

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONOS, INC,
Petitioner,

v.

GOOGLE LLC,
Patent Owner.

IPR2023-01288
Patent 9,632,748 B2

Before KEVIN TURNER, TERRENCE W. McMILLIN, and
SCOTT RAEVSKY, *Administrative Patent Judges*.

McMILLIN, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Sonos, Inc. (“Petitioner”)¹ filed a Petition to institute an *inter partes* review of claims 1–4, 7, 9–12, 14, and 15 (the “challenged claims”) of U.S. Patent 9,632,748 B2 (Ex. 1001, the “’748 patent”) pursuant to 35 U.S.C. § 311 *et seq.* Paper 1 (“Petition” or “Pet.”). Google, LLC (“Patent Owner”)² filed a Preliminary Response. Paper 6 (“Preliminary Response” or “Prelim. Resp.”). With our authorization, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 7 (“Reply”)) and Patent Owner filed a Sur-Reply (Paper 9 (“Sur-reply”)).

We have authority under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). After considering the Petition, Preliminary Response, Reply, Sur-reply, and the arguments and evidence of the parties, we do not institute *inter partes* review.

B. *Related Proceedings*

The parties identify the following related proceedings: *Certain Audio Players and Components Thereof*, Inv. No. 337-TA-1330 (USITC) and *Google LLC v. Sonos, Inc.*, No. 3:22-CV-04553 (N.D. Cal.). Pet. 1, Paper 4, 2.

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

² Patent Owner identifies Google, LLC as the real party-in-interest. Paper 4, 2.

C. The '748 patent

The '748 patent is titled “Device Designation For Audio Input Monitoring.” Ex. 1001, code (54). The '748 patent relates to “designat[ing] a particular computing device from a plurality of computing devices to process audio input.” Ex. 1001, code (57). The '748 patent discloses techniques that may enable one device (out of several devices) “to designate a particular computing device to monitor . . . an audio input us[ed] to initiate interaction with one” of several computing devices. Ex. 1001, 2:36–41.

The '748 patent provides an example of this technique:

For instance, a plurality of computing devices (e.g., a Smartphone, a Smartwatch, and an in-vehicle entertainment/navigation system) may each be operable to monitor for and/or act on audio input that includes one or more predetermined audio commands. One or more of the computing devices (e.g., the Smartphone, the Smartphone and the Smartwatch, etc.) may use techniques described herein to designate a particular computing device (e.g., an in-vehicle system) from among the plurality of computing devices as the best candidate for monitoring environmental audio for audio input that includes the one or more predetermined audio commands. Responsive to designating a particular computing device to monitor for the one or more predetermined audio inputs, other computing devices from the plurality of computing devices (e.g., the Smartphone and Smartwatch) may temporarily cease to monitor for audio input. Thereafter, the particular device may be the only one of the plurality of computing devices monitoring for audio input and, in some instances, upon receiving an indication of audio input that includes a predetermined audio command, the particular device may be the only one of the plurality of computing devices to perform one or more actions responsive thereto.

By designating a particular computing device to monitor for audio input and/or process indications of the audio input (e.g., monitor for one or more predetermined audio commands, such as “hotwords” or “audio triggers”) and sending

instructions to the other, non-designated computing devices to temporarily cease monitoring for audio input, computing devices and/or systems employing the techniques described herein may increase computational efficiency (by, e.g., avoiding redundant processing, avoiding parallel-processing hazards of operating on the same data, and/or improving device battery life). That is, when more than one computing device is operable to monitor for and/or act on audio input that includes a predetermined audio command, designating a single device to do so may ensure that a single device expends energy in the process, and that a single device performs actions responsive to the receipt of predetermined audio command.

Ex. 1001, 2:41–3:13.

Figure 4 below provides an example where one or more computing devices may designate one of the computing devices to monitor for audio input and/or process audio input. Ex. 1001, 23:31–36. Computing device 2B may determine an action associated with the predetermined audio command that is included in the audio input. Ex. 1001, 24:31–33. An example of an action determined based on the predetermined audio command itself could be “the predetermined audio command may be the phrase ‘go silent’ and the action may be to enter a silent mode. That is, the action (e.g., enter silent mode) is based on the predetermined audio command (e.g., ‘go silent’).” Ex. 1001, 24:34–41.

