

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNITED SERVICES AUTOMOBILE ASSOCIATION,
Petitioner,

v.

AUTO TELEMATICS LTD.,
Patent Owner.

IPR2023-00911
Patent 9,311,271 B2

Before GEORGE R. HOSKINS, FRANCES L. IPPOLITO, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

HOSKINS, *Administrative Patent Judge*.

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

I. INTRODUCTION

United Services Automobile Association (“Petitioner”) has filed a Petition (Paper 3, “Pet.”) pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of U.S. Patent No. 9,311,271 B2 (Ex. 1001, “the ’271 patent”), claims 1, 3, 4, 6, and 7. Petitioner also filed a paper ranking its two petitions¹ challenging the ’271 patent. *See* Paper 2. Auto Telematics Ltd. (“Patent Owner”) has filed a Preliminary Response (Paper 7, “Prelim. Resp.”) opposing institution of review.

The Petition, to justify institution of review, must demonstrate a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim. *See* 35 U.S.C. § 314(a). Applying that standard on behalf of the Director (37 C.F.R. § 42.4(a)), we institute an *inter partes* review to determine whether Petitioner demonstrates by a preponderance of the evidence that the challenged claims are unpatentable, considering all grounds in the Petition.

II. BACKGROUND

A. *Real Parties-in-Interest and Related Proceedings*

Petitioner identifies itself (i.e., United Services Automobile Association) and Noblr Reciprocal Exchange as real parties-in-interest. *See* Pet. 84; Paper 6 (Petitioner’s Updated Mandatory Notices). Patent Owner identifies itself (i.e., Auto Telematics Ltd.) as a real party-in-interest. *See* Paper 5 (Patent Owner’s Mandatory Notices).

The parties identify one district court litigation involving the ’271 patent: *Auto Telematics Ltd. v. United Services Automobile Association*

¹ The Petition in this case, and the petition in IPR2023-00912.

and Noblr Reciprocal Exchange, Case No. 6:22-cv-00474 (W.D. Tex.) (“the Co-Pending Litigation”). *See* Pet. 84; Paper 5; Paper 6.

Petitioner has filed one other IPR petition to challenge the ’271 patent (IPR2023-00912). Petitioner has also filed other IPR petitions to challenge other patents related to the ’271 patent, including U.S. Patent No. 9,633,487 (IPR2023-00518 and IPR2023-00519), U.S. Patent No. 10,192,369 (IPR2023-00768, IPR2023-00769, and IPR2023-00770), and U.S. Patent No. 10,198,879 (IPR2023-00857, IPR2023-00858, and IPR2023-00859). *See* Pet. 85; Paper 5.

B. The ’271 Patent

The ’271 patent “relates to methods and systems for logging driving information associated with vehicle behaviour,” and particularly provides “a mobile device adapted for installation to a vehicle and configured to log such driving information, for example, video footage associated with how the vehicle is driven.” Ex. 1001, 1:17–22. This information may be utilized “to determine the cause of an event such as an accident, to modify driver behaviour and/or to determine insurance premiums.” *Id.* at 1:22–25.

The ’271 patent describes that prior art “data logging devices exist for road vehicles,” and could be used “to determine the cause of traffic accidents or other vehicle-related events, whether these stem from a vehicle malfunction or driver negligence.” *Id.* at 1:36–43. However, these devices often were “integrated with the car data network,” and were “difficult and costly to install.” *Id.* at 1:44–48.

The ’271 patent thus proposes “a mobile telecommunications device adapted for installation to a vehicle and configured to log driving

information associated with the vehicle when driven.” *Id.* at 1:57–62.

According to the ’271 patent, “the use of a mobile telecommunication device enables a data logging device to be conveniently and inexpensively retrofitted to a vehicle.” *Id.* at 2:10–12.

To log the data, the adapted device operates by “registering the start of the driving period during which the mobile device is installed to the vehicle and the vehicle is being driven by the driver.” *Id.* at 3:14–16. This prevents logging information needlessly. *Id.* at 3:16–21. Preferably, the registration is “in response to an initialisation input,” such as user input, or automatic, “in response to the mobile device being installed to the vehicle and/or the vehicle being driven.” *Id.* at 3:25–32. “For example, if the sensor data reflects a detected speed above a predetermined threshold—for example, 20 kilometers per hour—then this can be used to trigger the start of the driving period.” *Id.* at 3:34–38.

Figure 2, reproduced below, illustrates an automobile with a mobile device installed for logging. *Id.* at 12:38–40.

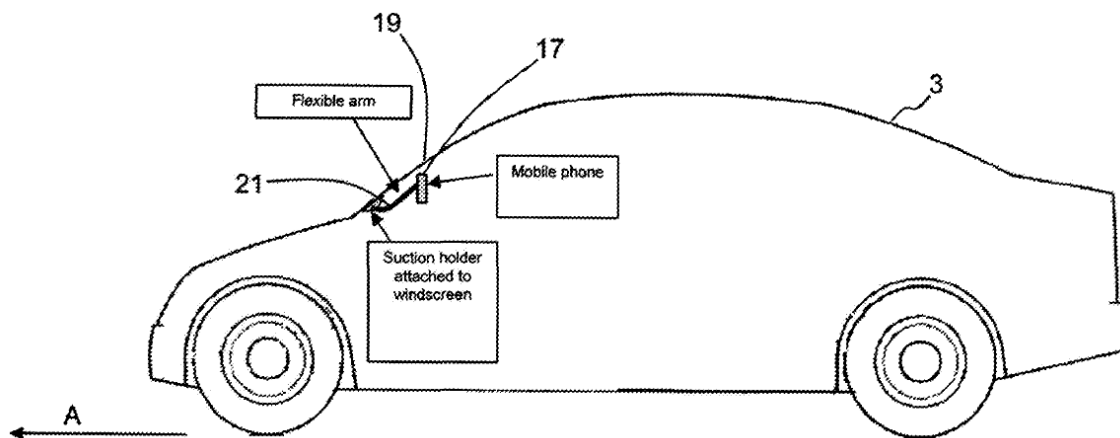


Figure 2 of the ’271 Patent.

Figure 2, reproduced above, shows a preferred arrangement of mobile telecommunications device 17 within automobile 3. *Id.* at 15:45–47.

C. The Claims of the '271 Patent

The '271 patent includes seven claims, of which claims 1, 3, 4, 6, and 7 are challenged here. *See* Ex. 1001, 31:28–34:21; Pet. 1.

Claim 1 recites:

1. A mobile telecommunications device configured to log driving information associated with a vehicle, the mobile device comprising:
 - a sensor set comprising an image sensor, an audio sensor, an accelerometer, or a positioning module, or a combination thereof;
 - a user interface;
 - a processor; and
 - a memory;the mobile device configured to:
 - determine, based on inputs received by the user interface and sensor data from the sensor set, a start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use;
 - process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven;
 - store a selection of the driving information to the memory, wherein the driving information is derived without data from vehicle sensors; and,
 - wherein the mobile communications device is controlled by a downloaded application to control the mobile device to register the start of the driving period in response to an initialization input generated automatically in response to the sensor data having predetermined values, wherein the initialization input is generated in response to sensor data reflecting a detected speed above a predetermined threshold.

Ex. 1001, 31:29–56. Claim 3 depends from claim 1. *See id.* at 31:62–67.

Claim 4 is an independent claim that is identical to claim 1, except for the last limitation which in claim 4 is:

wherein the mobile communications device is controlled by a downloaded application to control the mobile device to process the sensor data from the sensor set during a plurality of driving periods to derive driving information associated with how the vehicle is driven during the driving periods, the sensor data being processed during a first set of driving periods defining a benchmark against which sensor data is compared during subsequent sets of driving periods.

Id. at 32:1–29.

Claim 6 recites:

6. A data-logging system for logging driving information received from a remote mobile telecommunications device, the data-logging system comprising a processor and memory, the data logging system comprising:
 - a database for storing a plurality of accounts, each account having a unique identifier and the database being arranged to store driving information associated with at least one of a vehicle and a driver;
 - a communications interface arranged to communicate with the remote mobile telecommunications device, and receive therefrom:
 - a unique identifier for association of the remote mobile telecommunications device with a corresponding one of the plurality of accounts;
 - driving information to be logged to that corresponding account, the driving information derived based on inputs received by a user interface of the remote mobile telecommunications device and sensor data from a sensor set of the remote mobile telecommunications device, the driving information derived without data from vehicle sensors; and,

wherein the driving information comprises at least one of a driving score and sensor data captured and processed by the remote mobile telecommunications device during a driving period during which the remote mobile telecommunications device is removably attached to the vehicle being driven by the driver, the data logging system being further arranged to process the driving information logged to a corresponding account to generate a driving score used to determine a risk profile for at least one of the vehicle and driver.

Id. at 32:40–33:4.

Claim 7 is an independent claim that is identical to claim 6, except claim 7 contains an additional limitation at the end which is:

wherein the driving score is used to define an insurance premium associated with the account and the data logging system is further arranged to communicate to the remote mobile telecommunication device an insurance offer generated in response to the driving information received from the remote mobile telecommunications device.

Id. at 33:5–34:21.

D. Asserted Prior Art

Petitioner's challenges rely on the following six references, listed in chronological order by either filing date (Tamir and Rabu) or publication date (Katayama, McClellan, Curry and Callopy). *See* Pet. 1–2.

Name	Reference	Date	Exhibit No.
Tamir	US 7,821,421 B2	July 21, 2006 ²	1006
Katayama	EP 1 914 691 A1	Apr. 23, 2008	1024
McClellan	US 2009/0024419 A1	Jan. 22, 2009	1083
Rabu	US 8,682,399 B2	Dec. 15, 2009	1013
Curry	WO 2010/042545 A2	Apr. 15, 2010	1005
Callopy	WO 2010/062899 A1	June 3, 2010 ³	1045

See Ex. 1005, code (43); Ex. 1006, code (86); Ex. 1013, code (22); Ex. 1024, code (43); Ex. 1045, code (43); Ex. 1083, code (43). Petitioner asserts these references are each prior art to the '271 patent by virtue of having a filing date or a publication date preceding the '271 patent's earliest possible priority date of December 15, 2010. *See* Pet. 2; Ex. 1001, codes (22), (30), and (86). Patent Owner does not dispute that assertion at this preliminary stage of the proceeding.

E. Asserted Grounds

Petitioner asserts the following five grounds of unpatentability. *See* Pet. 1–2.

² Petitioner asserts Tamir's filing date is February 1, 2007. *See* Pet. 2. However, Tamir was filed on July 21, 2006, as the national stage entry of a PCT application, and was later published as a U.S. application on February 1, 2007. *See* Ex. 1006, codes (65) and (86).

³ Petitioner asserts Callopy's publication date is March 6, 2010. *See* Pet. 2. However, Callopy was published on June 3, 2010. *See* Ex. 1045, code (43).

Ground	Claim(s) Challenged	35 U.S.C. § ⁴	References
1A	1	103(a)	Curry, Rabu
1B	1	103(a)	Curry, Rabu, Katayama
1C	3	103(a)	Curry, Rabu, Tamir
1D	4	103(a)	Curry, Rabu, McClellan
2	6, 7	103(a)	Callopy, Curry

F. Testimonial Evidence

Petitioner relies on the proffered expert witness testimony of William R. Michalson, Ph.D. (Exhibit 1003). Patent Owner does not proffer any expert witness testimony at this preliminary stage of the proceeding.

III. PETITIONER’S GROUNDS OF UNPATENTABILITY

A. Legal Standards

“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”)). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

⁴ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended § 103. These amendments do not affect the outcome of the present Decision. Therefore, we cite to the pre-AIA version. We would reach the same result even if the post-AIA version applies.

A patent claim is unpatentable under 35 U.S.C. § 103 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 ordinary skill in the art; and (4) objective evidence of nonobviousness, if made available in the record, which has not happened here. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *See Custom Accessories, Inc. v. Jeffrey-Allan Indus. Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Petitioner refers to Dr. Michalson's testimony, by footnote, to propose a level of ordinary skill in the art. *See* Pet. 11 n.5 (noting "USAA-1003, ¶¶ 14–15 (defining a POSITA [person of ordinary skill in the art])"). In the cited testimony, Dr. Michalson testifies that a person of ordinary skill

would have had at least a Bachelor of Science Degree (or equivalent) in an academic area emphasizing electrical engineering, computer engineering, computer science, or a

related technical field, and about 2–3 years of experience in the field of telematics systems (e.g., familiarity with control and diagnostic systems, navigation systems and wireless communication technology).

