CalAmp filed a third reexamination in 2019, application 90/014,309, in which the claims were confirmed. Ex. 2037. A fourth petition for reexamination was filed in 2019, application 90/014,419, in which the examiner denied institution of reexamination, but petitioner filed a petition to review the refusal, and on February 7, 2024, all claims were confirmed to be patentable. Ex. 2038. A fifth petition for reexamination was submitted in 2021, application 90/014,675, in which the claims were rejected, the decision was appealed, the Board reversed, and the claims were confirmed. Ex. 2039; *Ex parte Omega Patents, LLC*, Appeal No. 2022-003758 (PTAB Dec. 1, 2022) ("*Omega Patents II*," Ex. 1015).

The prior proceedings have been argued by Patent Owner as material to institution considerations under 35 U.S.C. § 325(d), as well as with regard to secondary considerations. In particular, in opposing institution, Patent Owner argued that we should exercise our discretion to deny institution under 35 U.S.C. § 325(d) in view of the prior proceedings before the Office and the Board. Prelim. Resp. 55–58. Briefly, Patent Owner argued that the Office already considered Flick '885 (as cited on the face of the '278 patent

itself) and asserted that the combination of Flick '885 and Flick '561 is "essentially the same novelty challenge" as the combination of Flick '885 and Hunt, which was then before the Board in the 504 IPR. *Id.* at 56. Patent Owner also argued that the Board twice confirmed Patent Owner's evidence of secondary considerations, including nexus, commercial success, copying, licensing, customer need, and limited value of the product without the claimed invention. *Id.* at 58–59 (citing *Omega Patents I*, Ex. 2005, and *Omega Patents II*, Ex. 1015).

In our Institution Decision, we considered the parties' arguments and evidence, but declined to exercise our discretion to deny institution under section 325(d). Dec. 13–18. We agreed that Flick '885 was presented previously to the Office because it is a reference cited on the face of the '278 patent. *See id.* at 14–15 (citing Ex. 1001, code (56)). We also determined, however, that the Office had not considered the combination of prior art presented in any of the three grounds raised in the Petition, and therefore neither the same nor substantially the same art or arguments were previously presented to the office. *Id.* at 15, 17. This fact also informed our preliminary determination that the art presented in this matter may weigh differently against Patent Owner's evidence of secondary considerations. *Id.* at 20–21. In Section III.C.4., *infra*, we undertake a full evaluation of the evidence of secondary considerations on the record before us.

E. The Challenged Claims

Petitioner challenges claims 1–22 of the '278 patent. Pet. 6. Claim 1, reproduced below, is independent and illustrative of the subject matter recited in the challenged claims.[2]

> 1. [1pre] A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:
>
> [1a] a vehicle position determining device;
>
> [1b] a wireless communications device;
>
> [1c] a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;
>
> [1d] said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and
>
> [1e] a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

Ex. 1001, 25:64–26:15.

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[2] Herein, we use alphanumeric prefixes for each limitation, consistent with Petitioner's usage. *See* Pet. 21–32.

F. Evidence

Petitioner submits evidence including:

Petitioner's Evidence	Exhibit No.
Declaration of Dr. Azim Eskandarian	1002
U.S. Patent No. 6,756,885 B1 (Jun. 29, 2004) ("Flick '885")	1003
U.S. Patent No. 6,606,561 B2 (Aug. 12, 2003) ("Flick '561")	1004
U.S. Patent App. No. 2006/0161315 A1 (pub. July 20, 2006) ("Lewis")	1005
U.S. Patent App. No. 2003/0182033 A1 (pub. Sept. 25, 2003) ("Underdahl")	1006

G. Asserted Grounds of Unpatentability

We instituted review of all grounds of unpatentability asserted by Petitioner (Pet. 6; Dec. 51–52):

Claim(s) Challenged	35 U.S.C. §	Reference(s)
1–22	103(a)[3]	Flick '885, Flick '561
1–6, 8, 10–14, 16, 18, 19, 21	102(a)	Lewis
7, 9, 15, 17, 20, 22	103(a)	Lewis, Underdahl

In its Reply, Petitioner withdrew the grounds based on Lewis and Underdahl. Paper 24, 3–4. Only the ground based on Flick '885 and Flick '561 remains pending.

Patent Owner disputes Petitioner's asserted grounds of unpatentability and presents the testimony of Kenneth Flick (Ex. 2001) as well as Joseph McAlexander III (Exs. 2002, 2044).

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[3] The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA"), amended 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the '278 patent was filed and issued before 2013, we refer to the pre-AIA versions of 35 U.S.C. §§ 102 and 103. Our decision would be the same were we to apply the AIA versions of the statute.

H. The Prior Art

We provide brief summaries of the asserted references in the grounds remaining before us.

1. Flick '885 (Ex. 1003)

Flick '885, titled "Multi-Vehicle Compatible Control System for Reading from a Data Bus and Associated Methods," was granted to the same inventor as the '278 patent, and relates to multi-vehicle compatible control ("MVCC") systems for remotely controlling various vehicle functions, e.g., vehicle security, remote keyless entry, and remote starting. Ex. 1003, codes (54), (57), (75). Flick '885 issued on June 29, 2004 (*id.* at code (45)), and Petitioner contends it is prior art under 35 U.S.C. § 102(b). Pet. 19. Patent Owner does not challenge the prior-art status of Flick '885. *See* PO Resp. 5.

Figure 1, reproduced below, is a block diagram of a MVCC system according to Flick '885. Ex. 1003, 4:26–29.

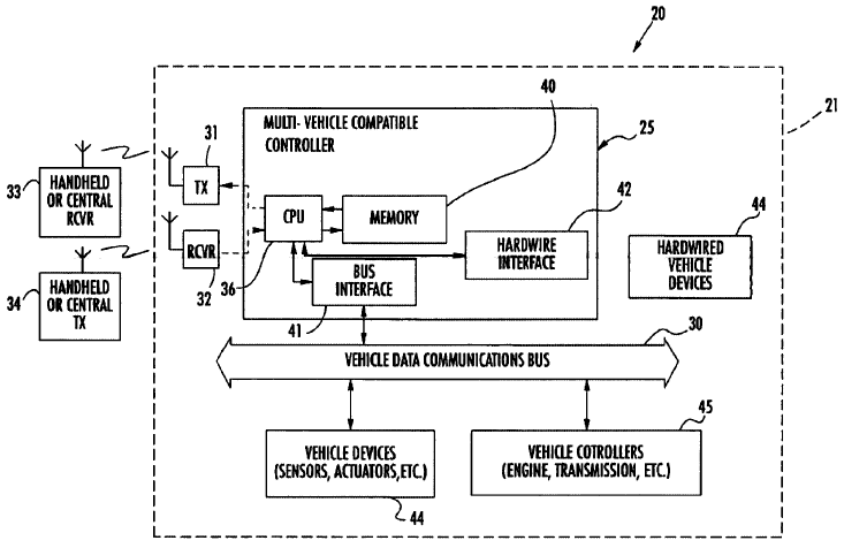

Fig. 1 is a schematic block diagram of a multi-vehicle control system including a multi-vehicle compatible controller connected to a data communications bus and other hard-wired devices. Ex. 1003, 4:26–29.

As shown in Figure 1, control system 20 for vehicle 21 includes MVCC 25 connected to vehicle devices 44 and vehicle controllers 45 through vehicle data communications bus 30. *Id.* at 5:5–8; *see also id.* at 6:41–52. The control system also includes transmitter 31 for communicating vehicle information (e.g., security alerts) to remote receiver 33, and receiver 32 for receiving instructions (e.g., remote starting) from remote transmitter 34. *Id.* at 5:16–29.

To be compatible with multiple vehicles, the multi-vehicle compatible controller generates multiple command signals or codes on the data communications bus for the vehicle device, "and only that code for the given vehicle and device will cause an operation or response from the vehicle device." *Id.* at 7:23–38.

2. Flick '561 (Ex. 1004)

Flick '561, titled "Vehicle Tracker Including Input/Output Features and Related Methods," was also granted to the same inventor as the '278 patent, and relates to a vehicle tracking unit mounted in a vehicle to interface with various vehicle devices. Ex. 1004, codes (54), (57), (75). Flick '561 issued on August 12, 2003. *Id.* at code (45). Flick '561 is listed in the priority chain for the '278 patent, but an examiner during an *ex parte* reexamination proceeding previously determined that the earliest priority date for the '278 patent is its filing date of July 3, 2007 (Ex. 1010, 5–6), and Patent Owner did not appeal that decision. *See* Pet. 6–9 (citing Ex. 1010, 1011). Petitioner, therefore, contends that Flick '561 is prior art under 35 U.S.C. § 102(b). *Id.* at 19. Patent Owner does not challenge the prior-art status of Flick '561. *See* PO Resp. 6–7.

Figure 2, reproduced below, is a block diagram of a vehicle tracking unit according to Flick '561. Ex. 1004, 3:39–40.

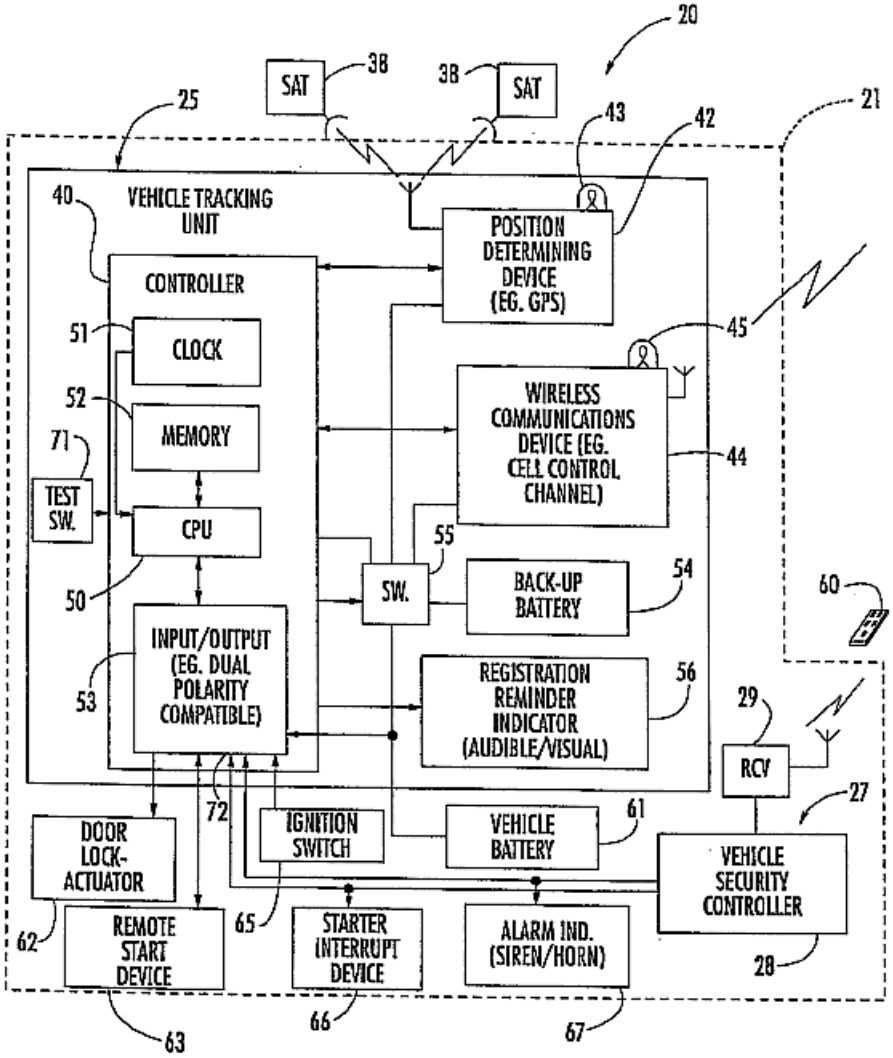

FIG. 2.