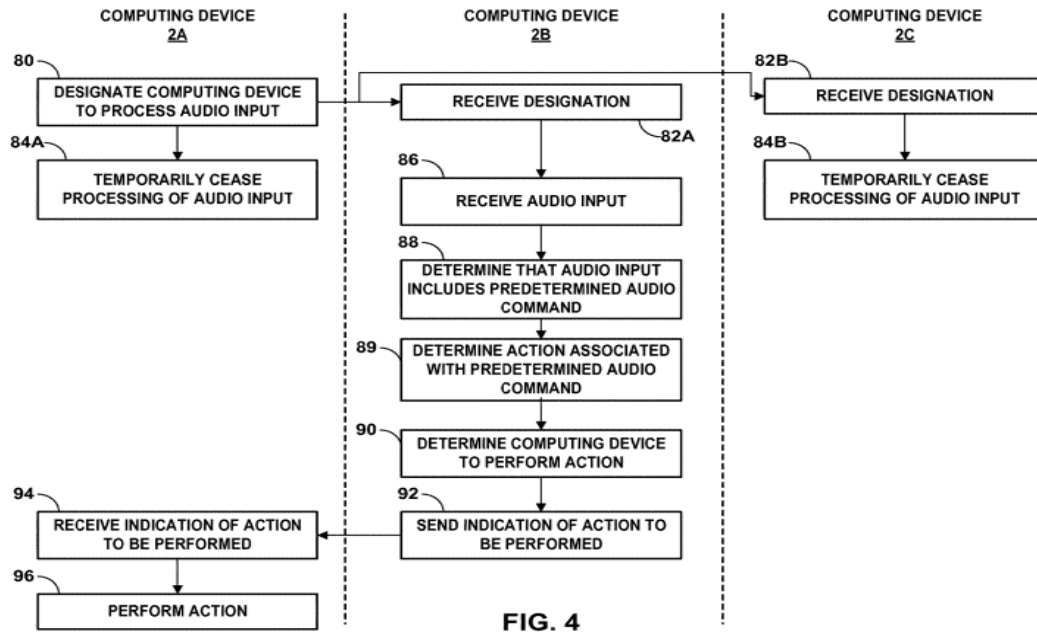


FIG. 4

Figure 4 depicts a flow diagram illustrating example operations processing audio input. Ex. 1001, 2:25–28. In Figure 4, “based at least in part on the predetermined audio command and/or an associated action, computing device 2B may determine which of computing devices 2 should perform the action.” Ex. 1001, 24:55–58.

The ’748 patent describes multiple speech recognition techniques including “performing one or more speech-to-text transformations to obtain textual data corresponding to the received audio input” (Ex. 1001, 15:32–34) and “perform[ing] other audio analysis to recognize and identify speech, such as performing frequency analysis to identify tonal characteristics or other sonic identifiers present in the audio input” (*id.* at 15:34–38).

D. Challenged Claims

Petitioner challenges claims 1–4, 7, 9–12, 14, and 15 of the ’748 patent. Pet. 1, 4. Of the challenged claims, claims 1, 7, and 11 are

independent claims. Ex. 1001, 30:60–31:21; 32:7–35; 33:12–45. Claim 1 recites:

1. A method comprising:

receiving, by a first computing device of a plurality of computing devices in physical proximity to one another, a spoken audio input that is also received by one or more additional computing devices of the plurality of computing devices;

determining, by the first computing device and based at least in part on information received from the one or more additional computing devices, whether the first computing device should perform speech recognition on the spoken audio input;
and

responsive to determining that the first computing device should perform speech recognition on the spoken audio input:

sending, by the first computing device and to at least a second computing device from the plurality of computing devices, a command to temporarily refrain from performing speech recognition;

performing, by the first computing device, speech recognition on the spoken audio input;

determining, by the first computing device, based on performing speech recognition on the spoken audio input, whether the spoken audio input includes a predetermined spoken audio command; and

responsive to determining that the spoken audio input includes the predetermined spoken audio command, executing, by the first computing device, an action associated with the predetermined spoken audio command.

Id. at 30:60–31:21 (emphasis added to disputed limitations).

E. The Asserted Grounds

Petitioner challenges claims 1–4, 7, 9–12, 14, and 15 of the '748 patent based on the grounds set forth in the table below.

Claims Challenged	35 U.S.C. §	Reference(s)
1–4, 7, 9–12, 14, 15	102	Rosenberger ³
2, 3, 9, 10, 12	103	Rosenberger, Jang ⁴

Pet. 3, 24–67.

F. Summaries of Cited Art

1. Rosenberger (Ex. 1003)

Rosenberger is titled “Interactive Speech Recognition Device and System for Hands-Free Building Control.” Ex. 1003, code (54).

Rosenberger discloses systems and methods that “relates to improvements in speech-recognizing control devices that respond to oral commands from a system user to produce a desired effect or result.” *Id.* at 1:11–13.

Rosenberger describes that “an object of this invention is to provide an improved interactive speech recognition control device of the above type in which the aforementioned ‘duplicate response’ problem is avoided when several devices simultaneously recognize the same speech command or trigger phrase.” *Id.* at 3:30–35. Rosenberger’s multiple methods “involve the calculation and production by the control device of a numeric weighted signal (WS) that quantifies the ‘quality’ of a just-recognized speech command.” *Id.*

Rosenberger’s “control device” uses “coordination methods to avoid duplicate responses to the same speech command while selecting a single control device best able to interact with the user.” *Id.* at 10:34–41.

³ US 8,340,975 B1, issued Dec. 25, 2012 (Ex. 1003).

⁴ US 2013/0073293 A1, published March 21, 2013 (Ex. 1004).

