

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

GRAPHITE CHARGING COMPANY LLC,
Patent Owner.

IPR2024-00387
Patent 8,103,391 B2

Before KEN B. BARRETT, MATTHEW S. MEYERS, and
JOHN R. KENNY, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Tesla, Inc. (“Petitioner”)¹ filed a Petition requesting *inter partes* review of U.S. Patent No. 8,103,391 B2 (“the ’391 patent,” Ex. 1001). Paper 2 (“Pet.”). The Petition challenges the patentability of claims 1–20 of the ’391 patent. Graphite Charging Company, LLC (“Patent Owner”)² filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”). With our authorization, Petitioner filed a Reply (Paper 7, “Prelim. Reply”) and Patent Owner filed a Sur-reply (Paper 13, “Prelim. Sur-reply”).

An *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). Having considered the arguments and evidence presented by Petitioner and Patent Owner, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing on at least one of the challenged claims of the ’391 patent. Accordingly, we institute an *inter partes* review as to all the challenged claims of the ’391 patent on all the grounds of unpatentability set forth in the Petition.

B. *Related Proceedings*

Both parties identify, as a matter involving or related to the ’391 patent, *Graphite Charging Company LLC v. Tesla, Inc.*, No. 1:23-cv-00925 (W.D. Tex.). Pet. 1; Paper 4, 2; Paper 8, 2. That case has been transferred

¹ Petitioner identifies Tesla, Inc. as the real party in interest. Pet. 1.

² Patent Owner identifies Graphite Charging Company, LLC as the real party in interest. Paper 4, 2; Paper 8, 2.

to the United States District Court for the Northern District of California, and is captioned *Graphite Charging Company LLC v. Tesla, Inc.*, No. 3:24-cv-02717 (N.D. Cal.). *See, e.g.*, Paper 8, 2; Ex. 2004, 1.

C. The '391 Patent

The '391 patent pertains to “managing a charging process of an electric vehicle.” Ex. 1001, code (57) (Abstract). According to the '391 patent, as of the time of the filing of the patent application, “electric vehicle manufacturers and electric utility companies have only planned and provided infrastructure and methods for the most rudimentary charging scenario in which the electric vehicle is plugged into a common electric outlet.” *Id.* at 1:58–62. The '391 patent states that “[t]he present invention is related generally to an improved data processing system.” *Id.* at 1:8–9.

The Specification explains that “[t]he illustrative embodiments discuss an energy transaction interrupt monitor that monitors a charging process for interruptions,” and “[d]etection of interruptions enables an interrupt monitor to notify an energy transaction execution engine to terminate the charging process.” *Id.* at 10:8–12. In the context of Figure 4, the Specification further explains that “[i]nterruptions 406 is a set of one or more events or circumstances that terminates charging process 404 when detected by energy transaction interrupt monitor 402.” *Id.* at 11:9–12. “Interruptions 406 may be of different types, such as, for example, device capability interruptions, preference interruptions, and data services interruptions.” *Id.* at 11:12–14. These different types are discussed in the context of Figure 5. *Id.* at 11:15–17.

Device capabilities interruption 502 is a set of one or more interruptions that originates from components of an electric vehicle energy transaction infrastructure, such as electric

vehicle energy transaction infrastructure For example, device capabilities interruption 502 may include battery temperatures, transaction plan amperage, charging device connectivity, charging device ground wire functionality, stability of charging devices, or any other condition or status associated with components of an electric vehicle energy transaction infrastructure.

Id. at 13:11–20.

Preferences interruption 504 is a set of one or more interruptions that are caused from a violation of a user-specified preference. The user-specified preference may be, for example, a preference specified by an owner or operator of an electric vehicle or a utility provider. Thus, a user may specify a preference for a threshold cost for charging an electric vehicle. If the cost of charging the electric vehicle during a charging process exceeds the user cost preference, then an energy transaction interrupt monitor identifies the cost as preference interruption 504.

Id. at 13:22–31.

Data services interruption 506 is a set of one or more interruptions caused by the inability for information to be exchanged with data services sources. Data service sources are sources of data, such as, for example, energy data services Data services interruption 506 may be caused by power outages, broken transmission lines, or any other problems preventing a data service from exchanging information with other components of an electric vehicle transaction infrastructure.

Id. at 13:38–46.

D. Illustrative Claim

Of the challenged claims of the '391 patent, claims 1, 8, 15, and 20 are independent claims. Claim 1, reproduced below with bracketed annotations inserted, is illustrative.

1. [1Pre] A computer implemented method of managing a charging process of an electric vehicle, the computer implemented method comprising:

[1A] responsive to receiving, from an energy transaction execution engine, a request signaling a start of the charging process, monitoring a set of operational parameters of the charging process during the flow of electricity for one or more interruptions;

[1B] detecting the one or more interruptions during the flow of electricity from the set of operational parameters which conform to a set of predefined interrupt conditions, [1C] wherein the one or more interruptions comprise at least one of a device capabilities interruption, a preference interruption, and a data services interruption; and

[1D] responsive to detecting the one or more interruptions, sending a response to the energy transaction execution engine to terminate the charging process.

Ex. 1001, 16:43–59.

E. Evidence

Petitioner relies on the following references:

Name	Reference	Exhibit No.
Kimura	US 5,596,258, issued Jan. 21, 1997	1002
Hotta	US 5,650,710, issued July 22, 1997	1003
King	US 5,659,240, issued Aug. 19, 1997	1004
Keith	US 5,696,367, issued Dec. 9, 1997	1005
Nor	US 5,548,200, issued Aug. 20, 1996	1006

Petitioner also relies on the declaration of C. Arthur MacCarley, Ph.D., P.E. (Ex. 1009) in support of its arguments. The parties also rely on other exhibits as discussed below.

F. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. § ³	Reference(s)/Basis
1, 4–8, 11–15, 18–20	103(a)	Kimura
2, 5, 9, 12, 16	103(a)	Kimura, Hotta
3, 10, 17	103(a)	Kimura, King
1, 2, 4–9, 11–16, 18–20	102(b)	Keith
3, 8–19	103(a)	Keith
6, 13	103(a)	Keith, Nor

II. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314(a)—*FINTIV*

Patent Owner argues that, in view of the parallel litigation in the District Court, the Board should discretionarily deny institution of an *inter partes* review under 35 U.S.C. § 314(a) pursuant to *Fintiv*. Prelim.

Resp. 41–48; Prelim. Sur-reply 1–3; *see Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”).