Fig. 2 is a detailed block diagram of a vehicle tracking unit. Ex. 1004, 3:39–40.

The vehicle tracking unit as described in Flick '561 includes vehicle position determining device 42 (e.g., GPS) and wireless communications circuitry cooperating to communicate a vehicle position to a monitoring station, such as based upon a vehicle alarm activation. *Id.* at 4:56–63, 8:6–20, 8:56.

III. ANALYSIS

In an *inter partes* review, "the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). Petitioner ultimately bears the burden of persuasion to prove unpatentability of each challenged claim by a preponderance of the evidence. 35 U.S.C. § 316(e). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

We organize our patentability analysis into three sections. First, we address the level of ordinary skill in the art. Second, we address claim construction. And third, taking account of the arguments and evidence presented at trial, including evidence of secondary considerations, we consider whether Petitioner has met its burden of proving by a preponderance of the evidence that the challenged claims are unpatentable.

A. Level of Ordinary Skill in the Art

We consider the asserted grounds of unpatentability in view of the understanding of a person of ordinary skill in the art. In assessing the level of ordinary skill in the art, various factors may be considered, including (1) educational level of the inventor; (2) type of problems encountered in the art: (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology, and (6) educational level of workers active in the field. *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696–697 (Fed. Cir. 1983). Not all of

these factors may be present in every case, and one or more of these or other factors may predominate in a particular case. *Id.* Moreover, these factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art. *Daiichi Sankyo Co. Ltd, Inc. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

Relying on the declaration testimony of Dr. Eskandarian, Petitioner contends that an ordinarily skilled artisan for the '278 patent "would have been someone knowledgeable in mobile computing systems and location technology." Pet. 18 (citing Ex. 1002 ¶ 39). Petitioner additionally contends

> [t]hat person would have had either (1) a Bachelor of Science degree in Electrical Engineering, Mechanical Engineering, Automotive Engineering, Computer Engineering, or an equivalent field, with at least two years of academic or industry experience in the automotive industry; or (2) a Master of Science degree in Electrical Engineering, Mechanical Engineering, Automotive Engineering, Computer Engineering, or an equivalent field, with at least a year of academic or industry experience in the same field.

Id. (citing Ex. 1002 ¶ 40). Petitioner also states that "[w]ith more education, for example, postgraduate degrees and/or study, less experience is needed to attain an ordinary level of skill in the art. Similarly, more experience can substitute for formal education." *Id.* at 18–19 (citing Ex. 1002 ¶ 40).

In our Institution Decision, we adopted Petitioner's articulation of the level of ordinarily skill in the art, noting that it is consistent with the '278 patent and the asserted prior art, and we applied it in our obviousness evaluations therein. Dec. 23–24 (citing *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (noting that the prior art, itself, can reflect appropriate level of ordinary skill in art)).

Patent Owner states, in its Response, that it has applied Petitioner's articulated level of ordinary skill for the purposes of this proceeding, and notes that application of this level of ordinary skill "is sufficient for the PTAB to evaluate the Petition Grounds." PO Resp. 13.

We maintain our determination of the level of ordinary skill in the art as stated in our Institution Decision, and we apply it herein.

B. Claim Construction

In interpreting the claims of the '278 patent, we "us[e] the same claim construction standard that would be used to construe the claim[s] in a civil action under 35 U.S.C. [§] 282(b)." 37 C.F.R. § 42.100(b) (2023). The claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims as would have been understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (*en banc*).

As explained below, the parties are in agreement with our preliminary constructions for certain terms, which we now adopt.

Petitioner notes that, in co-pending litigation between the parties, Patent Owner "has taken positions on the meaning of key claim terms." Pet. 16. Petitioner states that it only "seeks a construction of the claim term '*enabling data*.'" *Id.* Petitioner represents that Patent Owner has sought to construe "enabling data" to mean "data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller." *Id.*

In its Preliminary Response, Patent Owner noted that, in the 504 IPR, we construed "enabling data" according to the Board's

construction in *Omega Patents I*, as "data that 'enables the recited controller to use a particular vehicle device code from among plural such codes by providing either (1) the code itself to the controller, or (2) data that otherwise enables the controller to select or generate the code.'" Prelim. Resp. 13 (citing 504 IPR Decision on Institution ("504 IPR DI") at 25–27); *see also Omega Patents I* (Ex. 2005) at 12–13. Patent Owner did not, however, expressly advocate for adoption of that construction.

Petitioner filed its Petition on June 30, 2023 (Paper 2), and therefore did not have the benefit of our decision on institution in the 504 IPR, which was mailed on July 25, 2023 (504 IPR DI). Petitioner did, however, have access to the Board's decision in *Omega Patents I*.

In our Institution Decision, we stated that we saw no reason, at that stage of the proceeding, to depart from the Board's previous construction of this term in *Omega Patents I*, which was adopted by the Board in the 504 IPR. Dec. 25. Noting that the Board's previous construction was "soundly premised on the written description of the '278 patent, in accordance with *Phillips*," we preliminarily adopted that construction for purposes of institution. *See id*. (citing 504 IPR DI at 25). In so doing, we noted that our construction was preliminary, and we advised the parties (as the Board did in the 504 IPR) that "[t]he parties may further develop the record at trial as to how an ordinarily skilled artisan, at the time of the invention, would have interpreted 'enabling data' in light of the written description of the '278 patent, and more clearly explain any relevant differences between their respective interpretations." *Id.* at 26 (citing 504 IPR DI at 27).

In its Preliminary Response, Patent Owner additionally sought construction of the terms "vehicle tracking unit," "vehicle position

determining device," and "vehicle position information" to mean tracking "with respect to a geographic position." Prelim. Resp. 14. As support for this construction, Patent Owner noted that "[t]he specification uses these terms consistent with the understanding of one of skill in the art, namely that they refer to the geographic position of the vehicle." *Id.* at 13–14 (citing Ex. 1001, 1:30–1:57, 2:5, 5:16–19, 12:20–12:40, 15:62, 16:16–17:5, 23:36–39). Patent Owner offered this construction to address statements by Petitioner, which Patent Owner contended imply "that these terms include generally detecting movement, for example, in the cases of shock and motion around the vehicle, but fail[] to address the actual location of the vehicle itself." *Id.* at 14 (citing Pet. 22).

In our Institution Decision, we preliminarily adopted this construction for purposes of institution, noting that Petitioner did not address construction of those terms. Dec. 26–27. We again emphasized that our construction was preliminary, and we advised the parties that they "may further develop the record at trial as to how an ordinarily skilled artisan, at the time of the invention, would have interpreted these terms in light of the written description of the '278 patent, and more clearly explain any relevant differences between their respective interpretations." *Id.* at 27.

In its Response, Patent Owner reiterates its position that the '278 patent uses the terms "vehicle tracking unit," "vehicle position determining device," and "vehicle position information" to "refer to the geographic position of the vehicle," consistent with the "understanding of one of skill in the art" and with the description in the specification of a GPS receiver being used as the vehicle position determining device. PO Resp. 14 (citing

Ex. 1001, 1:30–1:57, 2:5, 5:16–19, 12:20–12:40, 15:62, 16:16–17:5, 23:36–39). Patent Owner does not further address construction of any terms other than to express its agreement with the constructions preliminarily adopted in our Institution Decision. PO Resp. 14.

In its Reply, Petitioner states that it "agrees to adopt the Board's preliminary construction of 'enabling data,'" and also states that it withdraws the Lewis and Underdahl grounds "based on this construction" and "to narrow the issues before the Board." Pet. Reply 3–4. Petitioner also states that "[f]or purposes of this IPR proceeding, [Petitioner] agrees to adopt the Board's preliminary construction of 'vehicle tracking unit,' 'vehicle position determining device,' and 'vehicle position information' to mean tracking 'with respect to a geographic location.'" *Id.* at 4–5.

Being presented with no reason to depart from our previous constructions, we maintain our construction of "enabling data" from our Institution Decision as data that "enables the recited controller to use a particular vehicle device code from among plural such codes for different vehicles by providing either (1) the code itself to the controller, or (2) data that otherwise enables the controller to select or generate the code," and we have applied that construction in our analysis herein. We also maintain our construction of "vehicle tracking unit," "vehicle position determining device," and "vehicle position information" to mean tracking "with respect to a geographic position," and we have applied that construction in our analysis herein to the extent necessary.

We determine that no express claim construction is necessary for any other claim term. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (holding that only claim terms in

controversy need to be construed, and only to the extent necessary to resolve the controversy (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

C. Alleged Unpatentability: Obviousness Over Flick '885 Combined with Flick '561

Petitioner contends that all challenged claims of the '278 patent are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Flick '885 and Flick '561. Pet. 19–48.

Patent Owner opposes Petitioner's contentions on two bases: (1) Petitioner fails to prove that the ordinarily skilled artisan would have combined Flick '885 and Flick '561 (PO Resp. 1–3, 21–29); and (2) Petitioner's proposed combination fails to consider evidence of secondary considerations (*id.* at 3–5, 29–55). Having considered the arguments and evidence on the full trial record, we find Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–22 are unpatentable on this ground.

A claim is unpatentable as obvious under 35 U.S.C. § 103(a) if the differences between the claimed subject matter 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. 35 U.S.C. § 103(a); *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved based on 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 ordinary skill in the art; and (4) any objective indicia of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). An obviousness determination based on a combination of

references requires finding a reason to combine accompanied by a reasonable expectation of achieving what is claimed in the challenged patent. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). "[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 550 U.S. at 419–20.