Figure 4 is reproduced below.

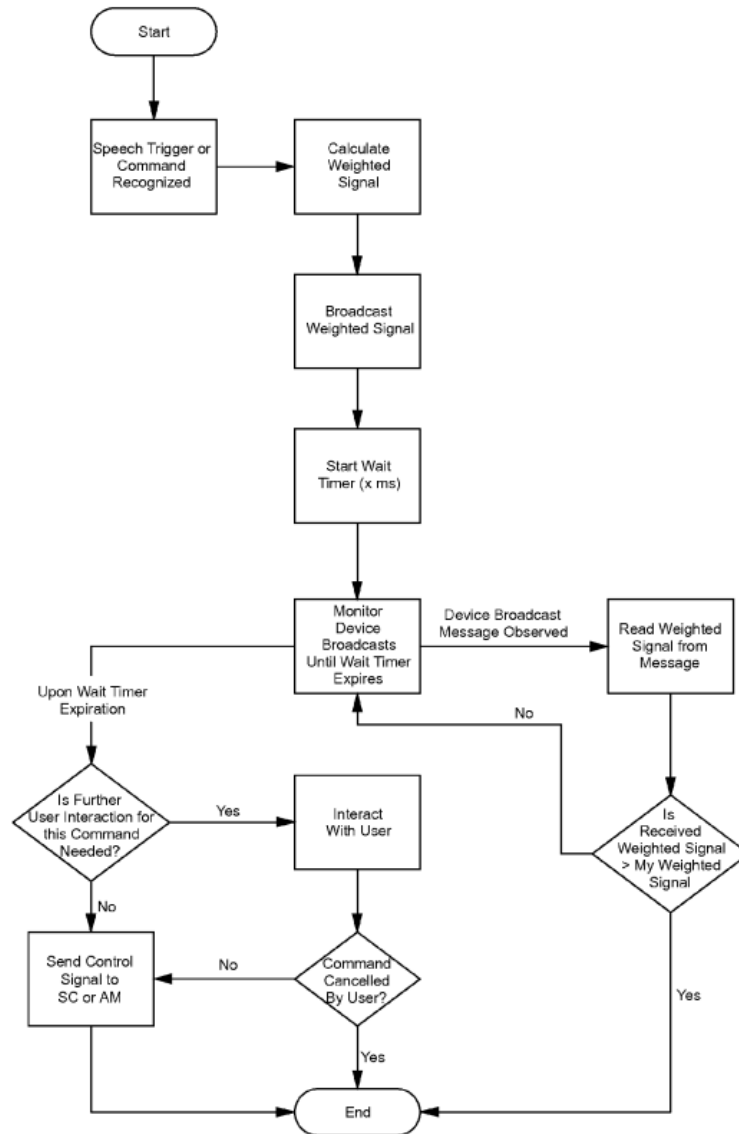


FIG. 4

Figure 4 depicts a programming method where control devices that have responded to the same speech command “broadcast their weighted signals and collectively decide which one will further handle such speech command and interact with the system.” Ex. 1003, 5:45-50. In Figure 4, speech recognition precedes weighted signal transmission and receipt. Figure 4 discloses that the control device is “triggered” before the weighted signal is

transmitted: “First, the microcontroller waits to be “triggered” (i.e., switched from a “listening” mode to an active mode). In the event the microcontroller was triggered hands-free through its recognition . . . , the device calculates a weighted signal . . . then sends its weighted signal to each of the other interactive speech recognition control devices *Id.* at 11:40-48; *see also* Ex. 1003, 5:45-50, 5:58-6:3 (“control devices that have responded to the same speech command broadcast their weighted signals and collectively decide which one will further handle such speech command,” “control devices that have simultaneously recognized the same speech command send their weighted signals to each other and collectively decide which one will further handle such speech command”; “control devices of the invention either coordinate amongst themselves or utilize a coordinating controller to decide which control device will handle a given speech command when more than one control device has been simultaneously triggered.”).

Figure 5A is reproduced below.