Ex. 1003 ¶¶ 14–15. Further: “More education, e.g., a doctorate in an academic area emphasizing electrical engineering, computer engineering, computer science, or a related technical field, would compensate for fewer years of work experience.” *Id.*

Patent Owner “does not challenge” Dr. Michalson’s formulation of ordinary skill. Prelim. Resp. 22.

For purposes of this Decision, we adopt the proposal of Dr. Michalson, which comports with the teachings of the ’271 patent and the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. *Claim Construction*

We interpret the ’271 patent claims “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b). This “includ[es] construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.*

We address claim construction of some claim terms below. *See infra* Section III.D.3(iv)(a) (claim 1, “driving period”), Section III.D.3(vi) (claim 1, “a selection of the driving information”), Section III.G.1(i) (claim 6, which component(s) generate the “driving score”). Otherwise, based on the arguments and evidence presented, we determine no explicit

construction of any claim term is needed for purposes of this Decision. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (alteration in original) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. Ground 1A — Obviousness over Curry and Rabu

In Ground 1A, Petitioner asserts claim 1 of the ’271 patent is unpatentable as having been obvious over Curry and Rabu. *See* Pet. 1, 6–41. Patent Owner disagrees. *See* Prelim. Resp. 2, 13–17, 25–40, 50–57.

We have reviewed the preliminary record, and we conclude Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion. First we summarize the disclosures of Curry and Rabu, then we consider the parties’ opposing contentions concerning claim 1.

1. Curry

Curry describes “monitoring and controlling the use of a mobile computing device.” Ex. 1005, code (57). Curry’s system “includes a data server containing a model of a road network specifying traffic routes at a selected location,” and a “mobile wireless computing device . . . configured [to] wirelessly communicate with the data server.” *Id.* at 3:3–5.⁵ Curry’s system further stores information from a GPS receiver and an accelerometer sensor in the mobile device, such as location, speed, and acceleration, and uses the information to calculate a driver safety statistic, based on when and

⁵ Our citations to Curry refer to the page numbers added by Petitioner at the bottom center of every page in the exhibit.

where the mobile device was used and the motion of the device. *See id.* at 3:6–30.

Figure 1, reproduced below, illustrates Curry's system. *See id.* at 5:1–3.

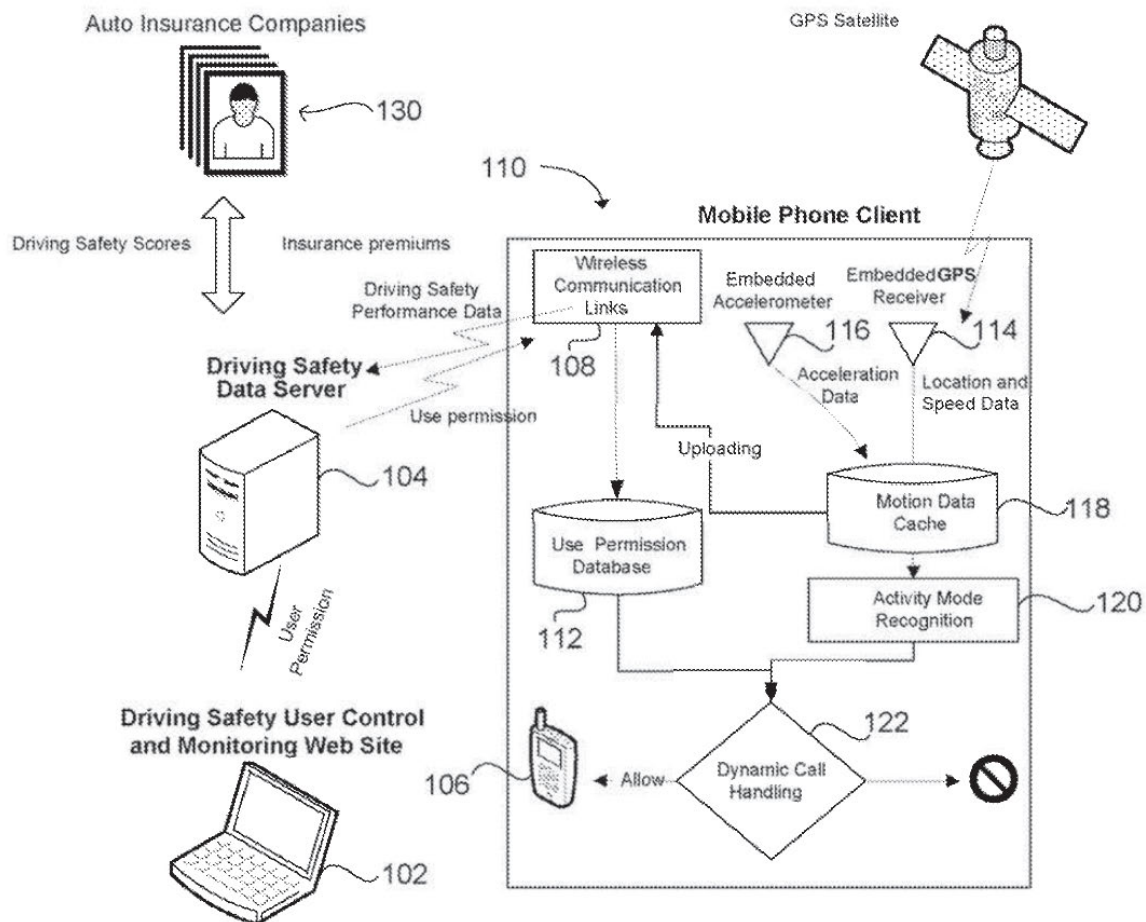


FIG. 1
Figure 1 of Curry.

Figure 1 shows user control web site 102, driving safety data server 104, and mobile phone 106 equipped with GPS 114 and/or accelerometer sensor 116. *See id.* at 7:30–8:2. Mobile phone 106 additionally has client unit 110 with wireless connection 108 for communicating with data server 104. *See id.* at 8:20–27.

2. *Rabu*

Rabu is directed to “[m]ethods for operating a portable media device” (“PMD”) where “the portable media player can determine a motion status and select a mode of operation based on the motion status.” Ex. 1013, code (57), 1:36–37. Figure 6, reproduced below, shows a flow diagram of Rabu’s process for operating a PMD. *See id.* at 2:31–33.

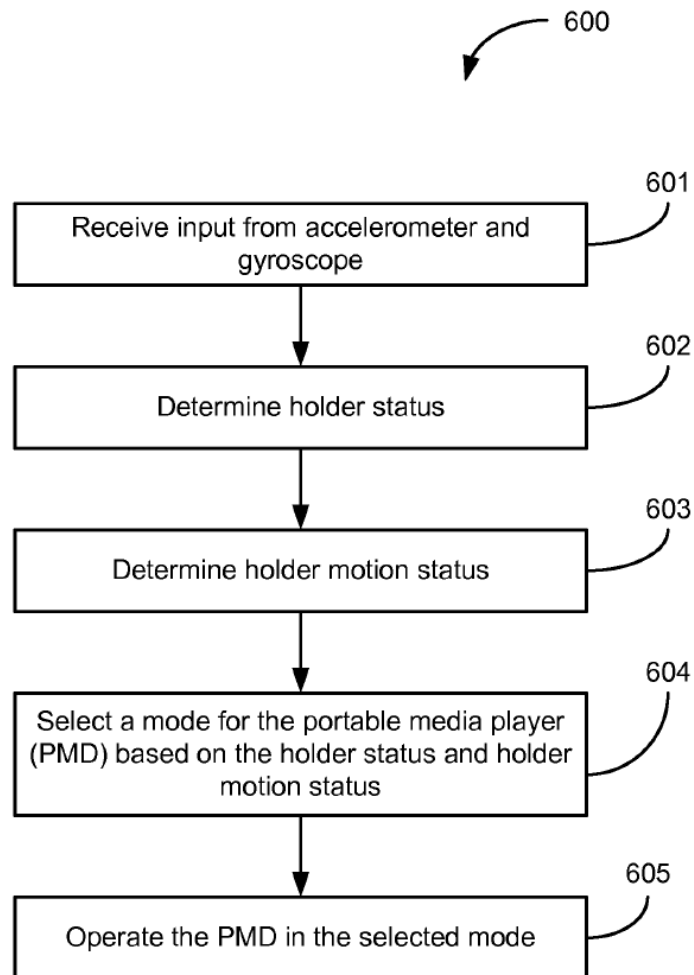


FIG. 6
Figure 6 of Rabu.

Figure 6 shows process 600 for determining the motion status of a PMD, including steps 601–605. *See id.* at 7:7–11. At step 601, the PMD receives

input from one or more motion sensors, e.g., an accelerometer and a gyroscope. *See id.* at 7:11–13. “[T]he input can indicate orientation angle and motion information of the PMD.” *Id.* at 7:13–15. At step 602, the PMD determines a holder status. *See id.* at 7:15–21. At step 603, the PMD determines a holder motion status, such as whether the PMD is in a moving vehicle, in a stationary vehicle, being handled by a moving person, or being handled a stationary person. *See id.* at 7:22–30. At step 604, the PMD selects a mode of operation based on the determined holder status and holder motion status. *See id.* at 8:1–3. At step 605, the PMD starts operating in the selected mode. *See id.* at 8:3–4.

3. *Claim 1*

Petitioner provides arguments and evidence in support of its contention that claim 1 is unpatentable as having been obvious over Curry and Rabu. *See* Pet. 6–41; Ex. 1003 ¶¶ 72–79, 100–169. Patent Owner opposes. *See* Prelim. Resp. 13–17, 25–40, 50–57. We consider Petitioner’s contentions and Patent Owner’s opposition on a limitation-by-limitation basis. We conclude Petitioner has demonstrated a reasonable likelihood of prevailing on its contentions.

Patent Owner initially “objects to Petitioner’s misciting of Curry throughout the Petition.” Prelim Resp. 28. In particular, many pages in Curry bear two page numbers: Curry’s original pagination at the bottom center of each page, and Petitioner’s added pagination underneath Curry’s original pagination. *See id.* Patent Owner notes correctly that the Petition’s and Dr. Michalson’s citations to Curry appear to be inconsistent, referring in some instances to Curry’s original pagination, and referring in other

instances to Petitioner's added pagination. *See id.* at 29. Patent Owner argues these inconsistencies render the Petition "substantially defective." *Id.* at 28. Patent Owner further asserts "Petitioner often cites to large swaths of Curry over multiple pages, without quoting Curry, such that Patent Owner must somehow figure out the sections of Curry to which Petitioner refers." *Id.* at 29–30 (citing Pet. 17).

However, upon reviewing the Petition and Dr. Michalson's Declaration (Ex. 1003), generally we were able to identify the referenced disclosures of Curry, despite the inconsistencies in which pagination scheme (original or added) is cited. There are *only two sets* of page numbers in Exhibit 1005, and in the substantial majority of instances, it was easy to determine which set was being cited. We are not persuaded that the inconsistent citation scheme employed within the Petition and Dr. Michalson's Declaration are of such quality or quantity to render the Petition fatally deficient. Further, we note Patent Owner's Preliminary Response substantively addresses the Petition, indicating Patent Owner also has reviewed the arguments and evidence presented in the Petition and has been able to respond to the same (including the cited testimony of Dr. Michalson). Accordingly, in this Decision, we have endeavored to cite consistently and only to the page numbers added by Petitioner to the bottom center of each page, even when referring to the Petition's citations, based on what we understand Petitioner to have meant to cite based on the respective contexts of the Petition and the Curry disclosure.

(i) “A mobile telecommunications device configured to log driving information associated with a vehicle, the mobile device comprising:”

Petitioner argues that, assuming the claim preamble is limiting, Curry discloses a mobile telecommunications device (i.e., mobile phone 106) configured to log driving information associated with a vehicle. *See* Pet. 18–19 (citing Ex. 1005, code (57), Fig. 1, 2:1–27, 3:1–4:28, 7:5–29, 8:21–27, 10:15–12:18; Ex. 1003 ¶ 118).⁶ Petitioner further argues Curry’s mobile phone 106 includes client unit 110 that “enables determination of whether an associated vehicle is being driven” and also enables mobile phone 106 “to derive driving information associated with a user’s driving behavior . . . and to use the derived information to generate a ‘driving safety score’ for the user.” *Id.* at 20 (citing Ex. 1005, code (57), Fig. 1, 7:5–8:2, 8:20–10:26, 13:27–33; Ex. 1003 ¶¶ 120–121).