In essence, Petitioner contends that Flick '885 discloses everything in the challenged claims except a vehicle tracking unit, which Petitioner contends is disclosed by Flick '561. Pet. 2, 21–32. Petitioner contends that it would have been obvious to modify Flick '885's vehicle control system to obtain vehicle position information from a GPS and transmit it using a wireless communication system as taught by Flick '561. *Id.* at 19–20 (citing Ex. 1002 ¶¶ 76–77).

Below, we first evaluate the arguments and evidence as to motivation for the ordinarily skilled artisan to have combined the teachings of Flick '885 and Flick '561, then we evaluate the arguments and evidence for each element of the challenged claims, and then we address the arguments and evidence regarding secondary considerations.

1. Motivation for the Asserted Combination

Even "[i]f all elements of the claims are found in a combination of prior art references," the factfinder "should further consider whether a person of ordinary skill in the art would [have been] motivated to combine those references, and whether in making that combination, a person of ordinary skill would have [had] a reasonable expectation of success." *Merck & Cie v. Gnosis S.P.A.*, 808 F.3d 829, 833 (Fed. Cir. 2015). The

"motivation to combine" and "reasonable expectation of success" factors are subsidiary requirements for obviousness subsumed within the *Graham* factors. *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007).

Our reviewing court has explained that "[a]ssessing obviousness is based on an 'expansive and flexible approach' that 'need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.'" *Janssen Pharms., Inc. v. Teva Pharms. USA, Inc.*, 97 F.4th 915, 925 (Fed. Cir. 2024) (quoting *KSR*, 550 U.S. at 415, 418); *cf. Updated Guidance for Making a Proper Determination of Obviousness*, 89 Fed. Reg. 14,449, 14,451 (Feb. 27, 2024) ("Updated Guidance") ("Federal Circuit case law since *KSR* confirms that the flexible approach to obviousness encompasses not only how to understand the scope of prior art, but also how to provide a reasoned explanation to support a conclusion that claims would have been obvious."). As the Supreme Court has noted, "any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 550 U.S. at 420. These include "market forces; design incentives; the 'interrelated teachings of multiple patents'; 'any need or problem known in the field of endeavor at the time of invention and addressed by the patent'; and the background knowledge, creativity, and common sense of the person of ordinary skill." *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013) (quoting *KSR*, 550 U.S. at 418–21). Importantly, "[t]he motivation-to-combine inquiry asks whether a skilled artisan 'not only could have made but would have been motivated to make the combinations . . . of

prior art to arrive at the claimed invention." *Auris Health, Inc. v. Intuitive Surgical Operations, Inc.*, 32 F.4th 1154, 1158 (Fed. Cir. 2022) (quoting *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015)).

Petitioner relies primarily on Flick '885 (incorporating Flick '460) for teaching most limitations of the claims, but additionally relies on Flick '561 for teaching a "tracking unit" as recited in the preamble, and a "vehicle position determining device" as recited in limitations [1a] and [1c]. Pet. 21–23, 26–28.

Petitioner argues an ordinarily skilled artisan would have been motivated to combine Flick '561's location services with Flick '885's multi-vehicle compatible control system with a reasonable expectation of success. Pet. 19–20. As support, Petitioner reasons that both Flick '885 and Flick '561 relate to vehicle security systems, and both address similar problems. *Id.* at 19 (citing Ex. 1002 ¶ 75). In particular, Petitioner notes that both patents recognize a need for a vehicle security system to deter theft, and Flick '561 acknowledges that "it would be beneficial to know the vehicle's location so that authorities could be promptly and accurately directed to retrieve the vehicle." *Id.* at 19–20 (citing Ex. 1004, 1:25–28; Ex. 1003, 1:21–22 (noting that "[v]ehicle security systems are widely used to deter vehicle theft"); Ex. 1002 ¶ 75). Petitioner also notes that Flick '885 discloses sensors to detect movement of the vehicle. *Id.* at 20 (citing Ex. 1003, 1:27–28, 1:32–33). Citing the testimony of Dr. Eskandarian, Petitioner asserts that Flick '561's disclosure of a GPS sensor to track movement is a similar type of disclosure, which would have motivated the ordinarily skilled artisan to include GPS for the vehicle security system disclosed in Flick '885. *Id.* (citing Ex. 1002 ¶ 76). Petitioner further asserts

that Flick '561 similarly teaches toward Flick '885 because its objective is to "permit ready interface to devices in the vehicle, such as those devices which may be part of an existing vehicle security system," as disclosed in Flick '885. *Id.* at 22 (citing Ex. 1004, 2:16–18).

In response, Patent Owner argues that an ordinarily skilled artisan would not have combined the teachings of Flick '885 with Flick '561. PO Resp. 21–29. Patent Owner first argues that Mr. Flick, a "prolific inventor," and the named inventor on the Flick '885 and Flick '561 prior-art references, as well as the '278 patent before us, "was the one to recognize the benefits of combining these technologies, but not until his invention in the *'278 Patent*." *Id.* at 21 (citing Ex. 2001 (Flick Declaration) ¶ 12). Though the testimony of Mr. Flick is relevant, it cannot be considered in a vacuum, as the standard is not what the inventor himself knew or appreciated, but what an ordinarily skilled artisan would have understood.[4] The ordinarily skilled artisan is a fictional construct that, for example, is aware of all prior art in existence. *Custom Accessories, Inc. v. Jeffrey–Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986) ("The person of ordinary skill is a hypothetical person who is presumed to be aware of all the pertinent prior art."); *Kimberly–Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437 (Fed. Cir. 1984) (stating that "[r]eal inventors, as a class, vary in their capacities from ignorant geniuses to Nobel laureates; the courts have always applied a standard based on an imaginary worker of their own devising");

[4] Notably, Mr. Flick testified in the CalAmp litigation that his impediment to combining a vehicle tracking unit with a multi-vehicle compatible controller prior to the filing of the '278 patent application in 2007 was due to financial, not technological, constraints. *See* Ex. 1034, 38:19–39:4.

see also id. at 1449–54 (providing a comprehensive discourse on the evolution of the body of law addressing a person of ordinary skill).

Patent Owner then argues that neither Flick '885 nor Flick '561 is directed specifically to "vehicle security," and asserts that Petitioner's focus on vehicle security fails to consider the claims of the '278 patent "as a whole." PO Resp. 21–22. In particular, Patent Owner contends that Flick '885 is directed to "a control system providing multi-vehicle compatibility with different data bus codes," whereas Flick '561 is directed to "a tracking and an alerting system for a vehicle." *Id.* We disagree with Patent Owner's narrow assessment of these disclosures, as noted further below. But, regardless, the avowed purpose of the inventor of a patent is not controlling; rather, any known problem in the art can serve as motivation to combine the references. *See In re Kemps*, 97 F.3d 1427, 1430 (Fed. Cir. 1996) ("[T]he motivation in the prior art to combine the references does not have to be identical to that of the applicant to establish obviousness."). Patent Owner also takes issue with Petitioner's considering similarities in the teachings of the references with regard to vehicle sensors, with Petitioner's reliance on the technical possibility of incorporating a vehicle tracker into the system of Flick '885, and with Petitioner's reference to "common sense" and "market forces" as motivating the combination. PO Resp. 22–28.

Although we have considered Patent Owner's arguments carefully, we determine on the full trial record that Petitioner has shown by a preponderance of the evidence that an ordinarily skilled artisan would have had a reason to combine the teachings of Flick '885 and Flick '561 to achieve the claimed invention with a reasonable expectation of success.

Specifically, taking claim 1 as illustrative, Flick '885 teaches most of the limitations of this claim except for a vehicle position determining device (e.g., GPS). *Infra* Section III.C.2.b). But the evidence of record shows that the use of GPS was well known in the art for use in vehicle monitoring systems before the priority date of the '278 patent. Flick '561, for example, employs a GPS module in a wireless appliance that, like the control system disclosed in Flick '885, can communicate information about a vehicle to a receiver. *See* Ex. 1004, 5:8–10, 5:20–25; *see also* Pet. 26. Patent Owner's arguments that an ordinarily skilled artisan would not have combined Flick '885 and Flick '561 because each reference is allegedly directed to different subject matter is therefore not persuasive. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) ("Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.").

Moreover, contrary to Patent Owner's contentions (PO Resp. 21), the disclosures of both prior-art patents find substantial common ground in related issues involved with vehicle security systems, regardless of what narrower aspect of such systems the inventor ultimately chose to claim in each patent. *See, e.g.*, Ex. 1003, Abs. (noting that the multi-vehicle compatible controller "is useful for a number of vehicle remote control functions including vehicle security, remote keyless entry and remote starting"), 1:21–67 (discussion of vehicle security systems and the problems associated with such systems, such as remote control), 3:29–31 (noting that "the multi-vehicle compatible controller may be an alarm or security system controller" for a vehicle), claims 34, 42 (reciting "wherein the stored vehicle codes relate to vehicle security"); Ex. 1004, Fig. 1 (illustrating operation of

"vehicle tracking unit" with "vehicle security system"), 1:23–2:11 (providing detailed discussion of problems associated with tracking vehicles, such as vehicles that have been stolen, and noting issues with installing tracking systems into vehicles that already have a vehicle security system), 2:14–19 (describing "an object of the invention" as "provid[ing] a vehicle tracking unit and related methods that permit ready interface to devices in the vehicle, such as those devices which may be part of an existing vehicle security system"). Other significant commonalities include similar disclosures pertaining to keyless entry and remote start functions. Ex. 1003, 1:40–52; Ex. 1004, Fig. 2, 1:62–64, 5:48–64, 12:57–61.

And contrary to Patent Owner's contention that "[t]he prior art did not identify a commonly shared problem nor suggest the combination" (PO Resp. 21), we agree with Petitioner that Flick '561 and Flick '885 each contain disclosures leading toward their combination (*see* Pet. 19–20). In particular, Flick '885 discloses vehicle sensors for detecting vehicle movement (Ex. 1003, 1:27–28, 1:32–33), and Flick '561 discloses use of GPS to more broadly track vehicle movement (Ex. 1004, 1:25–28 (such as to enable recovery of a stolen vehicle)). Patent Owner argues, however, that "*detecting* local vehicle movement is not the same as *tracking* vehicle movement," and thus "doing something with 'movement' does not provide any leading, or motivation, toward a combination" of Flick '885 and Flick '561. PO Resp. 25. Patent Owner's assessment oversimplifies these disclosures in discounting their similarities and overlap. Flick '885 broadly discloses use of "[v]ehicle security systems" to deter, e.g., "vehicle theft," and notes use of sensors to monitor movement in and around the vehicle. Ex. 1003, 1:21–33. Flick '561 also broadly discloses use of vehicle security

systems to deter theft, and notes use of tracking devices to aid in recovery of a vehicle should it be stolen. Ex. 1004, 1:23–29. Thus, these patents share many commonalities of disclosure relating to vehicle security systems, and particularly detecting movement to aid in vehicle security, suggesting that the ordinarily skilled artisan would have been motivated to combine their disclosures toward a common purpose of improving vehicle security. Another commonality, persuasively argued by Petitioner, is that Flick '561 describes an objective of its system is to "permit ready interface to devices in the vehicle, such as those devices which may be part of an existing vehicle security system," which discloses a motivation to look to a MVCC, such as disclosed in Flick '885. Pet. 22 (citing Ex. 1004, 2:16–18).