We consider the following factors to assess “whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding”:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;

³ The application that issued as the ’391 patent was filed before the effective date of the Leahy Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), and we apply the pre-AIA versions of 35 U.S.C. §§ 102 and 103. *See* Ex. 1001, code (22); *see also* Pet. 2 (asserting that “the pre-AIA statute controls”).

5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Fintiv, Paper 11 at 5–6.

A. Procedural Posture

Patent Owner filed, on or about August 4, 2023, a complaint in the United States District Court for the Western District of Texas. Ex. 1014, 31; *see also* Pet. 104 (citing the same). The Petition for *inter partes* review was filed on February 1, 2024. Paper 3, 1 (Notice of Filing Date Accorded to Petition). According to Petitioner, at the time of the filing of the Petition, “the parties [were] briefing a motion to transfer [the district court litigation] to California, and merits-based fact discovery is stayed pending resolution of that motion,” and that “no merits discovery has taken place and no schedule has been entered.” Pet. 103; *see also* Prelim. Resp. 43 (“The parties previously agreed to stay ‘all merits-based fact discovery . . . until resolution of Defendant’s Motion to Transfer’ (*Graphite Charging Company LLC v. Tesla, Inc.*, 5:24-cv-02717-VKD, Dkt. No. 36, ¶ 5.f (W.D. Tex. Dec. 6, 2023))” (alterations in original)).⁴ The motion to transfer the case was granted on April 25, 2024. *See* Prelim. Resp. 43 n.9 (Patent Owner stating

⁴ The parties, in support of their respective arguments, cite to papers filed in the District Court but did not file those papers as exhibits in this case. *See* Prelim. Resp. 43 n.9 (Patent Owner citing the motion to transfer and the order on the motion); Prelim. Reply 1 (Petitioner citing the stay order, which was later filed by Patent Owner as Exhibit 2004). In the future, if a party wishes to rely on a document from the record of another tribunal, the party shall file—in compliance with our rules and the scheduling order—that document as an exhibit in this *inter partes* review. *See, e.g.*, 37 C.F.R. § 42.63 (a) (“All evidence must be filed in the form of an exhibit.”).

that the motion was “resolved.”); Paper 8, 2 (Patent Owner’s updated mandatory disclosures indicating that the case was transferred).

Upon the case’s arrival in the United States District Court for the Northern District of California, the Court issued an Order Setting Initial Case Management Conference and ADR Deadlines. Ex. 2002 (filed May 7, 2024). On May 31, 2024, the Court granted the parties’ joint request to stay the proceedings “pending resolution, including any appeal(s), of Tesla’s IPR proceedings on the Asserted Patents and Graphite’s forthcoming petition for writ of mandamus [regarding the order transferring the case from Texas to California], whichever is resolved later.” Ex. 2004, 2, 5. The Court amended the parties’ draft stay order to require the parties to file a joint status report every six months. *Id.* at 5.

B. First Factor – Stay in the Related Litigation

The parties agree that the district court litigation, currently in the Northern District of California, is stayed. Prelim. Reply 1; Prelim. Sur-reply 1; *see also* Ex. 2004 (Stay Order). As mentioned above, the district court litigation is stayed “pending resolution, including any appeal(s), of [Petitioner] Tesla’s IPR proceedings on the Asserted Patents and [Patent Owner] Graphite’s forthcoming petition for writ of mandamus [regarding the order transferring the case from Texas to California], whichever is resolved later.” Ex. 2004, 2.

Patent Owner argues that its petition for writ of mandamus may be granted and that the case would be sent back to the Western District of Texas and the stay lifted. Prelim. Sur-reply 1. Patent Owner also notes that the court’s order in the Northern District of California requires the parties to file a joint status report every six months, and argues that the stay may be

lifted as early as November 2024. *Id.* We decline to speculate as to whether the mandamus petition will be granted or whether the District Court for the Northern District of California will lift the stay prior to the occurrence of the triggering events identified in the order (resolution of the IPR proceedings or grant of the mandamus petition).

This factor weighs heavily against denial.

C. Second Factor – Proximity of The Court’s Trial Date to The Board’s Projected Statutory Deadline For A Final Written Decision

Our understanding is that, in light of the stay, there is no trial date set in the underlying litigation. *See, e.g.,* Ex. 2004, 1 (The joint stipulation and stay order stating that “an Initial Case Management Conference following transfer has not yet occurred, and currently no case schedule has issued.”). The Board’s statutory deadline for a final written decision is August 2025.⁵

Although it is speculative as to whether the stay will be lifted in the near future, we address the parties’ positions regarding the filing-to-trial statistics. Petitioner asserts that the expected time from filing to trial is 25.8 months in the Western District of Texas and is 36.7 months in the Northern District of California. Prelim. Reply 1 (citing Ex. 1012, 37, 66). In the Petition, and while the case still was pending in Texas, Petitioner asserted that a median time-to-trial of 25.8 months, “using the August 2023 filing date, yields an estimated trial date [in Texas] in October 2025, well after the Board’s projected Final Written Decision,” and argued that the expected trial

⁵ Both parties inexplicably apply in their arguments an estimated IPR final written decision date of October 2025. *See* Prelim. Resp. 1; Prelim. Sur-reply 1. However, in their joint stipulation to the District Court, the parties represent that they expect resolution of this IPR no later than August 2025. Ex. 2004, 1.

date in Texas would be further out because merits-based discovery had been stayed. Pet. 103; *but see* Prelim. Sur-reply (Patent Owner arguing that Petitioner’s calculations result in an estimated date of October 2025 for the Board’s final written decision and a trial in Texas (citing Prelim. Resp. 1)). Even if the case were not currently stayed in California, it would be difficult to determine how much of the statistical time-to-trial periods remain as the litigation initially was pending for some time in the Western District of Texas but under a stay of merits-based discovery, and then was pending for at least a short period of time in the Northern District of California before the stay. Regardless, even if the mandamus petition was granted very soon and the case returned to Texas or if the stay in California was lifted prior to the conclusion of the IPR proceedings, it appears that much of the statistical time-to-trial periods remain and, thus, the projected trial dates in both would be after the projected issuance, twelve months from now, of a final written decision in this IPR.

This factor weighs against denial.

D. Third Factor – Investment by the Court and the Parties in the Underlying Litigation

Petitioner, in the Petition, argues that, due to the stay of merits discovery in Texas, little substantive work will have occurred by the time of an institution decision in this IPR. Pet. 104. Petitioner also contends that it “expediently filed this petition less than 6 months after Patent Owner filed its Complaint.” *Id.* (citing Ex. 1014, 31). In the Preliminary Reply, Petitioner asserts that, because of the stay, “[n]o *Markman* hearing or substantive discovery will occur.” Prelim. Resp. 1.