We conclude these contentions, which Patent Owner does not oppose at the present time, are sufficiently supported by the evidence of record to justify institution of review. In particular, Curry’s mobile phone 106 is a mobile telecommunications device, because it communicates wirelessly with data server 104, and it allows the user to make and receive telephone calls and text messages. *See* Ex. 1005, code (57), Fig. 1, 2:1–27, 3:4–5, 3:24–27, 7:5–8, 7:23–24, 7:30–8:2, 8:21–23. Curry’s mobile phone 106 further logs driving information associated with a vehicle, as it records motion data from

⁶ Here and elsewhere in the Petition, Petitioner discusses the Apple iPhone 3G as exemplary of Curry’s mobile phone 106, because Curry states “iPhone 3G smart phones from Apple Inc.” had been equipped with GPS and accelerometer sensors. Ex. 1005, 2:22–27; *see, e.g.*, Pet. 19–20 (citing Exs. 1078, 1079, 1080, 1081; Ex. 1003 ¶ 119). We do not rely on these discussions of the Apple iPhone 3G as a factor supporting institution of review.

GPS receiver 114 and accelerometer 116, to determine a type of activity of the user (e.g., walking, driving, or remaining still) which in turn determines whether to permit the user to access some of the mobile phone's functionality (e.g., making and receiving phone calls). *See id.* at code (57), Fig. 1, 3:6–13, 3:16–23, 3:27–4:6, 4:12–28, 7:8–22, 8:20–9:28, 10:15–12:2.

(ii) *Mobile Device Comprising “a sensor set comprising an image sensor, an audio sensor, an accelerometer, or a positioning module, or a combination thereof”*

Petitioner argues Curry's mobile phone 106 “features embedded sensors, including accelerometer 116 and GPS receiver 114,” and data from these sensors is used to derive “driving information” in order to “monitor driving safety performance,” “prevent unsafe driving behaviors,” and “generate driving score[s],” thereby satisfying the sensor set limitation of claim 1. Pet. 20–21 (citing Ex. 1005, Fig. 1, 2:23–27, 3:2–15, 7:5–8:2, 8:30–9:3, 10:16–26, 11:15–25; Ex. 1003 ¶¶ 122–123).

We conclude this contention, which Patent Owner does not oppose at the present time, is sufficiently supported by the evidence of record to justify institution of review. In particular, Curry's Figure 1 (reproduced above in Section III.D.1) illustrates Curry's system, including user control web site 102, driving safety data server 104, and mobile phone 106 “equipped with GPS 114 and/or accelerometer 116 sensors.” Ex. 1005, Fig. 1, 7:30–8:2, 8:20–23. Curry's mobile phone 106 stores information from GPS receiver 114 and accelerometer 116, such as location, speed, and acceleration, and Curry's system uses this information to calculate a driver safety statistic, based on when and where mobile phone 106 was used and the motion of mobile phone 106. *Id.* at 3:6–30.

(iii) *Mobile Device Comprising “a user interface; a processor; and a memory”*

Petitioner argues Curry’s mobile phone 106 “features a ‘graphical *user interface*’” to display data and to enable user interactions, thereby satisfying the user interface limitation of claim 1. Pet. 21–22 (citing Ex. 1005, 7:5–27, 8:5–27, 9:5–26, 10:15–26, 13:20–26, 16:7–22, 20:15–17, 21:23–25; Ex. 1003 ¶¶ 124–126). Petitioner also argues the functionality of Curry’s mobile phone 106 “may be ‘implemented in software for execution by various types of processors,’” including downloading software and recording sensor data in a local motion data cache for further processing, thereby satisfying the processor limitation of claim 1. *Id.* at 22 (citing Ex. 1005, Fig. 1, 2:22–27, 3:24–26, 6:3–10, 8:20–27; Ex. 1003 ¶¶ 127–128). Petitioner further argues Curry’s mobile phone 106 includes “‘memory devices’ that store sensor data, derived information, and ‘executable code,’” thereby satisfying the memory limitation of claim 1. *Id.* at 22–24 (citing Ex. 1005, Fig. 3, 2:22–27, 3:24–26, 6:3–20, 7:5–22, 8:20–9:28, 13:20–16:6; Ex. 1003 ¶¶ 129–132).

Patent Owner does not oppose at the present time Petitioner’s contentions as to the processor and memory limitations of claim 1. We conclude those contentions are sufficiently supported by the evidence of record to justify institution of review. In particular, Curry discloses that mobile phone 106 downloads a “mobile device control module” or client unit 110 to be operated on mobile phone 106, using “various types of processors.” Ex. 1005, Fig. 1, 3:13–14, 6:3–4, 7:8–13, 8:20–26. In addition, Curry describes how this processor of mobile phone 106 “stores” executable computer code “in different locations” such as a “cache,” which

demonstrates a memory in mobile phone 106. *Id.* at 3:24–26, 6:3–20, 8:26–9:3.

Patent Owner argues Petitioner fails to establish Curry discloses the mobile device user interface limitation of claim 1. *See* Prelim. Resp. 32 (arguing “it is not clear how Petitioner is mapping Curry . . . regarding the ‘user interface[]’”) (citing Pet. 21–22). Patent Owner asserts “Petitioner maps the user interface of [claim 1] to Curry’s ‘graphical user interface’ (GUI) . . . which, as disclosed by Curry, is actually the GUI at the ‘driving safety user control and monitoring website’ on device 102 of Curry.” *Id.* at 33 (citing Ex. 1005, Fig. 1, 7:20–27, 8:5–18, 20:15–17). According to Patent Owner: “This GUI cannot read on the user interface of” claim 1, because the claimed user interface is “comprised in (or of) the mobile device,” whereas “the user interface to which Petitioner refers” is part of Curry’s user control website 102 or driving safety data server 104 “outside of” Curry’s mobile phone 106. *Id.* at 33–34 (citing Ex. 1005, Fig. 1, 7:30–8:27).

We conclude Petitioner’s contentions as to the “user interface” limitation of claim 1 are sufficiently supported by the evidence of record to justify institution of review. In particular, we agree with Petitioner’s contention that Curry’s mobile phone 106 (specifically) features a graphical user interface to display data and enable user actions, such as receiving phone calls and manually switching activity modes. *See* Pet. 21–22. This is reflected by the Curry disclosures cited by Petitioner. *See id.* As a first example, the cited disclosures indicate mobile phone 106 provides “talking” and “texting” functionality. Ex. 1005, 7:5–8, 7:23–26, 8:10–11, 9:7–20. As a second example, the cited disclosures indicate a “user can download the

required software from the server 104 to the mobile phone 106 to set up the client unit on the phone” by generating “a request from the client unit [110] on the mobile phone [106].” *Id.* at 8:20–27. As a third example, the cited disclosures indicate “the user of the phone [106]” may activate “a driving safety monitoring program on a mobile phone client [110].” *Id.* at 13:20–26. In each of these ways, Curry indicates that mobile phone 106 includes a user interface, as recited in claim 1.

Thus, Dr. Michalson testifies (with quotes from Curry) that:

A POSITA would have understood and found obvious that the Curry-Rabu phone includes a user interface. USAA-1005, 8:5–18. For example, Curry notes that a “graphical ***user interface***” can be installed on a “smart phone,” indicates that the “graphical user interface” can be “configured to display the driver motion data cache, the user permission data, and the driver safety statistic to . . . selected individuals,” and additionally describes various examples of user interactions with a phone that a POSITA would have understood to be enabled through a user interface. USAA-1005, 8:5–27 (“A user can download the required software from the server 104 to the mobile phone 106 to set up the client unit on the phone”), 21:23–25, 9:5–11 (“the mobile phone . . . may be used while driving, walking or remaining still”), 9:13–20 (“[t]he phone can . . . signal to the driver . . . so that the driver can decide whether to . . . take [a] call or call back later”), 10:15–26 (“[i]f the status of the mobile phone user is recognized as driving, the mobile phone can automatically switch to the GPS navigation mode”).

Ex. 1003 ¶¶ 124, 126.

We acknowledge that a portion of the Curry disclosures cited by Petitioner and Dr. Michalson for the “user interface” limitation of claim 1 states “[a] graphical user interface can be installed on a data input device 102,” and refers to user interactions via “an interactive user control website” at data server 104, as opposed to mobile phone 106. Ex. 1005,

8:5–6, 9:23–28. Nonetheless, we conclude other disclosures in Curry, summarized above, reflect that Curry’s mobile phone 106 also has a user interface, sufficiently to justify institution of review.

(iv) Mobile Device Configured to “determine, based on inputs received by the user interface and sensor data from the sensor set, a start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use”

We will refer to the limitation above as the “Determination Limitation.”

(a) Claim Construction

Petitioner argues: “Based on plain meaning, the recited ‘driving period’ references a time period ‘during which [a] mobile device is removably attached to the vehicle and the vehicle is in use.’” Pet. 3 (alteration in original). In support, Petitioner asserts claim 1 “establishes just two ‘driving period’ attributes: (1) ‘the mobile device is removably attached to the vehicle’ and (2) ‘the vehicle is in use.’” *Id.* at 4 (citing Ex. 1003 ¶¶ 71, 135). Petitioner asserts those two “attributes may be satisfied by a start of a monitoring period, whether at the onset of vehicle driving or whether instead before or thereafter” (*id.*), so claim 1 “leaves open the possibility of the driving period corresponding to the beginning, middle, or end of a vehicle’s operation.” *Id.* at 3 (citing Ex. 1003 ¶¶ 70, 133); *see also id.* at 4 (concluding “[t]hese attributes may be satisfied by a start of a monitoring period, whether at the onset of vehicle driving or whether instead before or thereafter”). Petitioner contends the ’271 patent “specification is similarly unbounded, as it expressly recognizes several driving period options that are untethered from, e.g., the beginning of the

user driving the vehicle.” *Id.* at 3–4 (citing Ex. 1001, 3:25–54; Ex. 1003 ¶¶ 70, 134).

Patent Owner responds that “[t]he invention’s ability to determine the start of a driving period and subsequent driving periods is an important aspect of the invention,” and that the ’271 patent specification “describes how the mobile device may be configured to determine the start of a driving period.” Prelim. Resp. 8–9 (citing Ex. 1001, 1:59–2:9, 3:26–54, and adding emphasis to particular disclosures therein). Patent Owner asserts Petitioner’s claim construction is “flawed because it introduces unsupported limitations for the driving period not included in” claim 1. *Id.* at 22–23. According to Patent Owner, “Petitioner’s characterization of the start of a driving period as a ‘monitoring period’ that starts at any time with respect to the onset of driving . . . is simply an inaccurate generalization of ‘driving period’ that has no basis in the specification or claims.” *Id.* at 23 (citing Pet. 4). Patent Owner concludes “the terms ‘driving period’ and ‘start of a driving period’ should be construed consistent with [their] plain and ordinary meaning” as recited in claim 1 itself. *Id.*

We agree with Petitioner’s construction, to the extent the Determination Limitation expressly defines the “driving period” as corresponding to a period “during which the mobile device is removably attached to the vehicle and the vehicle is in use.” Ex. 1001, 31:39–42. Further, Patent Owner does not materially dispute, at this preliminary stage of the proceeding, Petitioner’s additional construction that the start of the driving period may correspond to the beginning, the middle, or the end of a vehicle’s operation. Rather, Patent Owner’s present position is that the claimed “driving period” cannot correspond to Curry’s “monitoring period,”

regardless of whether Curry’s monitoring period starts at the beginning, the middle, or the end of a vehicle’s operation. *See* Prelim. Resp. 8–9, 22–23, 32–39. For reasons provided in Section III.D.3(iv)(b) below, we do not agree with that contention, based on the present record.

Further, Patent Owner quotes from a passage in the ’271 patent stating that “if the sensor data reflects a detected speed above a predetermined threshold . . . ***this can be used to trigger the start of the driving period.***” Prelim. Resp. 8–9 (quoting Ex. 1001, 3:34–38 (emphasis by Patent Owner)). This passage support’s Petitioner’s claim construction that the start of the driving period may correspond to the middle of a vehicle’s operation—that is, when the vehicle reaches a predetermined minimum speed. Moreover, given the broad nature of Petitioner’s construction that the start of the driving period may correspond to the beginning, the middle, or the end of a vehicle’s operation, we disagree with Patent Owner’s objections that this construction improperly “introduces unsupported *limitations*” or an “additional *limitation*” into claim 1. Prelim. Resp. 23 (emphases added). It is not clear from the present record what “limitation” Patent Owner thinks Petitioner’s construction improperly incorporates into the claim.