Given the substantial overlap of disclosures and purposes, we are not persuaded by Patent Owner's arguments that Petitioner's rationale to combine is the result of "hindsight" or is premised on a mere "technical possibility." *See* PO Resp. 22–26 (emphasis omitted). And, in any event, the Federal Circuit has explained even pre-*KSR* that a motivation to combine may be found where the "combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient." *DyStar Textilfarben GmbH v. C.H. Patrick Co.*, 464 F.3d 1356, 1365 (Fed. Cir. 2006). We do not, however—contrary to Patent Owner's criticism (PO Resp. 26)—find that the combination of Flick '885 and Flick '561 would have been motivated merely by the desire to make a "better" product; rather, that motivation is supported by the overlapping disclosures and purposes of the cited references as well as the technical motivations we identify above.

Although we have considered Patent Owner's arguments and expert testimony carefully, we find that, for the foregoing reasons, Petitioner has shown by a preponderance of the evidence on the complete record that an ordinarily skilled artisan at the time of the claimed invention would have had sufficient reason to combine the teachings of Flick '885 and Flick '561 to achieve the claimed invention with a reasonable expectation of success.

We turn now to the parties' arguments and evidence as to the combined teachings for each element of the challenged claims.

2. Claim 1

Petitioner contends Flick '885 teaches each and every limitation of claim 1 except for limitation 1[a] (i.e., "a vehicle position determining device"), for which Petitioner relies on Flick '561 in combination with Flick '885. *See* Pet. 21–32 (claim chart).

a) [1pre] "A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle"

Petitioner presents evidence that the combination of Flick '885 and Flick '561 discloses the subject matter of the preamble.[5] In particular, with regard to the vehicle data bus extending throughout the vehicle, Petitioner points to Figure 1 of the '885 patent (which appears to be very similar to Figure 10 of the '278 patent) and associated disclosure. Pet. 21 (citing Ex. 1003, Fig. 1, 2:67–3:4). With regard to the multi-vehicle compatible tracking unit, Petitioner first argues that Flick '885 "inherently discloses" a tracking unit because it discloses sensors used to "detect movement of the

[5] Neither party takes a position on whether the preambles to the claims are limiting. We accept Petitioner's showing that the preambles are taught by the prior art, without deciding whether the preambles are limiting.

vehicle." *Id.* at 22 (citing Ex. 1003, 1:28–32). Petitioner then contends "[t]o the extent that the '885 Patent does not explicitly disclose a tracking unit, the '561 Patent discloses and claims a vehicle tracking unit." *Id.* (citing Ex. 1004, 2:13–17).

Patent Owner challenges Petitioner's showing as to the preamble with regard to Petitioner's statements that Flick '885 "inherently discloses a multi-vehicle compatible tracking unit." PO Resp. 17–18 (emphasis omitted). Patent Owner argues that the various sensors described in Flick '885 "detect movement in or around the vehicle, or movement of the vehicle," but contends that "[t]his is not detecting the geographic position of the vehicle or vehicle tracking." *Id.* at 17.

We agree with Patent Owner that Flick '885 does not, on its own, disclose vehicle tracking in the sense of tracking a geographic position of the vehicle. Rather, as Patent Owner notes, the "ultrasonic and microwave motion detectors" disclosed in Flick '885 detect movement of the vehicle, but not necessarily geographic location. PO Resp. 17–18. Given our construction of "vehicle tracking unit," "vehicle position determining device," and "vehicle position information" as meaning tracking "with respect to a geographic position" (*supra* Section III.B), we agree with Patent Owner that Flick '885 does not, alone, disclose a vehicle tracking unit, as recited.

Patent Owner does not, however, address the disclosure of Flick '561 with regard to a geographic positioning unit or the combination of Flick '885 and Flick '561 in this regard (aside from challenging motivation to combine, which we address *supra*). Patent Owner, therefore, does not dispute that the combined disclosures of Flick '885 and Flick '561 teach or suggest the

subject matter of the preamble of claim 1. Indeed, at oral argument, Patent Owner conceded that the combined disclosures of Flick '885 and Flick '561 teach all of the limitations of claim 1, but maintained that Petitioner's obviousness showing fails due to lack of motivation to combine and also due to evidence of secondary considerations. *See* Tr. 34:3–20.

Regardless of whether the preamble of claim 1 is limiting, we find, based on the complete record presented, Petitioner has demonstrated persuasively that the combination of Flick '885 and Flick '561 teaches the subject matter recited in the preamble of claim 1.

b) [1a] "a vehicle position determining device"

Petitioner presents evidence that Flick '561 discloses a vehicle position determining device. Pet. 23 (citing Ex. 1004, 4:59–5:4). Patent Owner does not specifically dispute this showing as to Flick '561. Patent Owner does dispute Petitioner's alternative argument that Flick '885 also "likely discloses a vehicle position determining device." *See* Pet. 23; PO Resp. 18–19. As noted above in the context of the preamble, we agree with Patent Owner that Flick '885 discloses sensors used to monitor vehicle movement, but does not appear to disclose a device for determining the geographic position of a vehicle. PO Resp. 19; *supra* Section III.C.2.a). Patent Owner otherwise does not make any specific arguments regarding this limitation. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '561 teaches the subject matter recited in limitation [1a].

c) [1b] "a wireless communications device"

Petitioner presents evidence that Flick '885 teaches this limitation by disclosing a control system that includes a transmitter and a receiver for receiving signals from the transmitter. Pet. 24–25 (citing Ex. 1003, Fig. 1 (boxes 31, 32), 2:66–3:8, 3:55–56, 5:58–62). Petitioner also notes that Flick '885 discloses "that the receiver at the vehicle is connected via a 'direct radio frequency link' or 'via other communications infrastructure, such as via satellite, or cellular communications'" and other means. Pet. 25–26 (citing Ex. 1003, 5:42–50). Petitioner also notes that Flick '561 "similarly discloses a wireless communications device." *Id.* at 26 (citing Ex. 1004, 5:8–10, 5:20–25).

Patent Owner does not make any specific arguments regarding this limitation. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 and Flick '561 each teach the subject matter recited in limitation [1b].

d) [1c] "a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information"

Petitioner presents evidence that the combination of Flick '885 and Flick '561 teaches this limitation. Pet. 26–28 (citing Ex. 1003, 3:6–9 (disclosing a control system including a transmitter and receiver), 8:50–54 (disclosing a data bus connected to vehicle sensors); Ex. 1004, claim 2 (reciting a vehicle tracking system "wherein said controller also cooperates with said vehicle position determining device and said wireless communications device to send vehicle position messages")).

Patent Owner challenges Petitioner's showing as to this limitation by focusing on Petitioner's additional contentions that Flick '885 "*inherently* discloses a multi-vehicle compatible tracking unit because 'one of the sensors disclosed is to "detect movement of the vehicle."'" PO Resp. 20; *see* Pet. 27–28. As noted above, given our preliminary construction of "vehicle tracking unit," "vehicle position determining device," and "vehicle position information" as meaning tracking "with respect to a geographic position" (*supra* Section III.B), we agree with Patent Owner that Flick '885 does not, alone, disclose sending vehicle position information, as recited. Patent Owner does not, however, address the disclosure of Flick '561 with regard to detecting vehicle positioning information or the combination of Flick '885 and Flick '561 in this regard (aside from challenging motivation to combine, which we address *supra*).

Based on the complete record presented, we find Petitioner has demonstrated persuasively that the combination of Flick '885 and Flick '561 teaches the subject matter recited in limitation [1c].

e) [1d] "said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles"

Petitioner presents evidence that Flick '885 teaches this limitation by disclosing:

> The multi-vehicle compatible controller is for storing a set of device codes for a given vehicle device for a plurality of different vehicles, for reading a device code from a data communications bus, and for determining a match between a read device code and the stored device codes to thereby provide compatibility with a plurality of different vehicles.

Pet. 28 (quoting Ex. 1003, Abs.) (emphasis omitted). Petitioner also cites additional disclosure in Flick '885 describing how the MVCC is coupled to the vehicle data bus and how it communicates with at least one vehicle device using at least one corresponding vehicle device code from a plurality of such codes for different vehicles. *Id.* at 29–30 (citing Ex. 1003, 3:38–45, 6:50–54, Fig. 1). We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding this limitation. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 teaches or suggests the subject matter recited in limitation [1d].

f) [1e] "a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller"

Petitioner presents evidence that Flick '885 teaches this limitation by disclosing a downloading interface in terms of the downloading function of the MVCC with the vehicle's bus interface. Pet. 30 (citing Ex. 1003, 9:1–10). Petitioner contends the ordinarily skilled artisan would have understood this disclosure, along with the disclosure of a "bus interface," to be a downloading interface "because the device codes read from the data communication bus must be downloaded first in order for the controller to perform the function of matching the read codes to any stored device codes." *Id.* at 31 (citing Ex. 1003, 6:33–40). Petitioner additionally relies on the fact that Flick '885 incorporates by reference U.S. Patent No. 6,011,460 ("Flick '460"), which discloses a "remote control system" that includes "desired

signal enabling means for causing the vehicle function controller to operate using a desired set of signals for a desired vehicle from a plurality of possible sets of digital signals for different vehicles, as may be downloaded from a downloading device temporarily connected thereto." *Id.* (quoting Ex. 1007, 3:56–61) (emphasis omitted). Petitioner additionally notes that Flick '885 also incorporates by reference the disclosures of an application that issued as U.S. Patent No. 6,812,829 ("the '829 patent"), which Petitioner contends also discloses the claimed downloading interface. *Id.* at 31–32 (citing Ex. 1008, 10:30–36, 11:50–57). We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding this limitation. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 teaches or suggests the subject matter recited in limitation [1e].

g) Claim 1: Conclusion[6]

For the foregoing reasons, we find Petitioner has demonstrated persuasively that the combination of Flick '885 and Flick '561 teaches or suggests all of the limitations of claim 1, and that the ordinarily skilled artisan would have been motivated to make the combination with a reasonable expectation of success. We address *infra* in Section III.C.4 the parties' arguments and evidence pertaining to secondary considerations.