Patent Owner, in the Preliminary Response and after the case had been transferred to California but before the stay, asserted that the Court

established certain discovery deadlines in June and July 2024, and argued that “substantive merits-based discovery will have occurred before the institution decision,” prior to the projected institution date of this IPR. Prelim. Resp. 45. Thus, Patent Owner asserts that some discovery might occur before institution. *Cf. id.* at 44 (Patent Owner indicating that the subject discovery is that “[t]he parties must also meet and confer to discuss their initial disclosures and discovery plan by July 16, 2024, and make their initial disclosures by July 30, 2024.”). Patent Owner, however, does not argue that there actually has been a substantial investment by the court or the parties in this regard. *See id.* at 43–44; Prelim. Sur-reply 1 (Patent Owner merely asserting that, “[a]s soon as the case returns to the WDTX or the stay is lifted in the NDCA, the court and the parties will resume activity in the parallel proceedings.”).

The parties, in jointly stipulating to the stay in California, represented to the court that:

this case is in its infancy as the parties have not yet engage[d] in any merit-based case activities, have not served or responded to any non-venue written discovery, have not exchanged contentions, did not perform any claim construction exchanges, have not taken any non-venue discovery, [and
Petitioner/Defendant] Tesla has not yet answered.

Ex. 2004, 2. We determine that there has been little investment in the parallel proceeding by the court and the parties.

This factor weighs against denial.

E. Fourth Factor – Overlap of the Issues

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv*, Paper 11 at 12. Specifically, we may consider whether “the petition includes the same

or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding.” *Id.* This factor involves concerns of inefficiency and the possibility of conflicting decisions. *Id.*

Patent Owner argues that “[t]here is significant overlap between the district court and this proceeding because all claims asserted in the parallel litigation are also contested here in the IPR.” Prelim. Sur-reply 1. Patent Owner does not assert that there is an overlap of the grounds, arguments, or evidence. Rather, Patent Owner argues that there could be an overlap because Petitioner has not submitted a stipulation to not pursue certain grounds in the District Court that might mitigate concerns of potentially conflicting decisions and duplicative efforts between the Board and the District Court. Prelim. Resp. 46 (citing *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18 (PTAB Dec. 1, 2020) (precedential as to § II.A); *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 11–12 (PTAB June 16, 2020) (informative)). Patent Owner further argues that, “[w]hen the stay is lifted, the risk of conflict between the two proceedings will increase, especially since Petitioner has not given a *Sotera*-type stipulation.” Prelim. Sur-reply 1–2.

Petitioner does not dispute Patent Owner’s assertion that there is a complete overlap in the claims challenged in this IPR and in the District Court. Rather, Petitioner argues, in the Petition and before transfer and the subsequent stay, that “Factor Four favors institution or is neutral because the Final Written Decision here will likely trigger estoppel before trial.” Pet. 104 (bolding omitted). In the Preliminary Reply, Petitioner argues that

“[t]here will be no overlapping invalidity issues during the stay.” Prelim. Reply 1.

We do not agree with Patent Owner’s argument that the risk of conflict will increase when the stay is lifted. It is merely speculative that the stay will be lifted prior to the conclusion of this IPR. At this time, due to the stay, the IPR and district court action are proceeding in series, not parallel. After a final written decision issues in this IPR, Petitioner indicates that it will be constrained by the estoppel provision of 35 U.S.C. § 315(e)(2).⁶ *See* Pet. 104; *cf.* Prelim. Resp. 46 (Patent Owner acknowledging that “the estoppel statute . . . precludes parties from raising such grounds [that are the subject of a *Sotera* stipulation]”). Thus, there likely will be no overlap between the issues in the IPR and the district court proceeding, and concerns of inefficiency and the possibility of conflicting decisions are mitigated.

This factor is either neutral or weighs slightly against denial.

F. Fifth Factor – Whether Petitioner is the Defendant in the Related Litigation

Petitioner acknowledges that it is the defendant in the parallel litigation. *See* Pet. 104. Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020) (precedential as to § II.A); *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 15 (PTAB May 13,

⁶ “The petitioner in an inter partes review . . . that results in a final written decision . . . may not assert . . . in a civil action . . . that the claim [challenged in the IPR] is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.” 35 U.S.C. § 315(e)(2).

2020) (informative); *cf.* Prelim. Resp. 47 (arguing that Petitioner’s assertion that this factor weighs in favor of institution or is neutral is unpersuasive because Petitioner relies on a routine Board decision that is neither precedential nor informative).

G. Sixth Factor – Other Circumstances Including the Merits

The sixth *Fintiv* factor takes into account other circumstances that may bear on the decision to exercise discretion to deny, such as the merits of the patentability challenges. *Fintiv*, Paper 11 at 14–16. The parties’ arguments for this factor concern only whether the Petition made a showing of unpatentability by compelling merits. *See* Pet. 104; Prelim. Resp. 47–48; Prelim. Reply 2; Prelim. Sur-reply 2–3. Board precedent provides that we should only consider the compelling merits issue if the first five *Fintiv* factors favor discretionary denial. *CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 4–5 (Vidal February 27, 2023) (precedential). “Thus, in circumstances where the Board determines that the other *Fintiv* factors 1–5 do not favor discretionary denial, the Board shall decline to discretionarily deny under *Fintiv* without reaching the compelling merits analysis.” *Id.*

As discussed above, the first three *Fintiv* factors weigh against discretionary denial, the fourth factor is either neutral or weighs slightly against denial, and only the fifth factor favors denial. Considering these factors as a whole, we determine that the first five *Fintiv* factors collectively weigh against discretionary denial, and thus, we do not assess compelling merits.

H. Conclusion Regarding the Fintiv Factors

We consider “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Fintiv*, Paper 11 at 6. We determine that the facts weighing against exercising discretion to deny institution collectively outweigh those facts weighing in favor of exercising discretion. Thus, we decline to deny institution based on the *Fintiv* factors.

III. ANALYSIS OF PETITIONER’S CHALLENGES

A. Principles of Law

Petitioner bears the burden of persuasion to prove unpatentability of the claims challenged in the Petition, and that burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987); *see also Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008) (to anticipate a patent claim under 35 U.S.C. § 102, “a single prior art reference must expressly or inherently disclose each claim limitation”). Moreover, “[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). Whether a reference anticipates

is assessed from the perspective of one of ordinary skill in the art. *See Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368–69 (Fed. Cir. 2003) (“[T]he dispositive question regarding anticipation [i]s whether *one skilled in the art* would reasonably understand or infer from the [prior art reference’s] teaching’ that every claim element was disclosed in that single reference.” (second and third alterations in original) (quoting *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991))).