Based on the present record, we conclude claim 1 expressly defines the “driving period” as corresponding to a period “during which the mobile device is removably attached to the vehicle and the vehicle is in use.” Ex. 1001, 31:39–42. We also conclude, based on the parties’ agreement at this stage of the proceeding, that the start of the driving period may correspond to the beginning or the middle of a vehicle’s operation. We do not decide whether the start of the driving period may correspond to the end of a vehicle’s operation, as Petitioner additionally proposes, because this

does not affect whether we should institute review of claim 1 over Petitioner's proposed combinations of Curry, Rabu, and Katayama in Grounds 1A and 1B. In particular, as discussed further below, Petitioner does not assert that any of these references determine the start of a driving period as corresponding to the end of a vehicle's operation.

(b) Combination of Curry and Rabu

(1) Petitioner's Contentions

Petitioner argues Curry's client unit 110 enables mobile phone 106 "to determine, based on user inputs (e.g., accepting phone call, manually changing activity modes) and sensor data (e.g., 'location, speed, and acceleration data') whether an associated vehicle is being driven." Pet. 25 (citing Ex. 1005, 6:5–22, 7:30–8:33, 16:7–22). Petitioner explains Curry's mobile phone 106 also "determines a start of a driving period when the phone is located within a moving vehicle, based on user inputs received through the phone's user interface and motion sensor data generated by a phone's embedded accelerometer." *Id.*

Petitioner argues a person of ordinary skill in the art would have been motivated to integrate "Rabu's dock status sensing and associated mode-shifting capabilities into Curry's phone, thereby enhancing the Curry phone's ability to promote safe driving." *Id.* at 11 (citing Ex. 1003 ¶ 101). Further according to Petitioner, "the result is a device with added functionality ('Curry-Rabu phone'), capable of defining and determining different types of driving periods based on user inputs and sensor data," including one driving period during which "the phone is docked within a moving vehicle" and another driving period during which "the phone is

undocked within a moving vehicle,” in order to restrict phone use and/or to adjust user driving scores depending on the determined type of driving period. *Id.* at 11–12 (citing Ex. 1003 ¶ 101).

Petitioner asserts “the Curry-Rabu phone would leverage accelerometer orientation and motion data to determine both vehicle motion and phone docking status” (i.e., per claim 1, determine the start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use) “upon a user accepting a phone call while driving, or manually switching activity modes through interactions with the phone’s user interface” (i.e., per claim 1, based on user input). *Id.* at 12, 24–25 (citing Ex. 1005, code (57), Figs. 1, 3, 4, and 6, 2:3–3:28, 10:15–11:14, 13:20–16:33, 17:30–18:7; Ex. 1013, Figs. 1, 4, 5, 7, and 8, 3:1–10, 4:21–33, 8:13–10:42, 15:7–22; Ex. 1003 ¶¶ 102, 136). The beneficial result of this determination, according to Petitioner, is that “the Curry-Rabu phone would appropriately restrict phone interactions depending on the determined status (e.g., preventing the user from texting while the phone is handheld).” *Id.* (citing Ex. 1005, Figs. 3 and 6, 15:28–16:6; Ex. 1013, Fig. 5, 8:13–10:42; Ex. 1003 ¶ 102).

Petitioner asserts Curry correspondingly discloses that its client unit 110 determines an operating mode of mobile phone 106, including “two modes: (1) a ‘communication’ operating mode that allows for normal phone usage and (2) ‘a GPS monitoring/navigation’ mode that restricts calling, texting, and/or software capability on phone 106 to promote driving safety.” *Id.* at 12–13 (citing Ex. 1005, code (57), Figs. 1, 3, 4, and 6, 3:1–4:6, 7:5–22, 8:29–12:18, 13:20–16:22, 17:1–18:4; Ex. 1003 ¶¶ 102–103). Petitioner contends Curry’s mobile phone 106 “switches between these operating

modes, for instance, based on an ‘activity mode’ (e.g., ‘remaining substantially still’ or ‘driving’) that can be activated by the phone’s user and/or in response to sensor data” (i.e., per claim 1, based on user input and sensor data). *Id.* at 13, 25 (citing Ex. 1005, Fig. 3, 7:5–22, 8:30–9:33, 13:20–14:4, 16:7–22; Ex. 1003 ¶ 103). Then, according to Petitioner, Curry’s mobile phone 106 restricts user access to calling, texting, or other applications based on the activity mode (such as “stop” or “driving”) to enhance driver safety. *See id.* at 13–14, 26–27 (citing Ex. 1005, code (57), Figs. 3 and 6, 1:3–2:28, 13:20–14:26, 15:8–16:33, 17:30–18:7; Ex. 1003 ¶¶ 104–105, 139).

Petitioner then turns to Rabu, as teaching the use of an accelerometer in a PMD like Curry’s mobile phone 106, “*to determine a phone’s orientation angle and motion status*, for purposes of discerning phone usage context, and changing the phone’s operating mode to appropriately account for that context.” *Id.* at 14 (emphasis added) (citing Ex. 1013, Figs. 1 and 4, 3:1–10, 4:21–33; Ex. 1003 ¶ 106). For example, according to Petitioner, “Rabu describes switching operating modes based on determining that the phone is ‘docked in a moving vehicle’ (as opposed to being ‘handheld while located in a moving vehicle’).” *Id.* at 14–15 (citing Ex. 1013, Figs. 5, 7, and 8, 8:13–10:42; Ex. 1003 ¶ 106). Petitioner adds that Rabu uses these determinations to apply appropriate levels of phone use restrictions, to promote driver safety, similarly to Curry’s use of determining activity modes to apply operating mode restrictions as discussed above. *Id.* at 15 (citing Ex. 1013, Figs. 1, 4, and 5, 1:36–2:14, 3:1–10, 4:21–33, 5:53–7:6, 12:26–43; Ex. 1003 ¶¶ 107–108).

Petitioner asserts a person of ordinary skill in the art would have been motivated by the foregoing teachings in Curry and Rabu “to supplement Curry’s teachings of determining the start of a driving period based on user inputs and sensor data to include, e.g., using accelerometer motion and orientation data to differentiate between defined driving periods in which phone 106 is hand-held and those in which phone 106 is instead docked.” *Id.* at 15–16, 28 (citing Ex. 1005, 15:14–17; Ex. 1013, Figs. 3, 4, 5, and 8, 5:61–6:21, 6:39–43, 6:49–7:6, 8:1–4; Ex. 1003 ¶¶ 109, 141). Petitioner provides several specific reasons why it would have been obvious to enhance Curry’s system based on Rabu’s teachings:

1. increased user tolerance for Curry’s monitoring mode, based on more user-friendly levels of restrictions enabled upon a determination that Curry’s phone is docked within a vehicle, relative to those present when Curry’s phone is undocked;
2. increased likelihood of user participation in Curry’s monitoring mode, with correspondingly improved safety for the user, passengers, and others;
3. enhanced reliability of motion detection and related determinations of user driving behaviors based on data obtained from sensors within a docked phone relative to an undocked phone;
4. generation of more nuanced user driving scores taking into account whether the user violated phone use permissions; and
5. enhanced utility for third parties in leveraging those more nuanced driving scores.

Id. at 16–17, 28–29 (citing *inter alia* Ex. 1003 ¶¶ 110–115, 141).

Petitioner further asserts “configuring Curry’s systems to leverage Rabu’s teachings would have required only routine programming knowledge

that was well within the skill of a POSITA,” thereby indicating a reasonable expectation of success. *Id.* at 17–18 (citing Ex. 1003 ¶¶ 116–117).

(2) *Patent Owner’s Contentions*

Patent Owner makes three main arguments. These are: (1) “Petitioner does not clearly and completely map portions of Curry and/or Rabu . . . to every element of” claim 1 (Prelim. Resp. 31; *see id.* at 30–40); (2) Petitioner provides insufficient rationale to combine Curry and Rabu because Petitioner’s rationales are generic and conclusory (*see id.* at 50–57); and (3) Petitioner’s rationales to combine Curry and Rabu are based on impermissible hindsight (*see id.*).

(3) *Discussion*

We conclude Petitioner has explained with supporting evidence how the combination of Curry and Rabu teaches or suggests the Determination Limitation of claim 1, sufficiently to justify institution of review.

As discussed above, Curry’s system includes client unit 110 on mobile phone 106, with GPS receiver 114 and accelerometer sensor 116, and wireless connection 108. Ex. 1005, Fig. 1, 7:30–8:23. Curry teaches that “[b]y utilizing GPS and accelerometer sensors embedded in mobile phones to monitor driving safety performance, an integrated and economical solution can be created to detect and prevent unsafe driving.” *Id.* at 7:5–8. Curry further discloses that a “monitoring mode” may be activated by the user, such as by receiving or making a call. *Id.* at Fig. 3, 13:20–25. During this monitoring period, Curry’s “GPS receiver 314 can collect location and speed data of the mobile device . . . [and] accelerometer 316 can collect acceleration/deceleration data in different axes.” *Id.* at Fig. 3, 13:27–29.

Curry adds that “[e]ach motion measurement from the GPS sensor and accelerometer can be associated with a timestamp, and stored in a local motion data cache 304 for each pre-specified sampling interval.” *Id.* at Fig. 3, 13:29–31. In addition, referring to Figure 4, Curry teaches that:

Right after an *incoming phone or text message is received or an outgoing phone call is made, the GPS sensor and accelerometer can start to record a motion time series*. Regardless if the phone communication process (i.e. phone call or text message) is complete or not, the sensors can continue to collect the data for an extended time period, e.g. 6 minutes, to determine the type of the current activity.

Id. at 16:7–13 (emphasis added).

Based on at least this disclosure, we agree with Petitioner that taking an incoming phone call, texting a message, or placing an outgoing phone call, as Curry describes, teaches or suggests “inputs received by the user interface” as recited in claim 1. *See* Pet. 25 (“Curry describes multiple embodiments in which a phone determines a start of a driving period during which the phone is located within a moving vehicle, based on user inputs received through the phone’s user interface and motion sensor data generated by a phone’s embedded accelerometer.”). Moreover, we agree that Curry’s monitoring mode may be activated by one of these user actions *and* the “sensor data from the device’s sensor set” (as recited in claim 1) that is in the form of GPS and accelerometer data. *See* Ex. 1005, 16:7–13.

Patent Owner argues “Petitioner has not considered the definition of ‘user interface’ in relationship to” the Determination Limitation. Prelim. Resp. 32; *see also id.* at 33 (referring to the Determination Limitation). Patent Owner asserts “Curry’s driving safety data server 104 performs certain aspects of Curry’s system that Curry’s mobile phone [106] does not

perform.’” *Id.* at 34 (citing Ex. 1005, 3:13–15). Further according to Patent Owner, “the mobile device of the ’271 patent does much more than Curry’s mobile phone client 110,” for example it is Curry’s driving safety data server 104 that generates a user driving safety score, *not* Curry’s mobile phone 106 as Petitioner contends. *Id.* at 34–35 (citing Ex. 1005, Fig. 1, 7:30–9:33; Pet. 12, 20). Patent Owner argues “the mobile device of the ’271 patent, using native processing functionality, performs all the features of Claim 1 and more without needing to pass sensor data or other driving information to a server for post-processing.” *Id.* at 35–36 (citing Ex. 1001, Fig. 3, 10:1–16, 10:28–35, 13:26–27, 13:36–14:34, 15:29–31, 16:20–23, 16:34–37, 16:65–17:40, 18:1–7, 18:30–60, 18:63–19:28, 19:60–20:15, 22:46–67).

However, as discussed in Section III.D.3(iii) above, based on the present record we conclude Curry’s mobile phone 106 has a user interface. Further, Curry’s mobile phone user interface is utilized to receive inputs from the user for making and receiving phone calls with the mobile phone, as specified in the Determination Limitation to determine the start of a driving period, as already discussed.

Also, Patent Owner’s contention that Curry’s mobile phone 106 does not “generate[] a user driving safety score” (Prelim. Resp. 34–35) concerns an unclaimed limitation, as claim 1 does not recite generating a driving score. Claim 6 by contrast does recite generating a driving score (*see* Ex. 1001, 32:61–33:4), and we discuss in Section III.G.1(i) below whether claim 6 requires the driving score to be generated by the mobile device.

Patent Owner next argues “Petitioner’s citations to [Curry] do not read on [the] ‘driving period’ of” the Determination Limitation. Prelim. Resp.