[6] For the sake of convenience, we have organized the Decision by addressing the claim limitations first and later addressing the secondary considerations. We note that our conclusions are in view of the entire record, including taking secondary considerations into account.

3. Additional Claims 2–22

Claims 13 and 18 are the other independent claims of the '278 patent. Ex. 1001, 26:28–27:11, 27:27–28:15. Claims 13 and 18 each recite the same limitations as claim 1, while each adding one limitation. Claim 13 adds "said downloading interface comprising a connector for temporary connection to a downloading device." *Id.* at 27:10–11. This limitation is also recited in claim 3, which depends from claim 1. *Id.* at 26:19–22. Claim 18 adds "said downloading interface comprising a wireless receiver for temporary connection to a downloading device." *Id.* at 28:14–15. This limitation is also recited in claim 5, which depends from claim 1. *Id.* at 26:26–29.

Below, we evaluate Petitioner's showing as to the remaining claims, grouping claims according to their respective recitations.

a) Claims 2 and 4

Claims 2 and 4 depend from claim 1, and recite that the "downloading interface" comprises a "wired signal downloading interface" and a "wireless signal downloading interface," respectively. Ex. 1001, 26:18, 26:25.

Petitioner presents evidence that Flick '885, including Flick '460 incorporated by reference therein, teaches or suggests the subject matter of these claims by disclosing a wired signal downloading interface. *See* Pet. 32–35 (citing Ex. 1003, 5:41–49, 6:16–18, 6:24–32, Fig. 6B; Ex. 1007, 7:32–43, 7:49–56, Figs. 6A, 6B). We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding these claims. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 teaches or suggests the subject matter recited in claims 2 and 4.

b) Claims 3 and 13

Claim 3 depends from claim 2 and recites that the wired signal downloading interface comprises "a connector for temporary connection to a downloading device." Ex. 1001, 26:21–22. Independent claim 13 contains a similar recitation, while omitting the requirement that the downloading interface be "wired." *Id.* at 27:10–11.

Petitioner presents evidence that Flick '885 (through incorporation by reference of Flick '460) teaches or suggests the subject matter of these claims by disclosing "a downloading interface with a temporary connection to a downloading device." Pet. 33–34, 42 (citing Ex. 1003, 7:19–20; Ex. 1007, 7:49–56). We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding these claims. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 teaches or suggests the subject matter recited in claims 3 and 13.

c) Claims 5 and 18

Claim 5 depends from claim 4, and recites that the "wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device." Ex. 1001, 26:28–29. Independent claim 18 contains a similar recitation, while omitting the recitation that the downloading interface is "wireless." *Id.* at 28:14–15.

Petitioner presents evidence that Flick '885 (through incorporation by reference of Flick '460) teaches or suggests the subject matter of these claims by disclosing a wireless signal downloading interface, which connection would (by standard convention) be temporary. Pet. 35, 46 (citing Ex. 1007, 7:39–43).

We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding these claims. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 teaches or suggests the subject matter recited in claims 5 and 18.

d) Claims 6, 7, 14, 15, 19, and 20

Claim 6 depends from claim 1, and recites "wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device." Ex. 1001, 26:31–32. Claims 14 and 19 depend from claims 13 and 18, respectively, and contain commensurate limitations. *Id.* at 27:13–14, 28:16–18.

Claim 7 depends from claim 1, and recites that the "corresponding at least one vehicle code is for writing to the at least one vehicle device." Ex. 1001, 26:34–35. Claims 15 and 20 depend from claims 13 and 18, respectively, and contain commensurate limitations. *Id.* at 27:16–17, 27:17–18.

Petitioner presents evidence that Flick '885 teaches or suggests the subject matter of these claims by disclosing both reading vehicle device codes from a vehicle device (Ex. 1003, 6:32–36, 8:64–67, 9:1–7, Fig. 8) and

writing device codes to a vehicle device (*id.* at 6:32–36, 7:23–26, 8:64–9:1, Fig. 7). Pet. 35, 37, 42–43, 46–47. We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding these claims. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 teaches or suggests the subject matter recited in claims 6, 7, 14, 15, 19, and 20.

e) Claims 8, 16, and 21

Claim 8 depends from claim 1, and recites the "downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller." Ex. 1001, 26:37–39. Claims 16 and 21 depend, respectively, from claims 13 and 18, and contain commensurate limitations. *Id.* at 27:19–21, 28:23–25.

Petitioner presents evidence that Flick '885 (including teachings of Flick'460 incorporated by reference) teaches or suggests the subject matter of these claims by disclosing a memory that may store actual codes as well as enabling generation of the set of command signals by the CPU. Pet. 37–38, 43, 47 (citing Ex. 1003, 7:15–19, 8:28–30; Ex. 1007, 8:9–17).

We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding these claims. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 teaches or suggests the subject matter recited in claims 8, 16, and 21.

f) Claims 9, 10, 17, and 22

Claim 9 depends from claim 1, and recites "a remote transmitter," and adds "wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter." Ex. 1001, 26:41–44. Claims 17 and 22 depend, respectively, from claims 13 and 18, and contain commensurate limitations. *Id.* at 27:23–26, 28:27–30. Claim 10 depends from claim 9 and adds "wherein the at least one vehicle remote control function comprises at least one of a vehicle security function, a remote keyless entry function, and a remote engine starting function." Ex. 1001, 26:46–49.

Petitioner presents evidence that Flick '885 teaches or suggests the subject matter of these claims by disclosing a remote transmitter as part of a control system, in which the remote transmitter can be used to cause a desired function to be performed at the vehicle including remotely starting the engine, unlocking vehicle doors, and changing the mode of the security system between armed and disarmed. Pet. 38–39 (citing Ex. 1003, 5:18–29, 7:4–11). We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding these claims. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that Flick '885 teaches or suggests the subject matter recited in claims 9, 10, 17, and 22.

g) Claim 11

Claim 11 depends from claim 1 and adds "wherein said wireless position determining device comprises a Global Positioning System (GPS) receiver." Ex. 1001, 26:51–52.

Petitioner presents evidence that Flick '561 combined with Flick '885 teaches or suggests the subject matter of this claim by disclosing a GPS receiver. Pet. 39 (citing Ex. 1004, 4:59–63); *see also supra* III.C.2.b) (discussing Petitioner's showing as to the vehicle position determining device recited in limitation 1[c]). We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding these claims. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that the combination of Flick '561 and Flick '885 teaches or suggests the subject matter recited in claim 11.

h) Claim 12

Claim 12 depends from claim 1 and adds "a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface." Ex. 1001, 26:54–57.

Petitioner presents evidence that the combination of Flick '885 and Flick '561 teaches or suggests the subject matter of this claim because Flick '885 discloses "a housing containing the wireless communications device, the MVCC and the downloading interface," and the ordinarily skilled artisan would have been motivated (as shown in connection with claim 1) to combine the teachings of Flick '885 with the GPS tracking unit as disclosed

in Flick '561. Pet. 40 (citing Ex. 1003, Fig. 1; *see also supra* III.C.2.b). We find Petitioner's contentions are persuasive and are supported by the cited record.

Patent Owner does not make any specific arguments regarding these claims. *See generally* PO Resp.

Based on the complete record presented, we find Petitioner has demonstrated persuasively that the combination of Flick '885 and Flick '561 teaches or suggests the subject matter recited in claim 12.

i) Additional Claims: Conclusion

For the foregoing reasons, we find Petitioner has demonstrated persuasively that the combination of Flick '885 and Flick '561 teaches or suggests all of the limitations of claims 2–22, and that the ordinarily skilled artisan would have been motivated to make the combination with a reasonable expectation of success.

We turn now to the parties' arguments and evidence regarding objective evidence of nonobviousness (also termed secondary considerations).

4. Alleged Objective Evidence of Nonobviousness (Secondary Considerations)

Patent Owner argues that Petitioner's arguments for obviousness must fail in light of Patent Owner's evidence of secondary considerations, such as commercial success, licensing, and copying by others. PO Resp. 29–48; PO Sur-reply 8–15. Petitioner counters that Patent Owner's evidence suffers from multiple insufficiencies, and also argues that the Petition presents a strong case of obviousness that cannot be overcome by secondary considerations. Pet. 66–68; Pet. Reply 12–22.

a) Legal Principles

Although we have found that Petitioner has shown, by a preponderance of the evidence, that all limitations of the challenged claims are taught or suggested by the prior art, we must consider evidence concerning objective indicia of nonobviousness, also commonly referred to as secondary considerations, before we reach a conclusion about obviousness. *See Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc). Objective evidence of nonobviousness may include commercial success, licensing, and copying, among other indicia. *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1379 (Fed. Cir. 2012). Such evidence "may often be the most probative and cogent evidence in the record" and "may often establish that an invention appearing to have been obvious in light of the prior art was not." *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012) (citing *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983)).

For such evidence to have substantial weight, the patentee "must establish a nexus between the evidence and the merits of the claimed invention." *ClassCo, Inc. v. Apple, Inc.*, 838 F.3d 1214, 1220 (Fed. Cir. 2016). "[T]here is no nexus unless the evidence presented is 'reasonably commensurate with the scope of the claims.'" *Id.* (quoting *Rambus Inc. v. Rea*, 731 F.3d 1248, 1257 (Fed. Cir. 2013)). The patentee "bears the burden of showing that a nexus exists." *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999).

A rebuttable presumption of nexus arises "when the patentee shows that the asserted objective evidence is tied to a specific product and that

product 'embodies the claimed features, and is coextensive with them.'" *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) (quoting *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018)). Whether a rebuttable presumption of nexus arises "turns on the nature of the claims and the specific facts." *Teva Pharms. Int'l GmbH v. Eli Lilly & Co.*, 8 F.4th 1349, 1362 (Fed. Cir. 2021). The presumption analysis should consider the unclaimed features in the product tied to the objective evidence to assess their significance and impact on the correspondence between the patented invention and the product. *Quanergy Sys., Inc. v. Velodyne Lidar USA, Inc.*, 24 F.4th 1406, 1418 (Fed. Cir. 2022). When, "for example, the patented invention is only a small component of the product tied to the objective evidence," and thus the product is not coextensive with the patented invention, "there is no presumption of nexus." *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1333 (Fed. Cir. 2019).