Additionally, “[u]nder the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates.” *MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999); *see In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349–50 (Fed. Cir. 2002).

A patent claim is unpatentable 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. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) if present, any objective evidence of obviousness or non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. The Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art;

prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quoting *Custom Accessories, Inc. v. Jeffrey–Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)).

Petitioner contends:

A person of ordinary skill in the art (“POSA”) would have had a bachelor’s degree in computer science or electrical engineering, along with at least two to three years of experience working on software and/or hardware used to manage charging processes for electric vehicles. Ex-1009 ¶¶ 16–20. Additional advanced educational degrees could substitute for some years of industry experience and vice versa. *Id.*

Pet. 6. The Petition, under the same heading, goes on to assert that a person of ordinary skill in the art would be familiar with standards and regulations regarding electrical vehicle charging, including the J1772 standard, and would have knowledge of certain principles and technologies. *See id.*

Patent Owner states that, “[f]or the purposes of this Preliminary Response, Patent Owner generally does not contest the level of ordinary skill in the art as stated by Petitioner.” Prelim. Resp. 8. Patent Owner, however, “disputes Petitioner’s characterization of a POSA’s experience and knowledge of the J1772 standard.” *Id.* We do not reach, as part of this determination of the general description of the level of ordinary skill in the art, Petitioner’s contentions regarding the purported familiarity with and knowledge of specific information, including the J1772 standard.

Petitioner’s definition, as set forth in the block quote above, is consistent with the level of ordinary skill reflected in the prior art references of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (recognizing that the prior art itself may reflect an appropriate level of skill

in the art). For purposes of this decision, we apply that definition of the person of ordinary skill in the art, as block quoted above. The parties may, in future briefing authorized in the scheduling order, address the specific knowledge of the person of ordinary skill in the art.

C. Claim Construction

We apply the same claim construction standard used in district court actions under 35 U.S.C. § 282(b), namely that articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). In applying that standard, claim terms generally are given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). “[W]hile extrinsic evidence can shed useful light on the relevant art, . . . it is less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (internal quotation marks omitted).

Petitioner states that it applies the plain and ordinary meanings to all terms, and contends that “[n]o express constructions are required in this proceeding.” Pet. 6. “For purposes of this Preliminary Response, Patent Owner states that no express construction is necessary at this stage.” Prelim. Resp. 9.

We agree with the parties, and determine that, on this record and for purposes of this decision, no claim terms require express construction. We, however, discuss here some claim construction issues in order to narrow and clarify the issues going forward.

1. “*energy transaction execution engine*”

Limitation 1A recites, “responsive to receiving, from an *energy transaction execution engine*, a request signaling a start of the charging process, monitoring a set of operational parameters” Ex. 1001, 16:46–48 (emphasis added). The other challenged independent claims also recite an “energy transaction execution engine.” *Id.* at 17:28 (claim 8), 18:16–17 (claim 15), 18:46 (claim 20).

As mentioned above, Petitioner contends that all claim terms, including “energy transaction execution engine,” should be construed as having the plain and ordinary meaning. *See* Pet. 6. Petitioner contends that phrase is *not* a means-plus-function element governed by 35 USC § 112, sixth paragraph. *See* Pet. 14 n.4. However, in applying the claims to prior art references, Petitioner offers alternative arguments in the event that the phrase is construed as a means-plus-function element. *See* Pet. 14 n.4 (“The *energy transaction execution engine* does not appear to be in means-plus-function format, but, due to 37 C.F.R. § 42.104(b)(3), Petitioner cautiously notes that corresponding structure [in Kimura] would be energy transaction execution engine 316 and any implementing algorithm.”); *id.* at 65 n.10 (“If this is in means-plus function format . . . , Keith at least discloses an equivalent.”).

Patent Owner does not argue that “an energy transaction execution engine” is a means-plus-function element. *See* Prelim. Resp. 19 n.4 (“For the purposes of this Preliminary Response, Patent Owner is solely

addressing Petitioner’s hypothetical means-plus-function argument, and does not currently take a position on whether the ‘energy transaction execution engine’ constitutes a means-plus-function claim.”).

Therefore, neither party contends that “energy transaction execution engine” is a means-plus-function element, and neither party asks us to construe the phrase that way. We do not reach Petitioner’s alternative construction and, at this preliminary stage and in light of the parties’ positions, we decline to construe “energy transaction execution engine” as a means-plus-function element governed by § 112, sixth paragraph. *See, e.g., Phillips*, 415 F.3d at 1311 (“[W]e have held that the absence of that term [‘means’] creates a rebuttable presumption that section 112, paragraph 6, does not apply.”).

2. “intrinsic” and “extrinsic” evidence

Patent Owner, in the Preliminary Response, presents several arguments regarding the purported lack of “intrinsic” and “extrinsic” evidence. *See, e.g., Prelim. Resp. 21* (“Petitioner fails to provide any intrinsic or extrinsic evidence to support this assertion.”).

The terms “intrinsic evidence” and “extrinsic evidence” typically appear in a claim construction analysis and refer to evidence that is within or external to the public record of the subject patent. *See, e.g., Phillips*, 415 F.3d at 1317 (“Although we have emphasized the importance of intrinsic evidence in claim construction, we have also authorized district courts to rely on extrinsic evidence, which ‘consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.’”); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“In determining the proper construction of a claim, the court has numerous sources that it may properly

utilize for guidance. These sources have been detailed in our previous opinions . . . and include both intrinsic evidence (*e.g.*, the patent specification and file history) and extrinsic evidence (*e.g.*, expert testimony).”).

However, Patent Owner, at various points in the Preliminary Response, uses those terms in what appears to be arguments that Petitioner has failed to adequately show how a limitation is disclosed or taught in the relied-on prior art reference. For example, Patent Owner argues that “Petitioner provides *no intrinsic or extrinsic evidence to support its argument* that ‘[t]he charger controller 24 in Kimura executes the charger control program in Kimura, which, alongside the electric vehicle charger control program, allows for executing the charging process in Kimura.’” Prelim. Resp. 24 (quoting Pet. 51) (emphasis added). As another example, Patent Owner asserts:

Petitioner attempts to argue, without support, that Kimura teaches the tangible computer-recordable storage medium because “a POSA at once would have envisaged these respective control programs stored on one or more tangible computer readable media.” . . . *Neither intrinsic nor extrinsic support is provided for this argument*; thus, it should not be considered by the Board.