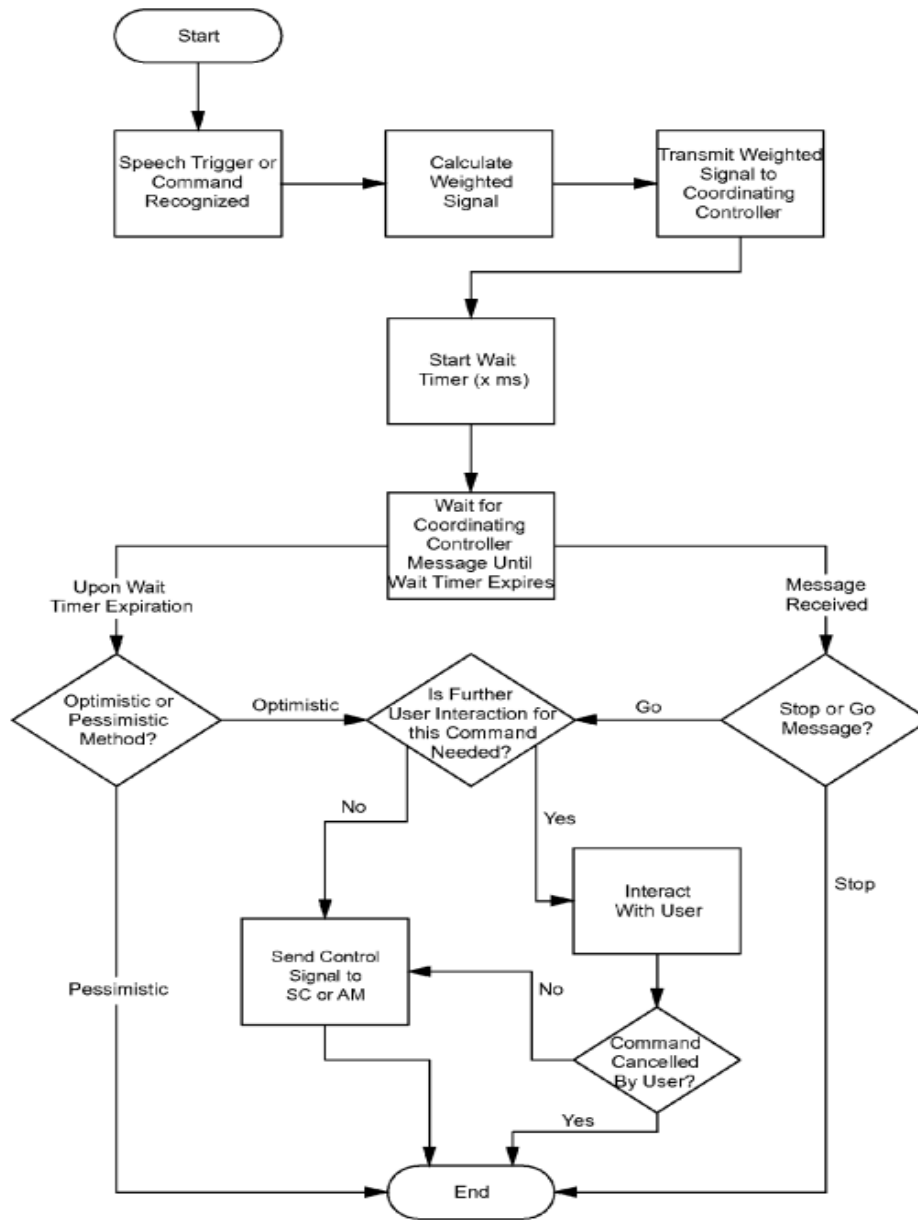


FIG. 5A

Figure 5A depicts a method in which a speech trigger or command is recognized, a weighted signal is calculated, the weighted signal is transmitted to the coordinating controller, and then the coordinating controller may transmit a “Stop or Go Message.”

Figure 5B is reproduced below.