Absent a presumption of nexus, the patentee may prove nexus by showing that the objective evidence resulted directly from "the unique characteristics of the claimed invention." *Fox Factory*, 944 F.3d at 1373–74; *see In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996). For example, "[a] prima facie case of nexus is generally made out when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent." *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988).

Following these principles, the Board employs a two-step analysis in evaluating whether a patentee has established a nexus between the evidence concerning objective indicia of non-obviousness and the merits of the

claimed invention. *See Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, IPR2019-01130, Paper 33 at 32–33 (PTAB Jan. 24, 2020) (precedential). Initially, the Board considers whether the patentee has demonstrated that the "products are coextensive (or nearly coextensive) with the challenged claims," resulting in a rebuttable presumption of nexus. *Id.* at 33. Absent a presumption of nexus, the Board considers whether the patentee has demonstrated "that the evidence of secondary considerations is the 'direct result of the unique characteristics of the claimed invention.'" *Id.* (quoting *Fox Factory*, 944 F.3d at 1373–74); *see also Henny Penny*, 938 F.3d at 1332 (noting that a patent owner may establish nexus by showing "a legally and factually sufficient connection" between the evidence and the claimed invention).

b) Presumption of Nexus

(1) Parties' Contentions

Patent Owner's evidence of secondary considerations largely centers on certain products sold by CalAmp, which were the focus of the CalAmp litigation. PO Resp. 37–48. In particular, Patent Owner contends the CalAmp LMU-3000, 3030 and 3050 products practice the invention claimed in the '278 patent because they were found by a jury in the CalAmp litigation "to infringe claims 1–6, 8, 11, 12–14, 16, 18, 19 and 21 of the *'278 patent*," and "the verdict of infringement was subsequently affirmed by the Federal Circuit." *Id.* at 39 (citing *Omega Patents, LLC v. CalAmp Corp.*, 13 F.4th 1361, 1373 (Fed. Cir. 2021)). Patent Owner also contends that the infringing CalAmp products are coextensive with the '278 patent claims. *Id.* (citing Ex. 2044 (Supp. McAlexander Decl.) ¶ 25); *see also* PO Sur-reply 10 ("[T]he infringing products merged multiple technologies into a single,

coextensive product, as recognized by the product development documents.”).

Petitioner counters that the jury’s infringement finding does not suffice to establish a nexus to objective indicia of nonobviousness. Pet. Reply 13–17. Petitioner contends the CalAmp products include critical unclaimed features, including a three-axis accelerometer; hard braking, cornering, and impact detection; and an on-board alert engine PEG (Programmable Event Generator). *Id.* at 14 (citing Ex. 1041, 24 (*Omega Patents, LLC v. CalAmp Corp.*, 13 F.4th 1361, 1382 (Fed. Cir. 2021)). Petitioner also argues that Patent Owner’s evidence of alleged secondary considerations “relies on one claim feature in the ’278 Patent–the multi-vehicle compatible controller,” which Petitioner contends “is disclosed in the prior art Flick ’885.” Pet. Reply. 16–17. Thus, Petitioner argues, Patent Owner’s “evidence of nonobviousness is weak because [Patent Owner] has not shown that its secondary considerations evidence is attributable to the claimed invention of the ’278 Patent itself and not the prior art.” *Id.* at 17.

Patent Owner disagrees with Petitioner’s assessment and contends that “the relevant features” of the CalAmp products “are both disclosed and claimed” in the ’278 patent, and further asserts that any unclaimed features of those products, such as the built-in accelerometer, power sleep mode, and pre-impact data capture capabilities, are “insignificant.” PO Resp. 40–43 (citing Ex. 2044 ¶¶ 25–32; Ex. 2023, 4; Ex. 2024, 5); PO Sur-reply 12–13. Patent Owner also argues that the success of the CalAmp products was not due merely to the multi-vehicle compatible controller but the combination of that controller with GPS in a single unit. PO Sur-reply 13–14 (citing Ex. 2023, 4; Ex. 2024, 5; Ex. 2019 ¶ 35).

(2) Analysis

Based on the evidence of record, we agree with Petitioner that Patent Owner has not carried its burden to show a presumption of nexus, despite evidence presented that certain CalAmp products embody the invention claimed in the '278 patent. *See* Ex. 2032, 5 (jury verdict, answering "yes" in response to the question, "Has Omega proven by a preponderance of the evidence that any of the accused CalAmp devices infringed any of the following claims of the '278 patent?"). The jury's finding that those CalAmp products infringe several claims of the '278 patent does not, however, demonstrate that those products are coextensive (or nearly coextensive) with the challenged claims. *See Lectrosonics*, IPR2018-01129, Paper 33 at 33; *see also Fox Factory*, 944 F.3d at 1373. As noted above, when the patented invention is only a component of the product tied to the objective evidence, and thus the product is not coextensive with the patented invention, "there is no presumption of nexus." *Henny Penny*, 938 F.3d at 1333.

In that regard, we first disagree with Petitioner that Patent Owner's evidence of nexus relies on only a single feature. *See* Pet. Reply. 16–17. Rather, as Patent Owner accurately notes, evidence of record touts the *combination* of a multi-vehicle compatible controller and a GPS in the CalAmp products. *See, e.g.*, Ex. 2023, 4; Ex. 2024, 5. On the other hand, however, we agree with Petitioner that this same evidence also touts other, unclaimed features, including a three-axis accelerometer; hard braking, cornering, and impact detection; and an on-board alert engine PEG (Programmable Event Generator). *See, e.g.*, Ex. 2023, 8 ("3D Accelerometer" and "Programmable Event Generator (PEG) processing"),

9 ("Impact Detection" and "Pre-crash logging of vehicle data"); Ex. 2024, 7 ("Internal 3-axis MEMS accelerometer for motion detection"); *see also* Ex. 2021, 1 (describing advantages of CalAmp LMU-3000 product including "Built-in Accelerometer for driver behavior capabilities and impact detection" and "Pre-impact data capture and capabilities"). This evidence undermines Patent Owner's contention that Petitioner has offered "no evidence" that the CalAmp products include significant unclaimed features. *See* PO Sur-reply 12.

Patent Owner summarily discounts the significance and impact of these unclaimed system components or features. *See, e.g.*, PO Resp. 42–43, n.6 (arguing that "[d]ata capture and power control were both insignificant features" that would have been provided by a "common and simple component available at a trivial cost at the time"); PO Sur-reply 12 (asserting that these features "were mundane and implemented by a $1.26 component and an off-the-shelf microprocessor that was also used for claimed features"). Patent Owner also contends that the features "[were] not pertinent to the primary goals of the vehicle tracking unit." PO Resp. 42 (citing Ex. 2044 ¶ 31); *see also* PO Sur-reply 12.

Patent Owner's conclusory statements are not persuasive of insignificance in the light of other evidence of record. Such evidence includes a decision by the Federal Circuit, wherein the court recognized the significance of those features in undermining an award of damages based on the entire value of the CalAmp products. *Omega Patents*, 13 F.4th at 1376. In particular, in vacating the very damages award Patent Owner relies upon to show alleged commercial success, the Federal Circuit held that award was "unsustainable" because Patent Owner had "failed to show the incremental

value of the '278 patent (or that the patented improvement drove demand for the entire accused product)." *Id.* As support, the Federal Circuit cited the very unpatented features referenced by Petitioner, stating that "[i]t is undisputed that ['3-axis accelerometer' and 'industry leading on-board alert engine'] are not inventive aspects of the asserted ['278 patent] claims." *Id.* at 1378. Rejecting Patent Owner's argument that "the multi-vehicle-compatibility feature of the [CalAmp] LMUs 'primarily, if not exclusively,' drove sales," the Federal Circuit elaborated:

> [Patent Owner] failed to present sufficient evidence to the jury that this feature "create[d] the basis for customer demand or substantially create[d] the value of the component parts." [*VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1326 (Fed. Cir. 2014)] (cleaned up). Rather, [Patent Owner] merely points to lesser testimony, for example, that multi-vehicle compatibility would be "an important feature," J.A. 19650, or "a helpful feature," J.A. 23582, and that development of the LMUs "was driven by a general market need," J.A. 19634. [Patent Owner] further points to testimony that multi-vehicle compatibility increased the value of the LMUs, *see* Cross-Appellant's Br. 32, but this testimony goes on to explain that the LMUs would still have had value absent this feature, *see* J.A. 19622. In sum, we conclude that the jury could not reasonably have found that the multi-vehicle-compatibility feature of the LMUs drove demand for the entire LMU product.

Id. at 1378.

By the same token, here, Patent Owner's pointing to the jury's finding of infringement of claims of the '278 patent by the CalAmp products establishes only that those products *include* the invention recited in those claims, not that they are *co-extensive* with the claims. The unclaimed features identified by the Federal Circuit (and also by Petitioner) are touted in the CalAmp marketing materials and product manuals as beneficial and desirable. *See, e.g.*, Ex. 2021, 2023, 2024. Patent Owner's only response to

this fact are contentions that those features are not relevant to what Patent Owner deems to be the "primary goals" of the CalAmp products and that they would have been implemented by inexpensive parts. *See* PO Resp. 42 (citing Ex. 2044 ¶ 31); PO Sur-reply 12. But neither contention is responsive to the evidence. Even if we accept that the CalAmp products were primarily designed for multi-vehicle compatibility with GPS, the fact remains that they included many other features that were touted as valuable by the product manufacturer, and the Federal Circuit acknowledged that the presence of such unclaimed features precluded a finding that the demand for the products was driven entirely by the patented features. *See Omega Patents*, 13 F.4th at 1376.

Although we do not require the Patent Owner to prove perfect correspondence to meet the coextensiveness requirement, "what we do require is that the patentee demonstrate that the product is essentially the claimed invention." *See Fox Factory*, 944 F.3d at 1373; *see also Teva Pharms.*, 8 F.4th at 1362 (discussing the "spectrum" of coextensiveness, from one in which unclaimed features are insignificant, which might not disturb the presumption, to one in which a critical feature is unclaimed, which would not show coextensiveness). Based on the foregoing evidence, we find that the unclaimed features identified by the Federal Circuit and by Petitioner in the infringing CalAmp products are not insignificant.

For these reasons, Patent Owner has not established a rebuttable presumption of nexus.