Id. at 22 (citing Pet. 44–46) (emphasis added). Although we doubt that Patent Owner is disputing the meaning of the claim phrase “tangible computer-recordable storage medium,” the reference to intrinsic and extrinsic support makes Patent Owner’s position unclear.

In future briefing, Patent Owner should clearly indicate whether it is making a claim construction argument or, for example, an argument that the prior art lacks a limitation.

D. Petitioner’s Obviousness Grounds Based on Kimura (Grounds 1–3)

For Ground 1, Petitioner alleges that claims 1, 4–8, 11–15, and 18–20 of the ’391 patent would have been obvious over Kimura. *See* Pet. 7–36 (addressing claim 1). For each of Grounds 2 and 3, Petitioner builds on this ground and adds a secondary reference in challenging certain dependent claims. *Id.* at 52–63.

Patent Owner argues that “[t]he Petition lacks the ‘particularity’ needed to pinpoint the grounds and evidence as required in IPR proceedings.” Prelim. Resp. 17–18 (quoting *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016)). Patent Owner specifically argues that Petitioner, even for a single-reference obviousness ground like Ground 1, must demonstrate both a motivation to combine elements of the reference’s teachings and a reasonable expectation of success. *Id.* at 25 (citing *In re Stepan Co.*, 868 F.3d 1342, 1346 n.1 (Fed. Cir. 2017)). Patent Owner further argues that the Petition fails to provide an adequate motivation and fails to present any argument for reasonable expectation of success. *Id.* at 25–26.

In re Stepan provides that:

Whether a rejection is based on combining disclosures from multiple references, combining multiple embodiments from a single reference, or selecting from large lists of elements in a single reference, there must be a motivation to make the combination and a reasonable expectation that such a combination would be successful, otherwise a skilled artisan would not arrive at the claimed combination.

In re Stepan Co., 868 F.3d at 1346 n.1.

We focus our discussion here on Petitioner’s obviousness challenge to independent claim 1, which is representative of the parties’ positions regarding Ground 1.

Neither party clearly identifies any differences between Kimura’s disclosure and the subject matter of independent claim 1. *See* Pet. 7–36; *see, e.g.*, Prelim. Resp. 18–22 (Patent Owner arguing, *inter alia*, that the purported arguments as to how Kimura teaches the claim elements are found only in Dr. MacCarley’s declaration, not in the Petition itself). The Petition also does not clearly indicate how, if at all, the teachings of Kimura are being combined in a manner differently than already disclosed in Kimura or how the relied-on embodiment is being modified.

We acknowledge that Petitioner contends that: “At a minimum, detecting electric-vehicle abnormalities would have been an obvious technique for comparing an operational parameter against a corresponding, predefined interrupt condition.” Pet. 24 (citing Ex. 1009 ¶ 81). However, this follows what appears to be a contention that the subject of that assertion is taught expressly by Kimura. *See, e.g., id.* at 23 (“To detect these abnormalities, Kimura teaches . . .”). Additionally, in the paragraph of the declaration cited as support, Dr. MacCarley does not opine that the subject matter is obvious. *See* Ex. 1009 ¶ 81. Rather, the testimony is that “detecting electric-vehicle abnormalities during the charging process *would have been necessary* to compare operational parameters against corresponding, predefined values indicative of an interruption.” *Id.* (emphasis added). This testimony, utilizing the term “necessary,” could be understood to imply that the subject matter is disclosed inherently in, and is not absent from, Kimura. *See MEHL/Biophile Int’l Corp.*, 192 F.3d at 1365 (“Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates.”).

In reply to Patent Owner’s arguments, Petitioner points to neither a difference between Kimura and the subject matter of claim 1 nor to any motivation contentions in the Petition. *See* Prelim. Reply 2–3. Rather, Petitioner appears to argue that a reason to combine or modify the reference’s teachings is not necessary, stating that “no motivation is needed when the combination is expressly taught.”⁷ *Id.* at 3 (citing *Philip Morris v. RAI*, IPR2020-00921, Paper 32 at 34 (PTAB June 30, 2022)). Petitioner attempts to distinguish *Stepan*, arguing that it only addresses combining multiple embodiments from a single reference or selecting from large lists of elements in a single reference. *Id.* at 2–3 (citing *In re Stepan*, 868 F.3d at 1346 & n.1). Petitioner asserts that it is doing neither, but instead appears to contend that a single embodiment of Kimura teaches all of the claimed subject matter. *See id.* at 3.

The issues raised by Patent Owner would benefit from further development at trial.

For the reasons discussed below, we determine that the Petition does demonstrate a reasonable likelihood of prevailing on its challenge to, at least, the independent claims as anticipated by Keith. Therefore, we institute an *inter partes* review on all challenged claims on all asserted grounds. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); 37 C.F.R. § 42.108(a) (“When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of

⁷ It is not clear whether Petitioner’s use of the word “combination” is referring to the combination of the reference’s teachings (the important aspect for an obviousness analysis) or is referring colloquially to the “combination” of limitations that constitute the overall claimed subject matter. *See, e.g.*, Prelim. Reply 3.

unpatentability asserted for each claim.”). During trial, the parties will have the opportunity to further discuss their respective positions on this single-reference obviousness challenge based on Kimura and on the grounds that build on that challenge.

*E. The Alleged Anticipation of Claims 1, 2, 4–9, 11–16, and 18–20
by Keith (Ground 4)*

Petitioner alleges that claims 1, 2, 4–9, 11–16, and 18–20 are anticipated by Keith. *See* Pet. 63–80 (addressing claim 1). Patent Owner argues that the Petition fails to identify adequately structure in Keith corresponding to the recited “energy transaction execution engine,” if that phrase is construed as a means-plus-function element. *See* Prelim. Resp. 34–35; Prelim. Sur-reply 2–3.

1. Keith (Ex. 1005)

Keith pertains to “electric vehicles which are operated with a battery and charging stations to which the vehicles may be presented for a charge when connected thereto, and ancillary methodology.” Ex. 1005, 1:8–11.

The vehicle and station communicate over a current loop to establish battery type and voltage, method of payment and credit card number, as well as the cost basis for the power. When communications are complete, the system switches over to utilize the same connections for the charging current. The computers include stop modes which they rest in, and to which they return if performance of vehicle and station diagnostics (respectively) indicate inoperability or if other faults occur. The vehicle charges the battery in a short program triggered by a AC voltage zero crossing interrupt, the background program of which determines when charging should cease because the battery is full, a switch has been operated, or because excessive voltage or current has been sensed.