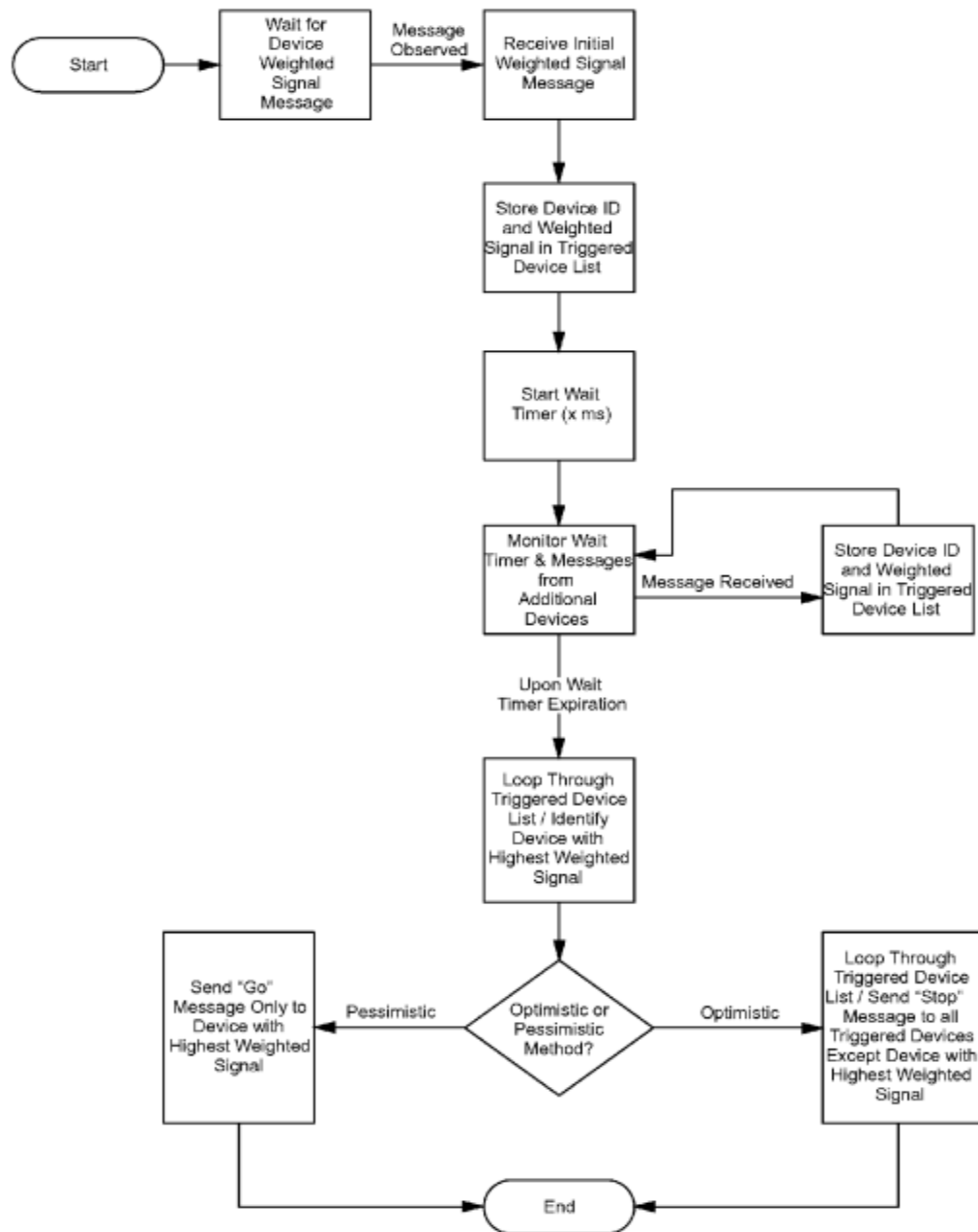


FIG. 5B

Figure 5B depicts a method by which a coordinating controller that has received individual weighted signals from a plurality of control devices indicating the quality of a speech command each has just-recognized decides which device will further process that speech command. Ex. 1003, 5:51-57.

Rosenberger issued on December 25, 2012. *Id.*, code (45). The earliest priority date claimed for the '748 patent is June 24, 2014. Ex. 1001, code (60). Rosenberger is prior art to the '748 patent.

2. *Jang (Ex. 1004)*

Jang is titled “Electronic Device and Method for Controlling the Same.” Ex. 1004, code (54). Jang “an electronic device that can efficiently provide various services in a smart TV environment and a method for controlling the electronic device.” *Id.* at 2. Jang describes an electronic device that “can efficiently control a plurality of electronic devices capable of voice recognition by means of voice commands in a network environment including the plurality of electronic devices, a system including the same, and a method for controlling the same.” *Id.* at 9.

Jang was published on March 21, 2013. *Id.*, code (43). The earliest priority date claimed for the '748 patent is June 24, 2014. Ex. 1001, code (60). Jang is prior art to the '748 patent.

II. ANALYSIS

A. *Legal Standards*

A claim is anticipated under 35 U.S.C. § 102 if each and every limitation is found either expressly or inherently in a single prior art reference. *In re Crish*, 393 F.3d 1253, 1256 (Fed. Cir. 2004). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). “Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. Am. Hoist & Derrick*

Co., 730 F.2d 1452, 1458 (Fed. Cir. 1984) (citation omitted) (emphasis added).

A patent claim is unpatentable as obvious 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 non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“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 Technology, Inc.*, 815 F.3d 1358, 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”)).

B. Level of Ordinary Skill in the Art

With regard to the level of ordinary skill in the art, Petitioner contends a person of ordinary skill in the art “would have had the equivalent of a four-year degree from an accredited institution (typically denoted as a B.S. degree) in electrical or computer engineering, or a related field, and approximately 2-4 years of experience in the field of speech processing, or an equivalent level of skill, knowledge, and experience.” Pet. 8 (citing Ex.

1002 ¶¶ 36–39). Patent Owner does not address the level of ordinary skill in the art. *See generally* Prelim. Resp.

For purposes of this Decision, we adopt Petitioner’s definition of the level of ordinary skill in the art because it is consistent with the asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (recognizing that the prior art itself may reflect an appropriate level of skill in the art).

C. Claim Construction

We apply the same claim construction standard used in district court actions under 35 U.S.C. § 282(b) as articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). In applying that standard, claim terms generally are given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). There is a “heavy presumption,” however, that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (citation omitted). We shall construe only terms that are in controversy and then only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

For the claim terms “predetermined spoken audio command” and “perform/performing speech recognition,” Petitioner relies on the claim construction rulings of ALJ Elliot in the ITC proceeding between the parties (*see* Section I. B. above) and gives these terms their plain and ordinary meanings. Pet. 9 (“Petitioner applied the ALJ’s constructions . . . for purposes of this Petition.”); *see also* Ex. 1005, 27–30.⁵ We also give these terms their plain and ordinary meaning for purposes of evaluating the Petition.