We are instructed that, even if we do not determine that a presumption of nexus attaches, Patent Owner may still establish nexus by showing "that the evidence of secondary considerations is the 'direct result of the unique

characteristics of the claimed invention.'" *Fox Factory*, 944 F.3d at 1373–74 (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)); *Lectrosonics* at 33. With this in mind, we turn to the provided evidence of secondary considerations.

c) Evaluation of Evidence

Patent Owner contends that even if the Board "deems the claims of the '278 Patent not fully coextensive with CalAmp's infringing products, a nexus is established because the evidence shows the secondary considerations are the result of the claimed invention." PO Resp. 43. Patent Owner argues these secondary consideration are (1) a "general market need for the infringing products" (PO Resp. 44–45); commercial success of the infringing CalAmp products (PO Resp. 45–47); licensing of the '278 patent (PO Resp. 47–48); and copying by others (PO Resp. 48). Patent Owner also argues that multiple decisions in reexamination and in district court litigation have upheld the validity of the '278 patent, providing "compelling evidence and persuasive authority for the decision in this IPR." PO Resp. 31–37. We address all of Patent Owner's arguments and evidence below.

(1) Prior Decisions

Patent Owner relies on and repeatedly cites to five *ex parte* reexamination proceedings, two of which culminated in the Board's decisions in *Omega Patents I* (Ex. 2005) and *Omega Patents II* (Ex. 1015).[7] *See* PO Resp. 33–34. Patent Owner argues that, through these decisions, "numerous examiners and the PTAB have carefully considered cumulative and duplicative references and found evidence of secondary considerations

[7] Patent Owner occasionally cites to *Omega Patents II* as Exhibit 1017, but the correct cite is Exhibit 1015.

sufficient to confirm the validity of the *'278 Patent*." *Id.* at 36–37 (citing Ex. 2035; Ex. 2036, 2355–2387; Ex. 2038, 2898–2917, 2974, 2986, 2991, 3008, 3020, 3024; Ex. 2039, 1114–1130; Ex. 1015, 13–14).

It is true that the Board previously mentioned evidence of secondary considerations presented by Patent Owner, including "licensing, commercial success, copying by others, customer need, and the limited value for accused products without the invention," in *Omega Patents I* and *Omega Patents II*. *See* Ex. 2005, 14; Ex. 1015, 13–15. Specifically, in *Omega Patents I*, the Board found that the asserted prior art reference Chou "does not teach or suggest the recited multi-vehicle compatible controller and downloading interface" and that "this deficiency is dispositive regarding [the Board's] reversing the Examiner's obviousness rejection." Ex. 2005, 14. The Board added, without discussion or analysis, that Appellant's evidence of secondary considerations "only further weighs in favor of Appellant." *Id.* In *Omega Patents II*, the Board found that the prior art (Lowrey and Lightner) taught a wireless appliance that was "multi-vehicle compatible," but that "Appellant's evidence of secondary considerations . . . outweighs the evidence of obviousness on this record." Ex. 1015, 16. In so doing, the Board relied on the jury verdict in *Omega Patents, LLC v. CalAmp Corp.*, Case No. 6:13-cv-01950 (M.D. Fla.), noting that the jury verdict therein stated that others' acceptance of licenses was due to merits of the claimed invention. *Id.* at 13–14.

The Board weighs secondary considerations against the scope and content of the *asserted prior art* and any differences between that art and the challenged claims. *See WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1328 (Fed. Cir. 2016) (explaining that "the strength of *each* of the *Graham* factors

must be weighed in every case and must be weighted en route to the final determination of obviousness or non-obviousness"). The Board in *Omega Patents I* and *Omega Patents II* determined that Patent Owner's evidence of secondary considerations either outweighed or "further weigh[ed]" against the Examiner's evidence of obviousness based on different prior art than we have before us. *See* Ex. 2005, 14; Ex. 1015, 13–15.

While we do not second-guess our colleagues' decisions that Patent Owner's evidence of secondary considerations either outweighed or "further weigh[ed]" against the Examiner's evidence of obviousness based on other prior art then before the Board in the reexamination proceedings, as we note above, we cannot say the same based on the combination of Flick '885 and Flick '561. We, therefore, undertake below our own evaluation of the evidence presented on the record before us.

(2) General Market Need

Patent Owner argues that "a general market need . . . led to the combination of technologies in CalAmp's infringing devices." PO Resp. 44 (citing Ex. 2019 ¶¶ 39–40). According to Patent Owner, this market need was multi-vehicle compatibility and a downloading interface that "avoided the need to have multiple SKUs (stock keeping units)," thus "reduc[ing] the units needed by installers and expenses." *Id.* Patent Owner further contends that a vehicle tracking unit would have had "limited value" without the '278 invention due to the "need to stock far more vehicle specific products." *Id.* Patent Owner also contends that CalAmp recognized "there were no viable design arounds incorporating the tracking and multi-vehicle data bus technologies." *Id.* at 45 (citing Ex. 2001 ¶ 13; Ex. 2011, 45:15–19).

Patent Owner does not expressly characterize the "market need" as a long-felt need. Nor do we find the evidence supports the existence of a long-felt need. Establishing long-felt need "requires objective evidence that an art-recognized problem existed in the art for a long period of time without solution." *Ex parte Jellá*, Appeal No. 2008-1619, 2008 WL 5693899, at *13 (BPAI Nov. 3, 2008) (precedential). Furthermore, one must demonstrate that "widespread efforts of skilled workers having knowledge of the prior art had failed to find a solution to the problem." *In re Allen*, 324 F.2d 993, 997 (CCPA 1963). Patent Owner has not provided evidence either of a long period of time without a solution to a known problem, or that others tried and failed to find a solution. At most, Patent Owner provides deposition testimony of a CalAmp engineer to the effect that he did not think that CalAmp "came up with any alternative designs." Ex. 2011, 45:15–19. We do not find this limited evidence establishes a long-felt need for the invention claimed in the '278 patent.

Patent Owner appears to rely on the alleged existence of a "market need" for the claimed invention primarily to support its assertion that the CalAmp products were commercially successful due to their incorporation of the invention claimed in the '278 patent. *See* PO Resp. 44–45. We address this consideration in the next section.

(3) Commercial Success

"Demonstrating that an invention has commercial value, that it is commercially successful, weighs in favor of its non-obviousness." *WBIP*, 829 F.3d at 1337. "When a patentee can demonstrate commercial success, usually shown by *significant sales in a relevant market*, and that the *successful product is the invention disclosed and claimed in the patent*, it is

presumed that the commercial success is due to the patented invention." *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) (emphases added); *WBIP*, 829 F.3d at 1329.

Pointing to the jury verdicts of infringement and damages in the CalAmp litigation, Patent Owner argues that the "extensive sales of infringing products is evidence of commercial success directly tied to the *'278 Patent*." PO Resp. 45–46 (citing Ex. 1027 [sic, Ex. 2032][8]; Ex. 2033). In particular, at the second CalAmp trial, the jury found 917,222 units of accused CalAmp products infringed the '278 patent, and awarded damages of $4,586,111 for that infringement. Ex. 2033. Patent Owner also notes that the jury in the first CalAmp trial found that the accused products were "commercially successful due to the merits of the claimed invention." PO Resp. 45 (citing Ex. 1027 [sic, Ex. 2032]).

Petitioner counters that Patent Owner has shown, at most, that it was awarded royalties for sales of infringing products, but argues that such proof falls short of establishing commercial success because Patent Owner has not provided any evidence of the relevant market. Pet. Reply 20–21. Petitioner notes that Patent Owner's expert, Mr. Tregillis, could not define the relevant market, stating that it's "somewhat in the eye of the beholder." *Id.* at 21 (citing Ex. 1033, 55:11–12). Petitioner also notes that, although Mr. Tregillis identified three potential relevant markets, he could not identify the size of any of them. *Id.* at 20, n.7 (citing Ex. 1031, 49:3–6, 56:4–14, 60:3–11); *id.* at 21–22 (citing Ex. 1033, 49:3–15). Petitioner

[8] Patent Owner occasionally cites to "EX1027" as the jury verdict in the first CalAmp trial, but that exhibit is a different document from the CalAmp litigation. The correct document is Exhibit 2032.

asserts that, therefore, Patent Owner has not shown "marketplace success of the claimed invention" because it has not shown that the '278 patent's technology "has been commercially successful in any relevant market." *Id.* at 20, 22.

We perceive several significant weaknesses in Patent Owner's showing of alleged commercial success. First, as our reviewing court has explained, establishing that a product infringes a patent is not enough to show a nexus between a claimed invention and commercial success. *See Fox Factory*, 944 F.3d at 1377 (holding that a *prima facie* case of nexus cannot be made by simply showing that "the patent claims broadly cover the product that is the subject of the evidence of secondary considerations"). Indeed, the Board has repeatedly found infringement verdicts to have minimal value in establishing objective indicia of nonobviousness. *See, e.g.*, *Facebook, Inc. v. Express Mobile, Inc.*, IPR2021-01455, Paper 39 at 65–68 (PTAB Mar. 1, 2023); *Mangrove Partners v. VirnetX Inc.*, IPR2015-01047, Paper 122 at 25 (PTAB July 14, 2020); *Ingenico Inc. v. IOENGINE, LLC*, IPR2019-00929, Paper 53 at 93–94 (PTAB Sept. 21, 2020).

As we noted above in connection with our evaluation of the evidence of nexus, there is insufficient evidence that the alleged commercial success is tied to the elements of the '278 patent—either individually or as a whole. *See* Section III.C.4.b). In particular, Petitioner presents evidence that the identified CalAmp products include significant unpatented features such as an accelerometer for hard braking, cornering, and impact detection, and an on-board alert engine Programmable Event Generator. Pet. Reply 14 (citing *Omega Patents*, 13 F.4th at 1382); *see also* Ex. 2023, 4; Ex. 2024, 5.

Indeed, as we also noted above, the very damages award Patent Owner relies upon to show alleged commercial success was *vacated* by the Federal Circuit on the ground that it was "unsustainable" because Patent Owner had "failed to show the incremental value of the '278 patent (or that the patented improvement drove demand for the entire accused product)," in light of those unpatented features identified by the court and also raised here by Petitioner. *See Omega Patents*, 13 F.4th at 1376.

Second, even if we accepted Patent Owner's contention that there is a nexus between the invention claimed in the '278 patent and the sales of over 900,000 units, the evidence of commercial success would remain weak because there is no evidence before us of *relative market share* establishing that the CalAmp products underlying the jury's verdict were a commercial success. *See, e.g.*, *In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012) ("An important component of the commercial success inquiry in the present case is determining whether [Patent Owner] had a significant market share relative to *all* competing [products] based on the merits of the claimed invention."). That is, Patent Owner does not provide evidence allowing us to evaluate how the second jury's damages award relates to the overall industry—the record neither reflects the scope of that industry nor CalAmp's place within it. *Cf. In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (noting that "evidence related solely to the number of units sold provides a very weak showing of commercial success, if any").