Id. at code (57) (Abstract).

2. *The Alleged Anticipation of Claim 1 by Keith*

- a. *[IPre] A computer implemented method of managing a charging process of an electric vehicle, the computer implemented method comprising:*

Petitioner contends that, if the preamble of claim 1 is limiting, Keith discloses it. Pet. 63. Petitioner, in summarizing its contentions, asserts that “Keith discloses *a computer* (e.g., the charge station computer 34 and the vehicle charge computer 72) *implemented method of managing a charging process* (i.e., the charging process including the subroutines of Figures 15 and 16) *of an electric vehicle* (i.e., the vehicle 30).” *Id.* at 64 (citing Ex. 1009 ¶¶ 173–75); *see also id.* at 63–64 (citing, *inter alia*, Ex. 1005, 3:62–4:15, 7:32–40, 9:6–9, 9:53–56).

Patent Owner does not raise any arguments regarding these contentions. *See* Prelim. Resp. 34–35; Prelim. Sur-reply 2–3. We determine that Petitioner has demonstrated a reasonable likelihood of proving that Keith discloses the preamble of claim 1.

- b. *[1A] responsive to receiving, from an energy transaction execution engine, a request signaling a start of the charging process, monitoring a set of operational parameters of the charging process during the flow of electricity for one or more interruptions;*

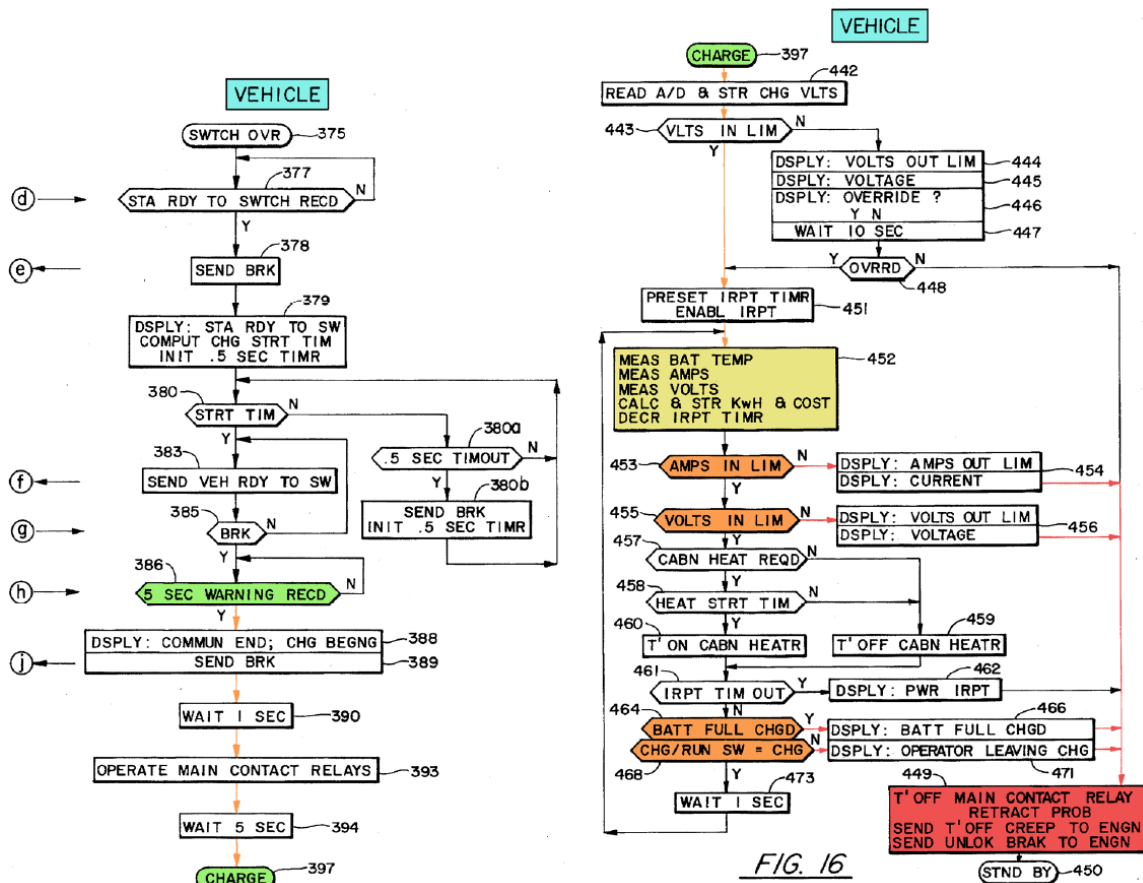
Petitioner contends:

In Keith, the charge station computer 34 sends a five-second warning to the vehicle charge computer 72 to signal that “the charge phase is going to begin.” Ex-1005, 20:15–23. This five-second warning is a request signaling the start of the charging process, with portions of the charging station computer 34 responsible for transmitting the warning acting as the *energy transaction execution engine*.

Pet. 65; *see also id.* at 70 (“the request is received from the *energy transaction execution engine* identified above, namely the hardware and/or

software responsible for transmitting the five-second warning to the vehicle charge computer 72”); *see also* Ex. 1009 ¶¶ 177, 184–185 (Dr. MacCarley’s opinion regarding Keith’s structure mapped to the “energy transaction execution engine” under the plain and ordinary meaning of that phrase; *cited in* Pet. 69–70).

To illustrate its contentions regarding Keith’s vehicle-side operations and the recited “request signaling a start of the charging process” and “monitoring a set of operational parameters of the charging process,” Petitioner provides annotated versions of Keith’s Figures 14 and 16, reproduced below. Pet. 67–70 (citing, *inter alia*, Ex. 1009 ¶¶ 176–184).



Id. at 68. Above, on the left, is Petitioner’s annotated version of Keith’s Figure 14, which depicts a vehicle switchover routine. *See* Ex. 1005, 4:12,

19:38. Above, on the right, is Petitioner’s annotated version of Keith’s Figure 16, which depicts a vehicle charge routine. *See id.* at 4:14, 20:47.