In the ITC proceeding, the claim phrase “a command to temporarily refrain from performing speech recognition” was construed to mean “a command to temporarily refrain from performing **any and all** speech recognition.” Ex, 1005, 34 (emphasis added to highlight how the claim phrase differs from the construction). Petitioner “assumes it is correct for purposes of this Petition.” Pet. 14. We also assume the ITC’s construction is correct for purposes of considering the Petition.

In the Preliminary Response, Patent Owner only discusses claim construction in a footnote addressing “perform[ing] speech recognition.” Prelim. Resp. 14 n.1 (“Patent Owner does not concede to the correctness of the ITC’s construction of ‘perform[ing] speech recognition,’ particularly its finding that ‘hotword^[6] detection’ necessarily includes speech

⁵ In the Initial Determination of Violation of Section 337 and Recommended Determination on Remedy and Bond (Ex. 2001 (“Initial Determination”)), the plain and ordinary meaning of “perform speech recognition” was construed “to include[] hotword detection” (*id.* at 49).

⁶ According to the ’748 patent, a “hotword” is a predetermined audio command or audio trigger such as “Hello phone,” “Okay car,” “Hello device,” “Give me directions,” “what’s the time,” “make a call,” “go silent,” or “play.” Ex. 1001, 2:66–67, 4:12, 5:14–15, 5:40, 9:61–62, 10:6–7, 20:16–

recognition.”). Although Patent Owner does not “concede to the correctness” of this construction in this proceeding, Patent Owner does not argue what, if anything, is wrong with this construction. Before the ITC, Patent Owner argued that the plain and ordinary meaning of “[perform/performing] speech recognition” was not broad enough to cover “hotword detection.” *See* Ex. 2001, 30. The ITC found Patent Owner’s position to be “untenable” because hotword detection “is a form of speech recognition in every ordinary sense.” *Id.* at 31. We agree with the ITC that the plain and ordinary meaning of performing speech recognition includes hotword detection. Moreover, the ’748 patent describes using speech recognition for hotword detection. Ex. 1001, 4:57–63 (“[A]udio input modules may be operable to utilize speech recognition techniques . . . to determine whether the obtained audio input includes a predetermined audio command.”). We apply the plain and ordinary meaning and consider the meaning of “perform/performing speech recognition” to include hotword detection.

17, 20:20–21, 24:29–30, 24:38–39, 24:40–41, 24:43–44, 24:51, 25:3–4. The ’748 patent further provides:

A predetermined audio command, generally, may be any audio input (e.g., a word, a phrase, etc.) that that [sic] is usable to initiate interaction with a computing device. In other words, predetermined audio commands may be specific audio input for which a computing device may monitor environmental audio and that a user may use without having to otherwise inform the computing device that he or she is about to provide audio input. Ex. 1001, 3:67–4:7. “[I]n other examples, the predetermined audio command may itself represent a command.” *Id.* at 20:13–14. “For instance, computing device 2B may determine an action based on the predetermined audio command and/or on subsequent audio input.” *Id.* at 24:33–36.

D. Consideration of Alleged Anticipation Over Rosenberger

1. Independent Claims 1, 7, and 11

Petitioner alleges that all the challenged independent claims (1 (method), 7 (device), 11 (storage medium encoded with instructions)) are anticipated by Rosenberger. Pet. 3, 24–49. In the Petition, a detailed element-by-element analysis of claim 7 in view of Rosenberger is provided (*id.* at 27–47), and Petitioner relies on this analysis for claims 1 (*id.* at 48) and 11 (*id.* at 49).⁷

Patent Owner argues:

The Board should deny institution because Petitioner has failed to establish that Rosenberger anticipates, among other things, “*determining[/determine], [by the first computing device and] based at least in part on information received from the one or more additional computing devices, whether the first computing device should perform speech recognition on the spoken audio input,*” as recited in each of independent claims 1, 7, and 11.

Prelim. Resp. 1 (bracketing in original). Our decision whether to institute is based on our consideration of the arguments and evidence relating to the following two limitations that are recited in each of the independent claims:

determining/determine, based at least in part on information received from the one or more additional computing devices, whether the first computing device should perform speech recognition on the spoken audio input . . .

⁷ Petitioner contends that “[i]ndependent claim 7 is representative of the independent claims of the ’748 Patent.” Reply 1.

sending/send, to at least a second computing device from a plurality of computing devices, a command to temporarily refrain from performing speech recognition.

Ex. 1001, 30:66–31:3, 31:7–10, 32:14–18, 32:22–25, 33:18–21, 33:25–27.

With regard to the first of these limitations, the Petition states that:

Rosenberger’s “control device” serving as the “coordinating controller” (*first computing device*) is operable to determine, based at least in part on a “weighted signal” (*information*) received from one or more additional “control devices” (*one or more additional computing devices*) whether the “coordinating controller” should perform speech recognition on *the spoken audio input*.