36–37 (citing Pet. 4, 12–13, 16, 26, 33). Patent Owner asserts Curry’s monitoring mode instead is triggered by a phone call being received or made, regardless of driving status. *See id.* (citing Ex. 1005, 13:20–26). Patent Owner contends a person of ordinary skill in the art would not understand that the start of a driving period could be triggered by a phone call to collect data for determining an activity mode. *See id.* at 37–38. According to Patent Owner: “This is at least because the ‘monitoring’ in Curry . . . refers to monitoring for a phone call being received or made and monitoring GPS and accelerometer data during the phone call and some time thereafter, but not for the ‘driving period,’” despite that this is done “to block calls from being made or received while driving.” *Id.* at 37 (citing Ex. 1005, Fig. 4, 4:16–28, 8:30–9:20, 11:3–14, 12:20–13:26; Ex. 1003 ¶ 104). Patent Owner adds that if “a phone call is never received or made” then Petitioner’s Curry-Rabu mobile phone “would never record the start of a driving period” and the Determining Limitation “would never be realized.” *Id.* at 38.

Based on the preliminary record, we consider Patent Owner’s reading of Curry to be too narrow. As discussed, Curry teaches the use of GPS and accelerometer sensors embedded in mobile phone 106 “to monitor *driving* safety performance” and provide “an integrated and economical solution . . . to detect and prevent unsafe *driving* behavior such as talking on or texting with mobile phones *while driving*.” Ex. 1005, 7:5–8 (emphases added). Curry expressly discloses that the features described in the reference apply to monitoring driving and driving safety. That being the case, we are not persuaded by Patent Owner’s assertion that a person of ordinary skill in the art would consider Curry to lack “a start of a driving period” because a

phone call may never be placed or received. *See* Prelim. Resp. 38. Rather, Curry specifically teaches that a phone call may be placed or received during the driving of a vehicle, which then activates the monitoring mode.

We are also not persuaded that a phone call is excluded from the scope of an “input[] received by the user interface” as recited in the Determination Limitation. *See* Prelim. Resp. 37–39 (“Although Petitioner argues . . . that the start of a driving period could be triggered by a phone call to collect data for determining an activity mode . . . , a POSITA would have understood that this is not what is intended nor recited by the ’271 patent claims.”). Patent Owner does not direct us to where or how the language of claim 1 supports its position. Nor does Patent Owner provide any other evidence to bolster this position. Whereas Petitioner has provided arguments supported by citations to Curry’s disclosure that are consistent with our understanding of the cited disclosure and the express claim language. Claim 1 requires that the mobile telecommunications device is configured to “determine, based on inputs received by the user interface and sensor data from the sensor set, a start of a driving period.” Ex. 1001, 31:39–41. At this stage, Petitioner has sufficiently explained that a phone call either placed or answered provides a user interface input that is used with GPS and accelerometer sensors to start the recording of a “motion time series.” Ex. 1005, Fig. 5, 16:8–10. Nonetheless, to the extent that there is a disagreement regarding claim scope or construction, the parties are invited to brief this issue during the trial.

Next, we determine Petitioner has sufficiently explained that Rabu teaches “the mobile device is removably attached to the vehicle and the vehicle is in use” as recited in the Determination Limitation, because:

(1) Rabu's PMD can be docked and undocked to a holder on a vehicle; (2) holder status can be calculated based on orientation angle; (3) the PMD can determine if the PMD is in a moving vehicle; and (4) the PMD selects a mode of operation based on the holder motion status.

In particular, Rabu teaches that a PMD may have a holder status, which can indicate how the PMD is being held and whether the PMD is in motion. *See* Ex. 1013, 2:52–60. Rabu discloses that

the PMD can determine holder status by calculating the orientation angle of the PMD with respect to a surface, e.g., ground, dock, etc. The value of the orientation angle can be used to determine the holder status. In some embodiments, the PMD can determine a frequency spectrum associated with its current motion based on inputs from the accelerometer and the gyroscope. Based on the determined frequency spectrum, the PMD can determine whether it is in a moving vehicle, in a stationary vehicle, being held by a moving person, or being held by a stationary person.

Id. at 1:66–2:8 (emphases added). Referring to Figures 1–3, Rabu further teaches that a PMD may be configured to connect to a dock (e.g., automobile dock, vehicle holder) and that the orientation angle of a PMD “when it is being held by a person will be different than the orientation angle when PMD 100 is docked in a dock.” *Id.* at 3:38–41, 3:59–67. Rabu further teaches that the PMD selects modes of operation based on the holder motion status. *Id.* at 2:8–11, 5:53–60 (Fig. 5).

In addition, Dr. Michalson explains on behalf of Petitioner that [t]o further promote safe driving, Curry suggests correlating different activity modes (e.g., stop, driving) with different operating modes (e.g., different levels of restrictions on phone use), and accounting for the context of phone usage when generating a driving score for a particular driver. USAA-1005, 3:3–4:28, 15:8–16:33. For example, in one embodiment, Curry

contemplates an all-or-nothing approach to restrictions on phone activity when phone 106 is placed in a monitoring operating mode, [and] it elsewhere recognizes that such an approach is not always appropriate, and that it can be better to correlate different driving contexts with different phone restrictions. USAA-1005, 3:3–4:28, 15:8–16:33.

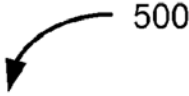
Ex. 1003 ¶ 104 (modifying the page number citations to account for the double pagination in Curry discussed above). Dr. Michalson further testifies that a person of ordinary skill in the art would have looked to Rabu for a more nuanced approach because “Rabu’s defined modes of operation include appropriate levels of restrictions on phone use.” *Id.* ¶¶ 105–108. According to Dr. Michalson, if Rabu’s PMD “is being held by the driver,” then it can “prevent the driver from sending or receiving text messages while driving.” *Id.* ¶ 108 (citing Ex. 1013, 12:38–43). Or, if “the phone is held within a dock located within the vehicle, a POSITA would have found it obvious to decide to change the phone’s mode of operation to one involving relatively fewer restrictions to phone use.” *Id.* (citing Ex. 1013, Figs. 1 and 4, 3:1–10, 4:21–33, 6:39–43). Dr. Michalson further explains that

[t]he Curry-Rabu combination would have increased user tolerance for Curry’s monitoring techniques. USAA-1005, 7:5–22, 8:5–18, 11:3–14; USAA-1013, 1:36–2:14. For example, Rabu’s docking status enabled a determination of when a phone is docked within a moving vehicle, which can then be inferred to mean that a user is not presently using the phone for texting when the vehicle is being driven. Rabu’s docking status would have also improved Curry’s use of an estimated context of mobile phone use in identifying unsafe driving behaviors. For example, knowing the docking status would have enabled differentiation between (i) a user holding and using the phone while driving and (ii) using the phone while docked and while driving. The second scenario in this

example is less likely to distract the user and less likely to be determined to represent an unsafe driving behavior.

Id. ¶ 111.

Based on the preliminary record, Dr. Michalson's testimony is consistent with the disclosures of Curry and Rabu. For example, Curry contemplates switching between communication mode and GPS mode depending on the complexity of the driving conditions. Ex. 1005, 15:18–21. Curry further discloses that commercial fleet drivers may need to communicate with dispatchers or other drivers using a cell phone while driving. *Id.* at 15:8–10. Rabu specifically addresses the need for a similar multi-modal approach for PMDs. For example, Rabu's Figure 5 is reproduced below:



PMD Modes	Description
A	PMD handheld while located in a moving vehicle.
B	PMD resting in a moving vehicle
C	PMD handheld while person is in motion.
D	PMD docked in a moving vehicle
E	PMD docked in a desktop dock and stationary
F	PMD resting on a stationary surface
G	PMD docked in a stationary vehicle

FIG. 5
Figure 5 of Rabu.

Figure 5 is a table listing various modes of operation of Rabu's PMD. *See* Ex. 1013, 2:28–30. As shown in Figure 5, Rabu teaches PMD modes A through G, with each mode being selected based on the motion status of the PMD. *See id.* at 5:53–56.

Patent Owner contends Petitioner provides insufficient, conclusory rationale(s), or relies solely on impermissible hindsight, for the asserted combination of Curry and Rabu. *See* Prelim. Resp. 50–57. For example, Patent Owner contends the “[u]se of an accelerometer as a generic feature of both Curry and Rabu does not sufficiently explain why a POSITA would look to combine these references.” *Id.* at 52–53; *see also id.* at 53 (“Petitioner argues that the individual elements were known in the cited prior art references and that combining those references would have yielded the claimed invention, [but] Petitioner does not explain why a POSITA would have combined those elements in the claimed manner.” (emphasis omitted)); *id.* at 52 (“Petitioner states what a POSITA *could* have done by combining Curry and Rabu but fails to provide sufficient rationale for why a POSITA *would have been motivated to* combine Curry and Rabu.”). However, as discussed, Petitioner explains in detail that Curry discloses situations in which mode switching may be appropriate and that a person of ordinary skill in the art would have looked to Rabu’s multi-modal, dockable PMD to provide a driver more options for switching between modes to achieve better user compliance/tolerance. *See* Ex. 1005, 15:8–23; Ex. 1013, Fig. 5; Ex. 1003 ¶¶ 104, 111.

Patent Owner does acknowledge that Petitioner provides several advantages for the asserted combination. *See, e.g.,* Prelim. Resp. 50–52. According to Patent Owner, Petitioner argues that

“[a POSITA] would have found obvious integration of Rabu’s dock-status sensing and associated mode-shifting capabilities into Curry’s phone . . . to promote safe driving.” Pet. at 11. Petitioner further reasons that “the result is a device with added functionality . . . capable of defining and determining different types of driving periods based on user inputs and sensor data

. . . and of appropriately restricting phone use and/or adjusting user driving scores depending on a type of driving period determined.” *Id.* at 11–12.

Prelim. Resp. 50–51. Nonetheless, Patent Owner contends “Petitioner’s rationale of enhancing Curry’s phone[] ‘to promote safe driving’ and creating ‘a device with added functionality’ are generic and nothing but conclusory statements that the combination ‘would have been obvious.’” which cannot “form the basis of an obviousness argument.” *Id.* at 51 (citing *In re Van Os*, 844 F.3d 1359, 1361 (Fed. Cir. 2017)). Patent Owner also argues that, although Petitioner’s statements “may identify what might be gained by the combination, [they] provide absolutely no motivation for the combination other than impermissible hindsight.” *Id.* at 55. Yet, Patent Owner does not adequately explain why we must ignore the advantages and benefits that Petitioner asserts a person of ordinary skill in the art would have understood results from addressing a problem identified in Curry with features disclosed in Rabu’s system. Rather, at this stage, between the parties, Patent Owner’s arguments are the more conclusory of the two.

Moreover, Petitioner’s arguments are supported by Dr. Michalson’s testimony that “configuring Curry’s systems to leverage Rabu’s teachings would have required only routine programming knowledge, which was well within the skill of a POSITA prior to the Critical Date.” Ex. 1003 ¶ 116. Dr. Michalson asserts “Rabu and Curry both use the same type of hand-held phone and contain the same types of internal sensors (GPS, accelerometers)” and “the change would have amounted to nothing more than the use of a known technique to improve similar devices—in each instance a smart phone equipped with a generic accelerometer—in a similar way, and

combining prior art elements according to known methods to yield the predictable results described above.” *Id.*

Patent Owner takes issue with this aspect of Dr. Michalson’s testimony on the basis that it “merely recognizes that the POSITA could have done it, not would have done it, given the very different purpose of Rabu for detecting docking status using frequency analysis of motion sensor data.” Prelim. Resp. 53 (emphasis omitted). In this regard, we understand Dr. Michalson’s testimony to support the notion that a person of ordinary skill in the art would have had a reasonable expectation of success for achieving the asserted modification. *See* Ex. 1003 ¶¶ 116–117. As such, Dr. Michalson’s opinion supports Petitioner’s position that a person of ordinary skill in the art “could have done it.” Indeed, that is the point of the testimony, which complements Dr. Michalson’s statements elsewhere detailing the advantageous reasons for why a POSITA “would have done it.” *See id.* ¶¶ 101–115.