According to Petitioner:

As illustrated in Figures 14 and 16 . . . , the five-second warning (386, green) causes the vehicle charge computer 72 to monitor operational parameters of the charging process (452, yellow; and 453, 455, 464, and 468, all orange), including battery temperature, current, voltage, the amount of energy transferred to the battery 71, and energy cost. [Ex. 1005], 23:57–62 and Figs. 14 and 16 (step 386 leads to the subsequent monitoring of operational parameters, at 452, 453, 455, 464, and 468). The monitored operational parameters in Keith can lead to interruptions, e.g., 453-N, 455-N, 464-Y, and 468-Y (red pathways), and then termination at 449 (red). *E.g.*, Ex-1005, 23:62–24:1, 24:1–7, and 24:24–28.

Pet. 67. Petitioner further contends that this monitoring is occurring during the flow of electricity, asserting that “[c]harging continues during monitoring and until it is determined that the charging process should be terminated.” *Id.* at 68 (citing Ex. 1005, 8:29–32 (“The charge will continue until something goes awry”), 20:25–32, 20:41–47).

The Petition contains similar contentions regarding Keith’s charger-side operations. Pet. 70–72. Specifically, Petitioner asserts that, “[t]o the extent [Patent Owner] argues that monitoring for and detecting interruptions need also, or alternatively, occur on the charger side, Keith teaches or discloses this, as well.” Pet. 70 (citing Ex. 1009 ¶¶ 185–186). We understand that, at this stage, Patent Owner does not make such an argument. *See, e.g.*, Prelim. Resp. 34–35.

Patent Owner argues that “Petitioner suggests in a footnote that ‘if [the energy transaction execution element] is in means-plus-function format . . . Keith discloses an equivalent,’ yet fails to specify this equivalent

structure within the Petition itself.” Prelim. Resp. 24–35 (citing, *inter alia*, Pet. 65 n.10) (alterations in original); *see also* Prelim. Sur-reply 2 (“[T]he POPR established that Petitioner failed to show anticipation by Keith (Ground 4) because at a minimum the Petition does not explain what structure in Keith is allegedly equivalent to claim element 1[A].”). Patent Owner further argues that “Petitioner instead presents the corresponding structure only in its expert declaration” and that “this ground must fail because Petitioner does not substantiate the anticipation claim with appropriate evidence as required under 37 C.F.R. § 42.104(b)(3) and § 42.104(b)(4) (which mandates the identification of equivalent structures in the asserted references).” Prelim. Resp. 35 (citing Ex. 1009 ¶ 179).

Patent Owner is referring to Petitioner’s alternative position offered *if* “energy transaction execution engine” is construed as a means-plus-function element. *See* Prelim. Resp. 34–35, 35 n.7; Pet. 65 n.10 (“If this is in means-plus function format . . . , Keith at least discloses an equivalent.”). As discussed above in the claim construction section, neither party advocates for a means-plus-function construction and we do not construe “energy transaction execution engine” as governed by 35 U.S.C. § 112, sixth paragraph. *See supra* III.C.1. Therefore, at this stage of the proceeding, Patent Owner’s argument does not show a flaw in Petitioner’s case.

We determine that Petitioner has demonstrated a reasonable likelihood of proving that Keith discloses the monitoring step, which is recited as “responsive to receiving, from an energy transaction execution engine, a request signaling a start of the charging process, monitoring a set of operational parameters of the charging process during the flow of electricity for one or more interruptions.”

- c. *[1B] detecting the one or more interruptions during the flow of electricity from the set of operational parameters which conform to a set of predefined interrupt conditions,*

Petitioner contends that, “[b]efore the charge station 31 provides power to the vehicle 30, they communicate to define various limits,” and that “[d]etecting the predefined interrupt conditions in Keith involves comparing operational parameters against these predefined limits.” Pet. 72 (citing, *inter alia*, Ex. 1005, 6:31–36, 11:54–58, 18:17–24). For this limitation, Petitioner provides contentions for both vehicle charge computer 72 and charge station computer 34. *Id.* at 72. Petitioner summarizes its contentions regarding this limitation as follows:

Keith discloses *detecting the one or more interruptions* (e.g., caused by the voltage, the current, the battery charge level, the status of the charge/run switch 77, or the amount of cash spent not being within a predefined limit) *during the flow of electricity from the set of operational parameters which conform to a set of predefined interrupt conditions* (e.g., the voltage, current, and charge level limits based on the type of the battery 71, the state of the charge/run switch 77, or the amount of cash to be spent). Ex-1009 ¶¶ 187–90.

Id. at 73; *see also id.* at 72 (elaborating on these contentions and providing citations to Keith).

Patent Owner does not raise any arguments regarding these contentions. *See* Prelim. Resp. 34–35; Prelim. Sur-reply 2–3. We determine that Petitioner has demonstrated a reasonable likelihood of proving that Keith discloses limitation 1B.

- d. *[1C] wherein the one or more interruptions comprise at least one of a device capabilities interruption, a preference interruption, and a data services interruption; and*

Petitioner contends that “[w]hile not required . . . , Keith discloses

all three types of interruptions [recited in limitation 1C].” Pet. 73. In support of its contention as to why all three types are not required by the claim, Petitioner points to the Specification’s statement that “‘at least one of’ when used with a list of items means that . . . only one of each item in the list may be needed.” *Id.* (citing Ex. 1001, 10:38–48).

Petitioner summarizes its contentions regarding this limitation as follows:

Keith discloses *wherein the one or more interruptions comprises at least one of a device capabilities interruption (e.g., caused by the current or the voltage not being within a respective limit), a preference interruption (e.g., caused by exhaustion of cash), and a data services interruption (e.g., caused by a user not providing requested data in time).* Ex-1009 ¶¶ 191–98.

Id. at 77; *see also id.* at 73–77 (elaborating on these contentions and providing citations to Keith).

Patent Owner does not raise any arguments regarding these contentions. *See* Prelim. Resp. 34–35; Prelim. Sur-reply 2–3.

As for the data services interruption, Petitioner points to Keith’s disclosure of the user being asked whether it wishes to override an over voltage situation, and where the user is allowed ten seconds to respond. *See* Pet. 76; Ex. 1005, 23:16–31, Fig. 16. According to Petitioner (referring to its annotated version of Keith’s Figure 16), “[i]f no response is received after ten seconds, (i.e., an interruption in data services from the user failing to provide data in time), the logic proceeds to 449 (red) for termination.” *Id.* at 76–77. We have concerns as to whether this situation is correctly characterized as a data services interruption within the meaning of the ’391 patent. Nonetheless, we determine that Petitioner has demonstrated a

reasonable likelihood in proving that Keith discloses interruptions that “comprise at least one of” the three types recited in limitation 1C.

e. [1D] responsive to detecting the one or more interruptions, sending a response to the energy transaction execution engine to terminate the charging process.