Pet. 31. Petitioner contends that “Rosenberger’s ‘coordination’ decision is a determination *whether the first computing device should perform speech recognition on the spoken audio input.*” *Id.* at 34.

In response, Patent Owner argues that “the devices continuously perform speech recognition and determine whether to *further handle* speech commands based on the weighted signal. In sum, the ‘coordination’/ ‘determination’ that Petitioner alludes to occurs after the control device performs speech recognition on the received speech trigger / trigger phrase / triggering speech command.” Prelim. Resp. 2–3. In support, Patent Owner argues that “Rosenberger expressly discloses that each control device continuously performs speech recognition such that all computing devices in a building space recognize speech upon receipt—not based on a weighted signal.” *Id.* at 4.

Both parties cite the same passage in Rosenberger to support their positions relating to this limitation. *See* Pet. 33–34 (Ex. 1003, 8:20–39); Prelim. Resp. 4–5 (citing Ex. 1003, 8:20–32). The cited passage in Rosenberger states:

Upon *receiving and recognizing a speech trigger phrase* and determining that it is in a better position to handle subsequent user interaction than any *other device that simultaneously recognized the same speech trigger phrase* (see device coordination discussion below) . . . the device beeps, changes its status light 34 or plays a prerecorded or synthesized audio message (e.g. "How may I help you?") through speaker 19 and/or 20 to prompt the user to say one of the speech commands from a known vocabulary or grammar stored in the speech pattern memory 14.

Ex. 1003, 8:20–32 (emphasis added). This passage indicates speech recognition to recognize the trigger phrase (i.e., hotword detection) is performed by all the devices that receive the trigger phrase prior to any coordination determination. This passage supports Patent Owner’s argument and contradicts Petitioner’s contention that Rosenberger discloses this limitation.

We agree with Patent Owner that the flaw in Petitioner’s reasoning is that the devices disclosed in Rosenberger upon receiving a spoken audio input do not make any determination as to whether speech recognition, particularly hotword detection, should be performed. All the devices perform speech recognition by performing hotword detection before the coordination determination is made. *See* Ex. 1003, 8:20–32.

Patent Owner also contends:

Rosenberger does not anticipate the “determine” element . . . because Rosenberger’s devices continuously recognize speech (i.e., none of Rosenberger’s devices will ever refrain from performing speech recognition responsive to the required determination). *See* Ex. 2001, 49-51 (“[T]he other devices continuously perform speech recognition on whatever they hear, even after they stop ‘handl[ing] the speech command.’”

Sur-reply 4 (bracketing in original). Patent Owner frames the dispute between the parties as, “whether Rosenberger’s devices that continuously recognize speech, even after they are not selected to further process a spoken command, can anticipate the ‘determine’ element because there is never a determination that they should refrain from performing speech recognition.” *Id.* Patent Owner’s argument necessarily involves consideration of the purported showing in the Petition that Rosenberger discloses the “sending/send” limitations which recite “refrain from performing speech recognition.” Ex. 1001, 31:7–10, 32:22–25, 33:25–27.

Petitioner relies on a passage in Rosenberger that states “each will immediately terminate further processing” as disclosing that devices “refrain from performing speech recognition.” Pet. 39 (citing Ex. 1003, 12:19–23). The cited passage states “Assuming T2 receives the highest quality speech command, both T3 and W4^[8] will receive a weighted signal that is higher than their own respective weighted signals during the waiting period and **each will immediately terminate further processing.**” Ex. 1003, 12:19–23 (emphasis added). However, it is clear that, when this sentence is considered in context, the phrase “terminate further processing” refers to handling further interaction relating to the specific speech command trigger that was received (*see id.* at 12:24–27) and does not disclose that any of the devices refrain from speech recognition, particularly hotword detection.

⁸ In this example from Rosenberger, T2, T3, and W4 are devices that are triggered by a spoken command (i.e., a hotword). *See* Ex. 1003, 12:13–17 (“Referring again to FIG. 3, if person P2 issues a speech command trigger such as ‘Hello Voice Control’, devices T2, T3 and W4 may all be triggered. Each of these devices would immediately calculate and broadcast their respective weighted signals to all control devices.”).

This is clear from a previous passage, in the same paragraph that Petitioner quotes, that states: “should a message containing a higher weighted signal that has been broadcasted from another device be received, the device immediately terminates processing and resumes listening for a future speech command.” *Id.* at 11:60–64; *see also id.* at 14:36–38 (“Devices T4, TS, and W7 will all disregard the just-recognized speech command and resume listening for new speech commands.”). Rosenberg does not disclose any device “refrain[ing] from performing speech recognition” particularly, hotword detection.

We determine that Petitioner has failed to establish that Rosenberg discloses the “determining/determine” limitation.

With regard to the second disputed limitation, it recites “sending/send . . . a command to temporarily refrain from performing speech recognition.” Ex. 1001, 31:7–10, 32:22–25, 33:25–27. As shown above with regard to the first disputed limitation, the devices disclosed in Rosenberg do not refrain from performing speech recognition, particularly hotword detection, and no “command to temporarily refrain from performing speech recognition” is sent. To the contrary, the devices disclosed in Rosenberg continuously recognize speech (particularly, a hotword), even after they are not selected to further process a spoken command.