Patent Owner's only attempt to fill this gap is by pointing to the first jury verdict, in which the jury answered "yes" to the question of whether the "accused products covered by the claim were commercially successful due to the merits of the claimed invention rather than due to advertising,

promotion, salesmanship, or features of the product other than those found in the claim." PO Resp. 45 (citing Ex. 1027 [sic, Ex. 2032]).[9] However, that question was in a verdict form involving findings of infringement of multiple claims of four patents, and the finding of "commercial success" was not broken out by patent or product, leaving us no basis to assess the merits of that finding. Ex. 2032, 2–7, 9. In addition, the second jury's finding of infringement of the '278 patent by over 917,000 units was part of a verdict by a different jury, rendered years *after* the first verdict, with no corresponding question regarding commercial success. *Compare* Ex. 2032 (first verdict form), *with* Ex. 2033 (second verdict form). Thus, we cannot draw any connections between the first jury's finding of "commercial success" in a verdict form covering four patents and the second jury's award of damages for infringement of the '278 patent in particular.

Further undermining Patent Owner's proffered evidence of commercial success is the fact that the juries found the same products infringed multiple claims of at least *two patents other than* the '278 patent. *See* Exs. 2032, 2033. As our reviewing court has explained, "[c]ommercial success is relevant because the law presumes an idea would successfully have been brought to market sooner, in response to market forces, had the idea been obvious to persons skilled in the art." *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1376 (Fed. Cir. 2005). Where, however,

[9] Patent Owner makes additional arguments in its Sur-reply to the effect that CalAmp's infringing sales represented a "developing" marketplace and that sales of the infringing products "doubled" from the first jury trial to the second (PO Sur-reply 15 (citing Ex. 1031, 55; Ex. 2012, 69)). These new arguments do not persuasively fill the gaps left by Patent Owner's nonexistent showing of a relevant market.

"market entry by others was precluded [due to blocking patents], the inference of non-obviousness of [the asserted claims], from evidence of commercial success, is weak." *Id.* at 1377.

Here, in addition to finding infringement of the '278 patent in the *CalAmp* trials, the juries also found infringement by the same products of two earlier patents—the Flick '885 patent (which is asserted as prior art here) and U.S. Patent No. 7,671,727 ("Flick '727"). Ex. 2032, 4; Ex. 2033, 2–5. This fact undermines Patent Owner's contentions of commercial success. As our reviewing court has explained, an inference of nonobviousness from alleged evidence of commercial success is weak where market entry by others was precluded due to blocking patents. *Galderma Laboratories v. Tolmar*, 737 F.3d 731, 740 (Fed. Cir. 2013); *see also Solvay USA v. WorldSource Enterprises*, PGR2019-00046, Paper 45, 36 (PTAB Aug. 10, 2020) ("We . . . give less weight to Patent Owner's evidence of alleged commercial success because it does not account for potential blocking patents[.]"), *affirmed*, No. 2021-1041 (Fed. Cir. June 10, 2022).

Here, the second jury found that the *same* CalAmp products that infringed the '278 patent *also infringed* the Flick '885 patent. Ex. 2033, 2–3. Although that jury did not award damages for any units under Flick '885, the reason no damages were awarded in the second trial for infringement of Flick '885 is because the Federal Circuit had previously held that CalAmp could not be liable for direct infringement of the asserted claims of Flick '885, only for inducing infringement (*Omega Patents*, 920 F.3d at 1353–54), and the second jury did not find that CalAmp had induced infringement (Ex. 2033, 3). The fact remains, however, that the same CalAmp products that were found to practice the earlier Flick '885 patent, which is

indisputably prior art in the present proceeding, were also found to practice the '278 patent. Thus, Patent Owner's alleged evidence of commercial success of the '278 patent invention based on the jury's infringement findings is only further weakened by the existence of at least the Flick '885 blocking patent.

For the foregoing reasons, we determine that, at best, Patent Owner's evidence of commercial success is weak.

(4) Licensing

Patent Owner argues that the '278 patent has been "licensed by numerous parties over the years," has been "included in multiple licenses provided" by Patent Owner, and is "within the portfolios of patents that have generated in excess of $70MM in patent royalties." PO Resp. 47 (citing Ex. 2019 (Tregillis Decl.) ¶¶ 18–20). Patent Owner relies in particular on the jury verdict in the first CalAmp trial, in which the jury answered "yes" to the question of "Did others accept licenses under patents because of the merits of the claimed invention?" *Id.* (citing Ex. 2032 (verdict form)).[10]

Patent Owner does not, however, acknowledge that the jury was considering infringement and validity of *several* patents, not just the '278 patent, and the underlying licenses themselves involved *dozens* of patents and pending applications, not just the '278 patent. *See* Ex. 2032, 2–6 (verdict form, showing jury consideration of three patents *in addition to* the

[10] This verdict was challenged on appeal, and the Federal Circuit affirmed the finding rejecting invalidity of the '278 patent. *Omega Patents, LLC v. CalAmp Corp.*, 920 F.3d 1337, 1343 (Fed. Cir 2019). In so doing, however, the Federal Circuit did not evaluate or otherwise comment on any evidence of secondary considerations; rather, the affirmance of the verdict against invalidity was premised on rejecting the defendant's claim construction arguments. *See Omega Patents*, 920 F.3d at 1342–43.

’278 patent); *id.* at 9 (Question 5, asking about different evidence of secondary considerations, none of which is broken out by patent)). Patent Owner’s reliance on a jury finding that others accepted licenses because of the merits of the claimed invention is, therefore, misplaced because such finding did not, and could not, make a distinction between a license to the ’278 patent and to several other patents.

Moreover, none of the six license agreements in the record before us is directed to only the ’278 patent. Notably, two of the licenses cited by Patent Owner (Exs. 2025 and 2026) are settlement agreements that do not license the ’278 patent.[11] Exhibit 2026 does license the prior art patents (Flick ’885 and Flick ’561) relied on by Petitioner here, but it is unclear why Patent Owner contends this illustrates the value of the ’278 patent. *See* PO Sur-reply 14, n.4. The other four licenses (Exs. 2028–2031) include a license to the ’278 patent, along with licenses to the prior art cited in the Petition and dozens of other patents unrelated to the ’278 patent. *See* Ex. 2028 (license agreement referencing litigation involving Flick ’561, and including Flick ’885, Flick ’561, ’460 patent, and ’829 patent, along with dozens of other patents and applications, and also including foreign patents and applications); Ex. 2029 (license agreement including Flick ’885, ’460 patent, and ’829 patent, along with dozens of other patents and applications, and also including foreign patents and applications); Ex. 2030

[11] Patent Owner does not dispute this point, but asserts that (1) Exhibit 2025 included a “standstill window” for the licensee to buy time to cease infringing or face litigation (PO Sur-reply 14, n.4 (citing Ex. 2024, 2–3); and (2) Exhibit 2026 included a license for patents that are related to the ’278 patent, including Flick ’561 (*id.* (citing Ex. 2026, 42). Neither contention connects the licenses of record to the value of the ’278 patent in particular.

(license agreement including Flick '885, '460 patent, and '829 patent, along with dozens of other patents and applications, and also including foreign patents and applications); Ex. 2031 (license agreement including Flick '885, '460 patent, and '829 patent, along with dozens of other patents and applications, and also including foreign patents and applications). Being directed to dozens of patents, they are of limited value in assessing objective indicia of nonobviousness of the particular patent at issue here. *See, e.g.*, *Merck & Cie*, 808 F.3d at 838 ("[T]he Board's finding that the evidence of licensing should not be afforded much weight was reasonable" where license covered several patents.). Further undermining the value of at least Exhibit 2028 is the fact that it was taken in settlement of litigation. *See Iron Grip Barbell v. USA Sports*, 392 F.3d 1317, 1324 (Fed. Cir. 2004) (licenses taken to settle litigation have no probative value on non-obviousness "because it is often 'cheaper to take licenses than to defend infringement suits'" (citation omitted)).

For the foregoing reasons, we give little weight to Patent Owner's proffered evidence associated with licensing.

(5) Copying by Others

Patent Owner also relies on the jury verdict in the first CalAmp trial for evidence of copying by others, noting that the jury answered "yes" to the question "Did others copy the claimed invention?" PO Resp. 48 (citing Ex. 2032). Patent Owner contends "[t]he Jury's finding of infringement established that CalAmp's products copied the claimed invention, and resulted in significant sales volume of products that embody the '278 Patent." *Id.* (italics omitted).

Petitioner counters that the jury verdict addressed four different patents, as the Board also found in the 504 IPR. Pet. Reply 22 (citing Ex. 1040 (504 IPR), 57–58).

We agree with Petitioner that Patent Owner's argument of alleged copying is not supported by the record. As we have noted repeatedly above, the jury verdict relied upon by Patent Owner covered four different patents and the jury's finding of copying is not specific to any patent or accused product. *See* Ex. 2032.

Nor are we presented with any evidence underlying that verdict, aside from the jury's finding of infringement. As our reviewing court has held, "[n]ot every competing product that arguably falls within the scope of a patent is evidence of copying; otherwise, every infringement suit would automatically confirm the nonobviousness of the patent." *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010).

We determine that Patent Owner has not presented persuasive evidence of copying.

5. Summary

We have considered all of the arguments and evidence adduced at trial. For the reasons explained, we find Petitioner has persuasively demonstrated that the combination of Flick '885 and Flick '561 teaches or suggests all limitations of claims 1–22 and that the ordinarily skilled artisan would have been motivated to combine the references to achieve the claimed invention with a reasonable expectation of success. We also find that the value of Patent Owner's objective evidence of nonobviousness is weak in comparison to the evidence regarding the prior art under the first three *Graham* factors.

Accordingly, we find Petitioner has shown by a preponderance of the evidence that claims 1–22 of the ’278 patent would have been obvious over the combination of Flick ’885 and Flick ’561.

IV. CONCLUSION

For the foregoing reasons, we find Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–22 are unpatentable, as set forth in the table below:

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1–22	103(a)	Flick ’885, Flick ’561	1–22	
1–6, 8, 10–14, 16, 18, 19, 21	103(a)	Lewis[12]	N/A	N/A
7, 9, 15, 17, 20, 22	103(a)	Lewis, Underdahl[13]	N/A	N/A
Overall Outcome			1–22	

[12] This ground was withdrawn by Petitioner post-institution (Pet. Reply 4) and was not considered in our analysis herein.

[13] This ground was withdrawn by Petitioner post-institution (Pet. Reply 4) and was not considered in our analysis herein.

V. ORDER

In consideration of the full trial record before us, and for the foregoing reasons, it is:

ORDERED that claims 1–22 of U.S. Patent No. 8,032,278 B2 are held unpatentable; 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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