Patent Owner further argues that “Rabu regards using frequency data to determine small movements for docking status and, to arrive at the claims, would not make technical sense in combination with Curry that judges when to disallow a phone call based on driving status.” Prelim. Resp. 55–56 (citing Ex. 1005, 3:2–4:28, 14:28–33; Ex. 1013, 2:65–3:1, 4:29–33). Patent Owner here appears to be suggesting some sort of incompatibility between Rabu’s use of frequency data to determine when a PMD is docked within a holder, and Curry’s use of GPS and accelerometer data to determine when mobile phone 106 is within a moving vehicle. Patent Owner has offered little evidence on this point beyond attorney argument. *See id.* On the other hand, for the purposes of institution, Petitioner has articulated a reasoned

explanation why a person of ordinary skill in the art would have been motivated to modify Curry's mobile phone with Rabu's device holder and multi-modal operation features. For example, Petitioner has explained in detail that Curry contemplates the need for multi-modal operation for nuanced driving conditions and that Rabu discloses methods for doing so. *See* Ex. 1005, 15:8–31; Ex. 1013, Fig. 5. Moreover, as discussed, Petitioner has provided citations to the references along with corroborating testimony from Dr. Michalson that support Petitioner's arguments for why and how a person of ordinary skill in the art would have combined the prior art disclosures with a reasonable expectation of success. *See* Ex. 1003 ¶¶ 101–117. Thus, for the purpose of institution, Petitioner's position is better supported by the preliminary record. The parties are, however, encouraged to develop the record on these issues during trial.

(v) *Mobile Device Configured to “process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven”*

Petitioner argues “the Curry-Rabu phone processes sensor data recorded by its embedded sensors (e.g., accelerometer 116) (*‘sensor data’*) during the driving period to derive ‘driving behavior’ information, e.g., ‘talking . . . or texting . . . while driving’ and ‘speeding’ (*‘driving information associated with how the vehicle is driven’*).” Pet. 29 (citing Ex. 1005, 7:13–29, 8:21–27, 8:30–9:33, 10:15–26, 11:3–17; Ex. 1003 ¶¶ 143–145). For example, according to Petitioner, “Curry explains that ‘[e]ach motion measurement’ is associated ‘with a timestamp’ and stored ‘in a local motion data cache 304 for each pre-specified sampling interval.’” *Id.* at 29–30 (citing Ex. 1005, Fig. 3, 13:27–31). Petitioner further asserts

Curry’s “‘activity mode recognition module 306’ uses the ‘recorded time stamped data to estimate the type of activity’ (e.g., ‘driving, walking, running or remaining substantially still’) ‘*in real-time*,’ both ‘to allow or disallow users to receive or make a call, text . . . or use . . . software programs,’ and to derive driving information that is stored in local memory.” *Id.* at 30–31 (citing Ex. 1005, Fig. 3, 13:20–14:26; Ex. 1003 ¶ 146).

In response, Patent Owner argues that if “a phone call is never received or made” then Petitioner’s Curry-Rabu mobile device “would never record the start of a driving period,” and claim 1’s sensor data processing limitation would never be realized. Prelim. Resp. 38. Patent Owner adds that Petitioner’s combination of Curry and Rabu

would defeat the ’271 patent’s purpose of continuously “process[ing] the sensor data from the sensor set during the driving period to derive driving information,” which is used to gather real-time data to detect a driving incident, for correlation with and plotting against a visual map anytime a user wishes to visualize the data and capture a recording, and for notifying emergency services for an immediate response.

Id. at 38–39 (citing Ex. 1001, 13:60–14:4, 17:22–20:15, 27:28–30, 31:29–56 (claim 1)). “Instead,” according to Patent Owner, “Curry post-processes data only after a call is received or made.” *Id.* at 39 (citing Ex. 1005, 11:3–14, 13:20–14:26, 16:7–22).

However, as discussed in Section III.D.3(iv)(b) above, we are not persuaded that a phone call is excluded from the scope of an “input[] received by the user interface” as recited in the Determination Limitation. For similar reasons, we are also not persuaded that Curry’s mobile phone 106 does not process sensor data from its GPS and accelerometer sensors during the driving period to derive driving information associated

with how the vehicle is driven, as recited in the limitation presently under consideration. *See* Ex. 1001, 31:38, 31:43–45. Patent Owner does not direct us to where or how the language of claim 1 supports its position. For example, the limitation at issue does not recite “continuously,” and requires only that the sensor data is processed during the driving period to derive driving information. *See id.* Nor does Patent Owner provide any other evidence to bolster its position. Whereas Petitioner has provided arguments supported by citations to Curry’s disclosure that are consistent with our understanding of the cited disclosure and the express claim language.

In particular, Curry teaches:

When a call is made or received using a mobile phone 106, the mobile phone client 110 can record location, speed and acceleration data from sensors embedded in the wireless device, such as a GPS sensor 114 and accelerometer 116. *The data can be recorded to a local motion data cache 118 for further processing*

Based on collected data in the motion data cache 118, *a user activity mode recognition program 120 estimates the context of mobile phone use.* For example, the mobile phone or other electronic device may be used while driving, walking or remaining still. The user activity mode recognition program can be used to determine if the use of a mobile phone in the related context violates the pre-set permission policies.

Ex. 1005, 8:29–9:11 (emphases added). Further, Curry teaches that “[i]f a phone call is received at the mobile phone 106 and the user mode is recognized as driving, a dynamic call handling program 122” in communication with activity mode recognition program 120 can enable phone 106 “to communicate to a caller that the mobile phone user is currently driving.” *Id.* at 9:14–18. Referring to Figure 3, Curry discloses that “[i]f the activity mode is recognized in *real-time*, the dynamical call

handling module 308 can allow or disallow users to receive or make a call, text a message, play games, or use other components or software programs on a . . . mobile phone.” *Id.* at 14:5–8 (emphasis added). Further, these programs or modules 120, 122, and 308 are located on mobile phone 106, not at data server 104. *See id.* at Figs. 1 and 3, 9:5–20, 14:5–16.

In addition, consistent with this disclosure, Dr. Michalson opines that a person of ordinary skill in the art would have found it obvious that Curry’s “client application 110 causes Curry’s phone to process sensor data from [the] phone’s sensor set during the determined driving period to derive ‘possible violations of mobile phone use or unsafe driving behavior’ (***driving information associated with how the vehicle is driven***).” Ex. 1003 ¶ 147.

(vi) *Mobile Device Configured to “store a selection of the driving information to the memory, wherein the driving information is derived without data from vehicle sensors”*

(a) *Petitioner’s Contentions*

Petitioner argues the “Curry-Rabu phone stores information derived from processed sensor data (***selection of driving information***) to memory (e.g., motion data cache 118, local memory) (***memory***) prior to transmission (e.g., to driving safety data server 104).” Pet. 31 (citing Ex. 1005, Figs. 1 and 3, 7:5–22, 8:29–10:12, 13:20–16:6; Ex. 1003 ¶ 149). Petitioner asserts this information is “driving information” as claimed because it is “derived from timestamped motion data associated with pre-specified sampling intervals” in order “to mark activity estimation results for a given interval for further processing at later times.” *Id.* at 32–33 (citing Ex. 1005, code (57), Figs. 1 and 3, 2:1–27, 3:24–4:11, 7:5–22,

8:29–10:12, 11:3–14, 13:20–16:6; Ex. 1003 ¶¶ 150–151). Petitioner then proffers two alternative theories of obviousness, depending on how the claim term “*a selection of the driving information*” (emphasis added) might be construed. *See id.* at 31–33.

First, Petitioner urges that “the plain meaning of a ‘selection of the driving information’ is *not limited to a selection of a subset of*” driving information, “but instead is broad enough to encompass selection of . . . *all of*” the driving information. *Id.* at 32 (emphases added). Applying this construction, Petitioner asserts that “[f]rom Curry, a POSITA would have found it obvious to store all . . . of the derived driving information in the memory of the Curry-Rabu phone.” *Id.* at 31–32 (citing Ex. 1003 ¶ 149).

Second, Petitioner addresses the possibility “that this limitation is narrowly interpreted to require *a selection of less than all* [driving information] for storage.” *Id.* at 32 (emphasis added). Applying this construction, Petitioner asserts that “[f]rom Curry, a POSITA would have found it obvious to store . . . a subset of the derived driving information in the memory of the Curry-Rabu phone.” *Id.* at 31–32 (citing Ex. 1003 ¶ 149). In particular, according to Petitioner, a person of ordinary skill in the art would have been motivated to do this because “Curry explains that . . . specific aspects of recorded sensor data are more useful for storage and transmission to safety data server 104” than other aspects of the recorded data, such as “motion data indicating possible use violations, unsafe driving behavior.” *Id.* at 32 (citing Ex. 1005, Fig. 1, 3:24–4:6, 4:8–11, 7:5–22, 8:29–10:12, 13:20–16:6; Ex. 1003 ¶ 149).

Concerning the claim requirement that “the driving information is derived without data from vehicle sensors,” Petitioner argues Curry

“describes ‘a driving safety monitoring program on a mobile phone client’ including an ‘activity mode recognition module 306’ that processes ‘recorded time stamped’ data from the mobile phone’s sensor set during a determined driving period to derive driving information.” *Id.* at 33 (citing Ex. 1005, 13:20–14:26; Ex. 1003 ¶ 153). Petitioner then asserts a person of ordinary skill in the art “would have found it obvious to configure a Curry-Rabu phone to derive driving information based on its recorded sensor data alone when considering Curry’s disclosure[] of data obtained by embedded sensors (e.g., accelerometer 116) being used to derive the driving information” which “never once describes or suggests leveraging the vehicle’s sensors.” *Id.* at 33–34 (citing Ex. 1005, code (57), Figs. 1 and 3, 2:1–27, 3:24–4:11, 7:5–22, 8:29–10:12, 11:15–25, 13:20–16:6; Ex. 1003 ¶¶ 154–155).

(b) Patent Owner’s Contentions

Patent Owner argues Petitioner “erroneously suggests that Curry’s silence on a particular topic or feature somehow provides sufficient reason for a POSITA to have searched out Rabu” in relation to the claim requirement that “the driving information is derived without data from vehicle sensors.” Prelim Resp. 56 (citing Pet. 33–34). Patent Owner contends “Petitioner merely speculates on Curry’s silence, but, based on the Federal Circuit’s explanation of ‘rational underpinning,’ this speculation does not ‘support the legal conclusion of obviousness.’” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967)).

(c) *Discussion*

Based on our review of the preliminary record, we agree with Petitioner's position that Curry's mobile phone 106 stores a selection of driving information to memory. For example, Curry states: "[T]he mobile phone client 110 can record location, speed and acceleration data from sensors embedded in [mobile phone 106], such as a GPS sensor 114 and accelerometer 116," in "local motion data cache 118" of mobile phone 106. Ex. 1005, Fig. 1, 8:29–9:3. Patent Owner does not address the potential claim construction issue concerning the term "selection" raised in the Petition. Based on the present record, we agree with Petitioner's position that a person of ordinary skill in the art would have been motivated in some instances to configure Curry's mobile phone 106 to store *less than all* of the driving information data recorded by the mobile phone's sensors, such as only the data that indicates possible use violations or unsafe driving behavior. *See* Pet. 32. This contention is supported by Curry's discussions concerning the relative importance of some driving information over other driving information. Ex. 1005, 3:24–4:11, 7:5–9, 13:31–14:4, 15:8–16:6. This includes, as Dr. Michalson testifies, storing: (1) only data that reflects "possible violations of use" or "unsafe driving behavior"; or (2) only data that a particular person such as the driver's parents or insurance company is interested in receiving. Ex. 1003 ¶¶ 149–151.

We also determine, based on the present record, that Petitioner has provided adequate reasoned explanations with citations to evidence that support its position that Curry's mobile phone 106 derives its driving information without data from vehicle sensors. Curry teaches expressly that "[a]n embedded accelerometer and a GPS receiver are included in the

wireless device.” Ex. 1005, 3:6–7. Curry further teaches that “[w]hen a call is made or received using a mobile phone 106, the mobile phone client 110 can record location, speed and acceleration data from sensors *embedded* in the wireless device, such as a GPS sensor 114 and accelerometer 116.” *Id.* at Fig. 1, 8:30–9:2 (emphasis added). This data is recorded in the phone’s local motion data cache 118, and is used by the phone’s user activity mode recognition program 120 to determine the “context of mobile phone use.” *Id.* at Fig. 1, 8:29–9:11. Based on Curry’s express disclosure, Dr. Michalson testifies that Curry focuses “on leveraging motion data obtained from sensors embedded in the mobile phone (e.g., accelerometer 116, GPS receiver 114) to derive the driver safety information.” Ex. 1003 ¶ 155 (citing Ex. 1005, code (57), Figs. 1 and 3, 2:1–27, 3:24–4:11, 7:5–22, 8:29–10:12, 13:20–16:6). As such, Dr. Michalson conclude a person of ordinary skill in the art “would have understood there to be no need to use data from vehicle sensors to derive Curry’s driving information because its phone includes all of the necessary sensors, processing, and memory to derive the driving information.” *Id.*

At this stage, we do not find Petitioner’s position to be based solely on impermissible hindsight, conclusory statements, or speculation. As discussed above, Dr. Michalson’s testimony is consistent with and supported by Curry’s express disclosure. Nonetheless, the parties are encouraged to fully develop the record on this issue during trial.