The Petition states that Rosenberg discloses the second disputed limitation based on the following reasoning:

Rosenberger’s “control device” serving as the “coordinating controller” (*first computing device*) is operable such that, responsive to it determining that it should perform speech recognition on *the spoken audio input*, it sends, to at least one other “control device” in the system (*at least a second computing device from a plurality of computing devices*), a

“stop” message (a command to temporarily refrain from performing speech recognition).

Pet. 36–37. This reasoning is not valid. The “stop” message is not a command to temporarily refrain from performing hotword detection, which is included in the meaning of performing speech recognition.

Contrary to the position it takes on this limitation, Petitioner acknowledges that, after receiving the “stop” message, the devices in Rosenberg continue to perform hotword detection. The Petition states, “After receiving the ‘stop’ message from the ‘coordinating controller,’ a ‘control device’ would **revert back to listening for the ‘trigger phrase’** and temporarily refrain from performing speech recognition (e.g., on subsequent utterances like ‘Lower thermostat two degrees’).” Pet. 40 (emphasis added). “[L]istening for the ‘trigger phrase’” is hotword detection and performing speech recognition.

We determine that Petitioner has failed to establish that Rosenberger discloses the “sending/send” limitation. As Rosenberger has not been shown to disclose at least two limitations of independent claims 1, 7, and 11, we determine that Rosenberger does not anticipate these claims.⁹

b. Dependent Claims 2–4, 9, 10, 12, 14, 15

Petitioner also contends that challenged dependent claims 2–4, 9, 10, 12, 14, and 15 are anticipated by Rosenberger. Pet. 4, 49–59. All these

⁹ Our determination that Rosenberger does not anticipate the independent claims of the ’748 patent agrees with the findings of the ITC in its Initial Determination. Ex. 2001, 51 (“Rosenberger therefore does not disclose either the ‘determine . . . [to] perform speech recognition’ or the ‘send . . . a command’ elements of claim 7, and Rosenberger accordingly does not anticipate it.”).

challenged dependent claims depend from either claim 1, 7, or 11. *See* Ex. 1001, 31:21–60, 3248–33:11, 33:37–45, 33:58–34:17. Petitioner alleges that Rosenberger discloses the additional limitations recited in these challenged dependent claims but otherwise relies on its alleged showing relating to the independent claim from which the challenged dependent claim depends. *See* Pet. 49–59. For the reasons discussed above with regard to independent claims 1, 7, and 11, we determine that Rosenberger does not anticipate challenged dependent claims 2–4, 9, 10, 12, 14, and 15.

E. Consideration of Alleged Obviousness in View of Rosenberger and Jang

Petitioner alleges that a combination of the teachings of Rosenberger and Jang renders obvious dependent claims 2, 3, 9, 10, and 12. Pet. 4, 59–71. The Petition states that this ground of unpatentability “is presented to the extent [Patent Owner] argues that Rosenberger does not adequately disclose the additional elements of claims 2/9/12 and 3/10. Other than Jang making up for this hypothetical deficiency, Rosenberger and Jang invalidate independent claims 1/7/11 and dependent claims 4/14/15 for the same reasons as Ground 1 [alleging anticipation by Rosenberger].” *Id.* at 59. For this obviousness ground, Petitioner relies on Rosenberger for allegedly teaching all the limitations of independent claims 1, 7, and 11 from which dependent claims 2, 3, 9, 10, and 12 depend. *Id.* at 59–71. For the reasons discussed above with regard to independent claims 1, 7, and 11 and Rosenberger, Petitioner has failed to show that the cited art teaches or suggests all the limitations of dependent claims 2, 3, 9, 10, and 12. Petitioner has not shown that it is reasonably likely to establish the obviousness of claims 2, 3, 9, 10, and 12 in view of Rosenberger and Jang.

F. Conclusion

Petitioner has failed to show that the cited art discloses all the limitations of any challenged claim. We determine that Petitioner has not demonstrated a reasonable likelihood of showing at least one of the claims challenged in the Petition was anticipated or would have been obvious.

III. ORDER

In consideration of the foregoing, it is hereby

ORDERED that an *inter partes* review of U.S. Patent No. 9,632,748 is not instituted.

PETITIONER:

Michael P. Boyea
Jae Y. Pak
Cole B. Richter
LEE SULLIVAN SHEA & SMITH LLP
boyea@ls3ip.com
pak@ls3ip.com
richter@ls3ip.com
LS3_team@ls3ip.com

PATENT OWNER:

Erika H. Arner
Cory C. Bell
Safiya Aguilar
FINNEGAN, HENDERSON, FARABOW,
GARRETT, & DUNNER LLP
erika.arner@finnegan.com
cory.bell@finnegan.com
safiya.aguilar@finnegan.com