For this limitation, Petitioner presents contentions for both the vehicle side (Figure 16) and the charger side (Figure 15). Pet. 78–79 (citing Ex. 1005, 23:29–35, 23:29–35, Figs. 15, 16). Petitioner summarizes its contentions regarding this limitation as follows:

Keith discloses responsive to detecting the one or more interruptions (e.g., caused by the current or the voltage not being within a respective limit, or caused by exhaustion of the cash deposited for the charging process), sending a response (e.g., the de-energizing of the main contact relay 94, or the signal represented by the operations leading from steps 421, 426, 429, and 435 to step 400 of Figure 15) to the energy transaction execution engine (e.g., portions of the charge station controller 34, including those implementing 387 and 400) to terminate the charging process. Ex-1009 ¶¶ 199–202.

Id. at 79.

Patent Owner does not raise any arguments regarding these contentions. *See* Prelim. Resp. 34–35; Prelim. Sur-reply 2–3. We determine that Petitioner has demonstrated a reasonable likelihood of proving that Keith discloses limitation 1D.

f. Conclusion as to Independent Claim 1

Having considered the parties’ arguments and evidence, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge to claim 1 as anticipated by Keith.

3. *The Alleged Anticipation of Claim 8 by Keith*

Petitioner contends that independent claim 8 is anticipated by Keith. Pet. 87–90. Patent Owner does not present arguments regarding Petitioner’s contentions for the contentions beyond those already addressed above in the context of independent claim 1. *See* Prelim. Resp. 35 (“All claims challenged under this ground fail for similar reasons, either due to their dependency (claims 2–7) or because the other independent claims (8, 15, and 20) and their corresponding dependent claims also incorporate the ‘energy transaction execution engine’ claim term at issue.”).

Independent claim 8 recites “[a] computer program product for managing a charging process of an electric vehicle, the computer program product comprising: a tangible computer-recordable storage medium,” with that storage medium storing four program instructions for performing steps the same or similar to those of independent claim 1. *See* Ex. 1001, 17:21–44.

Petitioner contends, *inter alia*, that:

Because these computers [of Keith] are able to run their respective programs, this means that those respective control programs are expressly, or at least necessarily, stored on one or more tangible, computer readable storage media. At a minimum, a POSA would have at once envisaged these respective control programs as being stored on one or more tangible computer readable storage media.

Pet. 88 (citing Ex. 1009 ¶¶ 225–227). For a similar contention made in Ground 1, Patent Owner argues that “[n]either intrinsic nor extrinsic support is provided for this argument; thus, it should not be considered by the Board.” Prelim. Resp. 22. To the extent that Patent Owner’s argument applies to this Keith ground and to the extent that it is an argument that a limitation is not disclosed by Keith, we do not find it persuasive. In the

paragraph immediately preceding the contention, Petitioner cites to Keith's disclosures, which is evidence. *See* Pet. 88. And, Petitioner relies on evidence in the form of the opinion testimony of Dr. MacCarley, which, at this point in the proceeding, is unrebutted. *See* Pet. 88 (citing Ex. 1009 ¶¶ 225–227).

Having considered the parties' arguments and evidence, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge to claim 8 as anticipated by Keith.

4. The Alleged Anticipation of Claim 2, 4–7, 9, 11–16, and 18–20 by Keith

Independent claims 15 and 20 recite, respectively, an apparatus and a system that performs the same or similar method recited in claim 1. *See* Ex. 1001, 18:9–27, 18:43–63. The remaining claims in this ground depend from one of the independent claims also challenged in this ground.

Petitioner, with the support of Dr. MacCarley's testimony, addresses the limitations of these claims. *See* Pet. 80–87, 90–95. Patent Owner does not present arguments regarding Petitioner's contentions beyond those already addressed. *See* Prelim. Resp. 35 (relying on the “energy transaction execution engine” argument for all the claims challenged in this ground).

Having considered the parties' arguments and evidence, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge to claims 2, 4, 5, 7, 9, 11, 12, 14–16, and 18–20 as anticipated by Keith.

Dependent claim 6 recites that “the one or more interruptions is the data services interruption, and the data services interruption originates from a failure in data transmission.” Ex. 1001, 17:12–15. Dependent claim 13 is a similar version for the computer program product claim. *Id.* at 18:1–4.

Petitioner again maps the data services interruption to the user's non-response to a request whether or not to override an over voltage condition. Pet. 85–86, 90. As with the similar contention made for claim 1, we have concerns as to whether this situation is correctly characterized as a data services interruption within the meaning of the '391 patent.

F. The Alleged Obviousness of Claims 3 and 8–19 Over Keith (Ground 5), and The Alleged Obviousness of Claims 6 and 13 Over Keith and Nor (Ground 6)

In Ground 5, Petitioner alleges that claims 3 and 8–19 would have been obvious over Keith alone. Pet. 95–99; Prelim. Reply 2–3. In Ground 6, Petitioner alleges that claims 6 and 13 would have been obvious over Keith and Nor. Pet. 99–103. Patent Owner opposes. Prelim. Resp. 35–41; Prelim. Sur-reply 3 (addressing Ground 5).

For Ground 5, we note that we do not agree with Patent Owner's argument that, by challenging the independent claims as anticipated by Keith, but not also including those claims in the Keith obviousness ground, "Petitioner implicitly concedes that independent Claims 1 and 20, along with dependent claims 2–7, are non-obvious." Prelim. Resp. 36 (citing *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988)). We do not read *In re Fine* as requiring a Petitioner to present an obviousness ground for an allegedly anticipated independent claim in order to preserve an argument that its dependent claims are obvious.

For the reasons discussed above, Petitioner has shown a reasonable likelihood that at least one claim of the '391 patent is unpatentable under at least one ground. Having decided to institute as to at least one challenged claim, we institute on all challenged claims and on all asserted grounds. The

parties may address further during trial any disputed issues pertaining to Grounds 5 and 6.

IV. CONCLUSION

Petitioner has demonstrated a reasonable likelihood of prevailing in showing the unpatentability of at least one of the challenged claims of the '391 patent. Accordingly, we institute an *inter partes* review on all challenged claims on all asserted grounds. *See SAS Inst. Inc.*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a). At this stage of the proceeding, we have not made a final determination with respect to the patentability of any of the challenged claims.

V. ORDER

For the foregoing reasons, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–20 of the '391 patent is instituted with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '391 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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