(vii) Mobile Device “is controlled by a downloaded application to control the mobile device to register the start of the driving period in response to an initialization input generated automatically in response to the sensor data having predetermined values, wherein the initialization input is generated in response to sensor data reflecting a detected speed above a predetermined threshold”

We will refer to the limitation above as the “Initialization Limitation.”

(a) Petitioner’s Contentions

In addressing the Initialization Limitation, Petitioner relies on its analysis for the Determination Limitation as discussed in Section III.D.3(iv) above. *See* Pet. xi (labeling limitations of claim 1), 34 (“As explained at [1.6]”).

Petitioner also argues the Curry-Rabu phone includes “a downloaded client application 110 [that] processes ‘raw data’ from a driving period to derive driving behavior information that is stored locally prior to later transmission to a ‘driving safety data server’ [104],” thereby equating Curry’s client unit 110 to the claimed “downloaded application.” Pet. 34–35 (citing Ex. 1005, Fig. 1, 7:5–22, 8:30–9:33, 16:7–22; Ex. 1003 ¶ 157). Petitioner asserts Curry’s client unit 110 “record[s] location, speed and acceleration data from sensors embedded in the [phone] . . . to a local motion data cache 118 for further processing,” and processes that data using a “user activity mode recognition program 120” before transmitting “activity mode estimation results” to server 104. *Id.* at 35–36 (citing Ex. 1005, Figs. 1 and 3, 3:24–26, 7:5–22, 8:20–9:28, 13:20–16:6; Ex. 1003 ¶¶ 158–159).

Petitioner further argues the Curry-Raby phone “timestamp[s]” the data from GPS receiver 114 “to determine a ‘speed measure’ that is calculated ‘as traveled distance divided by time interval,’ and that can be

compared against a predetermined speed threshold to determine whether a vehicle within which the phone is located is traveling within ‘a high-speed range.’” *Id.* at 39–40 (citing Ex. 1005, Fig. 5, 17:1–22). Petitioner asserts a person of ordinary skill in the art would have been motivated to configure Curry’s client unit 110 to generate automatically “an initialization input for registering the start of the already-determined driving period in response to GPS sensor data having predetermined values reflecting a detected speed above a predetermined threshold,” because this “would advantageously enable the Curry-Rabu phone to retain, for later transmission [to server 104] both the sensor data and related derived driving information pertaining to ‘unsafe driving behavior[s]’ that occurred within that driving period, ‘such as speeding’” *Id.* at 40–41 (citing Ex. 1005, Fig. 5, 9:23–28, 11:3–14, 13:3–19, 17:1–22; Ex. 1003 ¶¶ 168–169). Petitioner and Dr. Michalson also cite Katayama in this regard, without explanation. *See id.* at 41 (citing Ex. 1024); Ex. 1003 ¶¶ 169 (same).

The Petition also includes an extended discussion of why a person of ordinary skill in the art would have been motivated to employ “*multiple* memory modules” in the Curry-Rabu phone—particularly a long term module and a short term module—for various reasons. *See* Pet. 36–39 (emphasis added). This discussion at times cites Katayama in support, without explanation. *See id.* at 37, 38, 39 (each citing Ex. 1024); Ex. 1003 ¶¶ 163–166 (same).

(b) Patent Owner’s Contentions

Patent Owner argues “Ground 1A as presented is deficient because it relies on Katayama without specifying Katayama in the basis for

Ground 1A,” and “Petitioner cites to Katayama without explanation in Ground 1A.” Prelim. Resp. 24, 30 n.7.

Patent Owner also argues it is Curry’s data server 104, *not* Curry’s mobile phone 106, that “performs most of the data processing, facilitates use permission for the Curry device’s dynamic call handling, and scores users.” *Id.* at 39 (citing Ex. 1005, Fig. 1, 8:20–27, 9:22–10:5). Specifically, according to Patent Owner: “Although the Curry device [106] may determine the context of a phone call and prevent talking/texting while driving based on information determined in the post-processing stage [by data server 104], *it does not generate a user’s safety score based on these limited situations.*” *Id.* at 39–40 (emphasis added) (citing Ex. 1005, 11:7–12). Patent Owner asserts Curry’s mobile phone 106 does not register the start of the driving period in response to an initialization input, as claimed, “which Petitioner admits that Curry does not specifically show.” *Id.* at 40 (citing Pet. 39–41). Patent Owner argues Petitioner’s reliance on Rabu in the combination does not cure this deficiency of Curry. *See id.*

Patent Owner further argues Petitioner’s combination of Curry and Rabu is deficient “as to an automatically generated initialization input controlling the mobile device to register the start of a driving period” because the Initialization Limitation does “not rely on an ‘already-determined start of that driving period’ from situation data in long term memory.” *Id.* at 43 (citing Pet. 38–39). Patent Owner asserts claim 1 instead “determines the start of a driving period when it is detected, not after-the-fact from all recorded situation data.” *Id.* at 43–44.

(c) *Discussion*

Based on our review of the preliminary record, we agree with Petitioner’s position that Curry’s mobile phone 106 performs the Initialization Limitation. Curry discloses that the phone is controlled by a downloaded application (i.e., client unit 110). *See* Ex. 1005, Fig. 1, 8:21–24. Further, client unit 110 registers the start of the driving period in response to an initialization input generated automatically in response to the sensor data reflecting a detected speed above a predetermined threshold. Curry correspondingly indicates that client unit 110 “record[s] the location, *speed*, and acceleration of” mobile phone 106 “each time a phone call is transmitted from or received by” the phone. *Id.* at 3:24–36 (emphasis added), 8:29–33, 13:20–14:4. Client unit 110 uses this recorded speed information to determine whether the user is driving a vehicle, and also to apply pre-set permission policies to phone operations. *See id.* at 9:5–20, 14:5–16, 14:23–26, 15:18–31, 16:27 (stating that “it is easy to identify driving mode when the speed is high (e.g. greater than 15 miles/hour”), 17:1–32. As discussed in Section III.D.3(iv) above, this speed data is part of what automatically determines and registers the start of a driving period. Based on the present record, this appears to be all that the Initialization Limitation requires the mobile device to perform.

For example, Patent Owner’s contention that Curry’s mobile phone 106 does not “score[] users” or “generate a user’s safety score” (Prelim. Resp. 39) concerns an unclaimed limitation, as claim 1 does not recite generating a driving score. Claim 6 by contrast does recite generating a driving score (*see* Ex. 1001, 32:61–33:4), and we discuss in

Section III.G.1(i) below whether claim 6 requires the driving score to be generated by the mobile device.

Finally, based on the present record, we agree with Patent Owner's argument that the Petition does not explain sufficiently how Katayama supports Ground 1A. *See* Pet. 36–39. In this regard, the Petition simply cites to several paragraphs of Katayama in support of various obviousness contentions, without any explanation of how the cited paragraphs support those contentions. *See* Pet. 37 (one citation to Ex. 1024 ¶¶ 1–2, 16, 44–51, 57); *id.* at 38 (two citations to Ex. 1042 ¶¶ 1–2, 11–16, 44–51, 54, 57, 83 combined); *id.* at 39 (one citation to Ex. 1024 ¶¶ 1–2, 11–16, 27, 46–50, 54, 83). Dr. Michalson's testimony is identical. *See* Ex. 1003 ¶¶ 163–166. Such bare citations to Katayama's disclosure, without explanation, do not satisfy Petitioner's burden to “to show *with particularity* why the patent it challenges is unpatentable” in view of Katayama in Ground 1A. *Harmonic*, 815 F.3d at 1363 (emphasis added). However, for reasons provided above, we conclude Petitioner's Ground 1A argument addressing the Initialization Limitation is supported sufficiently by Curry and Dr. Michalson's testimony concerning Curry to justify institution of review, regardless of Katayama.

(viii) Conclusion as to Claim 1

Based on the present record, we conclude Petitioner has provided sufficient argument and evidence in relation to the proposed obviousness of claim 1 over Curry and Rabu, to demonstrate a reasonable likelihood that Petitioner would prevail with respect to this challenge at trial.

E. Ground 1B — Obviousness over Curry, Rabu, and Katayama

In Ground 1B, Petitioner asserts claim 1 of the '271 patent is unpatentable as having been obvious over Curry, Rabu, and Katayama. *See* Pet. 1, 41–51. Patent Owner disagrees. *See* Prelim. Resp. 2, 17–19, 24–44, 50–57.

“When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” 37 C.F.R. § 42.108(a). Thus, pursuant to USPTO rules and policy implementing *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018), we “either (1) institute as to all claims challenged in the petition and on all grounds in the petition, or (2) institute on no claims and deny institution.” Patent Trial and Appeal Board Consolidated Trial Practice Guide (“CTPG”) 5–6, 64 (Nov. 2019).⁷ We “will not institute on fewer than all claims or all challenges in a petition.” *Id.* at 5, 64; *see also* *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1359–60 (Fed. Cir. 2018) (stating a decision to institute is “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

Thus, because we have decided to grant institution on Ground 1A against claim 1, we do the same for Ground 1B against claim 1. Nonetheless, we will address Patent Owner’s arguments concerning Ground 1B separately from Ground 1A, to provide guidance to the parties for the upcoming trial. *See* CTPG 6, 64.

⁷ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

1. Redundancy of Grounds 1A and 1B

Patent Owner argues Petitioner’s Grounds 1A and 1B are “redundant and/or duplicative” so “the Board should deny institution on at least one of Grounds 1A and 1B,” and cites two Board decisions in support. Prelim. Resp. 24–25. However, the cited Board decisions pre-date *SAS*, and as discussed above after *SAS* we either institute as to all grounds or deny institution as to all grounds. We no longer follow the Board’s pre-*SAS* practice of granting institution on some grounds and denying institution on other grounds. Thus, Patent Owner’s position is not persuasive.

2. The Initialization Limitation of Claim 1

In Ground 2B, Petitioner relies on its Ground 1A arguments combining Curry and Rabu to address the subject matter of claim 1 up to the Initialization Limitation. *See* Pet. xi (labeling limitations of claim 1), 48 (addressing limitations “[1.1]–[1.9]”). Then, addressing the Initialization Limitation, Petitioner argues a person of ordinary skill in the art would have been motivated to partition the Curry-Rabu phone’s “local memory into several sections (including sections for temporary and long term storage)” in order to avoid inadvertent erasure of “important information” by storing it in the long term memory. Pet. 44–45; *see id.* at 44–51 (supporting analysis). Petitioner relies in part on Katayama as disclosing related data storage techniques to support this argument. *See id.* at 41–51 (discussing Katayama (Ex. 1024) in relation to Curry and claim 1). Petitioner asserts a person of ordinary skill in the art would have appreciated that Curry’s recordation of unsafe driving speeds during a driving period per the Initialization Limitation (*see* Section III.D.3(vii) above per Ground 1A) is the type of

important information that would have been stored in long term memory for safekeeping. *See id.* at 46, 49–50.

Patent Owner argues Petitioner’s Ground 1B analysis “does not identify how [Katayama’s] storage features read on aspects of” the Initialization Limitation. Prelim. Resp. 40–41 (citing Pet. 48–51). Patent Owner asserts the Initialization Limitation “does not recite aspects of storage to memory for which Katayama is cited” by Petitioner, and Petitioner fails to explain the relationship between the Initialization Limitation and Katayama. *Id.* at 41–42 (citing Pet. 48–51; Ex. 1024 ¶¶ 1–2, 11–16, 27, 31, 44–51, 53–54, 57, 83). Patent Owner also asserts Katayama “works significantly differently” from the Initialization Limitation with respect to using a predetermining threshold vehicle speed to initiate data recording. *Id.* at 42–43 (citing Ex. 1042 ¶¶ 48–51, 53). Patent Owner moreover argues Katayama’s memory disclosures are “not configured like the ’271 patent with regard to storing sensor data and driving information,” particularly with respect to “long term” memory storage. *Id.* at 44.

Patent Owner also argues that Petitioner’s combination of the Curry-Rabu phone (per Ground 1A) further with Katayama (per Ground 1B) merely “lists generic advantages,” “without identifying where Curry, Rabu, and Katayama suggest any needed improvements.” Prelim. Resp. 51, 53–54 (citing Pet. 37–38, 44–47; Ex. 1003 ¶¶ 111–114, 163, 171–174, 177–178). Patent Owner asserts: “Rationalizing advantages, *after the fact*, of combining references does not provide a sufficient basis for why it would have been obvious to combine the references in the first place.” *Id.* at 51–52 (citations omitted), 54.

We conclude Petitioner has explained with supporting evidence how the combination of Curry, Rabu, and Katayama teaches or suggests the Initialization Limitation of claim 1, sufficiently to justify institution of review. That is, Petitioner explains how a person of ordinary skill in the art would have been motivated to partition the Curry-Rabu phone's existing memory into a temporary storage portion and a long term storage portion as disclosed by Katayama, in order to avoid inadvertent erasure of important information, with a detailed discussion of how the disclosures of Curry and Katayama support this contention without the taint of hindsight. *See* Pet. 44–51. At this stage, between the parties, Patent Owner's arguments are the more conclusory of the two.

We further note that claim 1 does not require separate memory structures. *See* Ex. 1001, 31:37 (“a memory”), 31:46 (“store a selection of the driving information to the memory”). Thus, Patent Owner's objection that Katayama works differently from the invention of claim 1 in the utilization of long term memory relies on unclaimed disclosures. We understand Petitioner's case for obviousness to posit that configuring Curry's mobile phone 106 to employ temporary and long term memories to achieve the beneficial results described in Katayama would lead to the phone satisfying the Initialization Limitation's requirement of registering the start of a driving period in response to an automatically-generated initialization input, by moving data from temporary to long term memory when a minimum vehicle speed has been exceeded. *See* Pet. 49–51.

F. Grounds 1C and 1D — Obviousness over Curry, Rabu, and either Tamir or McClellan

In Ground 1C, Petitioner asserts claim 3 of the '271 patent, which depends from claim 1, is unpatentable as having been obvious over Curry, Rabu, and Tamir. *See* Pet. 1, 51–53. In Ground 1D, Petitioner asserts claim 4 of the '271 patent, which is independent, is unpatentable as having been obvious over Curry, Rabu, and McClellan. *See id.* at 1, 53–59. Patent Owner disagrees with both contentions. *See* Prelim. Resp. 2, 44.

As discussed above, because we have decided to grant institution on Ground 1A, we do the same for Grounds 1C and 1D. *See supra* Section III.E; 37 C.F.R. § 42.108(a); CTPG 5–6, 64. We note further that Patent Owner does not address claims 3 and 4 apart from arguments we have already considered above in connection with claim 1, so there is nothing further for us to address with respect to claims 3 and 4 at this time. *See* Prelim. Resp. 2, 4 n.1, 5 n.2, 44; CTPG 5–6, 64.

G. Ground 2 — Obviousness over Callopy and Curry

In Ground 2, Petitioner asserts claims 6 and 7 of the '271 patent, which are both independent, are unpatentable as having been obvious over Callopy and Curry. *See* Pet. 1, 59–80. Patent Owner disagrees. *See* Prelim. Resp. 2, 19–21, 45–50, 57–61.

As discussed above, because we have decided to grant institution on Ground 1A, we do the same for Ground 2. *See supra* Section III.E; 37 C.F.R. § 42.108(a); CTPG 5–6, 64. Nonetheless, we will address Patent Owner's arguments concerning Ground 2 separately from Ground 1A, to provide guidance to the parties for the upcoming trial. *See* CTPG 6, 64.

1. *Claim 6*

(i) *Claim Construction*

Claim 6 recites a “data-logging system for logging driving information received from a remote mobile telecommunications device.” Ex. 1001, 32:40–43. The system is arranged to receive from the mobile device “driving information compris[ing] at least one of a driving score and sensor data captured and processed by the remote mobile telecommunications device.” *Id.* at 32:48–50, 32:61–66. The system is “further arranged to process the driving information logged to a corresponding account to generate a driving score used to determine a risk profile for at least one of the vehicle and driver.” *Id.* at 32:67–33:4.

Patent Owner argues claim 6 requires that “the mobile device itself, not a separate server” generates the driving score, “and presents the analysis at the user interface of the mobile device, not merely at an interface outside of the vehicle and/or separate from the mobile device.” Prelim. Resp. 12–13 (citing Ex. 1001, 12:4–9, 21:38–22:22, 32:54–55, 32:61–66, 33:19–20, 34:4–7).

We disagree. Claim 6 pertinently specifies only that the data-logging system receives “*at least one of a driving score and sensor data captured and processed by the remote mobile telecommunications device.*” Ex. 1001, 32:48–50, 32:61–66 (emphasis added). That limitation is satisfied if the system received sensor data, but not a driving score, from the mobile device. Indeed, a later limitation in claim 6 expressly requires that the *data-logging system* is arranged to generate a driving score. *See id.* at 32:67–33:4. We have reviewed the ’271 patent disclosures cited by Patent Owner, and they do not support Patent Owner’s construction that the mobile device must

generate the driving score. *See* Ex. 1001, 12:4–9, 21:38–22:22. Indeed, the ’271 patent states “*the system* is arranged to process the driving information” received from the mobile device “to generate a driving score,” without repeating the verbiage of claim 1 concerning the possibility of receiving the driving score from the mobile device. *Id.* at 11:62–12:9 (emphasis added).

Based on the present record, we do not agree with Patent Owner’s argument that claim 6 requires the mobile device to generate the driving score.

(ii) *Combination of Callopy and Curry*

In Ground 2, Petitioner relies at least in part on Curry as teaching the “driving score” recitations of claim 6. *See, e.g.*, Pet. 61 (“To the extent that Callopy does not explicitly teach calculating scores to use for determining insurance premiums, doing so would have been obvious” because “[t]he use of a score was well-known by the critical date, as evidenced by Curry.”). Petitioner explains that “Curry describes setting an initial driving score and adjusting that score in subsequent driving periods, e.g., in response to speeding . . . and sharing the score with an insurance company to determine insurance premiums.” *Id.* at 62 (citing Ex. 1005, 7:13–17, 10:2–12, 13:3–14, 13:27–31). Petitioner contends a person of ordinary skill in the art “would have further found obvious *either determining the driving score at the mobile device or at the insurance provider system*, depending on ‘a tradeoff between the complexity of the mobile device and the amount of information communicated on the mobile device’s network.’” *Id.* at 62–63 (emphasis added) (citing Ex. 1005, 12:3–18; Ex. 1003 ¶¶ 213, 215). Petitioner adds that “it would have been obvious to a POSITA to either

determine the score at the mobile device and provide it to a third party, as Curry teaches, or perform such analysis at the third party (insurance provider location), as taught by Callopy.” *Id.* at 64–65 (emphases added) (citing Ex. 1005, 12:10–13; Ex. 1045 ¶¶ 122, 314, 321; Ex. 1003 ¶ 216).

Patent Owner objects that “contrary to what Petitioner argues, Curry . . . does not teach calculating scores by the mobile phone.” Prelim. Resp. 45. Patent Owner argues Curry’s data server 104 “performs certain aspects of Curry’s system that Curry’s mobile phone [106] does not perform, including calculating driving scores.” *Id.* at 45–48 (citing Ex. 1005, Figs. 1 and 2, 7:5–66, 8:5–18, 9:23–28, 11:3–23, 12:1–19, 13:1–19, 14:17–26, 16:16–18); *see also id.* at 48–50 (discussing Petitioner’s citations to Ex. 1005, 7:13–17, 10:2–12, 11:10–12, 13:3–19). According to Patent Owner, Curry’s mobile phone 106 is limited to determining a type of activity based on the motion data cache, and sending this data to server 104 for further analysis. *Id.* at 47 (citing Ex. 1005, 3:9–10, 4:21–22, 9:6–11, 13:31–33, 14:19–23). Patent Owner further asserts Petitioner’s case for the obviousness of using a mobile device instead of a central server to calculate a driving score is insufficiently supported by reasoning, based on the disclosures of Callopy and Curry, to avoid the taint of hindsight. *See id.* at 57–61.

However, as discussed above in Section III.G.1(i), we do not agree with Patent Owner’s argument that claim 6 requires the mobile device to generate the driving score. Further, Curry’s data server 104 generates a driving score, as Patent Owner presently agrees. *See* Ex. 1005, 7:13–17 (“A driving safety evaluation module can be used to perform a statistical analysis on collected raw driving data” to “calculate corresponding safety scores”

that “can be used by consumers and insurance agencies to determine insurance premiums for related drivers.”), 10:2–12, 13:3–14 (describing Fig. 2 as illustrating a driving safety score evaluation module 212 in a web site for generating a driving safety score, using data received from mobile phone client 210); Prelim. Resp. 45 (“Curry’s driving safety data server 104 . . . performs certain aspects of Curry’s system that Curry’s mobile phone does not perform, including calculating driving scores.”). Thus, based on the present record, Petitioner’s reliance on a central server as generating a driving score is sufficient to justify institution of review as to claim 6, and we need not and we do not reach the further issue of whether a person of ordinary skill in the art would have been motivated to use a mobile device to perform this calculation.

2. *Claim 7*

Patent Owner does not address claim 7 apart from arguments we have already considered above in connection with claim 6, so there is nothing further for us to address with respect to claim 7 at this time. *See* Prelim. Resp. 2, 7 n.3, 45–50, 57–61.

IV. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314

Petitioner contends we should not exercise our discretion under 35 U.S.C. § 314 to deny institution. *See* Pet. 80–83. Patent Owner does not address discretionary denial in its Preliminary Response. After the Petition was filed, Petitioner submitted two stipulations concerning the Co-Pending Litigation, as Exhibit 1086 (filed Sept. 12, 2023) and Exhibit 1087 (filed Nov. 1, 2023). The later stipulation states:

USAA and Noblr^[8] hereby stipulate that if the PTAB . . . institutes IPR2023-00911 based on the grounds in attached Appendix A, USAA and Noblr will not pursue for claims 1–7, in the District Court proceedings, the same grounds or any grounds that could have reasonably been raised before the PTAB in the IPR2023-00911 petition.

Ex. 1087, 1 (citing *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 13–20 (PTAB Dec. 1, 2020) (precedential)). The later stipulation differs from the earlier stipulation in identifying “claims 1–7” as the claims that will not be pursued in the Co-Pending Litigation, which in the earlier stipulation was “the instituted claims” (i.e., only claims 1, 3, 4, 6, and 7). Thus, the later stipulation shows Petitioner is not relying on Curry, Rabu, Katayama, Tamir, McClellan, or Callopy to argue for invalidity of any claim in the ’271 patent in the Co-Pending Litigation. In this way, Petitioner’s stipulation is consistent with and commensurate in scope with a *Sotera* stipulation. The Director’s *Interim Procedure For Discretionary Denials In AIA Post-Grant Proceedings With Parallel District Court Litigation*, issued June 21, 2022 (“Guidance Memo”)⁹, states:

Consistent with *Sotera Wireless, Inc.*, the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any grounds that could have reasonably been raised before the PTAB.

⁸ “Noblr” refers to Noblr Reciprocal Exchange, a party to the Co-Pending Litigation that Petitioner has identified as a real party-in-interest in this proceeding. See Paper 6.

⁹ Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf.

Guidance Memo, 3, 7–8. For this reason, we will not deny institution in view of the Co-Pending Litigation.

V. CONCLUSION

For the above reasons, we determine the information presented in the record establishes there is a reasonable likelihood that Petitioner would prevail with respect to at least one claim of the '271 patent challenged in the Petition. We, therefore, institute an *inter partes* review of all challenged claims 1, 3, 4, 6, and 7 on all grounds presented in the Petition. *See* 35 U.S.C. § 314(a); 37 C.F.R. § 42.108(a).

At this preliminary stage, the Board has not made a final determination with respect to the patentability of the challenged claims or any underlying factual or legal issue. The Board's final determination will be based on the record as developed during the *inter partes* review. Any arguments not raised by Patent Owner in a timely-filed response may be deemed waived.

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted for claims 1, 3, 4, 6, and 7 of the '271 patent on all grounds presented in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which commences on the entry date of this decision.

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